We would like to thank the second referee for their report on our manuscript, but we believe that their criticisms either misunderstand us or represent only minor revisions that do not merit rejecting the manuscript. We address each of the referee's comments and our revisions below.

1. The referee's first objection is that the metastable and irregular behavior likely does not persist in the limit of vanishing amplitude. Specifically, they state that "Rather than representing new 'phases' — on the same footing as the stable and unstable cases—it is more likely that they represent limitations of the simulations." At face value, we agree, and we never claimed that these behaviors persist as $\epsilon \to 0$ (in fact, already in previous versions of our manuscript, we pointed out that metastable behavior could convert to unstable or stable behavior, while we have found irregular initial data typically becomes stable at the smallest amplitudes studied). As the referee suggests, limitations of numerical study (ie, finite computer time) make it impractical even to find what amplitudes are in the perturbative regime for each mass/width pairing. However, it is also important and interesting to consider behavior beyond (lowest nontrivial order) perturbation theory, and the metastable and irregular behaviors are distinct in that context. Understanding metastable behavior may be particularly important for understanding when the multiscale perturbation theory breaks down. The key is that metastable behavior does not enter into the perturbative regime until evolutions exhibit a larger value of t_H than other unstable initial data (if indeed metastable data is unstable at arbitrarily small amplitude). To emphasize this point, we have added a new paragraph at the end of section II.A and made some minor clarifications in the penultimate paragraph of that section (the last paragraph in the previous submission). We have also added two sentences to the last paragraph of section II.B to emphasize that we are comparing different initial data at similar horizon formation times, which addresses the issue of the onset of perturbative behavior.

2. In the same context, the referee notes that figure 10(d) shows an amplitude outside the perturbative regime. This is of course true, and we agree that this type of apparently chaotic irregular initial data is an interesting target for future study at small amplitudes (both numerically and in the multiscale perturbation theory). However, we would argue that the energy spectrum is interesting even outside the perturbative regime in that it sheds light on nonperturbative behavior. Furthermore, this amplitude has t_H similar to the apparently perturbative unstable evolution shown in figure 10(b).

3. We added a brief paragraph to the discussion (new penultimate paragraph) indicating that metastable and irregular initial data would be interesting to study in the multiscale perturbation theory (though that is not our focus). This serves to remind the reader that we have been interested in physics beyond the perturbative regime.

4. We agree that we have presented only evidence of chaos but had thought that was already clear in the previous version of our manuscript. To clarify, we have added the adjective "apparently" when referring to chaotic behavior in many places through the manuscript, including the penultimate paragraph of section II.A and the last sentence of the introduction to section III, where this type of behavior is initially discussed.

5. To amplify our discussion of the apparent chaotic behavior, we have additionally:

   - added a note in 5th paragraph of III.B about the calculation of fractal dimension for visually similar plots in our reference [30].
   - edited the following paragraph (and the 3rd paragraph of section V) to describe amplitudes of $\mu = 5, \sigma = 0.34$ (just less than the visible spike in the plot)
   - added a discussion of a calculation for unstable initial data ($\mu = 0.5, \sigma = 0.3$), which also has a positive Lyapunov exponent (we thank the referee for suggesting this test). We therefore re-emphasize that we are therefore presenting only evidence of chaotic behavior.
   - edited table II, correcting a typographical error in the $\mu = 0, \sigma = 1.1$ line and adding a line for the $\mu = 0.5, \sigma = 0.3$ test.

6. The referee wonders why some plots are in linear scale and others in log-log scale. We have used log-log scale when the plots show data that cover many orders of magnitude, making linear scaling impractical. In figure 4 in particular, that is not the case. While it is true that it is easier to identify a power law by eye with a log-log scale, we believe this is not necessary because we provided already (table I) the fit parameters, their errors, and reduced χ^2 to indicate goodness of fit. Nonetheless, in the revised version, we have included insets in each plot of figure 4 to show the fit region in log-log scale. We also edited the figure caption to mention the insets.

7. The referee noted that the fit curves in the previous version (on very high zoom) were drawn by line segments. This is a standard manner of plotting, and our previous plots did not have sufficient resolution for the curves. We have increased the resolution, so this issue should be resolved. Of course, since we already gave the reduced χ^2 for each fit in the previous versions of the manuscript, it is not necessary to determine goodness of fit by eye.

8. The referee notes that it is difficult to verify by eye that the decay in figure 11(b) is exponential, as described in the body text. We have edited the last paragraph of section IV.C to describe the decay as "more rapid" than power law but to be precised noted that it is typically described by a power law times an exponential in the literature.

9. We understand that it may be difficult for readers of print media to distinguish the different curves in figures 10 and 12-17. However, (a) this concern should only apply to the hardcopy journal, as those readers who print their own copies also have access to the electronic version and (b) this seems like an editorial rather than scientific issue. If the editor requires, we will find a way to distinguish the curves, but we feel that this is not a sufficient reason to reject the manuscript.

Once again, we would like to thank the referee for comments on our manuscript. We have made the above changes to address the referee's concerns, and we believe our manuscript should now be publishable.