McGill Computational Science and Engineering Seminar

Friday December 17th at 13:30 in Burnside Hall room 0934

The Spectral Element Method for Direct Numerical Simulation

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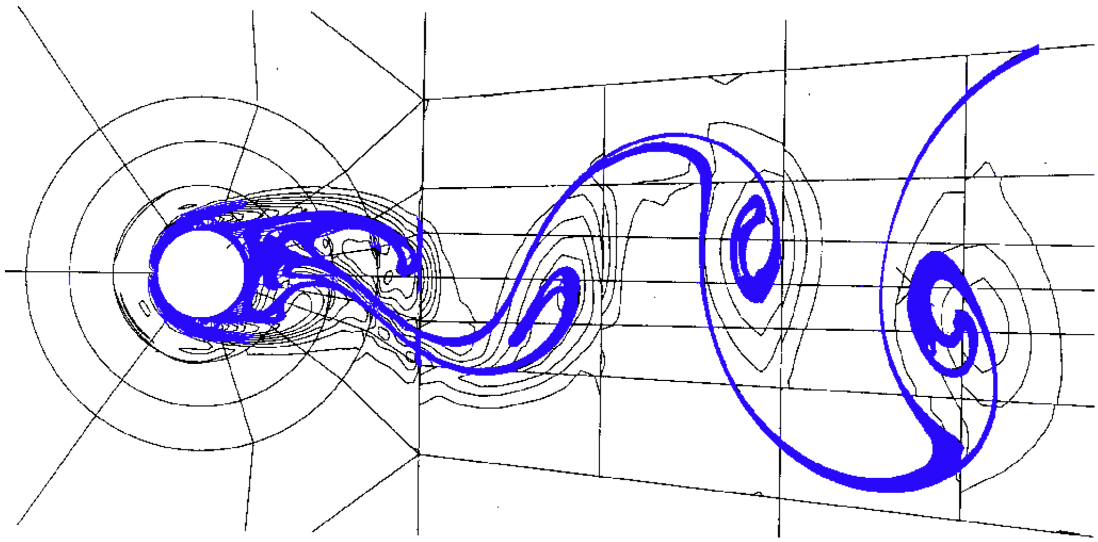
The spectral element method is a high order method that combines the exponential convergence of spectral methods and the geometrical flexibility of finite element methods. It is therefore useful in the direct numerical simulation of transitional flows in complex geometries, where accuracy is necessary to capture the detailed physics of the transition process.

I will present the method in its general form and introduce the adaptive formulation. Examples will be given in fluid dynamics and other fields. The recent trend towards interdisciplinary research including computational simulation has extended the application of the spectral element method. Results for applications to diffusion flames will be discussed.



Coffee and Desserts are served after the seminar at 14:30 in the lounge, Burnside Hall 1024