

Response to review Oleg Postylyakov

1. Please, correct two mistakes in manuscript title.

Abstract. I thing in sentence “: : experimental values of direct and global solar radiation fluxes do not: :” authors mean “total” but not “global” solar radiance.

In Abstract, we have deleted the paragraph

“Numerical calculations were compared with measurements of downward solar fluxes on the Earth’s surface, performed in the clear-sky atmosphere in summer periods in 2010–2012 in a background region of the boreal zone of Siberia. It has been shown that, taking into account the instrumental errors and errors of atmospheric parameters, the relative differences between model and experimental values of direct and global solar radiation fluxes do not exceed, on the average, 1% and 3%, respectively. “

2. Add scale in maps shown in Figs. 2 and 3.

The necessary explanations on the figures 2 and 3 are given in the text:

p. 5779 lines 19-23

"Fonovaya Observatory, TOR Station, and Basic Experimental Complex.

The Fonovaya Observatory is located 70 km to the west of Tomsk, the TOR station is situated at the northeastern end of the Tomsk Scientific Center (Akademgorodok), and BEC is located in suburbs 3 km to the east from Akademgorodok"

Therefore, we see no need to add additional scale.

3. Captions of Figs. 7 and 8 – not commented where aerosol properties were estimated.

The necessary explanations on the figures 7 and 8 are given in the text:

p. 5782 lines 24-26

Analysis of near-ground measurements at the LAO aerosol station showed that variations in the aerosol parameters qualitatively agree with aircraft measurement results (Figs. 7–8).

Therefore, we see no need to add additional comments.

4. Fig .9. The circles in e and f panels are described as wind at 75 m, but in caption as wind at altitude of 50 m. What is correct?

Correct is 75 m (changed on the Caption of Fig. 9)

5. Captions of Figs. 11 and 12 – not commented where measurements were performed. Measurements were performed in Tomsk (corrected).