Typical images generated by 2D Markov Processes: from frustration to periodic tiles

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When thinking about 2D Markov processes in statistical mechanics, one usually has in mind the Ising, Potts or six-vertex models with well-known ordered and disordered phases. However, these are only very particular cases of such models. During the talk, we will present simulations of other typical 2D Markov processes: these models generate images with interesting and new patterns. We will interpret some of them in terms of frustration and phase transitions.