1067-14-685   **Eric Edward Katz*** (`eekatz@math.utexas.edu`), 1 University Station C1200, Austin, TX 78712-0257. *Lifting Tropical Curves and Linear Systems on Graphs.*

Tropicalization is a procedure for associating a polyhedral complex to a subvariety of an algebraic torus. We study the question on which graphs arise from tropicalizing algebraic curves. By using Baker's technique of specialization of linear systems from curves to graphs, we are able to give a necessary condition for a balanced weighted graph to be the tropicalization of a curve. Our condition reproduces a generalization of Speyer's well-spacedness condition and also gives new conditions. (Received September 13, 2010)