$$F_i^E(t) = \int_{-\infty}^{\infty} K_i(\tau)\eta_0(t-\tau)d\tau \tag{1}$$

$$F_i^R(t) = -\mu_{\infty_{ij}}\ddot{x}(t) - \int_0^t L_{ij}(t)\ddot{x}(t-\tau)d\tau \tag{2}$$