Card 2/2

TSYPKIN, I.S.; OKUNEVICH, A. Ye.; OMEL'YANOVICH, V.M.; SKLYAR, F.I.; DEREVYANKO, P.P.; GERMAN, P.L.

Review of the book "Geological and industrial evaluation of coal deposits". Ugol' 39 no.6:76 [illegible] (MIRA 17:7)

1. Vsesoyuznyy tsentral'nyy gosudarstvennyy institut po proyektirovaniyu i tekhniko-ekonomicheskim osnovaniyam razvitiya ugol'noy promyshlennosti (for TSypkin, Okunevich). 2. Glavnyy geolog kombinata Donetskugol' (for Omel'yanovich). 3. Nachal'nik Krasnogvardeyskoy GRP tresta shakhtnoy geologii Donetskogo soveta narodnogo khozyaystva (for Sklyar). 4. Nachal'nik Makeyevskogo upravleniya tresta shakhtnoy geologii Donetskogo soveta narodnogo khozyaystva (for Derevyanko). 5. Nachal'nik Proletarskoy GRP tresta shakhtnoy geologii Donetskogo soveta narodnogo khozyaystva (for German).

HOCH, V.Ye.; GERMANN, R.

Measuring the temperature dependence of saturation magnetization of ferromagnetics. Prib. i tekh. eksp. 9 no.1:173-175 Ja-F '64. (MIRA 17:4)

1. Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta.

ACCESSION NR: AP4023335 S/0048/64/0028/003/0433/0435

AUTHOR: Rode, V.Ye.; Gerkmann, R.

TITLE: Experimental determination of the exchange integrals in Fe, Co and Ni /Report, Symposium on Ferromagnetism and Ferroelectricity held in Leningrad 30 June to 5 May 1953/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.3, 1964, 433-435

TOPIC TAGS: magnetization, low temperature magnetization, iron magnetization, cobalt magnetization, nickel magnetization, collectivized electron magnetization

ABSTRACT: The magnetization of Fe, Co and Ni was investigated at temperatures from 4.2 to 70°K and field strengths up to about 20 kOe. The 8 mm diameter 160 mm long polycrystalline samples were annealed for 3 hours at 900°C and cooled slowly. The temperature was altered in finite increments and the consequent changes in magnetization were determined with an accuracy of 5%. The exponent n on T in the relation $(I_0-I)/I_0 = aT^n$ was determined, where I is the intensity of magnetization, T is the absolute temperature, and I_0 is the value of I at T = 0. The values of n for Fe and Co were very close to 3/2. For Ni, the value of n was 3/2 for T < 36°K and about

Card 1/2

ACCESSION NR: AP4023385

7/4 for $36^{\circ}K < T < 70^{\circ}K$. The constants c_1 and c_2 in the relation $(I_0-I)/I_0 = c_1T^{3/2} + c_2T^2$ were also determined. The term in T^2 represents the contribution of the collectivized electron model. Except for Ni, the values of c_2 were very small. The value of $\Delta I/\Delta T$ (T changing from 4.2° to $13.3^{\circ}K$) as a function of the magnetizing field passed through a maximum at fields of about 15 or 16 kOe (at least for Fe and Ni; the corresponding data for Co are not given). Analysis of these curves indicates that true magnetization begins to dominate over rotation processes at fields of this order of magnitude. Orig.art.has: 3 formulas, 4 figures and 2 tables.

ASSOCIATION: Fizicheskiy fakultet Moskovskogo gosudarstvennogo universiteta (Physics Department, Moscow State University)

SUBMITTED: 00 DATE ACQ: 10Apr64 ENCL: 00

SUB CODE: PH NR REF SOV: 000 OTHER: 000

Card 2/2

ACCESSION NR: AP4031192 S/0056/64/046/004/1507/1508

AUTHORS: Rode, V. Ye.; Gerrmann, R.; Korolev, L. M.

TITLE: Investigation of temperature dependence of saturation of Gd

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 4, 1964, 1507-1508

TOPIC TAGS: gadolinium, saturation magnetization, saturation magnetization temperature dependence, energy gap, Bloch law

ABSTRACT: The temperature dependence of the saturation magnetization of Gd was investigated at low temperatures (from 4.2 to 30K), using a procedure described in detail earlier (PTE, no. 1, 173, 1964). The specimen was a cylinder made of polycrystalline gadolinium 110 mm long and 8 mm in diameter, containing iodine, calcium, iron, and copper impurities. The measurements were made in a field of 18,600 Oe. The jump in the magnetization was determined accurate to 5%, and the temperature measurement was 7--5% from 4.2 to 10--12K and 2% above

Card 1/3

ACCESSION NR: AP4031192

12K. The curve drawn through the experimental point can be described by the formula

$$I = I_0 - AT^{3/2} \exp(-\Delta/T).$$

which does not coincide with the Bloch formula $I = I_0(1 - CT^{3/2})$.

The results indicate that a gap of 30K exists in the energy spectrum wave in gadolinium. Orig. art. has: 1 formula and 2 figures.

ASSOCIATION: Moskovskiy gosudarstvenny*y universitet (Moscow State University)

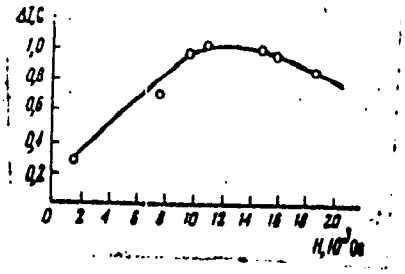
SUBMITTED: 01Feb64 DATE ACQ: 07May64 ENCL: 01

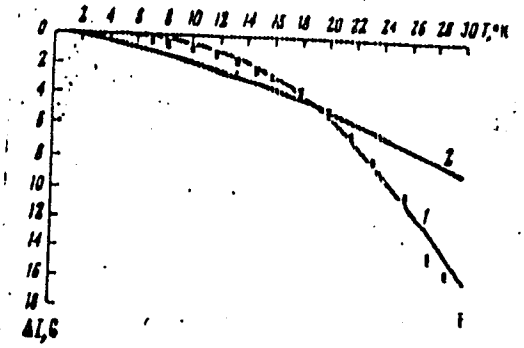
SUB CODE: EM, SS NR REF SOV: 002 OTHER: 001

Card 2/3

ACCESSION NR: AP4031192

ENCLOSURE: 01

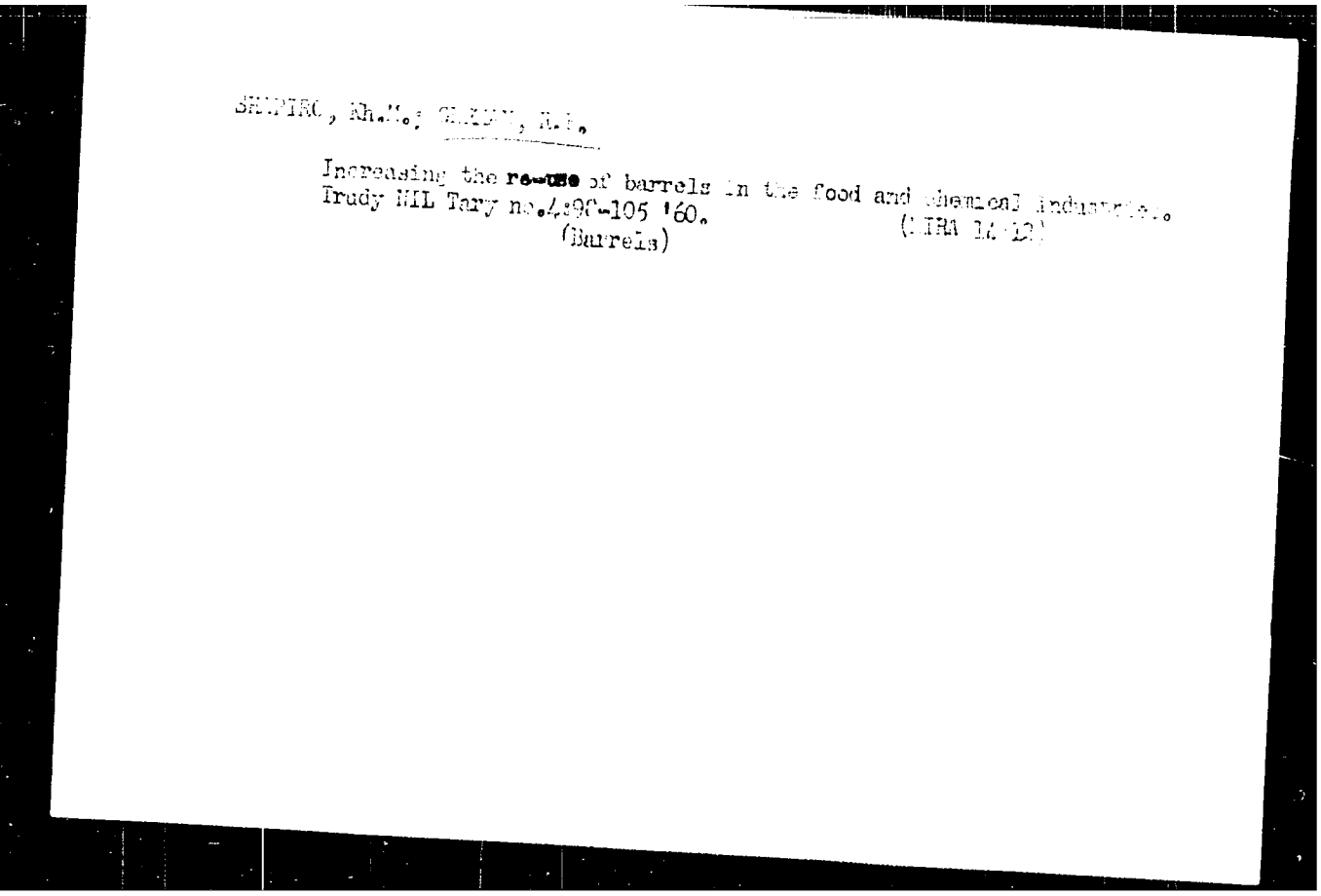




Left - variation of the jump in magnetization with the magnetic field in gadolinium.

Right - temperature variation of jump in magnetization. 1 - present results, 2 - Bloch formula.

Card 3/3

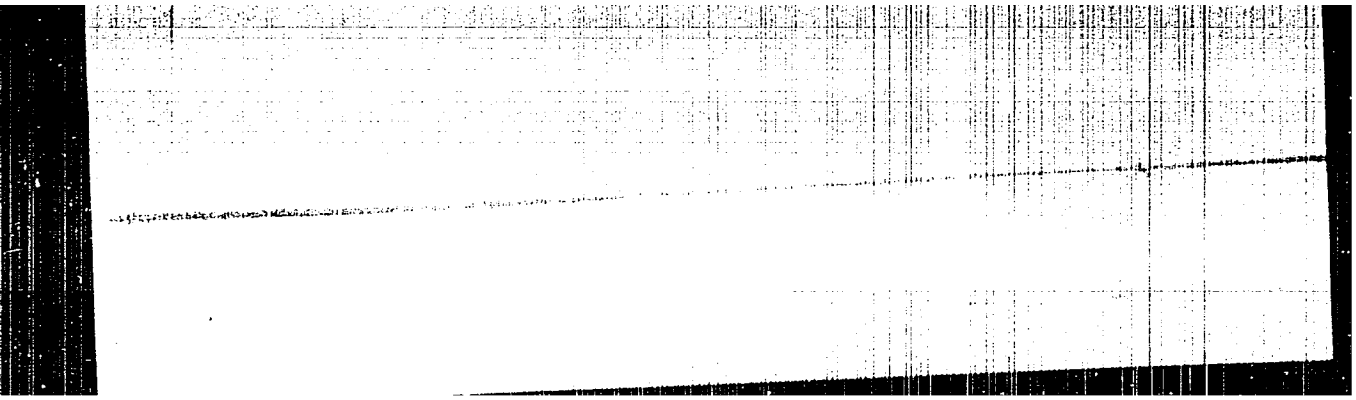


SHAPIRO, Ch.M.; [illegible], R.I.

Increasing the re-use of barrels in the food and chemical industries. Trudy MIL Tary no.4:98-105 '60. (MIRA 14:12)
(Barrels)

[redacted], S.

The Algerian People's Democratic Republic. Komm. Zeitschr. Sü
Ap no.7:81-84 Ap '65.
(MIRA 18:5)



APPROVED FOR RELEASE: 09/24/2001 CIA-RDP86-00513R000514910009-2"

GERMAN, S.G.

USSR / Microbiology. Antibiosis and Symbiosis. Antibiotics. F-2

Abs Jour: Referat Zh.-Biol., No 6, 25 March, 1957, 21865

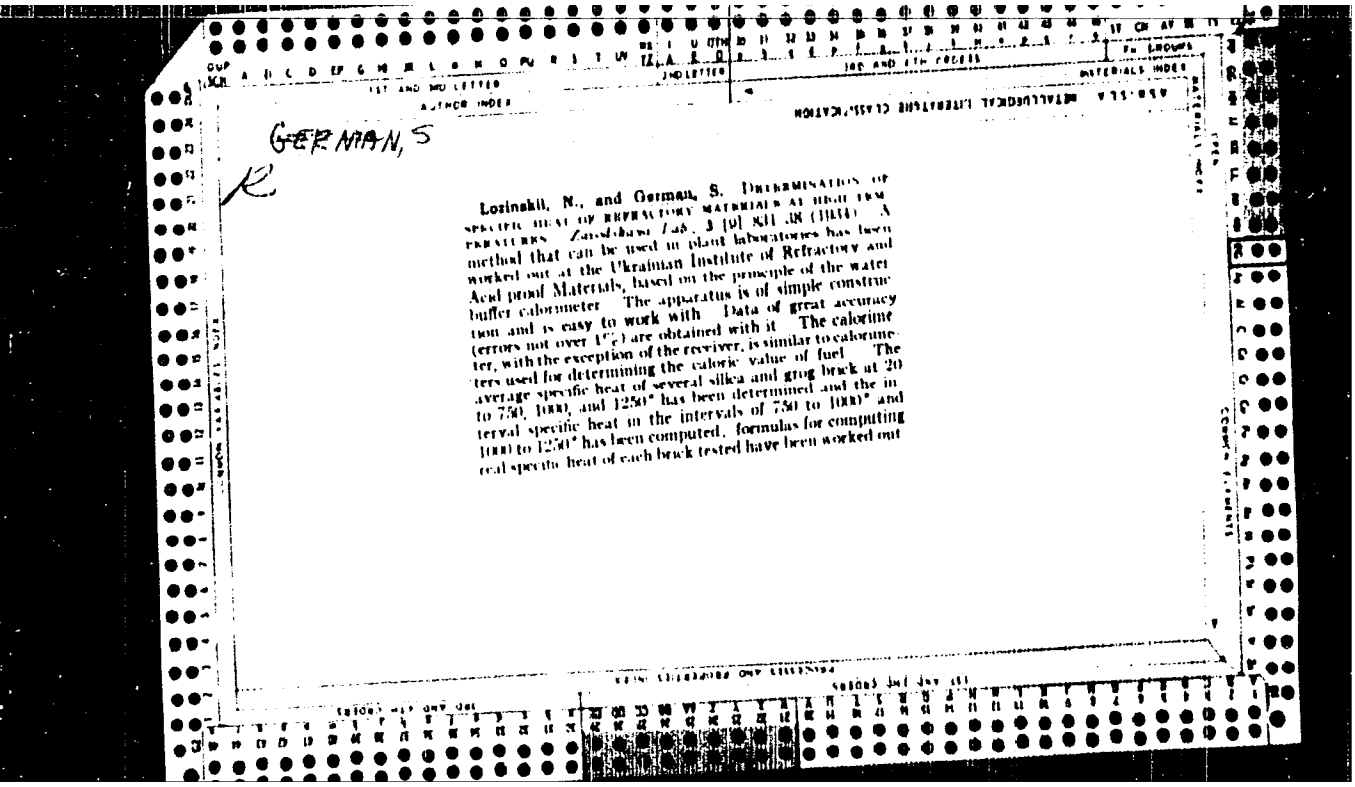
Author : Voshchankina, N.V., German, S.G., Kornilova, G.V.
Inst :
Title : Investigation of the Resistance to Sulfamin and Syntomycin of Dysentery Microbes.

Orig Pub: Tr. Omskogo Gos. n.-i. in-ta epidemiol., mikrobiol. i gigieni, 1955, No 3, 113-117

Abstract: Of 141 freshly-isolated strains of dysentery bacilli, 124 (87.9%) were found resistant to sulfidin and disulfane. The sensitivity was determined of 731 cultures to different concentrations of syntomycin. 12.3% of cultures were resistant to 0.4 mg %, 28.4% to 0.2 mg %, and 73.7% to 0.1 mg % of syntomycin.

Card : 1/1

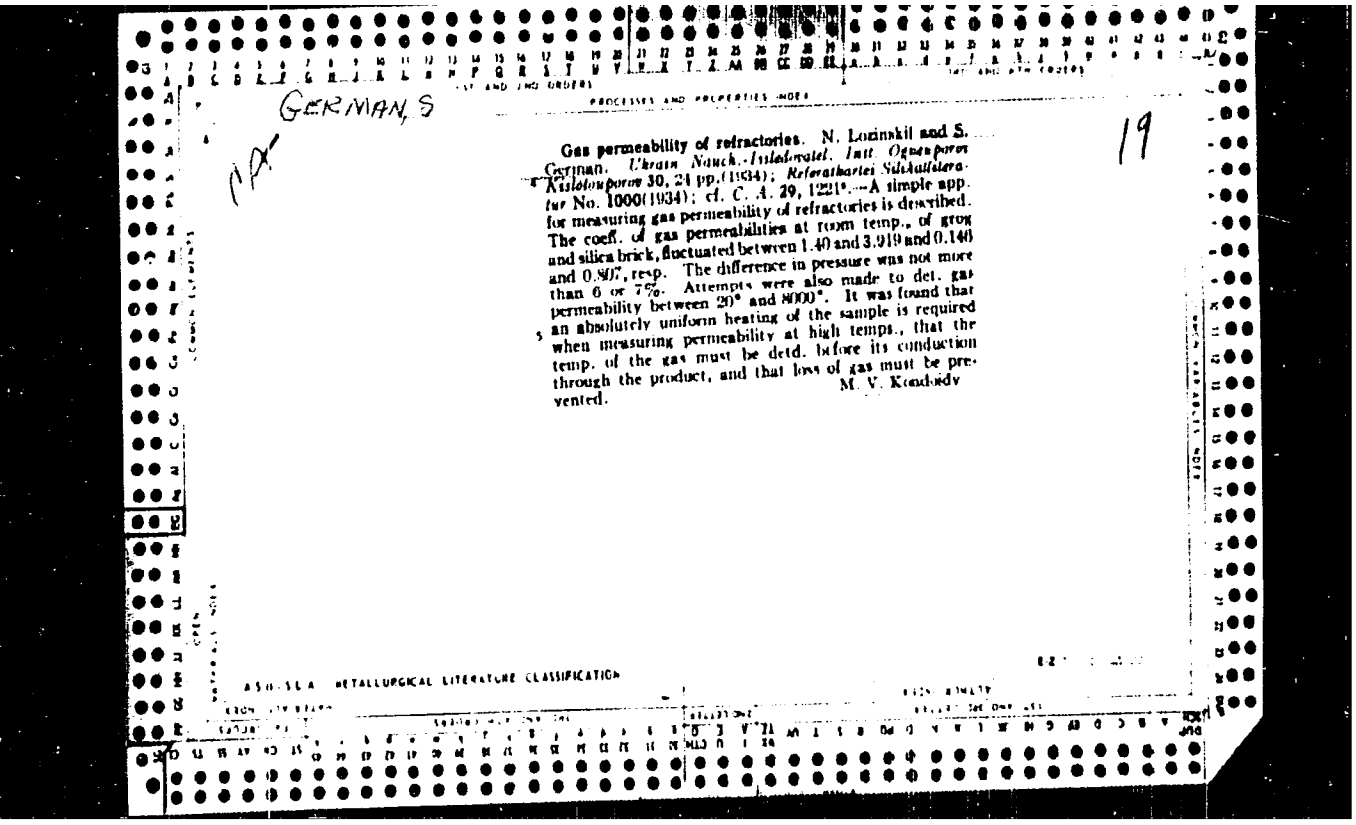
-13-



GERMAN, S

R

Lozinskii, N., and German, S. DETERMINATION OF SPECIFIC HEAT OF REFRACTORY MATERIALS AT HIGH TEMPERATURES. Zavodskaya Lab., 3 [9] 831-38 (1934). A method that can be used in plant laboratories has been worked out at the Ukrainian Institute of Refractory and Acid proof Materials, based on the principle of the water buffer calorimeter. The apparatus is of simple construction and is easy to work with. Data of great accuracy (errors not over 1%) are obtained with it. The calorimeter, with the exception of the receiver, is similar to calorimeters used for determining the caloric value of fuel. The average specific heat of several silica and grog brick at 20 to 750, 1000, and 1250° has been determined and the interval specific heat in the intervals of 750 to 1000° and 1000 to 1250° has been computed. formulas for computing real specific heat of each brick tested have been worked out



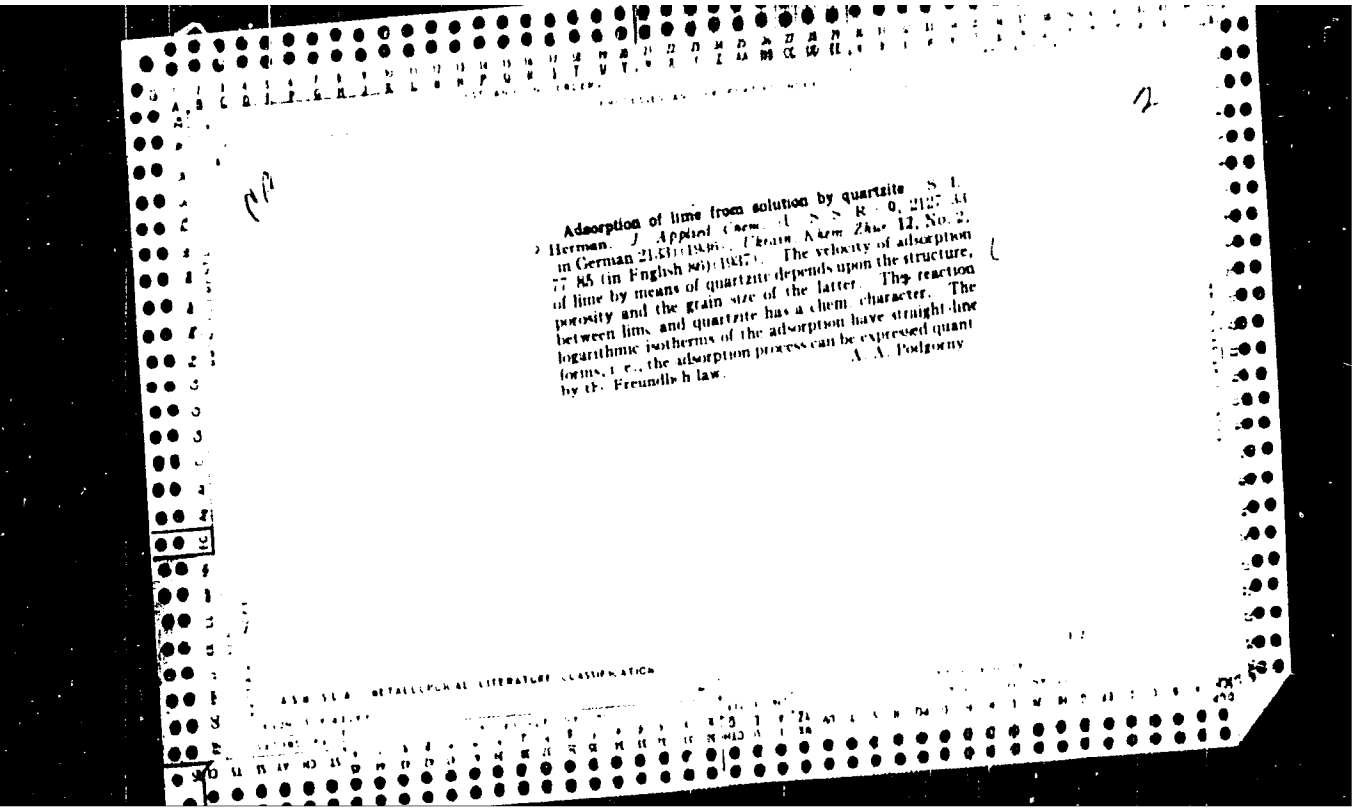
GERMAN, S

19

Gas permeability of refractories. N. Lozinskii and S. German. *Ukrain. Nauch.-Issledovatel. Inst. Ogneuporov Kislotoupornykh* 30, 24 pp.(1934); *Referathartei Silikattekn. Inst.* No. 1000(1934); cf. C. A. 29, 1221⁹.—A simple app. for measuring gas permeability of refractories is described. The coeff. of gas permeabilities at room temp., of grog and silica brick, fluctuated between 1.40 and 3.919 and 0.140 and 0.807, resp. The difference in pressure was not more than 6 or 7%. Attempts were also made to det. gas permeability between 20° and 800°. It was found that an absolutely uniform heating of the sample is required when measuring permeability at high temps., that the temp. of the gas must be detd. before its conduction through the product, and that loss of gas must be prevented.

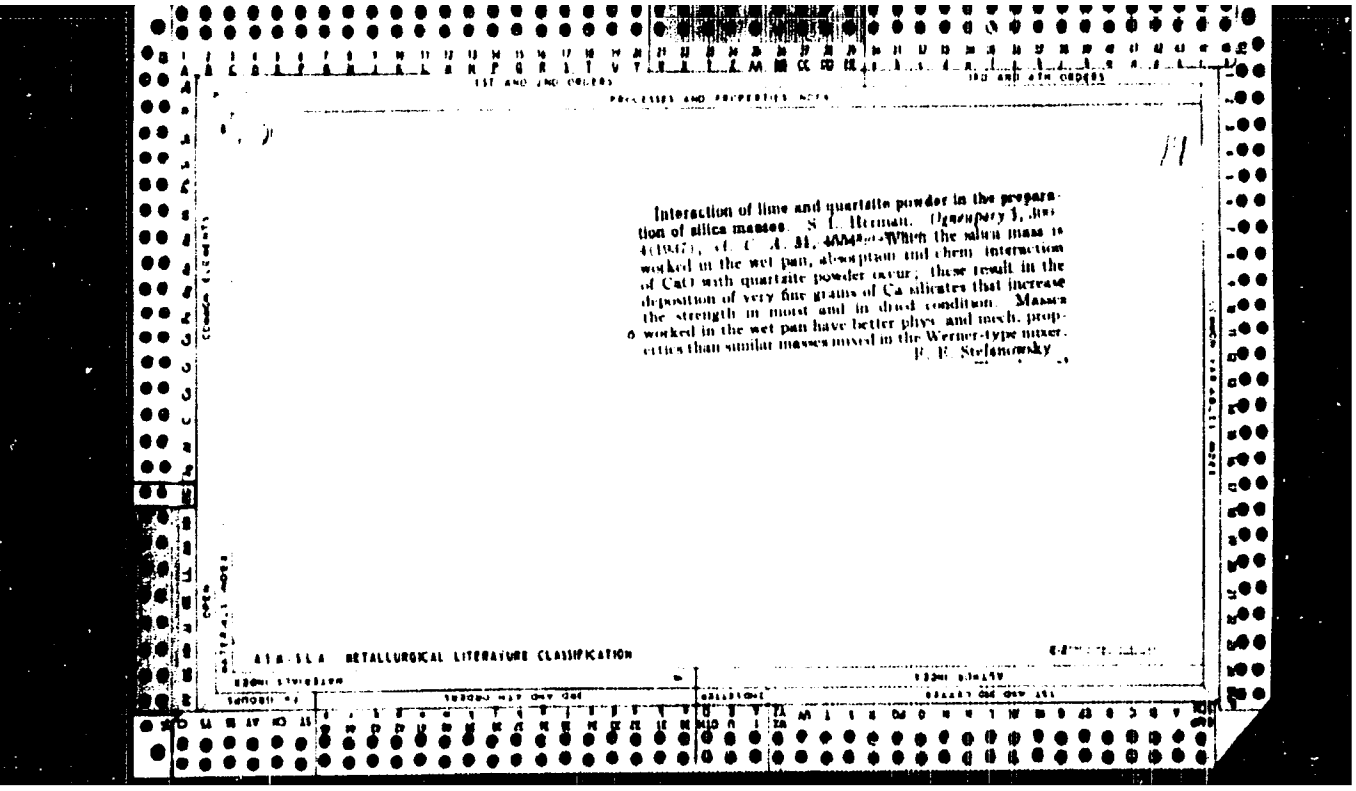
M. V. Kondoidy

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



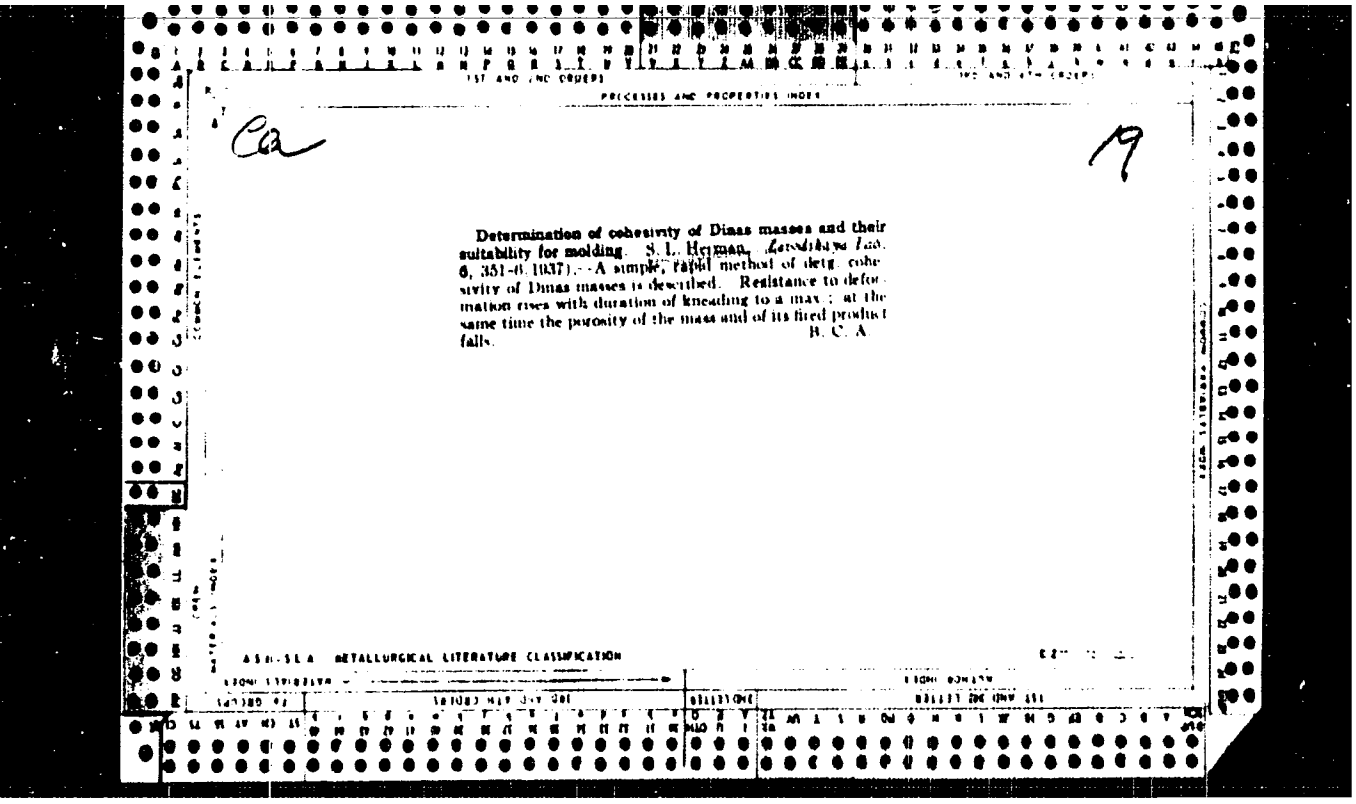
Adsorption of lime from solution by quartzite. S. I. Herman. J. Applied Chem. U.S.S.R. 0, 2125-31 in German 21,531(1938). Ukrain. Akem. Zhur. 12, No. 2, 77-85 (in English 80)(1937). The velocity of adsorption of lime by means of quartzite depends upon the structure, porosity and the grain size of the latter. The reaction between lime and quartzite has a chem. character. The logarithmic isotherms of the adsorption have straight-line forms, i.e., the adsorption process can be expressed quant by th. Freundlich law.

A. A. Podgorny



Interaction of lime and quartzite powder in the preparation of silica masses. S. L. Herman. *Ogneupory* 1, No. 4(1947), cf. C. A. 31, 4000[illegible]. When the silica mass is worked in the wet pan, absorption and chem. interaction of CaO with quartzite powder occur; these result in the deposition of very fine grains of Ca silicates that increase the strength in moist and in dried condition. Masses worked in the wet pan have better phys. and mech. properties than similar masses mixed in the Werner-type mixer. P. F. Stefanovsky

ASTM-SLA METALLURGICAL LITERATURE CLASSIFICATION



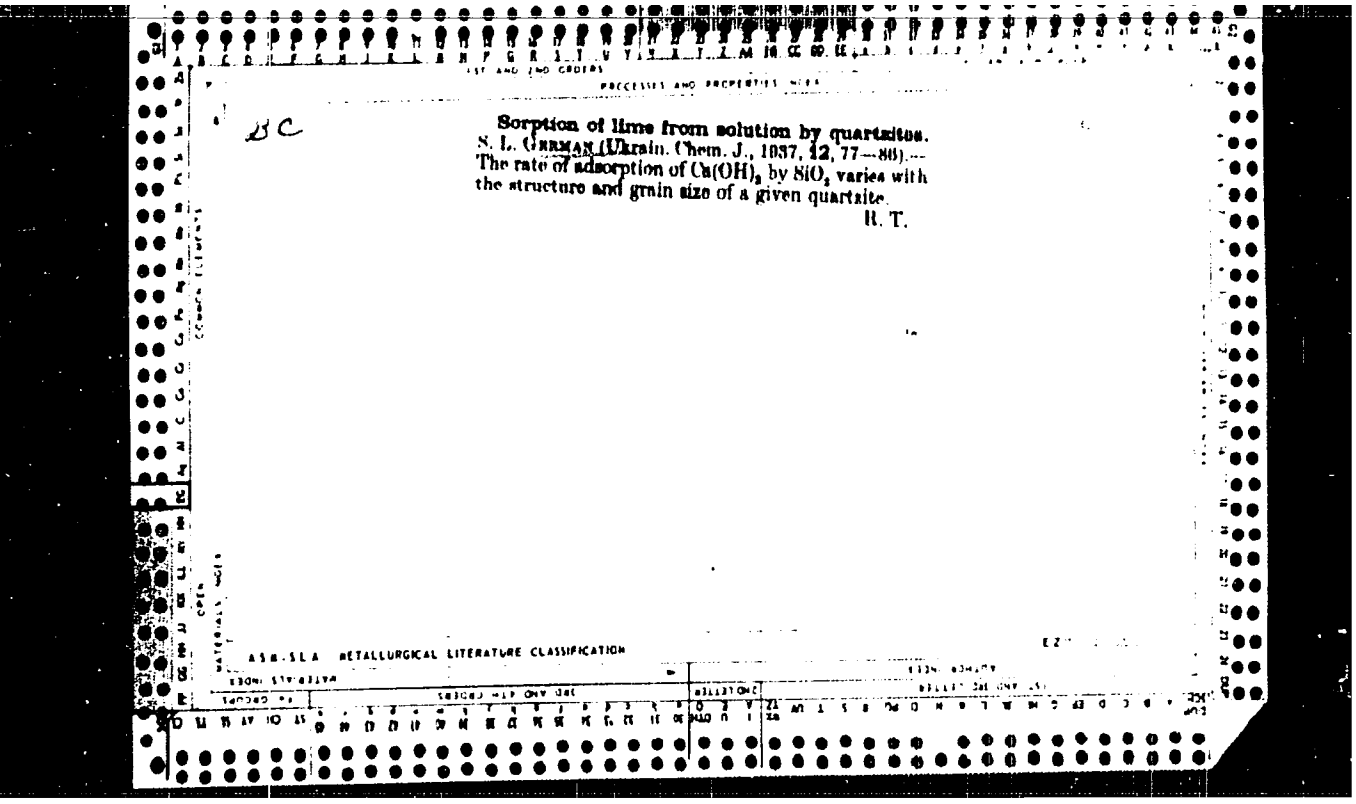
PROCESSES AND PROPERTIES INDEX

Ca

19

Determination of cohesivity of Dinas masses and their suitability for molding. S. L. Herman. *Zavodskaya Lab.* 6, 351-6 (1937).—A simple, rapid method of detg. cohesivity of Dinas masses is described. Resistance to deformation rises with duration of kneading to a max.; at the same time the porosity of the mass and of its fired product falls. B. C. A.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

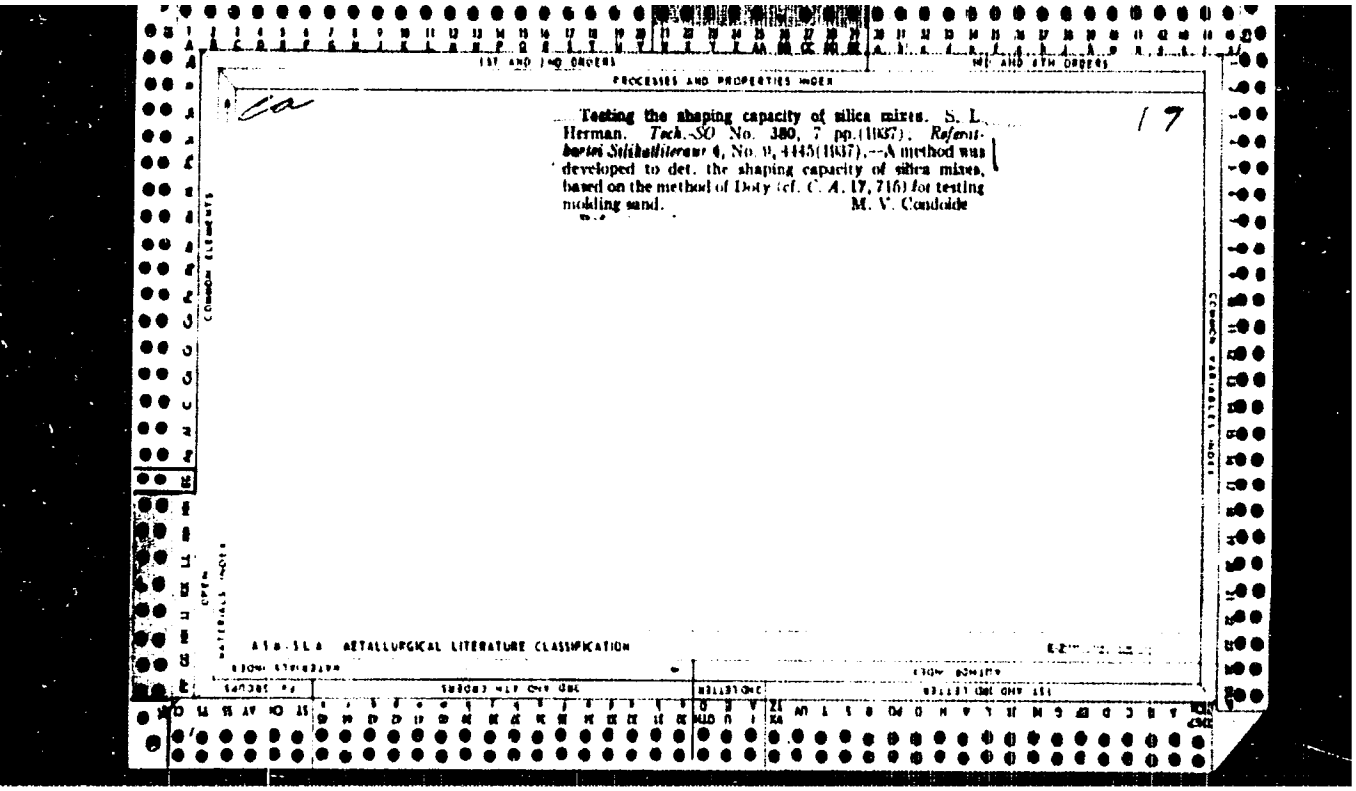


BC

Sorption of lime from solution by quartzites. S. L. GERMAN (Ukrain. Chem. J., 1937, **12**, 77—86).—The rate of adsorption of $Ca(OH)_2$ by SiO_2 varies with the structure and grain size of a given quartzite.

R. T.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



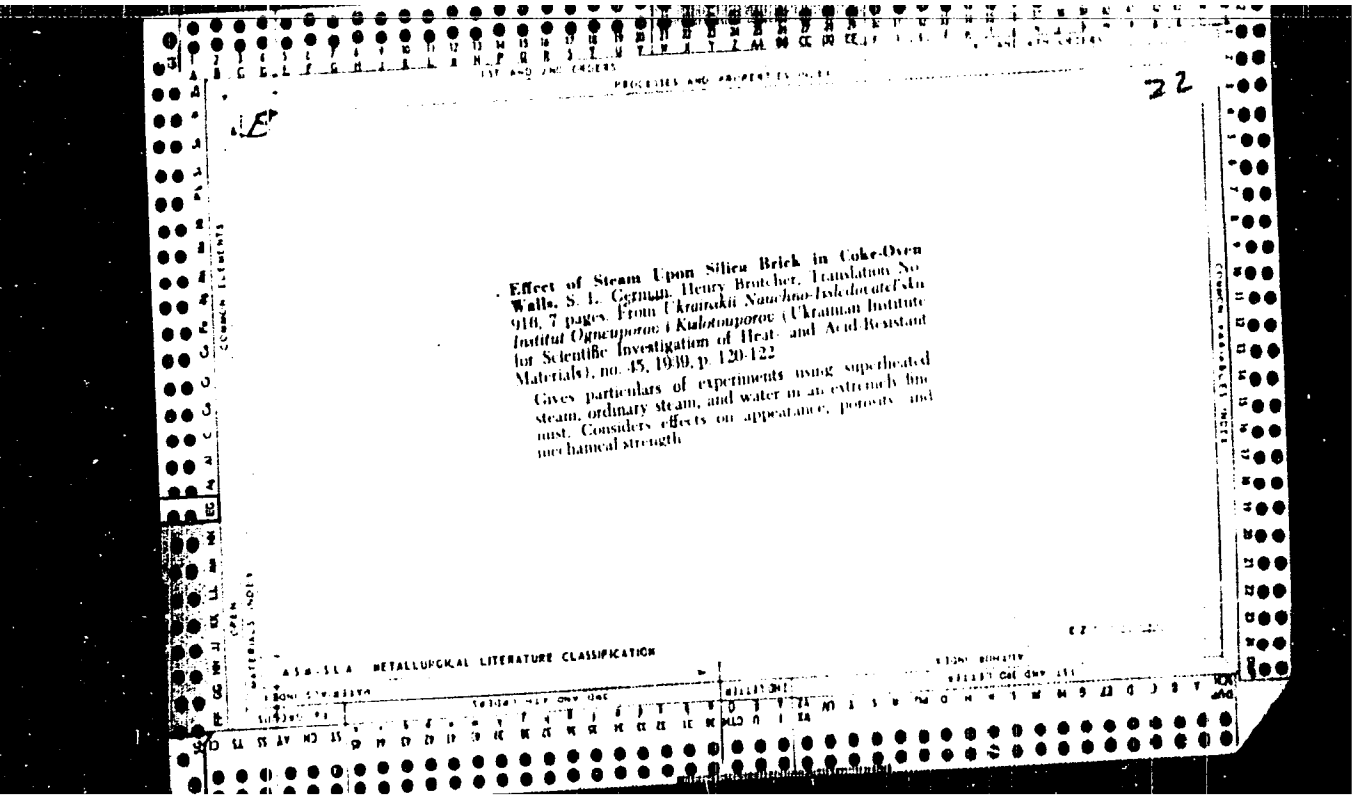
PROCESSES AND PROPERTIES INDEX

Ca

17

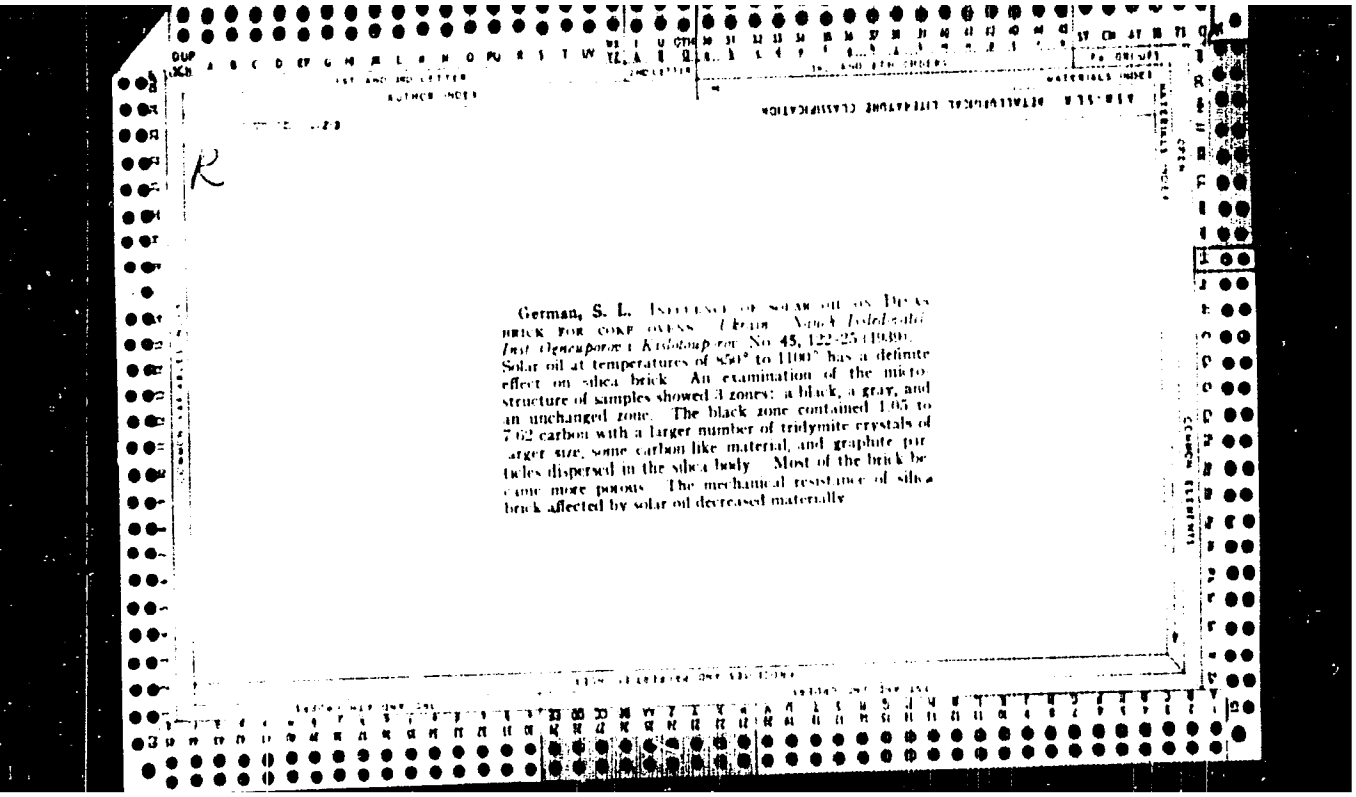
Testing the shaping capacity of silica mixts. S. L. Herman. *Tech.-SO* No. 380, 7 pp.(1937). *Referat. Zurnal Silikattechnik* 4, No. 9, 4445(1937).—A method was developed to det. the shaping capacity of silica mixts. based on the method of Doty (cf. *C. A.* 17, 716) for testing molding sand. M. V. Condoide

A16-51A METALLURGICAL LITERATURE CLASSIFICATION

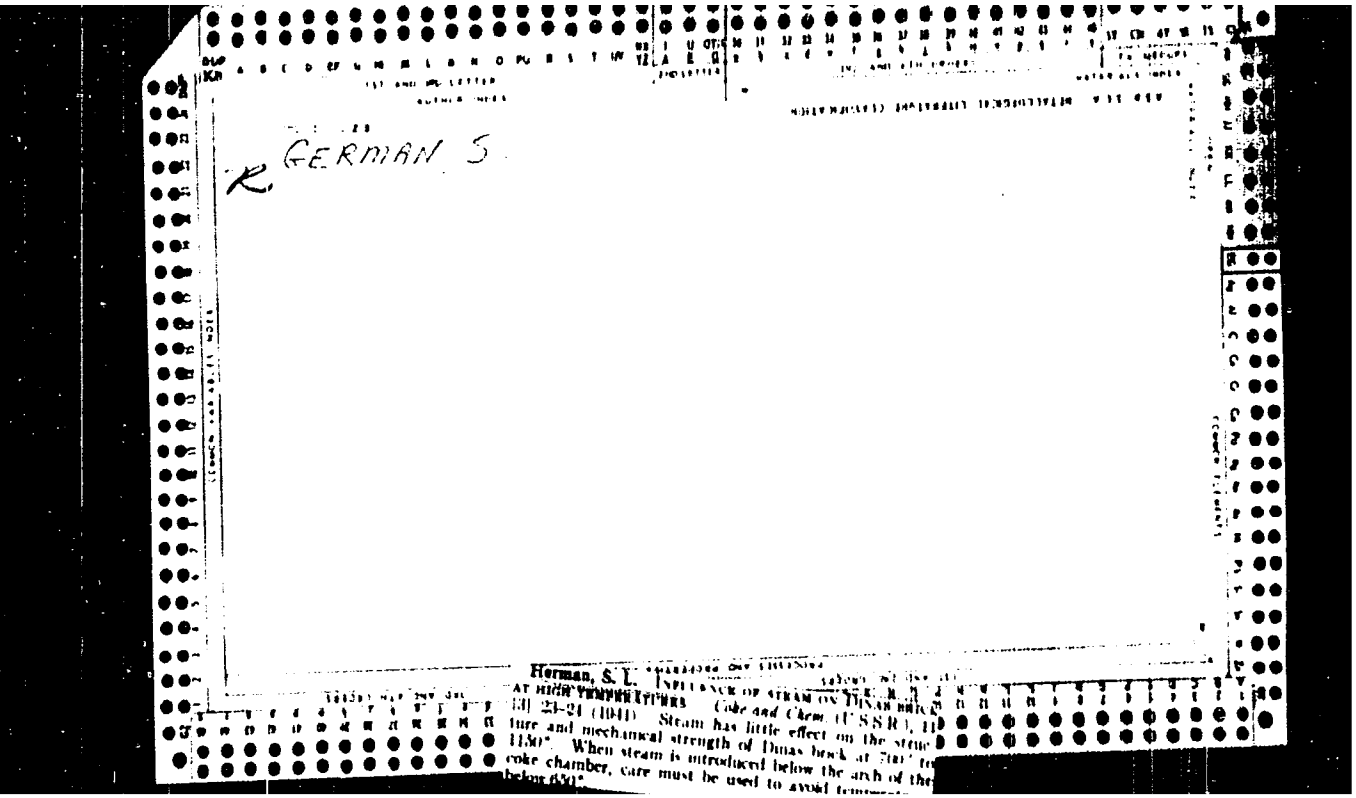


Effect of Steam Upon Silica Brick in Coke-Oven Walls. S. L. German. Henry Brutcher, Translation No. 916, 7 pages. From *Ukrainskii Nauchno-Issledovatel'skii Institut Ogneuporov i Kislotouporov* (Ukrainian Institute for Scientific Investigation of Heat- and Acid-Resistant Materials), no. 45, 1939, p. 120-122

Gives particulars of experiments using superheated steam, ordinary steam, and water in an extremely fine mist. Considers effects on appearance, porosity and mechanical strength

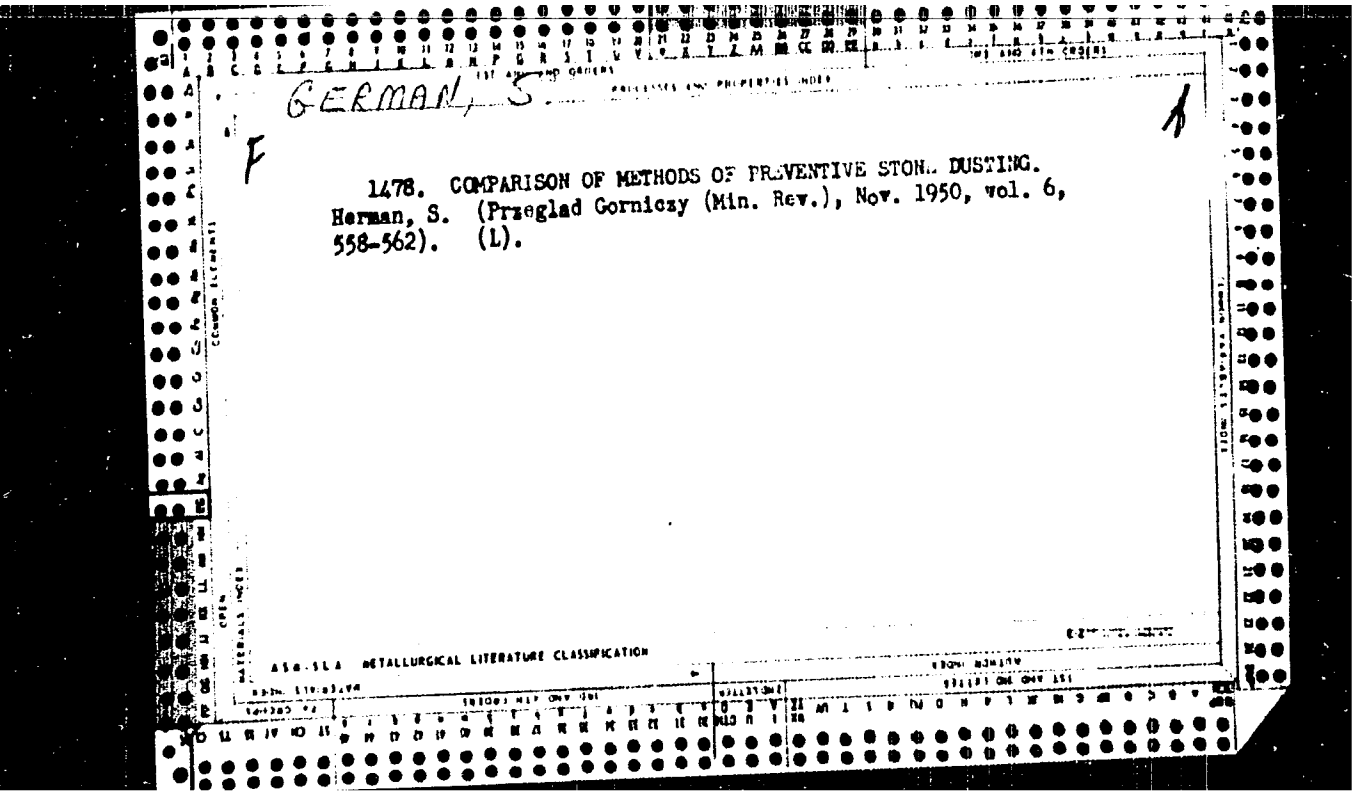


German, S. L. Influence of solar oil on fireclay brick for coke ovens. *Ukrain. Nauch. Issledovatel. Inst. Ogneuporov i Kislotoup.* [Ukrainian Sci. Research Inst. Refractories and Acid-proof Materials], No. 45, 122–25 (1939). Solar oil at temperatures of 850° to 1100° has a definite effect on silica brick. An examination of the microstructure of samples showed 3 zones: a black, a gray, and an unchanged zone. The black zone contained 1.05 to 7.62 carbon with a larger number of tridymite crystals of larger size, some carbon like material, and graphite particles dispersed in the silica body. Most of the brick became more porous. The mechanical resistance of silica brick affected by solar oil decreased materially.



38268 GERMAN, S.

Izmereniye temperatury zerna v silosakh zlevatorov. Zagotovki s.-kh. produktov, 1949, No 2, s. 53-63



GERMAN, S.

F

1478. COMPARISON OF METHODS OF PREVENTIVE STONE DUSTING. Herman, S. (Przeglad Gorniczy (Min. Rev.), Nov. 1950, vol. 6, 558-562). (L).

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

GERMAN, S. I.

PA 233T50

USSR/Metallurgy - Welding, Turbines Aug 52

"Fabrication of Welded Diaphragms," S.I. German, Engr

"Avtogen Delo" No 8, pp 19-22

Discusses practice of fabricating large high-strength diaphragms about 2,500 mm in diam by welding, emphasizing advantages of this method in comparison with casting. Establishes that there are no changes in metal structure of vanes and that low heating temp in welding process (approx 500° C) permits maintaining high corrosion stability of vanes under action of steam. Develops welding technology which prevents warping of diaphragms and permits preserving smooth surface of vanes and nozzles.

233T50

GERMAN, S. I.

Met (3)

Metallurgical Abst.
Vol. 21 Apr. 1954
Joining

*Electric Arc Welding of Copper. D. A. Lyukevich, S. I. German, and V. G. Kononenko (*Avtog. Delo*, 1953, 24, (2), 15-17).—[In Russian]. Welding of Cu, using graphite electrodes and P-bronze (8-10% Sn, 0·28-0·35% P) welding rods, is described. The metal of the welds has better mech. properties than the sheet Cu itself. Metallographic examination shows compactness and uniformity of grain of the metal of the joints composed of dendrites of the solid soln. and of the eutectoid.—S. K. L.

GERMAN, S.

Spare parts for electric drying cabinets. Muk.-elev.prom. 20 no.11:27 N '54. (MLRA 8:3)

1. Kievskiy zavod elektropriborov.
(Drying apparatus)

2

Khar'kovskiy traktornyy zavod im. S.M. Kirova

USSR.

1907* Weld-Cast Assemblies of a Steam Turbine. Svarno-litye uzly parovoi turbiny. (Russian) S. I. Gurman. *Svarochnoe Proizvodstvo*, 1955, no. 5, May, p. 14-[illegible]

Welding techniques for the correction of casting defects in thick-walls of cast parts of complex configuration. Conditions of heat treatment during welding. Fluxes used. Mechanical properties and micro-structures. Graphs, micrographs, photographs, table.

135-10-3/19

AUTHOR: German, S.I., Engineer

TITLE: Investigation of Durability of Welded Joints in Heat-Resistant Steel "20XMЛ" (Issledovaniye dlitel'noy prochnosti svarnolitykh soyedineniy iz teploustoychivoy stali "20XMЛ")

PERIODICAL: Svarochnoye Proizvodstvo, 1957, No 10, pp 9-13 (USSR)

ABSTRACT: The objective of the described investigation was to complete the insufficient data available for calculations in designing welded turbine parts for high-temperature conditions. Durability tests were made in air and in steam media at 475, 510, 530 and 550° C, on specimens taken from welded joints in thick-walled castings, with two different compositions of weld metal. The compositions of cast steel and of weld metal are given in the article. The electrode coating used in the tests was "ЦУ-2XM". It is concluded that the durability of the weld metal as well as of the entire welded joints was practically equal when the technology was used as described in Reference 1 ("Cast-Welded Steam Turbine Components" by S.I. German). The weld metal remained plastic, the specimens broke in base metal, far from the zone of joining. The corrosion resistance of weld metal in superheated steam exceeded the corrosion resistance of steel "20XMЛ", the characteristic of rupture was the same

Card 1/2

Investigation of Durability of Welded Joints in Heat-Resistant Steel

in air and in steam. The resistance of the weld metal against the medium and the temperature was in all tests higher than the resistance of the base metal. At 510° C in a steam medium a thin oxide layer was formed consisting to equal parts of Fe_3O_4 and Fe_2O_3. The composition of these oxides remained stable, but the quantitative relation thereof changed with increasing temperature. In the tests in air, at the same temperature (550° C) the same oxides were found and 20% of α Fe. There are 2 diagrams, 4 photographs, 3 charts and 1 Russian reference.

ASSOCIATION: KhTGZ imeni Kirov.

AVAILABLE: Library of Congress

Card 2/2

FUKS, M.Ya.; GERMAN, S.I.

Measuring residual stresses in large weldments by the electrotensometric method. Zav. lab. 23 no.3:346-349 '57. (MLRA 10:6)

1. Khar'kovskiy turbinnyy zavod im. S.M. Kirova.
(Strains and stresses--Measurement) (Welding--Testing)

135-4-9/15

SUBJECT: USSR/Welding

AUTHORS: German, S.I., Engineer, and Kulakova, G.N., Candidate of Technical Sciences.

TITLE: Investigation of Joints Made Semi-Automatically in Carbon Dioxide. (Issledovaniye svarnykh soyedineniy, vypolnennykh poluavtomaticheskoy svarkoy v srede uglekislogo gaza).

PERIODICAL: "Svarochnoye Proizvodstvo", 1957, # 4, pp 23-24 (USSR)

ABSTRACT: The investigation has been carried out by welding low-carbon steel "CT.3" of 12-20 mm thickness in a carbon dioxide shield. This steel grade is used in such thicknesses for welded turbine parts.

Welding was performed on the semi-automatic welding machine "ПШ-54" adapted for welding in carbon dioxide in accordance with "ЦНИИТМАШ" drawings, with silicomanganese welding rod "10ГС", under two different welding conditions: 1) 360a, 32v, wire feed 215 m/hr, wire diameter 2 mm; and 2) 440a, 34v, wire feed 363 m/hr, wire diameter 2 mm.

The resulting weld metal was investigated before and after

Card 1/2

GERMAN, S.I., inzh.

Investigating the lasting strength of welded 20 KhML heat-resistant steel castings. Svar. proizv. no.10:9-13 O '57. (MIRA 11:1)

1.Khar'kovskiy turbogeneratornyy zavod imeni S.M. Kirova.
(Steel castings--Welding)
(Heat-resistant alloys--Welding)

SOV 137-58-8-17895D

Translation from: Referativnyy zhurnal, Metallurgiya 1958 Nr 8, p 242 (USSR)

AUTHOR: German, S I

TITLE: An Investigation of Heat resistant Cast Steel 20KhM-L as a Material for Cast-and-welded Joints in Steam Turbines (Issledovaniye litoy teploustoychivoy stali 20KM L (sic) kak materiala dlya svarno-litykh uzlov parovykh turbin)

PERIODICAL: Bibliographic entry on the author's dissertation for the degree of Candidate of Technical Sciences, presented to the Khar'kovsk. politekhn. in t (Khar'kov Polytechnic Institute), Khar'kov, 1958

ABSTRACT: Mechanical properties (σ_b, σ_s, δ, ψ and a_k) of steel 20KhM-L, containing 0.15-0.19%C, 0.50-0.51% Cr, 0.49-0.55% Mo, 0.53-0.61% Mn, 0.28-0.30% Si, 0.026% S, and 0.027-0.039% P, were investigated at room temperature and at elevated temperatures together with its rupture strength and ultimate strength (studied at 475-550°C), its micro and macro-structure as well as peculiarities of welding of large members made of that steel. The specimens were taken from two mass-production castings weighing eight tons each. It has been established that, with the exception of a_k, the mechanical properties

Card 1/3

SOV/147-58-8-17895D

An Investigation of Heat resistant Cast Steel (cont.)

in all zones of the castings satisfy the requirements of the technical specifications both at room temperature and at elevated temperatures. Low a_k values are attributable to the fact that the heat treatment procedures were carried out from the "intercritical" interval. Increasing the normalizing temperature to 950-970° increases the a_k value of the steel. Extrapolated to 100,000 hrs, the ultimate strength of steel 20KhM L amounts to 5 kg/mm² at a temperature of 530°. In order to prevent cracking and increase ductility of the welded zone, the welding must be performed with electrodes with a TsU-2KhM coating on material which had been preheated to 300-350°. A temperature of 680° is considered optimal for tempering of welded and cast junctions. At temperatures ranging from 475° to 550°, the steel 20KhM L and the weld metal do not exhibit any tendencies to thermal embrittlement under prolonged loading. Protracted exposure to elevated temperatures increases the content of Mo, Cr, and Mn in the carbide phase; however, the carbides of the weld metal contain less Mo at all temperatures than the carbides of the cast steel. During welding of members with large cross sections, tensile stresses approaching the value of σ_s of the steel arise in the vicinity of the welded seam. Prolonged aging of large cast and welded structures does not effect a relaxation of these stresses. The residual stresses are completely relieved if welding operations are followed up by high anneal.

N. K.

Card 2/3

SOV/137-58-8-17895D

An Investigation of Heat-resistant Cast Steel (Cont.)

ASSOCIATION: Khar'kovsk. politekhn. in-t (Khar'kov Polytechnic Institute), Khar'kov

1. Steel castings--Properties 2. Heat resistant alloys--Analysis 3. Heat resistant alloys--Applications 4. Welded joints--Test results

Card 3/3

SOV/126-6-6-23/25

AUTHORS: D'yachenko, S.S. and Palatnik, L.S., Kaplan, R.S., German, S.I. and Butko, N.I.

TITLE: Structural Changes in the Steel 20KhM-L After Holding for a Long Time at Elevated Temperatures (Strukturnyye izmeneniya v stali 20KhM-L pri dlitel'nykh teplovykh vyderzhkakh)

PERIODICAL: Fizika metallov i metallovedeniye, 1958, Vol 6, Nr 6, pp 1122-1129 (USSR)

ABSTRACT: The stability of the structure of the steel 20KhM-L at elevated temperatures was investigated and the influence was elucidated of the applied stresses on structural changes. Specimens of this steel were investigated after normalisation annealing for 3 hours at 650 - 680°C (initial state) and after holding them for various durations in the loaded and no-load state at various temperatures. The composition of this steel was as follows: C 0.15%, Si 0.30%, Mn 0.61%, S 0.026%, P 0.039%, Cr 0.5% and Mo 0.55%. The mechanical characteristics of the specimens after holding them at various temperatures between 530 and 550°C for durations up to 5400 hours are entered in Table 2. The investigations included

Card 1/3

Structural Changes in the Steel 20KhM-L After Holding for a Long Time at Elevated Temperatures

metallographic, X-ray and electron-microscopic studies. It was established that carbide particles appear in the ferrite grains only after tempering in the temperature range 650 - 680°C but not at lower temperatures. Changes in the tempering temperature are accompanied by insignificant changes in the lattice parameter of the α-phase (2.8624 kX after tempering at 570°C and 2.8615 after tempering at 650°C). It was established from X-ray diffraction patterns that after normalisation annealing and tempering at 650 to 680°C for 3 hours, a mixture of 3 carbides can be detected in the carbide precipitate with the structure: $Cr_{23}C_6$, Mo_2C and Fe_2Mo_2C. In the case of long-duration holding at 500 - 550°C, a coalescence of carbides takes place as a result of which carbide-free zones form at the boundaries of pearlitic grains. Coalescence leads to a growth of carbides of the structure $Cr_{23}C_6$ and to the dissolution of Mo carbides which can be explained by the low stability of the latter caused by the fact that they have a higher degree of dispersion than carbides of the type

SOV/126-6-6-23/25

Structural Changes in the Steel 20Kh3M-L After Holding for a Long Time at Elevated Temperatures

$Cr_{23}C_6$. Stresses which are near to the yield point of the steel lead to an acceleration of the process of coalescence by one order of magnitude at 560°C and by two orders of magnitude at 550°C. Due to the dissolution of Mo carbides, the α-phase becomes enriched with alloying elements and this should have a favourable influence on the high-temperature characteristics of components made of this steel. There are 5 tables, 5 figures and 16 references, of which 12 are Soviet, 2 French, 1 German and 1 English.

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut imeni V.I.Lenina, Khar'kovskiy turbinnyy zavod im. S.M.Kirova (Khar'kov Polytechnical Institute imeni V.I.Lenin, Khar'kov Turbine Works imeni S.M.Kirov)

SUBMITTED: April 11, 1957, after revision, September 7, 1957.

Card 3/3

SOV/125-58-12-2/13

AUTHORS: Kasatkin, B.S., Kareta, N.L., Vakhnin, Yu.N., and German, S.I.

TITLE: The "White" Band in "15KhlMlF" Grade Welded Joints ("Belaya" poloska v svarnykh soyedineniyakh iz stali 15KhlMlF)

PERIODICAL: Avtomaticheskaya svarka, 1958, Nr 12, pp 13-16 (USSR)

ABSTRACT: Tests were carried out for the purpose of determining the origin of the so-called "white" band in weld joints near seams which are subjected to various structural deformations, particularly noticeable in etching with nitric acid. It was stated that the white strip formation depends on residual plastic deformations in heat zones below the Ac_1 point. The white strip metal has a deformed crystalline lattice and an increased carbon and nitrogen content in the solid solution. The formation of the white band and ageing zone are of a similar nature, depending mainly on residual plastic deformation and not on the high cooling rate from temperatures below Ac_1.
There are 3 sets of microphotos, 2 tables and 6 Soviet references.

Card 1/2

The "White" Strip in "15KhlM1F" Grade Steel Joints SOV/125-58-12-2/13

ASSOCIATION: Institut elektrosvarki imeni Ye.O. Patona (Institute of Electric Welding imeni Ye.O. Paton). Khar'kovskiy turbinnyy zavod imeni Kirova (The Kharkov Turbine Plant imeni Kirov)

SUBMITTED: August 21, 1958

Card 2/2

45(1) PHASE I BOOK EXPLOITATION SOV/3421

Akademiya nauk USSR, Kiyev, Institut elektrosvarki imeni ekademika Ye.O. Patona

Vsesoyuznyy soveshchaniye svarshchikov, 5th, [Introduction of New Welding Methods in Industry; Collection of Articles] (2) Kiyev, Gos. izd-vo tekhn. lit-ry Ukrainskoy SSR, 1959. 194 p. Errata slip inserted. 3,000 copies printed.

Ed.: V. Chernaba; Tech. Ed.: S. Matusevich.

PURPOSE: This book is intended for workers in the welding industry.

COVERAGE: The book contains a discussion of welding techniques and problems by groups of scientists and welders. Much attention is given to problems in the application of new methods of mechanized welding and electro-slag welding. This is the second collection of articles under the same title prepared and published by the Institut elektrosvarki imeni Ye.O. Patona (Institute of Electric Welding imeni Ye.O. Paton). The preface is written by B.Ye. Paton, Academician of the Ukrainian Academy of Sciences and Winner of the Lenin Prize. There are no references.

Table of Contents

Kalinnikov, A. A. (Candidate of Technical Science; Institut elektrosvarki imeni Ye. O. Patona (Electric Welding Institute imeni Ye. O. Paton)), and V. F. Zabotin (Chief Engineer; Experimental mechanical) Navy saved (Overseas Shipbuilding Plant)). Automatic Welding in Shipbuilding 3

Pshenin, Yu. N. (Engineer), B. D. Kamskiy (Candidate of Technical Sciences), N. I. Kazarovitz (Candidate of Technical Sciences), A. M. Posternyak (Engineer; Institut elektrosvarki imeni Ye. O. Patona (Electric Welding Institute imeni Ye. O. Paton)), and V. A. Kozlov (Chief Engineer; Central Scientific Research Institute of Welding Technology). Semi-automatic Welding in Shipbuilding 13

Kazakov, A. A. (Candidate of Technical Sciences), and A. G. Potapov (Senior Engineer; Institut elektrosvarki imeni Ye. O. Patona (Electric Welding Institute imeni Ye. O. Paton)). Introduction of Automatic and Semi-automatic Carbon-dioxide Shielded Welding 32

Medovar, B. I. (Candidate of Technical Sciences), A. G. Potapovskiy (Senior Engineer; Institut elektrosvarki imeni Ye. O. Patona (Electric Welding Institute imeni Ye. O. Paton)), V. A. Ratis (Senior Engineer), Ye. K. Fisher, Supervisor of the Welding Laboratory), Shalimanskiy (Research Engineer; Diprokhimmash (Giprokhimmash)), and S. A. Zhdanov (Chief of Welding Office; Zaporozhskiy Avtomobilnyy Zavod imeni Leninskogo Komsomola (Zaporozhye Automobile Plant imeni Leninskiy Komsol)). Development and Introduction of New Technique in Automatic Submerged-arc Welding of Two-ply Steel With Stainless Chromium Facing 57

Zvonkov, Ye. (Engineer), B. M. Patrin (Candidate of Technical Sciences; Institut elektrosvarki imeni Ye. O. Patona (Electric Welding Institute imeni Ye. O. Paton)), V. A. Lebedev, (Engineer; Proizvodstvennoye ob"yedineniye "Tekhneftemash" (Production Association "Tekhneftemash")), and I. M. Mikhaylenko (Chief Engineer; Zavod "Sibtyazhmash" (Siberian Heavy Machinery Plant)). Experience Gained in Welding Containers Made of Aluminum and Its Alloys. 75

Antik, A. Ya. (Candidate of Technical Sciences; Institut elektrosvarki imeni Ye. O. Patona (Electric Welding Institute imeni Ye. O. Paton)), K. G. Petrikeyev (Engineer), A. V. Prokhorov (Engineer; Zaporozhskiy Avtomobilnyy Zavod imeni Lenina (Zaporozhye Automobile Plant imeni Lenin)), and S. V. Yakubenko (Engineer; Zavod "Dneprospetsstal" imeni Dzerzhinskogo (Dneprospetsstal Plant imeni Dzerzhinskiy)). Use in Shops of Slag Shielded Welding for Low-alloy High-strength Steels 105

AVAILABLE: Library of Congress (TS 227.A59)

Card 7/7

VK/mal
5-6-60

GERMAN, S.I.

18(5,7), 25(5)
AUTHOR: None Given

SOV/125-59-5-13/16

TITLE: Scientific-Technical Conference on Questions of Welding Engineering

PERIODICAL: Avtomaticheskaya svarka, 1959, Vol 12, Nr 5 (74) pp 95-96 (USSR)

ABSTRACT: The scientific-technical conference on question of welding engineering convened in Khar'kov from March 11 - 13, 1959. The following organizations convened in the conference: the Scientific-Technical State Committee of the Council of Ministers of the Ukrainian SSR, the Khar'kov Sovnarkhoz, the Institute of Electric Welding imeni Ye.O. Patona of the Academy of Sciences of the Ukrainian SSR, the Khar'kov Oblast administrative NTO of the machine industry, the Chairman of GKNT Ukrainian SSR, G.F. Tomtenko, the conference heard the report of Academician AS Ukrainian SSR, B.Ye. Paton "On the Reintroduction and production of Welding Engineering". After that, the following reports were heard at the conference: Member of the Plan Bureau and

Card 1/3

D.I. Polyakov on establishing materials engineering bases in the republic for the development of welding. Vice Chairman of Sovnarkhoz V.N. Yakovlev on the introduction of welding engineering in the enterprises of the Dneropetrovsk economic administrative area. Chief of Technical Administration of the Khar'kov Sovnarkhoz Yu.I. Kuzubov on the introduction of progressive welding engineering in the enterprises of the Sovnarkhoz. Comrade Ratnikov on successes of the Zaporozh'ye "steel construction factory in introducing welding engineering. Candidate of Technical Sciences I.I. Frumin (Institute of Electric Welding imeni Ye.O.Paton) on new works on automatic welding. Chief of Welding Department of the "Dneprotyazhmash" Machine Factory V.F. Zaresenko on the use of electric slag" welding in heavy machine building. Candidate of Technical Sciences Yu. A. Yuzvenko spoke on ceramic flux for welding. Chief of Welding Department of Khar'kov Turbine Factory, A.I. Gerasimenko on the use of radioelectric welding in carbon dioxide. Candi-

Card 2/3

date of Technical Sciences B.I. Medovar on new equipment for welding, worked out by the Institute of Electric Welding imeni Ye.O. Paton. Candidate of Technical Sciences V.K. Lebedev (Institute of Electric Welding imeni Ye.O. Paton) on new works on pulse-welding equipment. Engineer I.Ye. Lazchik on new welding equipment, worked out by Khar'kov Works Director of the Institute of Artoma, Candidate of Technical Sciences I.A. Antonov on recent achievements in the gas flame treatment of metals. Candidate of Technical Sciences M.P. Kazakov (Chair of Technology of Metals at Moscow Institute of the Meat and Milk Production) on a new method of vacuum diffusion welding

Card 3/3

DABAGYAN, A. V.; ROZENBERG, O. O.; SUSHCHUK-SLYUSARENKO, I. I.; GERMAN, S. I.

Vibration strength of welded hydraulic turbine shafts determined by modeling. Avtom. svar. 15 no.11:37-43 N '62. (MIRA 15:10)

1. Khar'kovskiy politekhnicheskiy institut imeni V. I. Lenina (for Dabagyan). 2. Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki imeni Ye. O. Patona AN UkrSSR (for Rozenberg, Sushchuk-Slyusarenko). 3. Khar'kovskiy turbinnyy zavod imeni S. M. Kirova (for German).

(Shafting—Welding)
(Hydraulic turbines—Models)

S/129/60/000/07/005/013
E193/E235

AUTHORS: D'yachenko, S. S., and German, S. I., Candidates of Technical Sciences, and Pavlyak, Ya. S., Engineer

TITLE: Investigation of the Zone of Low Strength Formed During Welding of Steels

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, 1960, No. 7, pp. 24-26 + 1 plate

TEXT: It has been observed in the course of examination of welded components, made of steels 20KhMF, 15Kh1M1F, 34KhM, and 22K, that, irrespective of the welding technique employed, narrow zones, etching differently from the rest of the metal, are formed at a certain distance from the weld on both sides of the welded join. The width of these zones and their distance from the weld, have been found to depend on the conditions during welding, the volume of the molten metal, and the rate of cooling after welding. It has been found, also, that welded assemblies of this type, subjected to creep tests, failed across these zones. The results of X-ray analysis, metallographic examination conducted with the aid of both optical and electron microscope, and hardness measurements, have revealed that

Card 1/2

S/129/60/000/07/005/013
E193/E235

Investigation of the Zone of Low Strength Formed During Welding of Steels

this zone of low strength is characterised by coarse grains, non-uniform distribution of the structural constituents, coarser structure of pearlite, and the lattice parameter of the α-phase larger than those of the rest of the material. It has been postulated by the present authors, that the zone of lower strength corresponds to the region of the metal which, during welding, reaches a temperature within the critical range A_1-A_3. There are 3 figures, 1 table and 4 Soviet references.

Card 2/2

GERMAN, Samuil Iosifovich; KULAKOVA, Galina Nikitichna; KALDASH, G.I., red.; SHEVCHENKO, N.G., tekhn. red.

[Welding in an atmosphere of carbon dioxide] Svarka v srede uglekislogo gaza. Khar'kov, Khar'kovskoe knizhnoe izd-vo 196[illegible]. 135 p. (MIRA 16:12)
(Electric welding) (Protective atmospheres)

GERMAN, Semen Iosifovich; KASATKIN, B.S., doktor tekhn. nauk, retsenzent; SINGOYEVSKIY, K.V., red.; GORNOSTAYPOL'SKAYA, M.S., tekhn. red.

[Electric arc welding of pearlitic class heat-resistant steel] Elektrodugovaia svarka teploustoichivykh stalei perlitnogo klassa. Moskva, Mashgiz, 1963. 216 p. (MIRA 16:8)
(Chromium-molybdenum steel--Welding)
(Steel, Heat-resistant--Welding)

FOMINA, O.P.; GAVRANEK, V.V.; D'YACHENKO, S. .; SELEZNEV, A.G.; GERMAN, S.I.

Nature of the white streak in welds. Metalloved. i term.obr.met. no.1:46-47 Ja '65. (MIRA 18:3)

1. Khar'kovskiy politekhnicheskiy institut i Khar'kovskiy turbinnyy zavod.

L 31083-65 EPA(s)-2/EWP(k)/EWA(c)/EWT(n)/EWP(b)/T/EWP(v)/EWP(e) Pf-4 JD/HM

ACCESSION NR: AP5007337 S/0135/65/000/003/0013/0016

AUTHOR: Fomina, O. P. (Engineer); Gavranek, V. V. (Candidate of technical sciences); D'yachenko, S. S. (Candidate of technical sciences); Belenney, A. G. (Candidate of technical sciences); German, S. I. (Candidate of technical sciences)

TITLE: Simulating the white stripe in welded joints

SOURCE: Svarochnoye proizvodstvo, no. 3, 1965, 13-14

TOPIC TAGS: steel welding, weld seam strength, white stripe, perlitic steel, carbon steel, alloy steel, thermal degradation, gradient heating

ABSTRACT: The authors note that a white stripe is observed in the heating zone during the macro-etching of welded joint templates of perlite steels and that, according to earlier investigations, this stripe is located in a zone corresponding

rectangular samples of different carbon and alloy

Card 1/3

L 34083-65

ACCESSION NR: AP5007337

and 20 x 20 x 50 mm) were flashed off, as well as round samples, 18 mm in diameter and 50 mm long. Depending on the size of the samples, the rate of heating in the upper range of the temperatures tested varied from 10 to 20 degrees/second. Af-

ACCESSION NR: AP5007337

2

the possibility of varying the cooling rate recommend this technique not only for a detailed study of hardness distribution, but also for the investigation of subtle and fine structural changes in the white stripe itself. Orig. art. has: 4 figures.

ASSOCIATION: KhPI im. V. I. Lenina; KhTGZ im. S. M. Kirova

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NO REF SOV: 004 OTHER: 000

ACC NR: AP5022351 SOURCE CODE: UR/0135/65/000/009/0030/0032

AUTHOR: Medovar, B. I. (Doctor of technical sciences); Chekotilo, L. V. (Engineer); German, S. I. (Candidate of technical sciences)

ORG: Electric Welding Institute im. Ye. O. Paton (Institut elektrosvarki); KhTZ im. S. M. Kirov

TITLE: Fluoride-boric acid flux for arc and electroslag welding of austenitic steels and alloys

SOURCE: Svarochnoye proizvodstvo, no. 9, 1965, 30-32

TOPIC TAGS: austenitic steel, austenitic alloy, heat resistant steel, heat resistant alloy, arc welding, submerged arc welding, electroslag welding, steel welding, alloy welding, welding flux/ANF22 flux

ABSTRACT: A fluoride-boric acid flux ANF-22 for submerged-arc and electroslag welding of heat-resistant austenitic steels and alloys and boron-containing austenitic steels has been developed. The ANF-22 flux (the CaF_2-B_2O_3 system), for which Author Certificate No. 164777 was issued, consists of fluorite concentrate and boron oxide. The flux has good technological and metallurgical properties in a wide range of welding conditions (a voltage range of 26—40 v and a welding speed of 16 to 50 m/hr) and ensures good weld forming and satisfactory slag removal. No boron oxidation was observed in the weld metal when ANF-22 flux was used in submerged-arc

Card 1/2

L 2013-66

ACC NR: AP5022351

welding of boron-containing austenitic steels. In welding with boron-free Kh20N77T3Yu [Nimonic 80A] and Kh20N80T [Nimonic 75] filler wires under ANF-22 flux, the boron content in welds increased by 0.52 and 0.12%, respectively. Welds without hot cracks and with a notch toughness of 5—8 kgm/cm^2 and a high rupture strength also were obtained in austenitic, stainless, heat-resistant EI695P and EI725 steels. The flux also gave good results in electroslag welding of stainless, heat-resistant, nickel-chromium EI725, EI787, and other steels. Sound welds without cracks and other defects were obtained in welding, under an ANF-22 flux, a high-pressure gas-turbine housing, ribs, and other lap plates made of EI725 steel 14 mm thick. The high resistance to hot cracking is due to the formation in the weld metal of a two-phase structure consisting of austenite and a boride phase. Orig. art. has: 4 figures and 4 tables. [MS]

SUB CODE: MM, IE/ SUBM DATE: none/ ORIG REF: 004/ OTH REF: 000/
ATD PRESS: 4124

Card 2/2

ACC NR: AP6015245 (N) SOURCE CODE: UR/0125/66/000/005/0031/0034

AUTHOR: German, S. I.; Yerukhimovich, A. A.

ORG: Khar'kov Turbine Plant im. S. M. Kirov (Khar'kovskiy turbinnyy zavod)

TITLE: Heat resistance of the welded joints of high-temperature pearlitic alloys

SOURCE: Avtomaticheskaya svarka, no. 5, 1966, 31-34

TOPIC TAGS: high temperature steel, pearlitic steel, heat resistance, weld evaluation, alloy composition/20KhM-L steel, 20KhMF-L steel, 15Kh1M1F-L steel, 15Kh2MF2FBS-L (P-3) steel, 15Kh1M1FKR-L (P-1) steel

ABSTRACT: On the basis of the newly introduced concept of the coefficient K_w of the heat resistance of welded joints, expressing the ratio between the stress-rupture strengths of the welded joint and the base metal and characterizing the degree of softening of the welded metal under conditions of prolonged operation at high temperatures, it is shown that the stress-rupture strength of pearlitic high-temperature steels designed for prolonged operation at temperatures of up to 600°C is a function of their chemical composition. These steels may be divided into three groups according to their K_w: 20KhM-L Cr-Mo steel (K_w = 1.0), for which the strength of the base metal and the weld metal is the same; 20KhMF-L, 15Kh1M1F-L and 15Kh2M2FBS-L (P-3) Cr-Mo-V-

Card 1/3

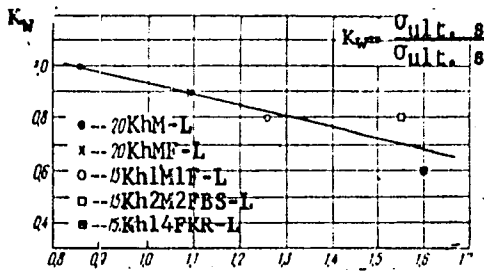
ACC NR: AP6015245

Nb steels (K_w = 0.8-0.9); and 15KhMFKR-L (P-1) Cr-Mo-V-Co-B steel ($K_w \approx 0.6$). The lower stress-rupture strength of the welded joints in the 2nd and 3rd groups may be explained as follows: their fracture in the near-weld zone is due to the decrease in plasticity owing to prolonged high-temperature loading; thus, the K_w of welded joints also depends on the long-time plasticity of welded joints, in addition to its dependence on chemical composition of the steel. It is shown that the stress-rupture strength of the welded joints of pearlitic high-temperature steels may be related to their hardenability, i.e. to the depth of penetration of martensitic or troosto-martensitic structure during the quenching of steel. The relative effect of the chemical composition (alloy elements) on hardenability of a steel may be evaluated according to the change in the stability of the supercooled austenite in the pearlitic and intermediate regions: the greatest effect on hardenability is exerted by B, followed by Cr, Mo and other alloy elements. Thus, K_w also depends on the hardenability of steels: it decreases with increasing hardenability, as illustrated by Fig. 1 and the following formula, where hardenability of 15Kh14FKR steel is expressed by its carbon equivalent (in %):

$$C_{equiv} = C + \frac{Mn}{6} + \frac{Cr}{3} + \frac{Ni}{4} + \frac{V}{5} + \frac{Mo}{4} .$$

Card 2/3

ACC NR: AP6015245



$K_w = \frac{\sigma_{ult.\ str.}\ \text{of welded joint}}{\sigma_{ult.\ str.}\ \text{of base metal}}$

Fig. 1. Heat-resistance coefficient of welded joints of high-temperature pearlitic steels as a function of hardenability

All points in Fig. 1 follow a single straight line: this confirms the existence of a relationship between the heat-resistance coefficients of the welded joints of high-temperature pearlitic steels and hardenability: the higher the hardenability of a steel is, the more the welded joint gets softened in the course of prolonged operation at high temperatures. Orig. art. has: 3 figures and 3 tables.

SUB CODE: 13,11/ SUBM DATE: 24Jun65/ ORIG REF: 000

Card 3/3

ACC NR: AP6032034 SOURCE CODE: UR/0114/66/000/007/0027/0029

AUTHOR: Chekotilo, L. V. (Candidate of technical sciences); Gorman, S. I. (Candidate of technical sciences); Lovenberg, N. Yo. (Engineer)

53
52
B

ORG: none

TITLE: Electric slag welding of austenitic heat resistant alloy EI725 (KhN35VTR)

SOURCE: Energomashinostroyeniye, no. 7, 1966, 27-29

TOPIC TAGS: arc welding, heat resistant alloy, austenitic steel

ABSTRACT: The article reports an investigation of the electric slag welding of alloys EI725, EI612, and others which contain chromium, nickel, tungsten, and titanium; some of the alloys also contain molybdenum, niobium, boron, and aluminum. A detailed chemical analysis of the alloys is given in a table. Samples of alloys EI725 and EI612 were welded with a plate type electrode and with two wire electrodes. A ANF-8 flux was used. The article gives microphotos of the welding seams obtained. A further table lists the results of tests of the physical and mechanical properties of the seams. It was found that the heat resistance of welded joints in EI725 alloy, made with electric slag welding using a plate type electrode and a type EP235 wire electrode, is from 80 to 90% of the heat resistance of the base metal. The work was performed under the direction of Doctor of Technical Sciences, Professor B. I. Medovar.

Card 1/2 UDC: 6251.7.669.1.791

L 0611/-5/
ACC NR: AP6003203

Candidate of Technical Sciences A. N. Safonnikov took part in the work. Orig. art. has: 4 figures and 5 tables.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 003

Card 2/2 nst

ACC NR: [illegible]

AUTHOR: [illegible]; German, S. [illegible]

ORG: [illegible]

TITLE: Welding gas-turbine housings built of heat-resistant fully austenitic steel

SOURCE: Svarochnoye proizvodstvo, no. 7, 1966, 15-18

TOPIC TAGS: steel welding, austenitic steel, welding, heat resistant steel, welding weld property/EI172 austenitic steel

ABSTRACT: The weldability of electrodes called EI172 fully austenitic steel intended for housings of gas-turbine units at 750—780° has been investigated. Steel specimens 1—2 mm thick were welded with EI172 electrodes, austenitized at 1150°, and stabilized at 900° for 12 hrs. After this treatment the welds had a tensile strength of 2[illegible]—41.9 kg/mm², a yield strength of 22.6—26.2 kg/mm², an elongation of 7%—25.0%, a reduction of area of [illegible]—60.0%, and a notch toughness of [illegible] kg-m/cm² for 500 hrs [illegible] tensile and yield strengths to [illegible] kg/mm² and 24.4—30.1 kg/mm², respectively, with [illegible] the [illegible] and a [illegible] of 1%. [illegible] kg-m/cm². A 1,000 hr [illegible] did not produce significant additional changes in mechanical prop-

Card 1/2 UDC: 621.791.753.042.4:669.14.018.44:621.438

ACC NR: AP6031409

4

tests showed that residual stresses can be relieved by austenitizing at 950—1100C followed by stabilization annealing at 750C. TsT-22 electrodes were used for welding the housing of the GTU-500 gas turbine. Orig. art. has: 9 figures and 2 tables. [ND]

SUB CODE: 13, 11/ SUBM DATE: none/ ORIG REF: 007/ ATD PRESS: 5082

Card 2/2 hs

GERMAN, V.

Equipment for making glue and pressing plywood. Pron.koop. no.10:41-45 O '55. (MLRA 9:4)

1.Glavnyy konstruktor TSentral'nego mebel'nego konstrukterskego byura TSentrepromsoveta.
(Glue) (Plyweed)

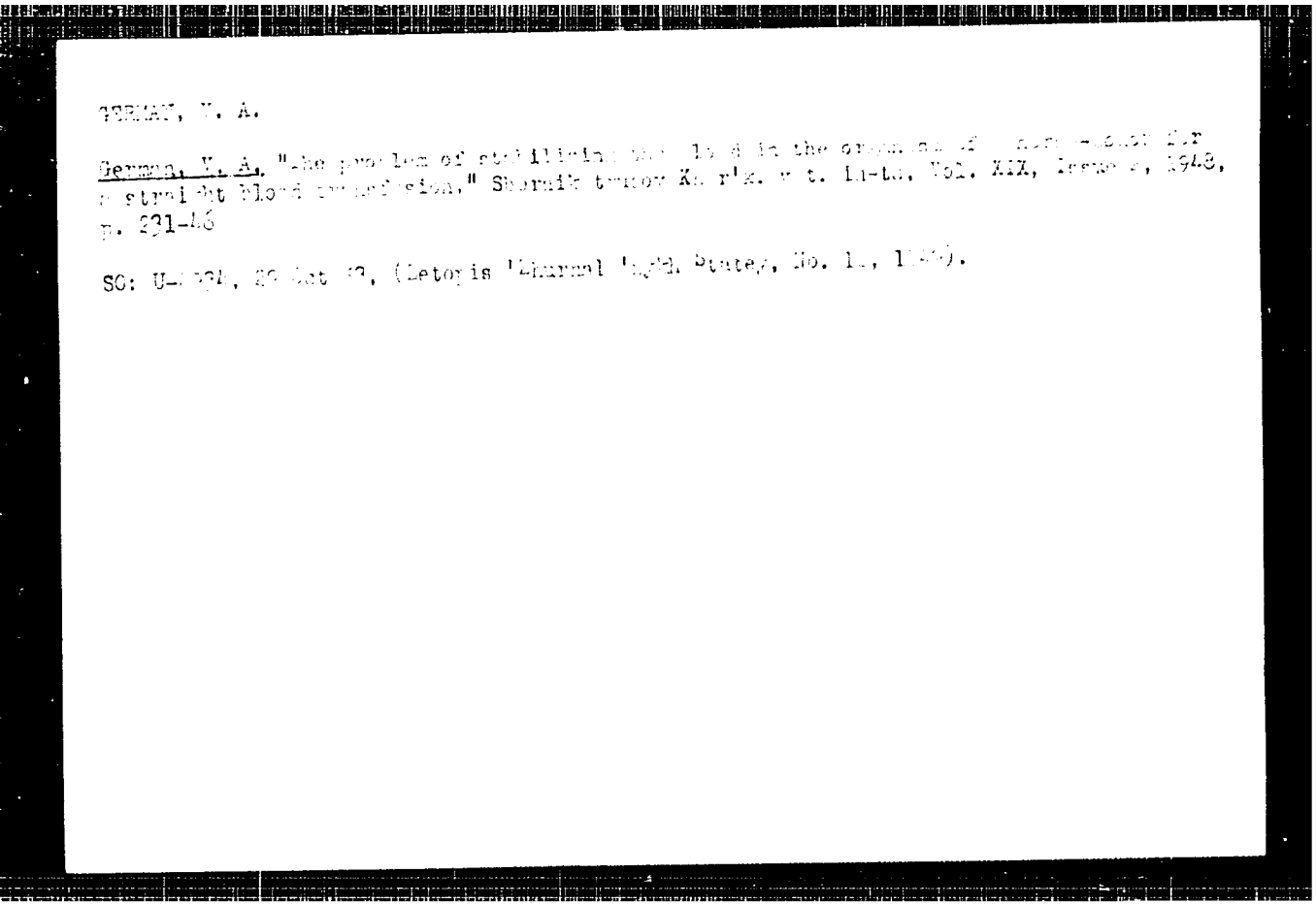
GERMAN, V.A.

"About Blood Substituting Solutions in Treatment of Farm Animals."
SO: Veterinariya, Vol.20. no.3/4,March/April 1943,uncl.

GERMAN, V. A.

German, V. A.- "On blood transfusion in horses," [illegible] vet. [illegible], Vol. XIX, Issue 2, 19[illegible], p. [illegible]

SO: U-[illegible], 29 Oct 53, (Letopis 'Zhurnal'nykh Statey, No. 14, 1949).



GERMAN, V. A.

German, V. A. "The problem of stabilization [illegible] in the organism [illegible] for a straight blood transfusion," Sbornik trudov Kaf. perel. v t. Ii-t.k., Vol. XIX, Leningrad, 1948, p. 231-46

SO: U-[illegible], 20 Oct 49, (Letopis 'Zhurnal 'nykh Statey, No. 1., 1949).

GERMAN, V. A., Dr., Prof.
Khar'kov Veterinary Inst.
"Calcium chloride as an anticoagulating and an antihemoagglutinating preparation of blood transfusion."
SO: Vet. 24 (11) 1948, p. 23

GERMAN, V.A., professor.

Iso-anaphylaxis in repeated blood transfusions in horses and methods for its control. Sbor.trud.Khar'.vet.inst. 20:207-209 '49. (MLRA 9:11)
(Blood--Transfusion) (Horses--Physiology) (Anaphylaxis)

GERMAN, fnu, Major
Veterinary Service
"Sequence scheme of medico-diagnostic doses in 'colics'".
SO: Veterinariya 26 (3), 1949, p. 20

GERMAN, Vet. and SAIFULLIN
"Treatment of lung gangrene with sulfidine."
SO: Vet. 26 (11) 1949, p. 47

GERMAN, V.A., Prof., Doctor
Kharkov Veterinary Institute
"Elimination of hemcagglutination and transfurion of alien blood and heterogenous serum."
SO: Vet. 27 (4) 1950, p. 45

GERMAN V. A. 181T68

USSR/Medicine - Blood Transfusion (Veterinary) Apr 51

"Treatment of Post-Transfusion Hemolytic Shock in Farm Animals," Prof V A. German, Aspirant b. Ya. Peredera Khar'kov Vet Inst

"Veterinariya" Vol XXVIII, pp 42, 43

High antihemoagglutinating effect of sodium salycilate can be successfully used in prevention of hemolytic shock and its treatment in cattle and horses. A 100-200 ml dose of 10% soln of the salt is administered intravenously.

LC 181T68

USSR/Medicine (Veterinary) - Tissue Therapy Dec 51

"Tissue Therapy in Veterinary Surgery," Prof V. A. German, Lc Vet Sci, Docent I. K. Kalashnik, Khar'kov Vet Inst

"Veterinariya" Vol XXVIII, No 12, pp 41-45

Describe technique of applying homogeneous or heterogeneous tissue preserved according to Filatov at +2 to +4°, autoclaved at 120°, and then implanted or injected in the form of an emulsion. Horses, cattle, dogs, and cats were treated with good results. Treatment was most successful in keratoconjunctivites, glaucoma of dogs, paralyses and pareses of peripheral nerves in legs of horses and dogs, neurotropic plague of dogs, and certain other diseases listed in a table.

193T81

LC

LC

USSR/Medicine (Veterinary) - Tissue Therapy (Contd) Dec 51

193T81

LC

[illegible], V. A., Prof.

GERMAN, V.A., professor, doktor.

Twenty years' work of the Department of Surgery in the field of blood transfusion in animals. Sbor.trud.Khar'.vet.inst. 21:406-412 '52. (MLRA 9:12)

1. Kafedra obshchey khirurgii Khar'kovskogo veterinarnogo instituta. (Blood--Transfusion) (Veterinary medicine)

GERMAN, V. A.

Blood transfusion and the methods of hemotherapy in veterinary medicine Moskva, Gos. izd-vo sel'khoz. lit-ry, 1954. 202 p. (55-59813)

SF919.G4

GERMAN, V.A., professor, doktor veterinarnykh nauk.; KALASHNIK, I.A., dotsent.

Use of tissue therapy in veterinary surgery. Sbor. trud. Khar'. vet. inst. 22:373-380 '54. (MLRA 9:12)

1. Kafedra obshchey i chastnoy khirurgii Khar'kovskogo veterinarnogo instituta.

(Tissue extracts) (Veterinary surgery)

BEZPAL'TSEV, I.N.; GERMAN, V.G.

Organizing storage for patterns of machine-produced molds in a foundry. Lit.proizv. no.7:8-9 O '54. (MLRA 7:12)
(Foundries)

GERMAN, V.G., inzhener.

Casting wheel-type steel pieces. Stroi. i dor. mashinostr. 2 no.6: 37-38 Je '57. (MLRA 10:6)
(Steel castings)

GERMAN, V.G., inzh.

Prevention of cracks in steel castings. Mashinostroenie no.2:59-61 Mr-Ap '65. (MIRA 18:6)

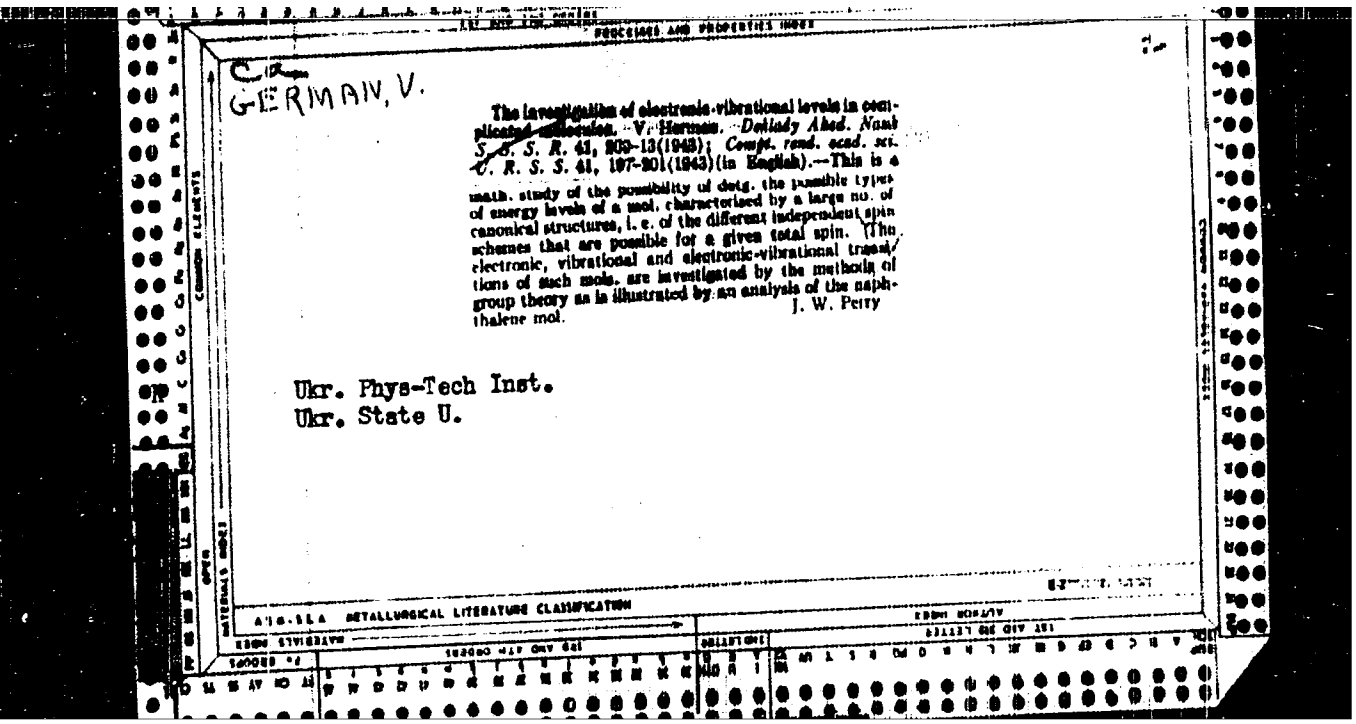
GERMAN, V.G.

An enterprise of high standards. Shvein.prom. no.2:3-4 Mr-Ap '62. (MIRA 15:4)
(Leningrad--Clothing industry) (Efficiency, Industrial)

GERMAN, V. L.

"Polarization and Intensity of Light Diffused Near the Quadripole Line," Zhur. Eksper. i Teoret. Fiz., 9, No.12, 1939

Ukr. Phys-Tech. Inst., Khar'kov



GERMAN, V.

The investigation of electronic-vibrational levels in complicated molecules. V. Hermann. *Doklady Akad. Nauk S. S. S. R.* 41, 203-13(1943); *Compt. rend. acad. sci. U. R. S. S.* 41, 197-201(1943)(in English).—This is a math. study of the possibility of detg. the possible types of energy levels of a mol. characterized by a large no. of canonical structures, i. e. of the different independent spin schemes that are possible for a given total spin. The electronic, vibrational and electronic-vibrational transitions of such mols. are investigated by the methods of group theory as is illustrated by an analysis of the naphthalene mol.
J. W. Perry

Ukr. Phys-Tech Inst.
Ukr. State U.

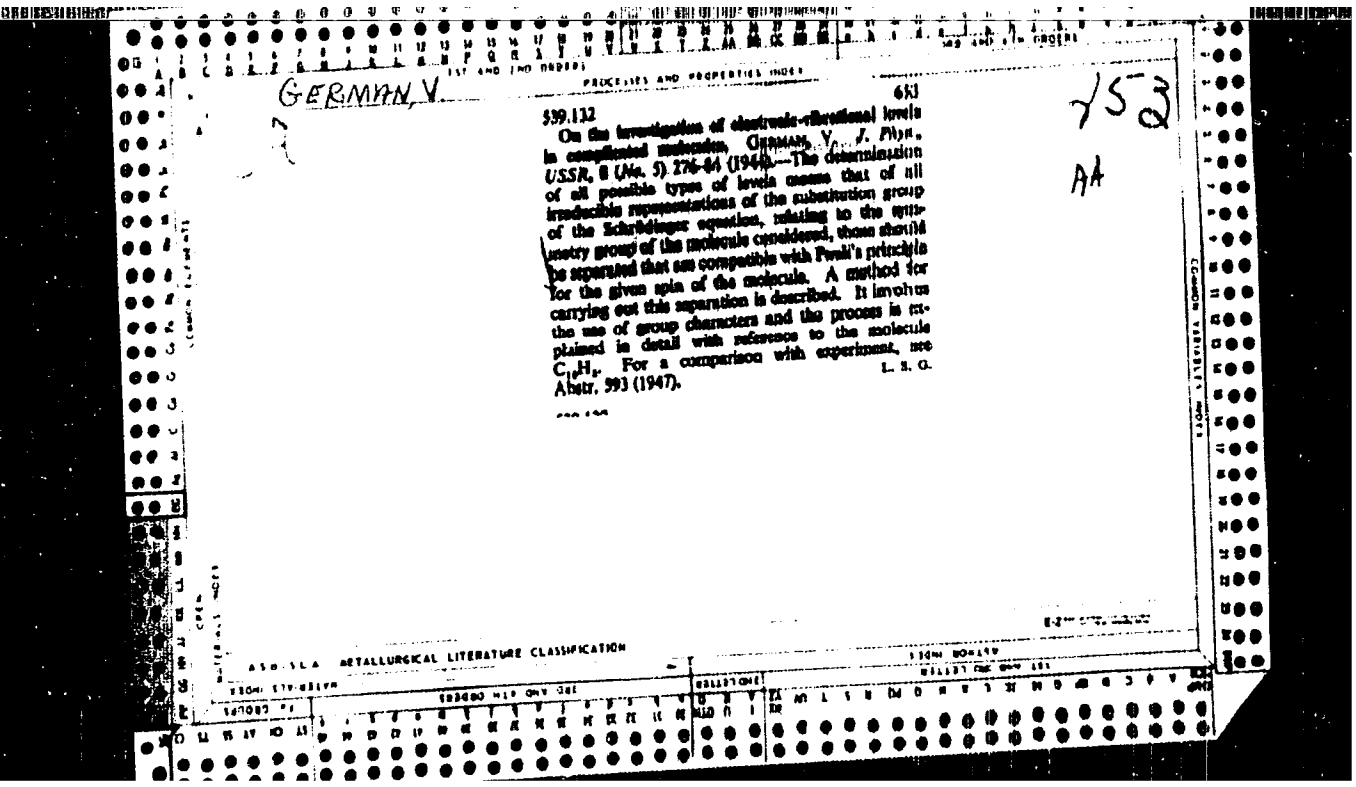
GERMAN, V.

Rotation of polarisation plane of forbidden lines in an outward magnetic field. V. Hermann (*Compt. rend. Acad. Sci. U.R.S.S.*, 1943, **41**, 369—371).—Theoretical. The rotation of the polarisation plane for a line forbidden in a dipole approximation is about the direction of the magnetic field and is of a different magnitude and opposite direction to that for an ordinary line. If the field is parallel to the direction of propagation of the incident photon, so that splitting is $\pm$ (half that typical in a quadrupole case), the formula for the angle of rotation coincides with that of Weisskopf for an ordinary line (cf. A., 1931, 668). J. G. M-B.

GERVAN, V. L.

"Polarization of Light Scattered by Excited Atoms," Dokl. AN SSSR, 42, No.4, 1943

Leningrad Phys-Tech. Inst.



GERMAN, V.

PROCESSES AND PROPERTIES INDEX

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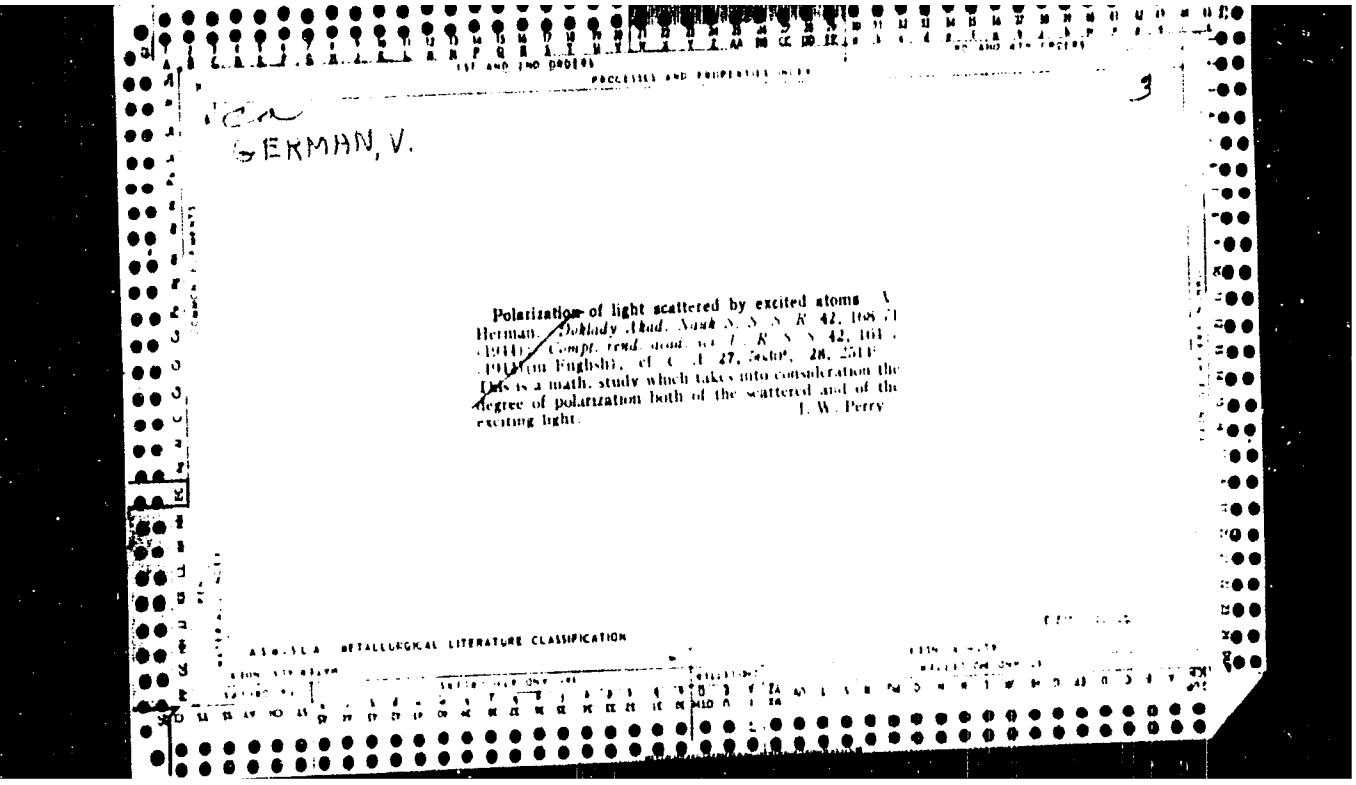
539.132

On the investigation of electronic-vibrational levels in complicated molecules. GERMAN, V. *J. Phys. USSR*, 8 (No. 5) 276-84 (1944).—The determination of all possible types of levels means that of all irreducible representations of the substitution group of the Schrödinger equation, relating to the symmetry group of the molecule considered, those should be separated that are compatible with Pauli's principle for the given spin of the molecule. A method for carrying out this separation is described. It involves the use of group characters and the process is explained in detail with reference to the molecule C_nH_n. For a comparison with experiment, see *Naturw.* 593 (1947). L. S. G.

753

AA

ASM-TLA METALLURGICAL LITERATURE CLASSIFICATION



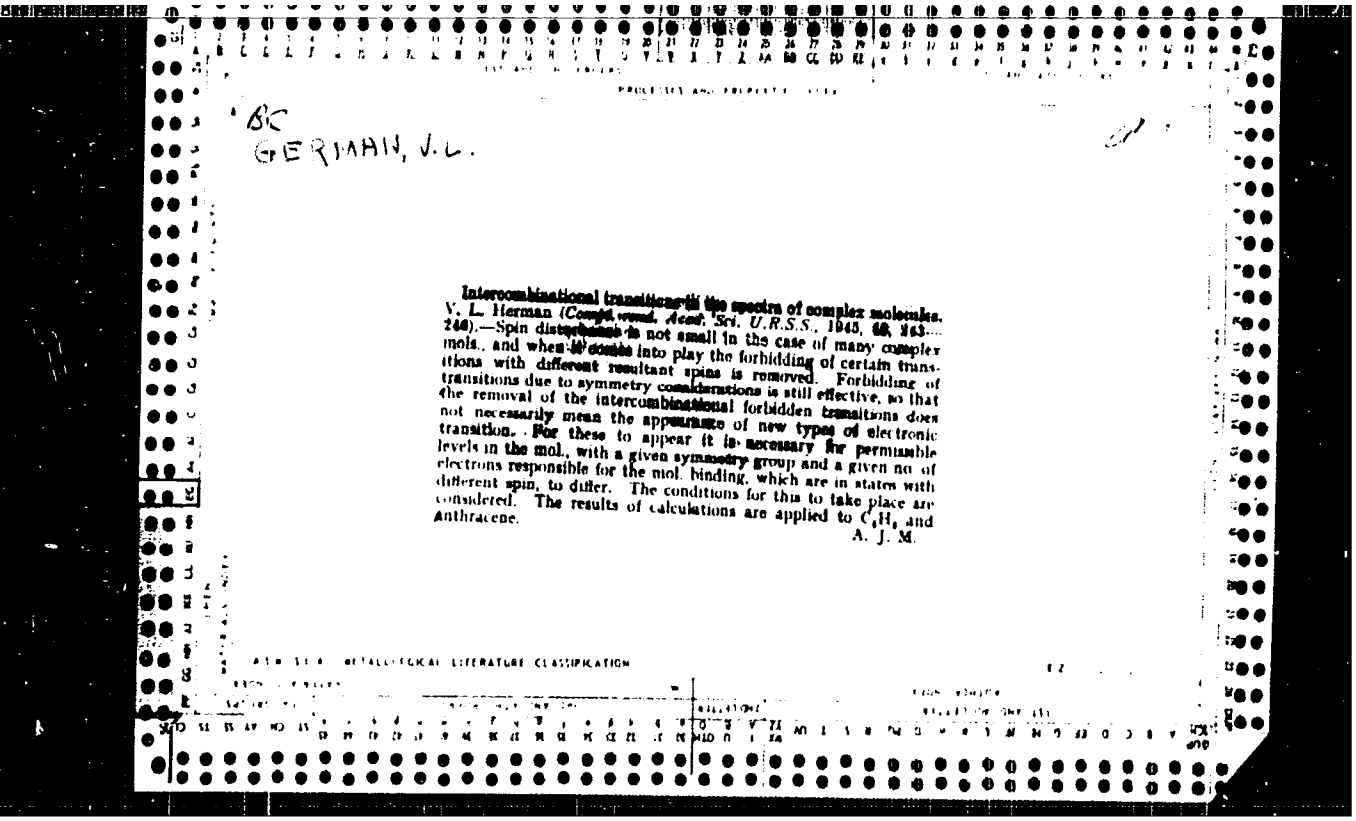
GERMAN, V.

Polarization of light scattered by excited atoms. V. Herman. *Doklady Akad. Nauk S.S.S.R.* 42, 108-71 (1944); *Compt. rend. acad. sci. U.R.S.S.* 42, 101-4 (1944) (in English); cf. *C.A.* 27, 3610[9], 28, 2511[8]. This is a math. study which takes into consideration the degree of polarization both of the scattered and of the exciting light. J. W. Perry

ASLIB METALLURGICAL LITERATURE CLASSIFICATION

GERMAN, V. L.

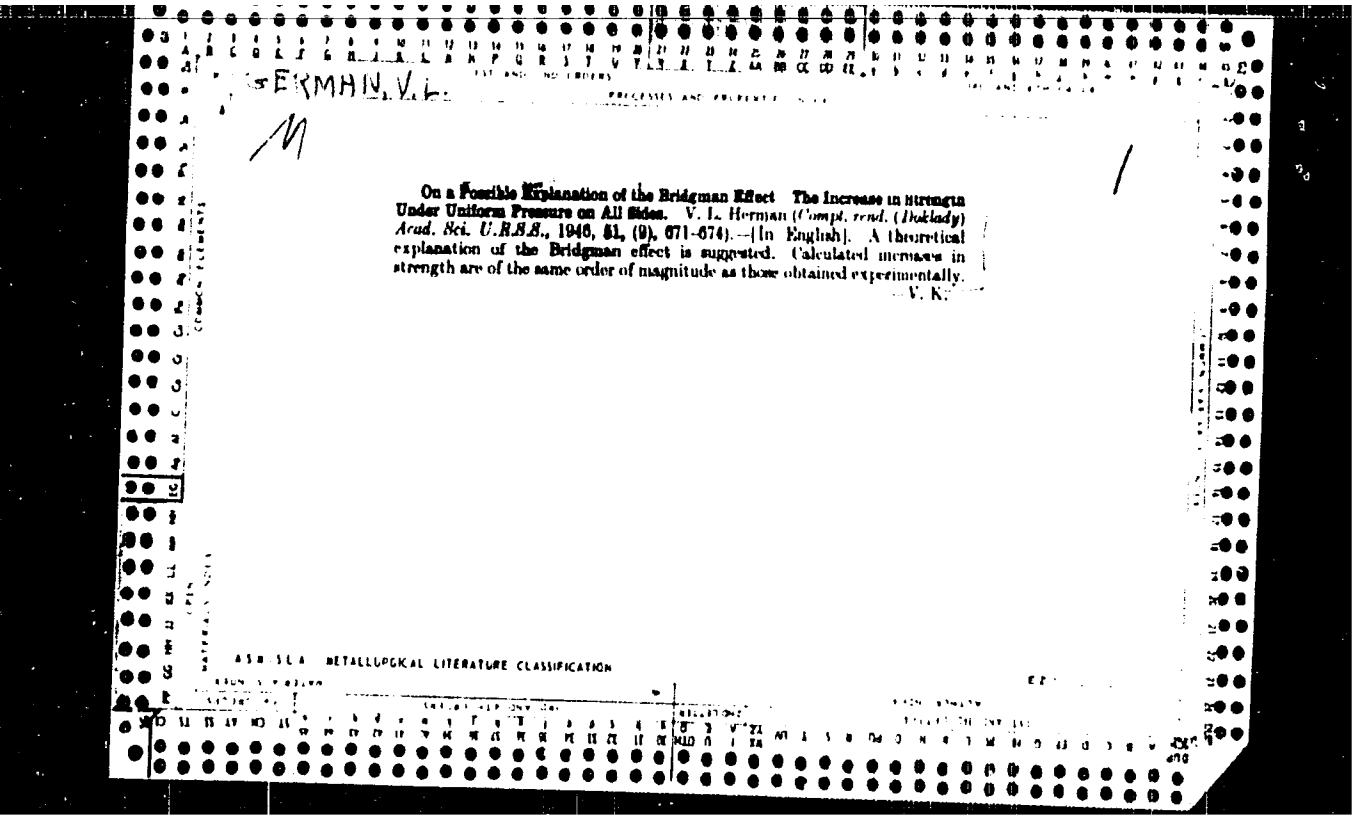
"Some Theorems of the Theory of Anisotropic Media," Dokl. AN SSSR, 48, No.2, 1945



BC
GERMAIN, J.E.

Intercombinational transitions in the spectra of complex molecules. V. L. Herman (*Compt. rend. Acad. Sci. U.R.S.S.*, 1945, 48, 243—246).—Spin disturbance is not small in the case of many complex mols., and when it comes into play the forbidding of certain transitions with different resultant spins is removed. Forbidding of transitions due to symmetry considerations is still effective, so that the removal of the intercombinational forbidden transitions does not necessarily mean the appearance of new types of electronic transition. For these to appear it is necessary for permissible levels in the mol., with a given symmetry group and a given no. of electrons responsible for the mol. binding, which are in states with different spin, to differ. The conditions for this to take place are considered. The results of calculations are applied to C_6H_6 and Anthracene.

A. J. M.



HERMAN, V. L.

M

1

On a Possible Explanation of the Bridgman Effect The Increase in Strength Under Uniform Pressure on All Sides. V. L. Herman (*Compt. rend. (Doklady) Acad. Sci. U.R.S.S.*, 1946, **51**, (9), 671-674).—[In English]. A theoretical explanation of the Bridgman effect is suggested. Calculated increases in strength are of the same order of magnitude as those obtained experimentally.

—V. K.

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION

[illegible], V. L.

German, V. L. - "[illegible] purely plastic and 'mixed' elastic-plastic deformation", Uchen. zapiski [illegible] gos. un-ta im. Gertsena, V.1. XXVII, Trudy Fiz. otd-niya Fiz.-matem. fak., V.1. I, 1947, s. 51-74, - Bibliog: 12 items.

SO: U-3042, 11 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 9, 1949).

GERMAN, V.L.; LOMONOSOV, M.I.

Origin of cavitation near the vibrating parts of hydraulic machinery. Dop. AN URSR no.2:111-114 '54. (MLRA 8:4)

1. Fiziko-tekhnichniy institut AN URSR. Predstavleno deystvitel'nym chlenom AN USSR K.D.Sinel'nikovym.
(Cavitation)

51-1-9/18

AUTHORS: German, V.L. and Kaner, E.A.

TITLE: Optical Activity with the Non-linear Effect of "Saturation" Taken into Account. (Opticheskaya aktivnost' s uchetom nelineynogo effekta "Nasyshcheniya".)

PERIODICAL: Optika i Spektroskopiya, 1957, Vol.III, Nr.1, pp.68-72. (USSR).

ABSTRACT: The strong dependence of the coefficient of absorption of microwaves near resonance on the intensity of the incident radiation is well-known in radiowave spectroscopy (Refs. 1 & 2). The half-width of the resonance line is proportional to the signal power and the energy absorbed at large intensities remains constant (saturation). These non-linear effects in optics were described qualitatively by S. I. Vavilov (Ref.3). In the present paper it is shown that to observe the dependence of the absorption coefficient on the intensity it is necessary firstly, to have the frequency of the external field close to the resonance frequency and secondly, the quantity $1/\tau^2$ should be sufficiently small (τ = the average time in which the population of the energy levels

Card 1/3

reaches its equilibrium of value). Since the probability of an optical transition depends on the amplitude of the external field, therefore the non-linear effects should also occur not only in absorption but also in optical activity and circular dichroism. The magnitudes of dichroism and rotation of the plane of polarization are determined by the so-called "small parameter" a/λ (a = molecular size, λ = wavelength). These effects can therefore be observed only at sufficiently short wavelengths, i.e. in the optical region of spectrum. By a mathematical argument the authors show that near resonance the medium becomes non-linear and its optical characteristics depend on the amplitude of the external field. These optical characteristics are shown to include optical activity and circular dichroism. Since the authors did not specify the frequency region in their work it is in principle possible to apply the results of this paper to non-linear effects near resonance in any frequency region. There are 5 references, 3 of which are Slavic.

GERMAN, V.L., prof.; TARAPOV, I.Ye. (Khar'kov)

Hydrodynamic and aerodynamic lubrication theories. Uch. zap.KHGU 80:101-106 '57. (MIRA 12:11)
(Lubrication and lubricants) (Fluid dynamics)

GERMAN, V.L. [Herman, V.L.]

Scattering of electromagnetic waves in the ionosphere and troposphere on discontinuities caused by turbulent pulsations. Ukr.fiz.zhur. 3 no.5:595-610 S-O '58. (MIRA 12:2)

1. Institut radiofiziki i elektroniki AN USSR.
(Ionospheric radio wave propagation)

GERMAN, V.L. [Herman, V.L.]

Scattering of electromagnetic waves on discontinuities due to turbulent pulsations under unsteady turbulent conditions. Ukr. fiz.zhur. 3 no.5:617-623 S-O '58. (MIRA 12:2)

1. Institut radiofiziki i elektroniki AN USSR.
(Radio waves--Scattering)

GERMAN, V.L. [Herman, V.L.]

Phase structure of the field and propagation velocity of medium band radio waves over a turbulent sea [with summary in English]. Ukr. fiz. zhur. 3 no.6:712-720 N-D '58. (MIRA 12:6)

1.Institut radiofiziki i elektroniki AN USSR.
(Radio waves)

GERMAN, V.L. [Herman, V.L.]

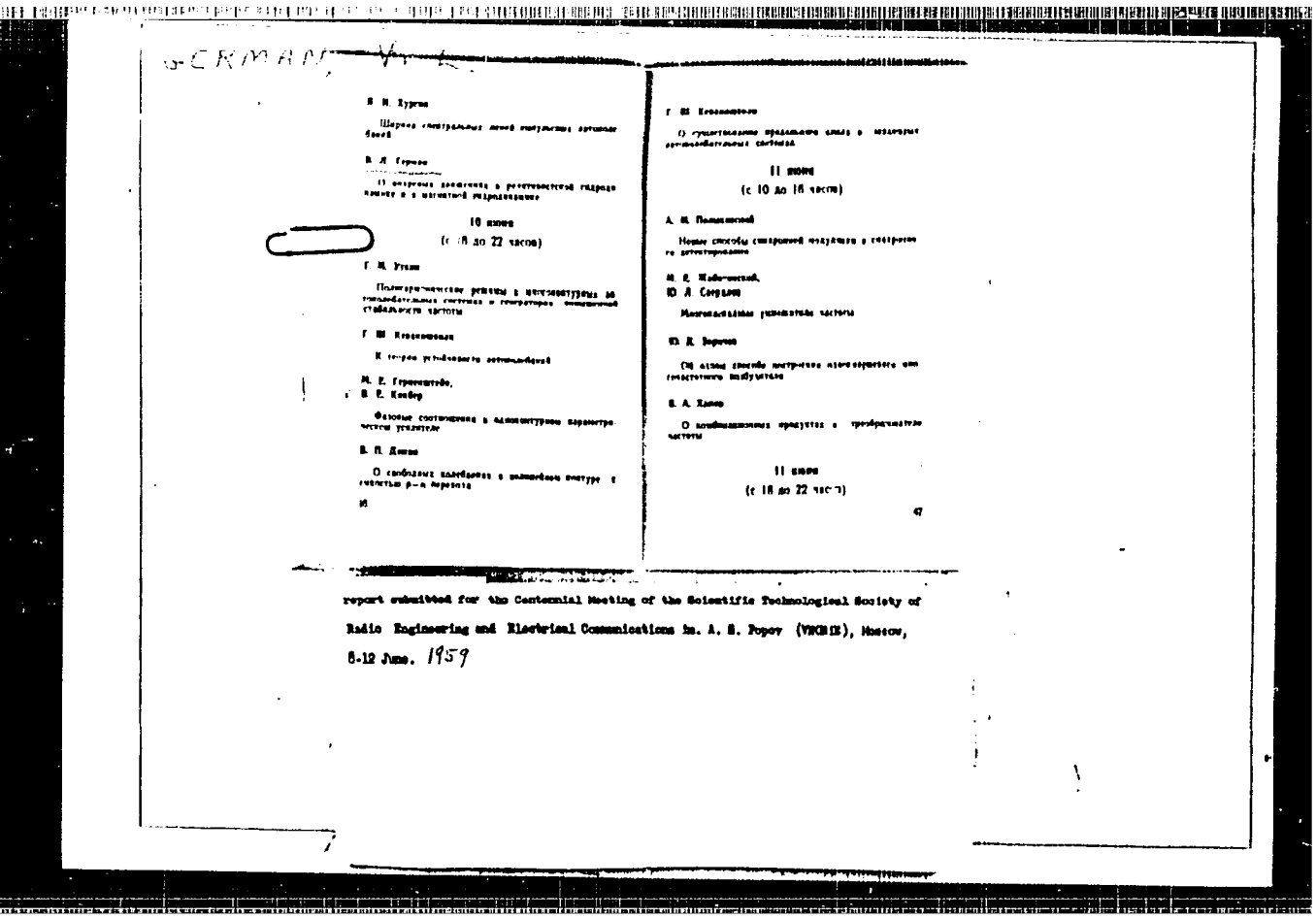
Possibility of using the nonlinear effect of radio wave "saturation" for the absolute measurement of power in the microwave band [with summary in English]. Ukr. fiz. zhur. 3 no.6:721-727 N-D '58.
(MIRA 12:6)

1.Institut radiofiziki i elektroniki AN USSR.
(Radio waves)

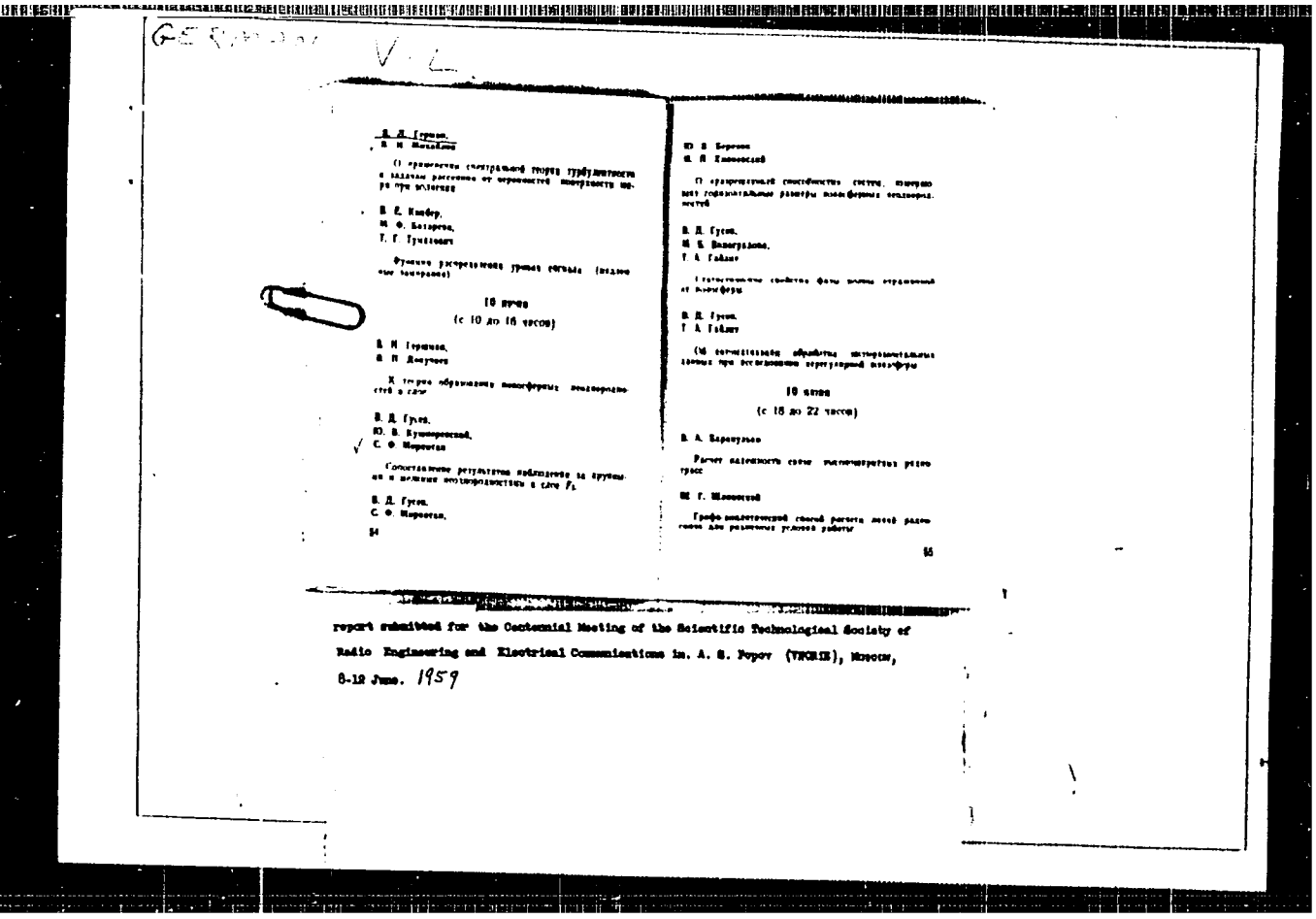
GERMAN, V.L. [Herman, V.L.]

Possibility of using the nonlinear effect of radio wave "saturation" during magnetic resonance for absolute measurements of power. Ukr. fiz. zhur. 3 no.6:845 N-D '58. (MIRA 12:6)

1. Institut radiofiziki i elektroniki AN USSR.
(Radio waves)



report submitted for the Centennial Meeting of the Scientific Technological Society of Radio Engineering and Electrical Communications im. A. S. Popov (VNIIR), Moscow, 6-12 June. 1959



report submitted for the Centennial Meeting of the Scientific Technological Society of Radio Engineering and Electrical Communications im. A. S. Popov (TSNIIR), Moscow, 8-12 June. 1959

BORISENKO, Aleksandr Ivanovich; TARAPOV, Ivan Yevgen'yevich; BLANK, Ya.P., prof., otv.red.; GERMAN, V.L., prof., otv.red.; TRET'YAKOVA, A.N., red.; TROFIMENKO, A.S., tekhn.red.

[Vector analysis and the beginnings of the calculus of tensors] Vektornyi analiz i nachala tenzornogo ischisleniia. Khar'kov, Izd-vo Khar'kovskogo gos.univ., 1959. 237 p. (MIRA 13:8)
(Calculus of tensors) (Vector analysis)