
Intensive simulations with SMRT



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Different options to run SMRT

1) sequential on your laptop: one simulation at a time, but scipy is multi-threaded → use multiple core for the intensive matrix eigenvalue problem (=which takes most of the time)

```
model.run(sensor, snowpack)
```

2) parallel on your laptop : one simulation in each core, but multi-threaded scipy is switch off.

```
model.run(sensor, snowpack, parallel_compute=True)
```

3) any of the two on a single node of a big cluster using deported jupyter lab (or notebook)

Same as above

4) parallel using a dask cluster (using as many nodes as you want!): driving code run on your laptop, but simulations run on the dask cluster

```
model.run(sensor, many_many_snowpack, runner=dask_runner) → see the tutorial
```

5) parallel using celery, ... and any other implemented runners. See the runner directory.

same as 4.

Different options to run SMRT

Laptop:

HPC Cluster

Case 3:

Create a ssh tunnel to port 8880
Use your browser: localhost:8880

Run jupyter lab on port 8880

Case 4:

Create a ssh tunnel to port 8786 for dask
Create a ssh tunnel to port 8787 for dask
monitoring (optional)

Run jupyter lab locally

Setup a dask_runner (see tutorial) and call
model.run(sensor, many_snowpack,
runner=dask_runner)

Synchronise conda environment with the
laptop

Run "dask scheduler"
Run "dask worker"