

$$\begin{aligned}
 \text{SD\$g} &= \sqrt{\frac{\text{Cosh}\left[\frac{\hbar}{2}\sqrt{t^2 + \gamma^2 \epsilon^2 + 4 \epsilon \varpi}\right] - \text{Cosh}\left[\frac{\hbar t - \hbar \epsilon \gamma}{2} - a \epsilon \hbar\right]}{\text{Sinh}\left[\frac{\gamma \epsilon \hbar}{2}\right] (t (2 a + \gamma) - 2 a (a + \gamma) \epsilon + 2 \varpi) \hbar / (2 \gamma)}}; \\
 \text{SD\$g} &= \sqrt{\frac{\text{Cosh}\left[\frac{\hbar}{2}\sqrt{t^2 + \gamma^2 \epsilon^2 + 4 \epsilon \varpi}\right] - \text{Cosh}\left[\frac{\hbar t}{2} - a \epsilon \hbar - \frac{\gamma \epsilon \hbar}{2}\right]}{\text{Sinh}\left[\frac{\gamma \epsilon \hbar}{2}\right] (t (2 a + \gamma) - 2 a (a + \gamma) \epsilon + 2 \varpi) \hbar / (2 \gamma)}}; \\
 \text{SD\$g} &= \sqrt{\frac{\text{Cosh}\left[\frac{\hbar}{2}\sqrt{t^2 + \gamma^2 \epsilon^2 + 4 \epsilon \varpi}\right] - \text{Cosh}\left[\frac{\hbar}{2}(t - 2 a \epsilon - \gamma \epsilon)\right]}{\text{Sinh}\left[\frac{\gamma \epsilon \hbar}{2}\right] (t (2 a + \gamma) - 2 a (a + \gamma) \epsilon + 2 \varpi) \hbar / (2 \gamma)}}; \\
 \text{SD\$g} &= \sqrt{\frac{\text{Cosh}\left[\frac{\hbar}{2}\sqrt{t^2 + \gamma^2 \epsilon^2 + 4 \epsilon \varpi}\right] - \text{Cosh}\left[\frac{\hbar}{2}(t - (2 a + \gamma) \epsilon)\right]}{\text{Sinh}\left[\frac{\gamma \epsilon \hbar}{2}\right] (t (2 a + \gamma) - 2 a (a + \gamma) \epsilon + 2 \varpi) \hbar / (2 \gamma)}}; \\
 \text{SD\$g} &= \sqrt{\frac{\text{Cosh}\left[\frac{\hbar}{2}\sqrt{t^2 + \gamma^2 \epsilon^2 + 4 \epsilon \varpi}\right] - \text{Cosh}\left[\frac{\hbar t - \hbar \epsilon \gamma - 2 \hbar \epsilon a}{2}\right]}{\text{Sinh}\left[\frac{\gamma \epsilon \hbar}{2}\right] (t (2 a + \gamma) - 2 a (a + \gamma) \epsilon + 2 \varpi) \hbar / (2 \gamma)}}; \\
 \text{SD\$g} &= \sqrt{\frac{2 \gamma \left( \text{Cosh}\left[\frac{\hbar}{2}\sqrt{t^2 + \gamma^2 \epsilon^2 + 4 \epsilon \varpi}\right] - \text{Cosh}\left[\frac{t - \epsilon \gamma - 2 \epsilon a}{2/\hbar}\right] \right)}{\text{Sinh}\left[\frac{\gamma \epsilon \hbar}{2}\right] (t (2 a + \gamma) - 2 a (a + \gamma) \epsilon + 2 \varpi) \hbar}}; \\
 \text{SD\$g} &= \sqrt{\frac{\frac{2 \gamma}{\hbar} \left( \text{Cosh}\left[\sqrt{\frac{t^2 + \gamma^2 \epsilon^2 + 4 \epsilon \varpi}{4/\hbar^2}}\right] - \text{Cosh}\left[\frac{t - \epsilon \gamma - 2 \epsilon a}{2/\hbar}\right] \right)}{\text{Sinh}\left[\frac{\gamma \epsilon \hbar}{2}\right] (t (2 a + \gamma) - 2 a (a + \gamma) \epsilon + 2 \varpi)}};
 \end{aligned}$$