

## Directed paths in wedges

E. J. Janse van Rensburg  
rensburg@yorku.ca  
*Dept. of Mathematics & Statistics*  
*York University*  
*Toronto, Ontario M3J 1P3*  
*CANADA*

### Abstract

Lattice paths in wedges arise naturally as a directed lattice model of a polymer adsorbing in a confined space. Such models of lattice paths poses unique mathematical challenges. In some cases the model lacks translational invariance, and this complicates the derivation of a recurrence for the generating function and solving for it. If the path interacts with a wall of the wedge, then it may exhibit critical behaviour and scaling in the vicinity of a critical point. In this talk I give an overview of what we know about the enumeration and statistical mechanics of models of directed paths in wedges. Generating functions will be determined using functional recurrences and the kernel method. From these results one may obtain the asymptotics for the number of paths, as well as the locations of the adsorption critical points.

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