

$$\mathcal{L}^{-1} \left\{ \frac{\boxed{s e^{-2s}} \text{ 先忽略}}{(s+2)^2 (s^2+4s+8)} \right\}$$

$$\Rightarrow \mathcal{L}^{-1} \left\{ \frac{s}{(s+2)^2 [(s+2)^2 + 2^2]} \right\}$$

$$\Rightarrow e^{-2t} \cdot \mathcal{L}^{-1} \left\{ \frac{s-2}{s^2 (s^2+2^2)} \right\}$$

$$\Rightarrow e^{-2t} \left[\mathcal{L}^{-1} \left\{ \frac{\boxed{s-2}}{s^2} \right\} + \mathcal{L}^{-1} \left\{ \frac{\boxed{-(s-2)}}{s^2+2^2} \right\} \right]$$

$$\Rightarrow e^{-2t} \left[\mathcal{L}^{-1} \left\{ \frac{1}{4s} \right\} + \mathcal{L}^{-1} \left\{ \frac{-1}{2s^2} \right\} + \mathcal{L}^{-1} \left\{ \frac{\frac{-s}{4}}{s^2+2^2} \right\} + \mathcal{L}^{-1} \left\{ \frac{2}{s^2+2^2} \right\} \right]$$

$$\Rightarrow e^{-2t} \left[\frac{1}{4} - \frac{1}{2}t + (-\frac{1}{4}) \cos 2t + \sin 2t \right]$$

$$\rightarrow e^{-2(t-2)} \left[\frac{1}{4} - \frac{1}{2}(t-2) - \frac{1}{4} \cos 2(t-2) + \sin 2(t-2) \right] H(t-2)$$

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