

KIC 005733154

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})
005733154-01	OBS	No	0.537887	131.918396	17.8	3.392	12.4	9.4	1.74	7158	0.79	36086.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005733154-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

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

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

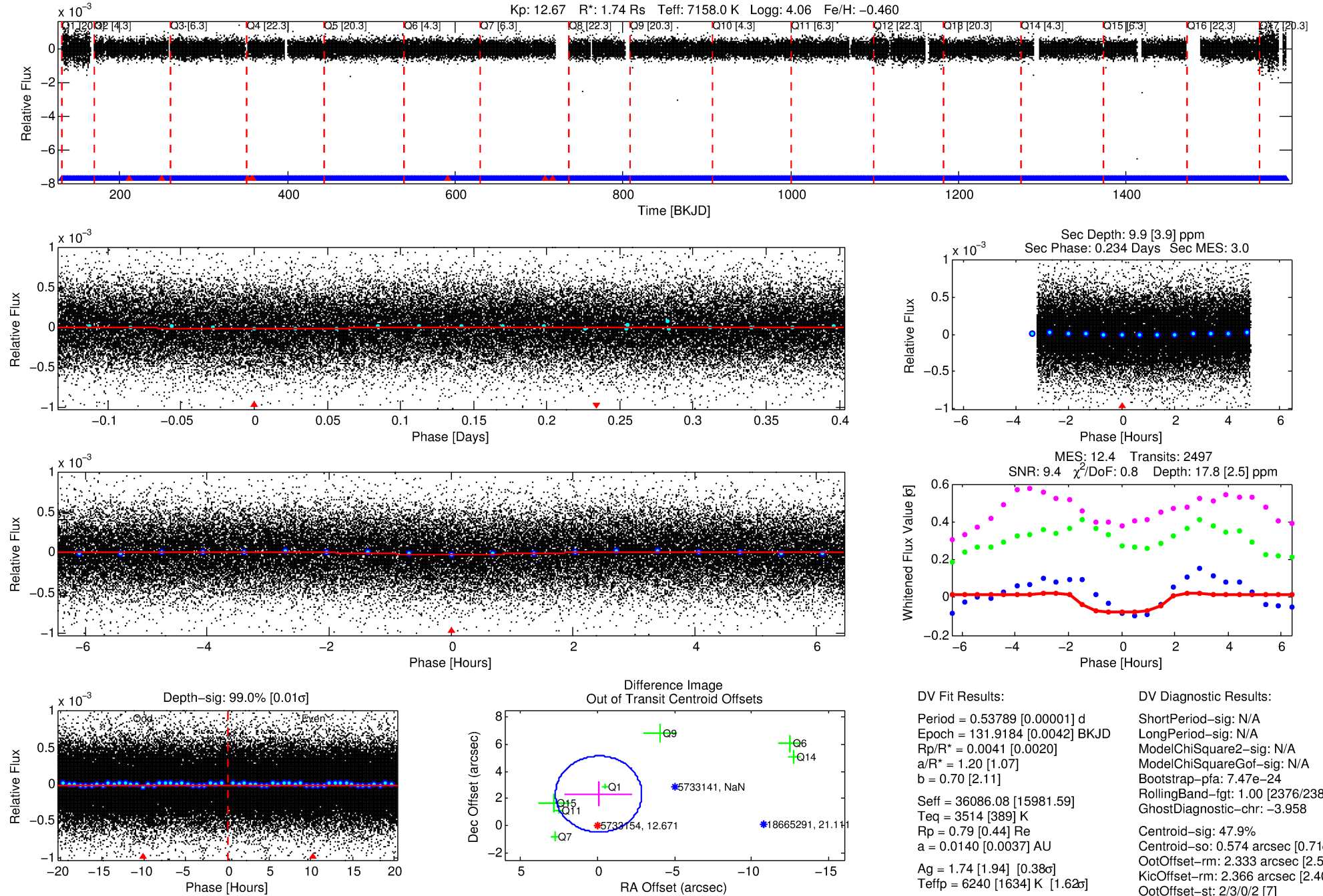
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005733154-01

No Significant Match Found

DV One-Page Summary

KIC: 5733154 Candidate: 1 of 1 Period: 0.538 d



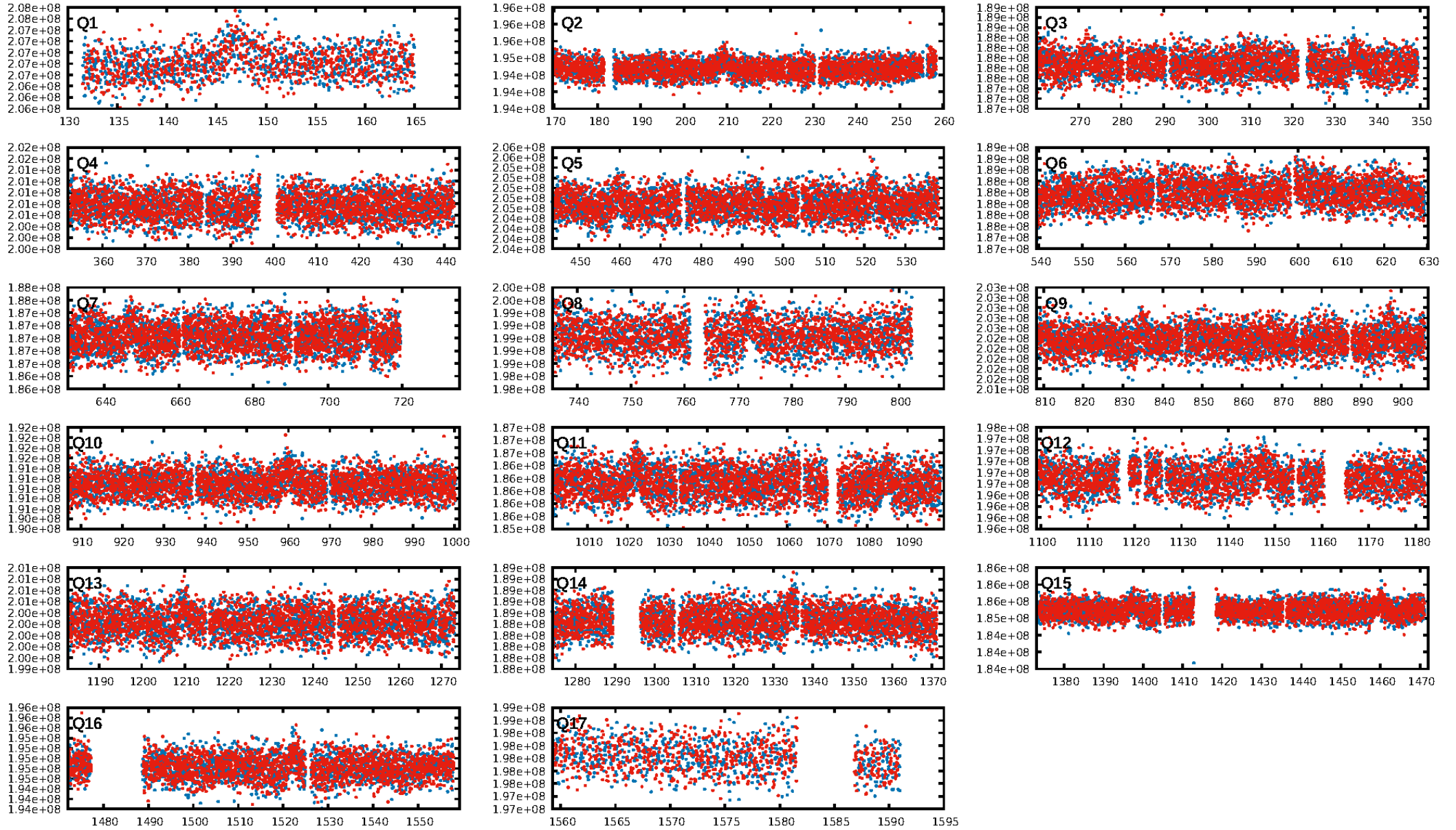
DV Fit Results:

Period = 0.53789 [0.00001] d
Epoch = 131.9184 [0.0042] BKJD
Rp/R* = 0.0041 [0.0020]
a/R* = 1.20 [1.07]
b = 0.70 [2.11]
Seff = 36086.08 [15981.59]
Teff = 3514 [389] K
Rp = 0.79 [0.44] Re
a = 0.0140 [0.0037] AU
Ag = 1.74 [1.94] [0.38 σ]
Teffp = 6240 [1634] K [1.62 σ]

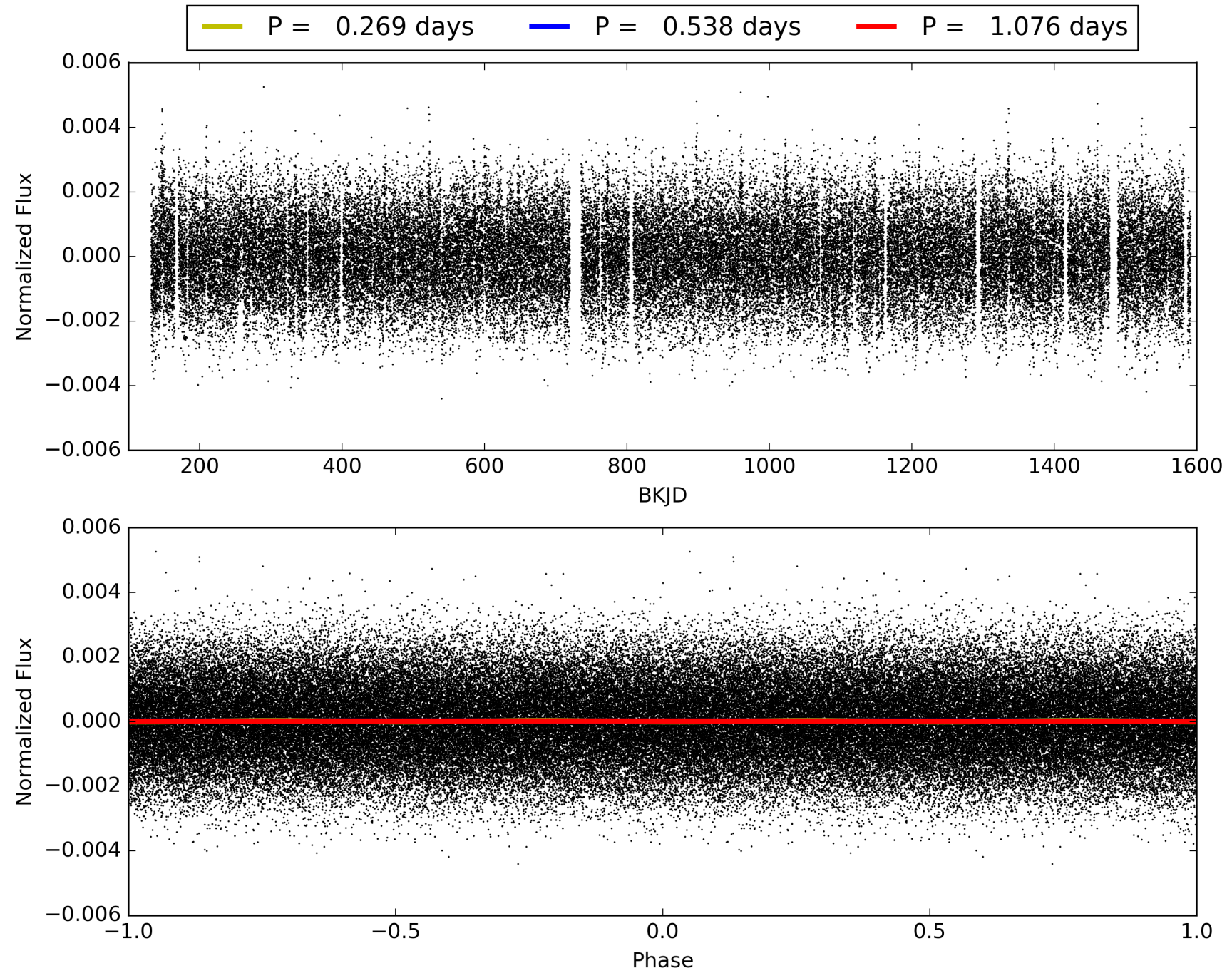
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.47e-24
RollingBand-fgt: 1.00 [2376/2385]
GhostDiagnostic-chr: -3.958
Centroid-sig: 47.9%
Centroid-so: 0.574 arcsec [0.71 σ]
OotOffset-rm: 2.333 arcsec [2.50 σ]
KicOffset-rm: 2.366 arcsec [2.40 σ]
OotOffset-st: 2/3/0/2 [7]
KicOffset-st: 2/3/0/2 [7]
DiffImageQuality-fgm: 0.29 [2/7]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005733154-01, PDC Light Curves

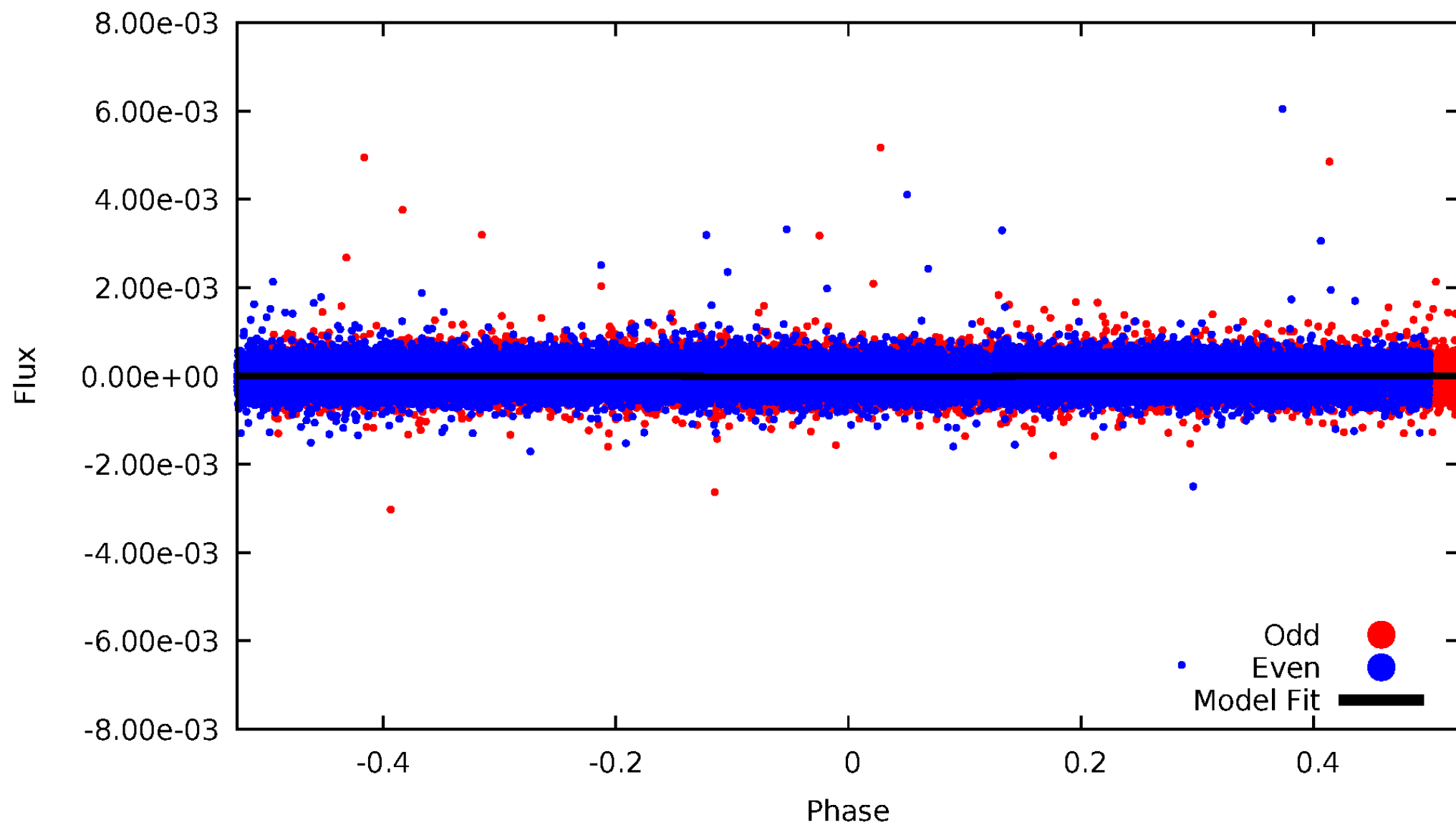


TCE 005733154-01



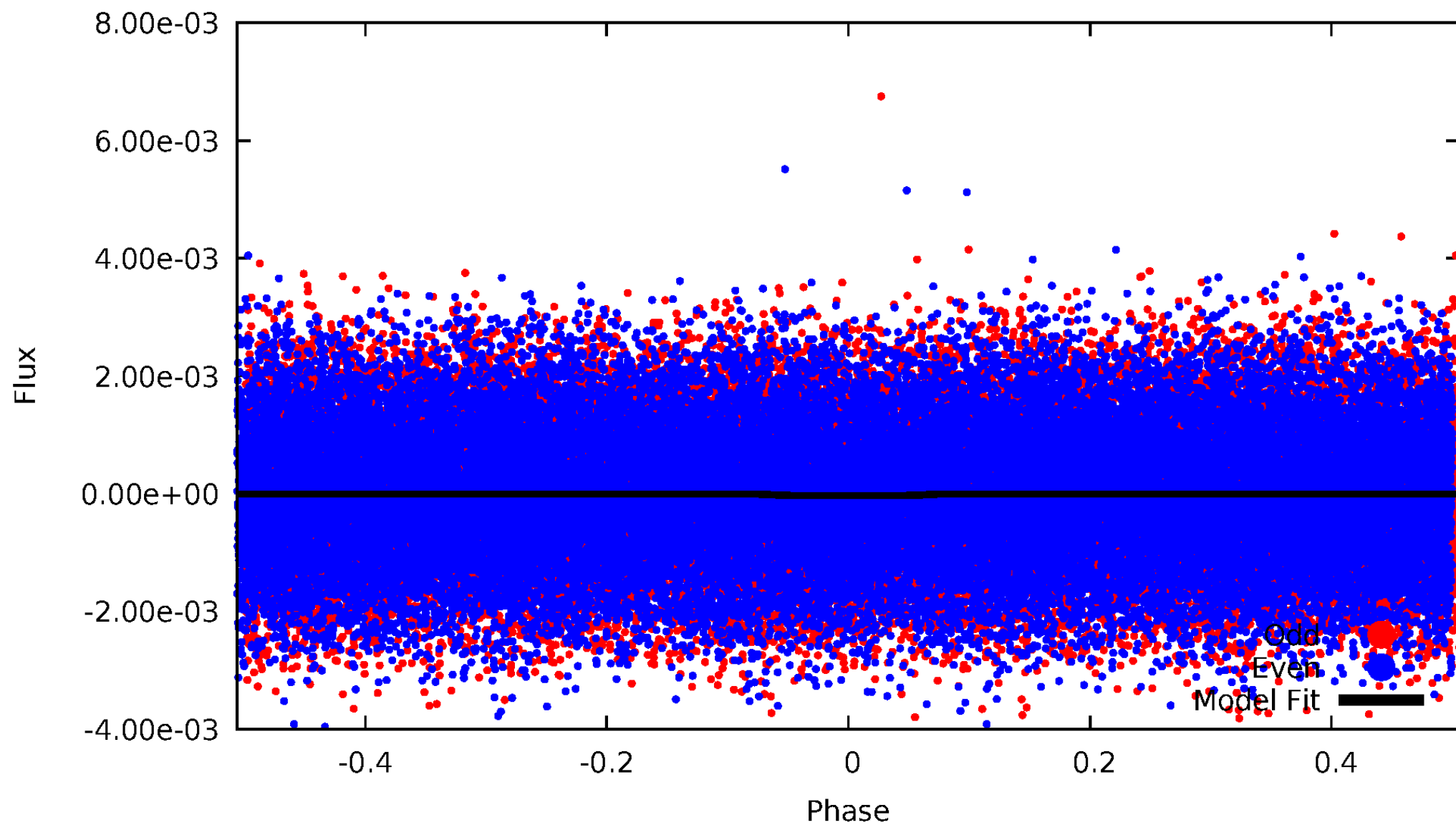
DV Odd/Even

TCE 005733154-01

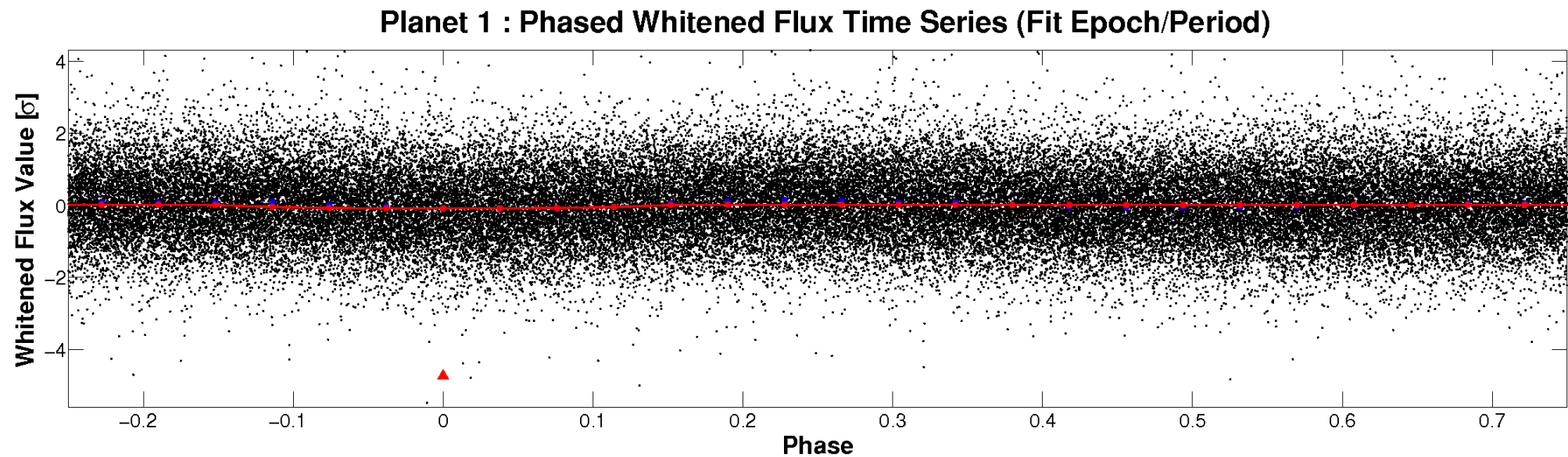
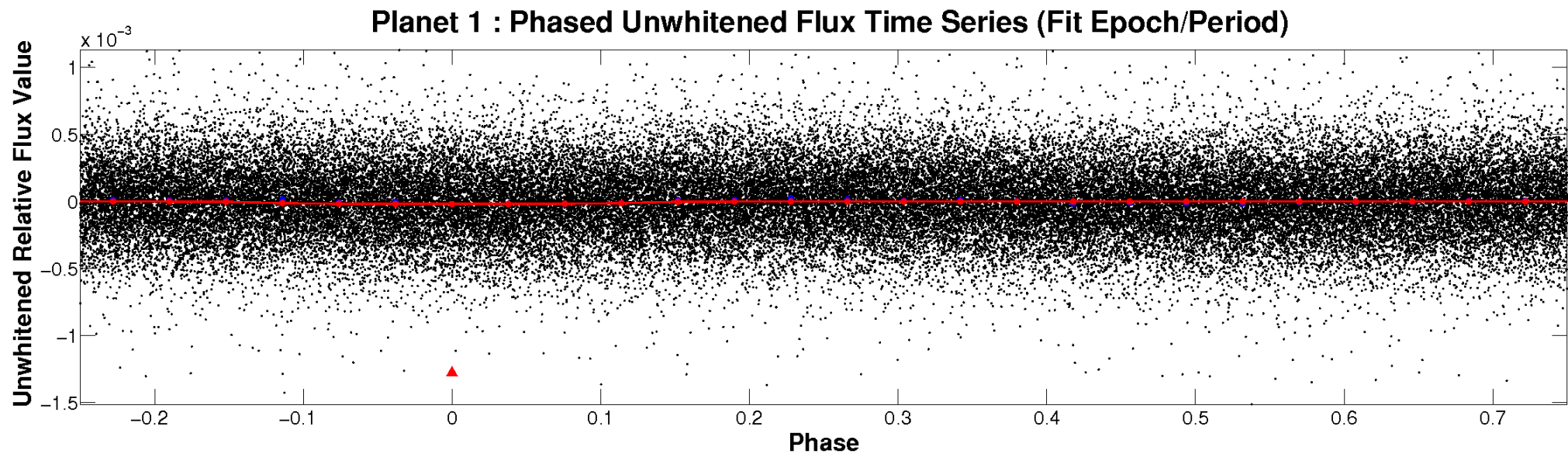


ALT Odd/Even

TCE 005733154-01

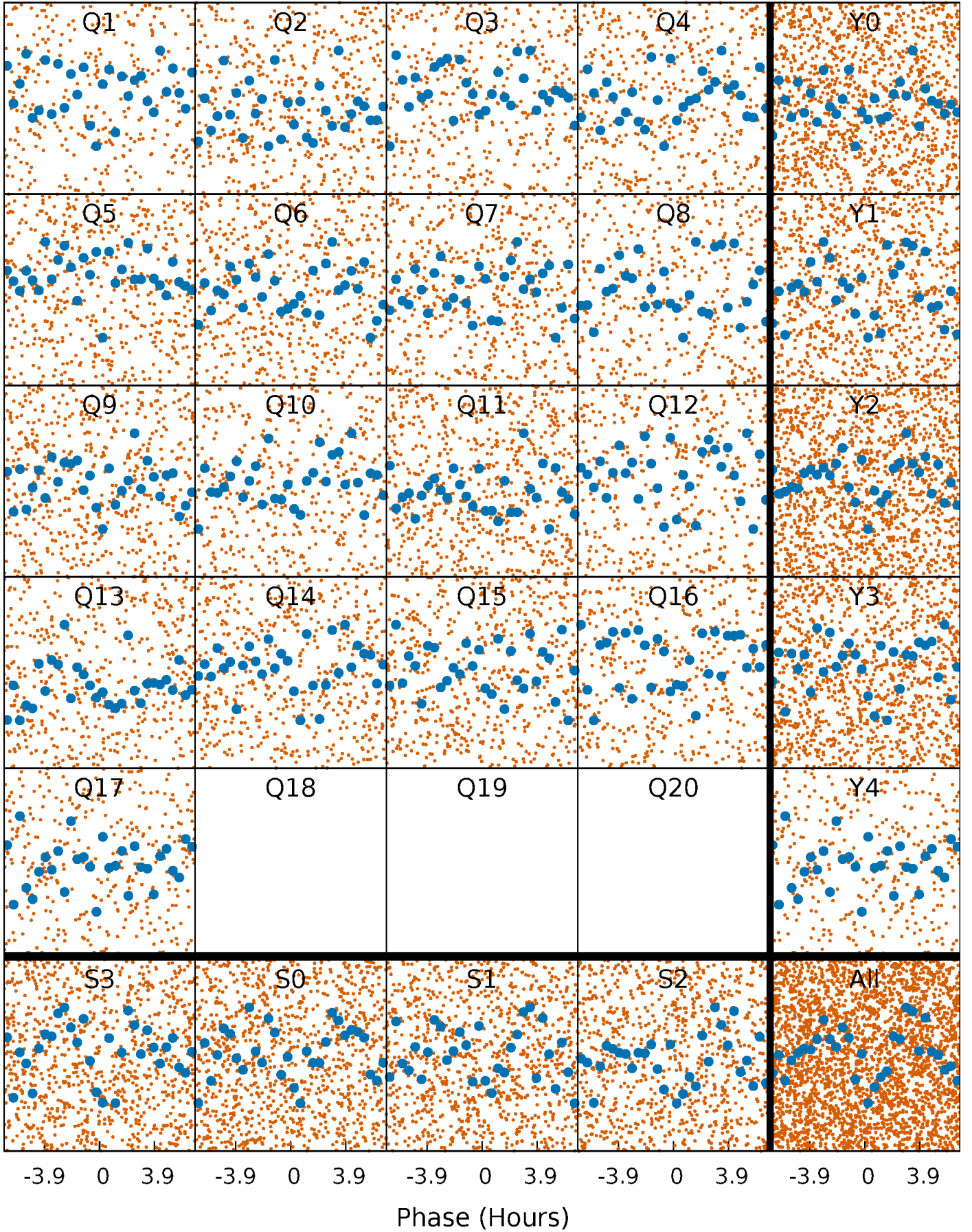


Non-Whitened Vs. Whitened Light Curve



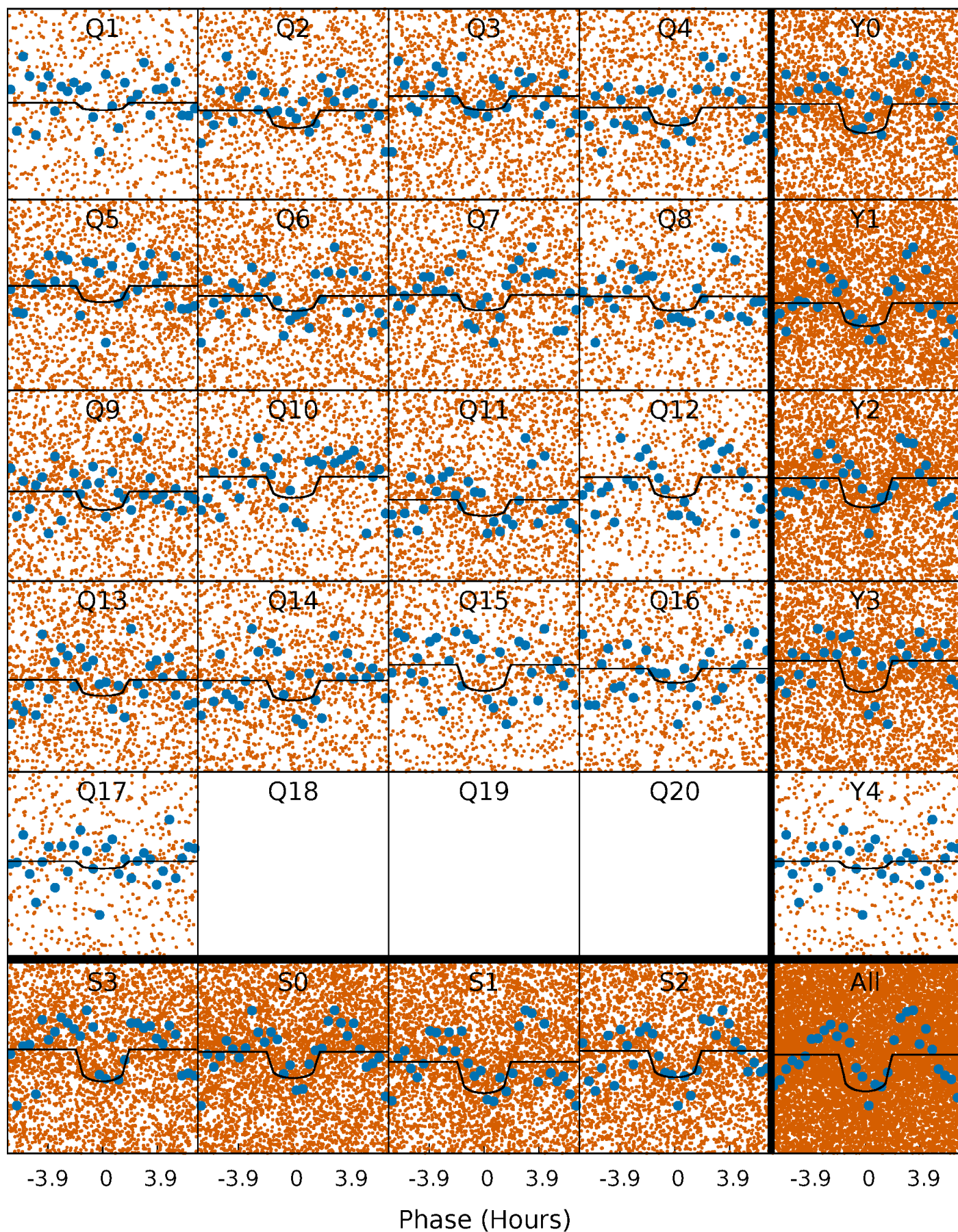
PDC Quarter-Phased Transit Curves

TCE 005733154-01 P= 0.537887 Days $T_0=131.918396$ (BKJD)



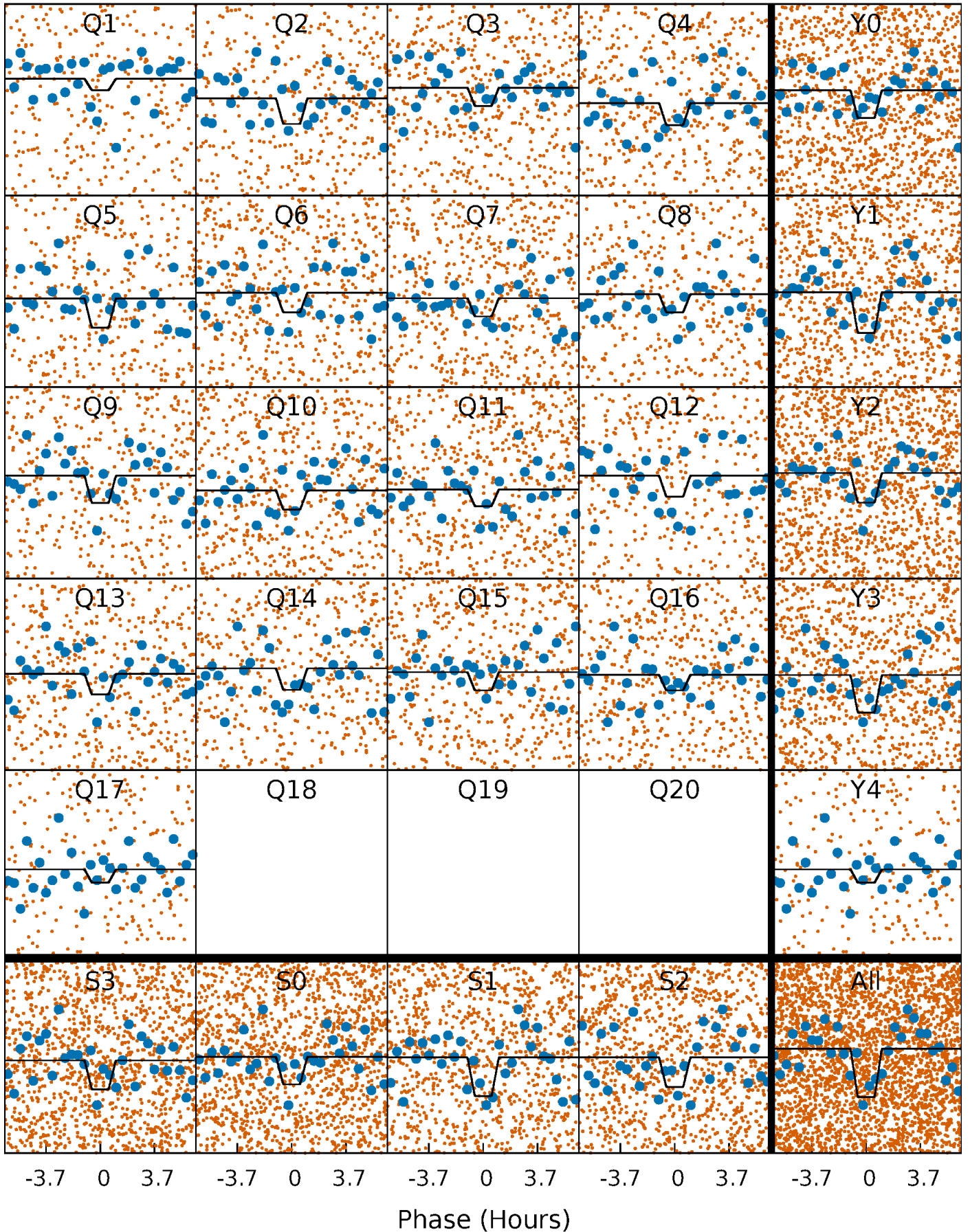
DV Quarter-Phased Transit Curves

TCE 005733154-01 P= 0.537887 Days $T_0=131.918396$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

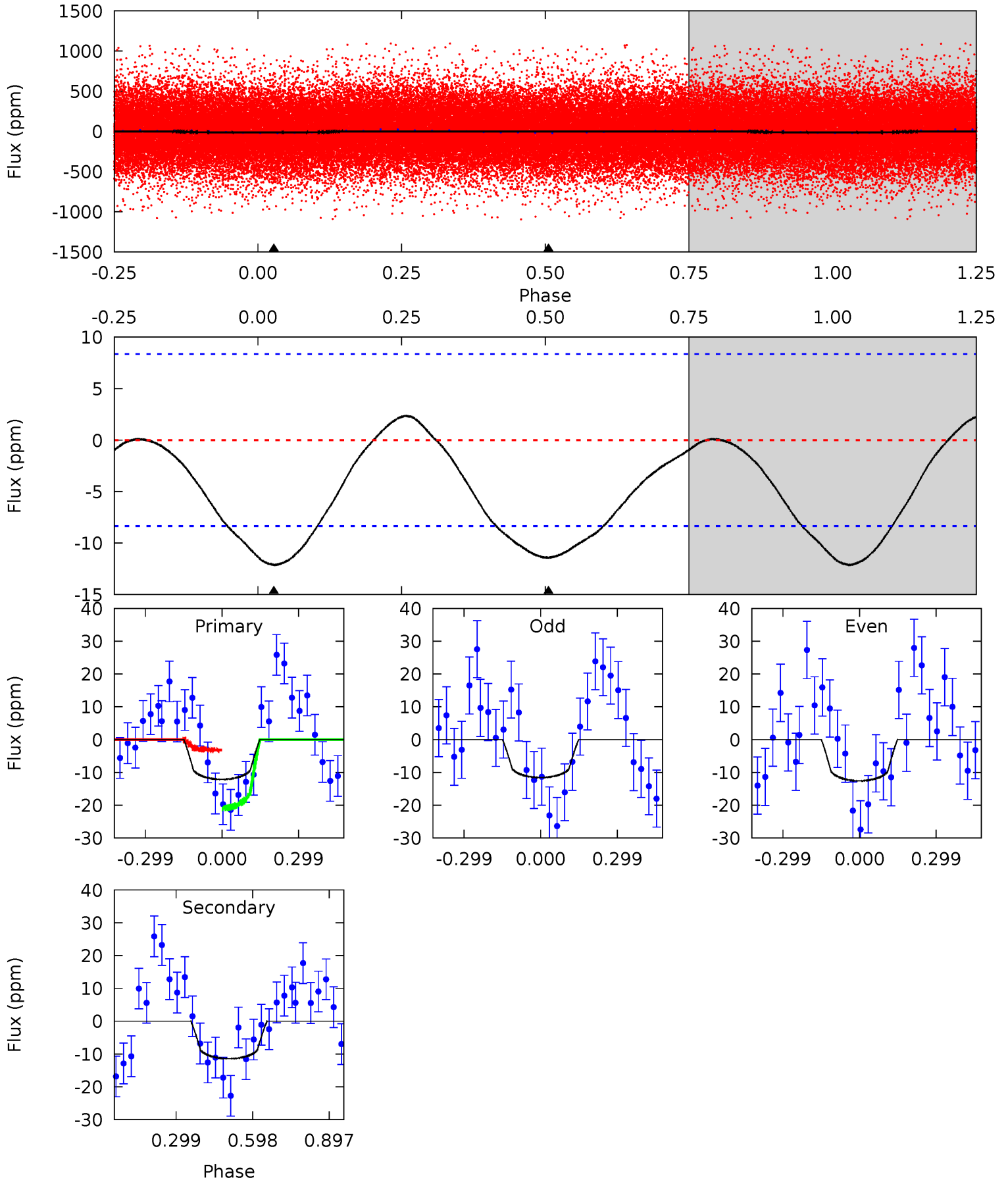
TCE 005733154-01 P= 0.537900 Days $T_0=131.915793$ (BKJD)



DV Model-Shift Uniqueness Test

005733154-01, P = 0.537887 Days, E = 131.380509 Days

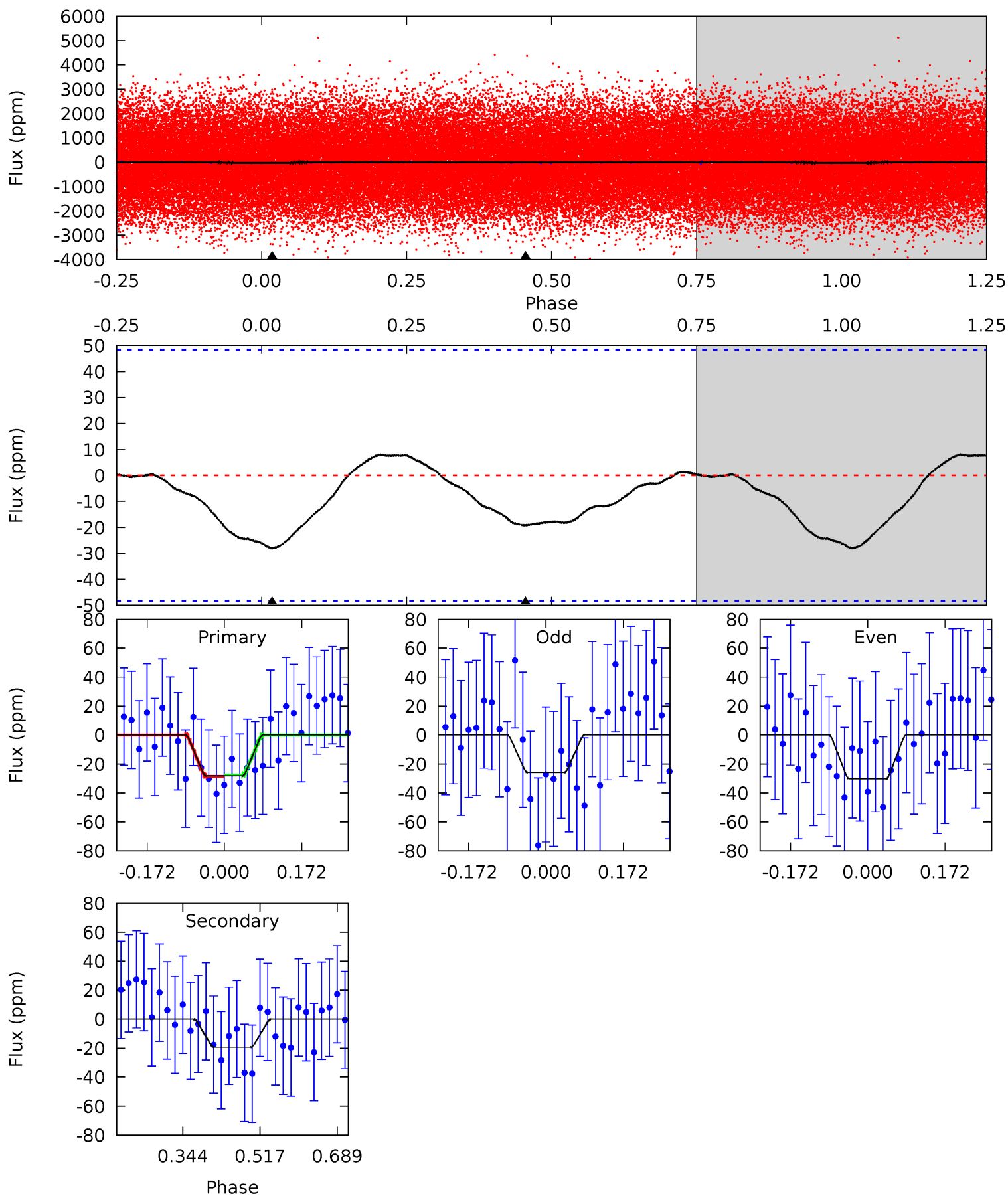
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.28	5.92	0	0	4.33	1.04	0.68	6.28	6.28	5.92	5.92	0.26	1.26	0.16	4.57



Alt Model-Shift Uniqueness Test

005733154-01, P = 0.537900 Days, E = 131.377893 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.58	1.77	0	0	4.45	1.37	0.40	2.58	2.58	1.77	1.77	0.20	0.88	0.22	0.05



Stellar Parameters For KIC 005733154

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7158^{+201}_{-277}	$4.063^{+0.240}_{-0.160}$	$-0.460^{+0.250}_{-0.300}$	$1.739^{+0.448}_{-0.498}$	$1.277^{+0.204}_{-0.186}$	$0.342^{+0.484}_{-0.150}$
	+3%/-4%	+6%/-4%	+54%/-65%	+26%/-29%	+16%/-15%	+141%/-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 005733154-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-11 ± 2	$0.81^{+0.40}_{-0.39}$	4853^{+400}_{-371}	5985^{+2958}_{-1240}	$1.949^{+5.073}_{-1.098}$
Alt.	-19 ± 11	$1.05^{+0.44}_{-0.37}$	4862^{+392}_{-394}	5819^{+2004}_{-1671}	$1.773^{+3.106}_{-1.214}$

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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

DV Centroid Data

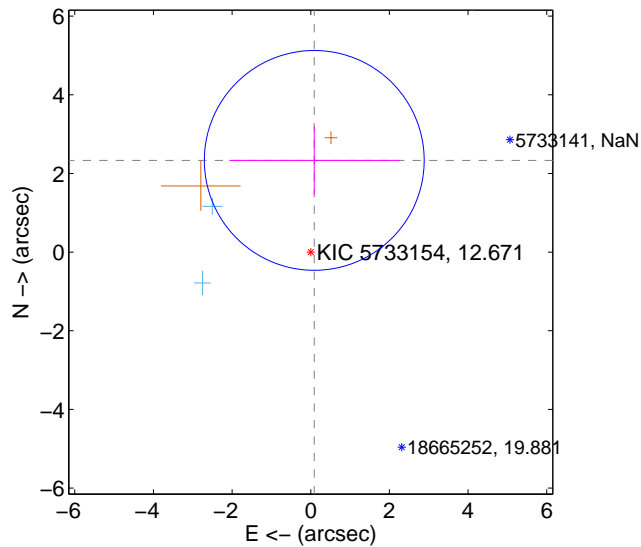
Supplemental centroid analysis for 005733154-01. Kepler magnitude: 12.67. Transit SNR 9.42

There are 2 quarters with good PRF difference image offsets

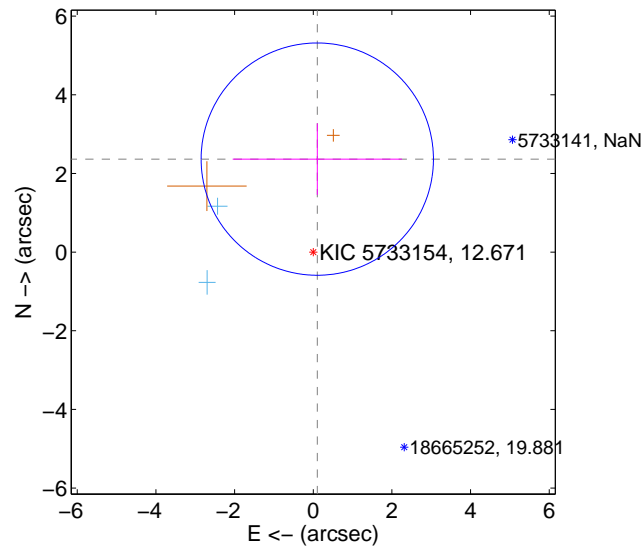
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.333 ± 0.931	2.50	-0.089 ± 2.157	2.331 ± 0.868
PRF-fit source offset from KIC position	2.366 ± 0.984	2.40	-0.102 ± 2.152	2.364 ± 0.908
photometric centroid source offset	0.57 ± 0.81	0.71	0.34 ± 0.84	-0.46 ± 0.79

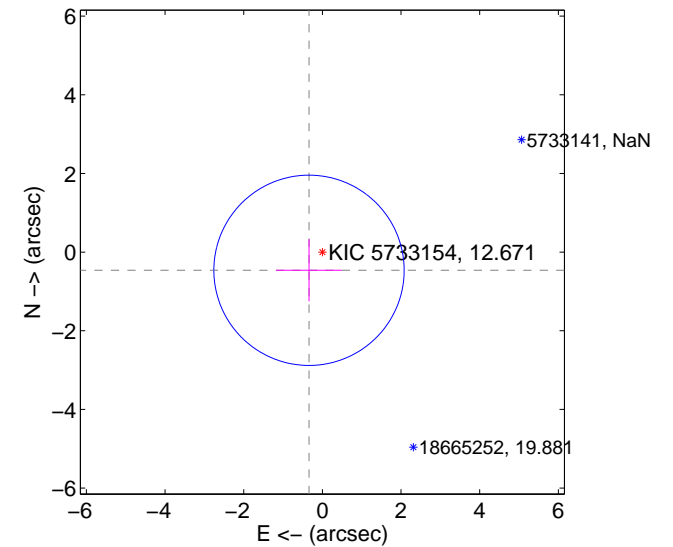
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

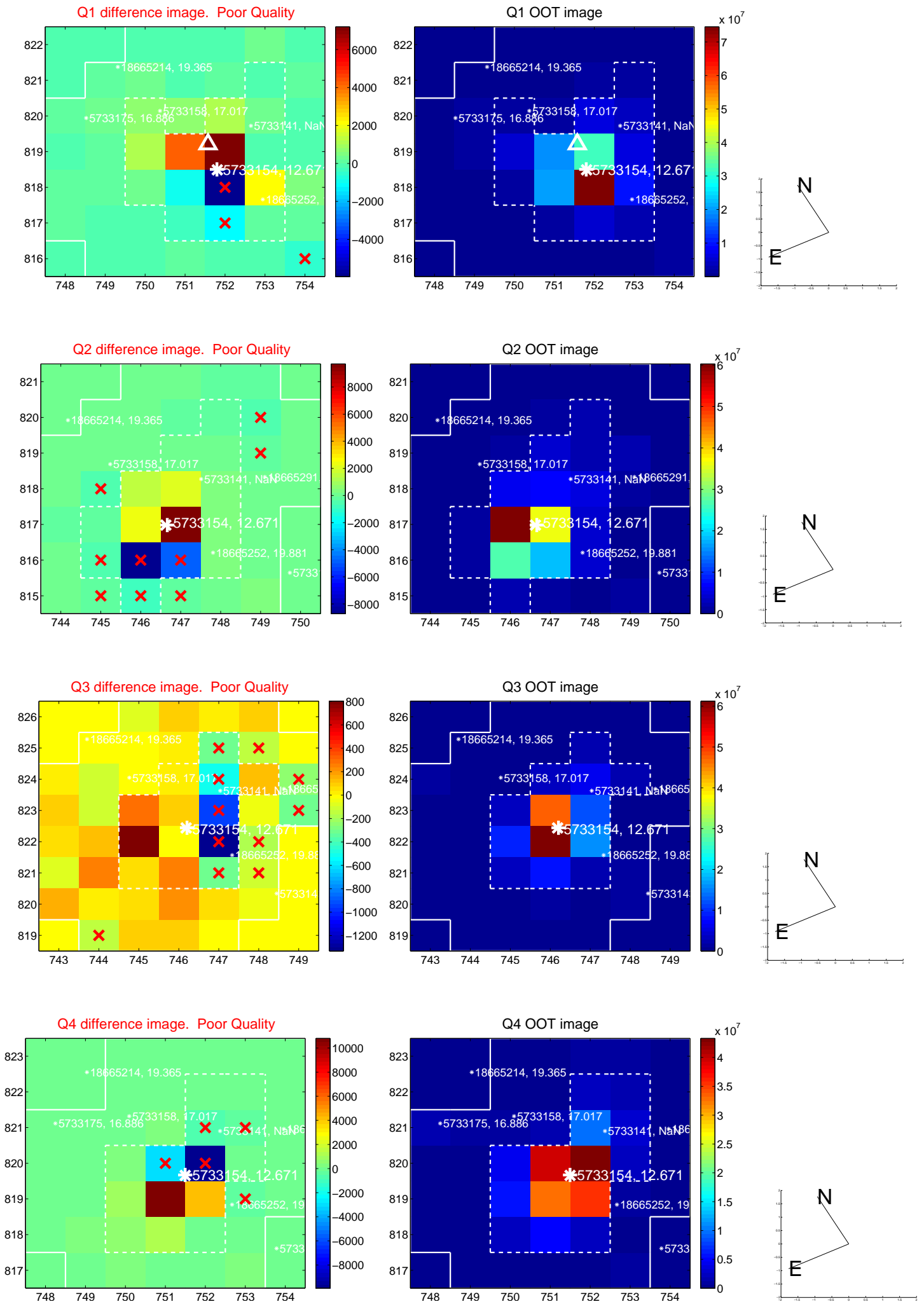


offset from photometric centroids

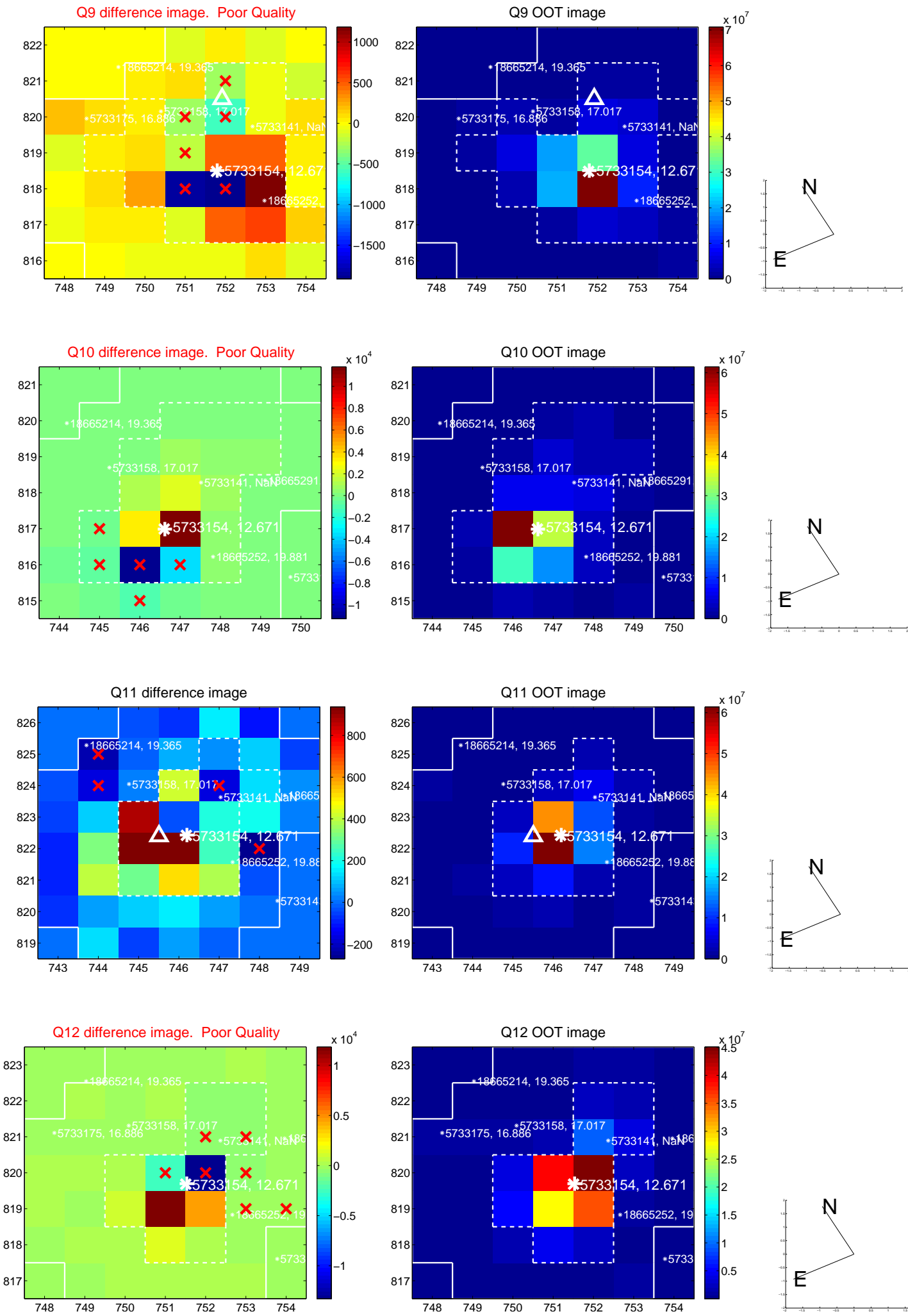


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

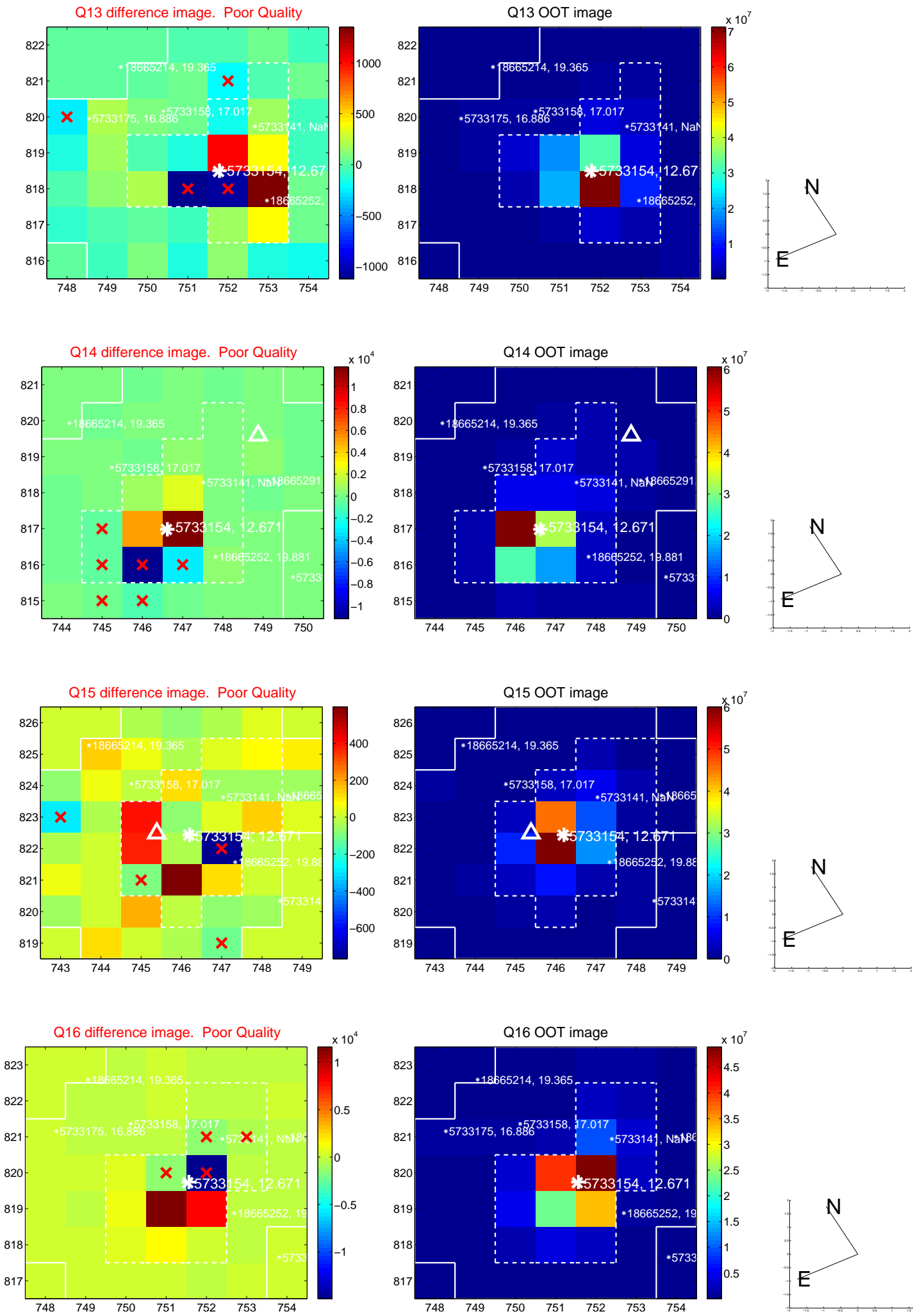
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



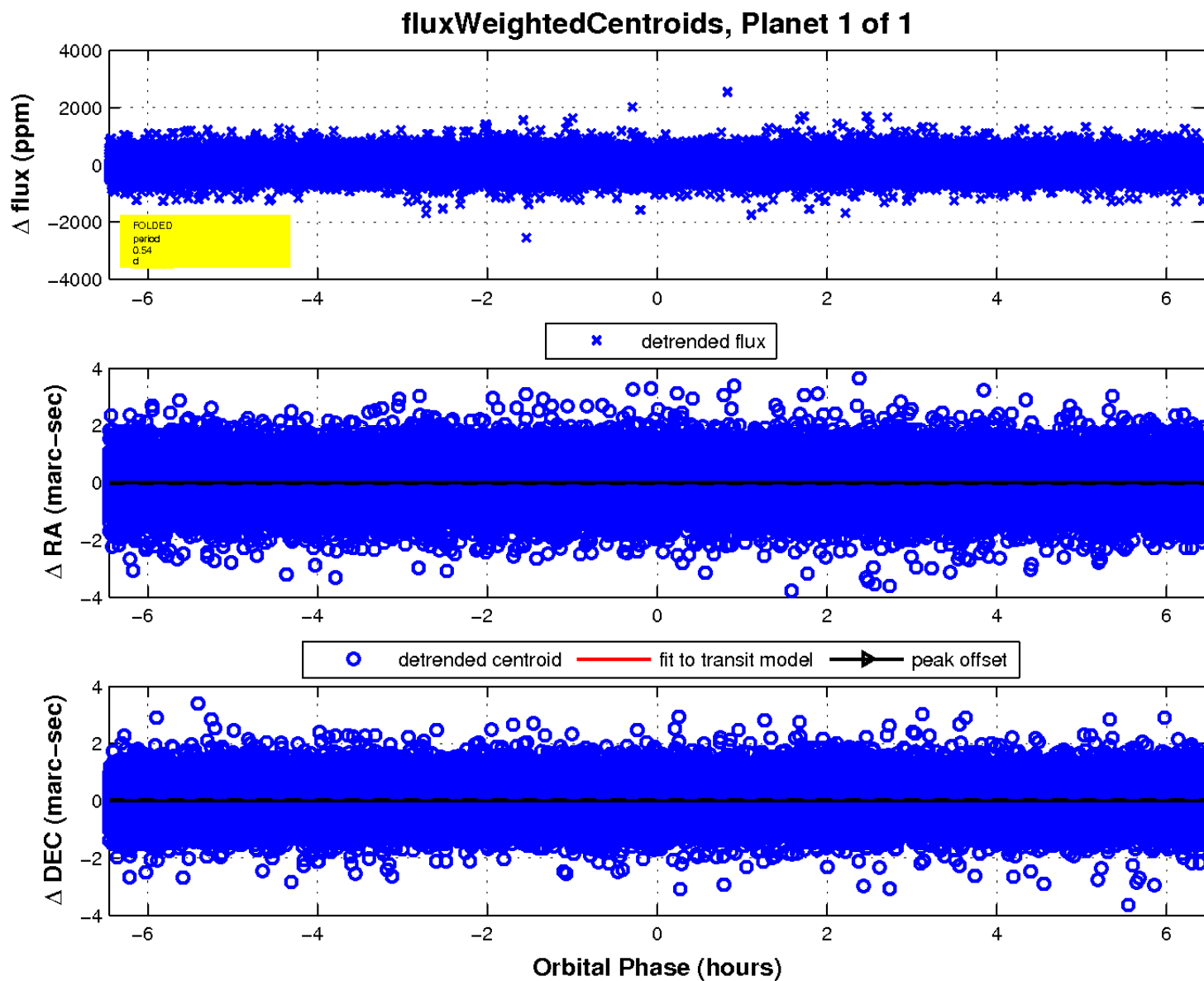
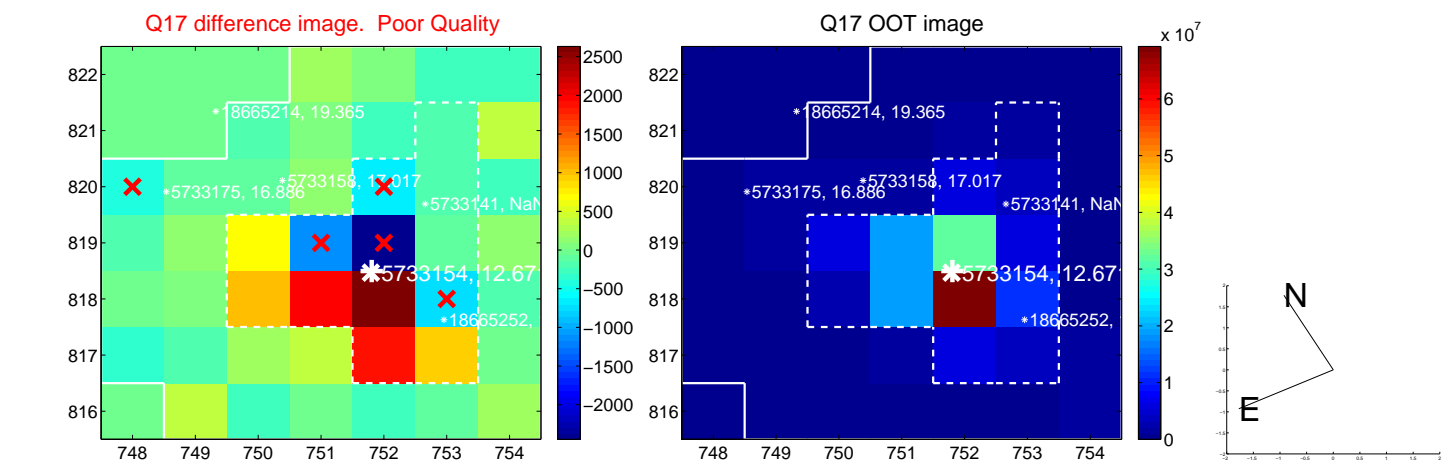
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

