

# ICE503 DSP-Homework#13

- Figure 1 shows the pole-zero plots for eight different causal LTI systems with real impulse responses. Indicate which of the following properties apply to each of the systems pictured: stable, IIR, FIR, all-pass, generalized linear phase (which type).

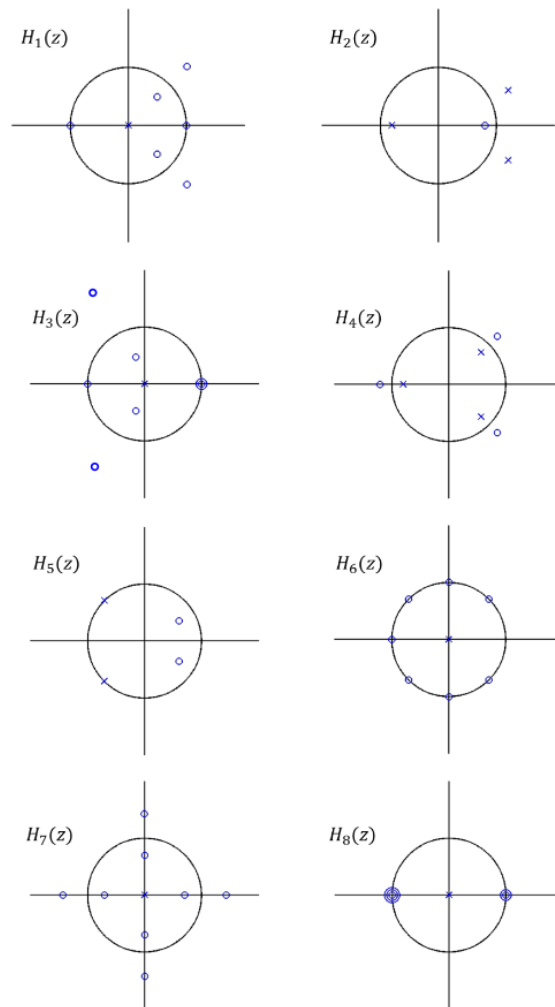
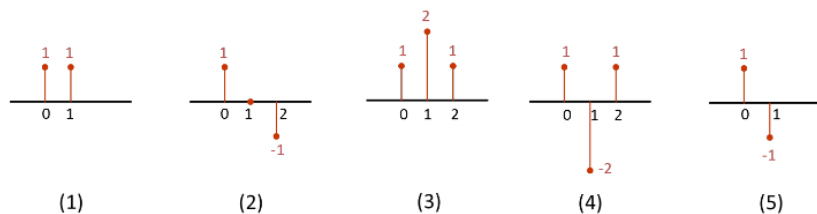


Figure 1: The pole-zero plots for eight different causal LTI systems

2. Given the following impulse responses



- Determine their phase delay.
- Determine the types of the FIR filters.
- Sketch the zeros of the corresponding system.

3. MATLAB simulation:

Using the impulse response for two different causal LTI systems in Figure 2 and sketch the magnitude of the filter in dB, group delay, pole-zero diagram and discuss the result.

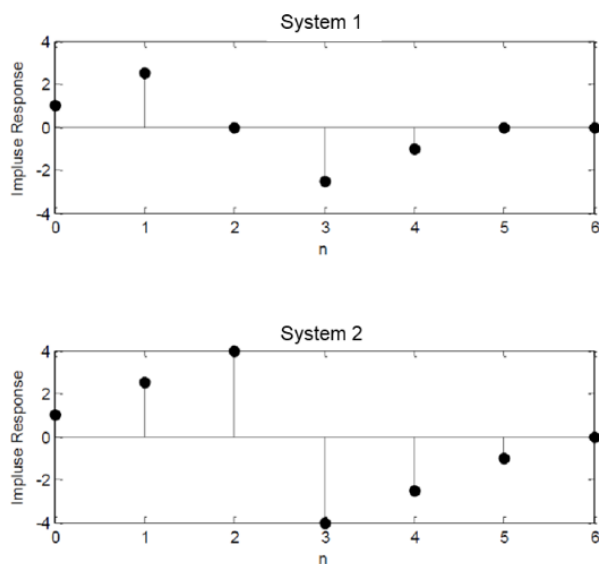


Figure 2: The impulse response for two different causal LTI systems