

KIC 012071754

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})
012071754-01	OBS	4914.01	5.474547	133.554150	71.5	3.615	9.9	9.9	1.31	5611	1.33	421.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012071754-01	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.

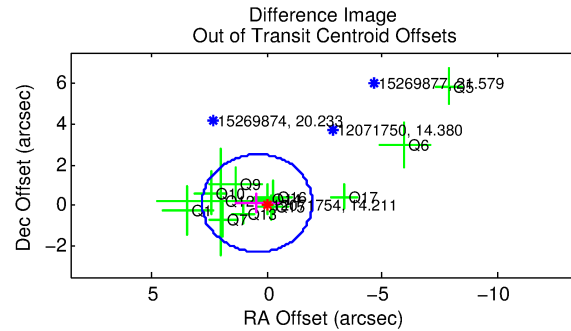
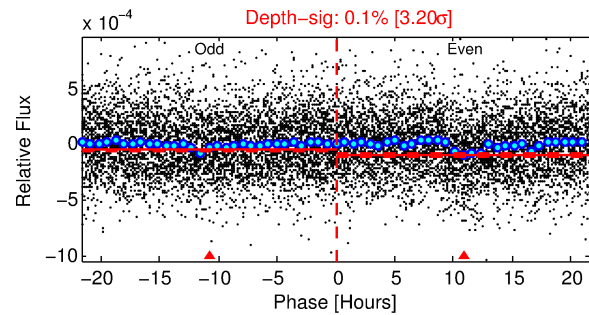
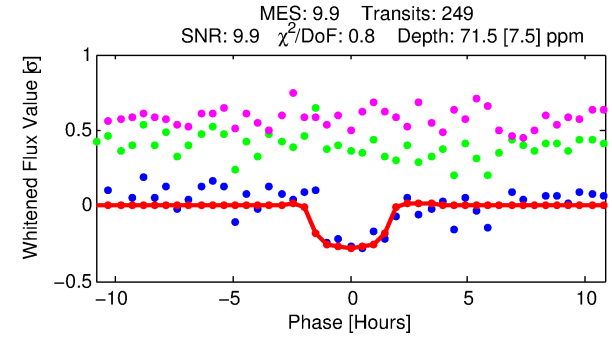
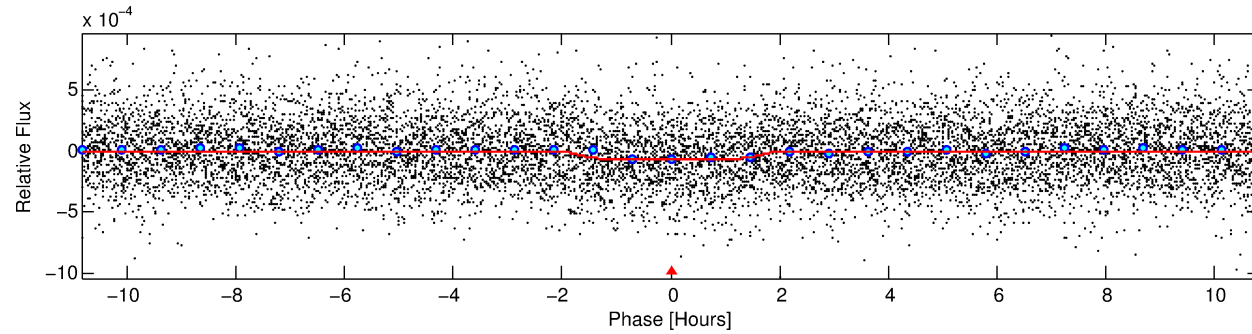
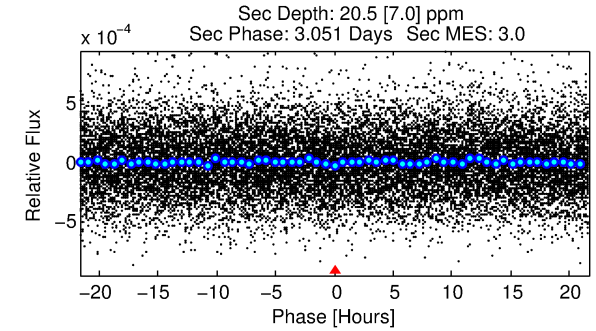
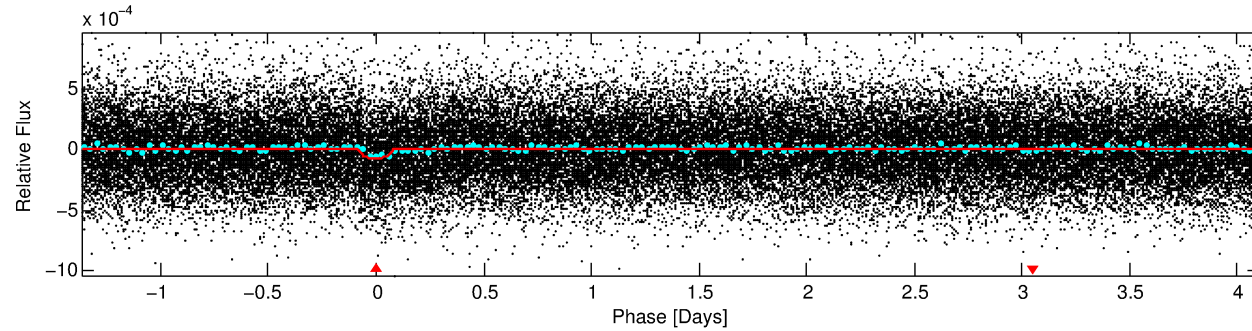
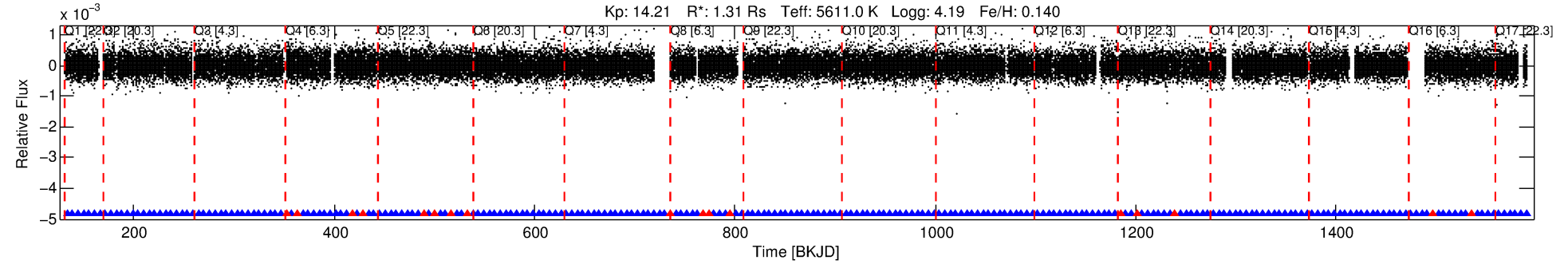
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012071754-01

No Significant Match Found

DV One-Page Summary

KIC: 12071754 Candidate: 1 of 1 Period: 5.475 d
KOI: K04914.01 Corr: 0.787



DV Fit Results:

Period = 5.47455 [0.00005] d
Epoch = 133.5542 [0.0066] BKJD
Rp/R* = 0.0093 [0.0057]
a/R* = 5.32 [14.56]
b = 0.90 [0.60]
Seff = 421.26 [132.34]
Teq = 1155 [91] K
Rp = 1.33 [0.86] Re
a = 0.0602 [0.0115] AU
Ag = 23.14 [30.39] [0.73σ]
Teffp = 3917 [1252] K [2.20σ]

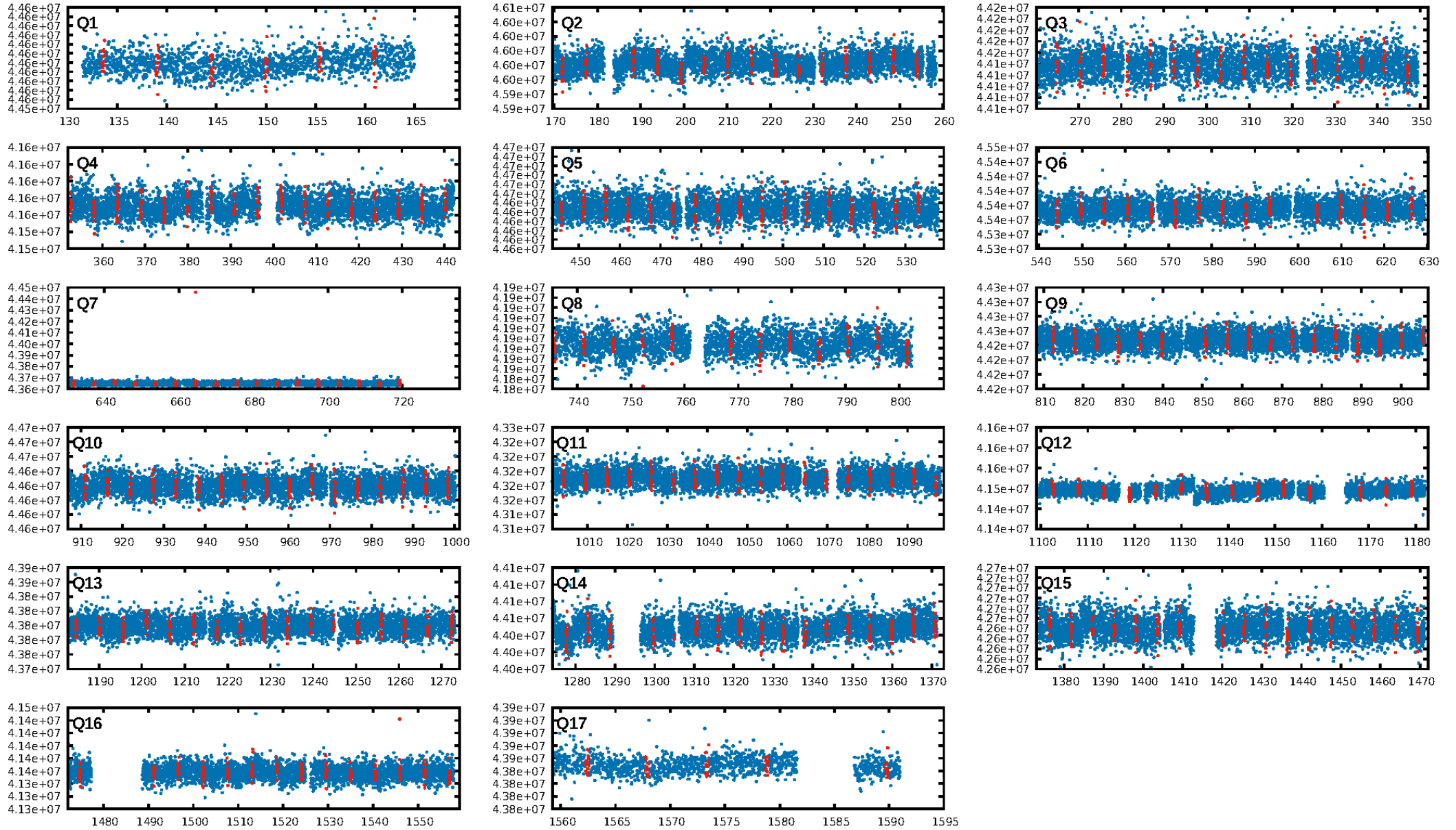
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.83e-23
RollingBand-fgt: 0.93 [221/238]
GhostDiagnostic-chr: 2.411
Centroid-sig: 90.3%
Centroid-so: 0.931 arcsec [0.66σ]
OotOffset-rm: 0.432 arcsec [0.54σ]
KicOffset-rm: 0.441 arcsec [0.50σ]
OotOffset-st: 3/2/2/5 [12]
KicOffset-st: 3/2/2/5 [12]
DiffImageQuality-fgm: 0.50 [6/12]
DiffImageOverlap-fno: 1.00 [17/17]

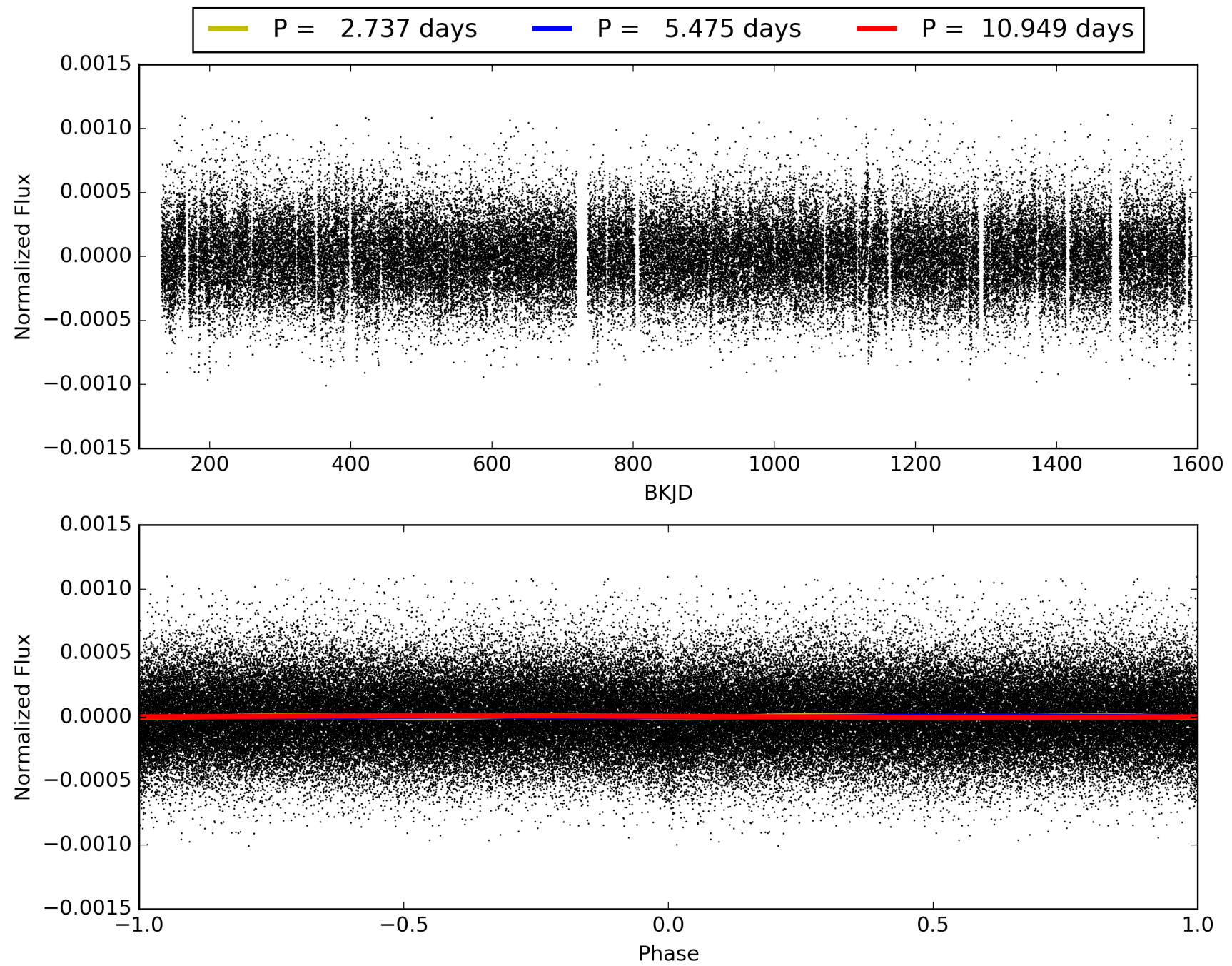
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:46:27 Z

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

TCE 012071754-01, PDC Light Curves

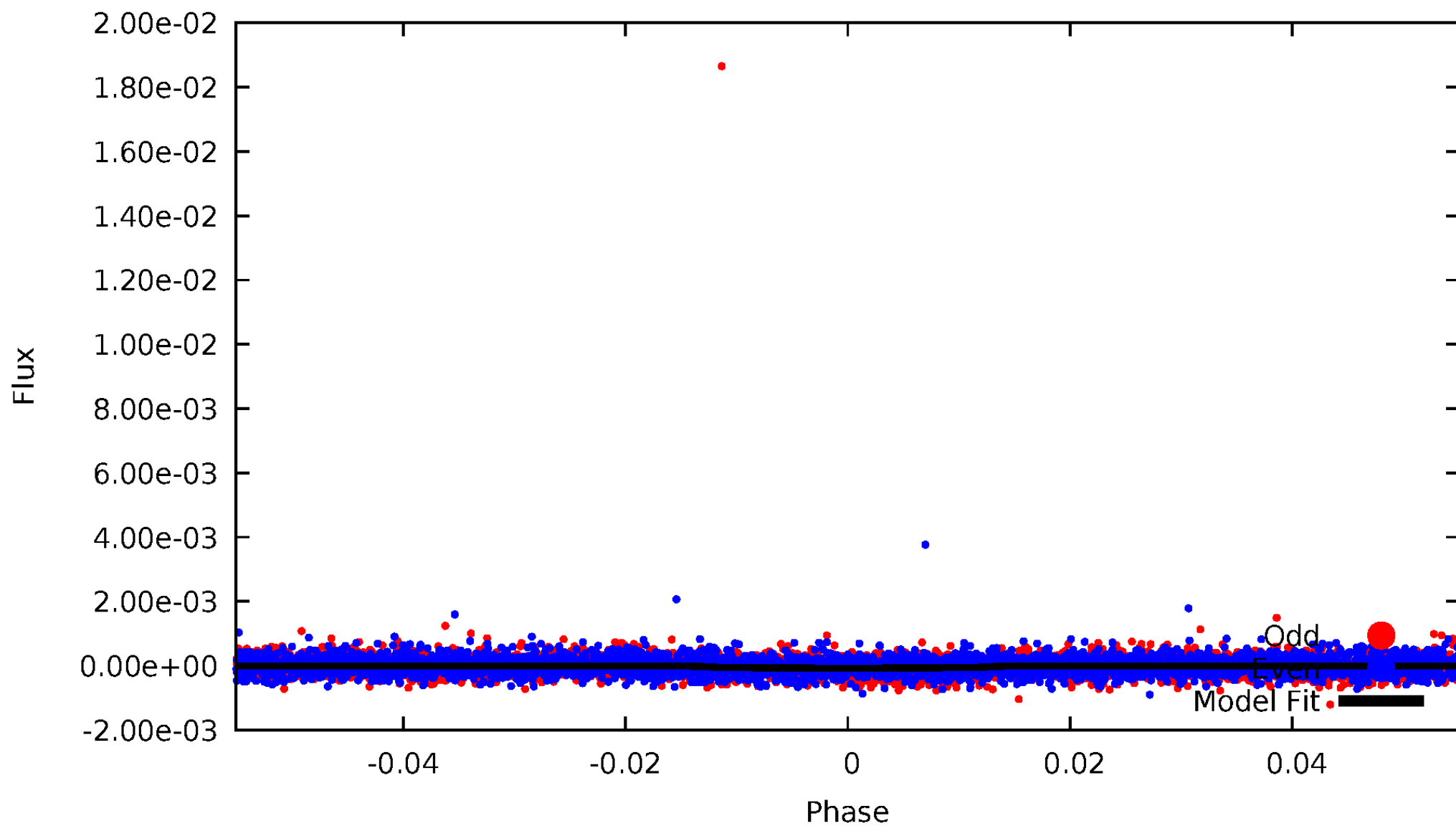


TCE 012071754-01



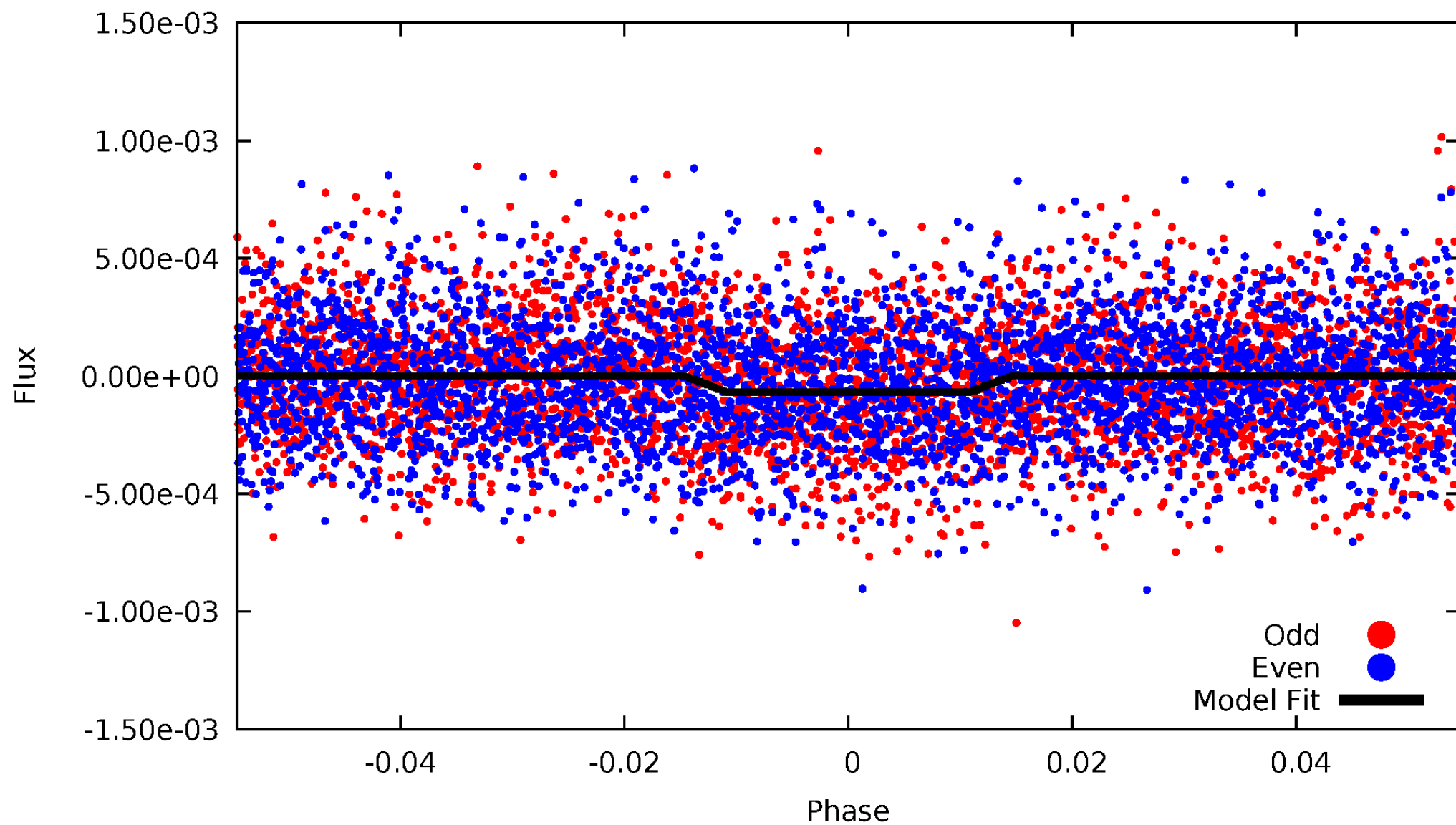
DV Odd/Even

TCE 012071754-01

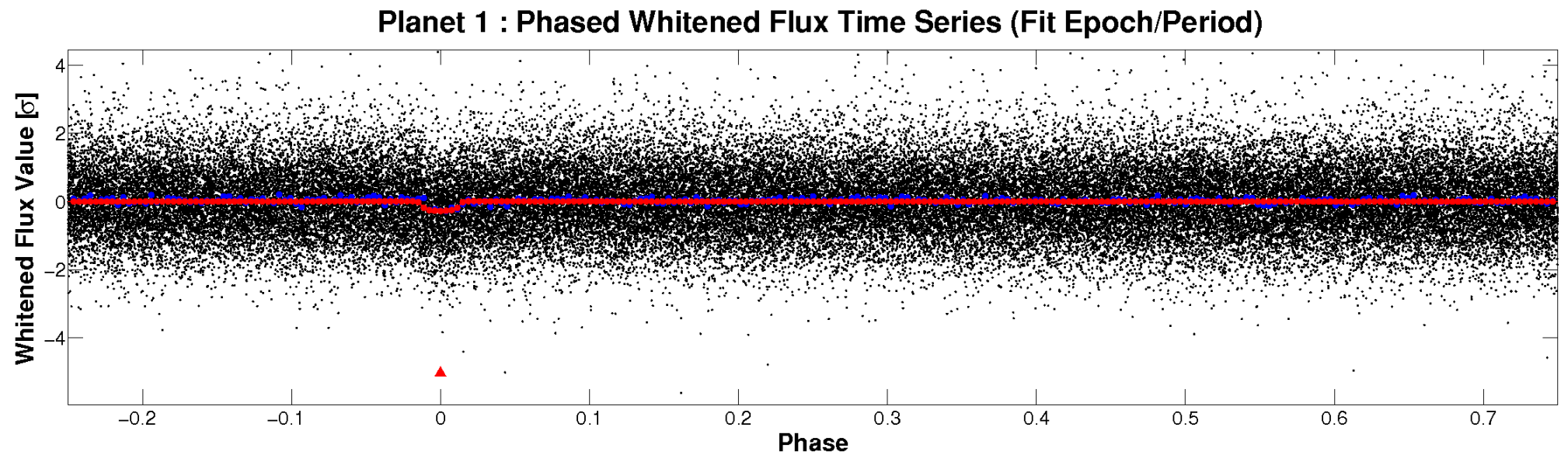
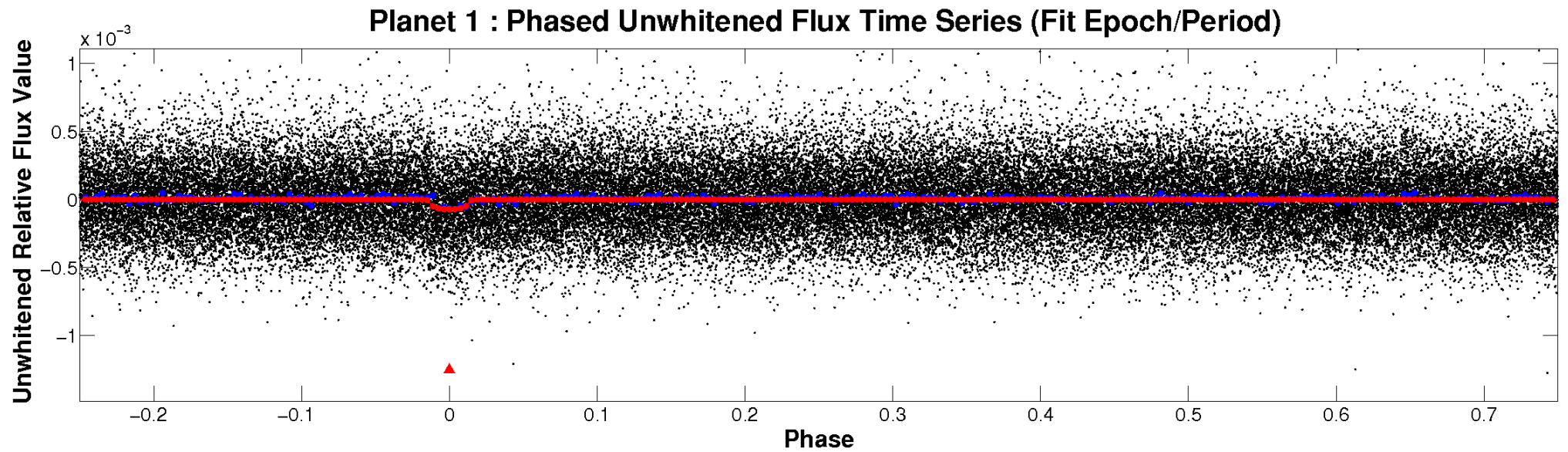


ALT Odd/Even

TCE 012071754-01

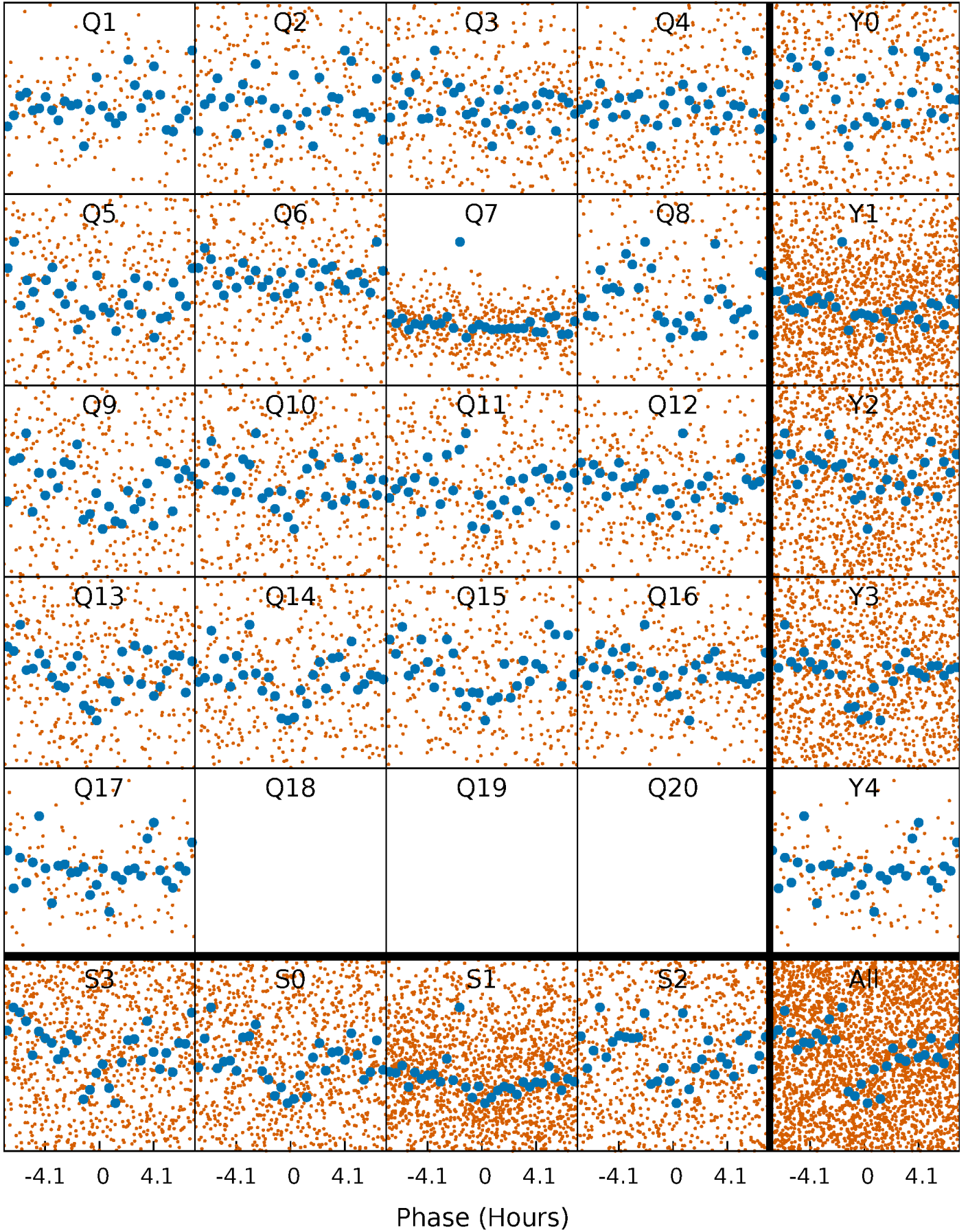


Non-Whitened Vs. Whitened Light Curve



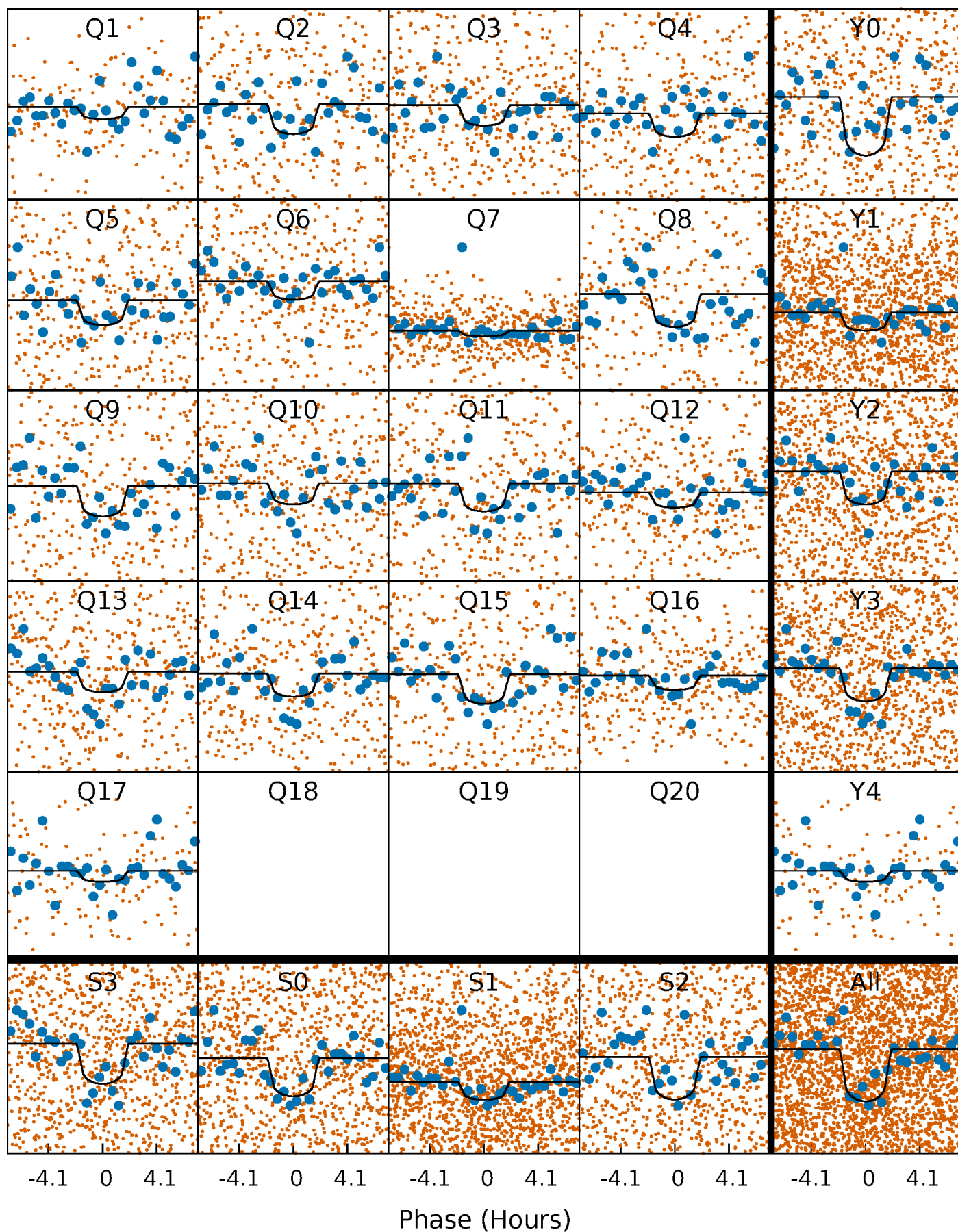
PDC Quarter-Phased Transit Curves

TCE 012071754-01 P= 5.474547 Days $T_0=133.554150$ (BKJD)



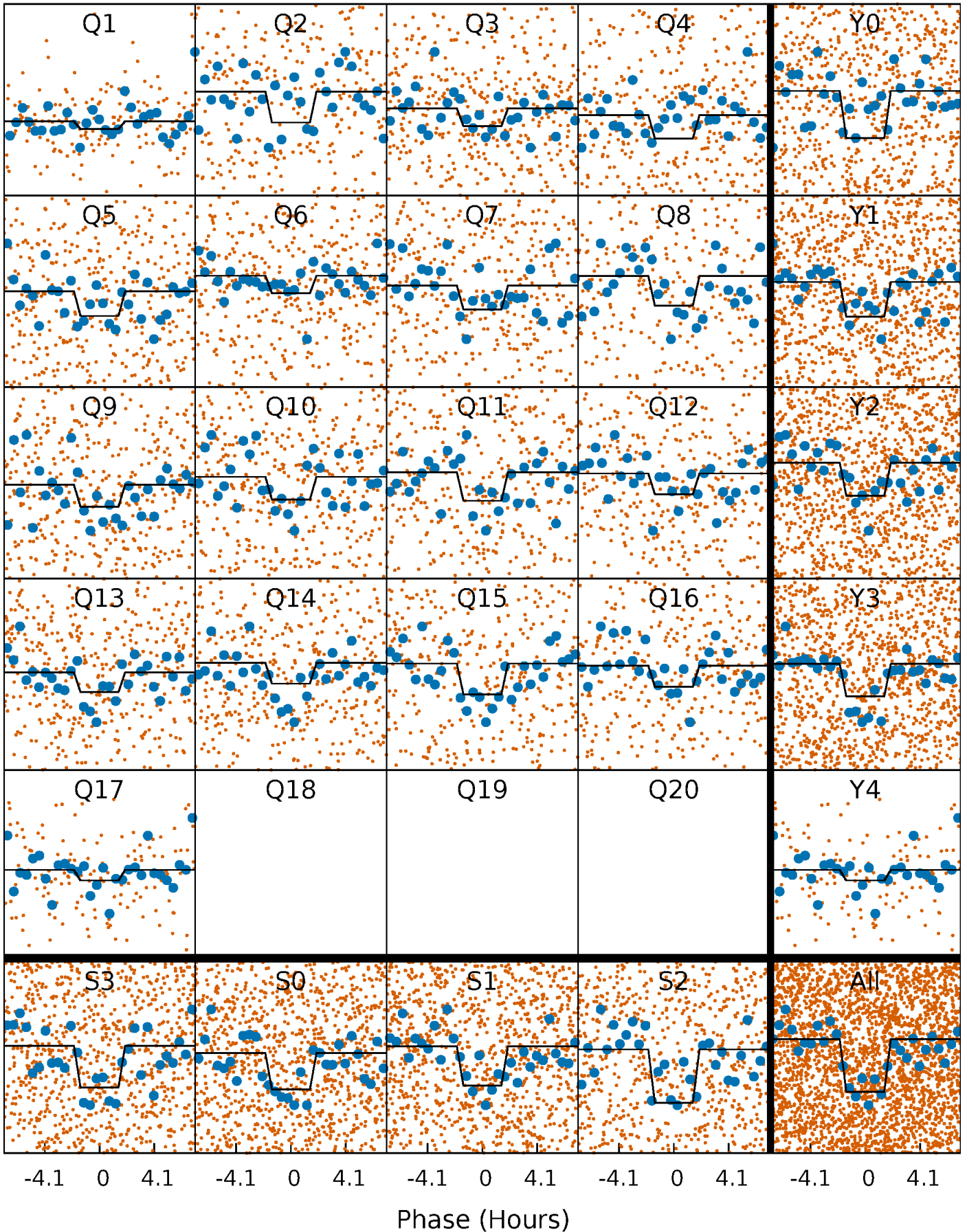
DV Quarter-Phased Transit Curves

TCE 012071754-01 P= 5.474547 Days $T_0=133.554150$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

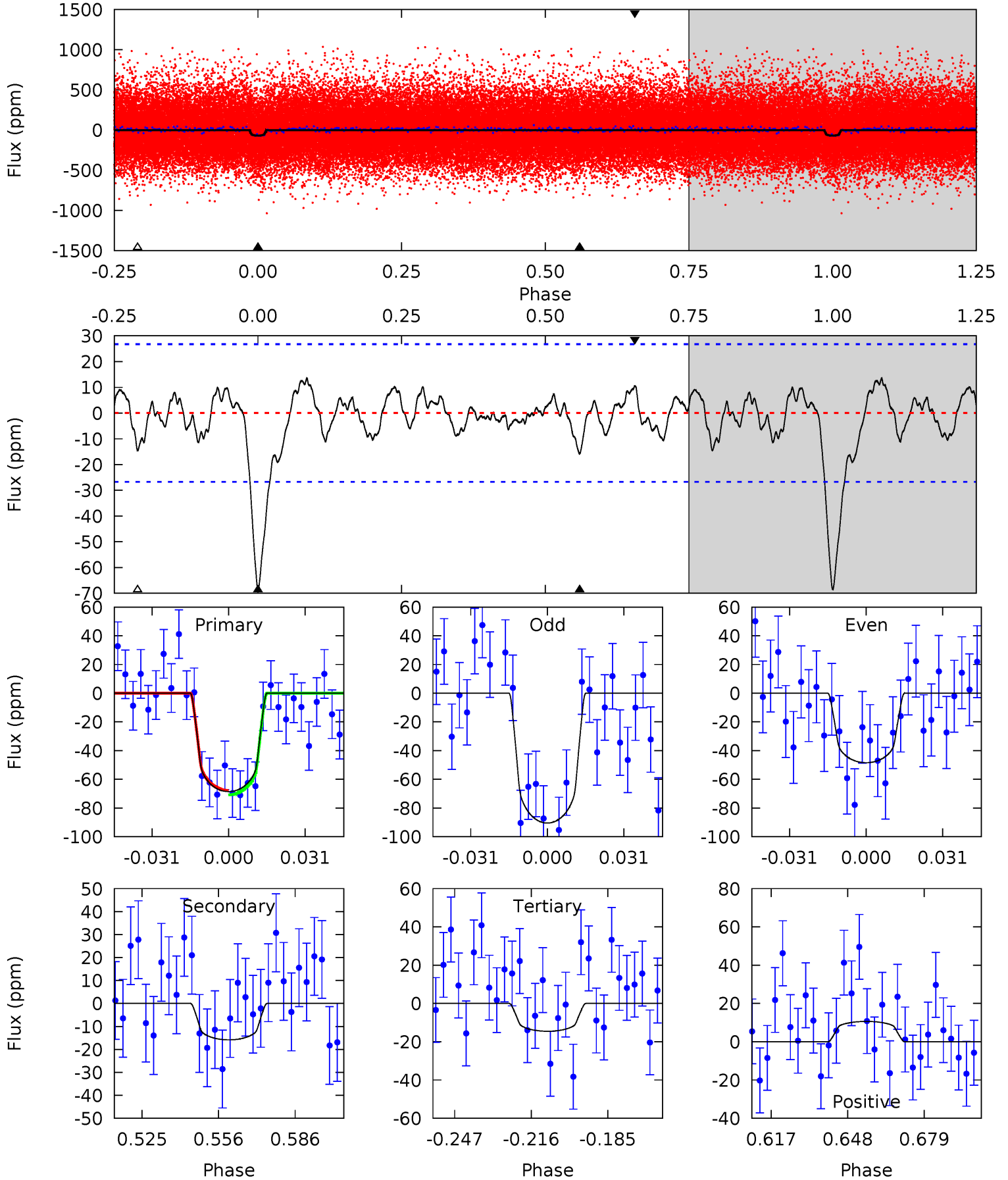
TCE 012071754-01 P= 5.474525 Days $T_0=133.558793$ (BKJD)



DV Model-Shift Uniqueness Test

012071754-01, P = 5.474547 Days, E = 128.079603 Days

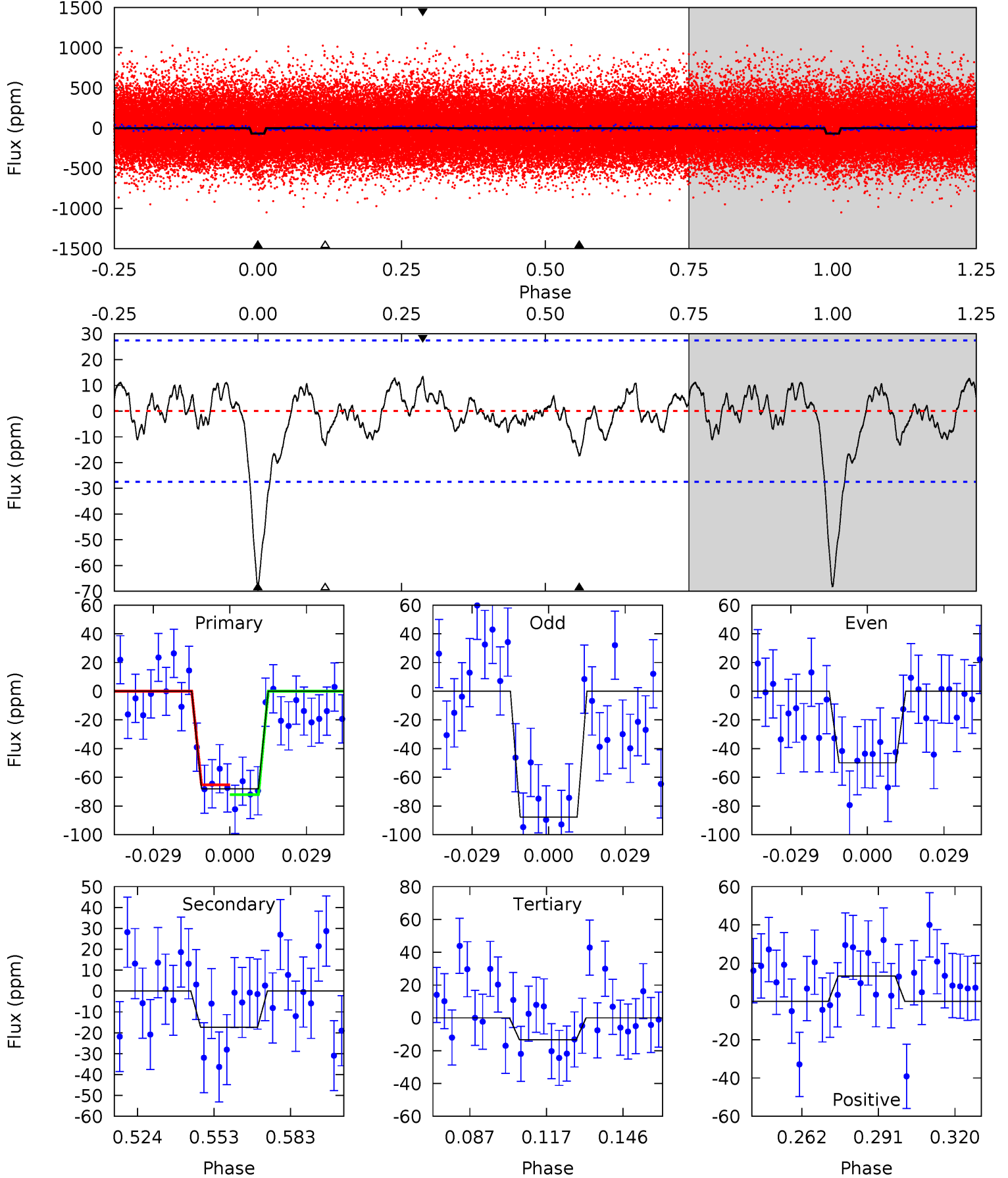
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.3	2.85	2.61	1.91	4.81	2.16	1.10	9.73	10.4	0.24	0.94	3.79	0.79	0.17	0.27



Alt Model-Shift Uniqueness Test

012071754-01, P = 5.474525 Days, E = 128.084268 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.9	3.04	2.33	2.33	4.82	2.18	1.07	9.61	9.60	0.71	0.71	3.33	0.95	0.16	0.61



Stellar Parameters For KIC 012071754

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5611^{+84}_{-75}	$4.190^{+0.182}_{-0.098}$	$0.140^{+0.150}_{-0.150}$	$1.312^{+0.210}_{-0.257}$	$0.972^{+0.074}_{-0.060}$	$0.607^{+0.577}_{-0.183}$
	+1%/-1%	+4%/-2%	+107%/-107%	+16%/-20%	+8%/-6%	+95%/-30%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 012071754-01 / KOI 4914.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-16 ± 6	$1.29^{+0.83}_{-0.70}$	1602^{+73}_{-86}	3927^{+1596}_{-638}	18^{+75}_{-12}
Alt.	-17 ± 6	$1.27^{+0.78}_{-0.69}$	1606^{+69}_{-81}	4050^{+1557}_{-626}	21^{+80}_{-13}

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

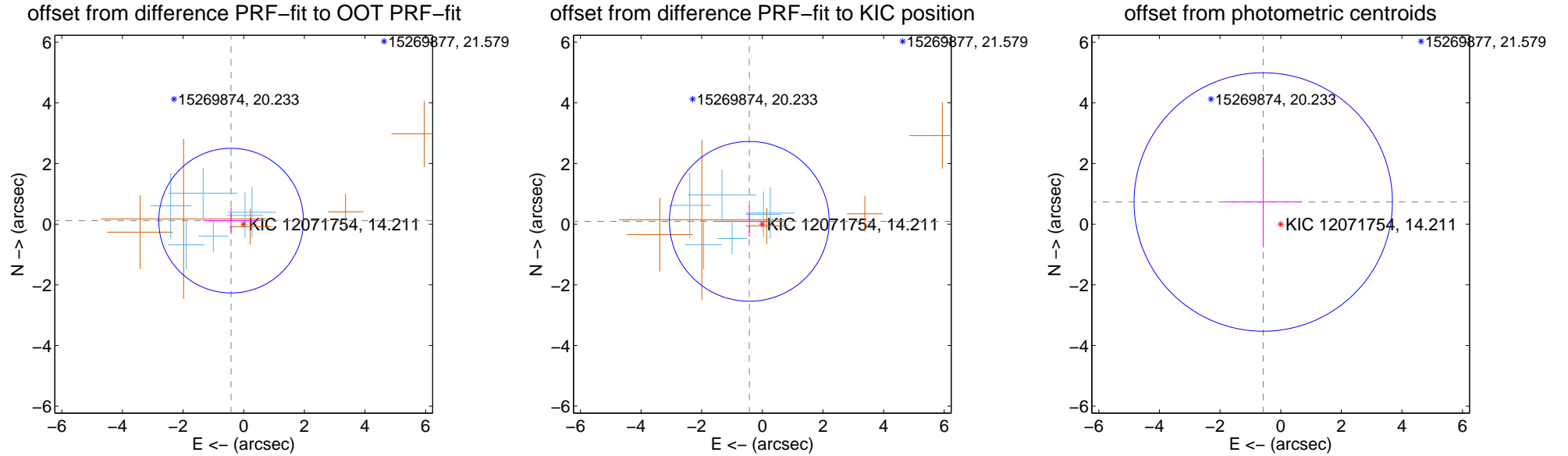
DV Centroid Data

Supplemental centroid analysis for 012071754-01. Kepler magnitude: 14.21. Transit SNR 9.94

There are 6 quarters with good PRF difference image offsets

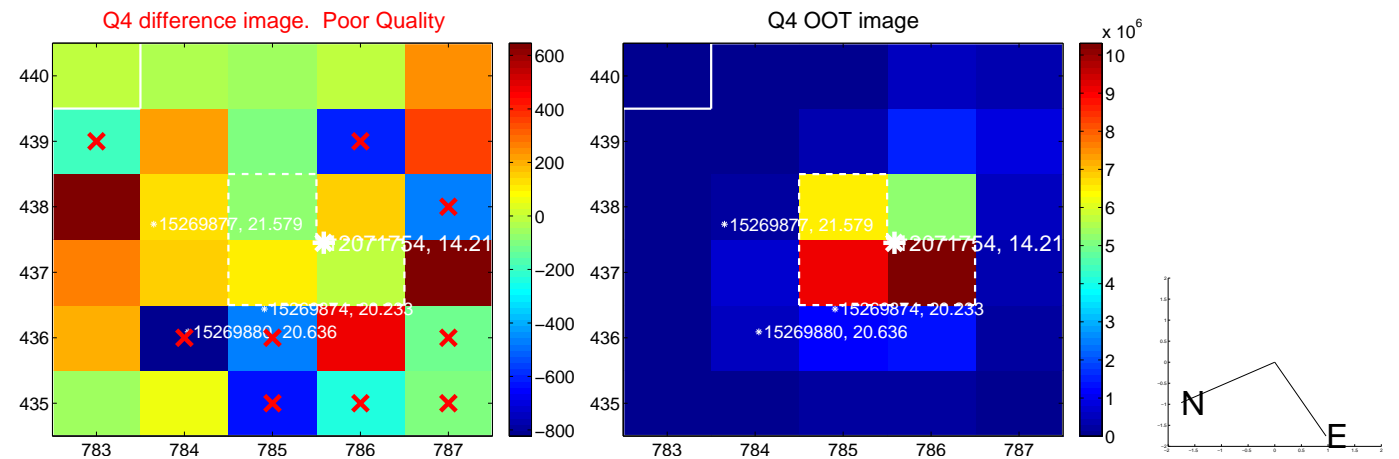
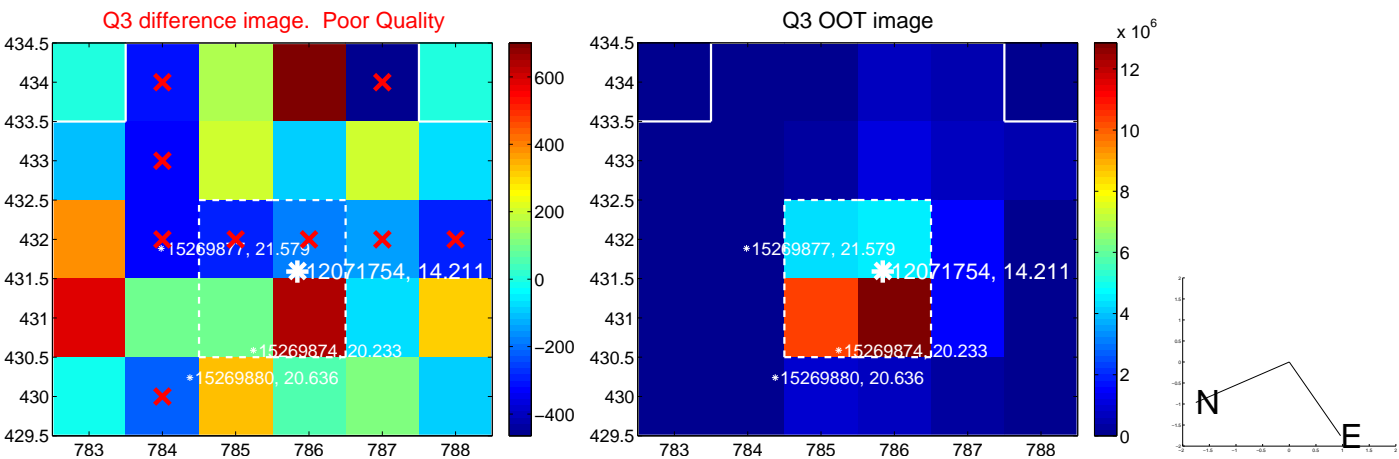
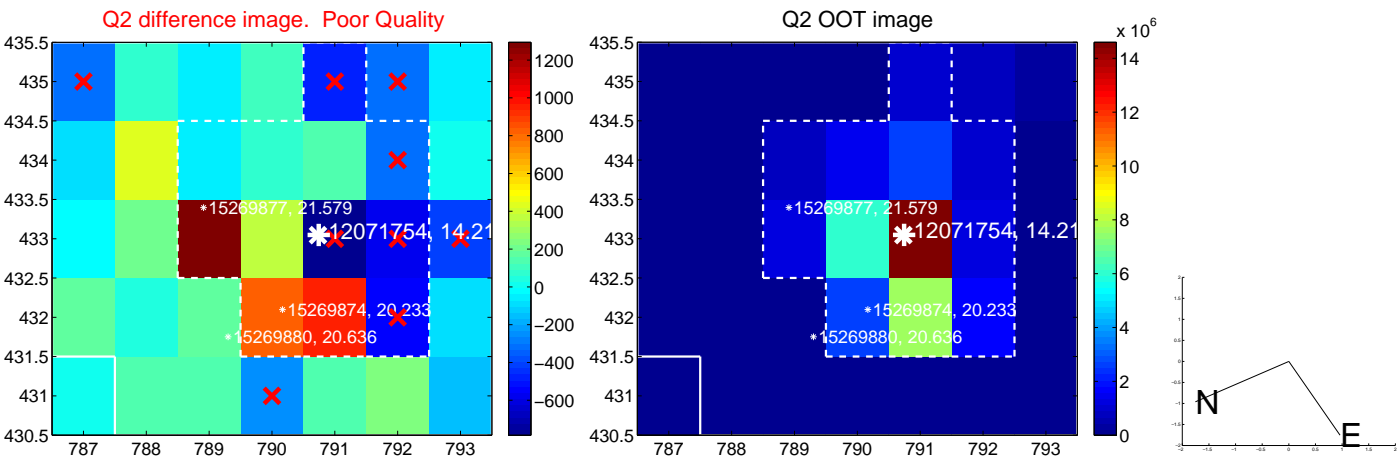
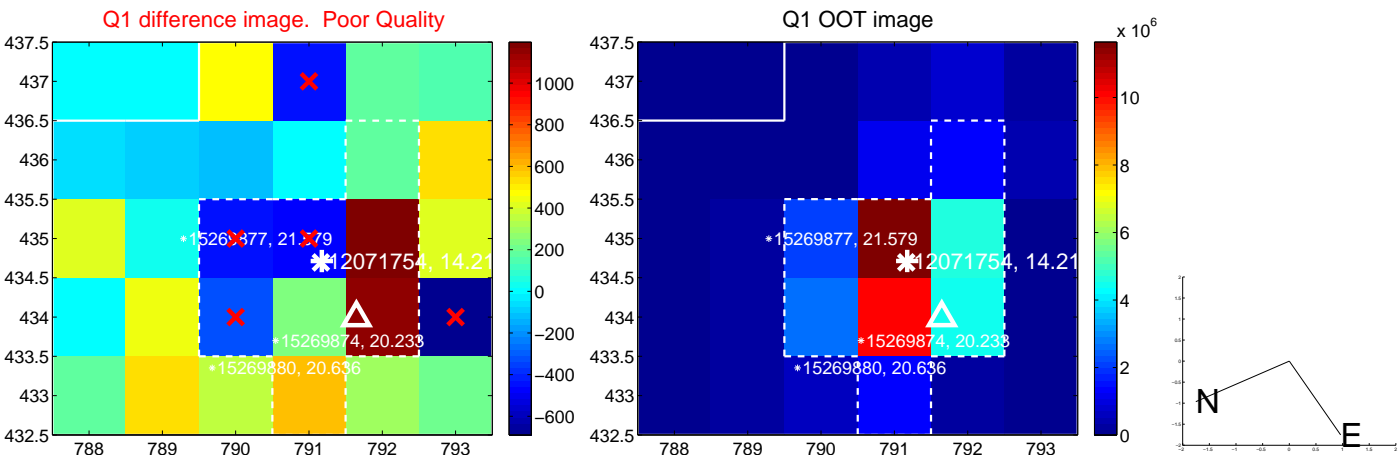
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.432 ± 0.796	0.54	0.416 ± 0.915	0.117 ± 0.433
PRF-fit source offset from KIC position	0.441 ± 0.878	0.50	0.431 ± 0.986	0.093 ± 0.510
photometric centroid source offset	0.93 ± 1.42	0.66	0.58 ± 1.28	0.73 ± 1.50

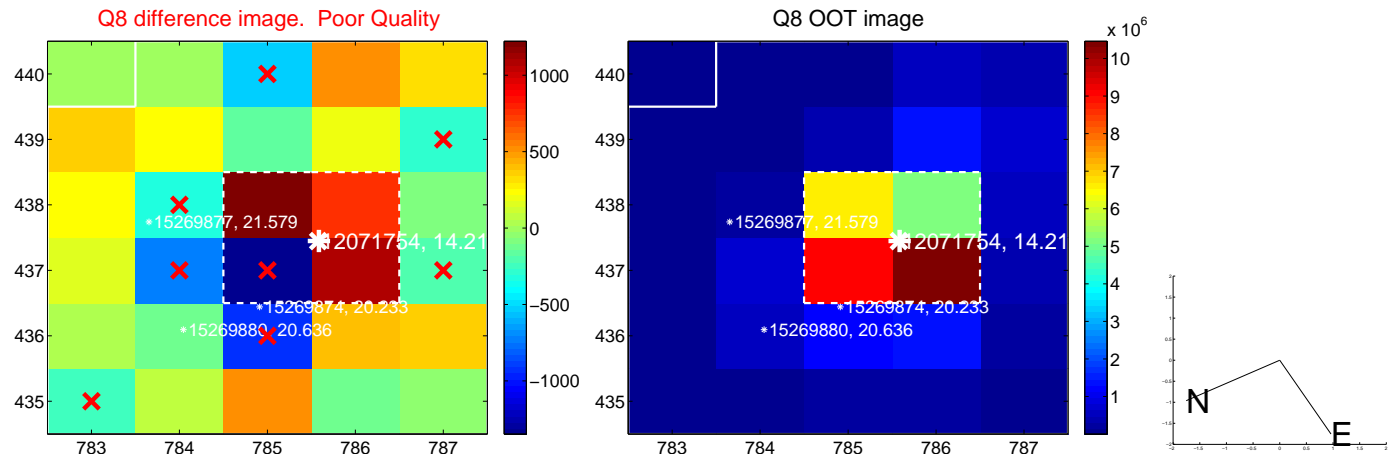
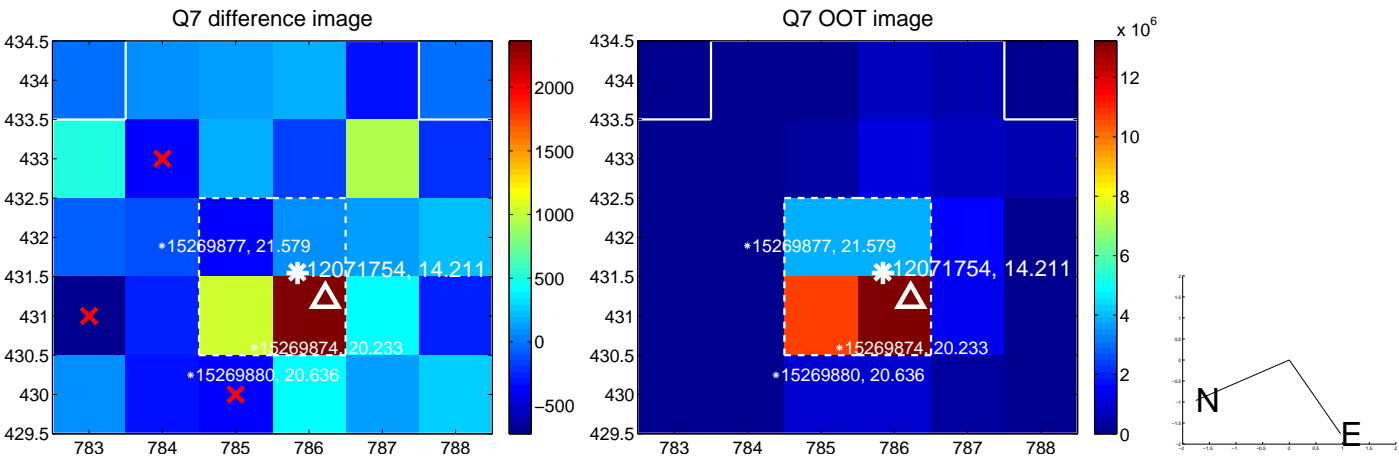
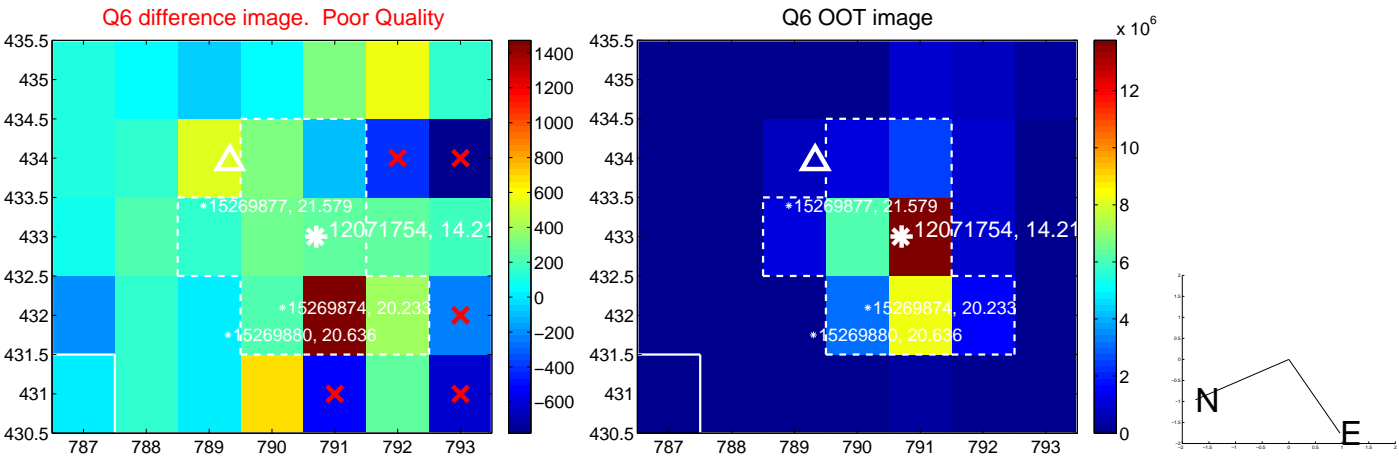
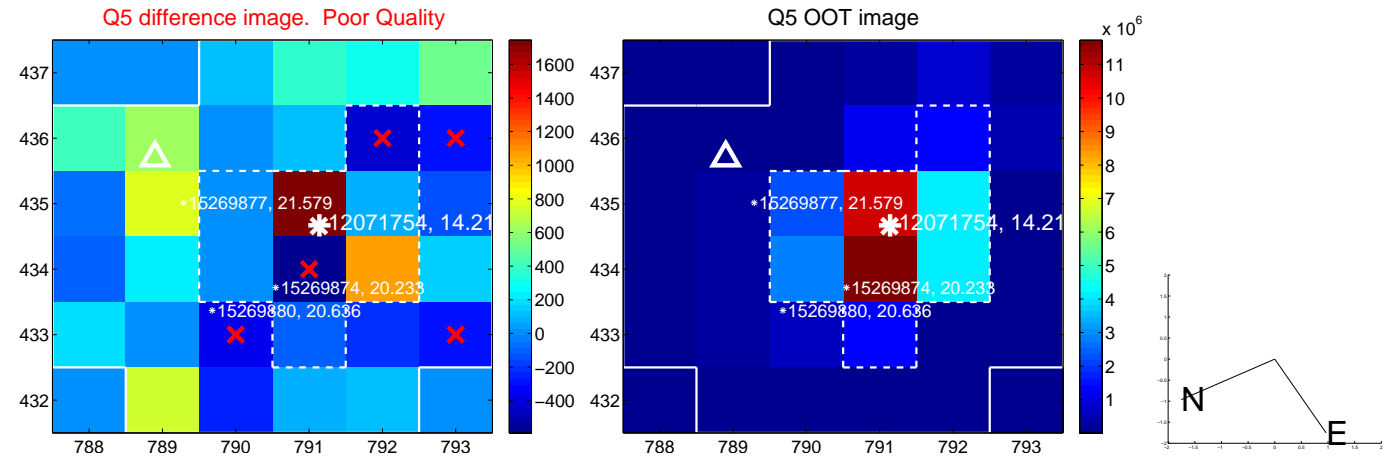


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

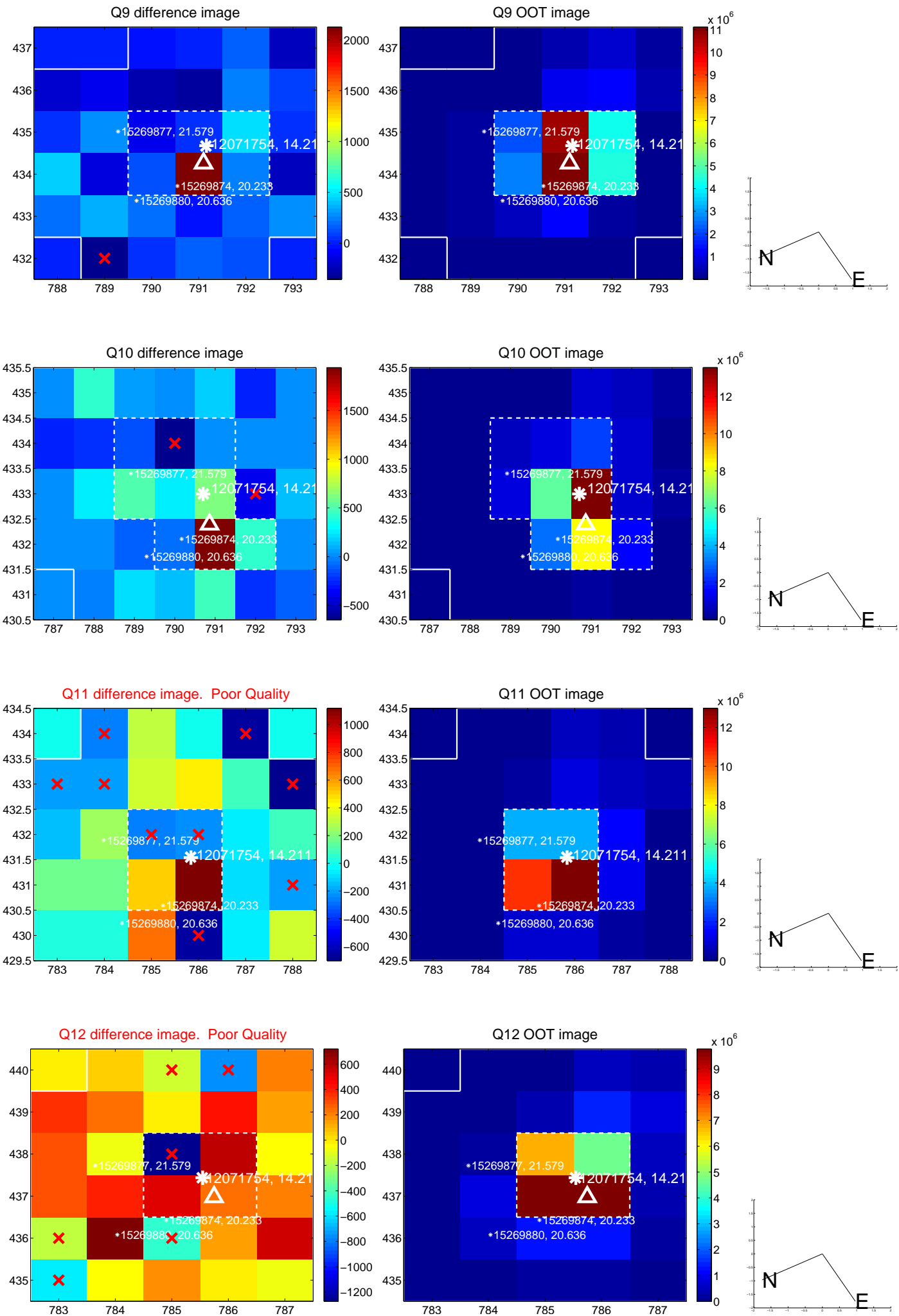
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



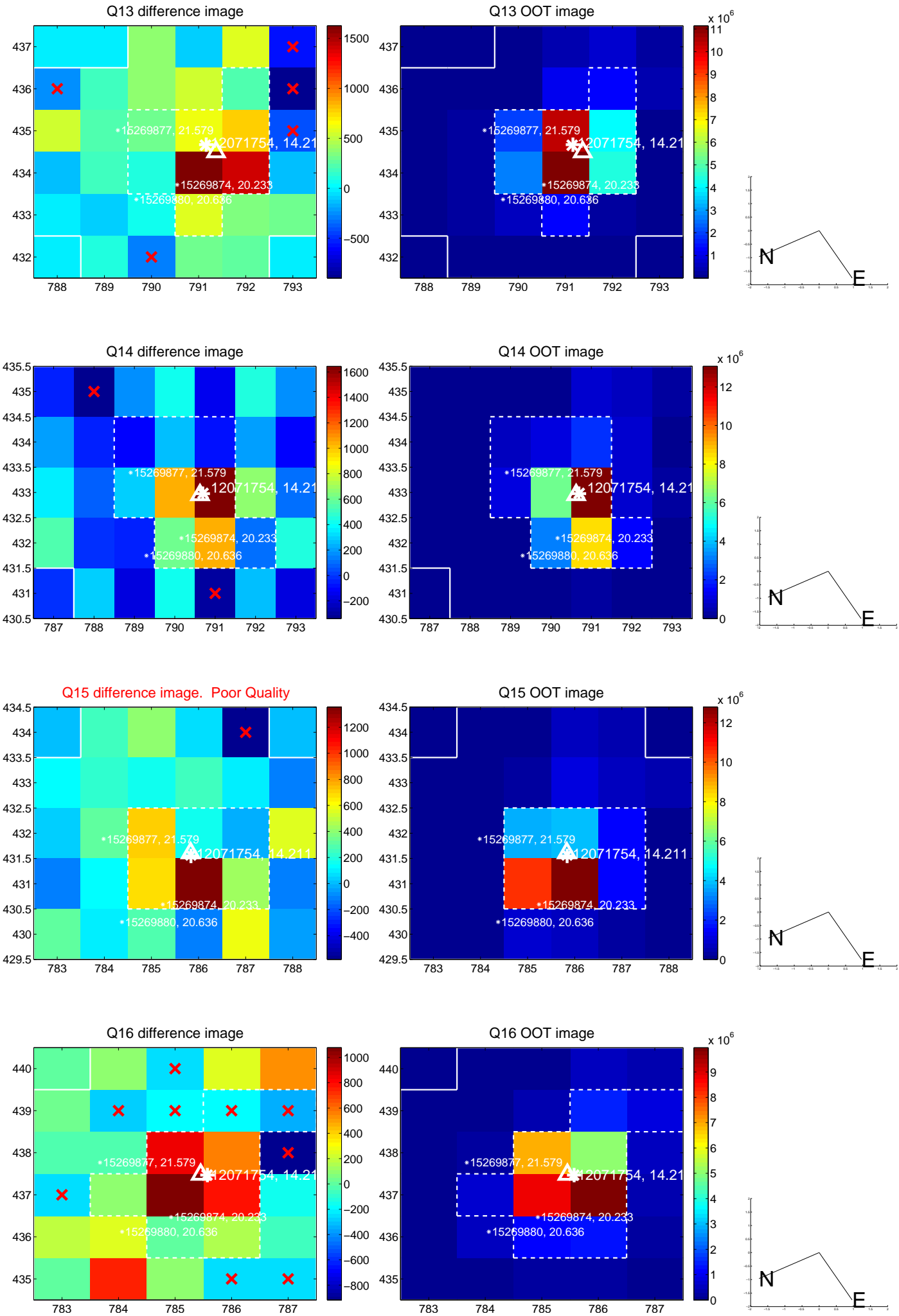
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



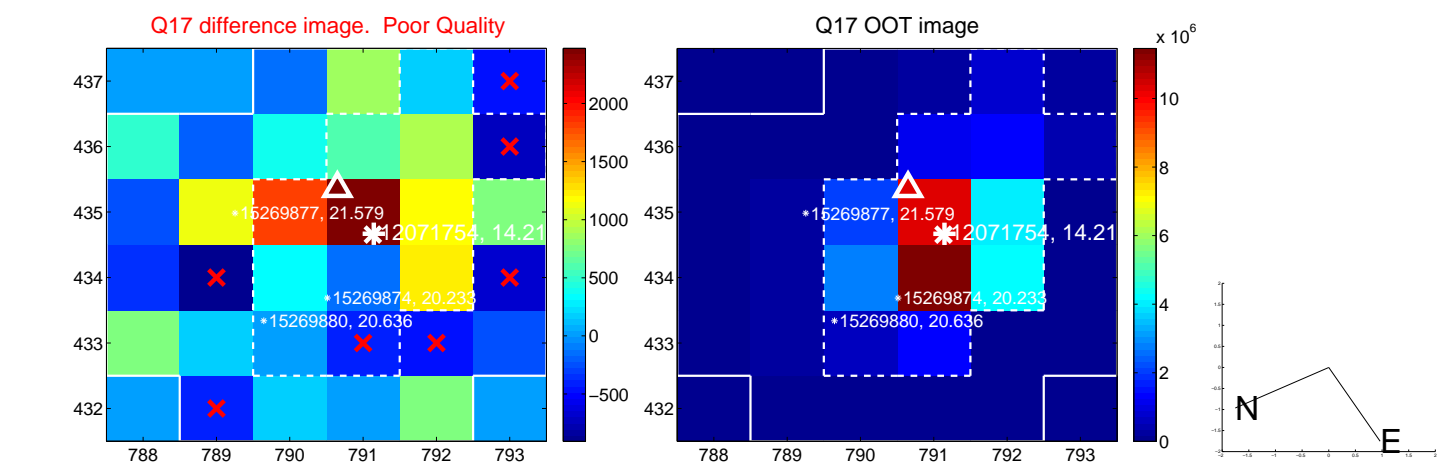
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



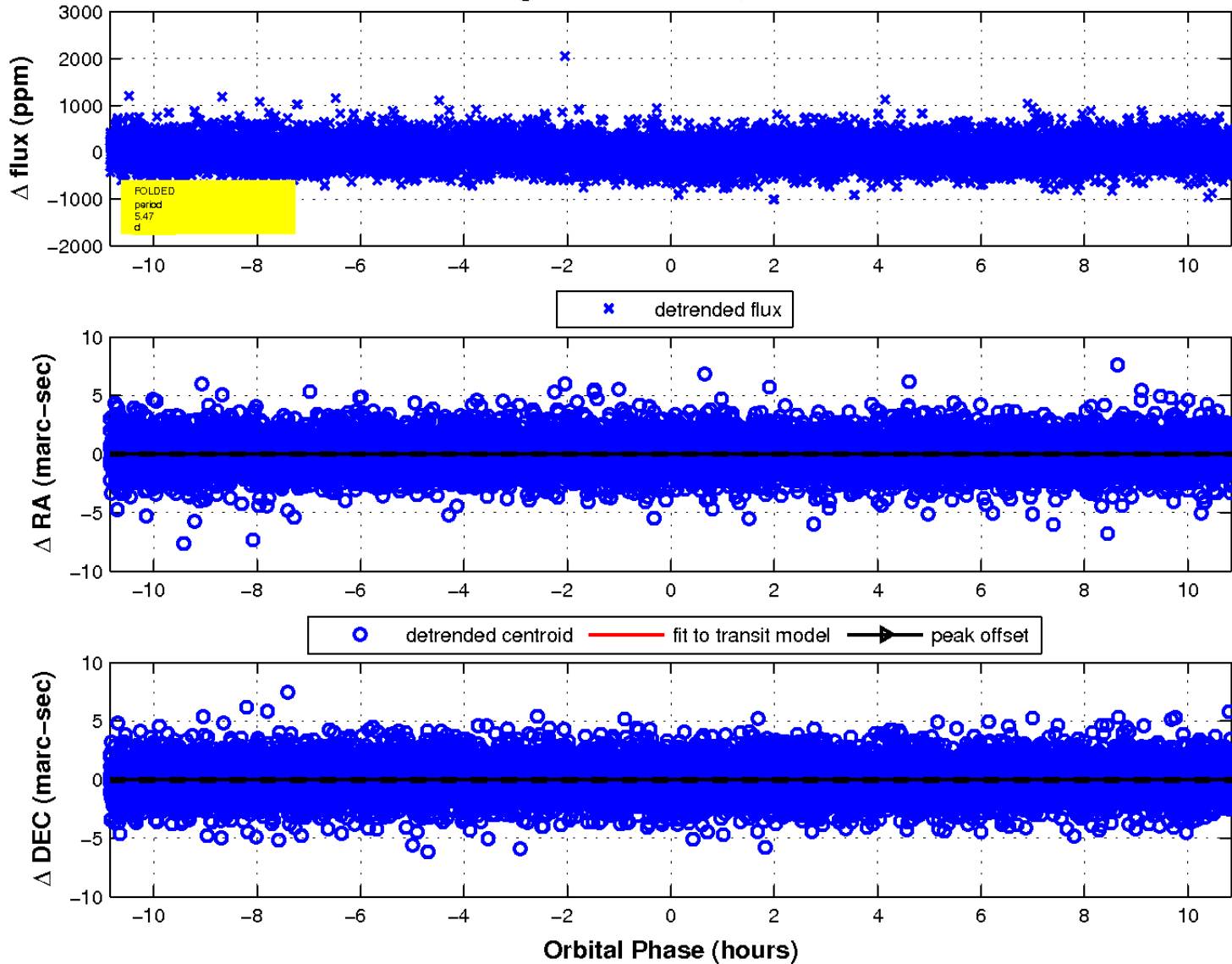
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

