1067-18-866 Daniel Bravo* (dbravovivall@wesleyan.edu), Mathematics and Computer Science

Department, 265 Church St, Middletown, CT 06459. An approach to the stable derived category via model categories. Preliminary report.

Using the connection between cotorsion pairs and model categories, established by Hovey in 2002, we define, for any ring, a model category whose homotopy category is the stable derived category studied by Krause and others. This construction makes general properties of the stable derived category evident; for example it is a triangulated category and projective modules are trivial. In particular we provide a description of the stable derived category of $k[x,y]/(x^2,xy,y^2)$, where k is a field. (Received September 15, 2010)