

Chris' Note on Configuration Coding

`int getMaxNumChannels()` Returns the maximum number of spectral channels of all frequency bands.

`int getStartMJD()` Return the MJD of the start of the correlation

`int getStartSeconds()` Return the seconds from start of UT day at the start of correlation

`int getCoreResultLength(int configindex)` Return the size in "complex floats" (cf32) of the data blob containing all complex cross correlations, real autocorrelations and associated weights.

`int getCoreResultBaselineOffset(configindex, freqindex, baselineindex)` Return cf32 offset to the start of freq/baseline cross correlation data

`int getCoreResultBWeightOffset(configindex, freqindex, baselineindex)` Return cf32 offset to start of f32 weight array for freq/baseline

`int getCoreResultAutocorrOffset(configindex, datastreamindex)` Return cf32 offset to start of autocorrelation data

`int getCoreResultACWeightOffset(configindex, datastreamindex)` Return cf32 offset to start of autocorrelation weights

Looping Over All Products

The following loops iterates over all products

```
int binloop = 1;
if(config->pulsarBinOn(configindex) &&
!config->scrunchOutputOn(configindex))
    binloop = config->getNumPulsarBins(configindex);

for (int i=0;i<config->getNumBaselines();i++) {
    // i loops over all baselines
    int ds1index = config->getBDataStream1Index(configindex, i);
    int ds2index = config->getBDataStream2Index(configindex, i);

    for(int j=0;j<config->getBNumFreqs(configindex,i);j++) {
        // j loops over all frequencies for this baseline
        int freqindex = config->getBFreqIndex(configindex, i, j);
        int resultindex = config->getCoreResultBaselineOffset(configindex,
freqindex, i);
        int freqchannels =
config->getFNumChannels(freqindex)/config->getFChannelsToAverage(freqindex);

        for(int s=0;s<model->getNumPhaseCentres(currentscan);s++) {
            for(int b=0;b<binloop;b++) {
                for(int k=0;k<config->getBNumPolProducts(configindex, i, j);k++) {
```

```
points //results[resultindex] is start of vector of freqchannels spectral
      resultindex += freqchannels;
    }
  }
}
```

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