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f(R), String Theory, and the CMB beyond first order

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Both WMAP and PLANCK have hinted at a slight suppression of power in the CMB temperature spectrum at large angular scales. Yet this power loss is usually unaccounted for by models that are claimed to provide a best fit to the data at first order, such as the Starobinsky f(R) model. In a first step, we demonstrate how to obtain a viable observational signature in f(R) theory by explicitly constructing higher order terms to the Starobinsky model. In a second step, we outline a new inflationary scenario deriving from higher derivative corrections in String theory giving rise to a similar observational fingerprint.

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