

Let

$$x_1(t) \rightarrow H \rightarrow y_1(t)$$

and

$$x_2(t) \rightarrow H \rightarrow y_2(t)$$

If

$$\alpha x_1(t) + \beta x_2(t) \rightarrow H \rightarrow \alpha y_1(t) + \beta y_2(t)$$

Then the system H is a linear system