

Alexandros Tsouros

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Education	University of Crete, Heraklion, Crete, Greece	
	Ph.D., Astrophysics, August 2024 (expected)	
	Bachelor of Science, Physics, June 2019 (Valedictorian) Ranked among top 0.1% of Department's history	GPA: 9.2/10
Publications	University of Oxford, Oxford, UK	
	Master of Science, Mathematical and Theoretical Physics, June 2020	
	Merit	
Publications	A. Tsouros, N. D. Kylafis “The energy distribution of electrons in radio jets” <i>Astronomy & Astrophysics</i> , Volume 603, July 2017 arXiv: 1706.05227	
	E. Kiritsis, A. Tsouros “de Sitter vs Anti-de Sitter flows and the (super)gravity landscape” <i>J. High Energ. Phys.</i> , Volume 126, 2023 arXiv: 1901.04546	
	V. Pelgrims, G. V. Panopoulou, K. Tassis, V. Pavlidou, A. Basyrov, D. Blinov, E. Gjerløw, S. Kiehlmann, N. Mandarakas, A. Papadaki, R. Skalidis, A. Tsouros, R. M. Anche, H. K. Eriksen, T. Ghosh, J. A. Kypriotakis, S. Maharana, E. Ntormousi, T. J. Pearson, S. B. Potter, A. N. Ramaprakash, A. C. S. Readhead and I. K. Wehus “Starlight-polarization-based tomography of the magnetized ISM: PASIPHAЕ’s line-of-sight inversion method” <i>Astronomy & Astrophysics</i> , Volume 670, February 2023 arXiv: 2208.02278	
	A. Tsouros, G. Edenhofer, T. Enßlin, M. Mastorakis, V. Pavlidou “Reconstructing Galactic magnetic fields from local measurements for backtracking ultra-high-energy cosmic rays” Accepted for publication at <i>Astronomy & Astrophysics</i> (in press) arXiv: 2303.10099	
	N. D. Kylafis, P. Reig, A. Tsouros “A quantitative explanation of the radio–X-ray correlation in black-hole X-ray binaries” Accepted for publication at <i>Astronomy & Astrophysics</i> (in press) arXiv: 2309.00316	
	Onassis Foundation funded my participation in the 69th Lindau Nobel Laureate Meeting, amounting to a total sum of 3440 €.	
Honors & Awards	Hellenic Foundation for Research & Innovation PhD Fellowship, ranked 1st out of 227 applications nationwide in the natural sciences (total amount funded: 29700 €)	
Conferences & Workshops	13th Hellenic Astronomical Conference, Heraklion	July ‘17
	47th Young Radio Astronomers Conference, Bologna	September ‘17
	69th Lindau Nobel Laureate Meeting, Lindau	August ‘19
	15th Hellenic Astronomical Conference, Held online	July ‘21
	IMAGINE workshop, Stockholm	April ‘23
	From the Galaxy to the Big Bang, Banyuls-sur-Mer, France	June ‘23

Peer Review	Referee for the Journal of Cosmology and Astroparticle Physics (JCAP).	
Research Visits	Max-Planck Institute for Astrophysics	Garching, Munich, Germany
	Information Field Theory Group (PI: Torsten Enßlin)	
	California Institute of Technology	Pasadena, CA, USA
	Phil Hopkins group	
	Visit funded by RISE AstroStat-II	
	Kavli Institute for Astroparticle Physics & Cosmology	Stanford, CA, USA
	Cosmic Magnetism and Interstellar Physics Group (PI: Susan E. Clark)	
Programming skills	Programming languages: Python (Expertise), Wolfram Mathematica (Proficient), SQL (Proficient), C (Basic), Fortran (Basic) Frameworks: NIFTy, TensorFlow, PyTorch Operating Systems: UNIX	
Data skills	Statistics: Highly experienced in Bayesian statistics and high dimensional inference problems. Expertise in the use of relevant software frameworks.	
	Machine Learning: Experience working with Deep Neural Networks, especially in unsupervised tasks (i.e. generative models, dimensionality reduction).	
	Data management: Skilled in handling large databases via SQL.	
Research interests	My main interest lies in the application and development of innovative statistical methodologies to advanced astronomical data analysis. Eager to leverage these techniques to derive scientific insights. Highly keen on contributing to large-scale collaborative research efforts.	
Teaching Assistance	<i>Introduction to Modern Physics 2</i>	Taught by: T. Tomaras Spring '18, '19
	Sophomore level course. Introduces Special Relativity, Nuclear Physics and Elementary Particle Physics, using basic knowledge of Calculus, Classical Physics and Quantum Mechanics.	
	<i>From Quarks to the Universe</i>	Taught by: E. Economou Winter '20, '21
	Senior level course that condenses three years of undergraduate physics at a high-school math level.	
	<i>Classical Electrodynamics</i>	Taught by: K. Tassis Winter '21, '22
	Graduate level course on electrodynamics.	
Outreach	I regularly give outreach talks during open days at the Skinakas observatory.	
Languages	Greek (Native), English (Fluent), French (B2 Level), Japanese (JLPT N4)	