BOROVSKIY, Vladimir Mikhaylovich; ABLAKOV, Enver Bekovich; KOZHEVNIKOV, Konstantin Yakovlevich; MURAVLYANSKIY, Konstantin Dmitriyevich; BEZSONOV, A.I., otv.red.; ALEKSANDRIYSKIY, V.V., red.; SHEVCHUK, T.I., red.; ROROKINA, Z.P., tekhn.red.

[Ancient Syr-Darya Delta and the northern Kyzyl-Kum; possibilities of soil improvement and problems of land reclamation] Drevniaia del'ta Syr-Dar'i i Severnye Kyzyl-Kumy; pochvenno-meliorativnye usloviia i problema sel'skokhoziaistvennogo osvoeniia. Alma-Ata, Izd-vo Akad.nauk Kazakhskoi SSR. Vol.2. 1959. 418 p. (MIRA 12:8)

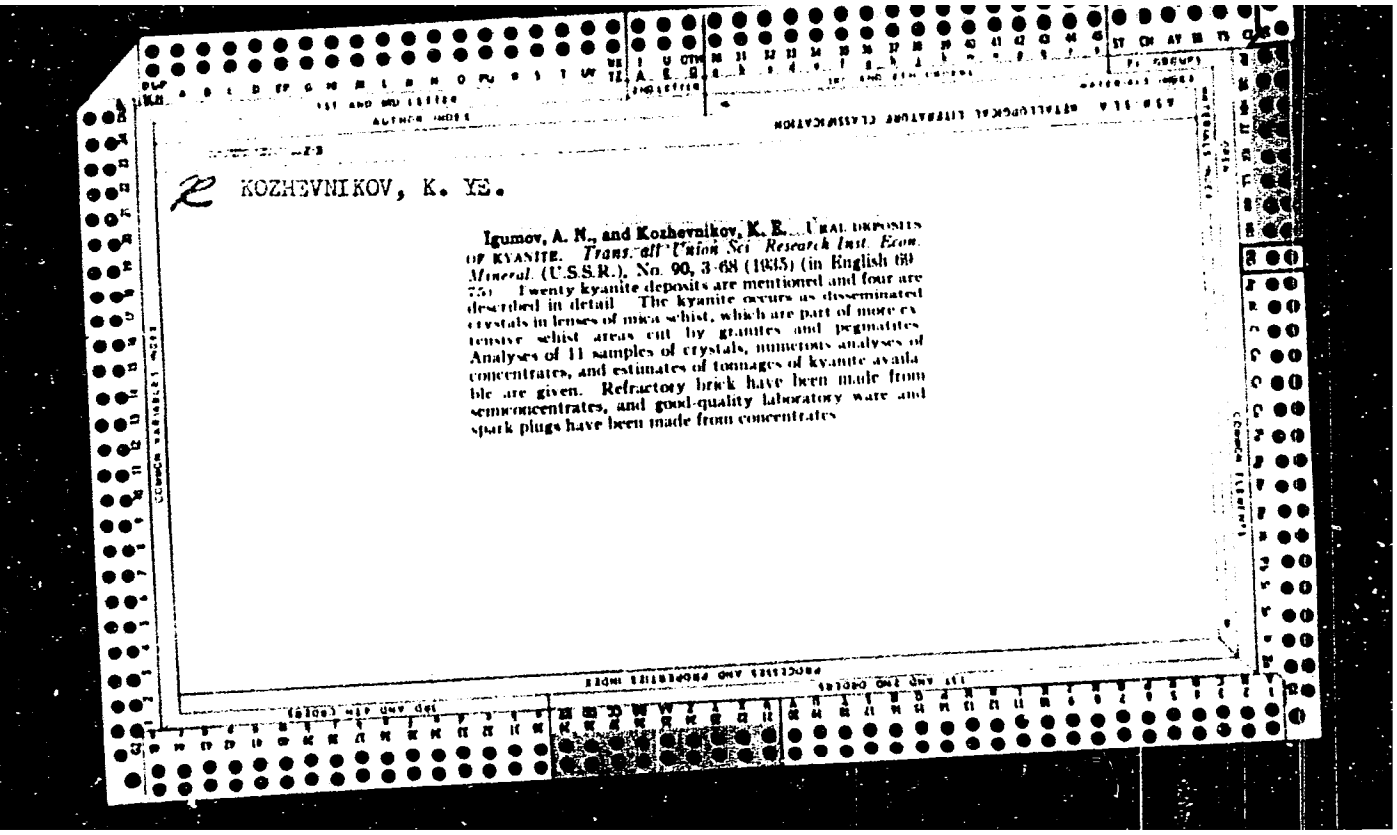
1. Chlen-korrespondent Akademii nauk Kazakhskoy SSR (for Bezsonov).
(Syr-Darya Delta--Soils) (Kyzyl-Kum--Soils)

KOZHEVNIKOV, K.Ya.

Quick and simple method of determining the absorption capacity of carbonaceous soils. Pochvovedenie no.2:100-102 F '60. (MIRA 15:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut vinodeliya i vinogradarstva.

(Soil absorption)



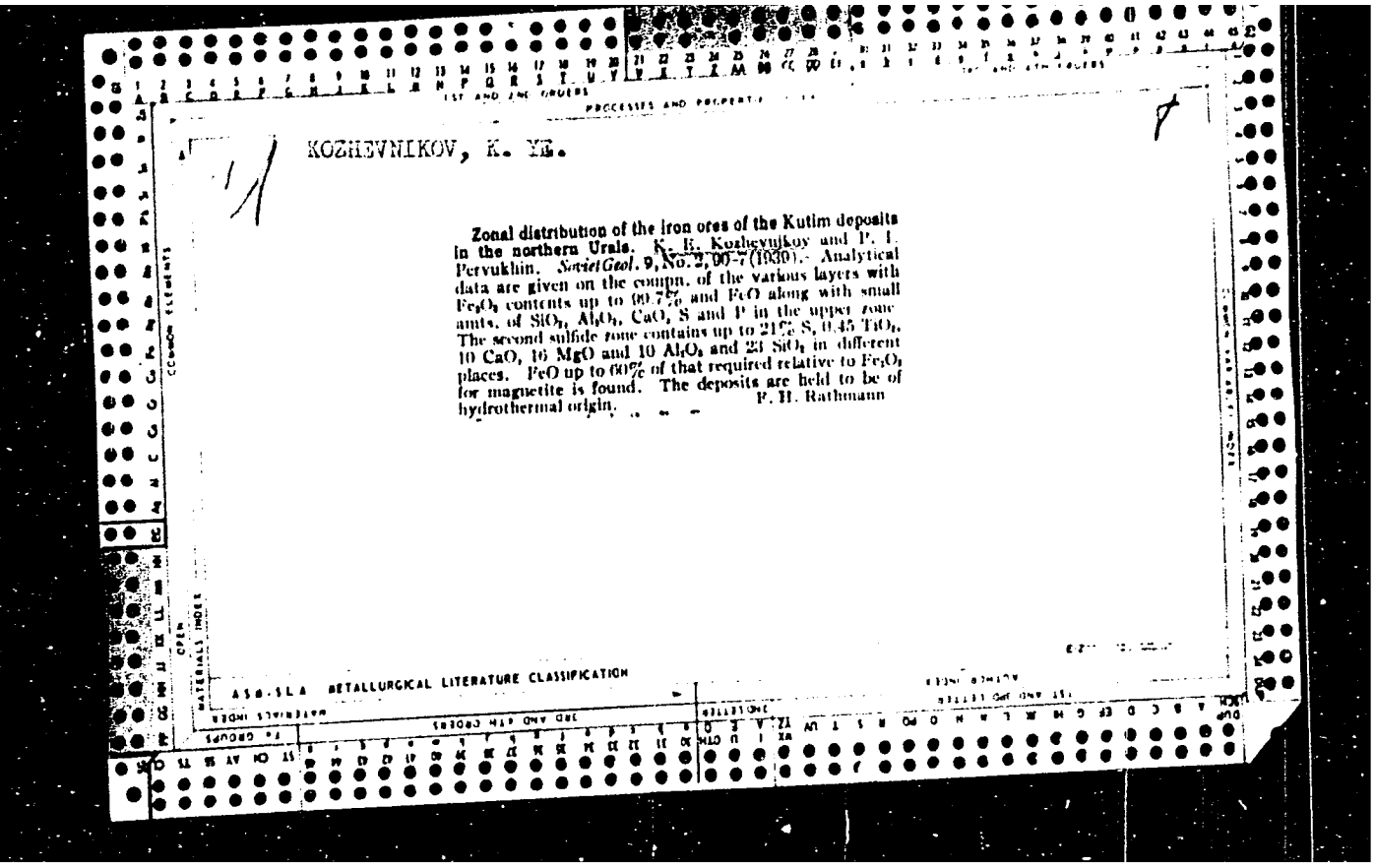
KOZHEVNIKOV, K. YE.

Igumov, A. N., and Kozhevnikov, K. E. URAL DEPOSITS OF KYANITE. *Trans. all Union Sci. Research Inst. Econ. Mineral.* (U.S.S.R.), No. 90, 3-68 (1935) (in English 69-75). Twenty kyanite deposits are mentioned and four are described in detail. The kyanite occurs as disseminated crystals in lenses of mica schist, which are part of more extensive schist areas cut by granites and pegmatites. Analyses of 11 samples of crystals, numerous analyses of concentrates, and estimates of tonnages of kyanite available are given. Refractory brick have been made from semiconcentrates, and good-quality laboratory ware and spark plugs have been made from concentrates.

KOZHEVNIKOV, K.YE.

Vakhromeev, S. A., Zimin, K. E., Kozhevnikov, K. E., Lastkov, A. N., and Nazaev, G. N. CHROMITE DEPOSITS IN THE URALS. Trans. All-Union Sci. Research Insl. Econ. Mineral. (U. S. S. R.,), No. 85, 1-210 (1936) (in English 236).- The chromite deposits of 16 regions are described. They are genetically associated with plutonic bodies of dunite, peridotite, gabbro, pyroxenite and their serpentinized equivalents, intruded during the Hercynian folding. The deposits are confined to the border zones of the bodies of the most ultrabasic rocks, the largest being connected with lines of fracturing. The chromite occurs in stock-like masses, lenses or successions of lenses connected by thin stringers, and plunging pipe-shaped masses; its largest deposits are dikelike or lenticular. Deposits containing 1000 to 3000 cu. m. are not common and those of 25,000 cu. m. are very rare. Some deposits consist almost entirely of the ore; others are of the disseminated type. As to genesis, different deposits are classified as (1) accumulative, formed by crystallization differentiation and concentration of the ore minerals by pressure, molecular diffusion and convection currents at the borders of igneous bodies; (2) liquation, formed by the separation of an ore-mineral liquid phase, which was subsequently intruded along fractures; and (3) intermediate, formed by crystallization of chromite, its accumulation in viscous

(OVER)



KOZHEVNIKOV, K. YE.

Zonal distribution of the iron ores of the Kutim deposits in the northern Urals. K. E. Kozhevnikov and P. I. Pervukhin. *Soviet Geol.* 9, No. 2, 90-7 (1939).- Analytical data are given on the compn. of the various layers with Fe_2O_3 contents up to 69.7% and FeO along with small amts. of SiO_2, Al_2O_3, CaO, S and P in the upper zone. The second sulfide zone contains up to 21% S, 0.45 TiO_2, 10 CaO, 16 MgO and 10 Al_2O_3 and 23 SiO_2 in different places. FeO up to 60% of that required relative to Fe_2O_3 for magnetite is found. The deposits are held to be of hydrothermal origin.

P. H. Rathmann

A58-SLA METALLURGICAL LITERATURE CLASSIFICATION

KOZHEVNIKOV, K.Ye.; KONONOVA, L.I.

Chromite bog iron ores of the Serov deposit and prospects for their commercial use. Razved. i okh. nadr 26 no.7:1-6 Jl '60. (MIRA 15:7)

1. Ural'skoye geologicheskoye upravleniye.
(Serov region--Iron ores)

KOZHEVNIKOV, K.Ye.; RABINOVICH, S.D.

Northern Ural manganese basin. Trudy Inst. met. UFAN SSSR no.7: 23-51 '61. (MIRA 16:6)
(Ural Mountains--Manganese ores)

KOZHEVNIKOV, K.Ye.

Rhodonite deposit in the Central Urals. Trudy Gor.-geol. inst. UFAN SSSR no. 35:291-296 '60. (MIRA 14:1)
(Ural Mountains--Rhodonite)

LIDER, V.A.; PERVAGO, V.A., otv.red.; MORNUSHIN, K.V., red.; YERMAKOV, N.P., red.; KOMOL'KOV, A.A., red.; POZNEVNIKOV, K.Ye., red.; NEDHAYEV, P.V., red.; POYARKOV, M.A., red.; FURKIN, A.V., red.; SOBOLEV, I.D., red.; TARKHANEYEV, B.F., red.

[Geology of the Northern Sos'va brown coal basin.] Geologiia Severososv'inskogo burougol'nogo basseina. Moskva, Nedra, 1964. 144p. (Materialy po geologii i poleznym iskopaemym Urala, no.11) (MIRA 18:4)

KOZHEVNIKOV, L.

Articulated six-wheeler for livestock transportation. Zhivotnovodstvo 20 no.4:79 Ap '58. (MIRA 11:3)
(Domestic animals--Transportation)
(Truck trailers)

KOZHEVNIKOV, L. (g.Orel)

A lesson which profits no one. Sov.profsoiuzy 18 no.10:18-19 My '62. (MIRA 15:5)
(Orel--Socialist competition) (Orel--Trade unions)

KOZHEVNIKOV, M.

Coin counting machines. Den.i kred. 19 no.5:56-63 My '61.
(MIRA 14:5)

(Counting devices)
(Banks and banking—Equipment and supplies)

KOZHEVNIKOV, M.

The over-all mechanization of State Bank's receiving and disbursement operations. Den. i kred. 19 no.11:30-34 N '61. (MIRA 14:12)

(Banks and banking--Equipment and supplies)
(Automation)

KOZHEVNIKOV, M. A.,

"Investigation of Parts Rejected on Ultrasonic Inspection," Forging and Heat Treatment, Moscow, Mashgiz, 1958. p. 123.

book prepared by members of NTOmashprom in connection with 25th anniv. Ural Heavy Machine-building Plant im S. Ordzhonikidze.

KOZHEVNIKOV, M.A.

Investigating parts rejected following ultrasonic inspection. (MIRA 11:12)
Sbor.st.UZTM no.5:123-129 '58.
(Metals--Defects) (Ultrasonic testing)

BALAZOVSKIY, Mikhail Yakovlevich; BORODAYEV, D.A., kand.tekhn.nauk, retsenzent; KOZHEVNIKOV, M.A., inzh., retsenzent; RAYKHMAN, A.Z., inzh., red.; YERMAKOV, N.P., tekhn.red.

[Ultrasonic flaw detection] Ul'trazvukovaia defektoskopiia. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 149 p. (MIRA 13:2)
(Metals--Defects)
(Ultrasonic waves--Industrial applications)

VASIL'YEV, P.V., prof., doktor ekon. nauk; PONOMAREV, A.D.; SOLDATOV, A.G., kand. sel'khoz. nauk; MOTOVILOV, G.P., doktor sel'khoz. nauk; NEVZOROV, N.V., kand. ekon. nauk; LOSITSKIY, K.B., kand. sel'khoz. nauk; RODIONOV, A.Ya., kand. sel'khoz. nauk: CHARKINA, A.P., kand. sel'khoz. nauk; LUTSEVICH, A.A., kand. sel'khoz. nauk; KOZHEVNIKOV, M.G., dots.; ALEKSEYEV, P.V., kand. sel'khoz. nauk; ZORIN, A.V., aspirant; BARANOV, N.I., kand. sel'khoz.nauk [deceased]; NAUMENKO, I.M., prof., doktor sel'khoz.nauk; IL'IN, A.I., kand.sel'khoz. nauk; MOISEYENKO,F.P., kand. biol. nauk; ZAKHAROV, V.K., prof., doktor sel'-khoz. nauk; GECHIS, Yu.P., starshiy nauchnyy sotr.; BUTENAS, Yu.P., kand. sel'khoz. nauk; BUBLIS, K.A., aspirant; KAININ'SH, A.Ye., kand. sel'khoz. nauk; ZVIYEDRIS, A.I., kand. sel'khoz. nauk; SUKACHEV, V.N., akad. red.; ZHUKOV, A.B., prof., red.; PRAVDIN, L.F., prof., red.; MAKAROVA, L.V., red. izd-va; LOBANKOVA, R.Ye., tekhn. red.

[Problems of increasing forest productivity in four volumes] Problemy povysheniia produktivnosti lesov v chetyrekh tomakh. Moskva, Goslesbumizdat. Vol.4.[Economic problems of increasing forest productivity and accelerating ripening and cutting ages]Ekonomicheskie voprosy povysheniia produktivnosti lesov, vozrasty spelosti i vozrasty rubok. 1961. 253 p. (MIRA 15:1)

1. Akademiya nauk SSSR. Institut lesa. 2. Nachal'nik Glavnoy inspektsii po lesnomu khozyaystvu i polezashchitnomu lesorazvedeniyu Ministerstva sel'skogo khozyaystva SSSR (for Ponomarev).
(Forests and forestry—Economic aspects)

KOZHEVNIKOV, M. M.

KOZHEVNIKOV, M. M.: "I. P. Pavlov's teachings concerning associations, and their significance for the psychology of sensory perceptions". Moscow, 1955. Moscow State Pedagogical Inst imeni V. I. Lenin. (Dissertations for the Degree of Candidate of Pedagogical Sciences)

SO: Knizhnaya letopis', No. 52, 24 December, 1955. Moscow.

KOZHEVNIKOV, M.M.

Some features of sensory association in visual perception [with summary in English]. Vop.psikhol. 4 no.6:131-139 N-D '58. (MIRA 12:1)

1. Nizhnetagil'skiy pedinstitut.
(Perception)

ARZAMASTSEV, V.F., inzh.; KOZHEVNIKOV, M.N., inzh.

Mechanization of plowshare hardening. Mekh. i avtom.proizv. 19 no.2:19 F '65. (MIRA 18:3)

KOZHEVNIKOV, Mikhail Petrovich; KHRYNIN, A., otv. red.; NADEZHDINA,A., red. izd-va; TEMKINA, T., tekhn. red.

[Machines for sorting and counting coins] Mashiny dlia sortirovki i pereschota monety; prakticheskoe posobie. Moskva, Gosfinizdat, 1963. 70 p. (MIRA 16:9)
(Banks and banking--Equipment and supplies)

KOZHEVNIKOV, M. P.

35173. O Dvizhenii Vody Na Povorote Rusla. Izvestiya Vsesoyuz. Nauch.--Issled. In-Ta Gidrotekhniki Im. Vedeneeva, T.XL, 1949, s. 105-33

SO: Letopis' Zhurnal'nykh Statey, Vol. 48, Moskva, 1949

KOZHEVNIKOV, M.P., starshiy nauchnyy sotrudnik, kandidat tekhnicheskikh nauk.

Movement of water in the bend of a stream. Izv. VNIIG no.40: 105-133 '49. (MLRA 10:2)

(Hydraulics)

KOZHEVNIKOV, M.P.

Principal problems of wave hydraulics and the selection of a method for their approximate solution. Nauch.-tekh.inform. biul.LPI no.1/2:45-61 '58. (MIRA 12:6)
(Waves)

KOZHEVNIKOV, M.P., dots., kand.tekhn.nauk

Approximate method for determining motion characteristics of potential waves. Nauch.dokl.vys.shkoly; stroi. no.2:235-241 '58. (MIRA 12:1)

(Waves)

KOZHEVNIKOV, M. P., Doc Tech Sci -- (diss) "Approximate solutions of some basic problems in wave hydraulics." Leningrad, 1960. 28 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Leningrad Polytechnic Inst im M. I. Kalinin); 150 copies; price not given; (KL, 26-60, 133)

LEVI, Ivan Ivanovich; KOZHEVNIKOV, M.P., red.; ZHITNIKOVA, O.S., tekhn. red.

[Model studies of hydraulic phenomena] Modelirovanie gidravlicheskikh iavlenii. Moskva, Gos.energ. izd-vo, 1960. 210 p. (MIRA 14:6)
(Hydraulic models)

NEPOROZHNIY, P.S.; BELYAKOV, A.A.; VOZNESENSKIY, A.N.; GLEBOV, P.D.; KACHANOVSKIY, B.D.; BASEVICH, A.Z.; TARTAKOVSKIY, D.M.; VASIL'YEV, P.I.; ZARUBAYEV, N.V.; CHUGAYEV, R.R.; KOZHEVNIKOV, M.P.; KHOROZ, V.S.; IVANOV, P.L.; SHCHAVELEV, D.S.; OKORCZOV, S.D.; BELOV, A.V.; STAROSTIN, S.M.; YAGN, Yu.I.; IZBASH, S.V.

Ivan Ivanovich Levi; on his 60th birthday. Gidr. stroi. 30 no.9:61-62 S '60. (MIRA 13:9)
(Levi, Ivan Ivanovich, 1900-)

KOZHEVNIKOV, M.P.

Approximate solutions of some fundamental problems in wave hydraulics. Trudy LPI no.208:29-74 '60. (MIRA 13:9)
(Waves)

CHERTOUSOV, Mikhail Dmitriyevich, zasl. deyatel' nauki i tekhniki RSFSR, prof., doktor tekhn. nauk[deceased]; KOZHEVNIKOV, M.P., prof., doktor tekhn. nauk, red.; YAKOVLEV, N.A., starshiy prepod., kand. tekhn. nauk, red.; ASTAFICHEVA, T.N., dots., kand. tekhn. nauk, red.; KOSYAKOVA, G.N., dots., kand. tekhn. nauk, red.; MOZHEVITINOV, A.L., prof., red.; ZHITNIKOVA, O.S., tekhn. red.

[Hydraulics]Gidravlika; spetsial'nyi kurs. Izd.4., ispr. Moskva, Gosenergoizdat, 1962. 629 p. (MIRA 16:1)

1. Kafedra gidravliki Leningraskogo politekhnicheskogo instituta (for Kozhevnikov, Yakovev, Astaficheva, Kosyakova).
(Hydraulics)

ACC NR: AR6030396 SOURCE CODE: UR/0124/66/000/006/B068/B069

AUTHOR: Kozhevnikov, M. P.

TITLE: Wave pressure on a vertical wall

SOURCE: Ref. zh. Mekhanika, Abs. 6B471

REF SOURCE: Tr. koordinats. soveshchaniy po gidrotekhn. vyp. 20, 1965, 98-102

TOPIC TAGS: wave phenomena, traveling wave, standing wave, hydraulic engineering, wave mechanics

TRANSLATION: Various methods adapted to engineering practice are set forth for the study of wave phenomena and a brief description of the advantages and disadvantages of each of them is given. Special emphasis is given to investigations in the field of wave motion in a liquid which were carried out by the author using the electrohydrodynamic analog method. This research allows one to obtain profiles of traveling waves, wave propagation rates, the trajectories and velocities of liquid particles in the wave, and wave pressure, to calculate the energy transferred by the waves, and to develop a means for determining the deformation of the wave on a sloping bottom surface of the liquid. Experimental data on traveling waves are obtained for 18 waves; in particular, fields of wave pressure are constructed for each of them, permitting the force of wave pressure on a vertical wall of any length to be determined. Approximation formulas are given to determine the greatest and least wave pressure relative to

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ACC NR: AR6030356

the water level. Results of this research were used to determine the force of wave pressure on a wave-protection wall on the ship elevator of the Krasnoyarsk Hydroelectric Plant. It is indicated that it is possible to apply the electric-hydraulic analog method to research on traveling and standing waves which approach a vertical wall obliquely. V. Ye. Pyatetskiy.

SUB CODE: 20, 13

Card 2/2

MALYUGA, V., inzh.; KOZHEVNIKOV, N., inzh.; KOGAN, V., inzh.

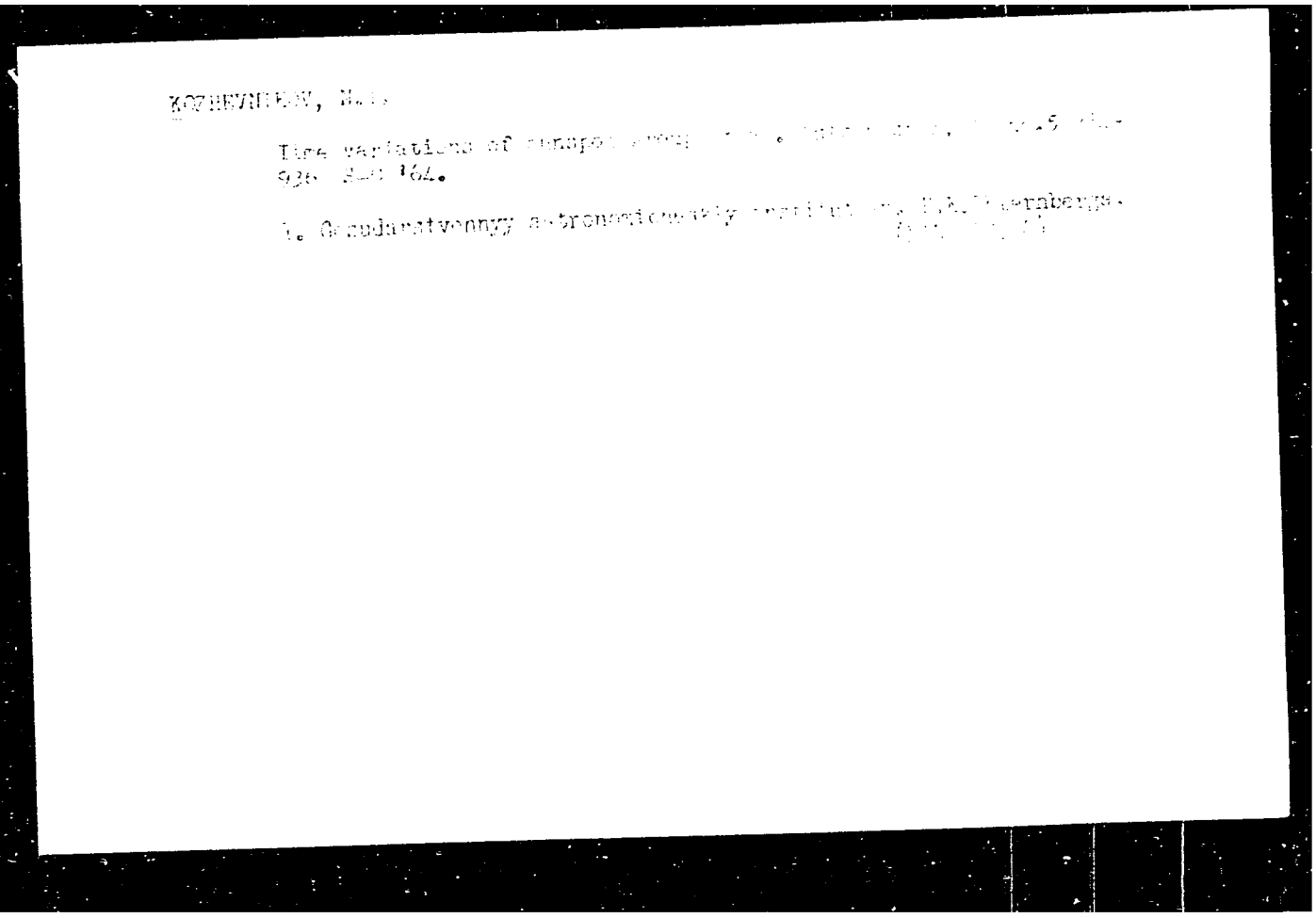
Lightweight exterior elements using plastic. Prom.stroi.i inzh.soor. 4 no.5:32-38 S-O '62. (MIRA 16:1)
(Plastics) (Building materials)

KOZHEVNIKOV, N.I., inzhener.

Economize on the power resources in petroleum refineries. Prom. energ. 12 no.3:1-4 Mr '57. (MLRA 10:4)
(Electric power)

KOZHEVNIKOV, N.I.; RIZOV, Ye.F.

Determining the instrumental contour of a diffraction spectrograph. Soob.GAISH no.126:31-43 '63. (MIRA 17:2)



KOZYREVSKIY, N.I.

Time variations of [illegible]
936 [illegible] 164.

1. Pulkovskaya astronomicheskaya observatoriya [illegible]

KOZHEVNIKOV, Naum Iosifovich; KRASNOSHCHEKOVA, Taisiya Ivanovna; SHISHKIN, Nikolay Yefimovich; IGNAT'YEVA, A.V., red.; MOROZOVA, I.Ye., red.

[Fourier series and the Fourier integral. Field theory. Analytic and special functions. Laplace transformation] Riady i integral Fur'e. Teoriia polia. Analiticheskie i spetsial'nye funktsii. Preobrazovanie Laplasa. Moskva, Nauka, 1964. 183 p. (MIRA 18:2)

KOZHEVNIKOV, N.I.

Decrease in brightness of the solar disk from the center to the limbs observed in spectrum region from 1 to 4 μ [with summary in English]. Astron. zhur. 34 no.6:883-886 N-D '57. (MIRA 11:2)

1. Gosudarstvennyy astronomicheskiy institut im. P.K. Shternberga.
(Spectrum, Solar) (Solar radiation)

KOZHEVNIKOV, N. I., Cand Phys-Math Sci -- (diss) "Study of the law of variation of luminosity of the solar disk from the center to the edge in the infrared region of the spectrum." Mos, 1958. 5 pp (Mos State Univ im M. V. Lomonosov, State Astronomical Inst im P. K. Shternberg), 100 copies (KL, 16-58, 116)

24(7)

AUTHOR: Kozhevnikov, N.I.

SOV/55-58-3-8/30

TITLE: Investigation of the Representation of the Spectral Lines in Dependence of the Illumination of the Entrance Slit and of the Prism of the Spectrograph (Issledovaniye izobrazheniya spektral'nykh liniy v zavisimosti ot usloviy osveshcheniya vkhodnoy shcheli i prizmy spektrografa)

PERIODICAL: Vestnik Moskovskogo universiteta,Seriya matematiki, mekhaniki, astronomii, fiziki, khimii ,1958,Nr 3,pp 51-64 (USSR)

ABSTRACT: The paper consists of two sections. In the first one the author investigates how the illumination of the prism of a spectrograph has to be so that the diffraction of light at the envelopment of the prism influences as little as possible the representation of the spectral line. In the experimental arrangement of the author numerous experimental observations of the green mercury line λ - 5460 Å gave the following result : The diffraction is minimum, if the slit of the spectrograph is illuminated by a parallel light beam and if the gap width is normal. In the second section it is numerically investigated whether in front of the prism (or objective or slit) one can establish a diaphragm so that the diffraction

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Investigation of the Representation of the Spectral Lines in Dependence of the Illumination of the Entrance Slit and of the Prism of the Spectrograph

SOV/55-58-3-8/30

on the slit is decreased if parallel light falls upon the prism. By extensive calculation it is proved that neither an amplitude - nor a phase diaphragm can cause a diminution of the diffraction (in a certain, mathematically precisely defined sense).
There are 4 figures, 13 photos, and 8 references, 3 of which are Soviet, 2 American, 1 French, 1 German, and 1 Australian.

ASSOCIATION: Kafedra astrofiziki GAISh (Chair of Astrophysics of the State Astronomical Institute imeni P.K. Shternberg)

SUBMITTED: February 21, 1958

Card 2/2

3(1),7(6)

AUTHOR: Kozhevnikov,N.I.

SOV/155-58-3-27/37

TITLE: Observation of the Turbulence of the Lowest Atmospheric Layer (Nablyudeniye turbulentsii prizemnogo sloya atmosfery)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Fiziko-matematicheskiye nauki, 1958, Nr 3, pp 143-151 (USSR)

ABSTRACT: The author describes the method of the direct observation of the lowest atmospheric layer at daylight elaborated in the Soviet Union in 1955-1956, as well as the principal results obtained with this method. The method consists in the introduction of a narrow aperture (at most 0.5 mm) in the focus of the objective, whereby a filtration of parallel bundles of rays is possible so that on the projection screen there appears an image of the considered inhomogeneity similar to the original. The sun telescope of the Astrophysical Observatory in Kuchino (near Moscow), the sun telescope of the Astronomical Institute imeni P.K.Shternberg on the Lenin Hills near Moscow and other

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Observation of the Turbulence of the Lowest Atmospheric Layer SOV/155-58-3-27/37

telescopes were used for the experiments. The obtained data about the magnitude and motion of the inhomogeneities agree with the observations of Protheroe [Ref 4]. There are 8 figures, and 4 American references.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova (Moscow State University imeni M.V.Lomonosov)

SUBMITTED: April 22, 1958

Card 2/2

3(1),23(1)

AUTHOR: Kozhevnikov, N.I. SOV/55-58-4-3/31

TITLE: On the Connection Between the Energy Flux Through the Objective of the Collimator and the Width of the Entrance Slit of the Spectrograph (O zavisimosti mezhdu velichinoy potoka energii cherez ob"yektiv kollimatora i shirinoy vkhodnoy shcheli spektrografa)

PERIODICAL: Vestnik Moskovskogo universiteta, Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1958, Nr 4, pp 27-36 (USSR)

ABSTRACT: For the ratio $\varphi(b)$ of the sets of energy passing through the lens aperture of the collimator and the entrance slit of the spectrograph, the author obtains a very complicated closed expression (b - apertural width). A numerical evaluation yields a curve ascending from the zero point at first very steeply, then it has a sharp break, and then, slowly vibrating it approximates asymptotically a straight line parallel to the b-axis. Consequently the diffraction correction for a broad slit is essentially less than for a narrow one.
There are 5 figures, and 4 references, 2 of which are Soviet, 1 American, and 1 German.

ASSOCIATION: Kafedra astrofiziki GAISh (Chair of Astrophysics at the

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On the Connection Between the Energy Flux Through the Objective of the Collimator and the Width of the Entrance Slit of the Spectrograph

SOV/55-58-4-3/31

State Institute of Astronomy imeni P.K.Shternberg)

SUBMITTED: February 21, 1958

Card 2/2

KOZHEVNIKOV, N.I.

Graphic calculation of vignetting in astronomical optics. Astron. zhur. 38 no. 1:177-181 Ja-F '61. (MIRA 14:2)

1. Gosudarstvennyy astronomicheskiy institut im. P.K. Shternberga.
(Astronomical instruments)

KOZHEVNIKOV, N.I.; MAKAROVA, Ye.A.

Limits of the applicability of Bouguer's method for determining the intensity of light from a celestial source. Astron.zhur. 38 no.3: 536-540 My-Je '61. (MIRA 14:6)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Shternberga.
(Stars—Radiation)

41289
S/035/62/000/010/045/128
A001/A101

AUTHORS: Kozhevnikov, N. I., Makarova, Ye. A.

TITLE: Determination of extra-atmospheric values of silicon photo-cell yield. PartI.The method of determining absolute sensitivity, investigation of relative spectral sensitivity of photo-cells

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 10, 1962, 58, abstract 10A402 ("Soobshch. Gos. astron. in-ta im. P. K. Shternberga", 1961, no. 116, 3 - 24)

TEXT: Efficiency of silicon photo-cells considerably depends on external conditions (temperature, level and spectral range of irradiation) and is also determined by parameters of a circuit connected. The absolute spectral sensitivity is defined as $e_\lambda = W_\lambda / E_\lambda$, where E_λ is spectral density of energy incident on the photo-cell, and W_λ is energy yield into the photo-cell external circuit. The method of irradiation with the known irradiative capacity (ribbon tube) was employed for determining E_λ. The relative spectral sensitivity is defined as.

$$\bar{e}_\lambda = e_\lambda / e_{\lambda_0}, \quad (1)$$

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Determination of extra-atmospheric values of...

hence one obtains

$$e_{\lambda_0} = \int_{\lambda_1}^{\lambda_2} W_\lambda \, d\lambda \Big/ \int_{\lambda_1}^{\lambda_2} e_\lambda \cdot E_\lambda \, d\lambda \qquad (2)$$

If one knows e_{λ_0}, the absolute spectral sensitivity can be determined for any λ by Formula (1). To employ Formula (2), one has to know the relative spectral sensitivity. The latter was determined from the known curve of spectral distribution of the source energy. The e_{λ_0} magnitude was determined from the Sun.

G. F. Sitnik's compensation circuit (RZhAstr, 1957, no 3, 1909) was used in determination of the relative spectral sensitivity. Electrical and optical measurement circuits are described in detail. Comparative studies of time permanence of silicon photo-cell yield have shown that sulfur-silver photocells are somewhat stabler than silicon ones. Directivity diagrams of energy distribution in the light beam reflected from the photo-cell are presented. The full intensity

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Determination of extra-atmospheric values of...

of reflected light amounted to 3 - 4% of the incident beam. There are 8 references.

Ye. Antropov

[Abstracter's note: Complete translation]

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41290

S/035/62/000/010/046/128
A001/A101

AUTHORS: Makarova, Ye. A., Kozhevnikov, N. I., Porfir'yeva, G. A.

TITLE: Determination of extra-atmospheric values of silicon photo-cell yield. Part II. Observations and results

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 10, 1962, 58-59, abstract 10A403 ("Soobshch. Gos. astron. in-ta im. P. K. Shternberga 1961, no. 116, 25 - 45)

TEXT: The method described in Part I of the article of the same title (abstract 10A402) was applied to determination of the absolute spectral sensitivity of a group of photo-cells. Making use of the experimental linear growth of power obtained from the optimum load of a photo-cell (depending on light intensity), the authors calculated extra-atmospheric values of photo-cell yield by extrapolation of observed values. It amounts to 4.5 - 9.7 mw cm^2. There are 9 references.

Ye. A.

[Abstracter's note: Complete translation]

Card 1/1

KOZHEVNIKOV, N.I.

Methods for determining the efficiency of photoelectric cells; comments. Soob.GAISH no.116:46-54 '61. (MIRA 14:8)
(Photoelectric cells—Testing)

S/623/61/000/117/001/002
E032/E114

AUTHOR: Kozhevnikov, N.I.

TITLE: The scattering of light in the earth's atmosphere and its effect on the apparent luminosity and details on the solar disc

SOURCE: Moscow. Universitet. Gosudarstvennyy astronomicheskiy institut. Soobshcheniya. no.117. 1961. 3-14

TEXT: V.Ye. Stepanov (Soobshch. GAISh, no.100, 1957) has shown that the observed optical thickness of the earth's atmosphere is different for different points on the solar disc. The present author reports an analysis of this problem, starting with the general equation for the transport of radiation in the atmosphere, taking into account scattering and absorption. Formulae are derived for the ratio of the luminance of any two points on the surface of the disc in terms of the observed luminance. These formulae are found to be in agreement with the results of Stepanov and those of T.V. Krat (AZh, v.25, no.5, 1948). The analysis may be used to compute the correction for scattering, δ. It is shown further that the correction may change sign and

Card 1/2

The scattering of light in the earth's.. S/623/61/000/117/001/002
E032/E114

therefore may be zero for certain luminosity ratios.
There are 2 figures and 1 table.

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41277

S/035/62/000/010/025/128
A001/A101

AUTHORS: Kornilov, A. I., Kozhevnikov, N. I.

TITLE: Polarization of radiation and instrumental contour of a spectrograph

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 10, 1962, 46, abstract 10A335 ("Soobshch. Gos. astron. in-ta imeni P. K. Shternberga", 1961, no. 117, 15 - 20)

TEXT: The authors consider theoretically the profile of a diffraction image of the spectral line; in summation of oscillations in the focal plane of the spectrograph, not only phases but also polarization of oscillations of light are taken into account. Incident light is assumed to be plane-polarized, parallel and perpendicular to the spectrograph slit. Diffraction is considered only on the diaphragm of the prism or the grating. The calculation results are presented in graphs showing distribution of amplitude and intensity as a function of diffraction angle for aperture ratios of the spectrograph 0.75 - 0:0; this dependence proves to be insignificant. Since the amplitudes

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S/035/62/000/010/025/128
AC01/A101

of polarized components coincide for small aperture ratios, the authors conclude that, in experimental determination of a diffraction profile of the slit image, differentiating of light bundles with different polarization is not necessary. A necessity in separation may arise only in cases of spectrograph cameras with aperture ratio $\geqslant 1$. There are 5 references.

Ye. Makarova

[Abstracter's note: Complete translation]

S/188/62/000/004/002/010
B108/B102

AUTHOR: Kozhevnikov, N. I.

TITLE: Optical examination of the structure of air streams in atmospheric strata near the surface

PERIODICAL: Moscow. Universitet. Vestnik. Seriya III. Fizika, astronomiya, no. 4, 1962, 14 - 17

TEXT: In a previous paper (NDVSh, no. 3, 143, 1958) the author had described a method of observing turbulences in the atmosphere by daylight. The direct sunlight is screened out after focusing, so that only those rays that are refracted on air inhomogeneities are projected to a screen. Observations using this method showed that atmospheric inhomogeneities themselves are also inhomogeneous. There are 4 figures.

ASSOCIATION: Kafedra astrofiziki (Department of Astrophysics)

SUBMITTED: September 25, 1961

Card 1/1

40375
S/170/62/005/009/003/010
B108/B104

26.2181

AUTHORS: Latyshev, L. A., Kozhevnikov, N. I.

TITLE: Calculation of the temperature fields in the wall of a bounded hollow cylinder for non-uniform boundary conditions

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 5, no. 9, 1962, 44-52

TEXT: The authors studied the temperature field of a bounded tube when the heat transfer from the tube to its surrounding is not uniform along the tube. This problem involves solving a boundary value problem of the Laplace equation

$$\frac{\partial T}{\partial \tau} = \chi\left(\frac{\partial^2 T}{\partial r^2} + \frac{\partial^2 T}{\partial z^2} + \frac{1}{r}\frac{\partial T}{\partial r}\right) \qquad (1)$$

at boundary conditions

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$$z=0 \text{ и } z=H,\ \frac{\partial T}{\partial z}=0,$$

$$r=a,\ \frac{\partial T}{\partial r}-h_i(T-T_i)=0,\ i=1,2, \qquad (2),$$

$$r=b,\ \frac{\partial T}{\partial r}=C=\frac{q}{\lambda};$$

initial conditions $\tau=0$, $T=T_0(r,z)$ and conditions on the wall

$$T(a,z_y-0,\tau)=T(a,z_y+0,\tau),$$

$$\frac{\partial T(a,z_y-0,\tau)}{\partial z}=\frac{\partial T(a,z_y+0,\tau)}{\partial z}. \qquad (4).$$

It is shown that for a given flow of heat as well as for a given heat transfer intensity the solution is obtained by superposing the solution of a stationary problem with non-uniform boundary conditions and on that of a

S/170/62/005/009/003/010
B108/B104

Calculation of the temperature fields ...

non-stationary problem with uniform boundary conditions: $T(r,z,\tau) = \theta_1(r,z) + \theta_2(r,z,\tau)$. The resulting analytical expressions are well suited for use in numerical computation.

ASSOCIATION: Aviatsionnyy institut imeni Sergo Ordzhonikidze, g. Moskva (Aviation Institute imeni Sergo Ordzhonikidze, Moscow)

SUBMITTED: July 6, 1961

Card 3/5

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

3,1200

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, 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

Card 1/2

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

KOZHEVNIKOV, N.I.

Optical method for studying the structures of air flows in the surface layers of the atmosphere. Vest. Mosk.un.Ser.3: Fiz,astron. 17 no.4:14-17 Jl-Ag '62. (MIRA 15:9)

1. Kafedra astrofiziki Moskovskogo universiteta.
(Meteorological optics)
(Air flows)

45165

3.5150

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

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

Card 1/2 *S/188/62/000/006/014/016

and are at different distances from each other. These results show that the absorption coefficient is not constant within the band, so that the amount of absorption measured depends on that section of the band chosen for the investigation. This was confirmed experimentally. A modified formula according to Goody for the residual intensity observed is given by averaging the absorption in the frequency interval of the band considered. The experimental results are discussed on the basis of this formula. They are found to be in satisfactory agreement. There are 5 figures and 2 tables.

ASSOCIATION: Kafedra astrofiziki (Department of Astrophysics)

SUBMITTED: May 11, 1962

S/269/63/000/003/028/036
A001/A101

AUTHOR: Kozhevnikov, N. I.

TITLE: Light scattering in the Earth's atmosphere and its effect on the apparent brightness of details of the solar disk

PERIODICAL: Referativnyy zhurnal, Astronomiya, no. 3, 1963, 49 - 50, abstract 3.51.370 ("Soobshch. Gos. astron. in-ta im. P. K. Shternberga", 1961, no. 117, 3 - 14)

TEXT: The author considers theoretically the effect of light scattered in the Earth's atmosphere on the apparent brightness of details of the solar disk. Starting from the general equation of radiation transfer in a medium with scattering and absorption, the author derived a relation connecting the observed brightness of a point on the solar disk with its true brightness and a formula for the ratio of brightnesses of two points on the solar disk. Then the apparent brightness is expressed in terms of true brightness, using scattering indicatrix. It is shown that for the ratio of brightnesses of two points of the solar disk, a correction factor for the effect of light scattering can be $\gtrless 1$.

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S/269/63/000/003/028/036
A001/A101

Analogously, for a spot a correction for scattered light can be positive, negative or equal to zero, in dependence of the true brightness of a studied point in a spot. For small spots, the effect of scattered light is less than for darker spots. For large spots, the correction is equal to zero, if the ratio of brightness of scattered light for the spot and photosphere is equal to the ratio of true brightnesses of the points of the spot and the photosphere.

Ye. Makarova

[Abstracter's note: Complete translation]

KORNILOV, A. I.; KOZHEVNIKOV, N. I.

Polarization of radiation and image contour of a spectrograph. Soob. GAISH no.117:15-20 '61. (MIRA 15:10)

(Spectrograph) (Polarization(Light))

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

Absorption of solar radiation by water vapor according to observations conducted at different altitudes. Vest.Mosk.un. Ser.3: Fiz.,astron. 17 no.6:73-79 N-D '62. (MIRA 15:12)

1. Kafedra astrofiziki Moskovskogo universiteta.
(Solar radiation—Observations) (Water vapor)

KLYAKOTKO, M.A.; KOZHEVNIKOV, N.I.

Character of large-scale motions in the solar photosphere.
Astron.zhur. 39 no.6:981-986 N-D '62. (MIRA 15:11)

1. Gosudarstvennyy astronomicheskiy institut im.
P.K. Shternberga.
(Sun)

ACCESSION NR: AP3001774 S/0188/63/000/003/0066/0069

AUTHOR: Kozhevnikov, N. I.

TITLE: On the question of fluctuations of the index of refraction of light waves in the surface layers of the atmosphere

SOURCE: Moscow. Universitet. Vestnik. Seriya 3. Fizika, astronomiya, no. 3, 1963, 66-69

TOPIC TAGS: atmospheric optics, refraction, light wave, inhomogeneity, atmospheric turbulence, refraction index

ABSTRACT: The structural function of the fluctuation of the index of refraction in the surface layers of the atmosphere has been determined by a method of direct observation. Two Kolmogorov-Obukhov functional relationships, based on the theory of isotropic turbulence, are employed to determine the distribution of the structural function of the index of refraction and the least mean distance between two regions in space:

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ACCESSION NR: AP3001774

$$D_n(\bar{r}_1, \bar{r}_2) = \overline{|n(\bar{r}_1)-n(\bar{r}_2)|^2} = C_n^2 |\bar{r}_2-\bar{r}_1|^{2/3},$$

$$l_0 \ll |\bar{r}_2-\bar{r}_1| \ll L_0,$$

$$D_n(\bar{r}_1, r_2) = \overline{|n(\bar{r}_1)-n(\bar{r}_2)|^2} = C_n^2 |\bar{r}_2-\bar{r}_1|,$$

$$l_0 \gg |\bar{r}_2-\bar{r}_1|,$$

where $D_n(\bar{r}_1,\bar{r}_2)$ is the structural function of the index of refraction, $n(\bar{r})$ is the value of the index of refraction at point $\bar{r}$, C_n is a constant, L_0 is the outer scale of turbulence, and l_0 is the inner scale of turbulence. The optical system used to observe the fluctuations of the index of refraction is shown diagrammatically. The inhomogeneities are divided into 2 groups: I) those with a mean size of $\sim$2.5 cm, and II) those with a mean size of $\sim$9—10 cm. The mean distance between inhomogeneities is plotted as a function of the magnitude of fluctuation of the index of refraction for both groups. The index for group I is seen to be near unity, while that for group II exceeds unity. A linear

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ACCESSION NR: AP3001774

relationship exists between the mean distance between inhomogeneities and the magnitude of fluctuation of the index of refraction for group I. It is concluded that: 1) the Kolmogorov-Obukhov law is fulfilled for the observed fluctuations of the index of atmospheric refraction, and 2) for the inner scale of turbulence $l_0 < 2.5$ cm. Orig. art. has: 4 figures and 4 formulas.

ASSOCIATION: Kafedra astrofiziki MGU (Department of Astrophysics, MGU)

SUBMITTED: 02Oct62 DATE ACQ: 09Jul63 ENCL: 00

SUB CODE: AS NO REF SOV: 006 OTHER: 000

Card 3/3

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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ACCESSION NR: AT4035360

and the aureoles caused by light scattering on water vapor particles are small. The water vapor content in the atmosphere in winter is only one-half or one-third as great as in summer. "In conclusion, the authors wish to thank A. I. Kiryukhina, M. S. Murasheva and R. N. Khmeleva, specialists of the Otdel fiziki Solntsa GAISh (Division of Solar Physics of the State Astronomical Institute), for assistance in making the observations and in processing the data". Orig. art. has: 3 formulas, 11 figures and 5 tables.

ASSOCIATION: Gosudarstvenny*y astronomicheskiy institut Moskovskogo universiteta (State Astronomical Institute, Moscow University)

SUBMITTED: 00 DATE ACQ: 25May64 ENCL: 00

SUB CODE: AA, ES NO REF SOV: 005 OTHER: 005

Card 3/3

KOZHEVNIKOV, N.I.

Some peculiarities of the image of a spectral line in case of an illumination of the input slit of a spectrograph with a parallel light beam. Soob.GAISH no.126:25-30 '63. (MIRA 17:2)

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)

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)

S/033/63/040/001/008/016
E032/E514

AUTHORS: Kozhevnikov, N.I. and Klyakotko, M. A.

TITLE: Determination of some parameters of large-scale motions in the solar photosphere

PERIODICAL: Astronomicheskiy zhurnal, v.40, no.1, 1963, 61-70

TEXT: In a previous paper the authors put forward a method of studying the longitudinal motion of nonrecurring sunspots. In the present paper a more detailed analysis of the method is given and the results of its application reported in the previous paper are analysed. It is shown that the average modulus of the difference in the velocity of two sunspots separated by a latitude interval $\Delta\varphi$ can be approximately represented by a function of the form

$$f(\varphi) = \alpha \sin \frac{2\pi\varphi}{T} + \tau(\varphi), \qquad (3)$$

where $\tau(\varphi)$ is an aperiodic function. All the graphs of $|\overline{\Delta v}|_n$ given in the previous paper can be approximately fitted with this function. An adequate representation is obtained by putting $\tau(\varphi) = K\varphi$. It turns out that the parameter T reaches a minimum

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at times corresponding to minimum solar activity and then increases again. This is deduced from analyses of data for 1882-1896. It is still not clear whether the variation of T has a period equal to the eleven-year cycle or the twenty-two-year cycle. Analysis of the data for 1897 and the following years should yield an answer to this question. The parameter K is found to increase and decrease in synchronism with the degree of solar activity, although this must be confirmed by further analyses. The amplitude α increases as the minimum of solar activity is approached and then decreases towards the solar activity maximum. All the results are in agreement with the assumption that the meridional component of the motion of photospheric matter is mainly governed by the latitude φ of the point under consideration and, to a much lesser extent, by the longitude. It is, therefore, very probable that the motion of photospheric matter may be divided into zones inscribed on the sun in the longitudinal direction. The parameters of the motion will then vary from zone to zone and the width of any given zone will be related to the period T. On this assumption, the width is found to vary during

a solar activity cycle between 5 and 8°, decreasing towards activity minimum. It appears that the width of all the zones is roughly the same, although this must also be verified in more detail. Finally, the effect of the inclination of these zones to the equator is considered and it is shown that this inclination is not likely to vary since if it did the effects would be in contradiction with observational data. The results of the above analysis cannot, therefore, be explained by this type of effect. There are 10 figures.

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

SUBMITTED: November 16, 1961

L 11184-63 EWT(1)/FCC(w)/BDS/ES(v)--AFFTC/APGC/ASD/ESD-3/SSD--Pe-4/Pi-4/Pq-4--
ACCESSION NR: AP3001245 S/0033/63/040/003/0539/0543 RB

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 0.005 and 0.01 micron for the two instruments, respectively. The calibration curves were

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2

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

L 11184-63
ACCESSION NR: AP3001245

Institute)

SUBMITTED: 13Feb62 DATE ACQD: 01Jul63 ENCL: 00

SUB CODE: AI, PH NO REF SOV: 007 OTHER: 003

ch/ld

Card 3/3

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.

ACCESSION NR: AP4033634 S/0188/64/000/002/0052/0055

AUTHOR: Kuz'miny*kh, V. D.; Kozhevnikov, N. I.

TITLE: The problem of the accuracy of determination of the source function of a plage

SOURCE: Moscow. Universitet. Vestnik. Seriya III. Fizika, astronomiya, no. 2, 1964, 52-55

TOPIC TAGS: astronomy, solar activity, solar plage, solar photosphere

ABSTRACT: A study has been made of the influence of errors in observations of the plage-photosphere contrast on the accuracy of determination of the source function of a plage. The observed discrepancies in the temperatures of plages cited by various authors can be attributed in part to observational errors. A method is proposed for correctly estimating the order of the value δT. When determining models of a plage from observations of the plage-photosphere contrast in a number of wavelengths it is possible to have differences between models obtained for different λ, in part caused by inaccuracies of observation. At the same time, in photoelectric observations it is admissible and legitimate to have discrepancies in T in the "hot" region of a plage of the order of 30-50C

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ACCESSION NR: AP4033634

and in the "cold" region of 70-120C. Orig. art. has: 3 formulas and 2 tables.

ASSOCIATION: Kafedra nebesnoy mekhaniki i gravimetrii, Moskovskiy universitet (Department of Celestial Mechanics and Gravimetry, Moscow University)

SUBMITTED: 27Apr63 DATE ACQ: 30Apr64 ENCL.: 00

SUB CODE: AA NO REF SOV: 005 OTHER: 003

Card 2/2

KOZHEVNIKOV, N.I.

Comparison of Elsasser and Goody's models of the spectral absorption band of the infrared radiation by water vapors. Soob. GAISH no.131:3-9 '64.

Radiation absorption in a band consisting of irregularly disposed lines. Ibid.:10-15 (MIRA 17:8)

KOZHEVNIKOV, N.I.

Contribution of atmospheric layers with various altitudes to the phenomenon of the twinkling of the sun's limb. Soob. GAISH no.133: 3-9 '64. (MIRA 17:8)

ACCESSION NR: AP4014447 S/0188/64/000/001/0071/0080

AUTHOR: Kozhevnikov, N. I.; Kuz'miny*kh, V. D.

TITLE: Temperature distribution in faculae

SOURCE: Moscow. Universitet. Vestnik. Seriya 3. Fiz. astron., no. 1, 1964, 71-80

TOPIC TAGS: sun, solar physics, solar facula, facula, astronomy, facula temperature

ABSTRACT: Seven different ways in which the source function for a facula can be expressed are explored. It is shown that the behavior of the source function for a facula cannot be the same as the behavior of the source function for the photosphere. The source function for a facula should have a "knee" at a point corresponding to some value of the optical depth τ. On the basis of previously published observational data and using the proposed model of the source function, the authors compute the dependence of the temperature of the facula on optical depth for various wavelengths. It is demonstrated that deviations of the temperature of faculae from the temperature of the photosphere have a systematic variation with a change in wavelength.. Orig. art. has: 5 figures, 3 tables and 19 formulas.

ASSOCIATION: GOSUDARSTVENNY*Y ASTRONOMICHESKIY INSTITUT IMENI SHTERNBERGA (State

Card 1/2

ACCESSION NR: AP4017617 S/0033/64/041/001/0087/0089

AUTHOR: Kozhevnikov, N. I.

TITLE: The form of the image blur function for the solar disk edge

SOURCE: Astronomicheskiy zhurnal, v. 41, no. 1, 1964, 87-89

TOPIC TAGS: solar disk, solar disk edge, image blur, solar disk image blur, image blur function, Wanders function

ABSTRACT: Measuring the intensity distribution over the solar disk edge requires correct location of the edge, which is not possible without taking the blur effect into account. Since Wanders' blur function is empirical, it was of interest to define the limits of its effectiveness and to find the exact form of the function. Stating that a blurred edge of the solar disk results from light beams passing through a turbulent atmosphere and that the deflections in the solar disk edge image are proportional to the fluctuations in the refractive index of air on the path of a light beam, the author derives a formula which represents the form of the blur function. As shown in the Enclosure, comparison of the authors formula with the Wanders function revealed good approximation for a 10-40 cm diameter telescope. Orig. art. has: 9 formulas and 1 graph.

Card 1/3

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Card 2/3

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