1135-05-2510 **Cristopher Moore*** (moore@santafe.edu), Santa Fe Institute, 1399 Hyde Park Rd., Santa Fe, NM 87501. *Topological defects and entropic forces in tilings and colorings.*

Many discrete models on two-dimensional lattices, such as domino tilings, 3-colorings of the square lattice, and the triangular antiferromagnetic, have "height functions" that allow us to view states as random surfaces. Topological defects in these models, such as lattice sites not covered by a domino or neighboring sites with the same color, then act like vortices or charged particles, with entropically-driven forces between them. I will describe these defects and forces heuristically, from a physics point of view, and suggest some open problems. (Received September 26, 2017)