

Abstract Submitted  
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**Minidisk Dynamics in Accreting, Spinning Black Hole Binaries: Simulations in Full General Relativity**<sup>1</sup> JANE BRIGHT, VASILEIOS PASCHALIDIS , University of Arizona — We perform magnetohydrodynamic simulations of accreting, equal-mass binary black holes in full general relativity focusing on the dynamical formation and evolution of minidisks. We find that during the late inspiral the sizes of minidisks are determined by the interplay between the tidal field and the effective innermost stable orbit around each black hole. In particular, we show evidence that minidisks form when the Hill sphere around each black hole is significantly larger than the black hole’s effective innermost stable orbit. As the binary inspirals, the Hill sphere radius decreases, and hence minidisks and their associated electromagnetic signatures will disappear prior to merger when there are no more stable orbits within the Hill sphere. The disappearance of a hard electromagnetic component in the spectrum of such systems may provide a smoking gun signature of merging black hole binaries.

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