Abstract Submitted
for the APR16 Meeting of
The American Physical Society

Studies of Inflationary Phase Transitions by Partition Sums over the Inflaton Field in a Spacetime Constructed from Intersecting Manifolds KENDALL MALLORY, Aims Community College — This presentation gives results from studies of inflationary spacetime models exhibiting phase transitions. Grand partition sums are computed over normal modes of the inflaton scalar field. These are embedded within a four dimensional spacetime constructed from the intersection between two, five dimensional manifolds. This space is homogeneous, and isotropic. The expansion is controlled by a parameter representing the relative position of the manifolds, and by their shape. For given values of this parameter the geometry recreates de Sitter or Anti-de Sitter space. Thermodynamic results are presented given simple assumptions regarding the behavior of this space as it undergoes inflationary expansion. The validity of modelling the dynamics of state transitions with thermodynamic equilibrium states, is assumed here

Kendall Mallory
Aims Community College

Date submitted: 22 Dec 2015 Electronic form version 1.4