IOSELIANI, G.D.; PAGAVA, G.D.; KHUCHUA, A.V.

Importance of coronary perfusion in exclusion of the heart from blood circulation; hypothermia and artificial blood circulation. Trudy Inst. eksp. i klin. khir. i gemat. AN Gruz. SSR 11:325-330 '63. (MIRA 17:8)

IOSELIANI, Georgiy Davidovich

[Atrophic cirrhosis of the liver and its surgical treatment] Atroficheskii tsirroz pecheni i ee khirurgicheskoe lechenie. Tbilisi, Izd-vo "Metsniereba," 1964. 108 p. [In Georgian] (MIRA 17:12)

IOSELIANI, G.D.; BUDZHIASHVILI, V.K.; KHUCHUA, A.V.

Methods of isolated brain and heart perfusion under conditions of hypothermia. Soob. AN Gruz. SSR 35 no.2:461-468 Ag '64. (MIRA 17:12)

1. Institut eksperimental'noy i klinicheskoy khirurgii i gematologii AN Gruzinskoy SSR, Tbilisi. Submitted January 20, 1964.

IOSELIANI, G.D.; KHUCHUA, A.V.

Coronary perfusion following exclusion of the heart from the blood circulation under moderate hypothermia. Soob. AN Gruz. SSR 36 no.3:699-704 D '64. (MIRA 18:3)

1. Institut eksperimental'noy i klinicheskoy khirurgii i gematologii AMN SSSR, Tbilisi. Submitted April 6, 1964.

IOSELIANI, G.D.; BURDZHANADZE, O.I.; CHKHARTISHVILI, N.S.

Use of ethyl chloride for artificial cardiac arrest. Soob. AN Gr. z. SSR. 37 no.3:725-728 Mr '65. (MIRA 18:5)

1. Institut eksperimental'noy i klinicheskoy khirurgii i gematologii AN GruzSSR. Submitted August 27, 1964.

IOSELIANI, G.K. Cand Med Sci —(Diss) "Study of the sensitivit of the pharynx of healthy children and those a fected with chronic tonsillitis," Kuybyshev, 1960, 11 pp (Kuybyshev State Medical Institute) (KL, 36-60, 117)

IOSELIANI, G. K.: Master Med Sci (diss) -- "A study of the tactile and pain sensitivity of the mouth in healthy children and those ill with chronic tonsillitis". Moscow, 1958. 14 pp (Min Health RSFSR, Moscow Med Stomatological Inst), 200 copies (KL, No 1, 1959, 123)

L 44568-66 EWT(1) SCTB DD/RD

ACC NR: AP6030912 SOURCE CODE: UR/0209/66/000/009/0068/0070

AUTHOR: Iosseliani, K. (Lieutenant colonel, Medical corps); Smirnov, Yu. (Major, Medical corps)

34
B

ORG: none

TITLE: Overcoming unfavorable emotions [Psychological training for pilots and cosmonauts]

SOURCE: Aviatsiya i kosmonavtika, no. 9, 1966, 68-70

TOPIC TAGS: flight psychology, flight physiology, pilot training

ABSTRACT: Methods of controlling the emotional states of pilots in flight are discussed and their importance is emphasized in view of the great nervous and emotional strain associated with piloting modern aircraft and spacecraft. Acquiring the ability to control emotional experiences is an important part of pilot and cosmonaut training. Psychological preparation must be conducted throughout the training period, since many of the unfavorable emotions associated with flight develop into conditioned reflexes and are hard to eradicate. Several methods for self-regulation of emotional states in flight conditions are recommended, including such elementary devices as listening to pleasant sounds and encouraging oneself with phrases like "I can,"

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ACC NR: AP6030912

"I must," etc. Physical exercises, selected for their effect on the muscle groups most fatigued by prolonged static stress, have proved very effective. Each group of exercises is practiced before the flight and repeated every 3—4 hr during flight. Special muscle-relaxing exercises, consisting of a combination of stretching exercises, turns of the torso, exercises of various leg joints and breathing exercises, are used to remove emotional tension on complicated long flights. Pilots should be familiar with all varieties of breathing exercises, and the physiological and psychological effect of each on the organism (for instance, breathing deeply and exhaling slowly has a calming effect). Pilots should be trained to shift their thoughts at will to pleasant and successful flying experiences, thus overcoming unfavorable emotions arising during flight. [JS]

SUB CODE: 05, 06/ SUBM DATE: none/ ATD PRESS: 5080

Card 2/2

IOSELIANI, K.M., zasluzhennyy veterinarnyy vrach Gruzinskoy SSR;
DZHEYRANISHVILI, V.V., nauchnyy sotrudnik

Manufacture of preparations in an institute. Veterinariia 41 no.11:101-103 N '64. (MIRA 18:11)

1. Direktor proizvodstva khimiko-terapevticheskikh i biologicheskikh preparatov Gruzinskogo zooveterinarnogo instituta (for Ioseliani). 2. Gruzinskiy zootekhnicheskoveterinarnyy uchebno-issledovatel'skiy institut (for Dzheyranashvili).

IOSELIANI, M. S.

"Geological Interpretation of the Geophysical Data of the Vnutrennoe-Kartala Lowland." Cand Geol-Min Sci, Georgian Polytechnic Inst, Tbilisi, 1954. (RZhGeol, Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556 24 Jun 55

IOSELIANI, M.S.

Seismic and geological nature of the central part of the Kartlian Plain. Soob.AN Grus.SSR 16 no.7:525-530 '55. (MLRA 9:2)

1.Akademiya nauk Gruzinskoy SSR, Institut geofiziki, Tbilisi. Predstavleno chlenom-korrespondentom Akademii I.R.Kakhadze.
(Kartlia--Geophysics)

15-57-12-17092

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 12, pp 57-58 (USSR)

AUTHOR: Ioseliani M.S.

TITLE: The Geologic Interpretation of Geophysical Data on the Vnutrenne-Kartalinskaya Ravnina (Plain) (Geologicheskaya interpretatsiya geofizicheskikh dannykh po Vnutrenne-Kartakinskoy ravinine--In Georgian)

PERIODICAL: Tr. in-ta geodiziki AN GruzSSR, 1956, Vol 15, pp 185-214

ABSTRACT: The author presents an analysis of the results of a seismic survey on the Vnutrenne-Kartalinskaya ravnina (Plain), in which he includes data from drill holes, magnetometer work, as well as seismic exploration. From the seismic records, three thick formations have been distinguished in the razrez (section). The upper layer consists of Quaternary deposits, is 100 m to

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The Geologic Interpretation of Geophysical Data (Cont.)

400 m thick, and has a boundary velocity of 1900 m/sec to 2100 m/sec. The next lower formation consists of Neogene rocks, and is characterized by alternating layers of somewhat different lithology, each layer having slightly different elastic properties. The formation has a number of reflecting horizons, the boundary velocities ranging from 3000 m/sec to 3300 m/sec. The lowest of the three formations is 1900 m to 2200 m thick. The boundary velocity at the top of the third formation which is composed of Cretaceous limestones, is 4700 m/sec to 4800 m/sec. The boundary between the second and third formations is reliably determined by reflected and refracted waves. The sedimentary rocks are weakly deformed, and the thickness of each formation decreases to the south. The decrease in depth of the reflecting horizons attests to a rise of the crystalline basement to the south. The magnetic field over a great part of the plain is undisturbed, the vertical component increasing gradually from north to south from -150 gammas to +200 gammas. This fact also bears witness to the decrease in depth to the crystalline basement.

The Geologic Interpretation of Geophysical Data (Cont.)

Variations in the magnetic field on the plain and on the north of the folded Adzharo-Trialetskaya zona (zone) indicate sharp differences in the structure of the deep rocks. Earthquake centers are absent on the plain, but are characteristic of the surrounding folded systems. This study leads to the conclusion that the Vnutrenne-Kartalinskaya Plain rests on a stable part of the earth's crust.

Card 3/3

L. I. Ratnikova

IOSELIANI, M.S.; MURUSIDZE, G.Ya.

Using seismic methods of prospecting for the solution of certain problems of engineering geology. Trudy Inst. geofiz. AN Gruz. SSR 16:115-128 '57. (MIRA 11:6)
(Seismometry) (Engineering geology) (Prospecting)

TVALTVADZE, G.K.; KOSMINSKAYA, I.P.; MURUSIDZE, G.Ya.; MIKHOTA, G.G.; IOSELIANI, M.S.; TULINA, Yu.V.

Results of studies of the surface of the crystalline foundation of the western part of the Gori-Mukhrani depression by seismic methods. Trudy Inst. geofiz. AN Gruz. SSR 16:135-161 '57.
(Georgia--Geology, Structural) (MIRA 11:6)
(Seismic waves)

S/169/61/000/009/014/056
D228/D304

AUTHORS: Ioseliani, M. S., and Kartsivadze, G. Ye.

TITLE: The question of the seismo-geologic structure of the Akhalkalak highlands and some adjacent areas

PERIODICAL: Referativnyy zhurnal. Geofizika, no. 9, 1961, 19, abstract 9A151 (Geopizikis institutis shromebi. Sakartvelos SSR Metsniyerebata Akademia, Tr. In-ta geofiz. AN GruzSSR, 18, 1959 1960 , 81-89)

TEXT: The general geologic structure of the Akhalkalak region and adjacent areas is exposed, and seismologic data are given for this territory. The epi- and hypocenters of earthquakes are determined from G. K. Tvaltvadze's hodographs. Comparison of seismologic and geologic data provides the basis for drawing the conclusion that there is no seismo-genetic connection between the Akhalkalak highlands and the Kazbek area. The foci of strong earthquakes are related to the boundaries of tectonic units (Artva-Somkhit block, Adzharo-Trialet fold-system, and the

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D228/D304

The question of the...

Georgian block). The seismo-geologic structure of the Akhalkalak highlands is related to the seismo-geology of Turtsiya. Their intensive seismicity is, in the opinion of the authors, caused by recent volcanic movements. As is known, the Akhalkalak highlands were a stable part of the crust throughout the Alpine orogenetic-cycle, whereas intensive tectonic movements took place in their adjacent areas. Towards the end of the Neogene the picture changed: intensive tectonic movements began--in consequence of which the dismemberment of the crystalline basement into small blocks took place--and tectonic fractures, to which the earthquake foci are also confined, were formed. The results obtained by abyssal seismic sounding and other geophysical methods will have great significance for the deeper study of the seismo-geologic structure of the Akhalkalak highlands. [Abstracter's note: Complete translation.]

Card 2/2

MURUSIDZE, G.Ya.; IOSELIANI, M.S.; LURSMANASHVILI, O.V.; CHICHINADZE, V.K.

Results of studying elastic properties of rocks in the region of the Ladzhanur Hydroelectric Power Station. Trudy Inst. geofiz. AN Gruz. SSR 18:97-108 '60. (MIRA 13:10)
(Ladzhanur Hydroelectric Power Station region--Seismometry)

PAPALASHVILI, V.G.; IOSELIANI, M.S.

Some data on the seismicity of the southeastern part of the Greater Caucasus. Trudy Inst. geofiz. AN Gruz. SSR 18:109-127 '60.
(MIRA 13:10)

(Caucasus--Earthquakes)

IOSELIANI, M.S.; PAPALASHVILI, V.G.

Seismicity of the territory of the Caspian Sea and adjacent regions. Trudy Inst. geofiz. AN Gruz. SSR 19:59-69 '60. (MIRA 14:9)
(Caspian Sea region--Seismology)

IOSELIANI, M.S.; PAPALASHVILI, V.G.

Some aspects of the seismic-tectonic conditions in the eastern part of the Greater Caucasus and adjacent regions. Trudy Inst. geofiz.AN Gruz.SSR 22:15-41 '64.

(MIRA 18:12)

IOSELIANI, N.P.

IOSELIANI, N.P.; DZHANELIDZE, A.I., deystvitel'nyy chlen.

Some Rudists of the Upper Cretaceous of western Georgia. Soob.AN Gruz.SSR 14 no.1:17-18 '53. (MLRA 6:9)

1. Akademiya nauk Gruzinskoy SSR (for Dzhanelidze). 2. Akademiya nauk Gruzinskoy SSR, Institut geologii i mineralogii, Tbilisi (for Ioseliani).
(Georgia--Lamellibranchiata) (Lamellibranchiata--Georgia)

AGLADZE, R.I.; IOSELIANI, O.S.

Reduction of Chiatura manganese oxide ores and slurries by means of acid tars. Trudy Inst. prikl. khim. i elektrokhim. AN Gruz. SSR 2:15-29 '61. (MIRA 16:8)

(Chiatura) (Manganese ores)

IOSELIANI, T.; NATISHVILI, A.N., deystvitel'nyy chlen.

Development cycle of polynuclear mesothelial cells of the pericardium. Soob.AN Gruz.SSR 13 no.9:555-559 '52. (MLRA 6:5)

1. Tbilisskiy Gosudarstvennyy universitet im. Stalina (for Ioseliani).
2. Akademiya Nauk Gruzinskoy SSR (for Natishvili). (Cells) (Pericarium)

IOSELIANI, T.K.

Effects of the stimulation of the substantia gelatinosa of the spinal cord. Soob.AN Gruz.SSR 21 no.5:599-606 N '58. (MIRA 12:5)

1. AN GruzSSR, Institut fiziologii, Tbilisi. Predstavleno akademikom I.S.Beritashvili.
(SPINAL CORD)

IOSELIANI, T.K., Cand Biol Sci — (diss) "Role of the gelatinous substance in the reflex activity of the spinal cord." Tbilisi, 1959. 11 pp (Tbilisi State U im Stalin). 150 copies (KL,39-59, 103)

IOSELIANI, T.K.

Inhibition of signal reflexes during the stimulation of the grey matter of the spinal cord. Soob. AN Gruz. SSR 22 no.4:455-460 Ap '59. (MIRA 12:9)

1.AN GruzSSR, Institut fiziologii, Tbilisi. Predstavleno akademikom I.S. Beritashvili.
(REFLEXES) (SPINAL CORD)

IOSELIANI, T.K.

Wedensky inhibition in a frog nerve-muscle preparation. Fiziol. zhur. 45 no.4:487-493 Ap '59. (MIRA 12:6)

1. From the I.S.Beritashvili Institute of Physiology, Georgian SSR Academy of Sciences, Tbilisi.
(NERVE MUSCLE PREPARATION,
pessimum phenomenon (R_{us}))

IOSELIANI, T. K. and ONIANI, T. N. (Tbilisi, USSR)

"The spinal mechanism of general inhibition"

Report submitted to the 7th Intl. Congress of Neurology, Rome, Italy, 10-15 Sep 61

IOSELIANI, T.K.

Effect of the strength, frequency, and duration of individual stimuli on the inhibition of spinal reflexes. Soob. AN Gruz. SSR 26 no.4:455-459 Ap '61. (MIRA 14:8)

1. Institut fiziologii AN GruzSSR, Tbilisi. Predstavleno akademikom I.S. Beritashvili.
(SPINAL CORD) (REFLEXES) (INHIBITON)

IOSELIANI, T.K.

Role of the substantia gelatinosa in the reflex activity of the spinal cord. Fiziol. zhur. 47 no.10:1253-1259 O '61. (MIRA 15:1)

1. Institut fiziologii AN Gruzinskoy S.S.R., Tbilisi.
(SPINAL CORD). (REFLEXES)

IOSELIANI, T.K.; ONIANI, T.N.

Mechanism of pessimal inhibition. Nerv. sist. no.4:9-13 '63
(MIRA 18:1)

Postactivation changes in excitation of the neuromuscular apparatus. Ibid.:14-17

1. Institut fiziologii AN Gruzinskoy SSR, Tbilisi.

IOSELIANI, T.K.; ONIANI, T.N.

Effect of strychnine poisoning on the reticular inhibition of spinal reflexes. Fiziol. zh. SSSR Sechenov 49 no.6:695-700 '63 (MIRA 17:1)

1. From the Institute of Physiology, Georgian S.S.R. Academy of Sciences, Tbilisi.

ONIANI, T.N.; IOSELIANI, T.K

Postactivation changes in the membrane-myofibril coupling of striated muscle fibers. Soob. AN Gruz. SSR 36 no.3:691-697 D '64. (MIRA 18:3)

1. Institut fiziologii AN GruzSSR. Submitted January 4, 1964.

IOSELIANI, T.K.; NANEYSHVILI, T.L.; CHOKHELI, K.G.

Data on the interaction of responses from the spinal cord in paired stimulation of afferent nerves. Fiziol. zhur. 51 no.1:65-70 Ja '65. (MIRA 18:7)

1. Institut fiziologii Gruzinskoy SSR, Tbilisi.

IOSELIANI, T.K.

Inhibition of spinal reflexes at different stages of ontogenetic development in animals. Trudy Inst. fiziol. AN Gruz. SSR. 14:131-137 '65. (MIRA 18:10)

L 22223-66

ACC NR: AT5024232 SOURCE CODE: UR/3167/65/014/000/0131/0137

AUTHOR: Ioseliani, T. K.

ORG: none

TITLE: Inhibition of the spinal reflexes at different stages of ontogenetic development

SOURCE: AN GruzSSR. Institut fiziologii. Trudy, v. 14, 1965. Sovremennyye problemy deyatel'nosti i stroyeniya tsentral'noy nervnoy sistemy (Present problems of the activity and structure of the central nervous system), 131-137

TOPIC TAGS: CNS, CNS ontogenesis, reflex inhibition, spinal reflex, mammalian ontogenesis, ventral root potential

ABSTRACT: Inhibition of spinal reflexes (ventral root potentials) by proprioceptor activation was studied in chloralose-narcotized adult cats and newborn kittens. All ventral root potentials were measured at the 7th lumbar vertebra. In adult cats, stretching of the gastrocnemius muscle inhibits all components of ventral root potentials (i.e., monosynaptic, polysynaptic, and late discharges). Similar spinal reflex

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L 22223-66

ACC NR: AT5024232 O

inhibition by gastrocnemius stimulation was seen in newborn kittens as early as 3 days after birth. Spinal reflex inhibition was weaker in newborn than in adult cats. In both adult and newborn cats, proprioceptor activation selectively inhibits polysynaptic responses more fully than monosynaptic responses; in new-born kittens, monosynaptic responses were almost never completely suppressed. [DP]

SUB CODE: 06/ SUBM DATE: none/ OTH REF: 004/ SOV REF: 002

Card 2/2 nst

DZOTSENIDZE, G.S.; DZHANELIDZE, A.I., redaktor; IOSELIANI, T.N.

[Pre-Miocene effusive volcanism of Georgia] Domiotsenovyi effuzivnyi vulkanizm Gruzii. Tbilisi, Izd-vo Akademii nauk Gruzinskoi SSR, 1948. 404 p. (Akademiia nauk Gruzinskoi SSR, Tiflis. Institut geologii i mineralogii. Monografii, no. 1) (MLRA 9:3)

1. Deystvitel'nyy chlen AN Gruz. SSR (for Dzhanelidze).
(Georgia--Rocks, Igneous)

ZEDGINIDZE, Ye.N.; IOSELIANI, T.P.

Studying the possibility for using dump blast furnace slag in making portland slag cement. Soob. AN Gruz. SSR 22 no.3:287-294 Mr '59. (MIRA 12:8)

1.AN GruzSSR, Institut prikladnoy khimii i elektrokhimii, Tbilisi. Predstavleno akademikom R.I. Agladze.
(Slag cement)

IOSELIANI, T. P.

PHASE I BOOK EXPLOITATION SOV/5277

Akademiya nauk Gruzinskoy SSR. Institut prikladnoy khimii i elektrotekhniki.

Trudy, t. 1 (Academy of Sciences of the Georgian SSR. Institute of Applied Chemistry and Electrochemistry. Transactions) v.1. Tiflis, 1960. 186 p. Errata slip inserted.

Personalities cannot be established in Georgian writing.

PURPOSE: This collection of articles is intended for mineralogists, metallurgists, and mining specialists.

COVERAGE: The collection contains articles concerning recent research on methods for treating antimony- and arsenic-bearing ores and carbonate ores of manganese. Research on the electrochemical properties of certain ores and their electrodeposition is also discussed. The collection includes

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Institute of Applied Chemistry (Cont.) SOV/5277

studies on the corrosion and electrical properties of certain alloys, studies of the properties of certain cements and cement components, and studies of certain phases of the cement production process. The following personalities are mentioned: Professor N. A. Figurovskiy and his scientific assistant T. B. Gavrilova (p. 118, bottom); R. I. Agladze, Academician, AN GSSR (AS Georgian SSR) (p. 150); S. D. Dzhaparidze and N. I. Lagidze (p. 171). The articles which are written in Georgian are followed by a resumé in Russian. References accompany each article.

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DEMAT, M.P.; IOSELOVSKIY, I.V.; KOPERIN, V.V.; NIKUL'SHIN, Yu.D.; TSUKERMAN, D.P.; KORELIN, D.S., nauchnyy red.; LYTKINA, Z.S., red. izd-va; MOCHALINA, Z.S., tekhn. red.

[Planning the organization and execution of erecting work; principal designs of the rigging of equipment]Proektirovanie organizatsii i proizvodstva montazhnykh rabot; osnovnye resheniia takelazha oborudovaniia. Moskva, Gosstroiizdat, 1962. 182 p. (MIRA 15:12)

(Machinery--Erecting work)

VERVEYKINA, A.K., inzh.; KOLCHINSKIY, Yu.L., inzh.; NIKOLAYEVSKIY, Ye.Ye., inzh.; RODIONOVA, R.G., inzh.; RYAPOLOV, A.F., inzh.; SOKOL, I.A., inzh.; STERLIN, S.L., inzh.; EYDEL'NANT, L.B., inzh.; ORLOV, V.M., kand. tekhn. nauk, retsenzent; YURGEL', B.I., inzh., retsenzent; FOKIN, V.Ya., inzh., nauchn. red.; VOLNYANSKIY, A.K., glav. red.; SUDAKOV, G.G., zam. glav. red.; IOSELOVSKIY, I.V., red.; MARKOV, I.I., red.; MEL'NIK, V.I., red.; ONKIN, A.K., red.; STAROVEROV, I.G., red.; TUSHNYAKOV, M.D., red.; CHERNOV, A.V., red.

[Engineering pipelines for industrial enterprises] Tekhnologicheskie truboprovody promyshlennykh predpriiatii. Moskva, Stroiizdat, 1964. 2 v. (MIRA 17:12)

VERVEYKINA, A.K., inzh.; KOLCHINSKIY, Yu.L., inzh.; NIKOLAYEVSKIY, Ye.Ya., inzh.; RODIONOVA, R.G., inzh.; RYAPOLOV, A.F., inzh.; SOKOL, I.A., inzh.; STERLIN, S.L., inzh.; EYDEL'NANT, L.B., inzh.; ORLOV, V.M., kand. tekhn. nauk retsenzent; YURGEL', B.I., inzh., retsenzent; FOKIN, V.Ya., inzh., red.; VOLNYANSKIY, A.K. red.; MARKOV, I.I., red.; MEL'NIK, V.L., red.; ONKIN, A.K., red.; STAROVEROV, I.G., red.; TUSHNYAKOV, M.D., red.; CHERNOV, A.V., red.; SUDAKOV, G.G., red.; IOSELOVSKIY, I.V., red.

[Technological pipings in industrial enterprises] Tekhnologicheskie truboprovody promyshlennykh predpriiatii. Moskva, Stroiizdat. Pt.1. 1964. 784 p. (MIRA 18:9)

VOL'BERG, N.Ye.; GAYDAMAK, K.M.; DIMAT, M.P.; KOPERIN, V.V.; MOLOKANOV, A.V.; NAUMOV, V.G.; PALAGIN, A.V.; TIMOFEYEV, A.I.; FRANTSUZOV, Ya.L.; VOLNYANSKIY, A.K., glav. red.; SUDAKOV, G.G., zam. glav. red.; IOSELOVSKIY, I.V., red.; ORLOV, V.M., red.; ONKIN, A.K., red.; NIKOLAYEVSKIY, Ye.Ya., red.; MARKOV, I.I., red.; MEL'NIK, V.I., red.; STAROVEROV, I.G., red.; TUSHNYAKOV, M.D., red.; CHERNOV, A.V., red.; KRYLOV, V.A., nauchn. red.

[Assembly of technological equipment of chemical plants] Montazh tekhnologicheskogo oborudovaniia khimicheskikh zavodov. Moskva, Stroiizdat, 1964. 619 p. (MIRA 17:11)

IOSEL'SON, G. L

USSR/Processes and Equipment for Chemical Industries - Control and Measuring Devices. Automatic Regulation, K-2

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 64000

Author: Kovalevskiy, V. A., Iosel'son, G. L., Kandyba, V. V.

Institution: Khar'kov State Institute of Measures and Measuring Instruments

Title: Objective Spectropyrometric Unit SPK-1

Original Periodical: Izmerit. tekhnika, 1956, No 2, 16-20

Abstract: Description of the optical scheme, design and principle of operation of the objective spectropyrometric unit SPK-1 built at the Khar'kov State Institute of Measures and Measuring Instruments for metrological work on calibration of standard and sample measures of luminosity and coloration temperatures (temperature lamps). The unit operates according to the modulation measuring method. The investigations carried out have shown that accuracy of temperature measurement attainable by means of the SPK-1 unit is of 0.03° at the "gold point" which exceeds by more than 10 times the accuracy of standard optical

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Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 64000

Abstract: pyrometers. The unit makes it possible to enhance the accuracy of such fundamental operations of optical pyrometry as transmission of scale of luminosity temperatures, provision of a scale of coloration temperatures on the basis of the existing scale of luminosity temperatures and the investigations of temperature lamps. It is reported that at the present time a method is being developed for accurate measurement of the proportion of monochromatic luminosities by means of the SPK-1 unit, which will permit to effect an extrapolation of the International Scale of Temperatures with greater precision, and to evolve as a final result the temperature scale by optical method not from the solidification point of gold (1,063°) as was done hitherto, but from considerably lower temperatures. The solving of the last mentioned problem would make it possible to determine more precisely the values of high-temperature reference points and thus to approximate the International Scale with the thermodynamic scale.

IOSEL'SON, G.L.

24(0); 5(4); 6(2) PHASE I BOOK EXPLOITATION SOV/2215

Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii imeni D.I. Mendeleyeva

Referaty nauchno-issledovatel'skikh rabot; sbornik No.2 (Scientific Research Abstracts; Collection of Articles, Nr 2) Moscow, Standartgiz, 1958. 139 p. 1,000 copies printed.

Additional Sponsoring Agency: USSR. Komitet standartov, mer i izmeritel'nykh priborov.

Ed.: S. V. Reshetina; Tech. Ed.: M. A. Kondrat'yeva.

PURPOSE: These reports are intended for scientists, researchers, and engineers engaged in developing standards, measures, and gages for the various industries.

COVERAGE: The volume contains 128 reports on standards of measurement and control. The reports were prepared by scientists of institutes of the Komitet standartov, mer i izmeritel'nykh priborov pri Sovete Ministrov SSSR (Commission on Standards, Measures, and Measuring Instruments under the USSR Council of Ministers). The participating institutes are: VNIIM - Vsesoyuznyy nauchno-issledovatel'skiy metrologii imeni D.I. Mendeleyeva (All-Union Scientific Research Institute of Metrology imeni D.I. Mendeleyev) in Leningrad; Sverdlovsk branch of this institute; VNIIM - Vsesoyuznyy nauchno-issledovatel'skiy institut Komiteta standartov, mer i izmeritel'nykh priborov (All-Union Scientific Research Institute of the Commission on Standards, Measures, and Measuring Instruments), created from MOIMIP - Moskovskiy gosudarstvennyy Institut mer i izmeritel'nykh priborov (Moscow State Institute of Measures and Measuring Instruments) October 1, 1955; VNIIFTRI - Vsesoyuznyy nauchno-issledovatel'skiy institut fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy (All-Union Scientific Research Institute of Physicotechnical and Radio-engineering Measurements) in Moscow; KhOIMIP - Khar'kovskiy gosudarstvennyy institut mer i izmeritel'nykh priborov (Khar'kov State Institute of Measures and Measuring Instruments); and NOIMIP - Novosibirskiy gosudarstvennyy institut mer i izmeritel'nykh priborov (Novosibirsk State Institute of Measures and Measuring Instruments) October 1, 1955. No personalities are mentioned. There are no references.

Kandyba, V.V., V.A. Kovalevskiy, V.Ye. Finkel'shteyn, and O.L. Iosel'son (KhOIMIP). Designing and Studying an EPK-1 Objective Spectrometer for the Calibration of Tungsten Pyrometer Lamps 82

Iosel'son, O.L., and B.S. Katrin (KhOIMIP). Developing and Creating an Automatic Thermostat for Checking Standard Thermometers With Values of Division 0.1° or Less 90

BOYARSKIY, L.A.; GORDOV, A.N.; IOSEL'SON, G.L.; KANDYBA, V.V.; KIRENKOV, I.I.; KOVALEVSKIY, V.A.; KRAKHMAL'NIKOVA, G.A.; LAPINA, E.A.; TARAYANTS, K.G.

Using the photoelectric method for precise work in the field of optical pyrometry. Trudy VNIIM no.36:23-32 '58. (MIRA 11:11)
(Pyrometry)

S/115/62/000/005/002/006
E140/E435

AUTHORS: Iosel'son, G.L., Dzyuba, A.S.

TITLE: Thermistor temperature control

PERIODICAL: Izmeritel'naya tekhnika, no.5, 1962, 23-24

TEXT: The authors describe a conventional temperature control using a thermistor bridge and double-triode vacuum-tube amplifier, in which the temperature is maintained to within ± 0.01°C. The Soviet thermistor type MMT-4 is used. Reproducibility of temperature is ±0.02°C. There is 1 figure.

Card 1/1

ACCESSION NR: AP4017723 S/0294/63/001/003/0437/0442

AUTHOR: Iosel'son, G. L.

TITLE: Methods of automatic compensation of the radiation coefficients in measurement of plasma temperature by its thermal radio emission

SOURCE: Teplofizika vy*sokikh temperatur, v. 1, no. 3, 1963, 437-442

TOPIC TAGS: plasma, plasma temperature, plasma temperature measurement, plasma radio emission, plasma thermal radio emission, radiation coefficient, radiation coefficient compensation, black body radiation, blackness coefficient

ABSTRACT: Two methods are described, developed at the Khar'kovskiy gosudarstvenny*y institut mer i izmeritel'ny*kh priborov (Khar'kov State Institute of Measures and Measuring Instruments) for thermal

Card 1/3

ACCESSION NR: AP4017723

radio-emission measurements of plasma temperature. Unlike existing methods, these methods satisfy the condition that the comparison with the power of a standard black body used to eliminate the errors connected with the bandwidth uncertainty be made with the same accuracy as the measurement of the power itself. The reflection coefficient is measured at exactly the same instant when the temperature is measured, from the same point of space, with the same antenna, and with the same parameters as used for the measurement of the radiation intensity. The measurements are furthermore made in the same frequency band. The first method consists of equalizing the received power from the standard radiator under additional illumination of the object (G. L. Iosel'son, Author's Certificate No. 149914, 1961), so as to eliminate the influence of the "blackness" or radiation coefficient. This method can be used to measure temperatures only to half the temperature of the standard radiator, and is therefore limited. In the second method the temperature is determined from the ratio of the received power to the power radiated

Card 2/3

ACCESSION NR: AP4017723

by the standard radiator operating in the pulsed mode. In this method signal splitting devices (hybrid rings or twin-T bridges) are used to ensure measurement of the reflection coefficient at the time of the temperature measurement. It can be used at temperatures above the standard source, but the complete elimination of the blackness coefficient occurs only when the distance between the object and the antenna is small. For a flat surface with blackness coefficient 0.7 located up to 250 mm from the antenna the error does not exceed 2%. Orig. art. has: 4 figures and 29 formulas.

ASSOCIATION: Khar'kovskiy gosudarstvenny*y institut mer i izmeritel'ny*kh priborov (Khar'kov State Institute of Measures and Measuring Instruments)

SUBMITTED: 26Jul63 DATE ACQ: 23Mar64 ENCL: 00

SUB CODE: PH, AS NO REF SOV: 005 OTHER: 001

Card 3/3

В. Г. Дуб[illegible],
А. И. [illegible]

[illegible] приборы для [illegible] характеристик согласования.

А. Я. [illegible]

Некоторые [illegible] применения [illegible] метода [illegible]

[illegible],
[illegible],
Г. [illegible],
Н. А. [illegible]

Опыт разработки [illegible]

И. С. [illegible]

Некоторые приборы для [illegible] аппаратуры дальней связи.

11 июня

(с 18 до 22 часов)

Н. В. [illegible]

Вопросы разработки комплекса СВЧ измерительной аппаратуры для радиорелейных линий.

42

А. И. [illegible]

Вопросы методики измерения и аппаратурного решения при измерении группового времени запаздывания на СВЧ и видеочастотах.

В. М. [illegible],
В. И. [illegible],
Д. А. [illegible]

Использование импульсной модуляции для измерения временных характеристик.

А. И. [illegible]

Установка для исследования высокочастотных трактов и замедляющих систем наносекундными импульсами.

Н. М. [illegible],
В. Я. [illegible]

Прибор для визуального наблюдения модуля коэффициента передачи четырехполюсников в диапазоне частот.

[illegible] СЕКЦИЯ ОБЩЕЙ РАДИОТЕХНИКИ

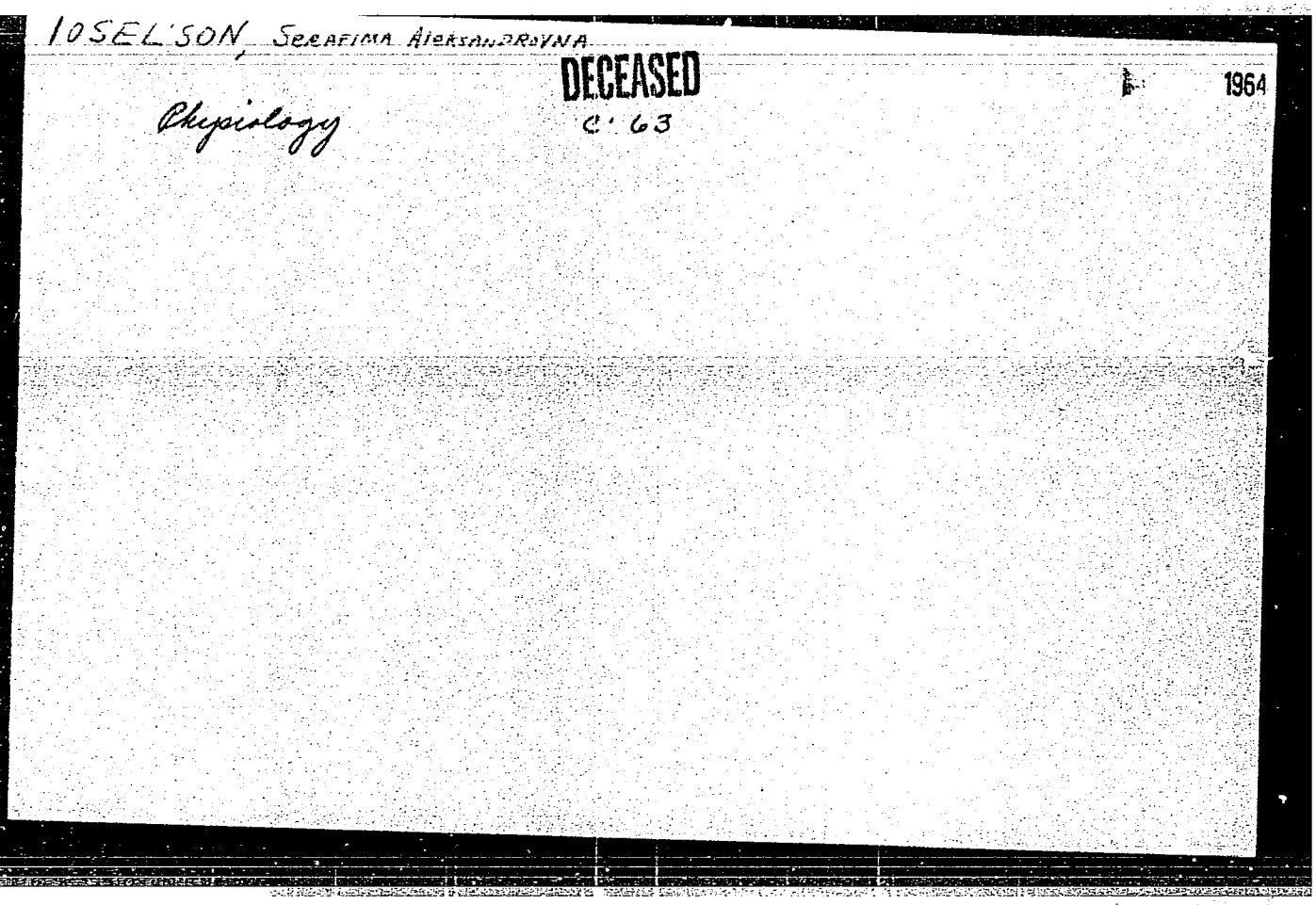
Руководитель Г. А. [illegible]

9 июня

(с 10 до 12 часов)

43

Report submitted for the Centennial Meeting of the Scientific Technological Society of Radio Engineering and Electrical Communications im. A. S. Popov (VNORiE), Moscow, 8-12 June. 1959



L 61296-65 EWT(d)/EWP(h)/EWP(l)
AM4016092 BOOK EXPLOITATION

UR 11
10
B+1

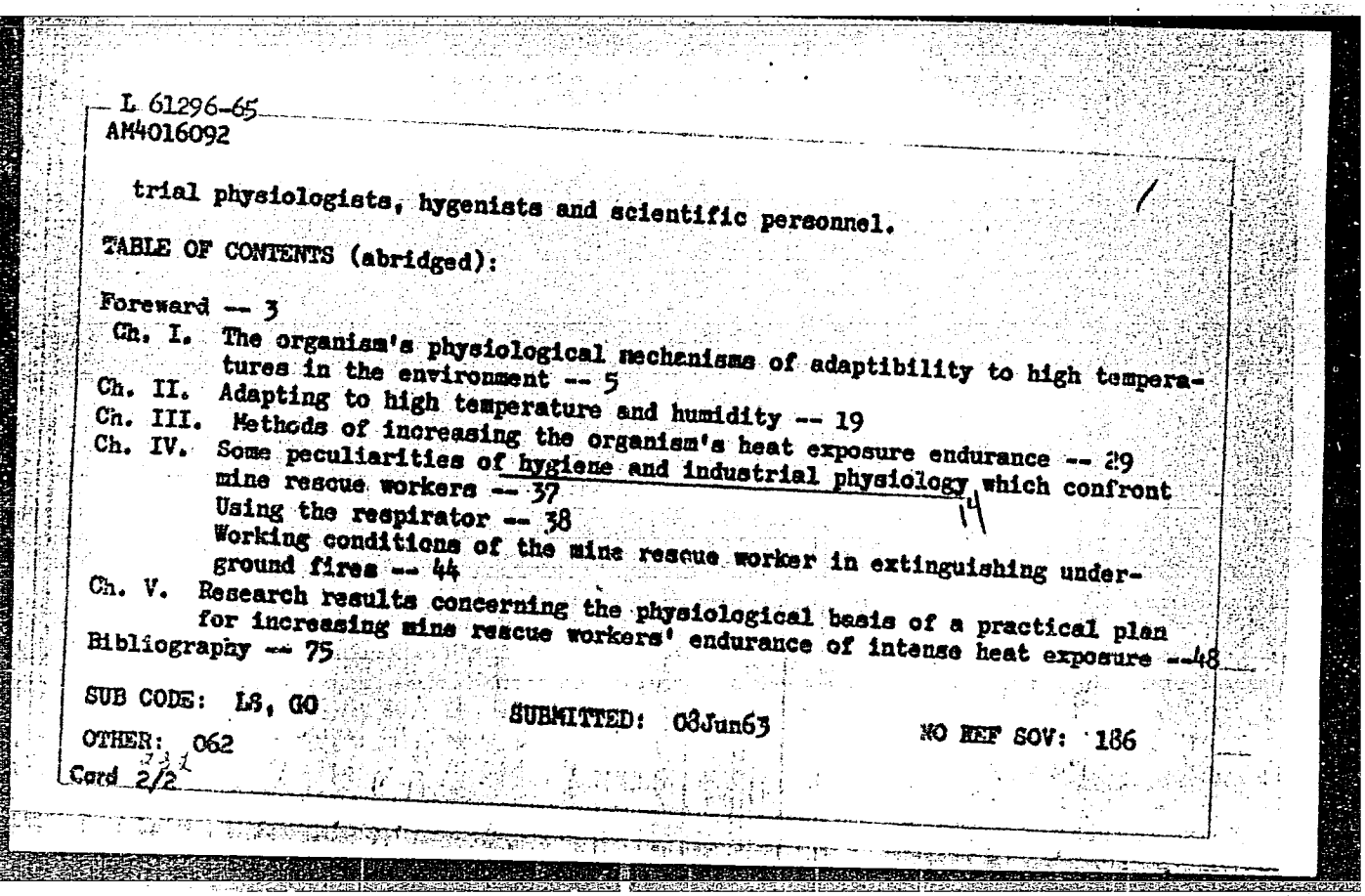
Iosel'son, Serafima Aleksandrovna (Deceased)

Physiological principles in increasing human endurance to intense heat exposures (Fiziologicheskiye osnovy povysheniya vynoslivosti lyudey k intensivnym teplovym vozdeystviyam), Leningrad, Medgiz, 1963, 86 p. biblio. 2,500 copies printed.

TOPIC TAGS: heat biologic effect, human physiology, respirator, working condition, mining engineering

PURPOSE AND COVERAGE: The book deals with problems concerning man's endurance of intense heat exposure in the industrial environment. The main occupational groups which confront problems treated in this book are mine rescue workers, gas rescue workers in metallurgical, chemical, and coal-tar chemical enterprises, workers concerned with hot patching of smelting and heating furnaces and other heating aggregates in different branches of industry, and fireman. The author presents data about the organism's physiological mechanisms of adaptibility to high temperatures and humidity; this is the first attempt to discuss heat exposure in these terms. The book is intended for doctors, indus-

Card 1/2

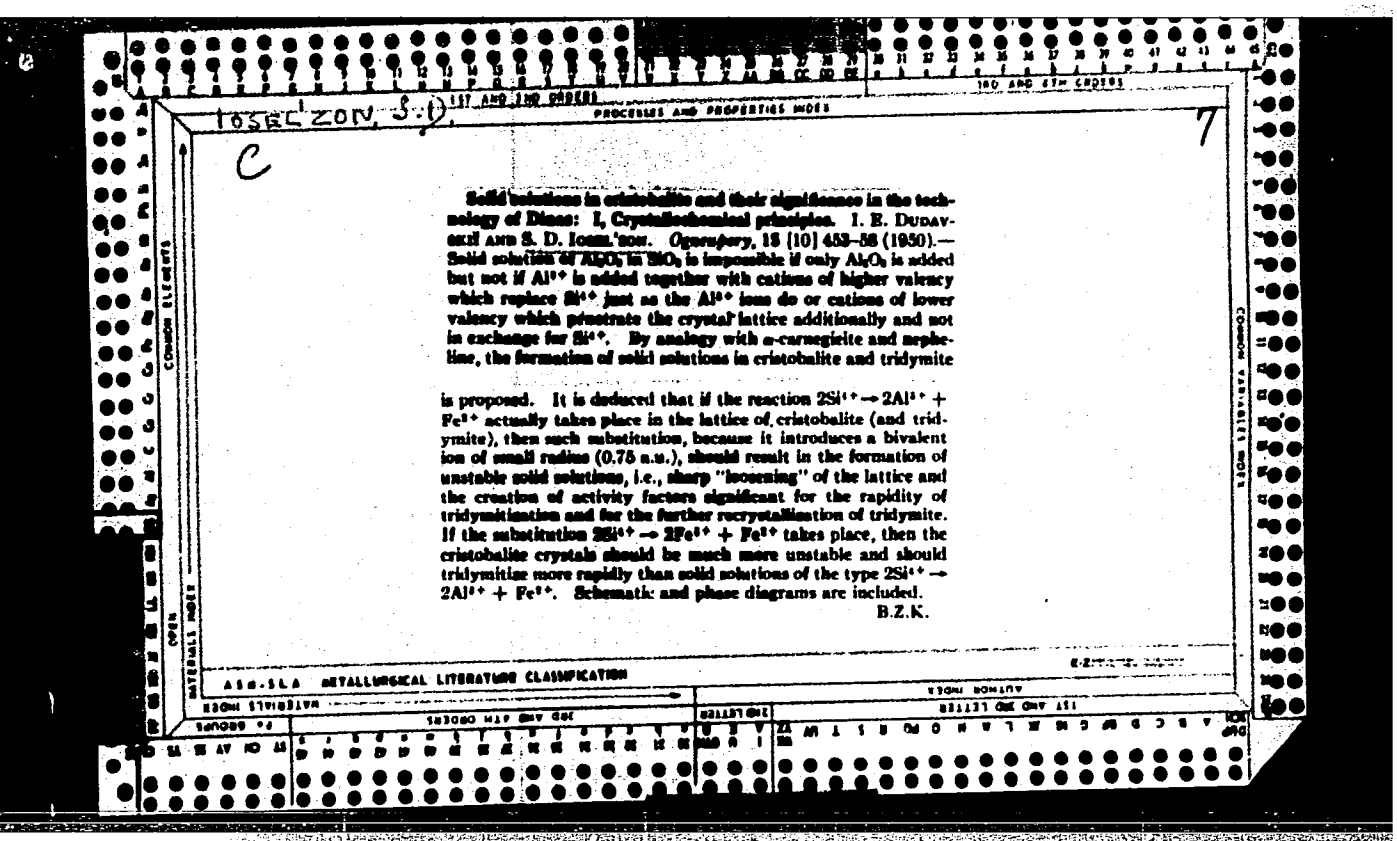


L 61296-65
AM4016092

trial physiologists, hygenists and scientific personnel.

TABLE OF CONTENTS (abridged):

SUB CODE: LS, GO SUBMITTED: 03Jun63 NO REF SOV: 186
OTHER: 062
Card 2/2



SECTION 5.D.

C

7

Solid solutions in cristobalite and their significance in the technology of Diana: I, Crystallochemical principles. I. E. Dunaevskii and S. D. Ioann'son. *Ogneupory*, 15 [10] 453–58 (1950).—Solid solution of Al_2O_3 in SiO_2 is impossible if only Al_2O_3 is added but not if Al^{3+} is added together with cations of higher valency which replace Si^{4+} just as the Al^{3+} ions do or cations of lower valency which penetrate the crystal lattice additionally and not in exchange for Si^{4+}. By analogy with α-carnegieite and nepheline, the formation of solid solutions in cristobalite and tridymite is proposed. It is deduced that if the reaction $2Si^{4+} \rightarrow 2Al^{3+} + Fe^{2+}$ actually takes place in the lattice of cristobalite (and tridymite), then such substitution, because it introduces a bivalent ion of small radius (0.75 a.u.), should result in the formation of unstable solid solutions, i.e., sharp "loosening" of the lattice and the creation of activity factors significant for the rapidity of tridymitization and for the further recrystallization of tridymite. If the substitution $2Si^{4+} \rightarrow 2Fe^{3+} + Fe^{2+}$ takes place, then the cristobalite crystals should be much more unstable and should tridymitize more rapidly than solid solutions of the type $2Si^{4+} \rightarrow 2Al^{3+} + Fe^{2+}$. Schematic and phase diagrams are included.

B.Z.K.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

IOSEL'ZON S. D.

181T44

USSR/Engineering - Refractories, Jan 51
Structure

"Solid Solutions in Cristobalite and Their Significance in the Technology of Dinas Bricks," I. Ye. Dudavskiy, S. D. Iosel'zon, Khar'kov Inst of Refractories

"Ogneupory" No 1, pp 26-39

Studied formation of cristobalite and its active and inactive forms in examg thermal processes during burning of quartz products. Used X-ray and dilatometric methods. X-ray method revealed disruptions in structure of crystal

181T44

USSR/Engineering - Refractories, (cont.) Jan 51
Structure

lattice, indicating formation of solid solns. Studied effect of various admixts on rate of transformation into tridymite.

181T44

DUDAVSKIY, I.Ye.; IOSEL'ZON, S.D.

Efficient methods in the manufacture of high alumina products.
Ogneupory 18 no.9:387-396 '53. (MIRA 11:10)

1.Khar'kovskiy institut ogneuporov.
(Refractory materials)

IOSEVICH, A.I.

USSR.

2190. The use of peat extract and sodium silicate as a deflocculant for slips.—A. I. IOSEVICH, Q. V. KUKOLEV, and G. V. PETROV (*Glass & Ceramics*, Moscow, 12, No. [illegible]). In one Russian plant, earthenware is cast from a slip consisting of 64–66% solids, 34–36% water, 0·4% Na silicate and 0·1% soda ash. Laboratory experiments have shown that if the deflocculant is a mixture of peat extract and sodium silicate the casting-time can be considerably shortened. (2 tables.)

IOSEVICH, A. I.

USSR/ Engineering - Industrial processes

Card 1/1 Pub. 104 - 7/11

Authors : Iosevich, A. I.; Kukolev, G. V.; and Petrov, G. V.

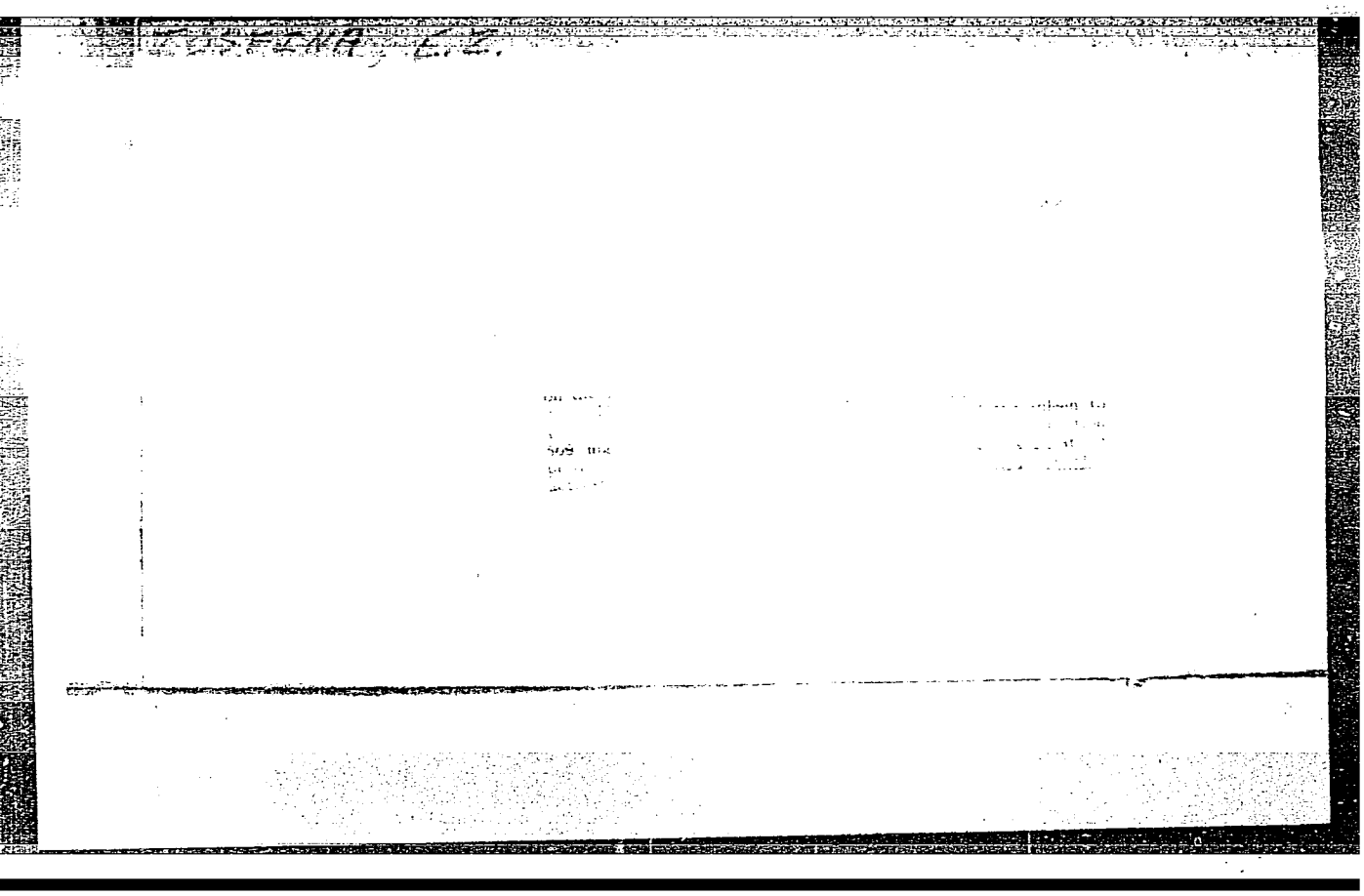
Title : Use of peat extracts on liquid glass as dross peptizing agent

Periodical : Stek. i ker. 2, page 22, Feb 1955

Abstract : The advantages derived by using peat extracts as dross peptizing agents, instead of the conventional sodium carbonate, are discussed. The dross, obtained by applying peat extracts to the molten glass, was found to be more volatile, to contain less moisture and have a lower rate of solidification. The time required for the formation of the crock is much reduced by the application of peat extracts. Tables.

Institution: .....

Submitted: .....



IOSHIMOV, D.

TECHNOLOGY

PERIODICAL: GOSPODARKA WODNA. Vol. 18, no. 9, Sept. 1958

IOSHIMOV, D. Distribution of investments and annual expeditures in multipurpose hydraulic structures Tr. from the Bulgarian, p. 387.

Monthly List of East European Accessions (EEAI) LC Vol. 8, no. 4.

April 1959, Unclass

IOSHINOV, D.

TECHNOLOGY

Periodicals TEKHNIKA Vol. 7, no. 10, 1958

IOSHINOV, D. Determining the economic effect of irrigation. p. 10

Monthly List of East European Accessions (EEAI) LC., Vol. 8, No. 5, May 1959, Unclass.

IOSHINOV, Dako, inzh.

Prime cost of production in a complex exploitation of construction sites. Khidrotekh i melior 7 no.4:103-106 '62.

IOSHOV, V. S.

~~YOSHOV, V. S.~~

25949

Dolg chyesti kazhpogo myeditsinskogo rabotnika (Myetodika organieatsii san. Prosvyechyeniya v S.S.S.R.) Fyel'dshyer i akushyerka, 1949, No. 7, s. 38-43.

SO: Letopis' No. 34

S/141/60/003/01/006/020
E192/E482

AUTHORS: Mogilevskiy, E.I., Gits, I.D. and Ioshpa, B.A.

TITLE: Electronic Circuitry of the Solar Magnetographs of IZMIRAN (Institute of Earth Magnetism and Radio Wave Propagation of the Academy of Sciences)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, 1960, Vol 3, Nr 1, pp 67-71 (USSR)

ABSTRACT: The method of measurement of the magnetic fields of the sun spots is based on the following principle. The Zeeman components which are elliptically polarized in various directions for different intensities in that portion of the Fraunhoffer line which is selected by means of a slit. By directing such a component onto a photo-cathode by means of a light analyser, a modulated light beam is obtained. From the depth of the modulation it is possible to determine the magnitude of the magnetic field. The situation is illustrated in Fig 1. The intensity of the magnetic field is

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S/141/60/003/01/006/020
E192/E482

Electronic Circuitry of the Solar Magnetographs of IZMIRAN (Institute of Earth Magnetism and Radio Wave Propagation of the Academy of Sciences)

defined by

$$H_z = \frac{\Phi_{\sim}}{kF(\Delta_i\gamma_i)dJ/d\lambda} = \frac{m}{kF(\Delta_i\gamma_i)d\Phi_{=}/d\lambda}$$

where Φ is the difference between the light beams of two components at a given point of the contour, k is a parameter describing the magnitude of the Zeeman effect for a given line, J is the intensity at a given point of the contour, F is a function describing the polarization of the experimental equipment, $\Phi_{=}$ is the average radiation, M is the depth of the modulation and λ is the wavelength. It is seen therefore that the measurement of H_z amounts to a simultaneous measurement of $\Phi_{\sim}$ and $dJ/d\lambda$. This principle of measurement was first realized in IZMIRAN in 1953 (Ref 1). The electronic circuitry of the measuring instrument (magnetograph) should be designed in such a way that a

Card 2/5

S/141/60/003/01/006/020
E192/E482

Electronic Circuitry of the Solar Magnetographs of IZMIRAN (Institute of Earth Magnetism and Radio Wave Propagation of the Academy of Sciences)

stable and reliable gain for the signal $\Phi_{\sim}$ is obtained; secondly, the Doppler shift should be eliminated, as well as the asymmetry of the contour and its changes at various spots of the sun. The first magnetograph of the IZMIRAN was furnished with a mechanical light modulator (see Fig 2). However, later investigations showed that the modulation frequency had to be increased to above 200 c/s. For this purpose the mechanical modulator was replaced by an electro-optical modulator (Ref 7). A Kerr cell was employed as the modulator and this operated at the frequency of 225 c/s (see Fig 3). Further development of the instrument aimed at the increase of the signal-noise ratio. It was found that this could be achieved by employing a balanced method of signal reception. In this case, the amplifier was in the form of a photo-multiplier and a narrow-band amplifier. The signal applied to the measuring device

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S/141/60/003/01/006/020
E192/E482

Electronic Circuitry of the Solar Magnetographs of IZMIRAN (Institute of Earth Magnetism and Radio Wave Propagation of the Academy of Sciences)

was compensated so as to obtain a zero resultant voltage. The block schematic of the resulting magnetograph is shown in Fig 4. The device consists of: (1) Kerr cell, (2) d.c. voltage source, (3) amplifier, (4) a photo-multiplier, (5) a supply source for the photo-multiplier, (6) a recording device, (7) an audio generator, (8) an amplifier (operating 225 c/s and having a band-width of 5 c/s), (9) a phase detector, (10) a feed-back loop, (11) recorder of the signal $\Phi_{\sim}$ and Π a polaroid. In order to determine the true value of the measured field it is necessary to ensure that the position of the output slit on the contour of the line is rigidly fixed during the measurement. In practice, this condition is very difficult to meet. Consequently a system in which the contour wobbles along the slit was introduced. In this the slit always passes through

Card 4/5

S/141/60/003/01/006/020
E192/E482

Electronic Circuitry of the Solar Magnetographs of IZMIRAN (Institute of Earth Magnetism and Radio Wave Propagation of the Academy of Sciences)

that point of the contour which has a maximum value of $dJ/d\lambda$. When the contour is displaced, the signal is modulated at the wobbling frequency. The depth of this modulation gives the magnitude of the displacement. Subsequently, the resulting signal is applied to a feedback circuit which returns the contour line into the position such that the slit "cuts" a linear portion of the contour. A device operating on this principle is illustrated in Fig 5. There are 5 figures and 8 references, 6 of which are Soviet, 1 German and 1 English.

ASSOCIATION: Institut zemnogo magnetizma i rasprostraneniya radiovoln AN SSSR (Institute of Earth Magnetism and Radio-Wave Propagation of AS USSR)

SUBMITTED: March 18, 1959

Card 5/5

S/203/62/002/001/018/019
I023/I223

AUTHOR: Ioshpa, B.A.

TITLE: Measurement of magnetic fields in soler prominences

PERIODICAL: Geomagnetizm i Aeronomiya, v.2, no.1, 1962, 172-176

TEXT: The longitudinal component of the magnetic field in active prominences was measured. A block-diagram and description of the solar magnetograph are given. Two plane plates, a crystal light modulator (ammonium phosphate) and a polaroid are placed before the exit slit of the spectrograph (focal length 10m). One of the plane plates is oscillated with a frequency of 15 cps. The amplitude of the oscillations and the thickness of the plate are chosen so that only one wing of the observed line falls on the exit slit. The measurements of the magnetic field in prominences was made on the line H_β in the second order of the diffraction grid of the spectrograph (resolving power - 180000, dispersion - 0.8A/mm). The calibration was made on the absorption line H_β in a

Card 1/2

S/203/62/002/001/018/019
I023/I223

Measurement of magnetic fields...

non-disturbed region of the solar disk. Results of measurements of four prominences recorded during July - August 1961 are given. The magnetic field in active prominences is of the order of 100-200 gauss. There are 7 figures.

ASSOCIATION: Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovolu Akademii nauk SSSR (Institute of Terrestrial Magnetism, Ionosphere and Radiowave Propagation, Academy of Sciences USSR)

SUBMITTED: December 5, 1961

Card 2/2

43165
S/203/62/002/003/017/021
I023/I250

3.1510

AUTHOR: Ioshpa, B.A. and Obridko, V.N.

TITLE: The measurement of the total magnetic field vector on the Sun by a photoelectric magnetograph

PERIODICAL: Geomagnetism i Aeronomiya, v.2, no.3, 1962, 541-544

TEXT: The method is based on solution of the equations of radiation transfer in a magnetic field in the presence of true absorption only for Stokes' parameters. The radiation is incident on a crystal optical modulator and then analyzed by a polaroid the axis of which forms an angle of 45° with the axes of the crystal. The intensity of radiation is then

$$J_{x'} = \frac{1}{2}(I - Q\sin 2\varphi\cos\delta + V\sin\delta) \qquad (1)$$

where I, Q, V - Stokes' parameters, φ - angle between the direction of the magnetic field and the axis of the crystal, δ - phase difference introduced by the crystal. It is shown how to calculate the Stokes parameters from the experimental data. There are 2 tables,

Card 1/2

S/203/62/002/003/017/021
I023/I250

The measurement of the total...

2 references. Most important reference: W. Unno. Publ. Astron. Soc. Japan, 1956, 8, 108.

ASSOCIATION: Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln Akademii nauk SSSR (Institute for Terrestrial Magnetism, Ionosphere and Radiowave Propagation, Academy of Sciences USSR)

SUBMITTED: January 30, 1962

Card 2/2

ZHULIN, I.A.; IOSHPA, B.A.; MOGILEVSKIY, E.I.

Magnetic fields on the sun. Geomag. i aer. 2 no.4:585-605 Jl-Ag '62.
(MIRA 15:10)

(Magnetic fields (Cosmic physics)) (Sun)

IOSHPA, B.A., MOGILEVSKIY, E. I., OBRIDKO, V.N.

Observations of the free of force magnetic field on the Sun and the questions of generation of corpuscular geoeffective streams. (USSR)

Report submitted for the 4th International Space Symposium (COSPAR) Warsaw, 2-12 June 63

L 13106-63 EWT(1)/BDS AFFTC/ASD/SSD

ACCESSION NR: AP3003420 S/0051/63/015/001/0119/0112

AUTHOR: Ioshpa, B.A.; Obridko, V.N. 52

TITLE: Photoelectric analysis of polarized light 21

SOURCE: Optika i spektroskopiya, v.15, no.1, 1963, 119-122

TOPIC TAGS: polarized light, Stokes parameter

ABSTRACT: A method for accurate and simultaneous measurement of the four Stokes parameters, I, V, Q and θ, of arbitrarily polarized radiation is proposed. The procedure is based on allowing the radiation to fall on an optical plate, preferably a quarter or half wavelength plate, giving rise to a phase difference ($\pi/2$ for a $\lambda/4$ plate) between the ordinary and extraordinary rays; then the light goes through a polaroid positioned at 45° to the axes of the plate. By way of the plate one can use a plate cut from an ammonium phosphate or similar electro-optical crystal with a voltage applied along the z axis to make the crystal biaxial. The ac voltage is selected to make the phase difference between the two rays vary from $-\pi/2$ to $+\pi/2$. The first harmonic is taken off the crystal and this gives one set of equations; the crystal is then rotated 45° to obtain another set of equations. As a result there are obtained six equations, only four of which are need-

Card 1/2

L 13106-63

ACCESSION NR: AP3003420

ed to find the Stokes parameters I, V, Q and θ. The requisite equations are derived. The proposed photoelectric method is superior to that proposed by W.Budde (Appl. Optics, 1, 201, 1962), for it allows of determining all four Stokes parameters instead of only three. An instrument based on the described principle has been constructed and is being used to measure the spatial orientation and magnitude of the magnetic vector on the Sun by determining the Stokes parameters of the elliptically polarized radiation in solar absorption lines. The accuracy may attain 1 part in 10^5 or 10^6 depending on the sensitivity of the photomultiplier. Orig. art. has: 32 formulas and 2 figures.

ASSOCIATION: none

SUBMITTED: 9Nov62 DATE ACQ: 30Jul63 ENCL: 00

SUB CODE: PH, SD NO REF SOV: 002 OTHER: 005

Card 2/2

IOSHPA, B.A.

Magnetic fields in solar prominences. Geomag. i aer. 3 no.6:1125-1126 N-D '63. (MIRA 16:12)

1. Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln AN SSSR.

ACCESSION NR: AP4013134 S/0203/64/004/001/0017/0025

AUTHORS: Ioshpa, B. A.; Obridko, V. N.

TITLE: Measurement of the total magnetic field vector on the sun

SOURCE: Geomagnetizm i aeronomiya, v. 4, no. 1, 1964, 17-25

TOPIC TAGS: solar magnetic field, magnetic field measurement, Stokes parameter, absorption line, sunspot

ABSTRACT: A method for measuring the magnitude and direction of the magnetic field on the sun has been developed, and the Stokes parameters, which completely describe the polarization of radiation, can be measured simultaneously. The Stokes parameters are given by the relations

$$I = \xi_1^2 + \xi_2^2, \quad Q = \xi_1^2 - \xi_2^2, \quad U = 2\overline{\xi_1 \xi_2 \cos(\varepsilon_1 - \varepsilon_2)},$$
$$V = 2\overline{\xi_1 \xi_2 \sin(\varepsilon_1 - \varepsilon_2)},$$

where ξ_1 and ξ_2 are the amplitudes of the electric vector along two mutually perpendicular axes (and perpendicular to the line of sight) of an arbitrary coordinate system, and $\varepsilon_1 - \varepsilon_2$ is their phase difference. A variable voltage is

Card 1/3

ACCESSION NR: AP4013134

applied to an electrooptical crystal of ammonium phosphate such that the phase difference varies as $\frac{1}{2}\pi \sin \omega t$. A quarter-wave plate is placed in front of the crystal with the angle between the ordinary axis of the plate and the crystal axis set at 30°. Three measuring devices are situated behind the crystal: one at the fundamental modulation frequency adds the signals from both wings of the absorption line, the other two, at twice the fundamental frequency, respectively add and subtract the signals from the line wings. It is shown that the measured intensities are then given by

$$I_{\omega+} = 0{,}55\, Q \sin 2\Phi,$$
$$I_{2\omega+} = 0{,}23 \sin 60^\circ\, Q \cos 2\Phi,$$
$$I_{2\omega-} = 0{,}23 \cos 60^\circ\, V,$$

where Φ is the angle between the ordinary axis of the plate and the projection of the magnetic field vector in a plane perpendicular to the line of sight. The component of constant intensity is

$$I_{=} = 0{,}5J - 0{,}24\, Q \cos 2\Phi \sin 60^\circ.$$

$J = 0.5$ J. The magnetic field intensity H and the angle Ψ between the field vector and the line of sight can then be found from the expressions

$$\frac{V}{J} = kf_1(H)\cos\psi,$$

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ACCESSION NR: AP4013134

$$\frac{Q}{f} = k f_2(H) \sin^2 \psi ,$$

where the coefficient k is found by calibration of the signals. The functions $f_1(H)$ and $f_2(H)$ are shown on a graph. As an example $H_\perp$, I, and $H_\parallel$ are plotted for the region of a sun spot group observed June 14, 1963. The lower limits of detectability are 150 oersteds for $H_\perp$ and 7 oersteds for $H_\parallel$. The authors express thanks to E. I Mogilevskiy for formulation of the problem and helpful discussions, to O. I. Vasil'yeva for help in computations, to A. N. Savranskaya and Z. D. Aleksashina for preparation of the material and adjustment of apparatus. Orig. art. has: 17 equations and 6 graphs.

ASSOCIATION: Institut zemnogo magnetizma, ionosfery*i rasprostraneniya radiovoln AN SSSR (Institute of Terrestrial Magnetism, Ionosphere, and Radio Wave Propagation AN SSSR)

SUBMITTED: 19Dec62 DATE ACQ: 02Mar64 ENCL: 00

SUB CODE: AA NO REF SOV: 004 OTHER: 003

Card 3/3

IOSHPA, B.A.; OBRIDKO, V.N.

Measurements of the magnitude and direction of the magnetic field in the region of sunspots. Astron.zhur. . 40 no.6:1013-1015 N-D '63. (MIRA 16:12)

1. Institut zemnogo magnetizma AN SSSR.

EWT(1) GW

ACC NR: AR6034895 SOURCE CODE: UR/0269/66/000/008/0051/0051

AUTHOR: Ioshpa, B. A.; Mogilevskiy, E. I.

TITLE: IZMIRAN magnetograph for determination of longitudinal component of magnetic fields of active areas

SOURCE: Ref. zh. Astronomiya, Abs. 8.51.417

REF SOURCE: Sb. Solnechn. aktivnost', No. 2. M., Nauka, 1965, 118-130

TOPIC TAGS: solar magnetic field, spectral line, photomultiplier/IZMIRAN magnetograph

ABSTRACT: A detailed description is given of the IZMIRAN magnetograph determining the longitudinal component of a field. The magnetograph is built according to an original design, which unlike the generally accepted Babcock design, uses only one photomultiplier to make measurements of the magnetic field along both wings of the spectral line. A block diagram and electron diagrams of the magnetograph, as well as formulas for calculation of the working parameters of the diagram and the calibration of the instrument are presented. (See also RZhAstr, 1963, 1.51.383). Bibliography has16 references. [Translation of abstract]

Card 1/1 SUB CODE: 08,09,20/ UDC: 522.417

L 08392-67 EWT(1) GW

ACC NR: AR6033094 SOURCE CODE: UR/0269/66/000/007/0054/0054

AUTHOR: Ioshpa, B. A.; Obridko, V. N. 40 B

TITLE: Full vector photoelectric magnetograph

SOURCE: Ref. zh. Astronomiya, Abs. 7.51.381

REF SOURCE: Sb. Solnechn. aktivnost', No. 2, M., Nauka, 1965, 131-148

TOPIC TAGS: magnetic field, solar magnetic field, magnetograph, solar magnetograph, photoelectric magnetograph, magnetic vector, magnetic field measurement

ABSTRACT: A description is given of the solar magnetograph IZMIRAN. A qualitative description is presented of the method of simulatneous registration of all the components of the magnetic vector. Procedures for checking the operation of the circuit are described and evaluations are made of possible errors (several %). A presentation is made of the theory and methods used in calibrating observations, and formulas are cited which relate measured Stokes parameters to the magnetic field parameters (accuracy 10—20%). Recording accuracy at a voltage potential of ~ 6.2 kv on the ADP is $\Delta H_{\parallel} \sim 5-6$ gs, $\Delta H_{\perp} \sim 100$ gs,

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L 08392-67
ACC NR: AR6033094 O

and ΔA ~1° . The measurements were processed on the Ural-2 electronic computer. Typical recordings and maps of magnetic fields are given. The work includes 12 bibliographic references. [Translation of abstract]

SUB CODE: 03/

Card 2/2 afs

L 34822-65 EWT(l)/EWG(v)/EEC-4/EEC(t) Pe-5/Pq-4 GW
ACCESSION NR: AP5007446 S/0286/65/000/004/0070/0070

AUTHORS: Mogilevskiy, E. I.; Ioshpa, B. A.; Zhulin, I. A.

TITLE: Device for measuring weak local magnetic fields in the solar atmosphere.
Class 42, No. 168475

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 4, 1965, 70

TOPIC TAGS: solar magnetic field, solar atmosphere

ABSTRACT: This Author Certificate presents a device for measuring weak local magnetic fields in the solar atmosphere, containing a tower telescope, spectrograph, and magnetograph. To investigate simultaneously the magnetic fields at two levels of the solar atmosphere, to measure the variable component of the modulated light, and to increase the accuracy of determining the position of the investigated region on the sun, a double-channel coupled magnetograph is used. Each channel contains one photomultiplier and an additional modulation circuit with optical-electromechanical feed back. Additional mirrors are used in the spectrograph. To utilize the light reflected from the polished jaws of the input slit of the spectrograph, a monochromatic guide is used.

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L 63000-65 EWT(l)/EWG(v)/EEC-4 GW
ACCESSION NR: AP5020675 UR/0033/65/042/004/0754/0756
523.752

AUTHOR: Ioshpa, B. A. 55

TITLE: On the problem of the heating of prominences

SOURCE: Astronomicheskiy zhurnal, v. 42, no. 4, 1965, 754-756

TOPIC TAGS: prominence, solar corona, nonlinear differential equation, heat conductivity, plasma temperature, magnetic field

ABSTRACT: The problem of the heating of prominences in the solar corona is discussed. The nonlinear equation of heat conductivity in plasma does not have an exact solution. Solutions are obtained by using approximations. The author discusses the problem of temporary changes of temperature in prominences and solves the problem, taking into consideration the nonlinear dependence of the coefficient of thermal conductivity upon the plasma temperature. The thermal conductivity equation is taken from Landau and Lifshits' textbook Mekhanika sploshnykh sred (Mechanics of Solid Media) and transformed from a partial differential equation to an ordinary differential equation. This equation is solved with the aid of several arbitrary assumptions and the introduction of a function of a dimensionless param-

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ACCESSION NR: AP5020675

eter. This function is expanded into series and represented graphically. It represents the propagation of the thermal wave into the prominence. The time required for heating a prominence consisting of filaments varies from 25 to 2500 sec, depending upon the size of the prominence. Prominences of long duration can exist if they have a magnetic field which impedes heating. Orig. art. has: 1 figure and 10 formulas. [EG]

ASSOCIATION: Institut zemnogo magnetizma ionosfery i rasprostraneniya radiovoln Akademii nauk SSSR (Institute of Terrestrial Magnetism, Ionosphere, and Propagation of Radio Waves, Academy of Sciences SSSR)

SUBMITTED: 16Nov64 ENCL: 00 SUB CODE: AA

NO REF SOV: 005 OTHER: 004 ATD PRESS: 4066

Card 2/2

ACC NR: AR6028758 SOURCE CODE: UR/0269/66/000/006/0055/0055

AUTHOR: Mogilevskiy, E. I.; Zhulin, I. A.; Ioshpa, B. A.

TITLE: The IZMIRAN solar tower installation

SOURCE: Ref. zh. Astronomiya, Abs. 6.51.434

REF SOURCE: Sb. Solnechn. aktivnost'. No. 2. M., Nauka, 1965, 108-117

TOPIC TAGS: solar telescope, solar spectrum, spectrographic analysis

TRANSLATION: The ATB-3 IZMIRAN solar tower is described. The mirrors of the coelostat group (D = 440 mm) are mounted on the upper end of a special tube which houses the entire optical assembly. The clock mechanism is controlled by a 3G-11 sound generator through a power amplifier. The main mirror of the telescope has the following parameters: D = 375 mm, F = 17 m; the Cassegrainian reflection is F = 27 m. The telescope is equipped with a complex horizontal spectral assembly which operates as a spectrograph, a spectrometer, a spectroheliograph, and a spectrohelioscope. The spectrograph uses mirrors with F = 10 m; the GOI diffraction grating has 600 lines/mm. The halfwidth of the instrumental profile in the IVth-order is 0.026 A (this is larger than the theoretical value by a factor of 1.4). The installation is equipped with a monochromatic guide. For visual and photographic observations in the Hα line (an IPF by

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ACC NR: AR6028758

Bernhard Halle, West Berlin is used), an image of the sun area is utilized which is reflected from the mirror sides of the entrance slit. 5 references. G. Kuklin.

SUB CODE: 03

Card 2/2

L 08926-67 EWT(1) GW

ACC NR: AR6025347 SOURCE CODE: UR/0269/66/000/004/0058/0059

AUTHOR: Ioshpa, B.A.; Obridko, V. N. 36

TITLE: On the measurement of ray velocities on a full vector magnetograph

SOURCE: Ref. zh. Astronomiya, Abs. 4.51.456

REF SOURCE: Solnechnyye dannyye, no. 5, 1965, 62-65

TOPIC TAGS: ~~astronomy~~, Sun, ~~sun~~ solar magnetic field, ~~solar~~ magnetometer, solar radiation

ABSTRACT: Errors in the determination of ray velocities on a magnetograph measuring the full magnetic vector of the magnetic field of the Sun are discussed. Magnetic field measurement with the magnetograph is usually made on two wings of the magneto-active line. The compensator works so as to equalize intensities at the portions of both wings of the line on which measurements are made. Usually, this corresponds to a symmetrical location of the line relative to the input slits of the magnetograph. During measurement of the full vector, an ancillary plate is placed in front of the analyzer of the circularly polarized light; the plate contributes approximately a $\pi/2$ phase difference between the ordinary and the extraordinary ray. Thus the circularly polarized σ- component radiation is transformed by the plate into a linearly polarized one, with the direction of polarization of one component in the polaroid plane, and that of the other - perpendicular to it. Therefore, in the presence of the longitudinal field component the radiation intensity reaching the photomultiplier cathode from symmetri-

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L 08926-67

ACC NR: AR6025347

cally located (with respect to the center of the line) portions, will be different, with the maximum difference occuring with the plate located coaxially with the ADP crystal. This leads to a shift of the line with respect to the symmetric location, and to a false signal on the ray velocity recorder(which is a maximum in the absence of the ADP crystal). If the crystal is present, and is thus bringing phase shifts changing from $+\pi/2$ to $-\pi/2$, the time average of the intensity differences which are symmetrical relative to the center of the line of portions - decreases; however, the error may still be large. An increase of the crystal voltage decreases the error, which can be reduced to zero because the difference of intensities at $\delta_{cr} > \pi/2$ has a sign opposite to that at $\delta_{cr} < \pi/2$. Calculation shows that the error becomes zero at 6.7 kv on the crystal, Estimates of possible errors on the magnetograph of full vector IZMIRAN are made. Maximum error for the operation of the crystal at 6.5 kv corresponds to a signal under 300 m/sec for a field of 1000 gs. At 6.5 kv the error is practically absent. [Translation of abstract].

SUB CODE: 03, 20

Card 2/2 egk

ACC NR: AR6035297 SOURCE CODE: UR/0269/66/000/009/0053/0053

AUTHOR: Ioshpa, B. A.; Obridko, V. N.

TITLE: Measurement of the magnetic field in solar flares on 14 June 1963

SOURCE: Ref. zh. Astronomiya, Abs. 9.51.447

REF SOURCE: Solnechnyye-dannyye, no. 11, 1965(1966), 46-47

TOPIC TAGS: magnetic field, solar flare, photosphere, sunspot

ABSTRACT: The structure of the magnetic field in the photosphere was determined in the region of the solar flare on 14 June 1963 in a disintegrating group of sunspots (2 recordings) with the aid of the complete vector magnetograph of the Institute of Terrestrial Magnetism and Radio Wave Propagation, Academy of Sciences SSSR (IZMIRAN). Filament flares are situated in parallel to the neutral line of the longitudinal field at some distance from it. In the filaments, the maxima of longitudinal field amounts to 40 gs. Between the filaments, the longitudinal field is practically equal to zero, and the transverse field does not exceed the low limits of a measurable field (70 gs), but in filaments it is slightly higher. Azimuths of the transverse field in various filament flares differ by almost 90°. [Translation of abstract]

Card 1/1 SUB CODE: 03/ UDC: 523.745 [NT]