

# IMPROVED CONSTRAINTS ON THE INITIAL-TO-FINAL MASS RELATION OF WHITE DWARFS USING WIDE BINARIES

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We present observational constraints for the initial-to-final mass relation (IFMR) derived from 11 white dwarfs (WDs) in wide binaries (WBs) that contain a turnoff/subgiant primary. Because the components of WBs are coeval to a good approximation, the age of the WD progenitor can be determined from the study of its wide companion. However, previous works that used WBs to constrain the IFMR suffered from large uncertainties in the initial masses because their MS primaries are difficult to age-date with good precision. Our selection of WBs with slightly evolved primaries avoids this problem by restricting to a region of parameter space where isochrone ages are significantly easier to determine with precision. The WDs of two of our originally selected binaries were found to be close double degenerates, and are not used in the IFMR analysis. We obtained more precise constraints than existing ones in the mass range 1-2  $M_{\odot}$ , corresponding to a previously poorly constrained region of the IFMR. Having introduced the use of turnoff/subgiant-WD binaries, the study of the IFMR is not limited anymore by the precision in initial mass, but now the pressure is on final mass, i.e., the mass of the WD today. Looking at the full dataset, our results would suggest a relatively large dispersion in the IFMR at low initial masses. More precise determinations of the mass of the WD components of our targets are necessary for settling this question.