

Using PyFoam Utilities

Spoken Tutorial Project

<http://spoken-tutorial.org>

National Mission on Education through ICT

<http://sakshat.ac.in>

Script : Anmol Sahoo, Rahul Joshi

Narration : Rahul Joshi

May 16, 2016



Learning Objectives

- Learn about PyFoam Utilities



Learning Objectives

- Learn about PyFoam Utilities
- Learn how to use PyFoam Utilities



Learning Objectives

- Learn about PyFoam Utilities
- Learn how to use PyFoam Utilities
- Run and plot data for the Shock Tube case using PyFoam



System Requirement

- **Ubuntu Linux Operating system 14.04**



System Requirement

- **Ubuntu Linux Operating system 14.04**
- **OpenFOAM v2.3.0**



System Requirement

- **Ubuntu Linux Operating system 14.04**
- **OpenFOAM v2.3.0**
- **PyFoam-0.6.5**



Pre-requisite

- User should have basic knowledge of Linux terminal usage



Pre-requisite

- User should have basic knowledge of Linux terminal usage
- User should have some experience running and analyzing OpenFOAM cases



PyFoam Utilities

- Utilities are Python programs which come inbuilt with PyFoam



PyFoam Utilities

- Utilities are Python programs which come inbuilt with PyFoam
- Each utility has a specific function



PyFoam Utilities

- Utilities are Python programs which come inbuilt with PyFoam
- Each utility has a specific function
- Utilities are executed from the command line



List of Utilities

- The list of Utilities can be viewed using Tab completion



List of Utilities

- The list of Utilities can be viewed using Tab completion
- Each Utility comes with the -help command.



List of Utilities

- The list of Utilities can be viewed using Tab completion
- Each Utility comes with the -help command.
- To find out what it does and its options



Using Utilities

We are going to use the below
PyFoam Utilities to run the shock
tube case

- **PyFoamRunner.py**



Using Utilities

We are going to use the below
PyFoam Utilities to run the shock
tube case

- PyFoamRunner.py
- PyFoamSamplePlot.py



PyFoamRunner.py

- **PyFoamRunner.py** can be used to run cases.



PyFoamRunner.py

- **PyFoamRunner.py** can be used to run cases.
- It also generates the log files for later use



PyFoamSamplePlot.py

- This utility is used to plot the various data obtained from the previously set-up sampleDict.



Problem Definition

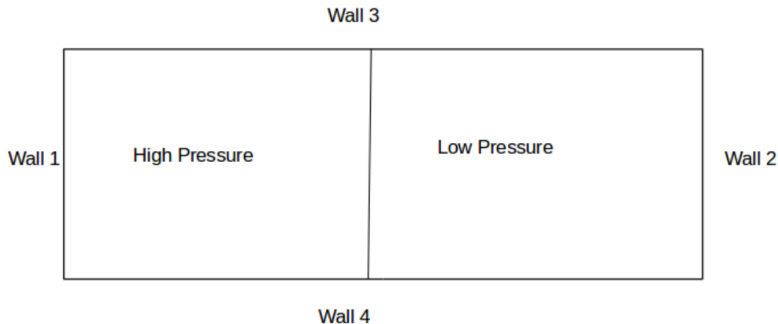


Figure : shocktube



Summary

- Check for various pyFoam utilities
- `pyFoamRunner.py` to run the solver
- `pyFoamSamplePlot` utility to generate a png file



Forum to answer questions

- Do you have questions on THIS Spoken Tutorial?
- Choose the minute and second where you have the question.
- Explain your question briefly.
- Someone from the FOSSEE team will answer them. Please visit <http://forums.spoken-tutorial.org/>



Forum to answer questions

- Questions not related to the Spoken Tutorial?
- Do you have general / technical questions on the Software?
- Please visit the FOSSEE Forum <http://forums.fossee.in/>
- Choose the Software and post your question.



Textbook Companion Project

- The FOSSEE team coordinates coding of solved examples of popular books
- We give honorarium and certificate to those who do this

For more details, please visit this site:

<http://cfd.fossee.in/>



Acknowledgements

- Spoken Tutorial Project is a part of the Talk to a Teacher project
- It is supported by the National Mission on Education through ICT, MHRD, Government of India
- More information on this Mission is available at:

[http://spoken-tutorial.org/
NMEICT-Intro](http://spoken-tutorial.org/NMEICT-Intro)



THANK YOU!

For more information, visit our website
<http://fossee.in/>

