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Martin Ulirsch* (ulirsch@math.brown.edu), Box 1917, Brown University, Providence, RI 02912. *Artin fans in tropical geometry*. Preliminary report.

Recent work by J. and N. Giansiracusa, myself, and O. Lorscheid suggests that the tropical geometry of a toric variety X , or more generally of a logarithmic scheme X , can be formalized as a "Berkovich analytification" of a scheme over the field \mathbb{F}_1 with one element that is canonically associated to X .

The goal of this talk is to introduce the theory of Artin fans, originally due to D. Abramovich and J. Wise, which can be used to lift rather unwieldy \mathbb{F}_1 -geometric objects to the more familiar realm of algebraic stacks. Artin fans are étale locally isomorphic to quotient stacks of toric varieties by their big tori and their glueing data has a completely combinatorial description in terms of Kato fans.

I am going to explain how to use the ideas surrounding the notion Artin fans to study tropicalization maps associated to toric varieties and logarithmic schemes. Surprisingly these techniques allow us to give a reinterpretation of Tevelev's theory of tropical compactifications that can be generalized to compactifications of subvarieties in logarithmically smooth compactifications of smooth varieties. (Received August 28, 2014)