- loop rule: $\frac{Q}{C} + L\frac{dI}{dt} = 0$, $I = \frac{dQ}{dt}$

- equation of motion: $\frac{d^2Q}{dt^2} = -\frac{1}{LC}Q$

- charge on capacitor: $Q(t) = Q_{max}\cos(\omega t)$

- current through inductor: $I(t) = -\omega Q_{max}\sin(\omega t)$

- angular frequency: $\omega = \frac{1}{\sqrt{LC}}$

- magnetic energy: $U_B = \frac{1}{2}LI^2$ (stored on inductor)

- electric energy: $U_E = \frac{Q^2}{2C}$ (stored on capacitor)

- total energy: $E = U_B + U_E = \text{const.}$

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