

Characterization of Interstellar Asteroid 3I/ATLAS During Its Encounter with the Solar System

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AAS 248: Fire and Ice in Planetary Systems Near and Far, Pasadena, June 16, 2026

Evolution of 3I/ATLAS



December 2025

January 2026

February 2026

Lars Christensen (NOIRLab), J. Miller & M. Rodriguez (International Gemini Observatory/NSF NOIRLab), T.A. Rector (University of Alaska Anchorage/NSF NOIRLab), M. Zamani (NSF NOIRLab)

Interstellar Objects

Now there are three!

1I/'Oumuamua

2I/Borisov

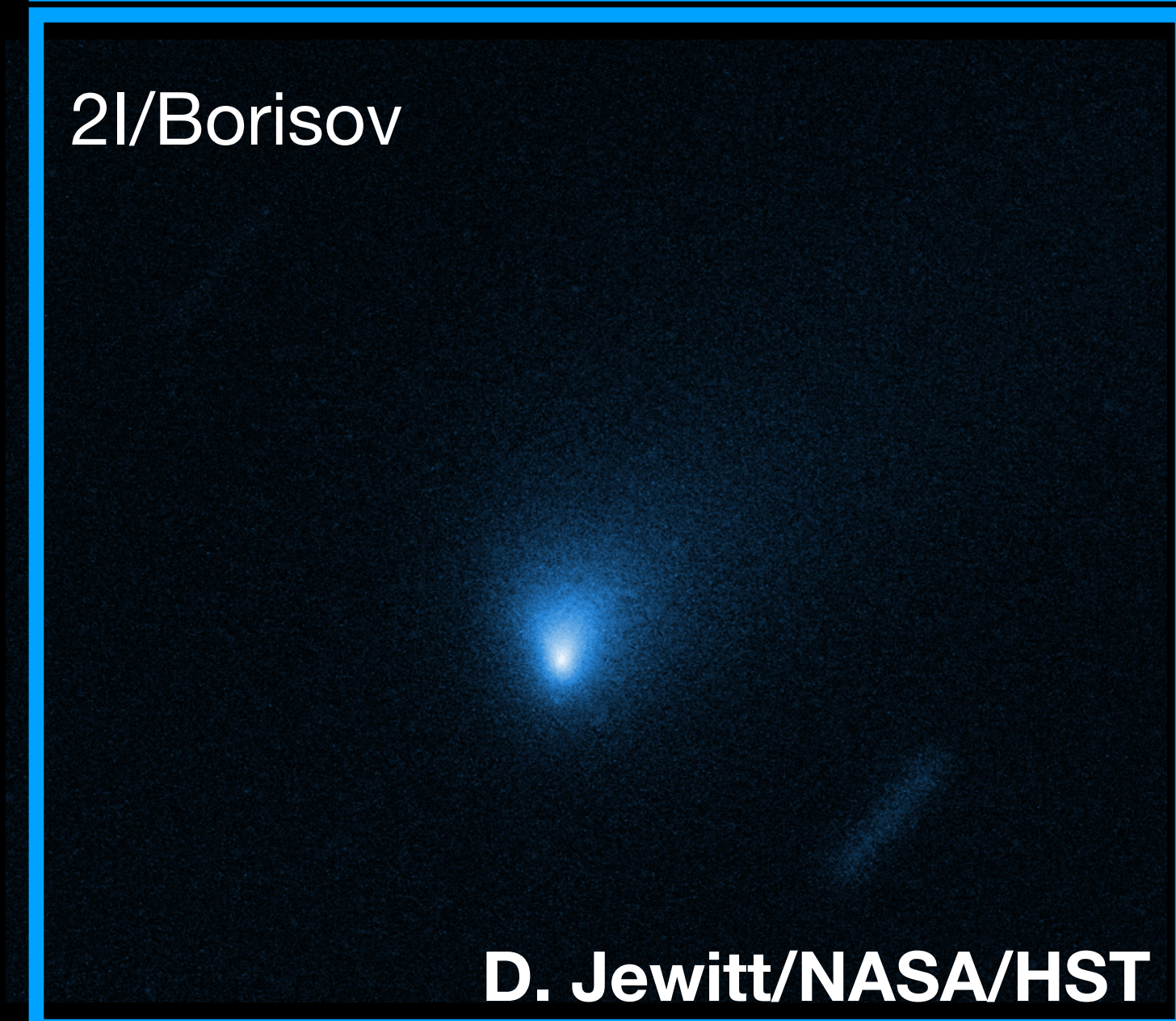
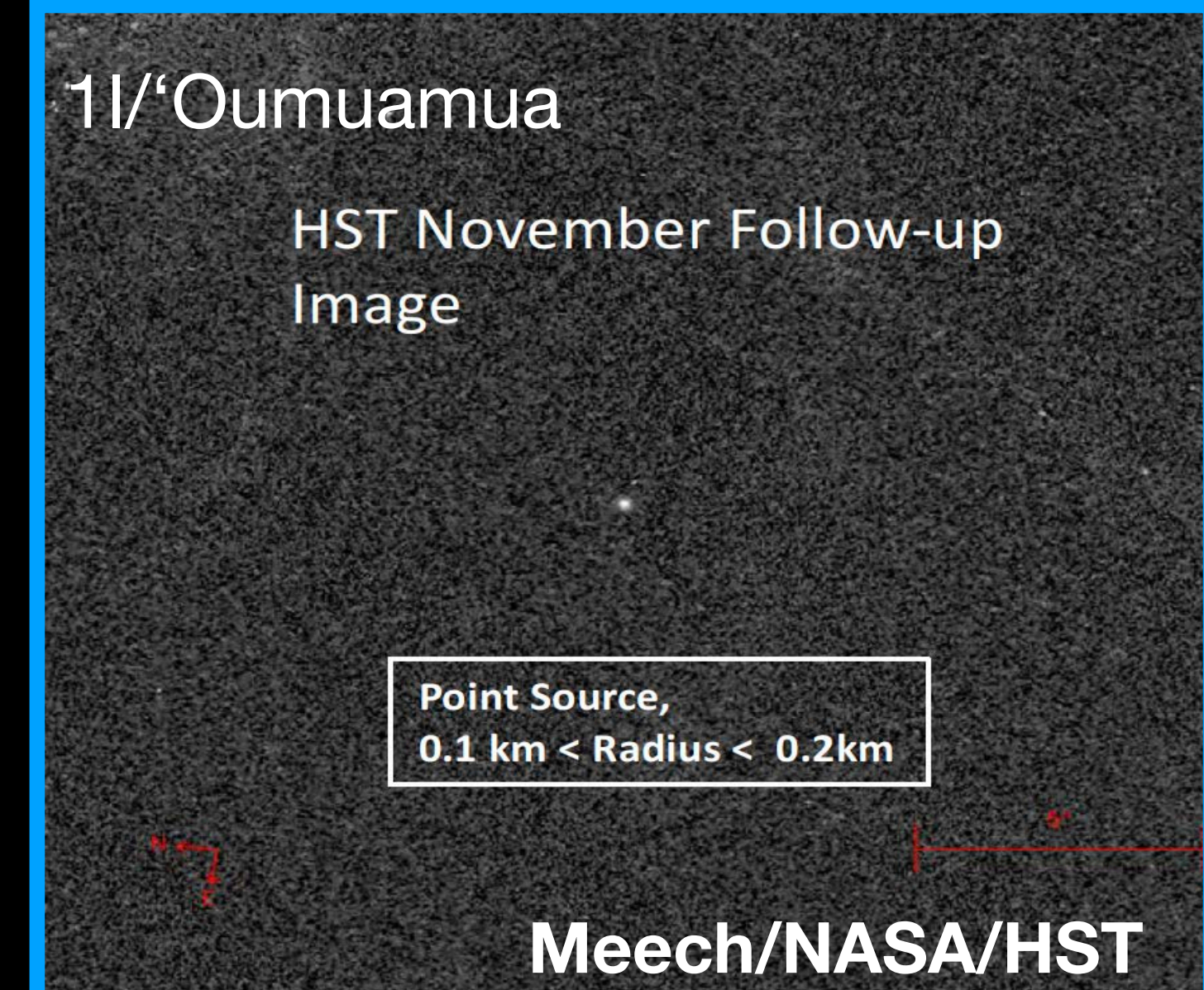
3I/ATLAS

Eccentricity >1 !!!

$e_{1I} = 1.20$, $q = 0.3$ au, $v_{\infty} = 26.3$ km/s

$e_{2I} = 3.35$, $q = 2.0$ au, $v_{\infty} = 32.5$ km/s

$e_{3I} = 6.14$, $q = 1.4$ au, $v_{\infty} = 58.0$ km/s



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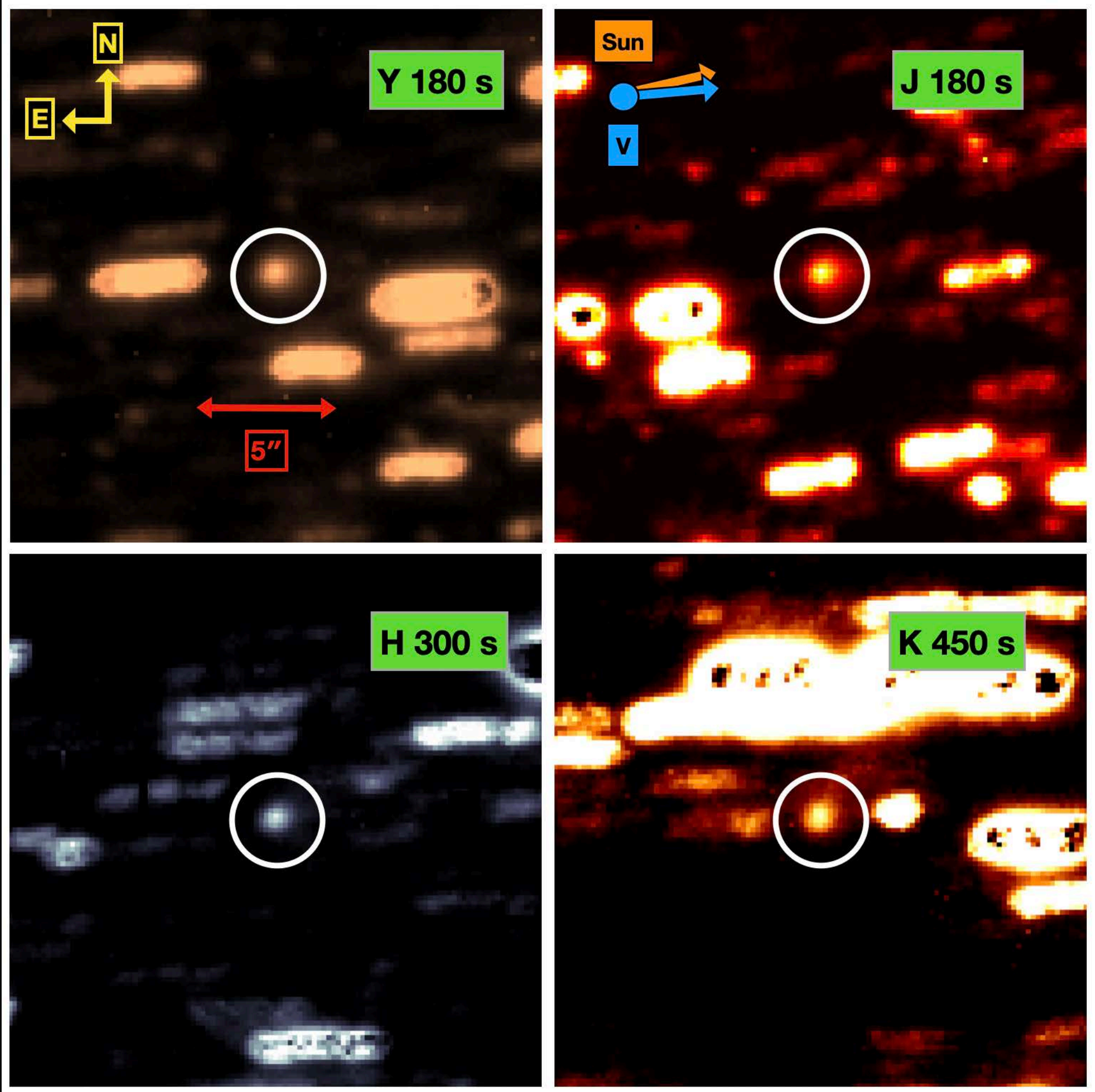
1I/'Oumuamua

3I/ATLAS

International Gemini Observatory/NOIRLab
NSF/AURA/Shadow the Scientist/Bolin

D. Jewitt/NASA/HST

MOSFIRE Interstellar comet 3I/ATAS



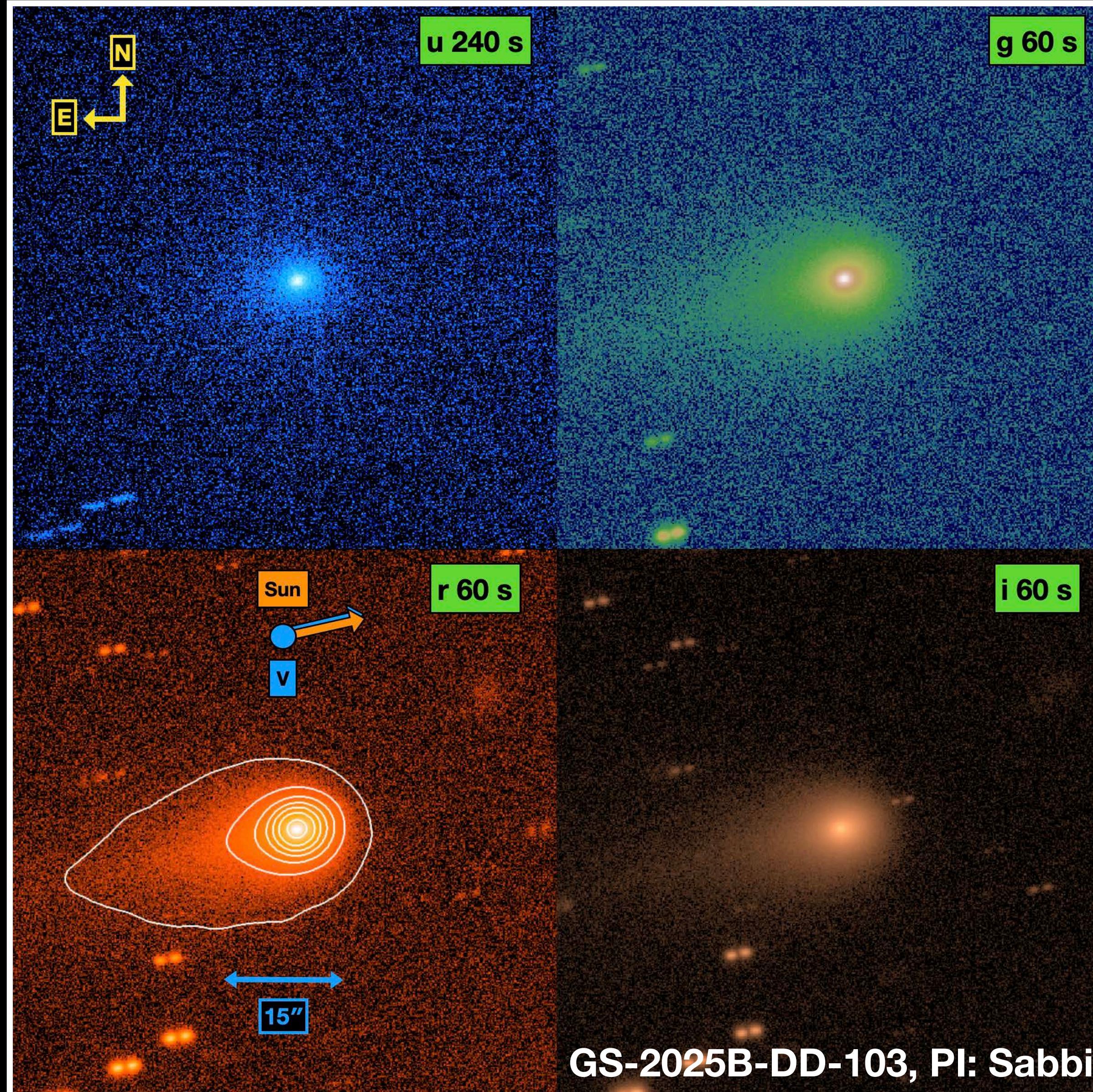
Leo Alcorn



Matt Wahl

MOSFIRE imaging
July 11, 2025

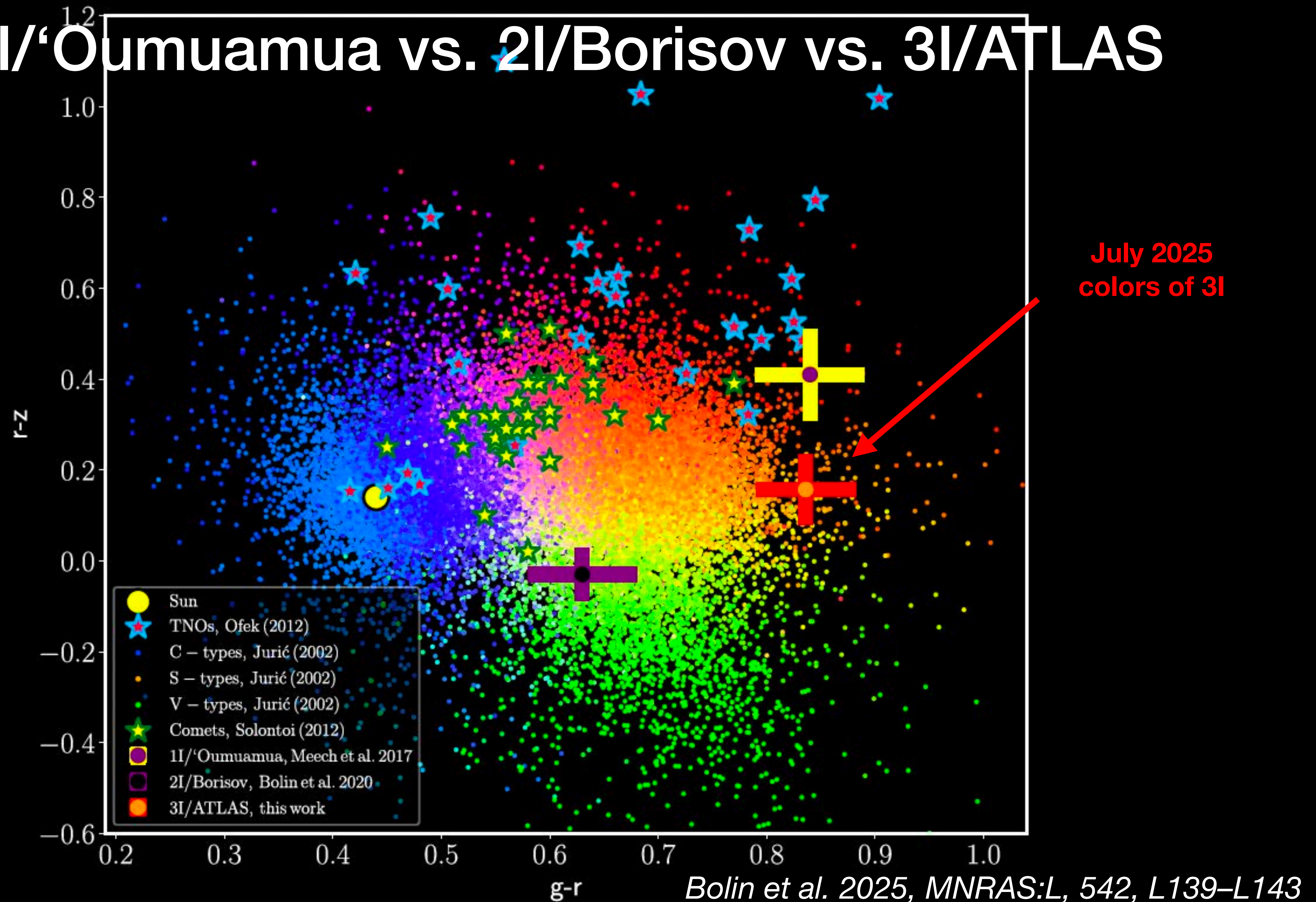
3I/ATLAS



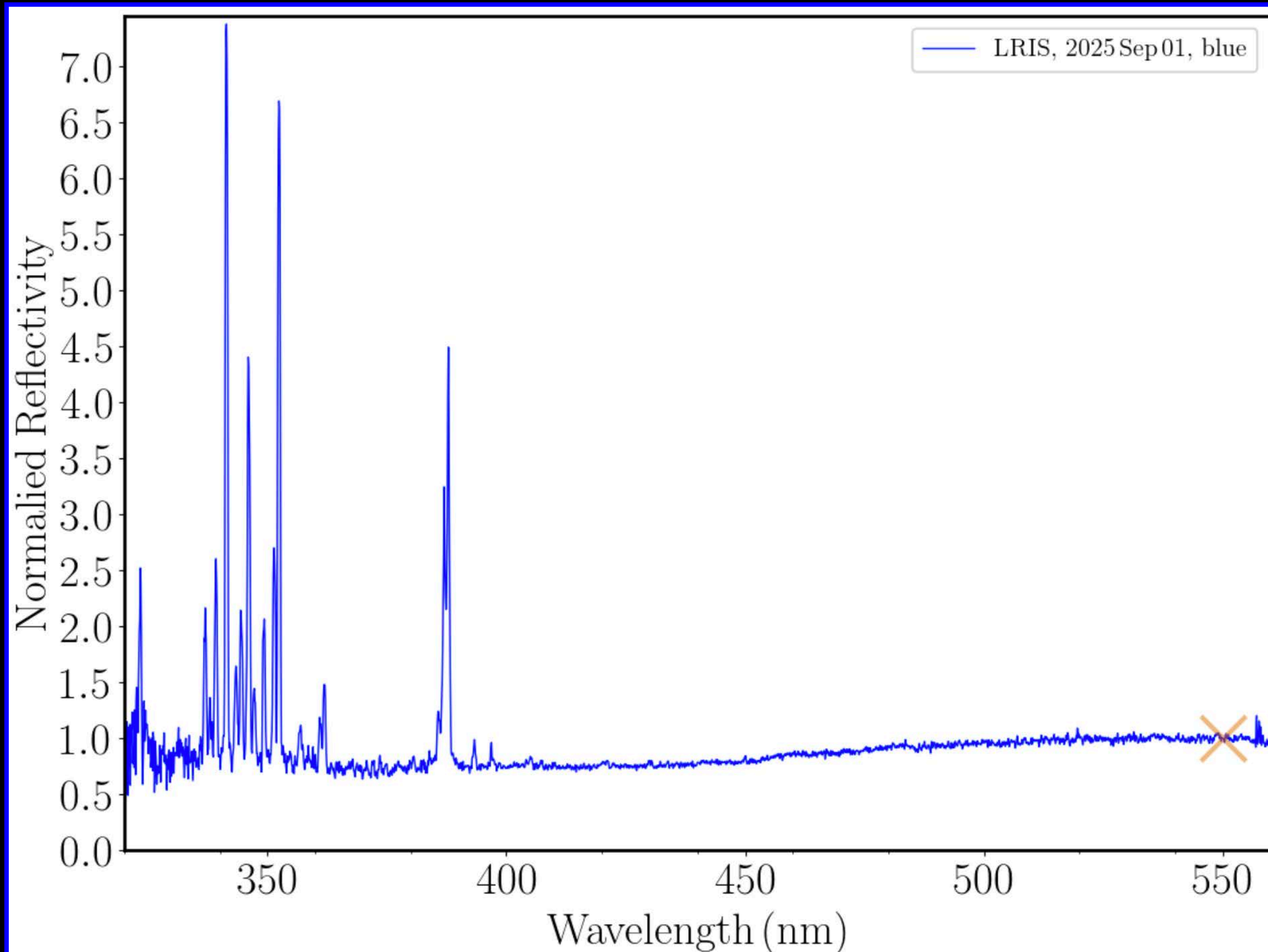
Gemini imaging
August 27, 2025

Bolin et al. 2025,
ATel #17363

1I/'Oumuamua vs. 2I/Borisov vs. 3I/ATLAS



LRIS Interstellar comet 3I/ATAS

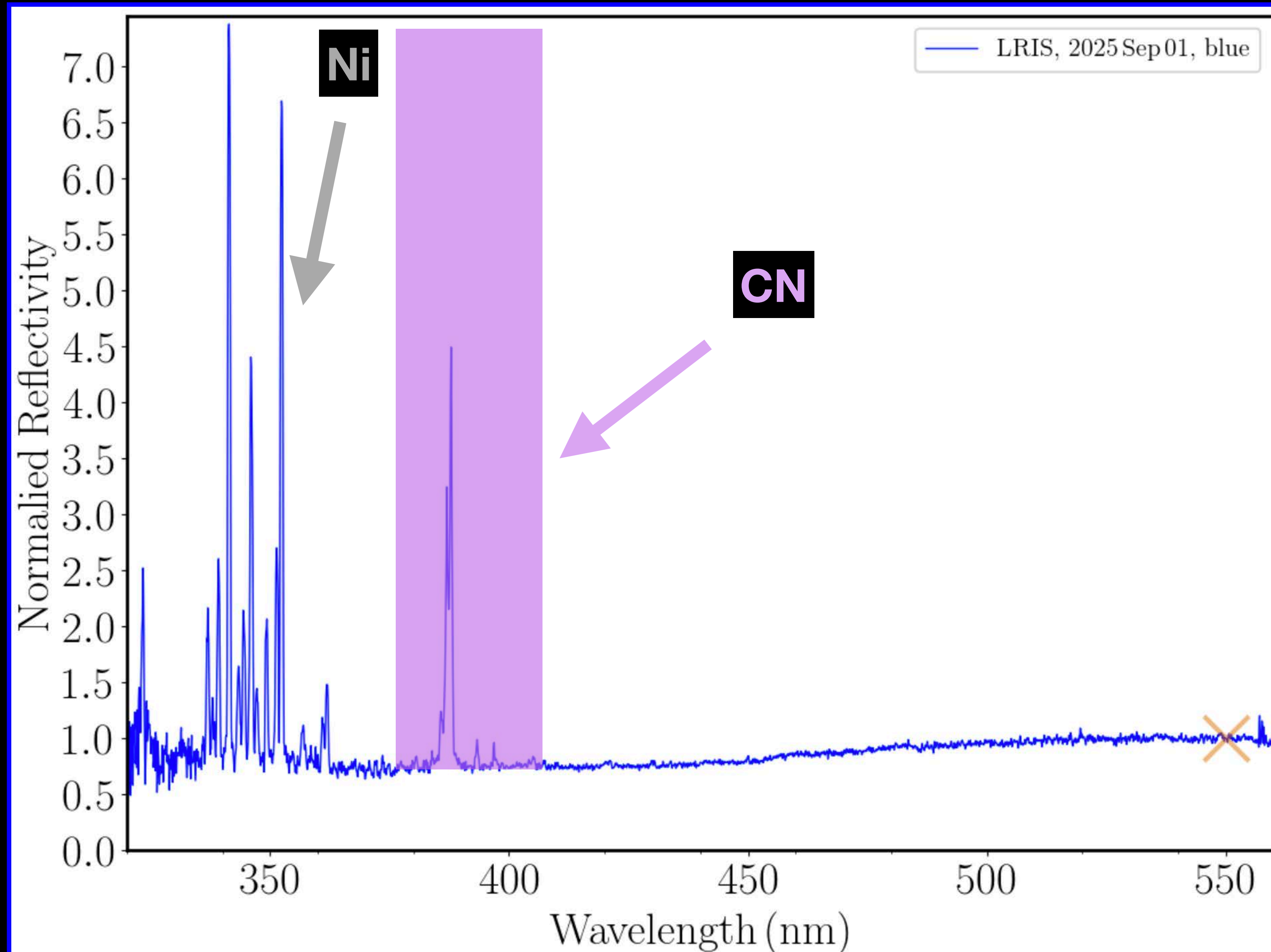


September 1, 2025



Jeff Cooke

LRIS Interstellar comet 3I/ATAS

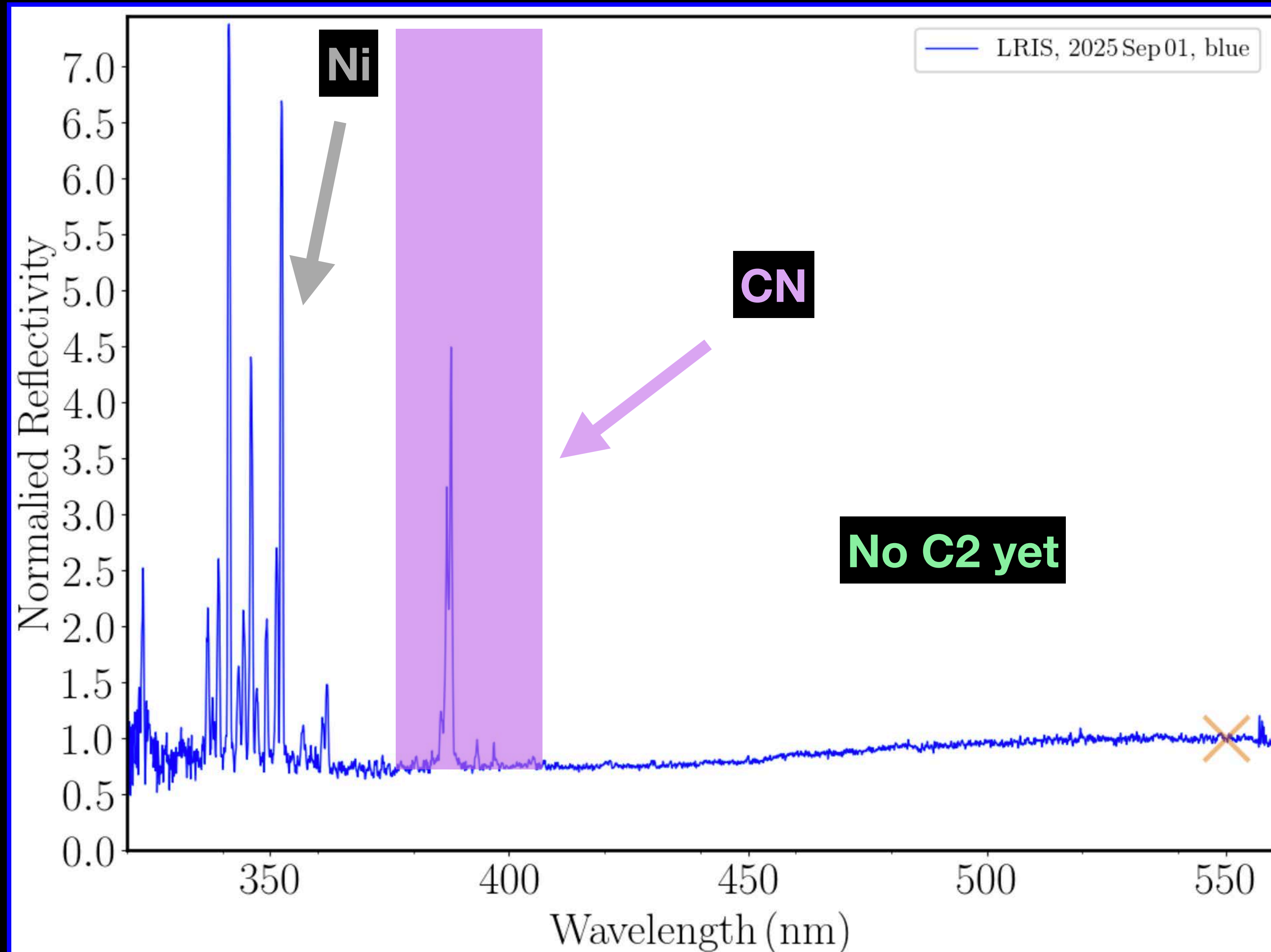


September 1, 2025



Jeff Cooke

LRIS Interstellar comet 3I/ATAS

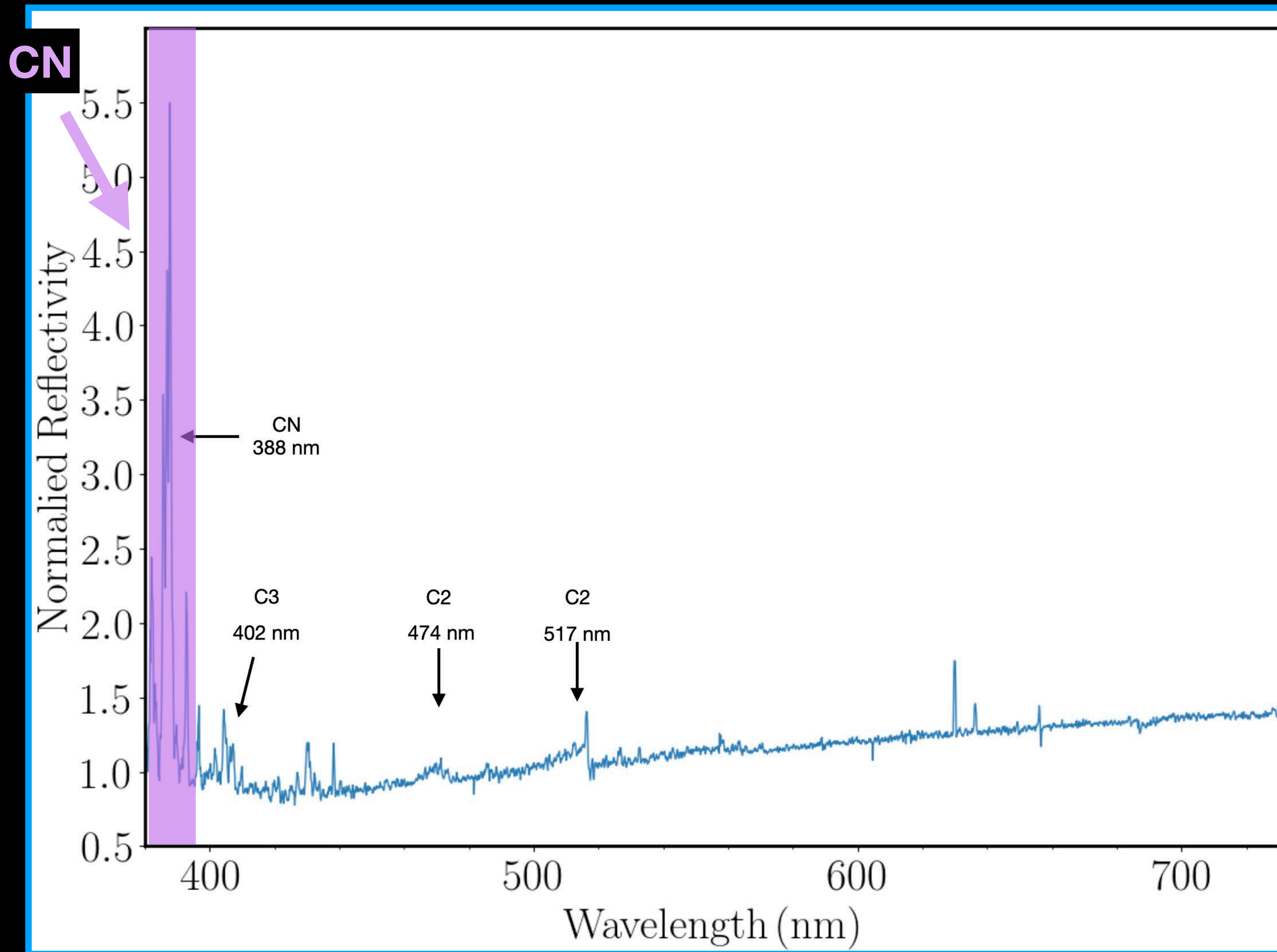


September 1, 2025



Jeff Cooke

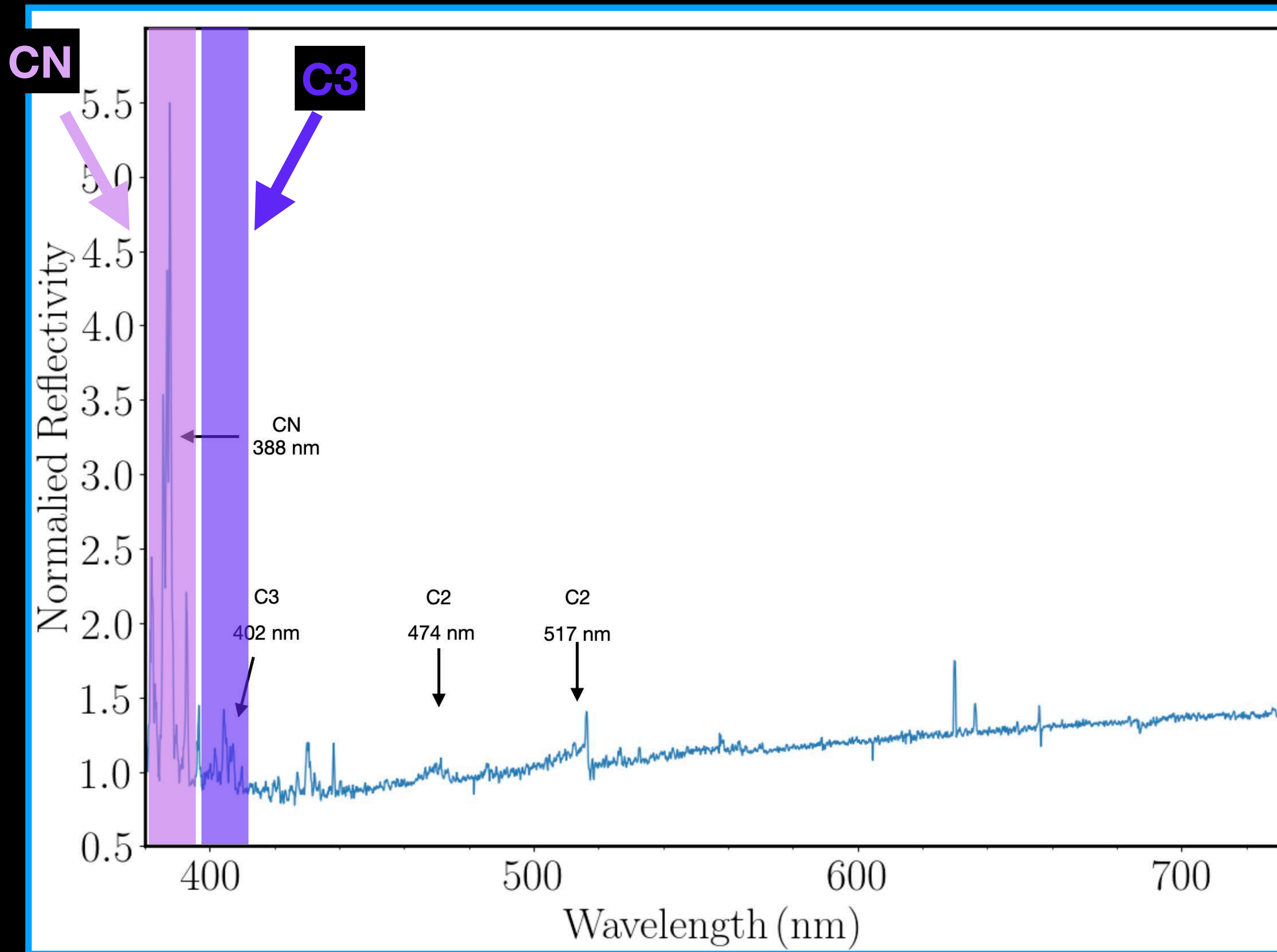
GMOS Interstellar comet 3I/ATAS



November 26, 2025

Bolin et al. 2025, ATel #17561

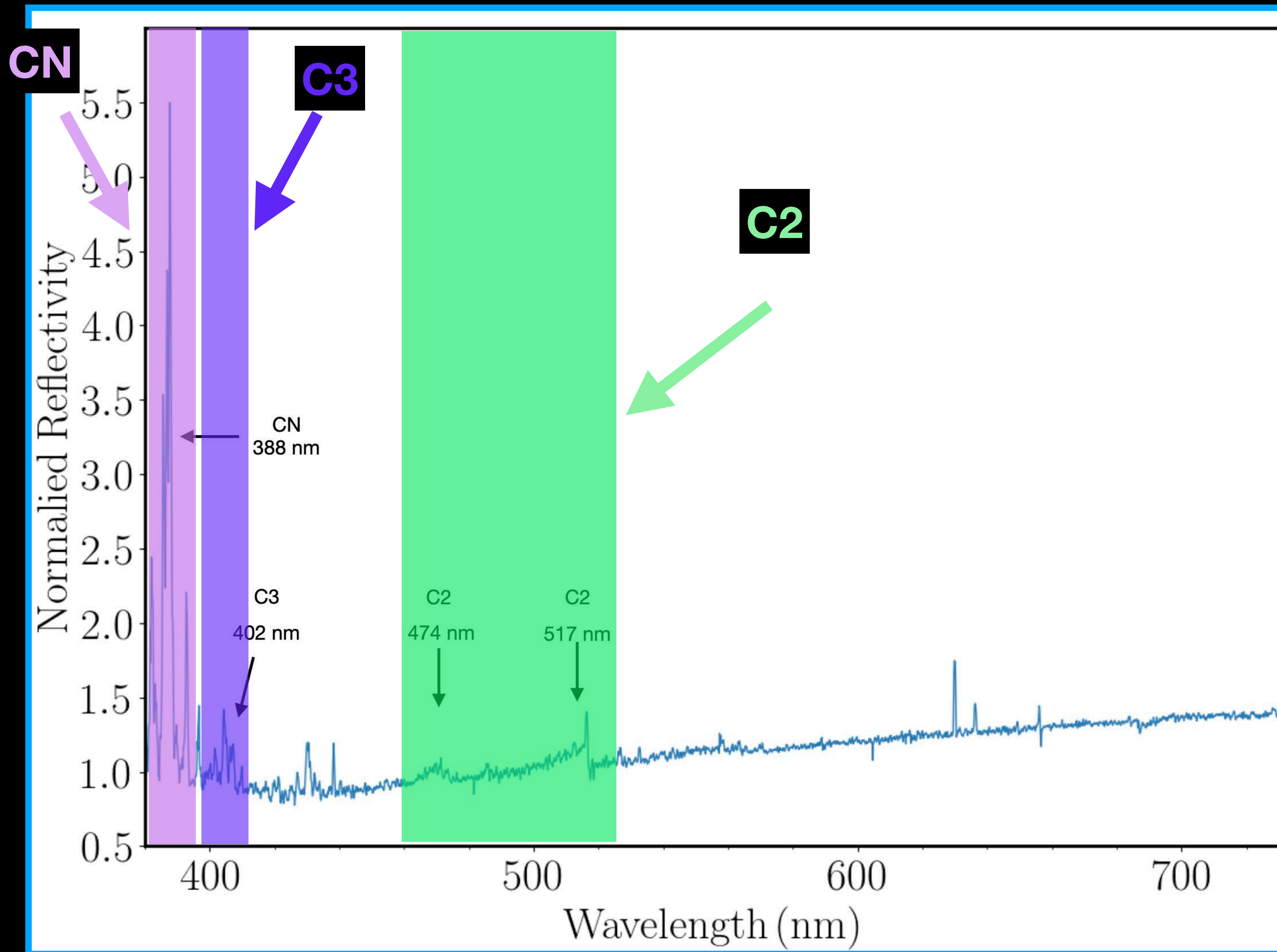
GMOS Interstellar comet 3I/ATAS



November 26, 2025

Bolin et al. 2025, ATel #17561

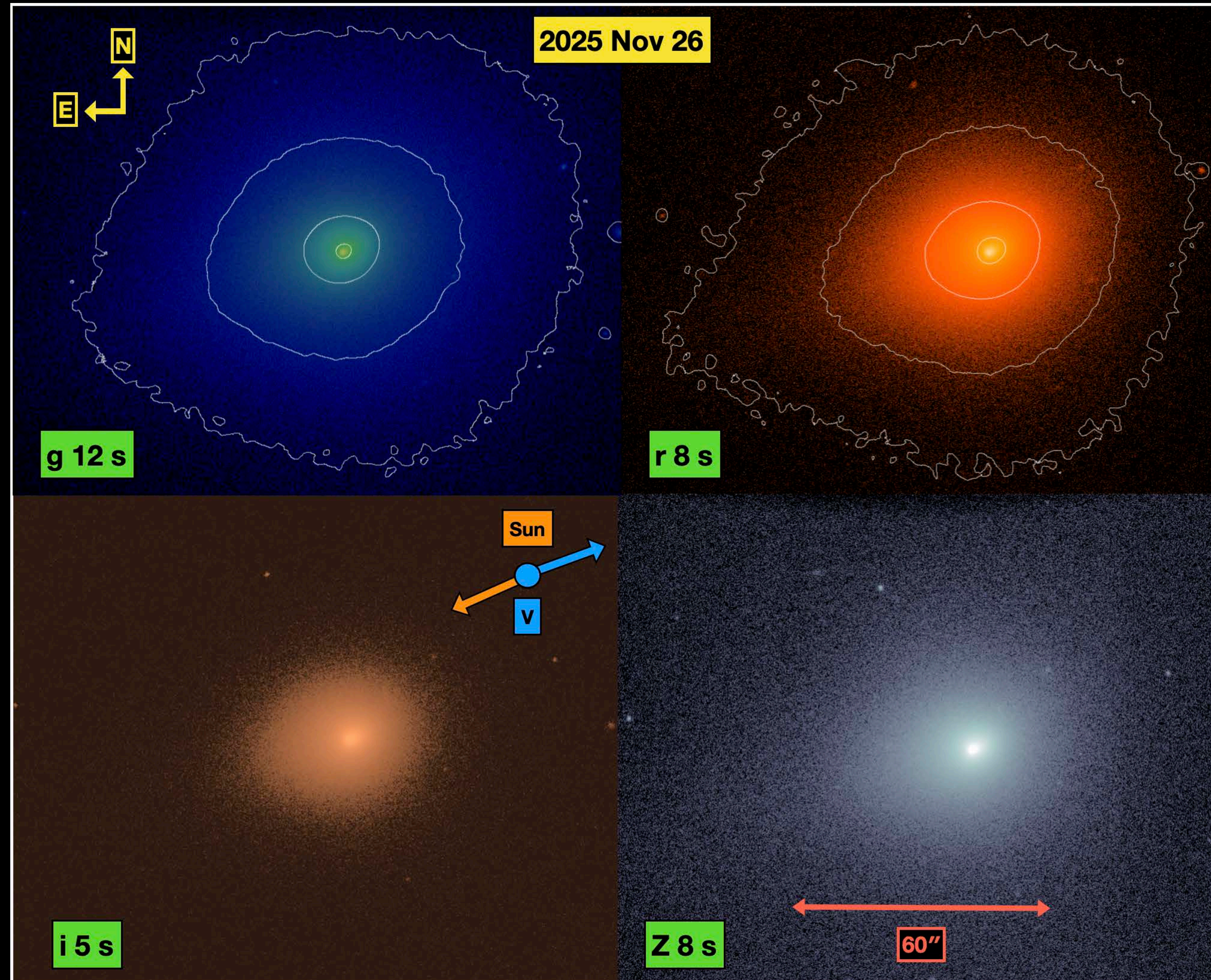
GMOS Interstellar comet 3I/ATAS



November 26, 2025

Bolin et al. 2025, ATel #17561

GMOS Interstellar comet 3I/ATAS



November 26, 2025

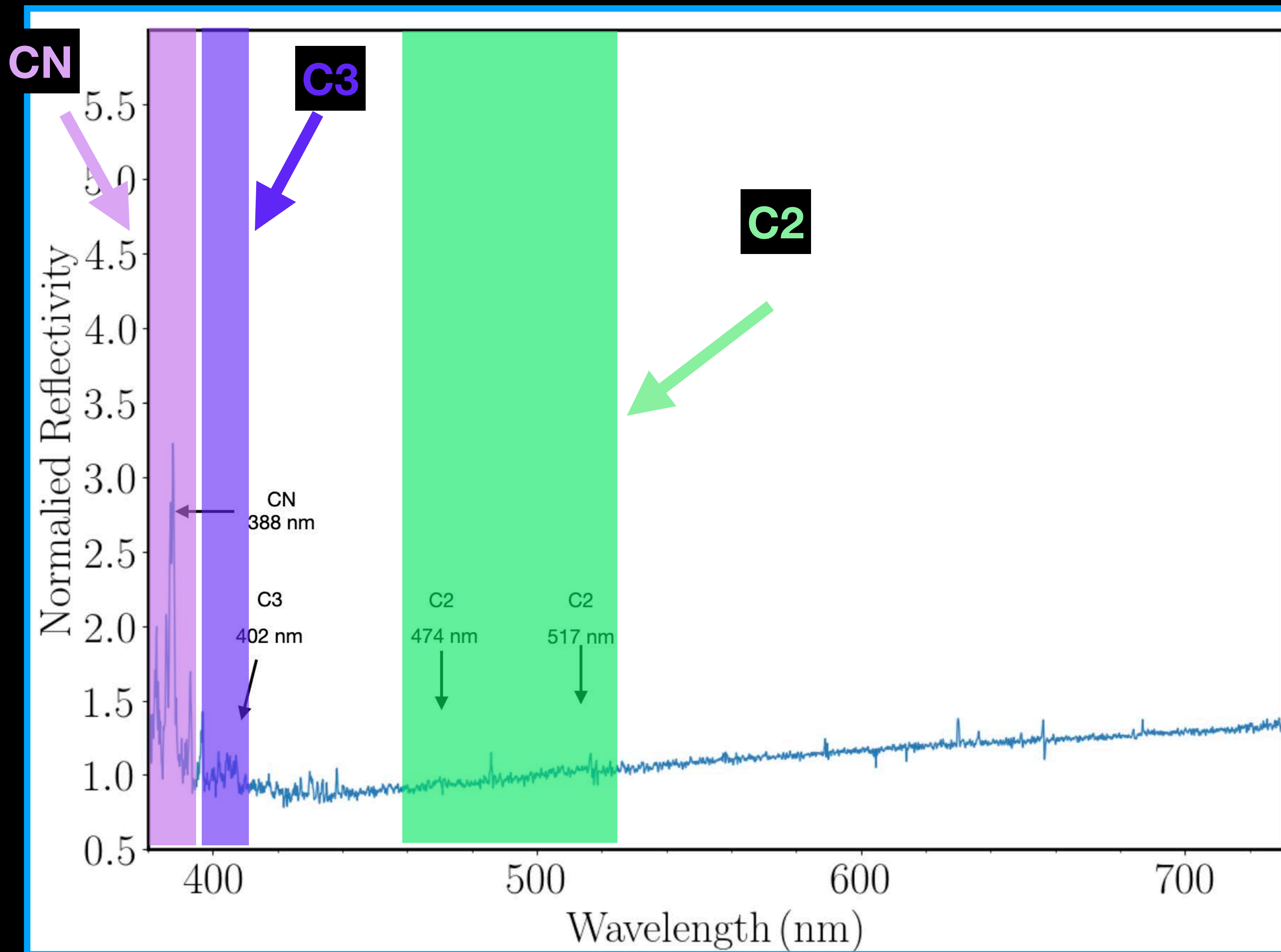
Bolin et al. 2025, ATeI #17561

Interstellar comet 3I/ATAS



Taken on 2025 November 19 by Michael Jäger

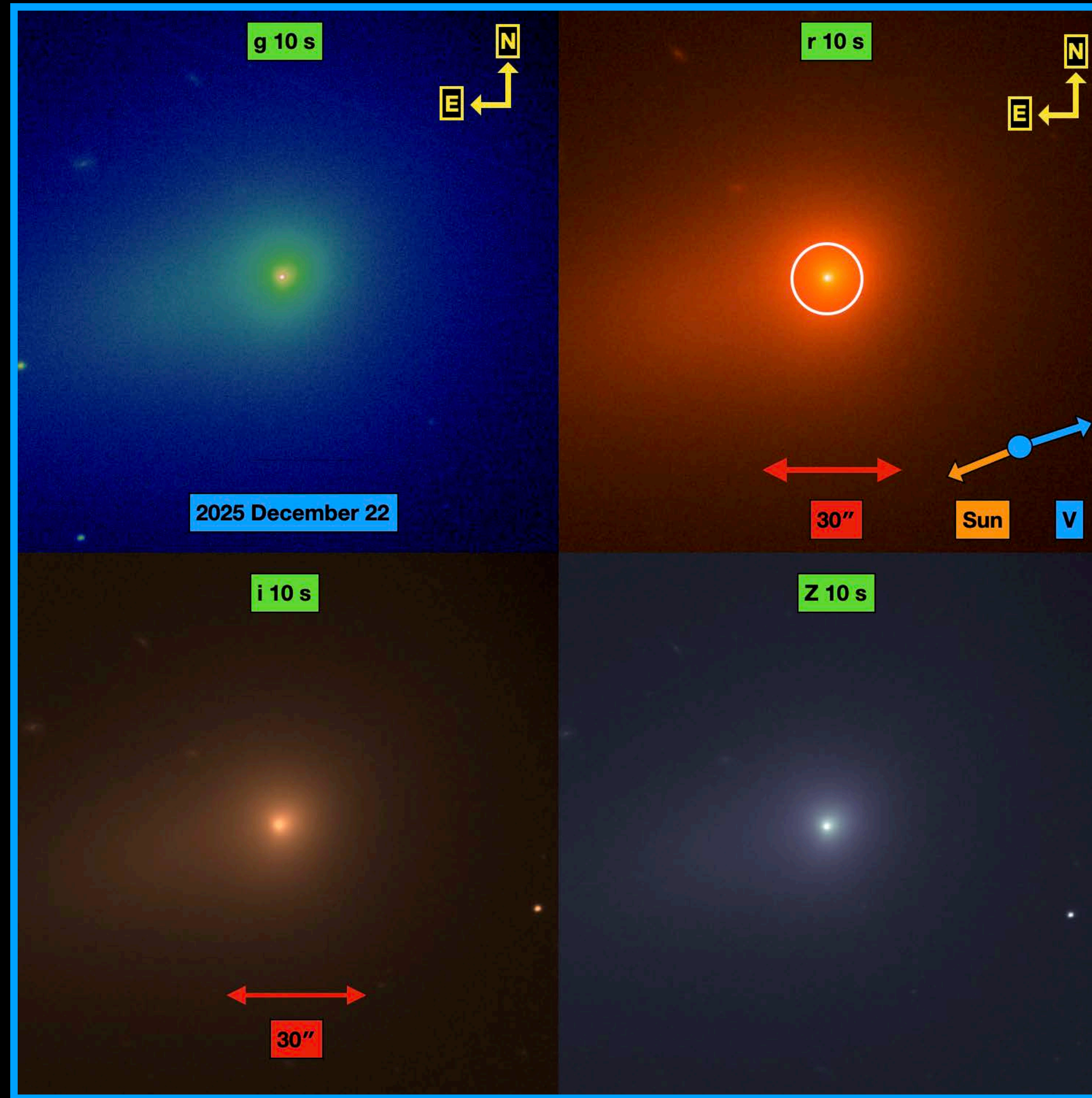
GMOS Interstellar comet 3I/ATAS



December 22, 2025

Bolin et al. 2025, ATel #17719

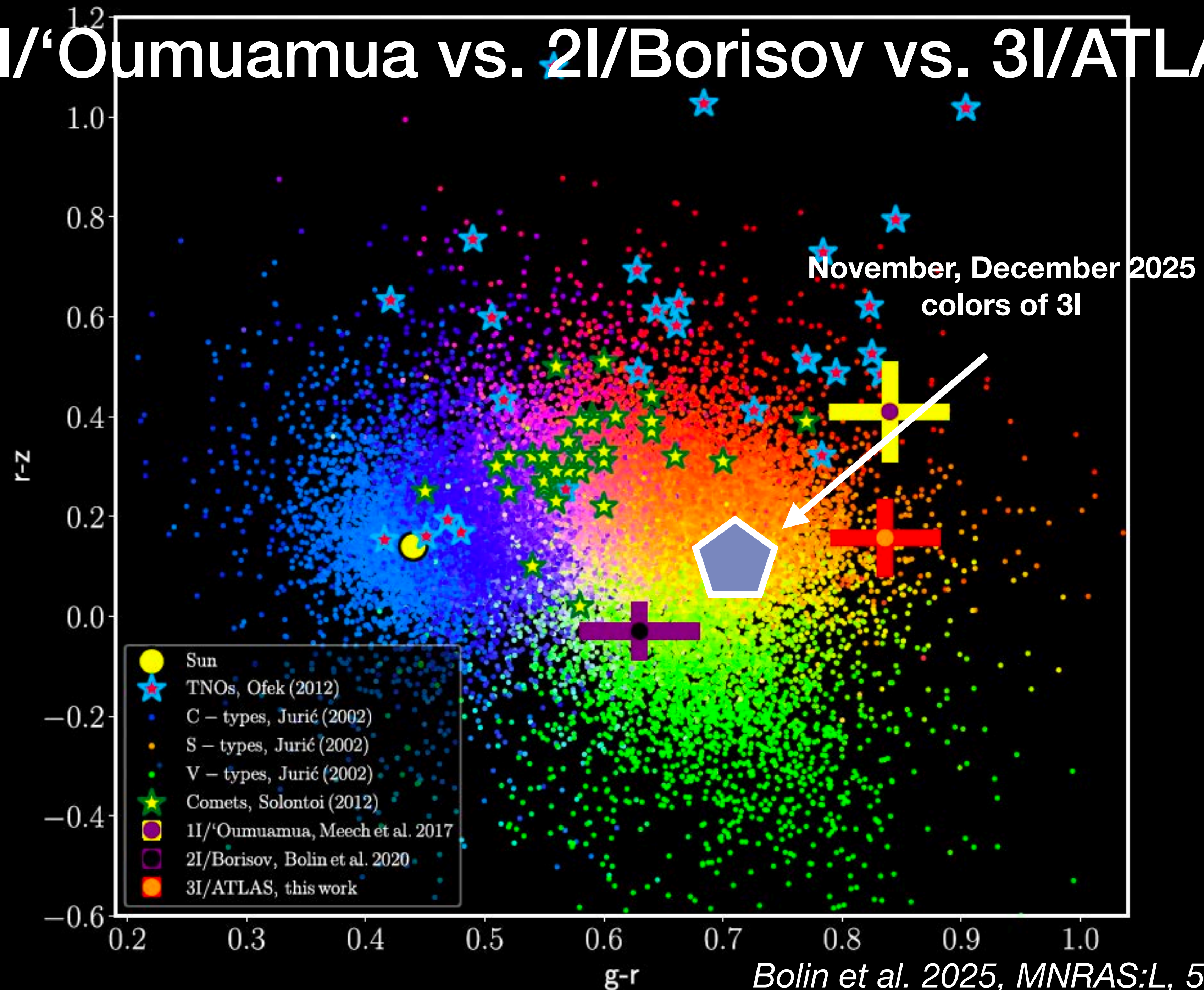
GMOS Interstellar comet 3I/ATAS



December 22, 2025

Bolin et al. 2025, ATel #17719

1I/'Oumuamua vs. 2I/Borisov vs. 3I/ATLAS



The background of the slide is a dark, deep blue space filled with numerous small, colorful streaks of light in shades of red, green, and blue. Two prominent, bright white stars are visible, one on the left and one in the center, both with soft, glowing halos. The overall effect is that of a rich, multi-colored star field or galaxy.

Mahalo nui loa!

Thank you for your interest, and support of our science!