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Bernd Sturmfels and **Josephine Yu*** (jyu@math.mit.edu), Department of Mathematics, MIT, 2-348, Cambridge, MA 02139. *Tropical Implicitization and Mixed Fiber Polytopes.*

We apply tropical geometry to study the image of a map defined by Laurent polynomials with generic coefficients. If this image is a hypersurface then our approach gives a construction of the Newton polytope of its defining equation. This construction can be used to compute mixed fiber polytopes, including secondary polytopes. (Received September 15, 2008)