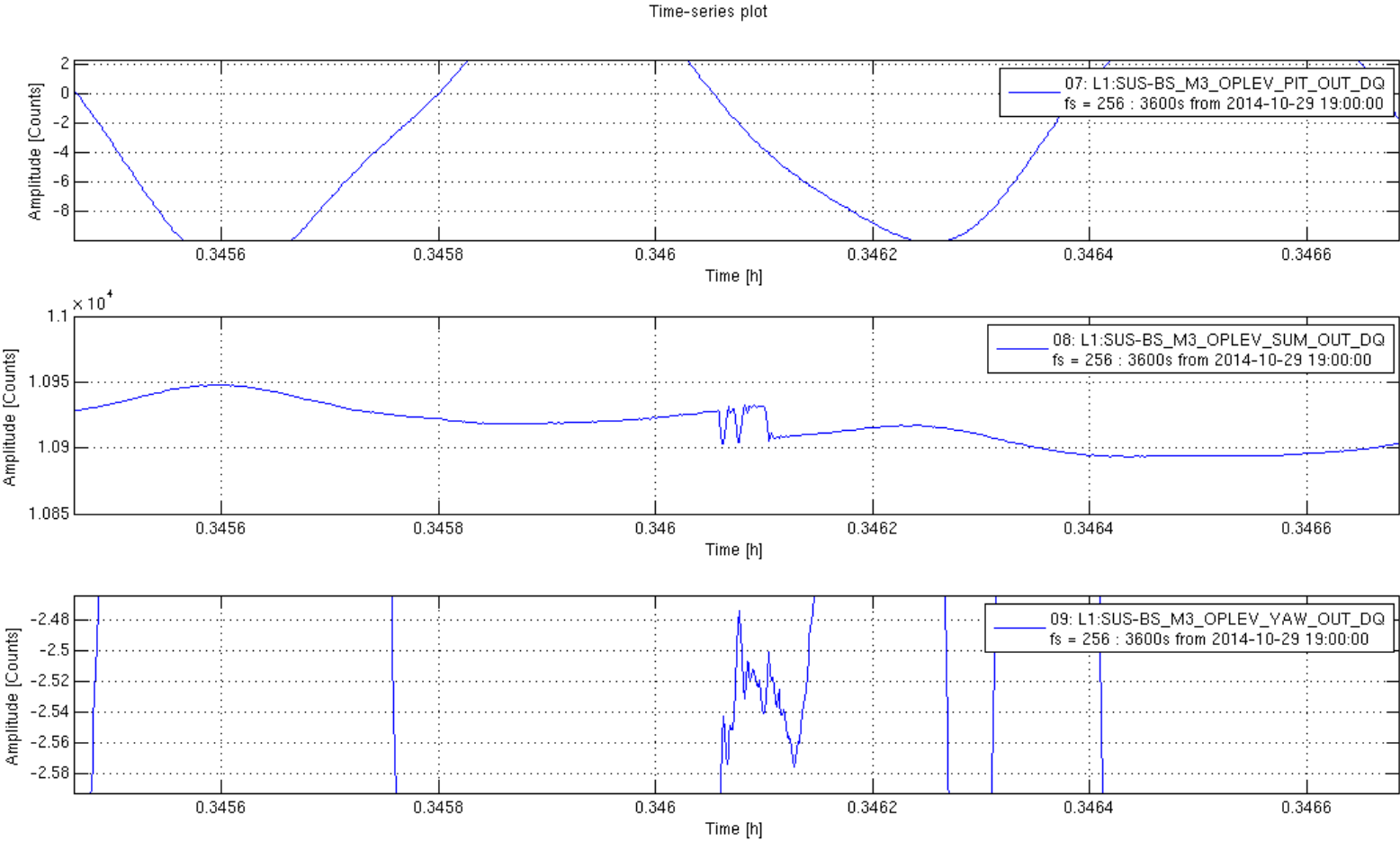# Oplevs
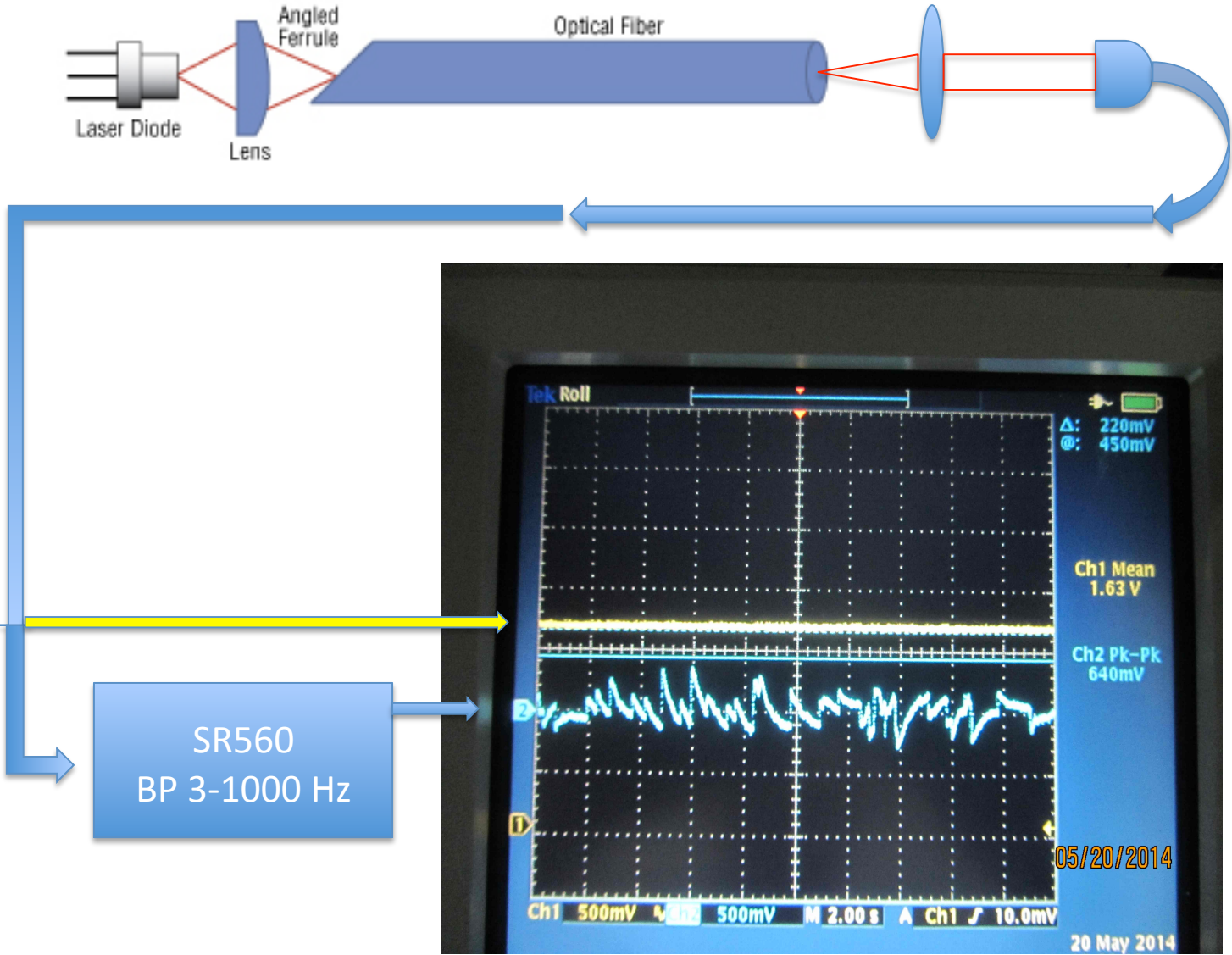
What ails them:

1) glitchy laser

2) glitchy whitening boards

3) Oplev pier motion

4) Spot size and shape

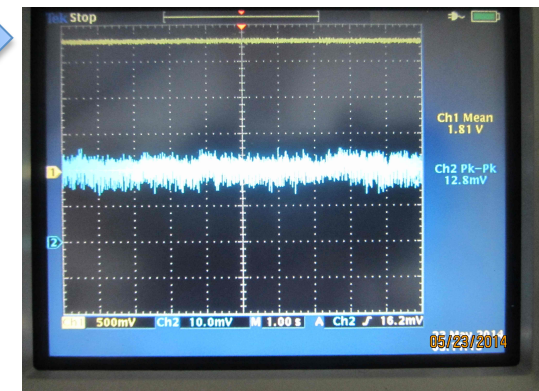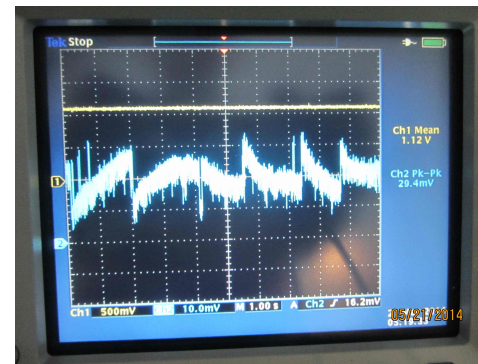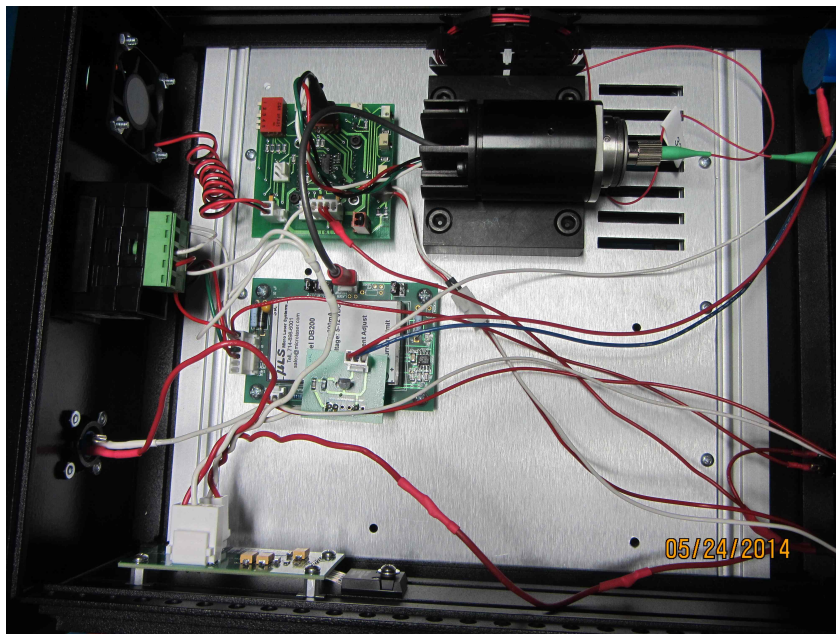5) QPD quadrant asymmetries

What do laser power glitches do?

Glitchy lasers

Early work on fixing the diode laser

1) Reduce optical feed back from the fiber tip   (stability over 100 s)
2) Choose an operating temperature / power   (50% power loss stability ~ 1 hr)
3) Change the set-point of the T controller (20% power loss, stablility ~6 hrs)
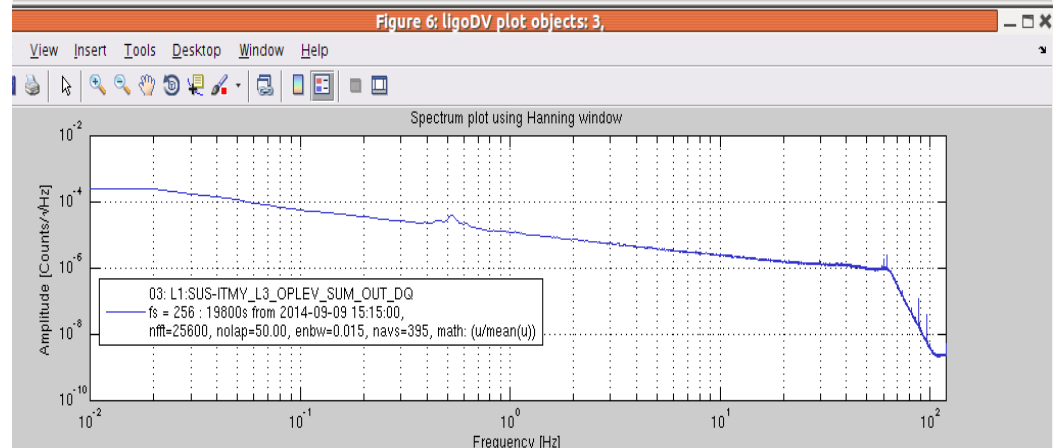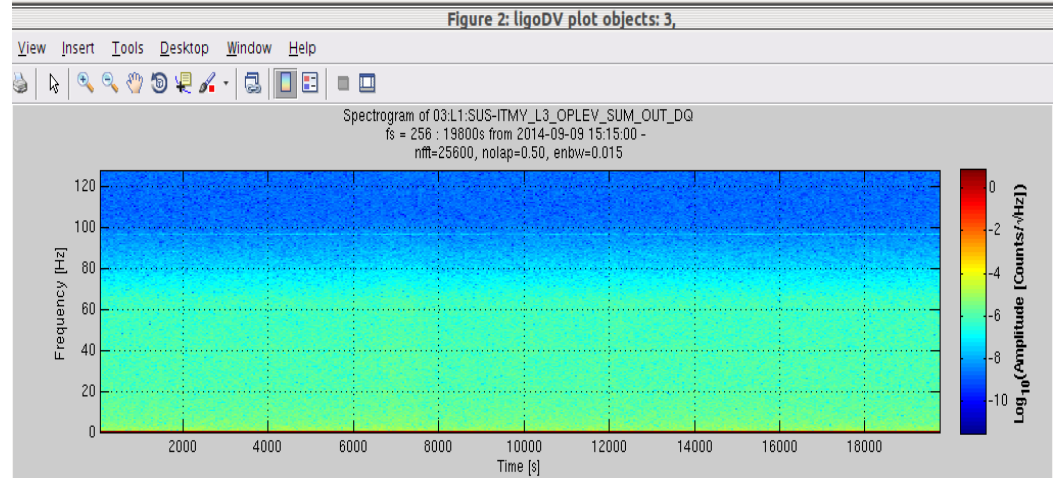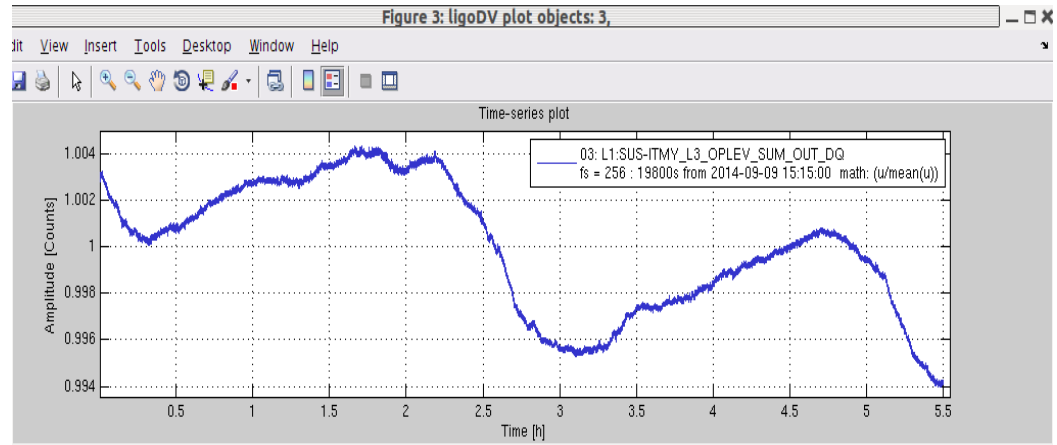
4) Results in 23 May'14 : 12747

General response:

- "who cares, we don't use them anyway"
- "If you can prove that they work we might consider using them"
- "Oh! But they are not really fixed, they glitch after a while"
- ….. (silence)
- "We cant use them unless they are glitch free over days"
- "If we have one lock loss in day due to an oplev we are not going to use them"

The stable LD fix

1) Reduce feedback from fiber tip
2) Adjust set-point of T control
3) Place the laser in a ice box
4) Remove the voltage stabilzer

Results in alog 14511

A fixed laser stays fixed: L1_ITMY oplev after 7 weeks