to failure. Information concerning group III is shown, as are also the results of long-term flexural tests for both the second and third groups. Stress-rupture data are plotted for tests lasting over 7,000 hours in flexure, and the creep curves are shown for a number of stresses. It is concluded that standard-strength data for the various types of stressed state, which do not at present exist in the TS, e.g., in flexure and compression of KAST-V and KAST, should be represented in the future by means of transfer coefficients, i.e., ratios of the strength values for various types of stress. The investigation of the variability of the tensile strength of the FRP KAST-V and KAST had shown that the requirements of the TS lie below the mean values of the strengths on the average by 1.8-1.9 of the limiting strength. These figures should be used as a starting point for the establishment of standard stresses for other FRP for which there are no TS at present. Coefficients of uniformity for KAST and KAST-V, as obtained in industrial tests, lie in the area of 0.71-0.95. A tentative value of 0.5 has been established to allow for the unavoidable scatter of the test data. The flexural stress-rupture coefficients for KAST-V has been assumed to be 0.55, that for glass-reinforced textolite equal to 0.55. In the long-duration tests it was found that the incrementation of the flexure in non-failing specimens came to a halt approximately after 1,200 hours. The stress-rupture coefficient for the second group was tentatively assumed to be 0.3. This somewhat lower coefficient is attributed to the inadequate stiffness of the binding substance,

apparently due to its incomplete polymerization. With further improvement of the process technology, it may be assumed that the stress-rupture coefficient of domestic FRP might, within a reasonable time, be increased to a value equivalent to that of foreign FRP of the same type. There are 12 figures, 6 tables, and 17 references (4 Russian-language Soviet, 5 German, and 8 English-language).

ASSOCIATION: None given.

S/804/62/000/011/002/005

AUTHORS: Panferov, K. V., Candidate of Technical Sciences, Romanenkov, I. G., Engineer.

TITLE: The influence of temperature-humidity and chemical factors on the physico-mechanical properties of fiberglass-reinforced plastics.

SOURCE: Akademiya stroitel'stva i arkhitektury SSSR. Institut stroitel'nykh konstruktsiy. Trudy. no.11. Moscow. 1962. Issledovaniya konstruktivnykh plastmass i stroitel'nykh konstruktsiy na ikh osnove. pp.289-333.

TEXT: The paper provides a review of Soviet and foreign literature and examines the results of new lab investigations of the effect of various T and humidity (H) conditions and chemical media on the strength and strain of various fiberglass-reinforced plastics (FRP), especially those of Soviet manufacture. The objective of this investigation is a more rational utilization of existing FRP's in building construction and the development of new structural FRP's with more stable physico-mechanical properties (PhMP) at various T and H, and in chemically-aggressive media. Having established that at ordinary T the PhMP of FRP's are primarily determined by the directionality, composition, and percent content of the glass filler and also by the type of binder, the literature data are scanned, firstly,

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with respect to high T effects. As a rule, FRP's with phenol binders appear most heat-resistant. Currently produced Soviet FRP's based on polyester binders are not adequately heat-resistant and their PhMP drop noticeably at high T. More heat-resistant polyester FRP's should utilize as their monomers triallylcyanurate, diallylphthalate, and other compounds, and additional heat-resistant admixtures should be introduced that are capable of copolymerization with the polyesters. Epoxide resins can be rendered more heat-resistant by combining them with phenol-formaldehyde, silicon-organic, and other resins. The use of more significant heat-resistance characteristics than the Martens HR index is proposed. The T-test data of various authors are divided into 2 groups: (1) The FRP specimens are heated to a given T, held at that T for a prescribed time, and tested in the heated state; (2) the specimens are held at the prescribed T for a certain time, and are then cooled and tested at normal T. PhMP of FRP's at high T, PhMP of FRP's after heating: These 2 groups are discussed in detail with reference to predominantly Western sources. The second group contains more Soviet references. The data adduced show that a short-term heating of FRP's at relatively low T's leads to an improvement of the initial strength and elastic characteristics. With increasing time and T of heating, the respective strength and elasticity characteristics begin to be impaired. PhMP of FRP's at low T: Four references are cited, covering T down to -50°C. Low T do not appear to affect the PhMP of FRP's

appreciably, except for some improvement with lower T. Effect of high humidity: In general, H impairs the PhMP of FRP's. It is noted that during the initial period of H exposure a strengthening of the material may be observed, especially if the number of layers of glass filler is appreciable. Effective means for the improvement of the H resistance by means of the hydrophobization of the fiberglass with surface-active substances are noted. Other means for improving the H resistance of FRP's are an increase in the impregnational capability of the binders. The present investigation shows that the water-resistance of FRP's depends to a significant degree on the manufacturing process and the content of the binder. Thus an FRP containing 68.7% binder absorbs 3.2% water in 90 days and loses appx. 20% of its tensile and flexural strength, whereas an FRP containing 39.6% binder absorbs 10% water and 48-55% of its tensile and flexural strength, respectively. To improve the H resistance of FRP's it is necessary to add to the binder chemical compounds that are capable of hydrolyzing in the presence of H and to change the concentration of the terminal groups in the adhesive medium. One such compound that is capable, through hydrolysis, to interact with the active groups on the surface of the glass fiber, is the silicon-organic additive МТЭК (MTEK), which is employed in the making of the highly water-resistant glass-reinforced textolite СТ-911-1 (ST-911-1), developed by K. A. Andrianov and A. K. Dobacheva. The effect of chemical media: The literature survey contains numerous Western references and

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also significant citations of works performed in the GDR. A basic criterion in the evaluation of the resistance of FRP's against the disintegrating action of aggressive chemical media is the chemical stability and the constancy of dimensions and shape. The first of these consists of an invariability of the PhMP as a result of the long-term action of chemically aggressive means of differing concentration. Weight, external appearance and coloring of the specimen are also used as indications of chemical stability. Changes in dimensions observed include such phenomena as warping, swelling up, spalling, etc. Generally speaking, FRP's exhibit elevated anticorrosion properties to the action of both vapors and liquids. Experimental investigations: 25 Soviet and 2 imported batches of structural FRP's of industrial and experimental production were tested for T and H effects. The effects of chemical media were tested on 8 batches of domestic FRP's only. The designations and basic characteristics of the various domestic FRP's are listed in a two-page table. The T tested ranged from -40 to +80°C, the latter to represent the maximum possible T to which building structures could be heated by exposure to the sun. Most of the tests were focused on the high-T end, since it was known from literature data that the strength characteristics of FRP's at sub-freezing T are improved. In the H tests, specimens were soaked in water or in air with a RH of 95% for 24, 72, 240, 480, 960, 2,160, 4,320, and 8,640 hrs and were then tested. Tests for the action of aggressive chemical media comprise the soaking of

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specimens for 6 months in vapors and liquid media of differing concentration with H_2SO_4, HCl, HNO_3, acetic acid, and alkalies. Groups of 3-7 specimens prepared in accordance with All-Union Standard GOST 4649-55 were tested for strength and elastic characteristics in tension. 5-12 specimens of the type prescribed by GOST 4648-56 were tested in bending. All tests were made on the Schopper machine, equipped with special T chamber and H vats. The rate of advance of the test heads was 15-20 mm/min, in bending 20-50 mm/min. In modulus-of-elasticity (ME) tests the rate of increase in load in tension was 80-100 kg/min, in bending 20 kg/min. The deformability criterion was taken to be the ME determined as the ratio of the increase in stress to the increase in strain, since the total deformation of humidified and chemically attacked specimens was too greatly scattered, and developed residual strains too large to be meaningful. The results of tests of FRP's specimens heated for the first time to 80°C are summarized and tabulated. Various problems encountered in the testing of specimens after first-time heating (FTH) to 80° are detailed. It is noted that the strength properties of FRP's with phenol binders decrease more greatly than does the ME. Tests of FRP's specimens after long-term heating are described. Some FRP's and, more especially, Soviet-made FRP's based on polyester resins, lose much of their strength after FTH to 80°. In order to determine to what degree inadequate polymerization of the binders occurring in the manufacturing process might have been responsible for this drop

in strength properties, 7 different FRP's were made into tensile and bending specimens which were held at 80°C for a specified time and were then cooled and tested to failure. The effect of the degree of polymerization was thus identified. Two mutually contradictory processes appear to occur in the heating of FRP's. On the one hand, polymerization and polycondensation of the binders occurs, which improves the PhMP, while, on the other hand, thermal destruction processes and, hence, losses in strength obtain. The optimal heat-treatment T to obtain optimal FRP characteristics varies from material to material. In a number of FRP's, primarily those based on polyester binders, a loss of weight with a concomitant improvement of their strength properties occurs at T from 40 to 100°. H tests on FRP's: The water absorption of various types of FRP's varies within broad limits. Two stages of water absorption (WA) by FRP's are identified; first, a stage of intensive WA attributable to filling of structural macrodefects which impairs the PhMP of the FRP slightly, then a second stage of the gradual penetration of H into the bulk of the material which affords a sharp lowering of the strength and elastic properties of the FRP. The amount of water absorbed during the first stage varies greatly from FRP to FRP, depending on the volume of pores, cavities, and fissures, etc., available therefor. The amount of water absorbed in the second stage depends on the amount of microcapillar conduits, the H sorption of the binder and glass filler, and the development of chemical processes along the

surface of the glass fibers. A more intensive loss in strength and elastic properties of FRP's at ordinary T occurs during the first 150-240 hrs of soaking in an aqueous medium. The rate at which the WA occurs increases with increasing T. The H effect appears to be greater with respect to bending than tension, a fact that is attributed to the weakening of the adhesional bonding between the glass fibers and the adhesive medium. Soaking in an aqueous medium does not affect the external appearance of FRP's. Some slight swelling, not in excess of 1.5-2.5% occurs. Tests of FRP's in chemical media: Acid vapors do not appear to alter the initial PhMP of the FRP's at room T, whereas liquid chemical media produce a substantial impairment, especially during the first 200 hrs of soaking, after which the rate of impairment is reduced. The losses in strength of various FRP's in various acids are detailed. The losses in PhMP of FRP's as a result of T and H action must be taken into account in the design and calculation of structural elements. Practical design coefficients are tabulated. In summary, FRP's are found to be substantially H-resistant and, therefore, suitable for structural use in humid conditions. There are 19 figures, 12 tables, and 58 references (28 Russian-language Soviet, 1 Russian-language translation of an English-language original, 6 German, 1 Italian, 1 French, 21 English).

ASSOCIATION: None given.

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PANFEROV, K.V.; TYUZNEVA, O.B.

Water and moisture absorption and swelling of fiberboards.
Bum. prom. 36 no.11:14-16 N '61. (MIRA 15:1)

1. TSentral'nyy nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy Akademii stroitel'stva i arkhitektury SSSR.
(Hardboard)

PANFEROV, K.V., kand.tekhn.nauk; TYUZNEVA, O.B., inzh.

Study of the physicomechanical properties of wood fiber blocks. Trudy TSNIISK no.11:379-406 '62. (MIRA 15:9)
(Hardboard--Testing)

PANFEROV, K.V.; KOLPAKOV, S.V.

Methods of mechanical testing of foam plastics. Plast. massy no.8:53-55 '63. (MIRA 16:8)

(Plastics--Testing)

PANFEROV, K.V., kand.tekhn.nauk; KOLPAKOV, S.V., inzh.

Mechanical properties of foam plastics allowing for the factor of time. Trudy TSNIISK no.11:355-378 '62. (MIRA 15:9)
(Plastic foams—Testing)

PANFEROV, K.V., kand.tekhn.nauk

The effect of temperature-moisture and chemical factors on the physicomechanical properties of glass reinforced plastics. Trudy TSNIISK no.11:289-333 '62. (MIRA 15:9)
(Glass reinforced plastics--Testing)

PANFEROV, K.V., kand.tekhn.nauk; ROMANENKOV, I.G., inzh.

Effect of temperature on the physical and mechanical properties of glass reinforced plastics. Stroi.mat. 8 no.3:27-29 Mr '62. (MIRA 15:8)

(Glass reinforced plastics—Testing)

PANFEROV, K.V.; FREYDIN, A.S.

Determination of the adhesive strenght on small laboratory samples. Zav.lab. 28 no.4:494-495 '62. (MIRA 15:5)

1. TSentral'nyy nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy.
(Adhesion)

S/191/62/000/009/004/012
B101/B144

AUTHORS: L'vov, B. S., Panferov, K. V., Romanenkov, I. G., Shpakovskaya, Ye. I.

TITLE: Changes in the physicomechanical properties of glass-reinforced polyester plastics due to water

PERIODICAL: Plasticheskiye massy, no. 9, 1962, 16 - 18

TEXT: Longer immersion in water had the following effect on the physico-mechanical properties of glass-reinforced plastics (GRP) which contained 35-40% ПН-1 (PN-1) polyester resin as binder: (1) Reduction of tensile strength and bending strength depended on the type of glass filler. After 6 months' immersion in water, the tensile strength (in % of the initial value) for GRP with rope glass fabric was 62.5, with Т-1 (T-1) plain weave glass fabric 68.0, with staple glass fiber 55.9; the bending strength dropped to 44.0, 66.5, and 35.1, respectively. (2) When T-1 glass fabric was treated with the organosilicon ГВС-9 (GVS-9) preparation the tensile strength of GRP after 40 days' immersion in water dropped by only 7.6, the bending strength by 15.6%, while the corresponding values for GRP with

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untreated glass fabric were 32.5 and 61.8. (3) Result of the comparison between PN-1 resin and BFB-1 (VFB-1) phenol formaldehyde resin as binder: After 6 months' immersion in water, the residual tensile strength was 83.4% for GRP from T-1 glass fabric and TH-1 (TN-1) resin, the residual binding strength 68.2%, the modulus of elasticity in tension 65.8%, the modulus of elasticity in bending 33.8%, while the corresponding values for VFB-1 resin are 85.2, 77.9, 81.0 and 73.7. (4) Effect of the thickness in the case of GRP from T-1 glass fabric and TN-1 resin, after 6 months' immersion in water: For 2.2, 5.0-5.2 and 10.2-10.8 mm thick GRP, the residual tensile strength was 68.0, 83.4 and 81.2%, the residual bending strength 66.5, 68.2 and 69.8%, the residual elasticity modulus in tension 63.7, 65.8 and 65.9%, and the residual elasticity modulus in bending 26.7, 33.8 and 57.4% of the respective original values. There are 1 figure and 3 tables.

S/191/62/000/010/010/010
B101/B186

AUTHORS: Freydin, A. S., Panferov, K. V.

TITLE: Methods of testing glued joints on plastics and other constructional material in shear

PERIODICAL: Plasticheskiye massy, no. 10, 1962, 57 - 60

TEXT: Following ASTM standards, the optimum sizes of specimens were worked out for testing three-layered panels faced with aluminum, asbestos cement, or glass-reinforced plastics, on a core of ПС-1 (PS-1), ПС-4 (PS-4), ПВХ-1 (PVKh-1), and ПСБ(PSB) foam plastics, kraft paper, or paper honeycomb plastic. As the coupled forces when testing materials thicker than sheet aluminum are otherwise too eccentric, the shearing test is carried out by means of compression. Panels faced with asbestos cement are tested in a similar way to glued wood, the test area being 3·3 cm, but 3·1 cm is recommended in the case of glass reinforced plastics thinner than 3 mm. To avoid crushing the honeycomb core in panels of honeycomb plastics, the cavities in it were filled with gypsum, but this was found to take too much time. Instead of five-layered combinations, three-layers with areas of 5·5 cm

Card 1/2

S/032/62/028/009/006/009
B104/B102

AUTHORS: Panferov, K. V., and Kolpakov, S. V.

TITLE: A method for torsional tests of foam plastics

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 9, 1962, 1121 - 1122

TEXT: To achieve a more uniform distribution of the tangential stress in foam plastics samples during torsional tests the authors substituted cylindrical for rectangular samples. The samples have an outer diameter of 75 mm, a wall thickness of 20 mm and a height of 50 - 80 mm, depending on the thickness of the material. For short-time torsion tests these samples are fixed by epoxide clamps in a K-6(K-6) testing machine and loaded at a rate of 1-1.5 kgm/min. The angle of torsion can be read off. During the tests, ПС -1 (PS-1), ПХВ -1(PKhV-1), ПС - Б(PS-B) plastics and foam-polyurethane fractures like brittle materials; the fractures being helical. The ПС -4 (PS-4) foam plastics formed necks in the central portion. For long-time tests a large disc (250 mm diameter), with a grooved periphery is attached to the front of the cylindrical specimen so as to load it with a constant torque produced by a weight hanging from a thread wound around

Card 1/2

GUBENKO, A.B.; ZUBAREV, G.N.; PANFEROV, K.V.; CHAPSKIY, K.A.

Designing construction elements to be made with plastic materials.
Prom. stroi. 38 no. 12:24-31 '60. (MIRA 13:12)

1. Tsentral'nyy nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy Akademii stroitel'stva i arkhitektury SSSR.
(Plastics)

GUBENKO, A.B.; PANFEROV, K.V.; ZUBAREV, G.N.; CHAPSKIY, K.A.

Designing construction elements using plastics. Prom. stroi. 38 no.11:35-41 '60. (MIRA 13:10)

1. TSentral'nyy nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy.

(Plastics)

S/191/60/000/007/015/015
B004/B056

AUTHORS: Panferov, K. V., Chapskiy, K.A.

TITLE: The Fatigue Limit of Glass Reinforced Plastics Under Mechanical Stresses

PERIODICAL: Plasticheskiye massy, 1960, No. 7, pp. 72 - 74

TEXT: This is a review of Western papers on fatigue tests of glass reinforced plastics. Three tables and one figure are taken from Western papers: Table 1 (USA), a figure (USA and Germany), Table 2 (USA), and Table 3 (USA and Germany) concerning fatigue tests for stress and bending of glass-reinforced epoxy and polyester plastics. The authors discuss the fatigue limit as a function of the kind of glass fabric used (highest stability: glass fabrics made of continuous glass fiber of the type CBAM (SVAM); lower stability: glass texture; lowest stability: glass. There are 1 figure, 3 tables, and 5 non-Soviet references.

Card 1/1

PANFEROV, K.V.

Discussion of the methods of investigating and testing the physico-mechanical properties of plastics. Zav.lab. 26 no.12:1386-1388 '60. (MIRA 13:12)

1. TSentral'nyy nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy Akademii stroitel'stva i arkhitektury SSSR.
(Plastics—Testing)

PANFEROV, K.V.; ROMANENKOV, I.G.

Effect of moisture on the physicomechanical properties of glass plastics. Report No.2: Effect of an aqueous medium on the elastic modulus of glass plastics. Plast.massy no.11:31-34 '60.
(MIRA 13:12)

(Glass reinforced plastics)

PANFEROV, K.V.; ROMANENKOV, I.G.

Effect of moisture on the physicochemical properties of glass reinforced plastics. Report No.1: Effect of the duration of keeping glass reinforced plastics in water on their strength. Plast.massy no.4:35-37 '60. (MIRA 13:7)
(Glass reinforced plastics)

PANFEROV, K.V.; CHAPSKIY, K.A.

Long-period strength of glass plastics subject to mechanical stresses.
Plast.massy no.7:72-74 '60. (MIRA 13:10)
(Glass reinforced plastics--Testing)

PANFEROV, K.V.; KORABEL'NIKOV, Yu.G.

Effect of "rest" on the longevity of some polymeric materials subjected to repeated stresses. Vysokom.soed. 7 no.10:1731-1736 O '65. (MIRA 18:11)

1. Nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy.

KUVSHINSKIY, Ye.V.; BESSONOV, M.I.; ZAKHAROV, S.K.; SIDOROVICH, A.V.; GUBENKO, A.B.; PANFEROV, K.V.; GUL', V.Ye.; LOMAKIN, V.A.; TSIPES, L.Ya.; CHERNYAKINA, A.F.; SAKHNOVSKIY, Z.L.; SHCHERBAK, P.N.; AL'SHITS, I. Ya.

Answers to the inquiry concerning the determination of the physical and mechanical properties of plastics. Zav.lab. 26 no.1:7-28 '60. (MIRA 13:5)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR. (for Kuvshinskiy Bessonov, Zakharov, and Sidorovich). 2. TSentral'nyy nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy (for Gubenko and Panferov). 3. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V.Lomonosova (for Gul'). 4. Moskovskiy gosudarstvennyy universitet imeni M.V. Lononosova. Problemnaya laboratoriya fiziko-mekhanicheskich svoystv polimerov (for Lomakin). 5. Zavod "Karbolit" (for TSipes, Chernyakina and and Sakhnovskiy). 6. Gosudarstvennyy nauchno-issledovatel'skiy institut polimerizatsionnykh plastmass (for Shcherbak). 7. TSentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya (for Al'shits)

(Plastics--Testing)

S/032/60/026/012/016/036
B020/B056

AUTHOR: Panferov, K. V.

TITLE: Discussion on the Methods of Investigating and Testing the Physical and Mechanical Properties of Plastics. (Replies to the Questionnaire Published in No. 1 of the Periodical "Zavodskaya laboratoriya" 1960)

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 12, 1386-1388

TEXT: As the strength and elasticity of plastics depend to a considerable extent on time, the standardization of durability tests is of great importance. In this connection, the uniform shape and dimensions of the samples are of importance in consideration of the nature of the plastics and their state of stress. Furthermore, the importance of testing devices for durability tests is pointed out, in which the lever systems should be kinematically independent. Further, conditioning of the sample before testing should be described. The conditions and the order of loading the samples as well as the instant of the first reading on the indicator

Card 1/2

Discussion on the Methods of Investigating and Testing the Physical and Mechanical Properties of Plastics. (Replies to the Questionnaire Published in No. 1 of the Periodical "Zavodskaya laboratoriya" 1960)

S/032/60/026/012/016/036
B020/B056

instruments, the selection of the correct type, the proper quantity, and the position of the devices for deformation measurement are discussed. Readings should be taken at least once in 24 hours, and at the same time, temperature and air moisture should be measured. The entire testing process may, in some cases, extend over several years. Stress must not be changed during the test. In the testing room no great temperature or moisture fluctuations must occur.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy Akademii stroitel'stva i arkhitektury SSSR (Central Scientific Research Institute of Structural Parts of the Academy of Construction and Architecture USSR)

Card 2/2

GUBENKO, A.B., ZUBAREV, G.N., PANFEROV, K.V., PINSKER, V.G.; NESOV, V.D., red.; VORONIN, K.P., tekhn. red.

[Prefabricated sectional wooden buildings for temporary use at construction sites] Dereviannye inventarnye sborno-razbornye zdaniia proizvodstvennykh predpriiatii i skladov na stroitel'nykh ploshchadkakh. Moskva, Gos. energ. izd-vo, 1958. 62 p. (MIRA 11:11)
(Construction industry)
(Buildings, Prefabricated)

IVANOV, Yu.M., prof.; PANFILOVA, A.L., nauchnyy sotrudnik; PANFEROV, K.V., nauchnyy sotrudnik; PETRI, V.N., prof.; MOROZOV, M.I., nauchnyy sotrudnik; PERMIKIN, I.P., nauchnyy sotrudnik

Moisture-resistant parquet staves made of birch or beech. Rats. i izobr. predl. v stroi. no.5:27-30 '58. (MIRA 11:6)

1.TSentral'nyy nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy Akademii stroitel'stva i arkhitektury SSSR (for Panfilova, Panferov), stantsiya Perovo - 3 Moskovskoy oblasti. 2.Sverdlovskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta promyshlennykh sooruzheniy (for Morozov, Permikin), Sverdlovsk, ul. Krenkelya, d.5. (MIRA 11:6)

(Parquet floors)

PANFEROVA, N.Ye. (Moskva)

The 24-hour rhythm in human functions during restricted mobility.
Fiziol.zhur. 50 no.6:741-749 Je '64. (MIRA 18:2)

88551

S/191/60/000/011/008/016
B013/B054

15.8000 (2209)

AUTHORS: Panferov, K. V., Romanenkov, I. G.

TITLE: Effect of Moisture on Physicomechanical Properties of Glass-reinforced Plastics. Report No. 2. Effect of Water Medium on the Elasticity Modulus of Glass-reinforced Plastics

PERIODICAL: Plasticheskiye massy, 1960, No. 11, pp. 31-34

TEXT: The authors report on experimental studies of the effect of moisture on the elasticity modulus of glass-reinforced plastics in stretching and bending; the studies were made at the TsNIISK AS i A SSSR (Central Scientific Research Institute of Structural Parts of the Academy of Construction and Architecture USSR). Ten industrial and experimental lots of glass-reinforced plastics of Soviet origin were studied on the basis of various glass fiber fillers and phenol binders. The samples were stored in water up to 960 hours. The experiments yielded the following results: The elasticity modulus was most reduced in glass-reinforced plastics on the basis of phenol formaldehyde binders during the first 240 hours. After longer storage in water and with increasing water absorption, the ratio

Card 1/2

PANFEROV, P. (Balashovskaya oblast')

How we organize the leisure time of students. Prof.-tekh.obr. 13 no.2:27 F '56. (MLRA 9:5)

1. Sekretar' komiteta komsomola uryupinskogo uchilishcha mekhanizatsii sel'skogo khozyaystva No. 3.
(Students--Recreation)

PANFEROV, M.A.

Simultaneous hole boring and facing machines. Stan. i instr. 26 no.3:12-16 Mr '55. (MLRA 8:6)
(Machine tools)

PANFEROV, P.V., inzh.-gidrotekhnik

Draining milled peat bogs with deep slit drains at the Yuzhno-Alferovskoye Peat Enterprise. Torf.prom. 35 no.2:28 '58. (MIRA 11:5)

1. Moskovskiy torfyanoy institut.
(Peat bogs)

PANFEROV, V.M. DOCT PHYSICOMATH SCI

Dissertation: "General Methods for the Solution of Plasticity Problems and Certain Applications."

29 Jun 49

Moscow Order of Lenin State U imeni M.V. Lomonosov

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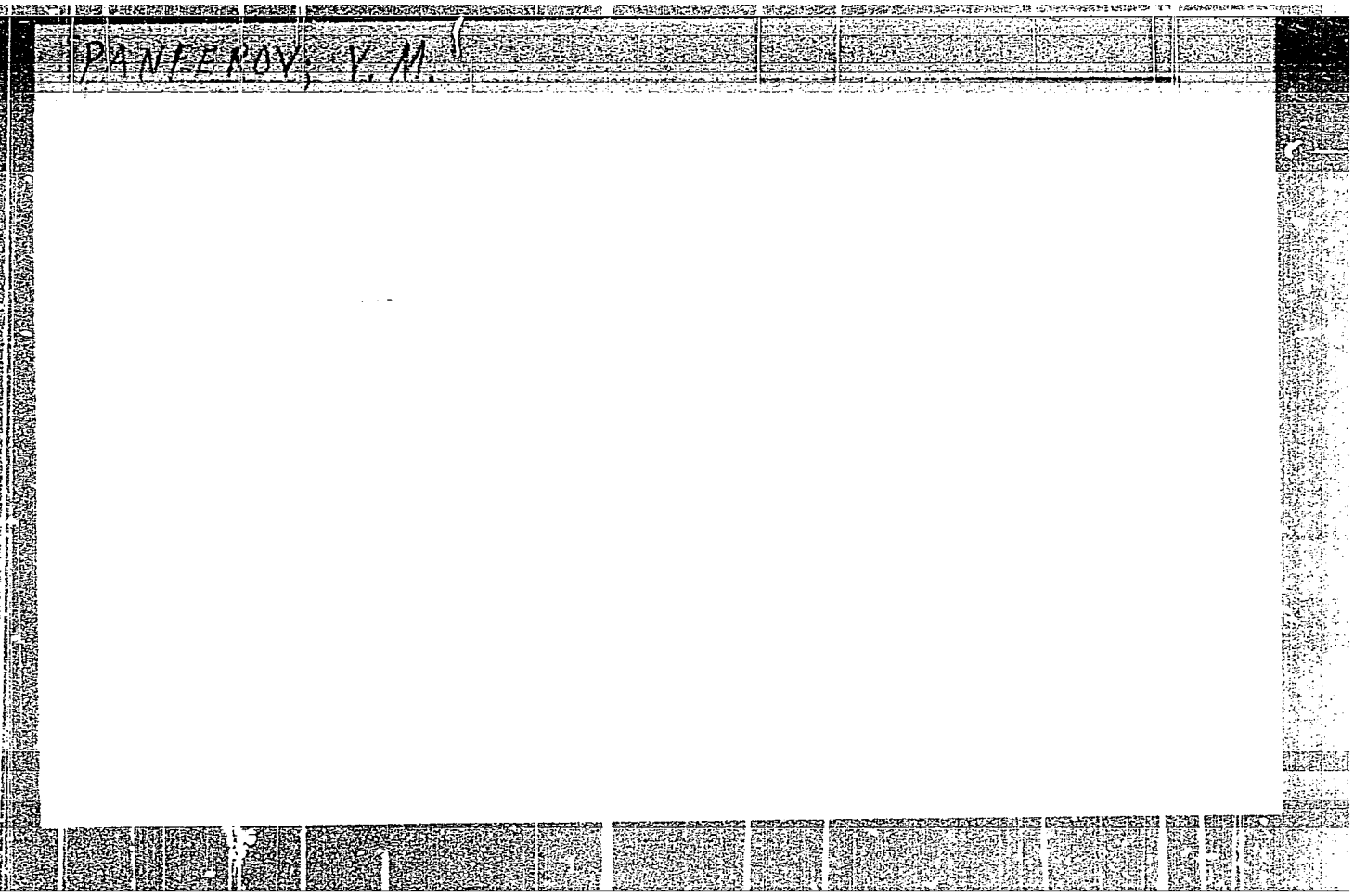

PA 242T87

PANFEROV, V. M.

USSR/Mathematics - Elasticity Theory Feb 52

"A. A. Il'yushin's General Method for the Solution of Boundary-Value Problems in the Theory of Elastic-Plastic Deformations Under Simple Load," V. M. Panferov, Chair of Theory of Elasticity

"Vest Moskov U, Ser Fiz, Mat, i Yest Nauk" No 1, pp 41-61

Article is an excerpt from author's doctoral dissertation, awarded a prize imeni Galerkin. Analyzes eqs of deformations, and derives integro-differential eqs for boundary-value problems. Received 6 Oct 51.

242T87

PANFEROV, V. M.

Deformation (Mechanics)

General method for solving boundary problems in the theory of elastic-plastic deformations under A. A. Il'yushin's simple load. Vest. Mosk. un., 7, No. 2, 1952.

9. Monthly List of Russian Accessions, Library of Congress, October, 1952 1958. Unclassified.

PANFEROV, V. M.

USSR 600

Strains and Stresses

"Concentration of stresses near openings." Reviewed by S G Lekhnitskiy, V.M.Panferov. Prikl mat i mekh 16 no. 1, 1952

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

PANFEROV, V.M.

problem into a system of nonlinear integral equations

PANFEROV, V. M.

"Two-Dimensional Problem of the Theory of Small Elastic-Plastic Deformations," Vest. Mosk. U., Ser. Fizikomat i Yest. Nauk, No.2, pp 45-68, 1953

Chair of Theory of Elsaticity

Studies so-called planan problems, which comprise two mechanical problems concerning: (a) equilibrium of a solid for small elastic-plastic strains in the case of two-dimensional deformation (long cylindrical body) and (b) equilibrium of a body in the case of a two-dimensionally stressed state (thin plate). Employs various methods of curvilinear coordinates, complex variables and polar coordinates.

257T89

PANFEROV, V.M.

Plane problem in the theory of slight elastic-plastic deformations. Vest. Mosk.un. 8 no.3:45-68 Mr '53. (MLRA 6:6)

1. Kafedra teorii uprugosti. (Strains and stresses)
elasticity

USSR/Engineering - Mechanics FD-1092

Card 1/1 Pub. 41-4/17

Author : Panferov, V. M.

Title : Concentration of stresses in elastic-plastic deformations

Periodical : Izv. AN SSSR. Otd. tekh. nauk 4, 47-66, Apr. 1954

Abstract : Investigates problem of distribution of deformation and stresses in zones of abrupt change in the geometric shape of a part subjected to the action of surface forces during elastic-plastic deformation. The construction of the solution to the problems of stress concentration is based on the so-called method of "elastic stresses" as applied to the plane problem. Diagrams, photographs. Eight references.

Institution :

Submitted : April 30, 1954

RUM

Panferov, V. M. The plane problem of the theory of small elastic-plastic deformations. Acad. Repub. Pop. Romine. An. Romino-Soviet. Mat.-Fiz. (3) 7, no. 1(8), 29–53 (1954). (Romanian) 1 - F/W

Translated from Vestnik Moskov. Univ. Ser. Fiz.-Mat. Estest. Nauk 1953, no. 3, 45–68.

Panferov, V.M.

114/12/3 539.4.011.25

A Method of Determining Rupture Stress

Izv. Akad. Nauk, Otd. tekh. Nauk (1.), 58-1[illegible]

V.M. Panferov

S.S.S.R.

Strength criterion is offered for thin-walled metallic constructions [illegible] with elastic-plastic deformations are induced by a single static loading. The problems of plasticity are solved on the basis of Ilyushin's theory of small elastic-plastic deformations. The strength criterion stipulates that the intensity of deformation in thin-walled constructions shall not exceed the limit intensity of deformation calculated taking into consideration the rupture stress for a thin plate of specified configuration. (Bibl.5)

BOGATYREV, I.S. (Moskva); IL'YUSHIN, A.A. (Moskva); LENSKIY, V.S. (Moskva); PANFEROV, V.M. (Moskva)

The SN testing machine for investigating plastic deformations of metals under composite loading. Inzh.zhur. 1 no.2:182-193 '61. (MIRA 14:12)

(Testing machines) (Metals--Testing)

Molotov, Molotov Oblast, (-1945-)

"The Question of Tolerances in Depth and Height Measurements", Stanki I Instrument, 14, No. 11-12, 1943.

BR-52059019.

PALASTIN, L.M., kand.tekhn.nauk; PUTSYKIN, G.G., kand.tekhn.nauk; CHIGIKOV, A.I., inzh.; PANFEROV, Yu.B., inzh.

Regulated d.c. machines with excitation by permanent magnets. Vest. elektroprom. 31 no.12:42-48 D '60. (MIRA 14:2)
(Electric machinery—Direct current)

PANFEROV, Yu.B., inzh.

Calculation of the magnetic circuit of regulated d.c. machinery with permanent magnets. Vest. elektroprom. 32 no.12:35-37 D '61. (MIRA 14:12)

(Magnetic circuits)
(Electric machinery—Direct current)

PANFEROV, Yu.B., inzh.; CHUBUKOV, Yu.F., inzh.; KUDINOV, V.G., inzh.

System for testing electric motors with low power ratings.
Elektrotekhnika 36 no.10:40-43 O '65. (MIRA 18:10)

88173

16.9500 (1024, 1031, 1132)

S/110/60/000/012/002/004
E194/E455

AUTHORS: Palastin, L.M., Candidate of Technical Sciences
Putsykin, G.G., Candidate of Technical Sciences,
Chesnokov, A.I., Engineer and Panfarov, Yu.B., Engineer

TITLE: Controlled-Output D.C. Machines With Permanent-Magnet Field Systems

PERIODICAL: Vestnik elektropromyshlennosti, 1960, No.12, pp.42-48

TEXT: Ordinary d.c. machines with permanent-magnet fields do not permit of direct control of field flux in the air gap. It is accordingly of practical importance to develop a simple and economic design of d.c. machine with permanent-magnet field in which the voltage can be controlled. A way of doing this which has been proposed by the present authors combines two methods of excitation: electromagnetic and permanent magnet. The armature, commutator and brush gear are just the same as in an ordinary d.c. machine. Each field pole has two permanent magnet parts and between them is a magnetic shunt of magnetically soft steel. Under normal operating conditions, the machine is excited jointly by the permanent magnet and the compensation winding which surrounds

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S/110/60/000/012/002/004
E194/E455

Controlled-Output D.C. Machines With Permanent-Magnet Field Systems

machines are compared in the article, all fulfilling the same requirements and having the same rated data. Results are given for the case of including a compensating winding (the magnetic fluxes of the permanent magnet and the compensating winding coincide in direction in the air gap). The following machines are compared: with conventional excitation; with permanent magnets with orientated crystallization; with magnico permanent magnets; and with permanent magnets of high coercive force. Two frame sizes of d.c. motor are compared, firstly in respect of no-load characteristics. Very similar no-load characteristics can be obtained with and without permanent magnets, but with permanent magnets the field winding power is much reduced. Moreover, in motors with permanent magnets, the rated voltage may be exceeded by 25 to 30%, which cannot be allowed with normal methods of excitation because of saturation of the magnetic circuit. The comparison shows that the alloy with orientated crystallization requires the least field power. The use of permanent magnets with high coercive force in four-pole machines has less to

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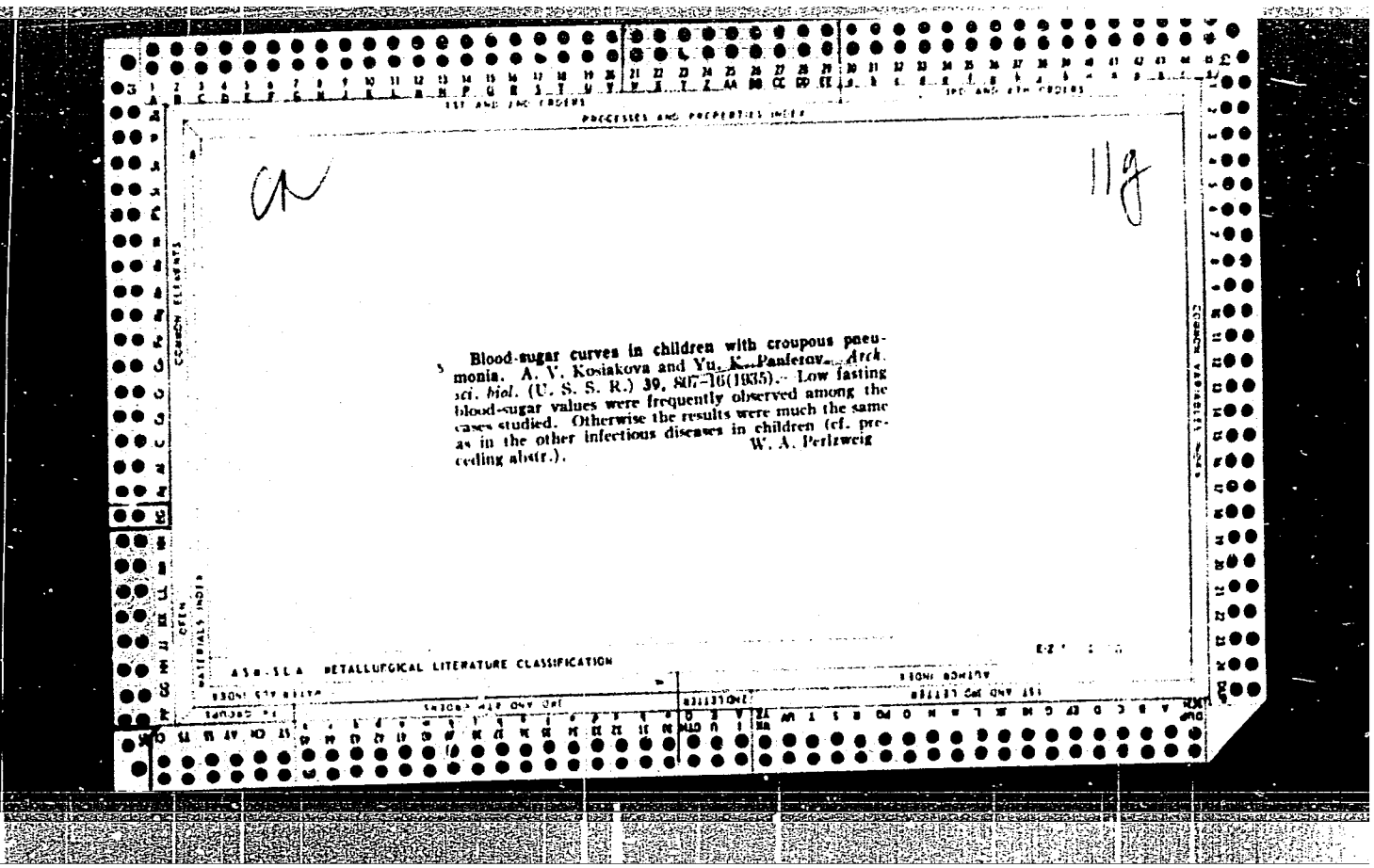
S/110/60/000/012/002/004
E194/E455

Controlled-Output D.C. Machines With Permanent-Magnet Field Systems

recommend it. For self-excitation and starting, a d.c. machine must have a relatively high residual flux and in this respect machines with partial permanent-magnet excitation are much superior to normal machines. Motors of this kind can be started against rated load without special starting windings. It is shown that motors with permanent magnets made of alloys with orientated crystallization and magnico have a starting voltage which is 2.5 to 3.5 times less than in normal machines. Alloys with high coercive force require a higher starting voltage which is 70 to 80% of the corresponding value for normal methods of excitation. D.C. motors operated with speed controllers are often required to be of great reliability because of the high runaway speeds that could result from field failure. Here motors with permanent magnets are particularly reliable because even if the compensation winding fails the excitation is sufficiently maintained. The field winding time-constants of machines with permanent-magnet excitation are much smaller than those of normal machines and, accordingly, transient process time is greatly reduced. In the

Card 4/5



Blood-sugar curves in children with croupous pneumonia. A. V. Kosiakova and Yu. K. Panferov. *Arch. sci. biol.* (U. S. S. R.) **39**, 807–16(1935).—Low fasting blood-sugar values were frequently observed among the cases studied. Otherwise the results were much the same as in the other infectious diseases in children (cf. preceding abstr.).
W. A. Perlzweig

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

VATAZHINA, V., kand. tekhn. nauk; KHOMENKO, Z., kand. tekhn. nauk; PANKRATOV, V., inzh.; PANFEROVA, A., inzh.; POMANSKAYA, M., inzh.; DEMINA, Ye., inzh.

Modern joint-sealing materials in housing construction. (MIRA 18:11)
Zhil. stroi. no.9:5-6 '65.

PANFEROVA, A.A., inzh.; KOROLEVA, R.P., inzh.

The assortment of fabrics manufactured by the newly built textile enterprises should be up-to-date. Tekst.prom. 22 no.8:8-9 Ag '62. (MIRA 15:8)

1. Vsesoyuznyy institut izdeliy legkoy promyshlennosti i kul'tury odezhdy (VIALEGProm).

(Textile fabrics)

PANFEROVA, A.A., inzh.

For further improvement in the assortment and quality of cotton fabrics. Tekst.prom. 18 no.5:15-16 My '58. (MIRA 11:5)
(Cotton fabrics)

PANFEROVA, A. A.

..

Cotton Finishing

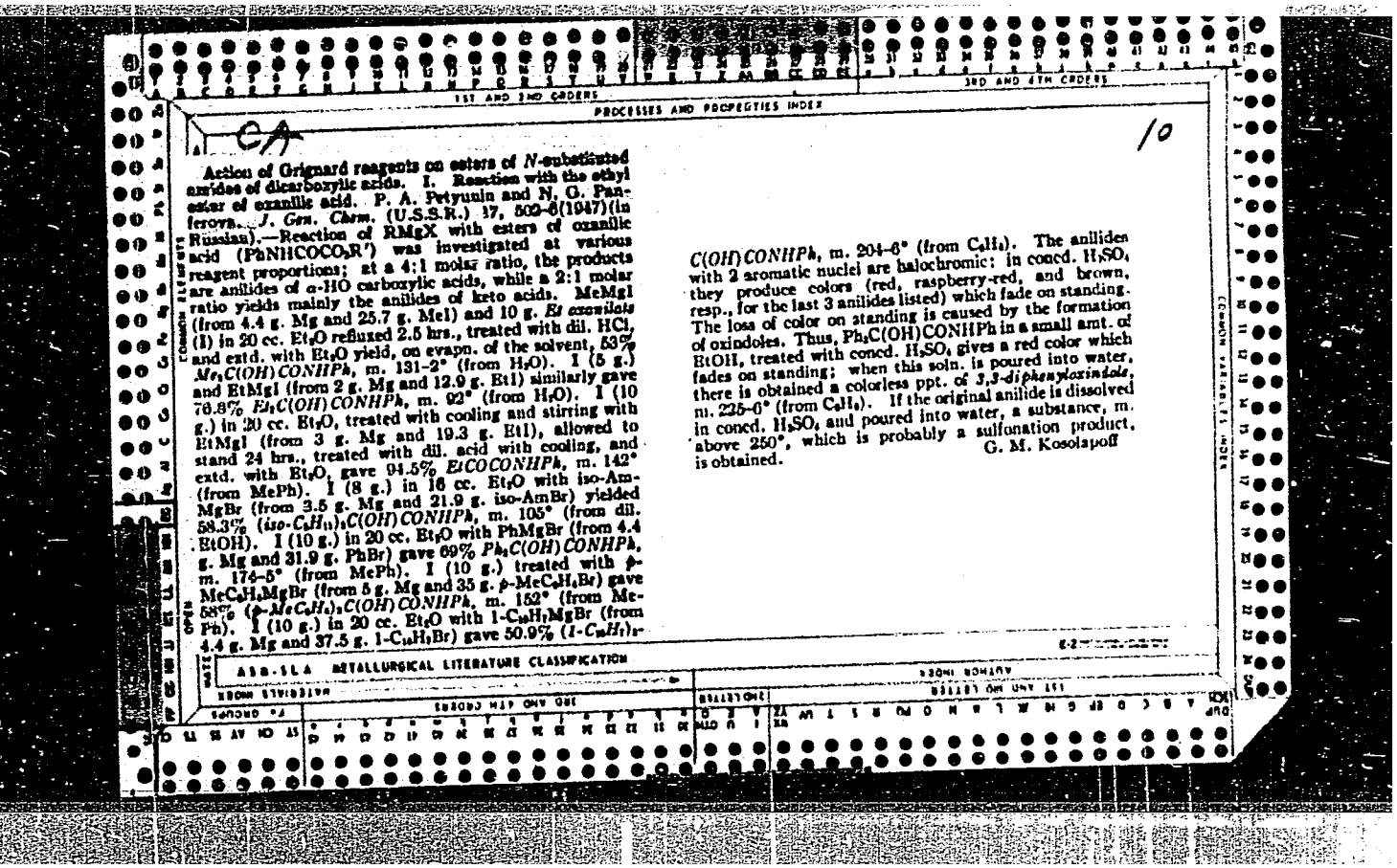
Extensive introduction of chloramine dressing. Part I. From deliberations of the technical management. Tekst. prom., 12, No. 6,1952.

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

YEGOROV, G.; PANFEROVA, M.

Aid to industrial workers. Zhil.-kom.khoz. 9 no.1:22-23 '59.
(MIRA 12:3)

1. Glavnyy inzhener tresta "Sargorgaz" (for Yegorov). 2. Starshiy inzhener laboratorii (for Panferova).
(Saratov--Gas distribution)
(Laboratories)



1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

CA

10

Action of Grignard reagents on esters of *N*-substituted amides of dicarboxylic acids. I. Reaction with the ethyl ester of oxanilic acid. P. A. Petyunin and N. G. Panferova. *J. Gen. Chem.* (U.S.S.R.) 17, 502–6(1947)(in Russian).—Reaction of RMgX with esters of oxanilic acid ($PhNHCOCO_2R'$) was investigated at various reagent proportions; at a 4:1 molar ratio, the products are anilides of α-HO carboxylic acids, while a 2:1 molar ratio yields mainly the anilides of keto acids. MeMgI (from 4.4 g. Mg and 25.7 g. MeI) and 10 g. *Et oxanilate* (I) in 20 cc. Et_2O refluxed 2.5 hrs., treated with dil. HCl, and extd. with Et_2O yield, on evapn. of the solvent, 53% $Me_2C(OH)CONHPh$, m. 131–2° (from H_2O). I (5 g.) and EtMgI (from 2 g. Mg and 12.9 g. EtI) similarly gave 76.8% $Et_2C(OH)CONHPh$, m. 92° (from H_2O). I (10 g.) in 20 cc. Et_2O, treated with cooling and stirring with EtMgI (from 3 g. Mg and 19.3 g. EtI), allowed to stand 24 hrs., treated with dil. acid with cooling, and extd. with Et_2O, gave 94.5% *EtCOCONHPh*, m. 142° (from MePh). I (8 g.) in 16 cc. Et_2O with iso-AmMgBr (from 3.5 g. Mg and 21.9 g. iso-AmBr) yielded 58.3% $(iso\text{-}C_5H_{11})_2C(OH)CONHPh$, m. 105° (from dil. EtOH). I (10 g.) in 20 cc. Et_2O with PhMgBr (from 4.4 g. Mg and 31.9 g. PhBr) gave 69% $Ph_2C(OH)CONHPh$, m. 176–8° (from MePh). I (10 g.) treated with *p*-MeC_6H_4MgBr (from 5 g. Mg and 35 g. *p*-MeC_6H_4Br) gave 58% $(p\text{-}MeC_6H_4)_2C(OH)CONHPh$, m. 152° (from MePh). I (10 g.) in 20 cc. Et_2O with 1-$C_{10}H_7MgBr$ (from 4.4 g. Mg and 37.5 g. 1-$C_{10}H_7Br$) gave 50.9% $(1\text{-}C_{10}H_7)_2$-*C(OH)CONHPh*, m. 204–6° (from C_6H_6). The anilides with 2 aromatic nuclei are halochromic: in concd. H_2SO_4 they produce colors (red, raspberry-red, and brown, resp., for the last 3 anilides listed) which fade on standing. The loss of color on standing is caused by the formation of oxindoles. Thus, $Ph_2C(OH)CONHPh$ in a small amt. of EtOH, treated with concd. H_2SO_4 gives a red color which fades on standing; when this soln. is poured into water, there is obtained a colorless ppt. of *3,3-diphenyloxindole*, m. 225–6° (from C_6H_6). If the original anilide is dissolved in concd. H_2SO_4 and poured into water, a substance, m. above 250°, which is probably a sulfonation product, is obtained.

G. M. Kosolapoff

A58-5LA METALLURGICAL LITERATURE CLASSIFICATION

PANFEROVA, N. G. 188T22

USSR/Chemistry - Pharmaceuticals Aug 51

"N-Arylamides of Hydroxycarboxylic Acids and Their Conversion Into Heterocyclic Compounds. II. Naphthalides of α-Hydroxycarboxylic Acids," P. A. Petyunin, N. G. Fanferova, Lab of Org Chem, Molotov Phar Inst

"Zhur Obshch Khim" Vol XXI, No 8, pp 1528-1532

Study of reaction of org Mg compds with Et esters of α- and β-naphthylhydroxyamino acids showed that, depending on proportions of reagents, chief products are naphthalides of α-ketono- or α-hydroxycarboxylic acids. Prepd number of α- and β-naphthalides of above carboxylic acids and studied properties. Authors recommend this method of synthesis.

188T22

OVA, N. G.

USSR/Chemistry - Pharmaceuticals Aug 51

"N-Arylamides of Hydroxycarboxylic Acids and Their Conversion Into Heterocyclic Compounds. III. Reaction of Organic Magnesium Compounds With Acids. Synthesis of Anilides of gamma-Hydroxycarboxylic Acids," F. A. Petyunin, N. G. Panferova, Lab of Org Chem, Molotov Pharm Inst

"Zhur Obshch Khim" Vol XXI, No 8, pp 1533-1537

The author reacts with O-Methoxymalonanylic ester apparently reacts with org Mg compds in enolic form, but is isolated in unchanged condition on decompn of reaction mass. In reaction of succinanylic ester with org Mg compds, only carbethoxyl group takes part, with formation of anilides of gamma-hydroxycarboxylic and unimpeded By this method, recommended by authors and anilides of By steric hindrances, perpd several anilides of gamma-hydroxycarboxylic acids, not described in article.

188T23

188T23

188T23

PANFEROVA, N. G. 191T51

USSR/Chemistry - Synthetic Pharmaceuticals Sep 51

"N-Arylamides of Hydroxycarboxylic Acids and Their Conversion Into Heterocyclic Compounds. IV. Mechanism of the Reaction of Organic Magnesium Compounds With Esters of N-Aryl-Substituted Amides of Dicarboxylic Acids," P. A Petyunin, N. G. Panferova, Lab Org Chem, Molotov Pharm Inst

"Zhur Obshch Khim" Vol XXI, No 9, pp 1699-1703

Proposes mechanism for reaction of org Mg compds with esters of N-aryl-substituted amides of dicarboxylic acids. Proposes new scheme for reaction of Et oxamate with PhMgBr. Establishes that

191T51

USSR/Chemistry - Synthetic Pharmaceuticals (Contd) Sep 51

PhMgBr reacts with amide of benzylic acid with replacement of amino group by a radical, which may be of interest as new means for prepn of tert alcs.

191T51

PETYUNIN, P.A.; PANFEROVA, N.G.; BERDINSKIY, I.S.

N-Arylamides of hydroxy carboxylic acids and their transformation into heterocyclic compounds. XVIII. Connection between hydrolysis of arylamides of α-, β- and γ-hydroxycarboxylic acids and the ease of the closure of heterocycle from them. Zhur. Obshchey Khim. 22, 1677-9 '52. (MLRA 5:9) (CA 47 no.19:9941 '53)

PANFEROVA, N. G.

CATALYST

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
Organic Chemistry

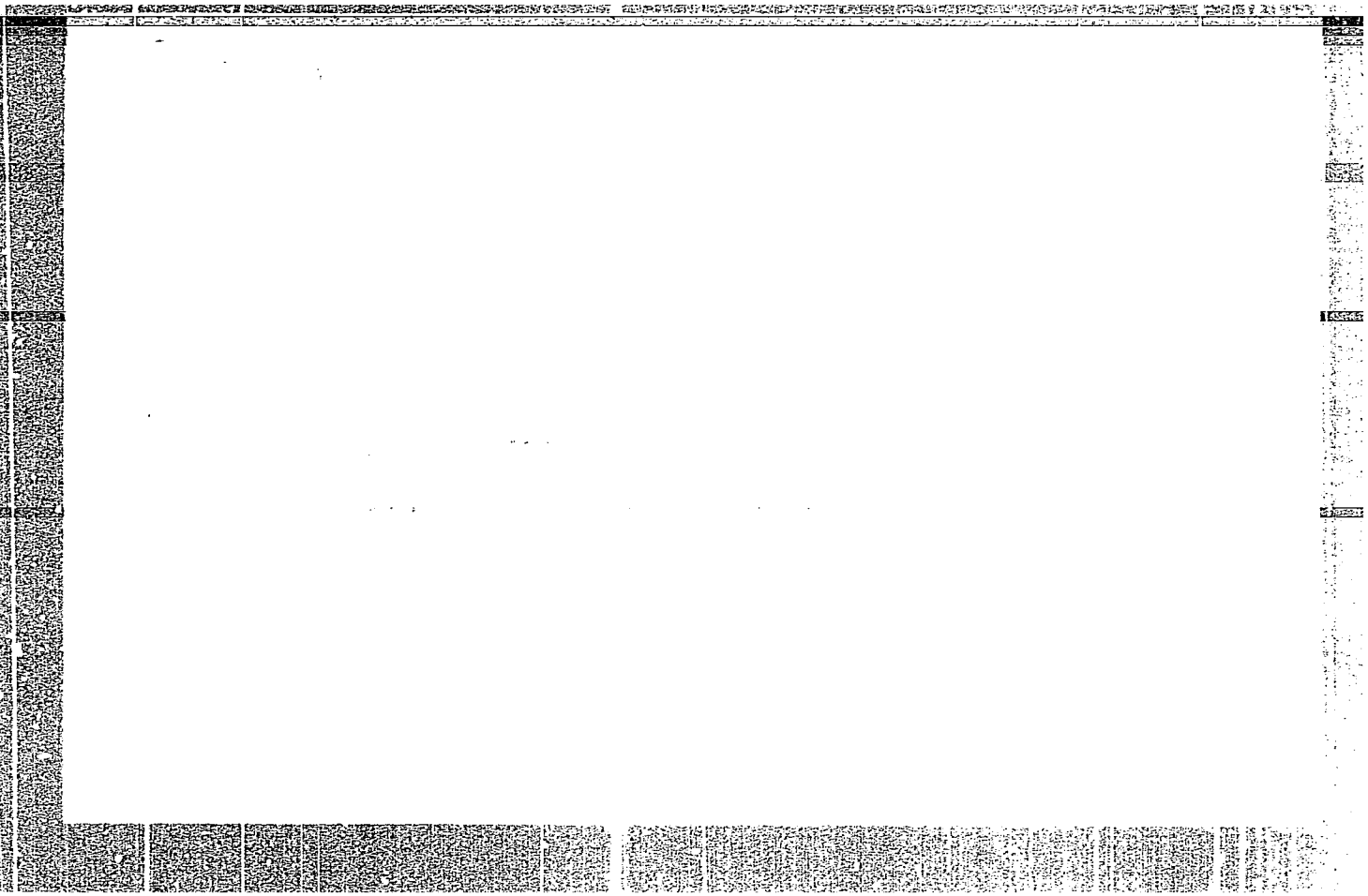
6

(3 item)

N-Aryl amides of hydroxy carboxylic acids and their transformation into heterocyclic compounds. XVIII. Connection between hydrolysis of arylamides of α-, β-, and γ-hydroxycarboxylic acids and the ease of the closure of heterocycle from them. P. A. Petyunin, N. G. Panferova, and I. S. Berdinskii. *J. Gen. Chem.* (U.S.S.R.) 22, 1717-19 (1952)(Engl. translation).—See *C.A.* 47, 9941e.

H. L. H.—

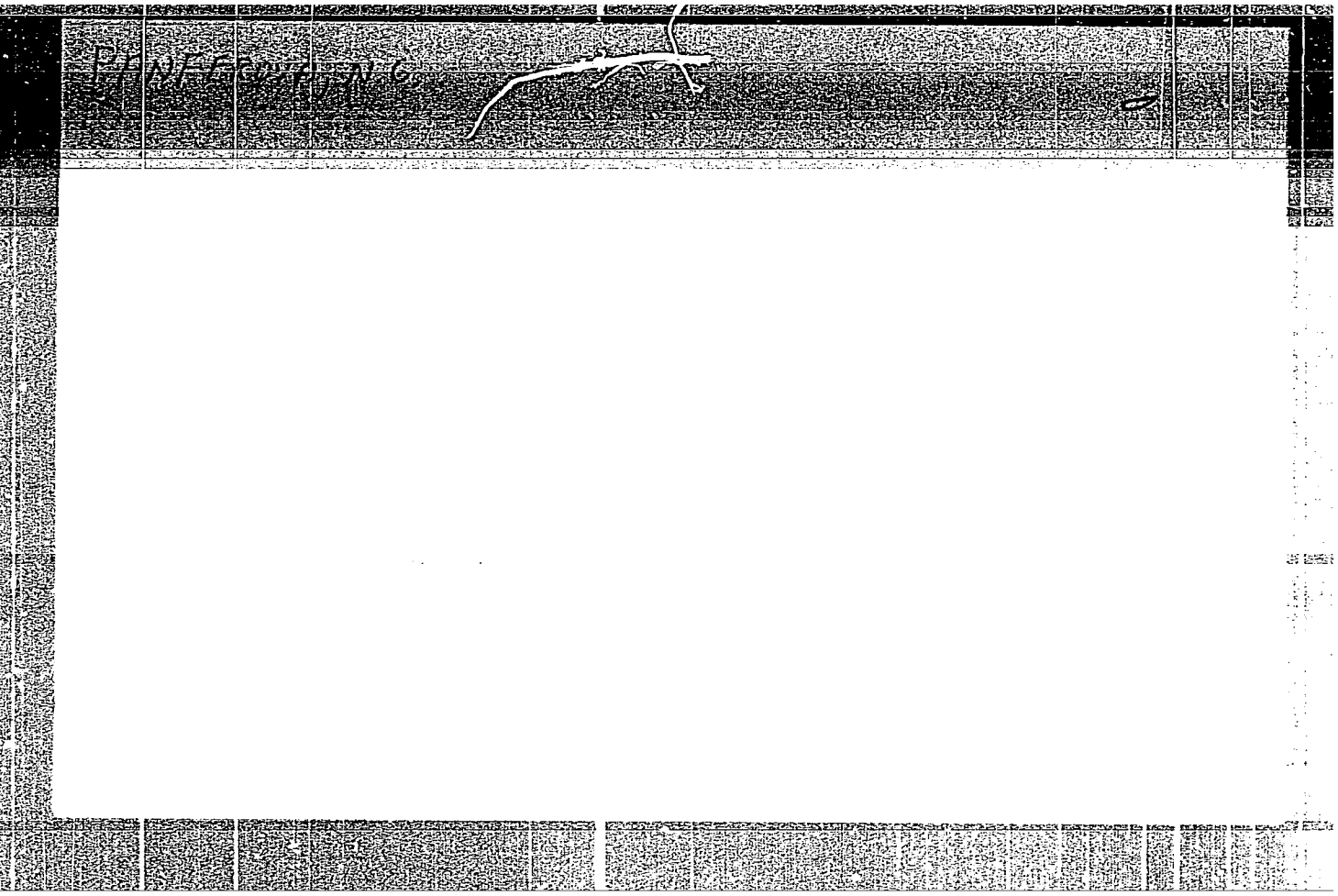
9-2-54

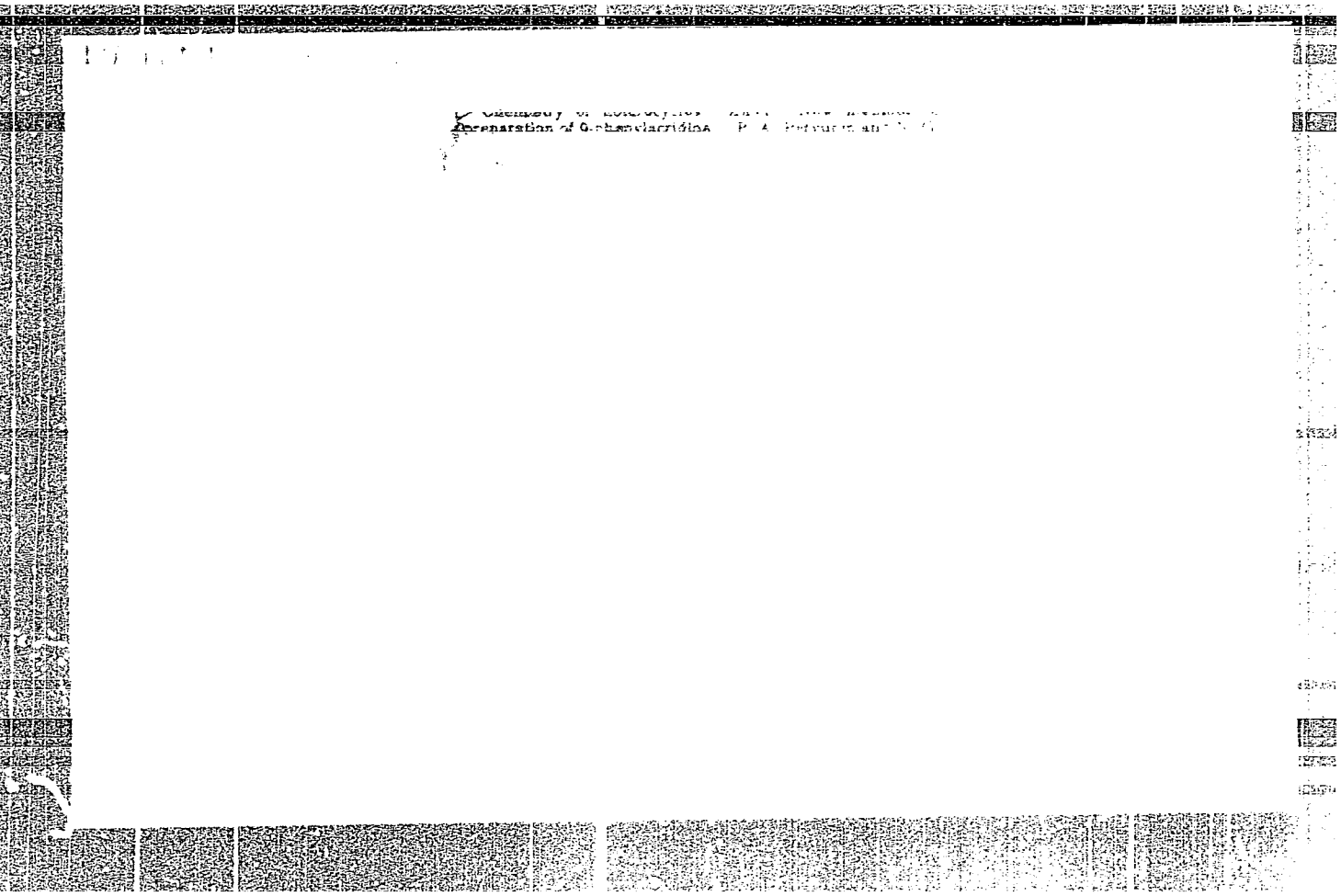


PETYUNIN, P.A.; BERDINSKIY, I.S.; PANFEROVA, N.G.

Synthesis of diarylacetic acids and their anilides based on diarylglycolic acid anilides. Zhur.ob.khim. 25 no.1:189-193 Ja '55. (MIRA 8:4)

1. Molotovskiy farmatsevticheskiy institut.
(Anilides) (Acetic acid)



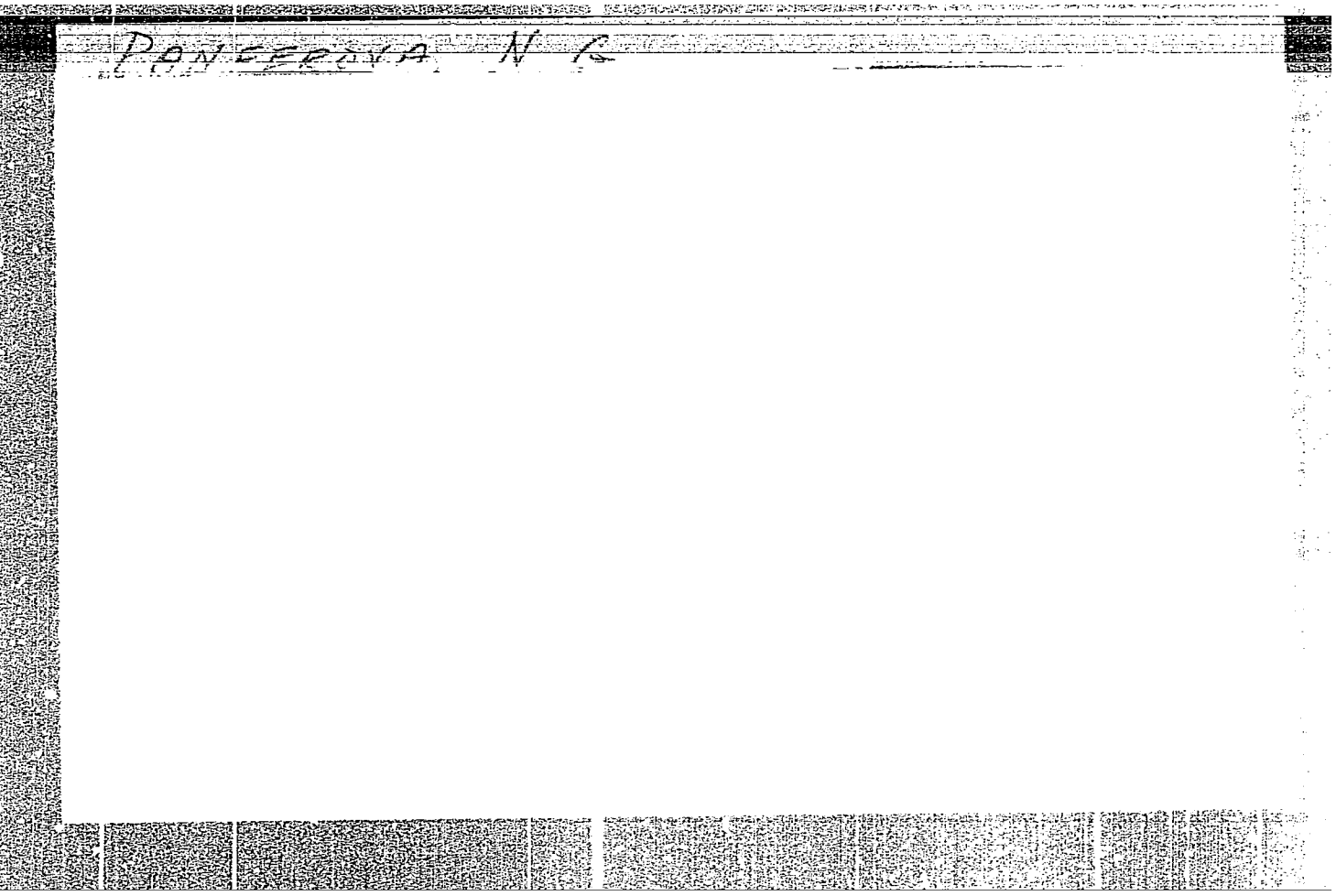


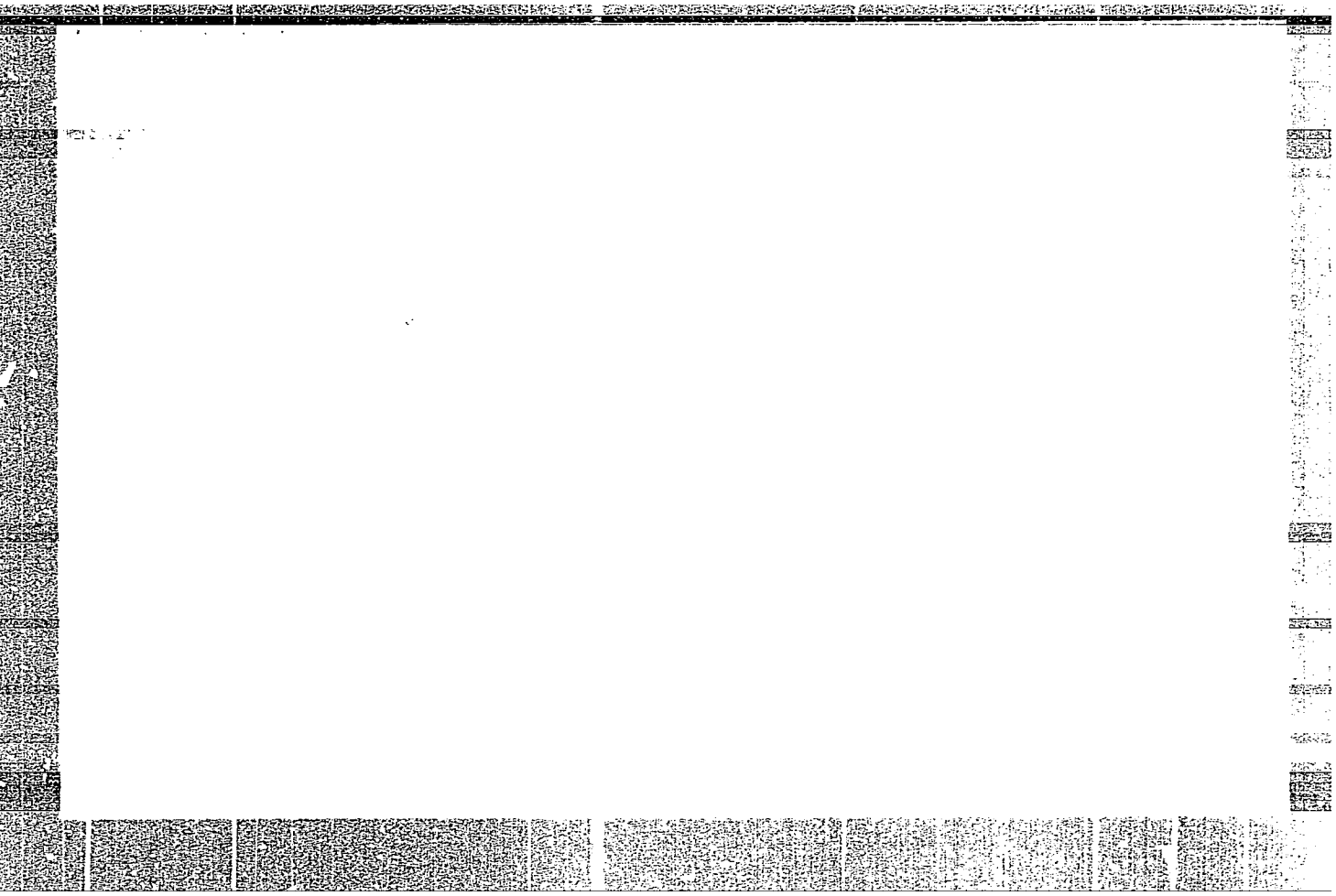
Panferova, N.G.

PETYUNIN, P.A.; BERDINSKIY, I.S.; PANFEROVA, N.G.

Investigations in the field of heterocyclic compounds. Part 31: Synthesis of 3,3-diaryloxindoles and 1-methyl-3oxo-4,4-diphenyltetrahydroisoquinoline on the basis of aryl amides of diphenylchloroacetic and diphenylalkoxyacetic acids. Zhur.ob.khim. 27 no.7:1901-1905 Jl '57. (MIRA 10:10)

1.Molotovskiy farmatsevticheskiy institut.
(Acetic acid) (Oxindole) (Isoquinoline)





ACCESSION NR: AT4042707 S/0000/63/000/000/0384/0387

AUTHOR: Panferova, N. Ye.

TITLE: Effects of hypodynamia on the circadian rhythm

SOURCE: Konferentsiya po aviatsionnoy i kosmicheskoy meditsine, 1963. Aviatsionnaya i kosmicheskaya meditsina (Aviation and space medicine); materialy konferentsii. Moscow, 1963, 384-387

TOPIC TAGS: hypodynamia, circadian rhythm, physiological function, energy balance, body temperature

ABSTRACT: The circadian rhythm of physiological functions, which is relatively stable in human adults, is believed to be closely related to energy expended in work. To determine the effect of hypodynamia on the circadian cycle, experiments were performed with human subjects. One group of subjects was confined to relative immobility on special couches for a period of 2 to 10 days. A second group was confined to a relaxed position suspended in water for a period of 1.5 to 11.5 days. Body temperature, pulse frequency, and blood pressure were measured every two hours with the exception of time allocated for sleep. During daytime hours, the

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ACCESSION NR: AT4042707

subjects were encouraged to remain in a waking state and to carry on normal activities except for movement. Experiments have indicated that, in the majority of cases, hypodynamia leads to changes in the circadian rhythm of the physiological functions studied. This change was particularly marked in case of body temperatures. Daily fluctuations in pulse frequency during the first days of hypodynamia varied from 10 to 15 beats per minute; respiration rate varied by 5 to 8 cycles per minute; systolic and diastolic pressure varied by 10 to 15 mm of Hg. Daily fluctuations in these parameters tended to level off. During the first two days, fluctuations in body temperature, as a rule, continued to follow the normal pattern(a gradual drop of body temperature in the evening and night hours). s Sharp changes in this temperature pattern began to appear after the second day. Thus, in two of the subjects on the 6th, 7th, and 9th days, temperatures would rise rapidly towards 10:00--12:00 hr to 36.9--37.1°C, where it would tend to remain with only minor fluctuations of 0.1 to 0.2 of a degree until 20:00--22:00 hr, after which it would drop off to rise again on the following day to 37.1°. Temperature patterns often varied radically in a single subject from one day to the next. One patient, who on the 6th day of hypodynamia maintained a temperature of 37.1 to 37.9° from 10:00--22:00 hr, on the following day had a temperature rise which reached its peak of 37.1° by 14:00 hr and then dropped sharply to 36.4° by 16:00 hr. His temperature held at this level for six hours and then began to increase up

Card 2/3

ACCESSION NR: AP4039387 S/0239/64/050/006/0741/0749

AUTHOR: Panferova, N. Ye. (Moscow)

TITLE: Diurnal rhythm of human functions under conditions of limited mobility

SOURCE: Fiziologicheskiy zhurnal SSSR, v. 50, no. 6, 1964, 741-749

TOPIC TAGS: diurnal rhythm, body temperature, respiration, pulse, blood pressure, muscular adynamia, hypodynamia, man

ABSTRACT: Two series of experiments were carried out to determine changes in daily periodicity of certain functions under conditions of maximum possible limitation of muscular activity, particularly muscular strain related to holding and changing position. In the first series the subjects reclined in a special chair for 2 to 10 days in a position that ensured maximum muscular relaxation. In the second series the subjects approached a weightless state by reclining in water for 1.5 to 11.5 days. Body temperature, pulse rate, respiration rate, and blood pressure were measured every 2 hrs around

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ACCESSION NR: AP4039387

the clock. Healthy males aged 20 to 25 yrs served as subjects. During the experiment the daily routine approximated a normal schedule with the exception of motor activity. The subject spent the day listening to music, reading, conversing, eating, and sleeping. Results show that the diurnal rhythm of body temperature changes more than the diurnal rhythm of other functions under conditions of prolonged limited mobility. These changes are more clearly expressed for subjects in water than for subjects in air. Body temperature maintains the same level for a prolonged period and then undergoes intermittent changes. Pulse rate and respiration rate changes do not necessarily follow body temperature changes. Muscular activity appears to act as a stimulus in maintaining the diurnal rhythm of certain functions. Orig. art. has: 3 figures and 2 tables.

ASSOCIATION: None

SUBMITTED: 08Aug63 ATD PRESS: 3080 ENCL: 00

SUB CODE: LS NR REF SOV: 007 OTHER: 009

Card 2/2

L 19272-66 EWT(1)/FS(v)-3 DD

ACC NR: AP5028174 SOURCE CODE: UR/0239/65/051/011/1351/1355

10

AUTHOR: Taranov, N. I. (Moscow); Panferova, N. Ye. (Moscow)

B

ORG: none

TITLE: Changes in the working capacity of muscle after exposure of man to hypokinetic conditions

SOURCE: Fiziologicheskiy zhurnal SSSR, v. 51, no. 11, 1965, 1351-1355

TOPIC TAGS: human working capacity, human muscle, muscle bioelectric activity, muscular inactivity, ergometer

ABSTRACT: Changes in man's ability to perform physical work after confinement to conditions of limited mobility were investigated. The experimental conditions duplicate the type of limitation of muscular activity that may be encountered on long space flights. Healthy males 20—25 yr old were placed in a special chair or in water to produce muscular inactivity. The experiment lasted 2—11 days, with examination of the subjects during the 3 days preceding and for several days after completion of the experiment. The working tempo was set by a metronome (30 or 60 beats/min). Two kinds of work were performed: 1) work on a wrist ergometer, with maximum force applied throughout; and 2) work on a shoulder ergometer, consisting of lifting a 5-kg weight to a height of 50 cm. Refusal of the subject to continue because of fatigue signaled the end of the work period. Electromyograms

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2

L 19777-66
ACC NR: AP5028174

and electroergograms of the shoulder and forearm muscles were taken during experimental and control periods. It was found that limitation of muscular activity impairs the functional condition of the human motor apparatus. Functional changes in the muscular system during dynamic work are characterized by the more rapid onset of fatigue. In addition, the quality of dynamic work after confinement decreases as evidenced by the decrease in the force of muscular contractions and the disruption of the rhythmic character of work performed. The bioelectric activity of working muscles after a 1—3-day stay in confined conditions increased 1.5—2 times. However, when subjects were kept longer in a state of muscular inactivity, the bioelectric activity of their working muscles decreased as compared with control values (taken before the experiment). These changes in muscular function were normalized 3—5 days after the end of the experiment. Orig. art. has: 2 tables and 2 figures. [JS]

SUB CODE: 06/ SUBM DATE: 28Feb64/ ORIG REF: 004/ OTH REF: 001/ ATD PRESS: 4164

Card 2/2 ULR

L 17998-66 EWT(1) SCTB DD

ACC NR: AP6007991 (N) SOURCE CODE: UR/0391/66/000/003/0054/0054

AUTHOR: Vanyushina, Yu. V. (Moscow); Gerd, M. A. (Moscow); Lavrenchik, Ye. I. (Moscow); Panferova, N. Ye. (Moscow)

ORG: none

TITLE: Some functional shifts in the human organism during brief hypodynamia

SOURCE: Gigiyena truda i professional'nyye zabolevaniye, no. 3, 1966, 54

TOPIC TAGS: hypodynamia, immobilization, cardiovascular system, dynamometer, muscle tone

ABSTRACT: Functional shifts in the cardiovascular, muscular, and central nervous systems of 4 men immobilized for 2 1/2 hr were the subject of this study. A variety of indices were used: pulse rate, systolic pressure while resting and after tests, maximum force exerted on a wrist dynamometer, time in which the bulb of a liquid dynamometer was pressed with half maximum force, and the tone of some hand and foot muscles (determined with a spring myotonometer). The degree of coordination of arm movements and the tremor of an outstretched right hand were measured with a modified "Nede" instrument. In addition, the latent period of the visual motor reaction to a light signal was determined. Tests were conducted before and after the experiment, and 1 1/2 hr after the beginning for tests requiring no significant movement or exertion. Experimental results showed that after a brief stay in conditions of limited

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L 17998-66

ACC NR: AP6007991

mobility the adaptability to active work decreased. The measured strength of wrist muscles dropped, there was a decrease in the tone of hand and foot muscles, reactions to light and word signals were delayed, and cardiovascular indices worsened during measured loads. During the transition from limited mobility to activity, when rapid reactions and physical exertion are required, gymnastics or other toners must be prescribed to decrease the unfavorable effect of limited mobility on the human organism. [JS]

SUB CODE: 06/ SUBM DATE: 15Jul63/ ATD PRESS: 4213

Card 2/2

L 47296-66 EWT(m) SCTB DD

ACC NR: AP6032013 SOURCE CODE: UR/0245/66/000/005/0072/0082

AUTHOR: Gerd, M. A. (Moscow); Panferova, N. Ye. (Moscow)

ORG: none

TITLE: Change in some human mental functions in connection with restriction of muscular activity

SOURCE: Voprosy psikhologii, no. 5, 1966, 72-82

TOPIC TAGS: human physiology, psychophysiology, psychologic stress, isolation test

ABSTRACT: The effect of prolonged (1 1/2—11 days) restriction of muscular activity on human mental functions was studied. Healthy male subjects 22—25 yr old were kept for varying periods in a special chair designed to bend the joints and weaken muscles, or in a capron net in water. Severe sensory deprivation was prevented by permitting subjects to watch TV, listen to music or radio, visit with friends, or talk to test personnel. Books and newspapers were read to them. Detailed descriptions are given of tests conducted to determine skin and proprioceptor sensitivity, muscular sensation, coordination, change in the speed of the visual motor reaction, ability to judge time intervals, and attention span. In addition, subjects were given a free-association test and a multiplication exercise, were required to recount book excerpts read to them during the experiment, and were tested for ability to analyze and associate complex ideas using pictograms. Subjects were periodically

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L 11385-67 EWT(1) SCTB DD/GD

ACC NR: AT6036513 SOURCE CODE: UR/0000/66/000/000/0088/0089

AUTHOR: Vanyushina, Yu. V.; Gerd, M. A.; Panferova, N. Ye. 29

ORG: none

TITLE: Changes in some indices of the functional state of the human organism remaining for long periods in a semirecumbent posture [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24 to 27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 88-89

TOPIC TAGS: orthostatic test, hypodynamia, human physiology, space physiology, biologic metabolism, weightlessness simulation

ABSTRACT: Some human physiological indices were studied during prolonged stay in a seimrecumbent posture, the most characteristic position for man in conditions of weightlessness. This posture was created experimentally by immersing subjects in water, or by immobilizing them in a special chair. Healthy men aged 20—23 participated in 21 experiments (9 water experiments and 12 in the chair), varying in length from 1.5 to 11.5 days. A number of physiological indices were recorded at two-hour intervals around the clock (except during sleep): pulse and respiration rates, blood pressure, and body temperature. Basal metabolism was measured by the Douglas-

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Holden method every morning upon awakening. The maximum strength and endurance of wrist muscles was determined periodically. Biological activity of human blood was determined every 2—3 days using an isolated frog heart.

Experimental results showed that pulse and respiration rates hardly changed throughout the experiment, whereas diastolic and systolic pressures declined progressively (systolic pressure dropped to 60—70 mm Hg.) The biological activity of the blood shifted in the direction of decrease in the chronotropic effect and increase in the inotropic effect. The basal metabolism rate dropped during the experiments, while the respiratory coefficient increased. Instead of body temperature dropping in the evening, in some cases it rose to subfebrile levels (up to 37.5° C)° Furthermore, the strength and endurance of wrist muscle decreased, especially in the right hand (decrease of 40—50%). Sleep was light, brief and frequently interrupted, and the subjects were irritable and grouchy. The pattern of the described changes was identical for both series of tests, however changes were more pronounced in the water tests.

Immediately after completion of the experiment, blood pressure, pulmonary circulation, basal metabolism, respiratory coefficient, and sleep returned to initial levels. In addition, the pulse rate increased.

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However, the remaining functions had not normalized within 3--5 days. It was concluded that prolonged stay of man in a semirecumbent position results in fundamental alteration in functional systems, in some cases accompained by shifts of a neurotic character, such as increased body temperature at night, the occurrence of subfebrile temperature, disruption of sleep, irritability, and bad moods. [W.A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

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ACC NR: AT6036514

jects to the vertical position following exposure to heat is increased parasympathetic nervous system tonus. In all probability this is due to structural deficiencies in arterial vessels, slower development of cardiac orthostatic reflexes, and decreased venous blood flow to the heart.
[W. A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

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ACC NR: AT6036514 SOURCE CODE: UR/0000/66/000/000/0089/0090

AUTHOR: Vanyushina, Yu. V.; Panferova, N. Ye.; Tishlor, V. A.

ORG: none

TITLE: Effect of elevated air temperatures on human adaptability to the orthostatic test [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24 to 27 May 1966.]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 89-90

TOPIC TAGS: hyperthermia, orthostatic test, electrocardiography, human physiology, space physiology

ABSTRACT: One of the most important problems of space physiology is the maintenance of human orthostatic resistance following exposure to spaceflight factors. In this connection, the study of mechanisms of change in the adaptation of man to a vertical position during exposure to various environmental factors is of great importance.

The present investigation studied change in human orthostatic adaptability following a 4-hr stay in a heat chamber at an ambient temperature

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of 36° to 40° C and a relative humidity of 60% to 70%. In all, 20 experiments (of which 4 were controls) were conducted on 4 men.

A 10-min orthostatic test and a 5-min clinostatic test were conducted before, and 1 hr after, exposure in the heat chamber (after body temperature had returned to the initial level). Before, during, and after exposure of the subject in the chamber, measures were made of body temperature, moisture loss, and specific and nonspecific cholinesterase activity (by A. A. Pokrovskiy's method), and electrocardiograms, seismocardiograms, pneumograms, and arterial pressure were recorded. The last four indices were also recorded during the tests.

Following exposure to heat, the adaptability of the organism of the subjects to the orthostatic test deteriorated: cardiac contraction frequency increased more sharply, blood pressure dropped, and in one case a precollapse state was observed.

When the subjects were in the vertical position, their electrocardiograms showed shortening of the R-R and PQ intervals, and an increase in the difference between the actual and "correct" systolic index; seismocardiograms showed acceleration of the expulsion phase compared to "correct" values, decrease in the intrasystolic index of expulsion, in-

arrhythmia during the clinostatic reflex, the rate of development of the orthostatic reflex slowed, and specific and nonspecific cholinesterase activity fell off.

It can be suggested that besides dehydration of the organism, one of the reasons for the deterioration of adaptability of the organism of the sub-

OBORINA, R., arkhitektor; PANFEROVA, Ye., inzh.-dendrolog

Trees and shrubs in residential blocks. Zhil. stroi. no.5:26-29 '59. (MIRA 12:8)

(Moscow--Landscape gardening)

PANFEROVA, Ye.A.

Method of one-day sankaphen therapy of ascariasis. Med.paraz.i paraz.bol. no.6:549-551 N-D '53. (MLRA 6:12)

1. Iz Leningradskoy gorodskoy tsentral'noy protivomalyariynoy stantsii (zaveduyushchiy stantsiyey R.M.Soboleva).
(Worms, Intestinal and parasitic)

PANFEROVA, Ye.A.

KURDINA, A.A., MALININA, K.N., PANFEROVA, Ye.A.

The problem of the relation of dysentery to giardiasis helminth infections. Med.paraz. i paraz. bol. 27 no.2:183-188 Mr-Ap '58 (MIRA 11:5)

1. Iz parazitologicheskogo otdela Leningradskoy gorodskoy sanitarno-epidemiologicheskoy stantsii (glavnyy vrach N.G. Grigor'yeva, zav. otdelom R.M. Soboleva).

(DYSENTERY, complications
giardiasis or helminth infect., interrelation (Rus))
(GIARDIASIS, complications
dysentery, interrelation (Rus))
(HELMINTH INFECTIONS, complications
dysentery, interrelation (Rus))

ZAPOL'SKAYA, A. N.; KURDINA, A. A.; MALININA, K. N.; PANFEROVA, Ye. A.

Relation of dysentery to hymenolepiasis. Med. paraz.i paraz. bol. 24 no.4:308-310 O-D '55. (MLRA 9:1)

1. Iz Leningradskoy protivomalyariynoy stantsii (zav. R. M. Soboleva)
(TAPEWORM INFECTION, in infant and child, hymenolepiasis, relation to dysentery)
(DYSENTERY, in infant and child, relation to hymenolepiasis)

PANFEROVA, Ye. A.

GRUZINSKAYA, A.P.; PANFEROVA, Ye.A.

Treatment of trichocephaliasis with oxygen [with summary in English] Med.paraz. i paraz.bol.26 no.2:182-184 Mr-Ap '57. (MLRA 10:7)

1. Iz polikliniki No.32 Zhdanovskogo rayona Moskvy i parazitologicheskogo otdela Leningradskoy gorodskoy sanitarno-epidemiologicheskoy stantsii.

(TRICHOCEPHALIASIS, ther.
oxygen, rectal admin.)
(OXYGEN, ther. use
trichocephaliasis, rectal admin.)

PANICH, O.I. [Panych, O.I.]

Non-negativity of the index of elliptic normally soluble boundary value problems on a plane. Dop. AN URSR no.5:558-563 '65. (MIRA 18:5)

1. Odesskiy elektrotekhnicheskiy institut svyazi.

PANFIL, Barbara, mgr

Research on the duration of effectiveness of mold-destroying compounds. Prace Inst teletechn 3 no.2:180-185 '59.

L 33013-66
ACC NR: AP6024169 SOURCE CODE: PO/0046/65/010/012/0783/0789

AUTHOR: Dancewicz, Antoni M.--Dantsevich, A. M.; Mazanowska, Anna--Mazanovska, A.; Panfil, Barbara--Panfil', B.

ORG: Department of Radiobiology and Health Protection, Institute of Nuclear Research, Warsaw-Zoran

TITLE: Biochemical lesions induced in subcellular structures by ionizing radiation. III. Cytochrome c oxidase and glucose-6-phosphatase activity of rat liver

SOURCE: Nukleonika, v. 10, no. 12, 1965, 783-789

TOPIC TAGS: ionizing radiation, enzyme, radiation biologic effect, rat, liver

ABSTRACT: Cytochrome c oxidase and glucose-6-phosphatase activity of subcellular fractions isolated from rat liver were assayed at 0.2 or 24 hours after whole-body irradiation of rats with a dose of 750 R. No definite changes in activity of cytochrome oxidase were found, whereas an increase in glucose-6-phosphatase activity in nuclear (at 0, 2 and 24 hr) mitochondrial (at 2 and 24 hr) and in microsomal (at 2 hr) fractions were clearly demonstrated. The authors thank Professor Edward Kowalski for his interest and critical discussion during this work. Expert technical assistance was provided by Mrs. Dobroslawa Rzeppiewska and Mr. Leszek Turkiewicz. Orig. art. has: 3 tables. [Orig. art. in Eng.] [NA]

SUB CODE: 06 / SUBM DATE: 07Oct65 / ORIG REF: 002 / SOV REF: 001
OTH REF: 024)
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