Results from 1D random walk

Experiment run on 16/6/2010 at 09.43

Parameters

Number of moves in each walk	30
Number of walks	2000
Probability of moving right	0.4
Probability of moving left	0.4

Theoretical Values

expected distance travelled in 30 non-blocked moves	0.00
expected mean square distance for 30 non-blocked moves	24.00

Measured Values

Cell 0

average distance travelled in 30 moves	-4.21
average square distance for 30 moves	27.38
maximum frequency of distance	292
pathways and frequency histogram	Figure 1

Cell 1

average distance travelled in 30 moves	-1.12
average square distance for 30 moves	7.43
maximum frequency of distance	317
pathways and frequency histogram	Figure 2

Cell 2

average distance travelled in 30 moves	1.19
average square distance for 30 moves	7.79
maximum frequency of distance	322
pathways and frequency histogram	Figure 3

Cell 3

average distance travelled in 30 moves	4.10
average square distance for 30 moves	26.15
maximum frequency of distance	260
pathways and frequency histogram	Figure 4

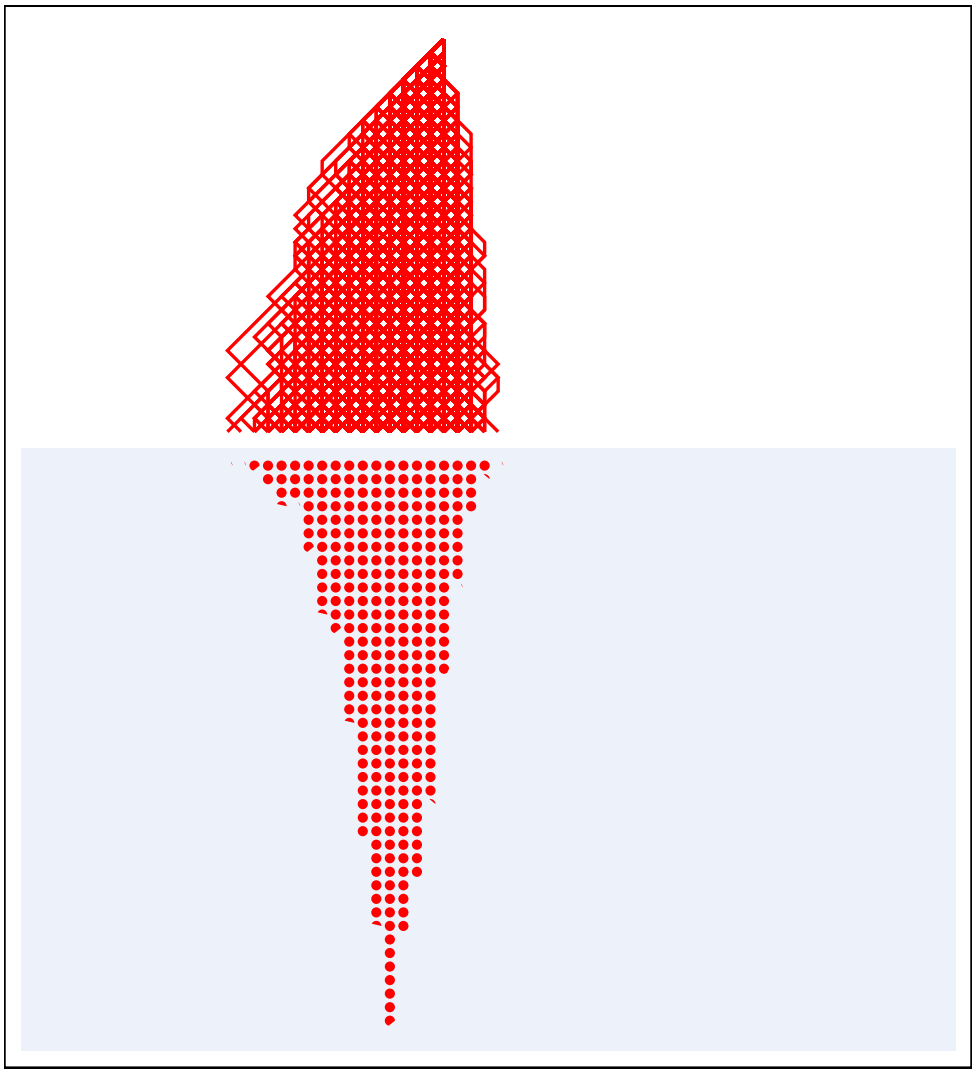

Figure 1: Cell 0 pathways and frequency histogram. Upper panel shows cell pathways with vertical position representing timestep. Lower panel shows the distribution of final (horizontal) cell positions. Each dot in the histogram represents 7 results.

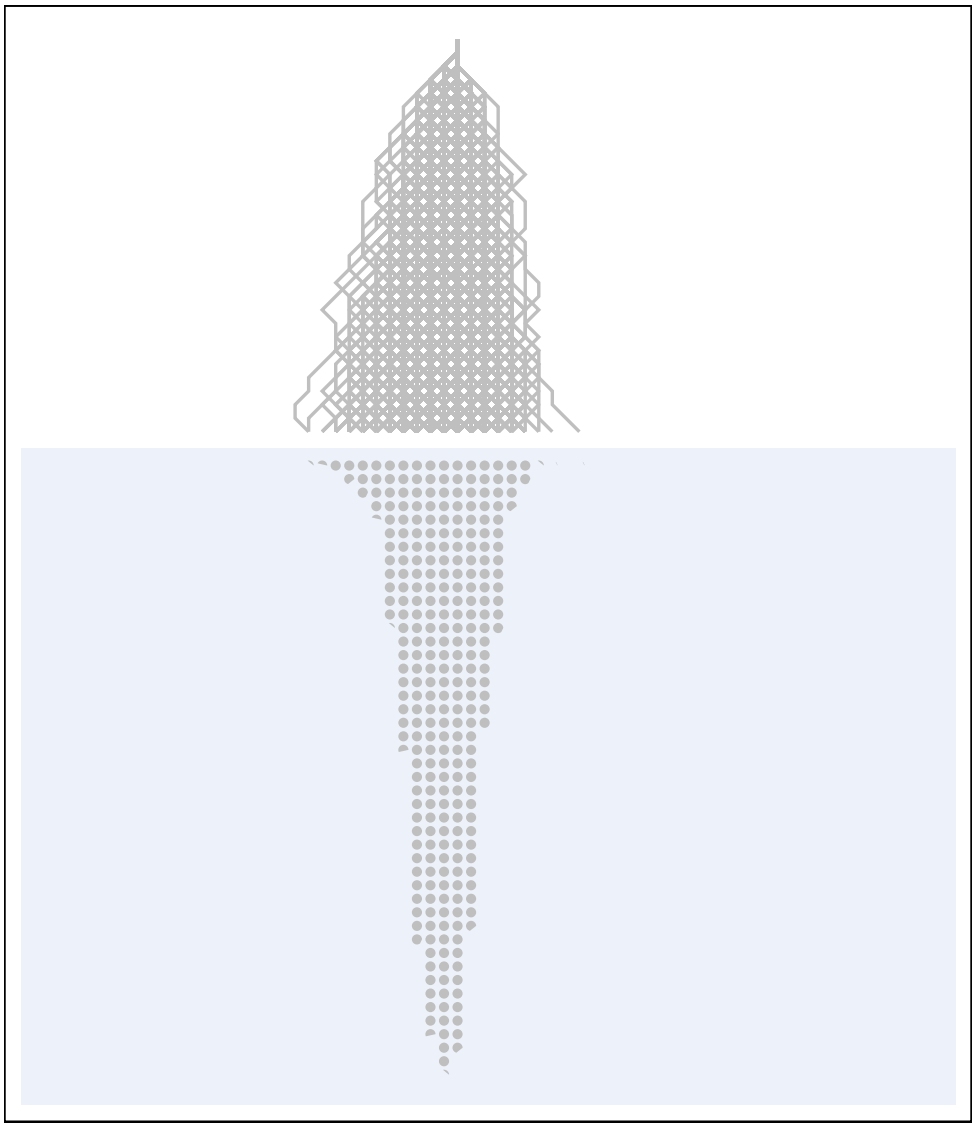

Figure 2: Cell 1 pathways and frequency histogram. Upper panel shows cell pathways with vertical position representing timestep. Lower panel shows the distribution of final (horizontal) cell positions. Each dot in the histogram represents 7 results.

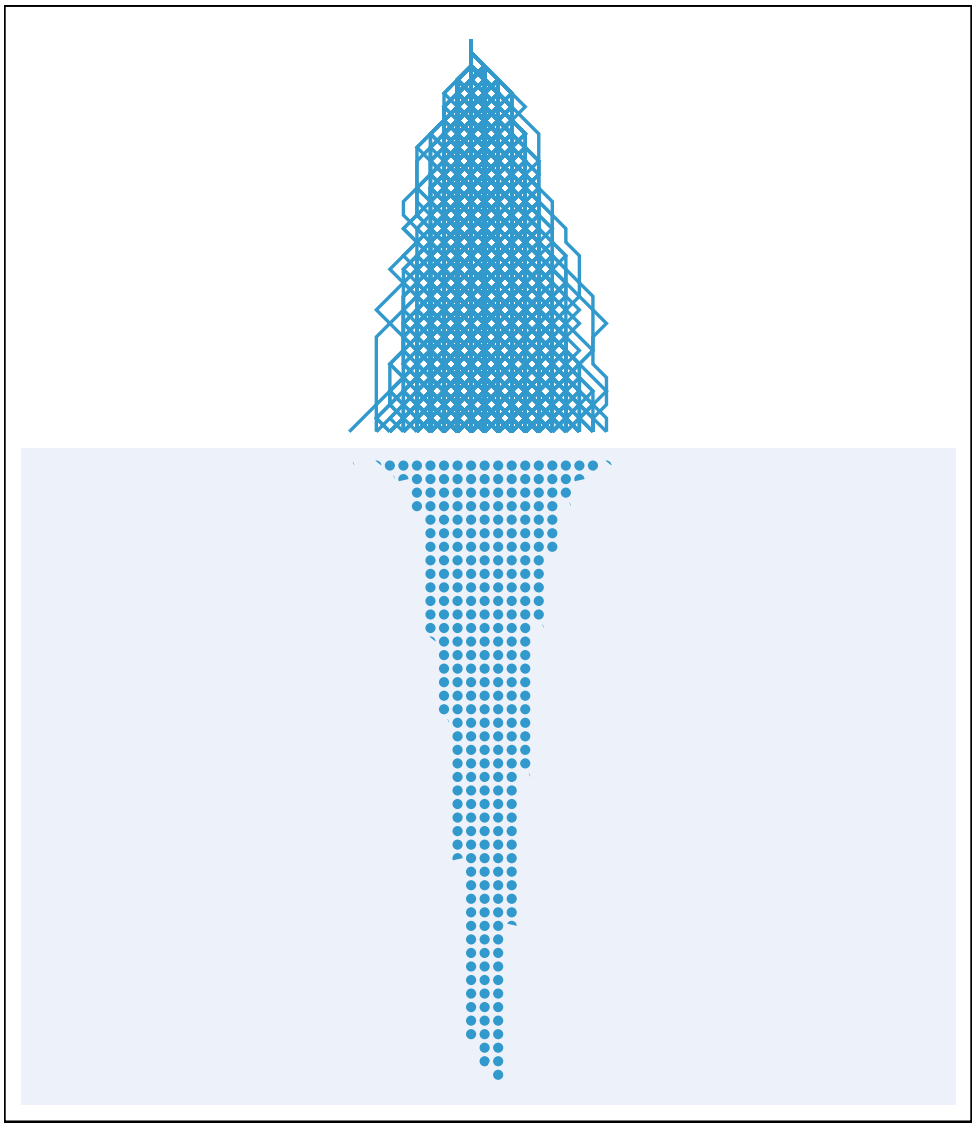

Figure 3: Cell 2 pathways and frequency histogram. Upper panel shows cell pathways with vertical position representing timestep. Lower panel shows the distribution of final (horizontal) cell positions. Each dot in the histogram represents 7 results.

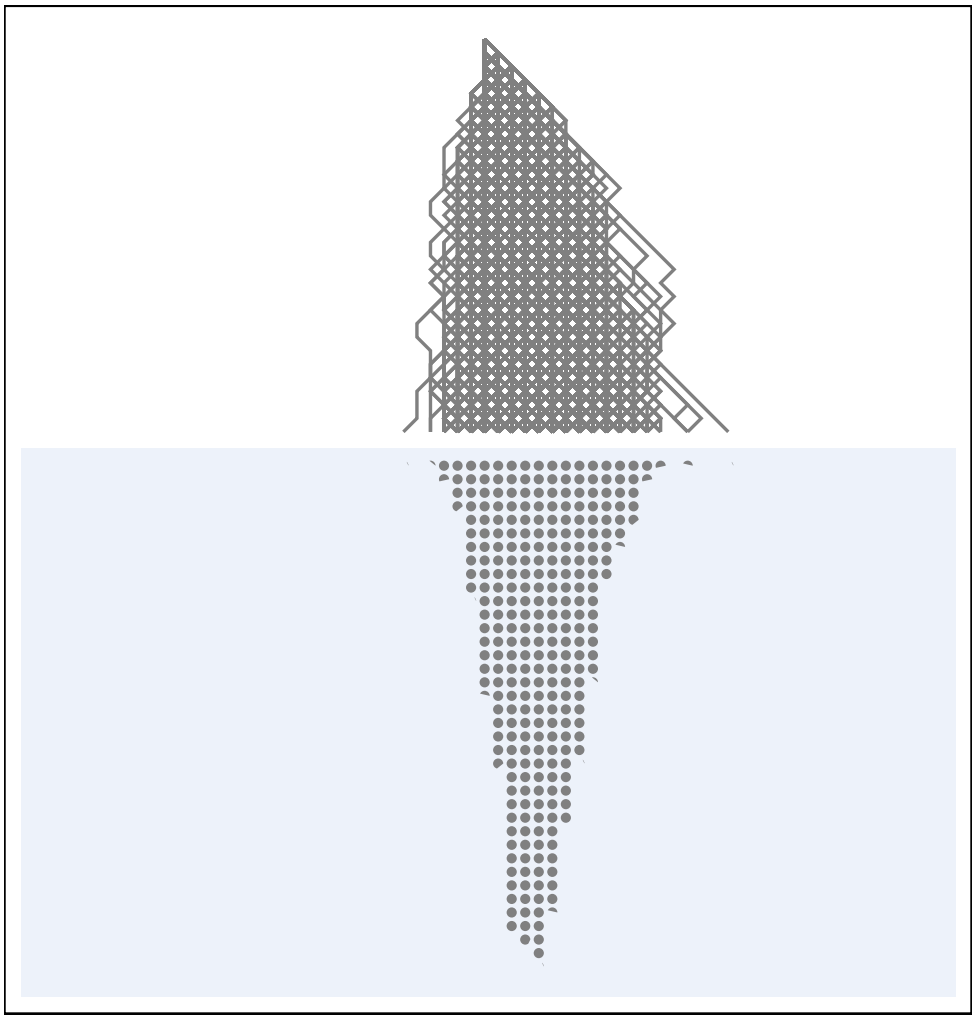

Figure 4: Cell 3 pathways and frequency histogram. Upper panel shows cell pathways with vertical position representing timestep. Lower panel shows the distribution of final (horizontal) cell positions. Each dot in the histogram represents 7 results.