

12. Appendices

The Appendices to the *FIRAS* Explanatory Supplement are as follows:

- A. Full text of Fixsen, D.J., *et al.* 1996, “The Cosmic Microwave Background Spectrum from the Full *COBE FIRAS* Data Set”, *ApJ* 473, 576.
- B. Full text of Mather, J.C., D.J. Fixsen, and R.A. Shafer 1993, “Design for the *COBE* Far Infrared Absolute Spectrophotometer (*FIRAS*)”, in *Proc. SPIE*, vol. 2019, pp. 168-179, Conf. on Infrared Spaceborne Remote Sensing, in San Diego, CA, 11-16 July 1993 (SPIE: Bellingham, WA).
- C. Full text of Fixsen, D.J., *et al.* 1994b, “Calibration of the *COBE FIRAS* Instrument”, *ApJ* 420, 457.
- D. Full text of Bennett, C.L., *et al.* 1994, “Morphology of the Interstellar Cooling Lines Detected by *COBE*”, *ApJ* 434, 587.
- E. Full text of Read, S.M., *et al.* 1992, “The *COBE FIRAS* Project Pipeline Software System”, in *Proc. Astronomical Data Analysis Software and Systems (ADASS) I*, Astron. Soc. Pacific Conference Series 25, ed. D.M. Worrall, C. Biemesderfer, and J. Barnes (ASP, San Francisco), p. 524.
- F. Full text of Isaacman, R.B., S.M. Read, and W.J. Barnes 1992, “Pattern Matching in *COBE* Spectral Analysis”, in *Proc. Astronomical Data Analysis Software and Systems (ADASS) I*, Astron. Soc. Pacific Conference Series 25, ed. D.M. Worrall, C. Biemesderfer, and J. Barnes (ASP, San Francisco), p. 403.
- G. Concatenated primary and extension headers for *FIRAS* FITS format files:
 - Coadded Calibration Interferograms
 - Coadded Sky Interferograms
 - Calibrated Calibration Spectra
 - Calibrated Sky Spectra
 - Differential Calibration Spectra
 - Differential Sky Spectra
 - Destriped Sky Spectra
 - Coadd-Based Zodiacal Light Model
 - Pixel-Based Zodiacal Light Model

- DIRBE Gradient Kernel
- Physical Stripes
- Orthogonal Stripes
- C Vector
- A Vector
- Covariance Matrix
- Chi-Squared
- Calibration Model Solution
- Calibration Errors
- Combined Calibration Errors
- Model Selection Errors
- Low Frequency Line Profiles
- High Frequency Line Profiles
- Low Frequency Line Map
- High Frequency Line Map
- Dust Spectrum Map
- CMBR Temperature Map

H. Record Definition Language Files for *FIRAS* Native VAX Binary Format Files:

- Sky and Calibration Data Index Records
- Time-Ordered Interferogram Records
- Engineering Data Records
- Housekeeping and Ancillary Data Records
- Engineering Mode Timing Records
- Reference Datasets

I. *FIRAS* ASCII Format Reference Datasets:

- FEX_GLTCHCOR.TXT: Glitch rate correction parameters
- FEX_VIBCORRL.TXT: Vibration correction frequency offset indices
- FEX_CMDGAIN.TXT: Actual values of commanded instrument gains

FEX_SAMPRATE.TXT: Mirror transport mechanism sampling rate

FEX_MTMSWEEP.TXT: Mirror transport mechanism scan times

FEX_CTH.TXT: Coaddition consistency check thresholds

FEX_MINCOADD.TXT: Minimum number of IFGs

FEX_GRTCOAWT.TXT: GRT weights for coadded IFGs

FEX_GRTRAWWT.TXT: GRT weights for raw IFGs

FEX_GRTTRANS.TXT: GRT low/high current transition temperatures

J. Listings for the *FIRAS* FITS and Native VAX Binary Format File Reading Programs:

DATAIN: Header for the *UIDL* program

FIRASMOD: Header for the *UIDL* program

FIRAS_READ: Listing of the FORTRAN program

READ_FSS: Listings of the FORTRAN and C programs