**Body Fz Lift** as a Function of **AoA, Skew and Airspeed**

Completed on 30/03/2023

Using lift\_body.m

## Wind Tunnels Test Data Used:

* -(LP1-LP4-LP5)

With

* LP1: a/c w/o pusher
* LP4: a/c w/o pusher w/o wing w/o hover props
* LP5: a/c w/o pusher w/o elevator w/o hover props

## Modifications to data

* Removing entries with non-zero control surfaces
* Removing entries with non-zero pusher motor
* Removing entries with non-zero hover motor command
* Removing entries with angle of attack higher than 15 deg --> Remove stall condition (non-linear)

## Fit

% Fz= (k1\*cos(skew)+k2+k3\*alpha+k4\*alpha^2)\*V^2

s\_skew =

%

% -0.004010655576495

% -0.000721901291023

% -0.112383214091401

% 0.077819486465484

%

%

% RMS\_skew =

%

% 0.918013367932760

