

KIC 006220312

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})
006220312-01	OBS	4793.01	5.273513	135.657406	78.5	5.518	7.4	8.0	0.92	5851	0.91	250.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006220312-01	OBS	PC	0.78	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.

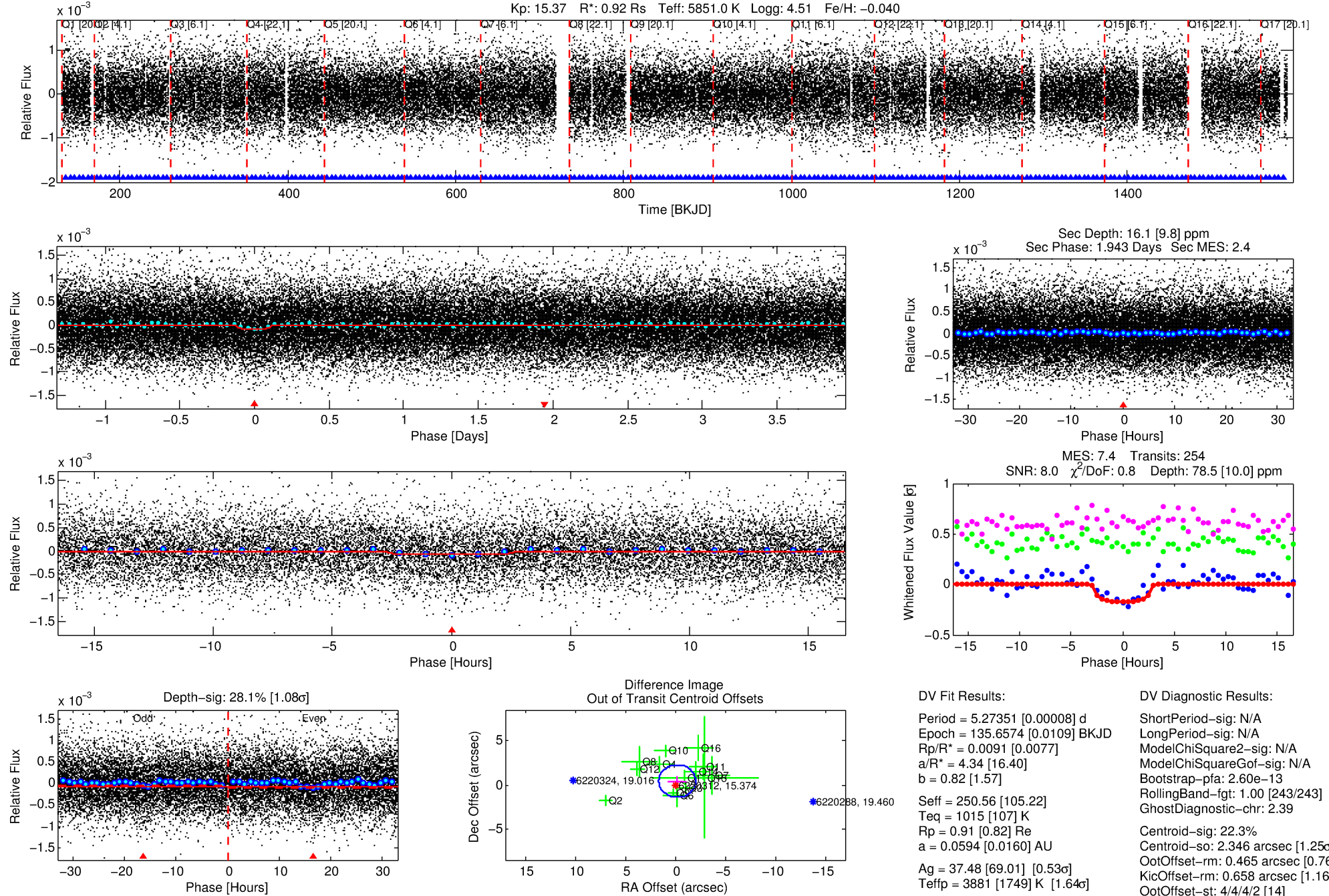
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006220312-01

No Significant Match Found

DV One-Page Summary

KIC: 6220312 Candidate: 1 of 1 Period: 5.274 d
KOI: K04793.01 Corr: 0.945



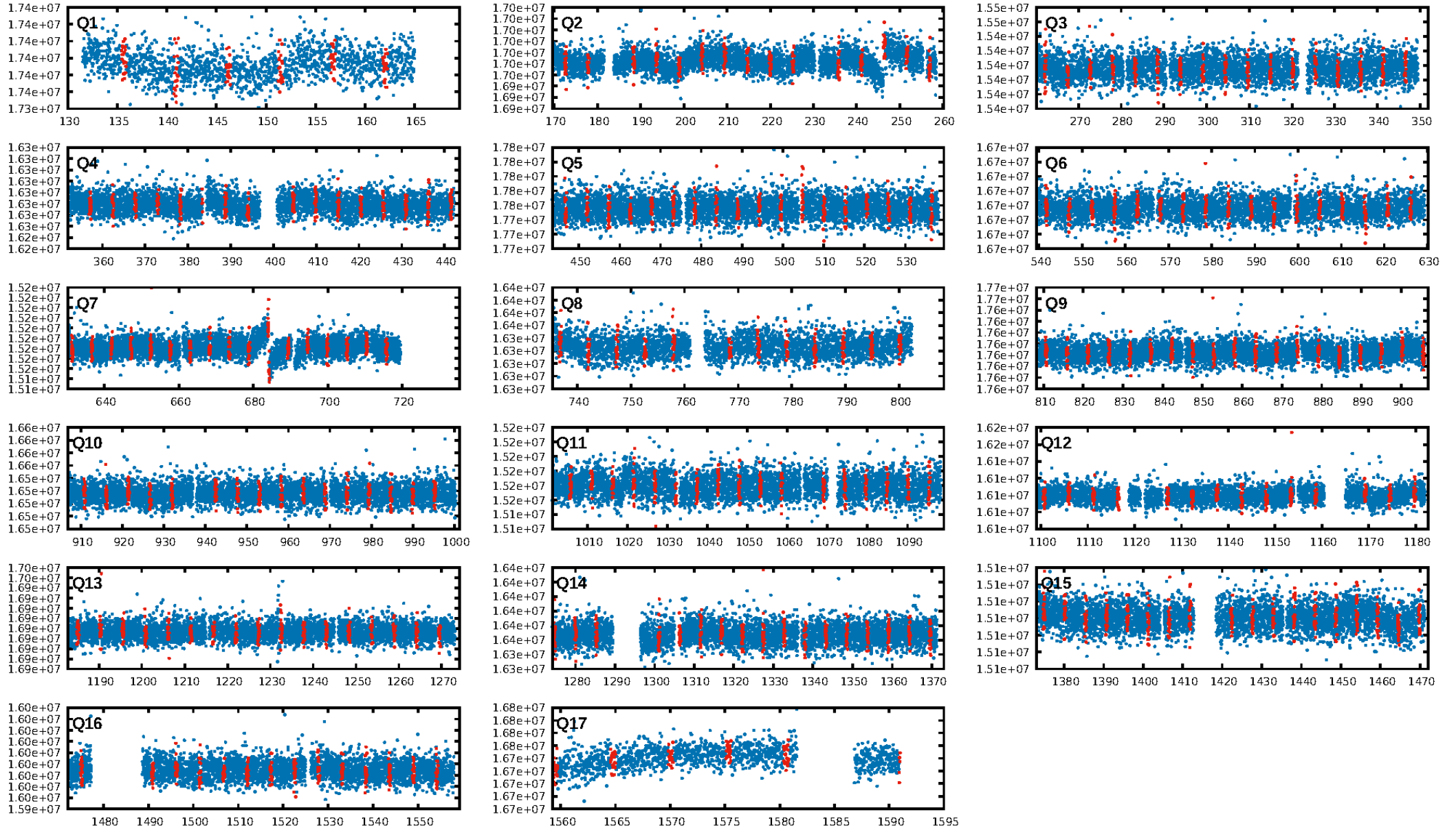
DV Fit Results:

Period = 5.27351 [0.00008] d
Epoch = 135.6574 [0.0109] BKJD
Rp/R* = 0.0091 [0.0077]
a/R* = 4.34 [16.40]
b = 0.82 [1.57]
Seff = 250.56 [105.22]
Teff = 1015 [107] K
Rp = 0.91 [0.82] Re
a = 0.0594 [0.0160] AU
Ag = 37.48 [69.01] [0.53 σ]
Teffp = 3881 [1749] K [1.64 σ]

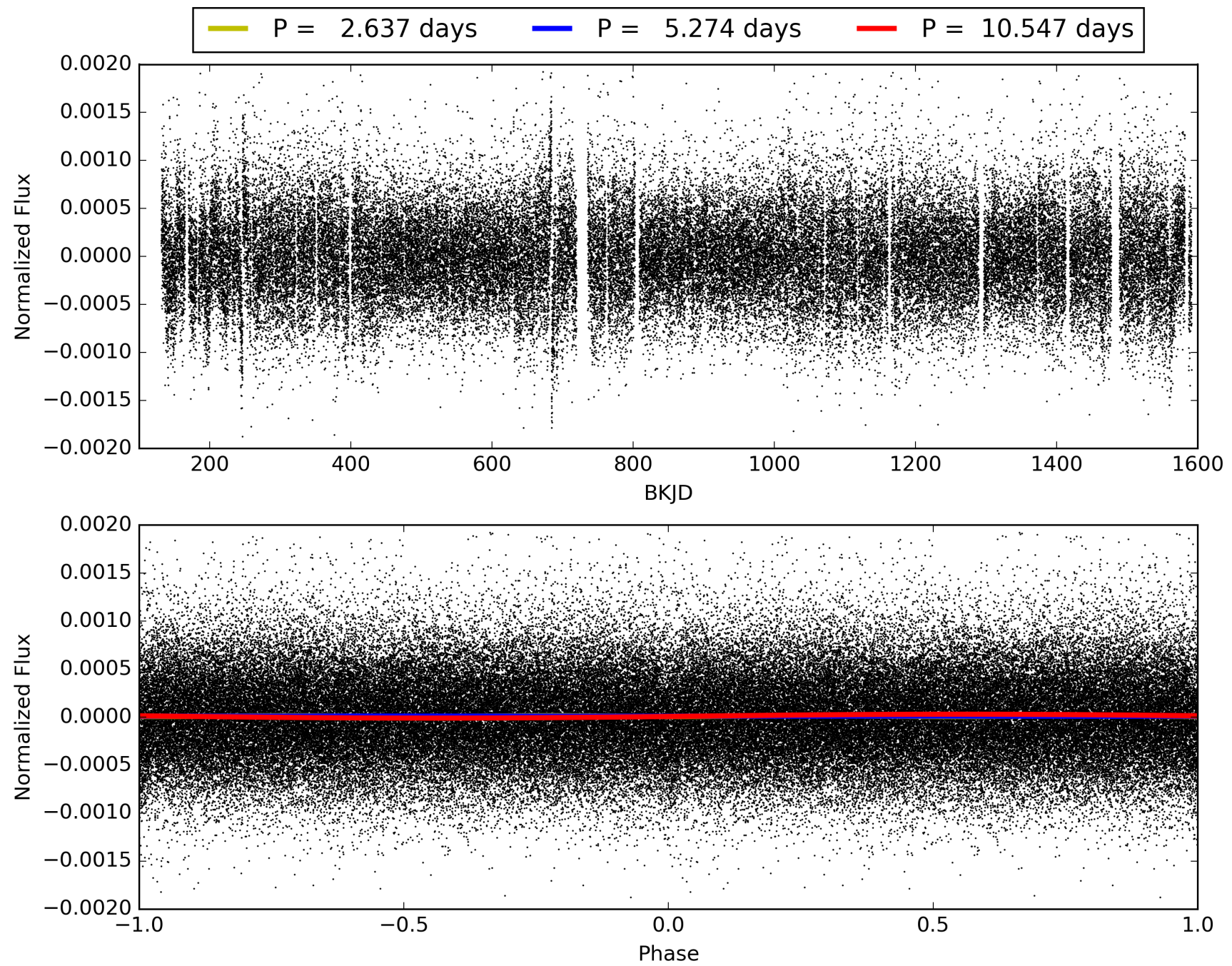
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.60e-13
RollingBand-fgt: 1.00 [243/243]
GhostDiagnostic-chr: 2.39
Centroid-sig: 22.3%
Centroid-so: 2.346 arcsec [1.25 σ]
OotOffset-rm: 0.465 arcsec [0.76 σ]
KicOffset-rm: 0.658 arcsec [1.16 σ]
OotOffset-st: 4/4/4/2 [14]
KicOffset-st: 4/4/4/2 [14]
DiffImageQuality-fgm: 0.21 [3/14]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 006220312-01, PDC Light Curves

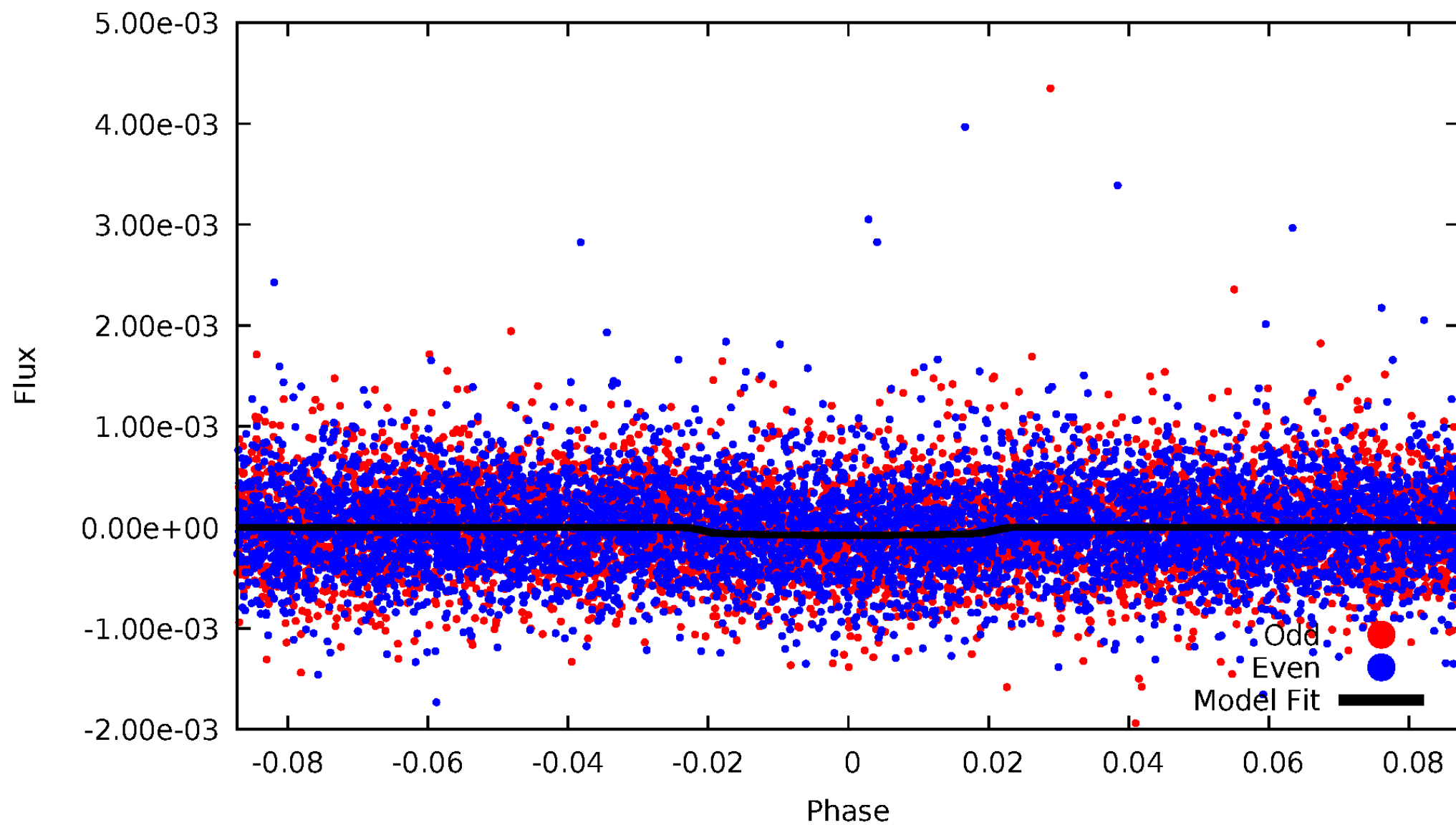


TCE 006220312-01



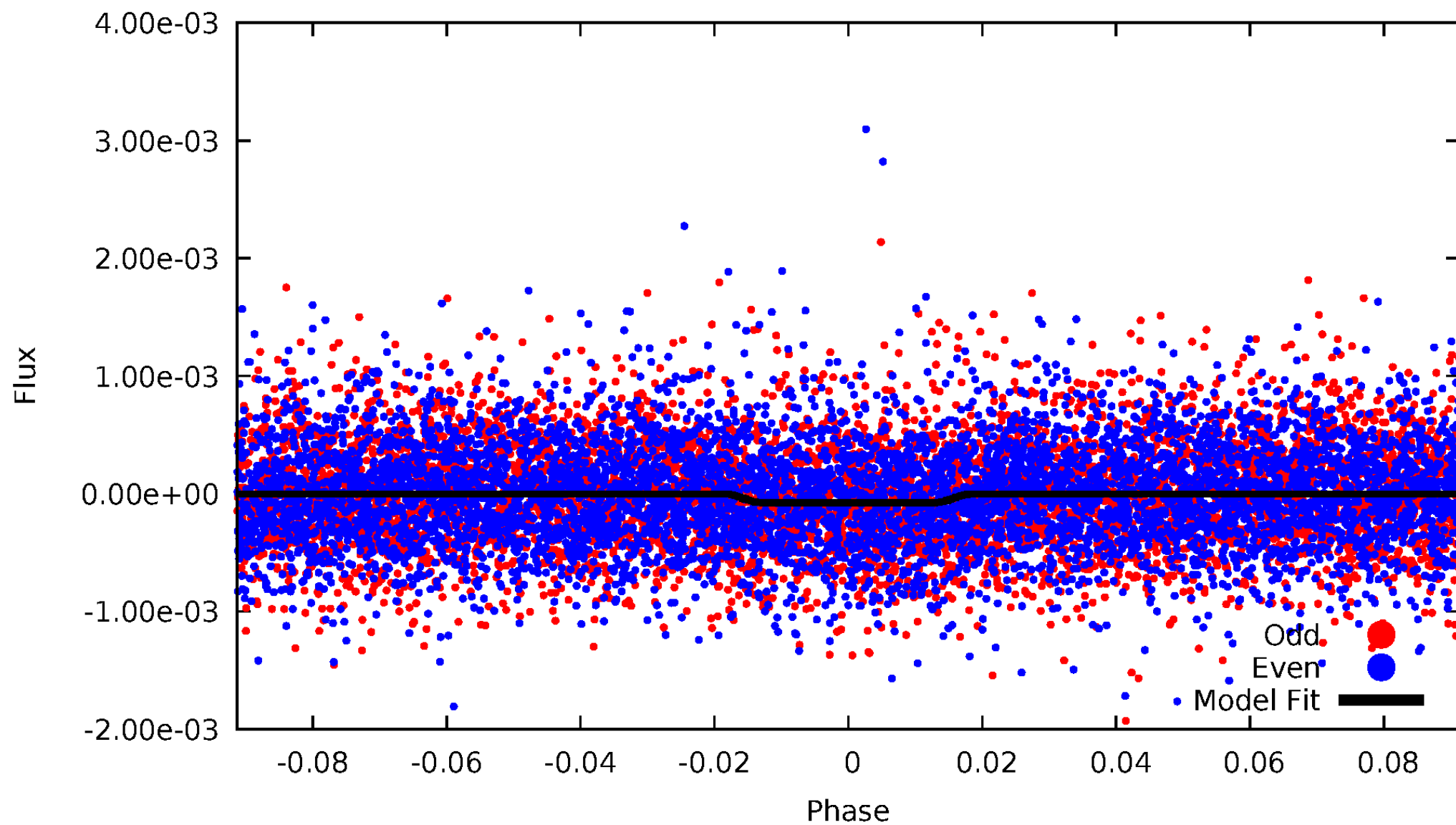
DV Odd/Even

TCE 006220312-01

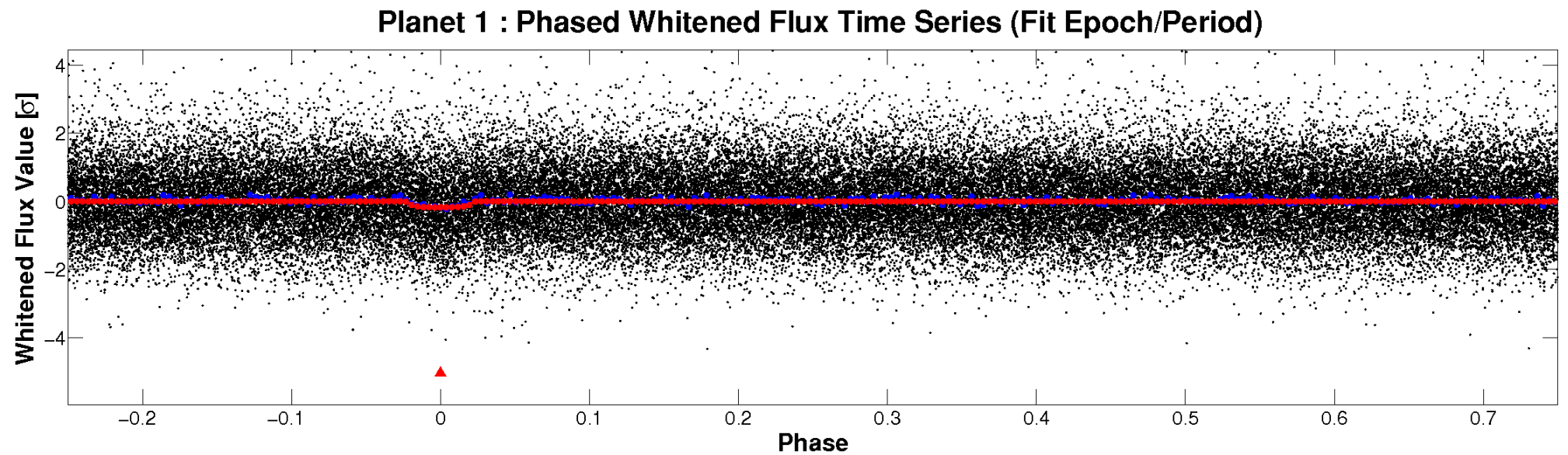
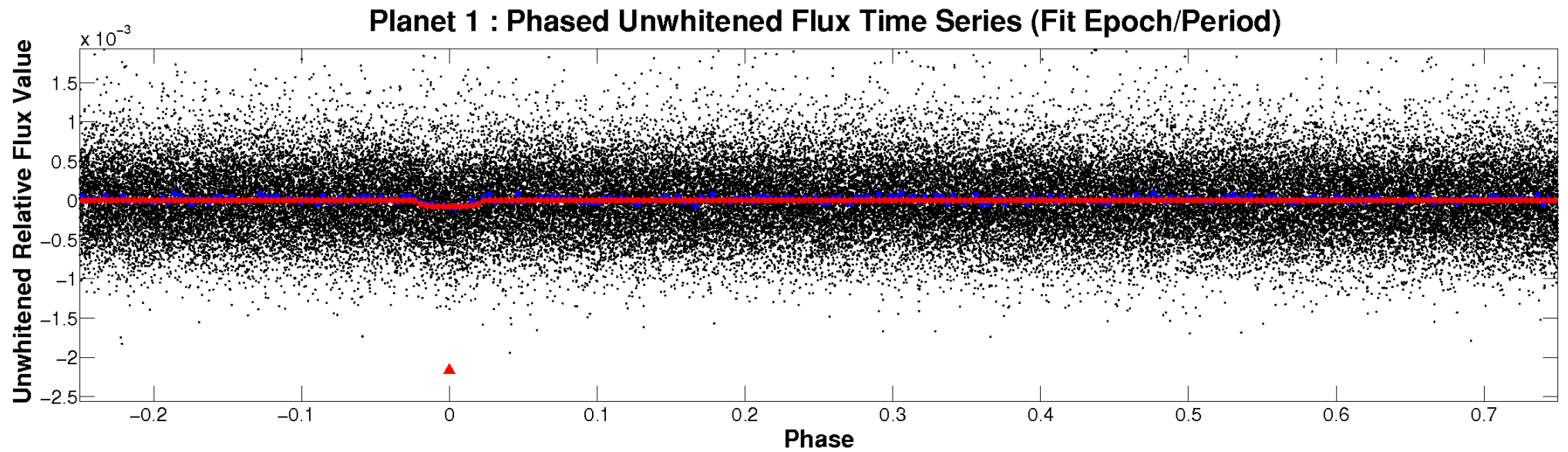


ALT Odd/Even

TCE 006220312-01

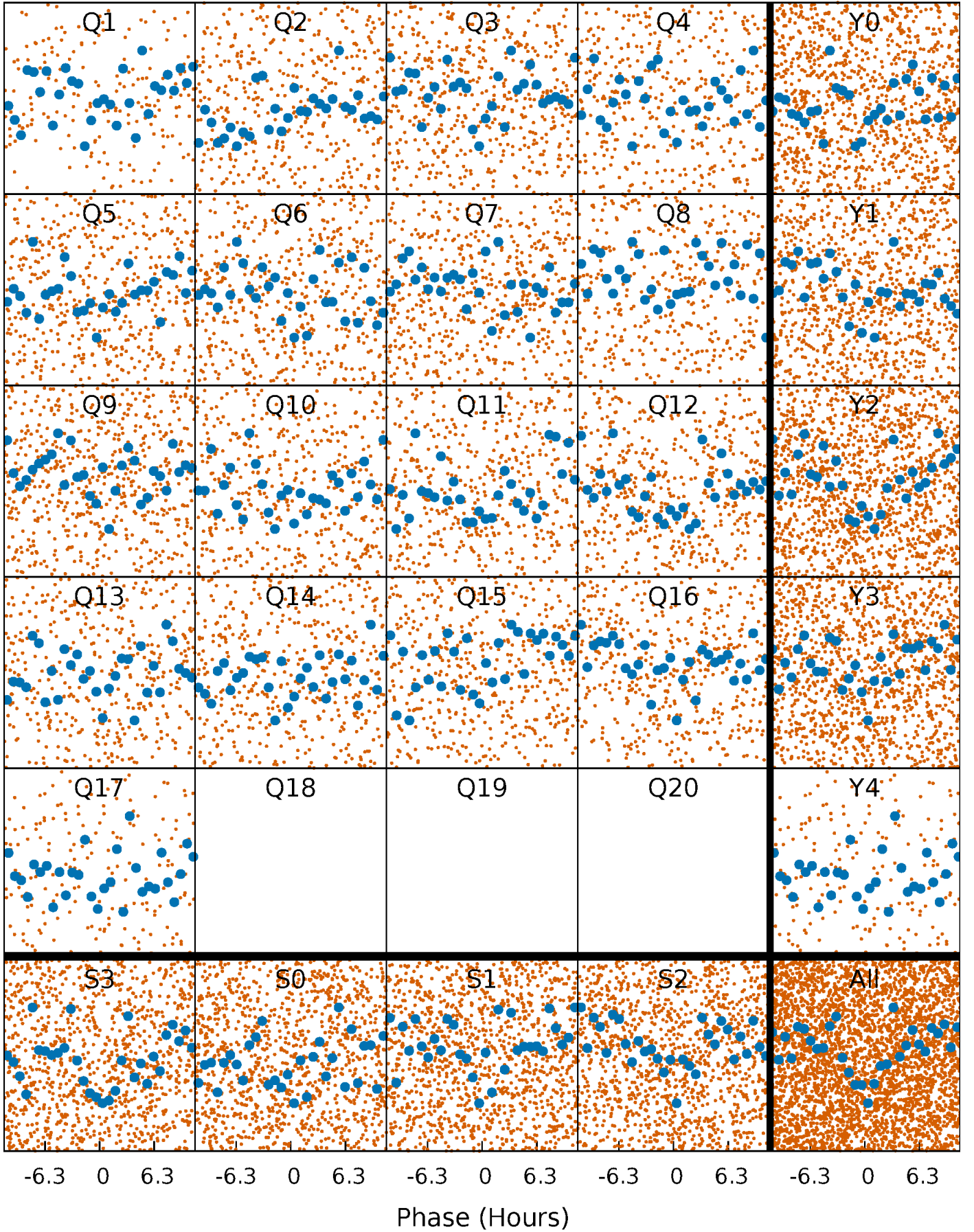


Non-Whitened Vs. Whitened Light Curve



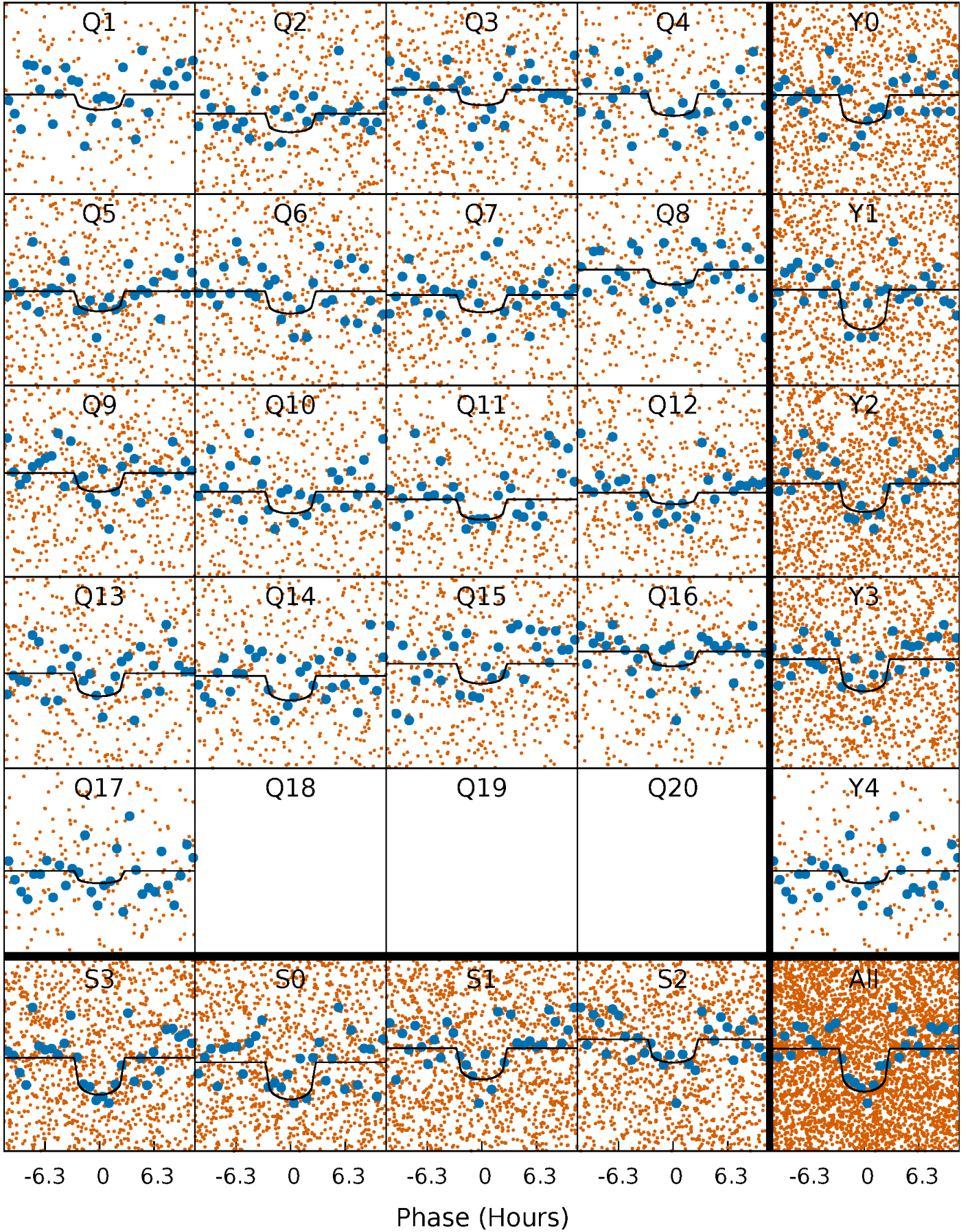
PDC Quarter-Phased Transit Curves

TCE 006220312-01 P= 5.273513 Days $T_0=135.657406$ (BKJD)



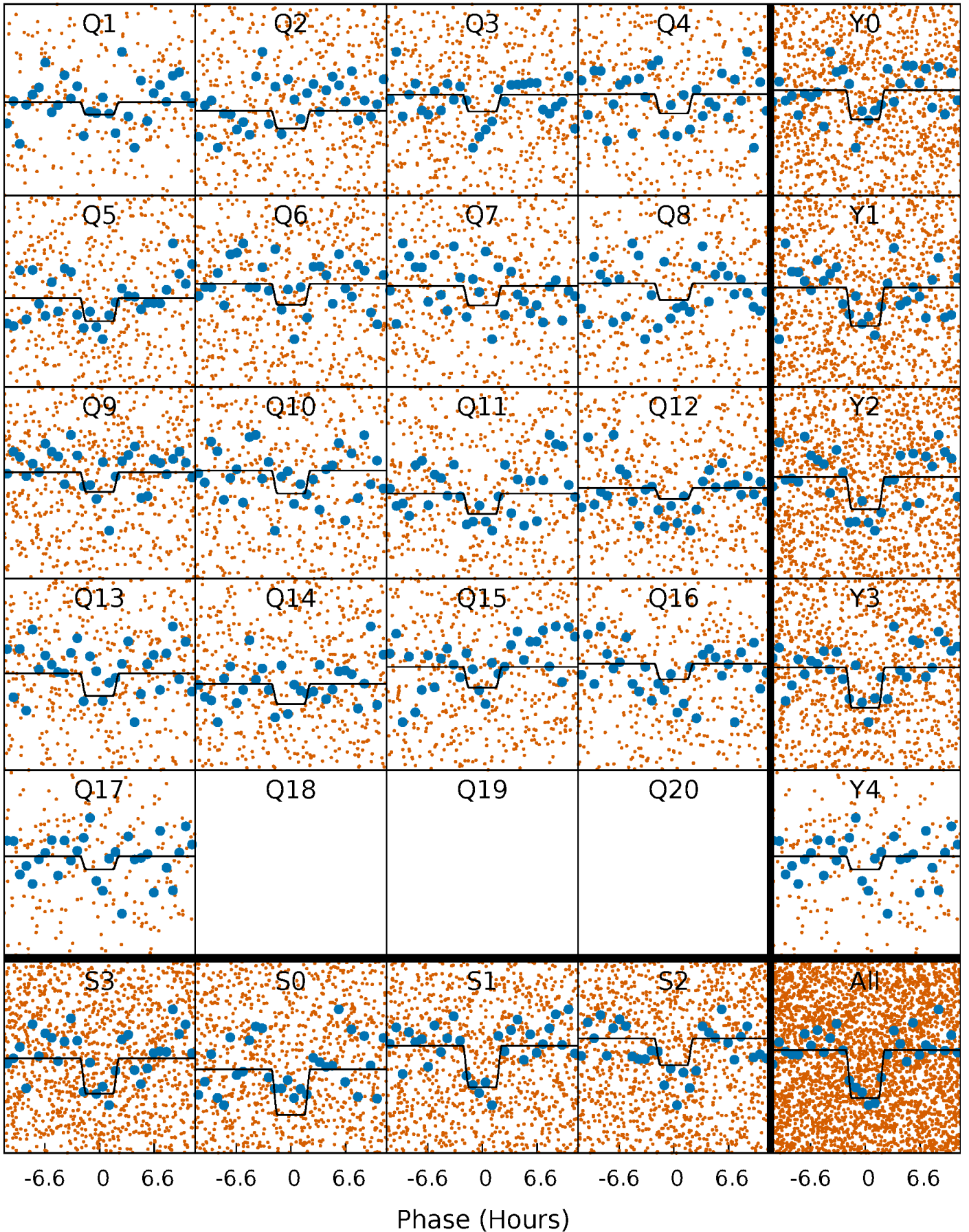
DV Quarter-Phased Transit Curves

TCE 006220312-01 P= 5.273513 Days $T_0=135.657406$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

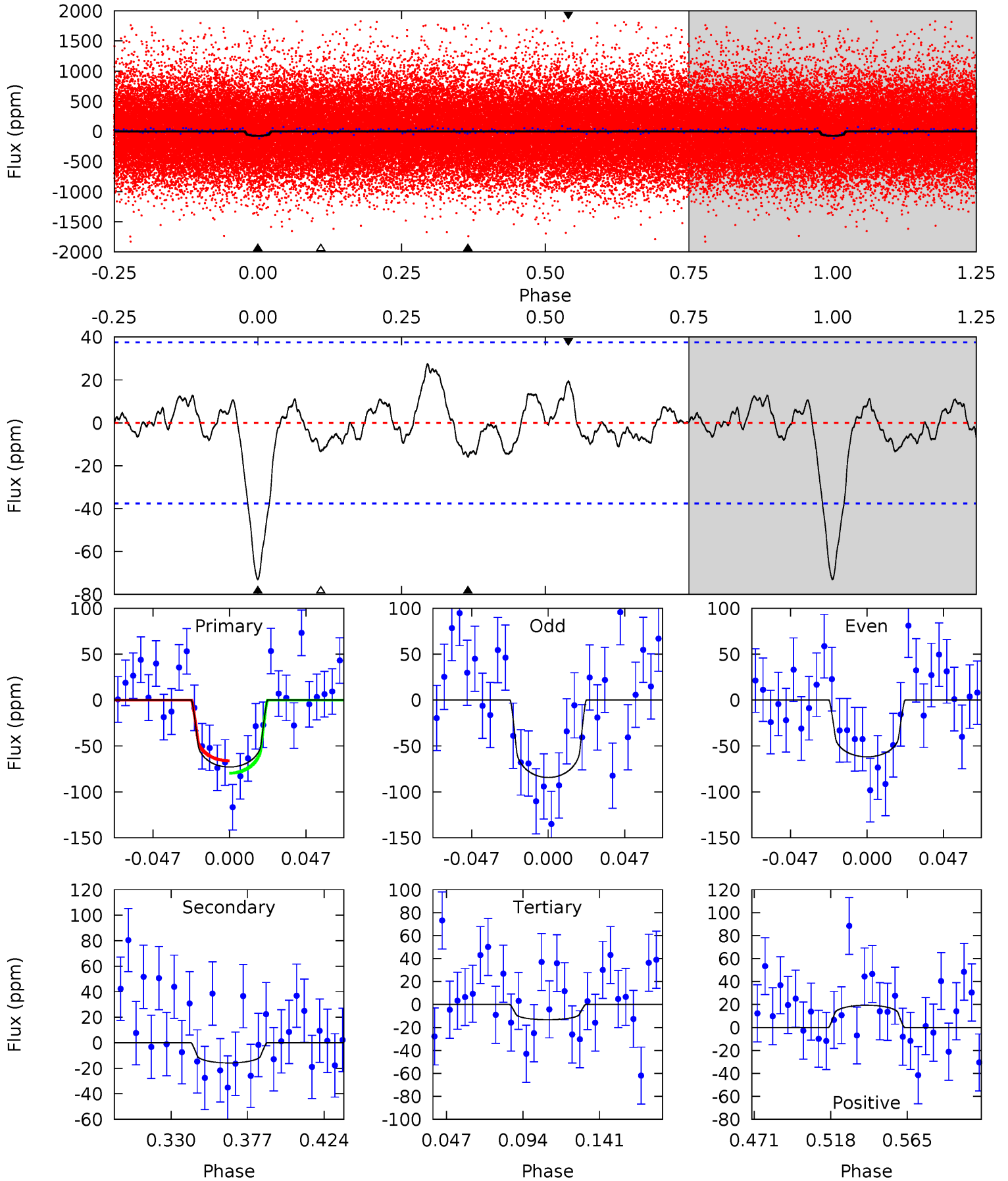
TCE 006220312-01 P= 5.273456 Days $T_0=135.664686$ (BKJD)



DV Model-Shift Uniqueness Test

006220312-01, P = 5.273513 Days, E = 130.383893 Days

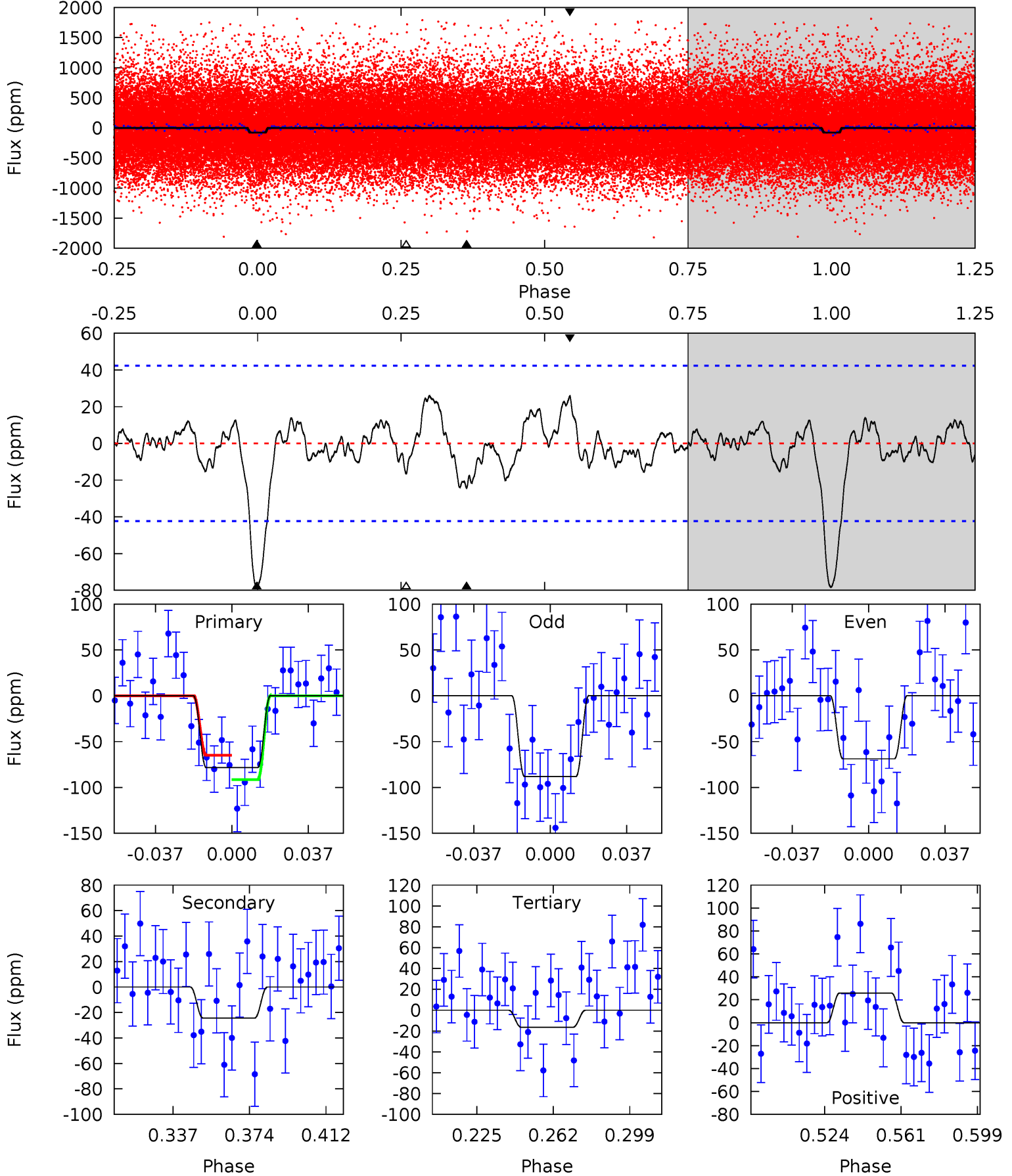
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.16	1.99	1.67	2.43	4.72	1.99	1.06	7.50	6.73	0.32	-0.44	1.41	0.88	0.27	0.85



Alt Model-Shift Uniqueness Test

006220312-01, P = 5.273456 Days, E = 130.391230 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.82	2.74	1.85	2.92	4.77	2.08	1.06	6.98	5.90	0.89	-0.18	1.09	0.87	0.25	1.51



Stellar Parameters For KIC 006220312

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5851^{+157}_{-192}	$4.515^{+0.039}_{-0.221}$	$-0.040^{+0.250}_{-0.300}$	$0.918^{+0.289}_{-0.096}$	$1.007^{+0.113}_{-0.126}$	$1.832^{+0.389}_{-0.982}$
	+3%/-3%	+1%/-5%	+625%/-750%	+31%/-10%	+11%/-13%	+21%/-54%
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 006220312-01 / KOI 4793.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-16 ± 8	$1.09^{+0.77}_{-0.64}$	1453^{+107}_{-68}	3887^{+1792}_{-749}	23^{+125}_{-17}
Alt.	-24 ± 9	$1.03^{+0.80}_{-0.59}$	1457^{+98}_{-66}	4321^{+1978}_{-812}	40^{+182}_{-28}

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

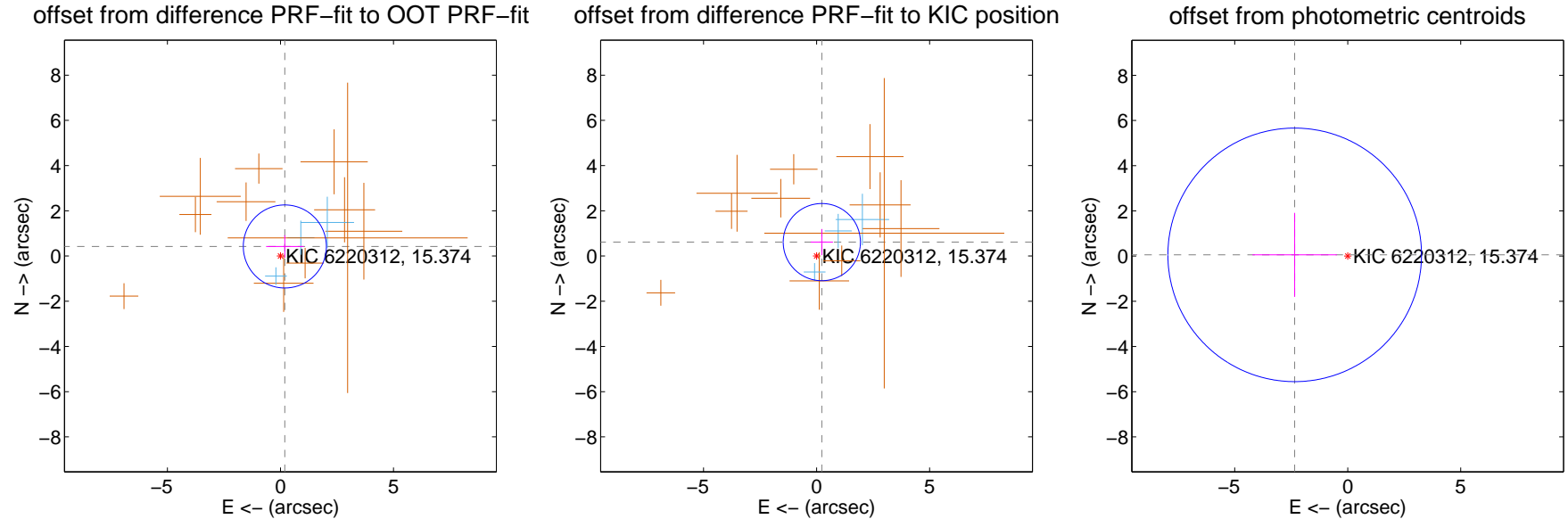
DV Centroid Data

Supplemental centroid analysis for 006220312-01. Kepler magnitude: 15.37. Transit SNR 8.03

There are 3 quarters with good PRF difference image offsets

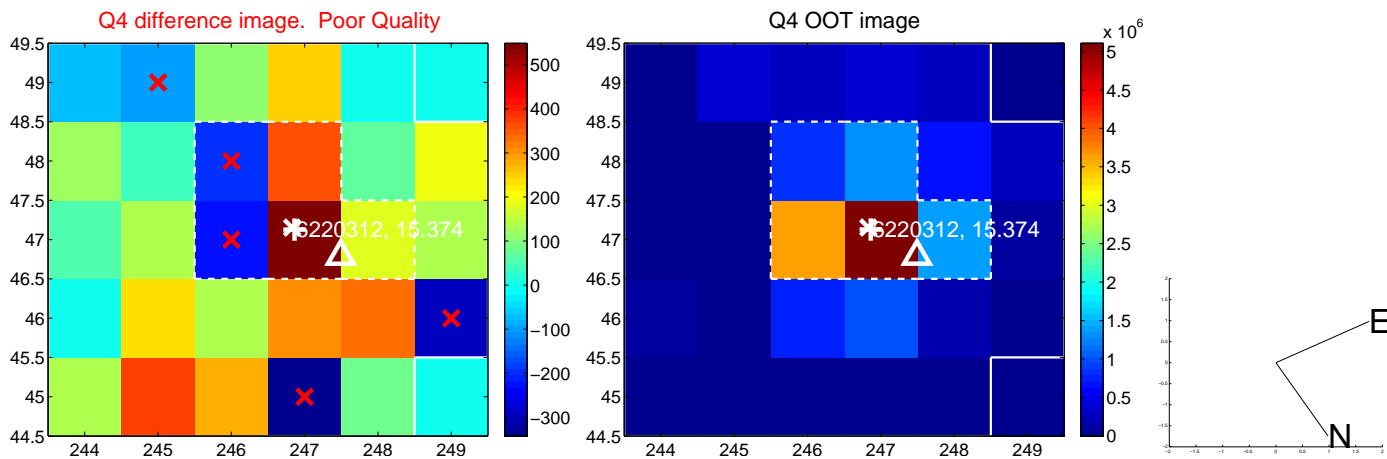
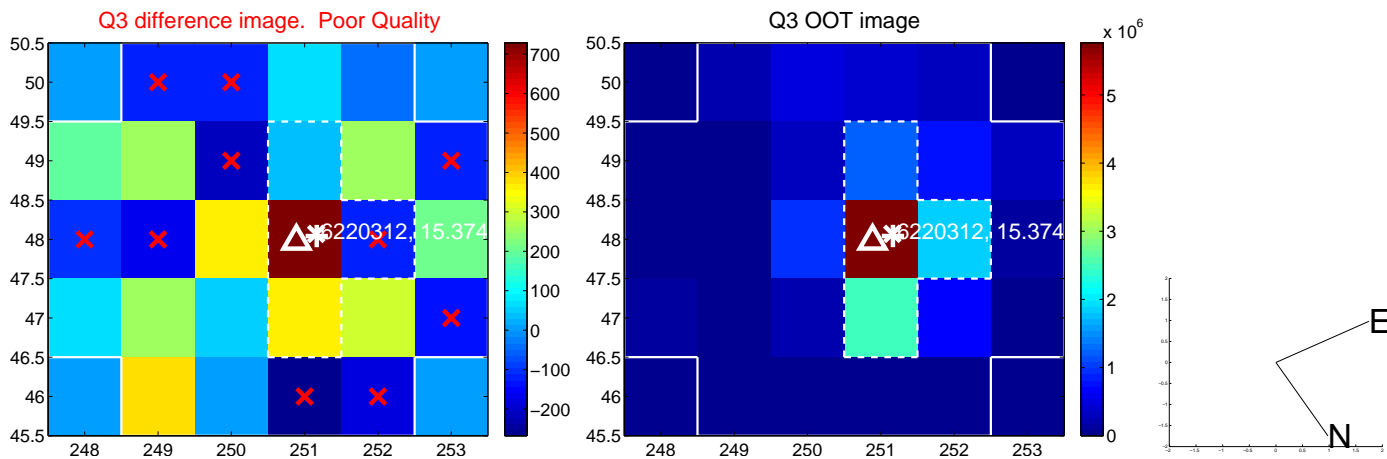
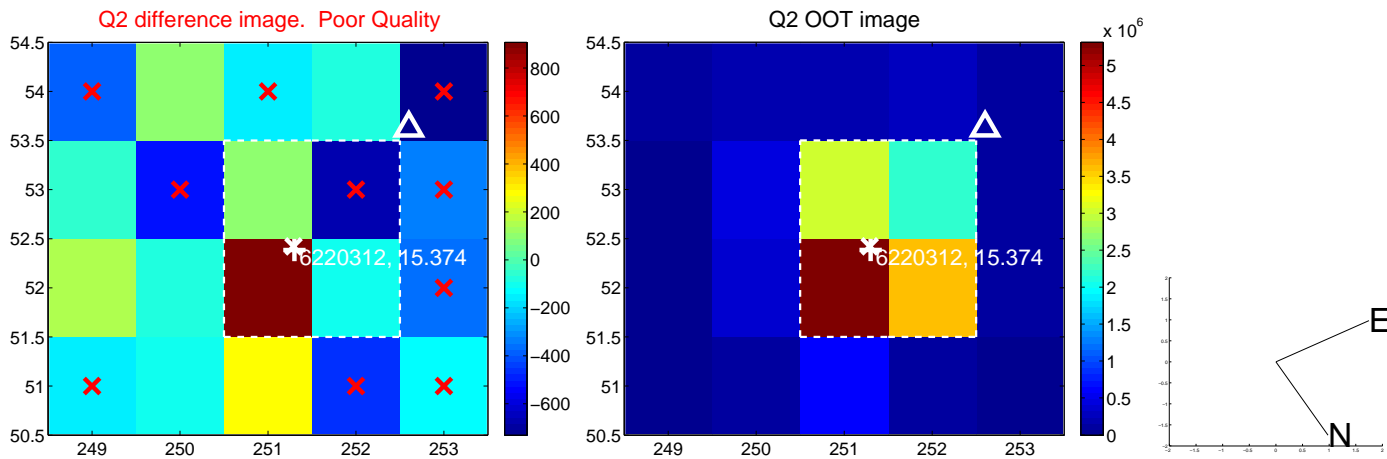
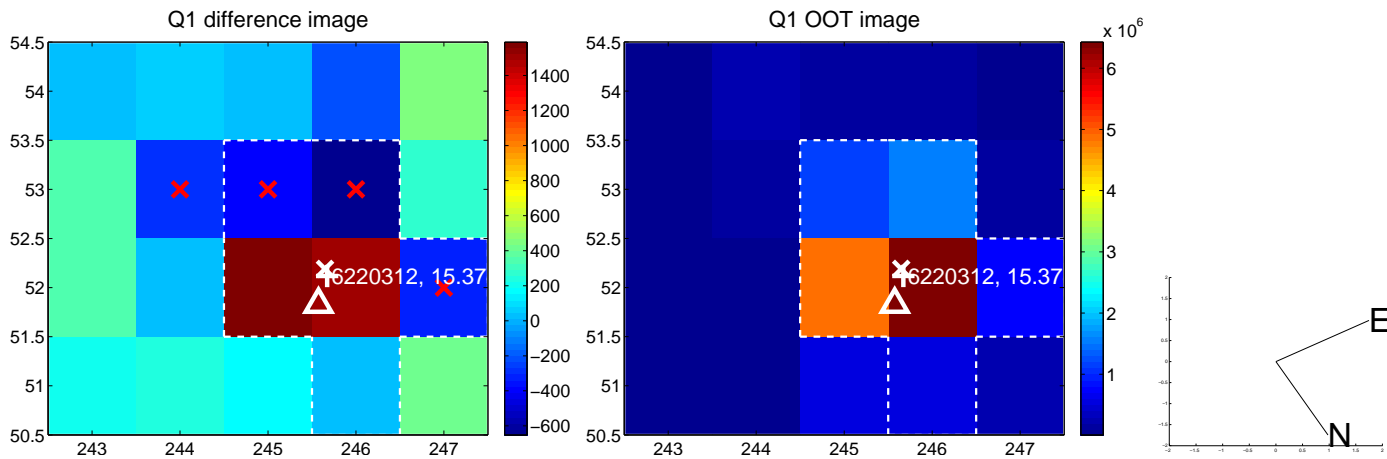
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.465 ± 0.612	0.76	-0.193 ± 0.828	0.423 ± 0.497
PRF-fit source offset from KIC position	0.658 ± 0.569	1.16	-0.232 ± 0.491	0.616 ± 0.579
photometric centroid source offset	2.35 ± 1.87	1.25	2.35 ± 1.87	0.05 ± 1.86

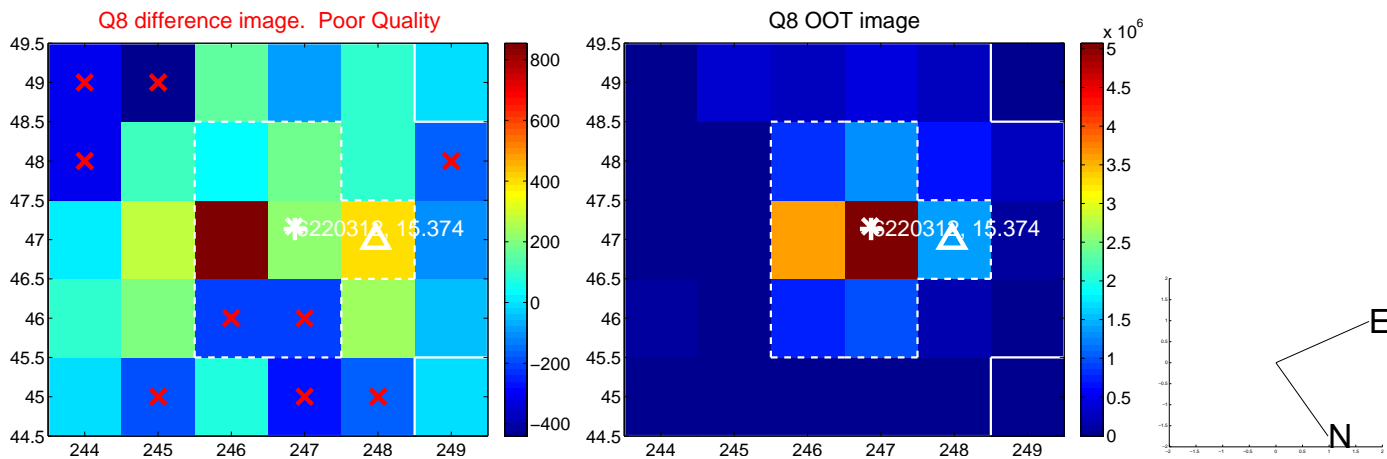
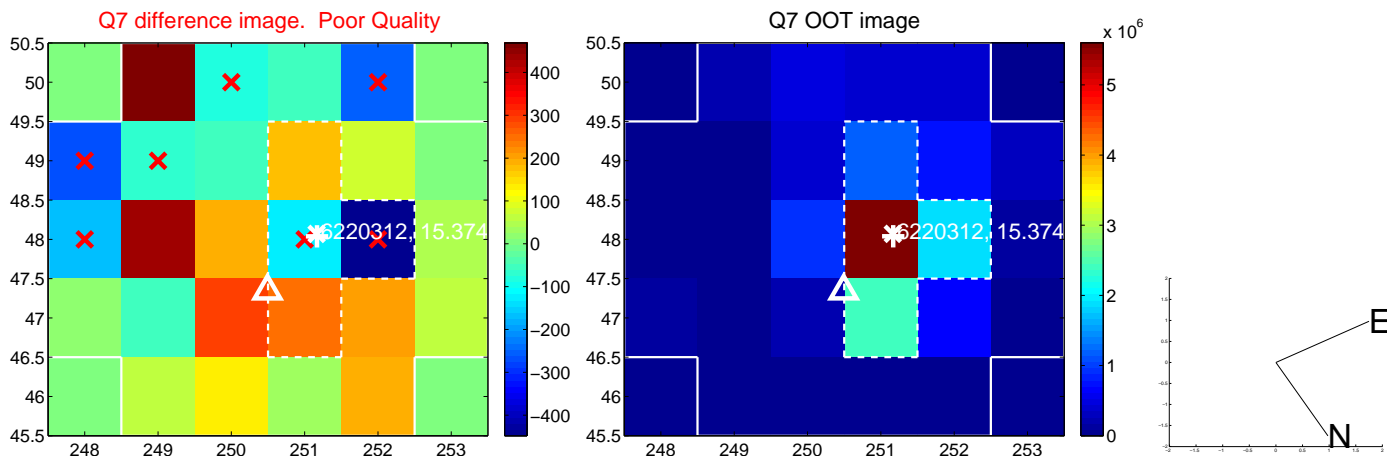
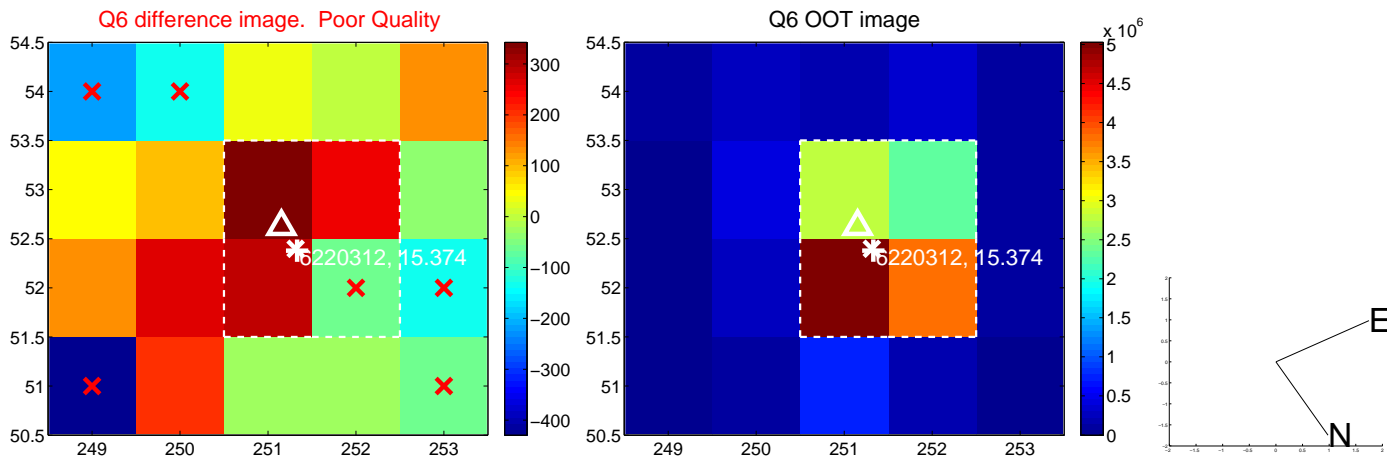
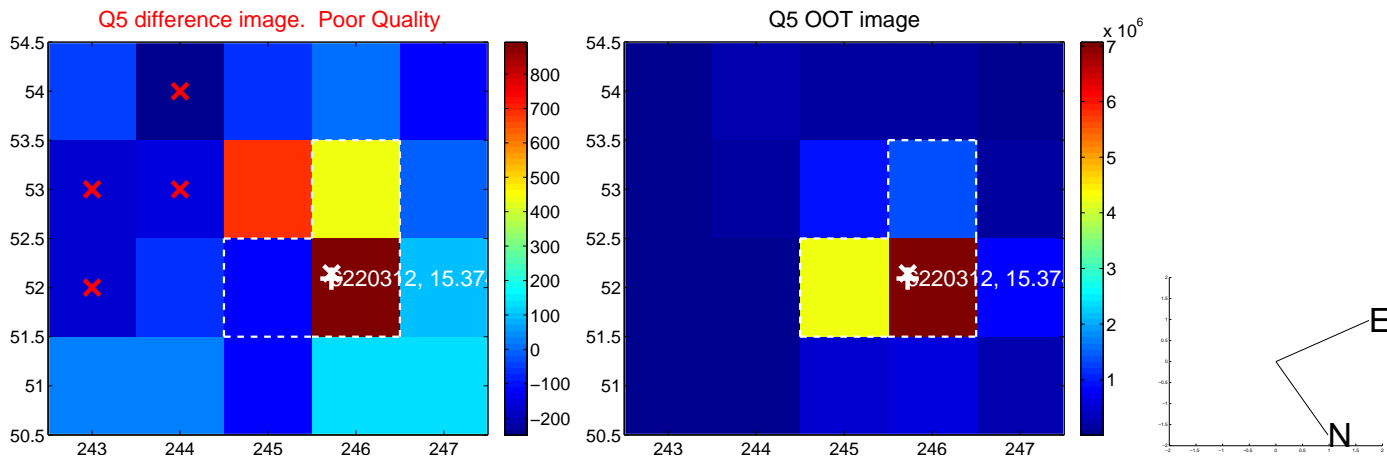


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

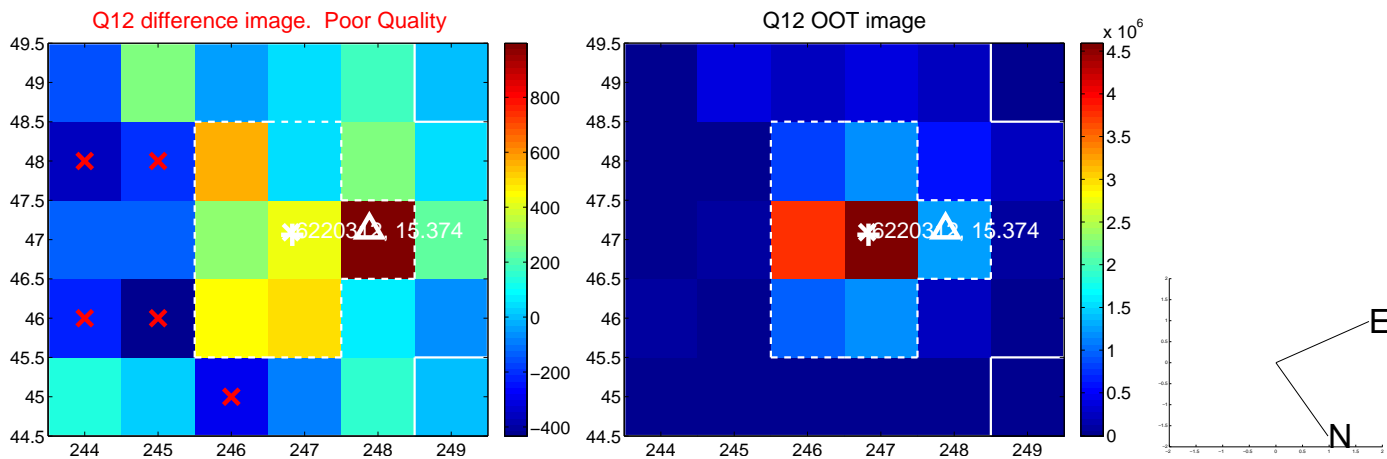
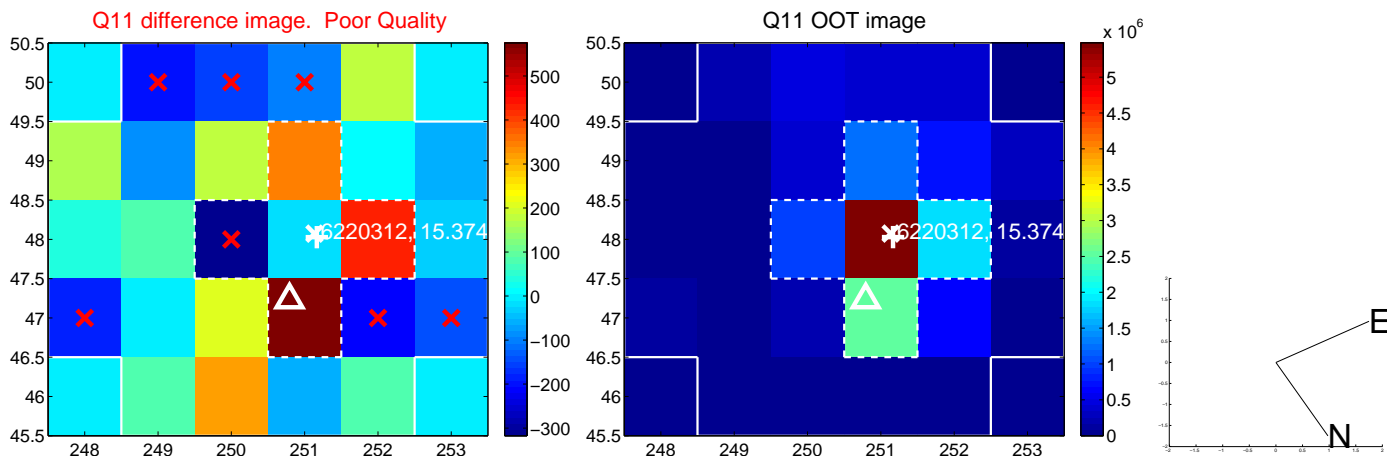
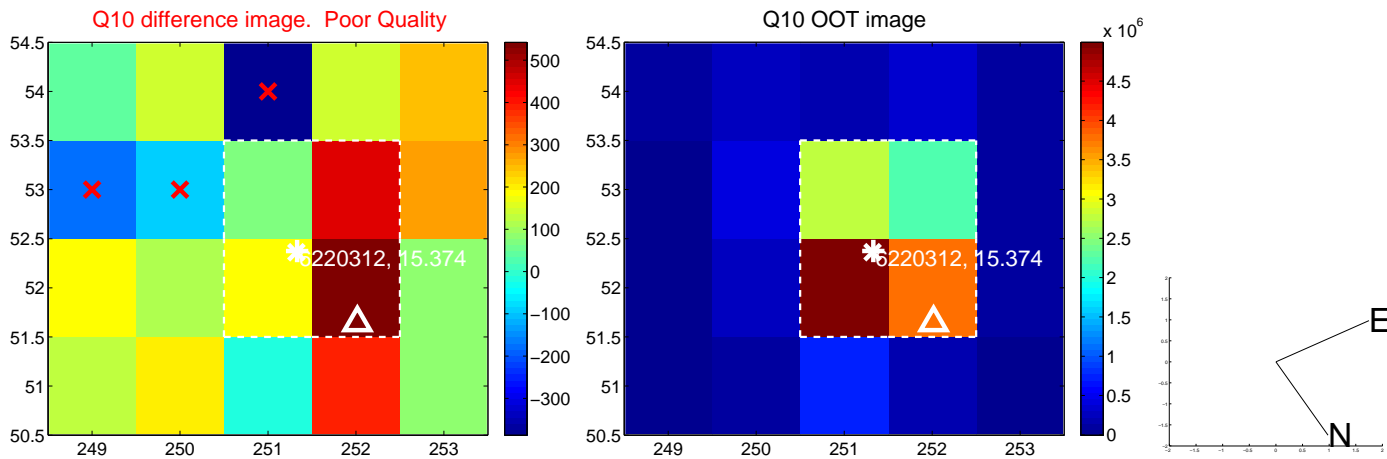
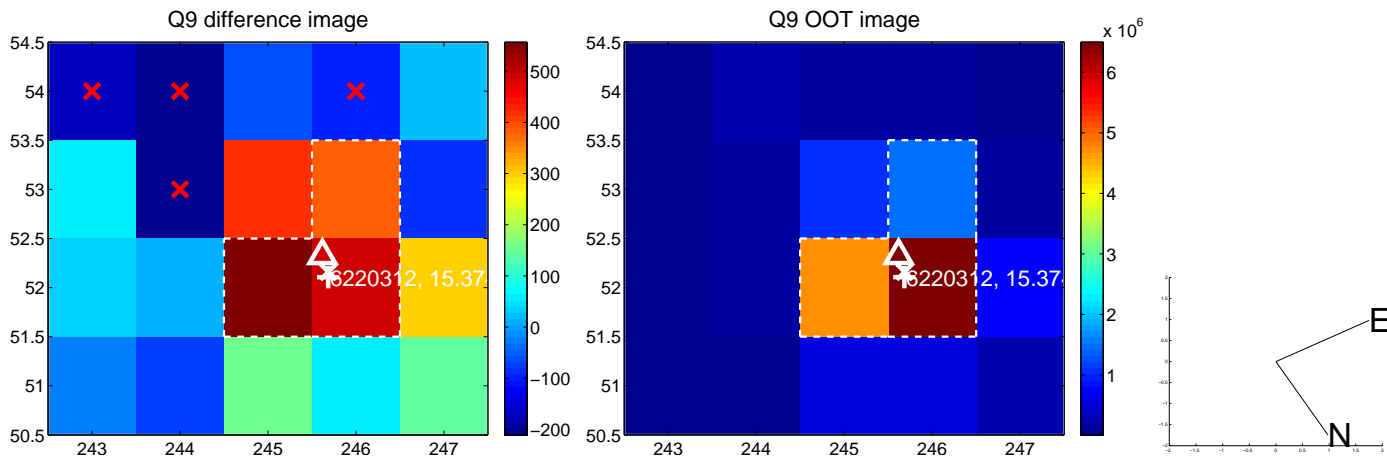
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



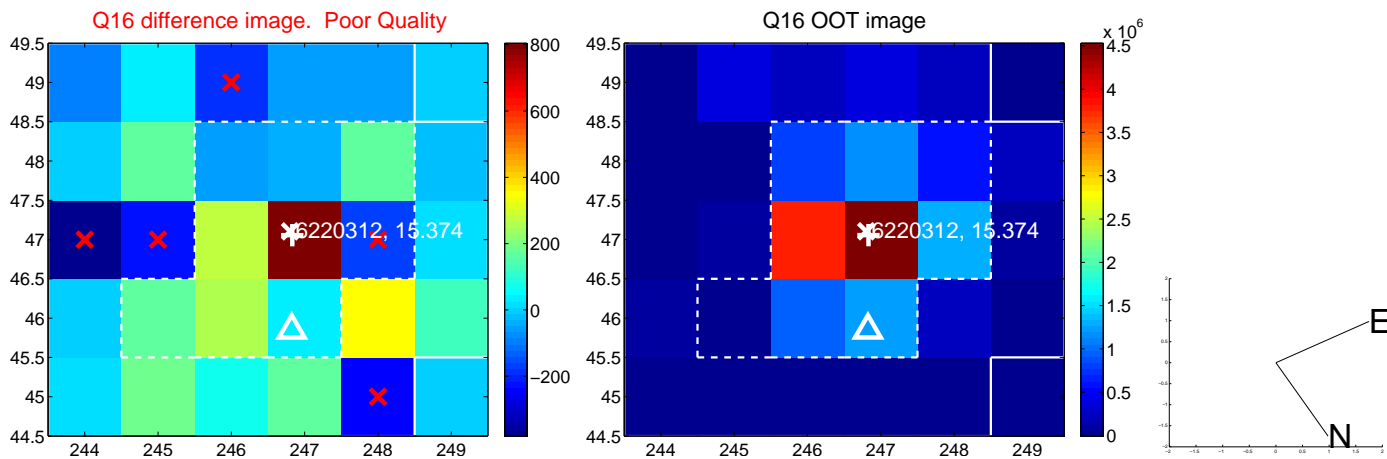
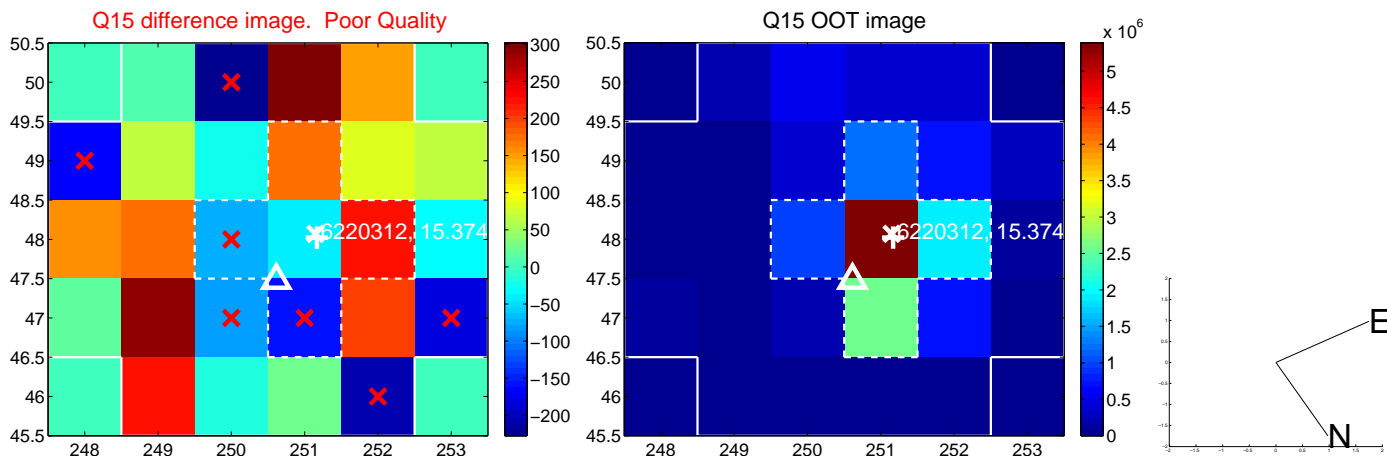
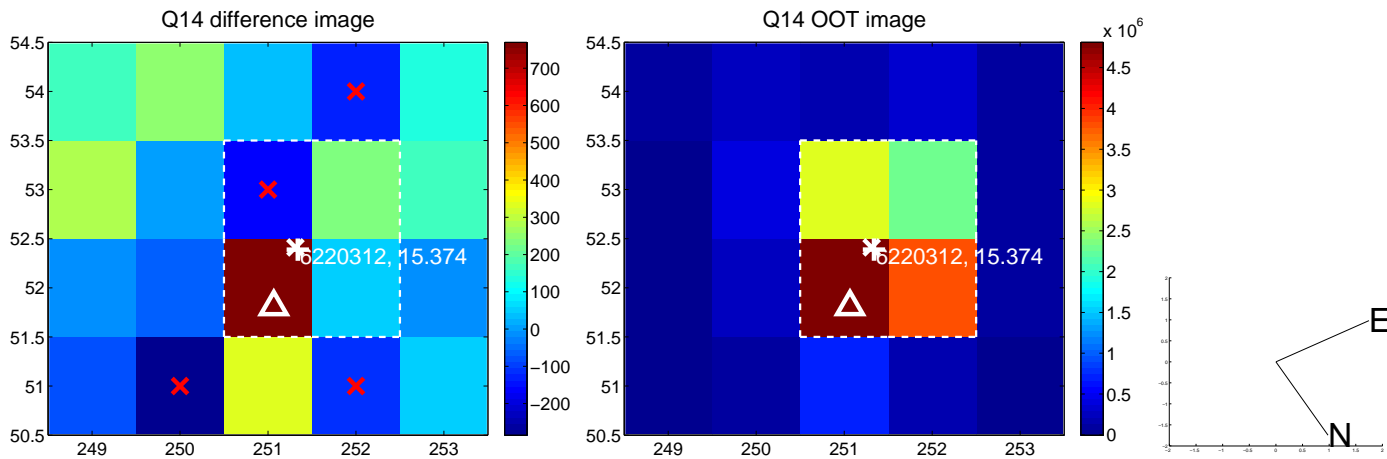
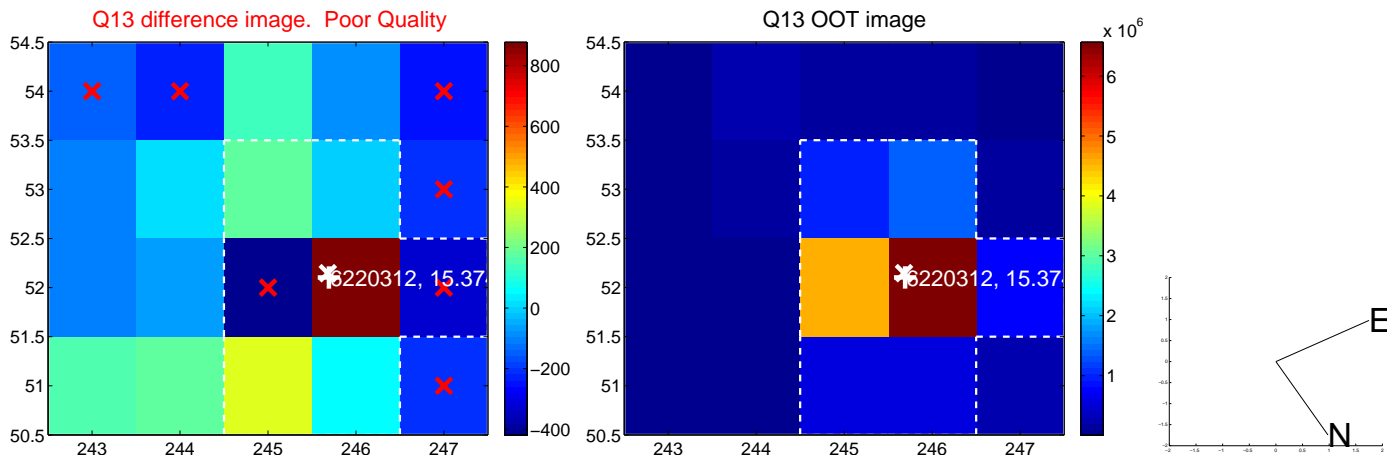
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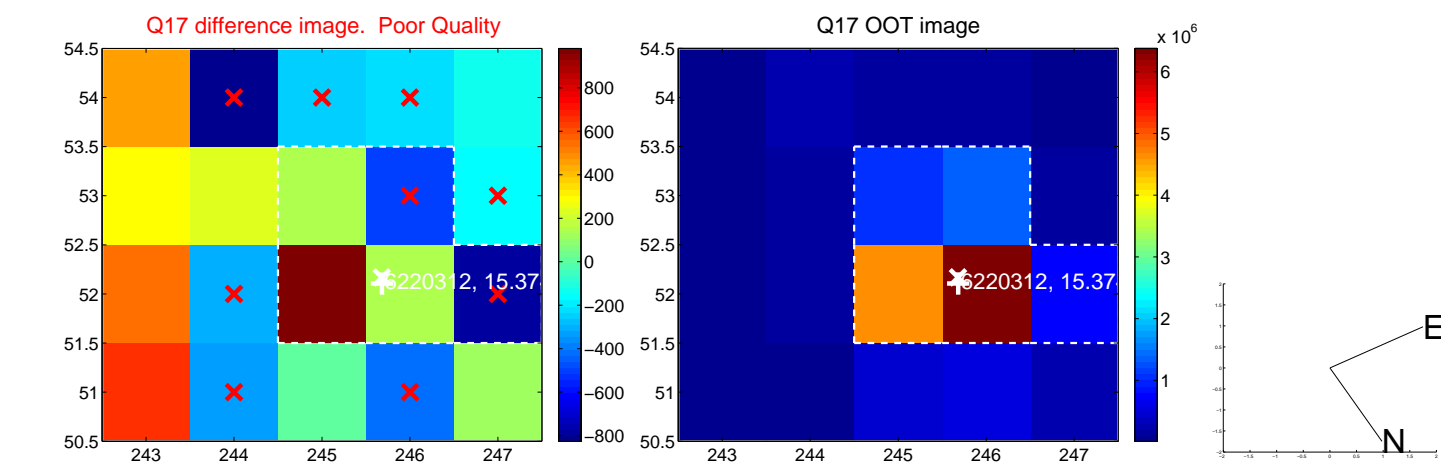
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



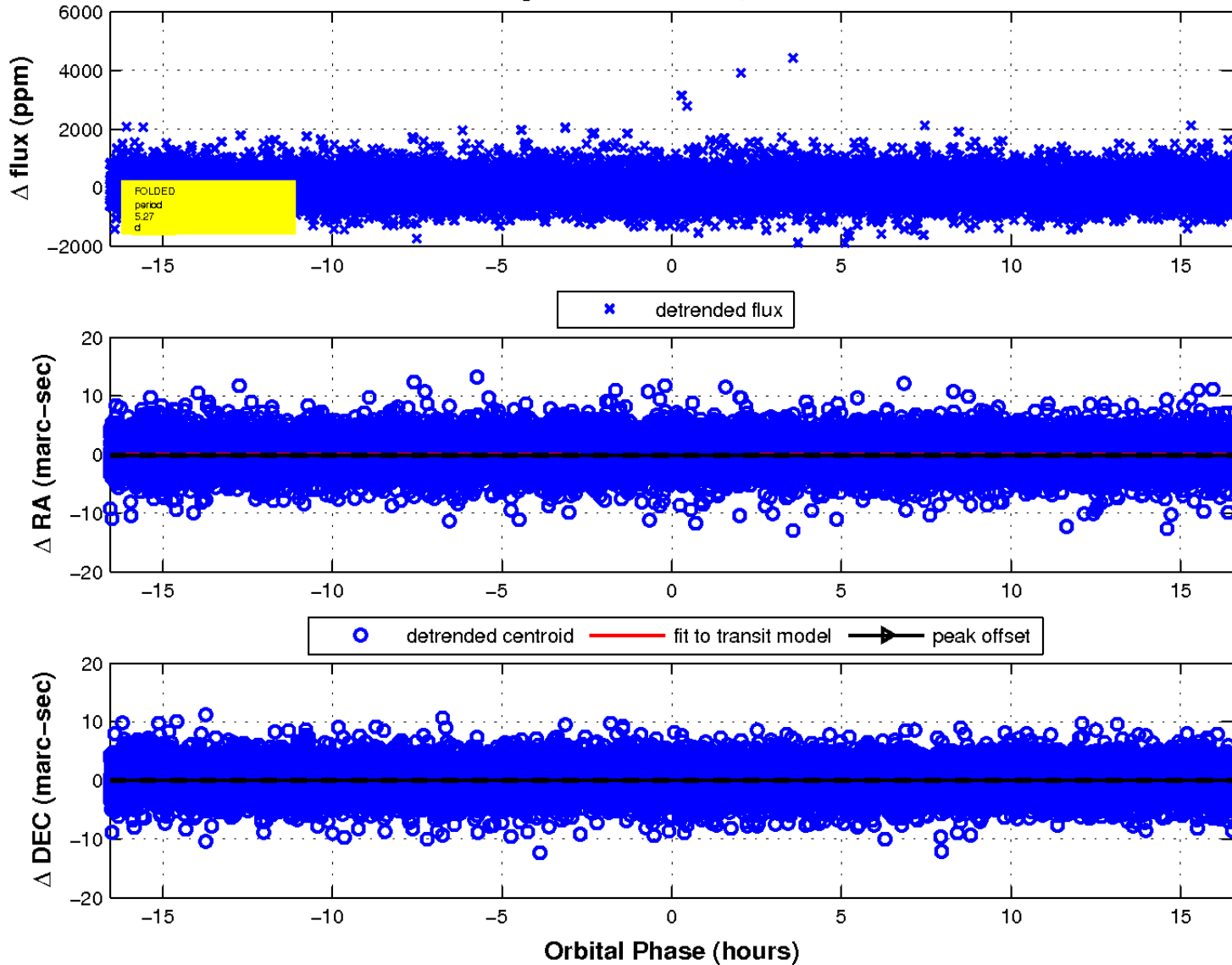
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

