

MYACH, L.T.

Statistical characteristics and objective analysis of the  
humidity and temperature fields at the earth's surface.  
Trudy MTS no.7:34-43 '65. (MIRA 18:7)

MYACH, T.T., inzh.; SAMOYLOV, I.G., inzh.

Study of the chemical treatment of manganese middlings.  
Gor. zhur. no.10:56-58 0 '63. (MIRA 16:11)

1. Mekhanobrohermet, Krivoy Rog.

L 8180-66 EWT(d)/EWT(m)/EWP(w)/EPF(c)/EWP(l)/T/EWP(k)/ETC(m) HW/EM/RM  
ACC NR: AP5027591 SOURCE CODE: UR/0145/65/000/009/0022/0030

AUTHOR: <sup>44.55</sup>Myachenkov, V. I. (Aspirant); <sup>44.55</sup>Osadchiy, Ya. G. (Aspirant)

ORG: None

TITLE: Energy method for calculation of round three-ply laminates with a filler <sup>38</sup>  
<sup>15.44.5</sup>

SOURCE: IVUZ. Mashinostroyeniye, no. 9, 1965, 22-30

TOPIC TAGS: laminated material, mathematic analysis

ABSTRACT: The article expounds a new method for calculation of round three-ply unsymmetrical laminates beyond the elastic limit. The method permits calculating unreinforced laminates, as well as laminates reinforced with annular supports. The problem is solved in the region of small elastic-plastic deformations. The material of the laminates is assumed to be incompressible and the loading to be simple. It is assumed that the deflection of the laminate,  $W$ , receives an infinitely small increment,  $\delta W$ . In this case, the variational equation for the equilibrium of the laminate is written in the form:

$$\delta L - \delta V, \tag{1}$$

where  $\delta V$  is the change in the deformation energy of the laminate;  $\delta L$

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UDC: 621.6073

L 8180-66

ACC NR: AP5027591

is the work expended by the external forces on the displacement  $\delta w$  and the work of the peripheral generalized forces on the corresponding variations of the generalized displacements. In the case of attached or free bearing of the edges of the laminate:

$$\delta L = \iint_F p \delta w dF, \quad (2)$$

where the integration is extended over the whole surface of the laminate,  $F$ . The variation of the work of the internal forces for an incompressible material is equal to

$$\delta V = \iiint_V \sigma_i \delta \epsilon_i d\Omega, \quad (3)$$

where the integration extends over the whole volume of the laminate. Thus, the equilibrium equation (1) can be written in the form:

$$\iiint_V \sigma_i \delta \epsilon_i d\Omega = \iint_F p \delta w dF. \quad (4)$$

The article proceeds to a complete mathematical solution of the problem on the above basis, and concludes with an example in the form of a numerical calculation for a construction of this type. Orig. art. has: 27 formulas and 4 figures.

SUB CODE: MT, MM/ SUBM DATE: 13Nov64/ ORIG REF: 002/ OTH REF: 000

Card 2/2

L 27983-66 EWP(w) EM/JE

ACC NR: AP6017674

SOURCE CODE: UR/0198/65/001/007/0063/0066

AUTHOR: Myachenkov, V. I. (Moscow); Osadchiy, Ya. G. (Moscow)

22  
B

ORG: none

TITLE: Approximation method of calculating circular three-layer plates

SOURCE: Prikladnaya mekhanika, v. 1, no. 7, 1965, 63-66

26

TOPIC TAGS: approximation, differential equation, flat plate

ABSTRACT: The article offers an approximate calculation of circular three-layer plates beyond the elastic limit, based on the use of the energy method for the solution of differential equations of equilibrium of a plate. The notations used are those of V. I. Feodos'yev in his work 'Prochnost' teponapryazhennykh uzlov zhidkostnykh raketnykh dvigateley' (Strength of thermally stressed liquid rocket engine assemblies), State Scientific-Technical Publishing House of Defense Literature, 1963. Orig. art. has: 5 figures and 12 formulas. [JPRS]

SUB CODE: 12, 13 / SUBM DATE: 04Oct64

Card 1/1 CC

2

MYACHEVA, P. P.

Dentition

Periods and sequence of primary dentition. Stomatologia, no. 2, 1952

Monthly List of Russian Accessions, Library of Congress, October 1952. UNCLASSIFIED.

*MYACHEVA, P. P.*

Name: MYACHEVA, P. P.

Dissertation: A roentgenological study of the development of lower teeth and lower jaws among embryos, fetuses, and children up to six years old

Degree: Cand Med Sci

*Depended at*

~~Affiliation~~: State Sci Res Inst of Roentgenology and Radiology imeni V. M. Molotov

*Publication*

~~Issue~~ Date, Place: 1956, Moscow

Source: Knizhnaya Letopis', No 47, 1956

MYACHEVA, P.P.

X-ray study of the formation of the sixth lower tooth. Stomatologiya  
36 no.1:21-27 Ja-F '57. (MIRA 11:1)

1. Iz rentgenodiagnosticheskogo otdelan (zav. - prof. I.A.Shekhter)  
Gosudarstvennogo nauchno-issledovatel'skogo instituta rentgenologii  
i radiologii imeni V.M.Molotova (dir. I.G.Legunova, nauchnyy ruko-  
voditel' - doktor meditsinskikh nauk V.G.Ginzburg)  
(X RAYS IN DENTISTRY) (DENTITION)



MYACHI, Martin, brigadir-polevod; EVERT, Nikolay; PIKLA, Yan [Pikla, Jaan]

Collective management of a state farm. Sov. profsoiuzy 18  
no.6:5-6 Mr '62. (MIRA 15:3)

1. Chleny postoyannogo soveshchaniya sovkhoza "Kodila", Estoniya  
(for Evert, Pikla).  
(Estonia--State farms--Management) (Works councils)

MYACHIKOV, B.V.

Organization of center for treating angiomas in children with carbon dioxide snow in regional hospitals. *Pediatrics* 39 no.6:69-71 N-D '56.

(MLRA 10:2)

1. In Kupavinskoy bol'nitsy Noginskogo rayona Moskovskoy oblasti (zav. raysdravotdelom V.P.Komardina, glavnyy vrach P.P.Berezovskiy)  
(ANGIOMA, in infant and child,  
ther., carbon dioxide snow (Rus))  
(GOLD, therapeutic use,  
carbon dioxide snow in angiomas in child. (Rus))

MYACHIKOV, L.

Let's give more attention to work organization. Sov. torg. 36  
no.4:25-27 Ap '63. (MIRA 16:5)  
(Retail trade)

LEVIN, A.G.; MYACHIKOV, V.D.

Reduction of the precipitation layer over the area around a mobile  
rain center. Sbor. rab. po gidrol. no.1:48-55 '59.

(MIRA 15:2)

1. Severo-Vostochnoye geologicheskoye upravleniye.  
(Precipitation (Meteorology)—Measurement)

LEVIN, A. G. ; MYACHIKOV, V. D.

Distribution of precipitation by winds in the atmosphere. Trudy  
GGO no.88:3-15 '60. (MIRA 13:8)  
(Precipitation (Meteorology))  
(Winds)

MYACHIKOV, V.D.

Solar eclipse in Simferopol'. Meteor.i gidrol. no.7:36 JI '61.  
(MIRA 14:6)

(Crimea--Eclipses, Solar-1961)

MYACHIKOV, V.I., inzh.; LUGOVAYA, N.D., inzh.

Selecting an efficient scale for topographic maps during the  
exploitation of deposits. [Trudy] VNIMI no.47:333-341 '62  
(MIRA 1962)

MYACHIN, Ivan Kirillovich; SMUGLYY, S.I., red.

[Moscow; a concise guidebook] Moskva, kratkii putevoditel',  
Izd.4. dop. Moskva, Mysl', 1964. 286 p. (MIRA 17:12)



MYACHIN, Ivan Kirillovich; SMUGLYI, S.I., red.; KONOVALYUK, I.K., mladshiy red.; KOSHELEVA, S.M., tekhn.red.; MAL'CHEVSKIY, G.N., red. kart.

[Moscow; concise guidebook] Moskva; kratkii putevoditel'. Izd.3., dop. Moskva, Gos. izd-vo geogr. lit-ry, 1961. 174 p. 1 fold. map. (MIRA 14:9)

(Moscow--Guidebooks)

NESTERENKO, V.V., gornyy inzh.; MYACHIN, S.D., gornyy inzh.

Drift mining at a speed of 421.8 m. per month. Gor. zhur. no.12:  
20-22 D '60. (MIRA 13:12)

1. Treat Dzerzhinskuda, Krivoy Rog.  
(Mining engineering)

MYACHIN, V., starshiy inzhener

Automatic control of the cathodic protection of ships. Mor. flot  
21 no. 6:23-24 Je '61. (MIRA 14:6)

1. Tsentral'nyy nauchno-issledovatel'skiy institut morskogo flota.  
(Hulls(Naval architecture)--Corrosion)  
(Cathodic protection)  
(Automatic control)

MYACHIN, V.A.

Preparation of dry fruit jellies by means of the "Pioner" sieving machine. Konz.i ov.prom. 15 no.8:20-21 Ag '60. (MIRA 13:8)

1. Lipetskaya oblastnaya proyektynaya kontora.  
(Trubetchino--Jelly)

20-114-3-8/60

AUTHOR: Myachin, V. F.

TITLE: On Systems of Two Briot and Bouquet Equations (O sistemakh dvukh uravneniy Briot i Buke)

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol. 114, Nr 3, pp. 479-482 (USSR)

ABSTRACT: The author here examines the system of the two differential equations (generally speaking in the complex domain)

$$x dy_s / dx = p_{s1} y_1 + p_{s2} y_2 + F_s(y_1, y_2, x) \quad (s = 1, 2) \quad (1).$$

In this connection the  $p_{sj}$  signify constants and the  $F_s$  holomorphic functions of all their arguments in the surroundings of the point  $x = y_1 = y_2 = 0$ , which disappear in this point together with their partial first order derivatives to  $y_1$  and  $y_2$ . Furthermore the initial conditions (2)  $y_s \rightarrow 0$  at  $x \rightarrow 0$  ( $s = 1, 2$ ) are assumed. In this connection  $x^s$  may tend towards 0 in a way that  $\arg x$  remains limited. The following problems are raised in the present paper:

1) The structure of the solutions of system (1) which satisfy the conditions (2) in the surroundings of the point  $x = 0$  are

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20-114-3-8/60

## On Systems of Two Briot-and Bouquet Equations

to be studied. In this connection all logically possible cases are to be examined which are determined by the properties of the roots of equation (3)

$$\begin{vmatrix} p_{11} - \lambda & p_{12} \\ p_{21} & p_{22} - \lambda \end{vmatrix} = 0$$

2) Those conditions are to be determined under which holomorphic solutions exist in the doubtful cases. 3) When in system (1) the functions  $F_s(y_1, y_2, x)$  together with their first order derivatives to  $y_1, y_2$  disappear in point  $x = y_1 = y_2 = 0$ , this system under any assumptions on the roots of equation (3) has a family of solutions with the property  $y_1 \rightarrow 0, y_2 \rightarrow 0$ . On a certain curve L on which the argument  $x$  remains finite,  $x \rightarrow 0$  must still apply. This family contains one or two arbitrary constants according to the fact whether one or both roots of equation (3) have positive real parts. According to the properties of these roots the family of the solutions may be represented by one of the series given in this paper. These series uniformly converge at any small

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20-114-3-8/60

On Systems of Two Briot and Bouquet Equations

values of  $|x|$  and at any values of the arbitrary constants. The various possible cases are enumerated. There are 3 references, 1 of which is Soviet, 1 French and 1 English.

ASSOCIATION: Institute of Theoretical Astronomy AS USSR (Institut teoreticheskoy astronomii Akademii nauk SSSR)

PRESENTED: November 12, 1956, by V. I. Smirnov, Member of the Academy

SUBMITTED: October 30, 1956

Card 3/3

AUTHOR: ~~BYACHIN, V. F.~~

43-7-10/18

TITLE: On the System of Two Equations of Briot and Bouquet (O sisteme dvukh uravneniy Briot i Bouquet)

PERIODICAL: Vestnik Leningradskogo Universiteta, Seriya Matematiki, Mekhaniki i Astronomii, 1958, Nr 7 (2), pp 88-102 (USSR)

ABSTRACT: The author considers the system of equations

$$(1) \quad x \frac{dy_s}{dx} = p_{s1}y_1 + p_{s2}y_2 + F_s(y_1, y_2, x), \quad s=1,2,$$

where  $p_{sj}$  are constant and  $F_s$  are holomorphic in the neighborhood of  $x = y_1 = y_2 = 0$ , where  $F_s, \frac{\partial F_s}{\partial y_1}, \frac{\partial F_s}{\partial y_2}$  vanish in the zero point.

The author investigates solutions for which  $y_s \rightarrow 0$  as  $x \rightarrow 0$ , where especially the case is considered when the roots  $\lambda_1, \lambda_2$  of the equation

$$(2) \quad \begin{vmatrix} p_{11} - \lambda & p_{12} \\ p_{21} & p_{22} - \lambda \end{vmatrix} = 0$$

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are positive integral and satisfy the conditions



On the System of Two Equations of Briot and Bouquet

43-7-10/18

$$\alpha + \alpha_1 \lambda_1 + \alpha_2 \lambda_2 = \lambda_j \quad (j=1,2)$$

or when  $\lambda_1 = \lambda_2$ . Further the author asks for conditions for the existence of holomorphic solutions. The author's method corresponds in essential to the method of Picard.

The most essential result: For arbitrary roots of (2), (1) has solutions with the property  $y_s \rightarrow 0$  if  $x$  tends to zero on a

curve  $L$ , where  $\arg x$  remains finite. The solutions contain one or two arbitrary constants depending on the fact if one or both roots  $\lambda$  have positive real parts.

1 Soviet and 2 foreign references are quoted.

SUBMITTED: 27 September 1957

AVAILABLE: Library of Congress

Card 2/2 1. Integrals 2. Differential calculus

SOV/35-59-9-6930

Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1959, Nr 9, p 9 (USSR)

AUTHOR: Myachin, V.F.

TITLE: On the Evaluation of the Numerical Integration Error in Equations of Celestial Mechanics

PERIODICAL: Byul. In-ta teor. astron. AS USSR, 1959, Vol 7, Nr 4, pp 257 - 280  
(Engl. résumé)

ABSTRACT: The question is examined of evaluating the error which accumulates in numerical integration of differential equations on account of errors in the initial data, the discarding of terms of higher orders in interpolated formulae, and rounding errors. The mathematical formulation of the problem is borrowed from S.M. Lozinskiy, who has given a linear approximation to the solution of the problem with the aid of evaluations of the solutions of equations in variations. However, having in mind the applications of celestial mechanics, the author adapts the exposition to quadrature methods (on the example of Cowell's method) and in contrast to Lozinskiy, examines the rounding error from the probability point of view. A general formula was obtained giving the probability that the error from rounding

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SOV/35-59-9-6930

On the Evaluation of the Numerical Integration Error in Equations of Celestial Mechanics

does not exceed a certain definite value, dependent on the extension of the interval of integration, the number of steps, and solutions of equations in variations, as well as the probability that this magnitude exceeds the real error by not more than  $\eta$  times, where  $\eta$  is any given number. The theory is used for unperturbed motion. In particular, formulae are derived for elliptic and circular motions, corresponding qualitatively with Brower's well-known result, (the error at the  $k$  step is respectively proportional to  $k^{3/2}$  and  $k^{1/2}$ , but with the coefficient of proportionality different from Brower's coefficient).

G.A. Merman



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28 (1)

AUTHOR:

Myachin, V. F.

S/119/60/000/02/006/015  
B014/B014

TITLE:

Elastic Coupling of Driving Mechanisms<sup>1</sup> in Automatic Machines<sup>4</sup>

PERIODICAL:

Priborostroyeniye, 1960, Nr 2, pp 15 - 16 (USSR)

ABSTRACT:

Automatic machines are frequently provided with micromotors combined with various mechanisms. In some cases elastic couplings in the form of spiral springs are used, which have many advantages. The moment of inertia is low, and elastic and smooth operation is guaranteed. An instruction is given for the calculation of such springs, in which the moment of inertia of the micromotor is neglected in setting up the equation of motion of the system (Fig 1). Finally, the author discusses the solution of this inhomogeneous differential equation in detail and presents a formula for the stiffness of the spring. There is 1 figure.



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MYACHIN, V.F., inzh.

Automatic operation of an electric tackle. Mekh.i avtom.proizv.  
14 no.6:42-43 Je '60. (MIRA 13:7)  
(Hoisting machinery)

MYACHIN, V. F.

S/511/61/008/002/003/004  
B163/B186AUTHOR: Myachin, V. F.

TITLE: A criterion for a change of step width in the numerical integration of the equations of celestial mechanics using Runge's generalized method

SOURCE: Akademiya nauk SSSR. Institut teoreticheskoy astronomii. Byulleten'. v. 8, no. 2(95), 1961, 134 - 152

TEXT: Runge's method of computing the solutions of a differential equation of the type  $d^2x/dt^2 = f(t,x)$  is generalized by introducing the possibility of doubling or halving the step width  $h$  at each step. Whether this is done or not is decided in each step after an estimation of the remaining term of order  $h^5$  in the fourth-order system of equations. This remainder is expressed as a linear combination of values of the function  $f(t,x)$  at some auxiliary points which have to be computed in any case during the integration process. Such linear combination can be formed by utilizing the results of the given step and two preceding steps. It is further shown that this method can be extended to the case where only 3 auxiliary points

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A criterion for a change of ...

S/511/61/008/002/003/004  
B163/B186

are used, and the remainder is of the order  $h^6$ .

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MAKAROV, V.A.; MYACHIN, V.F.

Transistorized measuring equipment for marine automatic control systems of the electrochemical protection against corrosion.  
Inform. sbor. TSNIIMF no.64. Tekh. ekspl. mor. flota no.9:54-63  
'61. (MIRA 16:6)  
(Hulls (Naval architecture)--Corrosion)  
(Cathodic protection)  
(Automatic control)



MYACHIN, V.F.; CHEBOTAREV, G.A., otv.red., prof.; GOL'SHTEYN, G.A.,  
red.izd-va; SOROKINA, V.A., tekhn.red.

[Estimating the error of numerical methods for the integration of  
equations of celestial mechanics] Otsenka pogreshnosti chislennykh  
metodov integrirvaniia uravnenii nebesnoi mekhaniki, Moskva, 1962.  
537-639 p. (Akademiia nauk SSSR. Institut teoreticheskoi astronomii.  
Biulleten', vol.8, no.8). (MIRA 17:3)

MYACHIN, V.F.

Automatic control of the cathodic protection against the corrosion  
of the underwater part of the hull of the motorship "Svanetiia."  
Inform. sbor. TSNIIIMF no.94 Tekh. ekspl. mor.flota no.21:61-76  
'63. (MIRA 17:4)

MYACHIN, V.F.

A strict evaluation of the error of Störmer's method. Pt.1.  
Biul. Inst. teor. astron. 9 no.10:668-706 '64. (MIRA 17:12)

MYACHIN, V.F.

A rigorous estimate of the error in Störmer's method. Part 2.  
Bul. Inst. teor. astron. 10 no.3:204-229 '65.

(MIRA 18:8)

L 02417--67 EWT(m)/T/EWP(t)/ETI IJP(o) DS/JD/WB/JXT(CZ)

ACC NR: AT6014880

(N)

SOURCE CODE: UR/2752/65/000/077/0049/0066

AUTHOR: Myachin, V. F.

ORG: ~~SECRET~~

38  
BT1

TITLE: The electrochemical link as a controlled object in a cathode protection system

SOURCE: Leningrad. Tsentral'nyy nauchno-issledovatel'skiy institut morskogo flota.  
Trudy, no. 77, 1965. Avtomatizatsiya i vychislitel'naya tekhnika na morskoy flote  
(Automation and computer engineering in the Merchant Marine), 49-66

TOPIC TAGS: electroerosion, corrosion protection, *ELECTROCHEMISTRY*, *SHIP-BUILDING ENGINEERING*

ABSTRACT: The article discusses the methods and results of investigating the electrochemical link in systems for the cathodic protection of ship's hulls against corrosion. The author empirically determines the nonlinear dynamic characteristics of this link and calculates its static characteristics as a controlled object. A system for controlling cathodic protection typically consists of: an electrochemical link (to be controlled) formed by the ship's hull and anodes; a direct-current power source; a transducer of the controlled quantity (comparison electrode); measuring, starting, controlling, and commutating devices. He reduces the control problem to the approximate solution of complex operator-type equations and Laplace-type partial differential

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UDC: 620.197.5-53

L 02417-67

ACC NR: AT6014880

equations with distributed parameters, which describe the potential distribution and displacement strength over the underwater surface of the ship's hull. Boundary and other conditions (e. g., static and dynamic data, respectively computed and experimental) are found to satisfy requirements of constant potential or certain limiting inequalities. Solutions are found for various systems of cathodic protection. The author concludes that the electrochemical link can be considered some times as an aperiodic first-order link and other times as a complex integrating circuit with lag, which is unstable in a certain sense (e. g., steadily increasing values of the variables). Orig. art. has: 7 figures.

SUB CODE: 07,13/

SUBM DATE: none/

ORIG REF: 013/

OTH REF: 003

hs

Card 2/2

S/145/62/000/002/001/009  
D259/3308

26.2120  
AUTHOR: Myachin, V.Ye., Assistant

TITLE: A theoretical method of determining the dynamic unbalance of rotors

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Mashinostroyeniye. Vestnik, no. 2, 1962, 5 - 13

TEXT: The author considers the possibility of eliminating the complicated searching systems in determining the unbalance, and finds that this can be done if oscillatory motion of the rotor is used, its maximum amplitude being of the order of a few degrees. The equations of motion of an unbalanced rotor are formulated and solved in the first approximation with respect to  $\varphi_{max}$ . Expressions are deduced for determining the quantities of metal to be removed from the rotor in order to balance the system, as well as places from which these must be removed. The practical method of determining the unbalance is as follows: The vibrations of the supports  $\bar{s}_1, \bar{s}_2, \bar{r}_1, \bar{r}_2$  due to the unbalance are transformed into electric oscillations, amp-  
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A theoretical method of determining ... S/145/62/000/002/001/009  
D259/D308

lified and added geometrically; the weights which would balance the rotor and their angular coordinates can be obtained directly. A diagram of the installation developed for this purpose is given; experimental tests are stated to confirm the theory. There are 6 figures.

ASSOCIATION: Penzenskiy politekhnicheskii institut (Polytechnical Institute, Penza) 10

SUBMITTED: February 2, 1961

Card 2/2



L 8527-65 HQ-2/INT(d)/RSS-2/SEC(1)-2/INT(y)/INT-2/INT(1) P-5/P-4/P-3

**TOPIC TAGS:** aircraft instrumentation, gyroscope, gyro instrument, gyro rotor, rotor balancing, dynamic balancing

**ABSTRACT:** Dynamic balancing consists of determining the magnitude and location of the imbalance and then eliminating or controlling it while a rotor is rotating. These two problems are solved separately at different stages. The author solves the first problem by changing the rotary motion of the rotor into angular oscillatory motion about its axis where the maximum angular deviation is on the order of a few degrees. The angular location of the imbalance as well as its magnitude are determined by the same transducers. The schematic diagram of the proposed method is shown in Fig. 1 of the Enclosure. The

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ACCESSION NR: AT4046035

method can be briefly described as follows: The imbalanced rotor rests on two supports I and II suspended on springs of given stiffness  $h_1$  and  $h_2$ , directed along two coordinate axes. The rotor is set into oscillatory motion by one of three methods discussed in the paper. The problem now is to determine the amounts of metal which must be added or removed from the surface of the rotor, and their location, in order to balance it. The mechanical oscillations of the supports, caused by the imbalance, are measured by means of transducers (e.g., piezoelectric transducers); the angular displacements of the investigated rotor  $\alpha_1$  and  $\alpha_2$  are measured by means of ratiometers. The sensitivity of the method is determined on an example of a symmetrical rotor whose imbalance is due only to the displacement of its mass center from the axis of rotation,  $r$ . In this particular example, the voltage appearing at the terminals of the transducer is 0.015 v when the amplitude of angular rotation of the rotor ( $\psi_{\max}$ ) is 0.1,  $r = 0.001$  mm. The paper shows two schematic diagrams of two versions of the method for the determination of a dynamic imbalance, one using the projection of the oscillations of the supports, which are proportional to the magnitude of the imbalance, and the other using only the oscillations of the supports. Schematics of the electrical circuits used with the two versions

are shown. An experimental model of the first version has shown the practicality of the

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ACCESSION NR: AT4046035

method. For a rotor weighing 200 g the imbalance sensitivity obtained was 1 g·mm per division of the indicator scale. The accuracy in the determination of the angular position of the imbalance was  $\pm 3^\circ$ . The main advantages of the method are: 1) The location and magnitude of the imbalance are both determined by the same transducers. 2) High accuracy in determining the location of the imbalance. 3) Simplicity of the method (it is only required to put on and then take off the tested rotor and to take readings giving the magnitude and the location of the imbalance directly from instruments. 4) High measurement capacity. 5) Use of this method in conjunction with electric spark machining to remove the imbalance opens new possibilities for effective automation of the balancing of rotors. Orig. art. has: 27 formulas and 9 figures.

ASSOCIATION: Moskovskiy aviatsionnyy tekhnologicheskiy institut (Moscow Institute of Aviation Technology)

SUBMITTED: 00

ENCL: 01

SUB CODE: NG

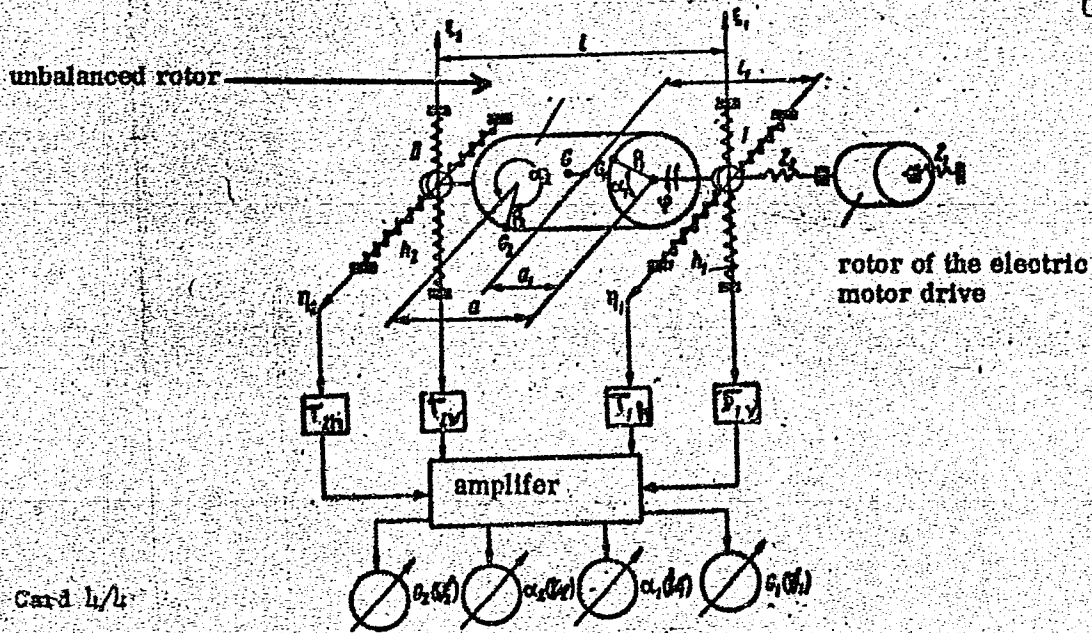
NO REF SOV: 000

OTHER: 000

ACCESSION NR: AT4046036  
L 8527-65

ENCLOSURE: 01

0



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Fig. 1. Schematic diagram of the system for determining the imbalance of rotors.  
 $T_{1v}$ ,  $T_{2v}$ ,  $T_{1h}$  &  $T_{2h}$  - vertical and horizontal transducers of electrical oscillations;  $V_1$  &  $V_2$  - voltmeters indicating the magnitude of the imbalance;  $L_1$  &  $L_2$  - logometers indicating the angular position of the imbalance.

Grain, L. I.

1971-1972

Dissertation: "Comparative-anatomical investigations of the brain in the dog."

20 February 49

Moscow Veterinary Academy

**SO Vecheryaya Moskva**  
**Sum 71**

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MOISEYEV, A.A.; TOPUNOV, A.M.; MYACHIN, Ye.V.

Use of steam-gas power plants on ships. Trudy LKI no.38:127-  
195 '62. (MIRA 16:7)

1. Kafedra sudovykh parovykh i gazovykh turbin Leningradskogo  
korablestroitel'nogo instituta.  
(Marine engineering)

ACCESSION NR: AP4006173

S/0229/63/000/012/0029/0032

AUTHOR: Topunov, A. M. (Candidate of technical sciences); Myachin, Ye. V. (Engineer)

TITLE: Problem of using a difference method for analyzing turbine stage performance under variable regimes

SOURCE: Sudostroyeniye, no. 12, 1963, 29-32

TOPIC TAGS: turbine performance, difference method, turbine, turbine stage, finite difference method, relaxation method, gas turbine, gas turbine unit, gas turbine performance

ABSTRACT: The authors make use of the difference methods of A. Ya. Cherkez /Primeneniye Metoda Maly\*kh Otkloneniy v Teorii i Raschete Aviatsionny\*kh TRD (Applications of the Method of Small Deviations in the Theory of and Calculations for Aviation Turbojet Engines) Oborongiz, 1955/, which they apply to the analysis of the working of single- and multi-stage gas turbines in different regimes. The parameters considered in describing the regime are pressure and temperature fore and aft of the turbine stage, consumption of working fluid and rotational speed of the turbine. Universal characteristic curves are presented which show the pressure drops and efficiencies for a two-stage turbine against axes labeled

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ACCESSION NR: AP4006173

$G\sqrt{T_0} / p_0^*$  and  $n/\sqrt{T_0}$ , where  $G$  is the weight consumption of working substance,  $T$  the temperature,  $p$  the pressure and  $n$  the turbine revolutions. It is stated that an extension of difference techniques to turbines in supercritical regimes and in special constructions (such as a bi-rotating turbine) is in progress.

ASSOCIATION: none

SUBMITTED: 00

SUB CODE: PR

DATE ACQ: 07Jan64

NO REF SOV: 005

ENCL: 00

OTHER: 000

2/2

Card



L 36280-65 EWT(d)/EWT(m)/EWP(w)/EWP(f)/EWP(y)/EPR/T-2/EWP(k)/EPA(bb)-2/  
ACCESSION NR: AP5008226 EWA(c) Pf-4 EM S/0286/65/000/005/0095/0095

AUTHORS: Kurzon, A. G.; Topunov, A. M.; Myachin, Ye. V.

30  
B

TITLE: Axial reversible turbine. Class 46, No. 168961

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 5, 1965, 95

TOPIC TAGS: turbine engine, turbine blade, turbine nozzle, gas turbine

ABSTRACT: This Author Certificate presents an axial reversible turbine, such as a gas turbine, containing a nozzle apparatus with rotary blades, working gratings for the forward and reverse operation, and a reversing mechanism (see Fig. 1 on the Enclosure). To utilize the nozzle apparatus in reversing the action and to simplify the reversing mechanism, the angular range for the blade rotation in the nozzle apparatus is increased to 180° and the working gratings are provided with a connecting device, such as a friction hinge, connecting them during the reverse operation. To provide the 180° rotation angle for the nozzle blades, the outer and inner yokes are made spherical or polygonal, with their common center on the turbine shaft. Orig. art. has: 1 figure.

ASSOCIATION: none  
Card 1/1

L 46175-66 ENT(m)/EMP(w)/EMP(f)/EMP(v)/T-2/EMP(k) IJR(c) NW/EM  
ACC NR: AP6021934 (N) SOURCE CODE: UR/0143/66/000/003/0062/0068

AUTHOR: Moiseyev, A. A. (Doctor of technical sciences, Professor); 57  
Topunov, A. M. (Candidate of technical sciences); Shnitser, G. Ya. 6  
(Engineer); Myschin, Ye. V. (Engineer); Kulesh, Yu. N. (Engineer)

ORG: Leningrad Shipbuilding Institute (Leningradskiy korablestroitel'nyy institut)

TITLE: Effect of the form of the bounding surfaces of the flow through section on the working process of a turbine stage

SOURCE: IVUZ. Energetika, no. 3, 1966, 62-68

TOPIC TAGS: hydrodynamic theory, turbine stage, turbine design

ABSTRACT: One of the main factors determining the end losses in a turbine is the amount of overlap between stages. The present article gives the results of an investigation of the effect of the overlap at the point of the blades on the overall characteristics and on the structure of the three dimensional flow in the stages of a marine turbine. Experiments were carried out with various geometries of the system; the results are shown in tabular and graphic form. In general, the following conclusions were drawn: 1) the positive overlap before

UDC: 621.165

Card 1/2

L 46175-66

ACC NR: AP6021934

the turbine jet unit and the gap between the overlap and the entry edges of the blades have a rather strong effect on the efficiency and other overall characteristics of the turbine stages. It is shown that losses due to overlap can exceed losses due to sudden expansion of the flow; 2) the fact that the observed effect of positive overlap was greater than in previous investigations is attributed to the presence of a conical outer bounding surface and to the absence of twist in the working blades; 3) the effect of the overlap and of the gap increases with an increase in the relative length of the blades; 4) the discharge coefficient decreases with an increase in the overlap and a decrease in the gap; this is explained by an increase of the losses in the jet nozzle unit; 5) a change in the axial gap has practically no effect on the nature of the effect of the overlap. Orig. art. has: 5 figures and 1 table.

SUB CODE: 13,20 / SUBM DATE: 01Jul65/ ORIG REF: 003

Card 2/2 mt

ACC NR: AP6032582 (N) SOURCE CODE: UR/0143/66/000/009/0054/0063

AUTHOR: Myachin, Ye. V. (Engineer); Topunov, A. M. (Candidate of technical sciences; Docent)

ORG: Leningrad Ship Building Institute  
(Leningradskiy korablestroitel'nyy institut)

TITLE: The problem of investigating turbine stage performance under variable regimes and supersonic exit velocities

SOURCE: IVUZ.. Energetika, no. 9, 1966, 54-63

TOPIC TAGS: turbine design, turbine stage ~~performance~~, single stage turbine, turbine performance analysis, difference method, difference equation, supersonic flow, subsonic flow

ABSTRACT: A difference method is proposed for the analysis of turbine stage performance under variable regimes and at supersonic flow exit velocities. The method, based on the use of gasdynamic functions (reduced flow rate and reduced velocity), consists in: 1) setting up difference equations taking into account the possible expansion of a working medium in an oblique lattice cross section, and 2) classification and analysis of various flow cases and the establishment of their characteristics. The use of the method is illustrated by applying it

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UDC: 621.165.

ACC NR: AP6032582

to the calculation of a single stage turbine. The method makes it possible to determine the stage parameters for turbines with subsonic and supersonic flow exit velocities under regimes different from the design regimes. Orig. art. has: 15 formulas, 2 figures, and 2 tables.

SUB CODE: 21/ SUBM DATE: 19Apr65/ ORIG REF: 005/ OTH REF: 001

[WA-76]

Card 2/2

MYACHINA, A.I.

Some data on the vegetation and climate of the lower Cretaceous period in the Amur-Zeya depression. Vop.geog.Dal'.Vost. no.3:116-119 '57.

(MIRA 10:12)

(Amur Valley--Geology, Stratigraphic)  
(Zeya Valley--Geology, Stratigraphic)

MYACHINA, A.I.

Boundary between Tertiary and Quaternary sediments in the Amur-  
Zeya Depression. *Sov. geol.* 2 no.11:131-134 N '59. (MIRA 13:5)  
(Amur Valley--Geology, Stratigraphic)  
(Zeya Valley--Geology, Stratigraphic)

DRUZHININA, A.V.; RYSAKOV, M.V.; GOL'DSHEYN, D.L.; NIKOLAYEVA, V.G.;  
MACHINA, M.S.; ROGOV, S.P.

Production low pour-point motor and industrial oils from different  
crudes by means of hydrogenation and carbamide dewaxing methods.  
Trudy VNII NP no.7:166-180 '58. (MIRA 12:10)  
(Petroleum--Refining) (Lubrication and lubricants)



S/081/62/000/006/088/117  
B167/B101

11-9700

AUTHORS: Druzhinina, A. V., Tarmanyán, G. S., Myachina, M. S.,  
Morozova, I. V.

TITLE: Alkyl phenol additives from formaldehyde condensation

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 6, 1962, 541-542,  
abstract 6M262 (Sb. "Prisadki k maslam i toplivam". M.,  
Gostoptekhizdat, 1961, 20-26)

TEXT: A description is given of the synthesis of the additives Vnii NP-370, Vnii NP-371, and Vnii NP-372, which are the oil concentrates (50% in spindle oil No. 2) of the Ca, Ba, and Li salt, respectively, of the condensation product of alkyl phenol with  $\text{CH}_2\text{O}$ . The phenol is alkylated with polymer distillate in the presence of phenol sulfonic acid as a catalyst, which is previously prepared by treating phenol with  $\text{H}_2\text{SO}_4$  (8% of the combined amount of phenol and polymer distillate). The additive Vnii NP-371 (viscosity 17-80 centistokes/ $100^\circ\text{C}$ ) contains 7-9% of Ba. Prolonged treatment with  $\text{Ba}(\text{OH})_2 \cdot 8\text{H}_2\text{O}$  at  $145^\circ\text{C}$  doubles the Ba  
Card 1/2

X

Alkyl phenol additives from ...

S/081/62/000/006/088/117  
B167/B101

content without significantly altering the viscosity. The additive Vnii NP-370 contains 2-2.5% of Ca, which increases to 3-3.5% if the additive is prepared by treating alkyl phenol simultaneously with CH<sub>2</sub>O (as a 37% aqueous solution) and CaO in the presence of a promoter. The effect of the alkyl phenol:CH<sub>2</sub>O ratio and of some other conditions on the quality of the additive Vnii NP-370 is also investigated. [Abstracter's note: Complete translation.]

X

Card 2/2

ACCESSION NR: AT4045963

S/2996/64/000/054/0362/0367

AUTHOR: Drukovanyy, M. F. (Candidate of technical sciences); Komir, V. M. Engineer, (Litvin, L. N. (Engineer), Myachina, N. I. (Engineer)

TITLE: The effect of the air gap in the charge on the speed with which the stemming is blown from the shaft and the time characteristics of the blast impulse

SOURCE: Nauchno-tekhnicheskoye gornoye obshchestvo. Vzryvnoye delo, no. 54/11, 1964. Upravleniye deystviyem vzryva (Control of blasting operations), 362-367

TOPIC TAGS: blasting, mine blasting, air gap, stemming, blast impulse, explosion efficiency

ABSTRACT: The authors have conducted a series of experiments to measure the pressure of the gases on the stemming and the speed with which the explosion products escape from the shaft. In the present article, they report on the results of two of the more characteristic experimental blasts set off at the Dokuchayevskiy flyuso-dolomitnyy kombinat (Dokuchayev Flux-Dolomite Combine) for the purpose of studying the effect of air gaps on the above-mentioned factors. For this purpose, a steel tumbler, 220 mm in diameter and 300 mm in height, was placed in the shaft on an explosive charge; located within the casing of the tumbler there were sensors for the measurement of pressure. Attached to the tumbler was a 1.5-inch tube, 5-7 meters in length, inside of which wire leads were run from the sensors to an N-700 Card 1/2

1  
ACCESSION NR: AT4045963

oscilloscope. The shaft section above the steel tumbler was filled in with sandy-clay stemming. The part of the tubing which protruded above the shaft was alternately colored black and white in order to facilitate observations of it during the blast. The assumption was that, during the explosion, the tumbler would block the gases in the shaft with sufficient efficiency, with the movement of the tumbler and tube serving to characterize the process of stemming blow-out. The flight of the tube was recorded by means of an SKS-1m high-speed motion-picture camera. Further details and mathematical considerations are given in the article. The authors found that the speed with which the stemming leaves the shaft depends, to a considerable degree, on the size of the air gap, with the length of the gap, in turn, constituting one of the decisive factors which determine the time characteristics of the blast impulse. They also determined that the use of charges with air gaps permits a 15-40% increase in the duration of the blast impulse, thus making possible the attainment of a higher degree of efficiency in the explosion itself. Orig. art. has: 2 tables and 15 formulas.

ASSOCIATION: Filial instituta mekhaniki AN USSR (Branch Office of the Institute of Mechanics, AN UkrSSR)

SUBMITTED: 00  
Card 2/2

NO REF SOV: 000

ENCL: 00  
OTHER: 000

SUB CODE: WA

DRUKOVANYI, M.F., kand. tekhn. nauk; KOMIR, V.M., inzh.; LITVIN, I.N., inzh.;  
MYACHINA, N.I., inzh.

Effect of the air space in a charge on the ejection speed  
of the stemming out of the hole and temporary characteristics  
of the detonation impulse. Vzryv. delo no.54/11:  
362-367 '64. (MIRA 1964)

1. Filial Instituta mekhaniki AN UkrSSR.

DRUKOVANYI, M.F., kand. tekhn. nauk; KOMIR, V.M., inzh.; MYACHINA, N.I., inzh.

Modeling the rock breaking process under the effect: of blasting.  
Vzryv. delo no.57/14:112-120 '65. (MIRA 18:11)

MYACHINA, G.N.

Dependence of photosynthesis in leaves on consumption of assimilables by the plant. A. A. Gurevich and G. N. Myachina (K.A. Timiryazev Agr. Acad., Moscow). *Fiziol. Rastenii* 3, 323-32 (1956).—Expts. with bean plants indicate the environmental conditions favorable to photosynthesis can be controlled in their effects by the rate of efflux of assimilates from the tissues, i.e. by the rate of consumption of the nutrient substances. Thus, insufficient photosynthesis of some leaves may be compensated by increased activity of others. For this reason fruit by consuming much of the assimilable matter accelerate photosynthetic activity. The expts. were run with  $C^{14}$ -tracers ( $CO_2$ ).

G. M. Kozminoff

*Myachkin, V. I.*  
**USSR/ Geophysics**

**Card** 1/1    **Pub.** 22 - 23/62

**Authors** : Riznichenko, Yu. V., and Myachkin, V. I.

**Title** : The pulse seismic method for studying the mountain pressure

**Periodical** : Dok. AN SSSR 102/3, 507 - 509, May 21, 1955

**Abstract** : The pulse seismic method for observing the gravitational pressures exerted by mountains, which was developed by the authors and their assistants, is described. The method is based on the same principle upon which the ultrasound defect detector operates. Twelve references: 9 USSR, and 3 USA. (1934-1955). Graph.

**Institution** : The Acad. of Sc., USSR, Geophysical Institute

**Presented by**: Academician G. A. Gamburtsev, February 28, 1955



MYACHKIN, V. I.

124-11-13248

Translation from: Referativnyy Zhurnal, Mekhanika, 1957, Nr 11, p 139 (USSR)

AUTHORS: Riznichenko, Yu. V., Silayeva, O. I., Shamina, O. G., Myachkin, V. I.,  
Glukhov, V. A., Vinogradov, S. D.

TITLE: Seismo-Acoustic Methods for the Study of Stress Conditions in  
Mountain Rocks on Samples and In Loco. (Seysmoakusticheskiye  
metody izucheniya napryazhennogo sostoyaniya gornykh porod na  
obraztsakh i v massive.)

PERIODICAL: Tr. Geofiz. in-ta A N SSSR, 1956, Nr 34 (161), pp 74-163

ABSTRACT: The study surveys various methods for the investigation of stress conditions in mountain rocks. Principal attention is directed to the impulse method and the acoustic method. It is indicated that with an increase in pressure the modulus of elasticity grows faster than the density. Therefore, the speed of sound, which is proportional to the square root of the ratio of the modulus of elasticity and the density, increases with increasing pressure; more specifically, the speed of sound is proportional approximately to the one-sixth power of the pressure. It is noted, further, that the formation of cracks, at the

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MYACHKIN, V. I.

AUTHOR: Kirillov, F. A.

49-3-15/16

TITLE: Conference of junior research workers, engineers and aspirants of the Institute of the Physics of the Earth, Ac. Sc., U.S.S.R. (Konferentsiya mladshikh nauchnykh sotrudnikov, inzhenerov i aspirantov Instituta Fiziki Zemli AN SSSR).

PERIODICAL: "Izvestiya Akademii Nauk, Seriya Geofizicheskaya"  
(Bulletin of the Ac. Sc., Geophysics Series), 1957, No.3, pp. 411-415 (U.S.S.R.)

ABSTRACT: The conference was held on December 24-26, 1956, 21 papers were read relating to work completed in 1955 and 1956. In this report the contents of the individual papers are briefly summarised. V. I. Myachkin, read the paper "Study of the Stress State of a Massive Under Mine Working Conditions by Means of Ultrasonics".

RIZNICHENKO, Yu.V. and MYACHKIN, V.I.

**"Investigations into Rock Pressure, The Process  
of Disintegration and the Physico-Mechanical  
Properties of Rocks under Varying Pressure by  
Means of Seismo-acoustic Methods."**

report to be presented at the International Rock Pressure Conference, Paris , France,  
16-20 May 1960.

*Instit. of Physics of Earth, Moscow, Yu. Schmidt*

S/049/60/000/01/007/027  
E201/E191AUTHORS: Myachkin, V.I., and Solov'yeva, R.P.TITLE: "In Situ" Investigation of Short-Distance Propagation  
of Ultrasonic Elastic Waves in Rocks ✓PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya,  
1960, No 1, pp 63-73

TEXT: The experiments were carried out with elastic waves of 50 kc/s frequency at a depth of 300 m in the Kalush potassium mine near Stanislavov. The apparatus consisted of a mining seismoscope OP-55, an ultrasonic seismograph IKL-4 and piezoelectric pickups made of Rochelle salt. The layout of the experiment is shown in Fig 1, some seismograms are given in Figs 2 and 3 and calculations are illustrated in Fig 4 and Table 1. With bases of the order of 0.3-1.0 m the accuracy of determination of the elastic wave velocity was 1-3%. The experiments yielded the following values of the velocities of the direct longitudinal ( $v_p$ ) and Rayleigh ( $v_R$ ) waves in sylvinite:  $v_p = 3500-3700$ ,  $v_R = 1800-1900$  m/sec and in "zuber":  $v_p = 4100$ ,  $v_R = 2100$  m/sec ("zuber" is the local Polish name for brecciform halite, after a Polish geologist ✓)

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S/049/60/000/01/007/027  
E201/E191

"In Situ" Investigation of Short-Distance Propagation of  
Ultrasonic Elastic Waves in Rocks

R. Zuber). These velocities were used to calculate elastic constants of these two rocks (Table 2). The authors determined also the coefficients of quasi-anisotropy. These coefficients are defined as the ratios  $\kappa = v_{\parallel} / v_{\perp}$  where  $v_{\parallel}$  and  $v_{\perp}$  are, respectively, the velocities of longitudinal waves along and at right angles to the direction of stratification. For sylvinite with small amounts of "zuber" the anisotropy coefficient was  $\kappa \approx 1.05-1.07$ ; for sylvinite with large amounts of "zuber"  $\kappa \approx 1.03$ ; and for "zuber" itself  $\kappa \approx 1$ . The results obtained can be used both in engineering and in seismic prospecting. The work was carried out under the direction of Yu.V. Riznichenko, and A.M. Palenov took part in the experiments.

There are 7 figures, 2 tables and 21 references: 10 Soviet, 5 English, 1 Polish, 3 German, 1 French and 1 Italian.

ASSOCIATION: Akademiya nauk SSSR, Institut fiziki zemli (Institute of Physics of the Earth, Acad. Sci. USSR)

SUBMITTED: March 3, 1959

MYACHKIN, V. Ye.<sup>I</sup>; RIZNICHENKO, Yu. V.; PALENOV, A. M.

"Investigation of propagation of ultrasonic surface waves."

Joint paper with Ye. Vanek, K. Klima and Z. Pros, Geophysics Inst, Czech AS presented at Acoustics of Solid Media Conf, Warsaw, 9-10 Oct 64.

Inst of Soil Physics, Moscow.

MYACHKIN, V.I.; KRAVETS, V.V.; SOLOV'YEVA, R.P.

Ultrasonic studies of the physicomechanical properties of iron  
ores and enclosing rocks in the Krivoy Rog Basin. Geofiz. sbor.  
no.7:45-50 '64. (MIRA 17:11)

1. Institut geofiziki AN UkrSSR.

ACC NR: AT6032745

SOURCE CODE: UR/0000/66/000/000/0158/0166

AUTHOR: Vinogradov, S. D.; Myachkin, V. I.

ORG: none

TITLE: Seismoacoustic methods of investigating rock failure and stress state

SOURCE: AN SSSR. Institut fiziki Zemli. Geoakustika; ispol'zovaniye zvuka i ul'trazvuka v seysmologii, seysmorazvedke i gornom dele (Geoacoustics; the use of sound and ultrasound in seismology, seismic prospecting, and mining). Moscow, Izd-vo Nauka, 1966, 158-166

TOPIC TAGS: rock failure, rock stress, seismic wave, ~~propagation~~, acoustic analysis, ~~and disaster~~ earthquake, mining engineering, elastic wave, ultrasonics

ABSTRACT: Developments in seismic and acoustic methods of investigating rock failure and stress in connection with attempts to forecast mine disasters and earthquakes are described. The following achievements have been recorded in using the seismic method: 1) the IPA ultrasonic pulse device has now been put into general use in both laboratory experiments and in the field; 2) a method of ultrasonic parameter measurements of the seismic characteristics of rocks has been worked out; 3) a method of investigating the dependence of the seismic characteris-

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ACC NR: AT6032745

tics of elastic waves on artificially created pressure has been developed; 4) it has been determined that a sharp increase followed by a decrease of elastic wave velocity occurs before rock failure. The acoustic method has yielded the following results: 1) noise and elastic pulse energy observations alone are not adequate in providing all the variable characteristics in the acoustic regime; 2) it has been established that the distribution of the number of pulses with respect to energy obeys a static law that manifests itself when rock failure is independent of the scale of failure. The slope of the  $N(E)$  distribution curve does not have a universal constant value, but depends on the properties of the rock and the rate of deformation. Orig. art. has: 7 figures.

SUB CODE: 08/ SUBM DATE: 28Mar66

Card 2/2

ACC NR: AT6032746

SOURCE CODE: UR/0000/66/000/000/0166/0177

AUTHOR: Kravets, V. V.; Myachkin, V. I.; Solov'yeva, R. P.

ORG: none

TITLE: Ultrasonic pulse investigations in the Krivoy Rog iron mines

SOURCE: AN SSSR. Institut fiziki Zemli. Geoakustika; ispol'zovaniye zvuka i ul'trazvuka v seysmologii, seysmorazvedke i gornom dele (Geoacoustics; the use of sound and ultrasound in seismology, seismic prospecting, and mining). Moscow, Izd-vo Nauka, 1966, 166-177

TOPIC TAGS: ultrasonic logging, acoustic logging, elastic wave propagation, seismic wave propagation, *ultrasonic inspection, elastic wave, seismic instrument*

ABSTRACT: The results of the first attempts by the Institute of Physics of the Earth of the Academy of Sciences USSR and the Institute of Geophysics of the UkrSSR to use the ultrasonic pulse method in iron mines of the Krivoy Rog basin are described. Experiments were conducted to determine the physicomechanical parameters and the ore and the surrounding rock, to establish the dependence of elastic-wave velocity on the pressure in the ore blocks, and to test the method of observing changes in the state of the ore block during operations. The OP-55 mine seismoscope, the IKL-5 device, piezoelectric transducers, and the transport-

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ACC NR: AT6032746

able. IPA device were used in the tests. As a result of the tests, this method of determining elastic wave velocities in ore blocks as well as studying their dependence on external loading was further developed. Data was obtained on elastic-wave velocities in the ores and enclosing rocks, and the nature of velocity change near the walls of excavated surfaces was established. The power distribution characteristics of an explosion in the mine were analyzed. Orig. art. has 10 figures.

SUB CODE: 08~~90~~/ SUBM DATE: 28Mar66/ ORIG REF: 006/ OTH REF: 002

Card 2/2

MYACHKOV, A.

Industrial team. Prom. koop. 12 no.8:3 Ag '58.

(MIRA 11:9)

1. Chlen kompleksnoy brigady, glavnyy inzhener i tekhnoruk  
arteli "Trudodezhda, " Moskva.  
(Clothing industry--Management)

MYACHKOV, Yu.N.

Machinery designs must meet the requirements of safety engineering.  
Put' i put.khoz. 5 no.6:9 Je '61. (MIRA 14:8)

1. Tekhnicheskij inspektor Tsentral'nogo komiteta profsoyuza  
rabochikh zheleznodorozhnogo transporta.  
(Machinery--Safety measures)

MYACHKOV, Yu.N.

Improve the working conditions. Put' i put.khoz. 7 no.12:43  
'63. (MIRA 16:12)

1. Tekhnicheskiy inspektor Tsentral'nogo komiteta professional'nogo  
soyuza rabochikh zheleznodorozhnogo transporta.

MYACHKOVA, A. N.

Dissertation: "The Water Cycle and Drought Resistance of Millet and Wheat in Salty Soil." Cand Biol Sci, Moscow Oblast Pedagogical Inst, 13 May 54. Vechernyaya Moskva, Moscow, 3 May 54.

SO: SUM 284, 26 Nov 1954

S/169/62/006/012/065/093  
D228/5307

AUTHOR:

Iyachkova, N.A.

TITLE:

Microclimate of forested and bare slopes in the mountainous forest steppe of South-west Transbaykal

PERIODICAL:

Referativnyy zhurnal, Geofizika, no.12, 1962, 60-61, abstract 123390 (Vestn. Mosk. un-ta, Geografiya, no. 4, 1962, 54-62)

TEXT:

In order to ascertain the microclimatic conditions favorable for forest growth on northerly slopes, the microclimate of mossy rhododendron foliage and of an area, cleared in 1967 in the same type of forest, was studied in the middle part of the mountainous forest-steppe belt at a height of 1100 m. The following conclusions are drawn as a result of analyzing the microclimatic conditions of bare and forested northerly slopes in the mountainous forest-steppe belt of South-west Transbaykal. Forested northerly slopes with a steepness of 15-20° receive 10-15% less direct solar radiation than a horizontal surface. The canopy of deciduous forest

Card 1/3



Microclimate of forested ...

5/155/62/000/012/005/095  
5223/5307

and undergrowth retains 20-25% of the total radiation coming on to a northerly slope. The moistening of a bare slope by precipitation is greater than is the case with a forested slope since in summer the forest canopy retains 50-35% of the total precipitation. The largest outlay of moisture from the soil as a result of transpiration and evaporation takes place in the first half of summer. Towards the end of summer the increased precipitation in July and August restores the moisture reserve in the soil to depths of more than 20 cm. On a bare slope the soil temperature in the layer 0-20 cm rises during the summer by an average of 2° more than is the case in forest. In spring and at the beginning of summer an open slope will warm up quicker than one in forest. A forest canopy increases the frostless period by almost one month. On an average, forest raises the minimum temperature on the ground surface by 2-3° and lowers the maximum temperature by 5-6°. The air temperature on a bare slope is somewhat higher than in forest. The greatest differences in the diurnal variation of the air temperature are observed at a height of 0.25 m. At a height of 2 m the differences are evened out as a result of the intensification of exchange, and by day

Card 2/3

Microclimate of forested ...

S/169/62/000/012/065/095  
D228/J307

at this level the temperature in forest may even be higher than in a clearing. The air humidity on a bare northerly slope is higher than in the forest. The greater moistening of an open northerly slope by precipitation leads to a greater wetting of surface soil layers, which increases evaporation from the surface. In comparison with a forest slope, any intensification of the radiation and the wind velocity also results in the evaporation and absolute air humidity being increased in a clearing as compared with the forest. By day the relative air humidity, too, is higher in a clearing.

[Abstracter's note: Complete translation]

Card 3/3

MYACHKOVA, N.A.

Temperature, humidity of the upper layer of the soil, and vegetation in the forested steppe mountains of southwestern Transbaikalia. Vest. Mosk. un. Ser. 5: Geog. 18 no.1:34-39  
Ja-F '63. (MIRA 16:5)

1. Kafedra meteorologii i klimatologii Moskovskogo universiteta.  
(Transbaikalia—Soil physics)  
(Transbaikalia—Vegetation and climate)

292.9  
S/120/61/000/004/023/034  
EO32/E514

24.6830

AUTHORS: Perelygin V P. Myachkova S A and Tolstov K D

TITLE: Introduction of beryllium grains into photographic emulsions

PERIODICAL: Pribory i tekhnika eksperimenta 1961 No 4  
pp. 145-147

TEXT: Zh. S. Takibayev (Ref. 3: Zh eksperim i teor fiz. 1953. 24. 229) is said to have been the first to introduce spherical metal grains into photographic emulsions. Quantitative experiments concerned with the determination of cross-sections using non-spherical beryllium grains were described by S. S. Vasil'yev, V. V. Komarov, A. M. Popova (Ref. 4: PTE 1959 No. 1. 48). The dimensions of the grains depend on the minimum range of charged particles which can be recorded in an ordinary emulsion (3  $\mu$  approximately). However, the grains cannot be too small since otherwise there may be confusion as to whether the event takes place in the grain or the emulsion. The present authors have used the spark discharge method of evaporation of metals described by B. R. Lazarenko, N. I. Lazarenko (Ref. 5).

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X

Introduction of beryllium grains

29512  
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EO32/E514

Elektroiskrovaya obrabotka metallov (Electric Spark Treatment of Metals). 1950 Gosenergoizdat) In the case of a spark discharge between two electrodes located in a dielectric it is found that in most cases the metal grains produced during the process are spherical in form. It is stated that the "usual circuit" was employed with  $R = 115 \text{ Ohm}$ ,  $C = 2.8 \text{ } \mu\text{F}$ ,  $V = 110 \text{ V}$ . The average beryllium grain diameter was about  $1.5 \text{ } \mu$ . The volume of the dielectric was 50 to 100 cc and the evaporation process was continued for 60 to 90 min. At first the dielectric employed was absolute alcohol. However, the spark discharge in alcohol leads to the formation of  $\text{BeO}$  and  $\text{Be}(\text{OH})_2$  and complex insoluble compounds. Tests were therefore made to determine whether the grains could be obtained with a spark discharge in liquefied argon. The evaporation was carried out in a dewar having a volume of about 200 cc. The argon was then driven off and the volume was filled with alcohol. In this way it was possible to obtain isolated beryllium grains and the suspension could be kept for long periods of time. In order to introduce the grains into the emulsion, the photographic plates were placed horizontally and the

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Introduction of beryllium grains ... <sup>2962</sup> S/120/61/000/004/023/034  
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suspension was poured on to it. The particles then sedimented down onto the surface and the alcohol was evaporated. The photographic plate was then covered by a wet, unbacked emulsion and the composite emulsion was placed in a 5% solution of glycerine at 15°C for 45 min. The emulsion was then removed from the glass backing and dried with filter paper. The two-layer photo plates were then placed into a water bath at 45-48°C for 3 to 5 min. In this bath the upper layer fused into the lower one and the separation boundary could not be seen through a microscope. The procedure has been successfully used with Ilford E-1, C-2, HMFI (NIKFI Ya-2), T-1 and T-3 emulsions. Fig.2 shows the diameter (I) and mass (II) distributions. N in this figure is the number of grains, M is the weight of the grains in units of  $10^{-9}$  g/cm<sup>2</sup>, and d is the diameter in microns (horizontal axis). The method has been used in nuclear reaction studies with 14 MeV neutrons. Acknowledgments are expressed to G.Ye.Belovitskiy for advice. There are 2 figures and 5 references: all Soviet.

ASSOCIATION: Fizicheskiy institut AN SSSR (Physics Institute AS USSR) ✓

Card 3/4

L 1980-66 ENT(m)/T/EWA(m)-2

ACCESSION NR: AT5018997

UR/2504/65/033/000/0199/0202

AUTHOR: Yefimov, V. N.; Myachkova, S. A. 44, 45

40  
34  
B+1

TITLE: On the phase shifts of elastic n-d scattering 44, 45

SOURCE: AN SSSR. Fizicheskiy institut. Trudy, v. 33, 1965. Issledovaniye atomnogo yadra s pomoshch'yu zaryazhennykh chastits i neytronov (Investigation of the atomic nucleus using charged particles and neutrons); 199-202

TOPIC TAGS: phase shift analysis, neutron polarization, neutron scattering

ABSTRACT: The paper deals with the still existing ambiguity which arises when the phase shifts of n-d scattering are determined from the angular distribution of the reaction products. Although experiments with polarized targets and polarized beams, which could yield a unique phase shift, have not yet been realized, the authors point out that additional information on the n-d scattering phase shifts can be obtained without the use of a polarized deuterium target, by determining experimentally the polarization of the scattered neutrons. This is feasible by using as analyzers He<sup>4</sup> (elastic scattering) or Mg<sup>24</sup> (inelastic scattering at the 0.26 Mev level). Such experiments would make it possible to ascertain which of the two sets of phase shifts proposed by A. J. Elwin et al. (Phys. Rev. v. 128, 779, 1962) corresponds to the observed magnitude of the neutron depolarization. "We thank M. V. Kazarnovskiy

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44, 45

L 1980-66

ACCESSION NR: AT5018597

and I. Ye. Barit for interest in the work and useful discussions." Orig. art. has:  
2 figures and 3 formulas. 6

ASSOCIATION: Fizicheskiy institut AN SSSR (Physics Institute, AN SSSR) 44,55

SUBMITTED: 00

ENCL: 00

SUB CODE: NP

NR REF SOV: 004

OTHER: 007

KC  
Card 2/2



21761

S/OFF/01/040,035 101 010  
B102 B201246600

AUTHORS: Myashkova, S. A., Perelygin, V. P.

TITLE: Interaction of 12.1-Mev neutrons with Be<sup>9</sup>PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49,  
no. 5, 1961, 1244 - 1249

TEXT: The interaction of neutrons with Be<sup>9</sup> has been repeatedly studied, with special stress on low-energy neutrons (e.g., J. J. Ficher. Phys. Rev. 108, 99, 1957); still, the reaction mechanism has not been fully clarified so far. The authors wanted in this connection to study the part played by the individual levels of the Be<sup>8</sup>-nucleus, excited in the Be<sup>9</sup>(n, 2n) reaction. To form an idea of the course of the (n, 2n) reaction, they examined the angular and energy distribution of alpha particles and neutrons appearing in this reaction. For a neutron source they used the T(d, n)He<sup>4</sup> reaction ( $E_n = 12.1$  Mev, flux  $\sim 1 \cdot 10^9$  n/cm<sup>2</sup>). In the first experiment НИКОИТ-3 (NIKFI T-3) photoplates treated with Be<sup>9</sup> powder (layer thickness 100 $\mu$ );  
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B102, B201

Interaction of 14.1-Mev...

$^{9}\text{Be}$  grain size  $2 - 4\mu$  were examined for neutron irradiation. All two-pronged alpha stars with vertices in the Be grains were selected for evaluation. Layers without Be were examined for background determination. About 250 events of  $(n, 2n)$  reactions on  $^{9}\text{Be}$  were established, and which there were 20  $^{9}\text{Be}(n, \alpha)^{6}\text{He}$  reactions (cross section:  $11 \pm 4$  mb). Two peaks were basically found in the spectrum of the excited states of the  $^{9}\text{Be}$  nucleus: one corresponding to the 2.9-Mev level, and the second to the ~8-Mev level. A cross section of  $0.19 \pm 0.06$  b was calculated for the formation of the former, and  $0.14 \pm 0.04$  b for the latter. Also a peak corresponding to a ~5-Mev level ( $0.14 \pm 0.04$  b) was established, which, however, appeared more likely to be ascribable to a process, where there appeared no  $^{9}\text{Be}$ . In a second experiment, the energy spectra of alpha particles formed in  $(n, 2n)$  reactions on  $^{9}\text{Be}$  were examined. The target was metallic Be ( $\sim 4\mu$ ) sputtered upon a tantalum backing. The plate types used for the first experiment served as alpha detectors. Irradiation took place in a vacuum chamber (0.1 mm Hg). Two sets of experiments were conducted, Card 2/3

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Interaction of 14.1-Mev...

the first of which in a single-plate chamber for  $0^\circ$  and small angles (between alpha emission and neutron beam direction), and the second in a multiplate chamber (20, 45, 65, 90, 105, and  $120^\circ$ ). The total number of recorded alpha particles was about 3500. The total cross section of the (n, 2n) reaction on  $\text{Be}^9$  was found to be  $0.49 \pm 0.09$  b, while the cross section of the  $\text{Be}^9(n,t)\text{Li}^7$  reaction was estimated as being about 20mb. In a third experiment, the energy and angular distributions of neutrons produced in the (n, 2n) reaction on  $\text{Be}^9$  were examined. Plates of the type НИКФИЯ-2 (НИКФИ Ya-2) ( $200\mu$ ) served as neutron detectors. Irradiation took place in special boxes with controlled humidity. The plates were arranged under angles of 20, 40, 65, 90, and  $120^\circ$  to the incident neutron beam. About 5000 recoil proton tracks were recorded; the background was 40%. The neutron distribution measured for  $E_n > 4$  Mev was highly anisotropic. The total cross section of the (n, 2n) reaction on  $\text{Be}^9$  was found to be  $0.6 \pm 0.1$  b from the angular distribution of inelastically scattered neutrons. Taking all results into account and allowing for the necessary Card 4/4

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Interaction of 14.1 Mev...

corrections, this cross section is found to be  $0.54 \pm 0.07$  b. The excitation cross section for the  $Be^8$  nucleus (20.3 Mev) and for the formation of the ground state of that nucleus is  $0.2 \pm 0.1$  b. In  $(n, 2n)$  reactions also the formation of excited levels 6.9, 7.9, and 9.1 Mev in  $Be^9$ , and 11.7 Mev in  $Be^8$  is possible. I. Ya. Barit and I. M. Frank are thanked for guidance and assistance. There are 4 figures and 13 references: 3 Soviet-bloc and 10 non-Soviet-bloc. The most important references to English-language publications read as follows: L. Steward, L. Rosen. Bull. Amer. Phys. Soc. 2, 33, 1957; M. Sachs. Phys. Rev. 103, 671, 1956; J. D. Anderson et al. Phys. Rev. 111, 572, 1958.

ASSOCIATION: Fizicheskij Institut im. P. N. Lebedeva Akademii nauk SSSR  
(Institute of Physics imeni P. N. Lebedev, Academy of Sciences USSR)

SUBMITTED: August 23, 1962

Card 4/4

SAMARINA, N.Ye.; MYACHKOVA, Ye.A.; SUKHANOVA, T.K.; VLADIMIROV, V.Ye.,  
otv. red.

[Economy of Kurgan Province; statistical abstract] Narodnoe  
khoziaistvo Kurganskoi oblasti; statisticheskii sbornik. [n.p.]  
Gosstatizdat TsSU SSSR, Cheliabinskoe upr., 1963. 268 p.  
(MIRA 16:7)

1. Kurgan (Province) Oblastnoye statisticheskoye upravleniye.
2. Nachal'nik Statisticheskogo upravleniya Kurganskoy oblasti  
(for Vladimirov).  
(Kurgan Province--Statistics)

LEVIN, A.G.; MYACHNIKOV, V.D.

Vernal transition of air temperature through 0° in the north-  
eastern region of the U.S.S.R. Trudy TSIP no.67:148-152 '58.  
(MIRA 11:6)

(Atmospheric temperature)

GORBUNOV, M.S.; D'YAKOVA, A.N.; KOZLOV, P.D.; KOCHUROV, N.I.; MYADEVETS, O.V.,  
TSVETNIKOV, V.I.; LUR'E, A.B., redaktor; CHAPSKIY, O.U., redaktor;  
VODOLAGINA, S.D., tekhnicheskiiy redaktor.

[Tractors] Traktory. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1956.307 p.  
(Tractors) (MIRA 9:6)

KORYAKIN, M.N.; MYADIN, D.M., inzh.-mekhanik

Continuous production line for tie repair. Put' i put. khoz. 7  
no.10:18-20 '63. (MIRA 16:12)

1. Nachal'nik Nazyvayevskoy distantsii puti Zapadno-Sibirskoy  
dorogi (for Koryakin). 2. Stantsiya Nazyvayevskaya, Zapadno-  
Sibirskoy dorogi (for Myadin).



MYADZYAVICHYUS, A.K. [Medzevicius, A.K.], aspirant

Immunological method of the diagnosis of trichocephaliasis  
in swine. Veterinaria 41 no.4:58-60 Ap '64. (MIRA 17:8)

1. Institut zoologii i parazitologii AN Litovskoy SSR.

MYAE, E.A.

SHPIGEL', I.S.; RAYZER, M.D.; MYAE, E.A.

Device for relative measurements of continuous magnetic fields.  
Radiotekh. i elektron. 1 no.12:1515-1519 D '56. (MLBA 10:2)  
(Magnetic fields) (Electric measurements)

~~MYAE, E. A.~~

109-2-1-14/17

AUTHOR: Shpigel', I. S., Rayzer, M. D., and Myae, E. A.

TITLE: An Instrument for Relative Measurements of Alternating Magnetic Fields  
(Pribor dlya odnositel'nykh izmereniy peremennykh magnitnykh poley)

PERIODICAL: Radiotekhnika i Elektronika, 1957, Vol 2, Nr 1, pp 111-119 (USSR)

ABSTRACT: A description of an instrument for relative measurements of time-alternating slightly non-uniform magnetic fields, based on the phenomenon of nuclear magnetic-resonance absorption, is presented. The instrument measures full field distribution, including the residual magnetic field. The maximum measurable difference of fields in two points  $\Delta H_{\max} = 3\%H_0$ . Error  $\pm 3\% H_{\max}$ . Measurements are made at  $H_0 \approx 160$  oersteds.

Particle accelerators and other engineering devices often require relative measurements of time-alternating magnetic fields. The methods used so far (ballistic, electron integrator, etc.) have one common shortcoming, viz., only the alternating-field difference is measured and the residual field or a superimposed magnetization field is not included. The new instrument described in the article is free from this shortcoming. The instrument has been developed for measuring the injection field distribution of a 10-bev proton-synchrotron

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109-2-1-14/17

An Instrument for Relative Measurements of Alternating Magnetic Fields

magnet, AS USSR. As a block diagram, figure 2, shows the instrument consist<sup>s</sup> of a high-frequency oscillator, two identical amplification and signal-forming channels, an integrating circuit, a power supply, and auxiliary units. As the field reaches a certain value, depending on the pre-set oscillator frequency, a signal of nuclear magnetic resonance absorption appears. The signal is selected by a pulse-height detector, amplified and shaped. The passband of the pre-amplifier is 1.5 - 6 kc. Signal-to-noise ratio at the pre-amplifier output is about 40. For accurate indication of the time moment when the field reaches a predetermined value, the signal is differentiated and amplified by a wideband amplifier. The upper limit of the passband is 100 kc. An additional time-selection circuit helps to suppress the effects of interference from other electronic equipment in the room. The voltage front induced in a velocity pick-up during the field change in the magnetic gap starts a phantastron delay circuit which, in 20-60 m/sec, triggers a univibrator which generates the gate pulse. The pulses from both trigger circuits (each about 1 μsec) are mixed and fed to a flip-flop circuit. A negative square pulse appears at the output of the latter circuit, its duration being equal to the time between the two field pulses. The

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