

Reading Assignment: The Low-Mass Initial Mass Function

AY 250: Stellar Populations

Jan 29, 2026

Overview

We are now going to turn our attention to the low-mass Initial Mass Function (IMF), specifically focusing on stellar masses $M \lesssim 1M_{\odot}$. We will discuss reports in the literature of IMF measurements that deviate from a canonical Milky Way IMF. We plan to start discussing this paper in class on Tuesday Feb 3rd.

Required Reading

To begin exploring this topic, you should read Geha et al. (2013).

Use your AI assistant to fill in any background information regarding the paper's context or methodology that may be unfamiliar to you.

Discussion Points

Please come to class prepared to discuss your impressions of the paper and share any questions that you have. In addition, please bring your thoughts on the following two topics:

1. What does it mean to you for the IMF to be “Universal”?
2. What types of astrophysical implications are there for an IMF that varies as a function of environment (e.g., metallicity, galaxy velocity dispersion)?