Thank you for giving me the opportunity to review this revised manuscript by J. Armitage: “Flow as Distributed Lines Within the Landscape”. I think it is well written and makes a solid argument supporting the idea that, at least in the case of triangular mesh, routing along cell edges and increasing the number of available flowpaths decreases the grid-resolution dependence of LEMs, particularly when flow can be routed effectively at the sub-grid level as in the Multi-flow direction model.

The new LEM presented here is one of only a few to use the FE method, and I also thought the use of a diffusion rule for erosion was good because this allows for terrestrial sedimentation to be modeled. However, as I will detail below, these may also be limitations of the manuscript. I would suggest publication of this MS provided the author can further clear up a few things. In particular as reviewer 1 from the last round mentioned, I think the author still needs to include some more details in the discussion about how the results of this study may be applied to different modeling setups beyond showing the DAC results.

Major points:

1) The author presents several models in figures 3 and 4 to show that one is most resolution independent, but it is not shown which one is closest to a real landscape. Is it not more reflective of reality to have more valleys and ridges as you approach the hillslope scale? The valleys in Figure 4d are huge and look like u-shaped glacial valleys. You have mentioned convergence of the Caesar-Lisflood model, do the SFD models presented here converge eventually once you reach closer to the hillslope scale?

2) Some more extrapolation of the results presented here to different modeling schemes would be useful (i.e. FD and/or rectangular/hexagonal mesh). For instance I think an important distinction is that in the triangular mesh setup, you can avoid the problem of different length flowpaths created by the rectangular grid along the diagonals (which probably creates some grid dependence). Pelletier (2010) suggest that the MFD algorithm and the Dinf algorithm are fairly grid-resolution dependent even when 8 flowpaths are used. In that study a rectangular grid with 8 flowpaths was used, vs. the 6 flowpaths created by the MFD along edges here.

Specific comments:

P1L4: Typo, “of therefore”

P1L17: This sentence is confusing and you use “outcome” twice

P1L18: Typo, “descent”

P1L18: typo, “landscape”

P1L21: “Therefore, a landscape evolution model should be able to reproduce such regular topographic features independently of the model resolution.” It seems you are talking about primarily about hillslopes here yet you are modeling at the km scale which is above the hillslope scale. See comment #1 above.

P3L4: How does this model compare to other transport limited with diffusive behavior i.e. Davy and Lague, 2009?

P3L16: Pelletier (2010) suggest that linear diffusion can lead to grid dependence. How much is the grid resolution dependence affected by linear diffusion? This diffusivity seems kind of on the high end, have you tried with lower (or zero) value?

P3L21: It seems like cumulative runoff should be included in the equation?

Figure 3: Nice figure and color scheme.

P4L12: 1024?

P5L7: Which model is most similar to a real landscape though?

Figure 9: Add coordinates to map.

P11L4:typo, “effect”

P11L15. What’s the distance here, i.e., how wide would those rivers in the distributed model be?

References:

Davy, P. and Lague, D., 2009. Fluvial erosion/transport equation of landscape evolution models revisited. *Journal of Geophysical Research: Earth Surface*, *114*(F3).

Pelletier, J.D., 2010. Minimizing the grid-resolution dependence of flow-routing algorithms for geomorphic applications. *Geomorphology*, *122*(1-2), pp.91-98.