

1119-14-111 **Dan Bates*** (bates@math.colostate.edu). *Choosing a good path for homotopy continuation.*

Given a polynomial system, $F(z, t)$, depending on several variables z and single parameter t , there are almost always some values of t at which the solution set of $F(z, t) = 0$ is degenerate. In the setting of numerical homotopy continuation, these points (and small sets around them) are problematic and should be avoided if possible. This talk will open with a very brief reminder of basic homotopy continuation and an update on recent developments in the Bertini software package. The main portion of the talk will then focus on providing a new heuristic answer to the question of how to find a path through parameter space that avoids these degenerate values of t . (Received February 11, 2016)