Antoniou Inductance-Simulation Circuit Prelab

梁程捷(B11901136), 吴奕娃(B11901080)

Antoniou Inductance-Simulation Circuit

Use two 741 Op-Amps to construct the circuit in Figure (c), and follow the steps below:
1. Record the output(V_o) waveform for $R_5 = 10\text{k}\Omega$.
2. Record the output(V_o) waveform for $R_5 = 1.1\text{k}\Omega$.
3. Record the output(V_o) waveform for $R_5 = 400\Omega$.
4. Record the output(V_o) waveform for $R_5 = 200\Omega$.

Voltage source: $V_{i,pp} = 1$ V (f = 1kHz)
Resistors: $R_1 = R_3 = 510\Omega$, $R_2 = 100\Omega$
Capacitors: $C_4 = 0.01\mu$F, $C_6 = 0.1\mu$F

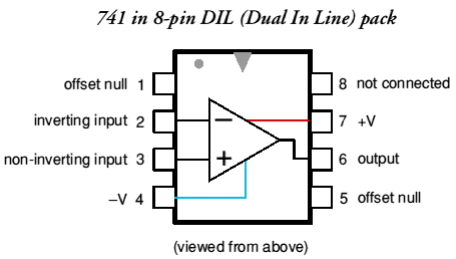

Figure (a): 741 Op-Amp Pinout

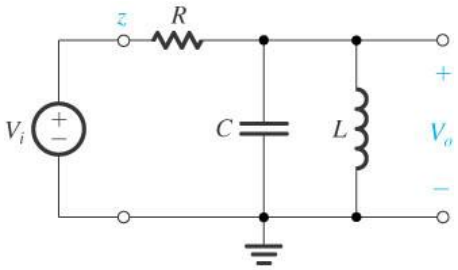

Figure (b): RLC band-pass filter

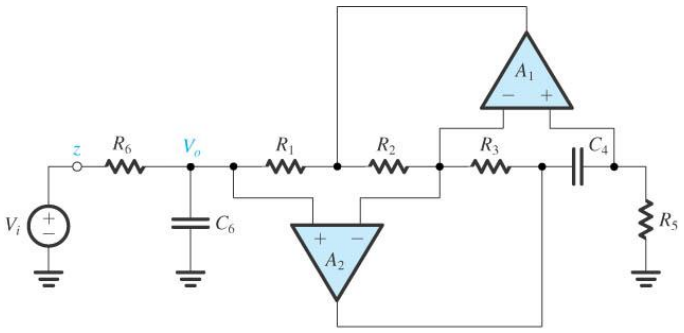

Figure (c): RLC band-pass filter using Antoniou Inductance