Fixed wing aircraft model with acceleration

# Relative dynamics

Without acceleration, we have

Leads to

If we have

Then we would get

Some variables () are not in the relative coordinates, so we’ll need to add a state and deal with a 5D system.

## Computation grid

Target set would be in terms of only , so perhaps the other dimensions do not require so many grid points, especially the velocity dimensions…

Previously, we could do 4D grid with points somewhat quickly, and up to points slowly.

If first 3 dimensions are , then we’re left with or grid points, or about 15 or 12 grid points remaining for the last two dimensions.

# Transformation of control set

Control bounds for fixed wing:

Special case