

1 We appreciate the referee for these thorough fresh comments improving the paper more further. Below  
2 are the referee's comments followed by our replies:

3 *I agree with the changes cited in points 1, 3, 4, 5, 6, 8, 9, 10, 11 and 12 of my first revision.*

4 *My comments with respect to:*

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6 *2) The method of Foyo-Moreno et al. (2014): the change made in the text by the authors is more  
7 confusing than before.*

8 *Foyo-Moreno et al. (2014) finally proposed a method where a previous analysis which uses the neural  
9 network concluded that the most adequate variable to estimate AOD is the ratio  $D/IN$ . This method  
10 estimates AOD from solar radiation measurements, and in fact uses as the only input parameter a ratio  
11 between diffuse radiation ( $D$ ) and normal direct irradiance ( $IN$ ) obtained from the difference between  
12 the global irradiance ( $G$ ) and diffuse irradiance ( $D$ ), divided by the cosine of the solar zenith angle.  
13 This should be mentioned explicitly and as separate reference, independent of the references of Olcese  
14 et al. (2015) and Taylor et al. (2014), both of which use neural networks. This should be clarified.*

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17 We changed the text from "For example, it has been applied to retrieve aerosol properties from remote  
18 sensing instruments (Olcese et al. 2015; Taylor et al., 2014; Foyo-Moreno et al, 2014)." to "For example,  
19 it has been applied to retrieve aerosol properties from remote sensing instruments (Olcese et al. 2015;  
20 Taylor et al., 2014). Moreover, Foyo-Moreno et al, 2014 uses NN to indicate that a ratio between solar  
21 diffuse radiation and normal direct irradiance is the most adequate parameter to estimate AOD from

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22 solar radiation measurements.”

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25 *7) The errors associated to the fitting equation also should be included.*

26 We added the least square fits' errors into the caption text.

27 *Minor errors:*

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29 *In Figure 5 the X axis should be changed to SSR consisting to the text.*

30 We changed Flux to SSR in the figure.

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