INSTITUTUL DE MATEMATICA "SIMION STOILOW" AL ACADEMIEI ROMANE

Seminarul de Teoria Potentialului

Free boundaries on Lattice, and their scaling limits

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Abstract: Probably the most well-know fact in classical potential theory is the mean value property for harmonic functions over spherical shells or balls. We shall discuss similar properties for harmonic functions on the lattices Z^2, and show (through numerics) that interesting new objects may appear when the size of lattices tends to zero. These objects have been studied in two recent works in collaboration with Hayk Aleksanyan.
References:
https://www.researchgate.net/publication/304895291_Discrete_Balayage_and_Boundary_Sandpile
https://www.researchgate.net/publication/315489029_Perturbed_divisible_sandpiles_and_Quadrature_surfaces