

Implementation of near wall modelling methods in YALES2

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1 : LEGI, Université Grenoble-Alpes

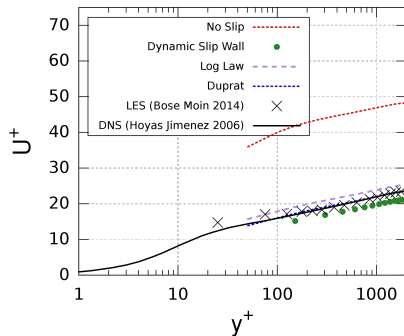
2 : CORIA, Université de Rouen

ECFD3 workshop : 31/01/2020

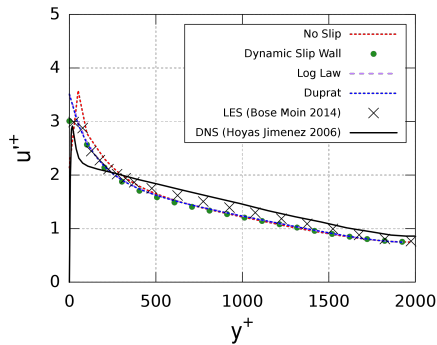
Reminder

- Study the sensitivities of the Dynamic Slip Wall model => not done
Bose & Moin, *PoF*, 2014
- Benchmarking : comparison with other models implemented in YALES2
- Channel Flow

Mean Velocity



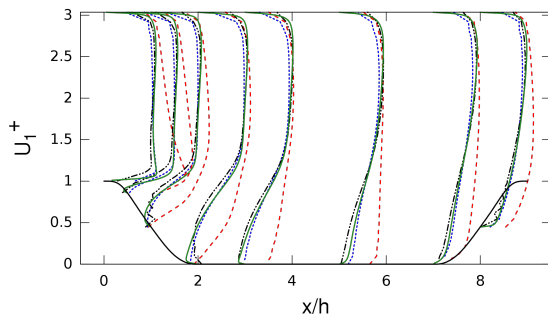
Streamwise Fluctuations



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- Periodic Hills : Mean velocity
- — : Gloorfelt et al(2019)
- ··· : Duprat
- - - - : Log-Law
- - · - · : Dynamic Slip Wall



Perspectives

- Continue the benchmarking :
 - Instationary case : oscillating channel
 - Case set up and ready to be used
- Fix the sensitivities of the method
- Start to work on others wall modelling methods :
 - Collaboration with M. Gorokhovski, LMFA
 - A simple one has been implemented during the workshop

$$\nu_{t,w} = \nu_{t,w}^{SGS} + \frac{\Delta^2}{\eta \sqrt{\tau_w / \rho}}$$

- Testing in progress...