

## ***Interactive comment on “Mean winds, SAO and QBO in the stratosphere, mesosphere and lower thermosphere over Ascension Island (8deg; S 14deg; W)” by K. A. Day and N. J. Mitchell***

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1> The authors tried to explain the large winds noticed during Mar/Apr 2002 is due to the Gravity wave-mean flow interaction. According to their approach when stratospheric easterlies, in between 10-70 hPa, are nearly absent then the large westward winds exists at MLT altitudes. If that is true then what about 2004 there also weak stratospheric westward winds are noticed, similar to 2002.

2> Another important issue is if the authors talking about the critical level filtering of GWs then they have to consider the stratospheric winds over the study region 8N not at equator. May be ECMWF winds/ MERRA winds are helpful.

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3> In addition to 10-70 hPa SQBO winds, the authors need to check the winds above 10 hPa to 84 km. Since there exists very strong westward winds ( $\geq 30$  m/s) between 5 hPa and 1 hPa (see ECMWF winds) during spring equinox. Those winds can act as a critical level. Then the waves with  $> 30$  m/s phase speed only reach MLT heights. So authors need to touch this issue to explain further.

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