

LEVINSON, A.M.; SVITNEVA, A.V.

Press rolls with a stonite lining. Bumagodel. mash. no.8:168-174 '60.
(MIRA 14:3)

(Papermaking machinery)

LEVINSON, A.M., kand.tekhn.nauk

Machine for the dynamic balancing of tubular rolls. Bum.prom. 36
no.4:16-17 Ap '61. (MIRA 14:5)

1. Tsentral'nyy nauchno-issledovatel'skiy i proyektokonstruktorskiy
institut po proyektirovaniyu oborudovaniya dlya tsellyulozno-bumazhnoy
promyshlennosti.

(Papermaking machinery)

LEVINSON, A.M., kand.tekhn.nauk

Reconditioning cast parts of high-speed conical grinders. Bum.
prom. 36 no.7:14 J1 '61. (MIRA 14:9)

1, Tsentral'nyy nauchno-issledovatel'skiy institut bumagodelatel'-
nogo mashinostroyeniya.
(Papermaking machinery--Maintenance and repair)

LEVINSON, A.M.

Suction couch roll made of acid-resistant steel. Bumagodel.mash.
no.9:80-86 '61. (MIRA 15:1)
(Papermaking machinery)

ACCESSION NR: AR4027675

S/0276/64/000/001/E157/E157

SOURCE: RZh. Tekhnologiya mashinostroyeniya, Abs. 1E1011

AUTHOR: Levinson, A. M.; Ty*minskaya, S. Yu.

TITLE: Experiments on the cutting of stainless steel plates with thin diamond discs

CITED SOURCE: Sb. Bumagodel. mashinostroyeniye. Vy*p. 11. M.-L., 1963, 216-227

TOPIC TAGS: steel cutting, diamond cutter, diamond disc sutter

TRANSLATION: The authors describe experiments on the cutting of 0.2-0.5 mm wide grooves in Kh17, Kh17M2, and 1Kh18N9T stainless steel plates used in the papermaking industry with diamond cutting discs (DD). The experiments were performed on the 6N81G horizontal milling machine with a special head. It was found that the cutter best suited for grooves 0.35 mm wide and over have a grain size 80 and a concentration of 35-47%, while grooves less than 0.3 mm wide are best cut with discs with a grain size of 80-100 with a concentration of 35-45%. The following optimal regimes were established: cutting speed -- 50 mm/sec; feed

Card 1/2

ACCESSION NR: AR4027675

rate -- 65-125 mm/min depending on the disc thickness; vertical feed rate -- 8-30 mm/min. In comparison with milling, the groove machine time was reduced 3.5 times; the disc strength was 4 times higher than that of the milling machine cutter. An overall view of the experimental setup is included. 4 illustrations. Bibliography with 3 titles. G. Vil'ner.

DATE ACQ: 03Mar64

SUB CODE: ML

ENCL: 00

Card 2/2

LEVINSON, A.M.

New polymer materials in the production and repair of papermaking
equipment. Bum. prom. no.2:27-28 F '64. (MIRA 17:3)

1. Tsentral'nyy nauchno-issledovatel'skiy proyektno-konstruktorskiy
institut bumagodelatel'nogo mashinostroyeniya.

LEVINSON, A.M.; ZIGBERMAN, D.I.; TYMINSKAYA, S.Yu.

Machine for the dynamic balancing of the rotors of conic mills.
Dumagodel. mash. no.11:228-238 '63. (MIRA 17:6)

LEVINSON, A.M.; TIMINSKAYA, S.Yu.

Tests in the perforation of stainless steel plates by means of thin diamond disks. Bumagodel. mash. no.11:2 227-169.

New developments in the manufacturing technology of aryl and granite shafts. Bumagodel. mash. no.11:239-257 '63.
(MIRA 17:6)

LEVINSON, A.M.; SVITNEVA, A.V.

New protective coatings and cements for parts of papermaking
machinery. Bumagodel. mash. no.11:258-262 '63. (MIRA 17:6)

LEVINSON, A.M.

Some problems in the use of the new types of materials in the
manufacture of papermaking machinery. Bumagodel. mash. no.12;
207-216 '64. (MIRA 17:11)

REVIS, I.A.; LEVINSON, A.M.; MOROZIK, Ye.P.; Prinsipalni uchastiye:
ZHUKOBORSKIY, S.L., inzh.; BAYEV, A.A., inzh.; SOLOMAKHIN,
S.I., inzh.; VESHCHEV, Ye.V., tekhnik; SYSOYEVA, Ye.Ya., laborant

Effect of the technology of the manufacture of the disk knives
for paper cutting on their strength. Bumagodel. mash. no.12:
176-206 '64. (MIRA 17:11)

1. Leningradskiy tekhnologicheskoy institut tsellyulozno-bumashnoy
promyshlennosti (for Zhukoborskiy, Bayev, Solomakhin, Veshchev,
Sysoyeva).

LEVINSON, A. S.

Epshteyn, F. G., Levinson, A. S., Semashko, S. A. and others, "The clinical characteristics of grippe A" (Based on data gathered in 1943, 1944, 1946), Voprosy med. virusologii, Issue 1, 1948, p. 193-208, - Bibliog; 7 items.

SO: U-3042, 11 March 53, (Letopis 'zhurnal 'nykh Statoy, No. 10, 1945).

NOVEMBER, 1958

TA 31/49140

USSR/Medicine - Influenza, Antiserum
Medicine - Vaccine Therapy

Nov. 48

"The Problem of Utilizing Antivirus for Treatment of Influenza," A. S. Levinson, Therapeutics Clinic, Sec for Viruses, VIEM, Moscow, 1 p

"Klin Med" Vol XXVI, No 11

Of 515 patients, antivirus was used in 315 cases. Concludes that antivirus therapy has no advantages over other methods. These results agree with those of Rabinovich and Zhitinskaya, and Epshteyn. Considers different results of Shtaynshnayder and Yakobson due to errors in method.

31/49140

LEVINSON, A. S.

Epshteyn, F. G. , Levinson, A. S., Semashko, Z. A., and others, "Material on the serotherapy of gripe", *Voprosy med. virusologii*, Issue 2, 1949, p. 278-87, - Bibliog: 15 items.

So: U-3042, 11 March 53, (*Letopis 'zhurnal 'nykh Statey*, No. 10, 1949).

LEVINSON, A. S.

Levinson, A. S. "Primary atypical pneumonia", (A survey), Voprosy med. virusologii, Issue 2, 1949, p. 292-300, - Bibliog: 13 items.

SO: U-3042, 11 March 53, (Letopis 'zhurnal 'nykh) Statey, No. 10, 1949(.

LEVINSON, A.S.

Influenza and meteorological factors. Klin.med., Moskva 18 no.10:
53-56. Oct 50. (CLML 20:4)

1. Of the Institute of Virology of the Academy of Medical
Sciences USSR (Director -- Prof.A.T.Kravchenko).

LEVINSON, A.S., kand.med.nauk (Moskva)

Prevention of tuberculosis and the role of the nurse in its
organization. Med.sestra 16 no.11:13-17 N '57. (MIRA 11:2)
(TUBERCULOSIS--PREVENTION)

LEVINSON, Abram Samailovich, kand.med.nauk; ZAKIN, A.M., red.;
MATVEYEVA, M.M., tekhn. red.

[Prevention of tuberculosis] Preduprezhdenie tuberkuleza.
Moskva, Medgiz, 1962. 26 p. (MIRA 15:7)
(TUBERCULOSIS--PREVENTION)

LEVINSON, A.Ya.

Nuclear group of circular schizophrenia and two of its clinical variants. Report No.1: Role of exogenic injuries in the course of maniacal and melancholic variants. Trudy Dash. med. inst. 61: 15-26 '63.

Nuclear group of circular schizophrenia and two of its clinical variants. Report No.2: Affective pathology in psychoses of the maniacal and melancholic variants of circular schizophrenia. Ibid.:27-33

Nuclear group of circular schizophrenia and two of its clinical variants. Report No.3: Remission in two variants of circular schizophrenia. Ibid.:34-40. (MIRA 17:5)

LEVINSON, A. Ya.

Clinical aspects of schizophrenia with distinct affective disorders.
Zhur. nevr. i psikh. 61 no.4:573-580 '61. (MIRA 14:7)
(SCHIZOPHRENIA)

LEVINSON, A. Ya. (Stalinabad)

Lingering maniacal states in one clinical variant of the early stage of schizophrenia. Zhur. nevr. i psikh. 61 no.9:1382-1386 '61. (MIRA 14:9)

(SCHIZOPHRENIA)

SOKLAKOV, F.V.; LEVINSON, A.Ye., redaktor.

[High-speed methods of bricklaying] **Vysokoproizvoditel'nye metody kirpichnoi kladki. Moskva, Gos. izd-vo lit-ry po stroitel'stvu i arkhitekture, 1953. 97 p.** (MLRA 7:1)

1. **Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut organizatsii i mekhanizatsii stroitel'stva.**

(Bricklaying)

LIPOVETSKIY, M.A., kandidat tekhnicheskikh nauk; LEVINSON, A.Ye., inzhener, nauchnyy redaktor; KARDO-SYSOYEV, F.N., redaktor; MEDVEDEV, L.Ya., tekhnicheskiy redaktor.

[Concrete construction with the use of concrete pumps] Proizvodstvo betonnykh rabot s primeneniem betononasosov. Moskva, Gos. izd-vo lit-ry po stroitel'stvu i arkhitekture, 1954. 78 p.
(Concrete construction) (MLRA 7:11)

LEVINSON, B.; CHERNYSHEV, L.

**New trends in organizing the maintenance and repair of storage
batteries. Avt.transp. 38 no.11:23 N '60. (MIRA 13:11)**

**1. Ukrainskiy dorozhno-transportnyy nauchno-issledovate'skiy
institut.**

(Motor vehicles--Batteries)

LEVINSON, B.; PUGACHEVSKIY, K.; TISHCHENKO, Ye.

Stations for wheel alignment and inspection. Avt.transp. 39
no.3:17-19 Mr '61. (MIRA 14:3)
(Motor vehicles--Maintenance and repair)

LEVINSON, B.; SIVOZHELEZOV, G.; YUSHCHENKO, P.

Centralised maintenance and repair of electrical devices. Avt.
transp. 41 no.2:20-21 F '63. (MIRA 16:2)
(Motor vehicles--Electric equipment)

LEVINSON, B.

Proper adjustment of the ignition on the GAZ motortrucks. Avt.
transp. 41 no.9:14 S '63. (MIRA 16:10)

1. Ukrainskiy gosudarstvennyy dorozhno-transportnyy nauchno-
issledovatel'skiy institut.

KHABLO, I.; GAPANOVICH, N.; LEVINSON, B.; YUSHCHENKO, I.

Centralized maintenance and repair of storage batteries is
efficient. Avt. transp. 43 no.1:32-33 Ja '65. (MIRA 18:3)

LEVINSON, B.

Adjustment of ignition advance by rarefaction. Avt.transp. 42
no.12:18-19 D '64. (MIRA 18:4)

1. Ukrainakiy dorozhno-transportnyy nauchno-issledovatel'skiy
institut.

LUTSKER, G.; LEVINSON, B.

Optimal dimensions and the outlook for the development of automotive transportation enterprises. Avt. transp. 43 no.4:34-35 Ap '65.

(MIRA 18:5)

1. Ukrainskiy dorozhno-transportnyy nauchno-issledovatel'skiy institut.

ALL NKI APOU15000

(N)

SOURCE CODE: UR/0413/66/000/009/0087/0087

INVENTOR: Jordan, G. G.; Kurnosov, N. M.; Levinson, B. A.; Lychakov, N. I.;
Tikhomirov, V. P.

ORG: None

TITLE: A radio interference level indicator. Class 42, No. 181326 [announced by the
Scientific Research Institute of Heat and Power Engineering Equipment (Nauchno-
issledovatel'skiy institut teploenergeticheskogo priborostroyeniya)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 9, 1966, 87

TOPIC TAGS: liquid level indicator, electromagnetic wave interference, electronically
variable capacitor

ABSTRACT: This Author's Certificate introduces a radio interference level indicator
based on using reflection of high-frequency electromagnetic oscillations from the sur-
face of the medium to be monitored. The unit contains a high-frequency oscillator
connected through a length of transmission line to a coaxial pickup and a measurement
circuit. Measurement accuracy and reliability are improved by connecting an element
in the transmission line with a reactance which depends on the voltage applied to it,
e. g. a voltage-variable capacitor. This element compensates the electrical length
of the line under the effect of a voltage proportional to the level being measured.

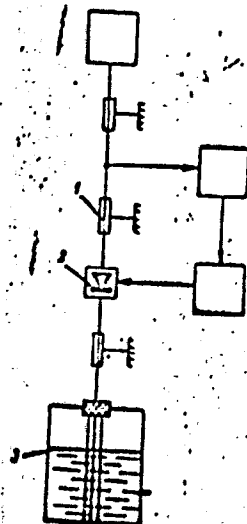
Card 1/2

UDC: 681.128,82

ACC NR: AP6015688

1—transmission line;
2—voltage-variable
capacitor; 3—level
to be measured

SUB CODE: 14, 09/ SUBM DATE: 21Jul64



Card 2/2

ACC NR: AP7005616

SOURCE CODE: UR/0413/67/000/002/0055/0055

INVENTOR: Yalyshev, A. U.; Leyinson, B. A.

ORG: None

TITLE: An electronic controller. Class 21, No. 190456 [announced by the Scientific Research Institute of Heat and Power Engineering Equipment (Nauchno-issledovatel'skiy institut teploenergeticheskogo priborostroyeniya)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1967, 55

TOPIC TAGS: automatic control equipment, electronic equipment

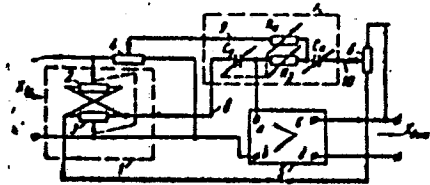
ABSTRACT: This Author's Certificate introduces an electronic controller containing a computing amplifier with a potential coupling loop which has a differential capacitor in the forward circuit and an integrating RC network in the feedback circuit. The controller also incorporates input and output potentiometers. A wider range of useful applications for the instrument is provided by including an auxiliary conventional bridge circuit consisting of two cross-connected potentiometric dividers with rigidly linked sliding contacts connecte/ in parallel with the output terminals of the regulator. The terminals for one of the dividers are connected respectively to the potential loop and to the differential capacitor, while the terminals of the input potentiometer are connected to a tunable integrating capacitor through a variable resistor with slid-

Card 1/2

UDC: 621-551.454

ACC NR: AP7005616

ing contact rigidly linked to the sliding contact of a variable resistor in the feed-back circuit. The control shaft of the tunable integrating capacitor is rigidly linked to that of the tunable differentiating capacitor.



1—bridge circuit; 2-4 and 6—low-resistance potentiometric dividers; 5—operational amplifier; 7-10—dynamic connections

SUB CODE: 09/ SUBM DATE: 11Dec65

Cord 2/2

LEVINSON, Boris Vladimirovich; CHERNYSHOV, Leonid Fedorovich;
ALEKSEYEV, N.I., retsenzont; FILIN, A.G., red.; BODANOVA,
A.P., tekhn. red.

[Centralization of the maintenance and repair of motor
vehicles]TSentralizatsia tekhnicheskogo obsluzhivaniia i
remonta avtorobilei. Moskva, Avtotransizdat, 1962. 45 p.
(MIRA 15:10)

(Motor vehicles—Maintenance and repair)

LEVINSON, F. Ye.

Cand Biol Sci - (diss) "Vitamin A and carotene content in cow's milk as a function of various factors." Leningrad, 1961. 20 pp; (Ministry of Agriculture RSFSR, Leningrad Veterinary Inst); 210 copies; price not given; (KL, 6-61 sup, 208)

~~LEVINSON, G.~~ SOKOLOVSKAYA, R.

New Year's eve. Mast.ugl. 9 no.12:26-27 D '60.
(Coal miners)

(MIRA 13:12)

LEVINSON, G.I. [author]; GUBER, A.A., doktor istoricheskikh nauk [editor].

[The Philippines] *Filippiny*. Pod red. A.A.Gubera. Moskva, Gos.izd-vo
geogr.lit-ry, 1953. 63 p. 'MIRA 6:9)
(Philippine Islands)

NIKOLAYEVA, V.G.; DUKHINA, A.Ya.; POPOVA, E.M.; BAYEVICH, Yu.A.;
SANDIN, I.B.; PERCHENKO, A.A.; LEVINSON, G.I.

Carbamide dewaxing of oil fractions. Trudy VNII NP no.7:253-263
'58. (MIRA 12:10)
(Paraffins) (Urea)

NIKOLAYEVA, V.G.; DUKHNINA, A.Ya.; KOMAROV, B.I.; LEVINSON, G.I.; Prinimali
uchastiye: KOLOTUSHKINA, Ye.V., inzh.; BORISKINA, N.A.

Investigation of the anticorrosive additives to residual fuels
containing vanadium and sulfur. Khim. i tekh. topl. i masel.
6 no.10:17-22 0 '61. (MIRA 14:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke
nefti i gaza i polucheniyu iskusstvennogo zhidkogo topliva.
(Fuel--Additives) (Corrosion and anticorrosives)

S/262/62/000/011/015/030
1007/1252

AUTHORS Nikolayeva, V G . Dukhina, A. Ya, Komarov, B I. and Levinson, G. I

TITLE: Data on the use of anticorrosive additives to vanadium- and sulfur-containing heavy (residual) fuels

PERIODICAL Referativnyy zhurnal, otdel'nyy vypusk. 42. Silovyye udtanovki, no. 11, 1962, 39, abstract 42.11.189. (In Collection Prisdaki k maslam i toplivam, M., Gostoptekhizdat, 1961, 374-380)

TEXT Laboratory test results are reported on the corrosive action of ash from various oil grades of Eastern oil fields, as well as on the influence of additives containing magnesium, silicon and aluminum. Tests on ЭИ-481 (EI-481); ЭИ-417 (EI-417) and ЭИ-607 (EI-607) steels showed after 10 hrs, metal losses of 1.92, 0.66 and 0.35% respectively. Data are given on the corrosion of steels in a gas stream. There are 2 figures and 3 tables. ✓ 13

[Abstracter's note Complete translation]

Card 1/1

NIKOLAYEVA, V.G.; DUMENINA, A.Ya.; KOROBOV, B.F.; MASLOVA, O.I.;
LEVINSON, G.I.; PERCHENKO, A.A.; Primal uchastiye
SHCHEKOL'TSOVA, M.A., inzh.

Production of gas turbine fuels from coking distillates.
Khim. i tekhn. topl. i masel 7 no 3:20-22 Mr '62. (MIRA 15:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po
pererabotke nefi i gaza i polucheniyu iskusstvennogo
zhidkogo topliva.

(Petroleum as fuel)

Rheumatism

Effectiveness of confinement of rheumatic children in the sanatorium of Kislovodsk as compared to effectiveness of therapy in local sanatorium. Vop. pediat. i okir. mat. i det. 20 no. 1, 1952.

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

USSR/Human and Animal Physiology (Normal and Pathological).
The Liver.

T-8

Abs Jour : Ref Zhur - Biol., No 11, 1958, 50972

Author : Levinson, I.A.

Inst : -

Title : Liver Function in Children during the Active Phase of
Rheumatic Fever.

Orig Pub : Vopr. okhrany materinstva i detstva, 1957, 2, No 6, 28-33

Abstract : In the active form of rheumatic fever the reaction of
Waltman was found to be pathologic in 5-15 years old
children, with a right displacement in 20 out of 23
children and with a left displacement in 2 of the chil-
dren the residual N of the blood was heightened. The se-
cretion of hippuric acid has decreased by 26-55 percent in
the majority of the children, while the blood sugar con-
tent has decreased to 74 mg percent. Also, glyccmic patho-
logic curves were observed.

Card 1/1

LEVINSON, I.A., kand.med.nauk

Novocaine block in the treatment of childhood diseases.

Vop.okh.mat. i det. 3 no.5:40-44 S-0 '58

(MIRA 11:11)

1. Iz kafedry gosptal'noy pediatrii (sav.-prof. B.I. Gurevich
Gor'kovskogo meditsinskogo instituta imeni S.M. Kirova i Gor'kovskoy
detskoy bol'nitsy (glavnyy vrach Ye.G. Krupko).

(CHILDREN--DISEASES)

(NOVOCAINE)

LEVINSON, I. B. (USSR)

"Vitamin C in Nerve Cells in Different Functional States of Animals."

Report presented at the 5th International Biochemistry Congress,
Moscow, 10-16 Aug 1961

LEVINSON, I. B.

FD-2906

USSR/Nuclear Physics - Atomic levels

Card 1/1

Pub. 146 - 6/19

Author : Bolotin, A. B.; Levinson, I. B.; Levin, L. I.

Title : Two-configurational approximation in the case of atoms of the carbon type

Periodical : Zhur. eksp. i teor. fiz., 29, October 1955, 449-453

Abstract : The authors present the values of the parameters of the analytic one-electron wave functions for C, N⁺, O⁺⁺, F³⁺, Ne⁴⁺ in the configurations $1s^2 2s^2 2p^2$, $1s^2 2s^2 2p^3$, and $1s^2 2p^4$. They determine the corrections to be added to the energy for the two-configurational approximation in the case of the ground configurations of the above enumerated atoms in the two-configurational approximation $1s^2 2s^2 2p^2 - 1s^2 p^4$. They compare the obtained theoretical values of the energy with experimental data. They determine the total forces of the dipoles and the probabilities of the transitions $1s^2 2s^2 2p^3 - 1s^2 2p^2$ both in the one-configurational and also in the two-configurational approximations. The authors thank Professor A. P. Yutsis for proposing the theme. Eight references: e.g. A. B. Bolotin and A. P. Yutsis, *ibid.*, 24, 537, 1953; A. P. Yutsis, *ibid.*, 19, 565, 1949.

Institution : Vilnius State University

Submitted : May 29, 1954

LEVIUSOMAS, J.

Sums of the products of Wigner's coefficient and their graphic representation. In Russian.

p. 17 (Lietuvos TSR Mokslu akademija. Fizikos-technikos institutas. Darbai. Vol. 2, 1956, Vilnius, Lithuania)

Monthly Index of East European Accessions (EEAI) IC. Vol. 7, no. 2,
February 1958

LEVINSONAS, J.

The dependence of the sum of products of Wigner's coefficients on magnetic numbers. In Russian.

p. 17(Lietuvos TSR Mokslu Akademija. Fizikos-technikos institutas. Darbai. Vol. 2, 1956, Vilnius, Lithuania)

Monthly Index of East European Accessions (EEAI) IC. Vol. 7, no. 2,
February 1958

LEVINSON, I. I.

USSR/Atomic and Molecular Physics - Physics of the Atom, D-1

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 34267

Authors: Levinson, I. B., Bolotin, A. B., Levin, L. I.

Institution: None

Title: Two-Configuration Approximation in the Case of the Nitrogen-Type Atoms

Original Periodical: Mokslo darbai. Vilniaus valst. univ. Mat. fiz. ir chem. mokslu ser., 1956, 5, 49-55; Lithuanian resumé

Abstract: The values of the parameters of the analytic single-electron wave functions are given for the N, O⁺, F²⁺, and Ne³⁺ atoms in the configuration $1s^2 2s^2 2p^3$, $1s^2 2s 2p^4$, and $1s^2 2p^5$. The energy correction for the 2-configuration approximation $1s^2 2s^2 2p^3 - s^2 2p^5$ is determined for all the above atoms. The theoretical values of the energy obtained are compared with the experimental data. The total strengths of the dipoles and the transition probabilities $1s^2 2s 2p^4 - 1s^2 2s^2 2p^3$ were determined in both the single as well as in the 2-configuration approximations. A general expression was obtained for the total dipole strength in the 2-configuration approximation in terms of the dipole integrals in the case of transitions between the s and p shells.

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- 1 -

Levinson, I. B.

USSR/Atomic and Molecular Physics - Physics of the Atom.

D-1

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 11358

Author : Yubis, A.P., Ushpalis, K.K., Kavetskis, V.I., Levinson, I.B.

Inst : Vilnius University, USSR

Title : Total Dipole Strength in the Approximation of Incomplete Separation of Variables for Two-Electron Atoms.

Orig Pub : Optika i spektroskopiya, 1956, No 5, 601-605

Abstract : The strength of the dipole transitions $1s^2 \rightarrow 1s2p$, $2s^2 \rightarrow 1s2p$, $2p^2 \rightarrow 1s2p$ are calculated for He, Li^+ and Be^{2+} . For the states $n l^2$, the authors employ wave functions with incomplete separation of variables, including the factor

$\mu_1 + \mu_2 r_{12} + \mu_3 (r_1 + r_2)$. The $1s2p$ state is described

Card 1/2

USSR/Atomic and Molecular Physics - Physics of the Atom.

D-1

Abs Jour ; Ref Zhur - Fizika, No 5, 1957, 11358

in the approximation of total separation of variables. The parameters of the analytic wave functions are taken from previous works. It is noted that two-electron transitions are possible when using incomplete separation of variables. For the transition $2s^2 \rightarrow 1s2p$ the authors obtained dipole strengths of 0.4, 0.01 and 0.002 for He, Li^+ , and Be^{2+} respectively. For the singlet transitions $2p^2 \rightarrow 1s2p$, the use of incomplete separation of variables leads to a very substantial reduction in the dipole strength. As the charge of the nucleus increases, the change becomes less.

Card 2/2

USSR/Atomic and Molecular Physics - Atomic Physics

D-1

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 8925

Author : Levinson, I.B., Vanagas, V.V., Yutsis, A.P.

Title : Concerning the Problem of the Use of the Formalism
of Tensor Operators in the Calculation on the Use of the Me-
thod of Incomplete Separation of Variables.

Orig Pub : Liet TSR mokslu Akad. darbai, Tr. AN LitSSR, 1956, 5B, 21-32

Abstract : Using the mathematical formalism of tensor operators, a
method is developed for integrating the expressions for the
energy over the angle and spin variables in the case of
incomplete separation of variables in the wave functions of
the equivalent electrons.

Card - 1/1

LEVINSON, I.B., Cand Phys-Math Sci -- (diss) "Certain Generalizations in the Theory of Complex Spectra." Vil'nyus, 1957, 9 pp. (Min of Higher Education USSR. Vil'nyus State Univ im V.Kapsukas), 100 copies (KL, 49-57, 110)

- 4-

"APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R000929620001-2

APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R000929620001-2"

BATARUNAS, I.V. [Batarunas, J.]; LEVINSON, I.B. [Levinsons, J.]

The Clebsch-Gordan coefficients of point groups. Liet ak darbai B no.2:
15-32 '60. (KEAI 10:1)

1. Institut fiziki i matematiki Akademii nauk Litovskoy SSR
(Groups, Theory of) (Nuclear spin)

BOLOTIN, A.B.; LEVINSON, I.B.

Utilization of the *symmetry* of molecules in a simple method of
molecular functions. Liet ak darbai B no.3:21-32 '60. (EBAI 10:3)

1. Vilnyuskiy gosudarstvennyy universitet im. V.Kapsukasa i
Institut fiziki i matematiki Akademii nauk Litovskoy SSR.
(Molecules)

84615

S/181/60/002/010/043/051
B019/B056

247700 (1043, 1143, 1559)

AUTHOR:

Levinson, I. B.

TITLE:

Exciton Models in the Approximation of Strong Coupling

PERIODICAL:

Fizika tverdogo tela, 1960, Vol. 2, No. 10, pp. 2612 - 2621

TEXT: The present paper shows that the "transfer" model and the continuous model of the exciton in ion crystals may be obtained as limiting cases of general problems concerning the exciton. The author confines himself to perfect single crystals with fixed position of the nuclei; it is assumed that the method of strong coupling is applicable. Neglecting the spin interaction, the author investigates the ortho- and paraexcitons with the Hamiltonian

${}^{2S+1}H(\vec{r}_1, \vec{r}_2) = H_v(\vec{r}_1) + H_c(\vec{r}_2) + {}^{2S+1}W(\vec{r}_1, \vec{r}_2)$. Here H_v and H_c are the Hamiltonians of the isolated holes and electrons. These operators are discussed in detail, and following this, the models of deep excitons and shallow excitons are dealt with. The Hamiltonians are discussed and

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84615

Exciton Models in the Approximation of
Strong CouplingS/181/60/002/010/043/051
B019/B056

.the exciton wave functions with the quantum number $a\vec{k}$ (a - number of the exciton band) are obtained. These wave functions describe the excitons in form of holes plus electrons, which "jump" over the corresponding potential wells. Finally, the transfer model is discussed. In the investigations carried out here, some energy inequalities are set up, which must be assumed for the discussed models to be useful. An estimate of the degree to which these inequalities are satisfied for real crystals is exceedingly difficult to make. Besides, the estimation of the band widths from the effective masses is very inexact. As the dissociation energy of excitons is inaccurate in many cases, an estimation of the applicability of this or the other model without detailed calculation is difficult. It is noted that hydrogen-like spectra cannot be represented by a continuous model. The author thanks A. G. Samoylovich and Ye. P. Gross for their interest and discussions of the results. Ya. I. Frenkel' (Ref.1), A. G. Samoylovich, S. L. Korolyuk, and K. D. Tovsyuk (Ref.9) are mentioned. There are 17 references: 7 Soviet, 7 US, and 3 German.

Card 2/3

04015

Exciton Models in the Approximation of
Strong Coupling

S/181/60/002/010/043/051
B019/B056

ASSOCIATION: Institut fiziki i matematiki AN Litovskoy SSR
(Institute of Physics and Mathematics of the
AS Litovskaya SSR)

SUBMITTED: March 4, 1960

X

Card 3/3

24.3400

78011
SOV/33-37-1-11/31

AUTHORS: Gutman, A. M., Levinson, I. B.

TITLE: Non-Uniform Vector Couplings in Atomic Spectra

PERIODICAL: Astronomicheskij zhurnal, 1960, Vol 37, No. 1,
pp 86-87 (USSR)

ABSTRACT: At present only uniform couplings of the type LS and jj are well known. The nonuniform couplings are used only in exceptional cases: the j1 coupling in the spectra of the inert gases, and Jj coupling in configurations f^m s of the lanthanides. It appears that inside a shell of equivalent electrons only uniform coupling is possible, while various nonuniform couplings may take place between the shells; these appear especially in configurations which consist of an unexcited or slightly excited ground shell and a highly excited electron. An important condition is that G , the interchange interaction l' of the electron with ground shell, be small. A table gives the

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Non-Uniform Vector Couplings in Atomic Spectra

78011

SOV/33-37-1-11/31

classification of $2p^2(3P)4f$ OII levels by means of J1 coupling. Other examples of astrophysical interest are $4f^7(8S)6p$ Eu II, $4f^7(8S)6s^26p$ Gd I and $4f^7(8S)6s6p$ Gd II; for the first of these, the computed levels are close to those found experimentally. A detailed account of this work will be published in the Publications of the Academy of Sciences of the Lithuanian SSR. The authors thank A. P. Yutits and A. A. Nikitin for a valuable discussion of the problem. There are 2 tables; and 3 U.S. references. The U.S. references are: G. Racah, Phys. Rev., 61, 537, 1942; G. Harrison, W. Albertson, N. Hosford, JOSA, 31, 439, 1941; Ch. E. Moore, Atomic Energy Levels, Nat. Bur. Stand., Washington 1, 1949, 2, 1952.

ASSOCIATION: Vil'nyus State University and Institute of Physics and Mathematics of the Academy of Sciences of the Lithuanian SSR (Vil'nyusskiy gosudarstvennyy universitet,

Card 2/3

Non-Uniform Vector Couplings in Atomic Spectra 78011
SOV/33-37-1-11/31

Institut fiziki i matematiki Akademii nauk Litovskoy
SSR)

SUBMITTED: July 29, 1959

Card 3/3

24.6200

S/081/61/000/020/003/089
B119/B147

AUTHORS: Levinson, I. B., Gutman, A. M.

TITLE: Problem of vector linkage in atomic spectra

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 20, 1961, 8, abstract
20853 (Tr. AN LitSSR, B, 1(24), 1961, 85 - 94)

TEXT: The problem of introducing different types of vector linkage of moments in atomic spectra is discussed. The 1st configuration is dealt with in detail. The authors find in each case a certain order of moment linkage, where the energy matrix is, the closest to the diagonal matrix and has sufficient accuracy. [Abstracter's note: Complete translation.]

✓B

Card 1/1

BURNEYKA, I.P.; LEVINSON, I.B.

Projective representation of double crystallographic point groups. Liet ak darbai B no.4:3-20 '61.

1. Institut fiziki matematiki AN Litovskoy SSR.

BURNEYKA, I.P. [Burneika, I.]; LEVINSON, I.B. [Levinsonas, J.]

Using space and local symmetry for studying zones in the case of strong binding. Liet ak darbai B no.4:21-34 '61.

1. Institut fiziki i matematiki AN Litovskoy SSR.

GUTMAN, A. M. [Gutmanas, A.]; LEVINSON, I. B. [Levinsonas, J.]

Genealogical coefficients for nonhomogeneous vector relations.
List ak darbai B no.1:95-104 '61. (KEAI 10:9)

1. Institut fiziki i matematiki Akademii nauk Litovskoy SSR;
Vil'nyusskiy gosudarstvennyy universitet im. V. Kapsukasa i Kaunasskiy
gosudarstvennyy meditsinskiy institut.

(Vector analysis) (Matrices) (Atomic spectra)

30011

S/020/62/143/004/011/027
B104/B102

24.2130
24.2600
AUTHORS:

Levinson, I. B., and Plavina, I. Z.

TITLE:

The formation of a latent electrophotographic image in zinc oxide layers

PERIODICAL:

Akademiya nauk SSSR. Doklady, v. 143, no. 4, 1962, 822 - 824

TEXT: A discharge mechanism of the surface charges is suggested which is related to the surface potential barriers. The charges on the surface are in potential wells and separated from the volume by a Debye barrier. The height V of this barrier is determined from the surface charge Q , the barrier width from the Debye screening length $d = (\epsilon kT/e^2 n)^{1/2}$, where n is the volume concentration of free electrons. The surface discharge is described by $dQ/dt = -wQ$, where w is the escape probability of an electron from the potential well. If no barrier exists and the charge is due to volume effects only $w = 1/\tau$, where $\tau = \epsilon/\sigma$ is the Maxwell relaxation time. $\sigma = en\mu$ is the volume conductivity, μ the carrier mobility. n as a function of time is determined from relaxation processes. The "resistance" of a

Card 1/2

The formation of a latent ...

S/020/62/143/004/011/027
B104/B102

barrier may be overcome by a tunnel effect or a thermal transfer of an electron over the barrier. At the beginning of a discharge the barrier dominates; at the end of it, when the barrier has become low, the volume resistivity and recombination processes dominate. On these assumptions the discharge in zinc-oxide layers is studied. The authors thank V. M. Fridkin for discussions. There are 3 figures.

ASSOCIATION: Institut fiziki i matematiki Akademii nauk SSSR (Institute of Physics and Mathematics of the Academy of Sciences USSR)
Nauchno-issledovatel'skiy institut elektrografii, Vil'nyus
(Scientific Research Institute of Electrography, Vil'nyus)

PRESENTED: December 11, 1961, by A. V. Shubnikov, Academician

SUBMITTED: December 1, 1961

Card 2/2

42727

S/109/62/007/011/004/012
D266/D308

6.4700

AUTHORS:

Fel, S.S., Fridberg, P.Sh. and Levinson, I.B.

TITLE:

Theory of broad-band non-returning echo-cavities of spherical shape

PERIODICAL:

Radiotekhnika i elektronika, v. 7, no. 11,
1962, 1916 - 1921

TEXT:

The purpose of the paper is to show theoretically that spherical echo cavities are superior to cylindrical ones. If the wavelength is comparable with the radius of the sphere then the tuning of a spherical resonator is difficult. If, however, the radius is considerably larger than the wavelength no tuning is necessary. Further advantages are that no frequency bands are missing, no spurious resonance (degenerate modes) are possible and the Q depends only slightly on the mode of resonance. The frequency difference between two neighbouring resonances is taken from L.D. Landau and Ye.M. Lifshitz's book (Teoriya polya [Field theory], GIFML, 1960). The Q of the resonators is calculated using the approximate leontovich

Card 1/3

10⁻⁴ M/ds

Theory of broad-band ...

S/109/62/007/011/004/012
D266/D308

for $R = 15$ cm and $\sigma = 5.5 \times 10^{17}$ (corresponding to silver)
Q varies from 2.3×10^5 to 4.6×10^5

X

SUBMITTED: January 6, 1962

Card 3/3

LEVINSON, Ioshua Ben'yaminovich; NIKITIN, Aleksey Alekseyevich.

Prinimal uchastiye GUTMAN, A.M., nauchnyy sotr.; TSAR'KOVA,
Z.I., red.; YELIZAROVA, N.A., tekhn. red.

[Handbook on the theoretical calculation of line intensities
in atomic spectra]Rukovodstvo po eoreticheskomu vychisleniiu
intensivnosti linii v atomnykh spektrakh. Leningrad, Izd-vo
Leningr. univ., 1962. 358 p. (MIRA 16:3)
(Spectrum, Atomic)

TOLPYGO, K.B.; LEVINSON, I.B.

Fifth All-Union Conference on Semiconductors. Usp. fiz. nauk 81
no.3:557-566 N '63. (MIRA 16:12)

LEVINSON, I.B.; FEL, S.S.; FRIDBERG, P.Sh.

Integral equation for the aperture field in the case when two volumes are connected electromagnetically. Dokl. AN SSSR 153 no.2:310-312 N '63. (MIRA 16:12)

1. Predstavleno akademikom B.A.Vvedenskim.

ACCESSION NR: AP4041717

S/0181/64/006/007/2113/2123

AUTHOR: Levinson, I. B.

TITLE: Relaxation times, heating function, and effect of runaway of hot electrons in semiconductors

SOURCE: Fizika tverdogo tela, v. 6, no. 7, 1964, 2113-2123

TOPIC TAGS: semiconductor, relaxation time, kinetic relaxation, kinetic theory, energy distribution, electron scattering, exchange force

ABSTRACT: It is shown that a study of the behavior of hot electrons in semiconductors yields more information on the scattering processes than the usual kinetic effects. An analysis of the kinetic equation in the Fokker-Planck form makes it possible to define rigorously, in addition to the momentum relaxation time, also the energy relaxation time and the energy exchange time. These two times are

Card 1/3

ACCESSION NR: AP4041717

connected with the energy interaction between the electrons and the scattering system, and are connected by a relation analogous to the fluctuation-dissipation theorem. This relation yields a connection between the solution of the kinetic energy, which involves the energy exchange time, and the so-called elementary theory (V. L. Ginzburg and A. V. Gurevich, UFN v. 70, 201, 1960) which involves the energy relaxation time. It is shown that the stable solutions of the elementary theory correspond to maxima of the distribution function, and the unstable solutions correspond to minima. To determine the stationary points, a heating function is introduced, which defines the degree of the deviation of the energy distribution of the electrons in the electric field from equilibrium. The heating function is determined essentially by the product of the momentum and energy relaxation times. The heating function is also connected with the runaway effect, particularly the rapid increase of the heating function at infinity. It is shown that, depending on the rate of this increase, the runaway effects occur either at all

Card 2/3

ACCESSION NR: AP4041717

fields, or at fields exceeding some critical value. The kinetic and elementary theories are compared and it is shown that at or near the runaway mode the elementary theory becomes inapplicable. A graphic procedure is devised to trace the variation of the energy distribution function with the variation of the field strength. Orig. art. has: 1 figure and 44 formulas.

ASSOCIATION: Institut fiziki i matematiki AN Lit. SSR, Vil'nyus
(Institute of Physics and Mathematics, AN Lit. SSR)

SUBMITTED: 03Dec63

ENCL: 00

SUB CODE: GP, 88

NR REF SOV: 005

OTHER: 002

Card 3/3

"APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R000929620001-2

APPROVED FOR RELEASE: 07/12/2001

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APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R000929620001-2"

[Faint, mostly illegible text from a document scan, possibly containing a list or report content.]

... N ...

coupled volumes, in which the matrix elements can be determined

... solving the integral ...

... the matrix elements ...

... N ...

... N ...

... N ...

TITLE: Electromagnetic coupling of two cavities by means of a

"APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R000929620001-2

APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R000929620001-2"

BASS, F.G.; LEVINSON, I.B.

Cyclotron-phonon resonance in semiconductors. Zhur. eksp. i teor.
fiz. 49 no.3:914-924 S '65. (MIRA 18:10)

1. Institut radiofiziki i elektroniki AN UkrSSR i Institut fiziki i
matematiki AN Litovskoy SSR.

L 6450-66 EWT(d)/EWT(1)/EPF(c)/EEC(k)-2/EPF(n)-2/T/ETC(m) IJP(c) WW

ACCESSION NR: AP5019859

UR/0181/65/007/008/2417/2422

AUTHOR: Levinson, I. B. 21,44,55

65
58
B

TITLE: Mobility of hot electrons in the runaway mode. n-InSb and n-GaAs at low

temperatures 21,44,55 21,44,55

SOURCE: Fizika tverdogo tela, v. 7, no. 8, 1965, 2417-2422

TOPIC TAGS: electron mobility, indium compound, gallium compound, electron scattering, electron temperature, distribution function

ABSTRACT: This is a continuation of an earlier paper by the author (FTT v. 6, 2113, 1964) and its purpose is to examine the mechanisms that govern the runaway of electrons and the opposing scattering mechanism. Special attention is paid to the dependence of the electron mobility on the applied field, and it is shown that whereas in weak fields the mobility (expressed in terms of the anisotropic part of the distribution function) is governed by momentum relaxation and increases in proportion to the field E, in strong field, when runaway takes place, it is determined by energy relaxation and decreases in proportion to E⁻¹. In even stronger fields, the mobility begins to decrease in proportion to E⁻². In the case of n-InSb and n-GaAs, in which runaway takes place at helium and hydrogen temperatures, there are

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ACCESSION NR: AP5019859

7

two different scattering mechanisms (deformation and piezoelectric) that limit the runaway, and their relative effects on the mobility are estimated. In the case of scattering by deformation potential, the mobility increases with the field and reaches saturation. In the case of scattering by the piezoelectric potential, syteresis is observed. It is also shown that the section in which the mobility has a quadratic dependence on the field is anomalously small. "The author thanks F. G. Bass for interest and for a preprint of his paper dealing with a related topic." Orig. art. has: 3 figures and 9 formulas.

ASSOCIATION: Institut fiziki i matematiki AN LitSSR, Vil'nyus (Institute of Physics and Mathematics AN LitSSR)

2144, 55

SUBMITTED: 08Mar65

ENCL: 00

SUB CODE: NP

NR REF SOV: 007

OTHER: 008

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Card 2/2

L 9239-00 EWT(1)/EWT(m)/T/EWP(t)/EWP(b)/EWA(m)-2/EWA(c) LIP(c) JD/GG/AT
ACC NR: APS022752 SOURCE CODE: UR/0181/65/007/009/2879/2880

AUTHOR: Levinson, I. B.

49
B

ORG: Institute of Physics and Mathematics AN LitSSR, Vilno (Institut fiziki i matematiki AN LitSSR)

TITLE: Piezoelectric scattering by an uncharged dislocation

SOURCE: Fizika tverdogo tela, v. 7, no. 9, 1965, 2879-2880

TOPIC TAGS: crystal theory, piezoelectric crystal, electron scattering, crystal dislocation phenomenon

ABSTRACT: The paper is a theoretical investigation of electron scattering near dislocations in piezoelectric crystals. In this case, two types of non-interfering scattering take place: deformation scattering and piezoelectric scattering by acoustic phonons "frozen" around the dislocation. Formulas are given for the relaxation time of an electron with a given momentum for each of these scattering mechanisms. It is found that piezoscattering by dislocations should predominate over deformation scattering in crystals of A^{III}B^V compounds at nitrogen temperatures and below with moderate or weak screening.

SUB CODE: 20/ SUBM DATE: 19Apr65/ ORIG REF: 000/ OTH REF: 003

Card 1/1

ACC NR: AP5024713

SOURCE CODE:

UR/0056/65/049/003/0914/0924

AUTHORS: Bass, F. G.; Levinson, I. B.

ORG: Institute of Radiophysics and Electronics, Academy of Sciences UkrSSR (Institut radiofiziki i elektroniki Akademii nauk UkrSSR);
Institute of Physics and Mathematics, Academy of Sciences Lithuanian SSR (Institut fiziki i matematiki Akademii nauk Litovskoy SSR)

TITLE: Cyclotron-phonon resonance in semiconductors

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 3, 1965, 914-924

TOPIC TAGS: cyclotron resonance, magnetic resonance, absorption coefficient, phonon scattering, electron collision

ABSTRACT: Cyclotron-phonon resonance is defined as resonance in which the transfer of electrons between different energy levels is the result of the simultaneous action of both cyclotron and magnetophonon resonance so that the absorption of a quantum of the high-frequency field is accompanied by simultaneous emission or absorption of a phonon. It is assumed that the frequency is high, the magnetic field is strong and quantizing, and the phonon frequency is monochromatic if interaction takes place with long-wave optical phonons. The absorption coefficient

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L 12080-66

ACC NR. AP5024713

0

connected with the transitions is calculated by the same method as proposed by H. Frohlich (Adv. in Phys. v. 3, 325, 1954). It is shown that scattering of the electrons by optical phonons of frequency ω_0 leads to resonance absorption at frequencies $\omega = |m\omega_H \pm \omega_0|$, where ω_H is the cyclotron frequency and m is an integer. The shape and intensity of the absorption peak are calculated. The possibility of experimental realization of the effect is considered. Orig. art. has: 5 figures and 48 formulas.

SUB CODE: 20/ SUBM DATE: 17Apr65/ NR REF SOV: 007/ OTH REF: 006

Card

J
2/2

L 36387-66 EWT(1) IJP(c) AT

ACC NR: AP6014045

SOURCE CODE: UR/0056/66/050/004/1048/1054

68
66
B

AUTHOR: Levinson, I. B.; Mazhuolite, G. E.

ORG: Institute of Physics and Mathematics, AN LitSSR (Institut fiziki i matematiki Akademii nauk Litovskoy SSR)

TITLE: Effect of collisions between electrons on the electric distribution function in a strong electric field

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 50, no. 4, 1966, 1048-1054

TOPIC TAGS: electric field, electron collision, phonon scattering, kinetic equation, electron distribution

ABSTRACT: The collision frequency of an electron is much greater in the active region $\epsilon > \omega_0$ than in the passive region $\epsilon < \omega_0$ during scattering on optical phonons with a limiting frequency ω_0 , and at temperatures $T \ll \omega_0$. Therefore, those cases when collisions between electrons are predominant only in the passive region should be distinguished from those cases when this occurs throughout the entire momentum space. Keeping this circumstance in mind, an examination of the kinetic equation indicates that collisions between electrons lead to a new channel for relaxation of energy and momentum (imparted to the passive electrons by the field) as a result of their

Cord 1/2

L 36387-66

ACC NR: AP6014045

2

transfer to the active region with a subsequent transfer to the lattice. As distinguished from ordinary relaxation, which occurs on the absorption and instantaneous reemission, such an energy relaxation is not connected with the dispersion of optical phonons. The authors thank F. G. Bass for his valuable comments and the participants of the theoretical seminar of the IPAN SSSR for discussing the work. Orig. art. has: 3 formulas. [Based on authors' abstract] [NT]

SUB CODE: 20/ SUBM DATE: 04Nov65/ ORIG REF: 007/ OTH REF: 007

ms
Card 2/2

L 40357-66 EWT(1)

ACC NR: AP6014237

SOURCE CODE: UR/0109/66/011/005/0831/0838

AUTHOR: Levinson, I. B.; Fridberg, P. Sh.

35
8

ORG: none

TITLE: Slot-type couplings of rectangular single-mode waveguides. Equivalent circuits and concentrated parameters

25

SOURCE: Radiotekhnika i elektronika, v. 11, no. 5, 1966, 831-838

TOPIC TAGS: waveguide, rectangular waveguide, waveguide element

ABSTRACT: Based on the works of A. F. Stevenson (J. Appl. Phys., 1948, 19, 1) and W. N. Watson ("Physical Principles....," Clarendon Press, Oxford, 1947) and later theoretical developments, a formula is derived for the input admittance of a waveguide slot which takes into account the geometry of the single-mode rectangular waveguide behind the slot. Various waveguides are considered having

Card 1/2

UDC: 621.372.831.4:621.372.822

L 40357-66

ACC NR: AP6014237

the same width and different heights coupled by means of narrow transverse slots that satisfy the condition $\lambda/d \approx l/d \gg 1$, but $\ln(\lambda/d) \approx \ln(l/d) \approx 1$, where λ is the wavelength; d and l are the slot width and length, respectively. Equivalent circuits are given for straight junction, T-junction, and parallel junction of two semi-infinite rectangular waveguides. Application of the variational method to determining the elements of a dispersion matrix and concentrated circuit parameters is shown. Orig. art. has: 6 figures and 25 formulas.

SUB CODE: 09 / SUBM DATE: 08Feb65 / ORIG REF: 009 / OTH REF: 004

Card 2/2 *at*

L 44273-06 EMT(1)/T LJP(c) GG

ACC NR: AT6023220

SOURCE CODE: UR/2910/65/005/003/0353/0368

AUTHOR: Burneyka, I. P. ; Levinson, I. B. 12
141

ORG: Institute of Physics and Mathematics of the Academy of Sciences of the Lithuanian SSR (Institut fiziki i matematiki Akademii nauk Litovskoy SSR)

TITLE: Utilization of full crystal symmetry in the method of orthogonalized plane waves (OPW)

SOURCE: AN LitSSR, Litovskiy fizicheskiy sbornik. v. 5, no. 3, 1965, 353-368

TOPIC TAGS: crystal symmetry, wave function, matrix function element, matrix function, matrix element, plane wave, *plane flow*

ABSTRACT: A method is proposed for construction of a matrix which reduces the induced representation of a point group. Application of this method proves to be convenient in construction of symmetry-adapted wave functions, such as crystal-core states and symmetrized plane waves. The Bloch functions and simple plane waves

Card 1/2

L 44293-66

ACC NR: AT6023220

form the basis for induced projective representation of the point group. It follows that the OPW method is simplified and of more widespread use. General properties of the matrices can be applied in calculating orthogonality coefficients and Hamiltonian matrix elements. Orig. art. has: 75 formulas and 2 tables. [Based on authors' abstract] [AM]

SUB CODE: 20/ SUBM DATE: 23Jan65/ ORIG REF: 002/ OTH REF: 018/

Card 2/2 mg S

L 04786-67 EWT(1) IJP(c) AT
ACC NR: AP6024468

SOURCE CODE: UR/0181/66/008/007/2077/2083

AUTHOR: Levinson, I. B.

ORG: Institute of Physics and Mathematics, AN LitSSR, Vil'nius (Institut fiziki i matematiki AN LitSSR)

TITLE: Electron runaway in a magnetic field and singularities of volt-ampere characteristics

SOURCE: Fizika tverdogo tela, v. 8, no. 7, 1966, 2077-2083

TOPIC TAGS: semiconductor carrier, electron energy, electron mobility, drift mobility, Hall effect, volt ampere characteristic

ABSTRACT: This is a continuation of earlier work by the author (FTT v. 7, 1362, 1965 and preceding) showing that in semiconductors there can occur instabilities connected with runaway of electrons, when the switching on of the electric field leads to an unlimited growth of the average electron energy and possibly also their drift velocity. In the present paper the author considers the influence of the magnetic field on the runaway of electrons from a point of view that does not call for imposition of limitations on the intensity of the magnetic field. Runaway criteria are derived for the case of both strong and weak magnetic fields perpendicular to the electric field. (A strong field is defined as one for which the Hall angle is close to $\pi/2$.) It is shown that runaway can lead to either a plateau on the voltage-current characteristic or to an S-shaped characteristic. The possibility of observing such effects in n-InSb

Card 1/2