

Binary star channels of stripped-envelope supernovae.

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Population synthesis is a crucial tool for studying the predictions of binary evolution models on many astrophysical objects and transients of interest. In this study, we use the population synthesis code COMPAS to constrain the uncertain physics of binary mass transfer, using a locally complete sample of stripped-envelope supernovae. We argue that current evolutionary models are surprisingly successful at reproducing the intrinsic supernova rates, and highlight the model parameters which are the most influential and thus deserve closer investigation. The methodology used can be extended to any observationally complete sample of post-interaction binary systems or associated transients. These constraints are an important step in reducing the large error bars of population synthesis predictions for coalescing compact binaries.

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