

# **Microstructure and Stability of Granular Piles**

**Rena ZIEVE**

University of California at Davis  
Department of Physics  
One Shields Avenue  
Davis, CA 95616-8677  
U.S.A.

One example of a jamming transition is the shift of a sandpile between its avalanching and static states. The behavior has strong hysteresis, where for a range of angles of a pile's surface the pile can support either state, depending on the history of the system. Here we discuss how aspects of a pile's precise configuration relate to the maximum angle it can sustain before avalanching. While some connections between grain arrangement and stability have been observed, through both simulation and experiment, in other cases dramatically different types of configurations yield macroscopically identical behavior.