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Local cohomology in t-Stanley-Reisner rings

There is a profound relationship between the algebraic invariants of Stanley-Reisner rings and the topological data of the associated simplicial complex. Hochster's formula, which describes the local cohomology modules in terms of the simplicial cohomology of links, is one of many famous theorems built on this relationship. This talk will introduce a mixed-characteristic analogue of Stanley-Reisner theory and the adaptation of Hochster's formula to this new setting. The adaptation uses "cellular sheaf cohomology," wherein different coefficients are assigned to each face. These and related results are from a joint paper with Mel Hochster.