

A Non-Trivial Bound for the Critical Threshold of a Percolation Model with Columnar Disorder

Marcos Sá¹, Remy Sanchis¹, Marcelo R. Hilário¹

¹ Universidade Federal de Minas Gerais, Departamento de Matemática.

In this poster we consider a percolation model on the cubic lattice featuring columnar disorder. The model is defined in two steps: first the vertical columns of \mathbb{Z}^3 are removed independently with probability $1 - \rho$ and, in the second step, the bonds connecting sites in the remaining sub-lattice are declared open with probability p independently. Our result shows that for some $\delta > 0$ the critical point $p_c(\rho) < 1/2 - \delta$ for any $\rho > \rho_c$, where ρ_c is the critical point of site percolation in \mathbb{Z}^2 .

References

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