

Interactive comment on “Consistency between Fourier transform and small-volume few-wave decomposition for spectral and spatial variability of gravity waves above a typhoon” by C. I. Lehmann et al.

Anonymous Referee #1

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In the previous comment, only a part of the text is displayed. Please see the full review below:

This is a well-written paper on an interesting new method. The idea is to fit model data in local volumes with a small number of sine waves and then use the fit to estimate local momentum fluxes. The sine waves are not even complete cycles and can have wavelengths greater than the length of the volume. The results work remarkably well, and in addition to momentum flux determination, the method provides insights on mechanisms of gravity wave generation (see page 1776, line 4). I have only trivial

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comments.

Page 1766, line 5: "Over small distances" Can the authors indicate what "small" means? (A few kilometers, small relative to source dimensions, "small"?)

Page 1770, line 7, should wave component "i" be wave component "j" (cf. line 18)? Also might it be better to change the notation for y , which is both the measurement variable (line 12) and the spatial coordinate (Eq. (6))?

Page 1778, footnote 2. Just a comment that this is a useful clarification. The text would otherwise be confusing.

Possible wording issues: Page 1765, line 15: "suited". Change to suitable. See also page 1768, line 2. Page 1766, line 16: "analogon". Change to analogue. Page 1789, caption: "up to bottom" – Change to top to bottom.

Interactive comment on Atmos. Meas. Tech. Discuss., 5, 1763, 2012.