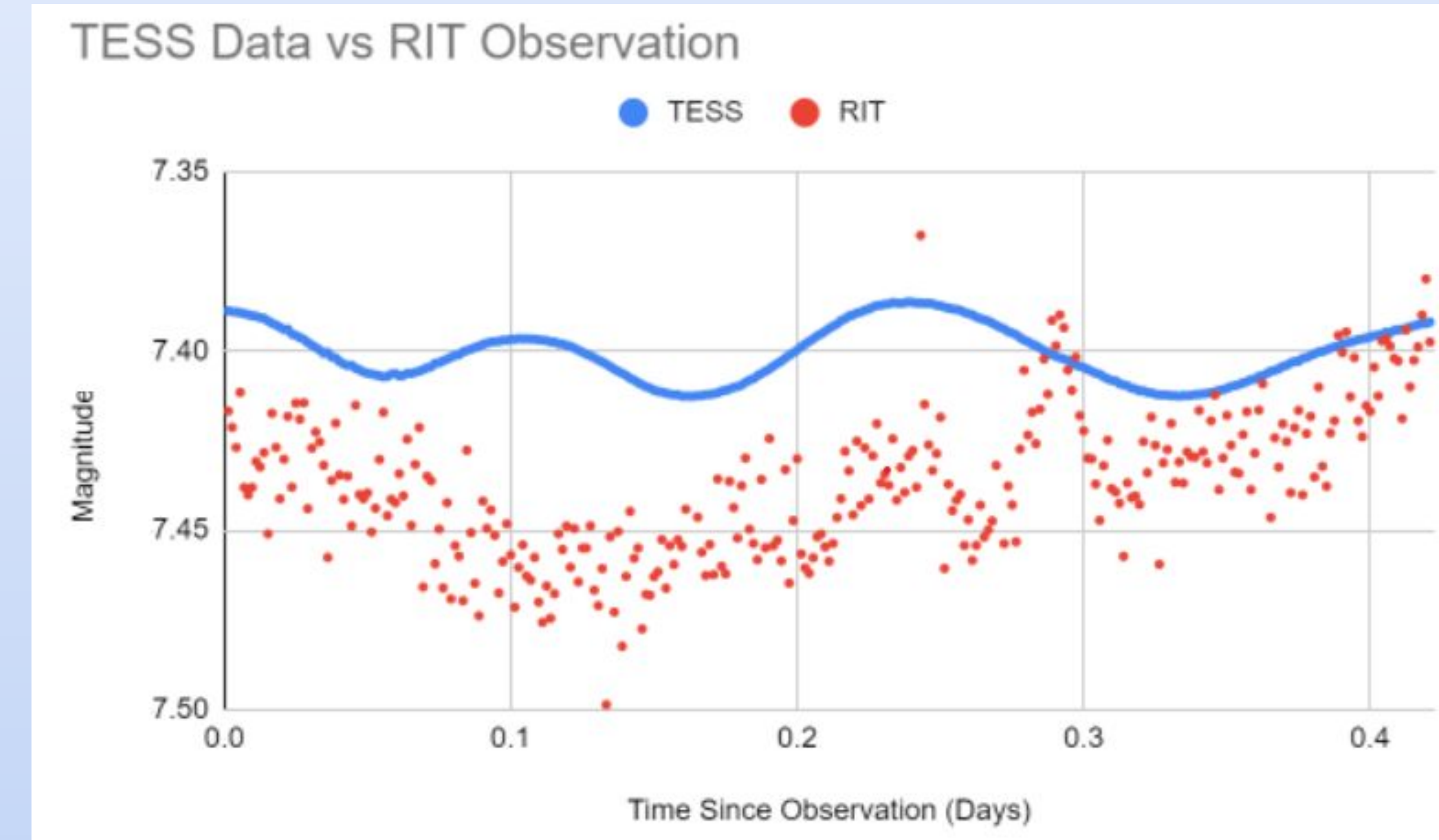
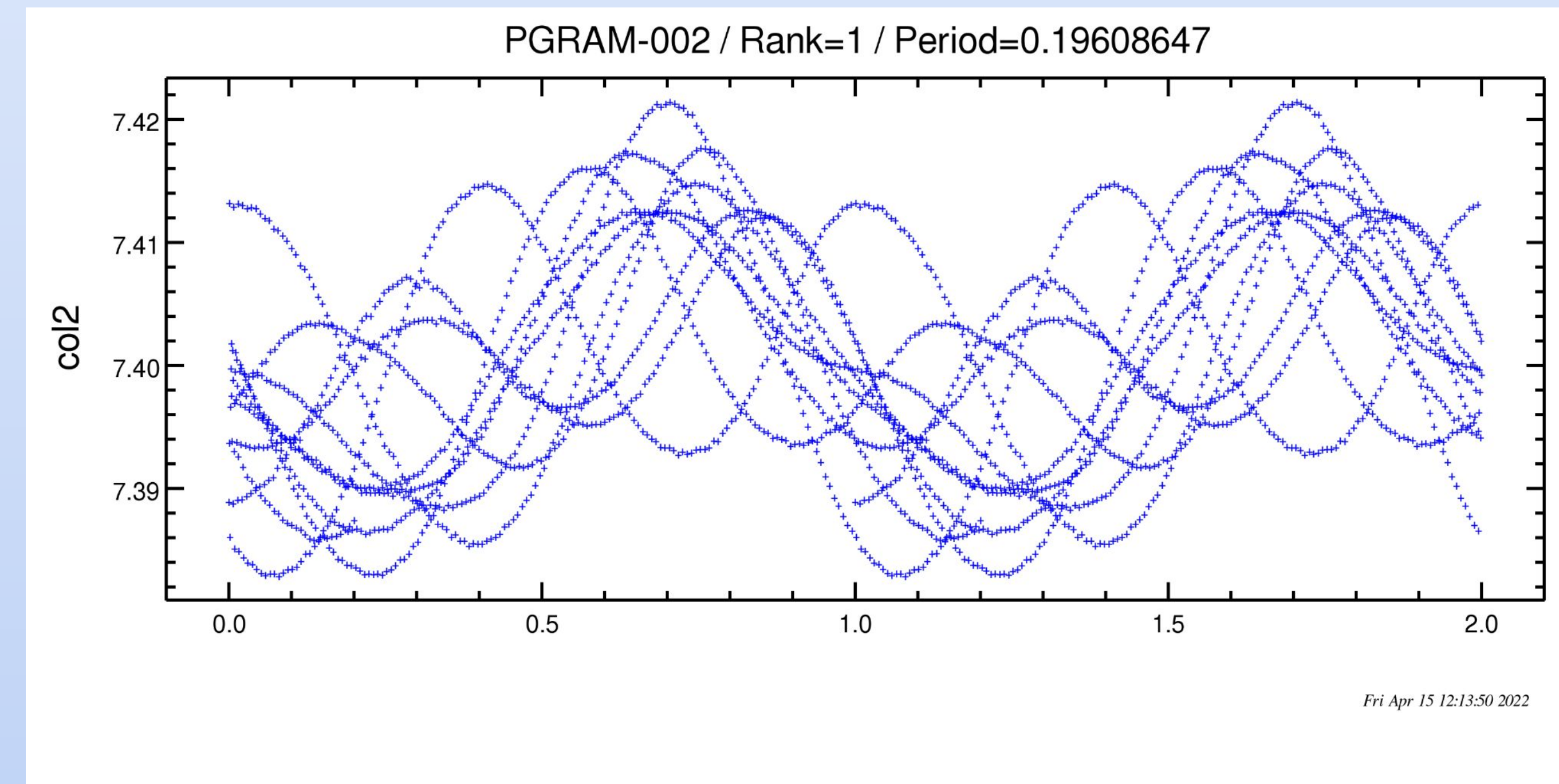
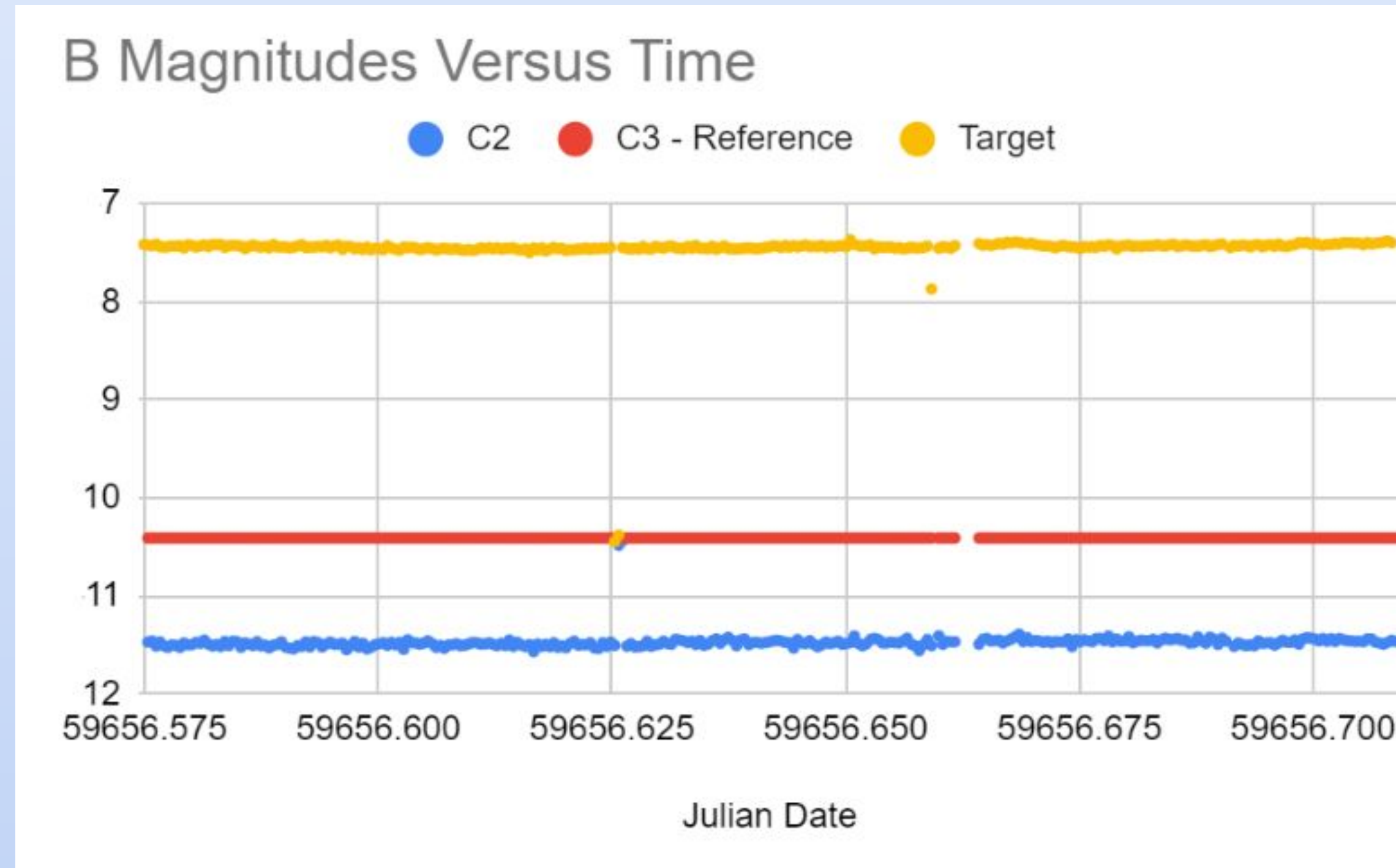
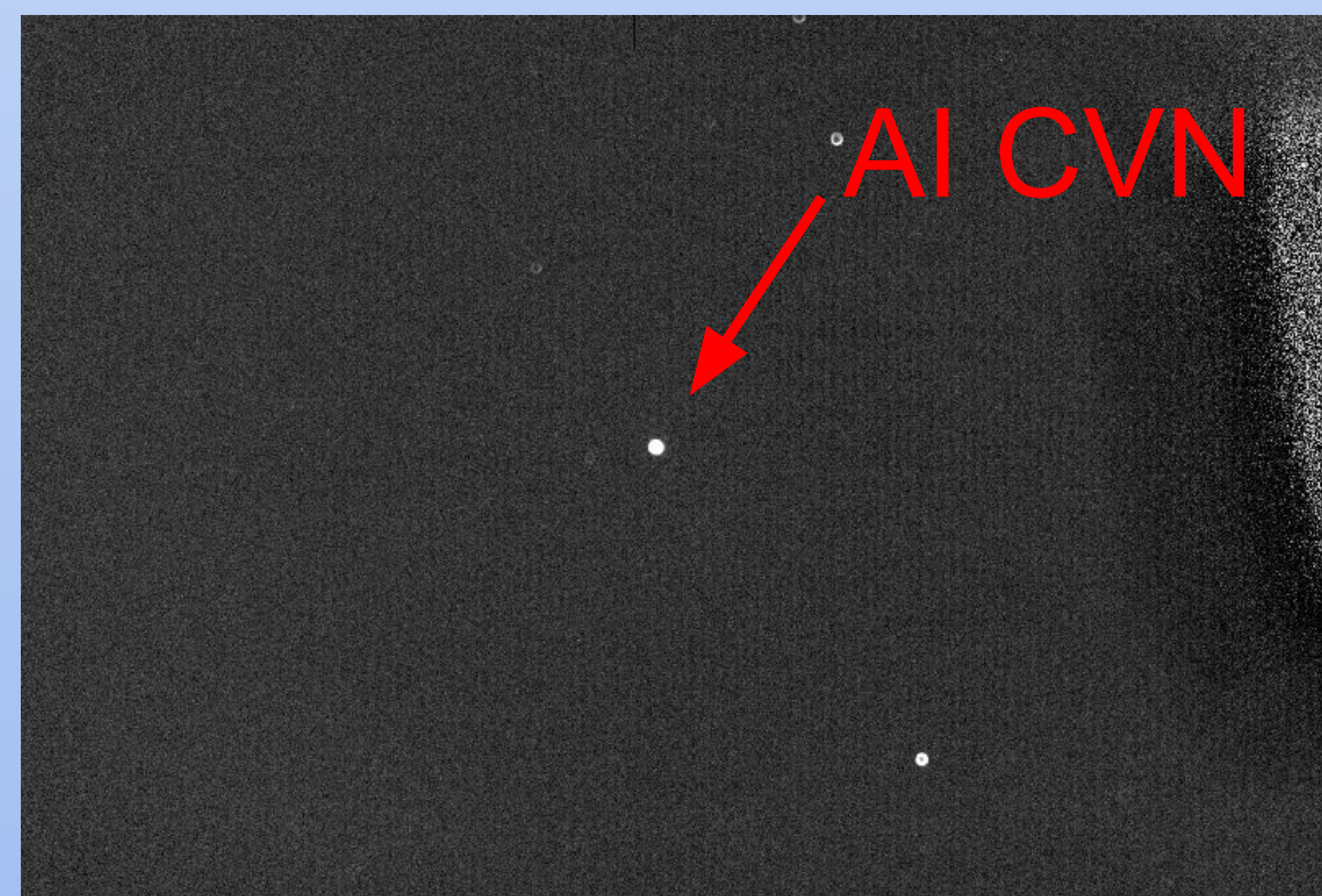


# A Study of AI Canum Venaticorum



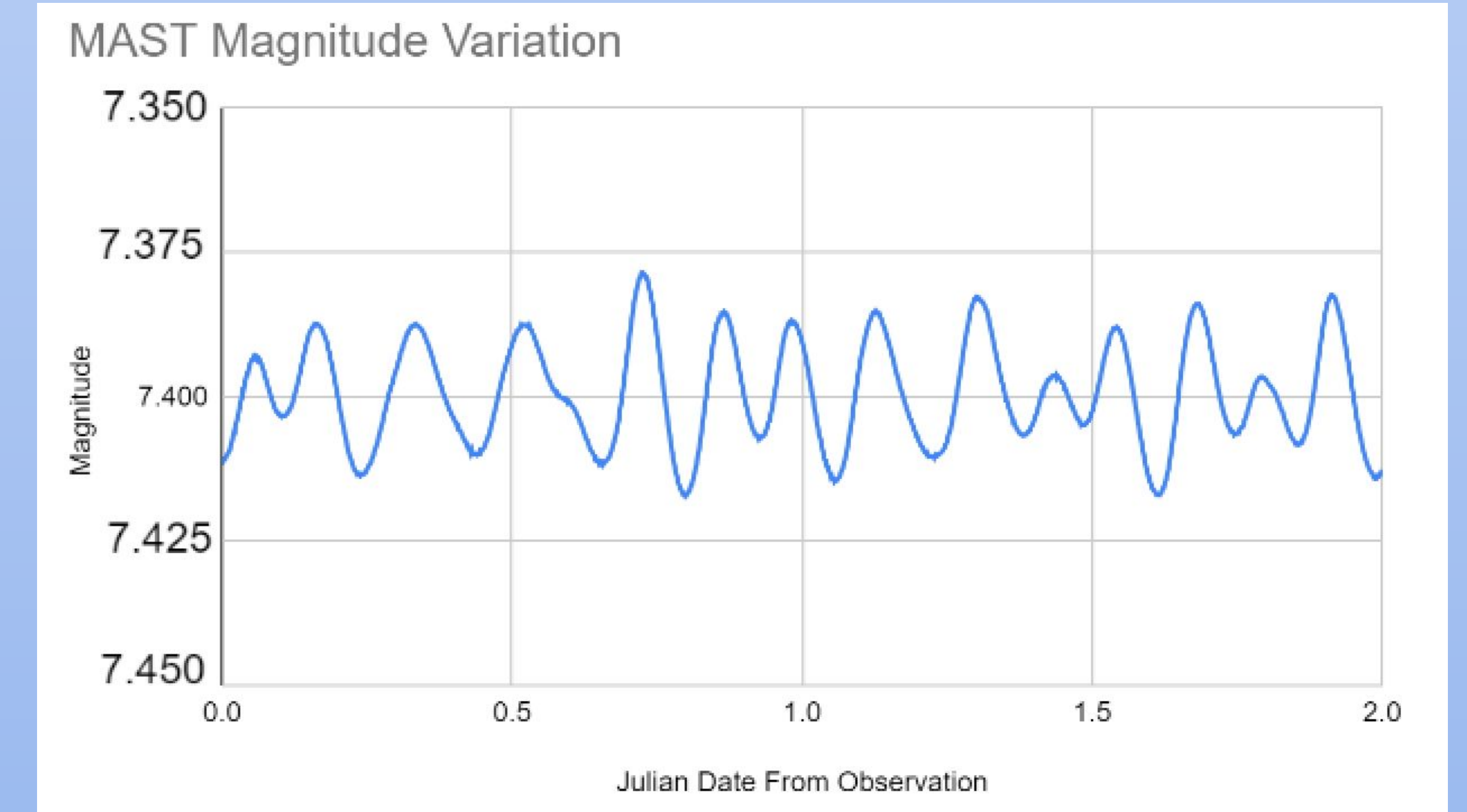
At our worst points, we have an error of about +/-2.5%, and for our best about +/-2%. In contrast, the MAST data has an error of merely +/-0.5%.

- Lomb-Scargle Method
- Period of 4.71 Hours
- Power Rating = 287, next highest was 9.3



## Delta Scuti Variable Stars

- Typically vary in magnitude by less than 1 mag
- Have denser elements present, such as metals
- Have very short periods, can range from as short as 30 mins to as long 8 hours
- Pulsate radially and non radially



The variation in magnitudes is not visibly seen from our plots

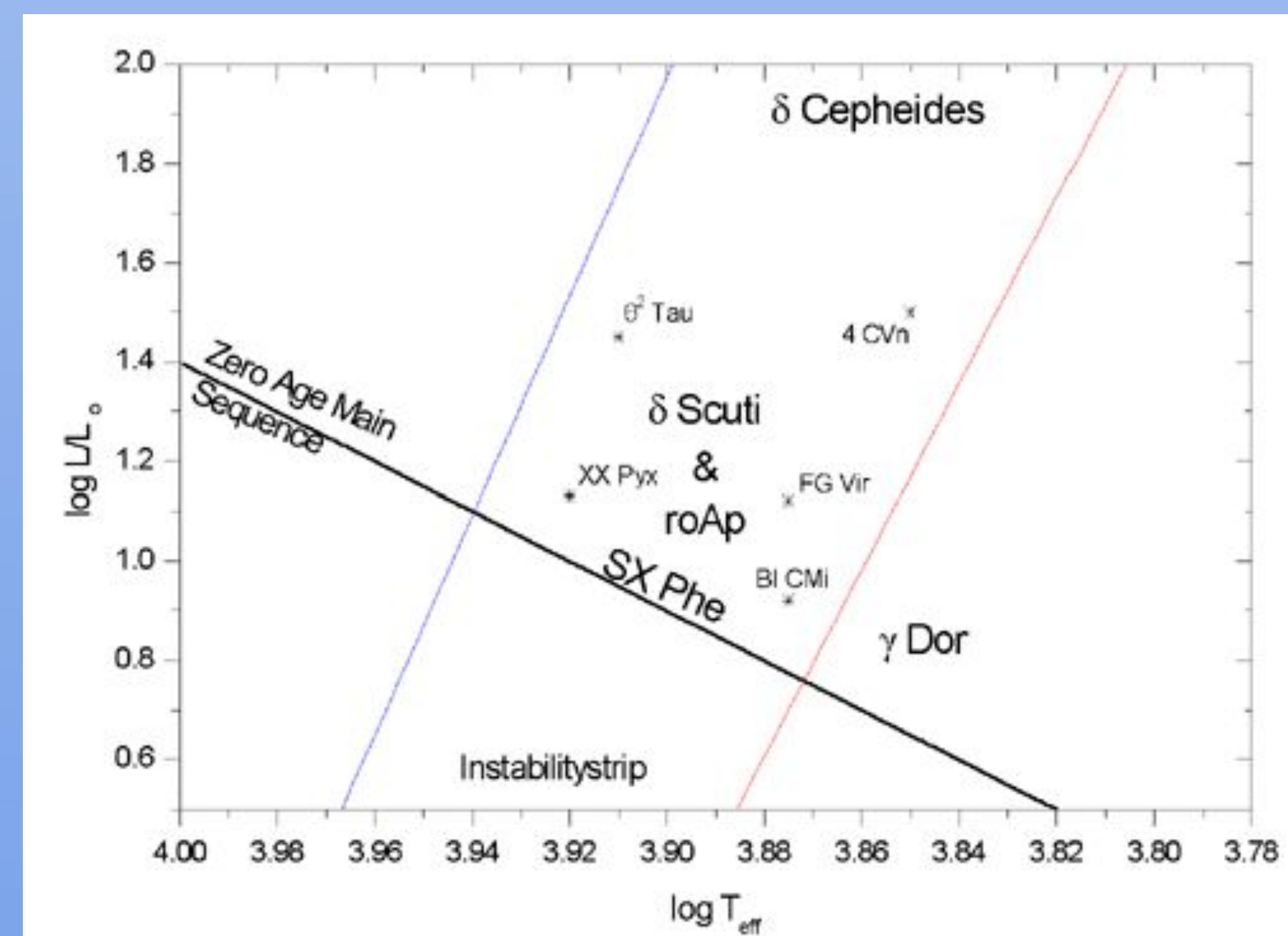
- Due to the relative brightness of the stars nearby
- AI CVN is extremely bright compared to nearby stars
- To take a non saturated picture of our star we had to use very short exposure times (B - 6 seconds, V - 2 seconds)

## Standard Deviation V Mag

Target	C2	C3	C5
0.444	0.216	0.1850	0.117

## Standard Deviation B Mag

Target	C2
0.244	0.0878



W. Zima, University of Vienna (1999)

## Instability Strip

- Area of HR Diagram where most variable stars live

Peak Interval Number	Observed Period (Hours)
1-2	2.496
2-3	4.104
3-4	4.488
4-5	4.944
5-6	3.336
6-7	2.832
7-8	3.456
8-9	4.200
9-10	3.216

Minimum Period- 0.104 Days = 2.496 Hours  
 Maximum Period- 0.206 Days = 4.944 Hours  
 Average Period- 0.1378 Days = 3.3072 Hours