

$$\begin{aligned}
& \text{restart;} \\
& \text{alphan} := \text{an} \cdot \exp(-\text{gamma} \cdot \text{kn}^2 \cdot (D\sigma^2 - D\tilde{t}^2)) \cdot \cos(\text{phin}); \\
& \quad \text{alphan} := \text{an} e^{-\gamma \text{kn}^2 (D\sigma^2 - D\tilde{t}^2)} \cos(\text{phin}) \tag{1} \\
& \text{betan} := \text{an} \cdot \exp(-\text{gamma} \cdot \text{kn}^2 \cdot (D\sigma^2 - D\tilde{t}^2)) \cdot \sin(\text{phin}); \\
& \quad \text{betan} := \text{an} e^{-\gamma \text{kn}^2 (D\sigma^2 - D\tilde{t}^2)} \sin(\text{phin}) \tag{2} \\
& z := t \rightarrow \text{An} \cdot \cos\left(\frac{2 \cdot \pi \cdot n \cdot t}{T}\right) + \text{Bn} \cdot \sin\left(\frac{2 \cdot \pi \cdot n \cdot t}{T}\right); \\
& \quad z := t \rightarrow \text{An} \cos\left(\frac{2 \pi n t}{T}\right) + \text{Bn} \sin\left(\frac{2 \pi n t}{T}\right) \tag{3} \\
& \text{An} := \frac{kD \cdot \text{alphan} \cdot \left(k + kD - m \cdot \left(\frac{2 \cdot \pi \cdot n}{T}\right)^2\right) - kD \cdot \text{betan} \cdot b \cdot \left(\frac{2 \cdot \pi \cdot n}{T}\right)}{\left(k + kD - m \cdot \left(\frac{2 \cdot \pi \cdot n}{T}\right)^2\right)^2 + b^2 \cdot \left(\frac{2 \cdot \pi \cdot n}{T}\right)^2}; \\
& \text{An} := \frac{1}{\left(k + kD - \frac{4 m \pi^2 n^2}{T^2}\right)^2 + \frac{4 b^2 \pi^2 n^2}{T^2}} \left(kD \text{an} e^{-\gamma \text{kn}^2 (D\sigma^2 - D\tilde{t}^2)} \cos(\text{phin}) \left(k \right. \right. \tag{4} \\
& \quad \left. \left. + kD - \frac{4 m \pi^2 n^2}{T^2} \right) - \frac{2 kD \text{an} e^{-\gamma \text{kn}^2 (D\sigma^2 - D\tilde{t}^2)} \sin(\text{phin}) b \pi n}{T} \right) \\
& \text{Bn} := \frac{kD \cdot \text{betan} \cdot \left(k + kD - m \cdot \left(\frac{2 \cdot \pi \cdot n}{T}\right)^2\right) + kD \cdot \text{alphan} \cdot b \cdot \left(\frac{2 \cdot \pi \cdot n}{T}\right)}{\left(k + kD - m \cdot \left(\frac{2 \cdot \pi \cdot n}{T}\right)^2\right)^2 + b^2 \cdot \left(\frac{2 \cdot \pi \cdot n}{T}\right)^2}; \\
& \text{Bn} := \frac{1}{\left(k + kD - \frac{4 m \pi^2 n^2}{T^2}\right)^2 + \frac{4 b^2 \pi^2 n^2}{T^2}} \left(kD \text{an} e^{-\gamma \text{kn}^2 (D\sigma^2 - D\tilde{t}^2)} \sin(\text{phin}) \left(k \right. \right. \tag{5} \\
& \quad \left. \left. + kD - \frac{4 m \pi^2 n^2}{T^2} \right) + \frac{2 kD \text{an} e^{-\gamma \text{kn}^2 (D\sigma^2 - D\tilde{t}^2)} \cos(\text{phin}) b \pi n}{T} \right) \\
& \text{simplify}\left(m \cdot \frac{d}{dt} \left(\frac{d}{dt} z(t)\right) + b \cdot \frac{d}{dt} z(t) + (k + kD) \cdot z(t) - kD \cdot \left(\text{alphan} \cdot \cos\left(\frac{2 \cdot \pi \cdot n \cdot t}{T}\right) + \text{betan} \cdot \sin\left(\frac{2 \cdot \pi \cdot n \cdot t}{T}\right)\right)\right); \\
& \quad 0 \tag{6}
\end{aligned}$$