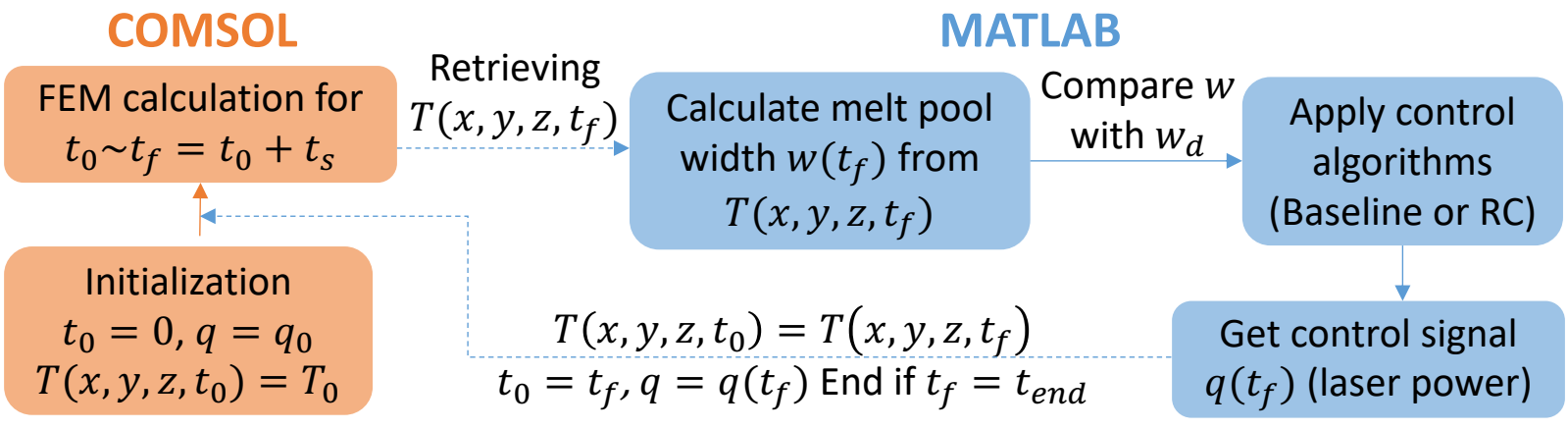
COMSOL
MATLAB
FEM calculation for
$t_0 \sim t_f = t_0 + t_s$
Retrieving
$T(x, y, z, t_f)$
Calculate melt pool width $w(t_f)$ from $T(x, y, z, t_f)$
Compare w with w_d
Apply control algorithms (Baseline or RC)
Initialization
$t_0 = 0, q = q_0$
$T(x, y, z, t_0) = T_0$
$T(x, y, z, t_0) = T(x, y, z, t_f)$
$t_0 = t_f, q = q(t_f)$ End if $t_f = t_{end}$
Get control signal
$q(t_f)$ (laser power)