

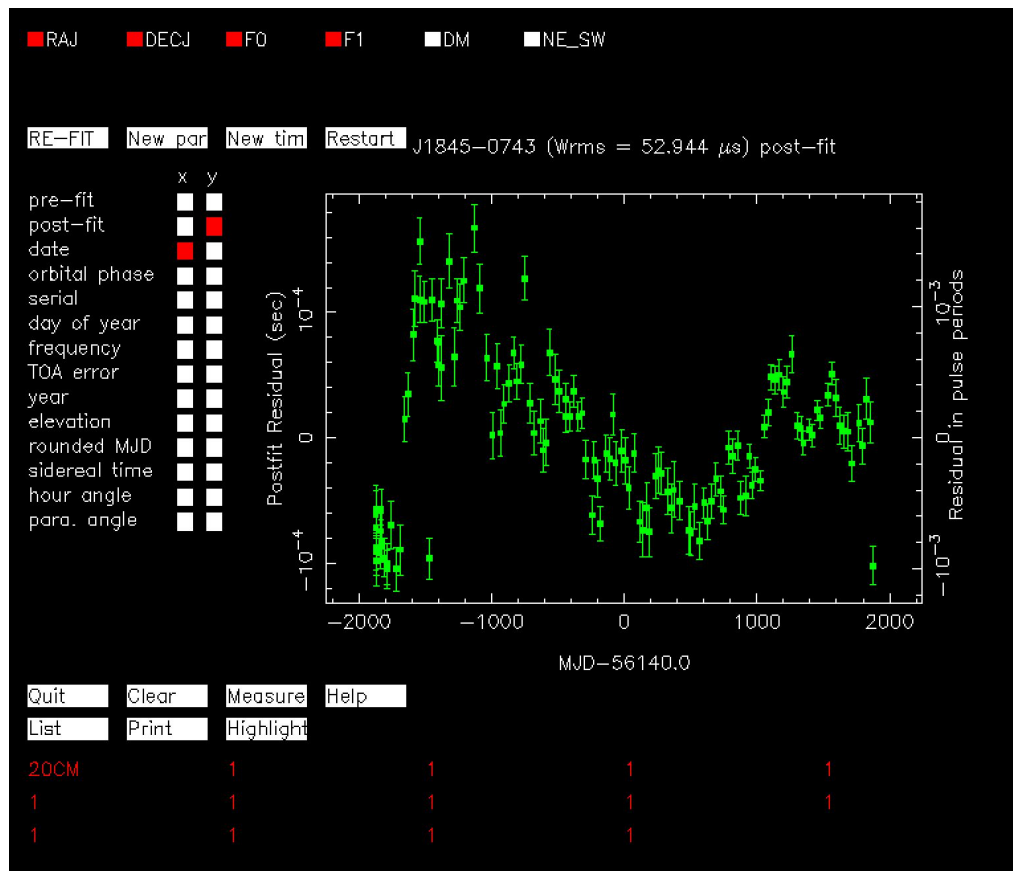


Pulsar Inference Tools

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Tempo & Tempo2

- Standard pulsar timing tool
- Code Repository:
<https://bitbucket.org/psrsoft/tempo2/src/master/>
- Intuitive user interface
- Lots of plugins!
 - Generalised Least Squares
 - TempoNest
 - Glitch finding
 - Timing residual simulations
- More during Tempo2 activity.



Libstempo



- Python wrapper for Tempo2
- Useful for integrating tempo2 functions into codes.
- Most useful for simulating timing residuals with stochastic parameters and GW signals.
- Code repository: <https://github.com/vallis/libstempo>
- Python notebooks available online.

PINT (PINT is not Tempo3)



- Pure python based alternative to Tempo2.
- Can easily be installed on OzStar and works!
- Supports sampling algorithms (e.g emcee) for least-squares fitting.
- Code repository: <https://github.com/nanograv/PINT>

Enterprise



- Bayesian sampling of stochastic pulsar parameters.
- BAYESEPHM (come to Steve Taylor's talk tomorrow)
- Code repository:
<https://github.com/nanograv/enterprise>
- More during the activity.

TempoNest



- Bayesian plugin for Tempo2
- Samples both stochastic and deterministic parameters (only tool available)
- Enables model selection.
- Uses MultiNest (default) and PolyChord.
- Code repository:
<https://github.com/LindleyLentati/TempoNest>
- More during the activity.

TempoNest2

- Software for performing wide-band, profile domain pulsar timing!!
- Uses GPUs.
- Models profile shape stochasticity, frequency evolution, stochastic timing model parameters, scattering, DM variations and deterministic parameters simultaneously.
- Code repository: <https://github.com/LindleyLentati/TempoNest2>
- Used in ~4 papers by Lentati et al.
- Not in active development.... :-)