(Project 1) SIR-X Model on a Network





1. Check the patterns of subexponential growth in other countries

2. Study the behavior of the SIR-X model on a network

Reference

- 1. "Effective containment explains subexponential growth in recent confirmed COVID-19 cases in China", B. F. Maier and D. Brockmann, Science 368, 742 (2020).
- 2. https://github.com/datasets/covid-19

(Project 2) SIR model near Epidemic Threshold

- Study the behavior of SIR model near the epidemic threshold.
 - The distribution of cluster size
 - The distribution of lifetime

Reference

- 1. <u>https://www.apctp.org/plan.php/statws2017/1794</u>, Stochastic processes on complex networks (Lecture notes for 14th winter school), D.-S. Lee (2017) and references therein.
- 2. P. Grassberger, Math. Biosc. 63, 157 (1983) and J. Cardy and P. Grassberger, J. Phys. A 18, 267 (1985).