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Short Distance and Initial State Effects in Inflation EMIL MOTTOLA, Los Alamos National Laboratory, PAUL ANDERSON, Wake Forest University, CARMEN MOLINA-PARIS, University of Warwick — We consider general homogeneous isotropic initial states in inflation, such as might be generated by novel short distance physics, and determine their observational consequences for the CMB power spectrum. We also compute the stress-energy tensor of these general states and give the quantitative criteria necessary for initial state effects not to disturb the inflationary expansion.

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