ACC NR: AP6015015

Card 2/2 1/1 CP

PAZUKHIN, Vasiliy Aleksandrovich; FISHER, Aleksandr Yakovlevich; KRESTOVNIKOV, A.N., professor, doktor, retsenzent; MEYERSON, G.A., professor, doktor, retsenzent; ZHUKOVSKIY, Ye.I., professor, doktor, retsenzent; MEN'SHIKOV, M.I., kandidat tekhnicheskikh nauk, retsenzent; SAMSONOV, G.V., kandidat tekhnicheskikh nauk, retsenzent; MESHCHERYAKOV, S.I., kandidat tekhnicheskikh nauk, retsenzent; SAMSONOV, G.V., redaktor; ARKHANGEL'SKAYA, M.S., redaktor izdatel'stva; BERLOV, A.P., tekhnicheskiy redaktor

[Vacuum in metallurgy] Vakuum v metallurgii. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1956. 520 p. (MLRA 9:12)
(Vacuum) (Metallurgy)

MESHCHERYAKOV, S. M. (Eng.)

"Experience of Operating Existing Types of Mercury-Arc Rectifiers and Types of Converter Substations for a Large Aluminum Plant," reported in the article "First All-Union Scienfific and Technical Session on Mercury-Arc Rectifiers," Elektrichestvo, No. 11, 1949.

Deputy Chief power Engineer of an Aluminum plant

Abstract W-9395, 10 Apr 1950

MESHCHERYAKOV, S.M., inzh.

Effect of the magnetic fields of leads on the operation of electrolytic cells. TSvet.met. 28 no.6:29-32 N-D '55. (MIRA 10:11)
(Electrolysis)

MESHCHERYAKOV, S.M., inzhener.

Electrical operating conditions of electrolytic cells in aluminum plants. Prom.energ. 11 no.6:14-18 Je '56. (MLRA 9:9)
(Electrolysis) (Aluminum industry--Equipment and supplies)

MESHCHERYAKOV, S.S.

Distribution of useful components in tin deposits of the northern Sikhote-Alin' Range. Izv. vys. ucheb. zav.; geol. i razved. 3 no. 10:60-67 O '60. (MIRA 13:12)

1. Leningradskiy gornyy institut imeni G.V. Plekhanova.
(Sikhote-Alin' Range--Tin ores)

MESHCHERYAKOV S.T.

11(4) PHASE I BOOK EXPLOITATION SOV/1319

Akademiya nauk SSSR. Bashkirskiy filial

Khimiya sera-organicheskikh soyedineniy, soderzhashchikhsya v neftyakh i neftepродуктakh; materialy II nauchnoy sessii (Chemistry of Sulfur-Organic Compounds Contained in Petroleum Products; Papers of the 2nd Scientific Session) v. 1. Ufa, Izd. Bashkirskogo filiala AN SSSR, 1958. 225 p. 1,500 copies printed.

Ed.: Sudarikov, K.I.; Editorial Board: Ayvazov, B.B., Kashkina, A.V., Obolentsev, R.D. (Resp. Ed.), Rozhdestvenskiy, V.F., and Shasia, L.L.; Tech. Ed.: Bakhirov, R. Kh.

PURPOSE: This book is intended for petroleum specialists of scientific research establishments, educational institutions, and petroleum refining plants.

CONTENTS: This collection is the first of a multivolume publication on the results of scientific research work carried out in the Soviet Union on the chemistry and technology of sulfur- and nitrogen-organic compounds during the period 1954-1955; and according to a coordinated research project outlined in 1956 by the sponsoring agency (Bashkir Branch, AN USSR).

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Chemistry of Sulfur-Organic Compounds (Cont.) SOV/1319

Two types of petroleum (from Carboniferous and Devonian deposits) were heated (150 - 300° C) and graphs, tables and equations are given for the separation of petroleum compounds with respect to heating time and temperature.

Zakharochkin, L.D., and S.T. Meshcheryakov, (Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut neftyanogo mashinostroyeniya--State Scientific Research and Planning Institute for Petroleum Machinery Building). On the Problem of Evaluating the Corrosive Properties of Sulfurous Petroleum 65

Oil from various horizons (Devonian, Carboniferous, Upper Permian, etc.) of Ural-Volga deposits was tested for free sulfur content, yield of H2S on distillation, and speed of corrosion of steel (the latter two factors were determined at temperatures up to 550° C). The purpose of the investigation was to establish criteria for selecting, storing, transporting and refining sulfurous petroleum from different fields. N.V. Tokareva, O.V. Kalinina and O.G. Zhukova assisted in the experimental work.

MESHCHERYAKOV, S. V.

"Calcining Weighed Lime From the Caspian Lowlands." Cand Tech Sci, Ural-Embensk Sci Res Base, Acad Sci Kazakh SSR, Alma-Ata, 1954. (KhTN, No 6, 1955)

So: Sum. No 710, 29 Sept 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

MESHCHERYAKOV, Sergey Vladimirovich, kandidat tekhnicheskikh nauk; GRABARNIK, A.Z., redaktor; TURUBAYEV, B., tekhnicheskiy redaktor.

[Shell rock limestone of Ust Urt and Mangyshlak as valuable building material] Izvestniak-rakushechnik Ustiurta i Mangyshlaka tsennyi strotel'nyi material. Alma-Ata, Kazakhskoe gos.izd-vo, 1956. 34 p. (MLRA 10:6)
(Kazakhstan--Limestone)

MESHCHERYAKOV, S.V.

Kinetics of thermal dissociation of marine shells in the Caspian Depression. Trudy Inst. nefti AN Kazakh. SSR no.1:126-129 '56.
(Caspian Depression--Molluaks, Fossil) (MLRA 10:4)

MESHCHERYAKOV, S.V.

Structural properties of Ust-Urt and Mangyshlak coquina. Trudy Inst. nefti AN Kazakh. SSR 2:100-108 '58. (MIRA 11:8)
(Goryev Province--Limestone)

MESHCHERYAKOV, S.V.

Mineral fillers for hydraulic fracturing of Emba oil strata.
Trudy Inst.nefti AN Kazakh.SSR 3:133-142 '59. (MIRA 13:1)
(Emba region--Oil wells--Hydraulic fracturing)

MESHCHERYAKOV, S.V.; NOGERBEKOV, B.Yu.

Contraction of plugging cement in contact with highly mineralized formation waters. Trudy Inst. nefti AN Kazakh.SSR 4:187-189 '61.
(MIRA 16:4)
(Oil well cementing)

MESHCHERYAKOV, S.V.

Effective retarder for gypsum. Stroi.mat. 9 no.3:26 Mr '63.
(MIRA 16:4)
(Gypsum)

KOLPAKOV, V.B.; MESHCHERYAKOV, S.V.

Maltha deposits on the Mangyshlak Peninsula. Trudy Inst. geol. i geofiz. AN Kazakh. SSR 1:16-25 '63. (MIRA 16:7)
(Mangyshlak Peninsula--Maltha)

MESHCHERYAKOV, S.V.

Sodium silicate from barchan quartz sands. Vest. AN Kazakh. SSR 20 no.1:92-95 Ja '64. (MIRA 17:3)

ISMAILOV, A.; MESHCHERYAKOV, V.

Tajikistan highways during 40 years. Avt. dor. no.10, 17-19 O '64. (MIRA 17:12)

1. Ministr transporta i dorozhnogo khozyaystva Tadzhikskoy SSR (for Ismailov). 2. Nachal'nik proizvodstvenno-tekhnicheskogo otdeleniya Upravleniya shosseynykh dorog (for Meshcheryakov).

BARILL, A.V.; MESHCHERYAKOV, V.A.; CHICHEVA, L.I., red.; BELOVA, N.N., tekhn. red.

[Wide-range reaping units] Shirokozakhvatnye zhatvennye agregaty. Moskva, Sel'khozizdat, 1963. 190 p. (MIRA 16:9)
(Grain--Harvesting) (Mowing machines)

BARILL, Abram Veniaminovich; MESHCHERYAKOV, Vasiliy Aleksandrovich; BUD'KO, V.A., red.; PROKOF'YEVA, L.N., tekhn. red.

[Using paired reapers in harvesting by stages] Opyt razdel'noi uborki sparennymi zhatkami. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1960. 84 p. (MIRA 14:9)
(Grain—Harvesting)

MESHCHERYAKOV, V., inzh.

Coupling of ZhB-4,6 reapers controlled by the tractor operator. Tekh. v sel'khoz. 20 no.7:42-45 Jl '60. (MIRA 13:9)
(Harvesting machinery)

MESHCHERYAKOV, V.A., inzh.

Disposition of the supporting wheels of semimounted machines.
Trakt. i sel'khozmash. no.1:23-25 Ja '64. (MIRA 17:4)

1. Vserossiyskiy nauchno-issledovatel'skiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva.

L 45765-66 EWT(d)/EWT(l)/FSS-2
ACC NR: AP6030916 SOURCE CODE: UR/0018/66/000/009/0073/0075

AUTHOR: Meshcheryakov, V. (Colonel); Koshcheyev, A. (Lieutenant colonel)

41
B

ORG: none

TITLE: Engineering structure of an antiaircraft battery position

SOURCE: Voyennyy vestnik, no. 9, 1966, 73-75

TOPIC TAGS: antiaircraft defense, defense installation, military installation, military engineering, artillery unit, gun emplacement/antiaircraft installation 23

ABSTRACT: After taking its position, an antiaircraft-artillery battery first prepares to open fire should an aerial target suddenly appear. After this is completed, the engineering construction of the firing position and battery command post is undertaken in the following sequence: 1) antiaircraft gun emplacement (see Fig. 1), for which 15 manhours are allotted; 2) trenches for firing-platoon commanders; 3) installation for the battery commander (see Fig. 2), for which 25 manhours are allotted; 4) slit trenches for personnel; and 5) shelter for transport equipment.

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L 15755-66

ACC NR: AP6030916

3

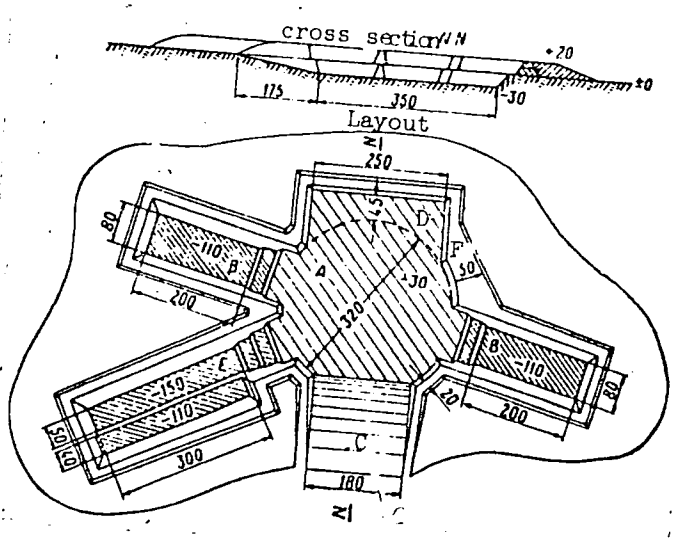

Fig. 1. Emplacement for antiaircraft installation 23

A - Gun emplacement; B - ammunition pit; C - ramp; D - place for gun barrel case; E - personnel shelter; F - barrel-cooling platform.

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L 45765-66
ACC NR: AP6030916

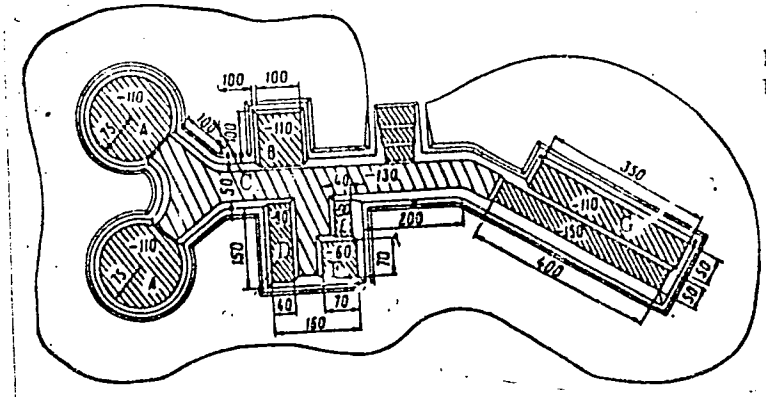

Fig. 2. Installation for the battery commander

A - Pits for the scout and range-finder operator; B - pit for the battery commander; C - communication trench; D - seats for the radiotelephone operator and plotter; E - radio station; F - plotting board; G - personnel shelter.

In case of tank or infantry attack slit trenches and foxholes for riflemen and antitank men are located around the battery. Tank mines are laid in the area most accessible to tank attack. Orig. art. has: 2 figures. [WS]

SUB CODE: 15, 19/ SUBM DATE: none/ ATD PRESS: 5085

Card 3/3

VALIBEKOV, V.R., MESHCHERYAKOV, V.A.

Effective potentials of -meson-nucleon interactions. Dokl. AN SSSR 105 no.5:951-954 D '55. (MLRA 9:3)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova. Predstavleno akademikom N.N. Bogolyubovym.
(Mesons) (Nucleons)

Meshcheryakov, V.A.

The effective potential for π meson-nucleon reaction. V. [illegible] Velinskiy and V. A. [illegible], Soviet Research in Phys. 1956, 2 [illegible] (translation). —See C.A. 50, 13032h. B. M. R.

AUTHOR: Meshcheryakov, V. A.

TITLE: The π-Mesoatom and the Corrections of the Dispersion Relations (π-Mezoatom i popravki k dispersionnym sootnosheni-yam)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol. 35, Nr 1, pp. 290 - 296 (USSR)

ABSTRACT: The dispersion relations for the process $\pi^- + p \rightarrow \pi^- + p$ before and after resonance agree with experimental results if the coupling constant f^2 of meson-nucleon interaction is equal to 0,04 and 0,08 respectively. The paper estimates the corrections caused by the π-mesoatom. The taking into account of one nucleon and one photon in the expansion for the anti-Hermitean (Ermit) part of the scattering amplitude with respect to a complete system of functions is not a complete representation of the electromagnetic interaction. The π-mesoatom must be investigated in the case of π^-, p interactions. For this purpose the amplitude $f_-(\omega)$ of the forward scattering for the process $\pi^- + p \rightarrow \pi^- + p$ has to be investigated more accurately. It may be represented by

Card 1/3

The π-Mesoatom and the Corrections of the Dispersion [illegible]
Relations

the sum of 3 terms: 1) Rutherford (Rutherford) amplitude 2) a purely nuclear term, 3) a term caused by the interference of these two terms. For the dispersion relations it is important to know the scattering amplitude for low values of $\omega - m_\pi > 0$ where the interference term is not low. The interference term has to be investigated as a correction to the usual dispersion relations for the processes $\pi^\pm + p \rightarrow \pi^\pm + p$; it contains poles which correspond to the bound states of the system π^-, p. The correction to the dispersion relations which is caused by these states is explicitly given. According to numerical computations the correction which takes the π-mesoatom into account is only small and explains only 4% of the difference between the experimental and theoretical values of f^2 at energies of 120 MeV. The author thanks D.V.Shirkov for his useful discussions and for his interest in this paper. There are 4 references, 2 of which are Soviet

Card 2/3

The π-Mesoatom and the Corrections of the Dispersion [illegible]
Relations

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: April 3, 1958

Card 3/3

YEFREMOV, A.V.; MESHCHERYAKOV, V.A.; SHIRKOV, D.V.

Pion-nucleon scattering at low energies. Part 1. Zhur. eksp. i teor. fiz. 39 no.2:438-449 Ag '60. (MIRA 13:9)

1. Ob"yedinennyy institut yadernykh issledovaniy.
(Nucleons--Scattering)

S/056/60/039/004/037/048
B006/B056

24.6900

AUTHORS: Yefremov, A. V., Meshcheryakov, V. A., Shirkov, D. V.

TITLE: Pion-Nucleon Scattering at Low Energies. II

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 4(10), pp. 1099 - 1105

TEXT: Following part I (Ref. 1) of the paper, an integral equation for the phase shift α_{33} is here derived, and, besides, expressions for other phase shifts which involve $\pi\pi$-scattering phase shifts δ_0 and δ_1 are obtained. It is found that the dispersion relations in pion-nucleon backward scattering play an essential part, and that the phase shift δ_0 influences considerably the πN-scattering. The scattering length and the phase shift δ_0 are estimated by considering small phase shifts near the πN-scattering threshold. Proceeding from the double spectral representation by Mandelstam, the system of integral equations for the partial waves of pion-nucleon scattering is obtained, in whose derivation the dispersion

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Pion-Nucleon Scattering at Low Energies. II S/056/60/039/004/037/048
B006/B056

relations play an important part. As there are no prospects of being able to give a rigorous proof of Mandelstam's representation, an investigation of the possibility of a rigorous proof of dispersion relations for backward scattering is of interest. It is shown that into the expression for the partial waves of πN-scattering, the s-phase shift δ_0 of ππ-scattering enters with a large factor. Therefore, it is possible, in spite of the approximative character of the calculations and the considerable experimental errors, to determine sign and order of magnitude of the scattering length only on the basis of an investigation of the small p-waves of πN-scattering near the threshold. The authors assume that a more exact calculation of the s- and p-waves in the energy range from 100 to 200 Mev might also furnish data on the p-wave of ππ-scattering. The results obtained agree with those of Ref. 9, but not with those of Ref. 10. These contradictions are finally briefly discussed. The authors thank Professor Chzhu Khun-yuan' for discussions. There are 1 figure and 10 references: 4 Soviet, 4 US, and 1 CERN.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: May 31, 1960

Card 2/2

BYRNEV, P.Kh.; MESHCHERYAKOV, V.A.; NEDYALKOV, I.P.; SARANTSEVA, V.R., tekhn. red.

[A boundary value problem of dispersion relations] Ob odnoi kraevoi zadache dispersionnykh sootnoshenii. Dubna, Ob"edinennyy in-t iadernykh issledovanii, 1962. 9 p. (MIRA 15:6)
(Boundary value problems) (Mesons—Scattering)

ISAYEV, P.S.; MESHCHERYAKOV, V.A.; SARANTSEVA, V.R., tekhn. red.

[Effect of $\pi\pi$-interaction on the S and p-waves of π - N scattering] Vliianie $\pi\pi$ -vzaimodeistviia na S- i p-volny π - N rasseianiia. Dubna, Ob"edinennyi in-t iadernykh issl., 1962. 20 p. (MIRA 15:6)
(Nuclear reactions) (Mesons)

MESHCHERYAKOV, V.A.

ISAYEV, P. S., and MESHCHERYAKOV, V. A.

"Effect of the $\pi\pi$ Interaction on S and P Waves of πN Scattering"

report presented at the Intl. Conference on High Energy Physics, Geneva, 4-11 July 1962

Joint Institute for Nuclear Research
Lab. of Theoretical Physics, Dubna, 1962

LOGUNOV, A. A., MESHCHERYAKOV, V. A., and TAVKHELIDZE, A. N.

"On the approximate γ_5 invariance in strong interaction theory"

report presented at the Intl. Conference on High Energy Physics, Geneva, 4-11 July 1962

Joint Inst. for Nuclear Research
Lab. of Theoretical Physics, Dubna, 1962

S/020/62/142/002/012/029
B104/B138

AUTHORS: Logunov, A. A., Meshcheryakov, V. A., and Tavkhelidze, A. N.

TITLE: Approximate γ_5 invariance of the theory of strong interaction

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 142, no. 2, 1962, 317-318

TEXT: The hypothesis is verified, that the matrix elements of all physical processes are invariant with respect to γ_5 transformation of spinor particles at high energies and great momentum transfers. For scattering processes of the type $0 + 1/2 \longrightarrow 0 + 1/2$, the requirement of γ_5 invariance has the consequence that a Fermi ion polarized longitudinally before the scattering process is also longitudinally polarized after it. The same is true for a nonpolarized Fermi ion. In particular, a similar result is obtained for nucleon-nucleon scattering. From an examination of the terms of lowest order in the perturbation theory it is shown that the mass terms are of no significance at high energies and considerable momentum transfers. Thus a γ_5 invariant interaction leads to γ_5 invariant matrix elements. N. N. Bogolyubov, S. M. Bilen'kiy, S. S. Gershteyn,

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S/020/62/142/002/012/029
B104/B138

Approximate γ_5 invariance ...

M. K. Meshcheryakov, A. M. Baldin, R. M. Ryndin, and Ya. S. Smorodinskiy are thanked for advice and discussions. There are 4 references: 1 Soviet and 3 non-Soviet. The four references to English-language publications read as follows: M. Gell-Mann, Preprint, 1961; Y. Fujui, Progr. Theor. Phys., 21, 232 (1959); I. I. Sakurai, Ann. of Phys., 11, 1 (1960); Y. Namby, J. Ionn - Lasinio, Phys. Rev. 122, no. 1, 345 (1961).

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

PRESENTED: August 14, 1961, by N. N. Bogolyubov, Academician

SUBMITTED: July 20, 1961

Card 2/2

S/056/62/043/004/029/061
B108/B102

AUTHORS: Isayev, P. S., Meshcheryakov, V. A.

TITLE: Effect of ππ-interaction on the s and p-waves in πN-scattering

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 4(10), 1962, 1339-1348

TEXT: Using the Mandelstam representation, ππ-interaction is taken into account in the equations for πN-scattering. The partial wave amplitudes are considered by combining the dispersion relations for forward and back scattering. States with the isotopic index (-), i.e., the functions

$$a = \tilde{\rho} e^{i\delta} + \frac{g^2}{4\mu_3^2} M(\Delta + \Delta_1), \qquad B^{(-)} = \rho e^{i\delta} + g^2(\Delta - \Delta_0), \qquad (1.4)$$

$$\Delta_0 = \frac{1}{2}\int_{-1}^{+1} \Delta d\cos\theta_3, \qquad \Delta_1 = \frac{3}{2}\int_{-1}^{+1} \cos^2\theta_3 \cdot \Delta\, d\cos\theta_3.$$

following from the unitarity condition are considered (A. V. Yefremov et al.

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ZhETF, 39, 439, 1960). In first approximation, the pion form factor is $F_\pi(\nu) = (k_r^2 + 1)/(k_r^2 + \nu + 1)$. The equations for the s and p partial amplitudes allowing for the cross symmetry have the form

$$\operatorname{Re} f_s^{(-)} = a^- \omega F_\pi(\nu),$$

$$3\operatorname{Re} f_{p_{1/2}}^{(-)} = \nu\left\{a_1^-[\omega + 1 + F_\pi(\nu)] + a_3^-\left[2\frac{\nu}{\omega+1} + 1 - F_\pi(\nu)\right] + \right.$$

$$+ 2\frac{\nu}{\omega} f^2 + \frac{a^-\omega}{\nu}[1 - F_\pi(\nu) + \nu F_\pi'(\nu)|_{\nu=0}] - \frac{2\nu}{\pi}\int_0^\infty \operatorname{Im} f_{p_{1/2}}^{(-)}(\nu')\frac{d\nu'}{\nu'^2\omega'(\omega'+\omega)} -$$

$$\left. - \frac{\nu}{\pi}\int_0^\infty \operatorname{Im} f_{p_{3/2}}^{(-)}(\nu')\frac{1}{\nu'^2(\nu'-\nu)}\left[\frac{F_\pi(\nu)}{F_\pi(\nu')} - 1\right]d\nu', \right. \qquad (6.1)$$

$$3\operatorname{Re} f_{p_{3/2}}^{(-)} = \nu\left\{a_3^-\left[2\omega + \frac{1+F_\pi(\nu)}{2}\right] + a_1^-\left(\frac{\nu}{\omega+1} - \frac{1-F_\pi(\nu)}{2}\right) + \right.$$

$$\left. + 2\frac{\nu}{\omega} f^2 + \frac{a^-\omega}{\nu}[1 - F_\pi(\nu) + \nu F_\pi'(\nu)|_{\nu=0}] + \right.$$

Effect of ππ-interaction on the...

$$+\frac{\nu}{\pi}\int_0^\infty \mathrm{Im}\, f^{(-)}_{p_{3/2}}(\nu')\,\frac{1}{\nu'^2(\nu'-\nu)}\left[1+2\frac{\omega}{\omega'}\right]d\nu' +$$

$$+\frac{\nu}{2\pi}\int_0^\infty \mathrm{Im}\, f^{(-)}_{p_{3/2}}(\nu')\,\frac{1}{\nu'^2(\nu'-\nu)}\left[\frac{F_\pi(\nu)}{F_\pi(\nu')}-1\right]d\nu'.$$

The s wave is satisfactorily described when $a^- = 0.88$, $t_r = 22$. With $a_1^- = -0.004$, $a_3^- = -0.1$, $f^2 = 0.087$. The $f^{(-)}_{p_{1/2}}$ wave is a good rendering of the energy dependence up to $\eta \sim 3$. For $f^{(-)}_{p_{3/2}}$ the dependence on η is qualitatively correct. Up to l.s. energies of ~ 400 Mev the effect of ππ-interaction on the $f^{(-)}_{p_{3/2}}$ wave is only small. There are 3 figures.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: March 31, 1962

Card 3/3

L 16504-63 EWT(m)/BDS AFFTC/ASD

ACCESSION NR: AP3005282 S/0056/63/045/002/0294/0302

55
53

AUTHOR: Isayev, P. S.; Lend'yel, V. I.; Meshcheryakov, V. A.

TITLE: Partial Pi-N scattering waves with account of Pi-Pi interaction

SOURCE: Zhur. eksper. i teoret. fiz., v. 45, no. 2, 1963, 294-302

TOPIC TAGS: pion nucleon scattering, pion pion interaction, partial wave, dispersion relation

ABSTRACT: The effect of $\pi\pi$ interaction in the T = J = 0 state on the N scattering partial waves is investigated by the dispersion relations method; this study is a continuation of previous work by the authors (ZhETF v. 43, 1339, 1962 and OIYaN preprint R-938, 1962). The method used for taking into account the $\pi\pi$ interaction makes it possible to choose between various forms for the energy dependence of the phase shift, and the results obtained prove the self-consistency

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ACCESSION NR: AP3005282

of the method when used to describe phenomena in the low-energy region. It is shown that the s-wave dominant solution of Chew, Mandelstam, and Noyes (Phys. Rev. v. 119, 478, 1960) does not describe the energy dependence of the partial waves in N scattering. The approximations for the scattering length and the resonant behavior of the phase shift on the solution of the set of equations for scattering partial waves is also discussed. The most probable form of the δ_0^0 $\pi\pi$ scattering phase shift is discussed. Relations between the contributions of the $\pi\pi$ interaction to the s and p πN scattering waves are obtained and their implications for the static limit are considered. The static limit is taken in the final expressions and is compared with the experimental data. Satisfactory description of the experimental data on πN scattering is obtained if the $\pi\pi$ interaction is taken into account, and satisfy certain conditions, and if it is assumed that the phase shifts have a resonant character. "The authors are grateful to D. V. Shirkov for useful advice. One of us

L 16504-63

ACCESSION NR: AP3005282

(V. I. L.) is grateful to the management of the Laboratory of Theoretical Physics of the Joint Institute for the hospitality extended to hom." Orig. art. has: 5 figures and 24 formulas.

ASSOCIATION: Ob''yedinenny*y institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: 01Feb63 DATE ACQ: 06Sep63 ENCL: 00

SUB CODE: PH NO REF SOV: 004 OTHER: 012

Card 3/3

L 6764-65 EWT(m) DIAAP/RAEM(a)/RAEM(t)
ACCESSION NR: AP4046417 S/0056/64/047/003/0970/0974

AUTHORS: Isayev, P. S.; Meshcheryakov, V. A.; Radutskiy, G. M.; Tabachenko, A. N. 43 42

TITLE: Relativistic corrections to s- and p-waves of pi-N scattering

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47, no. 3, 1964, 970-974

TOPIC TAGS: pion nucleon scattering, relativistic correction, pion pion interaction, elementary particle scattering, phase shift correction, s wave, p wave

ABSTRACT: The authors calculate the relativistic corrections to the s and p waves of pion nucleon scattering, which were treated by some of the authors in earlier papers (Isayev and Meshcheryakov, ZhETF v. 43, 1339, 1963; Isayev, V. I. Lend'yel', and Meshcheryakov,

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L 6764-65
ACCESSION NR: AP4046417

ZhETF v. 45, 294, 1963). The calculation shows that the relativistic corrections are small in the entire energy range under consideration. The $s^{(-)}$ wave of the pion-nucleon scattering is considered, with allowance for the relativistic corrections and with additional inclusion of the s-wave in the unitarity conditions. The p-wave correction is obtained from symmetry considerations, and that for a correct description of the $s^{(-)}$ and $p_{1/2}^{(-)}$ phase shifts of the pion nucleon scattering it is essential to take account of the pion pion interaction. If the small phase shifts of pion-nucleon scattering are determined experimentally in the energy region up to 300--400 MeV with increased accuracy, it will become possible to separate reliably the pion pion scattering and to determine its parameters (scattering length and position of the resonance). Orig. art. has: 1 figure and 7 formulas.

ASSOCIATION: Ob"yedinenny*y institut yaderny*kh issledovaniy (Joint Institute of Nuclear Research)

Card 2/3

L 6764-65
ACCESSION NR: AP4046417

SUBMITTED: 21Mar64 ENCL: 00

SUB CODE: NP NR REF SOV: 005 OTHER: 002

Card 3/3

L 1996-66 EWT(m)/EWA(h)

ACCESSION NR: AP5020263 UR/0367/65/002/001/0124/0130

AUTHOR: Meshcheryakov, V. A.; Nemenov, L. L.; Solov'yev, L. D.; Strokach, P.; Tkebuchava, F. G.

TITLE: Mechanism of emission of hard γ quanta in the reaction π + n → π + γ + N

SOURCE: Yadernaya fizika, v. 2, no. 1, 1965, 124-130

TOPIC TAGS: photon emission, pion proton interaction, nuclear interaction, pion pion interaction

ABSTRACT: The authors analyze the mechanism of hard-photon emission when pions interact with nucleons. The contributions of different Feynman diagrams to the cross section of this process are first analyzed, and it is shown by comparison with experimental data that various contributions and interferences of the high-order diagrams can be neglected. From the experimental data on the reaction $\pi^- + p \to \pi^- + \gamma + p$ the authors determine the interaction constant for the reaction $\gamma + \pi \to \pi + \pi$, and find it to be equal to $C^2 = 0.9 \pm 0.5$. Only the single-meson diagrams are taken into account, and the contribution of diagrams with rescattering are neglected. Diagrams in which γ quanta are emitted by nucleons are likewise neglected. The solution of the dispersion equation for the amplitude of the process in question is obtained in this paper as a function of only a single constant,

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L 1996-66

ACCESSION NR: AP5020263

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which facilitates the analysis of experimental data, inasmuch as they are too scanty for the determination of two constants. "The authors thank B. M. Pontecorvo for interest in the work and L. I. Lapidus for valuable hints." Orig. art. has: 3 figures and 22 formulas.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: 04Dec64 ENCL: 00 SUB CODE: NP

NR REF SOV: 005 OTHER: 005

Card 2/2 DP

MESHCHERYAKOV, V.B., inzh.

Stability of thin-walled columns under composite loads. Trudy MIIT no.122:376-391 '59. (MIRA 13:5)
(Elastic rods and wires) (Stability)

PRATUSEVICH, Ya.A., doktor tekhn. nauk, prof.; MESHCHERYAKOV, V.B., kand. tekh. nauk

Reduction of two-dimensional and three-dimensional problems in the theory of elasticity to one-dimensional and two-dimensional problems. Trudy MIIT no.164:5-15 '63. (MIRA 18:3)

MESHCHERYAKOV, V.B.

Stability of thin-walled rods subjected to complex loads.
Stroi.mekh. i rasch.soor. 1 no.3:29-33 '59. (MIRA 12:8)
(Elastic rods and wires)

MESHCHERYAKOV, V. B., Cand Tech Sci -- (diss) "Research into the stability of straight thin-walled rods under the action of complex loadings." Moscow, 1960. 8 pp; (Ministry of Railroads, USSR, Moscow Order of Lenin and Order of Labor Red Banner Inst of Railroad Transport Engineers im I. V. Stalin); 170 copies; price not given; (KL, 17-60, 156)

MESHCHERYAKOV, V.B., kand. tekhn. nauk

Using boundary curves in calculating straight thin-walled rods for stability. Trudy MIIT no.164:50-58 '63.

Stability of straight thin-walled rods under the action of three-parameter loads. Ibid.:59-63

Stability of a strip of variable cross section under the action of longitudinal and lateral loads. Ibid.:64-78 (MIRA 18:3)

ACCESSION AR 4027697 S/0124/64/000/002/V049/V049

SOURCE: RZh. Mekhanika, Abs. 2V362

AUTHOR: Meshcheryakov, V. B.

TITLE: The stability of a strip of variable section under lengthwise and crosswise loads

CITED SOURCE: Tr. Mosk. in-ta inzh. zh.-d. transp., vy*p. 164, 1963, 64-78

TOPIC TAGS: stability, variable section, flexure, linear law, second-degree law, centrally compressing force, end moment, rigidity, critical force, coefficient graph, transverse loading, longitudinal loading

TRANSLATION: The paper considers the stability of a flat form of flexure of a strip with rigidity varying according to the linear law and the law of the second degree, under the action of a centrally compressing force or equal end moments, and also with joint action of equal end moments and an evenly distributed load acting in the plane of greatest rigidity of the pivot along the line of the

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ACCESSION NR: AR4027697

centers of gravity. Calculation formulas for the critical forces are obtained and graphs of the coefficients are constructed.

DATE ACQ: 06Mar64 SUB CODE: PH ENCL: 00

Card 2/2

MESHCHERYAKOV, V.B., kand.tekhn.nauk, dotsent

Using the integral matrix method in investigating the stability of bands. Trudy MIIT no.174:129-134 '63. (MIRA 18:1)

L 40757-65 EPR/EWA(h)/EWP(k)/EWT(d)/EWT(m)/EWA(d)/EWP(w)/EWP(v) Pf-4/Peb EM

ACCESSION NR: AP5006162 S/0258/65/005/001/0121/0128

28
B

AUTHOR: Mashcheryakov, V. B.

TITLE: Effect of shear on the operation of thin-wall rods 24

SOURCE: Inzhenernyy zhurnal, v. 5, no. 1, 1965, 121-128

TOPIC TAGS: thin shell, thin walled rod, shell structure, stress calculation 24

ABSTRACT: The purpose of the article was to determine approximate limits beyond which the elementary theory of thin-wall hollow rods, developed by V. Z. Vlasov (Tonkostennyye uprugiye strezhni [Thin-wall elastic rods], Fizmatgiz, 1959), in which the effect of shear is neglected, holds true with a specified degree of accuracy. To this end, the author makes use of results by A. L. Goldenveyzer (Prikl. matem. i mekhan., v. 13, no. 6, 1949), in which shear is taken into account. To shorten and simplify the exposition, the conditions formulated by Goldenveyzer on the basis of a qualitative analysis are stated in the form of hypotheses. As an example, the author analyzes the stresses in a slotted rod and investigates the influence of shear on the deflection and torsion angles of the transverse cross

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L 40757-65

ACCESSION NR: AP5006162

sections. Allowance for the shear is quite simple in this method and in the case of short rods leads to corrections amounting to 30--40%. The results are compared with theoretical data obtained by others. Orig. art. has: 4 figures and 28 formulas.

ASSOCIATION: None

SUBMITTED: 17Jun63 ENCL: 00 SUB CODE: AS

NR REF SOV: 006 OTHER: 000

Card 2/2

MESHCHERYAKOV, V. F

ORLOV, V.P., kand.sel'skokhoz.nauk. Prinimali uchastiye: AVROV, N.N.; BASENKO, P.V.; VARLAMOV, D.A.; VASIL'YEV, I.I.; VLASOV, V.N.; VYLEGZHANINA, V.A.; ZHIVET'YEV, V.G.; ZAVADSKIY, I.S.; ZALESSKIY, Ye.Ya.; ZAKORYUKIN, D.S.; ISHCHENKO, I.N.; KACHIBAYA, I.D.; KISELEV, Ye.S.; KOZHEVNIKOV, I.Z.; LISITSYN, V.I.; MESHCHERYAKOV, V.F.; NYURIN-VERTSBERG, R.L.; PEREPELITSA, V.M.; RYABKOV, A.D.; SKURIKHIN, I.P.; SOLOV'YEV, N.A.; YAS'KO, N.G.. GREBTSOV, P.P., red.; ZUBRILINA, Z.P., tekhn.red.

[Our farms in 1965] Nashi khoziaistva v 1965 godu. Moskva, Gos. izd-vo sel'khoz.lit-ry, 1959. 230 p. (MIRA 13:2)
(Agriculture)

CHIZHOV,D.G.; KOGTEV,G.I.; LAVRENENKO,K.D.; SPIRIN, S.A.; NEKRASOV,A.M.; IVANOV, M.I.; UFAYEV,M.Ya.; GRISHIN, I.K.; KOSTIN,M.F.; POPOV,V.A.; ZAGORODNIKOV, P.I.; FEDOTOV, P.N.; KAZ'MIN, A.V.; FOMICHEV, G.I.; YERSHOV,P.I.; MESHCHERYAKOV,V.I.; YEFREMOV,S.G.; LEVIN, I.S.; LESTUCHEV,L.I.; KOKOREV, S.V.

Nikolai Alekseevich Andreev. Energetik 4 no.9:40 S '56. (MLRA 9:10)
(Andreev, Nikolai Alekseevich, 1896-1956)

CHIZHOV, D.G.; KOGTEV, G.I.; LAVRENENKO, K.D.; SPIRIN, S.A.; NEKRASOV, A.M.; IVANOV, M.I.; UFAYEV, M.Ya.; GRISHIN, I.K.; KOSTIN, M.F.; POPOV, V.A.; ZAGORODNIKOV, P.I.; FEDOTOV, P.N.; KAZ'MIN, A.V.; FOMICHEV, G.I.; YERSHOV, P.I.; MESHCHERYAKOV, V.I.; YEFREMOV, S.G.; LEVIN, I.S.; LETUCHEV, L.I.; BELKIN, M.N.; OBOLONKOV, M.I.; BATENIN, B.A.; BUR'YANOV, B.P.; KAMATOV, P.I.; KOKOREV, S.V.

Nikolai Alekseevich Andreev. Elek. sta. 27 no.10:62 O '56.
(Andreev, Nikolai Alekseevich, 1897-1956) (MLRA 9:12)

CHEPALOV, K.P. [deceased]; MESHCHERYAKOV, V.I. (Ryazan')

Histiocytic reaction in the area of palatine tonsils, regional lymph nodes, and in regional cellular tissue in the course of rheumatic fever. Nauch. trudy Riaz. med. inst. 14:99-108 '63. (MIRA 17:5)

BERSON, Garri Zalmanovich, kand. sel'khoz. nauk. Prinimal uchastiye MESHCHERYAKOV, V. I.; SAZONOVA, L.V., spets. red.

[Hydroponics in the Far North] Gidroponika na Krainem Severe. Murmansk, Murmanskoe knizhnoe izd-vo, 1964. 126 p. (MIRA 18:5)

1. Zamestitel' direktora Murmanskoy vsesoyuznoy opytnoy stantsii (for Meshcheryakov).

MESHCHERYAKOV, V.M., kand.tekhn.nauk, dotsent; ZAZIMKO, V.G., inzh.

New type of pipe laying without ducts using insulation fill. Trudy DIIT no.36:38-42 '62. (MIRA 16:10)

L 38556-66 EWT(m)/T/EWP(w)/EWP(t)/ETI IJP(c) GD/JD

ACC NR: AT6012403 SOURCE CODE: UR/0000/65/000/000/0278/0288

AUTHORS: Shorshorov, M. Kh.; Meshcheryakov, V. N.

ORG: none

TITLE: Delayed failure of titanium alloys

SOURCE: Soveshchaniye po metallokhimii, metallovedeniyu i primeneniyu titana i yego splavov, 6th. Novyye issledovaniya titanovykh splavov (New research on titanium alloys); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1965, 278-288

TOPIC TAGS: metal stress, elongation, material failure, titanium alloy, metal property, zirconium containing alloy, test method, aluminum containing alloy / IMYeT-4 test method, VT6S titanium alloy, OT4-1 titanium alloy, VT6 titanium alloy, VT14M titanium alloy

ABSTRACT: To clarify the mechanism of delayed failure of titanium alloys, previous work by M. Kh. Shorshorov and V. V. Belov (Vliyaniye tekhnologicheskikh faktorov na soprotivlyayemost' okoloshovnoy zony zakalivayushchikhsya staley zaderzhannomy razrusheniyu (metodika IMYeT-4). Svarochnoye proizvodstvo, 1964, No. 11) was continued by experimenting on 2-3 mm thick specimens using the IMYeT-4 method. Specimens of VT6S, Ti-Al-Zr, OT4-1, VT6, and VT14M titanium alloys containing different amounts of gases (O,N,H) were subjected to constant loads, and the time histories of stress and elongation were measured. Curves of ψ and σ_p as a function of time are presented for the different alloys containing 0.1--0.45% O, 0.03--0.1% N, and 0.002--0.05% H,

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L 38556-66

ACC NR: AT6012403

and the results are summarized in a comprehensive table. Sample photographs of microcracks which lead to eventual failure are shown, and the mechanism of delayed failure in the different alloys is discussed in detail. It was found that (based on the IMYeT-4 experiments) the titanium alloys can be placed in the following order with respect to delayed failure resistance: VT6S, alloys of the Ti-A-Zr system, VT6, and VT14M. Orig. art. has: 2 tables and 6 figures.

SUB CODE: 13/ SUBM DATE: 02Dec65/ ORIG REF: 011/ OTH REF: 004

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L 38557-66 EWT(m)/EWP(k)/T/EWP(w)/EWP(v)/EWP(t)/ETI IJP(c) JD/HW/HM-2
ACC NR: AT6012404 SOURCE CODE: UR/0000/65/000/000/0289/0294

AUTHORS: Shorshorov, M. Kh.; Kainova, G. Ye.; Smirnov, B. A.; Meshcheryakov, V. N.

ORG: none

TITLE: Rational regimes of mechanical-thermal treatment of titanium alloy VT15 and its welded joints

SOURCE: Soveshchaniye po metallokhimii, metallovedeniyu i primeneniyu titana i yego splavov, 6th. Novyye issledovaniya titanovykh splavov (New research on titanium alloys); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1965, 289-294

TOPIC TAGS: MECHANICAL PROPERTY, titanium alloy, metal property, metal welding, weld heat treatment/ VT15 titanium alloy

ABSTRACT: The effects of quenching temperature and subsequent mechanical-thermal treatment regimes on the structure and mechanical properties of titanium alloy VT15 and its welded joints were experimentally investigated on 2-mm thick specimens at the Metallurgy Institute im. A. A. Baykov (Institut metallurgii). After argon-arc welding (single pass), the specimens were quenched from 800, 1000, and 1200C in water, followed by aging (480C for 18 hrs, 560C for 15 min). Dilatometric and microstructural observations of the kinetics of phase transitions were made, and some results are presented and discussed. Based on these observations, several rational methods for increasing the strength and plastic properties of welded seams were attempted with the following

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L 38557-66

ACC NR: AT6012404

results: 1) to obtain the highest mechanical properties (σ_b = 175--179 kg/mm^2, ψ = 6--10%), plastic deformation of the β-phase must be performed at 400--450C; 2) if the β-phase is deformed at room temperature, satisfactory properties (162--172, 10--20%) can be obtained by subsequent heating to 600--650C (for a short time); 3) increasing the quenching temperature from 800 to 1100--1200C decreases chemical nonuniformities and results in more uniform mechanical properties after mechanical-thermal treatment. Orig. art. has: 7 figures.

SUB CODE: 11, 13/ SUBM DATE: 02Dec65/ ORIG REF: 002

Card 2/2

ACC NR: AP6035500

SOURCE CODE: UR/0135/66/000/011/0011/0012

AUTHOR: Meshcheryakov, V. N. (Engineer); Shorshorov, M. Kh. (Doctor of technical sciences); Florinskiy, Yu. B. (Engineer)

ORG: Institute of Metallurgy im. A. A. Baykov (Institut metallurgii)

TITLE: Effect of the gas content on the susceptibility of Ti-Al-Zr welds to delayed failure and cold cracking

SOURCE: Svarochnoye proizvodstvo, no. 11, 1966, 11-12

TOPIC TAGS: titanium alloy, aluminum containing alloy, zirconium containing alloy, alloy welding, weld delayed failure, weld cold cracking, alloy weld

ABSTRACT: The susceptibility to delayed cold cracking in the heat-affected zone of the welds in alpha-titanium alloys of the Ti-Al-Zr system containing from 0.13—14 to 0.45% O_2 and from 0.002 to 0.15% H_2 has been investigated. Notched specimens with a TIG spot weld on each side of the notch were subjected to a prolonged tensile test under a constant stress and the plastic deformation was measured during the test as well as after rupture. The test results showed that increasing the oxygen content from 0.14 to 0.45% in a Ti-Al-Zr alloy at a low hydrogen content of 0.002% increased the rupture strength of both the base and the heat-affected zone metal from 68—69 to 80—84 kg/mm^2, and the time-to-rupture from 0.25—5 to 4—7 days (see Fig. 1). The reduction of area at rupture decreased only from 15—20% to 9—8%

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UDC: 621.791.052.019:669.295.5

L 07462-67
ACC NR: AP6035500

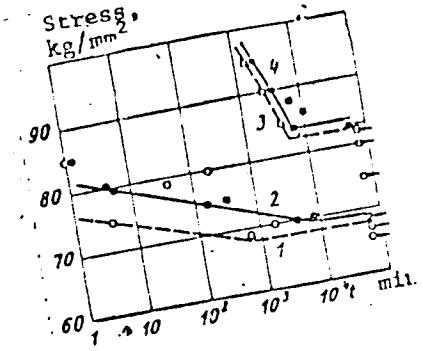

Fig. 1. Stress versus time-to-failure in Ti-Al-Zr alloy base metal (1, 3) and the heat-affected zone (2, 4) containing 0.13—0.14% (1, 2) or 0.45% (3, 4) oxygen.

which indicated that both the base and the heat-affected zone metals remain capable of plastic deformation and, consequently, stress relaxation. The insignificant increase in sensitivity to delayed cold cracking with increasing oxygen content is ascribed to a favorable effect of zirconium which forms a compound with oxygen, or reduces the effectiveness of dislocation pinning by oxygen atoms. Increasing the hydrogen content of alloys from 0.002 to 0.015% decreased the rupture strength of the base metal containing 0.1% and 0.29% O_2 by only 2—2.5 and 3.5—4 kg/mm², respectively. The metal in the heat-affected zone had a somewhat higher resistance to delayed cold cracking than the base metal, probably because of partial desorption

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ACC NR: AP6035500

of hydrogen in welding. However, the obtained data should not be used as a basis for increasing the presently specified limits (≤ 0.005—0.008%) for the hydrogen content of titanium alloys with a tensile strength of 60—70 kg/mm^2 since, in welded structures subjected to multiaxial stresses in the presence of stress concentrators, higher hydrogen contents, which are possible in the welds in hard-to-reach spots, may result in delayed failures. Orig. art. has: 4 figures.

SUB CODE: 13, 11/ SUBM DATE: none/ ORIG REF: 006/ OTH REF: 002/ ATD PRESS: 5104

Card 3/3

26366
S/089/61/011/002/002/015
B102/B201

21.2200

AUTHORS: Smirnov-Averin, A. P., Galkov, V. I., Ivanov, V. I., Meshcheryakov, V. P., Sheynker, I. G., Stabenova, L. A., Krot, N. N., Kozlov, A. G.

TITLE: Study of a used fuel rod from the First Nuclear Power Station

PERIODICAL: Atomnaya energiya, v. 11, no. 2, 1961, 122-125

TEXT: This is the second part of a paper, the first having been published in "Atomnaya energiya" v. 8, no. 5, 1960, 446. Results of studies of used fuel rods from the Pervaya atomnaya elektrostantsiya (First Nuclear Power Station) are presented. The element jackets displayed no changes apart from some oxide stains. A comparison between the diameters of a new fuel rod with one after 104 and another after 445 effective burning hours showed that while the diameter had not increased at the upper and lower rod ends, it had grown by less than 0.2 mm in the middle. In order to measure the total α-, β-, and γ-activity, the used fuel rod was divided lengthwise into 10 sections, and each of these parts was dissolved in nitric acid. The α-activity was determined by a Да-49 (Da-49) standard device and an ionization chamber, the

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Study of a used fuel rod from the ...

β-activity by a 4π-counter, the γ-activity by an ionization chamber as compared to a radium standard. The activity of the inner and outer tubes bounding the fuel element was also measured; these tubes were made of stainless steel. In the middle, the activity of the outer tube was 30% higher than that of the inner tube. This effect can be explained by the change of the neutron spectrum along the diameter of the fuel element. The burn-up in the used fuel elements was determined on the strength of the absolute activity of cesium which was separated by an ion exchanger. The results of a radiometric determination of the burn-up were compared with mass-spectrometric results, and agreement was found to be good. The mean burn-up of the entire element was found to be equal to 53%. Finally, the isotopic composition of transuranic elements was also determined in the used-up fuel. The first part of the present paper has supplied the results of a radiometric determination of the isotopic composition in case of a 12.5% burn-up of the element. The results of a mass-spectrometric analysis are now given. The substance under investigation was to the emitter (tungsten foil, 40 μ) in the form of an aqueous nitrate solution. A thermal ion source served for the purpose. Results are presented in Fig. 5. They were used to calculate the mean values of isotopic composition. The

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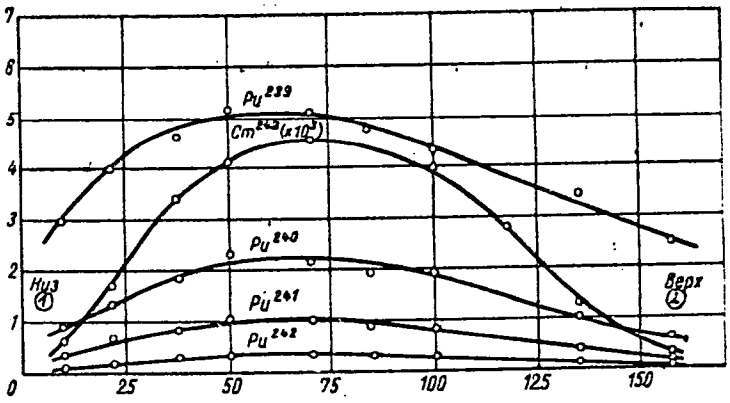
S/089/61/011/002/002/015
B102/B201

Study of a used fuel rod from the ...

following was found (in kg/ton of uranium): Pu^{239} - 4.10; Pu^{240} - 1.53; Pu^{241} - 0.64; Pu^{242} - 0.20; Cm^{242} - $2.73 \cdot 10^{-3}$. There are 5 figures and 2 Soviet-bloc references.

SUBMITTED: September 13, 1960

Fig. 5: Isotopic composition of transuranic elements along the fuel element.
Legend: Ordinate: isotopic concentration in kg/ton of U; abscissa: length in cm; (1) bottom; (2) top.



Card 3/3

29547
S/089/61/011/005/012/017
B102/B104

26.2230

AUTHORS: Smirnov-Averin, A. P., Galkov, V. I., Sheynker, I. G., Meshcheryakov, V. P., Stabenova, L. A., Kir'yanov, B. S.

TITLE: Determination of burnup in spent fuel elements

PERIODICAL: Atomnaya energiya, v. 11, no. 5, 1961, 454 - 456

TEXT: The burnup of spent fuel elements was determined by determining the Cs^{134} accumulated as a result of an (n,γ) reaction with the stable isotope Cs^{133}, and Cs^{137}. The activity of the mixture Cs^{134} + Cs^{137} was measured by scintillation gamma and beta spectrometers and a γ-β coincidence circuit. The apparatus gamma spectrum of the mixture had two photopeaks, the first was caused by the gamma radiation of Cs^{134} ($\overline{E}_\gamma$ = 0.80 Mev), the second by a superposition of the photopeaks of Cs^{137} (E_γ = 0.66 Mev) and Cs^{134} ($\overline{E}_\gamma$ = 0.59 Mev). The internal conversion coefficient was determined from the beta spectrum of Cs^{137} to be 0.119

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B102/B104

Determination of burnup ..

in accordance with the tabulated value. β-γ coincidences of the isotope mixture were only due to Cs^{134} radiation. From intensity and coincidence counting rate measurements the relative Cs^{137} content in the mixture was determined. The distribution of both the single isotopes and the mixture along the fuel rod had broad maxima in the middle of the rod. The burnup distribution was calculated from the Cs^{137} content. It was found to be in good agreement with mass-spectrometric measurements. The burnup may also be determined from the content of the Tc^{99} fission fragment ($2.1 \cdot 10^5$ years) which is produced in a yield of 6.02%. This isotope, which is the only long-lived one of this element, is extracted by methyl ethyl ketone after dissolving the material and centrifuging the precipitate. For final purification the cationite KY-2 (KU-2) is used. Activity is determined with a 4π counter. The burnup determined from Tc^{99} was 67% from the cesium mixture 68%, and from mass-spectrometric measurements 66.2%. There are 5 figures and 2 references: 1 Soviet and 1 non-Soviet. The latter reads as follows: Progress in Nuclear Energy, Ser. III, Process Chemistry, V. I, Appendix III, London, 1956

Submitted: September 14, 19[illegible]

Card 2/2

TVERDOKHLEB, G.V.; MESHCHERYAKOV, V.T.; MAKSIMENKO, M.A.

Ripening of sour cream. Izv.vys.ucheb.zav.; pishch.tekh. 2: 55-60 '62. (MIRA 15:5)

1. Leningradskiy tekhnologicheskiy institut kholodil'noy promyshlennosti, kafedra tekhnologii moloka i molochnykh produktov.

(Sour cream)

26867
S/080/61/034/004/008/012
A057/A129

158350 also 1372

AUTHORS: Shtraykhman, G. A., Al'shits, I. M., Meshcheryakov, V.V., Mudrov, O. A., Levitskaya, O. M.,

TITLE: Copolymers of the polyesters of maleic and methacrylic acid - a new type of binder for glass-reinforced plastics

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 4, 1961, 888 - 894

TEXT: A method for the preparation of a new type (MA-3 [MA-3]) of unsaturated polyester resins is described. The resins are solutions of maleate polyesters in polyesters of methacrylic acid, which are copolymerized by adding some initiator hardener mixtures. The resulting MA-3 polyester does not contain volatile monomers (such as styrene, methylmethacrylate etc.). Hence more hygienic work conditions were attained by using MA-3 polyester resin as binder for glass-reinforced plastics. The latter have better mechanical properties then glass-reinforced plastics based on ПН-1 (PN-1) maleate polyester resin or 911-МС (911-MS) acrylate polyester binder. An improvement of technology is also attained since MA-3 resin has a longer gelatination time. Unsaturated resins called acrylate polyester resins were developed in the USSR by A. A. Berlin et al. (Ref. 6:

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Copolymers of the polyesters of maleic .....

Vysokomol. soyed., 1,7, 951, 1959; Ref. 7: Vysokomol. soyed., 1,7, 957, 1959). These resins are products of the polycondensation of glycols and glycerine with dibasic saturated acids (phthalic or sebacic acid) and monobasic methacrylic acid. The introduction of a monobasic unsaturated acid makes possible regulation of the chain growth in the polyesterification process and thus manufacture of acrylate polyesters with a different degree of polymerization. According to Ya. D. Avrasin and A. I. Prigoreva (Ref. 8: Plast. massy, 1, 13, 1960) properties of glass-reinforced plastics based on acrylate polyesters are caused by the functional force and distance between the unsaturated acrylic end-radicals in the polyester chain. Another common polyester resin is the maleate polyester resin described by P. Z. Li et al. (Ref. 5: Plasticheskiye massy, 2, 19, 1959). A drawback of the manufacture of both types, acrylate and maleate polyesters is evolution of styrene vapors which produce a highly poisoned atmosphere. For this reason in the present work the production of polyester resins not containing volatile poisonous compounds and having good physical and mechanical properties was investigated. Preparation of copolymers of maleate polyesters and low molecular acrylate polyesters with the ability to be solvent and copolymerization component according to a patent of the present authors (Ref. 9: Soviet patent no. 132819,

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1960), was selected for this purpose. Maleate-phthalate polyethylene glycol was sinthesized and had a higher softening point than the product manufactured by the industry (softening point 45 - 50°C, hard yellow resin, acid number in mgKOH/g of resin - 40-50, viscosity according to VZ -4, of a 50 % solution in styrene at 20°C 4,900 sec.). During polycondensation the temperature was raised gradually up to 200°C and the process was controlled by measuring the acid number and the amount of condensate. The product was dissolved at 70 - 80°C in a mixture of equal parts of dimethacrylate-triethyleneglycol and dimethacrylate (bis--triethyleneglycol) phthalate. This mixture was copolymerized at 20°C by adding an initiator-accelerator system as hardener. For the latter following systems were tested by estimating the gelatination time: isopropylbenzene hydroperoxide - cobalt naphthenate, benzoyl peroxide - dimethylaniline, methylethylketone peroxide - cobalt naphthenate (both imported substances). Optimum results (gelatination time 9 hours) were obtained with the last-mentioned system (2% + 2%). Optimum gelationation time (8 hours) with a Soviet hardener was obtained with 3 % isopropylbenzene hydroperoxide + 5 % of a 40 % solution of cobalt naphthenate in styrene. Thus all further tests were carried out using this hardener. It was observed that the hardening ends after 25 days, then the resin has the properties compared in Table 4 and 5 with those of the PN-1 resin. Hardening exotherms (determined by Kh. V. Tsubina) are shown in Figure 3. Using glass gauze

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ACTT(δ)C_2 (ASTT (b)S_2) satin 8/3 with and without removal of the lubricant) with the manufactured MA-3 resin, 5 and 10 mm thick sheets were formed and tested 25 days after preparation. The results are presented in Table 6, showing several advantages in relation to the PN-1 resin and 911-MS binder. Investigations carried out by Yu. A. Agashin, M. M. Tuchenko and P. V. Sidyakov in the Institut gigiyeny truda i profzabolevaniy (Institute of Industrial Hygiene and Occupational Diseases) demonstrated the advantage of using MA-3 resin instead of PN-1 resin considering sanitary conditions, since the total amount of styrene formed during hardening of PN-1 resin is 12 times greater than for MA-3 resin. There are 4 figures, 6 tables and 9 references: 6 Soviet-bloc and 3 non-Soviet-bloc. The two references to the English-language publications read as follows: Johan Bjorksten. Polyesters and their applications., N. Y., 1956; Phillip Morgan, Glass Reinforced Plastics, London, 1957.

SUBMITTED: August 4, 1960

Card 4/8

BEL'CHUK, G.A.; DORMIDONTOV, V.K.; MESHCHERYAKOV, V.V.; NAUMOV, V.D.; PUGACHEV, A.S.; SOKOLOVA, L.V., tekhnicheskiy redaktor.

[Technology of ship building] Tekhnologiia sudostroeniia. Pod obshchei red. V.K.Dormidontova. Leningrad. Gos. soiuznoe izd-vo sudostroit.promyshl., 1954. 560 p. (MIRA 8:5)
(Shipbuilding)

MESHCHERYAKOV, V.V., inzhener.

Some problems in simplifying technical documentation. Sudostroenie 22 no.1:25-28 Ja '56. (MLRA 9:7)
(Shipbuilding) (Marine engineering)

MESHCHERYAKOV, Vasiliy Vasil'yevich; DORMIDONTOV, V.K., nauchnyy red.; FOMICHEV, A.G., red.; TSAL, R.K., tekhn.red.

[Hull fitting shops of a shipbuilding enterprise] Korpusnye tsekhi sudostroitel'nykh predpriiatii. Leningrad, Gos.soiuznoe izd-vo sudostroit.promyshl., 1960. 259 p. (MIRA 13:6)
(Hulls (Naval architecture)) (Shipfitting)

DORMIDONTOV, Vladimir Konstantinovich; AREF'YEV, Timofey Vasil'yevich; KISELEVA, Nina Arsen'yevna; KUZ'MENKO, Vladimir Kuz'mich; LUK'YANOV, Petr Grigor'yevich[deceased]; NIKITIN, Yevgeniy Ivanovich; TURUNOV, Savva Matveyevich; CHERVYAKOV, V.I., laureat Leninskoy premii, inzh., retsenzent; MESHCHERYAKOV, V.V., inzh., retsenzent; KAZAROV, Yu.S., red.; CHISTYAKOVA, R.K., tekhn. red.

[Shipbuilding technology]Tekhnologiia sudostroeniia. Pod obshchei red. V.K.Dormidontova. Leningrad, Sudpromgiz, 1962. 695 p. (MIRA 16:1)

(Shipbuilding)

MESHCHERYAKOV, V.V., kand. tekhn. nauk

Introduction of synthetic materials in shipbuilding. Sudostroenie 30 no.8:9-12 Ag '64. (MIRA 18:7)

SMIRNOV, Vasiliy Ivanovich; MESHCHERYAKOV, Vasiliy Vasil'yevich; SMIRNOVA, M.K., kand. tekhn. nauk, retsenzent; AL'SHITS, I.M., nauchn. red.; SHAKHNOVA, V.M., red.

[Testing and inspecting glass reinforced plastics used in shipbuilding] Ispytanie i kontrol' sudostroitel'nykh stekloplastikov. Leningrad, Sudostroenie, 1965. 186 p. (MIRA 18:6)

MESHCHERYAKOV, V. V. and [illegible], I. M.

"Conversion of Electric Machines and Tables of Winding Data", Gosenergoizdat, 176 pp, 1950.

112-1-778 D

Translation from: Referativnyy Zhurnal, Elektrotekhnika, 1957, Nr 1, p. 127 (USSR)

AUTHOR: Meshcheryakov, V. V.

TITLE: Certain Special Features of Designing Adjustable Miniature Induction Motors with Contact Rings (Nekotoryye osobennosti rascheta reguliruyemykh asinkhronnykh mikrodvigateley s kontaktnymi kol'tsami)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of Technical Sciences presented to the All-Union Correspondence Polytechnical Institute (Vses. zaoch. politekhn. in-t) Moscow, 1956.

ASSOCIATION: All-Union Correspondence Polytechnical Institute (Vses. zaoch. politekhn. in-t, Moscow)

Card 1/1

MESHCHERYAKOV, V.V., kand.tekhn.nauk, dotsent

Calculating the torque and critical slip of low-power asynchronous motors. Izv.vys.ucheb.zav.; mashinostr. no.2:138-143 '61. (MIRA 14:3)

1. Moskovskiy elektrotekhnicheskiy institut svyazi.
(Electric motors, Induction)

MESHCHERYAKOV, V.V., kand.tekhn.nauk, dotsent

Analytic determination of asynchronous braking moments due to higher harmonic fields of the magnetomotive force of low-power asynchronous motors. Izv.vys.ucheb.zav.; mashinostr. no.8:118-126 '62. (MIRA 15:12)

1. Moskovskiy elektrotekhnicheskiy institut svyazi.
(Electric motors, Induction)

L 10531-63 EWT(d)/FCC(w)/BDS--APGC/ASD/ESD-3--Pg-4/Pk-4/Po-4/Pq-4--IJP(C)/GG

ACCESSION NR: AP3001097 S/0103/63/024/006/0850/0855

AUTHOR: Bartkus, T. I. (Vilnius); Gikis, I. I. (Vilnius); Lapienis, F. F. (Vilnius); Lukoshevichyus, S. K. (Vilnius); Meshcheryakov, V. V. (Vilnius); Tel'ksnis, L. A. (Vilnius)

TITLE: Specialized electronic computer for correlation and spectral analysis of visual and magnetic recordings of random processes

SOURCE: Avtomatika i telemekhanika, v. 24, no. 6, 1963, 850-855

TOPIC TAGS: computer, automatic reader, correlation, correlation computation

ABSTRACT: Special features are described of a computer which will read large amounts of raw random statistical data in the form of continuous visual tape records and then perform on the analog signal the desired calculations of correlation and spectral density. The computer has three basic sections: an input electron-optical data reader, a delayed memory storage, and an electronic computation section. The reader is a TV pickup of the vidicon type, on whose screen is projected the image of the moving signal trace. The vidicon output, after integration and detection, is the voltage analog of the scanned trace.

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The original tape recording may be any usual type (photosensitive, direct-writing, 25-mm film), providing the trace is black, blue, or green and the tape background is white or transparent. The voltage signals obtained are stored on magnetic tape in FM form and are fed to a special delay section which automatically time-shifts one taped signal with respect to another as required in correlation computation. The delay section (See Fig. 1 of Enclosure) has a playback head (1), an eraser head (2), and a record head (3) for each signal of a pair. Both signals are picked off prior to erasure, amplified (5), and re-recorded via the record heads (3), except that one of the latter is mechanically advanced a distance Δl, causing a shift in its re-recorded trace. By rewinding and repeating, the process gives any desired time shift up to 18 sec. The remaining circuitry includes the required multiplication and integration, the output of which is the correlation function in graphical form on punched tape. To determine power spectral density (PSD), the taped correlation function is in turn fed to the computer input; necessary sinusoidal functions and frequency selection are included in the computing section for PSD computation. Fourier series coefficients may also be calculated. Other operating data include an accuracy of correlation calculation of approximately 5%, PSD of approximately 8%, an overall dynamic range of 40 db, and a maximum continuous computation

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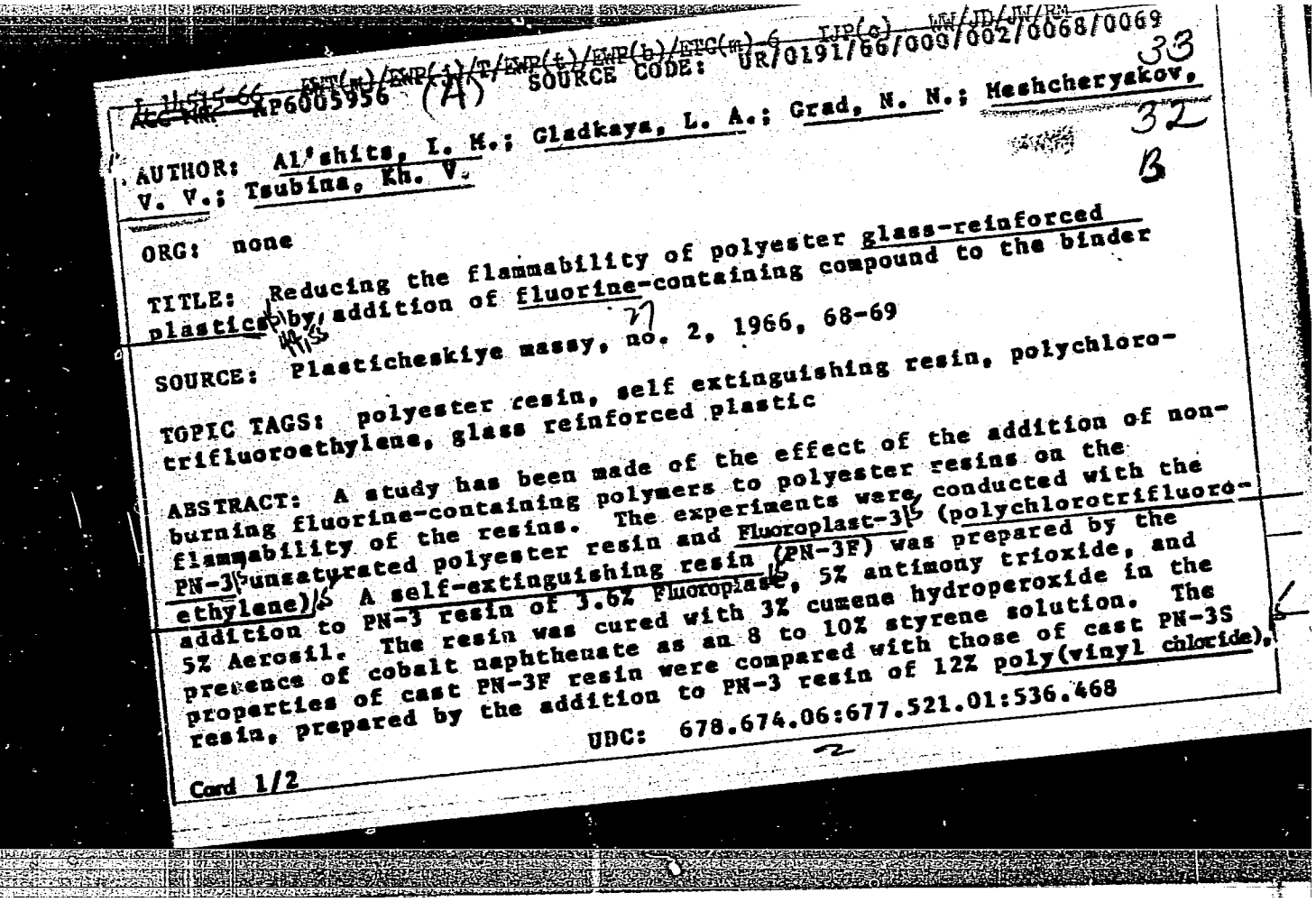
interval of 20 minutes. The computer is built in three consoles, all operated by one person. It is in current production at the Vil'nyusskiy zavod schetnykh mashin (Vilnius Computer Plant). Orig. art. has: 5 figures and 5 formulas.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 01Jul63 ENCL: 01

SUB CODE: CP NO REF SOV: 000 OTHER: 000

Card 3/4



I 11575-66 EWT(m)/EWP(j)/T/EWP(t)/EWP(b)/ETC(m)-6 IJP(c) WW/JD/JW/RM
ACC NR: AP6005956 (A) SOURCE CODE: UR/0191/66/000/002/0068/0069

AUTHOR: Al'shits, I. M.; Gladkaya, L. A.; Grad, N. N.; Meshcheryakov, V. V.; Tsubina, Kh. V.

ORG: none

TITLE: Reducing the flammability of polyester glass-reinforced plastics by addition of fluorine-containing compound to the binder

SOURCE: Plasticheskiye massy, no. 2, 1966, 68-69

TOPIC TAGS: polyester resin, self extinguishing resin, polychlorotrifluoroethylene, glass reinforced plastic

ABSTRACT: A study has been made of the effect of the addition of non-burning fluorine-containing polymers to polyester resins on the flammability of the resins. The experiments were conducted with the PN-3 unsaturated polyester resin and Fluoroplast-3 (polychlorotrifluoroethylene). A self-extinguishing resin (PN-3F) was prepared by the addition to PN-3 resin of 3.6% Fluoroplast, 5% antimony trioxide, and 5% Aerosil. The resin was cured with 3% cumene hydroperoxide in the presence of cobalt naphthenate as an 8 to 10% styrene solution. The properties of cast PN-3F resin were compared with those of cast PN-3S resin, prepared by the addition to PN-3 resin of 12% poly(vinyl chloride).

UDC: 678.674.06:677.521.01:536.468

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ACC NR: AP6005956

and 5% antimony trioxide. The resins exhibited similar mechanical properties. The Vicat softening point of PN-3F was about 40C higher than that of PN-3S. PN-3F was less flammable and more self-extinguishing than PN-3S. Glass-reinforced plastics based on PN-3F resin and ASTT(b)-S_2-0 glass fabric exhibited at 20 and 60C considerably better mechanical properties than such plastics based on PN-3S resin. Further studies on the preparation of self-extinguishing binders based on Fluoroplast-3-polyester resin copolymers are recommended. [BO]
Orig. art. has: 2 tables.

SUB CODE: 11/07 SUBM DATE: none/ ORIG REF: 013/ OTH REF: 003
ATD PRESS: 4199

Card 2/2

MESHCHERYAKOV, V.Ya., inzh.; KONOVALOV, P.V., inzh.

Specification of the technology of making asphalt concrete mixes based on the experience. Avt. dor. 21 no.5:4-5 My '58. (MIRA 11:6)

(Asphalt concrete)

MESHCHERYAKOV, Ya.

KOTOVA, Ye.; MESHCHERYAKOV, Ya.

Treating young plants with growth stimulators. Zhil.-kom.khoz. 4 no.4:30 '54. (MLRA 7:7)

1. Assistent kafedry dendrologii Voronezhskogo lesokhozyaystvennogo instituta (for Kotova). 2. Direktor pitomnika Voronezhskogo upravleniya lesoparkovogo khozyaystva (for Meshcheryakov)
(Growth promoting substances)

Meshcheryakov, Ya. K.

Lining of basic steel-melting arc furnaces. Ya. K. Meshcheryakov. *Elektrot. Proizvodstvo* 1956, [illegible] to No. 2, 40–7.—The walls above banks are made by ramming a mixt. of 92% chrome magnesite brick crushed to pass 3-mm. mesh, 8% fire clay ground to 1-mm. mesh, and 10% of a 50% Na_2SiO_3 soln. over a layer of magnesite brick. With slight patching with the same mixt. the walls were sound after 6 months in use. J. D. Gat