Recent Progress on the Met Office's LFRic Atmosphere Model

Thomas Bendall*[1]

[1]Met Office – United Kingdom

Abstract

To exploit the next generation of supercomputers, the Met Office has developed a new atmospheric model, which uses a cubed-sphere grid to avoid the scalability bottleneck associated with the poles of the longitude-latitude mesh. The building of this new model has been a big endeavour, taking over a decade, and has involved the mammoth task of rewriting the Met Office's model infrastructure and much of its science code. As the time draws near for LFRic-Atmosphere to become the Met Office's operational NWP model, this talk will present a summary of recent progress on the model. One highlight is the development of a Flux-Form Semi-Lagrangian transport scheme, called SWIFT, which provides local conservation of mass and entropy, and formal monotonicity at large Courant numbers.

Keywords: dynamical core, NWP, scalability

*Speaker