

MARTYNOV, P. YA.

USSR/Astronomy - Photography

Jan/Feb 52

"Photographic Film Color-Sensitive in Visual Spectrum," A. V. Borin, D. Ya. Martynov T. I. Smolko, Astron Obs imeni Engelgardt, Res Lab of Glavkino-plenka

"Astron Zhur" Vol XXIX, No 1, pp 5-13

Film samples were tested and numerated 1-5, 1 for excessive sensitivity to blue-violet, 3 for satisfactory sensitivity to all colors, 5 for excessive sensitivity to red. Plots results in sensitivity curves as compared to sensitivity of human eye and tabulates in relation to photographic emulsion

20212

USSR/Astronomy - Photography (Contd)

Jan/Feb 52

compn. Presents curves of photographic intensity of stars as compared to photovisual intensity. Indebted to A. F. Torondzhadze, M. Ye. Yemel'Yanko and V. A. Kolychev. Received 10 Nov 51.

20212

HARRY, P. H.

C. H. - 1961

Observations of the process of

Monday List of R.

1. MARTYNOV, D. Ya. USMANOVA, F. K.
2. USSR (600)
4. Comets
7. Observations of the comet Shomass 1941 b t the Engel'hardt Astronomical Observatory. Astron. tsir. no. 106, 19 .

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

1. MARTYNSKY, D., UTMAYEV, P.,

2. U.S.S.R. (000)

4. Secrets - 1950

7. Observations on the activities of the Soviet intelligence apparatus in the U.S.S.R. (Observatory, Moscow, U.S.S.R., 1953).

9. Monthly List of Russian Accessions, Library of Congress, _____ 1953. Unclassified.

MARTYNOV, D. Ya.; UCHANOVA, F. K.

Comets - 1951

Observations at the Engel'gardt Astronomical Observatory of 1951 comets, Pluto and minor planets in 1951. Astron. tsir. No. 132, 1952.

9. Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

MADANOV, P.V.; MARTYNOV, D.Ye., otvetstvennyy redaktor; MARKOV, M.V., professor, redaktor; SHAFUGULLIN, A.G., professor, redaktor; ARBUZOV, B.A., akademik, redaktor; DYUKOV, I.A., professor, redaktor; NORDEN, A.P., professor, redaktor; PISAREV, V.I., professor, redaktor; TIKHVINSKAYA, Ye.I., professor, redaktor; ABDRAKHMANOV, M.I., dotsent, redaktor; MOROZOV, D.G., dotsent, redaktor; KHARITONOV, A.P., dotsent, redaktor; KOLOBOV, N.V., redaktor; KOLESNIKOVA, Ye.A., starshiy prepodavatel', redaktor; VINOKUROV, M.A., professor, redaktor.

[Biological accumulation of manganese in soils of the Volga-Kama forest-steppe and its availability to plants] Biologicheskaya akumulatsiya margantsa v pochvakh Volzhsk-Kamskoi lesostepi i ego dostupnost' sel'skokhoziaistvennyam rasteniyam. Kazan', 1953. 202 p. (Kazan. Universitet. Uchenye zapiski, vol.113, no.7) (MLRA 10:3)

1. Rektor universiteta (for Martynov).
2. Prerektor po nauchnoy rabote (for Markov).
3. Prerektor po uchenoy rabote (for Shafugullin)
4. Sekretar' partbyuro universiteta (for Kolebev).
(Plants, Effect of manganese on)
(Volga Valley--Forest soils)

MERLIN, V.S.; MARTYNOV, D.Ya., otvetstvennyy redaktor; MARKOV, M.V., professor, redaktor; SHAFUGULLIN, A.G., professor, redaktor; ARBUZOV, B.A., professor, redaktor; DYUKOV, I.A., professor, redaktor; NORDEN, A.G., professor, redaktor; PISAREV, V.I., professor, redaktor; TIKHVINSKAYA, Ye. I., professor, redaktor; ABDRAKHAMANOV, M.I., dotsent, redaktor; MOROZOV, D.G., dotsent, redaktor; KHARITONOV, A.P., dotsent, redaktor; KOLOBOV, N.V., redaktor; KOLESHNIKOVA, Ye.A., starshiy prepodavatel', redaktor; ROZHDESTVENSKIY, B.P., dotsent, redaktor.

[Peculiarity of conditioned reactions in the structure of a voluntary act] Svoeobrazie uslovnnykh reaktsii v strukture volevogo akta. Kazan', 1953. 123 p. (Kazan. Universitet. Uchenye zapiski, vol.113, no.3)

(MLRA 10:3)

1. Rektor universiteta (for Martynov); 2. Prerektor po nauchnoy rabote (for Markov); 3. Prerektor po uchebnoy rabote (for Shafugullin).
 4. Sekretar' partbyuro universiteta (for Kolobov)
- (CONDITIONED RESPONSE) (WILL)

Martynov, D. Ya.

"RS Vulpeculae," *Izvestiya Akademii Nauk SSSR Seriya Fiziko-Matematicheskie Nauki*, No 5, 1955, 34-34.

A reiterated analysis of minima of RS Vul is performed for a possibility of rotation of its line of apsides, evidenced by the changing of the secondary minima. No definite conclusions could be made. (*ZhAstr*, No 9, 1955.)

SO: W31118, 11 Jan 55

MARTYNOV, D. YA.

USSR/Astronomy - Stellar Density, Spatial

Nov/Dec 53

"Determination of Spatial Density of Stars from Compilation of Star Numbers in Two Spectral Regions," V. A. Kolychev, Astron Observ in Engelhardt

Astron Zhur, Vol 30, No 6, pp 619-624

Investigate spatial density of stars and light absorption in direction of the Galactic anticenter ($l = 129^\circ$, $b = 0^\circ$). The method of analysis applied is that of D. Ya. Martynov (ibid, 26, (1949)). Finds stellar density higher at distance of 1500 parsecs in anticenter direction, which may indicate a spiral branch of our Galaxy. Rec 4 Dec 52

PEREL', Yu.G.[reviewer]; MARTYNOV, D.Ya., professor [author].

"Marian Al'bertovich Koval'skii." D. I.A. Martynov. Reviewed by Yu.G. Perel'.
Astron. zhur. 30 no.6:673-674 N-D '53. (MLBA 6:11)
(Koval'skii, Marian Al'bertovich, 1821-1884) (Martynov, D. I.A.)

MARTYNOV, D.Ya.; USMANOVA, F.K.

Observations of comet 1953a Mrkos-Honda at the Engel'gardt
astronomical Observatory. astron.teir. no.138:1 My '53.

(MLRA 7:1)

1. astronomicheskaya observatoriya imeni Engel'gardta.

(Comets--1953)

MARTYNOV, D.Ya.; USMANOVA, F.K.

Observations of comets 1951h, 1952a and 1952e at the Engel'gardt
Astronomical Observatory. astron. tsir. no.139:1-3 Je '53.

(MLRA 7:1)

1. astronomicheskaya observatoriya imeni Engel'gardta. (Comets)

MARTYNOV, D.Ya.

Noctilucent clouds. astron.tsir. no.139:12 Je '53. (MLRA 7:1)

1. astronomicheskaya observatoriya imeni Engel'gardta. (Clouds)

MARTYNOV, D.Ya.; USMANOVA, P.K.

Observations of Pons-Brooks Comet 1953c and Abel's Comet 1953g at the
Engel'gardt Astronomical Observatory. Astron.tsir. no.144:1-2 D '53.
(MLRA 7:6)

1. Astronomicheskaya Observatoriya imeni Engel'gardta.
(Comets--1953)

MARTYNOV, D.Ya.

RS Vulpeculae. Per. svezdy 9 no.5:342-344 Je '54. (MIRA 7:8)

1. Astronomicheskaya observatoriya imeni Engel'gardta.
(Stars, Variable)

MARTYNOV, D.Ya.

Future eclipses of ϵ Aurigae and η Geminorum. Astron. tsir. no. 146:
19-20 P '54. (MLBA 7:6)
(Stars, Variable)

MARTYNOV, D.Ya.

Comet Abell 1953g. Astron. tsir. no. 147:2 Mr '54. (MLRA 7:8)
(Comets--1953)

MARTYNOV, D.YA.

MARTYNOV, D.Ya.

Visible microstructure of star clouds of the Milky Way. Astron.
tsir. no.149:14-16 My '54. (MLRA 7:7)

1. Astronomicheskaya observatoriya imeni Engel'gardta.
(Milky Way)

... ..

"... .."
... ..

brief description of the session of the Physico-Mathematical Sciences
of the Academy of Sciences USSR devoted to the reopening of the
Astronomical Observatory at Pulkovo, under the direction of
Mikhaylov, held in
scientists, representatives of
Astronomic Conference with
2-24 July 1964. (USSR P,)

... ..

MARTYNOV, D. Ya.

Observations of the total solar eclipse of June 30, 1954, by the expedition of the Engel'gardt Astronomical Observatory and the Ul'yanov-Lenin State University in Kazan. Astron. tsir. no.151:6-9 JI '54. (MLRA 8:3)

1. Astronomicheskaya observatoriya imeni Engel'gardta. (Eclipses, Solar—1954)

MARTYNOV, D. Ya.; USMANOVA, F. K.

Observations of comet 1954 f (Vozarova) at Engel'gardt Astro-
nomical Observatory. Astron. tsir. no. 155:3-4 D '54. (MLRa 8:6)

1. Astronomicheskaya observatoriya imeni Engel'gardta.
(Comets--1954)

MARTYNOV, Dmitriy Yakovlevich, doktor fiziko-matematicheskikh nauk,
professor. Uspenskaya, N.V., redaktor; ISLENT'YEV, P.G.,
tekhnicheskiiy redaktor.

[Interstellar matter] Mezhzvezdnaia materia. Moskva, Izd-vo
"Znanie," 1955. 31 p. (Vsesoiuznoe obshchestvo po rasprostraneniui
politicheskikh i nauchnykh znani. Ser.3 no.22) (MLRA 8:9)
(Interstellar matter)

AMBARTSUMYAN, V.A., akademik, redaktor; MUSTEL', E.R., redaktor;
PARENAGO P.P., redaktor; KUKARKIN, B.V., doktor fiziko-mate-
maticheskikh nauk; MARTYNOV, D.Ya., doktor fiziko-matemati-
cheskikh nauk, redaktor; MASSVICH, A.G. kandidat fiziko-
matematicheskikh nauk, redaktor; LEYKIN, G.A. kandidat
fiziko-matematicheskikh nauk, redaktor; YEFREMOV, Yu.I.,
redaktor; POLYAKOVA, T.V., tekhnicheskij redaktor.

[Transactions of the Fourth Conference on Problems of Cosmogony;
non-stationary stars] Trudy chetvertogo soveshchaniya po voprosam
kosmogonii; nestatsionnarye svesdy. Moskva, Izd-vo Akademii nauk
SSSR, 1955. 512 p. (MLRA 8:12)

1. Chlen-korrespondent AN SSSR (for Mustel' and Parenago)
2. Soveshchaniye po voprosam kosmogonii. 4th Moscow, 1954.
(Stars)

MARTYNOV, D.Ya., professor, doktor fiziko-matematicheskikh nauk.

Interstellar matter. Tekh.mol. 23 no.12:19-23 D '55. (MLRA 9:2)
(Interstellar matter)

MARTYNOV, D. YA

USSR/ Astronomy - Geodesy

Card 1/1 Pub. 124 - 30/39

Authors : Martynov, D. Ya., Prof.

Title : Second convention of the All-Union Astronomical-Geodesic Society

Periodical : Vest. AN SSSR 25/5, 90 - 92, May 1955

Abstract : An account is given of a convention called by the All-Union Astronomical-Geodesic Society for considering the progress attained by Soviet and foreign scientists in the fields of astronomy and geodesy for the period covered since the first convention in 1934, and for determining further projects and ways of development of their scientific research activity. The program ran from the 25th to the 31st of January in the city of Leningrad and 10 reports were heard.

Institution :

Submitted :

MARTYNOV, D. Ya.

Observations of Bakharev-MacFarlane-Krienke's comet (1955f) at
the Kuchino observatory of the Shternberg State Astronomical
Institute. Astron. tsir. no.162:2-3 Ag '55. (MLRA 9:5)

1. Gosudarstvennyy astronomicheskiy institut imeni Shternberga.
(Comets--1955)

MARTYNOV, D. Ya.

Investigating eight variable stars in the Selected Area ⁴⁰
[with summary in French]. Per.svezdy 11 no.3:170-201 P '57.
(MIRA 12:1)

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

(Stars, Variable)

MARTYNOV, D.Ya.; KHOLOPOV, P.N.

The V 751 Cygni a R Coronae Borealis-type variable star. Per.
svezdy 11 no.3:222-225 P '57. (MIRA 12:1)

1. Gosudarstvennyy astronomicheskyy institut im. P.K.Shternberga
i Astronomicheskyy sovet AN SSSR, Moskva.
(Stars, Variable)

MARTYNOV, D YA, PROFESSOR

AUTHOR: Martynov, D.Ya., Professor

26-12-18/49

TITLE: Bright Comets in 1957 (Yarkiye komety 1957 goda)

PERIODICAL: Priroda, 1957, No 12, pp 80-83 (USSR)

ABSTRACT: The article deals with two comets which could be seen by the inhabitants of the northern hemisphere in 1957. "Comet 1956h" was discovered by two Belgian scientists Arend and Roland. They saw it as early as in November 1956 through their telescope, but it became clearly visible on 20 - 21 April 1957. This comet had besides its normal tail a second one which was noted by many observers in the entire Soviet Union. According to scientists, the second tail was the product of slow disintegration of the comet under the influence of violently escaping gases from particles the comet consisted of. On July 29, 1957, another comet was detected by the Czech astronomer Antonin Mrkos, which was named after him - "Mrkos comet 1957d". This comet was also bright but had only one tail whose length was estimated at 11 million km. Both comets were being observed for several months in Europe and America. There are 6 photos and 2 diagrams and 1 Slavic (Russian) reference.

Card 1/2

Bright Comets on 1957

26-12-18/49

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

AVAILABLE: Library of Congress

Card 2/2

UFA R I / NOV 1957

AUTHOR: Martynov, D.Ya., and Alduseva, V.Ya. 33-3-15/32

TITLE: Changes in the construction of the MΦ-2 microphotometer effected allowing measurements of high intensities.
(Izmeneniya v konstruktsii mikrofotometra MF-2 v tselyakh izmereniya vysokikh plotnostey)

PERIODICAL: "Astronomicheskii Zhurnal" (Journal of Astronomy), 1957, Vol.34, No.3, pp. 435-439 (U.S.S.R.)

ABSTRACT: The valve photo-element in the MΦ-2 microphotometer has been replaced by a photo-multiplier ΦЭУ-19, the sensitivity of the former being 410 μA/lumen and that of the latter 22.8 A/lum at an overall voltage of 1 250 V. The linearity of the photo-multiplier was checked against an optical wedge. The photo-multiplier was connected to a galvanometer (ГК-26) having a sensitivity of 2.6×10^{-9} A/mm/m. In order to increase the range of the measured densities, four neutral filters were used in conjunction with the microphotometer. The absorption in these filters was accurately known.

A difficulty was encountered in attempts to exclude scattered light. Finally, a limiting slit was chosen in the form of a modified Hartmann diaphragm. The slit was in the form of a rectangular opening, the linear dimensions of which could be varied. With these modifications it was possible to measure

Card 1/2

33-3-15/32

Changes in the construction of the M Φ -2 microphotometer effected allowing measurements of high intensities. (Cont.) densities of up to $D = 6.0$, the characteristic being linear up to $D = 4.0$.

The modified microphotometer was used in the measurement of strongly over-exposed lines of hydrogen and CaII on spectrograms of the solar eclipse on June 30, 1954, together with normally exposed lines (using a special step-wedge).

It was found important to exclude all traces of stray light. Results show that it is possible to measure densities up to 4 - 5 with an accuracy of 10 to 12%. This is comparable with the accuracy obtainable in the more usual density ranges. The accuracy could be increased still further.

The determination of photometric profiles of spectral lines with M Φ -2 is a complex process. In a later paper a modification of the microphotometer M Φ -4 will be described, whereby these profiles will be more easily measurable.

There are 6 figures and 1 table.

ASSOCIATION: State Institute of Astronomy imeni P.K.Shternberg.
(Gos. Astronomicheskii Institut im. P.K.Shternberg)

SUBMITTED: November 12, 1956.

AVAILABLE: Library of Congress

Card 2/2

MARTYNOV, Dmitriy Yakovlevich; BAKULIN, P.I., red.; YERMAKOV, M.S., tekhn.
red.

[Centuries and moments] Veka i mgnoven'ia. Moskva, Izd-vo Mosk. univ.,
1961. 85 p. (MIRA 14:7)

(Time)

MARTYNOV, D.Ya.

TU Herculis. Astron. tsir. no.177:16 F '57.
(Stars, Variable)

(MIRA 10:6)

MARTYNOV, D.Ya.

Observations of Arend-Roland's comet (1956 h) by amateurs, and
the date of appearance of an anomalous tail. Astron. tsir. no.180:
11-13 My '57. (MIRA 13:4)

1. Gosudarstvennyy astronomicheskiy institut im. P.K.Shternberga.
(Comets--1956)

MARTYNOV, D.Ya.

Evaluating the brightness of comet (1956 h). Astron. tsir. no.180:
13-14 My '57. (MIRA 13:4)

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

(Comets--1956)

MARTYNOV, D.Ya.

Lunar eclipse of May 13-14, 1957. Astron. tsir. no.180:18
My '57. (MIRA 13:4)

(Eclipses, Lunar--1957)

MARTYNOV, D.Ya.; AVEDISOVA, V.S.

Spectral observations of Arend-Roland's comet (1956 h) in Moscow.
Astron. tsir. no.181:8-10 Je '57. (MIRA 13:3)

1.Gosudarstvennyy astronomicheskiy institut imeni Shternberga.
(Comets--1956)

MARTYNOV, D.Ya.

Observations of Mrkos' comet (1957 d). Astron.tsir. no.184:4-5
S '57. (MIRA 11:4)
(Comets--1957)

PHASE I BOOK EXPLOITATION

1030

Martynov, Dmitriy Yakovlevich

Gosudarstvennyy astronomicheskiy institut imeni P.K. Shternberg) Moscow, Izd-vo AN SSSR, 1958. 30 p. 2,300 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Astronomicheskiy sovet.

Resp. Ed.: Kulikovskiy, P.G.

PURPOSE: This booklet is for readers interested in the field of astronomy.

COVERAGE: The booklet was published in connection with the meeting of the International Astronomical Congress in Moscow in August 1958. It describes the State Astronomical Institute imeni P.K.Shternberg in Moscow and gives a brief historical sketch of its history. The Institute originated as the Astronomical Observatory of the University of Moscow. After the Revolution the following divisions were added: The Astronomic Geodetic Institute (1922), the Astrophysical Institute (1923), Time Service, Kuchino Astrophysical Observatory (55° 45' 47" 7 lat N and 2^h 31^m 51^s, 56 East long.), and the Southern Observation Sta-

Card 1/2

State Astronomical Institute imeni P.K. Shternberg 1030

tion. The following instruments are described:

Meridian circle (Repsol'd), passage instruments, twin astrograph, 15" astrograph, equatorial camera, non-slit spectrograph-reflector, 8" visual reflector, vertical solar telescope with coelostat attachment and spectrograph, pendulum and quartz clocks, spectro-heliograph, eclipse coronagraph, large telescope, parabolic reflector with three spectrographs. Wide angle astrometric astrograph, zenith-telescope and a number of additional instruments complete the service installation.

The gravity value for the laboratory situated at Lenin's Hills (Leninskiye Gory) is given as $g=981,5195 \pm 0,00075$ cm. sec.⁻². There are 12 photographs, one of the Institute and eleven of instruments. There are no references. There is no Table of Contents.

AVAILABLE: Library of Congress

Card 2/2

MM/sfm
1-7-59

МАРТ YNOV, D. Ya.

KULAGIN, S.G.; KOVBASYUK, L.D.; DAGAYEV, M.M.; ROZENBLYUM, N.D.; YEGORCHENKO, I.P. (Irkutsk); KAVERIN, A.A. (Irkutsk); KONSTANTINOVA, T.G. (Irkutsk); KUKLINA, V.A. (Irkutsk); KUKLIN, G.V. (Irkutsk); SAZONOVA, Z.G., (Irkutsk); CHERNYKH, L.I. (Irkutsk); CHERNYKH, N.S. (Irkutsk); DEMIDOVICH, Ye.G.; BRONSHTEN, V.A.; YAKHONTOVA, N.S. (Leningrad); PEROVA, N.B.; DOKUCHAYEVA, O.D.; KATASEV, L.A.; KLYAKOTKO, M.A.; PARENAGO, P.P.; SHCHERBINA-SAMOYLOVA, I.S.; MASEVICH, A.G.; RYABOV, Yu.A.; SHCHEGLOV, V.P.; PEREL', Yu.G.; MARTYNOV, D.Ya.; FEDYNSKIY, V.V.; VORONTSOV-VEL'YAMINOV, B.A.; ZIGEL', F.Yu.; BAKULIN, P.I., otv.red.; RAKHLIN, I.Ye., red.; AKHLAMOV, S.N., tekhn.red.

[Astronomical calendar] Astronomicheskii kalendar'. [A yearbook; variable section for 1959] Ezhegodnik. Peremennais chast', 1959. Red.kollegiia P.I. Bakulin i dr. Moskva, Gos.izd-vo fiziko-matem.lit-ry, 1958. 370 p. (Vsesoiuznoe astronomo-geodezicheskoe obshchestvo, no.62) (MIRA 12:2)

1. Gosudarstvennoye astronomo-geodezicheskoye obshchestvo (for Kulagin, Kovbasyuk, Demidovich). 2. Moskovskoye otdeleniye Vsesoyuznogo astronomo-geodezicheskogo obshchestva (for Dagayev, Rozenblyum, Bronshten, Perova).

(Astronomy--Yearbooks)

MARTYNOV, D.Ya.

Noctilucent clouds. Astron.tsir. no.193:35 Jy '58.
(MIRA 12:1)
1. Gosudarstvennyy astronomicheskiy institut im. P.K.Shternberga.
(Clouds)

MARTYNOV I. YA.

PHASE I BOOK EXPLOITATION SOV/3405
Soveshchaniye po voprosam kosmogonii. 6th, Moscow, 1957

Vnezagalakticheskiya astronomiya i kosmologiya: trudy sovetskikh i straneyevykh astronomov i kosmologov; Transaktsii na 6th (Extragalactic Astronomy and Cosmology) Transactions of the 6th Conference on Problems of Cosmogony, June 5-7, 1957. Moscow AN SSSR, 1959. 273 p. Errata slip inserted. 1,500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR.
Ed. of Publishing House: I.V. Samonko. Tech. Ed.: O.N. Shevchenko; Editorial Board: S.A. Frank-Kamenetskiy (Resp. Ed.) Professor; S.A. Vorontsov-vel'yaminov, Corresponding Member.

PURPOSE: The book is intended for astronomers and physicists studying problems of general cosmology.

COVERAGE: The book is a collection of papers on cosmogony read by scientists participating in a conference held in Moscow on June 5-7, 1957. The papers review recent observational and theoretical work in extragalactic astronomy, gravitational theory and theory of relativity, red shift, radio astronomy, formation of chemical elements, thermodynamics of the universe, entropy, etc. No personalities are mentioned. There are references following most of the reports.

Markaryan, B.Ye. Spiral Galaxy M 101	51
Martynov, D.Ye. Reliability of Observational Data in Extragalactic Astronomy	70
Kravetskiy, V.I. and P.V. Shneegolov. Application of Electronic-Optical Methods to Extragalactic Astronomy	89
Vitkevich, V.V. Discrete Sources of Radio Emission (Radio Stars) and Prospects for their Study	94
Ulanburz, Y.L. Experimental Verification of the General Theory of Relativity (Summary of Report)	114
Vlasov, A.A. Spatial, Non-homogeneous Distributions of the Systems of Gravitating Particles	116
Sporodinskiy, A.Ya. Isotropic Models of the Universe	131
Lifshits, Ye.M. Gravitational Stability in the General Theory of Relativity (Summary of Report)	141
Zel'manov, A.L. Relativistic Theory of an Anisotropic Non-homogeneous Universe	144
Shitrovskiy, M.F. Theory of Red Shift in Spectra of Distant Nebulae	175
Shklovskiy, I.S. Radio Astronomy and Cosmology (Summary of Report)	186
Chernyavskiy, V.Y. Conditions of Formation of Atomic Nuclei According to Data on Their Distribution	192
Frank-Kamenetskiy, D.A. Origin of Chemical Elements from the Point of View of the Theory of Internal Structure and Stellar Evolution	200
Terletskiy, Ya. P. Problems of Statistical Physics and Thermodynamics of Gravitating Systems	214
Idlis, G.M. Structural Infinity of the Universe and the Metagalaxy as a Typical Populated Cosmic System (Summary of Report)	270
Plotkin, I.R. Some Remarks on the Growth of Entropy	228
Staryukovich, K.F. On the Thermodynamics of the Universe	249
Naan, G.I. General Problems of Cosmology	243 r

VORONTSOV-VEL'YAMINOV, Boris Aleksandrovich; MARTYNOV, D.Ya., prof.,
retsensent; SAMSONENKO, L.V., red.; BRUDNO, K.F., tekhn.red.

[Essays about the universe] Ocherki o vselennoi. Izd.4.
Moskva, Gos.izd-vo fiziko-matem.lit-ry, 1959. 532 p.
(MIRA 13:2)

(Cosmogony)

MARTYNOV, D.

Draconids. Astron. tsir. no.205:4 0 '59.
(Meteore--October)

(MIRA 13:6)

MIKHAYLOV, A.A., otv.red.; MARTYNOV, D.Ya., doktor fiz.-mat.nauk, zam.otv.
red.; DURNEV, A.I., doktor tekhn.nauk, red.; SOLOV'YEV, M.D.,
doktor tekhn.nauk, red.; POPOV, P.I., prof., red.; PARENAGO, P.P.,
red. [deceased]; FEDYNSKIY, V.V., doktor fiz.-matem.nauk, red.;
BAZYKIN, V.V., red.; BRONSHTEN, V.A., red.; SAMSONENKO, L.V.,
red.izd-va; LEBEDEVA, L.A., tekhn.red.

[Proceedings of the Second Congress of the All-Union Astronomical
Geodetic Society] Trudy Vtorogo s"ezda Vsesoiuznogo astronomo-
geodezicheskogo obshchestva. Moskva, Izd-vo Akad.nauk SSSR, 1960.
151 p. (MIRA 14:2)

1. S"yezd Vsesoyuznogo astronomo-geodezicheskogo obshchestva. 2d,
Leningrad, 1955. 2. Chleny-korrespondenty AN SSSR (for Mikhaylov,
Parenago). (Astronomy, Spherical and practical--Congresses)
(Geodesy--Congresses)

PHASE I BOOK EXPLOITATION

SOV/5174

Pravda, Moscow.

Vbroy Sovetskily kosmicheskiy korabl'; materialy, opublikovannye v gazete "Pravda" (The Second Soviet Cosmic Ship; Materials Published in the Newspaper "Pravda") Moscow, 1960. 198 P. 50,000 copies printed.

Resp. for this Publication: V. Reut and V. Smirnov; Tech. Ed.: V. Yagodka.

PURPOSE: This book is intended for the general reader.

COVERAGE: The book is a compilation of articles which appeared in the newspaper Pravda after the launching, orbiting, and recovery of the capsule of the Soviet 4,600 kg spaceship on August 19, 1960. The articles give some details of scientific research undertaken in this flight in the fields of biology, cytology, genetics, cosmic radiation, solar radiation, ultra-violet radiation, and radiation levels. A description and three photos of the capsule are given. No personalities are mentioned. There are no references.

Limitless Perspectives. V. Fedynskiy, Doctor of Physical and Mathematical Sciences 90

Care for Future Astronauts. D. Markov, Academician of the Academy of Sciences USSR [Head of the Chemical and Physiological Laboratory of the Institut Fizologii (Institute of Physiology), Minsk] 91

Forerunner of Great Conquests. A. Aikhanlyan, Corresponding Member of the Academy of Sciences USSR, [Director of the Fizicheskiy Institut AN Arzyanskoy SSR (Physical Institute of the Academy of Sciences Arzyanskaya SSR)] 93

Television "Eye" in Outer Space. F. Fedorov 95

Two Flights. Leonid Sobolev 98

Beginning of a New Era. Olga Porsh 100

Meeting With the First "Astronauts." V. Smirnov, V. Shirokov 102

Event Which Surprised the World. D. Martynov, Professor, [Director of the Gosudarstvennyy Astronimicheskyy Institut imeni Shternberga (State Astronomical Institute Imeni Shternberg)] 104

Creative Genius of the Builders of Communism. Editorial in Pravda 108

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Into the Depths of the Microcosmos. S. Vainov, Corresponding Member of the Academy of Sciences USSR; N. Grigorov, Professor 141

MARTYNOV

PHASE I BOOK EXPLOITATION

SOV/9946

Mikhailov, A. A., ed.

Stantsii v kosmose; sbornik statey (Space Stations; Collection of Articles) Moscow, Izd-vo AN SSSR, 1960. 444 p. 25,000 copies printed. (Series: Akademiya nauk SSSR. Nauchno-populyarnaya Seriya)

Resp. Ed.: A. A. Mikhailov; Compiler: V. V. Fedorov; Ed. of Publishing House: Ye. M. Klyus; Tech. Ed.: I. D. Novichkova. PURPOSE: This book is intended both for the space specialist and the average reader interested in space problems.

COVERAGE: The book contains 73 short articles by various Soviet authors on problems connected with space travel and the launching of artificial earth satellites and space rockets. Some possibilities of future developments are also discussed. The articles were published in the period of 1957-1960. No personalities are mentioned. There are no references.

II. PRELIMINARY RESULTS OF SPACE INVESTIGATION

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POCHIZVAL, A. V. First Scientific Results of the Flight of Soviet Sputniks (March 26, 1958)	75
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KRASNOLIV, V. I. Doctor of Physical and Mathematical Sciences. Investigation of the Upper Atmosphere With the Help of the Artificial Earth Satellites (October 10, 1957)	93
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GINSBURG, V. L. Corresponding Member of the Academy of Sciences USSR and L.I. Kursova, Candidate of Physical and Mathematical Sciences. The Sun, Cosmic Radiation, and Sputniks (November 14, 1957)	115
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MARTYNOV, D. Ya., Doctor of Physical and Mathematical Sciences. About the Mysteries of the Universe (May 18, 1958)	190
POLETSKY, A. Candidate of Physical and Mathematical Sciences. Why Does the Amount of Reflected Light From the Sputniks Change? (September 12, 1958)	191
Poloskov, S. M. High Altitude Laboratories (May 16, 1958)	192
MAGYVICH, A. G., Doctor of Physical and Mathematical Sciences. Outer Space Laboratory (1958)	194
Fedorov, Ye. K., Corresponding Member of the Academy of Sciences USSR. Assault on Outer Space (1958)	204
Isakov, P., Candidate of Biological Sciences. Life on the Sputnik (November 14, 1957)	214

PHASE I BOOK EXPLOITATION

SOV/5776

Martynov, Dmitriy Yakovlevich

Kurs prakticheskoy astrofiziki (Course in Practical Astrophysics)
Moscow, Fizmatgiz, 1960. 508 p. 4500 copies printed.

Ed.: I. Ye. Rakhlin; Tech. Ed.: K. F. Brudno.

PURPOSE: This textbook is intended for students taking a university course in astrophysics.

COVERAGE: The book has been approved by the Ministerstvo vysshego obrazovaniya SSSR (Ministry of Higher Education USSR) as a textbook for the physics and mechanicomathematical divisions of state universities and is the first part of the work entitled Obshchaya astrofizika (General Astrophysics). In plan and contents the book follows the general outline of the course in astrophysics given at Moskovskiy universitet (Moscow University). Fundamental concepts and principles of physics which are necessary for an understanding of astrophysics have, on the whole, been

Card 1/6.

Course in Practical Astrophysics

SOV/57

omitted on the assumption those using the text have completed the full program of physics courses requisite at universities. The author, however, does include a discussion of photographic processes which are very important to astronomy and astrophysics since he feels that this subject is rather neglected in physics courses at Soviet universities. Supplementary material not strictly necessary for a student of astrophysics is given in small print. The book has a very detailed table of contents, but only the titles of the individual chapter section headings are given here. Frequent reference is made to the work of D. D. Maksutov, Soviet designer of telescopes. The following personalities are mentioned: Professors A. I. Lebedinskiy and V. V. Sharonov; scientific staff members of the Gosudarstvennyy astronomicheskiy institut im. P. K. Shternberg (State Astronomical Institute imeni P. K. Shternberg) N. S. Kardashov, V. I. Moroz, and Ye. A. Makarova; and senior laboratory assistant R. S. Avedisova. References accompany each chapter.

Card 2/6

Handwritten initials

PART I SOVIET ASTRONOMY 207/2378

Astronomy v. 538 is a book let 1977 - 1978; Chernik statey (Norty Years of Astronomy in the USSR, 1917-1977) Collection of Articles (Moscow, Fizmatgiz, 1968. 728 p. 2,000 copies printed.

Ed. I. V. Shchegolev; Tech. Edit. H. A. Dvorkina; Editorial Board: A. A. Mikheyev (Chair, Ed.), M. S. Gerasimov, P. P. Kulikovskiy, A. G. Maslennikov, S. R. Muskhelishvili, V. V. Sobolev, and M. P. Sidorin.

PURPOSE: This book is intended for astronomers, astrophysicists, and others interested in the history of astronomy in the USSR.

CONTENTS: This major work on the history of astronomy in the USSR consists of two parts, review articles and bibliographies. Part I contains a collection of articles on various fields of astronomical research written by leading Soviet specialists in the field. Chief emphasis is placed on developments of the last ten years. The research activities and equipment of 23 Soviet observatories and institutions are described, and the leading scientific personalities in each mentioned. The geographic conditions and elevations of all astronomical centers are listed. Individual articles discuss problems dealing with

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 Part II. Compiled Under the Direction of N. B. Larova

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Handwritten signature: M. A. I. ...

S/025/60/000/06/03/012

AUTHOR: Martynov, D.Ya., Professor, President

TITLE: Ship-Sputnik

PERIODICAL: Nauka i zhizn', 1960, No. 6, p 8

TEXT: The launching of the fourth Soviet sputnik¹² is a test for the first interplanetary ship. Its great weight is unavoidable, for a man in such a ship has to have a certain store of food and oxygen, control and measuring equipment, telescopes, cameras, stabilizing devices, and also means for detaching the pilot cabin and for landing. In this test, the cabin will not be returned, and the ship is not manned. Like the previous sputniks, the fourth is launched at a large angle to the equator plane - 65°. Due to this it will be visible from almost any place on the Earth, without a telescope. It makes its 42,000 km circle round the Earth in 91 minutes. Its scientific and technical equipment is working perfectly.

ASSOCIATION: Vsesoyuznoye astronomo - geodezicheskoye obshchestvo (Astronomic-
Geodetic Society of the Soviet Union)

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S/030/60/000/007/009/011
B016/B058

AUTHOR: Martynov, D. Ya., Professor

TITLE: Popularizing Astronomical Knowledge

PERIODICAL: Vestnik Akademii nauk SSSR, 1960, No. 7, pp. 97-98

TEXT: The 3rd Congress of the Vsesoyuznoye astronomo-geodezicheskoye obshchestvo (All-Union Astronomical and Geodetical Society), held from April 6 to 11, was of special interest in view of the tremendous changes in the field of astronomy in the USSR and all over the world in recent years. Meant is the first advance of man into cosmic space, especially of the Soviet man. The membership of the Society has almost doubled during the last five years and exceeds 2,000. This was mainly the result of the increased number of local departments (branches). The Society could, however, become a real mass organization by recruiting members among teachers, practicing geodesists, and all people interested in the exploration of the cosmos. A. A. Mikhaylov, Corresponding Member of the AS USSR, Chairman of the Society, delivered a report on the activities of the Society, which was supplemented by lectures from delegates of

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Popularizing Astronomical Knowledge

S/030/60/000/007/009/011
B016/B058

local branches. The experience gained in the propagation of atheism (V. V. Bazykin and V. I. Kurysheva) and astronomical knowledge awoke general interest. The branches of the Society need small popular observatories and planetaria for a scientific and vivid dissemination of astronomical knowledge, such as were established at Khar'kov, Leningrad, and the village of Novaya Praga, Kirovogradskaya oblast'. All delegates of the Congress stressed the necessity of strengthening the contact with the Vsesoyuznoye obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy (All-Union Society for the Propagation of Political and Scientific Knowledge). Several lectures dealt with the selection of the best types of mass telescopes. D. D. Maksutov, Corresponding Member of the AS USSR, reported on the project of the largest 6-meter telescope in the USSR. On the basis of the study of the astrophysical conditions (astroclimate), the installation of this instrument is to be carried out by several branches of the Society. The first results of the International Geophysical Year were discussed; the lecture by N. I. Grishin proved that the members achieved considerable success in studying noctilucent clouds and meteors despite modest means. Prospects of rocket engineering were discussed in further lectures

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Popularizing Astronomical Knowledge

S/030/60/000/007/009/011
B016/B058

(K. F. Ogorodnikov), and reports were delivered by the following persons: S. K. Vsekhsvyatskiy, N. P. Barabashov, V. V. Sharonov, and D. Ya. Martynov. An atlas of Mars drawings was published by the publishing house of the Academy of Sciences USSR. The achievements of the local organizations were illustrated by an exposition during the Congress. A. A. Yakovkin reported on observations of the lunar positions for the purpose of solving astronomical and geodetical problems; M. S. Zverev reported on new basic systems of stellar positions; S. V. Yeliseyev and O. A. Mel'nikov spoke at the joint meeting of the Astronomical and Geodetical Sections. The Geodetical Section mainly dealt with methodical problems and the introduction of modern technology into geodetical practice (15 lectures, including those by A. A. Izotov and S. G. Sudakov). P. I. Popov, R. V. Kunitskiy, B. A. Vorontsov-Val'yaminov, F. Yu. Zigel', and M. N. Dagayev mentioned the unsatisfactory organization of astronomy teaching and the poor training of teachers. A request was put forward to resume the publication of the periodical "Mirovedeniye". The newly elected Presidium is composed as follows: D. Ya. Martynov (Chairman), A. I. Durnev, A. A. Izotov, R. V. Kunitskiy, S. G. Sudakov, V. P. Tsesevich (Deputy Chairman), N. I. Grishin and M. M. Dagayev (Scientific

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Popularizing Astronomical Knowledge

S/030/60/000/007/009/011
B016/B058

Secretaries); V. V. Bazykin, S. K. Vsekhsvyatskiy, I. D. Zhongolovich,
I. T. Zotkin, A. A. Mikhaylov, V. V. Fedynskiy, and Ye. Kh. Kharadze.

Card 4/4

86711

S/026/60/000/010/002/013
A166/A026

3.1550 (1057, 1062, 1129)

AUTHOR: Martynov, D.Ya., Professor

TITLE: The Enigma of Venus

PERIODICAL: Priroda, 1960, No. 10, pp. 8-15

TEXT: The article reviews the present state of knowledge on the planet Venus and makes deductions as to the period of rotation, temperature and probable composition of Venus's atmosphere. Recent spectral observations of Venus indicate with a probability of 135.136 that the period of rotation is more than 7 days if the planet rotates from W to E and more than 3.5 days if from E to W. The upper rotation limit is set at 225 days. Spectral photos show parallel cloud distribution similar to that on Earth. Observations made by V.Ts. Tsesevich and B.I. Yezerksly tend to confirm the opinion that the axis of rotation is inclined 23° to the orbital plane, while the north pole has a direct ascension of 2° and a declination of 72° . In 1960, Strong's experiments with a telescope raised by balloon to heights above 24 km indicated that the Venus's atmosphere contained sufficient water vapor to give a precipitation of 0.019 mm (Earth's stratosphere would give 0.004 mm). N.A. Kozyrev thought he detected the glow of N_2 from Venus in the night sky, lit directly by the Sun, but this is not confirmed
Card 1/2

86711

The Enigma of Venus

S/026/60/000/010/002/013
A166/A026

Attempts to gage the temperature on Venus were made in autumn 1959 by A.D. Kuz'min and A.Ye. Salomonovich with the 22-meter telescope of the Fizicheskii institut AN SSSR (Physics Institute of the AS, USSR) on a wavelength of 8 mm with Venus near her inferior conjunction. The temperature rose from $+42^{\circ}$ (17 days after conjunction) to $+170^{\circ}$ (73 days after conjunction) with respective estimated errors of $\pm 30^{\circ}$ and $\pm 80^{\circ}$. A definite phase effect was noted: the temperature rose as the area of the planet lit by the sun increased. This phase effect points to a slow rotation of the planet. It is probable that places on Venus vary in temperature from a noon $+200$ to 300°C to a night temperature of zero. The author presumes that the whole surface of Venus is covered by ocean which protects the rocks from carbonization. However, the atmosphere contains considerable water vapor and probably much N_2 derived from NH_3 in the course of the planet's evolution. Observations of the CO_2 absorption bands set the pressure at cloud level at about 0.17 bar. If nitrogen is the main component of Venus's atmosphere, the pressure at this level may be 0.5 bar or more. It is not known how far from the land surface is this cloud layer. Assuming it is 20 km, the pressure of CO_2 at the surface would be roughly 4 bar or, with considerable nitrogen, 10 bars or more. A high barometric pressure would prevent the oceans from boiling, even at high temperatures. There are 2 photos, 4 figures and 2 Soviet references.

ASSOCIATION: Gosudarstvennyy astronomicheskii institut im. P.K. Shternberga
Card 2/2 (State Astronomical Institute imeni P.K. Shternberg), Moscow

MARTYNOV, D.Ya.

V 465 Cygni. Per.zvezdy 13 no.2:142-144 N '60. (MIRA 14:10)

1. Gosudarstvennyy astronomicheskiy institut P.K.Shternberga.
(Stars, Variable)

BAZYKIN, V.V.; BRONSHTEN, V.A.; VORONTSOV-VEL'YAMINOV, B.A.; DAGAYEV, M.M.;
DMITRIYEV, L.S.; IZOTOV, A.A.; KULIKOV, K.A.; KUNITSKIY, R.V.;
MARTYNOV, D.Ya.; MINCHENKOV, Ye.Ya.; MOGILKO, A.D.; P. L', Y.L.G.;
POPOV, P.I.; REZNIKOV, L.I.; SVETLOV, R.I.; SEMAKIN, M.K.;
SHISTOVSKIY, K.N.

Mikhail Evgen'evich Nabokov; obituary. Pis. v shkole 20 no.3:110-
111 My-Je '60. (MIRA 13:11)

(Nabokov, Mikhail Evgen'evich, 1887-1960)

MARTYNOV, D., prof.

New horizons open for astronomy. Nauka i zhizn' 27 no.9:5
S '60. (MIRA 13:9)

1. Direktor Gosudarstvennogo astronomicheskogo instituta im.
Shternberga.

(Astronomy)

PEREL', Yu.G.; POPOV, P.I.; MARTYNOV, D.Ya.; KUNITSKIY, R.V.;
VORONTSOV-VEL'YAMINOV, B.A.; BAZYKIN, V.V.; KULIKOV, E.A.;
SHISTOVSKIY, K.N.; TSVETOV, R.I.; BRONSHTEN, V.A.; DAGAYEV, M.M.;
MOGILKO, A.D.; SEMAKIN, N.K.; DMITRIYEV, L.S.; IZOTOV, A.A.

Mikhail Evgen'evich Nabokov; obituray. Buil.VAGO no.28:60-62
'60.

(MIRA 14:6)

(Nabokov, Mikhail Evgen'evich, 1887-1960

84929

S/033/60/037/005/008/024
E032/E514

3.1550 (1057, 1129, 1062)

AUTHOR: Martynov, D. Ya.

TITLE: On the Radius of Venus ✓

PERIODICAL: Astronomicheskii zhurnal, 1960, Vol.37, No.5,
pp. 848-855

TEXT: The angular dimensions of Venus derived from direct measurements are not very accurate. Published data suggest that the true value of the radius of Venus lies between 6100 and 6300 km. This uncertainty in the radius is quite unacceptable if one recalls the proximity of this planet. However, analysis of observations of the occultation of Regulus by Venus on July 7, 1959 ✓ provides a more accurate value for the radius of Venus. The data employed in this analysis are listed in Table 1 on p.851. It is shown that these results lead to the following figure for the linear radius of Venus: 6100 ± 34 km. In addition, the radius obtained from the transit of Venus across the solar disc, namely, $8''.41 \pm 0''.05$ ($\Delta = 1$ AU), is confirmed and corrections of the ephemeris position of Venus at the epoch of occultation are determined with great precision ($\Delta \alpha = + 0^s.044$, $\Delta \delta = -0''.60$).

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84929

S/033/60/037/005/008/024
E032/E514

On the Radius of Venus

Acknowledgments are made to V. S. Avedisova for her assistance in the calculations. There are 5 tables, 1 figure and 8 references: 1 Soviet, 3 German and 4 English.

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

SUBMITTED: July 20, 1960

J

Card 2/2

MARTYNOV, D.Ya., prof.

Riddle of Venus. Priroda 49 no.10:8-15 0 '60. (MIRA 13:10)

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

(Venus (Planet))

KORYTNIKOV, S.N.; LAVROV, M.I.; MARTYNOV, D.Ya., prof.

[Bibliography of spectral binary stars] Bibliografiia spektral'no-dvoinykh zvezd. Moskva, Izdana Astronomicheskim ~~Soyuzom~~ Akad. nauk SSSR. No.1. [From 0 hrs. to 6 hrs. A.M. Compiled by an order of the Committees 5 and 45 of the International Astronomical Association] Ot 0ⁿ do 6ⁿ. Sostavlena po porucheniiu Komissii 5 i 42 Mezhdunarodnogo Astronomicheskogo Soiuza. 1961. 153 p.
(MIRA 15:3)

1. Astronomicheskaya observatoriya im. Engel'gardta (for Lavrov, Korytnikov). 2. ~~Gosudarstvennyy astronomicheskiy institut imeni P.K.Shternberga~~ astronomicheskiy institut imeni P.K.Shternberga (for Martynov).
(Bibliography--Stars, Double)

KULAGIN, S.G.; KOVBASYUK, L.D.; DAGAYEV, M.M.; LAZAREVSKIY, V.S.;
DEMIDOVICH, Ye.G.; BRONSHTEN, V.A.; YAKHONTOVA, N.S.(Leningrad);
KUROCHKIN, N.Ye.; DOKUCHAYEVA, O.D.; SHCHERBINA-SAMOYLOVA, I.S.;
MASEVICH, A.G.; LIPSKIY, Yu.N.; MARTYNOV, D.Ya.; ARSENT'YEV, V.V.;
MOROZ, V.I.; MASEVICH, A.G.; PEREL', Yu.G.; BAKULIN, P.I., *otv.*
red.; KULIKOV, G.S., *red.*; AKHLAMOV, S.N., *tekhn. red.*

[Astronomical calendar; yearbook.Variable part, 1962] *Astronomicheski kalendari; ezhegodnik. Peremennaia chast', 1962. Red. kollegiia: P.I.Bakulin i dr. Moskva, Gos.izd-vo fiziko-matem. lit-ry, 1961. 259 p. (Vsesoiuznoe astronomo-geodezicheskoe obshchestvo, no.65) (MIRA 14:12)*

1. Gosudarstvennoye astronomo-geodezicheskoye obshchestvo (for Kalugin, Kovbasyuk, Lazarevskiy, Demidovich). 2. Moskovskoye ot-deleniye Vsesoyuznogo astronomo-geodezicheskogo obshchestva (for Dagayev, Bronshten, Kurochkin).

(Astronomy--Yearbooks)

27785

S/188/61/000/005/001; 06
B104/B203

3,1550 (1041,1057)

AUTHOR: Martynov, D. Ya.

TITLE: Venus. Physical character of the planet (On the 200th anniversary of the discovery of Venus's atmosphere by M. V. Lomonosov)

PERIODICAL: Moskovskiv Universitet. Vestnik. Seriya III. Fizika, astronomiya, no. 5, 1961, 23 - 38

TEXT: From May 26 to June 6, 1761, Venus passed the solar disk. At that time, M. V. Lomonosov succeeded in proving a refraction of the sunlight in Venus's atmosphere. The present paper is devoted to the memory of this scientific achievement by Lomonosov which is termed one of his less important ones. At first, the difficulties of an accurate determination of the period of revolution and the position of the axis of revolution of Venus are described. Its period of revolution was determined to lie between 22 hr and 225 days depending on different methods used by different authors. The position of the axis of revolution is also uncertain (Link F., Bull. Astr. Inst. Czechoslovakia, 10, 113, 1959; Mur [Moor] P, The

Card 1/4

27785

S/188/61/000/005/001/006

B104/B203

Venus. Physical character of the ...

planet Venus, translated from English; Belopol'skiy A. A., Astron. Nachricht., 152, 263, 1900; Richardson, P. S., Publ. Astr. Soc. Pacif., 70, 251 - 60, 1958; Kuiper, G. P., Astrophys. Journ., 120, 603 - 5, 1954; Richardson, R. S., Publ. Astr. Soc. Pacif., 67, 304 - 314, 1955; Yezer'skiy, V. I., Tr. Khar'k. astr. obs. 12, 162 - 163; Uch. Zap. Khar'k. gos. un-ta, 91, 1957; Tsesevich, V. P., Astr. tsirk., 158, 15, 1955; Sharonov, V. V., DAN, 82, 351 - 3, 1952). On July 7, 1959, Venus passed in close proximity "Regulus", a star of first magnitude. The author obtained observation material from observatories all over the world, and determined Venus's diameter to be 6100 km with an uncertainty of 30 - 40 km. The mean density of the planet was found to be 5.12 g/cm³. Papers on the composition of Venus's atmosphere are discussed. A water content five times that in the earth's stratosphere was detected. The free-oxygen content is 1/20 of that in the earth's atmosphere. N. A. Kozyrev (Izv. Krymskoy astrofiz. obs., 12, 169, 1954) detected N₂ and N₂⁺ in Venus's atmosphere. The existence of liquid and solid particles in the atmosphere was derived from the polarization of the light reflected from Venus's atmosphere. The effects observed may be due to water droplets (2 - 2.5 μ) or quartz particles (5 - 10 μ). Papers on the temperature of Venus's

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27785

S/188/61/000/005/001/006
B104/B203

Venus. Physical character of the ...

atmosphere are discussed in detail. It was determined from the thermal radiation (Pettit. E., Nicholson S. B., Publ. Astr. Soc. Pacific, 67, 293 - 314, 1955; Opik E. J., Irish. Astr. Journ., 4, 37 - 47, 1946; Strong I., Sinton W. M., Science, 123, 676, 1956), from CC_2 absorption lines (Chamberlin J. W., Kuiper G. P., Astrophys. Journ., 124, 399, 1956), and by radioastronomic methods (Mayer C. H., McCullough T. P., Sloanaker R. M., Astrophys. Journ., 127, 1, 1958; Alsop L. E., Astron. Journ. 63, 301, 1958; Gibson F. E., McEwan R. J., Proceed. URSI-IAU, Rad-astr. Symposium, 1958 (1959); Kuz'min A. D., Salomonovich A. Ye., Astr. zhurn., 37, 297 - 300, 1960). Results show a wide spreading: $T = 235^{\circ} - 740^{\circ}K$. The height of the homogeneous atmosphere was determined by the author at 6 km, by Menzel D. H. and G. de Vaucouleurs (Nat., 188, 28 - 33, 1960) at 6.5 km. The temperature of Venus's surface is estimated at $50^{\circ}C$, the pressure at 5 - 10 atm. The idea by Menzel D. H. and Whipple F. L. (Publ. A. S. Pacif., 67, 161 - 168, 1955) who stated that Venus's surface consisted of oceans and seas is discussed. Much attention is paid to the composition of clouds on Venus and to the question as to whether its seas might consist of hydrocarbons. In 1961, a group of radiophysicists headed by Academician V. A. Kotel'nikov determined the frequency

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27785

S/188/61/000/005, 001, 006
B104/B203

Venus. Physical character of the ...

distribution of signals reflected from Venus. Thus, they found a peripheral speed on Venus's equator of 40 m/sec. Since this value was determined irrespective of the position of the axis of revolution, it will have to be corrected accordingly. The author considers improbable Venus's temperature of 900 - 1000°K as it was determined by A. J. Kuz'min and A. Ye. Salomonovich (Radiotzluheniye Venery na volne 9.6 cm (Venus's radioemission with a 9.6-cm wave), Astr. tsirk., no. 222, 1961). There are 38 references: 13 Soviet and 25 non-Soviet.

ASSOCIATION: Astronomicheskij institut im P. K. Shternberga
(Astronomical Institute imeni P. K. Shternberg)

SUBMITTED: May 22, 1961

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S/026/61/000/009/001 003
D051/D112

AUTHOR: Martynov, D.Ya., Professor

TITLE: On the way to discovering the mystery of Venus

PERIODICAL: Priroda, no. 9, 1961, 24-31

TEXT: In continuation of a previously published article on Venus (Priroda, 1960, no. 10, 8-15) the author discusses the results of observations mostly made by Soviet scientists at the time of the inferior conjunction of the planet in April 1961. In 1961, Soviet radiophysicists belonging to Academician V.A. Kotel'nikov's group found the following definite values for the solar parallax, which is used as a basis for an exact computation of the astronomical unit, necessary for the calculation of interplanetary rocket and space ship trajectories: π_0 (solar parallax) = $8",8027 \pm 0",0003$; 1 a.u. (astronomic unit) = $149\,457\,000 \pm 5000$ km. While the dynamic parallax established in 1950 by Rabe was $\pi_0 = 8",79835 \pm 0.00039$, and hence 1 a.u. = $149\,532\,000 \pm 7000$ km, the results obtained by Pioneer V did not close the gap between these values. The author considers that only new methods

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On the way to discovering....

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D051/D112

and prolonged observation of a cosmic radiation source on 21 cm waves will lead to an exact computation of the parallax. The high technical level of experiments conducted by Soviet radiophysicists in the radiolocation of Venus was emphasized by the fact that, apart from recording the reflected signal, they found that whereas the pulses sent to Venus had a very narrow wave-band, when reflected they had a very wide band. This was due to the Doppler effect during the rotation of the planet upon its axis. In contrast to experiments within the optical wave range (in a previous review it was described how A.A. Belopol'skiy and R.S. Richardson had been unsuccessful in observing the Doppler effect in Venus), observations of the width of reflected radio signals permit detecting the speeds of rotation at the equator of the planet as low as 20 m/sec. The same radiophysicists found that the width of the reflected signal corresponds to a speed of rotation at the equator of Venus equal to 40 m/sec. From the radius of the planet (6100 km) and the length of its circumference ($2\pi r = 3.83 \cdot 10^4$ km) it can be derived that at the indicated equatorial speed the planet has a period of revolution of approximately 11.5 days. Taking into account an inclination of the rotational axis as determined by Kuiper and Richardson, the period of rotation of the planet can be established at somewhat less than 10 days, ✓

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with a possibility of error from 10 to 20%. This means that the sides of Venus are successively irradiated by the Sun over this 10-day period; consequently temperature conditions on this planet must be comparatively mild. A.Ye. Salomonovich and A.D. Kuz'min carried out observations on a wavelength of 9.6 cm during the last inferior conjunction, and found that on certain days, when the unilluminated side of Venus was facing the Earth almost entirely, its brightness temperature reached $+700^{\circ}\text{C}$ and changed by $200\text{-}300^{\circ}\text{C}$ in 1 or 2 days. These unusual thermal conditions suggest that the radiation of Venus is basically nonthermal and is possibly emitted by high-energy particles surrounding the planet and retained by its magnetic field, similar to the conditions near the Earth and Jupiter. In the light of these new discoveries it can be said that the surface of Venus is moderately hot. During the radiolocation of Venus, Soviet radiophysicists also found that the reflection of radiowaves from its surface varied in different points, evidently due to the fact that the surface is uneven. For various reasons, past attempts at definitely establishing the length of the radius of Venus were unsuccessful, but the eclipse of Regulus by Venus on 7 July 1959 helped considerably to solve this problem. On the basis of data collected from observations made all over the world, the author produced a diagram (Fig. 4)

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showing the change in position of the star behind the disc of the planet. In this diagram the changes in position of the planet were given with the inverse sign to Regulus, the disc of Venus being shown as fixed with the points of appearance and disappearance of Regulus around its rim. All points of disappearance of Regulus around its rim. All points of disappearance of Regulus lie on a circle with a radius of 14", 30, all points of appearance - on a circle with a radius of 14", 39. The centers of these circles nearly coincide up to 0", 1. The author explains this displacement by the difference between the time deducted for the Earth's rotations upon its axis and the time which is at the basis of celestial mechanics [Abstracter's note: In a footnote the author refers to the pamphlet of D.Ya. Martynov "Veka i mgnoveniya ("Centuries and Moments"), Izd-vo MGU, 1961, 62-63, and to "Priroda", 1961, no. 4, 9-16]. The dark rim of Venus moved towards Regulus, as a result of which the star became less intense and finally disappeared. Shortly afterwards Regulus appeared again at the bright rim of the planet. This moment was fixed with some delay, when the star had nearly regained its former brightness. This explains why the circumference of the planet's disc at the reappearance of the star is somewhat larger than at its disappearance. The author considers the decreasing intensity of the star as being due to refraction of light in the planet's

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atmosphere. All possibilities of refraction taken into account, it was found that the radius $14''$, 30 exactly corresponds to the purely geometrical eclipse, and, consequently, can be considered as the planet's radius with an error of $\pm 0''$, 10 . On the basis of 1 a.u. this gives $8''$, $43 \pm 0''$, 06 for the angular radius of Venus and 6110 km ± 40 km for the linear radius. The results obtained by processing the data of the mentioned eclipse are in full accordance with the results obtained in the USA by Menzel and de Vaucouleur. There are 4 figures and 4 Soviet references.

ASSOCIATION: Gosudarstvennyy astronomicheskiy institut im. P.K. Shternberga
(Moskva) (State Astronomical Institute im. P.K. Shternberg
/Moscow/)

Caru 5/6

MARTYNOV, D.Ya.

Continuous emission of the chromosphere beyond the Balmer series during the solar eclipse of 1954. Astron.zhur. 38 no.3:443-447 My-Je '61. (MIRA 14:6)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Shternberga. (Sun) (Eclipses, Solar—1954)

MARTYNOV, D.Ya.; POSPERGELIS, M.M.

Photometric analysis of the structure of the atmosphere of Venus,
Astron.zhur. 38 no.3:558-561 My-Je '61. (MIRA 14:6)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Shternberga.
(Venus (Planet))

29509

S/033/61/038/004/002/010
E032/E514

3,1540 (1137)

3,1520 (1114, 1129)

AUTHORS: Martynov, D. Ya and Alduseva, V. Ya

TITLE: Absolute spectrophotometry of the chromosphere during the solar eclipse of June 30, 1954

PERIODICAL: Astronomicheskii zhurnal, v 38, no 4, 1961, 593-610
+ 1 plate

TEXT: The authors analyse the photographs of the flash spectrum obtained during the expedition organised by the Kazanskiy gosudarstvennyy universitet (Kazan State University) to Tikhoretsk Station (Ref 1: D Ya Martynov, Astron tsirkulyar, No. 151, 6, 1954) The spectrograms were obtained by L. V. Popov and A. L. Stolov in accordance with the programme developed by the first of the present authors, who also analysed the spectrograms after the death of L. V. Popov. The work was carried out at the Gosudarstvennyy astronomicheskii in-t imeni P. K. Shternberga (State Astronomical Institute imeni P. K. Shternberg). The flash spectrum was obtained with the quartz spectrograph (ISP-22) (60° prism with 47 x 30 mm faces, focal length of collimator lens 600 mm, diameter of collimator lens 40 mm). The image of the sun was produced on the slit of the spectrograph by
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Absolute spectrophotometry

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means of a parabolic mirror. The operation of the slit shutter was recorded with the aid of a loop oscillograph and a chronometer. The absolute error in the recorded instants of time was of the order of $\pm 0^{\text{st}}$. The linear dispersion of the spectrograph in the wavelength range 310-490 $\text{m}\mu$ was 18.66 $\text{\AA}/\text{mm}$. The calibration of the photographs was made with the aid of spectrograms of the centre of the solar disc obtained through a quartz-platinum step-wedge absorber No 558 and the standard ribbon lamp ЛТ-1 (LT-1). All the measurements were carried out on the self-recording microphotometer МФ-4 (MF-4). High density regions were examined with МФ-2 (MF-2) microphotometer (Ref 2: D Ya Martynov, V Ya Alduseva, Astron zh 34, 435, 1957). Corrections were made for the microphotometer slit width, the Fraunhofer lines and the scattering of light in the photographic emulsion. These corrections amount to 12.4% at 340 $\text{m}\mu$ and 3% at 483 $\text{m}\mu$. In addition to the above instrumental corrections, the following further three corrections were introduced: 1) for the difference in the exposure times, 2) for the extinction and 3) for the difference between the intensities measured without the step-wedge absorber and the intensity of the solar spectrum measured with the absorber in position. Detailed Card 2/6. X

Absolute spectrophotometry

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S/O33/61/038/004/002/010
E032/E514

tables are reproduced giving the logarithm of the intensities of a column of the chromosphere with a unit cross-section and extending from a height h to infinity, the logarithm of the intensity at the lower boundary of the chromosphere, and the barometric gradient β for a large number of lines (HI, CaII, TiII, HeI, SrII, ScII, CaI, FeI, FeII, CrI, MnII, TiII, MnII, TiII). The results obtained for $H_{\beta-17}$: He, Ca, K, H, Ca, Fe, Fe, Ti, Sr, Sc, Cr are compared with the results obtained by other authors. The results are described by the single-term exponential function

$$E(h) = E(0) e^{-\beta h} \quad (11)$$

An approximate estimate is made of the abundances of CaI, CaII, SrII and H in the second quantum state. The altitude variation of the intensity of the helium lines (HeI $\lambda 4472$, HeI $\lambda 4713$) is analysed. The $\log E$ vs h plots for these two lines were found to be curved. This is due to the fact that $E(h)$ is given by the sum of two exponentials instead of the single exponential of Eq. (11). The second exponential is interpreted as

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Absolute spectrophotometry

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E032/E514

being due to a HeI cloud at a height of 1450 km above the lower boundary of the chromosphere. It was found that the lines $\lambda\lambda 4026, 4472$ and 5876 , which have a common $2p^3P^0$ level exhibit an intensity maximum at the same height (1000-2000 km above the lower boundary). There is definite evidence that the physical conditions in the chromosphere vary very considerably both in time and space. There are 7 figures, 12 tables and 20 references, 10 Soviet and 10 non-Soviet. The English language references read as follows: Ref 6: C. W. Allen, *Astrophysical Quantities*, London, 1955. Ref 19: L. H. Aller, *Solar Wind*, 19, 338, 1960.

ASSOCIATION:

Gos. astronomicheskii institut im P. K. Shternberga

(State Astronomical Institute imeni P. K. Shternberg)

SUBMITTED November 1, 1960

Card 4/6

MARTYNOV, D.Ya.; ALDUSEVA, V.Ya.

Absolute spectrophotometry of the chromosphere during the total solar eclipse of June 30, 1954. *Astron.zhur.* 38 no.4:593-610 J1-Ag '61. (MIRA 14:8)

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

(Eclipses, Solar--1954)

MARTYNOV, D.Ya., prof.

On the road to the solution of the riddle of Venus. Priroda
50 no.9:24-31 S '61. (MIRA 14:8)

1. Gosudarstvennyy astronomicheskiy institut im. P.K.
Shternberga (Moskva).
(Venus (Planet))

MARTYNOV, D. Ya.

Minima of RU Monocerotis. Astron. tsir. no. 218:14-15 P '61.
(MIRA 14:7)

1. Gosudarstvennyy astronomicheskiy institut im. Shternberga.
(Stars, Variable)

MARTYNOV, D.Ye.

"The Physical Conditions in the Atmosphere of Venus"

Paper presented at the 11th International Astrophysical
Symposium , Liege, 9-11 July 1962

Astronomical Council of the Academy of Sciences, USSR

MARTYNOV, D.Ya., otv. prof., otv. red.; DELONE, A.B., red.;
GEORGIYEVA, G.I., tekhn. red.

[Collection of works of the Moscow State University on the
International Geophysical Year; astronomy]Sbornik trudov
MGU po Mezhdunarodnomu geofizicheskomu godu; astronomia.
Moskva, Izd-vo Mosk. univ., 1962. 79 p. (MIRA 15:8)

1. Moscow. Universitet.
(International Geophysical Year, 1957-1958)
(Astronomy--Observations)

MARTYNOV, D.Ya., prof., otv. red.; DURNEV, A.I., red.; IZOTOV, A.A., red.;
POPOV, P.I., red.; FEDYNSKIY, V.V., red.; ERONSHTEN, V.A., red.;
RAKHLIN, I.Ye., red.izd-va; LAUT, V.G., tekhn. red.

[Transactions of the Congress of the All-Union Astronomical and
Geodetic Society] Trudy tret'yego s"ezda Vsesoyuznogo
astronomo-geodezicheskogo obshchestva. Moskva, Izd-vo Akad.
nauk SSSR, 1962. 257 p. (MIRA 15:2)

1. S"yezd Vsesoyuznogo astronomo-geodezicheskogo obshchestva, 3rd,
Kiev, 1960. 2. Prezident Vsesoyuznogo astronomo-geodezicheskogo
obshchestva(for Martynov).

(Astronomy—Congresses) (Geodesy—Congresses)

S/035/62/000/008/039/090
A001/A101

AUTHOR: Martynov, D. Ya.

TITLE: The nature of Venus

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 8, 1962, 77,
abstract 8A529 ("Tr. 3-go s"yezda Vses. astron.-geod. o-va, 1960",
Moscow, AN SSSR, 1962, 136 - 146, Discuss., 165 - 168)

TEXT: This is a survey of studies of the planet published up to 1960 in-
clusive. The author arrives at the conclusion that, in spite of considerable
successes achieved due to application of new observational methods and extensive
theoretical studies, our information on the nature of Venus is insufficient, be-
cause the data on the surface and on atmospheric layers hidden by the cloud layer
remain still uncertain. There are 21 references. ✓

[Abstracter's note: Complete translation]

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MARTYNOV, D. Ya., pref.

Eleventh International Colloquy on Physics of the Planets. Vest.
AN SSSR 32 no.12:80-81 D '62. (MIRA 15:12)
(Planets—Congresses)

39539
S/033/62/039/004/005/008
E032/E514

3.1550

AUTHOR: Martynov, D.Ya.

TITLE: On the radius of Venus. II

PERIODICAL: Astronomicheskii zhurnal, v.39, no.4, 1962, 653-659

TEXT: A new determination of the radius of Venus is reported using data on the occultation of Regulus by Venus on July 7, 1959. A similar determination was published a year ago in this journal (37, 848-855, 1960). The present analysis, which is carried out along similar lines, covers a further series of observations. The conclusion is that the radius of Venus at the level of the cloud layer is $8.41'' \approx 6100 \pm 30$ km. Possible corrections to this result are discussed. The final section is concerned with a brief discussion of the possible existence of gaps in the cloud layer of Venus and diurnal variations in the height of this layer. There are 1 figure and 3 tables. ✓

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

SUBMITTED: October 6, 1961

Card 1/1 * S/033/60/037/005/008/024

MARTYNOV, D.Ya., prof.

Interesting changes in a comet's orbit. Priroda 51 no.2:99
F '62. (MIRA 15:2)

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

(Comets--Orbits)

MARTYNOV, D.Ya., prof.

Letter to the editor. Astron.tsir. no.232:26-27 D '62. (MIRA 16:4)

1. Prezident Vsesoyuznogo astronomo-geodezicheskogo obshchestva.
(Meteorites)

ACCESSION NR: AR4033580

S/0169/64/000/002/A003/A003

SOURCE: Ref. zh. Geofiz., Abs. 2A1

AUTHOR: Martyanov, D. Ya.

TITLE: Recent data on physical conditions on planets of the earth type

CITED SOURCE: Sb. Voznikoveniye shizni vo Vselennoy. M., AN SSSR, 1963, 56-76

TOPIC TAGS: astronomy, planet, Mercury, Mars, Venus, planetary atmosphere

TRANSLATION: This article contains a review of up-to-date data on the physical conditions at the surfaces and in the atmospheres of Mercury, Venus and Mars. The principal emphasis is on a discussion of conditions in the Venusian atmosphere, for which several different models now are proposed for correlation of optical and radioastronomical data. There is a detailed consideration of spectroscopic data pertaining to the composition of the Venusian atmosphere. The nature of visible formations on the Martian surface is discussed.

DATE ACQ: 31Mar64

SUB CODE: A3

ENCL: 00

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MARTYNOV, D.Ya., prof.

The 12th Congress of the International Astronomical Association. Zem.
i vsel. 1 no.1:56-61 Ja-F '65. (MIRA 18:7)

MARTYNOV, D.Ya., prof.

Australian observatories. Zem. i vsel. 1 no.3:51-63 My--Je '65.
(MIRA 18:8)

MARTINOV, Dmitriy Yakovlevich; Ed. in 1, 1965, 101.

[Course in general and physical] Kurs obshch. i spets. fiziki. Moskva, Leningrad, 1965. 511 p. (MIRA 19:1)

MARTYNOV, L.Ya.

RU Monocerotis -- further data on the motion of the line of
apsides. Astron. zhurn. 43 no.6:1209-1220 N-F '65.

(MIR. 19:1)

L. Maunt Stromlo, Avstraliya, i Gosudarstvennyy astronomicheskiy
institut im. P.K. Shternberga. Submitted July 17, 1965.

L 31194-66 EWP(j)/EWI(m) RM

ACC NR: AP6022568

SOURCE CODE: UR/0216/66/000/002/0197/0210

AUTHOR: Tseytlin, P. I.; Spitzkovskiy, D. I.; Gorin, A. I.; Ivannik, B. P.;
Kulikova, L. G.; Luchkina, L. A.; Martynov, E. V.; Ryabchenko, N. I.; Usakovskaya, T. S.

ORG: Institute of Experimental Biology, AMN SSSR, Moscow (Institut eksperimental'noy biologii AMN SSSR)

TITLE: Analysis of radiation injury to deoxyribonucleoproteins at the molecular and supramolecular levels

SOURCE: AN SSSR. Izvestiya. Seriya biologicheskaya, no. 2, 1966, 197-210

TOPIC TAGS: radiation injury, protein, DNA, x ray irradiation, hydrogen bonding, molecular structure

ABSTRACT: X-irradiation does not give rise to covalent crosslinks within the DNA macromolecule, i.e., it does not prevent the separation of DNA strands or interfere with its replication. The authors' studies on optic rotation of DNA and DNP and melting curves indicate that irradiation causes latent damage to the system of hydrogen bonds. The formation of single breaks in the polynucleotide skeleton may result in rotation around the remaining single bond at the site of the break. This may produce local change in the configuration of the DNA macromolecule, resulting in steric hindrance between the DNA and corresponding protein molecule.

Irradiation with doses below 10^3 rad causes breaks only in a small number of DNA molecules. This does not alter the physicochemical properties of the DNA or DNP as a whole, although it undoubtedly has some biological

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UDC: 577.391

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