

## Answers to reviewer 2

I agree with another Reviewer, that edge effect could influence on the fire behaviour next to mass-loss prototype. I think discussion on this subject should be included in the paper.

*Reply: We also agree with the reviewer on the potential edge effect. Nevertheless, information elements on the subject have been included twice in manuscript. First, when describing the design of the prototype, we have mentioned that the device was sized to be one-fifth the width of the plot to burn. This ensures that the fire completely encompasses the system during its propagation.*

*We also talk about edge effect when we have defined the position of the device within the fuel bed. We have selected to place the prototype near the end of the fuel bed to avoid any edge effect and to ensure a steady state fire propagation.*

I believe the authors chose an incorrect way to present the influence of selected parameters on the mass loss rate in Figure 11. They are analysing the effect of the parameters on the mass loss rate and the mass loss rate is depicted on the diagram as a parameter. I would recommend that the authors change this Figure.

*Reply: The Kiviat diagram or spider web diagram was used here to represent on a two-dimensional plane five sets of multivariate data. Each axis, which starts from the same point, represents a quantified characteristic. We have included the mass loss to facilitate a detailed analysis (and make the ranking easier) of the elements influencing this data.*

*As well as their general comparison of surfaces (or point by point), this type of diagram is useful if the axes are correctly standardized according to the importance given to each characteristic.*

### Minor comments

(1) Figure 2. It requires a note that the dimension of all the quantities is in cm or adding “cm” to each number.

*Reply: The information on the measurement unit has been add on the figure title.*

(2). Page 6, line 29. “”, these previous works...”. Which works? There is only one reference above (line 27).

*Reply: “These previous works” has been changed by “This previous work”.*

(3). Page 6, line 31. A reference needs to be added.

*Reply: A reference has been added.*

(4). Page 7, line 9. There is a misprint. It should be “1 m” instead of “1”.

*Reply: The unit has been added.*

(5). Page 7, line 13. “15 W/cm<sup>2</sup>” needs to be deleted.

*Reply: This part has been deleted.*

(6). Page 7, line 31. Figure 4 confuses the reader, as you said “The mass-loss prototype was placed near the end of the bed to ensure the steady state of the fire propagation.” Please add the picture with the prototype at the end of the plot.

*Reply: Unfortunately, we don't have taken pictures in the final experimental conditions i.e. near the end of the plot. However, we can provide a picture when the prototype has been placed at the completely end of the plot. So, this picture has been added to the previous one, and for more clarity we have specified in the text and in the title of the figure that we present 2 tests with various configuration.*

(7). Authors used the different ways to express dimensions, e.g. m.s-1 or m/s. One way of writing should be used.

*Reply: The writing of the units has been standardized.*

(8). Figure 6. Was it an average temperature for each species? If yes, a note should be added.

*Reply: Actually, this is an average, this information has been added in the manuscript.*

(9). Figures 7 and 8 duplicate each other. I would recommend using only one Figure in the paper.

*Reply : We do agree with the reviewer, from our point of view only the figure 8 is relevant to highlight the difference between each specie. Nevertheless, in the previous review step, one of the reviewer has asked us to add the 3 repetition for each specie.*

(10). Figure 9. Was it an average heat flux? If yes, a note should be added.

*Reply: This is an average, this information has been added in the manuscript.*

(11). Table 4. A relative error (or other) between the experiment and simulation needs to be added.

*Reply: The relative error has been added in the table 4.*