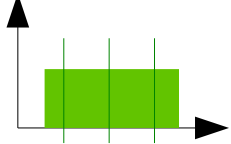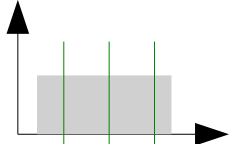# Step 1: Create and run samples

Uncertain parameters
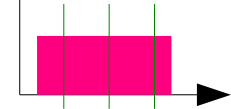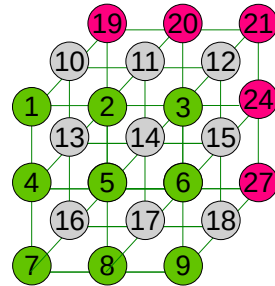
Number of agents

Send interval

Transmission power *(control)*

Polynomial chaos expansion (order = 2): 27 samples

For each sample:

Simulation run (no repetition)

Quantities of interest (simulation output)

Dissemination time (all agents)
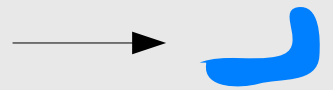
Dissemination time (only agents in information area)

Max. packet life time

Median packet life time

Min. packet life time

Number of agents *(control)*

Step 2: Construct polynomial chaos expansion and quantify uncertainties

Quantities of interest (simulation output)

Polynomial chaos expansions

Dissemination time (all agents)

Dissemination time (only agents in information area)

Max. packet life time

Median packet life time

Min. packet life time

Number of agents *(control)*

For each quantity of interest:

Global sensitivity analysis → First and total order sensitivity index for each parameter

Forward propagation → Statistical moments of the quantity of interest