Analog Electronic Circuits

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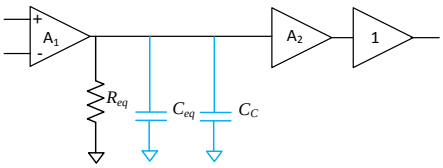
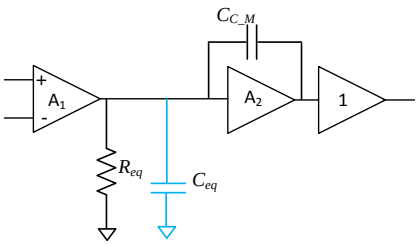
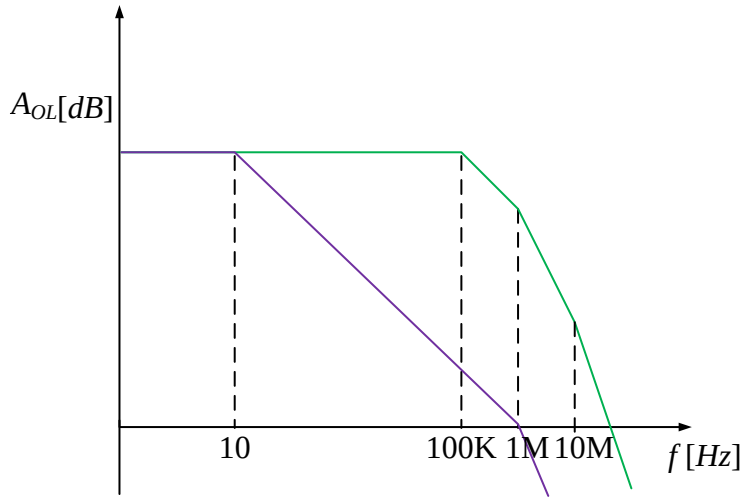
Lesson #5
Outline

- Internal Compensation
  - Dominant pole
  - Pole-zero cancellation
  - Feedforward
- External Compensation
  - Differentiator circuit
  - Input network
- Simulation models
  - Behavioral
  - Hybrid: Transistor + Behavioral
- Loopgain evaluation in simulation

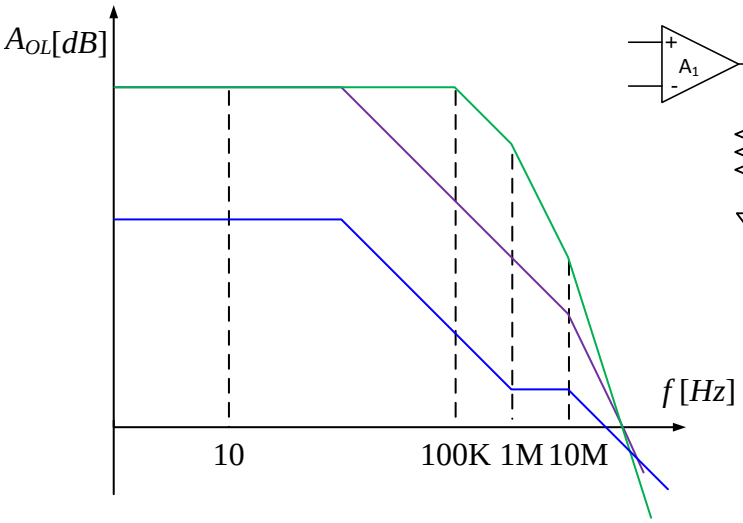
Dominant pole compensation

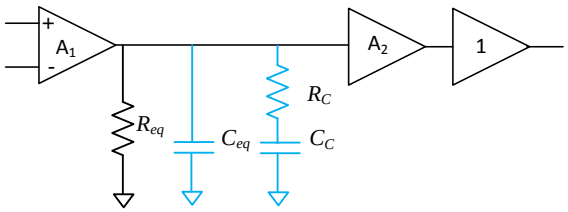




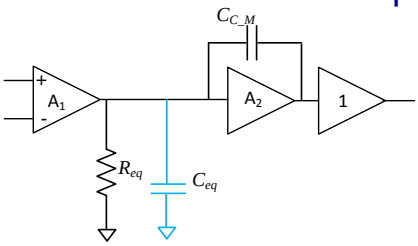


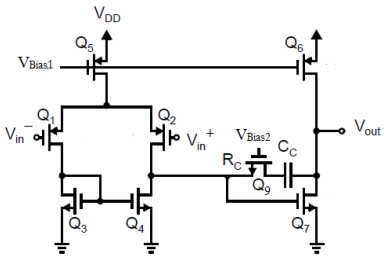
Pole-zero cancelation

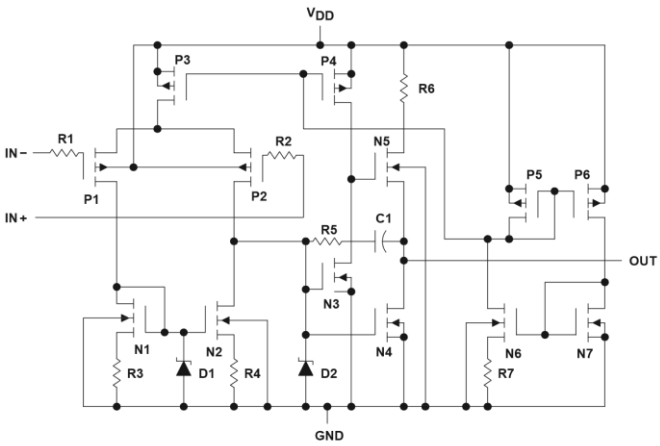




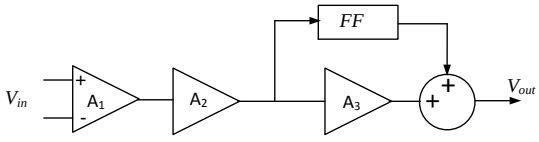
Compensation using Miller effect

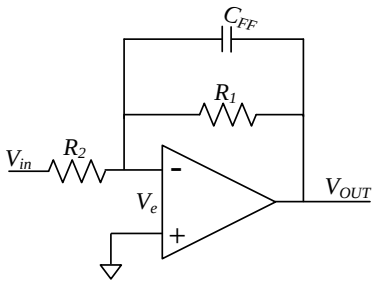


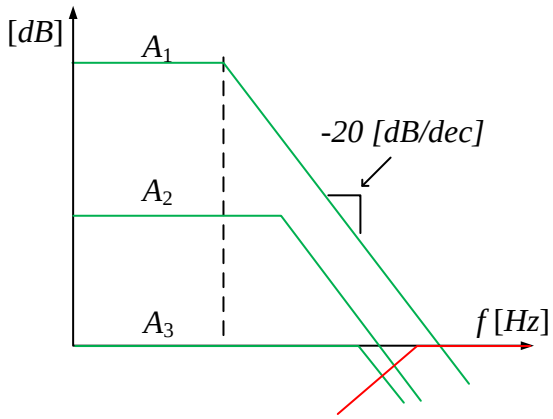




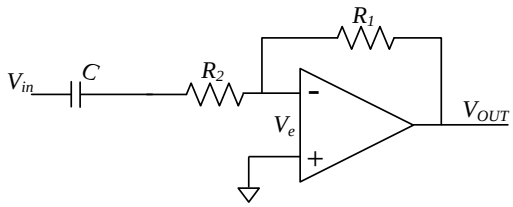
Feedforward compensation

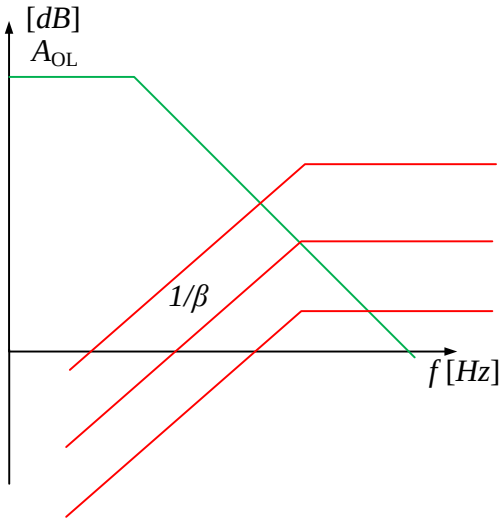




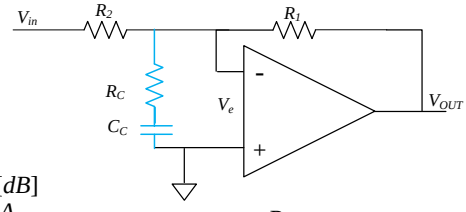


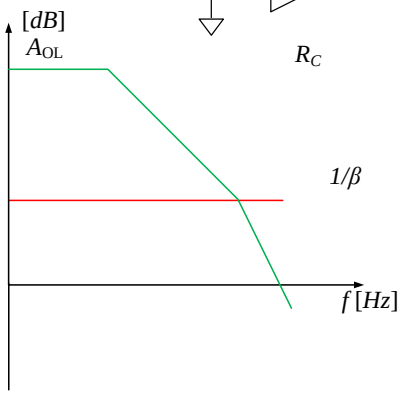
External compensation
Differentiator

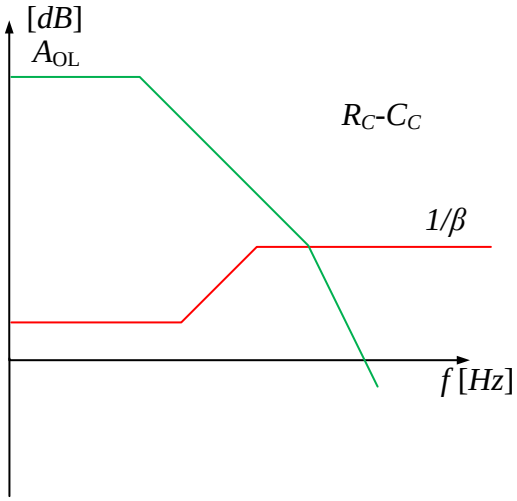


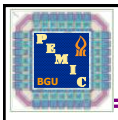


External compensation
Input network

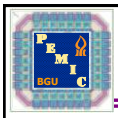








Simulation Models
Behavioral



Simulation Models
Hybrid: Transistor + Behavioral

Spice modeling

Loopgain evaluation in the simulation platform