

Type of state	Definition of state, assuming initial state appropriate
Periodic	Return to state possible at $d, 2d, 3d, \dots$ where $d > 1$.
Aperiodic	Not periodic
Recurrent	Eventual return to state certain
Transient	Eventual return to state uncertain
Positive-recurrent	Recurrent, finite mean recurrence time
Null-recurrent	Recurrent, infinite mean recurrence time
Ergodic	Irreducible, positive-recurrent, aperiodic