BABADZHANOV, P.B.

Studying the relationship of-meteors with other minor bodies of the solar system. Biul. Stal. astron.obser. no.22/23:59-61 '57. (MIRA 11:7)

(Meteors) (Solar system)

IVANIKOV, V.I.; SOLOV'YEV, A.V., otv.red.; BABADZHANOV, P.B., red; DOBROVOL'SKIY, O.V., red; KATASEV, L.A., red.; BAKHAREV, red.; FROLOV, tekhn.red.

[Methods used in photographic photometry of meteors] O metodakh fotograficheskoi fotometrii meteorov. Stalinabad. Izd-vo Akad. nauk Tadzhik. SSR. 1957. 45 p. (Stalinabad. Astronomicheskaia observatoriia. Biulleten'. No. 21) (MIRA 11:8)
(Meteors) (Photometry, Astronomical)

SAIDOV, Kasym Khasanovich; SOLOV'YEV, A.V., otv.red.; BABADZHANOV, P.B., red.; DOBROVOL'SKIY, O.V., red.; KATASEV, L.A., red.; MAKHMUDOV, A.M., red.; VINOGRADSKAYA, S.N., red.izd-va; FROLOV, P.M., tekhn. red.

[Spectrophotometry of Beta Lyrae]Spektrofotometriia β Lira. Stalinabad, Izd-vo AN Tadzhikskoi SSR, 1957. 97p. (Stalinabad. Astronomicheskaia observatoriia. Trudy, vol.66) (MIRA 12:10)
(Spectrophotometry) (Stars, Variable)

AUTHORS: Kharadze, Ye. K., Member, AS Georgian SSR 30-58-3-8/45
Kebuladze, V. V.)
Bukhnikashvili, A. V.) Candidates of Physico-Mathematical Sciences

Otorbayev, K. O. and Babadzhanov, P. B.

TITLE: According to the Plan of the International Geophysical Year (Po planu mezhdunarodnogo geofizicheskogo goda) Investigations by the Scientists of Georgia, the Kirghiz Republic and of Tadzhikistan (Issledovaniya uchenykh Gruzii, Kirgizii i Tadzhikistana)

PERIODICAL: Vestnik Akademii Nauk SSSR, 1958, Nr 3, pp. 56-58 (USSR)

ABSTRACT: The investigations carried out by Georgia are concentrated in the Institute of Geophysics, in the Astrophysical Observatory Abastumani of the AS Georgian SSR, as well as in the institutions of the administration of the Hydrometeorological Service. The coordination of work is carried out by the Presidential Committee of the AS Georgian SSR under the presidency of president N. I. Muskhelishvili. The investigation in the fields of geomagnetic and geoelectric storms, as well as the

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According to the Plan of the International Geophysical Year Investigations by the Scientists of Georgia, the Kirghiz Republic and of Tadzhikistan

30-58-3-8/45

variations of the intensity of cosmic radiation is provided for in the working-plan. These stationary observations are carried out in the Geophysical Observatory Dushet and at the Station for Cosmic Radiation in Tbilisi. The observations are carried out since October 1st 1957 in a ionization chamber of the station Tbilisi. The observatory Abastumani carries out investigations concerning photo- and chromospheric formations on the sun and concerning the physical parameters of the upper atmosphere of the earth. A new telescope for solar investigations was set up in this observatory on the occasion of the Geophysical Year. The collaborators of AS Kirghiz SSR are to solve a series of important problems of modern glaciology by means of the example of glaciation of the Central Tyan'-Shan'. Both stationary and expeditionary investigations are carried out. The astronomic observatory Stalinabad of the AS Tadzhik SSR carries out investigations in the field of meteoric astronomy. The investigations are carried out by means of photographic, radiolocational and visual methods.

Card 2/2

KISELEVA, T.P.; FEDCHUN, M.S.; LATYPOV, A.A.; BABADZHANOV, P.B.; RUSSO, Yu.D.; CHUPRINA, R.I., nauchnyy sotrudnik

Results of photographic observations of artificial earth satellites. Biul.sta.opt.nabl.isk.sput.Zem. no.9:16-24 '59. (MIRA 13:3)

1. Glavnaya(Pulkovskaya)Astronomicheskaya observatoriya AN (SSSR (for Kiseleva). 2. Glavnaya Astronomicheskaya observatoriya AN USSR, Kiyev, nachal'nik stantsii nablyudeniy (for Fedchun). 3. Tashkentskaya astronomicheskaya observatoriya AN UzSSR, nachal'nik fotograficheskoy stantsii (for Latypov). 4. Institut astrofiziki AN Tadzhikskoy SSR, Stalinabad, nachal'nik stantsii fotonablyudeniy iskusstvennogo sputnika Zemli (for Babadzhanov). 5. Odesskaya astronomicheskaya observatoriya, nachal'nik stantsii nablyudeniy iskusstvennogo sputnika Zemli (for Russo). 6. Astrosovet AN SSSR (for Chuprina).
(Artificial satellites--Tracking)

BABADZHANOV, P.B.

Photographic observations of Perseids. Biul.Inst.astrofiz. AN Tadzh.SSR no.26:13-20 '59. (MIRA 13:5)
(Meteors--August)

BABADZHANOV, P.B.; SOSNOVA, A.K.

Photographic observations of meteors in 1957. Biul.Inst.astrofiz. AN Tadzh.SSR no.29:3-15 '60. (MIRA 14:2)
(Meteors) (Astronomical photography)

S/035/62/000/012/024/064
A001/A101

AUTHOR: Babadzhanov, P. B.

TITLE: The meteor seminar at Ashkhabad

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 12, 1962, 69, abstract 12A513 ("Byul. Komis. po kometam i meteoram Astron. soveta AN SSSR", 1961, no. 5, 54 - 55)

TEXT: A seminar was held at the Physico-Engineering Institute of the AS TurkmSSR on December 11 - 14, 1959. The seminar dealt with studies of physical properties of the Earth's atmosphere upper layers by means of visual and photographic meteor methods.

[Abstracter's note: Complete translation]

Card 1/1

DOBROVOL'SKIY, Oleg Vasil'yevich; BABADZHANOV, P.B., otv.red.; SERGEYEVA, L.V., red.izd-va; FROLOV, P.M., tekhn.red.

[Nonstable processes in comets and solar activity] Nestatsionarnye protsessy v kometakh i solnechnaia aktivnost'. Stalinabad, Izd-vo Akad. nauk Tadzhikskoi SSR, 1961. 194 p. (Akademiia nauk Tadzhikskoi SSR, Dushanbe. Institut astrofiziki. Trudy, vol. 8). (MIRA 16:5)
(Comets) (Sun)

43287
S/831/62/000/008/008/016
E032/E514

3.1230
3.2440

AUTHORS: Babadzhanov, P.B., Bakharev, A.M. and Rubtsov, L.N.

TITLE: Meteor observations at Dushanbe

SOURCE: Ionosfernyye issledovaniya (meteory). Sbornik statey, no.8. V razdel programmy MGG (ionosfera). Mezhduved. geofiz. kom. AN SSSR. Moscow, Izd-vo AN SSSR, 1962, 56-63

TEXT: The Institut astrofiziki Akademiya nauk Tadzhikskoy SSR (Institute of Astrophysics, Academy of Sciences, Tadzhik SSR) has carried out photographic, visual and radar meteor observations in accordance with the IGY programme. The photographic programme involved: 1) the study of the altitude, velocity and brightness of meteors with a view to determining the physical parameters of the upper layers of the atmosphere at 60-120 km above sea level; 2) comparison of these parameters with other data, e.g. rocket data so as to determine their seasonal variation, and 3) study of meteor radiants and orbits. The photography was carried out from two points separated by 13569 m. Each point was equipped with seven НАФА 3с/25 (NAFA 3s/25) cameras with (Уран-9 [Uran-9] objectives

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Meteor observations at Dushanbe S/831/62/000/008/008/010
E032/E514

6bjective diameter 10 cm, focal length 25 cm, frame size 18 x 24 cm). The angular range of each point was 60° from zenith, and each set of cameras was set up on an adjustable base controlled by a clock mechanism, so that star images remained stationary relative to the film. A special rotating shutter was used in front of the cameras at one of the points. All the observations were carried out on clear moonless nights using 30 min exposures at 10 min intervals. Between July 1, 1957 and December 31, 1958, 815 exposures were made. The visual observations of meteors and meteor trails were carried out with IGY-programme instructions. They were made in parallel with radar observations in June-September, 1958 but were not very extensive. In addition, observations of the Geminids were carried out on December 14-15, 1958 in accordance with the Czechoslovak programme. Altogether in 1957 and 1958, 127.7 hours were spent in observations of meteor trails and 96.9 hours were spent in observing telescopic meteors. The radar observations were made at 4.11 m (72.98 Mc/sec) at a pulse repetition frequency of 50 cps (pulse length 10 μsec, power per pulse 50-70 kW. The nine-element antenna was at 22° above the horizon, facing west. The

Card 2/3

Meteor observations at Dushanbe

S/831/62/000/008/008/016
E032/E514

minimum range was 120 km (shorter ranges were cut out by the presence of mountains). A calendar of the radar observations is reproduced. There are 2 tables.

Card 3/3

BABADZHANOV, P. B.; KASHCHEYEV, B. L.; KRAMER, Ye. N.; TSESEVICH, V. P.

"The Research of the Meteors during the IGY in the USSR."

xxpxxx
abstract presanted at the 13th Gen Assembly, IUGG, Berkeley, Calif, 19-31 Aug 63.

BABADZHANOV, Pulat Babadzhanovich; KRAMER, Yefim Naumovich; FEDYNSKIY, V.V., doktor fiz.-matem. nauk, otv. red.; VERSTAK, G.V., red.; GUS'KOVA, O.M., tekhn. red.

[Collection of articles of the Intergovernmental Committee for the Excecution of the International Geophysical Year] Sbornik statei Mezhduvedomstvennogo komiteta po provedeniiu Mezhdunarodnogo geofizicheskogo goda. Moskva, Izd-vo AN SSSR. No.12[Methods and some results of photographic studies of meteors] Metody i nekotorye rezul'taty fotograficheskikh issledovanii meteorov. 1963. 140 p. (MIRA 17:2)

1. Akademiya nauk SSSR. Mezhduvedomstvennyy komitet po provedeniyu Mezhdunarodnogo geofizicheskogo goda. V razdel programmy MGG. Ionosfera i meteory.

S/269/63/000/001/028/032
A001/A101

AUTHOR: Babadzhanov, P. B.

TITLE: The density of the upper atmosphere from photographic observations of meteors in 1957

PERIODICAL: Referativnyy zhurnal, Astronomiya, no. 1, 1963, 75, abstract 1.51.508 ("Byul. Komis. po kometam i meteoram Astron. soveta AN SSSR", 1961, no. 6, 35 - 39)

TEXT: The author presents the results of calculating the density of the atmosphere from the photographs of 34 meteors taken at the Institute of Astrophysics, AS TadzhikSSR (Dushanbe). The main information about these meteors is tabulated; the table contains numbers of meteors, date of observations, coordinates of radiant, extra-atmospheric velocity and mass, absolute photographic stellar magnitude at the point of the maximum luminosity, and altitudes of appearance, maximum luminosity and disappearance of meteors. The values of density calculated from deceleration and luminosity (in the initial part of the trajectory) of meteors are presented in tables and graphically; they are compared with the data of rocket measurements of the atmospheric density. There are 5

Card 1/2

The density of the upper atmosphere from...

references.

S/269/63/000/001/028/032
A001/A101

Author's summary

[Abstracter's note: Complete translation]

Card 2/2

ACCESSION NR: AT4024454 S/3010/63/000/013/0043/0048

AUTHOR: Babadzhanov, P. B.; Katasev, L. A.; Konopleva, V. P.; Kramer, Ye. N.

TITLE: Determination of atmospheric density, temperature and pressure from photographic observations of meteors

SOURCE: AN SSSR. Mezhduvedomstvennyy geofizicheskiy komitet. Geofizicheskiy byulleten', no. 13, 1963, 43-48

TOPIC TAGS: meteorology, meteor, atmospheric density, atmospheric pressure, atmospheric temperature, homogeneous atmosphere

ABSTRACT: Atmospheric density has been determined by Ye. N. Kramer on the basis of 50 photographs of meteors; P. B. Babadzhanov has determined atmospheric density and the height of the homogeneous atmosphere from 34 photographs of meteors; and V. P. Konopleva has obtained similar information from 10 meteor photographs. Kramer's formula is cited and a table of his results given. Babadzhanov's formula for density is also given and a table presents his results. Konopleva's formula and results are also given. Table 4 in the original compares the data obtained by the three authors for intervals of height of 5 km from 65 to 115 km. The results also are shown in Fig. 1 of the Enclosure. The results of all three agree well with Jacchia (Technical Report No. 4, Harvard Reprint, Ser. 11-32, 1949) but

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ACCESSION NR: AT4024454

systematically differ from the standard atmosphere tables published in the SSSR (1960). The reasons for the difference are discussed. The formula used by Babadzhanov and Konopleva for determining the height of the homogeneous atmosphere (H*) is cited and their results are shown in Table 1 of the Enclosure. These values were used to compute absolute temperatures; results are shown in Fig. 2 of the Enclosure. If density and temperature or the height of the homogeneous atmosphere are known it is possible to compute pressure by using the formula cited; results are shown in Fig. 3 of the Enclosure. It is shown that the meteor method makes it possible to determine atmospheric density, temperature and pressure at heights of 70-115 km. Orig. art. has: 4 figures, 13 formulas and 6 tables.

ASSOCIATION: MEZHDUVEDOMSTVENNY*Y GEOFIZICHESKIY KOMITET AN SSSR (Interdepartmental Geophysical Committee)

SUBMITTED:	00	DATE ACQ:	16Apr64	ENCL:	03
SUB CODE:	ES	NO REF SOV:	003	OTHER:	001

Card 2/5

ACCESSION NR: AT4024454

ENCLOSURE: 01

h, km	Height of homogeneous atmosphere, Babadzhanov	Height of homogeneous atmosphere, Konopleva	$H^{\circ}_{z,km}$	T°, K	pressure, mm Hg
70	7,30	6,87	7,08±0,21	237	
75	6,35	6,63	6,49±0,14	216	$2,51 \cdot 10^{-3}$
80	5,65	6,32	6,00±0,32	200	$7,65 \cdot 10^{-3}$
85	5,20	6,25	5,72±0,53	190	$4,10 \cdot 10^{-3}$
90	5,10	6,13	5,61±0,52	187	$1,62 \cdot 10^{-3}$
95	5,45	6,00	5,72±0,28	190	$6,48 \cdot 10^{-4}$
100	6,05	5,88	5,96±0,08	198	$2,69 \cdot 10^{-4}$
105	6,70	5,85	6,27±0,32	208	$1,12 \cdot 10^{-4}$

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ACCESSION NR: AT4024454

ENCLOSURE: 02

Fig. 1. Dependence of atmospheric density on height. 1 - Kramer's meteor observations; 2 - Konopleva's observations; 3 - Babadzhanov's observations; 4 - Jacchia's tables; 5 - SSSR standard atmosphere tables.

Card 4/5

ACCESSION NR: AT4024454

ENCLOSURE: 03

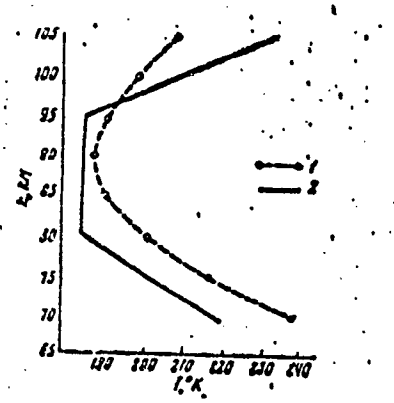

Fig. 2. Dependence of atmospheric temperature on height. 1 - meteor observations; 2 - standard atmosphere tables.

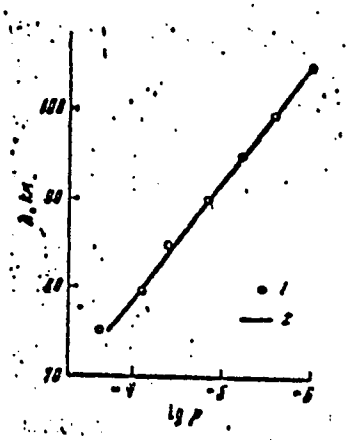

Fig. 3. Dependence of pressure on height. 1 - meteor observations; 2 - standard atmosphere data.

Card 5/5

ACCESSION NR: AR4021623 S/0269/64/000/002/0075/0075

SOURCE: RZh. Astronomiya, Abs. 2.51.563

AUTHOR: Babadzhanov, P. B.

TITLE: Results of photographic investigations of meteors at Dushanbe during the International Geophysical Year and period of International Geophysical Cooperation

CITED SOURCE: Byul. In-ta astrofiz. AN TadzhSSR, no. 36, 1963, 3-36

TOPIC TAGS: astronomy, meteor, atmospheric density, meteor stream, International Geophysical Year

TRANSLATION: A total of 545 meteors were photographed during the period July 1957 to December 1959 in accordance with the International Geophysical Year and International Geophysical Cooperation program; of these 545 meteors 360 were photographed from two points. More than half (181) of these observations were processed and the geocentric and heliocentric orbital elements of these meteors determined. On the basis of 150 photometrically processed meteors it was pos-

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ACCESSION NR: AR4021623

sible to determine the cross section of density of the earth's atmosphere between heights of 70 and 115 km. The results are compared with rocket measurement data on atmospheric density. Most of the meteors belong to streams and swarms. Five new swarms were identified, 2 of which are associated with comets. Bibliography of 10 titles. Author's abstract.

DATE ACQ: 09Mar64 SUB CODE: AS ENCL: 00

Card 2/2

BABADZHANOV, P.B.; KASHCHEYEV, B.L.; KRAMER, Ye.N.; [illegible]

Study of meteors during the IGY. Geofiz. biul. no.[illegible]-88 '64.
(MIRA 18:4)

L 52774-65 EWT(1)/EWG(v)/FCC/EWA(d)/EEC-4/EEC(t)/EWA(h) Po-4/Pe-5/Pq-4/
Pae-2/Peb/Pi-4 GW
ACCESSION NR: AT5009975 UR/3010/65/000/014/0083/0088

AUTHOR: Babadzhanov, P. B., Kashcheyev, B. L., Kramer, Ye. N., Tsesevich, V. P.

TITLE: The study of meteors during the IGY

SOURCE: AN SSSR. Mezhduvedomstvennyy geofizicheskiy komitet. Geofizicheskiy byulleten', no. 14, 1965, 83-88

TOPIC TAGS: IGY meteor study, atmospheric density, wind velocity, meteor incidence, meteor maximum brightness, meteor extinction

ABSTRACT: This is a survey of internationally collected data resulting from meteor observations during the IGY. Graphs are compiled: 1) showing the atmospheric density as a function of height; 2) giving the appearance altitude, maximum brightness altitude, and the disappearance altitude of the meteors as a function of their velocity; 3) comparing the theoretical brightness curves with the experimentally observed values; 4) showing prevalent wind velocity changes within the meteor zone of the atmosphere; and 5) attempting (unsuccessfully) to uncover some definite relation between the logarithm of the diffusion coefficient and the altitude of observation. Soviet observations and calculations were carried out mainly at Dushanbe, Odessa, and the Khar'kovskiy politekhnicheskiy institut (Khar'kov Polytechnic Institute). Orig. art. has: 2 formulas and 5 figures.

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L 52774-65
ACCESSION NR: AT5009975

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: ES, AM

NO REF SOV: 005 OTHER: 005

Card 2/2

BABADZHANOV, P.B.; KRAMER, Ye.N.

Preliminary results of photographing meteors by the instantaneous exposure method. Astron. zhur. 42 no.3:660-664 My-Je '65. (MIRA 18:5)

1. Institut astrofiziki AN Tadzhikskoy SSR i Odesskiy gosudarstvennyy universitet im. I.I.Mechnikova.

L 17773-66 FSS-2/EWT(1)/FCC/EWA(d)/T/EWA(h) IJP(c) GW

ACC NR: AP6006673 SOURCE CODE: UR/0203/66/006/001/0153/0156

AUTHOR: Babadzhanov, P. B.

ORG: Institute of Astrophysics, AN TadzhSSR (Institut astrofiziki AN TadzhSSR)

TITLE: Determining atmospheric temperature, pressure, and density from photographic observations of meteors

SOURCE: Geomagnetizm i aeronomiya, v. 6, no. 1, 1966, 153-156

TOPIC TAGS: meteor observation, atmospheric temperature, atmospheric pressure, atmospheric density, upper atmosphere

ABSTRACT: A method is proposed for determining the height of the uniform atmosphere as a basis for calculating atmospheric pressure, density, and temperature. The initial data were taken from 150 photographic observations of meteors made in Dushanbe during IGY-IGC-59. From these data, 119 cases were taken with smooth photometric curves. Meteors showing abrupt flashes or having maximum radiation at the ends of their paths were rejected. The results are compared with the data of VSA-60 rocket measurements and the method of least squares is used for deriving the

Card 1/2 UDC: 523.53:551.510.535

ACC NR: AP6006673

following regression equation for the height of the uniform atmosphere

$$H^* = 34.64 - 0.695h + 0.00405h^2. \quad (1)$$

The results of this formula may be used as a basis for determining the temperature distribution with respect to altitude.

$$H^* = RT/\mu g \quad (2)$$

where R is the gas constant; $\mu = 29$ is the molecular weight; g is acceleration due to gravity. The relationships $dp/p = -dh/H^*$ and $d\rho/\rho = -dh/H^*$ with regard to (1) may be used for determining atmospheric pressure density:

$$\ln p = \ln p_0 - \int_{h_0}^{h} \frac{dh}{H^*}; \quad \ln \rho = \ln \rho_0 - \int_{h_0}^{h} \frac{dh}{H^*}.$$

Satisfactory agreement is observed between meteor and rocket data on the variation in atmospheric pressure and density with altitude. These results show that the proposed method for calculating the height of the uniform atmosphere is preferable to previously used methods for studying the upper atmosphere on the basis of photographic observations of meteors. Orig. art. has: 3 figures and 10 formulas. [14]

SUB CODE: 04 SUBM DATE: 12Nov64/ ORIG REF: 007/ OTH REF: 003

ATD PRESS: 4208

Card 2/2 Sm/

ACC NR: AP7008916

SOURCE CODE: UR/0033/66/043/006/1306/0312

AUTHOR: Babadzhanov, P. B.; Kramer, Ye. N.

ORG: Astrophysics Institute, AN TadzhSSR (Institut astrofiziki AN TadzhSSR); Odessa State University (Odesskiy gos. universitet)

TITLE: Orbits of bright meteors from photographic observations at Dushanbe and Odessa

SOURCE: Astronomicheskiy zhurnal, v. 43, no. 6, 1966, 1306-1312

TOPIC TAGS: meteor observation, comet

SUB CODE: 03

ABSTRACT:

The photographic observations of meteors whose results are presented in this paper were made during the period 1957-1963 using cameras with objectives D = 100 mm, F = 250 mm and a field of view 40 x 50°. Panchromatic film was used (width 19 cm). Exposures were from 30 to 60 minute. Observations were at Dushanbe and Odessa. The following information is given for about 500 meteor observations: determination of time of flight; distribution of orbital elements; semimajor axis; orbital inclination; eccentricity; etc. Particular attention is given to meteor associations, especially the Perseids. The photographic observations of bright meteors confirmed their relationship to comets. The meteor bodies and comets have the same kinematic properties. According to Whipple's K criterion most orbits of bright meteors are of the cometary class. The identification of meteors for which K > 0 with asteroids has no adequate basis because no single kinematic criterion can be used in drawing reli-

Card 1/2

UDC: 521.75.15

0929 1731

ACC NR: AP7008916

able conclusions concerning the genetic relationship of meteors to asteroids or comets. The distribution of the orbital elements for bright meteors differs in some respects from those for "faint" meteors. On the average the bright meteors move along more elongated orbits and the inclinations of those orbits are greater on the average than those of faint meteors. Orig. art. has: 6 figures, 1 formula and 2 tables.
[JPRS: 39,718]

Card 2/2

ABDULLAYEV, Kh.A.; BABADZHANOV, S.D.

Analytic continuation of preanalytic functions. Trudy Sam. Gos. un. no.144:107-112 '64.

Analytic continuation of a certain class of preanalytic functions. Ibid.:113-117 (MIRA 18:9)

BABA[illegible] S.G. (Moskva)

...ization, the potential for reducing the cost of production of clothing. Shvein. prom. no.3:7 My-Je '65. (MIRA 18:9)

BADADZHANOV, S. N.

[redacted]

USSR/Medicine - Helminths and Helminthiasis
Medicine - Antigens and Antibodies, Analysis
Jan/Feb 49

"Chemical Nature of the Complete Antigens of Certain Helminths," A. M. Kuzin, S. N. Badadzhanov, O. I. Polyakov, Chair of Org Chem, Med Inst, MZ RSFSR, Moscow, Uzbek IEM, Tashkent, 2 pp

"Biokhimiya" Vol XIV, No 1

Describes experiments on helminths Taenia saginata and Ascaris lumbricoides. Concludes that antigen evolved from helminths is a specific polysaccharide containing glucose and also glucosamine and

45/49T58

USSR/Medicine - Helminths and Helminthiasis (Contd)
Jan/Feb 49

combined with amino acids. Ascarid and ox liver antigens have similar chemical compositions.
Submitted 3 Jul 48.

45/49T58

BABADZHANOV, S. P.

Babadzhanov, S. P. "On the specific antigene of helminths",
In index: S. P. Babadzhanov, Sbornik po zootekhnii i parazitologii, Tashkent,
1948, p. 102-110.

SO: U-3261, 10 April 53 (Letopis 'Zhurnal 'nykh Statey No. 11, 1949)

BABADZHANOV, S. N.

Babadzhanov, S. N. - "Antileukopenic activity of extracts of bull tapeworm, and antileukopenic immunity", Doklady Akad. nauk UzSSR, 1949, No. 2, p. 24-26, (Resume in Azerbaijani).

SO: U-4329, 19 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 21, 1949).

BABADZHANOV, S.N.; KHODUKIN, N.I., chlen-korrespondent.

Leucopenic action in calves, of effective antigens obtained from helminths, and the antileukopenic immunity. Dokl.AN Uz.SSR no.3:28-31 '49.(MLRA 6:5)

1. Tashkentskiy meditsinskiy institut im. V.M. Molotova (for Babadzhanov).

2. Akademiya Nauk Uzbekskoy SSR (for Khodukin). (Antigens and antibodies) (Leucopenia)

BABADZHANOV, S. N.

21, [illegible] BABADZHANOV, S. N. Opredeleniye immunogennogo deystviya polnotsennogo antigena [illegible] bych'yego tsepnya (Taenia saginata) na telyatakh. Doklady Akad. Nauk Uz SSR, 19[illegible], No. 5, s. [illegible].--Rezyume na uzbek. Yaz.

SO: Letopis' Zhurnal'nykh Statey, No. 2[illegible], Moskva, 19[illegible].

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102810003-6"

BABADZHANOV, S.N.; KHODUKIN, N.I.

Study of the immunological action in man, of potent ascarid antigens. Dokl.AN Uz.SSR no.8:43-46 '49. (MLRA 6:5)

1. Tashkentskiy medinstitut im. V.M. Molotova (for Babadzhanov). 2. Akademiya Nauk Uzbekskoy SSR (for Khodukin). (Antigens and antibodies) (Ascariasis)

BABADZHANOV, S.N.

PROCESSES AND PROPERTIES INDEX

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The chemical nature of the antigens of some helminths. A. M. Kuzin, S. N. Babadzhanov, and O. I. Polyakova. *Biokhimiya* 14, 65-9(1949); cf. C.A. 36, 6675[9], 37 1181[9].—Antigens from the helminths, *Taenia saginata* from man, and *Ascaris lumbricoides* from the bull, are similar in chem. compn., and consist of specific polysaccharides. On hydrolysis, these yield about 70-80% glucose and 1.5% glucosamine; a pos. ninhydrin reaction indicates the presence of amino acids. A lipide component is absent. H. Priestley

Uzbek Inst. Experimental Med., Tashkent
Chair Org. Chem., Moscow Med Inst.

ASA-SLA METALLURGICAL LITERATURE CLASSIFICATION

BABADZHANOV S.N.

The chemical characteristics of whole liver fluke antigens. S. N. Babadzhanov and A. M. Kuzin. *Doklady Akad. Nauk Uzbek. S.S.R.* 1953, No. 11, 44-7(in Russian); *Referat. Zhur. Khim., Biol. Khim.* 1955, No. 6927.—The dry product of the ground helminths was digested by 0.1% pepsin at pH 4.5. The undigested portion was pptd. with CCl_3CO_2H and the ppt. centrifuged down. The supernatant was neutralized with NaOH, dialyzed, and the antigen pptd. with acetone. It was redissolved in H_2O and repptd., first with acetone and then with alc. Glycogen was then eliminated by salivary amylase, and the antigen pptd. twice with alc. A N-free antigen was thus prepd. which contained a small amt. of carbohydrate (10.8-17.9% reducing substances (basis not given) after 2 hrs. hydrolysis in N H_2SO_4) and 45-60% inorg. material.

B. S. Levine

MD

(1)

KOMPANTSEV, N.N.; BABADZHANOV, S.N.; KAMBULIN, N.A.; YEGOROVA, T.A.; TUKHMANYAN, A.A.

Results of an investigation of the anthelminitic properties of some plants of Uzbekistan. Med.zhur.Uzb. no.7:51-55 Jl '58. (MIRA 13:6)

1. Iz kafedry farmakologii (zav. - prof. N.N. Kompantsev) i kafedry obshchey gigiyeny (zav. - prof. S.N. Babadzhanov) Tashkentskogo gosudarstvennogo meditsinskogo instituta.
(ANTHELMINTICS) (UZBEKISTAN--BOTANY, MEDICAL)

BABADZHANOV, S.N.; DEMIDENKO, N.M.

Session of the Uzbek Republic Scientific Society of Hygienists in 1959. Med. zhur. Uzb. no.6:73-75 Je '60. (MIRA 15:2)
(UZBEKISTAN--PUBLIC HEALTH)

BABADZHANOV, S.N., aspirant

Etiology and clinical course of bronchiectasis. Med. zhur. Uzb. no.5:60-64 My '61. (MIRA 14:6)

1. Iz kafedry gospital'noy terapii sanitarno-gigiyenicheskogo i pediatricheskogo fakul'tetov (zav. - prof. O.N.Pavlova) Tashkentskogo gosudarstvennogo meditsinskogo instituta.
(BRONCHIECTASIS)

BABADZHANOV, S.N.

Amount of certain electrolytes in the blood of healthy persons under the climatic conditions of Tashkent. Med. zhur. Uzb. no.6:45-46 Je '61. (MIRA 15:1)

1. Iz kafedry gospital'noy terapii sanitarno-gigiyenicheskogo i pediatricheskogo fakul'tetov (zav. - prof. O.N.Pavlova) Tashkentskogo gosudarstvennogo meditsinskogo instituta.
(ELECTROLYTES) (TASHKENT--BLOOD ANALYSIS AND CHEMISTRY)

BABADZHANOV, S.N.; DEMIDENKO, N.M.

Meetings of the Uzbek Republican Hygienic Society during 1960.
Med. zhur. Uzb. no.7:79-80 Jl '61. (MIRA 15:1)
(UZBEKISTAN--PUBLIC HEALTH SOCIETIES)

BABADZHANOV, S.N., prof.

Immunity to helminthiasis. Med. zhur. Uzb. no.8:46-53 Ag '61.
(MIRA 15:1)

1. Iz kafedry obshchey gigiyeny Tashkentskogo gosudarstvennogo meditsinskogo instituta.
(WORMS, INTESTINAL AND PARASITIC) (IMMUNITY)

KOMPANTSEV, N.N., prof.; BABADZHANOV, S.N., prof.; KAMBULIN, N.A., dotsent; BANNOVA, Ye.A., assistent

Data for a study on the anthelmintic properties of some plants in Uzbekistan. Med. zhur. Uzb. no.9:13-15 S '62. (MIRA 17:2)

1. Iz kafedr farmakologii i obshchey gigiyeny Tashkentskogo gosudarstvennogo meditsinskogo instituta.

BABADZHANOV, S.N.

Content of potassium and calcium in the blood serum of hypertensive patients, in hot climates. Med. zhur. Uzb. no.4: 38-41 Ap '63. (MIRA 17:4)

1. Iz kafedry gospital'noy terapii (zav. - prof. O.N. Pavlova) pediatricheskogo i sanitarno-gigiyenicheskogo fakul'tetov Tashkentskogo gosudarstvennogo meditsinskogo instituta.

BABADZHANOV, S.N.

Inorganic phosphorus content of blood serum in atherosclerosis under the conditions of [illegible] climate. Vop. biol. i kraev. med. no.4:412-415 '63. (MIRA 17:2)

KOMPANTSEV, N.N., prof.; BABADZHANOV, S.N., prof.; KAMBULIN, N.A., dotsent; KRYZHENKOV, A.N., dotsent; BANNOVA, Ye.A., assistent

Study of the anthelmintic properties of plants in Uzbekistan. Med. zhur. Uzb. no.6:24-27 Je '63 (MIRA 17:3)

1. Iz kafedr farmakologii i obshchey gigiyeny Tashkentskogo meditsinskogo instituta.

BABADZHANOV, S.N.

Content of magnesium and inorganic phosphorus in the blood serum of patients with atherosclerosis in hot climates. Med. zhur. Uzb. no.6:28-31 Je'63 (MIRA 17:3)

1. Iz kafedr gospital'noy terapii pediatricheskogo fakul'teta i professional'nykh bolezney sanitarno-gigiyenicheskogo fakul'teta (zav. - prof. O.N. Pavlova) Tashkentskogo meditsinskogo instituta.

BABADZHANOVA, L., inzhener.

Fighting forest fires with helicopters. Grazhd.av.13 no.7:19 Jl '56.
(Aeronautics in forestry)
(MLRA 9:9)

SOV/84-58-9-40/51

AUTHOR: Babadzhanova, L., Engineer

TITLE: Computation of Load and Trim on the Mi-1 Helicopter (Raschet zagruzki i tsentrovki vertoleta Mi-1)

PERIODICAL: Grazhdanskaya aviatsiya, 1958, Nr 9, pp 33-34 (USSR)

ABSTRACT: This is the answer to a query by S.Matveyev, pilot of a Mi-1 helicopter. His problem is the shift in the trim of the aircraft as a result of fuel consumption in flight. The answer states, that the flight weight of the Mi-1T and Mi-1A version has been increased to 2,400 kg for a full utilization of their capacity. For the distribution of load and trimming special graphs are used which accompany the text. One graph helps to compute the moment of force for every load item in the helicopter depending on its distances from the rotor axis. The moments of all items are

Card 1/2

summed up in a table. The second graph is for finding the displacement of the center of gravity of the helicopter on the basis of its total weight and the resultant moment of all load items.

BABADZHANOVA, S.A., vrach (Baku)

Hygiene instruction in day nurseries. Med. sestra 20 no.11:54-55 N '61. (MIRA 15:2)

(HEALTH EDUCATION) (DAY NURSERIES)

PILETSKIY, V.A.; SOLOVEYCHIK, M.A.; KLYSHNIKOV, F.L.; BABADZHANOVA, V.I.; LUTSENKO, I.G.; KAMINSKIY, Yu.K.; FRIDMAN, M.I.; KARPOVA, N.L., red.; BOBROVA, Ye.N., tekhn. red.

[Passenger's handbook] Spravochnik passazhira. Moskva, Transzheldorizdat, 1962. 367 p. (MIRA 15:6)
(Transportation--Timetables)

BABADZHANOVA, V.

Not more expensive than train travel. Grazhd.av. 20 no.4:8-9 Ap '63. (MIRA 16:5)

1. Starshiy inzhener Upravleniya perevozok i obsluzhivaniya passazhirov Aeroflota.

(Airlines--Rates)

PILETSKIY, V.A.; SOLOVEYCHIK, M.Z.; KLYSHNIKOV, F.L.; BABADZHANOVA, V.I.; LUTSENKO, I.G.; KAMINSKIY, Yu.K.; KARPOVA, N.L., red.; KHITROV, P.A., tekhn. red.

[Passenger's manual] Spravochnik passazhira. Moskva, Transzheldorizdat, 1963. 334 p. (MIRA 16:6)
(Transportation--Timetables)

BABADZHANOVA, Vera Ivanovna; KANINSKIY, Yuriy Konstantinovich; KLYSHNIKOV, Fedor Ivanovich; LUTSENKO, Illarion Grigor'yevich; PILETSKIY, Valerian Aleksandrovich; SOLOVEYCHIK, Mikhail Zakharovich; KOLPAKOVA, M.P., red.

[Passenger's manual] Spravochnik passazhira. Moskva, Transport, 1965. 375 p. (MIRA 18:8)

BABADZHANYAN, A.

Economic mission of Cuba in Moscow. Vnesh.torg. 30 no.7: 9-11 '60. (MIRA 13:7)
(Russia--Commerce--Cuba)
(Cuba--Commerce--Russia)

BABADZHANYAN, A.

Fur traders met again in Leningrad. Vnesh.torg. 30 no.9: insert:2-7 S '60. (MIRA 13:9)
(Leningrad--Fur trade)

BABADZHANYAN, A.

Great Britain in Sokolniki. Vnesh. torg. 41 no.7 insert 2:1-8 '61.
(MIRA 14:7)
(Moscow--Exhibitions) (Great Britain--Industries)

BABADZHANYAN, A.

Third International Fair in Brno. Vnesh.torg. 42 no.1:23-29 '62. (MIRA 15:1)
(Brno--Exhibitions)

BABADZHANYAN, A.

Thirty-fourth international fur auction in Leningrad. Vnesh.torg. 43 no.4:33-38 '63. (MIRA 16:4)
(Leningrad--Fur trade)

BABADZHANYAN, A.

From the Urals to the Adriatic. Vnesh. torg. 43 no.10:40-43 '63. (MIRA 16:11)

BABADZHANYAN, A., general-polkovnik

Persistently incorporate into the training process everything new and advanced. Komm. Vooruzh. Sil 4 no.8:16-22 Ap '64. (MIRA 17:6)

1. Komanduyushchiy voyskami Odesskogo voyennogo okruga.

BABADZHANYAN, A. chemistry

ArSSR 3 Mar 62

SIMONYAN, V. , Director, Yerevan Chemical and Technological Technicum; Honored Teacher,
OVANESYAN, Sh. , Instructor, Yerevan Chemical and Technological Technicum, and
BABADZHANYAN, A. , Instructor, Yerevan Chemical and Technological Technicum, are co-authors of an article discussing the fact that two former students at the technicum, B. A. Muradyan and G. A. Petrosyan, were now candidates for deputy to the Supreme Soviet USSR.

Kommunist, 3 Mar 62 hs

BABADZHANOV, Abdulladzhan Khamidzhanovich (P)

T/SSR

TaSSR

3 Apr 65

The following were awarded the medal For Labor Valor:
SUNTSOV, Mikolay Konstantinovich, Chief, Central Statistical Administration, under Council of Min, TaSSR,
TAIROVA, Khamro Zairovna, Dep Chmn, Sovnarkhoz, TaSSR,.
UMAROV, Kasym, Dep Chmn, Sovnarkhoz, TaSSR,
USMANOVA, Ochakhon, Instructor, Ideological Department, CC CP TaSSR,.
KHAMIDOV, Ya. Kh., Dep Min of Water Resources, TaSSR,
CHEREMNOV, Aleksandr Stepanovich, Dep Chief, Ideological Department, CC CP TaSSR,
SHAMSIDDINOV, Badriddin, Dep Min of Agriculture, TaSSR,
SHARIPOV, Vakhid, Chmn, State Committee for Radio Broadcasting and Television, of Council of Min, TaSSR,

The following were awarded the medal For Labor Distinction:
ALIMATOV, Mavlyankul, Dep Chmn, Gosplan, TaSSR,
BABADZHANOV, Abdulladzhan Khamidzhanovich, Dep Chief, Department of Science and Culture, CC CP TaSSR,
BOBODZHANOV, Mirzo, Chief, Republic House of Political Education, TaSSR,.
ZABOLOTSKIY, Mikhail Ivanovich, Chief, Department, Committee of Party-State Control, of CC CP TaSSR and Council of Min, TaSSR.

Kommunist Tadzhikistana, 6 Apr 65

(12) 67

(P) USSR

After making an appropriate farewell speech in which he recounted the tremendous impression that Khrushchev had made upon him, Igor Stravinskiy left Moscow on 11 October by air for Paris, on his way to Italy. Among those at the airport to see him off was composer Arno BABADZHANYAN.

SO: FBIS DR #199, USSR/EE, 11 Oct 62, OUO.

62/04/01

BABADZHANYAN, A.K.

Find of fuchsite in the Gazma granodiorite intrusive (Armenian S.S.R.)
Zap.Vses.min.ob-va 89 no.2:232-233 '60. (MIRA 13:7)
(Armenia—Fuchsite)

BABADZHANYAN, G.A.

Sexual mantor phenomena in plants. Izv. AN Arm. SSR. Biol. i sel'khoz. nauki 1 no.2:103-128 '48. (MLRA 9:8)

1. Institut genetiki rasteniy Akademii nauk Armyanskoy SSR.
(PLANT BREEDING)

BABADZHANYAN, G. A.

26284 Zametki o yavleniya kh polovoro mentora u rasteniy. Izvesiya akad. Nauk SSSR, seriya Biol., 1949, No. 4, s 455-69

SO: LETOPIS' NO. 35, 1949

BABADZHANYAN, G. A.

Cand. Physicomath Sci.

Dissertation: " Certain Problems in the theory of Free Stream of Viscous Liquid."

22/6/50

Sci. Res. Inst. of Mechanics, Moscow Order of Lenin State U. imeni M. V. Lomonosov.

SO Vecheryaya Moskva
Sum 71

BABADZHANYAN, G.A.; MKRTCHYAN, A.A.

Observations on self-pollination and cross-pollination of rye. Izv. AN Arm.SSR.Biol.i sel'khoz.nauki 6 no.10:9-22 '53. (MLRA 9:8)

1. Institut genetiki Akademii nauk Armyanskoy SSR.
(Rye) (Fertilization of plants)

BAYADZHANYAN, Gurgen Amayakovich.

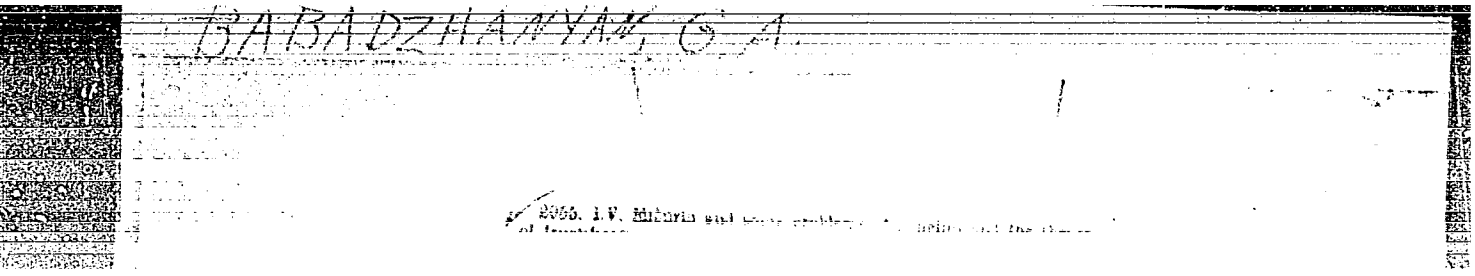
Inst of Genetics Acad Sci Armenian ssr, Academic degree of Doctor of Biological Sciences, based on his defense, 4 January 1954, in the Council of the Inst of Genetics Acad Sci, USSR, of his dissertation entitled: "Fertilization and Viability".

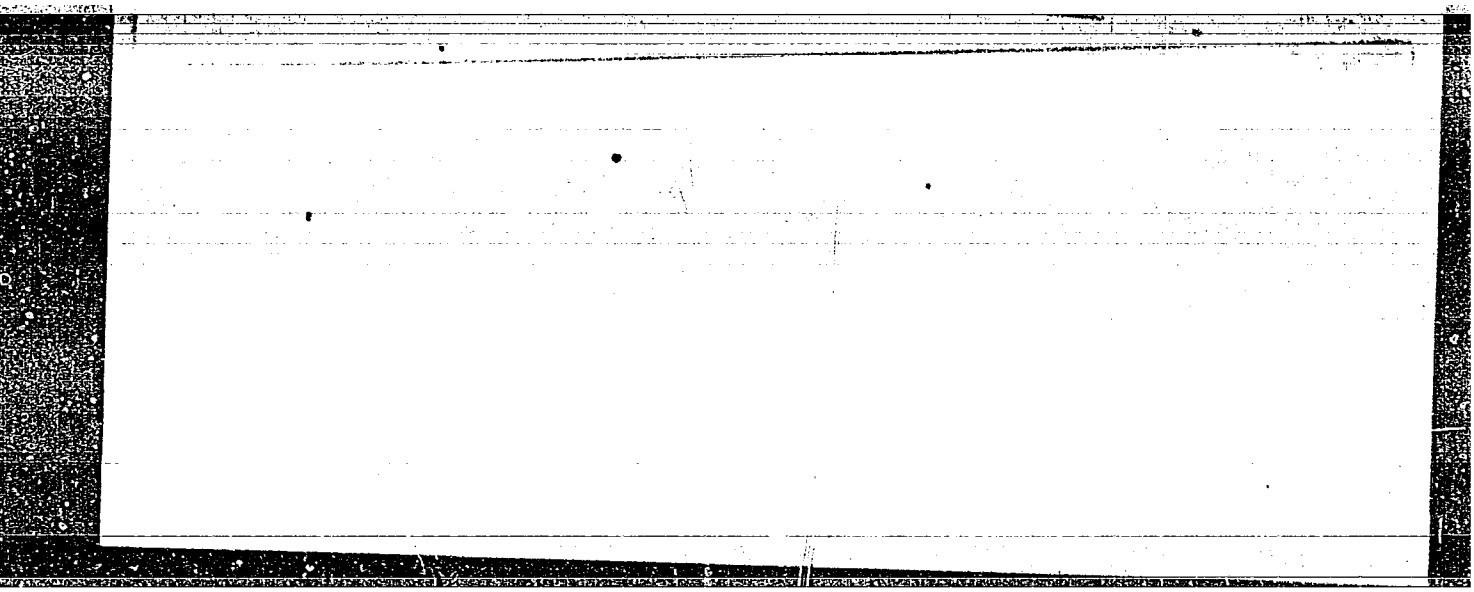
Academic degree and/or title: Doctor of Sciences

SO: Decisions of VAK, List no 7 26 Mar 55, Byulleten' MVO SSSR, No. 14, July Moscow pp 4-22, Uncl.
JPRS/NY-429

BABADZHANYAN, Gurgen Amayakovich; AGADZHANYAN, G.Kh., otvetstvennyy redaktor; OVAKIMYAN, A.A., redaktor izdatel'stva; KAPLANYAN, M.A., tekhnicheskiy redaktor

[Florescence, pollinationa and fertilization of wheat; with a discussion of the problems of heredity and vitality in relation to sexual reproduction of plants] TSvetenie, opylenie i oplodotvorenie pshenitsy; s obsuzhdeniem voprosov nasledstvennosti i zhiznennosti v sviazi s polovym vosproizvedeniem rastenii. Erevan, Izd-vo Akademii nauk Armianskoi SSR, 1955. 241 p. [Microfilm] (MIRA 9:12)
(Wheat)





APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102810003-6"

USSR / General Biology. Genetics. Plant Genetics. B

Abs Jour : Ref Zhur - Biologiya, No 4, 1959, No. 14448

Author : Babadzhanyan, G.
Inst : Not given
Title : Hybrid Plants

Orig Pub : Kolkhoznik Armenii, 1958, No 2, 54-55

Abstract : No abstract given

Card 1/1

BABADZHANYAN, Gurgen Amayakovich; MKRTCHYAN, A.A., otv. red.; ANDREASYAN, V.B., red.izd-va; KAPLANYAN, M.A., tekhn. red.

[Gross-pollination of plants]Chuzherodnoe opylenie rastenii. Erevan, Izd-vo Akad. nauk Armianskoi SSR, 1962. 197 p. (MIRA 16:3)

(Fertilization of plants)

BABADZHANYAN, G.A.

Heredity and fertilization of plants. Izv. AN Arm. SSR. Biol. nauki 17 no.6:3-8 Je '64. (MIRA 17:12)

1. Institut zemledeliya ArmSSR.

BABADZHANYAN, G.A.

Flow of a viscous fluid along a rectangular channel with porous walls. Izv. AN Arm. SSR. Ser.fiz.-mat. nauk 18 no.2:88-95 '65. (MIRA 18:6)

1. Yerevanskiy gosudarstvennyy universitet.

BABADZHANYAN, G.A.

Flow of a viscous fluid in a tube with porous walls. Izv. AN Arm. SSR. Ser.-fiz.-mat. nauk 18 no.4:73-79 '65. (MIRA 18:9)

1. Yerevanskiy gosudarstvennyy universitet.

L 21578-66 EWT(1)/EWP(m)/EWT(m)/EWA(d)/T/ETC(m)-6/EWA(1) WW/DJ

ACC NR: AP6015551 SOURCE CODE: UR/0022/65/018/004/0073/0079

AUTHOR: Babadzhanyan, G. A.

ORG: Yerevan State University (Yerevanskiy gosudarstvennyy universitet)

TITLE: Flow of a viscous fluid in a tube with porous walls

SOURCE: AN ArmSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, v. 18, no. 4, 1965, 73-79

TOPIC TAGS: viscous fluid, incompressible fluid, fluid flow

ABSTRACT: The article concerns the axisymmetric, stationary motion of an incompressible viscous fluid in a circular tube of radius a with porous walls. The method of a small parameter is used to solve the problem. Taken as the small parameter is the ratio of the radius to the characteristic length of the tube. A numerical example is given. Orig. art. has: 4 figures and 2 formulas. [JPRS]

SUB CODE: 20 / SUBM DATE: 02Jun64 / ORIG REF: 003

Card 1/1 BK

10(2)

AUTHORS: Babadzhanyan, G.A., Nazaryan, A.G.

SOV/22-12-1-4/8

TITLE: On a Solution of the Problem of the Plane Laminar Fluid Motion in an Open Channel (Ob odnom reshenii zadachi ploskogo laminarnogo dvizheniya zhidkosti v otkrytom kanale)

PERIODICAL: Izvestiya Akademii nauk Armyanskoy SSR.Seriya fiziko-matematicheskikh, nauk, 1959, Vol 12, Nr 1, pp 61-74 (USSR)

ABSTRACT: The authors consider the stationary (plane) motion of a real incompressible fluid in an open, very wide channel, the base surface of which is described by an arbitrary curve. The model of a slowly variable motion is not taken as basis. The Navier-Stokes equations

$$u\frac{\partial u}{\partial x} + w\frac{\partial u}{\partial z} = g\sin\alpha - \frac{1}{\rho}\frac{\partial p}{\partial x} + \nu\left(\frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial z^2}\right)$$

(1)
$$u\frac{\partial w}{\partial x} + w\frac{\partial w}{\partial z} = -g\cos\alpha - \frac{1}{\rho}\frac{\partial p}{\partial z} + \nu\left(\frac{\partial^2 w}{\partial x^2} + \frac{\partial^2 w}{\partial z^2}\right)$$

$$\frac{\partial u}{\partial x} + \frac{\partial w}{\partial z} = 0$$

Card 1/3

serve as initial point, and the boundary conditions (2) $u = 0$ for $z = \delta$; $w = 0$ for $z = \delta$; $w = u \frac{d\eta}{dx}$ for $z = \eta$;

$$\left(\frac{\partial u}{\partial z} + \frac{\partial w}{\partial x}\right)\left[1 - \left(\frac{d\eta}{dx}\right)^2\right] = 4 \frac{\partial u}{\partial x} \frac{d\eta}{dx} \quad \text{for} \quad z = \eta ;$$

$$\frac{p}{\rho}\left[1 - \left(\frac{d\eta}{dx}\right)^2\right] + 2\nu \frac{\partial u}{\partial x}\left[1 + \left(\frac{d\eta}{dx}\right)^2\right] = 0 \quad \text{for } z = \eta ; \; h = h_n \text{ for } x = x_n$$

The x-axis is inclined against the horizon by the angle α; for $x < 0$ the basal surface is plane, for $x > 0$ it is described by an arbitrary curve. It is $x_n = 0$ and $h_n = z(0)$. The formulated boundary value problem is solved according to the method of the small parameter by setting up the unknown functions as series in this parameter. As the small parameter $\tau \ll 1$ it serves the ratio of the characteristic depth H to the characteristic length L . The unknown functions u, w, p, η are explicitely obtained in first approximation by putting the coefficients

Card 2/3

On a Solution of the Problem of the Plane Laminar Fluid Motion in an Open Channel SOV/22-12-1-4/8

of the first power of σ in (1) and (2) equal to zero. A numerical example treats a channel with the basal surface

$$\delta = 4(A - B)\xi^2 + 4(2B - A)\xi^3 + (A - 5B)\xi^4 + B\xi^5$$

where $\xi = \frac{x}{l}$ is the relative length and A,B are certain constants.

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

ASSOCIATION: Vodno-energeticheskiy institut AN Armyanskoy SSR (Hydro-Power Engineering Institute, AS Armenian SSR)

SUBMITTED: March 24, 1958

Card 3/3

82587

S/022/60/013/01/04/010
C 111/ C 333

10.2000

AUTHOR: Babadzhanyan, G. A.

TITLE: On the Plane Problem of the Open Flow of an Incompressible Fluid

PERIODICAL: Izvestiya Akademii nauk Armyanskoy SSR. Seriya fiziko-matematicheskikh nauk, 1960, Vol. 13, No. 1, pp. 89-97

TEXT: For the investigation of a stationary open plane whirling flow of an incompressible fluid the author uses the system

$$(3)\quad v_x \frac{\partial v_y}{\partial x} + v_y \frac{\partial v_y}{\partial y} = -g \frac{\partial h}{\partial y}, \quad \frac{\partial}{\partial x}(hv_x) + \frac{\partial}{\partial y}(hv_y) = 0,$$

$$h + \frac{v^2}{2g} = H(\psi),$$

where h is the depth of the flow and the last equation is the Bernoulli integral. If one passes from the variables x, y to the variables ξ, ψ, where $\xi = x$ and $\psi(x, y)$ is the stream function, then it follows that there is a function $f(\xi, \psi)$ for which

$$(8)\quad v_y = -\frac{\partial f}{\partial \psi} \quad \text{and} \quad h = \sqrt{\frac{2}{g} \cdot \frac{\partial f}{\partial \xi}}.$$

Card 1/3

S/022/60/013/01/04/010
C 111/ C 333

On the Plane Problem of the Open Flow of an Incompressible Fluid

For the determination of f the author obtains the equation

$$(12)\quad \sqrt{g}\,\frac{dH}{d\psi}\cdot\frac{\partial f}{\partial\psi} = \frac{1}{\sqrt{2}}\left(\frac{\partial f}{\partial\xi}\right)^{-1}\frac{\partial^2 f}{\partial\xi^2}\left[3\sqrt{\frac{g}{2}} + \frac{1}{2}\left(\frac{\partial f}{\partial\xi}\right)^{-1/2}\left(\frac{\partial f}{\partial\eta}\right)^2 - gH(\psi)\left(\frac{\partial f}{\partial\xi}\right)^{-1/2}\right] + 2\sqrt{g}\,\frac{\partial^2 f}{\partial\psi^2}\left[H(\psi) - \sqrt{\frac{2}{g}}\left(\frac{\partial f}{\partial\xi}\right)^{1/2}\right] +$$

$$+ \sqrt{2}\left(\frac{\partial f}{\partial\xi}\right)^{-1/2}\frac{\partial f}{\partial\psi}\,\frac{\partial^2 f}{\partial\psi\,\partial\xi}$$

where $H(\psi)$ is given. Then he considers special cases only:
I. $h = h(\psi)$, for the flow lines then it follows

$$(19)\quad (y + \text{const})^2 + (\xi + \text{const})^2 = \frac{v^2}{(ghh')^2}$$

where $h' = \frac{dh}{d\psi}$. II. In the irrotational case $H(\psi) = \text{const}$ the motion is possible only for $v > \sqrt{gh}$; the equations of the flow lines are

Card 2/3

82587

S/022/60/013/01/04/010
C 111/ C 333

On the Plane Problem of the Open Flow of an Incompressible Fluid

$$x = \pm \frac{\cos(\alpha \pm \beta)}{hv \sin \alpha} \cdot \text{const} + f_1(h)$$

$$y = \frac{\sin(\alpha \pm \beta)}{hv \sin \alpha} \cdot \text{const} + f_2(h)$$

where

(35) $$\beta = \mp \left[\sqrt{3} \operatorname{arc\,tg} \left(\frac{\operatorname{ctg} \alpha}{\sqrt{3}} \right) + \alpha \right] + \text{const}$$

while f_1 and f_2 must be determined from the boundary conditions.

The author mentions N. Ye. Kochin, J. A. Kibel' and N. V. Roze.

ASSOCIATION: Institut energetiki i gidravliki AN Armyanskoy SSR (Institute of Power Engineering and Hydraulics AS Armyanskaya SSR)

SUBMITTED: March 10, 1959

Card 3/3

S/152/61/000/001/006/007
B023/B064

10.2000

AUTHOR: Babadzhanyan, G. A.

TITLE: Motion of gas in a long gas pipe at variable consumption at the end of the pipe

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Neft' i gaz, no. 1, 1961, 99-103

TEXT: The author proceeded from a system of Eq.

$$-\frac{\partial p}{\partial x}=\frac{\xi\rho v^2}{8\delta},$$

$$-\frac{\partial \rho}{\partial t}=\frac{\partial}{\partial x}(\rho v), \quad (1)$$

$$p=\rho gRT,$$

which he obtained from published data, and studied the pressure, the velocity, and density of gas at non-steady motion which is due to a varying gas consumption in the course of one day. In (1): denotes p pressure,

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v velocity, ρ density, ξ the coefficient of resistivity, δ the hydraulic radius. To integrate the linear system of Eq. (1), the author performs a partial linearization by writing down the average value in the limits of consumption variation

$\left(\frac{\rho v}{8\delta}\right)' = b = \text{const.}$ (2) instead of: $\frac{\rho v}{8\delta}$. After excluding from the linearized system (1) $v(x,t)$ mean $\rho(x,t)$ and writing $p^2(x,t) = P(x,t)$, an Eq. $\frac{\partial^2 P}{\partial x^2} = \frac{b}{P} \cdot \frac{\partial P}{\partial t}$ (3) is obtained. The author treated the following boundary- and initial problems

with $x = 0$, $P = P_A = \text{constant}$ (4)

with $x = 1$, $\frac{\partial P}{\partial x} = -\frac{RT\xi}{4g\sigma\delta} G^2(t)$ (5)

with $t = 0$, $P = P_0(x)$ (6), where σ is the

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surface of the pipe line cross section; G(t) is the given function characterizing the law of consumption variation at the end of the pipe line; $P_0(x)$ is the function characterizing the law of variation of the square of pressure along the pipe line at steady-state conditions. The function may be represented as follows $P_0(x) = (P_A - P_E)x/l$. (7), where, P_A and P_E are the squares of pressure at the beginning and the end of the pipe line; l is the length of the pipe line. If the variable coefficient $P^{-1/2}$ is replaced by its average value at steady-state conditions, Eq. (3) reads as follows

$$P^{-1/2} = (p_0)_{cp} = \frac{2}{3}\left(p_n + \frac{p_k^2}{p_n + p_k}\right).$$

Тогда уравнение (3) примет вид

$$\frac{\partial^2 P}{\partial x^2} = \frac{b}{(p_0)_{cp}} \cdot \frac{\partial P}{\partial t}. \qquad (8)$$

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Eq. (8) is solved by the method of the operational calculus

$$p(x,t) = \left\{ p_n^2 - \frac{8Ik}{\pi^2} \sum_{1,3,5}^{\infty} \frac{\sin\frac{n\pi x}{2l}}{n^2 \sin\frac{n\pi}{2}} e^{-\mu n^2 t} - \right.$$

$$- \left[x - \frac{8l}{\pi^2} \sum_{1,3,5}^{\infty} \frac{\sin\frac{n\pi x}{2l}}{n^2 \sin\frac{n\pi}{2}} \right] cG^2(t) -$$

$$\left. - \frac{2ac}{l} \sum_{1,3,5}^{\infty} \frac{\sin\frac{n\pi x}{2l}}{\sin\frac{n\pi}{2}} \int_0^t G^2(\theta)\, e^{-\mu n^2 (t-\theta)}\, d\theta \right\}^{1/2}, \qquad (9)$$

where $k = \frac{p_n^2 - p_k^2}{l}$; $a = \frac{(p_n)_{cp}}{b}$;

$\mu = \frac{\pi^2 a^2}{4l^2}$; $c = \frac{RT\tau}{4g\delta\sigma^2}$.

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If the solution obtained for p(x,t) is introduced into Eq. (1), v(x,t) is obtained and ρ(x,t) from Eq. (3). When determining v(x,t), the exact equation, and not the linearized one is taken. For v(x,t), the author obtained the following:

$$+\left[1-\frac{4}{\kappa}\sum_{1,3,5}^{\infty}\frac{\cos\frac{n\pi x}{2l}}{n\sin\frac{n\pi}{2}}\right]cG^2(t)+ \qquad (10).$$

$$+\frac{ac\pi}{l^2}\sum_{1,3,5}^{\infty}\frac{n\cos\frac{n\pi x}{2l}}{\sin\frac{n\pi}{l}}\int_0^t G^2(\theta)\,e^{-\frac{n^2\pi^2}{4l^2}(t-\theta)}\,d\theta\Bigg|^{1/2},$$

где $A=\sqrt{\frac{4gRTl}{\xi}}$.

The law of the variation of consumption is determined from the formula

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$G(x,t) = g_0 v\sigma$. The author adds that the function $G(t)$ can be accurately determined if the graphical representation of gas consumption is given. On the basis of the law of the variation of function $G(t)$, the integral can also be determined from Eq. (9), and thus it is possible to solve the problem. There are 3 figures, 3 tables, and 3 Soviet-bloc references.

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