INVARIANCE BY QUASI-ISOMETRIES OF SUB AND SUPERCRITICAL BEHAVIORS IN BOOLEAN PERCOLATION

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Resumo/Abstract:
In this work we study the percolation Boolean model in general metric spaces (both discrete and continuous) and we prove invariance of sub-critical and super-critical phases by quasi-isometries. In other words, if we know that a Boolean model is sub-critical or super-critial (and therefore phase transition) in a metric space M quasi-isometric to another metric space M', we proved that these phases also exists for a Boolean model in M'. We apply these results in many important examples of metric spaces, such as Riemann Manifolds, Gromov spaces, nilpotents Lie groups, Cayley graphs and surfaces arising from graphs of functions.
This a joint work with Cristian Coletti and Filipe Mussini.