

ZIMIN, Vyacheslav Aleksandrovich, inzh.; LEVIN, Samuil  
Samsonovich, inzh.; LEVCHENKO, Klavdiya Pavlovna,  
inzh.; SERGEYEV, Viktor Viktorovich, st. inzh.;  
ANTONOVA, N.N., inzh., red.

[Pneumatic-percussive boring of blast holes in stone  
quarries; experience of the Shartash Granite Quarry of  
the "Uralnerud" Trust] Pnevmodarnoe burenie vzryvnykh  
skvazhin na kamennykh kar'erakh; opyt Shartashskogo gra-  
nitnogo kar'era tresta "Uralnerud." Moskva, Stroiizdat,  
1964. 24 p. (MIRA 18:4)

1. Moscow. Nauchno-issledovatel'skiy institut organizatsii,  
mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu.
2. Zaveduyushchiy laboratorii burovoy tekhniki Nauchno-  
issledovatel'skogo i proyektno-konstruktorskogo instituta  
gornogo i obogatitel'nogo mashinostroyeniya, g. Sverdlovsk  
(for Zimin).
3. Nauchno-issledovatel'skiy i proyektno-  
konstruktorskiy institut gornogo i obogatitel'nogo mashino-  
stroyeniya, G. Sverdlovsk (for Levchenko, Sergeyev).

ZIMIN, V.I.

Creative cooperation between the Leningrad Institute of Railroad  
Transportation Engineers and the Oktyabr' Railroad in the field of  
railroad operation. Truly LIIZHT no.171:196-201 '59. (MIRA 13:12)

1. Glavnyy inzh. Oktyabr'skoy zheleznoy dorogi.  
(Railroads)

ZIMIN, Vladimir Ivanovich; FEDOROV, A.V., red.; MEDNIKOVA, A. N.,  
tekhn. red.

[Regulation of the speed of electric motors] Regulirovanie skoo-  
rostri vrashcheniia elektrodvigatelei. Moskva, Voenizdat, 1962.  
82 p. (MIRA 15:8)

(Electric motors)

ZIMIN, V.I.

Dynamic calculation of axisymmetrically loaded shells of revolution.  
Izv.vys.usheb.zav.; av.tekh. 3 no.3:34-42 '60. (MIRA 13:10)

1. Tashkentskiy tekstil'nyy institut. Kafedra soprotivleniya  
materialov.

(Elastic plates and shells)

ZIMIN, V.I.

ZIMIN, V.I. (Leningrad)

Calculating the effect of the track condition on the speed of  
train movement. Zhel. dor. transp. 40 no.1:46-47 Ja '58.  
(MIRA 11:1)

1. Glavnyy inzhener Oktyabr'skoy dorogi.  
(Railroads--Track)

84047

S/147/60/000/003/006/018  
E031/E420

26.2145  
AUTHOR:

Zimin, V.I.

TITLE:

The Dynamical Calculation of Axisymmetrically Loaded  
Shells of Rotation

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Aviatsionnaya  
tekhnika, 1960, No.3, pp.34-42

TEXT: The fundamental problem is to calculate the small forced oscillations of thin-walled shells of rotation of positive Gaussian curvature which are loaded axisymmetrically and are subject to axisymmetric boundary conditions (Fig.1). It is assumed that the elongation of the meridian of the mean surface of the shell is zero during the oscillations. The equation of motion (Eq.(2)) is a linear partial differential equation of the sixth order with variable coefficients ( $A, \dots, H_3$ ) in the tangential component of the displacement  $u(\varphi, t)$ , where  $\varphi$  is the angle between the normal to the shell at any point and the axis of rotation,  $t$  is the time and  $\rho, \nu, E$  are the density, Poisson's ratio and Young's modulus respectively. All the other unknowns of the shell can be determined from  $u$ . The homogeneous equation is solved by separating the variables, putting  $u = Z(\varphi) \sin(\omega t + \varepsilon)$  and using

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E031/E420

The Dynamical Calculation of Axisymmetrically Loaded Shells of Rotation

the asymptotic method of integration of Blyumental-Shtayerman (Ref.1,3). The expression for  $Z$  is quoted (Eq.(7)) where  $\epsilon, C_1, \dots, C_6$  are arbitrary constants,  $\omega$  is angular frequency of the free oscillations and  $\eta$  and  $m$  are given by Eq.(8) and (9) respectively. The general solution of  $u(\varphi, t)$  is sought in the form of a sum of terms of the form  $Z_n(\varphi)\phi_n(t)$ , where  $Z_n(\varphi)$  is a general integral of the homogeneous equation satisfying the boundary conditions and  $\phi_n(t)$  is unknown (Eq.(13)). By substituting Eq.(13) and (14) in Eq.(2) and integrating the resultant Eq.(15), Eq.(17) for  $\phi_n(t)$  is derived. The particular integral for this equation involves another function (in time only)  $f_n(t)$ , which is quoted for the case of periodic loading (Eq.(18) and (19), where  $p$  is the circular frequency of the disturbing force,  $f_n^*$  is a constant and  $\Phi_n^*(\varphi)$  is a function of time only). Thus the complete solution of the equation of motion can be obtained (Eq.(23)). As an example (p.38), the stationary forced oscillations of part of a spherical shell fixed to a bracket and free along its upper contour are considered. The solution is

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Card 2/3

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E031/E420

The Dynamical Calculation of Axisymmetrically Loaded Shells of Rotation

quoted and the problem is to determine the stresses due to periodic loading. Although the form of the functions  $f_n(t)$  is known, there are unknown constants which have to be evaluated in them (Eq.(24) to (39)). It is assumed that a horizontal periodic force varying along the meridian acts on the shell (Fig.2). The form of this force enables the unknown constants to be determined (Eq.(40) to (42)). The weakness of the method lies in the cumbersomeness of the calculations and in the relatively poor convergence of series occurring in it. There is a fair measure of agreement with moment-free static theory taking into account end effect. There are 7 figures and 4 Soviet references. ✓

ASSOCIATION: Tashkentskiy tekstil'nyy institut Kafedra  
soprotivleniya materialov (Tashkent Textile Institute,  
Chair for Strength of Materials)

SUBMITTED: April 4, 1960

Card 3/3



ZIMIN, V.I.

Along the path of technological progress and overall electrification.  
Elek. i tepl. tiaga 6 no.11:1-4 N '62. (MIRA 16:1)

1. Glavnyy inzh. Otkryab'skoy dorogi.  
(Communism) (Electric railroads)

ZIMIN, V. I., Cand Phys-Math Sci -- (diss) "Small Vibrations in  
Axially-Symmetrically Loaded <sup>shells</sup> Surfaces of Revolution". Tashkent,  
Publ. House of Middle Asian State U., 1958, 8 pp. (Ministry of  
Higher Education USSR. Middle Asian State Univ. imeni V. I. Lenin).  
150 copies. (KL, 34-58, 99).

ZIMIN, V.I.; GANKIN, N.B.

Railwaymen of the October Trunk Line in the effort for  
technological progress. Uch. zap. LIIZHT no.3:106-114  
'62. (MIRA 17:3)

1. Glavnyy inzhener Upravleniya Oktyabr'skoy zheleznoy dorogi  
(for Zimin). 2. Nachal'nik tekhnicheskogo otdela Upravleniya  
Oktyabr'skoy zheleznoy dorogi (for Gankin).

ZIMIN, V.I.

Natural vibrations of shells of revolution subjected to the action of axisymmetric loads. Izv. AN Uz.SSR. Ser. tekhnauk no.4:75-83 '57.

(MIRA 11:7)

(Elastic plates and shells--Vibration)

ZIMIN, V.I.

Prospective development of the October Railroad in the sixth  
five-year plan. Zhel. dor. transp. 37 no.12:53-57 D '55. (MLRA 9:5)

1. Glavnyy inzhener Oktyabr'skoy dorogi.  
(Railroads)

ZIMIN, V. I.

The winding of electric motors. Izd. 3., perer. Leningrad, Gos. energ.  
izd-vo, 1950. 560 p. (51-21802)

TK2391.25 1950

ZIMIN, Vladimir Ivanovich; KAPLAN, Moisey Yakovlevich; PALEY, Arma Markovna;  
RABINOVICH, Isay Natanovich; FEDOROV, Vasiliy Petrovich [deceased];  
KHAKKEN, Petr Andreyevich; RIVLIN, L.B., red.; SOBOLEVA, Ye.M.,  
tekhn.red.

[Electric machinery windings] Obmotki elektricheskikh mashin.  
Izd.5., perer. Moskva, Gos.energ.izd-vo, 1961. 475 p.

(MIRA 14:6)

(Electric machinery--Windings)

ZIMIN, Vladimir Ivanovich

The windings of electric motors Izd. 4., perer. Moskva, Gos. energ. izd-vo, 1954 575p.  
(55-33021)

TK2474.Z55 1954



ZIMIN, V. I. et al

Obmotki Elektricheskikh Mashin (Winding of Electrical Motors), 560 p., Leningrad  
and Moscow, 1950.

ZIMIN, V. I.

Author: Zimin, V. I.

Title: The winding of electrical machines.) (Obrotnei elektricheskikh mashin) 560 p.

Cit.: Leningrad

Publisher:

~~Издательство~~: State Printing House of Energetics.

Date: 1950

Available: Library of Congress

Source: Monthly List of Russian Acquisitions, vol. 2, No. 12, Page 813

Call No: TK2391.25

Subject: Electric coils, 2. Electric machinery.

RIVLIN, Lev Borisovich; ZIMIN, V.I., redaktor; ZABRODINA, A.A., tekhnicheskiy redaktor.

[Installation of large electric machines] Montazh krapaykh elektricheskikh mashin. Moskva, Gos. energ. izd-vo, 1956. 412 p. (MIRA 915)  
(Electric machinery)

ZIMINA, V.I.

Experimental investigation of the propagation of electromagnetic waves along a cylinder of ionized gas. Radiotekhnika i elektronika. 5 no.6:938-942 Je '60. (MIRA 13:6)  
(Electromagnetic waves)

Zimin, V.I.

ASTAKHOV, K.V.; VERENIKHIN, V.B.; ZIMIN, V.I.

"Radioactive indicator techniques." V.I. Spitsyn and others.  
Reviewed by K.V. Astakhov, V.B. Verenichin, V.I. Zimin. Zhur.  
fis.khim. 30 no.4:957-958 Apr. '56. (MLRA 9:9)

(Radioisotopes) (Spitsyn, V.I.)

ZIMIN, V.I.; ZUBKOV, I.I., kandidat tekhnicheskikh nauk.

Technological process of operating a rail junction. Zhel.dor. transp.  
37 no.4:55-58 Ap '56. (MLRA 9:7)

1.Glavnyy inzhener Oktyabr'skey deregi (for Zimin)  
(Railroads--Station service)

ASTAKHOV, K.V.; VERENIKIN, V.B.; ZIMIN, V.I.; ZVER'KOVA, A.D.

Spectrophotometric study of the complexing of some rear earths  
with nitriloacetic acid. Zhur.neorg.khim. 6 no.9:2067-2076  
S '61. (MIRA 14:9)

(Rare earth compounds) (Acetic acid)

ASTAKHOV, K.V.; VERENIKIN, V.E.; ZIMIN, V.I.

Spectrophotometric study of the complexing of neodymium with bis-acetylacetonethylenediamine. Zhur.neorg.khim. 6 no.9:2077-2081 S '61. (MIRA 14:9)

(Neodymium compounds)



ZIMIN, Vladimir Ivanovich; KAPLAN, Moisey Yakovlevich; PALEY, Anna  
Markovna; RABINOVICH, Isay Katanovich; FEDOROV, Vasilii Petrovich;  
KHAKKEN, Petr Andreyevich; RIVLIN, L.B., redaktor; VORONITSKAYA,  
L.V., tekhnicheskii redaktor.

[Windings of electric machinery] Obmotki elektricheskikh mashin.  
Isd. 4-e, perer. Moskva, Gos. energ. izd-vo, 1954. 575 p.  
(Electric machinery) (MIRA 8:1)

BUKOLOV, I.Ye.; ASTAKHOV, K.V.; ZIMIN, V.L.; TAIROV, V.S.

Complex compounds of strontium with some dicarboxylic organic acids.  
Zhur.neorg.khim. 7 no.7:1577-1582 J1 '62. (MIRA 16'3)  
(Strontium compounds) (Acids, Organic)

ZIMIN, V.M.

Mechanism of evaporation of electrode materials in a condensed  
spark. Uch.zap.Kaz.un. 116 no.1:104-105 '55. (MIRA 10:5)

1.Kafedra molekulyarnykh i teplovykh yavleniy.  
(Electrodes) (Sparks)

S/058/61/000/007/040/086  
A001/A101

AUTHOR: Zimin, V.M.

TITLE: On the problem of mechanism of feeding the material of electrodes into a condensed spark

PERIODICAL: Referativnyy zhurnal. Fizika, no. 7, 1961, 173, abstract 7G124 ("Dokl. Mezhevuz. nauchn. konferentsii po spektroskopii i spektr. analizu". Tomsk, Tomskiy un-t, 1960, 22 - 24)

TEXT: The author reports on the results of investigating the process of formation of flares on the surface of electrodes of spark discharge and their relative role in the total discharge balance. It is noted that flares arise simultaneously on very small portions of the cathode spot, rather than over its entire surface, due to which circumstance the current density at the places of flares outlet amounts to the value  $3 \times 10^8$  amp/cm<sup>2</sup>. It is conjectured that the place of flare outlet is simultaneously the place of ejection of electron stream from the cathode into the discharge channel. The author studied the interconnection between the parameters of a discharge circuit and certain physical properties of discharge (intensities of lines of atoms, ions, character of flare formation, etc.).

[Abstracter's note: Complete translation]

M. Britske

Card 1/1

ZIMIN, V.M.

Mechanism of the penetration of electrode material into a  
condensed spark. Izv. vys. ucheb. zav.; fiz no.6:164-171 '61.

(MIRA 15:1)

1. Kazanskiy gosudarstvennyy universitet imeni V.I. Ul'yanova-  
Lenina.

(Electric spark)

3L200

S/139/61/000/006/022/023  
E039/E320

26.2310

AUTHOR: Zimin, V.M.

TITLE: On the question of the mechanism of entry of electrode material in a condenser spark discharge

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika, no. 6, 1961, 164 - 171

TEXT: In a spark discharge there are two main forms: the channel and the glow. The former has been studied sufficiently well. In the glow discharge jets of electrode material are periodically thrown off in the form of luminous vapour when the current reaches about 100 A. This appears to be the result of the simultaneous action of two processes: firstly, the bombardment of the cathode surface with positive ions, accelerated by the electric field. They also have appreciable thermal velocity as the temperature in the discharge is  $\sim 40\ 000\ ^\circ\text{K}$ . The particles of metal are ejected with low energy but they rapidly gain thermal energy and diffuse into the glow discharge. Secondly, there is the emission of electrons from the cathode.

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E039/E320

On the question of ....

This emission is nonuniform and when the current density at any point attains  $\sim 3 \times 10^8$  A/cm<sup>2</sup> the joule heating is such that metal is "blown" into the discharge. The aim of the present work was to study the conditions for the formation of the glow and to elucidate its role in the discharge. A block diagram of the apparatus used is shown in Fig. 1. It consists of an HT supply with a variable capacity and inductance in the circuit (C = 0.0005 to 0.5  $\mu$ farad and L = 3.6 to 29  $\mu$ henries). The external form of the discharge was examined photographically and it was shown that when the initial current  $I_0 = U_0 \sqrt{C/L}$  reached  $\sim 90-100$  A, the discharge became asymmetrical. Spark spectra were observed and it was shown that the spectral lines of ions became relatively more intense as the capacity and hence the current was increased. However, when  $I_0$  reached  $\sim 90 - 100$  A, an anomaly occurred suggesting a decrease in the discharge temperature (see Fig. 5). Oscillograms of the oscillatory discharge were obtained using a synchroscope, type 25-A (25-I). Traces were photographed and measured

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On the question of ....

visually. The dependence of the conductivity  $1/R_0$  of the discharge on various circuit parameters was studied. It was shown that the conductivity  $1/R_0$  varied linearly with the initial current  $I_0$ . When  $I_0$  reached values in the region of 100 A, a discontinuity was observed in this linear relationship when using Fe, Sn, Cu, Ni and Zn electrodes (Fig. 7) which corresponded with the changes in the external form of the discharge and the anomaly in the intensity of the spectral lines. In the case of tungsten electrodes the discontinuity was smaller and depended on the circuit inductance (Fig. 8). Calculations were made on the energy dissipated in forming a glow discharge. In the region of the discontinuity (Fig. 7) two values of  $R_0$  can be obtained - that corresponding to the experimental value  $R_0$  and that corresponding to a linear relation  $R_0^*$ . The logarithmic decrements  $\lambda$  and  $\lambda^*$  can be calculated corresponding to these values and also the normal decrement

$D = \exp \lambda$  and  $D^* = \exp \lambda^*$ . If the initial energy is  $E_0$ ,  
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E039/E320

On the question of ....

that corresponding to the second period of oscillation will be

$E_1 = E_0 D^{-2}$  and the dissipation of energy will be

$\Delta E = E_0 (1 - D^{-2})$ . In the case of glow formation we have

$\Delta E^* = E_0 (1 - D^{*-2})$ . Hence, the dissipation of energy in the

formation of a proper glow discharge is:

$$\delta E = \Delta E - \Delta E^* = E_0 \frac{D^2 - D^{*2}}{D^2 D^{*2}}$$

In all cases,  $\delta E$  is not greater than 10% of the energy  $\Delta E$  produced in the circuit during one period.

There are 9 figures and 17 references: 14 Soviet-bloc and 3 non-Soviet-bloc. The two English-language references mentioned are: Ref. 10: A. Schuster, G. Hemsalech. Phil. Trans; Ref. 17: W.P. Dyke, J.K. Trolan - Phys. Rev., 89, 799, 1953.

Card 4/5

X

34000

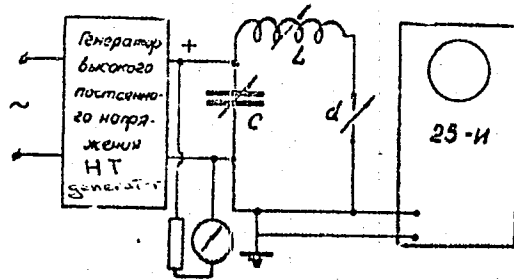
S/139/61/000/006/022/023  
EO39/E320

On the question of ....

ASSOCIATION: Kazanskiy gosuniversitet imeni V.I. Ul'yanova-Lenina (Kazan' State University imeni V.I. Ul'yanov-Lenin)

SUBMITTED: September 16, 1960

Fig. 1: Block diagram of apparatus for studying discharges:



Card 5/5

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ACC NR: AP6030549

SOURCE CODE: UR/0413/66/000/016/0030/0030

INVENTOR: Bliznyuk, N. K.; Kolomiets, A. P.; Golubeva, R. N.; Varshavskiy, S. L.;  
Gladshcheyn, B. M.; Zimin, V. M.

ORG: none

TITLE: Preparation of aryl esters of N-( $\beta$ -chloroethyl)taurine. Class 12, No. 184840  
(announced by All-Union Scientific Research Institute of Phytopathology (Vsesoyuznyy  
nauchno-issledovatel'skiy institut fitopatologii)

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 16, 1966, 30

TOPIC TAGS: fungicide, ~~aryl-chloroethyltaurinate preparation~~, hydroxyethyltaurine,  
thionyl chloride, phosphorus pentachloride, ester, hydroxide, ethylene

ABSTRACT: To obtain aryl esters of N-( $\beta$ -chloroethyl)taurine with fungicidal  
properties, esters of  $\beta$ -hydroxyethyltaurine are treated with thionyl  
chloride or phosphorus pentachloride in an organic solvent (e.g.,  
chloroform) at boiling temperature of the solvent. The excess of  
the initial reagents and HCl formed are removed from the reaction  
mixture; the residue is dissolved in an organic solvent, e.g., an  
ether, then mixed with alcoholic solution of an acid, and evaporated.

[WA-50; CBE No. 11]

SUB CODE: 07/ SUBM DATE: 26Jul65/

Card 1/1

UMC: 547.436'26'122.07

JPRS/DC-332  
CSO DC-1913

Name : ZIMIN, V. M.  
Dissertation : Mechanism of the passage of electrode  
substance into the glowing cloud of a  
condensed spark discharge  
Degree : Cand Phys-Math Sci  
Defended At : Min Higher Education USSR, Kazan' State  
U imeni V. I. Ul'yanov-Lenin  
Publication Date, Place : 1956, Kazan'  
Source : Knizhnaya Letopis' No 5, 1957

ZIMIN, V.M.

Improvement of public areas in Sokolniki District. Gor.khoz.  
Mosk. 34 no.2:6-9 P '60. (MIRA 13:6)

1. Zamestitel' predsedatelya ispolkoma Sokol'nicheskogo raysoвета.  
(Moscow--Landscape gardening) (Moscow--Road construction)

ZIMIN, V.M.

ANAN' IN, Anatoly Andreyevich; BRILAKH, Mikhail Mikhaylovich; CHERNOBROVKIN, Viktor Petrovich; FILIPPOV, A.S., kand.tekhn.nauk, retsenzent; MAKURIN, P.I., kand.tekhn.nauk, retsenzent; ZIMIN, V.M., inzh., retsenzent; SARAFANNIKOVA, G.A., tekhn.red.

[Cupola furnace operator] Vagranshchik. Moskva, Gos.nauchno-tekhn. izd-vo mashinostroit.lit-ry, 1957. 151 p. (MIRA 11:2)  
(Cupola furnaces)

ZIMIN, V.H.

Mechanism of the entry of electrode material into the glowing cloud of a condensed spark discharge. Fiz.sbor. no.4:161-164 '58. (MIRA 12:5)

1. Kazanskiy gosudarstvennyy universitet imeni V.I.Ul'yanova-Lenina.

(Electric discharges) (Electrodes) (Spectrum analysis)

ANAN'IN, Anatoliy Andreyevich; BRILAKH, Mikhail Mikhaylovich; CHERNO-  
BROVKIN, Viktor Petrovich; FILIPPOV, A.S., kand.tekhn.nauk,  
retsensent; MAKURIN, P.I., kand.tekhn.nauk, retsensent; LUZIN,  
P.G., insh., retsensent; ZIMIN, V.M., insh., retsensent; DUGINA,  
N.A., tekhn.red.

[Cupola furnace operator] Vagranshchik. Izd.2., dep. Moskva,  
Gos.nauchno-tekhn.isd-vo mashinostroit.lit-ry, 1959. 175 p.  
(MIRA 12:12)

(Cupola furnaces)



2 min, V.M.

USSR/Laboratory Equipment. Instruments, Their Theory,  
Construction and Application.

H.

Abs Jour : Referat Zhur - Khimiya, No 6, 1957, 19757

Author : I.S. Fishman, V.M. Zimin, T.G. Kaporskaya.

Inst : Kazan University.

Title : Experimental Checking of Computation Formulae of  
Method of Standard Graphs.

Orig Pub : Uch. zap. Kazanskogo un-ta, 1956, 116, No 1, 132-135

Abstract : The results of checking the applicability of the formula  
for the computation of the slant of a gaga graph for spec-  
tral analysis are quoted. This formula is the following  
(in coordinates  $I_g c$  and  $\Delta S$ ):  $tg \alpha_p = \gamma \cdot b \cdot k \cdot \beta$ ,  
where  $\gamma$  is the contrast factor of the photographic plate,  
 $k$  and  $\beta$  are factors discounting the influence on the in-  
clination of the background in the spectrum and the in-  
fluence of the dilution of the base,  $b$  is the reabsorp-  
tion factor (RZhKhim, 1956, 36125). It was shown with

Card 1/2

- 1 -

USSR/Laboratory Equipment - Instruments, Their Theory,  
Construction and Application.

H.

Abs Jour : Referat Zhur - Khimiya, No 6, 1957, 19757

a great number of experimental data referring to the spectral analyses of standards that in case of work with a condenser spark generator  $b$  is practically equal to 1 for analytical lines, the bottom level of which is not normal. The absolute error of values of  $b$  calculated for solid alloys and solutions introduced with a fulgurator is  $\approx 0.03$  in this case. The difference in slant of graphs plotted by the usual method using solid standards and computed theoretically is explained with the imperfection of the standards differing in their physical - chemical properties.

Card 2/2

- 2 -

ZIMIN, V. M.: Master Phys-Math Sci (diss) -- "On the problem of the mechanism of the passage of electron substance into a luminous cloud of condensed spark discharge". Kazan', 1958. 7 pp (Min Higher Educ USSR, Kazan' State U im V. I. Ul'yanov-Lenin), 150 copies (KL, No 8, 1959, 134)

*Zimin, V.M.*

USSR/Optics - Optical Methods of Analysis. Instruments.

K-7

Abs Jour : Referat Zhur - Fizika, No 3, 1957, 79<sup>4</sup>3

Author : Fishman, T.S., Zimin, V.M., Kaporskaya, T.G.

Title : Experimental Verification of the Calculation Formulas  
in the Method of Standard Graphs.

Orig Pub : Uch. zap. Kazanskogo un-ta, 1956, 116, No 1, 132-135

Abstract : An experimental verification of the formulas for the theoretical calculation of the slope of the Calibration curves in the spectral analysis were carried out with VIAM standards: duraluminum, AK-4, "nimoniki", highly-alloyed steel, and heat-resistant cast irons. The results of the theoretical calculations agreed in most cases well with the experimental data. The theoretical calculation of the slopes of the curves is possible only in that case, when the evaporation factor does not influence its value. The absence of this influence was checked by comparison of the values of the slopes of

Card 1/2

- 91 -

S/058/61/000/008/014/044  
A058/A101

AUTHOR: Zimin, V. M.

TITLE: Investigation of the possibilities of a method of optical scanning with the aid of a rotating mirror

PERIODICAL: Referativnyy zhurnal, Fizika, no. 8, 1961, 165, abstract 8389  
("Dokl. Mezhvuz. nauchn. konferentsii po spektroskopii i spektr. analizu. Tomsk. Tomskiy un-t", 1960, 24-25)

TEXT: The author evaluated the really attainable resolution of optical scanning of the image of a condensed spark discharge with the aid of rotating mirrors made of different materials, and showed that the reliable resolution of time intervals has an upper and lower limit of 1.5 sec and  $2 \cdot 10^{-8}$  sec, respectively. Further increase of resolution is limited by deformation of the mirror under the action of centrifugal forces and air resistance.

M. Britska

[Abstracter's note: Complete translation]

Card 1/1

USSR/Optics - Optical Methods of Analysis. Instruments.

K-7

Abs Jour : Referat Zhur - Fizika, No 3, 1957, 7943

the calibration curves for solid standards and for solutions. The results were in agreement within the experimental accuracy. For the beginning of this work by the author, see Referat Zhur Fizika, 1956, 35879.

Card 2/2

- 92 -

ZIMIN V. N.

19

New drying methods. V. N. Zimin. *Doklady Akad. Nauk SSSR* 1948, 1, 412. Results obtained with the "thermo-diffusion" and "electro-diffusion" methods for drying glass pots are reported. In the 1st method the surface of the pot is heated; in the 2nd, the pot walls themselves are heated. The electro-diffusion method ensures reliable, rapid and economical drying but has the disadvantage of nonuniform distribution of the specific substance in the final phase; a combination of the 2 methods is recommended. M. O. Moore

METALLURGICAL LITERATURE CLASSIFICATION

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

BARENBOYM, A.M., kand. tekhn. nauk; GALIYEVA, T.M., inzh.;  
GINZBURG, D.B., prof.; GRISSIK, A.M., inzh.; ZIMIN, V.N.,  
dots.; KUSYAK, V.A., kand. tekhn. nauk; RUTMAN, E.M.,  
inzh.; KHODOROV, Ye.I., kand. tekhn. nauk; CHIZHEKIY,  
A.F., kand. tekhn. nauk

[Heat calculations for furnaces and dryers of the silicates  
industry] Teplovye raschety pechei i sushilok silikatnoi  
promyshlennosti. Izd.2., perer. i dop. Moskva, Stroiz-  
dat, 1964. 495 p. (MIRA 17:12)



18.3200

78193

SCV/133-60-3-18/24

AUTHORS: Zimin, V. N., Shtanskiy, V. A.

TITLE: Efficiency of Smelting Low-Grade Ferrosilicon in Blast and Electric Furnaces

PERIODICAL: Stal', 1960, No 3, pp 269-273 (USSR)

ABSTRACT: There are two methods of smelting low-grade ferrosilicon: (1) in blast furnaces; (2) in electric furnaces. The workers of the State Institute for the Design and Planning of Steel Industry (Giprostal'), S. A. Livshits and I. A. Radchenko, proved that at Chelyabinsk Metallurgical Plant (ChMZ) the smelting of ferrosilicon is carried out more economically in a blast furnace. However, the calculations of State Institute for the Design and Planning of Metallurgical Plants (Gipromez) show that in the eastern, and especially in the western, part of the USSR, it is more economical to produce low-grade ferrosilicon in electric furnaces. The authors studied the arguments presented and arrived at the following conclusions:

Card 1/2

(1) In view of transportation and operational costs, the

Efficiency of Smelting Low-Grade  
Ferrosilicon in Blast and Electric Furnaces

78193

SOV/133-60-3-18/24

production of electrothermal ferrosilicon would be cheaper than its production by blast furnaces in the eastern USSR. (2) Although the initial capital investment in the electrothermal process is 9% greater (for the eastern area) than in the blast furnace process, the investment is amortized after 1.7-3.4 years of operation. (3) In the future, the net cost of the electrothermal process may be reduced by the following: (a) substitution of coal for small coke; (b) reduction in price of electric energy; (c) utilization of a 25% ferrosilicon as a reducing agent; (d) smelting ferrosilicon in high-capacity electric furnaces. (4) For the southern USSR, the economy is even greater than for the eastern area. (Publisher's note: The authors do not take into account the rapid wear and increasing maintenance costs of blast furnaces, which are one more argument in favor of electrothermal process. There are 2 tables; and 2 Soviet references.

ASSOCIATION: Gipromez  
Card 2/2

ZIMIN, V.N.; SHTAISKIY, V.A.

Efficiency of producing low-grade ferrosilicon in blast and electric furnaces. Stal' 20 No.3:269-273 Mr '60. (MIRA 13:6)

1. Gipromex.  
(Ferrosilicon) (Smelting--Oosta)

Zimin, V.N.

24(7)

PHASE I BOOK EXPLANATION

209/1700

Materialy i Vsesoyuznogo soveshchaniya po spektroskopii, 1956. t. II: Atomnaya spektroskopiya (Materials of the 10th All-Union Conference on Spectroscopy, 1956. Vol. 2: Atomic Spectroscopy) Fizmatgiz, Moskva, 1958. 161 str. 260 p. (Series: Itogi nauki i tekhn. Seriya Khimicheskie nauki, 1958. 3,000 copies printed.)

Additional Sponsoring Agency: Akademiya nauk SSSR, Komissiya po spektroskopii.  
Editorial Board: G.S. Landsberg, Academician, (Resp. Ed.); I.S. Rapoport, Doctor of Physical and Mathematical Sciences; I.L. Fabelinskiy, Doctor of Physical and Mathematical Sciences; V.A. Farkant, Doctor of Physical and Mathematical Sciences; V.G. Koritskiy, Candidate of Technical Sciences; S.M. Nayduki, Candidate of Physical and Technical Sciences; I.K. Klimovskiy, Candidate of Physical and Mathematical Sciences; V.S. Kilyandukh (Bezzed), Doctor of Physical and Mathematical Sciences; A.I. Glimmerman, Doctor of Physical and Mathematical Sciences; M.I. S.L. Gaser, Tech. Ed.; T.V. Zaryayuk.

PURPOSE: This book is intended for scientists and researchers in the field of spectroscopy, as well as for technical personnel using spectrum analysis in various industries.

CONTENTS: This volume contains 177 scientific and technical studies of atomic spectroscopy presented at the 10th All-Union Conference on Spectroscopy in 1956. The studies were carried out by members of scientific and technical institutes and include extensive bibliographies of Soviet and other sources. The studies cover many phases of spectroscopy: spectra of rare earths, ultraviolet radiation, physicochemical methods for controlling uranium production, physics and technology of gas discharges, optics and spectroscopy, abnormal dispersion in metal vapors, spectroscopy and the combustion theory, spectrum analysis of ores and minerals, photographic methods for quantitative spectrum analysis of metals and alloys, spectral determination of the hydrogen content of steels by means of isotopes, tables, and atlas of spectral lines, para-spectrographs, and statistical methods for the determination of traces of metals in metallurgy, thermochemistry in metallurgy, and principles and practice of spectrochemical analysis.

Card 2/21

Materials of the 10th All-Union Conference (Cont.)	209/1700
— Shteyn, V.N. Mechanism of the Entry of Electrode Substance into the Vainous Cloud of a Condensed Spark Discharge	161
— Mariukov, Ye. G. Studying the Spark Discharge in Regions of Arced Electrodes by the Spectral Scanning Method	164
— Gervish, D.B., and V.K. Fyodor'ev. Temperature Distribution in Low-voltage and High-voltage Spark Discharge Plasma	165
— Boynar, A.O. Simultaneous Application of Spectrograph, Microchemical, Electrophoretic, and Computing Methods for the Determination of Microamounts of Low Concentration in Biological Specimens	170
— Abramson, I.S., and A.M. Buglinskiy. High-voltage Spark Discharge Generator with Electronic Control	173
— Zorovina, I.A., L.V. Klyuz', and V.V. Pevak. Ultraviolet Absorption Spectra of Fluorine Compounds	175

Card 11/21

TRUPAK, Nikolay Grigor'yevich, prof., doktor tekhn. nauk; BORDIN, N.V.,  
gornyy inzh., retsenzent; ZIMIN, V.H., gornyy inzh., retsenzent;  
SANOVICH, P.O., gornyy inzh., red.; PETRAKOVA, Ye.P., red. izd-va;  
SHKLYAR, S.Ya., tekhn. red.

[Ways of controlling water during shaft sinking in potash and  
salt mines] Sposoby bor'by s vodoi na kaliinykh i solianykh rud-  
nikakh pri prokhodke stvolov. Moskva, Gos.nauchno-tekhn.izd-vo  
lit-ry po gornomu delu, 1961. 319 p. (MIRA 15:1)  
(Salt mines and mining) (Mine water)

ZIMIN, Y. N.

GINZBURG, David Borisovich, doktor tekhnicheskikh nauk; DELIKISEKIN, Sergey Nikolayevich, kandidat tekhnicheskikh nauk; KHOD'KOV, Yevgeniy Iosifovich, kandidat tekhnicheskikh nauk; CHIZHSKIY, Anatoliy Fedotovich, kandidat tekhnicheskikh nauk; ZIMIN, Y. N., dotsent; retsentsent; KUZYAK, V.A., dotsent, retsentsent; NOKHRYATYAN, K.A., kandidat tekhnicheskikh nauk, retsentsent; IVANOV, A.N., dotsent, retsentsent [deceased]; BUDNIKOV, P.P., redaktor; FRADKIN, A.Ye., kandidat tekhnicheskikh nauk, nauchnyy redaktor; GOL'DENBERG, L.G., inzhener, nauchnyy redaktor; GLEZAROVA, I.L., redaktor; GLADIKH, N.N., tekhnicheskiiy redaktor

[Furnaces and driers in the silicate industry] Pechi i sushila silikatnoi promyshlennosti. Izd. 2-oe, perep. Pod red. P.P. Budnikova. Moskva, Gos. izd-vo lit-ry po stroit. materialam, 1956. 455 p. (MLRA 10:3)

1. Deystvitel'nyy chlen Akademii nauk USSR (for Budnikov)  
(Kilns) (Clay industries)  
(Drying apparatus)

( )

SOV/128-59- 5-32/35

AUTHOR: Bobrov, A.V. and Zimin, V.P.

TITLE: Letter to the Editor

PERIODICAL: Liteynoye Proizvodstvo, 1959, Nr 5, pp 45-46 (USSR)

ABSTRACT: The authors reply to a letter of M.I. Rotenberg and V.I. Soldatenko (see this periodical Nr 7/1958). The authors state that the criticism of Rotenberg and Soldatenko of the article "Medium and Large Size Pieces of Casting of High Quality Steel " (Mashgiz 1953 Moskva) is with out any foundation since they only cite some sections and thus mutilate the contents of the article. Efforts are made to prove that some of the dates and results had been known by the authors at an earlier time. According to the opinion to the authors, the letter of Rotenberg and Sodatenko represents misinformation about technical science.

Card 1/1

SOV/137-59-3-5871

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 3, p 133 (USSR)

AUTHORS: Zandberg, S. A., Zimin, V. P.

TITLE: Automatic Welding of Reactor Tubing in a CO<sub>2</sub> Medium (Avtomaticheskaya svarka reaktornykh trubok v atmosfere uglekislogo gaza)

PERIODICAL: Stalingr. prom-st' (Sovnarkhoz Stalingr. ekon. adm. r-na), 1958, Nr 5, pp 11-13

ABSTRACT: The operation of welding of ribs to reactor tubes (60x4.5 mm and 7500 mm long), originally performed at the im. Petrov plant with the aid of TSM-7 electrodes, is now performed automatically with a Sv10GS welding wire 1.5-2 mm in diameter in a medium of CO<sub>2</sub>. The apparatus is equipped with a traveling mechanism of the type TS 17 M, a duplicating head, and a shortened shielded hose from a semiautomatic unit PSh-54. Welding is performed under the following conditions: Current intensity 490-500 a; arc potential 24-26 v; speed of welding 126 m/hr; rate of feed of the welding wire 307 m/hr; consumption of gas: 20 liters/hr. The apparatus is powered by a PS-500 generator with smooth "surge-and-dip" characteristics. The food-industry CO<sub>2</sub> employed is dried by silica gel. The CO<sub>2</sub> is

Card 1/2



Automatic Welding of Reactor Tubing in a CO<sub>2</sub> Medium

SOV/137-59-3-5871

contained in two cylinders from which it is supplied to the pressure regulator through an electrically-powered heating unit. The CO<sub>2</sub> may be withdrawn until the pressure in the cylinders attains a value of 4 at. Welding in a CO<sub>2</sub> medium made it possible to improve the quality of the welds (elimination of burns, reduced amounts of distortion and welding defects), increase the productivity by 3-5 times, and simplify welding operations (pipes need not be cooled, nor is it necessary to employ a coating for purposes of protection against spattering, etc.).

N. T.

Card 2/2

ANAN'IN, Anatoliy Andreyevich; KUZNETSOV, Stepan Petrovich; CHERNOBROVKA, Viktor Petrovich; ZIMIN, V.P., inzh., retsenzent; FILIPPOV, A.S., kand.tekhn.nauk, red.; MARCHEVNIKOV, I.A., tekhn.red.

[Progressive methods of operating cupola furnaces] Peredovye metody  
obsluzhivaniya vaganok. Moskva, Gos.nauchno-tekhn.izd-vo mashino-  
stroit.lit-ry, 1960. 98 p. (MIRA 13:6)  
(Cupola furnaces)

ZIMIN, V.P.

BOBROV, A.V., izshener; ZIMIN, V.P., izshener.

To the editors of "Liteince Proizvodstvo". Lit. proizv. no.2:32  
P '57.

(Founding)

(MLRA 10:4)

ZIMON, Ye. N., Aspirant

"Improving the Power Factor of an Electric Drive With Controllable Mercury-Arc Rectifiers." Cand Tech Sci, Moscow Order of Lenin Power Engineering Inst imeni V. M. Molotov, 3 Dec 54. (VM, 23 Nov 54)

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

SO: Sum. No. 521, 2 Jun 55

ZIMIN, Ye N.

8(0)

PHASE I BOOK EXPLOITATION

SOV/2347

Tolokonnikov, Leonid Stepanovich, Mikhail Mikhaylovich Sokolov, Abram Solomonovich Sandler, Vladimir Ivanovich Klyuchev, Yevgeniye Petrovich Ivanov, and Yevgeniy Nikolayevich Zimin

Atlas elektromekhanicheskikh promyshlennykh ustanovok, ch. 1. Elektroprivod i peredatochnyye mekhanizmy (Atlas of Electromechanical Industrial Installations, Pt. 1. Electric Drive and Transmission Mechanisms) Moscow, Gosenergoizdat, 1958. 140 p. 6,500 copies printed.

Chief Ed.: M.G. Chilikin; Eds. (Title page): A.T. Golovan and Leonid Stepanovich Tolokonnikov; Ed. (Inside book): A.L. Saparova; Tech. Ed.: N.I. Borunov.

PURPOSE: The atlas is intended as a manual for students working on machine parts projects and on term and diploma projects related to electrical equipment for drives.

COVERAGE: The atlas presents electromechanical installations for driving, hoisting, and transporting mechanisms (cranes, excavators, hoists, conveyers), rolling mills (continuous rolling mills), metal forming equipment, metal-cutting machine tools and automatic transfer lines. Drawings of general views of mechanisms and drives with the distribution of electrical equipment, elementary circuits and  
Card 1/4

Atlas of Electromechanical Industrial Installations (Cont.) SOV/2347

wiring diagrams with the necessary explanations are presented. The mechanical and electrical parts of every mechanism or device are closely related in the manual to enable joint treatment of the subject and to improve the level of preparation for design. In compiling the atlas most recent design material of the following institutions was used: scientific research institutes VNIPTMASH; TSKB "Elektroprivod," TsNIITMASH, NIIProd mash, PKO "Soyuzprommekhanizatsiya," GPI, Tyazhpromelektroproyekt, Institutes MEI and MISI; and Plants "Dinemo" and "Pod'yemnik." No personalities are mentioned. There are 28 references, all Soviet.

TABLE OF CONTENTS:

PART I. HOISTING AND TRANSPORTING MECHANISMS

Foreword	7
Cranes	7
Bridge cranes	
5-ton portable jib crane	Sheets 1-10
10-ton floating crane	Sheets 11-14
Card 2/4	Sheets 15-17

Atlas of Electromechanical Industrial Installations (Cont.)

SOV/2347

Diagrams of control systems for crane electric-drives	Sheets 18-26
Electric hoists	Sheets 27-29
Excavators	Sheets 30-34
Conveying mechanisms	Sheets 35-38

PART II. METALLURGICAL AND PRESS FORGING EQUIPMENT

Foreword

Auxiliary Mechanisms for Continuous (Blanking) Rolling Mill 850/700/500

Roller tables and conveyers	Sheets 39-49
Edging machines	Sheets 50-54
Roll changing mechanisms	Sheets 55-57
Roll mounting mechanisms	Sheets 58-65
Main drives for continuous (blanking) rolling mill 870/700/500	Sheets 66-79

Press Forging Equipment

63-ton double-action double-arm enclosed press	Sheets 80-83
1000-ton coining press	Sheets 84-91

Card 3/4

Atlas of Electromechanical Industrial Installations (Cont.)

SOV/2347

PART III. METAL-CUTTING MACHINE TOOLS

Foreword

107

Model 1340 turret lathe

Sheets 92-96

Model 1620 universal screw cutting lathe

Sheets 97-103

Model 1660 screw cutting lathe

Sheets 104-109

Model 255 radial drill

Sheets 110-111

Model 265 universal horizontal boring machine

Sheets 112-119

Model 724 planer

Sheets 120-122

Subassemblies of unit-head machine tools and transfer machines

Sheets 123-125

Electroduplicating semiautomatic milling machine of the type .

6441-A

Sheets 126-128

Electric equipment for machine tools

Sheets 129-137

Accessories for mounting electrical equipment in machine tools

Sheets 138-140

AVAILABLE: Library of Congress (TJ 240. A8)

GO/sfm

10-20-59

Card 4/4



SANDLER, Abram Solomonovich; CHILIKIN, M.G., prof., red.; ZUSMAN, V.G.,  
kand.tekhn.nauk, dotsent, retsenzent; KARNYUSHIN, L.V., kand.  
tekhn.nauk, dotsent, retsenzent; ZIMIN, Ye.N., kand.tekhn.nauk,  
red.; BORUNOV, N.I., tekhn.red.

[Electrical equipment for industrial machinery; electrical  
equipment for metal-cutting machines] Elektrooborudovanie  
proizvodstvennykh mekhanizmov; elektrooborudovanie metallo-  
rezhushchikh stankov. Pod obshchei red. M.G. Chilikina, Moskva,  
Gos.energ. izd-vo, 1958. 238 p. (MIRA 12:1)  
(Machine tools) (Electric apparatus and appliances)

8 (5)

AUTHOR:

Zimin, Yevgeniy Nikolayevich,

SOV/161-58-4-16/28

Candidate of Technical Sciences, Assistant

TITLE:

On Calculating the Transition Processes in a Simple Generator Motor System (O raschete perekhodnykh protsessov v prostoy sisteme G-D)

PERIODICAL:

Nauchnyye doklady vysshey shkoly. Elektromekhanika i avtomatika, 1958, Nr 4, pp 138-149 (USSR)

ABSTRACT:

It is shown here that it is possible to use a standard method for calculating the transition processes in a simple generator motor system (without exciter control). It considers the non-linearity of the magnetizing curve of the generator and can be used in practice for all possible circuits of the exciter-circuit of the generator, and for all types of drive. The method is based on the assumption that the entire transition process can be considered to consist of singular sections. In these sections, the system is considered to be linear, and the transition processes in each of these sections are expressed by linear differential equations with constant coefficients at initial conditions that do not equal zero. The equivalent circuit is shown in figure 1. With it,

Card 1/3

On Calculating the Transition Processes in a Simple  
Generator Motor System

SOV/161-58-4-18/28

a whatever complicated generator-exciter-circuit can be generally expressed. In the computation, the magnetizing curve is not used here, but the idling characteristic, that is the dependence of the generator-electromotive force on the exciter-current,  $e = f(i_E)$ . This can be plotted by way of experiment or it can be constructed with the help of the magnetizing curve, according to equation (8). The equation (13) for the time-dependent change of the generator-electromotive force, and the equation (6) for the time-dependent change of the exciter-current  $i_E$  of the generator, are shown. The two equations are generally valid and allow the calculation of the curves  $i_E = f(t)$  and  $e_G = \psi(t)$  of the transition processes for various working methods, and whatever circuit of the generator-exciter windings.  $e_G$  is the generator-electromotive force. The method of calculating the transition processes in accordance with the equations (6) and (13) is demonstrated by means of the example of the circuits shown in figure 3, in the case of a reverse rotary

Card 2/3

On Calculating the Transition Processes in a Simple  
Generator Motor System

SOV/161-58-4-18/28

direction of the motor. The analytical representation in accordance with equation (13) also allows to obtain the rotary speed and the armature current of the motor. The equations (23) and (26) are obtained for them. They are valid for any sector of the transition process. The computing of these values is also demonstrated for the same case with the help of the diagram in figure 3. There are 7 figures.

ASSOCIATION: Kafedra elektrooborudovaniya prompredpriyatiy Moskovskogo energeticheskogo instituta (Chair for Electrical Equipment for Industrial Enterprises at the Moscow Institute of Power Engineering)

SUBMITTED: September 18, 1958

Card 3/3

ZIMIN, Ye.N.

Transient processes in drives with disc-type magnetic clutches. Nauch.  
dokl.vys.shkoly; elektromekh. i avtom. no.1:203-215 '59. (MIRA 12:11)

1. Rekomendovana kafedroy elektrooborudovaniya prompredpriyatiy Moskov-  
skogo energeticheskogo instituta.  
(Electric driving)

SOV/144-59-9-12/15

AUTHOR: Zimin, Ye.N., Cand.Tech.Sci., Assistant

TITLE: Method of Calculating the Static Speed Characteristics and Choosing the Feedback Parameters in Automatic Speed-stabilizing Systems for d.c. Motors

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Elektromekhanika, 1959, Nr 9, pp 86-92 (USSR)

ABSTRACT: Fig 1 shows a general block diagram of the arrangement commonly used for regulating the speed of a d.c. motor. Here  $\Pi$  is an a.c.-d.c. converter,  $\Delta$  is the motor and OC is the set of feedback networks. The block  $\Pi$  may contain rotating or magnetic amplified or grid-controlled rectifiers. The general form of the transfer characteristic of  $\Pi$  is given in Fig 2. The variation of transfer coefficient with input is markedly non-linear but the relation between output voltage and input lends itself to linear approximation. The equation for motor speed versus supply voltage at constant field is Eq (1), or in terms of the input to the block  $\Pi$ , Eq (2). Separate feedbacks are taken proportional to speed, voltage and current and combined linearly as in Eq (4). The substitution of (4) in (2) gives the general speed Eq (5).

Card  
1/3

SOV/144-59-9-12/15

Method of Calculating the Static Speed Characteristics and Choosing the Feedback Parameters in Automatic Speed-stabilizing Systems for d.c. Motors

This expression is difficult to use because it contains the non-linear transfer coefficient. Using the linear approximation in Fig 2 and eliminating the speed,  $n$ , from Eq (4) the motor current  $I$  is found, as a function of the feedback parameters, in Eq (7). Then for successive values of the sum-input to the block  $\Pi$ ,  $X_y$ , values of  $E_n$  can be found. Then from Eqs (7) and (2),  $I, n$  coordinates may be calculated giving the required static characteristic. In motor drives having a very wide range of speed control, the lower speed values are often achieved by varying the feedback parameters. Eq (5) enables the correct values to be chosen. Assuming the linear approximation in Fig 2 an expression for speed-error is Eq (10). Besides variations in load, fluctuations in supply voltage can also influence the motor by altering the effective transfer in block  $\Pi$ . Fig 3a shows extreme cases of  $E_n/X_y$  curves and the influence on the static characteristics in Figs 3b and 3c. Fig 4 shows a particular method

Card 2/3

SOV/144-59-9-12/15

Method of Calculating the Static Speed Characteristics and Choosing  
The Feedback Parameters in Automatic Speed-stabilizing Systems for  
d.c. Motors

of applying the three separate feedback signals in  
controllable amounts to a common control winding. The  
relevant equation system is Eq (22) while Eq (25) gives  
the feedback coefficients either as an m.m.f. or a  
control voltage.

There are 4 figures and 1 Soviet reference.

ASSOCIATION: Kafedra elektrooborudovaniya promyshlennykh  
predpriyatiy, Moskovskiy energeticheskiy institut  
Card 3/3 (Chair of Electrical Equipment for Industrial  
Enterprises, Moscow Power Institute) ✓

SUBMITTED: June 17, 1959



8 (3)

AUTHOR:

Zimin, Ye. N., Candidate of Technical Sciences

SOV/105-59-12-9/23

TITLE:

On the Calculation of the Static Rate Characteristics in a Controlled Mercury Rectifier - Motor System

PERIODICAL:

Elektrichestvo, 1959, Nr 12, pp 39-46 (USSR)

ABSTRACT:

The article illustrates and describes a non-reversible electrical drive with regulated mercury rectifier (Fig 1). To be able to calculate the rate characteristics of a closed system of automatic control the characteristics of the lattice-control must be known. The lattice control developed by the TsKB "Elektroprivod" (Ref 2) is the one most generally used. The wiring of such a lattice control is illustrated and described in a simplified version in figure 1b. The author investigated the peculiarities in the calculation of the rate characteristics of different versions of feedback connections and the control of motor rate by variation of the rectified voltage at  $\phi_{motor} = \text{constant}$ . The described method of

Card 1/2

On the Calculation of the Static Rate Characteristics      SOV/105-59-12-9/23  
in a Controlled Mercury Rectifier - Motor System

controlled mercury-rectifier-motor system. This is based on the  
required accuracy which is needed for keeping the motor rate.  
The explanations are illustrated on examples. There are  
6 figures and 2 Soviet references.

ASSOCIATION:    Moskovskiy energeticheskiy institut (Moscow Institute of  
Power Engineering)

SUBMITTED:      June 5, 1959

Card 2/2

ZIMIN, Ye.N., kand. tekhn. nauk; ILEUSUZOVA, R.B.

Pulse speed control of asynchronous electric motors. Vest. AN Kazakh.  
SSR 20 no.2:85-90 F '64. (MIRA 18:1)

LEVIN, Gavriil Mikhaylovich; GOL'DENTAL', Moisey Emmanuilovich;  
ZIMIN, Ye.N., red.

[Reversing electric drive with mercury-arc rectifiers] Re-  
versivnyi ionnyi elektroprivod. Moskva, Energiia, 1964. 90 p.  
(Biblioteka po avtomatike, no.118) (MIRA 18:3)

SOKOLOV, Nikolay Georgiyevich; KLYUCHEV, V.I., kand. tekhn. nauk,  
retsensent; KAPUNTSOV, Yu.D., inzh., retsensent; ZIMIN,  
Ye.N., kand. tekhn. nauk, red.

[Design of electric drives for industrial mechanisms] Kon-  
struirovaniye elektroprivodov proizvodstvennykh mekhanizmov;  
posobie dlia studentov spetsial'nosti [Elektrifikatsiia pro-  
myshlennykh predpriatii i ustanovok." Red.E.N.Zimin. Mo-  
skva, Mosk. energ.in-t, 1961. 222 p. (MIRA 16:6)  
(Electric driving)

ZIMIN, Ye.N., dots.; KUVAYEVA, A.P., kand. tekhn. nauk, dots.,  
red.

[Electric drive with regulated mercury-arc rectifiers]  
Elektroprivod s upravliaemyimi rtutnymi vypriamiteliami.  
Moskva, Mosk. energ. in-t. Pt.1. 1964. 220 p.  
(MIRA 18:6)

ZIMIN, Yevgeniy Nikolayevich, kand. tekhn. nauk, dotsent; TSYBUL'KO, Oleg  
Nikolayevich, inzh.

A regulated a.c. micromotor. Izv. vys. ucheb. zav.; elektromekh.  
6 no.9:1093-1097 '63. (MIRA 16:12)

1. Kafedra elektroprivoda i avtomatizatsii promyshlennykh ustanovok Moskovskogo energeticheskogo instituta (for Zimin).
2. Laboratoriya avtomatiki Gosudarstvennogo nauchno-issledovatel'skogo proyektного instituta redkometallicheskoй promyshlennosti, Moskva (for Tsybul'ko).

ZIMIN, Yevgeniy Nikolayevich; ROSMAN, L.V., red.; SHIROKOVA, M.M.,  
tekh. red.

[Protection of asynchronous electric motors with voltage ratings up to 500 volts] Zashchita asinkhronnykh elektrodvigatelyei napriazheniem do 500 v. Moskva, Gosenergoizdat, 1962. 55 p. (Biblioteka elektromontera, no.79)

(MIRA 16:6)

(Electric motors, Induction)  
(Electric protection)



ACC NR: AP6032530

SOURCE CODE: UR/0413/66/000/017/0131/0131

INVENTOR: Gusev, L. S.; Zimin, Yu. A.; Nistratov, A. P.; Pobedin, I. S.; Popov, A. K.; Rozanov, B. V.; Tokarskiy, A. P.; Kholin, Yu. T.; Tulyankin, F. V.; Shcheglov, V. F.; Yanovskiy, V. A.

ORG: none

TITLE: Drive of a high-speed counterblow hammer. Class 49, No. 185669 [announced by the All-Union Scientific Research Institute for the Planning and Design of Metallurgical Machinery (Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-konstruktovskiy institut metallurgicheskogo mashinostroyeniya)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 17, 1966, 131

TOPIC TAGS: metal forming machine tool, forging machinery, metal press

ABSTRACT: This Author Certificate introduces a drive of a high-speed counterblow hammer, which includes a high-pressure cylinder and a piston with a sliding sealing bushing. To improve the operational characteristics and efficiency of the hammer, the bushing, placed in a lower part of the cylinder, has a circular groove inside, into which oil is pumped under pressure equal to that of the gas in the cylinder, thus forming a layer which serves the dual purpose of sealing and lubrication. Orig. art. has: 1 figure.

SUB CODE: 11, 13/ SUBM DATE: 22May64/

Card 1/1

UDC: 621.974.4-82

GUBLER, Ye.V., doktor med. nauk; ZIMINA, E.P.

External respiration in burn disease. Sov. med. 27 no.12;  
(MIRA 18:11)  
3-8 0 '64.

1. Khirurgicheskaya klinika (nachal'nik - prof. T.Ya. Ar'yev)  
Voyenno-meditsinskoy ordena Lenina akademii imeni Kirova,  
Leningrad.

ZIMIN, Ye. P., POPOV, V. A.,

"Determination of Mean Cross-section of Electron-neutral Atom Collisions in  
a Two-component Weakly Ionized Gaseous Mixture,"

report presented at the 6th Intl. Conf. on Ionization Phenomena in Gases,  
Paris, France, 8-13 Jul 63

ZIMIN, Ye.P. (Moskva); POPOV, V.A. (Moskva)

Determining the mean cross section of collision between electrons  
and neutral atoms in a weakly ionized gaseous mixture. PMTF no.5:  
142-143 S-0 '63. (MIRA 16:11)

ZIMIN, Ye. P.; POPOV, V. A.

"On the Problem of Optimum Composition of Conductive Gaseous Mixture."  
report presented at the Intl Symp on Magnetohydrodynamic Electrical Power Generation,  
Paris, 6-10 Jul 64.

ZIMIN, Yu.

Tuning condenser based on the KDS-type capacitor. Radio no.12:22  
D '60. (MIRA 14:1)

(Electric capacitors)

2-12050-66 RT(M)/RT(1) RI  
ACC NO: AP0011232 (A) SOURCE CODE: UR/0418/66/000/006/0074/0074

INVENTOR: Gurvich, Ya. A.; Kirpichnikov, P. A.; Zimin, Yu. B.; Novarskaya, E. M.; Lavastovskaya, L. L.

ORG: none

TITLE: Method of stabilizing polyamides. <sup>15</sup> Class 39, No. 179918 <sup>15</sup>

SOURCE: Izobreteniya, promyshlennyye obraboty, tovarnyye znaki, no. 6, 1966, 74

TOPIC TAGS: polyamide, chemical stabilizer, fertilizer.

ABSTRACT: An Author Certificate has been issued for a method of stabilizing polyamides by introducing organophosphorus stabilizers into them. N-alkylated anilides of arylphosphorous acids are used to expand the variety of organophosphorus stabilizers. [Translation]

SUB CODE: SUBM DATE: 11/Jun64/

UDC: 678.675.048:547.55.41

Card 1/1 of

18  
B

S/123/59/000/010/014/068  
A004/A001

Translation from: Referativnyy zhurnal, Mashinostroyeniye, 1959, No. 10, p. 80, # 37801

AUTHORS: Zimin, Yu.P., Stroyeva, K.M.

TITLE: The Properties of Cutting Tools Made of High-Speed Steel Chips

PERIODICAL: Byul. tekhn. ekon. inform. Sovnarkhoz Rostovsk, ekon. adm. 1-na, 1958, No. 4, pp. 37-38

TEXT: The authors describe investigations to determine the properties of briquetted chips of the high-speed steel grades P 9 (R9) and P 18 (R18). By chemical analysis it was found that, if the forgings are made of chips, the C-, W-, V- and Cr contents remain within the limits of GOCT (GOST) 5952-51. The degree of carbide heterogeneity of the chip steel grades R9 and R18 is rated at 2 points while in the rolled bar it is 4 points. The hardness of tools made of chip steel is approximately 62.5 H<sub>0</sub> after heat treatment. As a result of durability tests to which the tools were subjected on the 1A62 machine tool during

Card 1/2



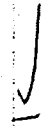
S/123/59/000/010/014/068  
A004/A001

The Properties of Cutting Tools Made of High-Speed Steel Chips

the turning of steel, it was found that the cutting properties of high-speed steel made of briquetted chips are identical with those of forged high-speed steel. There is one table.

B.L.D.

Translator's note: This is the full translation of the original Russian abstract.



Zimin, Yu. P.

PHASE I BOOK EXPLOITATION

SOV/4221

Novocherkassk. Politekhicheskiy institut

Raboty mekhanicheskogo fakul'teta (Works of the Division of Mechanics)  
[Novocherkassk] 1958. 203 p. (Series: Its: Trudy, tom 90) Errata slip  
inserted. 2,000 copies printed.

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

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

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

Card 1/7

SOV/4221

Works of the Division of Mechanics

TABLE OF CONTENTS:

Lyshevskiy, A.S. [Candidate of Technical Sciences, Docent, Department of Internal Combustion Engines]. Disintegration of a Nonviscous-Fluid Jet Emerging From a Split Jet Nozzle 3

By means of theoretical analysis the author establishes conditions of instability of the motion of a plane jet of nonviscous fluid with symmetrical and unsymmetrical disturbances and determines the length of the unbroken portion of the jet.

Lyshevskiy, A.S. Effect of the Surrounding Medium on the Stability and Disintegration of a Hollow Jet of Viscous Fluid 19

A theoretical investigation is made of the development of disturbances on the surface of a hollow jet of viscous fluid and the effect of air flow around the jet. A differential equation and its solution for the wave vibration of the fluid jet surface is presented.

Lyshevskiy, A.S. Regularities in the Change of Certain Parameters of the Indicated Process of High-Speed Diesel Engines 47

On the basis of two characteristic parameters of a combination process -- indicated efficiency and ignition lag, the author presents a generalization of experimental data obtained in testing high-speed diesel engines with open-type combustion chambers.

Card 2/7

SOV/4221

Works of the Division of Mechanics

Lyshevskiy, A.S. On the Determination of the Amount of Fuel Leakage in Injection Pumps and Nozzles 65

The author presents a more accurate method of determining the rate of fuel leakage in the operation of a fuel injection pump and nozzle.

Lyshevskiy, A.S. On the Determination of Fluid-Friction Force Between a Cam Follower and a Guide 71

Using a cylindrical coordinate system and assuming that the follower is subjected only to linear-reciprocating and rotary motion and that the oil-film pressure is constant, the author derives an expression for calculating fluid-friction force between cam follower and guide.

Belitskiy, M.S. [Candidate of Technical Sciences, Docent, Department of the Operation of Automobile Transport]. Life of Valve-Gear Elements of an Automobile Engine in the Process of Operation 77

The author investigates the wear of camshaft pins, cams, and stems of followers and valves.

Belitskiy, M.S. On the Problem of Limiting Allowable Clearance Between the Piston Skirt and the Cylinder Liner in an Automobile Engine 87

By means of hydrodynamic analysis of the oil film between two parallel

Card 3/7

SOV/4221

## Works of the Division of Mechanics

planes the author derives an expression for calculating the maximum allowable clearance between a cylinder liner and a piston skirt. With the formula derived, he makes calculations for a number of Soviet types of engines and concludes that presently used standard clearances are too small and may be increased to their maximum values as determined by calculation. The increase in clearance will result in the reduction of wear and repair costs.

Zimin, Yu.P. [Candidate of Technical Sciences, Docent, Department of Machine-Building Technology], and K.M. Stroyeva [Candidate of Technical Sciences, Docent, Department of Metal Technology]. Investigation of the Properties of High-Speed Steel Made From Chips

Chemical, macro-, and microstructural analysis, hardness tests, and determination of density and cutting properties were made for original and heat-treated specimens made of chips produced by milling of types P9 and P18 high-speed steels. Comparative tests were also made of cutting tools manufactured from the standard steels mentioned above and from their chips. The results show that the properties of cutting tools remain nearly the same in all cases.

93

Card 4/7

SOV/4221

Works of the Division of Mechanics

Antonyuk, V.I. [Candidate of Technical Sciences, Docent], and N.S. Kolev  
[Candidate of Technical Sciences, Department of Machine-Building Technology].  
Drilling Dynamometer With Wire-type Resistance Strain Gages

103

A dynamometer designed by the authors for measuring feed forces and  
torques in drilling, reaming, and threading is described. The dynamo-  
meter is of a simple construction and may be used not only in laboratories  
but also under production conditions. Its operation is found to be stable  
in the drilling of holes from 5 to 25 mm in diameter.

Kolev, N.S. Friction in the Metal-Cutting Process

107

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

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

117

The author presents a summary of results of a set of experimental investi-  
gations conducted on a specially built test installation in order to de-  
Card 5/7

SOV/4221

Works of the Division of Mechanics

termine the effect of number of teeth, velocity ratio, and circumferential velocity on the performance of a pair of gears with one gear made of steel and the other of DSP-G "drevplastik." The maximum circumferential unit pressure (g/cm of the tooth width) under which no appreciable wear or failure occurred was used as a criterion in determining gear load-carrying capacity.

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

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

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

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

Card 6/7

SOV/4221

Works of the Division of Mechanics

Savin, M.M. [Senior Instructor, Department of the Theory of Mechanisms and Machine Parts]. Ways of Improving Wear Resistance of Screw Mechanisms 159  
 The wear of screw mechanisms made of bronze, cast iron, and textolite with square and trapezoidal screw threads is investigated. Results show that the use of a modified cast iron bearing in place of bronze and the replacement of square threads by trapezoidal will increase the wear resistance.

Burak, A.K. [Assistant Professor, Department of Metal Technology and the Science of Metals]. A Method of Designing Hypoid Gears With Circular Tooth Form 171  
 The method described reduces design calculations and may be used in the design of hypoid gears with a spiral angle equal to zero.

Mamadzhanov, I.G. [Assistant Professor, Department of the Theory of Mechanisms and Machine Parts]. On the Problem of Stability in the Tightening of Bolted Joints Under Variable-Load Conditions 191  
 The author presents the results of a theoretical investigation of the process of loosening of bolted joints subjected to vibratory loads.

AVAILABLE: Library of Congress

Card 7/7

VK/pw/sfm  
9/29/60



ZIMIN, Yu.P.; STROYEVA, K.M.

Making cutting tools of rapid steel chips. Stan. i instr. 29 no.2:  
15 F '58. (MIRA 11:3)

(Metal-cutting tools)

ZIMIN, Yu.P., dotsent, kandidat tekhnicheskikh nauk.

Comparison of cutting processes used in turning and milling  
operations. Nauch.trudy NPI 30(44):131-136 '55. (MLBA 9:11)  
(Metal cutting)

S/137/60/000/010/032/040  
A006/A001

Translation from: Referativnyy zhurnal, Metallurgiya, 1960, No. 10, pp. 262-263,  
# 24552

AUTHORS: Zimin, Yu. P., Stroyeva, K.M.,

TITLE: Investigations of the Properties of High-Speed Steel Manufactured  
From Chips

PERIODICAL: Tr. Novocherk. politekhn. in-ta, 1959, No. 90, pp. 93 - 102

TEXT: The authors studied the possibility of using high-speed steel chips for the manufacture of cutters and investigated forgings made of P9 (R9) and P18 (R18) steel chips, by swaging the chips heated to 1,150°C. The chemical composition, macro and microstructure, compactness, hardness and the cutting properties of the cutters were investigated. It was established that high-speed chip steel had the same chemical composition, the same hardness after annealing and heat treatment, and the same cutting properties as standard high-speed steel of equal grades. Carbide heterogeneity of the chip high-speed steel is less than that of

Card 1/2