

1035-76-1122      **Long H Le\*** (longl@uca.edu), University of Central Arkansas, 244 MCST Building, Conway, AR 72035. *Granular flow on erodible surface*. Preliminary report.

Geophysical mass flows, such as debris flows, volcanic avalanches and landslides, can be initiated consequent to volcanic activities. The bulk flow can easily erode the volcanic rocks and soil on the slopes of mountains, thereby increasing their size several fold. The range of scales and the rheology of these flows, especially with erosion, present significant modeling and computational challenges. We will describe an approach using kinetic theory for rapid flow to incorporate the interaction between a mass flow, an erodible bed, and the topography of that bed. Some numerical simulation and the comparison between new numerical results and experiment will be presented. (Received September 18, 2007)