APPLIED CFD PROJECT – 3 CHALLENGE – 6

View at XY plane.



With XY as the base plane, a new plane is created and transformation is done by selecting 'Rotate about Global Z'.

In the first case, since the fish profile is tilted 15 degrees with the XZ plane, value of -15 degree is entered in the FD1 field.

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E: CHALLENGE 6 XYPlane XYPlane XYPlane XYZPlane XPlane XPlane XPlane XPlane XPlane Sketching Modeling	15	~		ANSYS R17.1 Academic
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Plane	Plane4		1	
Sketches	0		· · · · · · · · · · · · · · · · · · ·	
Туре	From Plane		/	× ×
Base Plane	XYPlane			
Transform 1 (RMB)	Rotate about Global Z			
FD1, Value 1	-15 °		0.00	80.00 (cm)
Transform 2 (RMB)	None		40.00	
Reverse Normal/Z-Axis?	No		40.00	
Flip XY-Axes?	No		Dist During	
Export Coordinate System	2 No	Y	Model View Print Preview	
Ready			1 Plane	Centimeter Deg 0 0

Fish profile revolved and subtracted in the transformed plane...



The same procedure is repeated for all the three cases.

1)

b) Velocity magnitude on the xy plane when θ = 30°



c) Velocity magnitude on the xy plane when θ = 30°



3) Line plots of drag and lift on the whole fish as a function of θ



2)

a) Velocity magnitude on the xy plane when θ = 15°