

*Multivariate\_DAE\_2(w, b)*

*Approximated ODE(a, b, c)*

$T_{ra_{avg}}^{corr}$

$T_{oa_{avg}}$

$\dot{Q}_{cool_{tot}}^{corr}$

$\dot{Q}_{hw}^{corr}$

$T_{ra_{avg}}^{recon}$

$T_{oa_{avg}}^{recon}$

$\dot{Q}_{cool_{tot}}^{recon}$

$\dot{Q}_{hw}^{recon}$

Loss

$f(t)$

$$= \left( T_{ra_{avg}|t+1}^{recon} - T_{ra_{avg}|t}^{recon} \right)$$

$$- \left( a \cdot \left( T_{oa_{avg}|t}^{recon} - T_{ra_{avg}|t}^{recon} \right) - b \cdot \dot{Q}_{cool_{tot}|t}^{recon} \right.$$

$$\left. + c \cdot \dot{Q}_{hw|t}^{recon} \right) = 0 \quad \forall t \in day$$