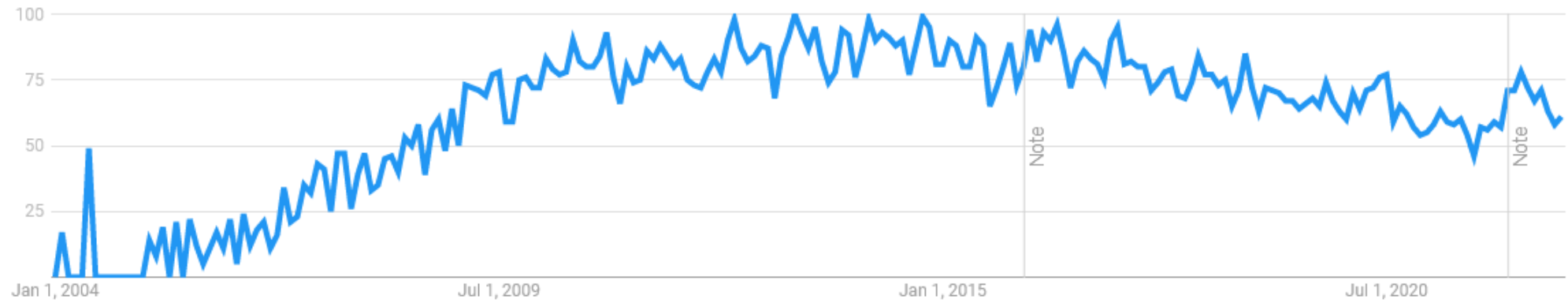


BARAM Revised

2022.9.22

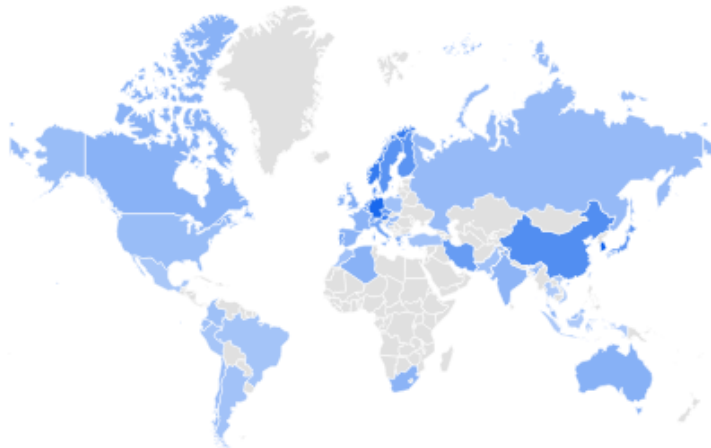
BARAM ?

Interest over time ?



Interest by region ?

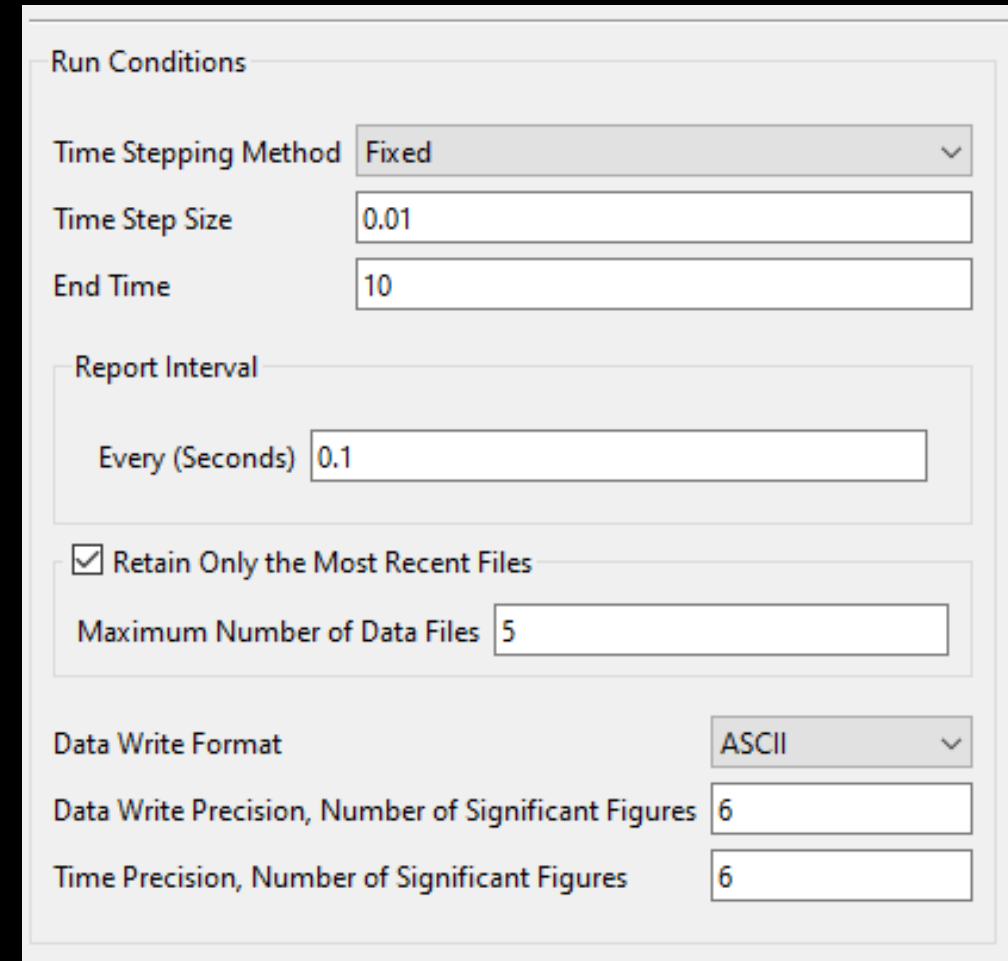
Region ▼



1	South Korea	100	<div></div>
2	Germany	86	<div></div>
3	Norway	71	<div></div>
4	Singapore	65	<div></div>
5	Austria	64	<div></div>

Why GUI (Graphical User Interface) ?

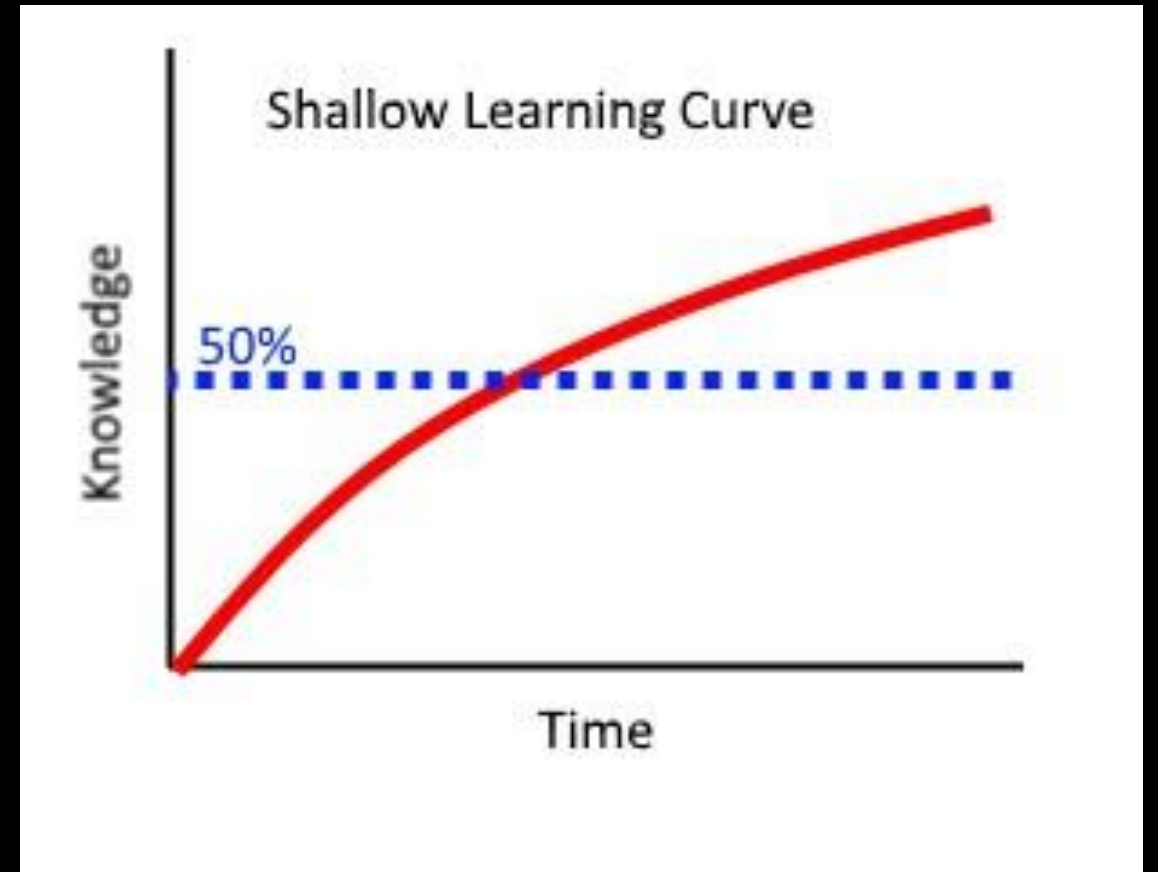
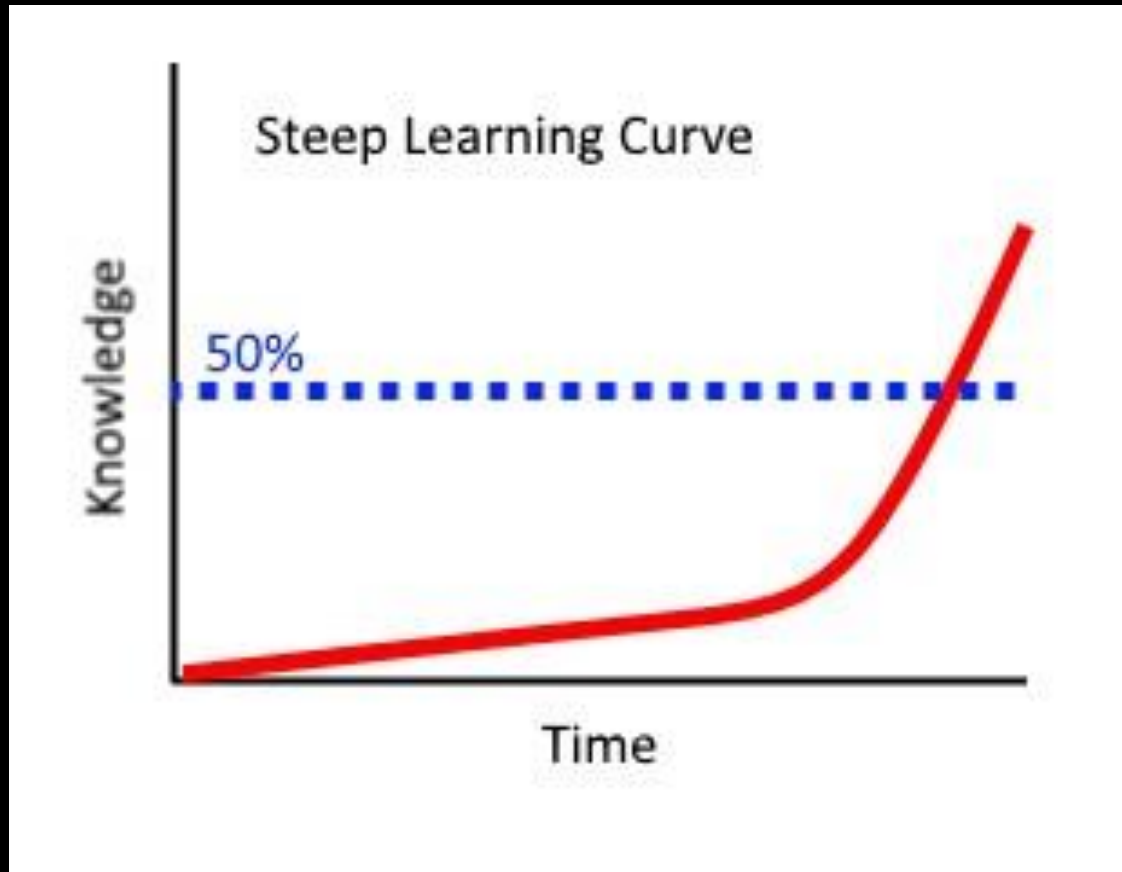
```
application buoyantPimpleNFoam;  
startFrom latestTime;  
startTime 0;  
stopAt writeNow;  
endTime 10;  
deltaT 0.01;  
writeControl runTime;  
writeInterval 0.1;  
purgeWrite 0;  
writeFormat ascii;  
writePrecision 6;  
writeCompression off;  
timeFormat general;  
timePrecision 6;  
runTimeModifiable yes;  
adjustTimeStep no;  
maxCo 1;
```



The image shows a screenshot of the 'Run Conditions' dialog box in a software application. The dialog is titled 'Run Conditions' and contains several configuration options:

- Time Stepping Method:** A dropdown menu set to 'Fixed'.
- Time Step Size:** A text input field containing '0.01'.
- End Time:** A text input field containing '10'.
- Report Interval:** A section containing a text input field for 'Every (Seconds)' set to '0.1'.
- Retain Only the Most Recent Files:** A checked checkbox.
- Maximum Number of Data Files:** A text input field containing '5'.
- Data Write Format:** A dropdown menu set to 'ASCII'.
- Data Write Precision, Number of Significant Figures:** A text input field containing '6'.
- Time Precision, Number of Significant Figures:** A text input field containing '6'.

Why GUI (Graphical User Interface) ?



Alternatives?

Visual-CFD 11.5 - Visual11.5/motorbike (m kg sec)

Applications File Edit View Model Tools Window Help

Standard Views

Part Selection

Visual11.5/motorbike

CELL : Velocity NORM
Min = 0
Max = 27.6404

27.640
25.798
23.955
22.112
20.270
18.427
16.584
14.742
12.899
11.056
9.213
7.371
5.528
3.685
1.843
0.000

motorbike

- Model Options
- Bounding Box
- Surface Parts (73)
- Interface Parts
- Primitive Parts
- Volume Parts (1)
 - Fluid Domain (1)
 - Solid Domain
- Materials
- Boundary Conditions (73)
- Volume Conditions
- Initial Conditions (1)
 - Fluid (1)
 - Solid
 - Patching
- Output
 - Monitor Points
 - Monitor Surface
 - Monitor Volume
 - Force Coefficients

Section Cut

Creation

Apply To: All Parts

Sections List:

Name	Direction
Section_1	XY

Model Clipping plane Cut Elem

Definition Attributes

Plane

Plane Center: 2.77256 -0.009015 -0.020172

Incr: 0.0204767

Show plane Move to Point/Node:

Sections

Apply: Inside plane limits only

Fixed Follower Node Id:

Number of parallel sections: 1 Incr: 0.204767

Close

Ready

SimWorks 21.06 (Beta)

File Settings View Licence Help About us News Share

Simulation manager Geometry viewer Simulation editor

Simulation editor

Setup Regions Mesh Output Notes

Compressibility Incompressible

Thermal None

Gravity 0.0 0.0 -9.81

Passive scalar None

Turbulence option RANS

Turbulence model kEpsilon

Materials

Material property 1

Type Fluid

Density [kg/m^3] 1.2

Viscosity [kg/(m*s)] 1.81e-05

Numerics Models

Initialisation

Initialisation option Constant

Initial pressure [Pa] 0.0

Initial velocity [m/s] 0.0 0.0 0.0

Turbulence specification Turbulence intensity and length scale

Turbulence intensity 0.01

Turbulence length scale [m] 0.001

Reference Values [SI]

Reference velocity [m/s] 25.0

Reference density [kg/m^3] 1.2

Reference length [m] 11.0

Reference area [m^2] 1.462

Reference pressure [Pa] 101325.0

Reference temperature [K] 293.15

Lift direction 0.0 0.0 1.0

Drag direction 1.0 0.0 0.0

Pitch axis 0.0 1.0 0.0

simFlow 3.0

GEOMETRY

MESH

Hex Meshing

Import

SETUP

Turbulence

Transport Properties

Solution

Discretization

Passive Scalars

Operating Conditions

Cell Zones

Boundary Conditions

Initial Conditions

Controls

Monitors

RUN

POSTPROCESSING

Calculate

Parameters

Summary

TURBULENCE

Enable Turbulence Equations

Turbulence Modeling

Laminar

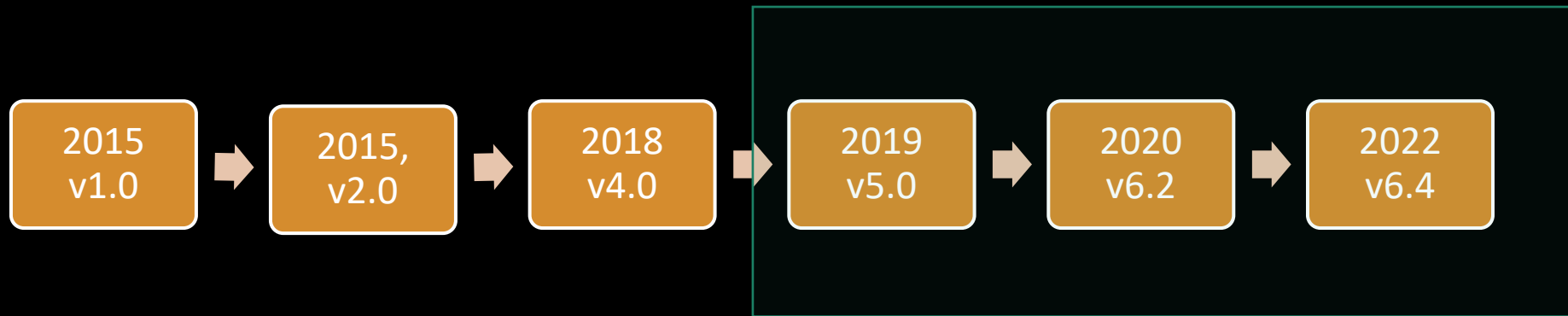
RANS

LES

Modeling Options

Model	k-ε
k-ε	
RNG k-ε	
Realizable k-ε	
Spalart-Allmaras	
k-ω	
k-ω SST	
k-k1-ω	

BARAM Revised



From v5, Start to focus on CFD users than developers

Downloads

3,033

2020-12-27 to 2022-09-18

Countries

Operating Systems

Download Statistics

[All Files \(Change File\)](#)

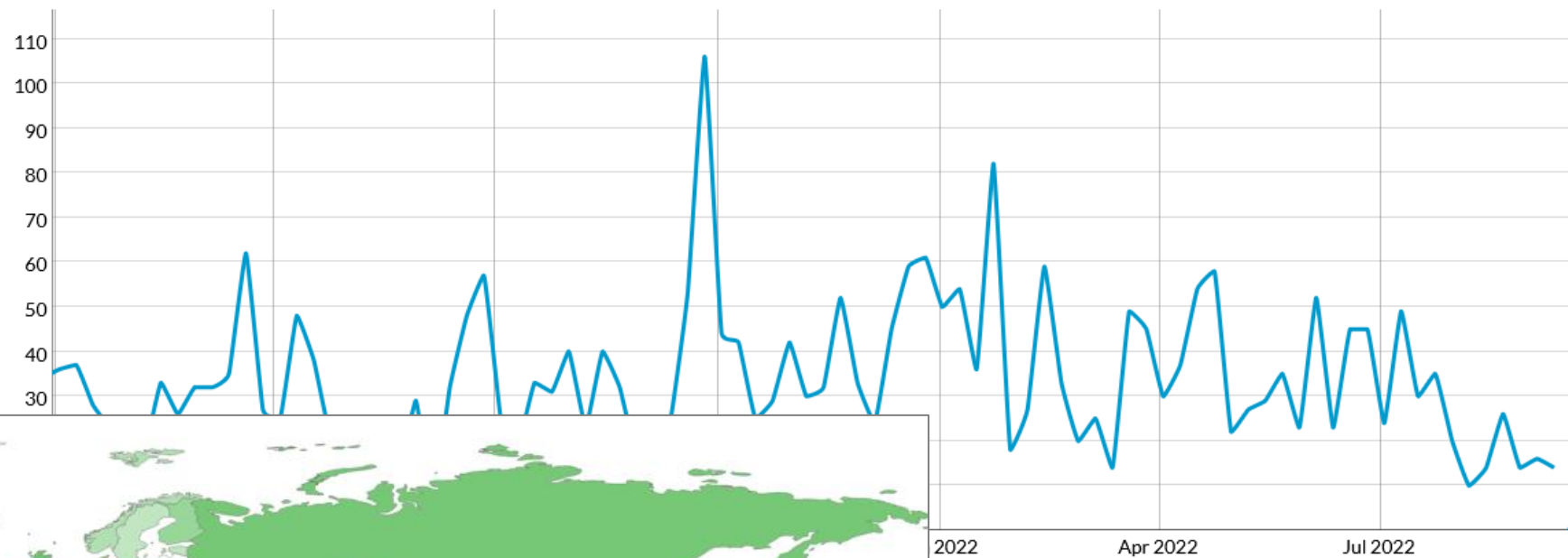
Date Range:

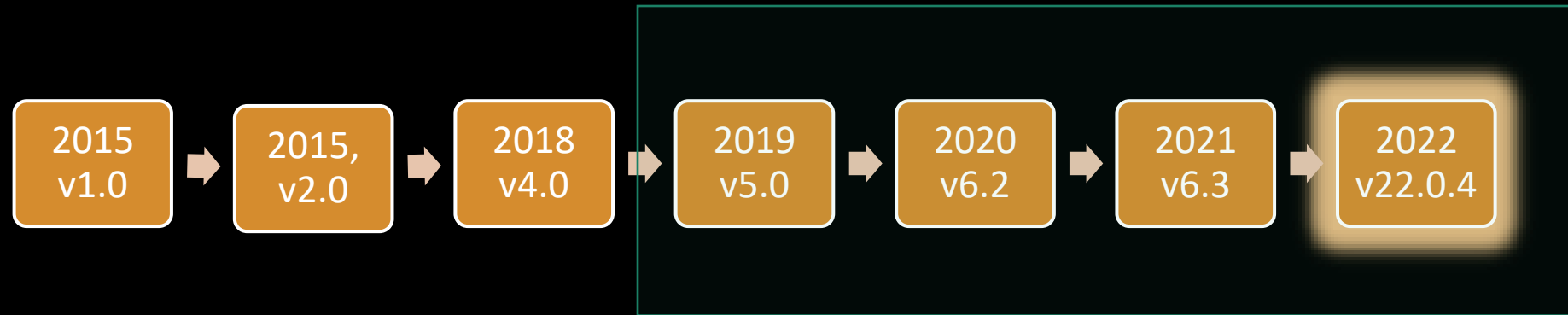
2020-12-27 to 2022-09-18

Daily

Weekly

Monthly





From v22, To a CFD Application from OpenFOAM GUI

- Rebuilt from the Ground up for Stability
- User-friendly convenient UI
- multi-platform support
- easy installation
- Performance improvement

Overview

- Python 3.9
- VTK 9.1
- PySide6 (QT6 for Python)
- OpenFOAM N1.0 (based on *nextFoam6* and *OFv2206*)

- Ubuntu 20.04 or later
- CentOS 8.2 or later
- Windows 10 or later
- macOS 10.14 or later

Screenshots

Setup

General

Materials

Models

Cell Zone Conditions

Boundary Conditions

Reference Values

Solution

Numerical Conditions

Monitors

Initialization

Calculate Conditions

Run Calculation

Materials

water-liquid (Liquid)

Density	999.1 kg/m ³
Specific Heat, C _p	4188.5 J/kg·K
Viscosity	0.00114 kg/m·s
Thermal Conductivity	0.5888 W/m·K

oxygen (Gas)

Density	1.353 kg/m ³
Specific Heat, C _p	918.3 J/kg·K
Viscosity	2e-05 kg/m·s
Thermal Conductivity	0.0256 W/m·K

Material

Name water-liquid

Density

Density Constant

Value (kg/m³)

999.1

Specific Heat

Specific Heat, C_p Polynomial

Edit

Value (J/kg·K)

4188.5

Viscosity

Viscosity Constant

Value (kg/m·s)

0.00114

Thermal Conductivity

Thermal Conductivity Constant

Value (W/m·K)

0.5888

Molecular Weight 18.015

Surface Tension 0.07

Saturation Pressure 2300.0

Polynomial Specific Heat

Coefficient

0 12.34

1 11.11

2 12.12

OK

Cancel

Setup

General
Materials
Models
Cell Zone Conditions
Boundary Conditions
Reference Values

Solution

Numerical Conditions
Monitors
Initialization
Calculate Conditions
Run Calculation

Boundary Conditions

filter string is here

region0



in-1

Velocity Inlet



in-2

Velocity Inlet



out

Pressure Outlet



wall

Wall

Inlet

Velocity Inlet
Flow Rate Inlet
Pressure Inlet
ABL Inlet
Open Channle Inlet
Free Stream
Far-field Riemann
Subsonic Inflow
Supersonic Inflow

Outlet

Pressure Outlet
OpenChannel Outlet
Outflow
Subsonic Outflow
Supersonic Outflow

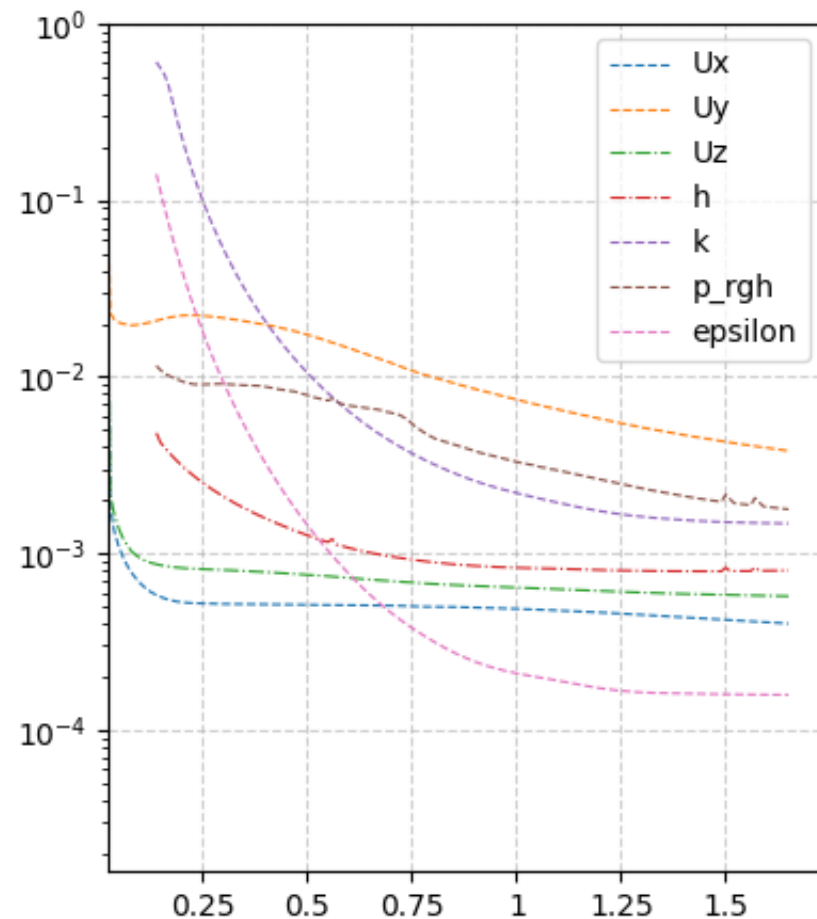
Wall

Wall
Thermo-Coupled Wall

Misc.

Symmetry
Interface
Empty
Cyclic
Wedge
Porous Jump
FAN

Residuals



Console

Mesh

Residuals

▼ Setup

General
Materials
Models
Cell Zone Conditions
Boundary Conditions
Reference Values

▼ Solution

Numerical Conditions
Monitors
Initialization
Calculate Conditions
Run Calculation

Boundary Conditions

filter string is here

▼ region0

-  **in-1**
Velocity Inlet
-  **in-2**
Velocity Inlet
-  **out**
Pressure Outlet
-  **wall**
Wall

Mesh



Velocity Inlet Boundary Condition

Velocity

Velocity Specification Method Magnitude, Normal to BoundaryProfile Type ConstantVelocity Magnitude (m/s)

Turbulence

Specification method Intensity and Viscosity RatioTurbulent Intensity (%) Turbulent Viscosity Ratio

Temperature

Profile Type ConstantTemperature (K)

OK

Cancel

▼ Setup

General
Materials
Models
Cell Zone Conditions
Boundary Conditions
Reference Values

▼ Solution

Numerical Conditions
Monitors
Initialization
Calculate Conditions
Run Calculation

Process Information

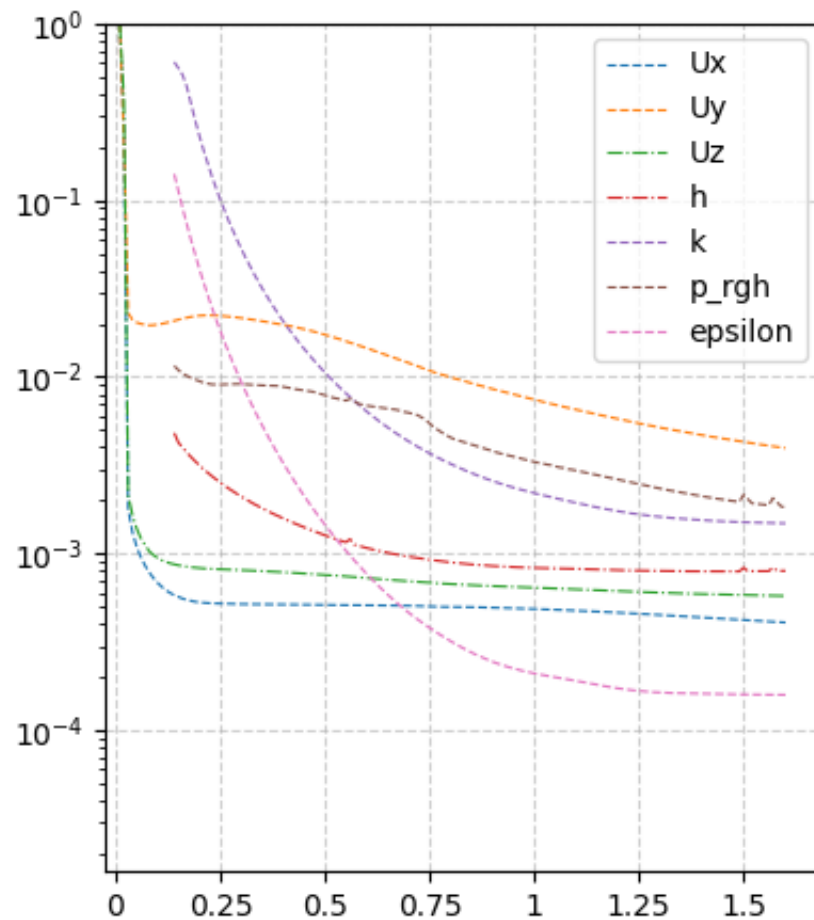
ID : 15580
Started : 2022-09-21, 10:59:22
Status : Running

Cancel Calculation
Calculation stops as soon as possible

Save and Stop Calculation
(Calculation stops after finishing current iteration)

Update Configuration
(Applied to the Calculation on the fly)

Residuals



Console

Mesh

Residuals

Status, Roadmap

main

4 branches

1 tag

Go to file

Add file

Code

About



No description, website, or topics provided.

Readme

GPL-3.0 license

0 stars

1 watching

0 forks

Releases

1 tags

[Create a new release](#)

Packages

No packages published

[Publish your first package](#)

Contributors 2



jiban Jake Yun



thisisHenney Henney Park

Languages

Python 99.9% C 0.1%

jiban Issue #132, "g" file should be under "constant" folder ev... 2143ab3 2 days ago 418 commits

.github/ISSUE_TEMPLATE Update issue templates 13 days ago

.idea Regarding Windows platform, entire solvers directory sho... 2 months ago

PyFoam Issue #57 PyFoam could not handle a list that has length ... last month

coredb 최근 읽은 Mesh 폴더를 저장하여 다시 읽을 때 이전 Mes... 6 days ago

gradle/wrapper "gradle" will compile UI file. 6 months ago

misc Issue #41 Tiny ANSI C utility that daemonizes a given pro... last month

openfoam Issue #132, "g" file should be under "constant" folder eve... 2 days ago

resources Default Value changed by bykim 5 days ago

test Feedback from bykim(alphat should be generated regardl... 5 days ago

view Typo. Feedback from bykim 2 days ago

.gitignore Regarding Windows platform, entire solvers directory sho... 2 months ago

INSTALL.md Typo 7 days ago

LICENSE Initial commit 6 months ago

README.md Prepare for publishing 13 days ago

build.gradle "gradle" will compile UI file. 6 months ago

convertUi.py 파일 찾는 함수 수정(convertUi.py, createTsFiles.py, create... 17 days ago

gradlew this is executable file 3 months ago

gradlew.bat "gradle" will compile UI file. 6 months ago

main.py Issue #111, App exited when all windows are closed 22 days ago

- Steady/Transient Case
- Cell Zones
 - Porous Zone
 - Sliding Mesh
 - Actuator Disk
 - Multiple Reference Frame (MRF)
- Turbulence models
 - K-Epsilon
 - K-Omega
 - Spalart-Allmaras
 - DES
 - LES

- Incompressible Flow
- Compressible Flow
- Buoyant Flow
- multi-phase (VOF, Cavitation)
- Radiation
- Species

Q & A

Talent