Abstract Submitted for the MAR17 Meeting of The American Physical Society

A Relativistic Interpretation of Nonlinear Transformation Optics SOPHIA SKLAN, BAOWEN LI, University of Colorado Boulder — The advances in geometric approaches to optical devices due to transformation optics has led to the development of cloaks, concentrators, and other devices. Furthermore, it has been shown that transformation optics can be used to model general relativity. Here we show how transformation optics can be extended to nonlinear optics and thereby used to model nonlinear effects in general relativity. We develop a set of constitutive to relations for classical and relativistic cloaks in arbitrary nonlinear backgrounds.

> Sophia Sklan University of Colorado Boulder

Date submitted: 28 Oct 2016

Electronic form version 1.4