ℂ*-actions, Gröbner bases, and Solving Polynomial Systems

Among the various methods of solving multivariate polynomial systems, we will focus on homotopy continuation and Gröbners bases. A result regarding ℂ*-actions on projective manifolds and their invariant decompostion will be stated. In addition, we will discuss potential applications to constructing efficient homotopies and to better understanding of Gröbner bases.