1015-13-290 **Louiza Fouli*** (`lfouli@math.purdue.edu`), 150 N. University St., West Lafayette, IN 47907-2067. *The core of ideals in arbitrary characteristic.* Preliminary report.

Let R be a Noetherian local ring with infinite residue field k and I an R-ideal. We say that $J \subset I$ is a reduction of I if I and J have the same integral closure. A reduction is called minimal if it is minimal with respect to inclusion. In general minimal reductions are not unique. To remedy this lack of uniqueness one considers the intersection of all (minimal) reductions, namely the core of I, core(I). The core encodes information about all possible reductions of the ideal. On the other hand reductions are connected with the study of blowup algebras. The core is a mysterious object that appears naturally in the context of Briançon-Skoda kind of theorems. Hyry and Smith have shown that Kawamata's conjecture on the existence of sections of certain line bundles is equivalent to a statement about the core of particular ideals in section rings. Under some technical conditions (which are automatically satisfied in case I is equimultiple) Polini and Ulrich have shown that for a Gorenstein local ring, $\mathrm{core}(I) = J^{n+1} : I^n$, for $n >> 0$. This formula depends on the characteristic of the residue field. We present some recent work on the core that is independent of the characteristic of the residue field. (Received February 07, 2006)