

Thomas O. Kimpson

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Education

- **Ph.D. Candidate, Theoretical Astrophysics** **London, UK**
Mullard Space Science Laboratory, University College London 2016 – Present
 - Research Area: General Relativity, spinning compact object dynamics
 - Supervisor: Professor K. Wu
- **MPhys, Physics and Astronomy, First-Class Hons.** **Durham, UK**
Durham University 2012 – 2016
 - Thesis Topic: *Very High Energy Gamma Rays from Gamma Ray Bursts*
 - Supervisor: Professor P. Chadwick
- **St. Peter's School** **York, UK**
Scholarship Student 2007 – 2012
 - A-levels: Mathematics (A*), Further Mathematics (A*), Physics (A), Chemistry (A)
 - GCSE: 10 A* including Mathematics, Science and English

Employment

- **Data Scientist** **Prix, London**
Summer internship June – September 2016
 - Early-hire at young start-up using machine learning methods for dynamic pricing and revenue optimization in the SME market-space.
 - Independently researched and implemented Bayesian machine learning and reinforcement learning algorithms including Multi-armed bandit and Q-learning methods.
 - Worked to develop and test company API and online web-app.
- **Research Fellow** **INAF & Padova University, Italy**
Summer undergraduate research intern June – September 2015
 - Research within the ForDys Group investigating the merger of black holes and the implication for gravitational wave emission, leading to peer-reviewed publication.
 - Used leading N -body code in combination with advanced data analysis to simulate the formation and evolution of complex systems.
 - Worked effectively both independently and also with a larger research group of established scientific professionals.

Research interests

My primary research interests lie in the dynamics and mergers of compact objects, such as neutron stars (NSs) or black holes (BHs), which complements an interest in the progenitors and detection of Gamma Ray Bursts. Current work includes investigating the complex spin and orbital behaviours of BH-NS systems due to spin-curvature and gravito-magnetic effects.

Publications

- *Hierarchical black hole triples in young star clusters: impact of Kozai-Lidov resonance on mergers.*
T. Kimpson, M. Spera, M. Mapelli, B. Ziosi. doi: 10.1093/mnras/stw2085

Computer Skills

Languages: Expert in Python. Proficient in Matlab, Octave, \LaTeX .
Software: Git, Fermi Science Tools, Heroku, Jekyll, Pelican.