Zhavoronkova, T. K.

PHASE I BOOK EXPLOITATION SOV/1297

Vsesoyuznaya nauchno-tekhnicheskaya konferentsiya po primeneniyu radioaktivnykh i stabil'nykh izotopov i izlucheniy v narodnom khozyaystve i nauke, Moscow, 1957

Polucheniye izotopov. Nechetnyye gamma-ustanovki. Radiometriya i dozimetriya; trudy konferentsii... (Isotope Production. High-energy Gamma-radiation Facilities. Radiometry and Dosimetry; Transactions of the All-Union Conference on the Use of Radioactive and Stable Isotopes and Radiation in the National Economy and Science) Moscow, Izd-vo AN SSSR, 1958. 293 p. 5,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR; Glavnoye upravleniye po ispol'zovaniyu atomnoy energii SSSR.

Editorial Board: Frolov, Yu.S. (Resp. Ed.), Zhavoronkov, N.M. (Deputy Resp. Ed.), Agintsev, K.K., Alekseyev, B.A., Bochkarev, V.V., Lazhechnikov, N.I., Malkov, F.P., Sinitsyn, V.I., and Popova, O.L. (Secretary); Tech. Ed.: Novichkov, N.D.

PURPOSE: This collection is published for scientists, technologists, persons engaged in medicine or medical research, and others concerned with the production and/or use of radioactive and stable isotopes and radiation.

COVERAGE: Thirty-eight reports are included in this collection under three main subject divisions: 1) production of isotopes 2) high-energy gamma-radiation facilities, and 3) radiometry and dosimetry.

TABLE OF CONTENTS:

PART I. PRODUCTION OF ISOTOPES

MAKAR'YANTS, A.I.; ZAGLODINA, T.V.; SHUVALOVA, Ye.D.

Determination of small amounts of copper, silver and bismuth in lead. Sbor.nauch.trud.GIPTSVETMET no.12:130-137 '56. (MLRA 10:2)
(Metallurgical analysis) (Nonferrous metals--Metallurgy)

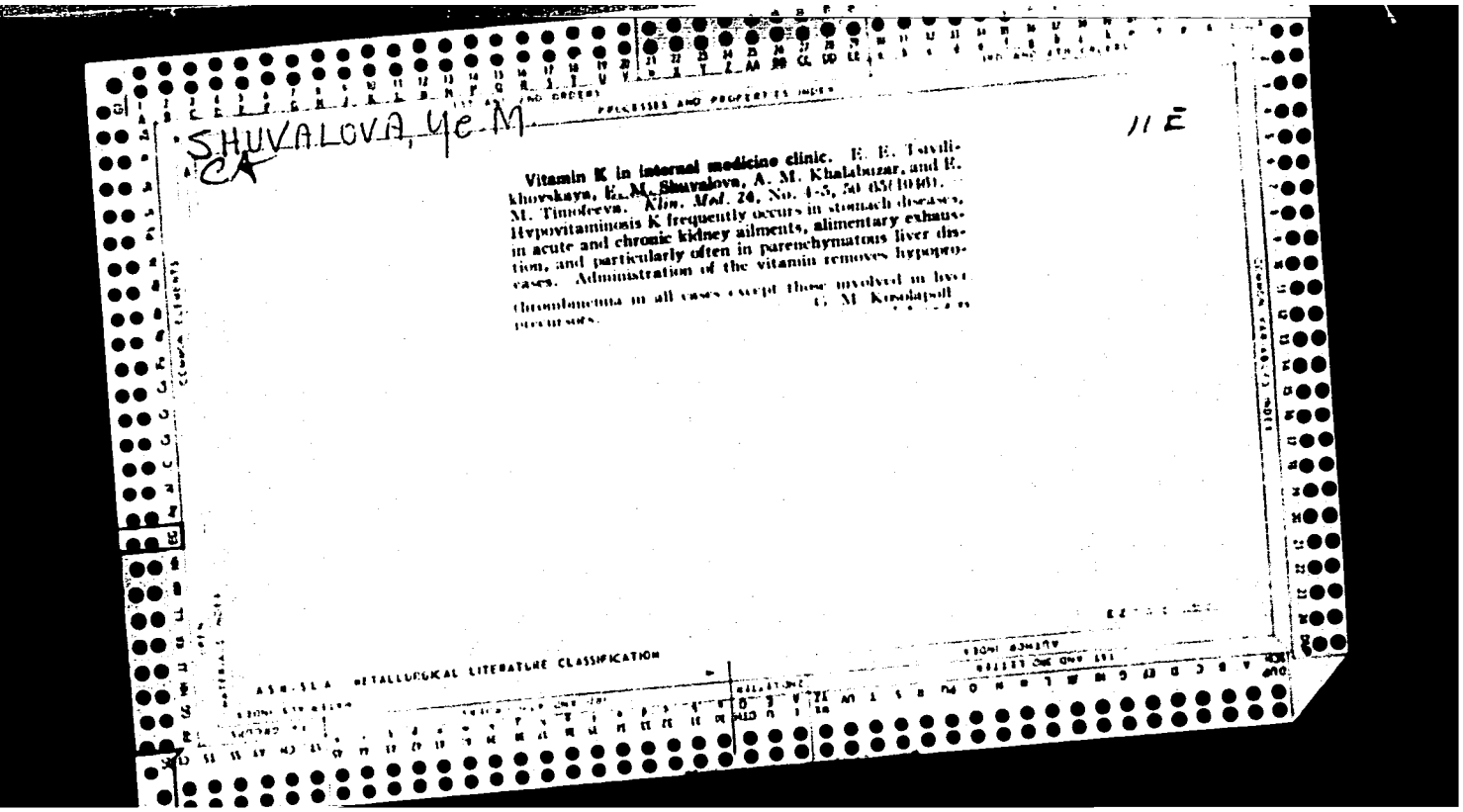
MAKAR'YANTS, A.I.; ZAGLODINA, T.V.; SHUVALOVA, Ye.D.; MINENKO, A.N.; PATS, R.G.

New method for the determination of zinc in aluminum and silumin. Sbor.nauch.trud.GINTSVETMET no.12:138-143 '56. (MLRA 10:2)
(Aluminum--Analysis) (Zinc) (Metallurgical analysis)

PATS, R.G.; VASIL'YEVA, L.N.; ZAGLODINA, T.V.; SHUVALOVA, Ye.D.

Polarographic determination of lead and tellurium in technical selenium. Zav.lab. 29 no.8:928-929 '63. (MIRA 16:9)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut tsvetnykh metallov.
(Lead--Analysis) (Tellurium--Analysis)
(Polarography)



SHUVALOVA, Ye. M.
CA

11 E

Vitamin K in internal medicine clinic. E. E. Tavildarova, Ye. M. Shuvalova, A. M. Khalatbazar, and E. M. Timofeeva. *Klin. Med.* 24, No. 4-5, 50-65(1946).
Hypovitaminosis K frequently occurs in stomach diseases, in acute and chronic kidney ailments, alimentary exhaustion, and particularly often in parenchymatous liver diseases. Administration of the vitamin removes hypoprothrombinemia in all cases except those involved in liver
G. M. Kosolapoff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

SHUVALOVA, YE.P.

KOSMODAMYANSKIY, V.N.; CHERNOV, N.V.; SHUVALOVA, Ye.P.

Koz'ma Trofimovich Glukhov; obituary. Zhur. mikrobiol. epid. i immun. no.5:85-86 My '54. (MLRA 7:7)
(GLUKHOV, KOZ'MA TROFIMOVICH, 1879-1953)

SHUVALOVA, Ye.P.

[Vaccination against contagious diseases] Privivki protiv zaraznykh bolesney. [Leningrad] Medgiz, 1955. 29 p. (MLRA 9:7)
(VACCINATION)

SHUVALOVA, Ye.I., dots. STARKOVA, T.G.

Clinical and bacteriological data on the treatment of dysentery with synthomycin. Trudy LMI 2:251-257 '55 (MIRA 11:8)

1. Kafedra infektsionnykh bolezney (zav.-prof. K.T. Glukhov [deceased] i Kafedra mikrobiologii (zav. - prof. V.N. Kosmodamianskiy) Pervogo Leningradskogo meditsinskogo instituta imeni I.P. Pavlova.
(DYSENTERY)
(CHLOROMYCETIN)

STAR[illegible], CHUVALOVA, Ye.P., dots., BASHMAKOVA, M.A.

Increase in the resistance of dysentery bacteria to synthomycin and levomycetin. Trudy LMI 2:258-266 '55 (MIRA 11:8)

1. Kafedra mikrobiologii (zav. - prof. V.N. Kosmodamianskiy) i Kafedra infektsionnykh bolezney (zav. - prof. K.T. Glukhov [deceased]) Pervogo Leningradskogo meditsinskogo instituta imeni akademika I.P. Pavlova.
(SHIGELLA PARADYSENTERIAE)
(CHLORCMYCETIN)

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

Abs Jour : Referat Zhurn - Biol. No 16, 25 Aug 1957, 68450

Author : Bartashevich, N.S., Shuvalova, E.P.
Title : Increased Resistance of Dysentery Bacteria to Biomycin.

Orig Pub : Kishechnie Infektsiy. Vopr. Bakteriol., Immunol., i Kliniki Buyushn., Tifa i Disenterii, L. Medgiz, 1956, 140-148

Abstract : Bacteriostatic action of biomycin (I) on different strains of dysentery bacteria is clearly manifested at concentrations of 0.4-6.8 γ/ml. By the 15th passage through the medium containing I, the resistance of the bacteria to the antibiotic increased significantly. At the same time a change in the morphologic and cultural properties of the strain was noted.

Card 1/1 - 20 -

SHUVALOVA, Ye.P.; BARTASHEVICH, N.S.

Clinical observations and bacteriological data on combined antibiotic therapy for children with dysentery. Zhur. mikrobiol. epid. i immun. 31 no. 5:103-104 My '60. (MIRA 13:10)

1. Iz kafedry infektsionnykh bolezney i kafedry mikrobiologii I Leningradskogo meditsinskogo instituta imeni akademika Pavlova.
(ANTIBIOTICS) (DYSENTERY)

STARKOVA, T.G.; SHUVALOVA, Ye.P.; SOLDATOVA, V.M.; TKACHEVA, T.V.
(Leningrad)

Leucocyte reaction and immunological indices in rabbits in response to teh action of X rays. Med.rad. no.7:87-88 '61. (MIRA 15:1)

(X RAYS—PHYSIOLOGICAL EFFECT) (LEUCOCYTES)
(IMMUNITY)

SHUVALOVA, Ye.P.

Effectiveness of treating dysentery with antibiotics in combination with iodinol. Antibiotiki 6 no.12:1111-1114 D '61. (MIRA 15:2)

1. Kafedra infektsionnykh bolezney I Leningradskogo meditsinskogo instituta imeni I.P.Pavlova.
(DYSENTERY) (IODINE) (ANTIBIOTICS)

SHUVALOVA, Ye.P.

Effect of levomycetin on the agglutination reaction and on some natural resistance indices in vaccinated rabbits. Antibiotiki 7 no.6:514-519 Je '62. (MIRA 15:5)

1. Kafedra infektsionnykh bolezney I Leningradskogo meditsinskogo instituta imeni akademika I.P.Pavlova.
(LEVOMYCETIN) (DIPHTHERIA--PREVENTIVE INOCULATION)
(AGGLUTINATION)

SHUVALOVA, Ye.P.; PUNI, I.N.; KOCHETOV, Yu.I.; CHALKINA, O.M.

Clinical data on the effectiveness of the therapeutic use of antigrippin in children and adults. Vrach. delo no.9:111-114 S 53. (MIRA 16:10)

1. Kafedra infektsionnykh bolezney 1-go Leningradskogo meditsinskogo instituta imeni akad. I.P.Pavlova, bol'nitsa imeni S.P.Botkina i otdel virusologii Instituta eksperimental'noy meditsiny AMN SSSR.
(INFLUENZA) (SERUM THERAPY)

SHUVALOVA, Ye.P.

Experience in the treatment of dysentery in children with antibiotics and serum polyglobulins. Antibiotiki 8 no.3:276-279 Mr'63 (MIRA 17:4)

1. Kafedra infekstionnykh bolezney (zav. B.L. Ittsikson) I Leningradskogo meditsinskogo instituta imeni akademika Pavlova.

SHUVALOVA, Ye.V.

Infrared spectroscopic studies of the aging of polyvinylethylal. Vysokom.soed. 1 no.12:1749-1753 D '59.
(MIRA 13:5)

1. Nauchno-issledovatel'skiy institut polimerizatsionnykh plastmass, Leningrad.
(Vinyl compounds) (Methane)

24(7) SOV/51-6-5-24/34

AUTHOR: Shuvalova, Ye. V.

TITLE: The Effect of Solvents of Electron-Donor Type on the Absorption Band of the Valence CH-Vibration of Acetylene (Vliyaniye elektronodonornykh rastvoriteley na polosu pogloshcheniya valentnogo CH-kolebaniya atsetilena)

PERIODICAL: Optika i Spektroskopiya, 1959, Vol 6, Nr 5, pp 696-698 (USSR)

ABSTRACT: The paper reports studies of intermolecular interaction of acetylene with solvents (acetone, dioxane, pyridine) capable of donating electrons. An infrared Perkin-Elmer spectrometer (model 12B) with a LiF prism was used together with an amplifier FEOU-18 and an electronic potentiometer EPP-09. Fig 1 shows the infrared absorption spectra of acetylene in the region of the valence CH-vibrations. Acetylene was dissolved in CCl_4 (curve 1 Fig 1) or in an electron-donor solvent: acetone, dioxane, pyridine (curves 2-4 respectively). With increase of the ability of the solvent to donate electrons, i.e. going from acetone to pyridine, the CH-band is displaced towards lower frequencies and its half-width increases (Fig 1 and Table 1). In mixed solvents (CCl_4 and one of the three electron donors listed above) two maxima were observed in the CH-band (Fig 2). The high-frequency maxima (3260-3265 cm^{-1}) are due to acetylene molecules which do not interact with electron-donor solvents.

Card 1/2

SOV/51-6-5-24/34

The Effect of Solvents of Electron-Donor Type on the Absorption Band of the Valence CH-Vibration of Acetylene

The low-frequency maxima are due to acetylene molecules bound by means of a hydrogen bond with molecules of acetone, dioxane or pyridine. Frequencies of the monomeric (ν_m) and the associated (ν_a) CH-absorption bands of acetylene, dissolved in mixed solvents, are listed in Table 2. Comparison of the data in Tables 1 and 2 shows that the position of the monomeric band is practically unaffected by the addition of acetone, dioxane or pyridine to the solution, while the position of the associated band in mixed solvents is displaced by 15-25 cm^{-1} compared with its position in pure electron-donor solvents. The experimental facts listed above all show that a hydrogen bond is formed between the CH-group of acetylene and acetone, dioxane or pyridine (further studies on the nature of this bond are necessary). Acknowledgment is made to Professor V.M. Chulanovskiy who directed this work. There are 2 figures, 2 tables and 7 references, 4 of which are English, 1 Soviet, 1 translation from English into Russian and 1 mixed (English and Soviet).

SUBMITTED: October 27, 1958

Card 2/2

24(7),7(3),5(4)
AUTHORS: Popova, G. S., Shuvalova, Ye. V. SOV/48-23-10-13/39

TITLE: Comparative Investigation of Photo- and Thermal Aging of the Acetals of Polyvinyl Alcohol by the Method of Infrared Spectroscopy

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 1o, pp 1205-1207 (USSR)

ABSTRACT: By using a spectrometer of the type IKS-11 with NaCl- and LiF-prisms the effects produced by aging upon infrared absorption spectra were investigated and the conclusions to be drawn from the variations were discussed. In the introduction several results obtained by the investigations carried out by other authors in this connection are given. Photo-aging (irradiation by means of a PRK-2-lamp) and thermal aging (at 150°) was investigated on polyvinyl ethylal and polyvinyl butyral. Both kinds of aging in both polymers cause a decrease of the content in OH-, CH-, C-O-groups and an increase in C=O groups; the intensities of the bands 3300 - 3600, 2800 - 3000, 1500 - 1500 and 1100 - 1200 cm^{-1} decrease, and that of the band with 1730 cm^{-1} increases. Further

Card 1/3

variations occurring in the spectra of the simultaneously aged polyvinyl ethylal samples are discussed, which are the same for both kinds of aging. Differences are found in the investigation of the kinetics of the formation and decay of functional groups as well as in the investigation of the behavior of absorption bands of the OH groups. Figure 1 shows the absorption spectra of polyvinyl butyral within the range of 900 - 3700 cm^{-1}, both of the original sample and of that aged under various conditions. Figure 2 shows the variation with respect to time of polyvinyl butyral band intensities in the case of photo- (solid curve) and in thermal aging (dotted line) for the infrared absorption of the OH groups, the C=O groups, and the C-O groups.

Comparative Investigation of Photo- and Thermal Aging of the Acetals of Polyvinyl Alcohol by the Method of Infrared Spectroscopy

SOV/48-23-10-13/39

Only the curve of the time dependence of the intensity of C=O bands (in photo-aging) has a marked maximum. The relations seen from the diagrams are briefly discussed. The authors finally thank V. M. Chulanovskiy for his interest in the investigation and for invaluable advice. There are 2 figures and 4 references, 2 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut polimerizatsionnykh plastmass (Scientific Research Institute for Polymerized Plastics)

Card 3/3

SHUVALOVA, YE.V.

PHASE I BOOK EXPLOITATION SOV/5151

Leningrad. Universitet

Molekulyarnaya spektroskopiya (Molecular Spectroscopy) [Leningrad] Izd-vo Leningr. univ., 1960. 193 p. 4,700 copies printed.

Resp. Ed.: F. I. Skripov; Eds.: Ye. V. Shchemeleva and V. D. Piastro; Tech. Ed.: S. D. Vodolagina.

PURPOSE: This collection of articles is intended for scientific workers, instructors and students of physics and chemistry. It may also be used by engineers and technicians employing molecular spectroscopy.

COVERAGE: The collection of articles describes spectroscopic studies of liquids and solutions, and includes data on applied molecular spectroscopy. Individual articles deal with the molecular interaction in solutions, and specifically with the hydrogen bond problem. Works on the optimum utilization of spectral apparatus and on the analytical application of molecular spectroscopy are also included.

Aspects of the structure of high and low molecular compounds and of molecular complexes are also covered. The collection was published in honor of the 70th birthday of Professor Vladimir Mikhaylovich Chulanovskiy, Soviet specialist in molecular spectroscopy and spectral analysis. There are no references.

TABLE OF CONTENTS:

SHUVALOVA, YE. V.

STRUCTURE AND PHYSICAL PROPERTIES OF MATTER IN A LIQUID STATE reports read at the 4th Conference convened in KIYEV from 1 to 5 June 1959, published by the Publishing House of KIYEV University, KIYEV, USSR, 1962

A1

SHUVALOVA, Ye.V.

Spectroscopic manifestation of hydrogen bonding in diacetylene solutions. Opt.i spektr. 13 no.1:145-147 Jl '62. (MIRA 15:7)
(Butadiene—Spectra) (Hydrogen bonding)

S/048/62/026/010/002/013
B101/B186

AUTHORS: Chulanovskiy, V. M., Bulanin, M. O., Denisov, G. S., Shuvalova, Ye. V., and Shchepkin, D. N.

TITLE: Effect of the solvent on the infrared spectrum of the substance, and its consideration in analytical work

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 10, 1962, 1230 - 1236

TEXT: The variation in the spectrum of a solvent in the presence of a dissolved substance, and thus also of its absorption coefficient, is discussed on the basis primarily of Western publications. Reference is made to a paper by M.-L. Josien et al. (Compt. rend. Acad. sci., 249, 256 (1959)) concerning the dependence of symmetrical and asymmetrical vibrations of the CH_2 group in CH_2Cl_2 on the concentration, confirmed experimentally by the present authors. The 3630 cm^{-1} which characterises the formation of H bonds was found for methyl alcohol, just as it had been found for benzyl alcohol by J.J. Fox, A. E. Martin (Trans. Farad. Soc., 36, 897 (1940)). In contrast to M. Van Thill, E. D. Becker, J. C. Pimentel (J. Chem. Phys., 27,

Effect of the solvent on the infrared ...

95 (1957)), the splitting of the 3340 and 3520 cm^{-1} bands of methanol dissolved in N_2 at 20°K is not attributed to different types of molecular associations but to different types of H bonds. On the other hand, it was found in the author's laboratory that the stretching vibration band of the NH group in diethyl or dimethyl amine was a singlet, which is explained by different distributions of electrons in the alcohol and the amine. The formation of different types of associations of the oxygen atom was observed for the C=O band of ketones dissolved in hexane after addition of chloroform. With camphor, all three bands of the carbonyl group successively appear with increasing concentration of chloroform: one band for the monomer group and two for the associated group. Such types of intermolecular bonds are compared with coordination bonds, and are explained by incomplete saturation of atoms in the molecule. There are 5 figures.

Card 2/

SMIRNOVA, Ye. Ye.

"Withdrawal [illegible] of a Severance of Polynomials." Sub 10 Dec 51, Moscow Order of Lenin State U im. M. V. Lomonosov.

Dissertations presented for science and an engineering degree in Moscow during 1951.

SO: Sum. No. 480, 2 May 52.

SHAVALOVA, YE. F.

Convergence

Overconvergence of a sequence of polynomials. Mat. sbor., 31, no. 1, 1952

Monthly List of Russian Accessions, Library of Congress October 1952 UNCLASSIFIED.

SHUVALOVA, Z.A. (Sverdlovsk, ul. Fevral'skoy revolyutsii, 44, kv. 1)

Osteoma of the anterior mediastinum in a child. Vest. khir. 74 no.5:79-80 Jl-Ag '54. (MLRA 7:10)

1. Iz kliniki detskoy khirurgii (zav. prof. A.F.Zverev) Sverdlovskogo meditsinskogo instituta.

(OSTEOMA, mediastinum, in child)
(MEDIASTINUM, neoplasms, osteoma, in child)

SHUVALOVA, Z.A.

Unusual abnormality of intestinal development. Vest.khir.76 no.8:110-111 S '55. (MLRA 8:11)

1. Iz kliniki detskoy khirurgii (zav.prof. A.F.Zverev) Sverdlovskogo meditsinskogo instituta. Sverdlovsk, ul. Fevral'skoy revolyutsii, d.44, kv.1.

(INTESTINES, abnormalities
mageduodenum with stenosis & diverticulum of small intestine)
(ABNORMALITIES
same)
(DUODENUM, abnormalities
same)

SHUVALOVA, Z.A.

The most effective method for the treatment of rectal prolapse in children. Pediatriia 39 no.6:56-58 N-D '56. (MLRA 10:2)

1. Iz kliniki detskoy khirurgii (zav. - prof. A.F.Zverev) Sverdlovskogo meditsinskogo instituta.
(RECTUM, diseases,
prolapse in child., ther. (Rus))

SHUVALOVA, Z.A. Cand Med Sci -- (diss) "Prolapsus of the Rectum in Children and Its Treatment by ~~Alcohol~~ Galeotol Injections into Pararectal Cellular Tissue." Sverdlovsk, 1958, 13 pp (Sverdlovsk State Med Inst). 100 copies (KL 10-58, 122).

SHUVALOVA, Z.A.

Surgical treatment of resorbtive forms of hydrocephalus in childhood. Vop. neirokhir 24 no. 2:33-35 Mr-Sp '60. (MIRA 14:1)
(HYDROCEPHALUS)

SHUVALOVA, Z. A., kand. med. nauk

Acute iliac adenitis in childhood. Pediatriia no.11:39-43 '61.
(MIRA 14:12)

1. Iz kliniki detskoy khirurgii (zav. - prof. A. F. Zverev) Sverdkovskogo gosudarstvennogo meditsinskogo instituta.

(ILIUM) (LYMPHATICS--INFLAMMATION)

BAYANDIN, P.A. (Murmansk); SHVETSOV, I.M.; TIMOFEYEVA, N.V.; KOVAL', V.P.; KOZLOVA, E.Z.; TRET'YAKOV, N.I. (Kaliningrad); MAMEDOV, E.Sh. (Poselok Martuni, AzerSSR); BOROVYY, Ye.M.; DULAYEV, S.G. (Grodno); GERASIMOV, B.A. (Lugansk); MEL'NIK, L.A. (Chernovtsy) ; MIGAL',L.A.; GUBANOV, A.G.; GOROVENKO, G.G. (Kiyev); SHAROV, B.K. (Chelyabinsk); SHUVALOVA, Z.A. (Sverdlovsk) NEYMARK, I.I.; ARYAYEV, L.N. (Odessa); KABANOV, A.N.; KONOVALOV, Yu.S.; ZAK, V.I. (Orenburg);MIKHAYLOV, M.M.; SEZ'KO, A.D. (Voronezh); SHALAYEV, M.I.; DONIN, V.I. (Saratov).

Abstracts. Grudn. khir. 5 no.3:110-126 My-Je'63 (MIRA 17:1)

1. Iz kafedry normal'noy anatomii Ryazanskogo meditsinskogo instituta imeni akademika I.P.Pavlova (for Shevtsov). 2. Iz Sochinskogo nauchno-issledovatel'skogo instituta kurortologii i fizioterapii Ministerstva zdravookhraneniya RSFSR (for Timofeyeva). 3. Iz khirurgicheskogo otdeleniya Ternopol'skoy klinicheskoy gorodskoy bol'nitsy (for Koval'). 4. Iz kafedry topograficheskoy anatomii i operativnoy khirurgii (zav. - prof. A.P. Sokolov). Permskogo meditsinskogo instituta (for Kozlova). 5. Iz khirurgicheskogo otdeleniya (zav. - Ye. M. Borovyy) Rovenskoy oblastnoy bol'nitsy (glavnyy vrach - UkrSSR V.M. Vel'skiy) (for Borovyy).

(Continued on next card)

BAYANDIN, P.A.--- (continued) Card 2.

6.Iz fakul'tetskoy khirurgicheskoy kliniki (dir. - prof. I.M. Popov'yan) i gospital noy terapevticheskoy kliniki (dir. - prof. L.S.Shvarts) lechebnogo fakul'teta Saratovskogo meditsinskogo instituta (for Migal'). 7. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. I.I.Neymark) Altayskogo meditsinskogo instituta (for Neymark). 8. Iz Novosibirskogo gorodskogo protivotuberkuleznogo dispansera (for Kabanov). 9. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. I.A.Ivanov) Permskogo meditsinskogo instituta (for Shalayev).

SHUVALOVA, Z.A., kand. med. nauk

Treatment of children with rectal prolapse by alcohol injections into the pararectal cellular tissue. Khirurgiia 39 no.4:76-81 Ap'63 (MIRA 17:2)

1. Iz kliniki detskoy khirurgii (zav. - prof. A.F. Zverev) Sverdlovskogo meditsinskogo instituta.

L 53731-65 EWT(d)/EWT(l)/EPF(c)/EPF(n)-2/EPR/EPA(bb)-2 Pr-4/Ps-4/Pu-4 WW/GS
ACCESSION NR: AT5010485 UR/0000/65/000/000/0126/0136

33
B+1

AUTHOR: Danilov, Yu. I. (Candidate of technical sciences); Galitsevskiy, B. M. (Engineer); Shuvanov, N. I. (Engineer)

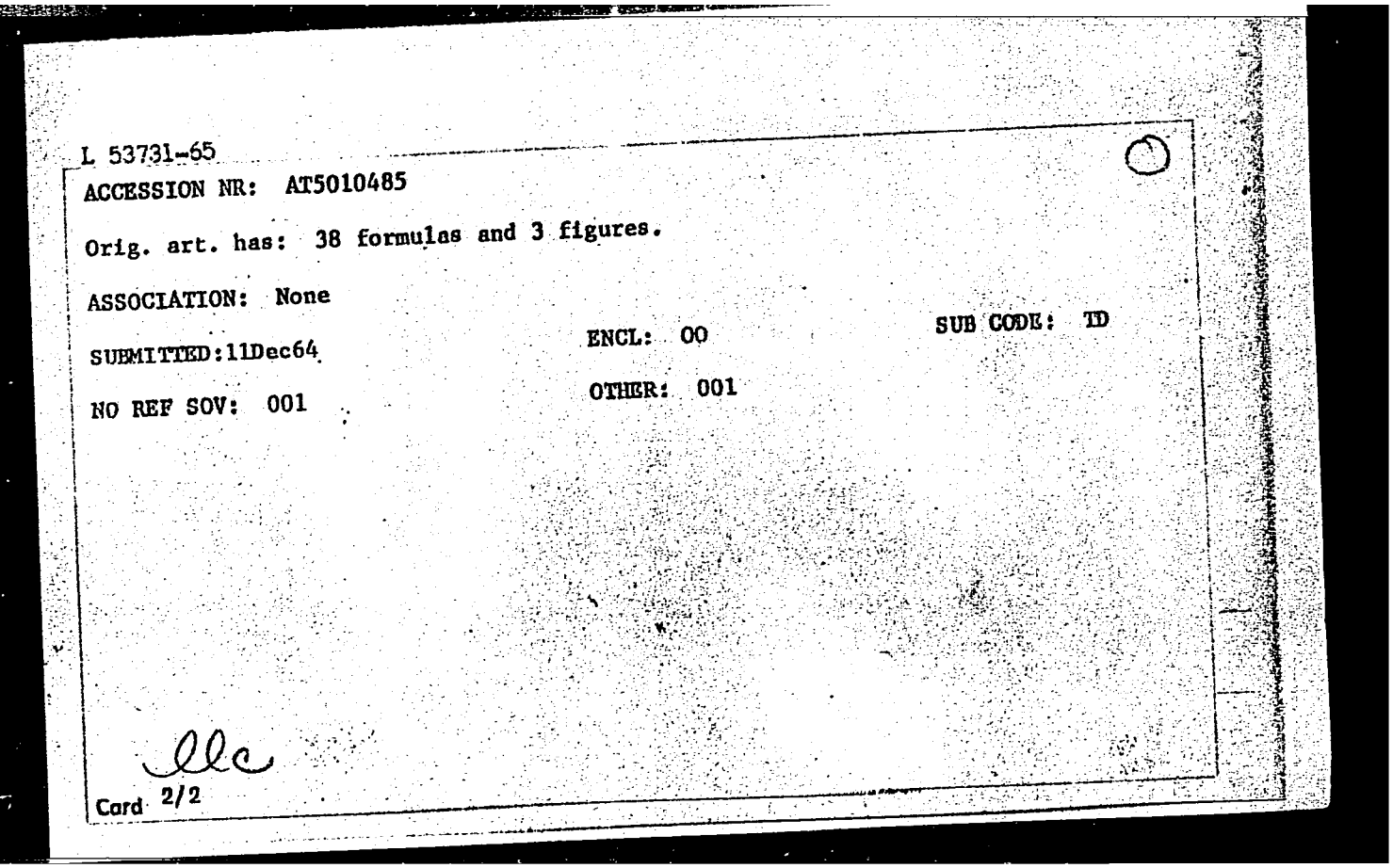
TITLE: Design of heat exchangers with internal heat sources and heat sinks

SOURCE: Issledovaniye teploobmena v potokakh zhidkosti i gaza (Investigation of heat exchange in liquid and gas flows). Moscow, Izd-vo Mashinostroyeniye, 1965, 126-136

TOPIC TAGS: heat exchanger design, heat exchanger element, multilayer heat exchanger, point sink heat exchanger, internal heat sources, internal heat sink

ABSTRACT: The exact calculations in connection with the design of heat exchangers containing internal heat sources and sinks are quite difficult; consequently, it is very important to have even approximate computational formulas. Such expressions are derived for the case of a plate-like element. Formulas are also given for the temperature distribution within a multilayer wall with internal heat sources and sinks. The authors note that the method of point sinks permits simple calculations of even the most complicated heat exchange devices with internal sources and sinks. However, the method supplies sufficient accuracy only in the case of a sufficiently small size of the relative hydraulic diameter.

Card 1/2



L 53731-65

ACCESSION NR: AT5010485

Orig. art. has: 38 formulas and 3 figures.

ASSOCIATION: None

SUBMITTED: 11Dec64 ENCL: 00 SUB CODE: TD

NO REF SOV: 001 OTHER: 001

llc

Card 2/2

SAPIR, A.D.; BIRYUKOV, N.D.; KATAL'NIKOV, S.G.; FROLOVA, Z.M.; REGINA, V.R.; SHUVANOVA, N.V.; KRASHENINNIKOVA, Ye.P.; BLINOVA, R.V.

Exchange of experience. Zav.lab. 28 no.6:670-671 '62. (MIRA 15:5)

1. Chelyabinskiy metallurgicheskiy zavod (for Sapir). 2. Institut neorganicheskoy khimii Sibirskogo otdeleniya AN SSSR (for Biryukov). 3. Moskovskiy khimiko-tekhnologicheskiy institut imeni Mendeleyeva (for Katal'nikov, Frolova).

(Chemistry, Analytical)

L 40279-66 EWT(1) GS

ACC NR: AR6014572 SOURCE CODE: UR/0169/65/000/011/B076/B077

AUTHORS: Chubukov, L. A.; Shvareva, Yu. N.

TITLE: A weather-climate map of Kazakhstan

SOURCE: Ref. zh. Geofizika, Abs. 11B512

REF SOURCE: Sb. Geogr. probl. osvoyen. pustyn. i gorn. territoriy Kazakhstana. Alma-Ata, Kazakhstan, 1965, 103

TOPIC TAGS: climatology, climate, weather map, weather station, meteorologic observation, freezing

ABSTRACT: A weather map of the structure of the climates of Kazakhstan is composed. The results of analysis of materials of meteorological observations of 30 stations of Kazakhstan for 1932--1954 were used to construct the map. The features of the weather structure of the climate of all the basic landscape-climactic zones of Kazakhstan (forest steppe, steppe, semiarid land, desert) and the upper-air zonation in its southern mountain regions are explained. The weather structures of the climate were analyzed by the method of combined climatology. A catalog of daily weather and a classification of local weather constructed on a morphological basis were used. All classes of weather were subdivided into three basic groups: frostless weather, weather with passage of the air temperature through 0°, and freezing weather. I. D. [Translation of abstract]

SUB CODE: 04

Card 1/1

UDC: 551.582.3(574)

(N) L 12911-66 EWT(m)/EWP(v)/T/EWP(t)/EWP(k)/EWP(b)/EWA(c) JD/HM

ACC NR: AP6000953 SOURCE CODE: UR/0286/65/000/022/0040/0040

AUTHORS: Yermanok, Ye. Z.; Rodin, I. Z.; Shuvarikov, V. M.; Granovskiy, B. T.

ORG: none

TITLE: A method for contact arc welding of T-joints. Class 21, No. 176336

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 22, 1965, 40

TOPIC TAGS: welding, welding electrode, welding equipment, welding technology, arc welding

ABSTRACT: This Author Certificate presents a method for arc welding T-joints, as between rods and plates. To facilitate the process and to improve the quality of the welded joint, the heading is produced in the course of welding with the help of an electrode provided with a groove.

SUB CODE: 13/ SUBM DATE: 15Jun63

Card 1/1 HW UDC: 621.791.762.1

ACC NR: AP7003025 SOURCE CODE: UR/0203/66/006/004/0703/0706

AUTHOR: Arof'yeva, A. V.; Korpusov, V. N.; Lysenko, I. A.; Orlyanskiy, A. D.; Ryabchikov, A. N.; Shuvarikova, N. F.

ORG: Institute of Applied Geophysics (Institut prikladnoy geofiziki)

TITLE: Results of a study of the wind regime in the meteor zone by the radar method

SOURCE: Geomagnetizm i aeronomiya, v. 6, no. 4, 1966, 703-706

TOPIC TAGS: atmospheric wind, meteorologic radar, signal to noise ratio

ABSTRACT: The method and results are presented of a study of wind circulation in the upper atmosphere conducted during the first half of 1964 near Moscow (56° N). The wind circulation was measured by radar tracking of meteor trail drifts at altitudes of 85—110 km.

The radar equipment used in the measurements had a coherent pulse output modulating a 33-Mc carrier. The pulse duration, repetition frequency, and power were 10 μsec, 500 cps, and approximately 100 kw, respectively. A form of coding was used in which every fifth pulse was distinct. A two stack transmitting antenna consisting of four 5-element Yagi antennas was employed. The receiver antenna had only one 5-element section. The

UDC: 523.53:551.510.53

Card 1/4

ACC NR: AP7003025

receiver sensitivity thus achieved was 2—3 μv at a signal-to-noise ratio of two. The display and recording equipment was triggered by the received pulses and was protected from spurious noise by 1) utilization of the coincidence of two consecutive marker pulses for correlating purposes, 2) preselection by repetition frequency discrimination, and 3) spurious signal suppression using a special detuned noise receiver. The displayed frames were filmed. Each frame contained information on the distance from the point of reflection of the transmitted pulse, the meteor echo diffraction pattern, the Doppler shift pattern, the date and time, and the antenna direction.

The horizontal component of the unit velocity of meteor trail movement was obtained from direct readings of the radial trail velocity components as recorded by the Doppler shifts. The direction of meteor trail movement was determined from the Doppler shift phase difference obtained at the outputs of two phase detectors in which the reference signals were approximately in quadrature.

The drift velocity readings had considerable fluctuations and, for this reason, were averaged on an hourly basis. The averages were used to study diurnal wind pattern changes. In order to secure meaningful averages using the equipment at hand (based on at least 50 measurements/hr),

Card 2/4

measurements were made alternately, first in the NS and then in the EW directions. The results obtained at the same time of day but for different days were combined. Thus, about 7000—9000 individual readings were recorded during one 5—7 day measurement session.

On the basis of the observation results, it was established that the magnitude and direction of winds varied from day to day and from month to month. The experimental curves of wind velocities were anlayzed by Fourier series, i. e., they were reduced to a constant component and three harmonics (corresponding to 24-, 12-, and 8-hour variations). The second harmonic was predominant. The velocities of the zonal wind components attained maximum values of 20—30 m/sec in April and June. These velocities were lowest during January and March (1—5 m/sec); during February and May they were 12—15 m/sec. The direction varied from easterly during February and March to westerly during the April—May period, and again to easterly in June. The meridian wind components were directed to the south during every month except March. The magnitudes of these components varied from 5 to 18 m/sec; the maximum was observed in March.

Comparison of these results with the published data from similar studies at Manchester and Khar'kov established that similarities exist in

ACC NR: AP7003025

the monthly variations and that in all three cases the wind velocities decrease during spring and summer. The curves of the meridian wind components exhibit certain similarities, but the zonal component curves show closer agreement. The data are different when the relative magnitudes of the wind velocities for the three locations are considered. Both wind components at Manchester were weaker than those studied in the USSR. This is attributed to the different climatological conditions at the points of observation and to the different times of observation with respect to the 11-year solar activity cycle. Orig. art. has: 3 figures. [FSB: v. 2, no. 10]

SUB CODE: 04,07 / SUBM DATE: 29Mar65 / ORIG REF: 004 / OTH REF: 003

Card 4/4

ACC NR: AT6012378 SOURCE CODE: UR/0000/65/000/000/0110/0118

AUTHORS: Shvarts, G. L.; Makarova, L. S.

ORG: none

TITLE: Titanium and its alloys as corrosion-resistant materials for chemical machine construction

SOURCE: Soveshchaniye po metallokhimii, metallovedeniyu i primeneniyu titana i yego splavov, 6th. Novyye issledovaniya titanovykh splavov (New research on titanium alloys); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1965, 110-118

TOPIC TAGS: titanium alloy, titanium, corrosion resistant metal, corrosion resistant alloy, stainless steel, alloy/ VT1-1 titanium, OT4 titanium alloy, OKh23N28M3D3T stainless steel, Kh18N9T stainless steel, Kh17N13M3T stainless steel, EI-639 alloy, EP-375 alloy

ABSTRACT: The results of tests of the technological properties and corrosion resistance of VT1-1 titanium and OT4 titanium alloy and their welded joints in various corrosive media are given. The first group of media--for producing chlorine dioxide and for bleaching with chlorine dioxide and sodium chlorite--pertains to those in which VT-1 titanium is the only corrosion-resistant structural material. In this

Card 1/3

ACC NR: AT6012378

case, the rate of titanium corrosion did not exceed 0.01 mm/yr. The second group of media contained materials of the aniline dye industry. VT1-1 titanium is found to compare favorably with various steels (OKh23N28M3D3T, EI-943), Kh18N9T, Kh17N13M3T, and EI-639 and EP-375 alloys. Pitting, corrosion cracking, and contact corrosion are also examined (see Fig. 1). The corrosion resistance of titanium alloys is

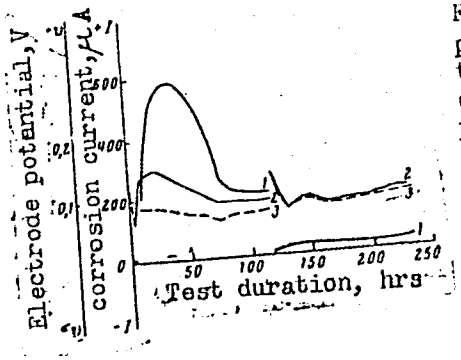


Fig. 1. Corrosion current and electrode potentials of galvanic cell with VT1-1 titanium and OKh23N28M3D3T steel as functions of test duration in solution with $KClO_3$ at 95C: 1 - pair current; 2 - potential of VT1-1; 3 - potential of steel.

examined (see Fig. 2). Technically pure titanium (VT1-1) is found to be suitable for welded heat-exchange, filtering, and other apparatus. The corrosion resistance of VT1-1 titanium can be increased for hydrochloric acid, sulfuric acid, and organic

L 39788-66

ACC NR: AT6012378

3

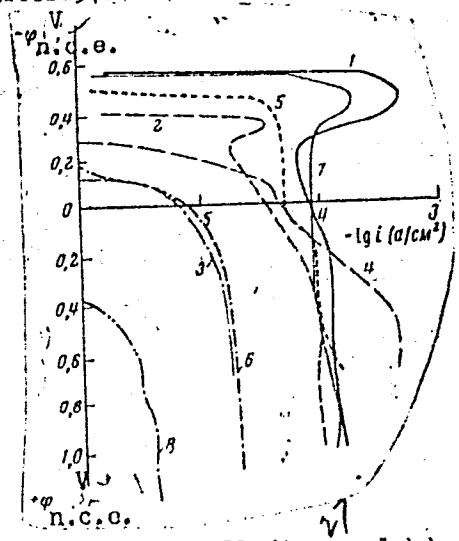


Fig. 2. Curves of anode polarization of titanium and its alloys in 6-N solution of HCl at 20C: 1 - Ti; 2 - Ti + 0.1% Pd; 3 - Ti + 0.2% Pd; 4 - Ti + 32% Mo; 5 - Ti + 30% Nb; 6 - Ti + 30% Nb + 10% Mo; 7 - Ti + 20% Ta; 8 - Ta.

media by alloying with palladium, molybdenum, copper, and other elements. Orig. art. has: 7 figures and 2 tables.

SUB CODE: 11/ SUBM DATE: 02Dec65/ ORIG REF: 005

Card 3/3

L 33763-66 EWT(1)/EWP(m)/EWT(m)/T IJP(c) WW/DJ

ACC NR: AP6010835 SOURCE CODE: UR/0421/66/000/001/0009/0015

87
B

AUTHOR: Shvarts, I. A. (Leningrad)

ORG: none

TITLE: Magnetohydrodynamic theory of lubrication of cylindrical bearings

SOURCE: AN SSSR. Izvestiya. Mekhanika zhidkosti i gaza, no. 1, 1966, 9-15

TOPIC TAGS: roller bearing, liquid metal lubricant, high temperature lubricant, ~~conductive fluid~~ MAGNETOHYDRODYNAMICS, PRESSURE DISTRIBUTION, ELECTROCONDUCTIVE FLUID

ABSTRACT: The behavior of a cylindrical bearing in an incompressible conducting lubricant is investigated. The pressure distribution of the viscous electroconducting lubricant used in a cylindrical bearing is obtained using magnetohydrodynamic formalism. It is assumed that the bearing is in the magnetic field parallel to its axis and an external source supplies potential difference between the bearing and its housing. Both ordinary and Reynolds numbers are assumed to be small. Detailed analysis shows that the pressure in the lubricant is enhanced by an electromagnetic pressure term, which is proportional to the square of the Hartman number. This indicates that the load carried by such bearings can be significantly increased when appropriate fields are interacting with the conducting lubricant. In addition, limiting expressions are derived

Card 1/2

ACC NR: AT7001781 SOURCE CODE: UR/3119/66/000/004/0031/0038

AUTHOR: Shvarts, K. K.; Layzan, B. B.; Vitol, A. Ya.

ORG: Institute of Physics, AN LatSSR (Institut fiziki AN LatSSR)

TITLE: Macrostructure of Mn^{++} in NaCl crystals and their change under the influence of irradiation

SOURCE: AN LatSSR. Institut fiziki. Radiatsionnaya fizika, no. 4, 1966. Ionnyye kristally (Ionic crystals), 31-38

TOPIC TAGS: sodium chloride, electron paramagnetic resonance, paramagnetic ion, manganese, irradiation effect, luminescence center

ABSTRACT: The authors summarize the results of their earlier investigations of electron paramagnetic resonance and luminescence of Mn^{++} in NaCl crystals (Izv. AN SSSR ser. fiz. v. 29, 404, 1965 and preceding papers). While the authors' results concerning the microstructure of the Mn^{++} centers in NaCl crystals containing impurities agreed in the main with those of others, they did observe a strong influence of certain cation impurities on the arrangement of the Mn^{++} ions in the lattice. The presence of Cd^{++} and Ca^{++} as impurities violates the principle of local compensation of the charge in such crystals, but the presence of Pb^{++} does not. The strongest effect on the microstructure of the Mn^{++} centers is exerted by anion impurities, especially F^-. The nature of the manganese luminescence centers in NaCl was investigated by means of optical and EPR methods and it is concluded that in view of the observed

Card 1/2

ACC NR: AT7001781

differences between the spectral parameters of the luminescence centers in regular lattice points and those in clusters, that the results favor the model of the luminescence center proposed by F. Seitz (Trans. Faraday Soc. v. 35, 74, 1939). The net result of the research is that in quenched NaCl-Mn crystals the luminescence centers are Mn^{++} ions which replace cations of the main substance in regular lattice points. Admixtures of Cd^{++} and Ca^{++} ions exert a stronger influence on the distribution of the cation vacancies and increase the number of Mn^{++} ions in a cubic environment. In crystals NaCl-MnF, the Mn^{++} ions are predominatly localized near the F^- ions. In NaCl-MnCd crystals, the kinetics of the decay of the paramagnetic centers changes strongly under γ irradiation, owing to the effective capture of carriers by the Mn centers. Orig. art. has: 3 figures and 4 formulas.

SUB CODE: 20/ SUBM DATE: 00/ ORIG REF: 015/ OTH REF: 012

Card 2/2

ACC NR: AT7001785 SOURCE CODE: UR/3119/66/000/004/0057/0069

AUTHOR: Shvarts, K. K.; Tiliks, Yu. Ye.; Tone, D. K.; Ulmane, I. M.

ORG: Institute of the Physics AN LatSSR (Institut fiziki AN LatSSR)

TITLE: Radiation-chemical processes in ionic crystals. 1. Radiolysis of alkali-halide crystals under the influence of gamma rays

SOURCE: AN LatSSR. Institut fiziki. Radiatsionnaya fizika, no. 4, 1966. Ionnyye kristally (Ionic crystals), 57-69

TOPIC TAGS: ionic crystal, alkali halide, gamma radiation, radiolysis, radiation chemistry, color center, physical diffusion

ABSTRACT: This is the first of a cycle of investigations of the radiation-chemical processes occurring in ionic crystals, aimed at determining the relation between radiolysis and radiation defects. The investigations were made on KCl, KBr, KI, and CaCl crystals grown by the Kiropoulos method from the raw material. The irradiation was in the RK-L radiation loop, which is described elsewhere (in: Radiatsionnaya fizika [Radiation Physics] v. 2, 35, Riga, 1964) at doses from 200 to 1400 rad/sec. The test procedures are briefly described. The results show that the stable products are the free halogen and electronic and colloidal centers. The radiation-chemical yields of the radiolysis products are of the order of 10^{-2} mole per absorbed 100 ev of

Card 1/2

ACC NR: AT7001785

energy. The radiolysis process depends to a great degree on the presence of impurity defects. Doubling of the impurity content increases the radiation-chemical yield of the radiolysis products by an average of 20%. The radiolysis products from the irradiated crystals change little with time. All that occurs is the diffusion of the gaseous products from the crystal to the gas phase. Optical and thermal discoloring causes an increase in the yield of the metallic product. The amount of transformed halogen does not change, but the diffusion processes are accelerated. Further research is necessary, especially on the temperature dependence of the yield of the metal and of the halogen, in order to determine the nature of the color centers produced by the irradiation. Orig. art. has: 5 figures, 3 formulas, and 3 tables.

SUB CODE: 20/ 07/ SUBM DATE: 00/ ORIG REF: 013/ OTH REF: 018

Card 2/2

ACC NR: AT7001791 SOURCE CODE: UR/3119/66/000/004/0117/0124

AUTHOR: Shvarts, K. K.; Podyn', A. V.; Baltmugur, K. K.

ORG: none

TITLE: Energy of formation of F-centers in LiF crystals excited by gamma and reactor radiation

SOURCE: AN LatSSR. Institut fiziki. Radiatsionnaya fizika, no. 4, 1966. Ionnyye kristally (Ionic crystals), 117-124

TOPIC TAGS: lithium fluoride, color center, gamma irradiation, neutron irradiation, crystal defect, absorption spectrum

ABSTRACT: The main purpose of the investigation was to reveal the energy dependence of production of radiation defects in solids, and the influence of the type of exciting radiation, the dose, the irradiation temperature, and the defect structure of the sample. The investigations were made with a specially equipped horizontal experimental channel in the IRT-2000 reactor and a γ radiation loop with an In^{116} source. The absorption spectra of the investigated crystals were measured with a spectrophotometer, and the F-center concentration was determined from the integral absorption. The tests showed that the energy of F-center production was several times smaller in the γ irradiation than in neutron irradiation; this agrees with the notion that the elastic energy losses increase with increasing mass of the moving particle and with increasing specific ionization density. The energy of F-center

Card 1/2

ACC NR: AT7001791

production increases with increasing dose for all types of radiation. The F-center production energy increases also with decreasing impurity content of the crystals. The numerical values of the energy ranged from 40 to 110 ev for γ rays and from 180 to 1200 ev for thermal neutrons. These values agree with published data. Orig. art. has: 1 formula and 5 tables.

SUB CODE: 20/ 18/ SUBM DATE: 00/ ORIG REF: 015/ OTH REF: 004

Card 2/2

ACC NR: AT7001790 SOURCE CODE: UR/3119/66/000/004/0111/0116

AUTHOR: Shvarts, K. K.; Ekmanis, Yu. A.

ORG: Institute of Physics, AN LatSSR (Institut fiziki AN LatSSR)

TITLE: Electron microscopic investigations of radiation defects in LiF and KCl

SOURCE: AN LatSSR. Institut fiziki. Radiatsionnaya fizika, no. 4, 1966. Ionnyye kristally (Ionic crystals), 111-116

TOPIC TAGS: lithium fluoride, potassium chloride, electron microscopy, crystal defect, radiation damage

ABSTRACT: The authors use a previously developed method of carbon replicas (Izv. AN LatSSR v. 4, 55, 1965) to investigate defects on the surface of alkali-halide crystals exposed to reactor radiation (in the IRT-2000 reactor operating at 1000 - 1500 w). The radiation doses ranged from 5×10^{15} to 10^{18} neut/cm^2. The results show that irradiation produces a large density of defects, quite similar to those produced by heat-treatment. These defects are both positive and negative (pits and projections) with extreme dimensions ranging from 0.1 to 3 - 5 μ. The number of defects in KCl was smaller, but the defect dimensions were larger. In the case of LiF, large colloidal particles were produced as a result of irradiation. In addition, the authors tested some irradiated crystals by thermally etching them prior to depositing the carbon replica. This made it possible to disclose certain hidden radiation defects, and to reveal large step-like defects similar to dislocations. Numerous minor dif-

Card 1/2

ACC NR: AT7001790

ferences between KCl and LiF are attributed to differences in the radiation effects, since the probability of disclosing defects produced by thermal-neutron reactions with emission of heavy particles is smaller in KCl than in LiF. Orig. art. has: 5 figures.

SUB CODE: 18/ 20/ SUBM DATE: 00/ ORIG REF: 006/ OTH REF: 014

Card 2/2

ACC NR: AP7001980 SOURCE CODE: GE/0030/66/018/002/0897/0909

AUTHOR: Shvarts, K. K.; Vitol, A. Ya.; Podin, A. V.; Kalnin, D. O.; Ekmanis, Yu. A.

ORG: Institute of Physics, Academy of Sciences of the Latvian SSR, Riga

TITLE: Radiation effects in pile-irradiated LiF crystals

SOURCE: Physica status solidi, v. 18, no. 2, 1966, 897-909

TOPIC TAGS: inorganic crystal, lithium fluoride, irradiation, neutron irradiation, electron paramagnetic resonance, ~~optical~~ light absorption, electron density, radiation effect, irradiated crystal

ABSTRACT: A study was made of electron paramagnetic resonance, optical absorption (in the 2—6 ev range), and density variation in lithium fluoride crystals irradiated in a reactor in amounts up to 10^{19} neutrons/cm^2. The principal paramagnetic defects in the irradiated crystals were found to be F-centers. Conclusions are drawn on the process of radiational expansion in crystals and the formation of color centers. Some aspects of F-center aggregation in the thermal annealing of irradiated crystals are clarified. [Authors' abstract] [DW] -[SP] [W095]

Card 1/1 SUB CODE: 20/SUBM DATE: 20Aug66/ORIG REF: 013/OTH REF: 022/

L 36110-66 EWT(m)/EWP(w)/T/EWP(t)/ETI IJP(c) JD/HW/JH

ACC NR: AP6017307 (N) SOURCE CODE: UR/0126/66/021/005/0732/0739

50

AUTHORS: Itkin, V. P.; Mogutnov, B. M.; Shvartsman, L. A. B

ORG: Institute for Physical Metallurgy and Metal Physics (Institut metallovedeniya i fiziki metallov); TsNIIChERMET

TITLE: The nature of phases which separate during aging of iron--nickel--aluminum martensite

SOURCE: Fizika metallov i metallovedeniye, v. 21, no. 5, 1966, 732-739

TOPIC TAGS: martensite, iron containing alloy, nickel containing alloy, aluminum containing alloy

ABSTRACT: A thermodynamic calculation of the equilibrium composition of the products formed during the decomposition of aged Ni--Fe--Al martensite was carried out. The calculation supplements the data of V. P. Itkin, B. M. Mogutnov, and L. A. Shvartsman (DAN SSSR, 1965, 161, 1073) and is based on earlier literature data for activity coefficients for the binary systems Ni--Fe, Fe--Al and Ni--Al. The derivation of activity coefficients for the ternary system from the activity coefficients of the binary systems was carried out after the method of C. J. Wagner (Chem. Phys., 1951, 19, 5, 626)

$$\varepsilon_{Al}^{Ni} = \varepsilon_{Ni}^{Al} \approx \left[\frac{\partial \ln \gamma_{Al}}{\partial x_{Al}} \frac{\partial \ln \gamma_{Ni}}{\partial x_{Ni}}\right]^{*},$$

UDC: 548.53

Card 1/3

where ε_{Al}^{Ni} is given by $\varepsilon_{Ni}^{Al} = \frac{\partial \ln \gamma_{Ni}}{\partial x_{Al}}$

and γ_{Ni} and x_{Al} are the activity coefficient of Ni and mole fraction of Al respectively. The calculated values of the equilibrium composition and heats of reaction for different initial alloy compositions are tabulated. In addition, the apparent heat capacities of the Fe--Ni--Al alloys were determined. The experimental procedure followed is described by Yu. D. Tretyakov, V. A. Troshkina, and K. G. Khomyakov (Zhurnal neorg. khimii, 1959, 4, 5). The experimental results, presented graphically (see Fig. 1),

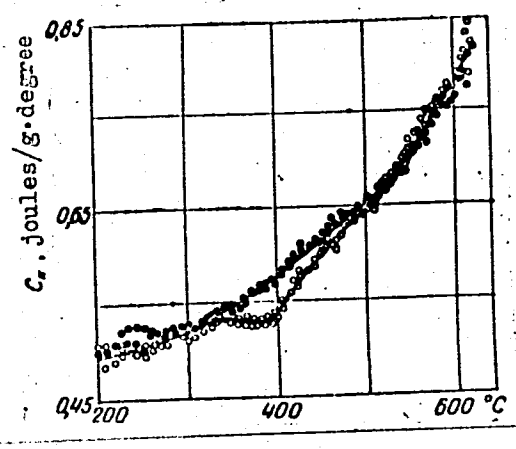


Fig. 1. Apparent heat capacity of alloy Fe + 8 at.% Ni + 1.1 at.% Al; open circles: quenched specimen; black circles: annealed specimen.

L 36110-66 0

ACC NR: AP6017307

are in fair agreement with the theoretically calculated values for the observed heat effects. It is concluded that the decomposition of Fe--Ni--Al martensite proceeds with the formation of NiAl phase. Orig. art. has: 3 tables, 4 graphs, and 6 equations.

SUB CODE: 11/ SUBM DATE: 13Jul65/ ORIG REF: 009/ OTH REF: 014

LS

Card 3/3

SHUVATOV, L.P. (Moskva)

Application of semiconduction photo-resistance in medical apparatus.
Klin.med. 34 no.3:95-96 Mr '56. (MLRA 10:1)

1. Iz TSentral'nogo instituta vrachebno-trudovoy ekspertizy i trudovogo ustroystva invalidov (TsLETIN) (dir. - professor O.I. Sokol'nikov)
(PULSE,
registration with photo-resist. appar. (Rus))

SHUVATOV, L.P.

Recording densitometer with a photoelectron multiplier. Lab.delo 3 no.6:39-41 N-D '57. (MIRA 11:2)

1. Iz TSentral'nogo instituta vrachebno-trudovoy ekspertizy i trudovogo ustroystva invalidov (dir. - prof. O.I.Sokol'nikov), Moskva.
(ELECTROPHORESIS) (PHOTOELECTRIC MULTIPLIERS)

SHUVATOV, Lev Petrovich; POLYANTSEV, V.A., red.; GABERLAND, M.I., tekhn.red.

[Microapparatus for the registration of physiological functions by radio] Mikroapparatura dlia registratsii po radio nekotorykh fiziologicheskikh funktsii. Moskva, Gos.izd-vo med.lit-ry, 1959. 122 p. (MIRA 13:8)

(PHYSIOLOGICAL APPARATUS)
(RADIO--EQUIPMENT AND SUPPLIES)

29765
S/194/61/000/006/046/077
D201/D302

27 4000

AUTHOR: Shuvatov, L.P.

TITLE: Miniature radiotelemetry equipment for recording physiological functions

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 6, 1961, 5, abstract 6 E28 (Elektronika v meditsine M.-L., Gosenergoizdat, 1960, 177-182)

TEXT: A description is given of an apparatus for studying physiological processes during the physical exercises of sportsmen, during working etc. The transmitter of the apparatus consists of miniature pick-offs which convert physiological quantities into el. signals and of miniature radio transmitters, weighing ~ 50 g for a single-channel and 500 g for a multi-channel equipment. The receiving section has an antenna, a radio receiver with AFC and AGC, a set of frequency selective amplifiers for multi-channel recording and an oscilloscope. The equipment operates at ~ 40 mc/s. The

Card 1/2

29765
S/194/61/000/006/046/077
D201/D302

Miniature radiotelemetry...

single-channel installation is described in detail. The radio transmitter is either fixed to the helmet or carried in a pocket. Data of a 6-channel installation are given. The sensitivity of the receiver being 1 microvolt, the range of the system is up to 10 ÷ 12 km under land conditions, this distance is increased when the subject is at a certain height (e.g. a parachutist). [Abstracter's note: Complete translation]

IX

Card 2/2

SHUVATOV, L. P.

Heart beat recorded on a radio wave. IUn.tekh. 5 no.8:51-52 Ag '61. (MIRA 14:12)

(BIOMETRY)
(SPACE MEDICINE)

SHUVATOV, S., red.

[Temporary types of forest plantations for foothill and mountain districts of Krasnodar Territory] Vremennye tipy lesnykh kul'tur dlia predgornykh i gornykh raionov Krasnodarskogo Kraia. Krasnodar, Sovetskaia. Kuban', 1955. 33 p. (MIRA 11:11)
(Krasnodar Territory--Forests and forestry)

SHUVATOV, V.

The matter of national importance. Prom.koop. 13 no.5:24 My '59. (MIRA 12:9)

1. Predsedatel' pravleniya arteli im. Tret'yey pyatiletki, g.Stalinogorsk, Tul'skoy oblasti.
(Factory and trade waste)

USSR/Microbiology. Microbes Pathogenic for Man and Animals F

Abs Jour : Ref Zhur-Biol., No 13, 1958, 57763

Author : Matveyev N. A., Valdokhina I. F., Shuvatova T. F
Inst : Ufa Scientific-Research Institute of Vaccines and Sera
Title : On the Dependence of Immunogenesis of the Diphtheria Antitoxin on the Periods of Toxin Formation

Orig Pub : Tr. Ufimsk. n.-i in-ta vaktsin i syvorotok, 1957, vyp. 4, 149-161

Card 1/1

MAMUL', Ya.V., ORLOVA, L.V., SHUVATOVA, T.F., KUZIN, A.M.

Radioautography of frozen tissues [with summary in English].
Biofizika 3 no.5:591-596 '58 (MIRA 11:10)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(RADIOAUTOGRAPHY,
of frozen tissues (Rus))

MEL'KUMOV, Lev Georgiyevich; BOGOPOL'SKIY, Beko Khaimovich; BERLOVSKIY, Vyacheslav Mikhaylovich; KOVALEV, Yuriy Sergeyevich; KOZIN, Yuriy Vladimirovich; NAYMAN, Artur Yefimovich; FEL'DMAN, Yelizar Samoylovich; SHUVAYEV, Anatoliy Andreyevich [deceased]; KORENDYAYEV, G.V., otv. red.; BELOV, V.S., red. izd-va; LOMILINA, L.N., tekhn. red.; IL'INSKAYA, G.M., tekhn. red.

[Automatic control of mine compressor stations] Avtomatizatsiia shakhtnykh kompressornykh stantsii. Moskva, Gosgortekhizdat, 1963. 151 p. (MIRA 16:8)
(Automatic control) (Air compressors)

KAMARDINKIN, N.P.; SHUVAYEV, A.S.; PALKIN, V.I.; NENKOVA, A.S.; TARABAN'KO, P.I.; KHOLMSKIY, R.V.; CHIPP, L.V.; DOBASHIN, G.S.; FLEROVA, L.I.; MAKSIMOV, N.M.; RAFIYENKO, I.I.; PAL'MOV, I.I.; UVAROV, I.M.; DUBROVIN, P.Ye.; LIKHACHEVA, O.A.; UVAROVA, I.I.

Conference of the Teaching Staff and Students of the Moscow Geological Prospecting Institute. Izv. vyn. ucheb. zav.; geol. i razv. 6 no.12:143-148 D '63 (MIRA 18:2)

KAMARDINKIN, N.P.; SHUVAYEV, A.S.; PALKIN, V.I.; NEMKOVA, A.S.; TARABAN'KO, P.I.; KHOLMSKIY, R.V.; GNIPP, L.V.; DOBASHIN, G.S.; FLEROVA, L.I.; MAKSIMOV, N.M.; RAFIYENKO, I.I.; PAL'MOV, I.I.; UVAROV, I.M.; DUBROVIN, P.Ye.; LIKHACHEVA, O.A.; UVAROVA, I.I.

Conference of the Teaching Staff and Students of the Moscow Geological Prospecting Institute. Izv. vys.ucheb.zav.; geol. i razv. 6 no.12:143-148 D '63. (MIRA 18:2)

BLOKHIN, M. A., NESTERENKO, P. S., and SHUVAYEV, A. T. (RGU)

"X-ray Spectral Investigation of Sulphur-containing Samples "

Materials of the 2nd All-Union Conference on X-ray Spectroscopy; Moscow, January 31 February 4, 1957 (Materialy II Vsesoyuznogo soveshchaniya po rentgenovskoy spektroskopii; Moskva, 31 yanvarya - 4 fevralya g.)

Izvestiya Akademii Nauk SSSR, Seriya fizicheskaya 1957, Vol 2, Nr 10, pp 1341 - 1342 (USSR)

24(2),24(7)
AUTHORS: Blokhin, M. A., Shuvayev, A. T. SOV/48-22-12-10/33

TITLE: Investigation of Compounds With the Structure of Perovskite by Roentgen Spectra(Issledovaniye soyedineniy so strukturoy perovskita po rentgenovskim spektram)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1958; Vol 22, Nr 12, pp 1453-1455 (USSR)

ABSTRACT: Emission and absorption K spectra of Ti, emission and absorption L spectra of Zr, the absorption K spectrum of Fe and absorption L spectra of Sr and Ba as well as of $BaTiO_3$, $SrTiO_3$, $SrFeO_3$, $BaZrO_3$ and $PbZrO_3$ were investigated in the present paper. It was ascertained that the band of valence electrons of compounds having a perovskite structure, is a hybrid band with a strong admixture of p-states. The formation of a generalized conduction band was confirmed experimentally. On principle, the conduction band has a d-character with a small admixture of p-states. The following band of free states has, on principle, a p-character with an irregular distribution of the state densities. The Ti-ions charge in $BaTiO_3$ amounts by no means to more than 2.7 .

Card 1/2

Investigation of Compounds With the Structure of Perovskite by Roentgen Spectra

SOV/48-22-12-10/33

In the proximity of the Curie (Kyuri) point an energy decrease of the electron states of the conduction band was ascertained. There are 3 figures and 7 references, 1 of which is Soviet.

ASSOCIATION: Rostovskiy-na-Donu gos. universitet
(Rostov-na-Donu State University)

Card 2/2

SHUVAYEV, A.T.

5(2);25(1) PHASE I BOOK EXPLOITATION SOV/2313

Akademiya nauk SSSR. Institut mashinovedeniya

Povysheniye stoykosti detaley mashin /sul'fidirovaniye/; sbornik statey (Increasing the Wear Resistance of Machine Parts /Sulfurization/; Collection of Articles) Moscow, Mashgiz, 1959. 126 p. Errata slip inserted. 4,500 copies printed.

Ed. (Title page): M. M. Khrushchov, Doctor of Technical Sciences; Ed. (Inside book): A.G. Nikitin, Engineer; Tech. Ed.: V.D. Il'kind; Managing Ed. for Literature on General Technical and Transport Machine Building (Mashgiz): K.A. Ponomarev, Engineer.

PURPOSE: This collection of articles is intended for engineering and technical workers of machine-building and overhauling plants.

COVERAGE: This book presents results of investigations of methods to increase the resistance of machine parts to seizure. A new method of sulfurization which improves the friction behavior of cast iron and steel and an analysis of the effect of sulfurization on the antifriction properties and wear of metal are given. These articles are the transactions of a seminar held at the Institute of Mechanical Engineering of the Academy of Sciences, USSR, in December 1956.

TABLE OF CONTENTS:

Smovt, R.S., Engineer. Results of Work on the Technology of the Sulfurization Process in Rostsel'mash (Rostov-na-Donu Agricultural Machinery Plant) 111
The author describes an investigation carried out at the Rostov plant aimed at improving wear resistance of cutting tools by sulfurization.

Lifshits, Ya. O., Candidate of Technical Sciences. Uses of Sulfurization in Manufacturing Agricultural Machinery 115
In this article the author presents the results of laboratory and bench tests of sulfurized and nonsulfurized machine parts carried out by RISKhM (Rostov Institute for Agricultural Machinery) and ROSTSEL'MASH.

Blokhin, N.A., P.S. Nesterenko, and A.T. Shuvayev. X-ray and Spectrum Analysis of Sulfurized Samples 121
The author describes an investigation of depth distribution of sulfur in type 45 steel and gray cast iron sulfurized at the ROSTSEL'MASH.

Lesnykh, D.S., Candidate of Chemical Sciences. Electrosulfurization 126
The author presents the results obtained from sulfurizing parts in various molten salts at 240 to 270C and in aqueous solution of salts and 50 to 75C using electrolytic methods.

AVAILABLE: Library of Congress 00/mo

Card 6/6 10-20-59

23-5-7/31

Investigation of Compounds With Perovskite Structure
by an X-ray Spectrum

This ascent is brought in connection with the number of 4p-electrons. The diagram demonstrates the hybridization of electrons in solids and the transition of a part of p-electrons in the d-state and other states. Investigation is then extended to further conditions changes of electrons on the strength of results obtained, and to the distribution of electrons among the s-, p- and d-states. This is necessary in order to determine the covalent bond. It is further shown that it is not possible to determine the number of s- and d-electrons from the K-spectrum of titanium; however, it is possible to evaluate the number of d-electrons from the L-spectrum of Zr, which belongs to the same type. Since the number of p-electrons is known, it is possible to determine the electron distribution among the various states. In this connection, reference is made to the paper by Yu. N. Venevtsev, G. S. Zhdanov and collaborators concerning the theoretical computation of the inner field of $BaTiO_3$ (Ref 6). Finally, similar investigations carried out by

Card 2/3

Card

SHUVAYEV, A.T.; DEMEKHIN, V.F.

Determining the number of 3d-electrons in transition metals.
Fiz. met. i metalloved. 12 no.6:912-913 D '61. (MIRA 16:11)

1. Rostovskiy gosudarstvennyy universitet.

S/048/61/025/008/006/009
B104/B202

AUTHOR: Shuvayev, A. T.

TITLE: Effect of the chemical bond on the position and the intensity of X-ray spectrum lines of compounds

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 25, no. 8, 1961, 986-991

TEXT: The present paper was the subject of a lecture delivered at the 5th Conference on X-ray Spectroscopy at Khar'kov from January 30 to February 4, 1961. The first part of the paper deals with the changes of the energy and the position of the lines of the K series on removal of the valence electron of a calcium atom. The author proceeded from the Schrödinger equation

$$\frac{d^2P_{n,l}(r)}{dr^2} - l(l+1)\frac{P_{n,l}(r)}{r^2} + 2\frac{Z-\sigma_p}{r}P_{n,l}(r) = \varepsilon_{n,l}P_{n,l}(r); \quad (1)$$

where $P_{n,l}(r) = r\,\psi_{n,l}(r)$; $\psi_{n,l}(r)$ the radial wave function of the electrons in the state with the quantum numbers n and l; furthermore,

Card 1/6

Effect of the chemical bond on the ...

$$\sigma_p(r) = \sum_{n,l} N_{n,l} r \int_0^\infty \frac{\sigma_{n,l}(r)}{r^3} dr, \qquad (A)$$

holds where $N_{n,l}$ is the number of electrons in the state n, l without consideration of the electron whose energy is studied; $\sigma_{n,l}(r) = \int_0^r P^2_{n,l}(r)dr$; $\varepsilon_{n,l}$ is the level energy. The change of the energy levels on a certain redistribution of the electrons is calculated from

$$\Delta\varepsilon_{n,l} = -\int_0^\infty \Delta\left(\frac{dP_{n,l}(r)}{dr}\right)^2 dr - l(l+1)\int_0^\infty \frac{\Delta(P^2_{n,l}(r))}{r^2} dr + \\ + 2\int_0^\infty \Delta(P^2_{n,l}(r))\frac{Z-\sigma_p}{r} dr - 2\int_0^\infty P^2_{n,l}\frac{\Delta\sigma_p}{r} dr, \qquad (2)$$

For this purpose the author used wave functions for Ca and Ca^+ which had been obtained by D. Hartree et al. (Proc. Roy. Soc., A, 164, (1938)). The results are summarized in Table 1. When passing from Ca and other

elements to the corresponding oxides, similar results were obtained. The amount of shifts, however, differed. In the second part the author deals with the change of the contribution of the electrons to the electron density on transition to a metal. Data obtained by E. Wigner et al. (Phys. Rev., 43, 804 (1933)) and by I. Ya. Nikiforov (material of the second scientific conference of aspirants, Izd. Rostovsk. un-ta, 33 (1960)) show that on transition to a metal, the density of the cloud of the outer valence electrons increases in the inner of the atom by two to three times. If electrons of the inner shells (e.g. d-electrons of iron) participate in a chemical bond, the cloud of these electrons then contracts in the direction of a neighboring atom in the inner regions of which the density is somewhat reduced. The ratio of the electron densities $\rho_{n,l}$ in the metal and in the free atom is determined from the normalization conditions of the wave function of the valence electrons. Hence, this ratio depends on the ratio between the dimensions of the valence shell of a free atom and the interatomic distance in the metal. Using the relations (2) and

Effect of the chemical bond on the ...

$$\frac{P_{n,l}(r)_{мет}}{P_{n,l}(r)_{ат}} = 0{,}4e^{1{,}68\frac{r_m}{r_H}}, \qquad (3)$$

and the wave functions which had been obtained by D. Hartree et al. (Proc. Roy. Soc., A., 193, 299 (1948); Phys. Rev., 60, 857 (1941); Proc. Roy. Soc., A, 156, 45 (1936)) and H. Donley (Phys. Rev., 50, 1012 (1936)), the author calculated the shifts of the K_α lines on removal of one electron in the elements Na, Si and Cl in solid state. ΔE_{K_α} was calculated to be 0.26 ev for Na, 0.36 ev for Si, and 0.31 ev for Cl. These values are in agreement with the data obtained by other scientists. The shift of the main lines of the X-ray spectrum in the direction of long waves was explained by the decrease of the atomic distance, by the reduction of the atomic volume, and the increase of density of the valence electrons in all points of this volume with an increase in the valence of the transition element. In a thorough study of the effect of the chemical bond on the line intensity of the X-ray spectrum it is shown that the intensity of these lines in the X-ray spectrum of an atom in chemical compounds is

Effect of the chemical bond on the ...

proportional to the electron density produced by valence electrons in the region of the K-shell. To prove this concept the author made measurements with ДРУС (DRUS)- and КРФС (KRFS) X-ray spectrographs in which he studied the effect of the chemical bond on the intensity. The results are summarized in Table 4. As may be seen, the intensity of the line strongly depends on the character of the chemical bond. S. M. Karal'nik is mentioned. There are 2 figures, 4 tables, and 14 references: 5 Soviet-bloc and 9 non-Soviet-bloc.

ASSOCIATION: Rostovskiy-na-Donu gos. universitet (Rostov-na-Donu State University)

Card 5/6

SHUVAYEV, A.T.; DEMEKHIN, V.F.

Investigation of the absorption K-spectra of calcium in some compounds. Izv. AN SSSR. Ser. fiz. 25 no.8:992-993 Ag '61. (MIRA 14:8)

1. Rostovskiy-na-Donu gosudarstvennyy universitet.
(Calcium--Spectra)

BLOKHIN, M.A.; SHUVAYEV, A.T.

Effect of chemical bonds on the X-ray emission spectrum of titanium. Izv. AN SSSR. Ser. fiz. 26 no.3:429-432 Mr '62. (MIRA 15:2)

1. Rostovskiy gosudarstvennyy universitet.
(Chemical bonds)
(X-ray spectroscopy))
(Titanium)

SHUVAYEV, A.T.; KULYABIN, G.M.

Effect of valence variations on the K-emission spectrum of chromium. Izv.AN SSSR.Ser.fiz. 27 no.3:322-323 Mr '63. (MIRA 16:2)

1. Rostovskiy-na-Donu gosudarstvennyy universitet.
(Valence (Theoretical chemistry))
(Chromium--Spectra)

S/0048/64/028/005/0758/0764

ACCESSION NR: AP4038758

AUTHOR: Shuvayev, A.T.

TITLE: Determination of the charge of ions in compounds of Period 2 elements from x-ray emission spectra /Report, Seventh Conference on X-Ray Spectroscopy held in Yerevan 23 Sep-1 Oct 1963/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.5, 1964, 758-764

TOPIC TAGS: x-ray spectrum, x-ray line, line shift, sodium, magnesium, aluminum, silicon, phosphorus, sulfur, chlorine, ion charge

ABSTRACT: The position of the $K\alpha_{1,2}$ lines as a function of the charge of the ion in which they originate is discussed theoretically. A number of Hartree and cell method wave functions for valence electrons under different conditions of bonding are examined, and it is noted that the shape of the wave function at radii less than a certain value is almost independent of its shape at larger radii, as affected by chemical bonding. In a rather rough approximation, the radius within which the shape of the wave function is independent of the state of chemical bonding can be taken as the covalence radius of the atom. Changes of the wave functions of the valence elec-

Card 1/3

ACCESSION NR: AP4038758

trons within the atom due to changes in the chemical bonding can thus be approximated by changes in the normalizing constants. In this approximation the shift of the KX lines produced by an alteration of the valence electron distribution is proportional to the accompanying change of the charge on the atom. The proportionality constants were calculated by perturbation theory and were evaluated for the s, p, d, and f electrons of the second period elements Na, Si, and Cl. These constants were found to be approximately equal for the s and p electrons of a given atom, and to be negligible for the d and f electrons. It is accordingly concluded that the shift in the position of the KX lines of a second period element in passing from the free element to a compound is approximately proportional to the charge on the atom in the compound. The proportionality constants were evaluated for all the Period 2 elements from x-ray data on compounds for which the ionic charges are known from the electric dipole moments. The constants thus found for Na, Si, and Cl are of the same order of magnitude as the calculated values, but they differ considerably (up to 50%) from them. With these constants the charges on Period 2 elements in a large number of compounds were calculated from the KX line shifts, and the results are tabulated. For the majority of the not very many compounds that contain only Period 2 elements and for which the x-ray data are available for all the constituent atoms,

Card 2/3

ACCESSION NR: AP4038758

the condition of electric neutrality is satisfied within the experimental error. Orig.art.has: 14 formulas, 2 figures and 3 tables.

ASSOCIATION: Rostovskiy-na-Donu gosudarstvenny*y universitet (Rostov-on-the-Don State University)

SUBMITTED: 00 DATE ACQ: 12Jun64 ENCL: 00

SUB CODE: OP NR REF SOV: 003 OTHER: 008

Card 3/3

ACCESSION NR: AP4038765 S/0048/64/028/005/0801/0804

AUTHOR: Blokhin, M.A.; Shuvayev, A.T.; Gorskiy, V.V.

TITLE: X-Ray spectroscopic investigations of chemical bonds in sulfur compounds /Report, Seventh Conference on X-Ray Spectroscopy held in Yerevan 23 Sep-1 Oct 1963/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.5, 1964, 801-804

TOPIC TAGS: x-ray spectrum, line shift, sulfur, sulfur compound, chemical bond

ABSTRACT: According to A.T.Shuvayev (Izv.AN SSSR,Ser.fiz.28,758,1964 /see Abstract AP4038758/) the shift of the $K\alpha$ lines of sulfur (and other Period 2 elements) in chemical compounds is due to the charge on the atom arising from the influence of the neighboring atoms. This phenomenon is discussed at some length for the case of sulfur, and a short table is presented, based on data in the literature, showing the shifts produced by various chemical bonds and bond configurations. These chemical bond shifts of the S $K\alpha$ lines are believed to be approximately additive. The $K\alpha$ fluorescence spectra of S in several compounds were recorded. The spectra were excited by 20 kV Cu bremsstrahlung and formed by reflection from the $(10\bar{1}0)$ planes of bent (R = 50 cm) quartz crystal. The temperature of the samples did not exceed

Card 1/3

ACCESSION NR: AP4038765

ASSOCIATION: Rostovskiy-na-Donu gosudarstvenny*y universitet (Rostov-on-the-Don State University)

SUBMITTED: 00 DATE ACQ: 12Jun64 ENCL: 00

SUB CODE: OP, GC NR REF SOV: 003 OTHER: 002

Card 3/3

ACCESSION NR: AP4038791 S/0048/64/028/005/0934/0938

AUTHOR: Shuvayev, A.T.; Chechin, G.M.

TITLE: On the interpretation of K series line shifts in transition elements. Wave functions for three configurations of titanium /Report, Seventh Conference on X-Ray Spectroscopy held in Yerevan 23 Sep to 1 Oct 1963/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.5, 1964, 934-938

TOPIC TAGS: x-ray spectrum, line shift, wave function, atomic structure, titanium, electron configuration, iron group transition element

ABSTRACT: Self-consistent (Hartree) wave functions were calculated (without exchange) for Ti (valence electron configuration $3d^2 4s^2$), Ti^{2+} ($3d^0 4s^2$), and Ti^{4+} ($3d^0 4s^0$), and the wave functions and energy values are tabulated. The energy values for the configuration Ti^{2+} ($3d^2 4s^0$) were calculated by a perturbation method, and these are also tabulated. The quantum energies of the $K\alpha_1$ and $K\beta_1$ lines were calculated for all four configurations, and that of the $K\beta_5$ line was calculated for the two configurations for which it exists. The shifts of these lines in passing from Ti ($3d^2 4s^2$) to Ti^{2+} ($3d^2 4s^0$) or to Ti^{2+} ($3d^0 4s^2$), and from Ti^{2+} ($3d^2 4s^0$) to Ti^{4+}

Card 1/2

ACCESSION NR: AP4038791

($3d^0 4s^0$) were calculated and are tabulated. It is assumed that reducing the valence electron density within the atom has a similar but smaller effect on the position of a line as removing electrons entirely, and the following conclusions are drawn from the calculated line shifts attendant on removal of the 3d and/or 4s electrons: 1) The $K\alpha_{1,2}$ lines are sensitive primarily to the d valence electrons; a decrease of the d electron density shifts the lines toward the longer wavelengths. 2) the $K\beta_1$ line is sensitive to changes in both the s and d electron densities and is affected oppositely by them; a reduction of the s (d) electron density shifts the line toward the shorter (longer) wavelengths. 3) The $K\beta_5$ line is very sensitive to the d electron density, a reduction of the density shifting the line toward the shorter wavelengths; this line is also affected by direct interaction of the outer p electrons with the valence electrons of surrounding atoms. These conclusions, based on calculations relating to titanium, are assumed to hold for all the iron group transition elements, and the $K\alpha_1$, $K\beta_1$ and $K\beta_5$ shifts in 15 compounds containing Ti,Cr, V,Mn,Fe or Co are interpreted in terms of them. Orig.art.has: 2 formulas and 4 tables.

ASSOCIATION: Rostovskiy-na-Donu gosudarstvennyy universitet (Rostov-on-the-Don State University)

SUBMITTED: 00 DATE ACQ: 12Jun64 ENCL: 00

SUB CODE: OP NR REF SOV: 005 OTHER: 004

Card 2/2

ACCESSION NR: AP4038770

S/0048/64/028/005/0823/0824

AUTHOR: Shuvayev, A.T.; Zyryanov, V.G.; Gorskiy, V.V.

TITLE: Investigation of the K fluorescence spectrum of calcium in several compounds /Report, Seventh Conference on X-Ray Spectroscopy held in Yerevan 23 Sep to 1 Oct 1963/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.5, 1964, 823-824

TOPIC TAGS: x-ray spectrum, calcium compound, line shift, line shape

ABSTRACT: The calcium $K\alpha_{1,2}$, $K\beta_1$, and $K\beta_5$ lines in the spectra of CaC_2, CaO and CaF_2 were recorded in order to detect the influence of the calcium ion charge and the surrounding atoms on the spectra. The spectra were excited by the radiation from a 30 kV copper anode x-ray tube and were recorded photographically in the second order using a best quartz crystal vacuum spectrometer with a resolution of 10 000. Relative intensity measurements of the $K\beta_1$ and $K\beta_5$ lines were facilitated by employing two films, one behind the other; this resulted in a $K\beta_1$ image on the second film comparable in density with the $K\beta_5$ image on the first. No difference in the $K\alpha$ spectra of the three compounds could be discerned. This is in agreement with pre-

Card 1/2

DORZHIYEV, M.N.; KUZIN, B.M.; SHUVAYEV, E.A.

Thermal insulation of graphitizing furnaces. TSvet. met. 38 no.4:
57-58 Ap '65. (MIRA 18:5)

SHUVAYEV G.

USSR /Chemical Technology. Chemical Products and Their Application
Water treatment. Sewage water. H-5

Abs Jour: Referat Zhur - Khimiya, No 1, 1958, 1663

Author : Shuvayev G.

Inst : Sanitation Department of the Tomsk Medical Institute

Title : Spontaneous Purification of Sewage Water Along Its Course Through Open Bodies of Water Under Climatic Conditions of the City of Tomsk.

Orig Pub: Sb. nauchn. rabot san. fak. Tomskiy med. in-t, Tomsk, 1956, 83-86

Abstract: A study of the process of spontaneous purification in two takes into which sewage water flows during the spring-summer and autumn-winter periods.

Card 1/1