

Special Problem III.C-2

An antenna has a directivity pattern $D(\theta, \phi)$ of:

$$D(\theta, \phi) = \begin{cases} D_0 & \text{for } 0 < \theta < \frac{\pi}{2}, 0 < \phi < \pi \\ 0 & \text{for all other values of } \theta, \phi \end{cases}$$

Determine D_0 for this antenna.