

**Problem 10.2.** Suppose that in Eq. (10.4),  $r(t)$  represents a complex baseband signal instead of a real signal. What would be the ideal choice for  $g(t)$  in this case? Justify your answer.

**Solution**

Inspecting the Schwarz inequality of Eq. (10.12), we see that equality is achieved with

$$g(T-t) = cs^*(t)$$

if  $s(t)$  is complex.