

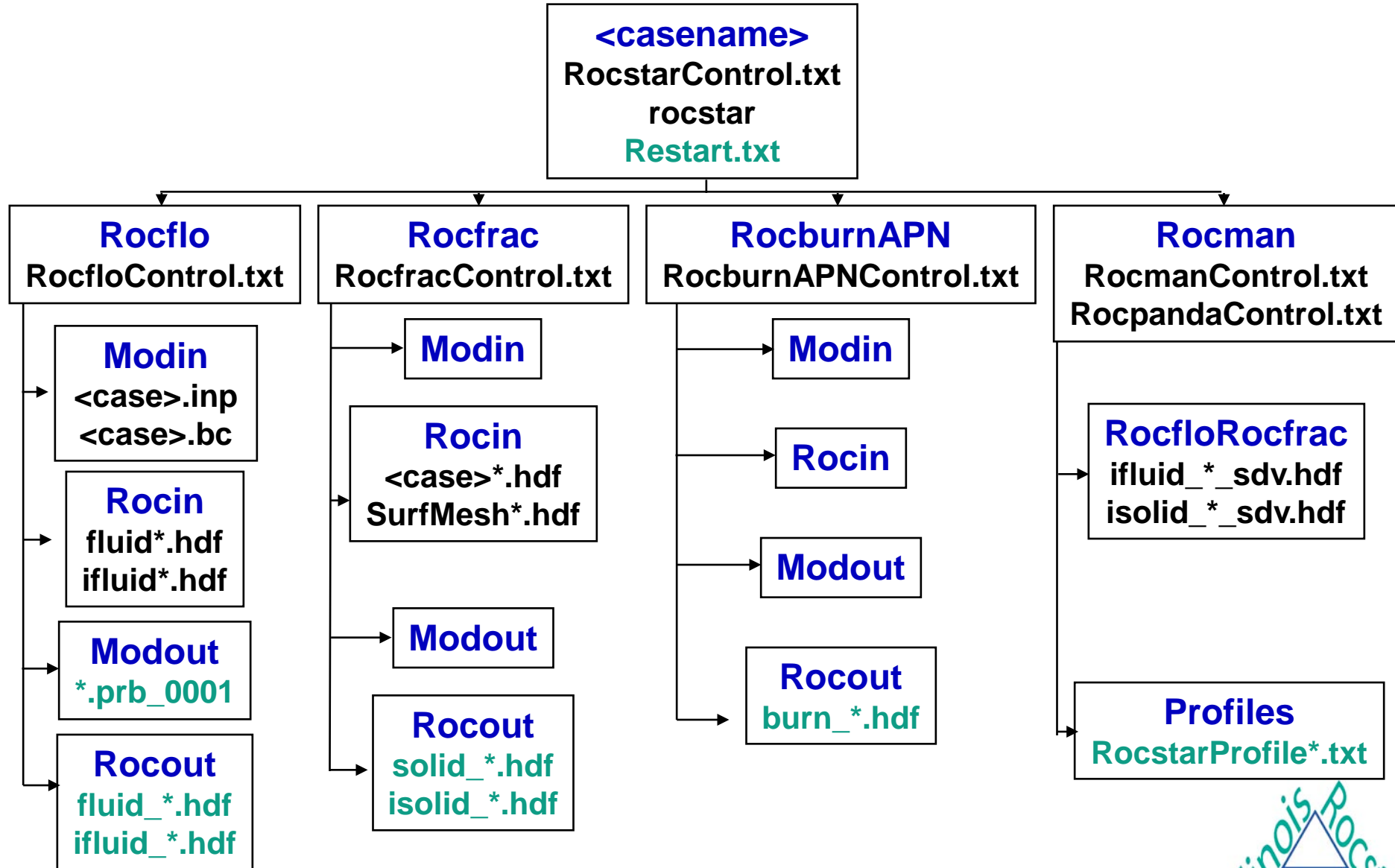
Section 10

Running *Rocstar*

Distribution authorized to Sandia National Laboratories Personnel only (IllinoisRocstar Proprietary Information).
Other requests for this document shall be referred to IllinoisRocstar LLC (mdbrandy@illinoisrocstar.com)



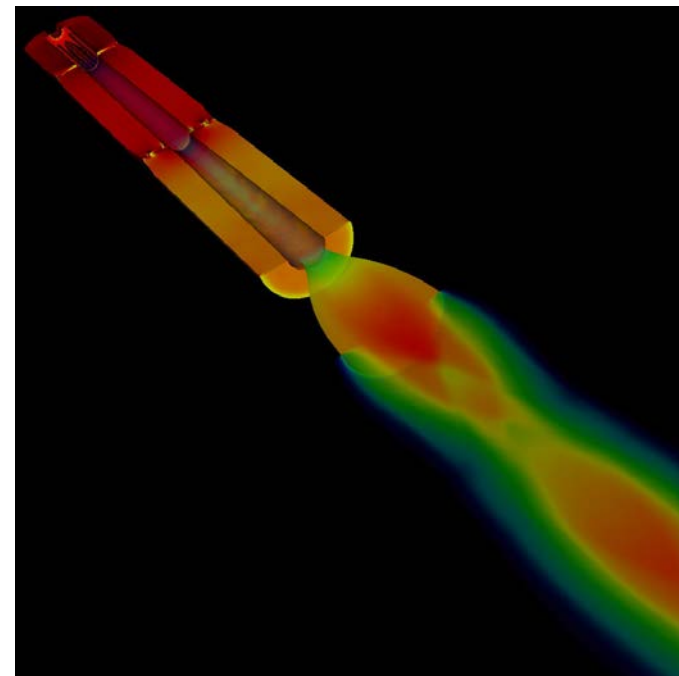
Rocstar Run Directory Hierarchy



Rocstar Control Files, I

`RocstarControl.txt` (required: all runs)

- Coupling mode: fluid only, solid only, coupled
- Physics solvers
- End time for simulation
- System time step
- Output dump interval
- Output module (*Rocout*)
- Surface propagation flag
- Wall clock time limit
- Performance data directory
- Timezooming Factor



Rocstar Control Files, II

RocmanControl.txt

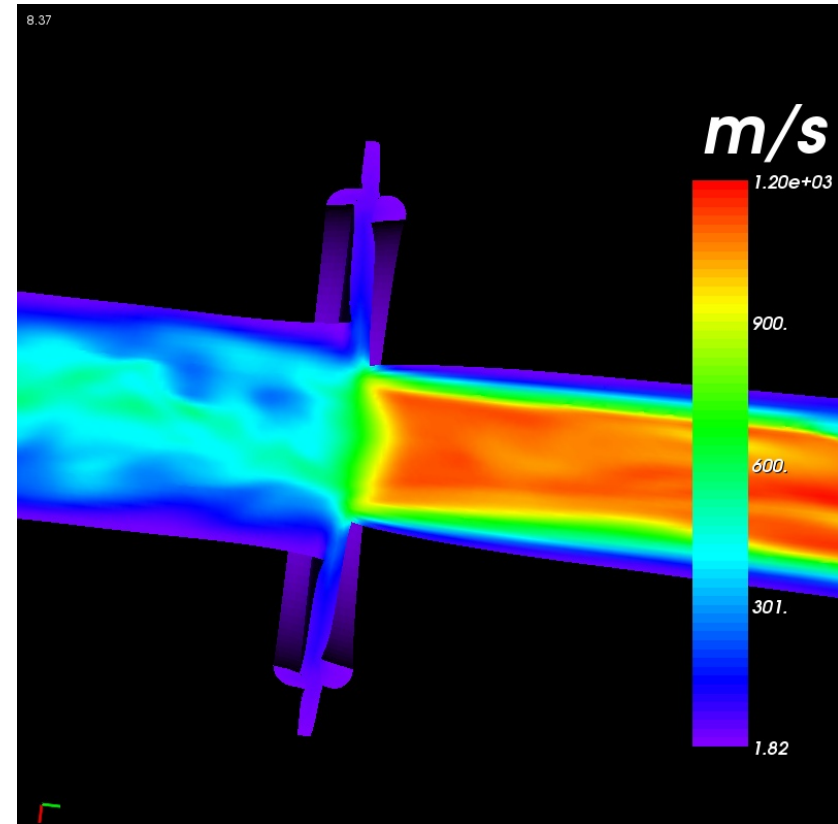
(all runs should have this)

- Interpolation order (temporal)
- Surface quantity to pass (pressure or traction)
- Ambient pressure load
- Solid density (fluid-only mode)
- Data transfer algorithm parameters

RocmopControl.txt

(Rocflu only)

- Smooth every N fluid substeps
- Displacement threshold
- Number of smoothing iterations



Running Rocstar

- Requires RocstarControl.txt
- Example command lines:
 - ./rocstar
 - mpirun -np <number of processors> -machinefile <nodefile> ./rocstar
 - mpiexec ./rocstar
- Rocstar/utilities/pj_all (not currently supported)
 - Cross platform batch script composer
 - Commonly used platforms used by Illinois only
 - Prompts for commonly changed parameters
 - Most parameters in RocstarControl.txt
 - Number of Partitions, CPUs
 - Run directory, executable directory (checks existence)
 - Gets default values from existing control files
 - Edits control files automatically
 - Facilitates restarts, submits dependent jobs
 - New Runs
 - Renames previous run's output directories
 - Includes parameter files with screen dump
 - Environment vars for *Rocom* verbosity, etc.

