

1125-14-1755      **Anton Leykin\*** (leykin@math.gatech.edu). *Solving polynomial systems via monodromy and trace test.*

We revisit two ideas that together with numerical homotopy continuation techniques lead to a methodology for finding subsets of complex solutions of systems of polynomial equations.

**Monodromy** action can be used to extend a solution subset (e.g., a subset of the so-called witness set of an irreducible positive-dimensional solution component).

**Trace test** verifies the completeness of a partial solution set (e.g., the completeness of a witness set).

We highlight the recent theoretical developments that lead to new practical algorithms.

[Based on works with Duff, Hill, Jensen, Lee, Rodriguez, Sommars, and Sottile.] (Received September 19, 2016)