

## Review of “Back to Einstein: burial-induced three range diffusion in fluvial sediment transport”

This is my second review for this manuscript, and it is much improved with respect to its relationship to previous work. However, this context changes the main story and we now have a manuscript with “three range diffusion” in the title, but “four range” in the key points and the key figure- figure 2. Also, lines 221-226 describe three ranges, then the 4<sup>th</sup> range is mentioned after the list but not counted. I suggest that the authors remove their timeline of discovery (eg lines 240-250 “in the preliminary studies for this paper we found that a two-state...” “these realizations and the need for a physical model...” ) and tell the story that we now have find in lines 221-227:

Through use of a multi state model, the authors identify the origin of changing diffusion regimes - interactions between the timescales of various processes. All previous descriptions of the global regime fit within this model depending on the timescale/tail relationship between rest and burial. Similarly, existence of a geomorphic range (or at least the slope on figure 2) is a function of permanent burial or not. The multi state model generalizes all random walk findings and highlights the physical process timescales that are significant. If there are other physical processes that are relevant, they can be added.

All of this should be reflected in Figure 2-

