

Review of: "Experimental study on the explosion characteristics of hydrogen-methane premixed gas in complex pipe networks"

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This paper studies the explosion propagation behavior of different concentrations of methane and hydrogen premixed gas in complex pipelines, hoping to provide theoretical guidance for the prevention and control of gas explosion in the urban pipe network. To improve the presentation of the paper, I think this article should be revised as follows:

1. **Figure 4:**

- Data fitting needs enough data to ensure the accuracy of fitting results. The amount of data in this paper is not enough to fit, especially through three groups of data, which is unreasonable.
- The order of the fitting function in this paper is too high and has little reference significance.
- Only fitting is carried out, and the description of fitting results and mechanism analysis is lacking.

2. **Figure 5:** Only the maximum explosion overpressure at the above measuring points is selected for analysis. What is the basis for such selection? Please let us know in the article.

3. **Figure 7:** There are the same problems as Fig. 4.

4. **First rise and then fall, then rise and then fall:** does this trend change with time or distance? Is the final temperature lower or higher than the maximum temperature? The conclusion here is superficial and unconvincing.

5. **In the description of Fig. 7** □ the longer the flame propagation distance, the longer the propagation time, which belongs to the general conclusion and has no research value.

6. **The flame propagation speed of other branches is similar:** it should be "the development trend of the flame propagation speed of other branches is similar".

7. The description of experimental phenomena in this paper is too superficial and lengthy, and there is a lack of explanation of the mechanism.