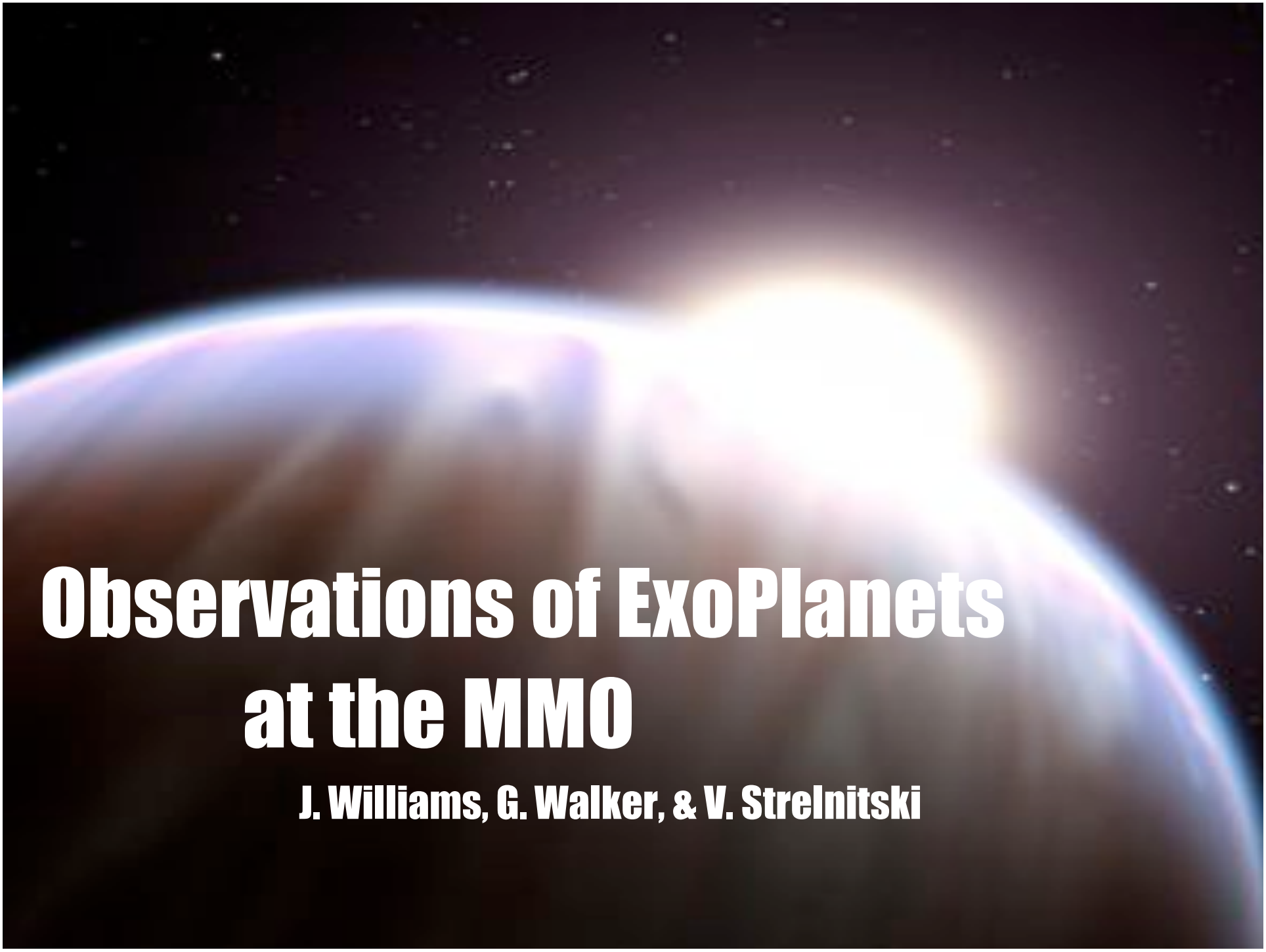
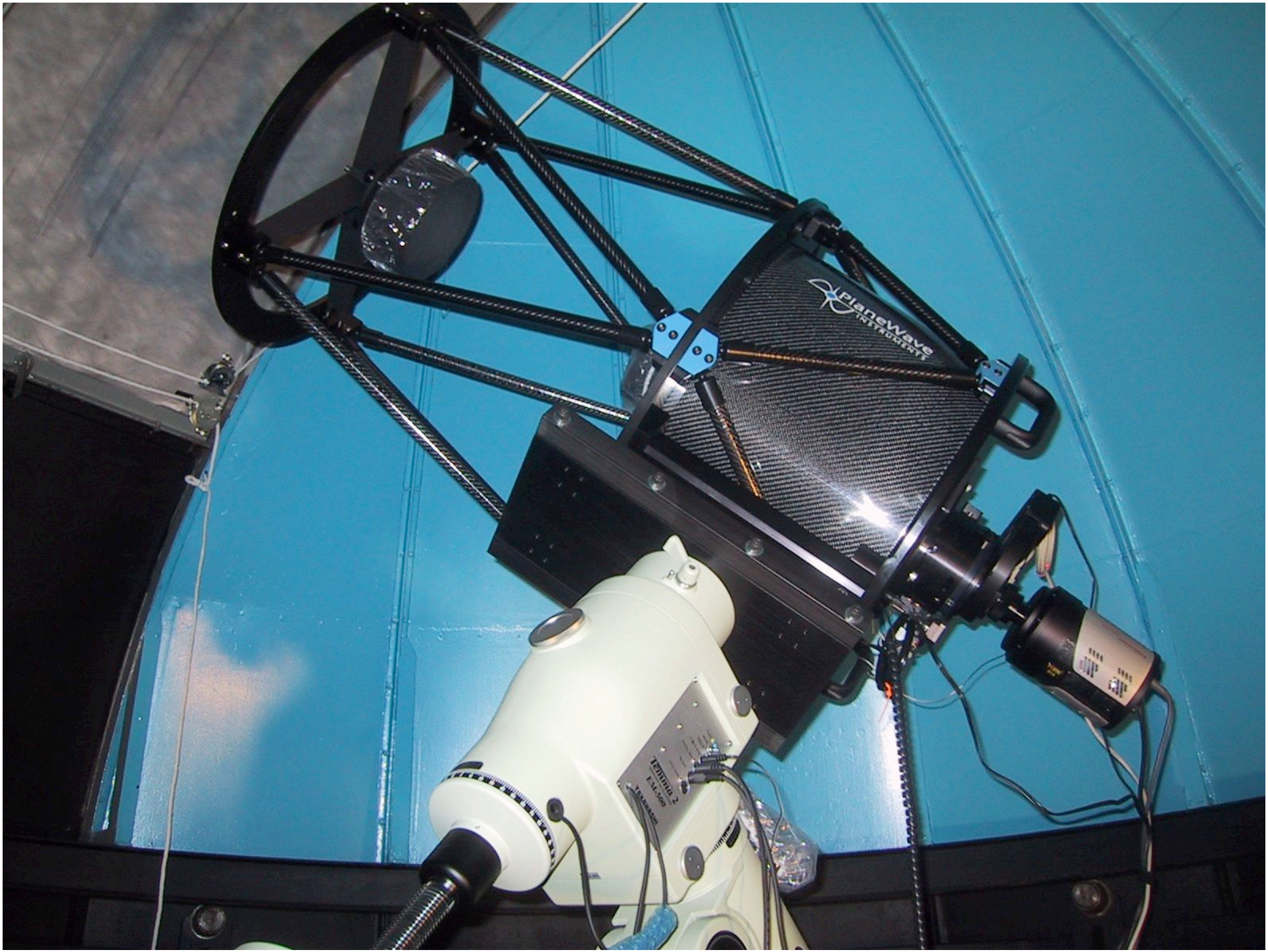


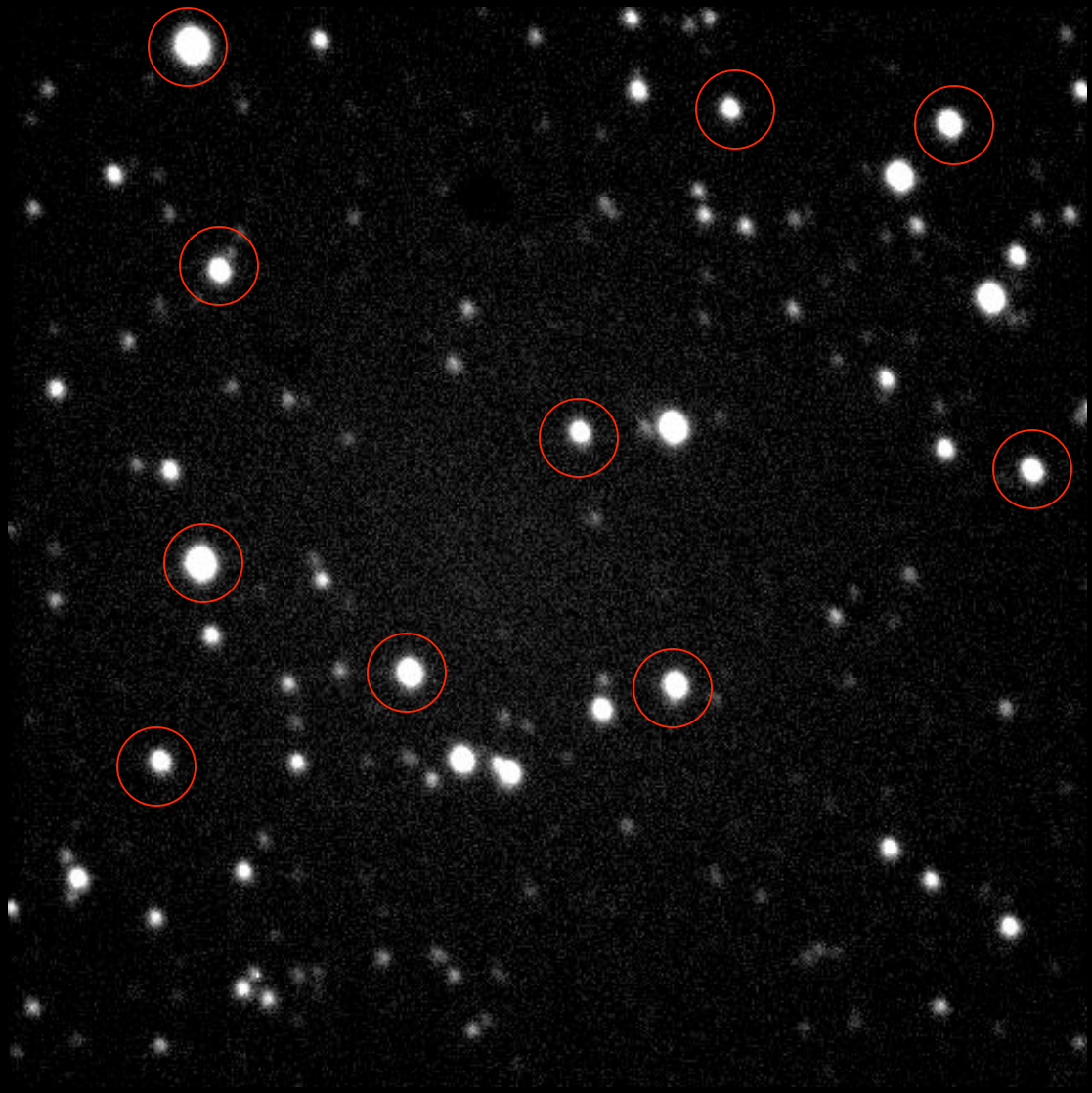
Observations of ExoPlanets at the MMO

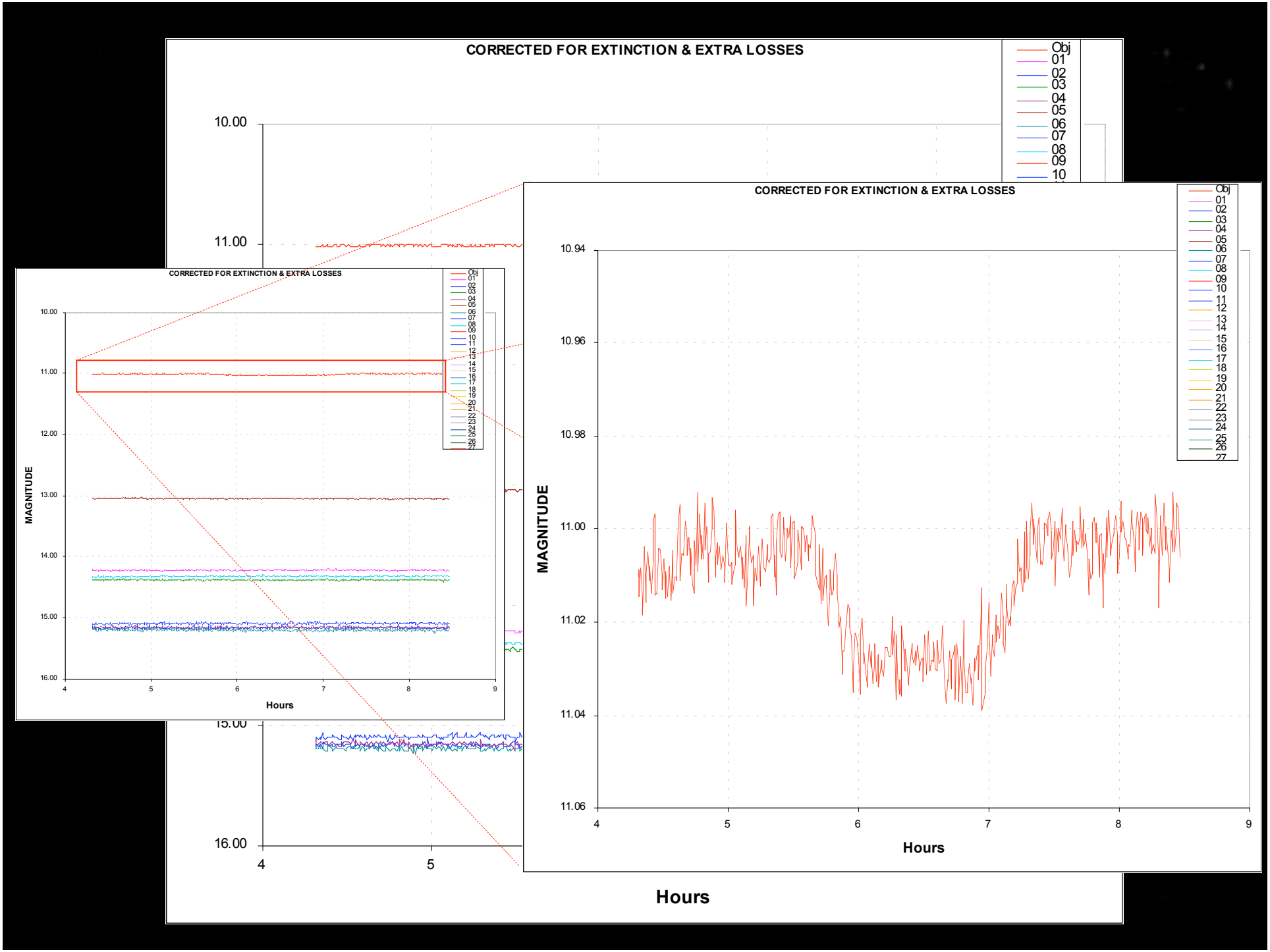
J. Williams, G. Walker, & V. Strelnitski

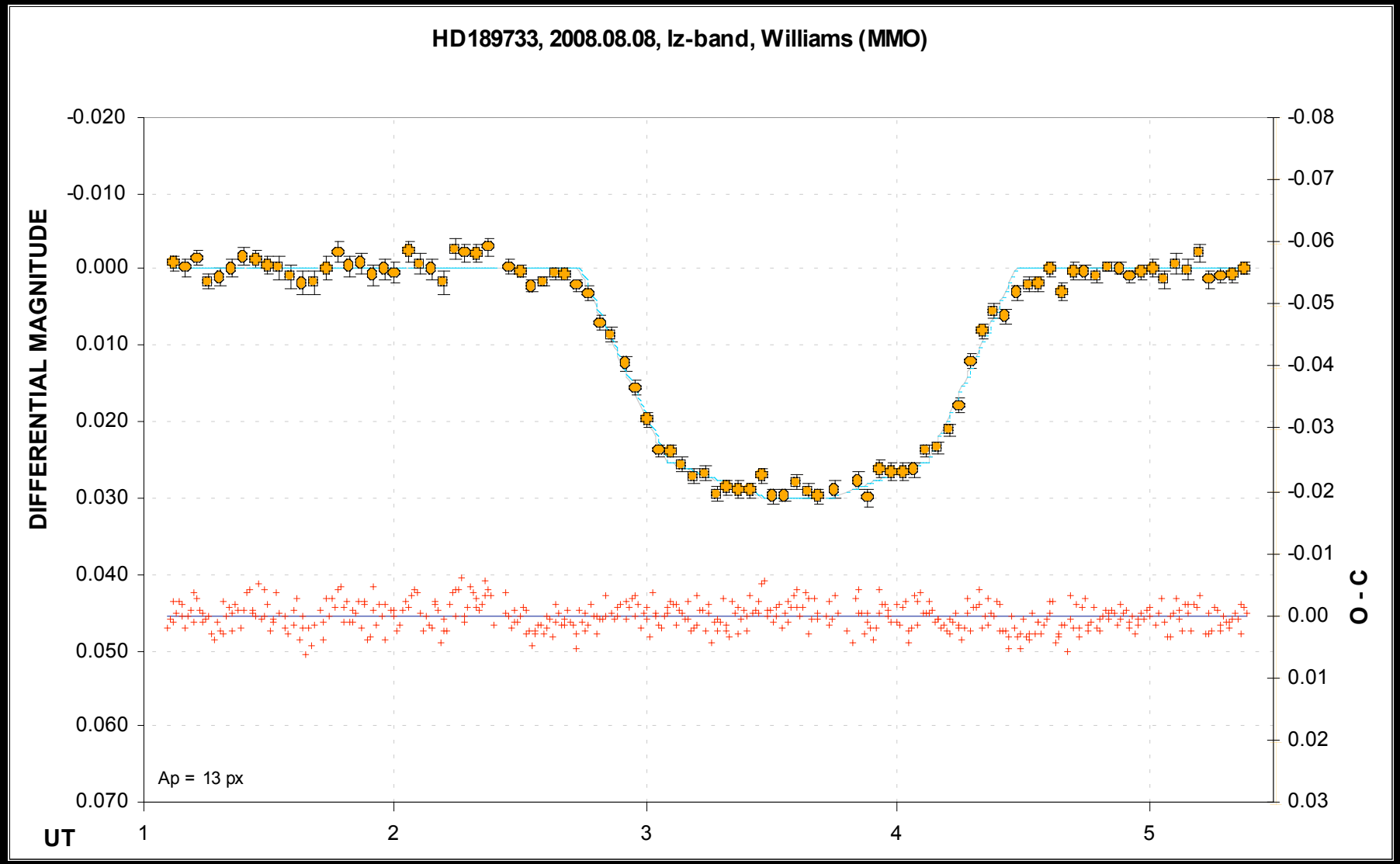
RET attempting to blend in with REUs

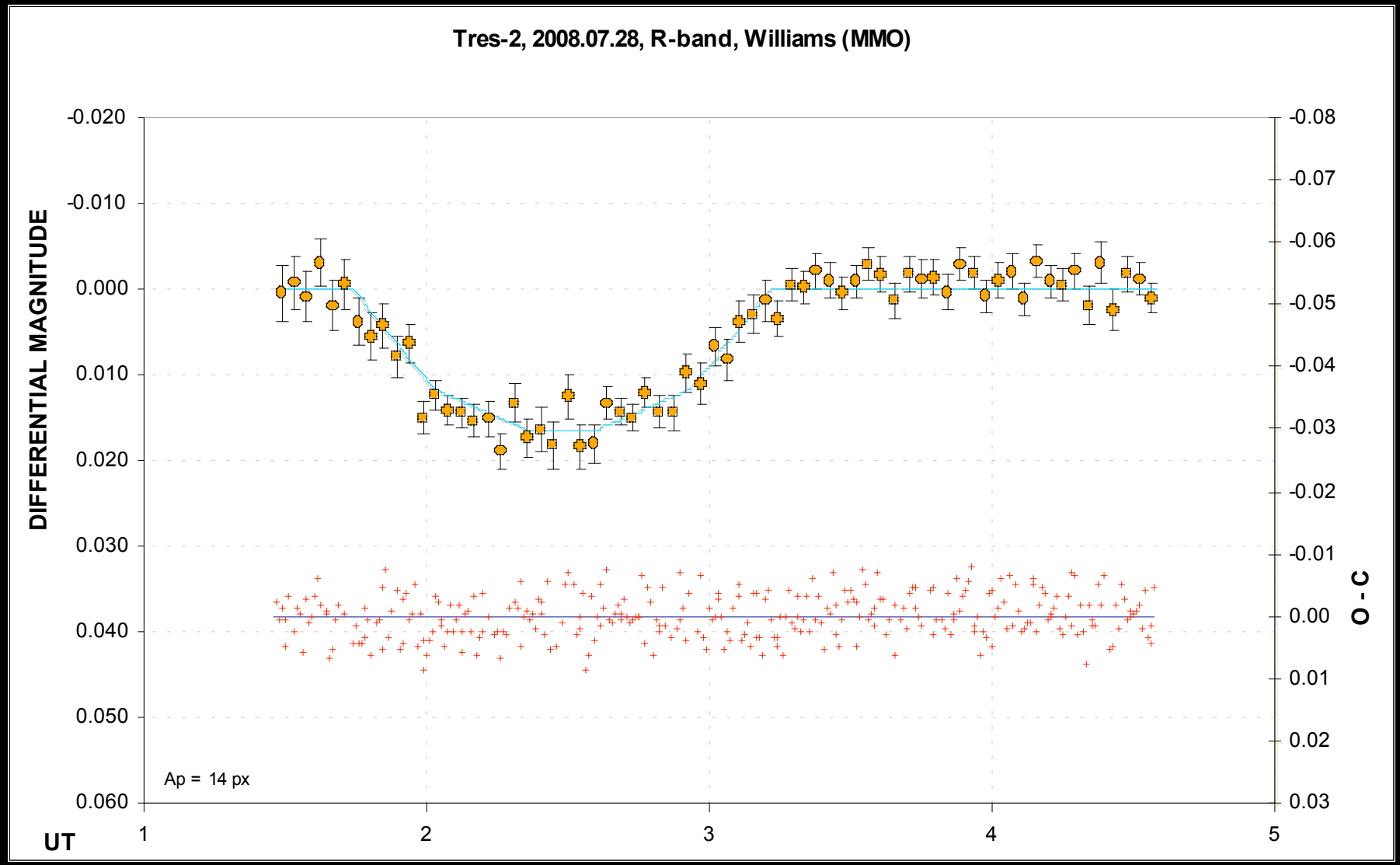

PlaneWave
INSTRUMENTS

Transit Observations

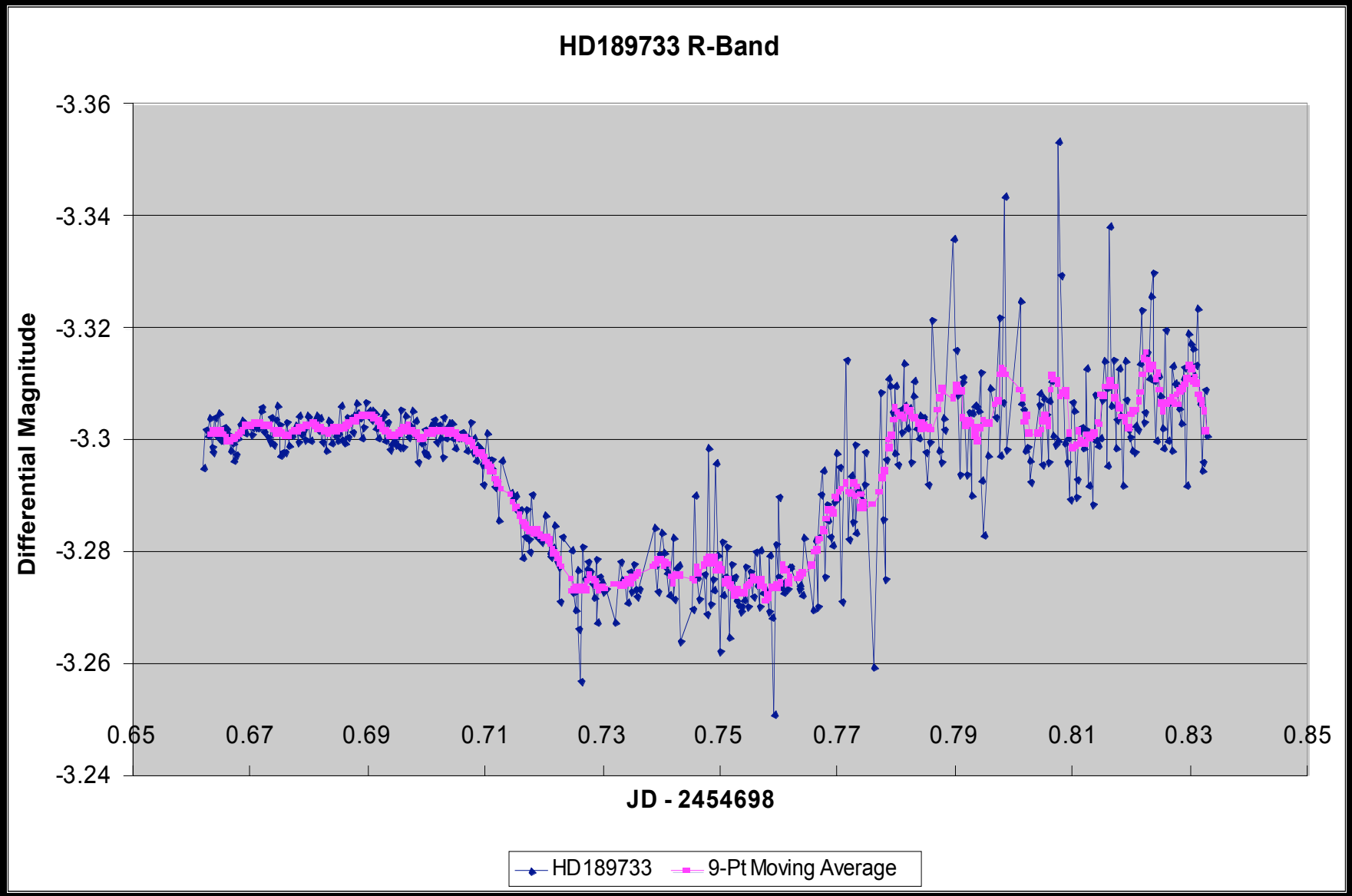



CORRECTED FOR EXTINCTION & EXTRA LOSSES
Obj
01
02
03
04
05
06
07
08
09
10
10.00
11.00
16.00
4
5
Hours
CORRECTED FOR EXTINCTION & EXTRA LOSSES
MAGNITUDE
Hours
CORRECTED FOR EXTINCTION & EXTRA LOSSES
MAGNITUDE
10.94
10.96
10.98
11.00
11.02
11.04
11.06
4
5
6
7
8
9
Hours


HD189733, 2008.08.08, Iz-band, Williams (MMO)
DIFFERENTIAL MAGNITUDE
O - C
UT
Ap = 13 px
-0.020
-0.010
0.000
0.010
0.020
0.030
0.040
0.050
0.060
0.070
-0.08
-0.07
-0.06
-0.05
-0.04
-0.03
-0.02
-0.01
0.00
0.01
0.02
0.03
1
2
3
4
5

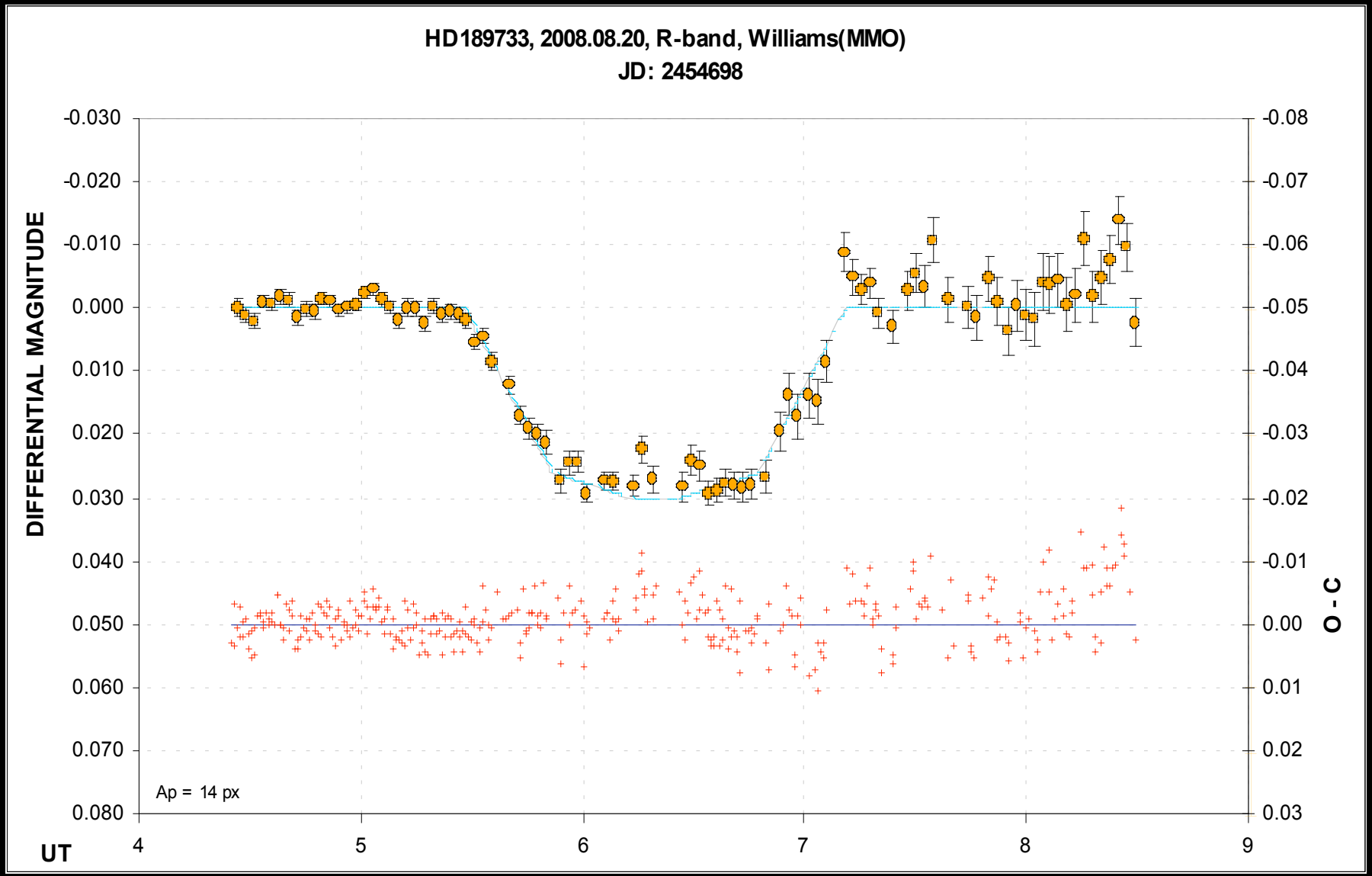

Tres-2, 2008.07.28, R-band, Williams (MMO)
DIFFERENTIAL MAGNITUDE
O - C
UT
Ap = 14 px
-0.020
-0.010
0.000
0.010
0.020
0.030
0.040
0.050
0.060
-0.08
-0.07
-0.06
-0.05
-0.04
-0.03
-0.02
-0.01
0.00
0.01
0.02
0.03
1
2
3
4
5

Differential Photometry

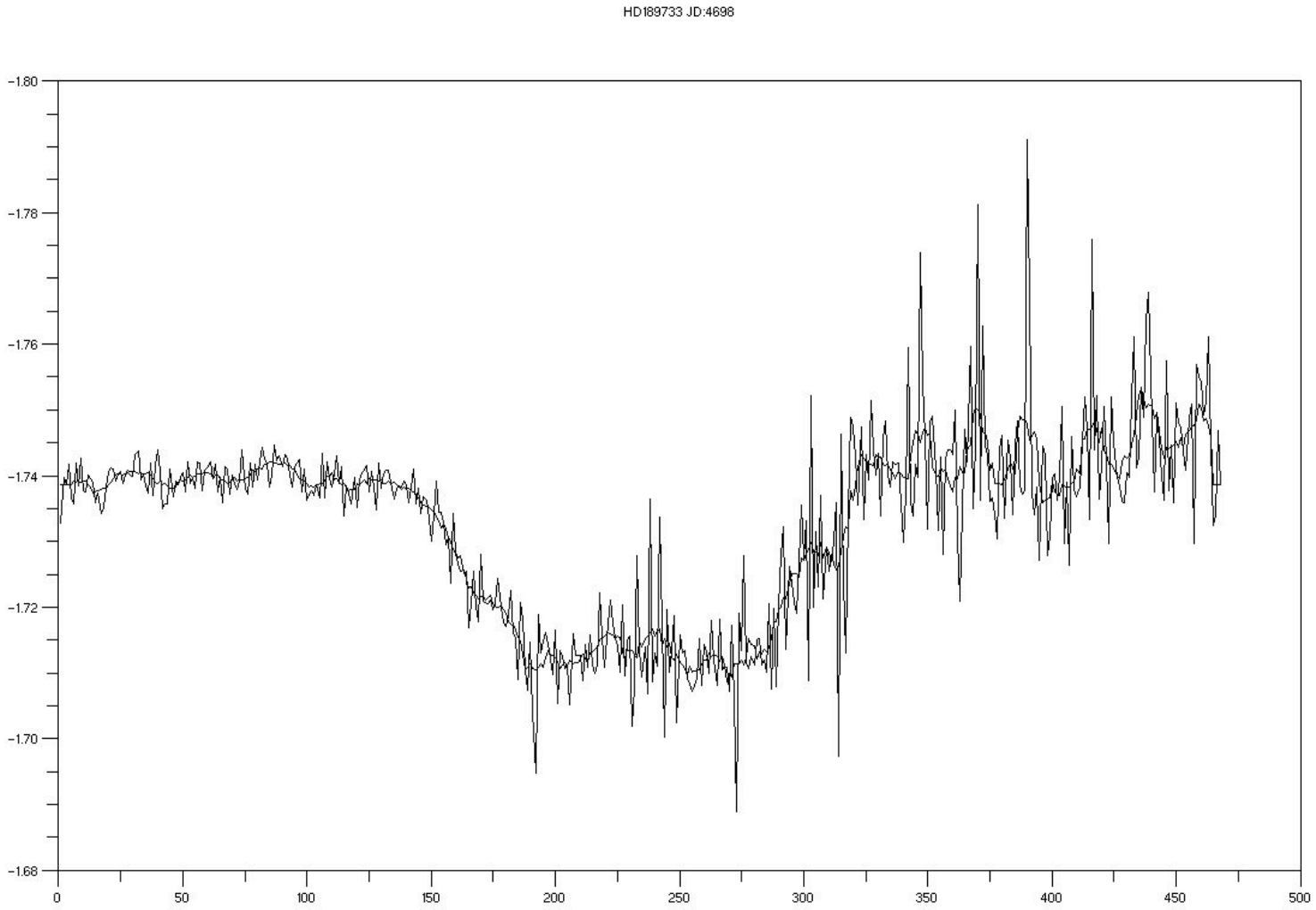


Bruce Gary's Spreadsheet

http://brucegary.net



Sysrem (Tamuz et al. 2005)

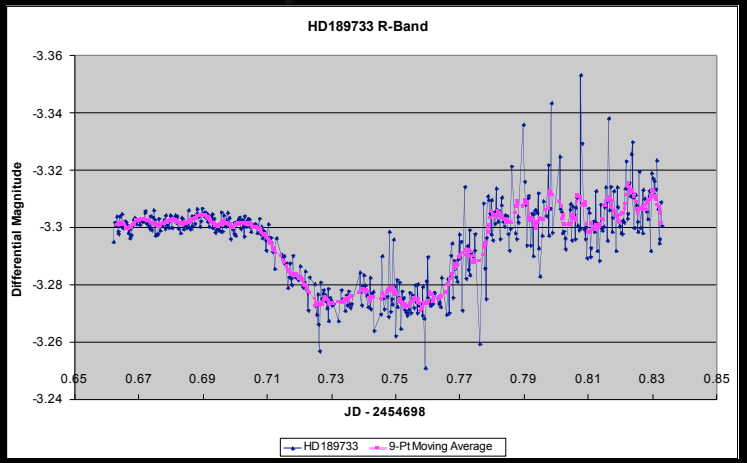
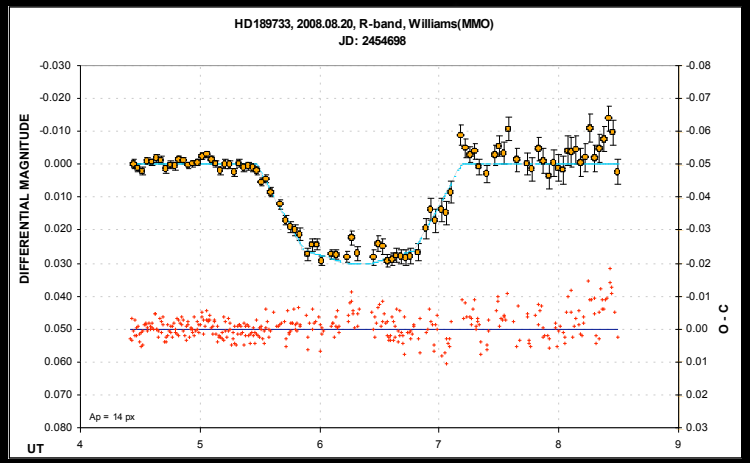
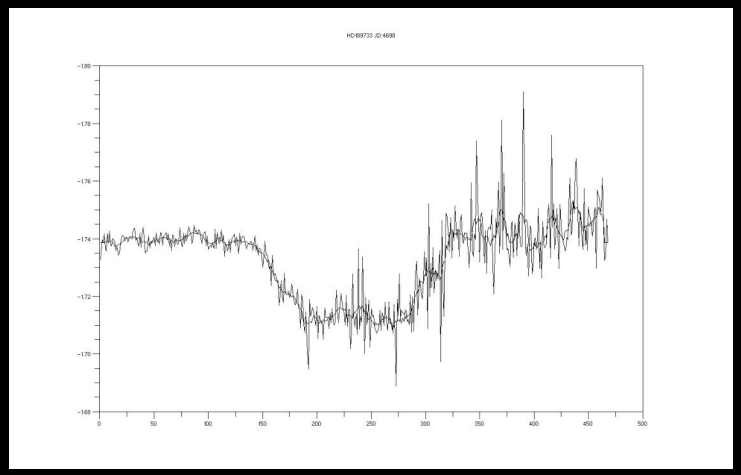
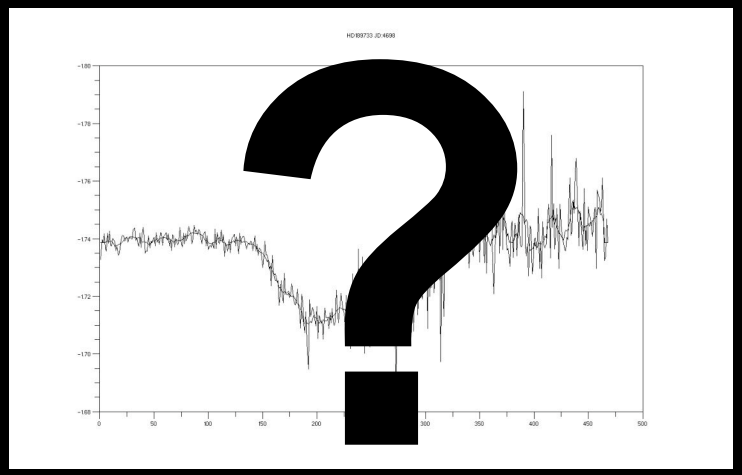
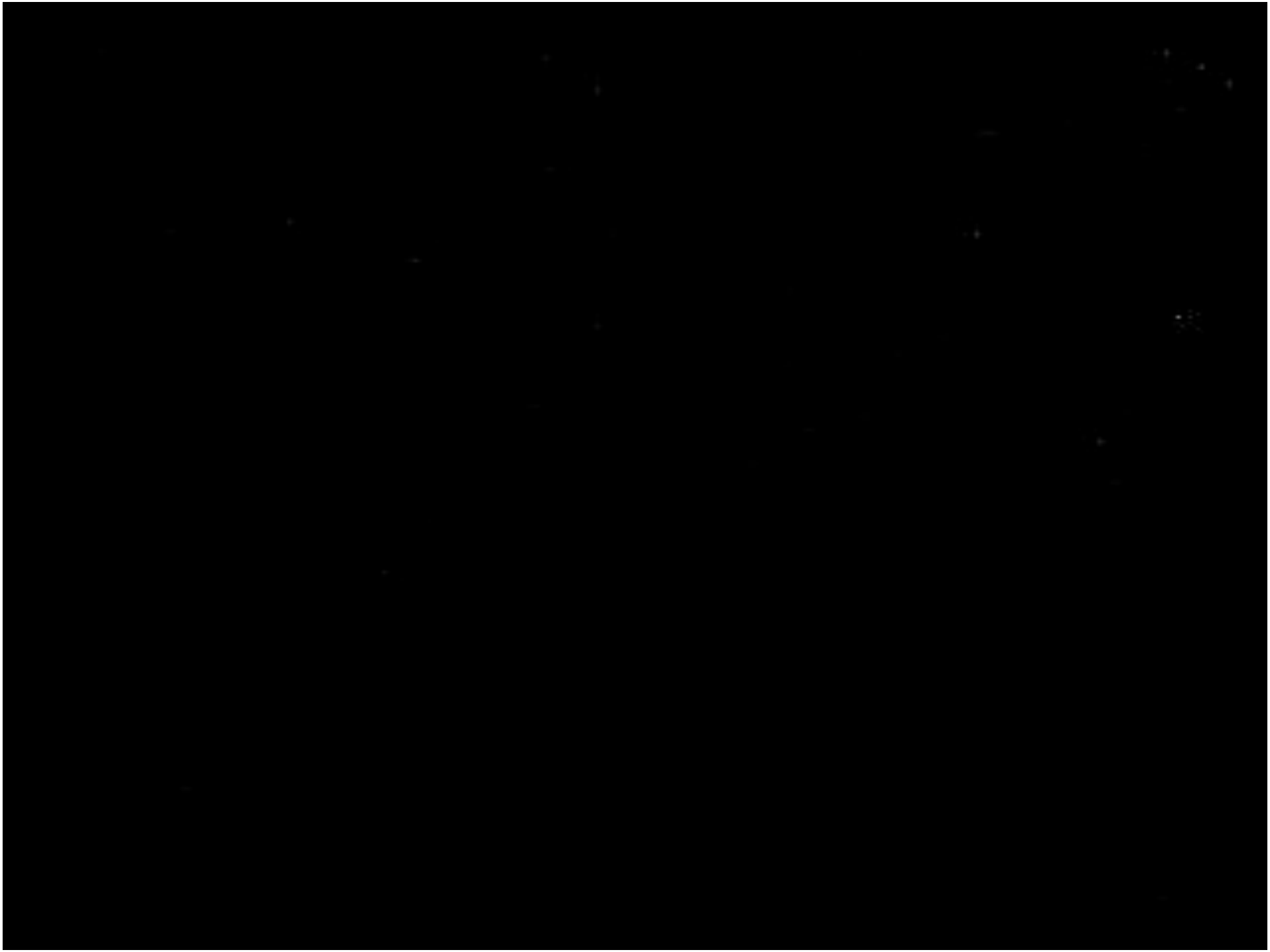


Sysrem, a technique for removal of systematic errors from large sets of light curves, was created (Tamuz et al. 2005) and widely used in photometric surveys for transiting exoplanets.

In principle, each run of Sysrem can find and remove one significant systematic effect.

Sysrem requires a limiting factor to avoid removing the transit itself.

MMO's (potential) solution to the halting problem:

1. Separate target from comp stars
2. Run Sysrem on comp stars ONLY
3. Apply average correction to target

Research continues…