Class V: Introduction to Aerospace Engineering

M. G. Bharath and M. Ramakrishna,
Department of Aerospace Engineering,
Indian Institute of Technology Madras

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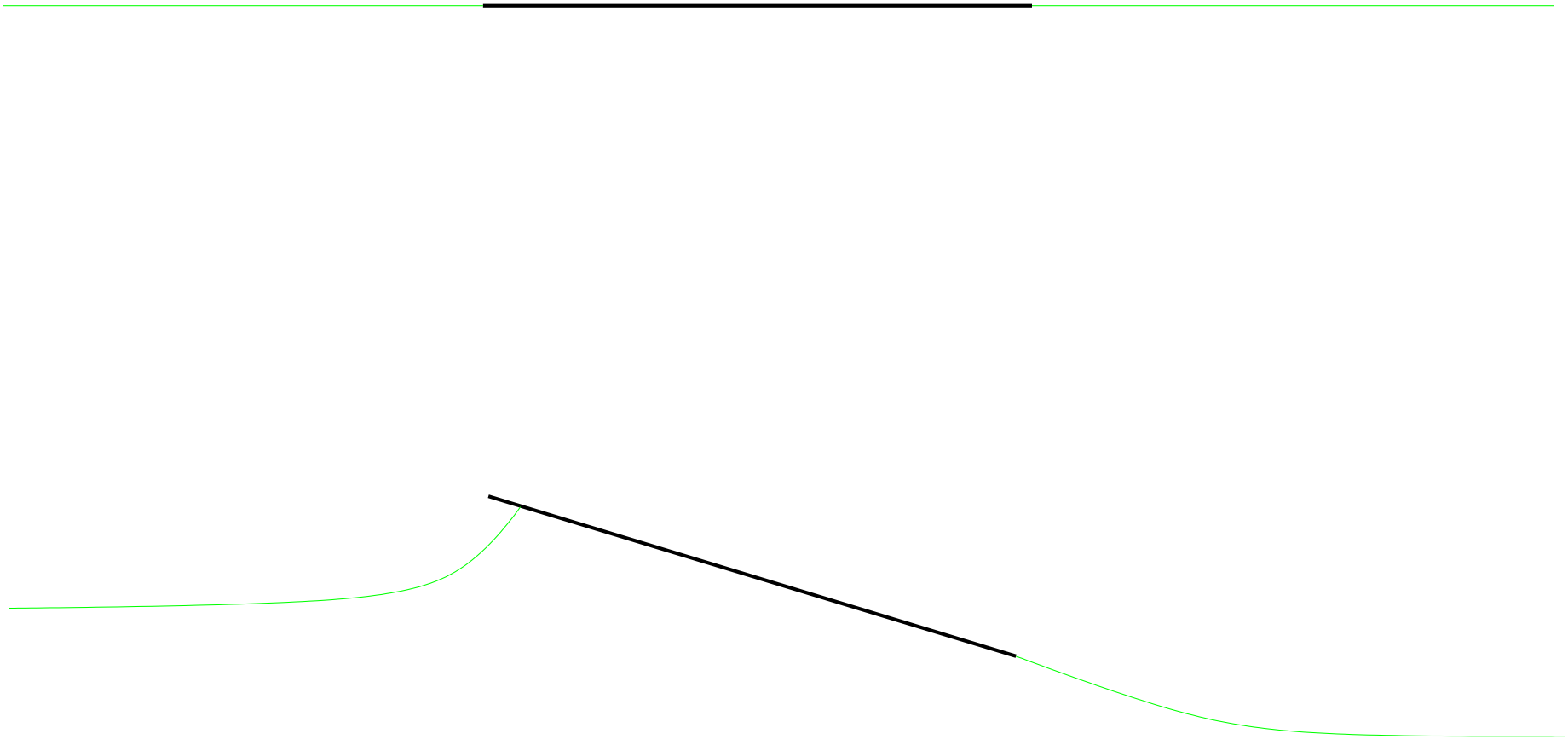
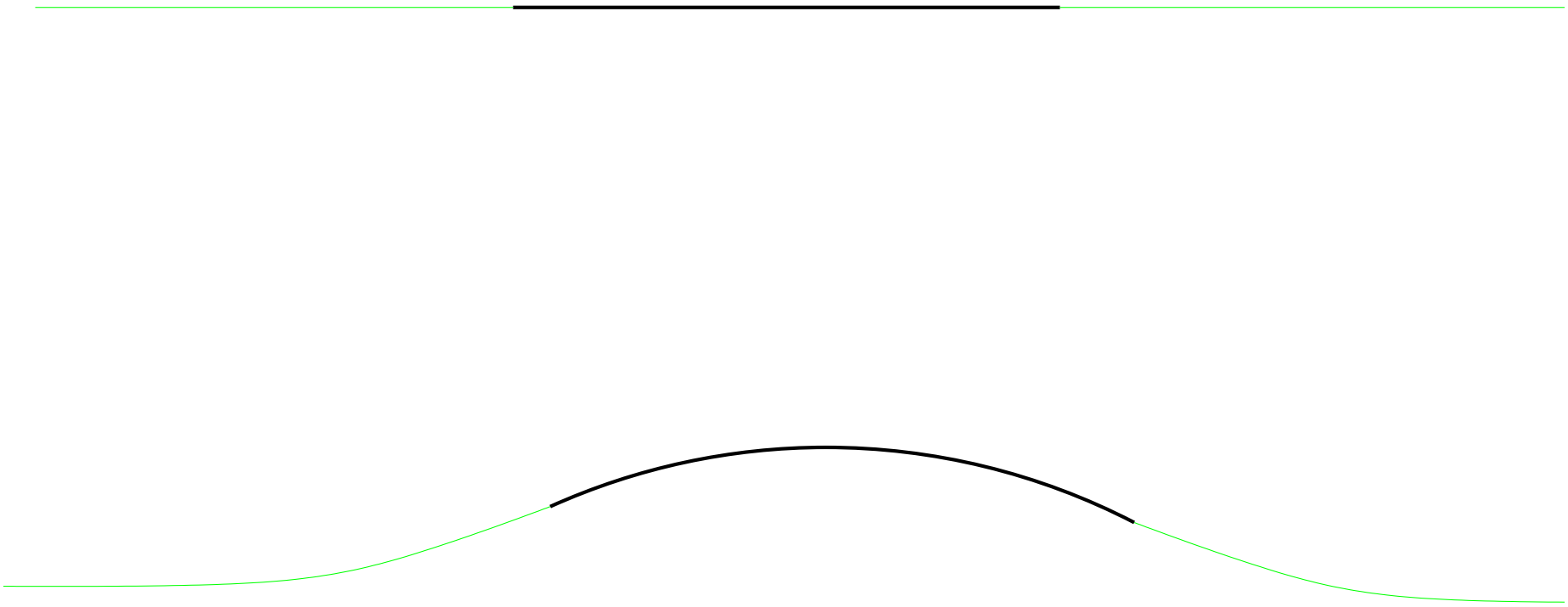
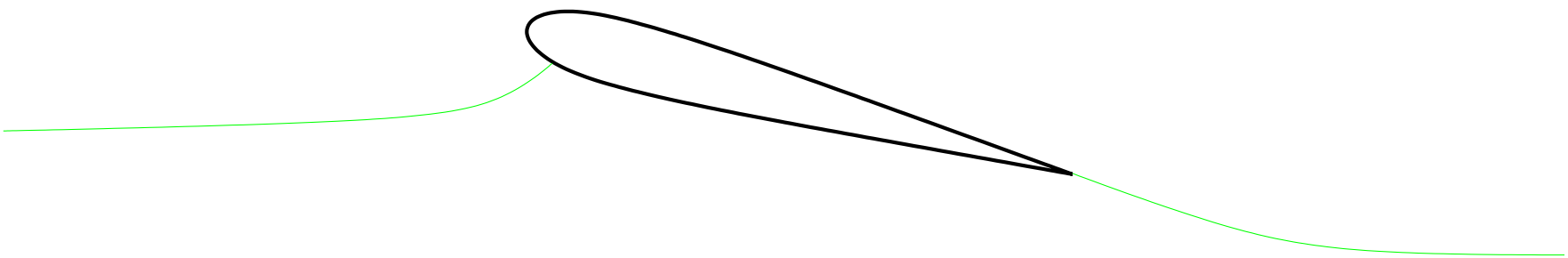
Flat Plate



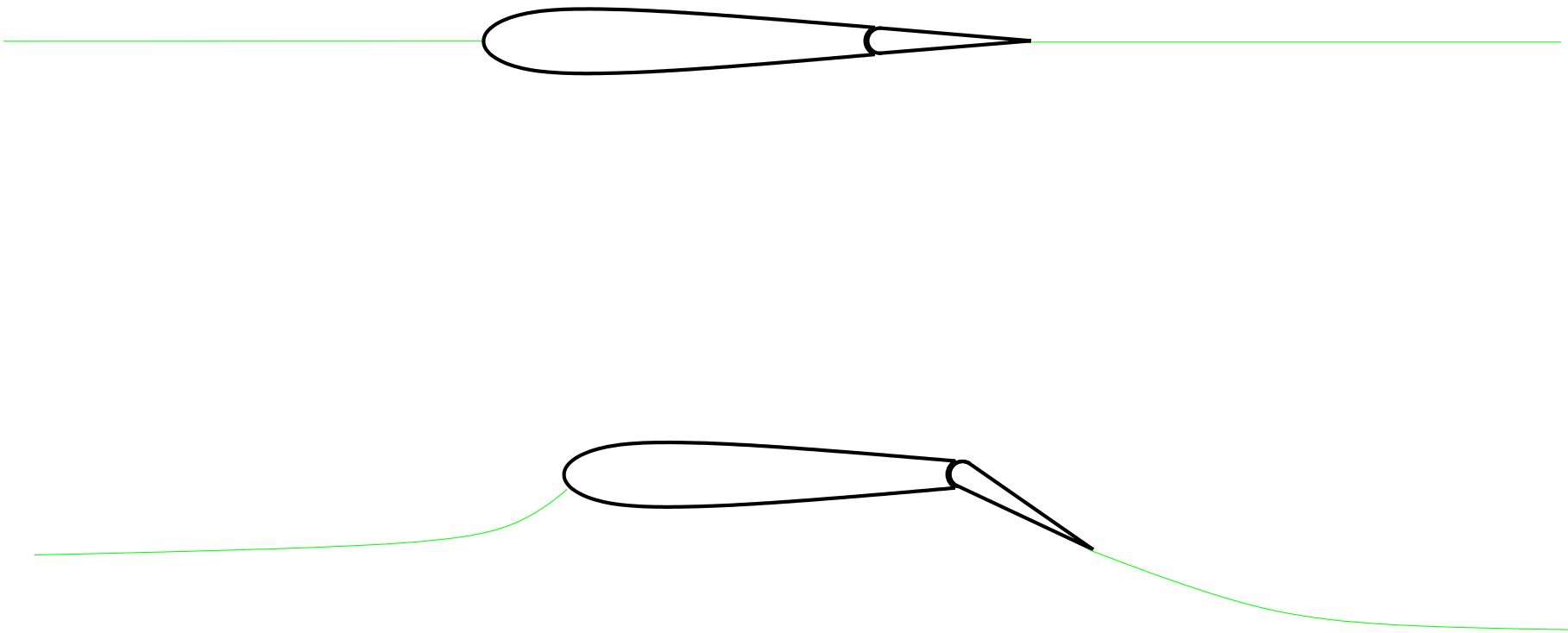
Cambered Plate



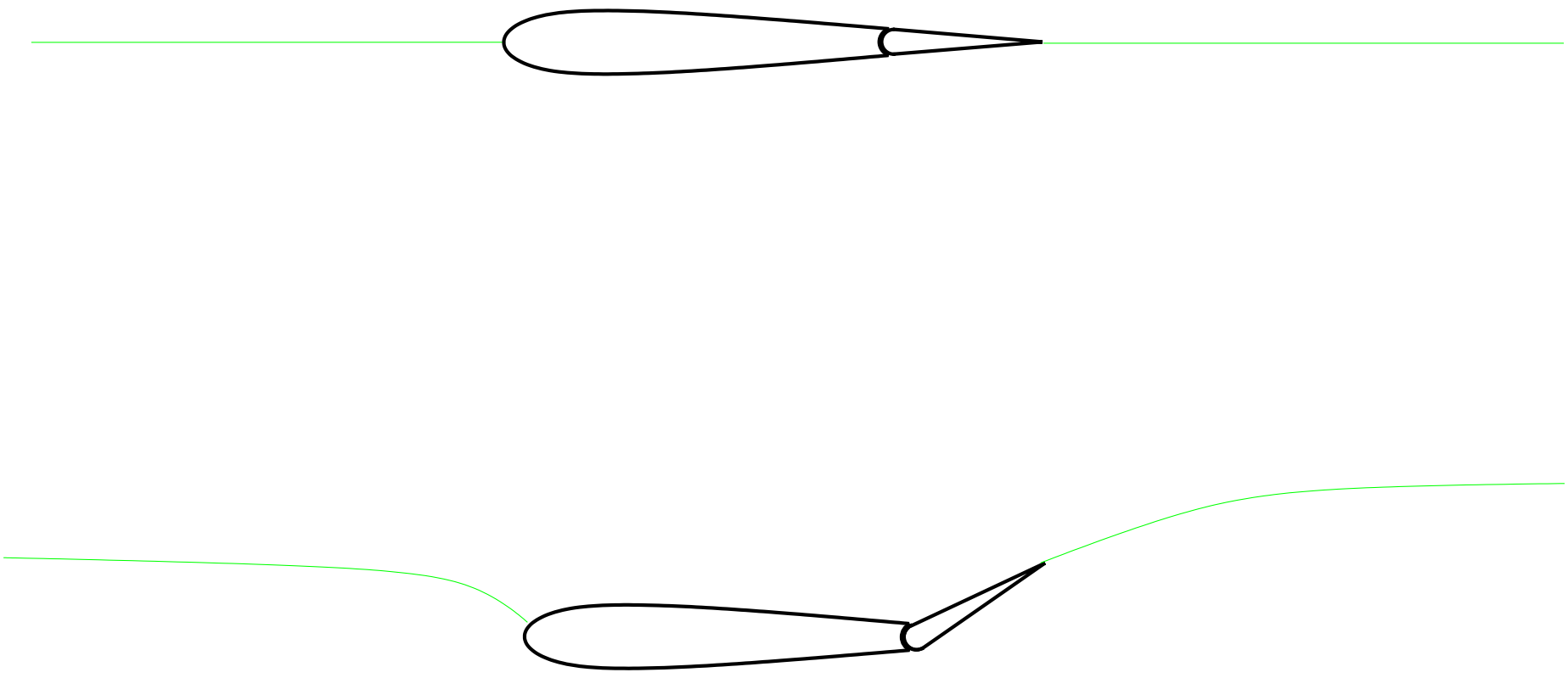
Symmetric Airfoil



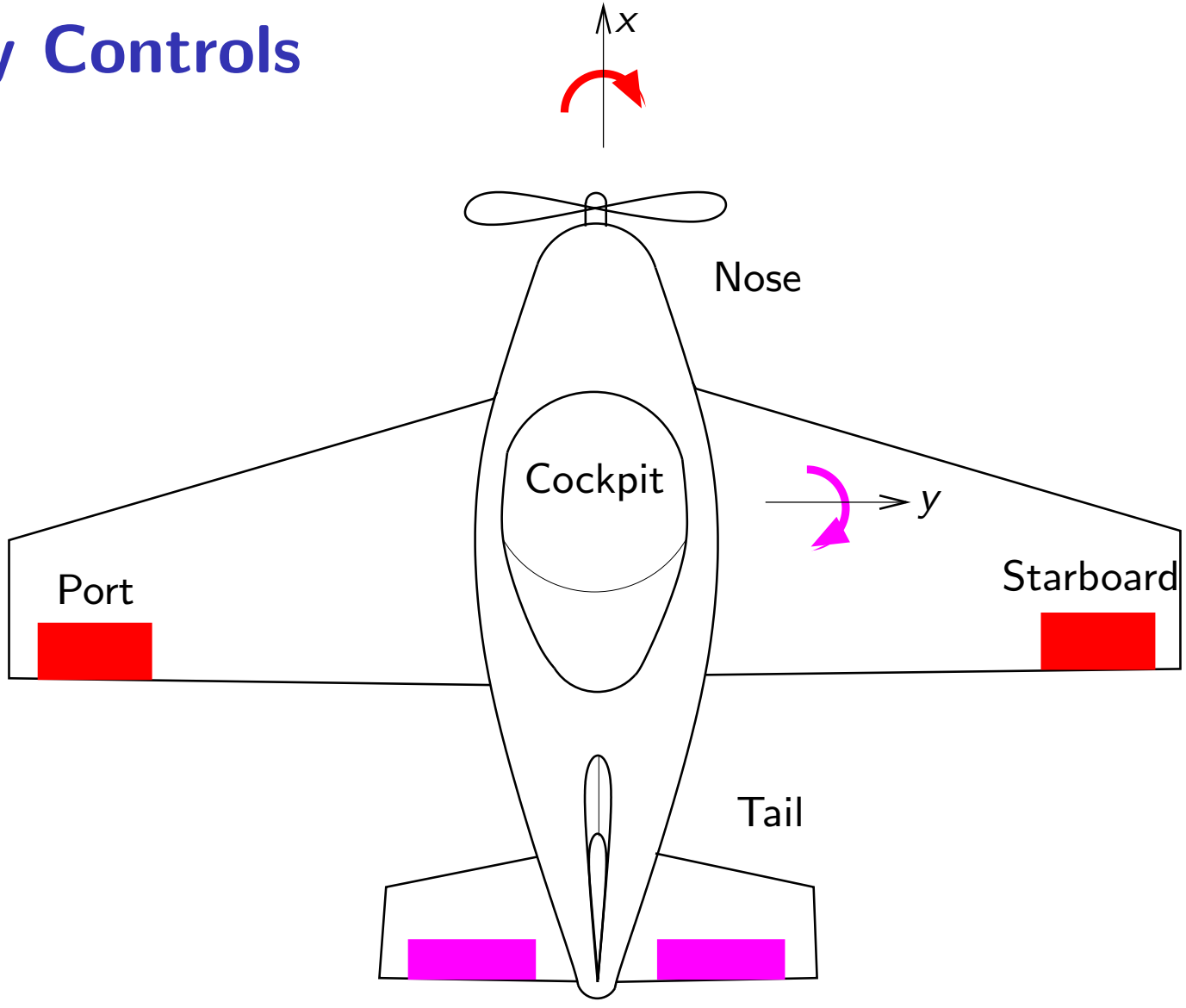
Control Surface Down - Wing Up



Control Surface Up - Wing Down



Primary Controls



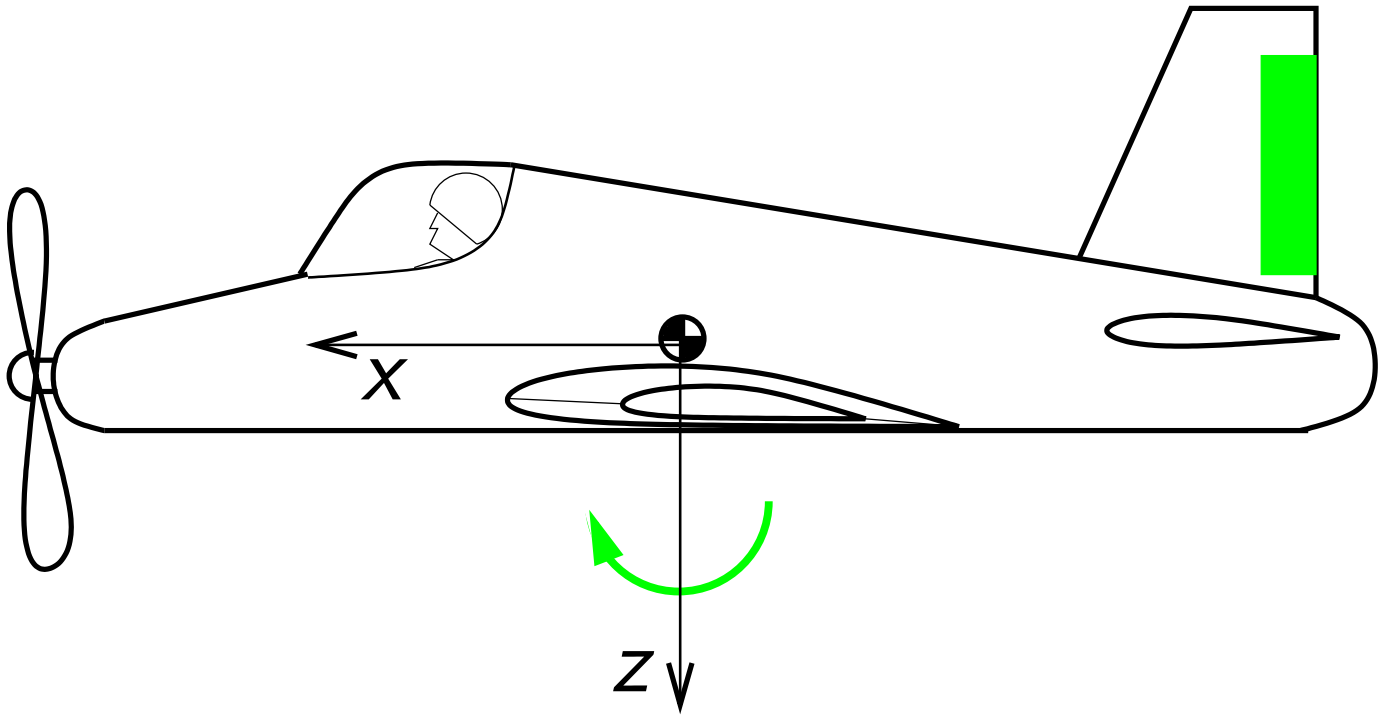
Ailerons - Roll about x

Elevators - Pitch about y

$y > 0$ - Starboard, $y < 0$ - Port

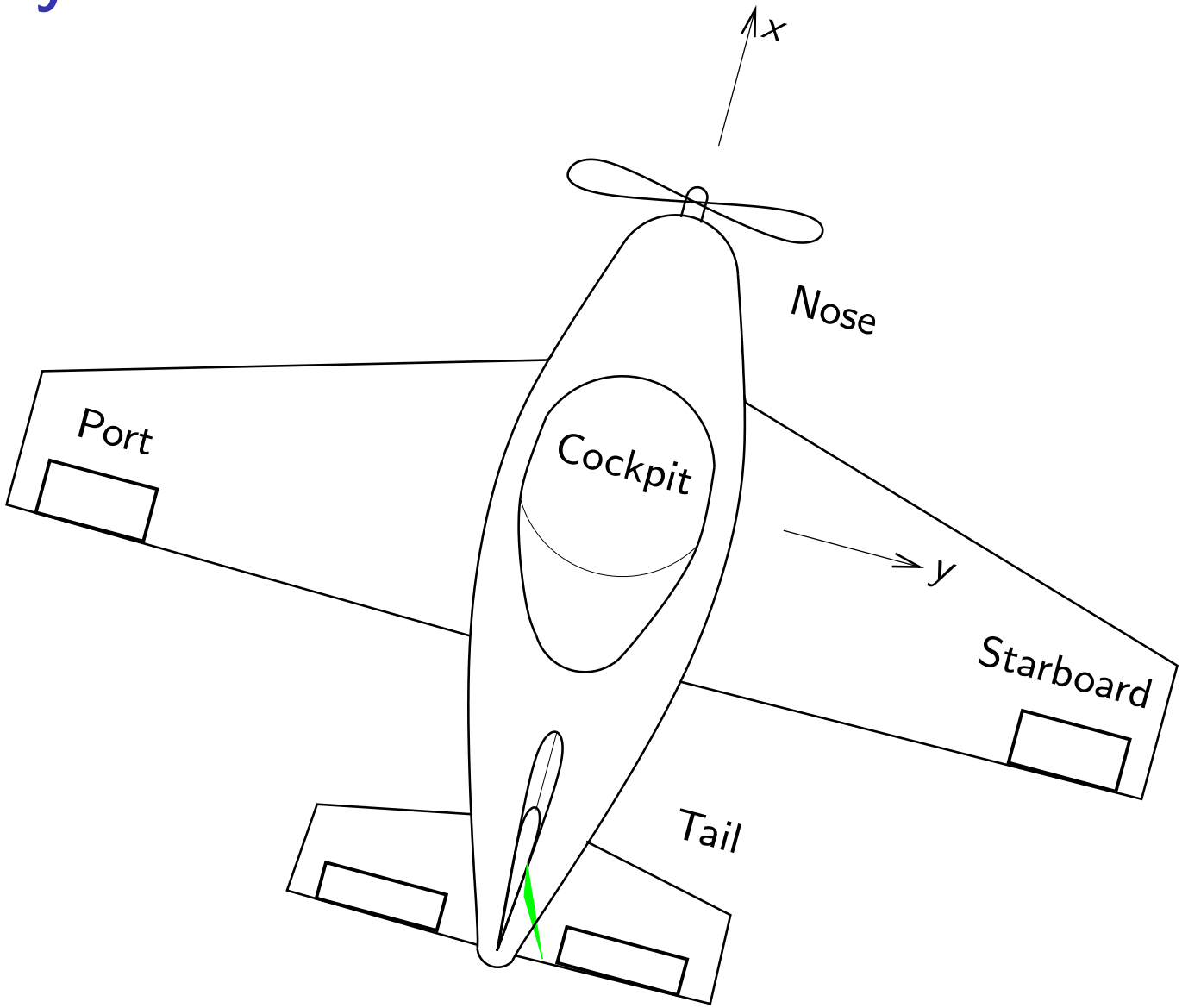
$x > 0$ - Forward, $x < 0$ - Aft

Primary Controls



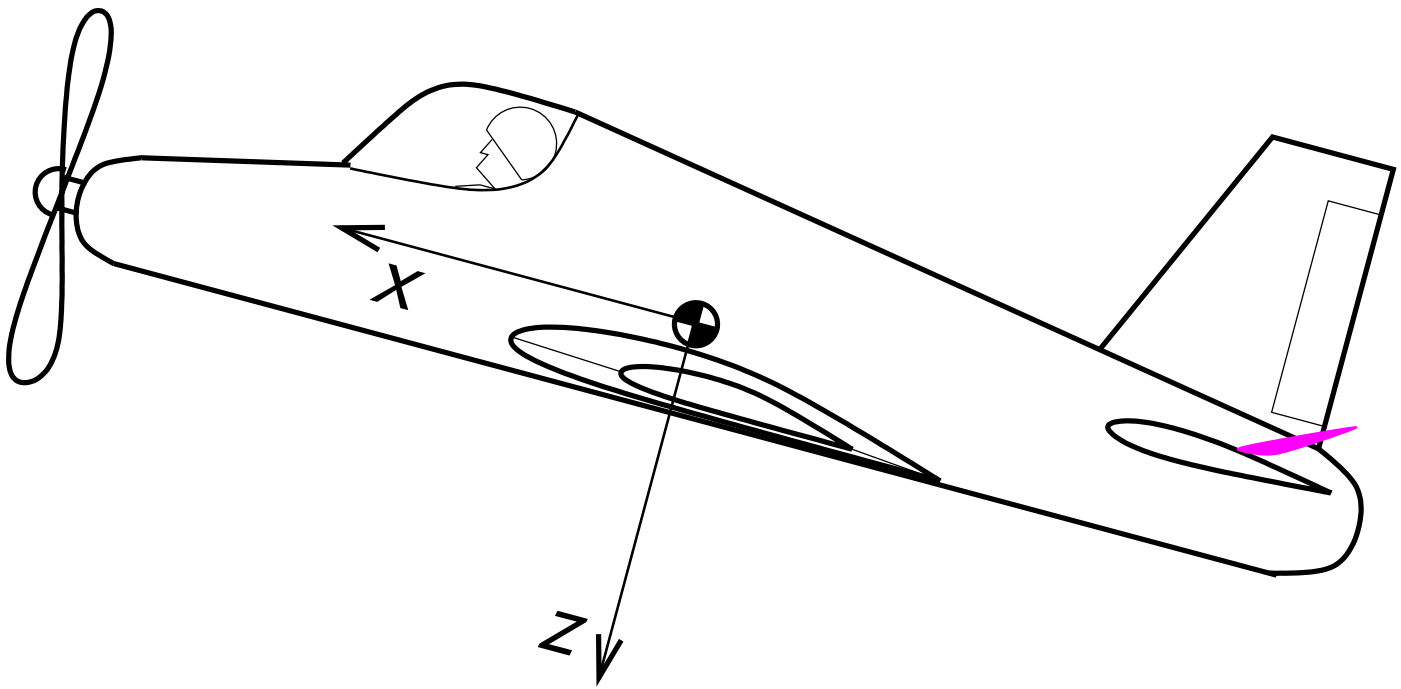
Rudder - Yaw about z

Primary Controls - Rudder - Yaw



Rudder - Yaw about z

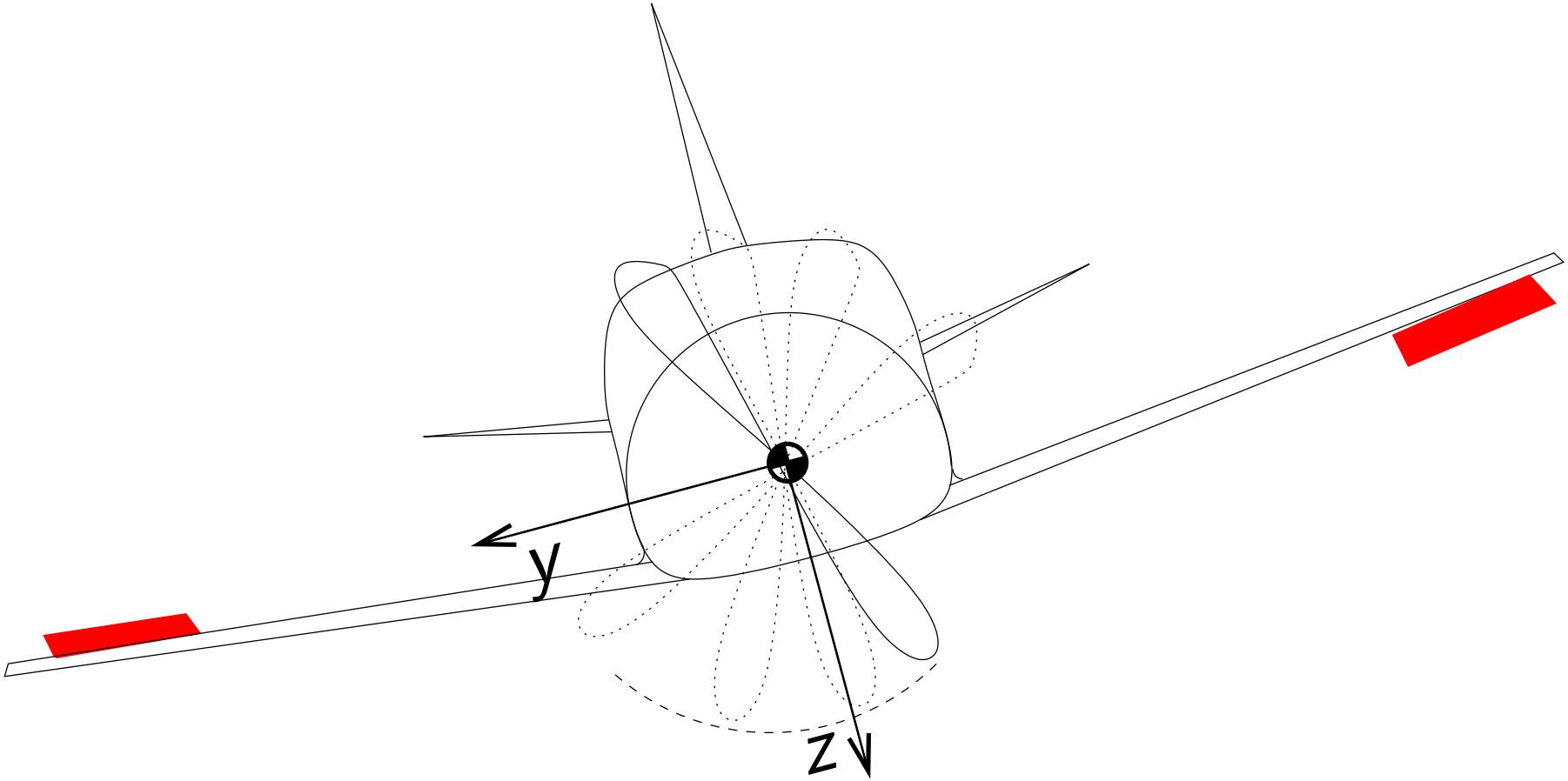
Primary Controls - Elevator - Pitch



Elevator - Pitch about y

Primary Controls - Aileron - Roll

Ailerons are Differential Actuators i.e both move in different direction.



Once you move the Aileron, Rolling starts. To stop the roll, we need to provide a counter movement to bring the plane to rest

Aileron - Roll about x