

L 2733-66 EWT(m)/EWP(t)/EWP(b)/EWA(h) LJP(c) JD/JG
ACCESSION NR: AP5024333 UR/0367/65/002/002/0236/0238

AUTHOR: Balodis, M. K.; Prokof'yev, P. T.; Simonova, L. I.

TITLE: Conversion electrons emitted in the $Tu^{169} (n, \gamma) Tu^{170}$ reaction

22
21
19 B

SOURCE: Yadernaya fizika, v. 2, no. 2, 1965, 236-238

TOPIC TAGS: thulium, nuclear reaction, thermal neutron, ytterbium, conversion electron spectrum

ABSTRACT: The authors describe the spectrum of internal conversion electrons emitted during the capture of thermal neutrons in the $Tu^{169} (n, \gamma) Tu^{170}$ reaction. A β -spectrograph was used for studying the conversion electron spectrum with the target located in the tangential channel of the reactor where the neutron flux was $3 \cdot 10^{12}$ neutrons/cm²·sec. Measurement accuracy for strong lines was 20% and for weak lines--50%. A Tu_2O_3 target was used. The results are tabulated. It is found that the ground states of Tu^{169} and Yb^{171} are the $1/2^+$ [411] proton level and the $1/2^-$ [521] neutron level respectively. It is believed that the Tu^{170} ground state has the characteristic 1^- , while the characteristic of the low-lying excited state is 0^- . Ytterbium has a low-lying $5/2^-$ [512] neutron state, therefore 2^- and 3^- states are

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expected in the Tu^{170} nucleus. Each of these internal states is associated with a rotational band. The moment of inertia for this band can be calculated by taking account of the moments of inertia for the corresponding states in neighboring nuclei. If the 2.2^- level is sufficiently populated, there should be transitions from this level to the 1.1^- , 1.2^- and 1.3^- levels. These transitions were not observed which indicates either that the 2.2^- level is insufficiently populated or that the energy of the 1.2^- and 1.3^- levels does not comply with the assumptions made by the authors. Orig. art. has: 2 tables.

ASSOCIATION: Institut fiziki Akademii nauk Latvyskoy SSR (Institute of Physics, Academy of Sciences, Latvian SSR)

SUBMITTED: 15Mar65

ENCL: 00

SUB CODE: NP

NO REF SOV: 004 .

OTHER: 003

mlr
Card 2/2

BONDARENKO, V.A.; PROKOP'YEV, P.T.; SIMONOVA, L.I.

Analysis of the scheme of levels in Dy¹⁶⁵ based on the spectrum
of conversion electrons emitted in the capture of thermal neutrons.
Izv. AN SSSR. Ser. fiz. 29 no.12:2168-2172 D '65.

(MIRA 19:1)

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EWT(1)/EWT(m)/EWP(t)/ETI

IJF(c)

AT/JD/JB

SOURCE CODE: UR/0367/66/003/002/0193/0198

ACC NR: AF6017587

AUTHOR: Bondarenko, V. A.; Prokof'yev, P. T.; Simonova, L. I.

ORG: Institute of Physics, Academy of Sciences, Latvian SSR (Institut fiziki Akademii nauk Latviyskoy SSR)

TITLE: Spectra of internal conversion electrons in capture of thermal neutrons by gold

SOURCE: Yadernaya fizika, v. 3, no. 2, 1966, 193-198

TOPIC TAGS: gold, conversion electron spectrum, neutron capture, Beta spectroscopy, Gamma transition

ABSTRACT: The spectrum of conversion electrons emitted when thermal neutrons are captured by Au¹⁹⁷ nuclei was investigated with a β spectrograph, described by the authors earlier (Izv. AN SSSR, seriya fiz. v. 28, 262, 1964), with a resolution 0.15 - 0.3% in the energy interval 30 - 500 kev. The target was a gold foil 0.4 mg/cm² thick. Most of the spectral lines were identified with appreciable reliability by comparing the intensities of the γ rays and the conversion-electron lines. The reference lines chosen were the electronic lines ascribed to the strong γ transitions with 55.19, 168.26, 192.42, 214.89, 247.42, and 261.26 kev energy. Some difficulties arose in the identification of certain lines, making it necessary to check on the possible presence of lines from other isotopes. The results have shown that most strong transitions in the energy interval 55 - 300 kev have a multipolarity M1. A

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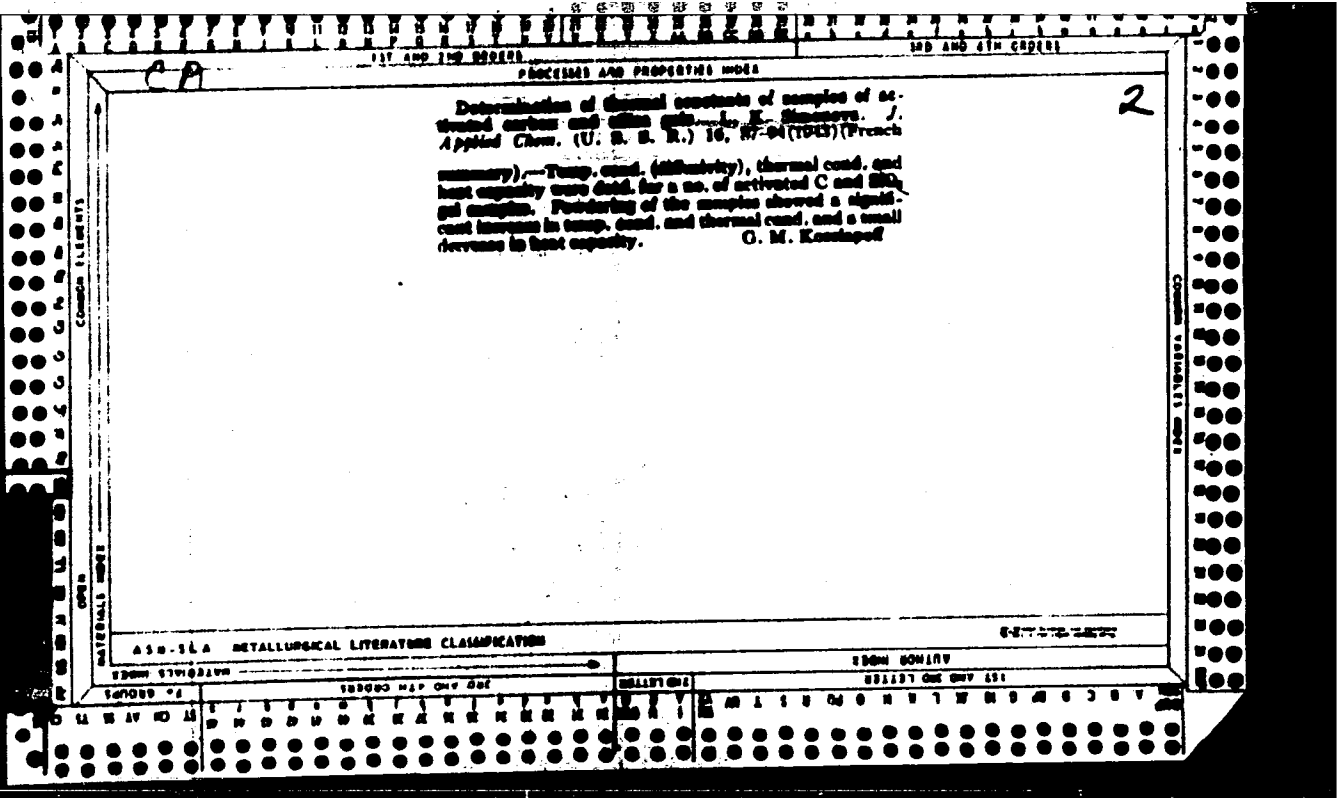
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table listing the conversion-electron and γ -transition energies, conversion coefficients, and multipole transitions in Au¹⁹⁸ is presented. The low-lying excited levels of Au¹⁹⁸ are discussed and according to the present data the first-excited level (55.19 keV above the ground state) is de-excited by a mixed type transition ($M1/E2 = 15 \pm 3$), the total transition intensity estimated at ~70%. The next three levels (192.42, 235.95, and 261.26 keV) have likewise transition intensities which appear to be excessively high (~120%). Orig. art. has: 1 table.

SUB CODE: 20/ SUBM DATE: 07Jun65/ ORIG REF: 004/ OTH REF: 001

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SIMONOVA, L.K.

26936. GRSEENSHCHIKO, V.I., SIMONOVA, L.K. Aleksandr yevgen'vich poray-koshits.
Khimik. 1877-1949. Nekrolog. Zhurnal prikl. Khimii, 1949. No 8 s 785-86,
s portr.

SO: Letopis'Zhurnal'nykh Statey, Vol. 36, 1949.

USSR/Chemistry-Amino Acids
Chemistry-Heterocyclic Compounds

Jan 49

"Vladimir Mikhaylovich Rodionov (on His Seventieth Birthday)," L. K. Simonova, 2 pp

"Zhur Priklad Khim" Vol XXII, No 1

Rodionov is one of Russia's outstanding organic chemists. Results of his research have been used widely in industry. He was awarded Stalin Prize of First Order for his method of synthesizing beta-amino acids, transforming them into various types of heterocyclic compounds.

FDB

49/49T21

CA

Aleksandr Evgen'evich Porol-Kochin. I. V. Greb-
enashchikov and L. K. Simonova. *Zhur. Priklad. Khim.*
(J. Applied Chem.) 22, 700-7 (1949). Obituary, with
portrait. G. M. Kosolapov

SIMONOVA, L. K.

USSR .

~~Preparation of palladium acetate. A. A. GIB-
berg and L. K. Simonova. *J. Appl. Chem. U.S.S.R.* 28,
801-3 (1953) (Eng. translation). — See *C.A.* 47, 11060g.
H. L. H. *HLH*~~

GRINBERG, A.A.; SIMONOVA, L.K.

Derivation of palladium acetylacetonate. Zhur.prikl.khim. 20 no.8:880-892
Ag '53. (MLA 6:8)

1. Leningradskiy tekhnologicheskii institut im. Lensoveta. 2. Leningradskiy
tekhnologicheskii institut im. Molotova. (Palladium organic compounds)

SIMONOVA, L. K.

USSR .

✓ New method for determining nitrogen in stable ammoni-
ates of platinum and cobalt. A. A. Grinberg and L. K.
Simonova. *J. Appl. Chem. U.S.S.R.* 78, 1009-19 (1958)
(English translation).—See *C.A.* 48, 8120f. H. L. H. 1

SIMONOVA, L. K.

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~~New method for determining nitrogen in stable ammoni-
ates of platinum and cobalt. A. A. Grinberg and L. K. Simo-
nova (Leningrad Technol. Inst., Leningrad). Zhur. Priklad.
Khim. 26, 1080-1 (1953). -Ammonia (and perhaps other
forms of combined N) in Pt and Co complexes can easily be
detd. by means of an illustrated app. in which the ammoniate~~

is mixed with a large excess of dil. FeSO₄ soln. and NaOH
added. The soln. is then distd. 45 min. into a known vol.
of standard H₂SO₄ soln. The complex is reduced to metal
and the liberated NH₃ is absorbed by the acid, the excess of
which is finally titrated. J. W. Lowberg, Jr.

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GRINBERG, A.A.; SIMONOVA, L.K.

On nitrogen determination in complex compounds. Zhur.prikl.khim.
30 no.1:160-162 Ja '57. (MLRA 10:5)

1.Kafedra obshchey i neorganicheskoy khimii Leningradskogo tekhnologicheskogo instituta im. Lensovetu i Kafedra neorganicheskoy i analiticheskoy khimii Leningradskogo tekhnicheskogo instituta im. V.M. Molotova.

(Nitrogen) (Complex compounds)

~~██████████~~, N.I.; SIMONOVA, L.K.

~~Nikolai Pavlovich Fedot'ev~~; on his 60th birthday. Zhur.prikl.khiz.
30 no.3:337-338 Mr '57. (MIRA 10:5)
(Fedot'ev, Nikolai Pavlovich, 1897--)

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307/80-32-10-1/51

AUTHORS: Simonova, L. K., Kurochkina, M. I.

TITLE: The VIII Mendeleev Conference on General and Applied Chemistry

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 10, pp 2129-2138 (USSR)

ABSTRACT: This conference was held March 16 to 23, 1959, in Moscow. The official delegates numbered 2,230, but some sessions were attended by as many as 11,000 people. More than 200 foreign chemists were present. Members of allied scientific disciplines also attended. Eleven papers were read at the plenary sessions and more than 1,500 at meetings of the 17 sections into which the conference was divided. The article lists the following Soviet personalities as presenting papers: Nesmeyanov, A. N., "D. I. Mendeleev's Periodic System and Organic Chemistry"; Spitsin, V. I., present status of D. I. Mendeleev's periodic law; Fedorov, V. S., scientific and technical progress in the chemical industry; Kargin, V. A., basic problems in

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polymer chemistry; Semenov, N. N., "Basic Problems in Chemical Kinetics"; Vinogradov, A. P., basic problems in radiochemistry; Sokolov, A. V., chemistry; Syrkin, Ya. K., present state of the theory of valence; Aleksandrov, A. P., chemical aspects of the utilization of atomic energy; Nikolayev, V. B., basic problems of construction of chemical apparatus and equipment; Kazarnovskiy, I. A. (Moscow), mechanism of reactions of peroxide formation and their oxidizing effect; Makarov, S. Z. (Moscow), perhydrate forms of peroxides of group I and II metals; Vol'nov, I. I. (Moscow), Ca, Sr, and Ba peroxide compounds; Rode, T. V., Grishenkova, G. K., and Zachatskaya, A. V. (Moscow), reaction of sodium peroxide and superoxide with sodium carbonate and hydroxide; Lepeshkov, I. N. (Moscow), new physicochemical analyses of natural salts and aqueous-salt equilibria by the Kurnakov, N. S., school; Vol'fkovich, S. I., Postnikov, N. N., Ionass, L. A., Illarionov, V. V., and Remen, R. Ye. (Moscow), new method of thorough defluorination of unenriched ores; Chernyayev, I. I., Nazarova, L. A., and Orlova, V. S. (Moscow), sulfates, nitrates, and carbonates of platinum iodopentamine; Grinberg, A. A. (Leningrad), kinetics of complex formation and stability of

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complexes; Zvyagintsev, O. Ye., Kurbanov, A., Starosti,
S. M. (Moscow), nitroso compounds of mercury; Ginzburg,
S. I., Pshenitsyn, N. K., Sal'skaya, L. G. (Moscow),
colored compounds of iridium; Shenderetskaya, Ye. V.,
Chernyayev, I. I. (Moscow), formates of monovalent rhodium;
Deychman, E. P. (Moscow), indium oxalate and its compounds
with oxalates of alkali metals; Lyutaya, M. D., Tananayev,
I. V. (Moscow), hexanitronickelates of rare earths; Sheka,
Z. A., Kriss, Ye. Ye., extraction of La, Nd, Y, and Yb ni-
trates from nitric acid solutions with solutions of di-
and tributyl phosphate in CCl_4 ; Arbuzov, A. Ye., presided
at one of the meetings of the agricultural chemistry section;
Arbuzov, B. A., reported on the work of the Kazan' Branch
of the AN SSSR on agricultural pesticides; Vol'fkovich, S. I.
(Moscow), research on concentrated complex fertilizers at
the Moscow State University; Chaylakhyan, M. Kh. (Moscow),
Gibberella as growth promoters; Kedrov-Zakhman, O. K.
(Moscow), effect of molybdenum on crop plants; Mel'nikov,
N. N. (Moscow), synthesis of organophosphorus insecticides;
Turchin, F. V. (Moscow), biological binding of atmospheric

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nitrogen; Lileyev, I. S. (Leningrad), silicates of alkali metals; Ginstling, A. M., Volkov, A. D. (Leningrad), thermochemical decomposition of calcium sulfate in crystalline mixtures; Kukolev, G. V., Mikhaylova, K. A. (Khar'kov), effect of surface-active additives on refractories; Budnikov, P. P., Savel'yev, V. G. (Moscow), barium monoaluminate as a binder for refractory cements; Voronin, N. I., Krasotkina, N. I., Smirnova, V. A. (Leningrad), carborundum; Matsynin, Ye. V., Okorokov, S. D. (Leningrad), portland cement clinker; Rashkovich, L. N., Butt, Yu. (Krasnoyarsk), mechanism of binder formation during autoclave treatment of lime-sand products; Tikhonov, V. A., Shpynova, L. G. (L'vov), phase composition of portland cement; Vargin, V. V., Karapetyan, G. O. (Leningrad), absorption spectra, luminescence, and photochemical properties of cerium glasses; Avgustinik, A. I. (Leningrad), formation of finely dispersed crystalline phase from the vitreous one; Nikolayeva-Fedorovich, N. V., Petriy, O. A., Frumkin, A. N. (Moscow), polarographic behavior of platinum-halide complexes; Loshkarev, M. A., Chernobayev, I. P., Tomilov, B. I. (Dnepropetrovsk), intermediates in electrochemical processes; Kartashova, K. M.,

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Sukhotin, A. M. (Leningrad), dynamic method of determining electrode capacity; Semchenko, D. P., Il'in, K. G. (Novocherkassk), electrochemical formation of higher oxygen compounds of chlorine; Gritsan, D. N., Shun, D. S. (Khar'kov), effect of detergents on the electrodeposition of metals; Kudryavtsev, N. T., Smolenskaya, G. N., Karatayev, V. M., Golovchanskaya, R. G. (Moscow), titanium plating; Lantratov, M. F., Alabyshev, A. F. (Leningrad), new, easily melting electrolyte for obtaining metallic sodium; Planovskiy, A. N. (Moscow), was chairman of the section of apparatus and processes, and gave a paper on the present state of this subject; Gukhman, A. A. (Moscow), theory of similitude; Romankov, P. G. (Leningrad), examples of the use of the theory of similitude in chemical technology; Todes, O. M. (Leningrad), hydrodynamics of fluidized bed; Mukhlenov, I. P. (Leningrad), analysis of equations of fluidized bed hydrodynamics; Gzovskiy, S. Ya. (Moscow), study of the process of mixing; Pavlushenko, I. S. (Leningrad), performance of mixers; Semenov, P. A. (Moscow), mechanism of mass exchange of gas and liquid at their interface; Lastovtsev, A. M. (Moscow), distribution by drop size in an atomized liquid; Varlamov, M. L. (Odessa), purification of gases by sound; Zhuzhikov, V. A., theoretical analytical methods suitable for studying filtration

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processes; Gol'din, Ye. M. (Leningrad), movement of material in centrifuges; Kaminskiy, S. (Moscow), new types of centrifuges; Aynshteyn, V. G., Kruglikov, V. Ya., Gel'perin, N. I., Rapoport, I. B. (Moscow), heat exchange between fluidized bed and a single pipe at different angles to the flow; Nikolayev, P. I., Planovskiy, A. N. (Moscow), experimental determinations of coefficients of local heat emission by a pipe in a fluidized bed; Yelukhin, N. K., Ivanov, M. Ye., Vishnev, I. P., heat exchange during boiling and condensation of O_2 , N_2 , and Ar; Bassel', A. B., Sakhiyev, A. S., heat exchange design; Mazyukovich, I. V. (Leningrad), heat exchange in condensation of NH_3 ; Berman, L. D. (Moscow), mass exchange mechanism; Lykov, A. V., application of Onzager's theory to the investigation of heat and mass exchange processes; Kafarov, V. V. (Moscow), mathematics of mass transfer; Poplavskiy, Yu. V. (Moscow), tray apparatus; Rozen, A. M. (Moscow), large-diameter slotted trays; Aksel'rod, L. S. (Moscow), Noskov, A. A. (Leningrad), sieve rectification plates; Malyusov, V. A., Umnik, N. N., Zhavoronkov, N. M. (Moscow), multistage molecular distillation; Dobroserdov, L. L. (Leningrad), separation of azeotropic mixtures; Usmanov, A. G. (Kazan'), kinetics

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of molecular transfer in gases; Traynina, S. S., Aerov, M. E., Nikitina, N. I. (Moscow), electrohydrodynamic analogy in the study of chemical apparatus; Gel'perin, N. I. (Moscow), extraction from solutions in counterflow injection columns; Karpacheva, S. M., Rozen, A. M., operation of pulsing columns; Kagan, S. Z., Aerov, M. E., extractors with mechanical mixing of phases; Lur'ye, M. Yu. (Moscow), drying in the chemical industry; Nesmeyanov, A. P., and others (Moscow), gave a series of papers on the chemistry of ferrocene; Karpeyskaya, Ye. A., Tovstopyatova, A. A., Baranidin, A. A. (Moscow), rhenium as a catalyst of organic reactions; Mamadaliev, Yu. G. (Baku), new technological process of chlorinating hydrocarbons in fluidized bed of catalyst; Tsukervanik, I. P. (Tashkent), metal powders as catalysts; Kargin, V. A., Kabanov, V. A., Marchenko, I. Yu. (Moscow), obtaining isotactic polystyrene by polymerizing styrene over Vigler's catalyst; Ushakov, S. N. (Leningrad), new cross-linking agents for polymerization: Vansheydt, A. A., Kuznetsova, N. N. (Leningrad), polycondensation of phenoxyacetic acid with formaldehyde in the synthesis of ion exchange resins; Zubov, V. P. (Moscow), polymerization

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of styrene in the presence of certain halogens; Losev, I. P., Datskevich, L. A. (Moscow), synthesis of polyurethanes; Korshak, V. V., Sosin, S. L., Chistyakova, M. V. (Moscow), linear polymers from reactions of free radicals with unsaturated compounds; Andrianov, K. A. (Moscow), polyorganoaluminum siloxanes; Tarasova, Z. N., Kaplunov, M. Ya., Klauzen, P. A., Dogadkin, B. A., Karpov, V. L. (Moscow), kinetics of radiation vulcanization; Rogovin, Z. A., Derevitskaya, V. A. (Moscow), synthesis of new cellulose derivatives; Glukhov, N. A. (Leningrad), organo-metallic chelates; Sukhanov, V. P. (Moscow), petroleum as raw material for fuels and chemicals; Kravets, N. M. (Moscow), utilization of solid fuel; Lavrov, N. V. (Moscow), obtaining and using combustible gases; Kosheleva, L. M., Mekhtiyev, S. D., Pishnamezade, B. F., Eybatova, Sh. E., Gashimova, F. A., investigated the derivation of cyclohexane and its closest homologs from Baku petroleum gasolene at the Petroleum Institute of the AzSSR Academy of Sciences; Fomina, A. S. Pobul', L. Ya. Degtereva, Z. A. (Tallin), chemical nature of Baltic shale kerogen; Kruglikov, A. A. (Nizhniy Tagil), isolation and utilization of dihydric phenols from the semi-locking and hydrogenation of Cheremkhov coal; Lebedev, V. V.

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1962
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(Khimki), new methods of producing hydrogen; Kruglikova, V. Ya., Fappoport, I. B., Volynskiy, A. V., Muzovskiy, V. V. (Moscow), high-yield synthesis of hydrocarbons from CO and H₂ over iron catalyst in a boiling and in a stationary layer; Petrov, A. D., Kaplan, Ye. P., Nefedov, O. M., Chel'tsova, M. A. (Moscow), C₁₈-C₄₀ polycyclic hydrocarbons; Sergiyenko, S. R., Lebedev, Ye. V., Mikhnovskaya, A. A. (Moscow), structure of high-molecular petroleum hydrocarbons; Isagulyants, V. I., Tishkova, V. N. (Moscow), synthesis of alkyl- and arylphenol additives for fuels and lubricating oils; Shuykin, N. I., Bekauri, N. G., Maslyanskiy, G. N. (Moscow), catalytic isomerization of paraffins; Khmel'nitskiy, A. I., Zimina, K. I., Polyakova, A. A., Nikitina, V. M. (Moscow), radiolysis of hydrocarbons; Geyman, M. A., Larin, A. D. (Moscow), synthesis of anionic surface-active substances from petroleum and related distillates. The conference adopted a general resolution exhorting Soviet chemists to greater creative efforts.

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S/080/61/034/007/014/016
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AUTHOR: Simonova, L.K.

TITLE: The IV all-union congress on physico-chemical analysis

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 7, 1961,
1617 - 1621

TEXT: During December 1960, on the centenary of the birth of academician N.S. Kurnakov, the Congress on Physico-Chemical Analysis was held in Moscow. Its work was divided into six sections: 1) General problems of physico-chemical analysis 2) alloys and semiconductors 3) physico-chemical analysis of salts 4) silicates and inorganic polymers 5) physical-chemical analysis of organic systems 6) physico-chemical analysis in analytical chemistry. During the plenary session, the general reports were heard: V.I. Mikheyev's "The development of N.S. Kurnakov's Chemical Compounds in Modern Chemistry", G.B. Bokiya's "N.S. Kurnakov's Teaching on Imaginary Compounds", N.V. Ageyev's "Theory of Metallic Alloys". O.S. Ivanov ✓

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reported on a survey of the study of alloy systems of uranium, plutonium and thorium. N.P. Luzhnaya (Moscow) explained the basic aim of investigating the physico-chemical analysis of semiconductors. The investigated triple system As-Bi-S shows that series of two-phase alloys possess very interesting semiconducting properties. Hence a wide application of the physico-chemical method of analysis is needed to study the trace phases of multicomponent alloy system. It is important to study the effect of phase composition on semiconducting properties, the nature of phase composition of thin layers, transition from an amorphous and glass-like state into crystalline among others. The effect of trace impurities on semiconducting properties presents the problem of developing methods of studying the phase diagrams in very narrow concentration intervals. N.Kh. Abrikosov (Moscow) in his report on the composition diagrams of the semiconductors system showed that temperature-pressure graphs for most semiconductors are characterized by a decrease of melting points with an increase in pressure. This property is associated with crystallization with a small coordination number.

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The report dealt with two - tri components and complex systems. Ye.G. Goncharov, Ya.A. Ugay and I.A. Borzilova (Voronezh) investigated the composition graphs and some properties of semiconducting systems InSb-CdSb and InSb-ZnSb. In both systems the equilibrium conditions are mainly limited by the solubilities in solid states. In connection with similar atomic and ionic radii of Cd and In and also the analogous crystalline structures of InSb and CdSb there is a wider region of uniformity in the system InSb-CdSb compared with the system InSb-ZnSb. The electroconductivity of these systems was studied. N.A. Gorynova (Leningrad) reported on the formation of the semiconducting tetrahydric phase. S.I. Vol'fkovich (Moscow) reported on the application of physico-chemical analysis in the technology of mineral fertilizers. I.N. Lepeshkov (Moscow) reported on salt waters and their sources in USSR. A.V. Bekturov, A.I. Mun, R.S. Darer, Z.A. Bazilevich and R.Ye. Zhaymina (Alma-Ata) reported on the industrial values of salt lakes in Central Kazakhstan. A.G. Bergman (Rostov-na-Donu) investigated the exchange equilibrium and complex formation in the melts of multicomponent salt

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system. M.G. Valyashko (Moscow) reported on the metamorphism of natural brine. I.G. Druzhinin, A.A. Zinov'yev, M. Kydynov, I.Ye. Batyrchayev and M.D. Lopina (Frunze) reported on salt sources in Tyan'Shan'. L.S. Itkina, and V.F. Kokhova (Moscow) studied the interaction of sodium chloride, sulphate and carbonate in the solution of caustic soda. Yu.P. Nikol'skaya (Novosibirsk) studied salt formation and metamorphism in the lakes and waters of the Kulunda steppeland. A.V. Novoselova (Moscow) reported on the physico-chemical investigation of beryllium halides. M.I. Ravich and F.Ye. Borovaya (Moscow) reported on experimental methods and some results of determining the solubility of salts in water at high temperatures and different pressures. Ye.Ya. Rode and N.A. Krotovyy (Moscow) reported on the physico-chemical study of lithium silicotungstate. O.K. Yanat'yeva and V.T. Orlova (Moscow) studied the equilibrium in the system K, Na, Mg - Cl, SO₄ - H₂O. K.P. Mishchenko, I.I. Bloshteyn, K.D. Dobryshchin, S.O. Fish and I.Ye. Flis (Leningrad) reported on the liquid-vapor equilibrium of systems of chlorine-water and chlorine-dioxide-chlorine-water at different temperatu-

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res. A.G. Bogdanov and V.B. Glushkova (Leningrad) investigated the polymorphism of rare earth oxides by physico-chemical and colorimetric analysis. N.A. Toropov (Leningrad) reported on composition graphs of the trivalent elements silicates. N.S. Gerchikova, N.I. Kolobnevyy, M.G. Stepanova, and I.N. Fridlyander (Moscow) investigated the interaction of aluminum and its oxides with metaloceric materials. A.A. Govorov (Kiyev) reported on the x-raygraphic and differential thermal analysis of aluminum hydrosulphate and hydrate in newly formed portland cement rock. I.A. Bondar' (Leningrad) reported on yttrium and samarium silicates ($Y_2O_3-SiO_2$ and $Sn_2O_3-SiO_2$). O.P. Mchedlov-Petrosyan and V.I. Babushkin (Khar'kov) reported on the energetic introduction into physico-chemical analysis of silicates. I.F. Ponomarev (Novocherkassk) reported on physico-chemical processes in dispersed silicate systems. Z.M. Syritskaya and V.V. Yakubik (Moscow) reported on the investigation of $P_2O_5-Al_2O_3-ZuO$ system in the field of transparent glass. A.V. Shlykov (Kraskovo, Moscow oblast') reported on a new automatic thermogravimetric device which enables study of the mechanism of diffe-

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rent physico-chemical processes. T.I. Bulgakova and A.S. Guzya (Moscow) carried out magnetic analysis of manganese ferrites. N.N. Kurnakov and M.Ya. Troneva (Moscow) by means of melting points, microstructure, macro- and microhardness and partial x-ray analysis investigated the ternary system Nb.Cr-Mo. L.N. Larikov (Kiyev) studied the graphs of the composition rate of softening and their use in the physico-chemical analysis of metallic systems.

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S/080/62/035/009/014/014
D232/D307

AUTHOR: Simonova, L.K.
TITLE: The II Congress on the chemistry of peroxides
PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 9, 1962,
2116 - 2120

TEXT: The second congress on the chemistry of peroxide compounds was held in November 1961, by the institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova AN SSSR (Institute of General and Inorganic Chemistry im. N.S. Kurnakov, AS USSR), nauchno-issledovatel'skiy institut khimii pri Gor'kovskom universitete im. N.I. Lobachesvskogo (Scientific Research Institute of Chemistry at the Gor'kiy university im. N.I. Lobachevskiy) and the nauchno-issledovatel'skiy institut osnovnoy khimii Gosudarstvennogo komiteta po khimii pri Sovete Ministrov SSSR (Scientific Research Institute of Basic Chemistry of the State Committee for Chemistry affiliated with the Council of Ministers of the USSR). Brief reports are given of the more interesting papers read: N.I. Kobozev, L.I. Nekrasov and I.I. Skorokhodov (Moscow) on the mechanism of the low tempera-
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The II Congress on the chemistry ...

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ture production of H_2O_2 ; V.N. Chamova, I.I. Vol'nov and A.B. Tsent-
siper (Moscow) on the synthesis of ^{18}O -labelled H_2O_2 from heavy
oxygen and steam (containing 1.75 ± 0.01 at. % ^{18}O) in a glow-dis-
charge; N.I. Kobozev, I.A. Semiokhin and Ye.N. Pitskhelauri (Moscow)
on the possibility of direct synthesis (at room temperature) of pure
75 - 80 % H_2O_2 with an energy yield of 15 - 16 g H_2O_2 kW-h (calcula-
ted for 100 % H_2O_2); A.I. Semiokhin, N.I. Kobozev and Ye.N. Pitskhe-
lauri (Moscow) on the kinetic and mechanism of the electrosynthesis
of H_2O_2 ; A.S. Fomenko, T.M. Abramov and I.L. Gankina (Kiev) on the
results of an investigation using ^{18}O to study the mechanism of cata-
lytic decomposition of hydrogen peroxide in the presence of oxy-
anions (IO_3^- , BrO_3^- , ClO_3^-) of Pb^{++} and activated charcoal; F.M. Perel' ✓
man, A.K. Verkhovskaya and A.Ya. Zvorykin (Moscow) on the decomposi-
tion of H_2O_2 on catalysts of the system $Na_2MoO_4-CoCl_2-CuCl_2$ in rela-
tion to the pH of the medium; A.Ya. Zvorykin, F.M. Perel'man and S.
K. Shakhova (Moscow) on the catalytic activity of rare elements in

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The II Congress on the chemistry ...

the decomposition of H_2O_2 ; I.M. Reybel' (Kishinev) on the decomposition of aqueous solutions of hydrogen peroxide in the presence of mononuclear complexes of trivalent cobalt with mono-, bi- and triethylamine, ethylenediamine and as well as a series of polynuclear complex cations with trivalent cobalt; K.P. Mishchenko, I.Ye. Flis, K.Yu. Salnis, V.A. Kustodina and N.V. Pakhomova (Leningrad) on the thermal effects associated with the reactions of H_2O_2 with: 1) ClO_2 , 2) hypochloride, 3) Cl_2O ; I.Ye. Flis, K.P. Mishchenko and K.Yu. Salnis on the thermodynamics of the dissociation of H_2O_2 in aqueous solutions at various temperatures, by thermochemical methods; A.I. Brodskiy and V.A. Lunenok-Burmakina (Kiev) on the mechanism of the anodic preparation of ozone; V.A. Lunenok-Burmakina, A.P. Potemskaya and A.I. Brodskiy (Kiev) on the use of isotopes for the study of the oxidation mechanisms of some inorganic ions by H_2O_2 and potassium persulfate; V.G. Karpenko and A.S. Poteryayko (Khar'kov) on the individual stages of the synthesis of potassium ozonide; Ye.I. Sokovkin and S.Z. Makarov (Moscow) on the ozoniding KOH in a pseudofluid- ✓

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The II Congress on the chemistry ...

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D232/D307

dized bed and solubility of potassium ozonide in liquid NH_3 ; S.Z. Makarov, S.A. Tokareva and M.S. Danilova on the ozoniding of NaOH at low temperatures and the physico-chemical properties of sodium ozonide; T.A. Dobrynina and B.S. Dzyatkevich (Moscow) on the investigation of peroxyhydrates of rubidium and cesium carbonates by studying the isotherms of the solubility of the ternary systems $\text{Rb}_2\text{CO}_3\text{-H}_2\text{O}_2\text{-H}_2\text{O}$ and $\text{Cs}_2\text{CO}_3\text{-H}_2\text{O}_2\text{-H}_2\text{O}$; T.A. Dobrynina and S.Z. Makarov (Moscow) on the study of the system $\text{LiOH-H}_2\text{O}_2\text{-H}_2\text{O}$ by the solubility method, determining the composition of the solid phase by the method of 'residua' in the temperature range -21 to $+50^\circ\text{C}$; I.I. Vol'nov and A.I. Shatunina (Moscow) on sodium peroxide compounds maintained at 30 at. % NaO_2 with dissociation of diperoxyhydrate of sodium peroxide at $70 - 120^\circ\text{C}$ and 10 mm Hg; T.I. Arnol'd and S.Z. Makarov (Moscow) on the investigation of the system $\text{Cu(OH)}_2\text{-H}_2\text{O}_2\text{-H}_2\text{O}$; N.K. Grigor'yeva, T.I. Arnol'd and S.Z. Makarov (Moscow) on the study of ternary systems of Ca, Sr and Ba hydroxides with H_2O_2 in a wide

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The II Congress on the chemistry ...

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range of temperatures, under isothermic conditions with varying concentration of hydrogen peroxide; A.B. Tsentsiper (Moscow) on the dehydration of $\text{CaO}_2 \cdot 8\text{H}_2\text{O}$ and $\text{CaO}_2 \cdot 2\text{H}_2\text{O}$ in vacuo at 30 - 50°C; L.A. Icarov (Khar'kov) on the derivation of BaO_2 from $\text{Ba}(\text{OH})_2$; S.Z. Makarov and L.V. Soboleva (Moscow) on the interaction of La^{3+} , Nd^{3+} , Pr^{3+} , Sm^{3+} , Gd^{3+} hydroxides with H_2O_2 at 0 and -20°C; A.V. Yanush (Khar'kov) on the preparation of sodium perborate using electrolytic and chemical methods; A.Yu. Prokopchik and A.P. Kazragis (Vil'nus) on the properties of 'high' perborates dehydrated by prolonged drying, and the comparison of these with 'low' perborates; G.A. Katajev and L.N. Pozanova (Tomsk) on the kinetics of the reaction of Ge with alkaline solution of H_2O_2 with varying concentrations of alkali; T.P. Firsova and A.N. Molodkina (Moscow) on the interaction of CO_2 with alkaline solutions of H_2O_2 ; A.Yu. Prokopchik and A.I. Vashkyalis (Vil'nus) on the redox potential and reductions of peroxycarbonates on an Hg dropping electrode; S.Z. Makarov, N.K. Grigor'yeva and K.I. Selezneva on the interaction of sodium and

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The II Congress on the chemistry ...

S/080/62/035/009/014/014
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potassium niobates and tantalates with H_2O_2 ; A.M. Gurevich (Lenin-grad) on work performed, together with A.P. Patner, L.P. Polozhenskaya, Ye.V. Komarov, L.S. Preobrazhenskaya and N.P. Osicheva, on complex formation in systems containing UO_2^{++} and H_2O_2 ; I.F. Frank and A.I. Brodskiy (Kiev) on the U-O system below $400^\circ C$, with U:O equal to $2.67 - 4$; V.A. Shcherbinin (Moscow) on the kinetics of the catalytic decomposition of H_2O_2 .

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L 55237-65 EEO-2/FSS-2/EWT(1)/EWA(d)/EWA/EED-2/FCS(k)

ACCESSION NR: AP5015558

UR/0286/65/000/008/0110/0110

AUTHORS: Simonov, S. G.; Simonov, V. V.; Simonova, L. S.

23

TITLE: An impact-triggering mechanism of an automatic weapon. Class 72, No. 170340

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 8, 1965, 110

TOPIC TAGS: automatic weapon, firing mechanism, weapon component

ABSTRACT: This Author Certificate presents an impact-triggering mechanism of an automatic weapon, consisting of a firing pin, firing pin spring, two sears, a trigger hook with a slot and a spring, and a trigger lever with a projection (see Fig. 1 on the Enclosure). To eliminate the inertial blows of the firing pin against the primer cap of a cartridge during the passage of the breechblock to its extreme forward position after firing or during the loading of the following cartridge into the breech chamber, the fire control lever is made in the shape of a bent plate held by a pin to the trigger hook. Orig. art. has: 1 figure.

ASSOCIATION: none

SUBMITTED: 26Dec63

ENCL: 01

SUB CODE: WA

NO REF SOV: 000

OTHER: 000

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L 55237-65

ACCESSION NR: AP5015558

ENCLOSURE: 01

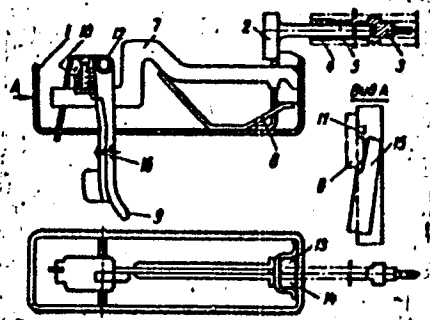


Fig. 1. 1- receiver; 2- firing pin; 3- hammer; 4- firing pin cover; 5- firing pin spring; 6- trigger lever; 7- trigger lever protrusion; 8- strip spring; 9- trigger hook; 10- spiral spring; 11- trigger hook slot; 12- trigger hook pin; 13- sear; 14- automatic sear; 15- fire control lever; 16- fire control lever pin

Card 2/2

SIMONOVA, M.

"Another interesting observation of a second sun in the Prague sky." (p.162).
RÍSE HVEZD. (Ceskoslovenska spolecnost astronomicka) Praha. Vol. 34, No. 7,
Sept. 1953.

SO: East European Accessions List, Vol. 3, No. 8, Aug 1954.

KROMPHANZEL, Vjladimir; BYR, Josef; SIMONOVA, Marie

Effect of some organic substances on the dispersion of oxygen in a liquid medium. Kvasny prum 10 no. 3: 54-58 Mr '64.

1. Higher School of Chemical Technology, Department of Fermentation Chemistry, Prague.

USSR/Metals - Iron scale texture

FD-439

Card 1/1 : Pub. 153 - 9/18

Author : Arkharov, V. I.; Blankova, Ye. B.; and Simonova, M. I.

Title : Texture of iron scale. VI: Variations in texture when the air is replaced by atmospheres of lowered oxygen pressure

Periodical : Zhur. tekhn. fiz. 24, 677-685, Apr 1954

Abstract : Investigate the structural changes in the iron scale for initial oxidation in air, for water vapor, and for the cases where the air is replaced by a water vapor-hydrogen atmosphere and by a pure hydrogen atmosphere respectively.

Institution : —

Submitted : June 27, 1953

AUTHORS: Arkharov, V. I. and Simonova, M. I. 126-2-14/30

TITLE: On the texture of iron scale. X. Texture of Wustite (FeO) Scale. (O teksture v zheleznoy okaline. X. Tekstura v Vyustitnoy okaline).

PERIODICAL: "Fizika Metallov i Metallovedeniye" (Physics of Metals and Metallurgy), Vol.IV, No.2, 1957, pp.278-290 (USSR).

ABSTRACT: In the complex structural picture of multi-layer scale certain characteristics can be detected which permit elucidation of the details of the mechanism of high temperature oxidation and one such characteristic is the texture. In earlier work of the authors of this paper relating to investigation of the texture of scale, improved data were obtained of the mechanism of oxidation of iron (1 and 2) and also of a number of other processes of reaction diffusion (3 to 7). The textures were investigated for cases in which the conditions of oxidation were such that higher oxides could form, namely, Fe_2O_3 in the case of oxidation in air and Fe_3O_4 in the case of oxidation in steam. In these cases FeO (wustite) forms as the internal layer of the scale. For gaining a better conception of the mechanism of oxidation of iron the authors considered it advisable to study oxidation under

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On the texture of iron scale. X. Texture of Wustite (FeO)
Scale. (Cont.)

126-2-14/30

conditions when only FeO could form but not Fe₂O₃ or Fe₃O₄. Such conditions exist during oxidation of iron in an atmosphere with an adequately low partial pressure of oxygen, particularly in mixtures of steam with hydrogen at sufficiently high hydrogen contents. The aim of the here-described work was to study the texture in the scale in the case of oxidation of the iron in a mixture of water vapour with hydrogen, when the scale consists solely of FeO. In the experiments Armco iron specimens of cylindrical shape, 7 mm dia, 110 and 30 mm long were used; at both ends of the specimen holes were drilled to enable their suspension. The surface was polished with emery paper and then the specimens were cleaned in alcohol. The oxidation was effected inside a vertical tubular electric furnace. The oxidizing atmosphere with a reduced partial oxygen pressure was obtained by driving hydrogen with a continuous speed through a saturator with water which was placed inside the heated thermostat. From there the mixture of water vapour and hydrogen moved along the tube, which was fitted with a heater and thermal insulation, and fed to the lower end of a quartz tube, from which it then

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On the texture of iron scale. X. Texture of Wustite (FeO)
Scale. (Cont.) 126-2-14/30

flowed through the furnace and was led away through the upper end. The flow speed of the hydrogen was controlled by means of a rheometer and maintained constant throughout all the experiments. A growth texture was observed under conditions which exclude the possibility of formation of higher iron oxides when the oxidation of the metallic iron produces on the surface a single phase FeO scale. The crystallographic type of the growth texture of FeO depends on the oxidation ability of the medium and the temperature. For a given temperature, intensification of the oxidation effect of the medium produces successively the following types of texture: (100), (410), (210), (430), (110). For a given composition of the medium, reduction of the temperature in the range of 1150 to 900 C brings about an analogous change in the types of textures. The observed correlation between the character of the texture and the external conditions of oxidation are in agreement with the conception of oxygen adsorption playing a predominant role. Increase of the quantity of oxygen in the adsorption layer, which depends on the speed of feeding oxygen from the external medium and on the slowing down of its removal into

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On the texture of iron scale. X. Texture of Wustite (FeO)
Scale. (Cont.) 126-2-14/30

the body of the crystal lattice, leads to a displacement of the type of texture in the sequence mentioned above. Thereby speeding up of feeding of oxygen is fundamentally linked with an increase of the oxidation ability (increased oxygen content) of the medium and a slowing down of the removal of oxygen into the lattice with decreasing temperature, which slows down diffusion into the solid phase. For correlating the observed changes in the types of texture of the FeO with the change in the magnitude of the surface energy of the respective crystallographic faces, the authors propose consideration of the density of filling with atoms of the surface layer (instead of the reticular density of the lattice), determined as a packet of planes parallel to the external surface of the crystal in which the atoms do not screen each other. It is thereby assumed that adsorption of oxygen distorts more those packets which have a regular configuration of atoms (the surface energy of which decreases more slowly) than packets of a more complex configuration. The consequence of this is a change of the relative magnitude of the surface energy of crystallographically differing faces and a

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On the texture of iron scale. X. Texture of Wustite (FeO)
Scale. (Cont.) 126-2-14/30

change in the type of textures caused thereby. This is attributed to the correlations between the types of observed textures of the wustite and the oxidation ability of the gaseous medium. It was established that the difference in the relative value of the surface energy of crystallographically differing faces in the case of changes in the oxygen adsorption is generally slight. On changing the conditions of oxidation in the stage of an already formed texture, no change will take place in the texture and this is attributed to the fact that the energy gain of such a change would be small compared to the energy spent on producing 3-dimensional new nuclei which are necessary for changing the texture.

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There are 8 tables, 7 figures, and 8 Slavic references.

ASSOCIATION: Institute of Metal Physics, Ural Branch, Ac. Sc.
(Institut Fiziki Metallov, Ural'skogo Fiziala AN SSSR).

SUBMITTED: November 24, 1956.

AVAILABLE:

126-2-9/35

AUTHORS: Arkharov, V. I., Mar'yevich, V.P., Reynkhol'd, M., and Simonova, M. I.

TITLE: On the texture of iron scale. (O teksture v zheleznoy okaline). XI. Investigation of the scale forming during oxidation of iron in CO₂. (XI Issledovaniye okaliny, obrazuyushcheyasya pri okislenii zheleza v uglekislom gaze).

PERIODICAL: Fizika Metallov i Metallovedeniye, 1957, Vol.5, No.2, pp. 251-254 (USSR)

ABSTRACT: The dissociation pressure of CO₂ in the temperature range of about 1000°C brings about equilibrium conditions for the existence of Fe₃O₄ in the same way as for H₂O. If iron is oxidized in water vapour, scale is formed, the external layer of which consists of magnetite with certain structural anomalies distinguishing it from the equilibrium Fe₃O₄ (Refs. 2,3). For obtaining detailed information on the mechanism of oxidation of iron, it was of interest to investigate the scale forming on iron in a CO₂ atmosphere and to compare the structural picture with that obtained for the case of oxidation in water vapour. Three series of tests were made with a constant gas speed and a temperature of about 1000°C with armco iron specimens in the form of cylinders of 6 mm dia. and

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On the texture of iron scale. X I. Investigation of the scale 126-2-9/35
forming during oxidation of iron in CO_2 .

30 mm length annealed for durations of 3, 7 and 14 hours. By means of X-ray investigations it was established that during the initial stage (about seven hours) the oxidation of the iron at 1000°C in a CO_2 atmosphere produces a scale of the phase FeO and no signs of the presence of Fe_3O_4 on the outside surface of the scale could be detected. This is attributed to the fact that the speed of supply of oxygen to the reaction front is limited. In the subsequent stage the process is limited by the continuously decreasing speed of supply of iron to the reaction front and, as a result of that, conditions occur which are favourable for forming an Fe_3O_4 layer above the FeO layer. Following that, the structural picture of the process of oxidation in a CO_2 atmosphere is similar to that pertaining in H_2O vapours. The difference occurring in the initial stages in these two cases is attributed to differences in the adsorption and desorption of gaseous components. There is one table and 6 references, 5 of which are Slavic.

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SUBMITTED: February 12, 1957.

ASSOCIATION: Institute of Metal Physics, Ural Branch of the Ac.Sc.USSR.
(Institut Fiziki Metallov Ural'skogo Filiala AN SSSR)

AVAILABLE: Library of Congress.

007/126-6-3-8/32

AUTHORS: Arkharov, V. I., Sinikova, A. I., and Yut, M. K.

TITLE: On the Texture of Iron Scale (o teksture v zheleznoy okaline). XII. Structural Changes in Scale in the Case of Substitution of Atmospheres Producing Higher Oxides by an Atmosphere Producing Wustite (XII. Strukturnyye izmeneniya v okaline pri zamene atmosfer, sozdayushchikh vysshiye oksily, atmosferoy, sozdayushchey vyustit)

PERIODICAL: Fizika Metallov i Metallovedeniye, 1958, Vol 6, Nr 3, pp 444-449 (USSR)

ABSTRACT: In earlier work the authors investigated the structural changes in scale taking place during high temperature oxidation when substituting the water vapour atmosphere by air (Ref 1) and the air by water vapour, a mixture of water vapour and hydrogen or with pure hydrogen (Ref 2). Such investigations are of interest since they permit elucidation of certain details of the structural picture of the transformations in the system Fe-O representing a particular example of reactions in the solid state. The practical interest of such investigations is due to the necessity of elucidating the influence on gas corrosion of changes in the atmosphere which frequently take place

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SOV/136-6-3-8/32

On the Texture of Iron Scale. XII. Structural Changes in Scale
in the Case of Substitution of Atmospheres Producing Higher Oxides
by an Atmosphere Producing Wustite

under real conditions of operation. The aim of this paper was to investigate by X-rays the changes in the structure of the iron scale, forming in atmospheres which are in equilibrium for the higher oxides of iron: Fe_3O_4 and Fe_2O_3 (air and water vapour respectively), assuming that the oxidation is continued in the medium with a lower partial pressure of oxygen which is in equilibrium for the lower oxide of iron, FeO , i.e. a sufficiently diluted mixture of water vapour and hydrogen. The investigations were carried out on Armco type iron. The method of preparing the oxidation atmospheres, the specimens and the execution of the experiments was similar to that described in earlier work (Refs. 2 and 3). Preliminary simultaneous oxidation of the specimens (massive and tubular) was effected in an atmosphere of water vapour for obtaining a magnetite scale in the outside layer, or in air for obtaining hematite in the outside layer. The internal layer of the scale consisted of wustite in all the cases under consideration.

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SOV/126-G-3-8/32

On the Texture of Iron Scale. XII. Structural Changes in Scale in the Case of Substitution of Atmospheres Producing Higher Oxides by an Atmosphere Producing Wustite

Furthermore, pairs of specimens were heated in an atmosphere of a mixture of water vapour with hydrogen at 1000°C; one of these (the tubular one) consisted only of scale, the other had metal under the layer of scale. The holding times of the specimens, which were oxidized preliminarily in air, were 5, 10, 30 and 120 mins. In this part of the experiment (oxidation in a mixture of H₂O + H₂) a reference specimen consisting of non-oxidized iron was placed in the furnace for the purpose of verifying the conditions of oxidation, i.e. the composition of the atmosphere; on all the reference specimens a single phase wustite scale formed. Investigation of the structure of the scale, which formed during the preliminary as well as during the subsequent oxidation, included making the X-ray exposures of the external layer with K-Mo radiation for the purpose of detection and analysis of the texture by means of a method (Ref 4) described in earlier work, qualitative evaluation of the relative grain size in the outside

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On the Texture of Iron Scale. XII. Structural Changes in Scale in the Case of Substitution of Atmospheres Producing Higher Oxides by an Atmosphere Producing Wustite

layer of the scale on the basis of the "pointedness" of the diffraction lines on the "texturo-graphs" (recorded without rotating the specimens) and also phase analysis of pulverised scale by means of K-Fe radiation. On the basis of the obtained results the following conclusions are arrived at: The scale which forms during oxidation of iron in water vapour or air suffers a number of structural changes if the atmosphere in which it forms is substituted by a mixture of water vapour and hydrogen for which a lower iron oxide, wustite, is in a state of equilibrium at the temperatures 800-1000°C; these changes are attributed to the following processes:

1) On the outside of the scale a process of reduction of the higher oxide into FeO takes place, which is accompanied by the diffusion of iron ions into the depth of the scale; the product of reduction is linked in its orientation with the initial higher oxide from which it inherits the texture. Due to the diffusion of the iron from the external layer to the inside, the reduction

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On the Texture of Iron Scale. XII. Structural Changes in Scale in the Case of Substitution of Atmospheres Producing High Oxides by an Atmosphere Producing Wustite

propagates to the depth of the scale.

2) The volume changes taking place during the transformation of the lattice of the higher oxide into the lattice of the lower oxide bring about stresses in the outside layer of the scale. This leads on the one hand to formation of cracks (which are particularly intensive in the case that the preliminary oxidation was in air and the scale in the outside layer contained hematite so that during the subsequent stage a double-phase transformation hematite-magnetite-wustite occurs). On the other hand the stresses bring about a recrystallisation which leads to a coarsening of the grain in the layer of the reduced oxide, maintaining the texture, which in this stage will be the texture of the recrystallisation growth. As regards the crystallographic type, it is linked in orientation with the texture which forms directly after the reduction.

3) Crack formation in the outside layer of the scale accelerates reduction in the deeper layers due to the

Card 5/7 penetration into these of the reducing gas along the cracks

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On the Texture of Iron Scale. XII. Structural Changes in Scale
in the Case of Substitution of Atmospheres Producing High Oxides
by an Atmosphere Producing Wustite

and due to its direct interaction with the oxides in the deeper layers of the scale.

4) If there is non-oxidised metal under the scale, the process of reduction of the higher oxide will take place as a result of diffusion of iron from the transforming external layers of the scale as well as as a result of diffusion from the non-oxidised core. This latter process will continue even after completion of the reduction of the higher oxides. At this stage the growth of wustite on the outer side of the scale will increase, whereby the texture which occurs in the preceding stage of the process remains conserved.

5) Conservation in the layer of the wustite of the texture type, which is due to the orientational connection with the original higher oxide, is in agreement (in spite of the non-correspondence of this type with conditions of continuing oxidation) with earlier obtained results and

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SOV/126-6-3-8/32

On the Texture of Iron Scale. XII. Structural Changes in Scale in the Case of Substitution of Atmospheres Producing High Oxides by an Atmosphere Producing Wustite

is apparently due to the small difference in the surface energy of the wustite faces (100), (110) and (111). There are 7 references, all of which are Soviet.

ASSOCIATIONS: Ural'skiy gosudarstvennyy universitet imeni A. M. Gor'kogo (Ural State University imeni A. M. Gor'kiy) and Institut fiziki metallov Ural'skogo filiala AN SSSR (Institute of Metal Physics, Ural Branch, Ac.Sc., USSR)

SUBMITTED: December 6, 1957

1. Iron--Scale
2. Iron oxide--Structural analysis
3. X-ray analysis--Applications

Card 7/7

SIMONOVA, M.I.; UGOL'NIKOVA, T.A.

Cation distribution in solid solutions of ferrites and
chromites. Izv. AN SSSR. Ser. fiz. 27 no.12:1510-1516
D '63. (MIRA 17:1)

1. Institut fiziki metallov AN SSSR.

S/020/63/148/002/029/037
B189/B101

AUTHORS: Popov, G. P., Simonova, M. I., Ugol'nikova, T. A., Chufarov, G. I., Corresponding Member AS USSR

TITLE: Thermodynamic properties and crystallochemical characteristics of the solid solutions of zinc ferrite and magnetite

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 148, no. 2, 1965, 357 - 360

TEXT: The thermodynamic functions and the lattice constant of the solid $ZnFe_{2-x}Fe_{2+x}O_4$ solutions having the composition $Zn_{1-x}Fe_{2+x}O_4$ were calculated from the equilibrium constants of the reduction of $ZnFe_2O_4$ with H_2 , determined experimentally at 600, 700, and 900°C, as a function of x. Thermodynamic data:

X	$-\Delta H_{298}^{\circ}$ kcal/mole	$-\Delta G_{298}^{\circ}$ kcal/mole	S_{298}° cal/g-mole	composition of the solid solution
0.00	283.5	255.5	30.78	$ZnFe_2O_4$
0.27	275.5	250.0	30.40	$Zn_{0.7}Fe_{2.3}O_4$

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S/020/63/148/002/029/037
B189/B101

Thermodynamic properties ...

X	$-\Delta H_{298}^{\circ}$ kcal/mole	$-\Delta G_{298}^{\circ}$ kcal/mole	S_{298}° cal/g-mole	composition of the solid solution
0.52	273.8	246.0	33.0	$Zn_{0.5}Fe_{2.5}O_4$
0.72	269.3	241.0	33.3	$Zn_{0.3}Fe_{2.7}O_4$
0.92	266.6	240.0	34.0	$Zn_{0.1}Fe_{2.9}O_4$
1.00	270.0	242.0	35.00	Fe_3O_4

X is the molar part of Fe_3O_4 in $Zn_{1-x}Fe_{2+x}O_4$; the data for Fe_3O_4 are taken from publications. The lattice constant decreases slowly from 8.445 Å for $ZnFe_2O_4$ to 8.44 Å for $Zn_{0.7}Fe_{2.3}O_4$ and then linearly to 8.40 Å for Fe_3O_4 . The curve S_{298}° versus x has the same salient point at x = 0.3. It is concluded, therefore, that the inversion of the spinels remains almost unchanged between $0 \leq x \leq 0.3$ and that only Zn^{2+} ions are substituted by the Fe^{2+} ions in the tetrahedron points. These ions are almost of equal size. Between x = 0.3 and x = 1, however, the intensive inversion to total inverse spinel, Card 2/3

Thermodynamic properties ...

S/020/65/148/002/029/037
B189/B101

the magnetite takes place, owing to the redistribution of the cations in the tetrahedron and octahedron interstice. There are 3 figures and 1 table.

ASSOCIATION: Institut metallurgii Ural'skogo filiala Akademii nauk SSSR
(Institute of Metallurgy of the Ural Branch of Academy of
Sciences USSR); Institut fiziki metallov Akademii nauk SSSR
(Institute of Physics of Metals of the Academy of Sciences
USSR) ✓

SUBMITTED: July 14, 1962

Card 3/3

L 1717-66 EPF(c)/EWT(m)/EWP(b)/T/EWP(w)/EWP(t) IJP(c) JD/JG

ACCESSION NR: AF5021944

UR/0126/65/020/002/0308/0309
539.292:538.114 50
49
B

AUTHOR: Semokhvalov, A. A.; Bemburov, V. G.; Volkenshteyn, N. V.; Zetev, T. B.;
Ivakin, A. A.; Morozov, Yu. M.; Simonova, N. I.

TITLE: Magnetic properties of Eu_3O_4

SOURCE: Fizika metallov i metallovedeniye, v. 20, no. 2, 1965, 308-309

TOPIC TAGS: magnetization, saturation magnetization, temperature dependence, Curie temperature, Weiss-Forrer method, magnetic moment, europium compound

ABSTRACT: To elucidate the magnetic properties of Eu_3O_4 , the authors measured the temperature dependence of magnetization in the presence of different magnetizing fields at temperatures of upward of 1.65°K and thus determined for the first time the principal magnetic characteristics of Eu_3O_4 : saturation magnetization σ_s and Curie temperature T_C . The measurements were performed with the aid of a pendulum magnetometer. The external magnetic field in the measurements reached 19,300 oo, which sufficed to bring the specimen to magnetic saturation. Through extrapolation from the set of curves $\sigma(H, T)$ to $H \rightarrow \infty$ the saturation magnetization σ_s was found

Card 1/02

L 1717-66

ACCESSION NR: AP5021944

to be 89.4 gauss·cm³/g. From the same curves, using the Weiss-Porter method of lines of equal magnetization, the authors found the Curie temperature, which proved to be 7.8°K. With its relatively large magnetic moment and low Curie point, this oxide appears a suitable means of verifying the spin-wave theory. Verification of this theory showed that the linear T²-dependence of saturation magnetization exists throughout a broad temperature range (from 1.65 to 4.6°K) (0.6 T_c). The same dependence is also observed for a number of uncompensated antiferromagnetics and for certain rare earths. Orig. art. has: 1 figure.

ASSOCIATION: Institut fiziki metallov AN SSSR (Institute of Metal Physics, AN SSSR)

SUBMITTED: 20Oct64

ENCL: 01

SUB CODE: IC, EM

NO REF SOV: 000

OTHER: 004

Card 2/8

L 23532-65 EWT(m)/T/EWP(t)/EWP(b) IJP(c) JD/JG

ACCESSION NR: AP4047946

S/0020/64/158/005/1108/1111

AUTHOR: Balakirev, V. F.; Simonova, M. I.; Chufarov, G. I. (Corresponding member AN SSSR)

TITLE: Equilibrium conditions and mechanism of the hydrogen reduction of solid solutions in the Fe-Cr-O system

SOURCE: AN SSSR. Doklady*, v. 158, no. 5, 1964, 1108-1111

TOPIC TAGS: Fe Cr O system, Fe Cr O H system, spinel reduction, magnetite reduction, iron chromite reduction, hydrogen reduction, reduction mechanism

ABSTRACT: Equilibria in the Fe-Cr-O and Fe-Cr-O-H systems at 1000C and the reduction at 1000C of $\text{FeCr}_{2-x}\text{Fe}_x\text{O}_4$ solid solutions when $0 \leq x \leq 2$, were investigated. Since the oxygen pressure in the solid solutions when $1.04 \leq x \leq 2$ exceeded the pressure, when wüstite dissociated to iron, wüstite was in equilibrium with these solid solutions and iron was not formed. The equilibrium hydrogen pressure decreased proportionally to the extent of wüstite reduction. When $x=1.04$, the spinel, wüstite and metallic phases were in equilibrium. When $x < 1.04$ the

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L 23532-65
ACCESSION NR: AP4047948

continuous series of solid solutions were reduced directly to iron, by-passing the wüstite phase. If the solid solutions are represented as solutions of magnetite in iron chromite, the magnetite is reduced completely before the iron chromite reduction started. The chromium remained in the spinel phase, enriching it and did not form ferrochrome. The dependence of the lattice parameter on the composition of the spinel solid solution was not continuous; the extent of inversion λ with increasing x was not uniform. When $0 \leq x \leq 0.7$ the solid solution was normal, and in the $1.6 \leq x \leq 2$ region, inverted. The sharp increase in λ when $0.7 \leq x \leq 1.2$ caused a decreased in the lattice parameter of the spinel, and in the $1.2 \leq x \leq 1.6$ region the increase in the parameter with change in the composition was compensated by its decrease because of the increased λ . Orig. art. has: 1 table and 1 figure

ASSOCIATION: Institut metallurgii, Sverdlovsk (Institute of Metallurgy)

SUBMITTED: 16Jun64

ENCL: 00

SUB CODE: MM, GC

NR REF SOV: 003

OTHER: 010

Car 2/2

SAMOKHVALOV, A.A.; BAMBUROV, V.G.; VOLKENSHTEYN, N.V.; ZOTOV, T.D.; IVAKIN,
A.A.; MEROZOV, Yu.N.; SIMONOVA, M.I.

Magnetic properties of Eu_3O_4 . Fiz. met. i metalloved. 20 no.2:
308-309 Ag '65.

Temperature dependence of the saturation magnetization of the
ferromagnetic oxide of EuO . Ibid.:309-310 (MIRA 18:9)

1. Institut fiziki metallov AN SSSR.

L 07116-67 EWT(m)/EWP(w)/EWP(t)/EIH FJP(c) JD/IG

ACC NR: AP6029115

SOURCE CODE: UR/0048/66/030/006/0984/0989

AUTHOR: amokhvalov, A.A.; Ivakin, A.A.; Morozov, Yu.N.; Simonova, M.I.; Bamburov, V.G.; Volkenshteyn, N.V.; Zotov, T.D.

ORG: none

TITLE: Magnetic, high frequency, and electric properties of some oxide compounds of divalent europium Report, All-Union Conference on the Physics of Ferro- and Anti-ferromagnetism: held 2-7 July 1965 in Sverdlovsk

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 6, 1966, 984-989

TOPIC TAGS: ferromagnetism, dielectric constant, dielectric loss, magnetization, temperature dependence, europium compound, oxide, aluminate, silicate, *ELECTRIC PROPERTY, MAGNETIC PROPERTY*

ABSTRACT: The authors have synthesized EuO , Eu_2O_3 , $\text{Eu}_3\text{Al}_2\text{O}_6$, EuAl_2O_4 , Eu_2SiO_4 , and two series of solid solutions containing EuO and CaO , or EuO , CaO , and Eu_2O_3 , and have investigated their magnetic and electric properties. The investigation was undertaken because the high magnetization of divalent europium compounds make them of interest in connection with technical applications and the simple crystal structure of EuO makes it a suitable material with which to compare the predictions of theories of ferromagnetism. The magnetization measurements were made with a Domenikali type pendulum magnetometer in fields up to 19 kOe and at temperatures down to 1.6° K. The ferro- and paramagnetic resonance of EuO was investigated at 9 and 35.7 kHz down to 4.2°K,

Card 1/2

ACC NR: AP6029115

and of the other materials, at room temperature. The dc electrical properties of the materials were investigated and their ultrahigh frequency complex dielectric constants were measured with a resonant cavity technique. Some of the measurement results are presented graphically and others are discussed briefly. The saturation magnetization of EuO, extrapolated to infinite field and 0° K, was found to be 232 Gs cm³/g. The saturation magnetization of Eu₃O₄ was approximately one-third that of EuO, indicating that the ferromagnetic properties of Eu₃O₄ are due to the divalent Eu ion. The low temperature spontaneous magnetization of EuO was a linear function of T^{3/2}, and not of T², whereas that of Eu₃O₄ and of the solid solutions containing it was a linear function of T², and not of T^{3/2}. The aluminates and silicate had a g factor (determined by paramagnetic resonance) of 2, as did EuO, and their spontaneous magnetizations followed the T^{3/2} law. The ultrahigh frequency conductivity of EuO was found to be approximately 5 x 10⁻³ ohm⁻¹ cm⁻¹, which is some six orders of magnitude higher than the dc conductivity. It is suggested that the same ultrahigh frequency dielectric loss mechanism is active in EuO as in the 3d transition metals. Other results than those listed above are presented. The authors thank S.V. Vonsovskiy for his interest and advice. Orig. art. has: 4 figures and 2 tables.

SUB CODE: 20 SUBM DATE: 00 ORIG. REF: 001 OTH REF: 006

Card

2/2 egl

L. 06425-67 ENT(d)/ENT(1)/ENT(m)/EWP(w)/EWP(t)/ETI IJP(o) JD/WW/JG 3
ACC NR: AP6026700 SOURCE CODE: UR/0181/66/008/008/2450/2454

AUTHOR: Samokhvalov, A. A.; Bamburov, V. G.; Volkenshteyn, N. V.; Zotov, T. D.; Ivakin, A. A.; Morozov, Yu. N.; Simonova, H. I. 44 B

ORG: Institute of Metal Physics, AN SSSR, Sverdlovsk (Institut fiziki metallov AN SSSR)

TITLE: Magnetic properties of EuO at low temperatures

SOURCE: Fizika tverdogo tela, v. 8, no. 8, 1966, 2450-2454

TOPIC TAGS: europium compound, spontaneous magnetisation, magnetic susceptibility

ABSTRACT: EuO was prepared by the solid-state reaction $\text{Eu}_2\text{O}_3 + \text{C} \rightarrow 2\text{EuO} + \text{CO}$, and its magnetization curves were plotted for 4.2, 20.4 and 82°K. The temperature dependence of spontaneous magnetisation was measured at 1.7°K and above, and was analyzed from the standpoint of the spin-wave theory. At 4.2 and 20°K, the magnetisation reaches saturation in fields slightly above 4000 Oe. The paramagnetic Curie point and the effective magnetic moment, both determined from the temperature dependence of the magnetic susceptibility, were found to be 75°K and 7.3 μ_B respectively. The exchange integral I was calculated from the low-temperature range ($T < T_0/2$) and found to be equal to 0.394k. It is shown that when the term with $T^{3/2}$ is taken into account in Bloch's law, the range of applicability of Bloch's law expands, but the value of coefficient C_1 at $T^{5/2}$, determined experimentally and giving the best agreement with the experi-

Card 1/2

L 06425-67

ACC NR: AP6026700

mental spontaneous magnetisation curve, differs markedly from the calculated value.
Orig. art. has: 4 figures, 1 table and 3 formulas.

SUB CODE: 20/ SUBM DATE: 10Nov65/ ORIG REF: 002/ OTH REF: 005

Card

2/2 *flh*

ZAYETS, V.K., kandidat sel'skokhozyaystvennykh nauk; KASHICHKINA, M.I.,
kandidat sel'skokhozyaystvennykh nauk; SERGEYEVA, K.D., kandidat
sel'skokhozyaystvennykh nauk; SMOL'YANINOVA, N.K., kandidat sel'sko-
khozyaystvennykh nauk, laureat Stalinskoy premii; SIMONOVA, M.N.,
kandidat sel'skokhozyaystvennykh nauk, laureat Stalinskoy premii;
FILOSOFOVA, T.P.; KAZAKOVA, Ye.D., redaktor; ZUBRILINA, Z.P., tekhnicheskii redaktor; GUREVICH, M.M., tekhnicheskii redaktor

[Breeding barriers; a collection of articles] Seleksiia iagodnykh
kul'tur; sbornik statei. Moskva, Gos. izd-vo selkhoz. lit-ry, 1956.
165 p. (MIRA 9:10)

1. Nauchno-issledovatel'skiy institut sadovodstva imeni I.V.Michurina.
2. Moskovskaya plodovo-yagodnaya opyt'naya stantsiya (for Simonova,
Smol'yaninova)
(Berries)

KAMSHILOV, N.A.; ANTONOV, M.V.; BAKHAREV, A.N.; BLINOV, L.F.; BORISOGLEBSKIY, A.D.; GAR, K.A.; GARINA, K.P.; GORSHIN, P.F.; GUTIYEV, G.T.; DELITSINA, A.V.; DUBROVA, P.F.; YEVTUSHENKO, A.F.; YAGOROV, V.I.; YEREMENKO, L.L.; YEFINOV, V.A.; ZHILITSKIY, Ya.Z.; ZHUCHKOV, N.G., prof.; ZAYETS, V.K.; ISKOL'DSKAYA, R.B.; KOLESNIKOV, V.A., prof.; KOLESNIKOV, Ye.V.; KOSTINA, K.F.; KRUGLOVA, V.A.; LEONT'YEVA, M.N.; LESYUK, Ye.A.; MUKHIN, Ye.N.; NAZARYAN, Ye.A.; NEGRUL', A.M., prof.; ODITSOV, V.A.; OSTAPENKO, V.I.; PETRUSEVICH, P.S.; PROSTOSERDOV, N.N., prof.; RUKAVISHNIKOV, B.I.; RYABOV, I.N.; SABUROV, N.V.; SABUROVA, T.N.; SAVZDARG, V.E.; SEMIN, V.S.; SIMONOVA, M.N.; SMOLYANINOVA, N.K.; SOBOLEVA, V.P.; TARASENKO, M.T.; FETISOV, G.G.; CHIZHOV, S.T.; CHUGUNIN, Ya.V., prof.; YAZVITSKIY, M.N.; ROSSOSHCHANSKAYA, V.A., red.; BALLOD, A.I., tekhn.red.

[Fruitgrower's dictionary and handbook] Slovar'-spravochnik sadovoda. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1957. 639 p.

(MIRA 11:1)

(Fruit culture--Dictionaries)

SIMONOVA, M.V., inzh.

Effect of slime on the results obtained in determining the aggressiveness of underground waters. Trudy Gidroproekta 3:269-279
'60. (MIRA 13:7)

1. Otdel inzhenernoy geologii Vsesoyuznogo proyektno-izyskatel'skogo i nauchno-issledovatel'skogo instituta "Gidroproyekt" imeni S.Ya. Zhuka.
(Volga Hydroelectric Power Station region--Water, Underground--Analysis)
(Carbon dioxide)

1970-1971

Chairman of the Council of Ministers of the USSR, Yuriy Andropov.
1970-1971

(MIRA 17:10)

1. Inzhenerkiy tekhnologicheskij institut imeni Lensoveta.

BOGINYAN, A.I.; OVCHINNIKOVA, T.M.; SIMONOVA, M.V.; SYSOYEVA, V.V.

Dependence of the degree of alkalization of the cathode electrolyte layer on the current density. Zhur. fiz. khim. 38 no.12: 2966 D '64. (MIRA 18:2)

1. Leningradskiy tekhnologicheskij institut imeni Lensoвета.

SIMONOVA, M.V.; ROTINYAN, A.L.

Stepwise reactions in electrochemical kinetics. Usp.khim. 34
no.4:734-754 Ap '65. (MIRA 18:8)

1. Leningradskiy tekhnologicheskij institut imeni Lensoвета.

RODIONOVA, L. L. ELIKONOVA, M. V.

Cathodic-anodic behavior of the cobalt electrode in cobalt
sulfate solutions at different temperatures. *Elektrokhimiya*
1 no.12:1407-1415 D '65. (MIRA 19:1)

L. Leningradskiy tekhnologicheskii institut imeni Lensoвета.

SIMONOVA, M.V.; LOTINYAN, A.I.

Mechanism of the process of cathodic evolution of hydrogen in a simultaneous discharge of hydrogen and cobalt ions. *Elektrokhimiya* 2 no.1:88-92 Ja '66. (MIRA 19:1)

1. Leningradskiy tekhnologicheskii institut imeni Lenseveta.
Submitted December 26, 1964.

1. Effect of organic additives on the resistance of

tin-plating electrolytes against oxidation. (Abstr. of
Int. J. Electrochem. Sci. 1965, 10, 1-2). (MIRA 13:8)

2. Effect of organic additives on the resistance of

POPOVA, T.I.; SIMONOVA, N.A.

Passivation of indium in aqueous solutions. Izv. AN SSSR. Ser.khim. no.
7:1187-1191 J1 '63. (MIRA 16:9)

1. Institut elektrokhemii AN SSSR.
(Electrodes, Indium) (Passivation)

POPOVA, T.I.; SIMONOVA, N.A.; BAGOTSKIY, Y.S.

Mechanism of the oxidation of polyhydric alcohols and formamide
on a platinum electrode. Zhur. fiz. khim. 38 no.10:2452-2455
O 164. (MIRA 18:2)

1. Institut elektrokhemii AN SSSR.

SERGEL', O.S., kandidat meditsinskikh nauk; SIMONOVA, N.G. laborant.

Rapid staining of all blood cells (reticulocytes, blood platelets, and leukocytes) in the same smear; N.G. Simonovaia's technic.
Lab.delo no.1:26-28 Ja-Fe. '55. (MLRA 8:8)

1. Iz klinik-diagnosticheskoy laboratorii (zav.-N.A. Grusdeva) Moskovskogo oblastnogo nauchno-issledovatel'skogo tuberkuleznogo instituta (dir.S.A.Chesnokov, zam.direktora po nauchnoy chasti-prof. D.D. Asseyev)

(BLOOD CELLS,

staining, simultaneous technic in same smear)

(STAINS AND STAINING,

of blood cells, simultaneous technic in same blood smear)

SIMONOVA, N.I.

Derivation of unsaturated ethylcellulose. Trudy LIKI no.3:244-247
'55. (MLBA 9:8)

1. Kafedra obshchey, analiticheskoy i organicheskoy khimii.
(Cellulose ethers)

SIMONOVA, N.I.; PIGULEVSKIY, V.V.

Synthesis of 1-phenyl-3-pyrazolidone (phenidone). Trudy
LIKI no. 5:190-195 '59. (MIRA 13:12)

1. Kafedra obshchey, analiticheskoy i organicheskoy khimii
Leningradskogo instituta kineinzhenerov.
(Photography--Developing and developers)
(Pyrazolidone)

ZHURIN, R.E.; LISHENOK, O.Ye.; ABRITALIN, V.L.; SIMONOVA, N.I.

Some derivatives of 3-pyrazolidinone. Zhur.ob.khim. 31
no.8:2758-2761 Ag '61. (MIRA 14:8)

1. Nauchno-issldeovatel'skiy institut organicheskikh polu-
produktov i krasiteley imeni K. Ye. Voroshilova; Nauchno-
issledovatel'skiy kino-fotoinstitut i Leningradskiy institut
kinoinzhenarov.

(Pyrazolidinone)

SHMIDT, Ya.A.; KEL'TSEVA, O.B.; SIMONOVA, N.I.

Use of nitro paraffins in the production of caprolactam. Khim.prom.
no.1:15-17 Ja '62. (MIRA 15:1)

(Azepinone) (Paraffins)

SIMONOVA, N.I.; USANOV, Yu.Ye.

Synthesis of 4-methyl-1-phenyl-3-pyrazolidinone (phenidone "B").
Zhur.VKHO 7 no.2:239 '62. (MIRA 15:4)

1. Leningradskiy institut kinoinzhenerov.
(Pyrazolidinone)

ABRITALIN, V.I.; ZHURIN, R.B.; SIBONOVA, N.I.; SHIBENKOV, V.I.;
SHUL'GINA, O.Ye.

Investigating the developing properties of 1-phenyl pyrazolidone-3
and other pyrazolidone-3 derivatives. Zhur. nauch. i prikl. fot.
i kin. 10 no.5:321-329 S-0 '65. (MIRA 18:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut (NIKFI),
Nauchno-issledovatel'skiy institut organicheskikh poluproduktov i
krasiteley (NIOPiK) i Leningradskiy institut kinoinzhenerov (LIXI).

LISITSIAN, Nazeli Stepanovna. Prinimali uchastiye: SIMONOVA, N.N.;
DENISOVA, A.A.; NADEZHDINA, A., red.; LEBEDEV, A., tekhn.
red.

[Issuing credit on the basis of the turnover of material values]
Kredit po oborotu material'nykh tsennostei. Moskva, Gosfinizdat,
1961. 166 p. (MIRA 15:2)

1. Institut ekonomiki Akademii nauk SSSR (for Simonova,
Denisova).

(Moscow Province—Credit)

SIMONOVA, N.P.

Secondary abdominal pregnancy of the sixth month for five years
duration. Akush.i gin. no.5:120 '61. (MIRA 15:1)

1. Iz ginekologicheskogo otdeleniya (zav. N.P. Simonova) 9-y
Gorodskoy bol'nitsy (glavnyy vrach A.M. Sysuyeva), Sevastopol'.
(PREGNANCY, EXTRA-UTERINE)

LUKIN, A.M.; ZAVARIKHINA, G.B.; SIMONOVA, N.S.

Analysis of aryl phosphinic acids. Trudy IREA no.23:106-112
'59. (MIRA 13:7)

(Phosphinic acids)

AUTHORS: Shvangiradze, R. R., Simonova, N. V. SOV/32-24-7-43'65

TITLE: The Part Played by Graphite Powder in Spectral Analysis, and Its Use in the Analysis of High-Purity Antimony (Rol'grafitovogo poroshka v spektral'nom analize i yego primeneniye dlya analiza sur'my vysokoy chistoty)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 7, pp. 881 - 883 (USSR)

ABSTRACT: The present paper describes the investigation of the problem whether an addition of graphite powder to powdery samples exerts an influence on the entrance into the gas cloud of the radiation source, and whether a considerable redistribution of the intensity of the spectral bands takes place. The investigations showed a different effect. Additions of graphite powder to powder of metallic antimony or bismuth effected an abrupt change of the sequence of the entrance of admixtures into the gas cloud as well as a redistribution of the intensity of the spectral lines, whereas silicon and germanium show a much weaker effect. The authors used carbon electrodes, with the anode having a crater into which the powder was filled; a current of 10 amp. and 220 V was used, with the electrode

Card 1/3

SOV/32-24-7-43/65

The Part Played by Graphite Powder in Spectral Analysis, and Its Use in the Analysis of High-Purity Antimony

distance being 3 mm. The results obtained were represented graphically as well as in form of tables. It is mentioned that besides a small consumption of metal powder (mixed with graphite at a ratio of 2 : 1) the band intensity of the neutral atoms of the admixtures is considerably increased, whereas that of the ionized atoms is decreased. The observation made that the smaller the excitation energy the greater will be the increase of the band intensity, and that on the other hand the decrease is greater (in the case of ionized atoms) than the excitation energy, is explained by the change of the temperature of the gas cloud of the arc due to the addition of graphite. The temperature of the gas cloud is calculated by means of a formula according to Boltzmann, with the corresponding individual data of the determination being given. From table 2 may be seen that the sensitivity of determination is within the interval of from 10^{-5} to $10^{-4}\%$, which could be achieved by the effect of the graphite powder.

There are 3 figures, 2 tables, and 4 references, 3 of which are Soviet.

Card 2/3

SOV/32-24-7-43/65

The Part Played by Graphite Powder in Spectral Analysis, and Its Use in the
Analysis of High-Purity Antimony

Card 3/3

L 02278-67 EWT(1) IJP(c) AT
ACC NR: AP8025246

SOURCE CODE: UR/0057/66/036/007/1211/1214

74
72
B

AUTHOR: Besshaposnikov, A.A.; Doroshenko, A.N.; Simonova, N.V.; Chelidze, T.Ye.

ORG: none

TITLE: Observation of "curved" spectrum lines in a pulsed high frequency plasma

21

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 7, 1211-1214

TOPIC TAGS: hydrogen plasma, rotating plasma, plasma velocity, ion concentration, ion temperature, magnetic mirror, optic spectrum

ABSTRACT: The authors have spectroscopically observed the rotational velocities and the radial distributions and temperatures of impurity O^+ and Si^{++} ions in hydrogen plasma filaments. The plasmas were produced by a 1.5 MHz pulsed rotating dipole field in a 6.5 cm diameter 1 meter long glass tube containing hydrogen at from 0.02 to 0.25 mm Hg and were confined by a magnetic mirror system with a mirror ratio of 1.57 and a field strength in the uniform field region of 7.2 kOe. Additional stabilization was provided by an up to 216 cusped octupole field corresponding to a diameter of 2 cm. Two conditions of operation were distinguished: "direct rotation", in which the forces on the particles due to interaction of the high frequency currents in the plasma with the quasistatic field were directed toward the axis of the chamber, and "reverse rotation", in which those forces were directed toward the wall of the chamber. The OII 4649 Å and SIII 4552 Å lines were observed with a spectrometer having a dispersion

UDC: 533.9.07

Card 1/2

L 02278-67

ACC NR: AP6025246

2

of 4 Å/mm and a resolution of 0.1 Å. The lines were very weak and were recorded with the aid of a multistage electron-optical image converter. The radial distributions of the ion concentrations were determined (in arbitrary units) from the relative intensities of the portions of the lines arising from different parts of the plasma filament, the radial distribution of the rotational velocity was determined from the Doppler shifts of different parts of the lines, and the temperatures of the impurity ions were also determined, presumably from the Doppler broadening. In direct rotation the impurity ion concentration decreased more or less monotonically from the axis to the periphery of the plasma filament; in reverse rotation the ion concentration increased with increasing distance from the axis, passed through a maximum, and then decreased toward the periphery. The rotational velocity was also maximum at some distance from the axis. The rotational velocity was of the order of 10^6 cm/sec at about 1 cm from the axis. The direct rotational velocities decreased with increasing octupole field strength, and the reverse rotational velocities increased with increase of the octupole field strength up to about 144 Oe and decreased with further increase of the octupole field strength. With increasing octupole field strength, the ion temperature decreased in direct rotation and increased in reverse rotation. Ion temperatures up to 20 (units not stated) were observed. The authors thank R.A. Demirkhanov and T.J. Gutkin for suggesting the problem and for their interest in the work. Orig. art. has: 5 figures and 1 table.

SUB CODE: 20

SUBM DATE: 02Aug65

ORIG. REF: 002

OTH REF: 004

Card 2/2 vmb

L 32622-66 FBD/EWT(1)/EEC(k)-2/ETC(f)/I/EWP(k) IJP(c) WG/AT

ACC NR: AP6015598

SOURCE CODE: UR/0368/66/004/005/0458/0459

AUTHOR: Besshaposhnikov, A. A.; Voloshin, A. Ye.; Kuchuberiya, I. Kh.; Simonova, N.V.

ORG: none

TITLE: Measurement of electron temperature of a plasma by means of scattered laser radiation

SOURCE: Zhurnal prikladnoy spektroskopii, v. 4, no. 5, 1966, 458-459

TOPIC TAGS: laser application, plasma electron, electron temperature, LASER RADIATION, LASER BEAM

ABSTRACT: The authors used a laser beam to measure the electron temperature in a setup in which the plasma was produced by a rotating high-frequency dipole at 2.45 Mc in a quasistationary field of mirror configuration. The vacuum chamber was a glass tube 50 mm in dia. and 1000 mm long (Fig. 1). The spectrum of the plotted radiation was measured point by point and the electron temperature was calculated from the smoothed spectrum and found to be $T_e \approx 4$ ev. From the presence of a shift in the scattered radiation relative to the incident radiation it is deduced that the electrons move axially with velocity $\sim 10^8$ cm/sec. The reason for this phenomenon, and also the details of the fine structure of the scattered radiation, are still unclear. The authors thank R. A. Demirkhanov for suggesting the investigation and for continuous interest. Orig. art. has: 2 figures.

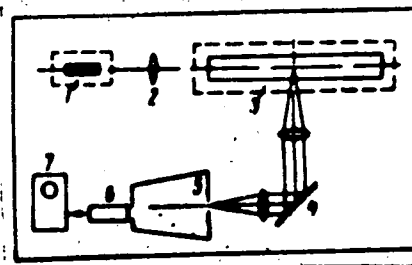
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UDC: 533.9.07

L 32622-66

ACC NR: AP6015598

Fig. 1. Block diagram of the measurement apparatus. 1 - Ruby laser, 2 - lens, 3 - vacuum chamber, 4 - optical focusing system, 5 - spectrograph, 6 - photomultiplier, 7 - oscilloscope.



SUB CODE: 20/ SUBM DATE: 12Jul65/ OTH REF: 004

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ACC NR: AP6023186

SOURCE CODE: CZ/0082/65/028/005/0325/0333

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AUTHOR: Roth, B.; Figar, S.; Simonova, O.

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TITLE: Respiration in narcolepsy and hypersomnia. Correlation of pneumographic and electroencephalographic data

SOURCE: Ceskoslovenska neurologie, v. 28, no. 5, 1965, 325-333

TOPIC TAGS: biologic respiration, EEG, man, nervous system disease

ABSTRACT: Study of pneumographic and electroencephalographic recordings in 24 patients with essential and 8 with secondary (mostly posttraumatic) narcolepsy, 9 with hypersomnia and 4 with miscellaneous neurologic diseases and 11 healthy controls. The differences between the groups were relatively small and irregular; the findings are described in detail. Orig. art. has: 6 figures and 1 table. [Based on Eng. abst.] [JPRS]

SUB CODE: 06 / SUEM DATE: none / ORIG REF: 003 / OTH REF: 012

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LESNY, Ivan, Doc., dr.; SIMON, Jiri, Dr.; SIMONOVA, Olga, Dr.

Chronaximetric measurement of muscles in deformities following poliomyelitis. Acta chir. orthop. traum. cech. 22 no.4:134-139 July 55.

1. Neurologicka klinika akademika Hennera, Janske Lazne.
(POLIOMYELITIS, pathology,
musc., chronaximetric variations in deformities)
(MUSCLES, in various diseases,
polio., chronaximetric variations in pathol.
changes.)

HANZAL, F.; PROCHAZKOVA, Z.; SIMONOVA, O.

Clinical significance of pleocytosis in the cerebrospinal fluid.
Cesk. neur. 24 no.2:104-109 Mr '61.

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(CEREBROSPINAL FLUID chem)
(LYMPHOCYTOSIS cerebrospinal fluid)