Abstract Submitted
for the HAW09 Meeting of
The American Physical Society

Unifying Inflation and Dark Energy Using an Interacting Holographic Model[1] ABBY BESEMER, MICHAEL BERGER, Indiana University — The universe has gone through at least two very different periods of accelerated expansion. The earliest stage was a rapid exponential expansion known as inflation while the acceleration we are experiencing at the current epoch is driven by dark energy. Because the energy scale of dark energy is approximately 27 orders of magnitude smaller than that of inflation, the relationship between the two periods of acceleration is unknown. The introduction of an interaction between dark energy and matter and the holographic principle offers a possible way to unify these two eras of expansion using a model based on a simple physical principle. Here we present a possible expansion history for the universe using a model of interacting holographic dark energy.

[1]This work was supported by the National Science Foundation's REU program in Physics at Indiana University.

Abby Besemer
Indiana University

Date submitted: 30 Jul 2009 Electronic form version 1.4