1053-13-256 **Oana Veliche*** (`oana@sainthermanschool.org`), 62 Harvard Avenue, Allston, MA 02134, and **Hailong Dao** (`hdao@math.ku.edu`). *Comparing complexities of pairs of modules.*

Let R be a local ring and M, N be finitely generated R-modules. The complexity of (M, N), denoted by $\mathrm{cx}_R(M, N)$, measures the polynomial growth rate of the number of generators of the modules $\mathrm{Ext}_R^n(M, N)$, $n \geq 0$. The talk will focus on several basic equalities and inequalities involving complexities of various types of pairs of modules. (Received September 07, 2009)