

1063-55-190

Kristine E. Bauer* (kristine@math.ucalgary.ca), Department of Mathematics & Statistics, University of Calgary, 2500 University Dr., Calgary, AB T3L 2W9, Canada, **Brenda Johnson**, Schenectady, NY , and **Randy McCarthy** , Canada. *A cotriple model for Goodwillie Calculus and DeRham cohomology.*

After Goodwillie introduced his now ubiquitous calculus for homotopy functors, Brenda Johnson and Randy McCarthy discovered a model for his theory using cotriples. Later, Andrew Mauer-Oats showed that the Johnson-McCarthy degree n approximations for a functor agree with Goodwillie's n -excisive approximations when they are defined. However, the Johnson-McCarthy model was limited: in particular, it only applies to functors whose source category has a basepoint. In this talk, I will describe a new cotriple model for calculus which is more general and explain how this model can be used to resolve two possible approaches to DeRham cohomology for ring spectra. (Received August 16, 2010)