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Inside-Out Growth in the Milky Way Disc [OUTLINE]

ASTR 511 Final Project

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1. OUTLINE

Topic: For my project I'm going to investigate the inside-out growth of galaxies, focussing specifically on the Milky Way. This is the idea that star formation in galaxies occurs first in the centre and builds outwards.

Why I'm interested: I'm particularly interested in looking into this as it went into a galaxy model for a paper I wrote on LISA predictions (Wagg et al. 2022) and I mostly trusted that it made sense without looking into it in detail. So I'd enjoy exploring

Specific papers: The paper that I'll be using the centre my focus is Frankel et al. (2019), which conveniently addresses my exact topic. For the background information I think Fall & Efstathiou (1980) could be fun to look into as one of the first papers predicting inside-out growth, whilst van Dokkum et al. (2013) could be interesting to include for an example of observations of this effect. I think that the application of this concept in this paper (Banerjee et al. 2020) is very fun and I'm excited to read and talk about this. For future directions I think that the main limitation currently is the lack of precise ages for samples used in the stars in these studies and Hogg et al. (2019) *seems* to do some cool things combining APOGEE and Gaia to solve this, but I need to read that a bit more. I'm definitely also open to other paper suggestions!

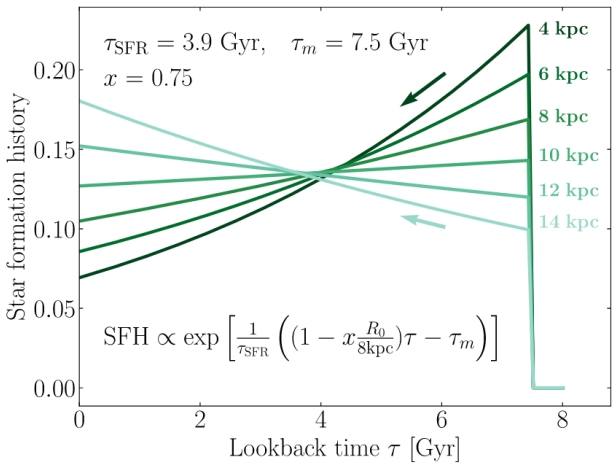

Figure 1. Frankel et al. (2019) Figure 5 showing the model for inside-out growth.

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