

COE 347 OPENFOAM 3 PARALLEL ANALYSIS

Data comes from terminal comands: "grep 'ExecutionTime =' log.rhoCentralFoam | wc -l" and "tail log.rhoCentralFoam"

```
clc
clear all

N = [1 2 4 8 16 32 64];
steps = [248 199 188 696 654 536 696];
time = [1401 539 257 496 249 118 96];
T = time./steps;
SpU = T(1)*T.^-1;
PE =SpU.*N.^-1;
N = N';steps=steps';T=T';SpU=SpU';PE=PE';

table(N,T,SpU,PE)

figure(1)
plot(N,SpU)
xlabel('number of processors')
ylabel('speed up')
```

ans =

7×4 table

N	T	SpU	PE
1	5.6492	1	1
2	2.7085	2.0857	1.0428
4	1.367	4.1325	1.0331
8	0.71264	7.9271	0.99089
16	0.38073	14.838	0.92735
32	0.22015	25.661	0.8019
64	0.13793	40.957	0.63995

