

Abstract Submitted
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Modeling the White Dwarf Luminosity Function RICK NAVARRO,
Texas A&M University - Commerce — White dwarfs are the final stage of stellar evolution for the vast majority of stars in the Galaxy. The number of white dwarfs as a function of their luminosity (the white dwarf luminosity function, or WDLF) is the convolution of several pieces of interesting information: the star formation history of the Galaxy, the cooling physics of white dwarfs, and the evolution of white dwarf progenitor stars. We have used the most current white dwarf evolution models available and several simple assumptions regarding the form of star formation rates over time in order to construct model WDLFs, which we test for compatibility with previous model results and historical observed WDLFs. Our goal is to use our models to explore the encoded white dwarf physics and star formation history of our Galaxy in forthcoming new generations of observed WDLFs.

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