

KIC 010515564

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})
010515564-01	OBS	8211.01	5.048745	134.679748	67.6	3.971	7.1	7.4	0.83	5450	0.82	170.98

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010515564-01	OBS	PC	0.27	0	0	0	0	CENT_UNCERTAIN

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

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

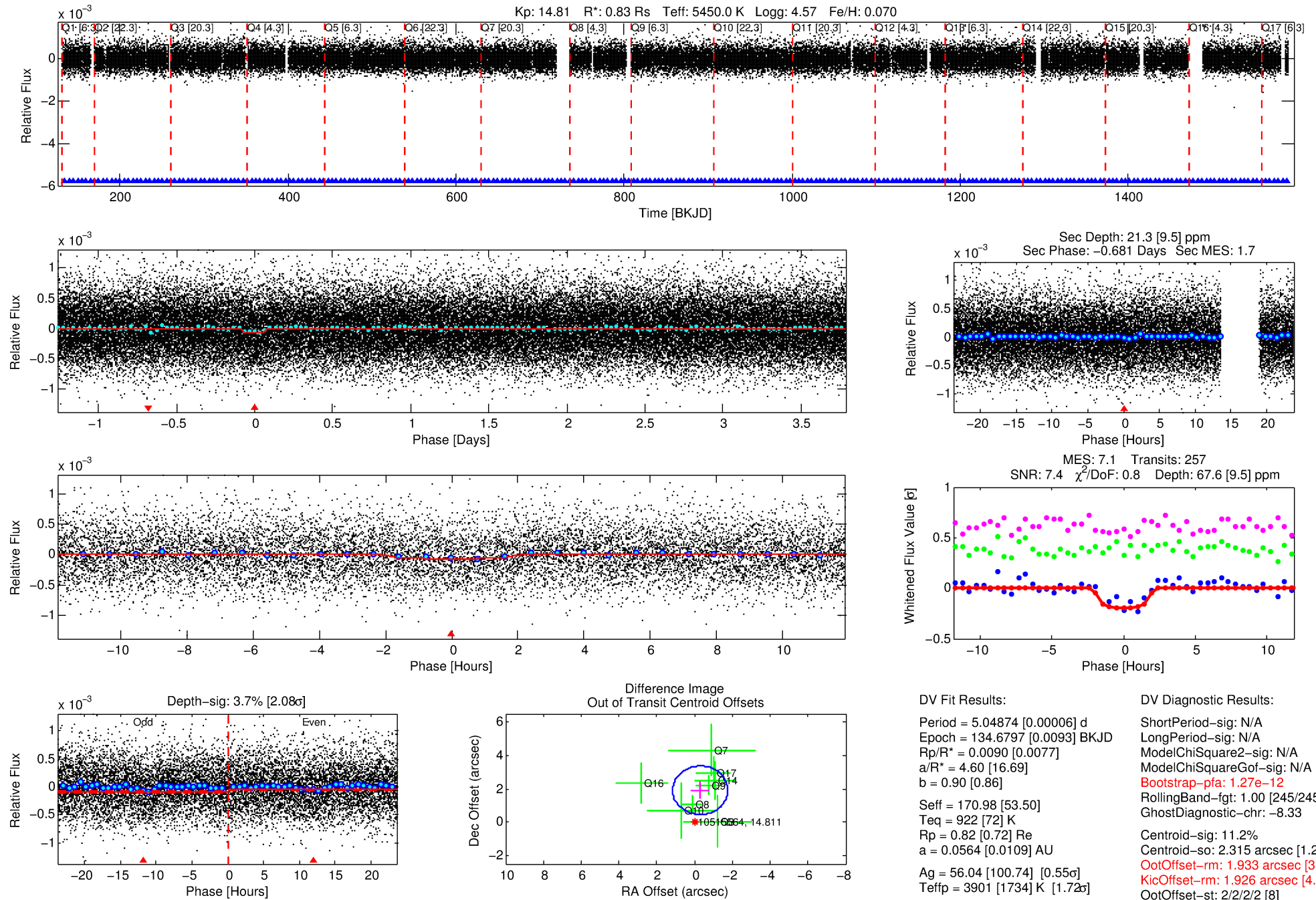
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010515564-01

No Significant Match Found

DV One-Page Summary

KIC: 10515564 Candidate: 1 of 1 Period: 5.049 d



DV Fit Results:

Period = 5.04874 [0.00006] d
Epoch = 134.6797 [0.0093] BKJD
Rp/R* = 0.0090 [0.0077]
a/R* = 4.60 [16.69]
b = 0.90 [0.86]
Seff = 170.98 [53.50]
Teff = 922 [72] K
Rp = 0.82 [0.72] Re
a = 0.0564 [0.0109] AU
Ag = 56.04 [100.74] [0.55 σ]
Teffp = 3901 [1734] K [1.72 σ]

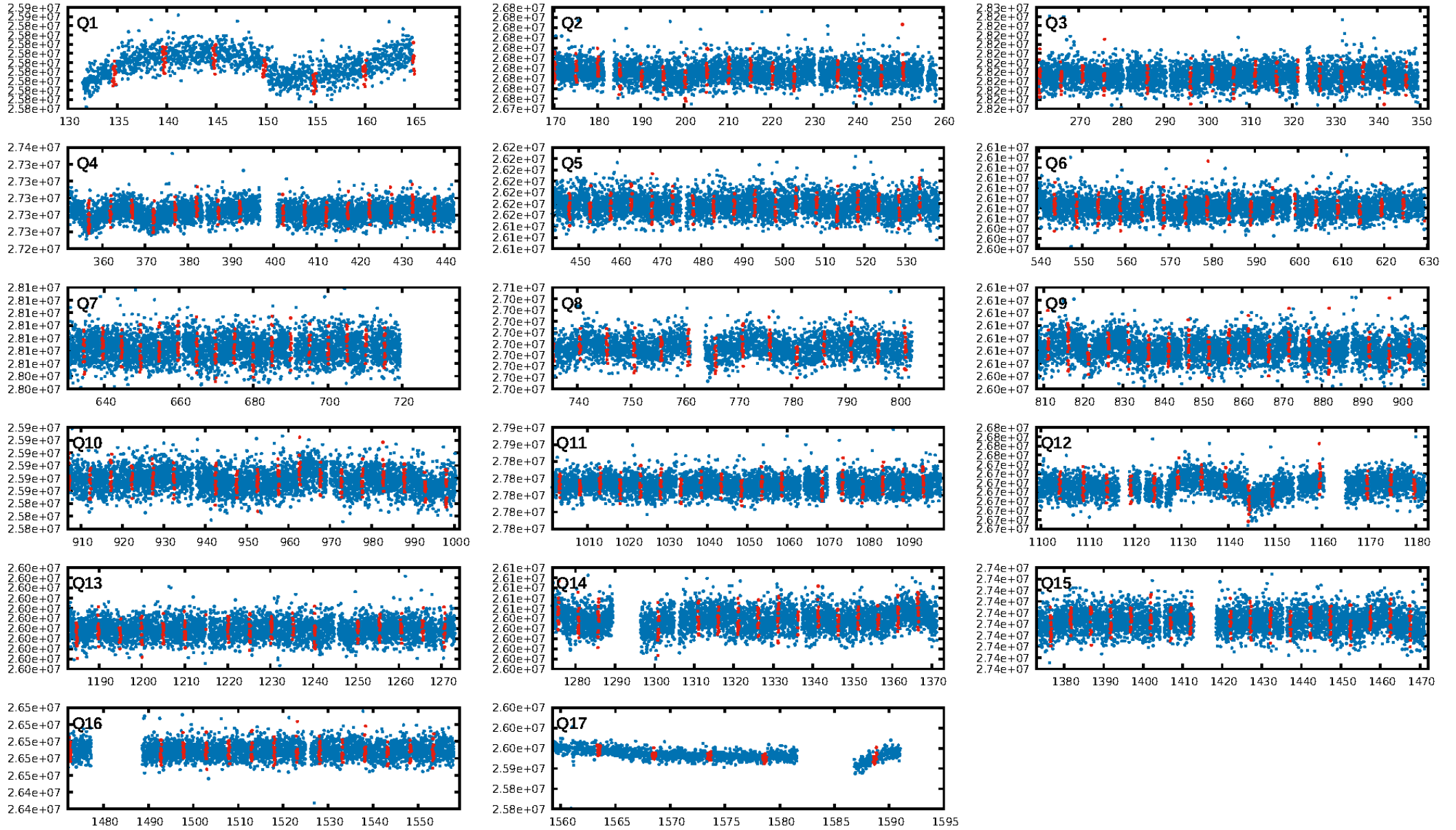
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.27e-12
RollingBand-fgt: 1.00 [245/245]
GhostDiagnostic-chr: -8.33
Centroid-sig: 11.2%
Centroid-so: 2.315 arcsec [1.21 σ]
OotOffset-rm: 1.933 arcsec [3.99 σ]
KicOffset-rm: 1.926 arcsec [4.26 σ]
OotOffset-st: 2/2/2 [8]
KicOffset-st: 2/2/2 [8]
DiffImageQuality-fgm: 0.25 [2/8]
DiffImageOverlap-fno: 1.00 [17/17]

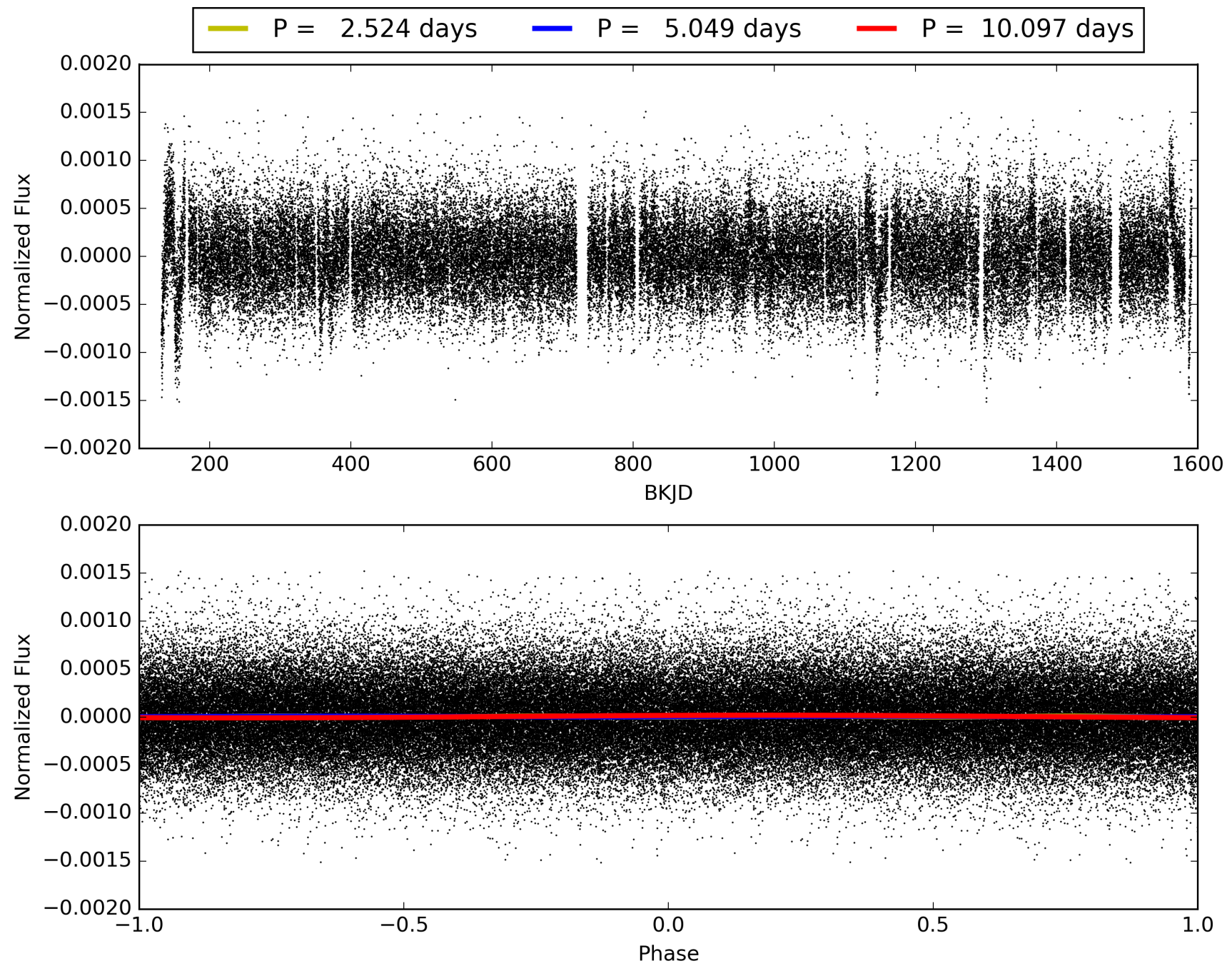
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:16:32 Z

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

TCE 010515564-01, PDC Light Curves

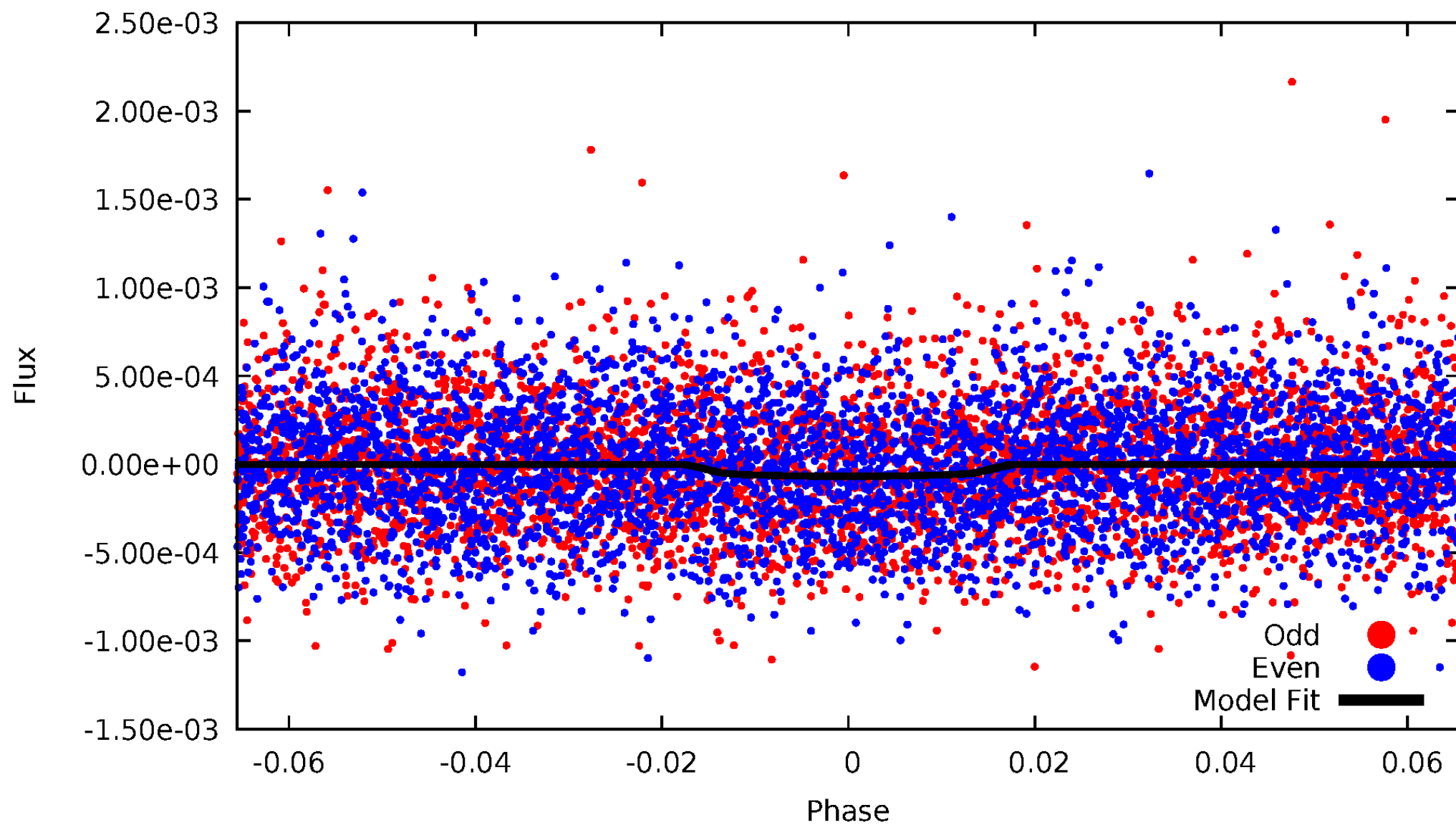


TCE 010515564-01



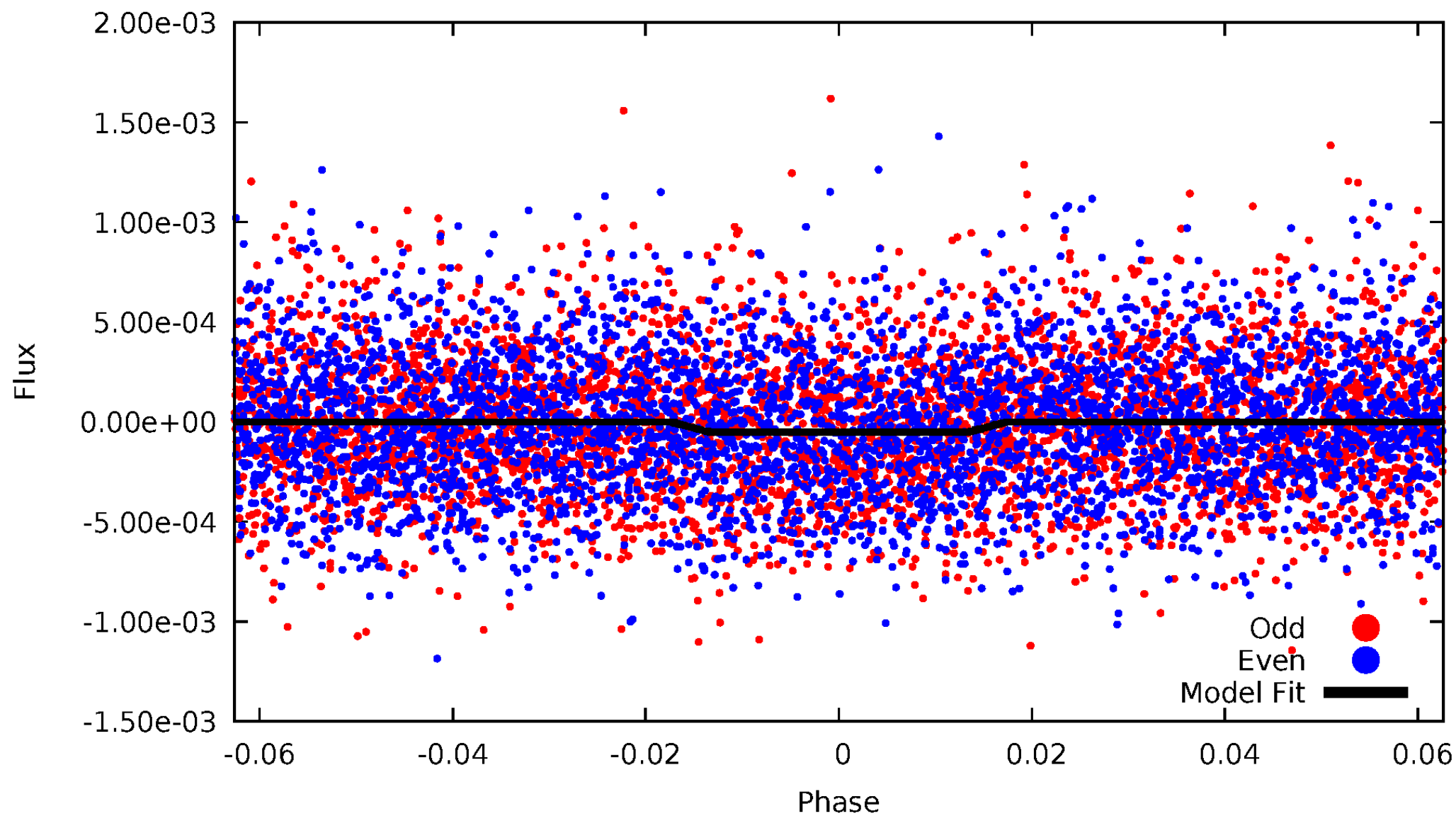
DV Odd/Even

TCE 010515564-01

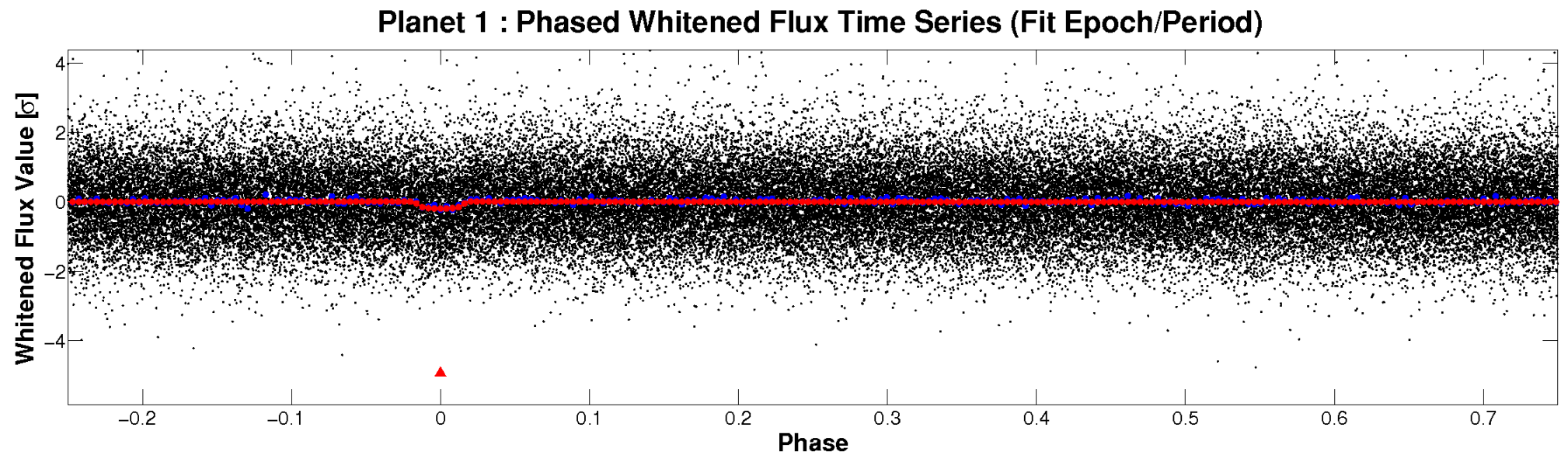
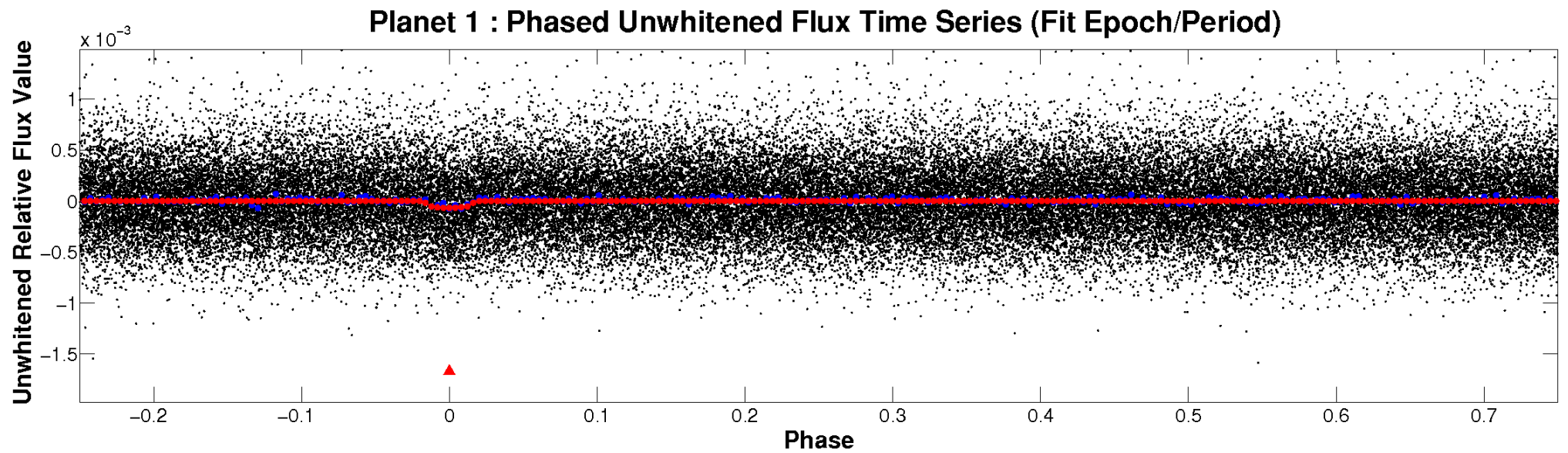


ALT Odd/Even

TCE 010515564-01

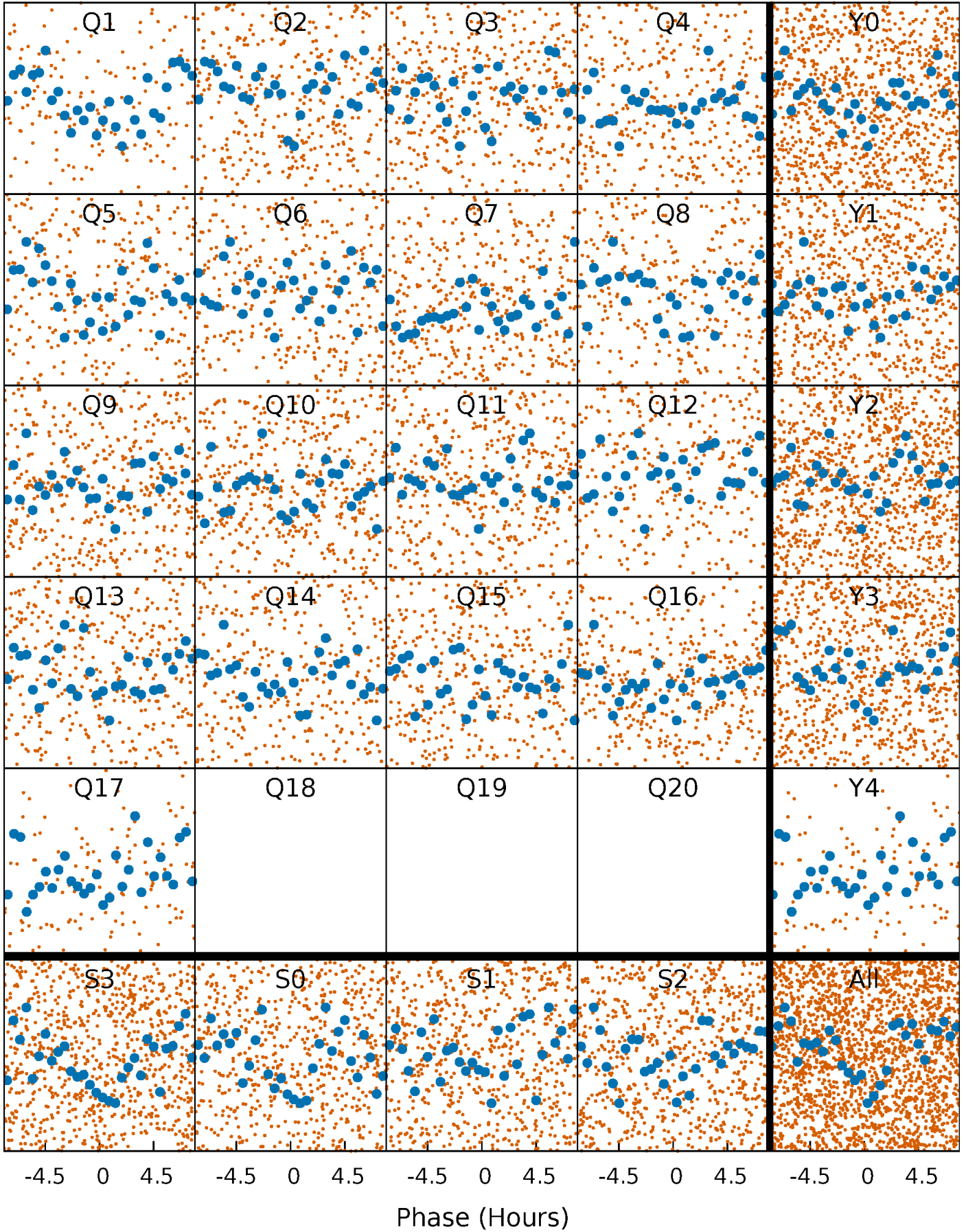


Non-Whitened Vs. Whitened Light Curve



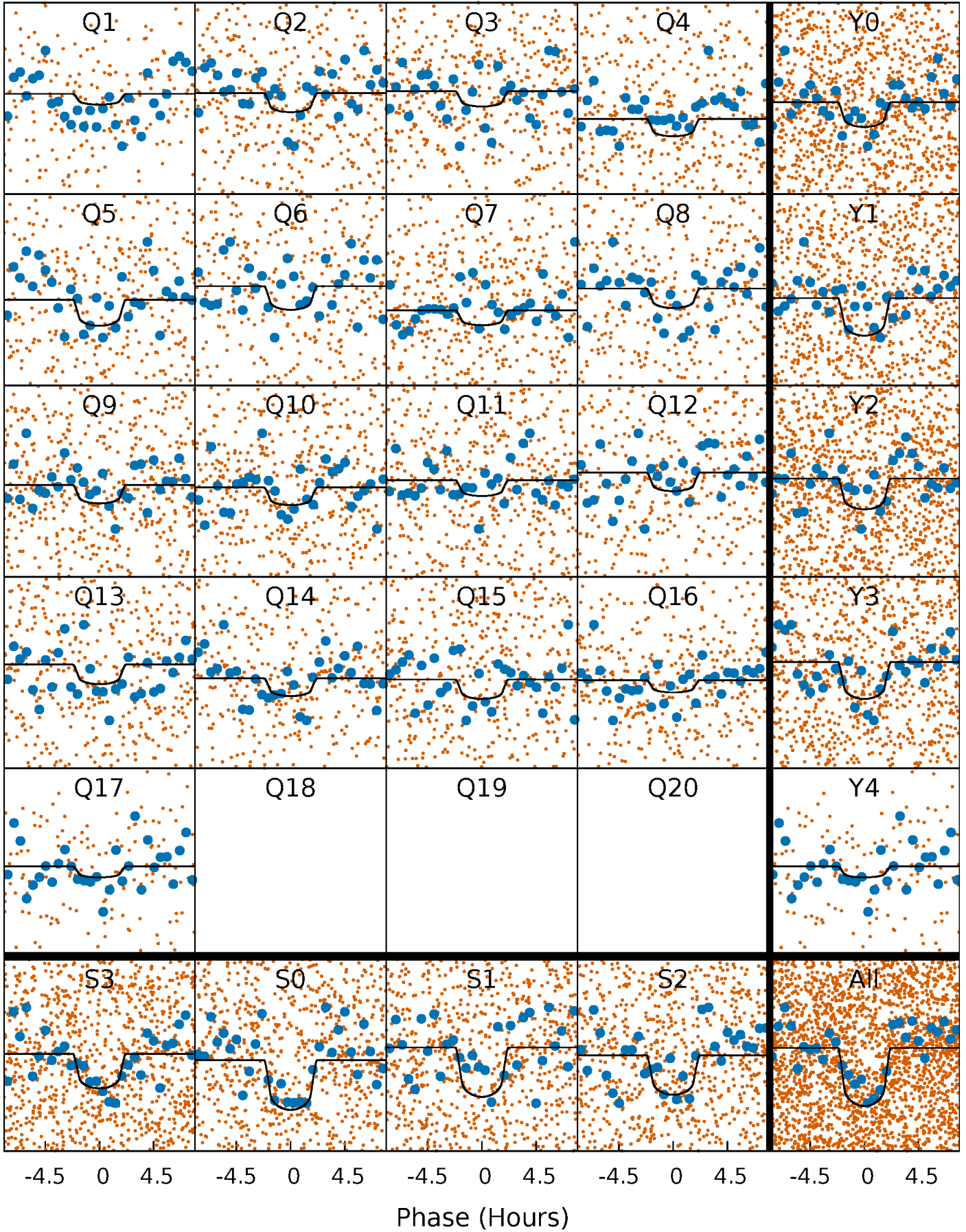
PDC Quarter-Phased Transit Curves

TCE 010515564-01 P= 5.048745 Days $T_0=134.679748$ (BKJD)



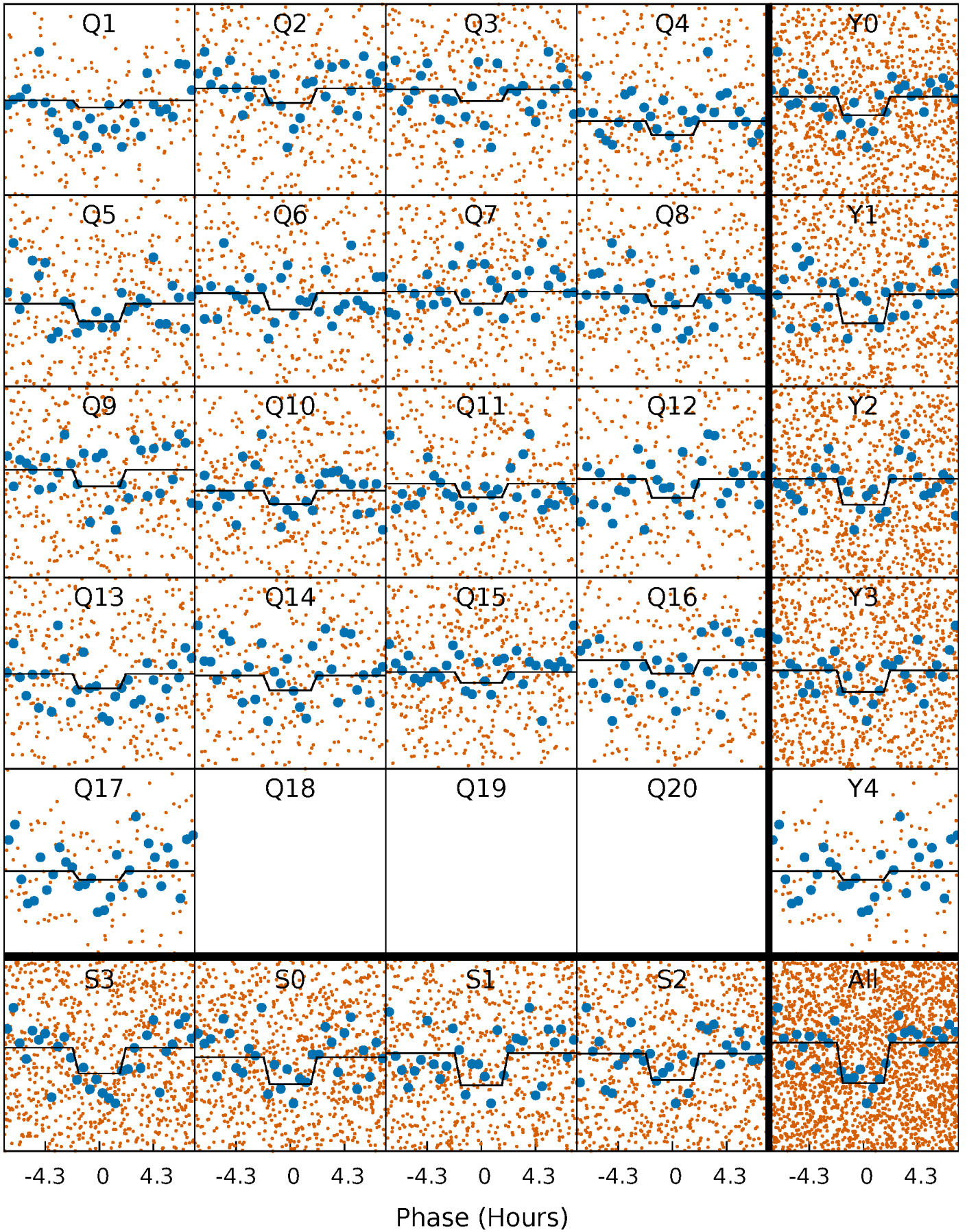
DV Quarter-Phased Transit Curves

TCE 010515564-01 P= 5.048745 Days $T_0=134.679748$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

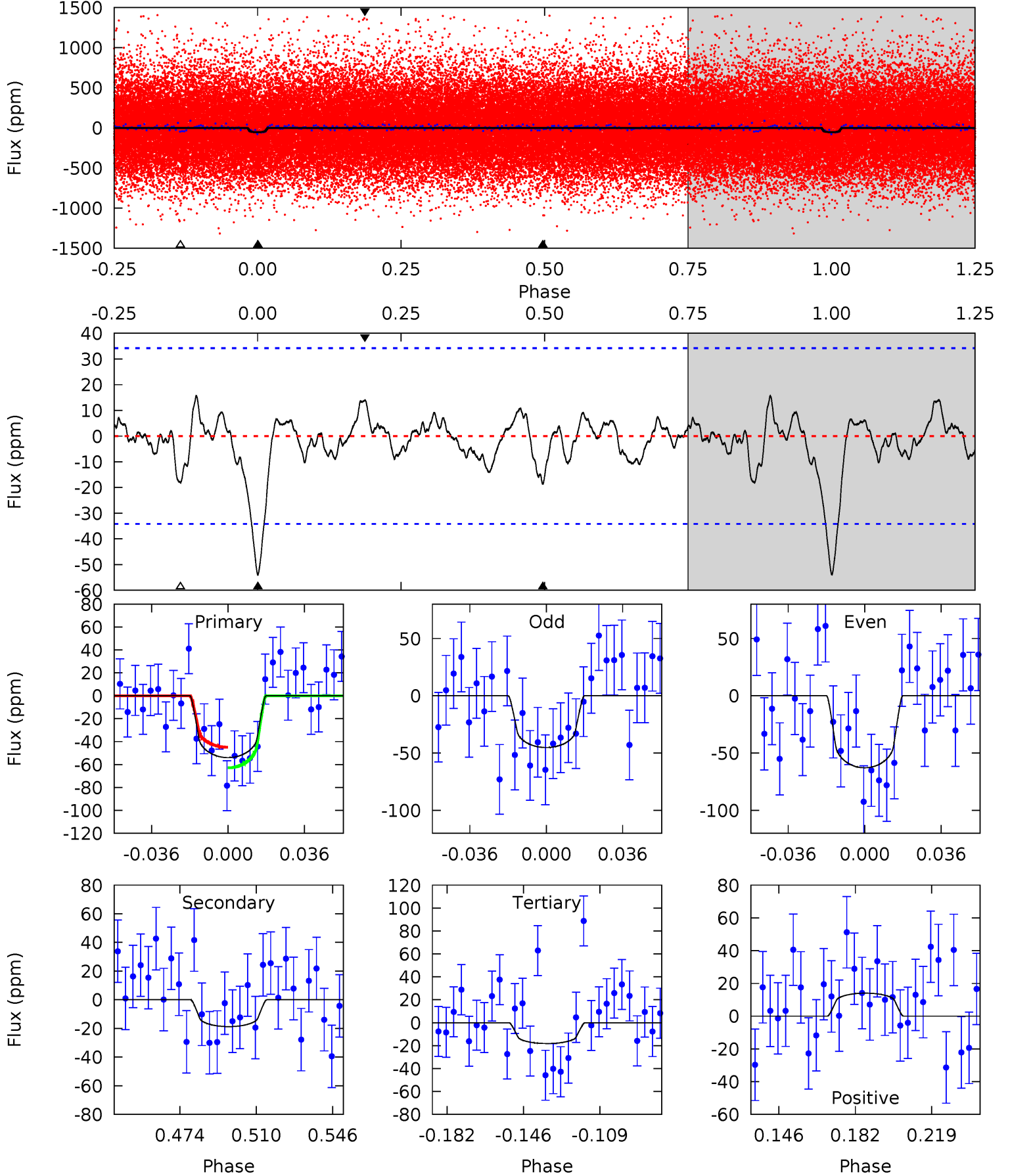
TCE 010515564-01 P= 5.048728 Days $T_0=134.683977$ (BKJD)



DV Model-Shift Uniqueness Test

010515564-01, P = 5.048745 Days, E = 129.631003 Days

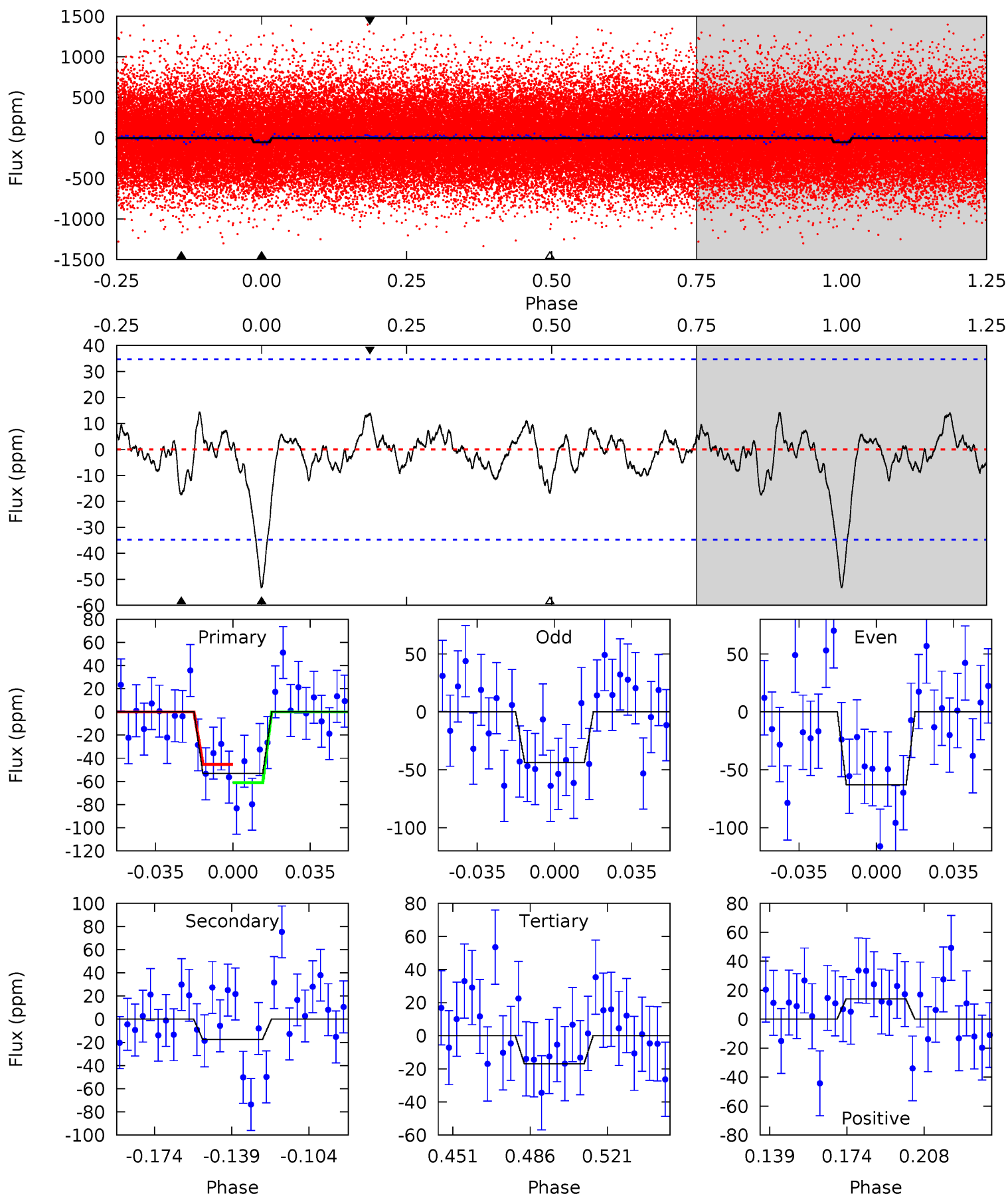
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.54	2.62	2.54	1.96	4.77	2.09	0.86	4.99	5.58	0.08	0.66	1.24	0.83	0.23	1.26



Alt Model-Shift Uniqueness Test

010515564-01, P = 5.048728 Days, E = 129.635249 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.32	2.42	2.33	1.92	4.78	2.11	0.76	5.00	5.40	0.09	0.50	1.32	0.98	0.21	1.09



Stellar Parameters For KIC 010515564

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5450^{+164}_{-164}	$4.573^{+0.028}_{-0.161}$	$0.070^{+0.250}_{-0.250}$	$0.830^{+0.186}_{-0.062}$	$0.939^{+0.074}_{-0.101}$	$2.316^{+0.360}_{-1.021}$
	+3%/-3%	+1%/-4%	+357%/-357%	+22%/-7%	+8%/-11%	+16%/-44%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010515564-01 / KOI 8211.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-19 ± 7	$0.98^{+0.68}_{-0.59}$	1321^{+76}_{-56}	3853^{+1696}_{-673}	33^{+166}_{-23}
Alt.	-18 ± 7	$0.82^{+0.68}_{-0.52}$	1314^{+75}_{-49}	4016^{+2051}_{-777}	42^{+259}_{-30}

T_{max} = Theoretical Maximum Planetary Temperature

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

A_{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

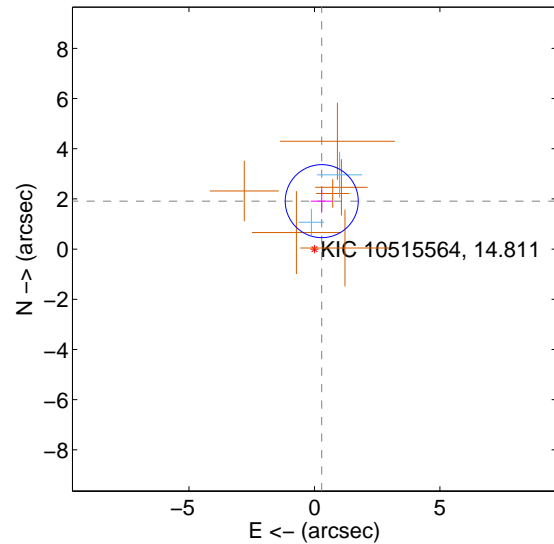
Supplemental centroid analysis for 010515564-01. Kepler magnitude: 14.81. Transit SNR 7.36

There are 2 quarters with good PRF difference image offsets

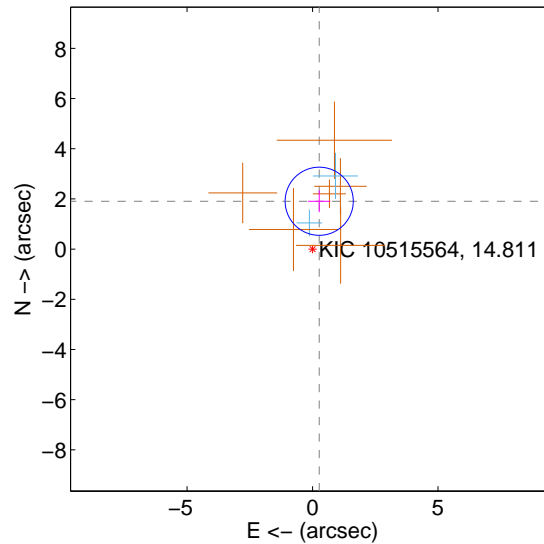
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.933 ± 0.485	3.99	-0.291 ± 0.438	1.911 ± 0.466
PRF-fit source offset from KIC position	1.926 ± 0.453	4.26	-0.266 ± 0.444	1.907 ± 0.437
photometric centroid source offset	2.31 ± 1.91	1.21	0.84 ± 1.87	2.16 ± 1.91

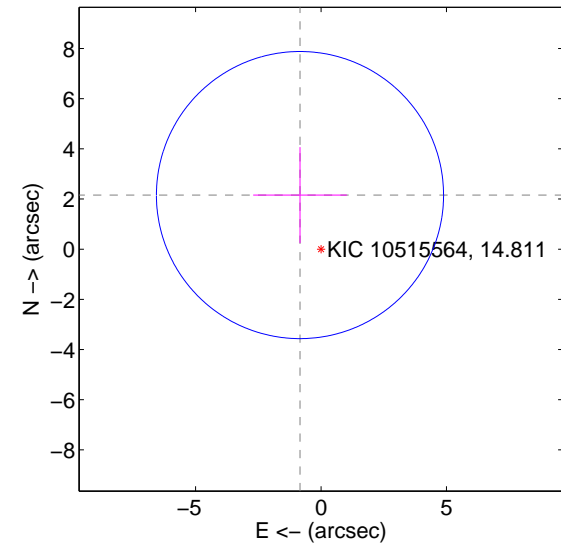
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

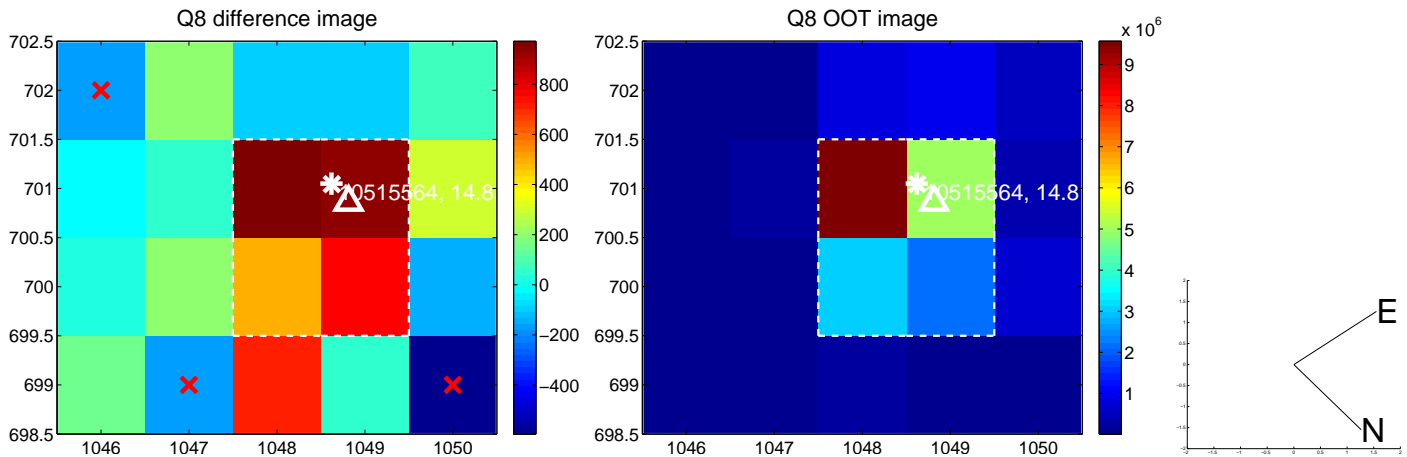
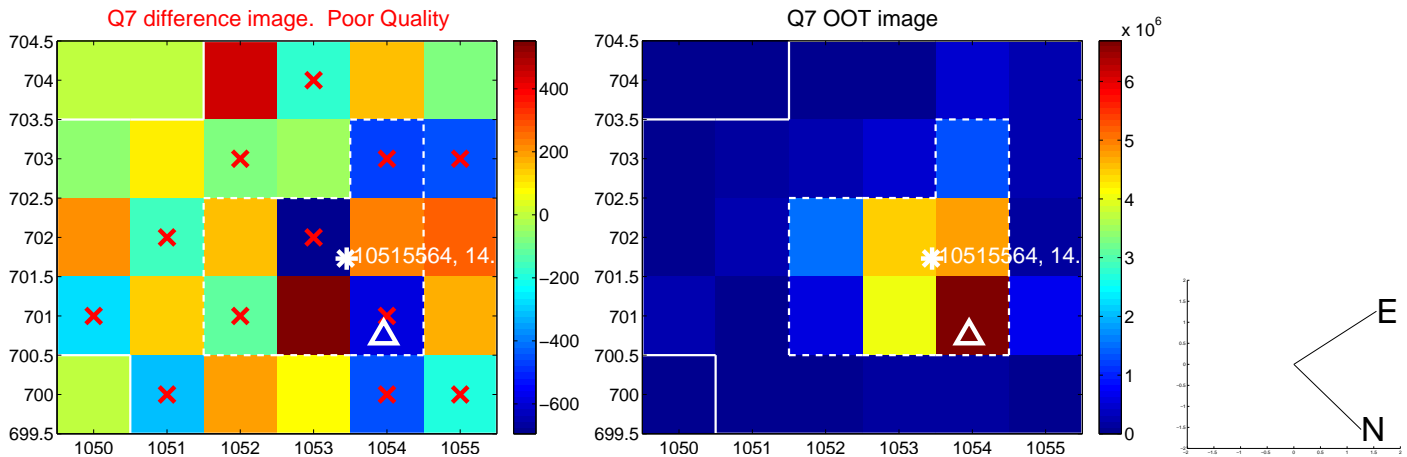
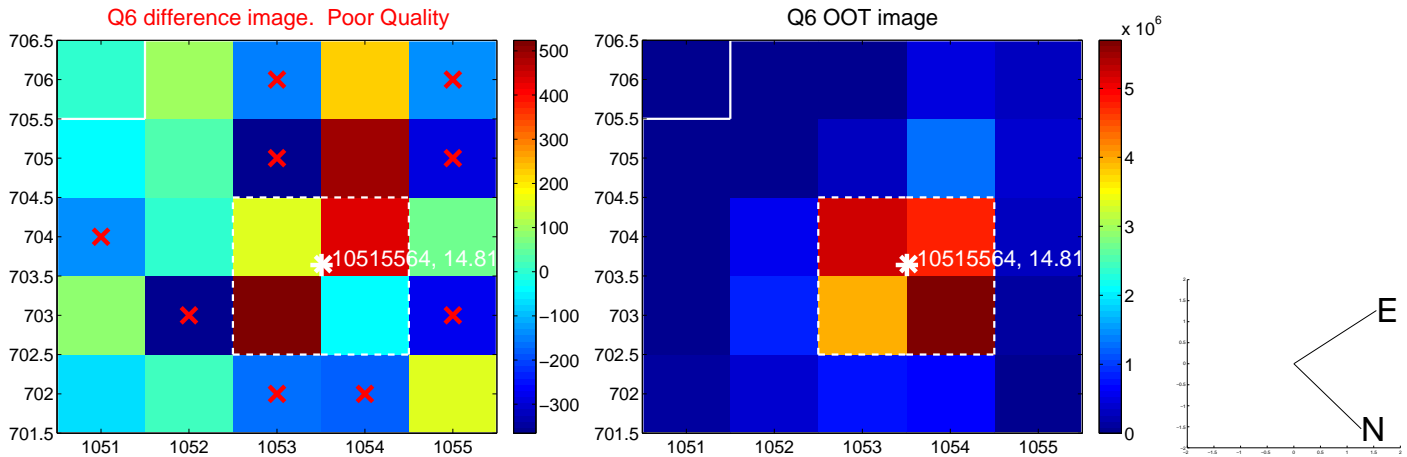
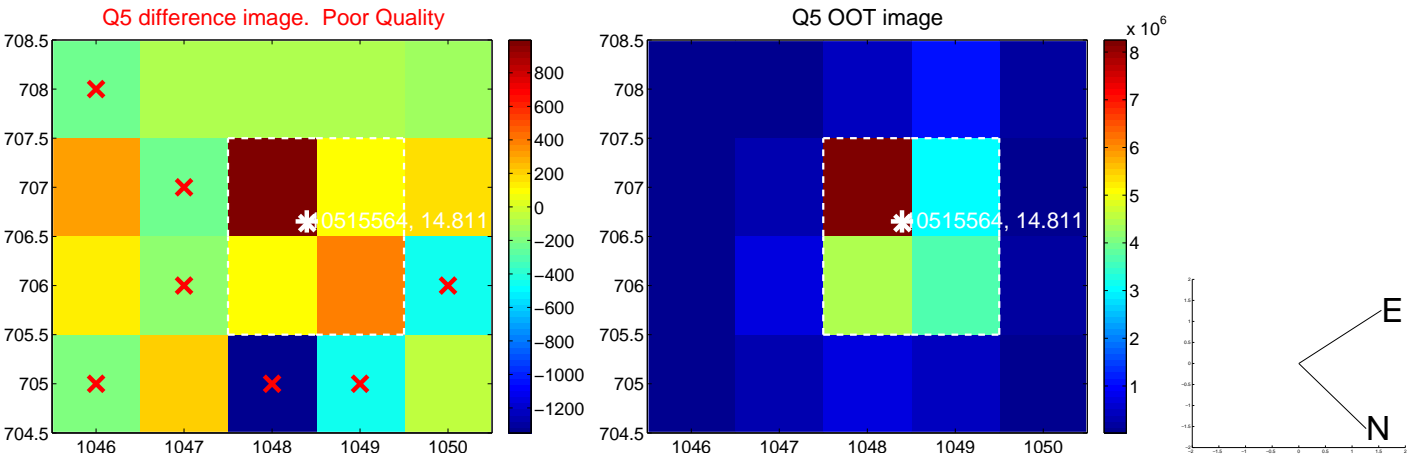


offset from photometric centroids

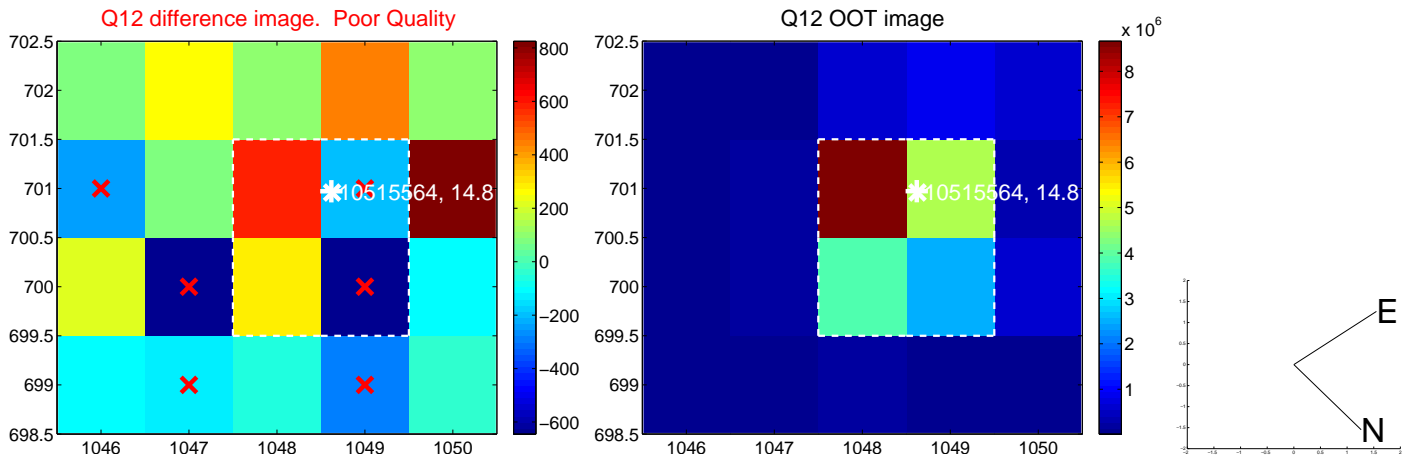
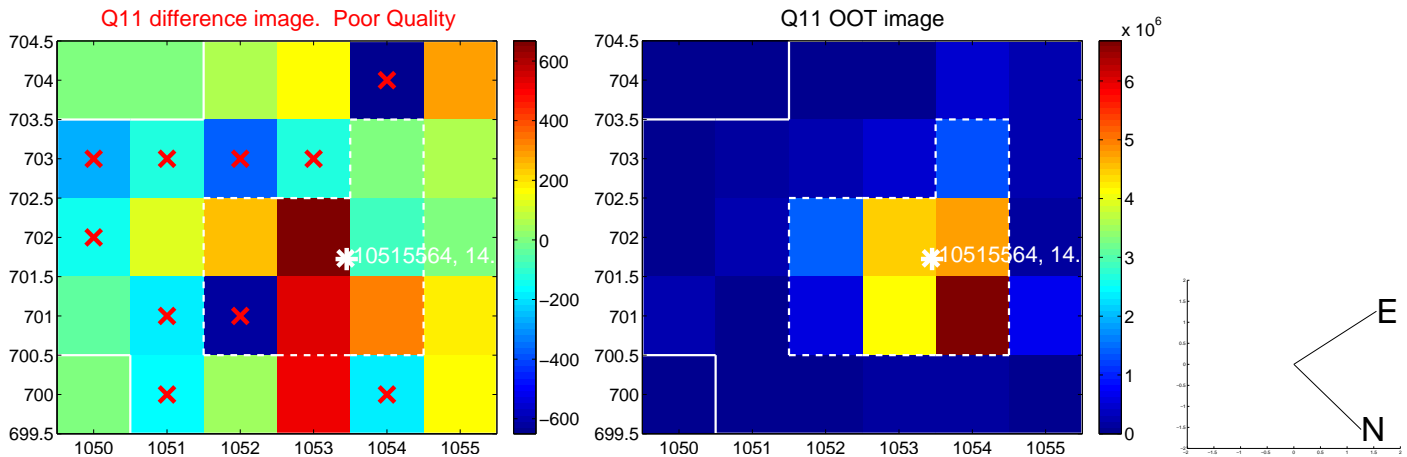
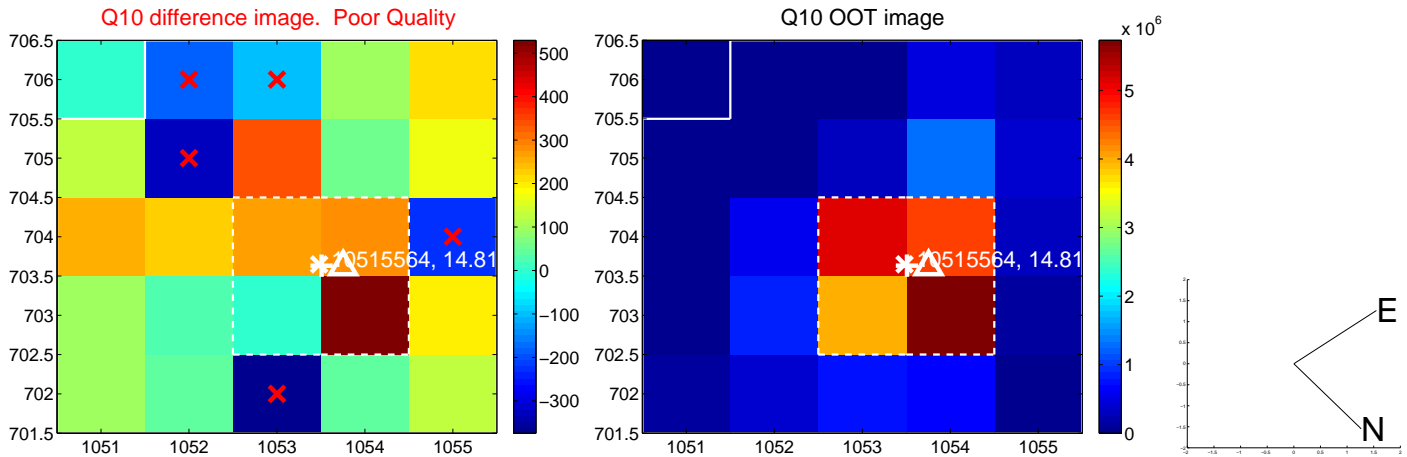
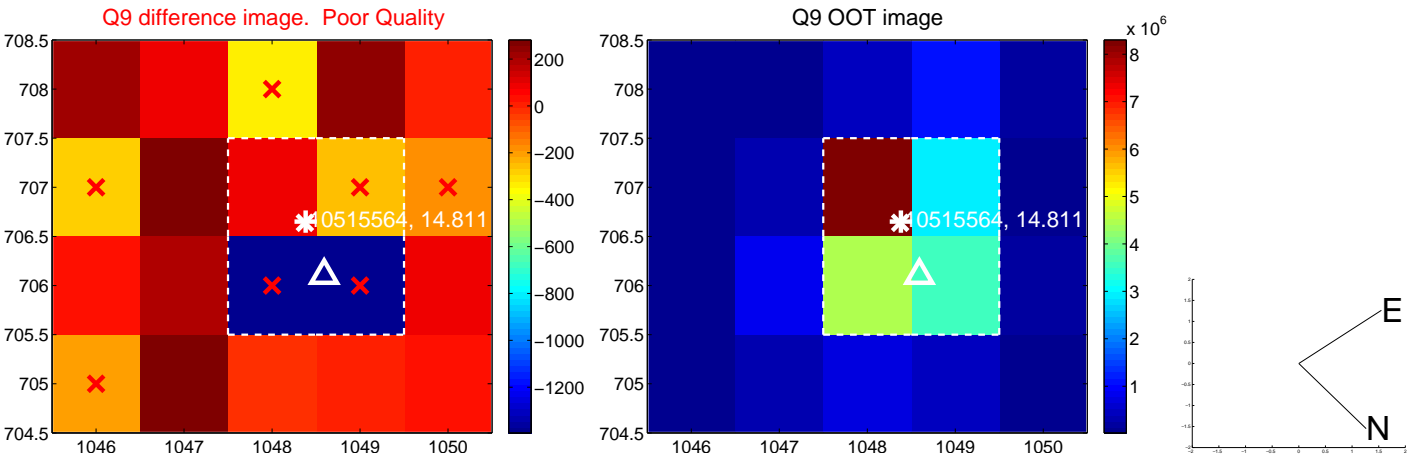


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

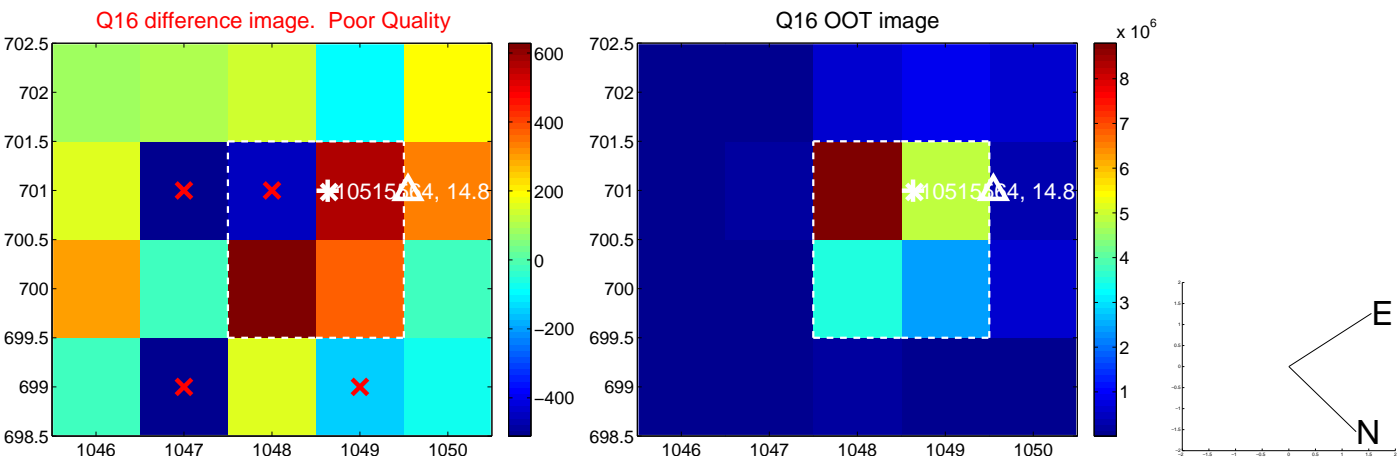
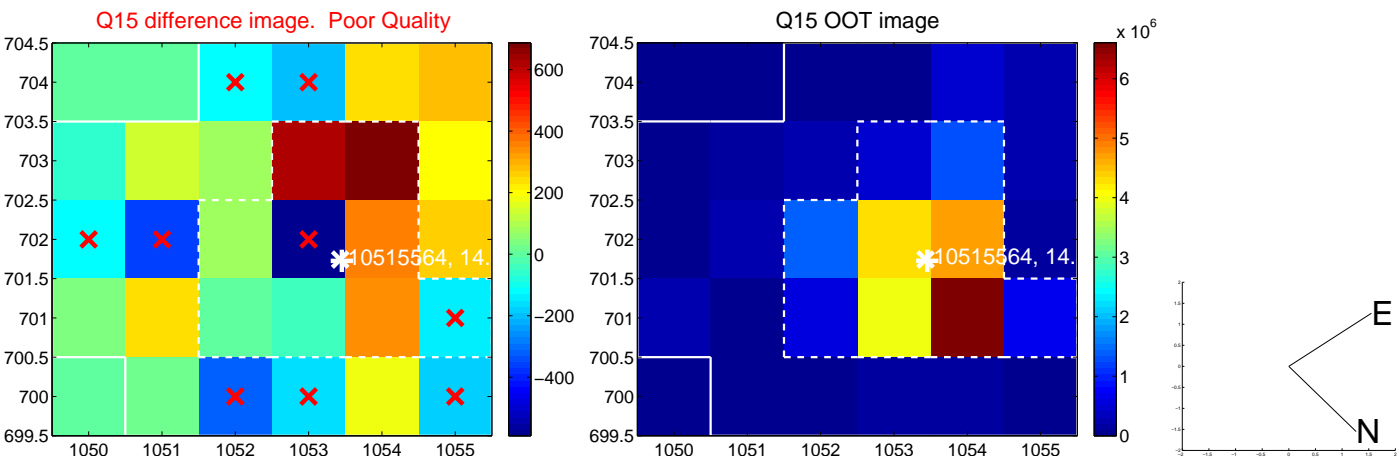
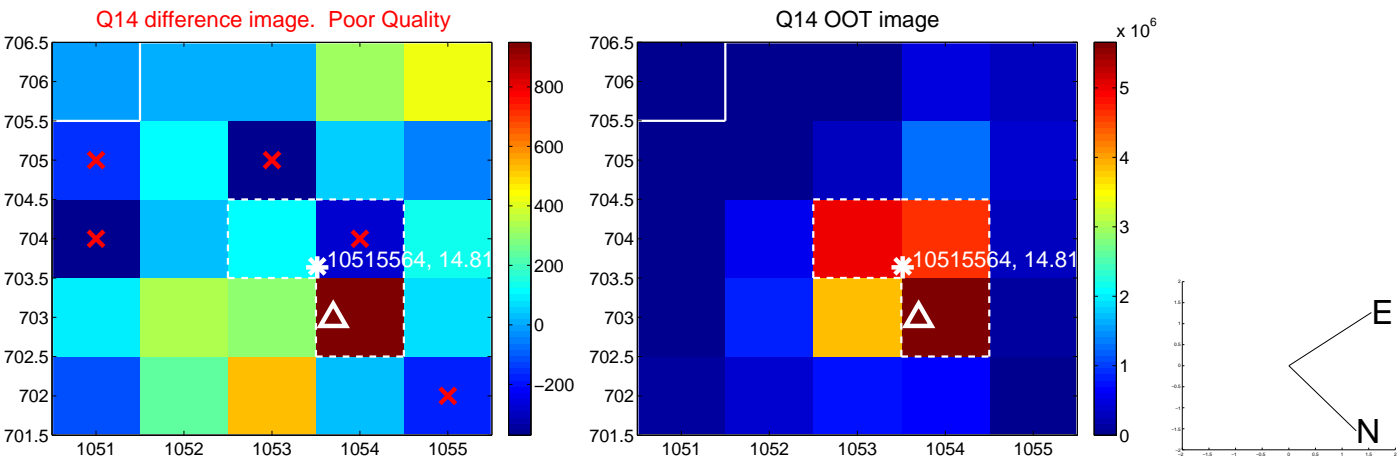
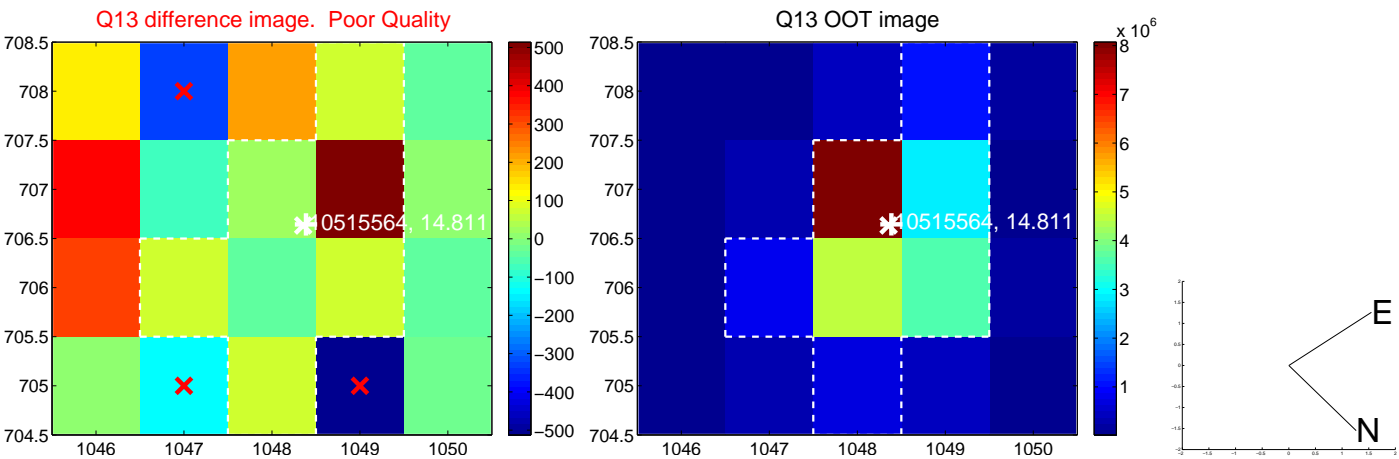
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



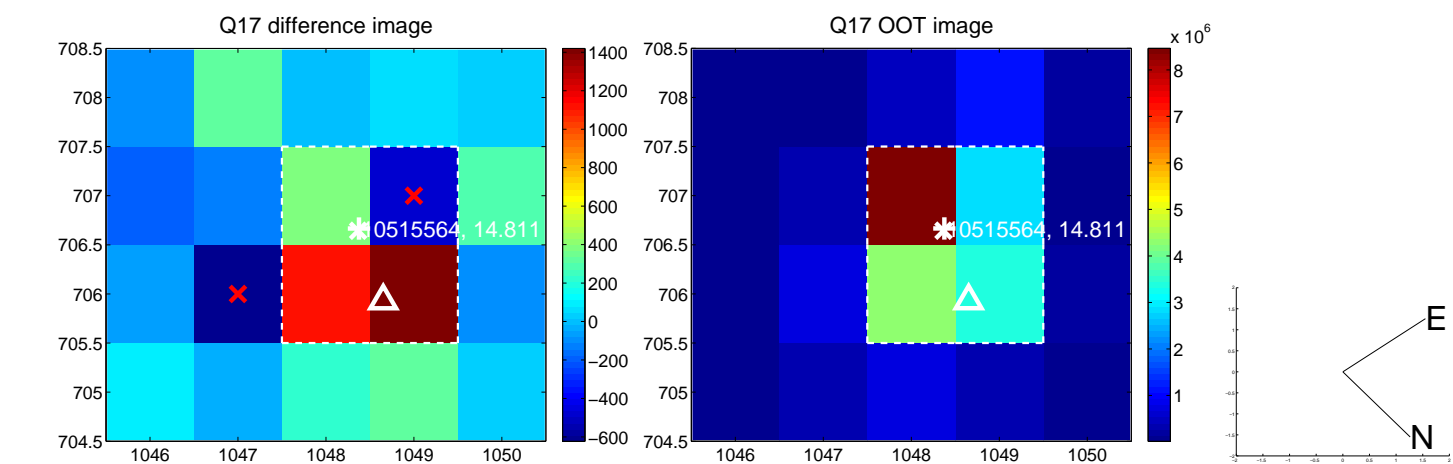
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



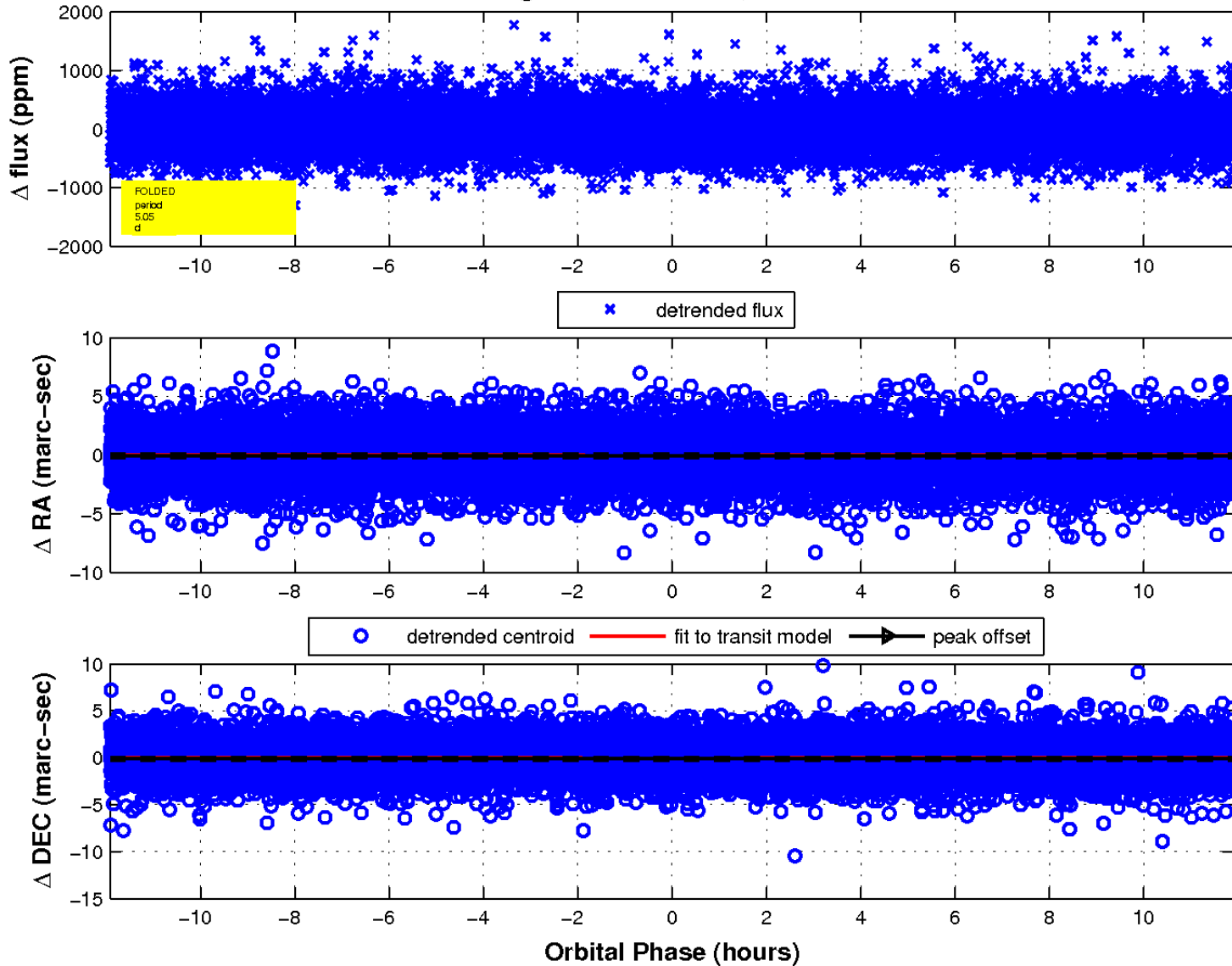
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

