

$$\frac{d}{dt} \tau^- \phi_{bi} \approx - \frac{2 \left(\mathcal{D}^{\tau+} \pi_b \right)^{ia} N}{\mathcal{J}} - \frac{\mathcal{M}_{Pl}^2 \hat{\alpha}_0 \cdot N \tau^- \pi_{\mathcal{R}i}}{4 \hat{\alpha}_5 \cdot \mathcal{J}} + \mathcal{M}_{Pl}^2 \hat{\alpha}_0 \cdot N \tau^- \mathcal{R}^i_i$$