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Age Gradients of Simulated Dwarf Galaxies CLAIRE RIGGS, ALYSON BROOKS, Rutgers, The State University of New Jersey, FERAH MUNSHI, The University of Oklahoma — Dwarf galaxies are observed to have negative age gradients, with younger stars closer to the center of the galaxy and older stars near the outskirts of the galaxy. Possible explanations for this trend fall into two groups. The first explanation is that stars stay where they are formed, resulting in an outside-in scenario. The second possibility is that stars are reshuffled over time via stellar feedback, mergers, or dark matter core creation. Using cosmological simulations, we investigate the origin of the age gradients in dwarf galaxies. Our galaxy sample incorporates both field and satellite galaxies, and includes dwarf galaxies with a wide range of stellar masses (from $\sim 10^{4.5} - 10^{9.6} M_{\odot}$). We find that stars tend to be reshuffled in dwarf galaxies, with stars being pushed out gradually over time. Preliminary results show that galaxies with dark matter cores can span a range of age gradients, and that for field dwarfs with cored dark matter profiles, the galaxys star formation history will predict the slope of the age gradient. As a result, there are a variety of mechanisms that can determine age gradients in dwarf galaxies, and these processes vary with respect to mass, star formation history, and environment.

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