



Sareh Ataiee

Work and Research experiments

- July 2020- present **Assistant professor**, *Faculty of Sciences, Ferdowsi University of Mashhad*, Mashhad, Iran.
- Apr. 2018- June 2020 **Postdoctoral research assistant**, *University of Tübingen, Computational Astrophysics*, Tübingen, Germany.
- Dec. 2014- Dec. 2017 **Postdoctoral research assistant**, *University of Bern, PlanetS project*, Bern, Switzerland.
- Oct. 2013- Oct. 2014 **Postdoctoral research assistant**, *School of Astronomy, IPM*, Tehran, Iran.

Education

- Oct. 2008- Sep. 2013 **Ph.D. in Astrophysics**, *Ferdowsi University of Mashhad*, Iran, Supervisor: Dr. Jamshid Ghanbari. Adviser (in Germany): Prof. Dr. C.P.Dullemond.
The effect of gas flow on protoplanetary growth (with focus on protoplanetary growth in vortices)
- Oct. 2004- June 2007 **M.Sc. in Astrophysics**, *Ferdowsi University of Mashhad*, Iran, Supervisor: Dr. Jamshid Ghanbari.
The Effect of Self-Gravity on The Equilibrium Structure of a Non-Rotating Thick disc.
- Oct. 1998- Feb. 2003 **B.Sc. in Physics**, *Ferdowsi University of Mashhad*, Iran.

Publications

- 2021 **S. Ataiee**, *W. Kley*, Can planets be pushed into a disc inner cavity by a resonant chain?, *A&A*, 648, A69 .
- 2020 **S. Ataiee**, *W. Kley*, The role of disc torques in forming resonant planetary systems, *A & A*, 635, A204.
- 2020 A. Ziampras, **S. Ataiee**, *W. Kley, C.P. Dullemond, C. Baruteau*, The effect of a planet's spiral shock heating on the protoplanetary disk structure, *A & A*, 633, A29.
- 2019 A. Penzlin, **S. Ataiee**, *W. Kley*, 1:1 orbital resonance of circumbinary planets, *A & A*, 630, L1.
- 2019 A. Leleu, *G.A.L. Coleman, S. Ataiee*, On the stability of the co-orbital resonance under dissipation: Application to the evolution in protoplanetary disks, *A&A*, 631, A6.
- 2018 N. Brügger, *Y. Alibert, S. Ataiee, W. Benz*, Metallicity effect and planet mass function in pebble-based planet formation models, *A & A*, 619, A174.
- 2018 *Y. Alibert, J. Venturini, R. Helled, S. Ataiee, et al.* , Jupiter's formation by hybrid pebble-planetesimal accretion matches cosmochemical timescale constraints, *Nature Astronomy*, 2, 873-877.

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- 2017 **S. Ataiee**, C. Baruteau, Y. Alibert, W. Benz, How much does turbulence change the pebble isolation mass for planet formation?, *A&A*, 615, A110.
- 2018 Y. Alibert, **S. Ataiee**, J. Venturini, Planet formation, Migration and Habitability, In: Deeg H., Belmonte J.(eds) *Handbook of Exoplanets*, Springer, Cham, Online ISBN 978-3-319-39648-3.
- 2017 Pinilla P., Pérez L. M., Andrews, S., van der Marel N., van Dishoeck E. F., **Ataiee S.** et al., A Multi-wavelength Analysis of Dust and Gas in the SR 24S Transition Disk, *ApJ*, 839, 99.
- 2015 Pohl A., Pinilla P., Benisty M., **Ataiee S.**, Juhasz A., Dullemond C P., Van Boekel R., Henning T., Scattered light images of spiral arms in marginally gravitationally unstable discs with an embedded planet, *MNRAS*, 453, 1786–1778.
- 2014 Pinilla P., de Juan Ovelar, M., **Ataiee, S.**, Benisty, M, Birnstiel, T., van Dishoeck, E. F., Min, M., Gas and dust structures in protoplanetary disks hosting multiple planets, *A&A*, 573, A9.
- 2014 **Ataiee S.**, Dullemond C P., Kley W., Regály Zs., Planet-vortex interaction: How a vortex can shepherd a planetary embryo, *A&A*, 572, A61.
- 2013 Regály Zs., Sandor Zs., Csomos P., **Ataiee S.**, Trapping of giant-planet cores - I. Vortex aided trapping at the outer dead zone edge, *MNRAS*, 433, 2626.
- 2013 **Ataiee S.**, Pinilla P., Dullemond C P., Dominik C., Ghanbari J., Asymmetric transition discs: Vorticity or eccentricity?, *A&A*, 553, L3.

Selected Talks

- Dec. 2021 **Invited talk**, *Weekly seminars of SOA, IPM, Zanjan*, Virtual.
Can planets get close to their host stars?
- Apr. 2021 **Invited talk**, *Weekly seminars of IASBS, Zanjan*, Virtual.
Shepherding planets towards their parent stars
- Feb. 2021 **Guest talk**, *Group meeting of Kees Dullemond in ITA, Heidelberg*, Virtual.
Migration of resonant chain close to the disc inner boundary: Comparing hydro and N-body simulations
- Sep. 2020 **Contributed talk**, *Annual Meeting of the Astronomische Gesellschaft 2020*, Virtual, Germany.
Can planets be pushed into a disc inner cavity by a resonant chain?
- May 2019 **Contributed talk**, *Planetary dynamics*, Heidelberg, Germany.
How much can ignoring disc self-gravity in hydrodynamical simulations affect the resonant configuration?
- March 2019 **Contributed talk**, *Planet formation and evolution workshop*, Rostock, Germany.
How much does turbulence change the pebble isolation mass for planet formation?
- Dec. 2018 **Astronomy colloquium**, *University of Tübingen*, Tübingen, Germany.
Planetary growth by pebble accretion
- Dec. 2017 **Contributed talk**, *Munich Institute for Astro- and Particle Physics (MIAPP) workshop*, Garching bei München, Germany.
FARGO joins Planete: a code for (semi-)simultaneous calculation of planetary growth and 2D disc hydrodynamics
- Dec. 2015 **Lunch seminar**, *Exakte Wissenschaften, Bern University*, Bern, Switzerland.
How to make a global 2D model of planet formation?
- April 2015 **Contributed talk**, *Seminar on Planetary Sciences*, , *Exakte Wissenschaften, Bern University*, Bern, Switzerland.
Can a vortex survive at the present of two planets?
- April 2014 **Public talk**, *Weekly seminar, Physics department, Sharif University*, Tehran, Iran.
Asymmetric transitional discs: Protoplanetary discs with unusual features

- April 2014 **Contributed talk**, *Weekly seminar, School of Astronomy, IPM, Tehran, Iran.*
Planet-vortex interaction: How a vortex can shepherd a planetary embryo
- June 2013 **Contributed talk**, *17th Meeting on Research in Astronomy, Zanjan, Iran, Zanjan, Iran.*
Asymmetric transition disks: Vorticity or eccentricity?
- May 2013 **Invited talk**, *IPM, School of Science, Tehran, Iran.*
Transitional discs: modeling the asymmetries

Public Talks and Outreach

- May 2021 **Public talk**, *Engarium, Mashhad, Virtual.*
Let's make a planet!
- May 2021 **Online Chat**, *FUM astro-club, Mashhad, Virtual.*
Professional vs. amateur astronomy

Additional Activities

- 2021 **SOC chair**, *An online crash course on numerical astrophysics, FUM, Mashhad, Iran.*
- 2020 **Journal reviewer**, *Referee for MNRAS (x1).*
- 2019 **Journal reviewer**, *Referee for MNRAS (x2).*
- 2018 **Poster presentation**, *ESO workshop: "Take a closer look", Garching bei München, Germany.*
- 2018 **Journal reviewer**, *Referee for MNRAS (x1).*
- 2017 **Poster presentation**, *Water workshop, Zürich, Switzerland.*
- 2016 **Poster presentation**, *Protoplanetary discussion, Edinburgh, UK.*
- 2015 **Journal reviewer**, *Referee for ApJ (x1).*
- 2015 **Participation**, *ERIS 2015: Sixth European Radio Interferometry School, Garching, Germany.*
- 2015 **Participation**, *From Protoplanetary Disks to Planet Formation, Les Diablerets, Switzerland.*
- 2012 **Participation**, *IMPRS Summer School: Computational Astrophysics - Physical Foundations & Numerical Techniques, Heidelberg, Germany.*
- 2011 **Participation**, *IMPRS Summer School 2011, Characterizing exoplanets-from formation to atmospheres, Heidelberg, Germany.*
- 2009 **Academic Marker**, *Third International Olympiad of Astronomy and Astrophysics, Tehran, Iran.*

Teaching and Mentoring Experience

- 2018-2020 **Journal club organiser**, *Group Journal club on weekly base., Tübingen University, Germany.*
- 2018 **Co-supervisor**, *MSc student Alex Ziampras, Tübingen University, Germany, Topic: Planet-Induced Spiral Heating in Radiative Protoplanetary Disks.*
- 2017 **Mentor**, *MSc student Reyhane Nejat, Ferdowsi University, Mashhad, Iran, Topic: The planet's eccentricity kills the vortex.*
- 2017 **Mentor**, *MSc student Motahare Ghaderi, Ferdowsi University, Mashhad, Iran, Topic: Can a planet affect a vortex at the outer edge of a deadzone?.*
- 2009 **Lecturer**, *Mathematical Methods for Physicists, Payamnour University, Mashhad, Iran.*
- 2009 **Teaching assistant**, *Analytical Mechanics II, Ferdowsi University of Mashhad, Mashhad, Iran.*

Visits

- Dec. 9th- Dec. 15th 2016 **Institut de Recherche en Astrophysique et Planétologie (IRAP), University of Toulouse, France**

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Feb. 21th- Feb. 26th 2016 Institut de Recherche en Astrophysique et Planétologie (IRAP), University of Toulouse, France

Oct. 18th- Nov. 6th 2015 Institut de Recherche en Astrophysique et Planétologie (IRAP), University of Toulouse, France

July 1st- Aug. 30th 2014 Heidelberg University, Center for Astronomy, ITA, Heidelberg, Germany

Aug. 15th- Aug. 21st 2014 Leiden Observatory, Leiden, the Netherlands

May 15th-21st 2013 IPM, School of Science, Tehran, Iran

March 2nd-21st 2012 Konkoly Observatory, Budapest, Hungary

July 15th 2011 - Heidelberg University, Center for Astronomy, ITA, Heidelberg, Germany. This visit was partly funded by *The third funding line of the German Excellence Initiative*.

March 31st 2013

Computer Skills

OS Linux, Windows

Programming Languages fortran 77, C, python

Language Skills

Fluent Persian (native), English

Basic Arabic, German