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## Scaling limit of the Aldous-Broder chain on high-dimensional torii

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The CRT is the scaling limit of the UST on the complete graph. The Aldous-Broder chain on a graph  $G=(V,E)$  is a MC with values in the space of rooted trees with vertices in  $V$  that is invariant under the uniform distribution on the space of rooted trees spanning  $G$ . In Evans, Pitman and Winter (2006) the so-called root growth with regrafting process (RGRG) was constructed. It was further shown that the suitable rescaled Aldous-Broder chain converges to the RGRG weakly with respect to the GH-topology. It was shown in Peres and Revelle (2005) that (up to a dimension depending constant factor) the CRT is also the  $G$ -weak scaling limit of the UST on the  $d$ -dimensional torus,  $d \geq 5$ . This result was recently strengthened in Archer, Nachmias and Shalev (2024) to convergence with respect to the GH-weak topology, and therefore also with respect to the GH-topology. In this talk we show that also the suitable rescaled Aldous-Broder chain on the high-dimensional torus converges to the RGRG weakly with respect to the GH-topology when initially started in the trivial rooted tree.

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