

Is the Fulton-MacPherson compactification modular?

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For a smooth variety X over a ground field k the *configuration space* $F(X, n)$ parametrizes labelled collections of n points on X . The configuration space is defined as

$$F(X, n) = X^n \setminus \Delta$$

where X^n denotes the n -fold product and Δ is the diagonal locus where two or more points coincide. By repeatedly blowing up X^n at loci contained in Δ it is possible to create a compactification $X[n]$ of $F(X, n)$ called the *Fulton-MacPherson compactification*. The space $X[n]$ is not defined as a moduli space but the boundary points of $X[n]$ have a geometric interpretation as so-called *stable n -pointed degenerations of X* . In the talk we will discuss our attempts at creating a moduli space of stable degenerations and relate this moduli space to the Fulton-MacPherson compactification.