

$$C(\boldsymbol{\alpha}, \lambda_a, \boldsymbol{v}) \dot{\lambda}_a = P_a - \frac{\partial \psi_2}{\partial \lambda_a} + 2 \left(\boldsymbol{F} \boldsymbol{F}_a^{-1} \right)^T \left(\boldsymbol{F} \boldsymbol{F}_a^{-1} \right) \frac{\partial \psi_2}{\partial C_e} \boldsymbol{F}_a^{-T} : \frac{\partial \boldsymbol{F}_a}{\partial \lambda_a}$$