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Elliptic gauge conditions for binary black hole evolutions HARALD PFEIFFER, California Institute of Technology — Elliptic gauge conditions have many attractive features for black hole evolutions and have been used very successfully in simulations in one and two spatial dimensions. In three dimensions, however, elliptic gauge conditions have hardly been explored because of the traditionally high computational cost. With recent efficient elliptic solvers, computational cost is greatly reduced, and 3-D black hole evolutions employing elliptic gauge conditions become possible. This talk presents preliminary results, addressing questions like: Do elliptic gauge conditions control effectively the coordinates and the location of the black holes? How often does one have to solve elliptic equations? What is the computational cost?

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