

## MASS TRANSFER DYNAMICS IN WHITE DWARF BINARY SYSTEMS

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In the last stages of the gravitational wave driven inspiral of a white dwarf binary system mass transfer sets in. Once started, the mass transfer substantially alters the orbital evolution and may decide whether the binary suffers a rapid merger or undergoes a long-lived accretion phase in a semi-detached binary. We study numerically the stability and outcome of such mass transfer phases. We carefully construct initial conditions that correspond to the onset of numerically resolvable mass transfer and we explore different mass ratios for both disk and direct impact accretion regimes. Our results show that mass transfer lasts for tens to hundred of orbits and that in the end the donor is tidally disrupted. Due to the finite numerical resolution these results need to be considered as lower limits on the duration of mass transfer. Finally, we investigate the observational signatures associated with such an event.