MNDZHOYAN, A.L.; TATEVOSYAN, G.T., akademik; AGBALYAN, S.G.; MUSHETYAN, A.V.

Research in the field of derivatives of substituted acetic acids. Dokl. AN Arm. SSR 27 no.1:41-47 '58. (MIRA 11:9)

1.Institut tonkoy organicheskoy khimii AN ArmSSR. 2.AN ArmSSR (for Tatevosyan).

(Acetic acid)

MNDZHOYAN, A.L., akademik; TATEVOSYAN, G.T.; AGBALYAN, S.G.

Research in the field of derivatives of substituted acetic acids. Report No.14. Dokl. AN Arm. SSR 27 no.2:93-99 '58. (MIRA 11:10)

1.Institut tonkoy organicheskoy khimii AN Armyanskoy SSR.
2.AN Armyanskoy SSR (for Mndzhoyan).
(Acetic acid)

MNDZHOYAN, A.L.; TATEVOSYAN, G.T., akademik; AGBALYAN, S.G.; BOSTANDZHYAN, R.Kh.

Research in the field of substituted acetic acid derivatives. Report No. 15: β,β-dimethyl-γ-dialkylaminopropyl and tetraalkyldiaminoisopropyl esters of dialkylphenylacetic acids. Dokl. AN Arm. SSR 27 no.3:179-185 '58. (MIRA 11:12)

1.Institut tonkoy organicheskoy khimii AN Armyanskoy SSR.
(Acetic acid)

MNDZHOYAN, A.L., akademik; AFRIKYAN, V.G.; TATEVOSYAN, G.T.; AGBALYAN, S.G.; GRIGORYAN, M.T.; DIVANYAN, N.M.; BADALYAN, V.Ye.; MARKARYAN, E.A.

Investigation in the field of furan derivatives. Report No.21. Dokl.AN Arm.SSR.27 no.5:305-314 '58. (MIRA 12:5)

1. Institut tonkoy organicheskoy khimii AN ArmSSR. 2. AN ArmSSR (for Mndzhoyan).

(Furan)

MNDZHOYAN, A.L., akademik; TATEVOSYAN, G.T.; AGBALYAN, S.G.; BOSTANDZHYAN, R.Kh.

Study of derivatives of substituted acetic acids. Report No.16: Amino esters of diphenylalkylacetic acids. Dokl.AN Arm.SSR 28 no.1:11-26 '59. (MIRA 12:7)

1. Institut tonkoy organicheskoy khimii AN ArmSSR. 2. AN ArmSSR (for Mndzhoyan).
(Acetic acid)

MNDZHOYAN, A.L., akademik; TATEVOSYAN, G.T.; AGRALYAN, S.G.; BOSTANDZHYAN, R.Kh.

Research in the field of amino ethers. Report No.2: Synthesis of β-dialkylaminoethyl ethers of β,β,β-trisubstituted ethyl alcohols. Dokl AN Arm.SSR 29 no.4:187-192 '59. (MIRA 13:4)

1. Institut tonkoy organicheskoy khimii AN ArmSSR. 2. AN ArmSSR (for Mndzhoyan).
(Ethanol) (Amines)

MNDZHOYAN, A.L., akademik, TATEVOSYAN, G.T., AGBALYAN, S.G.

Research on substitution products of acetic acids. Dokl. AN Arm.SSR 29 no.5:235-243 '59. (MIRA 13:6)

1. Institut tonkoy organicheskoy khimii Akademii nauk Armyanskoy SSR. Akademiya nauk Armyanskoy SSR (for Mndzhoyan).

(Acetic acid)

MNDZHOYAN, A.L.; AGBALYAN, S.G.

Syntheses based on harmine and tetrahydroharmine. Report No.1: Oxidation of harmine by selenious anhydride. Izv. AN Arm. SSR Khim. nauki 13 no.2/3:207-210 '60. (MIRA 13:10)

1. Institut tonkoy organicheskoy khimii AN ArmSSR.
(Harmine) (Selenium oxide)

MNDZHOYAN, A.L.; AROYAN, A.A.; AGBALYAN, S.G.

Syntheses based on harmine and tetrahydroharmine. Report No.2: Synthesis of symmetrical α,ω-polymethylene-bis-quaternary amonium salts of Py-N-tetrahydroharmine. Izv. AN Arm. SSR Khim. nauki 13 no.2/3:211-215 '60. (MIRA 13:10)

1. Institut tonkoy organicheskoy khimii AN ArmSSR.
(Harmine)

MNDZHOYAN, A.L.; AGBALYAN, S.G.

Syntheses based on harmine and tetrahydroharmine. Report No.3: Cyanoethylation of tetrahydroharmine and harmine. Izv. AN Arm. SSR. Khim. nauki 13 no.4:297-304 '60. (MIRA 13:12)

1. Institut tonkoy organicheskoy khimii AN ArmSSR.
(Harmine)

AGBALYAN, S.G.

Reaction of decyanethylation in the series of 1,2,3,4-tetrahydro-β-carbolines. Izv.AN Arm.SSR. Khim.nauki 14 no.3:277-282 '61. (MIRA 14:9)

1. Institut organicheskoy khimii AN Armyanskoy SSR.
(Pyridoindol)

AGBALYAN, S.G.

Synthetic analogs of the alkaloid reserpine. Usp.khim. 30 no.9:1175-1195 S '61. (MIRA 14:10)

1. Institut tonkoy organicheskoy khimii AN Armyanskoy SSR.
(Reserpine)

AGBALYAN, S.G.; NSHANYAN, A.O.; NERSESYAN, L.A.

Using nitrilium salts in the synthesis of unsaturated compounds of the 3,4-dihydroisoquinoline. Izv.AN Arm. SSR. Khim.nauki 15 no.4:399-403 '62. (MIRA 15:11)

1. Institut organicheskoy khimii AN Armyanskoy SSR.
(Isoquinoline)
(Nitrilium compounds)

AGBALYAN, S.G.; NSHANYAN, A.O.; NERSESYNA, L.A.

Use of nitrilium salts in the synthesis of heterocyclic amino acids. Report No.1: Derivatives of 3,4-dihydroxy-1-isoquinoline-acetic acid. Izv. AN Arm.SSR. Khim nauki 16 no.1:77-85 '63
(MIRA 17:8)

1. Institut organicheskiy khimii AN Armyanskoy SSR.

AGBALYAN, S.G.; YESAYAN, G.T.; MAGAKYAN, P.O.; NSHANYAN, A.O.

Sulfoacid esters. Part 13: Synthesis of some derivatives of cyclohexanesulfonic acid. Izv.AN Arm.SSR.Khim.nauki 17 no.1:69-74 '64. (MIRA 17:4)

1. Institut organicheskoy khimii AN Armyanskoy SSR.

AGBALYAN, S.G.; NERSESYAN, L.A.

Laboratory method for the preparation of δ-cyanovaleric acid and its esters. Izv.AN Arm.SSR.Khim.nauki 17 no.1:107-110 '64. (MIRA 17:4)

1. Institut organicheskoy khimii AN Armyanskoy SSR.

AGBALYAN, S.G.; NERSESYAN, L.A.; NSHANYAN, A.O.

Use of nitrilium salts in the synthesis of heterocyclic amino acids. Part 3: Synthesis of derivatives of 3-4-dihydroisoquinoline-1-(1'-alkyl)-acetic acids. Izv. AN Arm.SSR. Khim.nauki 18 no.1:83-87 '65. (MIRA 18:5)

1. Institut organicheskoy khimii AN ArmSSR.

AGBALYAN, S.G.; NERSESYAN, L.A.

Use of nitrilium salts in the synthesis of heterocyclic amino acids. Part 2: Synthesis of 3,4-dihydroisoquinoline-1-valeric and -enanthic acids. Izv. AN Arm.SSR.Khim.nauki 17 no.4:441-446 '64. (MIRA 18:6)

1. Institut organicheskoy khimii AN ArmSSR.

AGBALYAN, S.G.; NERSESYAN, L.A.; MUSHEGYAN, A.V.

Infrared spectra of 3,4-dihydroisoquinolines substituted in position 1. Izv. AN Arm.SSR. Khim. nauki 18 no.2:204-208 '65. (MIRA 18:11)

1. Institut organicheskoy khimii AN ArmSSR. Submitted March 24, 1964.

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83620
S/022/60/013/004/004/004
C111/C222

AUTHORS: Rezikyan, A.M., Agbalyan, Yu.G., and Madatyan, K.A.

TITLE: Gas-Discharge Stabilizer

PERIODICAL: Izvestiya Akademii nauk Armyanskoy SSR. Seriya fiziko-matematicheskikh nauk, 1960, Vol.13, No.4, pp.65-68.

TEXT: The direct-current stabilizer described in (ref.1) consists of a gas-discharge tube being within a solenoid which is series-connected with the discharge interval. The axis of the tube is parallel to the magnetic lines of force. In the discharge interval the anode-cathode charges move on spirals, i.e. they have a tangential component of velocity. Under the influence of them the gas begins to rotate in the tube. For an increase of the discharge current, the magnetic field increases, the trajectory of the charge strains in, the length of the spirals and therewith the resistance of the interval become greater, the current decreases.

In the present paper the authors report on the measurement of the stabilizing coefficient. It is stated that it depends on the magnetic field and that it reaches a maximum for a certain field intensity. The coefficient is smaller than 3. The measurements confirm (in spite of

Card 1/2

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Gas-Discharge Stabilizer

some deviations) the theory developed in (Ref.1). The velocity of rotation of the gas in the tube and its Reynolds number were not determined. Hydrogen and argon were used as gases; here the results differed only by the fact that in the case of hydrogen the stabilization began for a somewhat greater voltage.
There are 3 figures, 1 table and 2 references: 1 1 Soviet and 1 English.

ASSOCIATION: Institut fiziki AN Armyanskoy SSR (Institute of Physics of the Academy of Sciences Armyanskaya SSR)

SUBMITTED: September 2, 1959

Card 2/2

AKHMEDOVA, Sh.I., dotsent; AGDAMI, M.R., aspirant

Recent developments in the bacteriology of colibacillosis of calves and lambs. Veterinariia 40 no.2:70-73 F '63. (MIRA 17:2)

1. Samarkandskiy sel'skokhozyaystvennyy institut (for Akhmedova).
2. Azerbaydzhanskiy sel'skokhozyaystvennyy institut (for Agdami).

ZUL'FUGAROV, Z.G.; ALIMARDANOV, G.I.; AGDANSKIY, T.A.

Catalytic decomposition of normal heptane in the presence of gilyabi. Azerb.khim.zhur. no.3:37-48 '59. (MIRA 13:9)
(Heptane) (Bentonite) (Azerbaijan)

2

24449
S/081/61/000/006/015/015
B101/B201

5 1190

AUTHORS: Zul'fugarov, Z. G., Zul'fugarova, L. Sh., Muradova, S. A., Shirinova, E. B., Agdamskiy, T. A., Aliyev, A. S.

TITLE: Study of the activity of chromium aluminum magnesium silicate catalysts in the polymerization reaction of ethylene to polyethylene

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 6, 1961, 711-712, abstract 6P87 (6R87) ("Azerb. khim. zh.", 1960, no. 2, 107-115)

TEXT: A study has been made of new types of chromium aluminum magnesium silicate catalysts (Cat) in the polymerization of ethylene to polyethylene, and of the activity of Cat as dependent upon the method of their introduction into the chromium oxide. The activity of Cat has been shown essentially to depend on the method of synthesis, the chemical composition of the carriers having no appreciable effect upon such activity. The optimum ratio of Cr^{6+} and Cr^{3+} oxides in the chromium metasilicate catalysts concerned has been found to be 40-55 : 45-60; the maximum polymer yield per

Card 1/2

Study of the activity of chromium...

g of Cat has been 92 and 114 g, respectively. No relationship has been observed between the catalytic activity of Cat and their thermograms, their porosity, specific pore volume, and apparent density. All the polymers obtained have been found to have a highly crystalline structure. The authors assumed the active part of chromium catalysts to consist of salts of chromous acid or acid salts of chromic acid. [Abstracter's note: Complete translation.]

Card 2/2

[illegible], L.Sh.; SHIRINOVA, E.B.; MURADOVA, S.A.; AGDAMSKIY, T.A.
ZUL'FUGAROV, Z.G.

Effect of [illegible] composition of iron carrier and promotor on the activity of chromium oxido catalysts. Azerb.khim.zhur. no.4:85-91 '61. (MIRA 14:11)

(Polymerization)
(Catalysts)

ZUL'FUGAROVA, L.Sh.; MURADOVA, S.A.; SHIRINOVA, E.B.; AGDAMSKIY, T.A.; SMIRNOVA, V.Ye.; VEZIROVA, V.R.; ZUL'FUGAROV, Z.G.

Effect of the conditions of polymerization and of the porous structure on the activity of chromium-aluminum-magnesium silicate catalysts. Azerb.khim.zhur. no.5:87-90 '61. (MIRA 15:5)

(Polymerization) (Porosity) (Catalysts)

AGDAMSKIY, T.A.; AGAYEVA, S.G.; ZUL'FUGAROV, Z.G.

Promoting capacity of the oxides of Sr, La, Mo, Ce, Cs, Gd added to the catalyst of dehydrogenation of n-butane to butylenes. Dokl. AN Azerb. SSR 20 no.7:21-24 '64.
(MIRA 17:11)

1. Institut khimii AN AzerSSR. Predstavleno akademikom AN AzerSSR M.A. Dalinym.

AGDAULETOV, M.

Let's incessantly study demand. Sov. torg. 33 no.8:42-43 Ag '59.
(MIRA 12:11)

1. Nachal'nik otdela finansirovaniya narodnogo khozyaystva, g.Gur'yev.
(Kazakhstan--Retail trade)

L 20891-66 EWT(d) IJP(c) BB/GG

ACC NR: AP6002570 (A) SOURCE CODE: UR/0286/65/000/023/0061/0061

AUTHORS: Mnatsakanov, R. B.; Ladariya, G. G.; Agdgomelashvili, O. G. 28

ORG: none B

TITLE: Method for summing binary numbers. Class 42, No. 176724

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 23, 1965, 61

TOPIC TAGS: binary number, binary logic

ABSTRACT: This Author Certificate presents a method for summing binary numbers. To speed the summing process, two words are formed: the sum of the absolute values of the two initial terms and the conjunction of the initial terms with a shift of one digit to the left. The like digits of the resulting words are split into groups so that groups of the first type are bounded on the right by the combination $\frac{1}{1}$ and on the left by the first combination $\frac{0}{0}$, and the remaining digits form groups of the second type. The final result is obtained by inverting those digits of the first word appearing in groups of the first type and summing

Card 1/2 UDC: 681.142-523.8.07

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the absolute values of the two like digits of both words appearing in groups of the second type.

SUB CODE: 09/ SUBM DATE: 06Feb64

Card 2/2 ULR

AGDZHANOV, N. S.

Pregnancy, Complications of

Quantitative and qualitative studies on gonadotropins and estrogens in blood and in urine in pregnancy toxemias. Akush. i gin. No. 1, 1953.

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

TOKTYBAYEV, A.; AGEDILOV, Zh.; SARINOV, A.

Working the flat part of the Dzhezdy Mine. Gor.zhur. no.8:25-26 Ag '62. (MIRA 15:8)

1. Upravlyayushchiy Dzhezdinskogo margantsevogo rudoupravleniya (for Toktybayev). 2. Glavnyy inzh. shakhty No.5 i No.6-bis Dzhezdinskogo margantsevogo mestorozhdeniya (for Agedilov). 3. Nachal'nik shakhty No.5 i No.6-bis Dzhezdinskogo margantsevogo mestorozhdeniya (for Sarinov).
(Marganets region (Karaganda Province)--Manganese mines and mining)

BASHKAYEV, I.S.; AGEENKO, A.I.

The antigenic structure of rat sarcomas induced by human sarcoma tissue extracts. Folia biol. 9 no.3:177-180 '63.

1. Hertzen State Institute of Oncology, Moscow.
(SARCOMA, RETICULUM CELL) (TISSUE EXTRACTS)
(SARCOMA, EXPERIMENTAL) (ANTIGENS)

BASHKAYEV, I.S.; AGEENKO, A.I.

Immunological homogeneity of induced sarcoma tumour tissue antigens. Folia biol. (Praha) 11 no.3:194-197 '65

1. Virology Laboratory, Hertzen State Oncology Institute, Moscow.

AGEKYAN, N.G.

Little-known entomophage Conwentzia psociformis Curt. (Neuroptera, Coniopterygidae) in the Georgian S.S.R. Ent. obozr. 44 no.1:84-88 '65. (MIRA 18:7)

1. Gruzinskaya biologicheskaya laboratoriya, Batumi, Gruzinskaya SSR.

AGEKYAN, N. M.

"Problems of Improving the Soundproofing of Residential Buildings in Leningrad," Min. Higher Education USSR, Leningrad Order of Labor Red Banner Civil Engineering Inst., Leningrad, 1955. (Dissertation for the Degree of Candidate of Technical Sciences)

SO: Knizhnaya Letopis', No. 22, 1955, pp 93-105

30696. AGEKYAN, T. A.

Opredelenie funktsii plotnosti i koeffitsiyenta pogloshcheniya v ploskosti galaktiki. Uchen. Zapiski (Leningr. Gos. un-t. im. Zhdanova), Seriya matem. nauk, vyp. 18, 1949. S.93-110. -- Bibliogr: 7 nazv.

Agekyan, T. A. On the [illegible]

has been made to [illegible]
sun are optimum conditions computed, these could [illegible]

Source: Mathematical Reviews, Vol

Astronomical Observatory [illegible]

AGEKYAN, T.A.

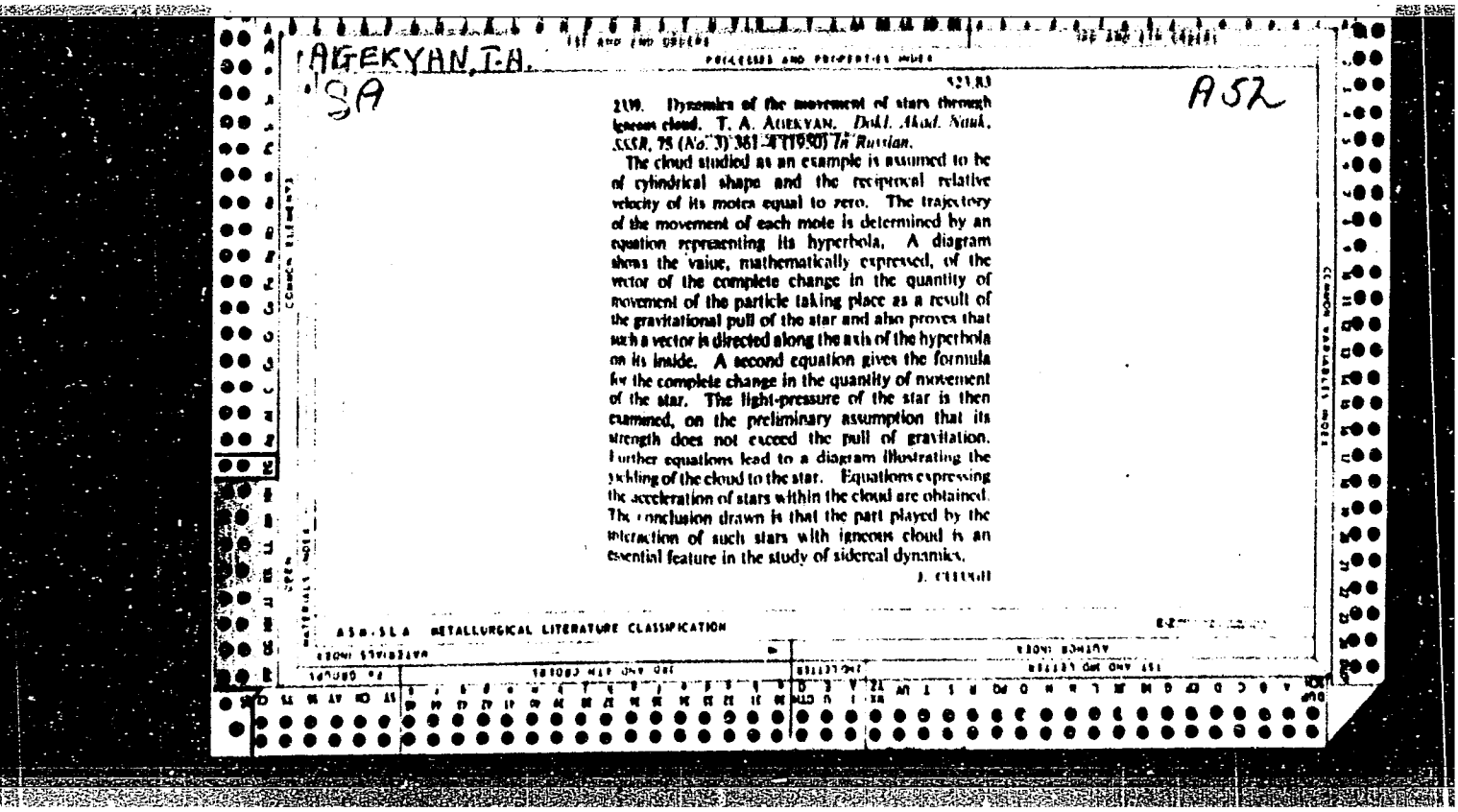
Determination of the density function and the absorption coefficient in the plane of the Galaxy. Uch.zap.Len.un. no.116:93-110 '49. (MLRA 10:3)

(Milky Way) (Stars--Distribution) (Absorption of light)

AGEKYAN, T.A.

Evaluation of the general number of stars in the Galaxi by extrapolation of the luminosity function. Uch.zap.Len.un. no.116:111-122 '49. (MLRA 10:3)

(Milky way) (Stars--Magnitudes)



AGEKYAN, T.A.

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2109. Dynamics of the movement of stars through igneous cloud. T. A. AGEKYAN. *Dokl. Akad. Nauk, SSSR*, 75 (No. 3) 361-4 (1950) *In Russian.*

The cloud studied as an example is assumed to be of cylindrical shape and the reciprocal relative velocity of its motes equal to zero. The trajectory of the movement of each mote is determined by an equation representing its hyperbola. A diagram shows the value, mathematically expressed, of the vector of the complete change in the quantity of movement of the particle taking place as a result of the gravitational pull of the star and also proves that such a vector is directed along the axis of the hyperbola on its inside. A second equation gives the formula for the complete change in the quantity of movement of the star. The light-pressure of the star is then examined, on the preliminary assumption that its strength does not exceed the pull of gravitation. Further equations lead to a diagram illustrating the yielding of the cloud to the star. Equations expressing the acceleration of stars within the cloud are obtained. The conclusion drawn is that the part played by the interaction of such stars with igneous cloud is an essential feature in the study of sidereal dynamics.

J. CHISHOLM

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

AGEKYAN, T.A.

[Stellar universe] Zvezdnaia vselennaia. Leningrad, Izd-vo Leningradskogo gos. ordena Lenina universiteta imeni A.A.Zhdanova, 1952. 174 p. [Microfilm] (MLRA 7:10)
(Cosmogony)

USSR/Universities - Sessions

Feb 52

"Annual Scientific Session of Leningrad University in 1951," P. G. Makarov, T. A. Agekyan, G. Drukarev, N. Yanovskaya, G. V. Golodnikov, and S. M. Ariya

Vest Leningrad U, Ser Mat, Fiz, Khim, Vol 7, No 2, pp 184-190

The annual scientific session of Leningrad University took place 4-20 Feb 1952. The Math Section was subdivided into math, mechanics, and astronomy; the physics comprised also geophysics. The chemistry section dealt also with cooperation with industry.

PA 251T98

AGEKYAN, T. A.

USSR/Astronomy - Coplanarity Mar/Apr 52

"Coplanarity of Orbits of Trinary Stars," T.A. Agekyan, Astr Obs, Leningrad State U imeni Zhdanov

"Astron Zhur" Vol XXIX, No 2, pp 219-224

Problem concerning the coplanarity of orbits of multiple stars possesses considerable significance for the development of modern cosmogony. Soln of this problem would show possible analogies between multiple stars and the Solar system and would expedite resolution of the argument concerning the origin of binary and multiple stars. Proposes a method for detg the coplanarity of orbits of a set of trinary stars where the orbit has been computed for a close pair of stars. Concludes that a set of trinary stars possesses partial coplanarity. Submitted 10 Jul 51.

216T70

216T70

AGEKYAN, T.A.

Dynamics of the passage of stars through hydrogen clouds.
Uch.zap.Len.un. no.153:39-47 '52. (MLRA 8:6)
(Stars--Proper motion)

AGEKYAN, T.A.

Causes of increase in the residual velocities of stars. Uch. zap. Len. un. no. 153:48-59 '52. (MLRA 8:6)
(Stars--Proper motion)

AGEKYAN, T. [A.]

Coplanarity of orbits of multiple stars. Vop.kosm. 3:63-84 '54.
(Stars, Double--Orbits)(Stars,Triple—Orbits)(MLRA 8:3)

AGEKYAN, T. A.

AID P - 381

Subject : USSR/Astronomy

Card 1/2 Pub. 8 - 11/12

Author : Ikaunieks, Ya.

Title : Review of the book: "T. A. Agekyan. Star Universe"

Periodical : Astron. zhur., v. 31, 3, 299-301, My-Je 1954

Abstract : The book was published in 1952 by the Leningrad State University in 176 pages and 10,000 copies, and edited by Prof. A. N. Deych. The text contains: 1) the history of the calculation of the number of stars; 2) the proper motions of stars; 3) the great variety of stars in size, constitution, brightness, etc.; 4) the light and dark diffused clouds and nebulae; 5) the other galaxies; and 6) the evolution of the stellar world. Many tables, examples. Criticism is made of some definitions given without explanation, and of some incorrect statements. It is further stated that the book is already out-of-date in some parts. The results of the theory of relativity are not introduced. The edition is very poorly published and a second edition is advised.

Astron. zhur., v. 31, 3, 299-301, My-Je 1954 AID P - 381

Card 2/2 Pub. 8 - 11/12

Institution : Not given

Submitted : No date

AGEKYAN, T.A.

Distribution of true configurations of triple stars. Astron.zhur. 31 no.6:544-549 N-D '54. (MLRA 8:1)

1. Leningradskiy gosudarstvennyy universitet imeni A.A.Zhdanova.
(Stars, Triple)

AGEKYAN, Tateos Artem'yevich; DEYCH, A.N., doktor fiziko-matematicheskikh nauk, redaktor.

[Origin of the sun and stars] O proiskhozhdenii solntsa i zvezd. Leningrad, Vses. ob-vo po rasprostraneniiu polit. i nauchn.znanii, Leningradskoe otdelenie, 1955. 31 p. (MIRA 8:4)
(Cosmogony)

AGEKYAN, Tateos Artem'yevich; SAMSONENKO, L.V., redaktor; AKHLAMOV, S.N., tekhnicheskiy redaktor.

[Stellar universe] Zvezdnaia vselennaia. Moskva, Gos.izd-vo tekhniko-teoret.lit-ry, 1955. 235 p. (MLRA 9:1)
(Stars)

AGEKYAN, T.A.

Fluctuations in the visible distributions of stars. Astron.zhur.32 no.5:416-424 S-O '55. (MLRA 9:1)

1.Leningradskiy gosudarstvennyy universitet imeni A.A.Zhdanova.
(Stars--Distribution)

AGEKYAN, T.A.; KAVRAYSKAYA, K.V.; PLYUGIN, G.A.; STRUGATSKIY, B.N.; SHISHKINA, G.A.

An indication of the interaction of stars and diffuse matter. Astron.zhur. 33 no.5:679-681 S-O '56. (MLRA 9:12)

1. Astronomicheskaya observatoriya Leningradskogo gosudarstvennogo universiteta.
(Stars) (Interstellar matter)

AGEKYAN, T. A.

25-9-14/40

AUTHOR: Agekyan, T.A., Candidate of Physico-Mathematical Sciences, Leningrad

TITLE: Galaxy and Metagalaxy (Galaktika i metagalaktika)

PERIODICAL: Nauka i Zhizn', 1957, # 9, p 28-31 (USSR)

ABSTRACT: The author discusses various problems of astronomy, pointing out that many phenomena of the Galaxy need more thorough and specified investigation. The main difficulties in studying the Galaxy are: the enormous distances that separate its stars from the observer, which renders it difficult to detect their movements and the gases and clouds of minute cosmic particles that obscure them, distorting their shape or obscuring them entirely.

The Galaxy, of which the earth forms a part, is composed of stars, planetoids and possibly still unidentified celestial objects. It contains an estimated 150 billion stars which are arranged in small groups or vast accumulations which often comprise thousands of astral systems. One of the most characteristic features of our Galaxy, the Milky Way, spreads across the entire sky and shows many dark spots and tufts, which are caused by the irregular distribution of light originating from giant and

Card 1/2

Galaxy and Metagalaxy

supergiant stars. The latter occur in separate groups - so-called associations - as established by Academician V.A. Ambartsumyan. With little success astronomers have tried to penetrate into the unlimited world behind our Galaxy. It is known that thousands of other astral systems exist in the universe, but they are so far away that they can only be seen through the most powerful telescopes. It is presumed that they form one gigantic system - the metagalaxy. The other galaxies have the shape of elipses, spirals with a central core or are of quite irregular form. In 1949, Soviet scientists, A.A. Kalinyak, V.I. Krasovskiy and V.B. Nikonov, photographed the core of our Galaxy and could prove that it belongs to the spiral type as shown in Figure "b". The lately developed radiotelescopes which are able to receive radio waves from the galaxies located at 10 - 20 billion light-years from the earth will greatly contribute to advance the study of astral systems.

There are seven figures.

AVAILABLE: Library of Congress

Card 2/2

AGEKYAN, T. A.

33-3-8/32

AUTHOR: Agekyan, T. A.

TITLE: The theory of fluctuations in the number of observed galaxies. (Teoriya fluktuatsiy chisla nablyudaemykh galaktik)

PERIODICAL: "Astronomicheskiy Zhurnal" (Journal of Astronomy), 1957, Vol.34, No.3, pp. 371-378 (U.S.S.R.)

ABSTRACT: It has been assumed up to now that observed fluctuations in the number of galaxies per unit area of the sky can be explained either by the influence of the patchy structure of absorbing matter, or by the tendencies of galaxies to form clusters. In reality we have to do with the combined effect of both of these factors. In the present paper, V.A. Ambartsumyan's equation (1), (2) is generalised by assuming that, on the one hand, radiating and absorbing matter are each distributed in space according to some law, and without fluctuations and on the other hand, they form patches also distributed according to some law but with natural fluctuations. The equations are solved by the method of moments and applied to fluctuations in the number of galaxies. The solution, which accounts for the action of these two factors, shows that the parameters characterising the structure of dark matter can be separated from the parameters, determining the distribution of galaxies

Card 1/2

The theory of fluctuations in the number of observed galaxies. (Cont.)

in the Metagalaxy. The theory is applied to the counts of galaxies made by Hubble, Shapley and Shane, and Virtanen. The result shows that the predominant number of galaxies in the Metagalaxy belong to small clusters, with the mean number of non-dwarf galaxies $\bar{g} = 8.3 \pm 1.6$. The result $\bar{g} < 287$ derived by Neuman, Scott and Shane, using the counts found by Shane and Virtanen, is incorrect and is explained by the fact that the patchy structure of absorbing matter was not taken into account. Small groups of galaxies, like the local system of galaxies, and not gigantic clusters, as the cluster in Virgo, Corona Borealis, etc., are characteristic of the Metagalaxy. The following were also derived: the mean absorption in one cloud, which for the above mentioned counts is: $0^m.46$, $0^m.39$, $0^m.24$, and the mean absorption in the direction to the galactic pole: $0^m.39$, $0^m.26$, $0^m.85$. There are 8 references, 3 of which are Slavic.

ASSOCIATION: Leningrad State University im. A.A. Zhdanov. (Leningradskiy Gosudarstvennyy Universitet imeni A.A. Zhdanova)

SUBMITTED: December 6, 1956.
AVAILABLE: Library of Congress

Voprosy kosmogonii, t. 6 (Problems in Cosmogony, Vol. 6) Moscow, Izd-vo AN SSSR, 1958. 367 p. 2,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Astronomicheskiy sovet.

ARTICLES

REPORTS

AGEKYAN, T. A.: Doc Phys-Math Sci (diss) -- "Problems of the dynamics and structure of star systems". Leningrad, 1958. 16 pp (Leningrad Order of Lenin State U im A. A. Zhdanov), 150 copies (KL, No 3, 1959, 108)

AGEKYAN, T.A.

Interaction of stars with the diffuse matter [with summary in English].
Vop.kosm. 6:221-237 '58. (MIRA 11:10)
(Stars) (Cosmic dust)

AGEKYAN, T.A.

Evolution of rotating systems of gravitating bodies [with summary in English]. Astron. zhur. 35 no.1:26-36 Ja-F '58. (MIRA 11:3)

1. Leningradskiy gosudarstvennyy universitet im. A.A. Zhdanova.
(Mechanics, Celestial)

33-35-3-11/27

AUTHOR: Agekyan, T.A.

TITLE: On the Change of the Rotational Velocity of Stars During Evolution (Ob izmenenii v khode evolyutsii rotatsionnoy skorosti zvezd)

PERIODICAL: Astronomicheskiy zhurnal, 1958, Vol 35, Nr 3, pp 424-433 (USSR)

ABSTRACT: According to the spectrum-rotational velocity diagram when passing from stars of early spectral classes to later spectral classes, the decrease of rotational velocity is accelerated, while the decrease in mass is slowed-down. Therefore there must act a mechanism which for stars of late spectral classes increases the loss of moment per unit of lost mass. This mechanism is such that the matter ejected by the star in the direction coinciding with the direction of rotational velocity has an advantage in overcoming the gravitational (and possibly some other) field of the star, and the moment carried away by a unit of mass of this matter is larger than the mean moment per unit of mass of matter on the surface of the star. (This scheme was already formerly used by the author [Ref 12] for the investigation of the evolution of gravitating body systems).

An expression has been found for the surplus relative moment φ

Card 1/ 3

carried away by ejected matter in dependence on the rotational velocity φ, the mean velocity of the ejected matter $\bar{v}$, and the critical velocity on the surface of the star ω_k. From this expression it follows that for stars of later spectral classes φ should essentially increase.

A homogeneous star, whose surface is "kinematically cooled" because the surplus moment is carried away from the surface when mass is lost, is considered. As a result of viscosity and convection the slowing-down or rotation will be passed to the inner regions of the star. On the basis of a complete analogy with the problem of thermal propagation a formula has been derived which connects the change of the rotational velocity of the star with the surplus moment that is carried away, the radius, the period of time and the value and kinematic viscosity. The formula has been applied to the spectrum-rotational velocity diagram and values of φ and $\bar{v}$ have been derived for the transitions A5-F0, F0-F5 and F5-F9. The proposed mechanism gives a satisfactory explanation of the course of rotational velocity in dependence on the spectral class of the star.

There are 5 tables, and 13 references, 6 of which are Soviet, 6 American, and 1 Swedish.

On the Change of the Rotational Velocity of Stars During Evolution 33-35-3-11/27

ASSOCIATION: Astronomicheskaya observatoriya Leningradskogo gosudarstvennogo universiteta ((Astronomical Observatory of the Leningrad State University)

SUBMITTED: December 2, 1957

Card 3/3

PHASE I BOOK EXPLOITATION SOV/3405

Soveshchaniye po voprosam kosmogonii. 6th, Moscow, 1957

Vnegalakticheskaya astronomiya i kosmologiya; trudy soveshchaniya (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: L.V. Samsonenko; Tech. Ed.: G.N. Shevchenko; Editorial Board: D.A. Frank-Kamenetskiy (Resp. Ed.) Professor; B.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, theory of relativity, red shift, radio astronomy, formation of chemical

Card 1/8

elements, thermodynamics of the universe, entropy, etc. No personalities are mentioned. There are references following most of the reports.

TABLE OF CONTENTS:

3(1),16(1) SOV/33-36-1-6/31

AUTHOR: Agekyan, T.A.

TITLE: The Probability of a Stellar Approach With a Given Variation of Absolute Velocity

PERIODICAL: Astronomicheskiy zhurnal, 1959, Vol 36, Nr 1, pp 41-53 (USSR)

ABSTRACT: In the present paper the author proposes a method which allows to reduce concrete problems of the influence of an irregular field in stellar systems to the problem of accidental Markov processes. Under the assumption that the parameters which characterize the field of the stellar system and the considered problem are known, the author finds the probability that during the time dt there will be an approach of a star with the star of the field so that the square of its velocity will variate by a value between Δv^2 and $\Delta v^2 + d\Delta v^2$. The author gives a formula for the probability for the general case of an arbitrary function of mass distribution. The author gives an essentially

Card 1/2

The Probability of a Stellar Approach With a Given Variation of Absolute Velocity SOV/33-36-1-6/31

simplified formula for the probability for the case that all stars of the field are of equal mass if that mass is the same as that of the considered star or zero.
There is 1 table and 4 references, 1 of which is Soviet, 2 American, and 1 English.

ASSOCIATION: Astronomicheskaya observatoriya Leningradskogo universiteta (Astronomical Observatory of the Leningrad University)

SUBMITTED: April 18, 1958 (initially)
and September 25, 1958 (after revision)

Card 2/2

3(1) SOV/33-36-2-10/27

AUTHOR: Agekyan, T.A.

TITLE: The Velocity Distribution Function and the Rate of Dissipation in Systems of Gravitating Bodies

PERIODICAL: Astronomicheskiy zhurnal,1959,Vol 36,Nr 2,pp 283-294 (USSR)

ABSTRACT: The present paper is based on a preceeding one [Ref 8] in which the author obtained expressions for the probability of an approach of a star under consideration with a star of a field, the relative change of the square of the star velocity being given. In the present paper two particular cases are investigated : A) All the stars of the field have equal mass = the mass of the considered star ; B) all the stars of the field have equal mass, the considered star is of mass zero. The author deduces an equation of balance and obtains by an approximate solution of this equation the velocity distribution function in both cases. Then an expression for the rate of dissipation is formed. In case A) this rate turns out to be smaller than in previous determinations. Several general conclusions are made. The author mentions V.A. Ambartsumyan.

Card 1/2

The Velocity Distribution Function and the Rate of Dissipation in Systems of Gravitating Bodies SOV/33-36-2-10/27

There are 2 figures and 8 references, 3 of which are Soviet, 4 American, and 1 English.

ASSOCIATION: Astronomicheskaya observatoriya Leningradskogo gosudarstvennogo universiteta (Astronomical Observatory of the Leningrad State University)

SUBMITTED: April 18, 1958

Card 2/2

3(1)

AUTHOR: Agekyan,T.A. SOV/33-36-3-27/29

TITLE: Review of Perel',Yu.G. "Development of the Ideas on the Universe", Fizmatgiz, 1958

PERIODICAL: Astronomicheskiy zhurnal,1959,Vol 36,Nr 3,pp 553-554 (USSR)

ABSTRACT: In a very intuitive manner the book represents the historical development of the ideas of the universe. The author lays stress upon the ideas of the eastern materialists. The reviewer (Agekyan) proposes some changes for the further editions, e.g. to mention that the laws of Kepler can be derived by computation.

SUBMITTED: March 25, 1959

Card 1/1

EYGENSON, Moris Semenovich; AGEKYAN, T.A., red.; KOSTYAKOVA, Ye.B., red.; MURASHOVA, N.Ya., tekhn.red.

[Extragalactic astronomy; introduction to the study of galaxies] Vnegalakticheskaia astronomiia; vvedenie v izuchenie galaktik. Moskva, Gos.izd-vo fiziko-matem.lit-ry, 1960. 414 p. (MIRA 14:2)

(Galaxies)

AGEKYAN, T.A.

Accounting for the multiplicity of stellar approaches in the theory of irregular forces. Astron.zhur. 38 no.6:1055-1064 N-D '61. (MIRA 14:11)

1. Leningradskiy gosudarstvennyy universitet im. A.A.Zhdanova.
(Mechanics, Celestial)

S/722/62/000/000/004/009

AUTHOR: Agekyan, T. A.

TITLE: States in the evolution of stellar systems.

SOURCE: Trudy Tret'yego s"yezda Vsesoyuznogo astronomo-geodezicheskogo obshchestva, 8-11 Aprelya 1960 g. Moscow. Izdatel'stvo Akademii nauk SSSR, 1962, 105-10[illegible]

TEXT: Star clusters, galaxies, and galaxy clusters may in their formative period be affected by nongravitational forces; later stages of their development, however, are governed primarily by gravitational forces. Four states or stages can be distinguished: (I) A nonstationary state; (II) a state that is stationary in a regular field, but nonstationary in an irregular field. (III) a quasi-stationary state in every point of a system; (IV) a quasi-stationary state of the whole. The transition from I to II is primarily due to the mixing action of a regular force field. The time required to transit from I to II is

$$T_I = 2 / \sqrt{G\nu} , \qquad (1)$$

where G is the gravitational constant and ν is the mean density of the system in state II. The transition from II to III is produced by an irregular force field. The time required equals the greatest relaxation time of the points of the given region:

$$T_{II} = \frac{N}{15 \log \frac{N}{2} \sqrt{G\nu}} , \qquad (2)$$

Card 1/3

States in the evolution of stellar systems. S/122/62/000/004/[illegible]

where N is the total number of bodies in the system. The ratio

$$\frac{T_{II}}{T_I} = \frac{N}{\infty \log \frac{R_s}{r_s}} \qquad (3)$$

shows that in systems with less than [illegible] bodies T_{II} is shorter than T_I, and, hence, a system transits directly from state I to state III, thus, multiple stars and thin clusters pass directly into the quasistationary state, whereas heavy clusters must first pass into state II and then evolve into state III. In the transition from III to IV, irregular forces, acting as viscous forces, effect a "thermal diffusion" and smooth the dispersion of residual velocities throughout the system. T_{II}, the transition time from III to IV, is proportional to the mean linear velocity due to the rotation of a system and is inversely proportional to the mean residual velocity of the bodies in the system: in a nonrotating system it is zero, whereas in rotating galaxies it is of the same order of magnitude as T_{II}. The following list of states is compiled: State I: Stellar associations. Irregular galaxies, galactic clusters of the type of the Virgo cluster. State II: Peripheral regions of spiral galaxies. Galaxy clusters of the type of the Coma Berenices cluster. Spherical clusters (?). Elliptical galaxies (?). State III: Elliptical galaxies (?). Circumnuclear regions of spiral galaxies. State IV: Nuclei of spiral galaxies. Scattered star clusters. Moving clusters. Flare stars. Spherical clusters (?). I Soviet reference.

Card 2/3

States in the evolution of stellar systems. S/722/6[illegible]/000/004/009

ASSOCIATION: None given.

Card 3/3

AGEKYAN, T.A.

Spherical systems of stars and galaxies at early stages of evolution.
Vest. LGU 17 no.1:152-161 '62. (MIRA 15:1)
(Cosmic physics)

AGEKYAN, T.A.; KLOSOVSKAYA, Ye.V.

Determining the law of galactic rotation from radio observation data. Vest. LGU 17 no.13:103-112 '62. (MIRA 15:7)
(Galaxies) (Radio astronomy)

AGEKYAN, T.A.; VORONTSOV-VEL'YAMINOV, B.A.; GORBATSKIY, V.G.; DEYCH, A.N.; KRAT, V.A.; MEL'NIKOV, O.A.; SOBOLEV, V.V.; MIKHAYLOV, A.A., otv. red.; KULIKOV, G.S., red.; AKSEL'ROD, I.Sh., tekhn. red.

[Course on astrophysics and stellar astronomy]Kurs astrofiziki i zvezdnoi astronomii. 2. izd. Moskva, Fizmatgiz. Vol.2. [By]T.A. Agekian i dr. 1962. 688 p. (MIRA 16:1)
(Astrophysics) (Stars) (Nebulae)

AGEKYAN, T.A.; PETROVSKAYA, I.V.

Density distribution in spherical clusters of stars and galaxies. Uch.zap.LGU no.307:187-201 '62. (MIRA 15:9)
(Stars--Clusters)
(Galaxies)

AGEKYAN, T.A.

Spherical star clusters in a quasi-steady state. Astron.zhur. 40 no.2:318-328 Mr-Ap '63. (MIRA 16:3)

1. Leningradskiy gosudarstvennyy universitet im. A.A.Zhdanova.
(Stars—Clusters)

ACCESSION NR: AP4040845 S/0033/64/041/003/0523/0530

AUTHOR: Agekyan, T. A.

TITLE: Spherical star clusters in a quasi-stationary state. Part II

SOURCE: Astronomicheskiy zhurnal, v. 41, no. 3, 1964, 523-530

TOPIC TAGS: astronomy, star cluster, spherical star cluster, star, stellar residual velocity, stellar velocity, centroid, velocity dispersion, stellar residual velocity dispersion, stellar density, galactic star cluster, globular star cluster

ABSTRACT: A solution has been obtained for a system of equations describing the state of a quasi-stationary cluster in an irregular field. The author has determined density, velocity of the centroid, dispersion of residual velocities and potential as a function of the distance ρ from the center. It was found that the cluster has a clearly defined boundary. Dispersion of stellar velocities decreases with an increase of ρ and becomes equal to zero at the boundary of the cluster. The velocity of the centroid is directed toward the center of the cluster and increases with an increase of ρ. It has been possible to derive an analytical dependence between the radius of the cluster, the mean mass of stars and the values of the dispersion of residual velocities and stellar density at the center of the

Card 1/2

ACCESSION NR: AP4040845

cluster. The author determines the rate of dissipation of stars from elements of volume of a cluster as a function of ρ. The solution is applied to typical open and globular clusters. For example, it is found that in an open cluster 0.00109% of the stars will dissipate from the cluster in a million years, assuming that the cluster is in a quasi-stationary state, contains 100 stars and has a radius of 3 parsecs. In the case of a globular cluster with $3 \cdot 10^5$ stars, with a radius of 20 parsecs, and with certain other parameters, the stellar density at the center will be 1,360 stars per cubic parsec and the mean square velocity at the center will be 9.95 km/sec. Rate of compression would be 67.5 m/sec. In a million years 0.0000670% of the stars would dissipate from such a cluster. This article is part II of an earlier study by the author (Astron. zh., 40, 318, 1963). "In conclusion, the author wishes to thank N. P. Kanareva who was in charge of the computations." Orig. art. has: 24 formulas, 1 figure and 1 table.

ASSOCIATION: Astronomicheskaya observatoriya Leningradskogo gosudarstvennogo universiteta (Astronomical Observatory, Leningrad State University)

SUBMITTED: 16Sep63 DATE SEL: 15Jul63 ENCL: 00

SUB CODE: AA NO REF SOV: 002 OTHER: 001

Card 2/2

AGEYAN, [illegible]

[illegible]bility of clusters and groups of galaxies. Astron.zhur. 41 no.1:151-157 Ja-F '64. (MIRA 17:4)

1. Astronomicheskaya observatoriya Leningradskogo gosudarstvennogo universiteta.

AGEKYAN, T.A.; PETROVSKAYA, I.V.; FESENKO, B.I.

Rotation of the galax from radio observation data. Astron. zhur. 41 no.6:1027-1037 N-D '64 (MIRA 18:1)

1. Astronomicheskaya observatoriya Leningradskogo gosudarstvennogo universiteta.

AGEKYAN, T.A.; ANOSOVA, Zh.P.

Number of unstable systems among triple stars and galaxies. Uch. zap. LGU no.326:103-117 '64. (MIRA 18:5)

AGEKYAN, T.A.

Quasi-stationary globular star clusters. Trudy Astrofiz. inst. AN Kazakh. SSR 5:30-45 '65. (MIRA 18:6)

AGEKYAN, T.A.; YAKOVLEVA, T.D.

Determining masses of rotating galaxies. Uch.zap.LGU no.328:139-145 '65. (MIRA 18:10)

AGEKYAN, V. Kh.

Agekyan, V. Kh. "Hemodynamic movements under the influence of the Dzhermuk mineral baths, a careful examination", in the collection: Bal'neo-klimatich, kurort Dzhermuk, Issue 1, Yerevan, 1948, p. 118-44.

SO: U-2888, 12 Feb. 53, (Letopis' Zhurnal 'nykh Statey, No. 2, 1949).

AGEKYAN, V. Kh.

Agekyan, V. Kh. "Treatment of ailments of the legs and feet at the Dzermuk spa", in the collection: Bal'neo-klimatich. kurort Dzhermuk, Issue 1, Yerevan, 1948, p. 167-73.

SO: U-2888, 12 Feb. 53, (Letopis' Zhurnal 'nykh Statey, NO. 2, 1949).

AGEKYAN, V. KH.

7902. Mnatsakanyan, T. S. I AGEKYAN, V. KH. Kurorty armyanskoy ssr. yerevan, 1954. 36 s. 20 sm. (O-vo po rasprostraneniyu polit. I nauch. znaniy arm. ssr) 3.000 EKZ. 50 K- NA ARM. yaz.--(55-3043)

614.213(42.25)

SO: Knizhnaya Letopis', Vol. 7, 1955

AGEKYAN, V.Kh., dotsent (Yerevan)

Discussion of A.M.Sigal's article "Third (coronary circulation and its significance in cardiology." Terap.arkh. 28 no.5:76-80 '56.
(HEART, blood supply, (MLRA 9:10)
(Rus))

AGHKYAN, V.Kh., dotsent (Yerevan)

On one critique. Klin. med., 34 no.2:89 F '56 (MLRA 9:6)

(ADENSKII, A.D.) (MANOMETER)

4.2180
24.6200
26.2620

36882
S/181/62/004/004/026/042
B102/B104

AUTHORS: Gross, Ye. F., Kaplyanskiy, A. A., and Agekyan, V. T.

TITLE: Effect of oriented deformation on the spectra of direct and indirect excitation of the exciton ground state in Cu_2O crystals

PERIODICAL: Fizika tverdogo tela, v. 4, no. 4, 1962, 1009-1015

TEXT: Gross and Kaplyanskiy had already shown (FTT, 2, 1676, 2968, 1960) that uniaxial compression of Cu_2O crystals leads to splitting of the first component (n=1, 6125 Å) of the yellow exciton series and of the two edges (6165 and 6085 Å) of continuous absorption. For $P \parallel C_4$ and $P \parallel C_3$ a doublet arises, with $P \parallel C_2$ - a triplet; P is the compression direction. These studies were continued. While the previous measurements were made in "transverse" geometry ($L \perp P$), now they were made in "longitudinal" one ($L \parallel P$); L is the direction of light propagation. The measurements were made again at 77°K and with ИСП-51 (ISP-51) spectrograph and an УФ-85

Card 1/3

(UF-85) camera. The compression load was 10-20 kg/mm^2. Results: With $P \parallel C_4$, line and edges were only red-shifted and not polarized. With $P \parallel C_3$, the line was shifted toward shorter waves, the edges were split into doublets and red-shifted; no polarization. With $P \parallel C_2$, the line was slightly red-shifted, the edge was split into a triplet and the spectrum was polarized. With $E \parallel C_4$ ($C_4 \perp P$), only the first edge was seen which was red-shifted; with $E \perp C_4$, both edges were seen, the first was slightly red-shifted, the second was shifted considerably toward shorter waves. The results of both studies ($L \perp P$ and $L \parallel P$) were analyzed on the basis of Elliott's theory (Proc. Internat. Confer. Semicond., Prague, 408, 1960; Phys. Rev. 124, 340, 1961) of the connection between these edges and indirect exciton transitions in the band n=1 (combined exciton-phonon transitions). The good agreement between this theory and the experimental results speaks in favor of the theory. The symmetry type of the phonon involved is assumed to be Γ_{12}^-. It can also be assumed that exciton migration takes place in Cu_2O. There are 1 figure and 1 table.

Card 2/3

Effect of oriented deformation... S/181/62/004/004/026/042
B102/B104

ASSOCIATION: Fiziko-tekhnicheskiy institut im.A. F. Ioffe AN SSSR Leningrad (Physicotechnical Institute imeni A. F. Ioffe AS USSR, Leningrad)

SUBMITTED: December 13, 1961

Card 3/3

S/181/62/004/006/043/051
B108/B138

AUTHORS: Gross, Ye. F., Kaplyanskiy, A. A., Agekyan, V. T., and Bulyanitsa, D. S.

TITLE: Polarization of the yellow exciton series in the Cu_2O spectrum on deformation of the crystals

PERIODICAL: Fizika tverdogo tela, v. 4, no. 6, 1962, 1660-1666

TEXT: The effect of uniaxial compression of Cu_2O crystals along the <100>, <110>, and <111> axes on the yellow exciton series was studied. A long-wave displacement of the series was observed. Anisotropic absorption was found but there was no splitting of the yellow series. Polarization of the absorption of the yellow series on deformation is explained by "direct forbidden" transitions (R. J. Elliott. Phys. Rev., 108, 1384, 1957) into exciton states and by band-to-band transitions, which are due to nearby excited bands. There are 1 figure and 1 table.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR, Leningrad (Physicotechnical Institute imeni A. F. Ioffe AS USSR, Leningrad)

~~Card 1/2~~

S/181/62/004/
B102/B104

AUTHORS: Gross, Ye. F., Kaplyanskiy, A. A., and Agekyan, V. T.

TITLE: Deformation-induced splitting of the blue and the dark blue exciton series in the Cu_2O crystal spectrum

PERIODICAL: Fizika tverdogo tela, v. 4, no. 8, 1962, 2169 - 2178

TEXT: Single-crystal Cu_2O plates cut in parallel to (100), (110) or (111) planes were compressed at 77°K in the directions ⟨100⟩, ⟨110⟩ or ⟨111⟩ respectively. It was then examined how the compression influenced the reflection spectrum (normal reflection, observation perpendicular to pressure P direction). P∥[001]; Broad and almost symmetrical splitting, doublet components polarized. P∥[111]; no splitting, no polarization; P∥[110]; medium and almost symmetrical splitting, doublet components polarized. The position of the doublet line (ν) related to that of the original line (ν_0) depends not only on the direction but also on the magnitude of the pressure; $\Delta = \nu - \nu_0$ depends lincarly on p. A calcula tion of the deformation-induced line splitting shows that at $\vec{K} = 0$ the

Card 1/3