太陽27日周期が中層大気オゾンへもたらす影響について

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The 27 day solar UV response of middle atmospheric ozone

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A correlative study of ozone and the solar UV flux on the time scale of the 27-day solar rotation cycle shows an anomalous response of the middle atmospheric ozone, which is based on the observation data of Aura/MLS (the Microwave Limb Sounder on the Earth Observing System Aura satellite [Waters et al., 2006]) ozone version 4.2 and SORCE (Solar Radiation and Climate Experiment [Snow et al., 2005]) Mg II index version 10. We used the overlapped observation periods from August 2004 to July 2013, which includes the period of the solar minimum between solar cycle 23 and 24 (see Figure). The analysis shows that the Mg II index has high coherency with tropical ozone in the upper stratosphere. We will show the coherency of ozone and the Mg II index for the 27-day periods as a function of altitude and latitude in both the solar minimum and middle phases.