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Mark E. Mancuso* (mark.mancuso@wustl.edu). *Γ -convex sets and polynomials.*

Biconvexity and partial convexity are ubiquitous in systems engineering and the area of semidefinite programming. We provide a general framework, known as Γ -convexity, for partial matrix convexity that includes many well-studied examples as special cases. Hahn-Banach separation theorems in this setting are discussed. Γ -convexity for free polynomials is also examined for certain cases of interest. This is joint work with Michael Jury, Igor Klep, Scott McCullough, and J. E. Pascoe. (Received August 26, 2019)