1077-55-1625   **Michael Ching*** (`mching@amherst.edu`). *A classification of Taylor towers.* Preliminary report.
I'll describe joint work with Greg Arone to classify Goodwillie's Taylor towers of homotopy functors to and from the categories of based spaces and spectra. This classification is in terms of structure that exists on the Taylor coefficients of a functor, and from which the entire tower to be reconstructed. In general, the structure involved is that of a coalgebra over a certain cotriple on the category of symmetric sequences. For functors from based spaces to spectra I'll give two more concrete descriptions of this cotriple in terms of modules over the little disc operads, and divided power modules over the Lie operad. (Received September 20, 2011)