

Milky Way spiral arms across stellar populations

Judith Ardèvol

Semczuk, M.; Antoja, T.; Bernet, M.; Carrasco, J.M.; Debattista, V.P.; Figueras, F.; Monguió, M.; Pettit, A.; Romero-Gómez, M.

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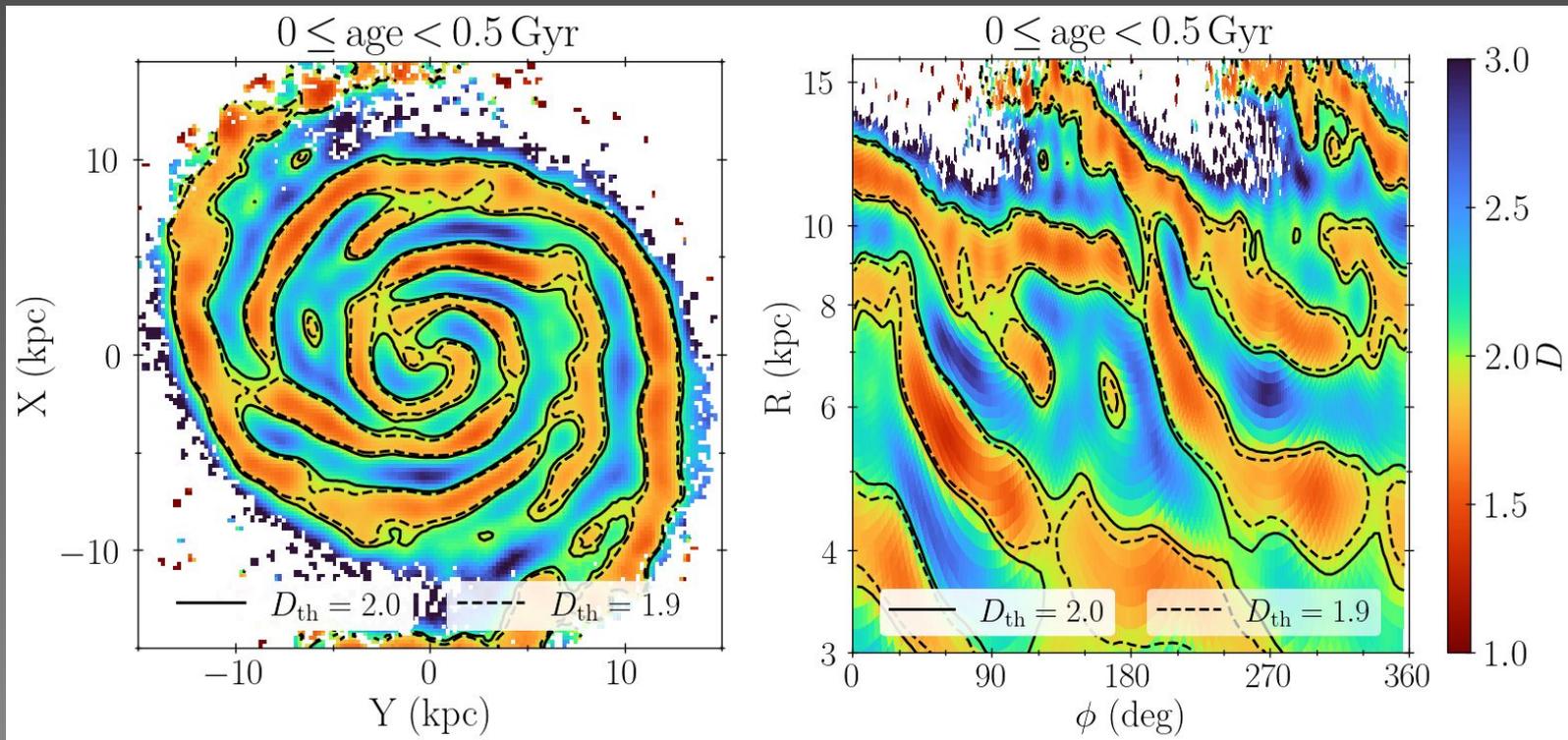


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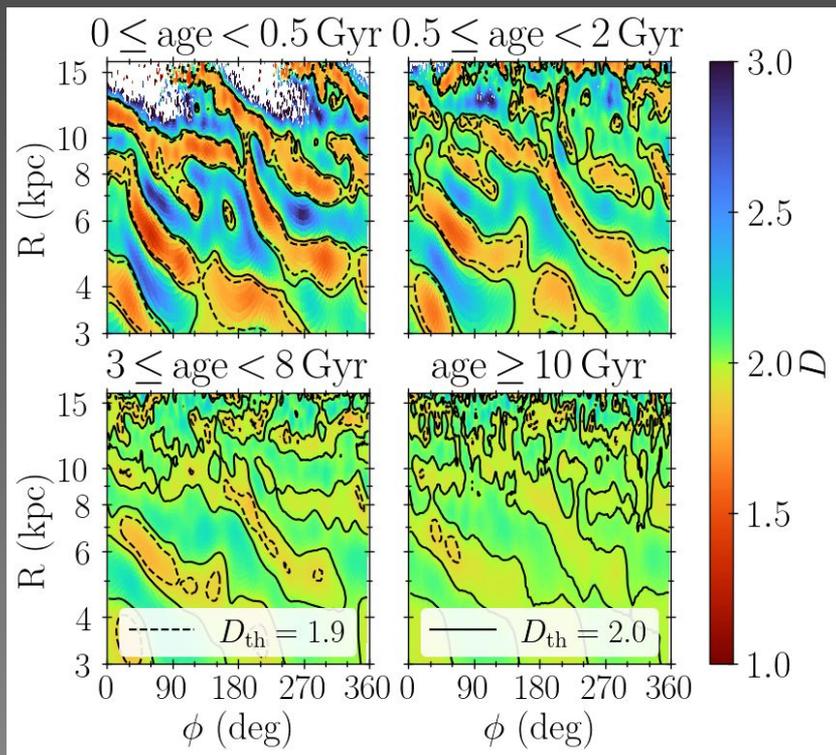
Hydrodynamical simulation (Ardèvol et al., *accepted to A&A*)

[model from Fiteni+21, Debattista+25, etc.]



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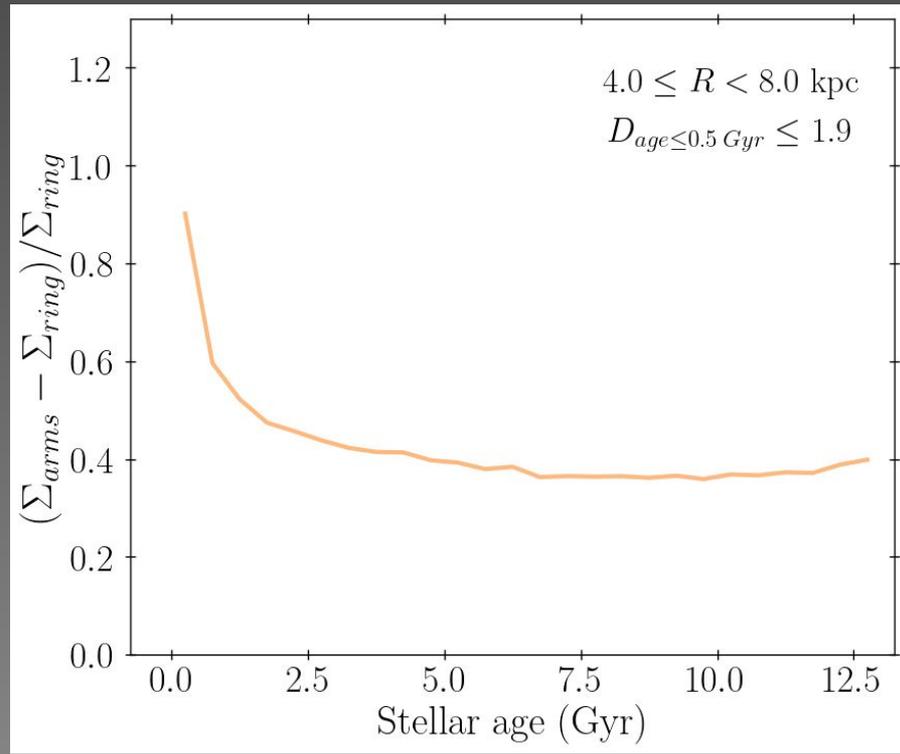
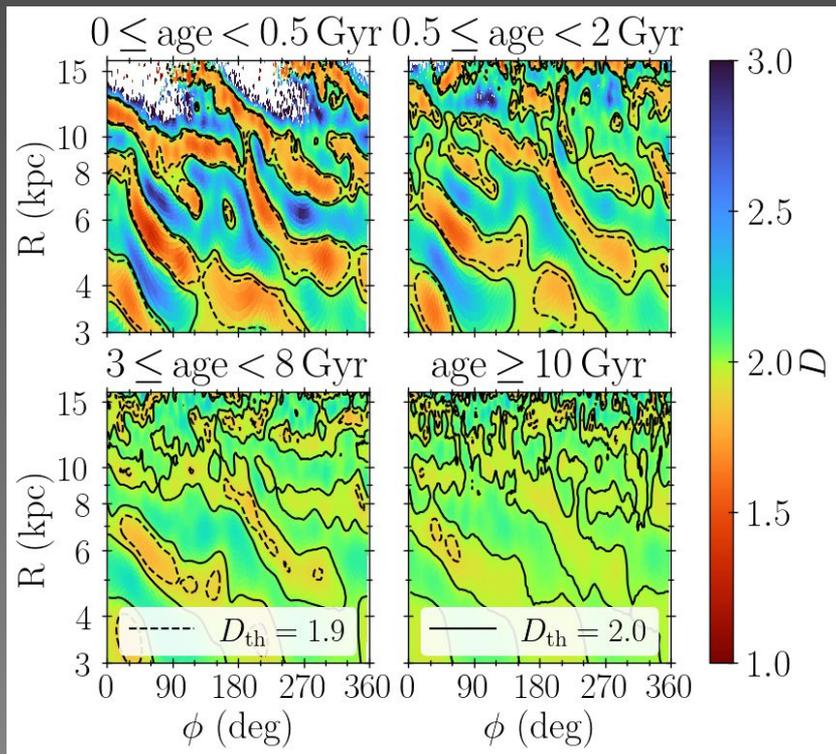
[model from Fiteni+21, Debattista+25, etc.]



Arms are overdense on **all** populations.

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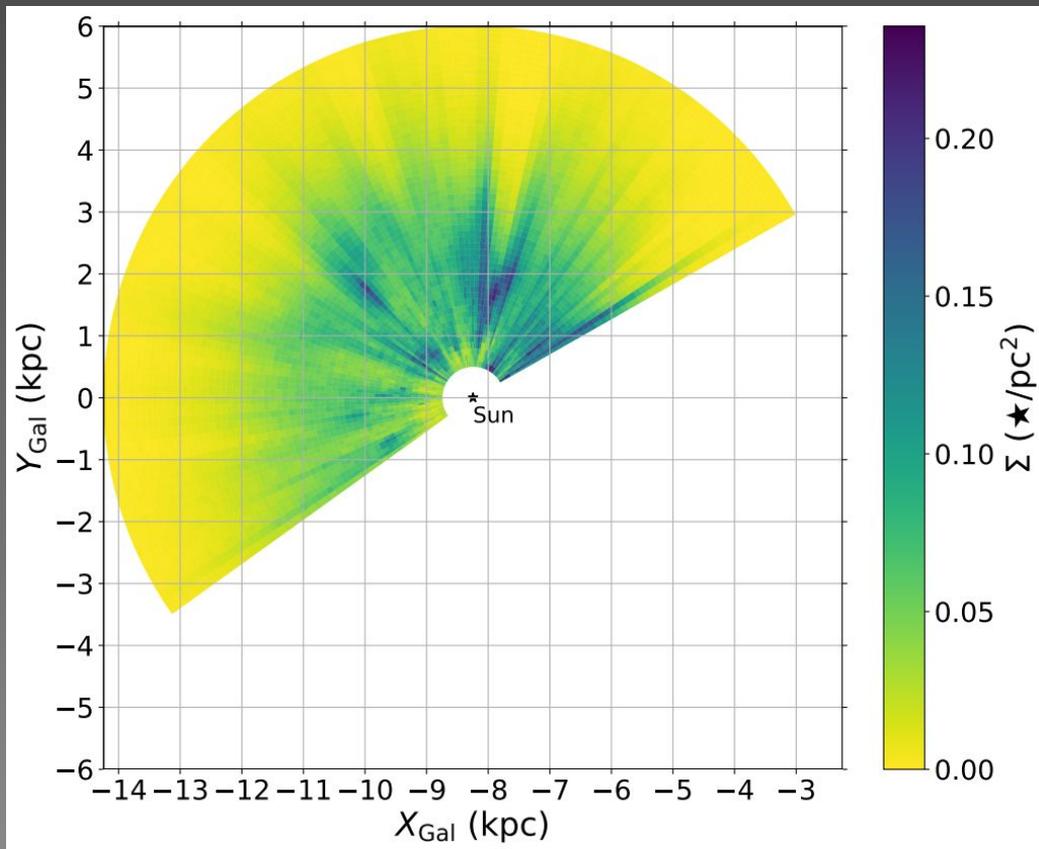
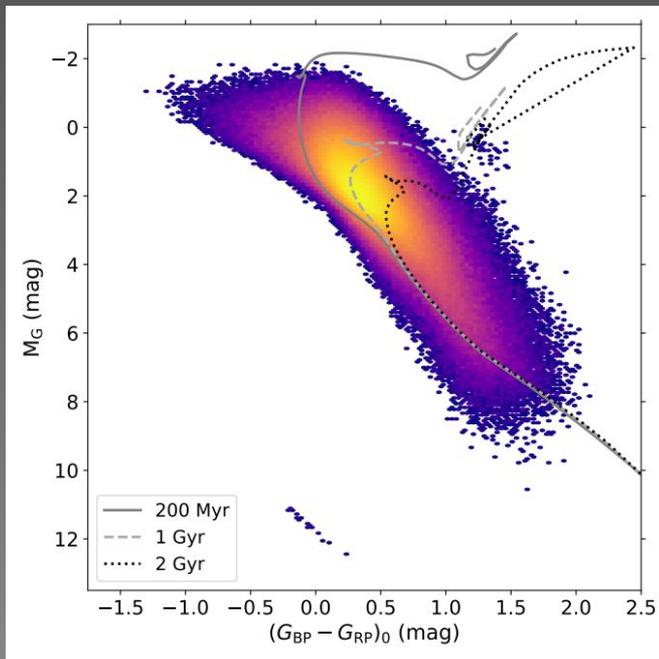


Arms are overdense on all populations.

Milky Way A-type stars (Ardèvol et al. 2023, A&A, 678, A111)

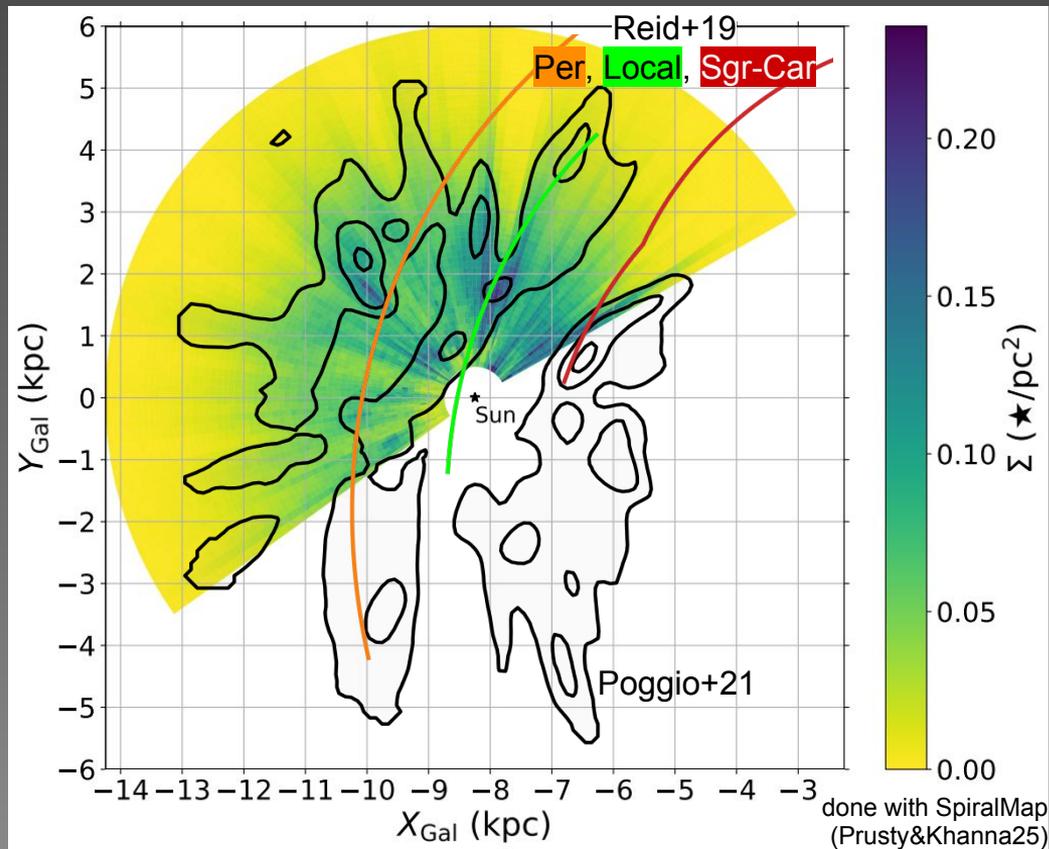
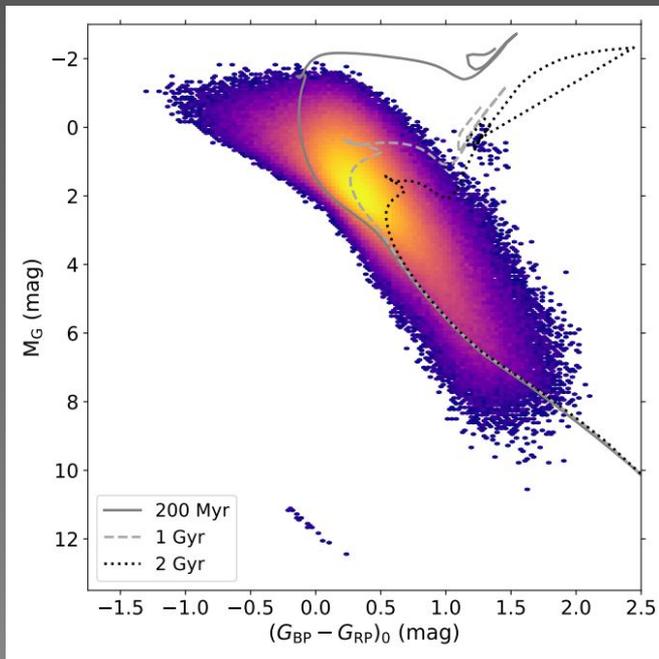
IGAPS + Gaia DR3

3.5M stars



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IGAPS + Gaia DR3 3.5M stars

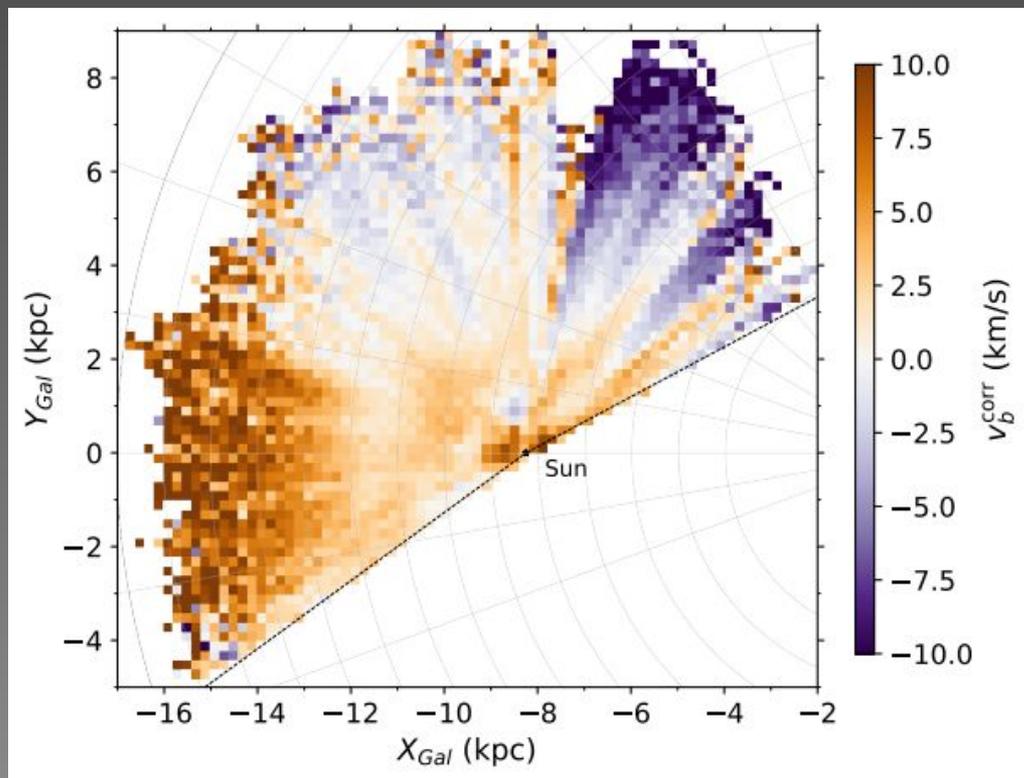
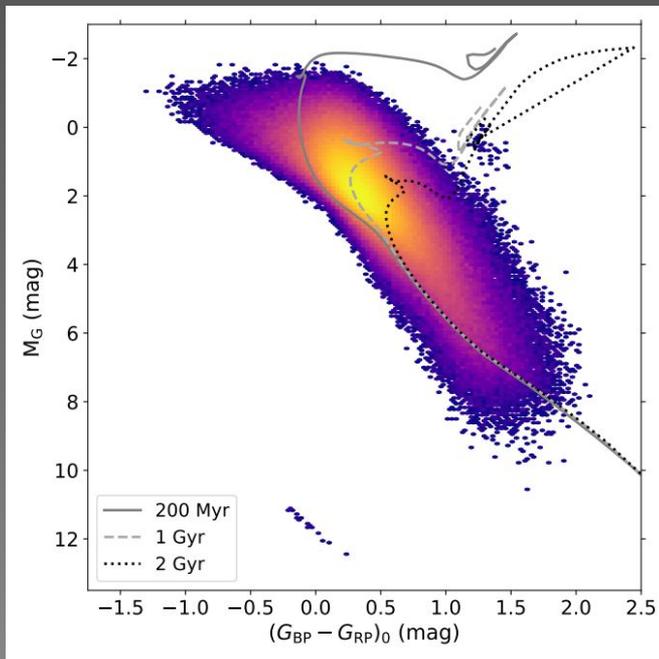


Milky Way A-type stars (Ardèvol et al. 2023, A&A, 678, A111)

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Breathing modes: Tetsuro Asano's talk



Take-home message

- ★ Milky Way-like **hydrodynamical simulations** with kinetically cold discs (<90 - 100 km/s) have clear **spiral arms up to the oldest populations** (*see more in Ardèvol+26*).
- ★ **A-type stars** from IGAPS and Gaia DR₃ show overdensities aligned with literature spirals (*see more in Ardèvol+23*).
- ★ The **interplay among all stellar populations** is key to understanding the Milky Way's spiral structure.