

# KIC 006142922

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_{\star}$ ( $R_{\odot}$ )	$T_{\star}$ (K)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006142922-01	OBS	No	1.266474	131.969628	24.3	1.955	7.4	6.2	47.17	4120	29.21	0.00

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006142922-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

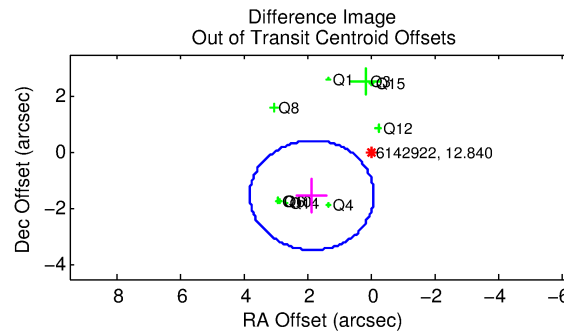
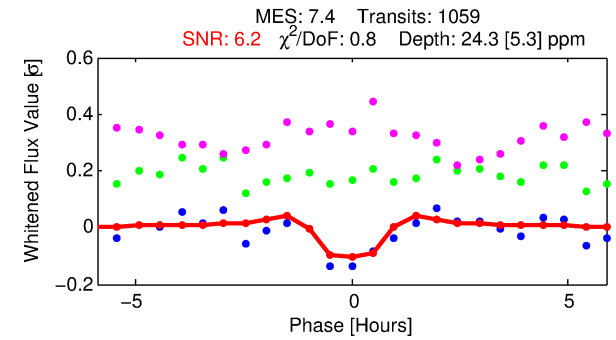
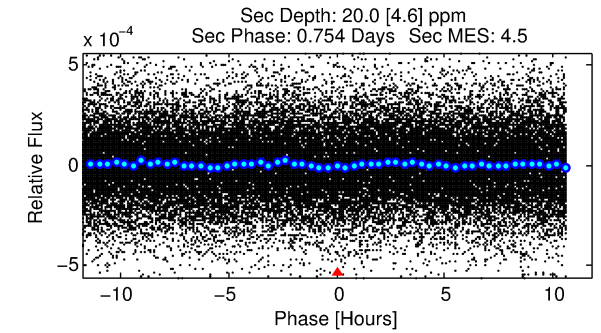
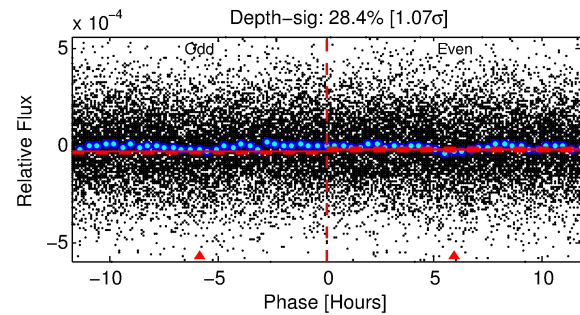
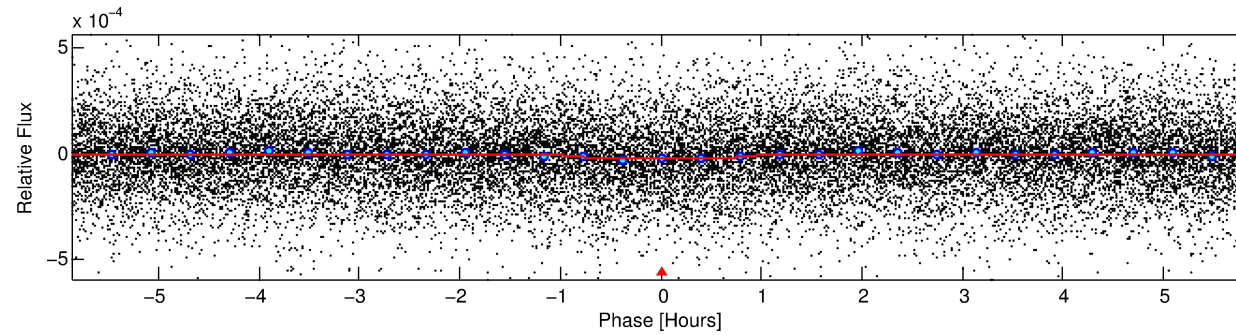
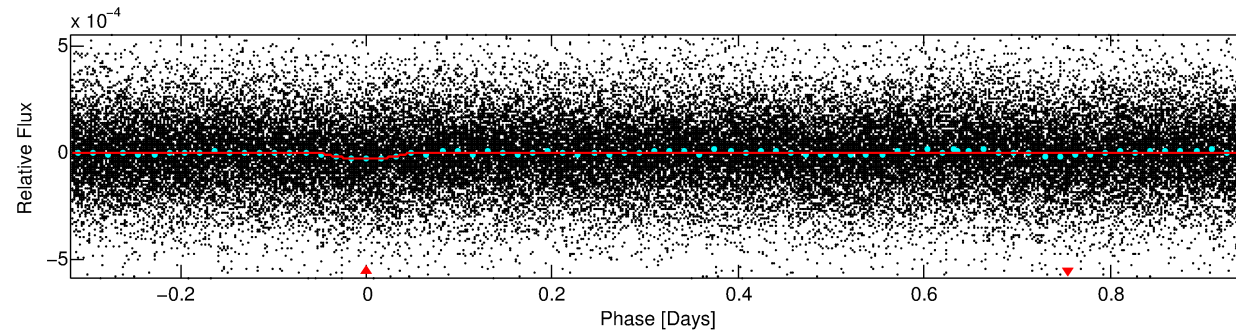
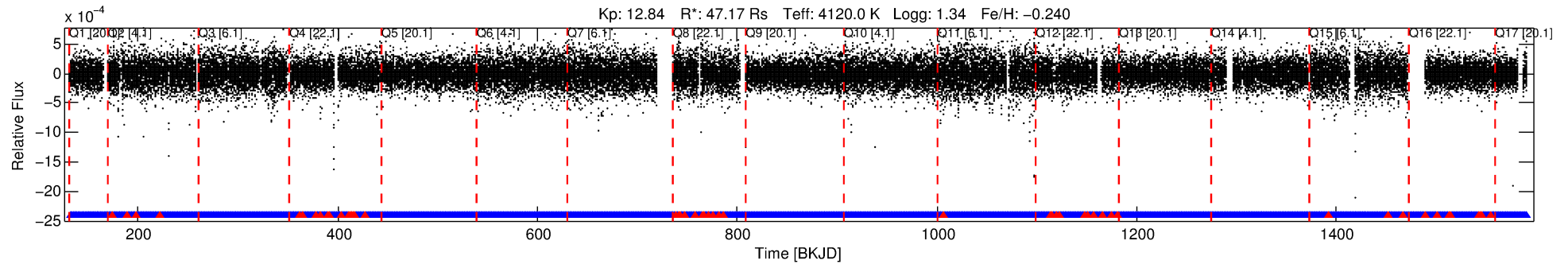
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006142922-01

No Significant Match Found

# DV One-Page Summary

KIC: 6142922 Candidate: 1 of 1 Period: 1.266 d



## DV Fit Results:

Period = 1.26647 [0.00002] d  
Epoch = 131.9696 [0.0034] BKJD  
Rp/R\* = 0.0057 [0.0046]  
a/R\* = 2.41 [5.59]  
b = 0.90 [0.62]  
Seff = N/A  
Teq = N/A  
Rp = 29.21 [24.61] Re  
a = N/A  
Ag = N/A  
Teffp = N/A

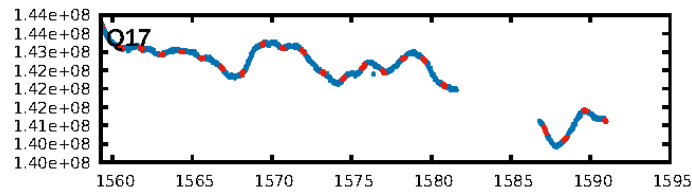
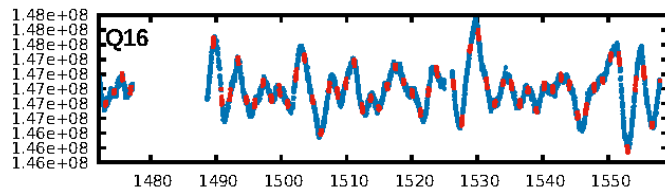
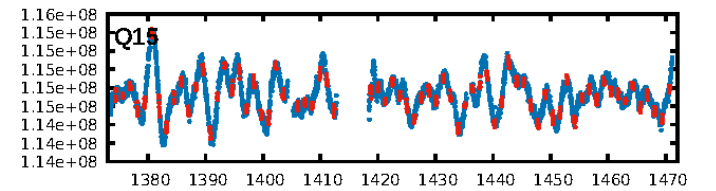
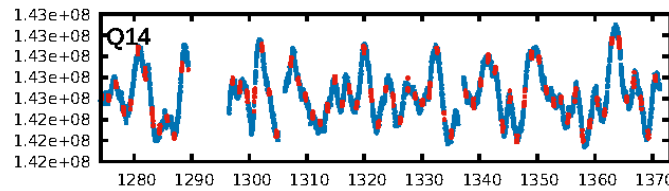
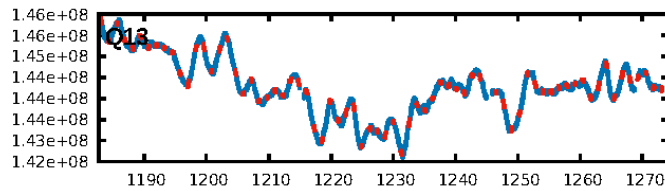
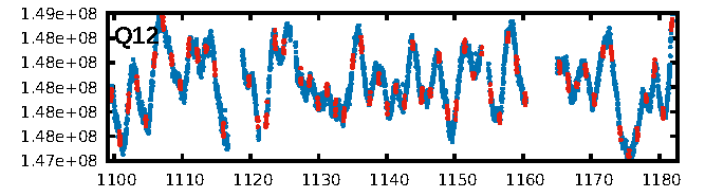
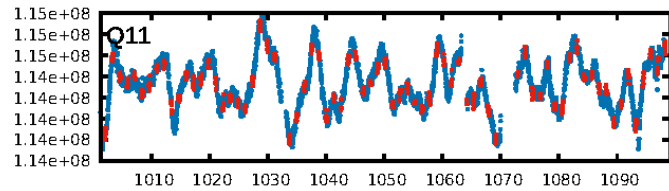
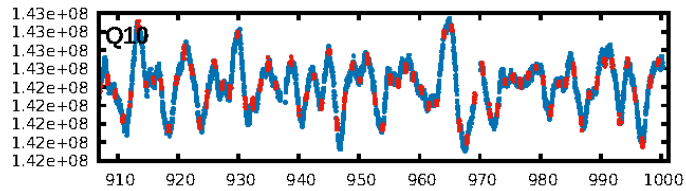
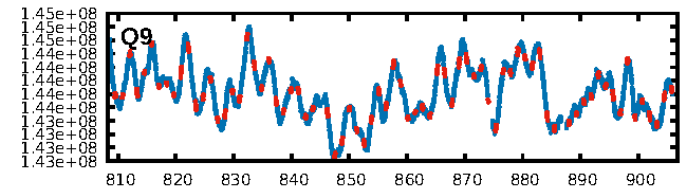
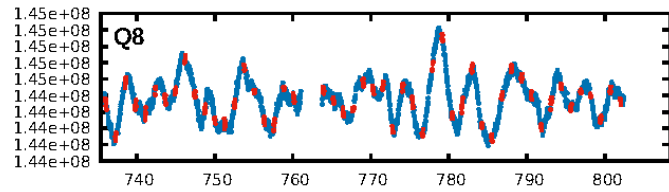
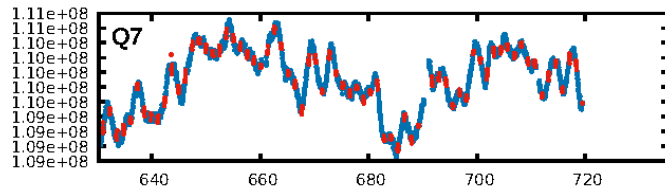
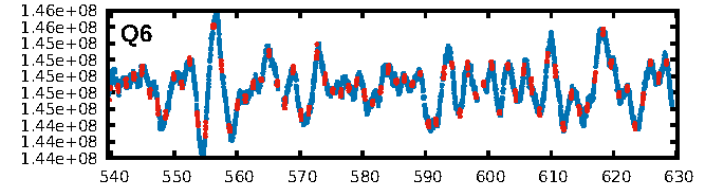
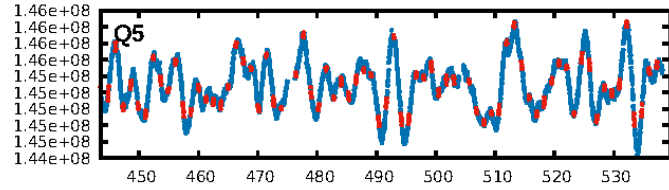
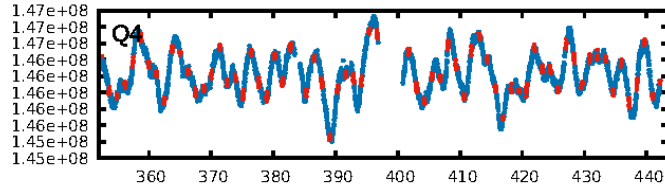
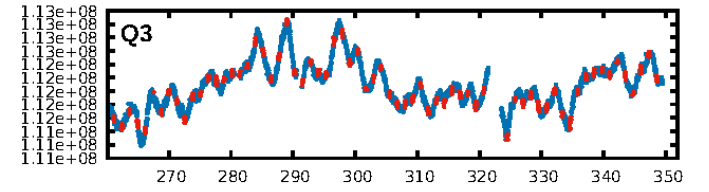
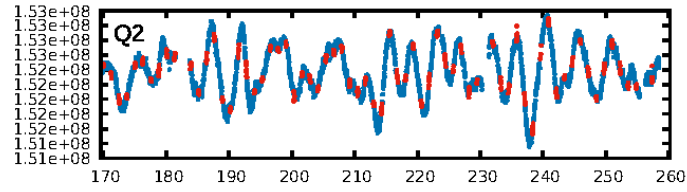
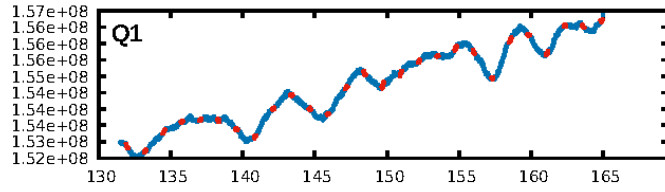
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 7.97e-13  
RollingBand-fgt: 0.95 [960/1010]  
GhostDiagnostic-chr: 0.4973  
Centroid-sig: 0.0%  
Centroid-so: 1.842 arcsec [1.60 $\sigma$ ]  
OotOffset-rm: 2.414 arcsec [3.71 $\sigma$ ]  
KicOffset-rm: 5.903 arcsec [10.10 $\sigma$ ]  
OotOffset-st: 3/2/3/1 [9]  
KicOffset-st: 3/2/3/1 [9]  
DiffImageQuality-fgm: 0.78 [7/9]  
DiffImageOverlap-fno: 1.00 [17/17]

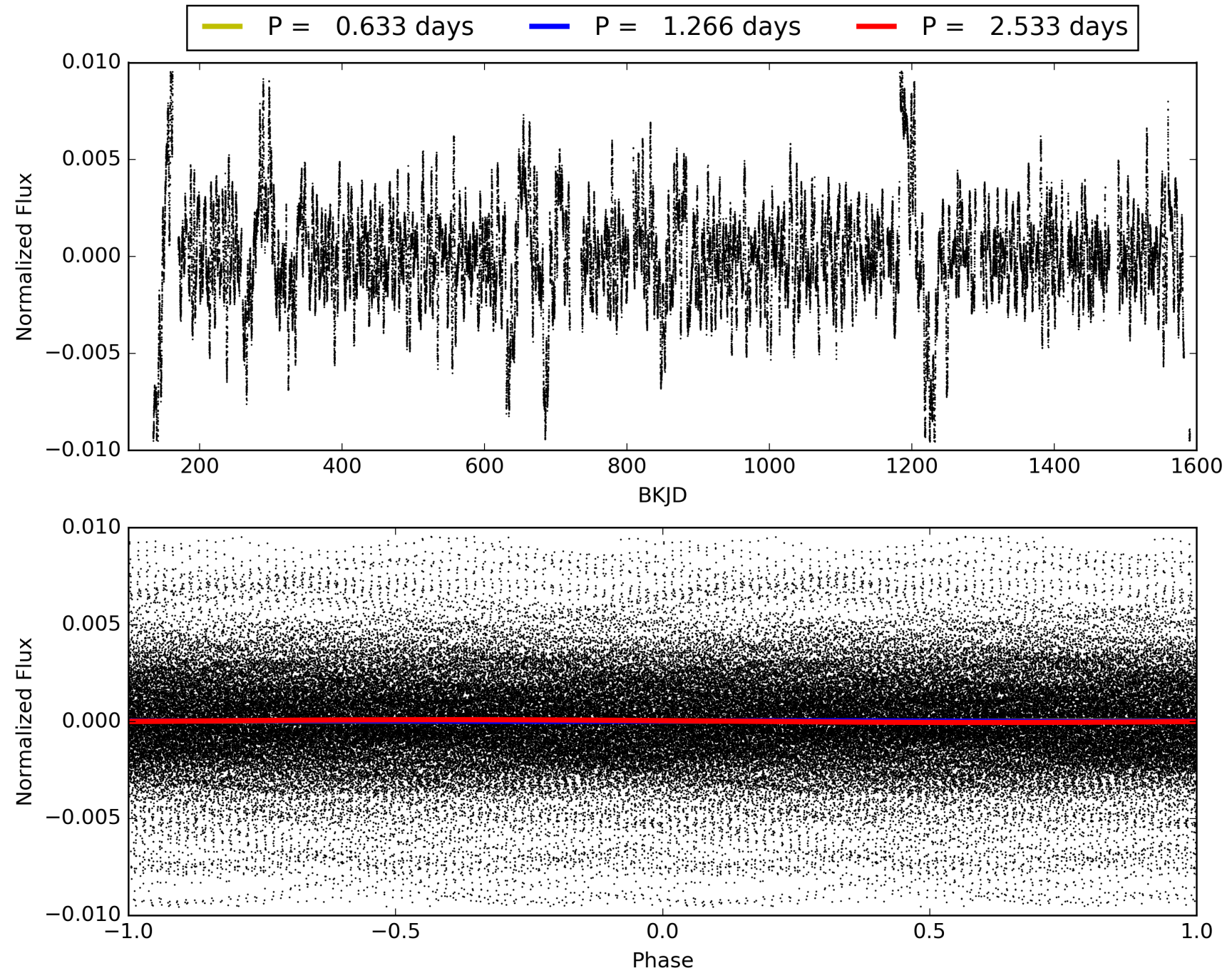
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:25:39 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 006142922-01, PDC Light Curves

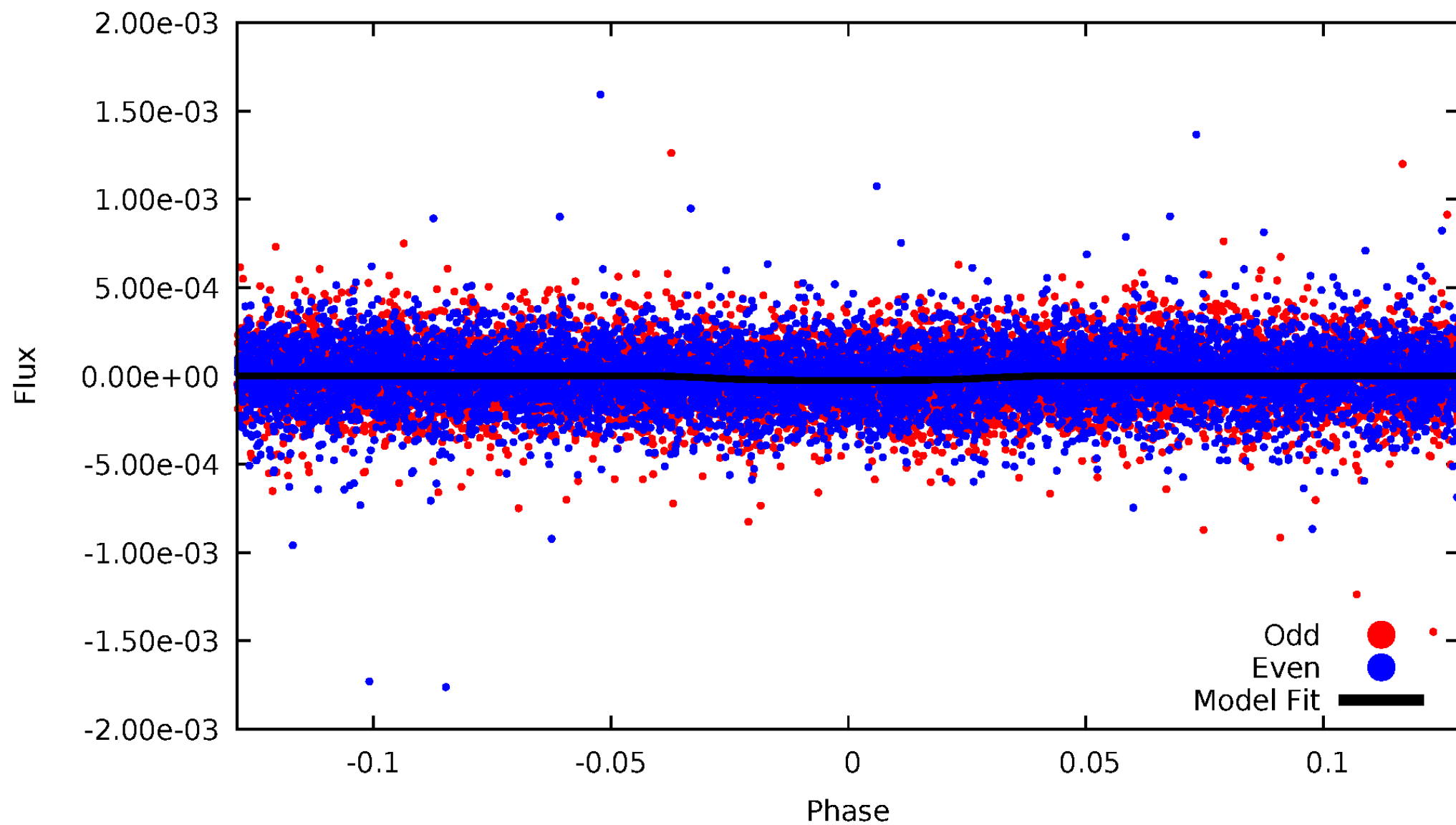


TCE 006142922-01



# DV Odd/Even

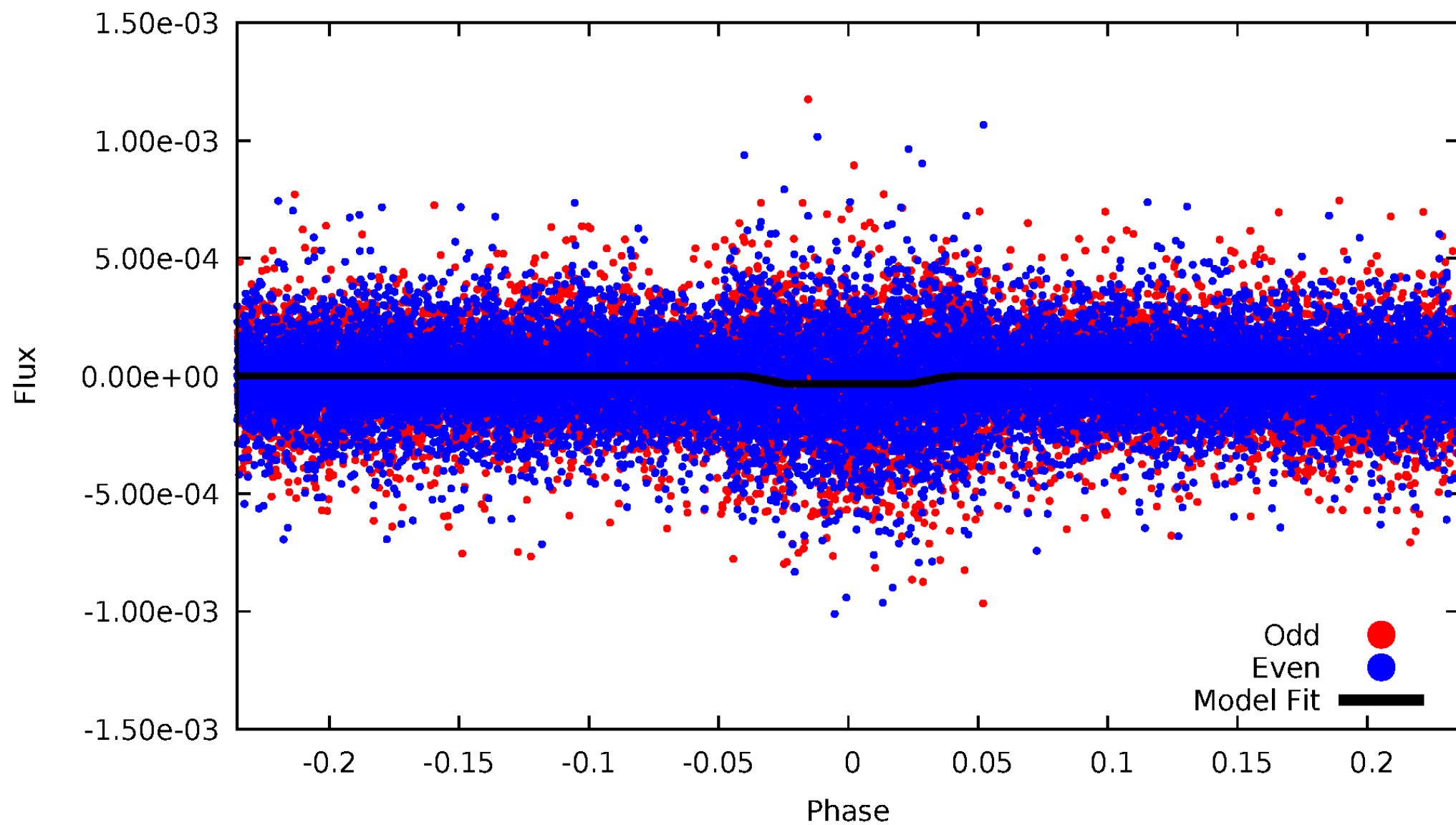
TCE 006142922-01





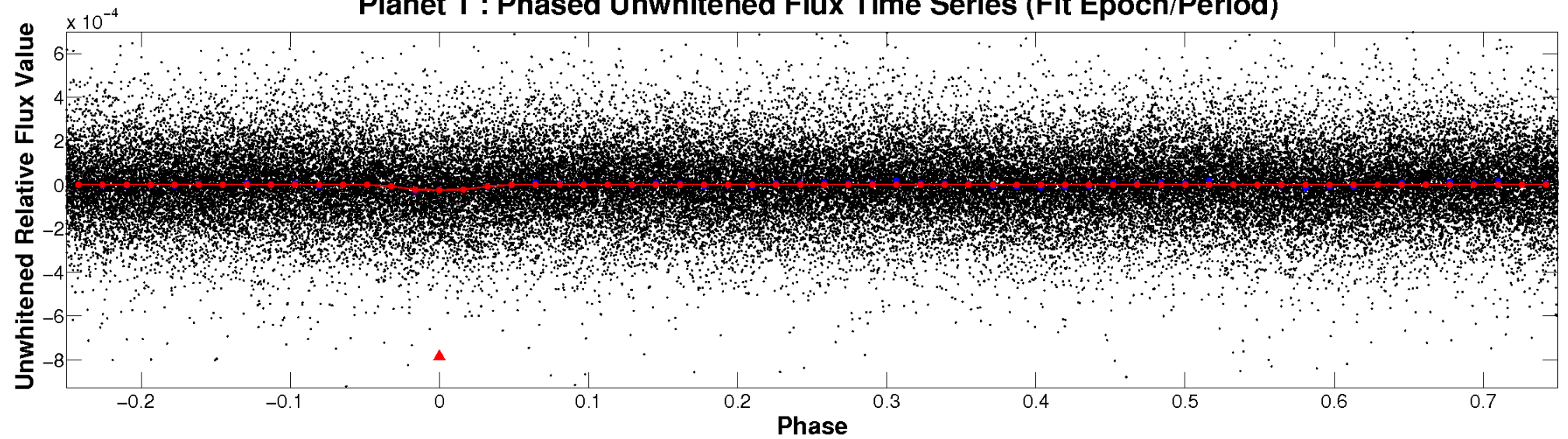
# ALT Odd/Even

TCE 006142922-01

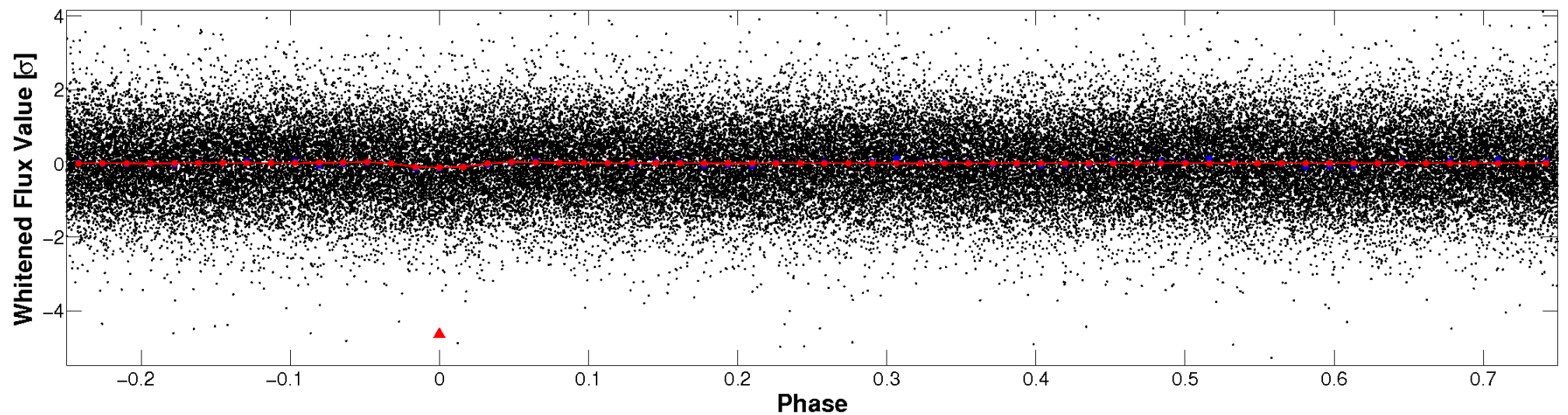


# Non-Whitened Vs. Whitened Light Curve

**Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)**

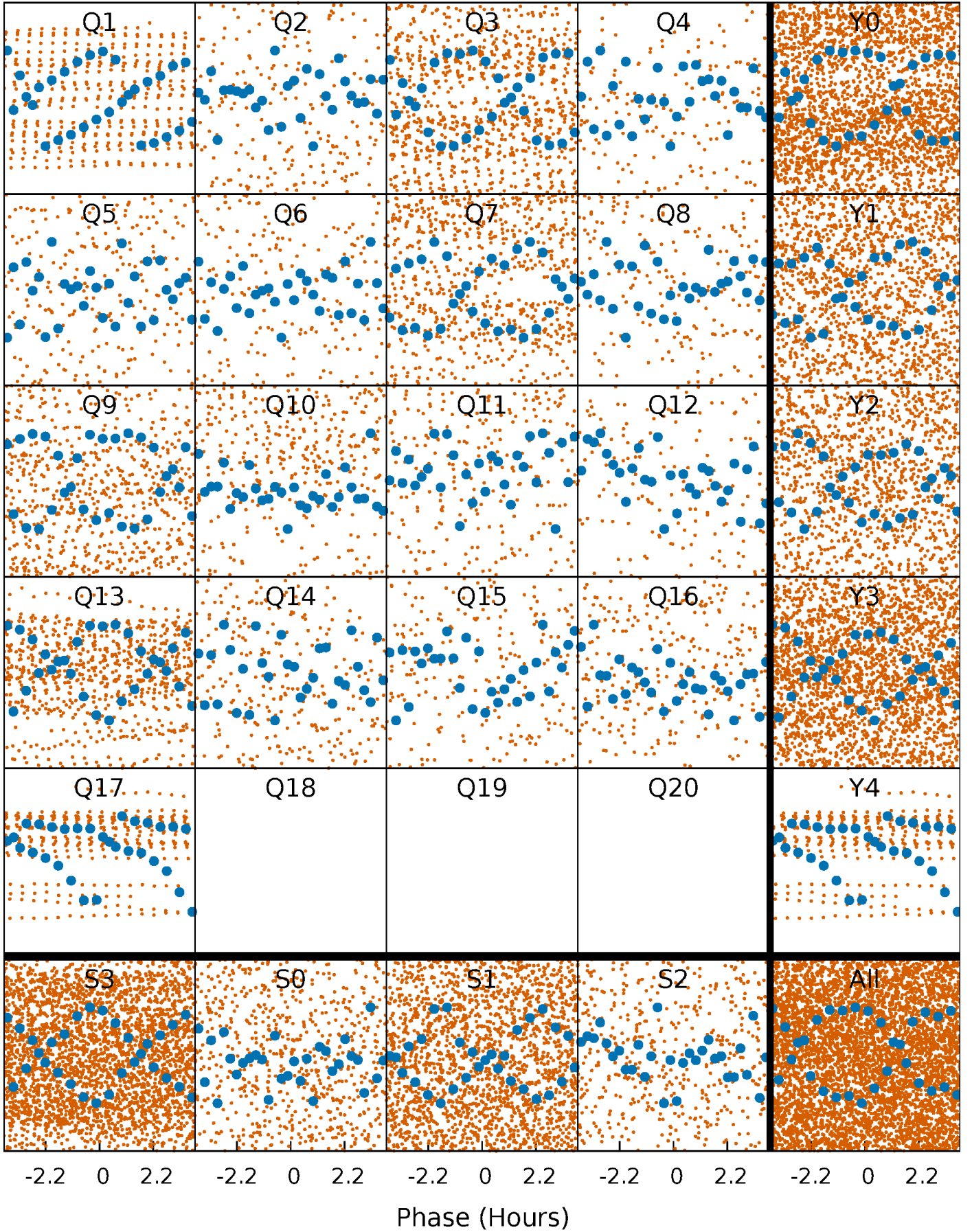


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

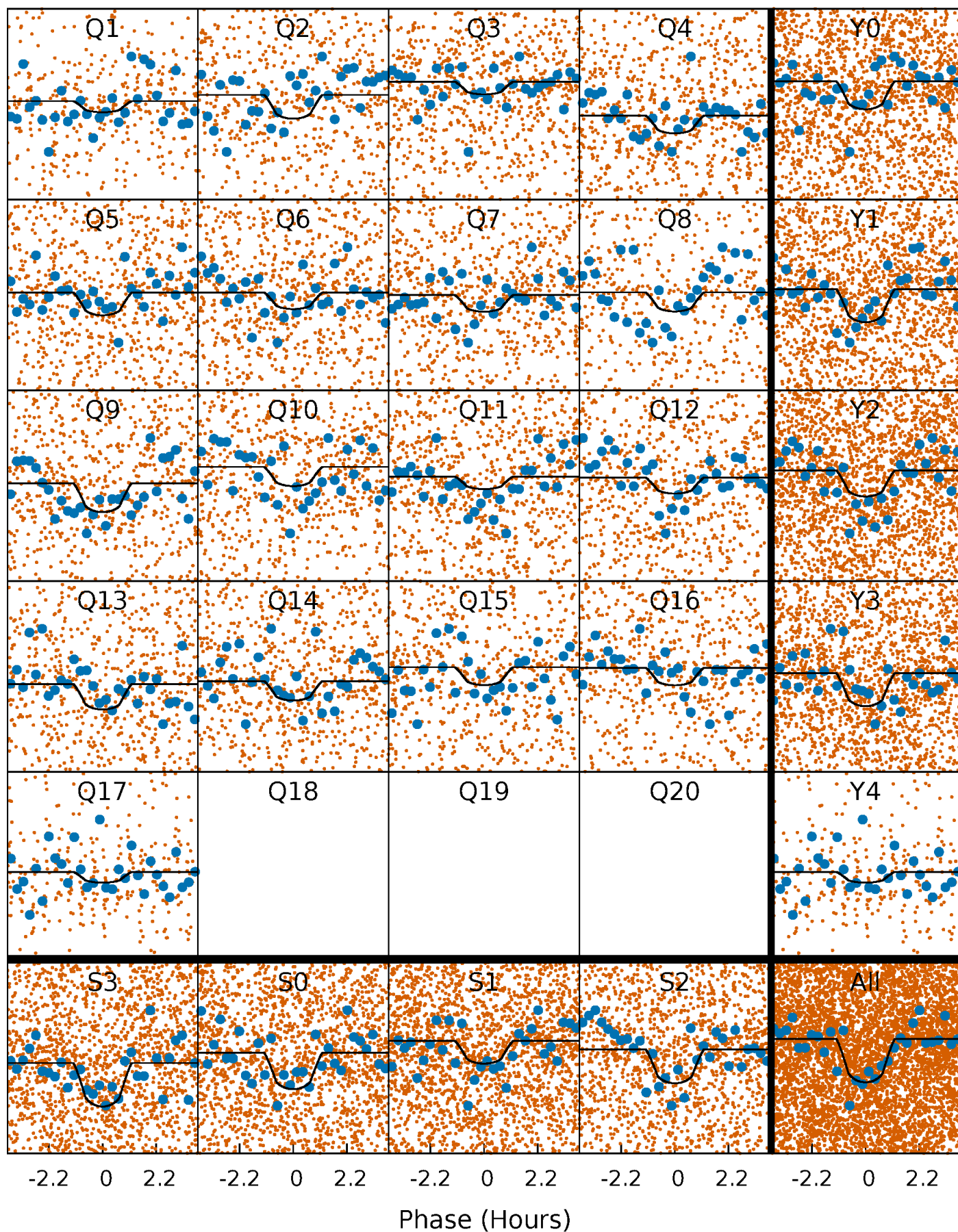
TCE 006142922-01   P= 1.266474 Days    $T_0=131.969628$  (BKJD)





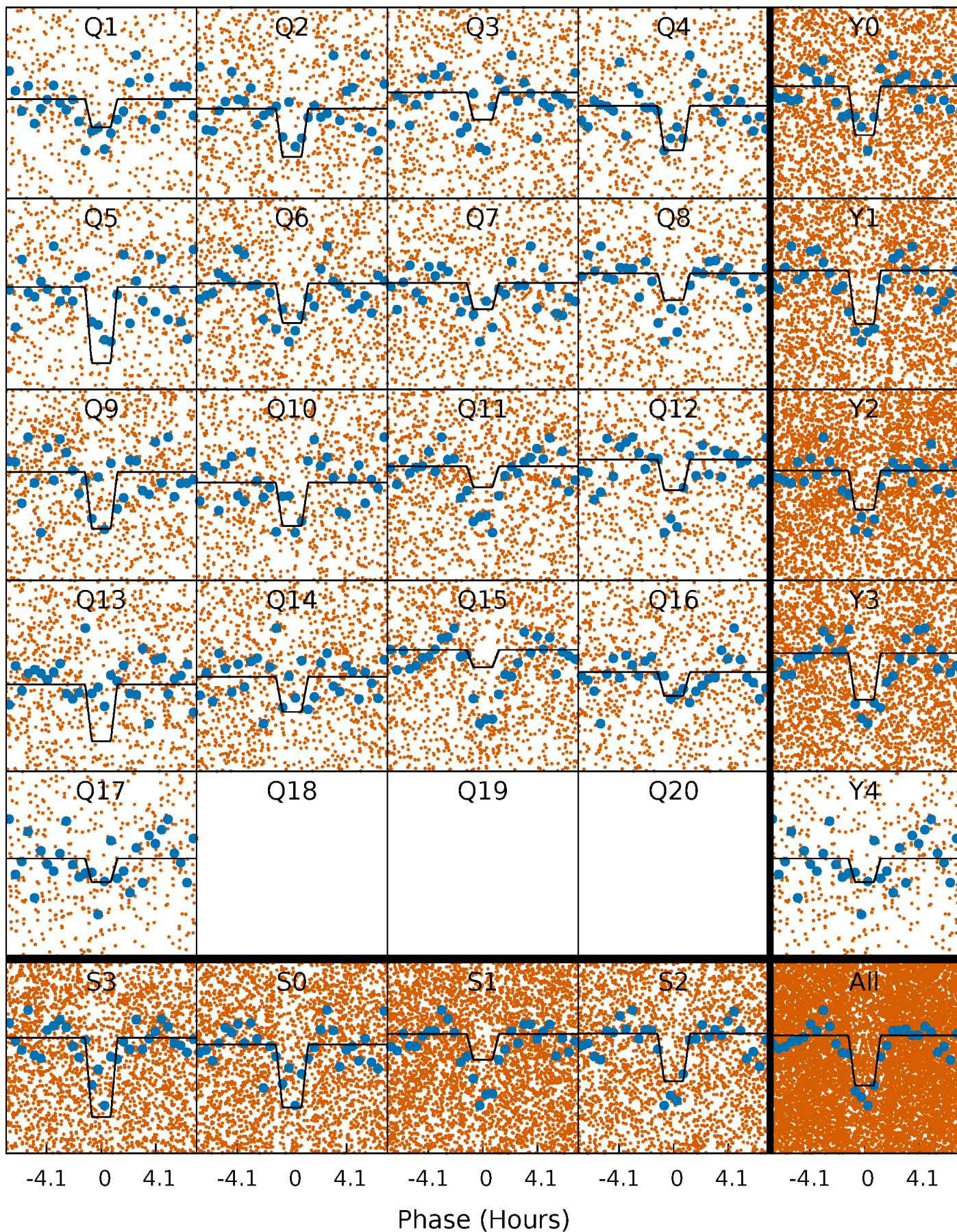
# DV Quarter-Phased Transit Curves

TCE 006142922-01 P= 1.266474 Days  $T_0=131.969628$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

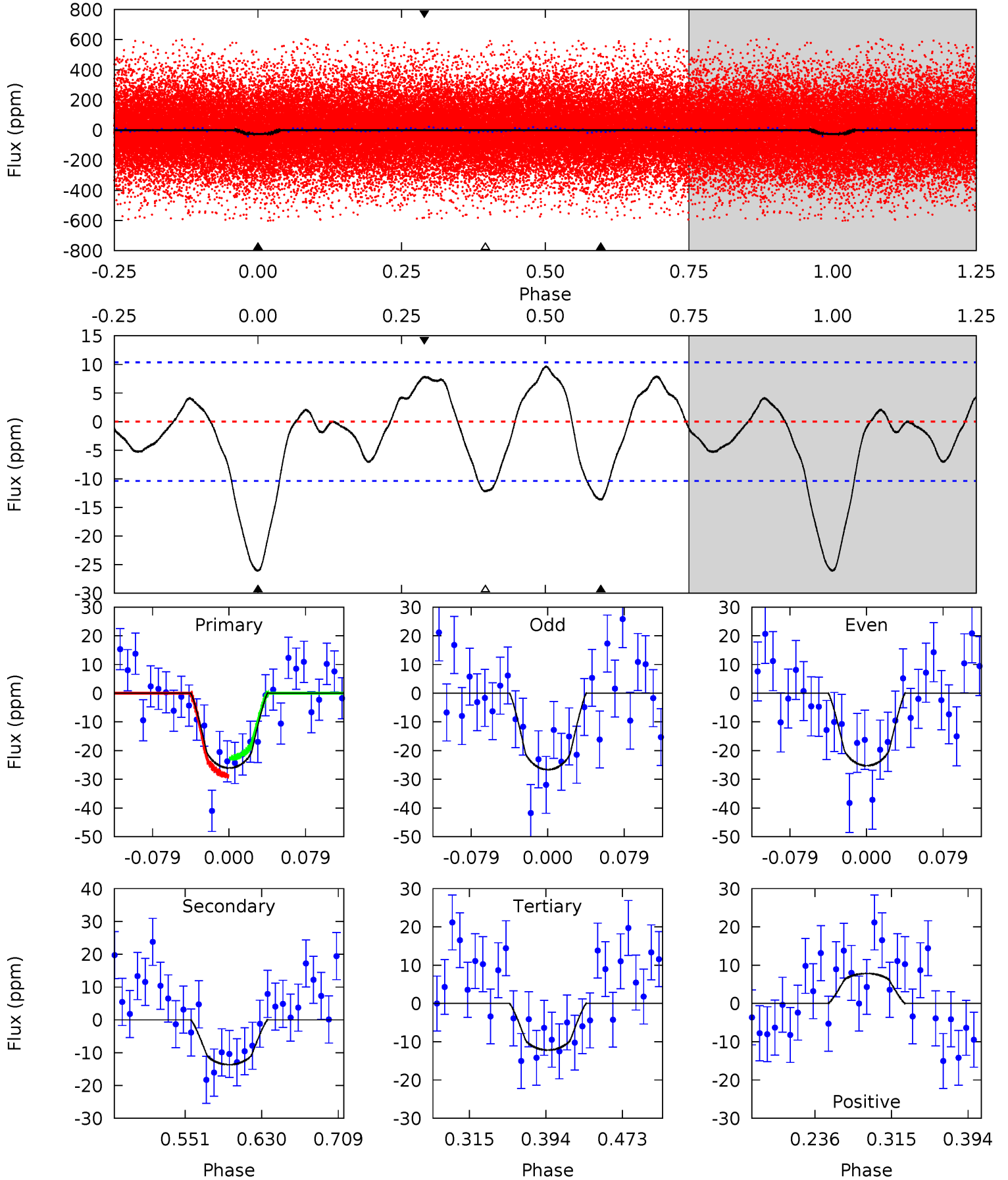
TCE 006142922-01 P= 1.266524 Days  $T_0=131.937097$  (BKJD)



# DV Model-Shift Uniqueness Test

006142922-01, P = 1.266474 Days, E = 130.703154 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	6.07	5.41	3.48	4.61	1.76	2.36	6.19	8.12	0.66	2.59	0.31	1.23	0.27	1.36

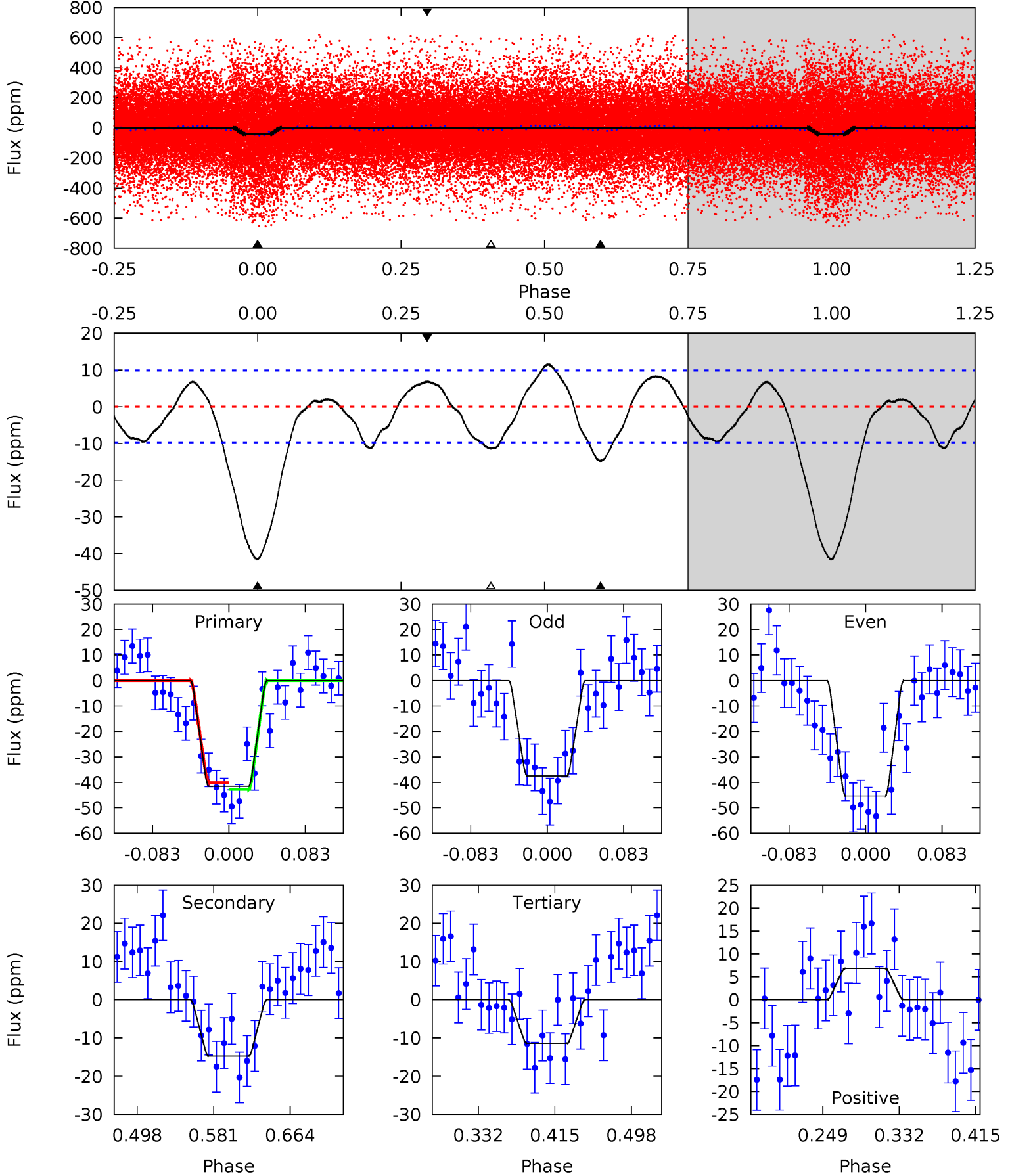




# Alt Model-Shift Uniqueness Test

006142922-01, P = 1.266524 Days, E = 130.670573 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.4	6.87	5.32	3.18	4.60	1.73	2.91	14.1	16.2	1.56	3.69	1.85	1.11	0.22	0.62





### Stellar Parameters For KIC 006142922

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$4120^{+92}_{-113}$	$1.337^{+0.030}_{-0.030}$	$-0.240^{+0.200}_{-0.250}$	$47.174^{+1.696}_{-9.612}$	$1.764^{+0.071}_{-0.637}$	$0.000^{+0.000}_{-0.000}$
	+2%/-3%	+2%/-2%	+83%/-104%	+4%/-20%	+4%/-36%	+30%/-8%
Source	PHO54	AST54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 006142922-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-14 \pm 2$	$31.10^{+22.60}_{-19.05}$	$10492^{+303}_{-310}$	$-8073^{+500}_{-468}$	$0.006^{+0.033}_{-0.004}$
Alt.	$-15 \pm 2$	$33.03^{+22.92}_{-19.88}$	$10477^{+310}_{-329}$	$-8090^{+564}_{-471}$	$0.006^{+0.030}_{-0.004}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature

$T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{\text{obs}}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{\text{obs}} \gg T_{\text{max}}$  AND  $A_{\text{obs}} \gg 1.0$

## DV Centroid Data

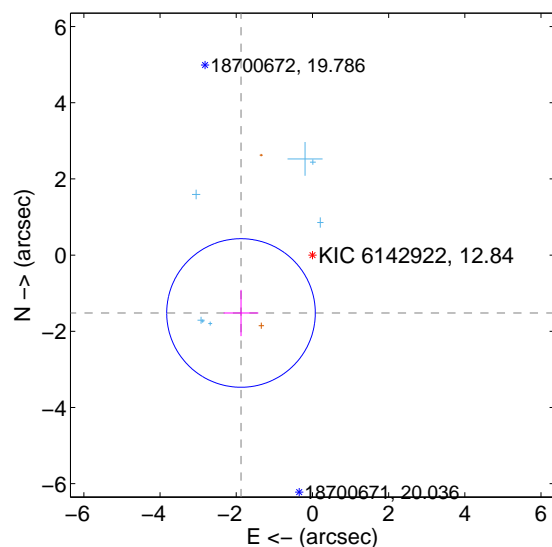
Supplemental centroid analysis for 006142922-01. Kepler magnitude: 12.84. Transit SNR 6.20

There are 7 quarters with good PRF difference image offsets

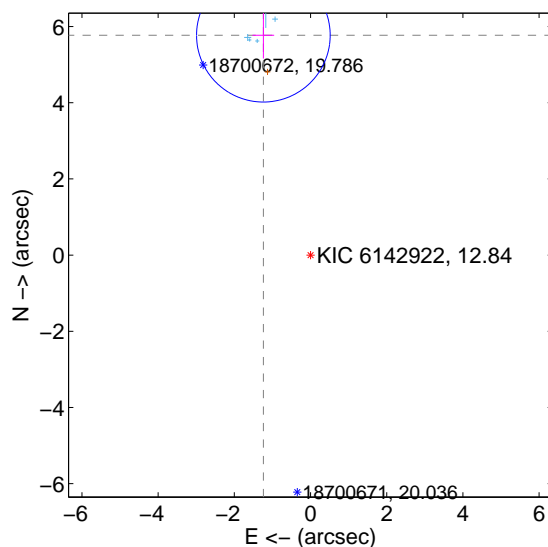
The OOT PRF centroid is offset from the target star catalog position by about 3.87 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.414 \pm 0.650$	3.71	$1.875 \pm 0.456$	$-1.519 \pm 0.607$
PRF-fit source offset from KIC position	$5.903 \pm 0.585$	10.10	$1.238 \pm 0.284$	$5.772 \pm 0.611$
photometric centroid source offset	$1.84 \pm 1.15$	1.60	$1.61 \pm 0.66$	$0.90 \pm 2.04$

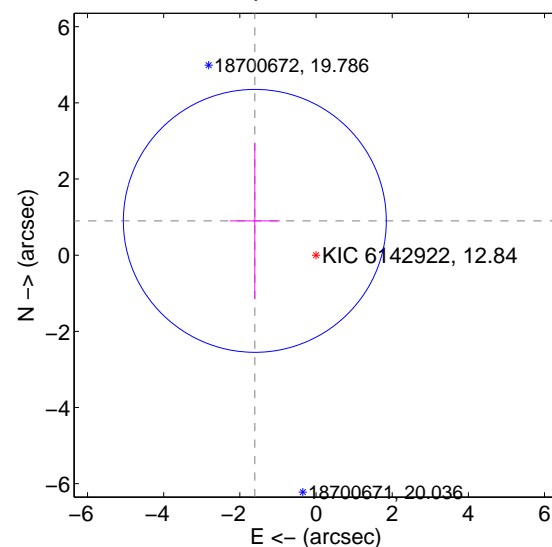
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

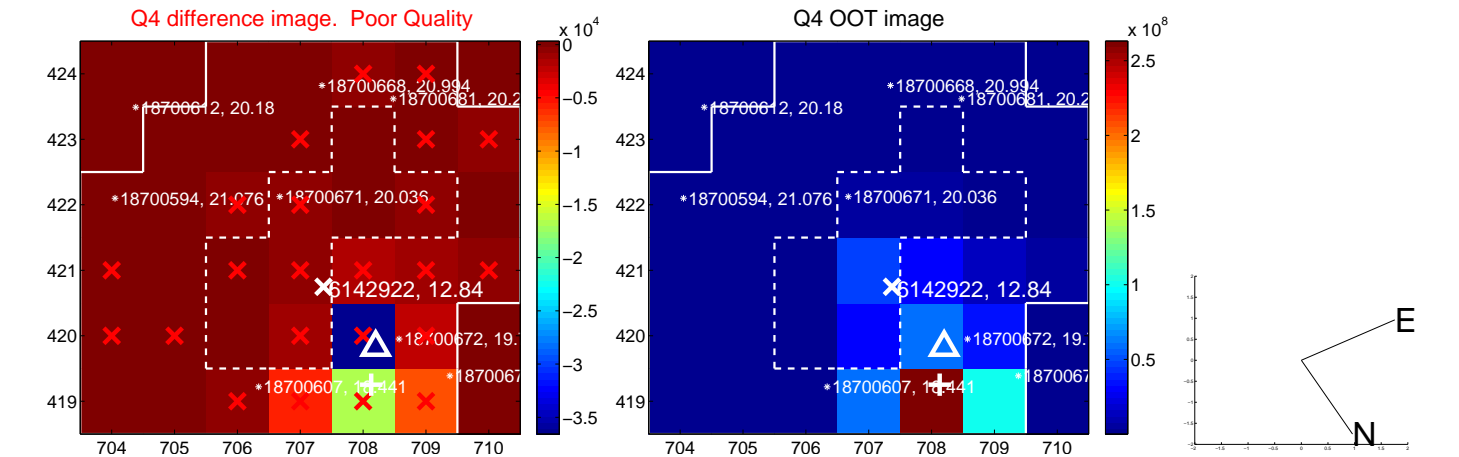
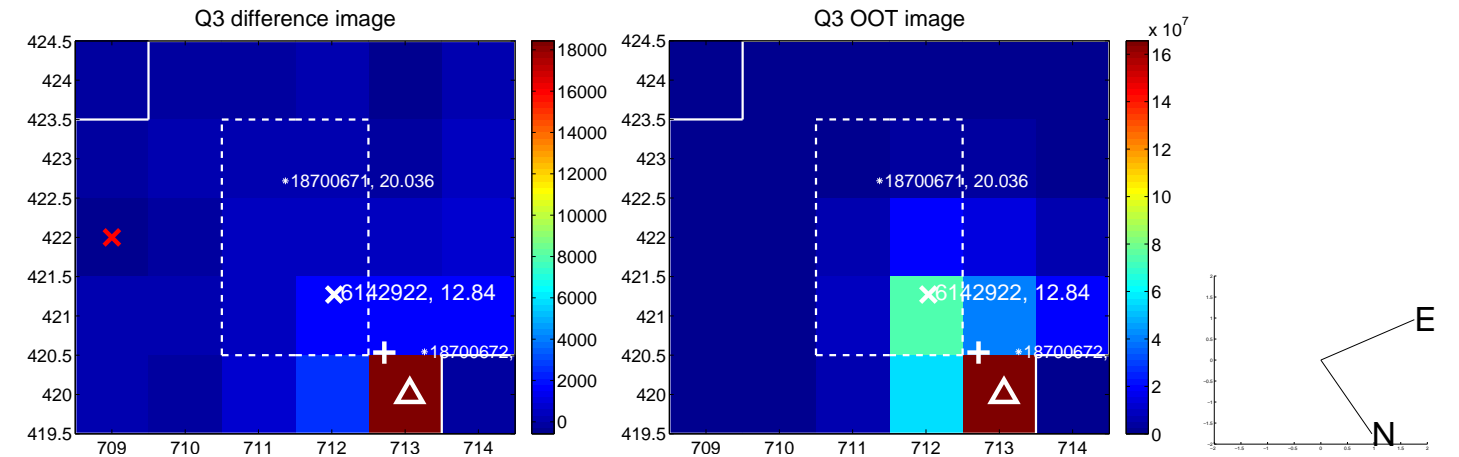
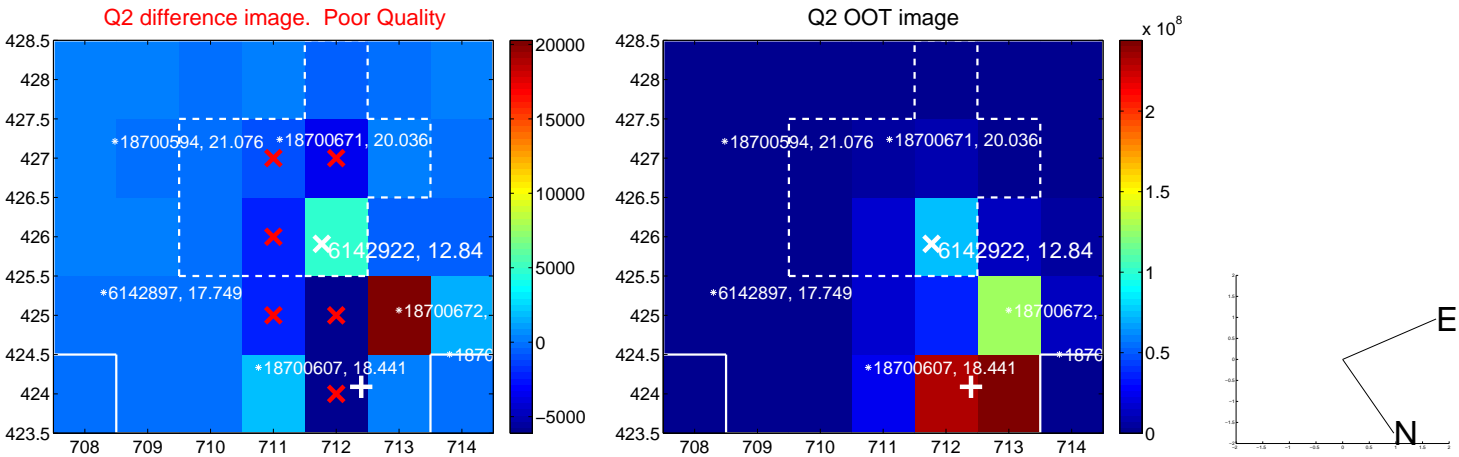
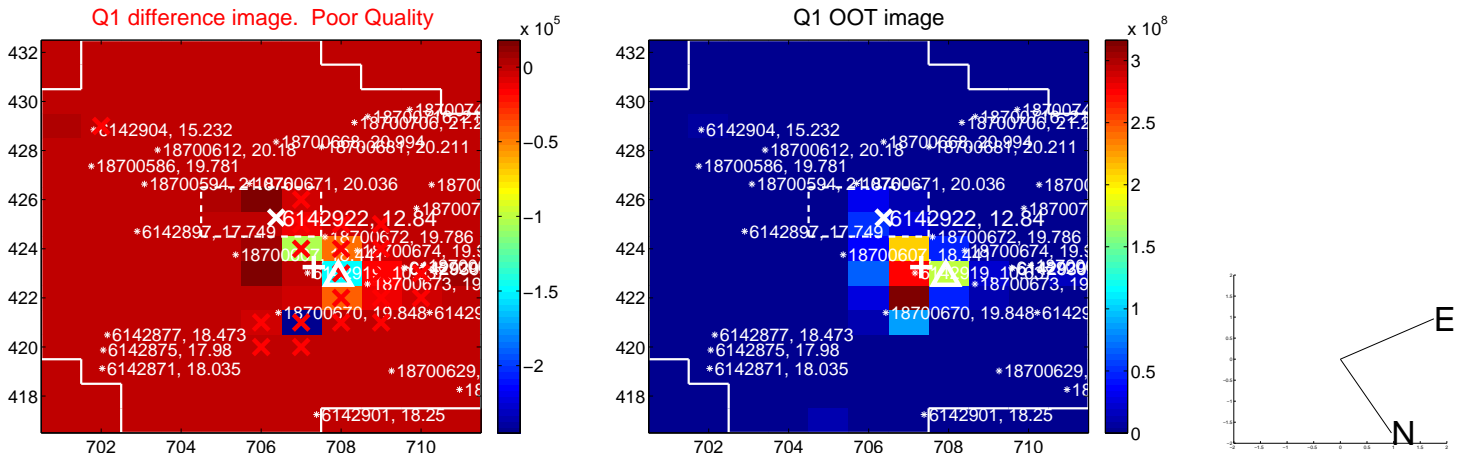


offset from photometric centroids

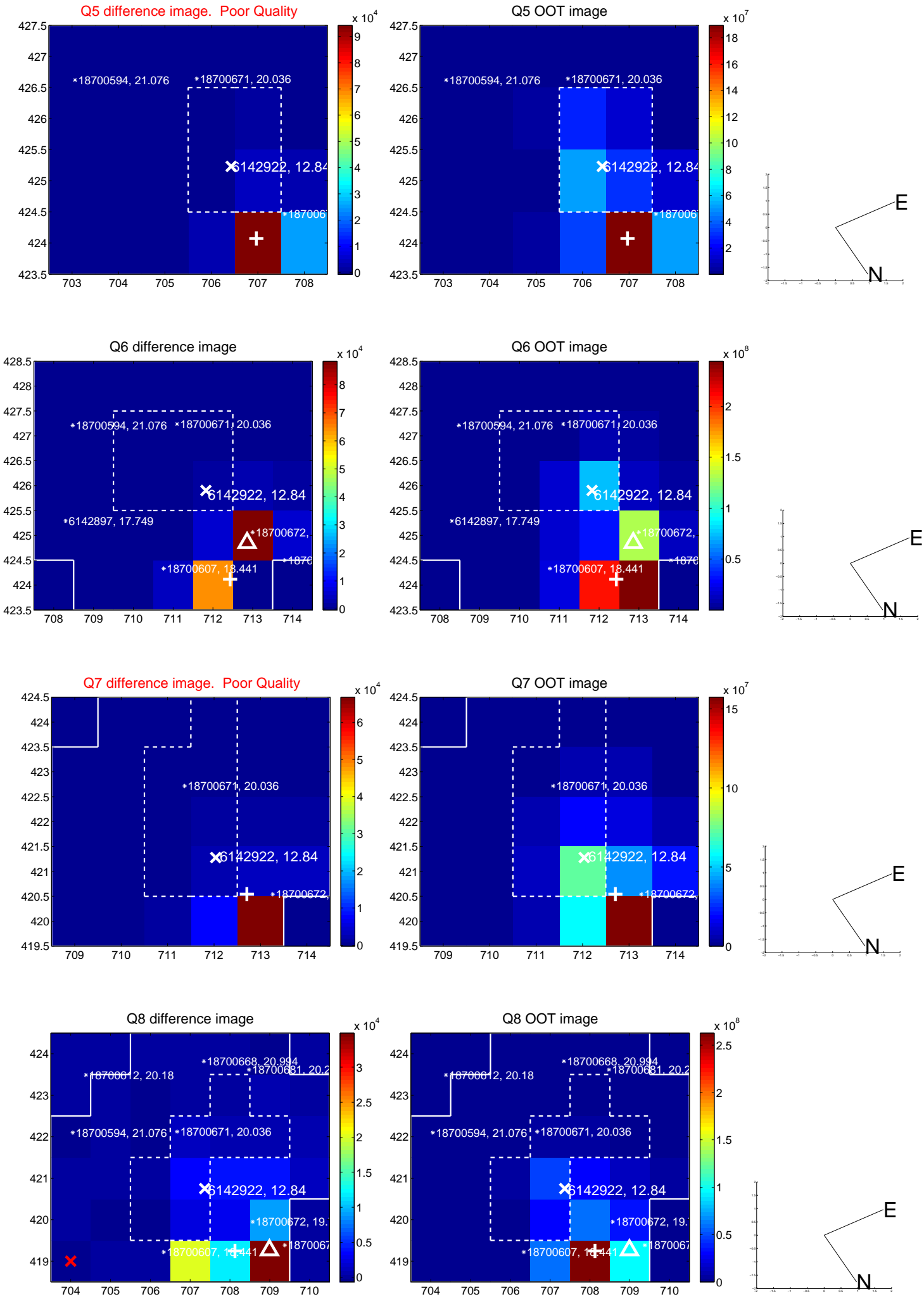


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

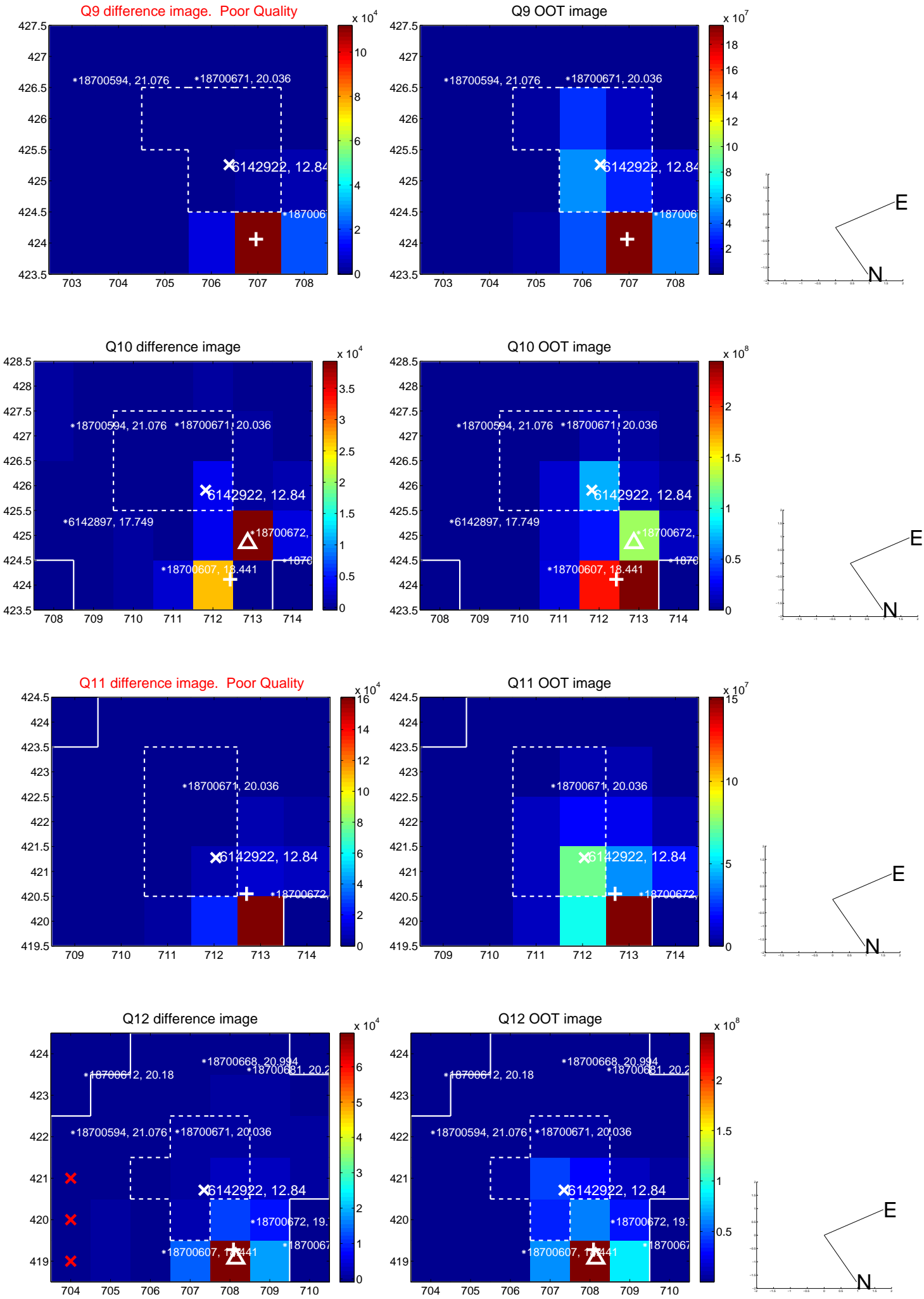


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

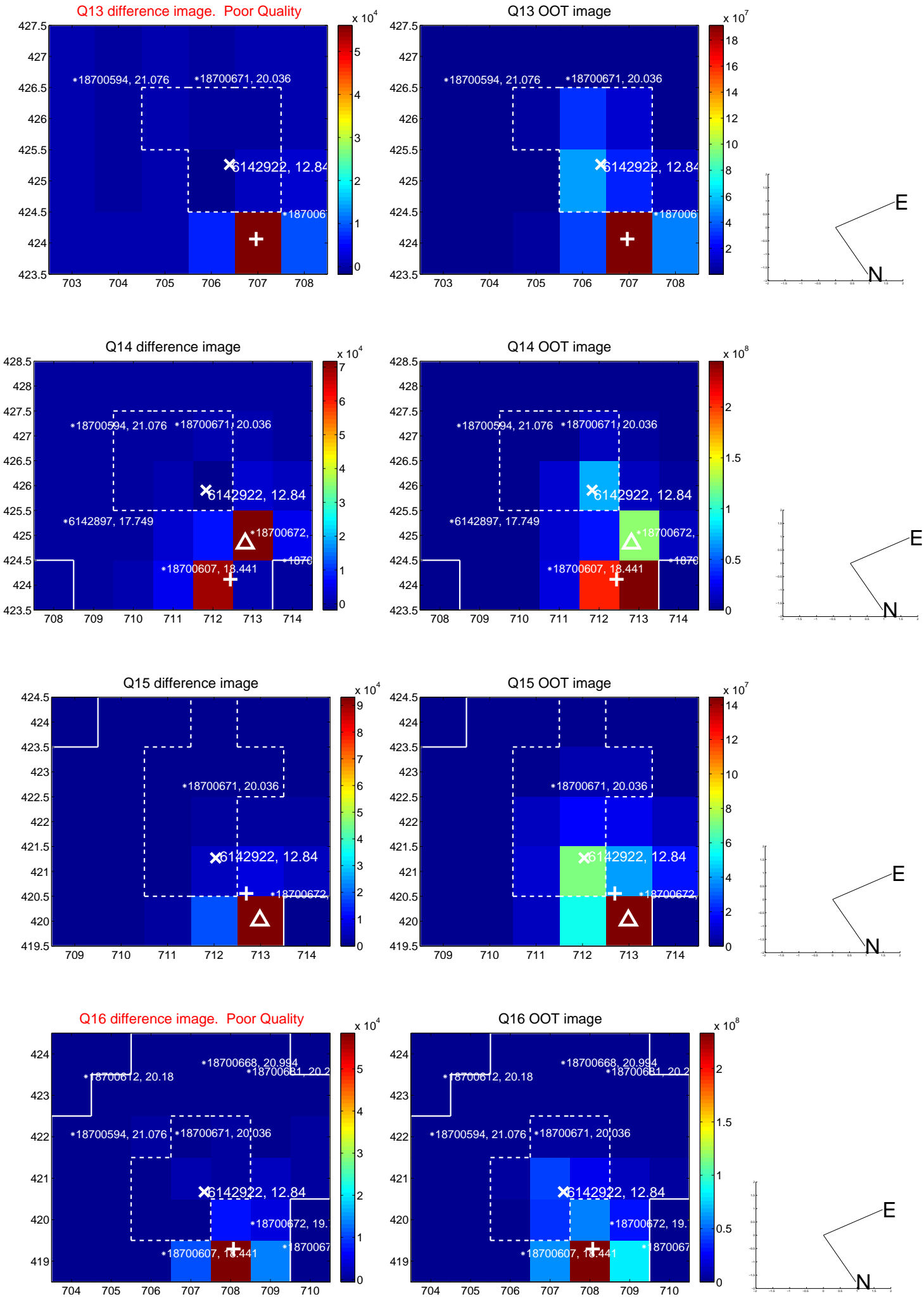




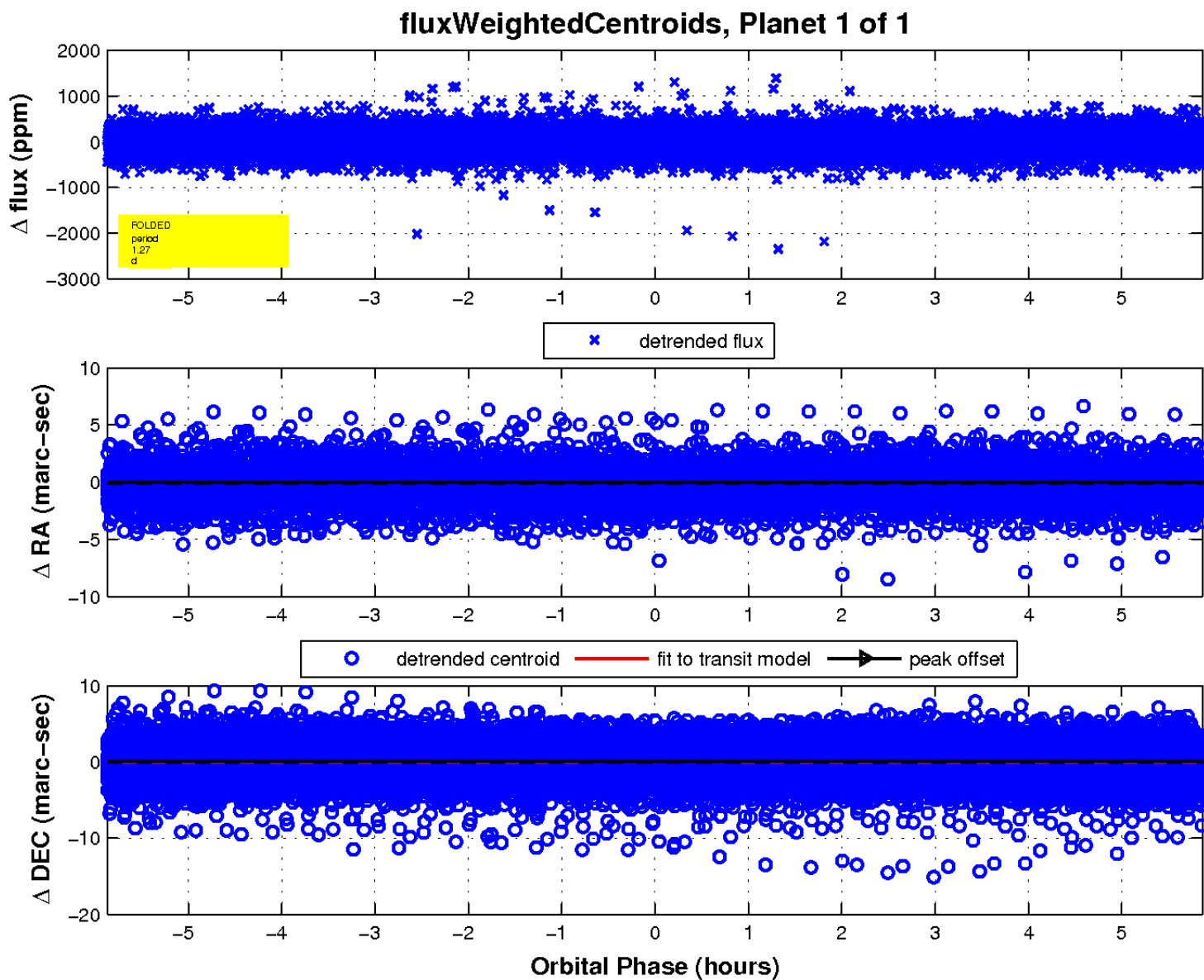
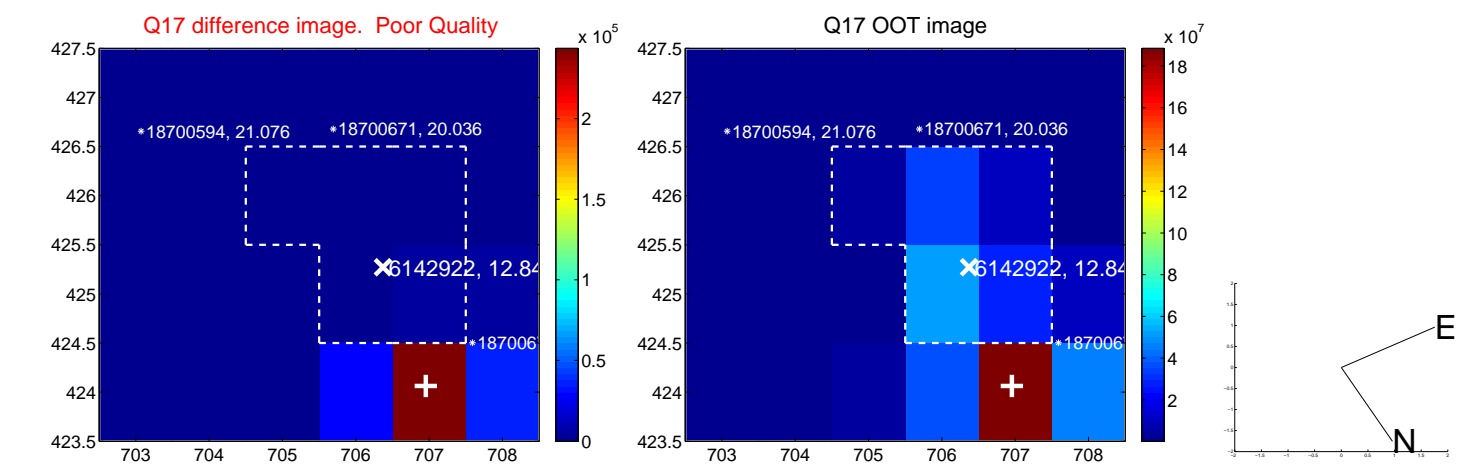
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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UKIRT Image

