General comments on the paper:

It is a very interesting and useful approach and paper.

Your research question is well defined, extensively investigated and explained.

Regarding your figures please be aware, that printing or digital presentation will be very small. Try to use clear distinguishable colors and markers. I recommend removing the grey background in all figures.

Some phrases are quiet long and contain several aspects. Try to shorten your sentences, by separating them according to the different aspects or contents.

Comments in detail:

P3 line 46 Column 2: Did you measure the absolute tree height of every sample tree, or was it a estimation according to the measurements of a sub-sample of tree?

P3 Line 48 Column 2: Do you have any information about the type and positional accuracy of the used GPS or GNSS-Techniques

P3 Line 57/58: Why did you restrict to stat and communal forests?

P4 Line 24-26: In general the point density is given in [points/m²]

P4 Line 47 -51: How did you calculate the canopy height model, by subtraction?

P4 L1 Column 2: How did you define the forest borders?

P5 Line 34 – 40: Mention here, that you investigate this threshold in your work.

P5 Line 11-36 Column 2: Why did you use these variables and not others? I would recommend putting the explanation of your calibration method more popular in your article. It is an important part of your work.

P6 Line 46: the title should be “model building and evaluation” instead of model validation

P7 Line 4-18: What are the values for lidar year, 0 and 1 or N/A and 1 or anything else?

P7 figure4: the figure is overloaded. Try to use colored lines instead of colors and different markers. Is it really necessary to show both n and threshold? If yes, put them into two separate figures. Or could you explain some effects by n within your discussion. Anyway try to put the legend below or above your figure.

P8 Line 1: Title should be “Calibration” and not only “Effect of Calibration”.

P8 L55-59: Separate it in at least two sentences.

P 9 figure5: the figure is hard to differentiate: Use color instead of different markers, put the legend below or above could already help.

P9 figure 6: Where do the different grey values refer to?

P10 figure 8: I recommend limiting the y-axis between 0.2 and 0.6. A legend is missing and should be added. The long title of the figure contains text, which should be included in the text and not in the title.

P10 Table 1: I recommend mentioning RMSE % instead of SSE

P12 Table2: submodel 3 isn’t mentioned and explained in the text. It isn’t possible to reconstruct how you get your amount of parameters for each model. In addition the amount of parameters isn’t discussed in the text. So I recommend either to explain (I would prefer) or to leave it out.

P12 Line35: This is the wrong reference: Table1 instead of Table2.

P13 Line 43 Column 2: aerial instead of areal.