1 IASI Principal Component Compression (PCC)

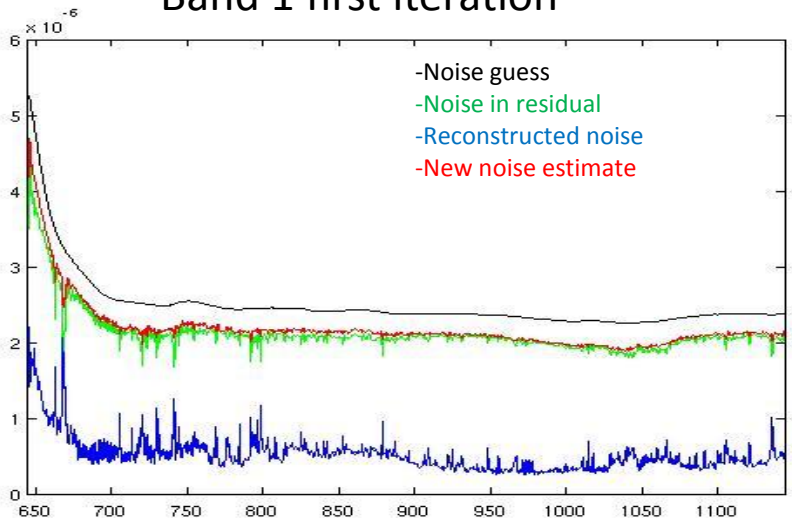
A. Describe generation of new eigenvectors
   - Noise estimate for normalisation
   - Addition of outliers to the training set

B. Present statistics separated per detector
   - Big differences in both PC scores and residuals

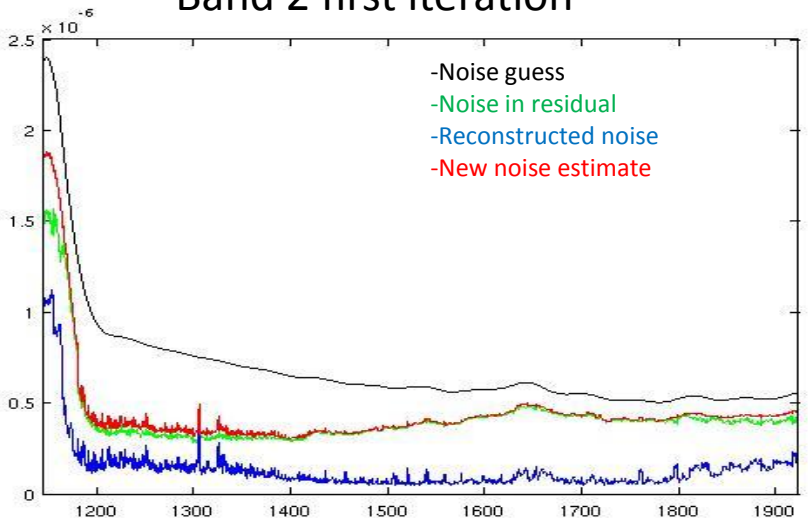
C. Are trace gas signals retained in the reconstructed radiances?
   -A first qualitative look

New noise estimate used for normalisation ➔ Reduced spatial correlation of the residuals

Band 1 first iteration



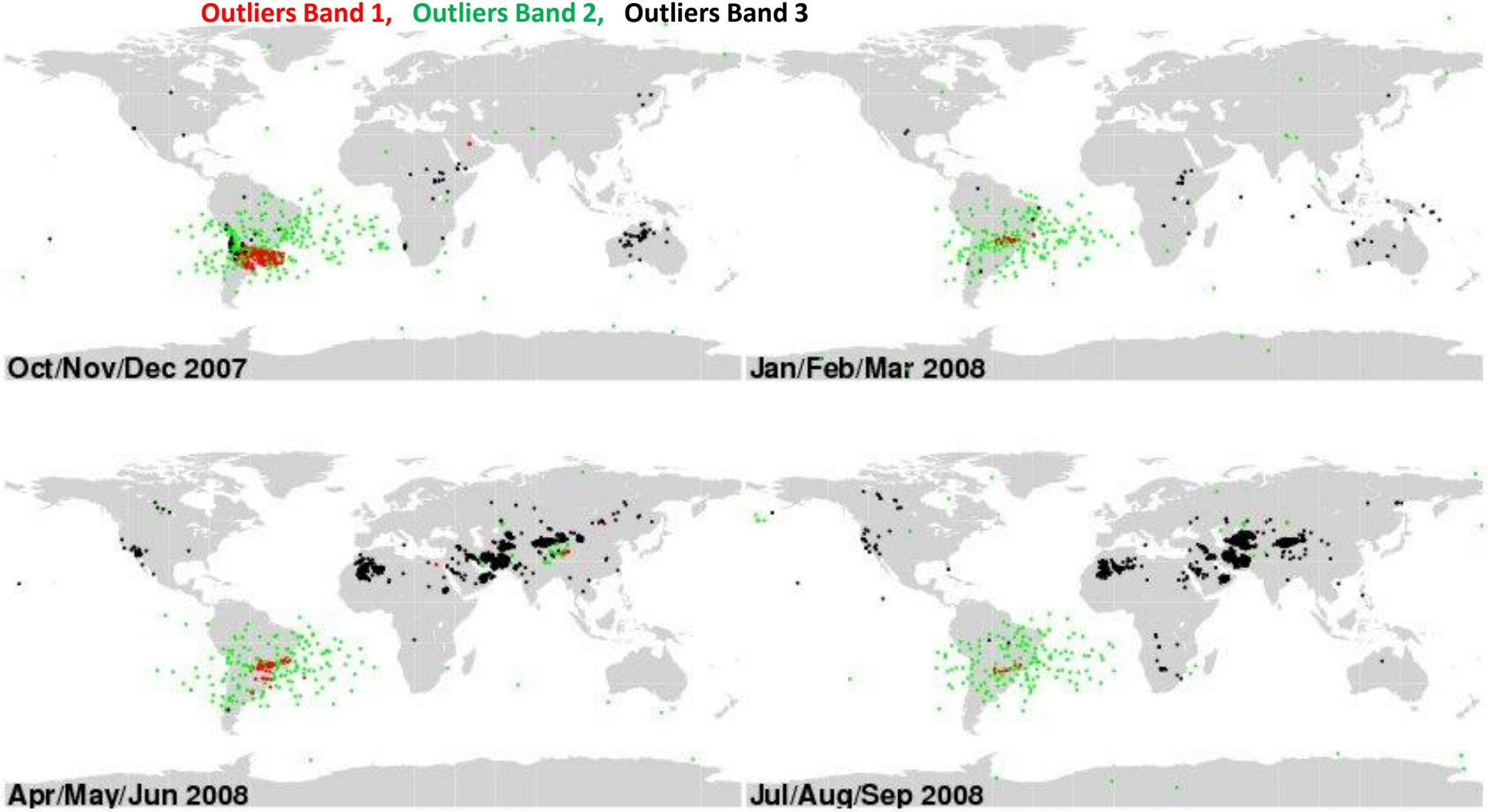
Band 2 first iteration



2 IASI Principal Component Compression (PCC)

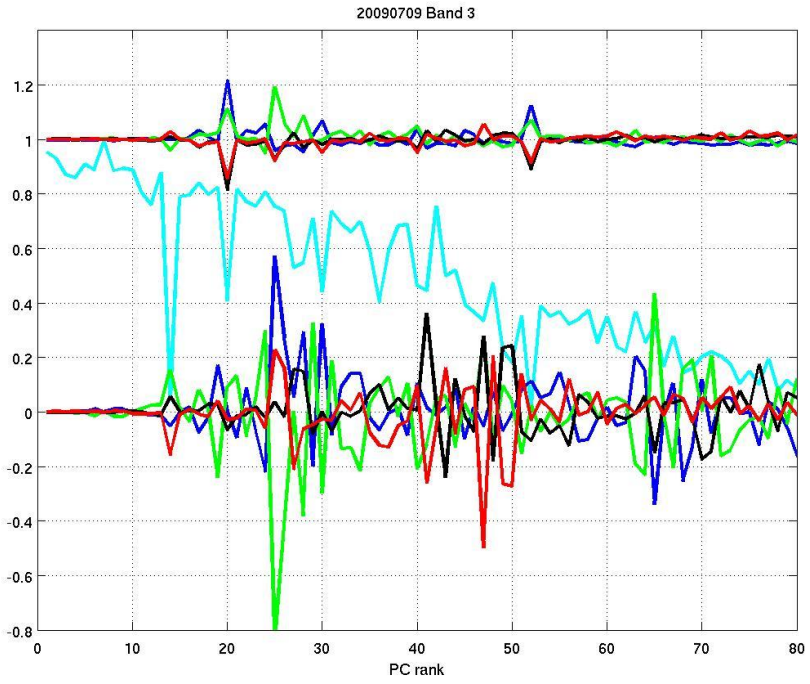
Adding outliers to training set ➔ Capture rare spectral features in truncated eigenvector space

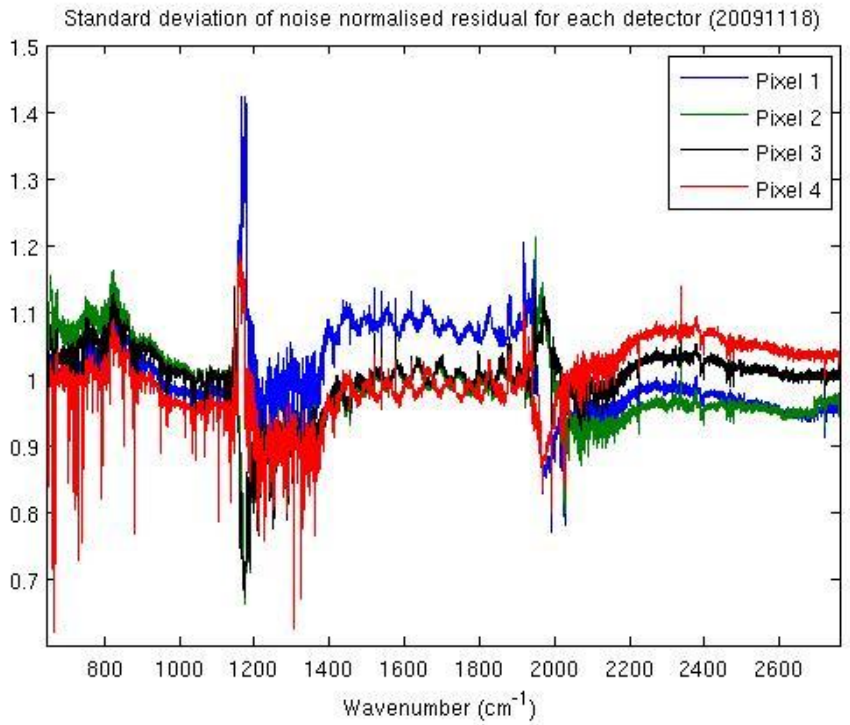
Outliers Band 1, **Outliers Band 2,** **Outliers Band 3**



3 IASI Principal Component Compression (PCC)

Separate statistics for each of the four detectors are presented for both the PC scores and the residuals





4 IASI Principal Component Compression (PCC)

The first qualitative results indicates that PC compression is able to retain the trace gas signals in the reconstructed radiances.

More detailed and quantitative studies into trace gas retrievals using reconstructed radiances are recommended.