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NATIONAL OBSERVATORY OF ATHENS

ASTRONOMICAL INSTITUTE

SCIENTIFIC REPORT FOR THE YEARS 1981-1989

Report 1981-1986

Staff:
Prof. Dr. C.J. Macris took over the directorship of the Institute on August 1983.

Drs. C. Banos, Th. Prokakis, E. Sarris, P. Rovithis, E. Kontizas and D. Dialetis were named senior researchers on June 1985 according the law 1514/1985.

Mr. George Demou, was appointed as technician of the Institute on 1981.

Mr. N. Matsopoulos resigned on February 1984 in order to make his service in the army till November 1985. He was appointed as technician of the Institute on March 1986 and from May 1987 he was detached from the Institute to computer center of the observation.

Dr. Georgia Tsiropoula was appointed as scientific collaborator of the Institute on June 1985. Mr. S. Argyropoulos was appointed as post graduate student of the Institute from 1/5/1989. Dr. P. Hamziou was appointed as scientific collaborator of the Institute from 15/12/1989. Mr. Th. Varou was appointed as elecronician of the Institute on 1/2/1985.

Mr. Anastasios Dapergolas was appointed as scientific collaborator of the Institute on June 1985.

Mrs. Kalliopi Kliironomou was appointed as elecronician of the Institute on 1/2/1983.

Mr. Paris Vardaxoglou was appointed as technician of the Institute on 1/2/1986.

Mr. D. Elias has retired from his post of technician on 22/10/1986.

Mr. A. Georgakakis was appointed as post-graduate student of the Institute from January 1988.

Dr. J. Bellas was appointed as scientific collaborator of the Institute from 15/12/1989.

Research for the period 1981-1986.

1. Sun
Drs. C. Macris, Th. Prokakis, D. Dialetis, E. Sarris, G. Tsiropoula, are collaborating in the following programs:
1. Study of solar seeing for localization of a good site in Greece or Cyprus for JOSO (Macris, Prokakis, Dialetis).
2. Study of simple or Homologous flares (Prokakis, Dialetis, Alissandrakis).
3. Motion of bright material into an eruptive prominence (Macris, Prokakis,
Dialeitis, Tsiropoula).
4. Study of solar granulation (Macris, Prokakis, Dialeitis, Sarris, and R. Muller of the Pie-du-Midi Observatory).
5. Study of fine structure of sunspots penumbra (Macris, Prokakis, Dialeitis, Tsiropoula).
7. Study of the velocity and magnetic field of sunspots (D. Dialeitis, P. Mein, G. Simon, B. Schmieder, of the Meudon Observatory, C. Alissandrakis).
8. Study of velocity fields in GIV spectral line with S.M.I./NASA/UVSP data (Dialeitis, Alissandrakis, Meudon group).
10. Study of radiation of the night sky in two wave lengths Th. Prokakis, G. Moraitis and M. Gogoshe (of the University of Sofia).

II. Night astronomy
a. Dr. C. Banos continued his program of study of the atmospheric activity of Jupiter in collaboration with Dr. B. Petropoulos and E. Sarris.
He also began a program of study of the upper and lower atmosphere of Jupiter based on the results of Voyagers in collaboration with Dr. B. Petropoulos.
b. Dr. P. Rovithis continued his program on the:
1. Study of eclipsing binaries in collaboration with assist, Prof. Panagiotis Niarehos and Helen Livaniou-Rovithis.
2. Study of nebulae in collaboration with assist. Prof. Helen Livaniou-Rovithis.
c. Dr. E. Kontizas worked on the following programs:
1. Extragalactic astronomy.
2. Spectroscopic study of stars. In this program he is in collaboration with:
Dr. D. Morgan, Royal Observatory of Edinburgh
Dr. M. Bruck, royal Observatory of Edinburgh
Dr. R. Cannon, director of A.A.T., Australia.
Dr. M. Kontizas assist. Prof. of the University of Athens, Anastasios Depergolas, E. Xiradaki and M. Metaxa post graduated students of the University of Athens.
3. Etude spectrale de la structure des enveloppes stellaires a l'aide des donnees d' Observation obtenus dans l' ultrablalet et le visible -in collaboration with Prof. J. Lequeux and M. Azzopardi.
4. Procedure di dimostrazioni ed analisi di amali stellari e globulari in collaborazione with assist. Prof. M. Kontizas,
Dr. An. Depergolas, Prof. G. Sedmak, Prof. V. Castellani, Dr. M. Pucillo,
Dr. L. Rusconi, Dr. P. Santini, and Dr. R. Smareglia.
5. Tests of evolutionary theory using colour-magnitude diagrams. In collaboration with assist. Prof. M. Kontizas and Mr. A. Dapergolas.
6. Binary stars in clusters in collaboration with Prof. M. Kontizas and E. Xiradaki, D. Hadjisimionou, and Mr. M. Chryssovergis.
7. Distribution of spectral types in LMC clusters, in collaboration with Dr. Morgan of the (Observatory of Edinburgh) Assist. Prof. M. Kontizas and Dr. A. Dapergolas.
9. Dynamical studies of global clusters, in collaboration with Prof. M. Kontizas, M. Metaxa and M. Chryssovergis.
d. Dr. E. Sarris, continued his program in celestial mechanics studying the integrals of motion in the elliptical three body problem.
He also participated in the program of study of the activity in the atmosphere of Jupiter collaborating with Dr. C. Banos, and of luminosity function of the cluster 47 Tuc.
e. Dr. Anast. Dapergolas participated in programs referred in paragraph 2,4,5,7 as well as in a program of study of stellar populations in galaxies in collaboration with assist. Prof. M. Kontizas.
Observations 1981-1986
Sun
1. Routine observations: Solar routine observations (Optical) in Ha line and white light, Radio in 4 different frequencies on cm range) were carried out by the A.W.S. staff till September 1985, while in 1986 were continued by the technicians N. Matsopoulos, Th. Varsos, K. Klironomou and P. Vardaxoglou.
Mr. D. Elias continued the sunspots observations till October 1986.
Every month reports were sent by the upper staff of observers to the International Centers in Paris, Moscow, Liege etc.
2. Observations for International Cooperation: During the solar Maximum Year (SMY) in 1980-1981 an International campaign using every type of earth-based and space instruments was carried out for the Sun. The aims was: the flare build-up study (FBS) and the solar energy release in flares (SERF).
For this program the National Observatory of Athens in collaboration with Prof. G. Banos of Ioannina University an automatic system for the cinematographic observation of the sun in three wavelengths (Ha, K White light) was used.
Two observational periods of the Sun were carried out. In the first, September and October 1980, a large number of solar astronomers helped the observations (Prokakis, D. Dialeitis, I. Zacharopoulos, N. Matsopoulos and P. Cannavos from Athens Observatory, C. Alissandrakis, D. Papathanasagou, X. Moussas, J. Dollyiania, F. Preka from Athens University and H. Dara, Th. Zacharidis from the (Acade of Athens). In the second period, May 1981, G. Tsiropoula and N. Matsopoulos were the observers.
This observational material was used for the study of solar flares.

2. Night Astronomy
Observations were carried out with the 1.2 m telescope of Kryonerion Astronomical Center.

Dr. C. Banos, carried out photographic observations of Jupiter with the 1.2 m telescope of the Kryonerion Astronomical Station to study properties of its atmosphere.

Dr. F. Rovithis carried out photoelectric observations of eclipsing binaries and of Bernard's loop in the lines H and "N 11" with the 1.2 m telescope.

Dr. E. Kontizas carried out photographic photometry of clusters, calibration and tests of U BV photometry.

Dr. E. Sarris carried out photographic observations of clusters and photometric observations of RR Lyrae Stars.

Mr. D. Elias carried out the following observations: optical photoelectric and photographic observations of RR Lyrae Stars.

Mr. D. Elias carried out the following observations: optical photoelectric and photographic observations of variable stars, occultation of stars, observation of comets, novae.

Reports of these observations were sent to the following centers:
1) Occultation of stars:
   a. International Lawell occultation center, Tokyo, Japan. b. 1010
2) Variable stars: AAVSO
3) Novae: Smithsonian Astrophysical Observatory.

In the same telescope of 1.2 m. kryonerion different programs were carried out mainly in photoelectric photometry and infrared astronomy by the following astronomers of different foundations:
1982 Dr. P. Koubsky (Ondrejov Observatory) P. Niarhos, E. Antonopoulou, M. Kontizas, Helen Livaniou-Rovithis, E. Theodossiou, J. Dangee (Innsbruck Observatory).
1983 Chr. Goudis, E. Antonopoulou, M. Kontizas, Helen Livaniou - Rovithis, J. Meaburn (Manchester University).
1985 Drs. Chr. Goudis, E. Antonopoulou, M. Kontizas, Helen Livaniou-Rovithis.
1986 Drs. Chr. Goudis, P. Niarhos, M. Kontizas, Helen Livaniou-Rovithis.

INTERNATIONAL COOPERATION
Dr. Th. Prokakis worked at Stara Zagora on October 1983.

Dr. M. Gogoshev of Sofia University spent a week in Athens collaborating with Dr. Prokakis and G. Moralitis on February 1984.

Dr. E. Kontizas worked at the following foundations.

Edinburgh University - August - September 1980.
Trieste Observatory and Edinburgh Observatory, September 1984.
Universities of Marseille and Trieste, June 1985.
Trieste Observatory, September 1986.
Marseille University, October 1986.
Edinburgh Observatory, November 1986.
Dr. D. Dialeitis worked at the following observatories:
Three months as assistant astronomer at Meudon Observatory (1981).
Two months at Meudon and Pid du Midi Observatories (1984).
Two months at Meudon and Bagneres de Bigorre Observatories (1985).
Mr. Anastasios Dapergolas spent one month at trieste Observatory on 1986.
Prof. C. J. Macris worked for two months at Meudon and Pid du Midi Observatory, 1985.

Technical works.
Mr. I. Zacharopoulos was responsible for the operation of the 1.20 m telescope in cooperation with Mr. G. Demou. Both carried out all the works as night assistants in the 120 cm telescope. Mr. John Zacharopoulos made all the provisions for Kryonerion Observatory.

Mr. Christos Bourdas carried out the technical work at the two Astronomical Centers of Penteli and Kryonerion.

N. Matsopoulos, Mr. Th. Varios, Mrs. Kalliopi Kliromonou, P. Vardaxoglou carried out the solar routine observations the photographic laboratory works and made the provisions for the Astro nomical Center of Penteli.

Mrs. Th. Theofanous carried out all the work of secretariat of the Institute.

Thomas Varios spent three months at the Laboratory of electronics of Democritos center on 1985.

Facilities 1981-1986
Dr. Th. Prokakis, has the supervision for the following:
1. Organization of a computer center at the Astronomical Center of Penteli.
2. Organization of a book binder's laboratory.
3. Organization of an electrocute laboratory.

Time service: Mr. D. Elias was responsible for all time routine works.

Meetings 1981-1986
The staff of the Observatory attended the following: Dr. C. Banos
1) XVII General Assembly of IAU Patras 1982.
3) 4th meeting of Hellenic Physical Society Athens 1986.

Dr. Th. Prokakis.
1) Meeting of maximum solar activity Sinferopolis 1981.
2) XVIII General assembly of IAU, Patras 1982.
6) SMA workshop, Irkutsk, 1985
7) 8th meeting of Astron acties and Space, Lefkosia, 1985.
9) European Regional Astronautics meeting of the IAU. Prague 1987.

Dr. E. Sarris
1) XVII General Assembly of IAU, Patras 1982.
2) 3rd Meeting of Hellenic Physical Society, Kalamata, 1983.

Dr. P. Rovithis
1) NATO ADVANCED STUDY INSTITUTE ON THE ECLIPSING BINARIES March 1980.
2) XVIII General Assembly of the IAU, Patras, 1982.
4) 3rd Meeting of Hellenic Physical Society, Kalamata 1983.

Dr. E. Kontizas
1) 11th Summer School of the IAU, Hvar
3) XVIII General assembly of IAU, Patras 1982.
4) Workshop on «non thermal structure of stellar atmospheres and subatmospheres, Grado, Italy 1982.
5) IAU Colloquium No 78, Asiago, 1983.
6) Meeting at Trieste on «Influence of mass loss variability in velocity fields of stellar atmospheres, 1983.

Dr. D. Dialeitis
1) XVII General Assembly of IAU, Patras 1982.
2) 8th European Regional Meeting of IAU, Toulouse 1984.
4) 4th meeting of Hellenique Physical Society, Athens 1986.

Dr. Georgia Tsiropoula
1) 2nd meeting of Hellenic Physical Society, 1981.
2) XVII General Assembly of IAU, Patras 1982.

Dr. Anast. Daperogolas

Prof. Dr. C. J. Maericus
1) Z. Meeting of Astronautical Society of Cyprus, Lemesos, Cyprus 1983.
2) 7th European Regional Meeting of I.A.U., Florence 1983.
3) 8th European Regional Meeting of I.A.U., Toulouse 1984.


41. Konitzas E. Resonance lines of (NV, CIV and SiIV) in the atmospheres of O type stars». National Observatory of Athens, Monographia, Series I, No 21.


46. Kontizas E.: 1985, «Studies of the SMC Clusters using plates of the 1.2
U.K. Schmidt telescope», Memoirs of the National Observatory of Athens,
Series I, Astronomy Number 21.
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National Observatory of Athens, II No 27.
Parameters of Clusters in the SMC II», Astron. and Astrophys. Suppl. 52, 143.
Star Clusters in the SMC» IAU Symposium 108, Structure and Evolution of the
Magellanic Clouds at Tubingen September 1983, p. 16 (abstract).
functions of the SMC clusters NGC 152 and Krun 3, IAU Symposium 105,
Observational tests of the stellar theory Geneva, 1984, 121.
of the blue and red globular clusters in the SMC, IAU Colloquium
No 78 Astronomy with Schmidt type telescopes Asisi Italy, p. 363.
Colloquium No 78 p. 369.
57. Kontizas M., Chrysovergis M., Kontizas E., and Hadjiminitiou D.: 1986,
the SMCand their adhointing friends clusters», IAU Symp. No 116, p. 405.
of Bright Stars in the SMC clusters», IAU Symposium No 116, p.409.
61. Kontizas E., Danezi E., Theodossiou E., Prokakis Th., Chrysovergis M.: 1986,
«Text book in Astronomy for teaching in High School».
Spectral Types in the SMC clusters», Astron. and Astrophys. 152, 305.
Observed Characteristics of Flare Energy Release. II. High Speed Soft X-Ray
to the meeting of Stars Zagora.
66. Moraitis G., Prokakis Th., Gogoshev M.: 1983, «Research program be-
tween Greece and Bulgaria for the Study of the radiation of the night Sky.
Astronomical Center of Pentele».
69. Prokakis, Th., Macris C.: «Preliminary study for installation of a solar
Telescope in Cyprus» Publications of the Astronomical Institute, Serie H, No 29.
DO Cassiopeiae and BX Andromedae, I.B.V.S. No 2054.
Draconis», I.B.V.S. No 2137.
75. Rovithis P., Rovithis-Livanou H.: 1983, «Photoelectric Minima Types of
the Eclipsing Binary V 508 Ophiuchi», I.B.V.S. No 2217.
BX Andromedae» I.B.V.S. No 2424.
I.B.V.S. No 2448.
Times of VV Cephei», I.B.V.S. No 2257.
84. Rovithis P.: 1984 «The complex NGC 2024/IC 434»,
ER Orionis. I.B.V.S. No 2595.


Report, 1987

Research

Night Astronomy

Dr. C. Banos continued the program of study of the atmosphere of Jupiter based on Voyager's data in collaboration with Dr. B. Petroopoulos. He also worked on a program for searching periodicities of the activity of Jupiter in the period 1970-1985, in collaboration with Prof. Xanthakis and B. Petroopoulos.

E. Sarris participated in the program of study of the activity on Jupiter. He also worked on the study of RR Lyrae type stars. Dr. P. Rovithis continued the study of eclipsing binaries and diffused nebulae.

E. Kontzis began a program «Luminous objects in nearby galaxies in collaboration with Prof. G. Sedmak, Dr. Pucillo, Dr. Pasion and Dr. Santini was accepted by the National Research Council of Italy.

He also submitted to the National Observatory of Athens a program observations of stellar systems for the earth and space and analysis of data in collaboration with assist. Prof. M. Kontzis Dr. Anat. Depergolas, Prof. R. Stuillio of the Trieste University and Dr. D. H. Morgan of Edinburgh Observatory. Dr. Anat. Depergolas continued to work on the programs:

1) Study of stellar population in galaxies, in collaboration with assist. Prof. M. Kontzis.
2) Extragalactic astronomy in collaboration with Dr. E. Kontzis.
3) Procedure di simulazioni ed analisi di ammassi stellari e globulari «Di collaboration with Trieste Observatory.
4) Study of stellar atmospheres, in collaboration with Dr. E. Kontzis.

Solar Astronomy

Dr. C. Macris, Th. Prokakis and D. Dialetis: participated in the following programs:

1. Study of the variability of the morphological characteristics of the solar granulation with Dr. R. Muller.
2. Dr. Th. Prokakis worked on a program of spectroscopic study of solar radio bursts and their geophysical influence in collaboration with Dr. C. Carolullos, G. Moraitis, C. Alassandreas, Ch. Koutelioti, M. P.:Pouerou, C. P.:Pereche and P. Crepelas. He also participated in a program on the night sky refractor in two wavelengths with G. Moraitis and M. Gogoshev.
3. Dr. Dialetis worked on a program of study of the Evershed flow in the solar photosphere, chromosphere and chromosphere-corona transition region in collaboration with Dr. P. Mein, B. Schmieder, G. Simon and C. E. Alassandreas.

Dr. Georgia Tsiropoula worked on a program of study of material motion in chromospheric structures in collaboration with Dr. C. Alassandreas, P. Mein and N. Mein.

Observations

Night Astronomy

Drs. C. Banos, E. Sarris, P. Rovithis, E. Kontzis and Dr. An. Depergolas continued the observations of planets, eclipsing binaries, early type stars with the 1.2 m telescope of Kryonerion Astronomical Center. The electronian and night assistants Mrs. J. Zacharopoulos and G. Demou carried out the programs of night observations.

Prof. Ch. Goudis, assist. Prof. P. Niarchos, Helen Livaniou-Rovithis and M. Kontzis, continued their programs at the 1.2 m telescope.

Solar Astronomy

Routine solar observations were carried out by the technicians Mr. Th. Varsos, Kal. Krikonomou and P. Vardakoglou.

Time Service

Routine work carried out by the technicians Mr. Th. Varsos Kal. Krikonomou and P. Vardakoglou.

Workshop

J. Zacharopoulos and G. Demou carried out all the electronic work of the 1.2 m telescope and made the aluminization of the 1.2 m telescope in collaboration with Mr. Chr. Bourdas.
International Cooperation

Dr. E. Kontizas was invited and gave a lecture in the Summer School organized by the department of Physics of the University of Crete. He also spent one month in Trieste Observatory and gave a lecture on "The Evershed flow". Prof. Dr. C.I. Macris, Director of the Astronomical Institute worked two weeks at the Meudon and Geneva Observatories.

Meetings

Dr. Th. Prokakis, E. Sarris, E. Kontizas, P. Rovithis and G. Tsiropoula attended the 10th European Regional Meeting of IAU in Prague. Dr. G. Tsiropoula attended the Workshop of Dynamics and structure of solar prominences, Palma di Mallorca.

Publications


Report 1988

Research
Solar Astronomy

The Director of the Astronomical Institute Prof. C. Macris and Dr. D.
Dialectis, T. H. Prokakis and Mr. N. Matsopoulos continued the program of the variability of the morphological characteristics of the solar granulation with Dr. R. Muller of the Pic du Midi Observatory.

Dr. D. Dialectis continued the program of study of the Evershed flow in the solar photosphere, chromosphere and chromosphere-corona transition regions, in collaboration with the French solar physicists of the Meudon Observatory.

Night Astronomy

Dr. C. Banos in collaboration with Prof. J. Xanthakis and B. Petropoulos, continued the program of study of the planet Jupiter. Dr. E. Sarris participated in the program of study of the activity of Jupiter.

Dr. E. Kontizas continued the program «Luminous nebula in nearby galaxies» and the program «Atlas of Spectra in Magellanic Clouds».

Dr. P. Rovithis continued the study of eclipsing binaries and diffused nebulae.

Dr. A. Dapergolas continued to work on the program «Study of stellar population in galaxies» and in Extragalactic Astronomy.

Observations

Solar Astronomy

Routine solar observations were carried out by the technicians Mrs. Th. Varsos, P. vardaxoglou, C. Rotzias and Miss Koutentakou.

Mr. N. Matsopoulos worked under the supervision of Prof. Macris for the installation of the triple solar telescope end of the Link photometer at the Larissa Observatory in collaboration with Mr. Ch. Bourdas.

Time Service

Routine work was carried out by the technicians of the Astronomical Institute.

Workshop

Mr. Z. Zacharyopoulos and G. Demou carried out all the electronic work of the 1.2 m. telescope and made the illumination of the 1.2 m. telescope mirror in collaboration with Mr. Ch. Bourdas.

Meeting

Mr. C. Banos attended the 20th General Assembly of I.A.U. (1988) Baltimore U.S.A.

Prof. C. Macris and the scientist of the Astronomical Institute attended the workshop «Solar and Space Physics in Greece today - possibilities and perspectives.

Dr. A. Dapergolas attended the 3rd ESO/CERN Symposium, May 1988, Bologna - Italy.


PUBLICATIONS

11) Προκάκης Θ., Αναγνώστης Ν. «Ηλιακή και διπλωματική θέση της Ελλάδας στην Ελληνική σφαίρα» Ιουνίου 1988 (παρεύρεση).
12) Προκάκης Θ., και Μούρης Κ.: «Προσαρµασµικά µελέτη του λίµου για την εγκατάσταση ηλιακής Αστρονοµικής στην Κύµικα. Δηµοσίευσης ΕΛΛ/ΑΣΗΩΝ. Εντ. /Σεζόν II.
16) Δημητριάδης Α.: «Φαινούµενη µελέτη των οµιλίων στη Βαλέζια Small
Magellanic Cloud (SMC) 1988, Διδασκαλία Διατρήματος Πανεπιστήμιο Αθηνών.

23) Θεοδωρίου Ε. Κοντιζάς Ε. «Σταθερά εικονάδα» 1988 Φυσικός Κόσμος, 115, 34.

Report 1989
Research
The researcher of the astronomical Institute continued the scientific programs cited in the annual report of the year 1988.
International Cooperation - Meetings
Dr. D. Dialektis worked as assistant astronomer for a month (January - February) at the Meudon Observatory.
Dr. E. Kontizas was appointed for a six months period as Senior Research Associate at NASA/GSFC.
The staff of the Observatory attended the following meetings:
Dr. C. Banos.
Dr. D. Dialektis
Dr. E. Rovithis
All the researchers of the Astronomical Institute attended the 5th Meeting of Hellenic Physical Society, Athens, December 1989.

PUBLICATIONS
1) Maier C., Prokakis Th., Dialektis D., Muller R.: «The Variation of the Mean Size of the Photospheric Granules Close to and Away from a Sunspot» 1989, Solar Physics, 122, 209.
5) Nikolaidis E., Dialektis D.: «Η Γαλλική Επιστημονική και οι θεωρίες επιστήμης στην Ελλάδα» 1989, ανακοίνωση στο Ελληνογαλλικό τμήμα του Γαλλικού Ινστιτούτου Θεσσαλονίκης και του Ομίλου για την ιστορία των Μεθοδευμάτων με θέμα «Η αναπτυξιακή επίδραση της Γαλλικής Επιστημονικής στα Μεθοδευμάτα και τον Ελληνικό Αστροφυσικός», Θεσσαλονίκη, 8-10 Νοεμβρίου 89.
6) Διαλέτης Δ., Νικολαΐδης Ε.: «Οι Γαλλικές Επιστήμες στις Ελληνικές θεωρίες επιστήμης στην τέλη του 19ου αιώνα» 1989, ανακοίνωση στο 5ο Πανελλήνιο Συνέδριο Φυσικής, Αθήνα, 16-20 Δεκεμβρίου 89.
10) Mavridis K., Metaxa
doula N.: «Η επίδραση της μεταβλητότητας της
Φωτοκατανομής του ήλιος στην Ραδιοκομποστή του ήλιου ηλεκτρο
tοστομητικών καύσων». E’ Συνέδριο Φυσικής Δεκεμβρίου 1989, Αθήνα.
11) Macris C.J., Matsopoulos N.: «On the Possible Relation Between
the Distance of Solar Granules and the Centimeter Radio Emission of the Quiet
frequency distribution of spectral types as age indicators of SMC and LMC
15) Daperoglas A., Kontizas E. and Kontizas M. «BV Photoelectric
16) Daperoglas A., Kontizas E. and Kontizas M. «BV Photoelectric
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Cyg» 1989, IAU Circular No 4835.
20) Kontizas M., Chrysogorgis, M., Kontizas E., and Hadjilimitriou D.: «Dynamical and spectral properties of some double clusters in the LMC» 1989,
P. «An age estimate for the NGC 456, 466, 465, SMC Constellations». 1989, 3rd
22) Kontizas, M., Kontizas E., Daperoglas A.: «New estimates for the C/M
23) Kontizas E., Kontizas M., and Xirudaki E. «The stellar content of Binary
Suppl. Ser. 77, 357.
Recent developments of Magellanic Cluds, p. 95.
27) Petropoulos B., Georgakilas A., Gautier D., Costenias A. and Bevard B.: «Physical parameters for the atmosphere of Uranus». 1989, COSPAR (publishe-
SECTION OF ASTROPHYSICS, ASTRONOMY AND MECHANICS
DEPARTMENT OF PHYSICS FACULTY OF SCIENCE

NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS

1981 - 1989

Staff: Professor Dr. S.N. Svelopoulos has been Director of the Section until March 1st, 1986 when Assoc. Professor Dr. P.G. Laskarides was elected in this position. He was reelected for 1987-88 and 1988-89. Professor Dr. G. Contopoulos was elected Director for 1989-90 and Assoc. Professor Dr. P.G. Laskarides Chairman of the Department of Physics for the same year.


Professor S. Svelopoulos retired in 1987 and was awarded the title of Professor Emeritus.

Lecturer Dr. M. Petrou - Palmer resigned on Dec. 31st, 1986.

Professor G. Papadopoulos and Assistant Professors G. Constantelos and J. Hadjiangopoulos left the Section during 1987.


The scientific interests of the Section were recognized as follows:

Cosmology - Relativity (G. Contopoulos, M. Tsamplaris, J. Bambas and E. Chaliassos)

Dynamical Astronomy (G. Contopoulos, T. Papayannopoulou, N. Voglis, N. Hiotelis, L. Zahiadis and J. Seimenis)

Structure and Evolution of the Stars (P. Laskarides and D. Nikolaidis)

Extragalactic Astronomy (M. Kontzias, M. Metaxa, M. Chryssovergis, E. Xiradaki and S. Argyropoulos)

Spectroscopy (IR, V, UV, X, Radio and γ) (P. Laskarides, E. Antonopoulou, E. Theodossiou, E. Danesiz, C. Kouveliotou)


Space Physics (X. Mousas, G. Mitionis, A. Theodossiou)

High Energy Astrophysics (C. Kouveliotou, Ph. Papaelias)

Statistical Mechanics (J. Constantelos)

Analytical Mechanics

Plasma Physics and Application in Astrophysics (C. Alissandrakis)

Applied Optics (D. Papathanassoglou)

Non-Linear Dynamics (G. Contopoulos, C. Polimidis)

Applications of Solar Energy in Agriculture (M. Tsamplaris)

Antimatter Meteorites (Ph. Papaelias)

Interstellar Matter (S. Svelopoulos)

Publications:

Part A

Publications in International Journals and Invited lectures in International Meetings


24
49. Contopoulos, G. 1985: "Bifurcations in Hamiltonian Dynamical
Interplanetary medium at 2.5 and 5 AU, Solar Phys. 112, 365.


Part B

Contributed Papers, Poster Papers, Internal Reports, Technical Reports, Popular Journals and Summaries


59. Papaelias, Ph. (and other 24 authors), 1984: "Search for Bound NN States Using a precision Gamma and Charged Pion Spectrometer at Lear (PS183)", in "Physics at Lear with Low Energy cooled Antiprotons".


87. Voglis, N. 1984: "Estimation of the velocity law of infalling galaxies in spherically symmetric cluster from observational data", in F. Mardirossian et al.
(ed) «Clusters and groups of galaxies», Reidel p. 527.

Part C

Books and Lecture Notes

42

43

PART E

10. Pinotsis, A.D. «Instabilities and Bifurcations in Dynamical systems of 1,2 and 3 degrees of Freedom», 307 (in Greek).

PART F

Abstracts of papers presented in Greek in Panhellenic Meetings of the Greek Union of Physics

PART G

Different Publications in Greek


Paul G. Laskaridis
Associate Professor
Director of the Section 1986-89

ARISTOTELEION UNIVERSITY OF THESSALONIKI
DEPARTMENT OF PHYSICS

SECTION OF ASTROPHYSICS, ASTRONOMY AND MECHANICS

ACTIVITIES IN ASTRONOMY 1981-1989

1981 - Department of Astronomy

Staff

Dr. B. Xanthopoulos was an Invited Scientist at the Max-Planck-Institut für Astrophysik from June to August 1981.

Dr. H. Varvoglis continued as Post-Doctor at the University of Maryland with leave of absence from the University of Thessaloniki.

Mr. D. Papadopoulos continued as Post-Doctor at the University of Cincinnati with leave of absence from the University of Thessaloniki.

Thus the staff of the Department at the end of 1981 was as follows:

1) Dr. B. Barbanis, Professor, 2) Dr. S. Persides, Assistant Professor, 3) Dr. N. Spyrou, Dozent with Teaching Assignment, 4) Dr. B. Xanthopoulos and Dr. Ch. Terzides, Chief Assistants, 5) Dr. H. Varvoglis, Mr. D. Papadopoulos, Mr. N. Caranacolos, and Mr. S. Aleroupolis, Assistants, 6) Mrs F. Papageorgiou and Mrs K. Vassilidou, Secretaries, and 7) Mr. K. Papadopoulos, Technician.

Publications


Meetings
B. Xanthopoulos participated in (i) The International Symposium in memory of Werner Heisenberg on "Unified Theories of Elementary Particles" held at the Max-Planck-Institut, Munich, from July 16 to 21, 1981. (ii) The 8th International Conference on Mathematical Physics held at the Freie Universität, Berlin from August 11 to 20, 1981. The paper "A completely integrable system for the SU (3) Yang-Mills equations" was presented at the meeting at Berlin.

1982-Department of Astronomy
Staff
Dr. N. Spyrou was appointed as Assistant Professor in September.

Dr. B. Xanthopoulos left the Department in October 1982 with leave of absence to the University of Crete.

Dr. H. Varvoglis returned from his leave of absence to the University of Maryland, U.S.A.

Dr. D. Papadopoulos received his Ph. D. in May after returning from his leave of absence to the University of Cincinnati, U.S.A.

N. Caranicolous, D. Papadopoulos, Ch. Terzides, H. Varvoglis, and D. Papadopoulos were appointed as Lecturers in August.

Mr. K. Kokkonas was appointed Scientific Collaborator.

Thus the staff of the Department at the end of 1982 was as follows:
1) Dr. B. Barbànias, Professor; 2) Dr. S. Persides and Dr. N. Spyrou, Assistant Professors; 3) Dr. N. Caranicolous, Dr. D. Papadopoulos, Dr. Ch. Terzides, and Dr. H. Varvoglis, Lecturers; 4) Mr. S. Avgoulous, Assistant; 5) Mr. K. Kokkonas, Scientific Collaborator; 6) Mrs. F. Papageorgiou and Mrs. K. Vasiladis, Secretaries; and 7) Mr. K. Papadopoulos, Technician.

Publications


Meetings
B. Barbànias, B. Xanthopoulos, N. Caranicolous and S. Avgoulous attended the XVIII General Assembly of the IAU held in Patras from 17 to 26 August 1982.

B. Barbànias and Ch. Terzides attended the IAU Colloquium No. 74: Dynamical Trapping and Evolution in the Solar System, Halkidiki, August 30 to September 2, 1982.

N. Spyrou participated in the IAU Symposium No. 104: Early Evolution of the Universe and its Present Structure held at Crete, Greece from August 29 to September 2, 1982, where he presented results of his work on the possibility of...
continuing contraction of collapsed objects.

B. Xanthopoulos participated in the IAU Symposium No. 104 at Crete, Greece, August 30-September 2, 1982, where he presented his work on Spherical and Toroidal Black Holes.

N. Caranicoias participated in the Colloquium No. 74 of the IAU held in Halkidiki, where he presented results of his work on periodic orbits in highly perturbed dynamical systems.

H. Varvoglis participated in the following meetings:

a) "Dynamic Days", held in La Jolla, California from 4 to 6 January 1982, where he presented results of his work on the chaotic motion of ions in plasma waves.
b) American Geophysical Union Spring Meeting held in Philadelphia, Pennsylvania, from May 31 to June 4, 1982, where he presented results of his work on ion energization by electromagnetic plasma waves.
c) XVII General Assembly of the IAU held in Patras, Greece from 17 to 26 August 1982, where he presented his work on ion preacceleration in solar flares.
d) Colloquium No. 74 of the IAU held in Halkidiki, Greece from August 30 to September 2, where he presented results of his work on the onset of chaotic motion in dynamical systems.

K. Kokkotas attended the IAU Symposium 104 at Crete, Greece, from August 30 to September 2, 1982.

Due to the reorganization of Greek Universities at the end of 1982, the Department of Astronomy (A), and the Department of Theoretical Mechanics (M) were merged into the Section of Astrophysics, Astronomy and Mechanics (AAM) of the Department of Physics.

1983 - Section of Astrophysics, Astronomy and Mechanics:

- Staff
  - In June, Dr. N. Spyrou was appointed as Associate Professor.
  - Thus the staff of the Section of Astrophysics, Astronomy and Mechanics at the end of 1983 was as follows:
    - Professors: B. Barbaniotis (A), G. Bousis (M), I. Hadjidemetriou (M).
    - Associate Professors: M. Michalodimitrakis (M), S. Persides (A), N. Spyrou (A).
    - Assistant Professors: S. Ichtiaagi (M), D. Papadopoulos (A), H. Varvoglis (A).
    - Lecturers: N. Caranicoias (A), Th. Christidis (M), K. Katopodis (M), Ch. Terzides (A), G. Taourou (M).
    - Assistants: S. Avgoloupis (A), M. Fr. G. Grigorakis (M).
    - Scientists Collaborators: N. Kokkotas (A).
    - Secretaries and Technicians: Mrs. C. G. Maniatioti, Mr. D. Kolovos, Mr. K. Papadopoulos, Mrs. F. Papageorgiou, Mrs. K. Vassiliadis.

Publications


Meetings - International Scientific Collaborations

D. Papadopoulos participated in the International Meeting of General Relativistic Theory at Mallorca, Spain, 1983.

H. Varvoglis participated in the 7th European Astronomy Meeting, at Florence, Italy, 1983, where he announced the paper "Effects of the Internal Characteristics of the Nucleus of an Elliptical Galaxy in the motions of its stars", which has been written jointly with N. Spyrou.

B. Barbaniotis continued his research activities at the European Southern Observatory, Garching, Munich, W. Germany, during the period from Feb. 8, to Feb. 20. 1983 and from Aug. 1 to Aug. 31, 1983.

N. Spyrou, as a DAAD Scholar, performed research work at the Max-Planck-Institut fur Astrophysik, Munich, W. Germany during the period July 1983 to October 1983.

1984 - Section of Astrophysics, Astronomy and Mechanics

- Staff
  - Dr. S. Avgoloupis received his Ph. D. in June and was appointed as Lecturer.
Mr. K. Kokkotas continues as a postgraduate student at the University College, Cardiff University, Wales, with one year leave of absence from the University of Thessaloniki.

Thus the staff of the Section of Astrophysics, Astronomy and Mechanics at the end of 1984 was as follows:

Professors: B. Barbansis(A), G. Bozis(M), J. Hadjidemetriou(M).
Associate Professors: M. Michalodimitrakis(M), S. Persides(A), N. Spyrou(A).
Assistant Professors: S. Ichtiaroglou (M), D. Papadopoulos(A), H. Varvoglis(A).

Lecturers: S. Avgoulapi(A), N. Caranicolas(A), Th. Christidis(M), K. Katopodis(M), Ch. Terzides(A), G. Tsarouchas (M).
Assistant: Mr. F. Grigoreli(M).
Scientific Collaborators: Mr. K. Kokkotas(A).
Secretaries and Technicians: Mrs. C. Gogou-Handjii, Mr. G. Koloves, Mr. K. Papadopoulos, Mrs. F. Papageorgiou, Mrs. K. Vassiliadis.

Publications

Meetings: International Scientific Collaborations
N. Spyrou participated in the «4th Gregynog Relativity Workshop», at Wales, September 27-29, 1984, where he presented a lecture under the title: «Is The Contraction of a Neutron Star Possible?»
by during the period from September 27, 1984 to September 29, 1984, N. Spyrou was invited by the University College, Cardiff University, Wales, where he participated in the «Cardiff Discusion Meeting on Gravitational Radiations». Finally he attended the local meeting Recent Developments in Gravitation-I Presenting the results of his work on gravitational radiation.

B. Barbans continued his research activities at the European Southern Observatory, Garching, München, W. Germany from July 10, 1984 to August 10, 1984.

Professor J. Ehlers of the Ludwig-Maximilians Universität, Fakultät der Physik, München, W. Germany, was invited on September 10, 1984 and gave a lecture at the Astronomy Department under the title: «Gravitational Radiation: Theoretical and Observatorial Aspects».
1985 - Section of Astrophysics, Astronomy and Mechanics Staff
In March Mr. T. Hadjiantoniou was appointed as a Ph.D. Student.
Dr. K. Katopodis and Ch. Terzides were transferred to the Technical School of Thessaloniki.
In July Dr. J.H. Seiradakis and Dr. A. Bountis were appointed as Associate Professor and Assistant Professor respectively.
In September Mrs. K. Vassiliadis received one year leave of absence from Cardiff University, Wales.

In November Dr. L. Vlahos was appointed as Assistant Professor.
Dr. Th. Christidis was promoted to an Assistant Professor and Mrs. M. Mikou was appointed as a Ph. D. Student.
Mr. K. Kokkotas continued as a postgraduate student at Cardiff University, Wales where he received his M.Sc.

Thus the staff of the Section of Astrophysics, Astronomy and Mechanics at the end of 1985 was as follows:
Professors: B. Barbansis (A), G. Bozis(M), J. Hadjidemetriou(M).
Associate Professors: M. Michalodimitrakis (M), S. Persides (A), J.H. Seiradakis (A), N. Spyrou (A).
Assistant Professors: A. Bountis(M), Th. Christidis(M), S. Ichtiaroglou(M),
D. Papadopoulos, H. Varvoglis, L. Vlahos.

Lecturers: S. Avgoloupis, N. Caraniconas, G. Terzidis, G. Tsarouchas.

Assistants: Mr. F. Grogorelis.

Scientific Collaborators: Mr. K. Kokotas.

Secretaries and Technicians: Mrs. C. Gogou-Handji, Mr. G. Kolovos, Mr. K. Papadopoulos, Mrs. F. Papageorgiou, Mrs K. Vassiliadis.

Publications


Meetings-International Scientific Collaborations

J. Hadjdjemiou participated in the meeting «Mathematical Methods in Celestial Mechanics» held in Oberwolfach, W. Germany, in May 1985. In August he continued his research activities at the European Southern Observatory, Garching, Munich.

H. Varvoglis visited the European Southern Observatory, Garching, Munich, where he collaborated with Dr. G. Contopoulos on «nonlinear dynamics and chaos».

B. Barbousis continued his research activities at the European Southern Observatory, Garching, Munich, W. Germany, from July 15, 1985 to August 15, 1985.

N. Caraniconas participated a) in the General Assembly of I.A.U., held in N. Delhi, India, from November 16 to 29, 1985, where he was elected member of the Union, b) in the International Symposium «Space Dynamics and Celestial Mechanics», at N. Delhi, India, in November 1985, where he presented results of his work.

J. H. Schrader visited the Max-Planck-Institut für Radioastronomie, Bonn.
1986 - Section of Astrophysics, Astronomy and Mechanics

In January Dr. B. Barbânîs was elected as Director of the Section.

In April Dr. S. Persides was appointed as Professor.

In May Dr. Ch. Papageorgiou, a former Assistant at the Department of Astronomy, was appointed as Lecturer.

In September Dr. A. Bounâts was appointed as Associate Professor at the University of Patras and resigned from our Section.

In October Mrs. K. Vasiliadou returned from her leave of absence at Wales after receiving her M. A. in Communication.

In December Mr. K. Kokkotâs returned from his leave of absence at Wales and continues his studies for his Ph.D. at our Section.

Dr. G. Tsarouhas was appointed Assistant Professor and Mrs. F. Papageorgiou retired.

Thus the staff of the Section of Astrophysics, Astronomy and Mechanics at the end of 1986 was as follows:

Professors: B. Barbânîs (A), G. Bozis (M), J. Hadjidemiotriou (M), S. Persides (A).

Associate Professors: M. Michalodimitrakis (M), J. H. Schrädâkis (A), N. Spyrou (A).

Assistant Professors: Th. Christidis (M), S. Ichtiajorglovî (M), D. Papadopoulos (A), H. Varvoglis (A), L. Vlahos (A), G. Tsarouhas (M).

Lecturers: S. Avgelopoulou (A), N. Caranicolou (A), Ch. Papageorgiou (A).

Assistants: M. Fr. G. Grigoriadã (M)

Scientific Collaborators: Mr. K. Kokkotãs (A).

PhD Students: Mrs. M. Mikou, Mr. T. Hadjidjonîou

Secretaries and Technicians: Mrs. C. Gogou-Handjî, Mr. G. Kólovos, Mr. K. Papadopoulos, Mrs. K. Vassiliadou.

Publications


Meetings - International Scientific Collaborations

L. Vlahos a) has been invited twice for two weeks, to the Astronomical Observatory of Paris, once during January and later during June-July, b) participated, as Invited Speaker, in the «European Study Conference», held in Aubigny-sur-Nere, France, 1986.

K. Kokkotou participated a) in the Conference «Interferometric

H. Varvoglis continued his research activities on the effects of acceleration due to plasma waves at the University of Maryland, during May and June 1986.

B. Barbaniis continued his research activities at the European Southern Observatory, Garching, München, W. Germany from July 25, 1986 to August 27, 1986.

Professor P. Florides of the Mathematics Department of the University of Crete was invited and gave on May 14, 1986 a lecture at the Astronomy Department under the title «A new interior Schwarzschild solution in the theory of general relativity».


Staff

In January Dr. N. Spyrou was elected as Director of the Section.

Dr. G. Tsarouchas has been appointed as Assistant Professor and Mr. K. Papadopoulos retired.

In May Dr. N. Spyrou was appointed as Professor and Dr. N. Caranicioas was appointed as Assistant Professor.

In August Dr. S. Avgoloupis was appointed as Assistant Professor.

In September Dr. Th. Christidis received one year leave of absence for France.

Dr. Ch. Papageorgiou stays in our Section as Associate Scientist.

Thus the staff of the Section of Astrophysics, Astronomy and Mechanics at the end of 1987 was as follows:

Professors: B. Barbaniis(A), G. Bozi(M), J. Hadjimemetriou(M), S. Persides(A), N. Spyrou(A).

Associate Professors: M. Michalodimitrakis(M), J.H. Seiradakis(A).

Assistant Professors: S. Avgoloupis(A), N. Caranicioas(A), Th. Christidis(M), Th. Ch. Tsarouchas(M).

Associate Scientists: Ch. Papageorgiou(A).

Assistant: Mr. F. Grigorelos(M).

Scientific Collaborators: Mr. K. Kokkotas(A).

Post-D. Students: Mrs. M. Mikou, Mr. T. Hadjiantoniou.

Secretaries and Technicians: Mrs. C. Gogou-Handji, Mr. G. Kokovs, Mrs. K. Vassilaidis.

Publications


Meetings: International Scientific Collaborations
B. Barbanis continued his research activities at the European Southern Observatory, Garching bei München, from July 1, 1987 to Aug. 25, 1987.
N. Caranicos participated in the Summer School: «7th Advanced Study Institute», at Cortina, Italy, where he presented the paper «Orbits in a Model of Interacting Galaxies», which has been written jointly with Ch. Vozikis.
J. Hadjideimetrou participated, as Invited Speaker, a) in the I.A.U. Colloquium, held in Turku, Finland, June 1987, b) in the 10th European Astronomical Conference of I.A.U. in Prague, of which he was member of the Scientific Organizing Committee, c) in the Summer School: «Advanced Study Institute» held at Cortina, Italy.
N. Spyrou a) at a British Council Scholar continued his research activities at the University of Cambridge, England, during June-July, 1987, b) participated in the International Conference «300 Years of Gravit-Newton Tercentenary Meeting» held at the Department of Applied Mathematics and Theoretical Physics, University of Cambridge, England, in June 1987, c) participated in the «Post-Newtonian String Workshop» held in July 1987, held at the Department of Applied Mathematics and Theoretical Physics, University of Cambridge, England, d) on August attended the workshop of NATO Advanced Study entitled «The Post-Recombination Universe», held at the Institute of Astronomy, University of Cambridge, England.
L. Vlahos a) has been invited and participated in the workshop «Thermal/Non-thermal Interaction in Solar Flares», held at the U.S.A., from March 23-27, 1987, b) has been invited and visited the University of Maryland, U.S.A. from July 15 to August 31, 1987.

1988 - Section of Astrophysics, Astronomy and Mechanics
Staff
In March Mr. A. Takatini was employed as a technician.
Meetings - International Scientific Collaborations
B. Barbaris continued his research activities at the European Southern Observatory, Garching, München, W. Germany, from July 15 to August 15, 1988.
N. Caraniconas visited the University of Namur, Belgium, where he collaborated with Prof. J. Henrard on the restricted problem of three bodies.
S. Ichtiaroglou visited the University of Burgundie, Dijon, France, during June, where he participated in the ERASMUS program.
J.H. Seiradakis participated in the IAU Symposium No 136, held at Los Angeles, USA, July 1988, where he gave a lecture entitled «Symmetrical Structures in the Galactic Center Regions». From November 15, 1988 to December 15, 1988 he continued his research activities at the Max Plank Institut für Radioastronomie, Bonn, W. Germany, with financial support from the Institut, and participated at the Seminar «Astronomie in Griechenland» Bonn, W. Germany, where he presented a lecture entitled: «A short-duration lunar transient phenomenon».
In August J. H. Seiradakis, as National Representative, H. Varvoglis and N. Caraniconas participated in the General Assembly of IAU held at Baltimore, USA.
H. Varvoglis participated in the IAU Colloquium No 109, «Applications of Computer Technology to Dynamical Astronomy», Galtersburg, Maryland, USA.
L. Vlahos has been invited the visited the Astronomical Observatory of Paris during January and July 1988.
1989 - Section of Astrophysics, Astronomy and Mechanics Staff
In April Mr. G. Voyatzis was appointed as a Ph. Student.
On July 23 Dr. G. Tsarouhas passed away while on holidays in Crete.
Thus the staff of the Section of Astrophysics, Astronomy and Mechanics at the end of 1989 was as follows:
Professors: B. Barbaris(A), G. Bozis (M), J. Hadjidemetriou (M), S. Persides(A), N. Spyrou(A).
Associate Professors: M. Michalodimitrakis (M), J.H. Seiradakis (A).
Assistant Professors: S. Avgoloupis (A), N. Caraniconas(A), Th. Christidis (M), S. Ichtiaroglou (M), D. Papadopoulos(A), H. Varvoglis(A), L. Vlahos(A).
Associate Scientists: S. Papageorgiou(A).
Assistants: Mr. F. Gregorellis (M).
Scientific Collaborators: Mr. K. Kokkotas (A).
Ph. D. Students: Mr. A. Anastasiadis, G. Voyatzis.
Secretaries and Technicians: Mrs. C. Gogou-Handji, Mr. G. Kolovos, Mrs. K. Vassiliadis, Mr. A. Takatias.
Publications
From the year 1981 until 1989 the staff of the center is as follows:

1. Dr. C. Poulakos, Director
2. Dr. V. Tritakis, Chief Assistant
3. Dr. B. Petropoulos, Chief Assistant
4. Dr. H. Dara - Papamargariti, Assistant
5. Dr. Th. Zachariadis, Assistant
6. Dr. Y. Liritzis, Assistant (effective 1989)
7. Mr. M. Chondros, Secretary - Librarian
8. Mr. E. Távoros, Technician
9. Mrs. E. Panousi - Koundourioti, Secretary

Scientific Collaborators
1. Prof. L. Mavridis, University of Theassaloniki
2. Prof. C. Goudas, University of Patras
3. Dr. C. Macris, Honorary director of the Center.

National Scientific Committees:
The Center continued offering these years Secretarial facilities to the following committees:
1) National Committee for Astronomy
2) National Committee for Mathematics
3) National Committee for space Research

President of these Committees is Prof. Dr. J. Xanthakis, Head of the Center, and Secretary is Mr. M. Chondros.

The scientific interest of the center is as follows:
1) Solar Physics - Solar Activity
2) Solar and Terrestrial Phenomena
3) Interplanetary Physics
4) Space Physics

1981

Publications:

Meetings - Scientific Missions
Prof. J. Xanthakis and Dr. C. Poulakos participated in the International Symposium «On the Hellenic Arc and Trench» held in Athens in April 1981. Prof. J. Xanthakis presented in this Symposium his work on «Seismic Activity on a Global Basis» which was published in the proceedings of the Symposium.
Dr. C. Poulakos on the base of the Scientific and Cultural Exchange Program between Greece and Czechoslovakia visited there the Astronomical and Geophysical Institutes and lectured on a relative subject about the structure of the Galaxy.
Dr. V. Tritakis left the Center in November 1981 with one year leave of absence to the Max-Plank Institut für Physik und Astrophysik in Munich under a fellowship of the cited Institute.
Mrs. H. Dara-Papamargariti got a three months leave of absence to the Astrophysical Institute in Paris.
Dr. B. Petropoulos participated in the 17th European Astronomical Meeting in Dubrovnik, Yugoslavia in October 1981. He presented there two papers one of his own and one of Dr. V. Tritakis.

1982

Publications

Meetings - Missions

Dr. V. Tritakis left the Center with one month leave of absence to the University of Thessaloniki.

Dr. B. Petropoulos attended the 2nd European Geophysics Assembly held in Strasbourg, France in March 1983 where he presented the work «Simultaneous Variations of Auroral Frequency, Solar Activity and Geomagnetic Field for the Last 2500 years» (by B. Petropoulos, Th. Zachariadis and Y. Liritzis).

Dr. Y. Liritzis presented also the work of Prof. J. Xanthakis, Y. Liritzis and Prof. Aitken under the title: «Geomagnetic Time Spectrum Through Archaeomagnetism».

Dr. B. Petropoulos attended also the following Meetings.
1) The Panhellenic Assembly in Physics held in Kalamata, Greece, in July 1983 where he presented 3 papers related with his field of interest.
2) The 7th European Astronomical Meeting held in Florence, Italy in December 1983 where he presented 3 papers.
   a. «The Solar Minimum Temperature Determined by the CO (A'II-X'\Sigma) Transition» (by B. Petropoulos and C. Maeric).

1984

Publications:
No. 101.

Meetings - Missions

1) Dr. V. Tritakis and Dr. B. Petropoulos attended the 25th Meeting of COSPAR held in Graz, Austria in June 1984 where they presented their recent work.
2) Dr. B. Petropoulos attended also the Workshop in Meudon, France (June 1984) where he presented some papers of Prof. J. Xanthakis, Dr. C. Poulakos and Dr. V. Tritakis as well as a paper of his own.
3) Dr. B. Petropoulos attended also the International Symposium of 020N held in Chalkidiki in September 1984 where he presented a relative paper.

Miscellaneous

1) Dr. V. Tritakis with a one month leave of absence went to University of Thessaloniki in order to collaborate with Prof. Ch. Zefiros.
2) Dr. H. Dara-Papamargari with a two-months leave of absence went to the Astrophysical Institut of Paris.
3) Dr. Th. Zachariadis invited to lecture to the University of Ioannina.
4) Dr. C. Poulakos was invited to lecture to the Greek-French Meeting held in Athens in December 1984. This Meeting was organized by the CNRS and the National Research Foundation.
5) The Director of the Center invited Prof. J. Durney to visit the Center from 26.11-7.12.1984. Part of the expenses were covered by the British Council in Athens.

1985

Publications:

Meetings - Missions:

Dr. C. Poulakos was invited to perform collaboration with the staff of the Max-Planck-Institut für Radio-Astronomie in Bonn in September-October 1985. During this period Dr. C. Poulakos visited the Imperial College of Science and Technology in London on a mutual research project.
Dr. C. Poulakos in October, 1985 visited also the University of Innsbruck, Austria.
Dr. V. Tritakis attended the Summer School in Kolybari, kreta on «Plasma Astrophysics».
Dr. V. Tritakis received a months leave of absence from the Center in August 1985.
Dr. Petropoulos received a month leave of absence from the Center in September 1985.
Dr. Th. Zachariadis, received 20 days leave of absence from the Center in May 1985.
Prof. Dr. Z. Kopsal was invited to lecture to the Academy of Athens within the frame of our mutual collaboration.

1986

Publications:

Meetings - Missions
1) Dr. V. Tritakis participated in the 26th Meeting of COSPAR in Toulouse where he presented a paper of his own. The above scientist attended also the 4th Meeting of the Greek Physicists Association held in Athens in December 1986 where he presented a short review of the activities of the Center.
2) The same meetings attended also Dr. B. Petropoulos who presented some papers of his and his collaborators.

Miscellaneous
Dr. V. Tritakis received one month leave of absence from the Center and visited the Rutherford Appleton Laboratory as well as the Imperial college, Blackett Laboratories in England.
Dr. H. Dara received one month leave of absence from the Center to the observatory of Meudon and to the Athens University.

1987

Publications:


Meetings - Missions
Dr. B. Petropoulos attended the following Meetings:
4. He visited the Observatory of Meudon and the Institute of Bagnère de Bigorre in France in November 1987.
5. H. Dara received one month leave of absence from the Center and she visited the Observatory of Sacramento Peak of the U.S.A.
6. Th. Zacharyas participated in the 10th European Astronomical Meeting in Prague in August 1987 where he presented some papers worked out at the Center.

1988

Publications:
7. J. Xanthakis, C. Poukakos: «Long and Short - Term Predictions of the 10.7

Meetings - Missions
Dr. C. Poulakos with one month leave of absence and under a fellowship of the Max-Planck-Institut für Astronomie in Heidelberg, visited the cited Institute and collaborated with the relevant staff of the Institute in July 1988.

Dr. C. Poulakos participated in the Symposium on «Solar Activity and Space Research. Possibilities Prospects» organized by the Astronomical Observatory of Pendeli. During the Symposium Dr. C. Poulakos presented the research activities and the research programs of the Center as well as the future prospects.

In the same Symposium took part also Dr. V. Tritakis, as a member of the Scientific Committee of this Symposium as well as a principal speaker with the subject «Interplanetary Space», Dr. B. Petropoulos, Dr. H. Dara-Papamargarit and Dr. Th. Zacharias.

Dr. B. petropoulos attended also the following Meetings:

Dr. Petropoulos was also invited by the CNRS of France to go to the Observatory of Meudon and to collaborate with staff of the Institute.

1989

Publications:

Meetings - Scientific Missions
Dr. V. Tritakis participated in the 5th Panhellenic Meeting of Physicists held in Athens, December 1989.

Dr. V. Tritakis with a leave of absence visited the Observatory of Pic-du-Midi, France as well as the Laboratory of the same Observatory at Bagneres-de-Bigorre and collaborated with the staff of the laboratory on a mutual research program.

Dr. B. Petropoulos participated in the following meetings:
a) In the 1st Panhellenic Geophysical Meeting held in Athens, April 1989.
b) In the International Meeting «Philosophy and Kosmospace», held in Kreta, Greece, May 1989
c) In the Panhellenic Meeting «Applications with Laser», held in Athens. This meeting was organized by the University of Athens.
d) In the International Meeting «Philosophy-Physics-Space» held in Bulgaria, September 1989.
e) In the International Meeting «Environmental Pollution» held in Patras, October, 1989
f) In the 5th Panhellenic Meeting of Physicists, held in Athens, December, 1989.

During the above cited meetings Dr. B. Petropoulos presented some papers of his own and some in collaboration with other members of the staff of the Center.

Dr. B. Petropoulos with a leave of absence visited the Observatory of Meudon and collected data for the Center's research program.

Dr. H. Dara-Papamargarit participated in the 5th Panhellenic Meeting of physicists, held in Athens, December 1989. She also visited the Astrophysical Laboratory of Paris with a leave of absence from the Center from 8th September till 23th September 1989.

Dr. H. Dara sent two papers of her own and her collaborators to the IAU
Meeting (Symposium No.138) which presented by her collaborators and they will be published in the proceedings of the Symposium.

Dr. Y. Liritzis participated in the following Meetings:

a) In the 1st Panhellenique Geophysical Meeting, held in Athens, April 1989.

b) In the 3rd International Meeting on «Thera and the Aegean World III» held in Santorini, Greece, September 1989, sponsored by the «Thera and Aegean World Foundation» London (owned by P. Nomikos) and co-organized with the three other Greek Institutions.

c) In the 5th Panhellenique Meeting of Physicists, held in Athens, December, 1989.

During the above cited meetings Dr. Y. Liritzis presented some papers of his own and some in collaboration with other researchers. These papers will be included in the Praktika of these meetings.

The Director of the Center

Dr. C.P. Poulakos

DEPARTMENT OF GEODETIC ASTRONOMY
UNIVERSITY OF THESSALONIKI

ANNUAL REPORT 1981 - 89

Publications: The following publications appeared in the years 1981 - 89:

I. Contributions from the Department of Geodetic Astronomy, University of Thessaloniki:


Miscellaneous: Prof. L.N. Mavridis was elected effective April 6, 1989 President of the Board of Trustees of the European Association of Users of Satellites in Training and Education Programmes (EUROSTEP).

The Head of the Department

Prof. L.N. MAVRIDIS
LABORATORY OF ASTRONOMY

PHYSICS DEPARTMENTS, UNIVERSITY OF IOANNINA

REPORT FOR THE YEARS 1981 - 1989

Staff: The staff of the Laboratory of Astronomy on December 31, 1989 consisted of the following persons: 1) Professor G. Banos, head of the Laboratory as well as of the Division of Astro-Geophysics, 2) Dr. V. Tsirkoudi, assistant professor (as of 1982), 3) Dr. Ph. Krommides, lecturer (as of 1982), 4) Mrs. H. Dimou-Drossou, secretary, 5) Mr. Ch. Nakas, technician.

Teaching: Prof. G. Banos held courses in Astronomy to the fourth-year undergraduate students of Physics.

Dr. V. Tsirkoudi taught courses in Astronomy to the fourth-year undergraduate students of Mathematics.

Dr. Ph. Krommides taught courses in Astronomy to the fourth-year undergraduate students of Physics and courses in Teaching of Physics to the third-year undergraduate students of Physics.

Research: Prof. G. Banos worked on solar phenomena. He spent during the second semester of 1989, six months at the "Kiepenheuer Institut fur Sonnensphysik" in Freiburg, Germany, on Sabbatical. Mrs. H. Alesa completed her research work on solar surges and received her Ph. D. in 1982, under the supervision of Prof. G. Banos. Mr. Th. Zahariades worked on Eilerman bombs and related phenomena and received his Ph. D. in 1983, under the supervision of Prof. G. Banos and C. Alissandrakis.

Dr. V. Tsirkoudi observed flare stars and RS CVn stars photoelectrically at Stefanion Observatory (Corinth). In 1983 and then again in 1986, she went to the United States for six months (on each occasion), on sabbatical, and worked on the following projects: Observed flare stars at McDonald Observatory, using the 36" telescope, did photographic photometry of SO galaxies, using the PDS microdensitometer at the University of Texas. She spent some time at the Smithsonian Astrophysical Observatory, in Cambridge Mass, using HEAO B observations for the study of X-ray emission from galaxies. She also went to the infrared Processing and Analysis Center (IPAC) at CALTECH, Pasadena, to use the IRAS observations for the study of infrared emission from flare stars.

Dr. V. Tsirkoudi spent one month in 1988 at Rutherford Appleton Laboratory in Chilton, England, where she worked on the far-IR emission from Post-T-Tauri stars, using the IRAS data-base. In the summer of 1988, she spent three months in the United States, attending the IAU meeting in Baltimore and the IAU Colloquium on "Solar and Stellar Flares" in Stanford. In addition, she spent one month at IPAC, CALTECH, Pasadena, working on IRAS observations of chromospherically active main-sequence stars.

Dr. V. Tsirkoudi worked also on far-infrared emission of solar-type stars and of ring galaxies using the IRAS Observations.

Dr. V. Tsirkoudi attended the European Regional Astronomical meeting in Tenerife, Spain and the IAU Colloquium on "Flare Stars in Star Clusters", at Byurakan Observatory, Armenia, USSR at 1989.

All members of the Astronomy Laboratory spent time working on the Dourouli Astronomical Station using the 24" telescope and tutoring Astronomy students with observing projects.

Dr. Ph. Krommides completed his work on statistical analysis of radio observations of galaxies in cooperation with the University of Innsbruck, Austria and received his Ph. D. in 1981.

Miscellaneous: In 1982 the Department of Astronomy was merged with the Meteorology Department to form the Division of Astro-Geophysics, one of the four divisions, within the Physics Department of the University of Ioannina.

Prof. G. Banos became head of the division of Astro-Geophysics in 1982 and has held this position ever since. Prof. G. Banos spent three months at the Meudon Observatory, on Sabbatical, during 1983. He also attended the annual meeting of the JOSO Board in Basel, Switzerland (1987) as well as the annual meeting of the JOSO Board in Stockholm, Sweden (1988).

Professor G. Banos resigned and retired from his post at the University of Ioannina, on October 9, 1989.

Dr. V. Tsirkoudi attended several Astronomy Conferences while on sabbatical in the United States. She also attended the IAU meetings in Patras during 1982 and in India during 1983. She participated in the IAU Colloquium on "Bright Stars and Associations" held in Porto Heil (Greece) during 1986 and in Conference on "Activity in Cool Stars", held in Tromso Norway, during 1987. She visited several Astronomical institutes in Poland during 1983, within the framework of the scientist-exchange program between Greece and Poland.


8) Banos, G. and Dollfas, A.: Direct observation of the solar oscillatory structure through the birefringent filter FPSS at Meudon Observatory. Vol. in
The Head of the Laboratory
G. Banos

UNIVERSITY OF CRETE

Division of Astrophysics and Space Physics

P.O BOX 1470, 71 409 Heraklion, Crete
Phone: (081)-239713, 239757, FAX: (081)-239735, Telex: 262728
e-mail: ASTRO at GREARN

The Division of Astrophysics and Space Physics was incorporated as part of the Physics Department in 1986. The Division also operates a small observatory on Mt Ida, on which a separate report follows.
A. Faculty
Joseph Ventura, Professor
Vassilis Xanthopoulos, Professor
Nikos Kylafis, Associate Professor
Jannis Papamastorakis, Associate Professor
Kanaris Tsianganos, Associate Professor
Christos Haidoupis, Assistant Professor
Efthimios Paleologou, Visiting Assistant Professor
B. Technical Personnel
Kyriaki Xylouri, technician and observer at the Skinakas observatory.
C. Graduate Students
F. Mavromatakis, K. Pavlakis, E. Protosyngelos, G. Sourlatzis.
Scientific activity
• C. Haidoupis was on sabbatical leave from January through August 1989. He was a visiting scientist at the Max-Planck Institute for Astronomy at Lindau, Germany.
• N. Kylafis was on sabbatical leave from January through August 1989. He was a Visiting Scientist at the Space Telescope Science Institute in Baltimore, USA from January through April 1989, where he collaborated with Colin Norman on Astronomical Masers. From May through August 1990, he was a Visiting Assistant Professor at the University of Chicago, where he collaborated with Don Lamb on Accretion onto Magnetic White Dwarfs.

On 24 Sep. - Oct. 5, Dr. Trussoni, from Torino, visited us for collaboration on the subject of Modeling Astrophysical Plasma Equilibria. On 2 Sep. - Sep. 10, Professor Ferrari, from the University of Torino, and Director of the Observatory of Torino, visited us for collaboration on the subject of Modeling Astrophysical Plasma Equilibria.

During July and August J. Ventura was a visiting scientist at the Max-Planck Institute for Science Physics in Garching, where he collaborated with H. Ogelman on X-ray radiation from cooling pulsars, and with H. Herold and H. Ruder at the University of Tubingen on the Photoelectric Opacity in Strong Magnetic Fields. In September J. Ventura participated at a three-week workshop in Trieste on «Condensed Matter Properties of Neutron Stars», where he reported on Magnetic Opacities in Neutron-Star Atmospheres.

* V. Xanthopoulos presented the following talks during 1989


(ii) Enrico Fermi Institute, University of Chicago: Self-gravitating axion fields (July).

(iii) University of Rome (I): Two black holes attached to strings (November). He further participated in a three-week school on Computer Algebra in Rio de Janeiro (July-August).

* F. Mavromatakis and K. Xylouri attended the 2nd EADN School on Astrophysics (Theory and Observations of Stellar Evolution), Ponte de Lima, Portugal, September 1989. Mavromatakis further spent the period July-December at the Max-Planck Institute for Space Physics, Garching specializing on techniques and data reduction in observational X-ray astronomy.

THE ASTRONOMICAL OBSERVATORY ON MOUNT SKINAKAS

A collaborative project of the University of Crete, the Research Center of Crete and the Max Planck Institut fuer extraterrestrische Physik

A. Installations on Skinakas (Altitude 1750 m at the Ida mountain chain, 60 km road, 90 min. drive by car from Heraklion).

Buildings: An observatory and a residential building for up to 15 visitors.

Scientific equipment: A 30 cm flat-field telescope with a CCD camera system (Thomson CCD chip 386X574 pixels, cryogenically cooled with liquid N2).

Field of view on the CCD-Chip: 35X45 arcmin2 eg. wide flat field which is very useful for the observation of extended objects like galaxies and comets, wide band UVBVI and small band interference Filters (for O III, Ha, Hβ).

B. Installations in Heraklion

2 Workstations (a SunSpark 1+ and a SUN 3/60) running the IRAF and MIDAS astronomical packages.

Publications

* C. Haldoupis,

* C. Haldoupis, M.J. McKibben, J.A. Koehler, and G.J. Sofo,

* C. Haldoupis and E. Nielsen,

* C. Haldoupis and E. Nielsen,

* C. Haldoupis,

* A. Masticlia, N. Kylias and J. Ventura,

* N. Kylias and S. Phinney,

* I. Papamastorakis, G. Paschmann, W. Baumjohann, B.U.O. Sonnerup, H. Luhr

* K. Tsinganos and B.C. Low,

* K. Tsinganos,
- J. Ventura, (Invited Review)