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A generalized Schmidt subspace theorem for closed subschemes

In this talk, we will present a generalized version of Schmidt's subspace theorem for closed subschemes in general position in terms of suitably defined Seshadri constants with respect to a fixed ample divisor. Our proof builds on previous work by Evertse and Ferretti, Corvaja and Zannier, and others, and uses standard techniques from algebraic geometry such as notions of positivity, blowing-ups and direct image sheaves. As an application, we recover a higher-dimensional Diophantine approximation theorem of K. F. Roth-type due to D. McKinnon and M. Roth with a significantly shortened proof, while simultaneously extending the scope of the use of Seshadri constants in this context in a natural way. Time permitting, we will also discuss applications to the degeneracy of integral points on varieties in the complement of divisors. This is joint work with Aaron Levin.