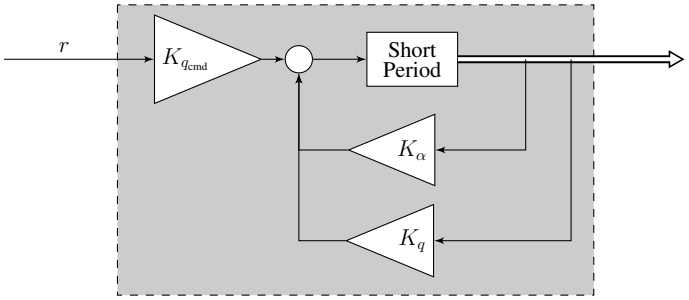
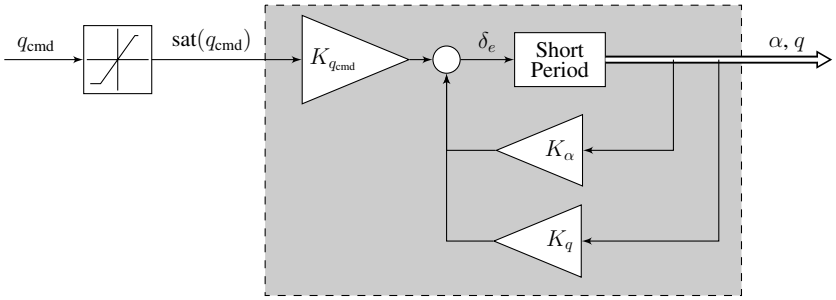
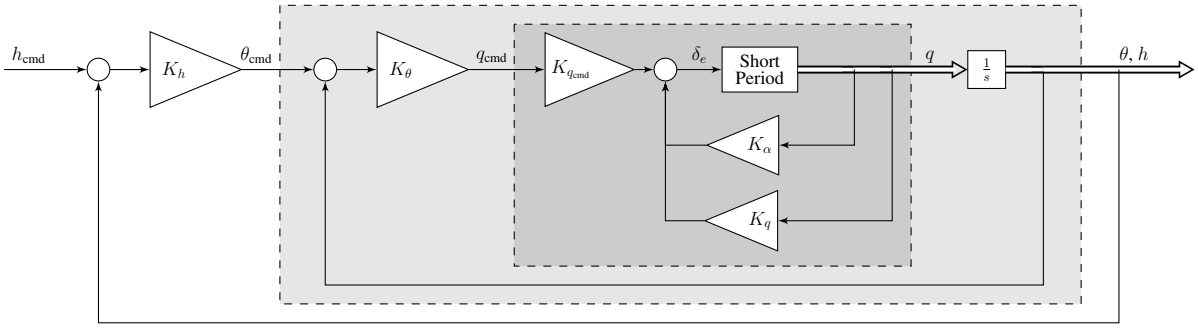
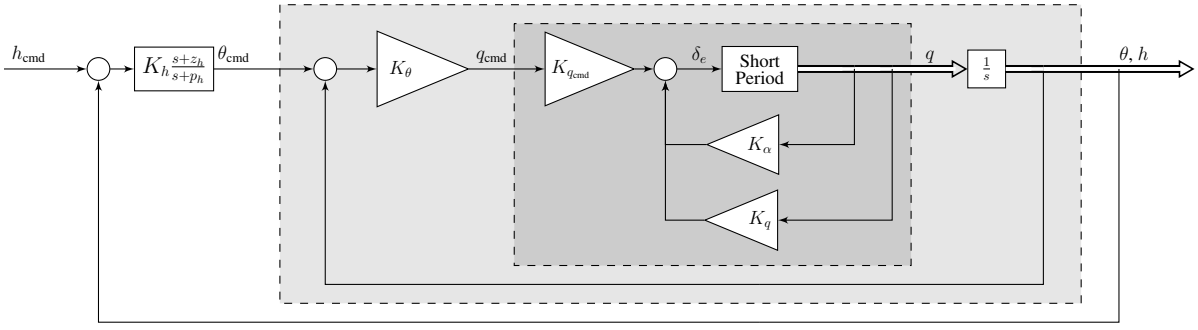
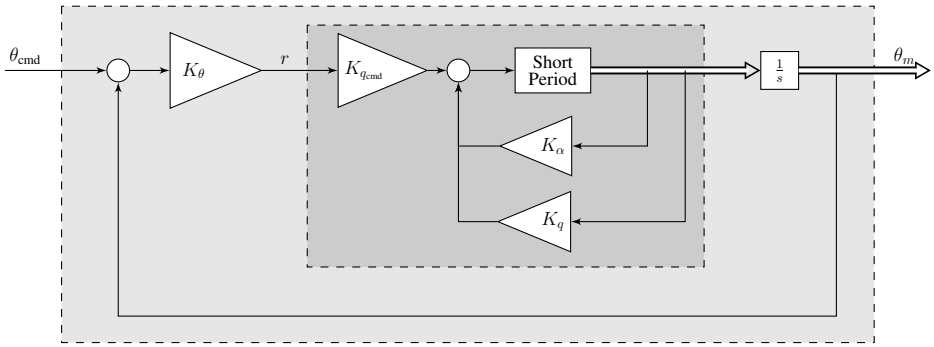
1 Baseline


r
$K_{q_{\text{cmd}}}$
Short Period
K_α
K_q

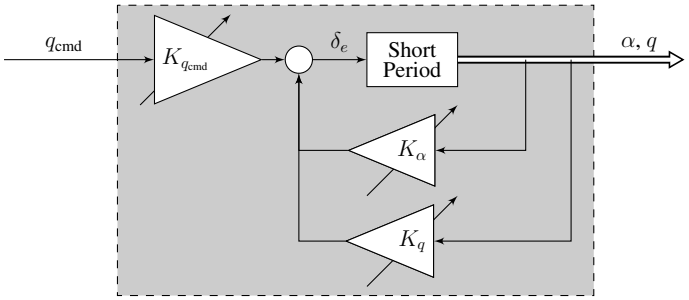

q_{cmd}
$\text{sat}(q_{\text{cmd}})$
$K_{q_{\text{cmd}}}$
δ_e
Short Period
α, q
K_α
K_q

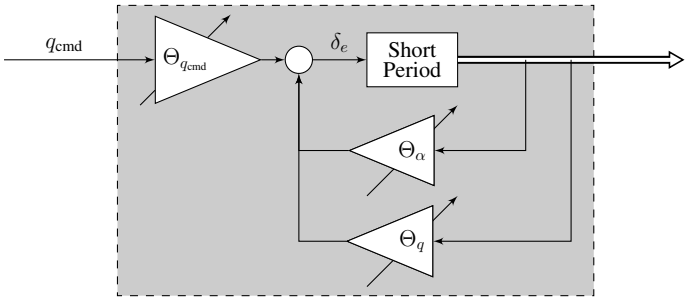

h_{cmd}
K_h
θ_{cmd}
K_θ
q_{cmd}
$K_{q_{\text{cmd}}}$
δ_e
Short Period
q
$\frac{1}{s}$
θ, h
K_α
K_q

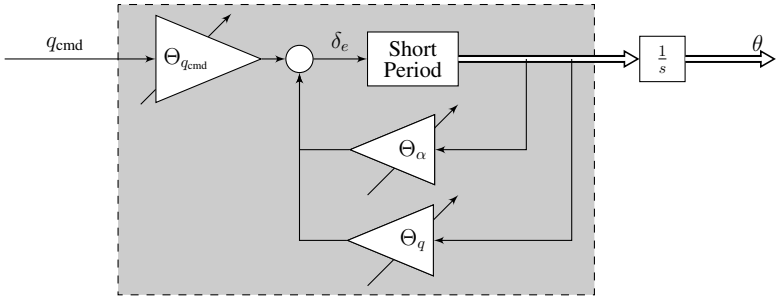

h_{cmd}
$K_h \frac{s+z_h}{s+p_h}$
θ_{cmd}
K_θ
q_{cmd}
$K_{q_{\text{cmd}}}$
δ_e
Short Period
q
$\frac{1}{s}$
θ, h
K_α
K_q

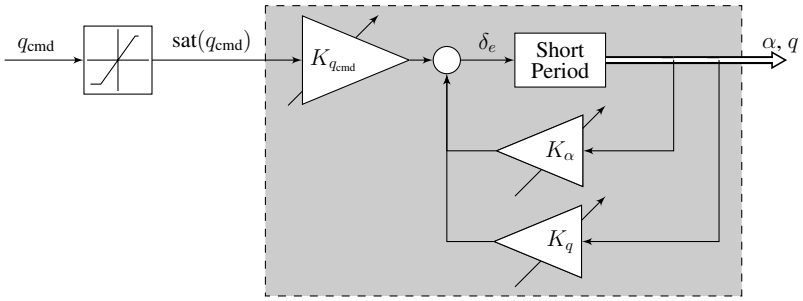

θ_{cmd}
K_θ
r
$K_{q_{\text{cmd}}}$
Short Period
$\frac{1}{s}$
θ_m
K_α
K_q

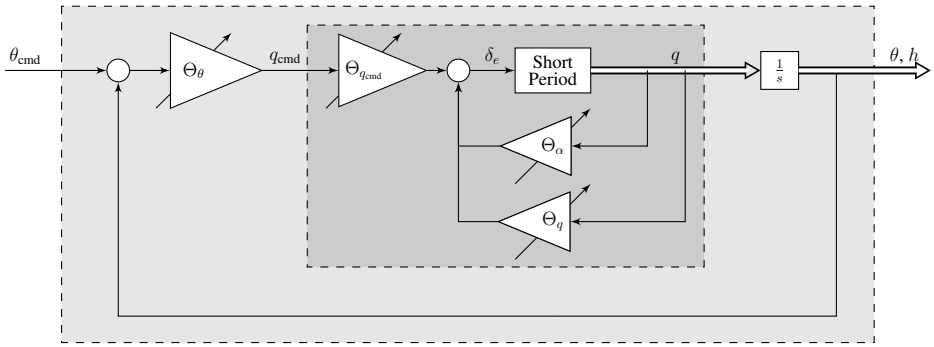
2 Adaptive

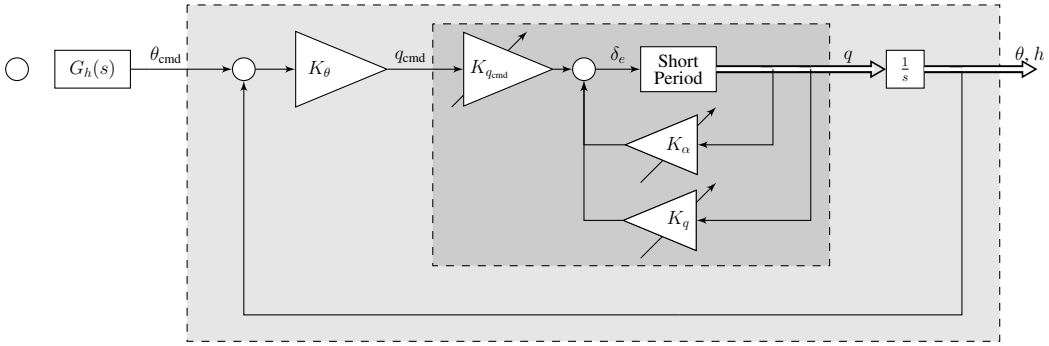

q_{cmd}
$K_{q_{\text{cmd}}}$
δ_e
Short Period
α, q
K_α
K_q


q_{cmd}
$\Theta_{q_{\text{cmd}}}$
δ_e
Short Period
Θ_α
Θ_q

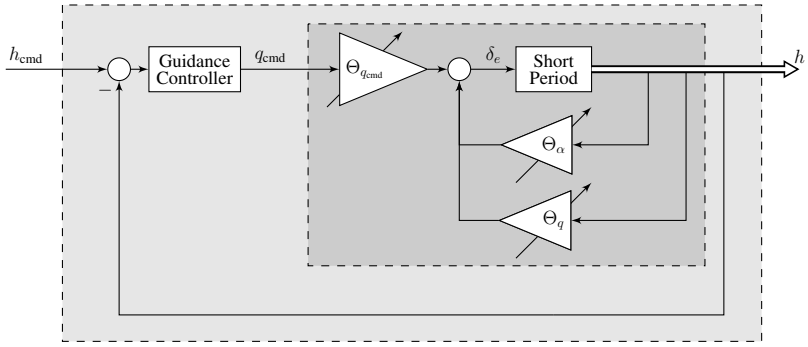

q_{cmd}
$\Theta_{q_{\text{cmd}}}$
δ_e
Short Period
$\frac{1}{s}$
θ
Θ_α
Θ_q


q_{cmd}
sat(q_{cmd})
$K_{q_{\text{cmd}}}$
δ_e
Short Period
α, q
K_α
K_q

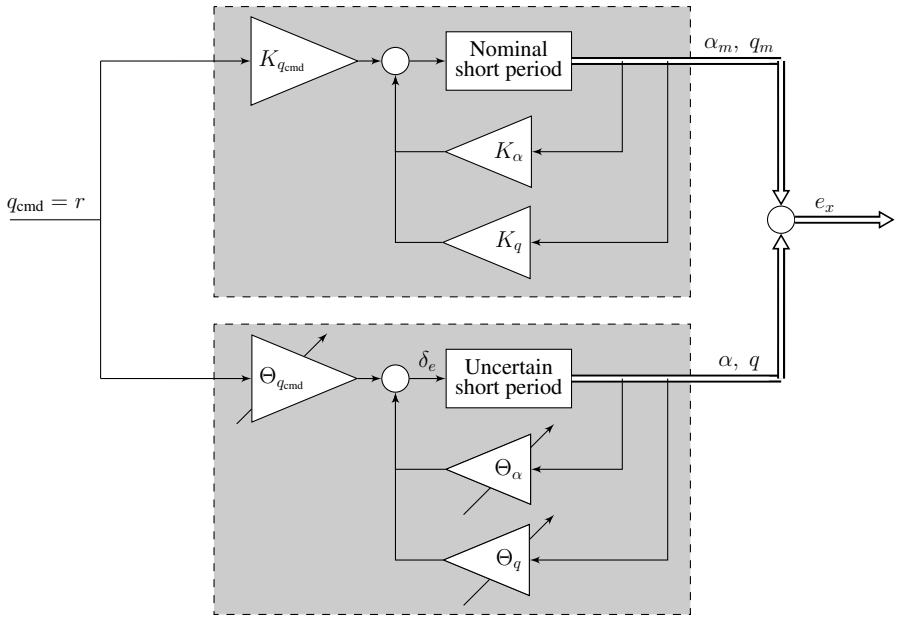

θ_{cmd}
Θ_θ
q_{cmd}
$\Theta_{q_{\text{cmd}}}$
δ_e
Short Period
q
$\frac{1}{s}$
θ, h
Θ_α
Θ_q


$G_h(s)$
θ_{cmd}
K_θ
q_{cmd}
$K_{q_{\text{cmd}}}$
δ_e
Short Period
q
$\frac{1}{s}$
θ, h
K_α
K_q

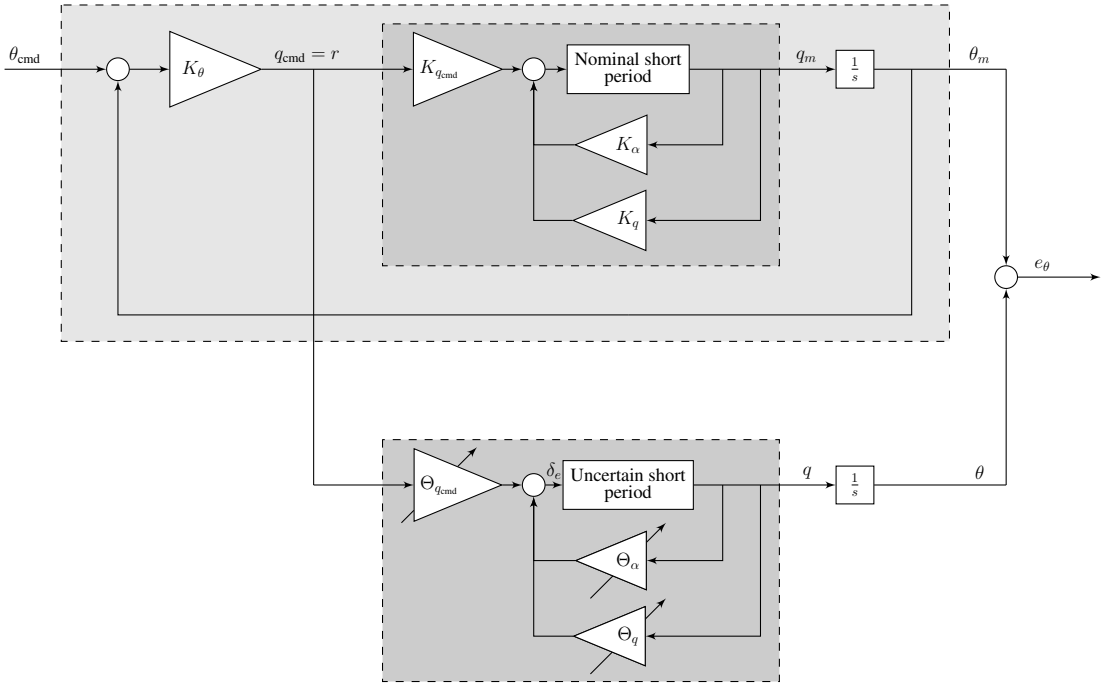
3 Block



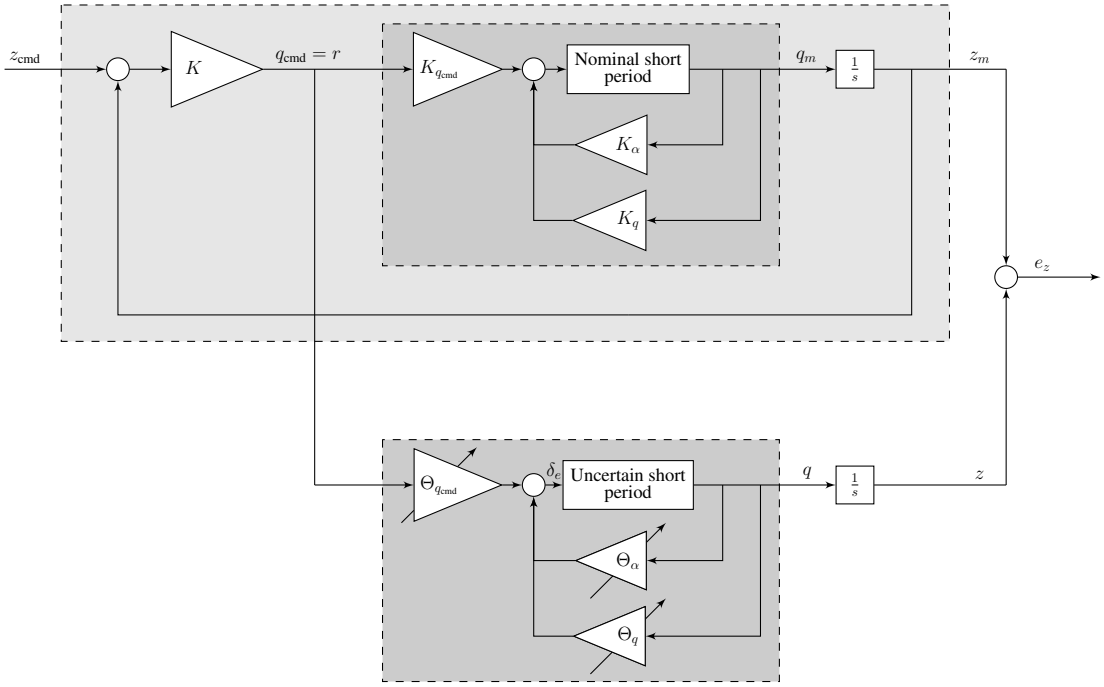
4 Reference Model with Adaptive



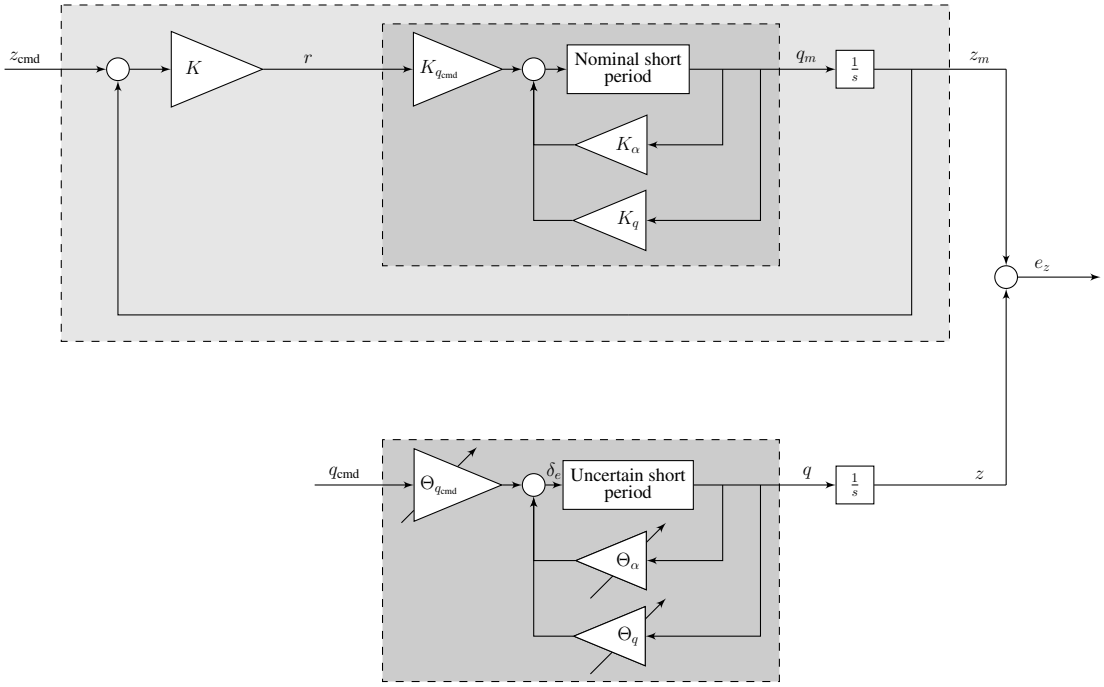
5 Reference Model with Adaptive and Pitch Angle Loop



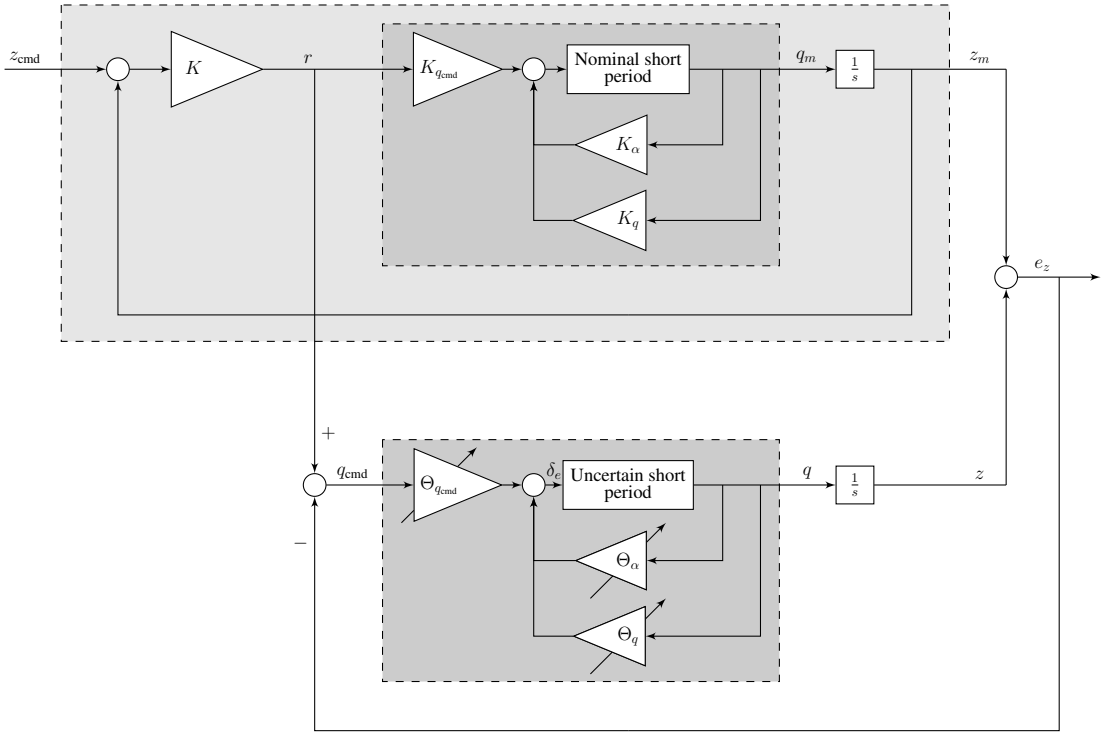
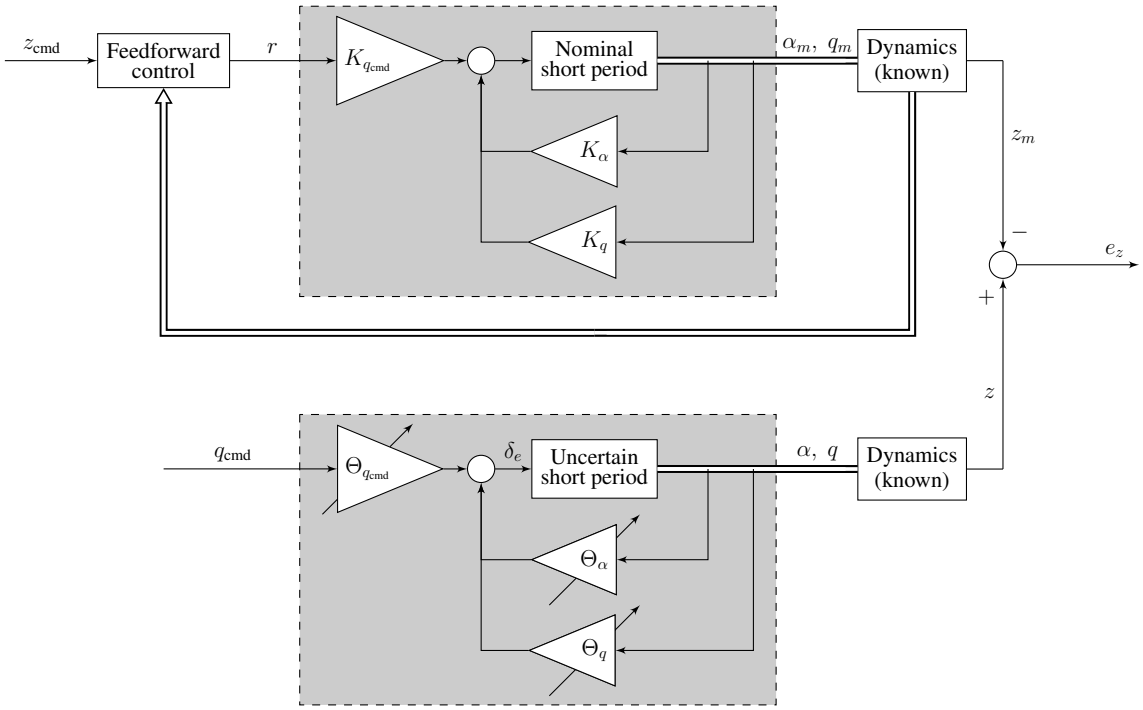
6 Using Variable z



7 New Control Structure



8 Pitch Rate Feedback Law



9 Altitude Control