KOLCHINSKIY, I.G.

Influence of the Light of Stars on Refraction, Astron. Zhur., 25, no.6, 1948.

Member, Kiev Astronomical Observatory.

KOLCHINSKIY, I. G.

Kolchinskiy, I. G. - "On corrections to the tables of star color refractions", Publikatsii Kiyevsk. astron. observatorii (kiyevsk. gos. un-t im. Shevchenko), No. 2, 1948, p. 81-90, - Bibliog: 15 items.

SO: U-3042, 11 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 8, 1949).

KRICHINSKIY, I. G.

35162. K Voprosu O Vekovom Izmenenii Solnechoy Aktivnosti. Byulleten' Komissii Po Issledovaniyu Solntsa (Akad. Nauk SSSR), No. 2, 1949, s. 9-10

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

KOLCHINSKIY, I. G. PA 30/49T80

USSR/Geophysics Jan/Feb 49
Atmosphere - Illumination

"Two Methods of Determining Atmospheric Dispersion," I. G. Kolchinskiy, Natural Sci Inst imeni P. F. Lesgaft, Kiev Astr Obs, 7 pp

"Astron Zhur" Vol XXVI, No 1

Investigates two methods of determining atmospheric dispersion. First is based on measurement of eccentricity of nucleus in representations of stars obtained by G. A. Tikhov's "Longitudinal spectrograph." In the second (visual) method, atmospheric dispersion is determined by an apparatus giving two representations of the

30/49T80

USSR/Geophysics (Contd) Jan/Feb 49

heavenly body, similar to a heliometer. Gives results of observations using both methods.

30/49T80

KOLCHINSKIY, I.G.

Some features of the distribution of eruptions on the solar disk. Publ.Kiev.astron.obser. no.3:43-53 '50. (MLRA 7:9)
(Sun)

KOLCHINSKIY, I.G.

Two methods for determining atmospheric dispersion. Publ.Kiev. astron.obser. no.3:85-92 '50. (MLRA 7:9)
(Dispersion) (Stars--Radiation)

KOLCHINSKIY, I.G.

BOGORODSKIY, A.F.; KOLCHINSKIY, I.G.

Distribution of sunspots in longitude. Publ.Kiev.astron.obser. no.4:41-47 '50. (MLRA 7:9)
(Sunspots)

KOLCHINSKIY, I.G.

KONOPLEVA, V.P.; KOLCHINSKIY, I.G.

Results of lunar eclipse observations from December 19, 1945.
Publ.Kiev.astron.obser. no.4:91-95 '50. (MLRA 7:9)
(Eclipses, Lunar--1945)

KOLCHINSKIY, I. G.

USSR/Astronomy - Atmospheric Flickering May/Jun 52
of Stars

"Amplitude of Flickering of Stellar Images in Telescopes in Dependence Upon Their Zenith Distance," I. G. Kolchinskiy, Main Astr Obs of Acad Sci Ukrainian SSR, Kiev

"Astron Zhur" Vol XXIX, No 3, pp 350-362

Astronomers are of different opinion on the reasons of flickering of stars. Author accepts formulas by V. A. Krasilnikov (see "Dok Ak Nauk SSSR" 65,

217T55

3, 1949) for mean square value of chance measurements. Krasilnikov's formula gives also the mean value of the characteristic of the field of temp pulsations of the atm at a given moment. Received 15 May 51.

217T55

KOLCHINSKIY, I.G.

General Scientific-Popular Literature (2052)
Nauka i zhittya, No 6, 1953, pp 5-9
Kolchinskiy, I.G.
"How Science Foretells Heavenly Phenomena"(Ukrainian)

Tells of the discovery of Neptune and Pluto, and of the periodicity of the appearance of comets.

SO: Referativnyy Zhurnal—Astronomiya i Geodeziya, No 1, Jan 54, No 2, Feb 54; (W-30785, 28 July 1954)

KOLCHINSKIY, I.G. (Kiyev); CHUPRINA, R.I. (Kiyev).

Observations of Mrkos-Honda's comet 1953a at the Main Astronomical Observatory of the Academy of Sciences of the Ukrainian S.S.R. Astron.tsir. no.142 :1 S '53. (MLRA 7:7)
(Comets--1953)

KOLCHINSKIY, I. G.

"Rapid Variations of Refraction and Their Influence in Astronometry."
Trudy 10-y Vses. astrometr. konf., pp 92-94, 1954.

Small variations of astronomic refraction in the course of short time intervals of the order of seconds and minutes are discussed. Observations confirm that if the flickering of the images is due to small-scale turbulence in the atmosphere, then the mean square value of the amplitude of flickering increases in proportion to L, where L is the "Air mass" passed through by a ray in the atmosphere. The importance of the study of the twinkling of stars for astrometry and for the study of turbulence of the terrestrial atmosphere is emphasized. (RZhGeol, No 9, 1955)

SO: Sum No 884, 9 Apr 1956

KOLCHINSKIY, I.G.

Exact positions of minor planet 3 Juno. Astron.tsir. no.153:6-7 O '54. (MLRA 8:5)

(Planets, Minor-3)

I. G. KOLCHINSKIY and GAVRILOV, I. V.

"Computing Corrections of the Moon's Coordinates from Observations of the Eclipse of June 20, 1954 at the Main Astronomic Observatory of AS UkrSSR"

(Total Eclipse of the Sun, February 25, 1952 and June 30, 1954; Transactions of the Expedition to Observe Solar Eclipses) Moscow, Izd-vo AN SSSR, 1958. 397 p.

KOLCHINSKIY, I.G.

The astrograph at the Main Astronomical Observatory of the Academy of Sciences of the Ukrainian S.S.R. Izv.Glav.astron. obser. 1 no.2: 25-31 '56. (MLRA 9:8)
(Telescope) (Astronomical photography)

KOLCHINSKIY, I.G.

Accurate positions of the minor planet Juno (3) according to photographical observations made in 1952. Izv.Glav.astron.obser. 1 no.2:37 '56. (MLRA 9:8)

(Planets, Minor--3)

MEL'NIKOV, O.A.; KOLCHINSKIY, I.G.

Conference on problems of stellar scintillation. Astron.zhur.33 no.3: My-Je '56. (MLRA 9:10)
(Stars--Radiation)

KOLCHINSKIY, I.G.

GAVRILOV, I.V.; KOLCHINSKIY, I.G.; OMEGINA, A.B.

Preliminary results of processing photographs of galaxies made for compiling a catalog of faint stars. Izv. Glav. astron. obser. AN URSR 2 no.1:73-91 '57. (MIRA 11:2)
(Stars--Photographic measurements)

KOLCHINSKIY, I.G.

AUTHOR: Kolchinskiy, I. G. 33-4-14/19

TITLE: Some results of observations on the fluctuation of images of stars, carried out at the Main Astronomical Observatory of the Academy of Sciences of the USSR at Goloseyevo (Nekotoryye rezul'taty nablyudeniy drozhaniya izobrazheniy zvezd na ploshchadke GAO AN USSR v Goloseyeve)

PERIODICAL: Astronomicheskiy Zhurnal, 1957, Vol.34, No.4, pp.638-651 (USSR)

ABSTRACT: Fluctuations in the images of stars in telescopes are of considerable interest at the present time for the following reasons:-

1. The amplitude of the fluctuations is one of the criteria for choosing a given place for an observatory.
2. The fluctuations, as well as flickering in the intensity of stellar light, is connected with the turbulence of the terrestial atmosphere. For this reason the fluctuations can be used to study turbulent non-uniformities, their motion, size, height etc.
3. An analogous phenomenon is also observed in the case of the propagation of radiowaves in the atmosphere.

Observations reported in the present paper were carried out photographically on the 400 mm astrograph of the Main Astronomical Observatory (F=5.5m). The results were

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Some results of observations on the fluctuation of images of stars, carried out at the Main Astronomical Observatory of the Academy of Sciences of the USSR at Goloseevo.

obtained between 1955 and 1956. In this astrograph 37"4 corresponds to 1 mm.

The amplitude of fluctuation is defined as the mean square value of the deviation of the given track from a track which would have been obtained had the fluctuations been absent. The deviations were measured perpendicularly to each track. It is shown that the amplitude as defined above is proportional to $L^{0.47}$, where L is the mass of the air. There are some deviations from this law but the reasons for these are not yet clear. The dependence of the mean square amplitude on L is in agreement with theory. The fluctuations have a period of the order of a few seconds.

The dependence of the mean square amplitude on temperature is as predicted by the theory. The distribution of amplitudes according to their magnitude is Gaussian.

I.V. Gavrilova, A. B. Onegina, and Yu. K. Filippov also took part in this work.

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KOLCHINSKIY, I.G.

PHASE I BOOK EXPLOITATION SOV/4867

Soveshchaniye po issledovaniyu mertsaniya zvezd, Moscow, 1958

Trudy Soveshchaniya po issledovaniyu mertsaniya zvezd, Moskva, 18-20 iyunya 1958 g. (Conference on the Study of Star Scintillation) Moscow, Izd-vo AN SSSR, 1959. Errata slip inserted. 1,000 copies printed.

Editorial Board: A. M. Obukhov, Corresponding Member, Academy of Sciences USSR; Resp. Ed.: G. A. Mel'nikov, Professor; I. G. Kolchinskiy, Candidate of Physical and Mathematical Sciences; E. I. Kucherov, Candidate of Physical and Mathematical Sciences; Secretaries of the Editorial Board: N. V. Bystrova, Candidate of Physical and Mathematical Sciences; M. A. Kallistratova and L. N. Zhukova; Tech. Ed.: M. E. Zendel'.

PURPOSE: This book is intended for astronomers. It may be of interest to physicists studying the atmosphere and designers of astronomical equipment.

COVERAGE: The book reports on the Transactions of the Conference on the Study of Stellar Scintillation, held in Moscow from 18 to 23 June 1958. The Conference was organized by the Astronomical Council AS USSR and the Institute of Physics of the Atmosphere AS USSR. The book contains summaries of 23 reports read at the Conference, treating stellar scintillation and flickering of star images. Individual reports deal with methods and instruments of observation. Included are brief summaries of the discussions which followed each session, and the resolution adopted by the Conference. References follow individual articles.

KOLCHINSKIY, I.G.

SANDAKOVA, Ye.V. [Sandakova, IE.V.], kand. fiz.-mat. nauk; KOLCHINSKIY, I.G., kand. fiz.-mat. nauk, red.; IAZOVENKO, M.F., red.

["Unusual" celestial phenomena] "Nezvychaini" nebesni iavyshcha. Kyiv, To-vo dlia poshyrennia polit. i nauk. znan' URSR, 1958. 34 p. (MIRA 11:7)

(Meteorological optics) (Astronomy)

YAKOVKIN, Avenir Aleksandrovich. Prinimali uchastiye: GORDELADZE, Sh.G., nauchnyy sotrudnik; KOLCHINSKIY, I.G., nauchnyy sotrudnik; SAYKOVSKIY, M.I., nauchnyy sotrudnik; KOLCHINSKIY, I.G., kand. fiziko-matemat.nauk, otv.red.; LABINOVA, N.M., red.izd-va; SKLYAROVA, V.Ye., tekhn.red.

[Artificial earth satellites] Iskusstvennye sputniki zemli. Kiev, Izd-vo Akad.nauk USSR, 1958. 46 p. (MIRA 12:9)

1. Glavnaya astronomicheskaya observatoriya AN USSR (for Gordeladze, Kolchinskiy). 2. Institut teploenergetiki AN USSR (for Saykovskiy).

(Artificial satellites)

3,1510

69365

SOV/35-59-10-7855

Translation from: Referativnyy zhurnal. Astronomiya i Geodeziya, 1959, Nr 10, p 24 (USSR)

AUTHORS: Gavrilov, I.V., Kolchinskiy, I.G.

TITLE: Determinations of the Corrections of Coordinates of the Moon Through Observation of the Solar Eclipse Which Took Place on June 30, 1954, and which was Observed by the Main Astronomical Observatory of AS UkrSSR

PERIODICAL: V sb.: Polnyye solnechn. zatmeniya 25 Febr. 1952, i 30 June 1954. Moscow, AS USSR, 1958, pp 324-328

ABSTRACT: Observations of partial phases were carried out with the astrograph of the MAO AS UkrSSR (D = 400 mm, F = 5,500 mm) near Kiyev. The southern boundary of the total phase passed near the Observatory. Observations were carried out when the sky was not quite clear. Altogether, 36 photographs of partial phases were obtained, but it has only been possible to process 18. The measurement of the plates and their processing was carried out according to the method described in the A.A. Mikhaylov handbook "Theory of Eclipses". The coordinates of the Sun and Moon were taken from the Astronomical Annual

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SOV/35-59-10-7855

Determinations of the Corrections of Coordinates of the Moon Through Observation of the Solar Eclipse Which Took Place on June 30, 1954, and which was Observed by the Main Astronomical Observatory of AS UkrSSR

USSR, without any corrections. The following corrections for the coordinates of the Moon were found: $\Delta\alpha = -0".68 \pm 0".41$; $\Delta\delta = +0".28 \pm 0".12$.

S.G.M.

Card 2/2

KOLCHINSKIY, I.G. [Kolchyns'kyi, I.H.], kand.fiz.-mat.nauk

Artificial satellites and religious fables. Nauka i zhyttia 8 no.4:37-39 Ap '58. (MIRA 13:5)
(Artificial satellites) (Atheism)

3(1),24(4)

AUTHORS: Mel'nikov,O.A., and Kolchinskiy,I.G. SOV/33-35-5-19/20

TITLE: Conference on the Twinkling of Stars and on the Problem of Wave Propagation in a Medium With Random Inhomogeneities (Soveshchaniye po mertsaniyam zvezd i probleme rasprostraneniya voln v srede so sluchaynymi neodnorodnostyami)

PERIODICAL: Astronomicheskiy zhurnal, 1958, Vol 35, Nr 5, pp 819-822 (USSR)

ABSTRACT: Place of the conference and time: Moscow, June 18-20, 1958. The congress was organized by the Astronomic Assembly of the AS USSR and the Institute of Atmospheric Physics at the AS USSR.Committee of organization: A.M.Obukhov, Corresponding Member of the AS USSR, O.A.Mel'nikov, Doctor of Physical-Mathematical Sciences,Professor, N.I.Kucherov, Candidate of Physical-Mathematical Sciences, and younger scientific contributors of the Astronomic Principal Observatory L.N.Zhukova.
Participators: Scientists from Moscow, Leningrad, Kiyev, Crimea, and Yaroslavl'.
The opening address was given by Professor O.A.Mel'nikov. On June 18 the conference heard reports of A.M.Obukhov, V.I.Tatarskiy, V.M.Bovsheverov (read by L.R.Tsvang), A.S.Gurvich, L.A. Chernov, M.N.Krom, E.A.Blyakhman. I.G.Kolchinskiy, S.I.Sorin,and

others had a share in the discussion.
On June 19 the conference heard reports of L.N.Zhukova, A.N. Demidova, R.G.Vinogradova, N.V.Bystrova, G.Ya.Vasil'yeva, N.I. Kucherov, Sh.P.Darchiya, V.A.Krat, M.Kerimbekov. Discussion: Ye.Ya.Bugolavskaya, G.V.Rozenberg, P.P.Dobronravin, A.I.Zinkovskiy, N.V.Bystrova. Further reports on June 19: Academician V.P. Linnik, Yu.A.Sabinin, N.F.Kuprevich, N.V.Bystrova and Yu.S. Streletskiy. Discussion: G.V.Rozenberg, A.M.Obukhov.
Questions of organization have been discussed on June 20:
1. Election of the committee "Optical Instability of the Atmosphere" (chairman N.I.Kucherov, secretary N.V.Bystrova)
2. Election of the editorship for the publication of the report [A.M.Obukhov, O.A.Mel'nikov (editor), I.G.Kolchinskiy, N.I. Kucherov, N.V.Bystrova, L.N.Zhukova (GAO AS USSR), M.A.Kalistratova (IFA AS USSR)].
3. Resolution: Next congress 1960 in Kiyev.
The three points have to be confirmed by the Astronimic Assembly of the USSR. As a representative of the Assembly G.A.Leykin participated in this conference.

SUBMITTED: July 17, 1958
Card 2/2

KOLCHINSKIY, I.G. [Kolchyns'kyi, I.H.], kand.fiz.-mat.nauk

Triumph of scientific foresight. Nauka i zhyttia 9 no.1:47-49 Ja '59. (MIRA 12:1)

(Comets)

KOLCHINSKIY, I.G.

Investigating the scintillation of stellar images in telescopes.
Izv.Glav.astron.obser.AN URSR 3 no.2:27-67 '61. (MIRA 14:4)
(Stars—Scintillation)

29489 S/035/61/000/009/013/036
A001/A101

3,1220 (1051,1057)

AUTHOR: Kolchinskiy, I. G.

TITLE: Preliminary results of investigating tremor of stellar images at the Main Astronomical Observatory, AS UkrSSR

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 9, 1961, 31, abstract 9A244 ("Tr. Soveshchaniya po issled. mertsaniya zvezd", 1958. Moscow-Leningrad, 1959, 145-155. Discuss., 181-182)

TEXT: A number of problems are considered pertaining to studying the tremor of stars from observations at Goloseyevo. 1) Calculation of autocorrelation functions for detecting hidden periodicities in stellar tremors. It was established that periodic structure of autocorrelation functions is not always obtained. In cases of noticed periodicities the values of periods amount to 5-8 sec. 2) Investigation of the structure of some values of tremor amplitudes as random quantities using the principle of autoregression or sliding averages. In case of tremors, apparently, an interaction of two factors is observed one of which yields autoregression connection and the other - periodical undamped disturbance. 3) Investigation of long-period tremors: the results of measuring

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KOLCHINSKIY, I.G.

PHASE I BOOK EXPLOITATION SOV/5721

Vsesoyuznaya astrometricheskaya konferentsiya.

Trudy 14-y Astrometricheskoy konferentsii SSSR, Kiyev, 27-30 maya 1958 g. (Transactions of the 14th Astrometrical Conference of the USSR, Held in Kiyev 27-30 May 1958) Moscow, Izd-vo AN SSSR, 1960. 440 p. Errata slip inserted. 1000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Glavnaya astronomicheskaya observatoriya (Pulkovo).

Resp. Ed.: M. S. Zverev, Corresponding Member, Academy of Sciences USSR; Ed. of Publishing House: N. K. Zaychik; Tech. Ed.: R. A. Zamarayeva.

PURPOSE: The book is intended for astronomers and astrophysicists, particularly those interested in astrometrical research.

COVERAGE: This publication presents the Transactions of the 14th Astrometrical Conference of the USSR, held in Kiyev 27-30 May 1958. It includes 27 reports and 55 scientific papers presented at the plenary meeting of the Conference

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and at the special sectional meetings. An appendix contains the resolutions adopted by the Conference, the composition of the committees, the agenda, and the list of participants at the Conference. A brief summary in English is given at the end of each article. References follow individual articles. The Presidium of the Astrometrical Committee (Chairman M. S. Zverev), which supervised the preparation of this publication, expresses thanks to the members of the secretariat: V. M. Vasil'yev, I. O. Kol'chinskiy, A. B. Onegina, and Kh. I. Potter.

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Transactions of the 14th Astrometrical (Cont.) SOV/5721

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KOLCHINSKIY, I.G.

Investigating the pulsation of star images in telescopes. Izv. Glav. astron. obsor. AN URSR 3 no. 2:27-67 '61. (MIRA 14:5)
(Stars—Observations)

KOLCHINSKIY, I.G.

Autocorrelation function of the fluctuations of directions of light rays derived from observations of the flickering of star images. Izv.Glav.astron.obser.AN USSR 4 no.1:13-30 '61. (MIRA 14:10)

(Stars) (Astronomical photography)

KOLCHINSKIY, I.G.

Scintillation of star images as dependent on the lens diameter. Izv. Glav. astron. obser. AN URSR 4 no.2:3-15 '62. (MIRA 15:11)
(Stars--Observations)

FEDOROV, Ye.P., otv. red.; GORYNYA, A.A., red.; KOLCHINSKIY, I.G., red.; LUKATSKAYA, F.I., red.; BEREZINETS, L.P., red.

[Problems in astrometry] Voprosy astrometrii. Kiev, "Naukova dumka," 1964. 94 p. (MIRA 17:6)

1. Akademiya nauk URSR, Kiev. Holovna astronomichna observatoriya.

KOVAL', I.K., otv. red.; FEDOROV, Ye.P., red.; GORYNYA, A.A., red.; KOLCHINSKIY, I.G., red.; LUKATSKAYA, F.I., red.; BEREZNETS, B.P., red.

[Physics of the moon and planets] Fizika Luny i planet. Kiev, Naukova dumka, 1964. 137 p. (MIRA 17:10)

1. Akademiya nauk URSR, Kiev. Holovna astronomichna observatoriya.

FEDOROV, Ye.P., otv. red.; LUKATSKAYA, F.I., red.; GORYNYA, A.A., red.; KOLCHINSKIY, I.G., red.; BEREZINETS, L.P., red.

[Studies in the physics of stars and diffusion matter] Issledovaniia po fizike zvezd i diffuznoi materii. Kiev, Naukova dumka, 1964. 74 p. (MIRA 17:11)

1. Akademiya nauk URSR, Kiev. Holovna astronomichna observatoriya.

FEDOROV, Ye.P., otv. red.; GORYNYA, A.A., red.; KOLCHINSKIY, I.G., red.; LUKATSKAYA, F.I., red.; BEREZINETS, L.P., red.

[Spectrophotometric studies of active formations on the sun] Spektrofotometricheskie issledovaniia aktivnykh obrazovanii na Solntse. Kiev, Naukova dumka, 1964. 104 p. (MIRA 17:12)

1. Akademiya nauk URSR, Kiev. Holovna astronomichna observatoriya.

AZARNOVA, Taisiya Andreyevna; SHEMETS, Nina Aleksandrovna; KOLCHINSKIY, I.G. [Kolchins'kyi, I.H.], kand. fiz.-mat. nauk, red.

[Astronomy in the Ukraine, 1918-1962; bibliographical index] Astronomiia na Ukraini (1918-1962 rr); bibliografichnyi pokazhchyk. Kyiv, Naukova dumka, 1965. 160 p.
(MIRA 18:4)

KUCHEROV, N.I., kand. fiz.-mat. nauk, otv.red.[deceased]; MEL'NIKOV, O.A., red.; OBUKHOV, A.M., red.; DEMIDOVA, A.N., red.; KOLCHINSKIY, I.G., red.; TATARSKIY, V.I., red.

[Optical instability of the earth's atmosphere] Opticheskaia nestabil'nost' zemnoi atmosfery. Moskva, Nauka, 1965. 170 p. (MIRA 18:7)

1. Akademiya nauk SSSR. Astronomicheskiy sovet. 2. Chlen-korrespondent AN SSSR (for Mel'nikov, Obukhov).

YAKOVKIN, A.A., otv. red.; FEDOROV, Ye.P., red.; AKSENT'YEVA, Z.N., red.; BARABASHOV, N.P., red.; BOGORODSKIY, A.F., red.; GORYNYA, A.A., red.; KOVAL', I.K., red.; KOLCHINSKIY, I.G., red.; TSESEVICH, V.P., red.; KOVALENKO, L.D., red.

[Figure and motion of the moon] Figura i dvizhenie Luny. Kiev, Naukova dumka, 1965. 135 p. (MIRA 18:7)

1. Akademiya nauk URSR, Kiev.

L 15319-66 EWT(l)/EWA(d)/T IJP(c) GS/GM

ACC NR: AT6003703 SOURCE CODE: UR/0000/65/000/000/0010/0020

AUTHOR: Kolchinskiy, I. G.

ORG: none

TITLE: Correlation of flickering between star images separated by small angles

SOURCE: AN SSSR. Astronomicheskiy sovet. Opticheskaya nestabil'nost' zemnoy atmosfery (Optical instability of the earth's atmosphere). Moscow, Izd-vo Nauka, 1965, 10-20

TOPIC TAGS: binary star, photographic image, correlation function

ABSTRACT: Examination of binary-star images on a photographic plate, obtained with a fixed-tube astrograph, shows a rather close relation between deviations from the mean direction of traces for each component. The author shows that the problem reduces to a computation of the correlation coefficient between differences in phase pulsations for two pairs of parallel rays incident on the telescope objective at some low angle. When this small angle is expressed by γ, the diameter of the telescope objective by D, and the length of the ray path through the atmosphere by L (so that $D/L \ll 1$), the correlation function assumes the form

$$R(\gamma) = \frac{I(L, D, \gamma)}{I(L, D, 0)} \cong 1 - 0.018\left(\frac{L\gamma}{D}\right)^2.$$

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L 15319-66

ACC NR: AT6003703

Correlation of flickering between star images decreases substantially at an angular distance of a/L (a = correlation scale) if the correlation function of Gauss is used, or at an angular distance of D/L if the "2/3 law" is used. The greater the air mass, the lower the angle at which independence is achieved. Resolving power decreases appreciably at higher zenith angles. Using observational data for testing correlation, it was found that all values of the correlation function between pairs of traces are positive, that the correlation function R (γ) decreases with increase in γ, and that the radius of correlation (the value of γ at which R (γ) = 0.05) is about 10', which is in fair agreement with the predicted value. Orig. art. has: 6 figures, 5 tables, and 37 formulas.

SUB CODE: 03, 04/ SUBM DATE: 15May65 ORIG REF: 003/ OTH REF: 001

astrophotography 20, 4155

Card 2/2 BC

15320-66 FSS-2/EWT(1)/EWA(d)/T LJP(c) GS/GW
ACC NR: AT6003704 SOURCE CODE: UR/0000/65/000/000/0021/0025

AUTHOR: Kolchinskiy, I. G.

ORG: None

43
40
B+1

TITLE: The beaded structure of star trails XX

12-155

SOURCE: AN SSSR. Astronomicheskiy sovet. Opticheskaya nestabil'nost' zemnoy atmosfery (Optical instability of the earth's atmosphere). Moscow, Izd-vo Nauka, 1965, 21-25

TOPIC TAGS: [illegible], photographic image, astrograph, star, stellar photography

ABSTRACT: Beaded structure is frequently observed on photographic prints. The distance between nodes or beads along the trail is approximately uniform. The present examination is based on trails obtained at the GAO AN UkrSSR (Main Astronomical Observatory of the Academy of Sciences, Ukrainian SSR), 157 prints being obtained on a 400-mm astrograph in the period from January 1955 to December 1956. Five groups of trails are distinguished: 1) those with no beaded structure, 2) those with scarcely perceptible beads, 3) those with distinct but vaguely defined beads, 4) those with well-defined beads uniformly spaced, and 5) those with very sharply defined beads with approximately uniform spacing. Of the 157 prints, 60 (37%) show well-defined beaded structure in the trails. These were observed chiefly at high zenith distances. The beads do not appear to be due to scintillation. The average

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L 15320-66
ACC NR: AT6003704

spacing of the beads in the investigated prints proved to be 0.20 mm, the range being from 0.13 to 30 mm, corresponding to time intervals of 0.33 to 0.86 seconds, the average being 0.53. The interval increases with zenith distance, from 0.4 seconds at 60° to about 0.6 seconds at 80°. Apparently, at high zenith angles, when low-frequency components of scintillation begin to dominate, fluctuations in intensity of the light beam in the case of a moving image lead to the formation of beaded structure with some characteristic spatial frequency corresponding to the light frequency in the beam. Orig. art. has: 3 figures and 4 tables.

SUB CODE: 03/4/ SUBM DATE: 15May65/ ORIG REF: 001/ OTH REF: 002

astrophotography 20,44,55

Card 2/2

BOGATOV, Geral'd Borisovich; BYALIK, Gavriil Iosifovich; KOLCHINSKIY, M.L., red.; BORUKOV, N.I., tekhn.red.

[Applied television units] Prikladnye televizionnye ustanovki. Moskva, Gos. energ. izd-vo, 1959. 54 p. (Massovaia radiobiblioteka, no.320)

(Industrial television) (MIRA 12:2)

KOLCHINSKIY, M.L.

Evaluation criteria for scientific information services.
NTI no.12:3-11 '63.
(MIRA 17:6)

KOLCHINSKIY, M.L.; KRUGLOV, S.L.

Science and technology documentation in an information system.
NTI no.4:9-18 '65.
(MIRA 18:6)

18.7100 exclude 2408

85198

S/129/60/000/011/006/016
E073/E535

AUTHORS: Ishchenko, A.Ya. and Kolchinskiy, V.I., Engineers

TITLE: Application of Gaseous Atmospheres for Heat Treatment of Stainless, High Temperature and Titanium Materials

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, 1960, No.11, pp.25-28

TEXT: Application of high purity gases as protective atmospheres requires hermetically sealed equipment for brazing or heat treatment. Due to lack of special equipment for oxidation-free heating in dehumidified hydrogen and argon protective atmospheres, the authors applied heating of components in hermetically sealed refractory steel containers. This enables rapid heating and cooling of components in the medium of the used gas and obtaining a bright surface. A reducing atmosphere of dry, purified hydrogen is applied for bright annealing and for brazing stainless chromium and chromium-nickel steels and alloys at temperatures above 900°C. An inert atmosphere of pure argon is used primarily for brazing and bright annealing of titanium alloys and also for their heat treatment below 800°C. The use of hydrogen or argon for the same materials as a function of the temperature range is due to safety factors, since

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Application of Gaseous Atmospheres for Heat Treatment of Stainless, High Temperature and Titanium Materials

use of hydrogen for temperatures below 800°C is limited by the danger of formation of an inflammable mixture. The shortage of industrially produced high vacuum furnaces impedes the wider use of progressive methods of brazing. In the Works of the authors, a highly reducing halogenized atmosphere, obtained by decomposition of ammonium fluoride, is used for brazing of high temperature steels and alloys, including brazing with refractory solders. This enabled brazing and bright annealing of refractory materials without using expensive and complicated vacuum equipment and also to exclude preliminary plating. The halogenized atmosphere is formed in a system of two containers directly during brazing or during bright annealing. Some details of the process are given. Halogenized atmospheres are capable of reducing thick and stable oxide formations, which is of great importance during brazing with solders that withstand high temperatures and also in sintering chromium powders or powders of refractory alloys. A new method is also described of nitriding stainless steel. Into the nitriding muffle furnace, small quantity of ammonium chloride is placed. At the nitriding temperature

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Application of Gaseous Atmospheres for Heat Treatment of Stainless, High Temperature and Titanium Materials

the ammonia and the ammonium chloride decompose, forming hydrogen, nitrogen and hydrogen chloride. The hydrogen chloride interacts with the chromium oxide film forming chromium chloride, which will be either reduced during nitriding or will dissociate on contact with the metal, returning into the atmosphere the hydrogen chloride or the chlorine. As a result of this, the ammonium chloride consumption is very low, it is introduced into the muffle only when the components are charged in (20 to 40 g for a muffle capacity of 0.2 m^3). To slow down dissociation and carry over from the muffle, the ammonium chloride is mixed with sand, the latter has to be roasted at first at 600°C and dust removed from it. To protect the surface of components against nitriding, nickel plating with a layer thickness of about 30 μ is recommended; tinning is inadvisable since it interacts with the hydrogen chloride. Use of ammonium chloride permits increasing the activity of the surfaces of high chromium steel components and obtaining a high quality layer of the desired thickness in a time 20 to 30% shorter than is necessary in current methods of nitriding. In addition, a good quality surface is

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Application of Gaseous Atmospheres for Heat Treatment of Stainless, High Temperature and Titanium Materials

obtained without it being necessary to clean the surface.
There are 2 figures.

Card 4/4

1.2300

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S/135/61/000/004/006/012
A006/A101

AUTHORS: Shavkunov, A. V., Aksenov, N. A., Mugerman, Yu. N., Kolchinskiy, V. I. Engineers

TITLE: Welding of Titanium Alloys in Chambers with Controlled Atmosphere

PERIODICAL: Svarochnoye proizvodstvo, 1961, No. 4, pp. 24 - 25

TEXT: The high chemical activity of titanium and its alloys requires careful protection of the weld and the weld-adjacent zone against the gaseous atmosphere. When welding parts of complex contours it is recommended to carry out welding in special chambers. Information is given on manual argon arc welding of titanium-alloy and titanium parts in chambers of two types. Chamber No. 1 is a 0.05 m^3 1Kh18N9T steel cylinder of 1,300 mm internal diameter and 400 mm height. The cylinder top represents a cover fastened with bolts. The chamber is placed on a rotary table and can be rotated around the horizontal axis. In the top and in the walls there are plexiglass windows and apertures for fastening the rubber welding gloves. The chamber is equipped with electric light. The welding burner is fed through a cable which enters the chamber through a special hermetic inlet. The burner is a holder with a tungsten electrode. The absence of a nozzle

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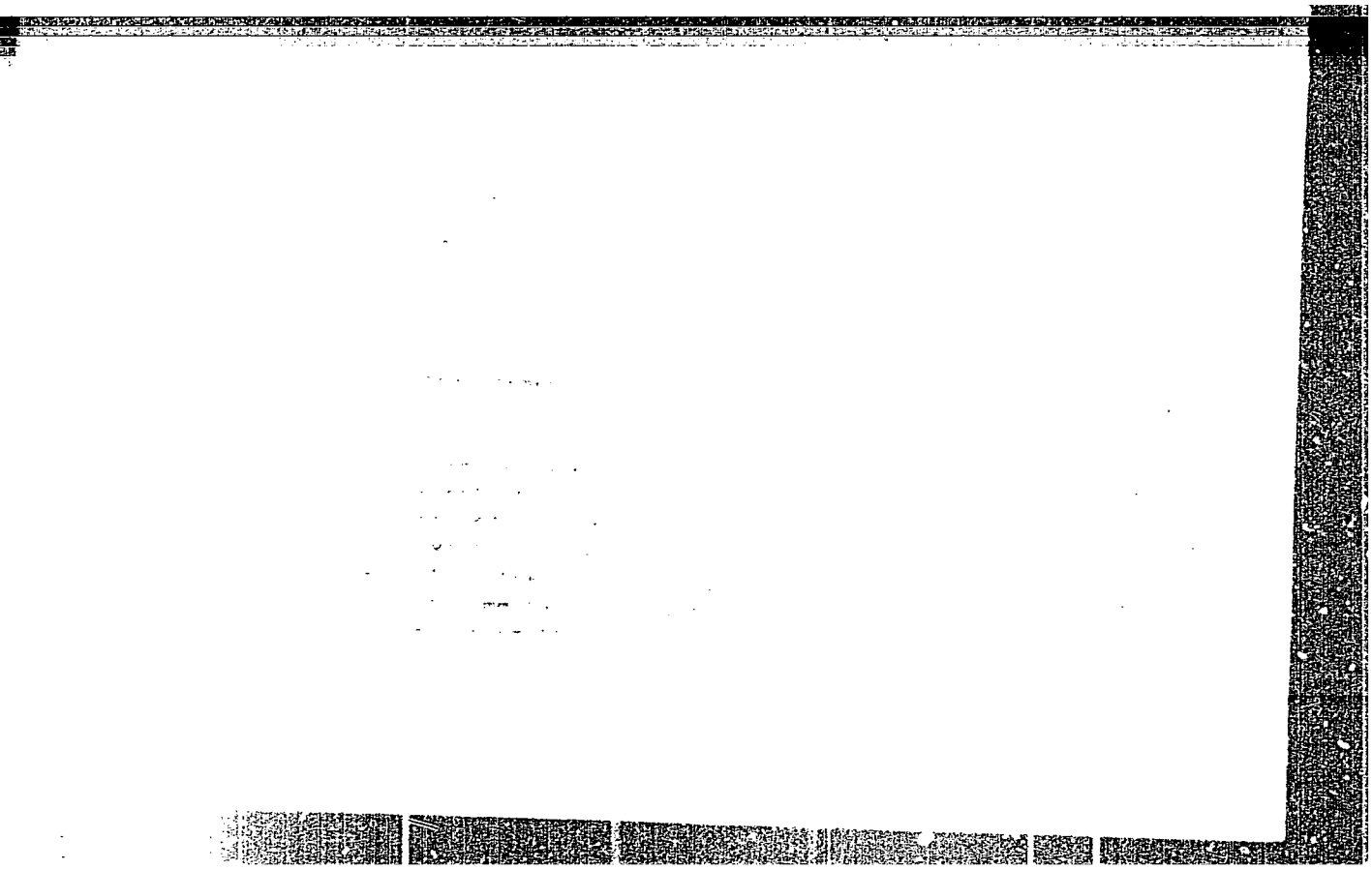
A006/A101

Welding of Titanium Alloys in Chambers with Controlled Atmosphere

permits the access to any welding area. The chamber is connected with a vacuum pump, an argon cylinder and an oil manometer. The feed system and the electric circuit are given in Fig. 2 and 3. Chamber No. 2 is made of 15 mm thick "20" grade steel and differs from chamber No. 1 by larger dimensions, which makes it possible to weld large-size parts. The dimensions are: 2100 mm diameter; 600 mm height; 1.8 m^3 volume. Two parallel operating vacuum pumps are employed. The vacuum up to 3.10^{-2} mm Hg is produced within 120 - 150 min. Gas consumption for washing is about 2.5 m^3. Prior to operation the chamber is blown through with compressed air and rubbed with an alcohol-wetted rag. To fill the chamber, argon of first composition is employed containing not over 0.005% oxygen and not over 0.1% nitrogen. Locksmith tools, base material technological plates and BT-1 (VT-1) 2 mm-diameter titanium wire are then placed into the chamber and the cover is fastened. After evacuation argon is fed into the chamber at a pressure not less than 0.2 atm. During welding process 1 - 3 l/min argon are supplied into the chamber. Parts of commercial VT-1 titanium, OT-4 and BT-5 (VT-5) titanium alloys can be welded. VT-1 filler wire is employed, which is dehydrogenized in a vacuum of 10^{-3} mm Hg by heating to 950°C. Welding in the described chambers produces high-quality weld joints, whose strength is equal to that of the base metal. The



KOLCHINSKIY, Ya.L.; MARAKHOVSKIY, V.A.

Combined performance of distance and angular measurements at traverse stations. Geod.i kart. no.7:15-18 Jl '62.

(Traverses (Surveying)) (MIRA 15:8)

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

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

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

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

KOL'CHITSKIY, K.Z.

IVANITSKIY, N.M., insh.; KOL'CHITSKIY, K.Z.; OLESHKO, B.D., kand. tekhn. nauk (stantsiya Nakhichevan'-Don-Tovarnaya).

Improve the organization of work at freight stations. Zhel. dor. transp. 40 no.2:81-82 F '58. (MIRA 11:3)

1. Nachal'nik stantsii Nakhichevan'-Don-Tovarnaya (for Kol'chitskiy). (Railroads--Freight) (Loading and unloading)

GOLOMB, Gerson Emmanuilovich; KOL'CHITSKIY, Mikhail L'vovich; SMORCHKOVA, Yekaterina Pavlovna; SIDOROVA, T.S., red.; TRISHINA, L.A., tekhn. red.

[Finance of the communication system] Finansy khoziaistva sviazi. Moskva, Sviaz'izdat, 1963. 269 p. (MIRA 17:2)

GIDALEVICH, M. G.; KOL'CHITSKIY, V. L.

Manufacture of grape juice without aging in tanks and ten-liter vessels. Trudy MNIIPP 1:107-113 '61.
(MIRA 16:1)

(Grape juice)

KOLCHKOV, A. P.

PA 38/49T60

USSR/Engineering Mar 49
Turbines
Hydroelectric Plants

"The Operation of a Unit With a Kaplan Turbine During Idling and as a Hydraulic Brake," A. P. Kolchkov, Engr, 3 pp

"Gidroteh Stroi" No 3

Kaplan turbines when idling may pass a substantial amount of water, which is very useful for hydroelectric stations under certain conditions. Discusses characteristics of turbine under normal operations, under braking conditions, and when working as a pump.

38/49T60

USSR/Engineering (Contd) Mar 49

Calculates necessary opening of guides and advance in angle of working blades for certain turbine so that it will not develop any useful power (efficiency equal to 0).

38/49T60

14(3) SOV/176-58-7-14/17

AUTHOR: Kolchkov, Ye., Guards Major; Baranov, N., Captain

TITLE: Reconditioning Damaged Anti-Tank Training Mines (Vosstanovleniye povrezhdennykh uchebnykh protivotankovykh min)

PERIODICAL: Voyenno-inzhenernyy zhurnal, 1958, Nr 7, PP 39-40 (USSR)

ABSTRACT: The first author refers to an appliance invented by Engineer Major M. Sklavo for strengthening the lids of anti-tank dummy mines (described in Nr 4 issue of 1957 of this Journal). Another simplified appliance was proposed by Private Tsitsilin. (Figure 1) (unit not stated). It consists of a plug (with 13-14cm hole in the middle) screwed into the anti-tank mine (Figure 2) with a valve through which air is pumped by a compressor of 5-10 atm or by a compressor from an MT vehicle. In 1-2 minutes the lid of the mine returns to its original shape. Another device is described

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45115

S/170/63/006/002/001/018
B102/B186

26.5400

AUTHORS: Golovin, V. S., Kol'chugin, B. A., Labuntsov, D. A.

TITLE: Experimental investigation of boiling heat transfer and of the critical thermal load for the boiling of mobile water

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 6, no. 2, 1963, 3 - 7

TEXT: With a view to extending and supplementing the available published data a study was made of boiling heat transfer and critical load when boiling distilled water in horizontal silver tubes of 150 mm length and 4 - 5 mm diameter over a pressure range of 10. - 2000 n/cm^2. The temperature was measured by an especially constructed platinum resistance thermometer whose error of measurement did not exceed 0.04°K. The use of this device in conjunction with silver tubes made it possible to measure the heat transfer coefficient $\alpha = q/(T_1 - \delta T_w - T_s)$ with an error of not more than 14%. δT_w is the temperature decrease at the wall, T_1 the temperature inside the tube, T_s the saturation temperature of the water and q the specific thermal load; q lay between $1 \cdot 10^5$ and $2 \cdot 10^6$ w/cm^2. The $\alpha(q)$

Card 1/2

L 07559-67 EWT(1) IJP(c) JGS/WW/GD

ACC NR: AT6029317 SOURCE CODE: UR/0000/66/000/000/0156/0166

AUTHOR: Labunstov, D. A.; Kol'chugin, B. A.; Golovin, V. S.; Zakharova, E. A.; Vladimirova, L. N.

ORG: none

69
B+1

TITLE: Investigation of the mechanism of the nucleate boiling of water using high speed moving picture photography

SOURCE: Moscow. Energeticheskiy institut. Teploobmen v elementakh energeticheskikh ustanovok (Heat exchange in power installation units). Moscow, Izd-vo Nauka, 1966, 156-166

TOPIC TAGS: nucleate boiling, high speed photography, heat transfer coefficient

ABSTRACT: The experiments were carried out on a Z-shaped silver plate. The specific heat loads in the experiments varied from 40×10^3 to 150×10^3 watts/m^2, and the pressure from 1 to 100 bars. The article describes the results of an investigation of the following characteristics of the boiling mechanism: the magnitudes of the bubble densities on the heating surfaces, the values of the breakaway diameters, the macroscopic boundary angles, and the average frequency and rate of growth of the bubbles on the boiling surface. The experimental apparatus consisted of a vertical cylindrical vessel with a removable cover and a condenser. The experimental section

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ACC NR: AT6029317

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was a 99.99% silver plate bent at a right angle, having a thickness of 0.2 mm and a width of 2 mm, and placed on its wide edge. The load on the plate was created by a low voltage direct current. Before the experiments, the surface was given a special preparatory treatment, after which it had a cleanness of Class 8b, GOST 2789-51. The working fluid was distilled water with a salt content of 0.2-0.5 grams/m^3. Two series of experiments were made; one on freshly prepared surfaces and the other on surfaces which had been used. The experimental heat transfer data are shown in a table. The following conclusions were drawn: 1) the values of the heat transfer coefficients for surfaces which had been used were lower than those for freshly prepared surfaces; 2) there was observed a sharp decrease in the breakaway diameter with an increase in pressure; 3) the rate of growth of the bubbles slowed down sharply with an increase in pressure; 4) the average macroscopic boundary angles changed only slightly with an increase in pressure. Orig. art. has: 17 formulas, 11 figures and 1 table.

SUB CODE: 20/ SUBM DATE: 05Apr66/ ORIG REF: 010/ OTH REF: 013

14/

Card 2/2 nst

ACCESSION NR: AP4042471 S/0294/64/002/003/0446/0453

AUTHORS: Labuntsov, D. A.; Kol'chugin, B. A.; Golovin, V. S.; Zakharova, E. A. Vladimirova, L. N.

TITLE: The study of bubble growth during boiling of saturated water under wide pressure range by means of high speed motion pictures

SOURCE: Teplofizika vy*sokikh temperatur, v. 2, no. 3, 1964, 446-453

TOPIC TAGS: vapor bubble, boiling water, motion picture, wetting angle, water saturation pressure, motion picture camera SKS IM

ABSTRACT: The growth of vapor bubbles from boiling water in a pressure range 1 to 100 bars and 40 to 150 kvolt/m^2 heat supply was studied by high-speed motion pictures. The light source was a SVDSh-1000 mercury lamp and the SKS-IM camera was a 1000-to-4000 frame/second instrument. Analysis of bubble growth rate shows a functional dependence between bubble radius R and time τ $R/\sqrt{a\tau} = \sqrt{2\beta N}$,

where β - numerical coefficient $\beta = 2\left(\cos\frac{\theta}{2}\right)\ln\frac{\Delta}{y_\Lambda}[(1+\cos\theta)^2(2-\cos\theta)]^{-1}$,

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$N = c\rho\Delta T/r\rho''$ (nondimensional parameter). The experiments were performed in two steps; first, from 1-30 bars, and second, 1-100 bars. Under given conditions of pressure and heat-flow rate, the average growth rate for the bubble followed the rule $R \sim \tau^{\frac{1}{2}}$, decreasing sharply by increasing the pressure. In general, the results showed excellent agreement with the theoretical prediction above, with a mean value for $\beta = 6$. The wetting contact angle ϕ was also investigated experimentally as a function of the water saturation pressure. The results show a minimum value for $\phi = 30^{\circ}$ under a saturation pressure of 15 bars. Orig. art. has: 7 formulas, 3 figures, and 1 table.

ASSOCIATION: Energeticheskiy institut im. G. M. Krzhizhanovskogo (Institute of Heat Power)

SUBMITTED: 01Feb64 ENCL: 00

SUB CODE: ME,TD NO REF SOV: 007 OTHER: 017

GOLOVIN, V.S.; KOL'CHUGIN, B.A.; LABUNTSOV, D.A.

Heat transfer in the boiling of ethyl alcohol and benzene on the surfaces of various materials. Inzh. fiz. zhur. 7 no.6: 35-39 '64. (MIRA 17:12)

1. Energeticheskiy institut imeni G.M. Krzhizhanovskogo, Moskva.

LABUNTSOV, D.A., doktor tekhn. nauk; KOL'CHUGIN, B.A., inzh.; ZAKHAROVA, E.A., inzh.

Local vapor contents in the surface boiling of an underheated liquid in channels. Teploenergetika 12 no.4:73-76 Ap '65. (MIRA 18:5)

L 3115-66 EWT(m)/EWP(j)/T WW/JW/WE/RM
ACC NR: AP6008837 SOURCE CODE: UR/0294/66/004/001/0147/0148

AUTHOR: Golovin, V. S.; Kol'chugin, B. A.; Zakharova, E. A.

ORG: Power Institute im. G. M. Krzizhanovskiy (Energeticheskiy institut)

TITLE: Measurement of the rate of growth of vapor bubbles during the boiling of various liquids

SOURCE: Teplofizika vysokikh temperatur, v. 4, no. 1, 1966, 147-148

TOPIC TAGS: boiling benzene, ethyl alcohol, water, vaporization, gas bubble

ABSTRACT: The authors obtained data on the rate of growth of vapor bubbles on the heat-transfer surface during the boiling of benzene, ethyl alcohol, and water for different thermal loads and saturation pressures in an experimental set-up described elsewhere (D. A. Labuntsov, B. A. Kol'chugin, V. S. Golovin, E. A. Zakharova, L. N. Vladimirova. Teplofizika vysokikh temperature, 2, No. 3, 446, 1964). The experiments were performed with strips of silver and nickel-plated copper, using the methods of the earlier work. The results of the primary processing of motion picture data showed that, for all the cases investigated, the relationship $R \sim \tau^{1/2}$ (where R is the vapor bubble radius, τ is the time of its growth on the boiling surface) is revealed quite distinctly. This made it possible to calculate the values $R/\sqrt{\tau}$, which are tabulated for various liquids and mode parameters. These data, together with the results of the earlier work, obtained during the boiling of water on a silver strip are shown in a diagram. The new data confirm the fundamental conclusions of the earlier work. Orig. art. has: 1 figure, 1 table, and 1 formula.

UDC 536.423.1

Card 1/2

KARTSEV, A., KOL'CHUGIN, K.

Construction Industry - Accounting

"Calculation of capital construction," M. F. D'Yachkov, Reviewed by: 1. A. Kartsev; 2. K. Kol'chugin, Bukgh. uchet, No. 2 1952.

Monthly List of Russian Accessions, Library of Congress, May 1952, Unclassified.

KOL'CHUGIN, K.

Accounting for materials based on uniform nomenclature. Bukhg.uchet 16 no.2:25-27 F '57. (MLRA 10:2)
(Prices)

BRUN', P.P., kand.tekhn.nauk, red.; KOL'CHUK, I.Z., red.; KUZNETSOV, S.M., red.; KOCHETKOV, L.I., red.; GORBUNOVA, L.A., tekhred.

[Designing and building granaries, flour, groat, and feed mills in the U.S.S.R. in 1917-1957] Proektirovanie i stroitel'stvo zernokhranilishch, mukomol'nykh, krupianykh i kombikormovykh predpriiatii v SSSR, 1917-1957. Moskva, Izd-vo tekhn.i ekon.lit-ry po voprosam mukomol'no-krupianoi, kombikormovoi prom. i elevatorno-skladskogo khoz., 1958. 235 p. (MIRA 12:9)
(Flour mills) (Feed mills) (Grain elevators)

KOLCHUN, N.I.

Determining curvature radii of cam profiles designed for a given motion of the follower. Trudy LPI no.219:5-10 '62. (MIRA 15:12)
(Cams)

KADYKOVA, V., mladshiy nauchnyy sotrudnik; KOLCHUNOVA, Ye.

Aerosols in orchards and fields. Zashch. rast. ot vred. i bol. 10 no.6:18-20 '65. (MIRA 18:7)

1. Glavnyy agronom po zashchite rasteniy Dmitrovskogo rayona, Moskovskoy oblasti.

KOLCHURINA, A.A., Cand Biol Sci -- (diss) "Study of anaphylactogenic properties of anti-diphtheria serums purified by various methods, and the desensitizing properties of diphtheria anatoxins in connection with their immunogenicity."
Kazan', 1959, 13 pp (Min of Health USSR, State Sci Res Inst of Microbiology and Epidemiology of South-East ~~of the~~ USSR "Microb")
250 copies (KL, 28-59, 125)

KOLCHURINA, A.A.

Reactogenic properties of pertussis-diphtheria vaccine. Report No.1: Senistizing properties of the prtussis-diphtheria vaccine; author's abstract. Zhur.mikrobiol.epid.i immun. 30 no.10:32-33 O '59. (MIRA 13:2)

1. Iz Kazanskogo nauchno-issledovatel'skogo instituta epidemiologii i gigiyeny.

(VACCINES)
(WHOOPING COUGH immunol.)
(DIPHTHERIA immunol.)

CHERTKOVA, G.A.; USHAKOVA, A.A.; KOLCHURINA, A.A.

White mice as objects for the experimental determination of anaphylactogenic properties of therapeutic sera. Zhur.mikrobiol., epid.i immun. 30 no.12:33-36 D '59. (MIRA 13:5)

1. Iz Gosudarstvennogo kontrl'nogo instituta imeni Tarasevicha.
(IMMUNE SERUMS pharmacol.)
(ALLERGY)

KOLCHURINA, A.A.

Sensitizing activity of anti-influenza horse serum following intranasal administration. Zhur. mikrobiol. epid. i immun. 31 no. 4:99-102 Ap '60. (MIRA 13:10)

1. Iz Kazanskogo instituta epidemiologii i gigiyeny.
(INFLUENZA)

KOLCHURINA, A.A.

Sensitizing properties of diphtheria anatoxins; author's abstract. Zhur.mikrobiol.epid. i immun. 29 no.2:123-124 F '58. (MIRA 11:4)

1. Iz Kazanskogo instituta epidemiologii i gigiyeny.
(DIPHTHERIA)

KOLCHURINA, A.A.

Study of the biological properties of vaccinal influenza A2 virus strains. Vop. virus 8 no.5:559-564 S-O'63 (MIRA 17:1)

1. Konstol'nyy ins'itut meditsinskikh biologicheskikh preparatov imeni L.A.Tarasevicha Ministerstva zdravookhraneniya SSSR, Moskva.

KOLCHURINA, A.A.

Determination of the specific avidity of type A2 influenza virus. Vop. virus. 9 no.2:188-191 Mr-Ap '64. (MIRA 17:12)

1. Gosudarstvennyy kontrol'nyy institut meditsinskikh biologicheskikh preparatov imeni Tarasevicha, Moskva.

KOLCHURINA, A.A.; BOLOTOVSKIY, V.M.

Study of the interaction of inhibitor-sensitive and inhibitor--resistant vaccinal strains of the A2 influenza virus. Vop. virus. 10 no.1:61-66 Ja-F '65. (MIRA 18:5)

1. Kontrol'nyy institut meditsinskikh biologicheskikh preparatov imeni Tarasevicha, Moskva i Institut virusologii imeni Ivanovskogo, Moskva.

83351

S/139/60/000/004/008/033
E032/E514

24.4500

AUTHORS: Kol'chuzhkin, A.M. and Kolesnikov, N.N.

TITLE: Electromagnetic Interaction Between Finite Non-relativistic Particles

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika, 1960, No.4, pp.87-97

TEXT: Recent experimental and theoretical studies of the structure of nucleons have produced much valuable information. Among these are the electron scattering experiments of Hofstadter (Ref.1). However, structural effects become appreciable only for electron energies of the order of 150 MeV or more, in which case radiational corrections have to be introduced and various competing processes take place, for example π-meson production. This complicates the analysis of experimental data. The theoretical formula obtained by Rosenbluth (Ref.6) was derived for the effective scattering cross-section using the first approximation of the perturbation theory. This formula applies to relativistic point electrons scattered from nucleons having spatially distributed charge and magnetic moment. However, nucleon recoils were not taken into account and the use of phenomenological

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form factors was not fully justified. In the case of heavy particles the internal structure already becomes important at non-relativistic energies. Hiida and Sawamura (Ref.8) and Nikishov (Ref.9) have also used the first approximation of the perturbation theory to obtain an expression for the differential cross-section for a finite electron characterized by electric and magnetic form factors and scattered by a heavy and finite target particle. In the present paper the scattering of two non-relativistic particles with spatially extended electric charges is solved using the Schwinger variational method so that the solution obtained is more accurate. The scattering of finite (i.e. spatially extended charges and magnetic moments) particles is treated on the Born approximation but the structure of the particles is taken into account. The charge distributions are assumed to be spherically symmetric and the magnetic interaction energy is taken to be of the form

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$$V_m = -\mu_1\mu_2\left(\underline{\sigma}_2\left[\underline{\nabla}\left[\underline{\nabla}\underline{\sigma}_1\right]\right]\right)\int\int \frac{\rho_{\mu_1}[r_1]\ \rho_{\mu_2}[r_2]}{r_{12}}\, dv_1 dv_2. \quad (26)$$

where μ is the magnetic moment and σ the Pauli spin matrix. The final formula obtained for the differential scattering cross-section is of the form

$$\frac{d\sigma}{d\Omega} = \sigma_o(x)\left\{1 + \frac{2}{3!}\left[\langle r_1^2\rangle_e + \langle r_2^2\rangle_e\right] + \right.$$

$$\left. + \alpha^4\left(\frac{m_1 m_2}{z_1 z_2}\right)^2 \frac{x^4}{3!}\left[\langle r_1^2\rangle_\mu + \langle r_2^2\rangle_\mu\right]\right\}. \quad (45)$$

This formula is identical with Rosenbluth's formula when

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Electromagnetic Interaction Between Finite Non-relativistic Particles

$\langle r_2^2 \rangle_e = \langle r_2^2 \rangle_\mu = 0$ provided one of the particles has a very much smaller mass than the other. Acknowledgments are expressed to A. A. Sokolov for valuable suggestions and discussions and to Professor D. D. Ivanenko for his interest in the present work.
There are 14 references: 6 Soviet and 8 English.
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