

DiFX2.0 phased array processing

DiFX2.0 is planned to include (at some stage) the ability to produce a phased array output, rather than a normal cross-correlation output. This will rely on the model provided to the correlator being perfect for phasing, and so will require a two-pass approach: one pass in normal cross-correlation mode to identify the delay/phase adjustments to phase up, and one pass in phased-array mode where the signals are added rather than multiplied.

It is planned that the phased array output will be capable of providing two kinds of data product:

- a time series, where the data have been transformed back into the time domain after the addition (presumably for use with coherent dedispersion studies); and
- a filterbank, where some accumulation can be performed before the data is written out (presumably mostly used for pulsar searching/timing or transient studies, with incoherent dedispersion)

It is envisaged that the time series style output will be written in VDIF format, and the filterbank style output will be written like a normal DiFX output (see the [file formats](#) page for more details on these).

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