

CSCE 317 Spring 2018
QUIZ 4
Assigned Thursday, 18-04-18

An *ergodic* system is one for which the ensemble average exists and, with probability 1,

$$\bar{N}^{TimeAverage} = \bar{N}^{EnsembleAverage}$$

Your textbook prefers to define ergodicity by three properties that are sufficient for the above equality to hold. Choose them from the list below.

1. memoryless property
2. positive recurrence
3. mutual independence
4. irreducibility
5. aperiodicity

Answer: 2, 4, and 5, i.e.: An *ergodic* system is one that is positive recurrent, aperiodic, and irreducible.