

[4] 続き

(3)

$$\frac{2s-3}{s^2+2s+5}$$

$$= \frac{2s-3}{(s+1)^2+4}$$

$$= \frac{2(s+1)}{(s+1)^2+4} - \frac{5}{(s+1)^2+4}$$

$$= \frac{2(s+1)}{(s+1)^2+4} - \frac{5}{2} \frac{2}{(s+1)^2+4}$$

$$\mathcal{L}[f(t)](s) = \frac{2(s+1)}{(s+1)^2+4} - \frac{5}{2} \frac{2}{(s+1)^2+4}$$

$$f(t) = 2e^{-t} \cos 2t - \frac{5}{2} e^{-t} \sin 2t$$

$$\frac{\omega}{(s-\alpha)^2+\omega^2} = e^{-\alpha t} \sin \omega t$$

$$\frac{s-\alpha}{(s-\alpha)^2+\omega^2} = e^{-\alpha t} \cos \omega t$$