

## **SEMINAIRE DE MECANIQUE**

Jeudi 12 juin 2008 à 14h

Salle 04 Bât 22-23 Campus de Beaulieu/Rennes

UFR Math/IRMAR

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## **« LES d'ordre élevé. Application à l'étude de l'écoulement turbulent autour d'un modèle de véhicule »**

Résumé :

In the frame of spectral approximations, which are much less diffusive than low order ones, high-Reynolds number flows are difficult to compute. Indeed the accumulation of energy in the high spatial frequency range generally leads to a divergence of the computations. As a solution, a spectral vanishing viscosity (SVV) technique is proposed as an efficient stabilization method of a highly accurate spectral approximation.

The efficiency of this approach is illustrated on the turbulent flow over a simplified automotive model (Ahmed body ) with a 25° slanted back-face t Reynolds number  $Re=768000$ .

Such a SVV-LES approach is extended for the first time to an industrial three-dimensional turbulent flow over a complex geometry.

In order to better understand the interactions between flow separations and the dynamic behavior of the released vortex wake, a detailed analysis of the flow structures is provided.

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