

Abstract Submitted  
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**Preheating with Gauge Fields and Non-linear Gravity** RYN GRUTKOSKI, TOM GIBLIN, Kenyon College — Big Bang cosmology is a consequence of Einstein's equations and the cosmological principle—and is consistent with many of our observations. However, standard Big Bang cosmology has some inconsistencies with the Universe we observe today, which are solved by a period of inflation. At the same time, the end of inflation is messy, with no unique mathematical model to get to the Universe we observe today. A better understanding of reheating can help us to better understand the particle physics present at those high energies. Here, I'll discuss preheating with multiple gauge fields as a possible model of reheating and the characteristics of such a model, why the effects of local gravity might be important, and how we will have to deal with those effects.

Ryn Grutkoski  
Kenyon College

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