URL: http://cxc.harvard.edu/ciao3.4/bugs/mkarf.html
Last modified: 21 November 2006

Bugs: mkarf

Caveats

1. ***The energy grid of the ARF and RMF files must be the same for use in XSpec.*** ***(25 Aug 2006)***

   Sherpa allows you to use different energy grids for your ARF and RMF files, but *XSpec* does not. Note that *XSpec* will still run if the grids do not match, but it issues a warning and sets all values in the ARF to unity (1).

   1. ***Create the RMF first***

      Since `mkacisrmf` can change the requested grid to match the calibration data, create the RMF first and then use it to define the energy grid when creating the ARF. This will work for both `mkarf` and `mkwarf`:

      ```
      unix% pset mkarf \
            engrid="grid(sources_ciao.wrmf[cols ENERG_LO,ENERG_HI])"

      or

      unix% pset mkwarf \
            egridspec="grid(sources_ciao.wrmf[cols ENERG_LO,ENERG_HI])"
      ```

   2. ***Match an existing ARF***

      If the `specextract`, `psextract` or `acisspec` scripts were used, you already have an ARF file for the data. Rather than remake both the RMF and ARF, get the grid information from the history in the ARF file:

      ```
      unix% dmhistory acis_src1.warf tool=all
      # dmhistory (CIAO 3.4): WARNING: Found "pixlib" library parameters

      # dmhistory (CIAO 3.4): WARNING: Found "ardlib" library parameters

      mkwarf infile="acis_src1.[WMAP]" outfile="acis_src1.warf" weightfile="acis_src1.wfe
      spectrumfile="" egridspec="0.3:9.5:0.01" threshold="0" feffile="CALDB"
      mskfile="" mirror="HRMA" detsubsysmod="" ardlibpar="ardlib" geompar="geom"
      clobber="no" verbose="2"
      ```

      Your file may have been created with `mkarf` instead of `mkwarf`; the `dmhistory tool=all` will show the tool used in either case.

      Use the `egridspec` value (or `engrid` in the `mkarf` case) as input for the `energy` parameter in `mkacisrmf`:

      ```
      unix% pset mkacisrmf energy="0.3:9.5:0.01"
      ```

   The mkacisrmf analysis thread has information on creating the RMF file.

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