

# To-Do and Wish List

## High Priority

- Regression testing scripts (AD)
- Xcube support (at least one way of getting Xcube data into DiFX)
- Mark6 support (at least one way of getting Mark6 data into DiFX) see [difaxmark6](#)

## Medium Priority

- ~~Timerange selection in difx2fits~~ (Job-level granularity implemented by Helge: filtereddifx2fits)
- ~~Fix the problem where interleaved VDIF packets don't all start at the same time for all threads~~ (problem solved by vdifmux)
- Add project code to difx messages
- Choose framework for unit testing. Implement test cases (JM)
- Add DiFX diagnostics
- Add per-IF phase polynomial in the calc file (and delay polynomial, too?)
- Documentation
  - Putting doxygen of mpifxcorr source on a webserver
- evlbi
  - reconnection/long term drop-outs (CP)
  - reliability with UDP data (CP)
  - real-time delay/rate adjustment (CP)
- Maintain database of benchmarking results (JM)
- Phased array (RS, CR).
- visplot (CP, JS)
- Investigate sampler stats monitoring (AD/WB/CP)
- subband distribution/parallelisation (with VDIF) (AD/CP)
  - replumbing/refactoring vex2difx setup
- Transition to using band centres instead of band edges (WB)
- Baseband data generator for producing test datasets. (NP,ZMZ)
- Parallelised calc server / Efficiency gains in CALC (same time, different sources etc)
- Store polynomial tau(l, m) generalized delay model in FITS (WB,JM)
- Mixed module and file list on one station
- ~~Convert all LSB bands to USB on unpacking~~

## Low Priority

- Check the relative signs of 1-bit / 2-bit unpacking
- ~~Source selection / deselection in difx2fits~~ (Job-level granularity implemented by Helge: filtereddifx2fits)
- IF selection in difx2fits
- addZoomFreq in the SETUP section (applies to all antennas)
- Documentation Algorithms
  - monitoring, etc - (list of error codes) (AD)
- Play back from both Mk5 banks in parallel (WB)
- Still produce one FITS file even when there was a clock change during the correlation

- vex2difx to create an input file setup to be used with vlbi\_fake
- Refactoring the mpifxcorr/mk5daemon libraries and merging functionality
- Move to a binary format for pcal files and name by datastream not by antenna name
- vex2 support (relies on vex2 finalization and some support from field systems)
- On-the-fly application of calibration (bandpasses etc) with appropriate accountability
- Modernize sniffer
- cleanup of DiFX error messages
- K5 format support (CP)
- Space VLBI
  - Baseline dependent averaging
- eVLBI gui
- ~~Generic startup scripts (CR)~~ Cormac added support for PBS batch queueing
  - Documentation of startup philosophy
- Shifted FT (moving channel boundary to edge of band) (AD)
- DiFX2fits uv shifting in trunk (JM/AD)
- Auditing / refactoring the amplitude scaling
- Pulsar predictor support in "polyco"
- Get rid of printing to screen in mark5access (change to be called and printed from elsewhere)
- Get Eric to improve AIPS PCAL (multi tone)
- Improve the runtime predictor (make better use of the new cluster configuration file, better estimate true load)
- Restitching contiguous zoom bands into wider bands (e.g. for ALMA)

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