

This is the third review of **“Implementation of a Multiresolution Analysis Method to Characterize Multi-Scale Wave Structures in Lidar Data”** by Trémoulu et al. (2025). The authors have adequately addressed the concerns raised in my second review and revised the manuscript accordingly. The current version represents a clear improvement over earlier submissions, and I consider it suitable for publication in *Atmospheric Measurement Techniques*. I therefore recommend acceptance.

The following comments are not essential for acceptance but are intended as friendly and constructive suggestions that may further improve clarity and consistency.

- Throughout the manuscript, the term “scales” is used to refer to vertical scales (i.e. vertical wavelengths), which is understandable given that the analysis is based on vertical temperature and wind profiles. However, within the broader atmospheric science community, “scales” are often implicitly associated with horizontal dimensions. To avoid ambiguity, it would be helpful to explicitly specify the dimensionality of the scales being discussed (e.g. vertical, horizontal, or temporal) where appropriate.
- In the response to the reviewers, the authors state that “temperature measurements have white noise with an amplitude that follows the conservative growth.” While this describes the qualitative behavior, it would be useful to also provide quantitative uncertainty estimates of the lidar temperature and wind measurements in physical units (K and m s^{-1}), in order to better contextualize the measurement accuracy.
- A few abbreviations (e.g. NWP, MLT) are introduced but not used subsequently. These could be removed to improve readability.
- Figures should consistently be referenced in the main text at appropriate locations.
- There appears to be a minor inconsistency regarding the altitude range of the temperature measurements. In the response letter, temperature data are described as covering 20–80 km (with subsequent restriction to 30–70 km), whereas Section 2.1 refers to a range of 30–80 km. Clarifying the actual altitude range of the temperature retrievals in the manuscript would improve consistency.
- The statement in the response letter concerning a ~ 10 K bias between the lidar temperature profile and ERA5 would be valuable information for the reader and should be included in the manuscript itself.
- Regarding the interpretation of the results, the observed variations primarily reflect altitude-dependent changes in spectral power. These variations alone do not necessarily imply interactions between gravity waves. Given that the measurements are obtained within a narrow vertical column, gravity waves may propagate into and out of the observational volume at different altitudes, which should be kept in mind when discussing possible physical interpretations.

Finally, while the manuscript has clearly improved through the review process, some aspects of the scientific presentation and interpretation could still benefit from further refinement. Continued careful internal review and mentoring by the co-authors would likely help strengthen future submissions.