

Special Problem III.F-5

A. A **rectangular horn antenna** **1.5 m high** and **2 m wide** is directly illuminated by an e.m. wave with **power density** of **0.01 mW/m²**.

Determine the **power** of the **received signal**.

B. A **parabolic reflector antenna** has a **diameter** of **3 meters**. When transmitting a signal of wavelength λ , its maximum **gain** is **40 dB**.

Determine the approximate **beamwidth** of this antenna in **radians**.