

$$s(t) = a_0 + a_1 t + a_2 t^2 + a_3 t^3 + a_4 t^4 + a_5 t^5 + a_6 t^6 + a_7 t^7$$

$$s(0) = \dot{s}(0) = \ddot{s}(0) = \dddot{s}(0) = 0 \Rightarrow a_0 = a_1 = a_2 = a_3 = 0$$

$$s(T) = 1 \quad \dot{s}(T) = \ddot{s}(T) = \dddot{s}(T) = 0$$

$$\begin{cases} a_4 t^4 + a_5 t^5 + a_6 t^6 + a_7 t^7 = 1 & | : t^4 \\ 4a_4 t^3 + 5a_5 t^4 + 6a_6 t^5 + 7a_7 t^6 = 0 & | : t^3 \\ 12a_4 t^2 + 20a_5 t^3 + 30a_6 t^4 + 42a_7 t^5 = 0 & | : t^2 \\ 24a_4 t + 60a_5 t^2 + 120a_6 t^3 + 210a_7 t^4 = 0 & | : t \end{cases}$$

$$\begin{cases} a_4 + a_5 t + a_6 t^2 + a_7 t^3 = 1/t^4 \\ 4a_4 + 5a_5 t + 6a_6 t^2 + 7a_7 t^3 = 0 \\ 12a_4 + 20a_5 t + 30a_6 t^2 + 42a_7 t^3 = 0 \\ 24a_4 + 60a_5 t + 120a_6 t^2 + 210a_7 t^3 = 0 \end{cases}$$

$$\begin{cases} a_4 + a_5 t + a_6 t^2 + a_7 t^3 = 1/t^4 \\ a_5 t + 2a_6 t^2 + 3a_7 t^3 = -4/t^4 \\ 4a_5 t + 9a_6 t^2 + 15a_7 t^3 = -6/t^4 \\ 5a_5 t + 15a_6 t^2 + 31,5a_7 t^3 = 0 \end{cases}$$

$$\begin{cases} a_4 + a_5 t + a_6 t^2 + a_7 t^3 = 1/t^4 \\ a_5 t + 2a_6 t^2 + 3a_7 t^3 = -4/t^4 \\ a_6 t^2 + 3a_7 t^3 = 10/t^4 \\ 5a_6 t^2 + 16,5a_7 t^3 = 20/t^4 \end{cases}$$

$$1,5a_7 t^3 = \frac{30}{t^4} \Rightarrow a_7 = -\frac{20}{t^7}$$

$$\Rightarrow a_6 = \frac{10 + 60}{t^4 \cdot t^2} = \frac{70}{t^6}$$

$$\Rightarrow a_5 = \frac{-4 - 140 + 60}{t^4 \cdot t} = \frac{-84}{t^5}$$

$$a_4 = \frac{84 - 70 + 20 + 1}{t^4} = \frac{35}{t^4}$$