He Flash due to mass transfer from high-entropy He WDs

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Most previous studies of mass transfer from a He WD onto a CO WD focused on the case of a strongly degenerate (low-entropy) donor, leading to high mass transfer rates, $\dot{M} \sim 10^{-6}\,M_\odot\,\mathrm{yr}^{-1}$ that declines with time, initially triggering many weak recurrent He novae. As $\dot{M}$ declines, there may be, at most, one dynamical He shell flash capable of detonating. In this talk, I will describe new models using the MESA stellar evolution code of mass transfer from a high-entropy, $0.14 - 0.20\,M_\odot$ He WD onto a $0.9 - 1.1\,M_\odot$ CO WD. These lead to lower mass transfer rates, $\approx 10^{-7}\,M_\odot\,\mathrm{yr}^{-1}$, so that the first He flash occurs with a He shell mass of $\approx 0.02 - 0.05\,M_\odot$, large enough to detonate. I will discuss the binary evolution pathways that produce these high-entropy He WD donors and highlight that these are promising candidates for those double-detonation type Ia supernovae where recent interpretations point to He shell masses in this same range.