



A bug in the code, or something interesting?

Plotting the tree height from each of 100 repetitions of CSMC (all using the same observations, but each point with a different realisation of the particle system).

A series of horizontal lines appears – more pronounced as $n \rightarrow N$ and as the immortal line becomes more unlikely...

Note that the tree height did not “max out” in any of these cases, so the uppermost points are true values too.

But this surely must be down to a bug – would the random process produce such systematic behaviour?

Next question: how does the behaviour depend upon the choice of N ?