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# Intermediate Disorder for Polymers on Trees

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**Abstract.** The directed polymer in a random environment is a well-known random disordered system. Typically the directed polymer is a random perturbation of the classical random walk model, with the perturbation being caused by the environment, and one of the main questions is how much randomness is required to create a phase transition away from the classical random walk behavior. If the underlying random walk takes place on a binary tree, then there is an exact classification of the critical temperature at which the walk moves away from the random walk behavior (the so-called “weak disorder” regime) towards a much more localized and poorly understood behavior (the “strong disorder” regime). This talk will describe recent work which probes the strength of this phase transition by applying a “near-critical scaling” of the temperature towards the critical one as the length of the polymer grows large.

Joint work with Marcel Ortgiese (TU Berlin).