1018-14-234 **Bernd Sturmfels**, **Jenia Tevelev** and **Josephine Yu*** (`jyu@math.berkeley.edu`), Department of Mathematics, University of California, Berkeley, CA 94720. *Tropical Implicitization.*

Implicitization is an operation in computational algebraic geometry that transforms a given parametric representation of an algebraic variety into its implicit representation as the zero set of polynomials. We propose a new approach to implicitization using tropical geometry. The idea is to compute the tropicalization of the variety directly from the given parametrization and to subsequently derive the equations of the variety from the tropicalization. In the special case when the variety is a hypersurface, computing its tropicalization amounts to computing the Newton polytope of the defining polynomial. (Received March 07, 2006)