"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

NESTEROV, A.I.---(continued) Card 2.

2. Chleny-korrespondenty AMN SSSR (for Dolgo-Saburov, Chumakov, Zhdanov, Biryukov, Sokolova-Ponomareva, Batkis, Shmelev, Molchanova, Blokhin, Ioffe, Bogdanov). 3. Direktor Instituta gerontologii AMN SSSR (for Gorev). 4. Direktor Instituta farmakologii i khimioterapii AMN SSSR (for Zakusov). 5. Deystvitel'nyy chlen Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk imeni V.I.Lenina (VASKhNIL); direktor Instituta epidemiologii i mikrobiologii imeni Gamalei AMN SSSR (for Murontsev). 6. Direktor Instituta po izucheniyu poliomiyelita AMN SSSR (for Chumakov). 7. Direktor Instituta eksperimental'noy meditsiny AMN SSSR (for Biryukov). 8. Direktor Instituta obshchey i kommunal'noy gigiyeny AMN SSSR (for Litvinov). 9. Direktor Instituta pediatrii AMN SSSR (for Sokolova-Ponomareva). 10. Direktor Instituta virusologii AMN SSSR (for Kosyakov). 11. Direktor Instituta tuberkuleza AMN SSSR (Shmelev). 12. Direktor Instituta grudnoy khirurgii AMN SSSR (for Busalov). 13. Direktor Instituta pitaniya AMN SSSR (for Molchanova). 14. Direktor Instituta eksperimental'noy i klinicheskoy onkologii AMN SSSR (for Blokhin). 15. Direktor Instituta khirurgii AMN SSSR (for Vishnevskiy).

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

NESTEROV, A.I.--- (continued) Card 3.

16. Direktor Instituta fiziologii AMN SSSR (for Chernigovskiy). 17. Direktor Instituta terapii AMN SSSR (for Myasnikov). 18. Direktor Gosudarstvennogo izdatel'stva meditsinskoy literatury (for Mayevskiy). 19. Vitse-prezident AMN SSSR (for Davydovskiy). 20. Ministr zdravookhraneniya SSSR (for Kurashov). 21. Direktor Instituta infektsionnykh bolezney AMN SSSR (for Bogdanov). 22. Chlen-korrespondent AN BSSR: predsedatel' Uchenogo meditsinskogo soveta Ministerstva zdravookhraneniya BSSR (for Bronovitskiy). 23. Predsedatel' Uchenogo meditsinskogo soveta Ministerstva zdravookhraneniya USSR (for Chebotarev).

(MEDICINE)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

GOREV, N.N., prof.; CHEBOTAREV, D.F., prof. (Kiyev)

Some questions on the problem of gerontology. Klin.med. 37 no.9: 11-15 S '59. (MIRA 12:12)
(GERIATRICS)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, Dmitriy Fedorovich, prof.; GLUKHEN'KIY, T.T., red.; GITSHTEYN, A.D., tekhred.

[Internal pathology in the clinical aspects of obstetrics and gynecology] Vnutrenniaia patologiia v klinike akusherstva i ginekologii. Kiev, Gos.med.izd-vo USSR, 1960. 214 p. (MIRA 13:12)

(GYNECOLOGY)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, D.F., prof.

Effect of pregnancy on the course of various internal diseases. Sov.med. 24 no.9:10-19 S '60. (MIRA 13:12)
(PREGNANCY, COMPLICATIONS OF)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, D.F., prof.; BALUYEV, S.I., doktor med. nauk

On medicinal substances for the prevention and treatment of premature aging. Sov. med. 24 no. 10:3-13 O '60. (MIRA 13:12)

1. Iz Instituta gerontologii i eksperimental'noy patologii AMN SSSR.

(GERIATRICS)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, D.F., prof.

For the further development of medical science in the Ukrainian S.S.R. Vrach.delo no.11:9-13 N '60. (MIRA 13:11)

1. Predsedatel' Uchebnogo soveta Ministerstva zdravookhraneniya USSR. (UKRAINE--MEDICINE)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

GANDZHA, Igor' Mikhaylovich; CHEBOTAREV, D.F., red.; POTOTSKAYA, L.A., tekhn. red.

[The cardiovascular system in diseases of the liver and biliary tract] Serdechno-sosudistaia sistema pri bolezniakh pecheni i zhelchnykh putei. Kiev, Gosmedizdat, USSR, 1961. 154p. (MIRA 15:6)

(CARDIOVASCULAR SYSTEM) (LIVER—DISEASES)
(BILIARY TRACT—DISEASES)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, D.F. [Chebotarrov, D.F.]

Man should have a long life. Nauka i zhyttia 11 no.8:38-44 Ag '61. (MIRA 14:12)

1. Chlen-korrespondent Akademii meditsinskikh nauk SSSR.
(HYGIENE)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

GOREV, Nikolay Nikolayevich, red.; MAN'KOVSKIY, B.N., red.; MARCHUK, P.D., red.; SACHUK, N.N., red.; FROL'KIS, D.F., red.; ~~CHEBOTAREV, D.F.,~~ red.; SHURUPOVA, Ye.A., red.; GOL'SHTEYN, N.I., red.; LEBEDEVA, Z.V., tekhn. red.

[Problems of gerontology and geriatrics]Voprosy gerontologii i geriatrii. Leningrad, Medgiz, 1962. 279 p. (MIRA 15:9)

1. Akademiya meditsinskikh nauk SSSR, Moscow. 2. Deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR (for Gorev).
(GERIATRICS) (OLD AGE)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

IVANOV, V.N., akademik, prof., otv. red.; BURCHINSKIY, G.I., prof., zam. red.; LIKHTENSHTEYN, Ye.I., doktor med. nauk, red.; MIKHNEV, A.L., zasl. deyatel' nauki, prof,, red.; PELESHCHUK, A.P., dots., red.; REVUTSKIY, Ye.L., starshiy nauchnyy sotr., red.; SKOPICHENKO, N.F., dots., red.; CHEBOTAREV, D.F., prof., red.; YANOVSKIY, D.N., prof., red.; GITSHTEYN, A.D., tekhn. red.

[Transactions of the 7th Congress of Therapeutists of the Ukrainian S.S.R.]Trudy VII s"ezda terapevtov Ukrainskoi SSR. Kiev, Gosmedizdat USSR, 1962. 610 p. (MIRA 15:10)

1. S"yezd terapevtov Ukrainskoy SSR. 7th, 1957. 2. Akademiya nauk Ukrainskoy SSR i deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR, predsedatel' Pravleniya Respublikanskogo nauchnogo obshchestva terapevtov Ukrainskoy SSR (for Ivanov). 3. Glavnyy terapevt Ministerstva zdravookhraneniya Ukrainskoy SSR (for Chebotarev). 4. Otvetstvennyy sekretar' Pravleniya Respublikanskogo nauchnogo obshchestva terapevtov Ukrainskoy SSR (for Revutskiy). 5. Zamestiteli predsedatelya Pravleniya Respublikanskogo nauchnogo obshchestva terapevtov Ukrainskoy SSR (for Mikhnev, Chebotarev).

(THERAPEUTICS—CONGRESSES)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

GOREV, N.N., red.; FROL'KIS, V.V., red.; CHEBOTAREV, D.F., prof., red.; SHURUPOVA, Ye.A., red.; VERKHRATSKIY, N.S., red.

[Mechanisms of aging] Mekhanizmy stareniia Kiev, Gos.med. izd-vo USSR, 1963. 499 p. (MIRA 16:11)

1. Akademiya meditsinskikh nauk SSSR. Moscow. Institut gerontologii i eksperimental'noy patologii. 2. Chlen-korrespondent AMN SSSR (for Chebotarev). 3. Institut gerontologii i eksperimental'noy patologii AMN SSSR (for Verkhratskiy).
(GERIATRICS)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, D.F., prof. (Kiyev)

Current problems in gerontology and geriatrics. Sov.med. 26 no.2: 8-17 F'63. (MIRA 16:6)

1. Iz Instituta gerontologii i eksperimental'noy patologii AMN SSSR. Chlen-korrespondent AMN SSSR.
(GERIATRICS)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, D.F.; SACHUK, N.N.

Medical and sanitary survey on old persons in the U.S.S.R. Vest. AMN SSSR 19 no.6:18-23 '64. (MIRA 18:4)

1. Institut gerontologii AMN SSSR, Kiyev.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, D.F.; KORKUSHKO, O.V.; SACHUK, N.N.; VOLOSHCHENKO, I.I.

Some data on atherosclerotic cardiosclerosis in very old persons. Vop. geron. i geriat. 4:159-166 '65. (MIRA 18:5)

1. Institut gerontologii AMN SSSR, Kiyev.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, D. N.

"Mechanization of Soil Work," Byul. Stroi. tekh., 9, No. 11, 1952

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

1. CHEBOTAREV, D.N.

2. USSR (600)

4. Road machinery

7. Improving the construction of a scraper blade. Bull. stroi.tekh. 9 no. 21 1952

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

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, D. N., KOGAN, M. O. Engs.

Ditches

Use of stock material for bracing ditches. Stroi. prom. 30 no. 5, 1952

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

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, D. N.

"Some Problems of Work Organization in Granite Quarries," Stroi. prom., 30, No. 8, 1952.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEROTAREV, D. N., Eng.

Pile Driving

Suggestion for the rapid ramming of a wooden pile with the concrete breaker I-37. Biul. stroi. tekh. 10, No. 5, 1953.

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

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

1. CHEBOTAREV, D.N.

2. USSR (600)

4. Hydrants

7. Altering the construction of fire hydrants, Biul.stroi.tekh. 10 no. 7, 1953.

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

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, D.N., inzhener.

Breaking up frozen ground on building sites. Strei. prom. 33 no.9:8-10 S '55. (MLRA 9:1)

(Frozen ground)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

BELYAKOV, N.F. (Khar'kov); LYSHKEVICH, V.A. (Khar'kov); STOROZHENKO, A.A. (Khar'kov); CHEBOTAREV, D.N. (Khar'kov)

Concrete piles with a corrugated surface. Osn., fund. i mekh. grun. 4 no.3:17-18 '62. (MIRA 15:7)
(Piling (Civil engineering))
(Precast concrete construction)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, F.I.

Repair of industrial tracks. Put' i put.khoz. 4 no. 5:16 My '60. (MIRA 13:11)

1. Zamestitel' nachal'nika slushby puti, Chelyabinsk.
(Chelyabinsk--Railroads, Industrial--Maintenance and repair)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, F.N.

AID P - 2909

Subject : USSR/Electricity

Card 1/1 Pub. 26 - 6/32

Author : Chebotarev, F. N., Eng.

Title : Improving of load curves and demand factors of hydraulic-fill work

Periodical : Elek. sta., 7, 21-22, Jl 1955

Abstract : The article discusses an efficient manner of utilizing power in the operation of dredges and excavators. Hydraulic earth work at the Tsimlyanskaya Power Development is reported. The planning of earth work is explained in detail and a table gives types and capacities of different dredges and pumping stations. One diagram.

Institution : None

Submitted : No date

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

BOGDANOV, V.Ya., inzhener; KLIMENTOV, A.N., inzhener; CHEBOTAREV, F.N., inzhener.

Improve the equipment and technology for hydraulic mining. Mech. trud.rab 9 no.10:27-29 O '55. (MLRA 9:1)
(Hydraulic mining)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, G.A.; BOZHKOVA, A.I.

Stability of elliptical orbits in the sphere of action of Jupiter. Biul.Inst.teor.astron. 8 no.9:641-646 '62. (MIRA 17:4)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, G.A.

Ivan Danilovich Zhongolovich, 1892 - ; on the occasion of his 70th birthday. Biul.Inst.teor.astron. 8 no.9:696-702 '62. (MIRA 17:4)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, G.A. (Gleb Aleksandrovich)

Chebotarev, G. A. Application of periodic orbits to the study of the motion of small planets. Akad. Nauk SSSR. Bull. Inst. Teoret. Astr. 4, 499-554 (1951). (Russian)

Reviews, Vol 13 No. 4

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, G. A., PIUS, L. YU., LEMEKHOVA, YE. N.

Orbits

Absolute, periodic orbit of the Hestia type. Biul. Inst. teor. astron. 5 No. 1, 1951.

9. Monthly List of Russian Accessions, Library of Congress, August 1952 ~~1953~~, Uncl.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, G.A.

New determination of the mass of Mercury. Vop.kosm.1:234-240 '52. (MLRA 7:2)

(Mercury (Planet))

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, G.A.

Analytic theory of the motion of Hilda. Biul.Inst.teor.astron. 5 no.5:249-270 '53. (MLRA 7:6)
(Planets, Minor--153)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, G.A.

Evolution of orbits in the inner area of the asteroid ring.
Biul.Inst.teor.astron. 5 no.7:393-411 '53. (MLRA 7:5)
(Planets, Minor)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, G. A.

DANILEVSKIY, V.V.; CHEBOTAREV, G.A.

[Russian technical literature of the first quarter of the 18th century] Russkaia tekhnicheskaia literatura pervoi chetverti XVIII veka. Moskva, Izd-vo Akademii nauk SSSR, 1954. 358 p.
(Technology--History) (MLRA 7:7)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, G.A.; BOZHKOVA, A.I.

Evolution of orbits of minor planets of the Hilda group. Biul.Inst. teor.astron. 5 no.9:571-593 '54. (MIRA 8:4)
(Planets, Minor) (Orbits)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, G. A.

USSR/ Scientific Organization - Publications

Card 1/1 : Pub. 124 - 6/29

Authors : Chebotarev, G. A., Dr. of Phys-Math. Sc.

Title : As a symbol of friendship between Russian and Ukrainian scientists

Periodical : Vest. AN SSSR 6, 43-45, June 1954

Abstract : List of publications, published by the Academy of Sciences USSR during its entire existence and presented to the Ukrainian Academy of Sciences in Kiev as a token of friendship between Russian and Ukrainian scientists, is presented.

Institution : .....

Submitted : .....

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, G.A.

USSR/Scientific Organization - Libraries

Card 1/1 Pub. 124 - 21/26

Authors : Chebotarev, G. A., Dr. of Phys-Math. Sc.

Title : 240 Years of the Library of the Academy of Sciences USSR

Periodical : Vest. AN SSSR 12, 86-89, Dec 1954

Abstract : A historical review is presented of the development of the Library of the Academy of Sciences USSR from its founding in 1714 to the present day.

Institution : ...

Submitted : ...

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, G.A.; BOZHKOVA, A.I.

Theory of motion of the Trojan group of asteroids. Biul. Inst. teor. astron. 6 no.4:221-231 '55. (MIRA 13:3)
(Planets, Minor)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

Chebotarev, G. A.

USSR/Scientists - Meetings

Card 1/1 Pub. 124 - 10/32

Authors : Chebotarev, G. A., Dr. of Phys. Math. Sc.

Title : Meeting with scientists of West Germany

Periodical : Vest. AN SSSR 25/6, 68-70, June 1955

Abstract : Notes are presented by a member of a Soviet delegation which attended the 100-th anniversary of the death of the famous German mathematician, K. F. Gaussa, held at the Goettingen university in West Germany (February 1955). Personal impressions are given on the meeting with foreign scientists from USA, Holland, Denmark, Belgium, England, Finland, France and West Germany.

Institution : .....

Submitted : .....

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

LUKOMSKAYA, A.M.; SMIRNOVA, V.I., akademik, redaktor; CHEBOTAREV, G.A., doktor fiziko-matematicheskikh nauk, otvetstvennyy redaktor; PEVZNER, R.S., tekhnicheskiy redaktor

[Bibliographical index to U.S.S.R. publications in mathematics and mechanics from 1917 to 1952] Bibliograficheskie instochniki po matematike i mekhanike, izdannye v SSSR za 1917-1952 gg. Sost. A.M.Lukomskaia. Pod red. V.I.Smirnova. Moskva, 1957. 354 p. (MIRA 10:3)

1. Akademiya nauk SSSR. Biblioteka. 2. Direktor Biblioteki Akademii nauk SSSR(for Chebotarev)
(Bibliography--Mathematics) (Bibliography--Mechanics)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

PORTUGAL', V.B.; NATANSON, G.I.; ALEKSEYEVA, V.P.; SMIRNOV, V.I., akademik, red.; CHEBOTAREV, G.A., prof., doktor fiziko-matematicheskikh nauk, otvetstvennyy red.; ZENDEL' R.Ye., tekhn.red.

[Mathematics and mechanics in the publications of the Academy of Science of the U.S.S.R.; a bibliography] Matematika i mekhanika v izdaniiakh Akademii nauk SSSR; bibliografiia. Sostavili V.B.Portugal', G.I.Natanson, V.P.Alekseyeva. Pod red. V.I.Smirnova. Moskva, Vol.3. 1948-1952. 1957. 361 p. (MIRA 11:4)

1. Akademiya nauk SSSR. Biblioteka.
(Bibliography--Mathematics)
(Bibliography--Mechanics)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

SOV/124-58-1-46

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 1, p 6 (USSR)

AUTHOR: Chebotarev, G. A.

TITLE: A Symmetrical Trajectory for a Circumlunar Rocket (Simmetrichnaya trayektoriya rakety dlya poleta vokrug Luny)

PERIODICAL: Byul. In-ta teor. astron. AN SSSR, 1957, Vol 6, Nr 7, pp 487-492

ABSTRACT: The author determines the initial conditions of motion for a rocket which, upon departing from the surface of the Earth at the time t=0, is to circle the moon and return to the Earth; no consideration is given to the drag of the Earth's atmosphere upon the motion of the rocket. The author starts out from the following concept. Let at some moment of time t_0 the moon and the rocket be located on the x axis wherein the distance of the rocket from Earth x^0 is greater than the distance of the moon from Earth x_1^0 and the velocity of the rocket is zero. If the gravitational attraction of the moon were not considered, then the rocket would approach the Earth along the x axis. The lunar disturbance will deform the rectilinear trajectory of the rocket so that, in its motion from the point x^0, it will pass at some distance r_{min} from the center of the Earth. This lunar disturbance will decrease as the

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quantity $\Delta^o = x^o - x_1^o$ is increased. Thus, a suitable selection of this quantity may render $r_{min} < R$, where R is the radius of the Earth. If the motion of the moon is imagined to be in the opposite sense, then the rocket, in its motion from the point x^o, will describe a new trajectory which is symmetrical to the one just described. The position and velocity of the rocket at the moment of its reentry yield the initial conditions that are required to launch the rocket to the position x^o. The imagined reversed motion of the moon is then replaced by its natural motion. Δ^o is assumed to equal 15,600 km as a first approximation. The numerical integration is performed by Cowell's method, using a one-hour integration interval. For $t \geq 100$ hrs the lunar perturbations are found to be insignificant, and any further motions are considered as undisturbed. In that case r_{min} is found to equal 32,975 km, i.e., the rocket will pass at 26,597 km from the surface of the Earth. In a second approximation Δ^o is set at 31,600 km, and a two-hour integration interval is used; r_{min} is then 5,619 km. The reentry conditions are found from the equation $r=R=6,378$ km. The initial conditions for the circumlunar flight are determined by the parameters $a=215,200$ km, $M=0^o.16$, $e=0.97598$, and $\pi=183^o.18$. The initial speed will be 11,080 m/sec. The total duration of the flight of the rocket will be 236.14 hrs. The minimum distance of the rocket from the surface of the moon will be 29,860 km.

Card 2/2 V. S. Novoselov

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Chebotarev, G. A.

AUTHOR: Chebotarev, G. A., Doctor of Physico-Mathematical Sciences. 30-9-16/48

TITLE: An Act of Friendship. - The Reopening of the Gotha Library (Akt druzhby - Na otkrytii Gotskoy Biblioteki).

PERIODICAL: Vestnik AN SSSR, 1957, Vol. 27, Nr 9, pp. 89-90 (USSR).

ABSTRACT: The famous library of the city of Gotha was after ten years of preservation in the USSR returned to the German Democratic Republic. The author of this report describes the short ceremony in which he personally participated. The official return took place in the hall of mirrors of the castle of Friedenstein (Fridenshteyn) in the presence of renowned personalities of the German Democratic Republic. The library belongs to the most precious collections of Germany (more than 300.000 volumes). German history is especially extensively represented and without any gap the library comprises German publications from the XVI till into the XIX century. The geographic sector is also richly represented. About half of the collection consists of works which were published till the XIX century, among them precious paleotypes: the famous Luther-bible (1521) and a rich collection of Lutherean original scipts.

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An Act of Friendship. - The Reopening of the Gotha Library. 30-9-16/48

There is 1 figure.

AVAILABLE: Library of Congress.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, G., doktor fiziko-matematicheskikh nauk, professor.

Cosmic boomerang. Znan.sila 32 no.2:28-29 F '57. (MLRA 10:5)
(Interplanetary voyages)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, G A

ISACHENKO, A.I.; SHAFRANOVSKIY, K.I.; RAVDONIK, V.S., red.; CHEBOTAREV, G.A., otvetstvennyy red.; LUPPOV, S.P., otvetstvennyy red.; ~~IRONS~~, R.A., tekhn.red.

[Mikhail Andreevich Shatelen; a bibliography] Mikhail Andreevich Shatelen; bibliograficheskii ukazatel'. Sost. A.I.Isachenko, K.I. Shafranovskii. Pod red. V.S.Ravdonika. Moskva, 1958. 198 p. (MIRA 11:4)

1. Akademiya nauk SSSR. Biblioteka.
(Bibliography—Shatelen, Mikhail Andreevich, 1866-1957)

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

KAMENOGRADSKAYA, O.P.; FLEROV, K.V., prof.,doktor khim.nauk, nauchnyy red. [deceased]; CHEBOTAREV, G.A., otv.red.; ARON, G.M., red. izd-va; SMIRNOVA, A.V., tekhn.red.

[Chemical literature of the U.S.S.R.] Khimicheskaia literatura SSSR. Vol.1, No.3 [Chemistry in publications of the Academy of Sciences of the U.S.S.R., 1936-1937] Khimiia v izdaniiakh Akademii nauk SSSR, 1936-1937. Sostavila O.P.Kamenogradskaia. Predisl. i nauchn.red.K.V.Flerova. Moskva,1958. 568 p. (MIRA 12:3)

1. Akademiya nauk SSSR. Biblioteka.
(Bibliography--Chemistry)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, G. A.

Annual Meeting of the Acad. Sci. USSR. Priroda, 1958, No. 5, pp. 105-107.

The annual meeting of the Akd, Nauk SSSR, was devoted to Soviet Acheivements in science and technics in 1957, as well as current and future projects.

The following achievements in the development of geolo-geographical science were recorded:

"Organization of the Novosibirsk East Section of the Library of the AS USSR."

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, G.A.

Nataliia Sergeevna Samoilova-IAkhontova (on the occasion of her 60th birthday). Biul.Inst.teor.astron. 6 no.9: 675-680 '58. (MIRA 13:3)
(Samoilova-IAkhontova, Nataliia Sergeevna, 1896 -)

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17(0)

AUTHOR: Chebotarev, G. A., Doctor of Physical and Mathematical Sciences SOV/30-58-12-17/46

TITLE: 400th Anniversary of the University of Jena (400-letiye Iyenskogo universiteta)

PERIODICAL: Vestnik Akademii nauk SSSR, 1958, Nr 12, pp 69 - 70 (USSR)

ABSTRACT: The University of Jena has a rich tradition, particularly in the field of natural and medical sciences. During the Second World War it suffered heavy damage, which, however, could not prevent its being reopened on October 15, 1945. At the same time its reconstruction was begun. The anniversary celebrations were attended by scientists from many countries. The Soviet Union was represented by delegations of the AS USSR, the Ministerstvo vysshego obrazovaniya (Ministry of Higher Education) and the Ministerstvo zdravookhraneniya SSSR (Ministry of Public Health, USSR). On September 3, honorary doctor's diplomas were awarded to German and foreign scientists. Diplomas were handed over by the Faculty of Mathematical and Natural Sciences to the leader of the delegation of the AS USSR, D. I. Shcherbakov, Academician, to be forwarded to A. N. Nesmeyanov and A. I.

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Oparin, Academicians. The Faculty of Agriculture bestowed diplomas on N. V. Tsitsin, Academician, and the Faculty of Philosophy on the author of this article. The rectors conference of the West German Universities decided not to attend this celebration. The Soviet Scientists held lectures in Jena and in some other towns on scientific and cultural achievements in the USSR. There is 1 figure.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

LUKOMSKAYA, A.M.; CHEBOTAREV, G.A., otv.red.; DORFMAN, Ya.G., prof., red.; ARON, G.M., red.izd-va; PEVZNER, R.S., tekhn.red.

[Principal foreign bibliographical sources for physics, 1931-1955] Osnovnye inostrannye bibliograficheskie istochniki po fizike, 1931-1955. Sost. A.M.Lukomskaia. Pod red. IA.G.Dorfmana. Moskva, 1959. 114 p. (MIRA 12:6)

1. Akademiya nauk SSSR. Biblioteka.
(Bibliography--Physics)

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Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1959, Nr 9, pp 8 - 9 (USSR)

AUTHORS: Chebotarev, G.A., Bozhkova, A.I.

TITLE: The Study of the Motion of Two Trojans by the Numerical Method

PERIODICAL: Byul. In-ta teor. astron. AS USSR, 1959, Vol 7, Nr 3, pp 186 - 201 (Engl. résumé)

ABSTRACT: The motion of two Trojans has been studied - of Patroclus (617) and of Anchises (1173) over a period of ~ 710 years. The motion of the Trojans in the plane of motion of Jupiter is examined; a numerical integration in the rectangular coordinates is carried out by the Cowell method, and only the perturbations from Jupiter are allowed for. The motion of Jupiter is considered to be unperturbed and the integration interval $\omega = 1:80$ of the complete revolution of Jupiter. Patroclus was chosen as the Trojan with the greatest eccentricity and the greatest inclination, and Anchises as the Trojan with the greatest daily motion. Orbital elements of both Trojans are given, calculated after each revolution of Jupiter. The big semi-axis of Patroclus undergoes long-periodic fluctuations, with the

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The Study of the Motion of Two Trojans by the Numerical Method 69848 SOV/35-59-9-6929

period ~ 12.3 revolutions of Jupiter or 146 years, the eccentricity decreases secularly, the apside line rotates at an average speed of $\Delta\pi = 0^{\circ}.842$ per one revolution of Jupiter. The big semi-axis of Anchises also has long-periodic fluctuations with the period ~ 12.6 revolutions of Jupiter, the eccentricity remains constant while the speed of rotation of the apside line is $\Delta\pi = +0^{\circ}.850$. In the whole interval, the joviocentric orbit of Patroclus retains its elliptical character, while the Anchises orbit periodically changes its character, passing from elliptical to hyperbolical and back.

N.S. Yakhontova

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Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1959, Nr 9, p 11 (USSR)

AUTHORS: Chebotarev, G.A., Volkov, M.S.

TITLE: The Motion of Patroclus in the Gravitation Field of the Sun and Proto-Jupiter

PERIODICAL: Byul. In-ta teor. astron. AS USSR, 1959, Vol 7, Nr 3, pp 202 - 207 (Engl. résumé)

ABSTRACT: The motion of a small planet of the Trojan group, Patroclus, was examined in the gravitation field of the Sun and proto-Jupiter in order to clear up the question on the stability of the motion of Patroclus. It was assumed that the motion of Patroclus took place in the plane of Jupiter, that the motion of Jupiter was un-perturbed and its mass was 20 times greater than the present one; for the daily motion the present value was preserved. The numerical integration was carried out during 33 revolutions of Jupiter. During this period the radius-vector of Patroclus changes from 3.7 to 7.8 A.U. and the distance from Jupiter, from 1.9 to 11.9 A.U. After 27 revolutions its stability of motion is disturbed and it departs from the point of libration. Bibl. 9 titles.

N.S. Yakhontova

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

LUKOMSKAYA, A.M.; LOZINSKIY, S.M., prof., red.; CHEBOTAREV, G.A., otv.red.; KAL', M.M., red.izd-va; BOCHEVER, V.T., tekhn.red.

[Principal foreign bibliographical sources for literature on mathematics and mechanics, 1931-1957] Osnovnye inostrannye bibliograficheskie istochniki po matematike i mekhanike, 1931-1957. Sost. A.M.Lukomskaia. Pod red. S.M.Lozinskogo. Moskva, 1960. 181 p. (MIRA 14:2)

1. Akademiya nauk SSSR. Biblioteka.
(Bibliography--Mathematics)
(Bibliography--Mechanics)

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Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1960, No. 10, p. 9, # 9814

AUTHORS: Chebotarev, G. A., Bozhkova, A. I.

TITLE: On the Stability of Circular Orbits Within the Sphere of Jupiter Influence

PERIODICAL: Byull. In-ta teor. astron. AN SSSR, 1960, Vol. 7, No. 8, pp. 581-587 (English summary)

TEXT: The problem is considered on the stability of motion of Jupiter's satellites whose orbits are within its influence sphere or near the boundaries of this sphere. Side-by-side with the Jupiter influence sphere the authors introduce a sphere with the radius $R^* = r_1 m_1^{1/2}$ (m_1 is Jupiter mass) within which Jupiter's attraction is stronger than that of the Sun. The motion of six fictitious Jupiter's satellites is considered moving along circular orbits with semiaxes: $a_o = 0.30$; 0.28; 0.25; 0.20; 0.15 and 0.10. The integration of motion equations is performed by Cowell's method with six decimals. It is shown that

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On the Stability of Circular Orbits Within the Sphere of Jupiter Influence

beyond the limits of the sphere with radius R* the motion along a circular orbit is unstable. It is noted that all the actual Jupiter satellites are within this sphere.

N. S. Yakhontova

Translator's note: This is the full translation of the original Russian abstract.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, G.A.

S/511/61/008/002/002/004
B163/B186

AUTHORS: Chebotarev, G. A., and Volkov, M. S.

TITLE: The stability of circular orbits with retrograde motion in the sphere of action of Jupiter

SOURCE: Akademiya nauk SSSR. Institut teoreticheskoy astronomii. Byulleten'. v. 8, no. 2(95), 1961, 99 - 102

TEXT: Five initially circular satellite orbits were computed numerically with the following initial conditions: in the initial moment, the sun, Jupiter and the satellite are arranged along the x axis, and Jupiter is in perihelion position. The initial major axis of the satellite orbit is a_0 = 0.2, 0.25, 0.3, 0.35, and 0.4 astronomical units, respectively. Since the sphere of action of Jupiter under these conditions is R = 0.2790, satellites I and II are within the sphere of action, while III, IV, and V are outside. The numerical computation is carried out with an accuracy of six decimal places, and the method is the same as in earlier paper by G. A. Chebotarev and A. I. Boshkova. The integration is performed for a time interval of 11.86 years equal to one sidereal revolution of Jupiter around the sun. The variations of the major axis and the eccentricity with

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time are given in tables and curves. Satellites I, II, and III have stable orbits. The orbit of satellite IV is unstable, but in the considered time interval of 11.86 years it has not yet left the Jupiter system. The orbit of satellite V rapidly changes over into a hyperbolic orbit with respect to Jupiter, whose orbit elements are given. While it was found in the earlier paper mentioned above that satellites with forward motion leave the sphere of action of Jupiter for ever, if their initial major axis a_o is 0.2 astronomical units the instability of retrograde orbits begins with an axis no less than $a_o = 0.35$, i.e. beyond the limits of the sphere of action of Jupiter. There are 5 figures and 5 tables.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

S/035/61/000/011/001/028
A001/A101

AUTHORS: Chebotarev, G.A., Volkov, M.S.

TITLE: On stability of circular orbits with retrograde motion in the Jupiter sphere of influence

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 11, 1961, 7, abstract 11A71 ("Byul. In-ta teor. astron. AN SSSR", 1961, v. 8, no. 2, 99 - 102, Engl. summary)

TEXT: The problem is considered on stability of circular orbits with retrograde motion, situated within the Jupiter sphere of influence (R = 0.322 AU) or close to the boundaries of this sphere. It is shown, by the numerical integration method, that satellites with retrograde motion are characterized by considerably higher stability than direct satellites: Jupiter's satellites moving directly leave its sphere of influence for ever already at a_o = 0.20 AU, whereas in the case of retrograde motion instability takes place beyond the limits of the influence sphere.

N. Ya.

[Abstracter's note: Complete translation]

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AUTHORS: Gontkovskaya, V.T. and Chebotarev, G.A.

TITLE: Orbit of the Third Soviet Space Rocket (Lunik III)

PERIODICAL: Astronomicheskiy zhurnal, 1961, Vol. 38, No. 1, pp. 125 - 130

TEXT: The motion of Lunik III in the period October 15 to March 30, 1960, is investigated. The third Soviet space rocket was launched in the morning of October 4, 1959, in the direction of the Moon. On October 6 at 17^h 21^m Moscow time the rocket reached a distance of 6 200 km from the lunar surface. On October 11 at 0° 44^m the rocket reached the apogee of its orbit (480 500 km from the Earth) after which it began to approach the Earth again. The passage of the rocket through the perigee should have taken place on October 18 at 19^h 49^m and the perigee distance should have been 47 490 km. However, for well-known reasons, the radio contact with the cosmic rocket was lost (Sedov - Ref. 1) and already during its first approach to the perigee the rocket could not be observed

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Orbit of the Third Soviet Space Rocket (Lunik III)

in spite of favourable conditions and the availability of an accurate ephemeride (Guntzel-Lingner, Ref. 2). The orbit of Lunik III is of particular interest from the standpoint of celestial mechanics. A particular feature of the orbit is that it has unusual elements ($e = 0.98$, $i = 85^{\circ}$) and the fact that its elements change rapidly as a result of approaches to the perturbing body (Moon). The information available at present (other than the TASS communiqué) consists of a short note by Sedov (Ref. 3) and the American calculations (Michaels, Wachman and Petty - Ref. 4). In the present paper the problem is formulated as follows:

1) the rocket moves in the gravitational field of the Earth, the Moon and the Sun;
2) all the bodies except the Earth are looked upon as mass points and the figure of the Earth is taken to be a biaxial ellipsoid;
3) both the equations of motion of the rocket and the equations for the Moon and the Sun are to be integrated, taking into

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Orbit of the Third Soviet Space Rocket (Lunik III)

account mutual perturbations. The equations of motion of the Moon and the Sun are of the form:

$$\frac{d^2\bar{r}_1}{dt^2} = -\frac{m_0+m_1}{r_1^3}\bar{r}_1 + m_2\left(\frac{\bar{r}_2-\bar{r}_1}{\Delta_{12}^3} - \frac{\bar{r}_2}{r_2^3}\right),$$

$$\frac{d^2\bar{r}_2}{dt^2} = -\frac{m_0+m_2}{r_2^3}\bar{r}_2 + m_1\left(\frac{\bar{r}_1-\bar{r}_2}{\Delta_{12}^3} - \frac{\bar{r}_1}{r_1^3}\right), \quad (1)$$

while those of the rocket are:

$$\frac{d^2\bar{r}}{dt^2} = \bar{F} - \sum_{j=1,2}\frac{m_j}{r_j^3}[\bar{r} + \varphi_j(\bar{r}-\bar{r}_j)]. \quad (2)$$

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Orbit of the Third Soviet Space Rocket (Lunik III)

In the above equations $\overline{r}_i$ and m_i are the radius vector and the mass of the i-th body multiplied by the gravitational constant; subscripts 0, 1, 2 refer to the Earth, the Moon and the Sun, respectively; Δ_{ij} are the distances between the bodies; $\overline{r}$ is the radius vector of the rocket; the equations are written down in the geocentric equatorial system of coordinates. The term $\overline{F}$ in Eq. (2) represents the attraction due to the Earth. The basic characteristics of the terrestrial ellipsoid are represented by the quantities β, m, n, which are related to the equatorial radius a, the compression α and the angular velocity ω of the ellipsoid by the formulae:

$$\beta = b^3 i^3, \quad b = a(1-\alpha), \quad i^3 = (1-\alpha)^{-3} - 1,$$
$$m = \frac{2}{3}\frac{(1+i^2)\omega^2}{(3+i^2)\operatorname{arc\,tg} i - 3i},$$
$$n = m - m_0\beta^{-1/2}. \qquad (3)$$

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Orbit of the Third Soviet Space Rocket (Lunik III)

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The components $\bar{F}$ are given by:

$$F_x = -(R - Tv)\, x\varepsilon^{3/2},$$
$$F_y = -(R - Tv)\, y\varepsilon^{3/2}, \qquad (6)$$
$$F_z = -(S - Tu)\, z\varepsilon^{3/2}.$$

where:

$$R = m \sum_{k=0}^{\infty} (-1)^k \frac{3(k+1)}{2k+3} \varepsilon^k,$$

$$S = m \sum_{k=0}^{\infty} (-1)^k \frac{3}{2k+3} \varepsilon^k, \quad T = \frac{n}{x^2 + y^2 + z^2 (1+\varepsilon)^3} \qquad (4)$$

$$\varepsilon = \frac{\beta}{v},$$

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Orbit of the Third Soviet Space Rocket (Lunik III)

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and:

$$u = r^2 + \beta \frac{z^2}{v}, \quad v = u - \beta. \tag{5}$$

These equqtions can be transformed into the lunocentric coordinate system in which the equation of the rocket is given by:

$$\begin{aligned} \frac{d^2\bar{\rho}}{dt^2} &= -\frac{m_1}{\rho^3}\bar{\rho} - \frac{m_0}{\rho_0^3}\bar{\rho}_0 + \bar{\Phi} - \frac{m_2}{\rho_2^3}[\bar{\rho} + \psi_2(\bar{\rho} - \bar{\rho}_2)], \\ \frac{d^2\bar{\rho}}{dt^2} &= -\frac{m_1}{\rho^3}\bar{\rho} - \sum_{j=0,2}\frac{m_j}{\rho_j^3}[\bar{\rho} + \psi_j(\bar{\rho} - \bar{\rho}_j)]. \end{aligned} \tag{9}$$

In this equation:

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E032/E314

Orbit of the Third Soviet Space Rocket (Lunik III)

$$\bar{\rho} = \bar{r} - \bar{r}_1, \quad \bar{\rho}_o = - \bar{r}_1, \quad \bar{\rho}_2 = \bar{r}_2 - \bar{r}_1 .$$

The quantities of Φ and Ψ respectively represent $\bar{F}$ and φ in lunocentric coordinates. Numerical integration of these equations yielded the results given in Table 4, the key of which is as follows: 1 - date; 2 - M, deg; 3 - $\alpha(1 - e)$, km; 4 - October; 5 - November; 6 - December; 7 - January; 8 - February; 9 - March.
Fig. 2 shows the variation in the eccentricity of the orbit, Fig. 3 shows the variation in the perigee distance and Fig. 4 shows the variation in the inclination of the orbit. It was found that the effect of the compression of the Earth on the motion of the rocket lay within the limits of accuracy of integration. There are 4 figures, 5 tables and 6 references: 4 Soviet and 2 non-Soviet.

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Orbit of the Third Soviet Space Rocket (Lunik III)

ASSOCIATION: Institut teoreticheskoy astronomii Akademii nauk SSSR (Institute of Theoretical Astronomy of the Academy of Sciences, USSR)

SUBMITTED: October 7, 1960

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Table 4:

Таблица 4

Элементы орбиты третьей космической ракеты

Дата 1959–1960 гг.	M в град.	ω в град.	π в град.	Ω в град.	i в град.	a в км	e	a(1−e) в км	a(1+e) в км
18.7 окт.	0.51	182.03	73.84	251.81	79.97	264 800	0.824	46 640	482 900
3.7 нояб.	0.40	182.65	74.44	251.79	80.99	270 200	0.839	43 510	497 000
20.0 нояб.	1.62	184.25	76.44	252.19	84.02	266 300	0.856	38 440	494 200
5.9 дек.	0.93	184.58	76.91	252.33	84.48	270 400	0.882	31 940	508 900
22.5 дек.	0.80	186.02	77.45	251.43	82.93	269 900	0.903	26 060	513 800
6.7 янв.	0.67	184.60	75.70	251.11	83.09	261 800	0.924	19 830	502 800
22.4 янв.	0.40	185.01	75.18	250.17	74.37	267 100	0.933	17 890	516 200
8.8 февр.	0.02	183.72	76.02	252.30	57.95	283 800	0.950	14 170	553 500
25.8 февр.	0.35	184.22	75.12	250.90	48.00	292.100	0.951	14 220	570 100
14.6 март	0.29	184.17	74.02	249.85	47.75	292 500	0.955	13 030	571 900
30.7 март	359.60	180.57	70.38	249.81	56.85	270 100	0.980	5 350	534 800

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Fig. 2:

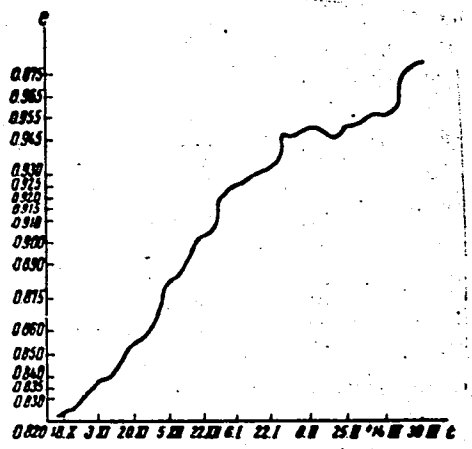

Fig. 3:

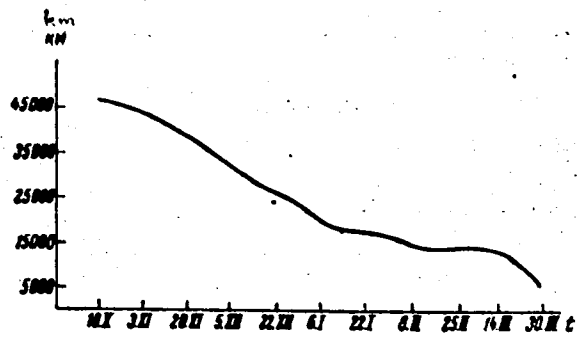

Рис. 3. Изменение перигейного расстояния третьей советской космической ракеты

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Orbit of the Third Soviet Space Rocket (Lunik III)

Fig. 4:

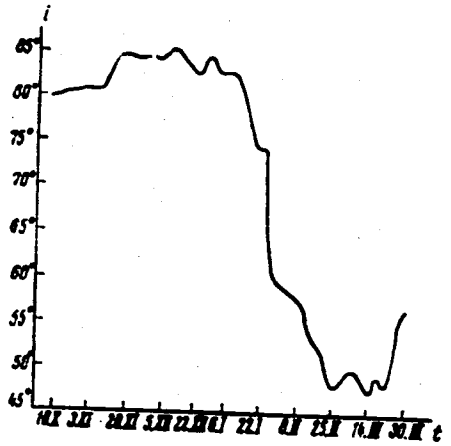

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Рис. 4. Изменение наклонения орбиты третьей советской космической ракеты.

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E032/E314

AUTHORS: Brumberg, V.A., Kirpichnikov, S.N. and Chebotarev, G.A.

TITLE: On the Motion of Artificial Moon Satellites

PERIODICAL: Astronomicheskiy zhurnal, 1961, Vol. 38, No. 1, pp. 131 - 144

TEXT: The launching of artificial Moon satellites is a problem for the immediate future. It is known that a number of attempts have been made in the United States to put a satellite into orbit round the Moon, although all of them are said to have been entirely unsuccessful. The theory of motion of artificial Moon satellites has been widely discussed in Western literature (Buchheim - Ref. 1, Kooy - Ref. 2, Kooy and Berghuis - Ref. 3, Gröbner and Cap - Ref. 4 and Thüring - Ref. 5); in Soviet literature the theory of motion of these satellites was considered by Yegorov (Ref. 6) and Aksenov and Demin (Ref. 7). Prolonged observations of artificial Moon satellites may be of great interest from the point of view of celestial mechanics, since they can be used

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to improve the present data on the figure and mass of the Moon. The aim of the present paper is to investigate the motion of Moon satellites by considering a number of special cases, the solutions being obtained by numerical integrations. From the mathematical point of view the problem is reduced to the integration of equations of motion of a mass point having a negligible mass, moving in the gravitational field of the Moon and subject to perturbations due to the non-spherical Moon and the gravitational attraction of the Earth and the Sun. The motion of the artificial Moon satellite is described in terms of the mean anomaly M, the area vector $\bar{c}$ and the Laplace vector $\bar{f}$ which are defined by:

$$\bar{c} = \bar{r} \times \dot{\bar{r}} \qquad (5)$$

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and:

$$\bar{f} = \bar{r}\,\dot{\bar{r}}^2 - \dot{\bar{r}}(\bar{r}\dot{\bar{r}}) - \frac{m_o \bar{r}}{\dot{r}} \qquad (6),$$

where $\bar{r}$ is the lunocentric radius vector of the satellite. The Moon is assumed to have the form of a uniformly rotating homogeneous triaxial ellipsoid and the perturbation is represented in the form:

$$\bar{F} = \sum_{i=1}^{2} \frac{m_i}{r_i^3} [\bar{r}_i \varphi_i - \bar{r}(1 + \varphi_i)] + \operatorname{grad} V, \qquad (22)$$

The principal set of coordinates xyz is chosen to be the lunocentric system oriented along the principal axes of the ellipsoid of inertia of the Moon for the epoch 1960.0. In

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the derivation of the transformation formulae for this system of coordinates it is assumed that the Moon moves in accordance with the Cassini laws. The physical libration of the Moon is neglected. The initial instant of time is chosen to be t_0 = 1960, October 24.0. At this instant the Moon is in the neighbourhood of the perigee and is in the first quarter, which may facilitate the observation of the satellite from the Earth. The unit of time is one day and the unit of length is 10 mean radii of the Moon. The other initial data assumed are:

$$\left.\begin{aligned} \frac{m_2}{(m_0+m_1)} &= 329\,390, \\ \left(\frac{m_1}{m_0}\right) &= 81.375, \\ N &= \frac{2\pi}{(27^d.321\,6609)} \\ \rho &= 0.272\,274\,\rho_\delta, \\ \rho_\delta &= 6378.270 \text{ KM}, \end{aligned}\right\} \qquad (38)$$

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where is the mean equatorial radius of the Earth,

is the radius of the Moon,

m_0, m_1 and m_2 are the masses of the Moon, the Earth and the Sun, respectively (multiplied by the gravitational constant) and

N is the average angular velocity of the Moon around its axis.

The initial positions and velocities of the Earth and the Sun in the principal system of coordinates xyz have the following values:

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$$\left.\begin{aligned} x_1 &= +0.128\,077\,44\cdot 10^{2}, \\ y_1 &= -0.167\,612\,08\cdot 10^{2}, \\ z_1 &= -0.245\,209\,82\cdot 10^{1}, \\ x_2 &= 0.128\,601\,29\cdot 10^{4}, \\ y_2 &= 0.844\,314\,33\cdot 10^{4}, \\ z_2 &= 0.118\,582\,14\cdot 10^{3}, \\ \dot{x}_1 &= 0.418\,764\,47\cdot 10^{1}, \\ \dot{y}_1 &= 0.325\,042\,31\cdot 10^{1}, \\ \dot{z}_1 &= -0.839\,719\,12\cdot 10^{-2}, \\ \dot{x}_2 &= -0.143\,319\,51\cdot 10^{3}, \\ \dot{y}_2 &= 0.229\,757\,57\cdot 10^{2}, \\ \dot{z}_2 &= 0.334\,423\,30\cdot 10^{1}. \end{aligned}\right\} \quad (41).$$

The initial distribution of the Moon, the Earth and the Sun at the initial instant of time is as shown in Fig. 2.
The following four orbits of the satellite are then computed:
1) polar orbit with small eccentricity (Cp) ;
2) equatorial orbit with small eccentricity (Ce) ;

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3) polar orbit with large eccentricity (Ep);
4) equatorial orbit with large eccentricity (Ee).

For polar orbits (Cp, Ep) at t_o it was assumed that:

$$i = 90^o, \quad \omega = 0^o, \quad \Omega = 171^o340 \qquad (42).$$

The quantity Ω was found from the condition that the line of nodes for the satellite orbit is perpendicular to the direction of the Sun. For the equatorial orbits (Ce, Ee) it was assumed that:

$$i = 0^o, \quad \Omega + \omega = 171^o340 \qquad (43).$$

Table 1 gives the summary of the initial data (key to Table 1:- 1 - element; 2 - type of orbit.)

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Table 1:

Таблица 1

Сводка начальных данных

Элемент Element	Тип орбиты Type of orbit			
	Cp	Ce	Ep	Ee
c_x	$0.13528276 \cdot 10^0$	0	$0.18506427 \cdot 10_0$	0
c_y	$0.10194879 \cdot 10^1$	0	$0.12150144 \cdot 10^1$	0
c_z	0	$0.10312460 \cdot 10^1$	0	$0.12290275 \cdot 10^1$
f_x	$-0.12610546 \cdot 10^1$	$-0.12610546 \cdot 10^1$	$-0.46925243 \cdot 10^1$	$-0.46925243 \cdot 10^1$
f_y	$0.19207686 \cdot 10^0$	$0.19207686 \cdot 10^0$	$0.71473935 \cdot 10^0$	$0.71473935 \cdot 10^0$
f_z	0	0	0	0
M	0	0	0	0

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In the above table, M is the mean anomaly of the satellite. The initial values of the elements were found for orbits with low eccentricity from the condition:

$$h_p = 500 \text{ km}, \quad h_a = 1\,500 \text{ km} \qquad (44)$$

so that:

$$a = 0.157\,582\,56, \quad e = 0.182\,705\,98 \qquad (45).$$

For orbits with large eccentricity the corresponding values were:

$$h_p = 500 \text{ km}, \quad h_a = 10\,000 \text{ km} \qquad (46)$$

and:

$$a = 0.402\,30841, \quad e = 0.679\,869\,28 \qquad (47).$$

The quantities h_p and h_a denote the height of the pericentre

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and the apocentre at the initial instant of time. Finally, the mean anomaly M was chosen to be zero, i.e. at t_o the satellite was at the pericentre of its orbit. The integration of the equations of motion was carried out by the Runge-Kutta method. 19 equations of the first order and one time equation were integrated. Table 3 gives the initial and final elements of the orbits (key to Table 3: Title - Change in Orbit Elements of the Satellite; 1 - type of orbit; 2 - number of revolutions; 3 - a (in lunar radii); 4 - T (in days); 5 - Cp; 6 - Ce; 7 - Ep; 8 - Ee.)
Fig. 3 gives the variation of the eccentricity with number of complete revolutions. Fig. 4 gives a similar plot for the quantity cos i and Fig. 5 gives the variation in the distance of the pericentre (in lunar radii).
Complete numerical data on the basis of which these graphs were plotted are reproduced. The authors intend to continue their work in this field.

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There are 5 figures, 7 tables and 8 references: 3 Soviet and 5 non-Soviet.

ASSOCIATION: Institut teoreticheskoy astronomii Akademii nauk SSSR (Institute of Theoretical Astronomy of the Academy of Sciences, USSR)

SUBMITTED: October 22, 1960

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Table 3:

Изменение элементов орбит спутников Луны

1. Тип орбиты	2. Количество оборотов	3. a (в радиусах Луны)	e	i	ω	Ω	M	4. T (в сутках)
5. Полярная орбита с малым эксцентриситетом	0	1.5758	0.18271	90°.000	0°.000	171°.340	0°.000	0.1487
	40	1.5752	0.18175	90°.040	0°.888	171°.354	45°.754	0.1487
6. Экваториальная орбита с малым эксцентриситетом	0	1.5758	0.18271	0°.000	—	—	0°.000	0.1487
	40	1.5759	0.17325	0°.060	14°.309	160°.642	6°.010	0.1488
7. Полярная орбита с большим эксцентриситетом	0	4.0231	0.67987	90°.000	0°.000	171°.340	0°.000	0.6068
	40	4.0247	0.68036	88°.104	8°.414	171°.057	17°.695	0.6072
8. Экваториальная орбита с большим эксцентриситетом	0	4.0231	0.67987	0°.000	—	—	0°.000	0.6068
	40	4.0265	0.65635	1°.539	17°.953	160°.631	12°.370	0.6076

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Fig. 2:

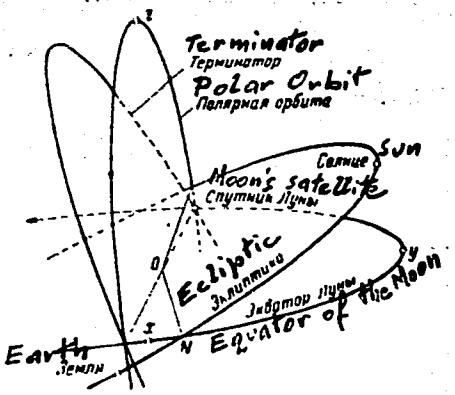

Рис. 2. Взаимное расположение Земли, Солнца и спутника Луны в начальный момент

Fig. 3:

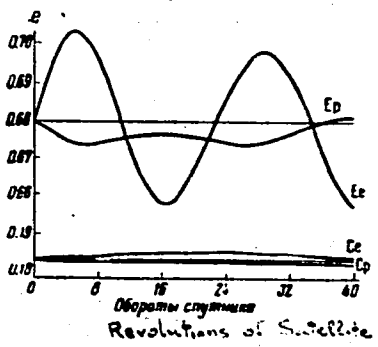

Рис. 3. Изменение эксцент[illegible] для орбит Cp, Ce, Ep, [illegible]

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Fig. 4:

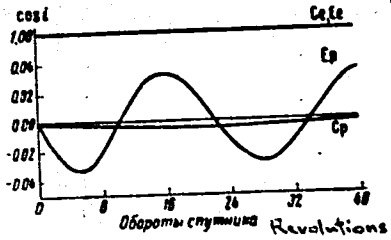

Рис. 4. Изменение косинуса наклонности для орбит *Cp*, *Ce*, *Ep*, *Ee*

Fig. 5:

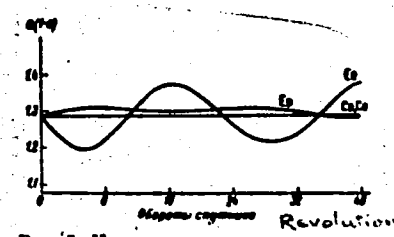

Рис. 5. Изменение расстояния перицентра (в радиусах Луны) для орбит *Cp*, *Ce*, *Ep*, *Ee*

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E032/E414

3,2200 (1080, 1121, 1132)

AUTHORS: Gontkovskaya, V.T., Chebotarev, G.A.

TITLE: Lunar and solar perturbations in the motion of the third Soviet space rocket

PERIODICAL: Astronomicheskiy zhurnal, v.38, no.5, 1961, 954-960

TEXT: The authors report the results of a numerical integration giving separately the effects of lunar and solar perturbations in the motion of the third Soviet space rocket. The oblateness of the Earth was found to have a negligible effect. The differential equation for the motion of the rocket in the gravitational field of the Earth and the Moon, neglecting the solar perturbations, is taken to be of the form

$$\frac{d^2\mathbf{r}}{dt^2} = -\frac{m_0}{r^3}\mathbf{r} - \frac{m_1}{r_1^3}[\mathbf{r} + \varphi_1(\mathbf{r} - \mathbf{r}_1)], \quad (1)$$

where $\mathbf{r}$ is the radius vector of the rocket, $\mathbf{r}_1$ is the radius vector of the Moon, m_0 is the mass of the Earth and m_1 is the mass of the Moon. The right-hand side is then expanded so that

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$$\varphi_i = \varphi(q_i)\begin{cases}\sum_{k=1}^{\infty}\frac{(2k+1)!!}{k!}q_i^k, & \text{when если } |q_i| < 2^{-3},\\ (1-2q_i)^{-1/2}-1, & \text{when если } |q_i| \geqslant 2^{-3},\end{cases} \qquad (2)$$

$$q_i = \frac{1}{r_i^2}\left(xx_i + yy_i + zz_i - \frac{1}{2}r^2\right).$$

Finally, the equations describing the geocentric motion of the Moon and the Sun including mutual perturbations are taken to be of the form

$$\frac{d^2\mathbf{r}_1}{dt^2} = -\frac{m_0+m_1}{r_1^3}\mathbf{r}_1 + m_2\left(\frac{\mathbf{r}_2-\mathbf{r}_1}{\Delta_{12}^3} - \frac{\mathbf{r}_2}{r_2^3}\right), \qquad (3)$$

$$\frac{d^2\mathbf{r}_2}{dt^2} = -\frac{m_0+m_2}{r_2^3}\mathbf{r}_2 + m_1\left(\frac{\mathbf{r}_1-\mathbf{r}_2}{\Delta_{21}^3} - \frac{\mathbf{r}_1}{r_1^3}\right), \qquad (4)$$

where $\mathbf{r}_2$ and m_2 are the radius vector and the mass of the Sun

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Lunar and solar perturbations ... S/033/61/038/005/011/015
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$\Delta_{12} = \Delta_{21}$ is the distance between the Moon and the Sun. The initial instant of time was taken to be October 15, 1959, 15^h00^m. The integration of the equations was carried out by the Runge-Kutta method. The results are illustrated by Fig.1 to 4. There are 4 figures, 6 tables and 6 references: 3 Soviet-bloc and 3 non-Soviet-bloc. The references to English language publications read as follows:

Ref.1: Y.Kozai, Smithsonian Institution Astrophysical Observatory, Research in Space Science, Special Report, No.22, March 20, 1959;
Ref.2: E.Upton, A.Bailie, P.Musen, Science, v.130, no.3390, 1710-1711, 18 Dec. 1959;
Ref.3: M.Moe, Astron. Roy. Soc. J., v.30, no.5, 1960.

ASSOCIATION: Institut teoreticheskoy astronomii Akademii nauk SSSR (Institute of Theoretical Astronomy AS USSR)

SUBMITTED: January 20, 1961

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CHEBOTAREV, G.A., prof.

Publication of the issue no.100 of "Biulleten' Instituta teoreticheskoi astronomii." Biul.Inst.teor.astron. 8 no.7:457-458 '62. (MIRA 15:9)

1. Otvetstvennyy redaktor Byulletenya Instituta teoreticheskoy Astronomii.

(Astronomy--Periodicals)

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MYACHIN, V.F.; CHEBOTAREV, G.A., otv.red., prof.; GOL'SHTEYN, G.A., red.izd-va; SOROKINA, V.A., tekhn.red.

[Estimating the error of numerical methods for the integration of equations of celestial mechanics] Otsenka pogreshnosti chislennykh metodov integrirovaniia uravnenii nebesnoi mekhaniki, Moskva, 1962. 537-639 p. (Akademiia nauk SSSR. Institut teoreticheskoi astronomii. Biulleten', vol.8, no.8).

(MIRA 17:3)

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GRABOVETSKIY, K.I.; CHEBOTAREV, G.A., inzh.

A grounding device with a blocking arrangement. Elek.i tepl. tiaga 6 no.12:8 D '62. (MIRA 16:2)

1. Nachal'nik Shevchenkovskogo uchastka energosnabzheniya (for Grabovetskiy). 2. Tekhnicheskiy otdel Shevchenkovskogo uchastka energoshabzheniya (for Chebotarev).
(Electric railroads—Wires and wiring)
(Electric railroads—Safety measures)

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L 19942-63 EPA(b)/EWT(1)/FCC(w)/FS(v)-2/BDS/ES(v) AFFTC/AFMDC/ESD-3/
APGC/SSD Pd-4/Pe-4/Pg-4/Pi-4/Po-4/Pq-4 TT/GW
ACCESSION NR: AR3002032

S/0269/63/000/005/0008/0008

SOURCE: RZh. Astronomiya. Otdel'nyy vypusk. Abs. 5.51.112

AUTHOR: Chebotarev, G. A.; Makarova, Ye. N.

B

TITLE: Preliminary orbital elements of the cabin of the first space ship (1960 ε_3)

CITED SOURCE: Byul. st. optich. nablyudeniya iskusstv. sputnikov Zemli, no. 27, 1962, 36-41

TOPIC TAGS: satellite orbital elements

TRANSLATION: The authors present a summary of the mean equatorial elements of the orbit of the cabin of the first Soviet space ship (1960 ε_3), as well as their daily variations from 13 June to 27 September 1961. The elements were determined on the basis of 563 visual and preliminary photographic observations by Soviet and foreign stations. Simplified formulas are given for transforming mean into osculating elements and ways to compare theory and observations. There is a bibliography of 7 items. N. Yakhontova

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L 19341-63 EPA(b)/EWT(1)/FCC(w)/FS(v)-2/BDS/ES(v) AFFTC/AFMDC/ESD-3/SSD/
APGC Pd-4/Pe-4/Pi-4/Po-4/Pq-4 TT/GW
ACCESSION NR: AR3002033 S/0269/63/000/005/0009/0009

SOURCE: RZh. Astronomiya. Otdel'nyy vypusk. Abs. 5.51.113

AUTHOR: Chebotarev, G. A.; Makarova, Ye. N.

TITLE: Preliminary orbital elements of the cabin of the fourth Soviet artificial earth satellite (1960 ε_3)

CITED SOURCE: Byul. st. optich. nablyudeniya iskusstv. sputnikov Zemli, no. 28, 1962, 11-13

TOPIC TAGS: artificial earth satellite, orbital element

TRANSLATION: The authors give the mean equatorial orbital elements for the cabin of the fourth Soviet artificial satellite from 5 October to 27 December 1961 and their secular perturbations. These data were obtained by processing about 3,000 observations made by 89 Soviet and foreign stations. N. Ya.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

ACCESSION NR: AT4001202 S/2511/62/008/005/0324/0334

AUTHORS: Chebotarev, G. A.; Kirpichnikov, S. N.

TITLE: The influence of lunar shape on the motion of artificial lunar satellites

SOURCE: AN SSSR. Inst. teor. astron. Byulleten', v. 8, no. 5, 1962, 324-334

TOPIC TAGS: triaxial ellipsoid, lunar rotational axis, lunar libration, fictitious artificial satellite, perturbing forces vector, polar orbit, pericenter and apicenter, equatorial orbit, inertial moment, mutational constant, gravitational constant, numerical integration, lunar mass, dynamic oblateness, lunar satellite pericenter, artificial lunar satellite pericenter, orbit eccentric anomaly, orbit mean anomaly

ABSTRACT: In view of the premise that a launching of an artificial moon satellite will enable us to improve our knowledge of the figure and mass of the moon (A. A. Yakovkin, Luna, Ch. I, Fizmatgiz, 1960), the author determines by numerical integration the effect of

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the figure of the rotating moon on the motion of a fictitious artificial moon satellite. In particular, the rate of secular displacement of the pericenter of the satellite orbit is calculated. Four variants of orbits are considered for the moon's satellite, namely polar and equatorial orbits with small and large eccentricities. The secular displacement of the line of apsides due to the figure of the moon is calculated. The main results of the numerical integration are tabulated. Orig. art. has: 36 formulas and 10 tables.

ASSOCIATION: Inst. teor. astron. AN SSSR (Institute of Theoretical Astronomy AN SSSR)

SUBMITTED: 22Apr61 DATE ACQ: 21Nov63 ENCL: 00

SUB CODE: AS, GM NO REF SOV: 007 OTHER: 004

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

CHEBOTAREV, G.A.; KIRPICHNIKOV, S.N.

Stability of the motion of artificial lunar satellites. Biul.-Inst.teor.astron. 8 no.6:402-404 '62. (MIRA 15:8)
(Lunar probes)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

S/035/62/000/012/004/064
A001/A101

AUTHOR: Chebotarev, G. A.

TITLE: On occasion of publication of the 100th issue of the Bulletin of the Institute of Theoretical Astronomy

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 12, 1962, 6, abstract 12A29 ("Byul. In-ta teor. astron. AN SSSR", 1962, v. 8, no. 7, 457 - 458)

TEXT: The contents of studies published in the Bulletin, beginning from the first issue dated on July 15, 1924, are briefly described.

[Abstracter's note: Complete translation]

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220007-9

ACCESSION NR: AT4040744 S/2511/62/008/009/0641/0646

AUTHOR: Chebotarev, G. A.; Bozhkova, A. I.

TITLE: Stability of elliptical orbits in the sphere of influence of Jupiter

SOURCE: AN SSSR. Institut teoreticheskoy astronomii. Byulleten', v. 8, no. 9(102), 1962, 641-646

TOPIC TAGS: astrophysics, astronomy, celestial mechanics, Jupiter, planetary influence sphere, satellite orbit

ABSTRACT: In earlier studies (Byull. ITA, 7, 8(91) and 8, 2 (95)) the authors considered the problem of the stability of circular orbits (with direct and retrograde motion of a satellite) in the sphere of influence of Jupiter. In this new study the numerical integration method was used to investigate the stability of elliptical orbits (e = 0.5) with direct motion of a satellite. As in the earlier studies, the author considered the motion of six fictitious satellites of Jupiter, moving in orbits with specific parameters, with the origin of coordinates at the center of inertia of Jupiter. Since the radius of the sphere of influence of Jupiter is R = 0.279 a.u., all the six satellites considered lay deep within the sphere of influence of Jupiter at the beginning of their motion. The motion of Jupiter is considered unperturbed and occurring in a plane. The motion of satellites I-IV is unstable, as in the case of circular

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