

Lecture on July 17th, 2018
Basic Limit Theorem of Markov Chain and Poisson Process

1 Basic Limit Theorem of Markov Chains (See 4.4)

- State the basic limit theorem of Markov Chain.
- For reducible case, focus on each class.
- Definition of positive recurrent, null recurrent and stationary distribution.
- Positive or null recurrent is a class property.
- In a positive recurrent aperiodic class, limiting distribution can be solved from stationary distributions.
- Existence of stationary distribution doesn't imply existence of limiting distribution.

2 Poisson Process (See 5.1)

- Review for Poisson distribution.
- Definition of homogenous and non-homogenous Poisson process.
- Method to transform a non-homogenous Poisson process to a unit homogenous Poisson process.