We thank the reviewer for his productive comments that helped us improve the contents of the manuscript. All issues raised are hereby one by one addressed.

P28284: Some previous analyses with MODIS sensor have been conducted over Athens (Kosmopoulos et al., 2008 Remote Sensing of Environment, 122, 2354-2366, 2008). This study focuses on the seasonal and year-to-year fluctuation of the number of occurrences of each aerosol type. The main conclusion of this study is that the coarse-mode particles exhibit much stronger inter-annual and seasonal variability compared to the urban/industrial aerosols. I suggest mentioning this earlier work in your discussion of your findings.

We added the main conclusion of this work in section 3.1 where is most relevant.

P28290, line 21: The sentence "a440/675–a675/870 <0 shows the dominance of one mode, associated to coarse dust particles" leads me to believe that only coarse mode has associated to a440/675–a675/870 <0. As indicated by Gobbi et al. (2007), a440/675–a675/870 <0 shows the dominance of one particle mode. As shown in the literature (e.g. Basart et al., 2009), strong negative values of a440/675–a675/870 (between □0.5 and □0.2) indicate dominance of fine mode aerosols and under the dominance of coarse mode aerosols, such as desert dust, a440/675–a675/870 can be negative or slightly positive (between -0.3 and 0.1). Therefore, a440/675–a675/870 <0 values can be related to the presence of a single mode fraction, independently whether it corresponds to fine or to coarse aerosols. Thus, maybe it could be better that you modify that sentence.

We have followed the suggestion of the reviewer and we modified this sentence to clarify this issue. In particular we agree with the reviewer that " a440/675–a675/870 <0 values can be related to the presence of a single mode fraction, independently whether it corresponds to fine or to coarse aerosols ". However, as we have also answered the first reviewer's respective comment, our claim is limited to the cases of fraction contribution (n) of the fine mode to the AOD <50%. From the respective figure it is obvious that this part of the figure corresponds to Angstrom exponents lower than 1, so our argument was not meant to be general for the whole range of negative Angstrom differences.