1051-14-210 **Chris Peterson***, 101 Weber Building, Colorado State University, Fort Collins, CO 80523-1874.

Numerical computation of the Jordan Canonical Form of a matrix via algebraic geometry.

This talk will outline a procedure for numerically computing the Jordan Canonical Form of a matrix. A key step in stabilizing the numerical portion of the algorithm is to utilize ideas from algebraic geometry. Another important feature is to apply homotopy continuation in the vector space of sections of the tangent bundle to projective space in order to minimize the number of paths that are tracked. (Received August 25, 2009)