TURBULENCE MODELLING
HARISHTEJA PEDDI

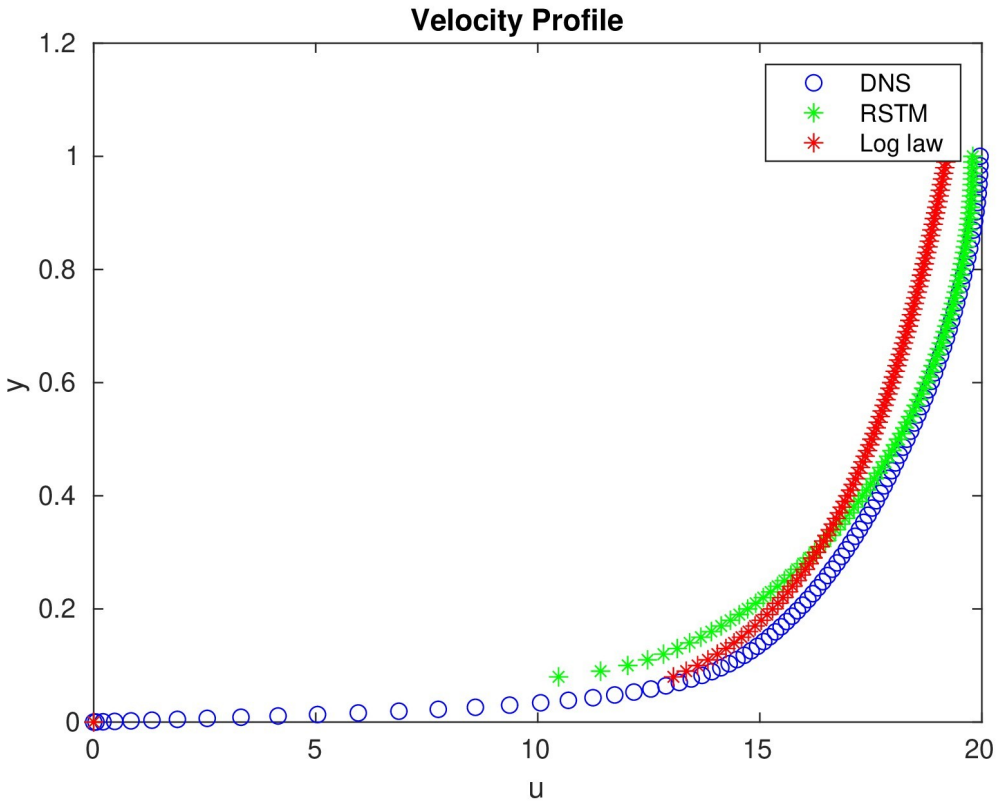
wall boundary conditions:

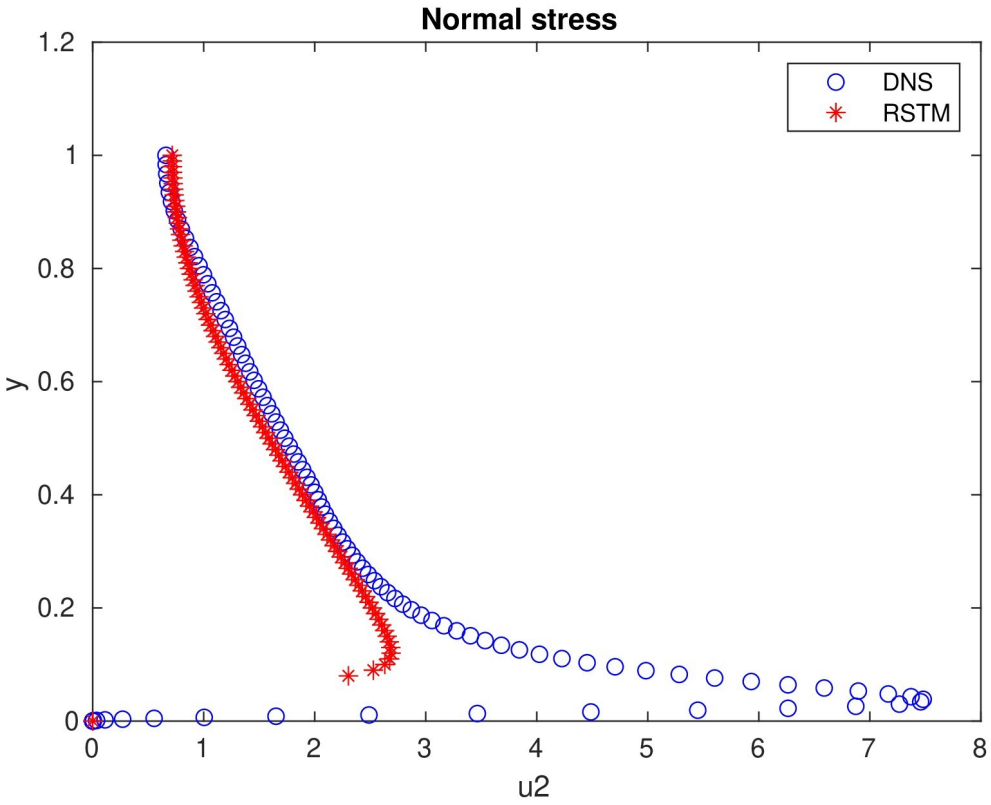
I used wall-functions
computed u _tau=kappa*u/ln(E*u_tau*y/nu)
then,

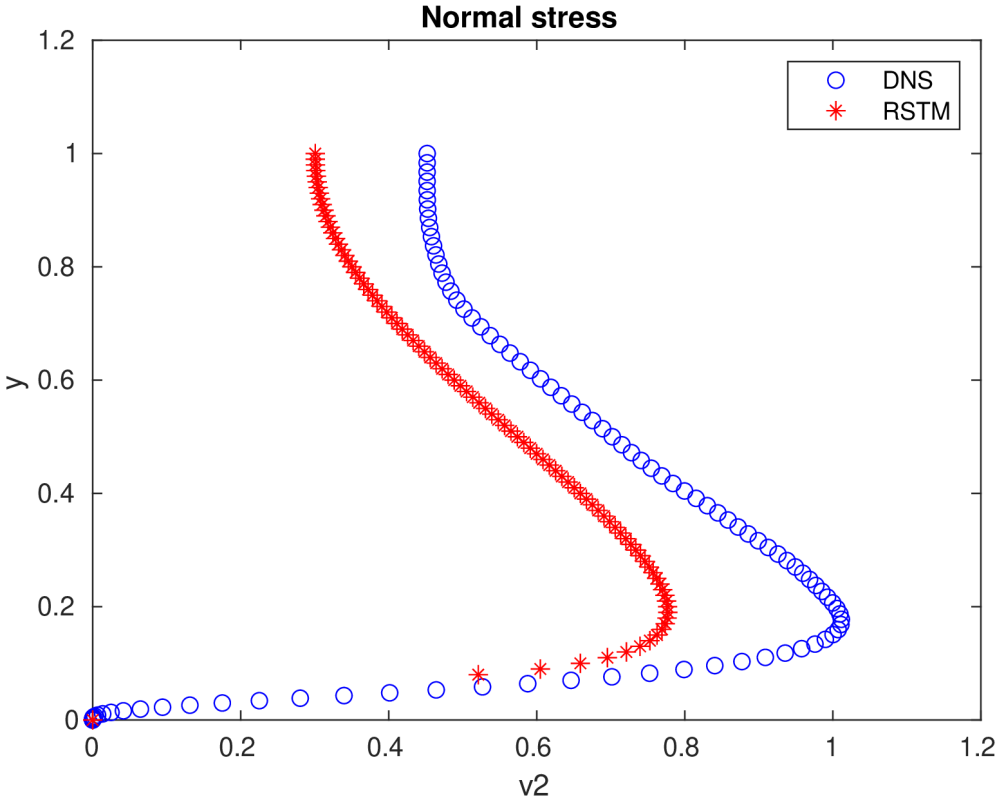
```
u2=3.67*(u_tau^2)
v2=0.83*(u_tau^2)
w2=2.17*(u_tau^2)
uv=-1*(u_tau^2)
eps=tau^3/(kappa*node(2))
```

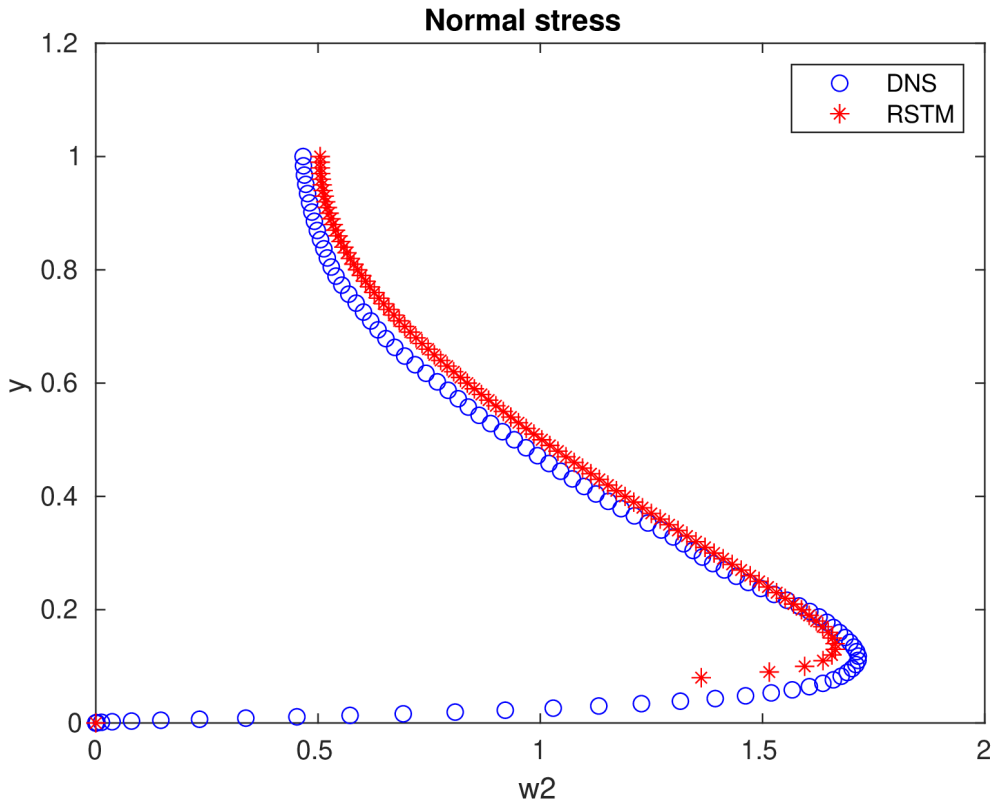
At centerline @ y=1:

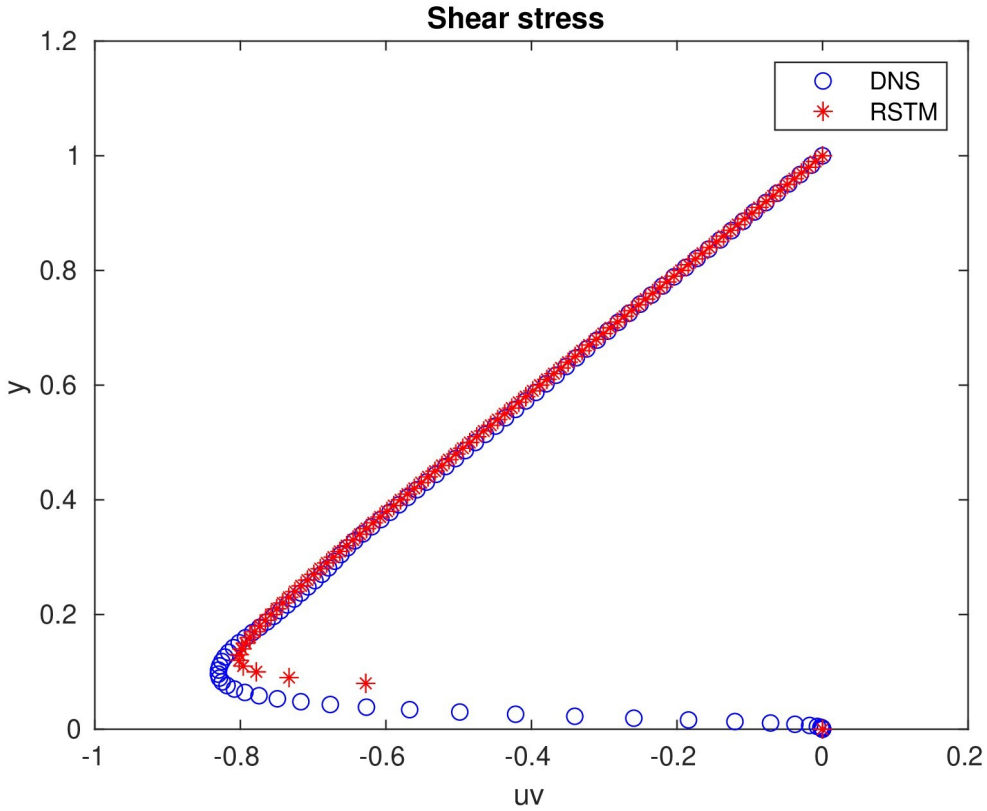
du/dy=0
du2/dy=0
dv2/dy=0
dw2/dy=0
uv(n)=0

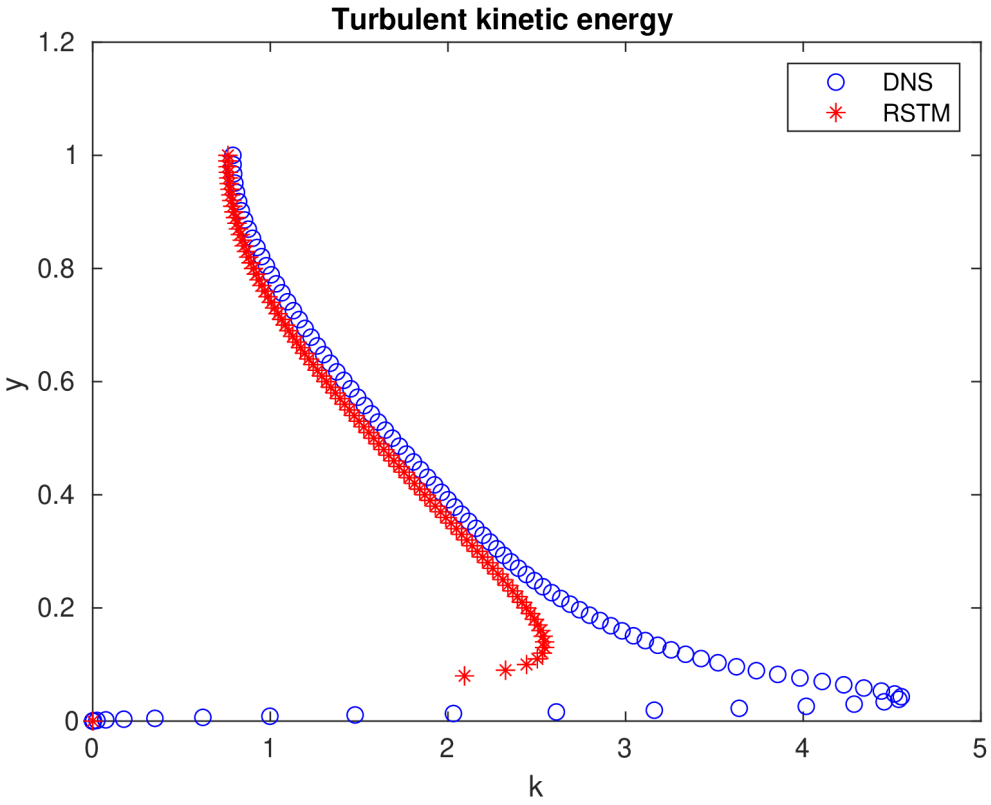


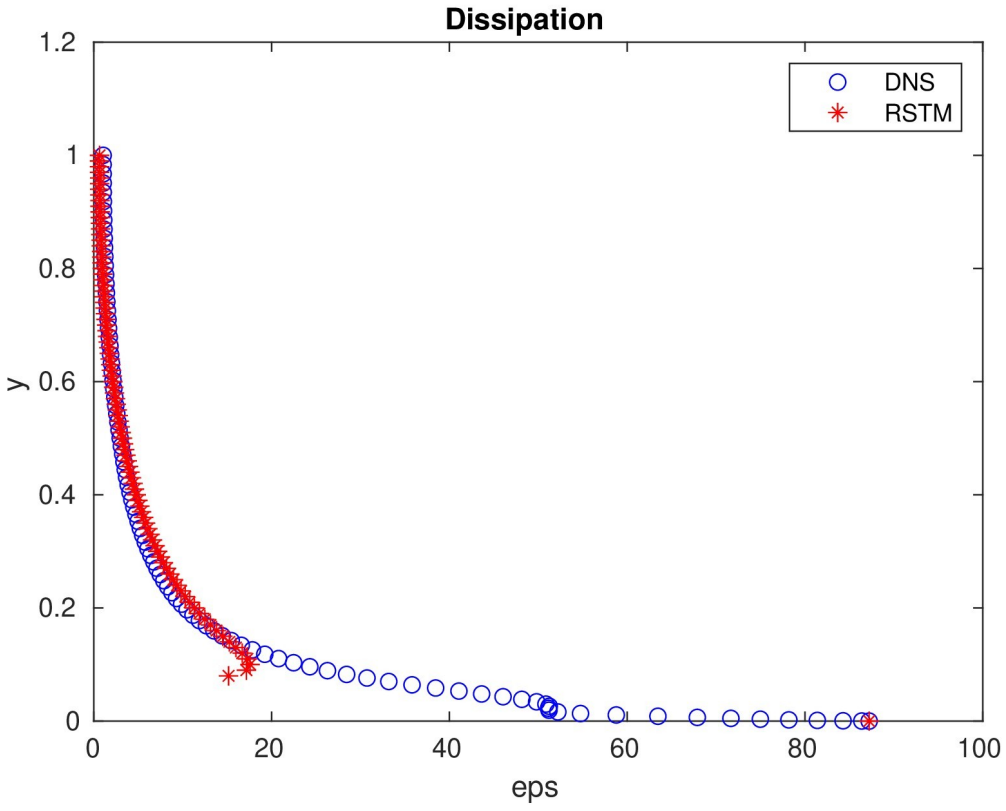

Normal stress
DNS
RSTM
y
u2
0
0.2
0.4
0.6
0.8
1
1.2
0
1
2
3
4
5
6
7
8


Normal stress
DNS
RSTM
y
v2
0
0.2
0.4
0.6
0.8
1
1.2


Normal stress
DNS
RSTM
y
w2
0
0.2
0.4
0.6
0.8
1
1.2
0.5
1.5
2


Shear stress
DNS
RSTM
y
uv
0
0.2
0.4
0.6
0.8
1
1.2
-1
-0.8
-0.6
-0.4
-0.2


Turbulent kinetic energy
DNS
RSTM
y
k
0
0.2
0.4
0.6
0.8
1
1.2
0
1
2
3
4
5


Dissipation
DNS
RSTM
y
eps
0
0.2
0.4
0.6
0.8
1
1.2
0
20
40
60
80
100