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**TITLE:** Using Planetary Nebula Central Stars to Explore Type Ia Supernova Progenitors

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**ABSTRACT:**

Central stars of planetary nebulae offer a unique evolutionary state in which to study close white dwarf binary systems. Here we use the orbital parameters of the existing known close binary central stars in a Monte Carlo simulation to produce a sample of one million systems from which we study the statistics of the set, focusing on double degenerates. We then create and evolve a simulated Milky Way-like population of double degenerates over the age of the Universe. The result allows us to study the population of massive white dwarfs that are the result of mergers, the rate of double white dwarf supernovae, and the delay time distribution of double white dwarf supernovae. Here we present those results and compare them to observed values from the literature. We find, based on the current population of close binary central stars and double degenerates among those, that our results are consistent with the majority of type Ia Supernovae coming from double degenerate systems.