

SYCHEV, G. I.; KOVRIGIN, O. D.; LATYSHEV, G. D.; LONDARENKO, G. A.; NOVGORODOV, A. F.

"New Data on Conversion Electrons of Long-Lived Isotopes of Lutetium."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22  
Feb 64.

IYaF AN KazSSR (Inst Nuclear Physics, AS KazSSR)

YU. A.; BESKROVNYI, I. M.; LATYSHEV, G. D.; CHURSIN, G. P.

"Methods of Automatic Observation and Measurement of Spectra of Conversion  
Electrons in Magnetic Spectrometers."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22  
Feb 64.

IYAF, AN KazSSR (Inst Nuclear Physics, AS KazSSR)

Yu. A.; GORBATOV, E. A.; KOBRIGIN, G. D.; LATYSHEV, G. D.

"Apparatus for the Investigation of Beta-Gamma Coincidences with Application of a Large Beta Spectrometer with Double Focussing."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22 Feb 64.

IYAF AN KazSSR (Inst Nuclear Physics, AS KazSSR)

L 31799-65 EWT(1)/EWP(m)/EEC(t) Pd-1/Psb IJP(e)  
ACCESSION NR. AM404421 BOOK EXPLOITATION

S/

Zhernovoy, Aleksandr Ivanovich; Latyshev, Georgiy Dmitriyevich

21

B+

Nuclear magnetic resonance in continuous-flow liquid (Yadernyy magnitnyy rezonans v protochnoy zhidkosti), Moscow, Atomizdat, 1964, 252 p. illus., biblio. Errata slip inserted. 2,600 copies printed.

TOPIC TAGS: nuclear magnetic resonance, liquid flow

PURPOSE AND COVERAGE: At present there are several books which consider systematically the theory and application of nuclear magnetic resonance in mobile media. The phenomenon of nuclear resonance in a flowing liquid is treated only in scattered articles and very incompletely. In writing this monograph the

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L 31799-65  
ACCESSION NR AM404421

mixing processes, measurement and stabilization of weak magnetic fields, etc.  
The book is intended for researchers, graduate students, engineers, and students  
specializing in the practical use of nuclear resonance.

specialising in the practical use of nuclear resonance.

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SUBMITTED: 20Mar64

SUB CODE: NP, ME

NO REF SOV: 066

OTHER: 127

Card 3/3

STOLYAROVA, Yekaterina Lukinichna; LATYSHEV, G.D., akademik, red.;  
CHUGASOV, A.A., red.

[Applied spectrometry of ionizing radiations] Prikladnaia  
spektrometriia ioniziruiushchikh izluchenii. Moskva,  
Atomizdat, 1964. 422 p. (MIRA 18:1)

1. Akademiya nauk Kaz.SSR (for Latyshev).



L 17884-65 EWT(m) DIAAP/SSD/AFWL/ESD(t)

ACCESSION NR: AP4049257

S/0361/64/009/001/0051/0059

AUTHOR: Kovrigin, O. D.; Laty\*shev, G. D.; Londarenko, G. A. 8

TITLE: Theoretical and experimental probabilities of radiative transitions in the deformed nucleus Yb-173 19

SOURCE: AN Kazakhskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 1, 1964, 51-59

TOPIC TAGS: ytterbium, radiative transition, transition probability, internal conversion, gamma transition

ABSTRACT: The theoretical calculations are based on the formulas of V. F. Weisskopf (Phys. Rev. v. 83, 1073, 1951 and S. A. Moszkowski, (Phys. Rev. V. 83, 1071, 1951 and v. 89, 475, 1953). Those of the required Clebsch-Gordan coefficients which have not been published elsewhere are also calculated and tabulated. The experimental partial probabilities were obtained by measuring the spectrum of

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L 17884-65

ACCESSION NR: AP4049257

the internal conversion electrons, using for the lifetimes of the excited levels the values obtained by E. Ye. Berlovich et al. (Izv. AN SSSR ser. fiz. v. 25, 1275, 1961). The conversion electron spectrum was measured with a large double-focusing magnetic beta spectrometer. The source was the lutecium fraction obtained by chromatographic separation of a tantalum target bombarded for 10 hours with 660-MeV protons. Comparison of the theoretical and experimental data disclosed a strong hindrance of  $\gamma$  transition to the ground state, those indicating that  $Yb^{173}$  is a strongly deformed nucleus and the  $\gamma$  transitions are of the electric dipole type. Orig. art. has: 3 figures, 9 formulas, and 5 tables.

ASSOCIATION: None

SUBMITTED: 28Jan63

ENCL: 00

SUB CODE: NP

NR REF SOV: 005

OTHER: 005

Card 2/2

LATYSHEV, G.D., akademik

Colloquium on Low-energy Nuclear Physics. Vest. AN SSSR 34  
no. 1:80-81 Ja '64. (MIRA 17:5)

1. AN Kazakhskoy SSSR.

L 32890-65 RMT(m) DIAAP

S/0048/65/029/001/0144/0150

ACCESSION NO: AP5004537

AUTHOR: Burmistrov, V.R.; Andreyev, Yu.A.; Vongay, A.D.; Karstskaya, S.P.; Latyshev, G.D.; Kovrigin, O.D.

TITLE: Investigation of the  $Ce^{134}$ - $La^{134}$ - $Ba^{134}$  decay chain Report, 14th Annual Conference on Nuclear Physics held in Tbilisi 14-22 Feb 1964

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.29, no.1, 1964, 144-150

TOPIC TAGS: nucleus, energy level, beta decay, positron, gamma spectrum, cerium, lanthanum, barium

ABSTRACT: The  $Ce^{134}$ - $La^{134}$ - $Ba^{134}$  decay chain was investigated by direct measurement of the positron,  $\gamma$  ray and internal conversion spectra and by observation of the  $\gamma$ - $\gamma$  and positron- $\gamma$  coincidences. The source was prepared by 2 hour bombardment of a tantalum target with 650 MeV protons and subsequent chromatographic separation of the cerium fraction. The positron spectra were observed with a double focusing beta spectrometer having a resolution of 9% and also, in coincidence with  $\gamma$  rays, with a 3 cm diameter stilbene scintillator. The energy analysis of the coinciding radiations was performed by the usual fast-slow coincidence technique with a resolving

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ACCESSION NR: AP5004537

time of  $4 \times 10^{-8}$  sec in the fast channel. The observed spectra are presented graphically and are discussed in some detail. The positron spectrum was resolved into three components with maximum energies of 1.01, 1.8 and 2.38 MeV respectively. The intensity of the 1.8 MeV positron emission was very low, and this component was observed only in coincidence with 0.6 MeV  $\gamma$  rays. The intensity of the 1.01 MeV positron component was 18% of the total. These three positron components and two  $\gamma$  transitions of 0.605 and 1.47 MeV energy are attributed to the decay of  $\text{La}^{134}$  in accord with the work of B.Stover (Phys.Rev.81,8,1951) and R.K.Girgis and R.Lieshout (Nucl.Phys.12,672,1959). The 1.47 MeV  $\gamma$  transition is associated with a level excited by the 1.01 MeV positron decay. The possibility of a 10% systematic error in the positron energy measurements is mentioned in a note added in proof. "The authors thank A.F.Novgorodov for performing the chemical separation of the cerium fraction." Orig.art.has: 7 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 00/—Jan65

ENGL: 00

SUB CODE: NP

NR REF SOV: 003

OTHER: 002

Card 2/2

L 32834-65 EPI(m)/EPI(n)-2/EPI(t)/EPI(b) Pu-4 DIAAP/IJP(z) JD/JG  
ACCESSION NR: AP5004540 8/0048/65/029/001/0159/0162

AUTHOR: Sychikov, G.I.; Kovrigin, O.D.; Latyshev, G.D.; Londarenko, G.A.; Novgorodov, A.F.

TITLE: New data on the conversion electrons from the long-lived isotopes of the lutetium fraction from proton bombarded tantalum / Report, 14th Annual Conference on Nuclear Physics held in Tbilisi 14-23 Feb 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.20, no.1, 1965, 159-162

TOPIC TAGS: internal conversion, isomeric transition, multipolarity, lutetium, hafnium, tantalum, proton bombardment

ABSTRACT: The internal conversion electrons from the lutetium fraction of a tantalum target bombarded for 10 hours with 660 MeV protons were observed over the  $\beta$  range from 400 to 2200 Oe cm with a large double-focusing magnetic  $\beta$  spectrometer having a momentum resolution of 0.2% and a transmission factor of 0.65% of 4- $\pi$  sources, both prepared by electrolysis, were employed, and the measurements were begun 9 months after a double chromatographic separation of lutetium from the mulated rare earths. Seventeen conversion lines were identified with 12

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L 32834-65

ACCESSION NR: AP5004540

in Hf<sup>177</sup> and 5 lines with 3 transitions in Lu<sup>177</sup>. Several other conversion lines were ascribed to Lu<sup>173</sup> decay (transitions in Yb<sup>173</sup>). The responsible nucleus was identified in each case by the half-life of the conversion line. There was no appreciable contamination with Hf<sup>172</sup> and Hf<sup>175</sup>. Relative intensities were measured and the multipolarities of the 3 Lu<sup>177</sup> transitions were determined. The results concerning the Lu<sup>177</sup> transitions are in agreement with the findings of Olebent (Preprint, 1963) and P.Alexander, F.Boehm and L.Kankeleit (Preprint, 1963) and it is concluded that isomeric Lu<sup>177m</sup> is produced by the reaction Ta<sup>181</sup>(p,3p2n). The authors express their gratitude to L.K.Peker for discussing this work." Abstract has: 2 figures and 3 tables.

ASSOCIATION: none

SUBMITTED: CO/--Jan65

ENCL: 00

SUB CODE: NP

NR REF SOV: 003

OTHER: 003

Card 2/2

L 32833-65 EWT(d)/EWT(1)/REC(L)-2/EEC-4 Po-4/Pq-4/Pg-4/Pk-4/Pl-4 LJP(c)  
ACCESSION NR: AP5004543 S/0048/65/029/001/0166/0167

AUTHOR: Pivovarov, S.P.; Ryabikin, Yu.A.; Zhernovoy, A.I.; Latyshev, G.D. 42

TITLE: Equipment for stabilization of inhomogeneous magnetic fields, based on electron paramagnetic resonance /Report, 14th Annual Conference on Nuclear Physics held in Tbilisi 14-22 Feb 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.29, no.1, 1965, 166-167

TOPIC TAGS: inhomogeneous magnetic field, magnetic field measurement, electron paramagnetic resonance, nuclear paramagnetic resonance qm

ABSTRACT: Apparatus is briefly described with which a stabilization factor of 100 was achieved in the stabilization of a 165 Oe magnetic field with inhomogeneities of the order of 2 to 10% per cm by the use of an electron paramagnetic resonance head, the linear dimensions of which did not exceed 2 mm. The stabilization achieved was actually limited by the frequency stability of the oscillator employed and could be increased by employing a more stable oscillator. The theory of paramagnetic field stabilization is discussed briefly. The advantage of electron paramagnetic resonance over nuclear paramagnetic resonance for this application is due to

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L 32833-65

ACCESSION NR: AP5004543

the greater magnetic moment of the electron. Orig.art.has: 6 formulas and 1 figure

ASSOCIATION: none

SUBMITTED: 00/--Jan65

ENCL: 00

SUB CODE: NP,EM

NR REF SOV: 002

OTHER: 001

Card 2/2

L 32830-65 EWT(m) DIAAP

ACCESSION NR: AP5004546

S/0048/65/029/001/0177/0180

AUTHOR: Andreyev, Yu.A.; Gorbatov, E.A.; Kovrigin, O.D.; Latyshev, G.D.TITLE: Setup employing a large double focusing spectrometer for studying  $\beta$ - $\gamma$  coincidences Report, 14th Annual Conference on Nuclear Physics held in Tbilisi 14-22 Feb 1964

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.29, no.1, 1965, 177-180

TOPIC TAGS: beta spectroscopy, gamma spectrometer, coincidence counting, internal conversion

ABSTRACT: A setup for  $\beta$ - $\gamma$  coincidence investigations is briefly described. The  $\beta$  channel employs a higher transmission version of the double focusing  $\sqrt{2}$  magnetic beta spectrometer described by G.D.Kovrigin, N.V.Kolesnikov and G.D.Latyshev (Prihory i tekhnika eksperimenta No.2,19,1961). The radius of the equilibrium orbit is 50 cm, the pulse resolution is 0.25% and the transmission is 0.7% of  $4\pi$ . Two Geiger-Mueller counters in coincidence were employed to record electrons with energies below 100 keV, and a plastic scintillator was employed to record higher energy electrons. The  $\gamma$  channel employs a  $2 \times 3 \text{ cm}^2$  NaI(Tl) crystal scintillator with

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ACCESSION NR: AP5004546

a photomultiplier located in the magnet gap. Several means for compensating the magnetic field in the vicinity of the photomultiplier were tried, and rectangular windings similar to Helmholtz coils were found to be satisfactory. Turning on the compensating field displaced conversion lines by less than 0.2%. The instrument was tested by recording the K conversion spectrum of  $Gd^{146}$ , and the curves obtained are shown. The setup is currently being employed to identify K x rays by observing their coincidence with conversion electrons of different energies. In conclusion, the authors thank V.P.Burmistrov for discussing the results of the construction of the  $\beta$ - $\gamma$  coincidence setup and for the method of identifying K conversion lines." Orig.art.has: 3 figures.

ASSOCIATION: none

SUBMITTED: GO/--Jan65

ENCL: 00

SUB CODE: NP

NR REF SOV: 004

OTHER: 005

Card2/2

L 33609-65 EEC-1/BEG(k)-2/EWT(d)/EWT(1)/EG(t) Pg-1/Pk-1/Pl-1/Pc-1/Pq-1/Pe-1  
LJP(c)

ACCESSION NR: AP5005959

S/0048/65/029/002/0306/0310

AUTHOR: Andreyev, Yu.A.; Beskrovnyy, I.M.; Dragomoshchenko, L. I.; Latyshev, G.D.; Chursin, G. P.

TITLE: Automatic measurement of conversion electron spectra <sup>21</sup> Report, 14th Annual Conference on Nuclear Spectroscopy held in Tbilisi, 14-22 Feb 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.29, no.2, 1965, 306-310

TOPIC TAGS: beta spectroscopy, automation

ABSTRACT: An automatic  $\beta$  spectrometer is described. The instrument is the result of an attempt to devise an automatic spectrometer that would be easier to construct than that previously described by one of the authors and others (Izv. AN SSSR, Ser. fiz. 26, 1079, 1962), and thus to make the benefits of automation available to more and smaller laboratories. Commercially available Soviet components, with or without modification, were employed wherever possible. During the operation of the instrument the  $\beta$ -spectrometer magnetic field is held constant and a dc bias on the  $\beta$ -ray source is varied in steps. Thus, no inverse feedback is required. The counts recorded at a given value of the bias are accumulated in one of the 99

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L 33609-65

ACCESSION NR: AP5005959

channels available for this purpose, and when the complete spectrum has been recorded it can be displayed on a cathode-ray tube or the contents of the 99 channels can be read successively on an indicator. The bias can be varied from -4 to +4 kV in steps of 20, 40, 100 or 200 V and counting times for each bias value from 10 to 4000 sec are available. A second instrument is described which is easier to construct but is less accurate. In this instrument the bias is varied continuously and the output pulses are shifted from time to time from one recording channel to the next. Orig.art.has: 6 figures.

ASSOCIATION: none

SUBMITTED: 00'

ENCL: 00

SUB CODE: DP, NP

NR REF SOV: 002

OTHER: 000

Card 2/3

SYCHIKOV, G.I.; KOVRIGIN, O.D.; LATYSHEV, G.D.; LONDARENKO, G.A.; NOVIKOV, V.N.

Spectrum of conversion electrons of the iridium fraction.  
Izv. AN SSSR. Ser.fiz. 30 no.1:162-166 Ja '66.

(MIRA 19:1)

LATYSHEV, G.D.; BOKSHA, V.G.

Medical evaluation of the weather; index of the weather and the reactions of patients. Vop. kur., fizioter. i lech. fiz. kul't. 30 no.4:345-351 J1-Ag '65. (MIRA 18:9)

1. Yaltinskiy sanatoriy Ministerstva oborony SSSR.

ANDREYEV, Yu.A.; BESKROVNYI, I.M.; DRAGOMOSHCHENKO, L.I.; LATYSHEV, G.D.;  
CHURSIN, G.P.

Automatic measurement of conversion electron spectra. Izv. AN SSSR  
Ser. fiz. 29 no.2:306-310 F '65. (MIRA 18:3)



LATYSHEV, G.D.

Use of measurements of heat emission during sudden cooling in  
the evaluation of the state of thermoregulating mechanisms.  
Vop. kur., fizioter. i lech. fiz. kul't. no.6:510-516 '63.  
(MIRA 17:8)

1. Iz Yaltinskogo sanatoriya Ministerstva obrony SSSR.

L 07156-67 EWT(m)/EWP(t)/ETI IJP(c) JD/JG  
ACC NR: AP7001028 SOURCE CODE: UR/0048/66/030/001/0162/0166

SYCHIKOV, G. I., KOVRIGIN, O. D., LATYSHEV, G. D., LONDARENKO, G. A., and  
NOVIKOV, V. N.

"Conversion Electron Spectrum of an Iridium Fraction" (Paper presented at  
the 2nd All-Union Symposium on the Physics of Thin Ferromagnetic Films;  
Irkutsk, 10-15 July 1964)

26  
B

Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaiya (Bulletin of the Academy  
of Sciences USSR: Physics Series), Vol 30, No 1, Jan 1966, pp 162-166

Abstract: A large double-focussing magnetic beta spectrometer was used to  
study the iridium fraction of a gold target irradiated with 660 Mev protons  
at the Joint Institute of Nuclear Studies. The energies and relative inten-  
sities of the conversion lines of Ir<sup>189</sup> and Ir<sup>190</sup> are tabulated. Lines were  
observed for Ir<sup>188</sup>, Ir<sup>189</sup>, Ir<sup>190</sup>, and Ir<sup>193</sup> but not for Ir<sup>192</sup>, which fact  
is explained as due to the weakness of the source. The effects on the  
spectrum of traces of Re<sup>183</sup> and Pt<sup>188</sup> are discussed. The multipolarity of  
transitions 180.5, 147.0, 185.9, 197, and 233.5 keV was determined. Results,  
in general, agree with available data. Orig. art. has: 4 figures and 4 tables.  
[JPRS: 35,435]

ORG: none

TOPIC TAGS: conversion electron spectrum, iridium  
SUB CODE: 20,18 / SUEM DATE: none / ORIG REF: 004 / OTH REF: 002  
Card 1/1

0924 0030

LATYSHEV, G.G., glav. red.; STARKOV, N.Ye., otv. za vypusk;  
GROZNYKH, A.A., tekhn. red.

[Economy of Sverdlovsk Province; statistical abstract]  
Narodnoe khoziaistvo Sverdlovskoi oblasti; statisticheski  
skii sbornik. Sverdlovsk, Gosstatizdat, 1962. 230 p.  
(MIRA 16:11)

1. Nachal'nik statisticheskogo upravleniya Sverdlovskoy  
oblasti (for Latyshev).  
(Sverdlovsk Province--Statistics)

TOL'SKIY, V.Ye.; LATYSHEV, G.V.

Designing rubber shock absorbers for the suspension of an automobile engine. Avt. prom. 30 no.7:26-29 J1 '64.

(MIRA 17:9)

1. Tsentral'nyy ordena Trudovogo Krasnogo Znameni nauchno-issledovatel'skiy avtomobil'nyy i avtomotorny institut.

ZUBAKIN, A.G.; LATYSHEV, G.V.; TOL'SKIY, V.Ye.

Seminar on the reduction of noise and vibration of motor vehicles.  
Avt.prom. 31 no.4:47-48 Ap '65. (MIRA 18:5)

1. Tsentral'nyy ordena Trudovogo Krasnogo Znameni nauchno-issledovatel'skiy avtomobil'nyy i avtomotornyy institut.



LATYSHEV, I. N.

AUTHOR: Lyubarskiy, K.A. and Latyshev, I.N. 26-12-36/49

TITLE: The Green Light of Venus (Zelenyy luch Venery)

PERIODICAL: Priroda, 1957, # 12, p 114 (USSR)

ABSTRACT: The green light of Venus is a phenomenon which was observed only twice in the province of Ashkhabad. The author gives an account of the observations he made at the astronomical station of the Institute of Physics and Geophysics of the AN of the Turkmen SSR. Beginning with 27 June 1957, the green light could be seen until 7 July 1957. It was visible through binoculars and even with the naked eye as a bright dot shifting from sky blue to yellowish green. These observations were possible owing to exceptional atmospheric conditions in the region of Kopet-Dag.

ASSOCIATION: Institute of Physics and Geophysics of the AN of the Turkmen SSR, Ashkhabad (Institut fiziki i geofiziki Akademii nauk Turkmenskoy SSR, Ashkhabad)

AVAILABLE: Library of Congress

Card 1/1

~~LATYSHEV, I. I.~~

Discovery of the comet 1957f in Ashkhabad. Astron. tsir. no. 187:  
2-3 D '57. (MIRA 11:6)

(Comets--1957)



81452

3.1560

SOV/35-59-8-6257

Translation from: Referativnyy zhurnal, *Astronomiya i Geodeziya*, 1959, Nr 8, p 22

AUTHOR: Latyshev, I.N.

TITLE: The Study of Blazhko's Effect

PERIODICAL: *Astron. tsirkulyar*, 1958, May 26, Nr 192, p 24

ABSTRACT: The short-period <sup>y</sup>cepheid SX Phe was studied. The change in the shape of the luminosity curve (Blazhko's effect) is similar in its nature to the manifestation of this effect in other short-period cepheids: the luminosity in the minimum is hardly changed in distinction from the luminosity in the maximum; the curve of radial velocities changes with the beat period. The reason for the presence of Blazhko's effect in short-period cepheids must be sought for in the physical processes taking place in the stars. The analysis of the luminosity curves by Vesselink's method has shown that the pulsation of the atmosphere lags behind the pulsation of the photosphere with a period of 0.03 (on the average).

Card 1/1

N.P.K.

IATYSHEV, I.N.

Observations of the comet 1957 f. Astron. tsir. no.188:12 Ja '58.  
(MIRA 11:6)

1. Astrofizicheskaya observatoriya, Vannovskoye, Ashkhabad.  
(Comets--1957)

LATYSHEV, I.N.

Studying the Blazhko effect. Astron. tsir. no.192:24 My '58.  
(MIRA 11:10)

1. Astrofizicheskaya laboratoriya, Ashkhabad, Vannovskoye.  
(Stars, Variable)

LATYSHEV, I.N.

Semiempirical methods for testing the pulsation theory.  
Astron. tsir. no.194:22-23 Ag '58. (MIRA 12:12)

1.Institut fiziki i geofiziki AN Tadz. SSR, Ashkhabad.  
(Stars)

SOV/165-59-5-20/21

3(1)

AUTHORS: Lyubarskiy, K.A., Latyshev, I.N.

TITLE: The Activity of Telescopic Meteors During the Period of MGG (IGY)

PERIODICAL: Izvestiya Akademii nauk Turkmenskoy SSR, 1959, Nr 5, pp 97-98  
(USSR)

ABSTRACT: The authors describe observations of telescopic meteors carried out during the MGG (International Geophysical Year). The observations were conducted by the "Astrofizicheskaya laboratoriya Instituta fiziki i geofiziki Akademii nauk Turkmenskoy SSR (Astrophysical Laboratory of the Institute for Physics and Geophysics, AS Turkmenskaya SSR) from the observatory in Vannovskiy, where "Asembi" type binocular telescopes with a 3.03 range were used. The correction of time is given. They differ slightly from data obtained by the observatory Skal'nate Pleso [Ref 1].  
There are 1 table and 1 Soviet reference. ✓

Card 1/2

SOV/165-59-5-20/21

The Activity of Telescopic Meteors During the Period of MGG (IGY)

ASSOCIATION: Institut fiziki i geofiziki, AN Turkmenskoy SSR (Institute for  
Physics and Geophysics, AS Turkmenskaya SSR). ✓

SUBMITTED: June 27, 1959

Card 2/2

LATYSHEV, I.N.

△ Delphini. I.N.Latyshev. Astron.tsir. no.208:23 Ja '60.  
(MIRA 13:11)

1. Fiziko-tehnicheskiy institut, Ashkhabad.  
(Stars, Variable)

LATYSHEV, I.N.; TRUTSE, Yu.L.

Observations of nova Herculis 1960 in Ashkhabad. Astron.tsir.  
no. 211:9-11 My '60. (MIRA 13:10)

1. Astrofizicheskaya laboratoriya, Ashkhabad.  
(Stars, New)



TRUPISE, Yu.L.; LATYSHEV, I.N.

Photographic observations of nova Herculis. Astron.tsir. no.212:3  
Je '60. (MIRA 13:10)

1. Fiziko-tekhnicheskij institut AN Turkmenskoy SSR.  
(Stars, New)

LATYSHEV, I.N.

Unusual fluctuation in the period of AL Virginis. Aston. tsir. no.212:  
15-16 Je '60. (MIBA 13:10)

1. Fiziko-tehnicheskij institut AN Turkm.SSR.  
(Gepheids)

S/169/61/000/010/032/053  
D228/D304

AUTHOR: Latyshev, I. N.

TITLE: The distribution of meteor material in the solar system

PERIODICALS: Referativnyy zhurnal, Geofizika, no. 10, 1961, 6,  
abstract 10G32 (Izv. AN TurkmSSR, Ser. fiz.-tekhn.,  
Khim. i geol. n., no. 1, 1961, 119-120)

TEXT: According to the photographs of Harvard Observatory, all meteors are subdivided into 2 groups. Meteor bodies of the first group (with large semiaxes of  $< 3$  astronomic units, direct orbital movement, and small angles of inclination to the ecliptic) have an aphelion distance of about 5 astronomic units, which corresponds to the radius of Jupiter's orbit, and do not enter into the orbit of Mercury (there are practically no meteors with a perihelion distance of less than 0.1 astronomic units). Thus, a zone devoid of meteoric matter exists around the sun. The suggestion is expressed that this group of meteor bodies is also related to the

Card 1/2

The distribution of...

S/169/61/000/010/032/053  
D228/D304

asteroids in their origin. The second group of meteor bodies with diverse orbits, in which meteor bodies with direct movement also prevail, have orbital limits beyond Pluto's orbit. According to the data of Harvard Observatory, the meteor number grows with the increase of eccentricity to 0.98, after which it falls. [Abstracter's note: Complete translation.]

Gard 2/2

LATYSHEV, I.N.

Investigating the Blashko effect. Per.zvezdy 13 no.2:112-119  
N '60. (MIRA 14:10)

1. Astrofizicheskaya laboratoriya Instituta fiziki i geofiziki  
AN Turkmenskoy SSR.  
(Stars, Variable)

30278

S/035/61/000/010/032/034  
A001/A101

3.2440 (1041)

AUTHORS: Gul'medov, Kh.D., Lyubarskiy, K.A., Latyshev, I.N.

TITLE: Relationship between altitudes of meteors and solar activity

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 10, 1961, 69; abstract 10A491 ("Izv. AN TurkmSSR, Ser. fiz.-tekhn. khim. i geol. n.", 1960, no. 6, 141)

TEXT: The authors make an attempt to discover a relation between the altitude H of meteors and solar activity (Wolf number). It was found from photographic observations at Ashkhabad that on the average:

$$\begin{aligned} \omega < 100 \quad H_1 &= 59 \text{ km} + 0.82 \text{ V g km} \quad (n = 10) \\ \omega > 150 \quad H_1 &= 57 \text{ km} + 0.77 \text{ V g km} \quad (n = 14). \\ \omega < 100 \quad H_2 &= 63 \text{ km} + 0.44 \text{ V g km} \quad (n = 10) \\ \omega > 150 \quad H_2 &= 60 \text{ km} + 0.36 \text{ V g km} \quad (n = 14) \end{aligned}$$

where  $H_1$  and  $H_2$  are altitudes of flash and extinction respectively. It is obtained that altitudes of meteors decrease with the rise of solar activity. Pro-

X

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S/035/61/000/010/032/034  
A001/A101

Relationship between altitudes ...

cessing of observations of telescopic meteors leads to the same conclusion.

R. Khotinok

[Abstracter's note: Complete translation]

Card 2/2

S/035/62/000/003/005/053  
A001/A101

AUTHORS: Latyshev, I. N., Truttse, Yu. L.

TITLE: Electrophotometric, photographic and visual observations of Nova Herculis 1960

PERIODICAL: Referativnyy zhurnal, *Astronomiya i Geodeziya*, no. 3, 1962, 28, abstract 3A216 ("Izv. AN TurkmSSR, Ser. fiz.-tekhn., khim. i geol. n.", 1961, no. 1, 19-25)

TEXT: Nova Herculis 1960 was observed during March-June 1960. Photo-electrical observations were carried out with an AZT-7 (AZT-7) electrophotometer with feeding optics ( $D = 200$  mm,  $F = 2,000$  mm) through glass light filters УФС-3, СЗС-11, ОС-11 (УФС-3, SZS-11; OS-11). The values of effective wavelength are equal respectively to  $\lambda\lambda 3850, 4400$  and  $5600$ . Photographic observations were made with an И-52 (I-52) astrograph with objective ( $D = 100$  mm,  $F = 500$  mm). Kodak OaF plates were used. A fraction of observations were carried out with filters CC-14, СЗС-11 and КС-10 (SS-14, SZS-11 and KS-10); effective wavelengths equal respectively to  $\lambda\lambda 3900, 4400$  and  $6350$ . Visual observations were made with field glasses 7 x 50. Individual luminosity curves

Card 1/2



Electrophotometric, photographic ...

S/035/62/000/003/005/053  
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in different bands of the spectrum are presented, plotted on the basis of all observations. Nova Herculis belongs to slow Novae. The stage of initial luminosity drop by 3-4<sup>m</sup> lasts for three months and is characterized by non-uniformity in luminosity changes.

M. Savel'yeva

[Abstracter's note: Complete translation]

Card 2/2

3,2440 also 1060

27118  
S/165/61/000/001/007/007  
A104/A127

AUTHOR: Latyshev, I.N.

TITLE: On the distribution of meteoric matter in the solar system

PERIODICAL: Akademiya nauk Turkmenskoy SSR, Izvestiya. Seriya fiziko-tekhnicheskikh, khimicheskikh i geologicheskikh nauk, no. 1, 1961, 119 - 120

TEXT: The author compares the conclusions reached by Cormick, Hawkins and Southworth [Ref. 1: Harvard College Observatory, Progress Report no. 36] earlier papers by K.A. Lyubarskiy [Ref. 2: "Funktsii svetimosti meteorov" (The luminosity function of meteors), Trudy Instituta fiziki i geofiziki, v. 5, 1958) B.Yu.Levin [Ref. 3: "Fizicheskaya teoriya meteorov i meteornykh veshchestv v solnechnoy sisteme" (Physical theory of meteors and meteoric matter in the solar system) M., 1957] and Ya.F. Sadykov [Ref. 4: "Orbity meteorov po Ashkhabadskim nablyudeniya" (Meteor orbits according to Ashkhabad observations) Trudy Instituta fiziki i geofiziki, v. 11, 1956]. The large number of orbits and uniformity of material permitted statistical investigations which revealed that all meteors can be divided in two distinctive groups: 1) meteors with great semi-axes smaller than three astronomic units, forward movement and slight orbital

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On the distribution of meteoric matter ...

27118  
S/165/61/000/001/007/007  
A104/A127

inclination (15-30°) and 2) all other types of meteors. So far the findings of Cormick, Hawkins and Southworth (Ref. 1) coincide with the report by K.A. Lyubarskiy. As meteoric bodies whose orbit lies completely in or outside the earth's orbit cannot meet the earth, meteors with defined great semiaxes can be observed only at certain eccentricity values. Therefore any theory as to the classification of meteors with given great semiaxes according to eccentricity, is merely an assumption. It may be justifiably presumed that there are a great number of meteors with near-circular orbits in the pre-Jupiter space. There are no data on meteors of considerable eccentricity whose great semiaxes are smaller than the earth's, although observation was possible. According to the author, very few meteors have semiaxes smaller than or equal to the Venus orbit; their orbits are very likely circular. It seems that this group has a resemblance to asteroids to whom they may be related by origin. A number of meteor streams belong to this group and it is quite possible that the group consists entirely of hitherto unknown streams, and there is no doubt as to its connection to numerous ecliptical radiants. According to B.Yu. Levin this particular group is related to comets. The distinguishing feature of the second group is a great variety of orbits; forward movement meteors predominate up to  $a = 5$  atmospheric units but the number of return movement meteors increases after  $a = 5$ ; their expansion ceases beyond the Pluto orbit. The graph demonstrating the relation between  
Card 2/3

On the distribution of meteoric matter ...

27118  
S/165/61/000/001/007/007  
A104/A127

eccentricity and the number of meteors shows an increase of the latter corresponding to growing eccentricity up to 0.98; beyond this point the number of meteors decreases rapidly. Eight meteors (2% of the total) are stated to have hyperbolic orbits; in six cases this statement was obviously due to errors during observation, which factor also seems to apply to the remaining two meteors (1.06 and 1.08), thus reducing the number of meteors with hyperbolic orbits - if such exist - to a mere 0.5%. According to observations by Ya.F. Sadykov there are supposed to be a great number of meteors with parabolic or hyperbolic orbits whereas the classification has nothing in common with the method under discussion. It is presumed that AAL data were distorted by malfunction of equipment. It is evident that it cannot be stated beyond doubt that any of the meteors have parabolic or hyperbolic orbits. There are 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc. The English-language reference reads as follows: Harvard College Observatory, Progress Report no. 36.

ASSOCIATION: Fiziko-technicheskiy institut AN Turkmenskoy SSR (Physical-Technical Institute of the Academy of Sciences Turkmenskaya SSR)

SUBMITTED: July 26, 1959

Card 3/3

LATYSHEV, I.N.

Visual observations of variable stars. Trudy Fiz.-tekhn. inst. AN  
Turk. SSR 7:166-170 '61. (MIRA 15:2)  
(Stars, Variable)

LATYSHEV, I.N. (Ashkhabad-Vannovskoye)

Two statistical dependences of the Blazhko effect. Astron. tsir.  
no.218:11-13 F '61. (MIRA 14:7)  
(Stars, Variable)

LATYSHEV, I.N.

The amplitude-~~assymetry~~ relation for Cepheids. Astron. tsir.  
no. 226:4-5 0 '61. (MIRA 16:1)

(Cepheids)

LATYSHEV, I.N.

Once more on two statistic regularities in the Blazhko effect.  
Astron. tsir. no. 226:5-6 O '61. (MIRA 16:1)  
(Stars, Variable)



LYUBARSKIY, K.A.; LATYSHEV, I.N.

Results of studying telescopic meteors in Turkmenistan  
during the International Geophysical Year and International  
Geophysical Cooperation. Trudy fiz.-tekh. inst. AN Turk.  
SSR 8:125-174 '62. (MIRA 15:11)  
(Turkmenistan—Meteors)

LATYSHEV, I.N.

Luminosity of Cephei. Per. zvezdy 14 no.2:82-94 Je '62.  
(MIRA 17:2)

1. Astrofizicheskaya laboratoriya Fiziko-tehnicheskogo  
instituta AN Turkmenkoy SSR.

LATYSHEV, I.N.

Luminosity of  $\eta$  Aquilae. Astron. zhur. 41 no.4:644-651  
Jl-Ag '64 (MIRA 17:8)

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

TSKHOMARIYA, Boris Dmitriyevich; LATYSHEV, I.P., red.; KUKAREKA,  
A.M., tekhn. red.

[Lake Kardyvach]Ozero Kardyvach. Krasnodar, Krasnodarskoe  
knizhnoe izd-vo, 1962. 62 p. (MIRA 16:1)  
(Kardyvach Lake region--Guidebooks)

LATYSHEV, Ivan Pavlovich; BASENKO, P.V., red.; DUKHNO, V I.,  
tekhn. red.

[The azure coast of the Caucasus] Lazurnyi bereg Kavkaza.  
Krasnodar, Krasnodarskoe knizhnoe izd-vo, 1962. 283 p.  
(MIRA 16:1)  
(Caucasus--Seaside resorts--Guidebooks)

SKOMOROKHOV, L.B. [translator]; GUBER, A.A., redaktor; LATYSHEV, I.S., redaktor; GERASIMOVA, Ye.S., tekhnicheskii redaktor.

[Indonesia now. Translation from the English by L.B.Skomorokhov]  
Sovremennaiia Indoneziia. Perevod s angliiskogo L.B.Skomorokhova.  
Red. i vstup. stat'ia A.A.Gubera. Moskva, Izd-vo inostranoi lit-ry,  
1955. 157 p. (MIRA 8:4)  
(Indonesia--Description and travel)

HESHATAYEV, A.A., aspirant; LATYSHEV, I.V., master.

New varieties of warp-knitted jacquard weave. Log.prom. 14 no.4:44-46  
Ap '54. (MLRA 7:6)  
(Jacquard weaving)

IVANOV, V.A., kand. tekhn. nauk; LATYSHEV, I.V.

Making shoe laces on warp-knitting machines. Tekst. prom. 19  
no.6:39-41 Je '59. (MIRA 12:9)

1. Master Tsentral'noy nauchno-issledovatel'skoy laboratorii  
tekstil'no-galantereynoy promyshlennosti (for Latyshev).  
(Knitting machines)



NESHATAYEV, A.A., kand.tekhn.nauk, prepodavatel'; LATYSHEV, I.V., master

New type of patterns for the manufacture of warp-knit fabrics.  
Tekst.prom. 23 no.1:60-63 Ja '63. (MIRA 16:2)

1. Kafedra spetskompozitsii Moskovskogo tekstil'nogo  
instituta (MTI) (for Neshatayev). 2. Ivanteyevskaya  
trikotazhnaya fabrika imeni Dzerzhinskogo (for Latyshev).  
(Knitting, Machine)

31989  
S/142/61/004/004/010/018  
E192/E382

9,3270

AUTHOR: Latyshev, I.Ya.

TITLE: Influence of the nonlinearity of the phase-frequency characteristic on the distortion of frequency-modulated signals

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika, v. 4, no. 4, 1961, 459 - 467

TEXT: It is assumed that for the purpose of analysis the phase characteristic of a selective filter can be approximated by the following function (Ref. 2: S. Gol'dman, Harmonic analysis, modulation and noise, pub. by In.lit-ry, 1951):

$$\varphi(\omega) = (\omega - \omega_0)t_0 - b \sin \tau_1(\omega - \omega_0) \quad (1)$$

where the first term represents a straight line and the second term gives the sinusoidal deviation of the characteristic from the straight line. A characteristic of this type is illustrated in Fig. 2. In Eq. (1)  $t_0$  represents the slope

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S/142/61/004/004/010/018

Influence of the nonlinearity .... E192/E382

of the straight line,  $b$  is the amplitude of the sinusoidal deviation and  $1/\tau_1 = 2\Delta\omega_{np}/2\pi$  is the period of the sinusoid. The effect of such characteristics on the transient distortion of the selective system can be investigated by the method proposed by I.S. Gonorovskiy (Ref. 3 - Radiotekhnika, v. 1, no. 1, 20, 1946). The transient for a narrow-band symmetrical system for  $b < 1$  is given by :

$$\frac{\Delta\omega(t)}{2\Delta\omega_{CAB}} = \frac{A_a(t)C_a(t) - B_a(t)D_a(t)}{K(t) + L(t)\cos(2\Delta\omega_{CAB}t + \varphi) - 2M(t)\sin(2\Delta\omega_{CAB}t + \varphi)} \quad (2)$$

where

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Influence of the nonlinearity ... E192/E382

$$K(t) = A_a^2(t) + B_a^2(t) + C_a^2(t) + D_a^2(t) ;$$

$$L(t) = A_a^2(t) - B_a^2(t) - C_a^2(t) + D_a^2(t) ;$$

$$M(t) = A_a(t)B_a(t) + C_a(t)D_a(t)$$

The transient functions  $A_a$ ,  $B_a$ ,  $C_a$  and  $D_a$  in Eq. (2) can be determined analytically for any given frequencies  $\omega_1$  and  $\omega_2$  lying in the passband of the filter (see Fig. 2). Eq. (2) permits calculation of the frequency transient response for any  $\omega_1$  and  $\omega_2$  lying in the passband of the filter for any value of  $b$ , provided  $b < 1$ ; secondly, the phase characteristic can have any number  $m$  of periods inside the passband. Eq. (1) is employed to determine the frequency deviation corresponding to small and large transient distortions and to

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Influence of the nonlinearity ... E192/E382

+

determine the region of permissible distortion. It is found that for  $m = 1$ , the phase distortions are low for the following two cases: when the frequency deviation is equal to the bandwidth of the system and when the frequency deviation is very small. On the other hand, for  $m \geq 2$ , low phase distortion is obtained not only for small frequency deviations but also at large deviations, provided that the frequencies  $\omega_1$  and  $\omega_2$  are situated at the points where  $\sin \tau_1 \Delta \omega_{cAB} = 0$ .

It is seen by analyzing Eq. (2) that cosine and sine factors and the angle  $\varphi$  lead to the appearance of overshoots on the transient characteristic and these can be reduced for  $\tau_2 \Delta f_{cAB} = 1$ , i.e. for the case when the modulation

index  $\psi_m = 1$ . The distortion of a pair of pulses separated

by an interval equal to the duration of the pulses is also investigated by employing Eq. (2) and it is found that a frequency-deviation of  $1/\tau$ , where  $\tau$  is the duration of a pulse, ensures a satisfactory separation between the pulses and a comparatively low distortion at the output of the filter, even

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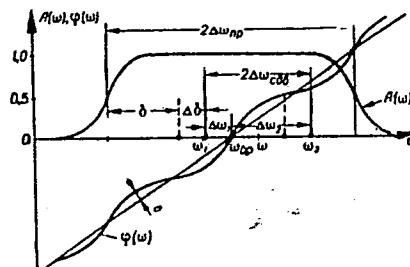
Influence of the nonlinearity ....

if the nonlinearity of the phase characteristic is substantial.  
There are 5 figures and 3 Soviet-bloc references.

ASSOCIATION: Kafedra telegrafii Leningradskogo elektro-  
tekhnicheskogo instituta im. A.M. Bonch-Bruyevicha  
(Department of Telegraphy of Leningrad Electro-  
technical Institute im. A.M. Bonch-Bruyevich)

SUBMITTED: July 28, 1960 (initially)  
January 13, 1961 (after revision)

Fig. 2:



Card 5/5

CHEPCHUROV, Ya.I.; GANIN, Yu.V., inzh.; LATYSHEV, I.Ye.

Device for determining the acid numbers of the products of  
paraffin oxidation. Masl.-zhir. prom. 29 no.10:37 0 '63.

(MIRA 16:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy i proyektnyy institut  
sinteticheskikh zhirozameniteley.

L 62788-65 EWT(1)/EWA(h) Feb GI

ACCESSION NR: AT5018589

UR/2517/55/079/000/0160/0181

AUTHOR: Gol'tsman, F. M.; Zolotukhina, L. A.; Latyshev, K. P.; Khalfin, L. A.;  
Khalfina, N. M.; Chuguyeva, V. N. 26  
BT

TITLE: Statistical problems in the interpretation of seismic data

SOURCE: AN SSSR. Matematicheskiy institut. Trudy, v. 79, 1965. Raboty po matemati-  
cheskoy statistike i teorii veroyatnostey (Papers on mathematical statistics and  
the theory of probability), 160-181

TOPIC TAGS: statistical analysis, seismic wave, random process, reflected shock  
wave

ABSTRACT: Statistical analysis of seismic data is based on reflected wave theory.  
Noise may then be regarded as additive and its distribution given in the clearest  
and most natural way. The noise signal on the seismograph is treated as a random  
process independent of the useful signal. It is normally stationary in the region  
of observation, having an average amplitude equal to zero, and it presents a Markov  
correlation in time. Given the process  $v(t, x) = F(t, x; C, \tau, \gamma) + n(t, x)$ , with  $C$ ,  
 $\tau$ ,  $\gamma$  unknown parameters and  $n(t, x)$  a normal gaussian process with zero mathematical

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L 62788-65

ACCESSION NR: AT5018589

0

expectation, observed in the interval  $(-T, T)$ , the problem consists in estimating the above parameters at the  $k$ -th occurrence of the process  $v(t, \varepsilon_k)$ . The parameters are estimated by the maximum likelihood method, since estimates made in this way turn out to be asymptotically effective, that is, consistent and asymptotically normal with a dispersion coinciding with the lower bound of the Rao-Cramer inequality. The probability of signal detection on a background of noise is treated in terms of the problem of the criterion strength of the two hypotheses  $H_0$  (no signal) and  $H_1$  (signal). Orig. art. has: 112 formulas, 4 figures.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: ES, MA

NO REF SOV: 007

OTHER: 004

*alk*  
Card 2/2

LATYSHEV, K. V.

Technology

Processing metals by high-speed cutting, Moskv, Transzheldorizdat, 1951.

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

~~LATYSHEV, KONSTANTIN VASIL'YEVICH~~

ALBEGOV, Nikolay Aleksandrovich, kandidat tekhnicheskikh nauk;  
~~LATYSHEV, Konstantin Vasil'yevich, kandidat tekhnicheskikh nauk;~~  
USPENSKIY, Viktor Konstantinovich, kandidat tekhnicheskikh nauk;  
FOKIN, Mikhail Dmitriyevich, inzhener; YASENTSEV, Viktor Filippovich, inzhener; BRAYLOVSKIY, N.G., inzhener, redaktor; VERINA, G.P., tekhnicheskii redaktor

[Electropneumatic brakes] Elektropnevmaticheskie tormoza. Moskva, Gos. transp. zhel-dor. izd-vo, 1955. 137 p. (MIRA 9:2)  
(Brakes)

LATYSHEV, K.V., kandidat tekhnicheskikh nauk; SERAPIMOVICH, V.S., kandidat tekhnicheskikh nauk.

Increasing brake efficiency and control of automatic brakes used on freight cars. Tekh.zhel.dor. 15 no.2:24-26 Mr '56. (MIRA 9:7)  
(Railroad--Brakes)

SHISHLYAKOV, A.V., kandidat tekhnicheskikh nauk; FOKIN, M.D., inzhener;  
YASENTSEV, V.F., inzhener; LATYSHEV, K.V., kandidat tekhnicheskikh  
nauk; ALBEGOV, N.A., kandidat tekhnicheskikh nauk.

The electro-pneumatic brake. Zhel. dor. transp. 38 no.8:18-23  
Ag '56. (MLRA 9:10)

(Railroads--Brakes)

~~LATYSHOV, Konstantin Vasil'evich; RATSIN, F.D., inzhener, redaktor;~~  
KHITROV, P.A., tekhnicheskiy redaktor

[Inspection and routine repair of freight cars] Osmotr i tekushchii  
remont vagonov. Izd. 2-oe, ispr. 1 dop. Moskva, Gos.transp.zhel-  
dor. izd-vo 1957. 295 p. (MIRA 10:11)  
(Railroads--Cars--Maintenance and repair)

LATYSHEV, K.

Increasing the efficiency and control of automatic brakes on freight trains. Tr.  
from the Russina.

p. 63 (Zeleznicni Technika. Vol. 5, no. 3, Mar. 1957, Praha, Czechoslovakia)

Monthly Index of East European Accessions (MEAI) 10. Vol. 7, no. 2,  
February 1958

BOMBARDIROV, P.P.; LATYSHEV, K.V., kand.tekhn.nauk

Improving the performance of freight-car axles. Zhel.dor.  
transp. 40 no.11:55-58 N '58. (MIRA 11:12)

1. Starshiy inzhener Glavnogo upravleniya vagonnogo khozyaystva  
(for Bombardirov). (Car axles)



ALBEGOV, Nikolay Aleksandrovich; LATYSHEY, Konstantin Vasil'yevich;  
USPENSKIY, Viktor Konstantinovich; FOKIN, Mikhail Dmitriyevich;  
YASENTSEV, Viktor Filippovich; SARANTSEV, Yu.S., red.; BOBROVA,  
Ye.N., tekhn.red.

[Electropneumatic brakes] Elektropnevmaticheskie tormoza. Izd.2.,  
perer. i dop. Moskva, Vses.izdatel'sko-poligr.ob\*edinenie M-va  
putei soobshchenia, 1960. 207 p. (MIRA 13:9)  
(Railroads--Brakes)

LATYSHEV, K.V.; YATSYNO, A.T.; DUDIN, V.V.; FILIPPOVA, L.S., red.;  
GROMOV, Yu.V., tekhn. red.

[Repair and modernization of axle equipment with journal bearings] Remont i modernizatsiia buksovogo uzla s podshipnikami skol'zheniia. Moskva, Vses. izdatel'sko-poligr. ob'edinenie M-va putei soobshcheniia, 1961. 52 p. (MIRA 15:2)  
(Car axles) (Bearings (Machinery))

LATYSHEV, L.A.

PHASE I BOOK EXPLOITATION

1119

Moscow. Aviatsionnyy institut imeni Sergo Ordzhonikidze

Voprosy rabochikh protsessov teplovykh mashin; sbornik statey (Problems in the Operation of Heat Engines; Collection of Articles) Moscow, Oborongiz, 1958, 117 p. (Series: Its: Trudy, vyp. 95) No. of copies printed not given.

Ed. (Title page): Kvasnikov, A.V., Professor; Ed. (Inside book): Peshkin, M.A., Candidate of Technical Sciences; Ed. of Publishing House: Anikina, M.S.; Tech. Ed.: Zudakin, I.M.; Managing Ed.: Zaymovskaya, A.S., Engineer.

**PURPOSE:** This compilation is intended for engineers and technicians concerned with the design and study of complete heat engines and hydraulic machines and of their components. The data given may be used by experimental and computing groups of scientific research institutes and of special-design offices (OKB).

**COVERAGE:** This collection contains three reports on problems connected with modern heat engines and hydraulic machines. The papers have been excerpted (and revised for publication) from several reports prepared in the Department of Aircraft Engine Theory of the Moscow Aviation Institute from 1948 -

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Problems in the Operation (Cont.) 1119

1955. The scientific supervisors were Professor A.V.Kvasnikov and Docent D.I.Agubov. The first paper describes the development of a new method for measuring rapidly changing, pulsating temperatures as in the case of internal-combustion engines, particularly in high-speed machines with poor pressure-indicator accuracy. The method proposed by the authors uses a pickup with obviously high thermal inertia which inaccurately records temperature with respect to time. The second paper investigates the discharge of a gas from nozzles in the turbo-compressors of compound engines, answering two main questions: a) The deflection of the flow in an oblique cross section of single nozzles and narrowly-spaced nozzle lattices for supercritical conditions; b) the critical flow regime in two-dimensional nozzle lattices. The third paper discusses the problem of simulating the operating conditions of powerful turbo-machines by maintaining the original shape and replacing the full-scale working parts by others with only a part of the original power. The report also presents experimental data which confirm the validity of the method.

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Latyshev, L.A. and Rutovskiy, N.B. (Candidates of Technical Sciences) New Technique for Measuring Rapidly Changing Temperatures of the Working Parts of Internal-combustion Engines		5
Natalevich, A.S. (Candidate of Technical Sciences) Gas Flow in an Oblique Cross Section of Single Nozzles and in Turbine Nozzles		77
Mikheyev, N.I. (Candidate of Technical Sciences) Simulation of the Operation of a Centrifugal Pump by Use of Air		95
AVAILABLE: Library of Congress		

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1-26-59

Card 3/3

84052

S/147/60/000/003/011/018  
E022/E420

11.9200  
AUTHOR:

Latyshev, L.A.

TITLE:

Calculation of the Temperature Field in an Under-Heated Liquid When Boiling Under Conditions of Free Convection

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Aviatsionnaya tekhnika, 1960, No.3, pp.74-79

TEXT: The problem is considered of heat transfer inside boilers (or similar arrangements) filled with easily boiling liquids and the temperature distribution in the liquid resulting from free convection of heat is analysed. The usual approach to such problems is to assume that the process is the result of laminar free convection. This method is fairly reliable in the case of long vessels with only relatively small heat-flow through the end walls. The free convection produces then a circulation of the whole volume of fluid and thus leads to a vigorous symmetrical or antisymmetrical current. The mathematical analysis of this problem is best described in Ref.4, it is based on linearization of differential equations and assumes the gradient of temperature to be constant with height. Experiments carried out in MAI (Moscow Institute of Aviation) on vertical boilers heated on one Card 1/4

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side show that the process is not a laminar one. Detailed analysis of the experimental data with boilers of rectangular cross-section under the conditions of two-dimensional heat flow showed that near the heating elements, liquid droplets do rise up and, on reaching the free surface of the liquid, move towards the centre of the boiler, the motion of the droplets along both heated sides being essentially symmetrical with respect to the central line of the cross-section of the boiler. This motion is clearly turbulent and is diffusing as the free surface is approached. This leads to the intensive formation of micro-vortices and to strong mixing of the liquid near the free surface. As a result of this the temperature of the liquid near the free surface is substantially different from the temperature of the under-heated core and is nearly equal to the saturation temperature for the given pressure. It has been established that the micro-vortices are formed on account of deflection of the currents from the free surface (somewhat similar to deflection of a stream in a right-angled corner) which is helped also by the instability of the

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currents. Due to viscosity, these vortices lead to increased temperature of the liquid. The approximate mathematical analysis of this process is based on the idea of the continuous temperature field as proposed in Ref.3, assuming further that the micro-vortices equalize the temperature in that portion of the area where the micro-circulation is taking place. Since the micro-vortices are continuously formed and disappearing in various parts of the liquid, the temperature field is unstable; it varies with time and the height of the field, as shown in Fig.1 (taken at the same instant but at different sections). These graphs show that the temperature field (except near the side walls) may be considered as the potential field for which the following two conditions are satisfied; (a) there is a gradient of the scalar quantity - temperature; (b) the circulation of the temperature is equal to zero, since in the horizontal section the temperature is constant. Thus, the problem is similar to that of the temperature field of semi-infinite rod and can be solved as shown on pp.77 and 78.

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The turbulent temperature conductivity  $\alpha_T$  must be determined from experimental data of the temperature field. It will be somewhat different for different points considered and has the greatest value in the upper layers of the liquid where a vigorous mixing is taking place. Fig.2 shows graphs of instantaneous temperature distributions along the vessel containing ethylalcohol under the conditions when boiling takes place on one side of the vessel, at different time intervals  $\tau$ , as computed by the above theory with a mean value of  $\alpha_T = 0.1 \text{ m}^2/\text{hour}$ . Experiments agree very well with the theory. There are 2 figures and 5 Soviet references (one translated from English).

ASSOCIATION: Moskovskiy aviatsionnyy institut Kafedra AD-2  
(Moscow Aviation Institute, Chair AD-2)

SUBMITTED: February 15, 1960

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S/535/60/000/119/006/009

E191/E481

AUTHORS: Latyshev, L.A., Candidate of Technical Sciences,  
Rutovskiy, N.B., Candidate of Technical Sciences and  
Tikhonov, V.B., Candidate of Technical Sciences

TITLE: Experimental investigation of the effect of pipe line vibrations on the parameters of the liquid flowing inside

PERIODICAL: Moscow. Aviatsionnyy institut. Trudy, No.119, 1960.  
Rabochiye protsessy v teplovykh dvigatel'nykh ustanovkakh, pp.111-123

TEXT: Referring to G.W.Housner (Ref.2: Bending vibration of a pipe line containing flowing fluids, Journal for Applied Mechanics, 1952, Vol.19, No.2), the equation of motion in a vibrating tube with fluid is recited. Housner found that both internal and external forces significantly affect the parameters of the liquid flowing in a vibrating pipe line and that the pipe line can become dynamically unstable at large rates of flow. Neither Housman nor later American investigators have treated the effect of mechanical factors on the hydrodynamics of fluid flow inside the vibrating tube. A system of equations is added describing the non-  
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stationary motion of the fluid in the tube. Friction is ignored having regard to the relatively short pipe lines in aircraft power systems. In view of mathematical difficulties, a vibration test rig was built with forcing frequencies of 25, 50, 75, 100, 125 and 175 cps, which are the resonance frequencies of cantilever springs. The range of liquid flow was between 1 and 4 m/sec. The vibrating tube which may be straight or coiled is connected by two hose lengths to the hydraulic circuit, wherein the feeding and collecting tanks both have free liquid surfaces so that the pipe vibrations are not overshadowed by hydraulic circuit vibrations. The general level of pressure is maintained by compressed air. The vibrations are induced by an electromagnetic system. The pressure is measured with a capacitive pressure transmitter. The fluid flow, the vibration frequency, the vibration amplitude and the fluctuations in the fluid pressure and its rate of flow were continuously recorded during the experiments. Several results of these tests are plotted and discussed. The work is stated to be proceeding and the numerical results described must be regarded as significantly affected by the mechanical features of the installation rather than possessing a general validity. The only Card 2/3

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general feature shown up is the unquestionable major degree of interaction between the fluid flow and the physical vibration of the pipe line. For example, the vibration of the pipe has a substantial effect on the liquid mass flow. Conversely the rate of flow has a substantial effect on the vibration amplitude, other things being equal. Sh.L.Zlotnik and V.S.Ushakov are mentioned in the paper. There are 9 figures and 8 references: 4 Soviet and 4 non-Soviet. The four references to English language publications read as follows: Housner G.W., Journal for Appl. Mechanics, 1952, Vol.19, No.2; Niordson F.J.H., Transactions of the Roy.Inst. of Technology, Stockholm U.D.C. 534, 131, 2, 1953, No.73; Handelman G.H., Quarterly of Appl. Mathematic, 1955, Vol.XIII, No.3; Long R.H. Jr., J. for Appl. Mechanics, 1955, Vol.22, No.1.

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S/841/62/000/000/002/002  
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AUTHOR: Latyshev, L.A., Candidate of Technical Sciences  
TITLE: Propagation of heat waves in an infinite cylinder with  
a complex law of variation of ambient temperature  
SOURCE: Rabochiye protsessy teplovykh dvigateley.  
Ed. by M.S. Shtekher. Moscow, Oborongiz, 1962.. 63-69.

TEXT: Solutions have been given previously for the heat wave propagation when the ambient temperature varies periodically in accordance with a single harmonic function. A complex periodic function must be approximated by Fourier series. The analysis for an infinitely long cylinder is given when the thermal diffusivity is independent of temperature and constant in time. The heat conduction equation is formulated and the boundary and initial conditions are stated. A modified Bessel equation results, the solution of which contains a zero order modified Bessel function of the first kind. The Laplace transformation is applied to the boundary condition at the cylinder surface. Finally, the temperature as a function of the radius and the time is transformed  
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into a harmonic function with a phase lag. To determine the lag of the heat wave with the radius, Bessel functions with an imaginary argument are introduced, leading via Thompson functions to an expansion into power series with rapid convergence in practical cases, e.g. when measuring temperature by a tungsten filament of 0.15 mm diameter in a piston engine with a 20 cps temperature variation, the change of phase lag is quite insignificant, so that simplified formulae can be used for the heat flow.

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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

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

at boundary conditions

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$$z=0 \text{ и } z=H, \frac{\partial T}{\partial z} = 0, \quad (2),$$

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

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

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

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

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

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

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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

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ACCESSION NR: AP4009650

S/0147/63/000/004/0112/0116

AUTHOR: Laty\*shev, L.A.

TITLE: Temperature fields in an underheated liquid during growth of vapor bubbles

SOURCE: Izvestiya vy\*sshikh uchebny\*kh zavedeniy. Aviatsionnaya tekhnika, no. 4, 1963, 112-116

TOPIC TAGS: underheated liquid, vapor bubble, vapor bubble growth, nucleate boiling, heat flow formula, underheated liquid temperature field

ABSTRACT: The mechanism of vapor bubble growth in an underheated liquid is described in terms of heat flow and transfer, mechanical mixing of the liquid by vapor bubbles and the complex motion of liquid in the boundary layer. A mathematical model is evolved for the process and a final formula is derived in the form

$$t = \frac{q_0}{4.6l_t} e^{-4.6 \frac{x}{\delta}} + t_{und} \quad (1)$$

to describe heat flow through a wall;  $t$  - temperature,  $x$  - distance from the wall,  $\delta$  - thickness of boundary layer,  $l_t$  - heat conductivity of medium (due to turbulent mixing),

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ACCESSION NR: AP4009650

$t_{und}$  - temperature of underheated liquid,  $q$  - heat flow through a wall. It is considered established that temperature in the boundary layer varies exponentially during nucleate boiling in the presence of forced convection. In free convection, all heat entering the underheated liquid is expended to heat the layer immediately adjacent to the heating surface. The feasibility of determining numerical values for turbulent heat conductivity and the thickness of the boundary layer is demonstrated. Orig. art. has: 1 graph, 1 table and 11 formulas.

ASSOCIATION: None

SUBMITTED: 18Apr63

/ DATE ACQ: 12Feb64

ENCL: 00

SUB CODE: PH

NO REF SOV: 006

OTHER: 003

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LATYSHEV, J.A.

Temperature fields in or unheated liquid in case of bubble  
boiling. Izv. vyz. ucheb. zav.; ser. tekh. 6 no.4:112-116 '63.  
(MIRA: 1978)