CTA-Pol update

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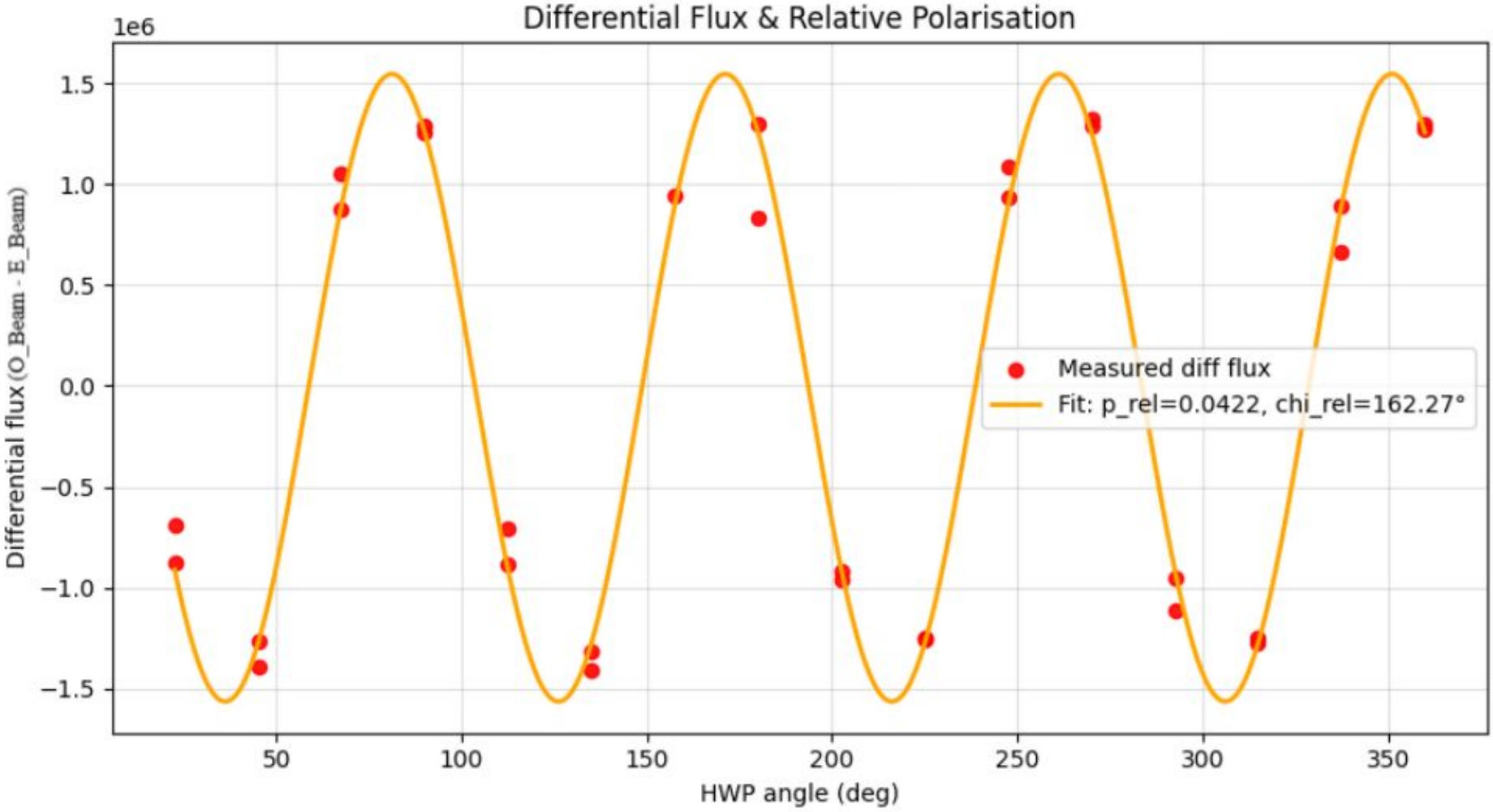
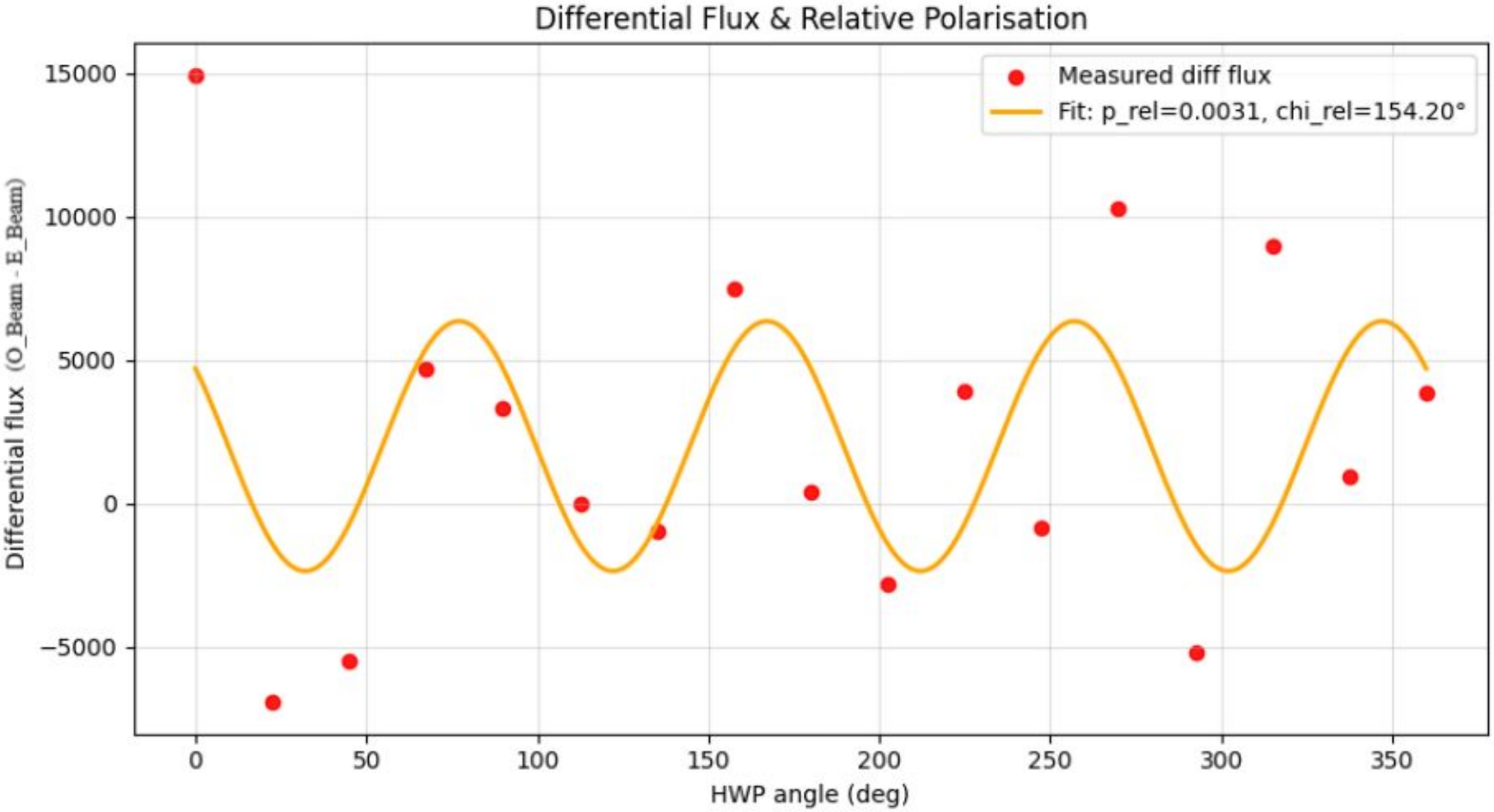
So far…

The prototype 3d printed version works well

- mechanical OK; stepper rotation under direct terminal command
- optical OK; alignment, focus
- polarisation OK;
  - polarisation of o Sco (4%) recovered by Ahmad (MRes end of last year)
  - upper limits on unpolarised stars (<1%)


Differential Flux & Relative Polarisation
1e6
1.5
1.0
0.5
0.0
−0.5
−1.0
−1.5
Differential flux (O_Beam - E_Beam)
50
100
150
200
250
300
350
HWP angle (deg)
Measured diff flux
Fit: p_rel=0.0422, chi_rel=162.27°


Differential Flux & Relative Polarisation
Measured diff flux
Fit: p_rel=0.0031, chi_rel=154.20°
Differential flux (O_Beam - E_Beam)
HWP angle (deg)
15000
10000
5000
0
−5000
0
50
100
150
200
250
300
350

Current / future …

Winter observing season at Penrith:

- push target brightness down to blazar levels (>12ish mag)
- push polarization precision down
    - recover polarised standards
    - limit on unpolarised stars over large brightness range
- blazar polarisation meaurements
- test observing protocols
- develop blazar catalogue (NN)

Convert to fully-fabricated instrument

Further out…

Aim for 2.3m tests late in the year (need to coordinate with CW)

- design/build 3-d printed prototype
- assemble source catalogue
- go test!

Software:

automation

integration with 2.3m systems

integration with TOO frameworks

CTA-Pol-prime

Funding for extra instrument:

- Design/spec/purchase
- Possible telescopes

Big Picture

There may be an Elephant in the Room.