

1077-B1-868

Gary R Greenfield* (ggreenfi@richmond.edu), Dept. of Math. and Comp. Sci., University of Richmond, Richmond, VA 23173. *Stigmmetry Prints*. Preliminary report.

Stigmergy is a form of self-organization that is brought about by indirect coordination of agents or actions. In 2011, P. Urbano proposed a model based on stigmergy for simulating the nest formation that occurs when ants of the species *T. albipennis* collect virtual grains of sand. By making different colonies of the species sensitive to different colors of virtual sand grains, Urbano produced what he called “sand paintings”. We further exploit this technique by carefully assigning centers, radii, and colors to colonies in such a way that the stigmergy model self-organizes a uniform density grid of virtual sand grains into sand paintings that exhibit various types of color preserving, and color reversing, symmetry. We call these compositions “stigmmetry prints”. We present our methods and give examples. (Received September 13, 2011)