"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SITNIK, G. F.

Sitnik, G. F., Koeffitsient prozrachnosti zemnoi atmosfery i vopros ob uchete oreola pri izmeneniiakh iarkosti na diske solntsa. [Transparency coefficient of the earth's atmosphere and the problem of allowance for aureole during variations of brightness of the solar disc.] *Astronomicheskii Zhurnal*, Moscow, 33(1):101-113, Jan./Feb. 1956. 2 figs., 15 refs., 35 eqs. Russian and English summaries p. 101. DLC—It is claimed in this paper that the transparency coefficient of the earth's atmosphere is different for a point source and an areal source of light. The difference is due to a scattering component in the total extinction of light by the atmosphere. This statement has been used as a basis to prove that the influence of the aureole is eliminated when absolute photometric measurements of the brightness of areal objects are extrapolated to a region beyond the confines of the terrestrial atmosphere. In the case of relative measurements of brightness on the solar disc (drop of brightness from the center to the limb, photometric profile of a spot) new formulae have been obtained to make allowance for aureole. Allowance for halo, as expressed by these formulae, is essentially an allowance for the difference between the atmospheric transparency coefficients for points of unequal brightness on the solar disc. *Subject Headings:* 1. Atmospheric transparency coefficients 2. Aureole effects.—*Author's abstract.*

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SITNIK, G.F.

Energy distribution in the continuous spectrum of the central portion of the solar disc measured in absolute units. Dokl. AN SSSR 110 no.2:193-196 S '56. (MLRA 9:12)

1. Kuchinskaya astrofizicheskaya observatoriya Gosudarstvennogo astronomicheskogo instituta imeni P.K. Shternberga. Predstavleno akademikom V.G. Fesenkovym.
(Spectrum, Solar)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

CARD 1 / 2 PA - 1669

SUBJECT USSR / PHYSICS
AUTHOR SITNIK, G.F.
TITLE A Primary Gauge for Absolute Spectrophotometric Measurements.
PERIODICAL Dokl.Akad.Nauk, 110, fasc.5, 780-782 (1956)
Issued: 12 / 1956

The present work contains a short description of an experiment dealing with the construction of the model of a black body at high temperatures. The most important modern method of measuring high temperatures according to the thermodynamic scale is based upon the laws of the radiation of an absolutely black body. For the determination of an unknown temperature T_1 of a black body it is necessary to measure its brightness at T_1 and at the solidification temperature $T_o = 1336^o$ K of gold. T_1 was determined for several wave lengths. For pyrometric and absolute spectrometric measuring it is necessary to have a special device which consists of a spectral apparatus, a receiving set, and radiation sources. The author measured the brightness of the monochromatic radiation of the source to be investigated by objective photoelectric methods. Particular attention was devoted to working out a method for the control of modifications of the sensitivity of radiation receivers and stationarity as well as to the apparatus as a whole. The author controlled the integral sensitivity of the photoelements with attenuation layer and of the photomultipliers with antimony-cesium cathode immediately by means of a low voltage lamp. The quartz monochromator used here did not diminish the accuracy of individual measurements of the radiation current. Absolute measurements were carried out in such a manner

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K-10

Category : USSR/Optics - Photometry, colorimetry, and illumination engineering

Abs Jour : Ref Zhur - Fizika, No 1, 1957 No 2617

Author : Sitnik, G.F.

Title : Photoelectric Photometer to Measure Large Variations in Light Flux.

Orig Pub : Astron. tsirkulyar, 1956, 4 yanv., No 166, 16-18

Abstract : A balanced circuit, insuring photocell operation under short-circuit conditions, is used to retain a linear dependence between the photocurrent in the circuit of a blocking-layer photocell and the light flux incident on the photocell. The voltage drop across the load resistor in the balanced circuit is measured with the potentiometer method. A photometer based on this scheme can measure light fluxes differing by a factor of 400-500 times, with the dependence of the photocurrent on the light flux remaining linear to within not more than 0.5 -- 0.7%. Such a scheme also decreases the temperature dependence of the photocell.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

Name: SITNIK, Grigoriy Fedorovich

Dissertation: Absolute photoelectric photometry of the continuous spectrum of the sun

Degree: Doc Phys-Math Sci

Affiliation: [not indicated]

Defense Date, Place: 21 Jun 56, Council of Moscow Order of Lenin and Order of Labor Red Banner State U imeni Lomonosov

Certification Date: 29 Jun 57

Source: BMVO 18/57

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

Some Conclusions Derived From Observations of the Coefficient of Transparency of the Earth's Atmosphere at Kuchino SOV/33-35-6-14/18

There are 2 figures and 5 Soviet references.

ASSOCIATION: Gosudarstvennyy astronomicheskiy institut imeni P.K. Shternberga (State Astronomical Institute imeni P.K. Shternberg)

SUBMITTED: December 20,1957

Card 2/2

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SITNIK, G.F.

33-3-14/32

AUTHOR: Sitnik, G.F.

TITLE: The application of silver sulphide photo-electric cell with a barrier layer to absolute spectrophotometry and pyrometry. (Primenenie sernisto-serebryanykh fotoelementov s zapirayushchim sloyem dlya absolyutnoy spektrofotometrii i pirometrii)

PERIODICAL: "Astronomicheskiy Zhurnal" (Journal of Astronomy), 1957, Vol.34, No.3, pp. 424-434 (U.S.S.R.)

ABSTRACT: A measuring circuit is described, which comprises a Pb-S photo-electric cell and is essentially a combination of a short circuit compensation circuit and the potentiometric method of measurement. The determined characteristics of the circuit are given together with reasons for the choice of circuit elements and measures for increasing the precision of the measurements with this circuit.

The circuit can be used for comparing (with equal sensitivity) light fluxes differing by a factor of 400. The circuit has linear response to luminous flux (deviations from linearity are about 0.5 to 0.7%, on the average). The circuit (p.427) has been used for absolute measurements for 7 years.

Card 1/2

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SITNIK, G.P.

Using silver-sulfide photoelectric cells with barrier layers in absolute spectrophotometry and pyrometry. Part no.2: Methods for use of silver-sulfide photoelectric cells in absolute spectrophotometry and pyrometry. [with summary in English]. Astron. zhur. 34 no.6:887-898 N-D '57. (MIRA 11:2)

1. Gosudarstvennyy astronomicheskiy institut im. P.K. Shternberga.
(Spectrophotometry) (Pyrometry)
(Photoelectric measurements)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SITNIK, G.F.

Effect of temperature inhomogeneity in walls on the absorption coefficient of a tubular model of black bodies. Soob.GAISH no.100:56-65 '57. (MIRA 12:1)
(Heat--Radiation and absorption)

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24(7) PHASE I BOOK EXPLOITATION SOV/1700

Lvov. Universitet

Materialy X Vsesoyuznogo soveshchaniya po spektroskopii, 1956. t. II: Atomnaya spektroskopiya (Materials of the 10th All-Union Conference on Spectroscopy, 1956. Vol 2: Atomic Spectroscopy) /Lvov/ Izd-vo L'vovskogo univ., 1958. 568 p. (Series: Its: Fizicheskiy sbornik, vyp.4(9)) 3,000 copies printed.

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po spektroskopii.

Editorial Board: G.S. Landsberg, Academician, (Resp. Ed.); B.S. Neporent, Doctor of Physical and Mathematical Sciences; I.L. Fabelinskiy, Doctor of Physical and Mathematical Sciences; V.A. Fabrikant, Doctor of Physical and Mathematical Sciences; V.G. Koritskiy, Candidate of Technical Sciences; S.M. Rayskiy, Candidate of Physical and Technical Sciences; L.K. Klimovskaya, Candidate of Physical and Mathematical Sciences; V.S. Kiliyanchuk (Deceased), Doctor of Physical and Mathematical Sciences; A.Ye. Glauberman, Doctor of Physical and Mathematical Sciences; Ed.: S.L. Gazer; Tech. Ed.: T.V. Saranyuk.

PURPOSE: This book is intended for scientists and researchers in the field of spectroscopy, as well as for technical personnel using spectrum analysis in various industries.

COVERAGE: This volume contains 177 scientific and technical studies of atomic spectrography presented at the 10th All-Union Conference on Spectroscopy in 1956. The studies were carried out by members of scientific and technical institutes and include extensive bibliographies of Soviet and other sources. The studies cover many phases of spectroscopy: spectra of rare earths, electromagnetic radiation, physicochemical methods for controlling uranium production, physics and technology of gas discharge, optics and spectroscopy, abnormal dispersion in metal vapors, spectroscopy and the combustion theory, spectrum analysis of ores and minerals, photographic methods for quantitative spectrum analysis of metals and alloys, spectral determination of the hydrogen content of metals by means of isotopes, tables, and atlases of spectral lines, spark spectrographic analysis, statistical study of variation in the parameters of calibration curves, determination of traces of metals, spectrum analysis in metallurgy, thermochemistry in metallurgy, and principles and practice of spectrochemical analysis.

Card 2/31

Materials of the 10th All-Union Conference (Cont.) SOV/1700

Turkin, Yu. I. Self-absorption of Light in a Source and Its Effect on the Relative Intensities of Components of the Hyperfine Structure 83

Sitnik, G.F. Absolute Photometry of the Continuous Sun Spectrum 85

Tutsis, A.P. Generalized Method of Fok's Self-consistent Field and Instances of Its Application 86

Vaynshteyn, L.A. Computing Wave Functions and Oscillator Energies With an Electronic Computer 89

Petrashen', M.I., and I.V. Abarenkov. Semiempirical Method for Calculating Oscillator Energies 92

Brukarev, G.P. Theory of Atom Excitation by Electrons 97

Biberman, L.M., and B.A. Valenko. Radiation Diffusion in and Discharge of Cylindrical Configuration 99

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SOV/55-58-1-10/33

AUTHOR: Sitnik, G.F.

TITLE: The Thermo-Electrical Pair Tungsten-Tantalum (Vol'fram-tantalovaya termopara)

PERIODICAL: Vestnik Moskovskogo universiteta, Seriya fiziko-matematicheskikh i yestestvennykh nauk, 1958, Nr 1, pp 83-86 (USSR)

ABSTRACT: The author describes the properties of a thermo-electrical pair for tungsten and tantalum to which 6% niobium was added. The diameter of the welded wire was 0.5 mm. The investigation was carried out in the vacuum (0.5-0.01 mm mercury column). The results are collected in two tables. Disadvantages of the considered pair are its brittleness and the necessity of the vacuum.
There is 1 figure and 7 references, 6 of which are Soviet, and 1 American.

ASSOCIATION: Kuchinskaya astrofizicheskaya observatoriya GAISh (Kuchino Astrophysical Observatory GAISh)

SUBMITTED: April 26, 1957

Card 1/1

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SOV/58-59-10-23611

Translation from: Referativnyy Zhurnal, Fizika, 1959, Nr 10, p 263 (USSR)

AUTHOR: Sitnik, G.F.

TITLE: On the Absolute Photometry of the Sun's Continuous Spectrum (Summary)

PERIODICAL: Fiz. sb. L'vovsk. un-t, 1958, Nr 4(9), p 85

ABSTRACT: The report exposes the results of studies in the realization of a black body at high temperature. The author submits the results of measuring the energy in the solar spectrum that were obtained by the method of comparison with a standard source. He discusses the advantages of the method of absolute spectrophotometry using a standard source of comparison. Cf also RZhFiz, 1956, Nr 9, 26955 D.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SITNIK, G.F.

Light scattering in a monochromator during absolute measurements with the aid of a standard source. G. F. Sitnik. *Astron. Zhur.* 35, 137–42(1958).—Because of light scattering in the instrument, the coeff. of the spectral app. depends on the length of the illuminated part of the slit. The coeff. of transmission is smallest for a point light source. The correction for light scattering in the monochromator is detd. as a difference between the coeffs. of transmission for a point, and an extended light source. The results show that light sources, like the sun or a filament lamp, which differ in spectral compn., have similar scattering in the investigated spectral region λ 3700–λ 6000 A. By using a standard comparison source, the scattered light in the monochromator is practically excluded without the aid of a special monochromator before entering the spectrograph. Rom. Zalubas

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

3(1) SOV/33-36-2-24/27

AUTHOR: Sitnik, G.F.

TITLE: Some Characteristics of a Ribbon Si - 16 Type Lamp as a Standard of Radiative Energy

PERIODICAL: Astronomicheskiy zhurnal,1959,Vol 36,Nr 2,pp 375-377 (USSR)

ABSTRACT: The author gives the results of an investigation of the new type Si - 16 of ribbon lamps. These lamps are said to be most suitable for various photometric, in particular absolute measurements, since they possess the necessary qualities : sufficiently accurate reproduction of the radiative flux, a weak dependence of the flux on the direction of pointing, sufficiently high brightness temperature.
There are 3 tables and 5 Soviet references.

ASSOCIATION: Gosudarstvennyy astronomicheskiy institut imeni P.K.Shternberga (State Astronomical Institute imeni P.K.Shternberg)

SUBMITTED: December 20,1957

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APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SITNIK, G.F.; KHOKLEVA, R.N.

Some conclusions derived from observations of the coefficient of atmospheric transparency at Kuchino. Astron.zhur. 35 no.6:932-935 N-D '58. (MIRA 11:12)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Shternberga. (Atmospheric transparency)

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S/058/61/000/007/044/086
A001/A101

9.4160

AUTHOR: Sitnik, G.F.

TITLE: The application of photomultipliers to absolute spectrophotometry and pyrometry

PERIODICAL: Referativnyy zhurnal. Fizika, no. 7, 1961, 182, abstract 7G217 ("Soobshch. Gos. astron. in-ta im. P.K. Shternberga", 1960, no. 109, 3 - 17)

TEXT: The author describes a photoelectric circuit for precise absolute measurements of light in wide limits. He investigated deviations of the linear dependence of photocurrent on light flux for ФЭУ (FEU) and time-variations of FEU sensitivity. A system for checking the FEU sensitivity in time is used.

Yu. Mazurenko

B

[Abstracter's note: Complete translation]

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SITNIK, G.F.

Standardizing measurements of the continuous solar spectrum. (MIRA 14:3)
Soob. GAISH no.109:18-27 '60.
(Spectrum, Solar—Measurement)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

23930 S/035/61/000/006/012/044
A001/A101

3,1510

AUTHO: Sitnik, G.F., Khmeleva, R.N.

TITLE: The results of measuring the circumsolar aureole and transparency coefficient with an aureole photometer

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 6, 1961, 26, abstract 6A228 ("Soobshch. Gos. astron. in-ta im. P.K. Shternberga", 1960, no. 109, 28 - 62)

TEXT: The authors describe the results of observations of circumsolar aureoles at the Kuchino Astrophysical Observatory. The observations were carried out with a V.G. Fesenkov aureole photometer equipped with racks for micrometric shifts of the tube along the height and azimuth. A green and red light filter were used to single out spectrum sections with effective wavelengths λ 5493 and λ 6635. The results of measuring the radiation flux F_n from the aureole and F_0 from the Sun make it possible to find scattering coefficient μ per unit of atmospheric mass m by the formula: $\mu = F_n/F_0$ m. If μ is constant, according to criterion of V.G. Fesenkov and Ye.V. Pyaskovskaya-Fesenkova, the atmosphere is stable. Practically, at fluctuations of μ not exceeding 9%, the atmosphere was considered to be stable.

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The results of measuring ...

The authors present graphs of different degrees of stability. In correspondence with data of V.B. Nikonov and Ye.V. Pyaskovskaya-Fesenkova, relative aureole was the best stability criterion. Simultaneously were carried out observations of coefficients of atmospheric transparency which were compared with data of meteorological observations. Dependent on the direction of air masses, all observation days can be divided into two groups: 1) air masses come from the north, north-west and north-east directions; 2) air masses come from all other directions. It follows from the tables presented that air masses of northern directions have small values of μ and transparency coefficients p have near values. For south eastern and western air masses stable days can be divided into two groups: 1) $\mu \leq 0.3$ and 2) $\mu > 0.3$. In the first case coefficient $p \approx 0.790$ at λ_{ef} 5493 and $p \approx 0.870$ at λ_{ef} 6635. At $\mu > 0.3$, p is considerably smaller and root-mean-square error of an individual measurement is greater. Particular cases of observations of air mass movements and optical stability of the atmosphere are considered. The most of unstable days occur when air masses are changed. If the type of air masses is preserved, a stability of optical properties can be expected. The presence of a frontal zone or a front is associated with optical instability. The instability deter-

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The results of measuring ...

mined at Kushino is due to effects of local conditions. Mainly, however, disturbances of stability are connected with changes of air masses or their type.

G. Livshits

[Abstracter's note: Complete translation]

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SITNIK, G.F.

Sun-observation unit at the Kuchino Astrophysical Observatory of the Shternberg State Astronomical Institute. Soob. GAISH no. 109:63-81 '60. (MIRA 14:3)

(Astronomical instruments)

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24.3930

AUTHOR: Sitnik, G. F.

TITLE: General Principles for the Realization of a Black Body Model at High Temperature

PERIODICAL: Astronomicheskiy zhurnal, 1960, Vol 37, No. 1, pp 75-85 (USSR)

ABSTRACT: In order to be able to make absolute spectrophotometric measurements it is necessary to have a standard source in which the distribution of the energy along the spectrum is known in absolute units. For this purpose a model of a black body is needed. This may be accomplished inside a container with opaque walls maintained at a constant and evenly distributed temperature. The extension of the absolute thermodynamical scale to temperatures above 1063° C may be made following a formula of Plank or the equivalent formula of Wien. Then it is sufficient to know the temperature at one point, for instance, the temperature of the hardening of melted gold. In practice, the presence of an opening in the front of the

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opaque container reduces its internal temperature by the amount ΔT. This is partly remedied by inserting one or more diaphragms inside the cylindrical body of the container. Let 2a be the diameter of the opening; 2r, the diameter of the cylinder; and l, its length. Then, for given values of the temperature T_a, T_l and $T_{l/2}$, which characterize the degree of non-uniformity of the black body radiation, the correction $\Delta T'$ will be proportional to 2r. In other words, one gets a better approximation to a black body radiation with a long narrow cylinder. Furthermore, the non-uniformity of the temperature near the back wall of the tube produces the greatest deviation from the ideal black body. To some extent, the size of the correction, $\Delta T'$, can be regulated by the proper choice of various diaphragms, and it is possible to reproduce a given temperature (i.e., $T = 1063^\circ$ C) with an accuracy of 0.1%, which is higher than modern labora-

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General Principles for the Realization of a Black Body Model at High Temperature

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tory measurements. There is one figure; and 13 references: 8 Soviet, 2 German and 3 U.S. The U.S. references are: Temperature, Its Measurement and Control in Science and Industry, A Symposium, New York, 1941; H. T. Wensel, J. Res. Nat. Bur. Stand., 22, 1189, 1939; Day, Sosman, Carnegie Inst., Wash. Publ., 157, 1911

ASSOCIATION: Sternberg State Astronomical Institute (Gos. astronomicheskiy in-t imeni P. K. Shternberga)

SUBMITTED: June 24, 1959

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87259

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E032/E514

6.9418
24.5200 (1137,1142,1395)

AUTHOR: Sitnik, G. F.

TITLE: Design of a High-Temperature Black-Body Model

PERIODICAL: Astronomicheskiy zhurnal, 1960, Vol.37, No.6, pp. 1076-1086

TEXT: In a previous paper by this author (Ref.1) an account was given of the general principles which must be used in the design of a practical black-body. The present paper gives a detailed description of the black-body model itself and the design of a new furnace and its characteristics. The black-body is tubular in form and the radiating tube is made of graphite. It produces equilibrium radiation at various temperatures to an accuracy of 0.1%. This accuracy is well in excess of the precision of modern absolute measurements of radiant energy. The black-body model is based on the high-temperature vacuum furnace designed by King (Ref.2). A furnace of this type is in the possession of the Kuchino Astronomical Observatory of the State Astronomical Institute imeni P. K. Shternberg. The furnace is illustrated schematically in Fig.1. It is fed from a 220 V

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Design of a High-Temperature Black-Body Model

generator through a 1:25 step-down transformer. The current is introduced through water-cooled hollow copper electrodes 1 and 2. Each copper electrode is surrounded by a massive graphite screen (3,4). The actual heater is in the form of the variable-thickness graphite tube N which is 270 mm long and has an internal diameter of 30 mm. The emitting tube K is placed inside this heater and is kept in position by the graphite plates 5, which are attached to the upper electrode 1 but are insulated from it. There is no contact between N and K and the emitting tube is heated by radiation only. Both tubes are screened by two concentric graphite cylinders which reduce heat losses. The radiation emitted by the tube K is observed through the quartz window O. Thermocouples are introduced with the aid of a special attachment described by the present author in Ref.3. The work on the vacuum furnace and its application to the black-body model was begun in 1947 and continued up to the beginning of 1954. Preliminary results obtained have been reported earlier (references said to be given in Ref.1). The choice of the form of the heating tube is of great

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Design of a High-Temperature Black-Body Model

importance. A suitably chosen heating tube (N in Fig.1) should ensure uniform temperature distribution, not only in the region of the black-body itself but also to some extent on either side of it. In other words, the temperature behind the wall A and the diaphragm D (Fig.1) should not be very different from the temperature inside the black-body cavity. The permissible temperature difference should lie within the limits established by the present author in Ref.1. The most suitable form of the heating tube was chosen empirically by measuring the temperature at three points on it using differential thermocouples. The final profiles of the heating tube ensured the necessary uniformity of temperature over a region 70 mm long, the total length of the heated part of the tube being 170 mm. (In Fig.1, BC = 170 mm). The tubes were chosen for operation at temperatures between 1336 and 2700°K. The emitting tube forming the radiating cavity (K) was made of graphite. It is 390 mm long and consists of two parts as shown in Fig.2. The internal diameter of the tube is 19.6 mm and the external diameter is 24 mm. The two parts are joined by a conical

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Design of a High-Temperature Black-Body Model

join 30 mm long as shown. The diaphragm marked 4 in this figure corresponds to the diaphragm marked Д in Fig.1. The position of this diaphragm defines the longitudinal dimension of the cavity. The internal length of the cavity is 40 mm and the diameter of the aperture is 4 mm. The diaphragms 1, 2 and 3 were chosen on the basis of the discussion given in Ref.1 and diaphragms 5-10 were chosen so as to limit the radiation leaving the diaphragm 4. The black-body has been successfully used at various temperatures between the melting point of gold and 2700°K, the departure from perfect black-body being not greater than 0.1%. Moreover, the theoretical considerations reported in Ref.1 have been fully confirmed. There are 2 figures, 2 tables and 11 references: 7 Soviet and 4 non-Soviet.

ASSOCIATION: Gos. astronomicheskiy in-t imeni P. K. Shternberga (State Astronomical Institute imeni P. K. Shternberg)

SUBMITTED: January 21, 1960

...турной печи типа Книга

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E032/E514

Design of a High-Temperature Black-Body Model

Fig.2

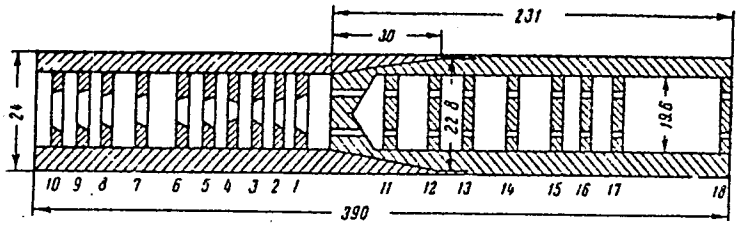

Рис. 2. Составная излучающая трубка с диафрагмами

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32684
S/035/61/000/012/018/043
A001/A101

3.1240 (1051,1166)

AUTHOR: Sitnik, G.F.

TITLE: A measuring setup for pyrometry and absolute spectrophotometry

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 12, 1961, 47, abstract 12A452 ("Soobshch. Gos. astron. in-ta im. P.K. Shternberga", 1961, no. 113, 3 - 18)

TEXT: The author describes a measuring setup for pyrometry and absolute spectrophotometrical measurements in the range λλ 2,400-27,000. A composite quartz monochromator with dispersion 38 A/mm in the λ 3,200 range and 870 A/mm at λ 12,000 is used as a spectral apparatus. Receivers are: in the spectral region λλ 2,400-13,000, a photomultiplier with antimony-cesium cathode and silver sulfide photoelement, and in the infrared region, a lead sulfide photoresistance in combination with an amplifier assembled by V.I. Moroz. Absolute spectrophotometric measurements are conducted by the method of comparing emission fluxes from secondary standards (band incandescent lamps) with radiation flux from the black body model. The luminosity of extended radiation sources being compared is determined directly from measurements of radiation fluxes. A particular attention is

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A measuring setup ...

paid to a special control of reproducibility and stationarity of observational conditions and functioning of the whole setup, which is very essential in absolute measurements. A brief description is given of the method of practical determining the high temperature of the black body model. There are 8 references.

Ye. Makarova

[Abstracter's note: Complete translation]

Card 2/2

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

43927
S/188/62/000/006/014/016
B125/B104

3,1600

AUTHORS: Kozhevnikov, N. I., Makarova, Ye. A., Sitnik, G. F.

TITLE: Absorption of solar radiation by water vapor as observed at various altitudes

PERIODICAL: Moscow. Universitet. Vestnik. Seriya III. Fizika, astronomiya, 17 no. 6, 1962, 73 - 79

TEXT: It is reported that the calibration curves for the Earth bands of water vapor and oxygen in the solar spectrum differ the considerably from the curves of F. E. Fowle (Smithson. Ann., 3, 171, 1913; 3, 182, 1913). These calibration curves were recorded by the authors at the Kuchinskaya astrofizicheskaya observatoriya (Kuchin Astrophysical Observatory) and in the Vysokogornaya stantsiya GAISh (High Mountain Station GAISh) at Alma Ata during the International Geophysical Year. The difference can hardly be due to inaccurate determination of the line in the continuous spectrum. The zero line was found precisely both by Fowle and by the present authors. Also the light scattered in the spectrograph was correctly considered in both cases. In the authors' opinion, their calibration curve correctly

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Absorption of solar ...

represents the features of the absorption of radiation by water vapor. Fowle's curve, which was plotted under laboratory conditions at 760 mm Hg, is suitable only for observations at low altitudes (plane) and not for those at altitudes exceeding 2 - 3 km. There are 5 figures.

ASSOCIATION: Kafedra astrofiziki (Department of Astrophysics)

SUBMITTED: April 12, 1962

Card 2/2

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SITNIK, G.F.

Secondary energy standard for the spectra region λ 2450-26000 Å. (MIRA 15:7)
Astron.zhur. 29 no.4:715-723 Jl-Ag '62.

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Shternberga.
(Spectrum analysis)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SITNIK, G.F.

Results of the realization of a black-body model at different temperatures. Astron.zhur. 39 no.1:116-122 Ja-F '62. (MIRA 15:2)

1. Gosudarstvennyy astronomicheskiy institut im. P.K.Shternberga. (Black body)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SITNIK, G.F.

Control of electric and thermal conditions of a furnace used for the reproduction of a black body. Soob.GAISH no.120:3-9 '62. (MIRA 15:9)

(Black body) (Electric furnaces)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SITNIK, G.F.

Establishing reference point of temperature scale for the reproduction of a black body at high temperature. Soob.GAISH no.12b:10-16 '62. (MIRA 15:9)
(Pyrometry) (Black body)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

45165

S/188/63/000/001/009/014
B164/B102

3.5150

AUTHORS: Kozhevnikov, N. I., Makarova, Ye. A., Sitnik, G. F.

TITLE: Model of the water vapor infrared absorption band

PERIODICAL: Moscow. Universitet. Vestnik. Seriya III. Fizika, astronomiya, no. 1, 1963, 54-61

TEXT: Theoretical models of band absorption are discussed in order to interpret the IR absorption in the 1.12 μ band by atmospheric water vapor (GAISh no. 126, 1962; VMF no. 6, 1962). The measurements were made with the ИКС-11 (IKS-11) spectrograph of the Kuchinskaya astrofizicheskaya observatoriya (Kuchino Astrophysical Observatory) and at the Vysokogornaya stantsiya GAISh (High-mountain Station GAISh) near Alma Ata. The experimental relationship between the residual radiation intensity in the 1.12 μ band existing after the absorption and the amount of absorbing water vapor is compared with the theoretical results. The agreement with the model of R. M. Goody (Quart. J. Roy. Meteorol. Soc. 78, 165, 1952) is fairly good. The authors calculate the absorption in water vapor on the assumption that the lines in the absorption band have different intensities

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

S/886/62/000/000/003/003
D207/D308

AUTHOR: Sitnik, G.F.

TITLE: Work of the Otdel fiziki Solntsa (Solar Physics Division) as part of the IGY program and on related astronomical problems

SOURCE: Sbornik trudov MGU po Mezhdunarodnomu geofizicheskomu godu; astronomiya. (Moscow) Izd-vo Mosk. univ., 1962, 54-58

TEXT: The Solar Physics Division of the Gosudarstvennyy astronomicheskiy institut im. P.K. Shternberga (State Astronomical Institute imeni P.K. Shternberg) carried out several investigations as part of the IGY and IGC programs, including related astronomical problems. In 1957-59 regular visual observations of the Sun's surface were carried out at Lenin Hills in Moscow using a spectroheliscope АСП -10 (ASP-10) and H_α line radiation. At the present author's suggestion M.A. Klyakotko developed a special device for direct determination of the heliographic coordinates of the solar sur-

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Work of the ...

face. For absolute measurements of the intensity of the continuous solar spectrum in the center of the solar disk a high-altitude station was established in 1957 at Zailiyskiy Ala-Tau in the region of the greater Alma-Ata lake (3000 m above sea level). At this location a horizontal solar telescope was coupled to a spectrograph of ДСФ-3 (DSF-3) type adapted for photoelectric observations in the 3150-10,000 Å region. Measurements of the continuous spectrum intensity went on in 1958 and 1959. A solar telescope at Kuchino was also used to observe the continuous spectrum of the sun in 1959. Moreover Ye.A. Makarova, with the help of A.I. Kiryukhina and M.S. Nurashova, carried out photographic observations of the continuous spectrum of the sun during 18 days in 1958. Employing an infrared spectrometer ИКС-16 (IKS-16) the ozone, water vapor and methane lines were studied in 1958-59 at Zailiyskiy Ala-Tau. Using another infrared spectrometer ИКС-11 (IKS-11) similar observations were carried out in 1958 at Kuchino. In 1959 the ultraviolet and infrared lines of ozone were observed simultaneously. Photoelectric observations of the solar corona (which are of great importance in studies of the optical properties of the atmosphere) were carried out in

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Work of the ...

1957-59 at Zailiyskiy Ala-Tau, Kuchino and in Moscow using the Fesenkov photometer. A preliminary analysis of the corona observations indicated that changes in the nature of the air masses are accompanied by changes in the optical properties of the atmosphere. There are 1 figure and 2 tables.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

KOZHEVNIKOV, N.I.; MAKAROVA, Ye.A; SITNIK, G.F.

Model of a band of infrared radiation absorption by water vapor. Vest.Mosk.un.Ser. 3:Fiz.,astron.18no.1 : 54-61 Ja-F '63. (MIRA 16:5)

1. Kafedra astrofiziki Moskovskogo universiteta. (Spectrum, Infrared) (Water vapor)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

KOZHEVNIKOV, N.I.; SITNIK, G.F.

Absorption of radiation in a spectral band composed of lines whose contour is due to the Doppler effect and damping. Vest. Mosk. un. Ser. 3: Fiz., astron. 18 no.2:67-74 Mr-Ap '63. (MIRA 16:6)

1. Kafedra astrofiziki Moskovskogo universiteta.
(Spectrum analysis)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

ACCESSION NR: AP3001234

AUTHOR: [illegible]

TITLE: Stability criterion for hydrostatic equilibrium

SOURCE: Astronomicheskiy zhurnal, v. 40, [illegible] 1963, 413-418

TOPIC TAGS: stability criterion, hydrostatic equilibrium criterion, adiabatic processes, nonadiabatic, solar atmosphere, stellar atmosphere

ABSTRACT: This theoretical analysis goes beyond the bounds of the Schwarzschild equilibrium criterion (Schwarzschild, K., Goett. Nachr., 1906, 46), which is limited to assessment of the stability of a system relative to adiabatic currents only. The present paper examines the condition of the stability of an equilibrium relative to convective currents in the presence of heat exchange of the current with the surrounding medium. The analysis thus goes also beyond the scope of the Landau - Lifshits analysis of the stability of macroscopic convection currents (Landau, L. D., Lifshits, Ye. M., Mekhanika sploshnykh sred - Mechanics of continuous media, Gostekhizdat, Moscow, 1954) and V. S. Sorokin's analysis (Prikl. mat. i. mekh., v. 17, 1953, 149), and includes in the present consideration of heat exchanges the

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existence of heat sources within the system as well. It is shown that an equilibrium is stable relative to convection currents if the entropy gradient in the equilibrium system is smaller than the corresponding gradient in the disturbing current. From that condition, as a particular case, it follows that if the disturbing current is adiabatic (entropy gradient $dS/dh = 0$) the entropy gradient in the equilibrium system must be negative or the entropy within the equilibrium system must increase upward to ensure the stability of the equilibrium relative to adiabatic currents. However, even if the entropy gradient is adequate to ensure stability in the adiabatic case, the stability condition for the nonadiabatic case may not be fulfilled, so that the new stability criterion developed here indicates a possible instability that had not been identified by the criterion for the adiabatic case alone. The new stability criterion, when transformed into a temperature-gradient expression, shows that an equilibrium is stable if the temperature gradient in equilibrium conditions (temperature lapse rate) is smaller than the corresponding temperature gradient in the disturbing convective current. The stability criterion in the latter form has been applied by the author in Gos. astron. in-t im. P. K. Shternberga, Trudy, v. 11, Sec. 9, 1939, 34, where several conclusions were obtained on the condition for the existence of classical radiational equilibrium in solar and stellar atmospheres. There are 20 numbered equations.

State Astronomical Inst.

Card 2/3

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L 11184-63 EWT(1)/FCC(w)/BDS/ES(v)--AFFTC/APGC/ASD/ESD-3/SSD--Pe-4/Pi-4/Rq-4--RB

ACCESSION NR: AP3001245 S/0033/63/040/003/0539/0543

78

76

AUTHOR: Makarova, Ye.A.; Sitnik, G.F.; Kozhevnikov, N.I.

TITLE: On the effect of water vapor on the optical properties of the atmosphere

SOURCE: Astronomicheskiy zhurnal, v. 40, no. 3, 1963, 539-543

TOPIC TAGS: water vapor, optical properties of atmosphere, air-mass properties, aerological soundings, snow-melt evaporation, spectroscopic humidity measurement, selection of telescope location

ABSTRACT: The paper discusses certain conclusions derived from spectroscopic measurements of the water-vapor content in the terrestrial atmosphere obtained from the IGY observations of the Solar Department of the State Astronomical Institute imeni P.K.Shternberg (GAISh), also parallel measurements at the Kuchino Astrophysical Observatory near Moscow and the GAISh high-mountain expedition observatory near Alma-Ata (appx. 3,000 m above msl), using IKS-11 and IKS-6 infrared spectrometers, respectively. The solar spectrum was recorded in the 0.7 to 2.5-micron region, with an instrument resolving power approaching 1.13 micron and with operational values of the width of entrance slit of 0.003 and 0.01 micron for the two instruments, respectively. The calibration curves were

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obtained from aerological soundings performed on observation days. The calibration curves are remarkably similar, even though the observations were performed on different instruments and in climatologically and meteorologically widely differing locales. This would appear to justify the conclusion that calibration by means of aerological soundings may be dependably employed for the spectroscopic determination of the water-vapor content of the atmosphere. At the same time, such aerological calibration differs systematically from the laboratory calibration of F.E.Fowle (Astrophys.J., v.35, 1912, 149; v.37, 1913, 359; v.38, 1913, 392; v.42, 1915, 394). Under summer conditions in high mountainous terrain it was noted that the melting of snow frequently produces an increase (typically, a doubling) in the water-vapor content of the atmosphere from the morning hours to noon. This leads to a substantial change in the optical properties of the atmosphere, most noticeable at high noon and, more especially, during the intrusion of warm air masses into the region of the observations. The present investigation of the change in water-vapor content of the atmosphere and its effect on the optical properties of the atmosphere would appear to be of especial significance in the selection of suitable localities for the positioning of large telescopes. There are 3 figures.

ASSOCIATION: Gos. astronomicheskiy in-t imeni P.K.Shternbergx (State Astronomical

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

MURASHEVA, M.S.; SITNIK, G.F.

Absolute measurements of solar energy in the 3382-10000 Å spectral region. Astron. zhur. 40 no.5:819-828 S-O '63. (MIRA 16:11)

1. Gosudarstvennyy astronomicheskiy institut im P.K. Shternberga.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

KUZ'MINYKH, V.D.; SITNIK, G.F.

Facula-photosphere contrast in the λλ 6700-21000 Å region. Astron. zhur. 40 no.5:954-956 S-O '63. (MIRA 16:11)

1. Gosudarstvennyy astronomicheskiy institut im. P.K. Shternberga.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

KOZHEVNIKOV, N.I.; MAKAROVA, Ye.A.; SITNIK, G.F.

Effect of atmospheric pressure on the half-width of oxygen lines in the 1.27 μ band. Astron.zhur. 40 no.6:1095-1100 N-D '63. (MIRA 16:12)

1. Gosudarstvennyy astronomicheskiy institut im. P.K.Shternberga.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

ACCESSION NR: AT4035360 S/2623/63/000/126/0003/0024

AUTHOR: Makarova, Ye. A.; Sitnik, G. F.; Kozhevnikov, N. I.

TITLE: Some of the optical properties of the earth's atmosphere and the water vapor content revealed by observations at Kuchino and during the alpine expedition of the State Astronomical Institute (GAISh)

SOURCE: Moscow. Universitet. Gosudarstvenny*y astronomicheskiy institut. Soobshcheniya, no. 126, 1963, 3-24

TOPIC TAGS: astronomy, astroclimate, atmospheric optics, atmospheric water vapor content, atmospheric transparency, meteorology

ABSTRACT: The spectrophotometric method was used to determine the water vapor content in the earth's atmosphere at different H_2O bands from 0.94 to 1.47 μ with an accuracy of about 5%. The observations were calibrated against aerological data. The calibration curves constructed on the basis of observations at the alpine station and at the Kuchinskaya astrofizicheskaya laboratoriya GAISh (Kuchino Astrophysical Observatory) provide quite reliable data on the water vapor content in the earth's atmosphere. It is concluded that aerological ascents are suitable for the calibration of spectroscopic observations.

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ACCESSION NR: AT4035360

Comparison with approximate calibration in the laboratory reveals a systematic discrepancy, but this only suggests that laboratory experiments must take into account the change in meteorological factors with height in the atmosphere. The water vapor content in the atmosphere is three times less in summer and five times less in winter at the alpine station than over Kuchino (in summer). The water vapor content over the alpine station in summer changes approximately by a factor of two during the day from morning to noon as a result of melting of snow in the nearby mountains. At Kuchino, on a plain, there is no particular change during the day. An increase in the water vapor content toward noon near the alpine station leads to a decrease in the atmospheric transparency coefficient. Since the increase in water vapor content occurs gradually, the Bouguer curve, which is usually used to determine the transparency coefficient, will remain a straight line for the most part but the transparency coefficient computed from this curve will be erroneous. This error increases with a decrease of wavelength and with an increase of the water vapor content of the atmosphere. With an increase of water vapor there is an increase of the solar aureole and an increase of the deformation of images. Similar phenomena caused by the summer melting of snow should be observed at other mountain observatories. In winter, when there is a continuous snow cover, there is no diurnal variation of water vapor content

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LEVITAN, Yefim Pavlovich; SITNIK, G.F., doktor fiz.-matem.nauk, otv. red.; YEFREMOV, Yu.I., red.izd-va; LAUT, V.G., tekhn. red.

[Nature of sunspots] Priroda solnechnykh piaten. Moskva, Izd-vo "Nauka," 1964. 125 p. (MIRA 17:3)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SITNIK, G.F.

Conditions of the stability of mechanical equilibrium. Vest. Mosk. un. Ser. 3:Fiz., astron. 19 no.5:27-30 S-O '64. (MIRA 17:12)

1. Kafedra nebesnoy mekhaniki i gravimetrii Moskovskogo universiteta.

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[illegible], G. F.

Absolute [illegible] of energy [illegible] taken at ground level. [illegible]

(MIRA 18:10)

1. Gosudarstvennyy [illegible] Eternberga.

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L 41826-65 EWT(1)/EWG(v)/EEC-4/EEC(t) Pg-5/Pq-4 GW

ACCESSION NR: AP5006001 S/0033/65/042/001/0059/0066

AUTHOR: Sitnik, G.F.

TITLE: Summarized results of two series of absolute photoelectric measurements of the solar spectrum

SOURCE: Astronomicheskiy zhurnal, v. 42, no. 1, 1965, 59-66

TOPIC TAGS: sun, solar spectrum, solar radiation, coelostat, photoelectric brightness measurement

ABSTRACT: This is a summary of the final results obtained from two series of absolute photoelectric measurements of the continuous solar spectrum made during 1952-1955 and 1957-1959. The preliminary results have in large part already been published (G.F. Sitnik, Dokl. AN SSSR, 110, No. 2, 193, 1956; G.F. Sitnik, Acta Astronomica Sinica, 6, No. 2, 166, 1958 and Soobshch. Gos. Astron. In-ta im. Shternberga, No. 113, 19, 1961; M.S. Murasheva and G. F. Sitnik, Astron. Zh., 40, 819, 1963). The measurements were made by direct comparison with a standard source calibrated in absolute energy units by means of a black body model with a blackbody coefficient equal to unity (the method has also been described earlier in the literature). Beginning with the coelostat, the radiation of a standard source was directed by a projector system along the same optical path

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ACCESSION NR: AP5006001

traveled by the solar radiation. Observations of the solar spectrum were accompanied by photoelectric observations of the circumsolar aureole, thereby making it possible to select the intervals of time of day of observations with the most stable coefficient for the earth's atmosphere. There is a discussion of the problem of small corrections to the observed brightnesses of the spectrum which take into account the inadequate resolution of the spectrometers used. The article gives the final values of the brightness of the continuous spectrum of the center of the solar disk, the values of the brightness of the continuous spectrum, averaged for the entire disk, and the values of illumination in the continuous spectrum at the mean distance of the earth from the sun. Table 1 in the article summarizes the characteristics of the spectrometers and transmission bands used in the measurements, Table 2 gives the final results of the absolute measurements, and Table 3 gives the final values of monochromatic brightness and illumination in the continuous solar spectrum. Fig. 1 of the Enclosure shows the curve of monochromatic brightness of the continuous spectrum of the center of the solar disk (1) and the entire solar disk (2). Orig. art. has: 8 formulas, 1 figure and 3 tables.

ASSOCIATION: Gosudarstvennyy astronomicheskiy institut imeni P.K. Shternberga (State Astronomical Institute)

SUBMITTED: 21Apr64 ENCL: 01 SUB CODE: AA

NO REF SOV: 014 OTHER: 006

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

L 14109-66 EWT(1) GW

ACC NR: AR5016310 SOURCE CODE: UR/0269/65/000/005/0046/0046

25

B

AUTHOR: Sitnik, G.F.

ORG: none

TITLE: Absolute values of monochromatic intensity and illumination in a continuous solar spectrum

SOURCE: Ref. zh. Astronomiya. Otdel'nyy vypusk, Abs. 5.51.362

REF SOURCE: Astron. tsirkulyar, no. 292, Apr. 18, 1964, 1-3

TOPIC TAGS: sun, spectrum, spectrum analysis

TRANSLATION: In accordance with two series of absolute photoelectric measurements of a spectrum of the solar disc center, within the interval λλ 3280-12340, carried out in 1952-1955 and in 1957-1959, two series of values were obtained for monochromatic intensity and illumination in a continuous solar spectrum. A table gives the values obtained. References: 5.

SUB CODE: 03

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UDC: 523.774

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

[illegible], M.Ch.; SITNIK, G.F.

Saturation of the central parts of carbon monoxide lines in the solar spectrum. Astron. zhur. 42 no.6:1250-1255 N-D '65. (MIRA 19:1)

1. Gosudarstvennyy astronomicheskiy institut im. P.K. Shternberga. Submitted April 8, 1965.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

ACC NR: AR6028760 SOURCE CODE: UR/0269/66/000/006/0056/0056

AUTHOR: Sitnik, G. F.

TITLE: Absolute extra-atmospheric values of brightness and irradiance in a continuous solar spectrum in the 2.7 to 5.0 μ range

SOURCE: Ref. zh. Astronomiya, Abs. 6.51.442

REF SOURCE: Astron. tsirkulyar, no. 344, okt. 26, 1965, 1-3

TOPIC TAGS: solar spectrum, solar disc, solar energy

TRANSLATION: A brief report on the observations of the continuous solar spectrum in the 2.7-5.0 μ range performed by the Tien Shen expedition of the State Institute of Astronomy im. P. K. Shternberg (altitude 3,000 m) is given. The investigations were performed with an IKS-6 spectrometer. The condition of the terrestrial atmosphere was monitored by a Fesenkov oreol photometer. The extra-atmospheric values of the relative brightness averaged for the entire solar disc, were determined by the Bouguer method. The relative brightness values were converted to absolute values, using an energy distribution curve of the solar spectrum previously published by the author (*RZh. Astr.*, 1965, 8.51.433). The obtained results are tabulated. 7 references. D. K-Z.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

ACC NR: AP7008802 SOURCE CODE: UR/0033/67/044/001/0091/0093

AUTHOR: Pande, M. Ch.; Sitnik, G. F.

ORG: State Astronomical Institute im. P. K. Shternberg (Gosudarstvennyy astronomicheskiy institut)

TITLE: The possibility of formation of triatomic molecules in the solar atmosphere

SOURCE: Astronomicheskiy zhurnal, v. 44, no. 1, 1967, 91-93

TOPIC TAGS: astrophysics, solar spectrum, spectroscopy, diatomic molecule, photosphere, THERMODYNAMIC EQUILIBRIUM, SOLAR ATMOSPHERE

ABSTRACT: Assuming local thermodynamic equilibrium for the Utrecht reference model, the concentration ratios $n(CH)/n(CH_2)$, $n(NH)/n(NH_2)$, $n(C_2H)/n(C_2)$, $n(OH)/n(H_2O)$, $n(CN)/n(HCN)$, and $n(CO)/n(HCO)$ are calculated as functions of the optical depth in the photosphere. The calculations show that triatomic molecules form an insignificant part of diatomic molecules. Apparently, for small deviations from the condition of the local thermodynamic equilibrium the disappearance of the diatomic molecules AB and A_2 owing to the formation of the triatomic molecules ABH, A_2H and AH_2 can be neglected. Orig. art. has: 4 formulas and 2 tables. [BA]

SUB CODE: 03/ SUBM DATE: 15Feb66/ ORIG REF: 001/ OTH REF: 005

Card 1/1 UDC: 523.774

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SYTNIK G.K.

BORTS, M.G.; KROPANIN, M.T.; SYTNIK, G.K. [deceased]; RAKHVALOV, N.S.[deceased]

Fifteenth anniversary of the Chelyabinsk Forging and Pressing Plant. Avt.i trakt.prom. no.11:44-45 N '57. (MIRA 10:12)

1. Kuznechno-pressovyy zavod, Chelyabinsk.
(Chelyabinsk--Forging) (Chelyabinsk--Sheet-metal work)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

KRYLOV, V.I.; SHYRENKO, N.I.; ABDRAKHMANOV, G.S.; SITNIKOV, G.V.

Evaluating intensive circulation-loss zones using a hydraulic-mechanical packer. Burenie no.5:11-12 '64. (MIRA 18:5)

1. Vsesoyuznyy neftyanoy nauchno-issledovatel'skiy institut, g. Bugul'ma i trest "Al'met'yevburneft'".

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SITNIK, I. A.

USSR/Engineering - New machines

Card 1/1 Pub. 128 - 6/31

Authors : Sitnik, I. A., Engineer

Title : Arrangement for the drilling of vertical mine shafts 6.2 m in diameter

Periodical : Vest. mash. 35/5, 13-14, May 1955

Abstract : The technical characteristics of an installation for drilling vertical mine shafts up to 6.2 m in diameter, designed by the URALMASHZAVOD (Ural Machine Construction Plant), are described. Drawing.

Institution : .....

Submitted : .....

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SYTNIK, I. A. Cand Med Sci -- (diss) "Effect of toxines of the basic pathogens of gas gangrene upon the phagocytic activity of histocytes and leucocytes." Ternopol', 1957. 12 pp (Odessa State Med Inst im N. I. Pirogov), 200 copies (KL, 52-58, 108)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SITNIK, I.D.

Comparative study of leucotoxin, hemolytic and lecithinase activity of toxins, produced by basic causative agents of gas gangrene. Mikrobiol.zhur. 19 no.1:14-19 [illegible]. (MLR- 1[illegible]:9)

1. Kafedri mikrobiologii Odesskogo medichnogo institutu
(CLOSTRIDIUM
oedematiens, perfringens & septicum toxin, leukotoxin, hemolytic & lecithinase activity)
(ESTERASES
lecithinase activity of Clostridium oedematiens, **perfringens** & septicum)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SYTNIK, I.A.

Observations on leukotoxic, hemolytic, and lecithinase activities of toxins of vibrion septique, of various ages. Zhur. mikrobiol. epid. i immun. 29 no.7:79-85 Jl '58 (MIRA 11:8)

1. Iz Odesskogo meditsinskogo instituta.

(CLOSTRIDIUM,
septicum, leukotoxic, hemolytic & lecithinase activity of toxins (Rus))

(ESTERASES,
lecithinase in Clostridium septicum toxin (Rus))

(HEMOLYSIS,
by Clostridium septicum toxin (Rus))

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SYTNIK, I.A.

Synthesis of leukotoxins by Cl. septicum in guinea pigs in experimental gas gangrene. Zhur.mikrobiol.,epid.i immun. 30 no.8:57-62 Ag '59. (MIRA 12:11)

1. Iz kafedry mikrobiologii Odesskogo meditsinskogo instituta.
(GANGRENE exper.)
(TOXINS AND ANTITOXINS)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SYTNIK, I.A.

Observations on the leukotoxic hemolytic and lecithinase activity of toxins of Cl. perfringens at various age. Zhur.mikrobiol.epid. i immun. 31 no.2:100-108 F '60. (MIRA 13:6)

1. Iz kafedry mikrobiologii odesskogo meditsinskogo instituta.
(CLOSTRIDIUM PERFRINGENS)
(TOXINS AND ANTITOXINS)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SYTNIK, I.A.

Method for studying bacterial leukotoxins. Lab. delo 7 no.6:38-41 Je '61. (MIRA 14:7)

1. Kafedra mikrobiologii Ternopol'skogo meditsinskogo instituta.
(TOXINS AND ANTITOXINS)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

NIKITIN, V.A.; NOMOFILOV, A.A.; SVIRIDOV, V.A.; SLEPETS, L.A.; SITNIK, I.M.; STRUNOV, L.N.

Measurement of the real part of the amplitude of elastic π^-p-scattering at an energy of 3.5 Bev. IAd. fiz. 1 no.1:183 Ja '65. (MIRA 18:7)

1. Ob"yedinennyy institut yadernykh issledovaniy.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SLIPCHENKO, P.S., glav. red.; KUCHERENKO, K.R., red.; FILONENKO, K.I., red.; LESNAYA, A.A., red.; ABYZOV, A.G., red.; BUDNIKOV, M.S., red.; VETROV, Yu.A., red.; GLADKIY, V.I., red.; GOLOSOV, V.A., red.; IZMAYLOV, V.G., red.; KANYUKA, N.S., red.; KAIPOV, E.A., red.; KLINDUKH A.M., red.; KUSHNAREV, N.Ye., red.; LUYK, A.I., kand. tekhn. nauk, red.; NEMENKO, L.A., red.; RYBAL'SKIY, V.I., red.; SITNIK, I.P., red.; FEDOSENKO, N.M., red.; FILAKHTOV, A.L., kand. tekhn. nauk, red.; KHILOBOCHENKO, K.S., red.; VORONKOVA, L.V., red.; KIYANICHENKO, N.S., red.

[Construction industry: technology and mechanization of the construction industry; the economics and organization of construction] Stroitel'noe proizvodstvo: tekhnologiia i mekhanizatsiia stroitel'nogo proizvodstva; ekonomika i organizatsiia stroitel'stva. Kiev, Budivel'nyk, 1965. 180 p. (MIRA 18:4)

1. Nauchno-issledovatel'skiy institut stroitel'nogo proizvodstva. 2. Nauchno-issledovatel'skiy institut stroitel'nogo proizvodstva (for Luyk, Filakhtov).

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SYTNYK, K.M.

On the problem of the so-called phytohormones. Bot.zhur.[Ukr.] 10 no. 2:73-83 '53. (MLRA 6:6)

1. Instytut botaniky AN URSR. Viddil fiziologiyi roslyn. (Hormones (Plants)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

KONDRATYUK, Ye.M; SITNIK, K.M.

Urgent tasks of botany in view of decisions of the September plenum of the Central Committee of the Communist Party of the Soviet Union and the October plenum of the Central Committee of the Communist Party of the Ukraine. Bot.zhur. [Ukr.] 10 no.4:3-6 '53. (MLRA 6:12)
(Botany, Economic)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SYTNIK, K. M.

"Influence of Conditions of Root Feeding and Water Supply on the Growth and Physiological Processes of the Lemon." Cand Biol Sci, Inst of Botany, Acad Sci Ukrainian SSR, Kiev, 1954. (RZhBiol, No 4, Feb 55)

SO: Sum. No. 631, 26 Aug 55-Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (14).

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SITNIK, K.M.

Physiological causes of the loss of leaves in the lemon plant. Bot.zhur.[Ukr.] 11 no.1:61-66 '54. (MLRA 8:7)

1. Institut botaniki AN URSR, viddil fiziologii.
(Lemon) (Leaves)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SITNIK, K.M.

"Photosynthesis and yield" A.S. Okanenko. Reviewed by K.M. Sytnyk. (MLRA 8:7)
Bot.zhur.[Ukr.] 11 no.4:113-115 '54.
(Okanenko, A.S.) (Photosynthesis)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SITNIK, K.M.

Present status of concepts concerning individual development of plants. Bot.zhur. [Ukr.] 12 no.1:3-19 '55. (MLRA 8:9)

1. Institut botaniki AN USSR, viddil fiziologii roslin.
(Ontogeny (Botany))

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

GRODZINS'KIY, A.M.; SITNIK, K.M.

"Study of growth promoting substances. Results and problems in research on growth promoting substances." H.Söding. Reviewed by A.M.Hrodzins'kyi, K.M.Sytnyk. Ukr.bot.zhur.13 no.2:115-118 '56. (MIRA 9:9)
(Growth promoting substances)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SITNIK, K.M. [Sytnyk, K.M.]; GRODZINSKIY, A.M. [Grodzins'kyi, A.M.]

Effect of light on the absorption and translocation of phosphorus in plants [with summary in English]. Ukr. bot. zhur. 15 no.2:29-35 '58. (MIRA 11:6)

1. Institut botaniki AN URSR, kafedra fiziologii roslin.
(Plants, Effect of light on) (Phosphorus) (Plants--Assimilation)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SITNIK, K.M. [Sytnyk, K.M.], kand.biol.nauk

Role of green plants in outer space. Nauka i zhyttia 8 no.2: 28-31 F '58. (MIRA 13:5)
(Space biology) (Photosynthesis)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SYTNIK, K.M. [Sytnyk, K.M.]

Absorption of radioactive phosphorus and its distribution in organs of the tomato plant [with summary in English]. Ukr. bot. zhur. 15 no.1:22-24 '58. (MIRA 11:5)

1. Institut botaniki AN URSR, viddil fiziologii roslin.
(Tomatoes) (Phosphorus) (Minerals in plants)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SYTNIK, K.M. [Sytnyk, K.M.]

Effect of soil moisture on the carbohydrate metabolism and chlorophyll content of lemon leaves. Ukr.bot.zhur. 15 no.4: 11-15 '58. (MIRA 12:5)

1. Institut botaniki AN USSR, otdel fiziologii rasteniy.
(Soil moisture) (Lemon) (Carbohydrate metabolism)
(Chlorophyll)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SITNIK, K.M. [Sytnyk, K.M.]

Characteristics of carbohydrate metabolism in the lemon under different nutritional conditions. Pratsi Od. un. zbir. mol. vchen. un. 148 no.3:195-200 '58 (MIRA 13:3)
(Lemon) (Carbohydrate metabolism)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SITNIK, K.M. [Sytnyk, K.M.], kand.biolog.nauk

Outstanding naturalist. Nauka i zhyttia 9 no.5:60 My '59. (MIRA 12:9)
(Humboldt, Alexander, 1769-1859)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

GRODZINSKIY, A.M. [Hrodzins'kyi, A.M.]; SYTNIK, K.M. [Sytnyk, K.M.]

Recent data on the effect of light on nutrient uptake by plants. Ukr.bot.zhur. 16 no.4:13-18 '59. (MIRA 12:11)

1. Institut botaniki AN USSR, otdel fiziologii rasteniy.
(Plants, Effect of light on)
(Plants, Motion of fluid in)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SYTNIK, K.M. [Sytnyk, K.M.]

Development of Darwin's theories in the U.S.S.R. Ukr.bot.zhur. 16 no.5:15-27 '59. (MIRA 13:4)
(Evolution)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SYTNIK, K.M. [Sytnyk, K.M.]

Effect of gibberellin and heteroauxin on metabolic processes in plants. Ukr. bot. zhur. 17 no.6:15-22 '60. (MIRA 14:3)

1. Institut botaniki AN USSR, otdel fiziologii rasteniy.
(Gibberellins) (Indolacetic acid) (Plants—Metabolism)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SITNIK, K.M. [Sytnyk, K.M.]

Most important problems of plant physiology and biochemistry and prospects for their development during the next twenty years. Ukr. bot.zhur. 18 no.6:3-10 '61. (MIRA 15:3)
(Botany--Physiology) (Biochemistry)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

ZEROV, D.K., akademik, otv. red.; BILOKIN', I.F., kand. biol. nauk, red.; BARBARICH, A.I.[Barbarych, A.I., red.; KONDRATYUK, Ye.M., red.; SITNIK, K.M.[Sytnyk, K.M.], red.; KOVAL', V.A., red.; LISOVETS', O.M.[Lysovets', O.M.], tekhn. red.

[Yearbook of the Ukrainian Botanical Society]Shchorichnyk. Kyiv, Vyd-vo Akad. nauk URSR. Vol.3. 1962. 130 p. (MIRA 15:11)

1. Ukrains'ke botanichne tovarystvo. 2. Akademiya nauk Ukr.SSR (for Zerov).
(Ukraine--Botany--Yearbooks)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SITNIK, K.M.[Sytnyk, K.M.], otv. red.; DOBROCHAYEVA, D.M., red.; SUD'INA, O.G.[Sud'ina, O.H.], red.

[Problems of experimental botany] Pytannia eksperymental'-noi botaniky. Kyiv, Naukova dumka, 1964. 173 p. (MIRA 17:10)

1. Akademiya nauk URSR, Kiev. Instytut botaniky.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SITNIK, K.M. [Sytnyk, K.M.]

Role of nucleic acids in the phenomena of plant growth. Ukr. bot. zhur. 21 no. 2:7-20 '64. (MIRA 17:5)

1. Institut botaniki AN UkrSSR, otdel fiziologii rasteniy.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SITNIK, K.M. [Sytnyk, K.M.]; MUSATENKO, L.I.

Changes in the content of ribonucleic acid in plants with various intensities of growth. Ukr. bot. zhur. 20 no.3:7-13 '63. (MIRA 17:9)

1. Institut botaniki AN UkrSSR, otdel fiziologii rasteniy.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

[illegible], K.B., kand.tekhn.nauk; [illegible], V.M., [illegible] [illegible], R.A., inzh.

Determining the efficiency of freight transportation in multiple-destination and technological routing. Trudy MIIT no.127:81-108 '61. (MIRA 18:3)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SHAFIRKIN, B.I.; SITNIK, M.D.

Unified system for the planning of transportation and coordination of transportation operations. Zhel. dor. transp. 46 no.9:25-30 S '64.

1. Rukovoditel' otdeleniya ekonomiki Vsesoyuznogo nauchno-issledovatel'skogo instituta zheleznodorozhnogo transporta (for Shafirkin). 2. Zaveduyushchiy sektorom otdela ekspluatatsii transporta Instituta kompleksnykh transportnykh problem pri Gosplane SSSR (for Sitnik).

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ALFEROV, A.A.; ARTEMKIN, A.A.; ASHKENAZI, Ye.A.; VINOGRADOV, G.P.; GALEYEV, A.U.; GRIGOR'YEV, A.N.; D'YACHENKO, P.Ye.; ZALIT, N.N.; ZAKHAROV, P.M.; ZOBNIN, N.P.; IVANOV, I.I.; IL'IN, I.P.; KMETIK, P.I.; KUDRYASHOV, A.T.; LAPSHIN, F.A.; MOLYARCHUK, V.S.; PERTSOVSKIY, L.M.; POGODIN, A.M.; RUDOY, M.L.; SAVIN, K.D.; SIMONOV, K.S.; SITKOVSKIY, I.P.; SITNIK, M.D.; TETEREV, B.K.; TSETYRKIN, I.Ye.; TSUKANOV, P.P.; SHADIKYAN, V.S.; ADELUNG, N.N., retsenzent; AFANAS'YEV, Ye.V, retsenzent; VLASOV, V.I., retsenzent; VOROB'YEV, I.Ye., retsenzent; VORONOV, N.M., retsenzent; GRITCHENKO, V.A., retsenzent; ZHEREBIN, M.N., retsenzent; IVLIYEV, I.V., retsenzent; KAPORTSEV, N.V., retsenzent; KOCHUROV, P.M., retsenzent; KRIVORUCHKO, N.Z., retsenzent; KUCHKO, A.P., retsenzent; LOBANOV, V.V., retsenzent; MOROZOV, A.S., retsenzent; ORLOV, S.P., retsenzent; PAVLUSHKOV, E.D., retsenzent; POPOV, A.N., retsenzent; PROKOF'YEV, P.F., retsenzent; RAKOV, V.A., retsenzent; SINEGUBOV, N.I., retsenzent; TERENIN, D.F., retsenzent; TIKHOMIROV, I.G., retsenzent; URBAN, I.V., retsenzent; FIALKOVSKIY, I.A., retsenzent; CHEPYZHEV, B.F., retsenzent; SHEBYAKIN, O.S., retsenzent, SHCHERBAKOV, P.D., retsenzent; GARNYK, V.A., redaktor; LOMAGIN, N.A. redaktor; MORDVINKIN, N.A., redaktor; NAUMOV, A.N., redaktor; POBEDIN, V.F., redaktor; RYAZANTSEV, B.S., redaktor; TVERSKOY, K.N., redaktor; CHEREVATYY, N.S., redaktor; ARSHINOV, I.M., redaktor; BABELYAN, V.B., redaktor; BERNGARD, K.A., redaktor; VERSHINSKIY, S.V., redaktor; GAMBURG, Ye.Yu., redaktor; DERIBAS, A.T., redaktor; DOMBROVSKIY, K.I., redaktor; KORNEYEV, A.I., redaktor; MIKHEYEV, A.P., redaktor

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ALFEROV, A.A. ---- (continued) Card 2.

MOSKVIN, G.N., redaktor; RUBINSHTEYN, S.A., redaktor; TSYPIN, G.S., redaktor; CHERNYAVSKIY, V.Ya., redaktor; CHERNYSHEV, V.I., redaktor; CHERNYSHEV, M.A., redaktor; SHADUR, L.A., redaktor; SHISHKIN, K.A., redaktor

[Railroad handbook] Spravochnaia knizhka zheleznodorozhnika. Izd. 3-e, ispr. i dop. Pod obshchei red. V.A.Garnyka. Moskva, Gos. transp.zhel-dor. izd-vo, 1956. 1103 p. (MLRA 9:10)

1. Nauchno-tekhnicheskoye obshchestvo zheleznodorozhnogo transporta. (Railroads)

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SITNIK, M. D., Cand of Tech Sci -- (diss) "Investigation of the Problems of the Complex Development of Technical Methods of Ensuring Container Conveyances in Prospect," Moscow, 1959, 21 pp (Moscow Institute of Engineers of Railroad Transport im Stalin) (KL, 2-60, 114)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SITNIK, M.D., inzh.

Expansion of container transportation and the selection of container types. Zhel.dor.transp. 41 no.7:51-57 Jl '59. (MIRA 12:12)
(Railroads--Freight) (Containers)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550910012-7

SHAFIRKIN, B.I.; SITNIK, M.B.

Unified system for the planning of transportation and coordination of transportation operations. Zhel.dor.transp. 46 no.25-30 S '64. (MIRA 17:10)

1. Rukovoditel' otdeleniya ekonomiki Vsesoyuznogo nauchno-issledovatel'skogo instituta zheleznodorozhnogo transporta (for Shafirkin). 2. Zaveduyushchiy sektorom otdela ekspluatatsii transporta Instituta kompleksnykh transportnykh problem pri Gosplane SSSR (for Sitnik).

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POVOROZHENKO, Vladimir Vasil'yevich; SITNIK, Mikhail Danilovich; FURMAN, Yevgeniy Sergeyevich; SHAFIRKIN, B.I., inzh., retsenzent; FERAPONTOV, G.V., inzh., red.; VORCB'YEVA, L.V., tekhn. red.

[Common carrier and freight forwarding services on railroads] Transportno-ekspeditsionnoe obsluzhivanie na zheleznykh dorogakh. Moskva, Transzheldorizdat, 1962. 146 p. (MIRA 16:1)

(Freight and freightage)

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