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Federico Ardila*, San Francisco State University, Universidad de Los Andes, Simons Institute for the Theory of Computing, **Federico Castillo**, University of Kansas, **Christopher Eur**, University of California, Berkeley, and **Alexander Postnikov**, Massachusetts Institute of Technology. *Coxeter submodular functions and deformations of Coxeter permutahedra.*

We compute the cone of deformations of a Coxeter permutahedron. This family contains polyhedral models for the Coxeter-theoretic analogs of compositions, graphs, matroids, posets, and associahedra. Our description extends the known correspondence between generalized permutahedra and submodular functions to any finite reflection group. (Received January 29, 2019)