1146-14-456 **Margaret H Regan*** (mregan9@nd.edu) and **Jonathan D Hauenstein** (hauenstein@nd.edu).

On computing monodromy action over $\mathbb{R}$.

The monodromy group (over the complex numbers) is a geometric invariant that encodes the structure of the solutions for a parameterized family of polynomial systems and can be computed using numerical algebraic geometry. Since a naive extension to the real numbers is very restrictive, this talk will explore a new approach over the real numbers which is computed piece-wise to obtain tiered characteristics of the real solution set. This talk will conclude with an application in kinematics to help highlight the computational method and impact on calibration. (Received January 28, 2019)