

Homework 8: due 03/23/18

EE 324: Signals and Systems II

1 Direct discretization

Derive the transfer functions of the discretized versions of the following systems, using i) $s = \frac{1}{T}(z - 1)$, ii) $s = \frac{1}{T}(1 - z^{-1})$, and iii) $\frac{2}{T} \frac{z-1}{z+1}$

1. $H(s) = \frac{1}{s+1}$
2. $H(s) = \frac{s+1}{s^2+5s+6}$

2 ZOH

Discretize the following systems using zero-order hold (ZOH)

1. $H(s) = \frac{1}{s+1}$
2. $H(s) = \frac{s+1}{s^2+5s+6}$