Response to Reviewer 3 Comments

**Manuscript ID:** materials-554763  
**Title:** Influence of nano-SiO$_2$, nano-CaCO$_3$ and nano-Al$_2$O$_3$ on rheological properties of cement-fly ash paste  
**Journal:** Materials  
**Corresponding Author:** Kunlin Ma  
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**Reviewer 3#**

We acknowledge the careful comments and suggestions from the Reviewer. Based on the comments, the manuscript has been supplemented and revised accordingly, and the revised portion is marked in red in the revised manuscript.

This manuscript includes a research work about the influence of nano-SiO$_2$, nano-CaCO$_3$ and nano-Al$_2$O$_3$ on rheological properties of cement-fly ash paste. First of all, in my opinion, the topic of the paper is interesting, and the research included in the paper, if it is widened in the future, it would have many practical applications and uses.

Thanks for the Reviewer’s comprehensive comments. At present, nano materials have been widely applied in the field of civil engineering, and it will also be an important development direction in the future. We hope that through this paper, we can provide some theoretical references for some situations existing in engineering application.

Nevertheless, I have some suggestions in order to improve the manuscript before being published in Materials Journal.

**Point 1:** Regarding the introduction section, it is overall fine, although I propose to include the following references in the sentence in the lines 35-36 (page 1) of the initial version of the manuscript:

“Replacing cement by a certain amount of FA can significantly improve workability in fresh stage and the long-term properties in harden stage [5-9]”

5. Reference 5 of the initial version of the manuscript  
6. Reference 6 of the initial version of the manuscript  
8. Effect of curing on the compressive strength, resistance to chloride-ion penetration and porosity of concretes incorporating slag, fly ash or silica fume. Cement and Concrete Composites 1995, 17 (2), 125–133 DOI: 10.1016/0958-9465(95)00005-W.

Response 1: Thanks for the Reviewer’s scrupulous comment. The references above are supplemented in revised manuscript.

Point 2: In addition to this, I suggest to clearly define the aim and the novelty of the manuscript in the final paragraph of the introduction section.

Response 2: Thanks for the Reviewer’s careful comment. We further detailed the aim and novelty of this study in the final paragraph of the introduction section.

Point 3: Regarding the materials and methods, and results sections, I find them adequate.

Response 3: Thanks for the Reviewer’s positive comments on the above parts.

Point 4: In relation to the discussion section, it is very good and very detailed. I congratulate the authors for that. My only suggestion is to include more references in that section, in order to support the reasoning explained there.

Response 4: Thanks for the Reviewer’s suggestion on the discussion section. We have supplemented several references to explain some reasons and mechanisms of some results in revised manuscript.

Point 5: The conclusion section is also fine. I like the idea of using numbers for emphasizing the most important findings of the manuscript, because it makes the conclusions clearer.

Response 5: Thanks for the Reviewer’s comments. For a research paper, using number is the most persuasive method to elucidate the conclusion. It can make the conclusion most objective. We have always emphasizing this point.

Point 6: Finally, despite the comments, I want to encourage the authors for continuing working in this research topic, and I think that the manuscript could be published in Materials Journal, after including the proposed changes.

Response 6: In the end, we sincerely acknowledge the careful comments and suggestions from the Reviewer again. There is no doubt that the Reviewer’s comments are the greatest praise for our study. Nowadays, nanomaterials have been widely applied in the field of cement-based materials, and many researches shows that the incorporation of nanomaterials has significantly changed cementitious materials properties. We hope that this study can give a reference for engineering practice.