Experiments and models of particle slurries MATTHEW
MOLINARE, University of California, Los Angeles, SARAH BURNETT, University of North Carolina, Chapel Hill, ANDREW LI, University of California, Los
Angeles, KATHERINE VARELA, California State University, Long Beach, DIRK
PESCHKA, Weierstrass Institute, Mohrenstr, Berlin, JEFFREY WONG, University of California, Los Angeles, ANDREA BERTOZZI, Department of Math, University of California, Los Angeles — We present new experimental and theoretical
results for the resuspension of bidisperse particle-laden flows on an inclined plane.
In particular, we study the case of two negatively buoyant particle species of similar
size and dissimilar densities in a viscous fluid of finite volume. Different regimes
of particle separation are observed and studied by adjusting the angle of inclination, total particle concentration, and relative particle volume ratio. In addition
to obtaining information about the height profile of shock formations, we measure
the advancement and separation of particle and fluid front positions in mono- and
bidisperse scenarios. These dynamics are the basis for a quantitative understanding of polydisperse cases, which can be readily applied to industry and catastrophe
modeling.

Li Wang
Department of Math, University of California, Los Angeles

Electronic form version 1.4