LECTURE 11: Review

Modeling and Simulation 2

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REVIEW LECTURE TOPICS

- Discrete systems
  - modular approach: parallel composition, equivalence
  - model checking: controllability, observability, blocking
  - supervisory control: observer construction, supervisor synthesis
- Markov chains
  - ergodic property
  - steady state distribution
  - transition probabilities
- DAEs
  - applicability of DAEs to electrical system modelling
  - DAE order
  - modular approach to continuous system modelling
- Monte Carlo methods
  - Monte Carlo simulation
  - Standard convergence criterion
  - Sampling methods
  - Bootstrapping methods
- Validation
  - hypothesis test
  - Wasserstein pseudometric