Interactive comment on "Lightning risk assessment at a high spatial resolution using the resident sub-district scale: A case study in Beijing metropolitan areas" *by* Hai Bo Hu and Jing Xiao Li

Anonymous Referee #2

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The authors present a lightning risk assessment of different structures but do not make it clear what the improvement/difference to the lightning risk assessment in the standard IEC 62305-2 is.

Further they use really strange assumptions, e.g. - They use the stroke densities for risk calculation. To really estimate the lightning risk the ground strike point density should be used (see IEC 62858). - The grid size of the stroke densities is not clear and it is further not clear if the amount of data is enough to calculate a meaningful lightning density with an accuracy of +/- 20%. For such an accuracy about 80 strikes should be within a grid cell (Diendorfer, 2008, and also IEC 62858). It is also not clear why the authors use 5m resolution for risk calculation. In my opinion this does not make

sense for lightning risk calculation. The lightning location system (LLS) accuracy is not even close to that value (for really high performing LLS in the low frequency range the median accuracy is in the range of ~100m).

The authors mention that LLS data was corrected for detection efficiency but do not tell how it was corrected or with which method.

The paper is compiled very superficial with a lot of small mistakes. E.g. chapter 3.2.2 exists three times with the same chapter heading and slightly different content.

References: Diendorfer, G. (2008). Some Comments on the Achievable Accuracy of Local Ground Flash Density Values. In Lightning Protection (ICLP), 2008 International Conference on (pp. 1–6). in proceedings, Uppsala, Sweden.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., doi:10.5194/nhess-2016-231, 2016.