

1054-18-289

Scott Morrison* (scott@tqft.net) and **Kevin Walker**. *Blob homology 1*. Preliminary report.

We define a chain complex $\mathcal{B}_*(\mathcal{C}, \mathcal{M})$ (the “blob complex”) associated to an n -category \mathcal{C} and an n -manifold M . This can be thought of as the ‘derived’ category version of a TQFT. I’ll have time to give the definition, and mention some specialisations which recover familiar objects: Hochschild homology, and skein modules. The second talk, ‘Blob Homology 2’, will describe in more detail our approach to weak n -categories with duals, and some nice formal properties of blob homology. (Received September 15, 2009)