



Spread-out oriented percolation and related models above the upper critical dimension: induction and superprocesses

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Abstract. In these notes we give an extensive survey of the recent progress for critical spread-out oriented percolation above the upper critical dimension. We describe the main tools, which are the lace expansion and the inductive method. The lace expansion gives a recursion relation for the two-point functions involved, and the inductive method gives an inductive analysis of the arising recursion relation. These results apply also to self-avoiding walk. We further describe the scaling results for the oriented percolation higher-point functions, and compare these to their branching random walk analogues. Finally, we discuss the relations between scaling limits of critical branching models to super-processes, which are random measures evolving diffusively in time.