



Fine structure in the Sigma Orionis cluster revealed by Gaia DR3

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Kinematic groups in Orion

e.g.

Blaauw 1964

Kubiak et al. 2017

Kounkel et al. 2018

Zari et al. 2019

Sergio Sánchez-Sanjuán (see talk)





Sigma Orionis cluster

Garrison 1967

Walter et al. 1997



Sigma Orionis cluster

Garrison 1967

Walter et al. 1997

Béjar et al. 1999

Zapatero Osorio et al. 2000, 2002

Barrado y Navascués et al. 2001

Martín et al. 2001

Kenyon et al. 2005

Jeffries et al. 2006

Maxted et al. 2008

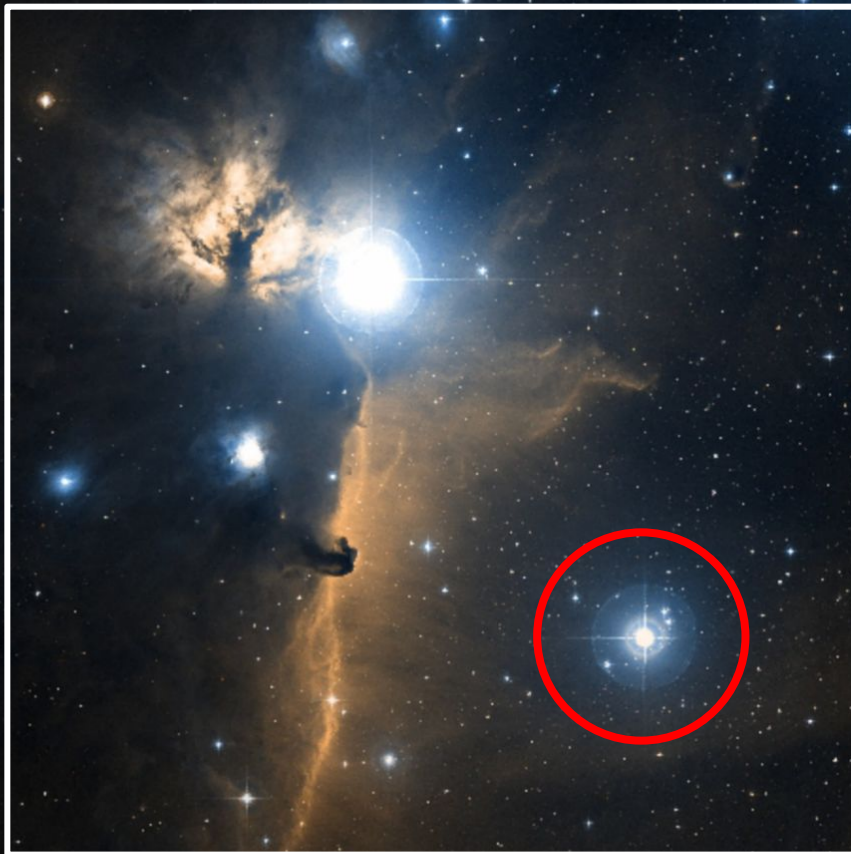
Sacco et al. 2008

Peña Ramírez et al. 2012

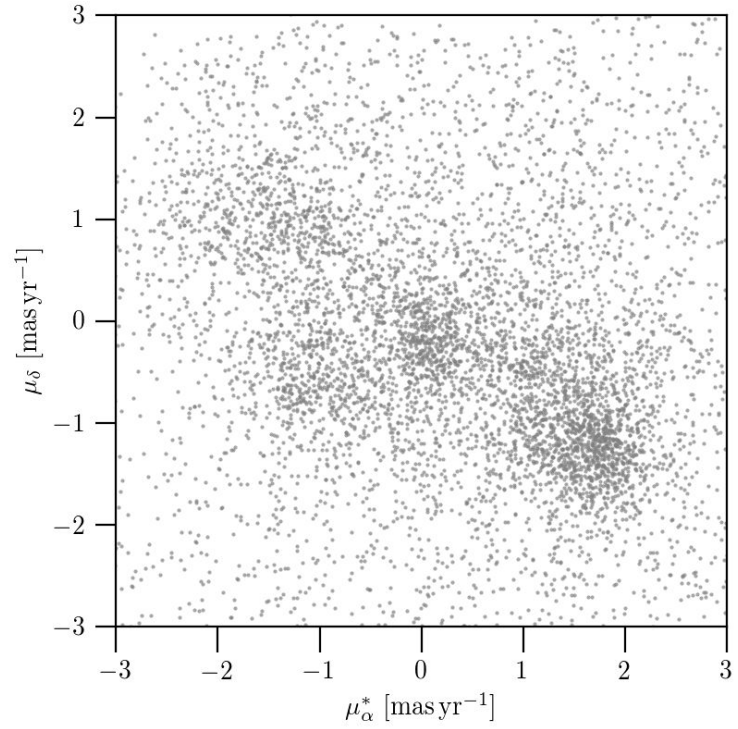
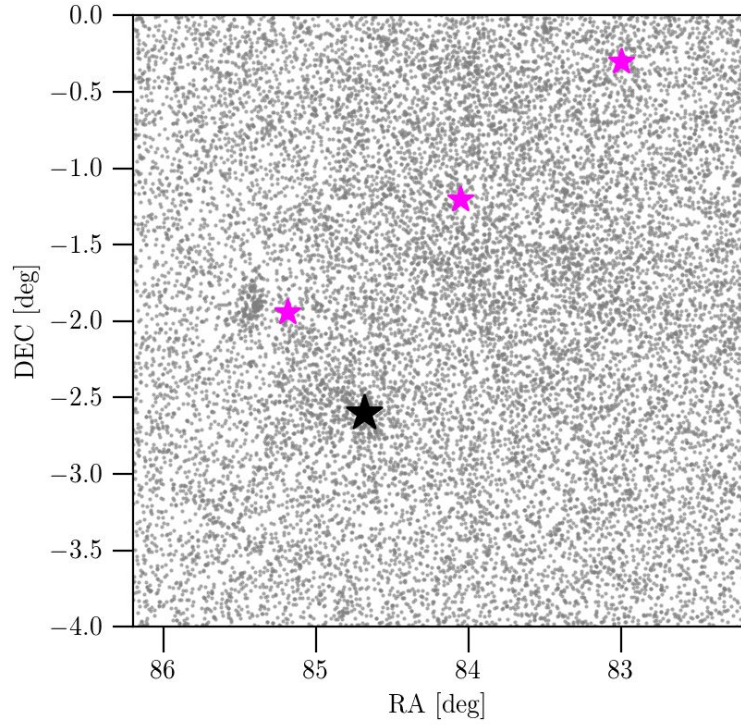
Hernández et al. 2014

Caballero et al. 2019

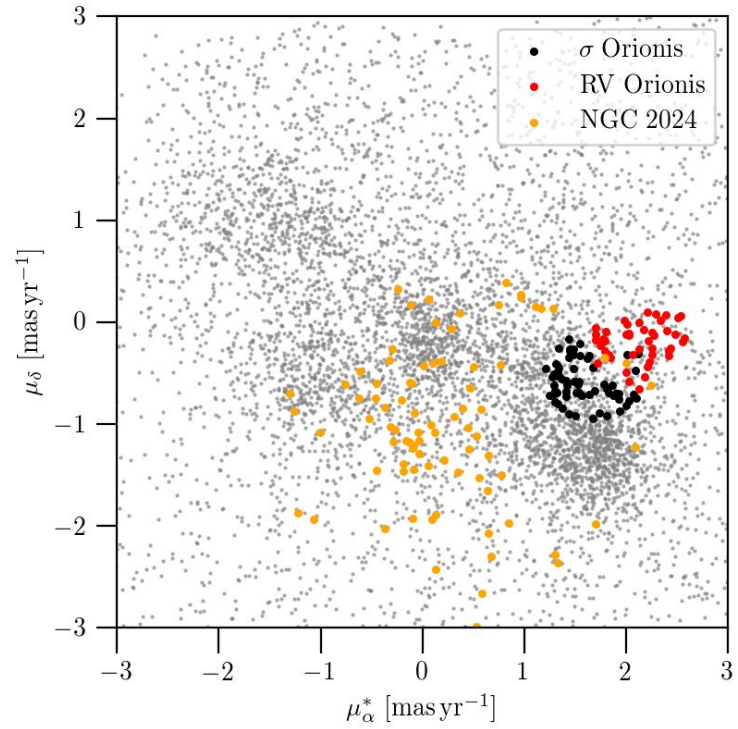
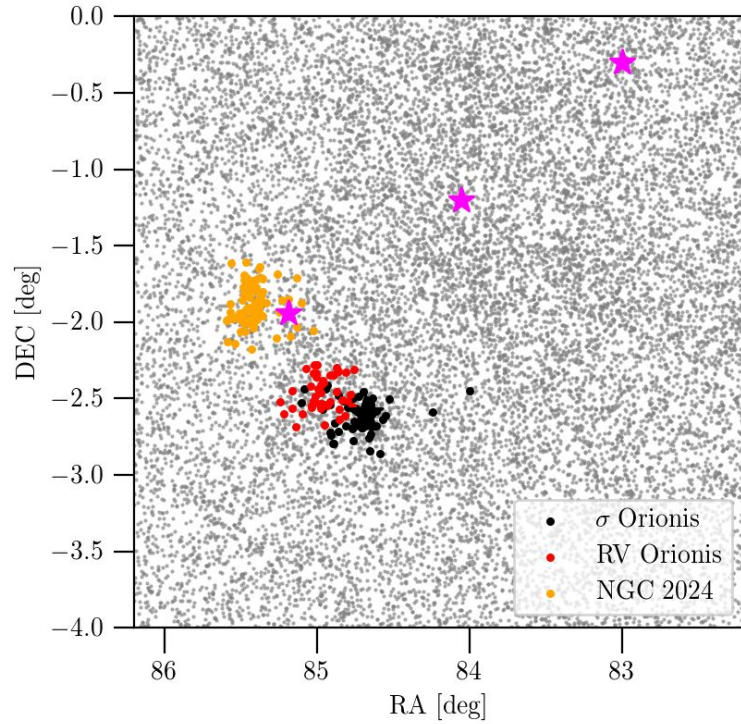
etc.

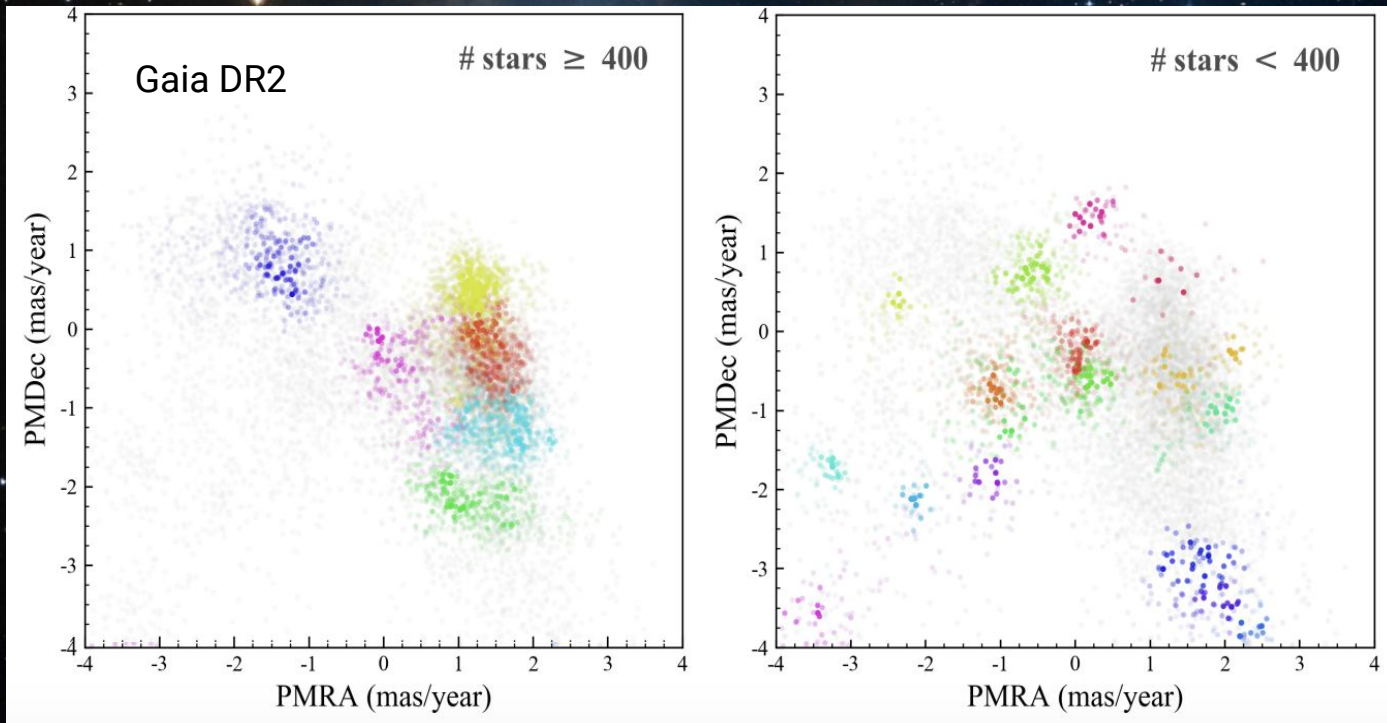


Gaia DR3 data

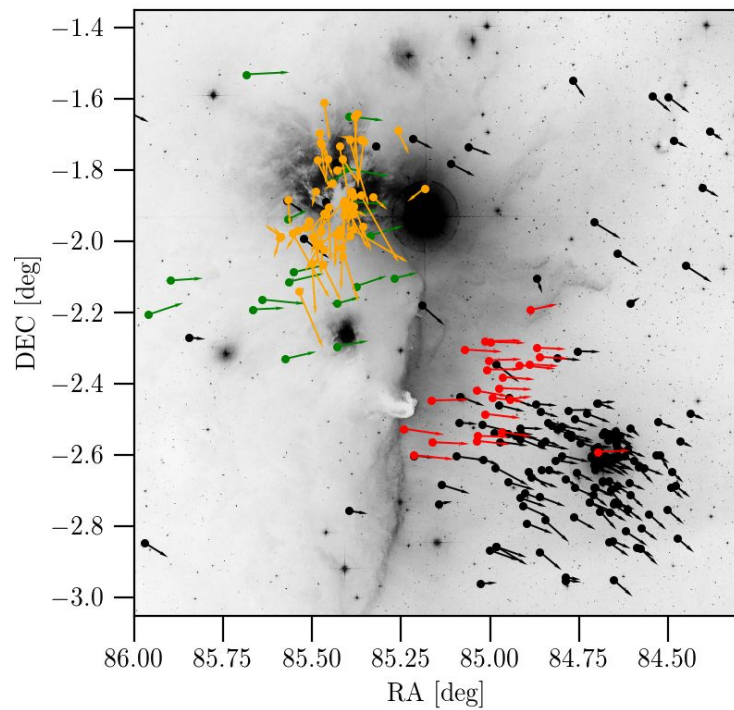
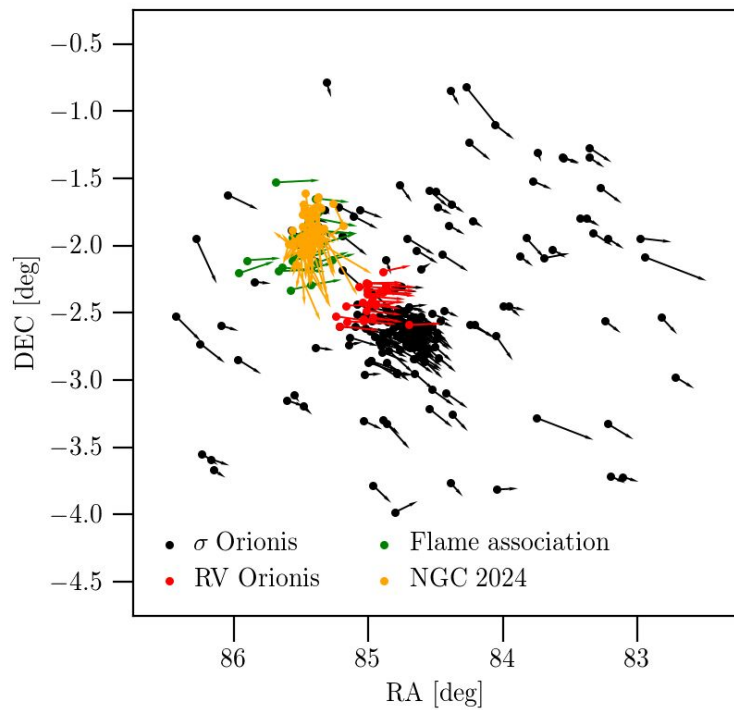


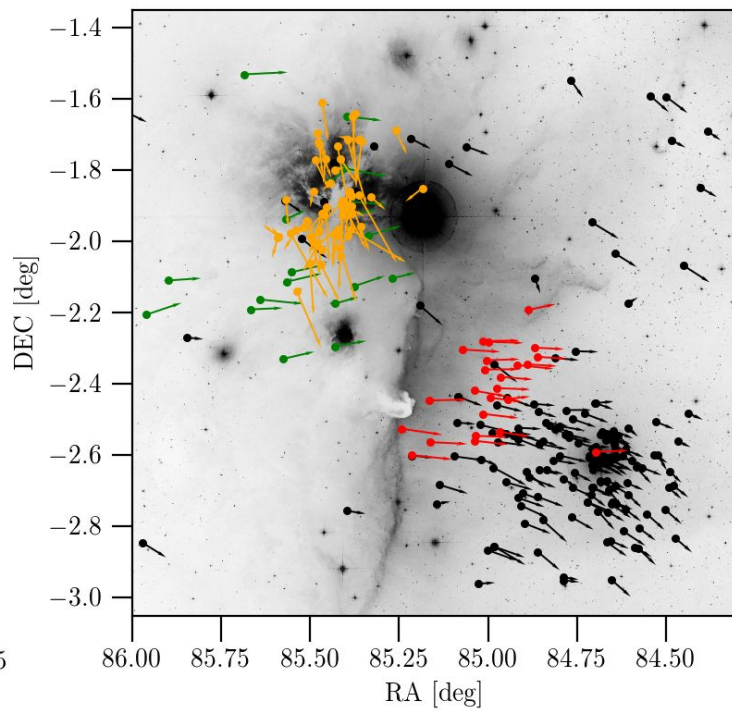
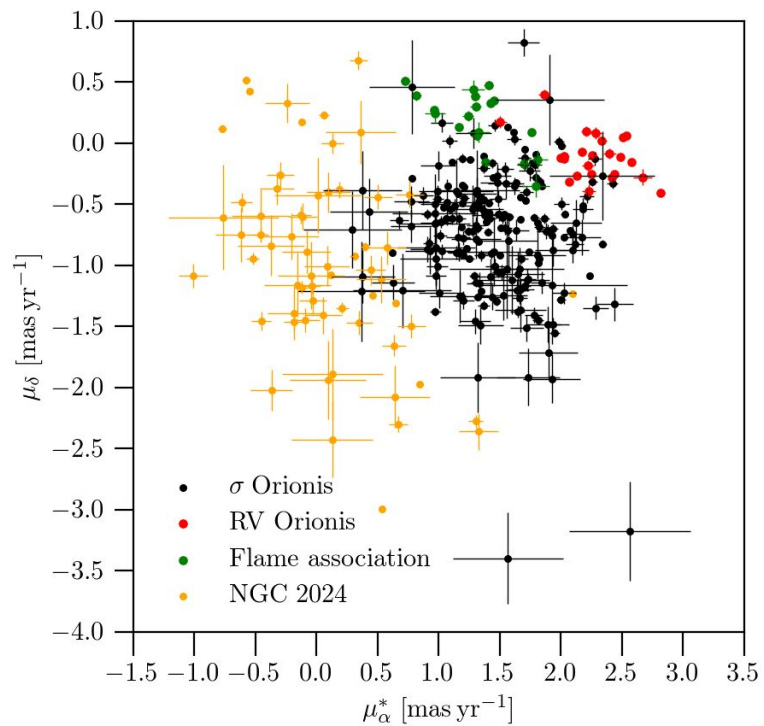
Perryman technique





Chen et al. 2020 (2020A&A...643A.114C)



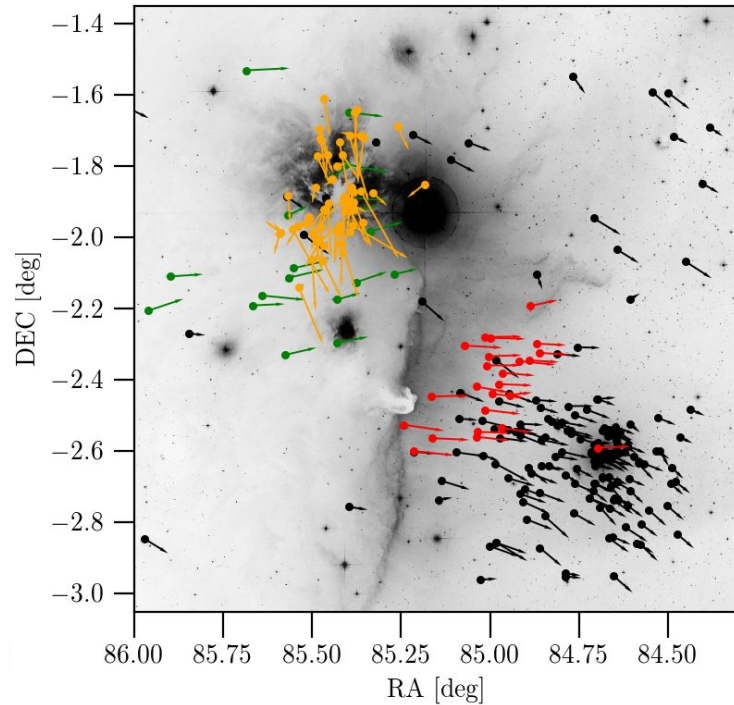


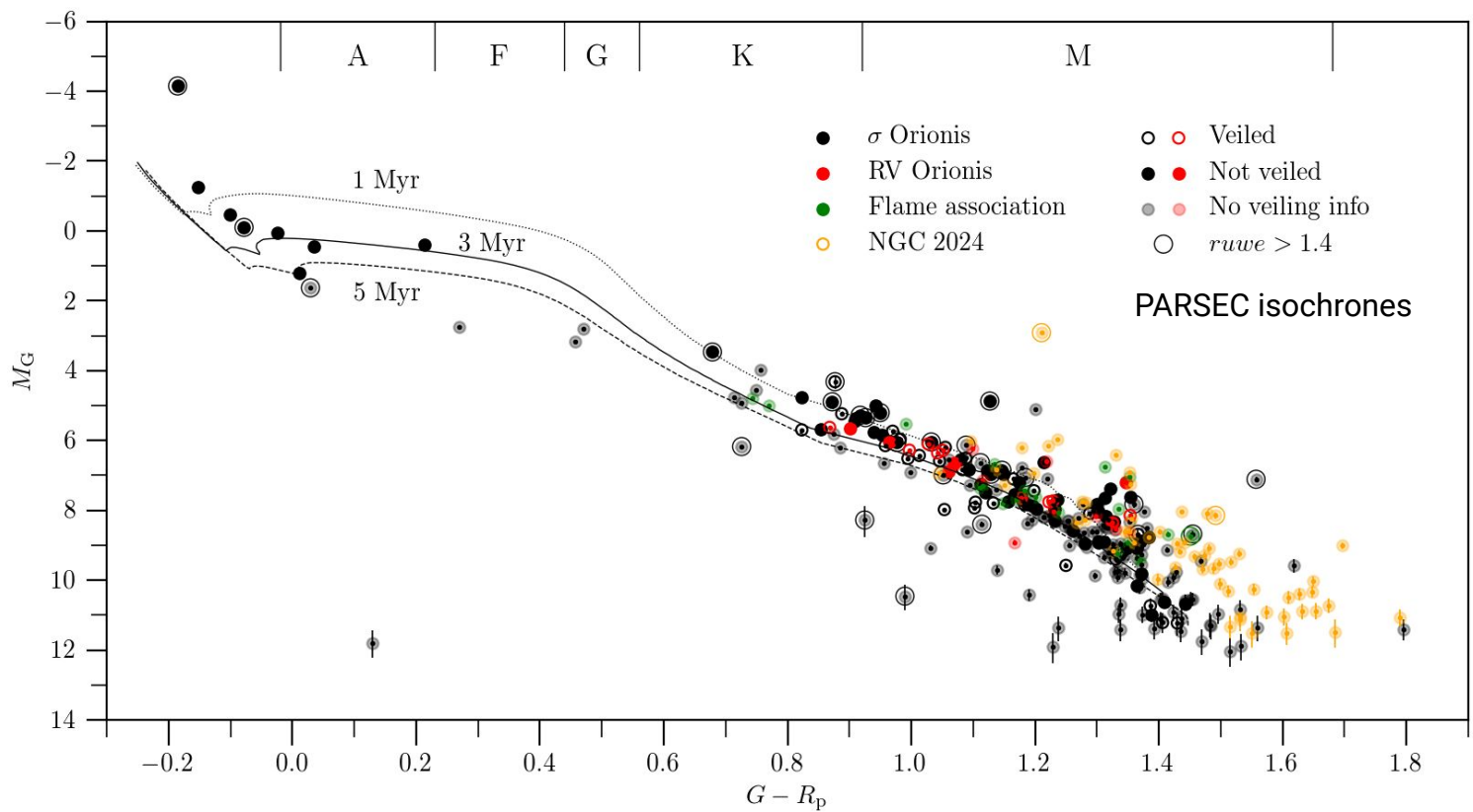
Membership

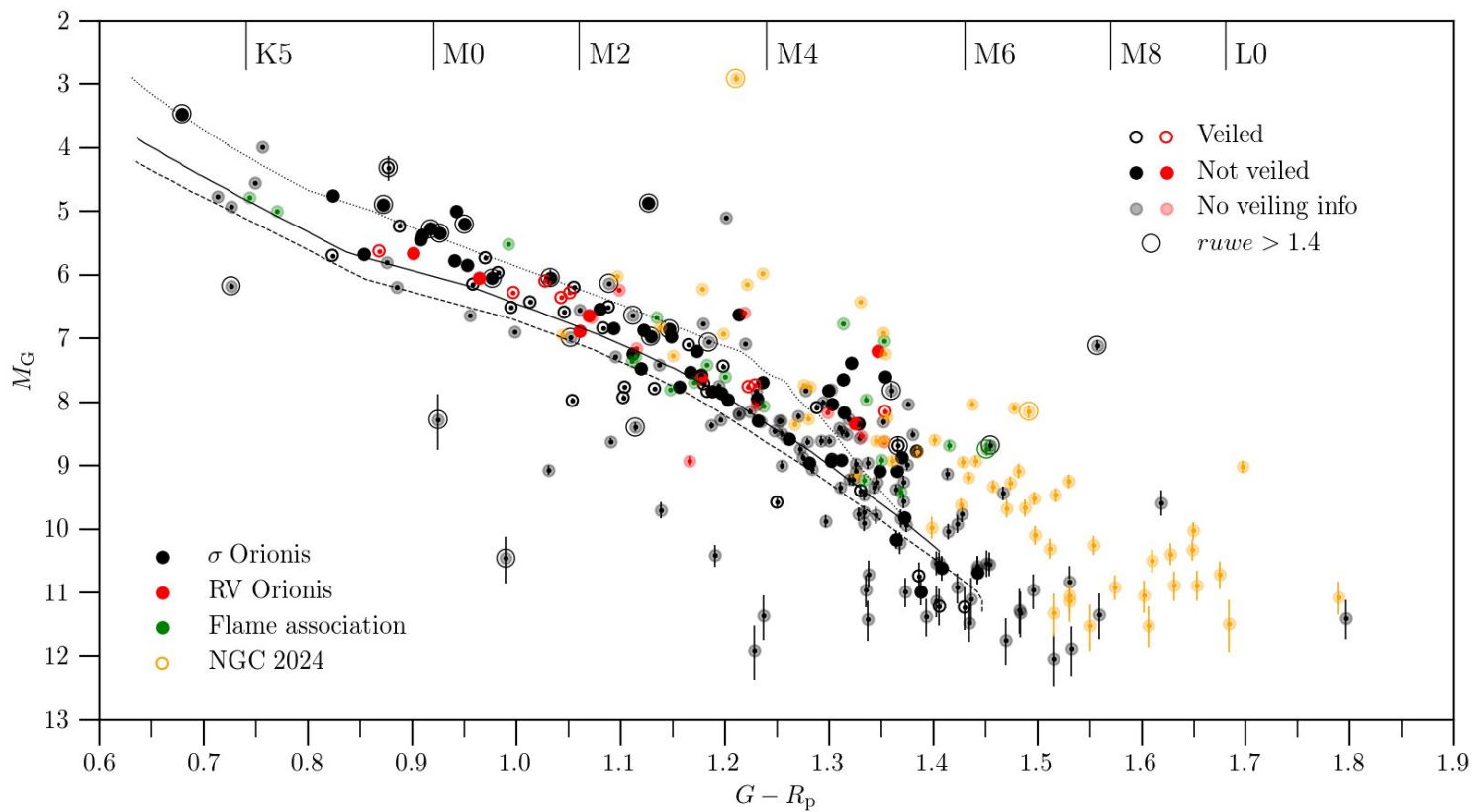
Sigma Orionis: 217 members, 82 are new (in the halo)

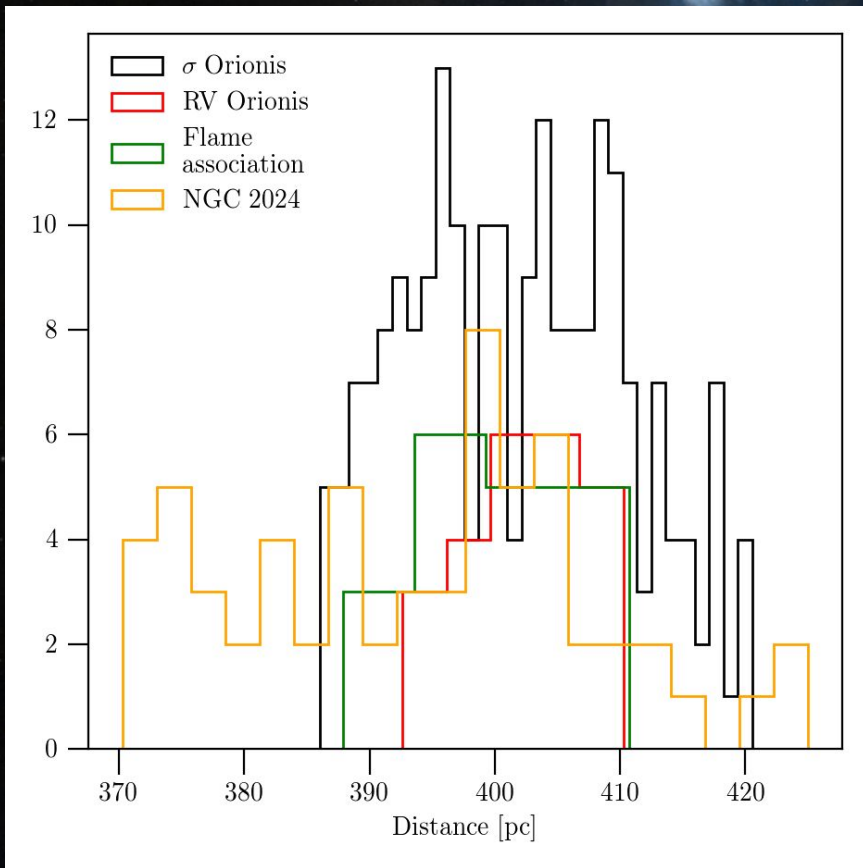
RV Orionis: 24 members (4 new)

Flame association: 19 members









Distance distribution

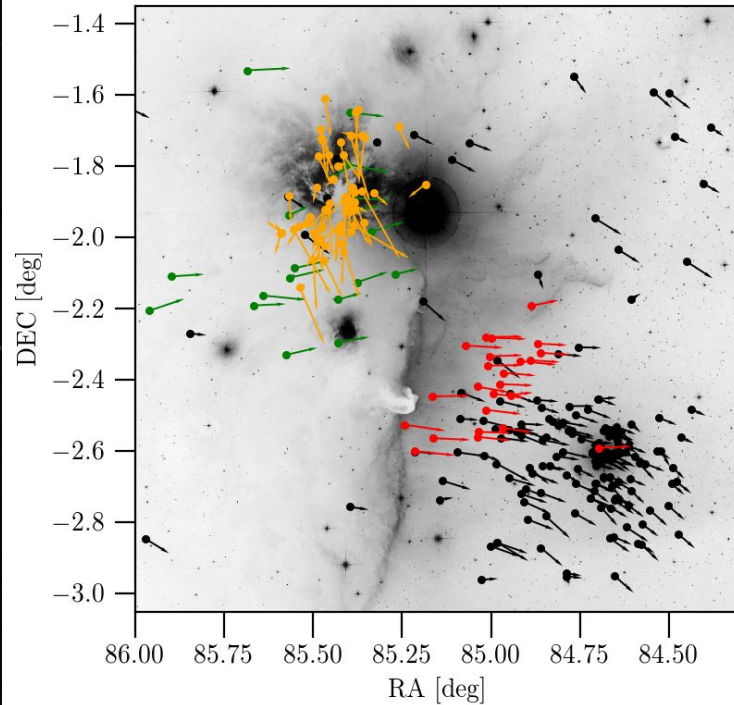
Summary


Three distinct young populations:

Sigma Orionis (217 members)

RV Orionis (24 members)

Flame association (19 members)

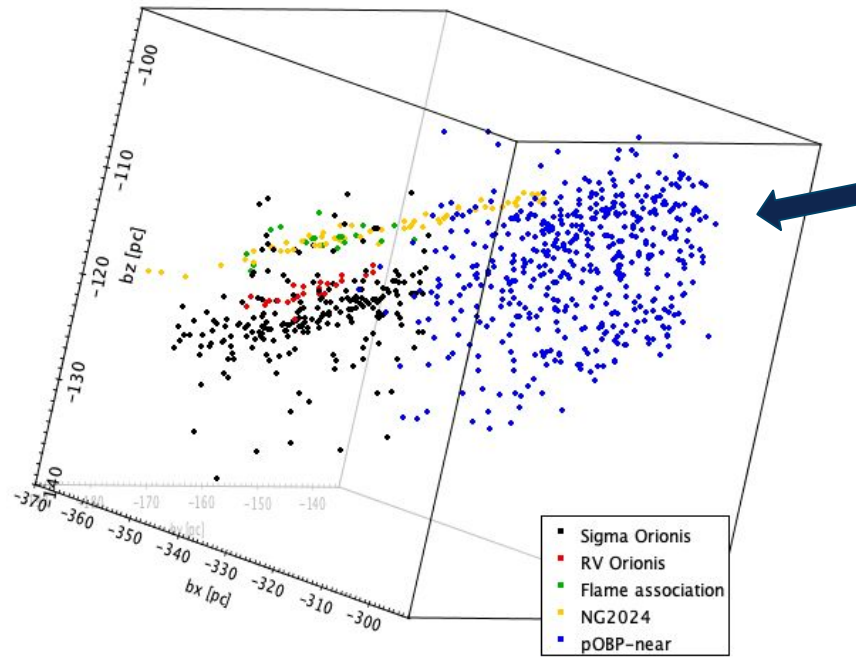


A deep space photograph featuring a dense field of stars. A prominent, bright blue star with a lens flare is positioned in the upper center. To its left, a nebula with orange and yellow hues is visible. The background is a dark, star-filled expanse.

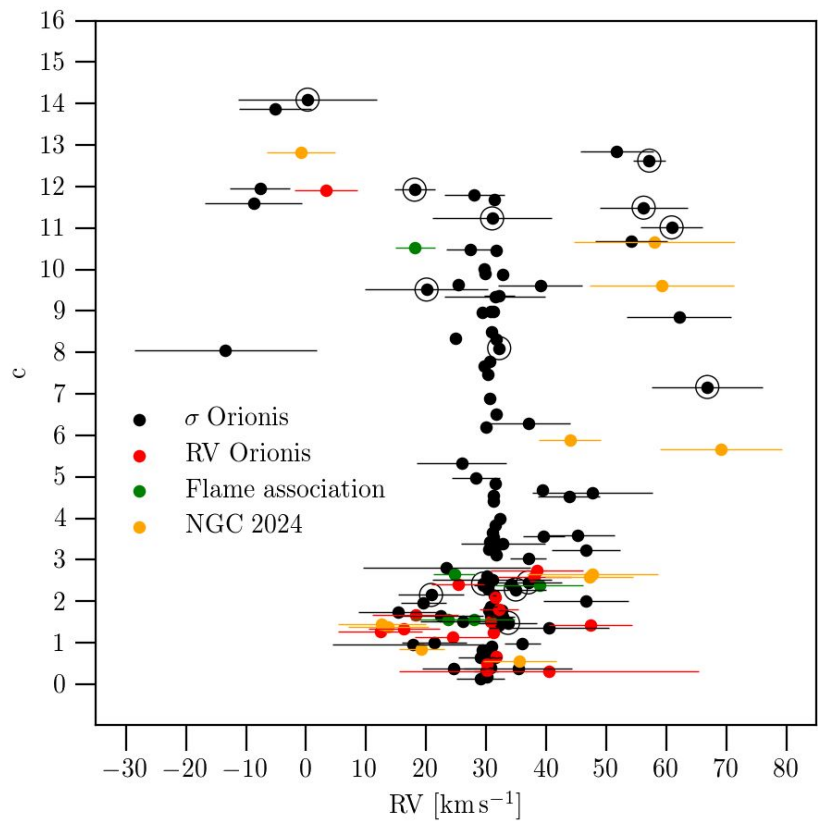
Thank you for your attention!



Additional slides



Observer



Spectroscopic youth indicators

