Abstract Submitted
for the DFD13 Meeting of
The American Physical Society

Rate-Based Particle Separation: A Granular "Chromatograph" DIANA LIEVANO, JOSEPH MCCARTHY, University of Pittsburgh — The effective separation of particles is key to numerous processes and industries handling solid materials. By making an analogy to fluids separations, here we describe a "granular chromatograph" where particle-wall cohesion leads to "adsorption" rates that dictate a particle's traversal down a channel. This adsorption bias leads to differential flow rates of particles that vary in properties, such as size, density, and wetting characteristics. A rate-based separation technique, based on this observation, will be explored.

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Date submitted: 04 Aug 2013 Electronic form version 1.4