



**Figure 2. Panel A:** Estimated percentage contribution of the a priori to the retrieval, as defined by Connor et al. [1995]. **Panel B:** Net precision (dashes) and accuracy (solid). Note: Blue refers to night-time profiles and red to day-time profiles. **Panel C:** A set of night-time averaging kernels. Nominal pressures (hPa) for the kernels shown: 56 (blue), 18 (purple), 6 (pale blue), 2 (red), 0.6 (blue dashed), 0.2 (purple dashed), 0.06 (pale blue dashed), 0.02 (red dashed). At the nominal altitude for each curve, the retrieved profile is the average of the true profile at all altitudes weighted by the averaging kernel. The corresponding retrieval resolution is also displayed.

### SUMMARY OF ERROR ANALYSIS:

**Altitude Coverage:** 56 hPa to 0.02 hPa (about 20 km to 74km) at night, 56 hPa to 0.05 hPa (about 20 km to 70 km) during the day. The altitude coverage of the measurement is taken to be that over which the averaging kernels are well defined and well centred on their nominal pressure levels, the measurement errors are small, and the contribution of the a priori profile to the retrieved profile is small.

**Vertical Resolution:** 6 km to 8 km from 56 hPa to 2 hPa, gradually increasing to a maximum of 14 km at 0.04 hPa. The vertical resolution is the full width to half maximum of the averaging kernels.

**Precision:** Increasing slowly from 3% at 56 hPa to 6% at 0.2 hPa, then more rapidly to a maximum of 15% at 0.02 hPa (for night-time measurements) and 0.05 hPa (for day-time measurements). These figures are for a five hour integration.

**Accuracy:** Follows precision; 6% to 10% between 56 hPa and 0.2 hPa. Maximum of 20% in the mesosphere.

**Precision and Accuracy** are largely unchanged compared to the former measurement specifications.

