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Preston Cranford, Anton Dochtermann* (dochtermann@txstate.edu), **Evan Haithcock, Joshua Marsh, Suho Oh** and **Anna Truman**. *Bi-coned graphs, edge rooted forests, and Stanley's h -vector conjecture.*

A well-known conjecture of Richard Stanley posits that the h -vector of a matroid independence complex is a pure O -sequence. The conjecture has been established for various classes but is mostly open for graphic matroids. A ‘bi-coned’ graph is a graph with two specified coning vertices such that every vertex of the graph is connected to at least one coning vertex (this class includes coned graphs, Ferrers graphs, and complete multipartite graphs). We provide a combinatorial interpretation of the h -vector of graphic matroids of bi-coned graphs in terms of ‘edge-rooted forests’, generalizing constructions of Kook and Lee who studied the Möbius coinvariant of complete bipartite graphs. Allowing for partially edge-rooted forests gives rise to a pure multicomplex whose face count recovers the h -vector, establishing Stanley’s conjecture for this class of matroids. We discuss other applications to the Möbius coinvariant and homology of the underlying matroid complexes. This is work from a summer REU project at Texas State University. (Received September 10, 2019)