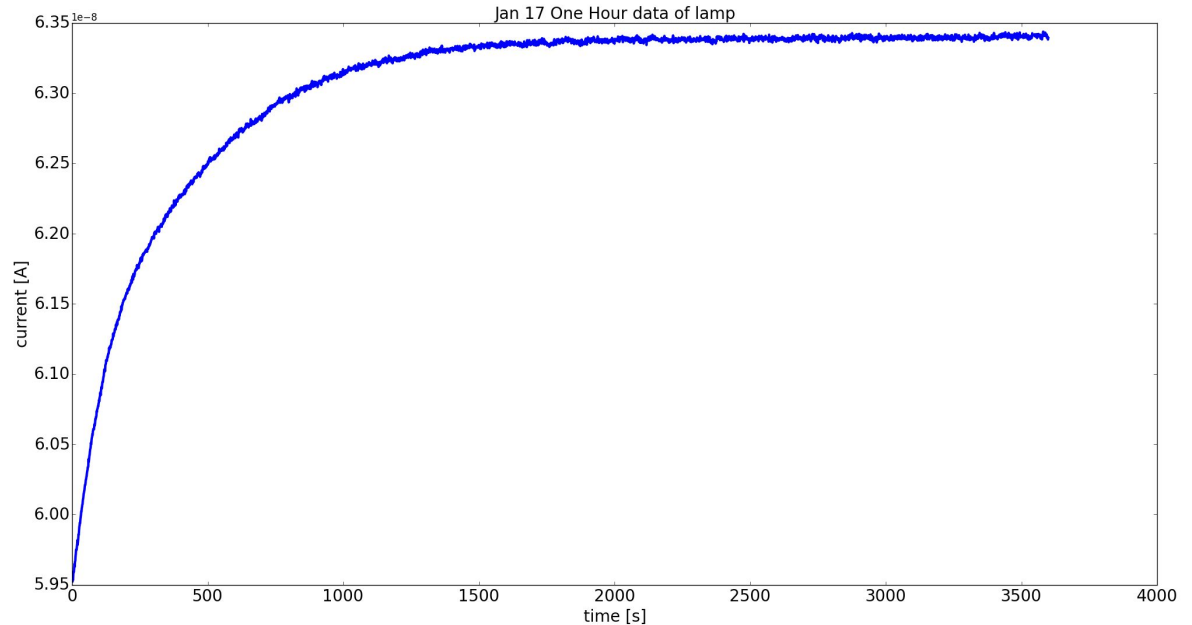


Weekly Meeting

Jan 31/ 18

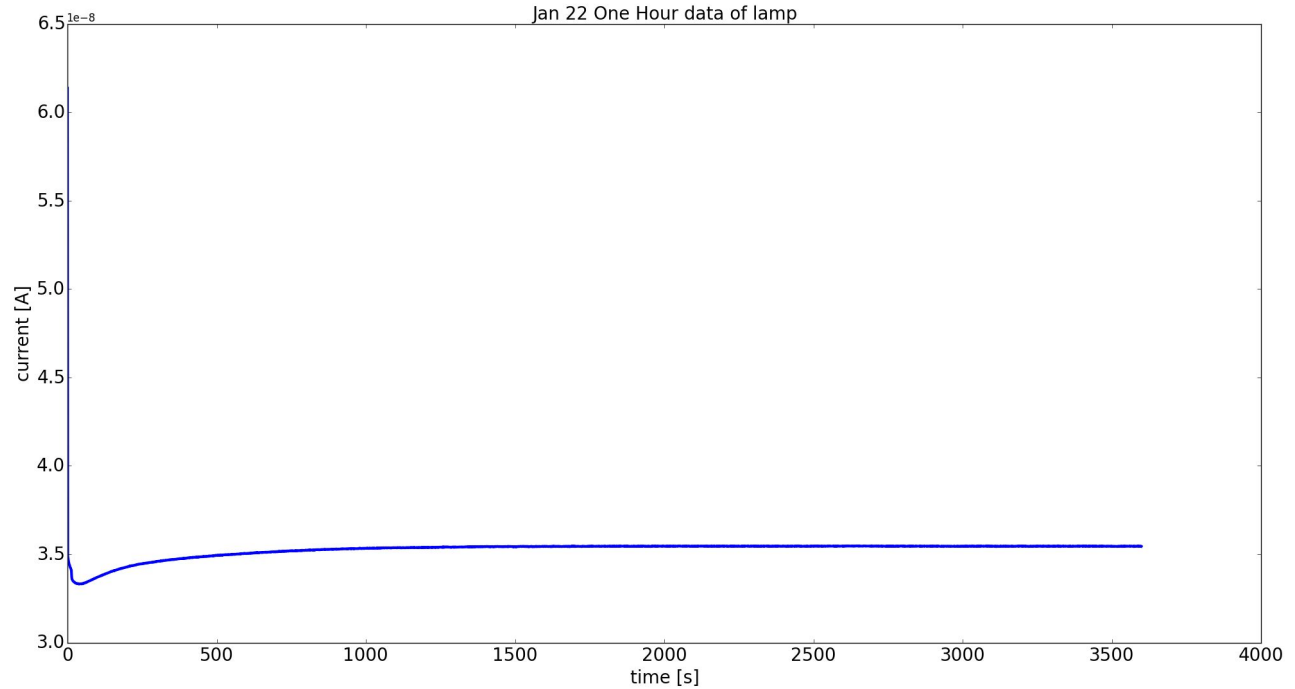
1 Hour trials (Recap from last week)

- 1 hour trial at 250 nm with sample rate of 1 sample per second
- Tapers off at around 2000 seconds (roughly 33 minutes)
- 3600 points so 1 hour



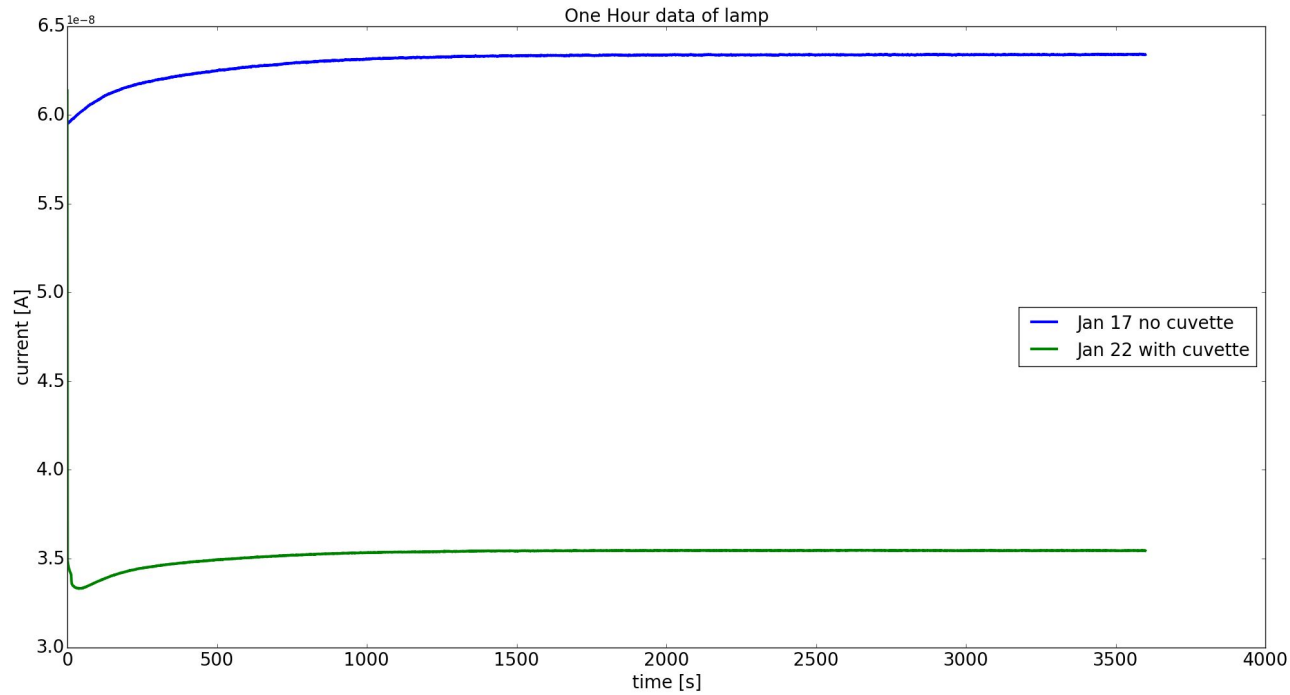
1 Hour trials (Recap from last week)

- This is with cuvette



1 Hour trials (Recap)

- Compare with and without cuvette



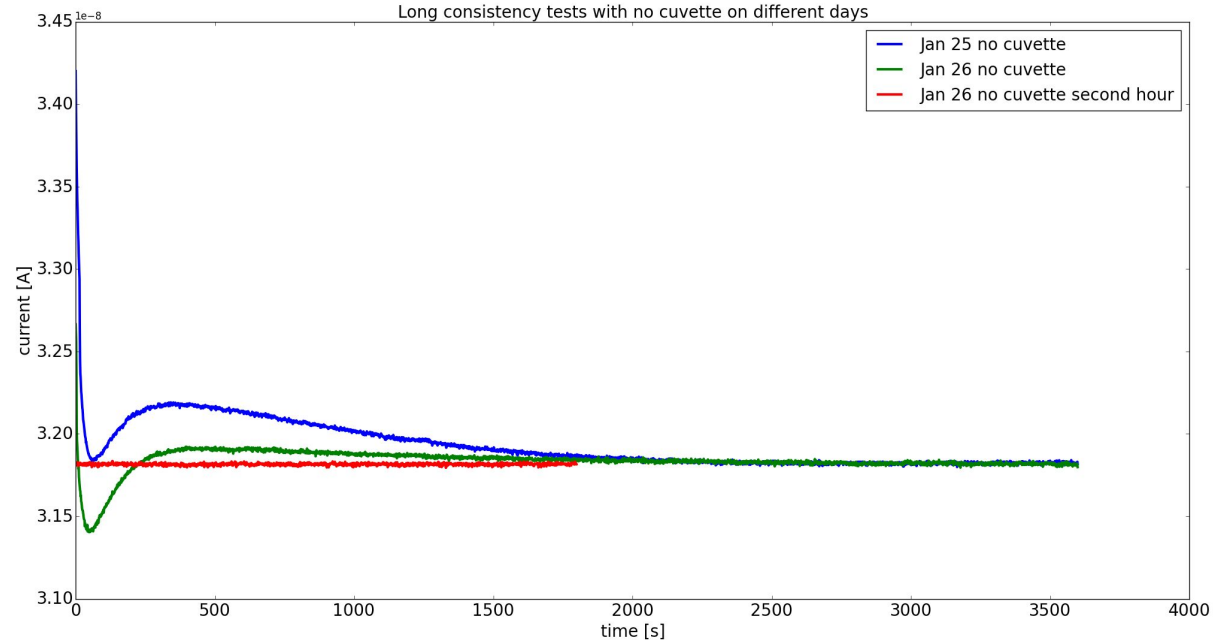
1 Hour trials (Recap)

- Divided Jan 22 trial (with cuvette) with Jan 17 trial (without cuvette)
- Want to see if cuvette impacts/ varies the current data
- Accurate up to 1% after 5 minutes and within 0.01% after 30 minutes
- Warm up is linear in difference, suggests not lamp problem

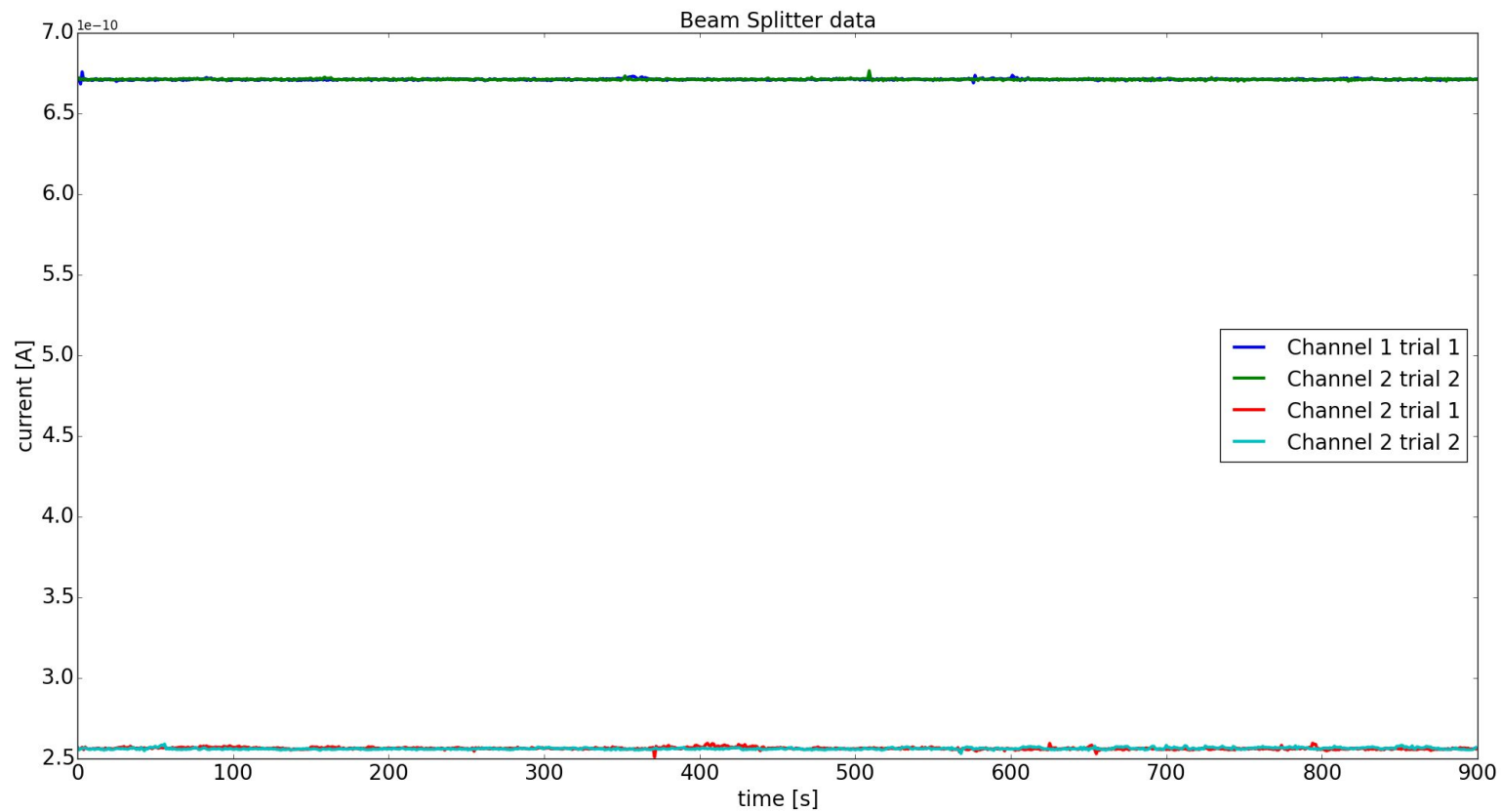
Time (min)	Average	Standard Deviation
1	0.56860629617	0.0609201531066
5	0.558589629246	0.0277386798872
10	0.558672821027	0.0196153840514
20	0.559055100671	0.013876243891
30	0.559205963897	0.01133229854
40	0.559261621845	0.00981485492515
50	0.559281086446	0.00877913043214
60	0.559272479178	0.00801452850164

1 Hour trials (continued)

- Compare different days without cuvette
- Both converge to same value $\sim 3.18e-8$ A
- Included another 30 minutes after the trial on Jan 26 to see if it changes: it does not



Beam Splitter



Beam Splitter

- Made a condition in code that if take the first element of channel 1/channel 2 and divide it across the whole array, if any values exceed 1%, print out and count the number of values that satisfies these conditions
- Trial 1: there are 9.0 samples of values greater than 1%
- Trial 2: there are 17.0 samples of values greater than 1%
- Because there are a total of 900 samples, 1% of the data from trial 1 exceed 1% and 1.89% of the data from trial 2 exceed 1%
- Negligible amount, therefore not lamp problem
- Almost certain it's the height problem I was thinking a few weeks ago
- Profile how height changes? I started to but forgot to take the data home to plot... ranges within <1% - 5%