

Special Problem 8-3.2

Consider the magnetic field:

$$\mathbf{H}(\bar{r}) = z \cos \phi \hat{a}_\rho + \rho z^2 \hat{a}_\phi + \rho^2 \sin \phi \hat{a}_z \quad [A/m]$$

Determine the current density $\mathbf{J}(\bar{r})$ that created this magnetic flux density.