Reviewers Comments

Fig.1 Is this a non-dimensional plot (I think it is)? If so what is the vertical scale – is it p_{\infty}/p_A or p_{\infty}/p_c? What is the value of rho? Is the non-dimensional time (\omega)t?

Fig.2 Is this plot dimensional or non-dimensional? I think it is non-dim. If so there should be no 10^5 and 10^{-5} on the axes.

Fig.3 This is a dimensional plot so the y-axis should be labelled R_{eq}. Presumably the time is also dimensional?

Fig. 5 As for Fig.3

Fig.6 What are the units of the y-axis? – position from where?

Fig. 7 As for Fig.6. Is the x-axis measured in seconds? If so please add.

Fig. 8 Is the time dimensional? If so please add (s) after Time.

Fig. 9 Units to be added. Please edit the plot so that the graphs end when instabilities begin.

Fig.10 As for Fig.9

Fig. 12 What are the units of the y-axis? – position from where? Is the x-axis measured in seconds?

Fig. 13 Is the time dimensional? If so please add (s) after Time.

Fig. 14 Units to be added. Please edit the plot so that the graphs end when instabilities begin.

Fig.15 Units to be added. Please edit the plot so that the graphs end when instabilities begin.

Figs. 16-19 Please give the times at which the profiles are plotted.

Fig. 20 What are the units of the y-axis? – position from where? Is the x-axis measured in seconds? If so please add.

Fig.21 Is the time dimensional? If so please add (s) after Time. What are the units for R_{eq}? These should be given here and in similar plots.

Fig.22 Units to be added. Please edit the plot so that the graphs end when instabilities begin.

Fig.23 Units to be added. Please edit the plot so that the graphs end when instabilities begin.

Figs. 24- 31 Same comments as for similar plots above.

Questions

Q: What is the value of sigma that appears in Eq. (13) in the paper?
A: The value for sigma here is 1nm (I mention at the end of page 6 that this is the default value unless specified)

Q: How many nodes are there on the bubble surface for these calculations. N=? in Eq. (20). There is a question about spatial convergence. Do you have any example comparing bubble dynamics for different values of N? – such as equivalent bubble radius? Would it be possible to do this?

A: I don't really have any access anymore to my computer or the programs required but the default value I used for N is 32. In my thesis I did make some comparisons for N in terms of errors when modelling spherical bubbles so perhaps we could refer to that?

Q: Please can you put all figures from chapter 6 of your thesis in the Dropbox file?

A: I don't seem to have any of the figures of my thesis on my dropbox but they will be on my old machine, do you have access to that?

Q: Some of the units on axes in the figures will need to changed but I will make a list of these. Is it straightforward for you to edit the figures and recreate some of them?

A: Provided I can get access to my machine I may be able to redo figures in matlab and possibly rerun results (if I can remember how to do it!)

Q: What is the ratio of specific heats, kappa, that is used?

A: I used kappa = 1.4 (the value for air)

Q: Some of the instabilities need to be removed and some indication when computations are stopped.

A: Looking at my code the code was stopped due to instability when the time step become too small (10^-9) since this is caused by very large velocities. In hindsight it would have been good to have a better mechanism for keeping track of instabilities!

Q: What are typical run times for these simulations?

A: Do you mean the physical time it took to run the computations rather than the time that's meant to be modelled taking place? If so then they typically took about 20-30 mins from what I recall but again these weren't recorded at the time.