1125-65-1845 **Dan Bates*** (`bates@math.colostate.edu`). *Tuning of tolerances in polynomial homotopy continuation.* Preliminary report.

Homotopy continuation refers to the use of a homotopy function to compute the solutions of a system of equations, typically with numerical methods. In this talk, we consider the particular case of polynomial homotopy continuation for solving polynomial systems of equations, solved using predictor-corrector methods. Such methods include a wide range of choices, both discrete (e.g., the order of the predictor method) and continuous (e.g., various tolerances). There is an art to choosing and adapting these settings to solve particular problems, sometimes making these methods difficult for users unaccustomed to making such choices. In this talk, we report on recent progress in automating some of these choices, in the context of the redevelopment of the Bertini software package. (Received September 19, 2016)