

Overall comment:

The object of this paper is to analyze relationships between direct surface measurements of pollen and MPL data simultaneously observed, and also meteorological parameters including solar radiation for continuous pollination events in Barcelona.

The results are shown with many figures and tables, and discussed in detail on the phenomena. The results and discussion may be a little lengthy, e.g., as mentioned in the “P15, L20-L27”. And the reviewer feels that the discussion is not satisfactory for readers because of less physical aspects of the relationships analyzed. For example, in section 5, they analyze and discuss the correlation with solar radiation. It is interesting that the correlation coefficients have been better when introducing the time-delay(t). They show better results of correlation coefficient, when $t > 0$ and $t < 0$ for different days. What is the physical meaning of the time-delay ? Also why do these values show positive and negative in neighboring two days?

Minor comments:

P2, L22: Do authors have any reasons of two kinds of character types, normal and italic when written in the following manner, e.g.,

“*Ambrosia, Alnus, Artemisia, Betula, Corylus*, Chenopodiaceae, Cupressaceae/Taxaceae”

Such expression is also shown in other places. If these are common in this field, it is Okay, but if not, please change these into one type.

P6, L23: “In the second half of March 2015 a strong anticyclone positioned in the Atlantic Ocean west of the Portuguese coast generated southeasterly winds in the northeastern part of the Iberian Peninsula.”

Is the wind direction correct? It must be northwesterly (not southeasterly) ?

P7, L8 and other places: The unit for counting the number concentration of pollen even for the daily mean should be “ m^{-3} ”, not “ $m^{-3} day^{-1}$ ”. This expression is physically wrong. So in this case they should express in the following manner, the daily mean concentration of pollen is xxx “ m^{-3} ”. Also the unit of “ $m^{-3} h^{-1}$ ” is wrong, shown in other sentences and figures. These should be changed.

P8, L28: Is “Figure 3b” correct? It looks like “Figure 5.”

P9, L21-L24: “Logically a strong release of ... are gathered.” It is a little hard to understand it. Please modify the sentence into much easier expression.

P13, L11-L13: “... is not from local origin.” Please show and explain some evidences/reasons of “not from local origin.”

P14, L14: It is not so familiar with the following equation, “*Pinus* ($0.09 < \delta^V r \text{-values} < 0.70$ and $0.25 < \delta^V r \text{-values} < 0.68$)”. Is it possible to change other expression for better understanding?

P15, L20-L27: The reviewer supposes that the content of detailed cloud conditions is not necessarily needed in this context, because the cloud type such as medium or high might be not directly related with pollination events.

P17, L35: The sentence of “Otto et al.(2011) ... ” may not be needed in this conclusion because the authors do not discuss on the radiative forcing in the main sections.

Figure 1: The unit of “ $\text{m}^{-3}\text{day}^{-1}$ ” should be changed into “ m^{-3} ”.

Figure 2: The notation of decimal point should be unified, such as “0.005” from “0,005”. Also “ $\text{km}^{-1}\text{sr}^{-1}$ ” should be unified into “ $\text{Mm}^{-1}\text{sr}^{-1}$ ” because “ $\text{Mm}^{-1}\text{sr}^{-1}$ ” is used in the text.

Figure 7: The colours of lines for 27th and 31st might be confused. These should be changed with other colours for discriminating clearly.

Figure 8: The colour “red” is used for both of δ^P and time-delay. In order to understand these figures easily, the colours of δ^P and δ^V should be modified from “red” and “blue” into others.