

KIC 012253474

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})
012253474-01	OBS	1947.01	6.422951	135.551752	255.6	1.167	29.2	35.0	1.02	6102	1.87	270.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012253474-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

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

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

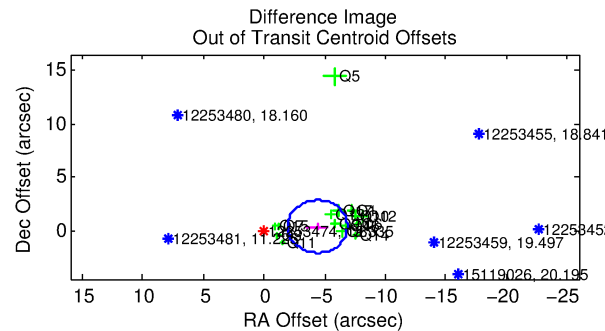
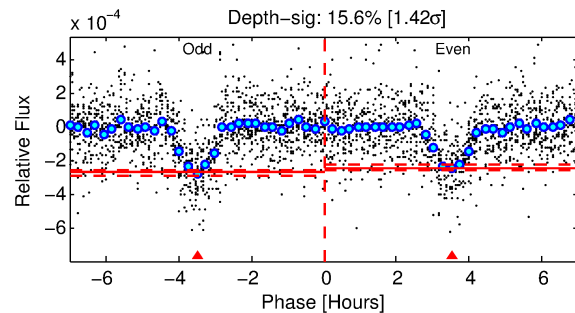
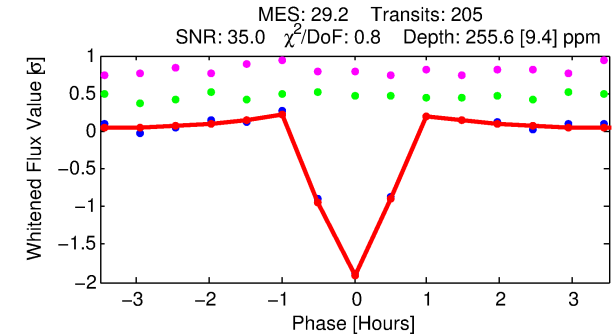
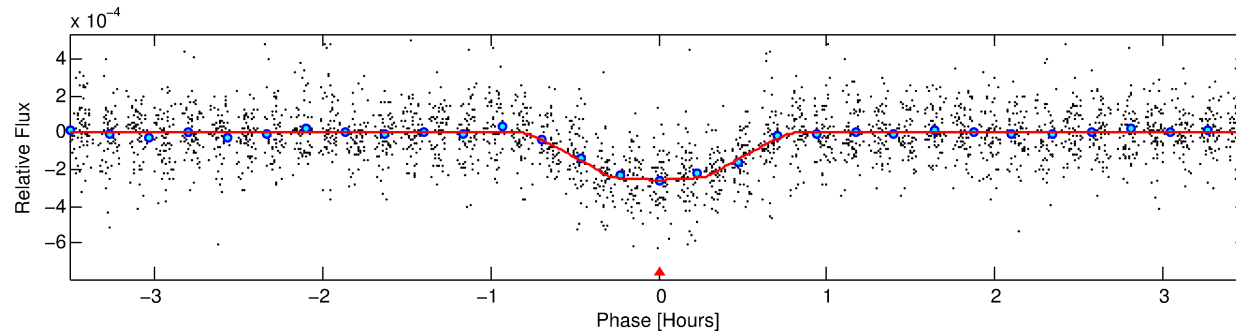
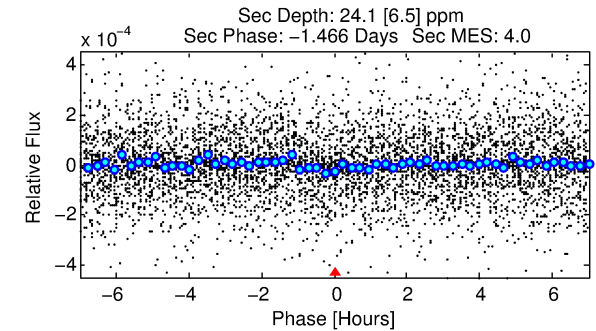
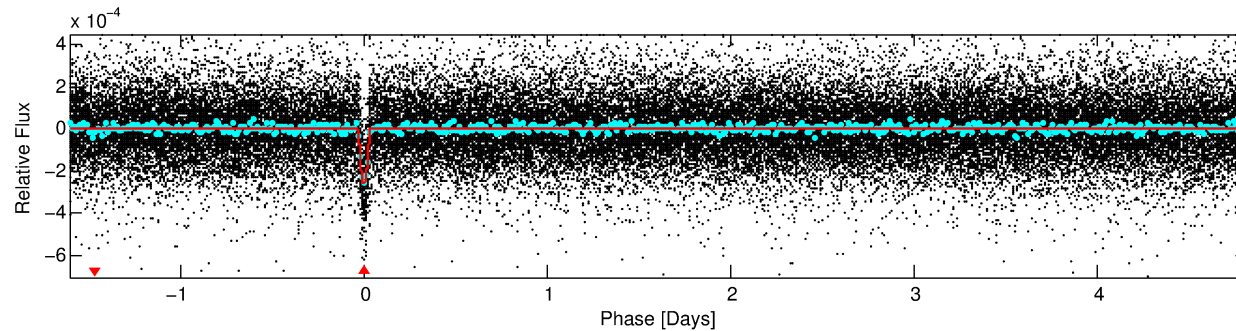
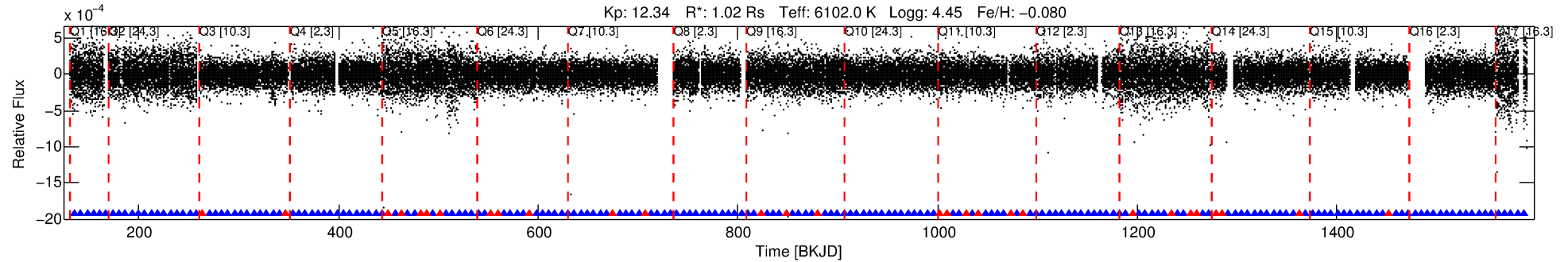
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012253474-01

No Significant Match Found

DV One-Page Summary

KIC: 12253474 Candidate: 1 of 1 Period: 6.423 d
KOI: K01947.01 Corr: 0.961



DV Fit Results:

Period = 6.42295 [0.00001] d
Epoch = 135.5518 [0.0008] BKJD
Rp/R* = 0.0169 [0.0042]
a/R* = 22.81 [28.57]
b = 0.86 [0.39]
Seff = 270.64 [111.44]
Teq = 1034 [106] K
Rp = 1.87 [0.79] Re
a = 0.0688 [0.0191] AU
Ag = 18.01 [12.39] [1.37σ]
Teffp = 3294 [475] K [4.64σ]

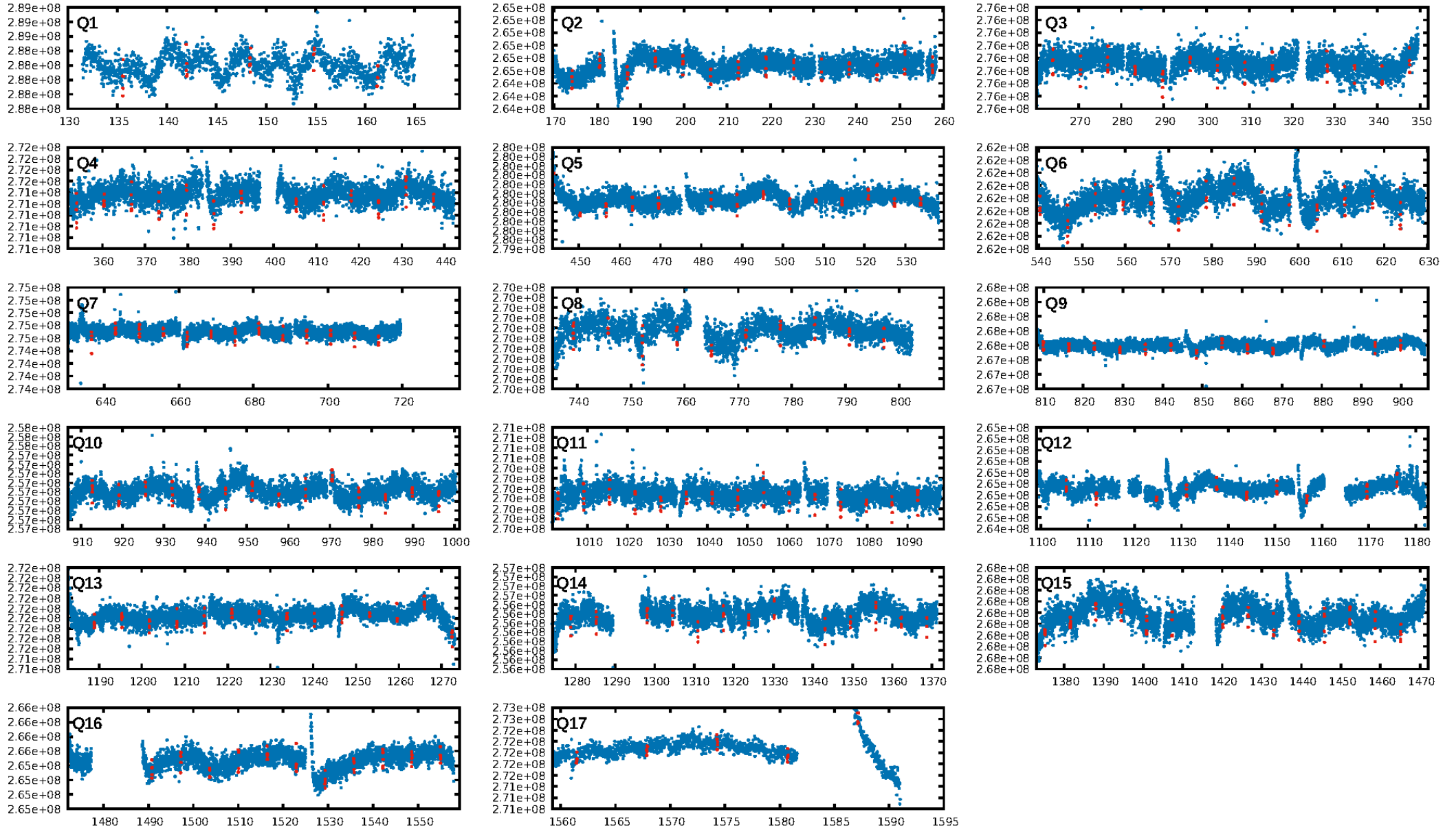
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.01e-177
RollingBand-fgt: 0.85 [166/195]
GhostDiagnostic-chr: 2.712
Centroid-sig: 0.0%
Centroid-so: 2.101 arcsec [12.55σ]
OotOffset-rm: 4.422 arcsec [5.38σ]
KicOffset-rm: 0.254 arcsec [0.31σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.50 [8/16]
DiffImageOverlap-fno: 1.00 [17/17]

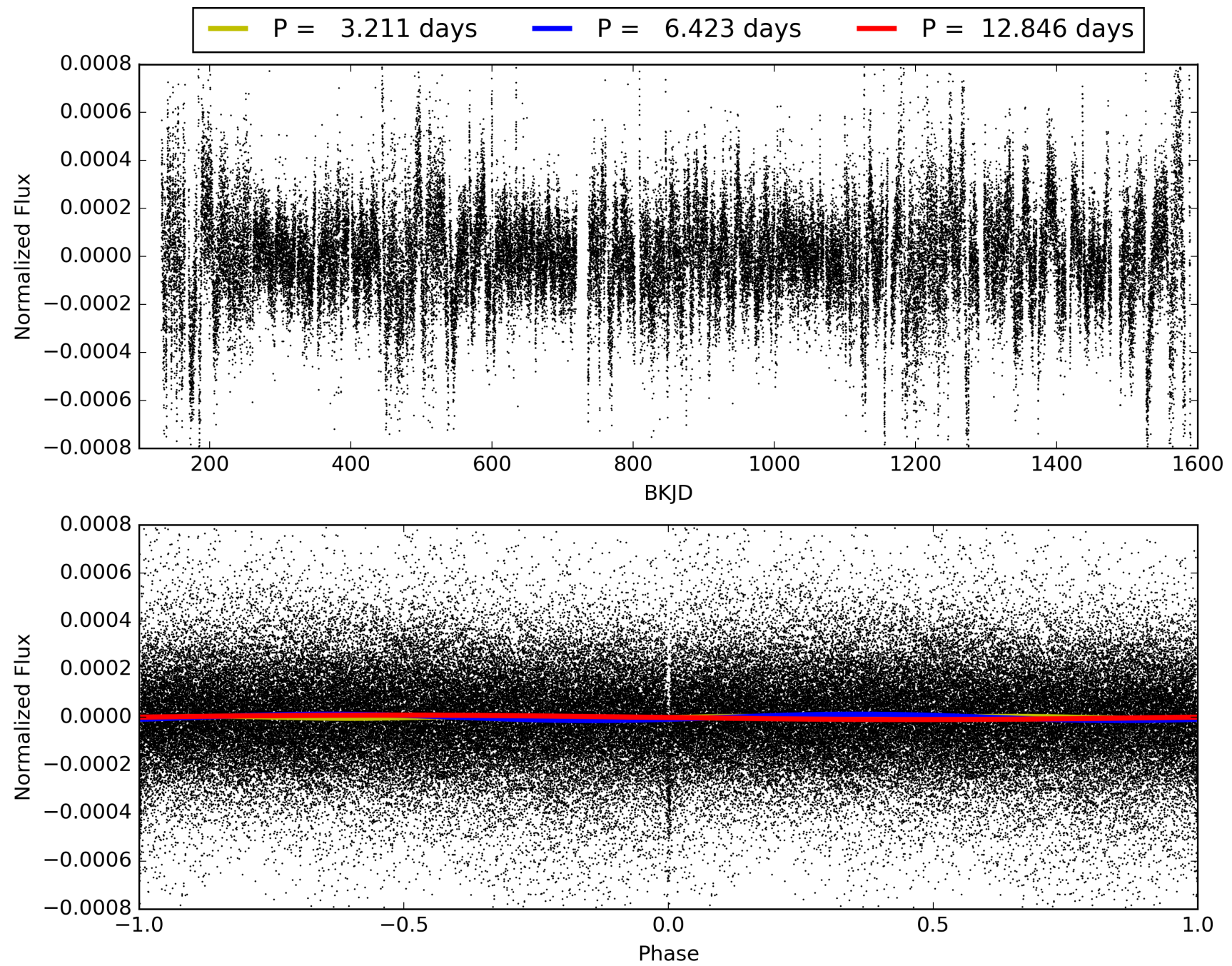
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:46:27 Z

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

TCE 012253474-01, PDC Light Curves

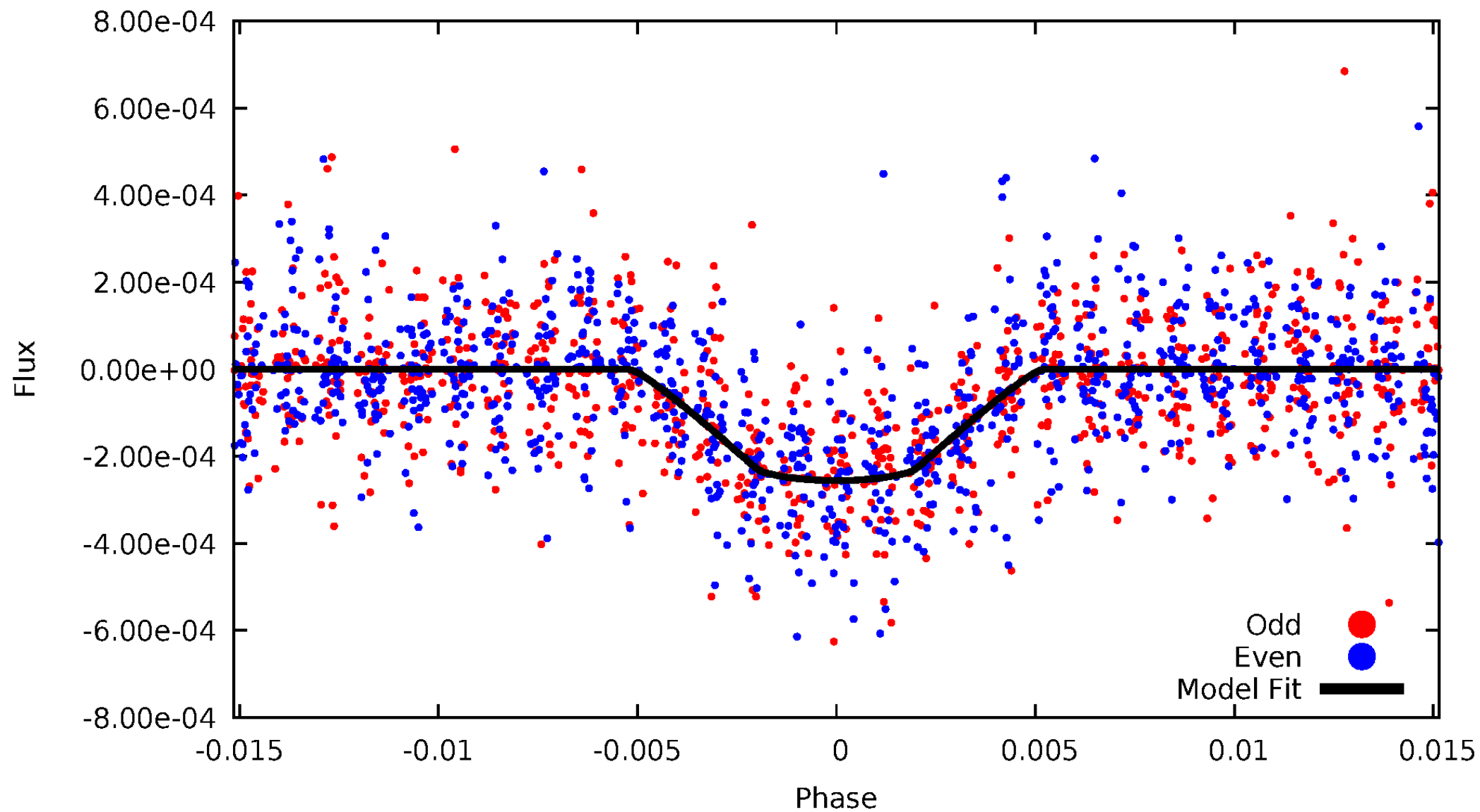


TCE 012253474-01



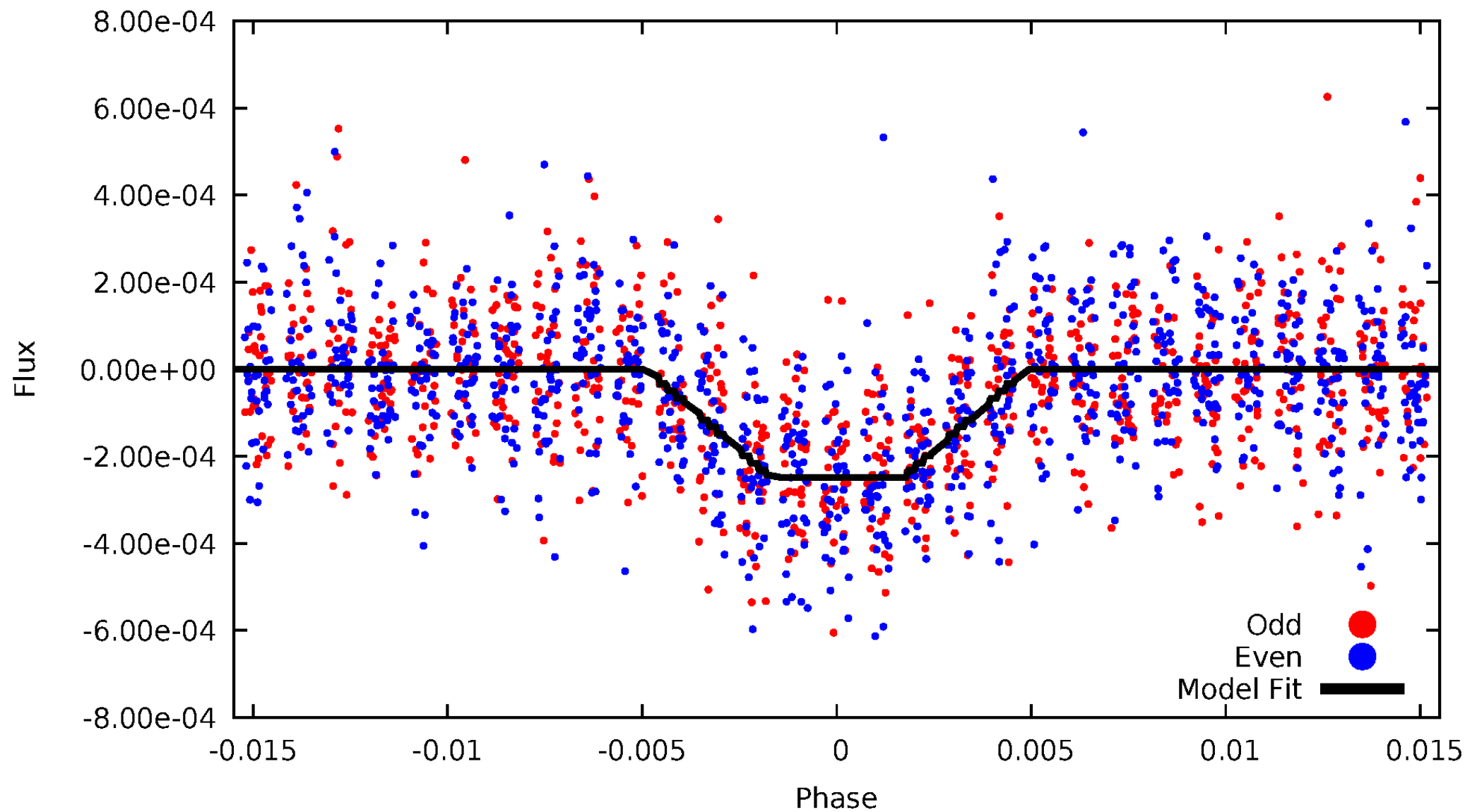
DV Odd/Even

TCE 012253474-01

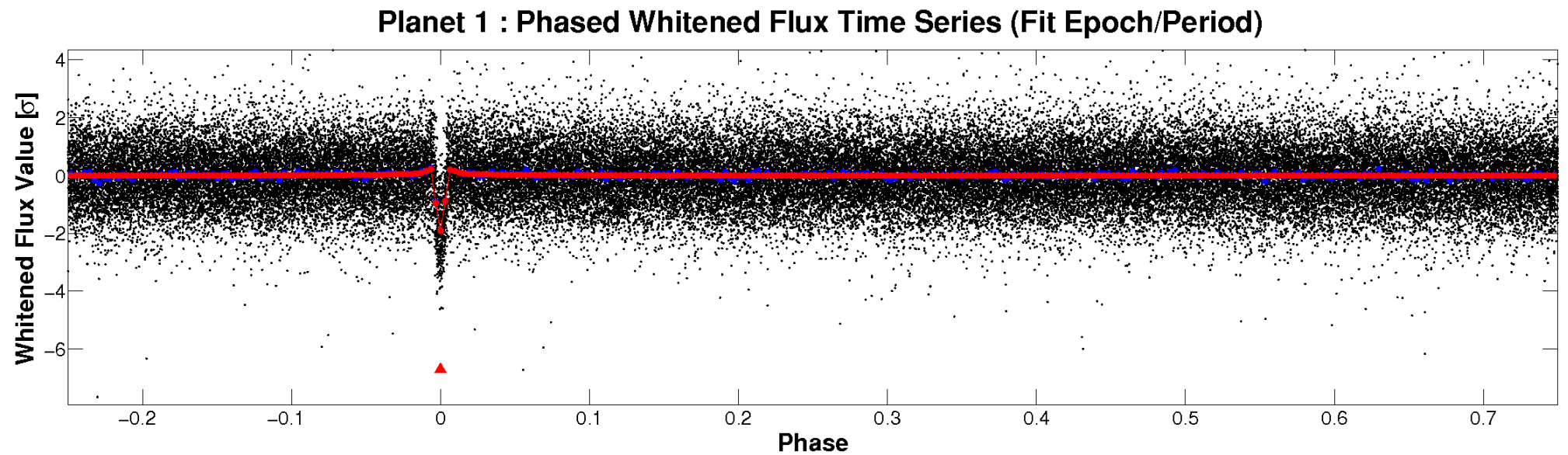
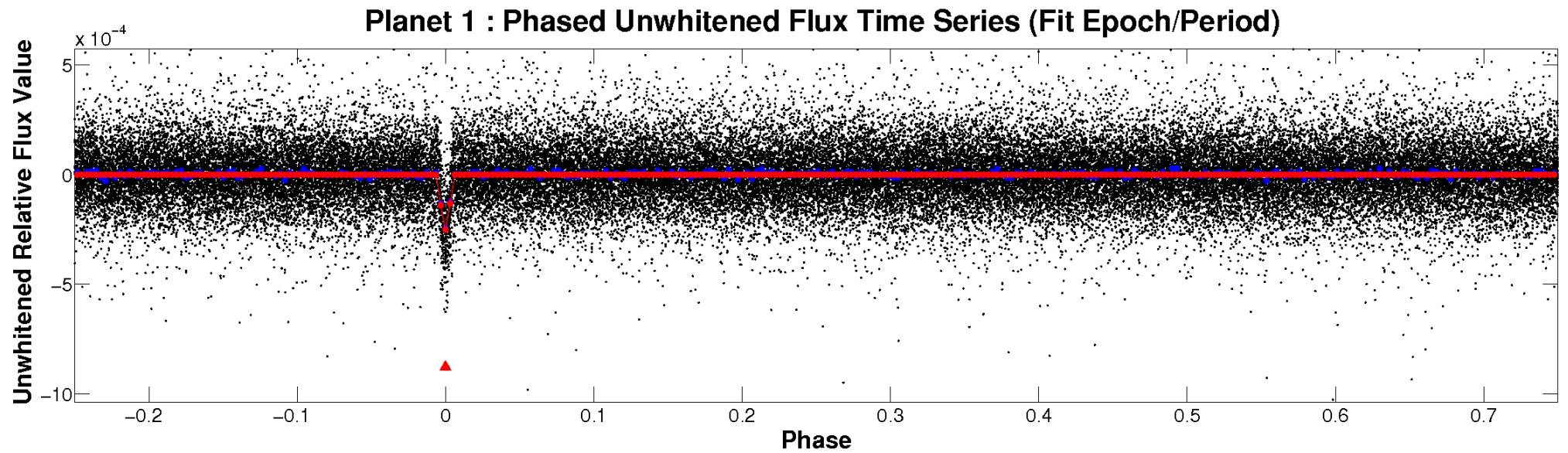


ALT Odd/Even

TCE 012253474-01

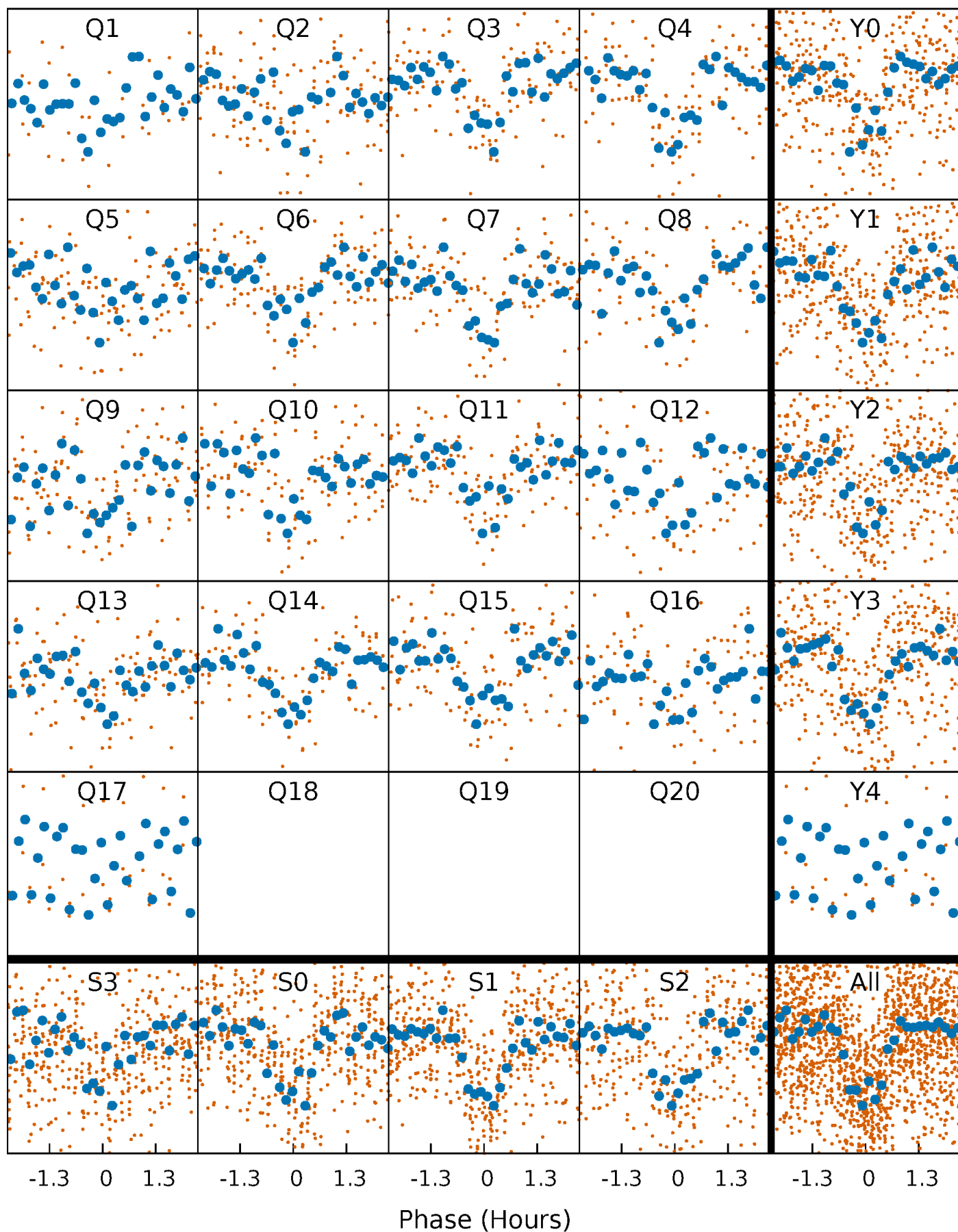


Non-Whitened Vs. Whitened Light Curve



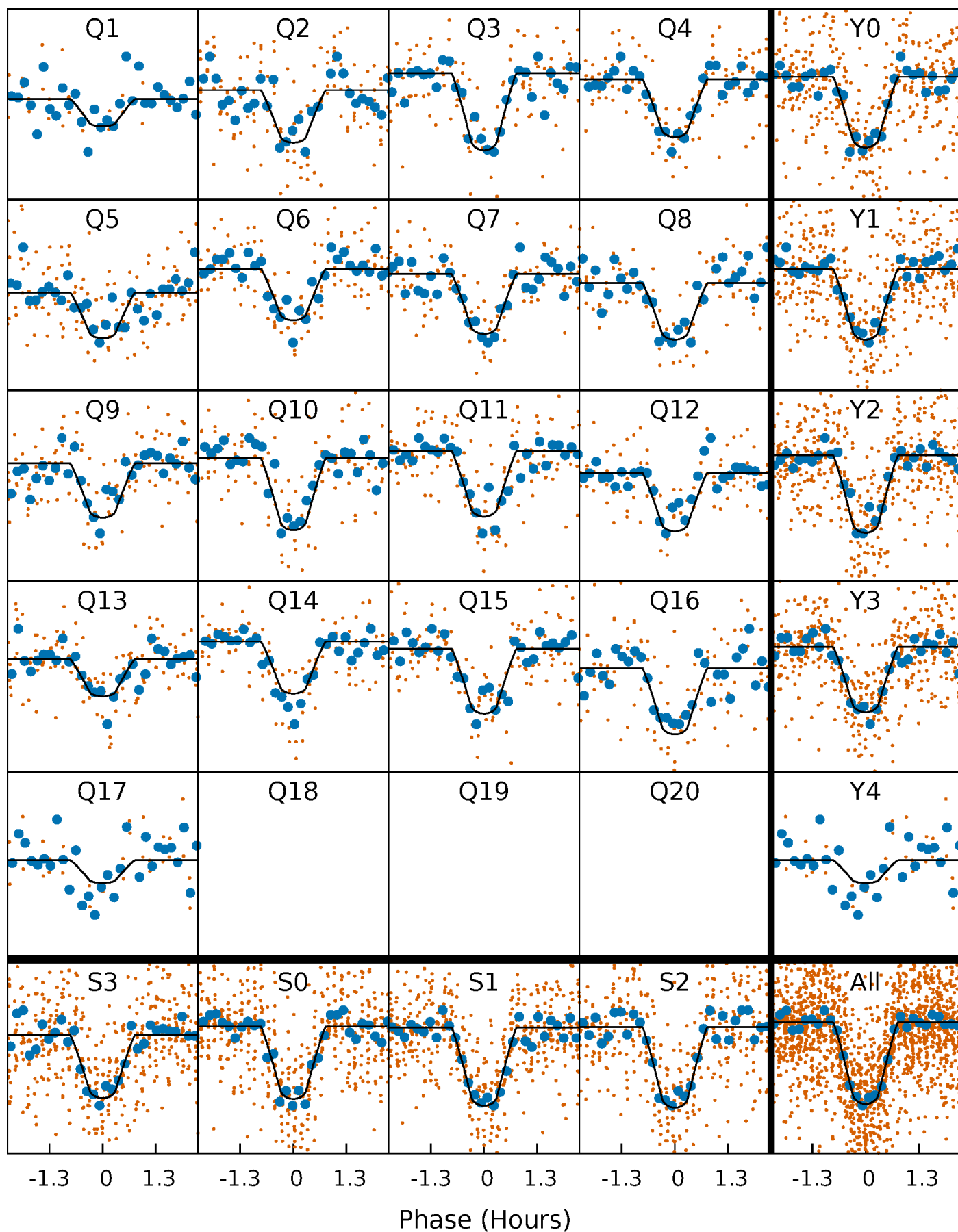
PDC Quarter-Phased Transit Curves

TCE 012253474-01 P= 6.422951 Days $T_0=135.551752$ (BKJD)



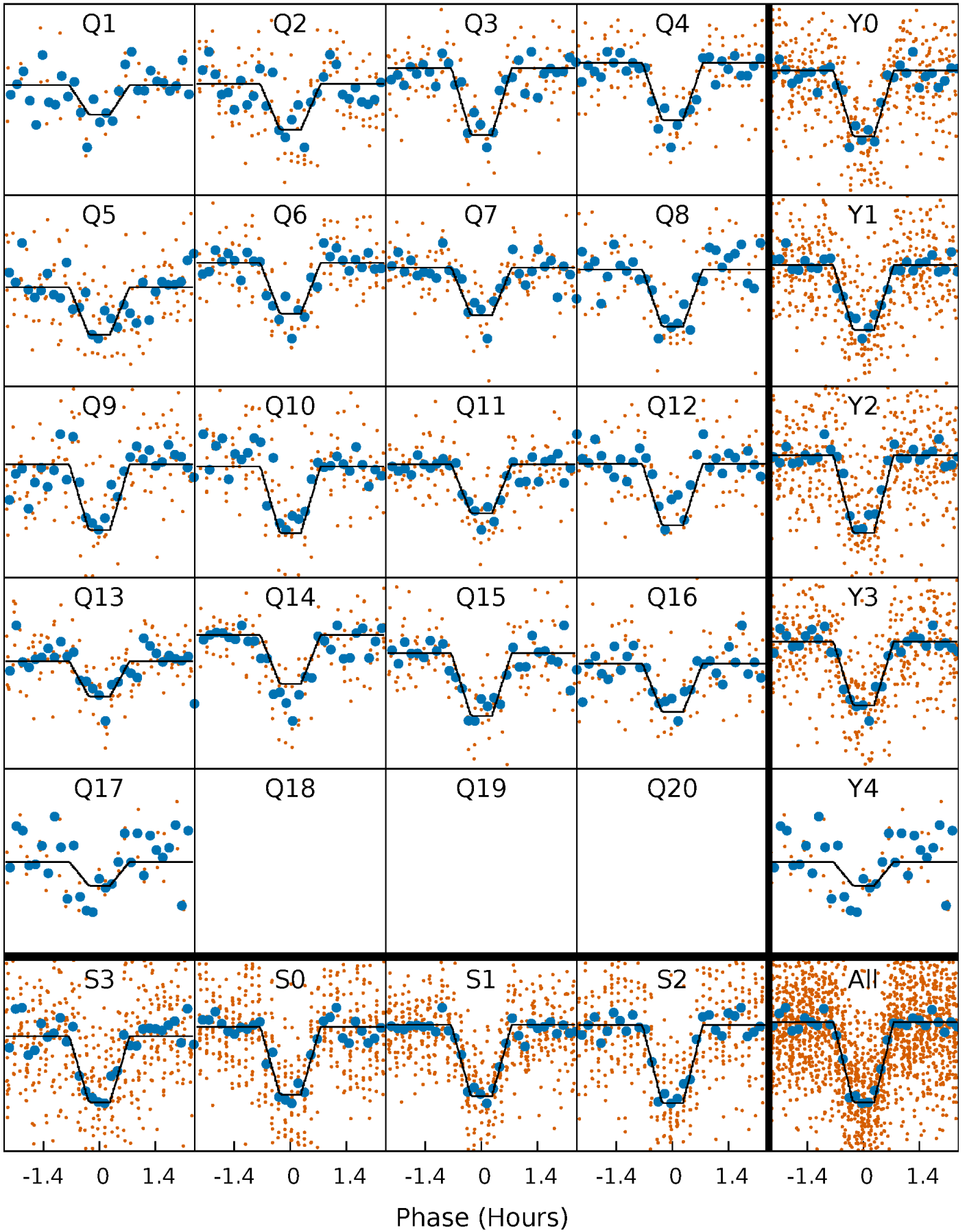
DV Quarter-Phased Transit Curves

TCE 012253474-01 P= 6.422951 Days $T_0=135.551752$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

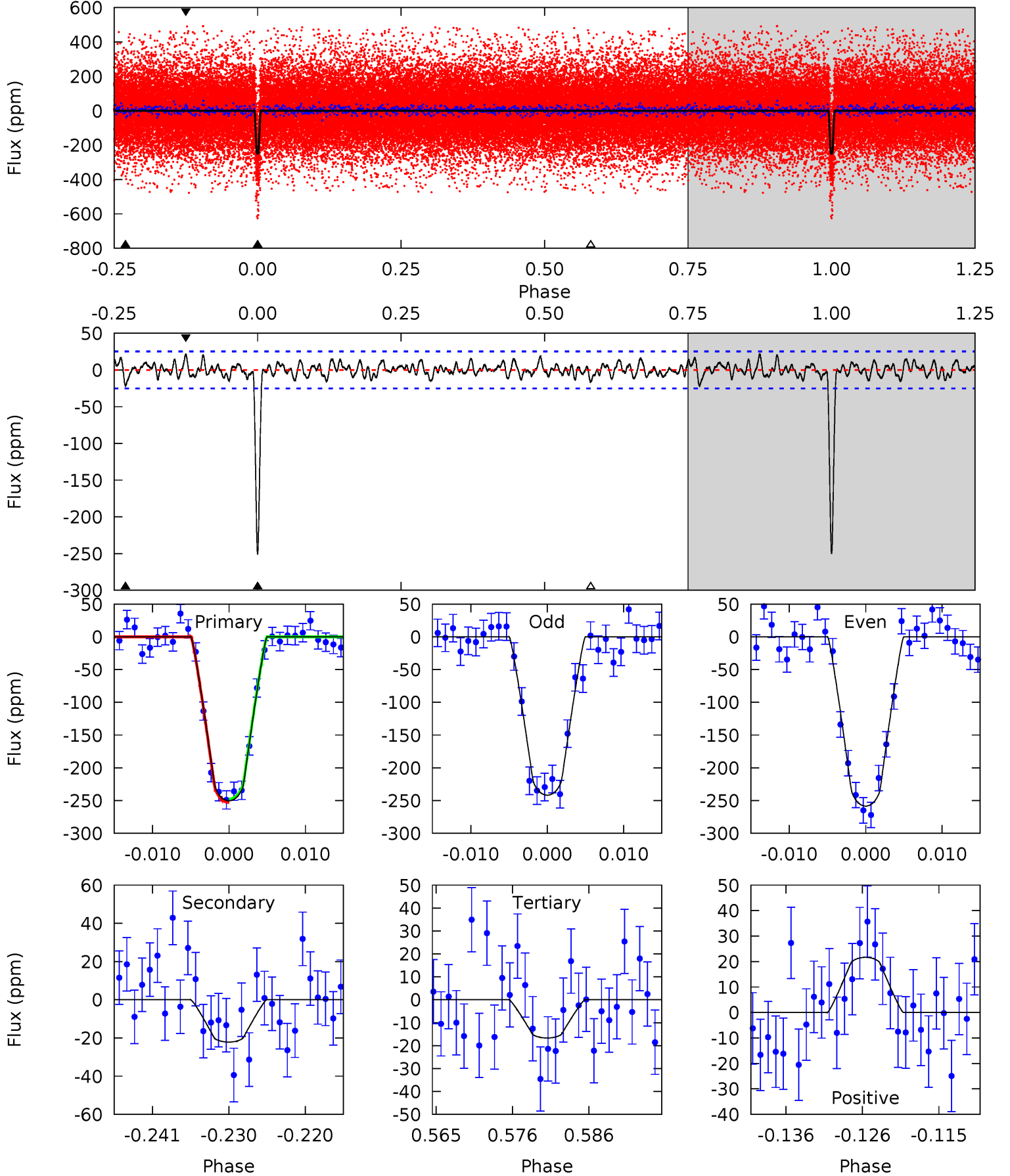
TCE 012253474-01 P= 6.422956 Days $T_0=135.551525$ (BKJD)



DV Model-Shift Uniqueness Test

012253474-01, P = 6.422951 Days, E = 129.128801 Days

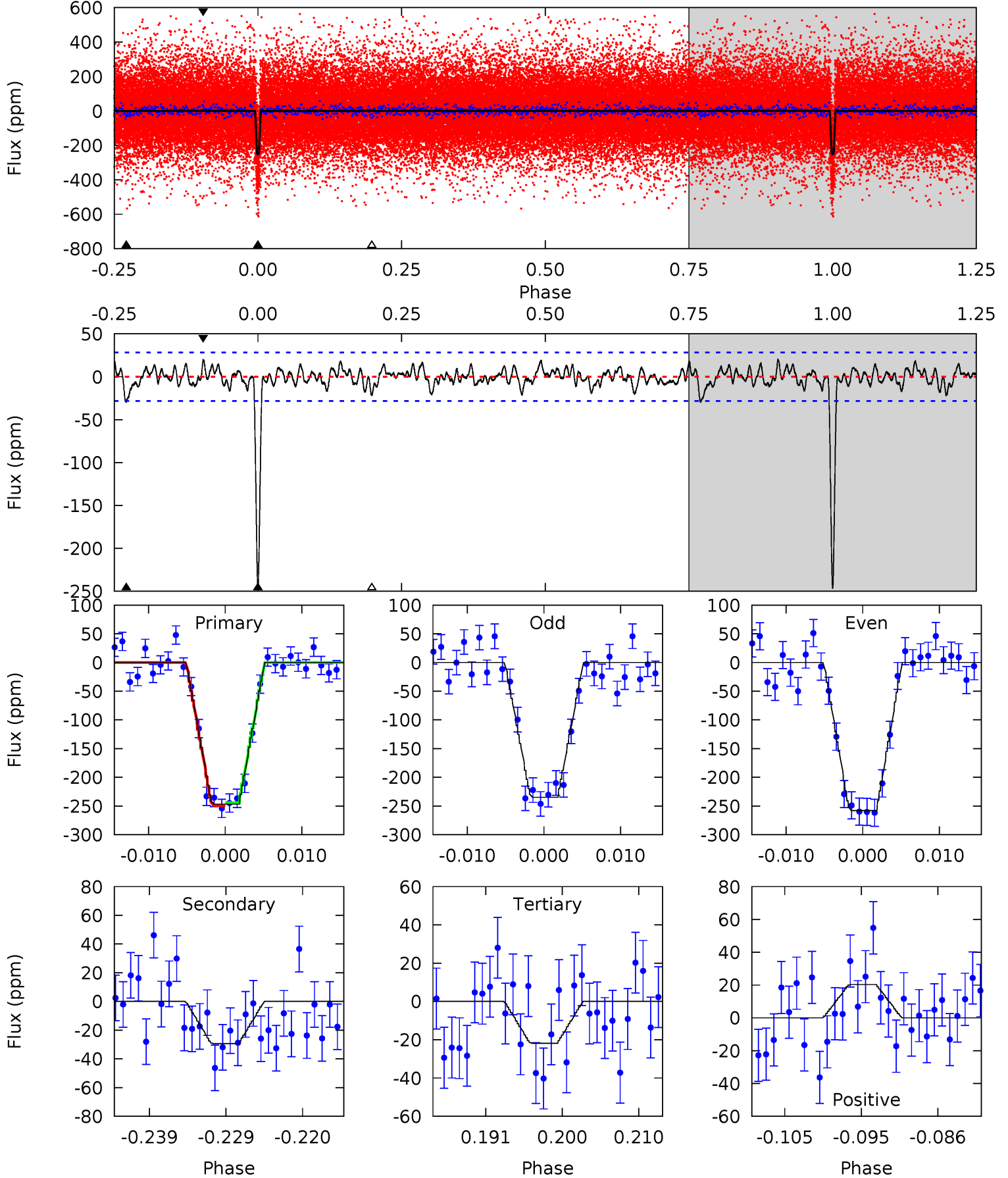
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
50.0	4.42	3.33	4.32	5.02	2.56	1.37	46.7	45.7	1.09	0.10	1.67	1.01	0.08	0.51



Alt Model-Shift Uniqueness Test

012253474-01, P = 6.422956 Days, E = 129.128569 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
44.0	5.24	3.90	3.62	5.04	2.59	1.35	40.1	40.4	1.35	1.62	2.07	1.00	0.08	0.44



Stellar Parameters For KIC 012253474

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6102^{+165}_{-183}	$4.447^{+0.070}_{-0.210}$	$-0.080^{+0.250}_{-0.300}$	$1.016^{+0.345}_{-0.115}$	$1.049^{+0.150}_{-0.137}$	$1.407^{+0.425}_{-0.777}$
	+3%/-3%	+2%/-5%	+312%/-375%	+34%/-11%	+14%/-13%	+30%/-55%
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 012253474-01 / KOI 1947.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-22 ± 5	$1.93^{+0.58}_{-0.48}$	1477^{+105}_{-77}	3621^{+414}_{-271}	14^{+14}_{-6}
Alt.	-29 ± 6	$1.80^{+0.61}_{-0.45}$	1469^{+116}_{-71}	3879^{+535}_{-316}	23^{+21}_{-10}

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

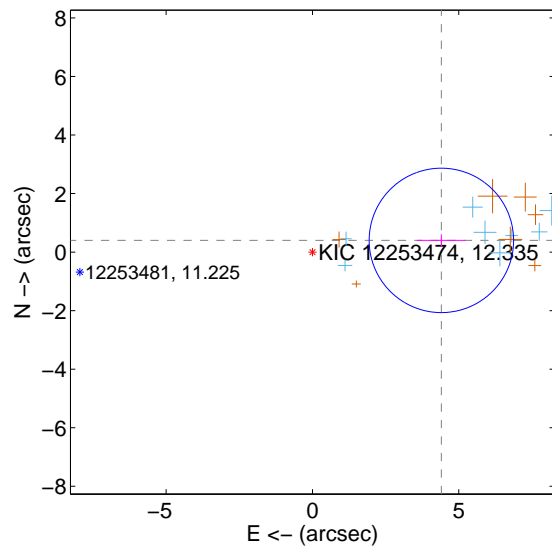
Supplemental centroid analysis for 012253474-01. Kepler magnitude: 12.34. Transit SNR 34.98

There are 8 quarters with good PRF difference image offsets

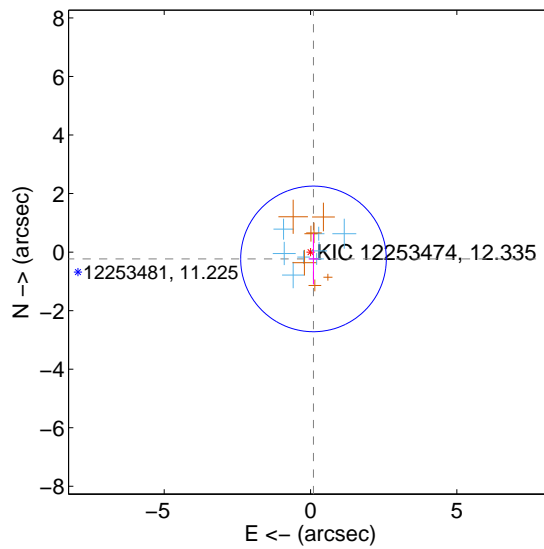
The OOT PRF centroid is offset from the target star catalog position by about 6.78 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.422 ± 0.822	5.38	-4.404 ± 0.825	0.400 ± 0.209
PRF-fit source offset from KIC position	0.254 ± 0.829	0.31	-0.101 ± 0.167	-0.233 ± 0.874
photometric centroid source offset	2.10 ± 0.17	12.55	2.08 ± 0.17	-0.27 ± 0.14

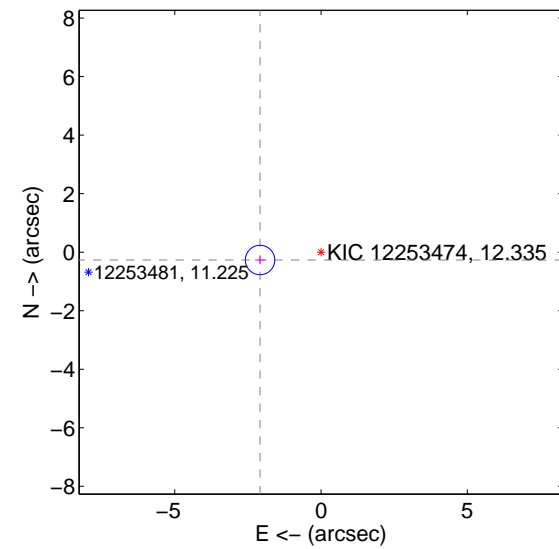
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

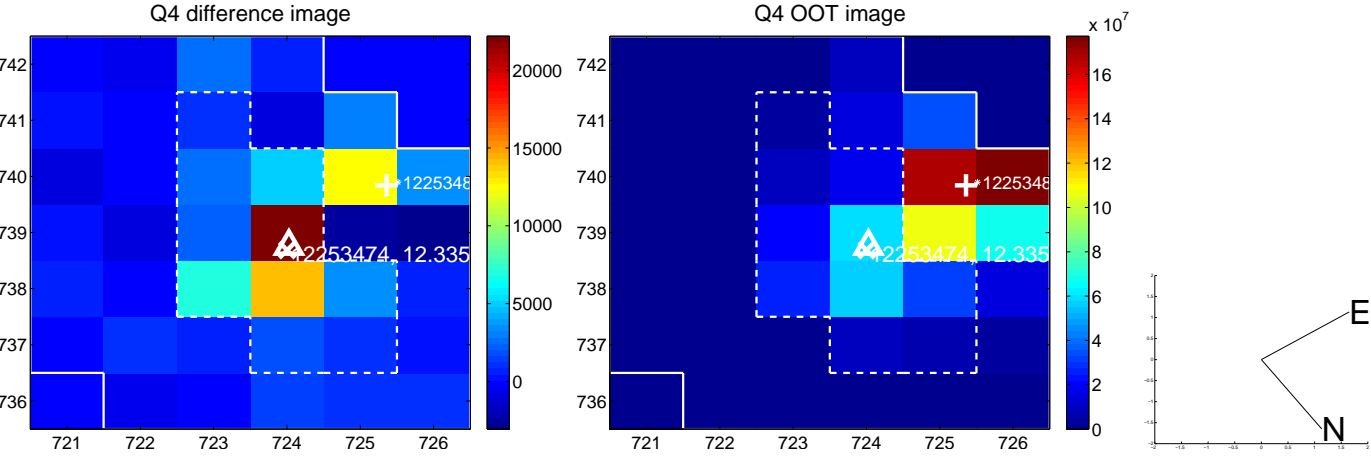
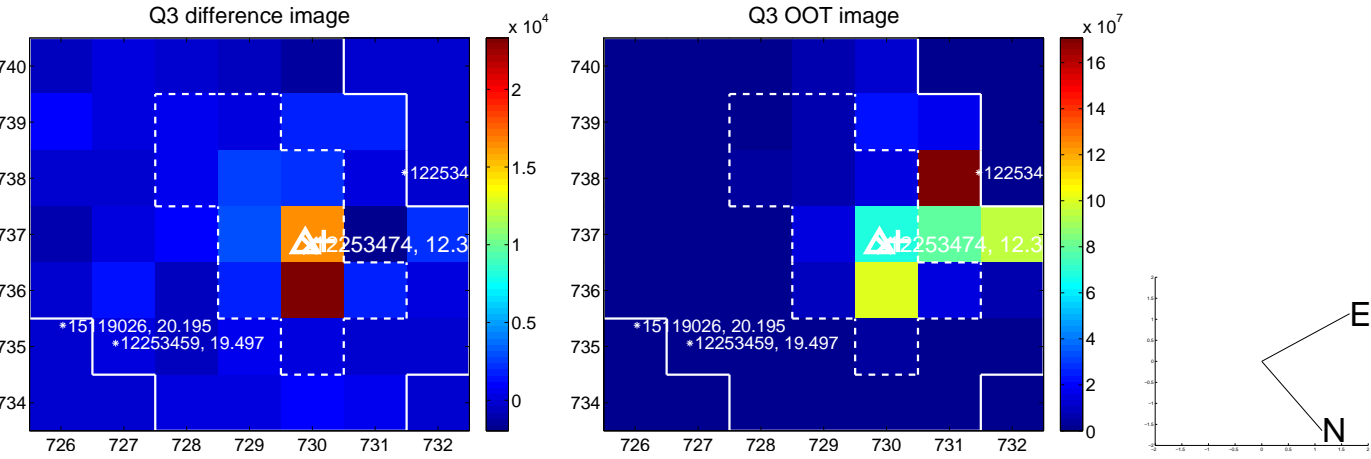
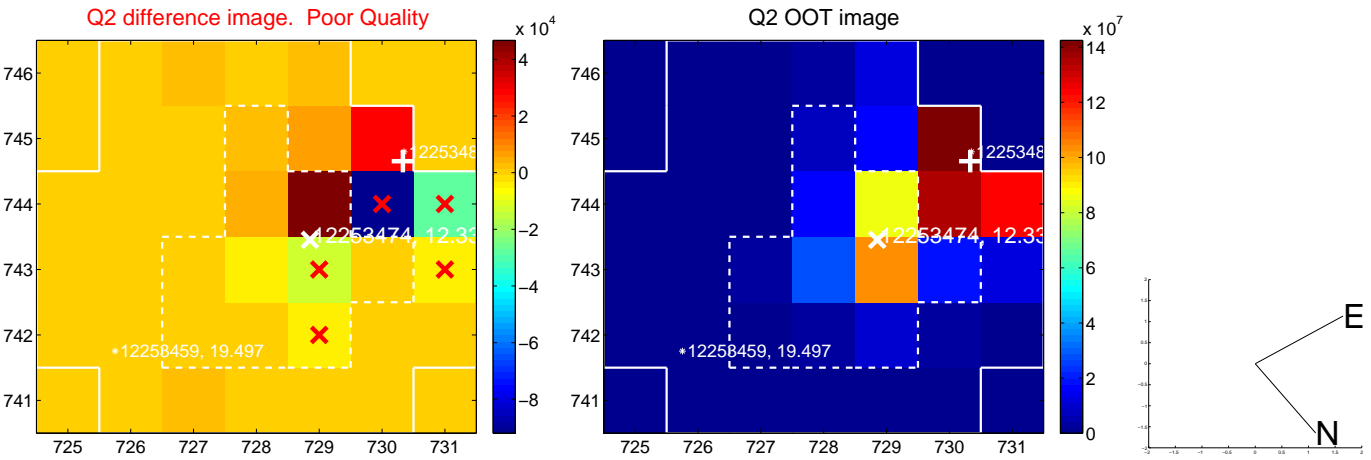
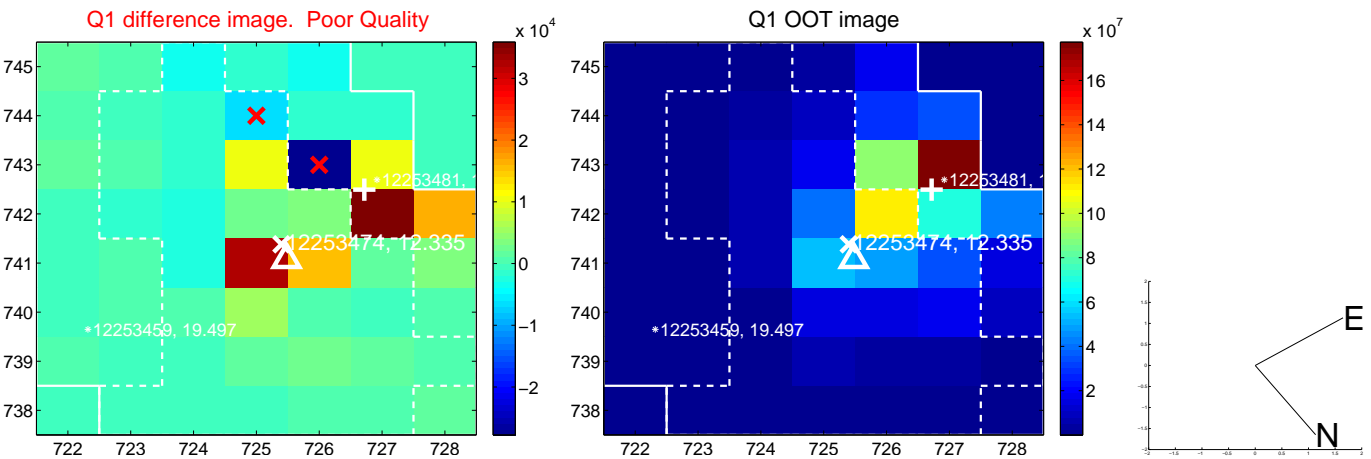


offset from photometric centroids

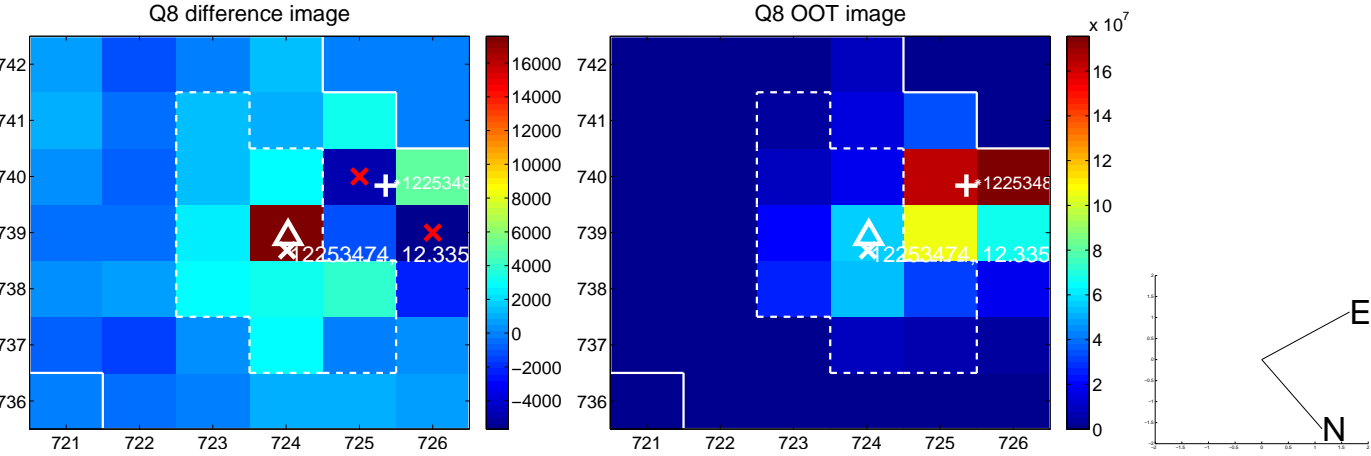
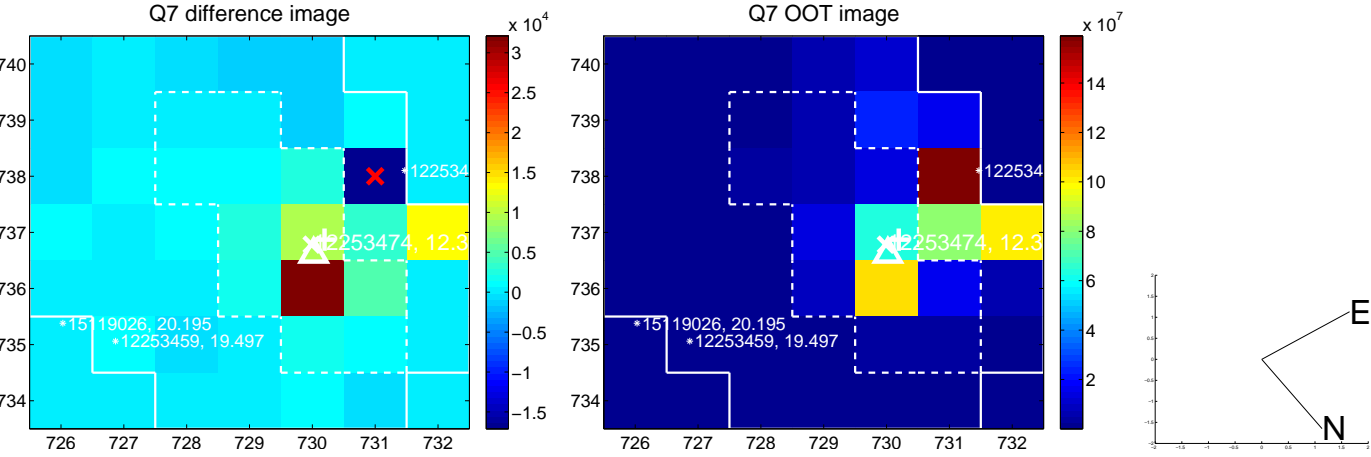
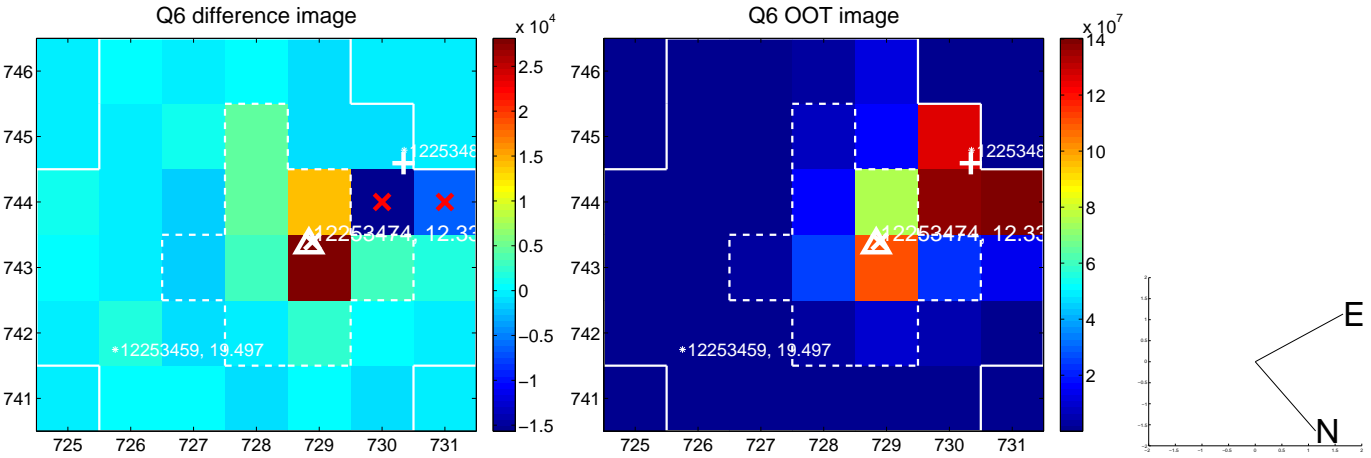
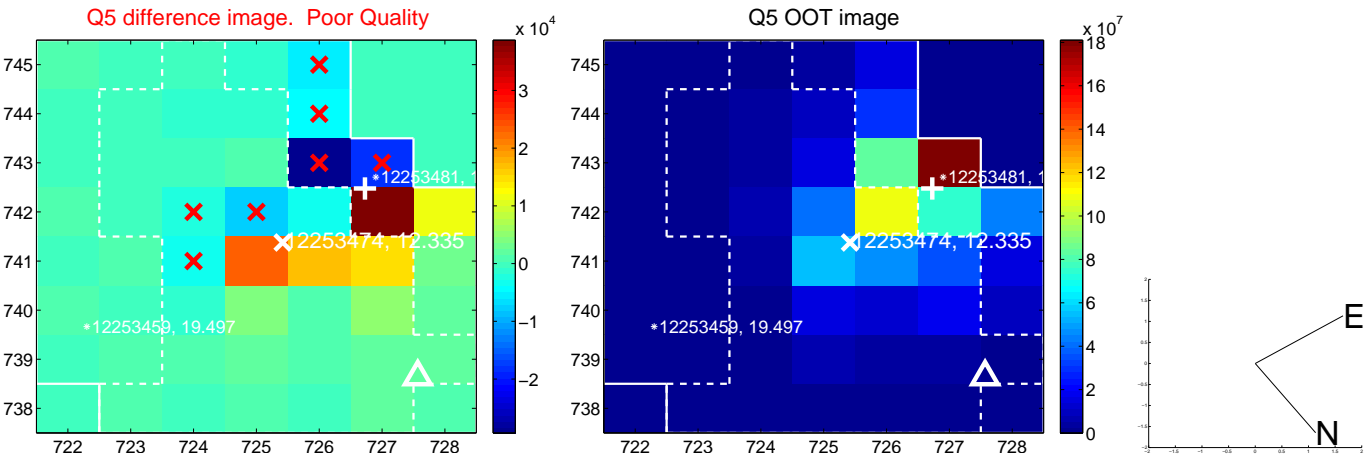


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

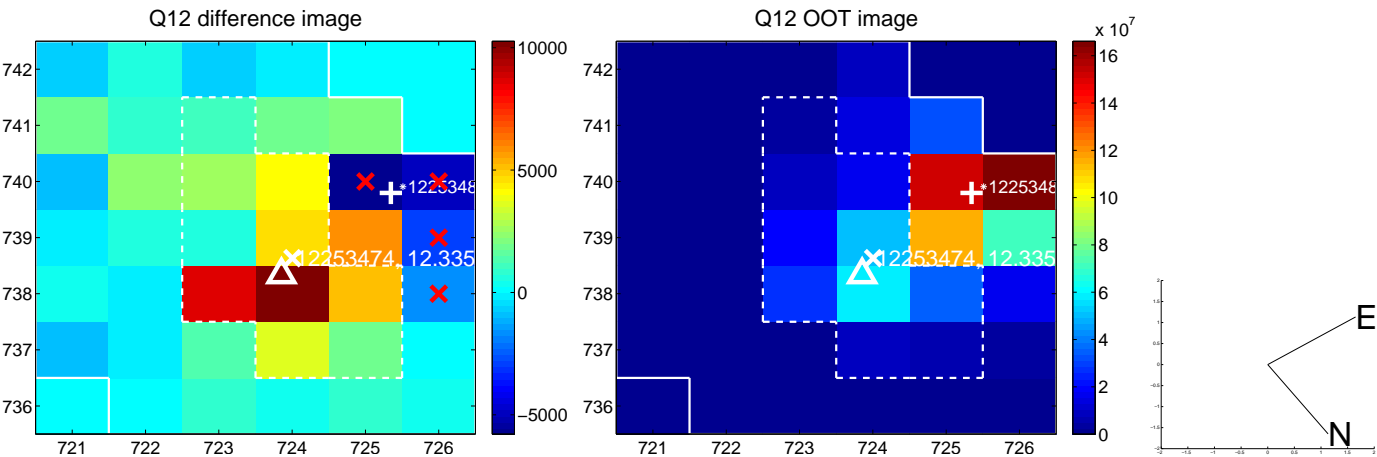
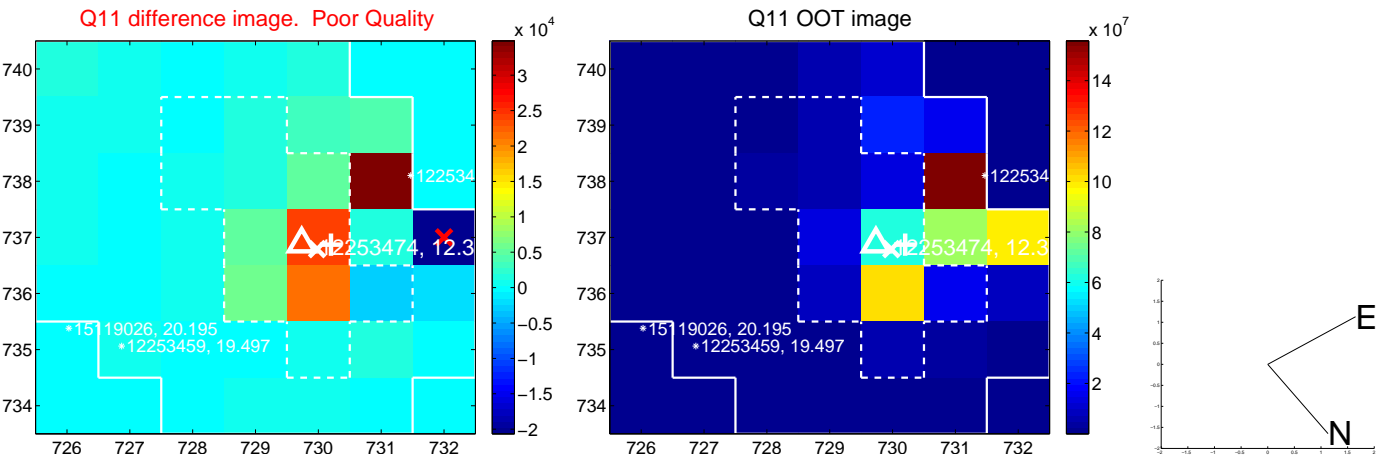
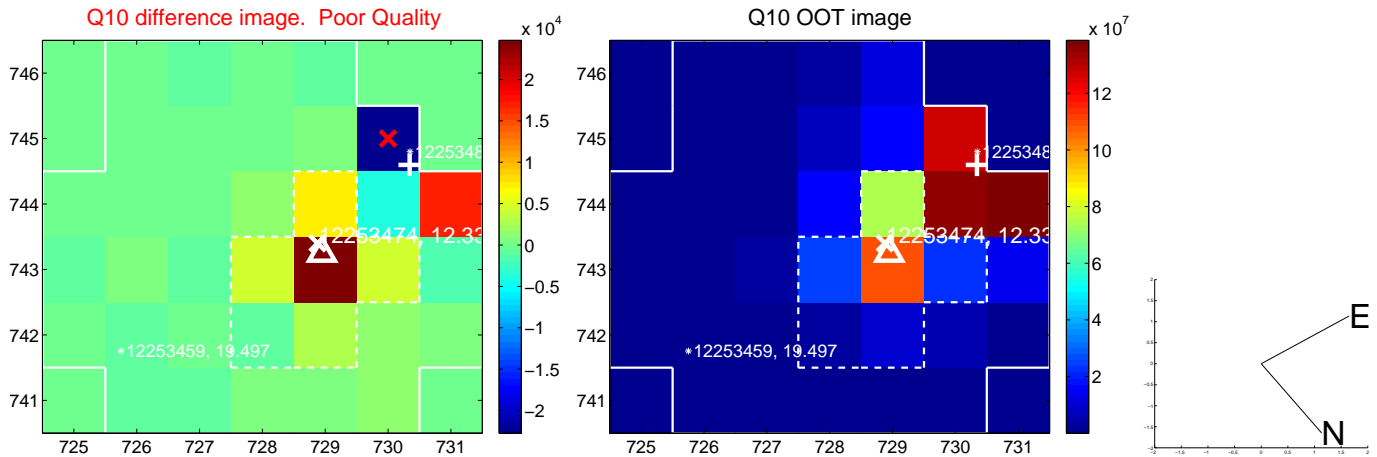
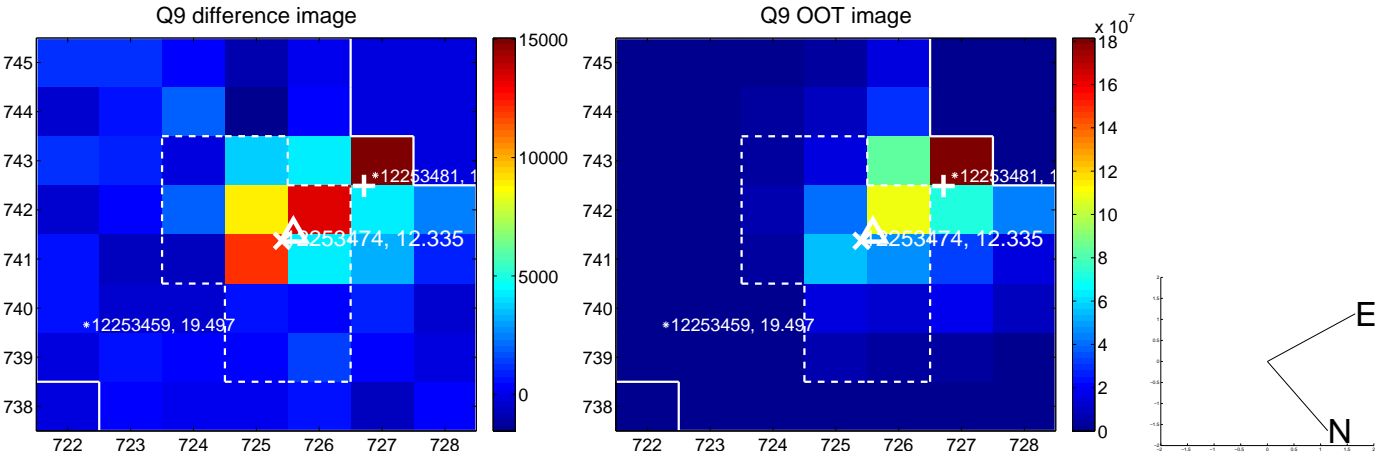
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



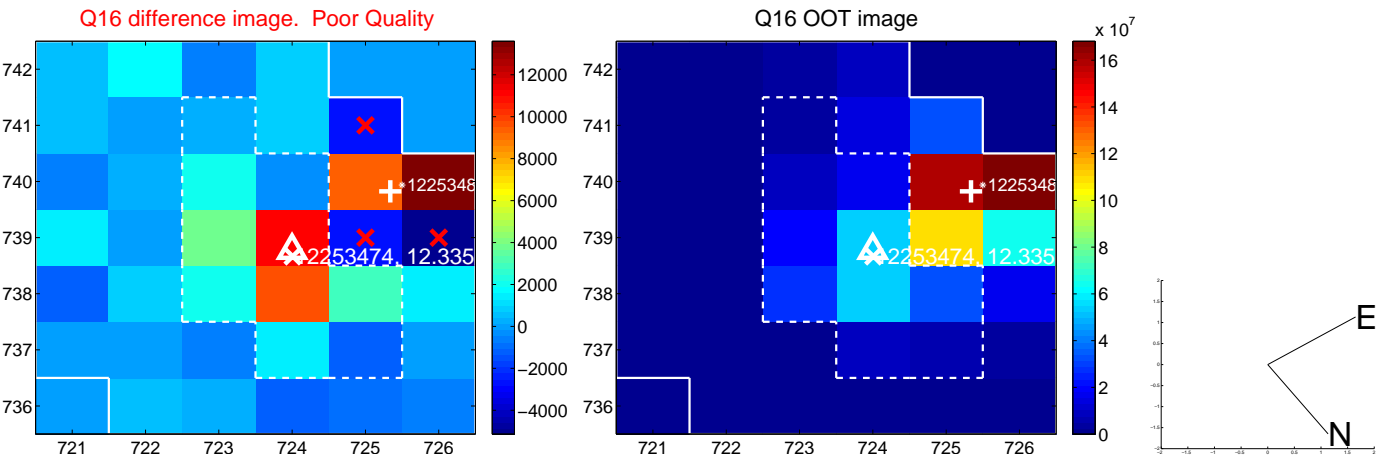
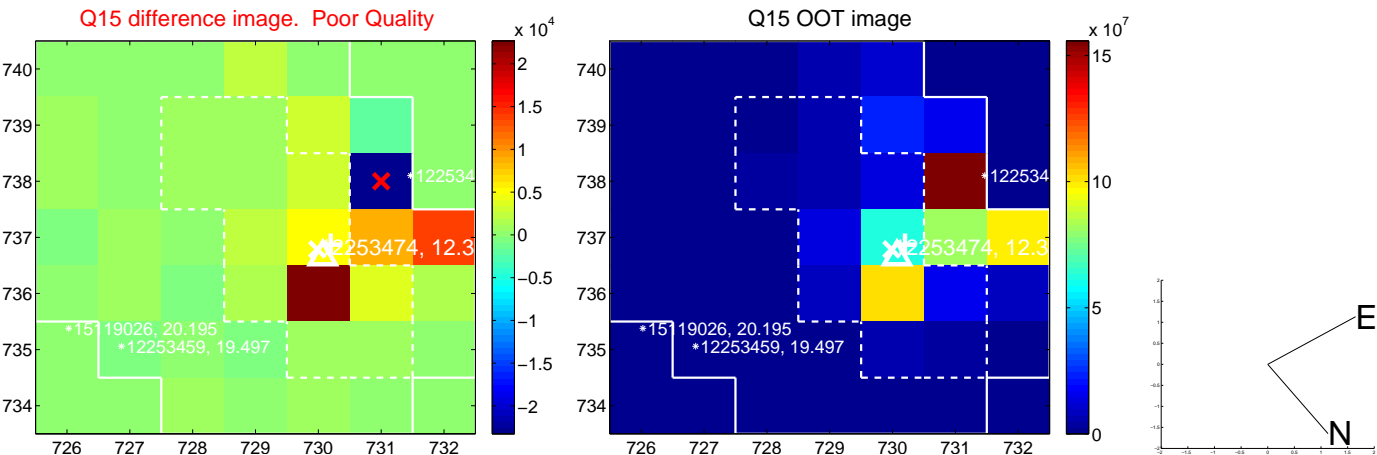
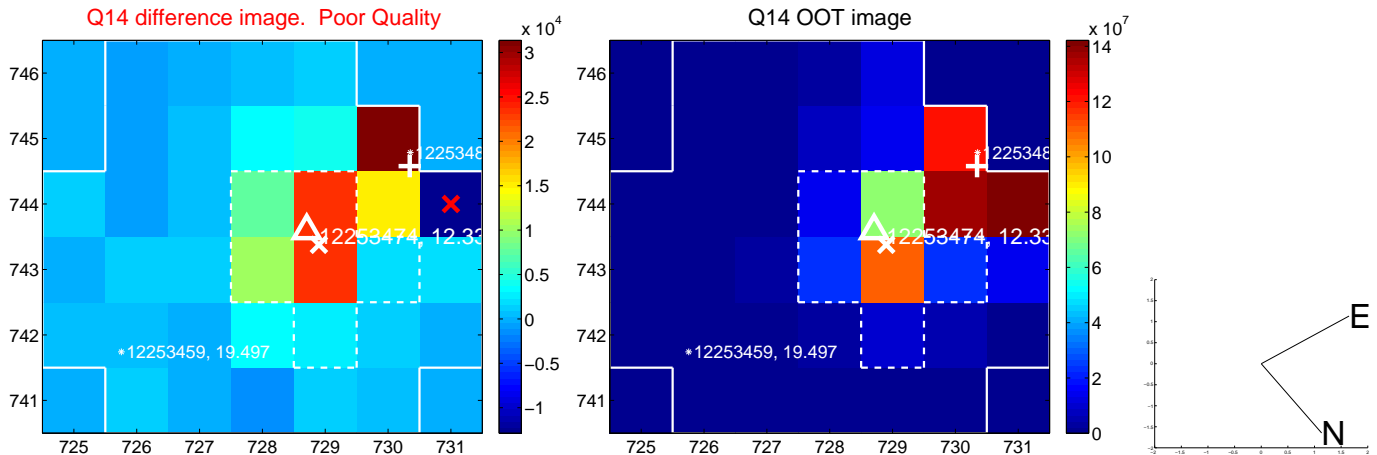
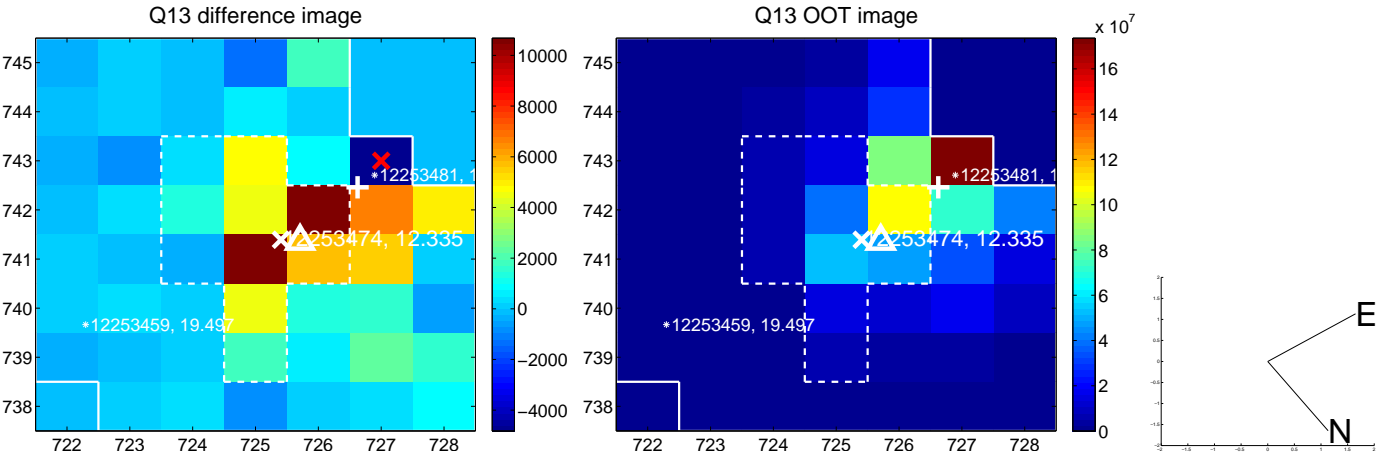
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



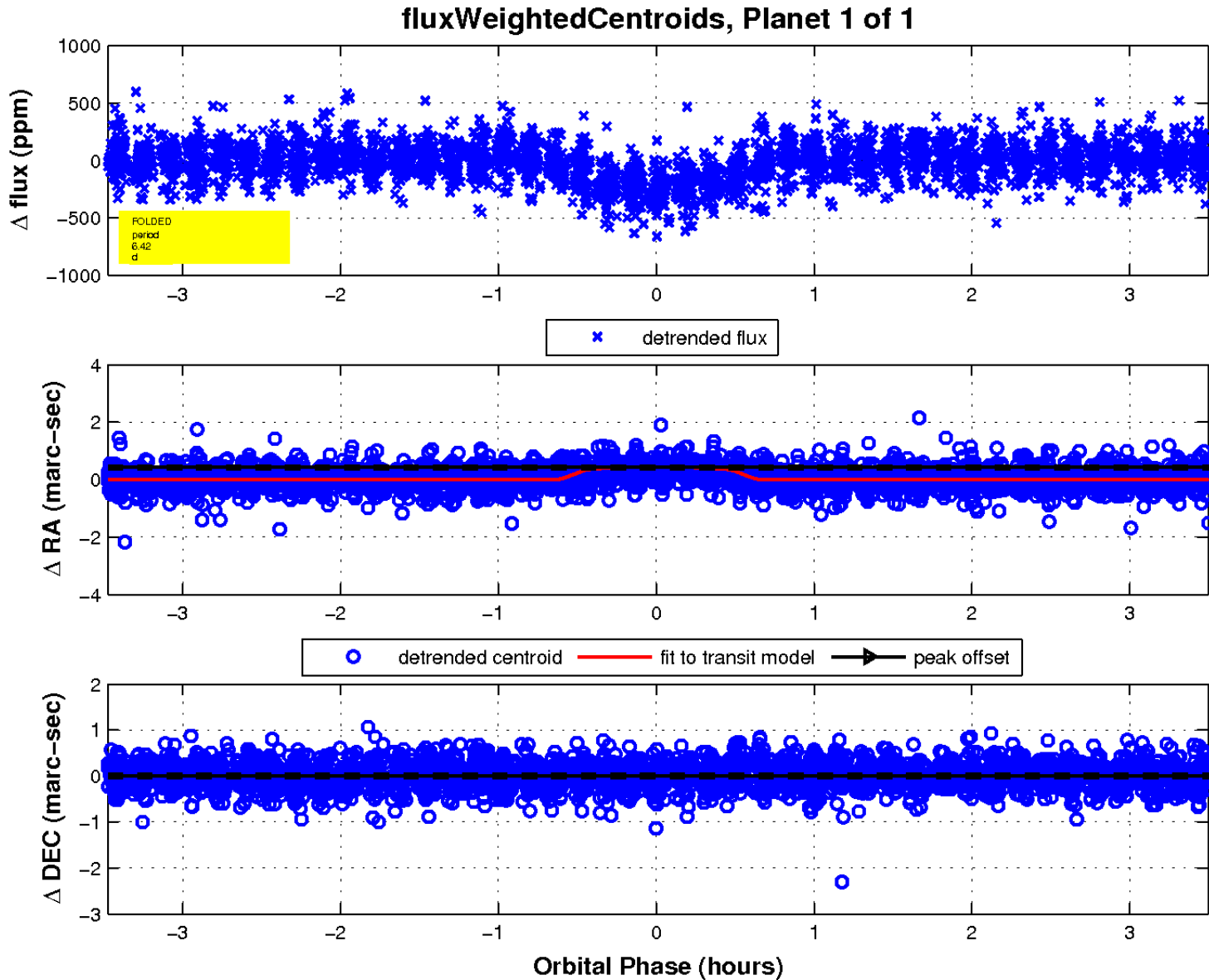
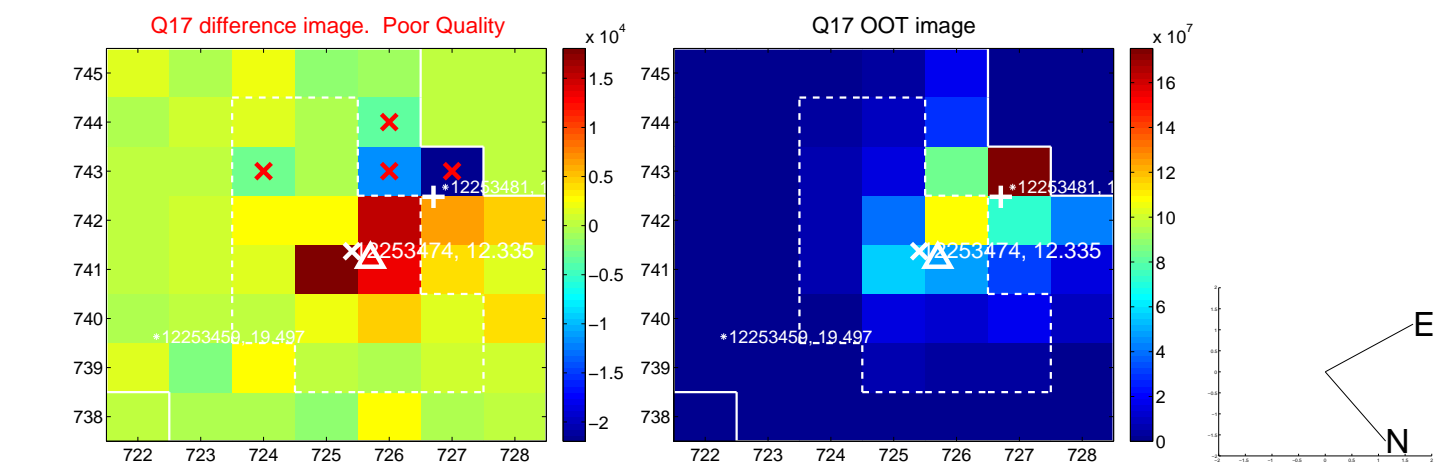
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

