

1056-14-396

Chris Hillar, Luis García-Puente, Abraham Martín del Campo, James Ruffo, Stephen L. Johnson and **Zach Teitler*** (zzeitler@tamu.edu), Department of Mathematics, Texas A&M University, College Station, TX 77843, and **Frank Sottile**. *Experimentation at the Frontiers of Reality in Schubert Calculus*.

We describe the setup, design, and running of an experiment utilizing a supercomputer that is helping to formulate and test conjectures in the real Schubert calculus. Largely using machines in instructional computer labs during off-hours and University breaks, it has consumed in excess of 350 GigaHertz-years of computing in its first six months of operation, solving over 1.1 billion polynomial systems. This experiment can serve as a model for other large scale mathematical investigations. (Received September 04, 2009)