# Phantom of large trips

As discussed last week, to check for big trips:

1. Set reverse bias and look again for large trip. Done. Used 2 batteries for -18 Volts. Did not help. Stack trips with all others.
2. Set just two stacks North-South which don't have optical coupling. Yes, there was NO trips over 8 hours.
3. To re-check point 2, set two stacks next to each other on one side with optical contact. Yes, there was NO trips over 19 hours ether.
4. Set trip current so high that would it be all strips in one GEM short. It needs +5.1% increase of the current, or 8 mkA. Set +9 mkA (later even +11). These stacks are still tripping in the big trip.
5. Check how big trip depends on number of stacks which are ON. Hard to say, probably linear, see next slides.

First, some numbers on trip currents.

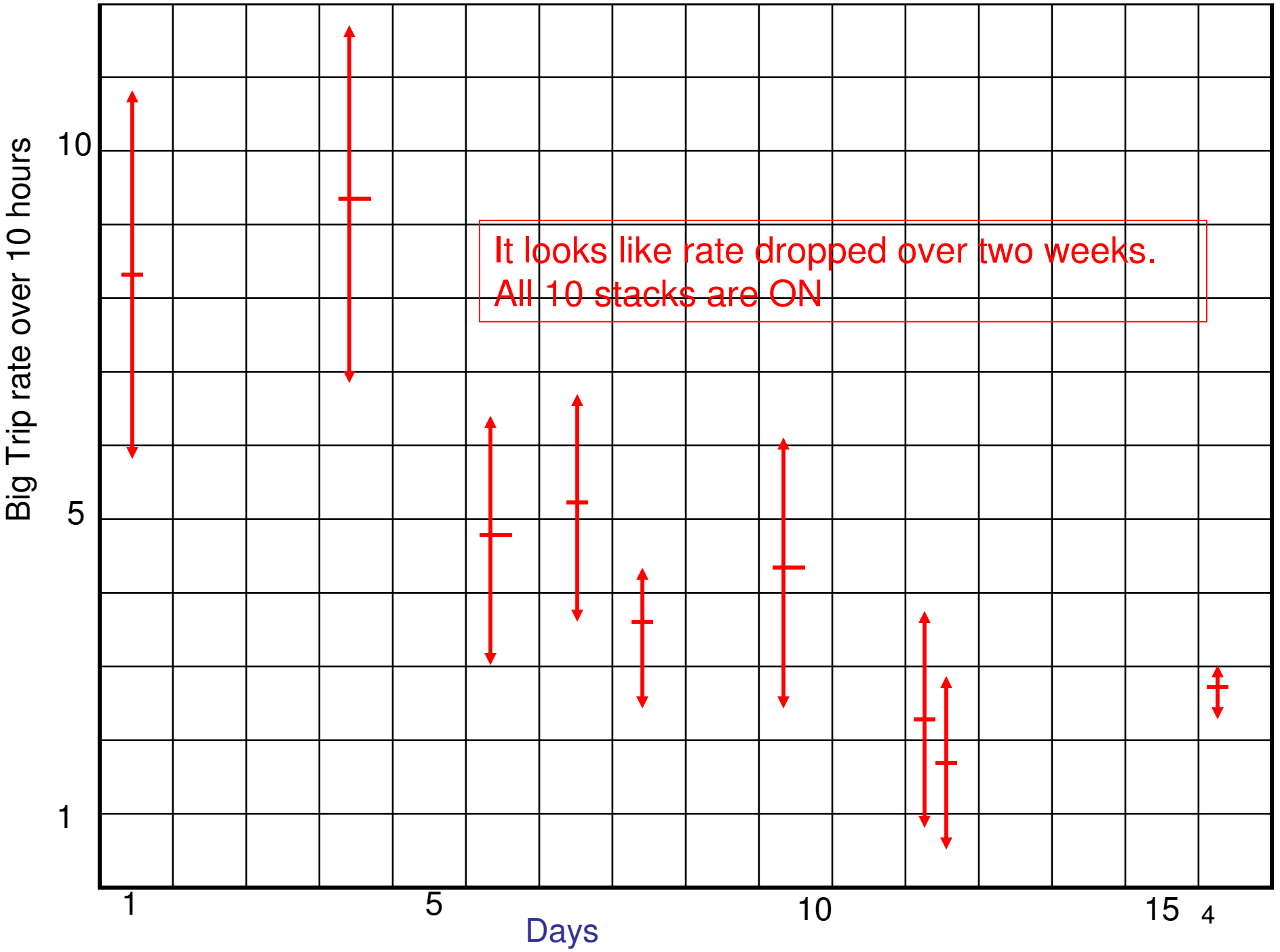
There are two kind of trips (and their mixture): trip within one GEM and trip within one stack

Defaults: 10 72 24 I=146

| #Tripped Strips | R over GEM | R chain | R total | D_I, % | D_I, uA |
|---|---|---|---|---|---|
| 1 | 6.67 | 68.67 | 23.62 | 1.6 | 2.34 |
| 2 | 5.0 | 67 | 23.42 | 2.43 | 3.55 |
| 3 | 4.0 | 66 | 23.3 | 2.94 | 4.3 |
| all | 0 | 62 | 22.78 | 5.1 | 7.45 |

If discharge over few GEMs with **single strip** each

| Sum of Tripped GEM | R chain | R total | D_I, % | D_I, uA |
|---|---|---|---|---|
| 1 | 68.67 | 23.62 | 1.6 | 2.34 |
| 2 | 65.33 | 22.47 | 6.4 | 9.3 |
| 3 | 62 | 20.67 | 13.4 | 19.6 |


Big Trip rate over 10 hours
10
5
1
It looks like rate dropped over two weeks.
All 10 stacks are ON
1
5
10
15
4
Days

Correlation (?) over number of stacks ON, use only last two weeks