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The derived motivic Hall algebra associated to a projective variety.

We discuss how to associate a locally geometric derived moduli stack classifying objects in the bounded derived category associated to any projective variety. This is the main ingredient needed in defining a Hall algebra for this triangulated category. It extends the work of Toën, Kontsevich, and Soibelman to the singular case and is the first step in applying Donaldson-Thomas theory (and Joyce's extensions) to these homologically unwieldy categories. The talk will contain a good deal of algebro-geometric and homotopy theoretic material.