

Interactive comment on “A 30-m scale modeling of extreme gusts during Hurricane Irma (2017) landfall on very small mountainous islands in the Lesser Antilles” by Raphaël Cécé et al.

Anonymous Referee #3

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This study addresses gusty winds that occurred on Lesser Antilles associated accompanied by a tropical cyclone. Many studies have conducted LES of tropical cyclones and shown occurrences of gusty winds. However, few studies have examined the gusty winds in LES with actual damages. This study is interesting and important in terms of disaster privations. Please consider a minor revision with the following comments before publishing.

-[Line 105] The Froude number is so large that the consequence of the discussion may be the presence of the mountains are negligible for the winds.

-[Methods and Section 4.2] The method section describes the time step of each reso-

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lution. The time scales of the gusts should also be discussed in the resolution dependence in Section 4.2.

- Tropical cyclones have the maximum wind speed at the top of the boundary layer. I suspect the "topographic effect", which results in stronger gust at the top of the mountain, is merely caused by measuring the wind speeds at the higher altitudes. Investigating the vertical profile in the wind speed in the NoSea experiment may be useful to clarify the "topographic effect".

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