

We thank the referee for their valuable comments, and we have made changes to the manuscript to address them.

As the referee mentioned, at large values of  $\beta/H$  the phase transition duration can be short when compared to the intrinsic time scale in the fluid and, as a result, the sound waves that act as GW sources may be active for a much shorter duration than the Hubble time. A comment discussing how at large  $\beta/H$  the traditional GW profile may overestimate the sound wave contribution has been added to the appendix exploring acoustically sourced GW. Since our work focuses on the unique spectral shapes (and not the amplitude) formed in these models, we do not carry out any additional analysis in this direction, but leave appropriate references for the interested reader.

-Paul Archer-Smith, Dylan Linthorne, and Daniel Stolarski