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Seminar

Long Brownian bridges in hyperbolic spaces converge to Brownian trees

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Abstract

We consider the long Brownian bridge started from the origin in hyperbolic space H^d and show that its range, after being suitably renormalised, converges in law to a Brownian continuum tree in the sense of Gromov-Hausdorff. The rough idea of the proof will be talked about, by presenting the convergence, obtained by Bougerol and Jeulin [1], of the radial part; the invariance property of re-rooting and the hyperbolicity property. The similar idea will be applied to obtain the local convergence of the infinite Brownian loop in hyperbolic space.

References:

[1] Bougerol, P. and Jeulin, T. (1999) Brownian bridge on hyperbolic spaces and on homogeneous trees. *Probab. Theory Related Fields.* 115(1), 95-120.

[2] Chen, X. and Miermont, G. (2016) Long Brownian bridges in hyperbolic spaces converge to Brownian trees. arXiv:1609.01907

Date: 22 June 2017 (Thursday)
Time: 10:30am – 11:30am
Venue: Room 222, Lady Shaw Building
The Chinese University of Hong Kong, Shatin

All are Welcome