

Abstract Submitted  
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**Illustris-Simulated Major Merger Galaxy Pairs at  $z=0$**  ALICE JACQUES, SPENCER SHORTT, DONOVAN DOMINGUE, Georgia College State University — The Illustris project is a publicly accessible set of large-scale cosmological simulations. In this work we focus on identifying major-merger galaxy pairs (mass ratio  $<2.5$ ) within the simulation; with the goal of comparing them to observations of SDSS-2MASS selected galaxy pairs. We apply position, mass, and relative velocity criteria to restrict visually identified galaxy sets presented in the Illustris Galaxy Observatory web-based search tool. Application of the criteria creates a sample of probable physical pairs at various stages of pre-merger galaxy interaction. The ultimate objective is to analyze the history of the simulated major-merger galaxies including star formation and merger rates with emphasis on morphological type dependencies.

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