

# Stack-Slide LAL Code

- P. Brady  
- T. Creighton

What we promised

What we've got

- ✓ Preconditioning:  
LowPassFilter()
- ✓ Applying corrections:  
resampling time series  
sliding power spectra  
summing power spectra
- ✗ Metric formalism:  
efficiently sampling the  
parameter space

Generalized package  
tdfilters

CreateResampleRules()  
ApplyResampleRules()  
ApplySlideRules()  
SumSpectra()

Not started

# Package tdfilters

- Compute zeros, poles, gain of transfer function for a given frequency response:
  - currently implemented for low-, high-pass filters, but easily generalized.
- Convert any zeros-poles-gain transfer function to a time-domain filter.
- Apply time-domain filters pointwise to data in realtime, or to data vectors, in an efficient manner.

# Package stackslide

- `CreateResampleRules()`

- Generates a list of decimation corrections from a TEMPO-style barycentring model.

- `ApplyResampleRules()`

- Decimates and resamples a time series according to the above rules.

- `ApplySlideRules()`

- Slides a set of power spectra according to a frequency model.

- `SumSpectra()`

- Adds a corrected set of power spectra and searches for peaks.

## What's next?

- Basically ~1 month behind on deliverables, due mostly to startup in coding to LAL standard.
- Hopefully can make up for this, and be back on track by beginning of summer.
- Next: parameter-space metric and parameter selection.

Mid-June: Assemble components and begin testing on simulated data.

Mid-September: Continue testing on prototype/engineering data.

Mid-November: Broad-area searches.

31 February, 2001: Testing complete.