1120-13-86   **Emilie Dufresne** and **Jack Jeffries*** (`jackjeff@umich.edu`). *Separating sets for actions of tori.*

One modern notion in invariant theory is that of a separating set. A separating set for a group action G on a variety X is a set of invariants such that if there is some $f \in k[X]^G$ such that $f(v) = f(w)$, then there is an $h \in S$ such that $h(v) = h(w)$. This notion has attracted interest because it may be much easier to compute a separating set than to compute the whole ring of invariants, but separating sets still reflect much of the geometry of the group action like invariant rings do. In this talk, I will discuss some new results on separating sets for actions of tori, focusing on connections with local cohomology and secant varieties. This is based on joint work with Emilie Dufresne. (Received February 14, 2016)