1023-55-1590   **Hayden Harker*** (`haharker@vassar.edu`), Vassar College, 124 Raymond Avenue, Box 572, Poughkeepsie, NY 12603. *The locally finite functor and the Steenrod algebra.* Preliminary report.

Let M be a module over the mod 2 Steenrod algebra A. Define the locally finite functor G from A-modules to A-modules to be $G(M) = \{m \in M | Am$ is finitely generated as a vector space$\}$. We describe how this functor relates to the homology of homotopy inverse limits of spectra and to A^*-comodules, where A^* is the vector space dual of A. We then present conditions under which the derived functors of G vanish for modules over a sub-Hopf algebra of A. (Received September 26, 2006)