

The manuscript investigates the use of Ag paste to be mixed with a high percentage of Cu, Cu being introduced to contribute in reduction of the manufacturing cost of Si photovoltaics. The results are interesting and worth publishing in Materials, however, the following concerns should be considered, and a revision would be required.

1. The manuscript does not provide enough information on previous efforts focused on use of new paste formulations for front metallization for c-Si solar cells. It concludes “It is the first presented paste containing the copper volumetric material which allows to fabricate front contact of the silicon solar cells by high temperature metallization process”. It is confusing whether this is the first report on use of Cu-Ag mixture or the first report of Cu-Ag for high temperature metallization, considering no information on previous efforts is provided.
2. The new paste is labelled as NPCuXX. What does NP stand for? And XX might just be Ni.
3. The I-V characteristic curves should be presented.
4. In line 258, the authors mention that the solar cells based on paste A formulation have lower series resistance. The table 4 and 5 show otherwise and should be corrected.
5. In line 142, the authors mentioned that the comparison between the tables 1 and 2 shows that the new NPCuXX paste is not inferior to the quality of commercial pastes. However, the table 1 does not provide the required parameters mentioned in table 2 to make comparisons.
6. Paste A formulation worked while B did not for the solar cells fabrication. However, no proper reasonings were provided for the result. In addition, the authors should also mention what is the exact difference between paste A and B and what was the objective of studying two different pastes.