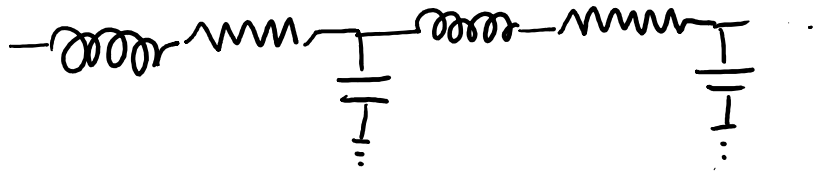


Remark: losses

Friday, February 12, 2016 8:41 AM

- Resonators and waveguides have so called "internal" losses: losses of photons due to interaction w. environment, substrate, radiation, etc
- They are modeled in circuit theory as resistive elements $R_0 \cdot \Delta x$



The problem with this approach is that it leads to a non-conservative theory that has no associated Lagrangian

- We will forget about those losses for the moment and introduce them after quantization as couplings to baths or environments that suck ($T=0$) or introduce energy incoherently into our system. (\Rightarrow master equations)