Contribution ID: **64** Type: **Oral**

Unveiling Gravitational Lenses in Colour: Multi-band Reconstruction of Sixteen Lensed Systems with PISCO

Wednesday 9 July 2025 10:45 (15 minutes)

The growing flood of gravitational lensing data in the era of big-data astronomy brings both opportunities and challenges—particularly in modeling efficiency and the reliability of inferences from a given dataset. In this work, we reconstruct 16 strong lens candidates using multi-band PISCO data from the Magellan Telescope, employing a scalable pipeline that jointly models all four bands (z, i, r, g) while correcting for image misalignments. This approach significantly reduces parameter uncertainties and uncovers lens systems with complex mass distributions, substructures, and potential exotic configurations. A further comparison with HST-based reconstructions will help clarify the strengths and limitations of PISCO's resolution in constraining lens models.

Author: QU, Huimin (The University of Sydney)

Co-authors: BALLARD, Daniel (The University of Sydney); LEWIS, Geraint

Presenter: QU, Huimin (The University of Sydney)

Session Classification: Methods & Applications