$$\nabla \cdot \vec{\mathbf{B}} = 0 \qquad \Leftrightarrow \qquad \nabla \cdot \vec{\mathbf{A}} = 0$$

$$\nabla \times \vec{\mathbf{B}} = \mu_0 \vec{\mathbf{J}} \qquad \Leftrightarrow \qquad \nabla \times \vec{\mathbf{A}} = \vec{\mathbf{B}}$$