KIZEVETTER, Ye.N.; KLEYN, P.N.; KHARCHEV, M.K.[deceased]; VOLOBRINSKIY, S.D.; GRODSKIY, S.Ye.; YERMILOV, A.A.; KAYALOV, G.M.; LIVSHITS, D.S.; MAKSIMOV, A.A.; MESHEL', B.S.; MUKOSEYEV, Yu.L.; OGORODNOV, S.I.; ROZENBERG, V.A.; SHRAYBER, L.G.; ZALESSKIY, Yu.Ye., retsenzent; IOKHVIDOV, E.S., retsenzent; FEDOROV, A.A., retsenzent; SAVEL'YEV, V.I., red.; LARIONOV, G.Ye., tekhn. red.

[Temporary instructions for determining the electrical loads of industrial enterprises] Vremennye rukovodiashchie ukazaniia po opredeleniiu elektricheskikh nagruzok promyshlennykh predpriiatii. Moskva, Gosenergoizdat, 1962. 45 p. (MIRA 16:2)

1. Russia (1923- U.S.S.R.) Glavnoye energeticheskoye upravleniye. 2. Leningradskoye otdeleniye Gosudarstvennogo proyektnogo instituta tyazheloy promyshlennosti (for Kizevetter, Kleyn, Kharchev). 3. Komissiya po elektricheskim nagruzkam Nauchno-tekhnicheskogo obshchestva energeticheskoy promyshlennosti (for Volobrinskiy, Grodskiy, Yermilov, Kayalov, Livshits, Maksimov, Meshel, Mukoseyev, Ogorodnov, Rozenberg, Shrayber). (Electric power distribution)

MAKSIMOV, A-A -

30641. MAKSIMOV, A. A. Osnovnye tipy tulîaremiĭnykh ochagov, ikh kharakteristika i geograficheskoe rasprostranenie v RSFSR. (Akademiîa nauk SSSR. Doklady, 1947. nov. seriîa, t. 57, no. 5, p. 501–503) ***Title tr.***: Main types of tularemia centers, their characteristics and geographical distribution in the RSFSR.

Contains a description of three types of tularemia centers, their extent, main animal carrier, epidemiology, etc.; these are the steppe type, the field type and the river type. The latter includes Arkhangel'sk Oblast' and the river basins of western Siberia (Ob', Irtysh). The carrier is a water rat *Arvicola terrestris*, L especially abundant in the Ob' and Irtysh systems. ***Copy seen***: DSG.

INST. EVOLUTIONARY MORPHOLOGY
IM. AN. N. SVERTSOV, ACAD SCI

USSR/Medicine - Biology
Medicine - Rodents

May 1948

"On Historical Variations in the Distribution and Numbers of Microtus Arvalis Pall," A. A. Maksimov, Inst of Evolutionary Morph imeni A. N. Severtsov, Acad Sci USSR, 3 pp

"Dok Ak Nauk SSSR" Vol LX, No 4

Grey vole is rarely found in forests but flourishes in grasslands. Consequently, its distribution and numbers have increased as more land was brought under tillage in USSR. Efficient harvesting can, however, reduce vole population. Submitted 2 Mar 1948.

[redacted]

77T46

MAKSIMOV, A. A. PA 67T89

USSR/Medicine - Mice Jan/Feb 1948
Medicine - Fecundity

"Fertility and Dynamics of the Number of Gray Field Mice 'Microtus Arvalis Pall'," A. A. Maksimov, Inst of Evolutionary Morph imeni A. N. Severtsov, Acad Sci USSR, 9 pp

"Iz Ak Nauk SSSR, Ser Biolog" No 1

Obtained data on subject investigation during studies on the ratio of sexes. Determined that increases and decreases of mouse population vary from year to year. However, each period has its indicators of fertility, birth, and mortality. Submitted by Academician I. I. Shmal'gauzen 23 Dec 1946.

67T89

MAKSIMOV, A. A.

PA 67T90

USSR/Medicine - Mice Jan/Feb 1948
Medicine - Sex, Ratio

"The Ratio of the Sexes in the Population of the Gray Field Mouse 'Microtus Arvalis Pall'," A. A. Maksimov, Inst of Evolutionary Morph imeni A. N. Severtsov, Acad Sci USSR, 5½ pp

"Iz Ak Nauk SSSR, Ser Biolog" No 1

Material was collected over period of 4 years beginning in 1940: 1941 was considered the peak in mouse population numbers. After evaluation of all the data obtained the author concludes that due to many factors, the sex ratio is 1:1. Submitted by Academician I. I. Shmal'gauzen 23 Dec 1946.

67T90

MAKSIMOV, A. A.

PA 55/49T67

USSR/Medicine - Rats, Parasites Nov 48
Medicine - Zoology

"Biological Peculiarities of Rodents That Inhabit Haystacks," A. A. Maksimov, Inst of Evolutionary Morph imeni A. N. Severtsov, Acad Sci USSR, 3½ pp

"Dok Ak Nauk SSSR" Vol LXIII, No 3

Chief haystack inhabitant of European USSR is Microtus arvalis Pall. It increases greatly in winter. Although low temperatures, etc., keep the number of pests down, they thrive in great concentration in limited space. Measures must be taken to eradicate this threat to rural economy. Submitted by Acad K. I. Skryabin 1 Oct 48

55/49T67

MAKSIMOV, A.A.

KULCZYCKI, P.A.; POKUS, A.G.; MAKSIMOV, A.A.

Postoperative course of acute appendicitis in the polar region. Sovet.vrach.zburn. no.16:24-26 Ag '49. (CLML 19:2)

MAKSIMOV, A.A.

Landscape variants of sources of tularemia infection and ways to eliminate swamp and river sources. Med.paraz.i paraz.bol. no.6:528-532 N-D '53. (MLRA 6:12)

1. Iz Mediko-biologicheskogo instituta Zapadno-Sibirskogo filiala Akademii nauk SSSR.

(Tularemia)

Maksimov, A. A.

7744 Sposoby ...'ye ...ya Krysoy-Vrediteley Sel'sko... Khozyaystva I ... Tekhnikom ... ... Novosi..., ... 1954. 40 s. 17 SM. (Zap-Sib. Filial Akad. Nauk SSSR. UPR S.kh Propagandy Novosib. OBL. UPR. Sel'skogo Khozyaystva) 2.000 EKZ B. Ts. - Sost. Ukazany Na Oborote Tit. L.-(55-3947) P. 6...69.32(57.1)+614...9

SO. Knizhnaya Letopis', Vol. ..., 1955

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001031620010-7"

MAKSIMOV, A.A.

Biological principles of control of tularemia in its natural foci. Med. paraz. i paraz. bol. no.3:238-244 Jl-S '54. (MLRA 8:2)

1. Iz Biologicheskogo instituta Zapadno-Sibirskogo filiala Akademii nauk SSSR (Dir. instituta K.A.Sobolevskaya).
(TULAREMIA, prevention and control, Russia)

MAKSIMOV, A.A.

Geographic distribution and the landscape-ocological structure of areas populated by Arvicola terrestris L. Dokl. AN SSSR 109 no.2:389-392 Jl '56. (MLRA 9:10)

1. Biologicheskiy insitut Zapadno-Sibirskogo filiala Akademii nauk SSSR. Predstavleno akademikom I.I. Shmal'gauzenom.
(Water voles)

MAKSIMOV, A.A.

Use of weight in analyzing the state of murine rodent populations.
Trudy Biol. inst. Zap-Sib. fil. AN SSSR no.1:99-109 '56
(MLRA 10:4)

(FIELD MICE)

MAKSIMOV, A. A., Doc of Bio Sci -- (diss) "Landscape characteristics of natural foci of tularemia in Western Siberia." Novosibirsk, 1957, 45 pp (Moscow State University im L monosov), 130 copies

(KL, 35-57, 106)

MAKSIMOV, A.A.

Principles for the definition of types of natural tularemia foci in Western Siberia and the description of their landscape. Izv. Novosib.otd.Geog.ob-va SSSR no.1:53-67 '57. (MIRA 12:4)
(Siberia, Western--Tularemia) (Medical geography)

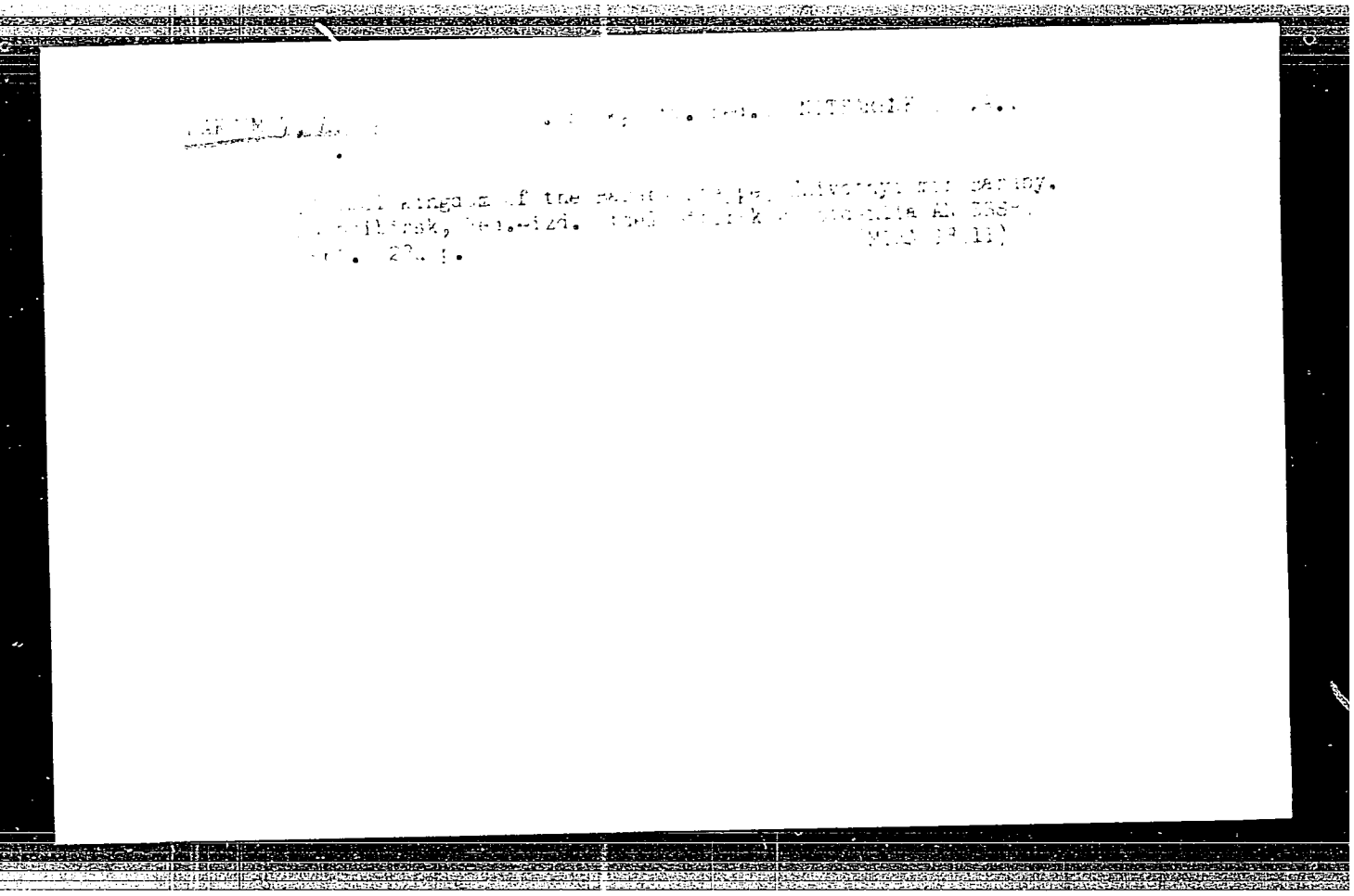
MAKSIMOV, A.A.

Method of forecasting mass multiplications of water rats in western Siberia. Izv. Sib. otd. AN SSSR no.6:137-142 '58. (MIRA 11:9)

1.Zapadno-Sibirskiy filial AN SSSR.
(Siberia, Western--Water voles)

MAKSIMOV, Anatoliy Aleksandrovich; POLITAREK, S.S., doktor biolog.nauk, otv.red.; PUKHAL'SKAYA, L.F., red.izd-va; KRUGLIKOVA, N.A., tekhn.red.

[Natural foci of tularemia in the U.S.S.R.] Prirodnye ochagi tuliaremii v SSSR. Moskva, Izd-vo Akad.nauk SSSR, 1960. 290 p. (MIRA 13:10)
(Tularemia)



MAKSIMOV, A.A.

General features of the distribution and characteristics of tularemia foci in the Gorno-Altai Autonomous Province. Izv. Alt. otd. Geog. ob-va SSSR no.5:187-188 '65. (MIRA 18:12)

1. Biologicheskiy institut Sibirskogo otdeleniya AN SSSR.

ACC NR: AP7006066 SOURCE CODE: UR/0366/66/002/009/1644/1646

AUTHOR: Maksimov, A. A.; Matevosyan, R. O.

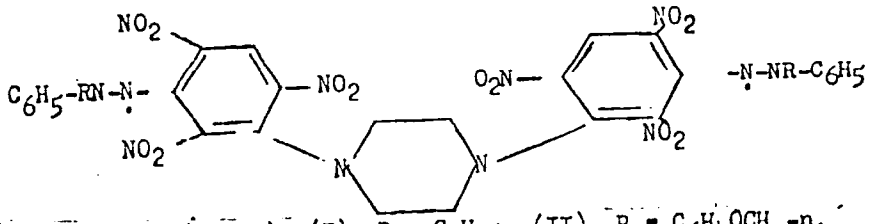
ORG: Institute of Chemistry, Ural Branch, Academy of Sciences USSR (Institut khimii Ural'skogo filiala AN SSSR)

TITLE: Studies in the chemistry of hydrazine series free radicals. XXXIX. N,N'-bis (3-beta-phenyl-beta-n-methoxyphenylhydrazylopicrylyl)-piperazine

SOURCE: Zhurnal organicheskoy khimii, v. 2, no. 9, 1966, 1644-1646

TOPIC TAGS: free radical, hydrazine derivation, organic synthetic process

ABSTRACT: An earlier report by the same authors described the synthesis of the first biradical of the hydrazine series (I)



(I, II) (I) R = C_6H_5; (II) R = C_6H_4OCH -n.

Its characteristic feature is its increased stability relative to diphenylpicrylhydrazine (DPPH).

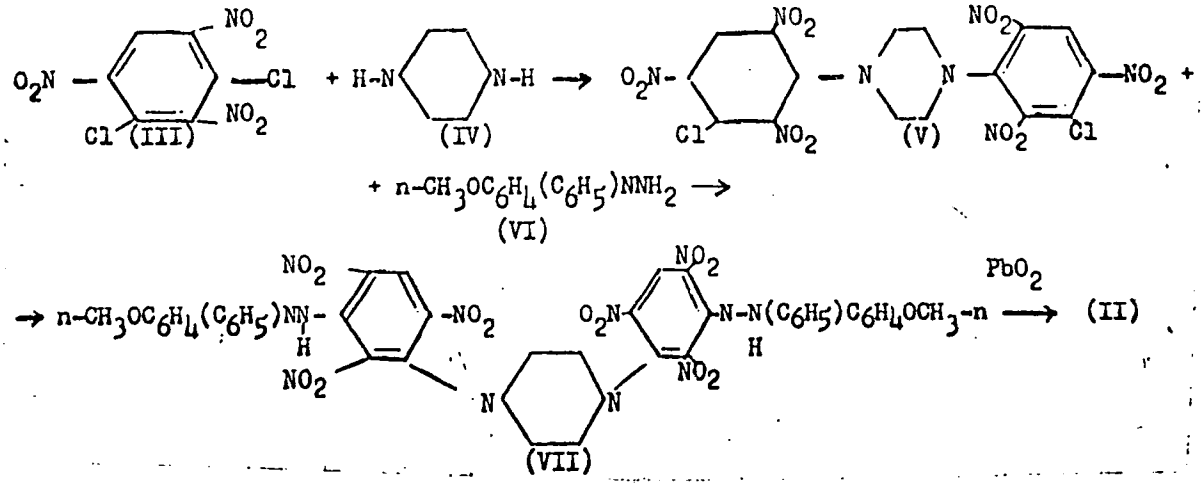
UDC: 547.234'78

Card 1/2

09270876

ACC NR: AP7006066

The present report presents the synthesis and a description of several properties of N,N'-bis (3-β-phenyl-β-n-methoxyphenylhydrazylopicrilyl) piperazine (II). The synthesis of this compound followed this scheme:



Orig. art. has: 1 figure and 2 formulas. [JPRS: 38,970]

SUB CODE: 07

Card 2/2

FLYUSHIN, V.G.; MAKSIMOV, A.A.

Alkylation of biphenyl by propylene. Zhur. prikl. khim. 38 no.5:1191-1192 My '65. (MIRA 18:11)

1. Institut khimii Ural'skogo filiala AN SSSR.

MAKSIMOV, Anatoliy Aleksandrovich

[Agricultural transformation of the landscape and the ecology of injurious rodents] Sel'skokhoziaistvennoe preobrazovanie landshafta i ekologiia vrednykh gryzunov. Moskva, Nauka, 1964. 251 p. (MIRA 17:10)

MAKSIMOV, A.B., prepodavatel'; TSUKERKANDEL', A.P., prepodavatel'

"Handbook of the foreman in charge of the tools in a woodworking enterprise." Reviewed by A.B. Maksimov, A.P. Tsukerkandel'. Der.prom. 11 no.3:27 Mr '62. (MIRA 15:2)

1. Mekhaniko-tekhnologicheskiy tekhnikum, g. Novosibirsk.
(Woodworking machinery)

MAKSIMOV, A.B.; NIKOLAYEV, A.V.

Method for estimating the decrement of seismic wave absorption.
Izv. AN SSSR. Fiz. zem. no.6:65-71 '66.
(MIRA 19:2)

1. Institut fiziki Zemli AN SSSR.

MAKSIMOV, A.D.

"A More Precise Form of The First Approximation at Vibratory Linearization of Non-Linear Automatic Systems," Avtomatika i Telemekhanika, Vol XVIII, No 10, 1957, pp 947-949

All-Leningrad Seminar on the Theory of Automatic Control (1955-1956)

MAKSIMOV, A.D.

Theory of vibrational smoothing of nonlinear characteristics of automatic control systems by means of forced oscillations. Avtom. upr. i vych. tekh. no.2:139-166 '59. (MIRA 13:2)
(Automatic control)

SHUVALOV, Nikolay Konstantinovich; POPOV, Ye.P., prof., doktor tekhn. nauk, retsenzent; VORONOV, A.A., prof., doktor tekhn.nauk, retsenzent; DEMCHENKO, O.P., kand.tekhn.nauk, retsenzent; MAKSIMOV, A.D., kand.tekhn.nauk, nauchnyy red.; APTEKMAN, M.A., red.; TSAL, R.K., tekhn.red.

[Systems of program control operating on a combined principle] Sistemy programmnogo regulirovaniia, rabotaiushchie na kombinirovannom printsipe. Leningrad, Gos.soiuznoe izd-vo sudostroit. promyshl., 1960. 74 p. (MIRA 13:6)
(Automatic control) (Programming (Electronic computers))

S/024/62/000/003/010/011
E200/E485

16 6500

AUTHOR: Maksimov, A.D. (Leningrad)

TITLE: Approximate solution of a third-order nonlinear differential equation using N.N.Bogolyubov's asymptotic method

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Energetika i avtomatika, no.3, 1962, 196-200

TEXT: In many engineering problems it is necessary to investigate strongly damped oscillatory processes in third-order systems. In those cases the reduction of a third-order differential equation to a second-order equation may considerably distort not only the quantitative estimate but also the qualitative picture of the oscillatory process. The present paper gives a recursive method for constructing an asymptotic solution to differential equations of the form

$$\frac{d^3x}{dt^3} + P_1\frac{d^2x}{dt^2} + P_2\frac{dx}{dt} + P_3x = \varepsilon f\left(x, \frac{dx}{dt}, \frac{d^2x}{dt^2}\right) ; \qquad (3)$$

where ε is a small parameter, P_1, P_2, P_3 are real constants,

Card 1/4

$f(x, dx/dt, d^2x/dt^2)$ is the given nonlinear function. When $\varepsilon = 0$ the solution is trivial. When $\varepsilon \neq 0$, using the neutralization method, the solution is sought in the form

$$x(t) = ce^{-at} + ae^{-bt}\cos\psi + \varepsilon u_1(c, a, \psi, t) + \varepsilon^2 \ldots \quad (5)$$

where c, a, φ are slowly time-varying functions defined by the differential equations

$$\begin{aligned} \frac{dc}{dt} &= \varepsilon C_1(c, a, t) + \varepsilon^2 C_1(c, a, t) + \ldots \\ \frac{da}{dt} &= \varepsilon A_1(c, a, t) + \varepsilon^2 A_1(c, a, t) + \ldots \\ \frac{d\psi}{dt} &= \omega + \varepsilon B_1(c, a, t) + \varepsilon^2 B_1(c, a, t) + \ldots \end{aligned} \quad (6)$$

and the u_i are defined in such a way as to exclude the fundamental and first harmonic. A recursive construction is given for the functions u_i, C_i, A_i, B_i such as to have c(t), a(t) and (t) satisfy the required differential Eq.(3) with an accuracy of the order of ε^{m+1}. The first approximation is given in the form

Card 2/4

Approximate solution of ...

$$x(t) = ce^{-at} + ae^{-bt}\cos\psi$$

where

$$\frac{dc}{dt} = \varepsilon C_1(c, a, t)$$
$$\frac{da}{dt} = \varepsilon A_1(c, a, t) \qquad (12)$$
$$\frac{d\psi}{dt} = \omega + B_1(c, a, t)$$

and C_1, A_1, B_1 are derived from the equations

$$\frac{\partial^2 A_1}{\partial t^2} - (b-\alpha)\frac{\partial A_1}{\partial t} - 2\omega^2 A_1 - \omega a\left[3\frac{\partial B_1}{\partial t} - 2(b-\alpha)B_1\right] = g_1(c^*, a^*)e^{bt} \qquad (13)$$

$$\left[\frac{\partial^2 B_1}{\partial t^2} - (b-\alpha)\frac{\partial B_1}{\partial t} - 2\omega^2 B_1\right]a + \omega\left[3\frac{\partial A_1}{\partial t} - 2(b-\alpha)A_1\right] = -h_1(a^*, c^*)e^{bt}$$

$$\frac{\partial^2 C_1}{\partial t^2} + 2(b-\alpha)\frac{\partial C_1}{\partial t} + [(b-\alpha)^2 + \omega^2]C_1 = g_0(c^*, a^*)$$

Card 3/4

Approximate solution of ...

where

$$g_0(c^*, a^*) = \frac{1}{2\pi}\int_0^{2\pi} f\left(x, \frac{dx}{dt}, \frac{d^2x}{dt^2}\right) d\psi$$

$$g_1(c^*, a^*) = \frac{1}{\pi}\int_0^{2\pi} f\left(x, \frac{dx}{dt}, \frac{d^2x}{dt^2}\right) \cos\psi d\psi \qquad (14)$$

$$h_1(c^*, a^*) = \frac{1}{\pi}\int_0^{2\pi} f\left(x, \frac{dx}{dt}, \frac{d^2x}{dt^2}\right) \sin\psi d\psi$$

and

$$x = c^* + a^* \cos\psi, \qquad \frac{dx}{dt} = -\alpha c^* - ba^* \cos\psi - \omega a^* \sin\psi.$$

$$\frac{d^2x}{dt^2} = \alpha^2 c^* + b^2 a^* \cos\psi + 2b\omega a^* \sin\psi - \omega^2 a^* \cos\psi.$$

The solution is also worked out for the special case when P_1 and P_3 in Eq.(3) are small.

SUBMITTED: June 14, 1961

Card 4/4

L 17536-66 EWT(d)/FBD/FSS-2/EEC(k)-2/EWA(d)/T-2 WR

ACC NR: AP6002159 SOURCE CODE: UR/0280/65/000/006/0152/0159

AUTHOR: Maksimov, A. D. (Leningrad)

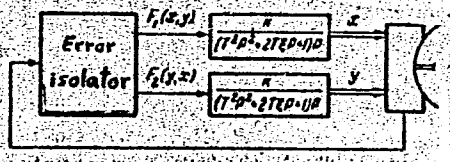
ORG: none

TITLE: Allowance for nonlinear interaction of channels in some automatic-control systems

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 6, 1965, 152-159

TOPIC TAGS: automatic control, automatic control system, automatic control theory, radar interference

ABSTRACT: Interaction between two channels of an automatic-control system (e.g., radar) is considered. The control function in such systems can be described by these equations (also see figure):



$$F_1(x, y) = k(t)x(1 - rx^2 - ry^2),$$
$$F_2(x, y) = k(t)y(1 - ry^2 - rx^2), \quad (1)$$

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L 17536-66

ACC NR: AP6002159

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where x and y are both channel coordinates, k(t) is the variable gain involved, r < 1 is a coefficient which allows for the nonlinearity of the control function. Under "self-tracking" conditions, when the system operates near the coordinator center, the channels practically do not interfere with each other, the system is linear, and x and y are small. Under Lock-in conditions, the system may operate at the fringe of the coordinator field of observation; for this case and also for maximum-range conditions, the interaction between channels is evaluated; this interaction reduces the actual field of observation and increases the time of transition to the self-tracking regime. By using the Krylov-Bogolyubov asymptotic method, general solutions of the above equations are reached for these two cases: (a) both oscillatory and aperiodic components of the linear solution are slowly damping and (b) the oscillatory component of the solution is damping considerably faster than the aperiodic component. Orig. art. has: 5 figures and 55 formulas.

SUB CODE: 13, 17 / SUBM DATE: 11Jan64 / ORIG REF: 005

Card 2/2

L 45092-65 EWT(d) IJP(c)

ACCESSION NR: AP5011743 UR/0146/65/008/002/0118/0124

AUTHOR: Maksimov, A. D.

TITLE: Investigation of a lightly-damped system with soft power, described by a third-order equation

SOURCE: IVUZ. Priborostroyeniye, v. 8, no. 2, 1965, 118-124

TOPIC TAGS: dynamic system, motion equation, damped oscillation, radar tracking system, Bogolyubov asymptotic method, gyrostabilizer

ABSTRACT: The author notes the need, in many engineering problems, to study the possible motions described by differential equations of the type

$$T^3\frac{d^3x}{dt^3}+2T\xi\frac{d^2x}{dt^2}+\frac{dx}{dt}+kx(1-rx^2)=0, \quad (1)$$

where ξ and k are values which are small in comparison with the frequency ω_0. This equation can be represented in the form

$$\frac{d^3x}{dt^3}+\omega_0^2\frac{dx}{dt}=\varepsilon F(x,\dot{x},\ddot{x}), \quad (2)$$

where

$$\varepsilon F(x,\dot{x},\ddot{x})=-\left[2\xi\omega_0\frac{d^2x}{dt^2}+k\omega_0^2x(1-rx^2)\right], \quad \omega_0=\frac{1}{T}, \quad (3)$$

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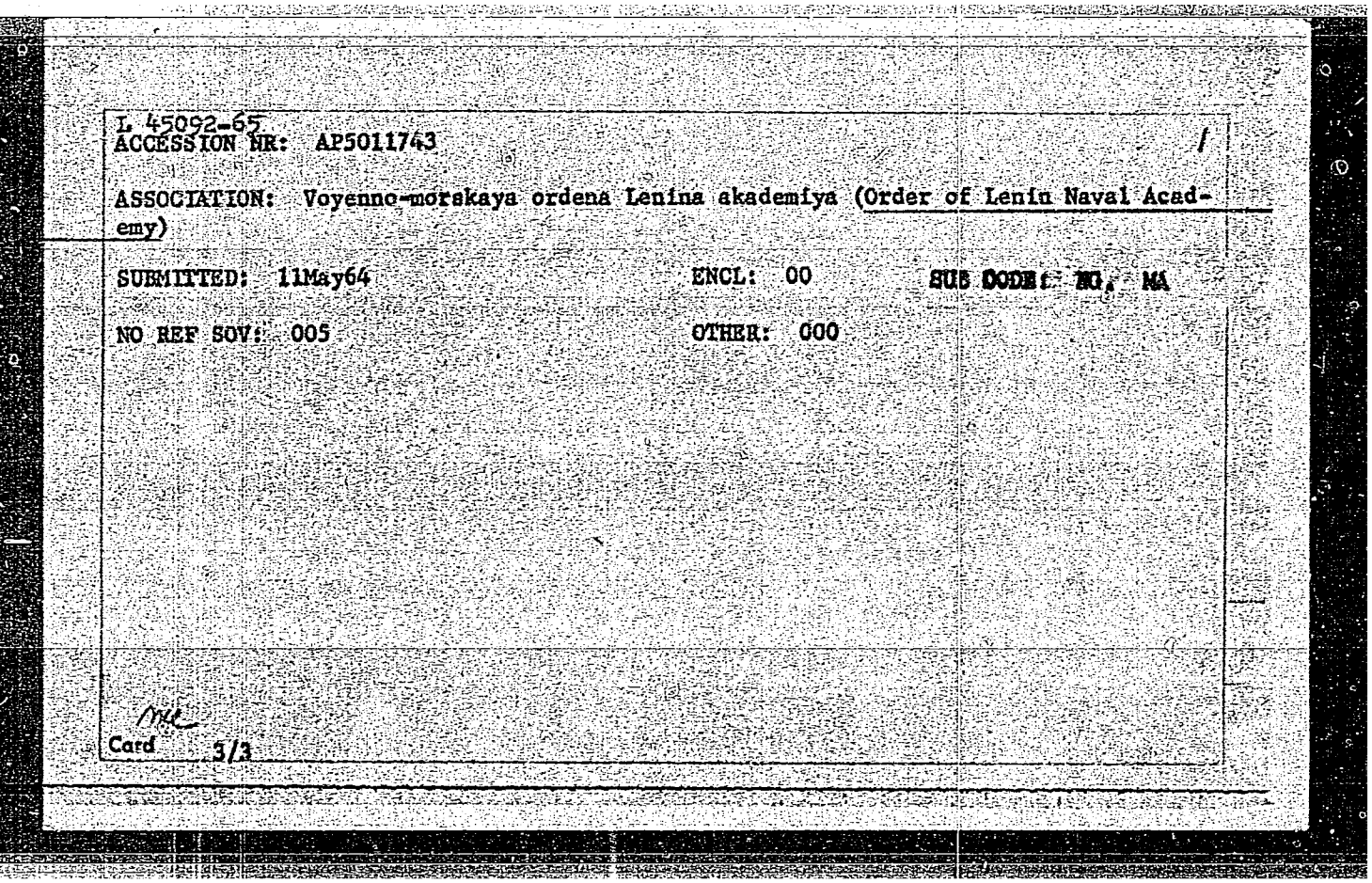
L 45092-65
ACCESSION NR: AP5011743 0

One may arrive at an equation of type (2), for example, from the equation of a gyrostabilizer with large deviations, the tracking system equation in the case of radar tracking stations, the equation of certain generators, etc. In the present article, an investigation is carried out into the motions arising in a dynamic system with significant deviations, employing the asymptotic method proposed by N. M. Krylov and N. N. Bogolyubov (Vvedeniye v nelineynuyu mekhaniku. Kiev, AN Ukr.SSR, 1937) and outlined by the author in his work (Priblizhennoye resheniye nelineynogo differentsial'nogo uravneniya tret'yego poryadka asimptoticheskim metodom N. N. Bogolyubova. Izv. AN SSSR. OTN. 1962, No. 3). The solution to Eq. (2) is sought in the form $x = c + a\cos\psi$, where c, a, and ψ are determined from a set of differential equations. The author derives the conditions for the occurrence of auto-oscillations and damped oscillations, and also first-approximation solutions for both auto and damped oscillations. In his approach to the damped oscillations, the author finds the indices of "instantaneous" damping for the aperiodic and oscillating components of the solution. By way of example, the tracking system of a radar tracking station is considered (a structural diagram of the dynamics of the operation of this system is given in the article). Orig. art. has: 18 numbered formulas and 4 figures.

Card 2/3



L 45092-65
ACCESSION NR: AP5011743

ASSOCIATION: Voyenno-morskaya ordena Lenina akademiya (Order of Lenin Naval Academy)

SUBMITTED: 11May64 ENCL: 00 SUB CODE: MA, MA

NO REF SOV: 005 OTHER: 000

Card 3/3

MAKSIMOV, A.F.

Effect of spin-states on the emission of the luminous electron.
Vest.Mosk.un. 12 no.1:95-100 '57. (MLRA 10:8)

1.Moskovskiy universitet, Kafedra statisticheskoy fiziki i mekhaniki.
(Electrons) (Quantum theory)

MAKSIMOV, Aleksey Georgiyevich; MOLOKOV, Vladimir Nikolayevich; OZARNYY, I.N., retsenzent; GRIGOR'YANTS, G.M., red.; SOBOLEVA, Ye.M., tekhn. red.

[Choice of site for a thermal electric power plant; engineering and economic considerations] Vybor ploshchadki dlia teplovoi elektrostantsii; tekhniko-ekonomicheskie obosnovaniia. Moskva, Gos. energoizdat, 1962. 173 p. (MIRA 15:4)
(Electric power plants)

MAKSIMOV, A.I.

P.7

Grigorenko, Ya. M. and Isakhanov, G.V. 24-2-27/28

Scientific Conference on the strength of elements of turbo-machinery at elevated temperatures. (Nauchnoye soveshchaniye po voprosam prochnosti elementov turbomashin pri vysokikh temperaturakh).

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, No.2, pp. 165-167 (USSR).

ABSTRACT: A scientific conference was held in Kiev between September 28 and October 2, 1957 on problems of strength of elements of turbo-machinery at elevated temperatures which was convened by the Institute of Metallo-ceramics and Special Alloys (Institut Metallokeramiki i Spetsplavov), the Institute of Structural Mechanics (Institut Stroitel'noy Mekhaniki) and the Institute of Thermal Power (Institut Teploenergetiki Akademii Ukrainskoy SSR) of the Ac.Sc. Ukrainian SSSR. About people participated representing scientific and establishments and works of Moscow, Leningrad, Kharkov, Minsk, Kuybyshev, etc. In his opening Corresponding Member of the Ac.Sc. Ukraine pointed out the importance of the problem of high temperature strength of components of turbo-

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Scientific Conference on the strength of elements of turbo-machinery at elevated temperatures.

A number of papers were read relating to the theory of heat conductivity and thermo-elasticity. In his report "Investigation of the temperature fields in turbine [illegible] Ye. P. Dyben reported on the theoretical and experimental investigations of the steady state and the non-steady state thermo-conductivity in turbine rotors of various designs including investigations on concrete specimens of rotors produced by the Kirov and Neva Works, the "Ekonomayzer" Works and others, carried out at the Institute of Thermal Power, Ukrainian Ac.Sc. In studying the temperature fields they used the method of laboratory investigation of non-steady state thermal conductivity by means of high frequency heating, the method of electro-thermal analogy by means of "ЭГДА" equipment etc. They obtained a solution of the problem of non-steady state thermal conductivity of a hollow cylinder of finite length with a relatively general law of the changes of the temperature and the heat transfer coefficients. The Institute, jointly with the Experimental Gas Turbine Construction Works, developed a method of

Card 2/9 cooling the discs by blowing cooling air through the

Scientific Confer[illegible]
machinery at elevat[illegible]

[illegible] field and
in [illegible] electrical
a [illegible] called cylinder
[illegible] and of the
for [illegible] along the
[illegible] of electricity [illegible]
generatrix, [illegible] computing
were used [illegible] developed of
mechanisms. Furthermore, [illegible] aviation gas turbine
calculating a rotor of a [illegible] and rotating
Card 3/9 considering [illegible]

Scientific conference on the strength of elements of turbo-machinery at elevated temperatures.

system in which the following elements operate jointly: discs, shells and ring-shaped rods.
In his paper "Certain Methods of Solving the Axis-Symmetrical Problem of the Theory of Elasticity Taking Into Consideration Mass Forces and the Temperature" E. S. Umanskiy elucidated an approximate method of calculation of the stress state.
The paper of V. I. Danilovskiy (Mechanics Institute, Ac.Sc. USSR) was devoted to calculating the temperature fields in thin shells.
The paper of A. I. Veynik (Power Institute, Ac.Sc. Byelo-Russia) was devoted to an approximate method of solving the problem of thermo-conductivity in solid bodies.
The paper "Temperature Stresses in Thin Walled Structures" by I. A. Birger and B. F. Shor dealt with the investigations carried out by TsIAM on the thermal stresses in [illegible], taking into consideration variable elasticity [illegible] also with the stress state of thin walled [illegible] twisted rods [illegible] subjected to the effect of external forces and non-uniform heating.
In the paper "Temperature Stresses in Elements of Gas Turbines Under Conditions of Non-steady State Thermal

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Scientific conference on the strength of elements of turbo-machinery at elevated temperatures.

Regimes" A. G. Kostyuk (MEI) considered the method of approximate solution of the problem of the non-steady state temperature field in which the component is considered as a semi-infinite body during the initial instant of heating.

In his paper "Temperature Stresses in the Runner Blades and Discs" N. N. Malinin (MVTU) described engineering methods of calculating the thermal stresses in discs with variable elasticity parameters.

The papers of Ya. S. Podstrigach (Institute of Mechanical Engineering and Automation, Ukrainian Ac.Sc., L'vov) and of L. G. Fridman (Kuybyshev) dealt with investigations of the temperature stresses in thin walled structures particularly in bodies of aviation engines.

P. S. Kuratov (TsKTI) and Ye. M. Molchanov (VTI) reported on complex investigations of the temperature fields, the stress state and the thermal fatigue of the rotors of definite turbines.

In his paper "Experimental Investigation of the Temperature Stresses in Fully Forged Rotors" G. A. Rayer reported on experimental investigations carried out at the Neva

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Scientific Conference on the strength of elements of turbo-machinery at elevated temperatures.

Engineering Works imeni Lenin (Leningrad).
The representative of the Leningrad Metal Works, Engineer I. N. Shibalov conveyed information on the tests of equipment for heating individual elements of the BT-25-4 turbine during starting.

The second part of the conference was devoted to problems of the constructional strength of elements on turbo-machinery at elevated temperatures.
In his paper "Work of the Institute of Metalloceramics and Special Alloys, Ukrainian Ac.Sc. in the Field of High Temperature Strength" G. S. Pisarenko described certain results obtained by the team of the Strength Division of the Institute as regards the development of new methods and test equipment for studying the mechanical characteristics of high temperature materials at temperatures up to 1500°C, for high temperature static and dynamic tests of metalloceramic materials and of components and also certain results of investigations relating to dissipation of energy in heat resistant materials at normal and at elevated temperatures.

Card 6/9 The paper of G. S. Brokhin, A. B. Platov and A.I.Baranov

Scientific Conference on the strength of elements of turbo-machinery at elevated temperatures.

"Technique of High Temperature Tests Applied by VNIITS", and that of Ye. N. Gerhon (VIAM) "On Certain New Methods of Testing High Temperature Metallocceramic Materials" and the paper of V. Z. Tseytlin, M. A. Filatova, A.V.Ryabchenkov and A. I. Maksimov (TsNIITMASh) "Long Duration and Fatigue Strength in Air and in Gaseous Media of a Nickel-Chromium Alloy Used for Transportation (Gas) Turbines" were all devoted to the study of high temperature materials. The results of natural investigations of elements of turbo-machinery were dealt with in papers presented by the personnel of TsKTI imeni Polzunov.
N. N. Kalinovskiy (NII) dealt with the results of investigation of the carrying capacity and the long duration strength of specimens of gas turbine discs of a new design and a complicated configuration under conditions similar to the operating conditions. The author described the features of the heating system and of the damping equipment which ensures the possibility of long duration tests of natural discs by means of racing at a high temperature until disruption occurs and he also considered the deformations of a disc in the case of long

Card 7/9

Testing of Turbine Blades and Materials at Normal and at Elevated Temperatures" I. I. Panchenko (TsKTI) dealt with the method developed by TsKTI for generating blade [illegible] of various [illegible] [illegible] investi- [illegible]

[illegible] of Turbines Taking Into [illegible] Temperatures" [illegible] conditions of [illegible] problem [illegible]

MAKSIMOV, A. I., Cand of Tech Sci -- (diss) "Surface Cleanliness and Accuracy of Measurements in Forging Flat Die Stamping," Moscow, 1959, 17 pp (Moscow Steel Institute im Stalin) (KL, 2-60, 113)

Maksimov, A.I.

18(7) PHASE I BOOK EXPLOITATION SOV/2296

Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya

Korroziya i zashchita metallov v mashinostroyenii (Corrosion and Protection of Metals in the Machine-building Industry) Moscow, Mashgiz, 1959. 347 p. (Series: Its: [Sbornik] kn. 92) 3,500 copies printed.

Ed.: A. V. Ryabchenkov, Doctor of Chemical Sciences, Professor; Ed. of Publishing House: A. I. Sirotin, Engineer; Tech. Ed.: B. I. Model'; Managing Ed. for Literature on Heavy Machine Building (Mashgiz): S. Ya. Golovin, Engineer.

PURPOSE: This collection of articles is intended for designers, technologists, and industrial and research workers concerned with corrosion and corrosion protection of metals.

COVERAGE: This collection of articles deals with problems of corrosion and metal protection under investigation at TsNIITMASh during the past two years. The articles discuss stress corrosion, intergranular corrosion, scale and heat resistance of austenitic steels in gaseous media, protective coating, fretting corrosion, and resistance of metals to cavitation. No personalities are mentioned. References follow each article.

TABLE OF CONTENTS:

Card 5/7

MAKSIMOV, A.I.

PHASE I BOOK EXPLOITATION SOV/3559

Akademiya nauk SSSR. Institut metallurgii. Nauchnyy sovet po probleme zharoprochnykh splavov

Issledovaniya po zharoprochnym splavam, t. 5 (Investigations of Heat-Resistant Alloys, Vol 5) Moscow, Izd-vo AN SSSR, 1959. 423 p. Errata slip inserted. 2,000 copies printed.

Ed. of Publishing House: V.A. Klimov; Tech. Ed.: I.F. Kuz'min; Editorial Board: I.P. Bardin, Academician, G.V. Kurdyumov, Academician, N.V. Ageyev, Corresponding Member, USSR Academy of Sciences (Resp. Ed.), I.A. Oding, I.M. Pavlov, and I.F. Zudin, Candidate of Technical Sciences.

PURPOSE: This book is intended for metallurgical engineers, research workers in metallurgy, and may also be of interest to students of advanced courses in metallurgy.

COVERAGE: This book, consisting of a number of papers, deals with the properties of heat-resisting metals and alloys. Each of the papers is devoted to the study of the factors which affect the properties and behavior of metals. The effects of various elements such as Cr, Mo, and W on the heat-resisting properties of various alloys are studied. Deformability and workability of certain metals as related to the thermal conditions are the object of another study described. The problems of hydrogen embrittlement, diffusion and the deposition of ceramic coatings on metal surfaces by means of electrophoresis are examined. One paper describes the apparatus and methods used for growing monocrystals of metals. Boron-base metals are critically examined and evaluated. Results are given of studies of interatomic bonds and the behavior of atoms in metal. Tests of turbine and compressor blades are described. No personalities are mentioned. References accompany most of the articles.

2/2

ZALESSKIY, V.I.; MARSINOV, A.I.

Surface smoothness due to planar calking. Kuz.-shtam.proizv. 1 no.3:8-13 My '59. (MIRA 12:10)
(Forging)

ZALESSKIY, V.I.; MAKSIMOV, A.I.

Attainable size accuracy of parts made by flat coining. Kuz. shtam. proizv. I no.10:14-19 O '59. (MIRA 13:2)
(Sheet-metal work)

MAKSIMOV, A.I., inzh.; SOROKIN, P.V., inzh.; VEDENKIN, S.G., prof.

Effect of active gas media on the lasting strength of austenitic steel castings. Trudy TSNIITMASH 92:139-157 '59. (MIRA 12:8)

(Steel--Corrosion)

MAKSIMOV, A.I., inzh.; SOROKIN, P.V., inzh.; DAVIDOVSKAYA, Ye.A., kand. tekhn.nauk; VEDENKIN, S.G., prof.

Long-time strength of austenite steels in fuel combustion products and in superheated steam. [Trudy] TSNIITMASH 100:70-89 '59. (MIRA 13:7)
(Heat-resistant alloys)

TSEYTLIN, V.Z., kand.tekhn.nauk; FILATOVA, M.A., inzh.; RYABCHENKOV, A.V., doktor khim.nauk prof.; MAKSIMOV, A.I., inzh.

Investigating the properties of the pilot-plant produced EI765 alloy used for manufacturing gas turbin parts. [Trudy] TSNIITMASH 100:192-217 '59. (MIRA 13:7)
(Heat-resistant alloys)
(Gas turbines)

MAKSIMOV, A.I., inzh.; MADOYAN, A.A., inzh.

Express method for determining the intake of cold air. Elek. sta. 31 no.9:72-73 S '60. (MIRA 14:10)
(Boilers)

MAKSIMOV, A.I.; VAKHURIN, N.Ye.

Automatic control of the stamping of die holders. Kuz. shtam. proizv. 3 no. 5:13-17 My '61. (MIRA 14:5)
(Dies (Metalworking)) (Automatic control)

MAKSIMOV, A.I.; SOROKIN, P.V.; FEDOSOV, A.I.

Device for corrosion-erosion testing of heat-resistant materials in combustion products of liquid fuels. Zav.lab. 27 no.10:1311-1312 '61. (MIRA 14:10)

1. TSentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya.
(Liquid fuels) (Testing machines)

VNUKOV, A.K., kand.tekhn.nauk; PELESHOK, A.G., inzh.; POBEGAYLO, K.M., inzh.; MAKSIMOV, A.I., inzh.

Methods for adjusting the furnaces of large boiler units. Elek. sta. 32 no.11:10-13 N '61. (MIRA 14:11)
(Boilers) (Furnaces)

S/182/62/000/002/001/005
D036/D112

AUTHORS: Maksimov, A.I., Kunitsa, N.S. and Bryukhanov, A.N.

TITLE: On the effect of the rate of change of the deformation resistance on the accuracy of cold flat sizing

PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, no. 2, 1962, 5-8

TEXT: The authors examined the effect of the sizing allowance, contact friction and strength properties of the forging material on the accuracy of cold flat sizing, as these factors had not been sufficiently studied. Sizing must guarantee a certain standard of surface finish and dimensional accuracy before it can replace cutting operations. It was found that: (1) the achieved sizing accuracy in dies without stops depends on the rate of change of the deformation resistance; the lower this rate is, the more accurate the sizing is. Increasing the sizing allowance increases the sizing accuracy, which explains why lubricants permitted reducing the deformation effort and increasing the accuracy of flat sizing; (2) the harder the metal, the less the accuracy of flat sizing; for higher accuracy, the forgings ought to be sized after annealing or normalizing. The above research was done in 1961 by the kafedra obrabotki metallov VZMI (Department of Metal Work-

Card 1/2

On the effect of the rate .....

ing of the VZMI); the experimental work was done on a 1000-ton-capacity embossing press at the forge shop of the Vladimirskiy traktornyy zavod (Vladimir Tractor Plant) by A.I. Maksimov and V.N. Kulikovskiy. The laboratoriya mekhanicheskikh ispytaniy Avtozavoda im. Likhacheva (Laboratory of Mechanical Tests of the Automobile Plant im. Likhachev) calibrated the specimens used for determining the flexible characteristics of the die-press system on a 100-ton capacity testing press. A I. Maksimov and M.G. Parun-Sarkisova are mentioned. There are 3 figures, 3 tables and 5 Soviet-bloc references.

Card 2/2

MAKSIMOV, A.I.; KUNITSA, N.S.; BRYUKHANOV, A.N.

Investigating and setting up the process of cold level sizing with limiting devices. Kuz.-shtam. proizv. 4 no.9:1-6 S '62. (MIRA 15:9)

(Forging)

L 5264-66 EWT(1)/EPA(s)-2/EWT(m)/EPF(c)/EPA(w)-2/EWP(t)/EWP(b)/EWA(m)-2 IJP(c)
ACC NR: AP5026097 JD SOURCE CODE: UR/0386/65/002/005/0216/0218

AUTHOR: Maksimov, A. I. 44,55

ORG: Institute of Chemical Physics, Academy of Sciences, SSSR (Institut khimicheskoy fiziki Akademii nauk SSSR) 44,55

TITLE: Influence of the skin effect on the optical properties of a microwave discharge 44,55,21

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 2, no. 5, 1965, 216-218

TOPIC TAGS: skin effect, high frequency discharge, optic property, gas discharge, helium electric discharge radiation, pressure effect, discharge plasma

ABSTRACT: The author investigated the dependence of the intensity of the spectral lines on the power of a microwave discharge in helium. The discharge was ignited in quartz tubes using the microwave chamber designed by V. S. Nikol'skiy (Byulleten' izobreteniy, no. 22, 1961), fed from a magnetron operating in the continuous mode at 3000 Mc. The power absorbed in the discharge was measured by usual microwave methods. The spectrum of the radiation emerging from the end of the tube was registered with an ISP-51 spectrograph equipped with an FEP-1 photographic attachment. The spectral intensity was plotted against the discharge power at 0.33,

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L 5264-66
ACC NR: AP5026097

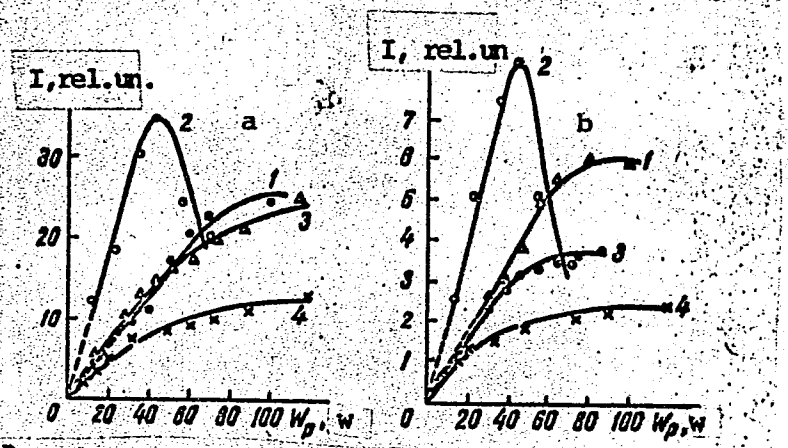

Fig. 1. Dependence of the intensity of the spectral lines 4713 Å (a) and 5016 Å (b) on the discharge power in helium. The numbers 1, 2, 3, and 4 on the curves correspond to pressures of 0.33, 0.53, 1.13, and 2.2 mm Hg.

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0.53, 1.13, and 2.2 mm Hg. (See Fig. 1.) The discharge tube employed (o.d = 1.7 cm) had internal windows which bounded a discharge zone 3 cm long and which cut out the light flux from the axial zone of the plasma. A noteworthy fact was that the same dependence was observed for lines with essentially different self absorption in the discharge. At low power, the intensity variation was practically linear, but this was followed by deviation from linearity, and at 0.53 mm Hg a clearly pronounced intensity maximum was observed, corresponding to a power of 40--45 W. The discharge brightness observed visually through the side wall continued to increase at the same time. These intensity maxima were not observed when we used a discharge tube that made it possible to register radiation from the entire cross section. The described effect can be explained by assuming that under these conditions the magnitude of the skin layer is close to the radius of the discharge tube. An estimate shows that for this purpose it is necessary that the electron concentration be smaller than 10^{12}. The weakening of the field in the center of the discharge by the skin effect can lead to a decrease in the average energy of the electrons in this region, accompanied by attenuation of the radiation intensity on the axis while the overall intensity increases. The maximum of the intensity should shift in this case to the peripheral zone. Additional measurements with a narrower radiation beam at a pressure corresponding to the most pronounced maximum (0.53 mm

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ACC NR: AP5026097

Hg) confirmed this assumption. Orig. art. has: 2 figures. [02]

SUB CODE: EC, OP, ME, EM/ SUBM DATE: 06Jul65/ ORIG REF: 001/ ATD PRESS: 4138

Card 4/4

ACC NR: AT7006784 (A) SOURCE CODE: UR/3236/65/002/000/0074/0080

AUTHORS: Dolgopolov, N. N. (Candidate of technical sciences); Polak, L. S. (Doctor of physico-mathematical sciences); Fridman, V. I. (Engineer); Vurzel', F. B. (Engineer); Maksimov, A. I. (Engineer)

ORG: none

TITLE: High-frequency electrodeless discharge and the possibilities of its application in the production of polymeric materials

SOURCE: Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut novykh stroitel'nykh materialov. Sbornik trudov, no. 2(10), 1965. Elektrofizicheskiye metody issledovaniya stroitel'nykh materialov (Electrophysical methods of investigating building materials), 74-80

TOPIC TAGS: silicon compound, silicon dioxide, gas discharge, electric discharge

ABSTRACT: A high-frequency electrodeless discharge burner is described. The burner design is similar to that reported by A. V. Donskoy and S. V. Dresvin (Zh. Elektrotermiya, No. 5, 37, 1963). A schematic of the apparatus is presented. The temperature distribution in the flame was determined in terms of the absolute intensities of number of argon emission lines. The experimental results are shown graphically (see Fig. 1). A scheme for the continuous production of pure silicon

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ACC NR: AT7006784

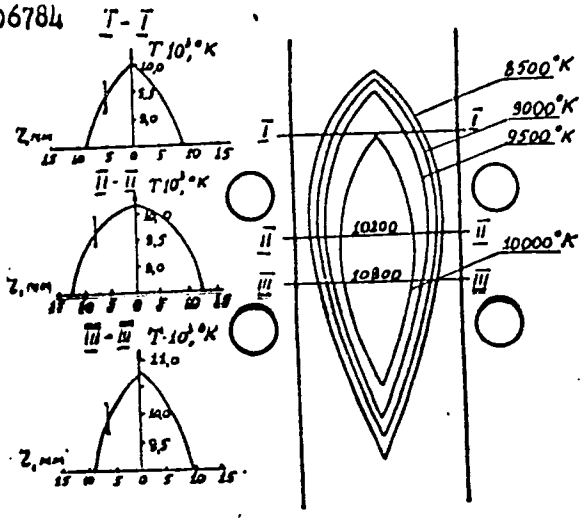

Fig. 1. Spatial distribution of temperature in an argon discharge containing additions of hydrogen

monoxide and silicon dioxide with the aid of the electrodeless burner was developed. This scheme is based on the following system of reactions:

$$SiCl_4 + O_2 \rightarrow SiO_2 + 2\,Cl_2.$$

$$2\,SiCl_4 + O_2 \rightarrow 2\,SiO + 4Cl_2$$

The experimental results are tabulated. It was found that the use of the electrodeless discharge method introduces a considerable simplification in the production

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ACC NR: AT7006784

of high purity silicon dioxide. Orig. art. has: 1 table, 3 graphs and 2 equations.

SUB CODE: 11,07,09 SUBM DATE: none/ ORIG REF: 003/ OTH REF: 009

Card 3/3

ACC NR: AP7002427 SOURCE CODE: UR/0051/66/021/006/0770/0771

AUTHOR: Maksimov, A. I.

ORG: none

TITLE: Use of microwave discharge as an active medium of a gas-discharge laser

SOURCE: Optika i spektroskopiya, v. 21, no. 6, 1966, 770-771

TOPIC TAGS: gas laser, helium, neon, ~~laser~~, microwave ~~discharge~~

ABSTRACT: In this theoretical work the author calculates the magnitude of the population inversion for the $2s_2$ and $2p_4$ states of Ne in an He-Ne gas-discharge laser (10-mm diameter) using a 10:1 He/Ne mixture under microwave conditions. Results are given in the form of diagrams for the population inversion magnitude, i.e., the difference ΔN of the $2s_2$- and $2p_4$-level populations in terms of 1) the pressure p, assuming optimum electron concentrations, and 2) the specific discharge power, for various fixed values of the pressure (1—15 mm Hg). The maximum ΔN occurs at p = 5 mm Hg, the frequency of the collisions between electrons then being about the same as the applied field frequency. Above this pressure, the ΔN maximum shifts in the direction of lower powers. However, $|\Delta N|$ and the pumping powers are much greater than in the case of the glow discharge (by about one order of magnitude for the pumping power

Card 1/2 UDC: 621.375.9:535

ACC NR: AP7002427

and 1.5—2 orders for ΔN) although this needs experimental verification. Under plasma-resonance conditions (2.10^{11} electrons/cm^3, 3000 Mc) two stable discharge regimes are observed; one of these corresponds to a considerable excitation of the He 4^3S level, and, as should be expected, to an increase in the power of coherent light. The author thanks V. L. Tal'roz for suggesting the study and for the attention he gave the work. Orig. art. has: 2 figures and 1 formula.

SUB CODE: 20/ SUBM DATE: 15Jan66/ ORIG REF: 005/ OTH REF: 002/ ATD PRESS: 5112

Card 2/2

ACC NR: AP6033410 SOURCE CODE: UR/0057/66/036/010/1768/1774

AUTHOR: Maksimov,A.I.

ORG: Institute of Chemical Physics, AN SSSR, Moscow (Institut khimicheskiy fiziki AN SSSR)

TITLE: Electron concentration and energy in a superhigh frequency helium discharge

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 10, 1966, 1768-1774

TOPIC TAGS: gas discharge plasma, helium, superhigh frequency, electron temperature, electron density

ABSTRACT: The author has investigated discharges excited by 3KMHz microwave power from a magnetron in spectroscopically pure helium at pressures from 2.5 to 16 mm Hg within an 11 mm diameter discharge tube of the type designed by V.S.Nikol'skiy (Byulleten izobreteniy, No. 22, 1961). The rf power dissipated in the plasma, the dc conductivity of the plasma, and the probe characteristics of 0.08 mm diameter tungsten probes were recorded. From the recorded data there were calculated the electron concentration n, the electron temperature T, and the effective electric field E that would give rise to the same power dissipation per electron as was observed in the high frequency discharge. These quantities are presented graphically as functions of the helium pressure p and the discharge power W, and are compared with the analogous quantities for a helium glow discharge. Typical values of n, T, and E/p

UDC: 533.9

Card 1/2

ACC NR: AP6033410

were 1.5 x 10^{-11} cm^{-3}, 10 eV, and 8 V/cm mm Hg, respectively. A number of differences between the high frequency discharge and a glow discharge were noted; in particular, T and E/p were higher in the high frequency discharge and remained constant with increasing discharge power under such conditions that the corresponding quantities in the positive column of a glow discharge would decrease with increasing power. It is suggested that these differences between the two types of discharge may be reflected in their optical properties and in the behavior of chemical processes taking place in them. Orig. art. has: 5 formulas, 7 figures, and 1 table.

SUB CODE: 20 SUBM DATE: 25Sep65 ORIG. REF: 015 OTH REF: 009

Card 2/2

L 16068-66 EWT(1)/EWP(e)/EWT(m)/ETC(f)/EPF(n)-2/EWG(m)/T/EWP(t) IJP(c)

ACC NR: AT6004494 JD/GS/AT/WH SOURCE CODE: UR/0000/65/000/000/0223/0232

AUTHOR: Vurzel', F. B.; Dolgopolov, N. N.; Maksimov, A. I.; Polak, L. S.; Fridman, V. I.

ORG: none

TITLE: Application of high frequency electrodeless plasma generator to production of pure silicon and its oxides

SOURCE: AN SSSR. Institut neftekhimicheskogo sinteza. Kinetika i termodinamika khimicheskikh reaktsiy v nizkotemperaturnoy plazme (Kinetics and thermodynamics of chemical reactions in low-temperature plasma). Moscow, Izd-vo Nauka, 1965, 223-232

TOPIC TAGS: plasma generator, high energy plasma, plasma device, silicon, silicon dioxide, silicon carbide, plasma chemistry

ABSTRACT: The high frequency electrodeless plasma generator in chemical technology is superior to the electrode-type plasma generator since it eliminates the problem of contamination by the electrode material. The electrodeless plasma generator can handle the chemically agressive as well as nonagressive gases and it is particularly suitable for high temperature chemical processes. The typical conditions of opera-

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L 16068-66

ACC NR: AT6004494

tion of a high frequency electrodeless plasma generator are: argon flow rate 36--51 l/min, oxygen flow rate 1.1-2.1 l/min, hydrogen flow rate 1.2-1.8 l/min, discharge input 3.4-5.2 kilowatts, portion of input carried away by the gases 1.9-2.4 kilowatts, and loss of the input energy 1.5-3.3 kilowatts. The unit utilizes a power supply LGD-32 operating within 15-30 megacycles. A detailed temperature distribution in argon plasma is given. It is indicated that the high frequency electrodeless plasma technique can be employed to decomposition of SiO_2 into elemental silicon or silicon monooxide. Other important applications include the decomposition of $SiCl_4$, formation of silicon carbide from methyldhlorosilane, oxidation of $SiCl_4$ to silicon mono- or dioxide, and reduction of silicon dioxid. The temperature dependence of the concentration x of silicon and silicon monooxide in silicon-containing decomposition products is shown in fig. 1. Orig. art. has: 4 figures, 4 tables, 5 formulas.

L 16068-66

ACC NR: AT6004494

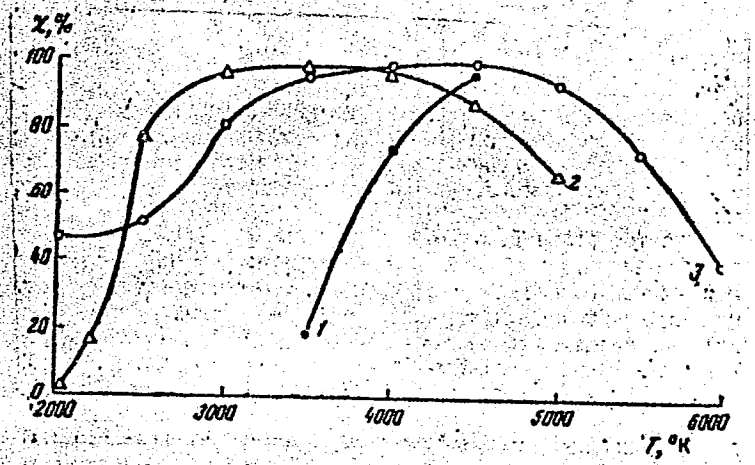

Fig. 1. 1--concentration of elemental silicon during thermal decomposition of $SiCl_4$; 2--concentration of SiO during oxidation of $SiCl_4$ with oxygen; 3--concentration of SiO during thermal decomposition of SiO_2.

SUB CODE: 07,20/ SUBM DATE: 08Jul65/ ORIG REF: 004/ OTH REF: 005

Card 3/3

MAKSIMOV, A.I.

BTR-20-2,6 rubberized drum vacuum filter with a strip device for the removal of the precipitate. Khim.mash. no.6:44 N-D '60. (MIRA 13:11)
(Filters and filtration)

MAKSIMOV, A.I., inzh.

Drum vacuum filter with magnetic system. Khim.mash. no.2:12-13 Mr-Ap '61. (MIRA 14:3)
(Filters and filtration)

KRASNOV, K.S.; MAKSIMOV, A.I.

Calculation of the vibration frequencies of diatomic molecules from their reduced mass. Opt. i spektr. 8 no.3:403-406 Mr '60. (MIRA 14:5)

(Spectrum, Molecular)

KRASNOV, K.S.; MAKSIMOV, A.I.

Use of an ionic model for calculating molecular vibrations of alkaline earth metal halides. Zhur.strukt.khim. 3 no.6:703-706 '62. (MIRA 15:12)

1. Ivanovskiy khimiko-tekhnologicheskiy institut.
(Alkaline earth halides) (Molecules--Models)

MAKSIMOV, A.I., inzh.; POBEGAYLO, K.M., inzh.; MAKSIMOVA, V.I., inzh.; POPOVICH, N.A., inzh.; FILATOVA, L.I., inzh.; SHAKHANOV, V.S., inzh.

Economically expedient distribution of reserves in the electric power plants of the electric power system of the Donets Basin using a compensation technique. Elek.sta. 34 no.2:52-59 F '63. (MIRA 16:4)

(Donets Basin--Electric power plants)

BORKOVSKIY, M.A.; VOSTOKOV, A.I.; ZHVIRKO, I.S.; LEPESHKIN,I.P.; MEL'NIK, M.K.; MITROFANOV, V.P.; RODKEVICH, A.V.; SILIN, P.I.[deceased]; YAKUBOVSKIY, V.V.; YEREMENKO, B.A., retsenzent; MAR'YANCHIK, V.L., retsenzent; MAKSIMOV, A.I., retsenzent; PRITYKINA, L.A., red.

[Handbook for the sugar manufacturer] Spravochnik sakharnika. Moskva, Pishchevaia promyshlennost'. Pt.2. 1965. 778 p. (MIRA 18:9)

ZHUKOV, V.V.; MAKSIMOV, A.K.

Introducing an automatic unit for cutting thin-walled pipes. Biul. tekh.-ekon. inform. Gos. nauch.-issl. inst. nauch. i tekh. inform. no. 12:20-22 D '60 (MIRA 13:12)

EWT(m)/EWP(1)/EWP(k)/EWP(t)/ETI IJP(c) JD/HW

ACC NR: AP6027205 (N) SOURCE CODE: UR/0193/66/000/006/0023/0025

AUTHOR: Braude, V. I.; Maksimov, A. K.

ORG: none

30 B

TITLE: The TGS-60M semiautomatic tube bending machine

SOURCE: Byulleten' tekhniko-ekonomicheskoy informatsii, no. 6, 1966, 23-25

TOPIC TAGS: METAL TUBE, metal bending, bending machine / TGS60M bending machine

ABSTRACT: A new semiautomatic hydraulic machine--the TGS-60M--used for cold bending of tubes with outer diameters up to 60 mm is described. The general layout, operating characteristics and schematic drawings of principal sections of the machine were presented. The machine includes such features as a programmed automatic stop and an angle measuring device for determining the bend angle relative to the horizontal plane. The operating parameters of the TGS-60M are given as follows: maximum tube bend radius--300 mm, maximum bend angle--200°, maximum speed of bending--1 rpm, maximum torque on the main drum--2500 kg/m, pump capacity--100 l/min, oil reservoir capacity--590 l, bulk machine dimension--5000 × 1360 × 1360 and weight--4400 kg. Schematic drawings of the hydraulic assembly which drives the machine and of the automatic stop device are shown. The semiautomatic cycle of the TGS-60M begins when the tube is clamped between a bending and a clamping die--the clamping die closely matching up with the

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ACC NR: AP6027205

tube dimensions. The clamped tube is next bent by a rotating die; at the moment the bending die forms the required angle, its rotation is automatically stopped while the mandrel is pulled from the bent zone and the tube removed. The yearly saving from the use of a single TGS-60M machine is estimated at 2100 rubles. The machine is recommended for use in shipbuilding, chemical machine building, and the automotive industry. Orig. art. has: 3 figures, 1 table.

SUB CODE: 13/ SUBM DATE: none

hs

Card 2/2

D'YACHENKO, V.G.; MAKSIMOV, A.L.; MOSKALENKO, V.K.; SHKURKO, S.I.
EYDEL'MAN, R.A.

The transition of industrial enterprises to a shorter workday in the first five-year plan. Vop.truda no.1:8-66 '58.
(MIRA 12:8)

(Hours of labor)

KAPLAN, Isaak Isaakovich; MAKSIMOV, Aleksey L'vovich; BOGATYRENKO, Z.S., red.; SAVCHENKO, Ye.V., tekhn.red.

[Transition of U.S.S.R. industry to a shorter working day] Perekhod na sokrashchennyi rabochii den' v promyshlennosti SSSR. Moskva, Izd-vo "Znanie," 1959. 47 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser.3, Ekonomika, no.36) (MIRA 12:11)
(Hours of labor)

KAPLAN, I.I.; MAKSIMOV, A.L.; GORSHUNOV, M.D., red.; SALYANSKIY, A.A., red.izd-va; UVAROVA, A.F., tekhn.red.

[Establishing the shortened workday for employees of machinery manufacturing enterprises] Opyt perevoda rabochikh i sluzhashchikh mashinostroitel'nykh predpriiatii na sokrashchennyi rabochii den'. Pod red. M.D.Gorshunova. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 85 p. (MIRA 12:5)

1. Moscow. Nauchno-issledovatel'skiy institut truda.
(Machinery industry) (Hours of labor)

MAKSIMOV, Aleksey L'vovich

[Transfer of the workers and employees of the industrial enterprises of the U.S.S.R. to a shortened workday] Perevod rabochikh i sluzhashchikh promyshlennykh predpriiatii SSSR na sokrashchennyi rabochii den'. Moskva, Nauka, 1965. 181 p. (MIRA 18:7)

MAKAROV, YU.V.; MAKSIMOV, A.M.; TRUKHIN, V.I.; CHEKALIN, E.K. (Moscow)

"The shock wave investigation in a magnetohydrodynamic shock tube".

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 Jan - 5 Feb 64.

RYCHIN, Sergey Aleksandrovich; PALLER, A.M., retsenzent; TRESHKOV, K.G., retsenzent; MAKSIMOV, A.M., nauchn. red.; PENOVA, Ye.M., red.

[Pneumatic tools in shipbuilding] Pnevmaticheskie instrumenty v sudostroenii. Leningrad, Izd-vo "Sudostroenie," 1964. 220 p. (MIRA 17:4)

L 20821-65 EWP(m)/EPR/EWG(v)/EPA(w)-2/EWT(l)/FCS(k)/T-2/EPA(sp)-2/EWA(m)-2/
EWA(d)/EWA(l)/ Pd-1/Pe-5/Pi-4/Ps-4/Pab-10/ SSD/BSD/SSD(b)/AFWL/AEDC(b)/
AEDC(a)/ASD(a)-5/ASD(p)-3/AFETR/RAEM(c)/RAEM(a)/ESD(gs)/ESD(t)/ASD(f)-3/IJP(c)/
ACCESSION NR: AT4048007 MLK S/0000/64/000/000/0055/0058

AUTHOR: Makarov, Yu. V., Maksimov, A. M.

TITLE: Spectroscopic studies of plasma in a magnetohydronamic shock tube 84

SOURCE: AN SSSR. Energeticheskiy institut. Fizicheskaya gazodinamika i svoystva gazov pri vy*sokikh temperaturakh (Physical gas dynamics and properties of gases at high temperatures). Moscow, Izd-vo Nauka, 1964, 55-58

TOPIC TAGS: plasma, gas dynamics, magnetohydrodynamics, plasma flow, shock tube, shock wave spectrum, plasma temperature, plasma ion concentration

ABSTRACT: This is a continuation of work by the authors using equipment described previously for the study of spectra from plasma behind the luminescent front of a shock wave. A 3-prism glass spectrometer was set up 90 cm from the ring electrode. The speed of the shock-front was measured by an arrangement of photomultipliers which detected the front of the shock-wave. The gas used was purified air at pressures of 0.3 - 6 mm Hg. The typical spectrum illustrated for a speed of 14 km/sec. shows a continuous background, more intense at the red end with some broad and narrow lines. The spectrum was analyzed by comparision with mercury and iron spectra, wavelengths being measured

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accurately to ±2A and the results being tabulated. Bright lines were obtained from the copper electrodes and the hydrogen Balmer series, and thus indicated the temperature and ion concentration of the plasma. Changes in the spectra when the discharge parameters were changed are then discussed. The ion concentration for various pressures and velocities was obtained from Stark-broadening. Subsidiary experiments showed a rapid growth in intensity (tenths of a μsec) and the presence of high-temperature zones behind the luminescent front. The temperature and ion concentration decreased at high pressures. Orig. art. has: 1 table and 2 figures.

ASSOCIATION: Energeticheskiy institut AN SSSR (Power Engineering Institute, AN SSSR)

SUBMITTED: 06Mar64 ENCL: 00 SUB CODE: ME

NO REF SOV: 002 OTHER: 003

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L 26959-65 EWT(l)/EWP(m)/EWG(v)/FCS(k)/EWA(h)/EWA(l) Pd-1/Pe-5/Pi-4 IJP(c)
ACCESSION NR: AP5005221 S/0057/65/035/002/0223/0225

AUTHOR: Makarov, Yu. V.; Maksimov, A. M. 43 28 23

TITLE: Investigation of the luminescence front structure in electromagnetic shock tubes 21

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 2, 1965, 223-225

TOPIC TAGS: luminescence, luminescence front, electromagnetic shock wave, electromagnetic shock tube

ABSTRACT: Experiments were carried out in air and other gases in a shock tube with a conical discharge chamber to investigate the luminescence front, its relation to the shock wave, the extension of the shock-heated gas region, pressure, flow velocity, and the temperature and concentration of charged particles behind the front. The luminescence front was studied for the region ranging from 1 m from the discharge chamber to the point at which the discharge current completely vanished. The gas pressure in air was 0.5 to 5 mm Hg and the velocity of the luminescence front from 3 to 14 km/sec. Photographs taken at increasing distances from the discharge chamber showed that

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ACCESSION NR: AP5005221

the original plane front mushroomed and then separated when the discharge current passed its maximum. The instabilities which developed at the luminescence front led to its disintegration. The basic phases of the process remain unaltered within a pressure range of 0.5—2 mm Hg. The reflection of the shock wave from the plane face depended on pressure. At a luminescence front velocity of 10 km/sec and pressure of 0.7 mm Hg, the reflected wave appeared simultaneously with the incidence of the luminescence front at the face. At 0.9 mm Hg and higher, the luminescence front fell behind the shock front in direct proportion to the increased pressure. The lag reached a magnitude of about 10 cm at a pressure of 2 mm Hg and with a distance from the discharge chamber of 140 cm. It is concluded that the luminescence front is a gas-discharge plasma mixed with impurities from the electrode and the chamber wall material. The plasma stays close to the shock front at low pressures and high velocities. A distinct shock-heated gas zone appears at higher pressures. The experimental magnitudes of this zone were several times less than those in the theoretical data. The electron concentration before the front was three orders higher than the calculated equilibrium concentration behind the front, a condition which is attributed to the presence of

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ACCESSION NR: AP5005221

heated plasma. It appears that at high Mach numbers (25 up, at pressures below 0.5 mm Hg) the plasma follows the shock front so closely that it is impossible to distinguish between them by optical methods. Doubts are expressed concerning the methods used by certain Western researchers (Roshko, McLean, Faneuff, Kolb, Griem, Wiese, Berg) to analyze the process at the shock front. [FP]

ASSOCIATION: none

SUBMITTED: 06Apr64 ENCL: 00 SUB CODE: ME, AP

NO REF SOV: 005 OTHER: 003 ATD PRESS: 3189

Card 3/3

L 43262-65 EWP(m)/EPR/EWA(n)/EWT(l)/FCS(k)/EWA(d)/EWA(c) Pd-1/Pi-4 WW
ACCESSION NR: AP5010803 UR/0057/65/035/004/0650/0657
37
36
AUTHOR: Makarov, Yu.V.; Maksimov, A.M. 8

TITLE: Investigation of the structure of shock waves in an electromagnetic shock tube

SOURCE: Zhurnal tekhnicheskoy fiziki, v.35, no.4, 1965, 650-657

TOPIC TAGS: shock front structure, shock heating, shock reflection, shock tube, electromagnetic shock tube, gas discharge plasma, barium titanate transducer, piezoelectric transducer

ABSTRACT: The authors have previously investigated shock waves in electromagnetic shock tubes (Sb."Issledovaniya po fizicheskoy gazodinamike", Izd.Nauka 1965; ZhTF 35,658,1965) and obtained evidence for the inferences that the region of maximum luminosity behind the shock front is due to a gas discharge plasma (and not to relaxation of the gas heated by the shock front) and that for low intensity shock waves the weakly luminous shock front outruns the region of maximum luminosity. In the present paper they report further, more detailed experiments to test and extend these conclusions. The principal innovation in the present work was the use of a barium titanate piezoelectric transducer in order to register the passage of the

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ACCESSION NR: AP5010803

shock front. The luminous phenomena accompanying the shock wave were observed with several photomultipliers, and the radiation in discrete spectrum lines was observed with a photomultiplier coupled to a monochromator. The shock waves were produced by electrical discharge in a conical tube and were propagated in air at pressures up to several mm Hg in a cylindrical tube. The previous conclusions were confirmed, and it is asserted that the interpretation by H.Blackman and B.Niblett (Plasma in a Magnetic Field, 87, Stanford Univ.Press,1958) of phenomena accompanying reflection of shock waves in terms of a relaxation zone must be regarded as erroneous. It was found that when $M_s > 30$ the shock front leads the luminous front (gas discharge plasma) by less than 0.3 μsec, and when $M_s < 28$ there is an appreciable region of shock-heated gas between the shock front and the more luminous gas discharge plasma. The gas discharge plasma behind the weaker shock waves is unstable, and appreciable mixing of it with the shock-heated gas occurs. "The authors express their deep gratitude to A.S.Predvoditelev for his constant interest in the work and valuable discussion of the results." Orig.art.has: 2 formulas, 4 figures and 3 tables. [02]

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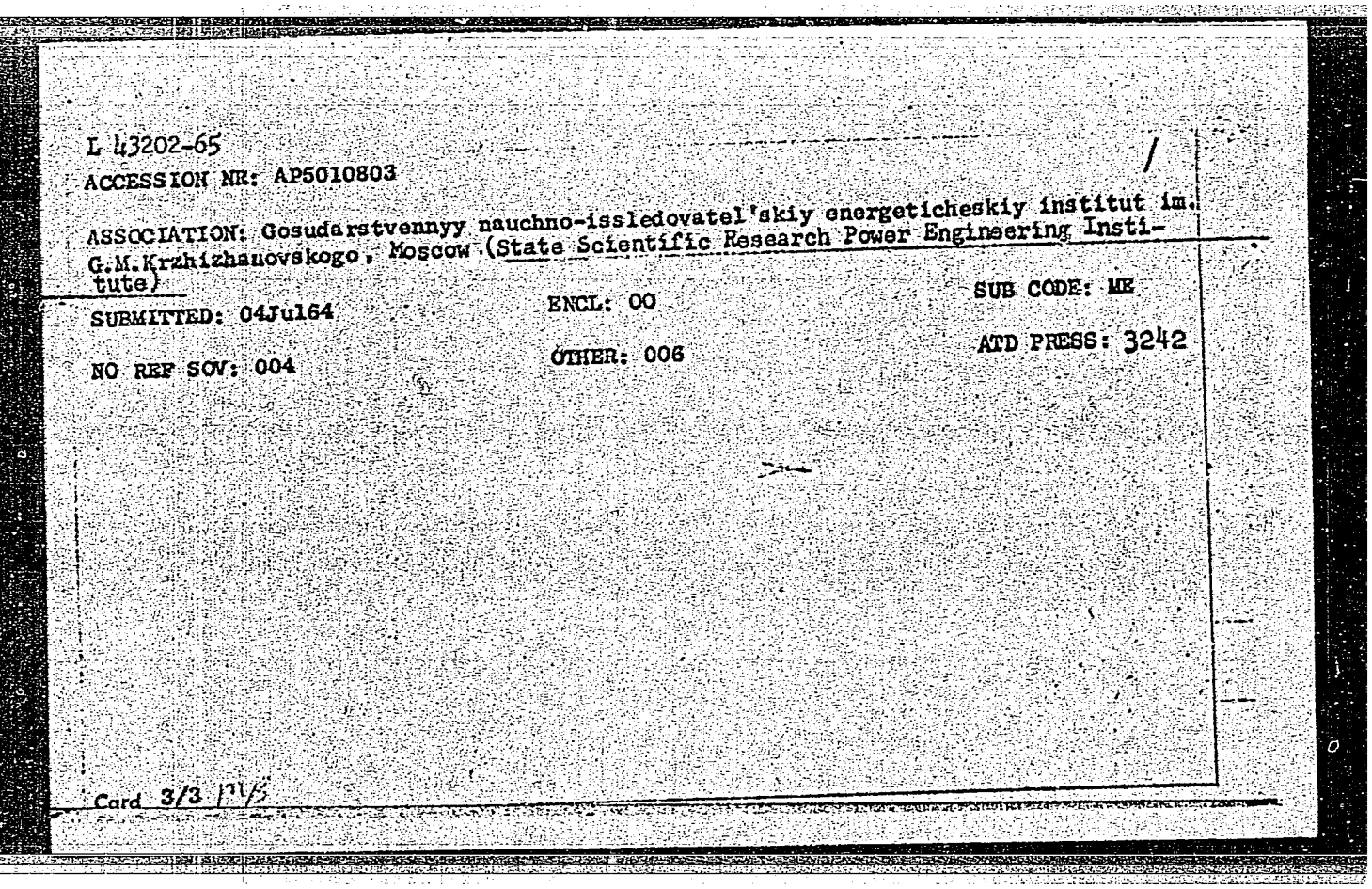

L 43202-65

ACCESSION NR: AP5010803

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy energeticheskiy institut im. G.M.Krzhizhanovskogo, Moscow (State Scientific Research Power Engineering Institute)

SUBMITTED: 04Jul64 ENCL: 00 SUB CODE: ME

NO REF SOV: 004 OTHER: 006 ATD PRESS: 3242

Card 3/3

L 49250-65 EWT(1)/EWP(m)/EWA(d)/EPR/FCS(k)/EWA(h)/EWA(c) Pd-1/Pi-4 WW

ACCESSION NR: AP5010804 UR/0057/65/035/004/0658/0666

46
45
13

AUTHOR: Makarov, Yu.V.; Maksimov, A.M.

TITLE: Spectroscopic investigations with an electromagnetic shock tube

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 4, 1965, 658-666

TOPIC TAGS: electromagnetic shock tube, shock wave, spectroscopy, plasma, electron temperature

ABSTRACT: The authors have continued their earlier work (Sb. "Fizicheskaya gazodinamika i svoystva gazov pri vysokikh temperaturakh", Izd. "Nauka", 1964; Sb. "Issledovaniya po fizicheskoy gazodinamike", Izd. "Nauka", 1965) with an electromagnetic shock tube. In the present paper they report results of spectroscopic investigations with the earlier described shock tube, in which air was used as the working medium. With the aid of a monochromator, a photomultiplier, and an oscilloscope, the time variation of intensity as the shock wave passed the observation point was recorded for a number of spectrum lines of H, C, Cu, and other elements, and for a number of wavelengths in the continuum. At both the air pressure in the shock tube and the strength of the electrical discharge producing

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the shock wave were varied over rather wide ranges, a great many data appear to have been collected. Only a few of these data are presented directly, but many of them are discussed in some detail. Most of the visible radiation was found to originate in the gas discharge plasma behind the shock front. Under most conditions the gas discharge plasma followed the shock wave very closely and its luminosity made it impossible to investigate the state of the working gas immediately behind the shock front. Under some conditions, however, the shock wave outruns the gas discharge plasma, and an investigation of the state of the gas behind the shock front under these conditions is promised for the future. The electron concentration in the gas discharge plasma varied from 10^{15} to 10^{17} cm^{-3} and depended strongly on the initial conditions (air pressure and discharge voltage); the electron temperature was about 6000°K and was almost independent of the initial conditions. "In conclusion, we express our deep gratitude to A.S.Predvoditelev for his constant interest in the work and for a valuable discussion." Orig. art. has: 2 formulas, 4 figures, and 2 tables.

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