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Canonical Representatives for divisor classes on tropical curves

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Abstract: Tropical curves are algebraic curves defined over the tropical semi-ring. They essentially carry the same information as metric graphs. There is a reasonable theory of divisors in this setting. For example, there is a tropical analogue of the Riemann-Roch theorem. The main technique in studying divisors on tropical curves is often to look for nice canonical representatives in linear equivalence classes.

In this talk, we will describe various canonical representatives for divisor classes on tropical curves. We first revisit the concept of "reduced divisors" (which is the main ingredient needed to prove the Riemann-Roch theorem) and explain their various interpretations. We then discuss "break divisors" from multiple points of view. If time permits we discuss the classical analogues of these representatives and give some applications.

No prior knowledge in the subject will be assumed. This talk is based on joint works with M. Baker, with M. Baker, G. Kuperberg, A. Yang, and with Ye Luo.

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