Tabla de medios materiales
Electrostática y Magnetostática

($\hat{\mathbf{n}}$ tiene dirección $1 \to 2$. En los conductores, se asume que el conductor es el medio 1)

Material	Ec. constitutiva	Condición de Contorno
Dieléctricos	$\mathbf{D} = \mathbf{E} + 4\pi\,\mathbf{P}$ (siempre) $\mathbf{P} = \chi_e \mathbf{E}$ (inducidos) $\mathbf{D} = \epsilon \mathbf{E}$ (inducidos)	$\nabla \times \mathbf{E} = 0 \Rightarrow (\mathbf{E}_2 - \mathbf{E}_1) \times \hat{\mathbf{n}} = 0$ $\nabla \cdot \mathbf{E} = 4\pi\,\rho_T \Rightarrow (\mathbf{E}_2 - \mathbf{E}_1) \cdot \hat{\mathbf{n}} = 4\pi\,\sigma_T$ $\nabla \cdot \mathbf{D} = 4\pi\,\rho_L \Rightarrow (\mathbf{D}_2 - \mathbf{D}_1) \cdot \hat{\mathbf{n}} = 4\pi\,\sigma_L$ $\nabla \cdot \mathbf{P} = -\rho_P \Rightarrow (\mathbf{P}_2 - \mathbf{P}_1) \cdot \hat{\mathbf{n}} = -\sigma_P$ $\nabla \times \mathbf{D} = 4\pi\nabla \times \mathbf{P} \Rightarrow (\mathbf{D}_2 - \mathbf{D}_1) \times \hat{\mathbf{n}} = 4\pi\,(\mathbf{P}_2 - \mathbf{P}_1) \times \hat{\mathbf{n}}$
Magnéticos	$\mathbf{H} = \mathbf{B} - 4\pi\,\mathbf{M}$ (siempre) $\mathbf{M} = \chi_m \mathbf{H}$ (inducidos) $\mathbf{B} = \mu \mathbf{H}$ (inducidos)	$\nabla \cdot \mathbf{B} = 0 \Rightarrow (\mathbf{B}_1 - \mathbf{B}_2) \cdot \hat{\mathbf{n}} = 0$ $\nabla \times \mathbf{B} = (4\pi/c)\,\mathbf{J}_T \Rightarrow (\mathbf{B}_1 - \mathbf{B}_2) \times \hat{\mathbf{n}} = (4\pi/c)\,\mathbf{g}_T$ $\nabla \times \mathbf{H} = (4\pi/c)\,\mathbf{J}_L \Rightarrow (\mathbf{H}_1 - \mathbf{H}_2) \times \hat{\mathbf{n}} = (4\pi/c)\,\mathbf{g}_L$ $\nabla \times \mathbf{M} = (1/c)\,\mathbf{J}_M \Rightarrow (\mathbf{M}_1 - \mathbf{M}_2) \times \hat{\mathbf{n}} = (1/c)\,\mathbf{g}_m$ $\nabla \cdot \mathbf{M} = -\rho_M \Rightarrow (\mathbf{M}_1 - \mathbf{M}_2) \cdot \hat{\mathbf{n}} = \sigma_M$ $\nabla \cdot \mathbf{H} = 4\pi\rho_M \Rightarrow (\mathbf{H}_1 - \mathbf{H}_2) \cdot \hat{\mathbf{n}} = -4\pi\,\sigma_M$
Conductores perfectos	$\mathbf{E}_c = 0$	$\nabla \times \mathbf{E} = 0 \Rightarrow \mathbf{E} \times \hat{\mathbf{n}} = 0$ $\nabla \cdot \mathbf{D} = 4\pi\,\rho_L \Rightarrow \mathbf{D} \cdot \hat{\mathbf{n}} = 4\pi\,\sigma_L$ $\nabla \cdot \mathbf{B} = 0 \Rightarrow (\mathbf{B} - \mathbf{B}_c) \cdot \hat{\mathbf{n}} = 0$ $\nabla \times \mathbf{H} = 0 \Rightarrow (\mathbf{H} - \mathbf{H}_c) \times \hat{\mathbf{n}} = 0$