5(4)

AUTHORS: Rodnyanskiy, I. M., Galinker, I. S., Korobkov, V. I.

SOV/20-126-2-28/64

TITLE: The Electric Conductivity of the Aqueous Solutions of Sodium Hydroxide at High Temperatures (Elektroprovodnost' vodnykh rastvorov yedkogo natra pri vysokikh temperaturakh)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 2, pp 327-329 (USSR)

ABSTRACT: Short reference is first made to several earlier papers dealing with this subject, in which, according to the nature of the electrolyte and its concentration at various temperatures maxima of conductivity were found: For the salts of trivalent, bivalent, and univalent metals at 60°, 100-115°, and 280-300° respectively. It was of interest to investigate the further course of electric conductivity within the temperature range above 340°. However, the solution of this problem entails experimental difficulties as to the selection of the material for the electric insulation of the electrolytic cell and the hermetical sealing of the current supply lines. The chemical industry is in need of methods for the determination of electric conductivity at high temperatures

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(~360°) and even for the most aggressive media, i.e. for basic lyes. The electrolytic cell used by the authors and the electrolytic conductors built into the steel stoppers of the autoclave are shown by a schematical drawing and briefly discussed. Next, the method of measuring electric conductivity is described. These measurements were carried out by means of the bridge MVL-47. A diagram shows the curves for the variation of the specific electric conductivity $\varkappa$ of aqueous NaOH solutions of various concentrations (1.3 and 5 %) up to 360°. All curves pass through a maximum near a temperature of 200-220° C. With increasing concentration the maximum shifts towards lower temperatures. At 360° the specific electric conductivity is by 2.5-3 times lower than maximum electric conductivity. The maximum of the conductivity for sodium hydroxide solutions is attained at lower temperatures than in the case of NaCl. At moderate temperatures NaCl and NaOH are equally strong electrolytes, but with increasing temperature, NaOH becomes a weaker electrolyte than NaCl. This is probably due to the existence of a larger

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portion of covalent binding in the molecule of sodium hydroxide. An exact interpretation of the process will be possible only after a large number of experimental data will have accumulated. There are 2 figures, 1 table, and 6 references, 5 of which are Soviet.

ASSOCIATION: Khar'kovskiy sel'skokhozyaystvennyy institut im. V. V. Dokuchayeva (Khar'kov Agricultural Institute imeni V. V. Dokuchayev)

PRESENTED: March 3, 1959, by A. N. Frumkin, Academician

SUBMITTED: February 9, 1959.

RODNYANSKIY, I.M.; KOROBKOV, V.I.; GALINKER, I.S.

Specific volumes of electrolyte solutions at high temperatures.
Zhur.fiz.khim. 36 no.10:2216-2219 O '62. (MIRA 17:4)

1. Khar'kovskiy sel'skokhozyaystvennyy institut imeni Dokuchayeva.

GALINKER, I.S.; RODNYANSKIY, I.M.; KOROBKOV, V.I.; LEKAKH, N.B.

Temperature-dependent differences in the thermodynamic properties of water and electrolyte solutions. Ukr. fiz. zhur. 9 no.4:401-405 Ap '64. (MIRA 17:8)

1. Sel'skokhozyaystvennyy institut im. V.V. Dokuchayeva, Khar'kov.

KOROBKOV, V.I.; RODNYANSKIY, I.M.

Compressibility of saturated monoatomic alcohols and their aqueous solutions at 237°C. Izv.vys.uchsb.zav.; khim. i khim.tekh. 8 no.2:214-217 '65. (MIRA 18:8)

1. Khar'kovskiy sel'skokhozyaystvennyy institut imeni Dokuchayeva, kafedra obshchey khimii.

LUK'YANOV, V.B.; KOROBKOV, V.I.

Study of the method of relative measurements of radioactivity by means of dispersion analysis. Radiokhimiia 7 no.3:350-355 '65. (MIRA 18:7)

BARANOV, V.I.; DU LE-TYAN' [Tu Lieh-t'ien]; KOROBKOV, V.I.

Geochemistry of uranium and thorium in granite rocks of the Kyzyltau massif (central Kazakhstan). Report No.2: Occurrence form of radioactive elements in granite rocks. Geokhimiia no.5:411-419 '62. (MIRA 15:7)

1. Chair of geochemistry and chair of radiochemistry, Moscow State University.
(Kyzyltau Region--Radioactive substances)
(Kyzyltau Region--Granite)

Korobkov, V.I.

AUTHORS: Baranov, V. I., Zaborenko, K. B., Korobkov, V. I., 89-2-23/35

TITLE: The Use of Nuclear Photoemulsions in the Determination and Evaluation of the Radiochemical Purity of α-Emitting Isotopes (Primeneniye yadernykh fotoemul'siy dlya opredeleniya i otsenki radiokhimicheskoy chistoty α-izluchayushchikh izotopov).

PERIODICAL: Atomnaya Energiya, 1958 Nr 2, pp. 199-202 (USSR)

ABSTRACT: The nuclear photoplate НИКФИ I-2 with an emulsion thickness of 50 μ was used as α-indicator. For calibration of this plate the dependence of the α-range in the emulsion on the energy of the α-particles was determined for U^{238}, U^{234}, Th^{232}, Po^{210}, Bi^{212} -Po^{212}. The recipe of production for each one of these solutions is given. The soaking of the photoplates with the solutions must be performed according to a specially elaborated recipe. The average range of the α-particles was calculated with the aid of the formula:

$$\overline{R} = \frac{\sum \mu_i n_i}{\sum n_i}$$

where μ = the length of traces in μ, and n_i the number of traces with the length μ_i.

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of the Radiochemical Purity of α-Emitting Isotopes.

For the calibration of the plate the following ranges were measured:

Th^{232}	$14,9 \pm 1,5 \mu$
U^{238}	$16,4 \pm 2,6 \mu$
Po^{210}	$22,7 \pm 2,27 \mu$
Bi^{212}	$27,7 \pm 3,9 \mu$
Po^{212}	$47,2 \pm 4,7 \mu$

These ranges are in good agreement with the corresponding values for Ilford C-2 plates. The measurement $Th^{230}(I_0)$ is described as an example of identification. The range of these α-particles was determined with $18,87 \pm 0,03 \mu$, the Th^{230}-solution not having been subjected to any special purification. When the Th^{230}-solution is electrolytically purified, which causes a reduction of foreign bodies to 5%, the measurement of range yield $\overline{R} = 18,94 \pm 0,03 \mu$. Both measurements are in good agreement. There are 5 figures, 1 table, 11 references, 5 of which are Slavic.

SUBMITTED: January 4, 1957

AVAILABLE: Library of Congress

Card 2/2 1. Alpha particles-Photographic analysis

KOROBKOV, V. I.

AUTHORS: Baranov, V. I., Zaborenko, K. B., 78-1-34/43
Korobkov, V. I.

TITLE: Application of the Radioautographic Method for the Control of Radiochemical Purity of α-Radioactive Substances (Primeneniye metoda radioavtografii dlya kontrolya radiokhimicheskoy chistoty α-radioaktivnykh izluchateley)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 1, pp. 184-186 (USSR)

ABSTRACT: After a short review on the history of this method since 1896, the authors describe the material used at present for the application of this method and accentuate its advantages. In the present paper the problem was set to control Th^{230}(Io), which is used for determining the age of young geological formations, for the study of the migration of Th and for other purposes. The possibility of such a control may be proved with 2 Th^{230} preparations:
1) a preparation consisting of a natural raw material, virtually free from Thorium (reference 2), and 2) a
Card 1/3 preparation obtained from the latter by special purification

Card 2/3 of α-particles in the emulsion per cm. The t.s. of the emulsion of the applied plates amounted to from 1634 ± 11 to 1781 ± 6. Before radiographing both preparations were stored for a

Application of the Radioautographic Method for the Control of Radiochemical Purity of α-Radioactive Substances 78-1-34/43

sufficient long time in order to let Th^{227}(RdAc) decay. The results of measuring preparation 1) are shown in figure 3,a. From this can be seen, that the preparation as was expected is not chemically pure, because a simplified isolation method was used. Among the admixtures Po^{231}, Po^{210} and apparently decay products of the thorium series were present. Altogether they amounted to ~24 %. From the radiographs of the second preparation (figure 3,b) is to be seen, that the quantity of foreign admixtures was decreased to 5 % as a result of an additional purification.
There are 3 figures, 1 table, and 5 references, 3 of which are Slavic.

ASSOCIATION: Radio Chemistry Laboratory, Dept. of Chemistry, Moscow State University im. M.V. Lomonosov, (Laboratoriya radiokhimii khimicheskogo fakul'teta Moskovskogo gosudarstvennogo universiteta im. M. V. Lomonosova)

SUBMITTED: June 18, 1957

AVAILABLE: Library of Congress

Card 3/3

Korobkov, V.I.

21(8) 5(0)

AUTHOR: Lapitskiy, A.V. SOV/55-59-3-29/32

TITLE: The First All-Union Conference of Universities and Colleges on Radiochemistry

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1959, Nr 3, pp 221-223 (USSR)

ABSTRACT: This conference was convened by the initiative of the laboratoriya radiokhimii khimicheskogo fakul'teta MGU (Laboratory of Radiochemistry of the Department of Chemistry of Moscow State University) and was held in Moscow from April 20 to April 25, 1959. It was attended by professors, teachers, and scientific collaborators of 32 universities and colleges of the Soviet Union. In his opening address, An.N.Nesmeyanov, Doctor of Chemical Sciences, stressed the importance of radiochemistry. 30 lectures were delivered by members of Moscow State University: Laboratoriya yadernoy fiziki (Laboratory of Nuclear Physics): N.P.Rudenko. A.I.Sevast'yanov: Production of Beryllium-7 by the Reaction (T,2n); I.Starý, N.P.Rudenko: Production of Radioactive Isotopes by Extraction as β-Diketonates. Laboratoriya radiokhimii (Laboratory of Radiochemistry): An.N. Nesmeyanov, B.M. Korolev, L.A.Sazonov: Separation of Radioactive Isotopes in the Irradiation of Colloids; An.N.Nesmeyanov, Ya.A.Borisov, K.S.Filatov, V.Kondratenko, Chzhan Tszin-syan, K.Panek, B.Shukla: Secondary Reactions of the Recoil Atoms ^{80}Br and ^{82}Br in Methyl Bromides; B.G.Dzantiyev, I.M.Barkalov, V.V.Khrapov: Reactions of "Hot" Sulfur- and Nitrogen Atoms With Hydrocarbons; B.Z.Iofa, L.V.Bobrov, A.N.Fatov: The State of Radioactive Isotopes in Extremely Dilute Solutions; M.S. Merkulova, I.V.Melikhov: General Theory of the Coprecipitation of Radioactive Elements With Non-isomorphous Crystalline Precipitates; A.V.Lapitskiy, I.A.Savich, Chzhuan Ya-yuy: Coprecipitation of Protactinium With Complex Compounds of Ti, Nb, and Ta; V.M.Fedoseyev, V.V.Ivanenkov, V.S.Bochkarev: Application of Radioactive Paper Chromatography"; K.B. Zaborenko, A.M.Babeshkin, M.S.Avlichenko: Accumulation and Separation of Recoil Atoms on the Basis of the Example Ra^{224} and Ra^{228}; K.B.Zaborenko, A.M.Babeshkin, V.A.Seyevskaya, L.L.Melikhov: Application of the Emanation Method for the

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Investigation of the Transformation of Solids; V.I.Spitsyn, K.B.Zaborenko, A.M.Babeshkin, M.A.Radicheva: Transformation of Heteropoly-compounds; K.B.Zaborenko, A.M.Babeshkin, I.V. Kovalenko: Geochemistry of Radium; K.B.Zaborenko, V.I. Korobkov: Microanalytical Determination of Uranium by Means of Nuclear Emulsions. An.N.Nesmeyanov, De Dyk-Man: Partial Vapor Pressure of Co in Alloys With Ni; Yu.A.Priselkov, Yu.A. Sapozhnikov, A.V.Tseplyayeva, V.V.Karelin: The Behavior of a Molecular Metal Beam in the High-frequency Field; I.V.Golubtsov, A.V.Lapitskiy, V.K.Shiryayev: Vapor Pressure of Niobium Dioxide; I.V.Golubtsov, Yu.A.Likhachev, Ye.K.Bakov: Various Constructions of the Scintillation Attachment to the Apparatus of the Type B. Kafedra analiticheskoy khimii (Chair of Analytical Chemistry): I.P.Alimarin, N.P.Borzenkova: Niobium^{95} as a Radioactive Tracer; I.P.Alimarin, T.A.Belyavskaya, Yu Bin-ven': Sorption of Zr by Ion Exchangers; A.I.Busev, V.M. Byr'ko: The Use of Complex Pyrazolindithiocarbamates in Radiometry. Kafedra neorganicheskoy khimii (Chair of Inorganic Chemistry): Ye.A. Ippolitova, Yu.P.Simanov, L.M.Kovba, G.P. Polunina, I.A. Bereznikova: Uranates of Some Bivalent Metals; V.G.Knyagina, O.G. Nemkova: Uranium Compounds With Acids of Low-valence P; V.I. Spitsyn: The Influence of the Radioactive Radiation of Solids on Their Physico-chemical Properties; I.Ye.Mikhaylenko, V.I.Spitsyn: Isotope Exchange in the System $K_2SO_4 - SO_3$ at High Temperature. Kafedra khimicheskoy kinetiki (Chair of Chemical Kinetics): I.V.Berezin, V.L.Antonovskiy, N.F.Kazanskaya: Application of Tritium for the Purpose of Determining the Velocity Constants of the Separation of Organo-hydrogen Compounds. An.N.Nesmeyanov delivered a detailed lecture on the Methodology of Radiochemical Instruction at the chemical departments of universities.

Card 3/4

ZABORENKO, K.B.; KOROBKOV, V.I.

Method of determining small amounts of α-radioactive substances with the use of nuclear photoemulsions. Radiokhimiia 1 no.6:724-727 '59. (MIRA 13:4)
(Photographic emulsions) (Alpha rays)

ZABORENKO, K.B.; KOROBKOV, V.I.; RADOVICH, K.A.

Mechanism of the interstitial introduction of a radioactive isotope into the nuclear emulsion. Radiokhimiia 4 no.6:715-720 '62. (MIRA 16:1)
(Radioisotopes) (Photographic emulsions)

ZABORENKO, K.B.; NITTSOL'D, D.; KOROBKOV, V.I.

Use of the method of microautoradiography for studying the distribution of radium in films of high molecular weight substances. Radiokhimiia 5 no.5:642-643 '63. (MIRA 17:3)

ZABORENKO, K.B.; KOROBKOV, V.I.

Effect of the pH of the impregnating solution on the track length of the α-particle in the nuclear photographic emulsion. Radiokhimiia 7 no.1:126-128 '65. (MIRA 18:6)

KOROBKOV, V. K.

Korobkov, V. K. Realization of symmetric functions in the class of π-circuits. Dokl. Akad. Nauk SSSR (N.S.) 109 (1956), 260–263. (Russian)

For the study of π-circuits any symmetric Boolean function with n variables $f(x_1, \cdots, x_n)$ is written with the basic operations &, $\vee$ and $^-$ as an r-fold disjunction of n-fold conjunctions each of whose factors is either x_j or $\bar{x}_j$ $(j=1, \cdots, n)$. For each $i=1, \cdots, r$, let k_i (the working number) be the number of negations in the i-th disjunct. If $r=1$, f is an elementary symmetric function and we let $k_1=k$. Let S_n^k be the number of occurrences of the variables $x_1, \cdots, x_n$ in an elementary symmetric function

1.FW

KOROBKOV, V. K.

"On Certain Mathematic Problems of Regulation of Street Traffic"

presented at the All-Union Conference on Computational Mathematics and Computational Techniques, Moscow, 16-28 November 1961

So: Problemy kibernetiki, Issue 5, 1961, pp 289-294

43817

S/020/62/147/005/007/032
B172/B112

AUTHORS: Korobkov, V. K., Reznik, T. L.

TITLE: Certain algorithms for the computation of monotonic functions of the algebra of logic

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 147, no. 5, 1962, 1022-1025

TEXT: The set E_n of the vertices of the n-dimensional unit cube can be considered as domain of definition for a function $f(x_1, \ldots, x_n)$ of the algebra of logic. A set G(f,N) is called solving set of a function f of a class N if the following conditions are fulfilled: (1) If f is known for all $\alpha = (\alpha_1, \ldots, \alpha_n)$ then f is known also for all points of E_n; (2) No subset of G(f,N) has this property. A system of algorithms ($k = 1,2,\ldots$) is studied by means of which solving sets can be constructed for the class of the monotonic functions (S. V. Yablonskiy, Tr. Matem. inst. im. V. A. Steklova AN SSSR, 51, 1958). Two theorems are proved concerning the relationship between the number n of variables and

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L 12405-63 EWT(d)/FCC(w)/BDS AFFTC/ESD-3 Pg-4/Ph-4 IJP(C)

ACCESSION NR: AP3001389 S/0020/63/150/004/0744/0747

AUTHOR: Korobkov, V. K. 63 62

TITLE: Evaluation of the number of monotonic functions of algebraic logic 16 and of the composition of the searching algorithm of a solution set for an arbitrary monotonic function of algebraic logic.

SOURCE: AN SSSR. Doklady, v. 150, no. 4, 1963, 744-747

TOPIC TAGS: monotonic functions, algebraic logic, searching algorithm

ABSTRACT: The author studied a class of searching algorithms of a solution set for an arbitrary monotonic function. The process of finding a solution set consisted of selecting a point by means of an operator, calculating the value of the monotonic function with relation to the value of the function at the point, then selecting a new point in the set and repeating the process. This process was represented in the form of a tree. The author used two lemmas to prove the theorem Rho(H(n)) is less than or equal to 5C sup absolute value of n/2, sub n. The original article has: 5 formulas and 1 table.

Association: Inst. of Mathematics with the computer Center of the Siberian Division of the Academy of Sciences

Card 1/2

L 56045-65 EWT(d)/T IJP(c)

ACCESSION NR: AT5014617 JR/2582/65/000/013/0005/0028

AUTHOR: Korobkov, V. K. (Novosibirsk)

10
B+1

TITLE: Monotonic functions of algebraic logic

SOURCE: Problemy kibernetiki, no. 13, 1965, 5-28

TOPIC TAGS: monotonic logic function, algebraic logic, Shannon function, function number estimate, algebraic logic function element, algebraic logic function synthesis, algebraic logic function application, control theory

ABSTRACT: The paper thoroughly investigates the class of monotonic functions of algebraic logic, which represents an invariant class. The first chapter is devoted to the estimate of the number of monotonic functions of algebraic logic depending on n variables. Such monotonic functions form a free distributive structure with n generatrices and the problem concerning the number $\psi(n)$ of elements of such a structure was formulated as early as 1897 by Dedekind. The present author shows that

$$2^{C_n^{\left[\frac{n}{2}\right]}} < \psi(n) < A^{C_n^{\left[\frac{n}{2}\right]}},$$

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ACCESSION NR: AT5014617

holds (A = constant) and establishes the order of the logarithm of $\psi(n)$

$$\log_2 \psi(n) \asymp C_n^{\left[\frac{n}{2}\right]} \quad \text{and} \quad \log_2 \psi(n) \asymp \frac{2^n}{\sqrt{n}}.$$

The second chapter deals with the synthesis of schemes of functional elements for arbitrary monotonic functions of algebraic logic in n variables, the decomposition of monotonic functions into groups of variables, and the establishment of the order of Shannon's function for monotonic functions. The third and final chapter is devoted to problems arising during the applications of mathematical logic. Namely, if a certain unknown monotonic function of algebraic logic is specified by the operator A_f evaluating at an arbitrary point $(\alpha_1, \alpha_2, \ldots \alpha_n) E_n$ the value of the function $f(x_1, x_2, \ldots, x_n)$ at that point (i.e., $f(\alpha_1, \alpha_2, \ldots, \alpha_n)$), one can ask how many times one must turn to the operator A_f to establish completely the table of values of the monotonic function f, i.e., find the values of the given function at all points, of an n-dimensional unit cube. Here, after each application of the operator, the value of the function is extended to other points by its monotonic property. The results of the First and Third Chapter,

L 56045-65
ACCESSION NR: AT5014617

with somewhat poorer estimates, have been published earlier (DAN SSSR, 147, 5, 1962, 1022-1025; Diskretnyy analiz, no. 1, 1963, Sbornik trudov Institute matematiki SO AN SSSR; DAN SSSR, 150, 4, 1963, 744-747). Orig. art. has: 79 formulas, 5 figures, and 5 tables.

ASSOCIATION: None

SUBMITTED: 10May63 ENCL: 00 SUB CODE: MA, IE

NO REF SOV: 018 OTHER: 008

Card 3/3

KOROBKOV, V.K. (Novosibirsk)

Some integer linear programming problems. Probl. kib. no.14: 297-299 '65. (MIRA 19:1)

ACC NR: AR6026517 SOURCE CODE: UR/0372/66/000/004/V021/V022

AUTHOR: Korobkov, V. K.

TITLE: Certain generalizations of the problem of "decoding" monotonic functions of algebraic logic

SOURCE: Ref. zh. Kibernetika, Abs. 4V108

REF SOURCE: Sb. Diskretn. analiz. Vyp. 5. Novosibirsk, 1965, 19-25

TOPIC TAGS: algebraic logic, function analysis, set theory, mathematic operator

ABSTRACT: Let R be a finite partially ordered set of s elements. Consider the sequence of sets R, R^2, ..., R^n, where R^n is the topological product of R^{n-1} and R with conventional distribution of ordering. The concept of the integer-valued monotonic function can logically be introduced for R^n. First the set M(R, n) of functions monotonic with respect to R^n and assuming the values of zero and unity is examined. For such functions the following problem is investigated. Given: an operator A_f which calculates for an arbitrary element α of R^n the value of the monotonic function, i.e. $f(\alpha)$. Problem: reconstruct the table of values of the f function by resorting to the operator A_f a minimum number of times, denoted by the symbol

Card 1/2 UDC: 519.95

$\varphi_R(F, f)$, during reconstruction of the table of the values of f with the aid of the algorithm F, on denoting $\max \varphi_R(F, f)$ by $\varphi_R(F, n)$, and lastly on denoting $\min_F \varphi_R(F, n)$ by $\varphi_R(n)$ where the minimum is taken with respect to all the algorithms F solving the specified problem (the algorithm F must apply to any function from M(R, n)). The author proves the following theorem: Theorem 1. $C_1(R)\frac{s^n}{\sqrt{n}} < \varphi_R(n) < C_2(R)\cdot\frac{s^n}{\sqrt{n}}$, where the constants $C_1(R)$ and $C_2(R)$ are independent of n. If $\Psi_R(n)$ is used to denote the power of M(R, n) then it follows from Theorem 1 that $C_3(R)\cdot\frac{s^n}{\sqrt{n}} < \log_2 \psi(n) < C_3(R)\cdot\frac{s^n}{\sqrt{n}}$, where the constant $C_3(R)$ is also independent of n. After this the set M(R, n, m) of monotonic R^n functions with the values 0, 1, 2, ..., m-1 is considered. For these functions, by analogy with the above, the functions $\varphi_R(F, n, m)$ and $\varphi_R(n, m)$ are introduced and proof of the next theorem is presented: Theorem 2. $(m-1)\cdot C_4(R)\cdot\frac{s^n}{\sqrt{n}} < \varphi_R(n, m) <$, where the constants $C_4(R)$ and $C_5(R)$ are independent of n. V. Kudryavtsev. [Translation of abstract]

SUB CODE: 12

Card 2/2

KOROBKOV, V. N.

23014 O khimicheskoy aktivnosti polimorfnykh modifikatsiy monokhloruksusnoy kisloty. Trudy khar'k. Khim. Tekhnol. In-ta. Im. Kirova, vyp. 7, 1949, C. 23-29. - Bibliogr: 6 nazv.

SO: LETOPIS' NO. 31, 1949

PETROV, Ye.I.; NOVOSELOV, V.A.; Prinimali uchastiye: CHVANOV, P.A.; SHIROKOV, L.F.; KOROBKOV, V.P.; KULAYEV, P.A.; POPKOVA, L.F.; LEBEDEV, I.M.; BAKAYEV, A.M.

Flotation of Sibay deposit zinc ores. TSvet. met. 35 no.3: 15-18 Mr '62. (MIRA 15:4)
(Flotation) (Sibay region--Zinc ores)

VERSHININ, Ye.A.; FILIMONOV, V.N.; KISLYAKOV, L.D.; CHVANOV, P.A.; BELYAYEV, M.A.; KOROBKOV, V.P.

Efficient flotation flow chart for collective concentrates at the Sibay plant. TSvet. met. 38 no.4:14-17 Ap '65. (MIRA 18:5)

KOROBKOV, V.P.

Pneumonia following a mitral commissurotomy. Trudy Inst. klin. i eksp. khir. AN Kazakh. SSR 9:32-36 '63. (MIRA 17:12)

L 45194-66 EWT(m)/EWP(j) RM

ACC NR: AR6025770 SOURCE CODE: UR/0058/66/000/004/D060/D060

AUTHOR: Korobkov, V. S.

34
B

ORG: none

TITLE: Relation between parameters of absorption band systems with hydrogen bonds

SOURCE: Ref. zh. Fizika, Abs. 4D465

REF SOURCE: Tr. Komis. po spektroskopii. AN SSSR, t. 3, vyp. 1, 1964, 164-168

TOPIC TAGS: absorption spectrum, absorption band, hydroxyl group, hydrogen bonding

ABSTRACT: Absorption spectra of a number of phenol solutions (more than 20 compounds) in neutral and proton-acceptor solvents were measured in the region of valent colloid hydroxylic groups. The correlation between width, intensity, and displacement of absorption bands of hydroxylic groups producing hydrogen bonds

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KOROBKOV, V.S.; VOROPAYEVA, A.V.; FEL'DMAN, I.Kh.

Absorption spectra of some thiopyridones and pyridyl sulfides.
Zhur.ob.khim. 31 no.9:3136-3140 S '61. (MIRA 14:9)

1. Leningradskiy khimiko-farmatsevticheskiy institut.
(Pyridone--Spectra) (Pyridine--Spectra)

KOROBKOV, V.S.

Possibility of using particular features of physical properties as a criterion for hydrogen bonds. Zhur. fiz. khim. 39 no.8: 2073-2074 Ag '65. (MIRA 18:9)

1. Institut fiziki Sibirskogo otdeleniya AN SSSR.

KOROBKOV, V. S.

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PHASE I BOOK EXPLOITATION SOV/6181

Ural'skoye soveshchaniye po spektroskopii. 3d, Sverdlovsk, 1960. Materialy (Materials of the Third Ural Conference on Spectroscopy) Sverdlovsk, Metallurgizdat, 1962. 197 p. Errata slip inserted. 3000 copies printed.

Sponsoring Agencies: Institut fiziki metallov Akademii nauk SSSR. Komissiya po spektroskopii; and Ural'skiy dom tekhniki VSNTO.

Eds. (Title page): G. P. Skornyakov, A. B. Shayevich, and S. G. Bogomolov; Ed.: Gennadiy Pavlovich Skornyakov; Ed. of Publishing House: M. L. Kryzhova; Tech. Ed.: N. T. Mal'kova.

PURPOSE: The book, a collection of articles, is intended for staff members of spectral analysis laboratories in industry and scientific research organizations, as well as for students of related disciplines and for technologists utilizing analytical results.

Card 1/15

KOROBKOV, V.S.

Width of absorption bands of systems with hydrogen bonding. Opt. i spektr. 17 no.6:938-939 D '64. (MIRA 18:3)

L 2182-66 EWT(m)/EPF(c)/EWP(j) RM

ACCESSION NR: AR5014389 UR/0058/65/000/004/D026/D026

SOURCE: Ref. zh. Fizika, Abs. 4D195

AUTHOR: Korobkov, V. S.; Ivanov, E. I.; Korshunov, A. V.

TITLE: Infrared absorption spectra of ethers

CITED SOURCE: Sb. Spektroskopii. M., Nauka, 1964, 122-123

TOPIC TAGS: diethyl ether, vibration spectrum, ir spectrum

TRANSLATION: Oscillation frequencies in the main bands of the infrared spectra of certain ethers in the 1600-660 cm^{-1} range are presented. In the spectra of diethyl, ethylbenzol and dibenzol ethers the C-O valence bond oscillations are located in the 1060-1150 cm^{-1} range, and in the spectra of anizole, phenetole and guyaquile the C-O bonds are located in the 1230-1270 cm^{-1} region. The C-O valence bond oscillations of the ethers are insensitive to molecular interactions.

SUB CODE: OC, OP ENCL: 00

Card 1/1

KOROBKOV, V.S.

Effect of the hydrogen bond on melting and boiling points. Zhur. struk. khim. 6 no.3:477-479 My-Je '65.

(MIRA 18:8)

1. Institut fiziki Sibirskogo otdeleniya AN SSSR, Krasnoyarsk.

KOROBKOV, V.S.

Intramolecular hydrogen bonding and the physicochemical properties of substances. Zhur. fiz. khim. 38 no.6:1458-1463 Je '64. (MIRA 18:3)

1. Institut fiziki Sibirskogo otdeleniya AN SSSR.

(N) L 12139-66

ACC NR: AP6000456 SOURCE CODE: UR/0064/65/000/009/0063/0065

AUTHOR: Vodyanitskiy, O. A.; Tsirlin, A. M.; Korobkov, Ye. I.

ORG: None

TITLE: Reducing the formation of a deposit on the walls of piping systems by means of ultrasound

SOURCE: Khimicheskaya promyshlennost', no. 9, 1965, 63-65

TOPIC TAGS: naphthalene, ultrasonic vibration, pipe, fuel deposit formation, ultrasonic effect, gas

ABSTRACT: In order to determine whether ultrasound can prevent the formation of solid deposits from a circulated gas on pipe walls, dried nitrogen was saturated with naphthalene vapors, passed through a pipe in an ultrasonic field, then frozen. A GUZ-5P ultrasonic generator was usei. With the ultrasound, 10—15% of the naphthalene passed through the freezing trap deposited on its walls, as compared to 45% in the absence of the ultrasound. This amount decreased to 6% when the intensity of the ultrasound was raised to 4.6 W/cm^2. Elimination of pipe weld joints was found to reduce the loss of acoustical energy and thus increase the effectiveness of the ultrasonic vibrations in preventing the formation of the deposit. The rate of formation and thickness of the naphthalene deposit decreased

Card 1/2 UDC: 621.646.978:534-8

L 12139-66

ACC NR: AP6000456

substantially with increasing intensity of the ultrasonic vibrations. The experiments showed that ultrasound can be successfully used to prevent deposit formation in gas apparatus and piping systems. Orig. art. has: 2 figures, 1 table, and 1 formula.

SUB CODE: 20,07 / SUBM DATE: 00 / ORIG REF: 004 / OTH REF: 001

HW

Card 2/2

VODYANITSKIY, O.A.; TSIRLIN, A.M.; KOROBKOV, Ye.I.

Application of ultrasonic waves for decreasing deposit formation on the walls of piping systems. Khim. prom. 42 no.9:703-705 S '65. (MIRA 18:9)

KOROBKOV, Ye. S.

KOROBKOV, Ye. S. -- "Extrapleural Oleothorax." Minsk State Medical Inst. Minsk, 1956.
(Dissertation for the Degree of Candidate in Medical Sciences).

SO: Knizhnaya Letopis' No 9, 1956

KOROBKOV, Ye.S., kand.med.nauk

Surgery for chronic pleural empyema. Zdrav.Belor. 6 no.2:18-20 F '60. (MIRA 13:6)

1. Iz Belorusskogo nauchno-issledovatel'skogo instituta tuberkuleza (direktor M.N. Lomako).
(PLEURA--SURGERY) (EMPYEMA)

All-Union forum of the friends of young Pioneers. Geog. v shkole 26 no.3:83-84 My-Je '63. (MIRA 16:6)

(Pioneers(Communist youth))

GERSHMAN, B.N.; KOROBKOV, Yu.S.

Propagation of whistler atmospherics. Izv.vys.ucheb.zav.; radiofiz. 1 no.2:51-58 '58. (MIRA 11:11)

1. Issledovatel'skiy radiofizicheskiy institut pri Gor'kovskom universitete.
(Radio--Noise)

S/141/60/003/02/019/025
E041/E321

AUTHORS: Benediktov, Ye.A. and Korobkov, Yu.S.

TITLE: Absorption of Cosmic Radio Emission During the Magnetic Storm of July 15, 1959

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, 1960, Vol 3, Nr 2, pp 333 - 334 (USSR)

ABSTRACT: Observations were made at Latitude 56°09', Longitude 44°17' (near Gor'kiy) at frequencies of 18.6 Mc/s and 25 Mc/s, using a receiver with 3 kc/s bandwidth and an aerial, directed to the zenith, with a diagram measuring 26° x 36° to the half-power points. The receiver output circuit had a noise limiter similar to that described by Lee (Ref 1). Figure 1 shows the variation of the attenuation of incoming radiation at the two frequencies (___18.6 Mc/s), (.... 25 Mc/s) with time. Two large chromosphere flares had been observed on the sun on July 14. The delay between the optical and radio effects was 35 hours. During the night of July 15-16 a polar aurora was observed from Moscow. Figure 2 shows the variation with time of the ratio of the attenuations at each frequency. The straight horizontal lines correspond to variation of attenuation with frequency

Card1/2

21166
S/141/60/003/006/005/025
E032/E114

99100 (also 1041, 1046)

AUTHORS: Benediktov, Ye.A., Korobkov, Yu.S. Mityakov, N.A., Rapoport, V.O., and Khodaleva, L.N.

TITLE: Results of Measurements of the Absorption of Radio Waves in the Ionosphere

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, 1960, Vol.3, No.6, pp. 957-968

TEXT: Results obtained at Gor'kiy in 1959 are reported. The total absorption in the ionosphere was measured with the aid of the "method of two frequencies". The method is described as follows. Suppose that the cosmic radio emission is received simultaneously on two frequencies, f_1 and f_2, where $f_2 > f_1$. For each of these frequencies the integral absorption of radio waves in the ionosphere is given by:

$$\Gamma_i = \ln (I_{0i}/I_i), \qquad (1)$$

where I_{0i} and I_i are the intensities of cosmic radio emission of frequency f_i before and after passage through the

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Results of Measurements of the Absorption of Radio Waves in the Ionosphere

ionosphere. If $(2\pi f_i)^2 \gg \nu^2$ and $f_i^2 \gg f_c^2$, where ν is the effective number of collisions of electrons with ions and neutral molecules, and f_c is the critical frequency of the F-layer, then the integral absorption is given by:

$$\Gamma_i = \frac{e^2}{\pi mcf_i^2} \int_0^z N \nu \, dz \qquad (2)$$

In this expression N is the electron concentration, z is the thickness of the absorbing layer, e and m are the charge and mass of the electron, and c is the velocity of light. It then follows that $\Gamma_1/\Gamma_2 = (f_2/f_1)^2$ and hence, finally, the integral absorption for each of the frequencies is given by:

$$\Gamma_1 = \frac{\ln (I_{02}/I_{01}) - \ln (I_2/I_1)}{1 - f_1^2/f_2^2} \qquad (3a)$$

Results of Measurements of the Absorption of Radio Waves in the Ionosphere

and

$$\Gamma_2 = \Gamma_1 (f_1/f_2)^2 \qquad (3b)$$

If I_{02}/I_{01} does not depend on the galactic coordinates then changes in Γ_i with time depend only on the ratio of the two frequencies. In fact, the above intensity ratio is not independent of the galactic coordinates but this fact should not lead to large errors in the absorption measurements. Published data on the absorption of radio waves in the ionosphere during night hours shows that the absorption is frequently negligible. If the intensity ratio I_{02}/I_{01} is determined for these hours, then the absorption for any other time can be calculated from Eq. (3). It may be shown that the optimum frequency range for the above method differs from the standard method (described by Blum et al. in Ref.2 and Mitra and Shain in Ref.3) in that it does not require highly specialized apparatus or prolonged observations. The present authors have used the above method between August and

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S/141/60/003/006/005/025
E032/E114

Results of Measurements of the Absorption of Radio Waves in the Ionosphere

December 1959 on 8.6 and 25 Mc/s. The results obtained show that the absorption has a characteristic maximum at noon each day, and a minimum at about 4 hrs. In August and September there is also an additional evening maximum at about 20 hrs. The magnitude of the noon maximum was found to be 1.1 db in August, 1.15 db in September, 1.2 db in October and November, and 1.6 db in December (on 18.6 Mc/s throughout). Fig.4 shows the diurnal dependence of the total absorption (continuous curve) and the absorption in the lower layers of the ionosphere (dotted curve) averaged over the periods 23rd to 31st October (Fig.4a) and 12th to 15th November (Fig.4b). The results obtained by the Radio Astronomical methods were checked by means of the pulse method described by Pigott et al. (Ref.9). Fig.5 shows the dependence of the absorption in the F-layer on the critical frequencies of the F-layer (18.5 Mc/s) (curve I - 12th to 15th November; curve II - 20th to 31st October; curve III - data from Ref.3). Acknowledgements are expressed to G.G. Getmantsev and V.L. Ginzburg for interest and advice.

Card 4/7

S/141/61/004/004/021/024
E032/E314

AUTHORS: Benediktov, Ye.A. and Korobkov, Yu.S.

TITLE: Absorption of Cosmic Radio-emission During the Magnetic Storm on April 1, 1960

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika, 1961, Vol. 4, No. 4, pp. 763 - 764

TEXT: The present authors report observations of the intensity of radio-emission on 18.6 and 25 Mc/s. The curves are shown in Fig. 1 (the 25 Mc/s record is displaced in the downward direction relative to the 18.6 Mc/s record). The broken curves show the approximate levels of the undisturbed signal. The top curve shows the variation in the Earth's magnetic field H in the same region. Assuming that the ratio of the absorption coefficient at these two frequencies is

$$\frac{\Gamma_1}{\Gamma_2} = \frac{\omega_2^2 + \nu^2}{\omega_1^2 + \nu^2}$$

Card 1/1 3

(Ref. 3 - V.L. Ginzburg - Plasma-wave Propagation, Fizmatgiz, Moscow, 1961), it is found that Γ_1(18.6 Mc/s)/Γ_2(25 Mc/s) = 1.5 so that $\nu \sim 1.4 \times 10^7$ sec^{-1}. For a normal ionosphere this value of ν corresponds to altitudes of the order of 65 - 70 km. During magnetic disturbances, absorption at such altitudes occurs in the Polar regions. As can be seen from Fig. 1 there is good correlation between the intensity variation and the magnetic-field variation. The correlation is less well defined when the curve obtained in the Leningrad region is used instead of the magnetic field for the Moscow region. Acknowledgments are expressed to G.G. Getmantsev for assistance in this work. There are 1 figure and 6 references: 3 Soviet and 3 non-Soviet. The three English-language references quoted are: Ref. 4 - W.H. Campbell, H. Leinbach - J. Geoph. Res., 66, 25, 1961; Ref. 5 - S. Ziaudin - Canad. J. Phys., 38, 1714, 1960 and Ref. 6 - T. Obayashi, Y. Kahura - J. Radio Res. Lab. Report Ionosph. and Space, Res. Japan, 14, 1, 1960.

Card 2/4 3

S/141/61/004/004/021/024
Absorption of Cosmic E052/E314

ASSOCIATION: Nauchno-issledovatel'skiy radiofizicheskiy institut pri Gor'kovskom universitete (Scientific Research Radiophysics Institute of Gor'kiy University)

SUBMITTED: March 23, 1961

Card 3/4 3

42157

S/203/62/002/001/005/019
I023/I223

3.1800

AUTHORS: Artem'yeva,G.M., Belikovich,V.V., Benediktov,Ye.A., Yerukhimov,Z.M. and Korobkov,Yu.S.

TITLE: Measurements of cosmic radioemission absorption during the solar eclipse on February 15, 1961

PERIODICAL: Geomagnetizm i Aeronomiya, v.2, no.1, 1962, 58-60

TEXT: During the solar eclipse of February 15, 1961 observations of the cosmic radioemission were made in Yevpatoriya at the following frequencies: 25, 18.6 and 13 Mcs, and in Gor'kiy at 25 and 13 Mcs. Such measurements were omitted during previous eclipses. The purpose of the present measurements is to discover any decrease in the absorption of cosmic radioemission caused by the solar eclipse and to differentiate between the absorption of different layers. The apparatus used in both places was identical. The receiving antennas consisted of six wave ~~vibrators~~ dipoles. The maximum ~~direction diagram~~ directivity pattern was pointed to the zenith, and the width at half power was 30°. The measurements were conducted for 10-12

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S/203/62/002/001/005/019
I023/I223

Measurements of cosmic radioemission...

days, before and after the eclipse. Data from the five days, on which f_0F2 was not much different from its value on the eclipse day, were used for further analysis. The variations of the absorption during the eclipse are presented graphically. In Gor'kiy at 25Mcs no effect was observed within experimental errors. The maximum decrease of the absorption is shifted several minutes with respect to the maximum of the eclipse. The lag is near to the value of relaxation time in the D-layer. In Yevpatoriya a second, smaller maximum, lagging by approximately 30 min, was observed. This maximum is probably connected with changes in the absorption in the F-layer, where the relaxation time is much longer than in the D-layer. The ratio of the maximum changes of the absorption in Gor'kiy and in Evpatoriya is approximately equal to the ratio of the Solar zenith angles cosines. The main reason for the changes in the absorption are changes in the electron density in the D-layer. There are 2 figures and 1 table.

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36965

9,2571

S/141/62/005/001/012/024
E203/E435

AUTHORS: Korobkov, Yu.S., Eydmin, V.Ya.

TITLE: The radiation reaction of a moving charge in a waveguide filled with an anisotropic dielectric

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika. v.5, no.1, 1962, 122-127

TEXT: A full mathematical treatment is given of the motion of an electric charge in a waveguide filled with an anisotropic dielectric for the case that the axis of symmetry of the crystal is parallel to the waveguide axis, and also the case when it is at right angles thereto. Starting from Maxwell's equations the authors calculate the energy transfers between the particle and the electromagnetic field. The energy equation splits into separate equations: one containing terms due to the rectilinear component of the particle's motion and the other containing those due to the oscillatory component. The first equation gives the Cherenkov effect, the second shows two effects: the first corresponding to an energy loss by the particle (normal Doppler effect) and the second to an energy gain (anomalous Doppler effect).

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If the terms giving the energy loss are now equated to zero, the condition is established under which a growth of oscillations must take place.

ASSOCIATION: Nauchno-issledovatel'skiy radiofizicheskiy institut pri Gor'kovskom universitete (Radiophysics Scientific Research Institute at Gor'kiy University)

SUBMITTED: June 9, 1961

ARTEM'YEVA, G.M.; BELIKOVICH, V.V.; BENEDIKTOV, Ye.A.; YERUKHIMOV, L.M.; ITKINA, M.A.; KOROBKOV, Yu.S.

Results of observations of intensity fluctuations of discrete sources at low frequencies. Geomag. i aer. 3 no.5:835-840 S-O '63. (MIRA 16:11)

1. Radiofizicheskiy institut pri Gor'kovskom gosudarstvennom universitete.

L 11369-65 EWT(l)/EWG(v)/FCC/EEC-4/EEC(t)/EWA(h) Pc-4/Pe-5/Pq-4/Pae-2/Peb/Pi-4
GW/WS

ACCESSION NR: AP4046283 S/0203/64/004/005/0866/0872

AUTHOR: Korobkov, Yu. S.; Pisareva, V. V.

TITLE: Several results of investigations of E_s layers in the region of the Pacific

SOURCE: Geomagnetizm i aeronomiya, v. 4, no. 5, 1964, 866-872

TOPIC TAGS: ionospheric sporadic layer, appearance frequency, local time, E_s layer type, semitransparency

ABSTRACT: Investigations of ionospheric sporadic E_s layers were carried out over the Pacific between the latitude parallels 42°N and 18°S in the summer of 1962. The whole region was divided into three zones — zone I, equatorial; zone II, northern tropical; and zone III, northern subtropical. E_s types c, i, f, s, and q were analyzed. The maximum appearance frequency of the f-type took place between 2 and 3 p.m. local time. The c-type had a minimum appearance at noon. The i-type had a minimum at 2 p.m. These charac-

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L 11369-65

ACCESSION NR: AP4046283

teristics relate to zone I. With increased latitude, the maximum of the appearance frequency is transferred to the night hours. The maximum appearance frequency of the l-type takes place in zone II. A maximum reflection from the l-type was observed near the equator. Some of the E_s types totally screen the reflection of upper ionospheric layers, and others are semitransparent, depending upon their [illegible] f-type is opaque at night. [illegible]

ASSOCIATION: Radiofizicheskiy institut pri Gor'kovskom gosudarstvennom universitete (Radiophysical Institute at Gorkiy State University)

SUBMITTED: 08Jan64 ATD PRESS: 3114 ENCL: 00

SUB CODE: AA NO REF SOV: 003 OTHER: 003

Card 2/2

KOROBKOV, Yu.S.; PISAREVA, V.V.

Some results of investigations of E_s layers in the region of the Pacific Ocean. Geomag. i aer. 4 no.5:866-872 S-O '64. (MIRA 17:11)

1. Radiofizicheskiy institut pri Gor'kovskom gosudarstvennom universitete.

L 23808-65 EWT(1)/EWG(v)/FCC/EEC-4/EEC(t)/EWA(h) Pc-4/Pe-5/Pq-4/Pae-2/
Pab/Pi-4 GW/WS

ACCESSION NR: AP5002328 S/0141/64/007/005/0982/0984

AUTHOR: Korobkov, Yu. S.

TITLE: Spectrum of distributed cosmic radio emission in the decameter radio band

SOURCE: IVUZ. Radiofizika, v. 7, no. 5, 1964, 982-984

TOPIC TAGS: cosmic ray emission, radio astronomy

ABSTRACT: The distribution spectrum of cosmic rays in the 10--30 meter band was not investigated before, and the author shows that this band is of interest in connection with cosmic-ray research and in connection with the use of this band for radioastronomical investigations of the ionosphere. Results are reported of the measurement of the spectrum of distributed cosmic radio emission in the [illegible] Mc band, made in September and October 1963. To exclude the possible influence of the ionosphere, the observations were made

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L 23908-65

ACCESSION NR: AP5002328

2

at night. The cosmic radio emission was received at 40, 25, 18, 6, 13, 9, and 6.3 Mc with the aid of multi-dipole antennas having identical electrical parameters. The possible errors are discussed. It is estimated that the over-all error in temperature measurement is ±7% at 40, 25, 18.6 and 13 Mc, ±10% at 9 Mc, and ±12% at 6.3 Mc. The cosmic radio emission came from a region whose size was determined by the angle dimensions of the antenna directivity pattern, with a center having galactic coordinates $\ell = 98.5°$ and $b = -5.3°$. The results show that the temperature decreases nearly exponentially with increasing frequency, the relative intensity is fairly flat up to about 10 Mc after which it drops off, and the spectral index rises in this frequency range from about 1.9 to 2.6, its value being given by $\alpha' = 2.7\ (1 - 2.1/f)$ (f -- frequency in megacycles). The reasons for the drooping nature of the spectrum are discussed briefly. Various factors affecting the accuracy of the results are discussed. "The author thanks A. F. Tarasov for help and N. M. Tseytlin for valuable remarks." Orig. art. has: 2 figures and 1

Card 2/3

L 25808-65

ACCESSION NR: AP5002328

formula.

ASSOCIATION: Nauchno-issledovatel'skiy radiofizicheskiy institut pri Gor'kovskom universitete (Scientific-Research Radiophysics Institute at the Gor'kiy University)

SUBMITTED: 16Jun64 ENCL: 00 SUB CODE: AA, EC

NR REF SOV: 001 OTHER: 006

Card 3/3

L 34494-65 EWT/EWT(1)/EWG(v)/FCC/EEC-4/EEC(t)/EWA(h) Po-4/Pe-5/Pq-4/Pae-2/
Peb/Pi-4 RD/GW/WS-4

S/0203/65/005/001/0173/0177

ACCESSION NR: AP5005199

AUTHOR: Korobkov, Yu. S.; Pisareva, V. V.

TITLE: Latitudinal distribution of absorption of cosmic radio emission in the ionosphere

SOURCE: Geomagnetizm i aeronomiya, v. 5, no. 1, 1965, 173-177

TOPIC TAGS: cosmic radio emission, radio wave absorption, ionospheric F2 layer, ionospheric D layer

ABSTRACT: This paper presents the results of measurements of absorption of cosmic radio emission made over the Pacific Ocean in the range of latitudes 36°N-16°S in the summer (May-August) of 1962 (between longitudes 160-240°E). Measurements were made by the two-frequency method. Fig. 1 of the Enclosure shows the mean diurnal curves of ionospheric absorption at a frequency of 22 Mc for each range of latitudes. All the diurnal curves have a characteristic maximum in the afternoon hours, and in some cases there is a small evening maximum whose nature is not clear. The latitude dependence of total radio wave absorption in the ionosphere is shown in Fig. 2. Total absorption increases with a decrease in latitude, but in the region of the geomagnetic equator there is a noticeable maximum. The absorption

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L 31494-65
ACCESSION NR: AP5005199

maxima are at geographic latitudes of approximately 16°N and 11°S. The illustrated dependence of total ionospheric radio absorption on latitude indicates that there is a clearly expressed geomagnetic effect in the latitudinal distribution. For comparison, curve d in Fig. 2 shows the dependence of the critical frequency of the F2 layer for hours close to midday. Data on f_0F2 were obtained at the same time. The relationship between total absorption and f_0F2 indicates that the F2 region makes an appreciable contribution to total ionospheric absorption. On the basis of the determined latitudinal distribution of absorption of cosmic radio emission and the values f_0F2, an attempt is made to detect the contribution Γ_F to the total absorption Γ_t introduced by the F2 region and the contribution Γ_D introduced by the lower regions of the ionosphere, particularly the D layer. The latitude dependence of absorption in the F2 layer Γ_F and absorption in the layer ionosphere Γ_D are shown in Fig. 2 of the Enclosure. Orig. art. has: 11 formulas, 2 figures and 1 table. [08]

ASSOCIATION: Nauchno-issledovatel'skiy radiofizicheskiy institut pri Gor'kovskom universitete (Scientific Research Institute of Radio Physics at Gorky State University)

SUBMITTED: 09Jun64 ENCL: 02 SUB CODE: ES

NO REF SOV: 005 OTHER: 011 ATD PRESS: 3213

Card 2/4

L 34494-65
ACCESSION NR: AP5005199

ENCLOSURE: 01

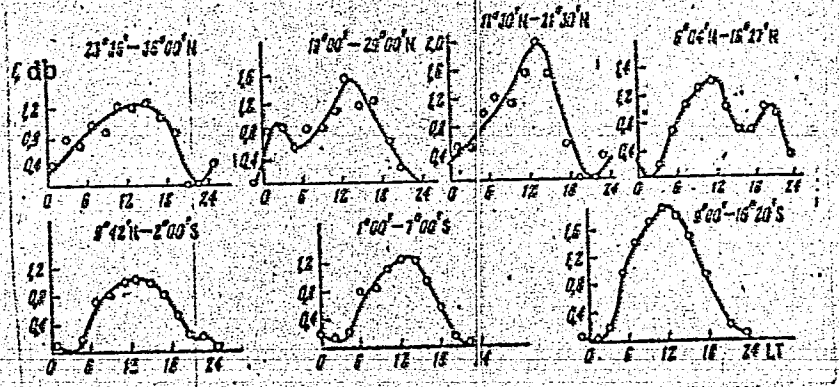

Fig. 1. Mean diurnal curves of ionospheric absorption at 22 Mc for different latitude ranges

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L 34494-65

ENCLOSURE: 02

ACCESSION NR: AP5005199

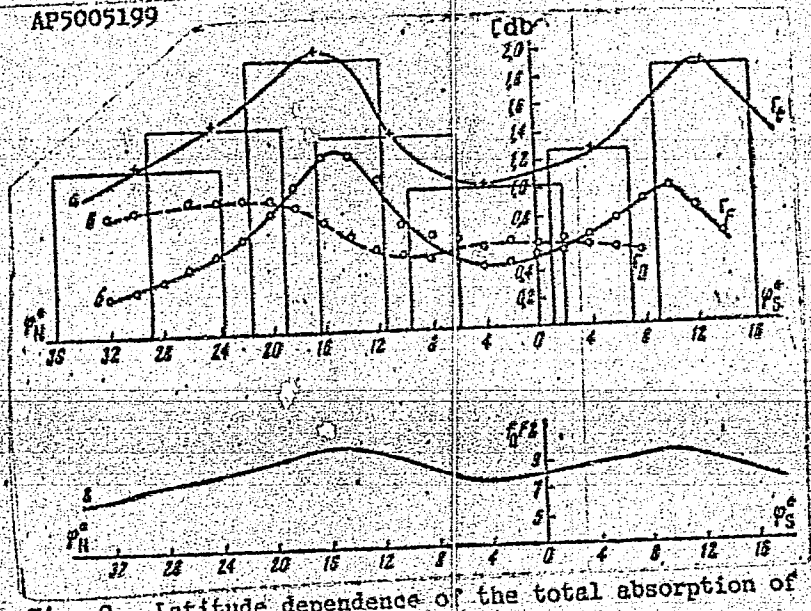

Fig. 2. Latitude dependence of the total absorption of radio waves in the ionosphere

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L 52187-65 EWT(d)/FSS-2/EWT(l)/EEC(a)/EEC(j)/EEC(k)-2/EEC(f)/EEC(r)/Pad(v)/
FCC/EEC-4/EEC(t)/EEC(c)-2/EWA(h) Pn-4/Po-4/Pp-4/Pe-5/Pq-4/Pac-4/Pae-2/Peb/Pi-4
ACCESSION NR: AP5014102 AST/GW UR/0203/65/005/003/0423/0428
550.385

AUTHORS: Korobkov, Yu. S.; Pisareva, V. V.

TITLE: Study of the inhomogeneities of electron concentration in the ionosphere in the region of the Tycho ocean with the help of artificial earth satellite signals

SOURCE: Geomagnetizm i aeronomiya, v. 5, no. 3, 1965, 423-428

TOPIC TAGS: electron, ionosphere, artificial satellite, antenna/ Explorer VII satellite, N 10 oscillograph

ABSTRACT: The longitudinal dependence of the index of fluctuation of the signal from the artificial satellite Explorer-VII in the range of latitudes from 41°N to 18°S was studied. The correlation between the index of fluctuation, the diffuseness of the F-2 layer, and the frequencies of occurrence of E_s has been established. The diurnal dependence of the index of fluctuation and its relation to the magnetic activity are briefly considered and the magnitudes of the inhomogeneities are estimated. The frequency of the signal from the satellite was 19 992 megacycles. The authors were interested only in observing signals of relatively large wavelengths, $\lambda \sim 15$m. The signal was received by half-wave dipole antennae at an altitude of 0.5 m above the deck of the vessel. After detection, the signal was sent through an

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L 52187-65

ACCESSION NR: AP5014102

integrating network having a time constant of 0.02 sec, and was registered on an N-10 oscillograph. The data about the ionosphere were obtained in an AFS station. The diffraction pattern on the earth's surface was obtained, and the following formula was used for τ, the time for irregular changes in the signal in the Fraunhaufer region

$$\tau = \frac{\Delta\xi}{v\sqrt{(\Delta\varphi)^2}}\frac{h_1}{h_2}, \quad (h = h_1h_2/(h_1 + h_2)).$$

Here $\Delta\xi$ is the size of the inhomogeneity, v the velocity of the satellite, $\Delta\varphi$ the phase shift due to the inhomogeneity, h_1 the altitude of the inhomogeneity, and h_2 the altitude of the satellite. It was found from these observations that the index of fluctuation at night did not have a maximum in time. In most cases it was found to be well correlated to the diffuseness of the F-2 layer. The coefficient of correlation was found to be 0.16. Orig. art. has: 3 figures and 2 formulas.

ASSOCIATION: Nauchno-issledovatel'skiy radiofizicheskiy institut pri Gor'kovskom ... Radiophysical Scientific Research Institute, Gorkiy University)

SUBMITTED: 15Jul64 ENCL: 00 SUB CODE: AA, SV

NO REF SOV: 002 OTHER: 008

Card 2/2

L 1713-66 EWT(1)/FCC/EWA(h) GW

ACCESSION NR: AP5020999

UR/0203/65/005/004/0698/0704
550.388.3:550.385.2

AUTHOR: Benediktov, Ye. A.; Korobkov, Yu. S.; Tolmacheva, A. V.

TITLE: Anomalous ionization of the lower ionosphere over temperate latitudes during global geomagnetic storms

SOURCE: Geomagnetizm i aeronomiya, v. 5, no. 4, 1965, 698-704

TOPIC TAGS: ionospheric absorption, ionospheric inhomogeneity, magnetic storm, geomagnetic disturbance radio wave absorption

ABSTRACT: Anomalous ionization of the lower ionosphere, causing additional absorption of radio waves, is observed during global geomagnetic storms over temperate geographic latitudes. This paper reports on measurements of flareups in radio wave ionospheric absorption made at Zimenki near Gorky ($\varphi = 56^{\circ}09'$, $\phi = 50^{\circ}21'$) during global geomagnetic storms on July 15, 1959, April 1, 1960, and October 28, 1961. The first two storms were registered at 25 and 18.6 Mc, and the last one was tracked at 9, 13, and 25 Mc by means of synphase multi-dipole antenna systems. The following findings were made. 1) Anomalous absorptions appeared in the form of consecutive absorption bursts lasting from several minutes to several dozen minutes.

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L 1713-66

ACCESSION NR: AP5020999

2) They appeared regularly at the end of the first phase of the magnetic storm and continued to appear while the storm developed. 3) In the case of the last two storms, some correlation apparently exists between the geomagnetic field variations and the absorption occurrences. 4) During the same two storms, short (5 min) fadeouts of cosmic radiation were observed over periods of several hours prior to the appearance of anomalous absorptions. These fadeouts were not accompanied by solar chromospheric flares. 5) The ratio of absorption intensities at two frequencies was smaller than the inverse of the ratio of the squares of the respective frequencies. 6) Numerous bursts of solar radiation at 18.6 and 25 Mc were registered on July 25, 1959, by the side lobes of the antenna. 7) The magnitude of the anomalous 13-Mc cosmic radio wave absorption 45° over the horizon did not exceed 0.2 to 0.3 db while the zenith absorption at the same frequency reached 2—3db. 8) Changes in the 27.8-Mc cosmic radio wave intensity observed by IZMIRAN at Krasnaya Pakhra on July 15, 1959 led the absorption bursts at Zimenki by 8—12 minutes. 9) At the vertical probing station, the reflected signal was missing during the periods of abnormal absorption. Analysis of ionospheric cosmic radiation and absorption results shows that anomalous ionization occurs at altitudes of approximately 50 km, the electron concentration attains 10^3 electrons/cm^3. The authors discuss and give an estimate of the primary electron flux needed for the generation of the observed level of anomalous ionization. The authors

Card 2/3

L 1713-66

ACCESSION NR: AP5020399

2

thank A. A. Beloborodova for help during the processing of data." Orig. art. has: 6 formulas, 1 figure, and 4 tables. [08]

ASSOCIATION: Radiofizicheskiy institut pri Gor'kovskom gosudarstvennom universitete (Radio Physics Institute at Gorky State University)

SUBMITTED: 24Aug64 ENCL: 00 SUB CODE: ES

NO REF SOV: 006 OTHER: 009 ATD PRESS: 4096

KC

Card 3/3

L 48135-65 FBD/EWT(1)/EWG(v)/FCC/EEC-4/EEC(t)/EWA(h) Pc-4/Pe-5/Pq-4/Pae-2/Peb/Pi-4 RE/GW/WS-4

ACCESSION NR: AP5010689 UR/0141/65/008/001/0186/0188

AUTHOR: Korobkov, Yu. S.

TITLE: Some results of measurements of the attenuation of cosmic radio emission in the ionosphere

SOURCE: IVUZ. Radiofizika, v. 8, no. 1, 1965, 186-188

TOPIC TAGS: cosmic ray, cosmic radio emission, ionosphere, daily variation, seasonal variation

ABSTRACT: The author presents preliminary results of an investigation of the passage of cosmic radio emission at frequencies 5.7 - 6.3 Mcs through the ionosphere. These measurements were made in Gor'kiy (Zimenka) in 1961-1964. The radio signals were received with a horizontal in-phase antenna, whose principal pattern lobe was in the direction of the zenith and measured 25° x 35° at the half-power points. The signal from the antenna was fed to a receiver with a 1-kc bandwidth and a noise limiter through a four-conductor feeder. A distinguishing feature of the reception was a strong noise background, occurring at

Card 1/2

17 - 21 hours local time, strong enough to suppress the entire signal despite the limiter. The noise of atmospheric origin was observed also during daytime hours, but not during the night. The resultant daily variation is shown in Fig. 1 of the Enclosure, and indicates a maximum occurring when the plane of the galaxy goes through the antenna directivity pattern. The seasonal dependence of the absorption is shown in Fig. 2 of the Enclosure. The difference between the average daytime level and the average nighttime level amounts to about 1.5 db. The results of the seasonal study indicate that an appreciable contribution of the absorption is made by the D layer of the ionosphere. "The author thanks Ye. A. Benediktov for continuous interest and useful remarks." Orig. art. has: 2 figures and 3 formulas. [02]

ASSOCIATION: Nauchno-issledovatel'skiy radiofizicheskiy institut pri Gor'kovskom universitete (Scientific Research Radiophysics Institute at the Gor'kiy University)

SUBMITTED: 05Aug64 ENCL: 02 SUB CODE: AA, EC

NR REF SOV: 002 OTHER: 001 ATD PRESS: 4002

10

L 65295-65 EWT(d)/EWT(l)/FS(v)-3/FSS-2 IJP/AST/GW

ACCESSION NR: AP5021255 UR/0293/65/003/004/0618/0629
629.195.2:621.39

AUTHORS: Getmantsev, G. G.; Kalashnikov, N. I.; Bykov, V. L.; Benediktov, Ye. A.; Yerukhimov, L. M.; Belikovich, V. V.; Bakhnin, V. M.; Kantor, L. Ya.; Korobkov, Yu. S.; Kunilov, M. V.; Mityakov, N. A.; Purtov, I. M.; Rapoport, V. O.; Sigalov, A. G.; Cherepovitskiy, V. A.; Akim, E. A.

TITLE: The results of an experiment on radio communications via "Echo 2" and the moon at a frequency of 162.4 megacycles between the observatories of Jodrell Bank and Zimenki

SOURCE: Kosmicheskiye issledovaniya, v. 3, no. 4, 1965, 618-629

TOPIC TAGS: moon, satellite communication, radio telescope, radio transmission, satellite tracking, scientific research coordination / Jodrell Bank radio telescope, Zimenki observatory radio telescope, BESM 2 electronic computer

ABSTRACT: During February-March 1964 the Academy of Sciences of the SSSR, NASA of the USA, and the General Post Office Department of Great Britain conducted an experiment to establish one-way radio communication at 162.4 megacycles via the passive satellite "Echo-2" and the moon. Echo-2 was used for 34 communication

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L 65295-65

ACCESSION NR: AP5021255

tests of 10-15 minutes (the time interval permitted by Echo's orbit), and the moon was used for 15 test runs between the Echo tests. The transmitting equipment at Jodrell Bank and the receiving unit of the Zimenki Observatory are described in detail. Echo orbit information furnished by NASA, visual observations, and radio tracking data from fixed stations were fed to a BESM-2 electronic calculator which provided programmed tracking control. The received signal exhibited strong fluctuations separable into two periods: 1) a 1-2 minute fluctuation associated with Echo-2 distortion from a sphere and with tracking errors; 2) a 3-10 second period associated with small surface irregularities. The rapid fluctuations varied with each test. Voice signals, slowed by a factor of 8, were barely intelligible. Telegraph, teletype, and photofacsimile transmission, in general, were unsatisfactory, but in periods of high signal-to-noise ratios intelligible messages were received. The moon transmissions were not as clear but did furnish scientific information. Unexpected transmission losses included 3-5 db for polarization losses and 1-2 db for unknown causes. The international cooperation was excellent, with the Soviet submitting a complete report. Offers for further cooperation have been extended. Orig. art. has: 3 tables, 7 figures, and 4 formulas.

ASSOCIATION: none

SUBMITTED: 16Apr65 ENCL: 00 SUB CODE: AA, EC

NO REF SOV: 000 OTHER: 002

Card 2/2

KOROBKOVA, N.A.

Review of the "Bulletin de psychologie"; published by a psychology research group of Paris University. Zhur.nevr. i psikh. 57 no.1: 138-145 '57. (MLRA 10:3)
(FRANCE--PSYCHOLOGY--PERIODICALS)

DUKEL'SKAYA, Inna Naumovna; KOROBKOVA, Emma Aleksandrovna; BABAYAN, E.A.; red.; KNAKNIN, M.T., tekhn.red.

[Disability evaluation and employment of schizophrenics] Vrachebno-trudovaia ekspertiza i trudoustroistvo bol'nykh shizofreniei. Moskva, Gos. izd-vo med. lit-ry, 1958. 70 p. (MIRA 12:1)
(SCHIZOPHRENIA) (DISABILITY EVALUATION)
(MENTALLY HANDICAPPED--EMPLOYMENT)

MELEKHOV, D.Ye.; KOROBKOVA, E.A.

Clinical study of mental patients during work activity as a method of functional diagnosis. Trudy Gos. nauch.-issl. psikhonevr. inst. no.20:131-138 '59. (MIRA 14:1)

1. Institut psikhiatrii Ministerstva zdravookhraneniya RSFSR (direktor - prof. V.M. Banshchikov) i TSentral'nyy institut ekspertizy trudosposobnosti i organizatsii truda invalidov (direktor - prof. O.I. Sokol'nikov).
(MENTAL ILLNESS) (WORK)

KOROBKOVA, E.A.

On D. Wechsler's "Measurement and appraisal of adult intelligence." (MIRA 14:4)
Zhur. nerv. i psikh. 61 no. 1:143-147 '61.
(INTELLECT)
(WECHSLER, D.)

KOGAN, V.M. (Moskva); KOROBKOVA, E.A. (Moskva)

Pathopsychological studies in the active therapy of psychoses. Zhur. nevr. i psikh. 64 no.3:464-467 '64. (MIRA 17:5)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824730009-8"

EXCERPTA MEDICA Sec 4 Vol 12/5 Med. Micro. May 59

1302. CONCERNING THE METHODS OF INCREASING THE IMMUNOGENIC PROPERTIES OF VARIOUS STRAINS OF PLAGUE VACCINE AND THEIR STABILIZATION (Russian text) - Korobkova E. I. - ZH. MIKROBIOL. 1957, 7 (64-68) Tables 1

By passage of the vaccine strain through guinea-pigs the absence of any increase of virulence was confirmed. On the other hand, in freeze-dried infected organs the organisms maintained their immunogenic properties for years, particularly in the spleen.

Kaulen - Moscow

EXCERPTA MEDICA Sec 4 Vol 12/7 Med. Micro. July 59

2057. THE EFFECT OF GLYCOCOLL ON P. PESTIS. III. ON THE ORIGIN OF PLAGUE TOXIN AND ITS SIGNIFICANCE IN ACTIVE IMMUNIZATION (Russian text) - Korobkova E. I. - ZH. MIKROB. EPID. I IMMUNOBIOL. 1957, 11 (143-148) Tables 5

P. pestis grown on Hottinger's agar with added glycocoll produces a factor highly toxic for white mice and rabbits. P. pestis grown on ordinary agar plate treated with glycocoll solution undergoes lysis and toxic products are liberated. Serum of horses immunized with a live culture contained antitoxins to both toxins. Serum of rabbits immunized with a killed culture was able to neutralize the lysate-toxin but not the toxin produced during growth on glycocoll agar (native toxin). Mice immunized with sublethal doses of native toxin were able to withstand infection with virulent plague bacilli and the toxins. Anatoxin (formolized native toxin) was also able to impair immunity to native toxin and to virulent bacilli. Mice are more susceptible to the toxins than guinea-pigs. Live antiplague vaccine incorporating anatoxin was found much more effective than the usual vaccine and gave rise to both antibacterial and antitoxic immunity. This opens the way for improvements of the live vaccine.

MAKASHOV, Aleksey Ivanovich; SOLOV'YEV, Georgiy Fedorovich; KOROBKOVA, G., red.; NEMITOV, V., tekhn.red.

Mtsensk. Orel, Orlovskoe knizhnoe izd-vo, 1959. 113 p. (MIRA 13:5)

(Mtsensk)

SAKHNOVA, Kh.Ye.; KOROBKOVA, G., red.; NEMYTOV, V., tekhn.red.

[The present and the past of the "Tekmash" Plant"]
Nastoiashchee i proshloe zavoda "Tekmash." Orel, Orlovskoe knizhnoe izd-vo, 1959. 136 p. (MIRA 13:2)
(Orel Province--Machinery industry)

KOROBKOVA, G.I.

PHASE I BOOK EXPLOITATION SOV/5215

Akademiya nauk SSSR. Mezhduvedomstvennyy komitet po provedeniyu Mezhdunarodnogo geofizicheskogo goda. III razdel programmy MGG: Zemnoy magnetizm i zemnyye toki.

Korotkoperiodicheskiye kolebaniya elektromagnitnogo polya zemli (Short-Period Oscillations of the Earth's Electromagnetic Field) Moscow, Izd-vo AN SSSR, 1961. 114 p. 1,800 copies printed (Series: Its: Sbornik statey, No. 3)

Resp. Eds.: A. G. Kalashnikov, Doctor of Physics and Mathematics, and V. A. Troitskaya, Candidate of Physics and Mathematics; Ed.: Ye. V. Makuni.
Ed.: Ye. F. Shchukina; Tech. Ed.: Ye. V. Makuni.

PURPOSE: This publication is intended for geophysicists.

COVERAGE: This collection of articles, published by the Interdepartmental IGY Committee of the USSR Academy of Sciences, treats problems of geomagnetism and telluric currents. Individual articles deal with various (short-period, gigantic, steady, etc.) oscillations of the terrestrial electromagnetic field, particularly in the arctic region. No personalities are mentioned. Brief English abstracts accompany each article. References follow individual articles.

TABLE OF CONTENTS:

37315
S/169/62/000/004/101/103
D290/D302

3.9110

AUTHORS: Korobkova, G.I., and Ol', A.I.

TITLE: Measurements of the Q-index of geomagnetic activity in the Soviet Arctic observatories

PERIODICAL: Referativnyy zhurnal. Geofizika, no. 4, 1962, 41, abstract 4G238 (V sb. Probl. Arktiki i Antarktiki, Vyp. 9, L., Morsk, transport, 1961, 89-92)

TEXT: A statistical study was made of the Q-indices of magnetic activity at the stations on Dickson island, at cape Chelyuskin, at Tiksi bay, and at Uelen during 1958. The authors calculated the mean-annual diurnal variation, the mean-hourly value ($\bar{Q}$), the maximum during each hourly interval (Q_{max}), and the number of hourly intervals during which $Q \geqslant 5$ (N_Q). The diurnal variations of $\bar{Q}$, Q_{max}, and N_Q agree well among themselves and also with the diurnal variation of r_H. It is shown that the diurnal sum of the Q-indices (ΣQ) is closely correlated with the sum of the planetary K-indices

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S/169/62/000/004/101/103
D290/D302

Measurements of the Q-index of ...

(ΣK_p); the correlation is linear only for low activities ($\Sigma K_p \leq$ ≤ 30). The correlation between the Q-indices and r_H was studied; it is shown that it is possible to convert values of Q into equivalent values of r_H. [Abstractor's note: Complete translation].

Card 2/2

S/561/61/000/009/003/003
D207/D308

AUTHORS: Korobkova, G.I., and Ol', A.I.

TITLE: Q-indices of geomagnetic activity according to the data from Soviet Arctic observatories

SOURCE: Problemy arktiki i antarktiki, no. 9, 1961, 89 - 92

TEXT: An analysis of the records obtained in 1958 at the Dikson Island, Ghelyuskin Cape, Tiksi Bay, and Uelen stations showed that: 1) There is a close correlation between the hourly values of the horizontal component of the earth's magnetic field r_H and the hourly values of Q-indices, 2) there is little difference between the hourly Q-values calculated by (a) averaging measurements taken at 15 min. intervals ($\bar{Q}$), (b) selecting the highest of the Q values (Q_{max}) in a given hour for every day, or (c) taking the number of Q-indices greater than 5 in a given hour and averaging this number for a month or a year. The calculation methods (b) and (c) are recommended because of their greater convenience. For stations based on drifting ice, where Q-indices are difficult to measure, it is

Card 1/2

KOROBKOVA, G.I.; OL', A.I.

Q-indices of geomagnetic activity according to the data of Soviet Arabic observatories. Probl. Arkt. i Antarkt. no.9:89-92 '61. (MIRA 15:1)

(Arctic regions—Magnetism, Terrestrial)

KOROBKOVA, G.I.

Relation of polar magnetic disturbances to the main phase of magnetic storms. Probl. Arkt. i Antarkt. no.18:78-86 '64.
(MIRA 18:3)

29727
S/169/61/000/008/048/053
A006/A101

3.9110 (1121,1482)

AUTHORS: Zubareva, E.P., Korobkova, G.I., Nikitina, N.M., Troitskaya, V.A.

TITLE: Giant pulsations in Soviet Arctic during 1935 - 1956

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 8, 1961, 39, abstract 80262 (V sb. "Korotkoperiod. kolebaniya elektromagnitn. polya Zemli, no. 3", Moscow, AN SSSR, 1961, 76 - 82, English summary)

TEXT: The study of giant pulsations was carried out on the basic of standard recordings of the magnetic field with 20 mm/h scanning from data of the following 6 observatories: Dixon, Wellen, Matochkin Shar, Tiksi, Chelyuskin and Tikhaya Bay. The greatest number of giant pulsations was recorded at the Wellen and Dixon stations. Usually, giant pulsations were observed with T of about 60 and 90 seconds. For a number of stations T was also about 45, 75 and 135 sec. It is possible that for giant pulsations there are one or two basic periods, whose different harmonics appear differently depending on the local conditions of the given station. The amplitudes of giant pulsations vary within the limits from a few γ to several tens of γ. At Dixon and Wellen giant pulsations arise mainly during the first half of the day. On Dixon the number of giant pulsations

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29727
S/169/61/000/008/048/053
A006/A101

Giant pulsations in Soviet Arctic during 1935-1956

increases towards the equinox, for the Wellen station seasonal changes are less marked. Simultaneous giant pulsations on a number of stations are rather seldom, but some giant pulsations were recorded at the same time at Dixon and Wellen. Sometimes giant pulsations are excited during the day at different but close hours; in the majority of such cases they arise first at the stations located more to the east. It is concluded that giant pulsations are disturbances of the terrestrial electromagnetic field and are typical of polar aurora zones. They damp rapidly to the north and south of the aurora.

K. Zybin

[Abstracter's note: Complete translation]

Card 2/2

Card 1/2

USSR/Pharmacology. Toxicology. Cholinergic Drugs V

Abs Jour. : Ref Zhur-Biol., No 8, 1958, 47546

Abstract : atropine. No improvement was noted in 13 of the patients. Side effects (dryness in the mouth, reduced vision and others) were more apparent when l was taken internally. Greater tolerance by the patients for l as compared with atropine was noted.

Card 2/2

KRIVENTSOV, V.I.; KISLOVA, L.V.; KOMISSAROVA, S.D.; KOROBKOVA, L.

Photometric method of determining pentabromacetone. Izv. AN Turk. SSR. Ser. fiz.-tekh., khim. i geol. nauk no.1:54-60 '65. (MIRA 18:7)

1. Institut khimii AN Turkmenskoy SSR.

SOV/126-7-6-22/24

AUTHORS: Vlasov, V.V. and Korobkova, I.I.

TITLE: Investigations Relating to the Defectoscopy of Railroad Rails in Moving Magnetic Fields. 16. Study of the Possibility of Detecting Defects from Their Reaction on the Primary Field

PERIODICAL: Fizika metallov i metallovedeniye, 1959, Vol 7, Nr 6, pp 937-939 (USSR)

ABSTRACT: This is one of a long series of articles on the subject of detection of rail failures by means of magnetic fields moving at speeds which are acceptable in normal railroad operation.
At present the wagon which carries the defectoscopy apparatus is pulled by means of a separate locomotive. However, it would be useful to be able to attach the defectoscopy wagon to any train. This would be possible only if the test apparatus were not less than 100 mm above the rails, which requires increasing the air gap between the electromagnet and the rail from 10-30 mm to 100 mm and to lift to the same level the search equipment. This obviously leads to a considerable drop in the sensitivity of the defectoscope. The authors considered

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Investigations Relating to the Defectoscopy of Railroad Rails in Moving Magnetic Fields. 16. Study of the Possibility of Detecting Defects from Their Reaction on the Primary Field

it of interest to study the possibility of detecting defects from their reaction on the primary field and particularly from the disturbance of the magnetic flux in the core of the magnetizing electromagnet. Therefore, they studied the possibility of detecting an artificial defect of the type of a transverse crack in the railhead for various vertical distances from the rail to the electromagnet, which is used for generating the magnetic field above the rail, the search coil being located directly on the core of the electromagnet. The investigations were carried out by using a model, dealt with in earlier parts of this series of articles, Refs 2 and 3. A diagrammatic sketch of the model is shown in Fig 1. For magnetizing the rail model, an electromagnet was used with a core made of 0.35 mm thick transformer sheet (30 mm wide, with a packet width of 20 mm). The experiments revealed that, at least extensively developed defects, can be detected in rails

Investigations Relating to the Defectoscopy of Railroad Rails in Moving Magnetic Fields. 16. Study of the Possibility of Detecting Defects from Their Reaction on the Primary Field

by means of an electromagnet located 100 mm above the rail and that the defects can be detected more easily by means of a coil located on the second (trailing) pole in the direction of movement than on the first pole (pole S of Fig 1). The authors recommend that for solving the problem the carried out laboratory experiments should be supplemented by experiments on normal tracks.
There are 3 figures and 3 Soviet references.

ASSOCIATION: Institut fiziki metallov AN SSSR
(Institute of Metal Physics, Ac.Sc. USSR)

SUBMITTED: April 7, 1958

KOROBKOVA, L. N.

24043 KOROBKOVA, L. N. Limfaticheskiye sosudy matki u koshki. Trudy Leningr. San.-Gigien. Med. IN-TA, T. III, 1949, S. 178-93. - Bibliogr: 8 Nazv.

SO: Letopis, No. 32, 1949.

28907
S/170/61/004/011/007/020
B104/B112

11.7200

AUTHOR: Korobkova, M. P.

TITLE: Heat-production rate on the boundaries of vibrational flame propagation

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 4, no. 11, 1961, 64-67

TEXT: In a previous paper, S. A. Arbukov (Tret'ye Vsesoyuznoye soveshchaniye po teorii goreniya, 1, 44, M., 1960) made the assumption that the heat-production rate Q on the concentration boundaries of the vibration-excitation ranges of a flame is constant for every fuel. In the present paper, the author gives an experimental proof of this assumption by examining the boundaries of vibrational flame propagation of mixtures of air and carbon monoxide and of oxygen with propane and crude-oil gases. Measurements were made with an improved tube method (G. A. Barskiy, Ya. B. Zel'dovich, ZhFKh, 24, 5, 589, 1960) at room temperature and atmospheric pressure. The assumption Q = const is proved by computing the chemical reaction rate φ, using the theory of flame propagation of Ya. B. Zel'dovich and D. A. Frank-Kamenetskiy and measuring the normal component

Card 1/2

Heat-production rate on the ...

u_H of the flame-propagation velocity. It is shown that Q can be estimated from the measured values of u_H. Results are given in Tables 1-7.

φ was calculated from $\varphi = k \frac{r_1^n r_2^m}{T^l} \exp(-\frac{E}{RT})$, where r_1 and r_2 are fuel and oxygen concentrations. The author thanks O. A. Tsukhanova (ENIN) for discussions. There are 7 tables and 7 Soviet references.

ASSOCIATION: Aviatsionnyy institut, g. Kazan' (Aviation Institute, Kazan')

SUBMITTED: March 1, 1961

Tables 1-3. Mixtures of carbon monoxide with carbon dioxide, oxygen, and nitrogen.
Legend: (1) N_2 impurity; (2) N_2 impurity + N_2 air.

Card 2/2

L 41175-65 EPA/EWT(1)/EPA(s)-2/EWT(m)/EPF(c)/EPR/EWA(c) Pr-4/Ps-4/Pt-10
ACCESSION NR: AT5004087 WW/JW/GS S/0000/62/000/000/0046/0051 34

B+1

AUTHOR: Korobkova, M. P. 21

TITLE: A study of the limits of vibrating flame propagation

SOURCE: Vsesoyuznaya nauchno-tekhnicheskaya konferentsiya po probleme vibratsionnogo i pul'satsionnogo goreniya. 1st, 1961. Trudy. Moscow, Sektor nauchno-tekhn. inform. GIAP, 1962, 46-51

TOPIC TAGS: combustion, pulsed combustion, vibration excitation, combustion mixture, combustion oscillation quenching, combustion speed, flame propagation

ABSTRACT: Oscillations of flame fronts in half-open volumes occur only for given compositions of the combustion mixtures. The author studied the limits of vibrational flame propagation in CO-air, propane-oxygen, and methane-oxygen mixtures in horizontal half-open glass tubes 85 cm long and 3 cm in diameter. Oscillations were quenched by inert admixtures. She concludes that the type of combustion depends on the normal combustion speed U_H (or the rate of chemical reaction) because $\psi \sim U_H^2$). She also finds that for each percentage composition of the mixture there exists a minimum length below which oscillations cannot be excited. The tube diameter also proved to have a significant influence on the type of combus-

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L 41175-65
ACCESSION NR: AT5004087 0

tion. The paper contains numerous diagrams illustrating various dependencies, all of which show an extremum. All results are in good agreement with the theories of B. V. Raushenbakh (Vibratsionnoye goreniye, Fizmatgiz, 1961). Orig. art. has: 6 figures and 1 table.

ASSOCIATION: None

SUBMITTED: 29Dec62 ENCL: 00 SUB CODE: PP

NO REF SOV: 008 OTHER: 000

mrl

Card 2/2

KOROBKOVA, M.P.

Rate of heat liberation on the boundaries of the vibrational propagation of a flame. Inzh.-fiz.zhur. 4 no.11:64-67 N '61. (MIRA 14:10)

1. Aviatsionnyy institut, g. Kazan'.
(Heat of combustion)

ACCESSION NR: AR4014417 S/0124/64/000/001/B095/B095

SOURCE: RZh. Mekhanika, Abs. 1B613

AUTHOR: Korobkova, M. P.

TITLE: Study of the limits of the vibrational extent of the flame

CITED SOURCE: Tr. 1-y Vses. nauchno-tekhn. konferentsii po probl. vibratsion. i pul'satsion. goreniya. M., 1962, 46-51

TOPIC TAGS: combustion, vibrational combustion

TRANSLATION: The vibrational propagation of the flame during the combustion of CO-air, propane-oxygen, and methane-oxygen mixtures with inert components has been studied within horizontal glass tubes 2.3 and 4.8 cm in diameter. The onset of oscillations was determined by ear and by the way the flame unfolds. The limits within which vibrational combustion occurs depend on the concentration of the combustive mixture and on the length and diameter of the tube. The results are presented in a table and 6 graphs. The interpretation of the experimental results follows the theory by B. V. Raushenbakh (Vibratsionnoye goreniye, M., Fizmatgiz, 1961). There are 8 references. Yu. S. Ryazantsev.

DATE ACQ: 18Feb64 SUB CODE: FL ENCL: 00

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