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## **[92] The spin of the second-born Black hole in coalescing double BH binaries**

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For the “classical” isolated binary evolution, we ran an extensive grid of BH(Black hole)-He star binary evolution tracks, keeping track of the angular momentum evolution of the He star. For a He star with a compact object companion in a close orbit, tides can be efficient only when the orbital period is shorter than  $\sim 2$  days. Based on the direct-collapse model (no angular momentum loss during the core-collapse), we find that the spin of the second-born BH covers the whole range of the BH spins (i.e. from 0 to 1), and that a weak inverse correlation exists between the merger timescale and the spin of the second-born BH.

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