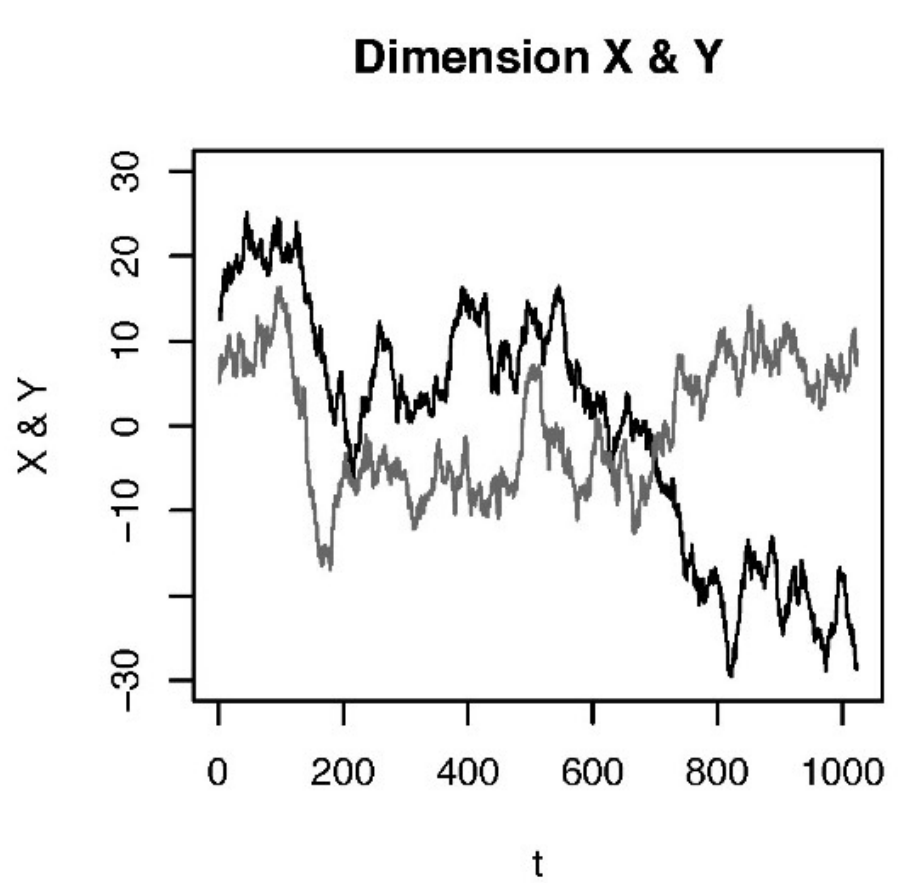
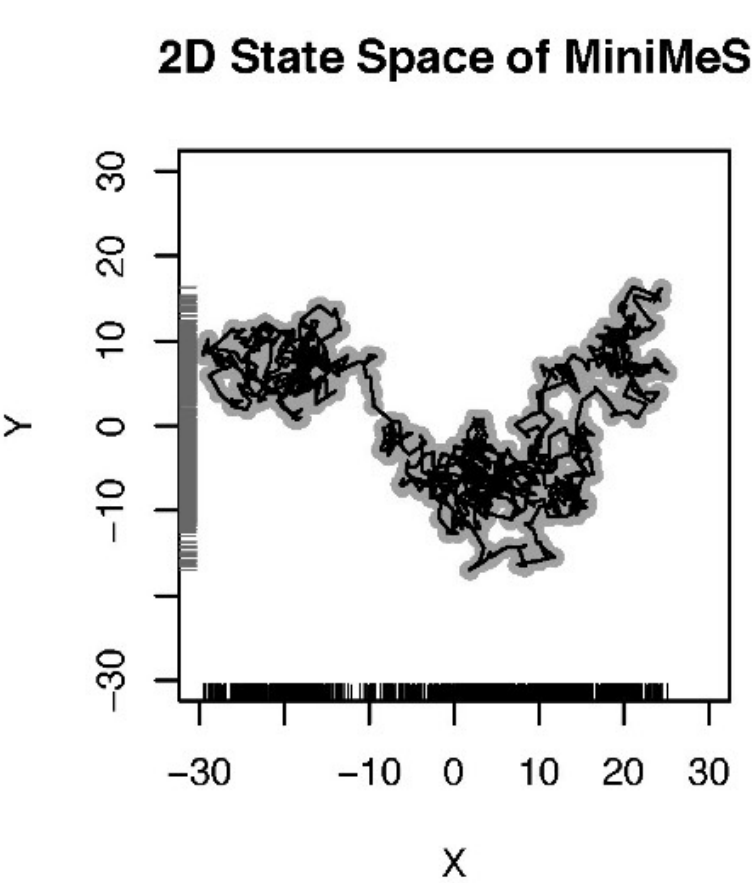
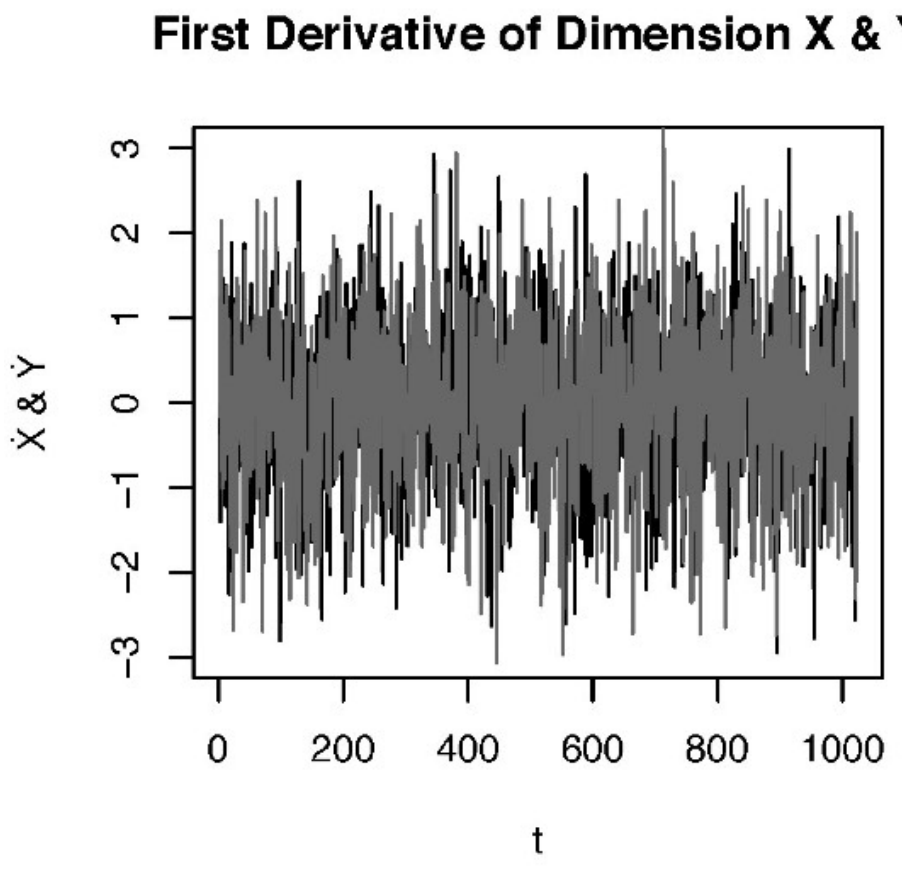
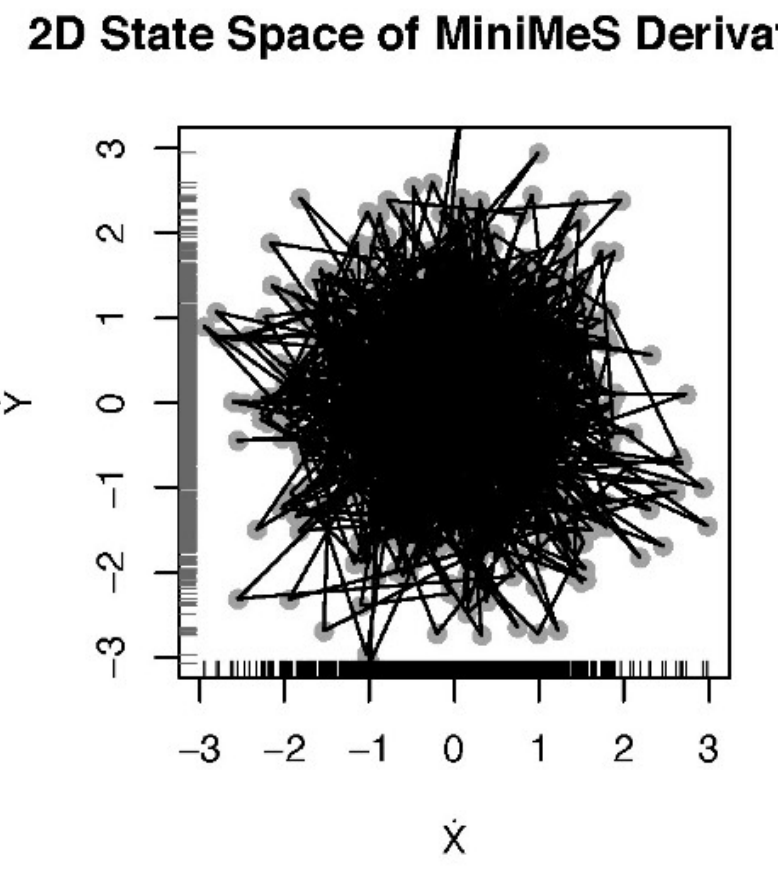
f.hasselman@bsi.ru.nl


Dimension X & Y
X & Y
30
20
10
0
−10
−30
0
200
400
600
800
1000
t


2D State Space of MiniMeS
Y
30
20
10
0
−10
−30
−30
−10
0
10
20
30
X


First Derivative of Dimension X & Y
Ẋ & Ẏ
3
2
1
0
−1
−2
−3
0
200
400
600
800
1000
t


2D State Space of MiniMeS Derivatives
Ẏ
3
2
1
0
−1
−2
−3
−3
−2
−1
0
1
2
3
Ẋ

- State Space (X & Y): The degrees of freedom MiniMe has to generate its behaviour (move)

- This is a random walk, Brownian motion: Add a random number drawn from normal distribution to current number.

- Where does the apparent order come from? It's a random process!!!!

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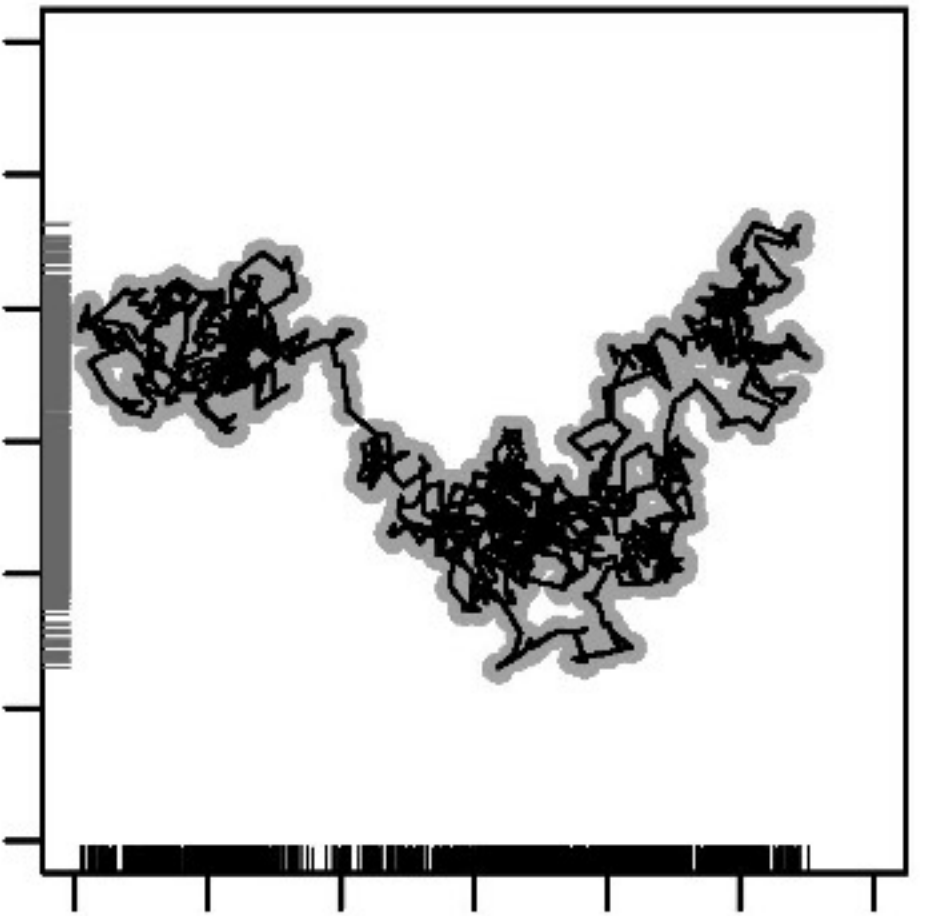
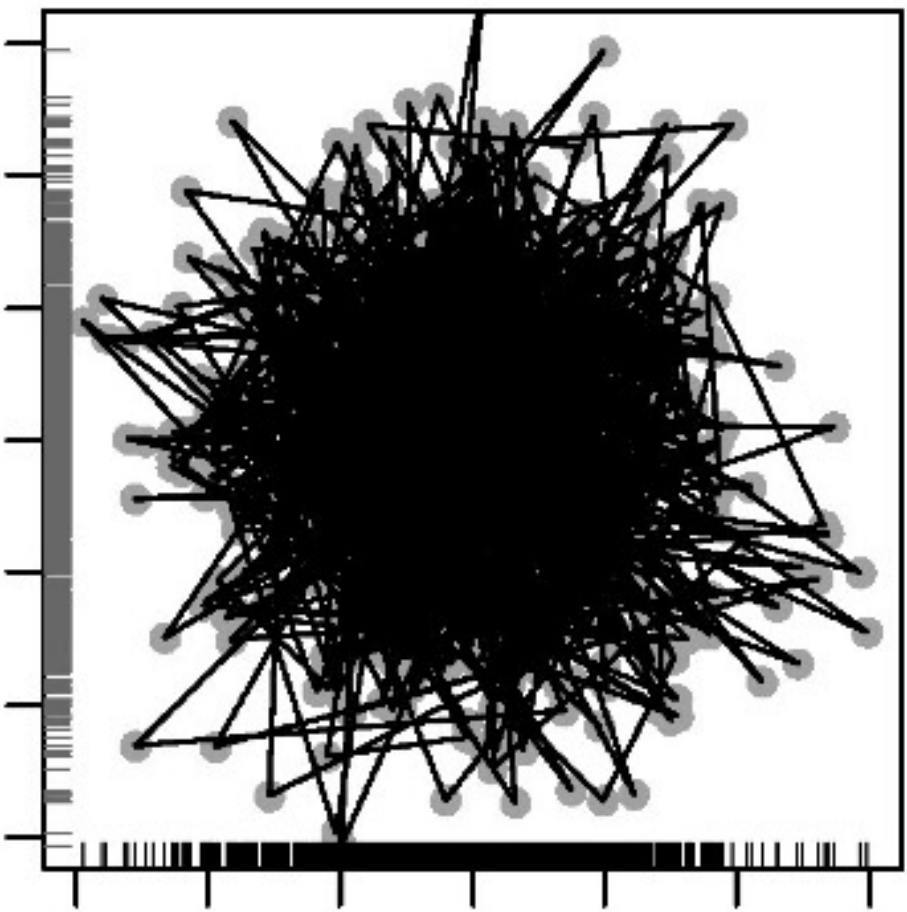
2D State Space of MiniMeS



ate Space of MiniMeS Derivatives



22

‘Simple’ rule reduces degrees of freedom to move around:

Matter has to occupy finite space & movement takes time (no teleportation yet)