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White dwarf stars are the final stage of stellar evolution for stars with masses up to about 8 solar masses. They are the remnants of stars that have exhausted their nuclear fuel and shed their outer layers. The remaining core is composed of carbon and oxygen, and is supported by electron degeneracy pressure. White dwarfs are typically about the size of Earth, but have masses comparable to the Sun. They are the most common type of star in the Milky Way galaxy, and are found in all types of galaxies. The study of white dwarfs provides valuable insights into the evolution of stars and the structure of the galaxy. This document provides a comprehensive overview of white dwarf stars, including their formation, properties, and the challenges associated with their study. It covers topics such as the Hertzsprung-Russell diagram, the cooling of white dwarfs, and the discovery of white dwarf planets. The document is intended for students and researchers in the field of astronomy and astrophysics.

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