SEMPARIS – Séminaires en région parisienne

http ://string.lpthe.jussieu.fr/semparis/

Seed Seminar of Mathematics and Physics

Mercredi 12 Fevrier 2025, 15 :00
IHP, Amphi Choquet-Bruhat (batiment Perrin)
Domaines : math-ph

Titre : *The chemical distance metric for non-simple CLE*

Orateur : **Yizheng Yuan (Statistical Laboratory, Cambridge University, UK)**

Résumé : *We construct the continuum analogue of the chemical distance metric in lattice models such as percolation. The chemical distance metric is the graph distance induced by the percolation clusters. It is known that for critical percolation, the lengths have non-trivial scaling behaviour, however it is very difficult to find the exact scaling exponent. (This is one of the questions from Schramm's ICM 2006 article that remains unsolved.)*

In a joint work with Valeria Ambrosio and Jason Miller, we construct a chemical distance metric on the CLE gasket for each $\kappa \in]4,8[$*. We show that it is unique metric that is geodesic, Markovian, and conformally covariant. The characterisation is reminiscent of the LQG metric, but our objects behave very differently, and hence our techniques also differ significantly from those used in LQG. For* $\kappa = 6$*, we conjecture that our random metric space is the scaling limit of critical percolation.*