

Problem 10.5 A collision avoidance automotive radar is designed to detect the presence of vehicles up to a range of 0.5 km. What is the maximum usable PRF?

Solution: From Eq. (10.14),

$$f_p = \frac{c}{2R_u} = \frac{3 \times 10^8}{2 \times 0.5 \times 10^3} = 3 \times 10^5 \text{ Hz.}$$
