

Interactive comment on “The 2009–2010 arctic stratospheric winter – general evolution, mountain waves and predictability of an operational weather forecast model” by A. Dörnbrack et al.

Anonymous Referee #1

Received and published: 1 February 2012

The paper by A. Doernbrack and co-workers deals with the dynamical evolution of the stratosphere during the winter 2009/10. The analyses of the meteorological situation are based on ECMWF operational analysis, the ERA-Interim reanalysis data and the ECMWF ensemble prediction system EPS. After a general description of the arctic vortex progression, special attention is paid to the polar vortex situation in early January 2010. Additionally aspects of forecast quality regarding the EPS and lee wave induced temperature anomalies leading to PSC formation are investigated.

The paper is well written, concise and presents a broad spectrum of scientific methods on different topics concerning the classification of polar winters, the quality of predic-

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tions and the relationship between horizontal divergence and temperature fluctuations.

My only point of criticism is already mentioned by the authors themselves and anonymous referee 2: this paper lacks a bit of a leitmotif. The RECONCILE campaign could have been one, but this is only touched. Surely this paper could have been split into at least three papers dealing with the main topics mentioned above. Nevertheless, this paper is a good description of the arctic stratosphere in the winter 2009/10.

I therefore suggest publishing this paper with minor technical corrections. Additionally to the list of anonymous referee 2:

P32540 L17: Replace 3.3 by 4

Figure 9: I would suggest to remove the headline of the figure. It looks to me more like a working title than a title suitable in a publication.

Figure 16: Replace the second panel index (a) with (b).

Figure 17: Replace the first panel index (b) with (a).

Interactive comment on Atmos. Chem. Phys. Discuss., 11, 32535, 2011.

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