



## **The Role of Solar Heating in the Forcing of the Terdiurnal Tide**

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Solar tides are one of the most important features in the dynamics of the middle atmosphere. It is well known that diurnal and semidiurnal tides are mainly enhanced by absorption of solar radiation in the troposphere and stratosphere, respectively. However, terdiurnal tides can have an additional forcing due to nonlinear interactions between diurnal and semidiurnal tides. In a nonlinear global circulation model of the middle and upper atmosphere we analyze the contribution of solar heating to the total forcing of the terdiurnal tide. This was realized by separating the wavenumber 3 in the solar forcing and in the nonlinear advection terms of the model. By this model study we show that the forcing due to solar heating plays a major role and that the contribution from nonlinear interactions is much smaller.