Problem P2.11: A simple electric circuit consisting of a resistor, a capacitor, and an inductor is depicted as shown in Fig. P2.11. The charge on the capacitor $q(t)$ as a function of time can be computed as $q(t) = q_0 e^{\frac{-Rt}{2L}} \cos[\sqrt{\frac{1}{LC} - (\frac{R}{2L})^2 t}]$

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