UARS MLS V6 H2O

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March 30, 2007

1   A bit of history

In the late 1990s I was working on improving the quality of the MLS water vapour product. To do this, I wrote my own retrieval scheme, tested it, processed the entire data set and validated the result. These data were sufficiently better than the then-current official data (V0004) that I released them for others to work with. As UARS file names had four digits and no other characters for the version number, I called this data V0104: it was my first version and based on the fourth production version. I appropriated the leading two digits for myself as I believed that neither I nor the rest of the MLS team would ever produce 99 versions. The V0104 data is documented in [1] and is further described in [2].

The current (and almost certainly last) version of the UARS MLS data, for most species, is version 5 [3]. On examination, although version 5 was an improvement for most species, the version 5 H_2O product was found to be less satisfactory than the V0104 data. It was therefore decided that the V0104 data would become the officially-sanctioned MLS H_2O product. But it could not do so under a strange-looking version number like V0104. It had to become V0006 and for this to be achieved, the data files needed to be tidied up somewhat.

- The file names were changed so that the version number was V0006

- The first record of the file was changed so that it was padded out correctly and did not contain a hidden silly remark.

- Some of the items in the second record were corrected.

  - The time of the last record was fixed to be correct. It was a bit random in the V0104 files.
  - The version was set to 6.

Otherwise, the data were not altered in the slightest: V0006 is EXACTLY THE SAME DATA as V0104, exactly as documented in references [1, 2].

2   Obtaining the data

The data may be downloaded from `http://disc.gsfc.nasa.gov` and may at some point be available at `http://badc.nerc.ac.uk`

3   Usage Notes

In addition to this document, you should obtain

- References [1] and [2].

- The file `OOREADME` that was supplied with the V0104 data.

- The file `MMAF_STAT_SUMMARY.dat`

Make sure you have read the references and `OOREADME`. The latter contains some information on software, websites and contact details which is now out of date. (Please use `H.C.Pumphrey@ed.ac.uk` as my contact email address.) But the rest of the file is all relevant, including the instructions about interpreting `MMAF_STAT_SUMMARY.dat`.

References

[1] Hugh C. Pumphrey. Validation of a new prototype water vapor retrieval for UARS MLS. *J. Geophys. Res*, 104(D8):9399–9412, 1999.

[2] Hugh C. Pumphrey, Hannah L. Clark, and Robert S. Harwood. Lower stratospheric water vapor as measured by UARS MLS. *Geophysical Research Letters*, 27(D12):1691–1694, 2000.

[3] Nathaniel J. Livesey, W.G. Read, L. Froidevaux, J.W. Waters, M.L. Santee, H.C. Pumphrey, D.L. Wu, Z. Shippony, and R.F. Jarnot. Microwave limb sounder version 5 dataset: Theory, characterization and validation. *Journal of Geophysical Research*, 108(D13):4378, 2003.