

L 26674-66 EWT(d)/IWP(h)/EWP(1.)

ACC. NR: AP6009551

SOURCE CODE: UR/0413/66/000/005/0093/0094

AUTHORS: Amel'kovich, I. I.; Artamonov, Yu. G.; Dyatlov, Ye. S.; Magirovskiy, N. P.; Novozhilov, U. I.; Orlov, S. F.; Pikavirta, P. O.; Podkovyrin, A. I.; Polyachenko, V. A.; Senchenko, L. P.; Fedoseyev, O. V.; Shubin, L. V.

ORIG: none

TITLE: Machine for gathering, hauling, and transportation of felled trees. Class 45, No. 179539 [announced by Onega Tractor Factory (Onezhskiy traktorny zavod); Leningrad Kirov Factory (Leningradskiy Kirovskiy zavod); Leningrad Forestry Technical Academy Im. S. M. Kirov (Leningradskaya lesotekhnicheskaya akademiya)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 5, 1966, 93-94

TOPIC TAGS: tractor, forestry, forestry product

ABSTRACT: This Author Certificate presents a machine for hauling, gathering, and transporting felled trees, consisting of a mono-axle tractor, semitrailer with steering axle connected with the tractor by a universal joint, and a hoist. To insure a continuous pick-up of felled trees and their loading on the machine, the latter is equipped with a movable boom, to the end of which is attached a pincer clamp. To improve the maneuverability of the machine, the movable boom is mounted on the tractor frame and the pick-up device on the frame of the semi-trailer. To

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prevent damage to the movable parts, the latter are protected by means of pipe fastened above the saddle hitch device. To facilitate the loading of large packets of trees, a pulley is attached to the protective pipe (see Fig. 1).

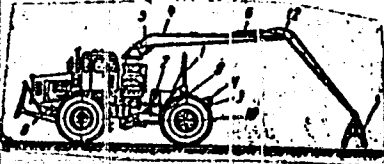


Fig. 1. 1 - pick-up assembly; 2 - hoist; 3 - saddle-hitch device; 4 - movable boom; 5 and 6 - power cylinders; 7 - pincer clamp; 8 - mono-axle tractor; 9 - semitrailer; 10 - steering axle; 11 - protective pipe; 12 - pulley.

Orig. art. has: 1 diagram.

SUB CODE: 13,02/ SUBM DATE: 15Jun64

Card 2/2 BLG

KOZLOV, K.D.; pririmali uchastiye: ZAGORUYKO, K.Ye; ROZOVA, Z.I.; BULATETSKAYA, T.P.; TREYSTER, F.Z.; SHCHUKINA, T.M.; ZAYTSEVA, N.Ye.; KRYLOVA, L.S.; AMEL'YAN, G.Ye.; BAYDAKOV, N.N.; RYZHKOV, A.N., red.; MEMESHKINA, L.I., tekhn. red.

[Economy of Sakhalin Province; statistical collection] Narodnoe khoziaistvo Sakhalinskoi oblasti; statisticheskii sbornik. Iuzhno-Sakhalinsk; Sakhalinskoe knizhnoe izd-vo, 1960. 103 p. (MIRA 14:6)

1. Sakhalin (Province) Statisticheskoye upravleniye. 2. Kollektiv rabotnikov Statisticheskogo upravleniya Sakhalinskoy oblasti (for all except Ryzhkov, Memeshkina). 3. Nachal'nik Statisticheskogo upravleniya Sakhalinskoy oblasti (for Kozlov)
(Sakhalin--Statistics)

AMEL'YANCHIK, A. V.

"Investigation of Temperature Transfers and Stresses in a Piston of the D 50 Locomotive Engines." Cand Tech Sci, All-Union Sci-Res Inst of Railroad Transport, Moscow, 1954. (RZhMokh, Nov 54)

Survey of Scientific and Technical Dissortations Defended at USSR Higher Educational Institutions (11)

SO: Sum. No. 521, 2 Jun 55

AMEL'YANCHIK, A.V., kand.tekhn.nauk

Investigating temperature stresses and deformations in diesel locomotive pistons by means of electric equivalent circuits of the elastic field. Trudy TSNII MPS no.149:30-59 '58. (MIRA 11:6)
(Diesel locomotives) (Pistons--Testing) (Electric testing)

SOV/179-59-1-23/36

AUTHOR: Amel'yanchik, A. V. (Moscow)

TITLE: Calculation on the Strength of Turbo-Dynamo Discs by the Application of an Electronic Computer (Raschet na prochnost' diskov turbomashin na matematicheskoy mashine)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Mekhanika i mashinostroyeniye, 1959, Nr 1, pp 138-143 (USSR)

ABSTRACT: A method of computing is described where the electronic machine "Strela III" (Academy of Sciences, USSR) is employed for calculation on the strength of a revolving disc subjected to irregular heat. A cross-section of such a disc is shown in Fig.1. It consists of a series of rings of the same thickness h and the width Δr . The boundary of every ring is determined by the radius r_n . The computation of its elastic properties depends on the equation of equilibrium (Eq.(1.1)). The equation of elasticity for a heated disc will take the form Eq.(1.2), where u - displacement along the radius, E - modulus of elasticity, ν - Poisson coefficient. The stresses σ_r and σ_θ are found from Eq.(1.3) which is substituted in Eq.(1.1) in order to obtain an equation of equilibrium of these locations, Eq.(1.4). The equation

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of equilibrium should be adjusted for the point r_n at the boundary between two rings. Then Eq.(1.5) will be obtained. By substituting it into Eq.(1.4), the equations (1.6) and (1.7) are found. The radial load at a point n can be defined as $F_n = R_{\omega n} + R_{tn} + R_{bn}$ where $R_{\omega n}$ - centrifugal force, R_{tn} - fictitious force determined by the temperature field, R_{bn} - external force affecting the disc. The values of $R_{\omega n}$ and R_{tn} can be calculated from Eqs.(18) and (19). The equations analogical to Eq.(1.6) for all boundary points can be expressed as Eq.(1.10), which can be solved when displacement along radii $u_1, u_2, u_3 \dots$ and the loads $R_1, R_2, R_3 \dots$ are considered. Then the resultant stresses will be found from Eqs.(1.11) and (1.12). In practice, the disc is divided into 10 to 20 rings. The system of equations of 20

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unknowns can be solved by an electronic computer in half a minute. The following should be determined before a computer is employed: 1) geometric characteristics of disc (radius r_n , thickness h), 2) temperature at the boundary t_n , 3) characteristics of metal (Table 1, where σ^0 - permissible stress, $k = \sigma^0/\sigma$, σ - equivalent stress calculated from Eqs.(2.1)), 4) number of revolutions per minute of disc, 5) radial stresses σ_{ra} and σ_{rb} at the points r_a and r_b . After the temperature t_n is interpolated, the values of E_n ,

ν_n , α_n and σ_n^0 are found for every interval n . Then the coefficient of Eq.(1.10) are found from Eqs.(1.7-1.9). Next, the stresses σ_r and σ_e for the middle of the interval are calculated from Eqs.(1.11) and (1.12). The accuracy of the computer is given in Table 2, where σ_Δ and σ_u are shown for a disc with openings (upper 2 rows) and with no openings (lower rows) for the number of rings $n = 10-11$ and $n = 19$. In order to determine the plastic deformation and creeping of the disc a table of deformations (Table 3) was

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included in computations. This table defines the stresses σ for the relative deformation $e_n = \sigma_n / E_n^*$ (E_n^* - fictitious modulus of elasticity, σ_n - equivalent stress, at temperatures ranging from 0 to 1000°C. Then the computer determines first the modulus of plasticity from Eq.(2.2) (E - elasticity modulus, ν^* - Poisson coefficient) and next, the fictitious model of elasticity E^* and ν^* from Eqs.(2.3). Fig.2 shows an example of deformation at 4 consecutive points when $n = 12\ 000$ r.p.m., $\sigma_{ra} = 0$, $\sigma_{rb} = 2910$ kg/cm². In order to obtain $\Delta = 0.5$ for deformations up to 20%, the required number of approximations is 20 (approximations 1, 2, ... n in Fig.2). Figs.3 and 4 represent the results of a disc of complex cross-section when combined elastic plastic deformations take place. The characteristics of the material are shown in Tables 1 and 3, the number of revolutions: $n = 11\ 000$ rpm, $\sigma_{rb} = 840$ kg/cm², $\sigma_{ra} = 0$. Fig.3 shows a general distribution of stresses σ kg/cm² and that of displacements u mm

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while the graphs of deformations and individual points defining the stresses of different parts of the disc are shown in Fig.4. There are 3 tables, 4 figures and 4 Soviet references.

ASSOCIATION: Institut im. Baranova (Institute imeni Baranov)

SUBMITTED: September 6, 1958.

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SOV/179-59-4-38/40

24(6)
AUTHOR: ~~Amel'yanchik, A. V.~~ (Moscow)
TITLE: Solution of Temperature Problems of the Elasticity Theory by Means of Equivalent Electric Circuits of the Elastic Field
PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye tekhnicheskikh nauk. Mehanika i mashinostroyeniye, 1959, Nr 4, pp 196 - 200 (USSR)
ABSTRACT: Kron (Ref 1) recommended in 1944 electric circuits for determining the displacement field and the stresses in heterogeneous elastic bodies. Such circuits are used here for temperature problems of the elasticity theory. The method by Kron is first described. For the solution of temperature problems of the elasticity theory by means of equivalent circuits, the temperature problem is reduced to an ordinary problem with fictitious forces which replace the action of the temperature field (Ref 2). The process is described in detail. Two methods are pointed out for the calculation of stresses caused by the temperature. The stresses in a piston of an internal-combustion engine (axially symmetric problem), a bridge concrete support (plane deformation), and the wheel disk of a gas turbine

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Solution of Temperature Problems of the Elasticity SOV/179-59-4-38/40
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(axially symmetric problem of plane deformation) were investigated by the method described here. The application of this method is illustrated by examples for the two former cases - piston and concrete support. There are 11 figures and 3 references, 2 of which are Soviet.

SUBMITTED: June 14, 1957

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SOV/96-59-6-9/22

AUTHORS: Vasil'chenko, G.S. (Engineer) and
Amel'yanchik, A.V. (Candidate of Technical Sciences)

TITLE: An Investigation into the Strength of Model Gas-Turbine
Discs (Issledovaniye prochnosti modeley diskov gazovykh
turbin)

PERIODICAL: Teploenergetika, 1959, Nr 6, pp 49-56 (USSR)

ABSTRACT: Calculation of the stresses in the disc with allowance for plastic deformation is usually related either to discs working under conditions of plastic deformation or to the safety factor of discs. In the first case the plastic deformations are usually small but in the second they may be considerable. It was assumed that the theory of small elastic deformations was also applicable to these latter conditions and good agreement between theory and experiment confirmed this view. Since the problem has been solved for a hot rotating disc operating in the plastic region it is now necessary to determine the stresses and displacements with allowance for the influence of temperature on the deformation diagram. The method used here is based on the theory of small elastic deformation which was applied to discs by Kinasoshvili (Ref 2) and Birger (Ref 3). In the present work the

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calculations on discs are made by solving successive elastic problems with variable elastic parameters in the form proposed by Birger. The individual elastic problems are solved by satisfying the equations of equilibrium in the displacements. According to Rabotnov's theory of ageing (Ref 4), the problem of creep can be reduced to a problem of plasticity in which the deformation diagram depends on time. A 'Strela' computer was used in the calculations. The method of making successive calculations of the modulus of plasticity, Young's modulus and Poisson's ratio, is explained. The calculations are repeated until the equivalent stresses determined by the calculation and the stresses obtained from the deformation diagram coincide within previously determined limits. The system of equilibrium equations (5) is used in solving the elastic problem. By solving this system of equations it is possible to determine the distribution of displacement over the radius of the discs. The stresses are then calculated from the displacement. The 'Strela' computer completes both operations in about a minute. If the

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disc is divided into 17 intervals the accuracy of the solution is about 0.5 or 1% of stress. For the elastic calculation of a disc by the method described, deformation curves must be constructed. This entails statistical treatment of tensile test results from the largest possible number of specimens of the material. The specimens should have been tested over the whole of the relevant temperature range. Austenitic steels grades EI-405 and EI-612 were used in these investigations and the deformation curves were determined from three or four tensile tests at each of the temperatures chosen. A graph showing the distribution of remanent displacement over the radius of a disc of steel grade EI-405 is given in Fig 1. The dotted line is based on the mean, and the bold line on the maximum, values of the experimental deformation curves. It will be seen that the differences are not very great but the best agreement with experiment is obtained by using the minimum properties. Deformation curves constructed for steel grade EI-612 over the entire temperature range of 400 to 700 °C showed a single wide band of experimental

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points, as in Fig 2. The calculated displacement distribution over the radius of a flat disc of steel EI-612 determined from the bold-line deformation curves in Fig 2 is given in Fig 3. Fig 3 also includes experimental values of remanent displacement measured on the internal and external diameters of two discs and obtained during short-term tests. It will be seen from curves 1 and 3 that there is good agreement between the experimental values and those calculated on the computer. This confirms the applicability of the theory of small elastic deformations to this case. As has been mentioned, creep determinations can also be made on the computer. Unfortunately, the creep data available for the materials used for the discs are inadequate for the purposes of accurate calculations, as they are usually only given at maximum temperatures and do not allow for batch to batch variation in the quality of the steel. Therefore, the 200-hour creep test curves given in Fig 2 for steel EI-612 (dotted lines) are only approximate. However, the application of these approximate curves to calculation of the remanent displacement distribution

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over the radius of a disc of steel EI-612 gave results in agreement with experiment. Residual displacements were measured on the internal and external diameters of a disc of steel EI-612 subjected to long-term testing at 16000 r.p.m. with a temperature change over the radius of 405 to 670 °C. Curves of the measurements are compared with calculated curves in Fig 3. It will be seen that the calculated displacements are somewhat higher than the experimental values after 82 hours testing, but lower after 208 hours. It should be mentioned that failure of the disc had evidently commenced at 208 hours. Long-term strength tests were made on four discs of steel EI-612 and one disc of EI-405 in the overspeed test of the Institute. The external diameter of these discs was 450 mm, the internal bore 70 mm and the thickness 35 mm. The test conditions and results are tabulated. Baranov's formula (9) was used to determine the test speed. Long-term strength tests were made on specimens cut from one of the discs of the batch. The results and the long-term strength curve constructed from them for 200 hours as function of temperature are given in

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Fig 4. For purposes of calculation this curve was reconstructed as shown in Fig 5, in coordinates of stress and disc-radius. The test speeds calculated from formula (9) considerably exceeded the actual failure speeds of all four discs of steel EI-612, as will be seen from the table. The experimental results given in Fig 5 are discussed at some length and the following criterion of short- or long-term failure of turbine discs is formulated: failure occurs when the greater principal tensile stress on any radius reaches the ultimate strength or long-term ultimate strength of the disc material at this radius. The time to failure is governed by the corresponding long-term strength curve. A number of factors that must be taken into account in determining the stress conditions of a disc are described. The great difference between the experimental and calculated values of the speed at failure found for steel EI-612 is explained by its brittleness. Consequently the stresses caused by the temperature drop and centrifugal forces could not be redistributed as they were in the more plastic steel EI-405, which did

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An Investigation into the Strength of Model Gas-Turbine Discs not fail. It is clear that the static temperature stresses have an important influence on the strength of discs made of brittle materials. In designing turbine discs of such material it is evidently essential to determine the stresses accurately and to choose a disc configuration that obviates sharp temperature peaks. There are 7 figures, 1 table and 8 references, of which 7 are Soviet and 1 English.

ASSOCIATION: TsNIITMASH

Card 7/7

AGAMIROV, V.L., kand. tekhn. nauk; AMEL'YANCHIK, A.V., inzh.;
ANDREYEVA, L.Ye., kand. tekhn. nauk; BIDERMAN, V.L., doktor
tekhn. nauk; BOYARSHINOV, S.V., kand. tekhn. nauk; VOL'MIR,
A.S., prof., doktor tekhn. nauk; DIMENTHERG, F.M., doktor
tekhn. nauk; KOSTYUK, A.G., kand. tekhn. nauk; MAKUSHIN, V.M.,
kand. tekhn. nauk; MASLOV, G.S., kand. tekhn. nauk; MALININ,
N.N., prof., doktor tekhn. nauk; PONOMAREV, S.D., prof. doktor
tekhn. nauk; PRIGOROVSKIY, N.I., prof., doktor tekhn. nauk;
SERENSEN, S.V., akademik; STEPANOVA, V.S., inzh.; STRELYAYEV,
V.S., inzh.; TRAPEZIN, I.I., prof., doktor tekhn. nauk;
UMANSKIY, A.A., prof., doktor tekhn. nauk; FEODOS'YEV, V.I.,
prof., doktor tekhn. nauk; SHATALOV, K.T., doktor tekhn. nauk;
YUMATOV, V.P., kand. tekhn. nauk; BLAGOSKLONOVA, N.Yu., red.
izd-va; YEVSTRAT'YEV, A.I., red. izd-va; SOKOLOVA, T.F.,
tekhn. red.

[Manual for a mechanical engineer in six volumes] Spravochnik
mashinistrotalia v shesti tomakh. Red. sovet N.S.Acherkan i
dr. Izd.3., 1spr. i dop. Moskva, Mashgiz. Vol.3. 1962. 651 p.
(MIRA 15:4)

1. Akademiya nauk USSR (for Serensen).
(Machinery--Design)

L 10729-65 EWT(d)/EPA(s)-2/EWT(m)/EWP(w)/EPF(c)/EWA(d)/EPR/EWP(j)/T/EWP(k)/
EWP(b)/EWA(h) Pa-4/Pf-4/Pp-4/Pa-4/Pt-10/Pob JD/WW/EM/MLK/RM

ACCESSION NR: AT4046182

S/C000/64/000/001/0003/0022

AUTHOR: Amel'yanchik, A. V.

TITLE: Calculation of the strength of metallic and plastic cylindrical vessels reinforced by winding with high-strength material

SOURCE: Prochnost i dinamika aviatsionnykh dvigateley (Durability and dynamics of aircraft engines); sbornik statey, no. 1, Moscow, Izd-vo Mashinostroyeniye, 1964, 3-22

TOPIC TAGS: rocket case, solid fuel rocket case, plastic wound rocket case, wire wound rocket case, rocket case calculation, reinforced cylindrical vessel, plastic wound cylindrical vessel

ABSTRACT: An attempt has been made to calculate the strength of cylindrical vessels made of metal or plastic and reinforced by winding with high-strength material (wire or band). The stress state in a long thin-wall cylindrical vessel with closed ends, stressed by internal pressure P and external axial tension force P_x , is analyzed. To reduce weight and increase strength, the vessel is reinforced with one or several layers of high-strength wire or band wound circumferen-

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tially or at a wide angle to the generatrix. The stresses in the cylinder walls can be reduced by means of tension applied to the wire. In circumferential winding only tangential stresses are decreased; in winding at an angle both tangential and longitudinal stresses are reduced. Two types of stresses in vessels thus reinforced can be distinguished: the initial stresses in wire and shell, which originate from winding under tension, and stresses resulting from the action of pressure P and force P_x . Calculation should determine the ratio of thicknesses and the moduli of elasticity of winding and shell materials, and the wire tension and winding angle, which will ensure an equal safety factor of wire winding and shell and the minimum weight of the whole vessel. The method of determining these values is explained; it can be applied to the analysis of the stress state of cylindrical vessels composed of wound reinforced plastics⁵ or made of metal and reinforced by winding. The work reviews two cases: 1) a metal vessel with helical winding and 2) a vessel composed of wound of reinforced plastics. Orig. art. has: 9 figures and 1 table.

ASSOCIATION: none

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ACCESSION NR: AT4046182

SUBMITTED: 15Apr64

ATD PRESS: 3115

ENCL: 00

SUB CODE: MM, MT

NO REF SOV: 001

OTHER: 001

Card 3/3

AMEL'YANOVICH, K.K., inzh.; ANTIPOV, V.A., inzh.; LAPIN, Ye.L., inzh.;
SINTSOV, G.M., inzh.

Characteristics of calculating the strength of ship structures
made of prestressed reinforced concrete and mesh-reinforced
concrete. Sudostroenie 30 no.12:1-5 D '64. (MIRA 18:6)

AMEL'YANOVICH, K.K., Arch.; VERBITSKIY, V.D., Arch.

Mesh-reinforced concrete as shipbuilding material. Sudostroenie
30 no.12:38-41 D '64. (MIRA 18:6)

ACCESSION NR: AP4007243

S/0114/63/000/012/0018/0021

AUTHOR: Amelyushkin, V. N. (Engineer); Umanskiy, M. P. (Engineer)

TITLE: Effect of flow vortex on the efficiency of a curvilinear diffuser

SOURCE: Energomashinostroyeniye, no. 12, 1963, 18-21

TOPIC TAGS: vortex effect, diffuser efficiency, curvilinear diffuser, vortex flow, diffuser, turbine, diffuser design, vortical flow

ABSTRACT: An experimental investigation of the curvilinear outlet diffuser of a jet gas-turbine engine is described. Shaped according to $dp/dx = \text{const}$ (see Enclosure 1), the diffuser has an expansion ratio of $n = 3$. Eight longitudinal stiffening ribs, 7-mm thick, were mounted in the diffuser gas path. In the course of tests, the ribs were trimmed by $\delta = \delta / l$ equal to 0.3, 1.0, 3.1, where l is the duct height in cross-section II-II. The distance $\delta = 9.1$ corresponded to the case where the ribs were removed from the diffuser and 8 stud bolts, 10-mm in diameter, were mounted in section III-III instead. Twisting grids (cascades) permitted varying the outlet angles from 16° to 90° . Nonuniformity of the velocity fields at II-II was 1.01-1.03 with a swirl angle of 90° - 35° , and 1.05-1.08 with

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16° and 28°. The Mach number varied within 0.16-0.28, Reynolds number (3.5-4.0) × 10⁵. The diffuser efficiency was assessed by $\eta = \frac{1 - \zeta_n}{1 - \frac{1}{n^2}}$, and also by

$\zeta_n = \zeta_{n,p} - \zeta_p$, where $\zeta_{n,p} = \frac{p_{01} - p_{02}}{k_{tr}^n}$ is the total loss factor covering the energy loss

in the twisting grid; $\zeta_p = \frac{p_{01} - p_{02}}{k_{tr}^n}$ is the resistance factor of the twisting grid;

p_{01} and p_{02} are the total pressures, kg/m², in I-I and II-II; p_3 is the static pressure in III-III; $k_{tr}^n = \frac{G^2}{2\rho_3 \sigma^2 p_3^2 \sin^2 \alpha_2}$ is the kinetic energy of the flow in II-II

calculated with an allowance for twisting. It was found that the lowest losses occur in the diffuser without ribs; experimental data on losses and efficiency for various rib replacements and vortex angles are supplied. Orig. art. has: 5 figures and 6 formulas.

ASSOCIATION: Leningradskiy Kirovskiy zavod (Leningrad Kirov Plant)

SUBMITTED: 00

DATE ACQ: 24Jan64

ENCL: 01

SUB CODE: PR

NO REF SOV: 002

OTHER: 000

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3003 3603
3203 3703

R/005/60/000/003/002/002
A231/A026

6.4200

AUTHORS: Amen, Nathan, Engineer and Boerescu, Cezar, Engineer

TITLE: Some Problems With Regard to Good Technical Exploitation of Radiorelays¹⁵

PERIODICAL: Telecomunicatii, 1960, No. 3, pp. 138-143

TEXT: The article deals with some methods used to improve the operation of Rumanian radiorelays. After a brief introduction regarding the development and importance of radiorelays in general, the authors present the basic technical indexes, which have to be taken into consideration, i.e., interruptions, faulty transmissions and cost per hour of operation and line. The interruption index is defined by the average number of seconds of non-operating periods against 100 hours of useful operation of the line. Interruptions are caused by deficiencies of the radiorelay equipment, deficiencies of the power supply installations, actions of external physical agents, accidents and faults of the operating personnel. They can be reduced by equipping the installations with long living electronic tubes ("P.T.T." types), by periodically checking the tubes and replading them after they have reached 2/3 of the original value,

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by checking the ageing of the component parts, by establishing a reserve equipment with possible automatic switching in case of a deficiency of the main equipment, and by establishing emergency power sources for a possible failure in the power network. Automation considerably reduces all these failure sources. Due to these methods, the breaks in operation of meter-wave radiorelays were reduced from 7,965 seconds per 100 hours of operation in 1956, to 11 seconds in 1959; and of decimeter-wave radiorelays from 600 seconds in 1958, to 190 seconds in 1959. Faulty transmissions are affected by loud noises or external disturbances. Noises have three main causes: thermal agitation, electronic tubes, and nonlinear distortions of the modulators and demodulators. This latter cause leads to the non-intelligible diaphony. The signal/noise ratio due to the thermal agitation and to tubes is: $S = aK^2$, in which K is the modulation index. In case of non-intelligible diaphony, the signal/noise ratio is expressed by: $S = \frac{1}{\frac{d}{K^2} + bK^2 + cK^4}$

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A231/A026

Some Problems With Regard to Good Technical Exploitation of Radiorelays

By increasing the size of the antennas, by establishing two or four parallel antennas, by locating the antennas on higher places, the following values of the signal/noise ratio could be achieved for the Rumanian radiorelays: 42 db for decimeter-wave radiorelays used in telephone communication; 38 db for meter-wave relays used in telephone communication; and, 54 db for meter-wave relays used in wide-band communication (radiophony with compressor and expander). The decimeter-wave equipment will be improved by removing the demodulators and modulators from the intermediary stations. This modification of the equipment is being studied. Meter-wave relays will only be improved after having redesigned the network and having developed high-capacity relays. Reciprocal disturbances can be improved by crossing the polarization planes. One way uses the horizontal polarization and the other the vertical polarization. Brief reference is made to some cases of transmission failures caused by unusual external influences. Due to all measures the transmission failures could be considerably reduced during the last few years. Finally, the authors analyse some economic and organizational problems, i.e., expenses for the maintenance of the equipment, maintenance of power plants and price of the purchased elec-

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Some Problems With Regard to Good Technical Exploitation of Radiorelays
tric current, repair of buildings, heating, etc., various expenses and legal
extinctions. There are 4 figures and 1 table.

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AZIMOV, B.A.; AMEN, Yu.A.; BORISOV, Ye.M.; BELKINA, G.L.; KUTUZOV, A.I.

Torsion of prismatic bars. Dokl.AN Azerb.SSR 11 no.12:825-831 '55.
(MIRA 9:7)

1.Azerbaydzhanskiy nauchno-issledovatel'skiy institut po dobyche
nefti. Predstavlene doystvitel'nym chlenom AN Azerbaydzhanskey SSR
M.F.Nagiyevym.

(Torsion)

~~AMENADZE, Yu. A.: Doc Phys-Math Sci (diss) -- "Twisting and bending of prismatic beams with cross sections which are interconnected regions of a certain type". Tbilisi, 1953, published by the Acad Sci Georgian SSR. 14 pp (Acad Sci Georgian SSR, Tbilisi Math Inst in A. M. Razmadze and Computer Center), 150 copies (KL, No 7, 1959, 121)~~

AMENITSKAYA, R.V.

S-1-KmZ

Use of internally filled counters for determination of activity of preparations containing radioactive carbon-14 and sulfur-35. L. A. Korshunov, R. V. Amenitskaya, and B. V. Alvasov. *Primenenie Mezhkryzhalovoy Anal. Khim., Akad. Nauk S.S.S.R., Inst. Geokhim. i Anal. Khim.* 1955, 211-22. —Detns. were made in a specially assembled app. (described) which comprised a unit for generating CO₂ or SO₂, purifying the gas, storage units, H and quenching admixts., a manometer, a mixing unit, and a counter tube. The anode of the latter was W, and various materials were used as cathodes. As quenching admixts. were tested vapors of alc., EtBr, nyridine, acetone, etc. Best results were obtained with EtOH and EtBr. For compls. cong. C₂H₆ (CO₂, C₂H₆, pentane, AcH, etc.), a Cu cathode gave the best results. With this cathode and filling the counter with an alc. vapor:CO₂ mixt. of 1:4, the voltage plateau was approx. 350 v. with a slope of 0.5% per 100 v. Admixt. of H lowered the working voltage by approx. 250 v. for each 30 mm. lig of H. For S³⁵O₂, best results were obtained with an Aquadag cathode. The pressure of S³⁵O₂ in mixt. with alc. vapor and A was 10-30%. The voltage plateau was 100-150 v. with a 2-3% slope.

100

(2)

Print
Pm

AMENITSKAYA, R.V.

7
 Determination of activity of organic compounds contain-
 ing radioactive carbon-14. A. Korshunov, R. V. Amenits-
 kaya, and N. P. Novikova (State Univ. of Moscow, 224,
 Zhurnal Khim. 77, 893-6 (1957)).—Direct detn. of C-
 activity is possible in compds. such as CO_2 , Me_2CO ,
 EtOAc , EtCO_2Et , and PrCO_2Et . The bag gas for the
 counter tube can be CO_2 or A. The substances are handled
 in a vacuum train, a diagram of which is shown. Standard
 counting tubes with Cu cathode and W anode are used;
 these are sealed to the vacuum train and are enclosed in Pb
 shells. If the quenching ability of the org. substance is
 insufficient, some 10-20% EtOH can be introduced into the
 system. The accuracy of detn. is $\pm 2\%$. G. M. K...

6
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ADP
 ADP

AMENITSKAYA, R.V.; BATALOV, A.P.; GLAZOV, V.M.; KORSHUNOV, I.A., prof.;
KUTSEPIN, V.F.; NOVOTOROV, N.F.; ORLOVA, A.A.; PETROV, A.M.;
SHAFIYEV, A.I.

[Problems in radiochemistry] Sbornik zadach po radiokhimii.
[By] R.V.Amenitskaia i dr. Pod red. I.A.Korshunova. Gor'kii,
Gor'kovskii gos. univ. im. I.I.Lobachevskogo, 1959. 91 p.
(MIRA 15:11)

1. Prepodavateli khimicheskogo fakul'teta Gor'kovskogo gosudar-
stvennogo universiteta im. N.I.Lobachevskogo (for all)
(Radiochemistry)

KORSHUNOV, I.A.; NOVOTOROV, N.F.; AMENITSKAYA, E.V.; OKROKOVA, I.S.;
PESTUNOVICH, N.A.; DUBOVSKAYA, V.N.; IJONOV, M.R.; GLAZOV,
V.M.

Synthesis of organic compounds tagged with radioactive carbon. Radiokhimiia 1 no.6:728-733 '59. (NIRA 13:4)
(Carbon--Isotopes) (Organic compounds)

5 (3)

AUTHORS:

Korshunov, I. A., Amenitskaya, R. V.,
Orlova, A. A., Batalov, A. P.

SOV/79-29-6-48/72

TITLE:

Radiochemical Investigation of the Reciprocal Exchange of the
Radicals in Some Systems (Radiokhimicheskoye issledovaniye
obmena radikalami v nekotorykh sistemakh)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 6,
pp 1992-1995 (USSR)

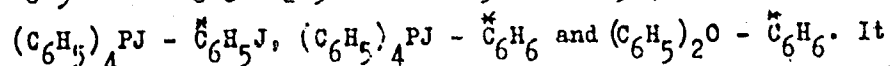
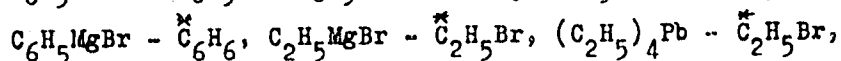
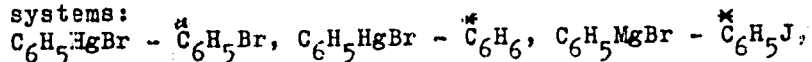
ABSTRACT:

In a previous paper (Ref 1) the reciprocal exchange of the
radicals was investigated in the following systems by means
of the radioactivated isotope C^{14} , diphenyl mercury - benzene,
phenyl mercury hydroxide - benzene, tetraphenyl lead - benzene,
in the heating and irradiation with ultraviolet light. The
analysis of the experimental data shows that the reciprocal
exchange of the radicals takes place according to the open
radical mechanism or over an intermediate formation of
reaction complex with the solvent. Moreover, the degree of the
exchange which depends on the composition of the reacting
system and the conditions of the reactions makes it possible
to determine the mobility of the individual radicals in the
compounds to be investigated. In the present report the

Card 1/3

Radiochemical Investigation of the Reciprocal Exchange SOV/79-29-6-48/72
of the Radicals in Some Systems

investigation results of the reciprocal exchange of the phenyl- and ethyl radicals is described for the following systems:



It is shown that the reciprocal exchange of the phenyl radicals in organomercury compounds and the ethyl radicals in organo-lead compounds takes place only in the presence of additions e.g. cobaltous chloride, aluminum bromide, metallic silver. It was found that the exchange of the phenyl radical in organomagnesium and organophosphorus compounds, with or without additions, does not take place (2 tables). There are 2 tables and 4 Soviet references.

Card 2/3

Radiochemical Investigation of the Reciprocal
Exchange of the Radicals in Some Systems

SOV/79-29-6-48/72

ASSOCIATION: Gor'kovskiy gosudarstvennyy universitet (Gor'kiy State
University)

SUBMITTED: December 9, 1957

Card 3/3

ACCESSION NR: AP4000405

S/0294/63/001/001/0107/0111

AUTHORS: Morozkin, V. I.; Amenitskiy, A. N.; Alad'yev, I. T.

TITLE: Experimental enquiry into the effect of acceleration on the critical heat flux in liquids at the saturation temperature

SOURCE: Teplofizika vy*sokikh temperatur, v. 1, no. 1, 1963, 107-111

TOPIC TAGS: critical heat flux, nucleate boiling, liquid boiling, liquid cooling, heat transfer, acceleration

ABSTRACT: The results reported in this research apply to an acceleration ratio (overload) ranging from 1 to 2050, whereas earlier experiments covered only the range from 0.05 to 180. The liquids employed were water and 96% ethyl alcohol. The experimental setup is described. It is ascertained that the critical heat flux is an increasing function of the inertial acceleration and is proportional

Card 1/2

ACCESSION NR: AP4000405

to the latter raised to the 0.25 power. Both investigated liquids have a similar character in this respect. The experimental data are in satisfactory agreement with the semi-empirical equation of Zuber et al. (International Developments in Heat Transfer, v. 27, 23, 1961). It is shown that the actual critical heat flux in rotating steam generators can be either larger or smaller than the corresponding quantity for stationary steam generators, since the heat flux is changed not only by the overload but also by the increase in the hydrostatic pressure at the surface. Original article has: 3 figures and 5 formulas.

ASSOCIATION: Energeticheskiy institut im. G. M. Krzhizhanovskogo
(Power Institute)

SUBMITTED: 11May63

DATE ACQ: 13Dec63

ENCL: 00

SUB CODE: AS, PR

NO REF SOV: 003

OTHER: 003

Card 2/2

ACCESSION NR: AP4024196

8/0294/64/000/001/0122/0125

AUTHORS: Morozkin, V. I.; Amenitskiy, A. N.; Alad'yev, I. T.

TITLE: Experimental investigation of the effect of acceleration on the boiling crisis in underheated water

SOURCE: Teplofizika vy*sokikh temperatur, no. 1, 1964, 122-125

TOPIC TAGS: boiling crisis, acceleration effect, underheated water, critical heat flow, overload ratio, degree of underheat, specific heat, steam production specific heat

ABSTRACT: The critical heat flow was experimentally investigated in a large volume of singly-distilled water from 0 to 65C below the saturation temperature. The effect of acceleration of the heat flow on the boiling crisis was measured by means of equipment and a procedure described elsewhere (Teplofizika vy*sokikh temperatur v. 1, no. 1, 1963). The overload ratio varied from 15 to 970. It was

Card 1/4

ACCESSION NR: AP4074196

found that the critical heat flux in the underheated liquid increased in the investigated range of overload ratio with increasing degree of underheat, and is a linear function of the factor $c\vartheta/r$, where c is the per unit specific heat of the liquid, ϑ is the degree of underheat, and r is the specific heat of steam production. An empirical formula was obtained

$$q_{cr} = q_{cr, \vartheta=0} \left[+ 3.8 \cdot 10^{-4} \frac{\rho' c \vartheta}{\rho r} \right], \quad \text{W/m}^2$$

where $q_{cr, \vartheta=0}$ was obtained in the earlier investigation. Deviations

between the empirical coefficients of the present formula and the formulas given by Kutateladze (Fundamentals of the Theory of Heat Exchange, Mashgiz, 1962) are attributed to differences in the experimental conditions. An increase in the critical heat flux in an underheated liquid as a function of the overload ratio for a constant

Card 2/4

ACCESSION NR: AP4024196

value of underheat is due to the change in the corresponding critical flux in the liquid at saturation temperature. Orig. art. has: 2 formulas and 3 figures.

ASSOCIATION: Energeticheskiy institut im. G. M. Krzhizhanovskiy
(Power Engineering Institute)

SUBMITTED: 18Oct63

DATE ACQ: 16Apr64

ENCL: 01

SUB CODE: PH

NR REF SOV: 003

OTHER: 000

Card 3/4

51"

GEL'FMAN, A.; AMENITSKIY, B.

"Rigips" plaster board. Arkhit.i stroi Len. no.1:47-48 '49.
(MLRA 7:5)
(Plaster board)

AMENITSKIY, N.A.

SOV/58-59-5-11397

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 5, p 213 (USSR)

AUTHORS: Amenitskiy, N.A., Li Tsin-fan', Salomonovich, A.Ye., Khangil'din, U.V.,
Chen Tszyun-iyin

TITLE: Observations of 8-mm Wavelength ^vSolar Radio Emission During the Annular
v Eclipse of 19 April 1958

PERIODICAL: Solnechnyye dannyye, 1958, Nr 7, pp 69 - 71

ABSTRACT: A joint expedition of the Academies of Science of the USSR and CPR carried out observations of the total flux and circularly-polarized component on Lake Hainan (CPR) with the aid of a radiotelescope built by the Physical Institute of the AS USSR. This instrument has a ~60' radiation pattern at 0.5 power. The authors submit the temperature-variation curve of the antenna fixed on the sun, as well as the data resulting from the preliminary processing of this curve. The sun's brightness temperature on the day of the eclipse was $7,900 \pm 400^{\circ}\text{K}$. The residual antenna temperature during the maximum phase amounted to $17 \pm 0.5\%$ of the temperature of the uneclipsed sun (it would be 11% in the case of uniform brightness distribution on the

Card 1/2



SOV/58-59-5-11397

Observations of 8-mm Wavelength Solar Radio Emission During the Annular Eclipse of 19 April 1958

sun's disk at a diameter of 32'). The radiation flux connected with spot group Nr 188 (observed on longer wavelengths) did not exceed 2% of the flux of the entire disk. With an accuracy approaching 0.2% of the total flux, no change was detected in the circularly-polarized component during the closing and opening of the spot group (the flux of circularly-polarized radiation did not exceed $3.5 \times 10^{-22} \text{ W/m}^2\text{c}$). The authors advance hypotheses concerning the causes of the observed residual radiation. (Fig. in-t AS USSR).

A.S. 

Card 2/2

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78028
SOV/33-37-1-28/31

AUTHORS: Ameritskiy, N. A., Noskova, R. I., Salomonovich, A. Ye.

TITLE: The Radio Image of the Moon in an 8-mm Wave Range

PERIODICAL: Astronomicheskii zhurnal, 1960, Vol 37, Nr 1, pp 185-186 (USSR)

ABSTRACT: Observations of the two-dimensional distribution of the thermal radiation of the moon in the 8-mm wave range were made during September-November 1959 with the 22-meter radiotelescope of the Lebedev Physical Institute of the Academy of Sciences, USSR. Owing to the great resolving power of this telescope, it was possible to obtain values of the radiation temperature for separate regions of the moon. There is considerable dependence of the distribution of radio brightness on the phase of the moon which appears to be asymmetrical. Thus, at the first quarter the western part of the moon is brighter, and the reverse is true at the third quarter. The difference between the maximum and the minimum temperatures in the center of the disk is more than 40%.

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The Radio Image of the Moon in an
8-mm Wave Range

78028
SOV/33-37-1-28/31

The authors thank G. G. Basistov, N. F. Il'in, V. N. Koshchenko, and V. I. Pushkarev, who assisted in making observations. There are 1 figure; and 3 references, 2 Soviet, 1 U.S. The U.S. reference is: J. E. Gibson, Proc. I.R.E., 1, 280-286, 1958.

ASSOCIATION: Lebedev Physical Institute of the Academy of Sciences, USSR (Fizicheskii institut imeni P. N. Lebedeva Akademii nauk SSSR)

SUBMITTED: December 11, 1959

Card 2/2

AMENITSKIY, N.A.; KORNIYENKO, L.S.; SMIRNOV, A.I.

Spectroscope for studying the spectrum and spin-lattice relaxation of paramagnetic substances at a wavelength of 8 mm.
Prib. i tekhn. eksp. 8 no.6:119-121 N-D '63. (MIRA 17:6)

1. Nauchno-issledovatel'skiy institut yadernoy fiziki
Moskovskogo gosudarstvennogo universiteta.

AMENITSKIY. V. A.

482

Ozimaya pshenitsa v usloviyakh
Mariyskoy ASSR. Yoshkar-Ola, Mariyskoye kn. izd., 1954
48 s. 22sm. 2,000 eks. 65k.
[54-55535] p 633.11 (47.371).

S0: Knizhnaya Letopis, Vol. 1, 1955

AMENT, Janos, fomernek

Conditions for increasing the velocity of longwall advancing
in the Jokai Colliery. Bany lap 96 no.11:886 N '63.

1. Kozepdunantuli Szenbanyaszati Troszt, Ajka.

AMENTOV, B.K.; NAUMOV, V.A.

Expanding air mail service. Vest.sviazi 14 no.3:21-22 Nr '54.
(MLRA 7:5)

1. Zamestitel' nachal'nika Glavnogo pochtovogo upravleniya (for Amentov).
2. Nachal'nik sektora perevozki pocht (for Naumov).
(Air mail service)

YURASOVSKIY, G.A., kand. ekonom. nauk; AMENTOV, P.K.

Prospects of the development of postal service in Moscow and
Moscow Region. Vest. svyazi 24 no.12:19-21 D '64
(MIRA 18:2)

1. Zamestitel' nachal'nika issledovatel'skogo otdela Spetsial'-
nogo proyektного-konstruktorskogo byuro (for Yurasovskiy).
2. Nachal'nik otdela perevozki pochy (Glavnogo pochtovogo
upravleniya Ministerstva svyazi SSSR (for Amentov).

AMENTOV, B.K.

Development of air mail transportations is an important problem
which faces postal communication workers. Vest.svyazi 20 no.3:
21-23 Mr '60. (MIRA 13:6)

1. Nachal'nik otдела transporta i perevozki pochty Glavnogo pochtovogo upravleniya Ministerstva svyazi SSSR.
(Air mail service)

MATSNEV, Vladimir Nikolayevich; NIKIFOROV, Ivan Aleksandrovich;
AMENTOV, B.K., otv. red.; SIDOROVA, T.S., red.; SLUTSKIN,
A.A., tekhn. red.

[Mail transportation in containers and its efficiency] Pere-
vozka pochty v konteinerakh i ee effektivnost'. Moskva,
Sviaz'izdat, 1961. 27 p. (MIRA 15:6)
(Postal service)

STAS', Nikolay Danilovich; RAZUKHIN, Veniamin Leonovich, [M. KTOV,
B.K., otv. red.; SIDKOVA, T.S., red.

[Mail transportation] Porevozka pochy. 1964, perer. 1
dop. Moskva, Sviaz', 1964. 191 p. (MIRA 17:9)

AMMUEL, Irina Abramovna; KARPOVA, L.P., retsenzent; BORODINA,
L.V., retsenzent; RYCHKOVA, O.I., red.

[Technology of dressmaker-type women's clothing] Tekhnologia zhenskogo legkogo plat'ia. Moskva, Legkaia industriia, 1965. 151 p. (MIRA 18:8)

ACC NR: AP7006052

SOURCE CODE: UR/0249/66/022/006/0003/0007

AUTHOR: R. Yu. Amenzade

ORG: Institute of Mathematics and Mechanics, (Institut matematiki i mexhaniki)

TITLE: The Stability of an Eccentric Thin Ring Made of a Material with Nonlinear Elasticity

SOURCE: Doklady Akademii Nauk Azerbaydzhanskoj SSR, Vol 22, No 6, 1966, pp 3-7
TOPIC TAGS: elasticity, solid mechanics

ABSTRACT: Considers the stability of a circular ring with slight eccentricity and made of a material with a nonlinear elasticity when subjected to a uniform external pressure. The variation method of Reysner (Problemy mexhaniki sploshnykh sred -- Problems of the Mechanics of Continua, Moscow 1962) is used, which represents a generalization of the classical extremal principles of elasticity theory. The approach is found to be particularly effective for problems involved in the nonlinear theory of elasticity, the main difficulties of which are avoided as a result of the freedom of assigning approximate functions of stresses and dislocations. An expression is derived, on the basis of which it is possible to compute the critical pressure. This paper was presented by Academician AN AzerbSSR Z. I. Khalilov. The author thanks Academician AN SSSR Yu. N. Rabotnov for direction. Orig. art. has: 2 figures and 2 formulas.
[JPRS: 39,546]

SUB CODI: 20

Card 1/1

09270854

AMER-ZADE, YU.A.

"Flexure of a Circular Prismatic Beam with an Elliptical Cavity"
Dokl. AN Az SSR Vol 10, no 6, 1954, 401-408 (Azerbaijani resume)

The author gives the approximate solution of the problem of the flexure of a homogenous isotropic circular prismatic beam containing an elliptical cavity, for the case when one end is fastened and the other has a concentrated force applied along the minor axis of the ellipse. He calculates the components of the tangential stresses and compares them with values obtained from the formulas of D.I. Zhuravskiy. (RZhMekh, No 9, 1955)

MARKISOV, Georgiy Martynovich; AMENZADE, YU.A., redaktor; GONCHAROV, I.A.,
redaktor

[Some problems in the calculation of casing pipes] Nekotorye vo-
prosy rascheta obsadnykh kolonn. Baku, Aznefteizdat, 1955. 97 p.
(Petroleum engineering) (MLRA 9:3)

SOV/124-57-3-3276

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 3, p 92 (USSR)

AUTHORS: Amenzade, Yu. A., Azimov, B. A.

TITLE: The Flow of Oil Toward Wells Sunk Into a Reservoir Having the Shape of a Square With Curved Sides (Pritok nefi k skvazhinam v plaste krivolineyno-kvadratnoy formy)

PERIODICAL: Tr. Azerb. in-t. po dobyche nefi, 1955, Nr 2, pp 118-126

ABSTRACT: The authors present an approximate solution of a problem on the influx of oil to a well (or a system of wells) located in an oil reservoir having a square uniform-pressure contour on which a prescribed pressure prevails. The approximating conformal representation of the interior of a circle onto the interior of a square is taken in the form of a polynomial as a sum of four terms resulting from the power expansion of a suitable Christoffel-Schwarz integral. The formulas for the yield of a single well or a system of wells are derived by the standard methods. Yield graphs computed with the aid of the method proposed are presented; the results are compared with analogous values for the case of a circular reservoir inscribed or circumscribed by a square contour with curved sides. V.P. Pilatovskiy

Card 1/1

AMEN-ZADE Yu. A.

AZIMOV, B.A.; AMEN-ZADE, Yu.A.; BORISOV, Ye.M.; BELKINA, G.L.; KUTUZOV, A.I.

Electric model solution of prismatic bar torsion problems.
Dokl. AN Azerb. SSR 11 no.4:233-242 '55. (MIRA 8:10)

1. Predstavleno deystvitel'nym chlenom Akademii nauk Azerbaydzhanskoy SSR M.F.Nagiyevym.
(Torsion)

SOV/121-57-3-3394

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 3, p 108 (USSR)

AUTHOR: Amen-Zade, Yu. A.

TITLE: The Bending of a Round Prismatic Girder Weakened by a Prismatic Cavity (Izhib kruglogo prizmaticheskogo brusa, oslablennogo prizmaticheskoy polost'yu)

PERIODICAL: Dokl. AN AzSSR, 1955, Vol 11, Nr 9, pp 595-603

ABSTRACT: The paper studies the stress distribution due to the bending of a homogeneous isotropic round prismatic girder weakened by a prismatic cavity under the action of a concentrated force acting along one of the diagonals of the square. On the basis of the boundary condition on the circumference and of a purely imaginary auxiliary function introduced for the circumference, a function is constructed which is regular within the cross section of the girder, which function can be analytically continued beyond the circumference and equals zero at infinity. Taking into consideration the boundary condition at the square, the author determined a regular function outside the unit circle which serves as the representation of the square, such function equaling zero at infinity. A regular

Card 1/2

SOV/124-57-3-3394

The Bending of a Round Prismatic Girder Weakened by a Prismatic Cavity

function is next obtained for the cross section of the girder; a system of infinite algebraic equations is constructed to determine the unknown coefficients included in this function, and to find the auxiliary function. The first ten equations of the above-mentioned system are solved by the method of successive approximations; here, only four approximations were required to arrive at a very accurate solution. The author determines the degree of accuracy with which the boundary conditions for the example analyzed by him are satisfied by a function which is regular within the cross section, which function was found by means of a solution of the abbreviated system. The magnitudes of the shearing stresses at points of the neutral axis are next calculated, and the results are compared with the values of the shearing stresses calculated in accordance with D. I. Zhuravskiy's formula.

A. K. Rukhadze

Card 2/2

SOV/124-57-8-9298

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 8, p 105 (USSR)

AUTHORS: Azimov, B. A., Amenzade, Yu. A., Borisov, Ye. M., Belkina, G. L.,
Kutuzov, A. I.

TITLE: On the Problem of the Twisting of Prismatic Rods (K voprosu
krucheniya prizmaticheskikh sterzhney)

PERIODICAL: Dokl. AN AzerbSSR, 1955, Vol 11, Nr 12, pp 825-831

ABSTRACT: The paper studies the twisting of prismatic rods with a cruciform section, a Tee section, and a section bounded on the outside by a circumference and on the inside by an ellipse the center of which coincides with the center of the circumference. These problems are solved on an EM-7 electric-analog computer for specified relative dimensions of the section. Representations of the isolines for all three cases are shown in graphic form. The values of the potential differences, as well as the components of the tangential (shear) stresses derived from these differences, are submitted in tabular form. A stress-distribution diagram is presented for a round rod weakened by an elliptic cutout. The authors have made a comparison of the solutions obtained by means of the electric-analog computer

Card 1/2

SOV/124-57-8-9298

On the Problem of the Twisting of Prismatic Rods

with the results obtained analytically for the cruciform section and the circular section with an elliptical cutout. It is shown that the error in the calculation of the shear stresses in the case of a cruciform section equals 1.08%, while in the case of the circular section it equals 24.57% at one point and 10.69% at another.

N. O. Gulkanyan

Card 2/2

AMEN-ZADE, YU. A.

✓ 2162. Amen-zade, Yu. A., Bending of a circular prismatic beam with an elliptical cavity (in Russian), *Inzhener. Strukt. Akad. Nauk* 53SR 21, 97-112, 1955.

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1/2

The weakened cross section has two axes of symmetry. End conditions of the beam are assumed as follows: one edge of the beam is clamped, the second one free and centrally loaded by a lateral force in the direction parallel to the little axis of the ellipse.

Use of the method developed by Sierman [see preceding review] allows the determination of stresses in each point of the cross section. Paper contains one numerical example.

K. Jula, Czechoslovakia

[Handwritten signature]

SOV/124-57-5-5875

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 5, p 122 (USSR)

AUTHOR: Amenzade, Yu. A.

TITLE: Using Electrical-analog Simulator Model Type 7 to Solve Problems
Relative to the Flexure of Hollow Prismatic-section Girders
(Resheniye zadach izgiba polykh prizmaticheskikh brus'yev na EM-7)

PERIODICAL: Dokl. AN AzSSR, 1956, Vol 12, Nr 2, pp 81-85

ABSTRACT: An account is given of the author's method for solving the problem of the lateral-force-induced flexure of a hollow prismatic-section girder by means of a resistance-network-type electric-analog simulator. The experimental results obtained in cases of two different cross-sectional profiles agree satisfactorily with the calculation results, the discrepancy not exceeding 3.5%.

V. K. Prokopov

Card 1/1

SOV/124-58-1-958

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 1, p 127 (USSR)

AUTHOR: Amenzade, Yu. A.

TITLE: The Bending of a Prismatic Beam Weakened by a Circular Cavity
(Izhib prizmaticheskogo brusa, oslablennogo krugovoy polost'yu)

PERIODICAL: Tr. Azerb. industr. in-ta, 1956, Nr 14, pp 107-123

ABSTRACT: An examination of the bending of a homogeneous prismatic beam weakened by a circular cavity. The cross section S of the beam is a doubly-connected region bounded on the outside by a nearly square curvilinear quadrangle L_1 and on the inside by a circumference L_2 . As is well known, the problem of the flexure of a prismatic beam can be reduced to the determination, within the region S , of a regular (analytic) function $\phi(z)$ [the Russian original states "regulyarnoy fraktsii" (of the continued fraction) " $\phi(z)$ " which doubtless should read "regulyarnoy funktsii"; Transl. Ed. Note] that satisfies the boundary conditions

$$\phi(t) + \overline{\phi(\bar{t})} = F_k(t) + D_k \text{ along } L_k \quad (k=1, 2)$$

Card 1/2

SOV/124-58-1-958

The Bending of a Prismatic Beam Weakened by a Circular Cavity

where D_k are arbitrary constants (which are determined from the solution of the problem) and $F_k(t)$ is a prescribed function. Using D. I. Sherman's method (Dokl. AN SSSR, 1947, Vol 55, Nr 8) the author introduces on the contour L_1 the desired purely imaginary function $g(t)$ and in the infinite region S_1 bounded by the quadrangle L_1 the regular function $\phi_0(z)$ which goes to zero at infinity. Furthermore, in order to determine within the region S under examination a regular function $\phi(z)$ that would satisfy the prescribed boundary conditions, the author sets up a Fredholm integral equation relative to the previously introduced purely imaginary auxiliary function $g(t)$. The solution of the integral equation thus obtained is given.

A. K. Rukhadze

Card 2/2

~~AMEN-ZADE, Yu. A. (Baku)~~

Bending of circular prismatic bars weakened by prismatic hollows.
Inzh.sbor. 24:97-113 '56. (MLRA 10:5)
(Elastic rods and wires) (Flexure)

AMENZADE, Yu.A.

Torsion of a prismatic beam with a square cross section reinforced
by a circular rod. Soob. AN Gruz.SSR 18 no.3:271-278 Mr '57. (MIRA 10:7)

1. Azerbaydzhanskiy nauchno-issledovatel'skiy institut po dobyche
nefti, Baku. Predstavleno akademikom N.I.Muskhelishvili.
(Torsion) (Elastic rods and wires)

AUTHOR
TITLE

AMENZADE, Yu. A.,

The Curvature of a Prismatic Beam Weakened by a Circular Cavity.
(Izgi b prizmaticheskogo brus a, oslablennogo krugovoy polost'yu -
Russian)PERIODICAL
ABSTRACT

Doklady Akademii Nauk, 1957, Vol 114, Nr 1, pp 37-40. (U.S.S.R.)

The paper under review deals with the investigation of the curvature of a homogeneous isotropic prismatic beam with circular cavity under the influence of a concentrated force acting along one of the minor axes of the square. The problem of finding the state of stress is reduced to the determination of the function $\varphi(z)$, which is regular in the domain S_0 of the complex variable z from the given boundary conditions. First of all, the paper under review gives the function of the projection of the exterior side of the curved (i.e. better: of the rounded) square on the exterior side of the unit circle \bar{J} . The ansatz of the sought function $\varphi(z)$, which is regular in the domain occupied by the cross section of the beam, is written in the paper under review in the form of $\varphi(z) = \varphi_1(z) + \varphi_2(z)$. In this context, $\varphi_1(z)$ is regular within the rounded square, and $\varphi_2(z)$ is regular outside of the interior circle. We furthermore have $\varphi_2(\infty) = 0$. $\varphi_1(z)$ and $\varphi_2(z)$ are expanded in series. The Paper discusses step by step the course of the rather lengthy computation. The first ten equations are separated from the obtained system of equations. Furthermore, the first equation in separated, and the other equations are solved with the aid of the method

Card 1/2

20-1-9/64

AMEN-ZADE, Y. A.

16(0); 10(2) PAGE 1 BOOK EXPLOITATION 807/3355

Akademiya nauk Azerbaydzhanskoy SSR

Tesisy dokladov Soveshchaniya po vychislitel'noy matematike i primeneniyu sredstv vychislitel'noy tekhniki (Outlines of Reports of the Conference On Computational Mathematics and the Use of Computer Techniques) Baku, 1956. 65 p. 400 copies printed.

Additional Sponsoring Agencies: Akademiya nauk SSSR. Vychislitel'nyy tsentr, and Akademiya nauk SSSR. Institut avtomatiki i telemekhaniki.

No contributors mentioned.

PURPOSE: This book is intended for pure and applied mathematicians, scientists, engineers and scientific workers, whose work involves computation and the use of digital and analog electronic computers.

COVERAGE: This book contains summaries of reports made at the Conference on Computational Mathematics and the Application of Computer Techniques. The book is divided into two main parts. The first part is devoted to computational mathematics and contains 19 summaries of reports. The second section is devoted to computing techniques and contains 20 summaries of reports. No personalities are mentioned. No references are given.

Amenzade, Ya. A. Local Strains in the Joint Torsion and Bending of a Circular Prismatic Beam With Elliptic Non-circular Cavity 8

Ibrahim, A. P. On the Concept of a Computational Algorithm 9

Ibrakulov, V. S. On the Construction of Algorithms of Logical Problems 10

total 2/7

AUTHOR: Amenzade, Yu. A.

20-119-6-17/56

TITLE: Local Stresses in a Twisted Circular Prismatic Rod With an Elliptical, Not Coaxial Hole (Mestnyye napryazheniya pri kruchenii kruglogo prizmaticheskogo brusa s ellipticheskim nesosnym otverstiyem)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 119, Nr 6, pp. 1118 - 1121 (USSR)

ABSTRACT: The author investigates the problem of shear torsion of a circular prismatic rod, which is weakened in its longitudinal dimension by an elliptical hole. The axis of the elliptical hole is situated at a certain distance from the axis of the massive rod. For the determination of the stressed state in shear torsion a complex function must be determined, which is regular in the domain of the rod cross section and which satisfies certain given boundary conditions. According to the method by D. I. Sherman (Reference 1) the author employs a new function, which is regular everywhere outside of the ellipse, and which tends to zero at infinity. Another here plotted function maps the exterior of the ellipse onto the interior of a circle. The course of the computation is pursued step by step. Formulae

Card 1/2

AUTHOR:

~~Amenzade, Yu.A.~~

SOV/20-122-3-9/57

TITLE:

Local Stresses Under Deflection of a Round Prismatic Rod With an Elliptic Noncoaxial Aperture (Mestnyye napryazheniya pri izgibe kruglogo prizmaticheskogo brusa s ellipticheskim nesosnyu otverstiyem)

PERIODICAL:

Doklady Akademii nauk SSSR, 1958, Vol. 122, Nr 3, pp 356-359 (USSR).

ABSTRACT:

The author considers the transverse bending of a round prismatic rod which is weakened in longitudinal direction by an elliptic hollow space, the axis of which lies in a certain distance from the rod axis. The rod is subject to a single force. The problem of the stress determination leads to the determination of two functions; one of them - the torsion function - was already formerly determined by the author [Ref 1] while the other one - a regular function satisfying certain boundary conditions - is found now with a considerable mathematical expenditure. Finally the occurring systems are numerically solved.
There are 4 Soviet references.

PRESENTED:
Card 1/2

May 17, 1958, by N.I. Muskhelishvili, Academician

AMENZADE, Yu.A.

Local stresses caused by torsion in a round prismatic bar with elliptic noncoaxial holes [With summary in English]. *Prykl. mekh.* 5 no.1:5-17 '59. (MIRA 12:6)

1. Azerbayzhanskiy industrial'nyy institut.
(Girders)

67606

244100

SOV/179-59-5-30/41

AUTHOR: Amenzade, Yu.A. (Baku)

TITLE: Local Stresses in the Torsion of Prismatic Beams of Square Section with a Circular Non-axial Hole

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Mekhanika i mashinostroyeniye, 1959, Nr 5, pp 143-148 (USSR)

ABSTRACT: Assuming the square cross section to have slightly rounded corners, the problem is formulated and solved in terms of complex variable functions. A certain auxiliary function H_{η} required for the numerical evaluation of the solution is obtained by successive approximation, and numerical values are tabulated. An equation is derived for the torsional rigidity in terms of the dimensions of the square section, the hole radius, the shear modulus and the function H_{η} . The values of the shear stress at a number of points on the x-axis (which passes through the centres of the square and the hole) are tabulated and compared with the corresponding stresses in the absence of the hole. There are 3 figures, 2 tables and 3 Soviet references.

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Card 1/2

AMENZADE, Yu.A.; ALNSKEROVA, S.A.

Unidirectional tension of link plates of a roller chain.
Dokl.AN Azerb.SSR 15 no.2:111-117 '59. (MIRA 12:5)

1. Institut fiziki i matematiki, Azerbaydzhanskiy instrumenta.l'nyy institut in. M.Azizbekova. Predstavleno akademikom AN AzerSSR Z.I.Khalilovym.
(Link-beltng)

AZIMOV, B.A.; AMENZADE, Yu.A.; KUTUZOV, A.I.; MAMEDOV, G.A.

Solving certain problems on water injection into a layer by means
of electric modeling. Azerb. neft. khoz. 78 no.7:19-23 Jl '59.
(MIRA 13:2)

(Oil field flooding)

AMINZADE, Yusuf Amenovich for Doc Phys-Math Sci on the basis of dissertation defended 18 Feb 59 in Council of Tbilisi Math Inst in Ramadze, entitled "Torsion and bending of prismatic beams with sections representing doubly-connected ~~areas~~ of a certain aspect." (BMVISO USSR, 1-61, 25)

244200

also 1327, 2607

26497

S/044/51/000/004/008/033
C111/C222

AUTHOR:

Amenzade, Yu. A.

TITLE:

Local tensions for the torsion of a prismatic bar with a quadratic cross section and a non-coaxial hole

PERIODICAL:

Referativnyy zhurnal. Matematika, no. 4, 1961, 30-31.
abstract 4 B 155. ("Izv. AN Azerb SSR. Ser. fiz.-matem. i tekhn. n.", 1960, no. 1, 11-29)

TEXT:

The author considers the torsion of a bar the cross section of which is a regular curvilinear square - near quadrangle the boundary of which L_2 is given by the function $z = x + iy = \omega(\xi) = A(\xi - \frac{m}{\xi^3})$

for $|\xi| = 1$. The center of the circular non-coaxial hole with the radius R lies on the x -axis in a distance $l > R$ from the origin. According to the method of N.I. Muskhelishvili the solution of this problem leads to the determination of a function $F(z)$ which is regular in the region S bounded outside by the L_2 and inside by the boundary of the hole L_1 , and satisfies the boundary conditions

Card 1/3

Local tensions for the torsion ...

264.97
S/044/61/000/004/008/033
C111/C222

the author gives the values of the coefficients of the tension concentration $k = Y_z/Y_z^0$ in the points of the axis of symmetry of the cross section (i.e. the x-axis) ; here Y_z^0 is the corresponding tension for a missing hole. It is found : In the circular point $(e + R, 0)$ being nearest to the boundary L_2 it holds $k = 2.06$; in the diametrically opposite circular point $(e - R, 0)$ it holds $k = 3.56$.

[Abstracter's note : Complete translation.]

Card 3/3

AMENADE, Yu.A. (Baku)

Torsion of a circular prismatic bar with an elliptic noncoaxial
hole. Inzh.zhur. 1 no.2:164-168 '61. (MIRA 14:12)
(Elastic rods and wires)

AMENZADE, Yu.A. (Baku)

Local stresses caused by the bending of a circular prismatic bar
with an ellipsoidal noncoaxial cavity. Prikl.mekh. 7 no.2:135-148
'61. (MIRA 14:4)

1. Azerbaydzhanskiy industrial'nyy institut.
(Girders)

AMENZADE, Yu.A.

System of equations in the problem of the flexure of a round prismatic bar having an elliptic noncoaxial opening. Dokl. AN SSSR 139 no.3:580-583 J1 '61. (MIRA 14:7)

1. Institut matematiki i mekhaniki AN AzerbSSR. Predstavleno akademikom N.I. Muskhelishvili.
(Elastic rods and wires) (Deformations (Mechanics))

S/249/62/018/011/001/003 ,
D251/D308

AUTHOR: Amanzade, Yu.A.

TITLE: On the determination of the stressed state in piecewise-homogeneous two-dimensional media

PERIODICAL: Akademiya nauk Azerbaydzhanskoy SSR, Doklady, v. 18, no. 11, 1962, 3-8

TEXT: Using the method of D.I. Sherman (DAN SSSR, v. 27, no. 9, 1940), the author investigates coupling problems of a two-dimensional circular elastic plate with a concentric orifice reinforced by a washer, when the elastic constants and shear moduli of the plate and the washer are different from each other. The importance of the solution of this problem in the theory of machine parts is observed. The method is based on the finding of functions $\varphi_0(z)$, $\psi_0(z)$ regular in the region of the washer and functions $\varphi_1(z)$, $\psi_1(z)$ regular in the region of the plate, which satisfy the requisite boundary and contact conditions. Using Sherman's method, for the whole region functions $\psi(z)$ and $\varphi(z)$ are found in terms of

Card 1/2

S/249/62/018/011/001/003

D251/D308

On the determination ...

$\varphi_0(z)$, $\psi_0(z)$ and contour integrals around the boundary of division, which are then evaluated by power series expansion. As an example, a table of stress values in the case of a copper plate with a steel washer is given. More complicated problems will be considered in further publications. There are 1 figure and 1 table.

ASSOCIATION: Instytut matematyki i mekhaniki (Institute of Mathematics and Mechanics)

SUBMITTED: October 3, 1962

Card 2/2

AMENZADE, Yu.A. (Baku)

Problem of unrestricted torsion. Inzh. zhur. 3 no.2:337-347
'63. (MIRA 16:6)

(Torsion)

AMENZADE, Yu.A. (Baku)

Problem of elastic equilibrium of fitted fragmentary homogeneous
plane media. Izv. AN SSSR, Mekh. i mashinostr. no.5:179-186 S-0
'63. (MIRA 16:12)

AMENZADE, Yu.A.

Determining the stressed state in piecewise-homogeneous plane media. Dokl. AN Azerb. SSR 18 no.11:3-8 '62. (MIRA 17:2)

1. Institut matematiki i mekhaniki AN AzSSR. Predstavleno akademikom AN AzSSR, Z.I. Khalilovym.

AMENZADE, Yu.A. (Baku)

Determination of the stressed state in an eccentric ring
elastically joined to a circular disc made of a different
material. Izv. AN SSSR. Mekh. no.1:142-145 Ja-F '65.

(MIRA 18:5)

ACC NR: AP7002699

SOURCE CODE: UR/0424/66/000/006/0122/0129

AUTHOR: Amenzade, Yu. A. (Baku)

ORG: none

TITLE: The elastic equilibrium of a circular plate with an elliptical opening and an inserted stressed disc of a different material

SOURCE: Inzhenernyy zhurnal. Mekhanika tverdogo tela, no. 6, 1966, 122-129

TOPIC TAGS: elastic plate, elastic stress, elasticity, complex function

ABSTRACT: The problem is set up analytically as shown in Figs. 1 and 2. Here, S_0 is

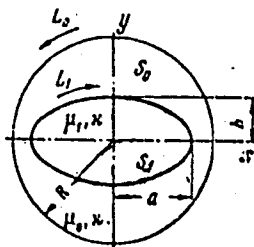


Fig. 1

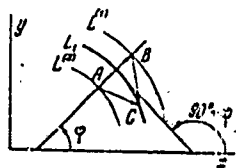


Fig. 2

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ACC NR: AP7002699

the middle plane of the plate in plane $z = x + iy$; the outer bound is sphere L_0 with radius R , the lower bound is ellipse L_1 with semiaxes a and b . The sphere and ellipse move counterclockwise and clockwise, respectively; μ_0, κ_0 are the elastic constants of the plate, μ_1, κ_1 are the elastic constants of disc S_1 which is inserted by pressurization or by heat treatment. The solution of the problem involves finding functions $\phi_0(z)$, $\psi_0(z)$ and functions $\phi_1(z)$, $\psi_1(z)$ (all regular in range S_1) of the complex variable z ; the functions must satisfy certain boundary and contact conditions. The calculations result in two infinite systems of linear equations. The roots of the first four and three equations of these systems are

$$p_1 = 0.02124 \mu_0 \delta r, \quad a_0 = q_0 = p_1 = 0,$$

$$q_1 = 0.22908 \mu_0 \delta r$$

$$a_1 = -0.26113 \frac{\mu_0 \delta r}{R}, \quad a_{-1} = -0.15244 \frac{\mu_0 \delta r}{R}$$

Orig. art. has: 25 formulas, 3 figures.

SUB CODE: 20/ SUBM DATE: 07Dec65/ ORIG REF: 003

Card 2/2

POPOV, Dmitriy Mikhaylovich; DOBRYI, Iosif Matveyevich; AMENTOV, B.K.,
otv. red.; SIDOROVA, T.S., red.; MARKOCH, K.G., tekhn. red.

[Plans for the dispatching and regulation of mail flows] Plany
napravleniia i regulirovanie pochtovykh potokov. Moskva, Gos.
izd-vo lit-ry po voprosam sviazi i radio, 1961. 80 p.
(MIRA 15:1)

(Postal service--Transportation)