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Tyler Foster, Joseph Rabinoff, Farbod Shokrieh* (farbod@math.cornell.edu) and
Alejandro Soto. *Faithful Tropicalization of Abelian Varieties.*

I will describe the ongoing joint work with Tyler Foster, Joe Rabinoff, and Alejandro Soto, where we study faithful tropicalization of abelian varieties. For an abelian variety, the skeleton (in the sense of Berkovich) is a real torus with an “integral structure”. For totally degenerate Jacobians, we give an explicit faithful tropicalization in terms of p -adic and tropical theta functions. The solution relies on interesting combinatorial facts about lattices and Voronoi decompositions. (Received September 17, 2013)