

22428

S/049/61/000/002/006/012
D242/D301

Seismic observations...

by noting the agreement of their observations with those made by Evison et al at the Scott Base, Hallett and Mirnyy stations during the earthquake of December 9, 1957, and they do not consider the neighboring areas of the Atlantic and Indian Oceans to be part of the East Antarctic Platform. There are 6 figures, 1 table and 5 references: 4 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: F. F. Evison, C. E. Ingham and R. H. Orr: Thickness of the Earth's crust in Antarctic. Nature, 183, No 1, 1959.

ASSOCIATION: Akademiya nauk SSSR, Institut fiziki zemli (Academy of Sciences USSR, Institute of Physics of the Earth)

SUBMITTED: September 19, 1960

Card 6/6

KOGAN, S.D.; PASECHNIK, I.P.; SULTANOV, D.D.

Seismic map of Antarctica in memory of N.A. Linden. Izv. AN SSSR.
Fiz. zem. no.2:1-4 '65. (MIRA 18:6)

1. Institut fiziki Zemli AN SSSR.

YASINSKAYA, G.A.; KOGAN, S.F.

Refractory materials for the production of zinc white.
Ogneupory 28 no.10:472-474 '63. (MIRA 16:11)

1. Institut metallokeramiki i spetsial'nykh splavov AN
UkrSSR (for Yasinskaya). 2. Leningradskiy zavod in. D.I.
Mendeleeva (for Kogan).

KOGAN, S.I.

POLYUSHKIN, A.I.; KOGAN, S.I.

Straightening molds used in the manufacture of electric line poles.
Transp. stroi. 8 no.11:32 N '58. (MIRA 12:1)

1. Glavnny inshener zavoda Lyuberetskogo remontnomekhanicheskoy
zavod Glavmoststroy. (for Polyushkin). 2. Nachal'nik tsekha (for
Kogan).

(Molding machines) (Electric lines--Poles)

KOGAN, S.I.; MAREYEVA, Z.I.

Some data on the raw material supply reserves and the production scale of germanium in main capitalist countries. *Biul.nauch.-tekhn. inform.VIMS* no.1:5-7 '60. (MIRA 15:5)

1. Ministerstvo geologii i okhrany nedr SSSR.
(Germanium)

KOCHAN, S. I.

Dilantin therapy of traumatic convulsive syndromes. *Nevropat. psikiat.*, Moskva 19:3, May-June 50. p. 50-2

1. Of the Psychiatric Clinic (Director—Prof. N. I. Ozeretskiy, Active Member of the Academy of Medical Sciences USSR), First Leningrad Medical Institute imeni Academician I. P. Pavlov.

GLJL 19, 5, Nov., 1950

KOGAN, S.I.

Hypochondriacal psychoses. Nevropat. psikiat., Moskva 20 no.5:52-57
Sept-Oct 51. (CINL 21:4)

1. Of the Department of Psychiatry (Head--Prof. N.I. Ozeretskiy, Active
Member of the Academy of Medical Sciences), First Leningrad Medical
Institute imeni Academician I.P. Pavlov.

KOGAN, S.I.

On the disorders of vascular reactions in so-called
hypochondriac psychoses. Zh. nevropat. psikiat.,
Moskva 53 no.12:922-934 Dec. 1953. (OIML 25:5)

1. Department of Psychiatry of First Leningrad Medical
Institute imeni I.P. Pavlov.

KOGAN, S.I.

Plenary sessions of the Leningrad Society of Psychiatrists and
Neuropathologists in the first half of 1956. Vop. psikh. i nevr.
no.5:291-295 '59. (MIRA. 14:5)
(BLOOD VESSELS—DISEASES) (PSYCHIATRY)

KOGAN, S.I.

"Neuroleptic hypochondriac syndrome." Sbor. trud. Len. nauchn. ob-va
nevr. i psikh. no.6:259-270 '59. (MIRA 13:12)

1. Kafedra psikhiiatrii 1-go Leningradakogo meditsinskogo instituta
imeni akademika I.P. Pavlova (sav. kafedroy - prof. D.S. Ozeretskovskiy)
i 2-ya Psikhonevrologicheskaya bol'nitsa Leningradskoy oblasti (glavnyy
vrach F.I. Nikolayeva).
(HYPOCHONDRIA) (AUTONOMIC DRUGS)

KOGAN, S.I.

Hypochondriac syndrome in some somatogenic psychoses. Vop.psikh.i
nevr. no.7:213-229 '61. (MIRA 15:8)

1. Kafedra psikiatrii i Leningradskogo meditsinskogo instituta
imeni akademika Pavlova (zav. kafedroy prof. D.S.Ozeretsovskiy).
(HYPOCHONDRIA) (PSYCHOSES) (MEDICINE, PSYCHOSOMATIC)

KOGAN, S.I.

Plenary sessions of the Leningrad Society of Psychiatrists and
Neuropathologists in the second half of 1958 and in 1959. Vop.
psikh.i nevr. no.7:484-497 '61. (MIRA 15:8)
(LENINGRAD--NEUROPSYCHIATRIC SOCIETIES)

SOBOLEVA, T.L.; KOGAN, S.I.

Mental disorders in systemic lupus erythematosus and their treatment. Vop. psikh. i nevr. no.9:240-249 '62.

(MIRA 17:1)

1. Kafedra koshnykh bolezney (sav. - prof. A.N. Araviyskiy)
i kafedra psikhiiatrii (sav. - prof. D.S. Oseretsovskiy)
1-go Leningradskogo meditsinskogo instituta imeni akademika
Pavlova.

KOGAN, S. I.

Concerning a characteristic of a somatogenic hypochondriac syndrome, Zhur. nevr. i psikh. 63 no.4:595-599 '63.

(MIRA 17:2)

1. Kafedra psikhiatrii (zav. - prof. D.S. Oseretskovskiy)
I Leningradskogo meditsinskogo instituta imeni I.P. Pavlova.

KOGAN, S.I.; SHVEDSKAYA, A.G.

C-reactive protein in the cerebrospinal fluid and blood serum in infectious psychoses. Zhur. nevr. i psikh. 65 no.6:883-887 '65.

(MIRA 18:6)

1. Kafedra psikhiiatrii (zaveduyushchiy - prof. D.S. Ozeretsovskiy) i Leningradskogo meditsinskogo instituta im. Pavlova i kafedra psikhiiatrii Voenno-meditsinskoy ordena Lenina akademii im. Kirova, Leningrad.

KOGAN, SH. I

Mbr., Zoological and zootechnical institute, The Turkmen Affiliate of the Academy of Sciences of the USSR

"Ephemerals of Southern Ust'-Urt." Izv. Turk. fil. AN SSSR, no.2:29-36 1949 (Submitted May 1948)

KOGAN, Sh.I.

Growth of aquatic plants in waters of the Murgab River. Trudy
Murg.gidrobiol.sta. no.3:135-151 '55. (MLBA 9:8)
(Murgab Valley--Fresh-water flora)

KOGAN, Sh.I.

Lake vegetation of Tashaus Province. Isv. AN Turk. SSR no. 5:63-69
'55. (MLRA 9:5)

1. Institut biologii AN Turkmenskoy SSR.
(Tashaus Province--Aquatic plants)

KOGAN, Sh.I.

Lake plants in the Zapadny Usboy Valley. Izv.AN Turk. no.3:62-65
'56. (MLBA 9:12)

1. Institut biologii Akademii nauk Turkmenskoy SSR.
(Zapadny Usboy Valley--Aquatic plants)

KOGAN, Sh.I.

Interesting species of algae from the Turkmen S.S.R. Bot.mst.
Otd.spor.rast. 11:33-35 Ja '56. (MLRA 9:11)
(Turkmenistan--Algae)

Kogani, Sh. I.
~~KOGAN, Sh. I.~~

Filling up of the Kara-Kum Canal with aquatic vegetation. Inv. AN
Turk. SSR no. 6:36-42 '57. (MIRA 11:1)

1. Institut zoologii i parazitologii AN Turkmenskoy SSR.
(Kara-Kum Canal--Fresh-water flora)

KOGAN, Sh. I.

USSR/Soil Science - Physical and Chemical Properties of Soils. J

Abs Jour : Ref Zhur Biol., No 22, 1958, 100012

Author : Palatskaya, L.N., Lavrov, A.P., Kogan, Sh.I.

Inst : -

Title : The Problem of Porous Takyr Crust Formations.

Orig Pub : Pochvovedeniye, 1958, No 3, 34-41

Abstract : Experimental investigations by the authors in the University of Biology in TurkmenSSR indicated that the formation of pores in takyr crusts takes place as a result of physico-chemical processes occurring in a viscous medium of a carbonated background at contrasting temperature conditions peculiar to deserts. Porosity of the takyr crusts is caused by CO₂ liberated during the decomposition of the Ca and Na hydrocarbonates in the process of crust desiccation when the soil solution is being heated. A preliminary decomposition of the hydrocarbonates by prolonged boiling of the water

Card 1/2

Instit. Biology AS Turkmen SSR
- 24 -

USSR/Soil Science - Physical and Chemical Properties of Soils. J

Abs Jour : Ref Zhur Biol., No 22, 1958, 100012

suspension and removal of generated CO_2 , pore formations are not noticed. Carbon dioxide of a biological origin in the formation of takyrs-crust porosities plays a subordinate role on account of the general suppression of biological processes in takyrs. -- V.N. Sukhareva

Card 2/2

KOGAN, Sh.I.

Data on algae in lakes of the southern Usboy. Izv. AN Turk.
SSR, no.1:81-87 '59. (MIRA 12:5)

1. Institut zoologii i parazitologii AN Turkmenskoy SSR.
(Usboy--Algae)

KOGAN, Sh.I.; MISHCHENKO, A.S.

Lakes in the Kara Kum. Izv. AN Turk. SSR. no.5:86-89 '59.
(MIRA 13:3)

1. Institut zoologii i parazitologii AN Turkmenskoy SSR.
(Kara Kum--Lakes)

KOGAN, Sholom Iosifovich; KOSHKALDA, Viktor Andreyevich; TASHLIYEVA,
A.O., kand. biolog. nauk, red.; AVAGIMOVA, S.G., red. izd-va;
KASPAR'YANTS, L.T., tekhn. red.

[Lakes of the Turkmen S.S.R.; a popular scientific study] Oзера
Turkmeniskoi SSR; nauchno-populiarnyi ocherk. Pod red. A.O.Tash-
lieva. Ashkhabad, Izd-vo Akad. nauk Turkmeniskoi SSR, 1960. 83 p.
(MIRA 15:1)

(Turkmenistan--Lakes)

KOGAN, Sh.I.

Formation of phytoplankton in bodies of water connected with the
Kara Kum Canal. Izv. AN Turk. SSR. Ser. biol.nauk no.2:3-12 '61.
(MIRA 14:7)

1. Institut zoologii i parazitologii AN Turkmenskoy SSR i Institut
botaniki AN Turkmenskoy SSR.
(KARA KUM CANAL—PHYTOPLANKTON)

KOGAN, Sh.I.

Phytoplankton in Tedzhen Reservoir. Trudy Murg.gidrobiol.sta.
no.4:97-110 '58. (MIRA 15:8)
(Tedzhen Reservoir--Phytoplankton)

KOGAN, Sh.I.

Algae in the bodies of water of the Murgab Basin. Trudy Murg.
gidrobiol.sta. no.4:169-170 '58. (MIRA 15:8)
(Murgab Valley--Algae)

KOCAN, Sh.I.

Phytoplankton of Murgab reservoirs. Trudy Murg.gidrobiol.sta
no.4:171-182 '58. (MIRA 15:8)
(Tashkepri Reservoir--Phytoplankton)
(Hindu Kush Reservoir--Phytoplankton)

KOGAN, Sh.I.

Vegetation in the bodies of water of the Turkmen S. S. R.
Trudy Inst. bot. AN Turk. SSR 7:81-102 '62. (MIRA 17:3)

KOGAN, Sh.I.

New blue-green algae from the Turkmen S.S.R. Bot. mat. Otd.
spor. rast. 15:12-14 Ja '62. (MIRA 15:10)
(Turkmenistan—Algae)

KOZAN, Sh.I.

New diatoms from the salt lakes of western Uzboy (Turkmen S.S.R.).
Bot. mat. Otd. spor. rast. 15:35-37 Ja '62. (MIRA 15:10)
(Uzboy—Diatoms)

KOGAN, Sh.I., otv. red.; KUZ'MENKO, A.I., red.izd-va; IVONT'YEVA,
G.A., tekhn. red.

[Materials on the hydrochemistry and hydrobiology of
the bodies of water of the Turkmen S.S.R.] Materialy po
gidrokhimii i gidrobiologii vodoemov TSSR. Ashkhabad,
Turkenskoe izd-vo 1963. 161 p. (MIRA 17:3)

1. Akademiya nauk Turkmenskoy SSR, Ashkhabad. Institut
zoologii i parazitologii.

KOGAN, Sh.I.

Overgrowth of the Karakum Canal. Trudy Gidrobiol. ~~sh. 14~~
14:176-183. '63.

Algae in reservoirs of the Turkmen S.S.R. Ibid.:184-200
(MIRA 17:6)

1. Institut botaniki AN Turkmenskoy SSR, Ashkhabad.

SWO(1)/SMT(1)PS(v)-3/B'G(v) DD

AP5017087

05 1965 15 15 001 100401009

AUTHOR: Kogan, Sh. I.; Kanoda, N. N.

38
39
B

TITLE: First congress of the All-Union Hydrobiological Society

SOURCE: AN TurkmSSR. Izvestiya. Seriya biologicheskikh nauk, no. 3, 1965, 90-93

TOPIC TAGS: biology, bionics, biologic ecology

ABSTRACT The All-Union Hydrobiological Society of the USSR Academy of Sciences was organized in 1947 but did not hold its first congress until February 1965. More than a thousand persons attended this meeting and over half of them presented papers. The congress convened 7 plenary sessions and 13 symposiums on: (1) biological structure of seas and oceans, biological resources of the seas and methods of exploiting them; (2) sanitary hydrobiology, water supply, and prevention of water pollution; (3) general principles of lake and pond management; (4) population dynamics of aquatic and fishier organisms and bionics; (5) hydrobiological aspects of rivers and lakes; (6) water with regulated flow in relation to water management; (7) legal and physiological aspects of hydrobiology; (8) reconstruction of the fauna and flora of USSR bodies of water; (9) engineering hydrobiology and bionics; (10) problems in

Card 1/2

1986-05

ACCESSION NR: AP5017087

water toxicology; (10) primary production and production of aquatic animals; (11)
pathology of aquatic organisms; (12) bionomics; (13) significance as
group of fishes (vertebrates) (14) ecology; (15) fish and fiddler value
1986

ASSOCIATION: Institut botaniki AN Turkmensoy (The Institute of Botany, AN Turkmen
SSR)

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KOGAN S. Kh.
RADIO
ELECTRONICS

DECEASED

1964

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100 AND 11000101

CA KOGAN S.L. 7

Processes and Properties Area

Spectroscopic determination of carbon monoxide.
B. I. Kogan and A. V. Pankov. *Zhurnal Fiz. Khim.* 1960, 34, 2787-2790. Nikolai's microthermal does not give trustworthy results. H. C. A.

ASB-31A 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	100
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KOGAN, S. L.

"The Effect of Electric Trauma on the Eye." Sub 8 Jul 47, Central Inst
for the Advanced Training of Physicians

Dissertations presented for degrees in science and engineering in Moscow
in 1947

SO: Sum No. 457, 18 Apr 55

"APPROVED FOR RELEASE: 09/18/2001

CIA-RDP86-00513R000723610020-0

APPROVED FOR RELEASE: 09/18/2001

CIA-RDP86-00513R000723610020-0"

KOGAN, S. H.

Ampule-Holder For Blood Transfusion. Voenno-Meditsinskiy Zhurnal, No 1, p74,
1955.

VISHNEVETSKIY, I. M., KOGAN, S. M.

"Modernization of the Equipment at the GSPZ imeni Kaganovich", Stanki i Instrument,
10, No. 8, 1939, Engineer.

Report U-1505, 4 Oct 1951

KOON, S. M.

"On the turning width and progressional speed of corn harvesting and threshing machines." Tr. from the Russian. p. 129. "Application of hard metal chipping tools in working tempered steel pieces." Tr. from the German. p. 135. (OET, Vol. 5, no. 3, Mar. 1953. Budapest.)

SO: Monthly List of East European Accessions, Vol. 2, #8, Library of Congress August, 1953, Uncl.

KOGAN, S. M.

Combines (agricultural machinery)

Swath width and moving speed of grain combines Sel'khoz mashina No. 9, 1952.

9. Monthly List of Russian Accessions, Library of Congress, December 1952, Uncl.
2

Handwritten: KOGAN J. 177
CA

Microfilm text: ... methods for vitamin A. I. Methylene blue as color standard in the Carr-Price reaction. E. V. Lindqvist, H. Nyman and S. M. Kagan. *Proc. Int. Vitamin Research U. S. S. R. 5; No. 1, 153-6(1941).*— Methylene blue offers a reliable color standard for Carr-Price assays of samples containing vitamin A and carotene. The violet tint given by samples rich in carotene can best be matched by adding a drop of 1% Co. nitrate soln. The corresponding fractions from buten and cod liver oil were compared against this standard with good results. A note is appended, expressed in blue Lovibond units from I. F. Smith, corresponding to increasing amounts of methylene blue.

Number: 17

ASB:LA METALURGICAL LITERATURE CLASSIFICATION

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USACHEV, A.A.; KOGAN, S.M.

Improve the quality of bristles obtained in leather manufacturing.
Kosh.-obuv. prom. no.8:28-30 Ag '59. (MIRA 13:1)
(Bristles)

KOGAN, S.M., red.; UMANSKIY, P.A., tekhn.red.

[Traffic regulations in cities and on roads of the Uzbek S.S.R.]
Pravila dvizhenia po ulitsam gorodov i dorogam Uzbekskoi SSR.
Utverzhdeny postanovleniem Soveta Ministrov Uzbekskoi SSR no.784
ot 16 dekabria 1957 g. Vvedeny v deistvie s 1 ianvaria 1958 g.
Tashkent, Gos.izd-vo Uzbekskoi SSR, 1958. 93 p. (MIRA 13:2)
(Uzbekistan--Traffic regulations)

BERLINER, Boris Isayevich, professor; KOGAN, S.M., redaktor; PINKHASOV, Ya.,
tekhnicheskii redaktor.

[Study on the history and development of surgical services for the
population of Uzbekistan] Ocherk istorii i rasvitiia khirurgicheskoi
pomoshchi naseleniiu Uzbekskoi SSR. Tashkent, Gos.izd-vo Uzbekskoi
SSR, 1956. 90 p. (MIRA 10:4)
(Uzbekistan--Surgery--History)

16(1)

PHASE I BOOK EXPLOITATION

SOV/2061

Baranenkov, G. S., Boris Pavlovich . Demidovich, Y. A. Yefimenko, S. M.
Kogan, G. L. Lunts, Ye. F. Porshneva, Ye. P. Sycheva, S. V. Frolov, R. Ya.
Shostak, and A. R. Yanpol'skiy

Zadachi i uprazhneniya po matematicheskomu analizu dlya vtuzov (Problems
and Exercises in Mathematical Analysis for Vtuzes) Moscow, Fizmatgiz,
1959. 472 p. 40,000 copies printed.

Ed. (Title page): Boris Pavlovich Demidovich; Tech. Ed.: K. F. Brudno;
Ed. (Inside book): N. A. Ugarova.

PURPOSE: This book is approved by the USSR Ministry of Higher Education as
a textbook for students of vtuzes, especially correspondence students and
evening students specializing in mechanical engineering. It may also be
used for independent study.

~~Card 1/10~~

Problems and Exercises in Mathematical (Cont.)

SOV/2061

COVERAGE: The book is a collection of 3193 problems on higher mathematics (excluding analytic geometry) arranged in systematic order for vtuzes. At the beginning of each chapter a short theoretical introduction, necessary formulas, and solutions of more important typical problems are given. Answers are given for all problems, and for the more complicated ones hints and drawings are provided, making the book more useful to correspondence students. The authors give special attention to the more important parts of the subject, such as, calculation of limits, differentiation and integration technique, construction of graphs, application of differential and integral calculus, series, and solution of differential equations. Chapters covering these subjects, therefore contain more problems than the others. The authors thank Docent S. N. Kuz'min, Docent Ye.A. Lubny-Gertsyk, instructors N. V. Sakharov, G. V. Tolstova, and L. Z. Yudelevich, Professor A. P. Yushkevich, Docent I. N. Bronshteyn, Ye. A. Soboleva, the Moskovskiy energeticheskiy institut (Moscow Institute of Energetics) Vsesoyuznyy zaachnyy inzhenerno-stroitel'nyy insitut (All-Union Civil Engineering Correspondence Institute), Docent R. S. Guter, and N. A. Ugarova, editor of Fizmatgiz, for help in preparing the book. There are no references.

Card ~~27~~10

BARANENKOV, G.S.; DEMIDOVICH, B.P.; YEFIMENKO, V.A.; KOGAN, S.M.; LUNTS,
G.L.; PORSHNEVA, Ye.F.; SYCHEVA, Ye.P.; FROLOV, S.V.; SHOSTAK,
R.Ya.; YANPOL'SKIY, A.R.; UGAROVA, N.A., red.; SMOLYANSKIY, M.L.,
red.; BRUDNO, K.F., tekhn. red.

[Problems and exercises in mathematical analysis for schools of
higher education] Zadachi i uprachenia po matematicheskomu ana-
lizu dlia vtuzov. Izd.2., ispr. Moskva, Gos. izd-vo fiziko-
matem. lit-ry, 1961. 472 p. (MIRA 14:8)
(Mathematical analysis—Problems, exercises, etc.)

KOGAN, S.M., kand.med.nauk (Chita, Profsoyuznaya ul., d.32, kv.10)

Cystic degeneration of the menisci of the knee joint. Ortop.
travm.i protez. 22 no.1:29-31 Ja '61. (MIRA 14:5)
(KNEE--DISEASES)

DETENCOF, Fedor Fedorovich, prof.; KOGAN, S.M., red.; MURAKAYEVA, A.K.,
red.; UMANSKIY, P.A., tskhred.

[Psychoses and psychic changes in epidemic encephalitis;
clinical aspects and course] Psikhozy i psikhicheskie izme-
nenia pri epidemicheskoi entsefalite; klinika i techenie.
Tashkent, Gos.izd-vo Uzbekskoi SSR, 1960. 326 p.

(MIRA 14:2)

(ENCEPHALITIS)

(MENTAL ILLNESS)

KOGAN, S. M.; SHAVRUK, A. D.

Experience in the use of pectolytic fermentation preparations.
Spir. prom. 28 no.8:34-35 '62. (MIRA 16:1)

1. Bobruyskiy soko-morsovyy zavod.

(Fermentation)

LEVENSON, L.I.; KOGAN, S.M., redaktor; DEMIDOVA, L.F., tekhnicheskiy
redaktor

[The experience of innovators in the "Tashtekstil'mash" plant]
Opyt novatorov zavoda "Tashtekstil'mash." Tashkent, Gos. ind-vo
Usbek SSR, 1954. 28 p. (MLRA 9:10)
(Tashkent--Textile machinery)

MEHAMED, G.I.; KOGAN, S.M., redaktor; RAKHMATULLIN, F., tekhnicheskii redaktor

[Rapid technological preparation of machine shops for production]
Skorostnaia tekhnologicheskaiia podgotovka proizvodstva mekhanobra-
tyvaiushchikh tsakhov. Tashkent, Gos. izd-vo Uzbekskoi SSR, 1955.
82 p. (MLRA 9:10)

(Machine-shop practice)

KOGAN, S.M., redaktor; DEMIDOVA, L.F., tekhnicheskiiy redaktor

[Skin casting; practices of the "Tashsel'mesh" and Tashkent
excavator plants] Korkevoe lit'e; is opyta zavoda "Tashsel'mesh"
i Tashkentskogo ekskavatornogo zavoda. Tashkent, Gos.izd-vo
Uzbekskoi SSR, 1956. 42 p. (MIRA 10:7)
(Founding)

FUKLEV, Valentin Andreyevich; KOGAN, S.M., redaktor; RAKHMATULLIN, F.,
tekhnicheskiy redaktor

[Oxygen blasting of white cast iron in the forehearth of a cupola
furnace; practice of the "Tashsel'mash" and "Usbeksel'mash" plants]
Produvka belogo chuguna kislородом v kopil'nike vgranki; iz opyta
savoda "Tashsel'mash" i "Usbeksel'mash". Tashkent, Gos. izd-vo
Usbejskoi SSR, 1956. 54 p. (MIRA 10:6)
(Cast iron--Metallurgy) (Cupola furnaces)

LEVENSON, Leon Ikhil'yevich; KOGAN, S.M., redaktor; DEMIDOVA, L.F.,
tehnicheskikh redaktor

[Raising the technological level of machine construction; the practice
of the "Tashtekstil'mash" plant] Povyshenie tekhnologichnosti kon-
struktsii; iz opyta zavoda "Tashtekstil'mash." Tashkent, Gos. izd-vo
Usbekskoi SSR, 1956. 26 p. (MIRA 10:1)
(Machinery industry)

KOGAN, S.M.

GARTMAN, V.A.; GRYAZEV, A.T.; KIRILLOV, G.A.; KOGAN, S.M., redaktor;
RAKHMATULLIN, F., tekhnicheskiy redaktor

[Centralized drying and cleaning of raw cotton at procurement
stations] Opyt tsentralizovannoi sushki i ochistki khlopke-
syrtsa na sagotovitel'nykh punktakh. Tashkent, Gos.izd-vo
UzSSR, 1956. 39 p. (MLBA 10:6)
(Cotton)

ZIMENKO, V.; KIRILENKO, V.; KOGAN, S.M., red.; BAKHTIYAROV, A., tekhn.red.

[Margelan silk] Margelanskii shelk. Tashkent, Gos.izd-vo UzSSR,
1959. 53 p. (MIRA 13:4)
(Margelan--Silk manufacture)

ASKAROV, M.A.; KOGAN, S.M., red.; RAKHTIYAROV, A.B., tekhnred.

[Polymer materials] Polimernye materialy. Tashkent, Gos.
izd-vo Uzbekskoi SSR, 1959. 70 p.

(MIRA 14:2)

(Polymers)

TSITOVICH, Aleksandr L'vovich; KOGAN, S.M., red.; MEL'NIKOV, A.,
tekhred.

[Soil materials used in mass construction in Uzbekistan]
Gruntomaterialy v massovom stroitel'stve Uzbekistana. Tashkent,
Gos.izd-vo Uzbekskoi SSR, 1959. 63 p.

(MIRA 14:3)

(Uzbekistan--Building materials)

SHISTER, Grigoriy Aronovich; KOGAN, Semen Mikhaylovich; BERESHCHUK, N.,
red.; BAKHTIYAROV, A., tekhn. red.

[There is something to learn here] Zdes' est' chemu uchit'sia.
Tashkent, Gos. izd-vo Uzbekakoi SSR, 1959. 128 p. (MIRA 14:10)
(Tashkent--Textile industry)

KOGAN, S.M.

Ways of widening the raw material sources for the bristle and
brush industry. Koah.-obuv.prom. 4 no.8:11-13 Ag '62.

(MIRA 15:8)

(Broom and brush industry)

(Fibers)

BEYDLER, P. Yu.; KCOAN, S.M.; POLAK, A.V.

Development and location of petroleum refining enterprises.
Neft.khoz. 41 no.8:1-5 Ag '63.

(MIRA 17:10)

ACCESSION NR: AP4034283

8/0207/64/000/002/0164/0166

AUTHORS: Ivanov, B. A. (Moscow); Kogarko, S. M. (Moscow)

TITLE: Investigation of the normal burning velocity and critical diameters for pure acetylene decomposition in vertical tubes

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 2, 1964, 164-166

TOPIC TAGS: decomposition flame, acetylene flame, flame surface, incomplete acetylene decomposition, flame propagation, critical diameter

ABSTRACT: The normal velocity U of acetylene decomposition flames in 50-mm diameter vertical tubes was determined using the measurement techniques previously employed by the authors (Normal'naya skorost' plameni raspada chistogo atsetilena. Dokl. AN SSSR, 1963, t. 150, no. 6). Values of U and apparent velocity V ($U=VS/A$ where S - tube cross sectional area; A - flame surface area) are plotted versus pressure (in atm). In the pressure range 2.5-5.0 atm the magnitudes of U are shown to be 2.5 times larger than those reported by G. A. Cummings, A. R. Hall, and A. M. Straker (Decomposition flames of acetylene and methyl acetylene, 8-th Sympos. (Intern), Combust., 1962, Baltimore, p. 503, 510). This difference may be

1/2

Card

Y 20762-66 EWT(m)/ETC(m)-6/T/EWP(f) NW/M/NE
 ACC NR. AP6011508 SOURCE CODE: UR/0414/65/000/004/0087/0087

AUTHOR: Ivanov, B. A. (Moscow); Kogarko, S. M. (Moscow)

ORG: none

TITLE: Concentration limits of flame propagation in acetylene-oxygen

SOURCE: Fizika gorennya i vzryva, no. 4, 1965, 84-87

TOPIC TAGS: flame propagation, combustion, acetylene, ignition limit, propulsion

ABSTRACT: Previous work had shown that at atmospheric pressure there is no upper concentration limit for flame propagation in acetylene mixtures with air and oxygen. This work deals with the experimental investigation of concentration limits of flame propagation in acetylene-oxygen mixtures in relation to pressure. The following experimental arrangement was used:

57
B

L 20768-66

ACC NR: AP6011508

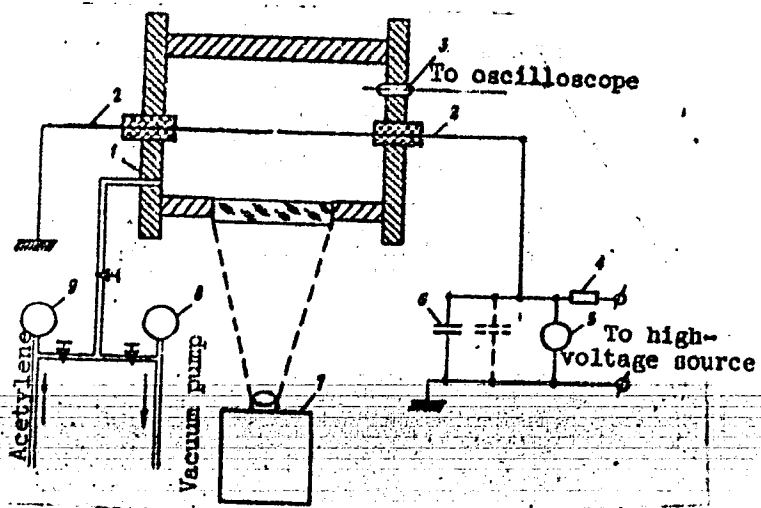


Fig. 1. Experimental arrangement

- 1 - Experimental vessel;
- 2 - ignition electrodes;
- 3 - ionization counter;
- 4 - resistance; 5 - electrostatic voltmeter;
- 6 - capacitors; 7 - photometer; 8 - vacuum gage;
- 9 - manometer.

Card 2/3

L 20768-66

ACC NR: AP6011508

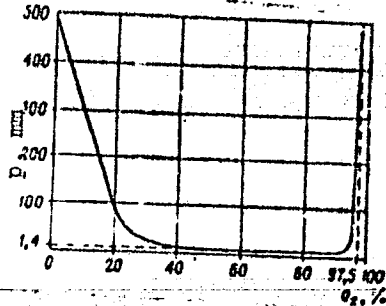


Fig. 2. The dependence of the limiting pressure of flame propagation on the composition of the acetylene-oxygen mixture. T₀ = 18C

It was found that acetylene-oxygen mixtures have a well-pronounced lower concentration limit. There is no upper concentration limit, since flame propagation is possible in pure acetylene up to a limiting initial pressure of 0.65 abs. atm. The value of the lower limit determined in this work coincides with that determined previously for atmospheric pressure. The dependence of the ignition energy on mixture composition and electrode gap are discussed. Orig. art. has: 4 figures and 1 table. [VS]

SUB CODE: 21/ SUBM DATE: 27May65/ ORIG REF: 001/ OTH REF: 002/ ATD PRESS: 4225

Card 3/3

UDC: 536.46

L 20611-66 ENT(m)/T/EWP(t) IJP(c) WW/JW/WE/JD

ACC NR: AP6010753

SOURCE CODE: UR/0076/66/040/003/0744/0746

AUTHOR: Basevich, V. Ya.; Kogarko, S. M.

ORG: Institute of Chemical Physics, Academy of Sciences SSSR (Institut Khimicheskoy Fiziki, Akademii nauk SSSR)

TITLE: Discharge tube as a source of atomic oxygen ^{11, 53} ₄₇ ^B

SOURCE: Zhurnal fizicheskoy khimii, v. 40, no. 3, 1966, 744-746

TOPIC TAGS: oxygen atom, oxygen, radical, combustion, propulsion

ABSTRACT: Until now, flow discharge tubes for generating atomic gases have been empirically developed to yield a maximum of atomic gas. In the present study, an equation describing the concentration profile in a glow discharge tube was solved to obtain an expression for the oxygen atom concentration as a function of tube length, oxygen concentration, power input, and diffusion coefficients. The results showed that the maximum concentration of oxygen atoms is obtained at an optimum length of the discharge tube. A further increase in the tube length increases only the electric power consumption, but does not increase the oxygen atom concentration. Orig. art. has: 8 formulas and 2 figures. [PV]

SUB CODE: 21/ SUBM DATE: 21Apr65/ ORIG REF: 901/ OTH REF: 005/ ATD PRESS: 4224

Card 1/1 *Jh*

UDC: 075.5

2

GUREVICH, Isaak Vladimirovich; KOGAN, S.M., red.; BAKHTIYAROV, A.,
tekhn. red.

[Traffic regulations and a collection of problems] Pravila
dvizhenia avtomobilei i sbornik zadach. Tashkent, Gos-
isdat UzSSR, 1962. 545 p. (MIRA 16:5)
(Traffic regulations)
(Automobile drivers--Education and training)

BARANENKOV, G.S.; DEMIDOVICH, B.P.; YEFIMENKO, V.A.; KOGAN, S.M.;
LUNTS, G.L.; PORSHNEVA, Ye.F.; SYCHEVA, Ye.P.; PROLOV,
S.V.; SHOSTAK, R.Ya.; YANPOL'SKIY, A.R.; BAYEVA, A.P., red.;
BRUDNO, K.F., tekhn. red.

[Problems and exercises in mathematical analysis] Zadachi i
uprazhnenia po matematicheskomu analizu dlia vtuzov. Pod
red. B.P.Demidovicha. Izd.4., ispr. Moskva, Fitmasgiz, 1963
472 p. (MIRA 16:10)
(Mathematical analysis—Problems, exercises, etc.)

NOGAN, S.M.

Degenerative lesions of the spine in Transbaikalia. Nauk. zap. klin. i Erasy. pat. no. 319002 165. (MIRA 18:10)

1. Iz Okruzhnogo voyenogo gospiatalya i Chitinskogo meditsinskogo instituta (rektor - dotsent Yu.M. Gorusov).

KOGAN, Sh.M.

Interaction of spin waves with vibrations of lattices. *Fiz.met.*
i metalloved. 3 no.1:180-182 '56. (MLBA 9:11)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
(Lattice theory) (Ferromagnetism)

67306

9.3150

~~9(3)~~

AUTHORS:

Bonch-Bruyevich, V. L., Kogan, Sh. M. SOV/181-1-8-11/32

TITLE:

On the Theory of the Electron Plasma in Semiconductors

PERIODICAL:

Fizika tverdogo tela, 1959, Vol 1, Nr 8, pp 1221 - 1224 (USSR)

ABSTRACT:

First, previous papers are briefly mentioned. Although the ansatz of the Schwinger equation offers no principal difficulties, its practical setup is more difficult than in the general case since in general interaction energy has to be considered not only in quantum averaging but also in statistical averaging. Therefore, the present paper is confined to an approximate problem. The vertex operator, the mass operator, and the polarization operator are expanded in series according to the coupling constant, however, in consideration of only the first non-vanishing terms. Knowledge of the "free" Green function

$G_{ss'}^{(0)}(x,y) = i \langle T \{ \psi_s(x) \bar{\psi}_{s'}(y) \} \rangle$ given by Fermi is sufficient for calculating D. The symbol $\langle \dots \rangle$ means averaging over the canonical assembly in the nondisturbed system; ψ and $\bar{\psi}$ denote the Fermi operators; x, y the points in four-dimensional space; s, s' the spin indices. For simplicity, the above formula is explicitly written down only for non-degenerate zones. An ✓

Card 1/2

S(4)

AUTHORS:

Vol'kenshteyn, F. P., Kogan, Sh. M.

SOV/62-59-9-5/40

TITLE:

Influence of the Illumination on the Adsorptive Capacity and Catalytic Activity of Semiconductors

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 9, pp 1536-1545 (USSR)

ABSTRACT:

The adsorptive capacity of a semiconductor is expressed by the number N of the molecules adsorbed with the gas on the surface under conditions of equilibrium. This number varies at irradiation with rays which may be absorbed by the adsorbent. The following studies in this field are quoted: Terenin (Refs 2,6), Myasnikov (Ref 5), Psheshetakiy (Ref 5), Solonitsyn (Refs 6,7), Kiselev, Krasil'nikov, Sysoyev (Ref 8). A variation of N can be determined by changing the pressure in the adsorption space when turning irradiation on and off. In this case photo-adsorption and photo-desorption may occur, irradiation, however, can also remain inactive. The conditions for the possible three reactions are mathematically developed by means of the electron theory of semiconductors. Adsorption and desorption may occur if light causes a chemical change of the adsorbent, an apparent

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SOV/62-59-9-5/40

Influence of the Illumination on the Adsorptive Capacity and Catalytic Activity of Semiconductors

chemical change, if light causes a change in the adsorbed molecule. The electron-theoretical investigation is carried out on the example of an acceptor gas and free lattice electrons. It was further assumed that adsorption is represented by solidly bound particles and desorption only by weakly bound particles. The adsorptive capacity "N" may be expressed by the probability " η " with which a particle is in a solidly bound state on the surface of the molecule. Irradiation causes a change in η . Photoadsorption occurs with an increase of η , desorption with a decrease of η (Fig 2). Value γ is introduced, which represents the change of η ; in the case of $\gamma > 1$ an adsorption, in case of $\gamma < 1$ a desorption occurs; when $\gamma = 1$, however, the surface remains inactive. Finally, γ is calculated as a function of the change of the free electrons and holes of the semiconductor surface lattice. This function is dependent on frequency and intensity of the irradiated light. V. Ye. Lashkarev (Ref 13), V. P. Zhuze, and S. M. Ryvkin (Ref 14) are mentioned. There are 3 figures and 21 references, 15 of which are Soviet.

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SOV/62-59-9-5/40
Influence of the Illumination on the Adsorptive Capacity and Catalytic
Activity of Semiconductors

ASSOCIATION: Institut fizicheskoy khimii Akademii nauk SSSR (Institute of
Physical Chemistry of the Academy of Sciences, USSR)

SUBMITTED: December 19, 1957

Card 3/3

5(3)

AUTHORS: Kogan, Sh. M., Sandomirskiy, V. B. SOV/62-59-9-33/40

TITLE: Chemisorption on Defects of Semiconductor Surfaces

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 9, pp 1681-1683 (USSR)

ABSTRACT: In the present paper a statistical calculation of the adsorption of atoms on defects of semiconductor surfaces is carried out. Defect centres are centres of adsorption for gases, and can localize a hole or an electron of the adsorbent. The special case of adsorption of acceptor gases on acceptor defects is investigated. For this, there are 4 possibilities: (1) There is neither an electron nor a gas molecule at the centre of defect, (2) the centre of defect is charged, the adsorbed molecule is missing, (3) both electron and molecule are adsorbed at the centre of defect, (4) a neutral molecule is adsorbed at the centre of defect, the electron is missing. The calculations of the concentrations of neutral (N_A^0) and charged defects (N_A^-), and neutral and charged adsorbed molecules (N^0 and N^-) were carried out by means of Gibbs' partition function for a system of a variable number of

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Chemisorption on Defects of Semiconductor Surfaces

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particles. Furthermore, the dependence is investigated of the probability of adsorption (N) on F_s , the Fermi potential of the surface at a given chemical potential μ for a defined temperature T and an assumed concentration of defects N_A . From this it is seen, that if $(f^- - f^0)$ (f^- - free energy/centre of defect with charged molecule, f^0 - free energy/centre of defect with neutral molecule), an expression determining the electron level of a charged adsorbed molecule, is smaller than f_A^- (free energy/charged defect) the gas remains an ordinary acceptor gas, if f_A^- is larger, however, the gas behaves like a donor. Thus an acceptor gas at an acceptor defect may react like a donor gas. A specified acceptor or donor level cannot be produced by the molecules adhering to the surface.

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This case is interpreted by means of the anomalous change in the work function in adsorption of oxygen to germanium. The probability of adsorption of an acceptor gas increases with increasing concentration of acceptor impurities in the catalyst. There are 7 references, 5 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova fizicheskoy fakul'tet (Moscow State University imeni M. V. Lomonosov, Department of Physics). Institut fizicheskoy khimii Akademii nauk SSSR (Institute of Physical Chemistry of the Academy of Sciences, USSR)

SUBMITTED: March 3, 1959

Card 3/3

5(4)

SOV/76-33-1-26/45

AUTHOR:

Kogan, Sh. M.

TITLE:

The Statistics of Adsorbed Particles in the Electronic Theory of Chemisorption (Statistika adsorbirovannykh chastits v elektronnoy teorii khemosorbtsii)

PERIODICAL:

Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 1, pp 156 - 160 (USSR)

ABSTRACT:

The electronic theory shows (Refs 1-4) that chemisorbed particles of the same type can be bound to the surface by various bonds. F. F. Vol'kenshteyn (Ref 5) mentions three binding types η^0 , η^+ and η^- , i.e. a "weak", a "strong" acceptor, and a "strong" donor bond. A successive statistical calculation of the absolute concentrations N^0 , N^+ , and N^- has so far not been mentioned in publications. In the paper under review the absolute and relative concentrations of the adsorbed particles (molecules, atoms) with various types of binding to the crystal surface (with a varying number of particles) were calculated by the Gibbs method. The calculation was carried out according to the electronic theory of chemisorption. An energetically homogeneous surface

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The Statistics of Adsorbed Particles in the Electronic
Theory of Chemisorption

SOV/76-33-1-26/45

is assumed, i.e. with adsorption centers of the same type. Following the statistical calculation a comparison with earlier results (Ref 6) was carried out and three individual cases were explained. To determine the surface charge the electrostatic potential ψ_s of the equation (19) is calculated by Poisson's equation. The calculation scheme described can be used analogously for solving other statistical tasks of the electronic theory of chemisorption, in addition to the case mentioned above of adsorption centers of the same type with three bonds. There are 10 references, 9 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: July 4, 1957

Card 2/2

5(4)

AUTHORS:

Kogan, Sh. M ., Sandomirskiy, V. B. (Moscow)

SOV/76-33-5-26/33

TITLE:

The Adsorption Heat in the Electronic Theory of Chemisorption
(Teplota adsorbtsii v elektronnoy teorii khemosorbtsii)

PERIODICAL:

Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 5,
pp 1129 - 1133 (USSR)

ABSTRACT:

The dependence of the adsorption heat on the surface potential (or occupation of the surface) of a semiconductor adsorbent is investigated. The value q mathematically derived is the mean value of the differential adsorption heats of the various adsorption centers and charge states of the adsorbed molecules. Moreover, the energy of the electron level of the adsorbed molecule is deduced and it is pointed out that the adsorption heat of a charged particle equals the sum of the adsorption heat of the neutral adsorbed particles and the energy of the electron level as calculated from the Fermi level. The investigation of an energetically inhomogeneous surface with slight occupation of the centers shows that the differential adsorption heat decreases with in-

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The Adsorption Heat in the Electronic Theory of
Chemisorption

SOV/76-33-5-26/33

creasing occupation. There are 2 figures and 7 references,
5 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov), Akademiya
nauk SSSR Institut fizicheskoy khimii Moskva (Academy of
Sciences of the USSR Institute of Physical Chemistry, Moscow)

SUBMITTED: November 11, 1957

Card 2/2

5 (4)

AUTHORS:

Sandomirskiy, V. B., Kogan, Sh. M.

SOV/76-33-8-6/39

TITLE:

On the Calculation of the Adsorption Isotherms in the Electronic Theory of Chemosorption

PERIODICAL:

Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 8, pp 1709-1714 (USSR)

ABSTRACT:

In a previous paper (Ref 1) several expressions for the concentration of neutral and charged adsorbed particles were obtained on the basis of statistical considerations. In the present case a pattern for calculating the adsorption isotherms (AI) within the framework of the electronic theory is suggested. A number of concrete cases serve as an illustration. The adsorption (A) of an acceptor gas at the surface of the plane-parallel lamina of a semiconductor (S) is observed, and the following factors are assumed: 1) The thickness of (S) is much greater than the Debye line of the shield. 2) The (A) at the (S) surface is heterogeneous, i.e. there are different kinds of (A) centers, the electrons, however, being bound in no other way than by the (A). 3) The completion of the various (A) centers is slight ("narrow" heterogeneity). Considerations start with the case in which the adsorbed molecules do not dissociate. Then some specific cases are discussed which correspond to different Fermi levels. For the

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On the Calculation of the Adsorption Isotherms in the Electronic Theory of Chemosorption SOV/76-33-8-6/39

case of a heterogeneous surface without non-adsorbed electron levels, a general expression of (AI) in the coordinates p and N/p (p = pressure in the gaseous phase, N = number of (A) centers) for nondegenerated (S) with a random distribution of energetic levels in (S) was obtained. From this general form of (AI) the corresponding expressions for the above-mentioned individual cases are obtained, the (AI) being of the Henry, Freundlich type and logarithmic (AI). It was found that there is no specific connection between the (S) type and the form of (AI). It is shown that in the calculation of (AI) in the electronic theory of chemisorption the remote effect of the Coulomb interaction between the adsorbed particles is automatically taken into account. There are 7 figures and 4 references, 3 of which are Soviet.

ASSOCIATION: Akademiya nauk SSSR, Institut fizicheskoy khimii, Moskva (Academy of Sciences of the USSR, Institute of Physical Chemistry, Moscow).
Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

Card 2/3

24(5)

SOV/20-126-3-24/69

AUTHOR:

Kogan, Sh. M.

TITLE:

On the Quantum Temperature Functions of Green (0 temperaturnykh kvantovykh funktsiyakh Grina)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 3, pp 546 - 549 (USSR)

ABSTRACT:

The usability of Green's quantum functions when applied to the many-body problem was demonstrated by a number of papers (Refs 2-11). For quasi-closed systems of Fermi particles with electromagnetic interaction they are of considerable importance. Green's single-particle function given in formula (1) is described as temperature function. It differs from the usually used (vacuum) function, but goes over into the latter with $T \rightarrow 0$. The Fourier form of Green's function is written down in space coordinates, and the latter are then put into a shape that makes it possible to deduce a relation between it and the spectrum of quasi-particles. It is shown that the decrease of the Green function has exponential character. In order to obtain the equation of motion of a system of Fermi particles with electromagnetic interaction by using Green's temperature function, equation (6) is used as a basis. Two Green's functions are

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On the Quantum Temperature Functions of Green

SOV/20-126-3-24/69

obtained herefrom, which show the dependence on temperature. In conclusion, formula (14) is developed which, proceeding from the thermodynamical potential, connects the thermodynamical function with Green's function. The author finally thanks Academician N. N. Bogolyubov for the attention he devoted to this work. There are 21 references, 17 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

PRESENTED: February 16, 1959, by N. N. Bogolyubov, Academician

SUBMITTED: February 2, 1959

Card 2/2

5(4)

AUTHORS:

Kogan, Sh. M., Sandomirskiy, V. B.

SOV/20-127-2-39/70

TITLE:

On the Electron Theory of Chemisorption on the Real Surface of a Semiconductor

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 2, pp 377-379 (USSR)

ABSTRACT:

On the basis of experimental data available, measurements of work function in adsorption (Refs 1-3) and measurement of the field effect (Ref 4), the following rules may be derived: (1) the measured occupations of the surface by adsorbed molecules, in which marked changes of the work function occur ($\sim kT$ at $T = 300^\circ K$), usually lie above $\sim 10^{13} \text{ cm}^{-2}$; (2) the dependence of the work function change on occupation is usually linear, sometimes logarithmic (Ref 3); (3) the maximum change of the work function mostly amounts to $\sim 0.3 \text{ eV}$ ($12kT$ at $T = 300^\circ K$). When assuming the whole change of the work function to be dependant on the surface charge in adsorption and a consequent curvature of the surface energy zones, it may be easily proven that the surface charge σ (expressed in electron charge units),

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Real Surface of a Semiconductor

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at which the change in the work function attains the measured value, amounts to about $10^9 - 10^{10} \text{ cm}^{-2}$. When computing the charge at which the curvature of energy zones attains 0.3 ev, one obtains for $\sigma \approx 10^{12} \text{ cm}^{-2}$. To clarify this contradiction, two assumptions are investigated: (1) the "idealized" surface, defined as a surface, in which all the electron states are caused by gas adsorption. This assumption presupposes that the levels of the adsorbed particles be permanently above the Fermi level. This is not very probable and is in contradiction with certain electronic concepts concerning catalysis. Therefore, there only remains the second assumption of the "real" surface, defined as a surface exhibiting a great number of states which are not caused by gas adsorption. The following is derived from the charge density (Equation 1) and equation (2) for the electric neutrality of the crystal: $du/dN^- = (S + dR/du)$ (3) (du = change of the work function, N^- = concentration of the charged adsorbed molecules, $S = d\sigma/du$, R = space charge per surface unit). To evaluate a possible value of S the following is assumed as the simplest model of a surface energy spectrum: the states independent of adsorption N_s are uniformly distributed

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On the Electron Theory of Chemosorption on the
Real Surface of a Semiconductor

SOV/20-127-2-39/70

over the width E_G of the forbidden zone, the Fermi level lies at a distance from the boundaries of the forbidden zone, which is great in comparison to kT . Under the assumption $S = N_S kT/E_G \gg dR/du$ the following is derived by integration of equation (3): $S \Delta u = N^+$, viz a linear dependence of the change of the work function on occupation, in conformity with experimental data. The value of S may be evaluated therefrom. By utilizing the experimental data per reference 3 one obtains $S \approx 10^{11} - 10^{13} \text{ cm}^{-2}$ and $N_S \approx 10^{13} - 10^{15} \text{ cm}^{-2}$. The authors

thank S. Z. Roginskiy, Corresponding Member AS USSR, and F. P. Vol'kenshteyn, Doctor of Physical and Mathematical Sciences, and all those attending the seminar of the catalysis laboratory of the Institute of Physical Chemistry of the AS USSR for discussion of the results obtained. There are 7 references, 5 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

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On the Electron Theory of Chemisorption on the
Real Surface of a Semiconductor

SOV/20-127-2-39/70

Institut fizicheskoy khimii Akademii nauk SSSR
(Institute of Physical Chemistry of the Academy of Sciences,
USSR)

PRESENTED: March 16, 1959, by V. I. Spitsyn, Academician

SUBMITTED: March 10, 1959

Card 4/4

KOGAN, Sh. M., Cand Phys-Math Sci -- (diss) "Statistical problems of the electronic theory of chemisorption in semiconductors." Moscow, 1960. 8 pp; (Moscow Order of Lenin and Order of Labor Red Banner State Univ im M. V. Lomonosov, Physics Faculty); number of copies not given; price not given; (KL, 22-60, 130)

KOGAN, Sh. M.

PHASE I BOOK EXPLOITATION

SOV/3921

Akademiya nauk SSSR. Institut fizicheskoy khimii

Problemy kinetiki i kataliza. [t] 10: Fizika i fiziko-khimiya kataliza. (Problems of Kinetics and Catalysis. [vol.] 10: Physics and Physico-Chemistry of Catalysis) Moscow, Izd-vo AN SSSR, 1960. 461 p. Errata slip inserted. 2,600 copies printed.

Eds.: S.Z. Roginskiy, Corresponding Member of the Academy of Sciences USSR, and O.V. Krylov, Candidate of Chemistry; Ed. of Publishing House: A.L. Bankvitsner; Tech. Ed.: G.A. Astaf'yeva.

PURPOSE: This collection of articles is addressed to physicists and chemists and to the community of scientists in general interested in recent research on the physics and physical chemistry of catalysis.

COVERAGE: The articles in this collection were read at the conference on the Physics and Physical Chemistry of Catalysis organized by the Otdel khimicheskikh nauk AN SSSR (Section of Chemical Sciences, Academy of Sciences USSR) and by

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Problems of Kinetics and Catalysis (Cont.)

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the Academic Council on the problem of "the scientific bases for the selection of catalysts." The Conference was held at the Institut fizicheskoy khimii AN SSSR (Institute of Physical Chemistry, of the AN USSR) in Moscow, March 20-23, 1958. Of the great volume of material presented at the conference, only papers not published elsewhere were included in this collection. The conference decided not to publish the discussion material. Papers by the following authors were excluded and replaced by a brief author's abstract: F.F. Vol'kenshteyn, "Surface Charge of a Semiconductor During Adsorption", M.M. Kogan and V.B. Sandomirskiy, two papers; Sh.M. Kogan, "Statistics of Adsorbed Particles in the Electron Theory of Chemisorption"; F.F. Vol'kenshteyn and Sh. M. Kogan; F.F. Vol'kenshteyn and V.B. Sandomirskiy; G.A. Korsunovskiy; A.M. Rubinshteyn, V.M. Akinov and A.A. Slinkin; L.Kh. Freydlin; V.N. Filimonov and D.S. Bystrov. The following two papers do not appear in any form in this collection because the authors did not forward the abstracts requested: M.I. Tsukin, E.I. Taybina and A.I. Gel'bshteyn, "Kinetics of Catalysis of the Vapor Phase Hydration of Acetylene by Electron Vapor Acceptors"; A.A. Babushkin, "Spectroscopic Investigation of the Structure of the Molecular Compounds of Boron Trifluoride With Nitrogen and Oxygen-Containing Molecules". Addresses to the conference by E. Kh. Yanikayev; and Ya.B. Gorokhovatskiy, are included in the form of brief communications. They cover the results of recent experimental research which could not be considered discussion material. A number of papers and communications,

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