1035-N1-393   **Gary R Greenfield*** (`ggreenfi@richmond.edu`), Dept. of Mathematics and Computer Science, University of Richmond, Richmond, VA 23173. *Algorithmic Art from Streams of Interacting Particles.*

Mathematical models for applying digital paint to a digital canvas have a long history, reaching as least as far back as Haeberli's 1990 expressionist paintbrush experiments that helped launch the discipline of nonphotorealistic rendering, and leading up to the 2007 drip painting simulations of S. Lee et al. that mimic Jackson Pollock paintings. Such efforts have spawned the familiar digital paintbrush and digital filter options found in software packages for artists and graphic designers such as Photoshop. We present a mathematical model of interacting streams of digital paint. Our paint streams are realized as collections of particles moving under the influence of artificial gravity, but still subject to rigid body collisions, that "splat" when they contact the canvas surface. We describe a series of abstract algorithmic art works we created from a prototype system that allows us to use streams of interacting paint particles in clever ways. (Received September 05, 2007)