KFPA Pipeline Background

- Other telescopes routinely provide roughly calibrated data to their users.
  - Most telescopes consider that the starting point of a data reduction pipeline. This pipeline, however, is to get to that starting point. Calibrated data plus initial image.
- "The initial observing modes should be kept simple yet effective - even at the cost of reduced flexibility for observers." - GBT KFPA Critical Design Review Final Report.

Pipelines

- Imperative for large FPA. High data rates.
- More than just a handy quick-look tool.
- Defaults should aim to avoid costly reprocessing.
  - Defaults can be context specific
  - Reprocessing is painful (high data rates)
- Not a data processing environment
- Likely to be useful beyond KFPA, but that isn't our mandate at the moment.

Goals of the Prototype Pipeline (KFPA Critical Design Review - Jan. 2009)

- Support KFPA commissioning
- Explore new processing tools/techniques not yet widely available in GB (vector calibration, statistical data flagging and editing, visualization, parallel processing).
- Prototype an automated pipeline
- Prototype tools necessary to support larger focal plane arrays (e.g. parallel computing)
- Based on prototype tools, estimate costs associated with delivering a pipeline and necessary computing hardware to handle the expected data rates for a larger focal plane array.

Out-of-scope items (deferred) (Critical Design Review)

- complicate calibration schemes (e.g. "basketweaving" or it's FPA equivalent)
- cross-correlation
- continuum