

The Initial-Final Mass Relation as an Input to Deriving Accurate Stellar Ages

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Modern studies of individual stellar populations are increasingly uncovering stars that reside in a wide range of evolutionary states and mass ranges. Soon to execute programs with the James Webb Space Telescope will link brown dwarfs to white dwarfs in the same color-magnitude diagrams! Over the past 15 years, our group has led a global study of the initial-final mass relation of stars to connect the properties of stars burning hydrogen today to their eventual end state. Our latest observations have significantly reduced the scatter on the relation at low and intermediate masses, and have provided new discoveries of >1 Msun white dwarf remnants in young star clusters to understand stellar mass loss and evolutionary timescales for massive stars. In this presentation, I'll describe how our latest initial-final mass relation is improving the derivation of ages for the most interesting local stellar populations.

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