Mesoscale nesting interface of the PALM model system 6.0 (by Kadasch et al.)

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This manuscript describes a new nesting interface for the high-resolution LES model PALM, using model output from the mesoscale model COSMO ($\Delta x = 2.8\,\mathrm{km}$) as boundary data, which leads to realsitic synoptic forcing. The authors describe the nesting interface "INIFOR" in a detailed, but concise way. The performance of INIFOR is shown with a case study over grassland in northeastern Germany with the simulation of an evolving daytime boundary layer. The interface performs sufficiently well, however, the LES performance partly suffers from the poor representation of boundary-layer processes in the mesoscale model. The authors reflect on these issues in detail and already suggest possible solutions to this problem, therefore this manuscript can be published in Geoscientific Model Development after very minor revisions.

Specific comments

- Page 8, lines 3-4: Please state that turbulence in COSMO is fully parametrized *at the current grid spacing ($\Delta x = 2.8\,km$).*
- Page 24, line 4: The geographical coordinates provided lead to Berlin's city centre (when entering them in Google Maps), but it is stated that the domain lies east of the city. It would, however, make sense to add the exact coordinates in the manuscript to match the description of the domain (grassland land surface type).
- Page 24, lines 13-14: It should be clarified that the convective rolls stem from the convection grey-zone, and not from the grey zone of turbulence (Wyngaard 2004).
- Figure 11: Please adjust the colorbar of the contourlevels to the same range of 292 K to 296 K. This makes the figures more comparable and illustrates the diurnal cycle of the ABL in a better way.
- Figures 12 and 18: The colorbars in these figures are somewhat misleading, because zero is not in the middle. Please readjust them.

References

Wyngaard, J. C., 2004: Toward Numerical Modeling in the "Terra Incognita". *J. Atmos. Sci.*, **61 (14)**, 1816–1826, doi:10.1175/1520-0469(2004)061⟨1816:TNMITT⟩2.0.CO;2.