"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

BELOSHAPKO, P.A.; SHAKHTMEYSTER, S.Ya.

Clinical evaluation of roentgenographic pelvimetry. Akush. gin. no.2: 28-33 Mar-Apr 1953. (CIML 24:3)

1. Professor for Beloshapko; Candidate Medical Sciences for Shakhtmeyster.
2. Of the Scientific-Research Institute of Obstetrics and Gynecology (Director -- L. G. Stepanov), Ministry of Public Health USSR.

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SHAKHTMEYSTER, S.Ya., kand.meditsinskikh nauk

Practices of the office for the treatment of sterility in a maternity home. Sov. med. 24 no. 7:140-144 Jl '60.
(MIRA 13:8)

1. Iz 9-go rodil'nogo doma (glavnyy vrach - Ye.G. Sidorova, nauchnyy rukovoditel' - prof. K.N. Zhmakin), Moskva.
(STERILITY)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

KOSYAKOV, B.V.; SHAKHTUROV, P.I.; YAGODKINA, N.Ya.

Determining the optimum pattern of holes in testing operations in the Zyryanovsk deposit. Izv.AN Kazakh.SSR. Ser.geol. no.5:83-90 '62. (MIRA 15:12)

(Zyryanovsk District—Ore deposits)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

VARSIMASHVILI, T.V.; SHAKHULASHVILI, O.A.

Transition effect of pi-mesons. Soob.AN Gruz.SSR 23 no.5:527-533 N '59. (MIRA 13:6)

1. Institut fiziki AN GruzSSR, Tbilisi. Predstavleno akademikom E.L.Andronikashvili.
(Mesons)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

21(8) SOV/56-36-4-6/70

AUTHORS: Kostanashvili, N. I., Shakhulashvili, O. A.

TITLE: Generation of "Strange" Particles in the Interaction of Protons With Energies of 9 Bev With Photoemulsion Nuclei (Generatsiya "strannykh" chastits pri vzaimodeystvii protonov s energiyey 9 BeV s yadrami fotoemul'sii)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 36, Nr 4, pp 1006-1011 (USSR)

ABSTRACT: The first of the two authors was transferred to the OIYaI by Tbilisskiy gosudarstvennyy universitet (Tbilisi State University), and the second by the Institut fiziki AN Gruzinskoy SSR (Physics Institute, AS Gruzinskaya SSR). They report on investigations carried out by them at the Laboratoriya vysokikh energiy Ob"yedinennogo instituta yadernykh issledovaniy (High-energy Laboratory of the United Institute of Nuclear Research) concerning the dependence of the frequency of the generation of strange particles on the energy of primary particles. The emulsion chamber consisting of 100 layers of the emulsion BR-450, was subjected to the action of a 9 Bev proton beam on the synchrotron of the OIYaI. The chamber had a volume of

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SOV/56-36-4-6/70

Generation of "Strange" Particles in the Interaction of Protons With Energies of 9 Bev With Photoemulsion Nuclei

$(10 \times 10 \times 4.5)\,cm^3$. A short description is given in the introduction of the experimental method and of experimental conditions. The following recordings were made by the authors:

Total number of tracing rays	670
Rays without visible effects in stopping	494
Strange particles	6
$\pi^{\pm}$-mesons	19
Number of secondary interactions	53
Number of rays extending beyond the chamber	94

For the ratio $N_{\Sigma,K}/N_{\pi^{\pm}}$, $\approx 1/3$ was found, whereas in reference 3 the value $\approx 1/10$ was obtained. Whereas for the star production cross section of 9 Bev protons on NIKFI emulsion nuclei (Refs 4,5) the value ~460 mb was found, the authors measured a cross section of $\sigma_{\Sigma,K} \approx 20$ mb for the production of slow strange particles. Further details concerning these investigations are given by two tables. Table 1 contains data concerning a number of heavy mesons observed (14 K^{+}-, two τ^{+}- and one K^{-}-particle), and table 2 contains data on observed primary hyperons and

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SOV/56-36-4-6/70

Generation of "Strange" Particles in the Interaction of Protons With Energies of 9 Bev With Photoemulsion Nuclei

secondary charged pions. The data show that the majority of the strange particles flies off into the front half-space, but all pions flying off as a result of Σ-decay do so in the backward direction (in the c.m.s.). For all Σ-hyperons originating from a reaction of the kind (1): $P + N \rightarrow \Sigma + K + N$ the kinetic energies and the departure angles were measured (diagram in figure 2). For hyperon production two possibilities offer themselves: a) by any secondary particle, e.g. a pion, which enters into interaction with the nucleons of the parental nucleus, and b) in reactions of the kind (1). Actually, both possibilities are realized; Σ-K^+ pair production takes place according to the scheme $\pi + N \rightarrow \Sigma + K$ (2). For reaction (2) figure 3 shows the analogous diagram as figure 2. Figure 4 shows the diagram for the Λ^0-particles from reactions of the type $P + N \rightarrow \Lambda^0 + K + N$. The Λ^0-particles flew off at such large angles as 133 and 152°. The authors finally thank M. I. Podgoretskiy for supervising work, V. I. Veksler and M. Ya. Danysh for taking part in discussions, and they further thank Z. P. Golovina, T. A. Zhuravleva, A. M. Kucher, T. N. Mikheyeva and N. A. Protsenko for assisting

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SOV/56-36-4-6/70

Generation of "Strange" Particles in the Interaction of Protons With Energies of 9 Bev With Photoemulsion Nuclei

in the work of measuring and surveying as well as in evaluating results. There are 4 figures, 2 tables, and 7 references, 3 of which are Soviet.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (United Institute for Nuclear Research)

SUBMITTED: September 20, 1958

Card 4/4

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

DZHANELIDZE, L.P.; MANDRITSKAYA, K.V.; SHAKHULASHVILI, O.A.; KOPYLOVA, D.K.; KOROLEVICH, Yu.B.; PETUKHOVA, N.I.[deceased]; TUVDENDORZH, D.; CHZHEN PU-IN [Chen P'u-ying]; KONSTANASHVILI, N.I.

Angular distribution of the decay products of hyperons, formed by protons in a photographic emulsion. Zhur.eksp.i teor.fiz. 38 no.3:1004-1005 Mr '60. (MIRA 13:7)

1. Ob"yedinennyy institut yadernykh issledovaniy.
(Particles(Nuclear physics))
(Particle track photography)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHULASHVILI, O.A.

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B029/B077

24.6900

AUTHORS: Dzhaneldze, L. P., Kopylova, D. K., Korolevich, Yu. B., Kostanashvili, M. I., Mandritskaya, K. V., Petukhova, N. I. (Deceased), Podgoretskiy, M. I., Tuvtendorzh, D., Shakhulashvili, O. A., Chzhen Fu-in

TITLE: Formation of Charged Hyperons During Interactions of 9-Bev Protons With Nuclei of a Photoemulsion

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 5(11), pp. 1237-1241

TEXT: The authors investigated the angular distribution of positive and negative pions formed in decays of $\Sigma^{\pm}$ hyperons formed in their turn by the interaction of 9-Bev protons with photoemulsion nuclei. The authors irradiated two emulsion chambers: (10 . 10 . 6)cm^3 (chamber 1), and (10 . 15 . 4)cm^3 (chamber 2). These chambers consist of БР-400 НИКФИ (BR-400 NIKFI)-type emulsion layers. 9-Bev protons of the proton-synchrotron of the Laboratoriya vysokikh energiy OIYaI (High-energy Laboratory of the Joint Institute of Nuclear Research) were used to bombard the

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emulsions. Angular distribution of the decay products of $\Sigma^{\pm}$ hyperons: V. G. Solov'yev (Ref. 2) has already emphasized the importance of investigating the longitudinal asymmetry found in the angular distribution for pions formed during a hyperon decay. Fig. 1 shows the angular distribution of pions relative to its direction of motion in the rest-system of the hyperon; the authors paid special attention to the calculation of these values. If the angular distribution is approximated by

$1 + a \cos \theta^*$, then the coefficient of asymmetry has the form $a = \alpha \bar{P}_z = \frac{1}{N} \sum_{i=1}^{N} \cos \theta_i^* \pm \left(\frac{1 - a^2}{N}\right)^{1/2} = 0.05 \pm 0.2$; α denotes the coefficient of asymmetry for total hyperon polarization, $\bar{P}_z$ the vector component of the mean Σ hyperon polarization in the direction of motion, θ_i^* the angle between the directions of emission of hyperon and pion in the rest system of the hyperon, and N the number of hyperons observed. The following holds for the angular distribution of pions relative to the production level of Σ hyperon: $b = 2(N_{forward} - N_{backward})/(N_{forward} + N_{backward}) = 0.36 \pm 0.22$

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Fig. 2 shows the angular distribution of $\Sigma^{\pm}$ hyperons with necessary corrections. The ratio of the number of positive and negative hyperons is $N_{\Sigma^+}/N_{\Sigma^-} = 3.2 \pm 0.1$. All black and gray tracks were investigated in 76 stars which displayed decaying stars according to the mode $\Sigma^{\pm} \to \pi^{\pm} + n$. Four pair productions of a $\Sigma^{\pm}$ hyperon and a $K^{\pm}$ meson, two pair productions of K^+ and K^- mesons, and a production of two hyperons in a single star were found. A star of the type (17 + 7p) had two gray particles which decay into a relativistic particle during motion. This particle might have been a hyperon. The annihilation of one antiproton was observed in the extension of the selected rays. The authors thank E.L. Andronikashvili and V. I. Veksler for their interest, and the operators of the synchrotron and all laboratory assistants for taking part in the evaluation of the photoemulsions. There are 4 figures and 6 Soviet references.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research). Institut fiziki Akademii nauk Gruzinskoy SSR (Institute of Physics, Academy of Sciences Gruzinskaya SSR). Tbilisskiy gosudarstvennyy universitet (Tbilisi State University)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

S/048/62/026/006/007/020
B125/B112

AUTHORS: Dzhanelidze, L. P., Kostanashvili, N. I., Lebedevich, G. I., Mandritskaya, K.V., and Shakhulashvili, O. A.

TITLE: Transverse momenta of charged Σ^+-hyperons produced by 9-Bev protons in a photoemulsion

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 6, 1962, 734 - 736

TEXT: The Σ-hyperons were produced by irradiating a photoemulsion of type БР-400 НИКФИ (BR-400 NIKFI) in the inner 9-Bev proton beam of the OIYaI synchrocyclotron. The emulsion chamber consisted of hundred emulsion layers. After 22000 tracks had been evaluated, 42 Σ-hyperons were chosen. 30 Σ-hyperons were chosen under similar conditions at the OIYaI. A certain "weight" is attributed to each Σ-hyperon. The cases chosen were identified by comparing the measured ionization and its multiple Coulomb scattering. The maximum of the distribution of the transverse momenta extending up to $p_\perp$ = 600 Mev/c is at 300 - 400 Mev/c. From this spectrum $\langle p_\perp \rangle$ = (327 ± 14) Mev/c is inferred for the mean value

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CIA-RDP86-00513R001548410008-

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

DZHANELIDZE, L.P.; KOSTANASHVILI, N.I.; LEBEDEVICH, G.I.; MANDRITSKAYA, K.V.; SHAKHULASHVILI, O.A.

Transverse momentum of charged Σ^+-hyperons generated by 9 Bev. protons in a photographic emulsion. Izv. AN SSSR. Ser. fiz. 26 no.6: 734-736 Je '62. (MIRA 15:6)

(Hyperons) (Protons) (Photographic emulsions)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

DZHANELIDZE, L.P.; KOPYLOVA, D.K.; KOROLEVICH, Yu.B.; KOSTANASHVILI, N.I.; MANDRITSKAYA, K.V.; PETUKHOVA, N.I. [deceased]; PODGORETSKIY, M.I.; TUVDENDORZH, D.; SHAKHULASHVILI, O.A.; CHZHEN PU-IN [CHEN P'U YING]

Production of charged hyperons by 9 Bev. protons interacting with nuclei of photo emulsion. Zhur.eksp.i teor.fiz. 39 no.5:1237-1241 N '60. (MIRA 14:4)

1. Ob"yedinennyy institut yadernykh issledovaniy, Institut fiziki AN Gruzinskoy SSR i Tbilisskiy gosudarstvennyy universitet.
(Mesons) (Protons) (Photography, Particle track)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

KOSTANASHVILI, N.I.; LEBEDEVICH, G.I.; MANDRITSKAYA, K.V.; SHAKHULASHVILI, O.A. ; DZHANELIDZE, L.P.

Transverse momentum of charged Σ -hyperons generated by 9 Bev. protons in a photographic emulsion. Soob. AN Gruz. SSR 30 no.5: 553-557 My '63. (MIRA 16:11)

1. Institut fiziki AN GruzSSR, Tbilisi. Predstavleno akademikom E.L.Andronikashvili.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHULASHVILI, O.A.

Charged Σ-hyperons generated in a photoemulsion by high-energy protons. Fiz. chast. vys. energ. no.1:5-27 '65. (MIRA 18:12)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHULOV, O. A.

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NEW TYPE OF DISINTEGRATION OF A HEAVY MESON.

O. A. Shakhulov, N. A. Kebuladze, E. A. Andronikashvili, and K. A. Abashidze (Academy of Sciences, Georgian SSR).

Soviet Phys. JETP 4, 281-2(1957) March.

In the scanning of an emulsion stack which had been exposed in the stratosphere, three events were found of the decay of an unknown particle. The common characteristic of the events was the occurrence of a π-meson track of length $357\mu \pm 2\%$. The events are described in detail, and the possible interpretations of the tracks are discussed. (B.J.H.)

Phys Sci

pmt

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHULIV, O.A.

CARD 1 / 2 PA - 1297

SUBJECT USSR / PHYSICS

AUTHOR ŠACHULOV, O.A., KEBULADZE, N.A., ANDRONIKAŠVILI, E.L., ABAŠIDZE, K.A.

TITLE A New Type of Decay of a Heavy Meson ?

PERIODICAL Žurn.eksp.i teor.fis, 31, fasc.1, 167-168 (1956)

Publ. 7 / 1956 reviewed 9 / 1956

In the summer of 1955 I.I. GUREVIČ and his collaborators exposed an emulsion chamber with 45 layers of a photoemulsion of 400 μ thickness of the type P in a height of from 25 to 27 km. The emulsion chamber remained in this altitude for 2 hours. Hereafter the emulsion chamber was placed at the disposal of the authors who found the following three cases after a microscopic examination: 1.) A charged particle of unknown mass has a range of 2000 μ in the emulsion; it then comes to a standstill and decays into a positive pion with a trace of 365 μ length. The positive pion in turn decays into a positive myon with a trace length of 630 μ, and the latter decays into a positron. The entire sequence of decays takes place in the plane of a photo emulsion. 2.) A charged particle of unknown mass is ejected from a star with 4 black and 3 relativistic traces; after 5600 μ it comes to a standstill and decays into a negative pion which then forms a σ-star. The decay sequence is in the plane of a photo emulsion. 3.) A charged particle of unknown mass comes to a standstill after 6500 μ and decays into a positive pion. This act of decay and the following ones ($\pi^+ \rightarrow \mu^- \rightarrow$positron) are in the plane of a photo layer. All three cases have the existence of a pion trace with 357 μ $\pm$ 2% in common. As all these pions are monochromatic, the $\pm$ particle of unknown mass most probably decays according to

...ian SSR.

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

VALUYSKIY, A.A.; SIMONOV, M.Ye.; SHAKHUNOV, V.M.

Determining the volume of reservoirs with various lithological and physical properties. Geol. nefti i gaza 7 no.11:28-33 N '63. (MIRA 17:8)

1. Krasnodarskiy filial Vsesoyuznogo neftegazovogo nauchno-issledovatel'skogo instituta.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0"

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LEONT'YEV, L.N., otvetstvennyy red.; SHAKHUNOVA, P.A., red.

[Natural conditions in the Tuva Autonomous Province] Prirodnye usloviia Tuvinskoi avtonomnoi oblasti.[Otv. red. L.N.Leont'ev, P.A.Shakhunova]. Moskva, 1957. 275 p. (MIRA 11:4)

1. Akademiya nauk SSSR. Sovet po izucheniyu proizvoditel'nykh sil.
(Tuva Autonomous Province--Geography)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

DULOV, V.I., prof., doktor istoricheskikh nauk; MORACHEVSKAYA, Ye.N., starshiy bibliograf; SEYFULIN, Kh.M., kand.istoricheskikh nauk; SHAKHUNOVA, P.A., kand.geograf.nauk; POMUS, M.I., otv.red.; DUBOVIKOVA, G.F., red.izd-va; KOVAL'SKAYA, I.F., tekhn.red.

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DULOV, V.I., prof., doktor istoricheskikh nauk; MORACHEVSKAYA, Ye.N., starshiy bibliograf; SEYFULIN, Kh.M., kand.istoricheskikh nauk; SHAKHUNOVA, P.A., kand.goegraf.nauk; POMUS, M.I., otv.red.; DUBOVIKOVA, G.F., red.izd-va; KOVAL'SKAYA, I.F., tekhn.red.

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1. Kyzyl. Tuvinskiy nauchno-issledovatel'skiy institut yazyka, literatury i istorii. 2. Irkutskiy universitet (for Dulov). 3.Sektor seti spetsial'nykh bibliotek (for Morachevskaya). 4. Tuvinskiy nauchno-issledovatel'skiy institut yazyka, literatury i istorii (for Seyfulin). 5. Sovet po izucheniyu proizvoditel'nykh sil (for Shakhunova).
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(Tuva Autonomous Province--Bibliography)

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BANDMAN, M.K.; BUYANTUYEV, B.R.; POMUS, M.I.; RADNAYEV, G.Sh.; GOLOVKIN, D.A.; GRIGOR'YEVA, A.A.; KROTOV, V.A.; DONCHENKO, K.Ya.; KORZHUYEV, S.S.; SHATSILO, Ye.S.; KOSMACHEV, K.P.; NAUMOV, G.V.; LIKHANOV, B.N.; PETUKHOV, V.G.; TIKHONOV, A.V.; NEDESHEV, A.A.; SIMANOVSKIY, G.M.; SHAKHUNOVA, P.A.; SHOTSKIY, V.P.; YEROFEYEV, I.A., red.; POLOZHENTSEVA, T.S., mladshiy red.; GOLITSYN, A.B., red. kart; VILENSKAYA, E.N., tekhn. red.

[Eastern Siberia; economic geography] Vostochnaia Sibir'; ekonomiko-geograficheskaia kharakteristika. Moskva, Geografizdat, 1963. 885 p. (MIRA 16:10)
(Siberia, Eastern--Economic geography)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHUNYANTS, Georgii Mikhailovich.

Construction of the upper section of tracks Moskva, Transzhel-dorizdat, 1939. 450 p. (Tekhnicheskaia biblioteka zheleznodorozhnika. Seriia Putevoe khoziaistvo, vyp. 3) (54-53459)

1. Railroads - Construction.

TF240.S487

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHUN'YANTS, G. M.

"Traveling on Curves of Small Radius with Locomotives, used on USSR Railroads" Vest. Ak Nauk SSSR, No. 9, 1944.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHUNIANTS, Georgii Mikhailovich.

Tekushchee soderzhanie puti. [Routine maintenance of track]. Moskva, Gos. transp. zhel-dor. izd-vo, 1945. 47 p. illus.

DLC: TF240.S485

SO: SOVIET TRANSPORTATION AND COMMUNICATIONS, A BIBLIOGRAPHY, Library of Congress Reference Department, Washington, 1952, Unclassified.

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SHAKHUNYANTS, G.M., professor, doktor tekhnicheskikh nauk

For scientific planning methods; answer to the article by Professor V.K.Dmokhovskii and others. Tekh.zhel.dor.6 no.12:21-22 D'47. (MLRA 8:12)

(Railroads--Earthwork) (Soil stabilization)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHUNYANTS,G.M., professor doktor tekhnicheskikh nauk

Calculations for long rails. Tekh.zhel.dor. 7 no.1:14-16 Ja '48.
(Railroads--Track) (MLRA 8:11)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

CHERNYSHEV, M.A., kand.tekhn.nauk; SHAKHUNYANTS, G.M., prof., doktor tekhn.nauk; KOVALEVSKIY, D.V., inzh.; POTOTSKIY, G.I., inzh.; PROKOF'YEV, P.F., inzh.; GOLOVANOV, A.L., red.; KANDYKIN, A.Ye., tekhn.red.

[Progressive technology of railroad track work] Peredovaia tekhnologiia putevykh rabot. Moskva, Gos.transp.zhel-dor.izd-vo, 1951. 106 p. (MIRA 12:3)

1. Glavnyy inzhener Glavnogo upravleniya putevogo khozyaystva Ministerstva putey soobshcheniya (for Chernyshev).
(Railroads--Track)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHUNYANTS, G.M., professor, doktor tekhnicheskikh nauk; BAK, S.M., kandidat tekhnicheskikh nauk, redaktor; VERINA, G.F., tekhnicheskii redaktor

[The roadbed of railroads; problems of planning and calculation] Zemlianoe polotno zheleznykh dorog; voprosy proektirovaniia i rascheta. Moskva, Gos. transp. zhel-dor. izd-vo, 1953. 827 p. (Railroads--Track) (MLRA 7:8)

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SHAKHUNYANTS, G.M., professor, doktor tekhnicheskikh nauk.

Admissible velocities on lateral lines and fundamental geometrical parameters for planning rail switches. Trudy MIIT no.80/81:172-188 '55. (MLRA 9:8)

(Railroads--Switches)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SOV/124-58-4-4590

Translation from: Referativnyy zhurnal, Mekhanika, 1958 Nr4 p133(USSR)

AUTHOR: Shakhunyants, G. M.

TITLE: The Calculation of Foundation Stability on the Basis of the Plane and the Circular-cylindrical Sliding-failure Surface Hypotheses (Raschet ustoychivosti osnovaniy sooruzheniy po gipotezam ploskikh i kruglotsilindricheskikh poverkhnostey smeshcheniya)

PERIODICAL: Tr. Mosk. in-ta inzh. zh.-d. transp., 1955, Nr 80/1 pp 319-339

ABSTRACT: The article presents a method of calculation for the foundation stability of structures which accounts for the friction and cohesion forces on the basis of an assumption that the slip-failure surface is circular-cylindrical. The solutions are given in both the analytical and the graphoanalytical forms. According to the author's assumption the critical circular-cylindrical slip-failure surface should very closely approach the slip surface formed by the system of the critical planes obtained. On this basis the author considers three alternates and presents calculation formulas for the determination of the radius and the

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The Calculation of Foundation Stability (cont.)

location of the center of the circular-cylindrical surface of failure along which the stability coefficient deviates but slightly from its minimum value. 1) The circular-cylindrical surface passes through the extreme edge A of the structure's foundation and is tangent to the slip planes of the overturning and resisting prisms. 2) The circular-cylindrical surface passes through the same edge A of the foundation, and through the line B obtained by intersecting the resisting-prism slip plane with the exposed bearing surface. This alternate also includes an assumption that the area of the segment formed is equal to the sum of the areas of the pressure prism, the underground part of the foundation, and the overturning and resisting prisms. 3) The circular-cylindrical surface passes as in the foregoing case, through A and B and, besides, through the vertex D of the overturning and resisting prisms. The coefficient of stability K of the structure's foundation for the case of sliding along the circular-cylindrical surface is determined from the following equation:

$$K = \frac{R\left[cR\psi + F + F_d\right] + 0.5\,Gg + M_{n\,spec}}{M_t + 0.5\,Gg + M_{n\,shear} + M_W}$$

All the moments entering this expression are determined by the author as

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The Calculation of Foundation Stability (cont.)

functions of the coordinates x_0 and y_0 of the center of the circle and the radius R of the circle.

A. I. Govyadinov

1. Structures--Stability 2. Mathematics

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SOV/124-57-3-3266

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 3, p 91 (USSR)

AUTHOR: Shakhunyants, G. M.

TITLE: Determination of the Velocities of Snow Avalanches (Opredeleniye skorostey dvizheniya snezhnykh lavin)

PERIODICAL: Tr. Mosk. in-ta inzh. zh.-d.transp., 1955, Nr 80/1, pp 391-399

ABSTRACT: The author presents data permitting further improvement of accuracy of calculations of the velocity of snow avalanches. In contrast with the currently employed formulas by G. G. Saatchan [Sneg i snezhnyye obvaly (Snow and Snow Slides). Tbilisi, Tbilis. n.-i. in-t sooruzheniy (Tbilisi Scientific Research Institute for Structures), 1936], the formulas proposed by the author take into consideration the air drag; the forces resisting the motion are referred to the area of contact between the avalanche and the underlying slope, rather than to the mass of the former. The example given illustrates the procedure of computing the velocity of the avalanche with the aid of the formulas proposed.

M. S. Gagoshidze

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YERSHKOV, O.P., kandidat tekhncheskikh nauk.;NAUMOV, A.N., inzhener.; CHERNYSHEV, M.A., kandidat tekhnicheskikh nauk.;SHAKHUNYANTS, G.M., doktor tekhnicheskikh nauk.

More initiative and inventiveness. Put' i put. khoz. no.1:29-31 Ja '57. (MLRA 10:4)

(Railroad engineering)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHUNYANTS, Georgiy Mikhaylovich, prof., doktor tekhn.nauk.

Modern methods of track calculation. Put' i put.khoz. no.11:47 N '57 (MIRA 10:11)

(Railroads--Maintenance and repair)

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SHAKHUNYANTS, G.M., doktor tekhn. nauk, prof.

Deformations in infinitely elastic wedges subjected on their edges to linearly concentrated uniform vertical loads. Trudy MIIT no.94: 138-142 '57. (MIRA 11:5)

(Railroad--Earthwork) (Soil mechanics)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHUNYANTS, G.M., doktor tekhn.nauk, prof.

Comparing design variants. Vest. TSNII MPS 17 no.6:37-40 S '58. (MIRA 11:11)

1. Moskovskiy institut inzhenerov zheleznodorozhnogo transporta im. I.V.Stalina.
(Railroad engineering)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHUNYANTS, Georgiy Mikhaylovich, prof., doktor tekhn.nauk; GOLOVANOV, A.L., red.; KHITROV, P.A., tekhn.red.

[Design of the track structure] Raschety verkhnego stroeniia puti. Moskva, Gos.transp.zhel-dor.izd-vo, 1959. 263 p.
(Railroads--Track) (MIRA 13:2)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHUNYANTS, G.M., prof.

Improving the intermediate fastenings. Put' i put.khoz. 4 no.3:16-18 Mr '60. (MIRA 13:5)
(Railroads--Rails--Fastenings)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHUNYANTS, G.M., prof., doktor tekhn.nauk

Unsolved problems in the field of roadbed construction and maintenance. Zhel.dor.transp. 42 no.9:76-79 S '60. (MIRA 13:9)
(Railroads--Track)

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86894
S/056/60/039/005/010/051
B029/B077

24.6900

AUTHORS: Shalamov, Ya. Ya., Shebanov, V. A.

TITLE: Production of π^0 Mesons Due to $\pi^- p$ Collisions With a π^- Meson Momentum of 2.8 Bev/c

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 5(11), pp. 1232-1236

TEXT: The authors investigated the cross section for the reaction: $\pi^- + p \rightarrow m\pi^0 + n$ ($m = 1,2,3$) for $p_{\pi^-} = 2.8$ Bev/c; for this purpose the outer negative pion beam of the proton synchrotron of OIYaI (Joint Institute of Nuclear Research) was studied with the aid of a 17-l bubble chamber filled with a propane—xenon mixture or a Freon-13—Freon-14 mixture. About 3000 stereo-pictures were made of the π^- beam. Several examinations of the pictures disclosed 125 trackless stars in the propane-xenon mixture and 103 in the Freon mixture. Here is the distribution of the number of events in the gas mixture as a function of the number of electron-positron pairs:

1) Number of $(e^+ + e^-)$ pairs	0	1	2	3	4	5	6
2) Number of events in the propane-xenon mixture	13	30	41	26	9	5	:

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86894

Production of π^0 Mesons Due to $\pi^- p$ Collisions With a π^- Meson Momentum of 2.8 Bev/c

S/056/60/039/005/010/051
B029/B077

3) Number of events in the Freon mixture 13 52 22 11 3 1 -
The probability of finding trackless stars on C,F,Cl (Freon) nuclei, or on H,C,Xe (propane-xenon mixture) nuclei is (0.93±0.1)% or (1.6±0.15)% of the total cross section of inelastic interaction between negative pions and nuclei. By using the above data the cross section per free proton was calculated to be (2.2± 0.3 mb). The angular distribution of γ quanta agreed for both gas mixtures. Therefore, Fig. 2 furnishes also the γ-quantum distribution in a neutral pion decay if this pion has been formed on a free proton. The cross sections for the $\pi^- + p \rightarrow m\pi^0 + n$ reaction with $m = 1,2,3$ are $\sigma_{\pi^0 n} = (0.2 \pm 0.25)$ mb, $\sigma_{2\pi^0 n} = (1.3 \pm 0.4)$ mb, $\sigma_{3\pi^0} = (0.7 \pm 0.4)$ mb. The angular distribution of γ quanta is very anisotropic in the center-of-mass system, and can be divided into two parts, one of which is isotropic. For a hard neutral-pion spectrum, the angular distribution of neutral pions agrees well with that of γ quanta. According to V.M. Maksimenko, the $\pi^- + p \rightarrow m\pi^0 + n$ reactions have to total 10.7% of the inelastic scattering cross section involving negative pions and protons. The above values agree well with experimental data yielded by the present study (10.1 + 1.4 %). The anisotropy in the angular distribution of neutral pions

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86894

Production of π^0 Mesons Due to π^-p Collisions With a π^- Meson Momentum of 2.8 Bev/c

S/056/60/039/005/010/051
B029/B077

cannot be explained by the statistical theory. V. S. Barashenkov attempts to explain the asymmetric angular distribution of the mesons produced by assuming that the peripheric collisions amount to $\gtrsim 20\%$ of the total cross section of a π^-p collision. The cross section of exchange scattering may be written as $\sigma(\pi^- + p \rightarrow \pi^0 + n) = (9/2)[f - g]^2$, where the amplitudes f and g correspond to the isotopic states of T=3/2 and T=1/2. According to L. B. Okun' and I. Ya. Pomeranchuk, the exchange scattering cross section amounts to a small fraction of the total inelastic scattering cross section at high energies; therefore, $f \approx g$. The authors thank Academician A. I. Alikhanov for cooperation, Academician V. I. Veksler for making these experiments possible, Yu. S. Krestnikov, Yu. I. Makarov, N. S. Khropov, N. G. Birger, and V. M. Maksimenko for discussions, I. S. Bruk for statistical computations and for making possible calculations on the electronic computer M-2(M-2) of Institut elektronnykh i upravlyayushchikh mashin Akademii nauk SSSR (Institute of Electronic and Control Machines, Academy of Sciences USSR), and also G. M. Adel'son who made these calculations. Ye. V. Kuznetsov is mentioned. There are 2 figures, 12 tables, and 10 references: 5 Soviet, 4 US, and 1 Dutch.

SUBMITTED: July 2, 1960

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SHAKHUNYANTS, G.M., doktor tekhn.nauk, prof.

Some problems concerning the deisgn of switches. Trudy MIIT no.111:3-76 '60. (MIRA 13:11)

(Railroads--Switches)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHUNYANTS, G.M., doktor tekhn.nauk, prof.; NECHAYEV, B.I., kand. tekhn.nauk; KLEVTSOV, I.A., kand.tekhn.nauk; PASHCHENKO, B.V., inzh.; PETUSHKOVA, I.K., inzh., red.; BOBROVA, Ye., tekhn.red.

[Landslide protection on railroads of the U.S.S.R.] Opytbor'bys opolzniamina zheleznykh dorogakh SSSR. Moskva, Vses. Izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1961. 183 p. (Moscow. Moskovskii institut inzhenerov zheleznodorozhnogo transporta. Trudy, no.211.) (MIRA 14:7)
(Landslides) (Railroads--Earthwork)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHUNYANTS, Georgiy Mikhaylovich, doktor tekhn. nauk; AMELIN, S.V., prof., retsenzent; KONSTANTINOV, V.N., dots., retsenzent; SMIRNOV, M.P., retsenzent; YAKOVLEV, V.F., retsenzent; BOCHENKOV, M.S., kand.tekhn. nauk, retsenzent; BROMBERG, Ye.M., retsenzent; YERSHKOV, O.P., retsenzent; ZVEREV, B.N., retsenzent; ZOLOTARSKIY, A.F., retsenzent; IVASHCHENKO, G.I., retsenzent; LINEV, S.A., retsenzent; MARKAR'YAN, M.A., retsenzent; POPOV, V.V., retsenzent; POPOV, S.N., retsenzent; SEREBRENNIKOV, V.V. retsenzent; SHAFRANOVSKIY, A.K., retsenzent; NOVITSKIY, G.I., inzh., retsenzent; VIKTOROV, I.I., kand.tekhn.nauk, retsenzent; VYSOTSKIY, A.F., kand.tekhn.nauk, retsenzent; SAATCHYAN, G.G., kand.tekhn.nauk, retsenzent; YAKOVLEVA, Ye.A., kand.tekhn.nauk, retsenzent; TITOV, V.P., kand.tekhn.nauk, retsenzent; GRUSHEVOY, N.G., inzh., red.; BROMBERG, Ye.M., kand.tekhn.nauk, red.; KHITROV, P.A., tekhn. red.

[Railroad tracks] Zheleznodorozhnyi put'. Moskva, Vses.izdatel'sko-poligr.ob"edinenie M-va putei soobshcheniia, 1961. 615 p. (MIRA 14:12)

1. Kafedra "Zheleznodorozhnyy put'" Leningradskogo instituta inzhenerov zheleznodorozhnogo transporta (for Amelin, Konstantinov, Smirnov, Yakovlev). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta (for Bochenkov, Bromberg, Yershkov, Zverev, Zolotarskiy, Ivashchenko, Linev, Markar'yan, Popov, V.V., Popov, S.N., Serebrennikov, Shafranovskiy, Novitskiy). 3. Vsesoyuznyy nauchno-issledovatel'skiy institut transportnogo stroitel'stva (for Viktorov, Vysotskiy, Saatchyan, Yakovleva, Titov)

(Railroads—Track) (Railroad engineering)

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SHAKHUNYANTS, G.M., prof., doktor tekhn.nauk

Determining the gauge width of the characteristic cross sections of switch tracks. Trudy MIIT no.147:4-27 '62. (MIRA 16:5)
(Railroads--Switches)

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SHAKHUNYANTS, G.M., prof.

Theoretical bases for the planning of antiheaving measures and efficiency of their practical use. Put' i put. khoz. 8 no.1:32-36 '64. (MIRA 17:2)

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[illegible] kand. nauk

[illegible] of the introduction of a slab track substructure. Put' [illegible] 9:1-4 '65. (MIRA 18:9)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHUNYANTS, G.M., prof., doktor tekhn.nauk

Ways to secure the necessary elasticity of tracks laid on reinforced concrete ties. Put' i put.khoz. 9 no.4:32-35 '65. (MIRA 18:5)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHUNYANTS, R.M.

On IU.V. Bukin's review of Professor M.F. Ivanitskii's "Human anatomy." Arkh.anat.gist. i embr. 36 no.2:128 F '59.
(MIRA 12:2)

(ANATOMY, HUMAN) (BUKIN, IU.V.) (IVANITSKII, M.F.)

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SHAKHUNYANTS, R.M. (Moskva, K-9, ul. Gor'kogo, Gnezdnikovskiy per., 8, kv.27)

Some problems in teaching human anatomy in universities. Arkh.anat. gist.i embr. 37 no.10:107-111 O '59. (MIRA 13:4)
(ANATOMY, educ.)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

KASITSKIY, I.; MANEVICH, Ye.; ZVEREV, A.; KAPUSTIN, Ye.; NEMCHINOV, V., akademik; VOROB'YEVA, A.; YEVSTAF'YEV, G.; SHAKHURIN, A.; KOSYACHENKO, G.; PLOTNIKOV, K.; AL'TER, L.; ROTSHTEYN, L.; SPIRIDONOVA, N.; MASLOVA, N.; RUSANOV, Ye.; KAPITONOV, B.; KULIYEV, T.; GATOVSKIY, L.

Problems of the economic stimulation of enterprises. Vop. ekon. no.11:87-142 N '62. (MIRA 15:11)

1. Komitet Vsesoyuznogo soveta nauchno-tekhnicheskikh obshchestv po ekonomike i organizatsii proizvodstva (for Kasitskiy). 2. Institut ekonomiki AN SSSR for Manivich, Zverev, Vorob'yeva, Yevstaf'yev, Shakhurin, Plotnikov, Maslova, Rusanov, Kapitonov). 3. Nauchno-issledovatel'skiy institut truda (for Kapustin). 4. Nauchno-issledovatel'skiy finansovyy institut (for Kosyachenko). 5. Nauchno-issledovatel'skiy ekonomicheskiy institut Gosudarstvennyy nauchno-ekonomicheskogo soveta Soveta Ministrov SSSR (for Al'ter).

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KASITSKIY, I.---(continued) Card 2.

6. Gosudarstvennyy nauchno-ekonomicheskiy sovet Soveta Ministrov SSSR (for Rotshteyn). 7. Moskovskiy gosudarstvennyy universitet (for Spiridonova). 8. Azerbaydzhanskiy gosudarstvennyy universitet imeni S.M. Kirova (for Kuliyev). 9. Predsedatel' Nauchnogo soveta po khozyaystvennomu raschetu i material'nomu stimulirovaniyu proizvodstva, chlen-korrespondent AN SSSR (for Gatovskiy).

(Industrial management)
(Incentives in industry)

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SHAKHURIN, S. I.

SOV/147-58-4-10/15

AUTHORS: Kvasnikov, L. A., Tarasov, Ye. V. and ~~Shakhurin, S. I.~~

TITLE: Boosting the Combustor of the Turbine Engines by Increasing the Temperature of the Combustion Gases (Forsirovaniye kamer sgoraniya gazoturbinnykh dvigateley po temperature gaza)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Aviatsionnaya tekhnika, 1958, Nr 4, pp 81-91 (USSR)

ABSTRACT: Alongside the major research problem pertinent to further development of the turbojet engine for use on aircraft flying at speeds substantially higher than the speed of sound by improvements of the compressor, diffusor and the nozzle, there exists also the smaller problem of a possible improvement of its performance by simply increasing the temperature of the gases at the exit from the combustion chamber (T_3). This, in turn, poses the problem of developing a combustor (and the turbine) capable of a stable operation over a large range of fuel-air conditions and at the same time maintaining a good efficiency of combustion throughout the range (and especially when rich mixtures are used). The object of this investigation was to analyze the possibility of

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SOV/147-58-4-10/15

Boosting the Combustor of Gas Turbine Engines by Increasing the Temperature of the Combustion Gases

increasing the temperature T_3 up to 1400°K. Two independent parameters which affect the working process of the combustion chamber were investigated, viz: the admission of air along the axis of the combustor and the depth of penetration of the secondary air supply into the primary air stream. Experiments were carried out on three combustors: two variants with different air distribution and the fundamental, low temperature, combustor (which was a single burner flame tube of a serial production engine with the annular combustion chamber having the temperature of the exit gases of 1200°K). The second variant had a greater mass flow of the air in the forward zone of the combustor compared with the first variant. The working process in the combustor was assessed by measuring distribution of the temperature, velocity, concentration of the fuel, and the turbulence across several sections along the axis of the combustor. Boosting of the combustion chamber by increasing only the

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supply of fuel upsets the concentration at the flame front and leads to a poorer combustion and a longer flame tongue. Therefore, it is necessary also to increase the supply of air into the main part of the combustion chamber. With a constant air intake this means a redistribution of the air supply along the combustion chamber. Fig 1 shows the redistribution adopted in the experiments: full line represents the basic variant, dotted line - variant Nr 3. The experimental points were obtained by blowing the air through the combustion chamber (the coordinates give the relative values: mass flow of air: Gi/G_{total} and the position of the inlet holes for the secondary air: $\ell i/L_{total\ of\ com.chamber}$). The redistribution from the mixing zone into the combustion zone was arranged so that the mean coefficient of the excess of air at the end of the combustion zone (α) in both variants was the same (see Fig 2). Applying the method developed at the Chair of Aircraft Engines of the Moscow Aviation Institute, it is possible to determine

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approximately the layout of the flame tongue, so that choosing now the position of the radial openings in the liner for the secondary air supply, the problem of its penetration depth can be examined. Fig 3 shows the axial distribution of this penetration which was used in computations. The empirical formula for the depth of penetration of the secondary air flow is given on p 84, where: w_c is the inlet velocity (depending upon the pressure gradient, diameter of the holes and the stream velocity w_{CH}). As shown in Fig 4 pressure drop Δp does not remain constant along the axis of the combustor. In the annulus, the pressure of the secondary air increases slightly due to velocity drop, while in the flame tube pressure decreases on account of speed increase due to high temperatures and increased discharge. Hence, there appears to be a controlling section which will decide pressure distribution in the flame tube (in Fig 4 this is the station Nr 9). Varying now the number of holes and their diameter, the air flow-pressure

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along the combustor will be changed, and it is possible for the pressure inside the flame tube to be higher than outside in the secondary air stream so that the air will escape from the flame tube into the outer jacket (Fig 4). Having completed preliminary experiments on six different types of the flame tube, eventually only two variants were retained for further investigations, viz. the variant Nr 2 with 7 holes and the variant Nr 3 with 16 holes. The results of these investigations are given in Figs 5 to 10. Fig 5 shows the effect of the overall air excess coefficient α_{obm} on the coefficient of fullness of the combustion process. It is seen that combustion is improved in the variants 2 and 3 by the redistribution of the secondary air supply. This is even more obvious from Fig 6 where the temperature distribution is shown. Variant Nr 2 with a deeper penetration (at the same $\alpha_{overall} = 4.6$) by the secondary air than that of the variant Nr 3, produces higher temperatures in the first half of the combustor. As the mixture grows richer ($\alpha_{overall} = 3.2$) both variants produce about the same

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SOV/147-58-4-10/15

Boosting the Combustor of Gas Turbine Engines by Increasing the Temperature of the Combustion Gases

temperatures (i.e. the same degree of combustion) as shown in Fig 7. With a lean mixture ($\alpha_{overall} = 9$) - variant Nr 2 though still possessing a deeper penetration of the secondary air flow than that of the variant Nr 3, has a poorer degree of combustion. Fig 8 shows temperature distribution at the exit from the combustion chamber (dotted lines) for the variant Nr 3 at $\alpha_{overall} = 4.6$ and the inset shows the positions of the thermocouples. It is seen that the temperature falls with height. This temperature gradient affects adversely the strength of the turbine blades. By varying the number and diameter of the holes in the last two stations so that their total area remained unchanged, this temperature distribution was altered to that shown by the full line in Fig 8. Fig 9 shows the coefficient of turbulence $\varepsilon = (w'/w)$ (w' = pulsating component of the velocity w = stream velocity) across several sections in the basic combustor (full line) and variant Nr 3

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SOV/147-58-4-10/15

Boosting the Combustor of Gas Turbine Engines by Increasing the Temperature of the Combustion Gases

(dotted line), while Fig 10 shows the variation of this coefficient along the axis of the flame tube. There are 10 figures and 1 Soviet reference.

ASSOCIATION: Kafedra AD-1 (Chair AD-1), Moskovskiy aviatsionnyy institut (Moscow Institute of Aeronautical Engineering)

SUBMITTED: March 31, 1958

Card 7/7

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

ACCESSION NR: AT4041482 S/2535/64/000/157/0059/0072

AUTHOR: Shakhurin, S. I. (Candidate of technical sciences)

TITLE: The combustion mechanism of fuel-air mixtures in the chamber of a gas turbine operating on the limit lean mixture

SOURCE: Moscow. Aviatsionny*y institut. Trudy*, no. 157, 1964. Issledovaniya rabochego protsessa v kamerakh sgoraniya gazoturbinny*kh dvigateley (Studying the working processes of gas turbine engine combustion chambers), 59-72

TOPIC TAGS: jet aircraft, aviation turbine, combustion chamber, high altitude conditions, combustion, flame stabilization

ABSTRACT: Experiments with an aviation gas turbine combustion chamber model were conducted in order to study combustion and flame stabilization at the maximum permissible air-fuel ratio under high-altitude conditions. In the experiments, conducted at 0.5—1.5 kg/cm^2, the location of the flame front, the gas dynamic flow structure, and the mechanism of fuel injection were determined in regimes ranging from

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design conditions to conditions with maximum excess of air. Axial velocity fields, local temperature fields, the position of the flame front, and local fuel concentrations were measured at varying fuel-air ratios and pressures. The results showed that the temperature profiles with maxima of 1200—1600 K were almost identical for all air-fuel ratios and pressures. At the maximum air-fuel ratio (overall air-excess factor = 160) the combustion zone was found to be located in the flow recirculation zone where the fresh fuel-air mixture entered along the flow lines. The flow structure was not affected by changes in pressure or air velocity.

ASSOCIATION: none

SUBMITTED: 00

ATD PRESS: 3053

ENCL: 00

SUB CODE: FP, PR

NO REF SOV: 001

OTHER: 000

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

ACCESSION NR: AT4041483 S/2535/64/000/157/0073/0090

AUTHOR: Shakhurin, S. I. (Candidate of technical sciences)

TITLE: Study of the combustion chamber characteristics of a gas turbine engine during operation with lean combustible mixtures at high altitudes

SOURCE: Moscow, Aviatsionny*y institut. Trudy*, no. 157, 1964. Issledovaniya rabochego protsessa v kamerakh sgoraniya gazoturbinny*kh dvigateley (Studying the working processes of gas turbine engine combustion chambers), 73-90

TOPIC TAGS: jet aircraft, combustion chamber, combustion, high altitude flight, aviation turbine, fuel injection

ABSTRACT: At high altitudes or under transient operating conditions, flame blow-off may occur due to the lean composition of the fuel mixture caused by a decrease in the fuel flow rate. Therefore, experiments have been made to determine the conditions which will widen the range of stable engine operation at high altitudes. The experiments were conducted with a model of an aviation turbine combustion chamber.

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ACCESSION NR: AT4041483

The inlet air (1.4 kg/sec) was preheated to 550K. The chamber was connected with an ejector permitting operation at 0.5—1.5 atm pressure. The air to the ejector was preheated to 800—1000K by heat exchange with the combustion products. Vaned flow turbulizers with and without holes in the central disk and two types of swirl atomizers were used. During the experiments the fuel injection rate was lowered until blow-off occurred, at which point the fuel consumption, air pressure, and temperature were measured. Deformation of the flame front as a function of fuel-injection pressure and air-flow velocity was studied in special experiments. The results showed that an increase in the chamber pressure increases the combustion efficiency and considerably widens the range of stable operation with lean mixtures. The stability range increased substantially when the atomization was improved and the holes in the turbulizer disk were blocked. Atomizers securing a sufficiently large spray angle at minimum fuel-injection rates improved stability. A decrease in the amount of air flowing through the vaned section of the turbulizer narrowed the stability range. Orig. art. has: 17 figures.

Card 2/3

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHURIN, V.I.; BUNEYEV, N.N.

Exchange of experience among workers of window-glass plants. Stek.i ker. 17 no.2:45-47 F '60. (MIRA 13:6)

(Glass construction)
(Glass manufacture—Study and teaching)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHA

129-10-6/12

AUTHOR: Shakhurin, V.N., Engineer.

TITLE: Influence of the machining on the quality of the surface layer of turbine blades made of the alloy ЭИ617. (Vliyaniye mekhanicheskoy obrabotki na kachestvo poverkhnostnogo sloya turbinnykh lopatok iz splava EI617.)

PERIODICAL: "Metallovedeniye i Obrabotka Metallov" (Metallurgy and Metal Treatment), 1957, No.10, pp. 23-27 (U.S.S.R.)

ABSTRACT: Kishkin, S.T., Sulima, A.M. and Stoganov, V.P.(1) have found that work-hardening and residual stresses caused by the stamping and machining of the surface layer of the high temperature steels ЭИ437 and ЭИ437А have an appreciable influence on the mechanical properties of these alloys at elevated temperatures; work-hardening and residual stresses reduce the long duration strength of these alloys at 600-800 C and influence adversely resistance to thermal fatigue at temperature variations between 350 and 800 C. In this paper, the results are described of investigations of the influence of various methods and regimes of machining on the quality of the surface layer of a recently developed alloy ЭИ617. The aim of the investigation was to obtain comparable results permitting determination of the influence of technological factors (types and regimes of machining) on the quality of the surface layer and to compare

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129-10-6/12

Influence of the machining on the quality of the surface layer of turbine blades made of the alloy ЭИ617. (Cont.)

of machining, the machining regimes and the cutting tool. The largest depth and degree of work-hardening of a surface layer is produced by shaving; in the case of milling, the depth and degree of work-hardening is about half that obtained in shaving. Grinding reduces the work-hardening to a large extent. After polishing, the depth of work-hardening equals 12-25 μ whilst the degree of work-hardening is 9-13% for a given type of machining; the surface quality improves with increasing machining speed, whilst the work-hardening, the maximum value of the residual stresses and the roughness of the machine surface decreases. Increase of the cutting depth and particularly of the feed rate leads to a deterioration of the surface quality, namely an increase in the degree of work-hardening, the residual stress and the surface roughness. Blunting of the cutting tool brings about a sharp increase of the depth and degree of work-hardening and reduces the surface quality. No structural transformations were observed in the surface layer as a result of the machining; the deformed surface layer is characterised by appearance of sliding lines and of fine sliding planes. For eliminating the work-hardened layer after preliminary machining

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHURINA, Ye. A.

Shakhurina, Ye. A. and Manuylova, T. D. "The survival of worm eggs after composting of wastes", Sbornik rabot po gel'mintolgii (Vsesoyuz, in-t gel'mint logii im. akad. Skryabina), Moscow , 1948, p. 237-44.

SO: U-3042, 11 March 53,(letopis 'zhurnal 'nykh Statey, No. 10, 1949).

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SELITRENNIKOVA, M.B.; SHAKHURINA, Ye.A.

Setting up a system for garbage disposal fields in the hot climate of Uzbekistan. Gig.i san. no.7:17-19 Jl '53. (MLRA 6:7)

1. Uzbekskiy nauchno-issledovatel'skiy sanitarnyy institut.
(Uzbekistan--Refuse and refuse disposal) (Refuse and refuse disposal--Uzbekistan)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

TUKHMANYANTS, A.A.; SHAKHURINA, Ye.A.

Pathogen of the Luziasis of cattle and its intermediate host.
Uzb. biol. zhur. 6 no.1:40-44 '62. (MIRA 15:3)

1. Institut zoologii i parazitologii AN UzSSR.
(CATTLE--DISEASES AND PESTS)
(VETENARY HELMINTHOLOGY)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

TUKHMANYANTS, A.A.; SHAKHURINA, Ye.A.; ESKINA, G.V.

Ecology of Musca larvipara (Portsch, 1910), intermediary host of Thelazia rhodesi (Desmarest, 1827) occuring in cattle. Uzb.biol.zhur. 7 no.2:57-62'63. (MIRA 16:8)

1. Institut zoologii i parazitologii AN UzSSR.
(TASHKENT PROVINCE--PARASITES--CATTLE)
(NEMATODA--HOST ANIMALS) (TASHKENT PROVINCE--FLIES)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHURINA, Ye.A.; TYKHMANYANTS, A.A.

Spreading of gongylonemiasis among the cattle of the Uzbek S.S.R. Uzb. biol. zhur. 7 no.6:29-31 '63. (MIRA 17:6)

1. Institut zoologii i parazitologii AN UzSSR.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHUROV, D.V.

Modified live animal trap for rodents. Izv.Irk.gos.nauch.-issl. protivochum.inst. 15:229-230 '57. (MIRA 13:7)
(TRAPPING)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

DOBRONRAVOV, V.P.; SHAKHUROV, D.V.

Catching tarbagans in steel traps. Tez. i dokl.konf.Irk.gos.nauch.-issl.protivochum. inst. no.2:10-11 '57. (MIRA 11:3)
(MARMOT HUNTING)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

KHAMAGANOV, S.A.; SHAKHUROV, D.V.

Poisoned baits in the control of house rodents. Izv. Irk. gos. nauch.-issl. protivochum. inst. 21:364-369 '59. (MIRA 14:1)
(RODENT BAITS AND REPELLANTS)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

USSR/Geology - Granite Petrology — Oct 49

"New Data on the Geology of the Southwestern Part of the Vitim Highlands," K. A. Shakhvarstova, 17 pp

"Byul Mos Obshch Ispytat Prirody, Otdel Geol" Vol XXIII, No 5

PA 2/50T78

Results of author's investigations in little-studied southwest highlands of Vitim, where she carried out an extensive geological survey in 1944-1945. Establishes extensive development of Pre-Cambrian metamorphic rocks and abyssal potassium granites, characterized by: homogeneous mineralogical

[redacted] 2/50T78

USSR/Geology - Granite Petrology (Contd) — Oct 49

composition, development of blastogranitic structures and slight veiny facies.

SHAKHVARSTOVA, K. A.

[redacted] 2/50T78

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHVARSKIY, A. A.

Geology - Siberia, Eastern

Traces of glaciation in the southeastern part of the Vitim Plateau. Trudy MOIP. Otd. geol. 1, 1951.

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

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHVARSTOVA, K.A.

Pre-Cambrian and Paleozoic intrusions of the southeastern Vitim highlands. Och.po geol.Sib. no.17:32-69 '54. (MIRA 8:2)
(Vitim Plateau--Rocks, Igneous)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHVARSTOVA, K.A.

3(5) PHASE I BOOK EXPLOITATION SOV/2302

Akademiya nauk Ukrainskoy SSR. Institut geologii poleznykh iskopayemykh

Problema migratsii nefti i formirovaniya neftyanykh i gazovykh skopleniy; materialy L'vovskoy diskussii 8-12 maya 1957 g. (Problem of Oil Migration and the Formation of Oil and Gas Accumulations; Materials of the Discussion Held in L'vov, May 8-12, 1957) Moscow, Gostoptekhizdat, 1959. 422 p. 1,100 copies printed.

Eds.: V. B. Porfir'yev, Academician of the Ukrainian SSR Academy of Sciences, and I. O. Brod, Professor; Exec. Ed.: P. R. Yeranov; Tech. Ed.: A.S. Polosina; Editorial Board: I.O. Brod, Professor, N.R. Ladyzhenskiy, and V.B. Porfir'yev, Academician of the Ukrainian Academy of Sciences.

PURPOSE: This collection of articles is intended for a wide range of geologists and research workers interested in oil problems.

COVERAGE: Articles contained in this book deal with the problems of migration and accumulation of oil and gas. These problems were discussed in May 1957 at L'vov State University im. I. Franko at a meeting organized jointly by the Institute of Geology and Mineral Resources, Academy of Sciences of the USSR, the Department of Geology and Oil Exploration of the L'vov Polytechnic Institute, and the L'vov Geological Society. Theories on the origin of petroleum deposits and the conditions surrounding their occurrence are treated. There are 327 references: 232 Soviet, 86 English, 5 French, and 4 German.

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Linetskiy, V.F. [IGPI, AN UkrSSR] Anomalous Formation Pressure as a Time Criterion in the Formation of Oil Deposits 121

Kudryavtsev, N.A. [VNIGRI, Leningrad] Mechanics of the Formation of Oil and Gas Deposits 136

Kropotkin, P.N. and K.A. Shakhvarstova [Geologicheskiy Institut] Solid Bitumens, Oil, and Hot Gases in Ultrabasic Intrusions, Traps and Volcanic Necks 151

Porfir'yev, V.B. [Institut geologii poleznykh iskopayemykh AN. UkrSSR] The Time Problem in the Formation of Oil Deposits 165

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Mekhtiyev, Sh.F. [Institut geologii im. I.M. Gubkina, Azerbaydzan] The Source Bed Characteristic of the Lower Part Deposits in the Productive Series (Middle Pliocene) of Azerbaydzhan 194

Kozlenko, S.F. and K. A. Mashkovich. [VNIGNI Branch, Saratov] The Age of Oil and Gas Traps as a Criterion for Forecasting Their Oil-bearing Capacity 202

Elinson, M.M. [MGRI, Moscow] Distribution of Heavy Hydrocarbons Under Various Geological Conditions 208

Vyalov, O.S. On the Question of Oil in the Antarctic Region 210

Veber, V.V. [VNIGNI, Moscow] Formation of Oil Deposits and Facies of Sedimentation 211

Vydrin, D.I. [Krasnodarneftegazvedka] New Data on the Geology of the Oil-and Gas-bearing Possibilities in the Western Caucasus and Predkavkaz'ye 217

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

KROPOTKIN, Petr Nikolayevich; SHAKHVARSTOVA, Ksaniya Aleksandrovna; PAVLOVSKIY, Ye.V., otv. red.; PEYVE, A.V., akademik, glavnyy red.; KUZNETSOVA, K.I., red.; MENNER, V.V., red.; TIMOFEYEV, P.P., red.

[Geological structure of the Pacific mobile belt.] Geologicheskoe stroenie Tikhookeanskogo podvizhnogo poiasa. Moskva, Nauka, 1965. 364 p. maps. (Akademiia nauk SSSR. Institut geologii. Trudy, no. 134). (MIRA 18:12)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHVATOV, A.T., inzh.

Atmospheric dust and means of dust control in open pits. Izv.vys.ucheb.zav.; gor.zhur. no.5:59-64 1960. (MIRA 14:3)

1. Magnitogorskiy goronometallurgicheskiy institut imeni G.I. Nosova. Rekomendovana kafedroy gornykh rabot i rudnichnoy ventilyatsii.

(Mine dusts)
(Strip mining)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHNAZOVA, N.B.

New method for studying mental working capacity. Trudy Gos. nauch.-issl. inst. psikh. 43:250-259 '65. (MIRA 18:9)

1. TSentral'nyy institut ekspertizy i organizatsii truda invalidov (direktor - professor D.I.Gritskevich).

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHVERDI, N. M.

The Second All-Union Conference on the Preparation and Analysis of High-Purity Elements, held on 24-28 December 1963 at Gorky State University im. N. I. Lobachevskiy, was sponsored by the Institute of Chemistry of the Gorky State University, the Physicochemical and Technological Department for Inorganic Materials of the Academy of Sciences USSR, and the Gorky Section of the All-Union Chemical Society im. D. I. Mendeleyev. The opening address was made by Academician N. M. Zhavoronkov. Some 90 papers were presented, among them the following:

A. A. Tumanov, N. M. Shakhverdi, and Z. I. Glazunova. Spectrophotometric determination of microquantities of Se.

(Zhur. Anal. Khim, 19 No. 6, 1964 p. 777-79)

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L 48556-65 EWT(m)/EWP(t)/EWP(b) IJP(c) JD

ACCESSION NR: AR5009903 UR/0081/65/000/004/G022/G022

SOURCE: Ref. zh. Khimiya, Abs. 4G145

AUTHOR: Tumanov, A. A.; Shakhverdi, N. M.

18
B

TITLE: Determination of trace impurities in some highly pure substances. Report 4. Determination of elemental sulfur by spectrophotometry in the ultraviolet region

CITED SOURCE: Sb. Peredovyye metody khim. tekhnol. i kontrolya proiz-va. Rostov-na-Donu, Rostovsk. un-t, 1964, 174-177

TOPIC TAGS: spectrophotometry, trace analysis, impurity content, ultraviolet spectrophotometer, sulfur 27

TRANSLATION: In continuation of an earlier published work (*RZhKhim*, 1963, 15G166), the authors study the use of 26 organic compounds (hydrocarbons, ethers, halide derivatives, ketones, alcohols, acids) as solvents for extraction of elemental sulfur and subsequent spectrophotometric determination of this sulfur in the uv-region. The absorption spectra of sulfur solutions (20 γ/mℓ) are similar and have

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L 48566-65

ACCESSION NR: AR5009903

maxima at ~270 mμ with the exception of solutions in methylethylketone (320-326 mμ) and in diisoamyl alcohol (320 and 360 mμ). In addition to this, solutions in alcohols have a second maximum at 220-230 mμ. The optical density at this wavelength is considerably higher than it is at the first maximum. A high sensitivity for determination of sulfur (0.5 γ/mℓ) is attained with the use of monohydric alcohols, $CHCl_3$, C_6H_5Cl, C_6H_6, $C_6H_4(CH_3)_2$, dioxane, ethyl acetate, and ethylene glycol. Maximum error for sulfur determination--10%. The effect of S^{2-}, SO_3^{2-}, SO_4^{2-} and $S_2O_3^{2-}$ on the accuracy of spectrophotometric determination of sulfur was also studied, and it was found that these anions do not interfere when alcohols are used as solvents since they are insignificantly soluble in alcohols and their solutions show practically no absorption at 265 mμ. Concentrated CH_3COOH is an excellent solvent for Na_2SO_3 and $Na_2S_2O_3$ (the latter then decomposes liberating sulfur), while S^{2-} and SO_4^{2-} do not interfere with determination when 98% CH_3COOH is used. See *RZhKhim*, 1963, 20G120 for report 3. B. Manole

SUB CODE: GC, OP ENCL: 00

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L 15989-66 EWT(m)/EWP(t) IJP(c) JD/GS

ACC NR: AT6005601 SOURCE CODE: UR/0000/64/000/000/0174/0177

AUTHOR: Tumanov, A. A.; Shakhverdi, N. M.

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

26
B+1

TITLE: Determination of microimpurities in certain high-purity substances. Report No. 4: Determination of elemental sulfur by spectrophotometry in the ultraviolet

SOURCE: Vsesoyuznaya konferentsiya rabotnikov metallurgicheskoy i khimicheskoy promyshlennosti i sotrudnikov vuzov. Rostov-on-Don, 1962. Peredovyye metody khimicheskoy tekhnologii i kontrolya proizvodstva (Progressive methods of chemical engineering and production control); trudy konferentsii. Rostov-on-Don, Izd-vo Rostovskogo univ., 1964, 174-177

TOPIC TAGS: sulfur, sulfur compound, spectrophotometric analysis

ABSTRACT: The present work is a continuation of the study of a method developed earlier for determining microquantities of sulfur by spectrophotometry in the ultraviolet. Representatives of various categories of organic compounds were tried as solvents: hydrocarbons, ethers, esters, halo derivatives, ketones, alcohols, acids.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

L 15989-66

ACC NR: AT6005601

Absorption spectra of solutions containing 20 μg of sulfur per ml were studied, and sulfur was shown to dissolve appreciably. The wavelength of maximum absorption λ_{max}, molar absorption coefficient E, and sensitivity (in μg of S per ml) are tabulated for all the solvents. In most cases, the sensitivity was 0.5 μg S per ml, and λ_{max} was approximately the same in each family of compounds, indicating the formation of the same type of sulfur compounds. When alcohols are used as solvents, elemental sulfur can be quantitatively determined in the presence of sulfur compounds (such as Na_2S, Na_2SO_3, Na_2SO_4, $Na_2S_2O_3$), which are practically insoluble in alcohols. Orig. art. has: 1 figure, 3 tables.

SUB CODE: 07/ SUBM DATE: 24Mar64/ ORIG REF: 001/ OTH REF: 001

Card 2/2

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

MAMEDLI, M.G., SHAKHVERDIYEVA, F.M.

Methods for obtaining winter diesel fuel with high cetane number from Neftyanyye Kamni petroleums. Izv.vys.ucheb.zav.; neft' i gaz 6 no.11:79-83 '63. (MIRA 17:9)

1. Azerbaydzhanskiy institut nefti i khimii im. M.Azizbekova.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

L 17831-65 EWT(m)/EPF(c)/T Pr-4 AFETR RM/WE

ACCESSION NR: AP4048358 S/0152/64/000/009/0065/0068

AUTHOR: Shakhverdiyeva, F. M.; Mamedli, M. G.

TITLE: Dearomatization of diesel fuel oils from Neftyanyye Kamni by triethylene glycol

SOURCE: IVUZ. Neft' i gaz, no. 9, 1964, 65-68

TOPIC TAGS: diesel fuel, cetane rating, aromatic hydrocarbon, dearomatization, diesel fuel dearomatization, aromatic hydrocarbon extraction

ABSTRACT: Diesel fuel obtained from Neftyanyye Kamni is of low cetane rating, owing to the high content of aromatic hydrocarbons. To increase the cetane rating of this fuel and to extract the highly aromatized concentrates, which are of great value in the petrochemical industry, dearomatization of the diesel fuel in triethylene glycol was carried out. The properties of the fuel were: index of refraction n_D^{20}, 1.4788; density ρ_4^{20}, 0.8602; aniline point, 66.8C; diesel index, 48.9; freezing point, 45C; sulfonated by 98% H_2SO_4, 20.9% wt; boiling point range, 210—350C. The effects of temperature,

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L 17831-65

ACCESSION NR: AP4048358

quantity of solvent, number of extractions, and contact time were studied. The optimum conditions were found to be as follows: 150C; triethylene glycol to fuel ratio, 5/1; number of extraction, 5; and contact time, 10 min. Several experiments were conducted to determine the yield and quality of the resulting raffinates and extracts under optimum conditions (see Table 1 of the Enclosure). The dearomatization was sufficiently effective, as is shown by the diesel index of 48.9 for the starting material and 59 for the dearomatized raffinate. The extract was found to be highly aromatized, with an average aromatic hydrocarbon concentration of 83%. The extraction of aromatic hydrocarbons with triethylene glycol from diesel-fuel fraction taken over 25C showed that with in increase in the molecular weight of the aromatic hydrocarbons the concentration in the extract increases, which fact indicates an improved selectivity of the solvent. It was concluded that these experiments proved the possibility of obtaining high cetane ratings (53—54) for winter-type diesel fuel oils from Neftyanyye Kamni, by triethylene glycol extraction of the aromatic hydrocarbons. Orig. art. has: 4 figures, and 2 tables.

ASSOCIATION: none

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L 17831-65

ACCESSION NR: AP4048358

SUBMITTED: 18Mar64 ENCL: 01 SUB CODE: FP

NO REF SOV: 002 OTHER: 000 ATD PRESS:

Card 3/4

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

L 17831-65
ACCESSION NR: AP4048358 ENCLOSURE: 01

Table I. Yield and quality of raffinates and extracts

Raffinate							Extract		
Yield of starting fuel, wt.%	Freezing point, C	Density ρ_4^{20}	Index of refraction n_D^{20}	aniline point, C.	Diesel index	Sulfonated by 98% H_2SO_4, wt.%	yield of starting fuel, wt.%	index of refraction n_D^{20}	sulfonated by 98% H_2SO_4, wt.%
78,0	—45 max.	0,8470	1,4711	76,2	58,8	11,3	22,0	1,5375	86
77,5	—45 max.	0,8461	1,4700	76,5	59,1	—	22,5	—	80
78,0	—45 max.	0,8460	1,4698	76,6	59,2	—	22,0	—	82

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

L 37725-65 EPF(c)/EWT(m)/T Pr-4 WE

ACCESSION NR: AP5006975 S/0152/65/000/002/0059/0061

18
17
B

AUTHOR: Mamedli, M. G. (Deceased); Shakhverdiyeva, F. M.

TITLE: Partial dearomatization of diesel fuel with triethylene glycol

SOURCE: IVUZ. Neft' i gaz, no. 2, 1965, 59-61

TOPIC TAGS: Diesel fuel, diesel oil dearomatization, triethylene glycol, partial dearomatization, petroleum refining

ABSTRACT: The partial dearomatization of diesel fuel from Neftyanykh Kamney crude by extraction with triethylene glycol was studied experimentally to establish optimum conditions for producing winter diesel fuels. The stock was fractionated to obtain 210-275C and 275-350C fractions and the latter was extracted at 150C in 5 steps at 10 min. contact and 30 min. settling times and 5:1 - 10:1 triethylene glycol (TEG) - feed ratios. Aniline point and diesel index of raffinates and final products (raffinate plus 210-275C fraction) increased with the amount of solvent and the refractive index decreased (see Fig. 1 and 2 of the Enclosure). The ratio 8:1 was selected and shown to give cetane numbers of 52-53, nearly 90 wt% yields of diesel fuel, a -46C pour point, and sufficient concentration of polycyclic aromatics in the extracts for possible petrochemical processing.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

L 37725-65

ACCESSION NR: AP5006975

Orig. art. has: 2 tables and 3 figures

ASSOCIATION: Azerbaydzhanskiy institut nefti i khimii im. M. Azizbekova (Azerbaijan Institute of Petroleum and Chemistry)

SUBMITTED: 26Sep64 ENCL: 02 SUB CODE: FP

NO REF SOV: 003 OTHER: 001

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APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

SHAKHVE[illegible]OV, P.A., [illegible] A.N. [illegible]

Intramolecular electron transfer in tetrapyrrole pigments under pulsed illumination. Dokl. AN SSSR 150 no.6:1311-1314 Je '63. (MIRA 16:8)

(Pigments--Absorption spectra) (Electrons)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

L 49016-65 EWT(1)/EPA(w)-2/EEC(t)/EWP(1) Pi-4/Pz-6 IJP(c) AT

ACCESSION NR: AR5012286 UR/0058/65/000/003/D075/D075

SOURCE: Ref. zh. Fizika, Abs. 3D604

25
B

AUTHOR: Terenin, A. N.; Dmitriyevskiy, O. D.; Shakhverdov, P. A.

TITLE: Kinetic spectroscopy of intermolecular electron migration affected by a photoimpulse

CITED SOURCE: Tr. Komis. po spektroskopii. AN SSSR, vyp. 1, 1964, 52-63

TOPIC TAGS: electron transfer, electron migration, molecular ion radical, molecule photoexcitation

TRANSLATION: The generation of positive and negative molecular ion radicals is investigated. These radicals appear in liquid solutions and solid media during pulsed photoexcitation of one of the components of a binary solution. Two types of spectral equipment were used in combination with pulsed photoexcitation with a duration of 2.5 and 40 μsec. Spectra of positive ion radicals which act as electron donors with respect to photoexcited molecules appeared briefly together with reversible fade-out of the absorption bands of the original molecule and appearance of absorption bands of its triplet state. An absorption spectrum, characteristic

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L 49016-65

ACCESSION NR: AR5012286

for a bonding negative ion radical which has accepted an electron, appeared simultaneously. The brief appearance of positive ion radicals of the photostimulated compounds was established in other binary systems. The coincidence of duration of intermediate ion forms of molecules with the lifetime of triplet states of photoexcited molecules indicates that these states participate in electron transfer processes.

SUB CODE: NP, OP ENCL: 00

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410008-0

L 60457-65 EWT(1) Pi-4 IJP(c)

ACCESSION NR: AP5007574 S/0020/65/160/005/1141/1143 19 18 B

AUTHOR: Shakhverdov, P. A.; Terenin, A. N. (Academician)

TITLE: Deactivation of the fluorescent and phosphorescent state of tetrapyrrole pigments in liquid solutions

SOURCE: AN SSSR. Doklady, v. 160, no. 5, 1965, 1141-1143

TOPIC TAGS: fluorescence quenching, 21 magnesium phthalocyanine, light pulse, tetrapyrrole pigment

ABSTRACT: The purpose of this was to compare the effects of molecular electron donors (phenol, diphenylamine) and electron acceptors (benzoquinone and nitrobenzene) on the kinetics of quenching of T-T' (triplet-triplet) absorption (measured at the peak, 470 mμ) and on the fluorescence intensity of magnesium phthalocyanine (MgPhthc) exposed to powerful light pulses. A spectrokinetic apparatus and dioxane solutions were used. Addition of the electron acceptors to the MgPhthc solutions shortens the lifetime of the triplet absorption, but the quenching law remains exponential. The quenching constants, $k = 1/\tau$, deactivation constants of the triplet state, and fluorescence quenching constants of MgPhthc were determined. Quenchers with a strong

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