Homework 3

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Problem 1. Many chemical processes can be modeled by the following transfer function:

$$G(s) = \frac{K}{\tau s + 1} e^{-T_d s}$$

where K is the gain, τ is the time constant, and T_d is the time delay. Obtain the transfer function $G_{zas}(z)$ for the system in terms of the system parameters. Assume that the time delay T_d is a multiple of the sampling period T.