

Example 10-9: The causal system whose system function is

$$H(z) = \frac{1 - 2z^{-1}}{1 - 0.8z^{-1}} = \frac{z - 2}{z - 0.8}$$

has a zero at $z = 2$ and a pole at $z = 0.8$. Therefore, the system is stable. The location of the zero, which is outside the unit circle, has nothing to do with stability of the system.

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