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**Basic Wave Dynamics in a Cloudy Vortex** DAVID SCHECTER, Colorado State University, Dept. Atmospheric Science, MICHAEL MONTGOMERY — This paper presents a basic model for small-amplitude wave dynamics in a cloudy vortex. The moist wave equations are identical to the linearized dry hydrostatic primitive equations, with reduced buoyancy. An explicit thermodynamic formula is provided for the buoyancy reduction factor. The stability of hurricane-like vortices is then reexamined in the context of the moist model. Preliminary computations show that pseudo-barotropic eyewall instabilities can critically slow down as internal moisture brings the vortex toward slantwise convective neutrality. Furthermore, it is shown that internal moisture can damp vortex Rossby waves and inhibit spiral inertia-gravity wave radiation.

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