

Interactive comment on “Application of locality principle to radio occultation studies of the Earth’s atmosphere and ionosphere” by A. G. Pavelyev et al.

Dr Kan

valerykan@list.ru

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The radio occultation (RO) remote sensing is a powerful tool for investigation of the atmosphere, ionosphere and it is competitive with other means of the near Earth space studies. The authors analyzed the assumption of spherical symmetry and introduced an explicit formulation of the locality principle. According with these assumptions all resulting altitude profiles of atmospheric and ionospheric parameters are attached to vertical and horizontal coordinates of the radio ray perigee relative to the spherical symmetry center, which is close to or coincident with the center of the Earth or planet. This analysis opens new applicable domains of the RO method. These applications

C208

included new precise method of the estimation of the vertical profiles of the total absorption at a single frequency; determination of the inclination and displacement of the ionospheric layers; separation of influence of the layers and turbulence. The used approach is interesting and present a new way to get information from RO observations.

Technical remarks 1. p. 11, l. 14: second $1-X_a(h) \Rightarrow 1-X_p(h)$; 2. Please, remove the twofold citation of the Gorbunov 2002 from the reference list.

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