

請計算  $G(\omega) = \frac{1}{4 - i(2 - \omega)}$  之 Fourier 反轉換。[104 東海電機 4]

$$[\text{解}] \mathcal{F}[u(t)e^{-4t}] = \frac{1}{4 + i\omega} \Rightarrow \mathcal{F}[u(t)e^{-4t}e^{i2t}] = \mathcal{F}[u(t)e^{-(4-2i)t}] = \frac{1}{(4-2i) + i\omega} = \frac{1}{4 + i(\omega - 2)}$$

$$\mathcal{F}^{-1}\left[\frac{1}{4 - i(2 - \omega)}\right] = u(t)e^{(-4+2i)t}$$



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