Finite-time stabilization by using degenerate feedback delay

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Some examples are studied in which a linear controllable dynamical system can be steered towards a specific target by using some appropriate linear, time-varying delayed feedback controller. The associated linear retarded differential equation has a finite-dimensional invariant subspace which attracts all orbits in finite time, and this degeneracy property is the reason why the target is attained in finite time rather than just asymptotically.

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