LOTMAN, V.M.

Case of functional disorder of the hypothalamus-hypophysial region. Probl.endok.i gorm. 7 no.2:101-103 '61. (MIRA 14:5)
(HYPOTHALAMUS) (PITUITARY BODY)

LOTMENTSEVA, Ye. M

USSR/ Chemistry - Physical chemistry

Card 1/1 Pub. 147 - 16/21

Authors : Kharin, A. N., and Lotmentseva, Ye. M.

Title : Dynamics of adsorption of substance mixtures from aqueous solutions over carbon studied by means of the radioactive indicator method

Periodical : Zhur. fiz. khim. 29/10, 1883-1896, Oct 1955

Abstract : The dynamics of adsorption of acetic and butyric acid mixtures from aqueous solutions over granular carbon was investigated. Employing a newly developed marked atom method it became possible to determine the content of acetic acid adsorbed by the carbon and in the mixture with butyric acid in solution. Certain laws governing the adsorption dynamics of acetic and butyric acid mixtures from aqueous solutions over granular birch carbon are described. Thirteen USSR references (1929-1954). Tables; graphs.

Institution : Taganrog Radiotechnical Inst. and the Krasnodar Pedagogical Inst.

Submitted : March 28, 1955

LOTMENTSEVA, Ye. M.

LOTMENTSEVA, Ye. M. : "Investigation of the dynamics of the adsorption of a mixture of acentic and butyric acid from aqueous solutions onto the grains of activated charcoal." Published by "Sov. Kuban'." Min Education RSFSR. Drasnodar Pedagogical Inst. Krasnodar, 1956. (Dissertation for the Degree of Candidate in Chemical Science.)

Knizhnaya letopis', No. 31, 1956. Moscow.

LOTNIK, I.T., assistent; KOZIN, V.P., assistent; BIRMAN, A.A., inzh.; GRUTMAN, A.L., inzh.

Practices in making reinforced concrete trusses in the Chelyabinsk Industrial Construction Trust. Sbor. trud. Inzh.-stroi. fak. Chel. politekh. inst. no.3:137-146 '63. (MIRA 17:9)

1. Trest Chelyabinskpromstroy.

KLIMOWICZ, Jadwiga; LOTOCKA, Krystyna; [illegible]ARENKO, Stanislaw

Venous thrombosis with dysfunction of the lymphatic system in the clinical picture of trichinosis based on 2 observations. Wiad. parazyt. 10 no.4:334-335 '64.

1. Klinika Chorob Zakaznych Akademii Medycznej, Bialystok.

LOTOCKA, Krystyna

On interferon. Pol. tyg. lek. 19 no.32:1217-1218 10 Ag '64.

1. Z Kliniki Chorob Zakaznych Akademii Medycznej w Bialymstoku (kierownik: doc. dr med. Piotr Boron).

BRONIECKA, Halina; GULANOWSKA, Helena; LOTOCKI, Wiktor; DZ[illegible]KO, Waclaw

Effect of cervical cancer on the urinary system. Ginek. Pol. 35 no.5:697-705 S-O '64

1. Z I Kliniki Poloznictwa i Chorob Kobiecych Akademii Medycznej w Bialymstoku (Kierownik: prof. dr. med. S.Soszka).

SOSZKA, Stefan; ZASZTOWT, Otton; URBAN, Jan; LOTOCKI, Wiktor

Evaluation of the determination of 5-HiAA, a serotonin metabolite in the diagnosis of fetal death. Ginek. Pol. 35 no.6:789-793 N-D '64

1. Z I Kliniki Poloznictwa i Chorob Kobiecych Akademii Medycznej w Bialymstoku (Kierownik: prof. dr. med. S.Soszka).

LOTOCKI, Wiktor

Changes in the human vaginal epithelium during the course of therapy of Trichomonas vaginalis infection. Wiad. parazyt. 8 no.2 '62.

1. Klinika Poloznictwa i Chorob Kobiecych Akademii Medycznej, Bialystok.

(TRICHOMONAS INFECTIONS ther)
(VAGINA pathol)

GULANOWSKA, Helena; BRONIECKA, Halina; LOTOCKI, Wiktor; DZIESZKO, Waclaw.

The state of the urinary tract in the early follow-up period in cases of radium treated uterine cervix cancer. Ginek. Pol. 36 no.2:197-204 F '65

1. Z I Kliniki Poloznictwa i Chorob Kobiecych Akademii Medycznej w Bialymstoku (Kierownik: prof. dr. med. S. Soszka) i ze Szpitala Wojewodzkiego imeni M.C. Sklodowskiej w Bialymstoku (Dyrektor: dr. med. M. Doroszko).

POL.

3288 621.316.933 : 621.316.1.027.3 : 631.116.3(438)

Lotoński S. The Problem of Lightning Protection in Rural Electric Systems.

„Zagadnienie ochrony odgromowej wiejskich sieci elektrycznych" Przegląd Elektrotechniczny. No. 3, 1954, pp. 113—119

Means of lightning protection in rural H.T. lines and transformer stations, due allowance being made for merits and demerits. Prospects of general adoption in rural H.T. lines of Polish-designed blow-out arresters.

VASIL'YEV, A.; VOLOKITIN, A.; TSELYKOVSKIY, P.; LOTOREV, D.; GAGLOYEVA, N.; KRYUKOVA, T.; CHIKOVA, N.

Second edition of a handbook on the economics of Soviet trade ("Economics of Soviet trade." Reviewed by A. Vasil'ev and others). Sov.torg. 33 no.6:62-64 Je '60. (MIRA 13:7)

1. Prepodavateli kafedry ekonomiki Leningradskogo instituta sovetskoy torgovli.

(Russia--Commerce)

ABATUROV, A.I.; VINOGRADOV, M.A.; DUBROVA, G.B.; LOTOREV, L.M.; ZORIN, S.N.; VASIL'YEV, A.A.; VOLOKITIN, A.S.; BUKOVETSKIY, A.I.; PEMAZKOV, N.S.; MEZENTSEV, P.V.; YEGORKIN, N.I.; DANILOV, M.M.; LUKASHEV, M.Ya.; MEYEROVICH, I.L.; KLYUCHEV, A.Ye.; SARYCHEV, V.G.; ZAVILOVICH, M.A.; NOVOSEL'SKIY, N.M.; GITLITS, S.A.; REZNICHENKO, M.S.; MOROZ, L.P.; KHETAGUROVA, F.V.; CHOGOVADZE, Sh.K.; RYBCHENKO, A.A.; BOCHAROVA, N.P.; GAGLOYEVA, N.A.; KRYUKOVA, T.B.

Rubinshtein, Grigorii Leonidovich; 1891-1959. Sov. torg. 33 no.12:56 D '59. (MIRA 13:2)
(Rubinshtein, Grigorii Leonidovich, 1891-1959)

The effect of pyrolysis conditions on the hydrogen sulfide

LOTOSH, M.M. (Moskva)

Magnetic time delay element based on the principle of different polarity impulse calculation. Avtom. i telem. 24 no.5:666-674 My '63. (MIRA 16:6)

(Pulse techniques(Electronics))
(Delay lines)
(Automatic control)

(BR

ACCESSION NR: AT4035421 S/0000/63/000/000/0344/0352

AUTHOR: Lotosh, M. M.

TITLE: Obtaining prolonged continuously variable holding times with magnetic cores

SOURCE: Vsesoyuznoye soveshchaniye po ferritam i po beskontaktny*m magnitny*m elementam avtomatiki. 3d, Minsk. Ferrity* i beskontaktny*ye elementy* (Ferrites and noncontact elements); doklady* soveshchaniya. Minsk, Izd-vo AN BSSR, 1963, 344-352

TOPIC TAGS: magnetic core, core storage, computer, holding time, continuously variable holding time.

ABSTRACT: The magnitude of the holding time

$$\Delta t = \frac{n}{f} = nT \text{ sec}$$

(n = the number of pulses counted, f = the pulse frequency; T = the pulse repetition period) which can be attained with the use of time relays amounts to several hours, but this requires an extraordinarily large counter capacity which impedes its technical execution (at a frequency of 50 cps, a 10 min. holding time requires a pulse count of $3 \cdot 10^4$). This

Card 1/2

ACCESSION NR: AT4035421

complication can be avoided by using various types of frequency dividers, of which those with magnetic cores having a rectangular hysteresis loop are simple and highly reliable. The author presents a consistent theoretical basis for frequency-dividing techniques, evaluates different types of counters and pulse-shapers, and draws the conclusion that a correct selection of pulse parameters for reverse magnetization of storage cores, the use of feedback with a magnetic core having a rectangular hysteresis loop in the divider circuit, and the use of a pulse-shaper made of a rectangular-loop material provide a stable relay with a holding time of several hours requiring only one frequency divider. Orig. art. has: 5 figures and 6 formulas.

ASSOCIATION: none

SUBMITTED: 04Dec63 DATE ACQ: 07May64 ENCL: 00

SUB CODE: DP NO REF SOV: 001 OTHER: 003

Card 2/2

DYAD'KOVA, A.M.; LOTOSH, Ya.A.

Oncological characteristics of a new line of laboratory mice.
Vop. onk. 8 no.11:46-47 '62. (MIRA 17:6)

1. Iz laboratorii eksperimental'noy onkologii (zav.- zasluzhennyy deyatel' nauki prof. N.V. Lazarev) Instituta onkologii AMN SSSR (dir.- deystvitel'nyy chlen AMN SSSR, prof. A.I. Serebrov).

DYAD'KOVA, A.M.; LOTOSH, Ye.A.

Cell content with sex chromatin in induced and transplanted chicken sarcomas. Vest. AMN SSSR 19 no.12:82-87 '64.
(MIRA 18:4)

1. Institut onkologii AMN SSSR, Leningrad.

LOTOSH, Ye. A.

Critical periods in the development of palate, upper lip and upper jaw rudiments in the embryos of mice of SZNA line based on experiments with X-ray irradiation. Dokl. AN SSSR 162 no.1:236-238 My '65. (MIRA 18:5)

1. Institut eksperimental'noy meditsiny AMN SSSR. Submitted November 5, 1964.

LOTOSHNIKOV, A. K.:

LOTOSHNIKOV, A. K.: "On the structure of the myocardium". Rostov na Donu, 1955. Rostov State Medical Inst. (Dissertation for the Degree of Candidate of Science of Medical Sciences)

SO: Knizhnaya Letopis', No. 41, 8 Oct 55

POMANSKAYA, L.A.; LOTOTSKAYA, V.V.

Listeriosis in newborn infants. Akush. i gin. 39 no.3:57-62 My-Je'63 (MIRA 17:2)

1. Iz Tul'skoy oblastnoy sanitarno-epidemiologicheskoy stantsii i patologoanatomicheskogo otdeleniya Gorodskoy bol'nitsy No.1 imeni Semashko.

YARTSEVA, A.K.; MOROZOVA, A.V.; LOTOTSKAYA, Ye.A.

Soils of experimental plots of the "Stepanovskoe" State Farm in Bronnitsy District, Moscow Province and changes in their agrochemical properties due to the deepening of the plow layer. Trudy Pochv. inst. 49:86-128 '56. (MLRA 9:8)

(Bronnitsa District--Soils) (Plowing)

LOTOTSKIY, A.

Power aggregate of Tula motor scooters. Za rul. no.9:15 '57.
(MLRA 10:9)

1. Glavnyy konstruktor Tul'skogo mashinostroitel'nogo zavoda.
(Motor scooter)

LOTOTSKIY, A.

Running parts of the Tula motorscooter. Za rul. no.12:11 D '57.
(MIRA 11:1)

1.Glavnyy Konstruktor Tul'skogo mashinostroitel'nogo zavoda.
(Motorscooters)

LOTOTSKIY, A.

The Tula motor scooter will be improved. Za rul. 18 no.1:8-9 Ja '60. (MIRA 13:5)

1. Glavnyy konstruktor Tul'skogo zavoda.
(Tula--Motor scooters)

LOTOTSKIY, A., glavnyy konstruktor; KAMERILOV, V., inzhener-konstruktor

Sidecar for the "Tula" motorcycle. Za rul. 19 no. 2:20-21 F '61.
(MIRA 14:4)

(Motorcycles)

SUKACH, A.D.; KHRISTENKO, A.P.; LOTOTSKIY, A.S.

New cutter-loader for hard and tough coals. Ugol' Ukr. Vol.3 no.5:34-38 My '59. (MIRA 12:9)
(Coal mining machinery)

Lotockiĭ, A. V. Asymptotic value of Borel's function. Ivanov. Gos. Ped. Inst. Uč. Zap. Fiz.-Mat. Nauki 5 (1954), 71–72. (Russian)

The author considers an entire function $f(z)=\sum c_n z^n$ and its associated [illegible] is more [illegible]

AUTHOR: Lototskiy, A.V. SOV/20-122-1-3/44

TITLE: ~~On the Asymptotic Behavior~~ of Analytic Functions (Ob asimptoticheskom povedenii analiticheskikh funktsiy)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 1, pp 17-19 (USSR)

ABSTRACT: Definition: The function $a_s = a(s)$ has the property A if it is defined in the integral points $0, 1, 2, \ldots$, if the series

$$(1) \qquad f(z) = \sum_{s=1}^{\infty} (-1)^{s-1} a_s z^s$$

converges in a certain neighborhood of $z = 0$, if $f(z)$ can be continued on the whole semiaxis $x \geq 0$, and for $x \to \infty$ it tends to a_0.

Theorem: If a_s is a ratinal function without poles in the half-plane $\mathrm{Re}(s) \geq 0$, then a_s as well as $\frac{a_s}{\Gamma(s+1)}$ have the property A.

Theorem: Every first order entire function a_s of the type $\sigma < \pi$ has the property A.

Theorem: If a_s is a first order entire function of the type $\sigma < \frac{\pi}{2}$, then also $\frac{a_s}{\Gamma(s+1)}$ has the property A.

Theorem: If $\varphi(s)$ has the property A, then also $a_s = \varphi(s)\mu(s)$

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On the Asymptotic Behavior of Analytic Functions SOV/20-122-1-3/45

has the property A, where $\mu(s)$ is either rational without poles in $\mathrm{Re}(s) \geqslant 0$ and in infinity or it is an absolutely convergent Dirichlet series $\sum_{k=1}^{\infty} b_k k^{-s}$ for $\mathrm{Re}(s) \geqslant 0$ or

$\Gamma(\beta)\Gamma(s+\alpha) : \Gamma(s+\beta)\Gamma(\alpha)$, where $\mathrm{Re}(\beta) > \mathrm{Re}(\alpha) > 0$.

Two further theorems treat functions a_s with poles in the right half plane.

ASSOCIATION: Ivanovskiy gosudarstvennyy pedagogicheskiy institut (Ivanovo State Pedagogical Institute)

PRESENTED: April 25, 1958, by S.L.Sobolev, Academician

SUBMITTED: February 10, 1958

Card 2/2

16(1)

AUTHOR: Lototskiy, A.V.

06313
SOV/140-59-6-14/29

TITLE: Formula for the Analytic Continuation of Newton's Interpolation Series

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Matematika, 1959, Nr 6, pp 102-110 (USSR)

ABSTRACT: Theorem: Given the interpolation series

$$(1)\quad f(z) = a_0 + \frac{a_1}{1!}(z-1) + \frac{a_2}{2!}(z-1)(z-2)+\ldots$$

Then it holds: I. The series

$$(2)\quad f_1(z) = \frac{a_0}{2} + \frac{\Delta a_0}{2^2\cdot 1!}(z-1) + \frac{\Delta^2 a_0}{2^3\cdot 2!}(z-1)(z-2)+\ldots$$

has an abscissa of convergence not greater than that of (1). II. In the whole halfplane in which (1) converges, there holds the relation

$$f(z) = 2^z f_1(z).$$

Some examples are given.
There are 3 references, 2 of which are Soviet, and 1 German.

ASSOCIATION: Ivanovskiy pedagogicheskiy institut(Ivanovo Pedagogical Institute)
SUBMITTED: June 16, 1958

Card 1/1

16(1)

AUTHOR: Lototskiy, A.V. SOV/20-126-1-4/62

TITLE: The Series Representation of $\zeta(2)$, $\zeta(3)$,... With the Aid of Coefficients of Interpolation Polynomials (Vyrazheniya $\zeta(2)$, $\zeta(3)$,... ryadami cherez koeffitsiyenty interpolyatsionnykh polinomov)

PERIODICAL: Doklady Akademii nauk SSSR,1959,Vol 126,Nr 1, pp 19 - 21 (USSR)

ABSTRACT: The paper is a continuation of the former publication of the author [Ref 3]. The p-method of summation of divergent series described in [Ref 3] (see also Agnew [Ref 1]) is applied to the formal series expansion of $\zeta(s)$ for integer positive argument values. The series

$$\underbrace{0 + 0 + \ldots + 0}_{n-2 \text{ terms}} + \frac{1}{n} + \frac{1}{2} + \sum_{k=2}^{\infty} \frac{B_k}{k!} (n+1)(n+2)\ldots(n+k-1)$$

is p-transformed into the series

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The Series Representation of $\zeta(2), \zeta(3), \ldots$ With the Aid of Coefficients of Interpolation Polynomials

SOV/20-126-1-4/62

$$\underbrace{0 + 0 + \ldots + 0}_{n-2 \text{ terms}} + \frac{c_n^{(n)}}{n\,n!} + \frac{c_n^{(n+1)}}{(n+1)(n+1)!} + \frac{c_n^{(n+2)}}{(n+2)(n+2)!} + \ldots$$

where the coefficients are defined by

$$x(x+1)(2+x)\ldots(m-1+x) = c_1^{(m)}x + c_2^{(m)}x^2 + \ldots + c_m^{(m)}x^m$$

There are 4 references, 1 of which is Soviet, 1 English, 1 German, and 1 American.

PRESENTED: January 22,1959, by S.L. Sobolev, Academician

SUBMITTED: January 22, 1959

Card 2/2

LOTOTSKIY, Alekaey Vladimirovich, inzh.; ZOBNIN, Vladimir Andreyevich, inzh.; KAMERILOV, Vladimir Konstantinovich, inzh.; SHMELEV, Oleg Filippovich, inzh.; GINTSBURG, M.G., red.; NAKHIMSON, V.A., red.izd-va; ML'KIND, V.D., tekhn.red.

[Freight motor scooters] Gruzovye motorollery. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1961. 163 p. (Motor scooters) (MIRA 14:4)

LOTOTSKIY, A., konstruktor (g.Tula); KAMERILOV, V., inzh.-konstruktor (g. Tula)

Kick-starter and new filter for the "Tula" motor scooter. Za rul. 20 no.7:16 Jl '62. (MIRA 15:7)

(Tula—Motor scooters)

LOTOTSKIY, A.V., inzh.; ZOBNIN, V.A., inzh.; KAMERILOV, V.K., inzh.; SHMELEV, O.F., inzh.; KASPEROVICH, N.S., red.izd-va; EL'KIND, V.D., tekhn. red.

[Catalog of spare parts for "Tula" T-200 and T-200 M motor scooters] Katalog zapasnykh chastei motorollerov "Tula" T-200 i T-200M. Moskva, Mashgiz, 1962. 65 p. (MIRA 16:5)

1. Russia (1917- R.S.F.S.R.)Tul'skiy ekonomicheskiy administrativnyy rayon. Sovet narodnogo khozyaystva.
(Motor scooters--Catalogs)

LOTOTSKIY, A.V., inzh.; ZOBNIN, V.A., inzh.; KAMERILOV, V.K., inzh.; SHMELEV, O.F., inzh.; KASPEROVICH, N.S., red.izd-va; EL'KIND, V.D., tekhn. red.; GORDEYEVA, L.P., tekhn. red.

[Catalog of spare parts of the "Tula" TG-200 motor-scooter truck]Katalog zapasnykh chastei gruzovogo motorollera "Tula" TG-200. Moskva, Mashgiz, 1962. 75 p. (MIRA 15:11)

1. Russia (1917- R.S.F.S.R.)Tul'skiy ekonomicheskiy administrativnyy rayon. Sovet narodnogo khozyaystva.
(Motor scooters--Catalogs)

LOTOTSKIY, A.V.

Expressing the coefficients of a Dirichlet series in the form of limits. Uch. zap. Ivan. gos. ped. inst. 31:16-18 '63.

An interpolation series. Ibid.:19-28 (MIRA 19:1)

1. Submitted October 21, 1960.

L 17540-66 EWT(1)/EEC(k)-2/T/EWA(h) IJP(c)
ACC NR: AP6001807 SOURCE CODE: UR/0107/65/000/012/0035/0036

AUTHOR: Pasynkov, V. (Professor); Chirkin, L. (Candidate of technical sciences); Lototskiy, B. (Engineer); Okunev, Yu. (Engineer)

ORG: Leningrad Electrotechnical Institute (Leningradskiy elektrotekhnicheskiy institut im. V. I. Lenina)

TITLE: Thin-film negistors 25,44 and varistors

15
B

SOURCE: Radio, no. 12, 1965, 35-36

TOPIC TAGS: varistor, negistor, thin film element

ABSTRACT: Based on the well-known M. A. Lampert, K. L. Chopra, Tiry and other American works, a brief description of semiconductor devices having negative differential resistance is presented. Similar negistors have been developed in the USSR. They have an S-shaped I-V characteristic, throw-over voltages of 1—10 v, maximum currents of 1—20 ma, and differential resistances of 1—100 kohms. Their negative resistance falls off with the increasing ambient temperature and collapses at about 100C. Some details of the preparation of thin films are given. Orig. art. has: 2 figures and 1 table.

SUB CODE: 09 / SUBM DATE: none / ORIG REF: 005

Card 1/1 UDC:

LOTOTSKIY, B.N.

USSR/Zooparasitology - Tics and Insects (Disease Transmitters) P-3

Abs Jour : Referat Zhur - Biologii, No 16, 1957, 70171

Author : Lototskiy, B.N.
Title : Identity of Species

Orig Pub : Isv. Otd. yestestv. mauk AN TadzhSSR, 1956, 15, 95-98

Abstract : The author considers the differences between D. marginatus and D. Daghestanicus not transcending the frame of subspecies, and proposes to name them D. marginatus marginatus and D. m. daghestanicus.

Card 1/1 - 20 -

L 38856-66 EWT(l)/EWT(m)/T/EWP(t)/ETI IJP(c) JD/JG

ACC NR: AP6018582 SOURCE CODE: UR/0181/66/008/006/1967/1970

65

AUTHOR: Lototskiy, B. Yu.; Chirkin, L. K. B

ORG: Leningrad Electrotechnical Institute im. V. I. Ul'yanov (Lenin) (Leningradskiy elektrotekhnicheskiy institut)

TITLE: Negative differential resistance due to microheating

SOURCE: Fizika tverdogo tela, v. 8, no. 6, 1966, 1967-1970

TOPIC TAGS: electric resistance, semiconductor device, crystal oscillation, niobium compound, titanium dioxide, relaxation oscillator, harmonic oscillator

ABSTRACT: The authors used the heat balance of a semiconductor with metallic point contact to obtain an analytic expression for its volt-ampere characteristic and the condition under which the differential resistance of the semiconductor is negative. To obtain resistors with negative differential resistance capable of operating at high frequencies, it is necessary to obtain a small thermal time constant. This is done either by using a point contact between the electrode and the semiconductor, or by producing a thin high-resistance region inside the semiconductor. Resistors capable of operating at frequencies of the order of 10^8 cps were produced in the form of thin niobium oxide films, (500 - 10,000 A), in the form of ceramic discs of niobium oxide pressed with clay, and in the form of single crystals of titanium dioxide. In all cases the negative differential resistance was observed only if the condition derived theoretically was satisfied. The resistors with negative differen-

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L 38856-66

ACC NR: AP6018582

0

tial resistance can be used in oscillators, which produce relaxation oscillations at low frequencies, and sinusoidal oscillations at high frequencies (maximum 10 Mcs). It is indicated that although most authors relate the appearance of negative differential resistance with double injection processes, some experimental facts do not agree with this theory but agree better with the microheating theory. Orig. art. has: 2 figures and 7 formulas.

SUB CODE: 20/ SUBM DATE: 12Jan66/ OTH REF: 010

Card 2/2

ACC NR: AP7003648 (N) SOURCE CODE: UR/0020/67/172/001/0083/0086

AUTHOR: Volokobinskiy, Yu. M.; Lototskiy, B. Yu.; Pasynkov, V. V.; Chirkin, L. K.

ORG: none

TITLE: Thermal processes in thin films

SOURCE: AN SSSR. Doklady, v. 172, no. 1, 1967, 83-86

TOPIC TAGS: semiconducting film, dielectric coating, volt ampere characteristic, thermal effect

ABSTRACT: The authors show that in thin semiconductor and dielectric films, local inhomogeneities of the thermal properties can play in important role and lead in a number of cases to S-shaped or N-shaped volt-ampere characteristics. The effect of thermal inertia of homogeneous semiconductor and dielectric films operated at alternating current on the volt-ampere characteristics is analyzed by expanding in Fourier series the heat flow and the temperature variation in both the film and substrate. The effect of substrate thickness is discussed. The results show that homogeneous films deposited on thick substrates have a larger thermal inertia and even at low frequencies the temperature of the film lags the changes in the heat release. It is shown that materials in which the conductivity decreases with temperature in a certain temperature interval cannot be analyzed by the same procedure as a uniform film. Some experimental results confirming the analysis are presented for Al_2O_3 films. This report was presented by Academician B. P. Konstantinov 10 March 1966. Orig. art. has:

Card 1/2 UDC: 539.216.22:537:539.216.22:536

ACC NR: AP7003648

2 figures and 16 formulas.

SUB CODE: 20/ SUBM DATE: 03Feb66/ OTH REF: 002

Card 2/2

NEYKOV, O.D., kand. tekhn. nauk; BOSHNYAKOV, Ye.N., inzh.; DAVCHENKO, F.I.; LOTOTSKIY, O.N.

Development and introduction of new aspiration systems at crushing plants in the Krivoy Rog Basin. Bor'ba s sil. 6: 140-150 '64 (MIRA 18:2)

1. Krivorozhskiy filial Instituta gornogo dela im. M.M. Fedorova.

LOTOTSKIY, I.

Unsuccessful re-election. Mast.ugl. 9 no.3:18 Mr '60.
(MIRA 13:6)

1. Predsedatel' uchastkovogo komiteta profsoyuza shakhty "Krasnyy Profintern" tresta Ordzhonikidzeugol'.
(Coal miners) (Trade unions)

LOTOTSKIY, I. S.

Acorns

Keeping acorns in a productive state in the Ukrainian S.S.R. Les. Khoz. 5, No. 7, Jl 1952.

9. Monthly List of Russian Accessions, Library of Congress, September 1952. Unclassified.

1. LOTOTSKIY, I. S.

2. USSR (600)

4. Acorns

7. Quality of seedings grown from acorns stored in moist trenches. Les. khoz. 5 no.12 1952

9. Monthly Lists of Russian Accessions, Library of Congress, April 1953, Unclassified.

LOTOTSKIY, I. S.

Oak

Influence of environment on the hereditary characteristics of plants.
Les. khoz. 6 no. 2, 1953

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

VOLOSHCHENKO, V.O.; LERNER, F.M.; LOTOTS'KYY, K.V.; KHODOROVYCH, M.A.; KVACHOV, G., redaktor; MINEVYCH, I., tekhnicheskiy redaktor.

[Operation and maintenance of rural electric power plants] Ekspluatatsiia i remont sil's'kykh elektroustanovok. Kyiv, Derzh.vyd-vo tekhn. lit-ry URSR, 1952. 251 p.[Microfilm] (MLRA 8:2)
(Electric power plants)

KHODOROVICH, Mikhail Antonovich; LERNER, F.M.; LOTOTSKIY, K.V.; VOLOSHENKO, V.A.; PETROV, I.V.; POYARKOV, K.M., redaktor; BALLOD, A.I., tekhnicheskiy redaktor; VESKOVA, Ye.I., tekhnicheskiy redaktor. (MLRA 9:5)

[Operating and repairing electric farm equipment] Ekspluatatsiia i remont sel'skokhoziaistvennykh elektricheskikh ustanovok. Moskva, Gos.izd-vo selkhoz.lit-ry, 1955.312 p.
(Electricity in agriculture) (Electric engineering)

PETROV, I.V.; LOTOTSKIY, Konstantin Vasil'yevich; LERNER, F.M.; KHODOROVICH, M.A.; POYARKOV, K.M., red.; GURKVICH, M.M., tekhn.red.

[Electric engineering and use of electric power in agriculture] Elektrotekhnika i primenenie elektricheskoi energii v sel'skom khoziaistve. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1958. 373 p. (MIRA 12:1)
(Electricity in agriculture)
(Electric engineering)

LOTOTS'KIY, K.V. [Lotots'kiy, K.V.], inzh.-elektrik.

Using magneto impulse starters in operating machine tools. Mekh. sil'. hosp. 9 no.1:10-12 Ja '58. (MIRA 11:2)
(Electric motors--Starting devices)

LOTOTSKIY, Konstantin Vasil'yevich, prepodavatel'; PETROV, Igor' Vladimirovich, prepodavatel'; NIKITINA, V.M., red.; DEYEVA, V.M., tekhn.red.

[Practical manual on electrical engineering and on the application of electricity in agriculture] Praktikum po elektrotekhnike i primeneniiu elektricheskoi energii v sel'skom khoziaistve. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1960. 163 p. (MIRA 13:6)

1. Glukhovskiy tekhnikum mekhanizatsii i elektrifikatsii sel'skogo khozyaystva (for Lototskiy, Petrov).
(Electric engineering--Study and teaching)
(Electricity in agriculture)

KHODOROVICH, M.A.; LERNER, F.M.; LOTOTSKIY, K.V.; VOLOSHCHENKO, V.A.; PETROV, I.V.; NIKITINA, V.M., red.; DEYEVA, V.M., tekhn. red.

[Operation and repair of agricultural electric systems] Ekspluatatsiia i remont sel'skokhoziaistvennykh elektricheskikh ustanovok. Izd.2. Moskva, Izd-vo sel'khoz.lit-ry, zhurnalov i plakatov, 1961. 335 p. (MIRA 15:1)
(Electric power distribution) (Electricity in agriculture)

LOTOTSKIY, Konstantin Vasil'yevich; NIKITINA, V.M., red.

[Electrical machines and the principles of electric drives] Elektricheskie mashiny i osnovy elektroprivoda. Moskva, Izd-vo "Kolos," 1964. 494 p. (MIRA 17:5)

30302
S/109/61/006/011/017/021
D201/D304

9,4340 (1143, 1150)

AUTHOR: Lototskiy, L.S.

TITLE: Comparison of static and dynamic properties of negatively biased germanium diodes

PERIODICAL: Radiotekhnik i elektronika, v. 6, no. 11, 1961, 1927 - 1931

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TEXT: The design of parametric amplifiers is complicated by the fact that the equivalent ccts and their parameters are most complicated by the static parameters of the diodes. The author, therefore considers the following problems: 1) To design a parametric amplifier having the simplest possible equivalent cct, whose parameters would be expressed by static diode characteristics; 2) By comparison of experimental results with theoretical calculations to consider the possibility of using normal methods in determining the parameters of diodes used in SHF parametric amplifiers. V.S. Etkin, et al (Ref. 3: Radioelektronnaya promyshlennost', 1959, 7) considered a single cct parametric amplifier at the input of a circulator. To the emf e/2 of the source signal is connected Z_0, repre-

senting the characteristic impulse of the transmission line carrying the signal in series with X_L - the inductive reactance of the resonator and a series connected impedance, the latter consisting of C_s - the strong capacitance of the holder in parallel with series conneted L, C_0 and R_r; L - inductance of diode leads; C_0 - the capacitance of the deflection layer of the diode; R_r - the loss resistance of the diode. The author transforms the parallel branch into its series components and R_0 so that the circuit at resonance and with the pump signal becomes a simple series connection of Z_0, R and R_{-eff}, where R_{-eff} is the effective negative resistance introduced into the cct with pump signal and equal

$$R_{-eff} = m(1 - a)/2\omega_0 C_0 D^2 \qquad (5)$$

where $a = \omega^2 LC_s$; $m = \dfrac{C_{max} - C_{min}}{C_{max} + C_{min}}$,

- modulation factor of the deflection layer of the diode and $D = 1 + (C_s/C_c) - \omega^2 LC_s$. For the condition $D^2 \gg \omega^2 L^2 C_s$ the gain G_1 rela-

Comparison of static and dynamic ...

tive bandwidth $\Delta f/f_o$ and noise factor F may be written for the above equivalent cct as

$$\simeq \frac{Z_o^2}{\{Z_o + (R_r/D^2) - [m(1-a)/2\omega_o C_o D^2]\}^2}, \quad (6)$$

$$\Delta f/f_o \simeq \omega_o C_o Z_o D/\sqrt{G} \quad (7)$$

and

$$F = 1 + \frac{R_r}{D^2 Z_o} \quad (8)$$

respectively. In the experiments with the parametric amplifier the cct was tuned by an inductive stub. When taking into consideration the effect of this stub, the equation for relative bandwidth may be written, after simplifications, as

Card 3/5

Comparison of static and dynamic ...

$$\Delta\omega/\omega = \frac{2Z_o}{\left\{(2/D\omega_o C_o) + Z_o\left[\left(\frac{\omega_o l}{c} / \cos^2 \frac{\omega_o l}{d}\right) - \omega g\, \omega_o l/c\right]\right\}\sqrt{g}}, \quad (12)$$

where l - length of the stub, c - velocity of light. It may be seen that when compared with Eq. (7), the new bandwidth is smaller and that in order to use it, it is necessary to know the value of C_s. It may be evaluated from the standing wave ratio ρ of the line carrying the signal and is derived as

$$C_s = \frac{\sqrt{\rho_2 R_r/Z_o} - \sqrt{\rho_1 R_r/Z_o}}{\frac{1}{C_{02}} - \frac{1}{C_{01}}}$$

in which ρ_1, ρ_2 and C_{01}, C_{02} - are the SVWR and deflection layer capacitances with bias voltages U_1 and U_2 respectively. Thus, knowing C_s, the gain, bandwidth and noise factor of parametric amplifi-

Card 4/4

er may be calculated from the knowledge of static diode parameters C_o, R_r and m. Using the equivalent circuit as discussed above, an experimental parametric amplifier was designed and tested. The Z_o of transmission line was chosen so as to fully compensate for introduced losses, i.e.

$$Z_o + (R_r/D^2) = m_{max}(1 - a)/2\omega_o C_o D^2. \qquad (14)$$

Results obtained with various diodes proved to be in good agreement with the calculated values, although the coefficient m, not being known with exactitude may have introduced additional discrepancies. The author acknowledges the help of K.A. Merkur'yev in the design of the amplifier and constructive criticism of Yu.F. Sokolov, and N.Ye. Skvortsova. There are 4 figures, 1 table and 3 Soviet-bloc references.

SUBMITTED: March 2[illegible], 1961

LOTOTSKIY, M.I.

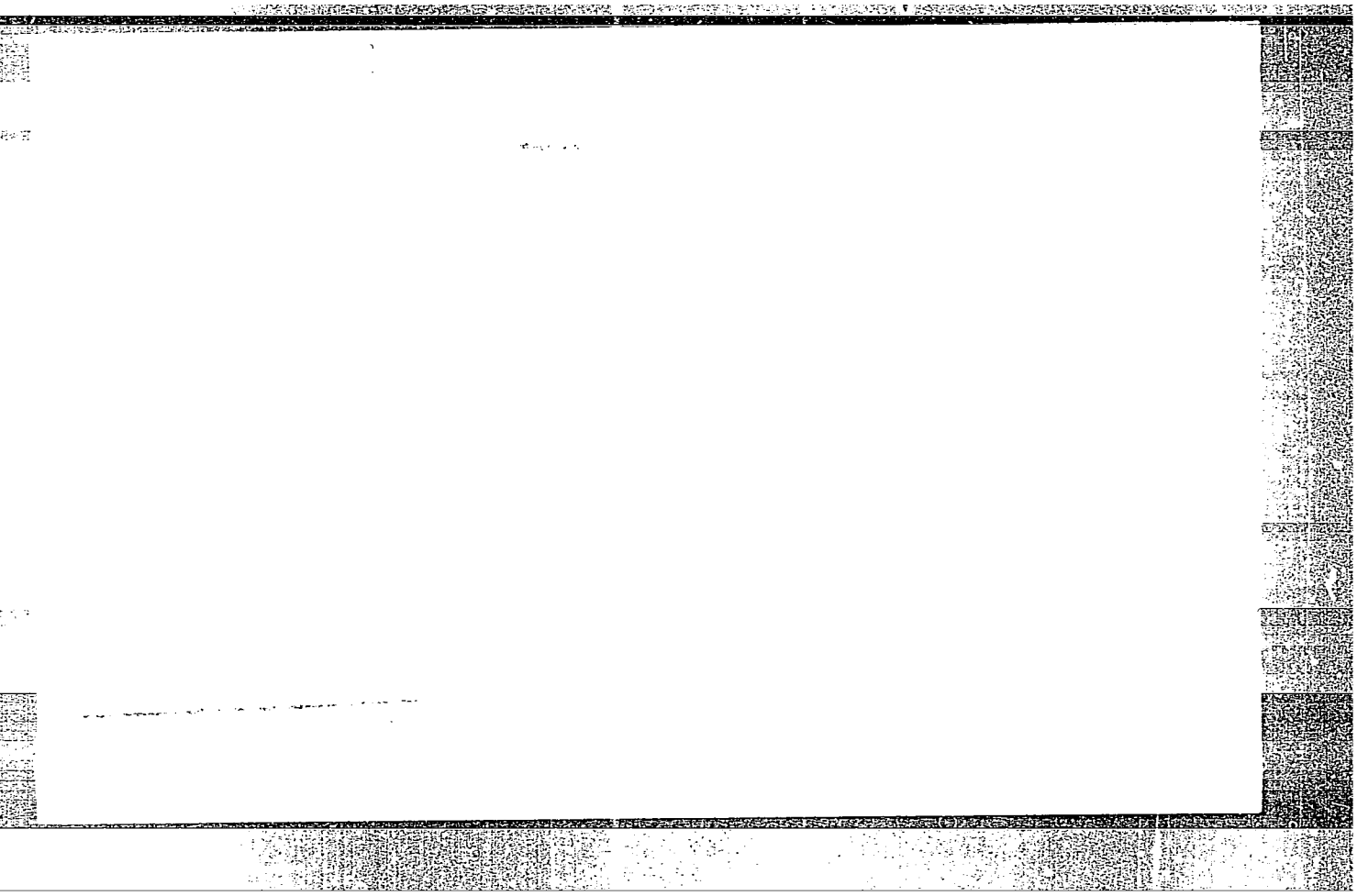
Sliding hernias [with summary in English]. Khirurgiia 34 no.5:85-90 My '58 (MIRA 11:7)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. G.G. Karavanov) L'vovskogo meditsinskogo instituta.

(HERNIA, surg.
sliding hernias of large intestine & urinary bladder (Rus))
(BLADDER, diseases
sliding hernia, surg. (Rus))
(INTESTINE, large, diseases
sliding hernia, surg. (Rus))

SEGALIN, V.G., kand.tekhn.nauk; LOTOTSKIY, P.V., inzh.; LIBSON, S.I., inzh.

Radiometric system for continuously registering the level of coal bins and fluid reservoirs. Elek.sta. 31 no.4: 20-23 Ap '60. (MIRA 13:7)
(Gamma rays--Industrial applications)
(Liquid level indicators)



APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000930610019-2"

LOTOTSKIY, V.B. [deceased]; SOSNINA, Ye.F.; TSVILENEVA, V.A.

Cases of deep burrowing of ixodid ticks into the skin of rodents. Zool.zhur. 38 no.3:401-417 Mr '59. (MIRA 12:4)

1. Institute of Zoology and Parasitology, Academy of Sciences of the Tadjik S.S.R. (Stalinabad).
(Ticks) (Parasites--Rodentia)

ACC NR: AT6036259 SOURCE CODE: UR/2535/66/000/165/0061/0087

AUTHOR: Lototskiy, V. L.; Engineer

ORG: none

TITLE: III. Study of contactless dc machines with a semiconductor commutator

SOURCE: Moscow. Aviatsionnyy institut. Trudy, no. 165, 1966. Beskontaktnyye i unipolyarnyye elektricheskiye mashiny (Contactless and unipolar electrical machines), 61-87

TOPIC TAGS: electric generator, electric power source, electric rotating equipment, dc generator

ABSTRACT: A theoretical study of contactless dc machines (generators) is made, with special emphasis on obtaining the external characteristic of a simiconductor commutator. The dependence of this characteristic on parameters of semiconductor rectifiers is also analyzed. It is indicated that the development of such contactless dc generators requires, in general, the solution of the following problems: 1) armature reaction, 2) commutation, 3) nonlinearity of the magnetic characteristic caused by saturation, 4) steady-state and transient processes in the generators, and 5) static and dynamic stability of the generators as well as of control circuits. It is also indicated that the application of semiconductor elements (diodes and transistors) eliminates the necessity for collectors which are the basic unreliable elements in

Card 1/2 UDC: 621.313.392(04)

ACC NR: AT6036259

modern electric dc machines. The basic theory of independent semiconductor commutation of a dc generator with a closed armature winding is expounded. On the basis of an equivalent circuit, the principal analytical expressions are derived which describe the commutation process. Orig. art. has: 40 formulas and 16 figures.

SUB CODE: 09/ SUBM DATE: none/ ORIG REF: 007

Card 2/2

LOTOTSKIY, V.T., starshiy eletromekhanik

Practice of the brigade of communist labor. Vest. sviazi 21 no.8:24 Ag '61. (MIRA 14:9)

1. Khar'kovskaya gorodskaya telefonnaya set'.
(Telecommunication--Employees)

GOLOVATYY, R.N.; LOTOTSKIY, Ye.I.

Swelling of formaldehyde casein. Nauk.zap.L'viv.un. 21:70-78 '52.
(MLRA 10:7)

1. Kafedra obshchey i neorganicheskoy khimii.
(Casein) (Formaldehyde)

ROVINSKIY, Z.I., polkovnik meditsinskoy sluzhby; LOTOTSKIY, Yu.F., starshiy leytenant meditsinskoy sluzhby.

Intravenous anesthesia below a tourniquet in the treatment of hand and finger wounds. Voen.-med. zhur. no.3:81-82 Mr '56. (MLRA 9:9)
(LOCAL ANESTHESIA) (HAND--WOUNDS AND INJURIES)
(FINGERS--WOUNDS AND INJURIES)

U

ALEKSEYEV, F.K.; ANDRIYUTS, G.L.; ARSENT'YEV, A.I.; ASTAF'YEV, Yu.P.; BEVZ, N.D.; BEREZOVSKIY, A.I.; GENERALOV, G.S.; DOROSHENKO, V.I.; YESHCHENKO, A.A.; ZAPARA, S.A.; KALINICHENKO, V.F.; KARNAUSHENKO, I.K.; KIKOVKA, Ye.I.; KOBOZEV, V.N.; KUPIN, V.Ye.; LOTOUS, V.K.; LYAKHOV, N.I.; MALYUTA, D.I.; METS, Yu.S.; OVODENKO, B.K.; OKSANICH, I.F.; PANOV, V.A.; POVZNER, Z.B.; PODORVANOV, A.Z.; POLISHCHUK, A.K.; POLYAKOV, V.G.; POTAPOV, A.I.; SAVITSKIY, I.I.; SERBIN, V.I.; SERGEYEV, N.N.; SOVETOV, G.A.; STATKEVICH, A.A.; TERESHCHENKO, A.A.; TITOV, O.S.; FEDIN, A.F.; KHOMYAKOV, N.P.; SHEYKO, V.G.; SHEKUN, O.G.; SESTAKOV, M.M.; SHTAN'KO, V.I.

Practice of construction and exploitation of open pits of Krivoy Rog Basin mining and ore dressing combines. Gor. zhur. no.6: 8-56 Je '63. (MIRA 16:7)

(Krivoy Rog Basin--Strip mining)

BONDAR', A.P.; LOTOUS, V.K.; TERESHCHENKO, A.A.

Experience in using combined transportation in strip mines. Gor. zhur. no.6:74-75 Je '65. (MIRA 18:7)

1. Krivorozhskiy TSentral'nyy gornoobogatitel'nyy kombinat.

LOTOVA, L. I., Cand Biol Sci -- (diss) "Anatomical investigation of dwarf Wildings for apple trees." Mos, 1957. 18 pp (Mos Order of Lenin State Univ im Lomonosov), 110 copies (KL, 52-57, 105)

LOTOVA, L.I.

Some data on the anatomy of dwarf apple rootstocks. Vest.Mosk. un.Ser.biol., pochv., geol., geog. 12 no.2:59-65 '57. (MIRA 10:10)

1.Kafedra vysshikh rastenii Moskovskogo universiteta.
(Dwarf fruit trees) (Apple)

LOTOVA, L.I.

Anatomical investigation of root formation processes in the case of vegetative propagation of dwarf stocks of apple trees. Dokl. AN SSSR 113 no.6:1369-1371 Ap '57. (MLRA 10:6)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova. Predstavleno akademikom A.L. Kursanovym.
(Apple)

LOTOVA, L.I.

Comparative anatomical study of the wood of tall-growing and dwarf forms of the apple tree. Bot.zhur. 43 no.12:1728-1734 D '58. (MIRA 11:12)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
(Apple) (Wood) (Dwarf fruit trees)

LOTOVA, L.I.

Anatomical study of the bark in tall-growing and dwarf apple trees. Vest. Mosk. un. Ser. biol., pochv., geol., geog. 14 no.3:45-58 '59. (MIRA 13:6)

1. Kafedra vysshikh rasteniy Moskovskogo universiteta.
(Bark) (Apple)

LOTOVA, L.I.; LYARSKAYA, R.P.

Some anatomical characteristics of root accretion in the deodar cedar and Atlas cedar. Nauch. dokl. vys. shkoly; biol. nauki no.4:99-104 '59. (MIRA 12:12)

1.Rekomendovana kafedroy vysshikh rasteniy Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova.
(Cedar) (Roots (Botany))

BARYKINA, R.P.; LOTOVA, L.I.

Vegetative reproduction of the Amur cork tree. Vest. Mosk. un. Ser. 6: Biol., pochv. 17 no.1:46-56 Ja-F '62. (MIRA 15:1)

1. Kafedra vysshikh rasteniy Moskovskogo universiteta.
(Amur cork tree)

LOTOVA, L. I.

Shoot anatomy of two life forms of juniper. Nauch. dokl. vys. shkoly; biol. nauki no.3:113-121 '62. (MIRA 15:7)

1. Rekomendovana kafedroy vysshikh rasteniy Moskovskogo gosudarstvennogo universiteta im. M. V. Lomonosova.

(JUNIPER) (BOTANY--ANATOMY)

BARYKINA, Rimma Pavlovna; KOSTRIKOVA, Lidiya Nikolayevna; KOCHEMAROVA, Irina Pavlovna; LOTOVA, Lyudmila Ivanovna; TRANKOVSKIY, Daniil Aleksandrovich; CHISTYAKOVA, Ol'ga Nikolayevna; SOKOLOVA, N.A., red.; SHVETSOV, S.V., tekhn. red.

[Laboratory manual on plant anatomy] Praktikum po anatomii rastenii. [By] R.P.Barykina i dr.[n.p.] Rostovizdat, 1963. 183 p. (MIRA 16:10)

(Botany--Anatomy)

LOTOVA, L.I.; MOROZOVA, Ye.M.

Structural evolution of the shoots of three life forms of Sophora. Vest. Mosk. un. Ser. 6; Biol., pochv. 19 no.3: 30-39 My-Je '64. (MIRA 17:12)

1. Kafedra vysshikh rasteniy Moskovskogo universiteta.

LOTOVA, I.I.

Significance of anatomical characters in the diagnosis of cold resistance of apple trees. Nauch. dokl. vys. shkoly; biol. nauki no.4:106-112 '64. (MIRA 17:12)

1. Rekomendovana kafedroy vysshikh rasteniy Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova.

LOTOVA, L.I.

Anatomical study of broad bean stems as related to their resistance to lodging. Vest.Mosk.un.Ser.6: Biol., pochv. 20 no.4:38-48 Jl-Ag '65. (MIRA 18:12)

1. Kafedra vysshikh rasteniy Moskovskogo universiteta.
Submitted May 21, 1964.

SANIN, A.A.; MELIORANSKIY, A.S.; LOTOVA, N.A.

Voltage pulse amplitude analizer with brief resolving time. Vest. Mosk. un.10 no.12:87-92 D '55. (MLRA 9:5)
(Pulse techniques (Electronics))

30752
S/141/61/004/003/002/020
E133/E435

3, 1720 (1041, 1124, 1127)

AUTHORS: Vitkevich, V.V., I tova, N.A.

TITLE: On the influence of the supercorona on the radio emission received from the Sun

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika. 1961, Vol.4, No.3, pp.415-424

TEXT: Occulations of Taurus A have indicated inhomogeneities in the electron density of the supercorona from 4.5 to 30 $R_\odot$. The anisotropic scattering of solar radiation which results from these inhomogeneities changes our radio picture of the Sun considerably. Previous calculations, allowing for this scattering, have ignored two factors: (a) the scattering regions in the supercorona are at a finite distance from the active regions of the solar surface; (b) the inhomogeneities are not isotropic. The present article allows for both of these effects. It is assumed that the inhomogeneities are radial in form, i.e. the scattering function $\Psi(x)$ is a function only of x - the distance to the centre of the Sun. The authors consider first the results obtained in earlier work (Ref.10: Izv. VUZ, Radiofizika, 3, 595 (1960)) for scattering regions which

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On the influence of the super- ...

are at an infinite distance from the Sun. These results gave a relation between $\Phi^2(r_1)$ and $\Psi^2(x)$

$$\Phi^2(r_1) = 2\int_{r_1}^{\infty} \Psi^2(x) \frac{x\,dx}{\cos\alpha\sqrt{x^2-r_1^2}} = \frac{2}{r_1}\int_{r_1}^{\infty} \Psi^2(x) \frac{x^2 dx}{\sqrt{x^2-r_1^2}}. \quad (1)$$

Here, Φ is the scattering angle and r_1 is the minimum distance from the Sun to the line of sight. The authors modify this result to give

$$\Phi^2 = \int_{x_1}^{x_2} \Psi^2(x) \frac{R_1^2(x)}{R_0^2}\,dx, \quad (7)$$

where R_1 is the finite distance to the source and R_0 is the source-receiver distance. The assumption that scattering regions are at infinity implies that one is dealing with plane waves. Hence, assuming that these regions are at finite distances is equivalent to assuming spherical waves. In the earlier paper (Ref.10) it was assumed that $\Phi = k/r^m$. This is taken over to

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the case of spherical waves. It implies that $\Psi(x) = \Psi_0/x^n$ $(n > 0)$, where $m = n - (1/2)$. Functions of the form:

$$(x) = \sum_{i=1}^{N} \frac{k_i}{x^{n_i}}$$

may also be used. Fig.2 shows the variation of Φ^2 with $x/R_\odot$ for four values of m. Preliminary results indicate that $m \sim 1$ up to distances of 20 $R_\odot$. This shows that the lower layers of the supercorona (below 5 $R_\odot$) have a relatively small effect on the scattering. Values are given in the article for the coefficient η_2^2 which represents the square of the attenuation coefficient for the scattering (due to the finite distance of the scattering regions from the source). It is assumed that $n = 3$. According to the position assumed for the source, η_2^2 is found to vary by a factor of $\sim 2 \times 10^{-2}$. On the basis of their theory, the authors calculate the apparent angular dimensions of active solar regions for three wavelengths (3.5 m, 5.8 m and 12 m). They point out, however, that no great importance should be attached to

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the actual figures they have derived, owing to the lack of experimental data. They emphasize, in particular, that their results will be modified by the fact that the inhomogeneities are known not to be strictly radial. There are 3 figures, 2 tables and 10 references: 7 Soviet and 3 non-Soviet. The references to three English language publications read as follows:
Ref.4: J.Hewish, Proc. Roy. Soc., 228, 239 (1955);
Ref.7: J.Hewish, Paris Symposium on Radio Astronomy. Stanford Univ. Press, 1959;
Ref.8: V.V.Vitkevitch, Paris Symposium on Radio Astronomy, Stanford Univ. Press 1959.

ASSOCIATION: Fizicheskiy institut im. P.N.Lebedeva AN SSSR
(Physics Institute imeni P.N.Lebedev AS USSR)

SUBMITTED: August 26, 1960

Card 4/4

S/203/63/003/001/004/022
A061/A126

AUTHORS: Korchak, A. A., Lotova, N. A.

TITLE: The cyclotron emission of charged particles in a dipole magnetic field

PERIODICAL: Geomagnetizm i aeronomiya, v. 3, no. 1, 1963, 37 - 42

TEXT: The polarization degree and the position angle of the cyclotron emission of electrons in a dipole magnetic field are calculated by starting from the same premises as previously used by G. B. Field (J. Geophys. Res., 1960, v. 65, no. 6, 1661; 1961, v. 66, no. 5, 1395). The initial relation is Field's formula for the frequency of the emission of an electron moving to and fro with nonrelativistic velocity between two symmetric points on a magnetic plane of a dipole magnetic field. If the electron distribution in the equatorial plane can be described by the relation indicated by E. N. Parker (Phys. Rev., 1957, v. 107, no. 4, 924) and S. I. Akosofu et al. (J. Geophys. Res., 1961, v. 66, no. 12, 4013); if the radiation belt is sufficiently thin; if the magnetic field

The cyclotron emission of charged .....

in the particle range differs only little from that of a dipole; if the magnetic moment of the dipole is perpendicular to the direction of view, and, finally, if the radiation absorption can be neglected, the following results: 1) The intensity of the cyclotron emission depends on the angular distribution of the particles. If the angular distribution has the form $\sin^n \alpha_0$, the drop of intensity with a decrease of θ is the quicker, the larger n is. α_0 is the angle formed by the electron motion and the magnetic field in the equatorial plane, and θ is the polar angle. 2) The polarization degree of emission in the first quadrant ranges between 33 and 100%. It depends on frequency considerably, but not on the angular distribution of the particles. 3) The polarization degree of the total emission of a symmetric radiation belt assumes, as a function of frequency, any value between 0 and 100%; the position angle assumes any discrete values between 0 and $\pi/2$. There are 3 figures.

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The cyclotron emission of charged .....

S/203/63/003/001/004/022
A061/A126

ASSOCIATION: Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln AN SSSR (Institute of Terrestrial Magnetism, Ionosphere, and Radio Wave Propagation AS USSR)
Fizicheskiy institut im. P. N. Lebedeva AN SSSR (Physics Institute imeni P. N. Lebedev AS USSR)

SUBMITTED: July 31, 1962

Card 3/3

LOTOVA, N.A.; MARKEYEV, A.K.

Dependence of the characteristics of cyclotron radiation on the orientation of a magnetic dipole. Geomag. i aer. 4 no.6:1014-1019 N-D '64. (MIRA 18:1)

1. Fizicheskiy institut imeni P.N.Lebedeva AN SSSR i Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln AN SSSR.

L 63192-65 EWT(1)/EWG(v)/EEC-4/FB ... W3-4

ACCESSION NR: AP5020355

AUTHOR: Lotova, N. A.

TITLE: Effect of the solar supercorona on the apparent position and shape of translucent radio sources

SOURCE: IVUZ. Radiofizika, v. 8, no. 3, 1965, 441-445

TOPIC TAGS: radio astronomy, electromagnetic wave, radio wave scattering, electromagnetic wave refraction, cosmic radio source

ABSTRACT: The author investigated the structure of the solar supercorona, with particular attention to that region of angular distances 3-10 solar radii from the center of the sun. A two-component representation of the structure of the supercorona was used, in which one component has uniform electron density, where the electron concentration falls off relatively rapidly. This component scatters radio waves. The second is a statistically inhomogeneous (or beam) component, characterized by relatively slow fall-off of electron concentration, which has a refractive effect on radio waves. At distances of about 10 solar radii scattering is predominant,

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ACCESSION NR: AP5020355

and refraction can be disregarded. However, at 3-10 solar radii both mechanisms are important. The author examines the distortion of the position and shape of translucent radio sources of the Crab Nebula type, based on 1954, 1958, and 1963 observations through the supercorona on wavelengths of 3.5, 5.8, and 7.5 meters. It is found that for distances of 3-7 solar radii there is a significant shift in the effective center of the source due to refraction and scattering, while for distances greater than 10 solar radii this effect is negligible. Evaluations of the distortion of the shape of the source are cited for angular distances of 3-10 solar radii from the center of the sun. "The author expresses gratitude to V. V. Vitkevich for discussion and useful advice." Orig. art. has: 1 figure, 9 formulas, 2 tables.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva, AN SSSR (Physics Institute, AN SSSR)

SUBMITTED: 06Sep64 ENCL: 00 SUB CODE: AA

NO REF SOV: 004 OTHER: 001

Card 2/2

L 17018-66 FBD/EWT(1) GW/WS-2
ACC NR: AP6007271 SOURCE CODE: UR/0053/66/088/002/0399/0401

AUTHOR: Lotova, N. A.; Finkel'berg, V. M.

ORG: none

TITLE: Interplanetary scintillations of radio sources and their use in astrophysics

SOURCE: Uspekhi fizicheskikh nauk, v. 88, no. 2, 1966, 399-401

TOPIC TAGS: radio source, radio telescope, directivity diagram, radio diffraction method, radio oscillation method, point shaped source, solar supercorona

ABSTRACT: The determination of angular dimensions of radio sources depends upon the resolving power of radiotelescopes or, more precisely, upon the directivity diagram. Radiotelescopes with a 1-km base working on meter waves have a directivity diagram from 3' to 20', which is inadequate for studying small objects. Since 1950, the method of cosmic radioemission diffraction at the rim of the lunar disk has been used. This method yields a resolving power approximately equal to 20"; it was used for studying the Crab nebula. In 1958, V. L. Ginzburg recommended the scintillation method for studying radio sources. The principle of this method consists in the diffraction of radio waves passing through

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a layer containing heterogeneities of electron density of characteristic dimensions. When the dimension of heterogeneities is much greater than the wavelength, the scattering action of heterogeneities deforms the phase of the wave. This method is good for studying point-shaped sources when their angular dimensions can be measured by observed scintillations. Scintillations occur when heterogeneities are moving with a definite velocity which causes the fluctuation of a radio wave at the observation point. The scintillation method made it possible to discover and measure angular dimensions of radiosources of 0.1". It is also applied to studies of the structure of the supercorona of the sun. Orig. art. has: 1 figure and 5 formulas. [EG]

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TITLE: Radio wave scattering by isotropic and radially elongated heterogeneities of a solar supercorona

SOURCE: Geomagnetizm i aeronomiya, v. 6, no. 4, 1966, 650-657

TOPIC TAGS: solar corona, radio wave scattering, electron density, solar activity, solar magnetic field

ABSTRACT: Experimental data on radio wave scattering in a solar supercorona are used to distinguish two components of electron-density heterogeneities. Formulas are derived for the scattering angles of a spherical wave in two components. The scattering functions for the radially elongated and isotropic components, respectively, are:

$$\psi_1^2(r, m_1) = \frac{k_1^2(2m_1 - 1)\Gamma(m_1)}{2\sqrt{\pi}\,\Gamma\left(m_1 + \frac{1}{2}\right) r^{2m_1+1}}$$

and

$$\psi_2^2(r, m_2) = \frac{k_2^2 m_2 \Gamma\left(m_2 + \frac{1}{2}\right)}{\sqrt{\pi}\,\Gamma(m_2 + 1) r^{2m_2+1}},$$

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Here $\Gamma(m)$ is a gamma function; $\psi(r)$ the scattering function, which is expressed as

$$\psi(r) = 4{,}5 \cdot 10^{-10} \sqrt[4]{\pi}\, \lambda^2 \frac{N_e(r)}{\sqrt{q(r)\, l(r)}},$$

where λ is the wavelength in meters; N_e the electron concentration in the heterogeneities; q the spacing of the heterogeneities (or the space factor); and l the characteristic dimension of the heterogeneities. The scattering of spherical radio waves by isotropic and radially elongated heterogeneities for various positions of a point source is examined. It is found that a point radio source in a solar supercorona has the shape of an ellipse due to scattering. The semimajor axis is perpendicular to the direction to the sun, and the eccentricity is a function of the coordinates of the source (see Fig. 1). A method of calculating the attenuation factors for various source positions is given in the appendix.

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