1100-13-336　　　　　　**Ashwini Bhat**, **Jennifer Biermann*** (`jbierman@mtholyoke.edu`) and **Adam Van Tuyl**.
Generalized cover ideals and the persistence property.

Let I be a square-free monomial ideal in $R = k[x_1, \ldots, x_n]$, and consider the sets of associated primes $\mathrm{Ass}(I^s)$ for all integers $s \geq 1$. Although it is known that the sets of associated primes of powers of I eventually stabilize, there are few results about the power at which this stabilization occurs (known as the index of stability). We introduce a family of square-free monomial ideals that can be associated to a finite simple graph G that generalizes the cover ideal construction. When G is a tree, we explicitly determine $\mathrm{Ass}(I^s)$ for all $s \geq 1$. As consequences, not only can we compute the index of stability, we can also show that this family of ideals has the persistence property (Received February 10, 2014)

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