

$$-k_{t0}\left(\varphi_7(t)-\varphi_8(t)\right)+k_{t0}\left(\varphi_8(t)-\varphi_9(t)\right)+i_{\mathrm{ym}8}\varphi_8''(t)=c_{t0}(\dot{\varphi}_7-\dot{\varphi}_8)-c_{t0}(\dot{\varphi}_8-\dot{\varphi}_9)$$