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Interactive comment on "MIPAS Level 1B algorithms overview: operational processing and characterization" *by* A. Kleinert et al.

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LOS and NESR will be explained when mentioned for the first time.

10675 Nominal sequence is 68 to 6 km. Will be corrected.

10675 High resolution is not with respect to reduced resolution but a general remark. Anyhow we could mention at the end of the introduction that this paper covers the full resolution mission from 2002 to 3/2004.

10676 Absolute pointing value means pointing angle. In this case "value" will be replaced by "angles". These calibrated angles combined with spacecraft position are used to determine the geo-location of tangent point.

Sc and Sds are explained in the caption of Table 3.

10768 To clarify, we could write "obtained from weekly LOS calibration". LOS calibration is a special mode where the instrument is looking at stars to determine pointing errors.

10686 The NESR presentation will be re-phrased since we had several questions on it. Also, see some comments below.

10691 "Is irradiated" will be replaced by "enters the instrument"

Doppler shift is corrected using the relative speed between the spacecraft and the LOS tangent point.

The NESR depends (when the instrument is shot noise limited as opposed to detector noise noise limited) on the scene input radiance. More you have photons falling on detector more you have noise (or NESR). NESR0 is the lowest noise possible. i.e. for a scene of zero radiance. The requirement specifies the NESR0. We characterize it by looking at deep space (negligible radiance around 4K). NESR0 figure 1 reports characterizations against requirements. Also, in Level 1B, we report the NESR for each scene measurements (it is different from NESR0 since the input radiance is not 0, see comment above). We use the imaginary part to estimate it.

Deep space measurements are at 210km.

The issue of differences between forward and reverse is still under investigation. The main reasons are not known yet.

Section 2.4.1. A note will be added to mention that decimation produce a spike.

Section 4.1.2. The answer to this question depends on the L2 retrieval approach and may differ. From the experience of one author with their retrieval approach, a gain error of 5 % leads to a temperature error of about 1 K.

Interactive comment on Atmos. Chem. Phys. Discuss., 6, 10673, 2006.