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Computational & Information Systems Laboratory



## **Mike Levy, University of Colorado Boulder**

### **Study of cubed-sphere domain discontinuities using a high-order shallow water model**

*Abstract:* The cubed-sphere geometry is widely used in the atmospheric modeling community, but recent tests have shown oscillations in smooth solutions of barotropic instabilities due to the discontinuities at cubed-sphere edges. One possible method to address this issue is to use static mesh refinement to cluster more elements towards the edges of the cube - this talk discusses such a technique using both a pure advection test and a barotropic instability test as examples.