

Special Problem 2-5.11

Determine if the vector field $\mathbf{A}(\bar{\mathbf{r}})$ is **solenoidal**.

$$\mathbf{A}(\bar{\mathbf{r}}) = \left(\frac{r^2}{4}\right) \hat{\mathbf{a}}_r + \left(\frac{r}{\sin\theta}\right) \hat{\mathbf{a}}_\theta + (-\phi r^2 \sin\theta) \hat{\mathbf{a}}_\phi$$