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([matthew.stamps@aalto.fi](mailto:matthew.stamps@aalto.fi)), Aalto University, Helsinki, Finland. *Betti diagrams from graphs.*

The emergence of Boij-Söderberg theory has given rise to new connections between combinatorics and commutative algebra. Herzog, Sharifan, and Varbaro recently gave a surprising proof that every Betti diagram of an ideal with a  $k$ -linear minimal resolution arises from the Stanley-Reisner ideal of a simplicial complex. In this talk, we present a bijective correspondence between Betti diagrams of algebras with 2-linear resolutions and threshold graphs. We also discuss the more general statement that every Betti diagram of a module with a 2-linear minimal resolution arises from a direct sum of edge algebras of threshold graphs. The main observation is that these Betti diagrams are the lattice points in a family of normal reflexive polytopes that are constructed recursively from threshold graphs. (Received August 27, 2012)