

Complex Planetary Systems II – Kavli-IAU Symposium 382 – July 3-7, 2023

List of accepted abstracts

Invited talks

Baland	Rose-Marie	The obliquity of Mercury: Models and interpretation
Batygin	Konstantin	Towards a Unified Model of Planet Formation
Baù	Giulio	Alternative state representations for orbit prediction
Bolmont	Emeline	A journey from planets to stars: improving tidal models in orbital evolution codes
Correia	Alexandre	New methods to study the tidal evolution of planetary systems
Delisle	Jean-Baptiste	Planetary systems in resonant chains
Dorn	Caroline	Planet cores store majority of planetary water budgets
Fabrycky	Daniel	Resonant Chain Dynamics: Interpretation of Observations
Gales	Catalin	Dynamics modelling and stability analysis of satellites orbiting oblate bodies
Granvik	Mikael	Destruction mechanisms for near-Earth objects
Johansen	Anders	Forming planetary systems via pebble accretion
Lai	Dong	Hot Jupiters and Super-Earths: Spin-Orbit Puzzles in Exoplanetary Systems
Lee	Man Hoi	Dynamics of Circumstellar Planets in Binary Star Systems
Morbidelli	Alessandro	Interdisciplinarity: an effective approach to comprehending the formation of planetary systems
Petit	Antoine	Long-term stability of compact planetary systems
Petrovich	Cristobal	Long-term evolution of exoplanet systems
Rambaux	Nicolas	Lunar reference system from science to MoonLight and LunaNet
Rosengren	Aaron Jay	On the Multiscale Astrodynamics of Cislunar xGEO Space
Scheeres	Daniel	Binary Asteroids: A Pathway to Understanding the Morphological Evolution of Rubble Pile Asteroids

Talks

Baycroft	Thomas	The BEBOP search for circumbinary planets in radial velocity
Benet	Luis	Transversal Yarkovsky acceleration for Apophis exploiting automatic differentiation tools
Celletti	Alessandra	SIMPRO: a simulator of breakup events and propagation of orbits of space debris
Charalambous	Carolina	Tidal effects in resonant chains of close-in planets
Christiaens	Valentin	A new directly imaged giant planet
Courtot	Ariane	Chaos in meteor showers: the example of Draconids, Leonids and Taurids
Coyette	Alexis	Cassini States of Ganymede and Callisto
Crespi	Samuele	Terrestrial Planet formation Simulations: Homogeneous Comparison between Methods
Daquin	Jérôme	Quantifying chaos with geometrical indicators

Dermott	Stanley	Asteroid family membership in the inner belt
Di Ruzza	Sara	Analysis of co-orbital motion of real asteroid in a medium-term timescale
Dogkas	Anargyros	Secular evolution of debris in highly eccentric and inclined orbits
Efroimsky	Michael	Pathways of Survival of Exomoons and Inner Exoplanets
Farhat	Mohammad	The Impact of Laplace Surface Dynamics on Debris Disc Architecture
Georgakarakos	Nikolaos	Dynamical habitable zones for circumbinary planets.
Ghosh	Tuhin	Dynamical Instabilities and the Orbits of Kepler's Multis
Gomes	Sérgio	The passage through the 5:3 resonance between Ariel and Umbriel with inclination
Grassi	Clara	Revisiting the computation of the critical points of the squared distance between two ellipses with a common focus
Griveaud	Philippine	Migration of giant planets in low viscosity discs and consequences on the Nice model
Gronchi	Giovanni	Initial orbit determination from one position vector and a very short arc of optical observations
Hadden	Sam	Celestial Mechanics with the celmech code
Haghighipour	Nader	Secular Resonances and Terrestrial Planet Formation in Planetary Systems with Multiple Stars: Theory and Application
Hayashi	Toshinori	Lagrange stability of triple systems: disruption timescale distribution and its dependence on the orbital parameters
Hernandez	David	Switching integrators reversibly in the astrophysical N -body problem
Knežević	Zoran	Secular resonance maps
Kokubo	Eiichiro	Orbital Architecture of Planetary Systems Formed by Gravitational Scattering and Collisions
Korth	Judith	Hot Jupiters and their nearby surroundings
Kumar	Bhanu	Europa-Induced Overlapping of Secondary Resonances in the 4:3 Jupiter-Ganymede Unstable Resonant Orbit Family
Laskar	Jacques	The AstroGeo project
Lari	Giacomo	Orbital evolution of the Galilean moons driven by a fast orbital expansion of Callisto
Legnaro	Edoardo	MEO Secular Resonances: Phase Space, Eccentricity Growth and Diffusion of Navigation Satellites
Leleu	Adrien	Recovery and characterisation of resonant terrestrial planets hidden in transit surveys
Lhotka	Christoph	On the Celestial Dynamics of Charged Dust in the Solar System
Li	Jian	An overview of the high-inclination resonant population in the Kuiper belt
Mah	Jingyi	Forming Super-Mercuries: Role of stellar abundances
Mastroianni	Rita	The phase-space architecture in the secular 3D planetary three-body problem
Mogavero	Federico	Timescales of chaos in the inner Solar System: Lyapunov spectrum and quasi-integrals of motion
Petit	Alexis	Challenges of the catalogue building and maintenance based on optical survey of the LEO region
Pichierri	Gabriele	Forming the Trappist-1 system in two steps during the recession of the disc inner edge
Pilat-Lohinger	Elke	Inward and outward scattering of Oort cloud comets due to Gliese 710

Pucacco	Giuseppe	Normal forms for Laplace-like resonances
Ragozzine	Darin	Non-Keplerian Motion of Trans-Neptunian Binaries: Shapes, Spins, and Formation
Rekier	Jérémy	Resonantly amplified tidal dissipation in the fluid layers of planets and moons
Revol	Alexandre	Dynamical evolution and heat dissipation in the Trappist-1 system
Rodriguez	Adrian	Mapping the structure of the planetary 2:1 mean motion resonance: the TOI-216, K2-24, and HD27894 systems
Romano	Matteo	Network perspective to study the state of Earth's orbital traffic
Rossi	Mattia	Dynamical asymmetries for L4/L5 captures
Saillenfest	Melaine	Oblique rings as a natural end state of migrating exomoons
Sicardy	Bruno	Resonances around small bodies of the solar system: where should be the rings?
Suto	Yasushi	Dynamics of a triple system comprising an inner binary black hole in a mutually inclined orbit.
Todorović	Nataša	Encounter manifolds in the Solar System. Preliminary results
Tommei	Giacomo	On the predictability horizon in Impact Monitoring of NEOs
Torii	Naoya	Gap Structure Created by Satellite Embedded in Saturn's Ring
Valente	Ema	Excitation of the obliquity of Earth-like planets via tidal forcing
Vavilov	Dmitrii	Partial Banana Mapping: search for close encounters and impact probability
Xi	Xiao Jin	Analytical representation for the numerical ephemeris of Titan within short time spans
Yseboodt	Marie	Mars rotational elements and their quadratic behavior
Zoppetti	Federico	Tidal orbital evolution of circumbinary planets

Posters

Flash talks on Wednesday

1	Anghel	Simon	Machine Learning Applied to Filter Meteoroid Impacts in the Atmosphere
2	Balsalobre Ruza	Olga	The genesis of exotrojans in PDS 70
3	Crespi	Samuele	Protoplanet Collisions: Second Generation Scaling Laws.
4	Esseldeurs	Mats	Towards a complete picture of the evolution of planetary systems around evolved stars
5	Fayolle	Marie	Merging ground-based astrometry with JUICE and Clipper radio-science to improve the estimation of the Galilean moons' dynamics
6	Georgakarakos	Nikolaos	Multi-planet systems explored: the case of the HD34445 system revisited.
7	Ghosh	Tuhin	Effects of Planetesimal Scattering: Explaining the Observed Offsets from Period Ratios 3:2 and 2:1
8	Habibi	Farhang	Stability of Systems with Three Giant Planets
9	Hakim	Kaustubh	Exoplanet Ocean Chemistry in the Presence of Diverse Carbonates
10	Huang	Shuo	TBD
11	Huang	Shuo	When where and how many planets are in resonance
12	Jones	Daniel	PhoDyMM: the PhotoDynamical Multi-planet Model
13	Juillard	Sandrine	Analysis of the arm-like structure in the outer disk of PDS

			70: spiral density wave or vortex?
14	Kotoulas	Thomas	On retrograde coorbital motion of asteroids
15	Kudryavtsev	Sergey	Accurate Analytical Calculation of Lunar/Solar/Planetary Perturbations in Motion of Earth Artificial Satellites
16	Kudryavtsev	Sergey	Star-Planets Tidal Interactions: A Case of Study for the Solar System
17	Kuwahara	Ayumu	Dust ring and gap formation by gas flow induced by low-mass planets: Implications for the architecture of planetary systems
18	Kwok	Leon Ka-Wang	Can the stellar dynamical tide destabilize the resonant chains of planets formed in the disk?
19	Lainey	Valery	Astrometry Unleashed: The Saturnian System
20	Lau	Tommy Chi Ho	Sequential Giant Planet Formation in a Substructured Disk

Flash talks on Thursday

21	Minglibayev	Mukhtar	Investigation of the dynamic evolution of planetary systems with isotropically varying masses
22	Moursi	Ahmed	A survey of the Geostationary Satellite Belt within the ground-based optical system at NRIAG-Egypt
23	Nadabaica	Gabriela-Ana	On the long-term orbital evolution of a satellite revolving around an oblate body
24	Ochiai	Yoko	Monte Carlo Simulation for the Synthesis of Complex Organic Molecules in Protoplanetary Disks
25	Okamoto	Tamami	Effects of evaporation and re-condensation of ice at snow line on crystallinity in a protoplanetary disk
26	Rajkumar	Anitha Ra	A comprehensive homogeneous investigation of orbital ephemeris and transmission spectrum of WASP-19 b
27	Sadeh	Matan	Gamma-ray burst Extinction & Survivability
28	Salnikova	Tatiana	Interception in the hyperbolic three-body problem.
29	Sefilian	Antranik	Interactions between planets and debris disks: the role of disk gravity
30	Sfair	Rafael	Stability regions in the largest resonant chain planetary system TOI-178
31	Sidorenko	Vladislav	Secular dynamics of a coplanar, non-resonant planetary system, consisting of a star and two planets
32	Silva	Raphael Alves	Chaotic diffusion in the GJ 876 exoplanetary system
33	Singla	Manika	Search for the habitable worlds by their atmosphere characterization
34	Tealib	Shafeeq	Study of Long-term evaluation of space objects at High Area-to-Mass ratio in Geostationary orbits (GEO)
35	Woo	Jason Man Yin	Terrestrial planet formation from a ring
36	Zimmermann	Max	Planetesimal and planetary embryo interactions in inclined binary star systems