

KIC 007461307

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
007461307-01	OBS	2909.01	0.773577	132.097645	56.9	1.878	17.1	15.2	0.91	5747	0.82	3022.68

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007461307-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—CENT_RESOLVED_OFFSET—HALO_GHOST—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 007461307-01

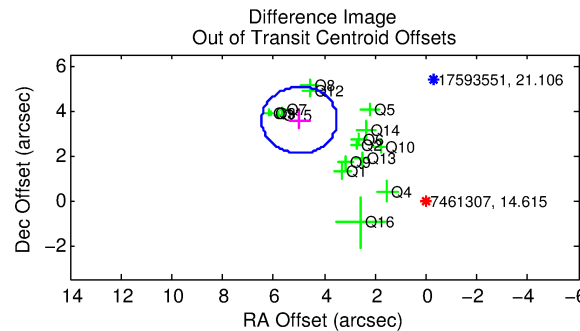
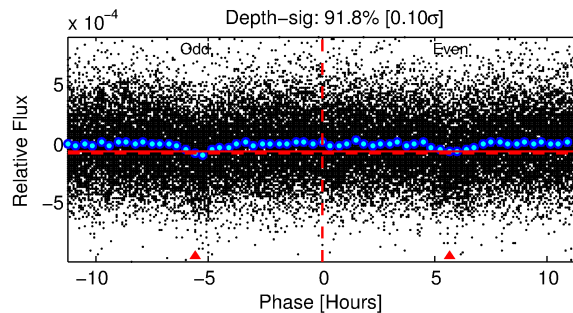
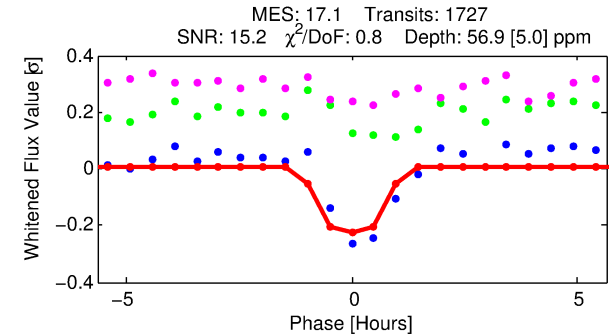
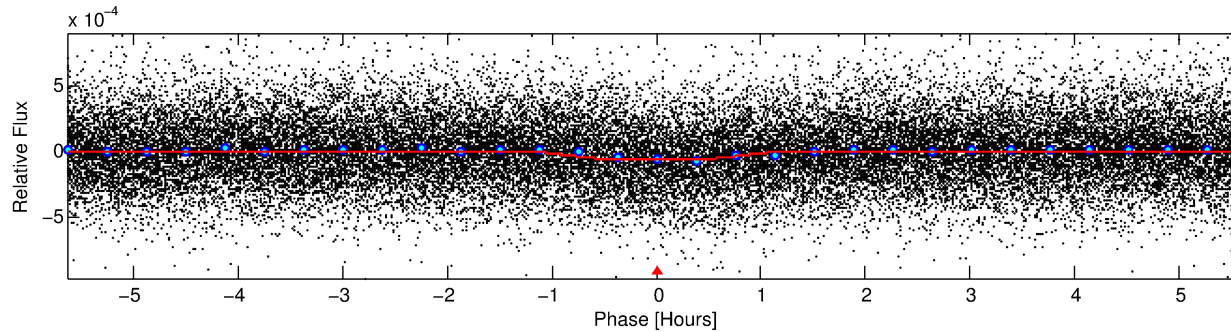
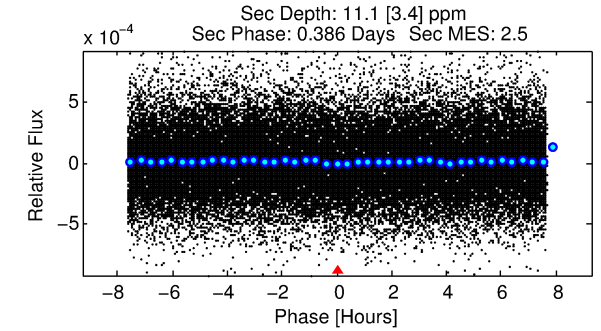
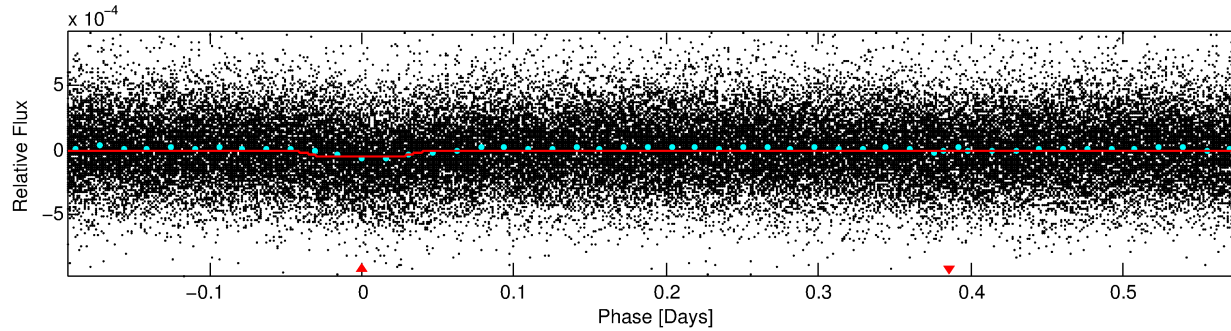
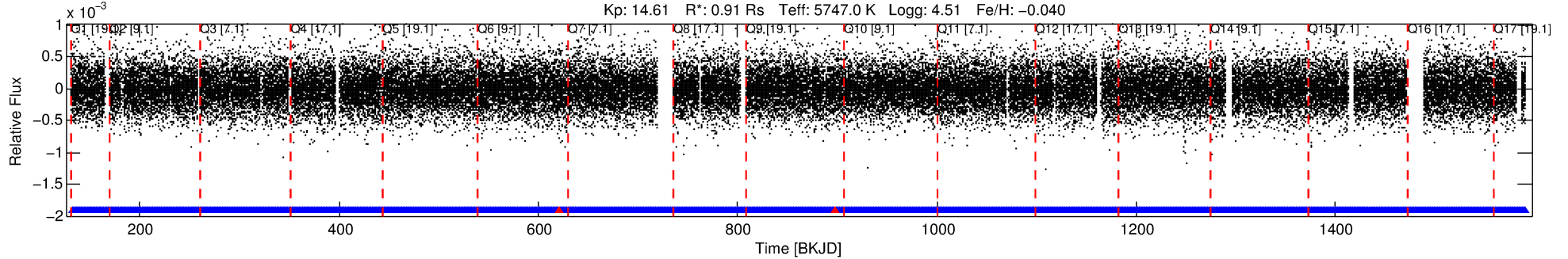
TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
007461307-01	7461307	007461314-01	7461314	1:1	27.8	-5	-6	14.88	14.61	1.07	Direct-PRF	1	3.27	1.62

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ 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 σ_P < 5.0 and σ_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: 7461307 Candidate: 1 of 1 Period: 0.774 d
KOI: K02909.01 Corr: 0.841

Kp: 14.61 R*: 0.91 Rs Teff: 5747.0 K Logg: 4.51 Fe/H: -0.040



DV Fit Results:

Period = 0.77358 [0.00001] d
Epoch = 132.0976 [0.0018] BKJD
Rp/R* = 0.0082 [0.0034]
a/R* = 1.71 [2.25]
b = 0.90 [0.43]
Seff = 3022.68 [1166.85]
Teq = 1891 [182] K
Rp = 0.82 [0.42] Re
a = 0.0163 [0.0041] AU
Ag = 2.44 [2.35] [0.61σ]
Teffp = 3655 [820] K [2.10σ]

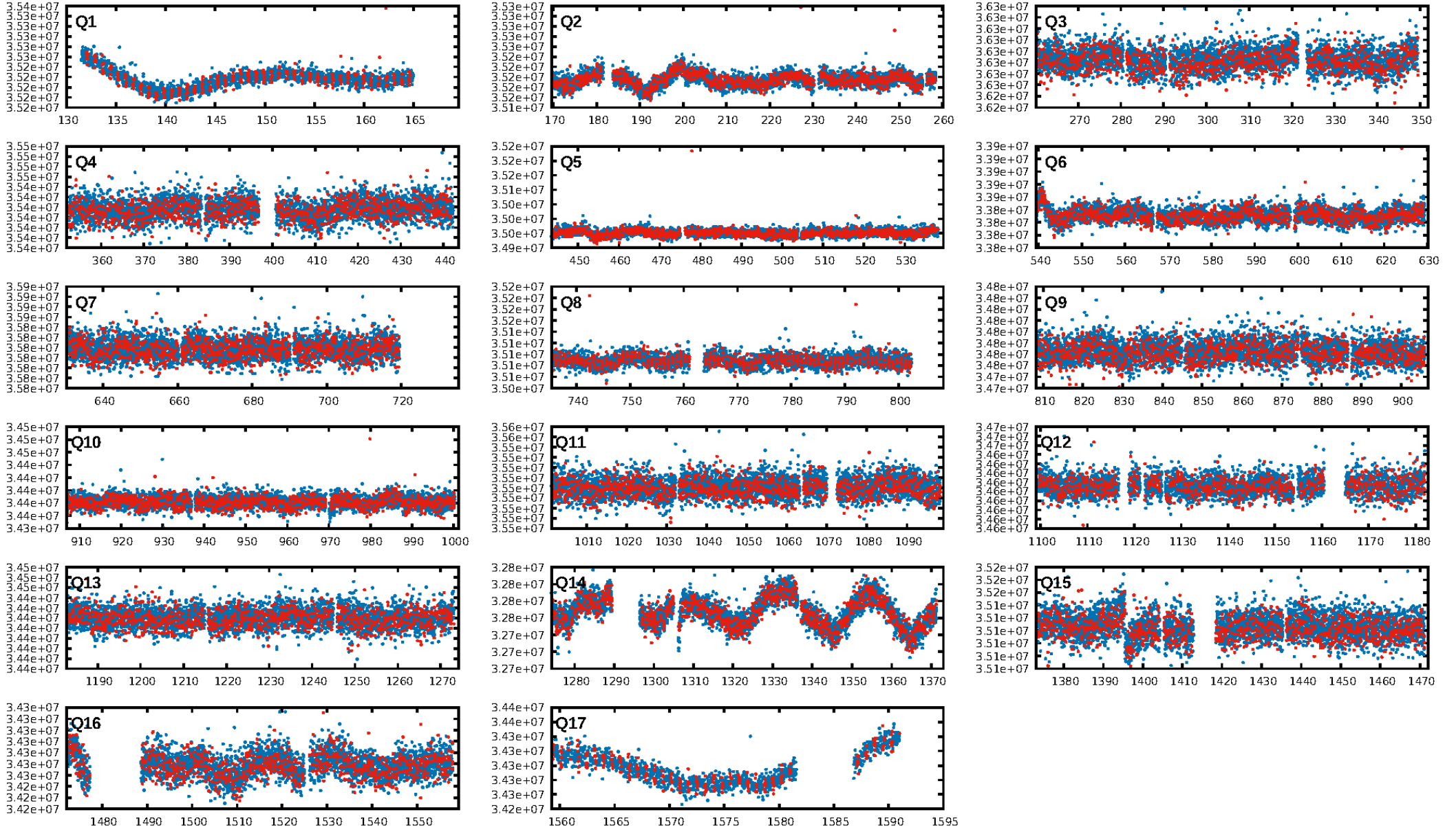
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.50e-62
RollingBand-fgt: 1.00 [1649/1651]
GhostDiagnostic-chr: 0.09902
Centroid-sig: 0.0%
Centroid-so: 8.195 arcsec [9.85σ]
OotOffset-rm: 6.126 arcsec [12.37σ]
KicOffset-rm: 6.156 arcsec [11.81σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.56 [9/16]
DiffImageOverlap-fno: 1.00 [17/17]

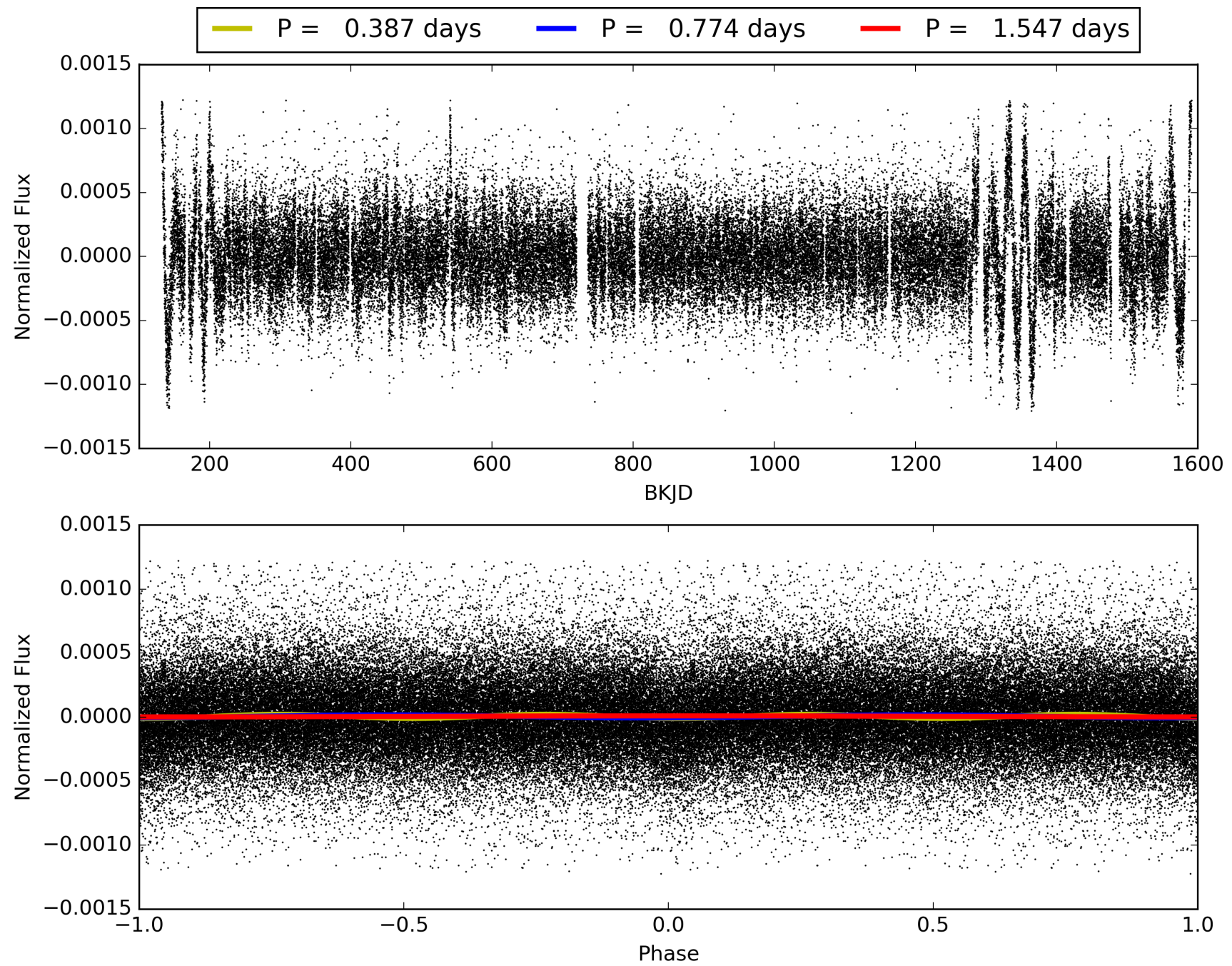
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:21:29 Z

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

TCE 007461307-01, PDC Light Curves

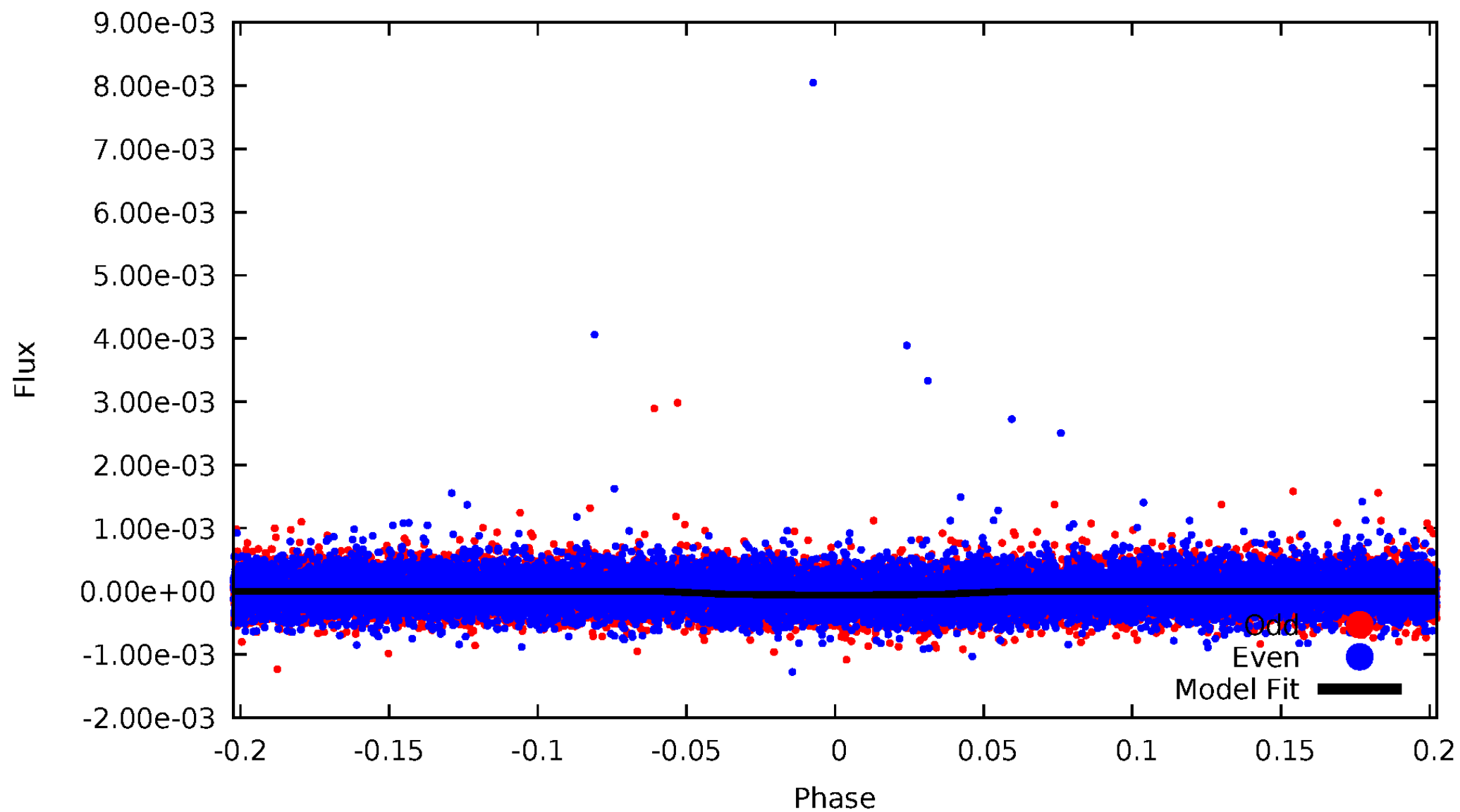


TCE 007461307-01



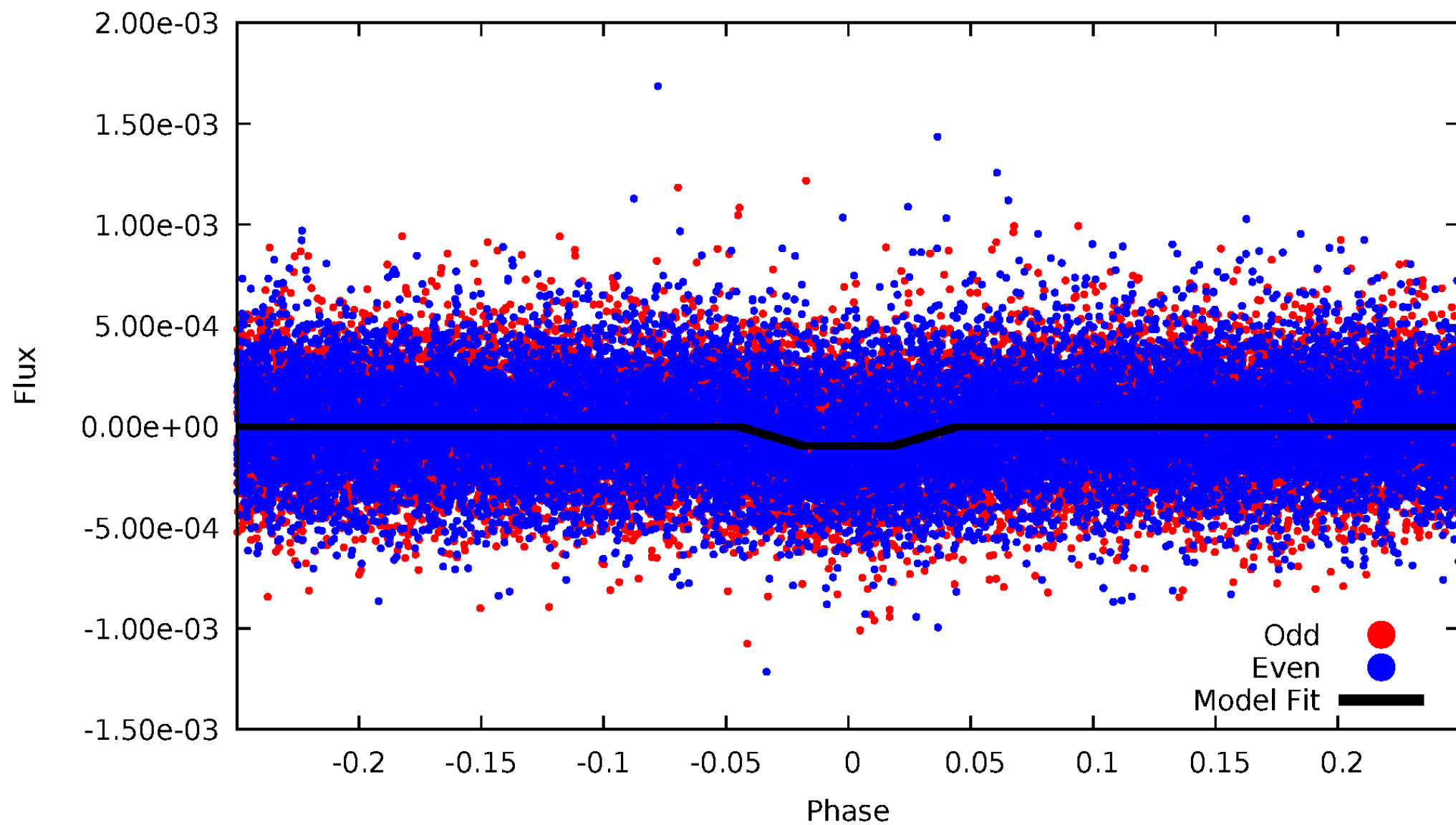
DV Odd/Even

TCE 007461307-01

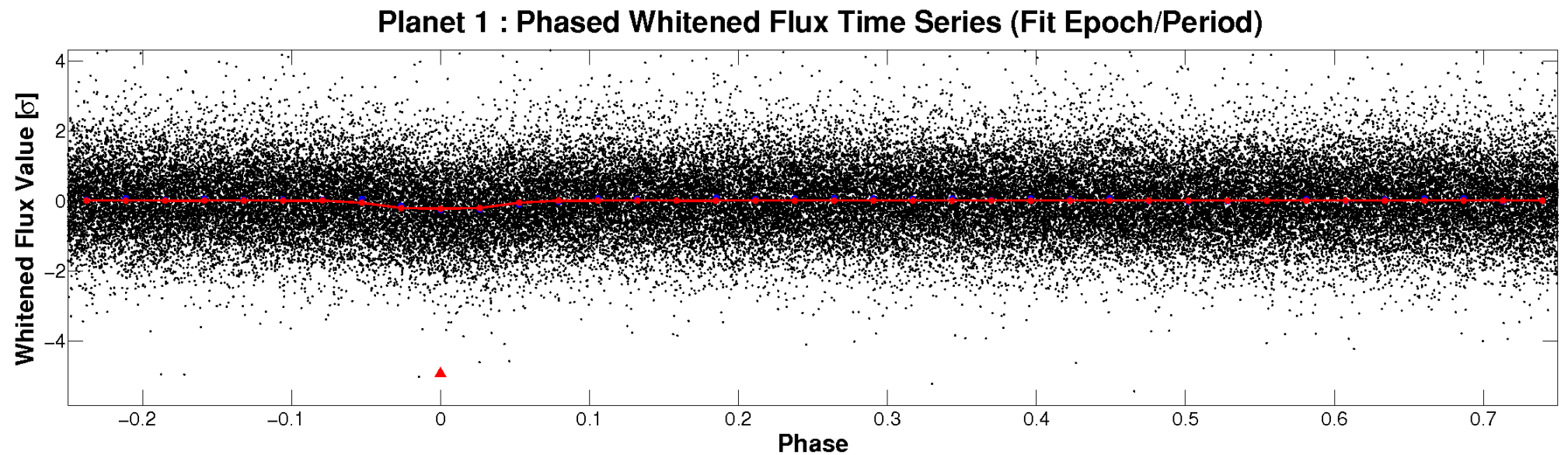
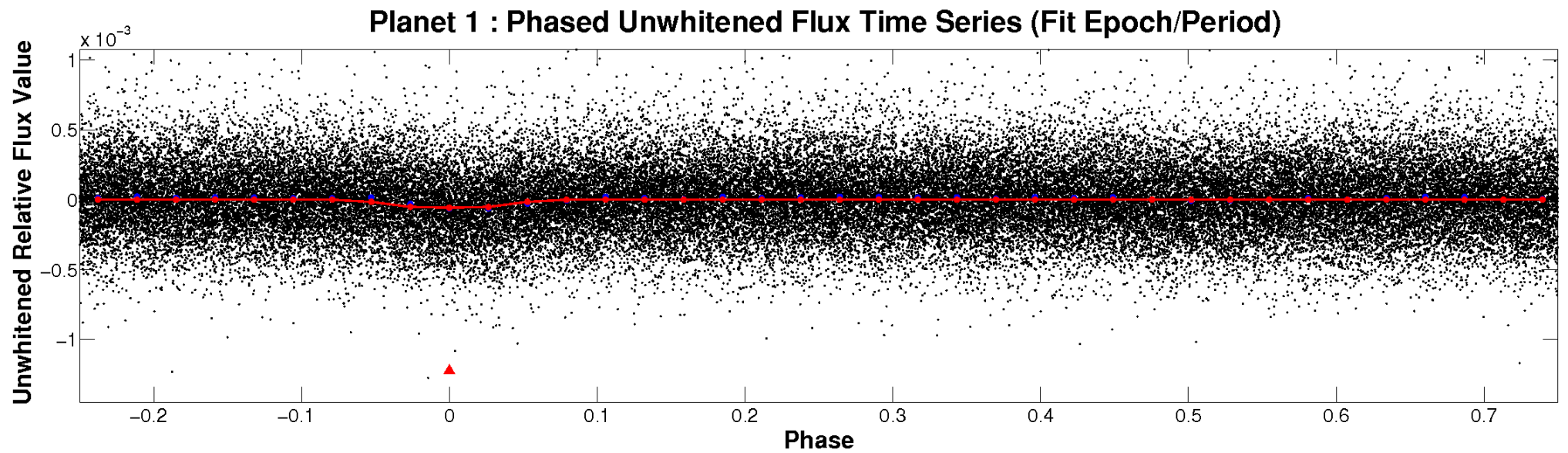


ALT Odd/Even

TCE 007461307-01

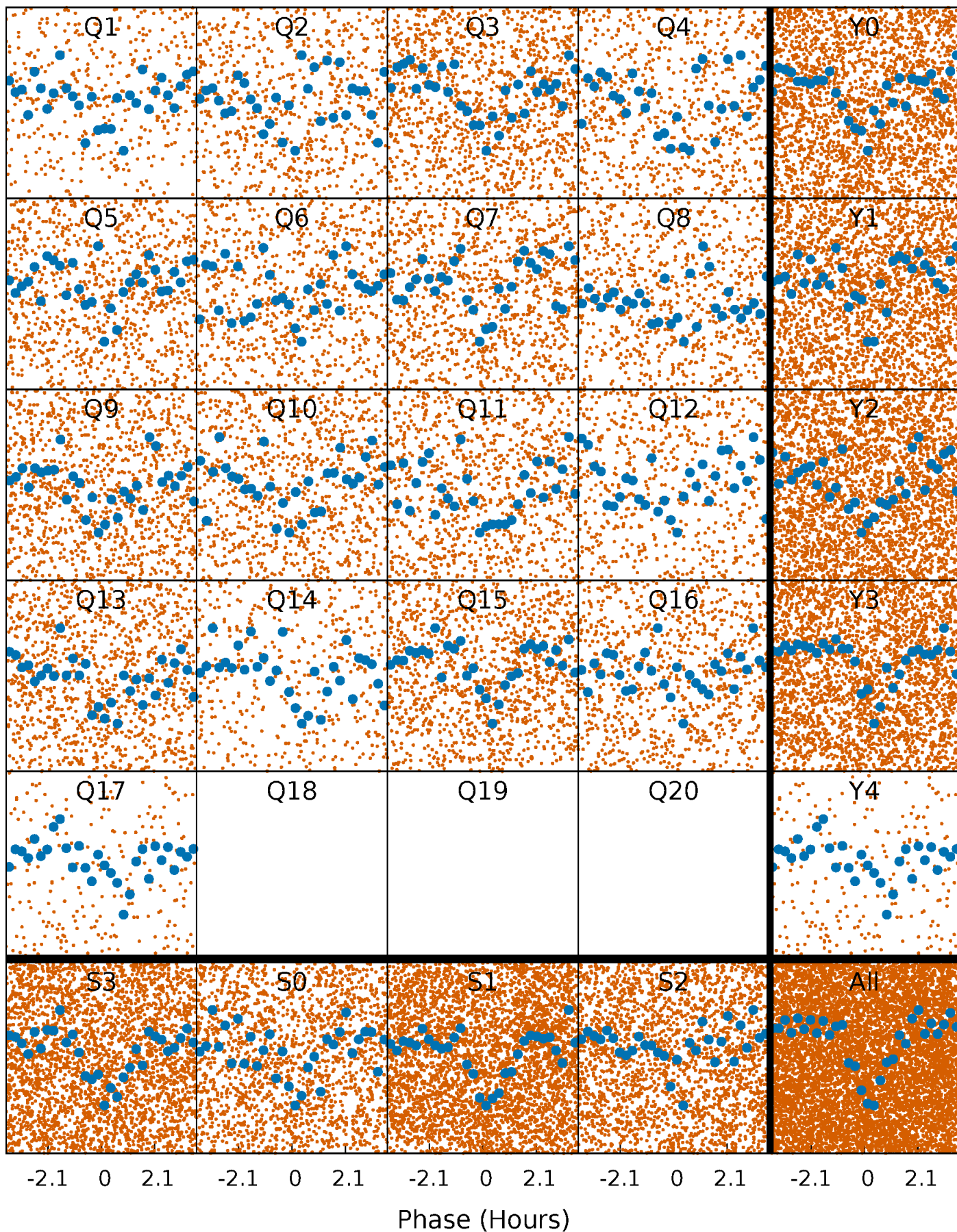


Non-Whitened Vs. Whitened Light Curve



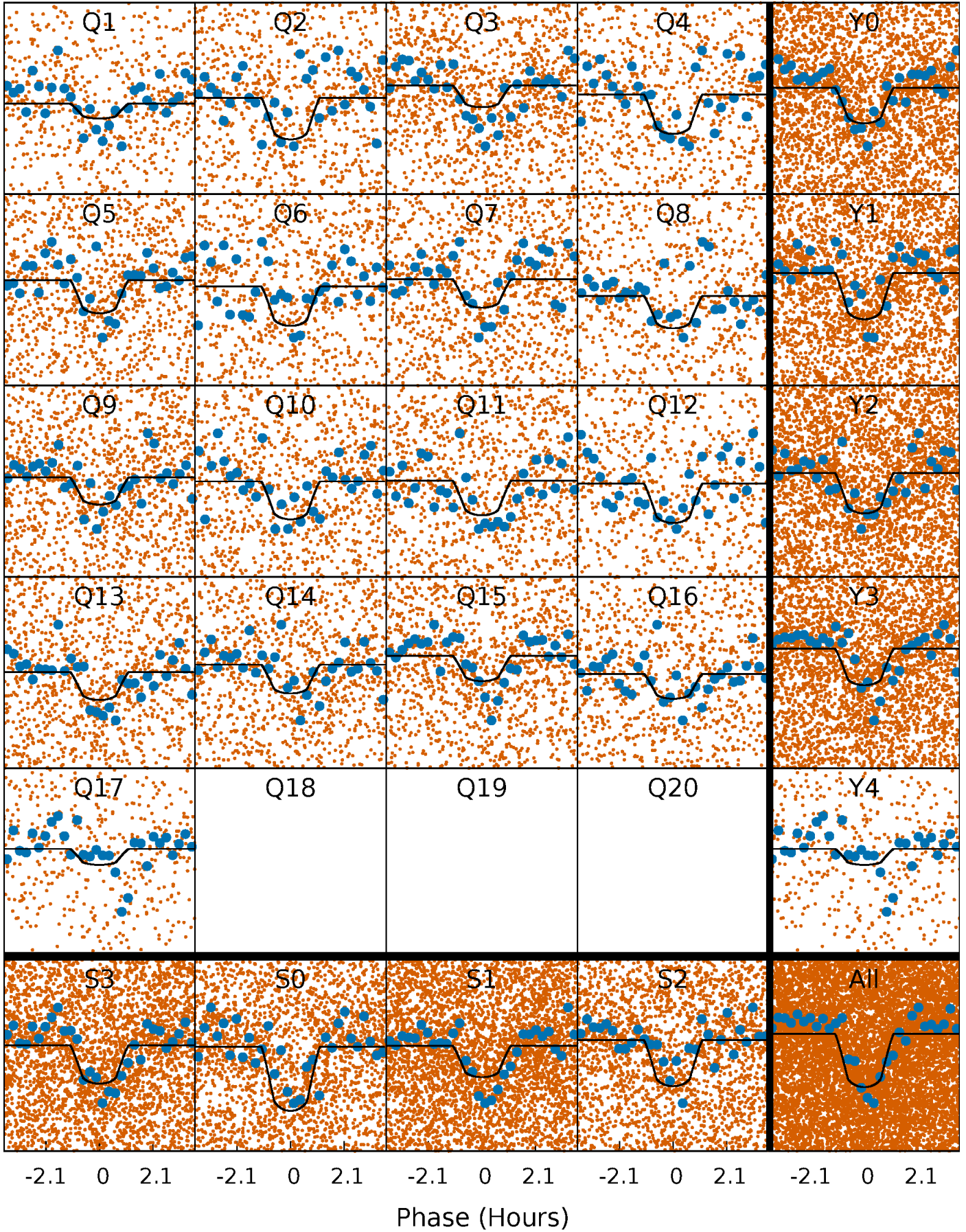
PDC Quarter-Phased Transit Curves

TCE 007461307-01 P= 0.773577 Days $T_0=132.097645$ (BKJD)



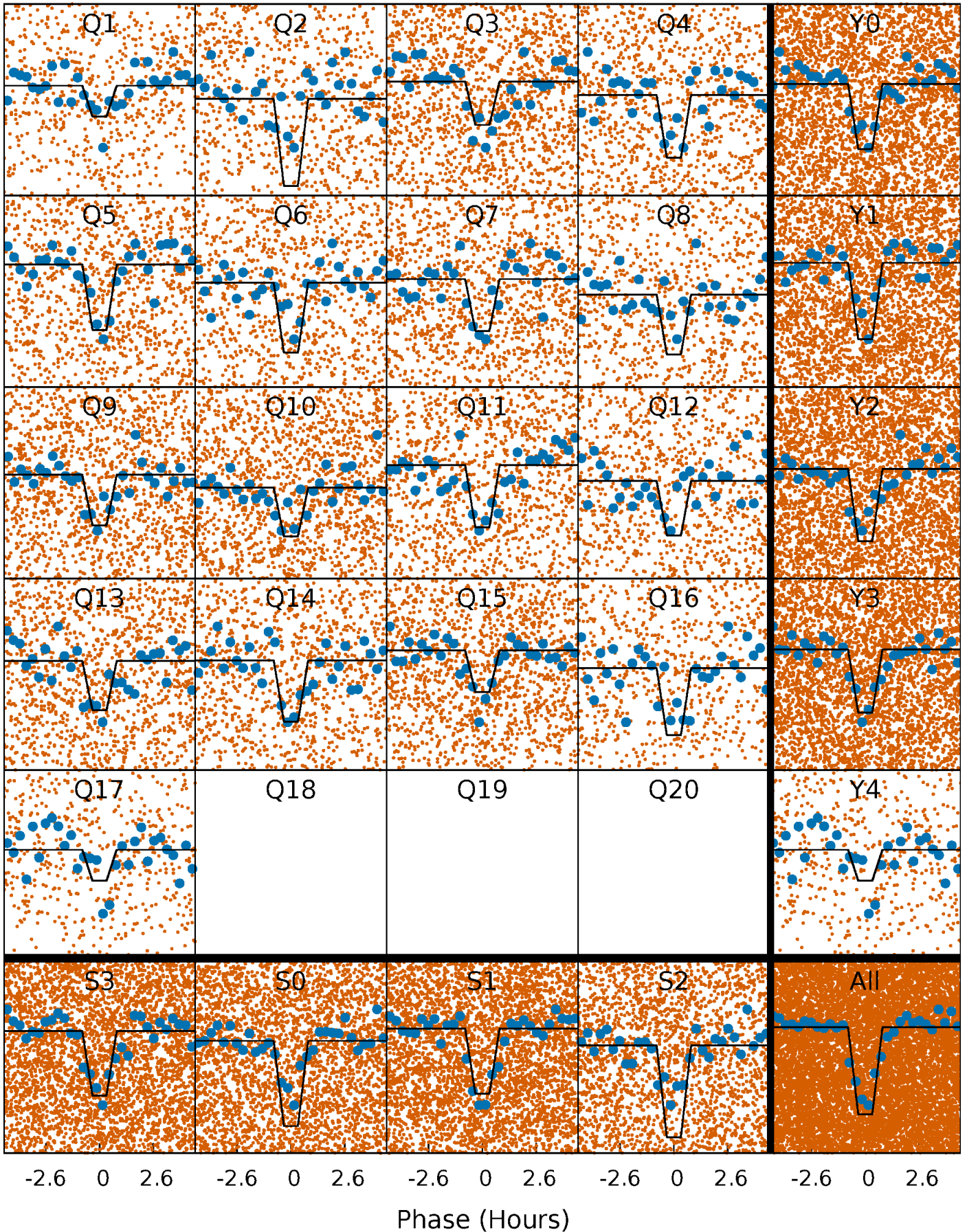
DV Quarter-Phased Transit Curves

TCE 007461307-01 P= 0.773577 Days $T_0=132.097645$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

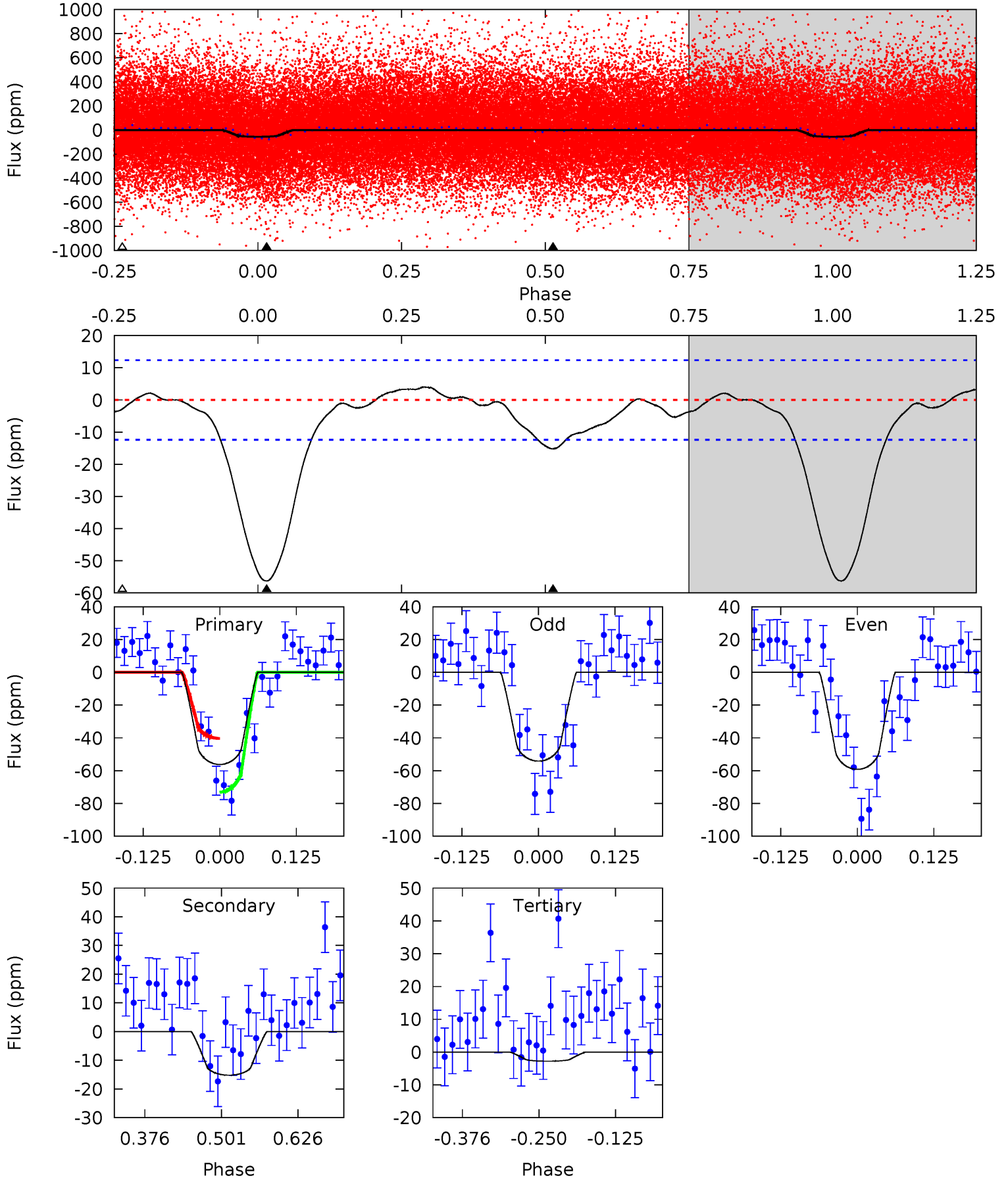
TCE 007461307-01 P= 0.773593 Days $T_0=132.092555$ (BKJD)



DV Model-Shift Uniqueness Test

007461307-01, P = 0.773577 Days, E = 131.324068 Days

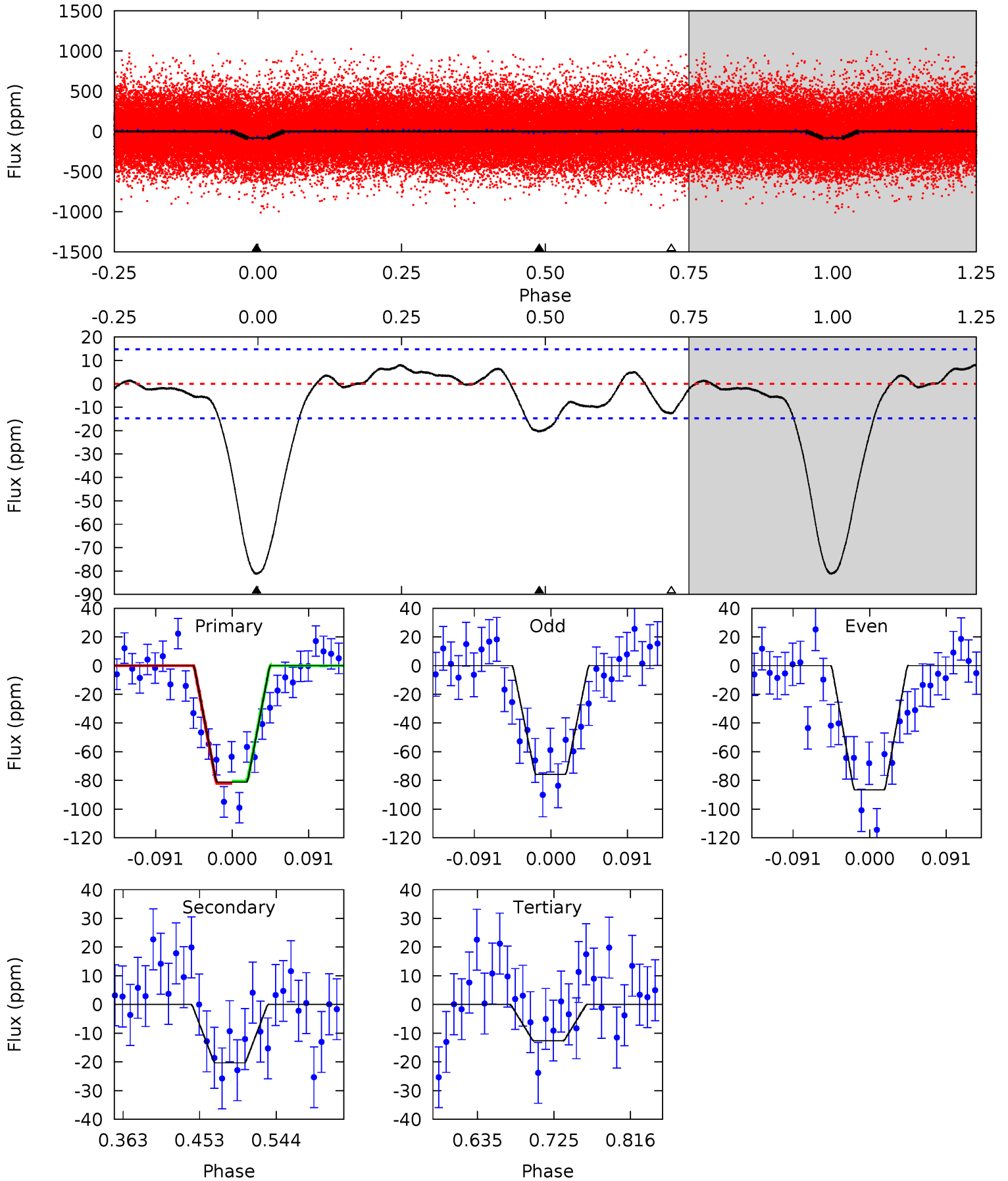
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.5	5.55	1.02	0	4.52	1.53	0.85	19.5	20.5	4.53	5.55	0.92	0.95	0.07	5.99



Alt Model-Shift Uniqueness Test

007461307-01, P = 0.773593 Days, E = 131.318962 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.2	6.32	3.93	0	4.59	1.69	1.53	21.3	25.2	2.39	6.32	1.69	0.93	0.09	0.25



Stellar Parameters For KIC 007461307

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5747^{+156}_{-173}	$4.508^{+0.050}_{-0.200}$	$-0.040^{+0.250}_{-0.300}$	$0.907^{+0.273}_{-0.091}$	$0.968^{+0.114}_{-0.114}$	$1.825^{+0.487}_{-0.928}$
	+3%/-3%	+1%/-4%	+625%/-750%	+30%/-10%	+12%/-12%	+27%/-51%
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 007461307-01 / KOI 2909.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-15 ± 3	$0.85^{+0.38}_{-0.36}$	2695^{+189}_{-125}	4126^{+1075}_{-577}	$2.979^{+5.858}_{-1.548}$
Alt.	-20 ± 3	$1.03^{+0.37}_{-0.35}$	2705^{+191}_{-131}	4058^{+775}_{-473}	$2.718^{+3.646}_{-1.263}$

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 $A_{obs} \gg 1.0$

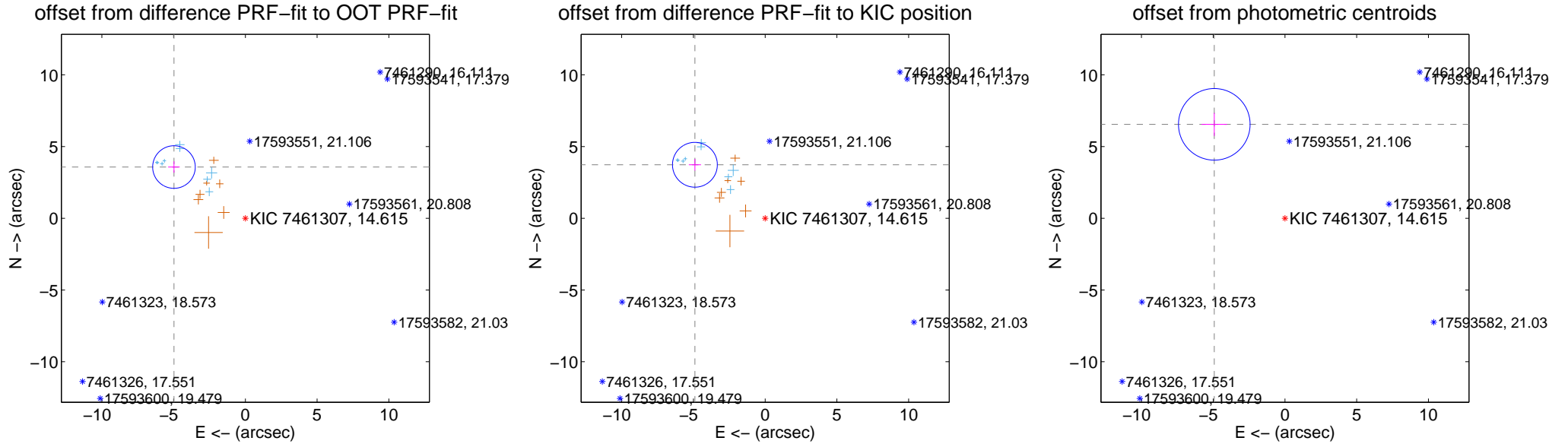
DV Centroid Data

Supplemental centroid analysis for 007461307-01. Kepler magnitude: 14.62. Transit SNR 15.21

There are 9 quarters with good PRF difference image offsets

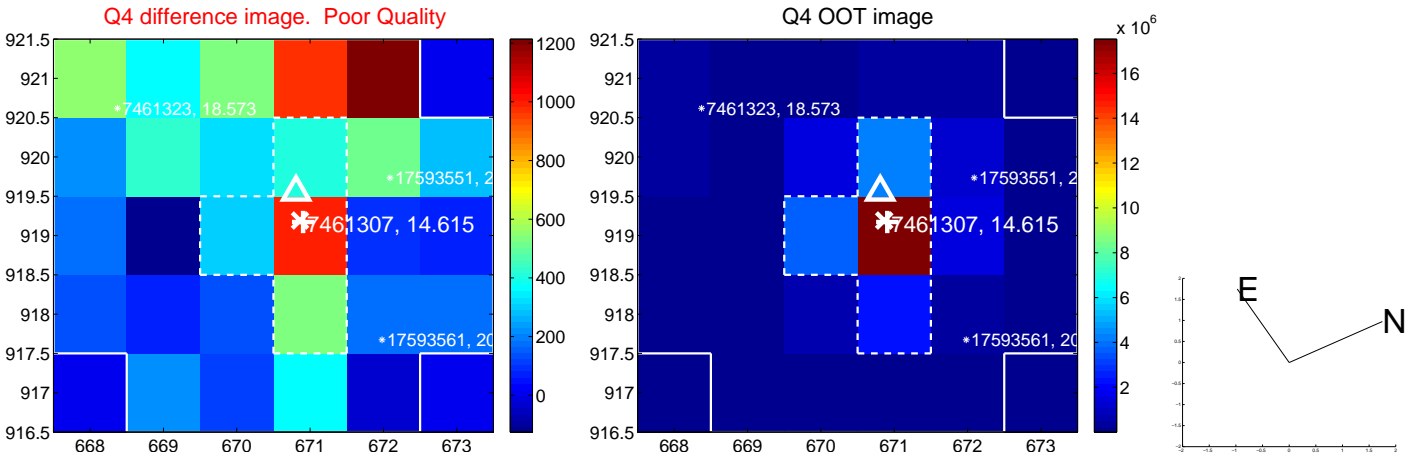
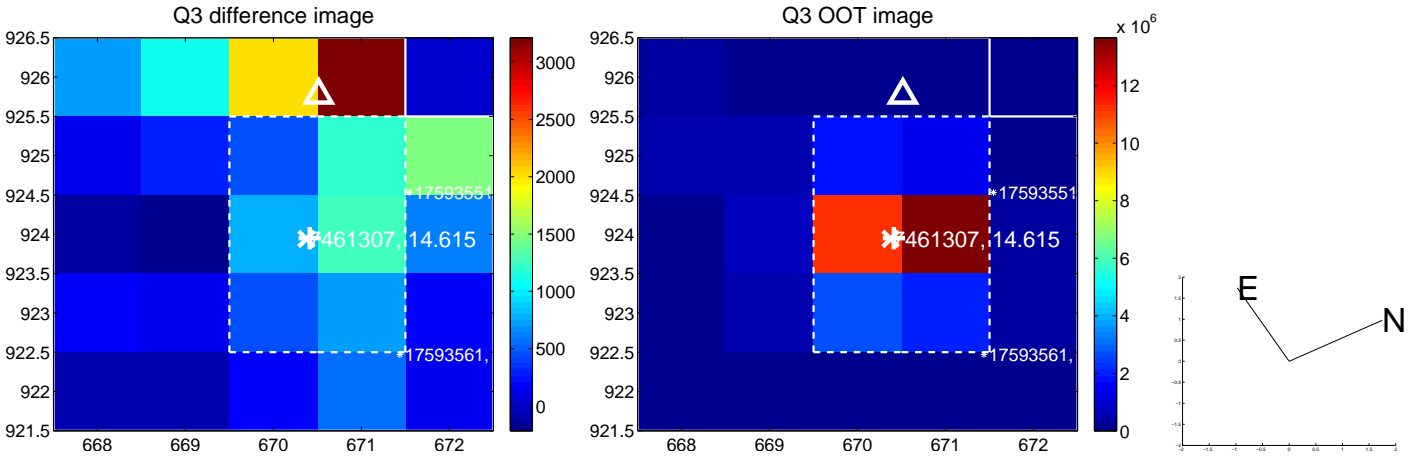
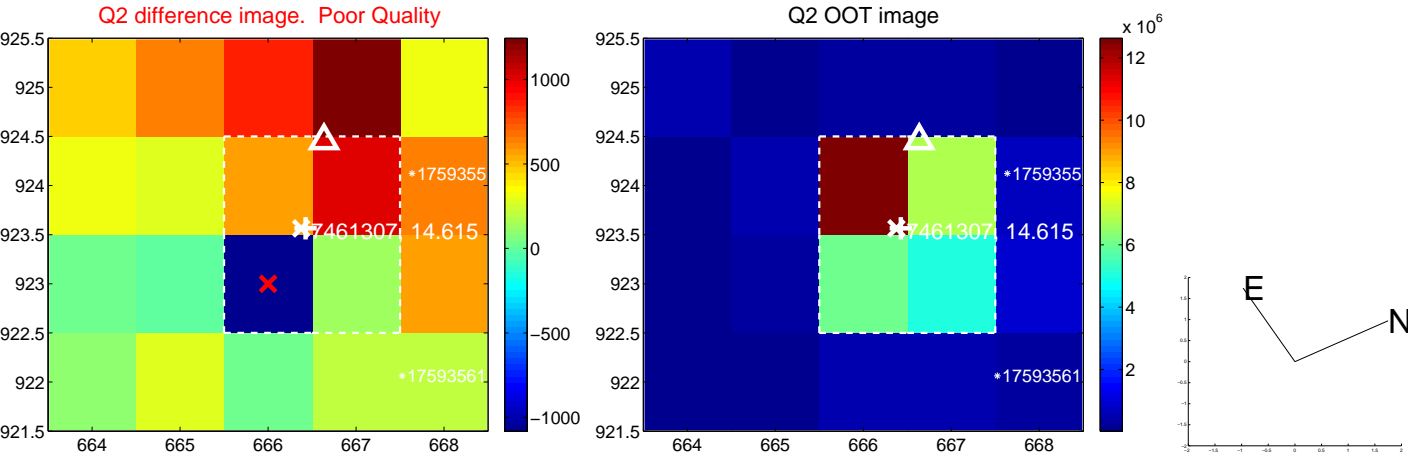
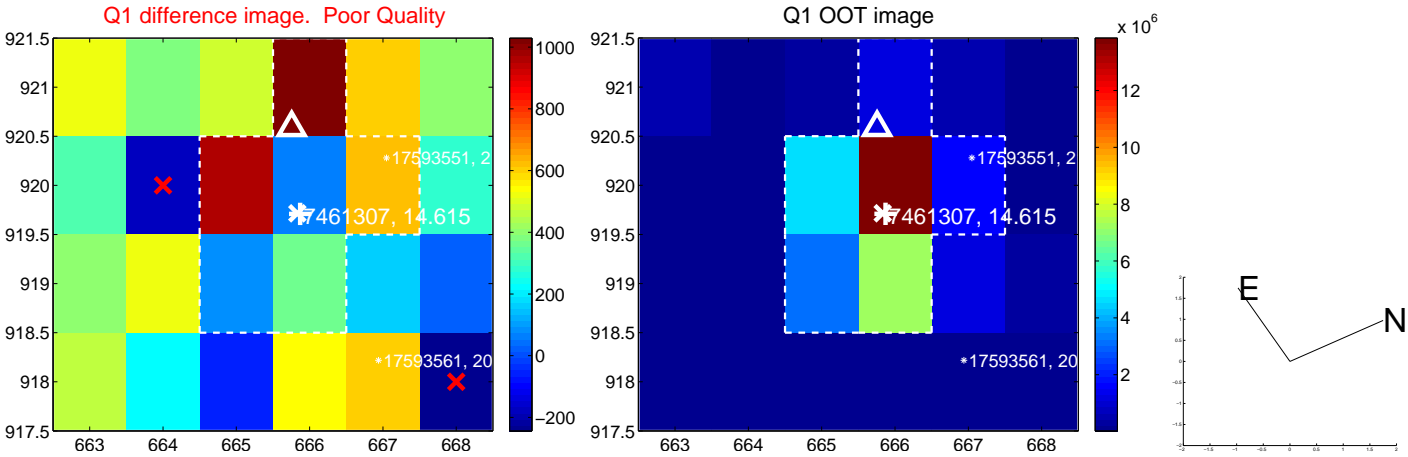
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.126 ± 0.495	12.37	4.977 ± 0.403	3.572 ± 0.393
PRF-fit source offset from KIC position	6.156 ± 0.521	11.81	4.897 ± 0.422	3.731 ± 0.407
photometric centroid source offset	8.20 ± 0.83	9.85	4.93 ± 0.88	6.55 ± 0.80

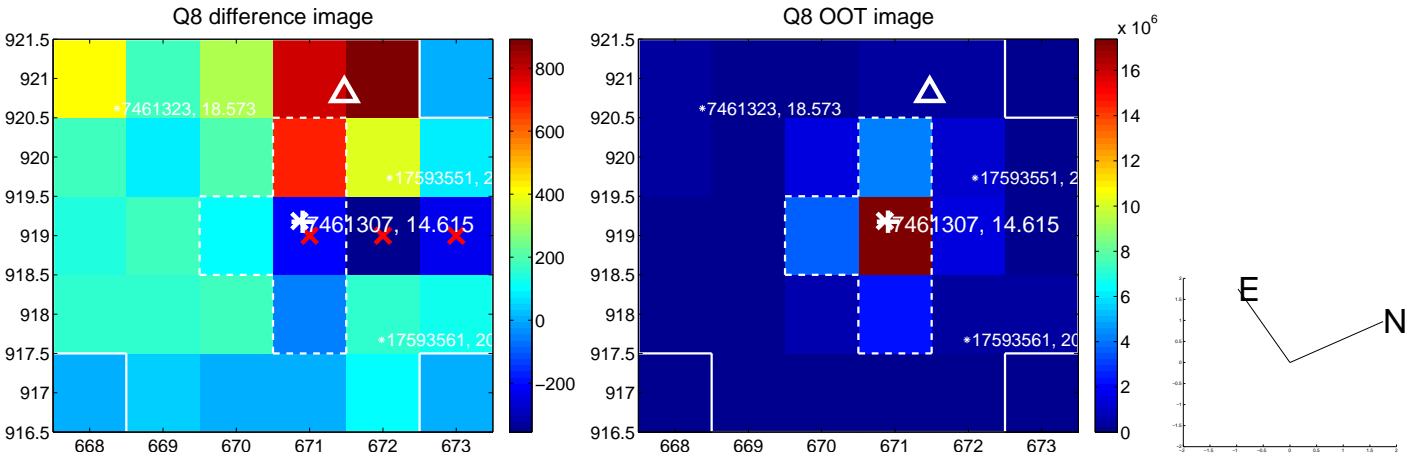
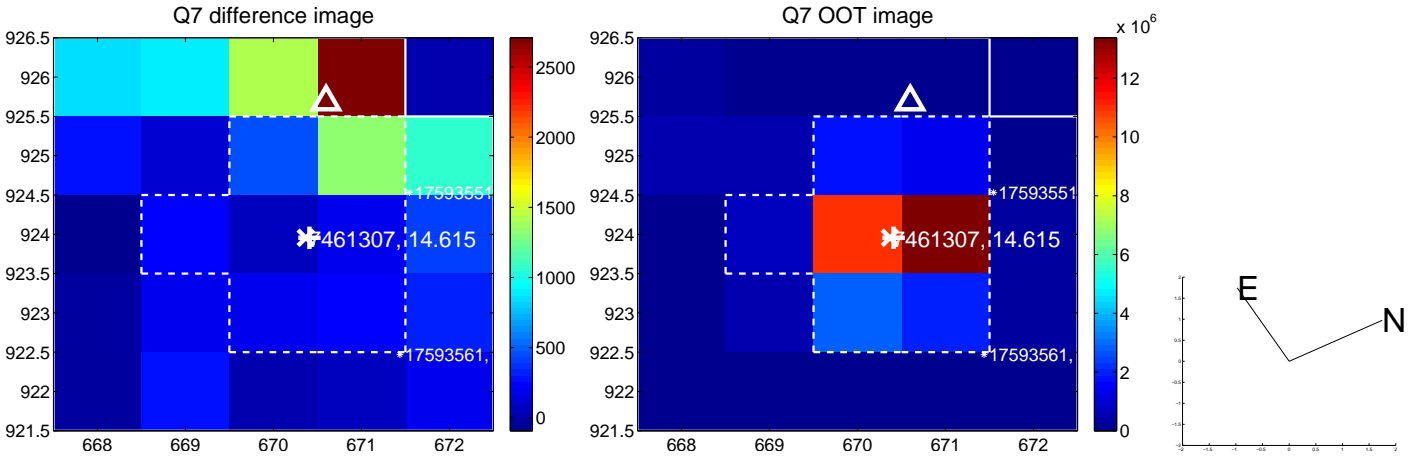
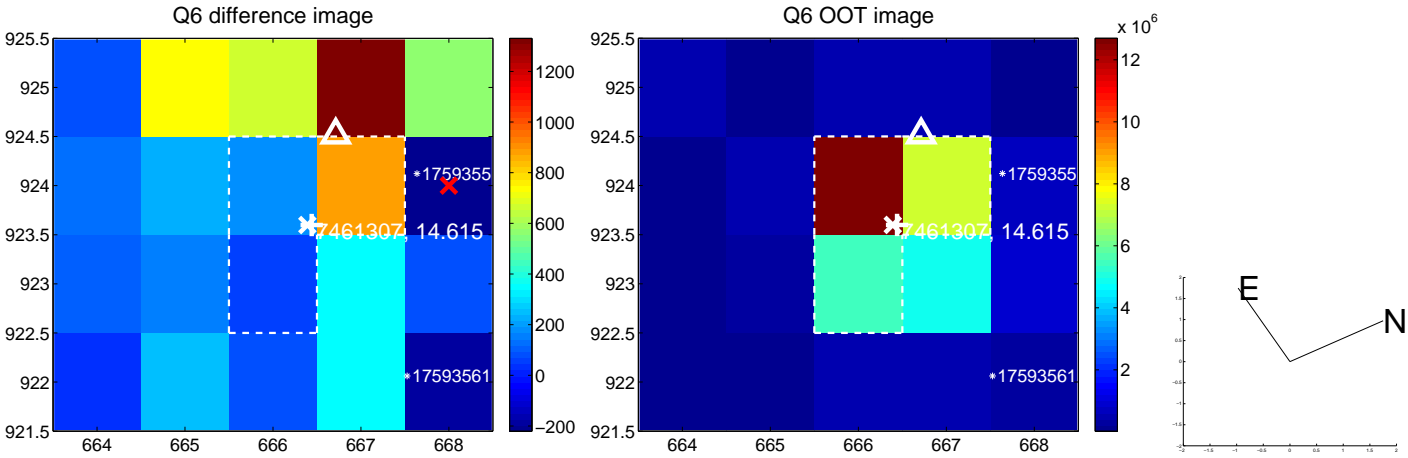
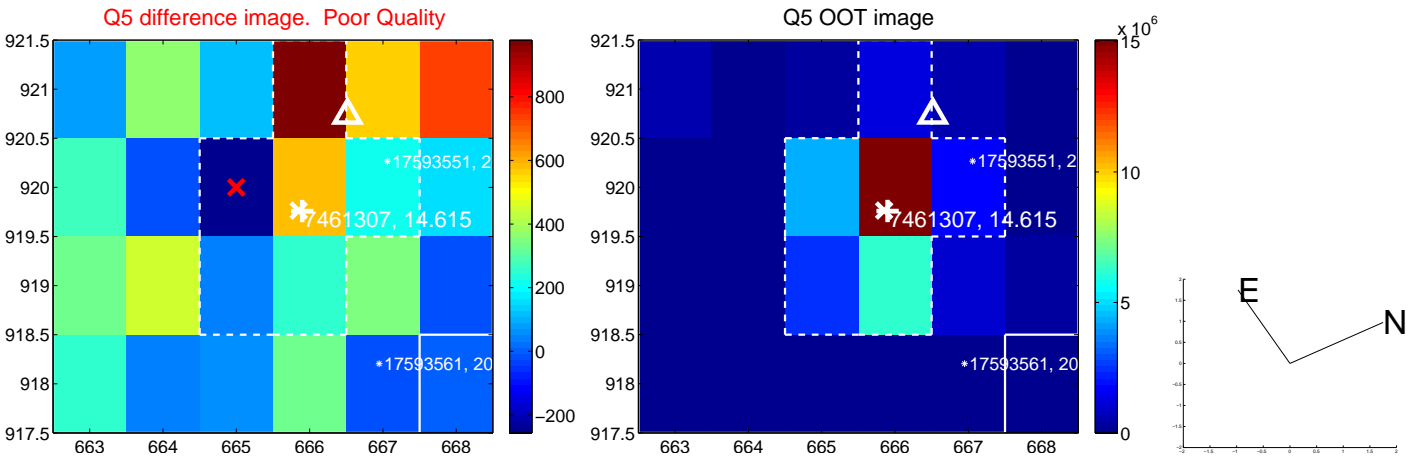


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

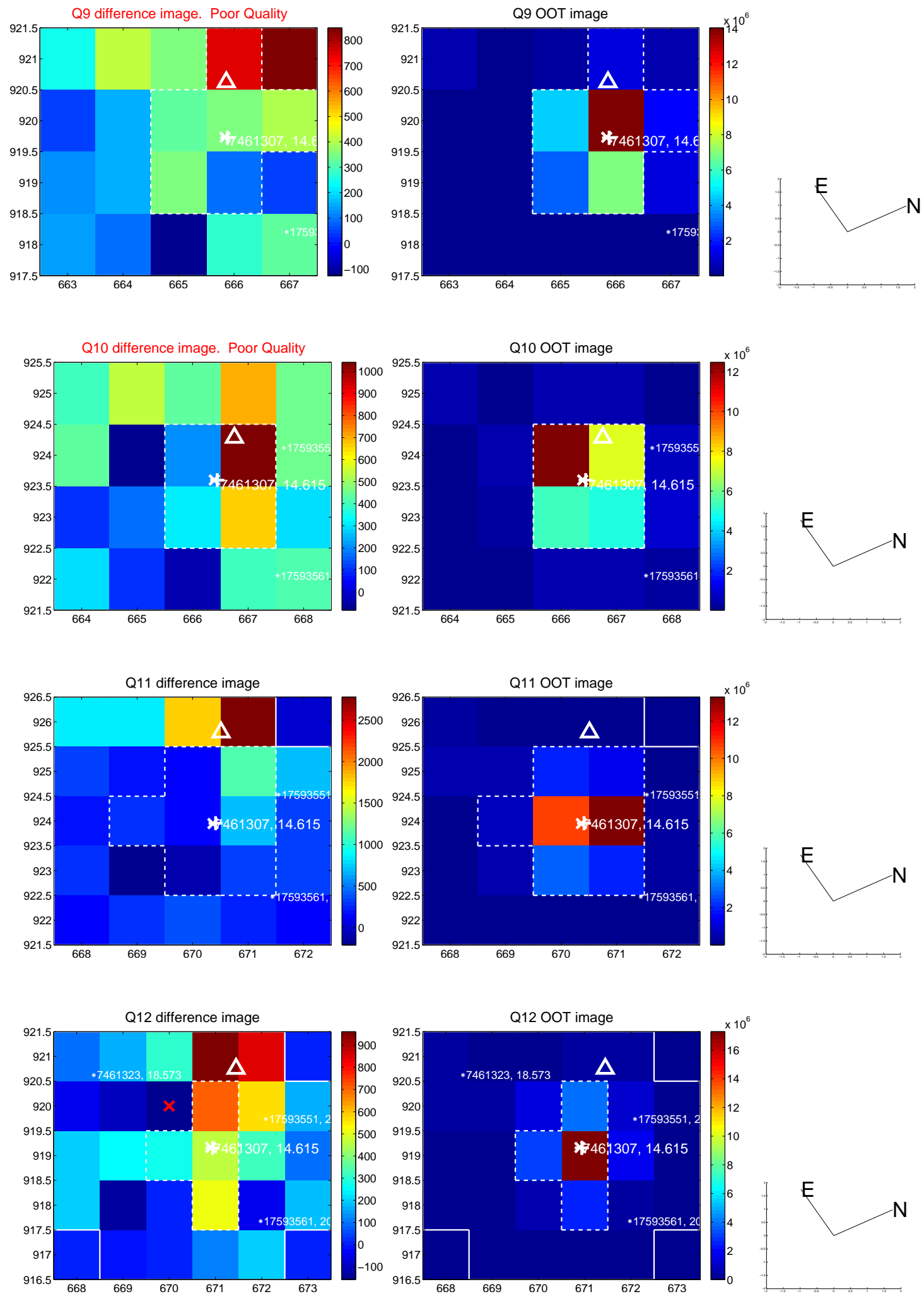
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



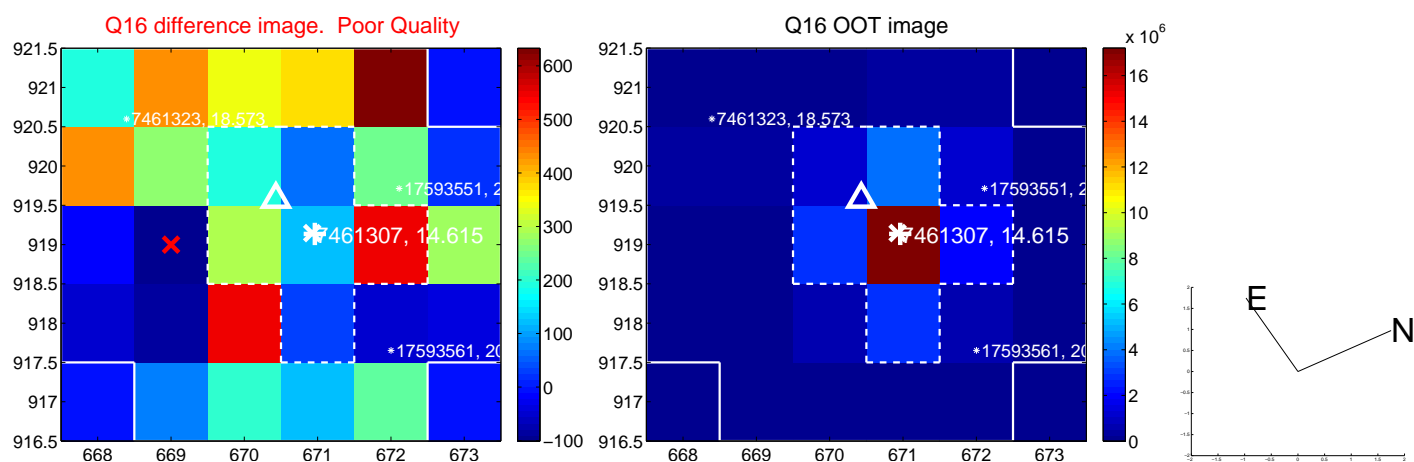
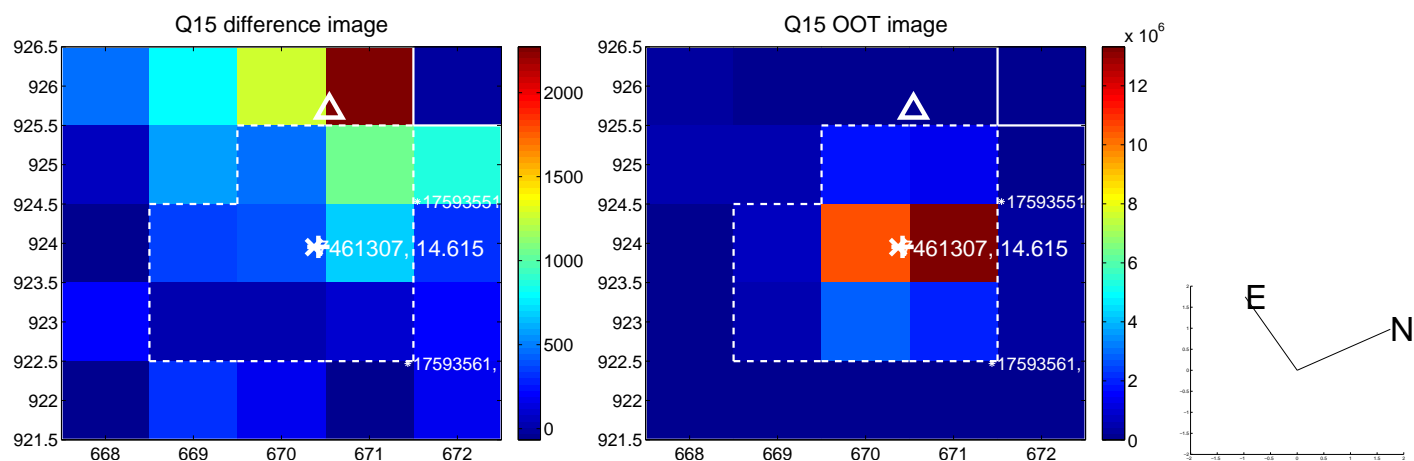
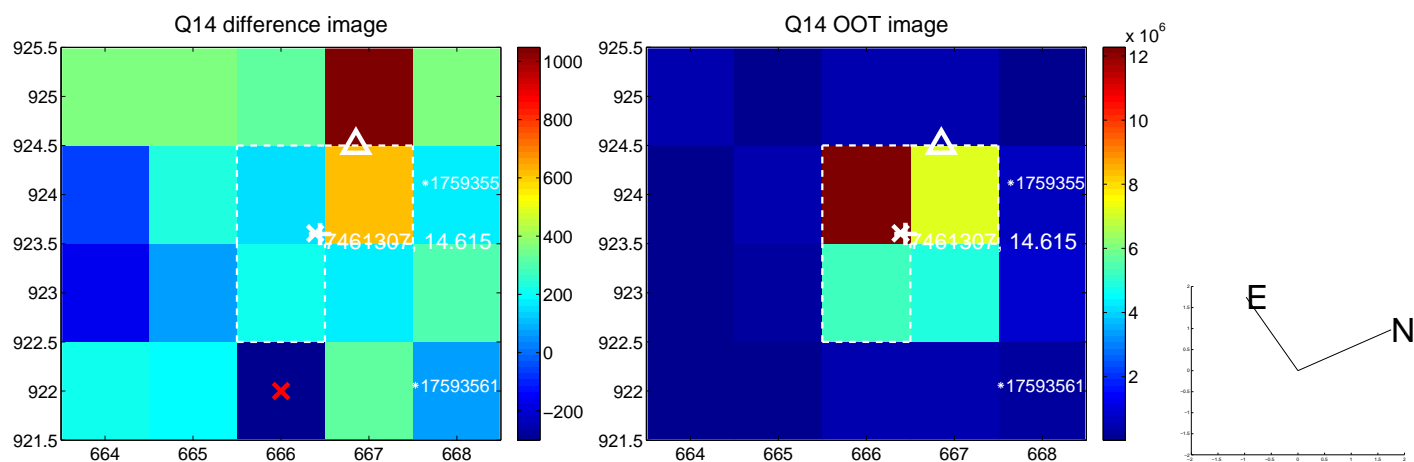
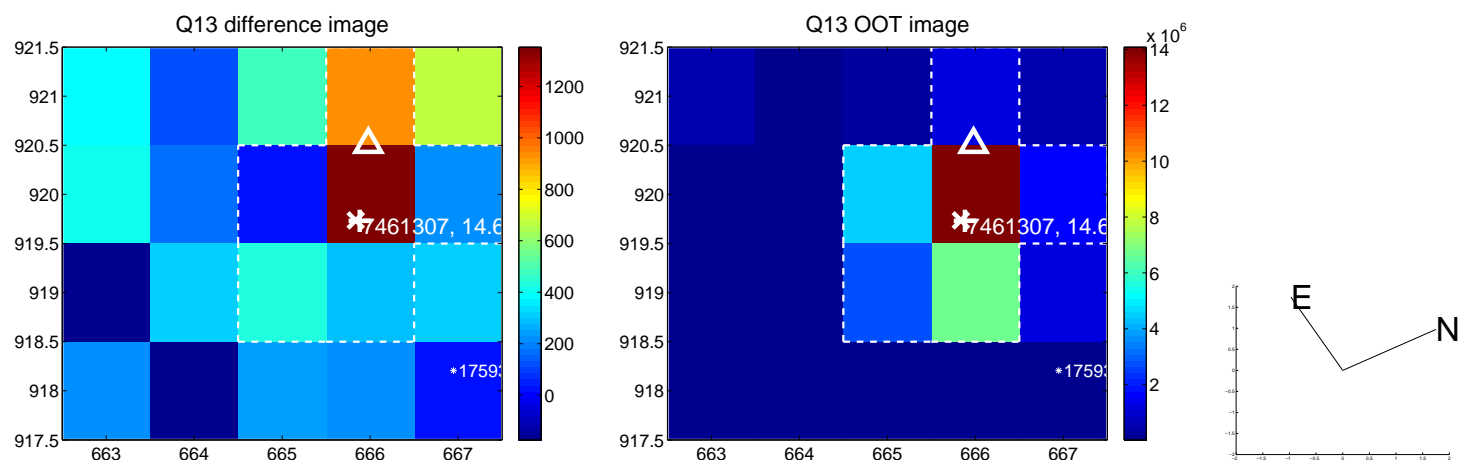
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



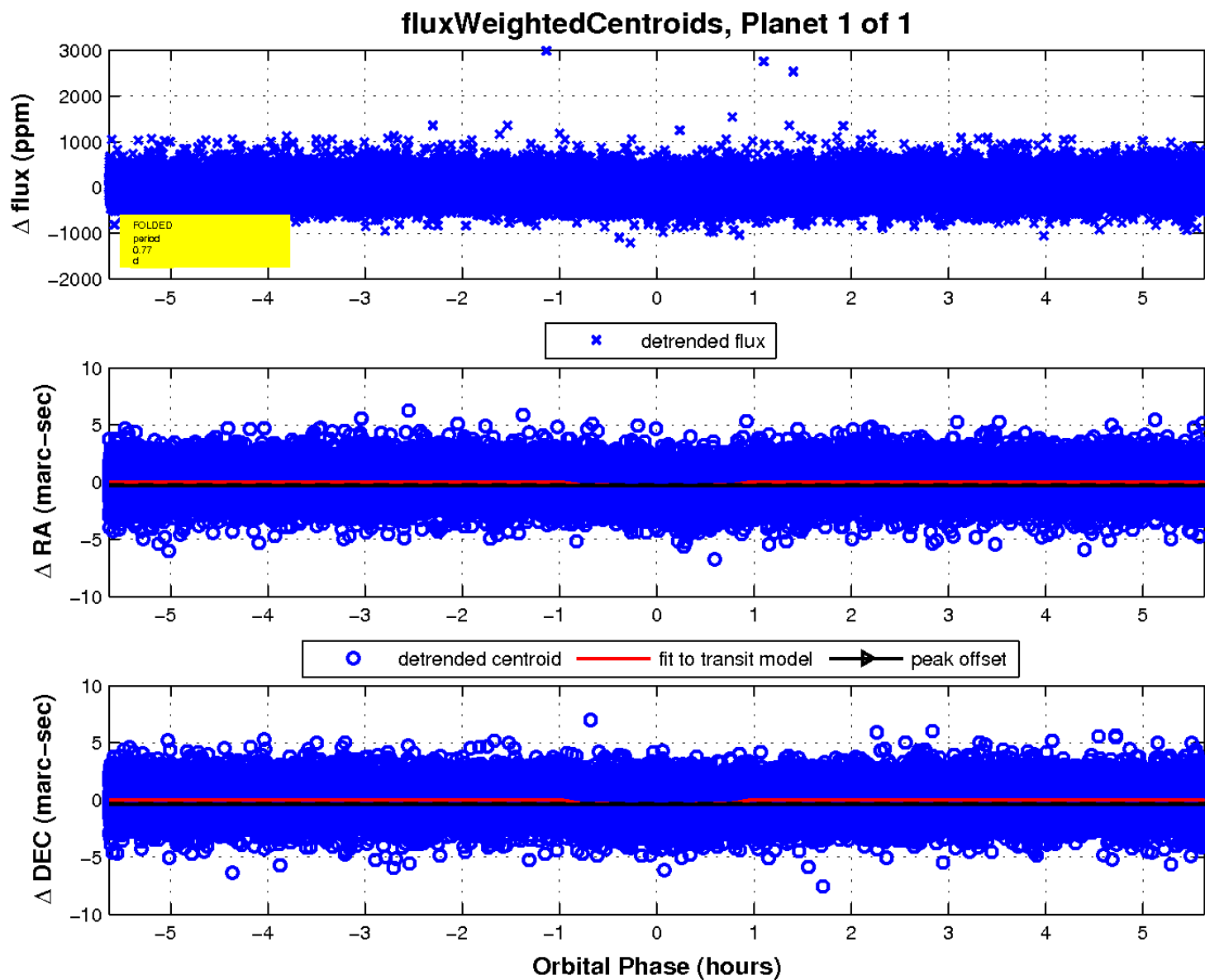
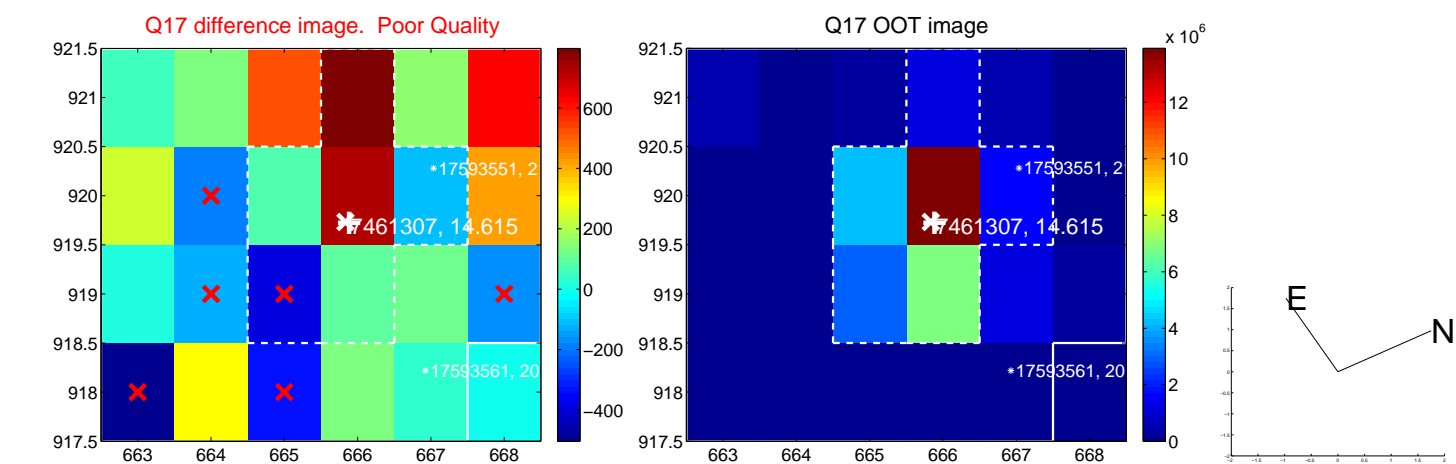
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UKIRT Image

Declination

