

KIC 005530882

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})
005530882-01	OBS	1680.01	5.082573	132.955206	96.0	3.481	14.6	15.1	0.83	5706	0.96	208.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005530882-01	OBS	FP	0.00	0	0	1	1	CENT_RESOLVED_OFFSET—EPHEM_MATCH

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 005530882-01

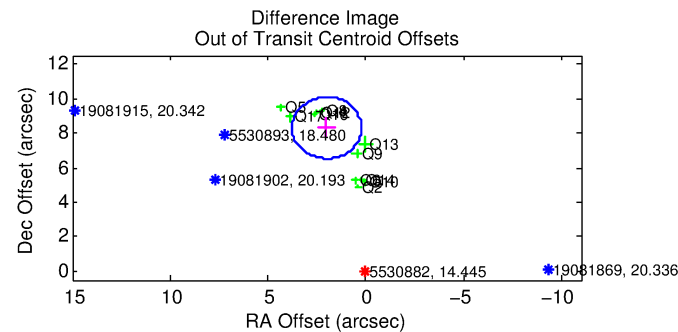
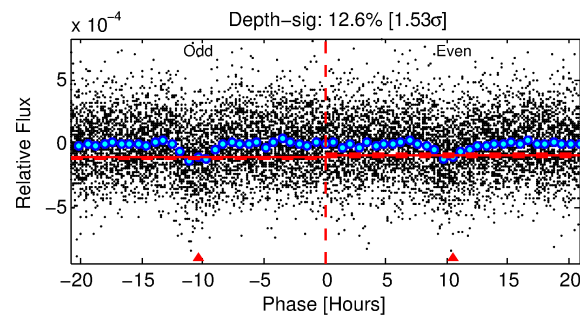
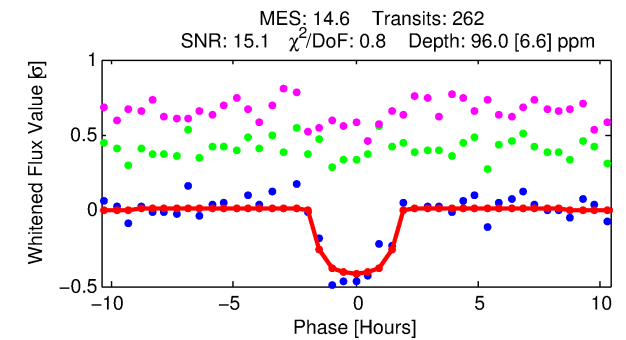
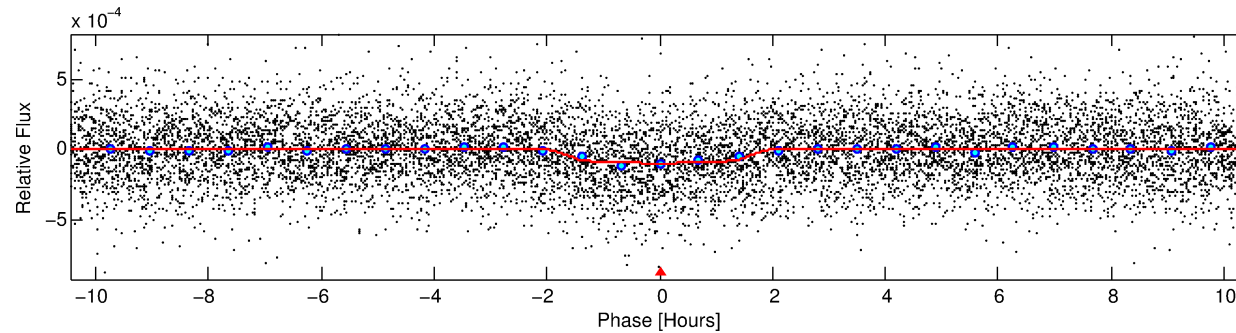
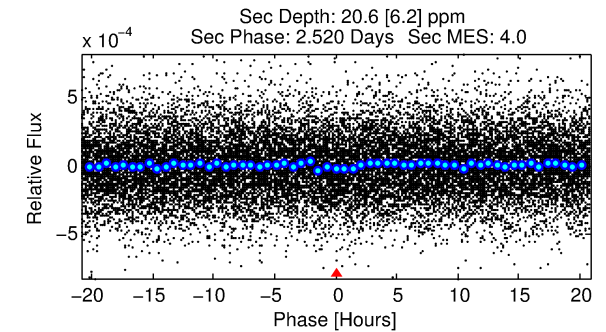
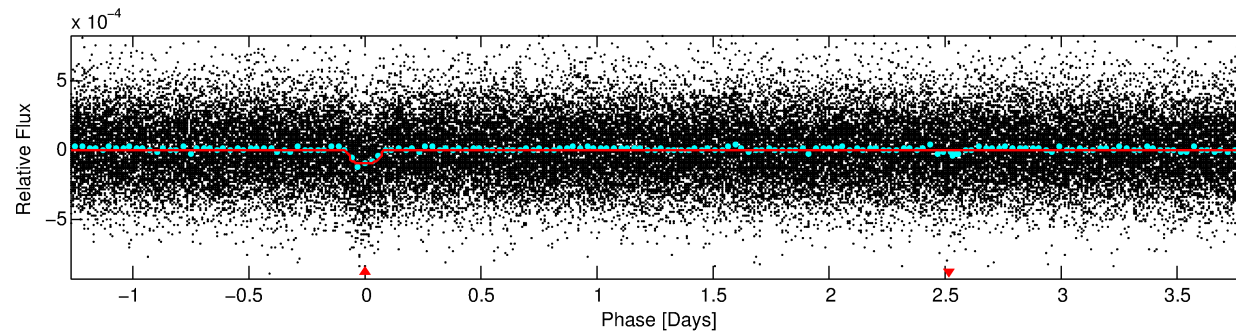
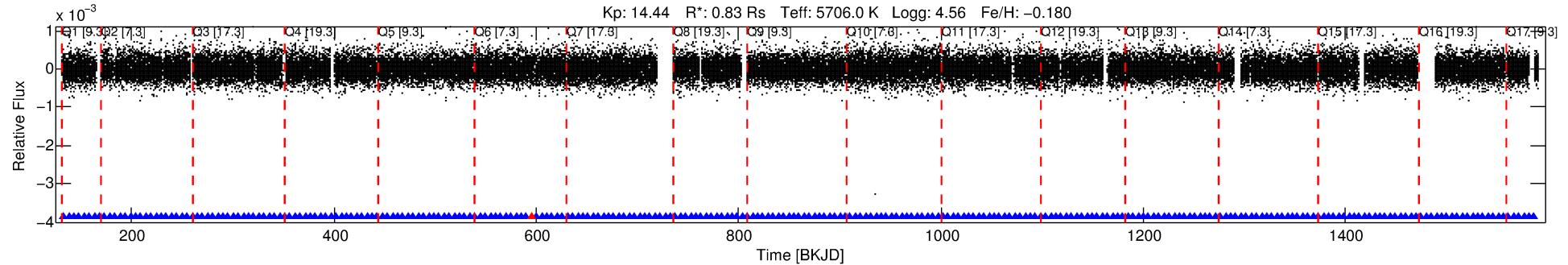
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
005530882-01	5530882	6594.01	5530881	1:1	22.8	-5	3	13.51	14.45	3034.20	Direct-PRF	0	0.48	0.25

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 5530882 Candidate: 1 of 1 Period: 5.083 d
KOI: K01680.01 Corr: 0.900

Kp: 14.44 R*: 0.83 Rs Teff: 5706.0 K Logg: 4.56 Fe/H: -0.180



DV Fit Results:

Period = 5.08257 [0.00003] d
Epoch = 132.9552 [0.0039] BKJD
Rp/R* = 0.0105 [0.0049]
a/R* = 5.57 [11.94]
b = 0.88 [0.57]
Seff = 208.08 [74.25]
Teq = 968 [86] K
Rp = 0.96 [0.52] Re
a = 0.0563 [0.0130] AU
Ag = 39.40 [40.68] [0.94σ]
Teff = 3751 [922] K [3.00σ]

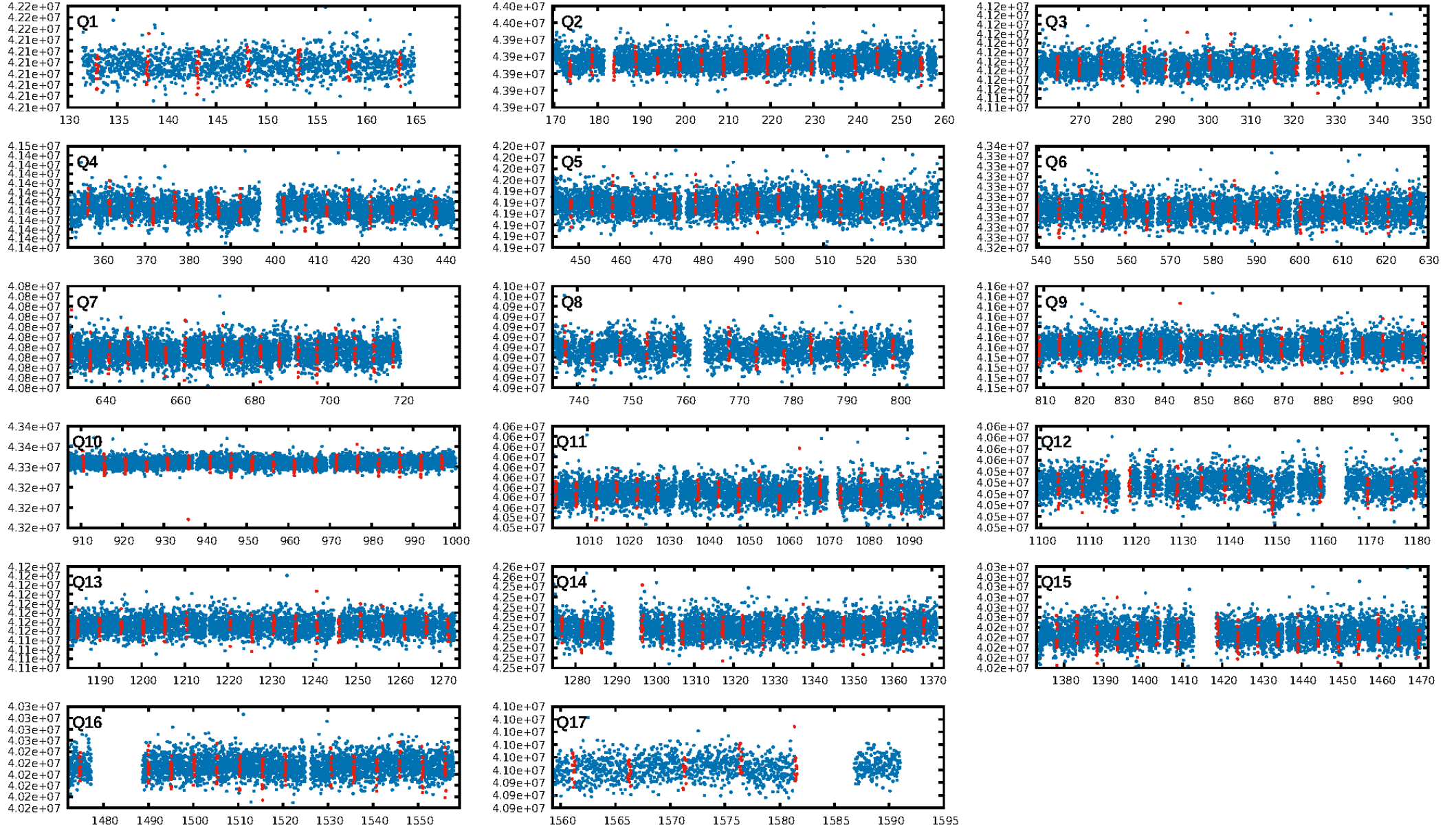
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.28e-47
RollingBand-fgt: 1.00 [249/250]
GhostDiagnostic-chr: -0.332
Centroid-sig: 0.0%
Centroid-so: 9.360 arcsec [11.60σ]
OotOffset-rm: 8.544 arcsec [14.41σ]
KicOffset-rm: 8.430 arcsec [14.46σ]
OotOffset-st: 4/0/4/4 [12]
KicOffset-st: 4/0/4/4 [12]
DiffImageQuality-fgm: 0.75 [9/12]
DiffImageOverlap-fno: 1.00 [17/17]

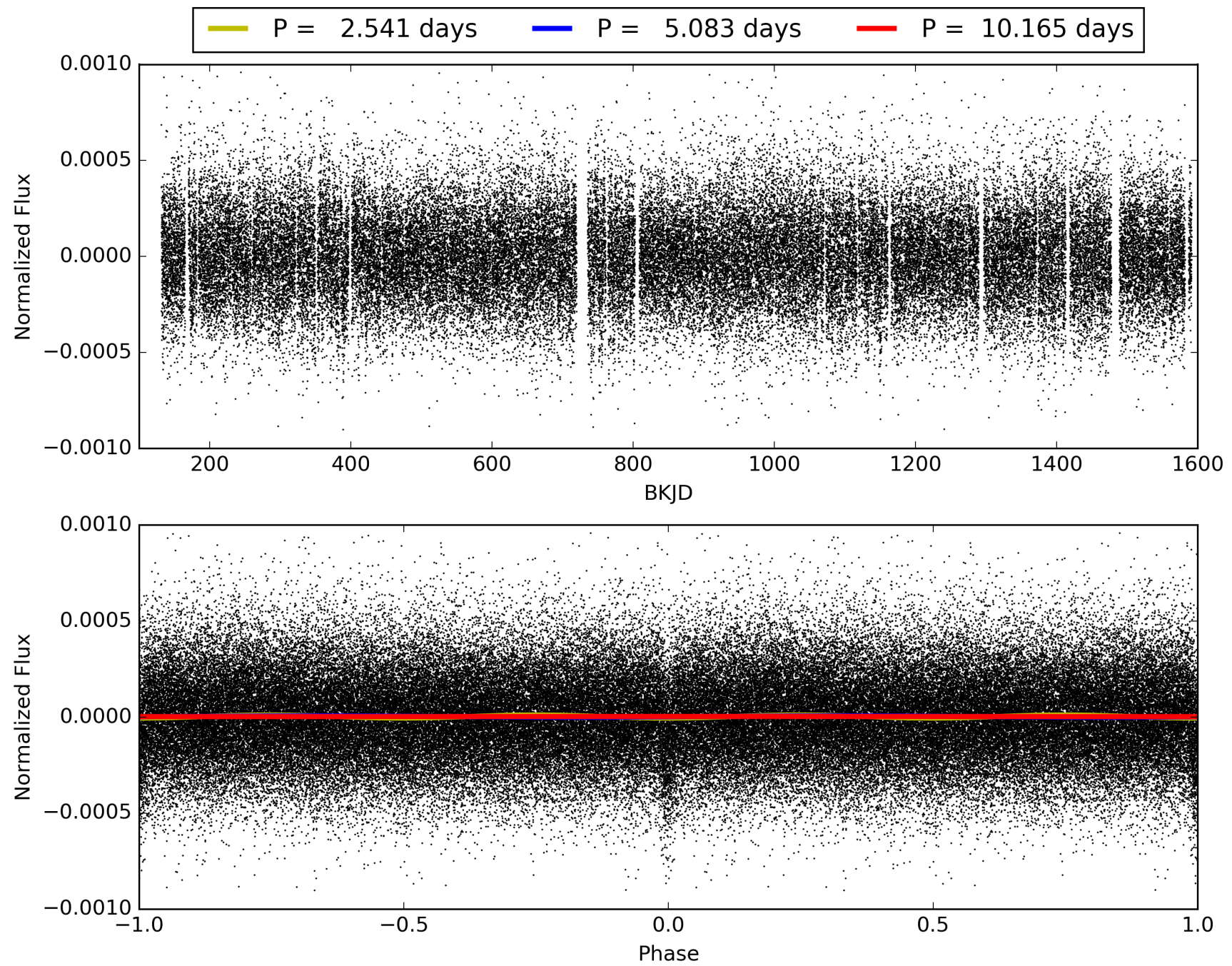
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:06:40 Z

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

TCE 005530882-01, PDC Light Curves

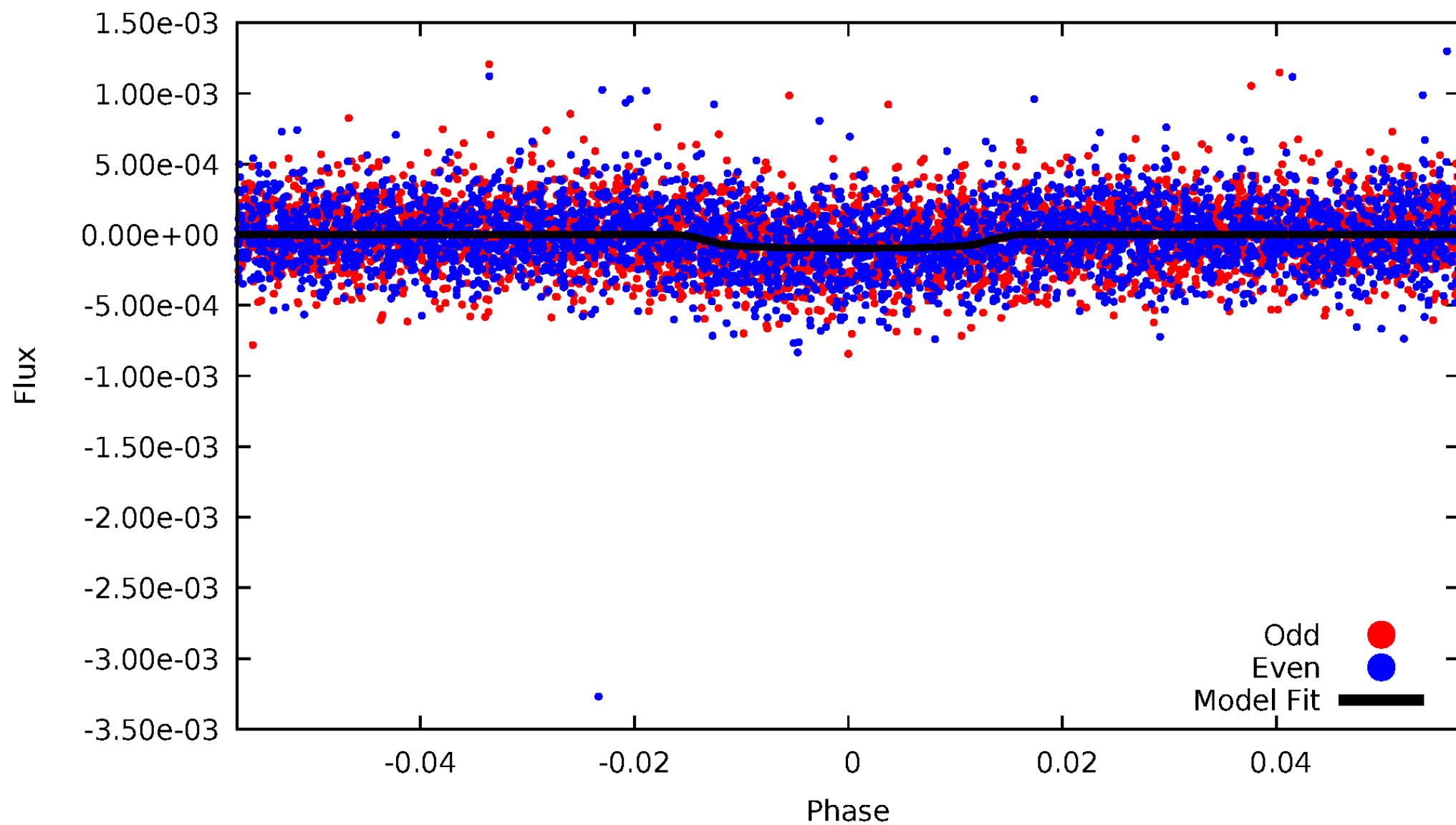


TCE 005530882-01



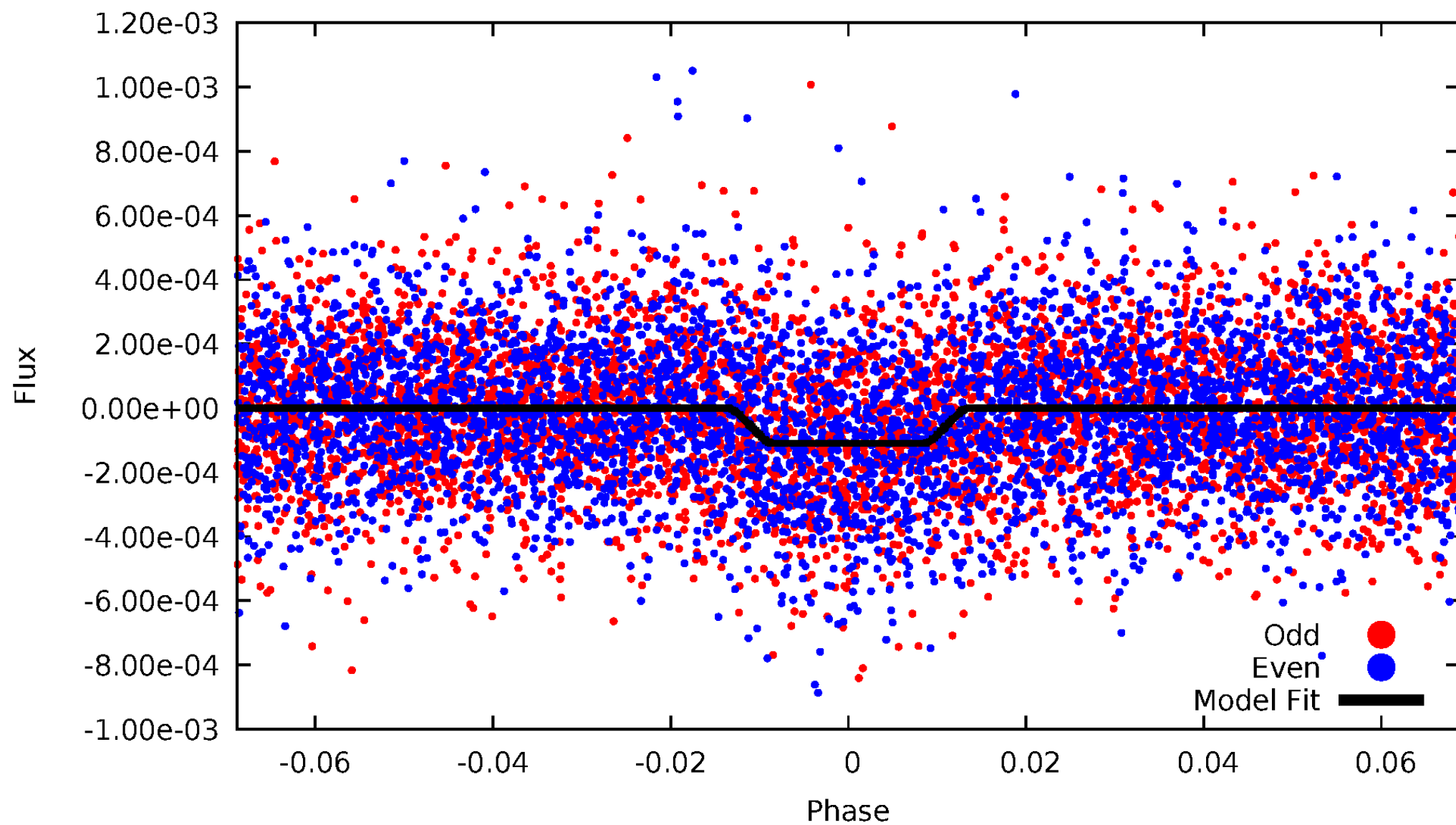
DV Odd/Even

TCE 005530882-01

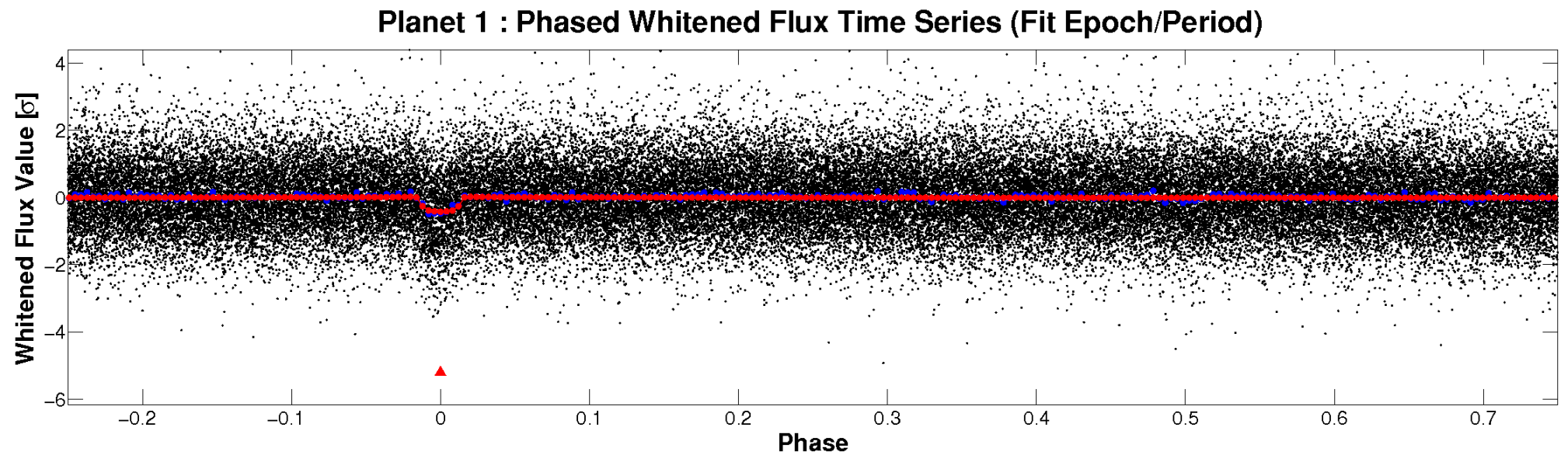
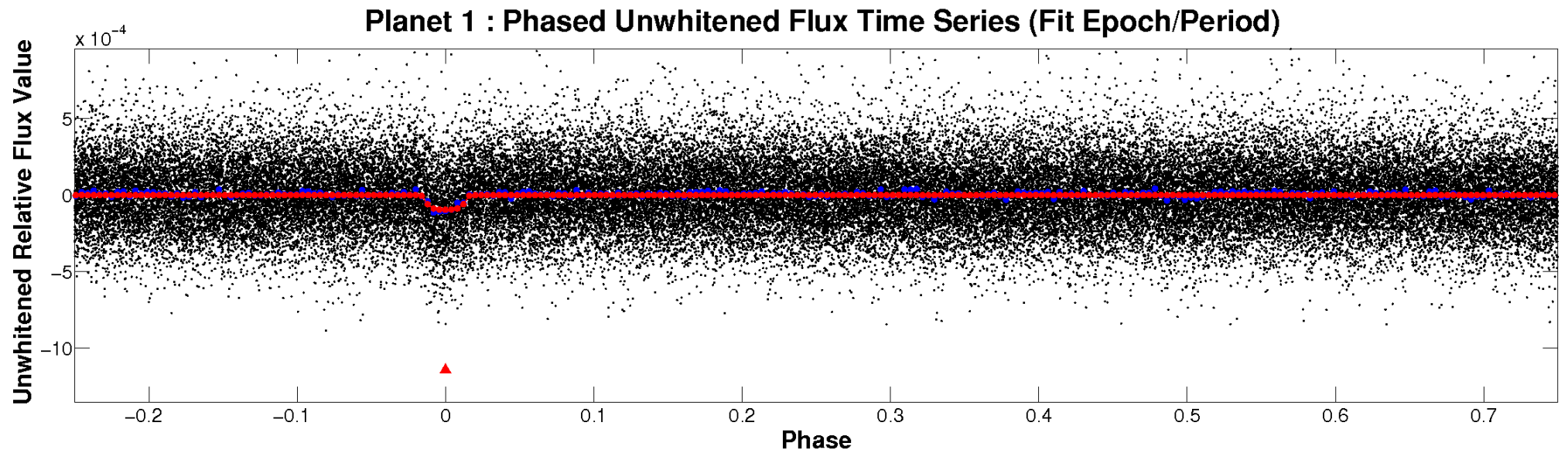


ALT Odd/Even

TCE 005530882-01

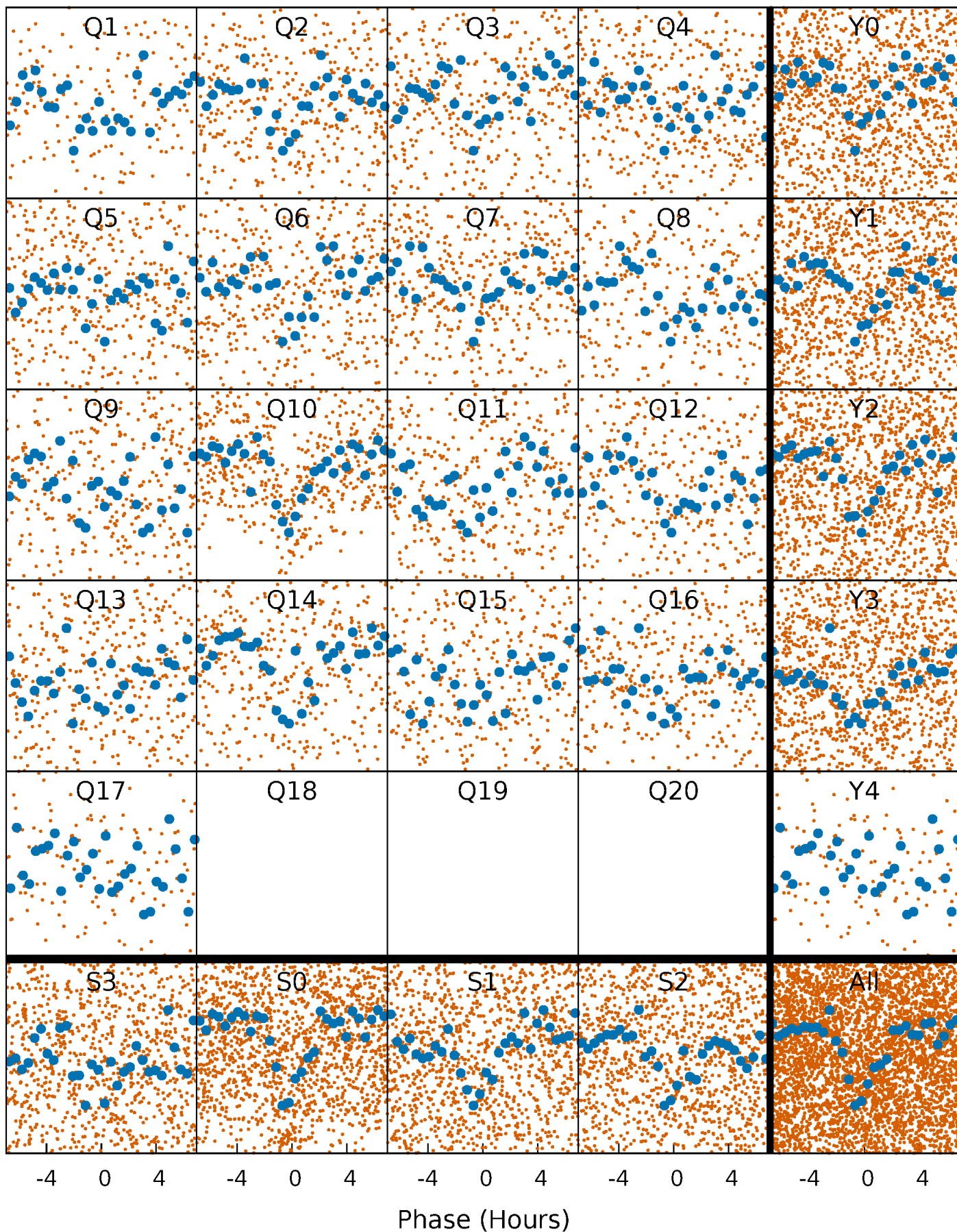


Non-Whitened Vs. Whitened Light Curve



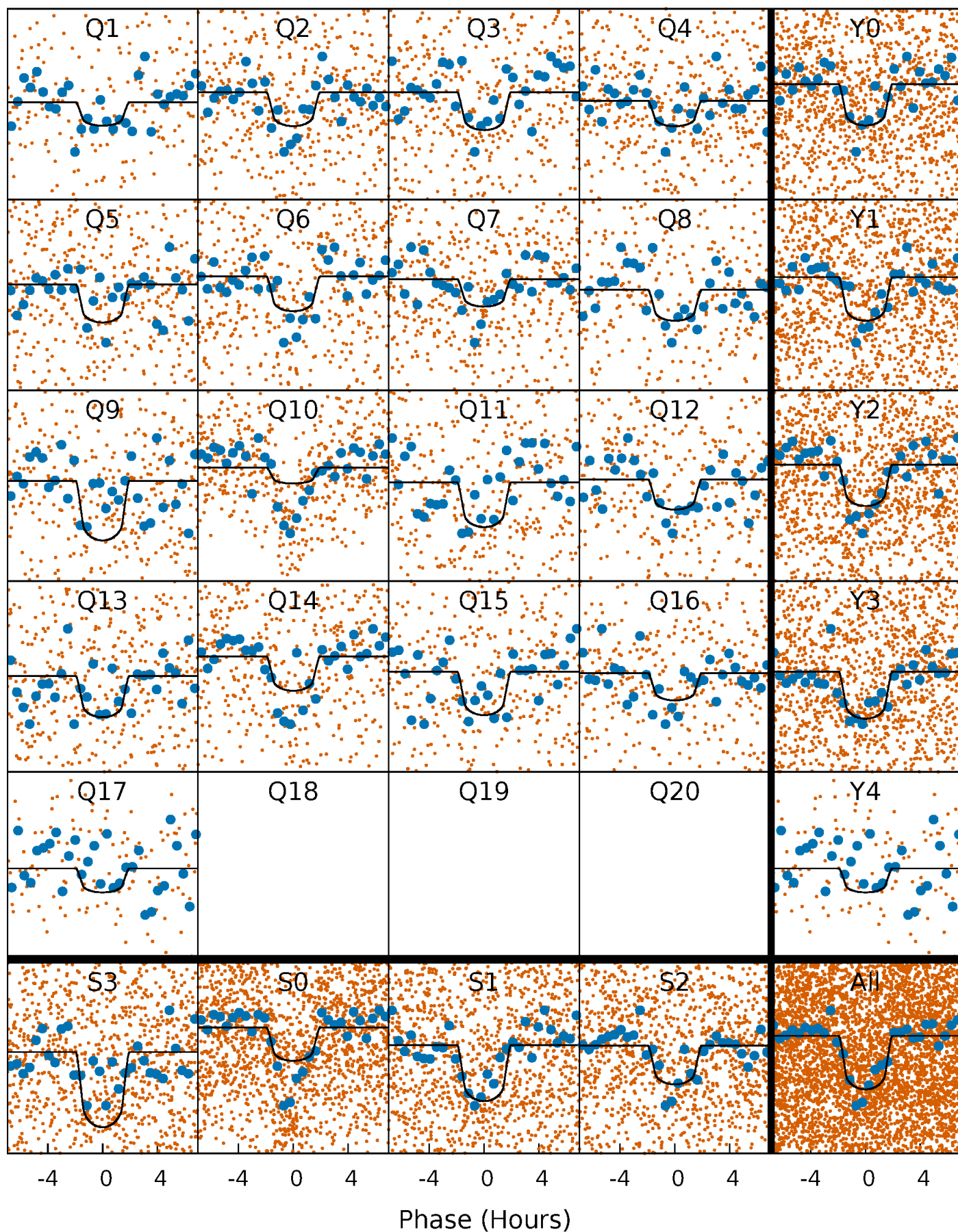
PDC Quarter-Phased Transit Curves

TCE 005530882-01 P= 5.082573 Days $T_0=132.955206$ (BKJD)



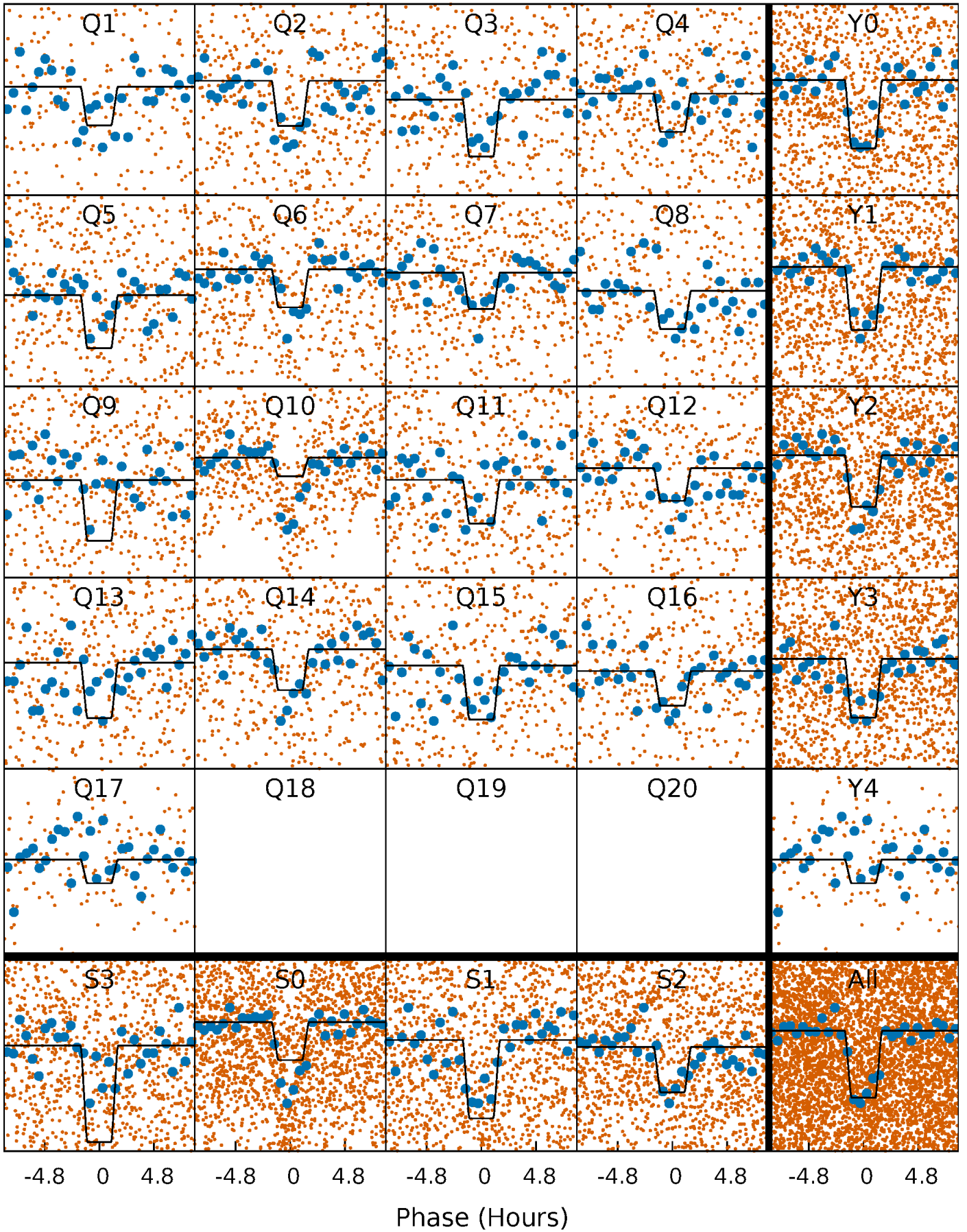
DV Quarter-Phased Transit Curves

TCE 005530882-01 P= 5.082573 Days $T_0=132.955206$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

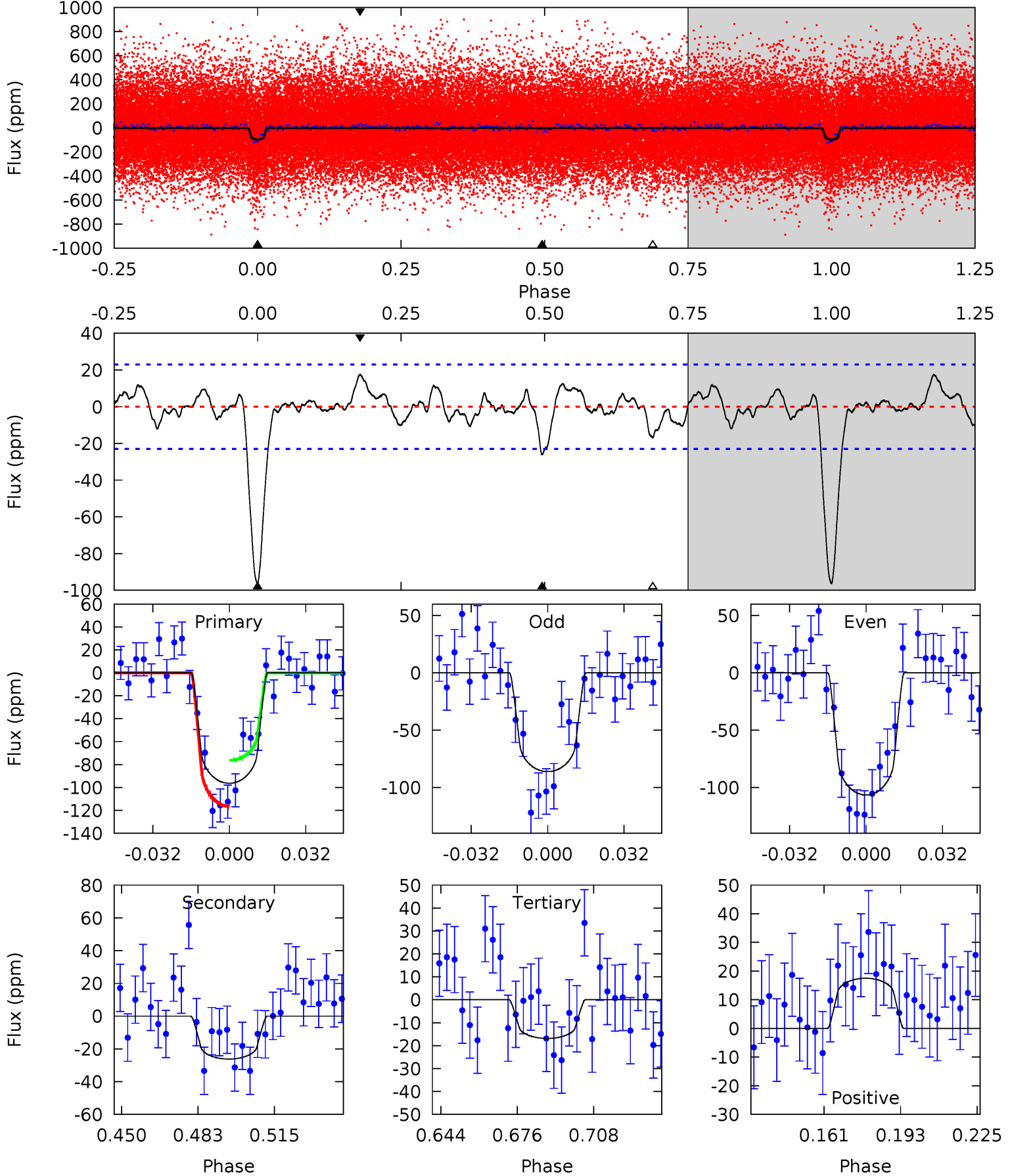
TCE 005530882-01 P= 5.082583 Days $T_0=132.946819$ (BKJD)



DV Model-Shift Uniqueness Test

005530882-01, P = 5.082573 Days, E = 127.872633 Days

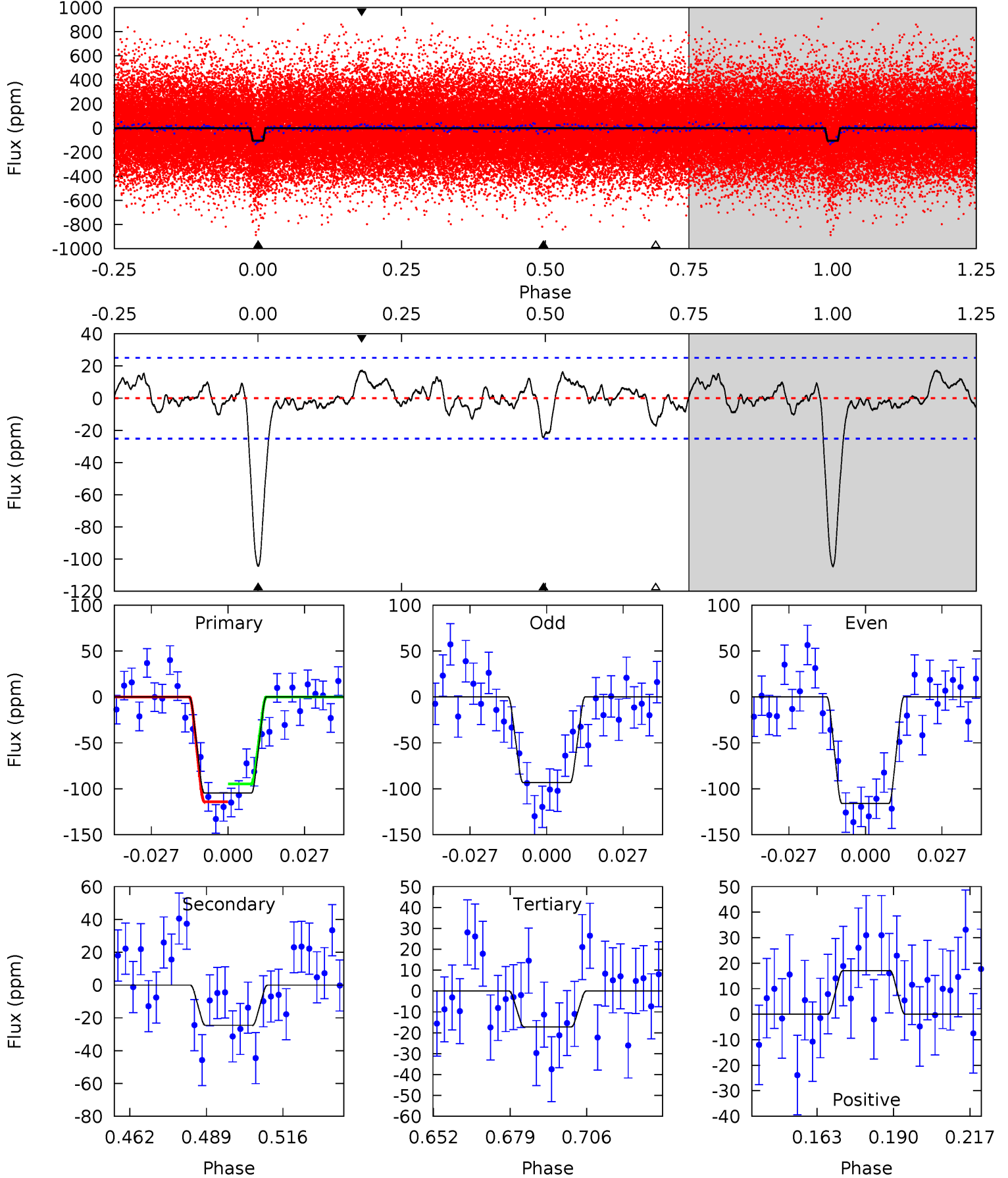
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.1	5.47	3.52	3.65	4.80	2.14	1.26	16.6	16.5	1.95	1.82	2.13	1.04	0.15	4.19



Alt Model-Shift Uniqueness Test

005530882-01, P = 5.082583 Days, E = 127.864236 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.1	4.72	3.31	3.28	4.83	2.21	1.25	16.8	16.8	1.41	1.44	2.18	1.02	0.14	1.86



Stellar Parameters For KIC 005530882

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5706^{+152}_{-169}	$4.561^{+0.035}_{-0.184}$	$-0.180^{+0.300}_{-0.300}$	$0.834^{+0.229}_{-0.076}$	$0.930^{+0.102}_{-0.102}$	$2.255^{+0.405}_{-1.088}$
	+3%/-3%	+1%/-4%	+167%/-167%	+27%/-9%	+11%/-11%	+18%/-48%
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 005530882-01 / KOI 1680.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-26 ± 5	$1.02^{+0.51}_{-0.47}$	1384^{+89}_{-60}	4201^{+1221}_{-546}	44^{+100}_{-25}
Alt.	-25 ± 5	$1.02^{+0.48}_{-0.47}$	1391^{+87}_{-62}	4150^{+1073}_{-520}	40^{+92}_{-22}

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 $A_{\text{obs}} \gg 1.0$

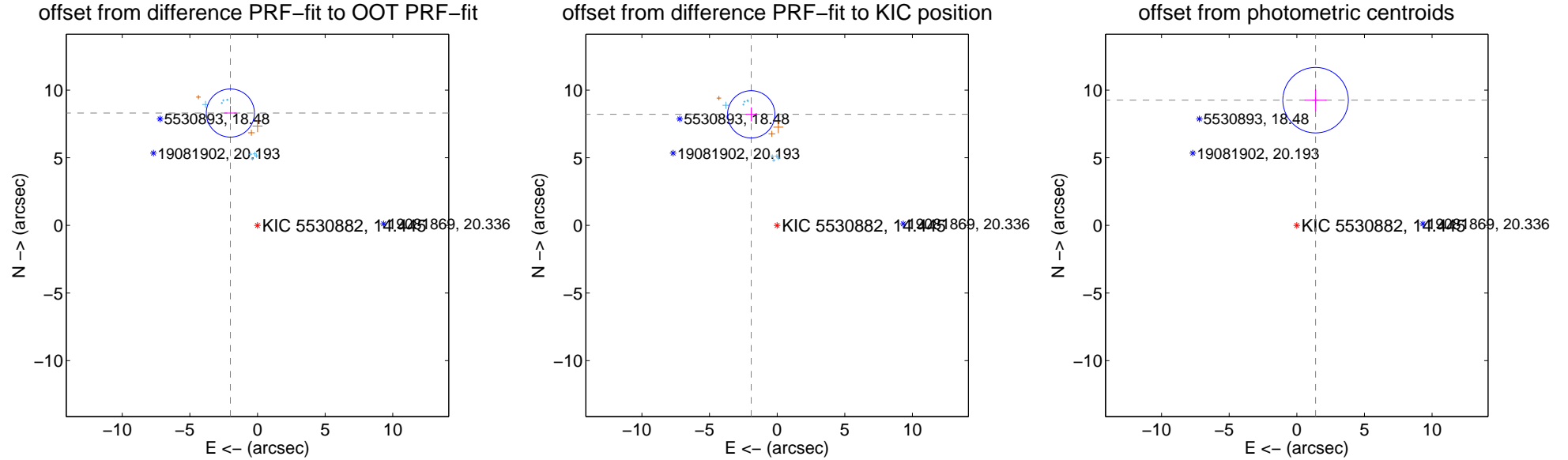
DV Centroid Data

Supplemental centroid analysis for 005530882-01. Kepler magnitude: 14.45. Transit SNR 15.14

There are 9 quarters with good PRF difference image offsets

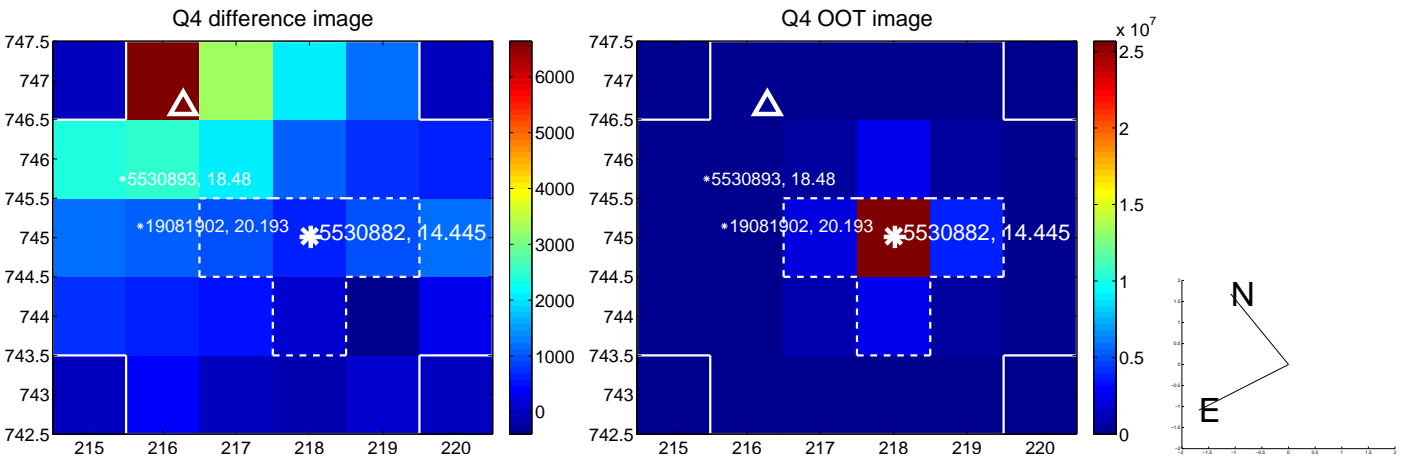
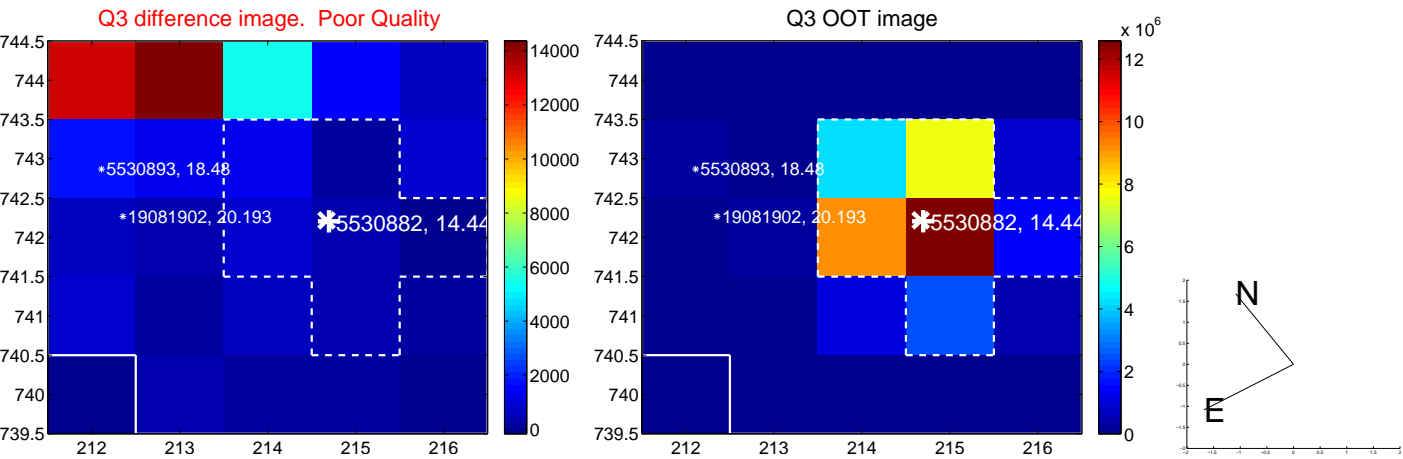
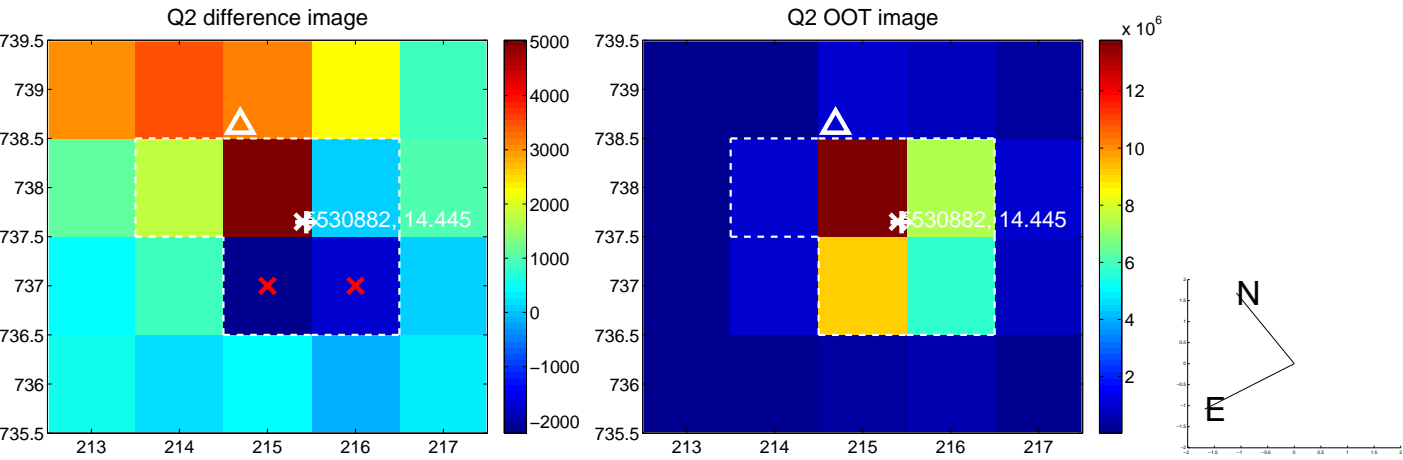
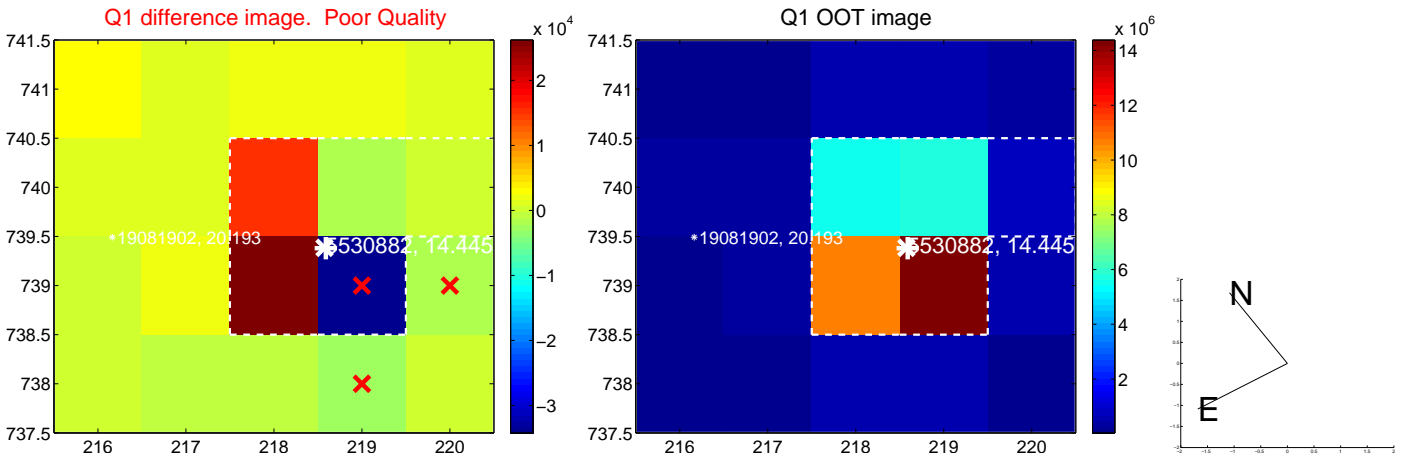
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.544 ± 0.593	14.41	2.006 ± 0.456	8.306 ± 0.514
PRF-fit source offset from KIC position	8.430 ± 0.583	14.46	1.917 ± 0.438	8.209 ± 0.512
photometric centroid source offset	9.36 ± 0.81	11.60	-1.39 ± 0.81	9.26 ± 0.81

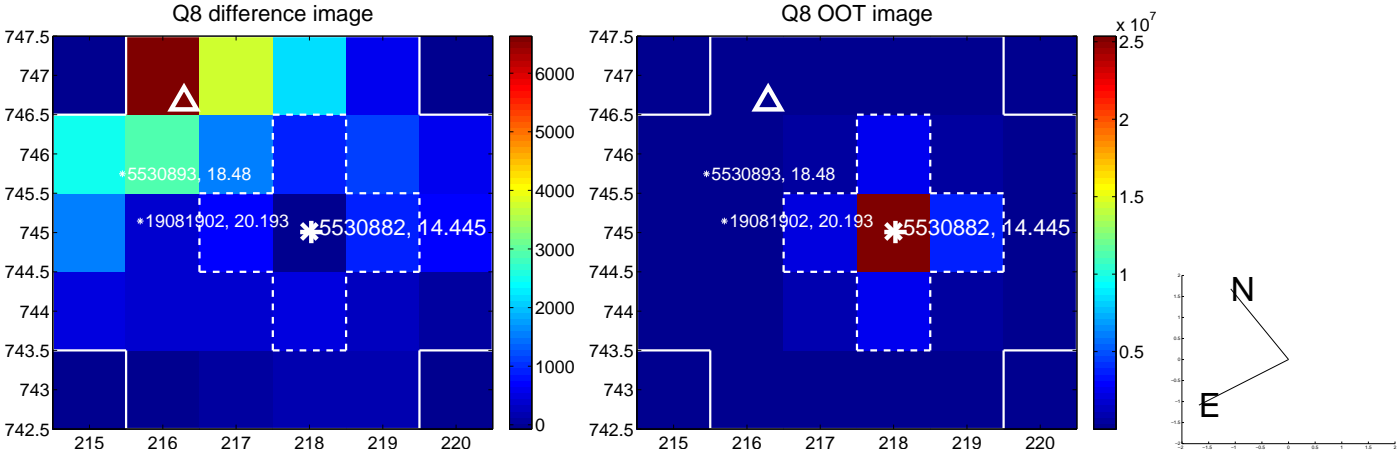
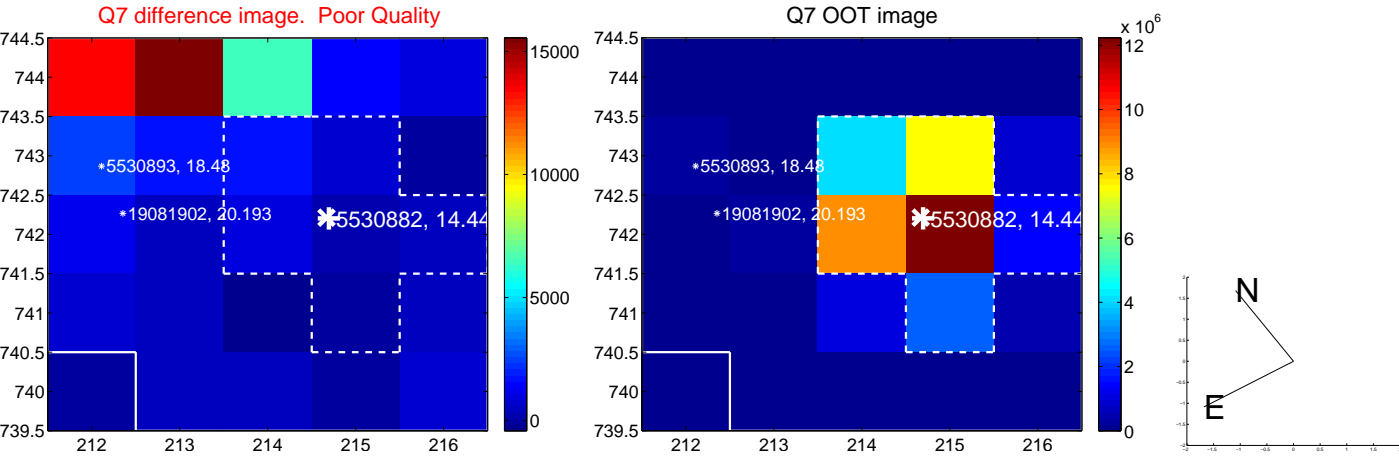
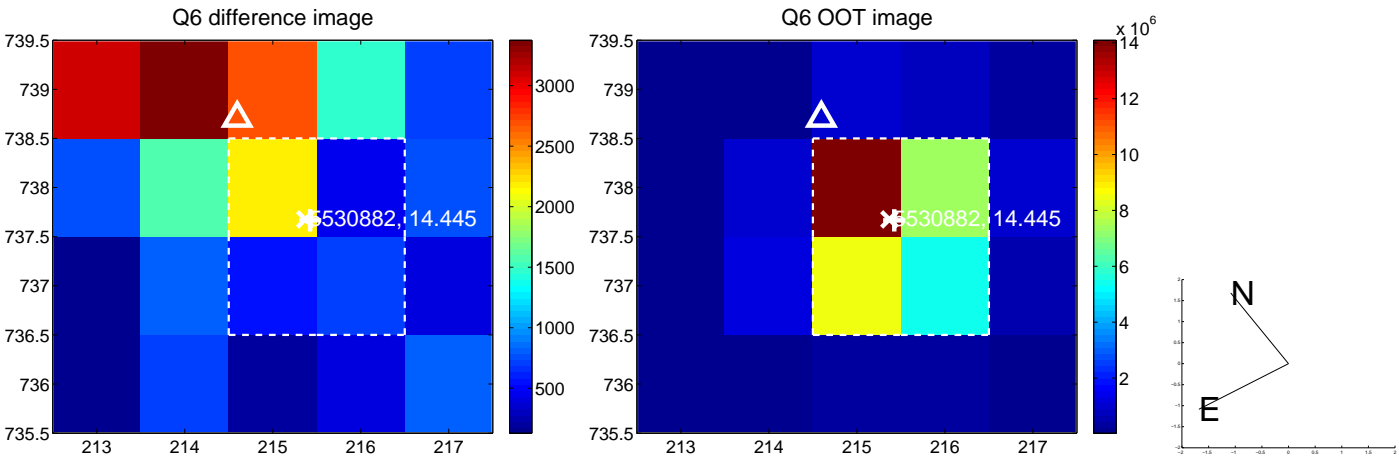
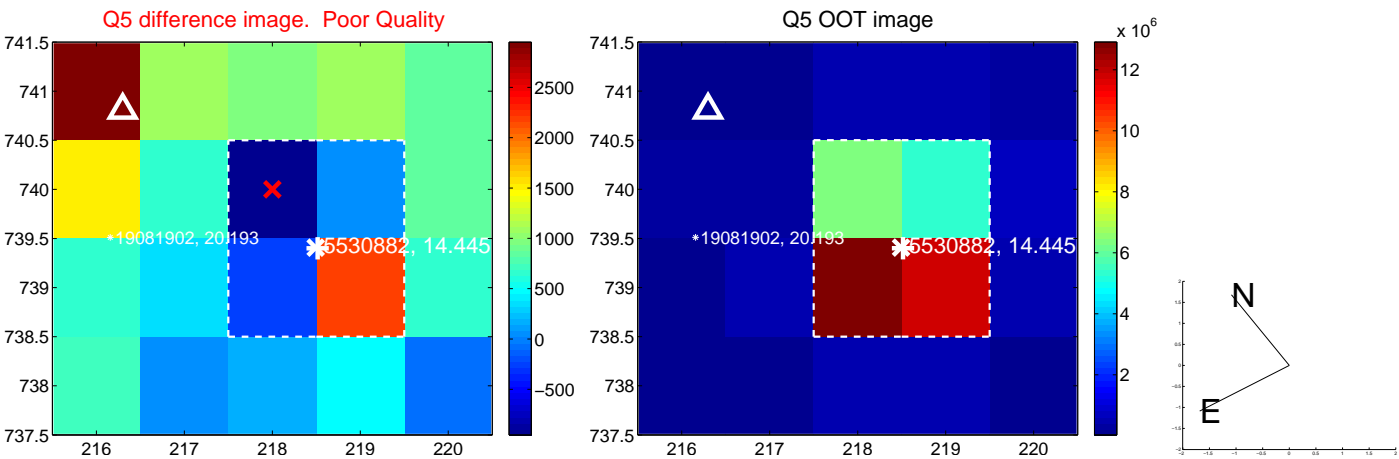


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

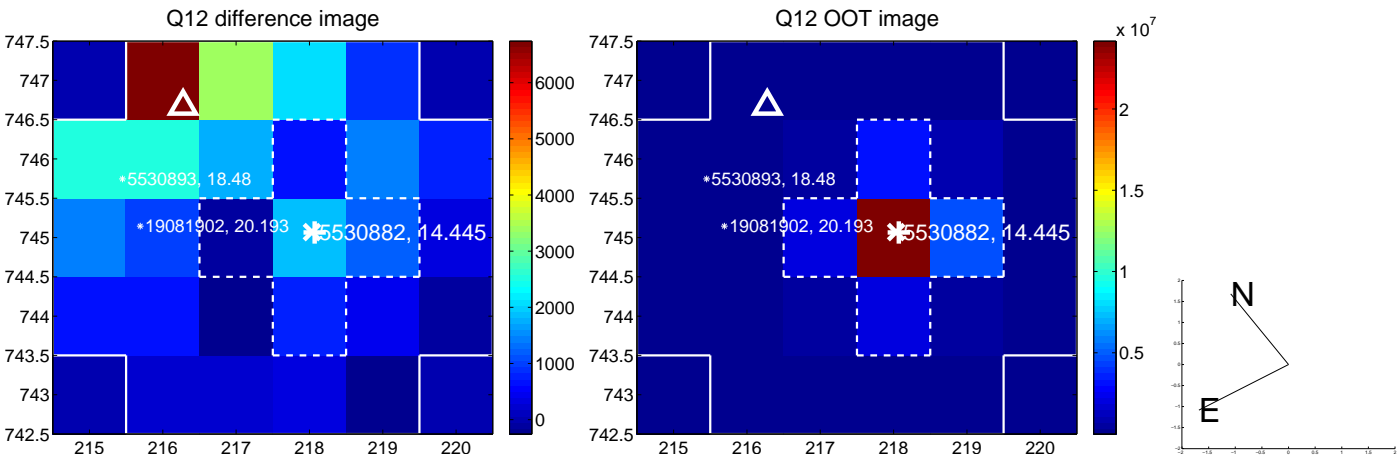
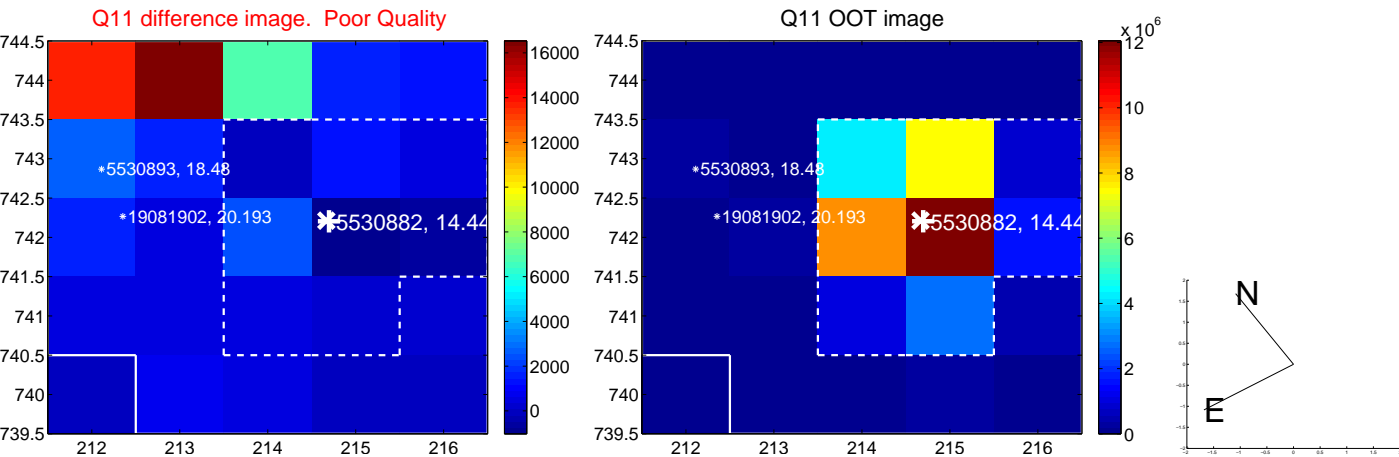
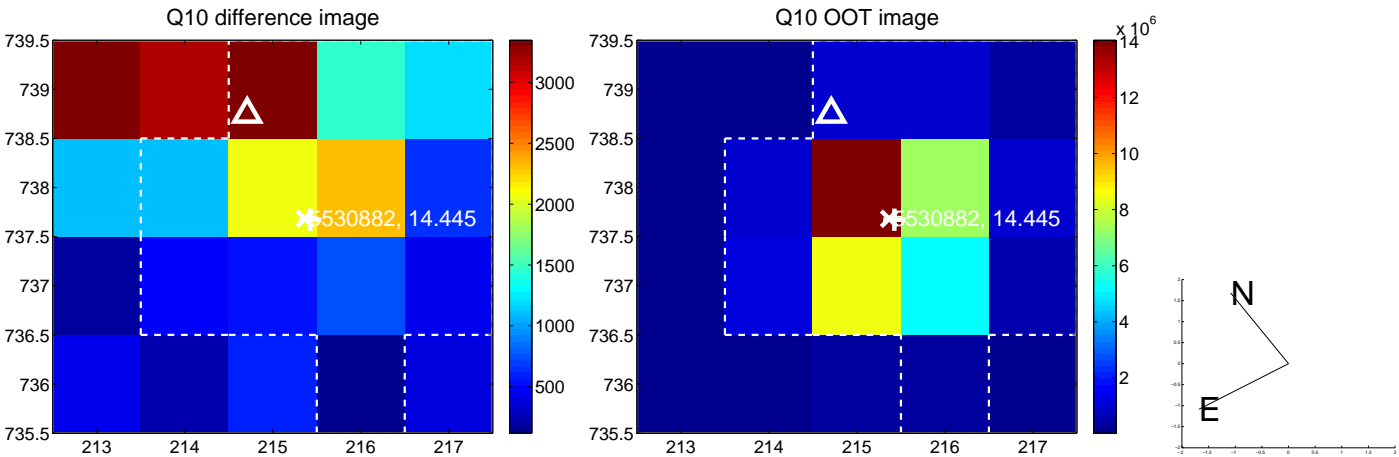
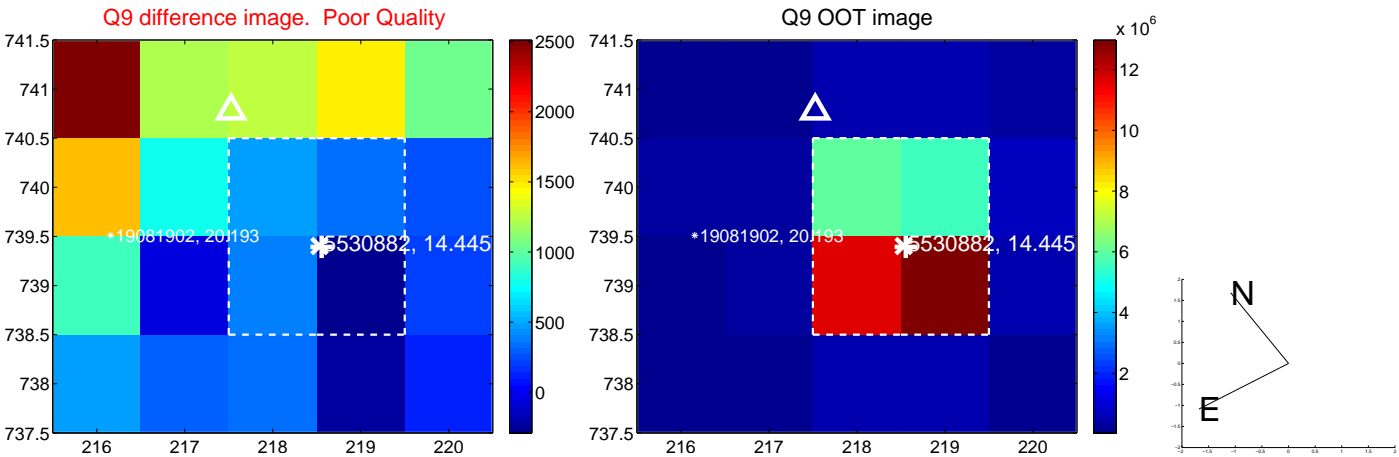
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



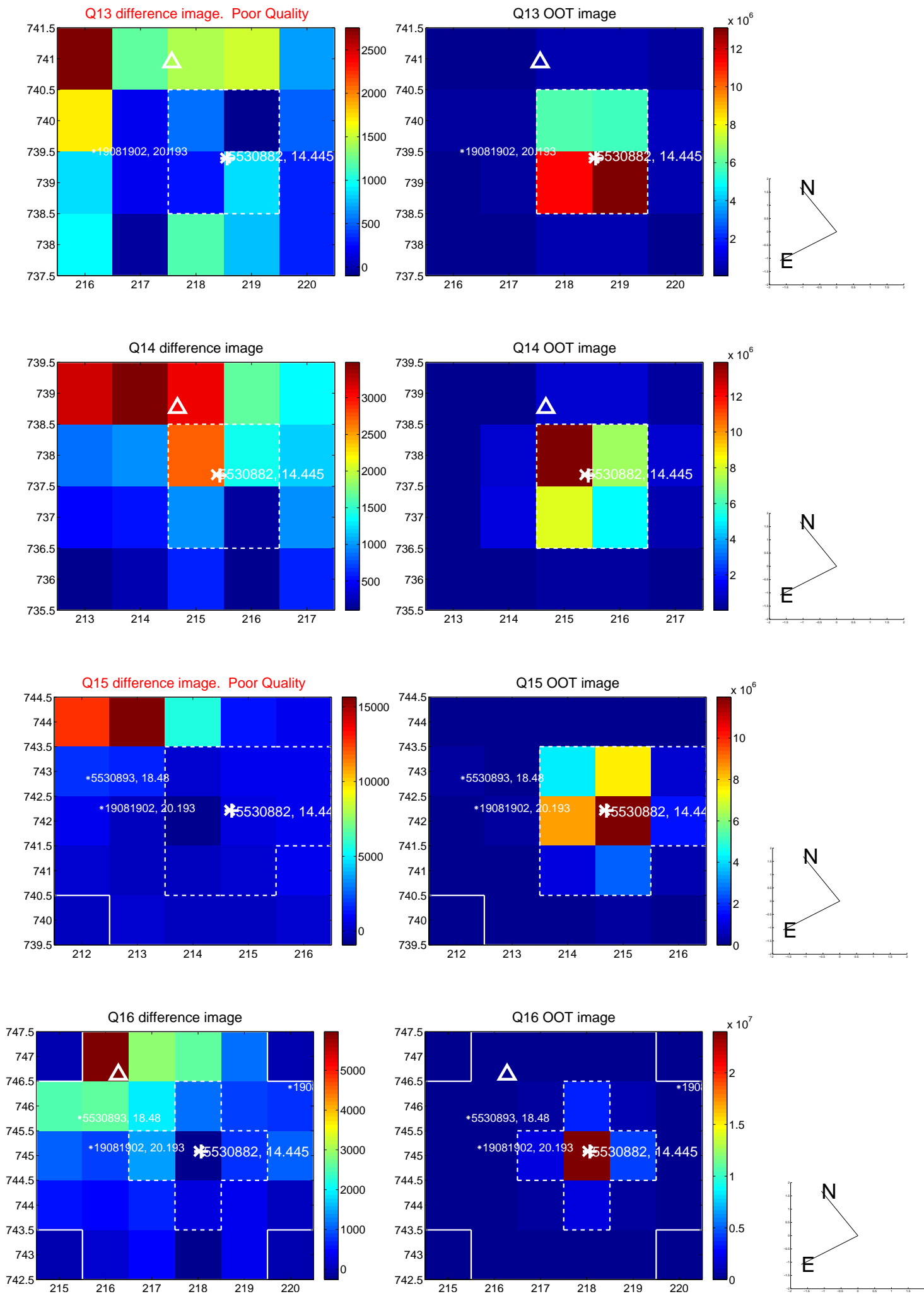
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



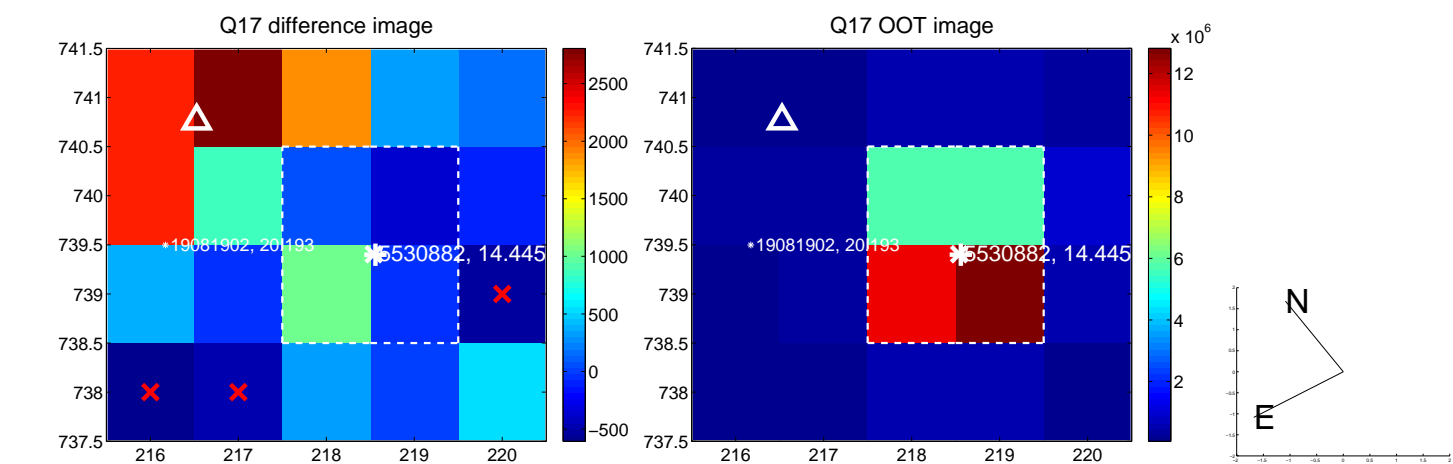
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



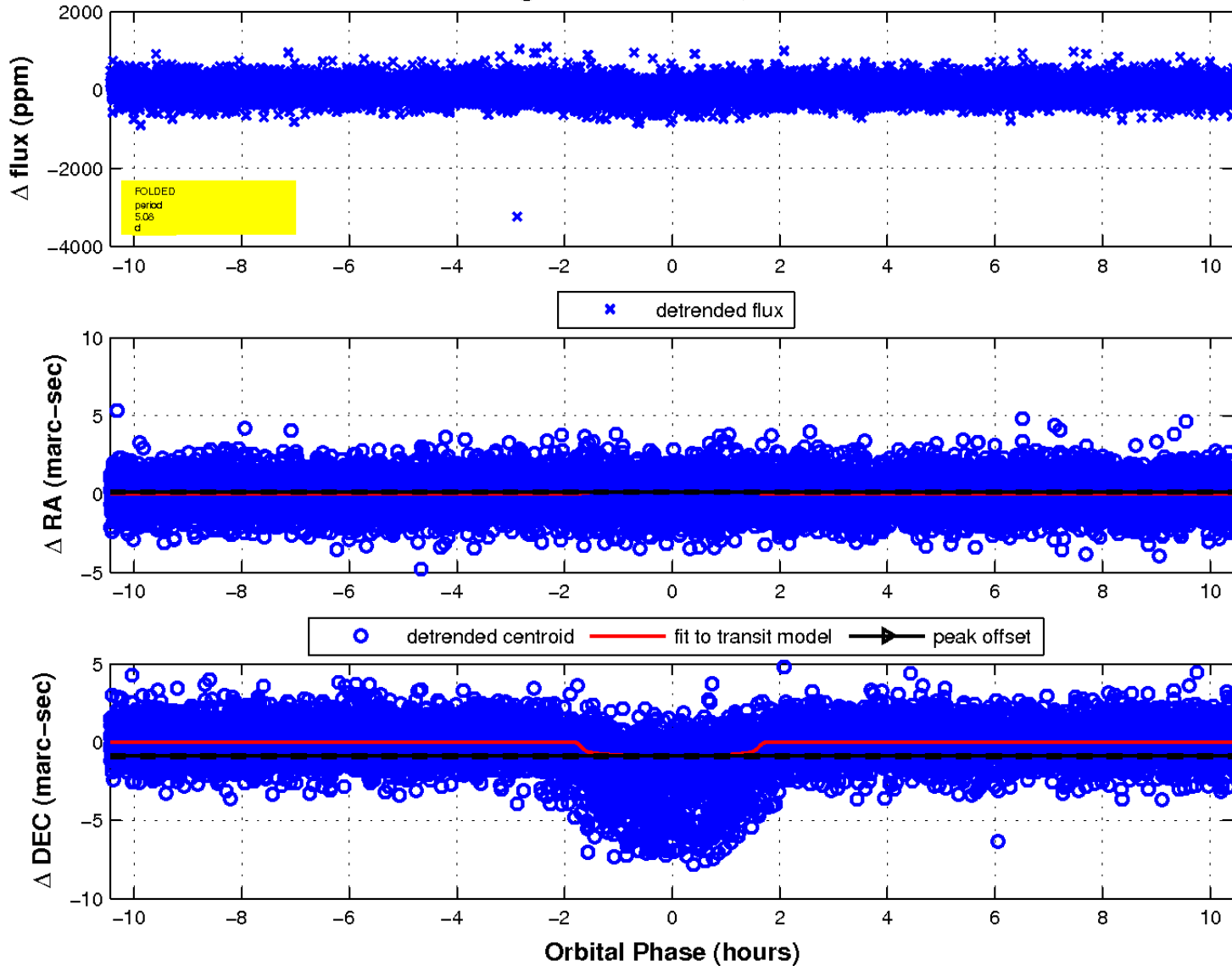
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

