1099-13-53   **Yi Zhang***, Department of Mathematics, 1409 W Green Street, Urbana, IL 61801. *Toward an efficient algorithm for deciding the vanishing of local cohomology modules in prime characteristic.*

Let $R = k[x_1, \cdots, x_n]$ be a polynomial ring over a field k of characteristic $p > 0$. If I is an ideal of R, we denote $H_I^i(R)$ the i-th local cohomology module of R with support in I. We describe an algorithms to determine the vanishing of $H_I^i(R)$. The method we use is the F-module theory. (Received January 19, 2014)