

**Spatio-temporal symmetries in control systems:  
an application to formation control**

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With the aim of addressing the stabilization problem of periodic trajectories in systems composed of identical interconnected subsystems, we introduce the class of "spatio-temporally symmetric" nonlinear systems. We address in detail the linear, time-varying case and present conditions for the synthesis of a static and a dynamic stabilizing controller. We show that linear spatio temporally symmetric systems can be reduced to hybrid systems, described by a periodic linear system with periodic state jumps. As an application example, we present the stabilization of a formation of unicycle robots in cyclic pursuit.