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Agnes Szanto* (aszanto@ncsu.edu), Department of Mathematics, North Carolina State University, Campus Box 8205, Raleigh, NC 27695. *Certification of Approximate Roots of Exact Polynomial Systems.*

In this talk I will survey some of our recent work on certifying approximate roots of exact polynomial systems and will describe some applications. The difficulty lies in the fact that in many of the applications the polynomial system is overdetermined or singular, and consistency or singularity are not continuous properties, so traditional numerical certification techniques do not work. Our certification method is based on hybrid symbolic-numeric techniques. This is a joint work with Tulay Akoglu, Jonathan Hauenstein and Bernard Mourrain. (Received September 09, 2016)