



Academy of Athens
Research Center for Astronomy

International Workshop on
Galaxies and Chaos
Theory and Observations

Program

Athens, Greece. 16-19 September 2002

Sunday 15 September 2002

19:00-21:00 Welcoming Reception and Registration (Academy Building, East Hall)

Monday 16 September 2002

08:30-09:00 Registration

Chair: N. Voglis

Academy Building, East Hall

09:00-10:00 Welcoming Addresses & Conference Opening

10:00-10:30 Coffee Break

University Building, "Ioannis Drakopoulos" Hall

10:30-11:20 [45'+5'] **G. Contopoulos** "Order and Chaos in Astronomy"
11:20-12:10 [45'+5'] **D. Lynden-Bell** "Chaos and Barred Spiral Galaxies"

12:10-12:20 Short Break

Chair: A. Fridman

12:20-12:45 [20'+5'] **Patsis P.A.** "Nonlinear Phenomena in Disk Galaxies"
12:45-13:30 [40'+5'] **Bountis T.** "Localized Oscillations in Multi Degree of Freedom Hamiltonian Systems"

13:30-15:30 Lunch Break

Chair: E. Athanassoula

15:30-16:20 [45'+5'] **Lindblad P.O.** "Observational Determination of the Gravitational Potential and Velocity Pattern in Strongly Barred Galaxies"
16:20-17:10 [45'+5'] **Fridman A.** "Observational Manifestation of Chaos in Grand Design Spiral Galaxies"
17:10-17:35 [20'+5'] **Polyachenko E.** "Quarter-turn Spirals Just Beyond the Principal Arms of Galaxies"

17:35-18:00 Coffee Break – Poster Session

Chair: A. Burkert

18:00-18:50 [45'+5'] **Bosma A.** "Dark Matter in Galaxies"
18:50-19:40 [45'+5'] **Grosbol P.** "Observing Chaos in Galaxies"
19:40-20:05 [20'+5'] **Griv E.** "Nonlinear Theory of Gravity Instabilities and Dynamical Evolution of rapidly rotating Disk-Shaped Galaxies"

20:05-21:00 Poster Session

Tuesday 17 September 2002

Chair: P. O. Lindblad

- 09:00-09:50 [45'+5'] Athanassoula E. *"Bars as Engines of Galactic Evolution"*
09:50-10:40 [45'+5'] Gerhard O. *"Dynamics of the Milky Way Galaxy"*
10:40-11:05 [20'+5'] Maciejewski W. *"Chaos or Order in Double Barred Galaxies?"*

11:05-11:30 Coffee Break – Poster Session

Chair: G. Bertin

- 11:30-12:20 [45'+5'] Hunter C. *"Orbits in Kuzmin-like Potentials"*
12:20-13:10 [45'+5'] Voglis N. *"Waves derived from Galactic Orbits. Solitons and Breathers"*
13:10-13:35 [20'+5'] Khoruzhii O.V. *"Nonlinear Collective Phenomena in Astrophysical Disks caused by Density Waves"*

13:35-15:30 Lunch Break

Chair: O. Gerhard

- 15:30-16:20 [45'+5'] Miller R. *"Motions of a Black Hole near the Center of a Galaxy"*
16:20-17:10 [45'+5'] Burkert A. *"The Formation of Elliptical Galaxies"*
17:10-17:35 [20'+5'] Nikityuk T. *"A Formation of the Halo Stellar Population in Spiral and Elliptical Galaxies"*

17:35-18:00 Coffee Break – Poster Session

Chair: H. Dejonghe

- 18:00-18:50 [45'+5'] Kandrup H. *"Experimental Tests of Galactic Dynamics"*
18:50-19:10 [17'+3'] Gonzalez-Hernandez *"CHAOSTIN: A Chaotic Dynamics Analyzer"*
19:10-19:30 [17'+3'] Verolme E. *"Dynamical Models of Early-Type Galaxies: Constraining Intrinsic Properties by using Integral-Field Data"*
19:30-19:50 [17'+3'] Van De Ven G. *"Using the Jeans Equations to study Triaxial Models with Separable Potentials"*

19:50-21:00 Poster Session

Wednesday 18 September 2002

Chair: C. Hunter

- 09:00-09:50** [45'+5'] **Dejonghe H.** *"Dynamics of Galaxies: From Observations to Distribution Functions"*
- 09:50-10:40** [45'+5'] **Pfenniger D.** *"Limits of N-body Simulations"*
- 10:40-11:05** [20'+5'] **Efthymiopoulos C.** *"Spherical Shell Models of the Distribution Function of Collisionless N-Body Systems"*

11:05-11:30 Coffee Break – Poster Session

Chair: A. Bosma

- 11:30-12:20** [45'+5'] **Jones B.** *"Cosmic Structure: The Growth of Order out to Chaos"*
- 12:20-13:10** [45'+5'] **Weygaert R.** *"Foamlike Patterns and Gravitational Structure Formation"*
- 13:10-13:35** [20'+5'] **Harsoula M.** *"Direct vs Merger Mechanism forming Counterrotating Galaxies"*

13:35-15:30 Lunch Break

Chair: D. Pfenniger

- 15:30-16:00** [25'+5'] **Hadjidemetriou J.** *"On the Stability of Extrasolar Planetary Systems: Chaotic and Ordered Motion"*
- 16:00-16:25** [20'+5'] **Skokos Ch.** *"Detecting Ordered or Chaotic Motion in Hamiltonian Systems by the Smaller Alignment Index (SALI) Method"*
- 16:25-16:45** [17'+3'] **Liverts E.** *"Nonlinear Response of Supersonic Interstellar Gas Flow to Galactic Spiral Density Waves"*

16:45-17:05 Coffee Break – Poster Session

Chair: H. Kandrup

- 17:05-17:55** [45'+5'] **Dvorak R.** *"Chaos in the Solar System Dynamics"*
- 17:55-18:25** [25'+5'] **Varvoglis H.** *"The "Third" Integral in the restricted Three-Body Problem revisited"*

Guest Speaker

- 18:25-19:05** [35'+5'] **Papazachos V.** *"Chaos in Seismology and Earthquake Prediction"*

Official Dinner

Thursday 19 September 2002

Chair: R. Miller

09:00-09:50	[45'+5']	Bertin G.	<i>"Weak Homology of Elliptical Galaxies"</i>
09:50-10:15	[20'+5']	Martinez V. J.	<i>"Lacunarity in the Galaxy Distribution"</i>
10:15-10:35	[17'+3']	Del Popolo A.	<i>"Mass Function of Dark Matter Haloes"</i>
10:35-10:55	[17'+3']	Barkov M.	<i>"Model of Ejection of Matter from Nonstationary Dense Stellar Clusters and Chaotic Motion of Gravitational Shells"</i>

10:55-11:20 Coffee Break

Chair: D. Lynden-Bell

11:20-12:05	[40'+5']	Galgani L.	<i>"An Analogy between the "Nondassical" Statistical Distributions of Molecular Dynamics and those of Stellar Dynamics"</i>
12:05-12:30	[20'+5']	El-Zant A.	<i>"Bar Survival in Mildly Triaxial Halos"</i>
12:30-12:50	[17'+3']	Skiadas Ch.	<i>"Chaotic Dynamics in Simple Rotation-Reflection Models"</i>
Conclusions			
12:50-13:40	[45'+5']	Contopoulos G.	<i>"Workshop Review and Discussion"</i>

13:40-15:30 Lunch Break

15:50 - 16:00 Departure for the Acropolis Tour (bus in front of the Academy's building)

List of Posters

- Dikova S.** *Virtual Causality*
- Docenko D.** *Spline Histogram Method for Reconstruction of Galaxy Cluster Probability Distribution Function*
- Franco Balderas A.** *Photometric Properties of Karachentsev's Mixed Pairs of Galaxies*
- Hozumi S.** *Pitch Angle of Spiral Galaxies as Viewed from Global Instabilities of Flat Stellar Disks*
- Iyer M.** *Arp 158: A study of the HI*
- Kostina M.** *Metal Enrichment of the Intergalactic Medium at High Redshifts*
- Liverts E.** *Dynamical Evolution of Galaxies: Supercomputer N-body Simulations*
- Mathieu A.** *From Kinematics to Dynamics in Stellar Systems*
- Mouawad N.** *Stellar Orbits at the Center of the Milky Way*
- Muccione V.** *N-body Simulations of Elliptical Galaxies interacting with the Cluster Tidal Field: Origin of the Intracluster Stellar Population*
- O'Brien J.** *(to be announced)*
- Rassia E.** *Deep Wide Search for Emission Line Galaxies at the MPG/ESO 2.2m Telescope*
- Tarakanov P.** *Abnormal Fractal Diffusion in Interstellar Medium of Galaxy*
- Terzic B.** *Building Self-Consistent Triaxial Galaxy Models using Schwarzschild's Method*
- Voglis N., Kalapotharakos C.** *Level of Chaos in N-body Models of Elliptical Galaxies*
- Voyatzis G.** *A Low Frequency Spectral Indicator and Classification of Trajectories in Hamiltonian Systems*