



SG2224
Applied CFD
11 May 2012

Today

- Project presentation and reporting
- Project status
 - Specific problems and questions



Project status



Grid refinement

- After grid refinement study
 - OK to run bulk computations on coarser grids
- Near-wall grid
 - Remember $y^+ = 5-20$ is the “problem area”. Try to avoid.
 - “Enhanced wall treatment”



Geometry

Rotation/translation of sub-objects?

- In scetching mode, choose a new coordinate system.
- Then, the system can be translated/rotated relative the other systems



Physical modelling

How to justify choice of modelling?

- In general you cannot justify choosing simplification without running a more complete model...
- Estimate, based on physical knowledge
- Damköhler number – I don't know



Turbulence modelling

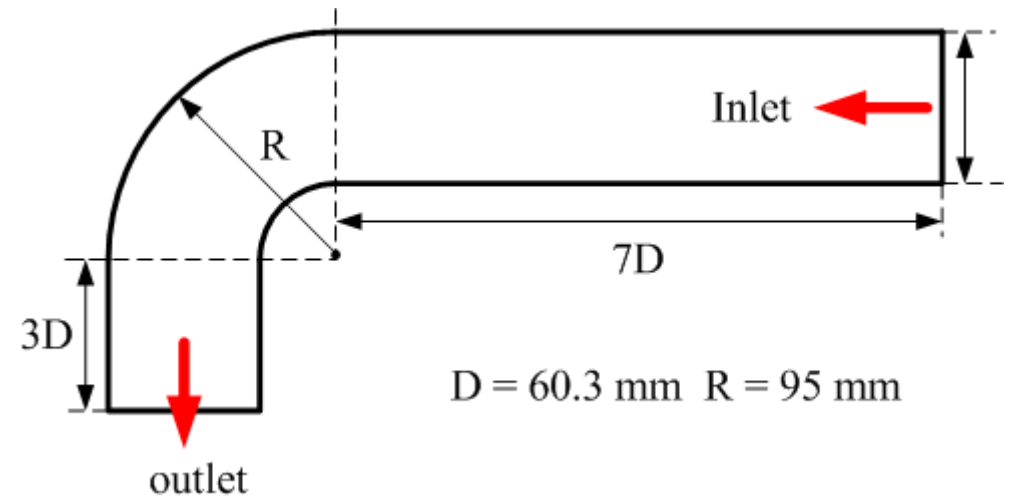
Choice of model?

- Swirl/rotation: EVM have problems – look for explicit rotation corrections or use full DRSM (RST)
- Among EVMs, Menter SST (also realizable k-eps) improve in stagnation regions and separated flows



Outlet boundary conditions

- Sufficiently far away?



Parameter variations

How much to test?

- Check with project coordinator
- No need for a massive study – the principals are more important

