SG2224
Applied CFD
5 May 2015

Today

- Project status:
  - Now, go through each project
  - FAQ
  - Peer review: Project appointed, write max ½ page
- Project Info
- Lectures:
  - Boundary conditions, cont…
  - Quality
- Fluent certificates

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 chosen simplification without running a more complete model…
- Estimate, based on physical knowledge

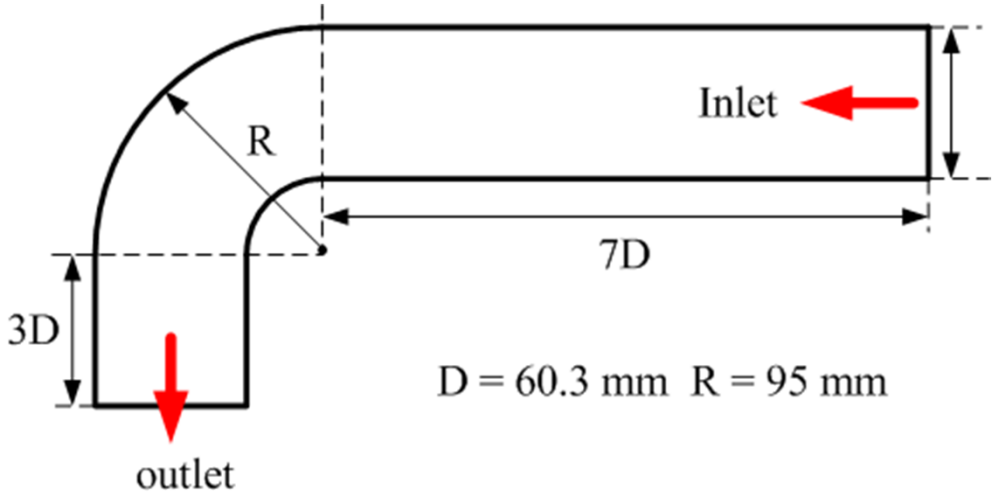
Turbulence modelling

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
- In Fluent, k-eps is robust (works most times), choose realizable

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