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Yoav Len* (yoav.len@yale.edu), 498 Orange St, New Haven, CT 06511. *Martens' theorem and the tropical Brill-Noether locus*. Preliminary report.

I will discuss ongoing work on the geometry of the Brill-Noether locus of a tropical curve, and consequence for a tropical version of Martens' theorem. The Brill-Noether locus classifies divisors of degree d and rank at least r , for some fixed integers r and d . It is a polyhedral complex contained in the Jacobian of the tropical curve. The classical version of this space satisfies an inequality known as Martens' theorem: its dimension is bounded above by $d - 2r$, and equality holds only if the curve is hyperelliptic.

Tropically, we expect that the same is true for the Brill-Noether rank of a curve. In my talk I will describe the relation between this inequality and the polyhedral structure of the Brill-Noether locus. I will present evidence that the theorem should hold, and partial results towards a solution for the problem. (Received August 25, 2014)