1108-82-394   **Wenrui Hao***, Jennings Hall 3rd Floor, 1735 Neil Ave., Columbus, OH 43210, and **Andrew Sommese** and **Rafael Nepomechie**. *Homotopy continuation method and Bethe equations.*

In this talk, we will use homotopy continuation method to explore the Bethe equations, which have many applications in mathematics and physics. Using homotopy continuation, we solve the Bethe equations numerically for different cases, and numerically prove the conjecture that we proposed. (Received January 19, 2015)