1096-14-1968 **Eric M. Hanson*** (hanson@math.colostate.edu), **Daniel J. Bates**, **Jonathan D. Hauenstein** and **Charles W. Wampler**. *Numerical Fiber Products for the Study of Mechanisms.*

In a family of polynomial systems depending upon parameters there is a typical dimension for the variety defined by a system in the family. However, the dimension can jump for parameters in algebraic subsets of the parameter space. With Bates, Hauenstein, and Wampler, we propose a numerical approach to identifying these special parameter values.

Our new approach is a refinement of the numerical fiber product construction of Sommese and Wampler. This talk will review the approach of Sommese and Wampler, illustrating it on a simple example and discuss the application of our new refined approach to examples from Kinematics - the study of mechanisms, such as robotic arms. (Received September 16, 2013)