

Interactive comment on “The Effects of Sea Spray and Atmosphere–Wave Coupling on Air–Sea Exchange during Tropical Cyclone” by Nikhil Garg et al.

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The paper investigated the effects of ocean surface waves and sea-spray mediated heat and momentum fluxes on the structure and intensity of TC. Due to the complexity, the ocean surface waves and heat and momentum fluxes have not yet properly modeled in the TC simulation even though tremendous efforts have been devoted into this research field. This paper proposes a 2-way coupled atmosphere-wave model to approximate the heat and momentum fluxes without relying on the conventional bulk approximations (in terms of wind speed and friction velocity, which are uncertain to some extent.). To execute the 2-way modeling, a model coupling interface is devel-

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oped to link WRF with a wave model. The formulation of ocean surface waves, heat and momentum fluxes and the information exchange between different computing platforms are clearly presented. The simulation results have proven the proposed method is working and improves the accuracy of TC simulation. All in all, I find this paper timely and useful for my research study.

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