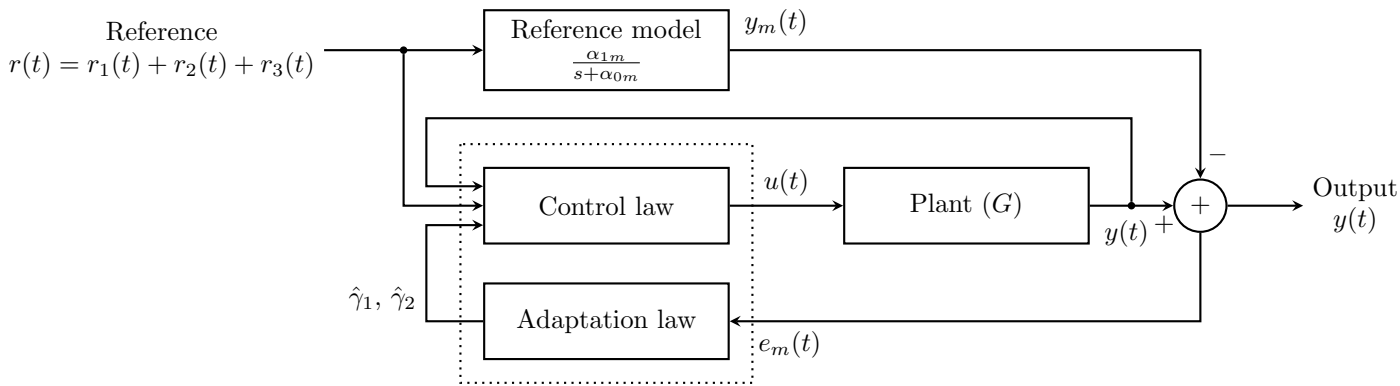

Model rerefence adaptive control (MRAC)

Control law:

$$u(t) = \hat{\gamma}_1(t)r(t) + \hat{\gamma}_2(t)y(t)$$

Adaptation law:

$$\dot{\hat{\gamma}}_1(t) = -\varrho e_m(t)r(t)$$
$$\dot{\hat{\gamma}}_2(t) = -\varrho e_m(t)y(t)$$

where $e_m = y - y_m$, $\varrho > 0$ is called adaptation gain and T_S is sampling time.