Dear Hailiang Shi,

Thank you for your comments on the 'Tomographic retrieval algorithm of OH concentration profiles using Double Spatial Heterodyne Spectrometers'. Your comments have substantially improved our paper.

The increasing Rayleigh scattering as the atmospheric background radiance is the major issue for the lower stratosphere. It is mainly subjected by the function of Rayleigh scattering, ozone absorption and OH self-absorption in this research. We add a table to show the intensity of simulated observation radiance and atmospheric background radiance at some tangent heights which are calculated by the modified SCIATRAN radiative transfer model in the Sect. 3. The errors of results are also given. The OH fluorescence emission radiance can be calculated by subtracting the atmospheric background radiance from the observation radiance. The errors of the inversion results which are given in the Sect. 5.2.4 show the data allow to inverse the accurate OH profile from 15 to 85 km.

On behalf of the authors

Kind regards,

Yuan An