Workshop: Quasistationary distributions

- topic 1: Chapter 1 and Chapter 2 in reference 1: Introduction to the concept of quasistationary distributions
- topic 2: Chapter 3 in reference 1: Quasistationary distribuions for finite Markov chains
- topic 3: reference 2: Quasistationary distributions for diffusions in bounded domains
- topic 4: reference 3 and 4: Quasistationary distributions for one-dimensional diffusions in unbounded domains, non-uniqueness and applications
- topic 5: reference 5: Results concerning convergence and uniqueness: Doeblin type approach
- topic 6: reference 6: Results concerning convergence and uniqueness applied to diffusions
- topic 7: reference 7: general criteria for exponential convergence towards the minimal quasistationary distribution
- topic 8: reference 8: A particle system representation of Fleming-Viot-Typo for the quasistationary distribution of Brownian motion in a bounded domain
- reference

Literaturliste:

1 Pierre Collet, Servet Martinez, Jaime San Martin, Quasi-Stationary Distributions: Markov Chains, Diffusions and Dynamical Systems (Probability and Its Applications), Springer Verlag 2013

2 Ross Pinsky, On the convergence of diffusion processes conditioned to remain in a bounded region for large time to limiting positive recurrent diffusion processes, The Annals of Probability, Volume 13, 1985, 363–378

3 Servet Martinez and Jaime San Martin, Quasi-stationary distributions for a Brownian motion with drift and associated limit laws, Journal of Applied Probability, Volume 31, Issue 4 December 1994 , pp. 911–920

4 Joshua S. Weitz and Hunter B. Fraser, Explaining mortality rate plateaus, PNAS, December 18, 2001 98 (26) 15383–15386

5 Nicolas Champagnat and Denis Villemonais, Exponential convergence to quasi-stationary distribution and Q-process, Probability Theory and Related Fields, 2016, Volume 164, Issue 12, 243–283

6 Nicolas Champagnat and Denis Villemonais, Exponential convergence to quasi-stationary distribution for absorbed one-dimensional diffusions with killing

6 Nicolas Champagnat and Denis Villemonais, Exponential convergence to quasi-stationary distribution for absorbed one-dimensional diffusions with killing, ALEA, Lat. Am. J. Probab. Math. Stat. 14, 177199 (2017)

7 Nicolas Champagnat, Denis Villemonais, General criteria for the study of quasi-stationarity, https://arxiv.org/abs/1712.08092

8 Krzysztof Burdzy, Robert Holyst and Peter March, A Fleming–Viot Particle Representation of the Dirichlet Laplacian, Communications in Mathematical Physics, November 2000, Volume 214, Issue 3, pp 679–703