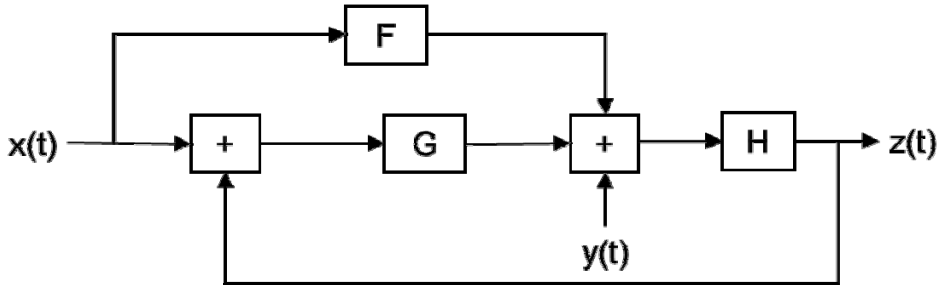
Linear Systems, Black Boxes, and Beyond

Homework #3 (2014-2015), Questions

Q1: Noises and networks

Given the following network, where *F*, *G*, and *H* are linear filters with transfer functions $\tilde{F}(\omega)$, $\tilde{G}(\omega)$, and $\tilde{H}(\omega)$, and $x(t)$ and $y(t)$ are independent noise inputs with power spectra $P_X(\omega)$ and $P_Y(\omega)$, calculate the power spectrum $P_Z(\omega)$ of $z(t)$.



(there's no Q2)