

1067-18-285

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Homology theories are one of the first tools we use to study spaces. They are also one of the first tools used in the study of functors from Spaces to Spaces (or Spectra); homology theories are linear functors. As we use linear *functions* to locally approximate more complicated functions, we can use linear *functors* to ‘locally’ approximate arbitrary functors. I will present the notion of linearity and derivative of a functor. These constructions (and their generalization to higher dimensions) are generally unwieldy; one goal of the field is to provide equivalent, but more tractable constructions. My work has provided several alternate and more intuitive constructions, which I will present for the linear case and suggest the higher dimensional case. (Received August 16, 2010)