Exercise 13

Please hand in by Thursday December 18 12:00, 2014
Just one problem today:

[1] (50pts) From Schwartz 5-3:
A resonant circuit is constructed by putting a capacitor and an inductor in series. The physical dimensions of both the capacitor and the inductor are completely known and no dielectrics or magnetic materials are present in the system. The circuit is now observed to resonate at a frequency $\omega$. Show how the velocity of light $c$ can be determined entirely in terms of the physical dimensions of the system and the resonant frequency $\omega$. 