

Positive evolutions and Riccati equations

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The notion of exponentially positive operators has proven fruitful in the analysis of algebraic Riccati equation. These operators generate positive semigroups with respect to a given proper cone and can thus be seen as a generalization of Z -matrices. Extending this idea further, one can consider time-varying generators of positive evolutions and their relation to differential Riccati equations. In this talk, we first review the main facts from the time-invariant case and then discuss recent results for time-varying systems.