1146-13-479   **Louiza Fouli*** (`lfouli@nmsu.edu`), Department of Mathematical Sciences, Las Cruces, 88003, and **Jonathan Montaño**, **Claudia Polini** and **Bernd Ulrich**. *The core of monomial ideals.* Preliminary report.

Let R be a Noetherian local ring with infinite residue field and let I be an R-ideal. A reduction of I is an ideal J such that $J \subset I$ and $I^{n+1} = JI^n$ for some nonnegative integer n. The core of I, core(I), is defined as the intersection of all its reductions and encodes information about all possible reductions. We prove that when I is a monomial ideal that satisfies certain residual conditions, then core(I) coincides with the largest monomial ideal contained in a general reduction of I. We will give an explicit description of the core in this case and discuss further the case of monomial ideals that do not satisfy these residual conditions. This is joint work with Jonathan Montaño, Claudia Polini, and Bernd Ulrich. (Received January 28, 2019)