1077-05-1438   **Olivier Bernardi*** (`bernardi@mit.edu`). *The Potts model on random lattices.*

The Potts model is a statistical mechanics model which has been extensively studied on the lattice $\mathbb{Z}^2$. In this work, we consider the Potts model on all planar maps. We characterize the partition function of this model (the generating function of maps weighted by their partition function) by certain differential equations. For particular values of the parameters, we also obtain an algebraic equation, which can be used to study the phase transitions. This is a joint work with Mireille Bousquet-Mélou. (Received September 19, 2011)