A Z-grid Based Dynamic Core for Global Numerical Prediction Model of Chinese Meteorological Agency

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In order to provide multiple choices of dynamic cores for the next generation global numerical prediction system at Chinese Meteorological Administration (CMA), a Z-grid based dynamic core is under development. Among other important features of a Z-grid scheme, better dispersion relation, natural geostrophic adjustment and conservation attract numerical modeler’s interests. In this presentation, we will share the progress of such a development at CMA along with other dynamic cores, improving its accuracy on a sphere, efficient solvers and software design and implementation. We also developed some standard unit test cases for software reliability, which are also available and convenient for other dynamic cores. Some numerical experiment results will be presented as well.