

**Problem 2.17** Using a slotted line, the voltage on a lossless transmission line was found to have a maximum magnitude of 1.5 V and a minimum magnitude of 0.6 V. Find the magnitude of the load's reflection coefficient.

**Solution:** From the definition of the Standing Wave Ratio given by Eq. (2.73),

$$S = \frac{|\tilde{V}|_{\max}}{|\tilde{V}|_{\min}} = \frac{1.5}{0.6} = 2.5.$$

Solving for the magnitude of the reflection coefficient in terms of  $S$ , as in Example 2-5,

$$|\Gamma| = \frac{S - 1}{S + 1} = \frac{2.5 - 1}{2.5 + 1} = 0.43.$$

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