RAPHAËL REBELO, Université de Montréal
Symmetry preserving discretization of partial differential equations

A definition of discrete partial derivatives on non orthogonal and non uniform meshes will be given. This definition permits the application of moving frames to partial difference equations and will be used to generate invariant numerical schemes for a heat equation with source and for the spherical Burgers' equation. The numerical precision of those schemes will be displayed for two particular solutions.