

KIC 007748487

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})
007748487-01	OBS	3394.01	15.576273	135.956001	244.7	5.560	12.8	12.9	1.08	6214	1.96	93.53

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007748487-01	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.

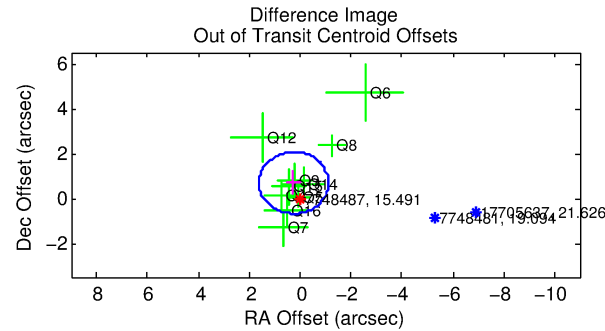
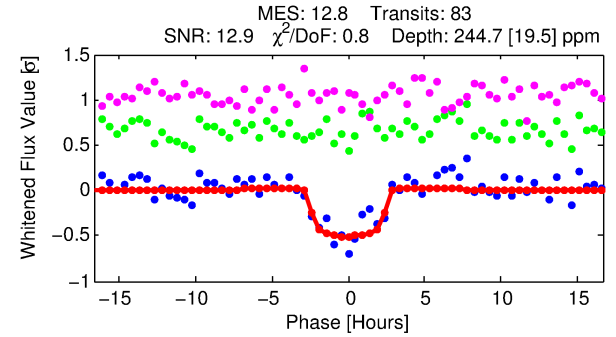
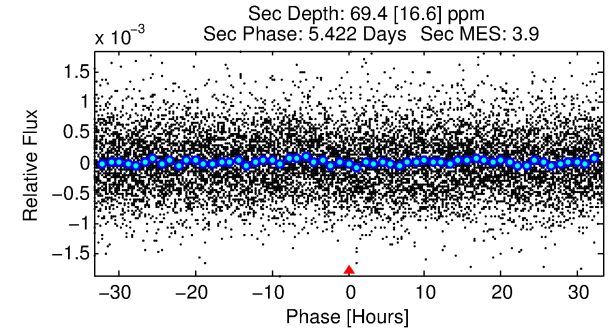
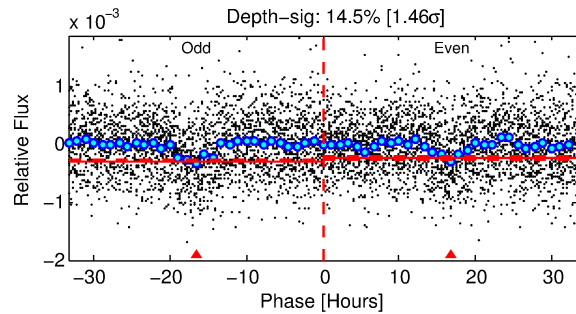
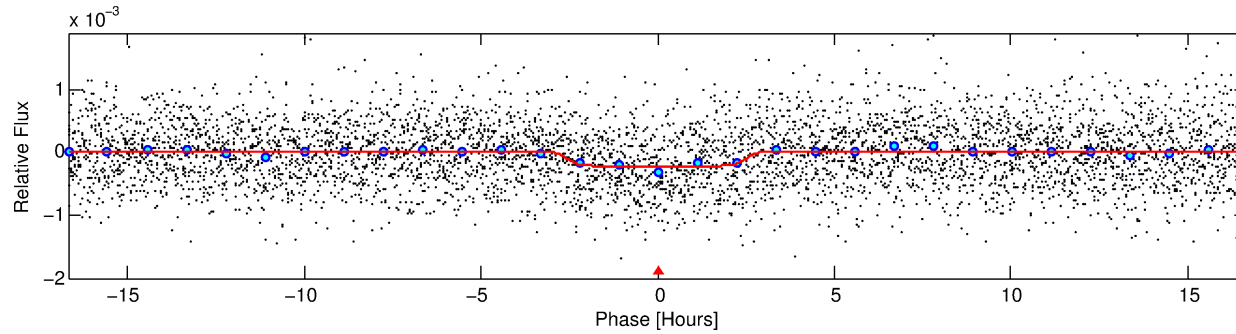
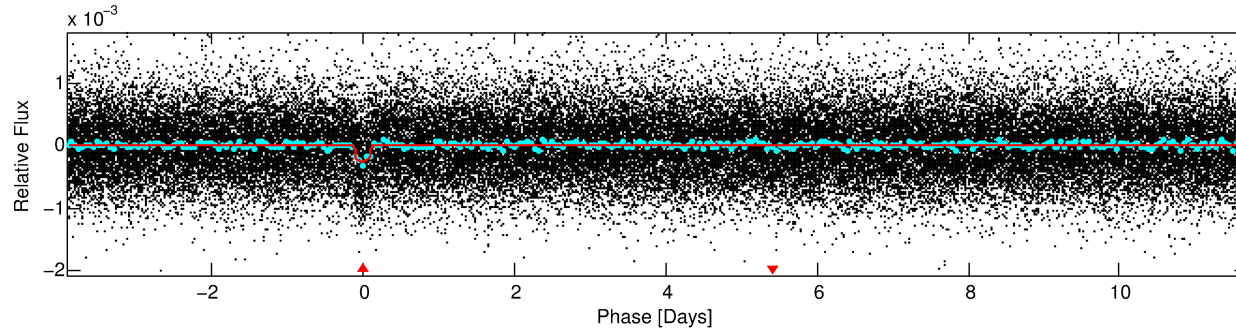
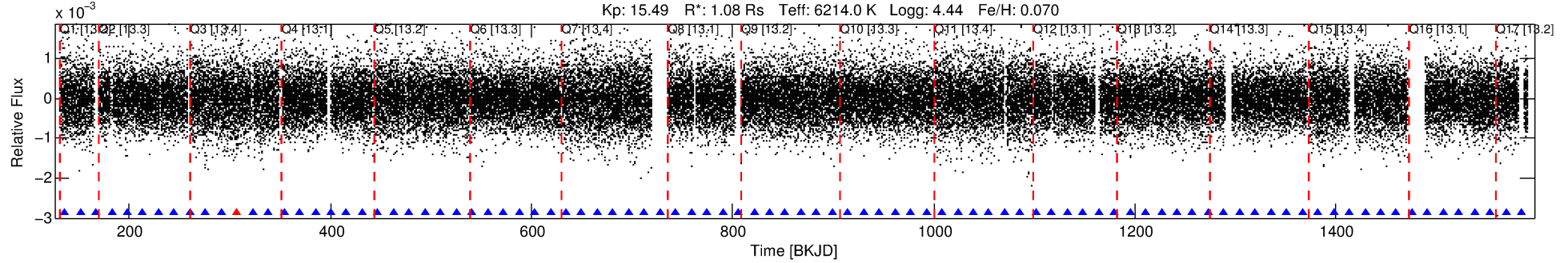
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007748487-01

No Significant Match Found

DV One-Page Summary

KIC: 7748487 Candidate: 1 of 1 Period: 15.576 d
KOI: K03394.01 Corr: 0.978



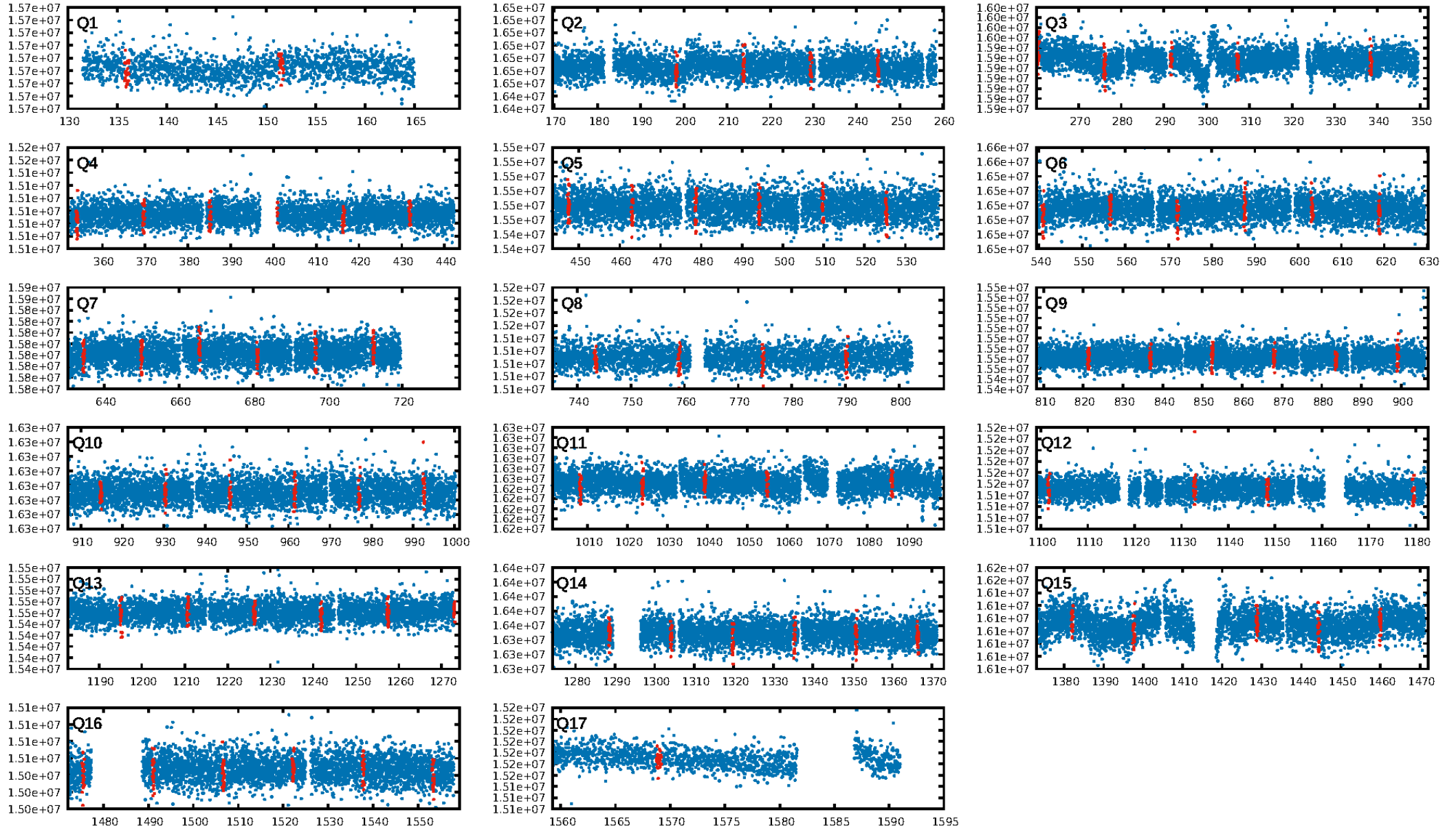
DV Fit Results:

Period = 15.57627 [0.00017] d
Epoch = 135.9560 [0.0090] BKJD
Rp/R* = 0.0167 [0.0041]
a/R* = 10.74 [13.31]
b = 0.89 [0.31]
Seff = 93.53 [38.09]
Teq = 793 [81] K
Rp = 1.96 [0.77] Re
a = 0.1286 [0.0337] AU
Ag = 164.96 [109.42] [1.50 σ]
Teff = 4394 [617] K [5.78 σ]

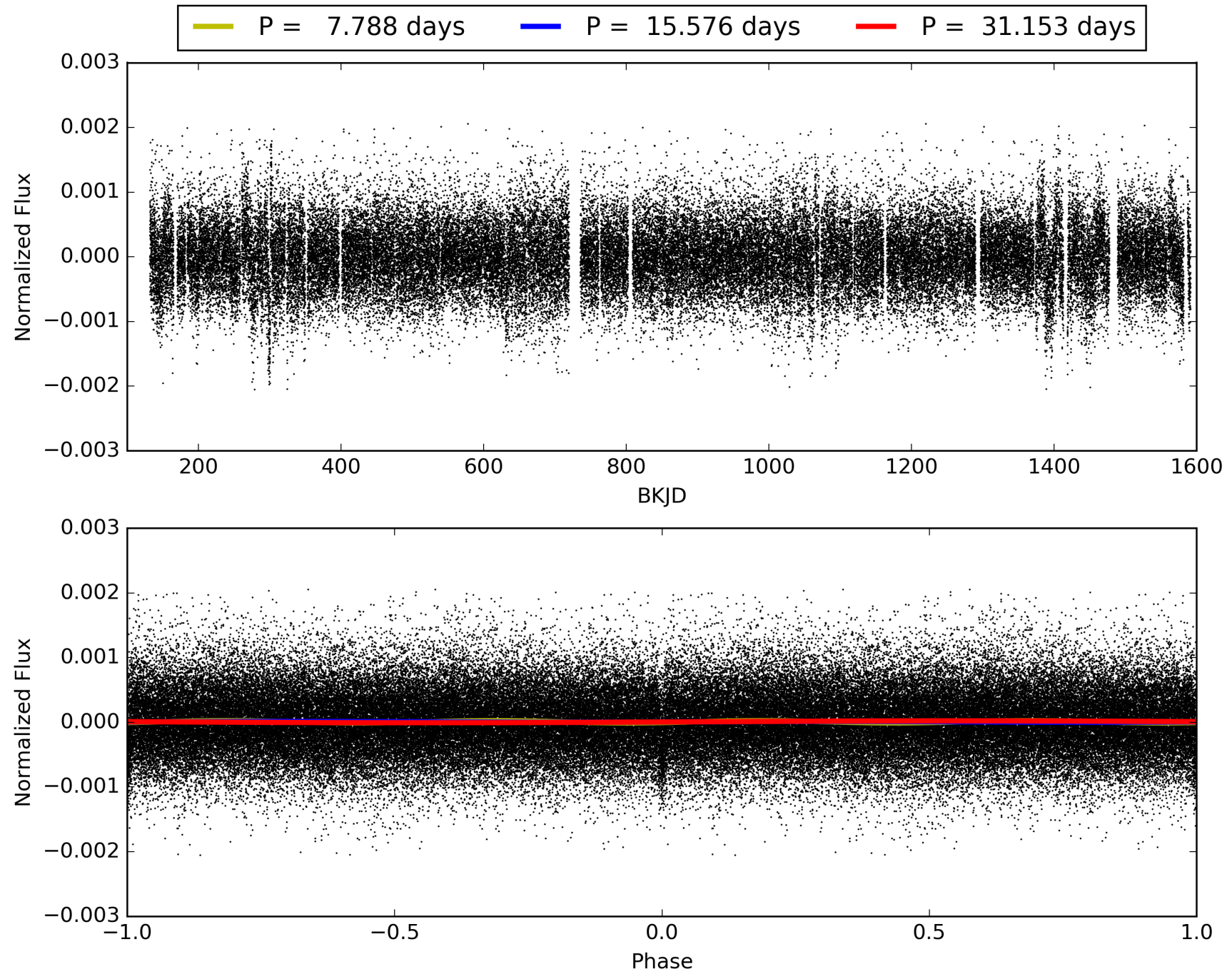
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 80.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.54e-36
RollingBand-fgt: 0.99 [79/80]
GhostDiagnostic-chr: 6.045
Centroid-sig: 58.0%
Centroid-so: 0.516 arcsec [0.48 σ]
OotOffset-rm: 0.737 arcsec [1.61 σ]
KicOffset-rm: 0.762 arcsec [1.65 σ]
OotOffset-st: 2/2/4/2 [10]
KicOffset-st: 2/2/4/2 [10]
DiffImageQuality-fgm: 0.80 [8/10]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007748487-01, PDC Light Curves

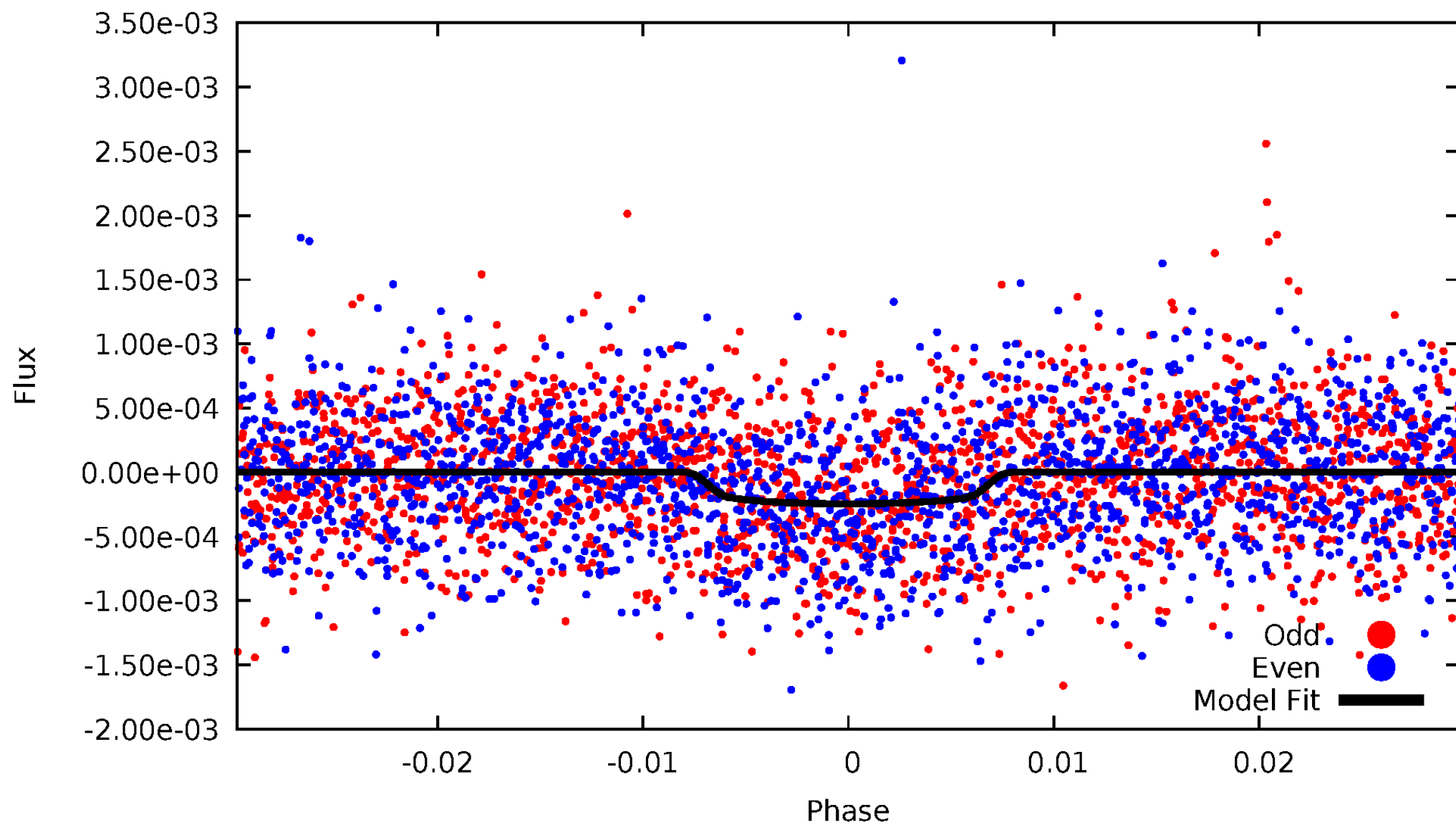


TCE 007748487-01



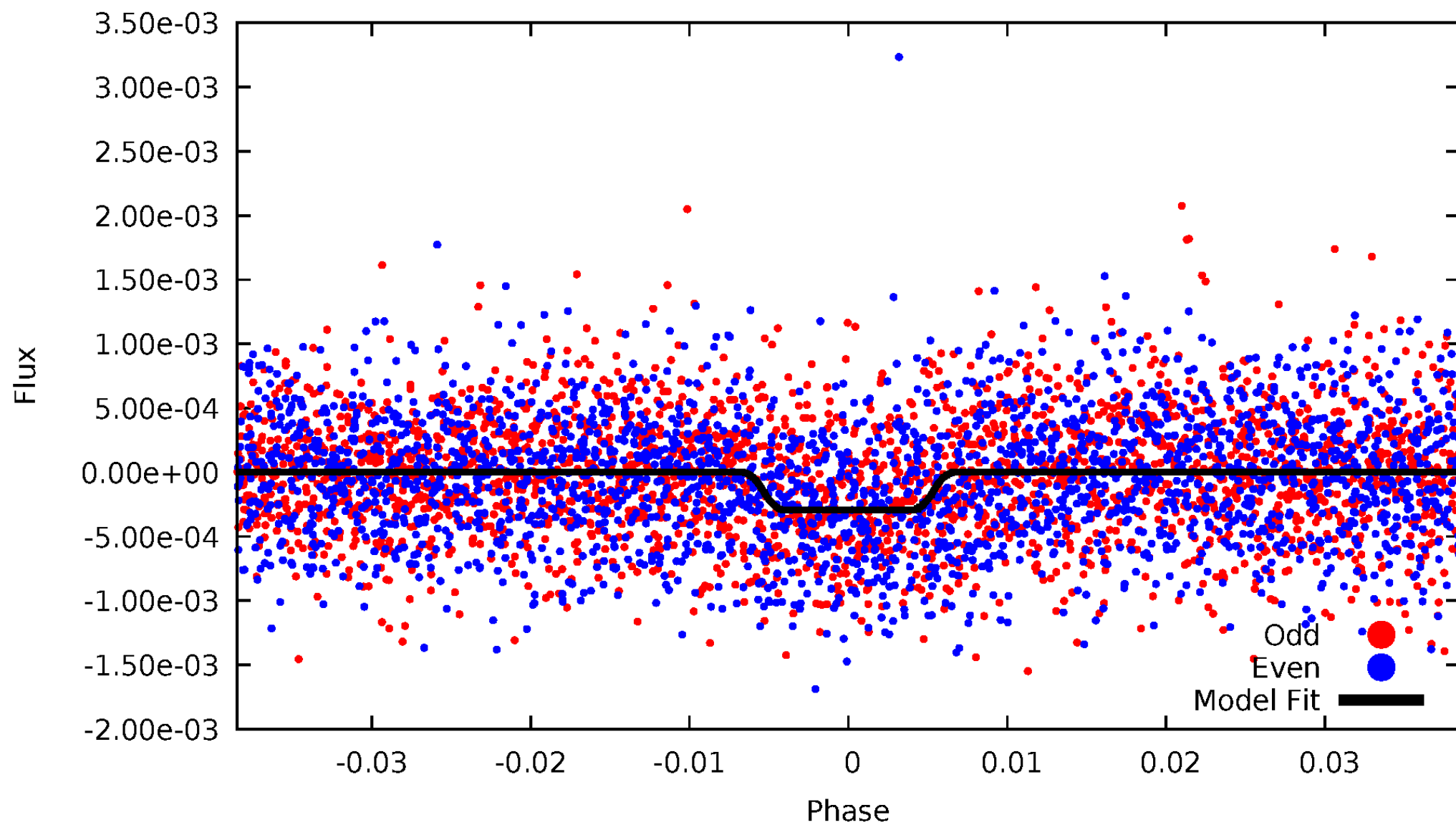
DV Odd/Even

TCE 007748487-01



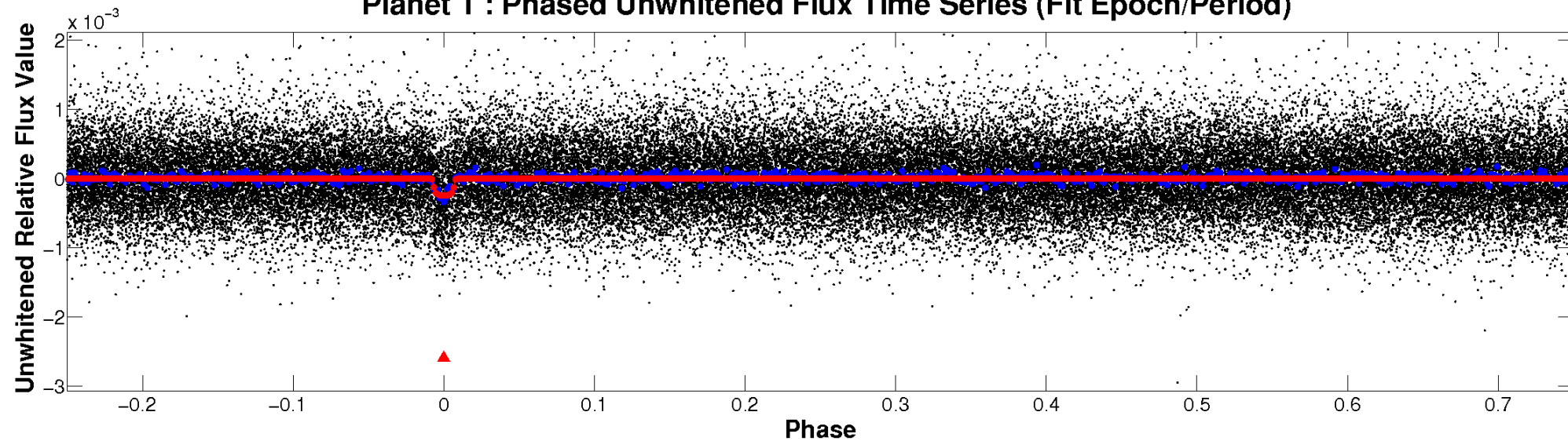
ALT Odd/Even

TCE 007748487-01

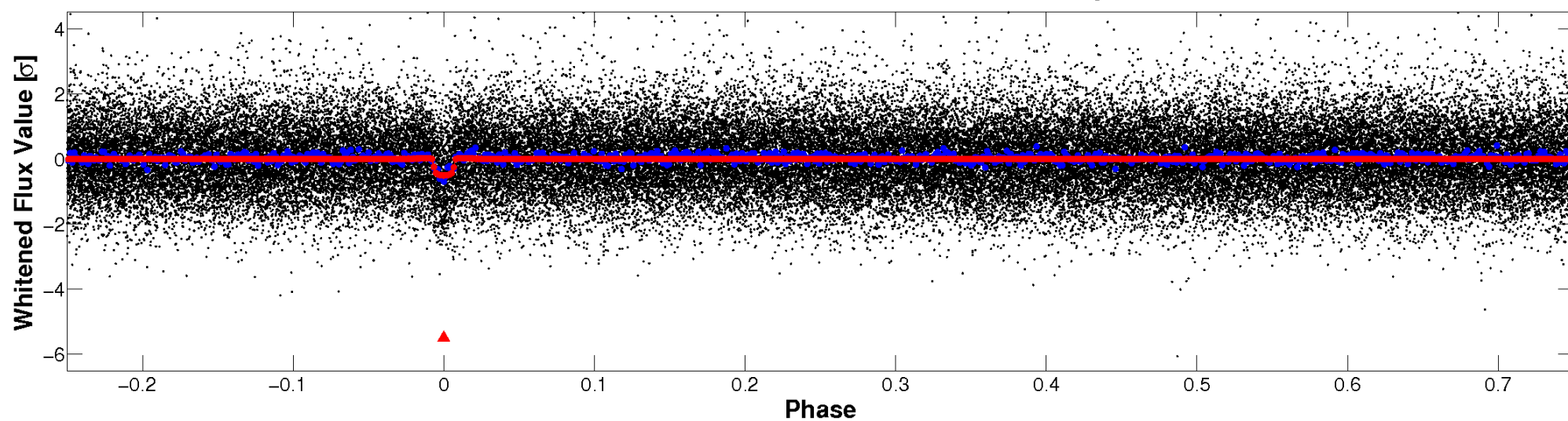


Non-Whitened Vs. Whitened Light Curve

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

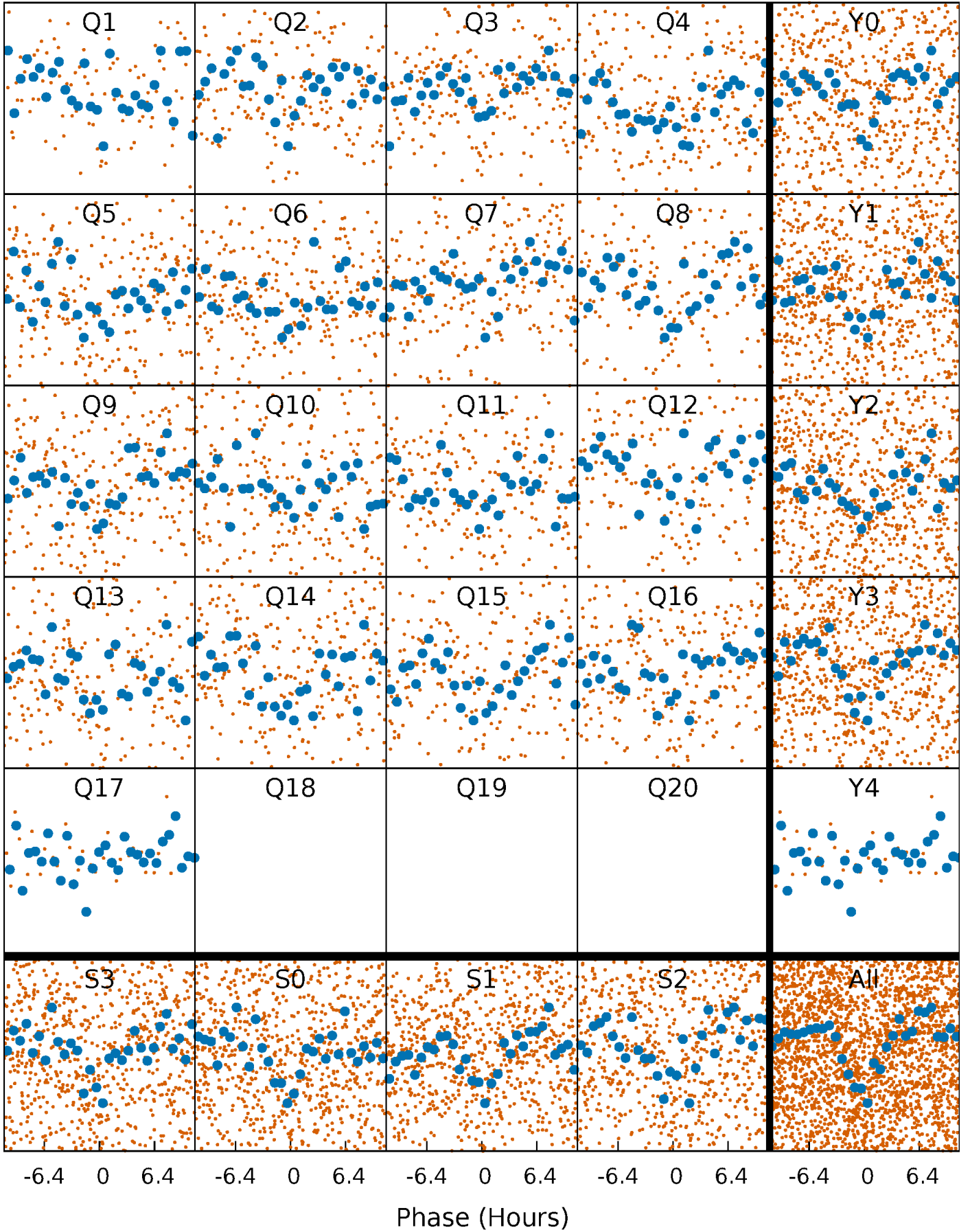


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



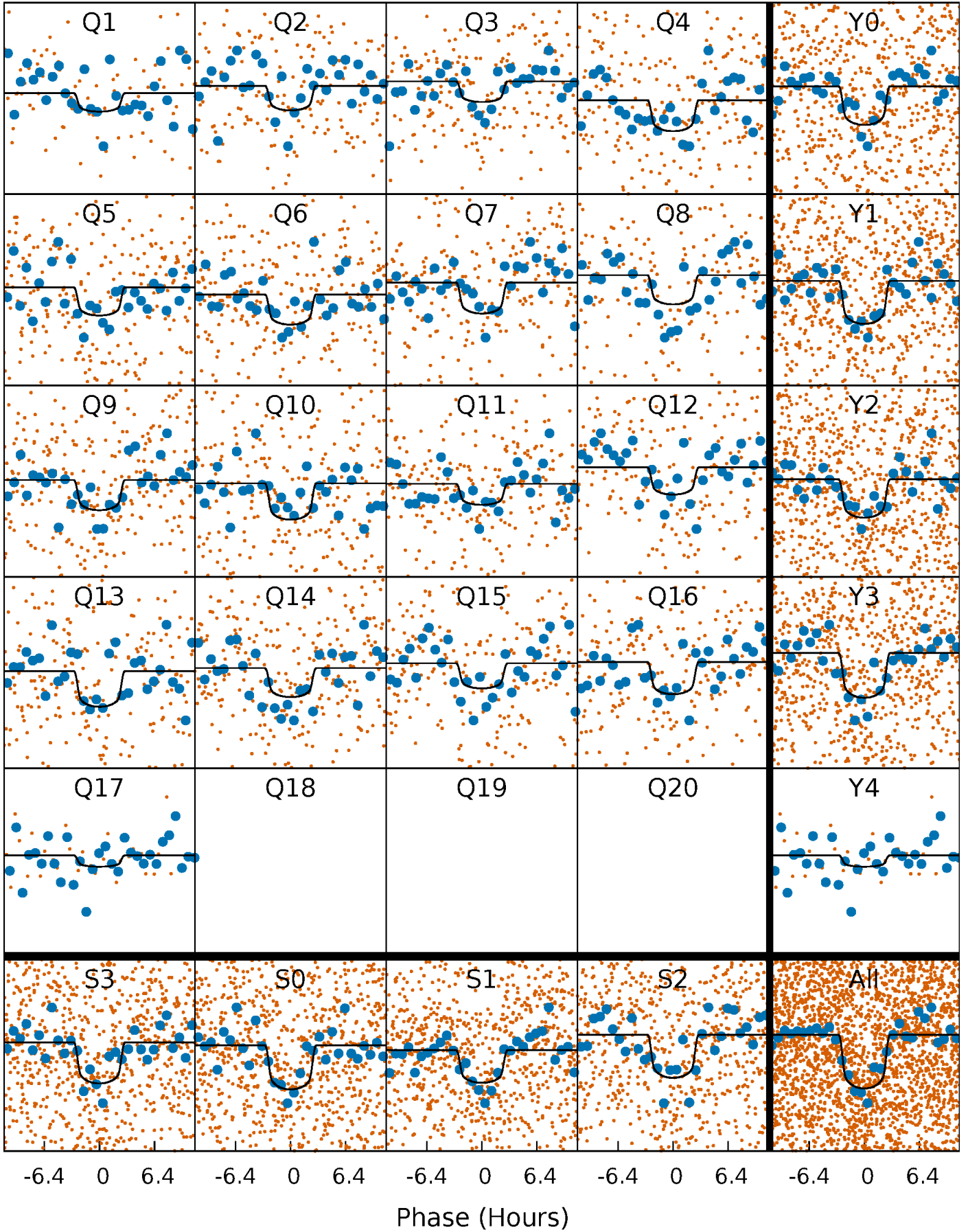
PDC Quarter-Phased Transit Curves

TCE 007748487-01 P= 15.576273 Days $T_0=135.956002$ (BKJD)



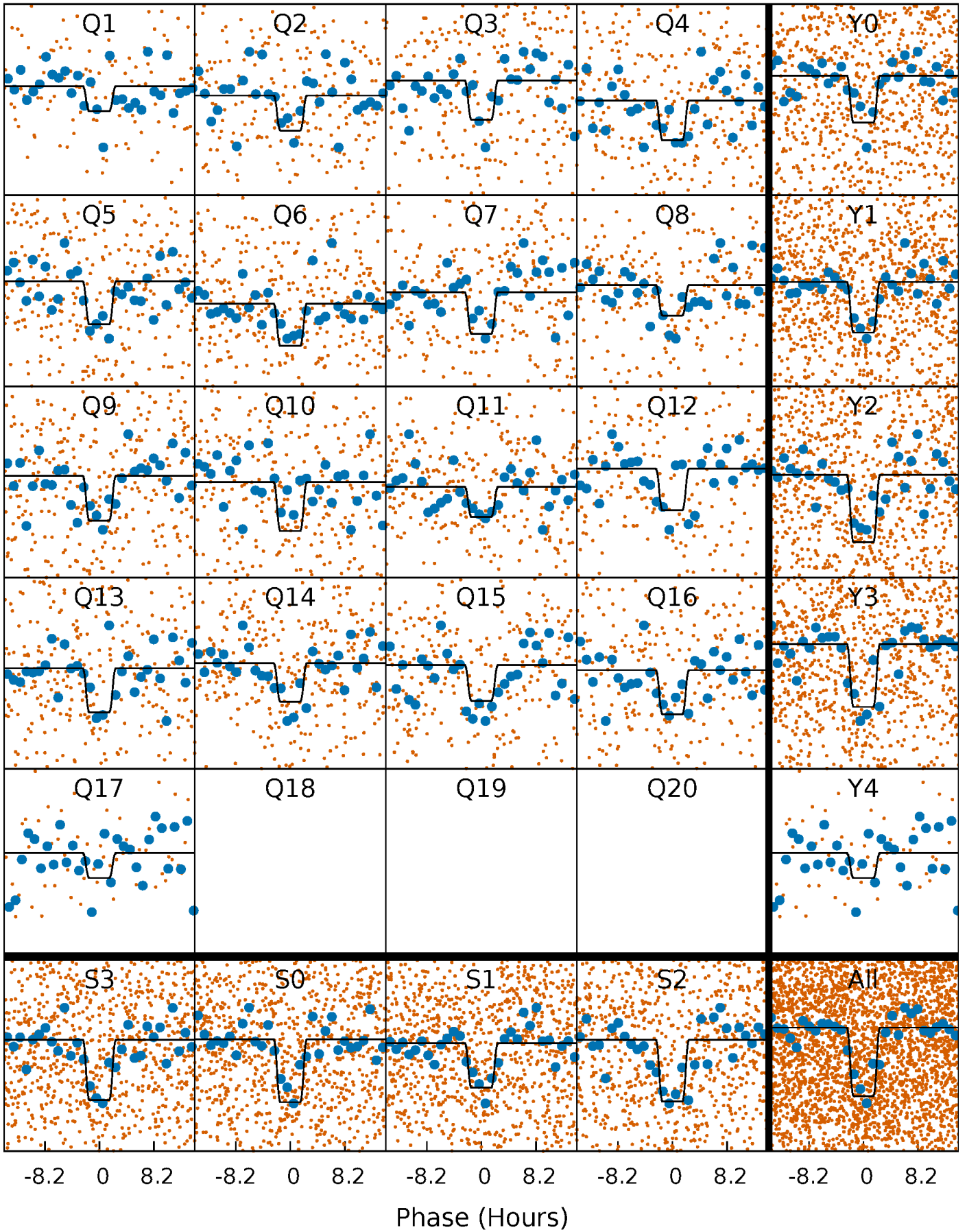
DV Quarter-Phased Transit Curves

TCE 007748487-01 P= 15.576273 Days $T_0=135.956002$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

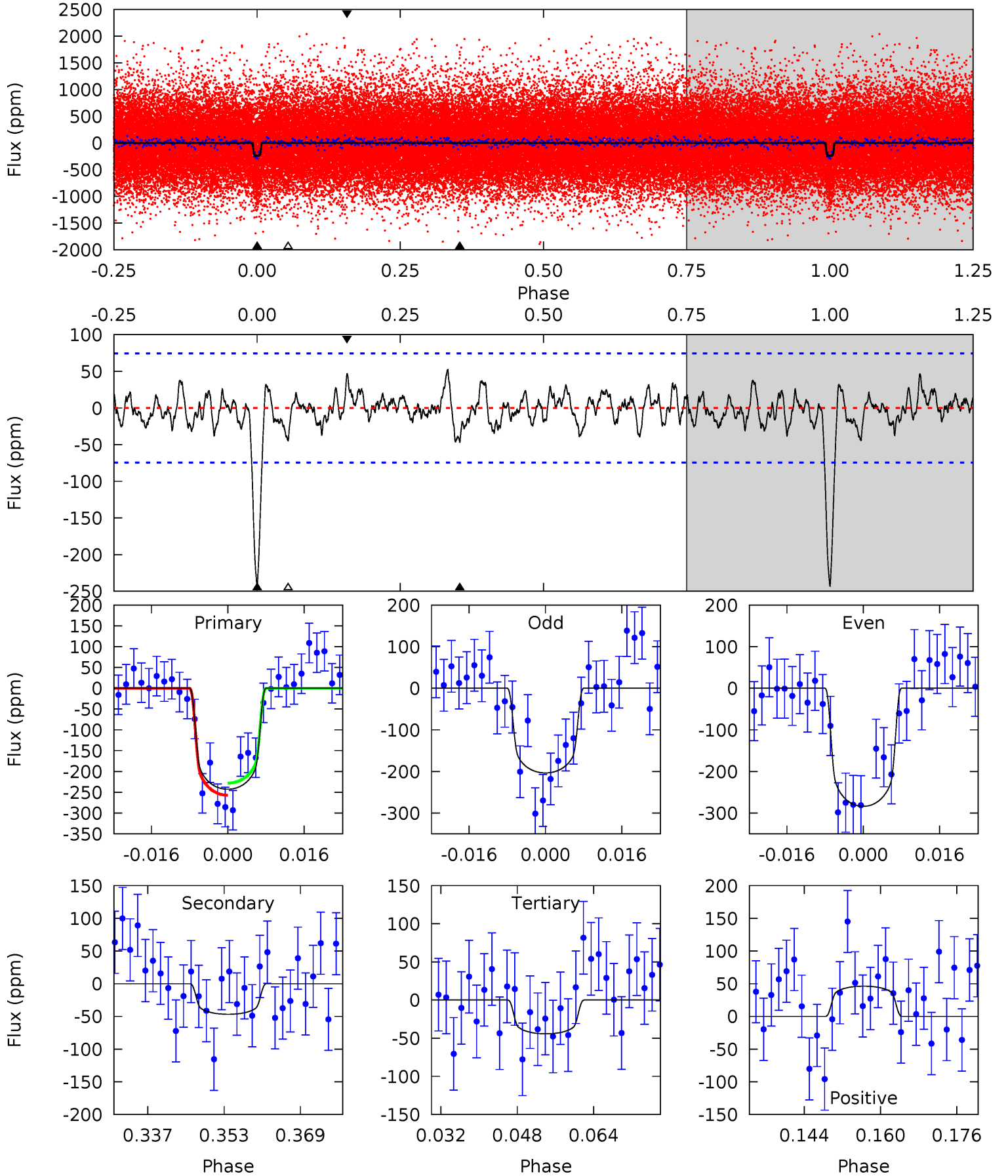
TCE 007748487-01 P= 15.576349 Days $T_0=135.942238$ (BKJD)



DV Model-Shift Uniqueness Test

007748487-01, $P = 15.576273$ Days, $E = 120.379729$ Days

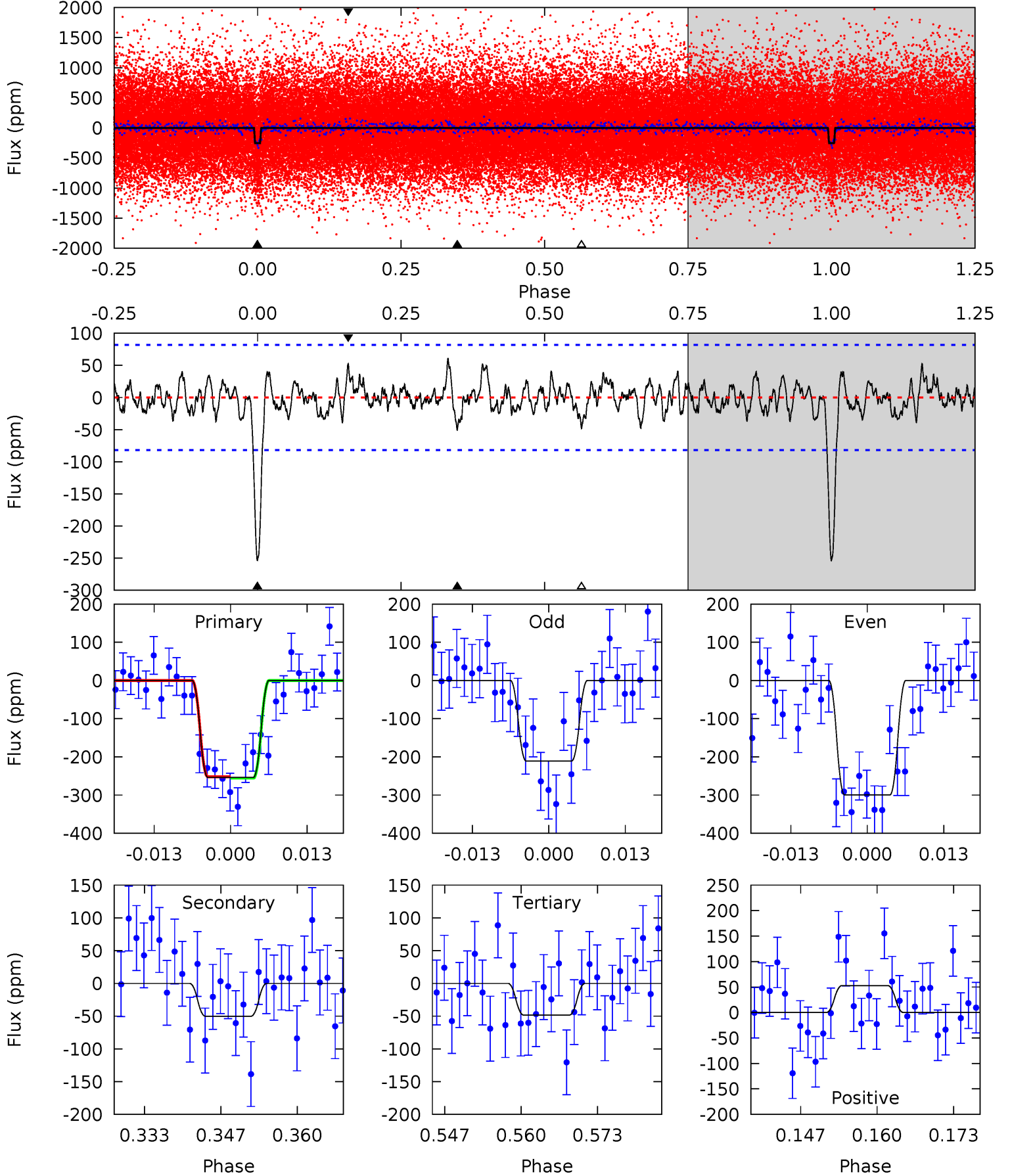
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.1	3.10	2.94	3.07	4.93	2.41	1.10	13.1	13.0	0.16	0.03	2.66	0.94	0.18	0.97



Alt Model-Shift Uniqueness Test

007748487-01, P = 15.576349 Days, E = 120.365889 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.4	3.04	2.94	3.21	4.97	2.47	1.11	12.5	12.2	0.11	-0.17	2.69	0.99	0.19	0.12



Stellar Parameters For KIC 007748487

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6214^{+186}_{-224}	$4.442^{+0.052}_{-0.208}$	$0.070^{+0.250}_{-0.350}$	$1.076^{+0.335}_{-0.112}$	$1.169^{+0.141}_{-0.173}$	$1.321^{+0.374}_{-0.699}$
	+3%/-4%	+1%/-5%	+357%/-500%	+31%/-10%	+12%/-15%	+28%/-53%
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 007748487-01 / KOI 3394.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-47 ± 15	$2.03^{+0.60}_{-0.54}$	1136^{+79}_{-62}	4216^{+561}_{-425}	94^{+97}_{-42}
Alt.	-50 ± 16	$2.12^{+0.62}_{-0.56}$	1132^{+80}_{-57}	4212^{+578}_{-398}	99^{+96}_{-48}

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 $A_{obs} \gg 1.0$

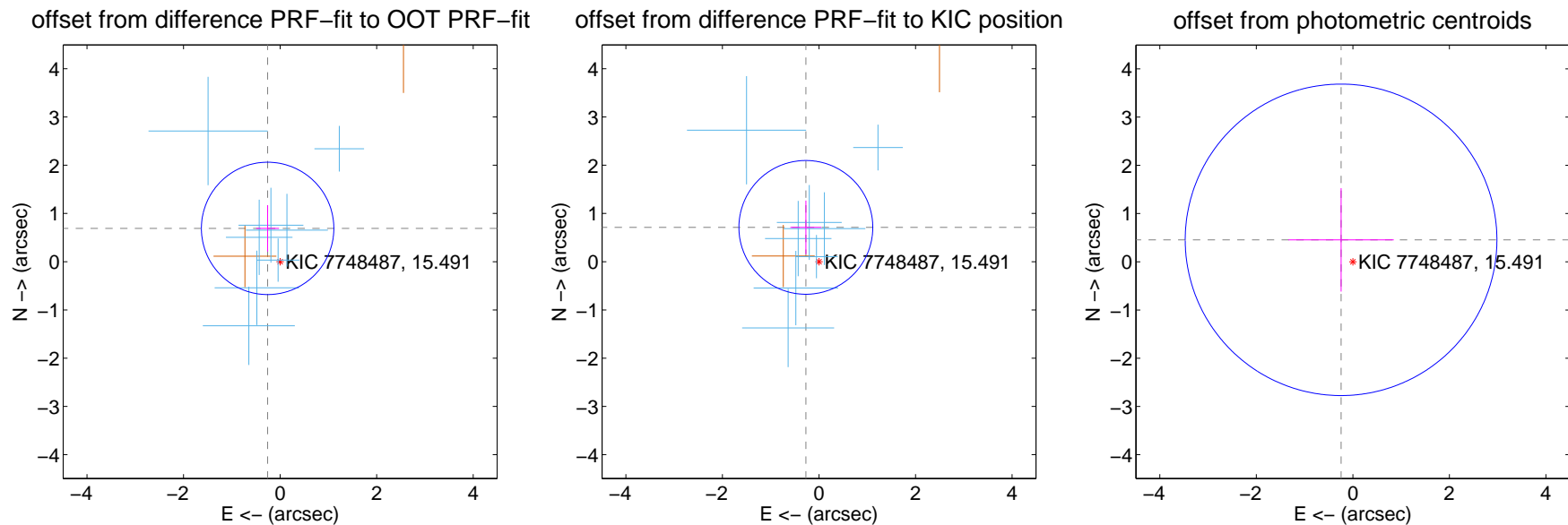
DV Centroid Data

Supplemental centroid analysis for 007748487-01. Kepler magnitude: 15.49. Transit SNR 12.92

There are 8 quarters with good PRF difference image offsets

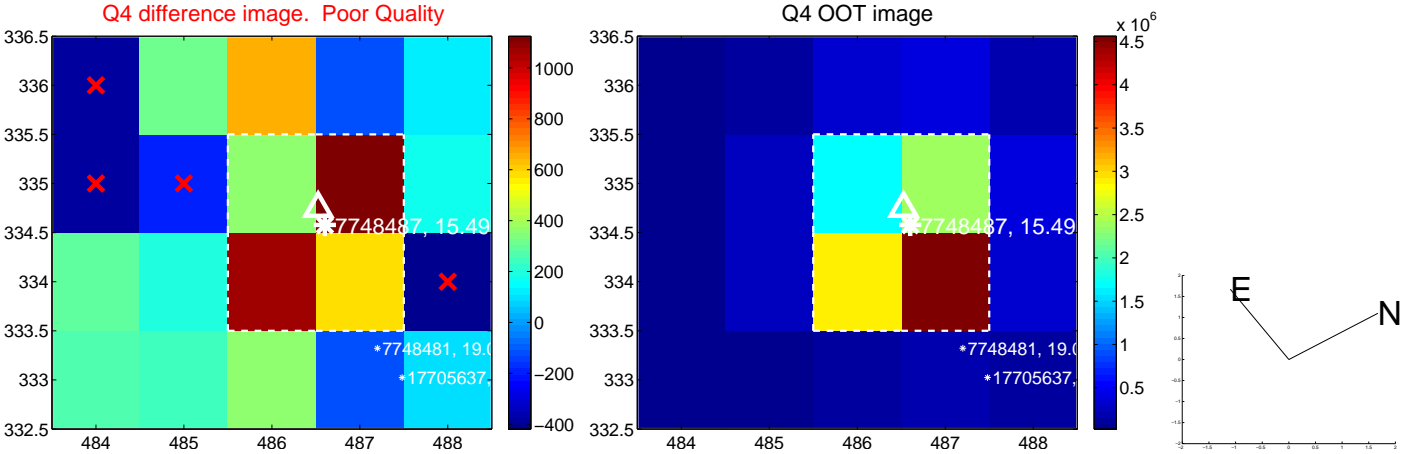
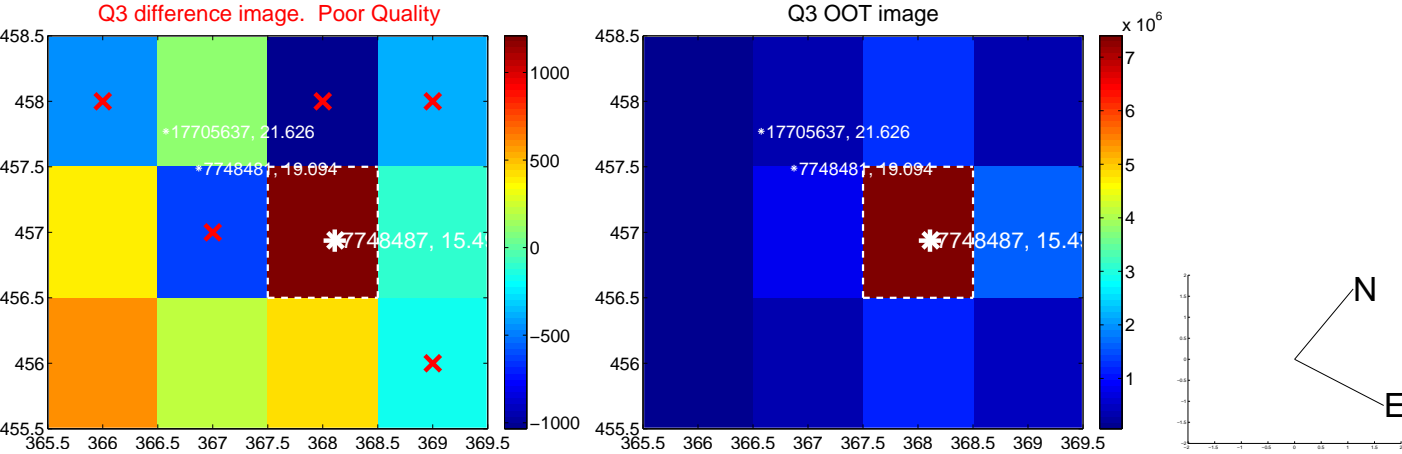
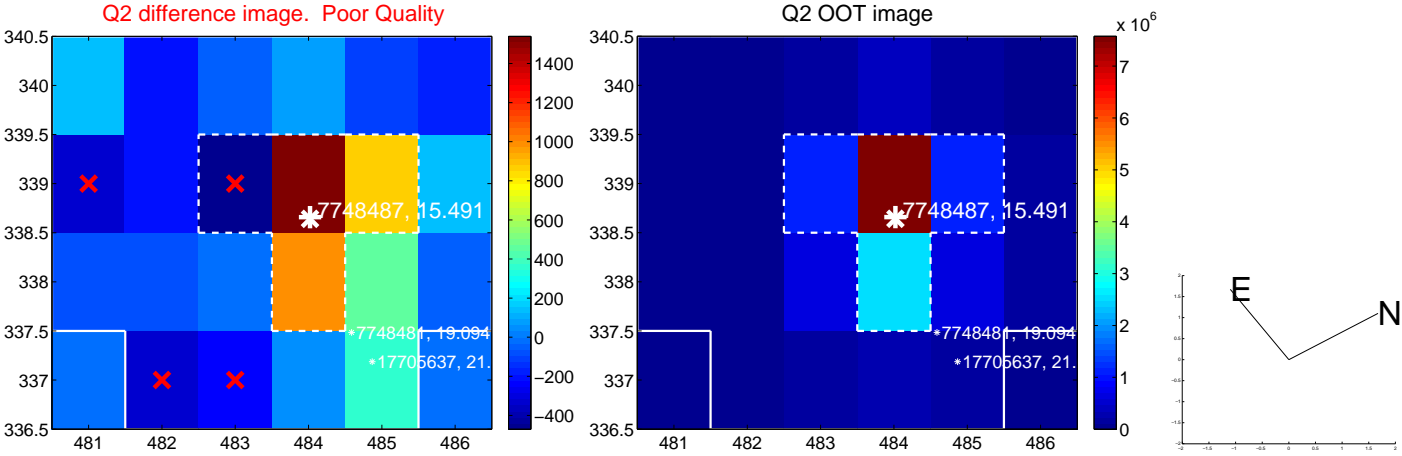
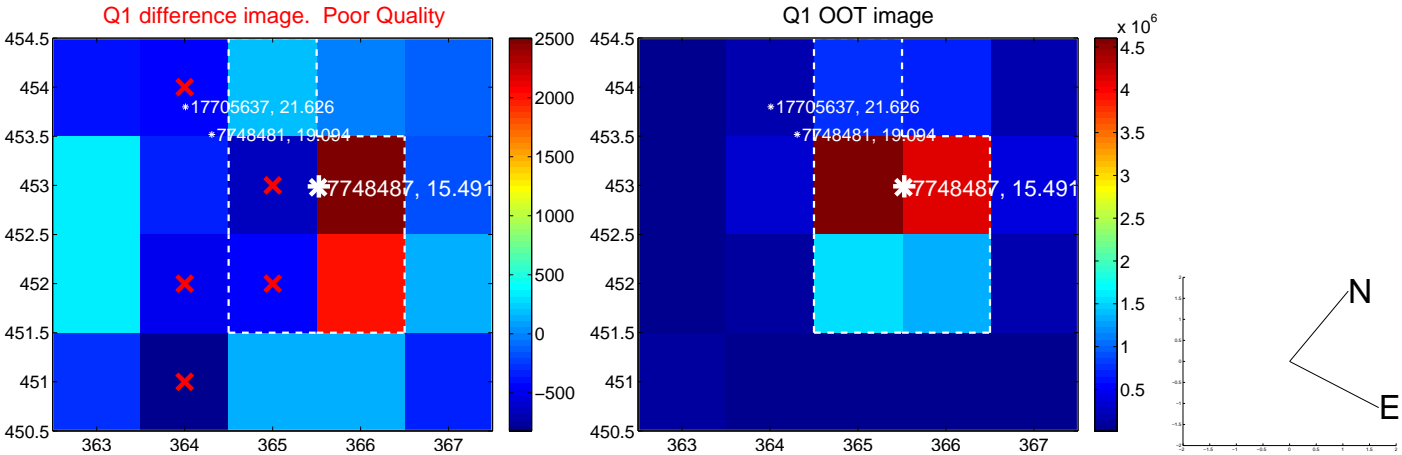
The direct PRF centroid is offset from the target star catalog position by about 0.00 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.737 ± 0.457	1.61	0.259 ± 0.237	0.691 ± 0.480
PRF-fit source offset from KIC position	0.762 ± 0.462	1.65	0.272 ± 0.320	0.711 ± 0.555
photometric centroid source offset	0.52 ± 1.08	0.48	0.24 ± 1.09	0.45 ± 1.07

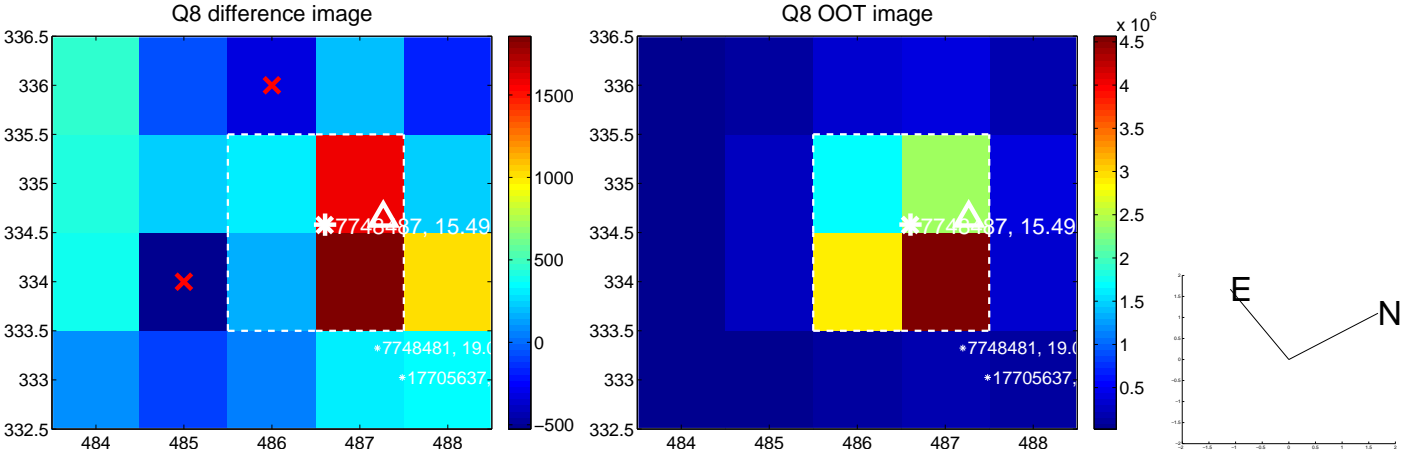
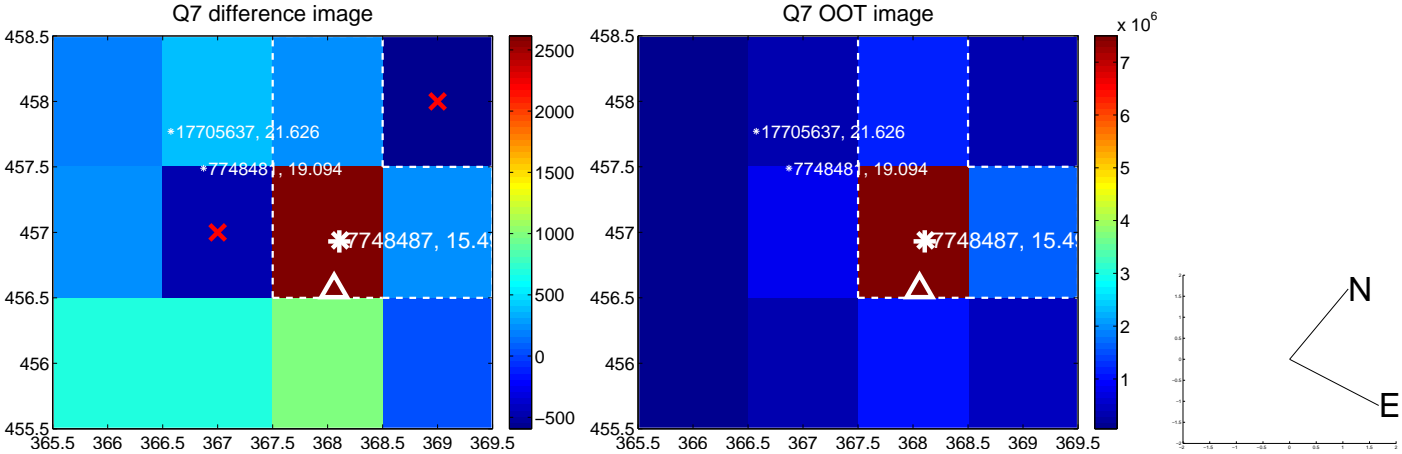
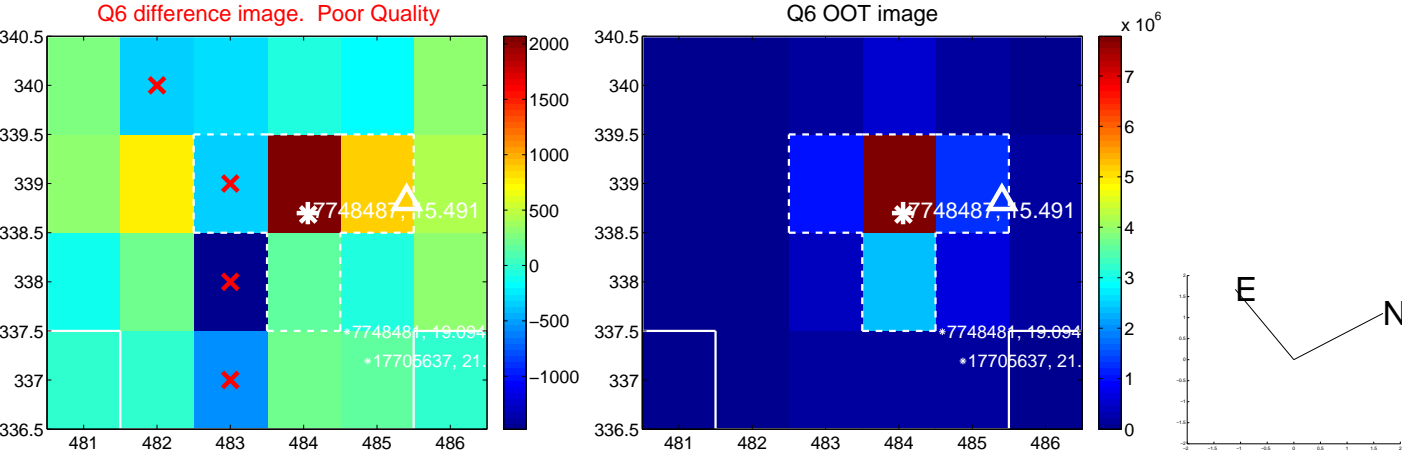
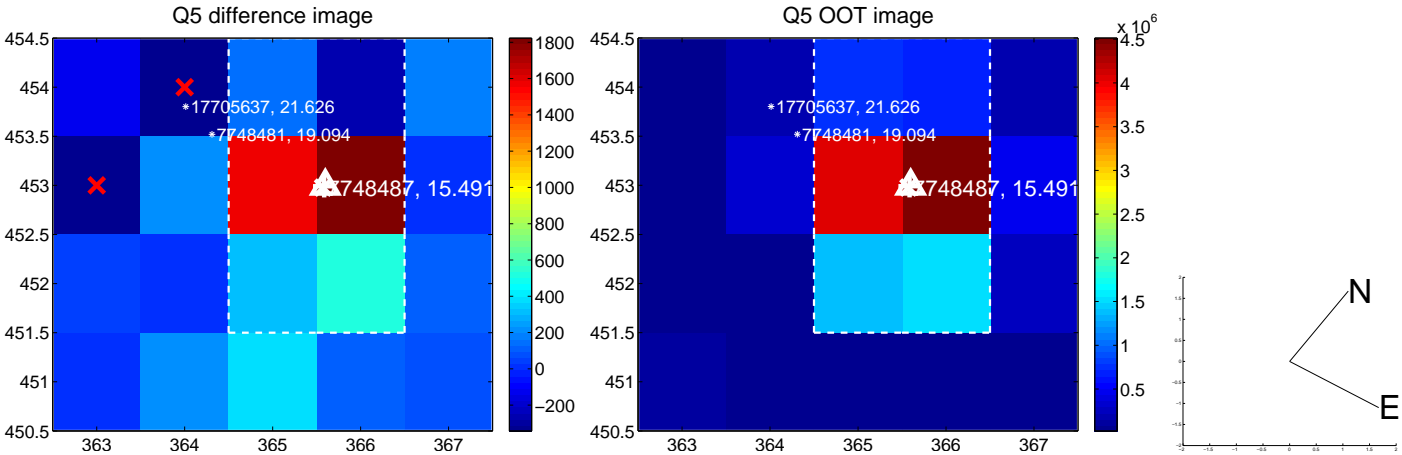


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

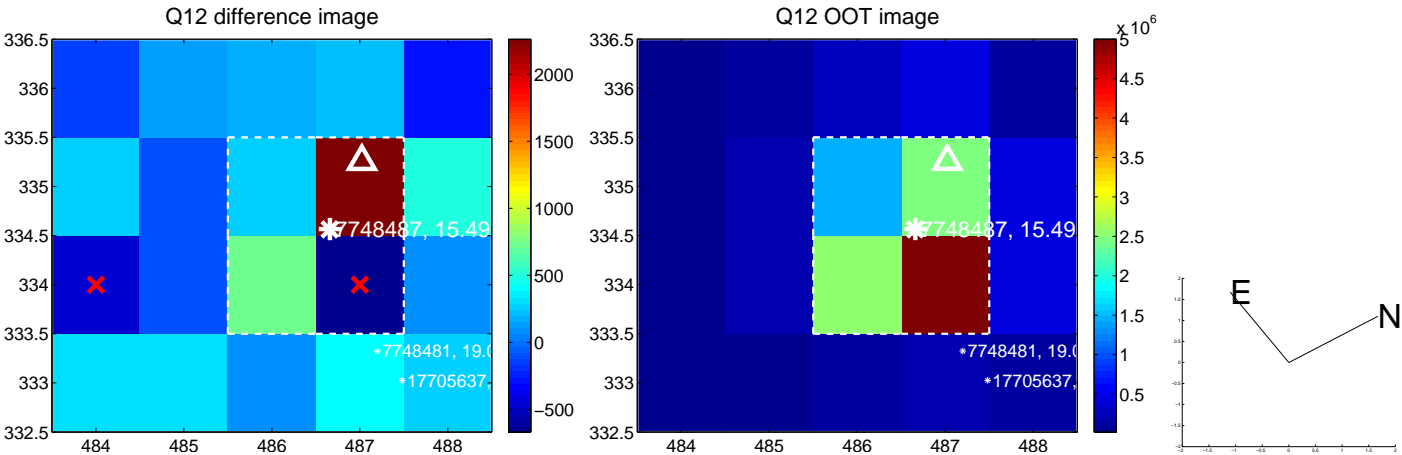
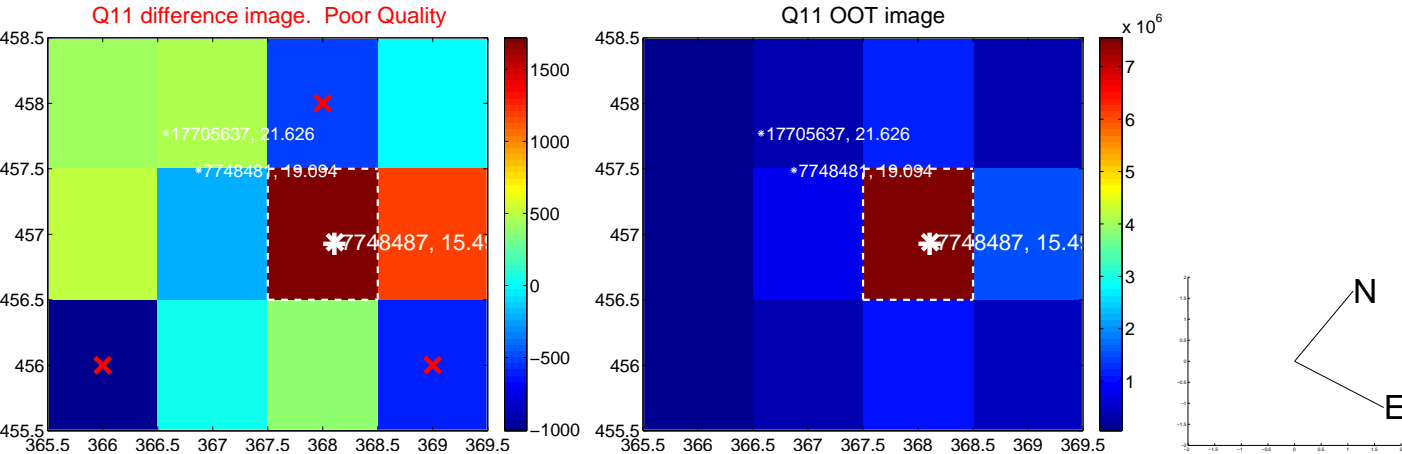
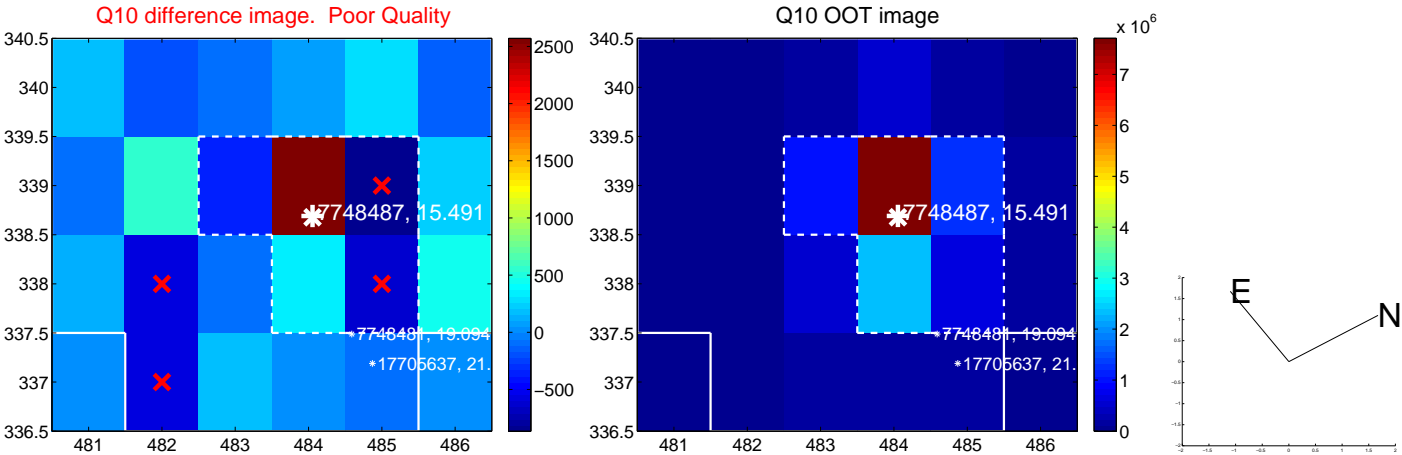
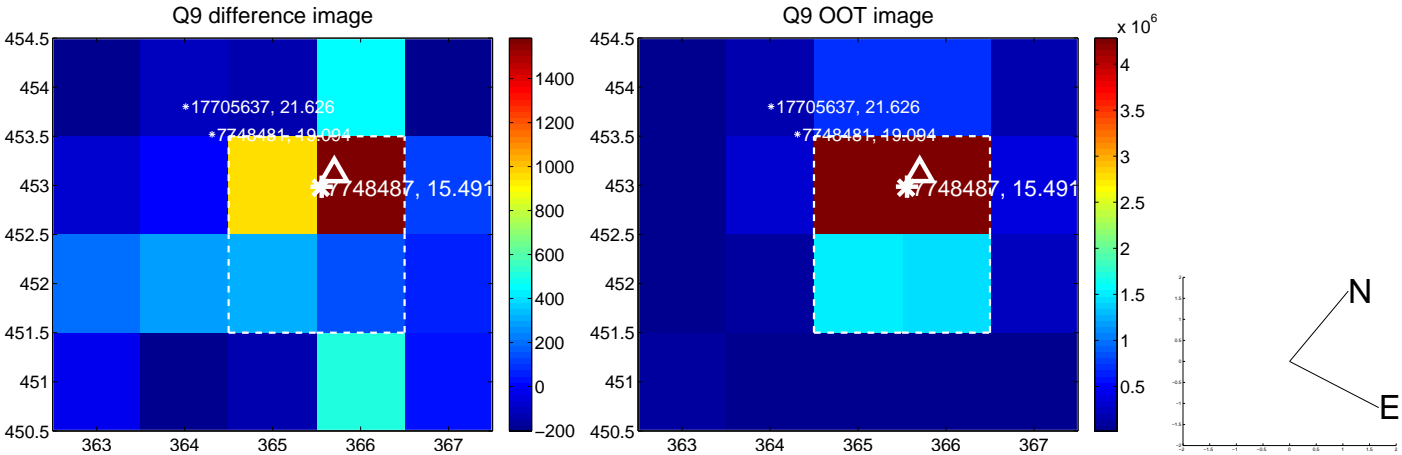
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



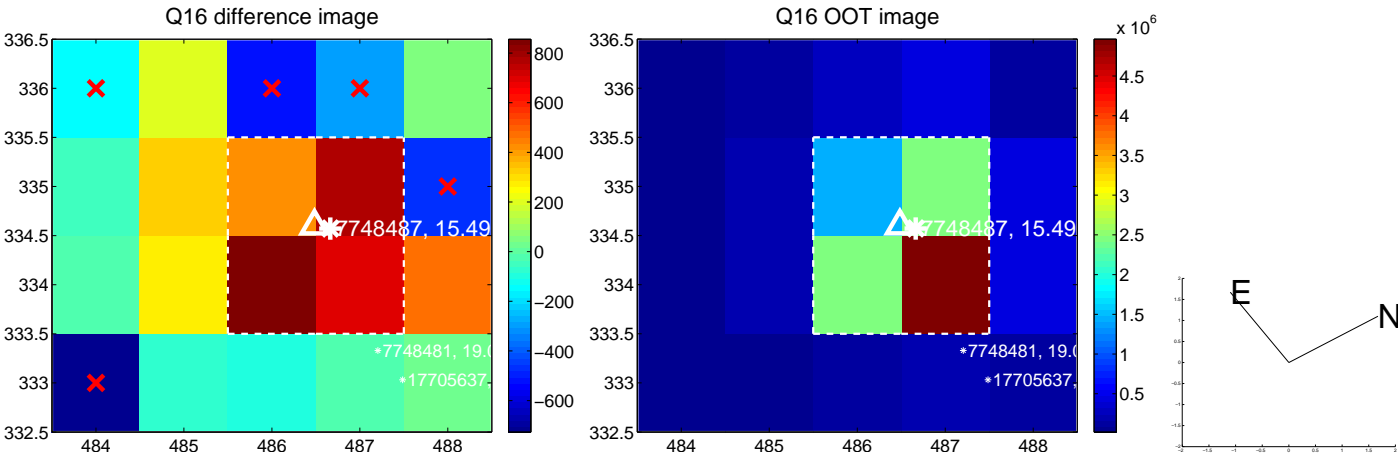
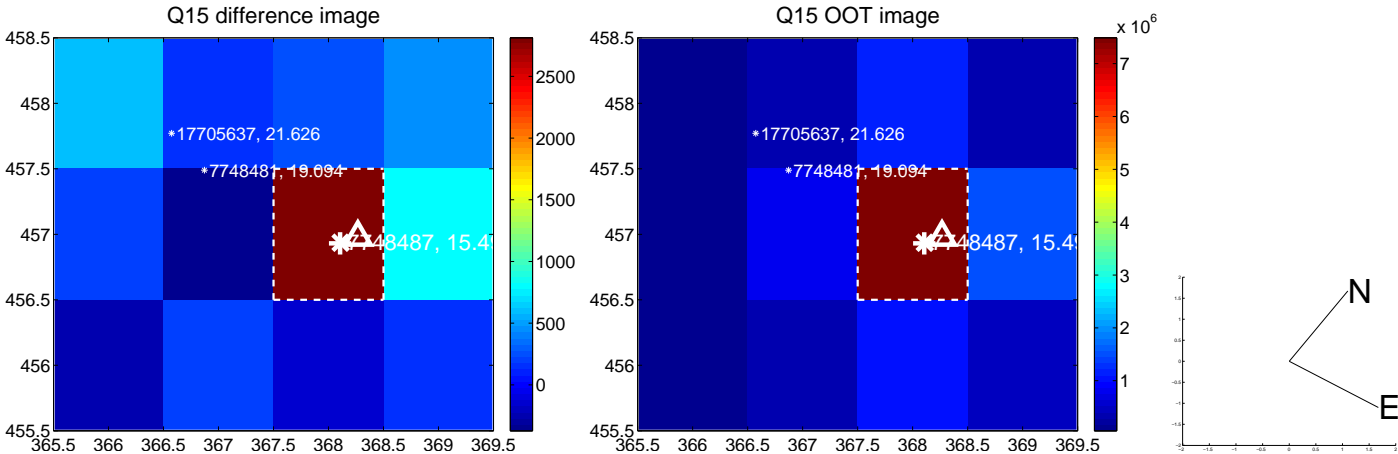
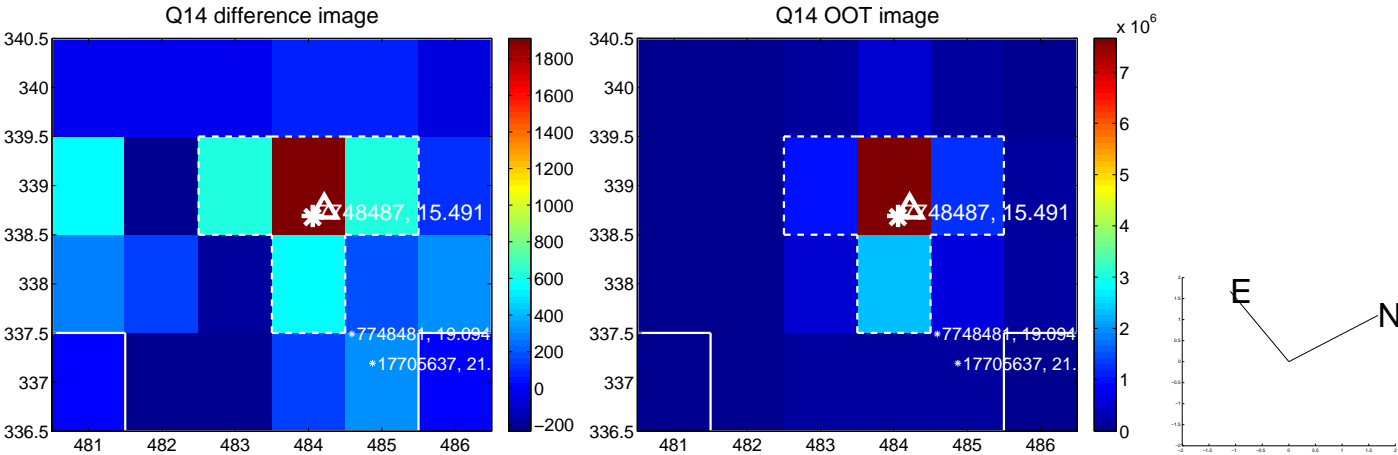
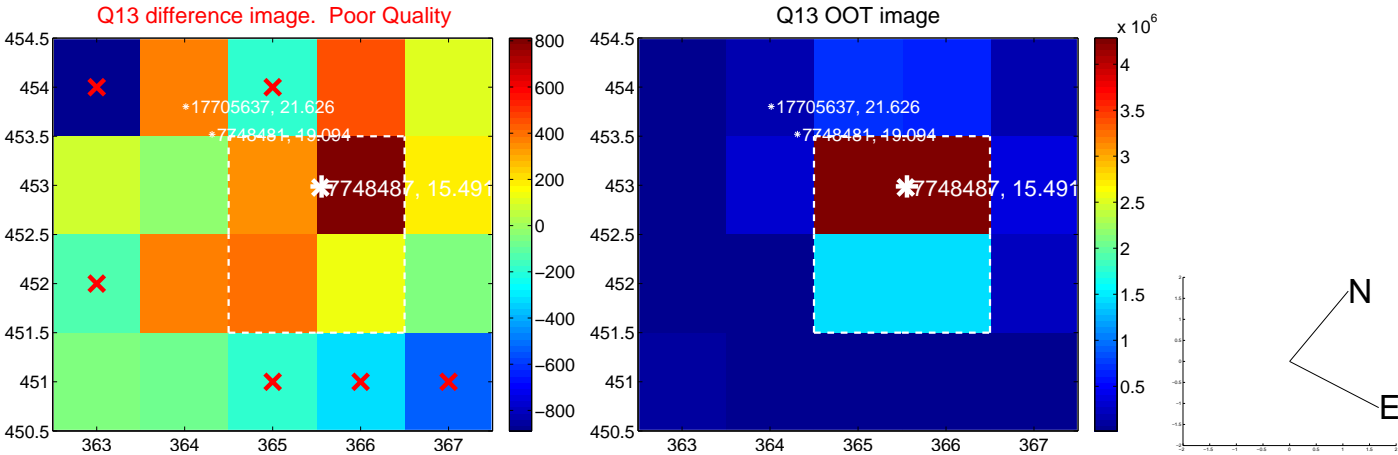
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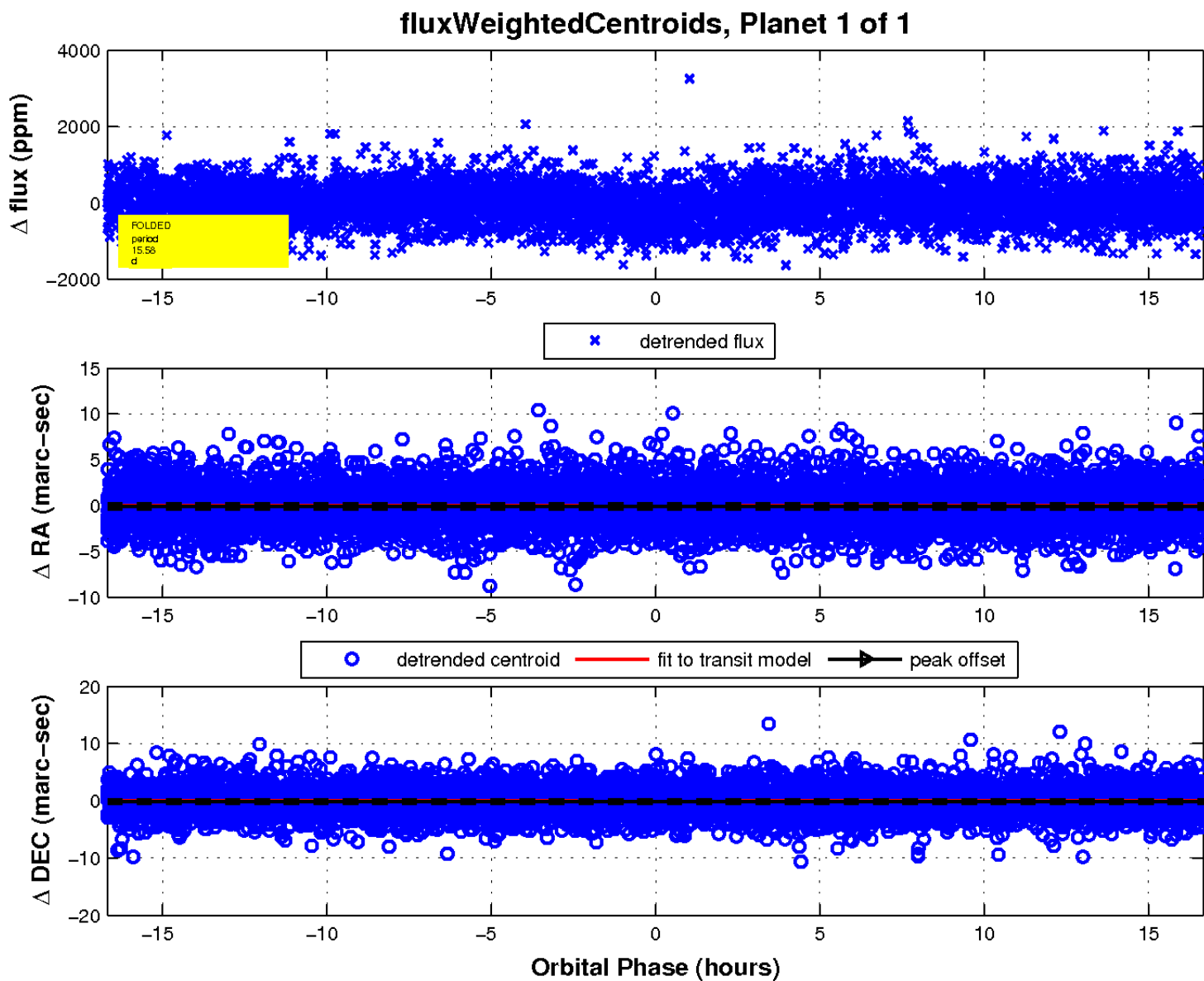
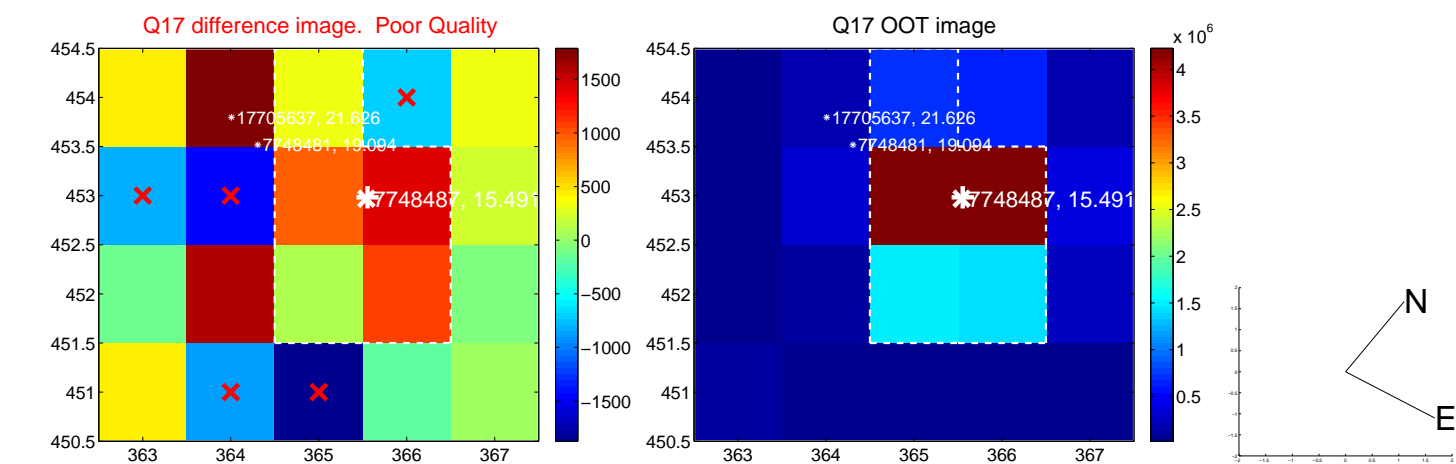
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

