

Curriculum Vitae

Shahryar Motamedi

Birth: July 23, 1987
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Summary

Astrophysicist specializing in galactic dynamics, modified gravity, and solar system physics. Expertise in analytical modeling, numerical simulations, and high-performance scientific computing. Research contributions include Milgromian dynamics, relativistic three-body chaos, solar/stellar dynamics, and space engineering.

Online Profiles

GitHub: github.com/shmotamedi – codes for astrophysical simulations
ResearchGate: researchgate.net/profile/Shahryar-Motamedi – publications and citations
LinkedIn: linkedin.com/in/shahryar-motamedi-26b169b7 – skills and professional experiences

Education

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| Ph.D. in Astrophysics | 2015–2024 |
| Institute for Advanced Study of Basic Sciences (IASBS), Zanzan, Iran Advisor: Prof. Hosein Haghi (haghi@iasbs.ac.ir) | |
| M.Sc. in Space Engineering | 2010–2013 |
| Sharif University of Technology (SUT), Tehran, Iran Advisor: Prof. Seid H. Pourtakdoust (pourtak@sharif.edu) | |
| B.Sc. in Physics | 2006–2010 |
| Sharif University of Technology (SUT), Tehran, Iran | |

Research Experience

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| Research Assistant | IASBS, Zanzan, Iran |
| Studied and compared dynamical friction timescales in Milgromian vs. equivalent Newtonian dynamics. | |
| Research Assistant | SUT, Tehran, Iran |
| Investigated chaos in the relativistic restricted three-body problem. | |
| Visiting Researcher | USTC, Hefei, China, 2019 |
| Developed methods to compare Modified Newtonian Dynamics (MOND) with dark matter models. | |
| Predoc Researcher | RCISP, Tehran, Iran, 2014 |
| Designed a high-precision orbit propagator using perturbation techniques, integrating physics and engineering approaches. | |

Honsrs & Awards

Ph.D. Entrance Exam: Ranked first in the IASBS Ph.D. entrance examination.
M.Sc. Admission: Awarded a full graduate scholarship at SUT with direct admission (no entrance exam) for top-ranked national students.