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Algebraic Classification of Numerical Spacetimes and Black-Hole-Binary Remnants[1] MANUELA CAMPANELLI, CARLOS LOUSTO, YOSEF ZLOCHOWER, Rochester Institute of Technology — In this paper we develop a technique for determining the algebraic classification of a numerical spacetime, possibly resulting from a generic black-hole-binary merger, using the Newman-Penrose Weyl scalars. We demonstrate these techniques for a test case involving a close binary with arbitrarily oriented spins and unequal masses. We find that, post merger, the spacetime quickly approaches Petrov type II, and only approaches type D on much longer timescales. These techniques allow us to begin to explore the validity of the "no-hair theorem" for generic merging-black-hole spacetimes

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