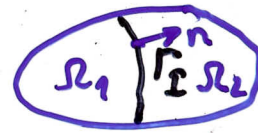


- Interface conditions (IFC) on Γ_I :

e.g.: $[B \cdot n]_{\Gamma_I} :=$ jump of $B \cdot n$ across the interface $\Gamma_I = 0$

$$[E \times n]_{\Gamma_I} = 0$$

etc.



- Boundary conditions (BC) on $\Gamma = \partial\Omega$:

e.g. $B \cdot n = g_B$ on Γ_B ,

$H \times n = g_H$ on Γ_H ,

$E \times n = g_E$ on Γ_E ,

etc.

- Initial conditions (IC) at $t=0$:

$\rightarrow B(x,0) = B_0(x), H(x,0) = H_0(x), \text{ etc. } x \in \bar{\Omega}$

- Radiation conditions in the case of unbounded domains: $|x| \rightarrow \infty$

\rightarrow Silver-Müller radiation conditions

- Continuity Equations:

$$\text{div } (1)_A : \underbrace{\text{div curl } H}_{=0} = \text{div } J + \frac{\partial}{\partial t} \underbrace{\text{div } D}_{=g} = \text{div } J + \frac{\partial g}{\partial t}$$

$$(1)_{\text{cont}} \text{div } J + \frac{\partial g}{\partial t} = 0 \xleftrightarrow[\forall V \text{ Diff.}]{\text{GAUSS}} \int_{\partial V} J \cdot n \, dS + \frac{\partial}{\partial t} \int_V g \, dV = 0$$