Results and Discussions

- The dimensions of the plane as well as the dynamics of the plane were calculated using the software XFLR5 in an iterative method.

Fig.1 (a) Cl vs Alpha (b) Cd vs Alpha (c) Cl/Cd vs Alpha of NACA 4415 for Wing

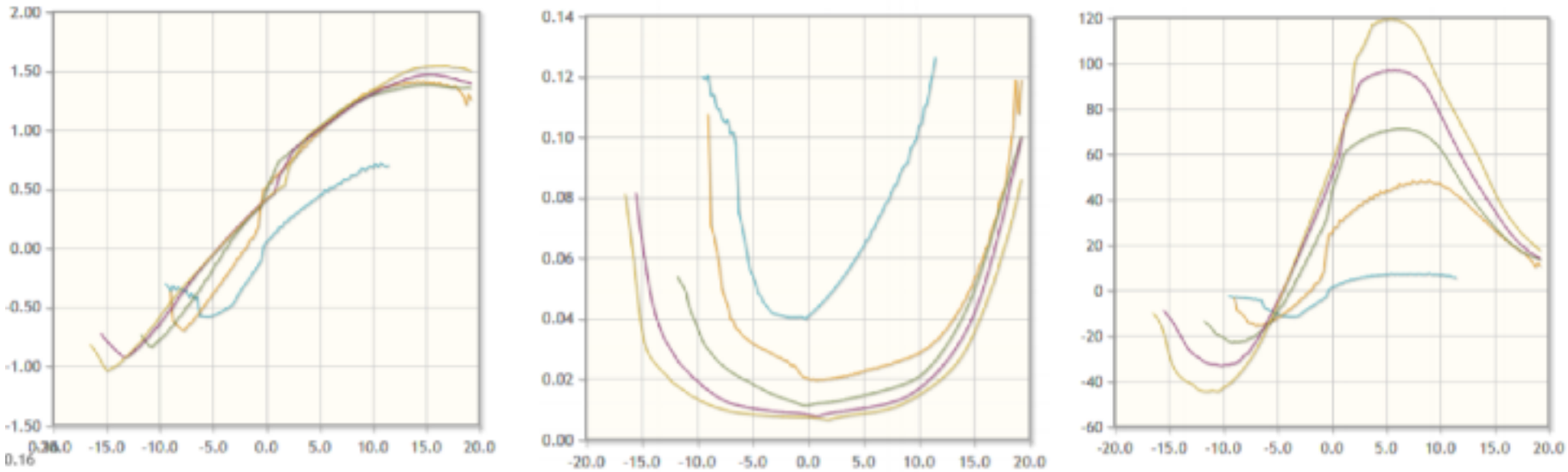
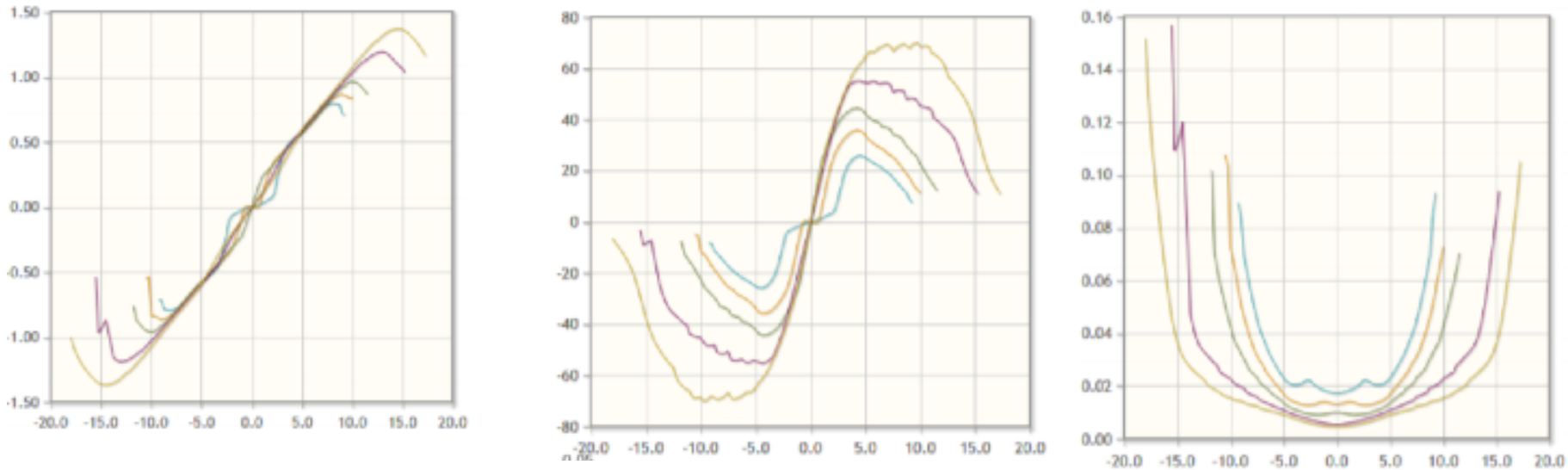


Fig.2 (a) Cl vs Alpha (b) Cd vs Alpha (c) Cl/Cd vs Alpha of NACA 0010 for Tail



- For stability analysis 3 constraints were iterated and finally the dimensions that gives a Static margin of 12% was selected for a stable flight.

- Final Plane Dimensions were as follows:

PLANE

span	chord	Area	Cl	Alpha	Lift(Kg)	A.R	Xcg	Xnp	SM
151	19	2869	0.7616	5	4.424687	7.947368	7.8	10.1	0.121053

HORIZONTAL TAIL

Sh	Ch	A	Leading D	Lh	Vh	C/4
50	15	750	46	42.95	0.590936	4.75

VERTICAL TAIL

Sv	Cv	A	Leading D	Lv	Vv
12	15	180	35	31.95	0.013275