

**Concept Question 7-8:** What is the condition for BIBO stability of an LTI system with the impulse response

$$h[n] = \sum_{i=1}^N \mathbf{C}_i \mathbf{p}_i^n u[n].$$

This system is BIBO stable if and only if all of the  $\mathbf{p}_i$  are inside the unit circle, so that  $|\mathbf{p}_i| < 1$ .