Comments on “The impact of mesh size and microphysics scheme on the representation of mid-level clouds in the ICON model in hilly and complex terrain” by Omanovic et al.,

This paper presents a study using numerical simulations with the ICON model at two horizontal grid spacings (65m and 1km) to investigate the effects of terrain, mesh size, and microphysics schemes (one-moment vs. two-moment) on cloud formation in two European regions (hilly and complex terrain). Four case studies were conducted, validated against observations of liquid water content (LWC), ice water content (IWC), liquid water path (LWP), and meteorological variables collected during the CLOUDLAB (hilly terrain) and CROSSINN (complex terrain) campaigns. This study is a valuable first evaluation of mid-level cloud simulations over complex terrain using ICON and highlights limitations of kilometric models in representing clouds, suggesting future work on sensitivity analysis and expanding cloud-type representation.

Overall, I think this is very solid and well-written manuscript. I suggest publish it with minor corrections.

Minor comments:

- Caption of Figure 3, 5: ()-(), double right bracket
- The solid and dash lines are not clear to differential each other in Figure 9j.