EGUsphere, referee comment RC2
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Comment on egusphere-2022-468

Anonymous Referee #2

Referee comment on "Dynamic response and breakage of trees subject to a landslide-induced air blast" by Yu Zhuang et al., EGUsphere, https://doi.org/10.5194/egusphere-2022-468-RC2, 2022

The paper tests tree motion equations and breakage conditions under air blasts triggered by large landslides by modeling a tree as a flexible variable cross-section beam hinged at the ground using elastic support. They assess bending and overturning forces.

I like the way the authors approach the problem of impact forces in air blasts. But the question remains unclear – how realistic are the numbers you obtained from your model? A comparison/plot of field observed results vs your model results would potentially benefit the readership of this paper. I saw not only trees but even reinforced concrete pillars being pulled out from the ground by the air blast during field trips in the Langtang avalanche. The pullout forces are very important, probably references from tree pullout tests could be helpful – check with as many cases as you can to know how realistic are those numbers in your model. A case validation on any of the large avalanches would be great!

L224 -. What do Feistl et al. 2015 say about assuming density=5 kg/m^3?

L330 -> short-duration impulses and can intensify the destruction of vegetation and structures far beyond …