KATS, A.L.

Air currents in the troposphere and stratosphere of a tropical region and their relation to the general circulation of the atmosphere. Trudy Dal'nevost. NIGMI no.16:3-25 '64.
(MIRA 17:11)

AZIZOV, M.A.; KATS, A.L.; LARIN, P.P.; TASHPULATOV, Yu.T.; USMANOV, Kh.U.

Infrared absorption spectra of the complex compounds of copper of monopyridinecarboxylic acids and their derivatives. Uzb.khim. zhur. 8 no.5:47-53 '64. (MIRA 18:5)

1. Tashkentskiy farmatsevticheskiy institut i Nauchno-issledovatel'skiy institut khimii i tekhnologii khlopkovoy tsellyulozy Gosudarstvennogo komiteta khimicheskoy promyshlennosti pri Gosplane SSSR.

KATS, A.L., doktor geograf.nauk

Constructing a synoptic-statistic methodology of forecasting a ten-day temperature anomaly. Meteor. i gidrol. no.5:23-28 My '65. (MIRA 18:4)

1. TSentral'nyy institut prognozov.

RAFF, I.I., inzh.; KATS, A.L., inzh.

Large-block electric power distribution units. Prom. energ. 20 no.8:29-34 Ag '65. (MIRA 18:8)

L 00658-67 EWT(1)/FCC GW

ACC NR: AP6024381 SOURCE CODE: UR/0050/66/000/007/0013/0021

AUTHOR: Kats, A. L. (Doctor of geographical sciences)

ORG: Hydrometeorological Scientific Research Center SSSR (Gidrometeorologicheskiy nauchno-issledovatel'skiy tsentr SSSR)

TITLE: Cycles in the equatorial atmosphere and mesosphere and seasonal transformations of global circulation

SOURCE: Meteorologiya i gidrologiya, no. 7, 1966, 13-21

TOPIC TAGS: wind circulation, equatorial wind circulation, low latitude circulation, atmospheric circulation, wind, stratosphere, solar radiation

ABSTRACT: The article considers some results of the analysis of data obtained in recent years by radiosonde and rocket observations of wind conditions, particularly in the equatorial zone and in low latitudes. These data not only aid in the more accurate recognition of circulatory characteristics of the lower latitudes, but also contain new information on specific features of stratospheric and mesospheric circulation in extratropical latitudes. The presence of a 26-month cycle of zonal wind components in the lower equatorial stratosphere (30—35 km) has been established. Based on the data of rocket sounding, the time cross section of the zonal wind component in the 20—70-km layer for the equatorial zone of the South Atlantic region shows the existence of an alternation of westerly and easterly winds, but a different cycle. The appearance of westerly winds in the upper equatorial stratosphere obviously

Card 1/2 UDC: 551.513

L 00658-67
ACC NR: AP6024381

results from formation of a meridional temperature gradient which is directed toward both sides of the Equator; this gradient results from maximum penetration of ultraviolet rays into the upper atmosphere during the spring and autumn equinoxes. Radiosonde and rocket observation data on the equatorial zone show that the westerly winds in the upper stratosphere as a rule descend lower in the autumn than in spring hemisphere. Available observations lead to the conclusion that the penetration of westerly winds from the upper to the lower equatorial stratosphere and the occurrence of these winds in 26-month cycles are interrelated phenomena. There are indications in the literature of a weak, quasi-biennial cycle of solar activity. It is possible that an analogical mechanism creates an additional impulse which causes ultraviolet radiation, acting on ozone, to penetrate deeper into the stratosphere than usual. The effect of such an additional impulse, as already noted, will be maximal during the equinox, when solar rays fall perpendicularly. Seasonal influences also have been noted in other characteristics of the evolution of westerly and easterly winds in the equatorial atmosphere. The above data show that the evolution of air currents in the equatorial stratosphere is connected with the seasonal features of circulation in extratropical latitudes of both hemispheres. Orig. art. has: 3 figures and 1 table.

SUB CODE: 04/ SUBM DATE: 12Dec65/ ORIG REF: 009/ OTH REF: 014/ ATD PRESS: [JJ]
5040

Card 2/2 vlr

KATS, A.M.; GONEK, N.F.

Optimum adjustment of the process of isodromic temperature control under various types of lag. Trudy LO NTO Priborprom. no.3:46-75 '56. (MLRA 10:8)

(Temperature) (Automatic control)

GONEK, N .F.; KATS, A.M.

Improving two-position temperature control by adding a differential thermocouple device. [Trudy] LO NTO Priborprom. no.4:35-50 '59. (MIRA 13:2)
(Thermostat)

KATS, A.M.

p. 4 PHASE I BOOK EXPLOITATION SOV/5519

Kremlevskiy, P. P., Candidate of Technical Sciences, ed.

Teploenergeticheskiye i khimikotekhnologicheskiye pribory i regulyatory (Instruments and Regulators in Heat-Power and Chemical Engineering) Moscow, Mashgiz, 1961. 207 p. Errata slip inserted. 8,500 copies printed.

Ed. of Publishing House: G. A. Dudusova; Tech. Ed.: L. V. Shchetinina; Managing Ed. for Literature on the Design and Operation of Machines, Leningrad Department, Mashgiz: F. I. Fetisov, Engineer.

PURPOSE: This book is intended for engineers and technicians who construct, design, and operate industrial instruments and regulators.

COVERAGE: The book deals with new investigations in the field of automatic checking and regulation of heat-power and chemical industrial processes. The following problems are discussed: improvement of two-position

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control operation; effect of mass action and damping on proportional control; new proportional plus integral and programming electronic regulation systems; complete automation of open-hearth furnaces; automation of boilers with variable load capacity; measurement of pulsating flow; measurement of dust flow; ultrasonic and magnetic-induction flowmeters; pneumatic compensating differential manometers; aggressive-fluid flowmeters; new magnetic and optical-acoustical gas analyzers; concentration meters; and chlorine and coagulant regulators. The book is the fifth in a series containing reports on the investigations carried out by the Section on Heat-Engineering Control Instrumentation and Automation of the Leningradskoye otdeleniye Nauchno-tekhnicheskogo obshchestva priborostroitel'noy promyshlennosti (Leningrad Branch of the Scientific and Technical Society of the Instrument-Building Industry.) All the articles presented in this book were discussed either at sessions of the above section or at the conference on

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measurements of mechanical quantities called by the section, the VNIIM (Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii im. D. I. Mendeleyeva -- All-Union Scientific Research Institute of Metrology imeni D. I. Mendeleyev), and the Leningradskiy dom uchenykh im. A. M. Gor'kogo (Leningrad Home for Scientists imeni A. M. Gor'kiy). No personalities are mentioned. There are 65 references: 41 Soviet, 20 English, and 4 German. References accompany most chapters.

TABLE OF CONTENTS:

Instruments and Regulators (Cont.)

Instruments and Regulators (Cont.)

AVAILABLE: Library of Congress
Card 9/9

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77787
SOV/109-5-2-20/26

AUTHOR: Kats, A. M.

TITLE: Application of Series to Solution of Some Problems Relating to Traveling Wave and Backward Wave Tubes. Brief Communication

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol 5, Nr 2, 333-335 (USSR)

ABSTRACT: This is a development of work by I. A. Mullen (see U.S. ref at end of abstract) into which it introduces some corrective calculations. A method for solving the problem of a small signal amplification in a traveling wave tube, based on the use of series, is proposed. The essence of this method follows. By introducing function:

$$\Gamma_n(2\pi CX) = \frac{\delta_1^n}{(\delta_1-\delta_2)(\delta_1-\delta_3)} e^{j2\pi CX\delta_1} + \frac{\delta_2^n}{(\delta_2-\delta_1)(\delta_2-\delta_3)} e^{j2\pi CX\delta_2} + \frac{\delta_3^n}{(\delta_3-\delta_1)(\delta_3-\delta_2)} e^{j2\pi CX\delta_3} \quad (1)$$

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and utilizing properties of cubic equation roots for the determination of wave propagation constants in a traveling wave tube:

$$\tilde{b}^3 + j(b - jd)\tilde{b}^2 + q\tilde{b} + j[q(b - jd) + 1] = 0. \qquad (2)$$

It is possible to obtain expressions for variable components of voltage, current, and velocity in terms of function $E_n(2\pi CN)$ which can be easily expanded into a series of the type:

$$E_n(2\pi CN) = \sum_{m=n}^{\infty} \frac{(2\pi CN)^m}{m!} \frac{D_{m+n}}{D_2} \qquad (3)$$

For the determination of coefficients D_{m+n} the author refers to the work mentioned above. It is

possible to determine the amplification without solving (2), which is a complicated and difficult operation. I. A. Mullen made a mistake in not considering the field space charge when setting up the boundary conditions. The purpose of this paper is to find correct solutions for the case when q = 0, and the solution of some examples. Taking into consideration the field of space charge, the boundary conditions for variable components of voltage, current, and velocity can be written as:

$$V_0 = V_1 + V_2 + V_3.$$

$$j\frac{u_0}{\eta_1} C v_0 = \frac{\theta_1}{\theta_1^2 + q} V_1 + \frac{\theta_2}{\theta_2^2 + q} V_2 + \frac{\theta_3}{\theta_3^2 + q} V_3, \qquad (4)$$

$$-\frac{K}{2C} i_0 = \frac{1}{\theta_1^2 + q} V_1 + \frac{1}{\theta_2^2 + q} V_2 + \frac{1}{\theta_3^2 + q} V_3,$$

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where V_o, v_o, i_o are the above variable components for voltage, velocity, and current at the input of traveling wave tube, respectively; C is amplification parameter; K, coefficient of coupling; u_o, constant velocity of electron flux; $\eta = e/m$, ratio of electron charge to mass. Solving this system for initial amplitudes of three waves, V_1, V_2, V_3, gives:

$$V_1 = \left[V_0 - (\delta_2 + \delta_3)\left(j\frac{u_0}{v_0}Cv_0\right) + (\delta_2\delta_3 - q)\left(-\frac{K}{2C}i_0\right)\right]\frac{\delta_1^2 + q}{(\delta_1 - \delta_2)(\delta_1 - \delta_3)}; \quad (5)$$

V_2 and V_3 values are obtained by a cyclic substitution of indices into (5). Voltage at any point along the system is expressed by:

$$V = V_1 e^{j\pi CN\delta_1} + V_2 e^{j\pi CN\delta_2} + V_3 e^{j\pi CN\delta_3}. \quad (6)$$

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Using Eqs. (1)-(6), the following expressions for voltage, velocity, and current are obtained:

$$V = (E_2 + qE_0)V_0 + [jpE_2 + E_3 + q(jpE_0 + E_1)]\left(j\frac{u_0}{\eta}Cv_0\right) -$$

$$- (j(qp+1)E_1 + qE_2 + q[j(qp+1)E_{-1} + qE_0])\left(-\frac{K}{2C}i_0\right). \quad (7)$$

$$j\frac{u_0}{\eta}Cv = E_1V_0 + (jpE_1 + E_2)\left(j\frac{u_0}{\eta}Cv_0\right) - [j(qp+1)E_0 + qE_1]\left(-\frac{K}{2C}i_0\right). \quad (8)$$

$$-\frac{K}{2C}i = E_0V_0 + (jpE_0 + E_1)\left(j\frac{u_0}{\eta}Cv_0\right) - [j(qp+1)E_{-1} + qE_0]\left(-\frac{K}{2C}i_0\right). \quad (9)$$

The same method applied to a backward wave tube produces:

$$V = (E_2 + qE_0)V_0 + [(jpE_2 + E_3) + q(jpE_0 + E_1)]\left(j\frac{u_0}{\eta}Cv_0\right) -$$

$$- (j(qp-1)E_1 + qE_2 + q[j(qp-1)E_{-1} + qE_0])\left(-\frac{K}{2C}i_0\right). \quad (10)$$

$$j\frac{u_0}{\eta}Cv = E_1V_0 + (jpE_1 + E_0)\left(j\frac{u_0}{\eta}Cv_0\right) - [j(qp-1)E_0 + qE_1]\left(-\frac{K}{2C}i_0\right), \quad (11)$$

$$-\frac{K}{2C}i = E_0V_0 + (jpE_0 + E_1)\left(j\frac{u_0}{\eta}Cv_0\right) - [j(qp-1)E_{-1} + qE_0]\left(-\frac{K}{2C}i_0\right), \quad (12)$$

where $p = b + jd$; v_0 and i_0 are, respectively, variable components of voltage, velocity, and current at the input plane of electron flux into the delaying system. Equations (10)-(12) permit the determination of the voltage amplitude dependence on the distance in the system and generation conditions of backward wave. There are 3 figures; and 4 references, 1 Soviet, 1 German, 2 U.S. The U.S. references are: I. A. Mullen, IRE Trans. Electron Devices, 1957, 4, 159; H. Johnson, Proc. IRE, 1955, 43, 6, 684

SUBMITTED: May 4, 1959

20419
S/109/60/005/012/017/035
E192/E382

9,4230

AUTHOR: Kats, A.M.

TITLE: Investigation of the Operation of a Travelling-wave Tube with Local Attenuation in the Linear Region

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol. 5, No. 12, pp. 1986 - 1996

TEXT: The investigation of the operation of travelling-wave tubes with local attenuation or damping has been carried out by a number of authors (e.g. Refs. 1-5). In the following, the effect of the local damping or absorption on the gain and the noise figures of the travelling-wave tube is analysed. The expressions for the alternating components of voltage, velocity and the current of the electron beam which interacts with the wave propagating in the delay system of the tube can be taken from the work of W. Kleen (Ref. 9). These are as follows:

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$$V = \sum_1^3 V_n e^{j\sqrt{C}N\delta_n e - j\delta_n N},$$

$$j\frac{u_0}{\eta} Cv = \sum_1^3 \frac{V_n \delta_n}{\delta_n^3 + q} e^{j\sqrt{C}N\delta_n e - j\delta_n N}, \qquad (1)$$

$$-\frac{2U_0}{I_0} Ci = \sum_1^3 \frac{V_n}{\delta_n^3 + q} e^{j\sqrt{C}N\delta_n e - j\delta_n N},$$

where V, v, i are alternating components of the voltage, velocity and current;

U_o is the accelerating voltage and

I_o is the average beam current;

C is the gain parameter;

q is the space-charge parameter,

η = [illegible],

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N is the number of the wavelengths along the system, and δ_n are the roots of the principal characteristic equation of the tube (Ref. 1).

A travelling-wave tube with a local absorber is as follow: at a distance ℓ_1 (in the plane a) from the origin of the system having a length ℓ and an attenuation d, a section having a length ℓ_2 and attenuation $d_2 > d$ is situated (in plane p). This section introduces an attenuation L (which is to be determined). The planes a and b correspond to the input and output of the absorbing section. The damping in the absorbing section can be distributed in an arbitrary manner. It is assumed that an alternating signal V_o is applied to the input of the system and an expression is derived for its output signal. However, this expression is unsuitable for practical calculations. Consequently, the

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method proposed by the author in an earlier work is employed, whereby the expressions for the alternating components of voltage, current and velocity are as follows:

$$V = (E_2 + qE_0)V_0 + [jpE_2 + E_3 + q(jpE_0 + E_1)]\left(j\frac{u_0}{\eta}Cv_0\right) - \left\{j(qp+1)E_1 + qE_2 + q[j(qp+1)E_{-1} + qE_0]\right\}\left(-\frac{K}{2C}i_0\right), \quad (9)$$

$$j\frac{u_0}{\eta}Cv = E_1V_0 + (jpE_1 + E_2)\left(j\frac{u_0}{\eta}Cv_0\right) - [j(qp+1)E_0 + qE_1]\left(-\frac{K}{2C}i_0\right),$$

$$-\frac{K}{2C}i = E_0V_0 + (jpE_0 + E_2)\left(j\frac{u_0}{\eta}Cv_0\right) - [j(qp+1)E_{-1} + qE_0]\left(-\frac{K}{2C}i_0\right),$$

where $p = b - jd$ and E_i is expressed in terms of the parameters of the tube (b being the parameter of asynchronism).

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Eqs. (9) are equivalent to Eqs. (1). By using Eqs. (9) it is possible to determine the high-frequency voltages at any point of the system for any distribution of the attenuation along the system. The magnitude of the attenuation introduced by the absorber is given by (Ref. 1):

$$L = 54.5CN_2d_2 \quad (\partial 6) \qquad (10)$$

where CN_2 corresponds to the length of the section occupied by the absorber and d_2 is the attenuation of the absorbing section. The calculated values of the gain of the system as a function of its length are illustrated in Fig. 1. Curves 1 and 2 in the figure relate to a tube with $q = 1$, $d = 0.1$ and different values of the parameters of the absorbing section; Curve 1 is for $d_2 = 2$ and $CN_2 = 0.4$.

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while Curve 2 is for $d_2 = 1$ and $CN_2 = 0.5$. Fig. 1 shows also Curves 3 and 4, for which the parameters of the absorber section are the same as for Curve 1 but the values of the tube parameters are different; Curve 3 corresponds to a larger value of the space-charge parameter while Curve 4 represents the effect of an increased loss parameter. By comparing these curves with Curve 1 it is seen that the interaction in the region of the local absorber is solely dependent on the magnitude of the space-charge parameter. The dependence of the gain Γ'' on the length of the absorber section for various tube parameters and various d_2 are shown in two figures. The effect of the position of the absorber section on gain is also investigated and this is shown in one figure. The noise figure of a travelling-wave tube is defined as the ratio of the noise output power to the output

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produced by thermal noise alone. The expression for the noise figure can be conveniently written as:

$$\frac{F_1 - 1}{F - 1} = \frac{P_{Bb1X\,\Phi 1}}{P_{Bb1X\,\Phi}} \frac{K_y}{K_{y1}} \qquad (13)$$

where F is the noise figure, $P_{Bb1X\,\Phi}$ is the output noise and K_y is the gain of the tube; the subscripts 1 in this formula correspond to a tube with a local absorber, while the symbols without these subscripts relate to a tube without the absorber. The values of Eq. (13) were evaluated for a tube with $q = 1$ and $d = 0.2$ for various values of the local attenuation. A typical curve of the noise figure as a function of the position of the local attenuator is shown

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in Fig. 9. The parameters of the attenuator section for this figure were as follows: L = 33 db and $CN_2 = 0.2$.

From the curve it is seen that for a given position of the attenuator the noise factor is a minimum. The author expresses his gratitude to M.B. Tseytlin for discussion and valuable remarks. There are 11 figures and 12 references: 1 Soviet and 11 non-Soviet.

SUBMITTED: January 15, 1960

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Fig. 1:

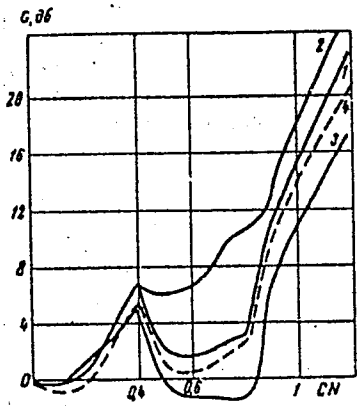

Рис. 1. Зависимость усиления ЛБВ от длины лампы для различных параметров локального затухания (кривые 1 и 2) и для различных параметров лампы (кривые 2, 3 и 4).

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Fig. 9:

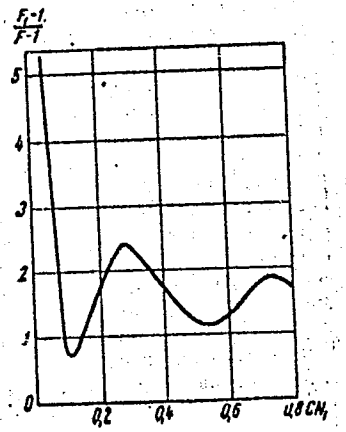

Рис. 9

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GLEBOV-KOTEL'NIKOV, Erik Anatol'yevich; KATS, A.M., red.; POLOSINA, G.V., red.; PRYTKOVA, R.N., tekhn.red.

[Application of accounting-punched card machines for preparing consolidated constructional and technological documentation] Primenenie schetno-perforatsionnykh mashin dlia mekhanizatsii sostavleniia svodnoi konstruktorskoi i tekhnologicheskoi dokumentatsii. Moskva, Gosstatizdat, TsSU SSSR, 1961. 41 p. (MIRA 15:5)

(Machine accounting) (Punched card systems)

S/058/62/000/006/109/136
A062/A101

AUTHORS: Kats, A. M., Anisimov, Ye. V., Sovetov, N. M.

TITLE: Certain dispersion properties of a ribbon helix with a central conductor

PERIODICAL: Referativnyy zhurnal, Fizika, no. 6, 1962, 21, abstract 6Zh142 ("Nauchn. yezhegodnik. Saratovsk. un-t. Fiz. fak. i N.-i. in-t mekhan. i fiz., 1955", Saratov, 1960, 116 - 119)

TEXT: The dispersion equation of a ribbon helix with a central conductor is derived and analyzed. The values of the system parameters, for which the effect of the central conductor is particularly strong, are determined; the appearance of anomalous dispersion regions is noted.

S. A.

[Abstracter's note: Complete translation]

Card 1/1

BAKHTIAROV, R.A.(Moskva); KATS, A.M.(Moskva)

Effect of alloy composition and the rate of cooling on the distribution of shrinkage cavities in castings. Izv. AN SSSR.Otd.tekh.nauk. Met. i topl. no.5:102-109 S-O'62, (MIRA 15:10)
(Nonferrous alloys—Analysis) (Metal castings—Defects)

Pharmaceutical

SHIMANKO, A.I., kandidat farmatsevticheskikh nauk; KATS, A.N., provizor

Mechanized process for preparing some drugs. Apt.delo 5 no.3: 46-48 My-Je '56. (MLRA 9:8)

First Aid

1. Iz Nauchno-issledovatel'skoy aptechnoy stantsii (NIAS) Moskovskogo gorodskogo otdeleniya Glavnogo aptechnogo upravleniya RSFSR.
(DRUG INDUSTRY)

KATS, A.M.

Dynamics of the distribution and excretion of the radioactive hydrochloride of the diethylaminoethyl S-ester of diphenylacetic acid labeled by sulfur[with summary in English]. Biul.eksp. biol. i med. 46 no.10:61-65 O '58 (MIRA 11:11)

1. Iz biokhimicheskoy laboratorii (zav. - prof. V.I. Rozengart) Vsesoyuznogo nauchno-issledovatel'skogo sanitarno-khimicheskogo instituta (dir. - doktor meditsinskikh nauk S.N. Golikov), Leningrad. Predstavlena deystvitel'nym chlenom AMN SSSR S.V. Anichkovym.
(MUSCLE RELAXANTS, metab.
diethylthioacetic acid 2-diethyl aminoethyl ester (Rus))

SHIMANKO, A.I., kand.farmatsevticheskikh nauk; KATS, A.M., provizor

Mechanization of the process of preparing some medicinal compounds. Report No.2. Apt.delo 8 no.5:51-53 S-O '59. (MIRA 13:1)

1. Iz Nauchno-issledovatel'skoy aptechnoy stantsii (NIAS) Moskovskogo gorodskogo otdeleniya Glavnogo aptechnogo upravleniya RSFSR.
(TABLETS (MEDICINE))

KATS, A. M., Cand Med Sci -- "Comparative description of the central cholinolytic action of diazyl and its thioanalogue and study of their dynamics in the organism." Len, 1960 (Min of Health RSFSR. Len Sanitary Hygienic Med Inst). (KL, 1-61, 208)

YARANTSEVA, Ye.P.; KATS, A.M.; IONAS, V.M.

Rationalization of the work of Moscow drugstore employees. Apt. delo 9 no. 4:56-60 Jl-Ag '60. (MIRA 13:8)

1. Nauchno-issledovatel'skaya aptechnaya stantsiya Moskovskogo gorodskogo aptechnogo upravleniya.
(MOSCOW--DRUGSTORES) (WORK, METHOD OF)

YARANTSEVA, Ye.P.; KATS, A.M.

Mechanization and rationalization of work at the Moscow pharmacies. Apt. delo 13 no.1:58-63 Ja-F '64. (MIRA 17:4)

1. Nauchno-issledovatel'skaya aptechnaya stantsiya Moskovskogo gorodskogo aptechnogo upravleniya.

IBAN'YES, F.F.; LIBERMAN, V.B.; BUNINA, T.S.; KATS, A.M., red.; BYCHKOVA, G.I., red.

[Experience in the operation of the EV80-3 electronic computer for calculating planning norms in serial production] Opyt primeneniia elektronnogo vychislitelia EV80-3 dlia normativno-planovykh raschetov v seriinom proizvodstve. Moskva, Statistika, 1964. 86 p. (MIRA 18:4)

SARIN, Mikhail Il'ich; STUL'PINAS, Mechislav Iozo; YAKOBSON, Lyuis Solomonovich; KATS, A.M., red.; MIRZOYEVA, V.M., red.

[Use of the PI8C 45 result perforator] Primenenie itogovogo perforatora PI80/45. Moskva, Statistika, 1965. 62 p. (MIRA 18:9)

MURZA, F.M.; KATS, A.M.

Accelerated method for the filtering of concentrates. Apt. delo 14 no.1:70-72 Ja-F '65. (MIRA 18:10)

1. Nauchno-issledovatel'skaya aptechnaya stantsiya Moskovskogo gorodskogo aptechnogo upravleniya.

LOPATIN, P.V.; KATS, A.M.; YARANTSEVA, Ye.P.; FEDOROVA, T.M.; GORSKAYA, L.V.

Experimental study of the disinfection of prescriptions and paper by means of ultraviolet irradiation. Apt. delo 14 no.6:60-64 N-D '65. (MIRA 18:12)

1. Farmatsevticheskiy fakul'tet I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova; Nauchno-issledovatel'skaya aptechnaya stantsiya Moskovskogo gorodskogo aptekoupravleniya i Sanitarno-epidemiologicheskaya stantsiya Moskvy.

PARKHOMENKO, G.I.; YARANTSEVA, Ye.P.; KATS, A.M.; Prinimala uchastiye CHERTKOVA, A.N.

Prescriptions at the drugstores of Moscow. Apt. delo 14 no. 4: 58-61 Jl-Ag '65 (MIRA 19:1)

1. Moskovskoye gorodskoye aptechnoye upravleniye. 2. Nauchno-issledovatel'skaya aptechnaya stantsiya Moskovskogo gorodskogo aptechnogo upravleniya (for Chertkova).

UR

ACC NR: AM5009854 BOOK EXPLOITATION

Tseytlin, Mikhail Borisovich; Kats, Al'bert Markovich

Traveling-wave tube; problems of theory and calculation (Lampa s begushchey volnoy; voprosy teorii i rascheta) Moscow, Izd-vo "Sovetskoye radio," 1964. 0310 p. illus., biblio. Errata slip inserted. 10,200 copies printed.

TOPIC TAGS: traveling wave tube, traveling wave interaction, helical spring, calculation, approximation calculation, ELECTRON FLOW

PURPOSE AND COVERAGE: This book develops the theory of traveling-wave tubes by incorporating the newest concepts of Soviet and other scientists. It is concerned primarily with electron flow and traveling wave interaction at high-value amplification factors as applied to medium- and high-power tubes. The text also includes a detailed study of the effect of a local absorber and of reflections from matching devices on traveling-wave tube characteristics, and an analysis of traveling-wave tube performance at ultimate levels of signal input. It also contains methods for calculating the basic parameters of helix-type traveling-wave tubes. The book is based on previous research carried out by the authors in collaboration with Ye.M. Il'ina, I.A. Man'kin, B.L. Usherovich, and V.S. Michkasov. It is intended for engineers and scientific workers in superhigh-frequency electronics, as well as for teachers and students at higher institutions of learning. The authors thank A.S. Tager and Yu.N. Pchel'nikov for their constructive criticism of the manuscript.

UDC: 621.385.633

Card 1/2

ACC NR: AM5009854

TABLE OF CONTENTS [abridged]:

SUB CODE: 09/ SUBM DATE: 29Aug64/ ORIG REF: 043/ OTH REF: 056

Card 2/2

BAKHTIAROV, R.A. (Moskva); KATZ, A.M. (Moskva)

Phase distribution in the solid-liquid region of castings.
Izv. AN SSSR Met. i gor. delo no.2:117-123 Mr-Ap'64
(MIRA 17:8)

KATS, A.

20750. Kats, A. Elektrodugovaya svarka tonkoy listovoy stali. Avtomobil', 1949, No 6, s. 11-13.

SO: LETOPIS ZHURNAL STATEY - Vol. 28, Moskva, 1949

KATS, A. M. Cand Tech Sci -- (diss) "~~The~~ Study of certain methods of repair~~ing~~ automobile hood parts." Mos, 1955. 19 pp 21 cm. (Min of Culture USSR. Mos ~~Motor-Shore~~ Motor Vehicle and Road Inst im V. M. Molotov). 100 copies. (KL, 22-57, 105).

KATS, A., inzhener.

Body maintenance for passenger cars. Avt. transp. 34 no.6: 18-19 Je '56. (MLRA 9:9)

(Automobiles--Bodies)

KATS, A., SOKOLIN, S.

Repairing the body of M-20 automobiles in VARZ plants. Avt. transp. 34 no.7:23-25 Jl '56. (MLRA 9:10)

(Automobiles--Bodies)

KATS, ANATOLIY MOISEYEVICH

KATS, Anatoliy Moiseyevich, kand.tekhn.nauk; GROZOVSKIY, T.S., red.; KOGAN, F.L., tekhn.red.

[Repair of automobile bodies] Remont avtomobil'nykh kuzovov. Izd.3-e, dop.i perer. Moskva, Nauchno-tekhn.izd-vo avtotransp.lit-ry, 1957. 367 p. (MIRA 11:1)
(Automobiles--Bodies--Maintenance and repair)

KATS, A., kand. tekhn. nauk

Repairing automobile bodies. Avt. transp. 36 no. 7:55-57 Jl '58.
(MIRA 11:8)

(Automobiles--Bodies--Maintenance and repair)

ABELEVICH, L.; KATS, A.

Continuous overhauling of motorbuses. Avt. transp. 36 no.10:56-57 O '58. (MIRA 13:1)
(Motorbuses--Maintenance and repair)

KATS, Anatoliy Moiseyevich; ETMANOV, S.Ya., red.; DONSKAYA, G.D., tekhn.red.

[Manual for painters in automotive transportation units] Posobie maliaru avtokhoziaistva. Moskva, Nauchno-tekhn.izd-vo M-va avtomobil'nogo transp. i shosseinykh dorog RSFSR, 1959. 69 p. (MIRA 12:12)

(Automobiles--Painting)

KATS, A., kand. tekhn. nauk

Straightening cab surfaces and the paneling of motortrucks.
Avt. transp. 37 no.2:29-31 F '59. (MIRA 13:1)
(Motortrucks--Bodies--Maintenance and repair)

KATS, A., kand. tekhn. nauk; SARATOVKIN, Ye., inzh.

Complete dismantling of motorbus bodies during repairing.
Avt. transp. 37 no.9:20-22 S '59. (MIRA 12:12)
(Motorbuses--Maintenance and repair)

KATS, A., kand.tekhn.nauk

Using epoxy resins in repairing defects in motor vehicle bodies and body parts. Avt.transp. 38 no.8:27-28 Ag '60. (MIRA 13:8)

(Epoxy resins)
(Motor vehicles--Maintenance and repairs)

KATS, Anatoliy Moiseyevich; TOLKACHEV, S.S., red.; BODANOVA, A.P., tekhn. red.

[Repair of motor-vehicle bodies] Remont avtomobil'nykh kuzovov. Izd.4., perer. i dop. Moskva, Avtotransizdat, 1962. 346 p. (MIRA 15:7)

(Motor vehicles—Bodies)

TSEYTLIN, Mikhail Borisovich; KATS, Al'bert Markovich; MASHAROVA, V.G., red.

[Traveling-wave tube; problems of theory and design] Lampa s begushchei volnoi; voprosy teorii i rascheta. Moskva, Sovetskoe radio, 1964. 310 p. (MIRA 17:12)

KOZIN, A.I.; TRUNOV, A.F.; SOVENKO, P.S.; YEGOROVA, Ye.I.; AKATNOV, I.N.; KOLUSHEV, V.I.; PANASENKO, L.I.; KATS, A.R.; AKSENOV, T.Ye.; LYUBIN, S.G.; SOSNER, S.Ye.; RYABININ, M.M.; MEL'NIKOV, P.N.; KLYUSHINA, L.T.; KUTUZOVA, M.G.; GOLOVNYA, V.S.; IVANOV, A.F.; SINEV, I.I.

I.A. Danilov; obituary. Muk.-elev. prom. 26 no. 12:26 D '60. (MIRA 13:12)

(Danilov, Ivan Aleksandrovich, d. 1960)

KATZ, A. B.

343 Ekonomika I Planirovaniye V Kuznechnom Tsekhe. Pod-Red. P. V. Kamneva. L., 1954. 32s. 20sm. (Vsesoyuz. O-vo Po Rasprostraneniyu Polit. I Nauch. Znaniy Leningr. Dom Nauch-Tekhn. Propagandy. Kom. Kuzngtsov I Shtampovshchikov LONIYOMash. B-chka Kuznetsa-Novatora. Vyp. 13). 6,250 Ekz. 70 K.-(54-55423)

621:73:653

SO: Knizhnaya, Letopis, Vol. 1, 1955

KATS, A.S., kandidat ekonomicheskikh nauk, dotsent.

Normative basis for the business accounting system of iron foundries.
Trudy LIEI no.8:93-106 '54. (MLRA 9:9)
(Iron founding) (Productivity accounting)

KATS, A.S., kandidat ekonomicheskikh nauk, dotsent.

Setting up norm bases for the technological preparation of production. Trudy LIEI no.10:80-101 '55. (MLRA 9:8)
(Industrial Management) (Work measurement)

KATS, A.S., kandidat ekonomicheskikh nauk, dotsent.

Aspects of standardizing and planning construction and technological projects. Trudy LIBI no.14:84-101 '57. (MLRA 10:7)
(Industrial management)

KATS, A.S.

BORISHANSKIY, Valentin Vladimirovich, inzh.; GOL'DENBERG, Yefim Ionovich, inzh.; KATS, A.S., dotsent, kand.ekon.nauk, retsenzent; POGODIN, B.A., inzh., red.; LEYKINA, T.L., red.izd-va; DLUGOKANSKAYA, Ye.A., tekhn.red.

[Organization of technical preparation of production in a machinery plant] Organizatsiia tekhnologicheskoi podgotovki proizvodstva na mashinostroitel'nom predpriiatii. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 81 p. (MIRA 13:1)
(Machinery industry) (Factory management)

ALEKSEYENKO, Vladimir Iosifovich; KOLESNIKOV, Vladimir Nikitich; SAFRAY, Boris Aleksandrovich; KHROMOVA, Nina Sergeyevna; PAVLOV, S.A., prof., nauchnyy red.; KATS, A.S., inzh., nauchnyy red.; GUSEVA, A.I., red.; BATYREVA, G.G., tekhn. red.

[Design and planning of new and reorganized factories for artificial (rubber-type) leather] Proektirovanie novykh i rekonstruiruemykh predpriiatii iskusstvennoi kozhi (tipa reziny). Moskva, Izd-vo nauchno-tekhn.lit-ry RSFSR, 1961. 102 p. (MIRA 15:3)

(Rubber goods industry)

KATS, A.S.

137-58-3-5086

Translation from: Referativnyy zhurnal, Metallurgiya, 1958 Nr 3, p 89 (USSR)

AUTHOR: Kats, A. S.

TITLE: Better Planning Methods and an Improved System for Establishing Production Indices for Forging Shops (Puti uluchsheniya planirovaniya i sistemy tekhniko-ekonomicheskikh pokazateley kuznechnykh tsekhov)

PERIODICAL: V sb.: Kuznechno-shtampovochn. proiz-vo. Leningrad, Lenizdat, 1957, pp 126-135

ABSTRACT: A defectiveness in forging production indices (tonnage and output figures for sound product) is pointed out, asserting that the true results of shop operation are distorted by the labor consumption data for the manufacture of forgings (F), by the net cost of F's, as well as by other indices which are established with reference to an average ton of F's, generalized as to weight and manufacturing complexity. It is recommended that the planning and appraisal of the volume of production be carried out in terms of various conventional units, such as the weight values of F's having equivalent labor consumption indices; this system is most suitable for the forging shop. In

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Better Planning Methods and an Improved (cont.)

this method labor-consumption relationships between one-ton batches of F's of different technological and design characteristics are converted into equivalent weight relationships. A table was compiled showing the weights of drop-hammer F's of equivalent labor consumption indices. The three classes of F's are subdivided into nine groups according to the complexity of their manufacture.

P.S.

KATS, A. S.

PHASE I BOOK EXPLOITATION SOV/2166

25(5)

Opyt ratsionalizatsii kuznechnogo proizvodstva; k 250-letiyu Leningrada (Experience in Improving Forge Work; On the 250th Anniversary of Leningrad) [Leningrad] Lenizdat, 1957. 194 p. 5,000 copies printed.

Ed. (Title page): P.V. Kamnev; Ed. (Inside book): Ye. V. Yemel'yanova; Tech. Ed.: N.I. Rodchenko

PURPOSE: The collection of articles is intended for workers and engineers in forge shops and also for designers of machinery in related branches of machine manufacturing.

COVERAGE: The book describes the experience gained at several Leningrad plants in the rationalization of manufacturing processes, modernization of equipment, and improvement in the economics and planning of forging production. Tables and drawings accompany every article. No personalities are mentioned. There are no references.

TABLE OF CONTENTS:

AVAILABLE: Library of Congress (TS 225.K336)

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10-18-59

Card 3/3

BANGE, Boris Ottovich; VASIL'YEV, Garviil Tarasovich; KAMNEV, Petr Vladimirovich, dotsent, kand.tekhn.nauk; KATS, Azariy Samoylovich, dotsent, kand.ekonom.nauk; DANILOV, S.P., inzh., retsenzent; LEYKINA, T.L., red.izd-va; VARKOVETSKAYA, A.I., red.izd-va; SPERANSKAYA, O.V., tekhn.red.

[General information for forging-machine and punch operators] Obshchie svedeniia dlia kuznetsov. Pod red. P.V.Kamneva. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1958. 114 p. (Bibliotechka kuznetsa-novatora, np.1) (MIRA 12:3)
(Forging)

KLIMOV, A.N.

25(5) PHASE I BOOK EXPLOITATION SOV/1392

Leningrad. Inzhenerno-ekonomicheskiy institut

Organizatsiya i planirovaniye ravnomernoy raboty mashinostroitel'nykh predpriyatiy; Mashvuzovskoye soveshchaniye. Doklady (Organization and Planning of Uniform Work in Machine-building Enterprises; Conference of Vuzes. Reports) Moscow, Mashgiz, 1958. 456 p. (Series: Its: Trudy, vyp.22) 4,000 copies printed.

Eds.: S.A. Volkov, and K.G. Tatevosov.; Tech. Ed.: L.V. Sokolova; Managing Ed. for Literature on Machine-building Technology (Mashgiz): Ye.P. Naumov, Engineer.

PURPOSE: This collection of articles is intended for engineering and technical personnel in machine-building establishments, and for scientific workers and students of institutes and departments of engineering and economics.

COVERAGE: This collection of articles contains reports by workers from vuzes, scientific research institutes, and industrial establishments presented at the conference of vuzes on the subject: "Organization and Planning of Uniform Operations in Machine-building Establishments." These reports discuss general problems encountered in organization, analysis, and theory of uniform production, as well as problems in schedule planning, technical preparation, and production specialization.

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KATS, A.S.

Measuring the output and metal consumption in forging shops. Kuz.-shtam.-proizv. 1 no.6:38-40 Je '59. (MIRA 12:9)
(Forging)

KATS, A. Ya.

Device for measuring temperature caused deformations during freezing. Sbor. dokl. po gidr. VNIIG no.4:254-258 '62. (MIRA 18:7)

KATS, A. Ye.

Kats, A. Ye. "The complex processing of wood in small enterprises" (On A. M. Fel'dshteyn's article "The low-capacity hydrolysis plant", in the journal Gidroliz. prom-st' SSSR, 1948, No. 4), Gidroliz. prom-st' SSSR, 1948, No. 6, p. 28.

So: U-3261, 10 April 53, (Letopis 'Zhurnal 'nykh Statey, No. 12, 1949).

KATS, A.Ye.; MERKIN, I.Kh.; BASKIN, V.Ya.

Belt sander with a wide belt. Der.prom. 8 no.12:19-21 D '59. (MIRA 13:5)

1. Giprodrevprom.
(Sanding machines)

KORSHUNOV, I.V.; KATS, A.Ya.

Effect of well spacing on the economic efficiency of the development of oil and gas fields. Neft.khoz. 43 no.4:19-25 Ap '65. (MIRA 18:4)

L 21407-66 EWT(l)/EWA(h)

ACC NR: AP6009837 SOURCE CODE: UR/0413/66/000/004/0030/0031

INVENTOR: Kats, A. Ye.; Yakovlev, A. D.

ORG: none

TITLE: Transistor threshold device. Class 21, No. 178857

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 4, 1966, 30-31

TOPIC TAGS: transistorized circuit, threshold circuit

ABSTRACT: The threshold circuit shown in Fig. 1 consists of a blocking generator and an electronic switch. Higher sensitivity, stability, and input impedance are

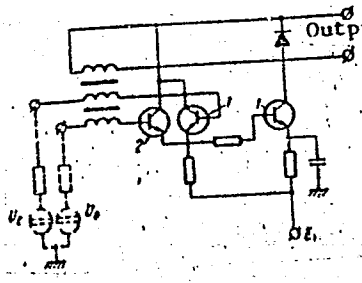

Fig. 1. Threshold circuit

1 - Differential amplifier;
2 - blocking generator.

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ACC NR: AP6009837

obtained by utilizing a differential amplifier as the electronic switch in the blocking generator feedback loop. Orig. art. has: 1 figure. [BD]

SUB CODE: 09/ SUBM DATE: 02Apr65/ ATD PRESS: 4221

Card 2/2 ULR

1. KATZ, A. Z.

2. USSR (600)

"Propagation of Short-Period Vibrations in the Ground in the Presence of Obstruction." Trudy seysmologicheskogo institute, No. 127, 1948 (112-135).

9. Meteorologiya i Gidrologiya, No. 3, 1949. [redacted] Report U-2551. 30 Oct 52.

PUCHKOV, S.V.; KATS, A.Z.

Instrumental seismic division of subsoil into small regions. Trudy Geofiz. inst. no.30:208-216 '55. (MIRA 9:6)
(Seismology)

USSR/Physics of the Earth - Seismology, O-3

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 36367

Author: Kats, A. Z.

Institution: None

Title: Concerning the Problem of Accounting for the Ground Conditions During Seismic Micro-Regionalization

Original Periodical: Tr. Geofiz. in-ta AN SSSR, 1955, No 30, 217-225

Abstract: A study is made of the effect of microgeological conditions (layer of sedimentary depositions of variable thickness, lying above the granite massive) on the intensity of seismic vibrations in earthquakes. Calculations with the aid of the theory of plane waves show that the fundamental portion of the energy is transferred into the layer in the form of a refracted longitudinal wave (the energy of which is from 90% to 76% of the energy of the incident wave as the angle of incidence changes from 0 to 70°). Consequently, the effect of microgeological conditions can be estimated

Card 1/2

USSR/Physics of the Earth - Seismology, 0-3

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 36364

Abstract: from the amplitudes of the refracted wave. The intensity of the seismic vibrations due to the microgeological conditions cannot increase by more than a factor of 2.

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KATS, A.Z.; PUCHKOV, S.V.

Action of seismic waves on structures. Trudy Geofiz. inst. no.30: 226-239 '55. (MIRA 9:6)
(Earthquakes and building)

KATZ, A. Z.

60-36-5/10

AUTHOR: Katz, A. Z.

TITLE: Measurement of Dynamic Deformations in Ground and Structures (O metodike izmereniya dinamicheskikh deformatsiy v gruntakh i sooruzheniyakh)

PERIODICAL: Trudy Geofizicheskogo instituta, AN SSSR, 1956, Nr 36, pp. 48-61 (USSR)

ABSTRACT: The author discusses the measurement of deformations in ground and structures covering the following items: the character of the deformations, requirements for instruments for measuring deformations, the evaluation of reaction forces, and the development of tensometers. He describes the determination of the frequency of a tensometer's self-vibrations, laboratory tests of tensometers, the computations used, platform calibrations of tensometers, and the recording of residual deformations. There are 9 figures, 1 table, and 6 references, of which 5 are Russian and 1 American.

AVAILABLE: Library of Congress

Card 1/1

SOV/169-59-5-4464

Translation from: Referativnyy zhurnal, Geofizika, 1959, Nr 5, p 27 (USSR)

AUTHORS: Dzhabua, Sh.A., Kats, A.Z., Safaryan, A.N., Tskhakaya, A.D., Churayan, A.L.

TITLE: The Earthquake of Krasnaya Polyana of December 21 - 27, 1955, and Its Aftereffects

PERIODICAL: Byul. Soveta po seysmol. AS USSR, 1958, Nr 5, pp 3 - 34

ABSTRACT: In January - February 1956, the authors of the article in question led the study of the aftereffects of two earthquakes which took place in December 21 - 27, 1955. The expedition inspected 18 populated localities, among them Krasnaya Polyana, Adler, Sochi, Gagra, Khosta, Matsesta. The results of the inspection of damaged buildings and structures in the various localities are cited and an evaluation of intensity of the earth-quake is given. On the basis of the instrumental records of the seismic stations and the facts obtained by macroseismic observations, the epicenter zone of the earthquake of December 21 - 27, 1955, occurred in the region of Krasnaya Polyana. The

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SOV/169-59-5-4464

The Earthquake of Krasnaya Polyana of December 21 - 27, 1955, and Its After-effects

power of the earthquake in the epicenter is seven marks. With increasing distance from the epicenter, the power rapidly decreases that testifies the shallow location of the focus. The macroseismic region of the earthquake extends from Gagra to Lazarevskaya along the seacoast and to Kurdzhinovo in the Southern Caucasus. The macroseismic radius amounts to 65 - 75 km when assuming as epicenter Krasnaya Polyana. The influence of the characteristics of the ground and of the relief on the force of shock is studied and brief information is given on the geology and on the seismostatistics of the region.

N.A. Vvedenskaya

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SOV/169-59-6-5643

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Translation from: Referativnyy zhurnal, Geofizika, 1959, Nr 6, p 28 (USSR)

AUTHOR: Kats, A.Z.

TITLE: Some Results of Seismometric Investigations Into the Krasnaya Polyana Earthquake Zone in Connection With the Seismic Micro-Zoning

PERIODICAL: Byul. Soveta po seysmol. AN SSSR, 1958, Nr 5, pp 35 - 54

ABSTRACT: The influence of the soil conditions on the seismic effect is discussed on the basis of instrumental investigations in the Krasnaya Polyana earthquake zone. The differences in the intensity of vibrations in solid rocks, in clay-bearing soils and pebble deposits was determined according to data of five seismic stations. It was established that the ratio of the vibration amplitudes in clay-bearing soils and pebble deposits to the amplitude in solid rocks depends on the wave period and has resonance character. This ratio is equal to 2.75 - 1.5 in the resonance region for periods of 0.15 - 0.2 sec. For longer periods it is close to 1. The laws obtained are in good agreement with the

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SOV/169-59-6-5643

Some Results of Seismometric Investigations Into the Krasnaya Polyana

theory. Theory and results of instrumental observations show that a differentiation of soils in seismic respect may be impossible in many cases when determining the seismic intensity only by the displacements and the corresponding accelerations. The author concludes that it is necessary to consider the value of the soil deformation, which is caused by the propagation of seismic waves. It is established that the deformation increase connected with a change in the soil conditions proceeds more rapidly than the increase of vibration amplitudes and that it has a still more sharply pronounced resonance character. In the resonance region the deformation increase factor amounts to 12.

G.A. Lyamzina

Card 2/2

KATS, A.Z.

Some problems concerning methods used in establishing seismic microregions. Trudy Inst.fiz.zem. no.5:20-59 '59.
(MIRA 13:6)

(Seismology)

KATS, A. Z.

"Measurements of Dynamic Strains in Grounds and Constructions."

report submitted for the Second World Conference on Earthquake Engineering, Tokyo and Kyoto, Japan, 11-18 July 1960.

KATS, A.Z.
6.2, 3

PHASE I BOOK EXPLOITATION SOV/5334

Akademiya nauk SSSR. Institut fiziki Zemli

Voprosy inzhenernoy seysmologii, vyp. 3 (Problems in Engineering Seismology, No. 3) Moscow, 1960. 191 p. 1,700 copies printed. (Series: Its: Trudy, no. 10 (177)

Resp. Eds.: S.V. Medvedev, Doctor of Technical Sciences, and A.Z. Kats, Candidate of Physics and Mathematics; Ed. of Publishing House: L.K. Nikolayeva; Tech. Ed.: P.S. Kashina.

PURPOSE: This book is intended for seismologists, and engineers concerned with the construction of earthquake-resistant buildings.

COVERAGE: This is a collection of 15 articles by different authors on problems of engineering seismology. Individual articles discuss the effects of quakes on various structures; seismic activity in the Sochi-Khosta, Krasnaya Polyana, and Pokrovsk-Ural'skiy regions; and ground vibrations during strong earthquakes. One article discusses the effect of the detonation of 3100 tons of explosives on buildings located 1000 m away. No personalities are mentioned. Each article is accompanied by references.

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Problems in Engineering Seismology, No. 3 SOV/5334

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AVAILABLE: Library of Congress

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JA/dwm/mas
6-28-61

31762
S/519/60/000/008/006/031
D051/D113

12 5100
3,9300

AUTHOR: Kats, A.Z.

TITLE: On the physical principles of the method of seismic microzoning

SOURCE: Akademiya nauk SSSR. Sovet po seysmologii. Byulleten', no. 8, Moscow, 1960. Voprosy seysmicheskogo rayonirovaniya, 73-79

TEXT: The author proves that, in evaluating the properties of ground for seismic microzoning purposes, it is necessary to take the resonance character of the surficial vibrations into account. On the basis of his own experiments, he obtained data which permitted determining the resonance curves of vibration amplitudes. The theoretical aspect of the problem was simplified by the fact that, according to recent research, seismic waves propagating from the substratum of a layer towards the Earth's surface, when falling on the lower boundary of the layer, transmit the basic part of their energy in the form of the energy of analogous refracted waves. This means that the surficial displacement is the result of multiple reflections from the free surface and the lower boundary of the layer. In this case the expression

Card 1/4

On the physical principles of...

$$w = k_1 \frac{1 - k_0 e^{n - i\frac{4\pi}{T} n\tau}}{1 - k_0 e^{-i\frac{4\pi}{T}\tau}} e^{i\frac{2\pi}{T}(t-\tau)} \qquad (1)$$

holds for a moving wave during the time interval when the vibration amplitudes increase. The author uses only the effective part of the expression, in which k_1 is the refraction coefficient for the passage of the wave from the substratum to the upper layer, k_0 - the reflection coefficient of the wave on its incidence on the lower layer boundary, $\tau = \frac{H}{a}$ - the time of propagation of the wave from the lower layer boundary to the free surface. The expression for the resonance amplitude is thus derived, and can be used for determining the surficial displacement as follows:

Card 2/4

On the physical principles of...

$$w = k_1 \frac{1 - k_0^n}{1 + |k_0|} \quad . \qquad (7)$$

In order to obtain data on the relative change in the intensity of vibrations during their passage from bedrocks (sandstone) to loose deposits (coarse gravel and loam), the author conducted experiments, which showed that for layers, whose thickness is small compared to the length of the wave, the resonance maximum tends to very short periods and the vibrations on the layer surface do not essentially differ from those on the surface of the bedrocks. For very thick layers, both the basic maximum and the maxima corresponding to shorter periods are important. Dynamic ground deformation must be taken into account, if the vibration amplitudes of various types of ground are identical and do not differ from those on the surface of the bedrocks. S.V. Medvedev is mentioned for his studies on the relationship between changing seismic intensity and ground characteristics; D.P. Kirnos and S.V. Puchkov - for having helped establish a direct association between the intensity of seismic vibrations on the surface with the properties of the upper ground layer. There are 4 figures, 2 tables, and 7 references: 6 Soviet and 1 non-Soviet-bloc. The reference to the English language publication

Card 3/4