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Nonlinear gravitational-wave memory from merging binary black holes[1] GORAN DOJCINOSKI, MARC FAVATA, Montclair State Univ — The nonlinear memory effect is a nonoscillatory piece of the gravitational-wave signal that arises when gravitational waves themselves produce gravitational waves. Merging binary black holes produce the strongest nonlinear memory signal. However, many numerical relativity simulations have difficulty computing the memory modes. We use a semianalytic procedure to construct the memory modes from the nonmemory modes of several nonspinning, quasicircular black hole binaries. We then fit analytic functions to these numerically generated waveforms. Our results could be used to improve estimates of the detectability of the memory effect.

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