Lecture 10 — Ferroelectrics

Michael Brodskiy
Professor: J. Adams

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- Debye Equation for Dielectric Relaxation:

$$\varepsilon^*(\omega) = \varepsilon' - j\varepsilon'' = \varepsilon_\infty + \frac{\varepsilon_s + \varepsilon_\infty}{1 + (j\omega\tau)}$$

- Quality Factor, Q
  - The ratio of imaginary to real impedances:

$$Q = \frac{X}{R} = \frac{1}{2\pi f_s RC}$$

- Inductance

$$L = \frac{\mu_o \mu_r N^2 A}{l}$$