Review of Okuda et al.

This revised manuscript presents results from friction experiments on Brucite gouge under a range of normal stress and saturation conditions. The results indicate that wet Brucite exhibits a low base friction coefficient and velocity-weakening frictional behavior under low normal stresses. The authors also present microstructural analyses to supplement their experimental results. They use these observations to suggest that Brucite could play an important role in hosting slow earthquakes in a hydrated mantle wedge.

The authors have taken the review comments in a very positive light and put significant effort into improving the manuscript. I thank the authors for this. In particular, the manuscript is now thoughtfully organized and flows well from one idea to the next. At this stage, I recommend that the manuscript could be accepted after the following minor changes:

1. In sample preparation, exactly how were the Brucite layers created? Was some levelling jig used to ensure sorting and packing (or something else)? In other words, how did you create layers that were nominally ~550 microns thick?
2. Line 260: N should be the effective normal stress, not applied normal force.
3. Maybe as an inset to Figure 2a (or elsewhere) the authors should show typical fits to their data for a 1 state-variable and 2 state-variable (along with R^2 if possible). RSFit3000 allows you to store and display the fits and overlay it with the experimental data, and this would be useful for readers to see.
4. Lines 327 – 338: Based on the Saffer & Marone (2003) idea, the reduction in *b* could be due to real contact area saturation in wet Brucite similar to what they observe in Smectite. Additionally, recasting *b* as the healing rate (say in slide-hold-slide type experiments), your results indicate that wet Brucite is potentially incapable of 'healing' at higher stresses and thus cannot store strain energy at these stresses. This could be an interesting discussion point of your observations.