FEOFANOV, Aleksey Feofanovich; SVERDLOV, A.I., kand.tekhn.nauk, red.

[Structural engineering for airplane structures.] Stroitel'naia mekhanika aviatsionnykh konstruktsii. Moskva, Mashinostroenie, 1964. 283 p. (Moscow. Aviatsionnyi institut imeni Sergo Ordzhonikidze. Trudy, no.160) (MIRA 17:10)

ACC NR: AR6035264 SOURCE CODE: UR/0169/66/000/009/V015/V015

AUTHOR: Sverdlov, A. I.

TITLE: Distribution of hydrochemical elements in the region of the Faeroe-Icelandic strait during November—January 1963—1964

SOURCE: Ref. zh. Geofizika, Abs. 9V129

REF SOURCE: Sb. Materialy rybokhoz. issled. Sev. basseyna. Vyp. 5. Murmansk, 1965, 91-98

TOPIC TAGS: hydrology, hydrographic survey, hydrochemistry, salinity, molecular oxygen, phosphate, nitrate, hydrography/Faeroe-Icelandic strait

ABSTRACT: During the period November—January 1963—1964 three micro-surveys at 30 stations per month were conducted in the frontal zone from aboard the vessel "Akademik Berg". Temperature, salinity, O_2, phosphates, and nitrates were determined at 0, 50, 100, 200, 300, and 500 m. Hydrochemical elements were determined using standard methods. The distribution of O_2, phosphates, and nitrates is discussed. It is pointed out that the relative concentra-

Card 1/2 UDC: 551.464.32(261+491)

SVERDLOV, A. K., podpolkovnik meditsinskoy sluzhby

Allergic reaction following use of streptomycin. Voen.-med. zhur. no.12:72 D '61. (MIRA 15:7)

(ALLERGY) (STREPTOMYCIN)

POPOV, K.A., polkovnik meditsinskoy sluzhby; SVERDLOV, A.K., podpolkovnik meditsinskoy sluzhby

Dispensary treatment and expert examination of servicemen following Botkin's disease. Voen.-med.zhur. no.11:20-22 '64. (MIRA 18:5)

CHAPLINSKIY, M.B.; SVERDLOV, A.K.; SHLYGINA, K.N.; BELYAYEV, P.A.; DEMCHUK, T.Ya.; VINOGRADOVA, P.A.; TSVIRKO, A.B.; VAGIN, Ye.A.; AGAFONOV, A.I.

Outbreak of an anginous form of erysipeloid. Zhur. mikrobiol., epid. i immun. 41 no.12:119 D '64. (MIRA 18:3)

1. Institut epidemiologii i mikrobiologii imeni Gamalei AMN SSSR.

SVETLOV, A.P., starshiy inzh.

"Operations and production planning in departments of the welding and assembly trust." Stroi. truboprov. 7 no.4:27 Ap '62. (MIRA 15:5)

1. Planovo-ekonomicheskiy otdel Glavnogo upravleniya po gazifikatsii gorodov SSSR.

(Pipelines)

SUKIASOV, S.M.; SVERDLOV, A.P.

Use computer technology in planning pipeline construction. Stroi. truboprov. 9 no.3:28-29 Mr '64. (MIRA 18:2)

1. Gosudarstvennyy proizvodstvennyy komitet po gazovoy promyshlennosti SSSR.

AKSENOV, M.A.

L 54368-65 EWT(d)/EWT(m)/EEC(k)-2/EWP(1)/EWP(v)/T/EWP(t)/EWP(k)/EWP(h)/EED-2/ //
EWP(b)/EWP(1)/EWA(c) Pq-4/Pf-4/Pad/Pg-4/Pk-4 LIP(c) BB/JD/HW/JG/GG
ACCESSION NR: AP5013852 UR/0103/65/026/005/0938/0942
681.142.6

79
58
B

AUTHOR: Boyarchonkov, M. A.

TITLE: All-Union Conference on magnetic elements of automation and computer technique

SOURCE: Avtomatika i telemekhanika, v. 26, no. 5, 1965, 938-942

TOPIC TAGS: electric engineering conference, magnetism conference, computer component, automation equipment, automation, electronic data processing

ABSTRACT: The Ninth All-Union Conference on Magnetic Elements of Automation and Computer Technology, held in Kaunas from 7 to 10 September 1964, was organized by the National Committee of the USSR on Automatic Control, the Institute of Power and Electrical Engineering of the Academy of Sciences, Lithuanian SSR, the Lithuanian Scientific and Technical Society of the Instrument Building Industry, and the Institute of Automation and Telemechanics of the Main Committee on Instrument Building, Means of Automation, and Control Systems under Gosplan and the Academy of Sciences USSR. Over 450 participants discussed some 90 reports concerning the theory, design,

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L 54269-65
ACCESSION NR: AP5013852

production, and application of magnetic and magnetic-semiconductor elements. Reports were presented for seven areas: digital and analog elements, memory devices, magnetic power devices, magnetic amplifiers and converters, parametrons, and power sources.

At the opening plenary session, M. A. Rozenblat presented a survey of the present state of contactless magnetic elements, which he considers to be one of the most efficient and promising technical means of automation and computer technology. Problems of designing logic elements to provide stable operation for various types of circuits were discussed in a series of reports. B. A. Yefimov and G. N. Chizhukhin reported on the development of modules of ferrite-transistor elements (FTE) which can be used for various types of computers and also for discrete automation for general and special purposes. This system provides reliable operation at a 200-kc clock frequency in the -10 to +50° C temperature range.

The same authors together with M. A. Aksenov reported on the development of a general-purpose heavy-duty FTE which can be used as a cell of a clock-frequency pulse generator or as an independent heavy-duty control

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L 54868-65
ACCESSION NR: AP5013852

element. It is capable of performing command recording or readout of information reaching it in large quantities from a low-power FTE. I. A. Tyumin, B. A. Yefimov, and A. A. Shavrov reported on the development and testing of biax-type logic circuits operating at 1 Mc and performing several logic operations. Advantages cited are: high s/n ratio, about 20; high switching rate, about 2 Mc; and high reliability due to the simplicity of the circuit. Such circuits may also be used in complex logic devices. Additional reports discussed logic circuits using biax-type elements in a working storage device with a nondestructive readout cycle of 10^{-7} sec and a recording time for new information of several microseconds.

L. P. Afinogenov et al. reported on discrete and discrete-analog computer units based on the use of the area of an emf pulse originating in the winding during magnetization reversal in the ferrite. Development of ferrite matrixes which release a voltage pulse at the output with an area proportional to the code supplied at the matrix input was also discussed.

Problems connected with the development of single-wire memory elements with multiaperture ferrite plates were presented by R. A. Lashev-

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skiy et al. A. S. Sverdlov and others presented results of developing working storage units using miniature memory cubes made with multiaperture ferrite plates.

Thin-film technology was discussed in several reports. A paper by Ye. F. Berezhnyy et al. dealt with the development of a super storage device built on thin-film matrices with conductive substrates with a capacity of 64 56-bit words and a cycle of 400 nsec. Experiments with magnetic-film storage devices produced by electrochemical deposition on glass and metal cylindrical substrates were discussed, and a method of using an element of cylindrical magnetic film in a matrix storage device was also reported.

A. Tutauskas and R. Litvinaytis reported on a stable storage device with a short access time, a capacity of 512 x 32 bits, an access rate of 500 kc, and a readout time of 1 μsec. A. B. Lyasko et al. have developed a small decade counter of periodic and nonperiodic signals in which a parametric element with five stable phase states was used. The counter displays better energy properties than other known counters, high reliability, and high noise immunity. A. G. Rabin'kin reported on the characteristics of

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L 54868-65

ACCESSION NR: AP5013852

new high-coercivity (5000 oe) alloys of the cobalt-platinum system. M. A. Rozenblat et al. discussed the theory and design of magnetic analog computing devices (adder, integrator, multiplier) based on single-stage magnetic amplifiers using magnetic analog storage.

A large number of reports was devoted to the theory and application of power magnetic devices. The papers presented by the Gor'kiy school of A. M. Bamdas concerning frequency multipliers and voltage stabilizers were of great interest in this field.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: DP, IE

NO REF SOV: 000 OTHER: 000 ATD PRESS: 4021-F

Card 5/5

SVESHNIKOV, A.V., kapitan 1-go ranga

Glorious combat record of the flotilla. Mor. sbor. 47 no.4:23-26 Ap '64. (MIRA 18:7)

1. Byvshiy nachal'nik shtaba Azovskoy voyennoy flotilii.

SVERDLOV, A.Ya.

SVERDLOV, A.Ya., inzhener.

Selecting an efficient plan for supplying water to steam power plants. Elek.sta.28 no.7:36 Jl '57. (MLRA 10:9)
(Steam power plants)

SVERDLOV, A.Ya.

Operation of a pressure-vacuum distillation apparatus. Neftianik 5 no.2:17-18 F '60. (MIRA 14:10)

1. Starshiy operator Permskogo neftepererabatyvayuschego zavoda.
(Perm--Petroleum refineries--Equipment and supplies)

ROMANOV, Yu.D., kand.med. nauk; SVERDLOV, B.D.

Infrared photography as a method of detection of the deep collateral vessels of the anterior abdominal wall in disorders of portal circulation. Terap. arkh. 35 no.1:30-34 Ja'63. (MIRA 16:9)

1. Iz 1-y kafedry terapii (zav. - prof. L.M.Rakhlin) Kazanskogo gosudarstvennogo instituta dlya usovershenstvovaniya vrachey imeni Lenina.
(ABDOMEN--BLOOD SUPPLY) (PHOTOGRAPHY, INFRARED)
(PORTAL HYPERTENSION)

GUREVICH, I.L.; SVERDLOV, A.Ya.; FILATOVA, Ye.D.

Effect of temperature and pressure on the separation of paraffin-naphthene hydrocarbons in the single-phase mazut evaporation. Khim. i tekh. topl. i masel 10 no.12:15-18 D '65. (MIRA 19:1)

1. Moskovskiy ordena Trudovogo Krasnogo Znameni institut neftekhimicheskoy i gazovoy promyshlennosti im. akad. Gubkina.

SVERDLOV, B.I.

PHASE I BOOK EXPLOITATION 899

Mekhanizatsiya i avtomatizatsiya liteynogo proizvodstva (Mechanization and Automatic Control of Founding Processes) [Leningrad] Lenizdat, 1957. 224 p. 3,000 copies printed.

Ed.: (title page): Sokolov, A.N.; Ed.: (inside book): Yemel'yanova, Ye. V.; Tech. Ed.: Rodchenko, N.I.

PURPOSE: This book is intended for engineers and technical personnel working in the founding industries.

COVERAGE: The book presents experience gained by several Leningrad plants in the field of mechanization and automation of metal casting processes. It is stated that in total production of castings the Soviet Union is catching up with the U.S.A., and in production of steel castings the USSR is already leading. Soviet production of castings in 1955 amounted to 11 million tons, 2 million of which were steel castings. No personalities are mentioned. There are 33 references, 29 of which are Soviet, 3 English, and 1 German.

Card 1/3

TABLE OF CONTENTS:

AVAILABLE: Library of Congress (TS 233.S6)

Card 3/3

GO/nah
12-12-58

SVERDLOV, D. G.

Injections of vitreous body in treatment of cicatricial modifications. Vest. oft. 29:4, July-Aug. 50. p. 24-6

1. Of the Eye-Prostheses Division (Head—Prof. D. G. Sverdlov), Central Institute of Traumatology and Orthopedics (Director—Honored Worker in Science Prof. N. N. Priorov) of the Ministry of Public Health USSR.

CLML 19, 5, Nov., 1950

SVERDLOV, D.G., professor.

Forming the stump of an enucleated eye by transplanting of an elastic plastic material into the Tenon's capsule. Vest.oft. 34 no.4:27-29 Jl-Ag '55. (MLRA 8:10)

1. Iz Tsentral'nogo instituta travmatologii i ortopedii Ministerstva zdravookhraneniya SSSR (dir.chlen-korrespondent AMN SSSR prof. N.N.Priorov)

(EYE, surgery,
enucleation, arcylic implants into Tenon's capsule)
(ACRYLIC RESINS,
Tenon's capsule implants in enucleation)

SVERDLOV, D.G.

GOLOVANOV, V.D., professor; SVERDLOV, D.G., professor

Accidental enucleation of the eyes. Vop.neirokhir. 20 no.6:50-52 N-D '56. (MLRA 10:2)

1. Iz TSentral'nogo instituta travmatologii i ortopedii Ministerstva zdravookhraneniya SSSR.
(EYE, wounds and injuries, traum. enucleation (Rus))

SVERDLOV, D.G., professor

Contact lenses. Oft.zhur. 11 no.1:50-52 '56. (MLRA 9:9)

1. Iz TSentral'nogo instituta travmatologii i ortopedii Ministerstva zdravookhraneniya SSSR.
(CONTACT LENSES)

SVERDLOV, D.G., professor (Moskva)

Artificial crystalline lens from acrylate; review of literature.
Vest.oft. 69 no.6:36-39 N-D '56. (MLRA 10:2)
(CRYSTALLINE LENS, artif.
acrylate lens, review)

SVERDLOV, D.G.

Prosthetic devices with acrylate washers for preventing symblepharon. Oft. zhur. 13 no.6:346-348 '58. (MIRA 12:1)

1. Iz Tsentral'nogo instituta travmatologii i ortopedii Ministerstva zdravookhraneniya SSSR.
(SYMBLEPHARON--DISEASES) (ACRYLIC ACID)

SVERDLOV, D.G., prof. (Moscow)

Artificial eyes. Feld' i akush. 23 no.8:31-34 Ag'58 (MIRA 11:8)
(EYES, ARTIFICIAL)

SVERDLOV, D.G., prof. (Moskva)

Use of radioactive isotopes in the diagnosis of intraocular tumors; review of the literature. Vest.oft. 71 no.4:60-62 Jl-Ag '58 (MIRA 11:8)

(EYE, neoplasms
diag. value of radioisotopes, review (Rus))
(ISOTOPES,
diag. of intraocular tumors, review (Rus))

SVERDLOV, D.G., prof.; ANTONOV, A.I., inzh.

Tent screen attached to a bed for use in examining the bottom of the eye. Oft.zhur. 14 no.6:368-369 '59. (MIRA 13:4)

1. Iz TSentral'nogo instituta travmatologii i ortopedii Minzdrava SSSR (direktor - deystvitel'nyy chlen AMN SSSR prof. N.N. Priorov).
(EYE--EXAMINATION)

SVERDLOV, D.G., prof.

Ocular prosthesis. Med.sestra 18 no.2:24-26 F '59.
(MIRA 12:2)

1. Zaveduyushchiy glazo-proteznym otdeleniyem TSentral'nogo instituta ortopedii i travmatologii, Moskva.
(EYES, ARTIFICIAL)

SVERDLOV, D.G., professor

Intracapsular extraction of a cataract by weakening Zinn's ligament with α-chymotrypsin according to J. Barraquer's method. Oft.zhur. 15 no.2:120-123 '60. (MIRA 13:5)
(CATARACT) (CHYMOTRYPSIN)

SVERDLOV, D.G., prof.

Use of ultrasonics in ophthalmology for diagnostic purposes; survey of the foreign literature. Oft.zhur. 16 no.6:373-378 '61. (MIRA 14:10)

(ULTRASONIC WAVES--THERAPEUTIC USE)
(EYE--DISEASES AND DEFECTS--DIAGNOSIS)

S/051/60/009/006/005/018
E201/E191

AUTHORS: Sverdlov, D.M., Klochkovskiy, Yu.V., Kukina, V.S., and Mezhuyeva, T.D.

TITLE: Vibrational Spectra and Potential Energy Constants of Halogenated Ethylenes. I Monochloroethylene, Monofluoroethylene, 1,1-dichloroethylene, 1,1-dibromoethylene and their Deuterated Derivatives

PERIODICAL: Optika i spektroskopiya, 1960, Vol.9, No.6, pp 728-733

TEXT: Sverdlov, Klochkovskiy and Kukina (Ref.1) showed that the vibrational spectra of halogenated ethylenes can be calculated using the force constants of ethylene (Ref.2) and halogenated methanes (Ref.3). The present paper extends this work to calculation of normal vibrations and potential energy constants of monochloroethylene and $CH_2{=}{=}CDCl$, 1,1-dichloroethylene, 1,1-dibromoethylene and $CBr_2{=}{=}CHD$, $CBr_2{=}{=}CD_2$, monofluoroethylene and its seven deuterated derivatives whose formulae are given in the middle of page 728. For the purpose of this calculation the authors used the force constants of ethylene and halogenated methanes, as well as the force constants of halogenated ethylenes reported in the earlier paper (Ref.1). The calculations were

S/051/60/009/006/005/018
E201/E191

Vibrational Spectra and Potential Energy Constants of Halogenated Ethylenes. Monochloroethylene, Monofluoroethylene, 1,1-dichloroethylene, 1,1-dibromoethylene and their Deuterated Derivatives

carried out by the method of Yel'yashevich and Stepanov (Ref.3). Natural vibrational coordinates (Figs 1, 2) were used. Tables 1-4 give the calculated frequencies and interpretation of the vibrational spectra of monofluoroethylene and its seven deuterated derivatives (Table 1), of monochloroethylene and $CH_2{=}CDCl$ (Table 2), of 1,1-dibromoethylene and its two deuterated derivatives (Table 3), and of 1,1-dichloroethylene (Table 4). The calculated and experimentally observed frequencies agreed quite well. The published interpretations of the vibrational spectra were either confirmed or modified. Parameters of the force fields of the halogenated ethylenes were calculated.
There are 2 figures, 4 tables and 18 references: 4 Soviet, 10 English, 1 German, 1 French, 1 international and 1 Japanese.

SUBMITTED: March 28, 1960

Card 2/2

SVERDLOV, E.Yu.

New method for preparing dental crowns. Voen-med. zhur. no.1:76-78 Ja '56 (MLRA 10:5)
(CROWN AND BRIDGEWORK, preparation of) (Rus)

SVERDLOV, E.Yu. (Khar'kov)

Removable plastic prostheses reinforced with metal. Stomatologiia 39 no.1:64-65 Ja-F '60. (MIRA 14:11)
(TEETH, ARTIFICIAL)

SVERDLOV, E.Yu. (Khar'kov)

Obturator for compensation of the functional insufficiency of the lips in paralysis of the facial nerve. Stomatologiia 40 no.2:94 Mr-Ap '61. (MIRA 14:5)
(NERVES, FACIAL—DISEASES) (PROSTHESIS)

SVERDLOV, F.K.

Concerning the accuracy of differential transformation on converted bundle instruments. Geod. i kart. no.11:15-22 N '54. (MIRA 18:2)

SVERDLOV, F.K.

Using an indicator for the checking and adjusting of topographic stereomaters. Geod. i kart. no.6:36-42 Je '57. (MLRA 10:8)
(Topographical surveying)

KRASNOPOL'SKIY, A. S., SVERDLOV, G. M.

Europe, Eastern - Child Welfare

State protection of children in people's democracies. Pediatriia No. 3 1952.

9. Monthly List of Russian Accessions, Library of Congress, October 1958, Uncl.

1. [illegible], G. N., [illegible], I. .

2. USSR (600)

4. Domestic Relations

7. "Soviet law of domestic relations." Reviewed by I. E. Sereda. Sov. kinga. No. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

SVERDLOV, G.M.

"Recent Research in Applied Family Sociology in the Soviet Union,"

A paper presented at the fourth World Congress on Sociology, 8-15 September 59 Milan, Italy

SO: 3,141,918

SVERDLOV, G.M.; KOVALENKO, B.M.

System of automatic information gathering from various flow meters for recording the consumption of oil using impulse code converters. Mash. i neft. obor. no.1832-36 '64 (MIRA 17:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut kompleksnoy avtomatizatsii neftyanoy i gazovoy promyshlennosti.

SVERDLOV, Gelyariy Maksimovich; YAGUDIN, Roshid Yusupovich; KOVALENKO, B.M., red.; LATUKHINA, Ye.I., ved. red.

[Systems and means for the automation of the technological processes of petroleum production] Sistemy i sredstva avtomatizatsii tekhnologicheskikh ob"ektov neftedobychi. Moskva, Nedra, 1964. 157 p. (MIRA 18:1)

SVERDLOV, G. O.

"The Change in the Form of the Throat and the Dimensions of Its Cartilage After Birth." Cand Med Sci, Leningrad Pediatrics Medical Inst, Leningrad, 1955. (KL, No 12, Mar 55)

SO: Sum. No . 670, 29 Sep 55--Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

SVERDLOV, I. A.

O zamene metallicheskogo lista posadochnykh shchitkov polotnom. (Tekhnika vozdushnogo flota, 1943, no. 9, p. 18-19, diagrs.)

Title tr.: Substitution of fabric covering for metal sheets of landing flaps.

TL504.Th 1943

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

SVERDLOV, I. A. and KAN, S. N.

Calculation of the Strength of Aircraft, Moscow 1945.

SVERDLOV, Iosif Abramovich -- awarded sci degree of Doc Tech Sci for the 26 Jun 57 defense of dissertation: "Research on the force patterns of arrow-shaped and three-cornered wings" at the Council, Mil-Air Engr Acad imeni Zhukovskiy; Prot No 15, 7 Jun 58.

(BMVO, 11-58,27)

PHASE I BOOK EXPLOITATION 786

Kan, Saveliy Nakhimovich and Sverdlov, Iosif Abramovich

Raschet samoleta na prochnost' (Analysis of Aircraft for Structural Strength) 4th ed., rev. Moscow, Oborongiz, 1958. 291 p. 11,000 copies printed.

Reviewers: Odinokov, Yu.G., Doctor of Physical and Mathematical Sciences, Professor, and Cheremukhin, A.M., Doctor of Technical Sciences, Professor; Ed.: Yarunin, A.M., Engineer; Ed. of Publishing House: Sheynfayn, L.I.; Tech. Ed.: Rozhin, V.P.; Managing Ed.: Sokolov, A.I., Engineer.

PURPOSE: This book is approved by the Ministry of Higher Education of the USSR as a textbook for aviation vuzes. It may also serve as a drafting manual in design offices of aircraft factories, and as an aid in improving the qualifications of designers.

COVERAGE: The 1945 edition of this book has been radically revised and greatly supplemented. Problems in determining aircraft loads and calculation methods for the separate aircraft components are considered. Completely new sections have been added on aerodynamic heating and thermal stresses, calculation of sweptback and delta wings and tail assemblies, calculation of frames with consideration of their elasticity, vibrations of aircraft components, etc. For

Card 1/7

SVERDLOV, I A.

Designing an aircraft for strength, by S. N. Kan and I. A. Sverdlov.

Wright-Patterson Air Force Base, Ohio, 1960.

424 l. illus., diagrs., graphs (F-TS-9905/V)

Translated from the original Russian: Raschet samô-leta na prochnost', Moscoe, 1958

Earlier Russian language editions have title: Prochnost' samolets.

Bibliography: l. 4-5

L 58460-65 EWT(d)/EWT(m)/EWP(w)/FA/EWP(v)/T-2/EWP(k)/EWP(h)/EWA(h) Pf-4/
Peb WW/EM

ACCESSION NR: AP5012083 UR/0147/65/000/002/0034/0039

AUTHOR: Sverdlov, I. A. (Deceased)

TITLE: Distribution of concentrated force along wing ribs

SOURCE: IVUZ. Aviatsionnaya tekhnika, no. 2, 1965, 34-39

TOPIC TAGS: aeronautical design, aircraft wing analysis, wing rib analysis, aircraft stress analysis

ABSTRACT: The author considers different methods for calculating the concentrated forces which may be brought to bear on wing ribs from various parts of the aircraft structure, including the landing gear assembly engine installations, ailerons, etc. The effect of the installation of compression ribs at the points of application of these forces is then discussed. Various factors contributing to the loading and unloading of ribs under dynamic conditions are analyzed, and basic parameters permitting the solution of stress and unstressing problems are derived. Numerical factors are presented which reflect the degree to which increased or decreased stress may be anticipated in the event of the described conditions. It is pointed out in the article that it is possible to accept the concentrated forces applied to the wing without considerably strengthening the rib walls, for the reason that these forces are distributed over a large number of ribs. This fact is

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ACCESSION NR: AP5012083

particularly important in the case of heavy aircraft where hundreds of tons are transmitted to the wings from the landing gear. Orig. art. has: 7 figures and 24 formulas.

ASSOCIATION: None

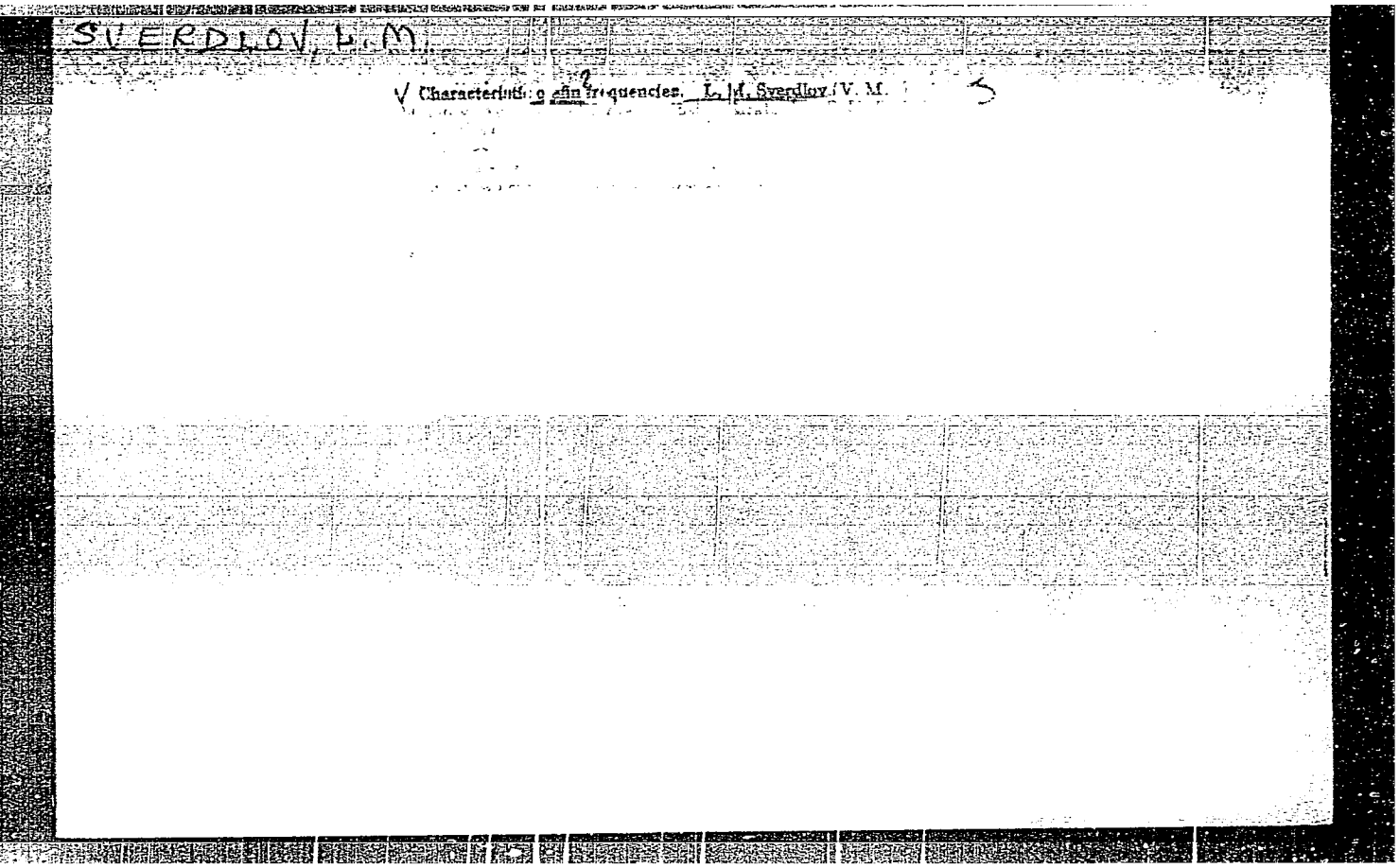
SUBMITTED: 05Jun63 ENCL: 00 SUB CODE: AC

NO REF SOV: 000 OTHER: 000

Card 2/2

SVERDLOV, Iosif Yakovlevich, konstruktor; MANUKA..., A.M., red.

[Experimental housing construction in North Ossetia] Eksperimental'noe zhilishchnoe stroitel'stvo v Severnoi Osetii. Ordzhonikidze, Severo-Osetinskoe knizhnoe izd-vo, 1964. 46 p. (MIRA 18:3)



AUTHOR: Sverdlov, L. M., Engineer SOV/28-59-1-23/29

TITLE: The Committee of Standardization at the Scientific-Technical Society
(Komitet standartizatsii pri nauchno-tekhnicheskom obshchestve)

PERIODICAL: Standartizatsiya, 1959, Nr 1, p 56 (USSR)

ABSTRACT: In 1946, the Section of Standardization was organized at the Leningrad branch of the Nauchno-tekhnicheskoye obshchestvo mashinostroitel'noy promyshlennosti(the Scientific-Technical Society of the Machine Building Industry). The organizers were the Candidate of Technical Sciences G. D. Pliner and Engineer V. V. Bekhterev. Since 1958, the section, transformed into a Committee, has been collaborating with the Otdel standartizatsii Leningradskogo Sovnarkhoza (the Leningrad Sovnarkhoz Standardization Department). Its director, Krivosheyev, read two reports on the future task of standardization in the 1959 - 1965 period.

Card 1/1

SVERDLOV, L. (Leningrad)

Standardization committee of the society. NTO no.7:43 Jy '59. (MIRA 12:11)

1. Chlen komiteta standartizatsii Leningradskogo oblastnogo pravleniya nauchno-tekhnicheskogo obshchestva mashinostroitel'noy promyshlennosti.
(Standardization)

SVERDLOV, L.M., inzh.

Standardization Committee at the Scientific Technical Society of the Machinery Industry. Standartizatsiia 23 no.1:56 Ja '59. (MIRA 12:1)

(Standardization)

SVERDLOV, L.M.

Seminar for workers in standardization. Standartizatsiia 24 no.9:43-44 S '60. (MIRA 13:9)

(Standardization)

SVERDLOV, L.M.

Seminar on standardization in Leningrad. Standartizatsiia 25 no.11:48 N '61. (MIRA 14:11)
(Leningrad--Standardization)

SVERDLOV, L. M.

Seminar on standardization in Leningrad. Standartizatsiia 26 no.10:63 O '62. (MIRA 15:10)

(Leningrad--Standardization--Study and teaching)

SVERDLOV, L.M.

Intensity and polarization in Raman spectra of polyatomic molecules. Opt. i spektr. 17 no.3:369-373 S '64. (MIRA 17:10)

BORISOV, M.G.; SVERDLOV, L.M.

Vibrational spectra of unsaturated hydrocarbons. Part 12.
Opt. i spektr. 17 no.6:842-847 D '64. (MIRA 18:3)

L 40780-65 EPF(c)/EPR/EWP(j)/EWA(c)/EWT(1)/EWT(m) Pc-4/Pr-4/Ps-4 IC
IJP(c)/RPL WW/RM
ACCESSION NR: AR5012234 UR/0058/65/000/003/D015/D015

SOURCE: Ref. zh. Fizika, Abs. 3D100

AUTHORS: Bolotina, E. N.; Kapshtal', V. N.; Kraynov, Ye. P.; Klochkovskiy, Yu. V.; Kikina, V. S.; Sverdlov, L. M.

TITLE: Calculation and interpretation of vibrational spectra of molecules of various classes

CITED SOURCE: Tr. Komis. po spektroskopii. AN SSSR, vyp. 1, 1964, 120-124

TOPIC TAGS: vibrational spectrum, organic molecule, isotopic substitute, force field, double bond

TRANSLATION: A calculation was made of the normal vibrations, and a complete interpretation is presented for the vibrational spectra of 25 molecules: cyclobutane, spiropentane, thiphane, cis-trans-dimethyldiborane, trimethylborane, C_2F_4, C_2Cl_4, C_2Br_4, F_2C-CHF, ClFC-CH_2, F_2C-CHCl, cis-trans-$C_2H_2F_2$, cis-trans-$C_2H_2Br_2$, and certain isotopic substitutes. The features of the force field of these mole-

Card 1/2

L 49780-65

ACCESSION NR: AR5012234

cules are clarified. In particular, the strength of the C=C double bond increases upon successive substitution of the H atoms in ethylene by F atoms.

SUB CODE: MP, OP KWCL: 00

Card 2/2

UR/0058/65/000/003/D015/D015

ACCESSION NP: AR5012237

SOURCE: Ref. zh. Fizika, Abs. 3D103

AUTHORS: Borisov, M. G.; Prokof'yeva, N. I.; Sverdlov, L. M.; Tarasova, N. V.; Finkel', A. G.

TITLE: Investigation of intensities of vibrational spectra of molecules of different classes

CITED SOURCE: Tr. Komis. po spektroskopii. AN SSSR, vyp. 1, 1964, 199-203

TOPIC TAGS: [illegible] electron optical parameter, infrared spectrum,

[illegible] and the [illegible] of the [illegible] molecules: [illegible] substituents. The

Card 1/2

L 49778-65
ACCESSION NR: AR5012237

experimental data on the intensities, obtained by the authors, were used for the calculations.

SUB CODE: OP, OC ENCL: 00

Card 2/2

L 32769-66 EWT(1)/T IJP(c)

ACC NR: AR6015180 SOURCE CODE: UR/0058/65/000/011/D014/D014

AUTHOR: Sverdlov, L. M. 47 B

TITLE: Some problems of the theory of intensity in Raman spectra and infrared absorption spectra of polyatomic molecules

SOURCE: Ref. zh. Fizika, Abs. 11D102

REF SOURCE: Tr. Komis. po spektroskopii. AN SSSR, t. 3, vyp. 1, 1964, 19-24

TOPIC TAGS: Raman spectrum, ir spectrum, absorption spectrum, complex molecule, molecular physics, line intensity

ABSTRACT: General formulas are derived for the calculation of the intensities of the fundamental frequencies, overtones, and combination frequencies in Raman spectra and infrared absorption spectra of polyatomic molecules, in the first approximation of the generalized valence-optical theory, in which automatic account is taken of the condition for vanishing of the angular momentum. The principles of the theory of the characteristic nature of the integral intensities and polarizations of the lines of the Raman spectra of molecules are formulated. [Translation of abstract]

SUB CODE: 20, 07

LS

Card 1/1

TARASOVA, N.V.; SVERDLOV, L.M.

Vibrational spectra of nonsaturated hydrocarbons. Part 13. Opt. i spektr. 18 no.4:587-591 Ap '65. (MIRA 18:8)

ACCESSION NR: AP5011135 UR/0051/65/018/004/0724/0725

AUTHOR: Borisov, M. G.; Finkel', A.G.; Sverdlov, L. M.

TITLE: An experimental and theoretical investigation of [illegible] infrared spectra of gaseous

SOURCE: Optika i spektroskopiya, v. 18, no. 4, 1965, 724-725

TOPIC TAGS: gaseous hydrocarbon, infrared spectrum, olefin, [illegible] tetramethylethylene,

ABSTRACT: This is a continuation of an earlier investigation of the absolute intensities of the infrared bands of propylene and isobutylene (Opt. i spektr. v. 18, no. 6, 1965). The purpose of the present investigation was to measure the absolute intensities of the infrared bands of gaseous tetramethylethylene and to verify the use of the electro-optical parameters of the metal group

Card 1/3

L 61666-65

ACCESSION NR: AP5011135

of propylene and isobutylene to explain the intensity distribution in the infrared spectrum of tetramethylethylene. The absorption spectrum of the tetramethylethylene was recorded with an IKS-6 ... with LiF and NaCl prisms. The absolute in- ... were determined by the Wilson-Wells extrap- ... and ... have been pre- ... The ...

... tetramethylethylene ... The introduction ...

... The maximum

Card 2/3

L 01660-65

ACCESSION NR: AP5011135

relative error is 15 per cent, which is only slightly higher than [illegible] error in measuring the intensities. It is thus concluded that [illegible] initial parameters of the CH, group of propylene and [illegible] and intensities [illegible] possibility of trans- [illegible] the [illegible] more complex olefinic [illegible] original article has: [illegible] formulas and 1 table

ASSOCIATION: None

SUBMITTED: 03Aug64 ENCL: 00 SUB CODE: OP, OC

NR REF SOV: 004 OTHER: 001

Card 3/3

L 1705-66 EWT(m)/EPF(c)/EWP(j)/T RM

ACCESSION NR: AP5012638 UR/0051/65/018/005/0928/0930
535.343 = 15.4

AUTHOR: Finkel', A. G.; Tarasova, N. V.; Sverdlov, L. M.

TITLE: Experimental and theoretical investigation of absolute intensities in the infrared spectra of hydrocarbons in the gas phase. III. 1,3-butadiene

SOURCE: Optika i spektroskopiya, v. 18, no. 5, 1965, 928-930

TOPIC TAGS: IR spectrum, butadiene, deuterium compound, line intensity, conjugated polyolefin hydrocarbon, electrooptic effect, absorption band

ABSTRACT: This is a continuation of earlier investigations (Opt. i spektr. v. 15, 195, 1963 if) of the infrared bands of certain naphthenic and olefinic hydrocarbons. The present work is devoted to a measurement of the absolute intensities of the infrared bands of trans-1,3-butadiene, and to a calculation, on the basis of the experimental data obtained, of a set of electro-optical parameters characterizing the polar properties of the bonds in dienes with conjugated C=C double bonds, in order to determine the effect of conjugation on bond polarity. The absorption spectrum of k,3-butadiene was recorded with an infrared spectrometer using LiF, NaCl, and KBr prisms. The Wilson-Wells extrapolation method (J. Chem. Phys. v. 14, 578, 1946) was used to determine the absolute intensities of the absorption bands. The

Card 1/2

L 1705-66

ACCESSION NR: AP5012638 O

experiment is briefly described. A table is presented of the absolute intensities of the infrared bands of trans-1,3-butadiene and C_4D_6. The results show that the C=C double bond to the ends of which different functional groups are attached, is characterized by considerable polarity. The table lists also the calculated intensities of the infrared spectra of trans-1,3-hexadeuterobutadiene, calculated from the electro-optical parameters in this work. The calculation correctly accounts for the intensities of the IR bands at 2335, 2210, 1523, and 718 cm^{-1} and the medium intensity of the 2270 and 380 cm^{-1} bands. The intensities calculated for the bands in the 1000--1050 region are apparently too low. Orig. art. has: 1 formula and 1 table.

ASSOCIATION: none

SUBMITTED: 25Apr64 ENCL: 00 SUB CODE: OP

NR REF SOV: 009 OTHER: 003

Card 2/2 DP

STAL'MAKHOVA, I.P.; FINKEL', A.G.; SVERDLOV, L.M.

Experimental and theoretical study of the absolute intensities of infrared spectra of hydrocarbons in the gaseous phase. Part 5. Propane. Opt. i spektr. 18 no.6:1083-1086 Je '65. (MIRA 18:12)

FINKEL', A.G.; BORTSOV, M.G.; SVERDLOV, L.M.

Experimental and theoretical study of the absolute intensities of infrared spectra of hydrocarbons in the gaseous phase. Part 2. Opt. i spektr. 19 no.1:65-70 Jl '65. (MIRA 18:8)

KLOCHKOVSKIY, Yu.V.; KUKINA, V.S.; SVERDLOV, L.M.

Vibrational spectra and constants of the potential energy of tetrafluoroethylene, tetrachloroethylene, tetrabromoethylene, trifluoroethylene, 1,1-difluorochloroethylene, 1-fluoro-1-chloroethylene, cis- and trans-dibromoethylene and their deuterium-substituted derivatives. Zhur. fiz. khim. 39 no.8:1912-1921 Ag '65. (MIRA 18:9)

1. Saratovskiy politekhnicheskiy institut.

[illegible], V.N.; SVERDLOW, L.M.

Calculation and interpretation of the vibration spectra of diborane compounds. Part 2. Zhur. fiz. khim. 39 no.8:1983-2097 S '65. (MIRA 18:10)

L. Saratovskiy politekhnicheskiy institut.

CA

3

The theory of the absorption spectrum of fulvene I. M. Sverdlov and M. A. Kovner (N.G. Chernishev Univ., Saratov). *Izvest. Akad. Nauk S.S.S.R., Ser. Fiz.* 12, 382–5(1948).—The method of Goeppert-Mayer and Sklar (GMS) (*C.A.* **32**, 8838[9]) has been extended to mols. with C atoms of different statistical wt. according to position, the simplest colored carbohydrate being fulvene. The energy levels, their symmetry, and the wave length of allowed electronic transitions are calcd. The results are compared to previous results by Sklar (*C.A.* **31**, 7758[8]) and by the authors and to exptly. identified lines in dimethylfulvene vapor. The calcd. levels by the GMS method are lower than the exptl. The method used by Sklar gives 2 lines instead of 3 but the correspondence with the exptl. levels is good. All transitions corresponding to the exptl. lines can be identified. S. Pakswer

Chemical Abst.
Vol. 48 No. 4
Feb. 25, 1954
Electronic Phenomena and Spectra

6-16-54 RmL

Simple method for the calculation of triplet states of complicated molecules. M. A. Kovner and L. M. Sverdlov. *Doklady Akad. Nauk. S.S.S.R.* 59, 1129-1132(1948). —The graphic rules of Rumer for the calcn. of singlet states of mols. are extended to the case of triplet states of complicated mols. The following rules now apply: (I) Construct in a circle all the singlet canonical structures according to the rules of Rumer. (II) If the no. r of expanded traits in the structure is even and not equal to zero then such structures are rejected. (III) If r equals zero and the no. n of atoms in the circle is not divisible by 4, then all the nonexpanded traits blow up (tripletize). (IV) If r is not even and n is not divisible by 4, then all the expanded and the nonexpanded traits blow up with the exception of the nonexpanded traits whose distribution lies on one side of the expanded traits. (V) If r is not even or r equals zero and n is divisible by 4, then (a) the expanded traits blow up, and (b) after this the first and last atoms are joined by a trait. To the resulting structure apply rules II, III, and IV. When the above rules are applied for the cases of n equals 4, 6, 8, and 10, then 3, 9, 28, and 90 canonical triplet structures are obtained, resp. The matrix elements for the triplet energy levels of the mol. are obtained by the cyclic method and applied to the case of fulvene. The method shows promise for the calcn. of energy levels in excited mols. and in biradical states. Gerald Oster

SVERDLOV, L. M.

184T108

USSR/Physics - Thermodynamics, 21 Jun 51
Isotopic Molecules

"Relation Among the Frequencies of Isotopic Molecules (The Rule of Sums)," L. M. Sverdlov, Saratov State U imeni N. G. Chernyshevskiy

"Dok Ak Nauk SSSR" Vol LXXVIII, No 6, pp 1115-1118

Examn of isotopic effect in oscillatory spectra of mols facilitates their interpretation and gives addnl eqs for detn of consts of potential energy; hence the interest in subject frequency. Sverdlov derives new relation among subject

184T108

USSR/Physics - Thermodynamics, 21 Jun 51
Isotopic Molecules
(Contd)

frequencies, to be added to other relations established by Teller and Redlich under the name of "product rule" (cf. "ZS Phys Chem" 28, 371, 1935). Sverdlov was assisted by M. A. Kovner. Submitted 25 Apr 51 by Acad V. A. Fok.

184T108

Sverdlov, L. M.

Correlation between the vibrational frequencies of isotopic molecules (the sum and product rules). L. M. Sverdlov (N. G. Chernyshevskiĭ State Univ., Saratov). *Doklady Akad. Nauk S.S.S.R.* 86, 513–16(1952); cf. *C.A.* 48, 1741*a*.—S. derives expressions for the sum and product rules governing the vibration frequencies of isotopically substituted mols., and applies them, with good success, to the deuterioethylenes. R. D. Krosl

1. SVERDLOV, L. M.

2. USSR (600)

4. Molecular Dynamics

7. Connection between moments of inertia and rotatory frequencies of isotopic molecules. Dokl AN SSSR No 2 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

SVERDLOV, L. M.

USSR/Physics - Molecular Spectra Sep/Oct 53

"Computations of Oscillatory Spectra of Molecules Containing the Carbonyl Group and Their Comparative Characteristics," L. M. Sverdlov, Saratov State Univ im Chernyshevskiy

Iz Ak Nauk, Ser Fiz, Vol 17, No 5, pp 567-573

The oscillatory spectra are calculated by method of M. V. Volkenshteyn, M. A. Yel'yashevich, B. I. Stepanov (Kolebaniya Molekul [Oscillations of Molecules] 1949) and L. S. Mayants (Dissertation, Trudy FIAN, v. V [1950]) for compds contg carbonyl group: formaldehyde, acetaldehyde, acetone, acetyl chloride, monomers of formic and acetic acids and dimers of formic acid. Results are tabulated. Indebted to M. A. Kovner.

274T86

SVERDLOV, L. M.

USSR/Physics - Molecular Frequencies 11 Jan 53

"Relations Among Moments of Inertia and Rotational Frequencies of Isotopic Molecules," L. M. Sverdlov, Saratov State U

DAN SSSR, Vol 88, No 2, pp 249-252

Discusses the use of isotope substitution in measuring molecular quantities that depend only upon mass, such as frequency oscillations, moment of inertia, rotational freq, etc. Derives general formulas and identities involving such quantities. Applies them to org compds of isotopic H,N, and halogens. Presented by Acad G.S.Landsberg 10 Nov 52.

249T20

SVERDLOV, L. M.

5

USSR

539.132 : 541.57

4788. An interpretation of vibration spectra and computation of the potential energy parameters of deuteroethylenes. L. M. SVERDLOV AND N. L. PAKHOMOVA. *Dokl. Akad. Nauk SSSR*, 91, *No.* 1, 51–4 (1953) *In Russian.* English translation, *U.S. National Sci. Found. NSF-tr-80.*

Computations of the vibration spectra of partially deuterated ethylenes from ethylene force-constants, using the interpretation of the C_2H_4 and C_2D_4 spectra accepted in 1945 (Herzberg), show that this interpretation needs modification. From the modified interpretation the force constants, and the elements of the inverse matrix, corrected for anharmonicity, are calculated for planar and non-planar vibrations of all deutero-ethylenes; the vibration spectra thus computed agree well with experiment, the mean error being 6 cm^{-1} and maximum error 28 cm^{-1}. The C=C bond force-constant is $14{\cdot}2 \times 10^4$ cm^{-1} ($8{\cdot}36 \times 10^5$ dyne/cm) that for the C–H bond $8{\cdot}63 \times 10^4$ cm^{-1} ($5{\cdot}08 \times 10^5$ dyne/cm), and that for the relative twisting of the CH_2 groups $0{\cdot}755 \times 10^4$ cm^{-1} ($0{\cdot}445 \times 10^5$ dyne/cm). The modified interpretations of the spectra agree with those of Arnett and Crawford [Abstr. 4252 (1950)] and Lancaster, Inskeep and Crawford [Abstr. 6128 (1951)], except for the value of $\nu_3(B_{1g})$ for C_2H_4, given here as 3076 cm^{-1}, and for interchange of assignment of ν_7 and ν_8 for $C_2H_2D_2$, of ν_4 and ν_7 for C_2HD_3, and of ν_2 and ν_8 for *a*-$C_2H_2D_2$.

J. HAWOOOD

21 Jul 53

SVERDLOV, L. M.

USSR/Physics - Spectra, Oscillatory

"Computation and Interpretation of Oscillatory Spectra of Formic Acid (Monomer) and Its Deuterium Substitutes," L. M. Sverdlov, Saratov State U im N. G. Chernyshevskiy

DAN SSSR, Vol 91, No 3, pp 503-505

Analyzing all available exptl data, attempts to interpret spectra and to compute frequencies of formic acid by method of M. Yel'yashevich and B. Stepanov (see "Kolebaniya Molekul" (Oscillations of Molicules), 1949). Finds that his computations confirm interpretation of oscillatory spectra and that the dynamic coeffs represent the potential mol field of formic acid. Presented by Acad G. S. Landsberg 22 May 53.

262T82

SVERDLOV, L-M.

3
(1) Chem

4632* Calculation and Interpretation of Vibration Spectrums of the Dimer of Formic Acid and Its Deuteron Substitutes. (Russian.) L. M. Sverdlov. *Doklady Akademii Nauk SSSR*, v. 93, no. 2, Nov. 11, 1953, p. 245-248.
Results of calculated and observed frequencies showed good agreement. Table. 10 ref.

AF 1-29-54

B. T. R.
Vol. 3 No. 4
Apr. 1954
Chemistry-Physical

Saratov State U. im. Chernyshevskiy

SVERDLOV, L.M.

Interrelation between the anharmonic ratio constants and the frequencies of isotopic molecules. Dokl.AN SSSR 94 no.3:451-454 Ja '53. (MLRA 7:1)

1. Saratovskiy gosudarstvennyy universitet im. N.G.Chernyshevskogo.
Predstavleno akademikom G.S.Landsbergom.
(Spectrum analysis) (Isotopes)

FD 400

SVERDLOV, L. M.

USSR/Physics - Oscillatory spectra of ethylene

Card 1/1

Author : Sverdlov, L. M., and Pakhomova, N. L.

Title : Oscillatory spectra and potential energy constants of ethylene and its deuterium substitutions

Periodical : Zhur. eksp. i teor. fiz. 26, 64-78, Jan 1954

Abstract : On the basis of the new interpretation of the oscillatory spectra of C_2H_4 and C_2D_4 the author computes the potential energy constants of the ethylene molecule. Also calculates the frequencies and forms of the normal oscillations of all the deuterium ethylenes. Demonstrates the faultiness of the interpretation of Gallaway and Barker, as followed by M. V. Vol'kenshteyn, M. A. Yel'yashevich, B. I. Stepanov, and G. Gertsberg. Establishes a new theoretical basis of interpretation. Employs the Mayants method of iteration for the calculation of frequency and form of normal oscillations.

Institution : Saratov State University

Submitted : July 6, 1953

Sverdlov, L.M.

62 Relations between the anharmonicity constants and between the frequencies of isotopic molecules. L. M. Sverdlov (N. G. Chernyshevskii State Univ., Saratov). *Doklady Akad. Nauk S.S.S.R.* 94, 451–4(1954).—Continuation of previous papers (*C.A.* 47, 3813*f*; 48, 1741*a*) on the relations between the frequencies of isotopic mols. A sum rule is given for the anharmonicity consts. x_e of a system of diat. isotopic mols. ab, $a'b$, ab', $a'b'$: $x_e(ab) + x_e(a'b') = x_e(a'b) + x_e(ab')$, and applied to H_2, HD, D_2, HT, DT, T_2, LiH, LiH, LiD, and LiD. A previously derived relation between the frequencies of vibration of isotopic mols. is applied to the deuteriobenzenes C_6H_6, C_6H_5D, etc., and to the deuterioacetylenes C_2H_2, C_2HD, and C_2D_2. An approx. valid sum rule is given for the sums of the frequencies.

E. Gora

SVERDLOV, L. M.

USSR/ Physics - Spectral analysis

Card 1/1 Pub. 43 - 14/62

Authors : Sverdlov, L. M., and Zaytseva, I. N.

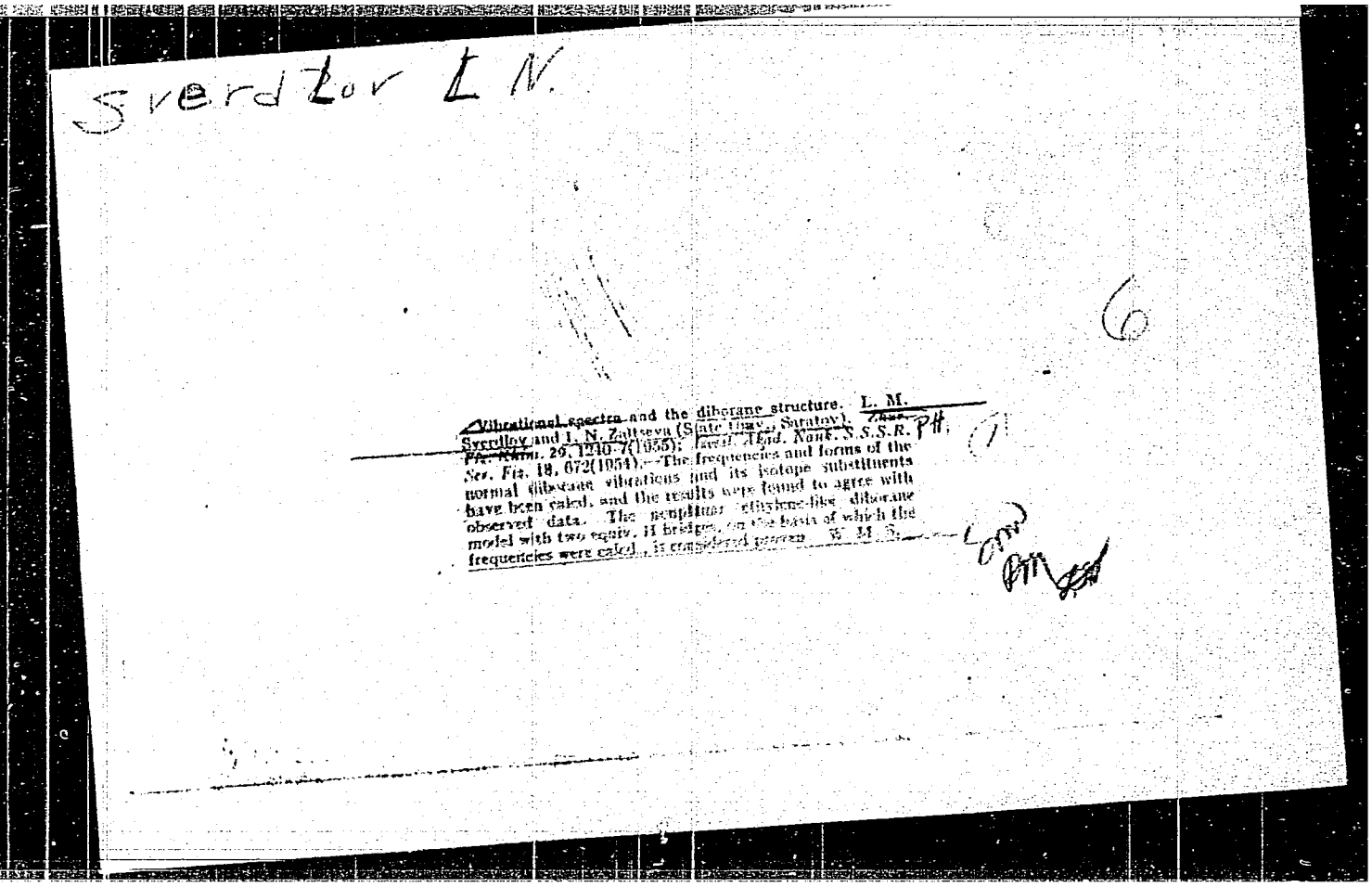
Title : Oscillation spectra and the structure of diborane

Periodical : Izv. AN SSSR, Ser. fiz. 18/6, page 672, Nov-Dec 1954

Abstract : Data are presented on the calculation of normal oscillations and potential energy constants of diborane accomplished with the aid of the M. Elyashevich method. Eighteen normal oscillations were observed in the case of diborane. The geometrical parameters utilized in the calculation of the kinematic coefficients are listed. The power coefficients were determined by the constant variation method. An interpretation of oscillation spectra for diborane and its isotope-substitutes is included. Table.

Institution : The N. G. Chernishevskiy State University, Saratov

Submitted : .....



Sverdlov L. M.

Vibrational spectra and the diborane structure. L. M. Sverdlov and I. N. Zaitseva (State Univ., Stratov). *Zhur. Fiz. Khim.* 29, 1240-7(1955); *Izvest. Akad. Nauk. S.S.S.R. Otdel. Khim. Nauk.* 18, 672(1954).—The frequencies and forms of the normal diborane vibrations and its isotope substituents have been calcd. and the results were found to agree with observed data. The nonplanar ethylene-like diborane model with two equiv. H bridges, on the basis of which the frequencies were calcd., is considered correct. W. M. S.

SVERDLOV, L.M.

USSR/ Physics - Chemistry

Card 1/1 Pub. 22 - 12/50

Authors : Sverdlov, L. M., and Vinokhodova, O. N.

Title : Computation and interpretation of the oscillating spectra of isobutylene

Periodical : DOK. AN SSSR 100/1, 45-48, Jan. 1, 1955

Abstract : Some methods (variations of constants) and mathematical parameters [r(C-H) = 1.071Å (for the (H_2 group)] etc., which were used in computions and interpretations of oscillating spectra of isobutylene are described and discussed. Eight references: 2 USA and 6 USSR (1947-1954). Tables; diagram.

Institution: The N. G. Chenyshevskiy Saratov State University

Presented by: Academician Lindberg, G. S. September 6, 1954

SVERDLOV, L.M.

B-4

USSR / Physical Chemistry. Molecules. Chemical Bond

Abs Jour : Ref Zhur - Khimiya, No 8, 1957, 25773

Author : L.M. Sverdlov

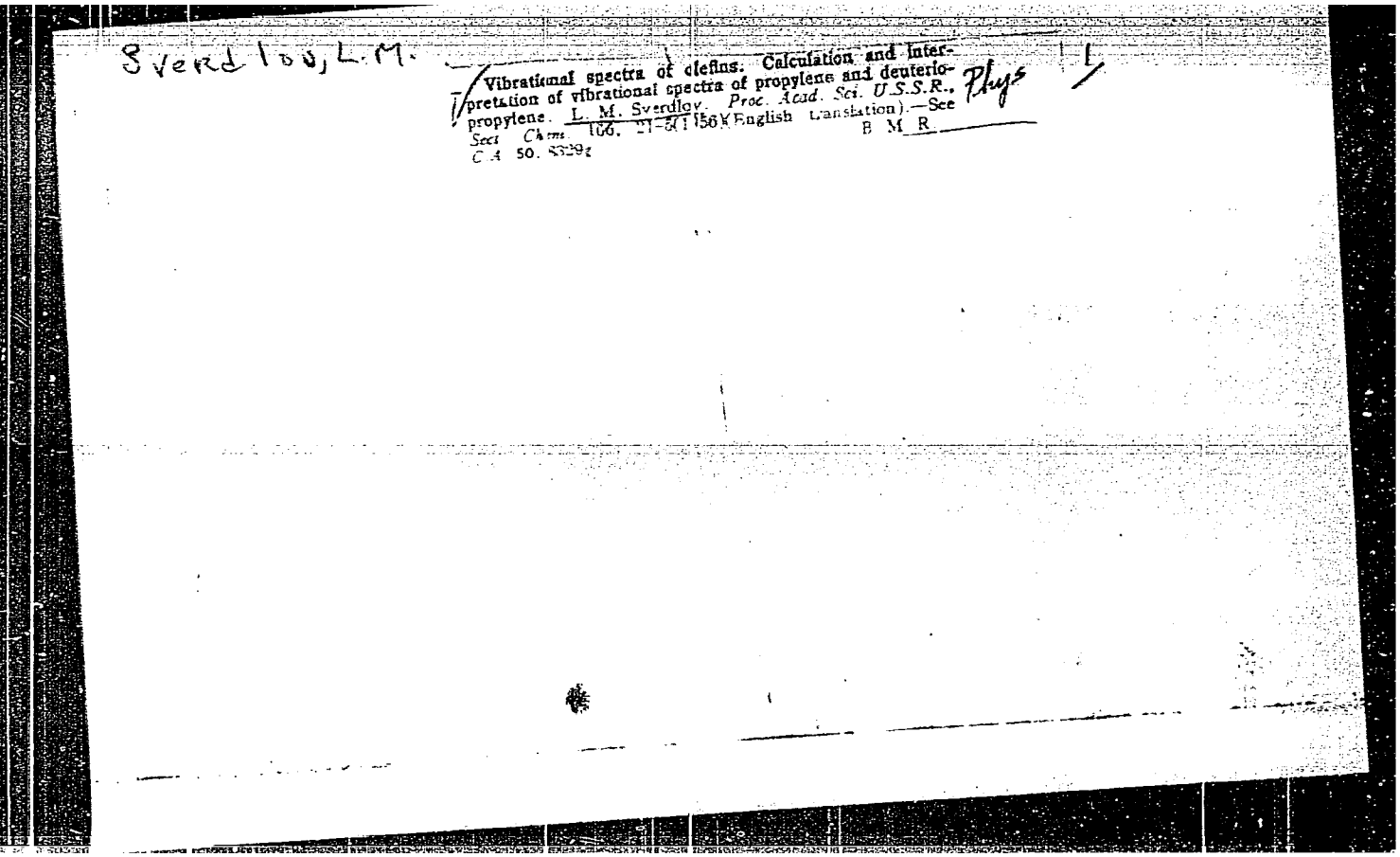
Title : Oscillating Spectra of Olefins. III. Computation and Interpretation of Oscillating Spectra of Cis-Butene-2 and Trans-Butene-2 and Tetramethylethylene.

Orig Pub : Optika i spektroskopiya, 1956, No 6, 752-764.

Abstract : The molecules of cis-butene-2, trans-butene-2 and tetramethylethylene belong to the symmetry group C_{2v}, $2h$, V_h and respectively possess 30, 30 and 48 fundamental frequencies, a complete computation of which was carried out. All secular equations were worked out and solved. On the basis of the computation, it was proposed to refer the fundamental frequencies to the concepts of symmetry groups and to the vibrations of separate structural elements of molecules. The computed frequencies and their relationship were compared with data of combined scattering spectra and infra-red spectra and

- 27 -

Card : 1/2



Sverdlov, L.M.

Vibrational spectra of olefins. Calculation and interpretation of vibrational spectra of propylene and deuteriopropylene. L. M. Sverdlov. *Proc. Acad. Sci. U.S.S.R.*, Plus 1
Sect. Chem. 106, 21-24 (1956) (English translation).—See B M R
C.A. 50, 8329g

Sverdlov, L. M.

USSR/ Chemistry - Analytical chemistry

Card 1/2 Pub. 22 - 21/43

Authors : Sverdlov, L. M.

Title : Oscillation spectra of olefines. Calculation and interpretation of oscillation spectra of propylene and deuteropropylene

Periodical : Dok. AN SSSR 106/1, 80-83, Jan 1, 1956

Abstract : The oscillation spectra of a propylene molecule, which is a simple representative of ethylene alkyl substitutes, were calculated and interpreted for the purpose of obtaining characteristic data of the oscillation spectra for the homologous RHC = CH_2 series. It was established that this molecule at its best can have only one plane of symmetry. Of the twenty-one normal oscillations observed fourteen were found to be symmetrical

Institution : Saratov State University im. N. G. Chernishevskiy

Presented by: Academician G. S. Landsberg, June 30, 1955

Card 2/2 Pub. 22 - 21/43

Periodical : Dok. AN SSSR 106-1, 80-83, Jan 1, 1956

Abstract : and seven antisymmetrical in relation to the plane of symmetry. All the oscillations were observed to be active in combined and in infrared spectra. The conformity between the calculated and observed frequencies was as satisfactory. Twelve references: 5 USA, 5 USSR, 1 Indian and 1 Germ. (1935-1955). Tables; diagram.

SVERDLOV, L.M.

PRIKHOT'KO, A.F.

24(7) p 3 PHASE I BOOK EXPLOITATION SOV/1365

L'vov. Universytet

Materialy X Vsesoyuznogo soveshchaniya po spektroskopii. t. 1: Molekulyarnaya spektroskopiya (Papers of the 10th All-Union Conference on Spectroscopy. Vol. 1: Molecular Spectroscopy) [L'vov] Izd-vo L'vovskogo univ-ta, 1957. 499 p. 4,000 copies printed. (Series: Its: Fizychnyy zbirnyk, vyp. 3/8/)

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po spektroskopii. Ed.: Gazer, S.L.; Tech. Ed.: Saranyuk, T.V.; Editorial Board: Landsberg, G.S., Academician (Resp. Ed., Deceased), Neporent, B.S., Doctor of Physical and Mathematical Sciences, Fabelinskiy, I.L., Doctor of Physical and Mathematical Sciences, Fabrikant, V.A., Doctor of Physical and Mathematical Sciences, Kornitskiy, V.G., Candidate of Technical Sciences, Rayskiy, S.M., Candidate of Physical and Mathematical Sciences, Klimovskiy, L.K., Candidate of Physical and Mathematical Sciences, Miliyanchuk, V.S., Candidate of Physical and Mathematical Sciences, and Glauberman, A. Ye., Candidate of Physical and Mathematical Sciences.

Card 1/30

Card 19/30

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001654120001-1"

Vibrational spectra and potential energy constants of allene and tetradeuteroallene. (Cont.)

C - H = 1.07 Å, ∠HCH = 117°. The potential energy has 31 force coefficients which form 23 linearly independent combinations. 12 coefficients were assumed to be zero, and from the rest 15 independent combinations, leading to 22 frequencies, were formed. Results for allene and tetradeuteroallene given in two tables show good agreement between experiment and calculation (mean error of 9 cm^{-1}, maximum error of 17 cm^{-1} for 300 to 3000 cm^{-1}). Coefficients of induction were also calculated and compared with those for ethylene. From this comparison it follows, inter alia, that the C = C bond in allene is about 7% stronger than the corresponding bond in ethylene, but the C = C = C angle in allene is about twice as weak as the angles C-C-C and C-C=C in paraffins and olefins. There are 1 figure; 2 tables; 8 references (4 of which are Slavic).

ASSOCIATION: Saratov Road Institute (Saratovskiy avtodorozhiyy Institut)

SUBMITTED: November 28, 1956.

AVAILABLE: Library of Congress

Card 2/2

AUTHORS: Sverdlov, L. M. and Kraynov, Ye. P.

TITLE: Calculation and Interpretation of Vibrational Spectra of Naphthenes. (Raschet i interpretatsiya kolebatel'nykh spektrov naftenov.) I. Cyclopropane and hexadeutero-cyclopropane. (I. Tsiklopropan i geksadeyterotsiklo-propan.)

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ABSTRACT: Baker and Lord (Ref.3) give interpretation of cyclopropane spectrum by analysis of the band types, their intensities and degree of polarization of infrared absorption and Raman scattering of molecules C_3H_6 and C_3D_6. The authors use this interpretation as their starting point. Frequencies and forms of the normal vibrations of molecules of cyclopropane and hexadeuterocyclopropane are calculated using the method described in Ref.5. The results of these calculations are given in Tables 3 and 4. The potential energy constants of cyclopropane (force constants in Table 2 and induction coefficients in Table 5)

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Vibration spectra and potential energy constants of halogen derivatives of ethylene [with summary in English]. Inzh.-fiz. zhur. no.12:43-53 '58. (MIRA 11:12)

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