1150-14-306 **Taylor Brysiewicz**, Texas A&M University, **Jose Israel Rodriguez**, University of Wisconsin, **Frank Sottile***, Department of Mathematics, Texas A&M University, College Station, TX 77843-3368, and **Thomas Yahl**, Texas A&M University. *Solving Sparse Decomposable Systems.* Preliminary report.

Esterov classified the monodromy/Galois groups of sparse systems of polynomials—they are either full symmetric or imprimitive, and when imprimitive there is a recursive structure, reducing them to systems that are full symmetric. We first show how the total space of solutions to systems with imprimitive monodromy is a sequence of decomposable projections in the sense of Amendola et al., corresponding to Esterov's recursive structure. We show how to exploit this structure to reduce solving an imprimitive system of sparse polynomials to solving a sequence of much smaller systems of polynomials with symmetric monodromy.

I will explain these structures and this work, which is joint with Brysiewicz, Rodriguez, and Yahl, and present computational results of an implementation of this algorithm in Macaulay 2. (Received July 12, 2019)