

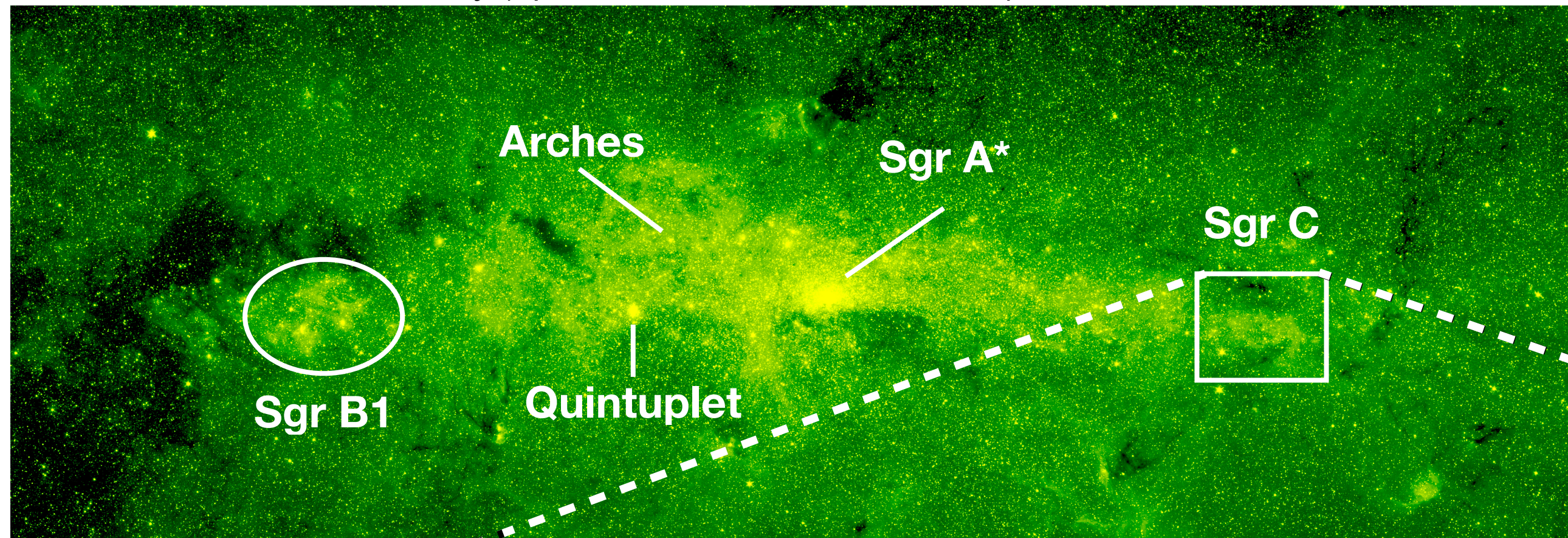
Young and Intermediate-Age Stars in Sagittarius C with JWST

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Abstract

The Sagittarius C region is a prominent HII region in the nuclear stellar disc, where previous work indicates the presence of several hundred thousand young stars. We have analysed **JWST/NIRCam data** of Sagittarius C, the deepest photometry ever obtained for this region, to characterise the extinction curve over 1.15–4.8 μm and determine its stellar population. The good agreement between the derived extinction curve and previous results supports the idea that the **infrared extinction curve towards the inner Galaxy is not dependent on the line of sight**. We confirm the presence of a significant population of young massive stars, that clearly exceeds that of control regions in the nuclear stellar disc. We also find a substantial contribution of intermediate-age stars, supporting an **inside-out formation scenario** for the nuclear stellar disc.

NASA/JPL-Caltech/S. Stolovy (Spitzer Science Center/Caltech)



Data

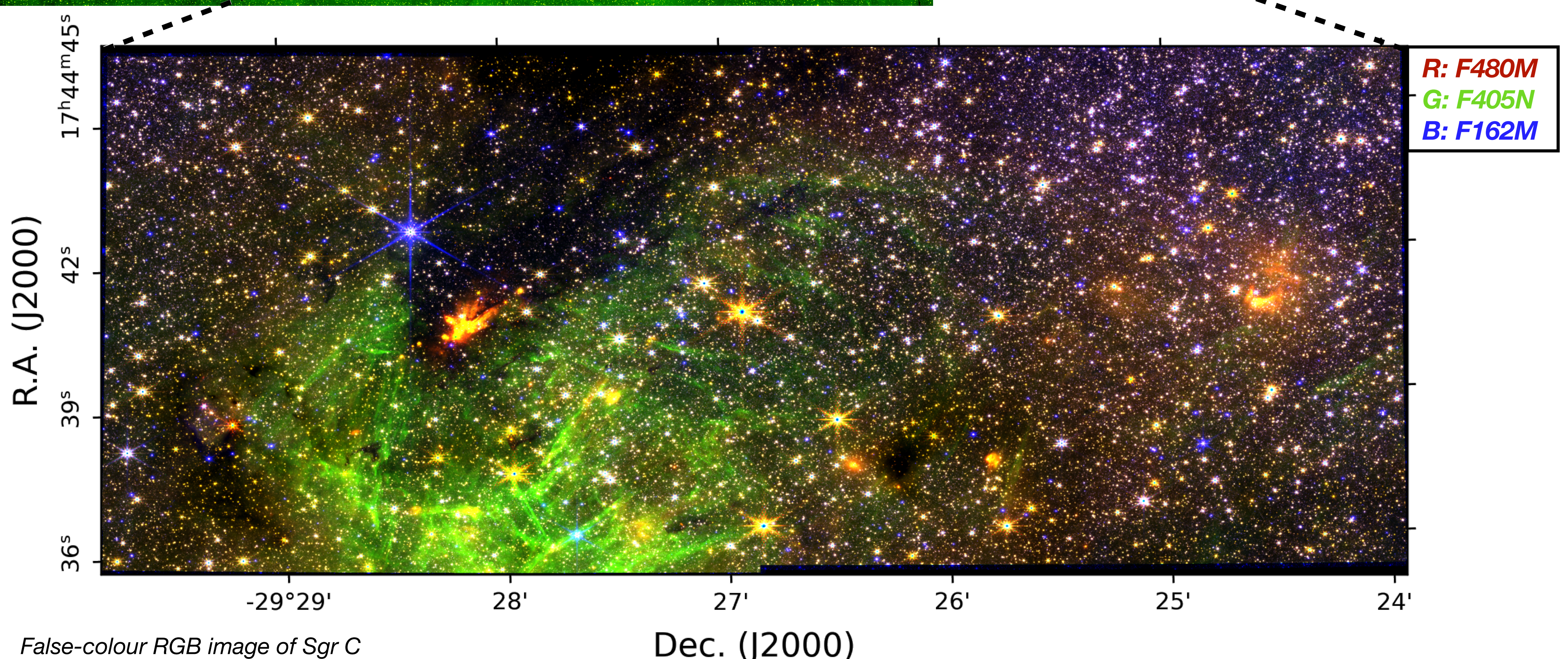
8 filters covering 1.15–4.8 μm

Short wavelength

F115W · F162M · F182M · F212N

Long wavelength

F360M · F405N · F470N · F480M

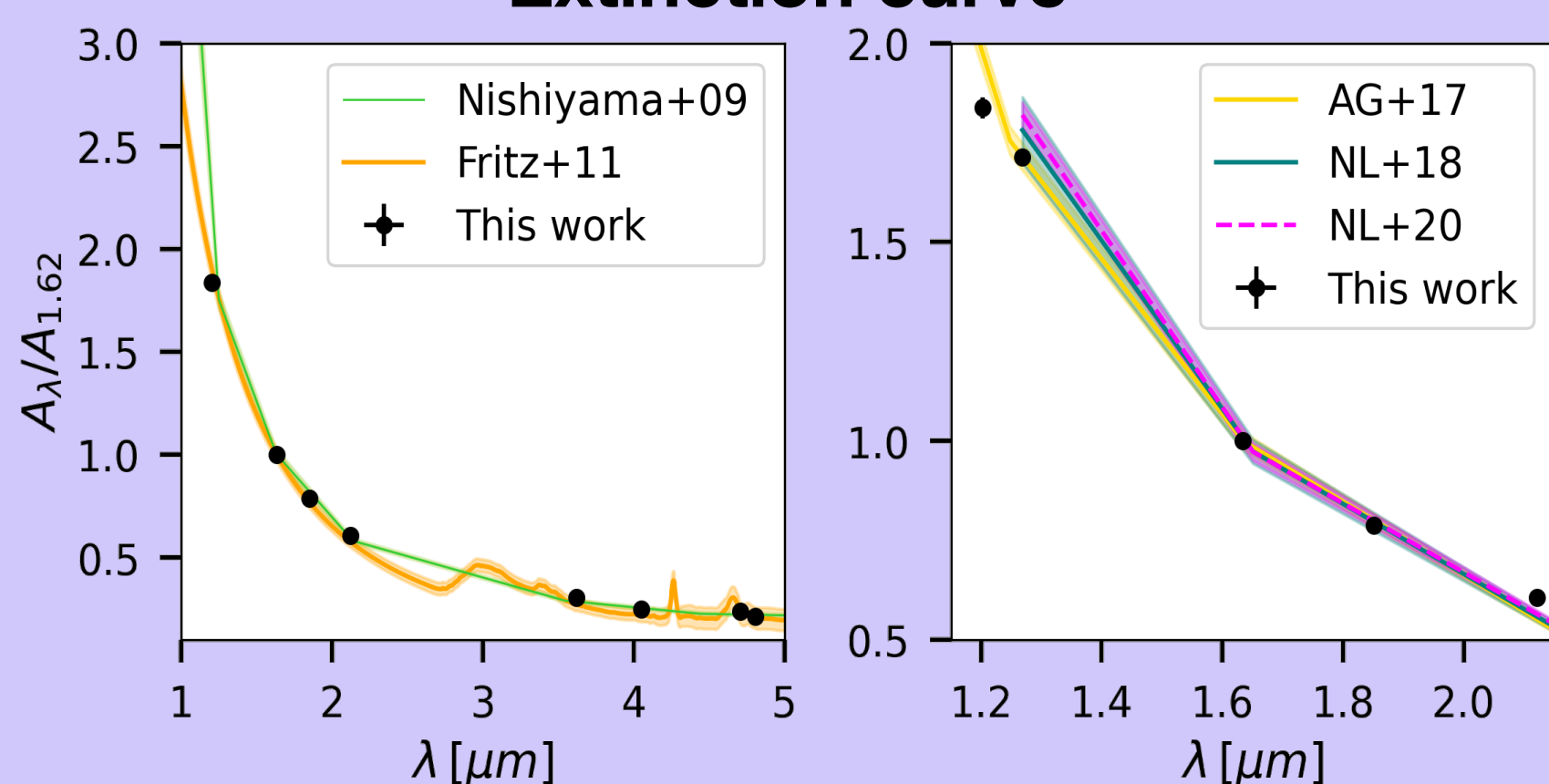


False-colour RGB image of Sgr C

Dec. (J2000)

Results

Extinction curve



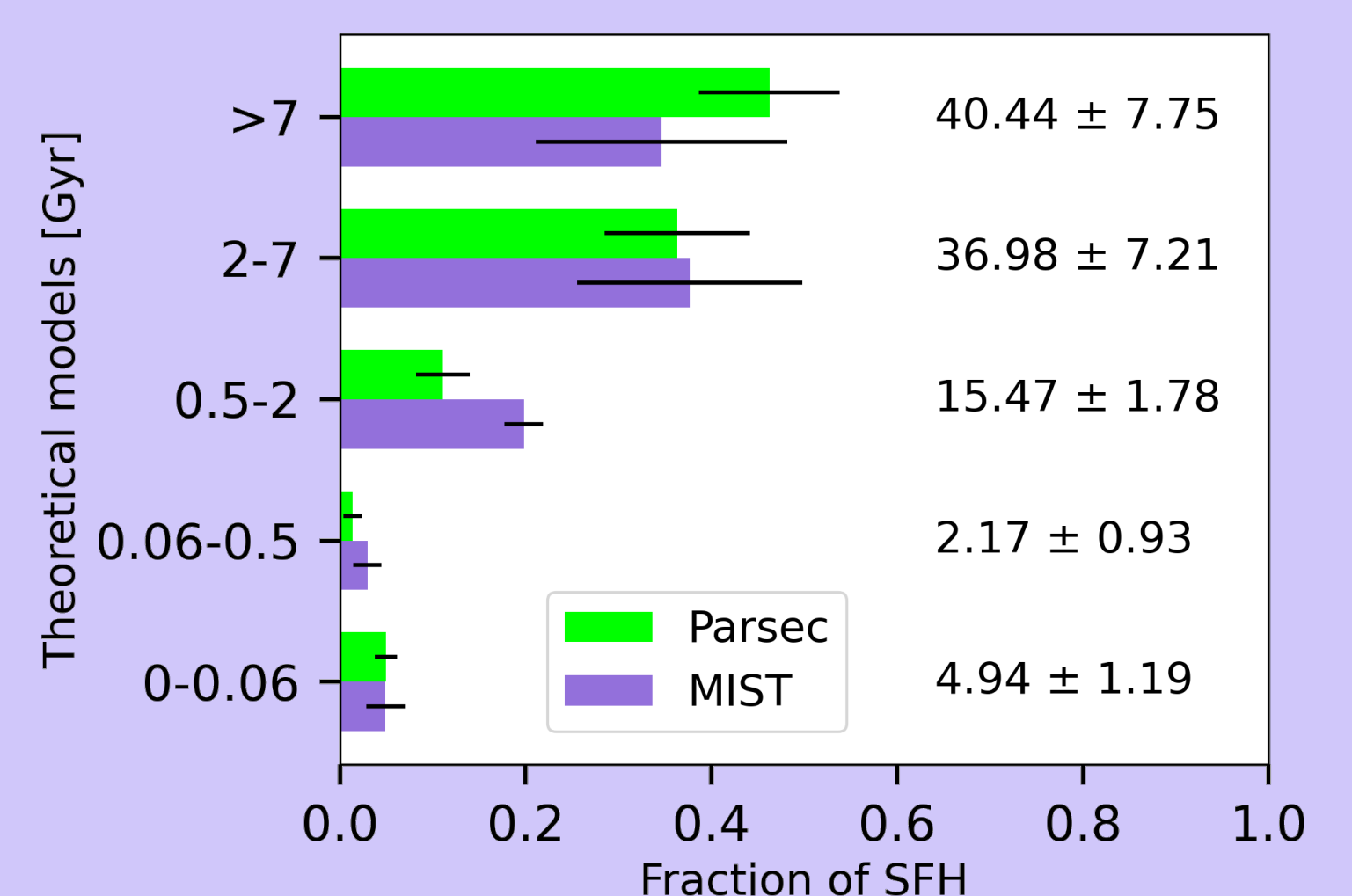
Comparison of the derived extinction curve with previous results. Left: Nishiyama et al. (2009), and Fritz et al. (2011). Right: Alonso-García et al. (2017), Nogueras-Lara et al. (2018), and Nogueras-Lara et al. (2020).

Our results support the **line-of-sight independence** of the infrared extinction curve towards the Galactic Centre



Bravo Ferres et al. (2025)

Preliminary work - stellar populations



- Compatible with an **inside-out formation scenario** for the nuclear stellar disc.
- $\sim 2 \times 10^5 M_{\odot}$ of young stars (5–40 Myr).