Controller synthesis for discrete-time switching systems

- We will study an autonomous discrete-time switched system $\mathscr{D}$: $x_{k+!} = A_{\sigma(k)} x_k$.
- Stabilizability problem : Given $\mathscr{D}$, synthesize a sequence of switching signals $(\sigma_k)_{k\in\mathbb{N}}$ that stabilizes the system $\mathscr{D}$.
- This seminar focuses on:
  1. Studying and comparing methods in literature that study the stabilizability problem.
  2. Perform simulations using Matlab.
  3. Identifying open practical and theoretical challenges in this field.

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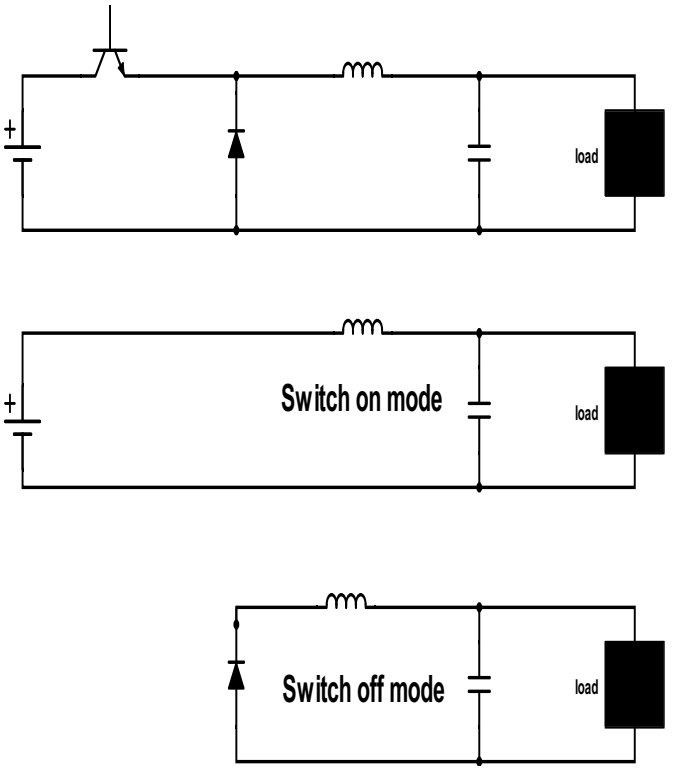

Circuit configuration of a buck converter