

1075-14-65

Maria Angelica Cueto* (macueto@math.columbia.edu), Mathematics Department - Columbia University, Room 413, MC 4406, 2990 Broadway, New York, NY 10027. *Implicitization of surfaces via geometric tropicalization.*

In this talk we will discuss recent developments in tropical methods for implicitization of surfaces. This study was pioneered in the generic case by work of Sturmfels, Tevelev and Yu, and is based on the theory of geometric tropicalization, developed by Hacking, Keel and Tevelev. The latter hinges on computing the tropicalization of subvarieties of tori by analyzing the combinatorics of their boundary in a suitable (tropical) compactification. We enhance this theory by providing a formula for computing weights on tropical varieties, a key tool for tropical implicitization of generic surfaces. Finally, we will address the question of tropical implicitization for non-generic surfaces, closely related to the resolution of plane curve singularities. ([arXiv:1105.0509](https://arxiv.org/abs/1105.0509)) (Received August 21, 2011)