

ANGULAR MOMENTUM LOSS IN ACCRETING WD BINARIES

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An ongoing problem in the evolution of close white-dwarf binaries is the amount of angular momentum loss (AML) from the binary. Gravitational radiation sets a hard floor on the AML, but the contribution of magnetic wind braking from the main-sequence companion and AML that arises as a consequence of mass transfer is highly uncertain.

The nature of AML in interacting white dwarf binaries drives the location of the period gap and period minimum, but magnetic braking models tuned to isolated stars in open clusters provide orders of magnitude less AML than required to explain these phenomena. Recently, AML arising as consequence of mass transfer has been suggested as an explanation for many current discrepancies between evolutionary theory and observations.

Here I present the preliminary results from a campaign to measure the secular AML rates in interacting white dwarf binaries, using the donor star radius as a measure of the mass-loss rate. I show MESA modelling aimed at recreating the observed donor radii, and discuss the implications of the inferred AML rates.