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Poster
Since late 2014, contemporaneous measurements of thermospheric density have been made at Earth and Mars with near identical sensors. LYRA onboard PROBA2 and EUVM onboard MAVEN are in orbit at Earth and Mars, respectively, and both measure thermospheric density with EUV foil filter photometers by the method of solar occultations. Because solar occultations are constrained to the terminator, local time is inherently controlled for, reducing ambiguity in comparisons of measurements made at Earth and Mars. As such, these two instrument provide a rare opportunity for direct comparisons of thermospheric variability at Earth and Mars as the two the planets are subject to the same solar forcing. In this presentation, we compare thermospheric variability at Earth and Mars from late 2014 through solar minimum. We show that the Mars thermosphere is, on-average, about half as sensitive to EUV forcing as that of Earth. We also compare the response of both planets to EUV forcing from the Big Sunspot of 2014. Finally, we compare the day-to-day variability at solar minimum, presumably dominated by wave forcing from below, and place the magnitude of this variability in the context of that due to solar EUV forcing.
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