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Discussions

Interactive comment on "Development of bridge failure model and fragility curves for infrastructure overturning and deck sliding due to lahars" *by* Joaquín Dagá et al.

Anonymous Referee #1

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The manuscript discusses the fragility of road bridges to lahar hazard. The discussion started with the force and momentum balance of the bridge (section 2), the sensitivity analysis (sections 3 and 4), the development of fragility curves (section 5), and validation of the fragility curves.

On the other hand, the improper use of pronouns and adjectives causes difficulty in following the logic of the discussions. I recommend being managed this matter prior to discussing the details of the manuscript.

Examples of the improper pronouns and adjectives are follow Page 3, line 30, 'latter' what this means? fragility curve, fragility probability or others? Page 3, line 21, 'they'

what this means? Page 4, line 5, 'they' what this means? Page 18, line 6, 'they'. I think it is better to be replaced to 'we'.

Other minor suggestions. Page 1, line 21, insert 'simulation' following to 'Monte Carlo'. Page 4, line 13, I cannot understand why 'on the other hand' used here (both Tsubaki et al. and Wilson et al. use the flow depth as the hazard intensity measure. Page 4, line 13-15,' Moreover, the existing velocity and scour models use the flow height' doesn't make sense. Page 10, line 1, 'y' would be 'and'.

Pointed-out above are all minor points, but make difficult to follow the logic flow of the manuscript so discussing the detail of the present manuscript may cause many inessential discussion caused by misinterpretation of the authors' intentions. Thus, I suggest to revises the English language first.