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Atmospheric Chemistry and Physics Discussions

Interactive comment on "How does soil water availability control phytotoxic O_3 dose to montane pines? Modelling and experimental study from two contrasting climatic regions in Europe" *by* Svetlana Bičárová et al.

Anonymous Referee #3

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I wouldn't recommend the publication of the manuscript entitled "How does soil water availability control phytotoxic O3 dose to montane pines? Modelling and experimental study from two contrasting climatic regions in Europe" for several scientific weakness. First of all the title is misleading. Indeed I expected a discussion about the role of soil water content in determining the POD in montane pine, while this aspect is not developed into the manuscript. The measurements of ozone that are the basis for POD calculation are obtained by passive samplers and is well known by the ozone community that these measures are integrated over a period variable in time window and that

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Discussion paper

are not appropriate to obtain hourly data. Then the authors stated that soil moisture data are not measured in French sites, thus is not clear the importance to include into the manuscript the French site, even considering that is a single one, in comparing with higher number of sites in Slovakia. Another critical point is that the authors declare that the meteorological measurements are available in France not in the same site of ozone measurements but far from there, without specify if the climate of the meteorological station is comparable with the ozone station. About the methodology is not clear how the authors consider the function fphen included in DO3SE model. Did they consider it as a constant in the France and Slovakia sites? This is meaningless because of the stric t link between phenology and climatic conditions. Another weakness of the manuscript is that the author described two different indicators to explain the visible injuries occurrence due to ozone pollution, but they didn't show dose-response relationship between the two indicators and the symptom's occurrence. This is an important point to describe and discuss into the manuscript, or the other option is to limit the manuscript to a descriptive observation of two indicator of potential ozone damages to forests trees. Thus I suggest to remove the part related to ozone injuries or to include dose-response relationships.

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