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Interactive comment on "A high resolution extra-terrestrial solar spectrum determined from ground-based solar irradiance measurements" *by* Julian Gröbner et al.

Anonymous Referee #1

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The manuscript presents a new high resolution (0.02 nm) extraterrestrial solar spectrum over the wavelength range 300 – 500 nm with an expanded uncertainty of 2% above 310 nm and 4% below. It is derived from ground based measurements of direct solar irradiance by 2 instruments, one with a very high absolute accuracy and the other with very high spectral resolution. To my knowledge this is the best available data at the moment, and therefore it is very useful for many applications in atmospheric sciences. I think this manuscript is a clear and significant step forward and therefore it is very worthwhile to be published in AMT.

The manuscript is very well written and clearly structured. Only a few specific points should be clarified by the authors prior to final publication:

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Discussion paper

p.3, ln. 3: it would be better to use instead of ‘resolution’ the more specific term ‘full width at half maximum’. p.3, ln.7 and ln. 20: the field of view should be stated both times either with ‘+-‘ or with the full opening angle. p.3: for both instruments, what was the frequency of the measurements, how many data points are available for the fit on each half day? p.7, Fig. 3: the scales of the irradiance should be given for the 3 panels.

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