Reply on EC1
Huan Yu et al.

Author comment on "Impact of 3D Cloud Structures on the Atmospheric Trace Gas Products from UV-VIS Sounders - Part II: impact on NO2 retrieval and mitigation strategies" by Huan Yu et al., Atmos. Meas. Tech. Discuss., https://doi.org/10.5194/amt-2021-338-AC3, 2022

NO\textsubscript{2} retrieval corrected by the cloud retrieval based on CAL model is added in the "AMF using extended cloud retrievals" part. Instead of OCRA/ROCINN cloud algorithm, a simple cloud retrieval approach is presented, which assumes the cloudy scenes are 100% covered by a uniform layer of water cloud with a 1-km geometrical thickness. The cloud single scattering albedo sets as 1 and the asymmetry parameter is 0.85, these values are consistent with those used in the cloud and NO\textsubscript{2} retrieval (Liu et al., 2020, 2021). This approach retrieves cloud top pressure and optical thickness based on the measured reflectance at 460 nm and O\textsubscript{2}-O\textsubscript{2} SCD or three 1-nm (758–759 nm, 760–761 nm and 765–766 nm) averaged radiances around O\textsubscript{2}-A band.