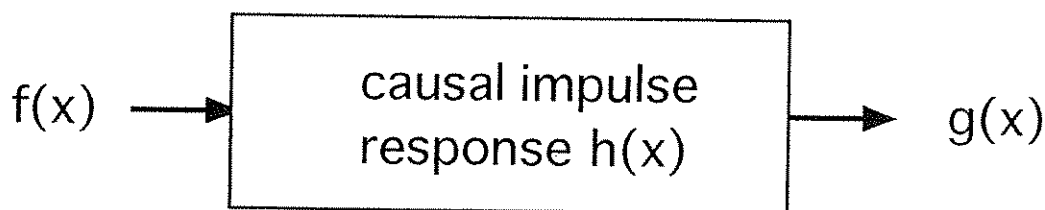


① Consider the following LTI system.

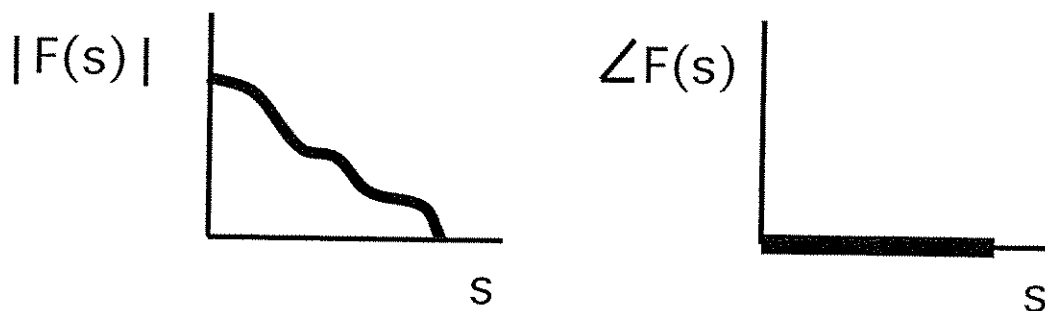
2008



$$\int h(x) dx = 0$$

$f(x)$ and $h(x)$ are real-valued

The input function $f(x)$ has the following spectrum.



- Will $g(x)$ be real-valued?
- Will $g(x)$ be a causal function?
- Sketch a possible output spectrum $G(s)$ (magnitude and phase).
- You are told that $\angle G(s) \propto s$.
Sketch a possible impulse response $h(x)$.