higher temperatures, and high stability of measurements also after cyclical thermal treatment.

b) The alloy is especially easily worked into rods and tubes, but less well into plates.

c) The application of U-Mo alloys forcibly leads to an increase of the degree of enrichment of U^{235}.

d) U-Mo alloys can probably be used with good success for fast reactors.

There are 7 figures, 9 tables, and 18 references, 4 of which are Soviet.

SUBMITTED: June 21, 1958

21(1)

AUTHORS: Sergeyev, G. Ya., Titova, V. V., Savitskiy, Ye. M., Zhul'kova, A. A., Nikolayeva, Z. P.

SOV/89-5-6-2/25

TITLE: The Mechanical Properties of Uranium (Mekhanicheskiye svoystva urana)

PERIODICAL: Atomnaya energiya, 1958, Vol 5, Nr 6, pp 618-623 (USSR)

ABSTRACT: The test apparatus (IM. - 4k) with which the hardness of uranium at increased temperature and the expansion of uranium at increased temperature were investigated in a neutral gas (argon), are represented by two sectional drawings. Measuring results are given by a graph. The following details are mentioned:
The hardness of the uranium decreases with increasing temperature. If temperature rises up to 600°C, hardness decreases from 350 kg/mm^2 to 50 kg/mm^2. A regular variation of hardness in dependence on the carbon content of the uranium (0.07 to 0.24 %) was not observed.
The presence of carbon in uranium samples influences outflow pressure if these samples are pressed in the α-phase. The outflow pressure increases with an increasing carbon content

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(0.09 to 0.24 %). At 650°C and a degree of deformation of 75 % the outflow pressure increases by about 60 %. For uranium in the γ-phase outflow pressure decreases from 4 kg/mm^2 at 830°C to 1.8 kg/mm^2 at 1050°C.

Ultimate strength and creep strength increase with an increasing carbon content in the uranium. In hot-rolled uranium with a C-content of 0.01 % ultimate strength is σ_b = 36 kg/mm^2, in uranium with 0.24 % C-content σ_b = 52 kg/mm^2. The creep strengths in these cases amount to 23 to 31 kg/mm^2.

At temperatures of from 100 - 150°C all mechanical properties characterizing the strengths decrease monotonously, whereas the properties that characterize plasticity increase. For uranium with 0.12 % C-content one finds that at 750°C σ_b = 12 kg/mm^2, δ = 18 % (relative elongation), ψ = 51 % (relative narrowing of the pressed surface), at 600°C σ_b = 7 kg/mm^2, δ = 23 %, ψ = 76 %, and at 850°C σ_b = 0.8 kg/mm^2, δ = 31 %, ψ = 97 %.

γ-uranium, which has a volume-centered lattice, has the highest degree of plasticity. The tetragonal β-uranium is inclined to be brittle, and velocity of deformation is more

sensitive to temperature. Because of the low symmetry of the rhombic lattice of α-uranium, the latter is characterized by sharply marked anisotropic properties. There are 13 figures, 2 tables, and 3 references.

SUBMITTED: July 16, 1958

SERGEYEV, G. YA.

21(4) PHASE I BOOK EXPLOITATION SOV/2714

International Conference on the Peaceful Uses of Atomic Energy. 2nd, Geneva, 1958

Doklady sovetskikh uchenykh; yadernoye goryucheye i reaktornyye metally. (Reports of Soviet Scientists; Nuclear Fuel and Reactor Metals) Moscow, Atomizdat, 1959. 670 p. (Series: Its: Trudy, vol. 3. 8,000 copies printed.

Ed. (Title page): A.A. Bochvar, Academician, A.P. Vinogradov, Academician, V.S. Yemel'yanov, Corresponding Member, USSR Academy of Sciences, and A.P. Zefirov, Doctor of Technical Sciences; Ed. (Inside book): V.V. Pereverzev and G.M. Pchelintseva; Tech. Ed.: E.I. Mazel'.

PURPOSE: This volume is intended for scientists, engineers, physicians, and biologists working in the production and peaceful application of atomic energy; for professors and students of schools of higher technical education where the subject is taught; and for people interested in atomic science and technology.

COVERAGE: This is volume 3 of a 6-volume set of reports on atomic energy, presented by Soviet scientists at the Second International Conference on the Peaceful Uses of Atomic Energy, held in Geneva from September 1 to 13, 1958. Volume 3 consists of two parts. The first part, edited by A.I. Zubov, is devoted to geology, prospecting, concentration and processing of nuclear source material. The second part, edited by G.L. Zverev, includes 27 reports on metallurgy, metallography, processing technology of nuclear fuels and reactor metals, and neutron irradiation effects on metals. The titles of the individual papers in most cases correspond word for word with those in the official English language edition on the Conference proceedings. See SOV/2081 for the titles of the other volumes of the set.

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SERGEYEV, G. YA.

21(4) PHASE I BOOK EXPLOITATION SOV/2714

International Conference on the Peaceful Uses of Atomic Energy. 2nd, Geneva, 1958

Doklady sovetskikh uchenykh; yadernoye goryucheye i reaktornyye metally. (Reports of Soviet Scientists; Nuclear Fuel and Reactor Metals) Moscow, Atomizdat, 1959. 670 p. (Series: Its: Trudy, vol. 3) 8,000 copies printed.

Ed. (Title page): A.A. Bochvar, Academician, A.P. Vinogradov, Academician, V.S. Yemel'yanov, Corresponding Member, USSR Academy of Sciences, and A.P. Zefirov, Doctor of Technical Sciences; Ed. (Inside book): V.V. Pereverzev and G.M. Pchelintseva; Tech. Ed.: E.I. Mazel'.

PURPOSE: This volume is intended for scientists, engineers, physicians, and biologists working in the production and peaceful application of atomic energy; for professors and students of schools of higher technical education where the subject is taught; and for people interested in atomic science and technology.

COVERAGE: This is volume 3 of a 6-volume set of reports on atomic energy, presented by Soviet scientists at the Second International Conference on the Peaceful Uses of Atomic Energy, held in Geneva from September 1 to 13, 1958. Volume 3 consists of two parts. The first part, edited by A.I. Zubov, is devoted to geology, prospecting, concentration and processing of nuclear source material. The second part, edited by G.L. Zverev, includes 27 reports on metallurgy, metallography, processing technology of nuclear fuels and reactor metals, and neutron irradiation effects on metals. The titles of the individual papers in most cases correspond word for word with those in the official English language edition on the Conference proceedings. See SOV/2081 for the titles of the other volumes of the set.

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11(6), 21(1) SOV/89-6-3-2/29

AUTHORS: Sergeyev, G. Ya., Titova, V. V.

TITLE: Uranium and Its Alloys (Uran i yego splavy)

PERIODICAL: Atomnaya energiya, 1959, Vol 6, Nr 3, pp 253 - 260 (USSR)

ABSTRACT: This article is a survey which has been compiled primarily on the basis of the western Geneva reports for 1958. The following reports were used in the compilation of information in the individual fields:
1)The properties of uranium monocrystals: Nr 713 and 1258.
2)Structural changes in uranium under thermal treatment: Nr 713, 2191, 2307.
3)Mechanical properties of uranium at elevated temperatures: Nr 49, 50, 317, 2307.
4)Influence of irradiation upon uranium:Nr 81, 616, 617, 618, 791, 2191.
5)Uranium alloys: Nr 713, 1890, 2043.
6)Modern methods of metallographical investigation of irradiated and not irradiated uranium: Nr 1855. There are 7 figures and 1 table.

SUBMITTED: December 25, 1958

Card 1/1

PHASE I BOOK EXPLOITATION SOV/5314

Sergeyev, G. Ya., V.V. Titova, and K.A. Borisov

Metallovedeniye urana i nekotorykh reaktornykh materialov (The Metallography of Uranium and Certain Reactor Materials) Moscow, Atomizdat, 1960. 223 p. 5,000 copies printed.

Ed.: A.I. Zavodchikova; Tech. Ed.: N.A. Vlasova.

PURPOSE: This book is intended for scientists and engineers in scientific research institutes, design and planning organizations, and industrial enterprises. It may also be used by students taking advanced courses in higher schools of education.

COVERAGE: The book on the metallography of uranium and reactor materials contains data taken from Soviet and non-Soviet materials presented at the Second International Conference on the Peaceful Uses of Atomic Energy (Geneva, 1958), and from later sources dealing specifically with the effects of conditions in the active zone of a reactor on the properties (especially size and structural stability) of uranium, its alloys, and

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SOV/89-8-2-3/30

AUTHORS: Bochvar, A. A., Sergeyev, G. Ya., Davydov, V. A.

TITLE: Deformations of Uranium Subjected Simultaneously to Thermal Cycles and Tensile Stresses

PERIODICAL: Atomnaya energiya, 1960, Vol 8, Nr 2, pp 112-116 (USSR)

ABSTRACT: Method of Investigation. Figure 1 represents the special device operating under vacuum of the order of 10^{-5} mm Hg. Temperature control was automatic and the residual deformation of uranium was studied by measuring the size of the samples after (1) the cyclic thermal treatment without outside stresses (a freely hanging specimen of small weight); (2) creep investigation at the maximum cycle temperature for intervals of time equal to the cycling time in the next part; and (3) cycling thermal treatment with tensile stresses equal to those in part (2). Sample temperatures were measured at three points by means of thermocouple velded to it. The temperature drop across the sample

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Deformations of Uranium Subjected Simultaneously to Thermal Cycles and Tensile Stresses

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was between 5 and 10° C. Under investigation were samples of granular sheet uranium (rolled in the α -phase region), and uranium annealed in the γ -phase region (randomly oriented crystals). All samples were flat, of an overall length of 100 mm (working length, 40 mm; width, 8 mm). Thickness of the samples A, B, C was 2.3, 2.2, and 3.2 mm respectively. Samples Cut Across the Direction of Roll. Tables 1 and 2 summarize all the results obtained from the cross-cut samples. Samples Cut Along the Direction of Roll. Results are summarized in Table 3. Samples With Random Orientations of Crystallites. (See Table 4.) One sees in all cases that in the case of simultaneous influence of cyclic thermal treatment and tensile stress there is a considerable increase of the length variation of the samples compared to the creep caused by simple tension. This happens even in cases when the stress effect and that due to the thermal cycling are of opposite sign. There are 4 tables; 5 figures; and 4 references, 1 Soviet, 2 U.K., 1 U.S. The U.K. and U.S. references are: A. McIntosh, T. Heal, Paper Nr 49 Submitted by Great Britain to the Second Intern.

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Deformation of Uranium Subjected Simultaneously to Thermal Cycles and Tensile Stresses

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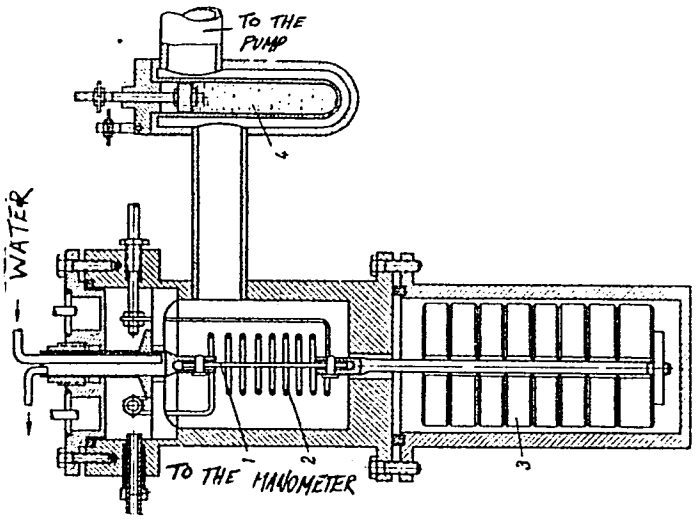

Fig. 1. Diagram of the device: (1) sample (2) molybdenum heater; (3) load; (4) liquid nitrogen trap.

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Table 1. Relationship between constant applied stress and residual deformation of uranium during cyclic thermal treatment and after creep tests (samples out crosswise to the direction of rolling).

TREATMENT	CONSTANT APPLIED STRESS G kg/mm²	RESIDUAL ELONGATION OF SAMPLES					
		AFTER 140 CYCLES IN THE INTERVAL 180–550° C*			AFTER CREEP TESTS AT 530° C (WITHOUT THERMAL CYCLES)**		
		Nr of SAMPLE	Δl, mm	δ, %	Nr of SAMPLE	Δl, mm	δ, %
SAMPLE B, ROLLED AT 300° C WITH 60 % REDUCTION	0	51	−0.32	−0.8	—	—	—
	0.8	52	+0.67	+1.67	53	+0.1	+0.25
SAMPLE A***, ROLLED AT 300° C WITH 70% REDUCTION	0.	34	−0.5	−1.25	—	—	—
	1.25	36	+1.9	+4.8	37	+0.44	+1.1
SAME, WITH ANNEALING AT 575° FOR 2 HR	0.	41	−0.65	−1.65	—	—	—
	1.25	40	+2.6	+6.5	39	+0.08	+0.2

* HEATING TIME 1.5 MIN, COOLING TIME 4 MIN

** TESTS CONTINUED 3 HR; THIS WAS THE TIME DURING WHICH SAMPLES STAYED AT TEMPERATURES HIGHER THAN 350°C WHILE SUBJECTED TO 200 THERMAL CYCLES.

*** RESIDUAL ELONGATION OF SAMPLES A IS SPECIFIED AFTER 200 CYCLES.

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Table 2. Relationship between constant applied stress and residual deformation of rolled uranium during cyclic thermal treatment and after creep tests (samples cut crosswise to the direction of rolling).

TREATMENT	CONSTANT APPLIED STRESS G, kg/mm²	RESIDUAL ELONGATION OF SAMPLES			
		AFTER 140 CYCLES*		AFTER CREEP TESTS AT 532°C (WITHOUT THERMAL CYCLES)**	
		Δl, mm	δ %	Δl, mm	δ %
MELT R, ROLLED AT 500°C WITH 85% REDUCTION	0	− 0.93	− 2.32	—	—
	1	+ 0.82	+ 2.05	+0.5	+1.2
	2	+ 3.77	+ 9.42	+1.1	+2.7
	3	+ 5.32	+13.3	—	—

* HEATING TIME, 1.5 MIN; COOLING TIME, 4.5 MIN; TIME FOR 1 CYCLE, 5.5 MIN

** TESTS CONTINUED FOR 14 HR

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Table 3. Relationship between the constant applied stress and the residual deformation of the rolled uranium during cyclic thermal treatment and after creep tests (samples cut along the direction of rolling).

TREATMENT	CONSTANT APPLIED STRESS G, kg/mm²	RESIDUAL ELONGATION OF SAMPLES			
		AFTER 140 CYCLES IN THE INTERVAL 180-550°C		AFTER CREEP TESTS AT 550°C (WITHOUT THERMAL CYCLES)**	
		Δl, mm	δ, %	Δl, mm	δ, %
MELT B, ROLLED AT 300°C WITH 60% REDUCTION	0	0.33	0.8	—	—
	0.8	0.84	2.1	0.1	0.25
	2.0	3.44	8.6	0.72	1.8
	3.0	6.31	15.8	1.2	3.0
	4.0	25.52	63.8	3.42	8.4

* HEATING TIME 1.5 MIN, COOLING TIME 4 MIN

** TESTS CONTINUED 14 HR

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Table 4. Relationship between constant applied stress and residual deformation during cyclic thermal treatment and after creep tests of uranium annealed in the γ-phase

TREATMENT	CONSTANT APPLIED STRESS G, kg/mm²	RESIDUAL ELONGATION OF SAMPLES			
		AFTER 100 CYCLES IN THE INTERVAL 180-550°C*		AFTER CREEP TESTS AT 550° C. (WITHOUT THERMAL CYCLES)**	
		Δl, mm	δ, %	Δl, mm	δ, %
SAMPLE C ROLLED AT 300° C WITH 60% REDUCTION AND ANNEALED AT 850° C FOR 30 MIN	0	+ 0.17	+ 0.4	—	—
	1	+ 0.67	+ 1.6	+0.1	+0.25
	2	+ 1.22	+ 3.05	+0.12	+0.30
	2.7	+ 2.51	+ 6.27	+0.36	+0.9

* HEATING TIME 3 MIN; COOLING TIME 4 MIN; TIME OF THE CYCLE 7 MIN

Card 7/8 ** TESTS CONTINUED 14 HR

Deformation of Uranium Subjected Simultaneously to Thermal Cycles and Tensile Stresses

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SOV/89-8-2-3/30

Conf. for Peaceful Use of Atomic Energy (Geneva, 1958); R. Nichols, Nucl. Engng, 2, Nr 18, 355 (1957); A. Roberts, A. Cotrell, Philos. Mag., 1, 711 (1956).

SUBMITTED: October 8, 1959

Card 8/8

SERGEYEV, G. Ya.

S/089/60/008/04/03/009
B113/B017

AUTHORS: Sergeyev, G. Ya., Titova, V. V., Nikolayeva, Z. P., Kaptel'tsev, A. M.

TITLE: Thermal Treatment of Uranium

PERIODICAL: Atomnaya energiya, 1960, Vol. 8, No. 4, pp. 340-347

TEXT: The authors investigated the influence exercised by hardening on the macro- and microstructure as well as the mechanical properties of cast and hot-rolled uranium at increased and room temperatures. Uranium was hardened from various cooling media, in water of different temperatures, from different phases, with varying sample diameters. Repeated hardenings were made. Results of measurement are shown in figures, tables, and curves. Hardening reduces the grain size of uranium. Strength increases after the hardening from the beta phase by about 30%, from the gamma phase by 60%. Repeated hardening of uranium increases its creeping strength at temperatures below 400°C. The degree of change in the macro- and microstructure and strength properties depends on the chemical composition of uranium. Strength increases with the increase in the cooling rate from

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the beta and gamma phase. At all temperatures the strength of the alpha phase of hardened uranium is higher than that of non-hardened uranium. There are 8 figures, 4 tables, and 7 references: 4 Soviet and 3 American.

SUBMITTED: April 20, 1959

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S/089/60/009/002/003/015
B006/B056

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AUTHORS: Sergeyev, G. Ya., Titova, V. V., Kolobneva, L. I.

TITLE: Recrystallization of Cold-rolled Uranium

PERIODICAL: Atomnaya energiya, 1960, Vol. 9, No. 2, pp. 104-109

TEXT: The authors investigated the influence exerted by rolling and annealing in the α-phase upon the structure and the mechanical properties of uranium, and in the present paper, they give a report upon the results obtained. The raw material investigated consisted of 99.7% by weight of U, 0.02% by weight of C + Fe, Si, Ni, and N impurities. The uranium was rolled in the γ-phase (at 950-900°C, degree of deformation ~80%), after which it was slowly cooled and hardened from the β-phase (720-730°C); only then was the cast uranium cold-rolled. The change in the microstructure of the uranium is shown in the photos (Fig. 1). The cast uranium and that rolled in the γ-phase show a rough granulation (1.5 - 2.5 mm); after hardening from the β-phase, the grain size amounts to only 100 to 200μ. The fine-grained uranium has a considerably greater strength than the rough-grained initial material. Figs. 3 and 4 show the changes in

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Recrystallization of Cold-rolled Uranium

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the mechanical properties of the rolled uranium as functions of the degree of deformation. In the case of a deformation by 40 - 50%, hardness increases by 35%, and the limit of strength by 75%; the relative linear expansion remains practically constant. In the following, the authors discuss the influence exerted by annealing in the α-phase upon the structure and mechanical properties of the cold-rolled uranium. Microphotographs show the changes in microstructure in the case of 10 hours' annealing in the α-phase at different temperatures as dependent on the degree of deformation. Recrystallization annealing reduces the strength characteristics, but at all degrees of deformation the values are still higher than those of the initial substance. It is found that recrystallization practically does not depend on the initial states investigated. Some data are given on the kinetics of recrystallization, and are discussed. Fig. 6 shows approximated diagrams of recrystallization for three initial states, and Fig. 7 shows the kinetic curves of the change in grain size. The influence exerted by an addition of 0.1% by weight of molybdenum upon the recrystallization process is finally discussed. The diagram in Fig. 7b shows the grain sizes for such a material as a function of the duration of annealing. The change in microstructure is shown in Fig. 8. Fig. 9 shows the results obtained by hardness

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Recrystallization of Cold-rolled Uranium

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measurements as functions of the annealing temperature. The addition of molybdenum causes a certain solidification. With the grain size being the same, the molybdenum-alloyed uranium has a strength that is by 20% greater than that of pure uranium. There are 9 figures and 10 references: 3 Soviet, 2 French, and 3 US.

SUBMITTED: February 3, 1960

Card 3/3

SERGEYEV, G.Ya.; TITOVA, V.V.; BORISOV, K.A.; ZAVODCHIKOVA, A.I., red.; VLASOVA, N.A., tekhn.red.

[Physical metallurgy of uranium and of certain reactor materials] Metallovedenie urana i nekotorykh reaktornykh materialov. Moskva, Gos.izd-vo lit-ry v oblasti atomnoi nauki i tekhniki, 1960. 223 p. (MIRA 14:3)
(Uranium) (Nuclear reactors--Materials)

SERGEYEV, G. Ya

Metallovedeniye Urana i nekotorykh reaktornykh materialov (by) G.Ya. Sergeyev, V.V. Titova (i) K.A. Borisov. Moskva, Atomizdat, 1960.
223 p. illus., diagrs., graphs, tables.
Bibliography: p. 219-222.

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AUTHORS: Bochvar, A.A., Sergeyev, G.Ya., Davydov, V.A., and Zhul'kova, A.A.

TITLE: Influence of cyclic heat treatment under a constantly applied load on the dimensional stability of metals and alloys

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Issledovaniya po zharoprochnym splavam, v. 7, 1961, 3 - 10

TEXT: Flat specimens of identical shape, and overall length 100 mm (length of working portion 40 mm, width 8 mm, thickness 2 mm), made from uranium, aluminum, zinc and from copper-zinc alloys of different compositions, were used for the investigation. The uranium specimens were tested without protection against oxidation, heating being carried out in air and quenching in water. The specimens were subjected to cyclic heat treatment in the temperature ranges 180 - 550°C and 490 - 720°C for uranium 20 - 400°C for aluminum, 20 - 300°C for zinc and 20 - 600°C for copper-zinc alloys. The temperatures

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of specimens were controlled at these points by means of thermocouples welded onto the specimens. The magnitude [illegible] mation of the specimens was determined (1) after cyclic heat treatment without application of external load; (2) after cyclic heat treatment with application of a tensile load during the heat treatment cycle; (3) after creep tests at a temperature equal to the upper temperature of the cycle. The duration of the latter tests was that of the full period of the heat treatment cycle, multiplied by the number of cycles (the load during cyclic thermal treatment under load and in the creep tests being identical). Texturized uranium rolled in the α-phase region and untexturized uranium annealed in the γ-phase region and quenched from the β-phase region, were tested. Specimens of texturized uranium were cut along the direction of rolling and at right angles to it. It was found that as the result of applying a small tensile load to uranium, aluminum, zinc, α and β brass during cyclic heat treatment, a considerable residual deformation developed; this exceeded the total deformation due to creep and cyclic heat treatment without application of load, by a considerable extent. Cyclic thermal treatment of transfer specimens

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Influence of cyclic heat ...

of texturized uranium sheet in the α-phase temperature range, and also of β-brass, in the absence of tensile load causes a shortening of the specimens, and on application of a small external tensile load it leads to a considerable elongation in the direction of the acting force. As a result of cyclic thermal treatment of uranium at a constant load, the residual plastic deformation on passing through the $\alpha \rightleftharpoons \beta$ phase transformation point is greater than deformation as a result of cyclic thermal treatment within the α-region. In α + β brass the residual deformation brought about as a result of testing for creep only, considerably exceeds the deformation under the influence of cyclic thermal treatment with a constantly applied load. The change in dimensions of the specimens is in the direction of the action of the externally applied load. The considerable change in the magnitude of residual deformation and even in the sign of deformation as a result of the action of small stresses, applied to the specimen during cyclic thermal treatment, is due, in the authors' view, to the fact that on applying a constant tensile load to a specimen submitted to cyclic thermal treatment, the initial stage of the first period of creep, in which the material exhibits a higher rate of deformation, is repeated; this is also promoted by

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Influence of cyclic heat ...

the great mobility of atoms at points in the thermal cycle during which temperature gradients and stresses exist, and also on passing through the $\alpha \rightleftharpoons \beta$ phase transformation point. There are 12 figures, and 7 references: 4 Soviet-bloc and 3 non-Soviet-bloc. The references to the English-language publications read as follows: A.H. Cottrell. Met. Rev., 1, 1956; A.C. Roberts, and A.H. Cottrell, Phil. Mag., 1, 18, 1956; R.W. Nichols, Nuclear eng., 2, 18, 1957.

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SERGEYEV, I., upravlyayushchiy.

Utilizing potentialities in every way. Zhil.-kom.khoz. 3 no.10:21-22 O '53. (MLRA 6:11)

1. Saranskaya vodokanalizatsiya. (Saransk--Water supply) (Saransk--Sewerage)

LEVINSON, M.; SERGEYEV, I.

Responsibility for the violation of traffic regulations. Avt. transp. 38 no. 5:31 My '60. (MIRA 14:2)
(Traffic violations)

SERGEYEV, I., inzh.; DAVIDSON, L., LONCHINSKIY, V., slesar'

Practices of innovators and inventions of efficiency promoters.
Stroitel' no.6:25 Je '60. (MIRA 13:7)

1. Glavnyy mekhanik UMR-439 tresta No.88 (Khar'kov).
(Building--Tools and implements)

SERGEYEV, I.

Study communism. Voen. znan. 41 no.10:9 O '65.

(MIRA 18:10)

SERGEYEV, I.

Mystery of geographical names. IUn. tekh. 3 no.6:20-23 Je '59. (MIRA 12:8)

1.Chlen Geograficheskogo obshchestva AN SSSR.
(Names, Geographical)

SERGEYEV, I

Avicenna

Sheikh-Ar-Rais, teacher of scientists. Tekh. molod. 20 no. 5:11-13 my '52.

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

ALEKSANDROV, O.; SERGEYEV, I.

Yugoslavia's foreign trade. Vnesh. torg. 27 no.8:30-32 '57.
(Yugoslavia--Commerce) (MLRA 10:9)

SERGEYEV, I.

Ten-fold increase in stability. Starsh.-serzh. no.5:31 My '63. (MIRA 16:10)

PONOMARENKO, V.A.; SNEGOVA, A.D.; SERGEYEV, I.A.

Preparation of fluoroarylhalosilanes by high temperature condensation. Izv. AN SSSR. Ser. khim. no.9:1684-1687 '65. (MIRA 18:9)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.

SERGEYEV, I.A.

Packet method for setting bricks into and taking them out of kilns. Stroi. mat. 11 no.6:18-19 Je '65. (MIRA 18:7)

1. Nachal'nik proizvodstvennogo otdela tresta Tulzhelezobeton.

SHMEYEV, I P., Land Tech Sci - (diss) "Examination of the process for the automatic control of the downward motion of a hanging plow." Saratov, 1960, 16 pp (Saratov Agricultural Institute)

(KL, 38-60, 109)

SERGEYEV, I.I.

Neuropsychic disorders in pachycarpine poisoning. Sud.-med.ekspert. no.4:39-40 O-D '65. (MIRA 18:12)

1. Kafedra psikhiatrii (zav. - prof. O.V.Kerbikov [deceased]) II Moskovskogo meditsinskogo instituta imeni N.I.Pirogova.
Submitted November 26, 1964.

KASHIRIN, N.A.; GLADKOVSKIY, V.A.; FRIKKE, S.A.; Prinimali uchastiye: POPOV, N.P., inzh.; BARYSHEV, S.P., inzh.; SUVOROVA, V.I., inzh.; SERGEYEV, I.I., inzh.

Effect of expanding on the distribution of residual stresses in large-diameter pipes. [Sbor. trud.] Nauch.-issl.inst.met. no.4:158-163 '61. (MIRA 15:11)

1. Nauchno-issledovatel'skiy institut metallurgii (for Kashirin, Gladkovskiy). 2. Ural'skiy nauchno-issledovatel'skiy trubnyy institut (for Frikke).

(Expanded metal)
(Strains and stresses)

KUZMAK, Ye.M., doktor tekhn. nauk; MILANCHEV, V.S., kand. tekhn. nauk; SUVOROVA, V.I., inzh.; SERGEYEV, I.I., inzh.; BARYSHEV, S.P., inzh.

Testing 19G steel for thermal hardening and weldability. Stroi. truboprov. 7 no.1:8-10 Ja '62. (MIRA 16:7)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti im. akademika Gubkina (for Kuzmak, Milanchev). 2. Chelyabinskiy truboprokatnyy zavod (for Suvorova, Sergeyev, Baryshev).
(Steel—Testing) (Pipe, Steel)

SERGEYEV, I.I.; SHUTOVA, T.D.

Graphic method of determining the charge mixture composition in the manufacture of welding fluxes. Avtom. svar. 17 no.3:80-83 Mr '64. (MIRA 17:11)

1. Chelyabinskiy truboprokatnyy zavod.

GALINICH, V.I., inzh.; KOLISNYK, V.N., inzh.; KOTANZHI, Yu.V., inzh.; OSOCHENKO, I.M., inzh.; SERGEYEV, I.I., inzh.

Using a slag crust for the production of AN-60 flux. Avtom. svar. 17 no.11:86-91 N '64 (MIRA 18:1)

1. Institut elektrosvarki imeni Ye.O. Patona AN UkrSSR (for Galinich; Kolisnyk). 2. Khartsyzskiy trubnyy zavod (for Kotanzhi, Osochenko). 3. Chelyabinskiy truboprokatnyy zavod (for Sergeyev).

KALACHEV, Yu.A., inzh.; BERESNEV, A.T., inzh.; SERGEYEV, I.I., inzh.

Propane-butane cutting at the Chelyabinsk Pipe Rolling Mill. Svar. proizv. no.3:36-37 Mr '62. (MIRA 15:2)

1. Chelyabinskiy NIPTIAMMASh (for Kalachev, Beresnev). 2. Chelyabinskiy truboprokatnyy zavod (for Sergeyev).
(Gas welding and cutting) (Chelyabinsk--Pipe mills)

8(1,2,5) PHASE I BOOK EXPLOITATION SOV/1990

Sergeyev, Ivan Ivanovich and Mikhail Valentinovich Shklyarskiy

Uchebnoye posobiye elektromekhanika (A Textbook on Electromechanics) Moscow, Voyen., izd-vo M-va obor. SSSR, 1958. 284 p. No. of copies printed not given.

Ed.: V. L. Sterligov, Engineer-Captain; Tech. Ed.: A.T. Babochkin.

PURPOSE: This book was approved as a textbook for junior technical personnel of the Red Army Signal Corps by the Chief of Ground Communications Personnel.

COVERAGE: The book describes the basic sources and converters of electric power employed for supplying radio-communication and wire-communication equipment. It is presumed that the reader is acquainted with the fundamentals of electrical engineering. The book provides technical specifications and data essential for proper selection of the supply source and for making operational calculations. The chapter dealing with internal combustion engines describes the construction, principle of operation and rule for operating the machines most commonly used in power supply installations of communications facilities. Chapters 1-3 and 8-11 were written by M.V.

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Shklyarskiy. Chapters 4-7 and 12-16 were written by I.I. Sergeyev. There are no references.

TABLE OF CONTENTS:

A Textbook on Electromechanics (Cont.)

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A Textbook on Electromechanics (Cont.)

JP/fal
9-1-59

AVAILABLE: Library of Congress

Card 8/8

PHASE I BOOK EXPLOITATION SOV/[illegible]

Mashino-tekhnicheskoye obshchestvo [illegible] [illegible]
Sverdlovskoye otdeleniye

Mekhanizatsiya i avtomatizatsiya [illegible] [illegible]
ation and Automation in the [illegible]
1959. 519 p. 12,000 copies [illegible]

Ed.: Ye. V. Fal'kov, Doctor of [illegible]
Editorial Board: P. P. [illegible]
Technical Sciences, Ye. V. [illegible]
[illegible], Candidate of [illegible]
Technical Sciences, [illegible]
[illegible], Candidate of [illegible]
B. Z. [illegible], Candidate of Technical [illegible]
[illegible].

PURPOSE: This book is intended for production [illegible]
in industrial planning.

COVERAGE: The material [illegible] in this book is [illegible]
developed and tested in the [illegible]
of Siberia. [illegible]
and their applications in [illegible]
Other fields of [illegible] welding, [illegible]
quality control on an industrial scale. [illegible]
and instruments currently used in mechanization [illegible]
dustrial processes are described [illegible]
[illegible]

MECHANIZATION AND AUTOMATION OF WELDING

Mechanization and Automation (Cont.) SOV/3482

Card 8/15

SOV-135-58-3-5/19

AUTHOR: Sergeyev, I.I., Svetlakov, V.A., Engineers

TITLE: Complex Mechanization of Large-Diameter Welded Pipe Production (Kompleksneya mekhanizatsiya proizvodstva svarnykh trub bol'shogo diametra)

PERIODICAL: Svarochnoye proizvodstvo, 1958, Nr 3, pp 17-18 (USSR)

ABSTRACT: Information is presented on the production of large-diameter "14KhGS" and "19G" steel pipes (426 to 820 mm in diameter, 6 to 12 mm wall thickness, 12 m length) at the electric welding shop of the Chelyabinsk pipe-rolling plant. A detailed description of production technology is given including new methods such as blank forming on presses with mechanized feed of blanks, new technology of two-arc welding with a rate of 120 m/hrs and the expanding of pipes on a hydraulic expander press. A particular feature of the new technology is that the pipe blanks are made with a diameter of 1.8 to 2.5 % less than the final and are subsequently expanded. The expanding process increases the mechanical strength of the pipe metal and reduces its plasticity.
There are 3 tables.

Card 1/2

SOV-135-58-3-5/19

Complex Mechanization of Large-Diameter Welded Pipe Production

ASSOCIATION: Chelyabinskiy truboprokatnyy zavod (Chelyabinsk Pipe Rolling Plant)

1. Pipes--Welding 2. Pipes--Production 3. Arc welding--Equipment
4. Arc welding--Applications

Card 2/2

SERGEYEV,I.N., inzhener; KHVEDELIDZE,G.R., inzhener; ROZENTUL,A.S., inzhener; ALEKSANDRI,L.; VOLCHOK,P.S., arkhitektor; PETUNIN, N.V., arkhitektor; MIKHAYLOV,V.V., professor

Precast rafter construction for large-panel apartment houses. Rats. i izobr. predl. v stroi. no.101:28-29 '55.
(Roofs) (MLRA 8:10)

SERGEYEV, I.P.

AKHUN, A.I.; KAGANOV, N.L., kandidat tekhnicheskikh nauk, retsenzent; SERGEYEV, I.P., inzhener, retsenzent; GALAKTIONOV, A.T., kandidat tekhnicheskikh nauk, redaktor; ARZAMASTSEV, D.A., kandidat tekhnicheskikh nauk, redaktor; STEPANOV, V.G., kandidat tekhnicheskikh nauk, redaktor.

[Contact electric-welding machines] Kontaktnye elektrosvarochnye mashiny. Sverdlovsk, Gos. nauchno-tekhn. izd-vo mashinostroit.i sudostroit. lit-ry [Uralo-Sibirskoe otd-nie], 1953. 310 p. (MLRA 7:6)

1. Kafedra svarki MVTU imeni N.E.Baumana (for Kaganov, Sergeyev). 2. Uralmashzavod (for Stepanov).
(Electric welding)

ACCESSION NR: AP4019080 S/0170/64/000/003/0057/0063

AUTHOR: Sergeyev, I.P.

TITLE: Calculation of transient heat exchange in the core of a heterogeneous water moderated and cooled boiling reactor with natural coolant circulation

SOURCE: Inzhenerno-fizicheskiy zhurnal, no. 3, 1964, 57-63

TOPIC TAGS: reactor, boiling reactor, heterogeneous boiling reactor, water cooled boiling reactor, water moderated reactor, reactor core, reactor core heat exchange

ABSTRACT: A number of approximated, non-linear, differential equations are presented to describe the transient heat exchange process in the core of a boiling power reactor. These were derived by employing mass, heat and momentum balances in the form

$$\frac{\partial}{\partial t} S[\gamma''\varphi + \gamma'(1-\varphi)] + \frac{\partial}{\partial z}(G'' + G') = 0,$$

$$\frac{\partial}{\partial t} S[\gamma'' i''\varphi + \gamma' i'(1-\varphi)] + \frac{\partial}{\partial z}(G''i'' + G'i') = \Pi q(z, t), \quad (1)$$

$$\frac{\partial}{\partial t}(G'' + G') + \frac{\partial}{\partial z}(G''w'' + G'w') = g\frac{\partial F}{\partial z},$$

где $q = q_0 + \frac{S_r}{\Pi}\delta q_0$.

1/2

Card

ACCESSION NR: AP4019080

where $q = q_S + \frac{S_T}{II} {}_b q_V$, for a transient two-phase flow of coolant. Data obtained previously by others during a study of the dynamics of a type EBWR reactor by means of an electric analog method are stated to offer some confirmation of the propriety of the results presented here. "In conclusion, the author expresses gratitude to academicians A. K. Krasin and A. V. Al'kimovich for the An BSSR for their interest in this study". Orig. art. has: 12 formulas.

ASSOCIATION: Tsentral'ny*y nauchno-issledovatel'skiy institut im. A. N. Kry*lova (Central Scientific Research Institute)

SUBMITTED: 28Nov63 ATD PRESS: 3048 ENCL: 00

SUB CODE: NP NO REF SOV: 002 OTHER: 006

2/2

L 2840-66 EWT(m)/EPF(c)/ETC/EPF(n)-2/EWG(m) WW

ACCESSION NR: AP5022940 UR/0201/65/000/002/0016/0021

20
19
B

AUTHOR: Sergeyev, I. P.

TITLE: Calculation of the stability conditions of a water-moderated water-cooled boiling reactor

SOURCE: AN BSSR. Vestsi. Seryya fizika-tekhnichnykh navuk, no. 2, 1965, 16-21

TOPIC TAGS: boiling water reactor, water cooled nuclear reactor, nuclear reactor control, nuclear reactor power

ABSTRACT: An attempt was made to predict analytically the possibility of small self-sustaining oscillations of the power of an experimental boiling water reactor (EBWR). The latter is treated as an autonomous nonconservative nonlinear system with many degrees of freedom. In this case, the problem amounts physically and formally to the determination of the conditions under which a self-oscillatory process can be achieved in the system. Since no accurate methods of mathematical analysis of such complex systems exist, an approximate method based on the idea of harmonic linearization was found to be the most suitable. The threshold power, frequency, amplitude, and constant component of the power oscillations of the EBWR reactor were determined. "The author thanks Acad. AN BSSR A. K. Krasin

Card 1/2

L 2840-66

ACCESSION NR: AP5022940

for interest in this work and Cand. Tech. Sci. Ye. D. Garber for a helpful review of the results pertaining to the methods of nonlinear mechanics and to the theory of automatic control." Orig. art. has: 13 figures.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: NP

NO REF SOV: 006 OTHER: 004

BVK

Card 2/2

L 25431-66 EPF(n)-2/EEC(k)-2/EWP(k)/EWT(1)/EWT(m)/ETC(f)/EWG(m)/T IJP(c)
ACC NR: AP6010490 WG/WW SOURCE CODE: UR/0201/65/000/003/0011/0016

AUTHOR: Sergeyev, I. P.

ORG: none

TITLE: On the calculation of resonance phenomena in a water-water boiling reactor

SOURCE: AN BSSR. Vestsi. Seryya fizika-tekhnichnykh navuk, no. 3, 1965, 11-16

TOPIC TAGS: boiling water reactor, research reactor, nuclear reactor characteristic, resonance absorption, nonlinear effect, reactor transient

ABSTRACT: The author points out that although the linear approximation customarily used to determine the stability of the reactor gives approximately correct results in most cases, there are conditions under which the nonlinearity gives rise to resonances whose frequencies do not agree with the self-oscillation frequencies obtained in the linear approximation. He then uses a method developed by him

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L 25431-66
ACC NR: AP6010490

earlier (Vestsi AN BSSR, ser. fiz.-tekhn. navuk no. 2, 1965) for the prediction of the threshold and the frequency of self-oscillations of the power of a type EBWR reactor, based on the approximate analytic investigation of the nonlinear equations of the dynamics with the aid of harmonic linearization. It is shown in this paper that under the same initial premises as in the earlier work, and under the same simplifying assumptions, it is possible to explain the disparity noted above between the self-oscillation frequencies and the frequencies of the resonant peak of the maximum of the power transient. This disparity is attributed to the fact that a boiling-water reactor of the EBWR type can be stable in the small and the region of frequencies corresponding to the middle part of the amplitude-frequency characteristic, yet unstable in the large. On the other hand, in the region of the resonance peaks, stability in the small also implies stability in the large. Possible applications of the analysis method to other variable quantities in reactor systems are briefly discussed. The author thanks Academician AN BSSR A. K. Krasin for interest in the work. Orig. art. has: 16 formulas.

SUB CODE: 18/ ORIG REF: 009/ OTH REF: 006/ SUBM DATE: none

Card 2/2 nc

L 25426-66 EPF(n)-2/EWI(m)/EIC(f)/EWG(m) WW
ACC NR: AP6010491 SOURCE CODE: UR/0201/65/000/003/0017/0020

AUTHOR: Sergeyev, I. P.

ORG: none

39
38
B

TITLE: On the influence of an external high frequency signal on the stability of the operation of a boiling water reactor 19

SOURCE: AN BSSR. Vestsi. Seryya fizika-tekhnichnykh navuk, no. 3, 1965, 17-20

TOPIC TAGS: nuclear reactor characteristic, boiling water reactor, reactor transient, nonlinear effect, reactor control radio signal effect, hf

ABSTRACT: The author presents an approximate analysis of the change in reactivity due to an external signal, using harmonically-linearized equations of the reactor dynamics presented in a companion paper in the same source (Acc. AP6010490; Vestsi AN BSSR, Ser. fiz.-tekhn. navuk no. 3, 1965, page 11). An equation is obtained for the power transfer function, as well as equations describing slow changes of the power and of the steam content. Conditions under which self

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ACC NR: AP6010491

oscillations of power with frequency much lower than the frequency of the external signal arise in the system are determined. It is shown that because of the nonlinearity the effect of feedback is not completely eliminated in the system. Analysis of the conditions for self oscillations shows that a high frequency external signal affects the stability of the reactor, and that the degree and character of this influence are determined both by the amplitude of the signal and by the parameters of the system. Conditions under which the signal causes loss of stability are indicated. The possibility of using a signal to suppress self oscillations in the system and thereby increase the stability is also discussed. It is shown in the conclusion that the method used in the article can be used for a two-frequency external signal with large frequency difference, and with allowance of entry of oscillations into the system via the feedback loop. The author thanks Academician AN BSSR A. K. Krasin for interest in the work. Orig. art. has: 16 formulas.

SUB CODE: 18/ ORIG REF: 007/ OTH REF: 001/ SUBM DATE: none

Card 2/2 CC

BUNIN, Dmitriy Anatol'yevich; KOLOKOL'NIKOV, Aleksandr Nikolayevich; LISENKOV, Viktor Mikhaylovich; SERGEYEV, Ivan Sergeyevich; SOKOLOV, Viktor Fedorovich; USTINSKIY, Aleksandr Andreyevich; GRIGOR'YEV, N.I., inzh., retsenzent; NOVIKAS, M.N., inzh., red.; KHITROV, P.A., tekhn.red.

[Radio-relay communication in railroad transportation] Radiorelenaia sviaz' na zheleznodorozhnom transporte. Moskva, Vses. izdatel'sko-poligr.ob"edinenie M-va putei soobshcheniia, 1961. 270 p. (MIRA 14:6)

(Railroads—Communication systems)

MANGUSHEV,N.I.; SERGEYEV, I.S.

Increasing well-drilling speeds. Neft. khoz. 41 no.7:18-22 Jl '63
(MIRA 17:7)

[redacted], I. D.

"Artificial Pneumothorox in Cases with Partially Congested Forms of Pulmonary Tuberculosis," Prob. Tuber., No. 2, 1949. Cand. Medical Sci. Mbr., Tuberculosis Dispensary No. 3, Moscow, -c1949-.

SERGEYEV, I.S.

Immediate and remote results of streptomycin therapy of pulmonary tuberculosis. Probl. tuberk., Moskva no.1:38-43 Jan-Feb 1953. (CIML 24:2)

1. Candidate Medical Sciences. 2. Of Vysokiye Gory Tuberculosis Hospital (Head Physician -- Honored Physician RSFSR V. G. Sanochatov; Scientific Supervisor -- Prof. A. Ye. Rabukhin).

SERGEYEV, I.S., kandidat meditsinskikh nauk

Clinical significance of streptomycin-resistant Mycobacterium tuberculosis. Probl.tub. 34 no.6 supplement:3-4 N-D '56. (MLRA 10:2)

1. Iz Moskovskogo gorodskogo nauchno-issledovatel'skogo tuberkuleznogo instituta (dir. - prof. F.A.Mikhaylov, nauchnyy rukovoditel' - prof. V.L.Kynis)

(STREPTOMYCIN, therapeutic use, pulm. tuberc., resist. (Rus))

SERGEYEV, I.S., kandidat meditsinskikh nauk; PETROVA, A.I., klinicheskiy ordinator

Results of combined antibacterial therapy of pulmonary tuberculosis. Probl.tub. 34 no.6 supplement:9-10 N-D '56. (MLRA 10:2)

1. Iz Moskovskogo gorodskogo nauchno-issledovatel'skogo tuberkuleznogo instituta (dir. - kandidat meditsinskikh nauk V.F.Chernyshev, zam. dir. po nauchnoy chasti - prof. V.L.Minis)
(TUBERCULOSIS, PULMONARY, therapy, drug ther., combined (Rus))

SERGEYEV, I.S., kandidat meditsinskikh nauk

First All-Russian Conference of Phthisiotherapists. Probl.tub. 35 no.1:108-112 '57. (MLRA 10:6)
(TUBERCULOSIS)

SERGEYEV, I.S., kandidat meditsinskikh nauk; MEDVEDEVA, A.S.

Effectiveness of pneumothorax in pulmonary tuberculosis [with summary in French]. Probl.tub. 35 no.2:46-48 '57. (MLRA 10:6)

1. Iz 3-go protivotuberkuleznogo dispansera Moskvy (glavnyy vrach A.S.Medvedeva)
(PNEUMOTHORAX, ARTIFICIAL
statist. (Rus))

SERGEYEV, I.S., inzh.

RRS-1 radio relay station. Avtom., telem. i sviaz' 2 no.5:10-12 My '58. (MIRA 11:5)
(Radio relay systems--Equipment and supplies)

ASEYEV, D.D. prof., SERGEYEV, I.S., kand.med.nauk

Work of the All-Russian Society of Phthisiologists. Zdrav.Ros.Fed. 2 no.10:35-38 0'58 (MIRA 11:10)
(TUBERCULOSIS--SOCIETIES)

SERGEYEV, I.S.

Sequeae of antibacterial preparations in pulmonary tuberculosis.
Sov.med. 22 no.2:85-90 F '58. (MIRA 11:4)

1. Iz Nauchno-issledovatel'skogo instituta tuberkuleza Ministerstva zdravookhraneniya RSFSR (dir. V.F.Chernyshev, nauchnyy rukovoditel' prof. D.D.Aseyev)
(TUBERCULOSIS, PULMONARY, ther.
antibact. prep., seq. (Rus))

SERGEYEV, I.S., kand.med.nauk

Causes of ineffective antibacterial therapy of adult patients with destructive pulmonary tuberculosis. Probl.tub. 37 no.6:28-35 '59. (MIRA 13:2)

1. Iz Moskovskogo nauchno-issledovatel'skogo instituta tuberkuleza Ministerstva zdravookhraneniya RSFSR (direktor - kand.med.nauk V.F. Chernyshev, zamestitel' direktora po nauchnoy chasti - prof. D.D. Aseyev).

(TUBERCULOSIS PULMONARY ther.)

SERGEYEV, I.S., kand.med.nauk

Course and outcome in chronic fibrocavernous pulmonary tuberculosis. Probl.tub. 38 no.6:37-42 '60. (MIRA 13:11)

1. Iz Moskovskogo nauchno-issledovatel'skogo ins+'tuta tuberkuleza (dir. - kand.med.nauk V.F. Chernyshev, zam. dir. po nauchnoy chasti - prof. D.D. Aseyev) Ministerstva zdravookhraneniya RSFSR.

(TUBERCULOSIS)

SERGEYEV, I.S., inzh.

ShRPS-54 equipment bays in districts with centralized interlocking. Avtom., telem. i sviaz' 7 no.11:32-33 N '63. (MIRA 16:12)

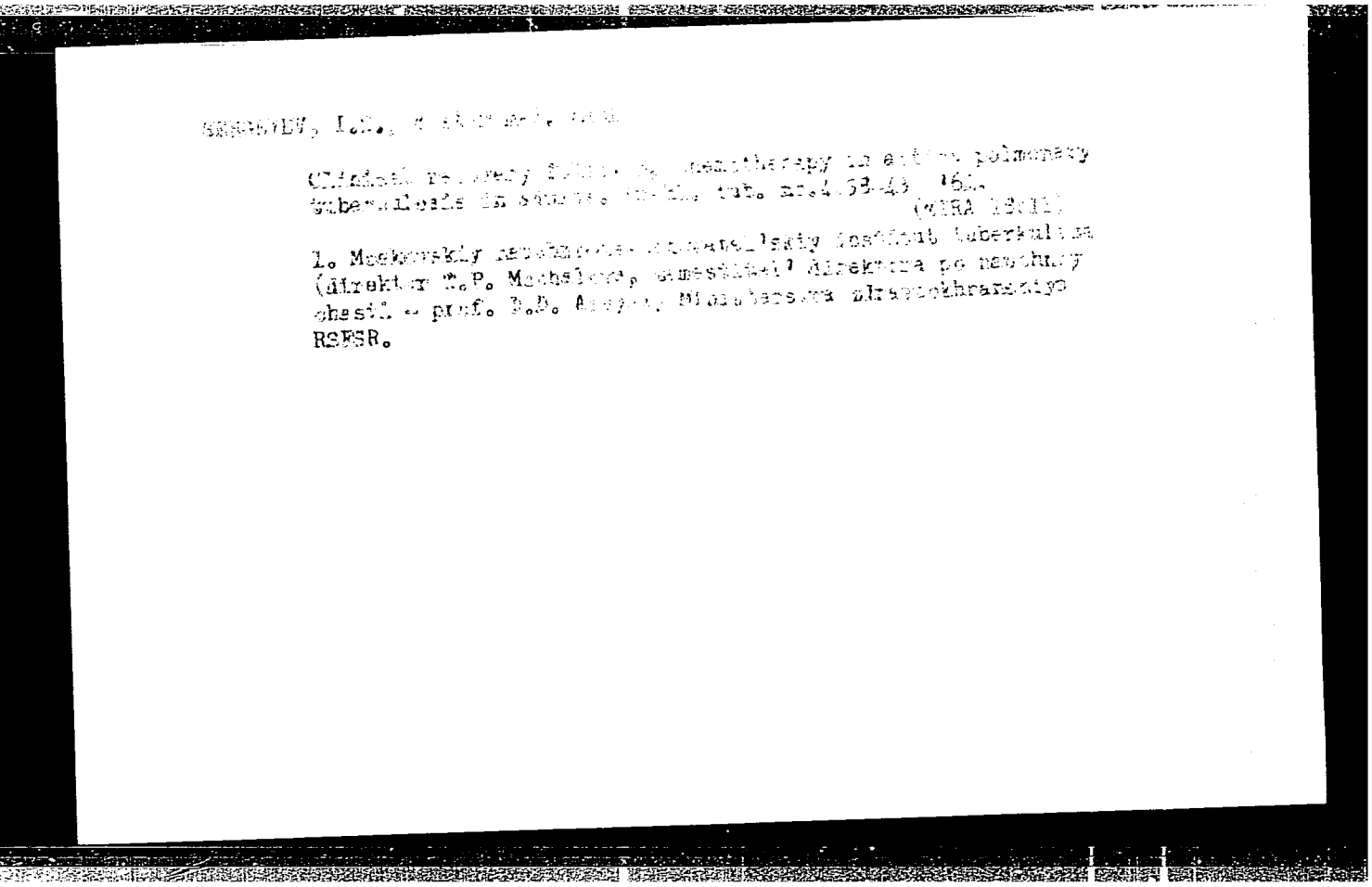
1. Gosudarstvennyy institut po proyektirovaniyu signalizatsii, tsentralizatsii, blokirovki, svyazi i radio na zheleznordorozhnom transporte.

SERGEYEV, I.S., inzh.

Conference on problems of the reliability of automatic control devices. Avtom., telem. i sviaz' 8 no.10:17 O '64. (MIRA 17:11)

SHIDLOVSKIY, I.S., inzh.

Loudspeaker announcing system for railroad yards. Avtom., telem. i svias' 2 no.11:5-9 N '58. (MIRA 17:12)



SERGEYEV, I.T. (Voronezh)

"Application of the equation of stochastic processes to the theory of stress distribution in loose soil foundations"

Report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow 29 Jan - 5 Feb 64.

SERGEYEV, I.V., inzhener.

Eliminate shortcomings in work with efficiency promoters and leading producers. Vest. sviazi 17 no.3:29 Mr '57. (MLRA 10:4)

1. Arkhangel'skoye oblastnoye upravleniya svyazi.
(Telecommunication)

SERGEYEV, I.V.

Use of P_n-approximation in describing the neutron distribution in an absorbing rod. Atom. energ. 19 no.4:346-349 O '65. (MIRA 18:11)

SINCHENKO, G.Z.; GERCHIKOV, Ye.Ya.; SERGEYEV, I.V., inzh.

Provide model telephone and telegraph communication between cities for the National Economy Councils (Sovnarkhoz). Vest. sviazi 17 no.11:17-18 N '57. (MIRA 10:12)

1. Zamestitel' ministra svyazi USSR (for Sinchenko). 2. Nachal'nik upravleniya elektrosvyazi i radiofikatsii Ministerstva svyazi USSR (for Gerchikov). 3. Arkhangel'skoye oblastnoye upravleniye svyazi (for Sergeyev).

(Telephone) (Telegraph)

SERGEYEV, I.V., inzh.

Engineering office of Archangel communication workers.
Vest. sviazi 20 no. 12:3 of cover D '60. (MIRA 13:12)

1. Arkhangel'skoye oblastnoye upravleniye svyazi.
(Archangel--Telecommunication)

SERGEYEV, I.V.

Blanks made of conifer wood. Standartizatsiia 25 no.12:51 D '61. (MIRA 14:11)

(Wood--Standards)

BEZRUKOV, P.L.; ZATONSKIY, L.K.; SERGEYEV, I.V.

Mount Afanasii Nikitin in the Indian Ocean. Dokl. AN SSSR 139 no.1:199-202 Jl '61. (MIRA 14:7)

Institut okeanologii AN SSSR. Predstavleno akademikom A.L. Yanshinym.

(Indian Ocean--Submarine topography)

VETRENNYY, Prokofiy Ivanovich, kandidat tekhnicheskikh nauk; SERGEYEV, I.V., redaktor; AGRANOVSKAYA, N.D., redaktor izdatel'stva; KOLESNIKOVA, A.P., tekhnicheskiy redaktor

[Mechanizing the work of lumberyards] Mekhanizatsiia rabot na skladakh pilomaterialov. Moskva, Goslesbumizdat, 1956. 126 p. (MLRA 9:8)
(Lumberyards)

AUTHOR SERGEYEV I.V., UDINTSEV G.B. 21-5-[illegible]/67

TITLE Discovery And Exploration of the Submarine Isakov Mountain in the Pacific.
(Otkrytiye i issledovaniya podvodnoy gory Isakova v Tikhom Okeane-Russian)

PERIODICAL Doklady Akademii Nauk SSSR,1957,Vol 113,Nr 5,pp 1123-1126(U.S.S.R.)
Received 7/1957 Reviewed 8/1957

ABSTRACT The frequent occurrence of submarine mountains is one of the specialities of the ground-relief of the Pacific. Most of them have an almost conical shape,sometimes with a cut off peak.They reach a height of some hundred up to 4-5000 m.In recent years a number of such mountains which are distributed over the whole ocean were discovered,they are,however,combined with chiefly not very high vault-elevations.According to the general opinion of the geologists their origin is volcanic.The ground-relief of the north-western part of the Pacific was not explored to such an extent as elsewhere.The submarine mountains were first discovered only in the northern continuation of the Hawaiian submarine chain and in the western part of the Pacific middle dike.Thus submarine mountains were not known for greater territories in the north of the middle dike.A row of single mountains was discovered in 1953 on the occasion of the 14.voyage of the "Vityaz'" in the south-east of the Kuriles-Kamchatkya-depression.They were all only some hundred meters high.On october 19th,1954 investigations were carried out east of the Idzu-islands during the 19th voyage of the same ship.It was noticed that the Ganges-islands which can be found in many charts in reality do not exist, nor were any submarine mountains which re-

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Discovery And Exploration of the Submarine Isakov Mountain in the Pacific. 20-8-58/67

cently might have projected beyond the water as islands found.Simultaneously an enormous submarine mountain with a height of 5000 m on the ground of the ocean was discovered about 280 km west of this place; its peak is 1400 m below the surface,whereas the surrounding bottom of the sea is 6400 m deep.On September the 27th the mountain was thoroughly investigated on the occasion of the 22nd voyage of the "Vityaz",and samples of the bottom were taken.Astronomic position-findings were carried out carefully.The mountain has an oval shape,with a great axis in the transversal and a small one in the meridional direction.Its breadth at the isobathe 5000m amounts to 28-35 km.The middle part is almost horizontal.This mountain isone of the largest that have been discovered in the last years in the Pacific,as big as Fudzoi-Yama or the Klyuchevskaya Sopka of Kamchatka,furthermore as big as the biggest submarine mountains of the Pacific: Ermen-and Flitcher-mountain.The discovery of the Isakov Mountain allows the statement that volcanic phenomena are combined not only with big vault-elevations but also with the areas of the flat depressions between them.
(With 2 illustrations,2 Slavic references).

ASSOCIATION Institute for Oceanology of the Academy of Science of the U.S.S.R.
PRESENTED BY STRAKHOV N.M., Member of the Academy
SUBMITTED 24.8.1956
AVAILABLE Library of Congress
Card 2/2

SERGEYEV, I.V.

Anchorage at great depths. Trudy Inst. okean. 35:206-224 '59.
(MIRA 13:3)

(Anchorage)

GANSON, P.P.; ZENKEVICH, N.L.; SERGEYEV, I.V.; UDINTSEV, G.B.

Maximum depths of the ocean. Priroda 48 no.6:84-88 Je '59.
(MIRA 12:5)

1.Institut okeanologii AN SSSR, Moskva.
(Deep-sea sounding)

S/020/61/139/001/018/018
B103/B229

AUTHORS: Bezrukov, P. L., Zatonskiy, L. K., and Sergeyev, I. V.

TITLE: Afanasiy Nikitin - Mountain in the Indian Ocean

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 139, no. 1, 1961, 199 - 202

TEXT: The 31st expedition on board the vessel "Vityaz" discovered an undersea mountain range, extending in a depth of 4500 - 4700 m for about 150 miles south of Ceylon, in the north-western part of the Indian-Australian ocean basin, in December, 1959. Above, there is a high seamount. The 33rd expedition of the "Vityaz" carried out an echo sounding of the seamount on January 9, 1961. It was suggested to name the mountain after the first Russian who traveled to India, Afanasiy Nikitin. In the course of echo sounding the area of the seamount was traversed in different directions, and two new minimum depth of 1668 and 1549 m, respectively were found (Fig. 1). The position of the ship during echo sounding was determined by the usual navigation methods: by astronomical observations and calculations. The astronomical determination was carried out at station no. 4909, 3 miles south-west of the summit of the mountain. This determination served as end

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point of the calculation based on the observation from station no. 4908, and as initial point of the calculation of station no. 4910. The coordination of measurements and the transcription of the recordings on a scale of 1 : 125,000 were carried out by L. P. Nasvr'. The echo sounding was carried out in the deep-sea range echo sounder MC-26H (MS-26N). The frequency of the measurement amounted to 10 pulses/min. The depths were transcribed on the map immediately from the echo-sounder record. The coordination of the measurements was satisfactory. The data of echo sounding served as a basis for a bathymetric chart (Fig. 1). Data obtained during the 31st voyage were also used. As can be seen from Figs. 2 and 3, the mountain, according to the morphology of its slopes, constitutes a volcanic cone. Apart from the Afanasiy Nikitin mountain there are many other summits in this mountain range with minimum depths of: 2500, 2892, 3050, and 3230 m. At the southern slope of the range there is a deep gully which, at a depth of 4880 m has a flat bottom 7 - 8 miles wide. South of it there is an elevation of an average depth of 4300 m. The width of the mountain range is not yet known. As a result of the bathymetric chart and the analysis of the depth distribution outside the map limits, the authors consider the mountain range to extend from west-north-west to east-south-east for at least 300 miles. Future

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investigations are to show whether this assumption is correct. A sampling of the soil at the slope of the Afanasiy Nikitin Mountain, at a depth of 2380 m, showed a fine-grained globigerina ooze. A series of pictures showed a changing, spotlike distribution of ooze and hard rocks. The composition of the rocks could not be determined. As a result of the analogy with other undersea volcanoes of the central part of the ocean they are thought to be basalt rocks. There are 3 figures.

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