

# KIC 007211221

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007211221-01	OBS	1379.01	5.621509	136.894622	169.2	2.397	29.2	32.7	0.96	5637	1.32	229.51

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007211221-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

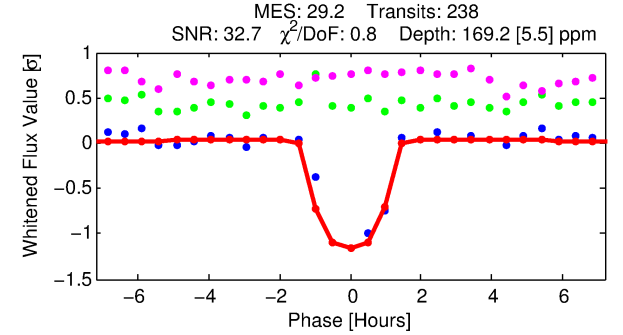
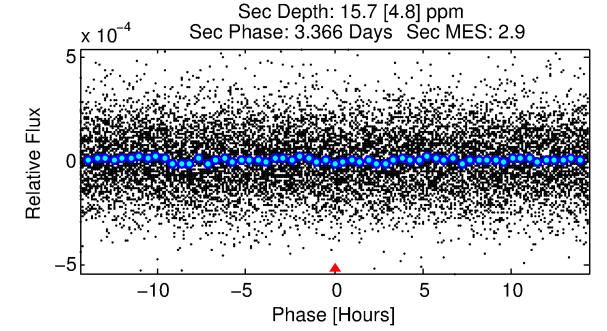
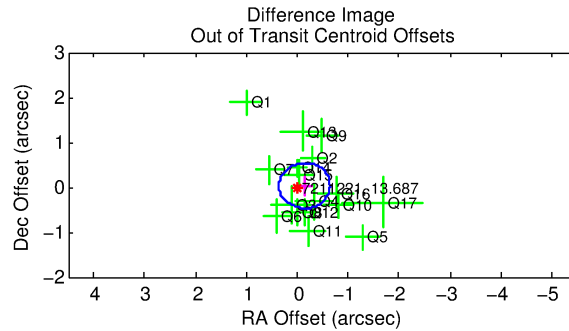
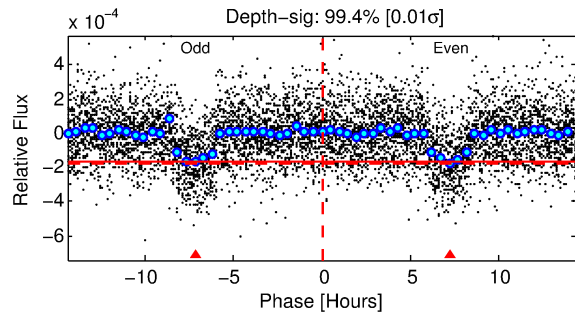
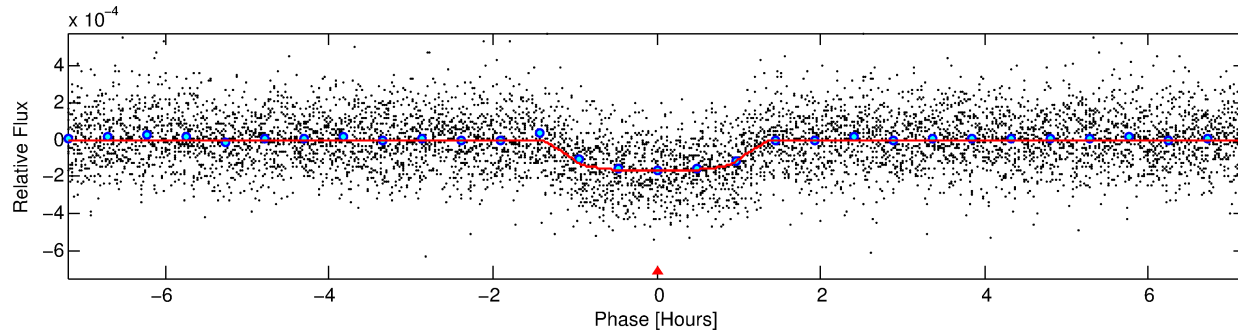
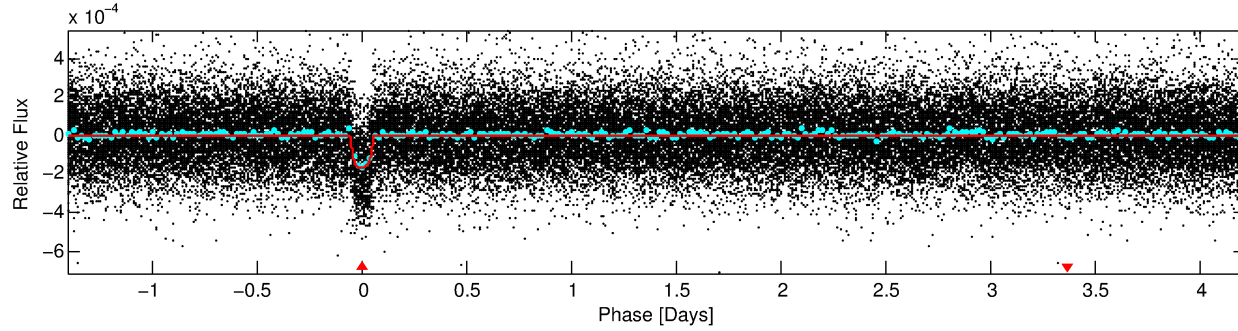
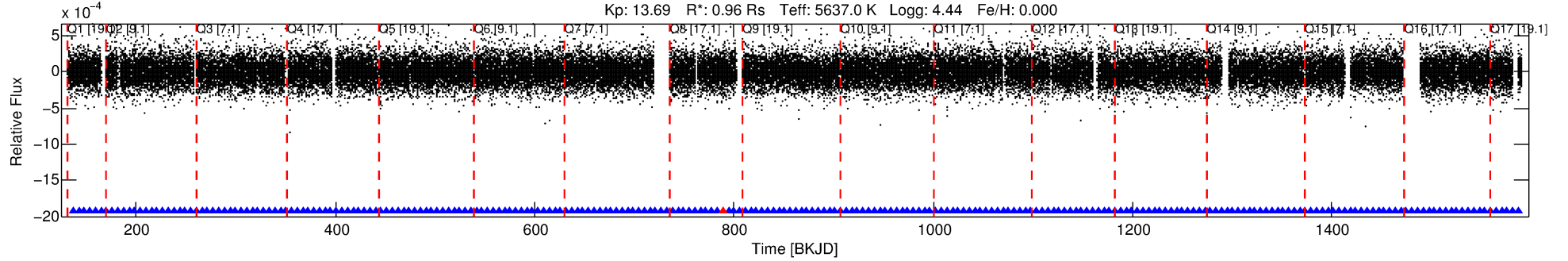
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007211221-01

No Significant Match Found

# DV One-Page Summary

KIC: 7211221 Candidate: 1 of 1 Period: 5.622 d  
KOI: K01379.01 Corr: 0.979



## DV Fit Results:

Period = 5.62151 [0.00001] d  
Epoch = 136.8946 [0.0015] BKJD  
Rp/R\* = 0.0126 [0.0038]  
a/R\* = 13.53 [17.02]  
b = 0.68 [1.03]  
Seff = 229.51 [45.45]  
Teq = 992 [49] K  
Rp = 1.32 [0.43] Re  
a = 0.0603 [0.0071] AU  
Ag = 17.87 [12.52] [1.35 $\sigma$ ]  
Teffp = 3155 [537] K [4.01 $\sigma$ ]

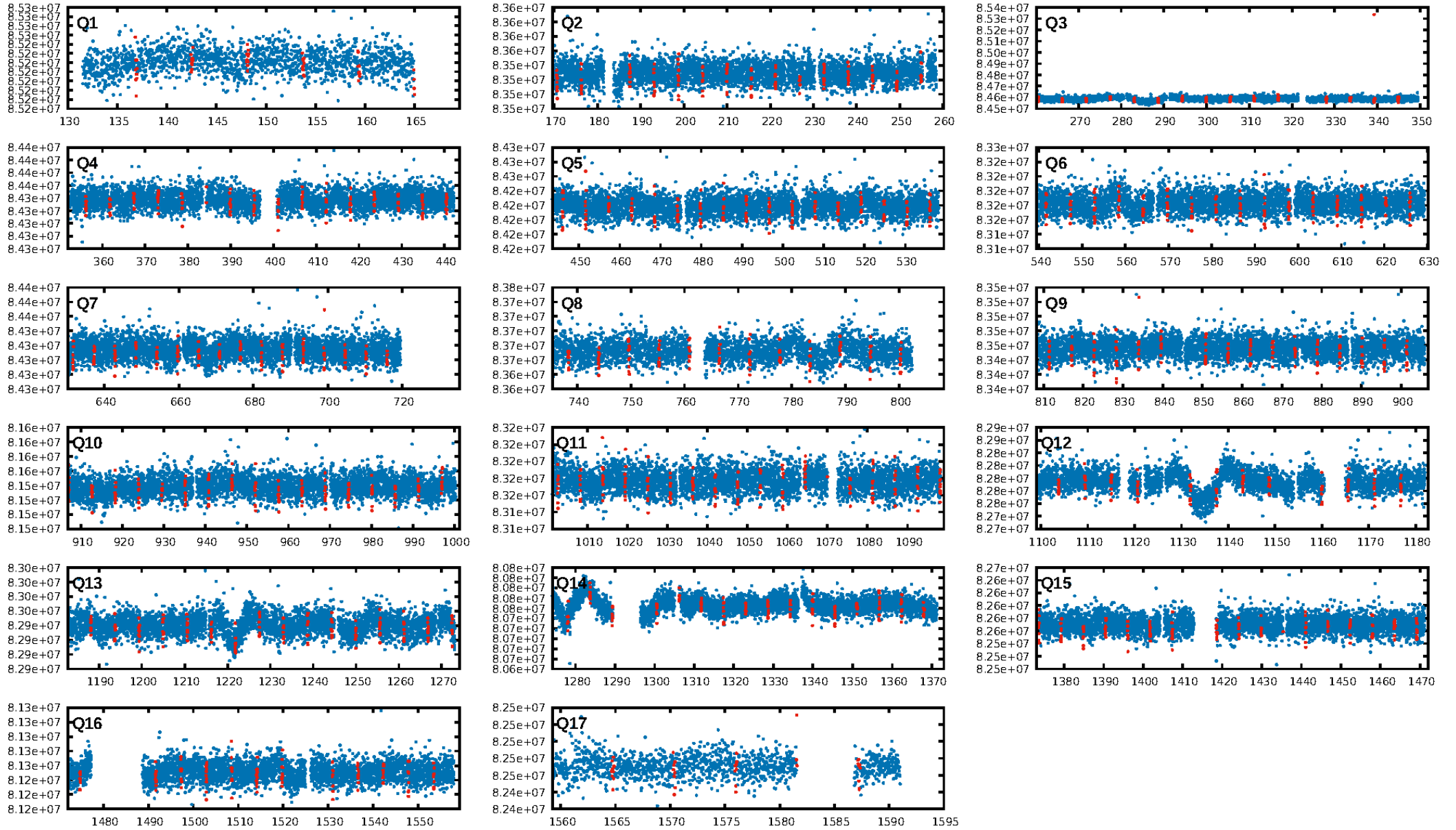
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 8.95e-179  
RollingBand-fgt: 1.00 [226/227]  
GhostDiagnostic-chr: 3.29  
Centroid-sig: 6.5%  
Centroid-so: 0.203 arcsec [0.56 $\sigma$ ]  
OotOffset-rm: 0.147 arcsec [0.88 $\sigma$ ]  
KicOffset-rm: 0.257 arcsec [1.08 $\sigma$ ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 1.00 [17/17]  
DiffImageOverlap-fno: 1.00 [17/17]

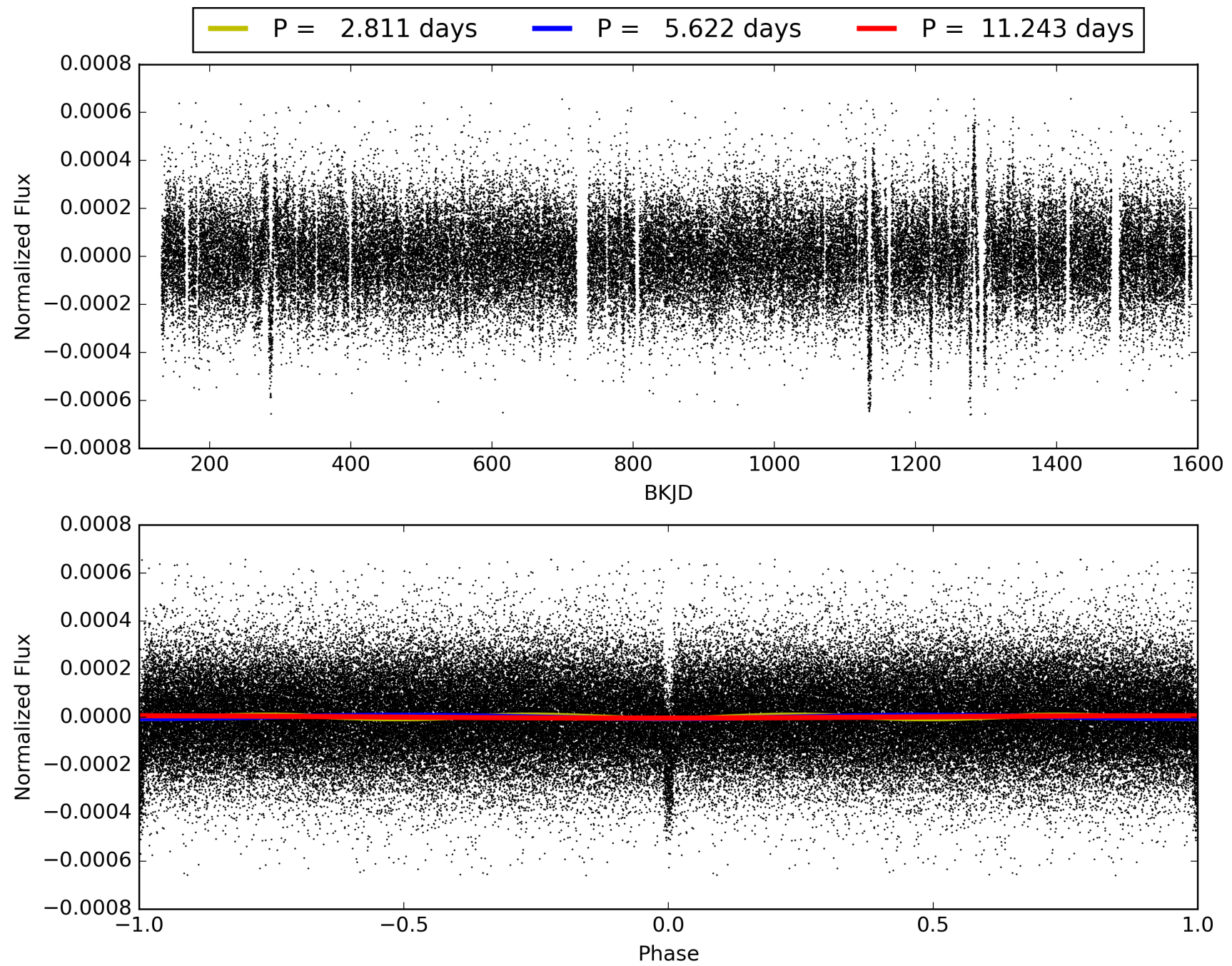
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:19:19 Z

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

# TCE 007211221-01, PDC Light Curves

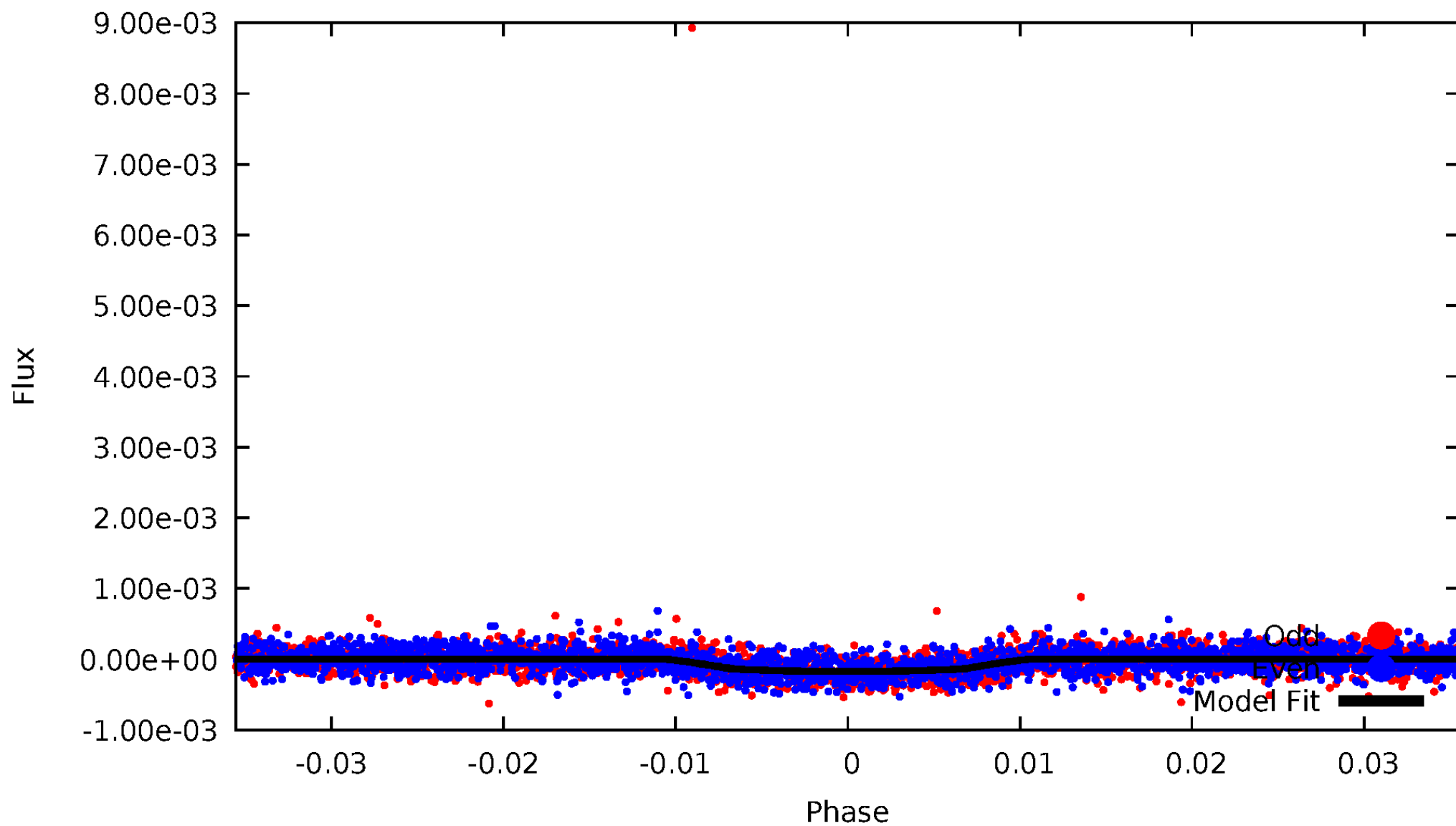


TCE 007211221-01



# DV Odd/Even

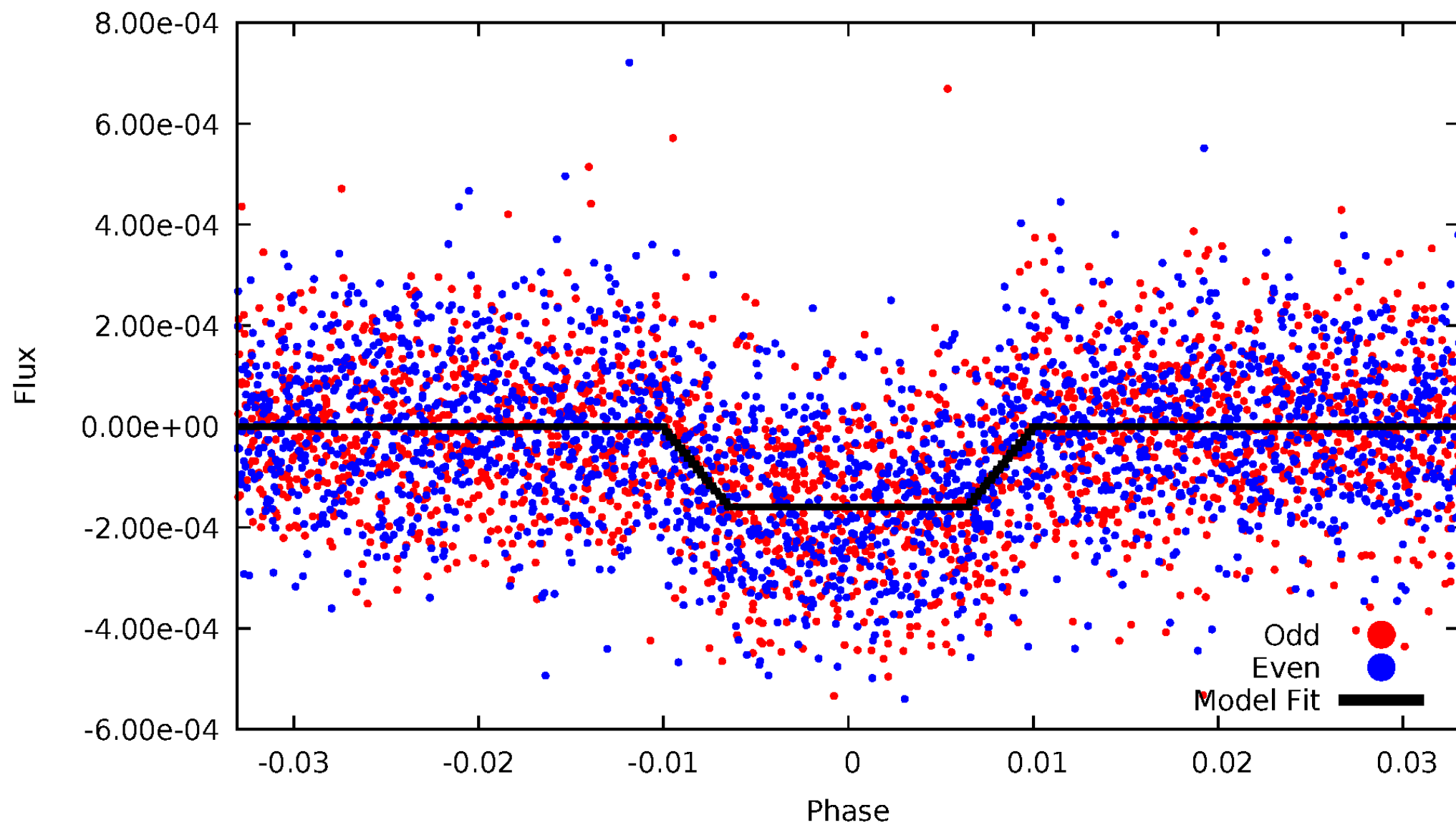
TCE 007211221-01





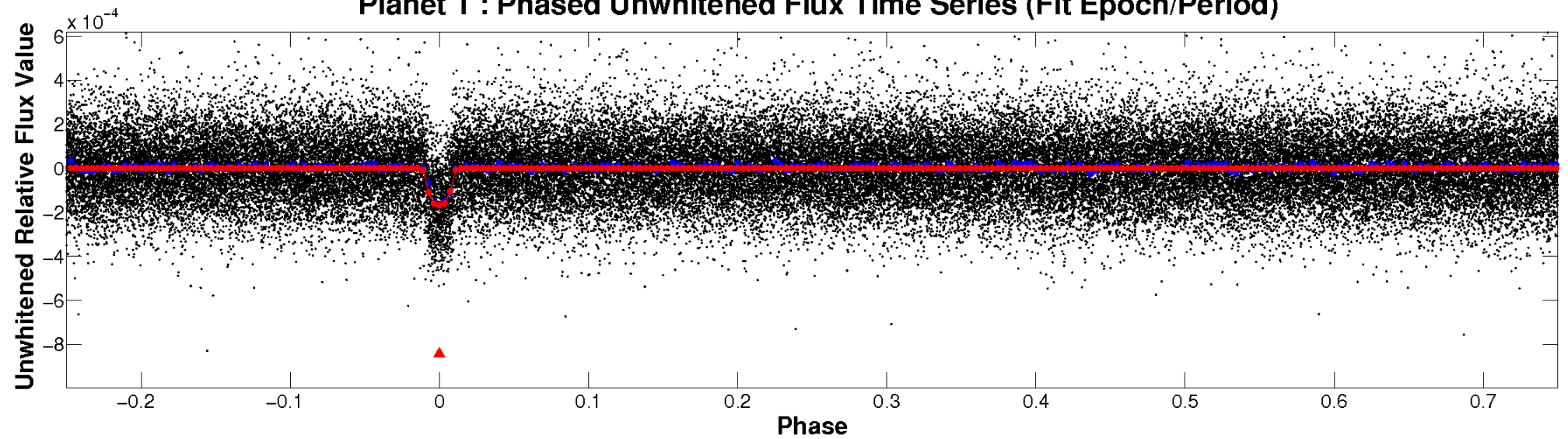
# ALT Odd/Even

TCE 007211221-01

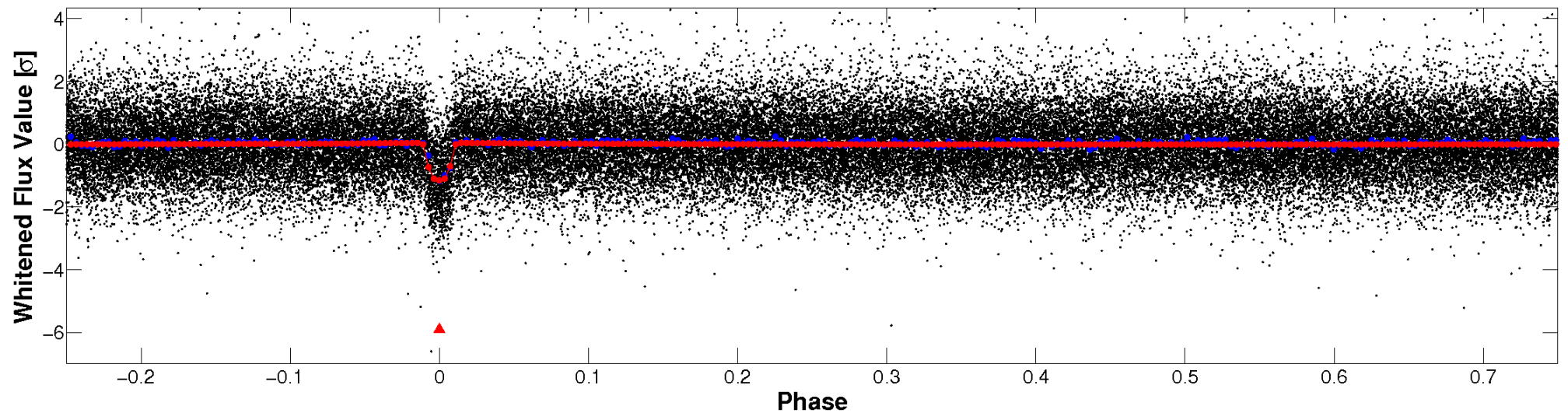


# Non-Whitened Vs. Whitened Light Curve

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

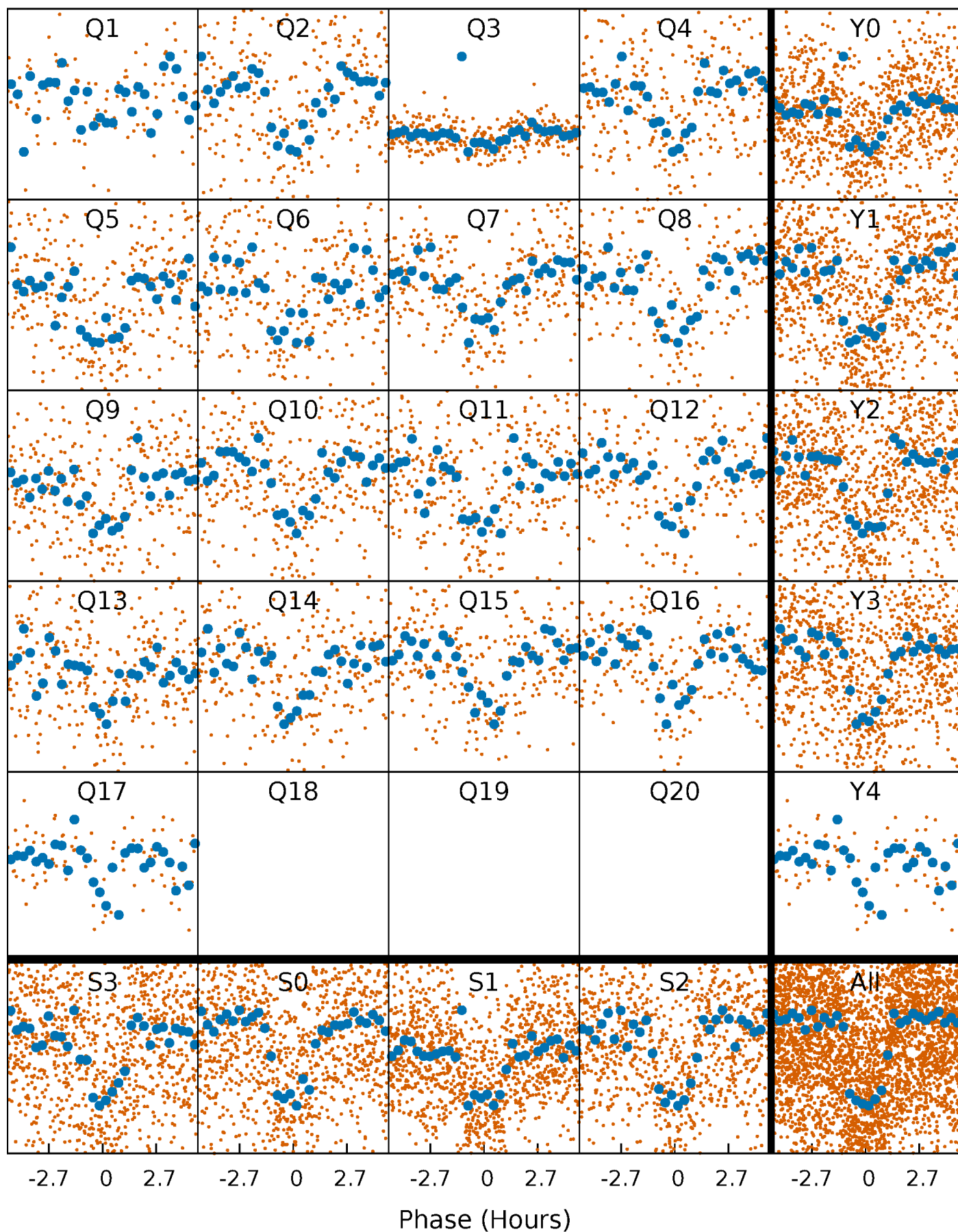


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

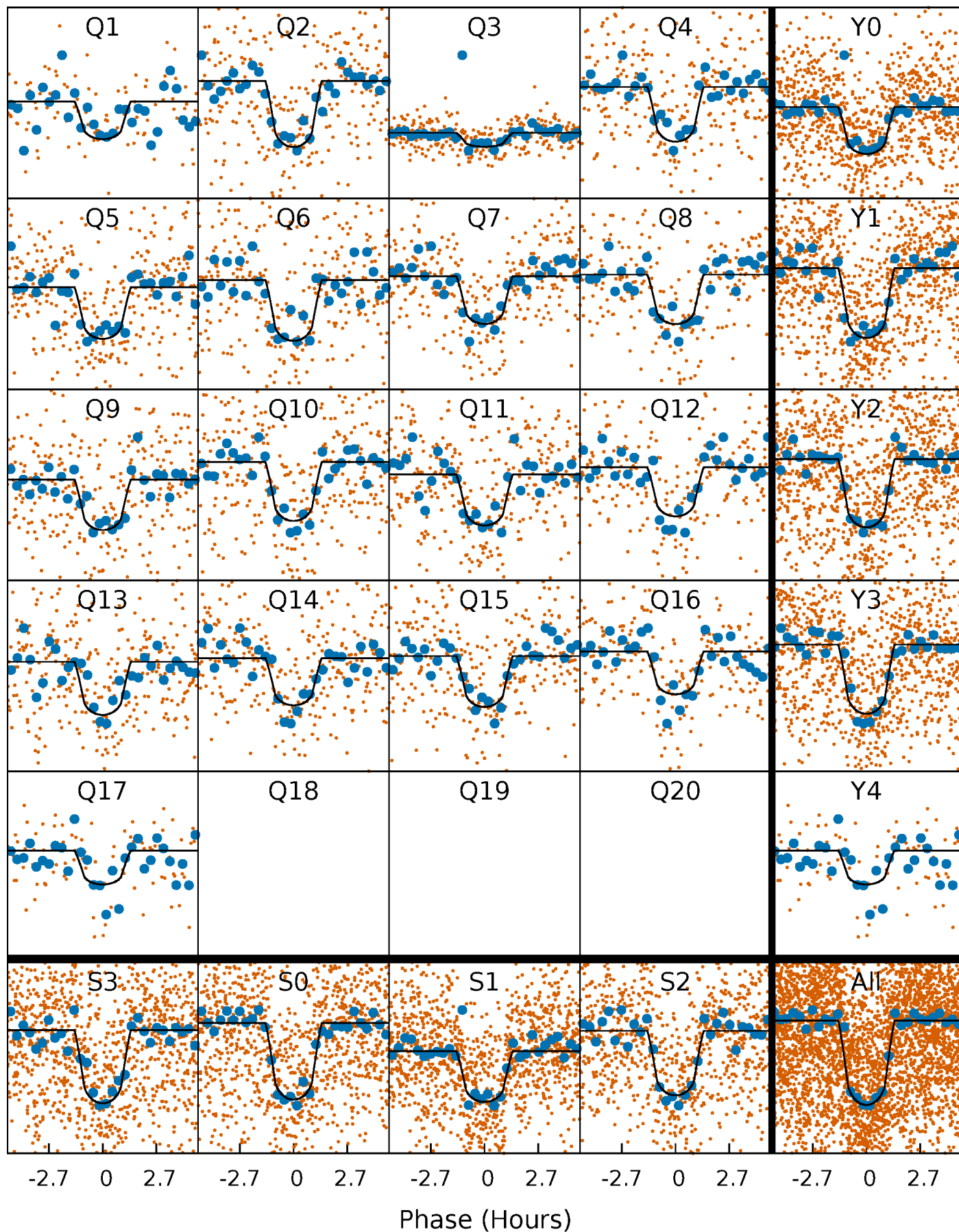
TCE 007211221-01 P= 5.621509 Days  $T_0=136.894622$  (BKJD)





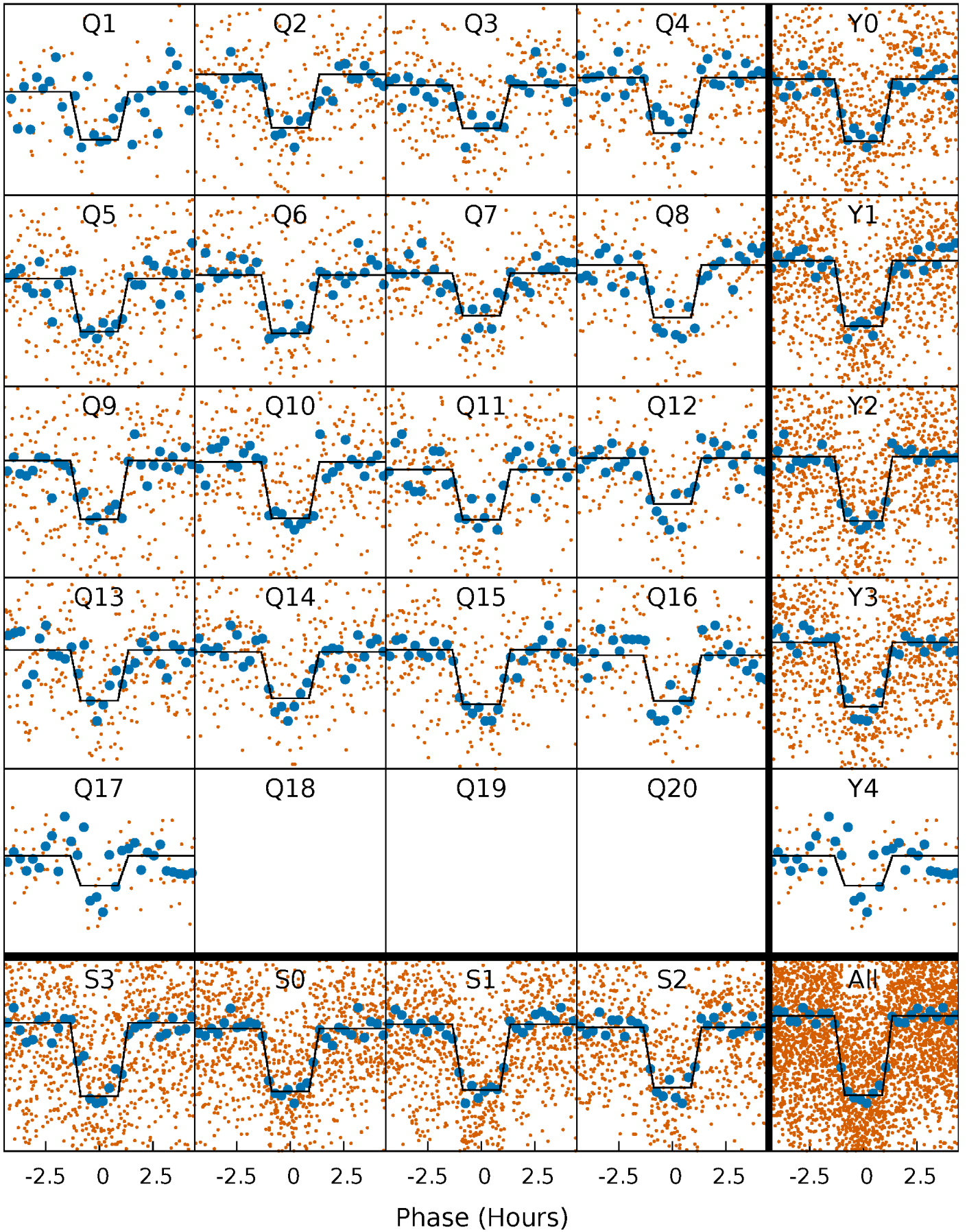
# DV Quarter-Phased Transit Curves

TCE 007211221-01 P= 5.621509 Days  $T_0=136.894622$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

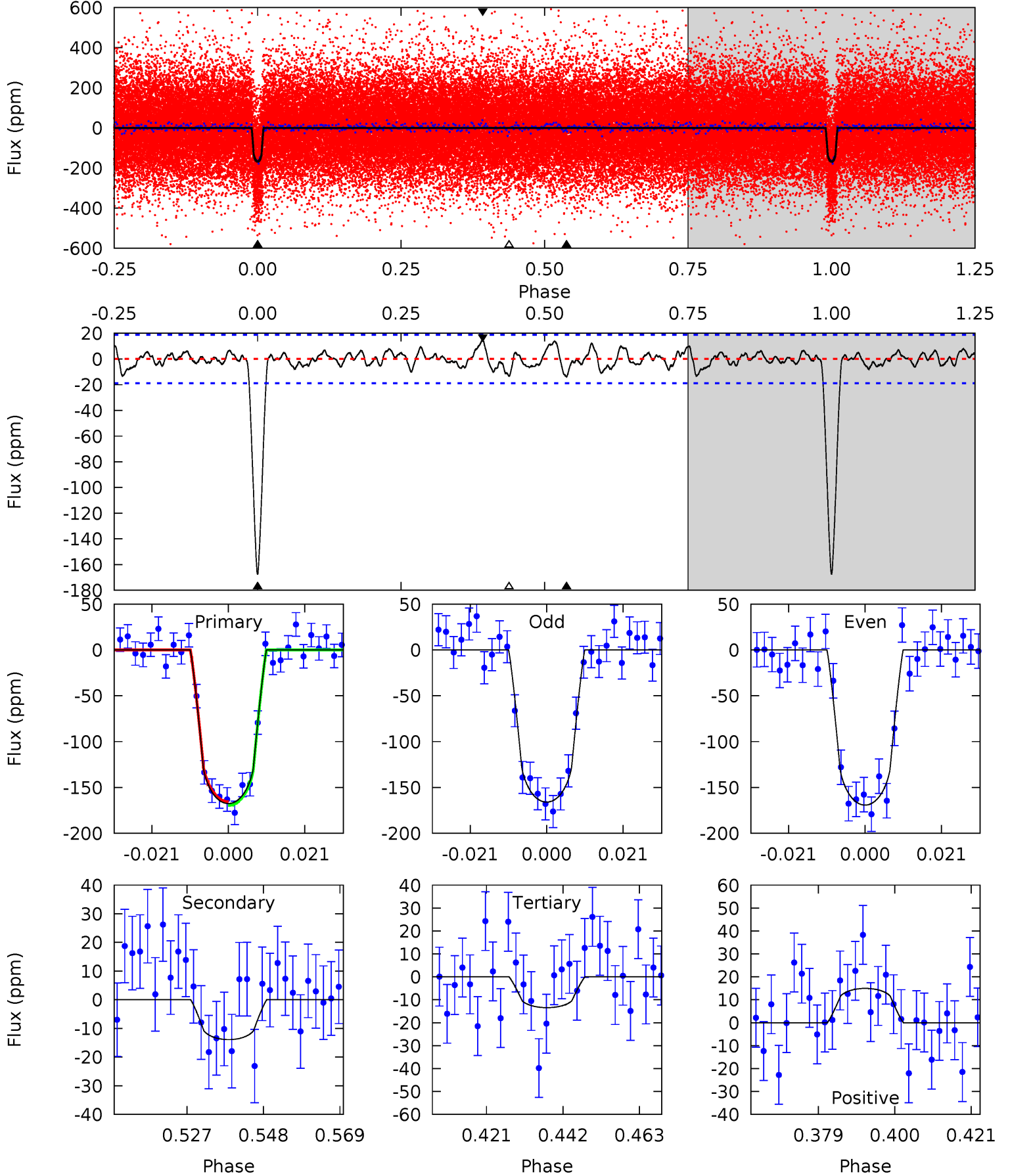
TCE 007211221-01 P= 5.621544 Days  $T_0=136.890089$  (BKJD)



# DV Model-Shift Uniqueness Test

007211221-01, P = 5.621509 Days, E = 131.273113 Days

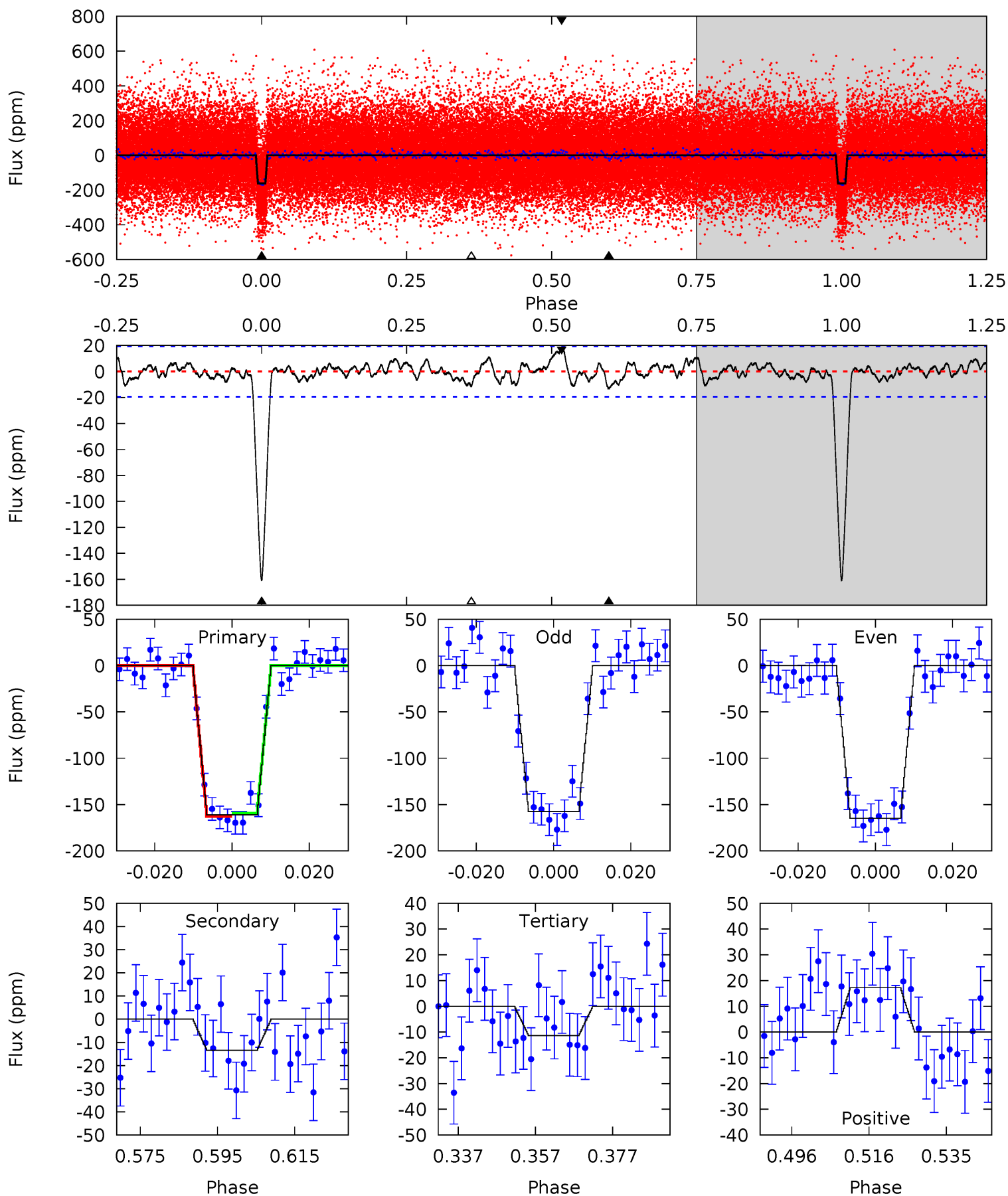
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
43.4	3.61	3.48	3.87	4.88	2.31	1.32	39.9	39.5	0.12	-0.27	0.42	0.99	0.08	0.52



# Alt Model-Shift Uniqueness Test

007211221-01, P = 5.621544 Days, E = 131.268545 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
40.4	3.37	2.86	4.32	4.89	2.33	1.30	37.5	36.0	0.51	-0.95	0.93	0.97	0.10	0.45



### Stellar Parameters For KIC 007211221

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5637^{+101}_{-112}$	$4.439^{+0.076}_{-0.104}$	$0.000^{+0.150}_{-0.150}$	$0.960^{+0.124}_{-0.083}$	$0.924^{+0.063}_{-0.057}$	$1.473^{+0.435}_{-0.442}$
	+2%/-2%	+2%/-2%	+inf%/-inf%	+13%/-9%	+7%/-6%	+30%/-30%
Source	SPE57	SPE57	SPE57	DSEP		

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

### Secondary Eclipse Parameters for KIC 007211221-01 / KOI 1379.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-14 \pm 4$	$1.32^{+0.40}_{-0.39}$	$1390^{+60}_{-46}$	$3519^{+491}_{-315}$	$15^{+19}_{-7}$
Alt.	$-13 \pm 4$	$1.36^{+0.39}_{-0.43}$	$1387^{+56}_{-46}$	$3452^{+500}_{-316}$	$14^{+17}_{-6}$

$T_{\text{max}}$  = 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  $A_{\text{obs}} \gg 1.0$



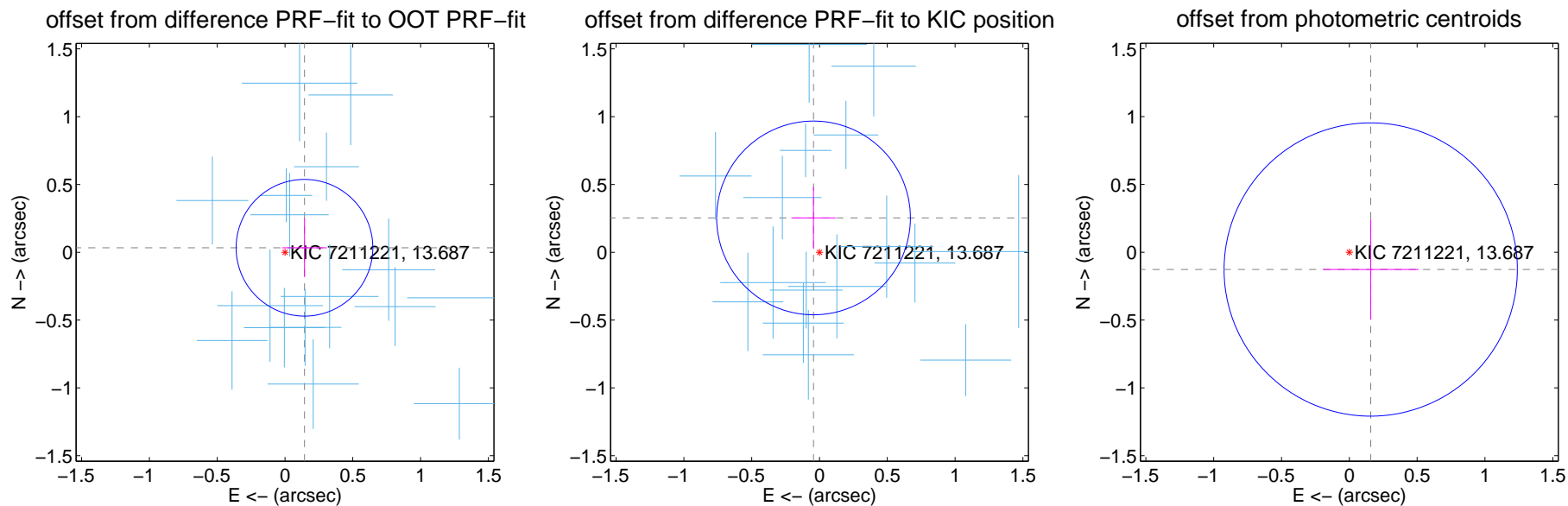
## DV Centroid Data

Supplemental centroid analysis for 007211221-01. Kepler magnitude: 13.69. Transit SNR 32.68

There are 17 quarters with good PRF difference image offsets

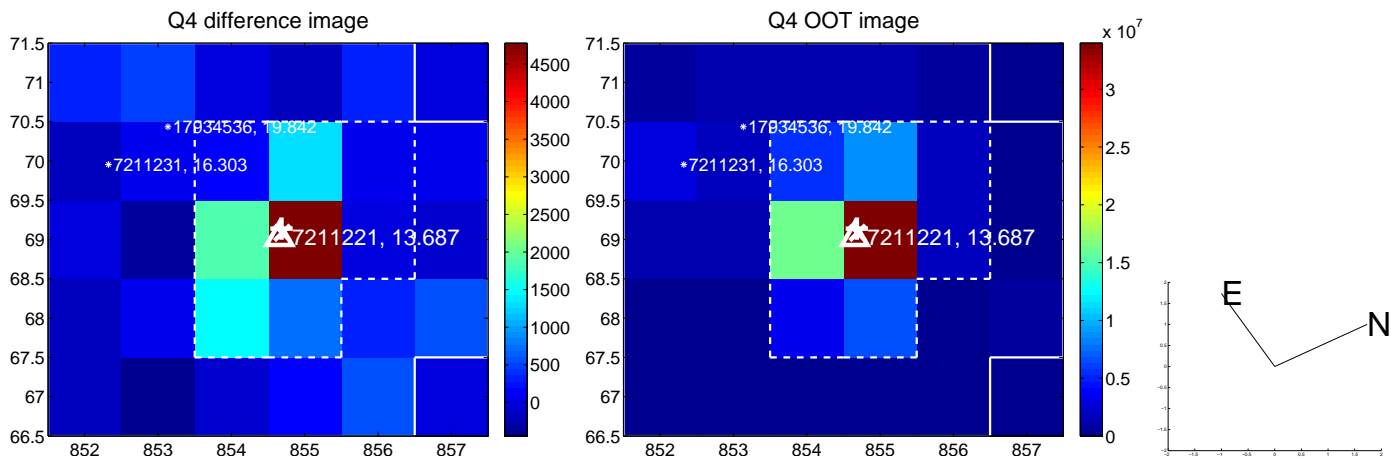
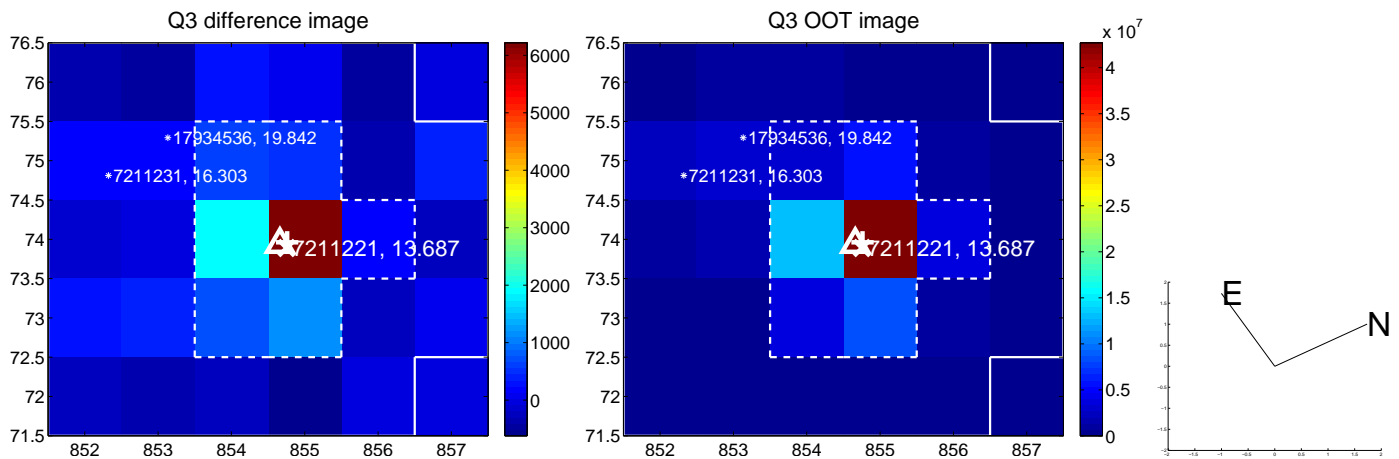
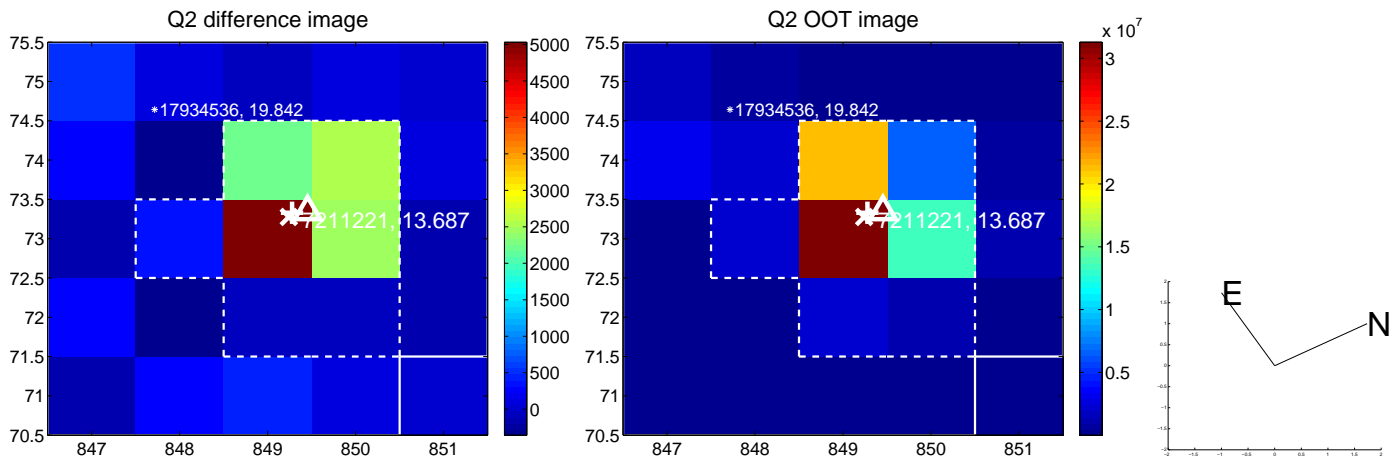
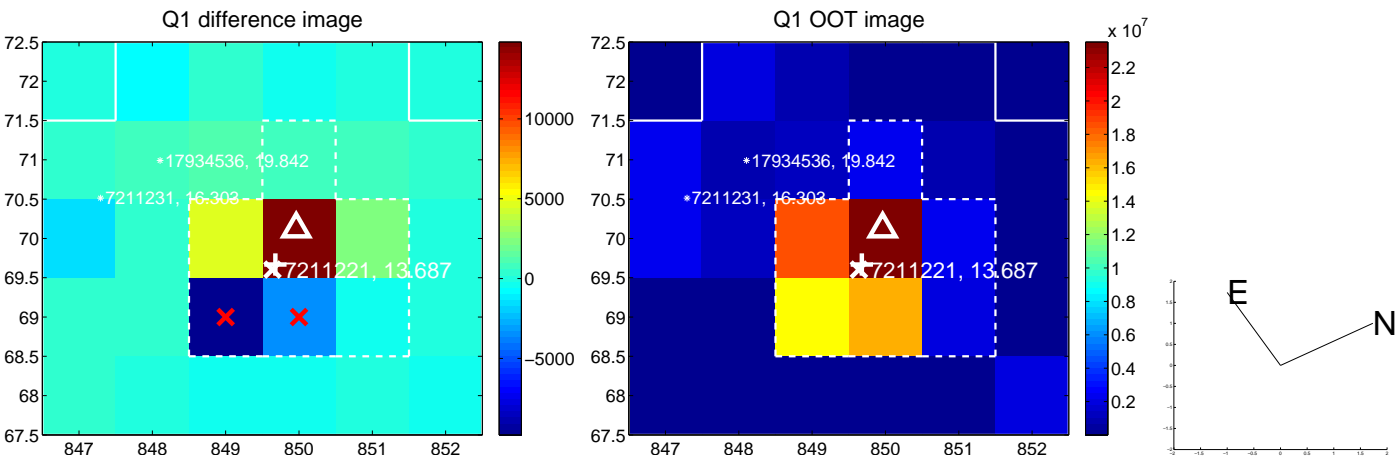
The direct PRF centroid is offset from the target star catalog position by about 0.40 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.147 \pm 0.168$	0.88	$-0.144 \pm 0.165$	$0.033 \pm 0.216$
PRF-fit source offset from KIC position	$0.257 \pm 0.238$	1.08	$0.044 \pm 0.163$	$0.253 \pm 0.228$
photometric centroid source offset	$0.20 \pm 0.36$	0.56	$-0.16 \pm 0.35$	$-0.13 \pm 0.37$

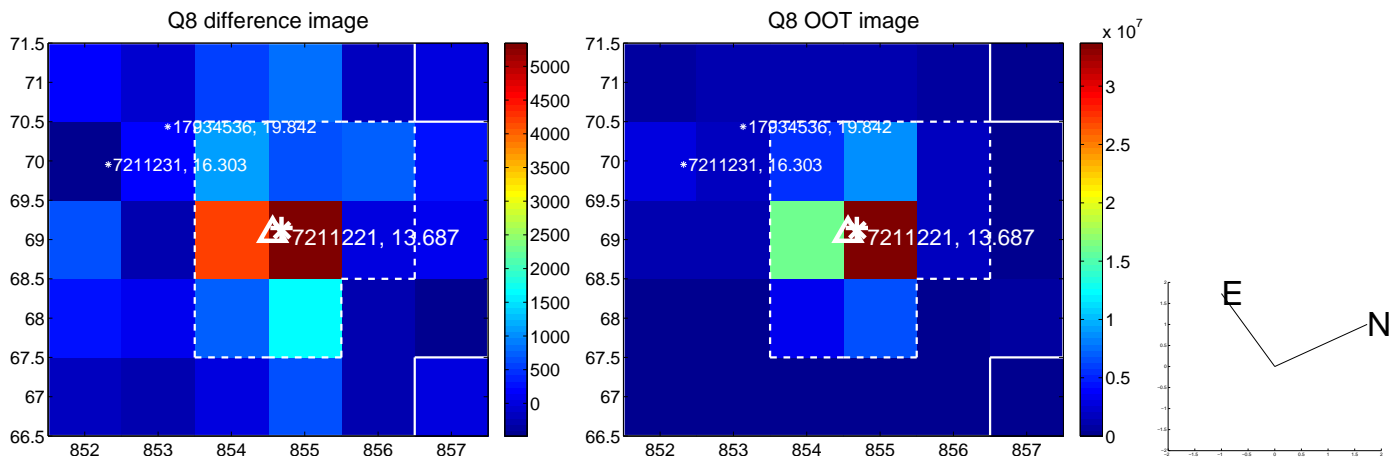
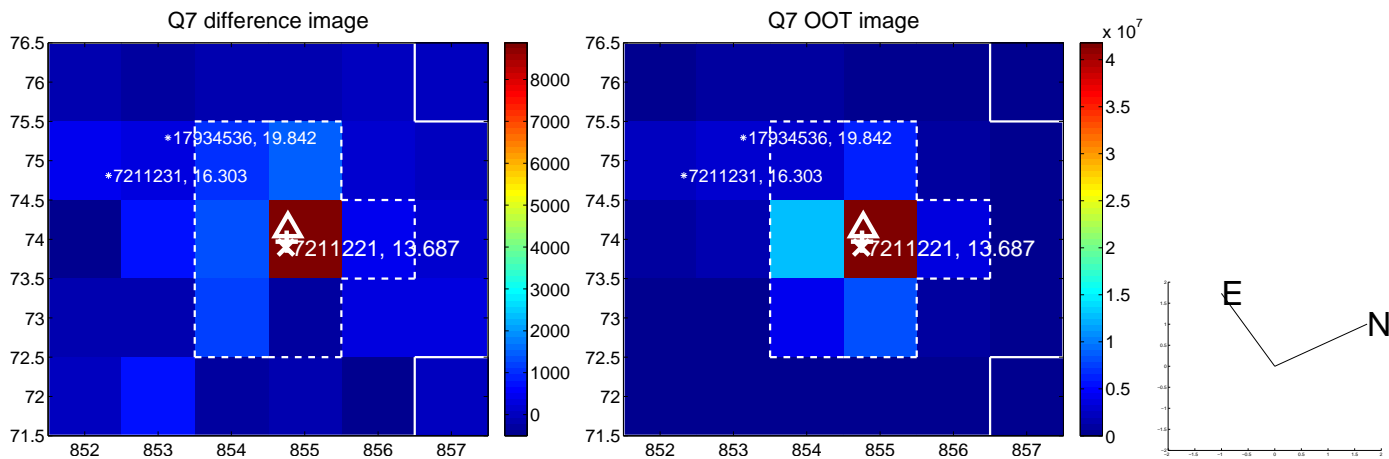
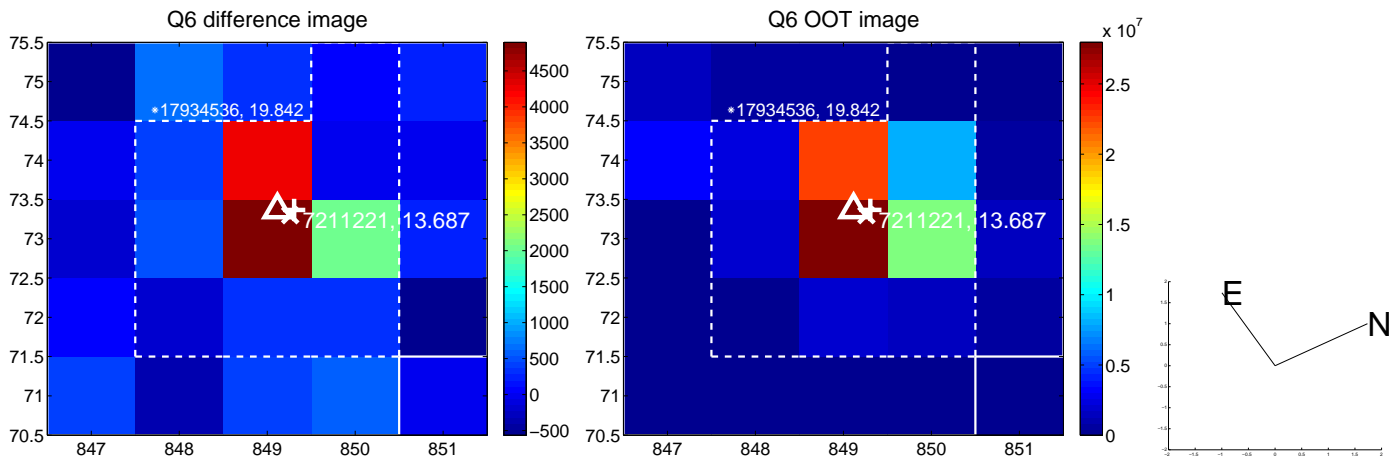
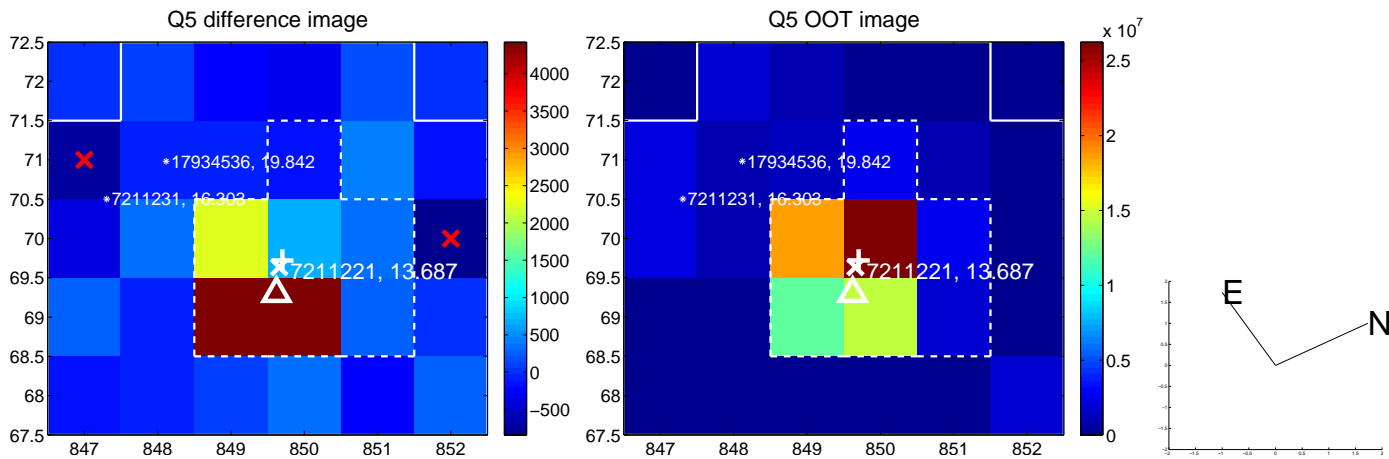


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: 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.

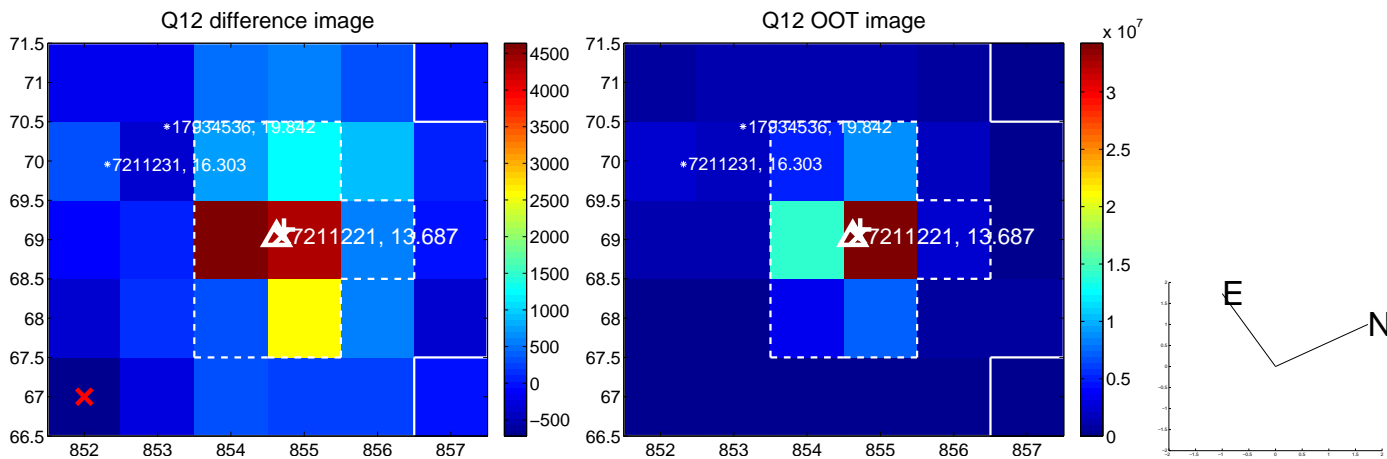
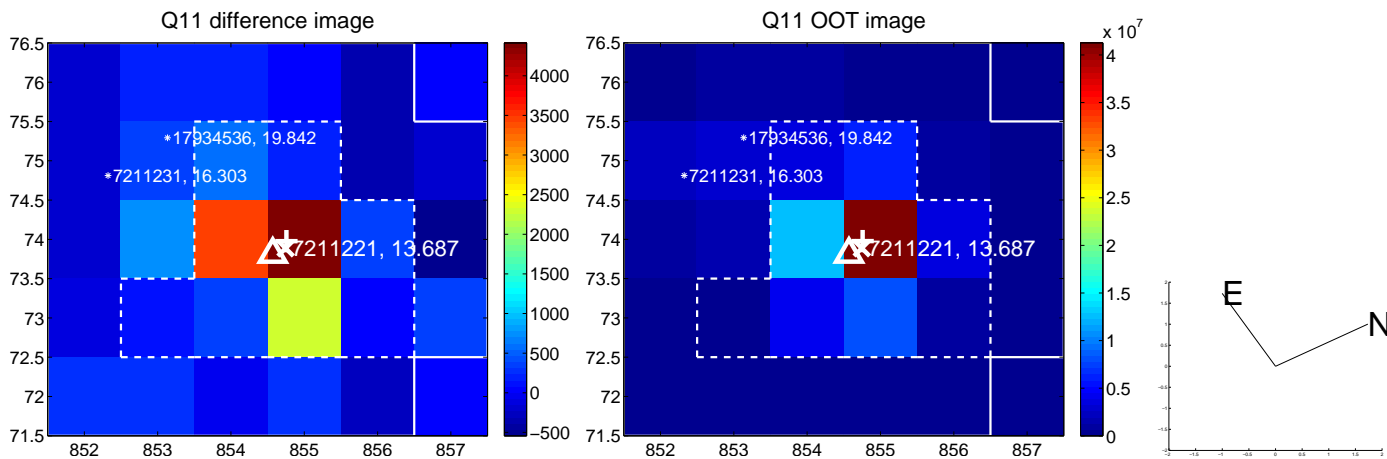
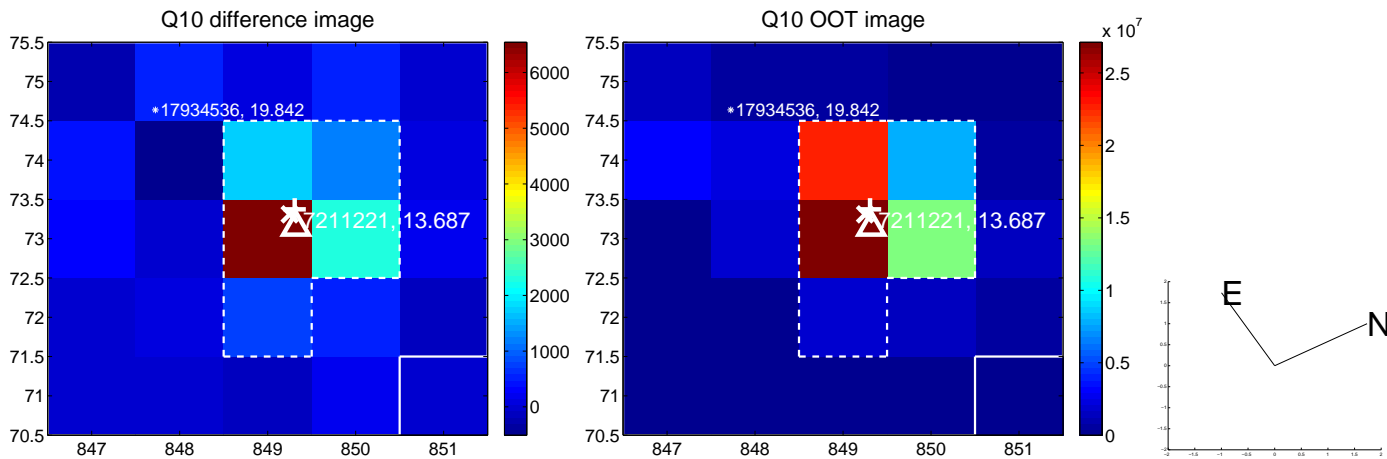
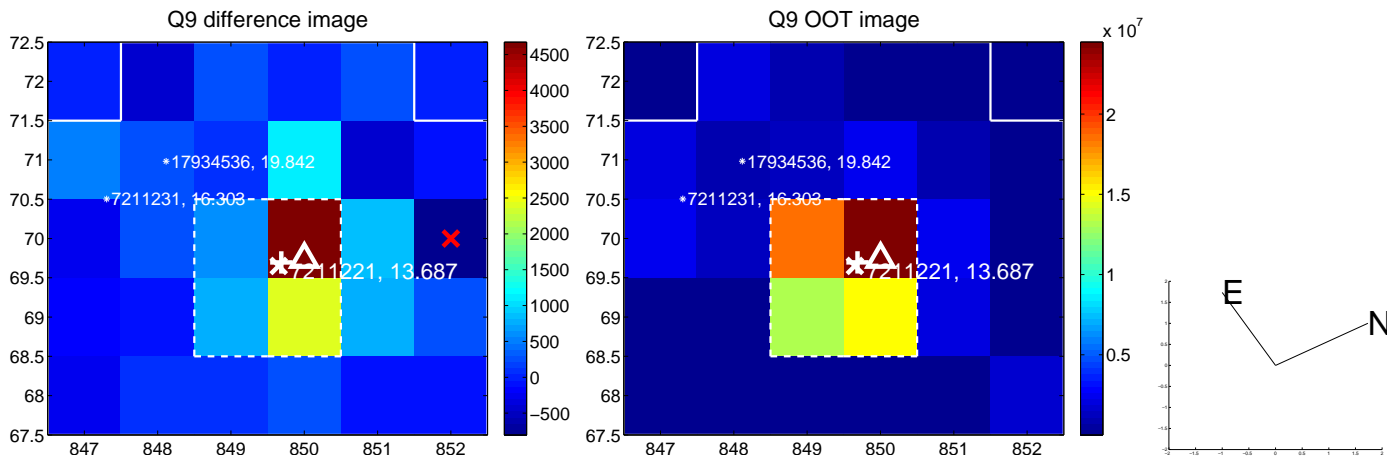
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



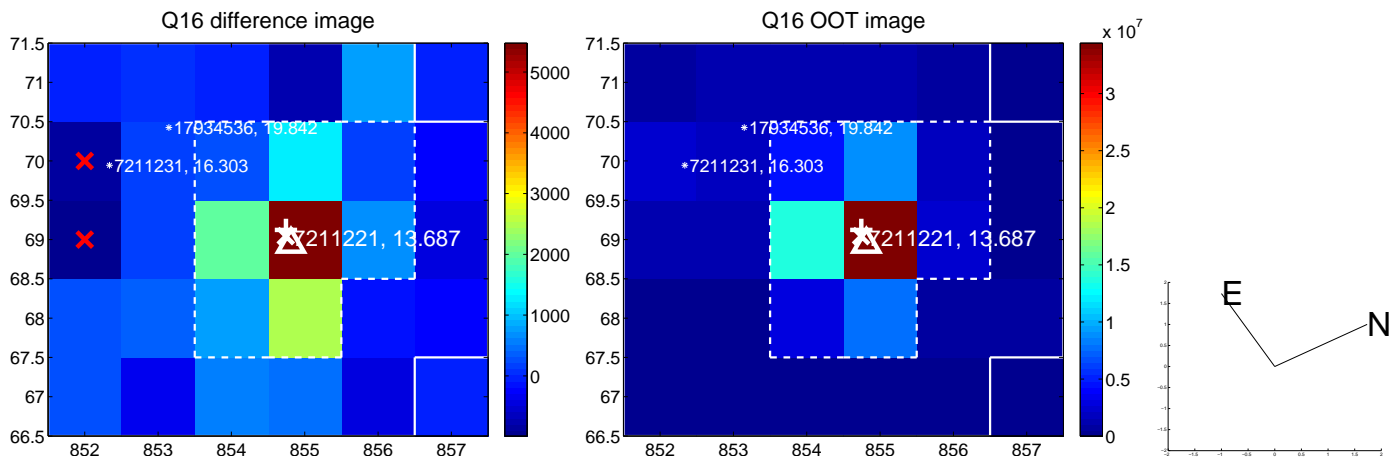
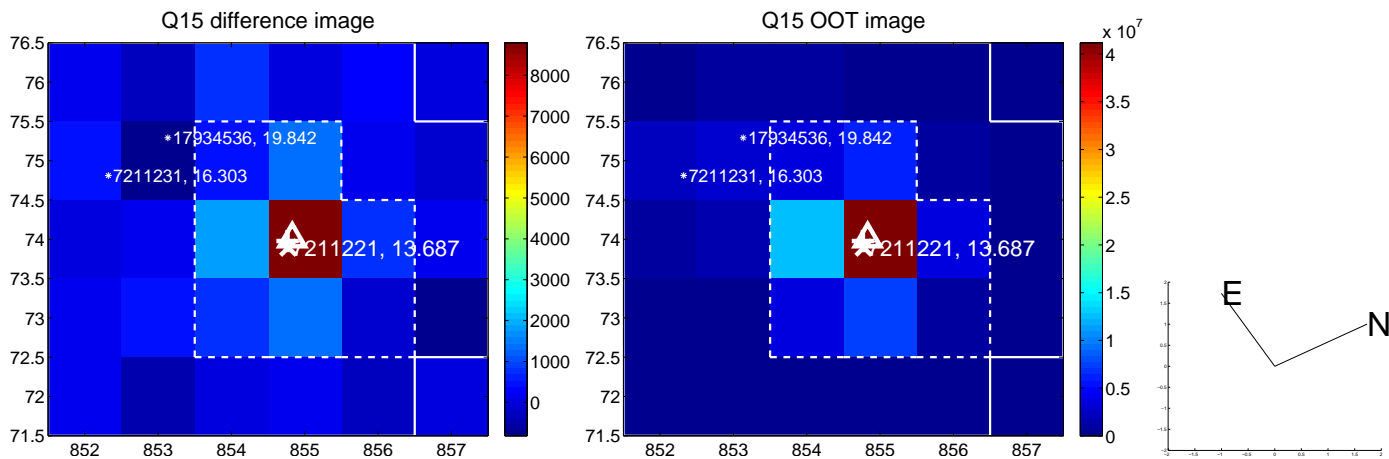
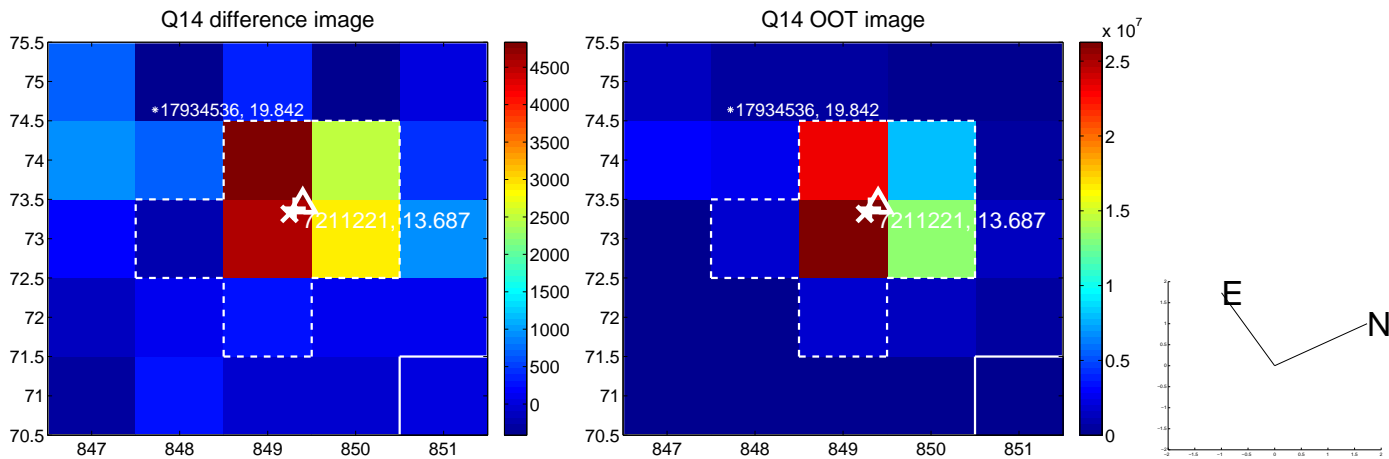
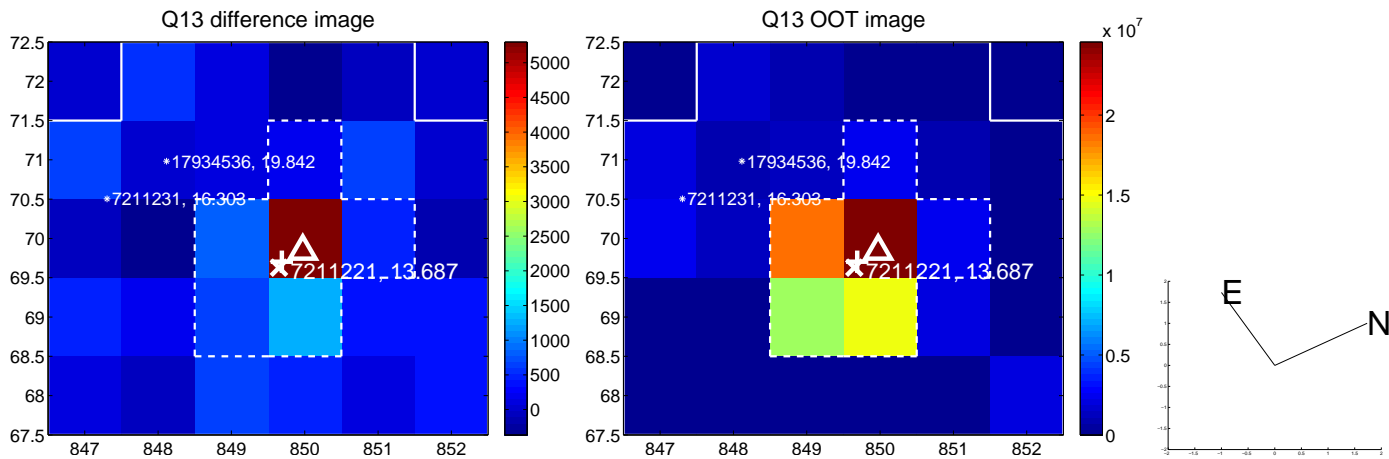
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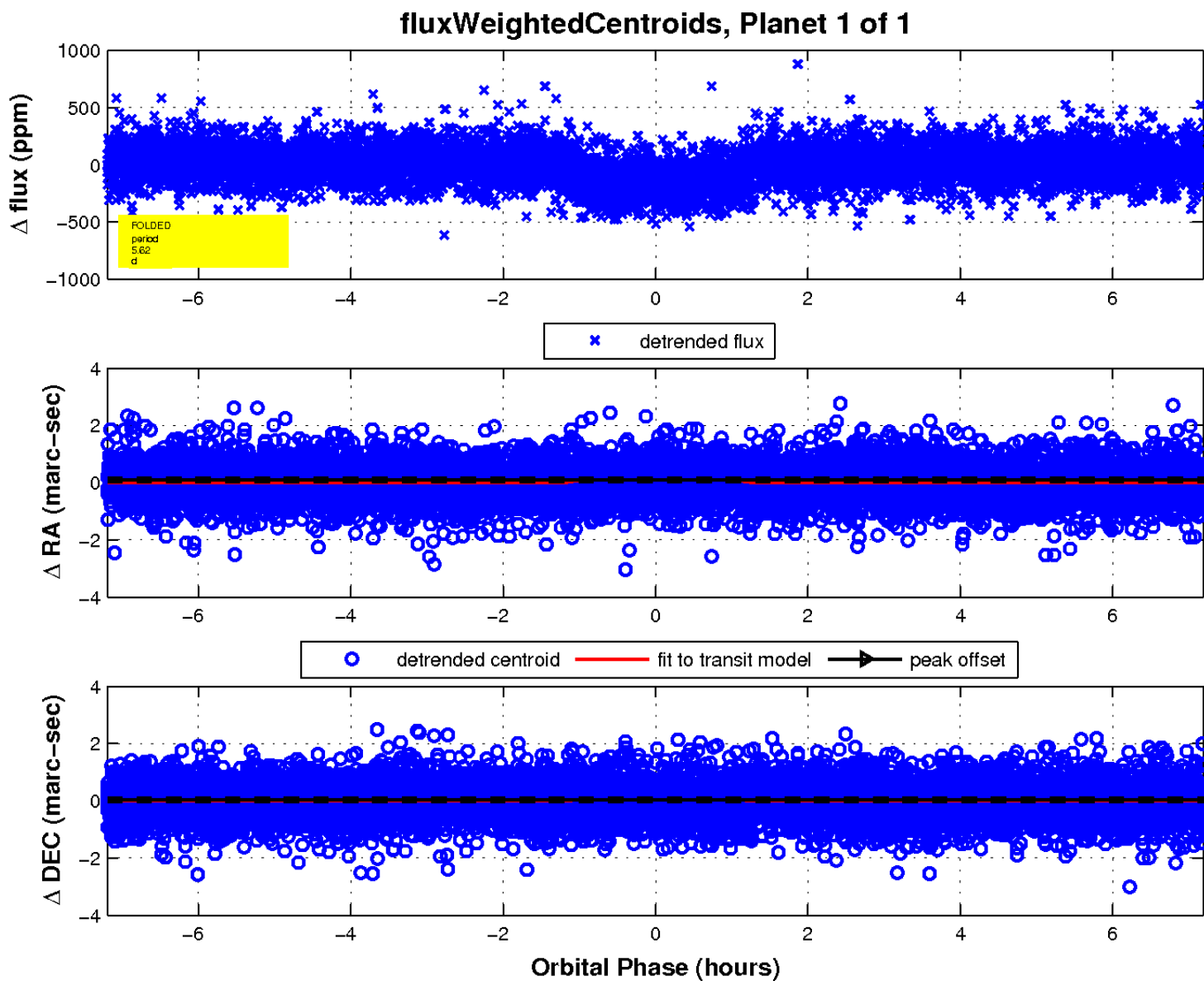
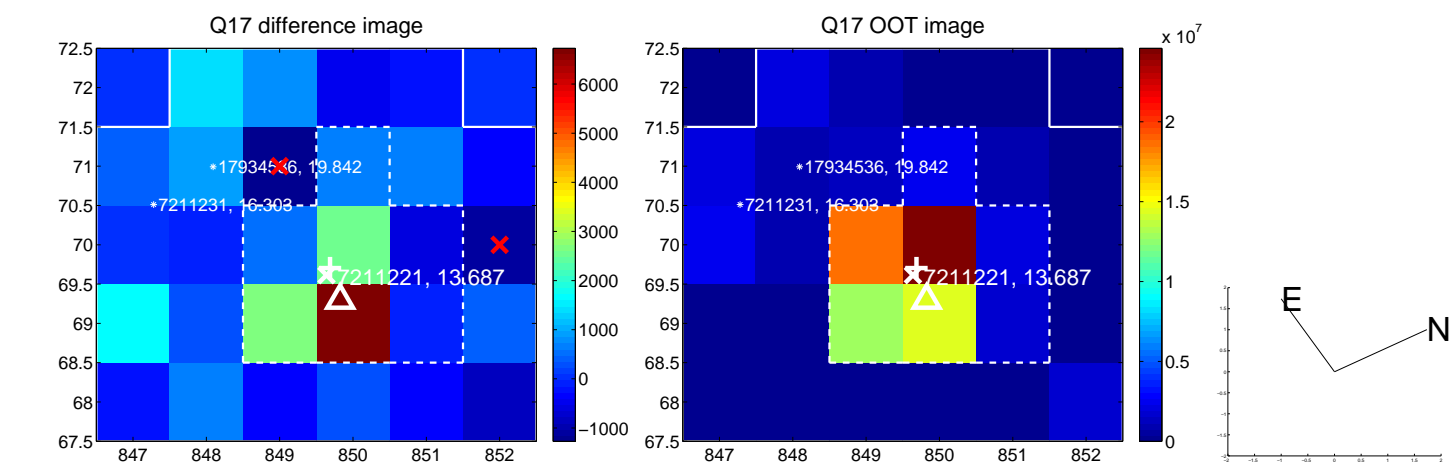


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

Declination

