Course of
"Automatic Control Systems"
2023/24

Project

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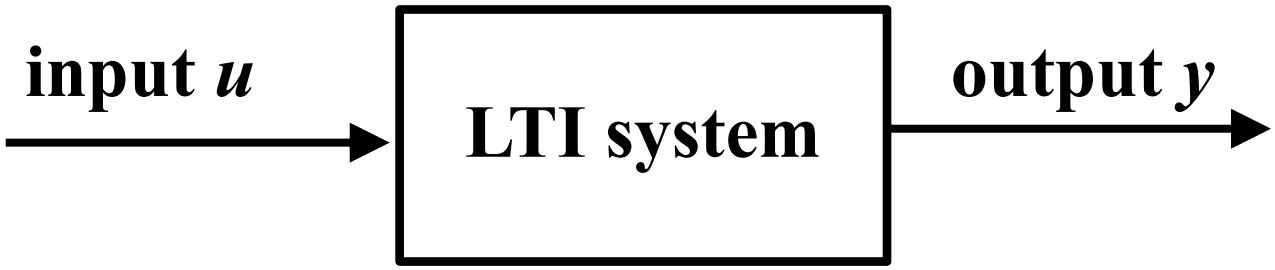
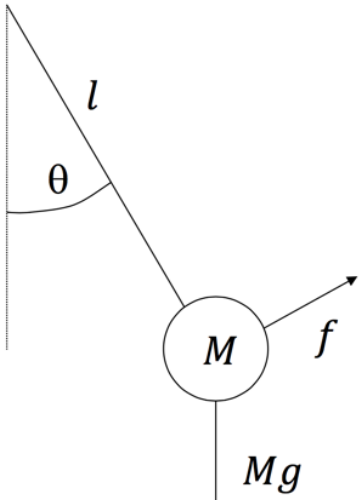
Team code: **mfs9zfr**

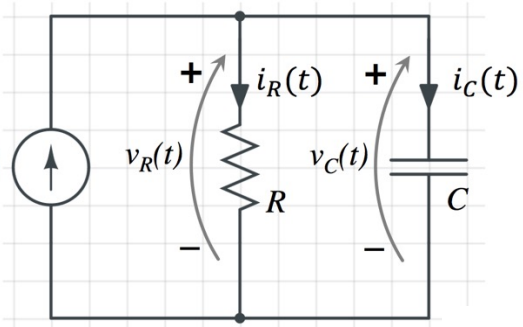
Analysis of LTI system in the time and frequency domains

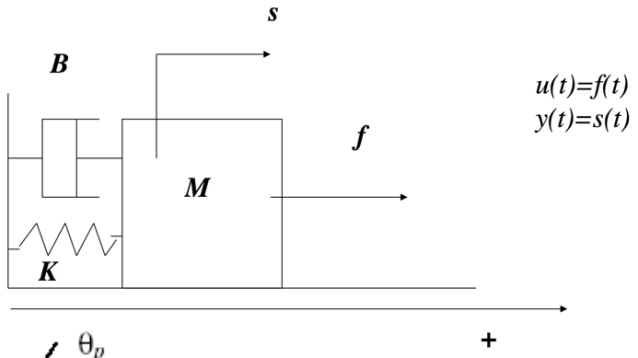


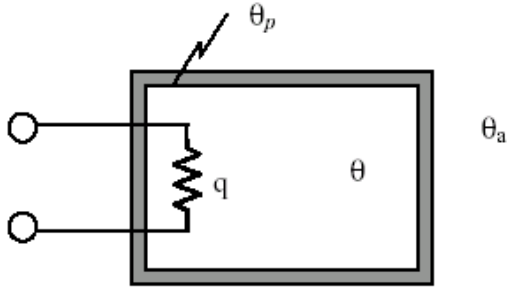
- *Input output representation*
- *State space representation*
- *Transfer function*
- *Stability analysis*
- *Free evolution*
- *Force response (to step, sinusoidal, ramp signals, etc.)*
- *Frequency response (system as a filter)*

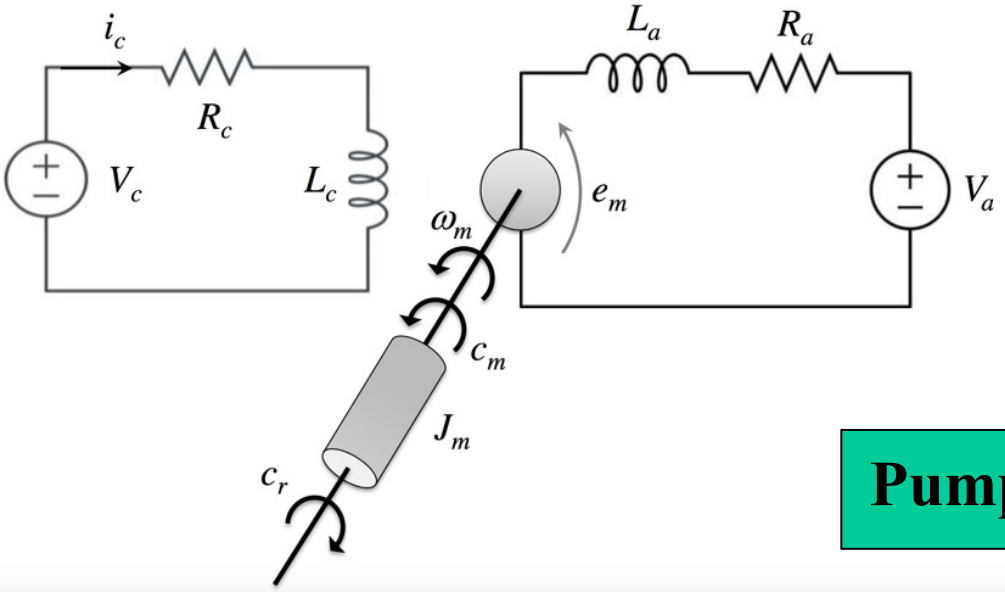
Examples of dynamical systems



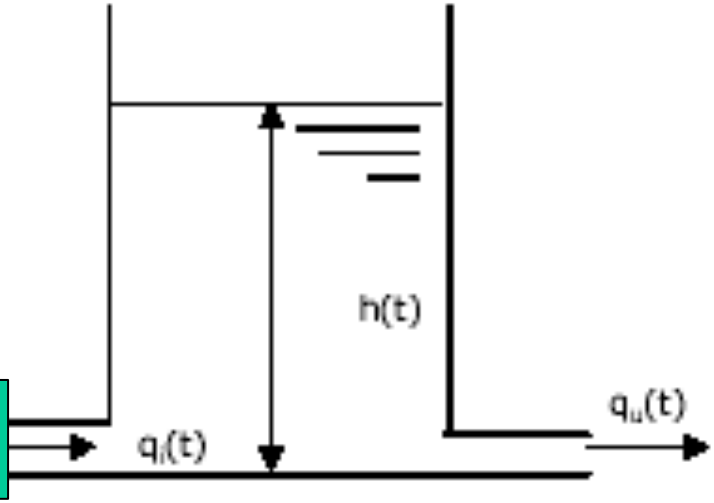




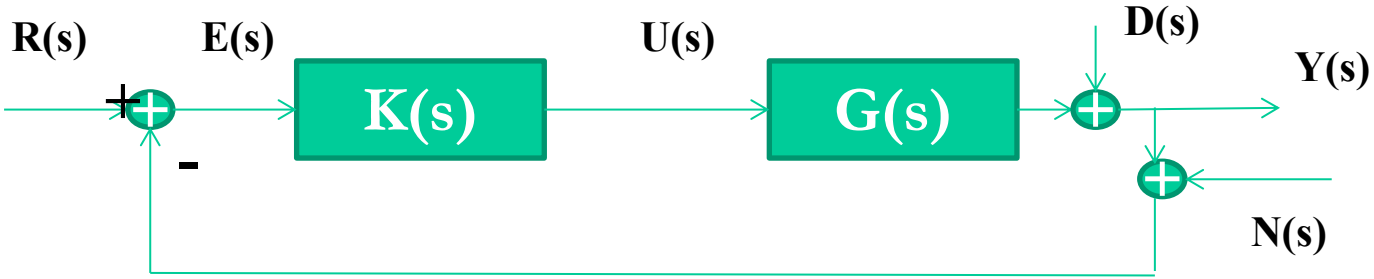




Pump

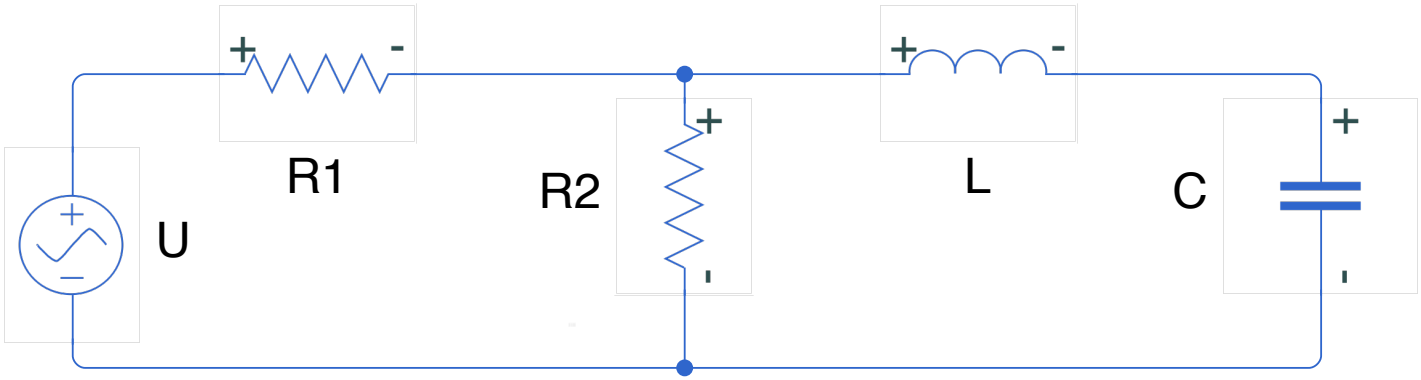


Controller design



- *Stability*
- *Robust stability*
- *Steady-state performances*
- *Transient performances*

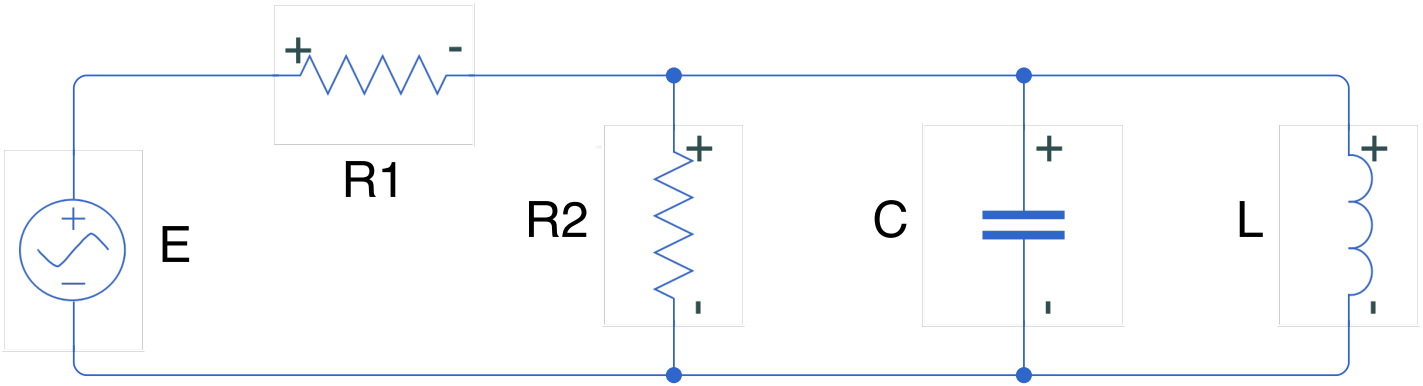
Team - 1



Input u: the voltage of generator U

Output y: the voltage across the capacitor C

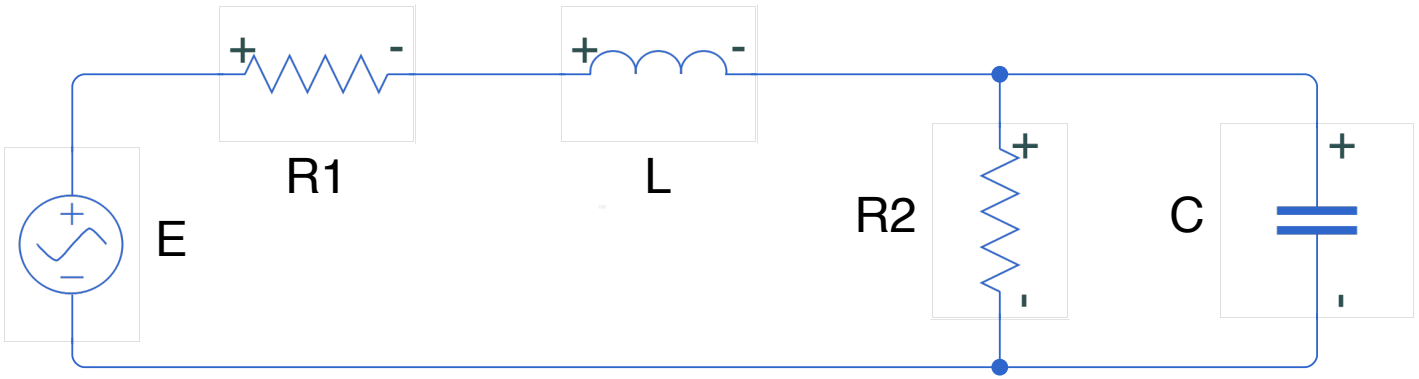
Team - 2



Input u: the voltage of generator E

Output y: the voltage across the capacitor C

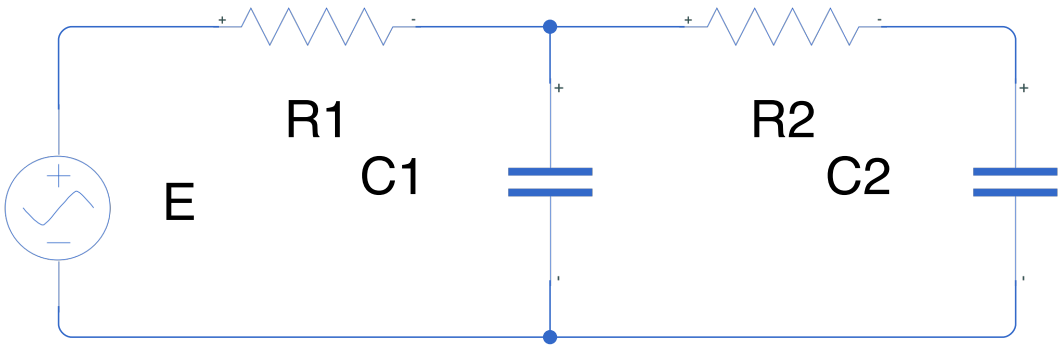
Team - 3



Input u: the voltage of generator E

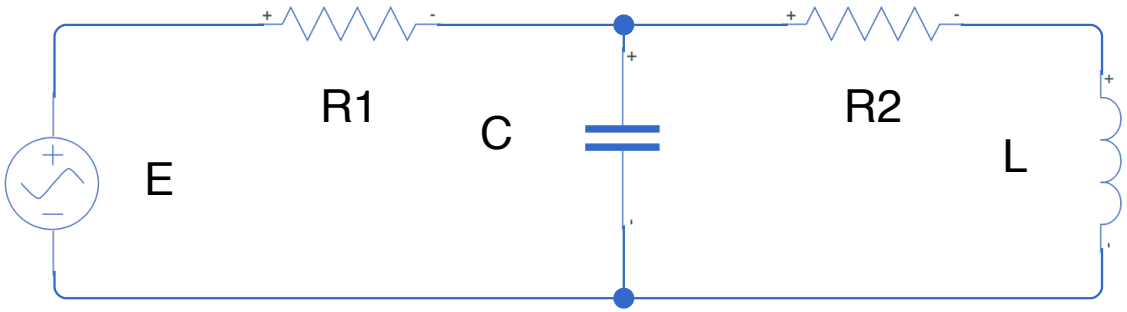
Output y: the voltage across the capacitor C

Team - 4



Input u: the voltage of generator E

Output y: the voltage across the capacitor C2



Input u: the voltage of generator E

Output y: the voltage across the capacitor C