Control systems in numerical relativity[1] MARK SCHEEL, California
Institute of Technology — Feedback control systems are ubiquitous in various applications encompassing many disciplines. Here we discuss the use of control systems in numerical relativity. For example, control systems can be used to adjust parameters that determine details of the numerical grid or numerical methods, and they can be used to produce efficient smooth-in-time approximations of quantities that are expensive to compute frequently. In particular, we show how numerical relativity simulations can employ control systems to make the numerical grid conform to the dynamically-changing shapes of black hole horizons.

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