

## 7 Results from $Re_\tau = 950$

Grid TUM DNS:  $768 \times 768 \times 384$ , LES:  $128^3$   
 first grid point TUM DNS:  $y^+ = 1$ , LES:  $y^+ = 3$

Reference data ('Alamo DNS'):  
<http://torroja.dmt.upm.es/ftp/channels/data/>

See also

- S. Hoyas and J. Jimenez, (2008) Phys. Fluids 20, 101511.
- J. Jimenez and S. Hoyas, (2008) J. Fluid Mech. 611, pp. 215-236.
- S. Hoyas and J. Jimenez, (2006) Phys. Fluids 18, 011702.
- J. C. del Alamo, J. Jimenez, P. Zandonade and R. D. Moser (2004) J. Fluid Mech. 500, pp 135-144.
- J. C. del Alamo and J. Jimenez (2003) Phys. Fluids Vol. 15 (6), pp L41-L44.

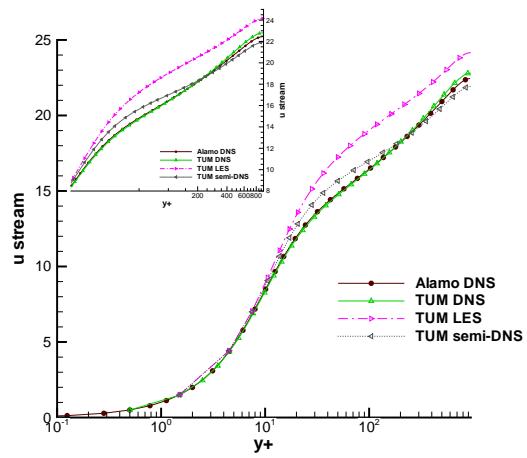


Figure 67: Mean streamwise fluid velocity

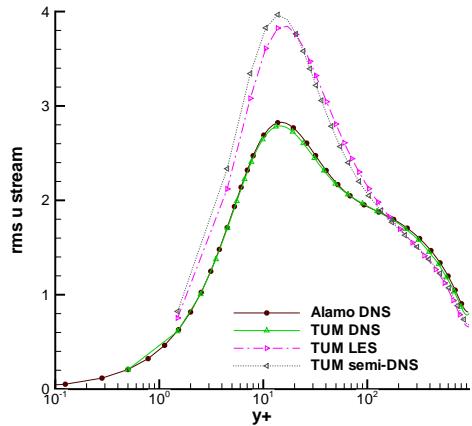


Figure 68: rms of fluid velocity fluctuations (streamwise)

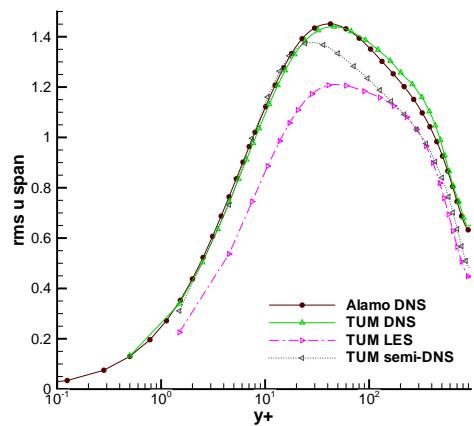


Figure 69: rms of fluid velocity fluctuations (spanwise)

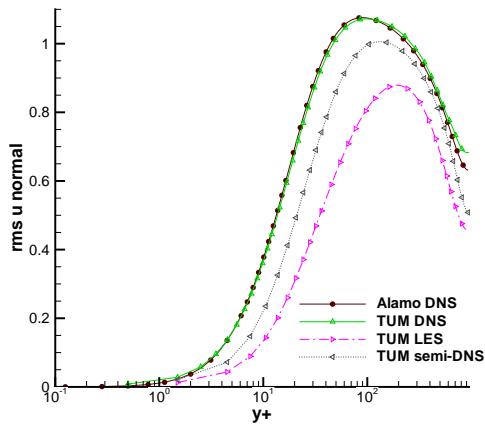


Figure 70: rms of fluid velocity fluctuations (wall-normal)

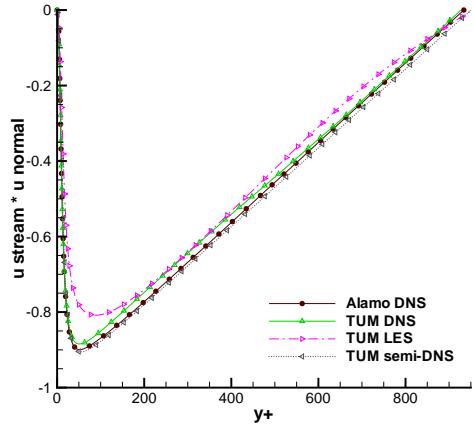


Figure 71: Fluid Reynolds stress: streamwise/wall-normal component

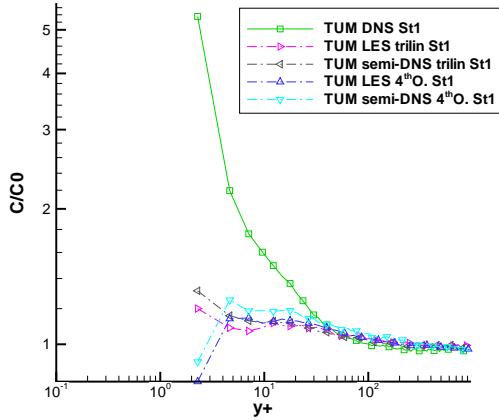


Figure 72: Time-averaged particle concentration profile between  $t^+ = 16000$  and  $t^+ = 20000$ ,  $St = 1$ .

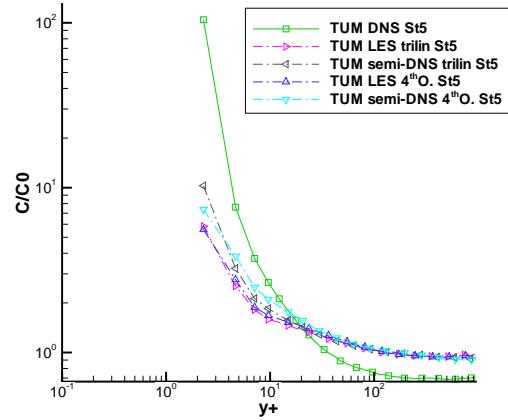


Figure 73: Time-averaged particle concentration profile between  $t^+ = 16000$  and  $t^+ = 20000$ ,  $St = 5$ .

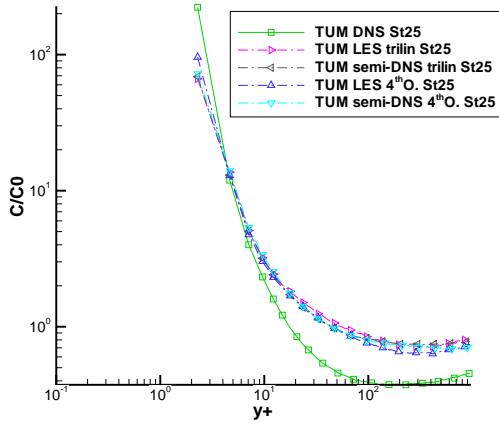


Figure 74: Time-averaged particle concentration profile between  $t^+ = 16000$  and  $t^+ = 20000$ ,  $St = 25$ .

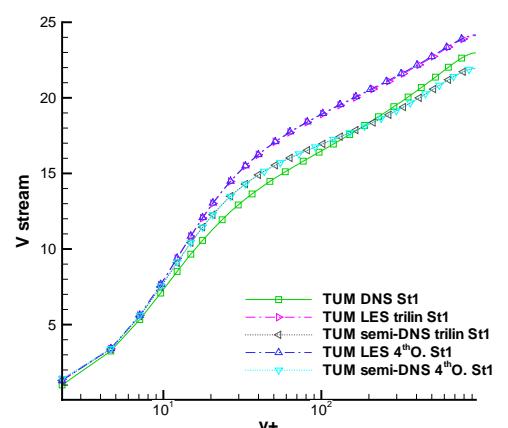


Figure 75: Average streamwise particle velocity,  $St = 1$

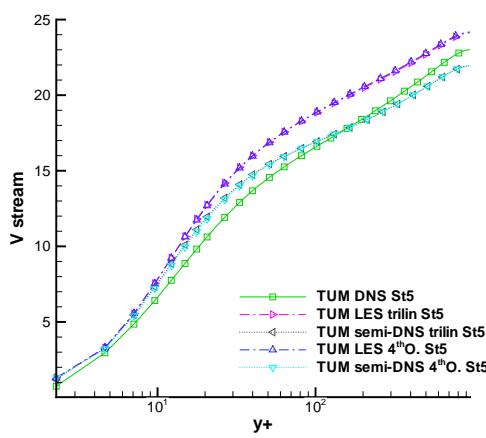


Figure 76: Average streamwise particle velocity,  $St = 5$

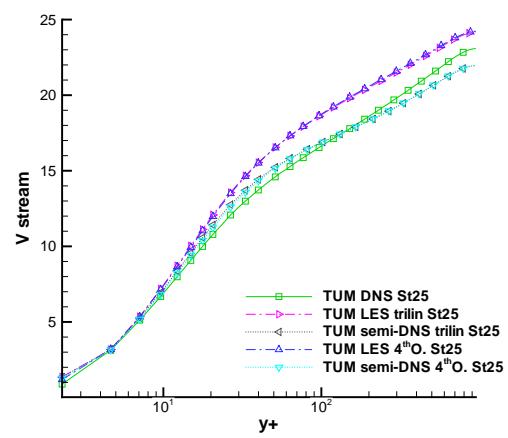


Figure 77: Average streamwise particle velocity,  $St = 25$

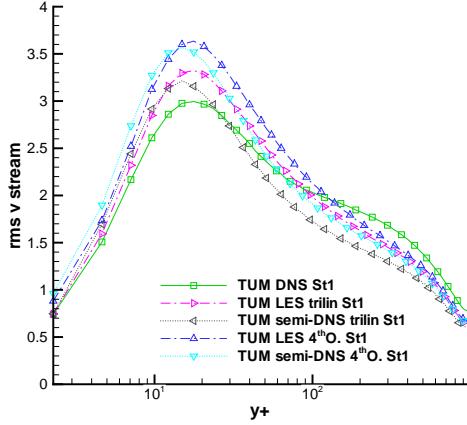


Figure 78: rms of particle streamwise velocity fluctuations,  $St = 1$

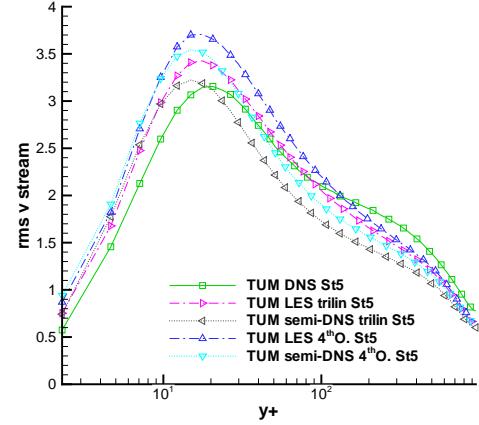


Figure 79: rms of particle streamwise velocity fluctuations,  $St = 5$

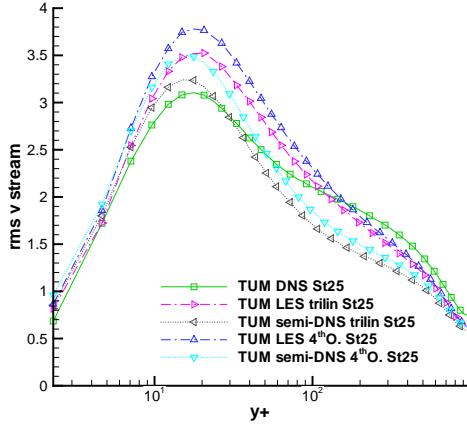


Figure 80: rms of particle streamwise velocity fluctuations,  $St = 25$

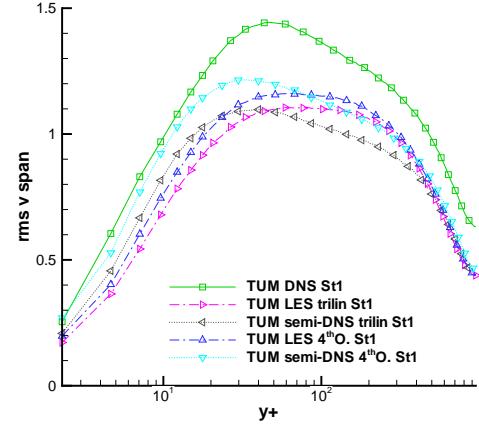


Figure 81: rms of particle spanwise velocity fluctuations,  $St = 1$

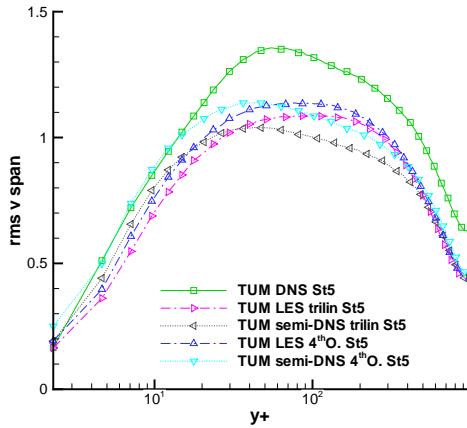


Figure 82: rms of particle spanwise velocity fluctuations,  $St = 5$

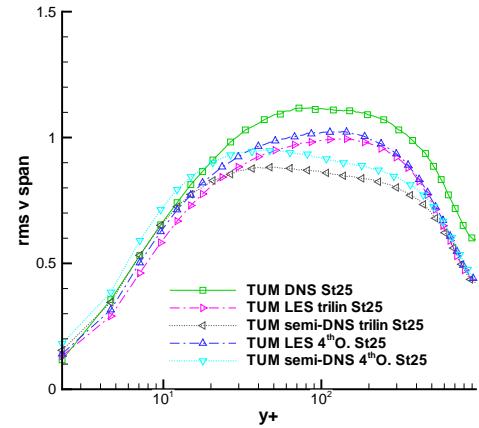


Figure 83: rms of particle spanwise velocity fluctuations,  $St = 25$

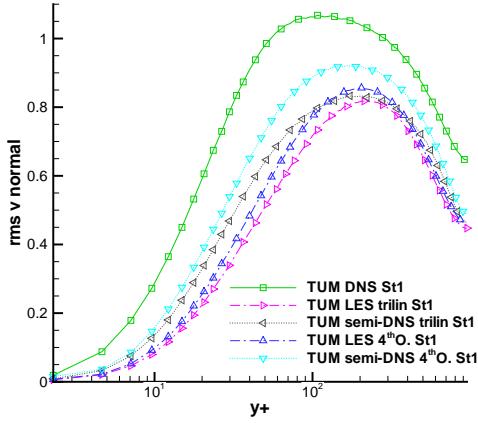


Figure 84: rms of particle wall-normal velocity fluctuations,  $St = 1$

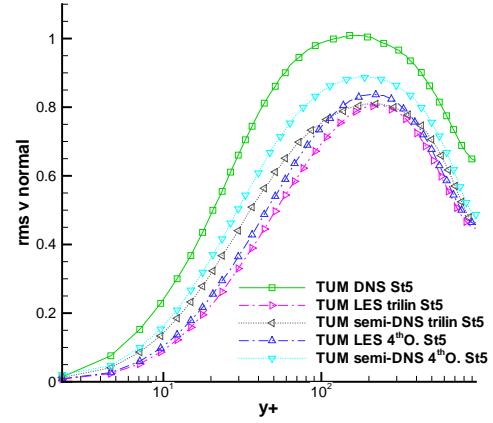


Figure 85: rms of particle wall-normal velocity fluctuations,  $St = 5$

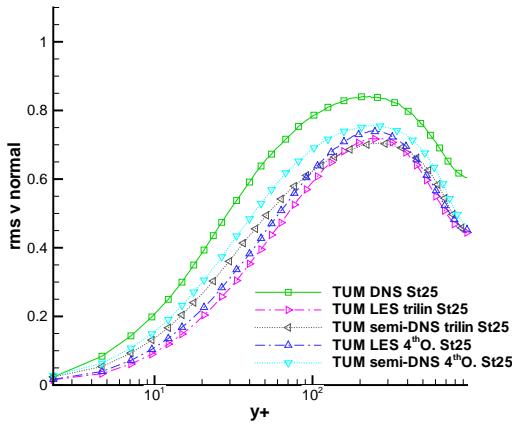


Figure 86: rms of particle wall-normal velocity fluctuations,  $St = 25$

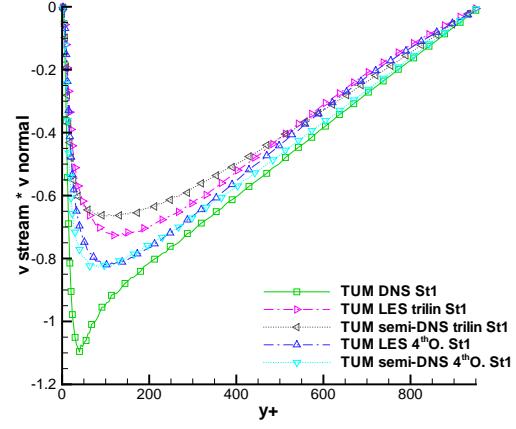


Figure 87: particle Reynolds stresses, streamwise/wall-normal component,  $St = 1$

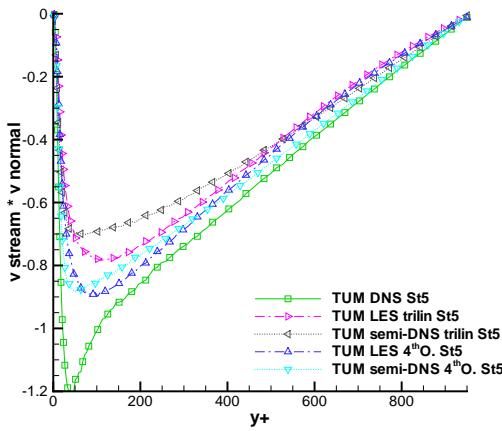


Figure 88: particle Reynolds stresses, streamwise/wall-normal component,  $St = 5$

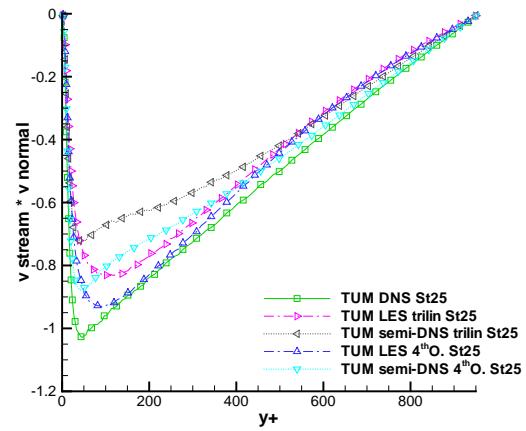


Figure 89: particle Reynolds stresses, streamwise/wall-normal component,  $St = 25$