

Towards a super dynamics for the gray zone

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A small group of scientists at GFDL have been recently working on a radically new approach, merging physics and a (nonhydrostatic) dynamics for the goal of achieving optimal performance in simulation quality and computational performance. We have attempted to embed sug-grid physical-dynamical processes into the Finite-Volume Dynamical core on the cubed-sphere (FV3), thus breaking the boundary between the physics and the dynamics. Since truly subgrid processes (designed for gray zone) are becoming part of the new dynamics, we shall call this merged model the "super dynamics