1110-05-337 **Patrik Norén*** (patrik.noren@ist.ac.at) and **Alexander Engström**. *Algebraic Graph Limits.*

The theory of graph limits associates random graph models to symmetric measurable functions on the unit square. We investigate what happens when these functions are polynomials. For low degree polynomials the models appearing are familiar and important, for example preferential attachment and Erdös-Rényi. The higher degree polynomials are also useful as any graph limit can be arbitrarily well approximated by a polynomial. We show that this setup is useful for in applications: To determine the parameters of a random graph model that fits the observed data best one can use numerical algebraic geometry efficiently. (Received February 24, 2015)