Review of “The 3D Structure of 1 Mesoscale Jets Associated with Potential Vorticity Dipoles in

Tropical Cyclones: A Comparison of UWNMS Simulations and ECMWF Data"

1. Ln 50-51:" It is well known that tropical cyclone (TC) and hurricane formation requires

51 significantly moist unstable conditions and very warm sea surface temperatures."

This is a wrong statement. Rotunno & Emanuel (1987) integrated an axisymmetric, nonhydrostatic model starting from an initial state that is neutral to cumulus convection and showed that a weak vortex was able to develop into hurricane strength without existing CAPE in the troposphere. "hurricane formation" is not the right usage. "TC development" is more appropriate since hurricane can only be used when a TC reaches hurricane strength. Formation is more related to genesis issue.

2. Ln 53-56:" Theories regarding their formation and intensification include conditional instability of the second kind (CISK; Ooyama 1964, Carrier 1971), wind-induced surface heat exchange (WISHE; Emanuel 1989, Holton 2004) and air-sea interaction (Emanuel 1994)."

Air-sea interaction is the foundation of Emanuel's WISHE theory. They are not different theories.