

Elen3000 Chapter 4 figs

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Note that the source code for the figs can be seen by clicking the pic. You will need to use your Browser's BACK button to return to this page.

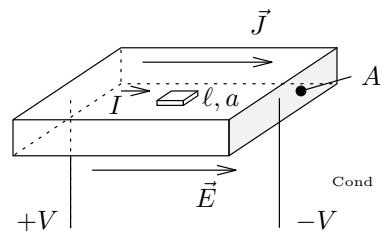


Figure 1: Current flow in a conductive slab

$$\begin{array}{c}
 \frac{E_t \rightarrow}{\text{---}} \quad \sigma_1 = 0 \\
 \hline
 \frac{E_t \rightarrow}{\text{---}} \quad \sigma_2 \text{ finite, but } \not\rightarrow \infty \\
 \text{Bound3}
 \end{array}$$

Figure 2: Tangential fields in a Conductor-Insulator boundary

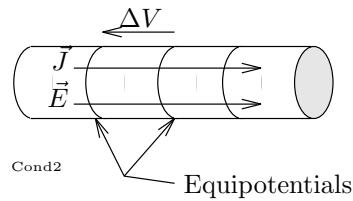


Figure 3: Finite conductivity in a long wire

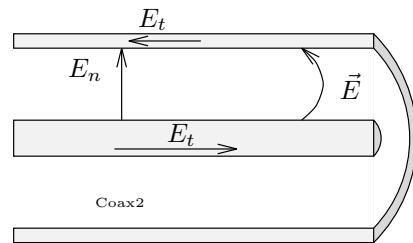


Figure 4: Finite conductivity in Coax

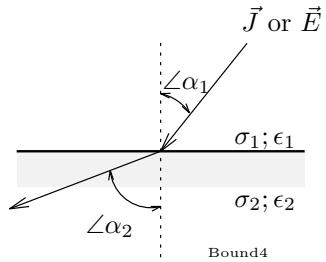


Figure 5: Currents at a conductor-conductor boundary

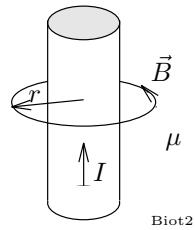


Figure 6: Flux density from current—Biot-Savart

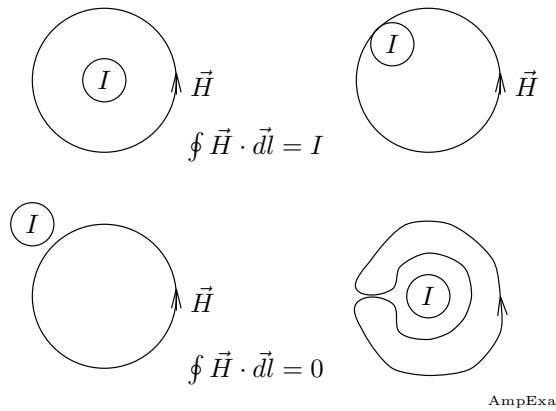


Figure 7: Ampère's Law of enclosing current

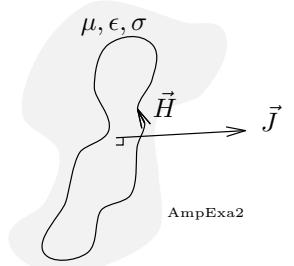


Figure 8: Ampère's Law in a general medium, along any path.

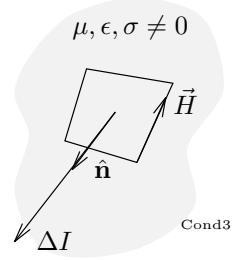


Figure 9: Conducting Medium with current flow in the direction of the normal vector of the integrating path

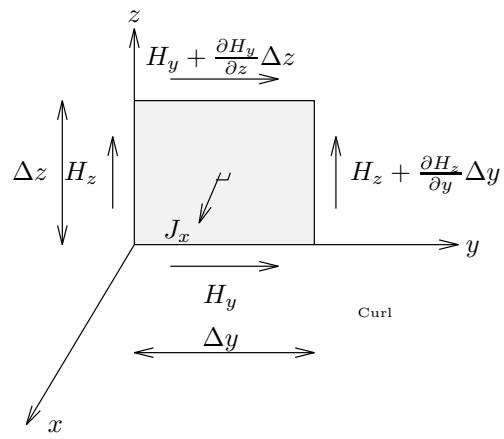


Figure 10: An incrementing field and Curl

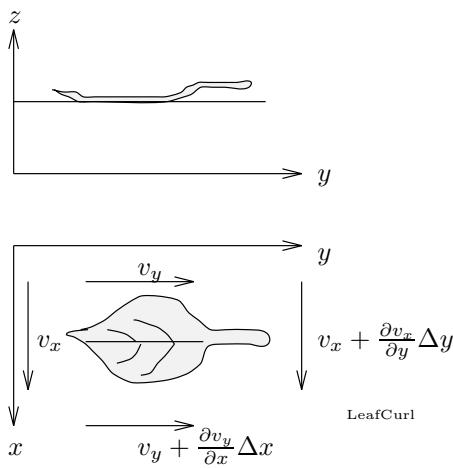


Figure 11: Physical interpretation of curl in a water field

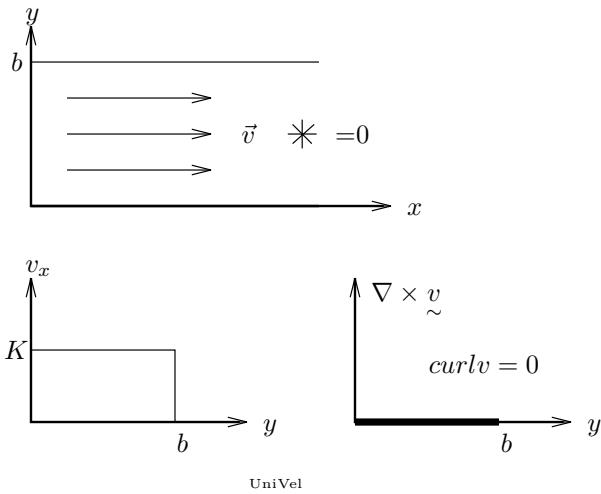


Figure 12: Uniform Velocity Field

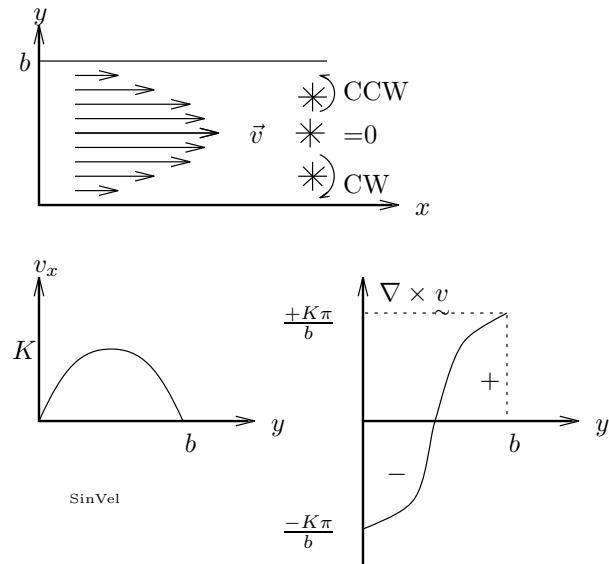


Figure 13: Sinusoidal Velocity Field

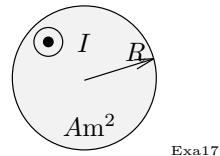


Figure 14: Uniform current density in a wire

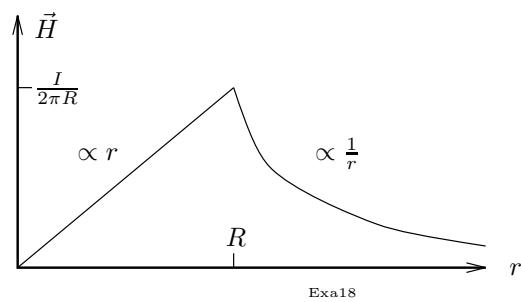
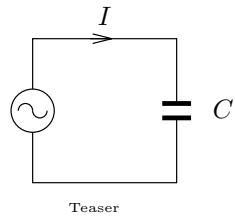
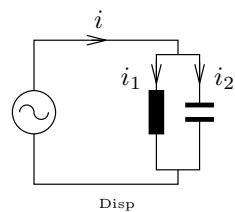


Figure 15: Magnetic flux as a function of r



Teaser

Figure 16: Current flow “through” a capacitor



Disp

Figure 17: Displacement current (from the circuits perspective)

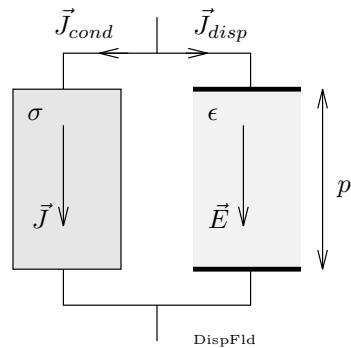


Figure 18: Displacement current (from the fields perspective)

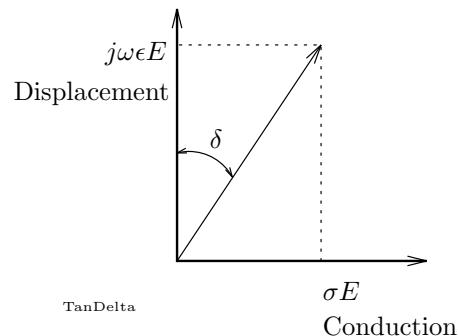


Figure 19: Loss Tangent, or $\tan \delta$

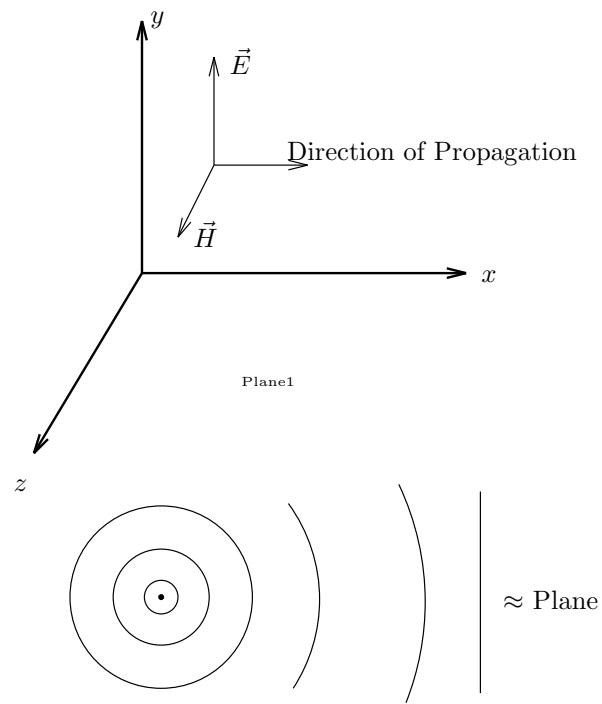


Figure 20: A Plane Wave

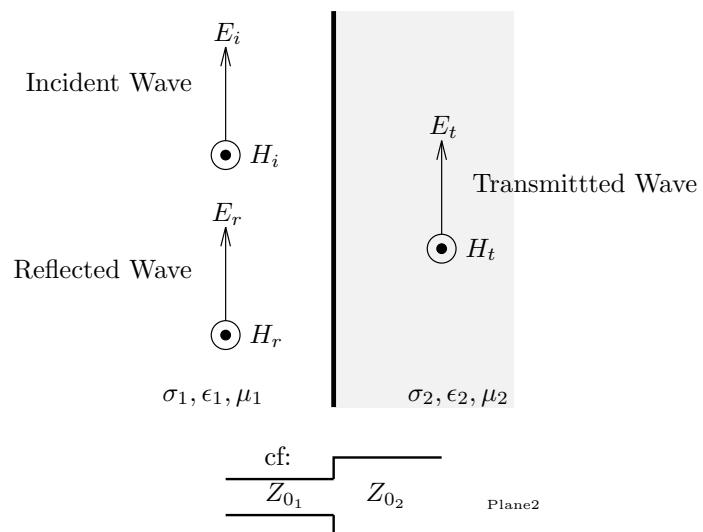


Figure 21: Plane Wave normally incident on boundary

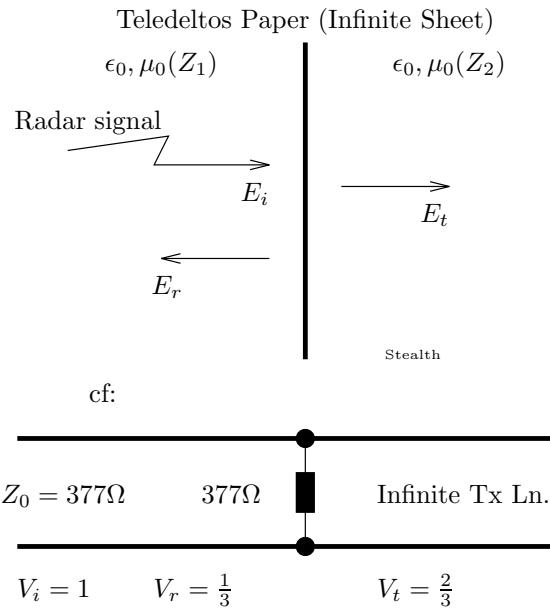


Figure 22: First attempt at zero Reflections

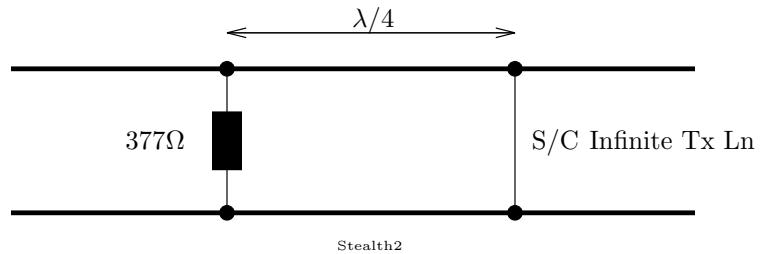


Figure 23: A short circuited plane behind the Teledeltos sheet