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## Statistics at the tip of a branching random walk

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The positions of particles in a Branching Random Walk are related to the energies of a mean-field directed polymer. They can also be understood, in a certain approximation, as the energies in a spin-glass. I will show how the statistics in the distances between these particles (i.e. the energy gaps) can be understood by studying traveling wave equations of the Fisher-KPP type. In a second part of the talk, I will show how the Bolthausen–Sznitman coalescent (or Parisi’s replica tree) appears when considering the structure of coalescence times in a Branching Random Walk where the number of particles is kept finite by a processus of selection.