

# Complexity Project: The Oslo Model

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# 1

Devise and perform some simple tests (e.g. by selecting particular simple values of  $p$ ) to check whether your programme is working as intended.

We plug in for  $p=1$ ,  $p=0$

We expect half and double recurrent heights, with single recurrent

$$\begin{aligned}P^T \mathbf{x} &= \lambda \mathbf{x} \\ \mathbf{x}^T P^T \mathbf{x} &= \mathbf{x}^T \lambda \mathbf{x} \\ \frac{\mathbf{x}^T P^T \mathbf{x}}{\mathbf{x}^T \mathbf{x}} &= \lambda \\ P^T \mathbf{x} &= \mathbf{x}\end{aligned}$$

# 2

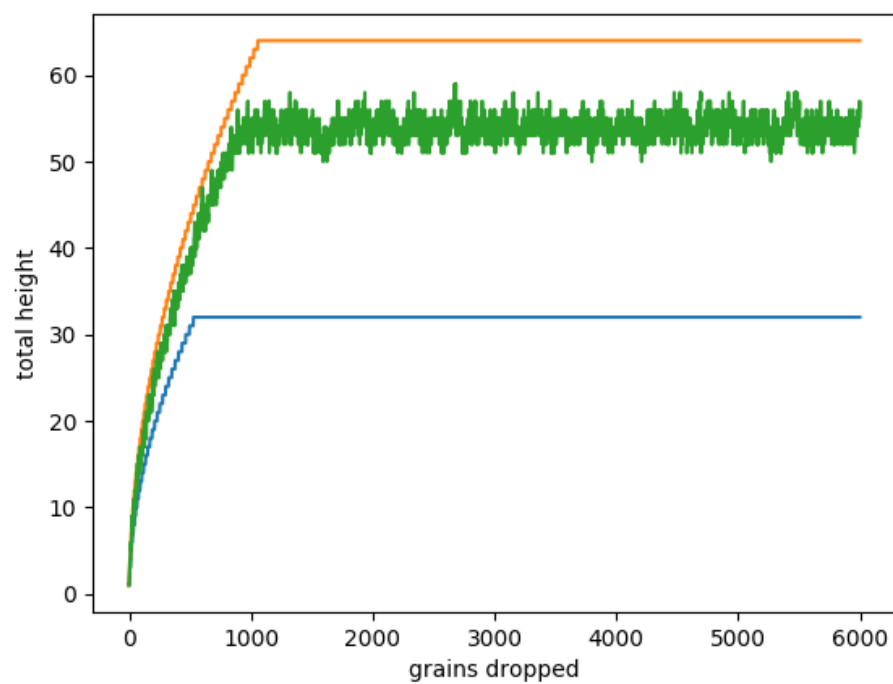


Figure 1

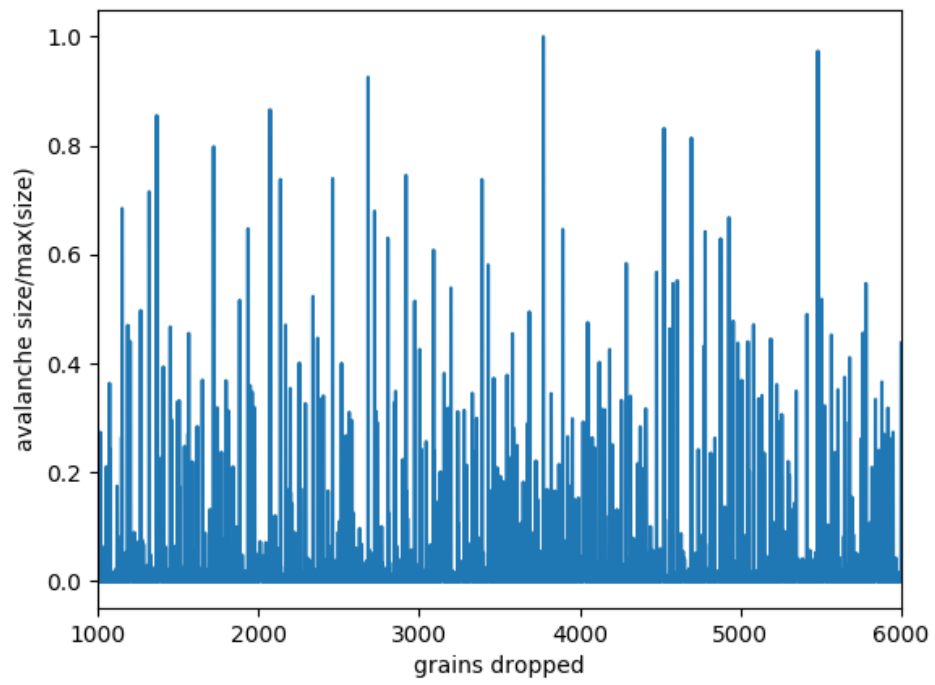


Figure 2

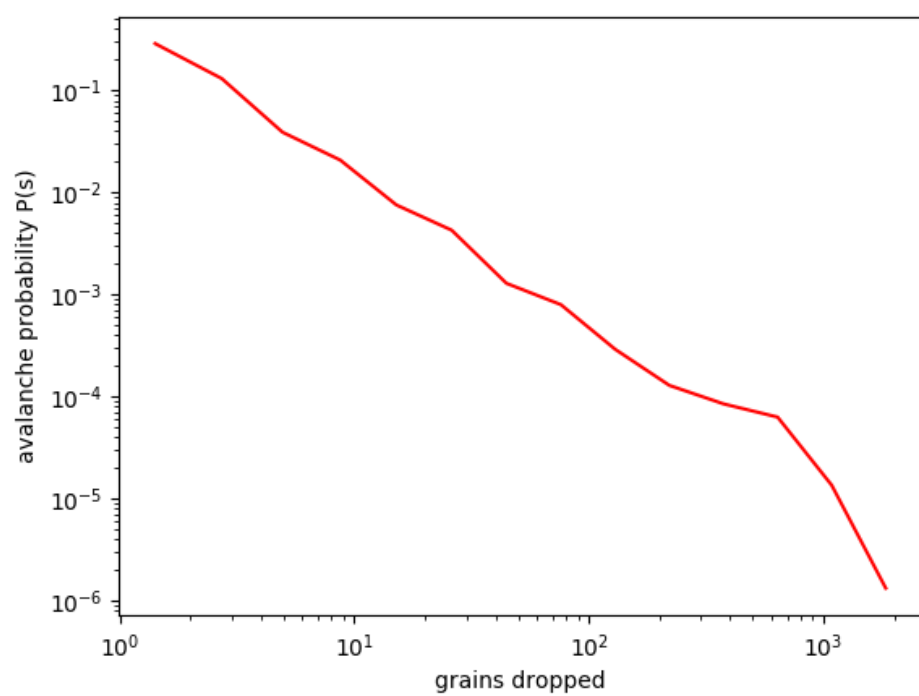


Figure 3