

A few examples of simulations (page in progress)

Jet through oscillating bodies

$\text{Re}=1000$ - 3 oscillation frequencies ($f=0.25$, $f=0.5$ and $f=1.0$)
Isosurface of vorticity magnitude coloured with longitudinal velocity

[movie_flow_through_oscillating_bodies_converti_.mp4](#)

[About this dataset ...](#)

3D turbulent backward-facing step flow

$\text{Re}_H=6000$
isosurface of Q-criterion coloured by the longitudinal velocity

[bfsre6000_movie.ogv](#)

[About this dataset ...](#)

3D turbulent forward-facing step flow

$\text{Re}_H=8300$
isosurface of Q-criterion coloured by the longitudinal velocity

[ffstre8300_movie.mp4](#)

[About this dataset ...](#)

Flow around an Ahmed body

$\text{Re}_H=10000$

Isosurface of Q-criterion coloured with the longitudinal velocity

Front side view

[Front side view](#)

Downwards view

[Downwards view](#)

Upwards view

[Upwards view](#)

[About this dataset ...](#)

Surface strained flow in 3D cylindrical geometry

Velocity magnitudes (top and left) and 2 isosurfaces of helicity (right)

[marangoni_re5600_lh45e-1.mp4](#)

2D Flow past an oscillating cylinder

Vorticity field for 2 frequencies

[oscillating_cyl_vorticity_cmpf0.95_f1.2_a0.5.mp4](#)

[About this dataset ...](#)

2D Flow past a heated square-cylinder

$Re=50$, $Ra=5 \cdot 10^6$

[movie_heatcyl.mp4](#)

[About this dataset ...](#)

3D shear-layer driven cavity flow (1)

$\text{Re} = 7826$ - **Simulation with upstream forcing term**
isosurface of Q-criterion coloured with velocity

[movie_cav3d_r2_re7826_forcing.mp4](#)

[About this dataset ...](#)

3D shear-layer driven cavity flow (2)

$\text{Re} = 7826$ - **Simulation without upstream forcing term**
isosurface of Q-criterion coloured with velocity

[movie_cav3d_r2_re7826_noforcing.mp4](#)

[About this dataset ...](#)

From:

<https://sunfluidh.lisn.upsaclay.fr/> - Documentation du code de simulation numérique SUNFLUIDH

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Last update: 2022/10/17 17:32

