

1116-65-2797

Jonathan D Hauenstein* (hauenstein@nd.edu), **Alessandra Bernardi**, **Noah S Daleo** and **Bernard Mourrain**. *Tensor decomposition via numerical algebraic geometry*.

Tensor decomposition is a fundamental task in multilinear algebra. By taking a geometric approach to tensor decomposition, we propose numerical algebraic geometric approaches to compute both complex and real ranks of tensors along with corresponding decompositions. Many examples will be provided showing the range of applications. (Received September 22, 2015)