

# Low-rank simulations

This repo contains simulations to check the low-rank approximation of conditional probabilities in the dynamic network model.

The repo contains several folders:

- **code**: contains all code to run the simulations
- **output**: simulation output is saved and stored here
- **notes**: latex notes (includes graphs and tables)

## code

Each simulation needs 3 files.

- **setup\_functions.R** contains all the functions
- **simulation\_design#.R** contains the design (see table below for the complete list)
- **simulate\_loop.R** runs the simulation, saves results, and outputs a .tex table.

All the simulations are contained in the file **simulation.R**.

## simulation designs

Design	$n$	$T$	$K$	$d$	$\gamma$	$\nu$
1	2000-10000	5	2	1	0.1	(0.8, -1.5)
2	2000-10000	5	2	1	0.5	(0.8, -1.5)
3	2000-10000	5	2	1	1.0	(0.8, -1.5)
4	2000-10000	5	2	1	1.5	(0.8, -1.5)
5	2000-10000	5	4	1	0.1	(.8, .3, -.6, -1.5)
6	2000-10000	5	4	1	0.5	(.8, .3, -.6, -1.5)
7	2000-10000	5	4	1	1.0	(.8, .3, -.6, -1.5)
8	2000-10000	5	4	1	1.5	(.8, .3, -.6, -1.5)

TO-DO