

# Phase transitions of infinite order on trees in presence of disorder

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Renormalization methods are known to reduce the calculation of critical behaviors at phase transitions to the study of finite dimensional dynamical systems. In presence of disorder, the dynamical system usually becomes infinite dimensional. In this talk I will present the example a very simple tree model which exhibits an infinite order phase transition due to disorder and discuss how the precise nature of the singularity is influence by the distribution of disorder. I will also try to mention several other closely related models with a number of open issues.