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Rostam Sabeti* (sabetiro@msu.edu), Department of Mathematics, Michigan State University, East Lansing, MI 48824-1027, and **Tien-Yien Li** (li@math.msu.edu), Department of Mathematics, Michigan State University, East Lansing, MI 48824-1027. *On numerical-symbolic exact irreducible decomposition of cyclic-12.*

In 1992 Göran Björck and Ralf Fröberg completely characterized the solution set of cyclic-8. In 2001 Jean-Charles Faugère determined the solution set of cyclic-9 by computer algebra methods and Gröbner basis computation. In this talk, we present an algorithm based on theories and algorithms developed in **numerical algebraic geometry** as well as a novel idea that hybridizes symbolic and numerical techniques to derive **exactly** the defining polynomials of **all** prime ideals of positive dimension in primary decomposition of cyclic-12. (Received September 08, 2008)