

$$\begin{aligned}
& \lambda(\tilde{q}, t, t + \xi) \delta \tilde{q}(t + \xi) - \lambda(\tilde{q}, t - \xi, t) \delta \tilde{q}(t) = \\
& = \int_0^1 \mathrm{d}\eta \frac{\partial}{\partial \eta} [\lambda(\tilde{q}, t + (\eta - 1)\xi, t + \eta\xi) \delta \tilde{q}(t + \eta\xi)] \\
& = \xi \int_0^1 \mathrm{d}\eta \frac{\partial}{\partial t} [\lambda(\tilde{q}, t + (\eta - 1)\xi, t + \eta\xi) \delta \tilde{q}(t + \eta\xi)]
\end{aligned}$$