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THE REGIONS

- ❖ sigma Orionis: 3-8 Myr; 350 pc
- ❖ Upper Scorpius: 5-10 Myr; 145 pc
- ❖ The Pleiades: 125 Myr; 135 pc
- ❖ The Hyades: 650 Myr; 47 pc

PHOTOMETRY

- ❖ Archival data: 2MASS, Sloan, PanSTARRS, UKIDSS, AllWISE large-scale surveys
- ❖ New PI data: deep photometry with ESO VIRCAM, GTC OSIRIS, GTC EMIR and CAHA 3.5-m/Omega2000

ASTROMETRY

- ❖ Cross-match catalogues from large-scale surveys with own photometry to measure the proper motions in RA and dec

SPECTROSCOPY

- ❖ Low-resolution ($R \sim 300$) optical (0.6 to 1 micron) with GTC OSIRIS
- ❖ Low-resolution near-infrared with VLT X-shooter and GTC EMIR

REFERENCES

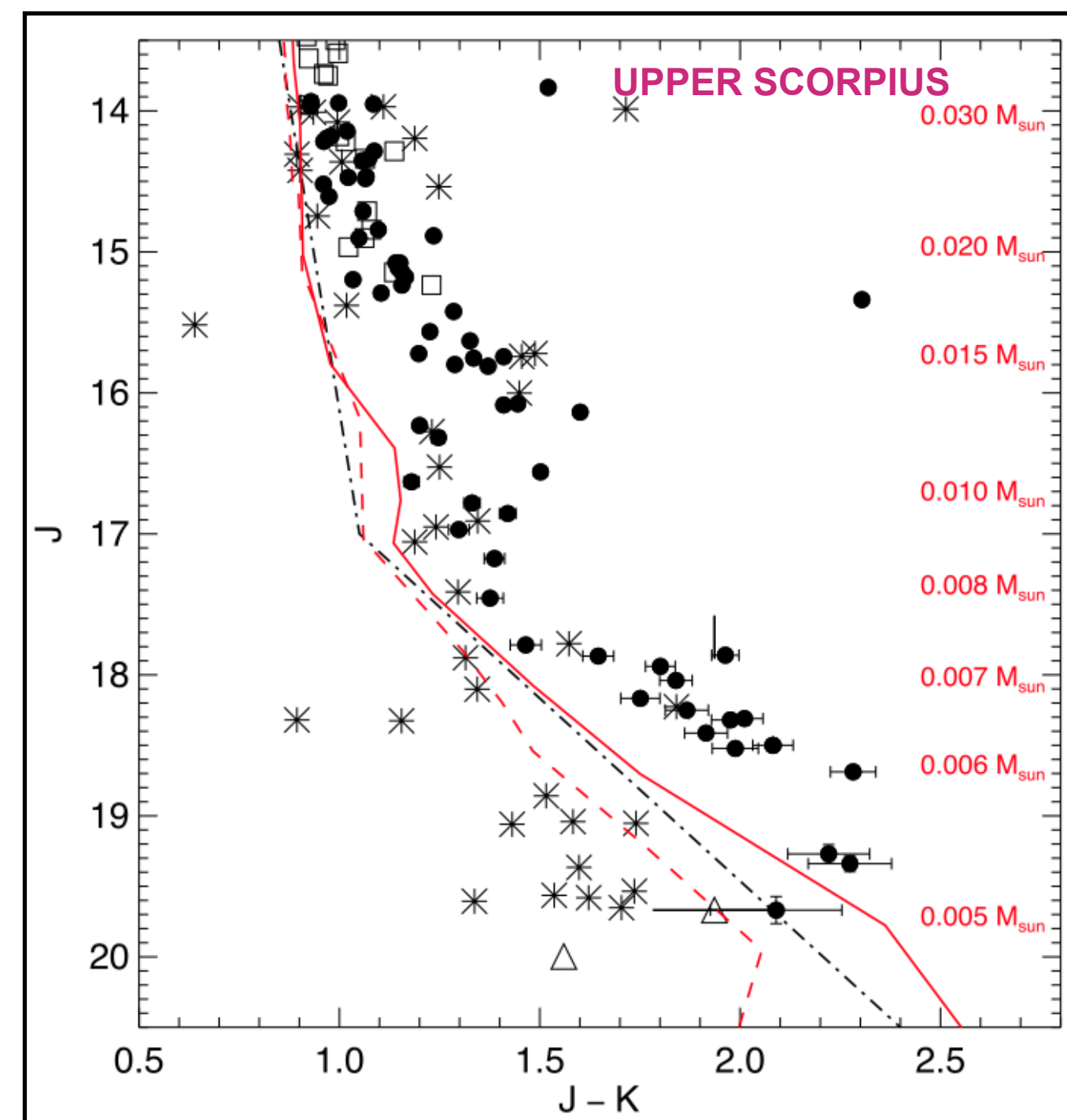
- ❖ Zapatero Osorio et al. (2017, ApJ, 842, 65)
- ❖ Perez Garrido et al. (2017, A&A, 599, 78)
- ❖ Zapatero Osorio et al. (2018, MNRAS, 475, 139)
- ❖ Perez Garrido et al. (2018, A&A, 620, 130)
- ❖ Lodieu et al. (2018, MNRAS, 473, 2020)
- ❖ Lodieu et al. (2018, A&A, 615, 12)



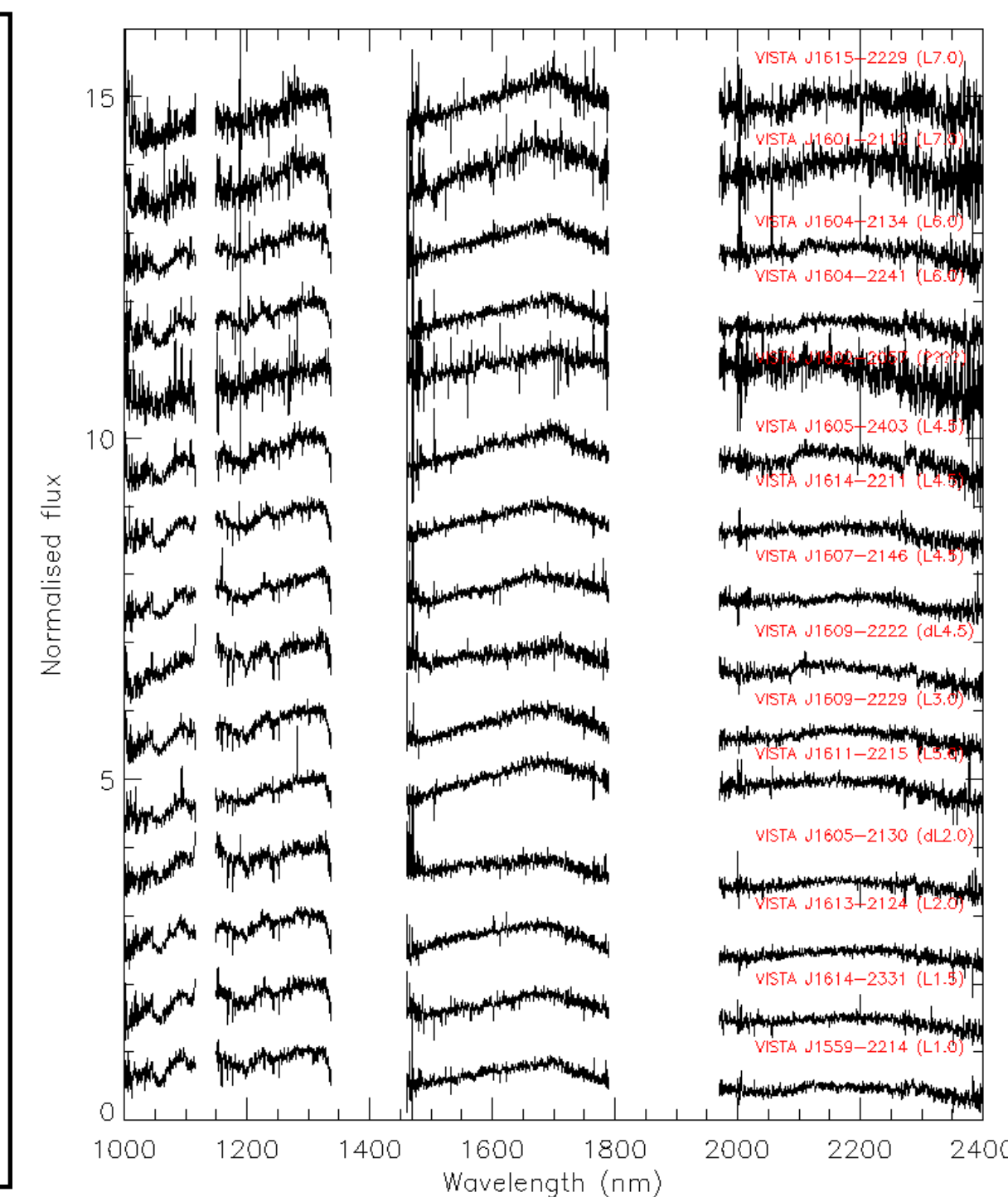
Planetary-mass object and brown dwarf age sequences as benchmarks for exoplanet evolution

Identification of photometric and astrometric sequences of low-mass stars, brown dwarfs, and isolated planetary-mass objects in 4 regions with ages between 3 and 650 Myr

- ★ THE SUBSTELLAR IMF EXTENDS DOWN TO 6-10 M_{Jup}
- ★ FIRST SPECTROSCOPIC SEQUENCES OF YOUNG L DWARFS
- ★ YOUNG L DWARFS DIFFER FROM OLDER FIELD L DWARFS



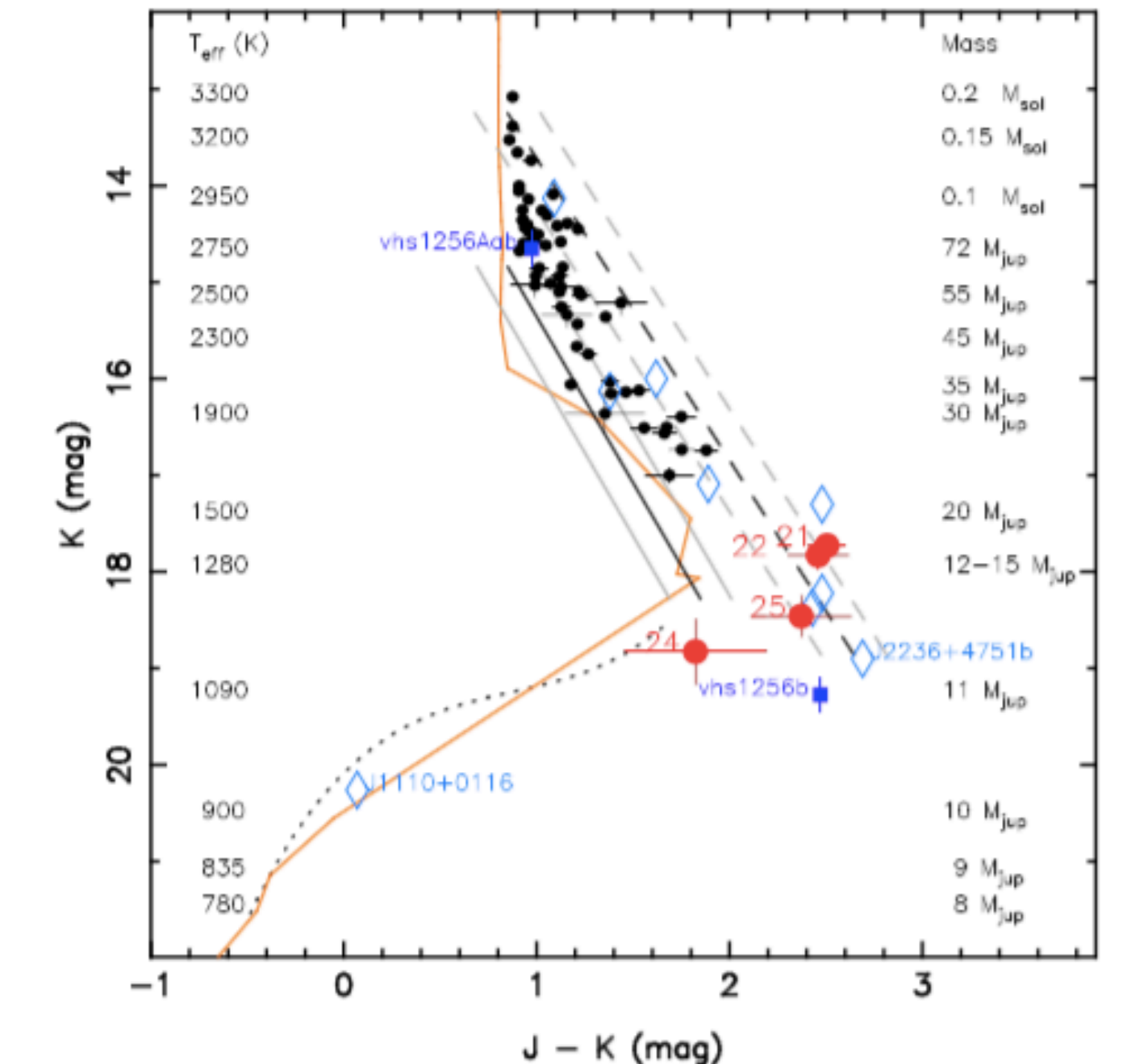
Colour-magnitude diagram for Upper Scorpius



Sequence of young USco L dwarfs

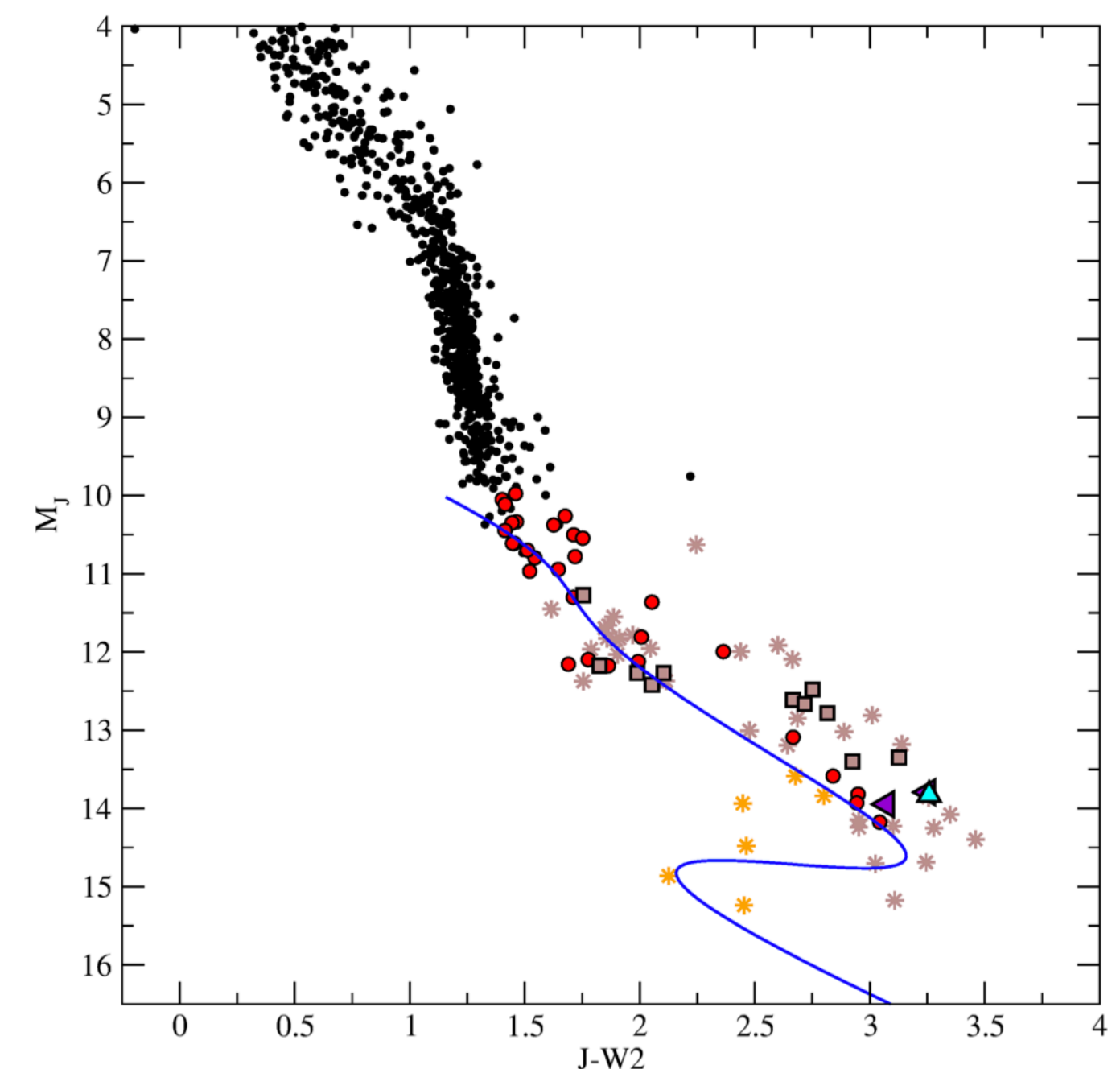
COLOUR-MAGNITUDE DIAGRAMS

PLEIADES



Colour-magnitude diagram for the Pleiades

THE HYADES



Colour-magnitude diagram for the Hyades

Acknowledgments: We acknowledge support from the Agencia Estatal de Investigación del Ministerio de Ciencia e Innovación (AEI-MCINN) under grant PID2019-109522GB-C51-53.



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