

Strength Under Nonstationary (Cont.)

SOV/5940

members of scientific research institutes.

**COVERAGE:** The book deals with problems connected with the study of the stress state and the strength of machine and construction parts under nonstationary loads. Discussed are statistical methods of systematizing random alternating stress states, characteristics of experimental devices used for registering such stresses, and the recording of the results of fatigue tests. Attention is given to the analysis of stresses induced by short-duration forces in elastic machine systems. The book is the result of work carried out by the Institut mashinovedeniya (Institute of Machine Science) AN UkrSSR [now the Institut liteynogo proizvodstva] and of the processing of published data. V. A. Grobov, Doctor of Technical Sciences, is mentioned as having assisted in the editing of this book. Each chapter is accompanied by references, mostly Soviet.

Card 2/7

BUGLOV, Ye.G. [Buhlov, IE, H.]; GARF, M.Ye. [Harf, M.E.]; KRAMARENKO,  
O.Yu.

Coordination conference on the fatigue of metals, 1960.  
Dop. AN URSR no.8:1096-1101 '61. (MIRA 14:9)  
(Metals--Fatigue)

GARF, M.E.

Evaluating the effect of casting defects on the strength of parts  
made of cast iron with spheroidal graphite. Nauch. trudy Inst.  
lit. proizv. AN URSR no.10:111-119 '61. (MIRA 15:6)  
(Iron founding—Defects)

GARF, M.E., kand.tekhn.nauk

Symposium on the fatigue of metals in Prague. Vest. mash. 41  
no.6:73-76 Je '61. (MIRA 14:6)  
(Metals--Fatigue)

GARF, M.E.; KUBYAK, R.F.

Investigation of a simplified method of determining the fatigue  
limits of cast crankshafts. Nauch. trudy Inst. lit. proizv.  
AN URSR 11:114-117 '62. (MIRA 15:9)  
(Cast iron--Fatigue) (Crankshafts)

GARF, M.E.

Fatigue testing machine in a multistage programming of stresses.  
Zav.lab. 28 no.1:109-111 '62. (MIRA 15:2)

1. Institut liteynogo proizvodstva AN USSR.  
(Fatigue testing machines)

GARF, M.E.; RUZINA, G.M.

Study of the scattering of strength characteristics in  
cast crankshafts. Zav.lab. 28 no.6:717-719 '62. (MIRA 15:5)

1. Institut liteynogo proizvodstva AN USSR.  
(Strength of materials)

GARF, M.E., kand. tekhn. nauk; BUGLOV, Ye.G., kand. tekhn. nauk;  
PAVLOVSKIY, V.E., inzh.

Characteristics of the accumulation of fatigue damage in case  
of nonstationary stress spectra expanding under the initial  
fatigue limit. Vest. mashinostr. 44 no.6:23-25 Je '64.  
(MIRA 17:8)



*GARF, S.E.*

KORENYAKO, A.S.; KREMENSHTEYN, L.I.; PETROVSKIY, S.D.; OVSIYENKO, G.M.;  
BAKHANOV, V.Ye.; GARF, S.E.; LEUTA, V.I., inzhener, vedushchiy  
redaktor; RUDENSKIY, YA.V., tekhnicheskiiy redaktor

[Theory of mechanisms and machinery; manual for courses in designing]  
Teoriya mekhanizmov i mashin; rukovodstvo po kursovomu proektirova-  
niyu. Kiev, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit.  
lit-ry, Ukrainskoe otd-nie, 1954. 139 p. (MLRA 7:11)  
(Machinery) (Mechanics)

*GARF, S. F.*

USSR/Physics - Residual stresses

FD-1075

Card 1/1 Pub. 153 - 11/24

Author : Garf, S. *E*, and Kukevitskiy

Title : Residual stresses in piston rings

Periodical : Zhur. tekhn. fiz., 24, No 10, 1830-1833, Oct 1954

Abstract : The authors describe the residual stresses in piston rings made of "steel 45" (average composition: 0.45% C, 0.65% Mn, 0.27% Si) in the case of surface induction hardening.

Institution : -

Submitted : March 25, 1954

GARF, S. E

GARF, S.; KUKULEVITSKIY, V.

Repairing tappet guides on the GAS-51 engine. Avt.transp. 32.  
no. 5:32 My '54. (MLRA 7:7)

1. Ukrainskiy dorozhno-transportnyy nauchno-issledovatel'skiy  
institut.  
(Gas and oil engines--Repairing)

FOPOVA, Mayya Nikiforovna; GARF, S.E., kand. tekhn. nauk,  
retsensent; KOVALEV, K.V., dots. kand. tekhn. nauk, otv. red.;  
DEREVYANCHENKO, R.M., red.

[Methods for solving problems on the strength of materials]  
Metody resheniia zadach po soprotivleniiu materialov.  
Khar'kov, Izd-vo Khar'kovskogo univ., 1964. 248 p.  
(NIRA 18:1)

GARFIAS, V.R.; CHAPIN, T.C.; SVET, Ya.M.[translator]; MALINOVSKIY, F.M.,  
redaktor; ENTIN, M.L., redaktor izdatel'stva; GUROVA, O.A., tekhnicheskij redaktor

[Geology of Mexico. Translated form the Spanish] Geologiya Meksiki.  
Perëvod s ispanskogo IA.M.Sveta. Pod red. F.M.Malinovskogo. Moskva,  
Gos. nauchno-tekhn. izd-vo lit-ry po geol. i okhrane neдр, 1956.  
149 p. (MLRA 9:11)

(Mexico--Geology)

18

CA

Present-day sulfuric acid coolers. M. A. Garkunel.  
Khim. Prom. 1947, No. 4, 18-19. - Structure is de-  
scribed. M. Hosen

ASSOCIATED METALLURGICAL LITERATURE CLASSIFICATION

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00
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USSR/Medicine - Blood Transfusion

Mar 51

181T56

"Functional and Morphological Alterations of the Organism of Animals After Transfusion of Blood Infected With Saprophytes," M. L. Garfunkel, M. M. Nemyanova, K. M. Dvoylaytskaya-Barysheva (Moscow), Gen Order of Lenin Inst of Hematol and Blood Transfusion, Min Pub Health USSR

"Klin Med" Vol XXIX, No 3, pp 66-68

Blood stabilized with 5% soln of sodium citrate or serum was infected with anthracoid bacilli, B. aerogenes [A. aerogenes], or sarcinae and injected into exptl animals. In some cases,

181T56

USSR/Medicine - Blood Transfusion  
(Contd)

Mar 51

condition resembling anaphylactic or hetero-transfusion shock was brought about: The only difference was that walls of blood vessels were severely damaged by the infected blood or serum.

181T56

FEDOROV, N.A.; TERENT'YEVA, Ye.I.; GARFUNKEL', M.L.; TSESARSKAYA, T.P.; ROZANOVA,  
N.S.

Examination of the bone marrow following damage of lumbar and sacral  
plexuses and of the sympathetic innervation. Arkh. pat., Moskva 14  
no. 5:25-34 Sept-Oct 1952. (CML 23:3)

1. Of the Central Order of Lenin Institute of Hematology and Blood  
Transfusion (Director -- A. A. Bagdasarov, Corresponding Member of  
the Academy of Medical Sciences USSR).



NEMENOVA, N.M.; GARFUNKEL', M.L.

Pathological anatomy of experimental shock. Report no.1. Probl.  
gemat. i perel. krovi 1 no.4:43-48 J1-Ag '56. (MLRA 10:1)

1. Iz Tsentral'nogo ordena Lenina instituta gematologii i perelivaniya  
krovi (dir. -- chlen-korrespondent AMN SSSR prof. A.A.Bogdasarov)  
Ministerstva zdravookhraneniya SSSR.  
(SHOCK, experimental,  
histopathol. (Rus))

GARFUNKEL', M.L. NEMENOVA, N.M. POLUSHINA, T.V.

"Concerning Pathological Anatomy of Experimental Shock States (Report II)," by N. M. Nemenova, M. L. Garfunkel', and T. V. Polushina, Central Order of Lenin Institute of Hematology and Blood Transfusion (director, Prof A. A. Bagdasarov, Corresponding Member, Academy of Medical Sciences USSR), Ministry of Health USSR, Problemy Gematologii i Perelivaniya Krovi, Vol 1, No 6, Nov/Dec, pp 55-60 -1976

Tests were run on dogs to study pathological changes following traumatic shock (47 experiments), severe blood loss (35 experiments) and spinal shock (25 experiments).

SUM. I287

The authors conclude that the pathological changes observed during early periods of various shock conditions are morphological expressions of profound disorders of blood and lymph circulation, that they are commensurate with the state of shock, and that all shock conditions are similar in nature.

These morphological changes (illustrated by photomicrographs) reflect the response of an organism to a shock-producing factor, i.e., functions of compensatory mechanisms. Blood reaction is connected with this factor. Compensatory mechanisms of an organism are very strong in blood transfusion, nonlethal hemorrhage, and anaphylactic shock, but they are very weak in traumatic shock and absent in spinal shock.

By the use of effective therapeutic measures, it is possible to stimulate the basic protective powers of an organism, pull it out of shock, and prevent delayed irreversible changes from setting in.

30m 237

GARFUNKEL

The stromal factor of the heterotransfusion shock. R. A. Rutberg and M. L. Garfunkel, *Arch. Pathol.* 18, No. 9, 94-9 (1958).—Dogs were injected with intact and treated red blood cells of rabbits and bulls (bovine cells). Observations were made of animals' general condition and of blood pressure. In one set of expts. erythrocytes were treated with Na-cholate in a final 0.3% concn. (1 ml. erythrocytes + 3 ml. 0.9% NaCl + 1 ml. 3% Na cholate). After 30 min. stroma was centrifuged down and washed with 0.9% NaCl to free completely from hemoglobin. The injection into dogs of the washed and unwashed stroma had no effect on the arterial blood pressure; occasionally it affected the pulse amplitude. The same was true of the stroma-free supernatant hemolyzate and of the non-centrifuged Na-cholate-hemolyzed blood. Expts. with saponin hemolyzed red blood cells produced similar results. Control injections with intact rabbit erythrocytes brought about a sudden and sharp drop in blood pressure and other symptoms characteristic of heterotransfusion. R. and G. conclude that the toxic effect of erythrocytes of heterogenous blood is not due to any of the constituents of hemolyzed blood. Similar expts. with almost identical results were performed with rabbit red blood cells subjected to immunohemolysis. In similar expts. with rabbit red blood cells hemolyzed by osmotic methods the supernatant hemolyzate had no toxic properties and produced no unfavorable effect on the blood pressure or on the general condition of the heterogenous recipient, but the stroma proved to be as toxic as whole cells, as evidenced by the unfavorable effects its injection produced in dogs. R. and G. suggest that the chemical methods of red blood cell hemolysis change the original constitution of the stroma molecule thereby rendering it non-toxic, but that the physical method (osmotic) of hemolysis does not in any way affect the original constitution of the stroma molecule which enables it to retain its toxic properties as manifest in heterogenous transfusion. The toxicity of erythrocytes of heterogenous blood is, therefore, an intimate property of the original physicochem. structure of their stroma.

R. S. Levine

GARFINKEL, M. L.

U.S.S.R. / Human and Animal Physiology. Blood. T

Abs Jour: Ref Zhur-Biol., No 5, 1958, 22078.

Author : ~~Garfinkel, M. L.~~, Khokhlova M. P. Losyeva,  
G. I., Pokidova, H. V.

Inst : Not given.

Title : Experimental Studies of Biological Properties  
of Heterohemoglobins.

Orig Pub: V. sb. Sovrem. probl. gematol. i perelivaniya  
krovi. vip. 32, M. Medgiz, 1956, 304-309  
(actual problems of hematology and circulation).

Abstract: The biological action of heterohemoglobins (G),  
obtained by the method of N. V. Pokidova (same  
volume, 298) was studied. An 8-10% sol. of  
Hb of calves' erythrocytes (E) was injected in-  
travenously in 25 dogs. Larger single doses of  
Hb (E).75g/kg and higher produced severe dis-  
trophic and necrobiotic changes in the liver

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EXCERPTA MEDICA SEC 8 Vol 12/2 Neurology Feb 59

782. BLOOD TRANSFUSION IN CHANGED BODY REACTIVITY RESULTING FROM TRANSECTION OF THE SPINAL CORD (Russian text) - Garfunkel M. L., Suzdaleva V. V., Nemienova N. M., Zaretsky I. J. and Gurevich I. B. - ARKH. PATOL. 1957, 19/9 (67-73) Graphs 3

The spinal cords of 12 dogs were severed at the C VII segment. Twenty-five to 40 days post-operatively, when the dogs had recovered, a transfusion of 10-15 ml./kg. body weight, with sterile, isogenous citrated blood, was administered. Severe reactions occurred: hypotension, respiratory disturbances and cardiac dysfunction. Decrease of the viscosity of the blood, and decrease of chloride in the whole blood as well as in the plasma and erythrocytes, could be detected. The vessels were atonic and oedemas appeared in the internal organs and the brain. This reaction was brought about by a grave disturbance of compensatory processes ordinarily following haemotransfusion and regulated by the CNS.

Brandt - Berlin (V, 2, 8)

GUREVICH, I.B.; GARFUNKEL', M.L. (Moskva)

Changes in the cardiovascular system in citrate shock [with summary  
in English]. Pat.fiziol. i eksp.terap. 2 no.6:33-37 N-D '58.  
(MIRA 12:1)

1. Iz patofiziologicheskogo otdeleniya (zav. - chlen-korrespondent  
AMN SSSR prof. N.A. Fedorov) Tsentral'nogo ordena Lenina instituta  
gematologii i perelivaniya krovi (dir. - deystvitel'nyy chlen AMN  
prof. A.A. Bagdasarov).

(CITRATES, eff.

induction of shock, changes in cardiovasc. system  
in dogs (Rus))

(SHOCK, exper.

induced by citrates, cardiovasc. system changes in  
dogs (Rus))

(CARDIOVASCULAR SYSTEM, physiol.

eff. of shock induced by citrates in dogs (Rus))

GUREVICH, I.B.; GARFUNKEL', M.L. (Moskva)

Changes in the heart in acute hemorrhage. Pat.fiziol. i eksp.terap. 3  
no.6:39-44 N-D '59. (MIRA 13:3)

1. Iz patofiziologicheskoy laboratorii (zaveduyushchiy - chlen-korres-  
pondent AMN SSSR prof. N.A. Fedorov) Tsentral'nogo ordena Lenina insti-  
tuta gematologii i perelivaniya krovi (direktor - deystvitel'nyy chlen  
AMN SSSR, zasluzhennyy deyatel' nauk prof. A.A. Bagdasarov).  
(HEMORRHAGE experimental)  
(MYOCARDIUM physiology)



DERVIZ, G.V.; GARFUD'KEE', M.L.; LAZAREVSKIY, S.A. (Moskva)

Change in the respiratory function of the blood, gas exchange and hemodynamics following hemotransfusion during hypothermia. Pat. fiziol. i eksp. terap. 6 no.6:30-35 N-D'62 (MIRA 17:3)

1. Iz Tsentral'nogo ordena Lenina instituta gematologii i perelivaniya krovi ( dir. - dotsent A.Ye. Kiselev).

GARFUNKEL', M.L.; CHERTKOV, I.L.

Activity of the properdin system in acute hemorrhage. Biul. eksp. biol. i med. 54 no.8:26-30 Ag '62.

(MIRA 17:11)

1. Iz patofiziologicheskoy (zav. - chlen-korrespondent AMN SSSR prof. N.A. Fedorov) i radiobiologicheskoy (zav. - prof. M.O. Raushenbakh) laboratoriy Tsentral'nogo ordena Lenina instituta gematologii i perelivaniya krovi (dir. - deystvitel'nyy chlen AMN SSSR A.A. Bagdasarov [deceased]), Moskva. Predstavlena deystvitel'nyy chlenom AMN SSSR N.A. Krayevskim.

FEDOROV, N.A.; GARFUNKEL', M.L.; GUREVICH, I.B.; TROITSKIY, V.B.

Effect of blood transfusion on heart function in experimental myocardial infarct. Kardiologiya no.1:35-42 '64.

(MIRA 17:10)

1. Patofiziologicheskaya laboratoriya (zav.- deystvitel'nyy chlen AMN SSSR prof. N.A. Fedorova) i rentgenologicheskoye otdeleniye (zav.- doktor med. nauk I.B. Gurevich) Tsentral'nogo ordena Lenina instituta gematologii i perelivaniya krovi (dir.- dotsent A.Ye. Kiselev), Moskva.

GARFUNKEL', M. Z.

GARFUNKEL', M. Z. - "Data on the Calculation of the Time of Blood Circulation in the Light of the Study of the Functions of Vascular Receptors." Sub 12 Nov 52, Acad Med Sci USSR. (Dissertation for the Degree of Candidate in Medical Sciences).

SO: Vechernaya Moskva January-December 1952

GARFUNKEL', S. I.

The theory and practice of the process of pulverization Moskva, Gos. izd-vo mestnoi promyshl. SSSR, 1940. 207 p. (50-40157)

TN695.G3

CARUNKEL, S.J.

Controlis & automatic contr l in press-forging and heating  
plants. Raz.-sklan. proizv. 3 10:22-26 0 '61.

(L 14:10)

(Power presses)  
(Furnaces, Heating)  
(Automatic control)

GARFUNKEL', S.L., kand.tekhn.nauk; MOYZHES, Yu.L., kand.ekonom.nauk

Automation of scheduling operations in serial machinery  
and instrument manufacture. Mekh.i avtom.proizv. 16  
no.10:44-47 0 '62. (MIRA 15:11)  
(Machinery industry) (Instrument industry)  
(Automation)

KONSON, Aron Solomonovich; VISMONT, O.V., inzh., retsenzent; GARFUNKEL',  
S.M., dotsent, kand.tekhn.nauk, red.; VARKOVETSKAYA, A.I., red.;  
SHCHETININA, L.V., tekhn.red.

[Economics of repairing machinery] Ekonomika remonta mashin.  
Moskva, Gos.nauchno-tekh.nizd-vo mashinostroit.lit-ry, 1960.  
234 p. (MIRA 13:12)

(Machinery--Maintenance and repair)



GARG, K. M.

Applications of Denjoy analogue. Pts. 2-3. Acta mat Hung  
14 no. 1/2:183-195 '63.

1. Department of Mathematics and Astronomy, University of Lucknow, India. Presented by Gyorgy Alexits.

G. H. Hardy

Application of the theory of numbers. Pt. I. Number of prime divisors.  
15-165 '64

Department of Mathematics and Philosophy, University, London,  
1914.

ACCESSION NR: AP4017398

S/0185/64/009/002/0196/0206

AUTHOR: Zapisochnyy, I. P.; Zhukov, I. G.; Garga, I. I.; Vuksty\*ch, V. S.

TITLE: Vacuum monochromator for the investigation of optical excitation functions

SOURCE: Ukrayins'ky'y fizy\*chry\*y zhurnal, v. 9, no. 2, 1964, 196-206

TOPIC TAGS: vacuum ultraviolet, vacuum ultraviolet spectroscopy, resonance level excitation cross-section, excitation cross-section, resonance radiation, ultraviolet monochromator, vacuum monochromator, electron beam excitation tube, mercury resonance lines

ABSTRACT: There are practically no data at present on the effective excitation cross sections of resonance levels of atoms, diatomic molecules and their ions of various multiplicity, owing to experimental difficulties in the vacuum ultraviolet region of the spectrum.

To obtain such data the authors have constructed a spectrophotometric set-up, consisting of three basic units: a vacuum monochromator of normal incidence with a one-metre (600 lines/mm) standard concave diffraction grating;

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highly monoenergetic electron beam excitation tubes; an electrophotometer using a secondary electronic multiplier (SEM) in a pulse counting regime for recording radiation in the vacuum ultraviolet region.

The monochromator was designed so that the refraction grating and rigidly attached input and output slits are always on the Rowland circumference. Transmission of movement in the vacuum is accomplished through bellows, while the kinematic system ensures linearity of the graduated graph throughout the working region (800-3500 Å).

The luminous vertical gas column in the excitation tube may be precisely set on the input slit under control of a distance gauge consisting of two telescopes, for which the possibility of moving part of the monochromator housing from the input slit is provided. This permits the maximum utilization of the light power of the monochromator (the loss in resolving power is negligible, since the intervals between the spectral lines are considerable for most objects).

The open type SEM, together with the voltage divider and the cathode repeater are located directly behind the output slit of the monochromator in a special shell. The pulse count is taken with the aid of a standard  $\llcorner$  Tulip  $\lrcorner$  velocity meter.

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The block diagram and the external appearance of the spectrophotometric set-up are shown in the appended drawings.

In conclusion, tentative data are given on the excitation functions of mercury lines  $\lambda=1850 \text{ \AA}$  (Hg I) and  $\lambda=1942 \text{ \AA}$  (Hg II).

Orig. Art. has 10 figures including several schematics and block diagrams

ASSOCIATION: Uzhgorods'ky Derzhuniversytet (Uzhgorod State University)

SUBMITTED: 11Jul63

DATE ACQ: 19Mar64

ENCL: 01

SUB CODE: PH, SD

NO REF SOV: 009

OTHER: 002

Card 3/4

MALOV, R.V., kand. tekhn. nauk; IGNATOVICH, I.V., inzh.; GARGALA, F.V.,  
inzh.

Testing neutralizers for exhaust gases. Gor. zhur. no.8;  
71-72 Ag '64. (MIRA 17:10)

07/135/62/000/003/006/00  
AC06/A101

AUTHORS: Snablygin, S. V., Candidate of Technical Sciences, Sivolebov, V. V.,  
Gargala, V. D., Perel'man, Yu. A., Engineers

TITLE: Clamps with a built-in toroidal transformer for spot welding steel  
and aluminum alloys

PERIODICAL: Svarochnoye proizvodstvo, no. 3, 1962, 30 - 31

TEXT: At the Saratov Polytechnic Institute and the Plant of Electrothermal  
Equipment, СПИ -66 (SPI-66) type suspended clamps were developed weighing 29 kgs  
and having a pneumatic mechanism for pressing the electrodes. The clamps are in-  
tended for welding aluminum alloy parts 0.8 + 0.9 mm thick, and low-carbon steel  
parts up to 3 + 3 mm thick, with 20 kAmp short-circuit current of 50 cycles fre-  
quency. When using 100 cycle frequency current, the thickness of aluminum alloy  
parts can be increased to 1.5 - 2 mm. The clamps are different from conventional  
ones by having a transformer in the toroidal form which presents a number of ad-  
vantages over a shell type transformer, such as higher efficiency and more stable  
welding conditions, in particular for spot welding aluminum alloys. The single-  
coil design of the secondary transformer winding makes it possible to use cur-

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Clamps with a built-in toroidal transformer...

3/135/62/000/003/006/009  
A006/A101

rent of commercial and high frequencies at voltages permissible under safety conditions. The secondary winding of the transformer has a cylindrical shape and is simultaneously the clamp housing. The transformer has an annular magnetic hard conductor of 66 cm<sup>2</sup> section. The primary copper winding of 30 cm<sup>2</sup> section is wound around the magnetic conductor and has 20 turns. The fixed electrode holder is mounted on a central rod passing through the front lid. The movable electrode holder is mounted onto the external part of the housing and is electrically connected with the same. The high ratio of the weight of active materials to the total weight of the clamps (about 75%) raises the efficiency of the clamps at higher frequency ( $f = 100$  cycles). There are 3 figures and 2 tables.

ASSOCIATIONS: Saratovskiy politekhnicheskii Institut (Saratov Polytechnic Institute) (Shablygin, Sivciobov, Gargala); Zavod elektrotermicheskogo oborudovaniya (Plant of Electrothermal Equipment) (Perel'man)

Card 2/2



86892

S/056/60/039/005/006/051  
B029/B077

24.2200 (1138, 1134, 1158)

AUTHORS: Avvakumov, V. I., Garif'yanov, N. S., Semenova, Ye. I.  
TITLE: Electron Paramagnetic Resonance and Paramagnetic Relaxation in Liquid and Undercooled Solutions of  $Ti^{+++}$  Salts  
PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960. Vol. 39, No. 5(11), pp. 1215 - 1220

TEXT: The authors detected an electron paramagnetic resonance in liquid solutions of  $TiCl_3 \cdot 6H_2O$  in glycerin and alcohol and also in undercooled solutions at  $77^\circ$  and  $200^\circ K$  at frequencies of 300 and 9640 megacycles. Moreover, they studied pyridine complexes of  $Ti^{+++}$ , and also specimens of silicate glass and boron glass which contained titanium compounds. The shape of the resonance lines obtained from polycrystalline specimens is determined mainly by the anisotropy of the g-factor. Table 1 shows how the line width  $\Delta H$  depends on the concentration of  $Ti^{+++}$  in different solvents.

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Electron Paramagnetic Resonance and  
Paramagnetic Relaxation in Liquid and  
Undercooled Solutions of  $Ti^{+++}$  Salts

S/056/60/039/005/006/051  
B029/B077

Concentration of the solvent in moles/l	$\Delta H, Oe$			Concentration of the Solvent in moles/l	$\Delta H, Oe$		
	77 <sup>o</sup> K	200 <sup>o</sup> K	295 <sup>o</sup> K		77 <sup>o</sup> K	200 <sup>o</sup> K	295 <sup>o</sup> K
Glycerin solution $TiCl_3 \cdot 6H_2O$				Alcohol solution $TiCl_3 \cdot 6H_2O$			
2	54	60	-	1	63	-	-
1	32	35	-	0.5	35	-	20
0.5	17	18	-	0.25	27	-	10
0.25	14	17	10	0.1	17	-	10
0.1	13	16	10	0.05	16	-	10
0.01	13	16	10	0.01	16	-	10

The intensity of electron paramagnetic resonance decreases considerably during the transition from an undercooled state into a liquid state. For undercooled solutions of  $TiCl_3 \cdot 6H_2O$  the line of electron paramagnetic resonance is very asymmetric and shows a second unresolved

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Electron Paramagnetic Resonance and  
Paramagnetic Relaxation in Liquid and  
Undercooled Solutions of  $Ti^{++}$  Salts

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S/056/60/039/005/006/051  
B029/B077

absorption maximum. For  $\nu = 9460$  Mc/sec Table 2 is valid:

$g_{  }$	$g_{\perp}$	$g_{eff}$
77°K		290°K

Glycerin solution of  $TiCl_3 \cdot 6H_2O$

1.99 | 1.93 | 1.95

Alcohol solution of  $TiCl_3 \cdot 6H_2O$

2.00 | 1.90 | 1.94

When the temperature of the undercooled solution rises, the width of the line and the asymmetry of the curves decrease; when the liquid state is reached, the lines are symmetric and narrow. At  $\sim 400^{\circ}K$  the frequency dependence vanishes. In parallel fields, an absorption  $\chi''(H)$

exists at 300 megacycles in a 2 M solution of  $TiCl_3 \cdot 6H_2O$  in glycerin

at  $77^{\circ}K$ , which is caused by spin relaxation. At a double dilution of this solution, the intensity of absorption is nearly zero. More details are given.  $\Delta H$  for curves of electron paramagnetic resonance in concentrated glycerin and alcohol solutions is caused by magnetic dipole-dipole interaction. In dilute solutions, the line width which is

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86892

Electron Paramagnetic Resonance and  
Paramagnetic Relaxation in Liquid and  
Undercooled Solutions of  $Ti^{+++}$  Salts

S/056/60/039/005/006/051  
B029/B077

independent of the concentration, is due to the anisotropy of the g-factor and the contribution of the magnetic moments from protons of surrounding molecules. The spin-lattice relaxation contributes to  $\Delta H$  according to  $\Delta H \sim 1/\rho_s + 1/\beta_1$ . The transition from the undercooled solution to the liquid state influences the motion which causes a decrease of the line width. At 9460 megacycles, the shape of the curves for electron paramagnetic resonance is typical of ions with a strong isotropic g-factor. The shift of spin-spin relaxation toward lower frequencies with a decrease in concentration indicates an increase of the spin-lattice relaxation time  $\tau_1$ . This was explained by the thermal reservoirs of N. Bloembergen and S. Wang. The absence of electron paramagnetic resonance in silicate and boron glass indicates the presence of tetravalent titanium in these types of glass. The authors thank B. M. Kozyrev for a discussion of the results, and Yu. M. Ryzhmanov for assistance in experiments. There are 1 table and 17 references: 5 Soviet and 12 US.

Card 4/5

86892

Electron Paramagnetic Resonance and  
Paramagnetic Relaxation in Liquid and  
Undercooled Solutions of  $Ti^{+++}$  Salts

S/056/60/039/005/006/051  
B029/B077

ASSOCIATION: Kazanskiy filial Akademii nauk SSSR (Kazan' Branch  
of the Academy of Sciences USSR)

SUBMITTED: June 17, 1960

Card 5/5

GARG, K.M.

On nowhere monotone functions. Pt. 3. Rev math pures 8  
no.1:83-90 '63.

1. Dept. of Mathematics and Astronomy, University of Lucknow,  
India.

MALOV, R.V., kand. tekhn. nauk; GARGALA, R.V., inzh.; IGNATOVICH, I.V.;  
SOLOPIY, I.S., inzh.

Developing and testing exhaust gas neutralizers for diesel-electric  
powered trucks. Gor. zhur. no. 12:70-72 D '65. (MIRA 18:12)

1. Tsentral'nyy nauchno-issledovatel'skiy i konstruktorskiy  
institut toplivnoy apparatury avtotraktornykh i statsionarnykh  
dvigateley (for Malov, Gargala, Ignatovich). 2. Gosudarstven-  
nyy proyektno-konstruktorskiy i eksperimental'nyy institut  
ugol'nogo mashinostroyeniya (for Solopiy).

GARGANEYEV G.N.

USSR/Human and Animal Physiology - Effects of Physical  
Factors. Ionizing Radiations.

T-11

Abs Jour : Ref Zhur - Biol., No 13, 1953, 34676

Author : Garganeyev, G.N.

Inst : Tomsk Institute of Medicine, Tomsk University.

Title : Biological Effects of Superhard Inhibitory Irradiation.

Orig Pub : 5-y Pavlovsk. sb. Tomskiy med. in-t. Tomsk. un-t, 1956,  
57-60.

Abstract : Rabbits, guinea pigs, and rats were irradiated with beta-  
tron  $\gamma$ -rays (10 Mev) in single doses of 20-240, 305-  
400, 1,324, 3,600, and 7,300 r. All these doses produced  
apathy in theirradiated animals. In a group of guinea  
pigs which was fed inadequately, and which was irradiated  
with 1,324 and 3,600 r doses, the state of apathy continued.

Card 1/2

- 75 -

Card 2/2



GARGANEYEV, G.P.

USSR/Human and Animal Physiology. The Effects of Physical Efforts. T

Abstr Jour: Ref Zhur-Biol., No 20, 1958, 93747.

Author : Garganeyev, G.P., Mskalev, V.A., Yakovlev, B.M.  
Inst : Tomsk Polytechnical Institute  
Title : Laboratory Organization and Shielding of Personnel in Detatron Work.

Orig Pub: Izv. Tomskogo politekh. in-ta, 1957, 87, 13-16.

Abstract: No abstract.

Card : 1/1

USSR/Human and Animal Physiology (Normal and Pathological).  
Effect of Physical Factors. Ionizing Radiation.

T-13

Abs Jour : Ref Zhur - Biol., No 16, 1958, 75274

Author : Garganeyev, G.P.

Inst : Tomsk Polytechnical Institute.

Title : Hematological Displacements in Animals During Radiation  
Sickness Caused by Betatron Rays.

Orig Pub : Izv. Tomskogo politekhn. in-ta, 1957, 87, 28-32.

Abstract : Experimental animals (rabbits, rats and guinea pigs) were divided into 8 groups and exposed to single and multiple doses from 20 to 7300 R of 10 Mew. Exposure was carried out without filters except for one group, where animals of another group served as a "filter", which were placed in the zone of the rays. During single exposure in all groups leukocytosis, which was observed in the first hours,

Card 1/3

- 104 -

USSR/~~Human~~ and Animal Physiology (Normal and Pathological).  
Effect of Physical Factors. Ionizing Radiation.

T-13

Abs Jour : Ref Zhur - Biol., No 16, 1958, 75274

shifted with leukopenia. With doses up to 240 R a phase of resotration was observed. In the group with multiple exposure leukopenia developed; with a summary dose up to 1650 R the quantity of leukocytos reverted to the original numbers. At 5415 R it remained at the low level up to the 77th day (the day of sacrifice). A different expression of this phenomena was noted than was connected with the size of the dose and with the reactive condition of the animal. Also a great duration of the restoration period was noted. In the period of leukopenia the number of neutrophils decreased more intensively. During a single exposure in rabbits and in guinea pigs, as well as in widely separates periods of multiple exposures in guinea pigs and rats an increase of the number of lymphocytes was observed. Morphological changes in the form of destruction of cells, lysis, pyknosis of nucleo developed

Card 2/3

- 105 -

GARGANSEV, G.P.

Hematological changes in animals with acute radiation sickness caused by betatron irradiation. Probl. gemat. i perel. krovi 3 no.5:3-9 S-0 '58. (MIRA 11:11)

1. Iz kafedry patofiziologii (zav. - prof. D.I. Gol'dberg) Tomskogo meditsinskogo instituta.

(BLOOD,

hematol. changes in exper. radiation sickness in guinea pigs (Rus))

(RADIATIONS, injurious effects

exper. radiation sickness in guinea pigs, hematol. changes

(Rus))

(GAMMA RAYS, injurious effects

same)

GARGANEYEV, G.P.

Series of remarks on the article of D.K. Zavadovskii "Some  
problems in dosimetry of betatron radiation," printed in  
"Meditsinskia radiologiya" No.5, 1961. Med.rad. 7 no.7:75-77  
Jl '62. (MIRA 15:11)  
(RADIATION--DOSAGE) (ZAVADOVSKII, D.K.)

L 16715-65 EWT(m) DIAAP/ESD(t)/SSD/AFWL  
ACCESSION NR: AR5000773

S/0058/64/000/010/V010/V010

SOURCE: Ref. zh. Fizika, Abs. 10V94

AUTHORS: Garganev, G. P.

TITLE: Photonuclear effect on the nuclei of the carbon isotope C-12

CITED SOURCE: Sb. Materialy I-y Nauchn. konferentsii Tsentr. n.-i. labor. Tomskogo med. in-ta, 1964. Tomsk, Tomskiy un-t, 1964, 46-48

TOPIC TAGS: gamma reaction, gamma neutron reaction, graphite, photonuclear effect, radioactive decay, neutron yield

TRANSLATION: Results are presented of measurements of the yield of photoneutrons from the reaction  $C^{12}(\gamma, n)C^{11}$ . The graphite samples were irradiated in a 25 MeV betatron. The yield was measured relative to the  $\beta^+$  activity resulting from the radioactive decay of  $C^{11}(C^{11} \rightarrow B^{11} + \beta^+)$ . The value of the neutron yield at  $E_{\gamma \max} = 25$  MeV

Card 1/2

L 16716-65  
ACCESSION NR: AR5000770

the windings and by using two identical coils in some of the standard units. The variation of the inductance is determined as a function of the frequency and the voltage, as is also the variation of the  $Q$  as a function of the voltage at 100 and 1,000 cps. The frequency dependence of the inductance can be reduced, over a wide range of frequencies, to a fraction of a percent for standard units up to 10 henry, and to 5% for units up to 100 henry. The relative change in the inductance does not exceed 0.1 of the change in frequency. The variation of the inductance with voltage does not exceed 1%. Correct summation at frequencies 100--1000 cps can be ensured only in the boxes rated up to 10 henry, and the total value for the box up to 100 henry must be determined experimentally. K. Shirokov.

SUB CODE: EM

ENCL: 00

Card 2/2

I. 31069-65 EWT(m) DIAAP

ACCESSION NR: AR5004847

S/0058/64/000/011/V017/V017

SOURCE: Ref. zh. Fizika, Abs. 11V146

12  
B

AUTHOR: Garganeyev, G. P.

TITLE: Photonuclear effects<sup>19</sup> produced in copper by gamma rays from a 25 MeV medical betatron

CITED SOURCE: Sb. Materialy 1-y Nauchn. konferentsii Tsent. n.-i. labor. Tomskogo med. in-ta, 1964. Tomsk, Tomskiy un-t, 1964, 49-51

TOPIC TAGS: betatron, betatron gamma ray, bremsstrahlung, photonuclear effect, copper, beta activity

TRANSLATION: By measuring with end-window counters the  $\beta^+$  activity of  $\text{Cu}^{62}$  and  $\text{Cu}^{64}$ , which arises when copper samples are irradiated with a beam of  $\gamma$  bremsstrahlung with maximum energy 25 MeV, the author obtains the yield of the  $(\gamma, n)$  reaction in Cu, equal to  $2.56 \times$

Card 1/2



L 31069-65

ACCESSION NR: AR5004847

$10^{16}$  neutrons/mole-roentgen.

SUB CODE: NP

ENCL: 00

Card

2/2

L 31053-65 EWT(m)/EPA(w)-2/EWA(m)-2 Pab-10/Pt-10 IJP(c)

ACCESSION NR: AR5004842

S/0058/64/000/011/A030/A030

36  
8

SOURCE: Ref. zh. Fizika, Abs. 11A296

AUTHORS: Garganeyev, G. P.; Dimov, N. I.; Velikosel'skiy, V. A.

TITLE: Spatial distribution of hard radiation from a 25 MeV betatron

19

CITED SOURCE: Sb. Materialy 1-y Nauchn. konferentsii Tsentr. n.-i. labor. Tomskogo med. in-ta, 1964. Tomsk. Tomskiy un-t, 1964, 43-45

TOPIC TAGS: gamma ray, betatron, hard radiation, radiation distribution

TRANSLATION: The method of induced activity was used to measure the spatial distribution of the hard gamma radiation from the 25 MeV betatron installed at the Tomskiy meditsinskiy institut (Tomsk Medical Institute). The activated samples used for the measurement of the radiation distribution in the horizontal plane were distilled

Card 1/2

L 31053-65

ACCESSION NR: AR5004842

water ( $0.5 \text{ cm}^3$  volume) and copper discs 10 mm in diameter made of 0.15 mm foil. To measure the distribution of the vertical plane, the volume of the water was reduced to  $0.1 \text{ cm}^3$ , and the diameter of the copper samples to 4 mm. The results of the measurements show the presence of some asymmetry in the intensity distribution relative to the central beam, both vertically and horizontally. It is recommended that when the set-up is used for biological experiments the operation be limited to a solid angle  $\sim 7^\circ$ . A. Fateyev.

SUB CODE: NP

ENCL: 00

Card

2/2

BENETKA, Karel; GARGARETAS, Jannis, ins.

Practical use of the modern systems of switch room controls.  
Elektrotechnik 18 no.1:2-4 Ja '63.

1. Elektromontazni zavody, Praha.

GARGASAS, L.

Public health in Poland. Sveik. apsaug. no.7:50-52 '62.

1. Resp. mokslinis-metodinis sanitarines statistikos biuras.  
(PUBLIC HEALTH)

GARGASAS, L.

Rheumatism according to data of the rheumatological department of the Vilnius Clinical Hospital in 1960-1962. Svezk. Apsaug. no.4:4-10 '64.

1. Lietuvos respublikine Vilniaus klinine ligonine (Vyr. gyd.-V. Zygas. Reumatologijos skyriaus vedeja - G. Stasiulionyte).

GARGASAS, L.V. (Vil'nyus); NORKENE, V.V. (Vil'nyus); RAMANAUSKENE, R. Ya.  
(Vil'nyus); OSIPAUSKENE, Ya.V. (Vil'nyus)

Organizing polyclinic attendance in cities of the Lithuanian  
S.S.R. Sov. zdrav. 20 no.9:16-20 '61. (MIRA 14:12)

1. Iz Respublikanskogo nauchno-metodicheskogo byuro sanitarnoy  
statistiki (dir. L.V.Gargasas, Vil'nyus).  
(LITHUANIA--MEDICAL CARE)

GARGASAS, L.; NORKIENE, V.; OSIPAUŠKIENE, J.

The health status of inhabitants of Siauliai and Panevezys in 1960.  
Sveik. apsaug:27-33 Mr '63.

1. Respublikinis mokslinis-metodinis sanitarines statistikos  
biuras.



GARGASAS, Petras; BERKMANAS, E., kand. ekon. nauk, otv. red.;  
MESKAUSKAS, K., doktor ekon. nauk, red.; STAMIIAS, P.,  
kand. ekon. nauk, red.; VAZNELIS, J., red.

[See fishing of the Lithuanian S.S.R. and its material and  
technological base] Lietuvos TSR jurine zvejyba ir jos  
materialine-technine baze. Vilnius, Leidykla "Mintis,"  
1965. 132 p. [In Lithuanian] (MIRA 18:8)

GARGASAS, Petras Antano; KUZ'MINA, N.Ye., red.; KONOVALYUK, I.K., mladshiy  
red.; KISELEVA, Z.A., red.kart; KOSHELEVA, S.M., tekhn.red.

[The Lithuanian S.S.R.] Litovskaja SSR. Moskva, Gos.izd-vo geogr.  
lit-ry, 1960. 126 p. (MIRA 13:9)  
(Lithuania)

KHIZHNYAK, P.A.; NOVINSKIY, Yu.S., agronom; SHURKUS, I.; GARGAUN, G.;  
FILITSIN, V.; GARDIMAN, V.

Information and brief news. Zashch. rast. ot vred. i bol.  
9 no.5:57-60 '64. (MIRA 17:6)

1. Gosudarstvennaya inspektsiya po karantinu i zashchite  
rasteniy Ministerstva sel'skogo khozyaystva SSSR (vor  
Novinskiy).

GARGER, K. S.

USSR/Physics  
Spectrum Analysis  
Microphotometers

Mar 49

"The Use of PS-18 Spectroprojectors as Micro-  
photometers," K. S. Garger, Khar'kov Inst of  
Engineers for the Cement Ind, 1 1/3 pp

"Zavod Lab" Vol XV, No 3

Discusses use of PS-18 spectroprojectors as  
projection photoelectric microphotometers.  
Claims this device can replace MF-1 micro-  
photometer in many cases. The PS-18 spectropro-  
jectors can be easily and inexpensively re-  
modeled into projection photoelectric  
48/497101

Mar 49

USSR/Physics (Contd) Illustrates  
microphotometers in any laboratory. Illustrates  
microphotometer system.

48/497101

GARGER, K.S.

USSR.

The radiation from a glow discharge in moist air. K. S. Garger (Inst. Energy, Cement Ind., Kharkov). *Zh. Fiz. Khim.* 20, 1413-21 (1950).—The radiation from the position pole of a glow discharge in air contg. from 10<sup>-4</sup>% to 50% H<sub>2</sub>O was studied for wave lengths 2800-7300 Å., pressures of 0.5-40 mm., and current strength 0.5-10.0 ma. On the basis of these expts., a method was developed for detg. the amt. of water vapor in the air at low and normal pressures. This method is based on the sensitivity of the intensity of the H<sub>α</sub> line to the presence of water vapor. These measurements are applicable for 0.02-2.0% H<sub>2</sub>O and the error is 4-10%. The results of the spectral investigation indicate that the H<sub>2</sub>O dissociates to form H and OH and that O is formed only by secondary processes.  
J. Rovtar Leach

ROV  
LEACH

Gargner, H.S.

U.S.S.R.

✓ Nature of the spectrum of the Bessemer flame. K. S. Gargner. *Zhur. Tekh. Fiz.* 22, 609-15(1952).—The Bessemer flame was studied spectroscopically and visually at various stages of production by using a specially adapted stelloscope. It was shown that during the second half of the fusion operation the lines for FeO and at Fe predominate in the spectrum. It is proposed that the spectrum can be divided into 5 periods, each having characteristic lines. The importance of Fe(CO) in the formation of the intense Fe and FeO spectrum is verified. J. Rovtar Leach

USSE/Chemistry - Spectral analysis

Card 1/1      Pub. 43 - 60/97

Authors      : Garger, K. S., and Umnov, V. D.

Title        : About the spectrum of the Bessemer flame

Periodical   : Izv. AN SSSR. Ser. fiz. 18/2, 279-280, Mar-Apr 1954

Abstract     : The flame spectrum of a Bessemer converter is considered of great importance in connection with the development of spectral methods for the control of Bessemer processes which take place within very short periods of time (8-15 minutes). Using a reconstructed spectrograph styloscope the authors made a detailed investigation of the flame spectra according to separate blast periods of the converter. The results obtained are described.

Institution   : The Arsenichev Evening Metallurgical Institute, Dneprodzershinsk and the F. Dzerzhinskiy State Metallurgical Plant, Dneprovsk

Submitted    : .....

*Garger, K.S.*

USSR/Optics - Optical Methods of Analysis. Instruments.

K-7

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 13089

Author : Garger, K.S., Umnov, V.D., Krivulya, G.D.

Inst :

Title : Investigation of the Radiation of a Bessemer Flame.

Orig Pub : Sv. tr. Dneprodzerzhinsh, vech. metallurg. in-ta, 1955, 1, 54-63

Abstract : To clarify the possibility of controlling the Bessemer process by optical methods, complex experiments were performed, including a successive photography of the spectrum of the flame of the converter, its visual observation, and automatic recording of the intensity of radiation in various regions of the spectrum. At the same time, gas and metal samples were taken, the temperature of the flame was measured by an optical pyrometer, and the flow and pressure of air were recorded. It is shown that it is possible to control the course of the process from the

Card 1/2



GARGER, K. S.

Determination of the end point in blowing a Bessemer  
 converter. K. S. Garger and V. D. Umnov. *Stal'* 15,  
 905-9(1956).—App. is described which permits recording  
 the difference in current strength produced by luminous  
 radiation (450-750 Å.) and by heat radiation (700-1300 Å.).  
 A curve so produced has the shape of a W, the first max. of  
 which corresponds to the beginning of the C flame, first min.  
 is caused by a more pronounced increase of luminosity than  
 of heat, second max. corresponds to a C content of 1.1-  
 1.4%, the second min. corresponding to the drop of flame  
 and a C content of 0.2-0.3%. In making 0.45-0.75% C  
 rails, the second max. is used as the end point. On a 200-  
 heat run, 86 of them were within the desired range.

2

J. D. Cat

Dnepropetrovsk Metallurgical Inst. and Zavod im. Dzerzhinskij

Gargor, AS

✓ Further Contribution to the Spectrum of the Bessemer  
Flame. K. S. Gargor, D. Umnov and G. D. Krivulya.  
(Izv. Akad. Nauk SSSR, Seriya Fiz, 1955, 19, (2), 186-188).  
Lines in the spectrum are shown and identified from 3000-  
5300Å. Photoelectric observation of the changes in the  
flame is possible.

3

Dneprodzerzhinskij vechernij metallurgicheskij institut imeni Arsenicheva

SOV/ 137-58-7-14188

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 32 (USSR)

AUTHORS: Garger, K. S., Krivulya, G. D., Umnov, V. D., Ul'yanov, D. P., Mamchits, K. A., Petrov, S. A., Sorokin, A. A.

TITLE: Automation of Converter-process Control (Avtomatizatsiya kontrolya konvertornykh protsessov)

PERIODICAL: Tr. Nauchno-tekhn. o-va chernoy metallurgii, 1957, Vol 18, pp 738-742

ABSTRACT: A brief presentation is made of the history of the development of control of Bessemer blow, first by visual inspection and later performed with the aid of a photoelectric cell and a spectroscope. There follows a description of monitoring with the aid of the differential photoelectric method as developed by the Dneprodzerzhinsk Evening Institute of Metallurgy in conjunction with the im. Dzerzhinskiy Metallurgical Plant, termed the W-diagram method because of the shape of the record produced. A description is provided of the means by which this method is applied; the results of the use of the method under shop conditions are presented, as are economic indices pertaining to its introduction and prospects for its development. M. L.

Card 1/1

1. Furnaces--Control systems 2. Photoelectric cells--Applications

AFANAS'YEV, S.G.; KOSTENETSKIY, O.N.; SHUMOV, M.M.; IVANOV, Ye.V.; PAVLOV,  
A.I.; ~~GARGER, K.S.~~; KRIVULYA, G.D.; UMNOV, V.D.; UL'YANOV, D.P.;  
MAMCHITS, K.A.; PETROV, S.A.; SOROKIN, A.A.; FRIDMAN, Ye.L.;  
EPSHTEYN, Z.D.; IVANTSOV, G.P.; NETESIN, A.Ye.

Reports (brief annotations). Biul. TSNIICM no.18/19:106-107 '57.  
(MIRA 11:4)

1. Zavod im. Petrovskogo (for Kostenetskiy).
2. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii (for Shumov, Epshteyn, Ivantsov).
3. Vsesoyuznyy nauchno-issledovatel'skiy institut ogneporov (for Ivanov).
4. Stal'proyekt (for Pavlov).
5. Metallurgicheskiy zavod im. Dzerzhinskogo (for Garger, Krivulya, Umnov, Ul'yanov, Mamchits, Petrov, Sorokin).
6. Dnepropetrovskiy filial Gipromeza (for Fridman).
7. TSentral'nyy institut informatsii chernoy metallurgii (for Netesin)  
(Bessemer process)

GARGER, K. S.

24(7) FRASE I BOOK EXPLANATION 300/1700

L'ov. Universitet

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) (Soyuz Izd-vo L'vovskogo univ., 1956. 568 p. (Series: Iuzh. Nauchno-issledovatel'skiy sbornik, vyp. 4(9)) 3,000 copies printed.

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po spektroskopii.

Editorial Board: G.S. Landsberg, Academician. (Resp. Ed.); B.S. Reppert, Doctor of Physical and Mathematical Sciences; L.L. Reblinskiy, Doctor of Physical and Mathematical Sciences; V.A. Fybrlikant, Doctor of Physical and Mathematical Sciences; V.G. Koritskiy, Candidate of Technical Sciences; S.M. Rayskiy, Candidate of Physical and Mathematical Sciences; L.K. Kilmovskiy, Candidate of Physical and Mathematical Sciences; V.S. Milyayushuk (deceased), Doctor of Physical and Mathematical Sciences; A.Fe. Slaberman, Doctor of Physical and Mathematical Sciences; M.I. S.L. Gasser, Tech. Ed.; T.V. Saranyuk.

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, electromagnetic radiation, physicochemical methods for controlling uranium production, physics and technology of gas discharge, optics and spectroscopy, abnormal dispersion in metal vapors, ore spectroscopy and the combustion theory, spectrum analysis of ores and minerals, photographic methods for quantitation of the analysis of metals and alloys, spectral determination of the hydrogen compound, statistical study of isotopes, tables, and statistical study of variation in the parameters of calibration curves, determination of traces of metals, spectrum analysis in metallurgy, thermochemistry in metallurgy, and principles and practice of spectrochemical analysis.

Card 2/31

Kolbovskiy, Yu.Ya., and M.K. Krizhanovskaya. Spectral Determination of Aluminum in Milled Steel With the Aid of Solutions 302

Komarovskiy, A.G. Spectrum Microanalysis of High-alloy Steel and Heat-resistant Alloys 304

Kosonell, M.Z. Spectrographic Determination of Titanium in Th1097 and NI-123 Types of Steel 306

Garger, K.S., G.D. Krivulya, V.I. Trofimova, and V.D. Danov. Studying the Plasma Spectrum of a Resonance Converter With the Aid of an ISP-51 Spectrograph 310

Sillie'oh, E.A. Shift of Calibration Curves in the Spectrum Analysis of Steel 314

Ribisov, G.Y., M.I. Serova, and E.M. Vinnichenko. Quantitative Spectral Determination of Traces of Elements in Laminophore Pure Zinc Sulfide 317

Card 21/31

25 (6), 24 (7)

AUTHORS:

Garger, K. S., Krivulya, G. D.,  
Ortenberg, F. S., Trofimova, V. I.

SOV/32-25-5-18/56

TITLE:

Investigation of the Spectrum of the Converter Flame in  
Different Types of Blowing (Issledovaniye spektra konverternogo  
plameni pri razlichnykh sposobakh produvki)

PERIODICAL:

Zavodskaya Laboratoriya, 1959, Vol 25, Nr 5, pp 573-576 (USSR)

ABSTRACT:

The authors had already investigated the flame spectrum (FS) of the Bessemer process in the wave range of 3700-10000 Å with a blast of air (Refs 1, 2), on the basis of which a photoelectric control method of blowing through rail steel was introduced (Refs 3, 4). In the present case the investigation results of (FS) of new converter processes with the use of oxygen are given. The (FS) on blowing through cast iron with a vapor-oxygen mixture was investigated at the Yenakiyevskiy metallurgicheskiy zavod (Yenakiyev Metallurgical Factory) with the co-operation of N. I. Goncharenko, A. B. Minster, A. D. Stakhurskiy and V. D. Umnov on the spectrograph ISP-28 and styloscope SL-3 (with photographic attachment). The lines Na, K, Li, Rb, Fe, Mn, Ca, Cu, Cr and Ga were plotted and it was observed that the spectrum Fe I is considerably richer in lines than on

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Investigation of the Spectrum of the Converter  
Flame in Different Types of Blowing

SOV/32-25-5-18/56

blowing through with air (Fig 1). The (FS) on blowing through cast iron with oxygen from above was taken on the abovementioned styloscope and on a diffraction apparatus (with a replica) with the cooperation of V. M. Gorbovskiy and A. D. Stakhurskiy. A few investigation results are given concerning the spectrum in the case of air blowing through, which were obtained at the zavod im. Dzerzhinskogo (Factory imeni Dzerzhinskiy) on the spectrograph ISP-28, ISP-51, styloscope SL-3 and diffraction spectrograph. Measurements of flame temperature were made according to the method by Scholev (Ref 6), in which the spectrum was taken on films "Izoorto 45 Units GOST" and "Izopankrom" and photometry was made on the MF-2 apparatus. In evaluating the results obtained the authors mention that the increase of the intensity of the ultraviolet range in (FS) of the water vapor-oxygen blowing process according to (Ref 12) may be explained by a collision of O and CO corresponding to  $CO + O \rightarrow CO_2 + h\nu$  (1). There are 3 figures and 14 references, 11 of which are Soviet.

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Investigation of the Spectrum of the Converter  
Flame in Different Types of Blowing

SOV/32-25-5-18/56

ASSOCIATION: Dneprodzerzhinskiy vecherniy metallurgicheskiy institut  
(Dneprodzerzhinsk Metallurgical Institute (Evening School))

Card 3/3



GARGER, K.S.; KRIVULYA, G.D.; ORTFENBERG, F.S.

Spectrum obtained from the flame of a converter in which cast iron is blown by a steam oxygen mixture. Inzh.-fiz.zhur. no.6:72-75  
Je '60. (MIRA 13:7)

1. Vecherniy metallurgicheskiy institut, g. Dneprodzerzhinsk.  
(Flame--Spectra) (Converters)

18 3200

23173  
S/148/60/000/007/018/023/XX  
A161/A033

AUTHORS: Garger, K. S.; Kuznetsov, M.P.; Ortenberg, R. V.; Gerasimchuk, R. V.; Lyaudis, B. V.

TITLE: The burning-out of carbon in the converter process

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, no. 7, 1960, 32 - 36

TEXT: A continuous and direct analysis of steel in the converter being still too difficult, the samples are analyzed after tilting. The method is connected with loss of time and impairs the life of converters. In principle, sampling is possible without stopping the blast, and the analysis lasts 5 - 6 min. Therefore the sample must be taken in the first half of the heat (in the 4th minute). The dependence of the carbon content ( $Z_C$ ) on time must be known to determine the moment when the process is to be stopped. As proven by S. I. Filippov et al. (Ref. 2: Nauchnyye doklady vysshey shkoly, Metallurgiya, 1958, No. 2, 24) component elements burn simultaneously but at a different rate depending on the metal temperature the  $Z_C = f(t)$  equation being determined by

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S/148/6^/000/007/018/023/XX  
A161/A033

The burning-out of carbon in the ....

these rates. Two types of kinetic carbon burning curves have been found in experiments with a 8 kg laboratory induction furnace (Ref. 1: S. I. Filipov, Teoriya protsessa obezuglerozhivaniya stali (Theory of the steel decarbonization process) Metallurgizdat, 1956) below 1500°C the burning is slower, and above 1500°C in the second half of the heat it is higher and constant:

$$\frac{dZ_C}{dt} = B$$

At  $Z_C$  below 0.2 % C, the carbon oxidation rate is inhibited by diffusion. The constant carbon burning rate is taken as the basis of the US patent (Ref. 3: D. Murphy, US Patent No. 2807537, 1957). The purpose of the present work was to find the equation for the carbon burning curves throughout the converter heat (Figure 1) to apply electronic computers for the converter process control. Two heat groups were studied, with sampling at tilts, and by "freezing on". To eliminate the dependence on the iron charge and C content in iron ( $Z_C^0$ ) a relative

value was used instead of  $Z_C$ ,  $\varphi = \frac{Z_C}{Z_C^0}$ . The time moment value  $\varphi = 0.7$  was chosen

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A161/A033

The burning-out of carbon in the .....

for the time unit after a careful analysis. It corresponds to 3.0 - 3.2 % C in the metal bath, when Mn and Si in most cases are already no longer burning. This rated time is designated by  $\tau$ . The carbon burning equation finally evolved for the case of air blast through bottom (curve 1 in Figure 3) is:

$$Z_C = Z_C^0 \exp(-0.331 \tau^{2.936}). \quad (3)$$

It can apparently be applied to any converter process. The equation for the carbon burning rate  $\omega_c$  is easily obtained by differentiating the expression (3)

$$\omega_c = \frac{dZ_C}{dt} = -0.972 \tau^{1.936} \exp(-0.331 \tau^{2.936}) \quad (4)$$

The burning maximum is at  $\tau = 1.265$ , and the CO concentration in the separating gas is highest at this moment. The accuracy of the data obtained was checked by the "confidence interval method". Curves 3 and 4 present the results of calculations, with dependabilities 0.90 and 0.80. It was concluded that linear approximation is only applicable for short time intervals. The equation may be presented in the form of nomograms or tables. Computers would calculate the

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A161/A033

The burning-out of carbon in the ....

moment for the process stop more accurately. A. M. Kublitskiy, V. A. Savchenko and Yu. K. Siryachenko took part in the experiments; some data were obtained collectively with V. I. Yavoyskiy, G. N. Oyks and L. S. Tsykin of the Moskovskiy institut stali (Moscow Steel Institute). M.P. Kuznetsov carried out the first tests with the "freezing-on" sampling method. There are 4 figures and 7 references: 6 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads: D. Murphy, USA Patent No. 2807537, 1957.

ASSOCIATION: Dneprodzerzhinskiy vecherniy metallurgicheskii institut (Dneprozerzhinsk Metallurgical Evening Institute) and Dneprovskiy metallurgicheskii zavod im. Dzerzhinskogo (Dnepr Metallurgical Plant im. Dzerzhinskiy)

SUBMITTED: March 1, 1960

Card 4/6

GARGER, K.S.; LYAUDIS, B.V.

Measuring and continuous recording of the degree of "blackness"  
of the bessemer flame. Izv.vys. ucheb. zav.; chern. met. no.3:40-44  
'61. (MIRA 14:3)

1. Dneprodzerzhinskiy vecherniy metallurgicheskiy institut.  
(Bessemer process)  
(Recording instruments)

NIKOLIN, Andrey Ivanovich; URGAL, Konstantin Georgievich;  
LYAUBIS, Borislav Vladimirovich. 1964. 55 p.

[An electronic machine makes steel] elektronnaia mashina  
varit stal'. Kiev, Naukova dumka, 1964. 55 p.  
(REF ID: A68989)

GARGER, K.S.; SERGIYENKO, I.V.; VOLKOV, L.G.

Using computers for calculating the chemical composition of the  
cast iron poured from the mixer into the converter. Mat.i gornorud.  
prom. no. 2;24-26 Mr-Ap '64. (MIRA 17:9)



GARGER, K.S.; LYAUDIS, B.V.; NIKITIN, A.I.

Algorithm for determining the moment to stop the bessemer converter blowing of the heat at a prescribed carbon content with the help of a digital control computer. Report No.1. Izv. vys. ucheb. zav.; chern. met. 7 no.3:47-52 '64. (MIRA 17:4)

1. Dneprodzerzhinskiy metallurgicheskiy zavod-vtuz.

GARGER, K.S.; LYAUDIS, B.V.; NIKITIN, A.I.

Algorithm to determine the moment for stopping the blowing of a Bessemer converter heat at a given temperature with the help of a controlling machine. Report no.2. Izv. vys. ucheb. zav.; chern. met. 7 no.7:53-57 '64 (MIRA 17:8)

1. Dneproderzhinskiy metallurgicheskiy zavod-vtuz.

L 1990-66 EWT(l)/EWT(m)/ETC/ENG(m)/EWP(t)/EWP(b)  
ACCESSION NR: AP5018668

IJP(c) RDW/JD/AT  
UR/0361/65/000/002/0023/0034

AUTHOR: <sup>44.55</sup> Korsunskiy, M. I.; Garger, K. S.

TITLE: Concerning the nature of the drop in conductivity following cessation of illumination of anomalously-photoconducting amorphous selenium <sup>56B</sup>

SOURCE: AN KazSSR. Izvestiya, Seriya fiziko-matematicheskikh nauk, no. 2, 1965, 23-34

TOPIC TAGS: <sup>11</sup> selenium, photoconductivity, impurity center

ABSTRACT: The article deals with the kinetics of the <sup>2.14.55</sup> photoconductivity of a superconductor (amorphous selenium) which contains other impurity centers besides long traps, in response to illumination and in darkness. It is shown that under certain conditions, and at sufficiently low temperatures, such superconductors should exhibit both anomalous photoconductivity and a color memory. This memory, however, is only partial, since a certain drop in conductivity takes place after the illumination is removed. The dependence of this drop in conductivity on the

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L 1990-66

ACCESSION NR: AP5018668

wavelength is analyzed and it is shown that the decrease in conductivity at short wavelengths should be largest. In the case when the impurity centers are surrounded by a potential barrier, then the maximum decrease in conductivity can occur at all wavelengths, depending on the relation between the concentrations of the long traps and the impurity centers. By plotting the conductivity both after removal of the light and after reapplication of the light, it is possible to determine the various parameters characterizing the impurity centers from the conductivity relaxation curves. Orig. art. has: 3 figures and 30 formulas,

ASSOCIATION: None

SUBMITTED: 28Aug64

ENCL: 00

SUB CODE: SS, OP

NR REF SOV: 005

OTHER: 000

Card

2/2

DP

L 46183-65 EWT(1)/EWT(m)/EPA(sp)-2/EPF(c)/EWA(d)/EPA(w)-2/EEC(t)/EWP(t)/  
EWP(b) Pab-10/Pr-4/Peb IJP(c) JD/WN/HB/AT

ACCESSION NR: AP5010839

UR/0020/65/161/004/0886/0888

AUTHOR: Shvachko, V. I.; Nadykto, B. T.; Fogel', Ya. M.; Garger, K. S.;  
Kondrat'yev, V. N.

50  
48  
B

TITLE: The use of secondary ion emission for investigation of corrosion processes  
on the surface of steel

SOURCE: AN SSSR. Doklady, v. 161, no. 4, 1965, 886-888

TOPIC TAGS: secondary emission, steel surface oxidation, iron pentacarbonyl,  
ferric oxide, ferrous hydroxide, argon ion beam, steel corrosion

ABSTRACT: The article presents preliminary results of a study of the processes  
occurring on the surface of steel during heating in a vacuum ( $5 \times 10^{-6}$  mm Hg) and  
in oxygen ( $1 \times 10^{-4}$  mm Hg), carried out with the aid of secondary ionic emission.  
The source of secondary ion emission was a steel strip  $20 \times 4 \times 0.1$  mm containing  
(in %) 0.39% C, 0.45% Mn, 0.28% Cr, 0.016% P and  $<0.01\%$  Si. The primary beam was  
made up of Ar<sup>+</sup> ions accelerated to 20 kev. Curves for the intensity of the various  
secondary ions versus the temperature of the steel strip are given. The formation

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ACCESSION NR: AP5010839

2

of ferric oxide on the steel surface is due to oxygen in the residual gas. However at oxygen pressures higher than  $2 \cdot 10^{-5}$  mm Hg there is no increase in the intensity of the  $Fe_2O_3$  ion beam, and therefore no increase in the oxide coating on the steel surface. In the 20-500° range, the rate of decomposition of ferric oxide increases with temperature more rapidly than the rate of oxide formation, which reduces the oxide coating. In the 500-800° range this situation is reversed and the oxide coating increases. The formation of  $Fe(OH)_2$  is considered in relation to the pressure of water vapor. The coating of the surface with  $Fe(CO)_5$  increases monotonically above 200°. A definite part in the mechanism of formation of iron pentacarbonyl is played by the carbon present in the steel; the oxidation of carbon may constitute the first stage of formation of the pentacarbonyl. If such is the case, the formation and evaporation of  $Fe(CO)_5$  should lead to the decarburization of steel. "We consider it our pleasant duty to thank Prof. A. K. Val'ter for a steady interest in this work." Orig. art. has: 3 figures.

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet im. A. M. Gor'kogo (Kharkov State University)

Card 2/3

L 46183-65

ACCESSION NR: AP5010839

SUBMITTED: 20Jul64

ENCL: 00

SUB CODE: MM

NO REF SOV: 007

OTHER: 000

*ML*  
Card 3/3

L 06138-67 EWT(1)/EWI(m)/EWP(t)/ETI IJP(c) AT/JD  
ACC NR: AP6031172 SOURCE CODE: UR/0361/66/000/002/0076/0078

AUTHOR: Korsunskiy, M. I.; Trofimov, O. A.; Garger, K. S.; Daukeyev, D. K. 57/13

ORG: none

TITLE: Concerning the spectral distribution of anomalous photoconductivity of amorphous selenium in the near ultraviolet

SOURCE: AN KazSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 2, 1966, 76-78

TOPIC TAGS: spectral distribution, photoconductivity, selenium, UV spectrum, electron trapping

ABSTRACT: The dependence of the anomalous photoconductivity  $\sigma$  on wavelength in films of amorphous selenium is measured. The conductivity of samples is lower for blue light than for red even though selenium is more absorptive in the blue. This property is not predicted by the phenomenological theory based on the hypothesis of long-lived trapping centers. A recent model of long-lived trapping centers in the form of a colloidal dispersion of an alloy in amorphous selenium predicts a positive sign of the derivative  $\frac{d\sigma}{d\lambda}$  in the visible region. Also a short wavelength minimum is predicted, indicating a minus sign for  $\frac{d\sigma}{d\lambda}$  in the near ultraviolet. These predictions are experimentally veri-

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L 06138-67

ACC NR: AP6031172

fied. Orig. art. has: 1 formula, 1 table, 1 figure.

SUB CODE: 20/      SUBM DATE: 23Apr65/      ORIG REF: 006

Card 2/2 III 2E

L 06303-67 EWP(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6015497

(A)

SOURCE CODE: UR/0181/66/008/005/1625/1627

40  
B

AUTHOR: Volchek, A. D.; Garger, K. S.; Korsunskiy, M. I.

ORG: Institute of Nuclear Physics, AN KazSSR, Alma-Ata (Institut yadernoy fiziki AN KazSSR)

TITLE: The lux-ampere characteristic of amorphous <sup>27</sup>selenium at constant irradiation

SOURCE: Fizika tverdogo tela, v. 8, no. 5, 1966, 1625-1627

TOPIC TAGS: photoconductivity, selenium, spectral memory, dark conductivity, lux ampere characteristic

ABSTRACT: The behavior pattern of amorphous Se specimens with anomalous photoconductivity under simultaneous irradiation by two monochromatic light sources was investigated. A Se specimen was irradiated at a wavelength of 6650 mμ, and with a constant irradiation at a wavelength of 450 mμ. The equations of the kinetics of dark and light conductivities agree with the experimental data; the value of the dark conductivity is a function of the light intensity. Orig. art. has: 2 figures, 5 formulas.

SUB CODE: 20/      SUBM DATE: 02Dec65/      ORIG REF: 002

Card 1/1 *gd*

MAEKHIN, A. Ye. (Moskva, Leningradskiy prospekt, 75-a, kv.56);  
PEREL'MAN, M.I.; ALEKSEYEVA, V.M.; GARGOLOVA, V.O.; GOROKHOVA,  
Ye.M.; IOFFE, F.M.; LEVITIN, F.I.

Significance of compound treatment in the effectiveness of  
surgical interventions in pulmonary tuberculosis. Vest. khir.  
92 no.4:28-32 Ap '64 (MIRA 18:1)

1. Iz kafedry tuberkuleza Tsentral'nogo instituta usovershen-  
stvovaniya vrachey (rektor - M.D. Kovrigina) bol'nitsy Mi-  
nisterstva putey soobshcheniya (glavnyy vrach - A.A.Potsube-  
yenko) i klinicheskoy bol'nitsy "Zakhar'ino" (glavnyy vrach  
V.P.Petrik).

SKAFA, B.F., kand.tekhn.nauk; MAKHNO, D.Ye., inzh.; STUROV, I.A., inzh.;  
GARGONOV, A.T., inzh.; BATYGIN, S.P., inzh.; BELAY, B.G., inzh.

Results of the testing of shield support units. Sbor.DonUGI  
no.20:16-38 '61. (MIRA 15:6)  
(Donets Basin--Mine timbering)