

$$-k_{t0}\left(\varphi_8(t)-\varphi_9(t)\right)+k_{t0}\left(\varphi_9(t)-\varphi_{10}(t)\right)+i_{ym9}\ddot{\varphi}_9(t)=c_{t0}(\dot{\varphi}_8-\dot{\varphi}_9)-c_{t0}(\dot{\varphi}_9-\dot{\varphi}_{10})$$