



## **Are cloud thermals slippery or sticky?**

David Romps, Rusen Oktem, and Alexander Charn  
UC Berkeley, Earth and Planetary Science, Berkeley, United States

What role does drag play in the vertical momentum budget of convecting clouds? Are cloud thermals slippery, as recently suggested, or are they sticky? This question is addressed here using stereo photogrammetric observations of clouds in Miami, Florida and a cloud-tracking algorithm implemented in a large-eddy simulations. In both observations and large-eddy simulations, cloud thermals can be tracked throughout significant portions of their life cycles. These data can then be fit against simple parcel theories to infer the dominant balance in the momentum budget. These conclusions can then be confirmed by diagnosing individual terms in the cloud-thermal momentum budget from large-eddy simulations.