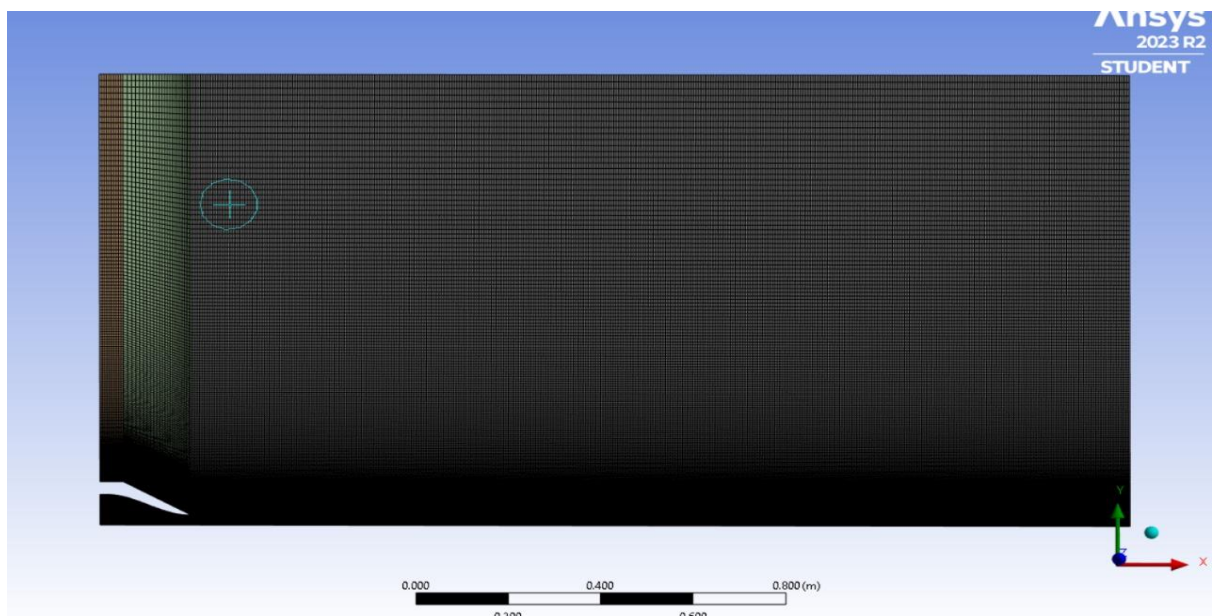


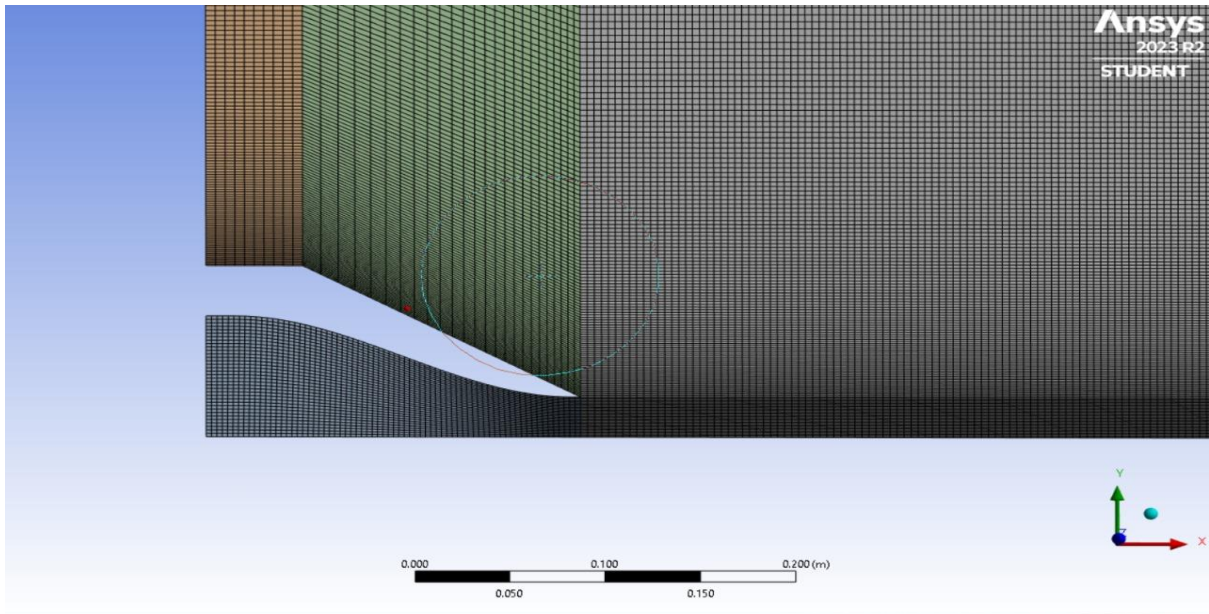
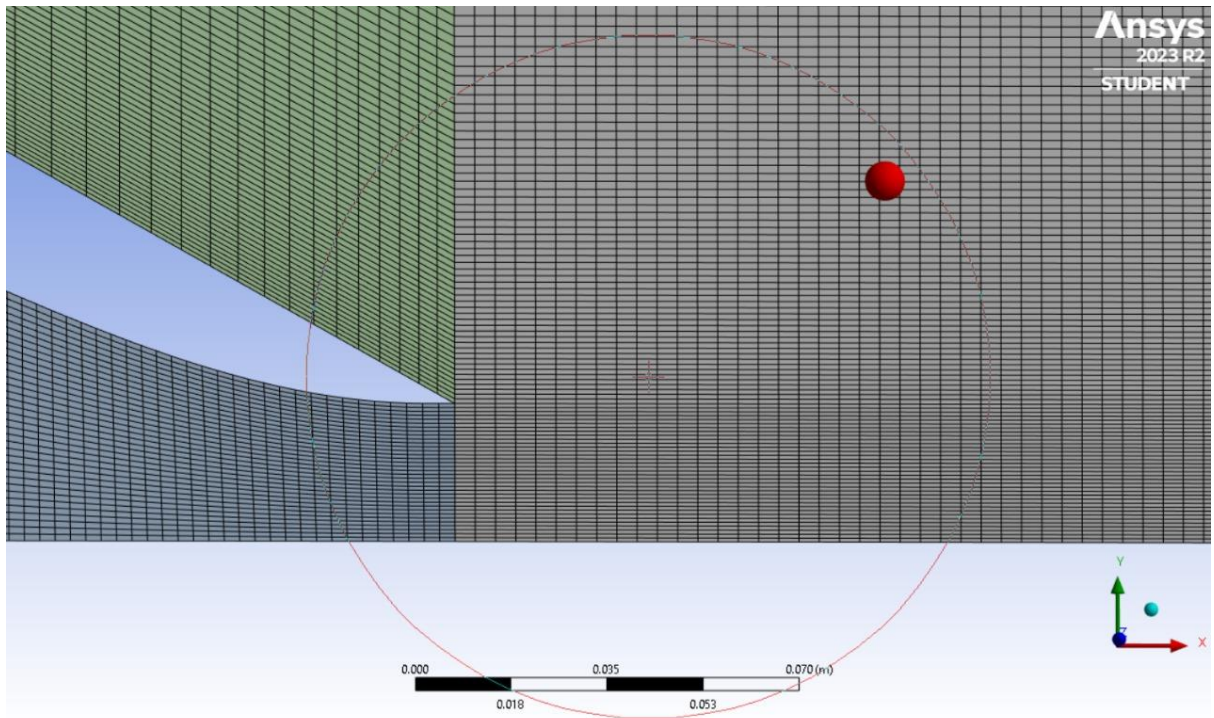
Free shear flow modelling - Jet flow

J Ramakrishna

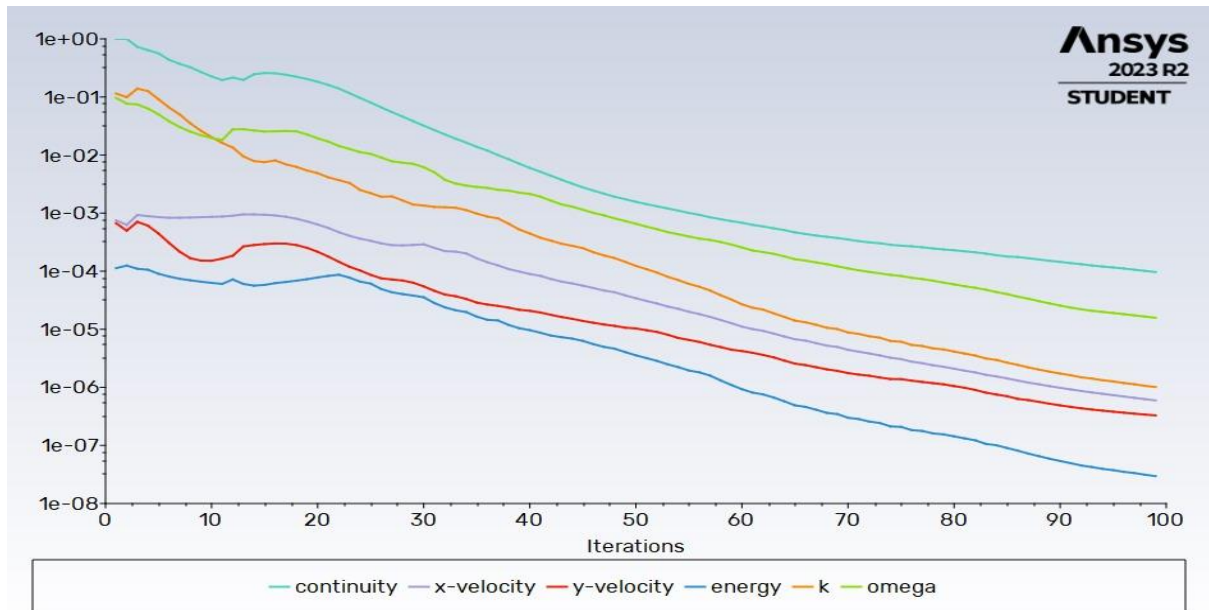
Quad mesh model:

Location	Number of divisions	Bia- factor
X-Jet	70	----
X-jet-out	550	----
Y-jet	35	----
X-ref-out	25	3
X-Ref	10	----
Y-Ref	200	20

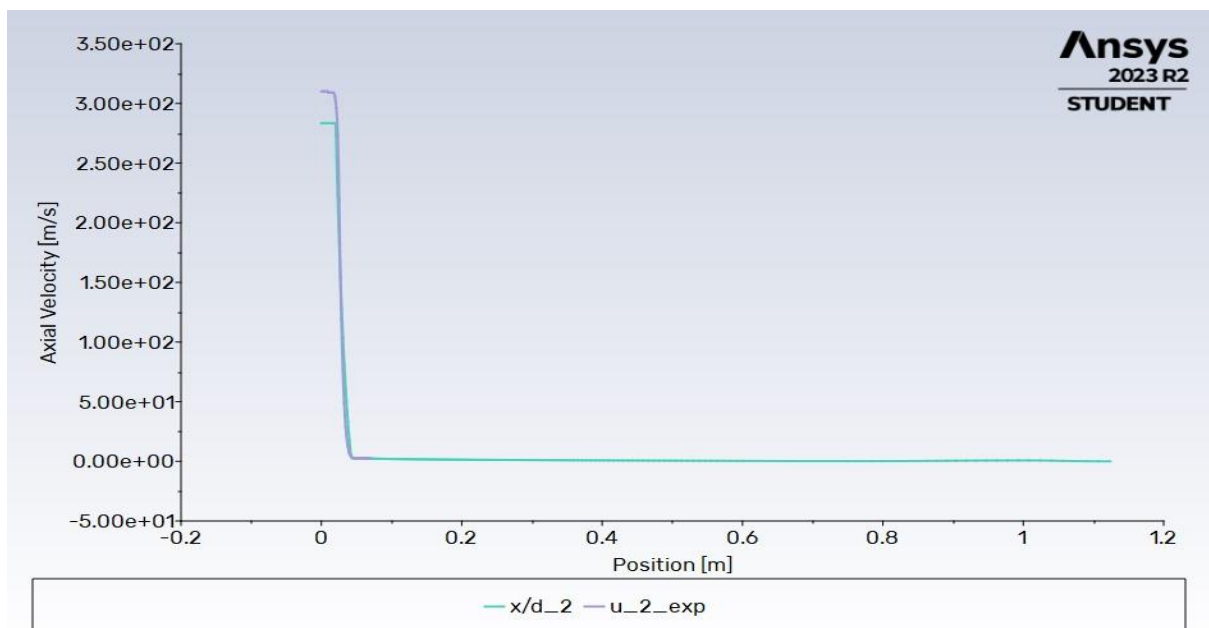




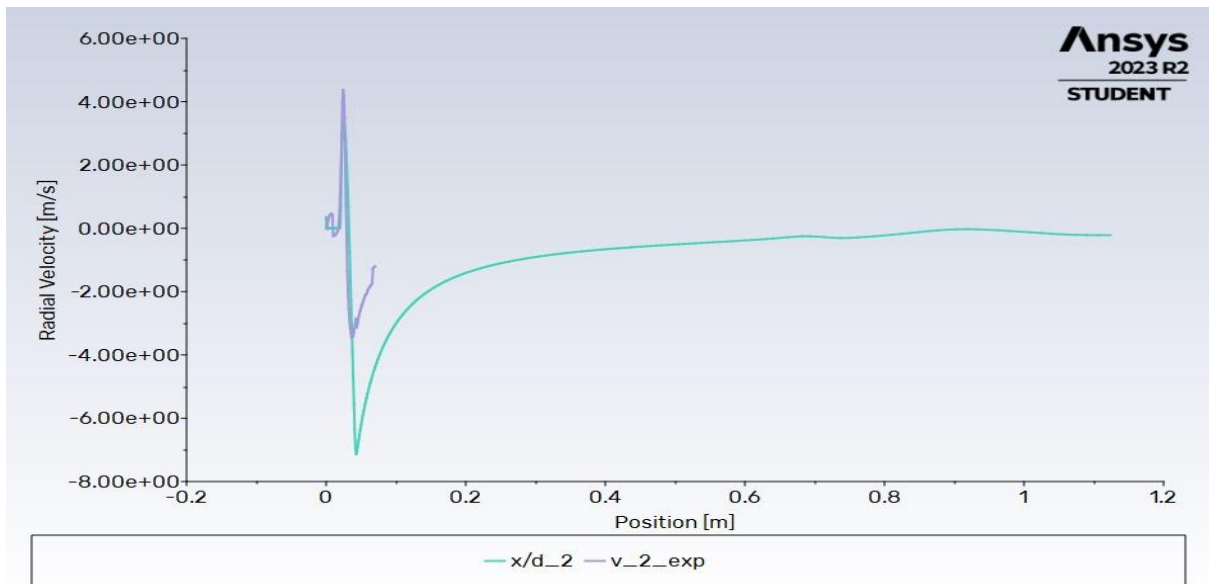
K-Omega Model:



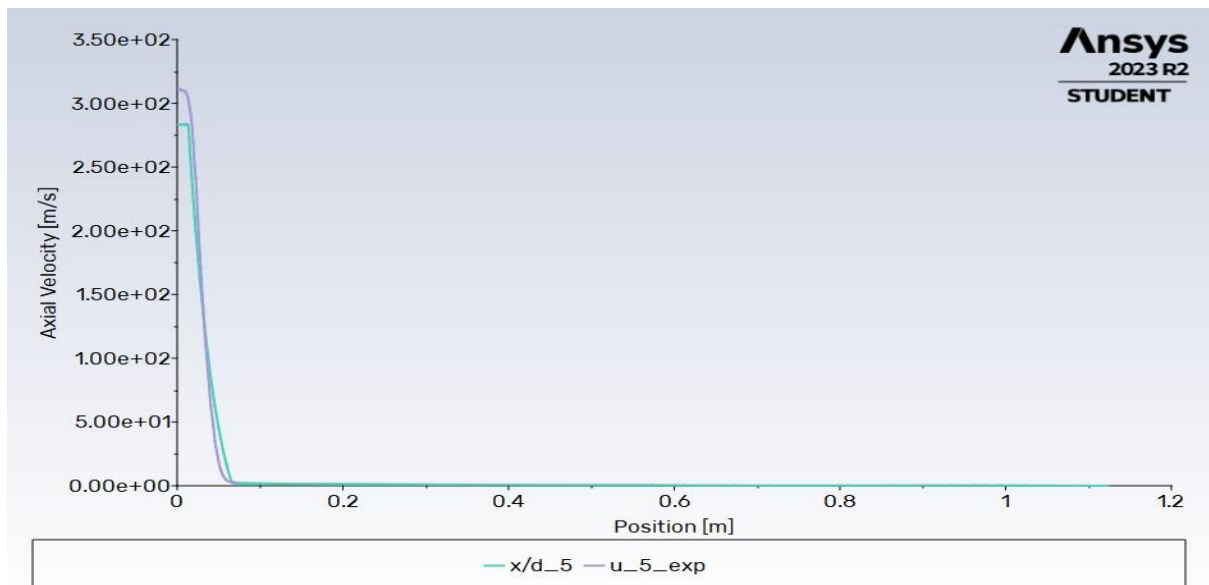
Convergence Graph



U-Velocity at $X/D=2$

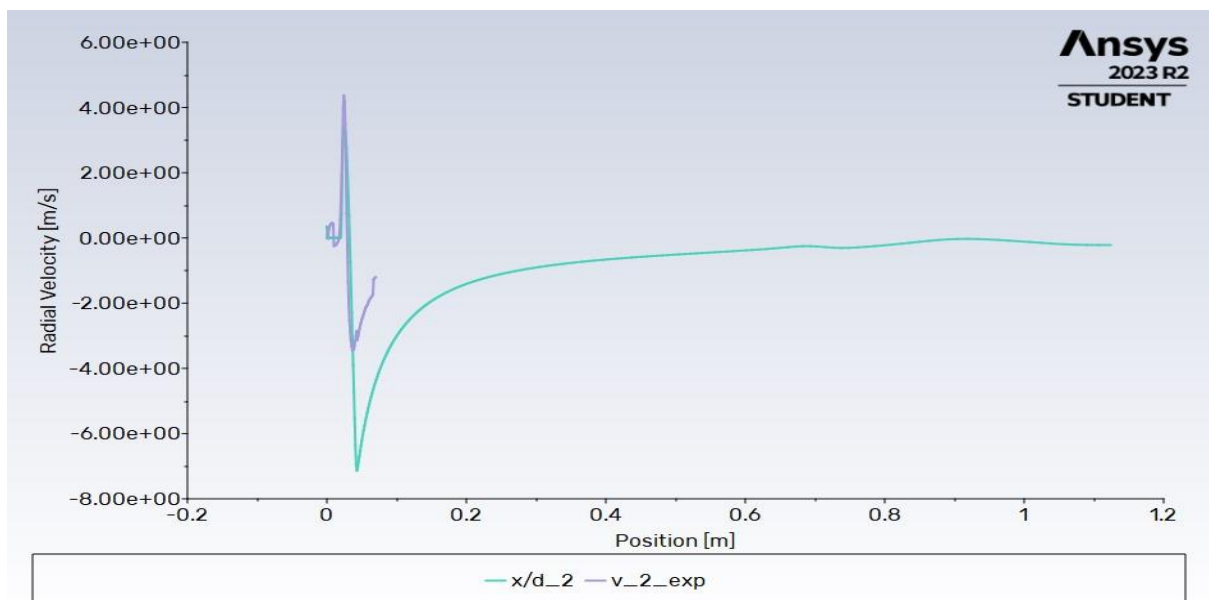


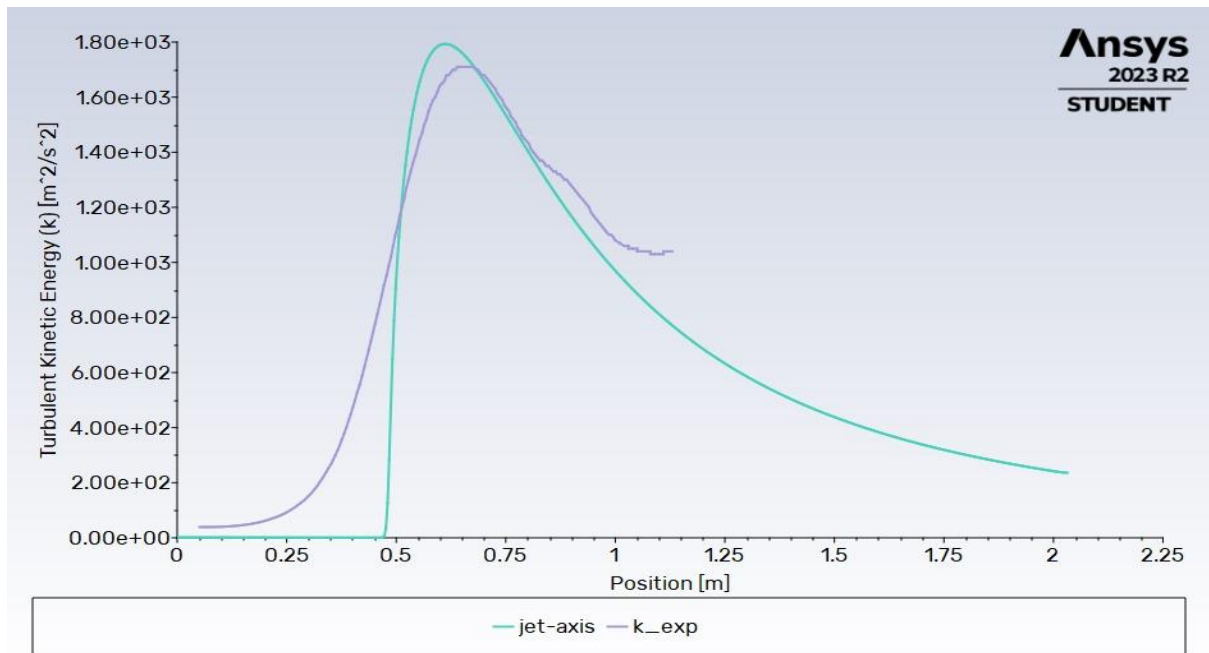
V-velocity at $X/D=2$



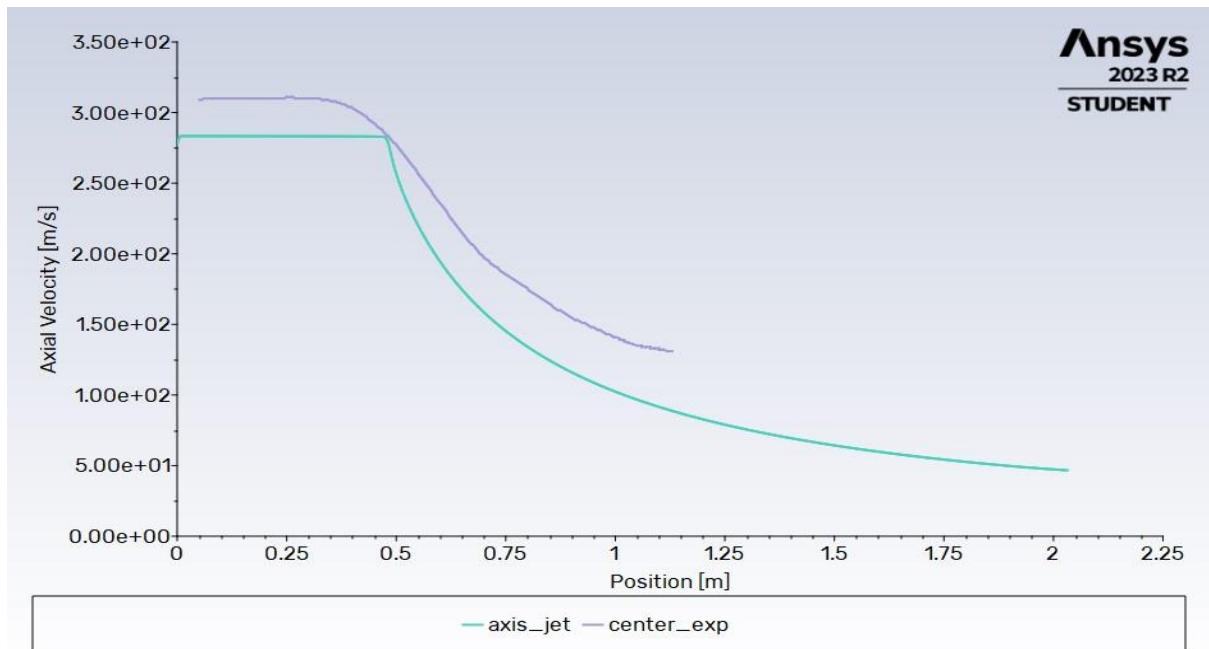
U-Velocity at $X/D=5$

V-Velocity at X/D=5



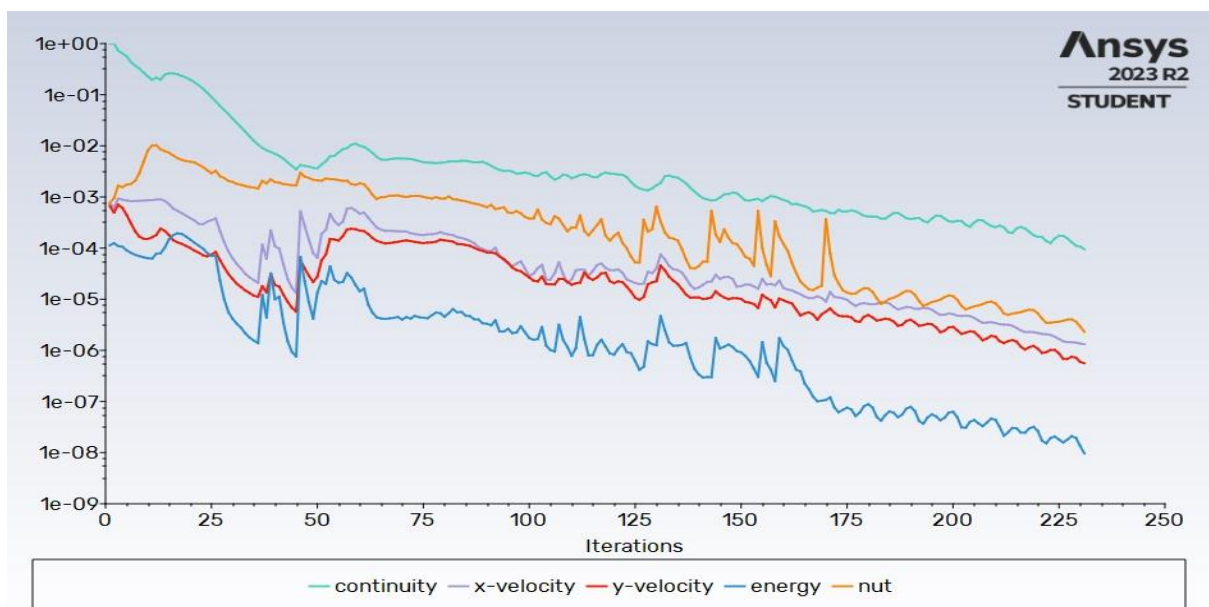


Turbulence Kinetic energy at Centreline

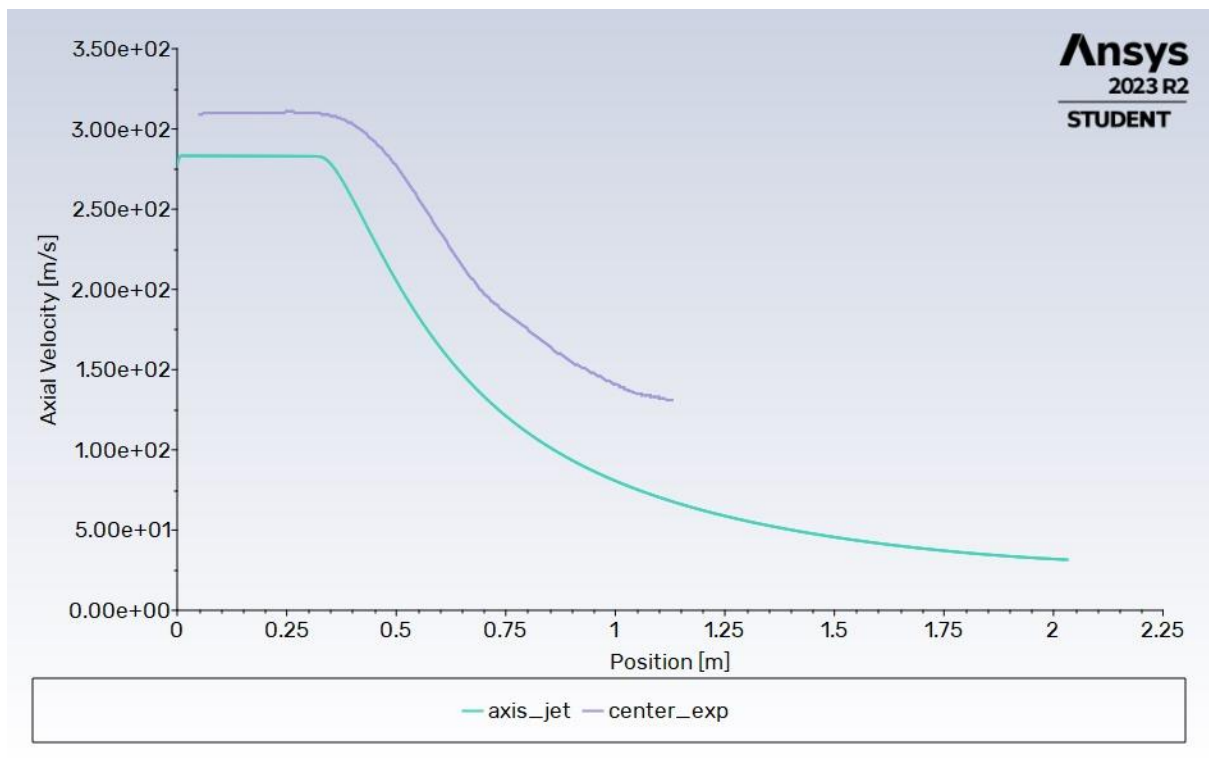


Centre line velocity Graph

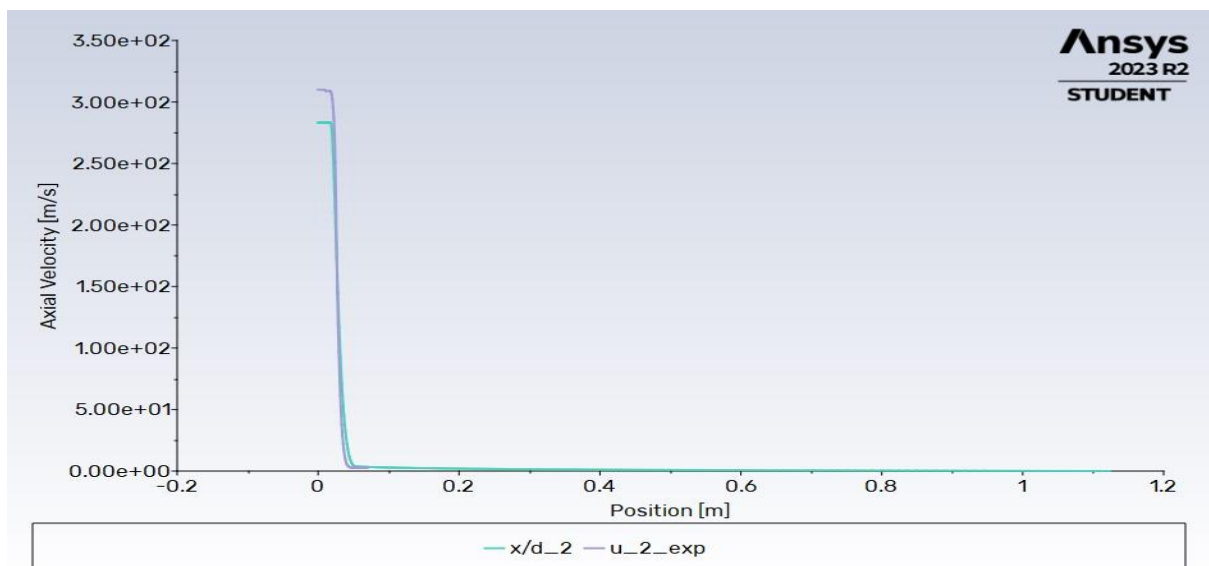
Spalart Allmaras Model:



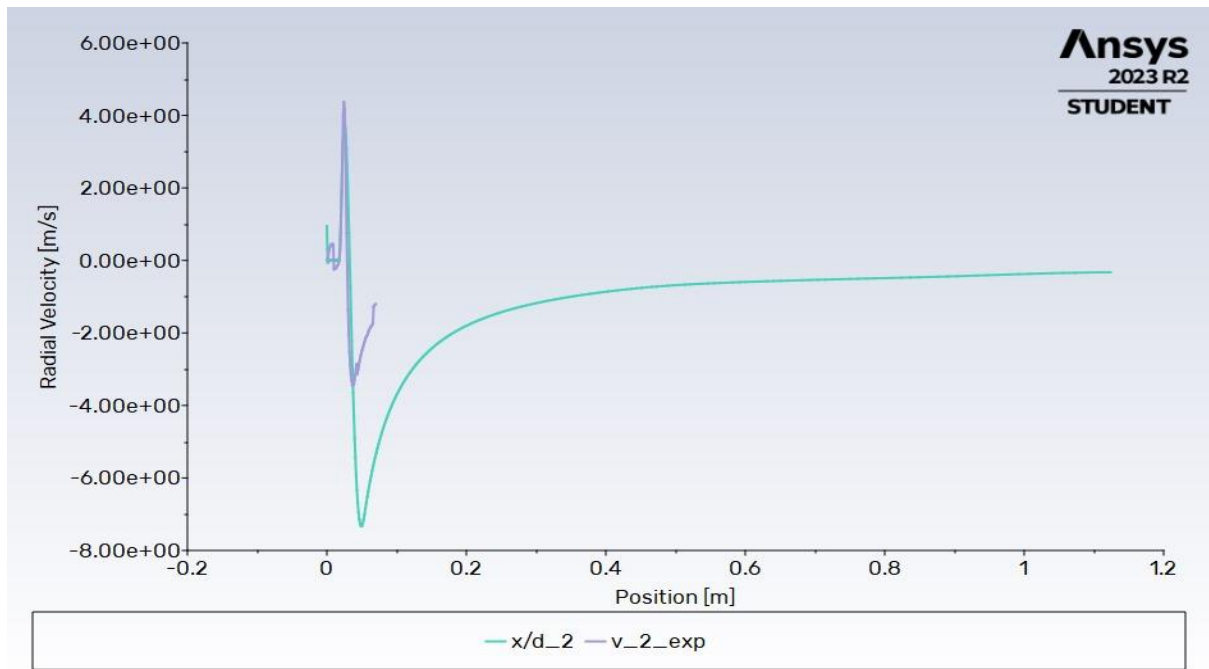
Convergence Plot



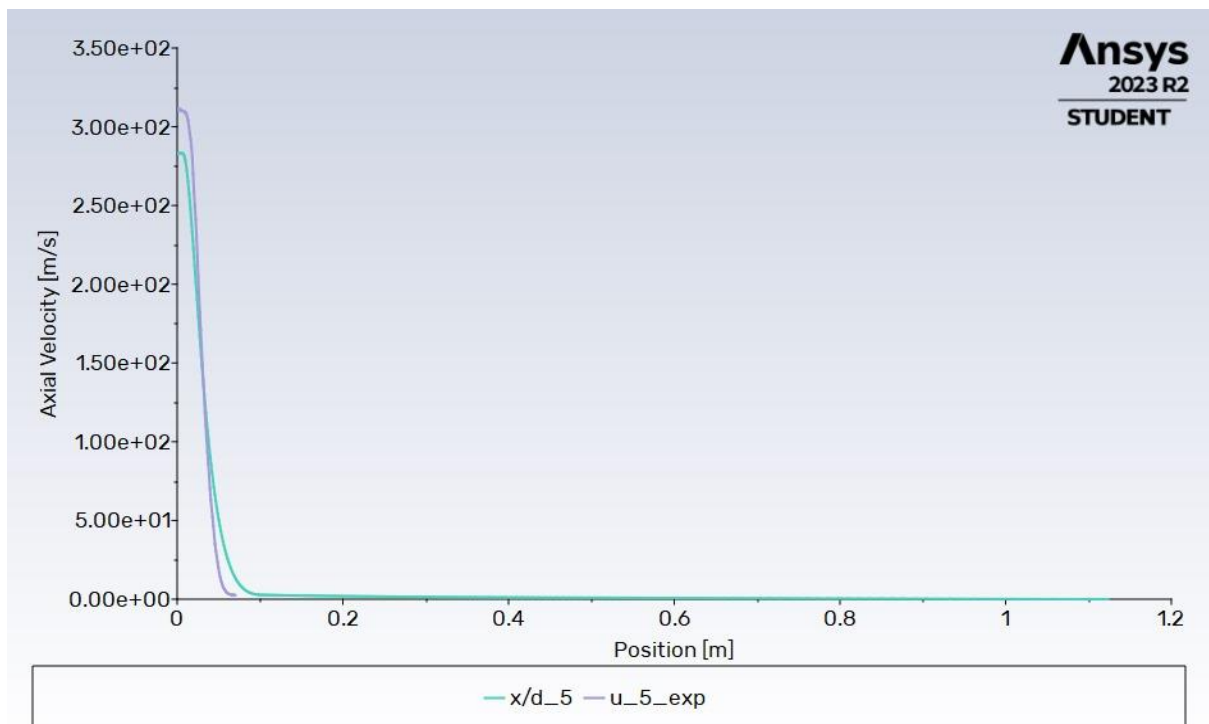
Centerline Velocity Graph



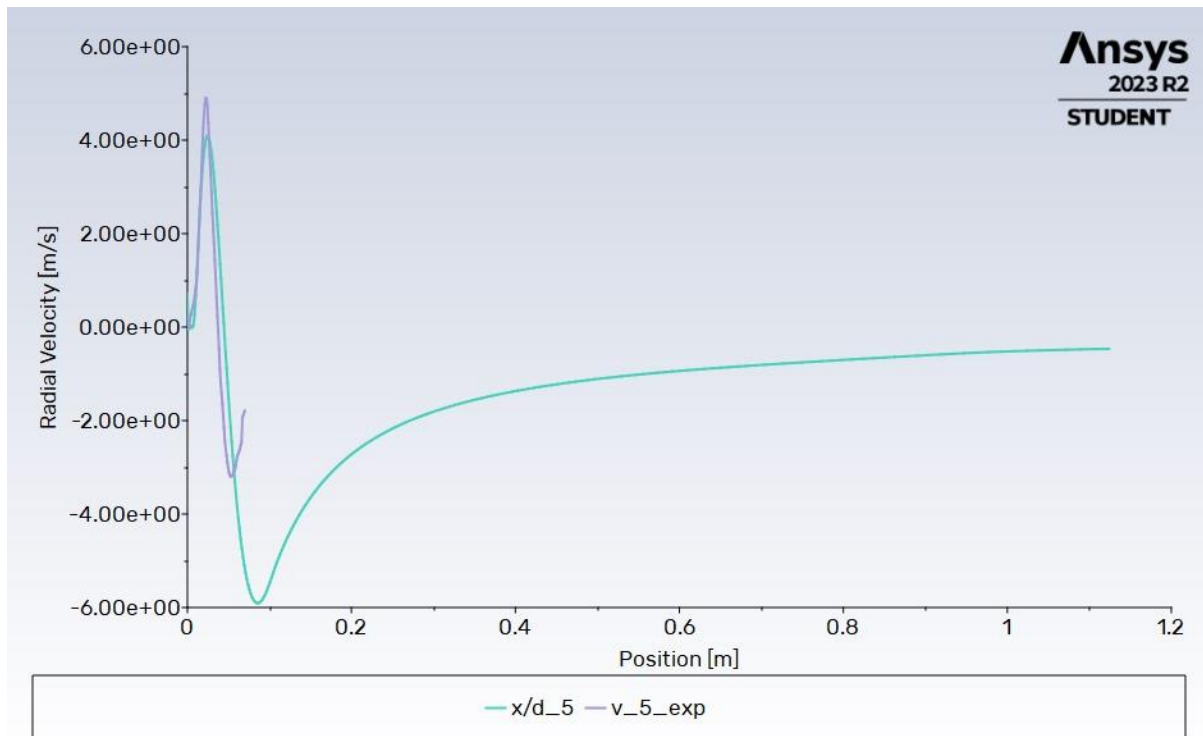
U-Velocity at X/D=2



V- Velocity at $X/D=2$



u-velocity at $X/D=5$



V-Velocity at X/D=5

Parameter	Value
Delta-P Gauge at far field	7.092 pascal
Delta-P gauge at jet	87240.8 pascal
P-stagnation at jet	188565.8 pascal
Reference temperature	294.44 k
Jet Mach number	0.985
Far field Mach	0.01
Reference Pressure	101325 pascal

Conclusions:

Above the graphs show the U and V velocity at two locations of $X/D=2$ and $X/D=5$ For both the models K-omega and SA.

And also the centerline velocity plots are compare with experimental values here we have some variations when compared to experimental

values that is because the assumptions which are used in the both the models.