

Given  $Z(d) \Rightarrow$  Find  $\Gamma(d)$

1. Normalize the impedance

$$z(d) = \frac{Z(d)}{Z_0} = \frac{R}{Z_0} + j \frac{X}{Z_0} = r + j x$$

2. Find the circle of constant normalized resistance  $r$
3. Find the arc of constant normalized reactance  $x$
4. The intersection of the two curves indicates the reflection coefficient in the complex plane. The chart provides directly the magnitude and the phase angle of  $\Gamma(d)$

**Example:** Find  $\Gamma(d)$ , given

$$Z(d) = 25 + j 100 \Omega \quad \text{with} \quad Z_0 = 50 \Omega$$