

KIC 011754430

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})
011754430-01	OBS	3403.01	39.819033	166.645630	209.3	10.996	20.4	23.0	1.52	5710	2.47	42.39
011754430-02	OBS	3403.02	6.158270	135.497243	55.7	6.282	12.6	12.9	1.52	5710	1.31	510.68

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011754430-01	OBS	PC	0.85	0	0	0	0	NO_COMMENT
011754430-02	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.

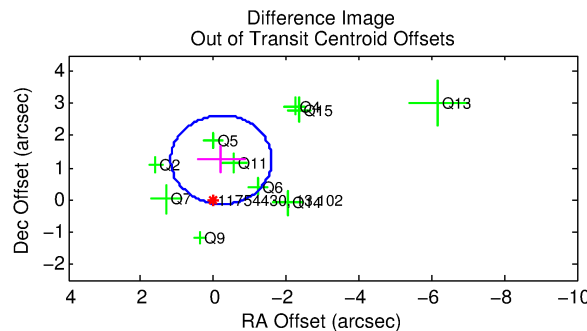
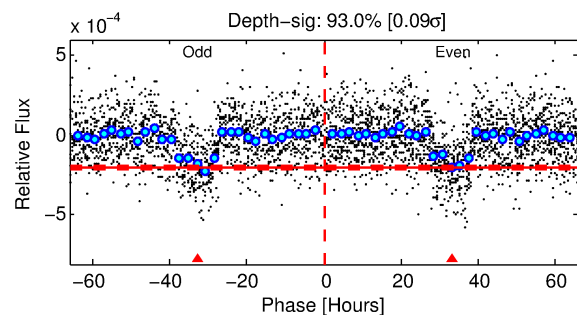
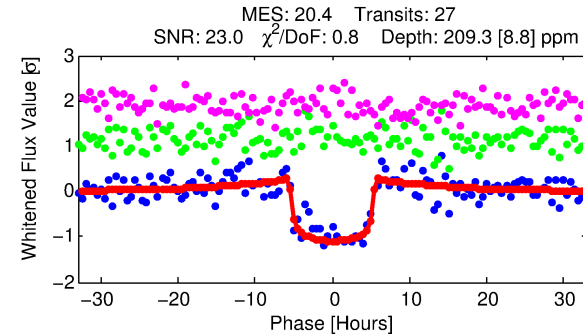
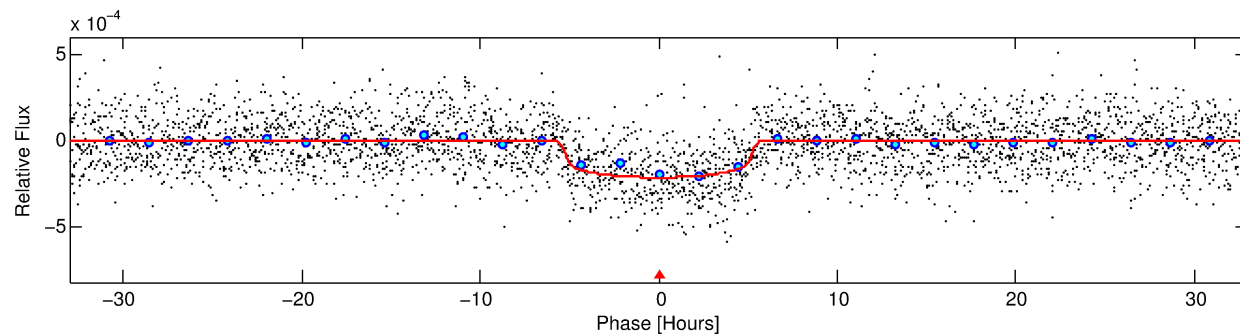
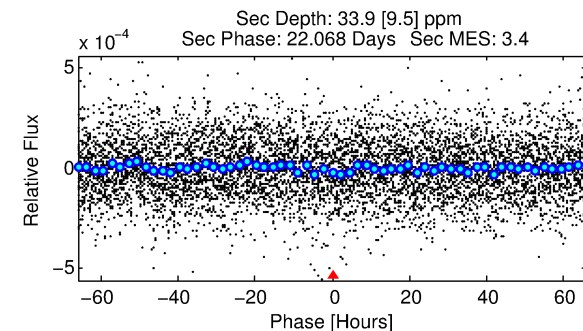
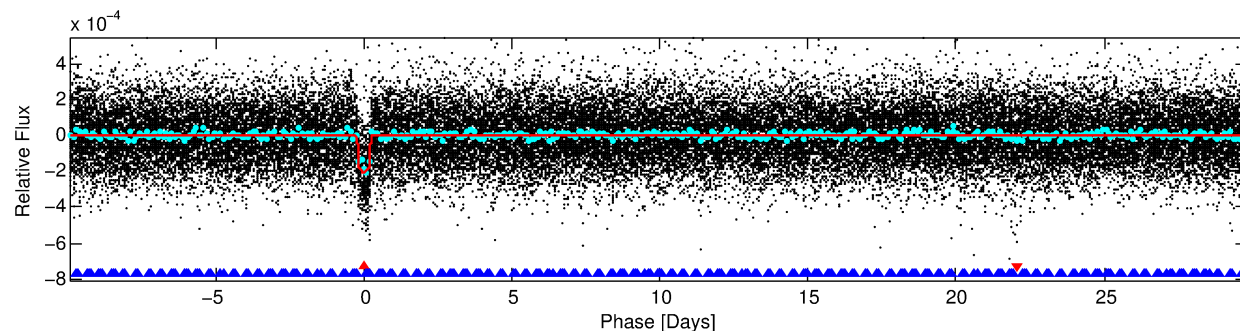
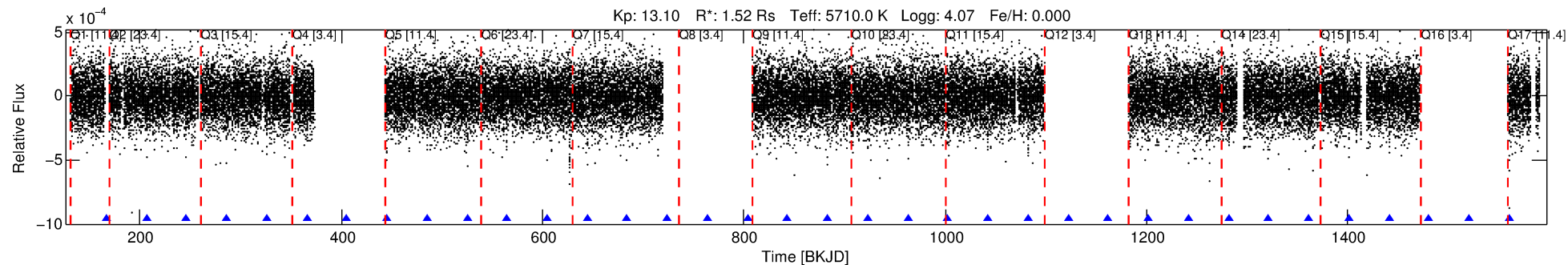
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011754430-01

No Significant Match Found

DV One-Page Summary

KIC: 11754430 Candidate: 1 of 2 Period: 39.819 d
KOI: K03403.01 Corr: 0.991



DV Fit Results:

Period = 39.81903 [0.00032] d
Epoch = 166.6456 [0.0065] BKJD
Rp/R* = 0.0149 [0.0018]
a/R* = 16.61 [8.97]
b = 0.82 [0.22]
Seff = 42.39 [14.88]
Teff = 651 [57] K
Rp = 2.47 [0.62] Re
a = 0.2284 [0.0487] AU
Ag = 159.29 [80.43] [1.97σ]
Teffp = 3574 [340] K [8.49σ]

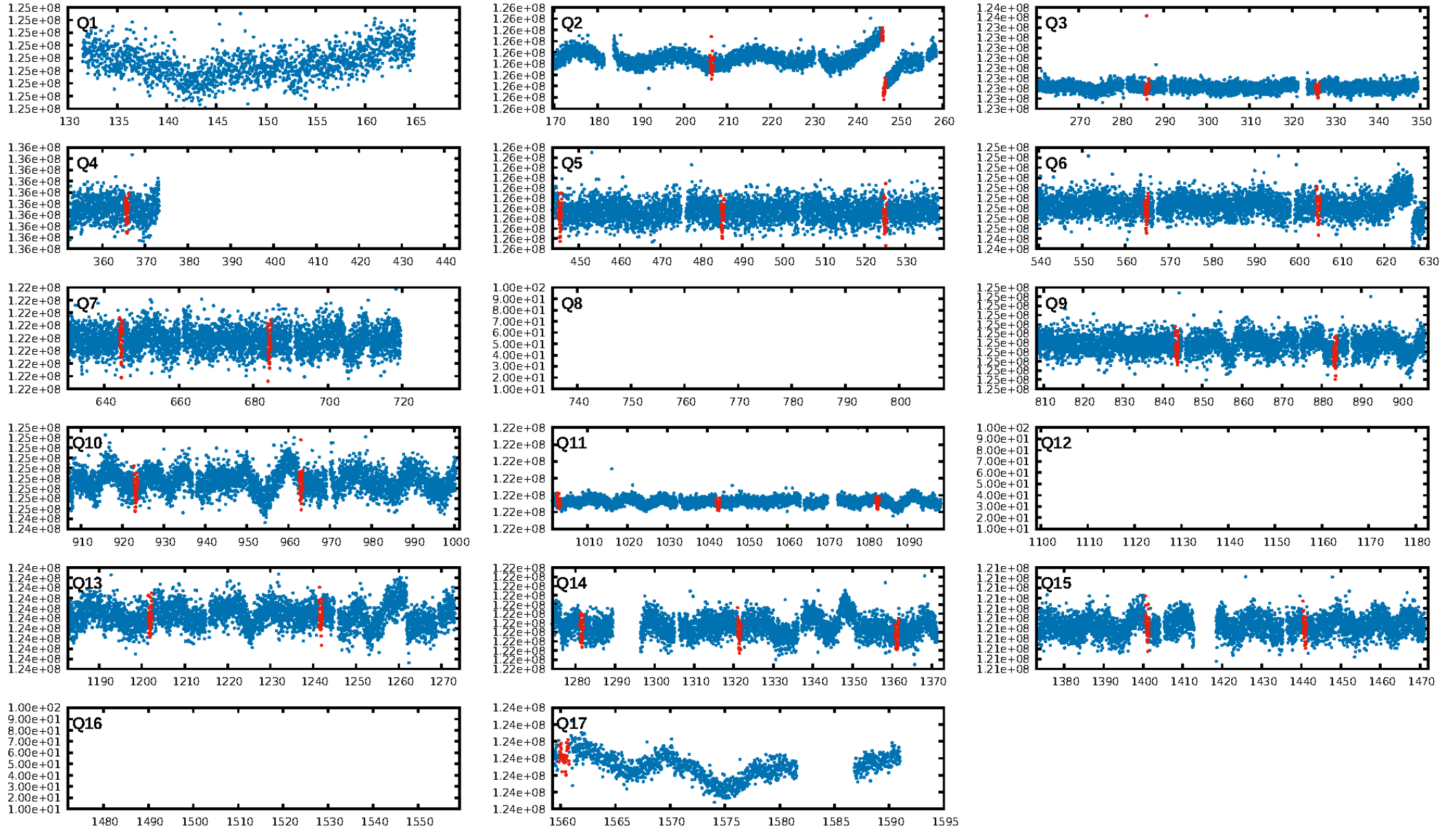
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [63.79σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 97.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.54e-81
RollingBand-fgt: 1.00 [25/25]
GhostDiagnostic-chr: 13.17
Centroid-sig: 59.8%
Centroid-so: 0.421 arcsec [1.00σ]
OotOffset-rm: 1.261 arcsec [2.73σ]
KicOffset-rm: 1.179 arcsec [2.35σ]
OotOffset-st: 3/3/1/3 [10]
KicOffset-st: 3/3/1/3 [10]
DiffImageQuality-fgm: 0.80 [8/10]
DiffImageOverlap-fno: 0.92 [11/12]

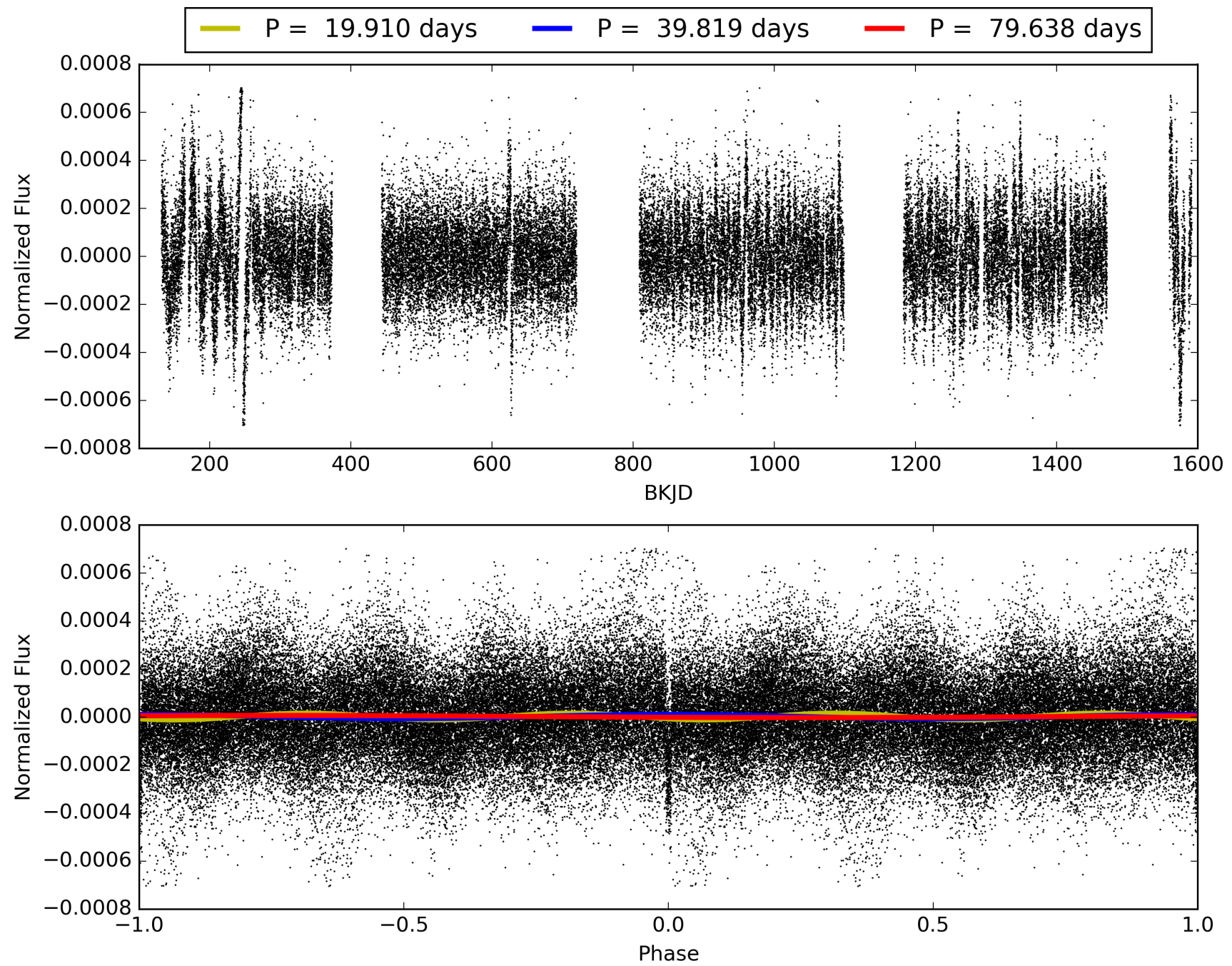
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:51:56 Z

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

TCE 011754430-01, PDC Light Curves

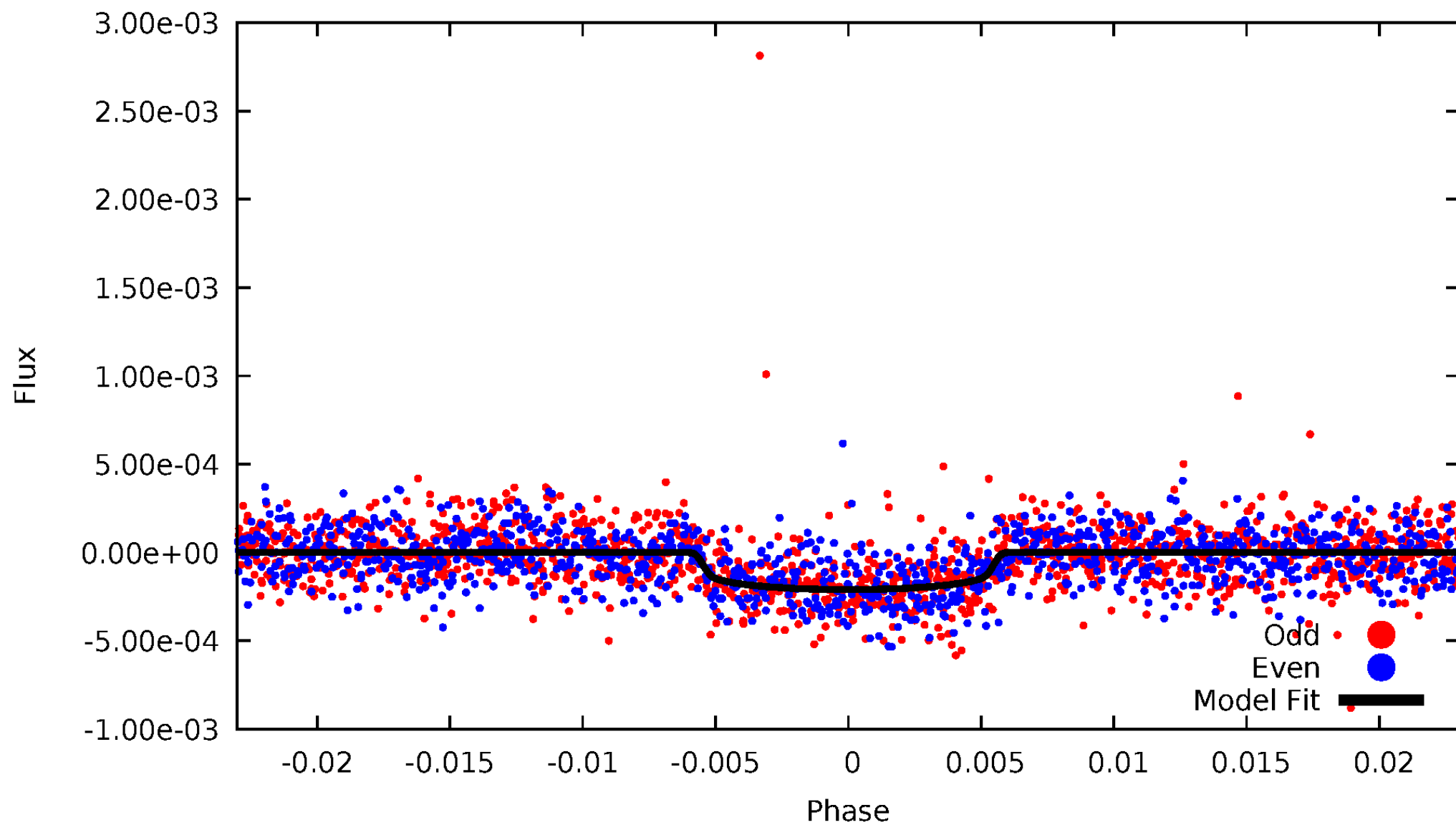


TCE 011754430-01



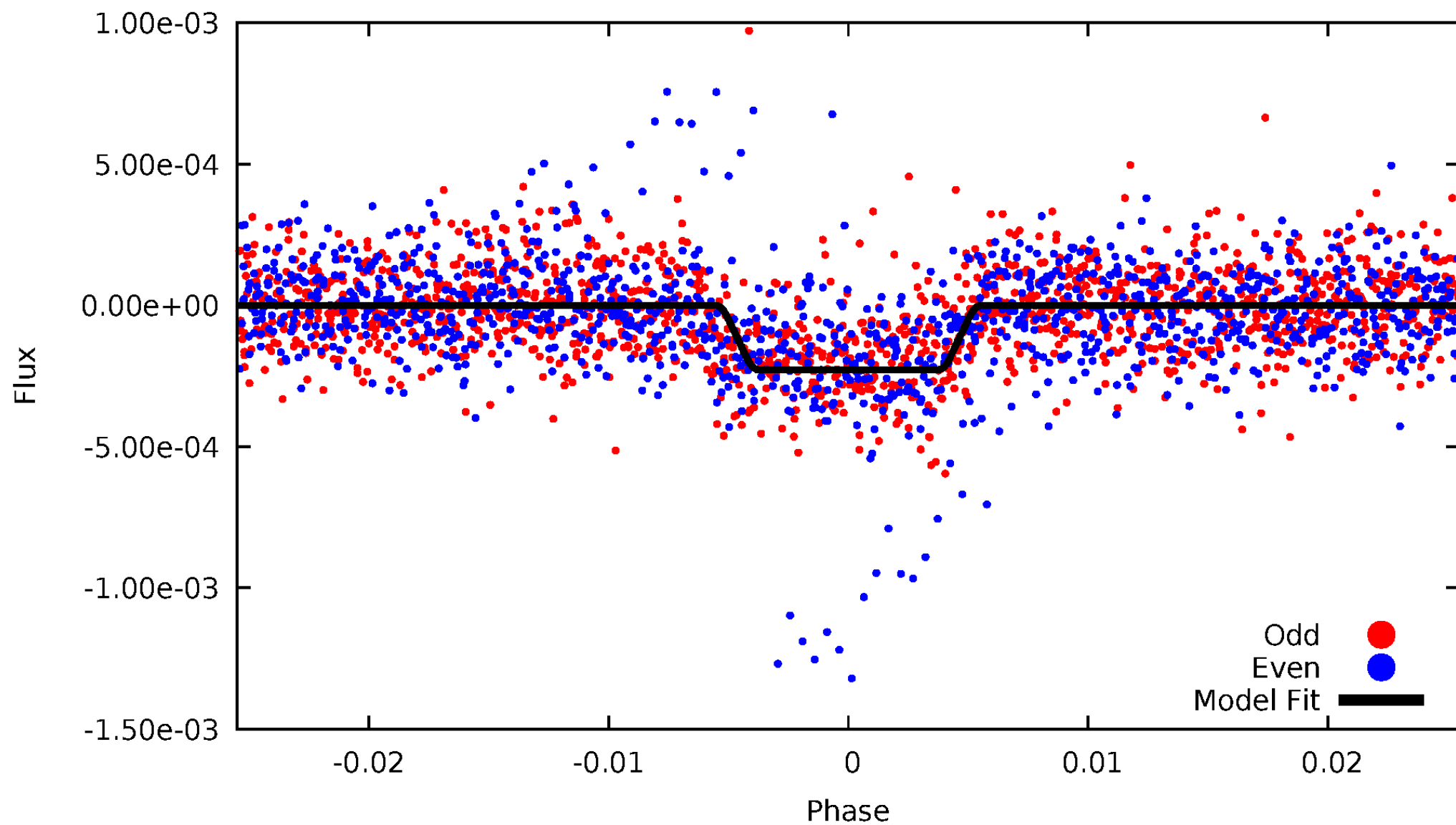
DV Odd/Even

TCE 011754430-01



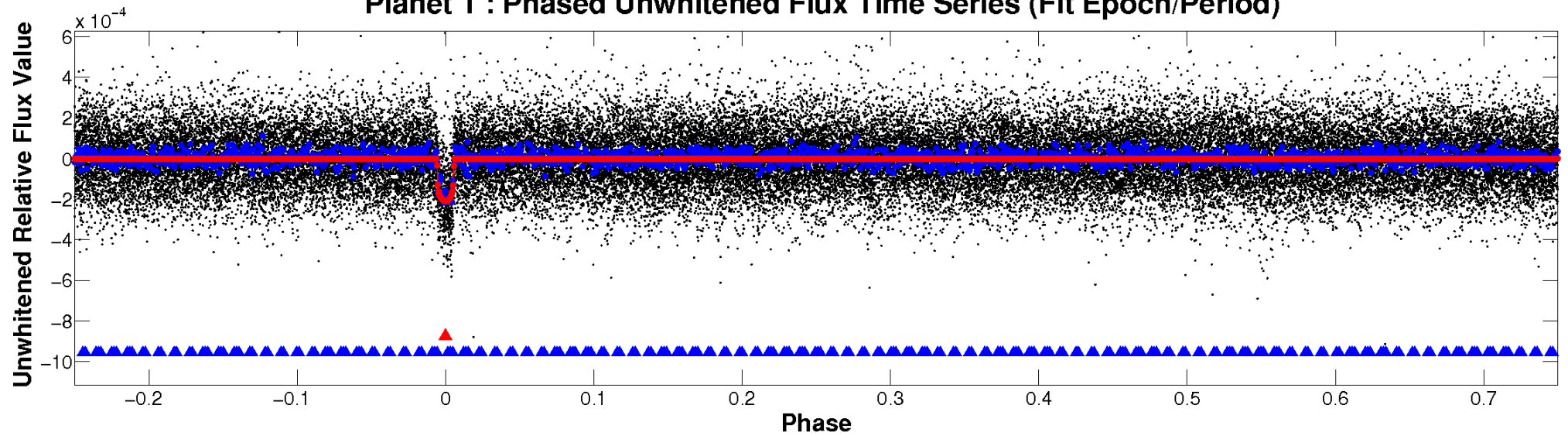
ALT Odd/Even

TCE 011754430-01

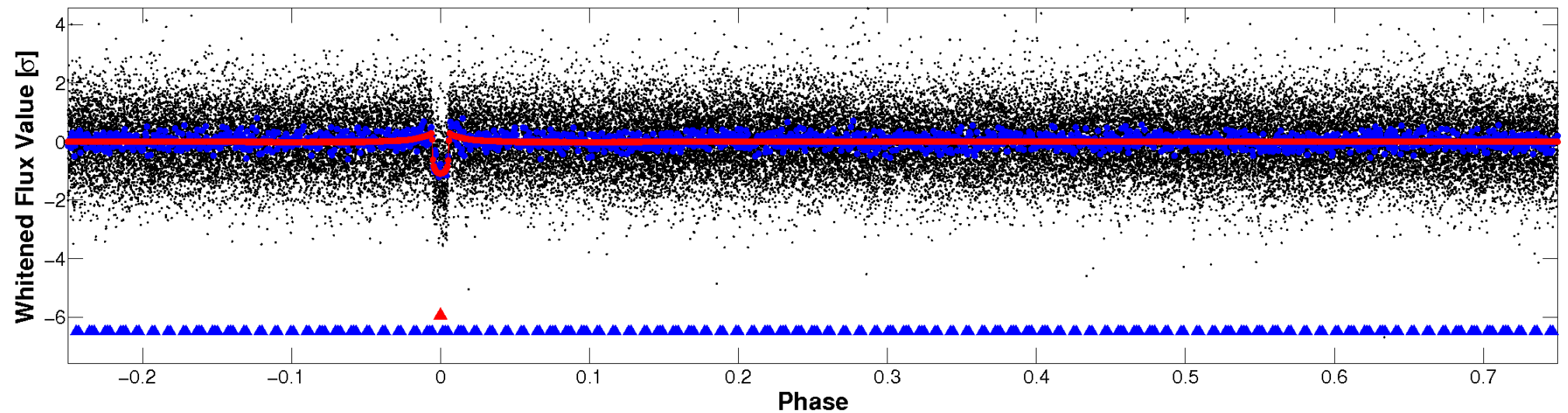


Non-Whitened Vs. Whitened Light Curve

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

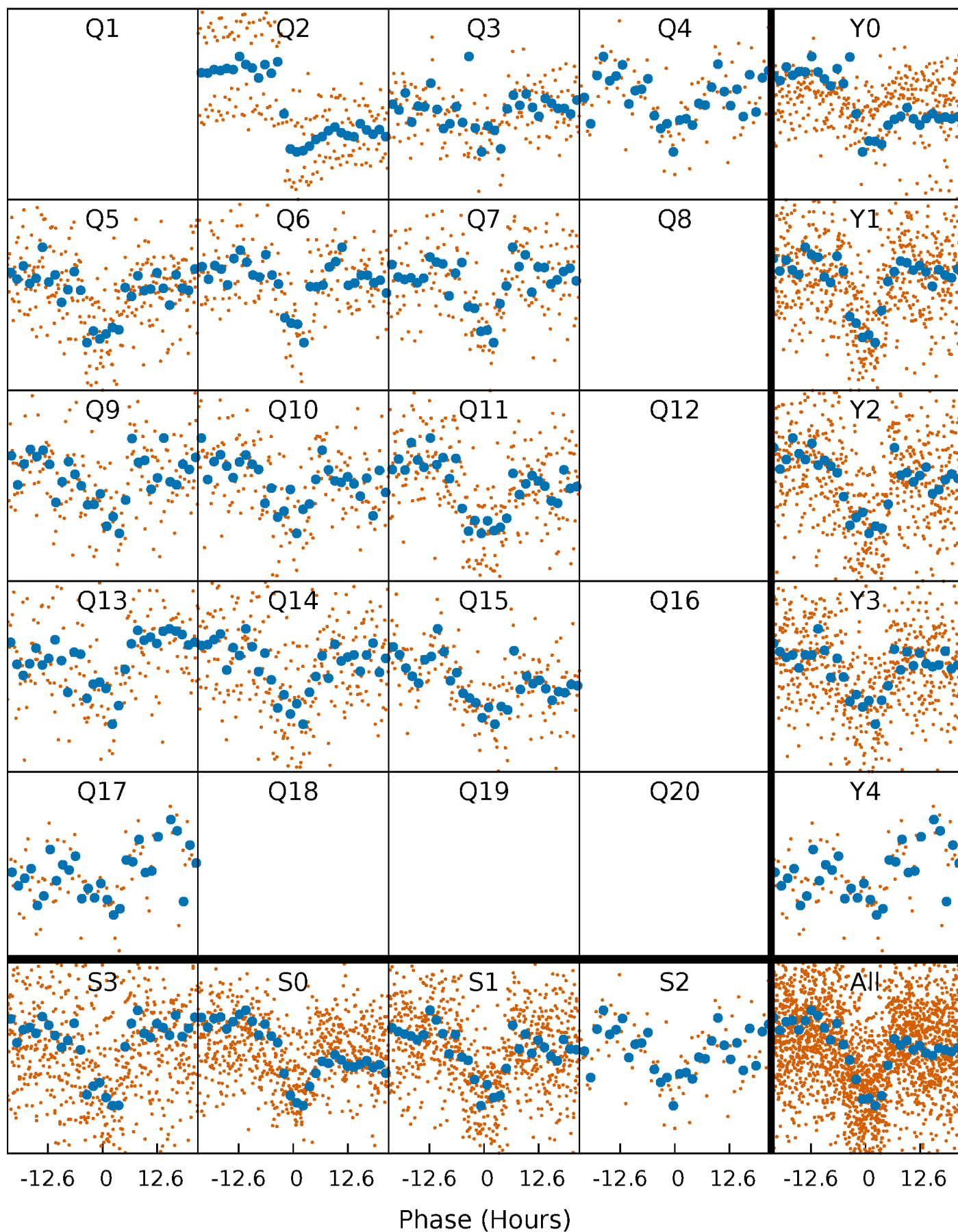


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



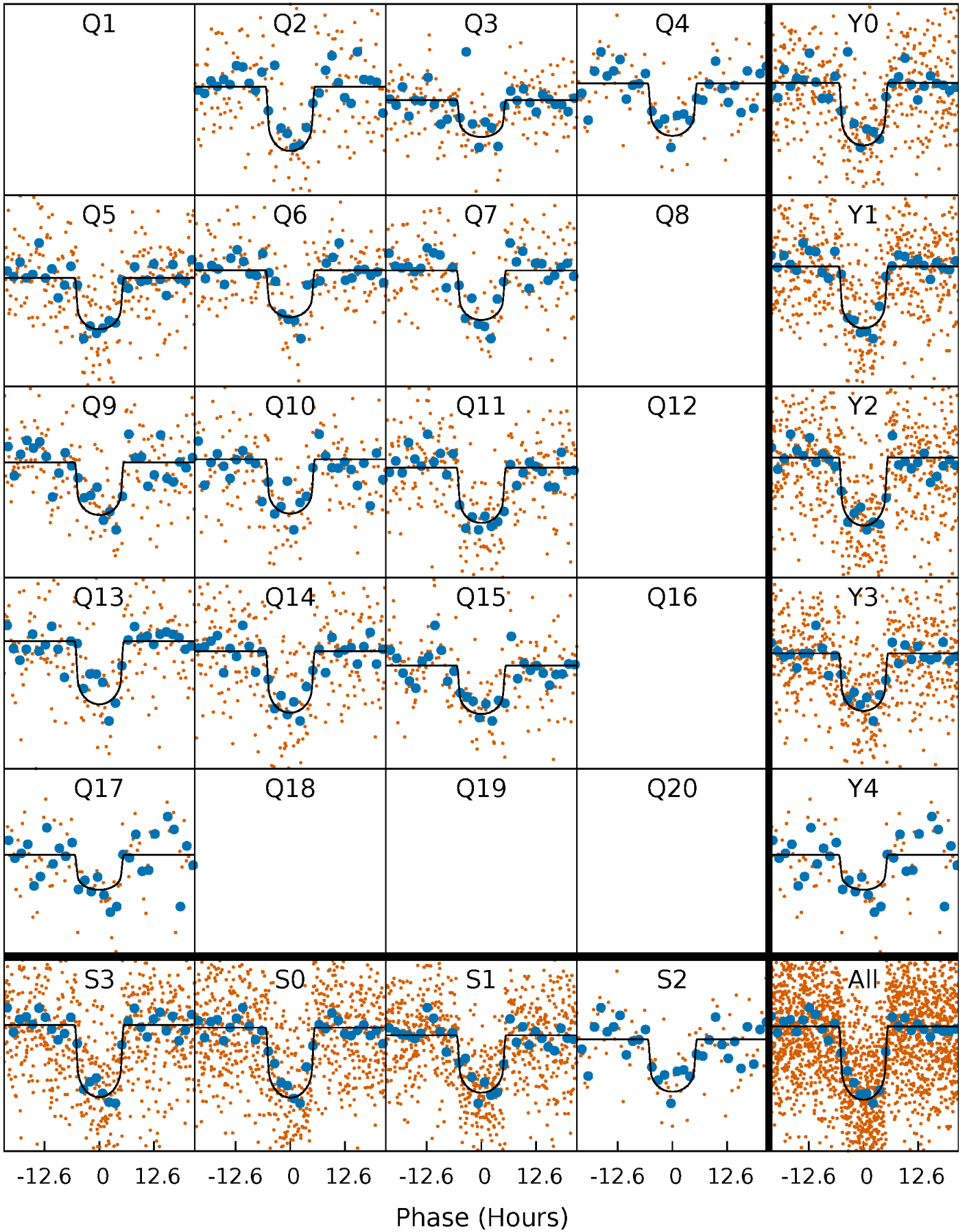
PDC Quarter-Phased Transit Curves

TCE 011754430-01 P= 39.819033 Days $T_0=166.645630$ (BKJD)



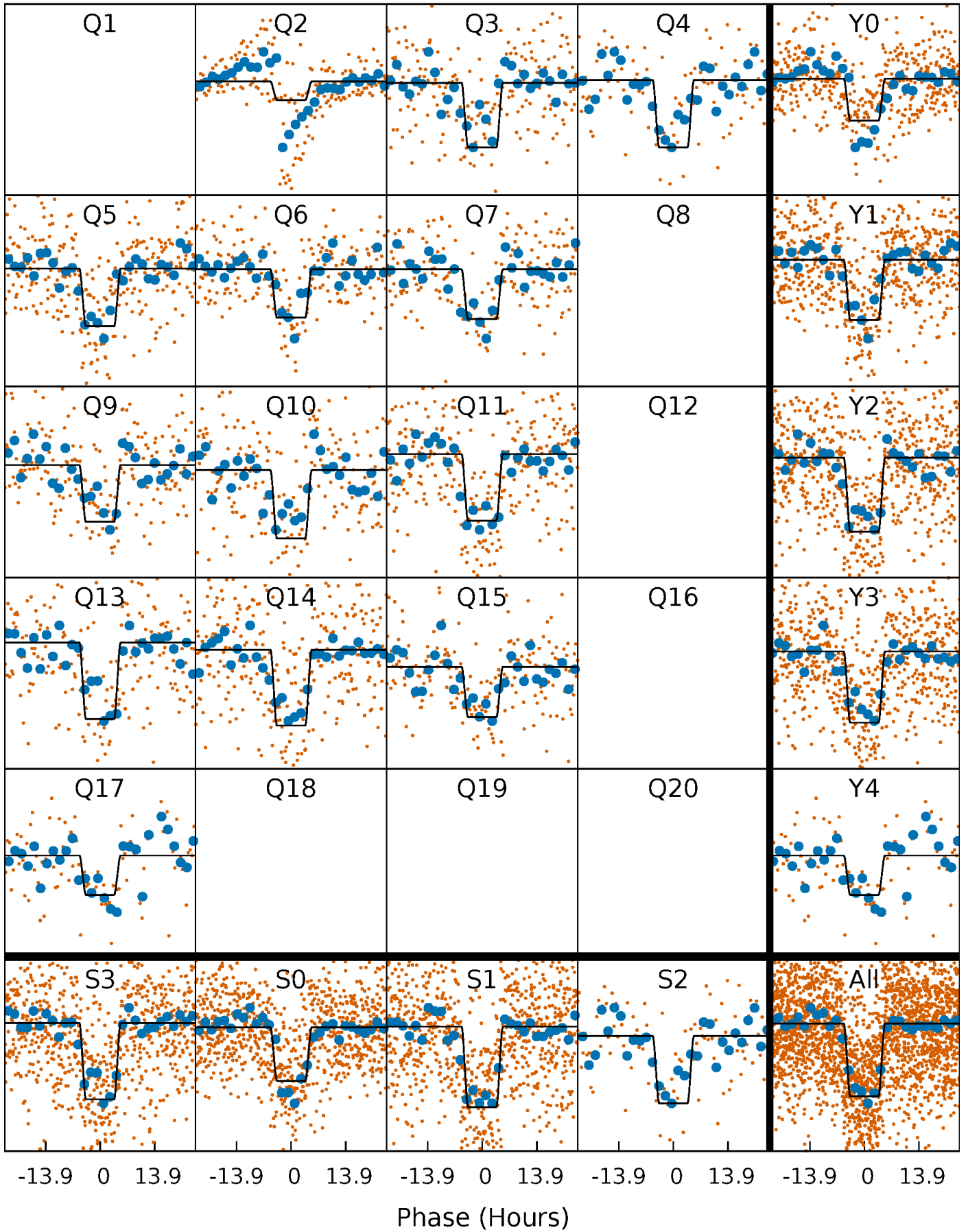
DV Quarter-Phased Transit Curves

TCE 011754430-01 P= 39.819033 Days $T_0=166.645630$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

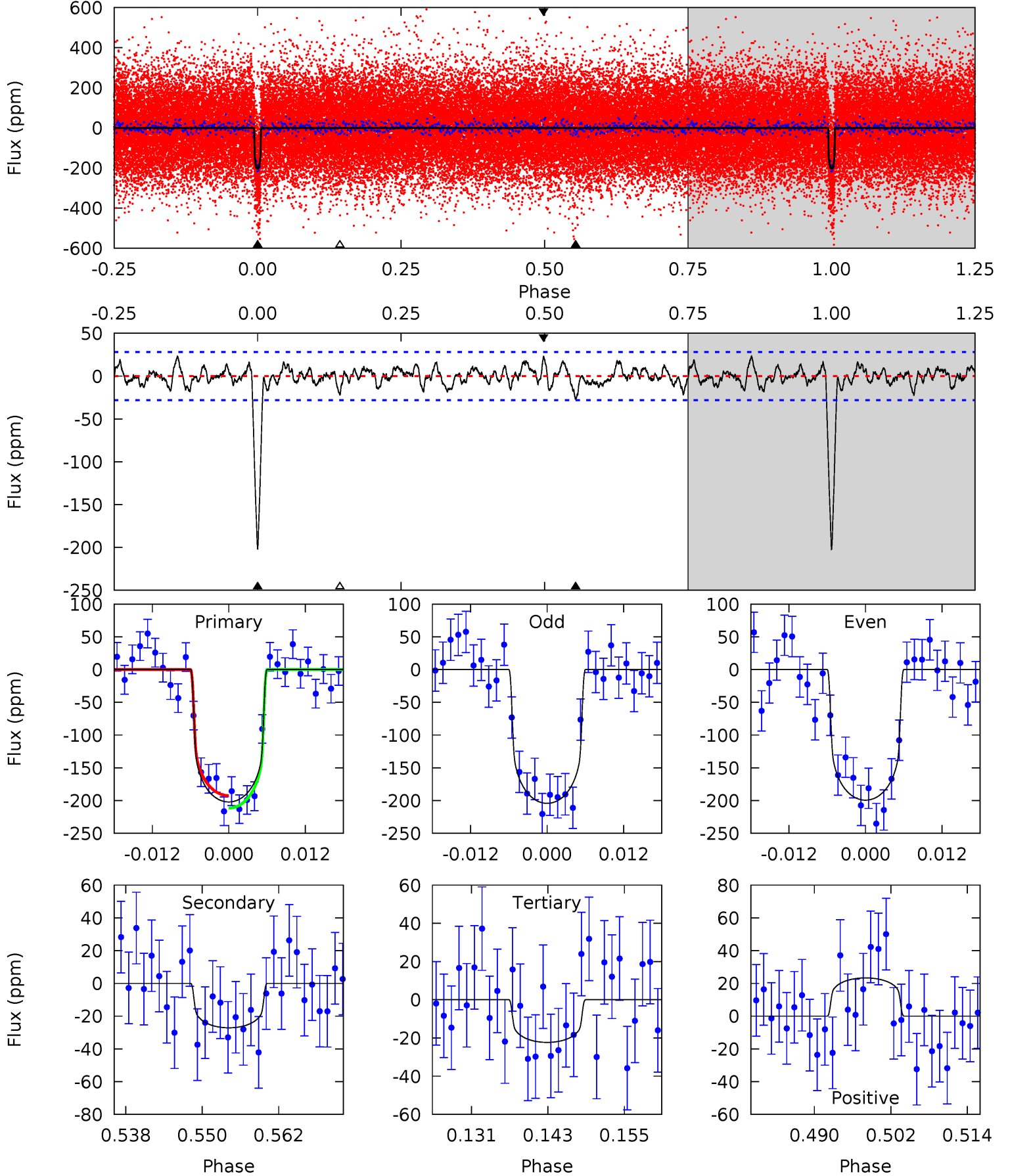
TCE 011754430-01 P= 39.817802 Days $T_0=166.688691$ (BKJD)



DV Model-Shift Uniqueness Test

011754430-01, $P = 39.819033$ Days, $E = 126.826597$ Days

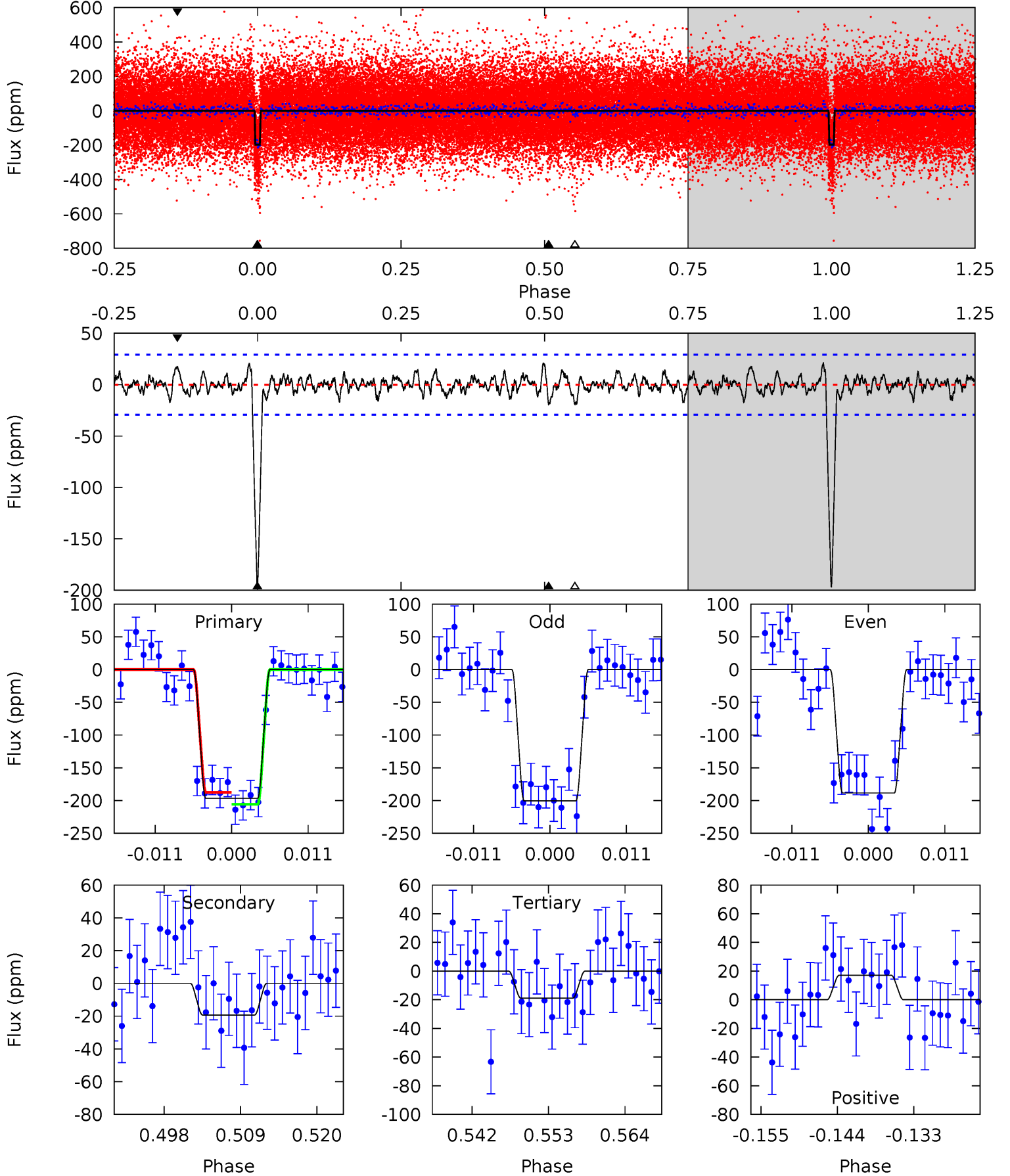
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.9	4.83	3.97	4.15	4.99	2.51	1.44	32.0	31.8	0.86	0.68	0.43	0.94	0.10	1.69



Alt Model-Shift Uniqueness Test

011754430-01, $P = 39.817802$ Days, $E = 126.870889$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.7	3.31	3.24	2.94	5.01	2.54	1.09	30.5	30.8	0.08	0.38	1.02	1.12	0.10	1.57



Stellar Parameters For KIC 011754430

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5710^{+114}_{-91}	$4.073^{+0.201}_{-0.093}$	$0.000^{+0.150}_{-0.150}$	$1.524^{+0.244}_{-0.336}$	$1.003^{+0.096}_{-0.087}$	$0.399^{+0.416}_{-0.127}$
	+2%/-2%	+5%/-2%	+inf%/-inf%	+16%/-22%	+10%/-9%	+104%/-32%
Source	SPE57	SPE57	SPE57	DSEP		

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

Secondary Eclipse Parameters for KIC 011754430-01 / KOI 3403.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-27 ± 6	$2.43^{+0.41}_{-0.39}$	902^{+42}_{-51}	3757^{+204}_{-211}	129^{+63}_{-40}
Alt.	-19 ± 6	$2.47^{+0.39}_{-0.42}$	902^{+42}_{-51}	3551^{+214}_{-240}	92^{+49}_{-34}

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

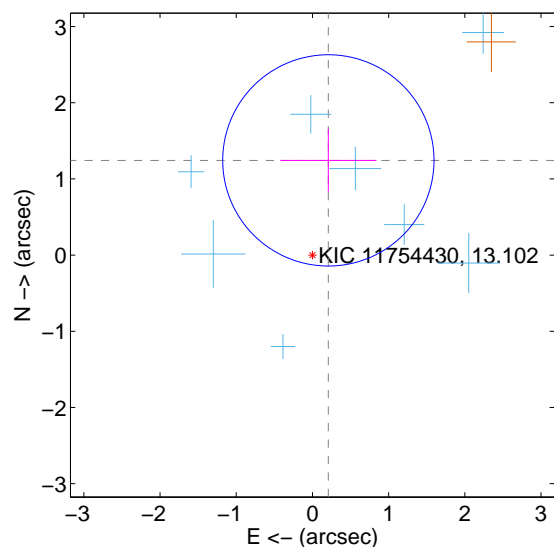
Supplemental centroid analysis for 011754430-01. Kepler magnitude: 13.10. Transit SNR 23.00

There are 8 quarters with good PRF difference image offsets

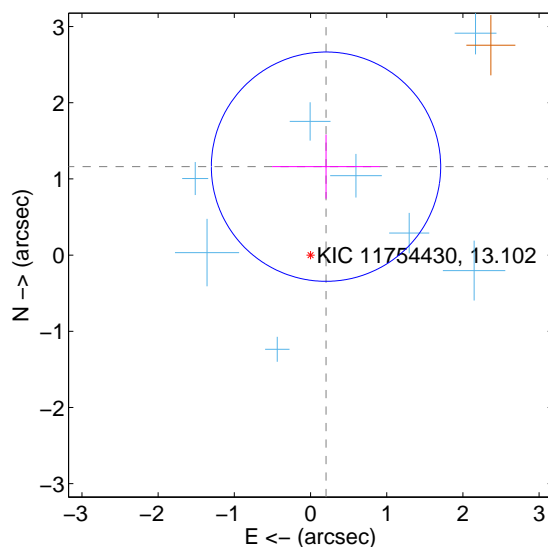
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.261 ± 0.462	2.73	-0.209 ± 0.631	1.244 ± 0.413
PRF-fit source offset from KIC position	1.179 ± 0.502	2.35	-0.203 ± 0.707	1.161 ± 0.421
photometric centroid source offset	0.42 ± 0.42	1.00	0.42 ± 0.42	0.01 ± 0.53

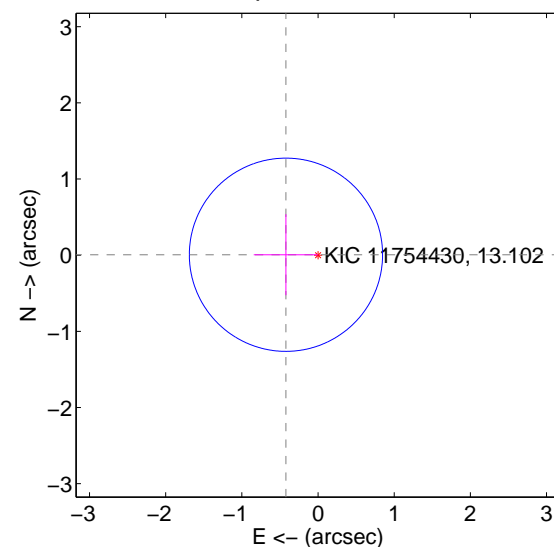
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

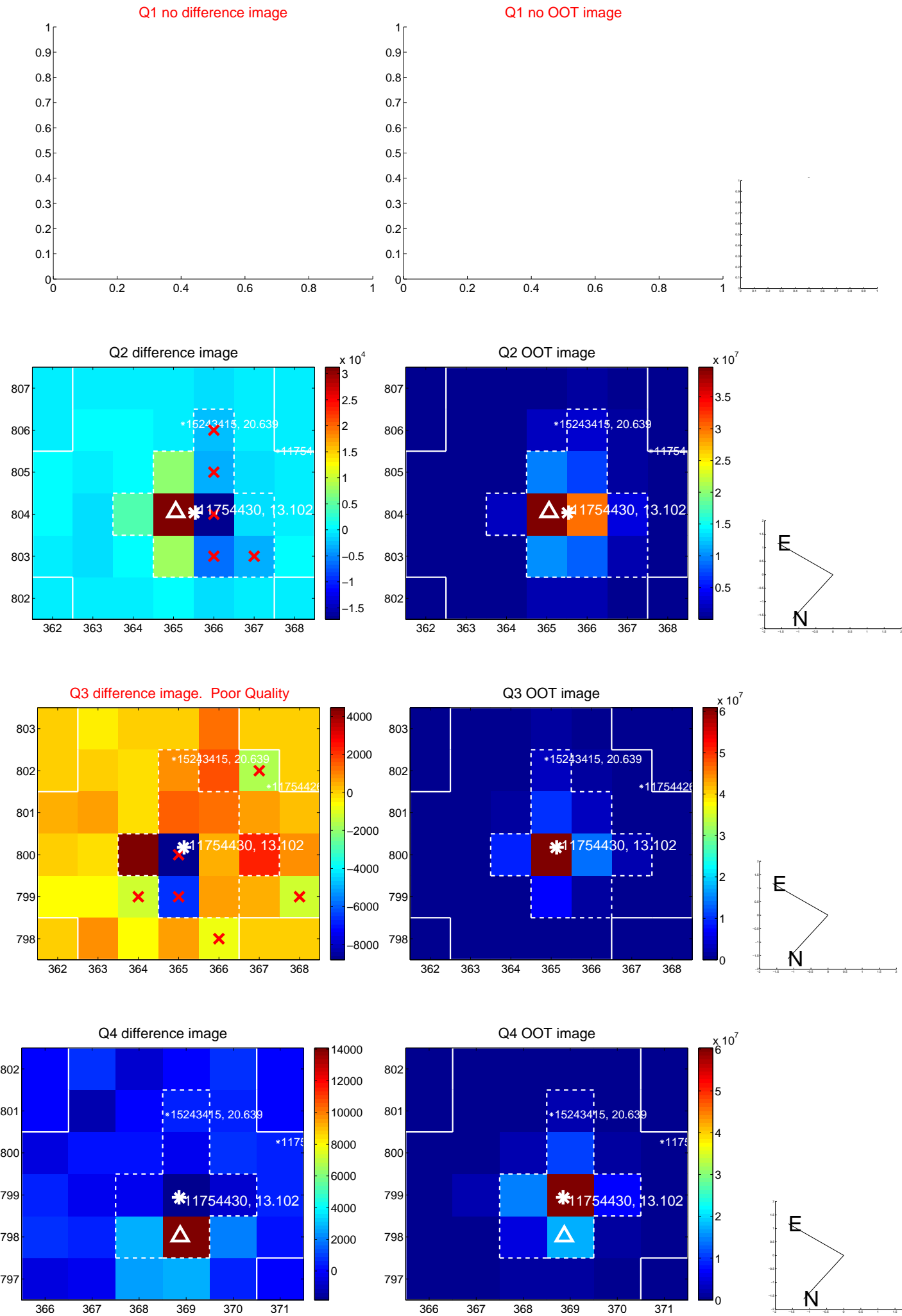


offset from photometric centroids

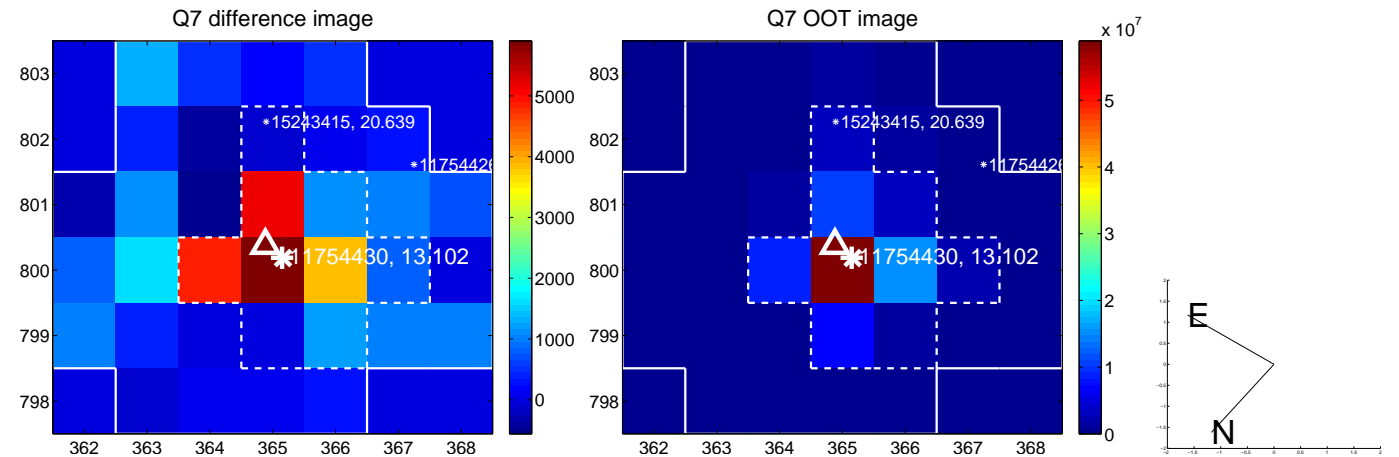
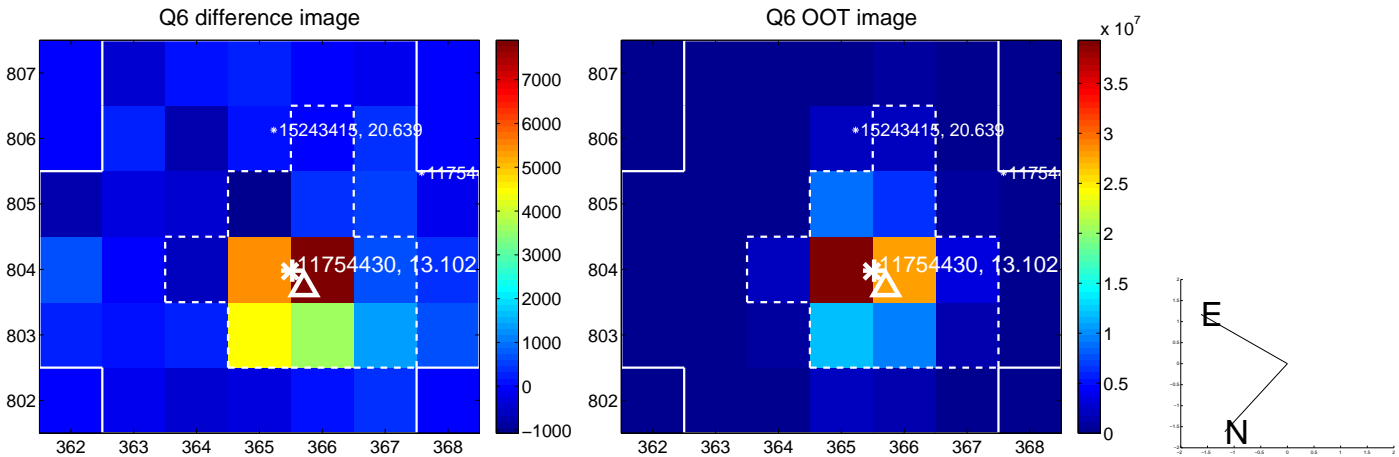
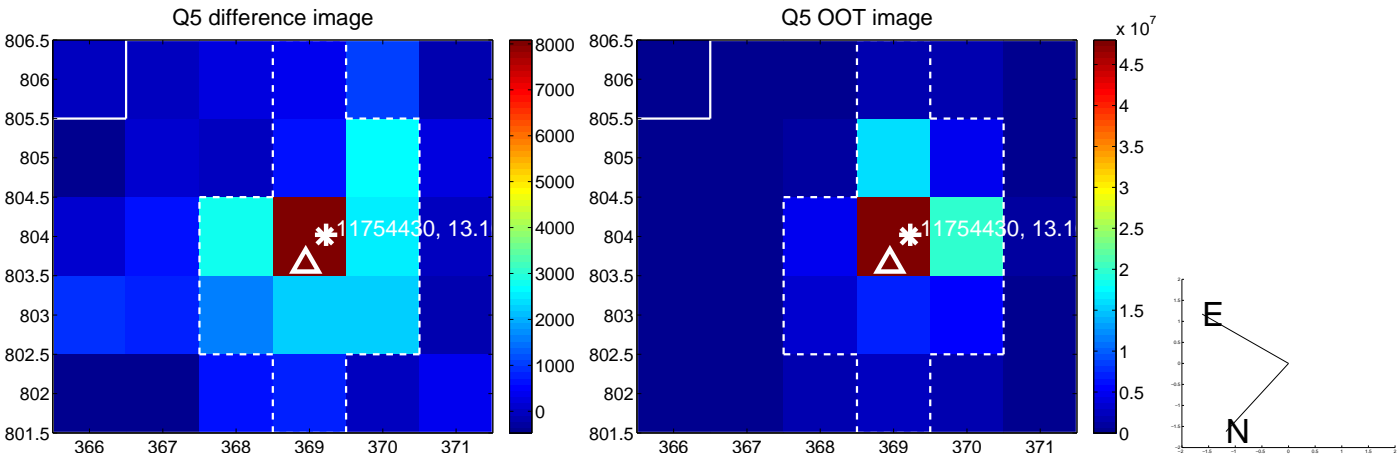


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

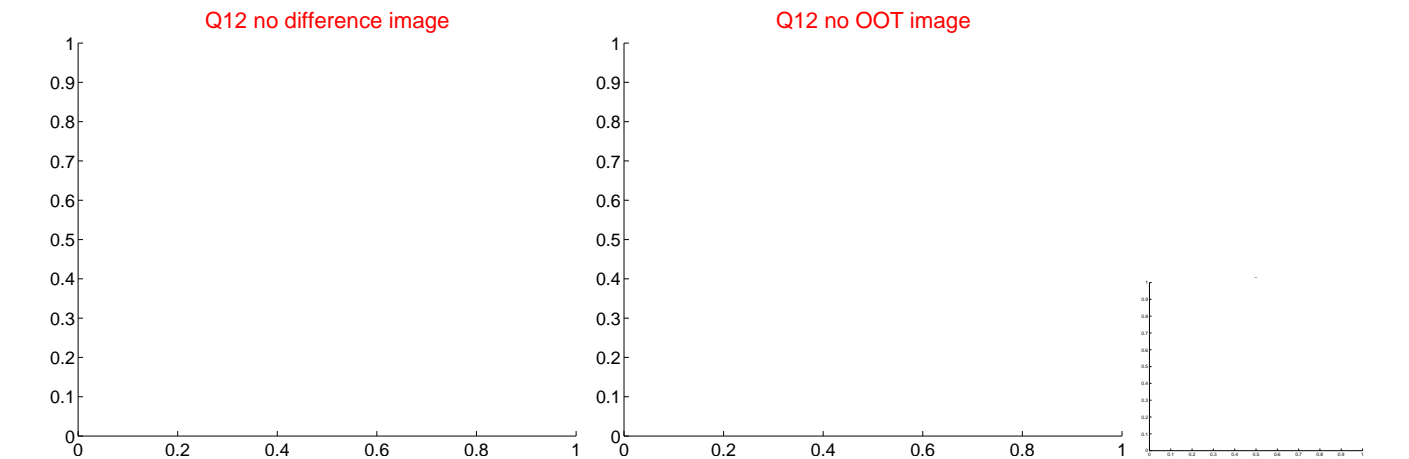
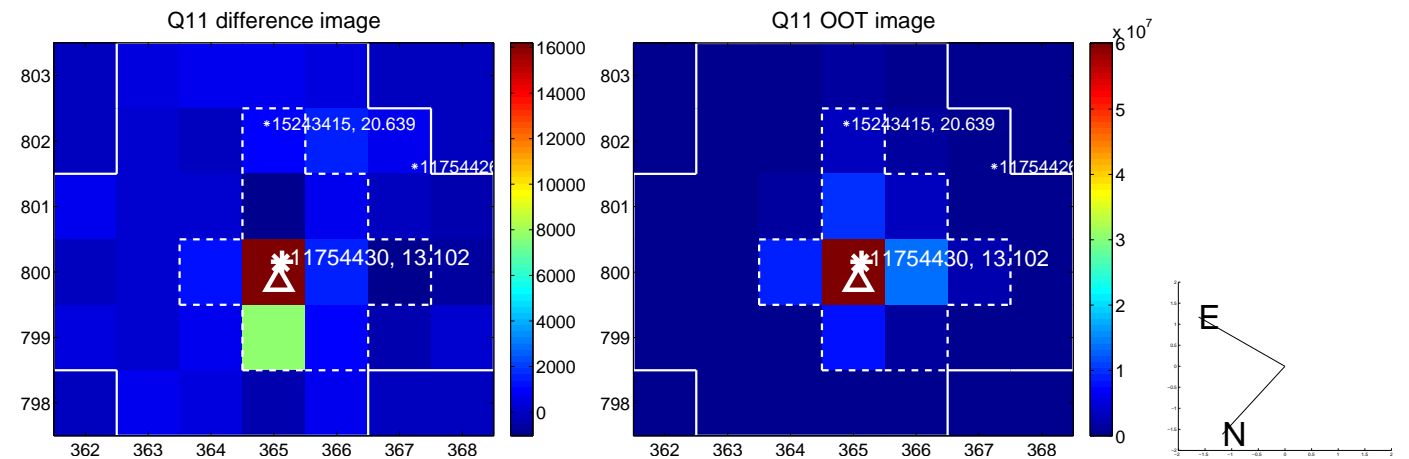
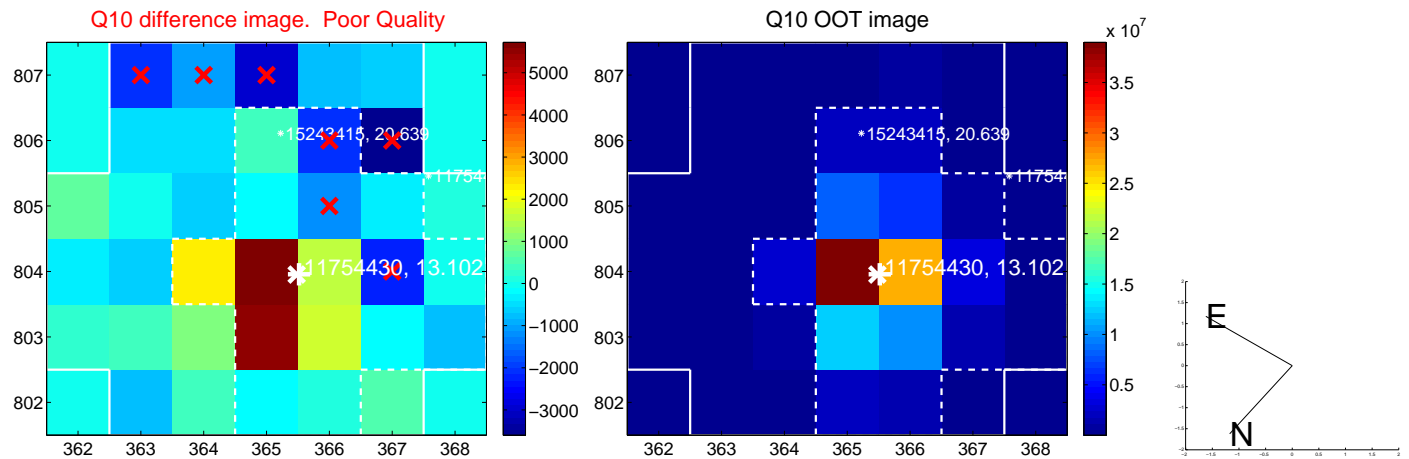
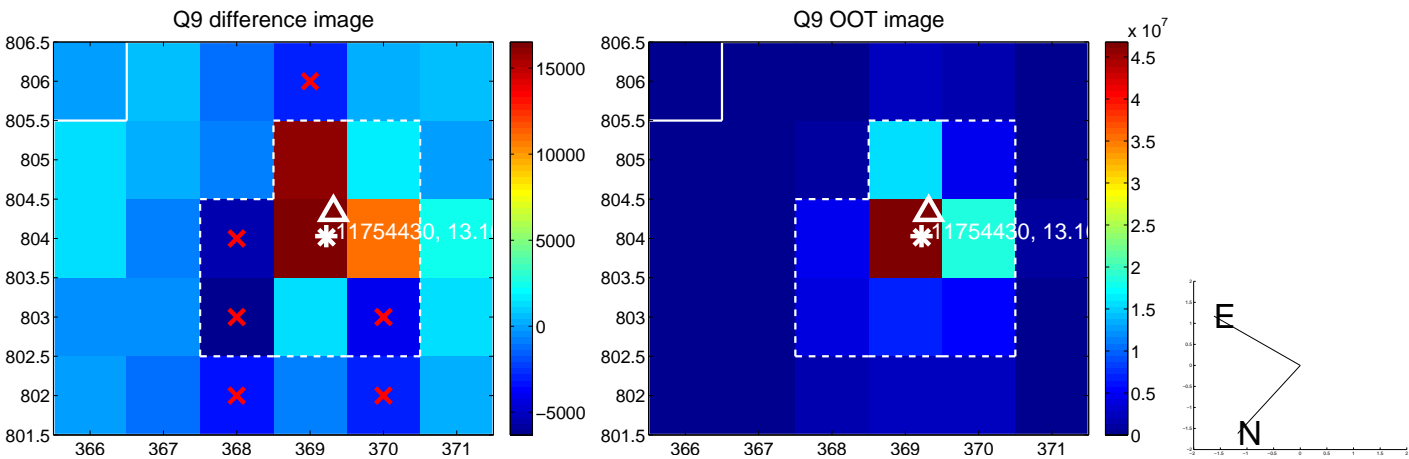
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



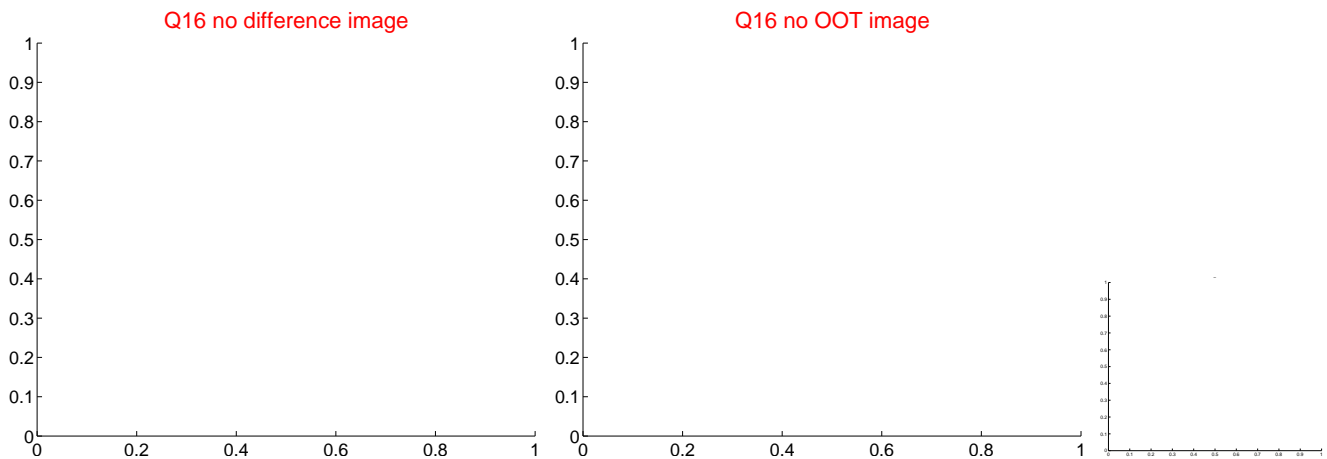
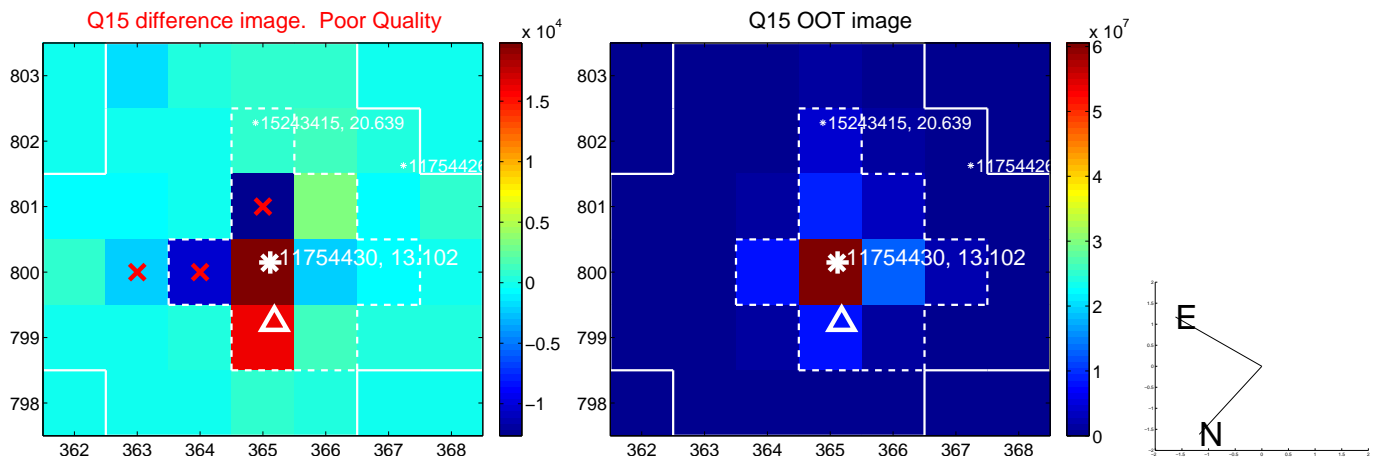
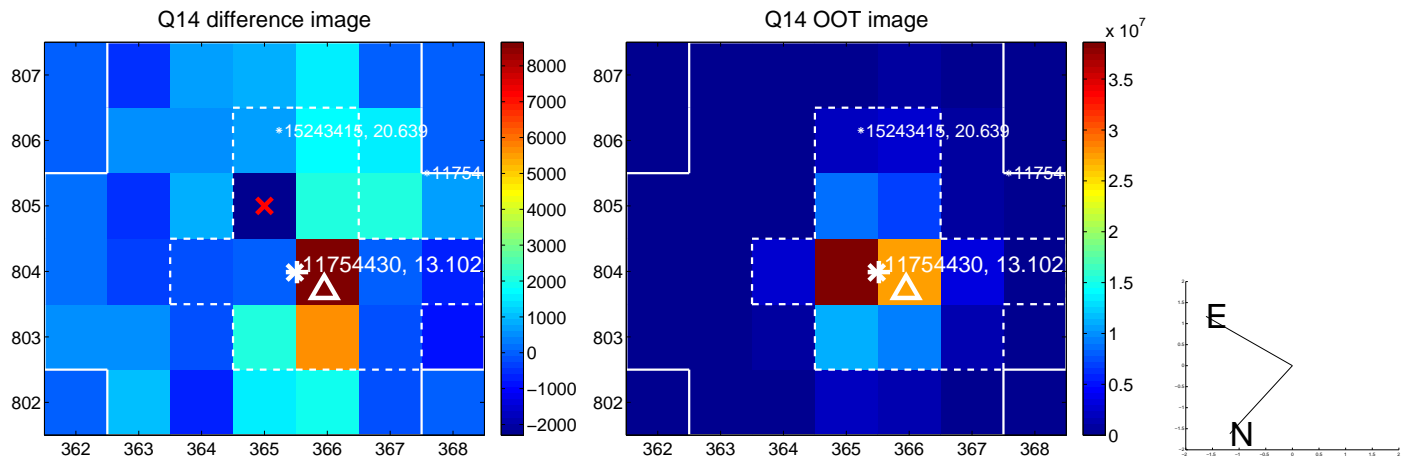
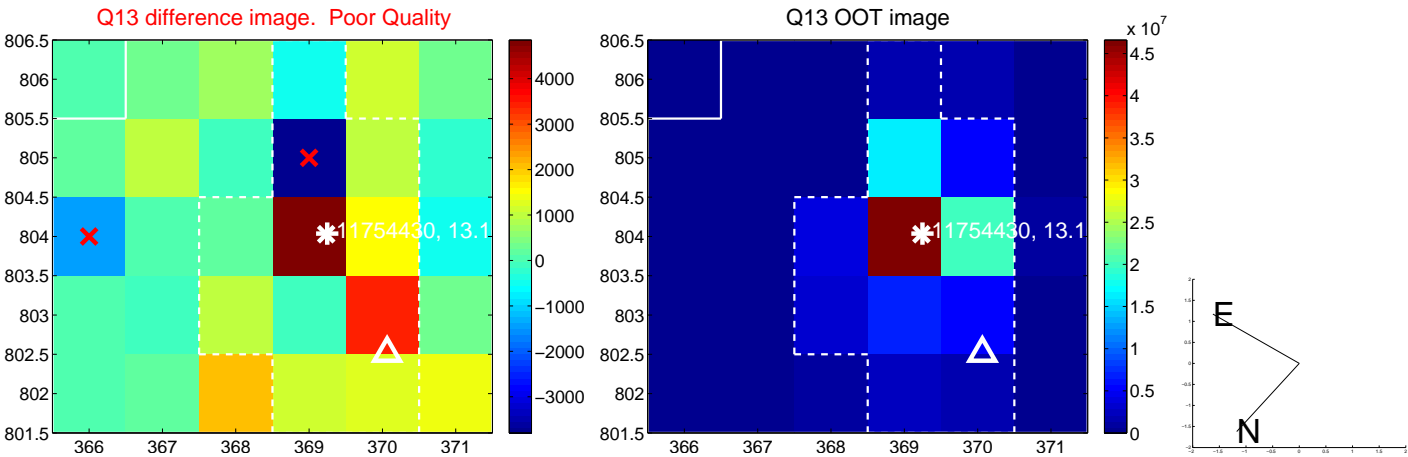
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



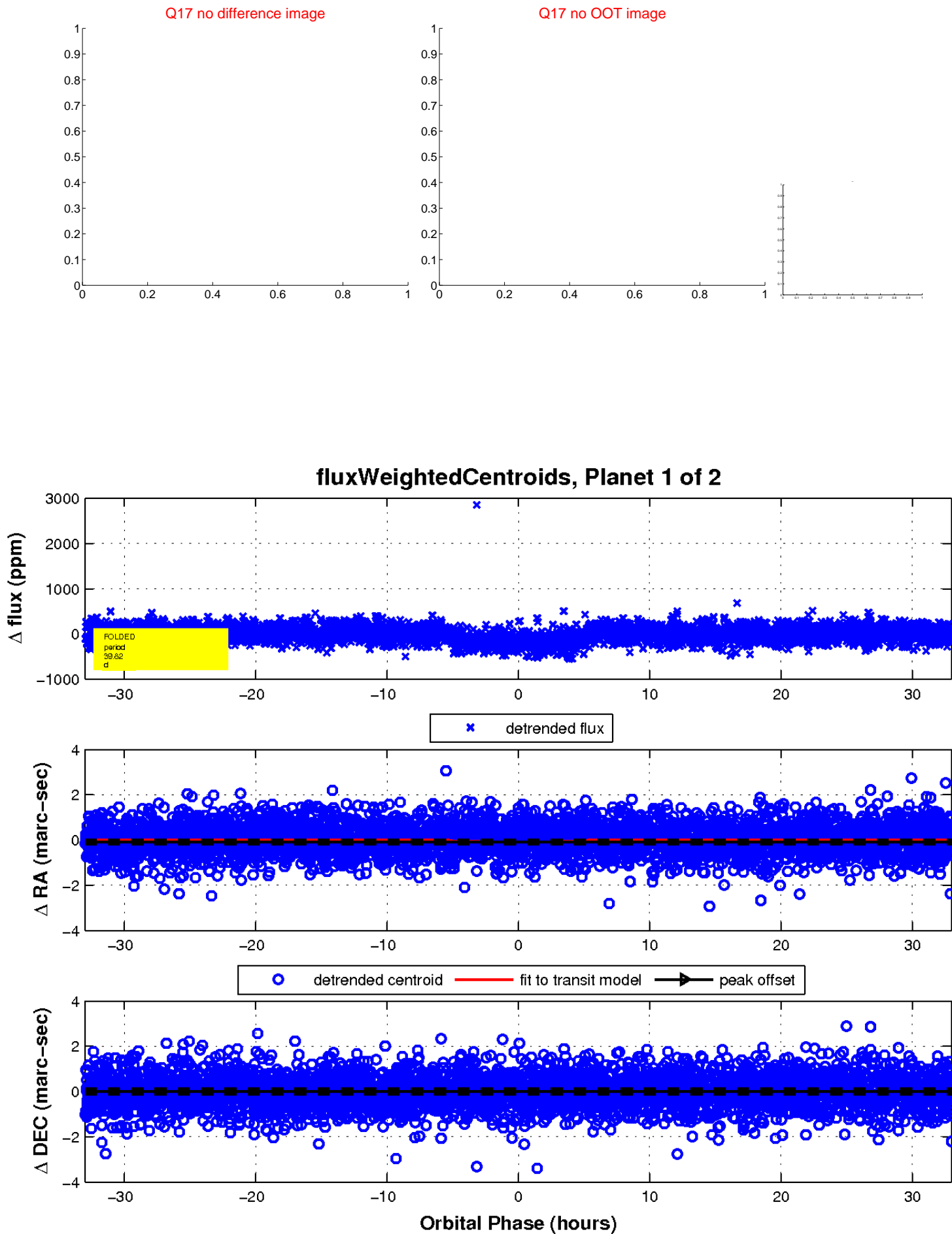
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

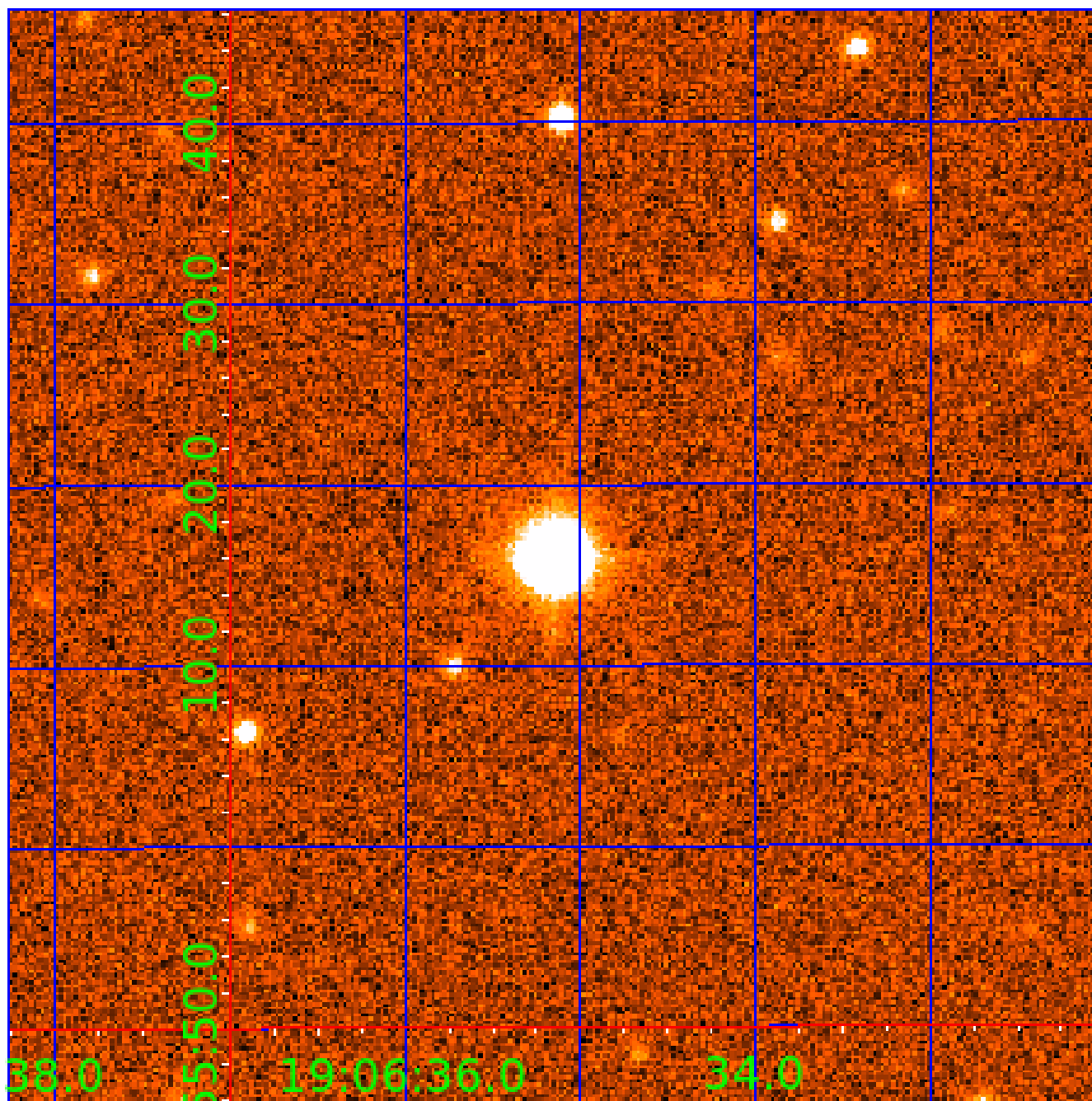


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011754430

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})
011754430-01	OBS	3403.01	39.819033	166.645630	209.3	10.996	20.4	23.0	1.52	5710	2.47	42.39
011754430-02	OBS	3403.02	6.158270	135.497243	55.7	6.282	12.6	12.9	1.52	5710	1.31	510.68

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011754430-01	OBS	PC	0.85	0	0	0	0	NO_COMMENT
011754430-02	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.

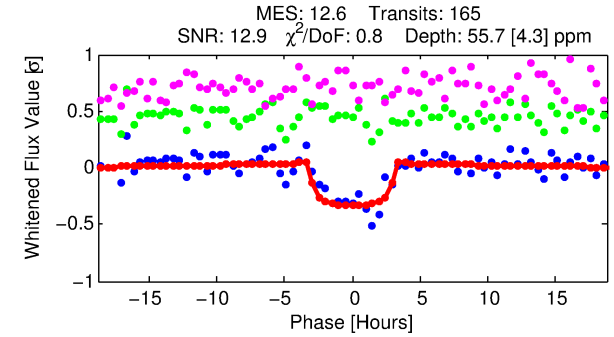
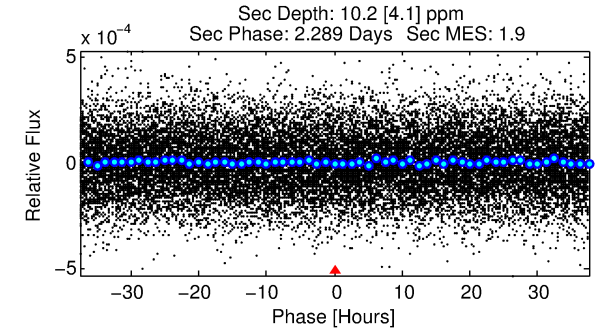
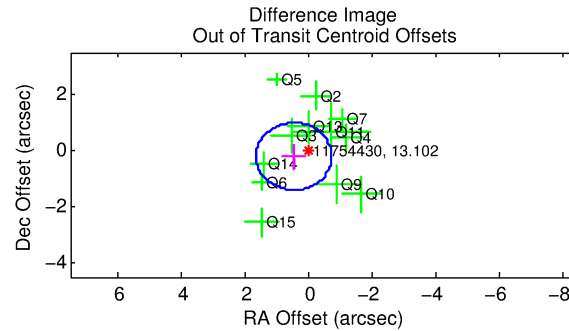
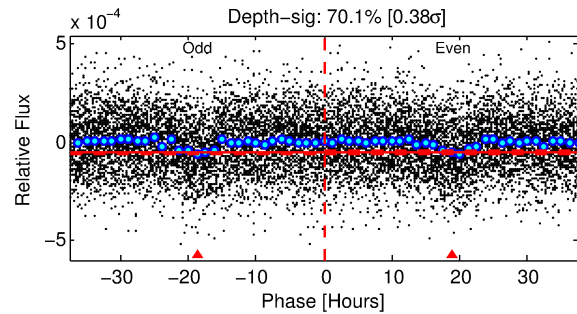
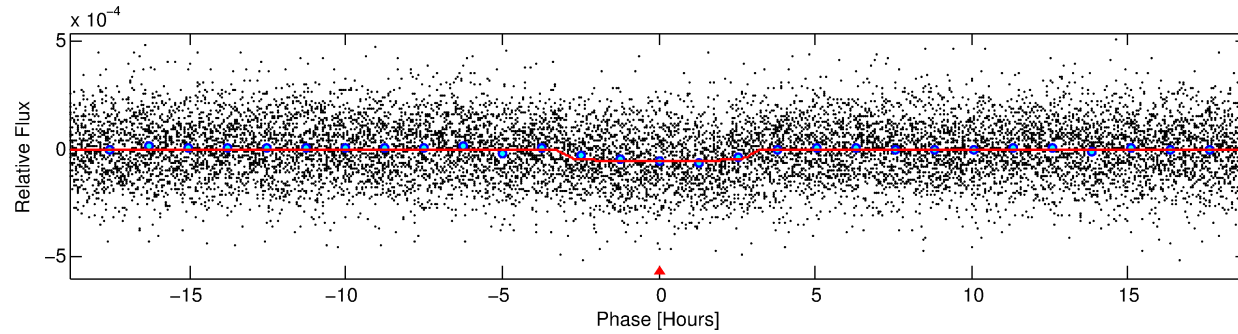
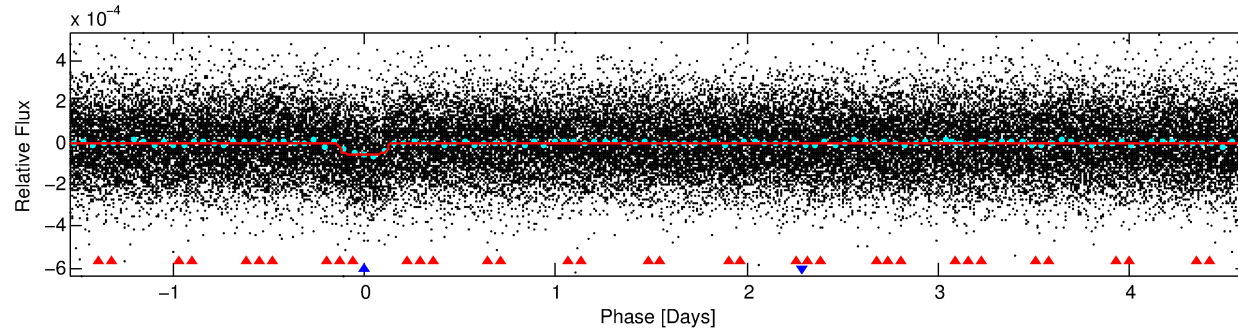
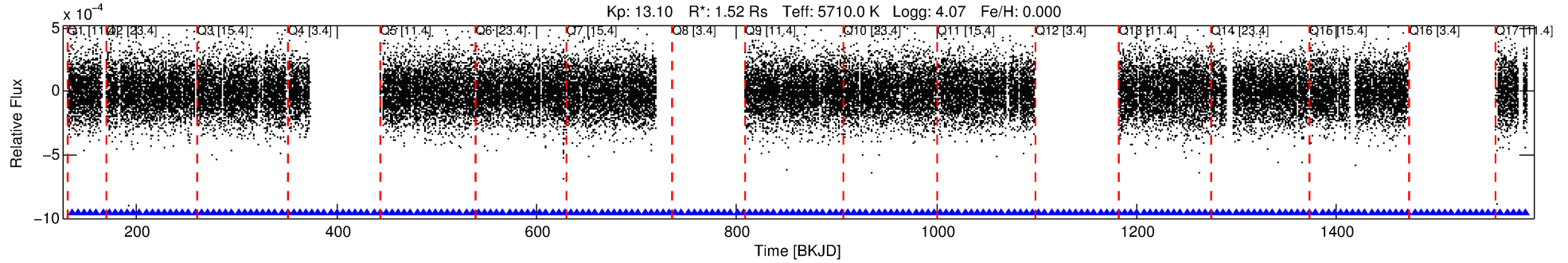
Ephemeris Match Information For 011754430-02

No Significant Match Found

DV One-Page Summary

KIC: 11754430 Candidate: 2 of 2 Period: 6.158 d

KOI: K03403.02 Corr: 0.987



DV Fit Results:

Period = 6.15827 [0.00006] d
Epoch = 135.4972 [0.0066] BKJD
Rp/R* = 0.0079 [0.0029]
a/R* = 4.04 [6.39]
b = 0.86 [0.52]
Seff = 510.68 [179.24]
Teq = 1212 [106] K
Rp = 1.31 [0.56] Re
a = 0.0658 [0.0140] AU
Ag = 14.14 [12.73] [1.03σ]
Teffp = 3634 [760] K [3.16σ]

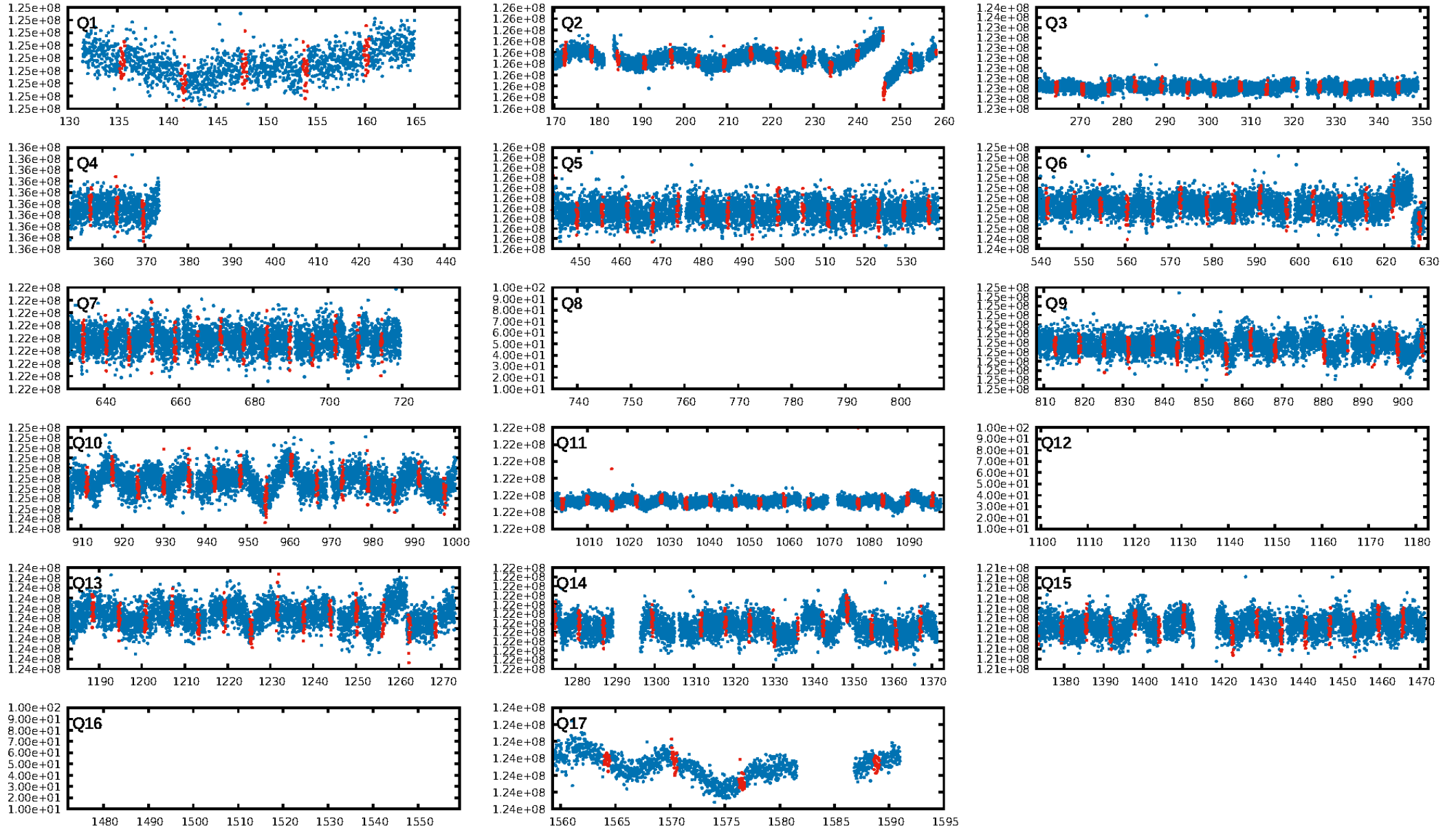
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [63.79σ]
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.01e-34
RollingBand-fgt: 1.00 [153/153]
GhostDiagnostic-chr: 20.13
Centroid-sig: 81.9%
Centroid-so: 0.427 arcsec [0.53σ]
OotOffset-rm: 0.514 arcsec [1.29σ]
OotOffset-st: 4/4/1/3 [12]
KicOffset-rm: 0.504 arcsec [1.38σ]
KicOffset-st: 4/4/1/3 [12]
DiffImageQuality-fgm: 0.92 [11/12]
DiffImageOverlap-fno: 1.00 [14/14]

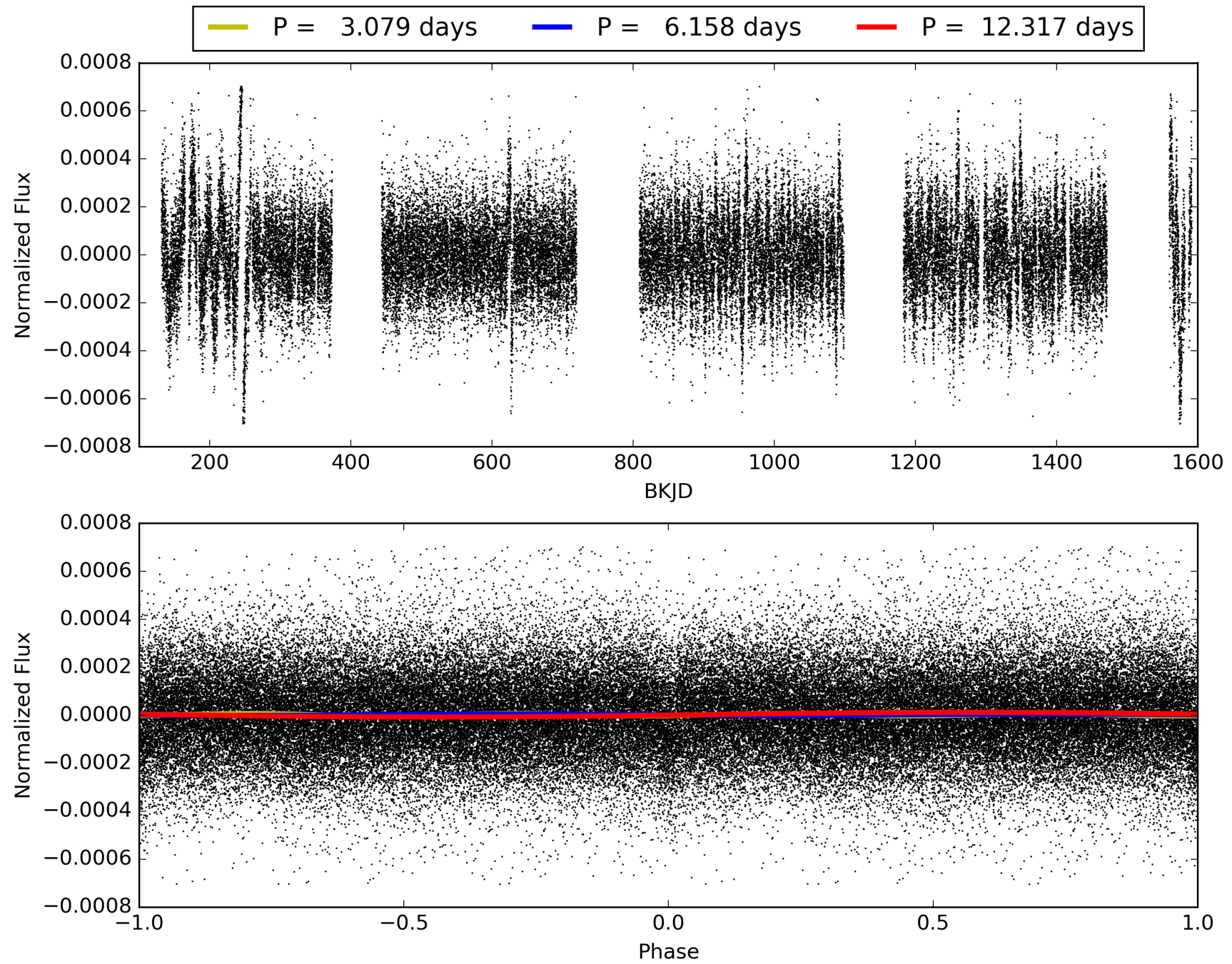
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:52:02 Z

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

TCE 011754430-02, PDC Light Curves

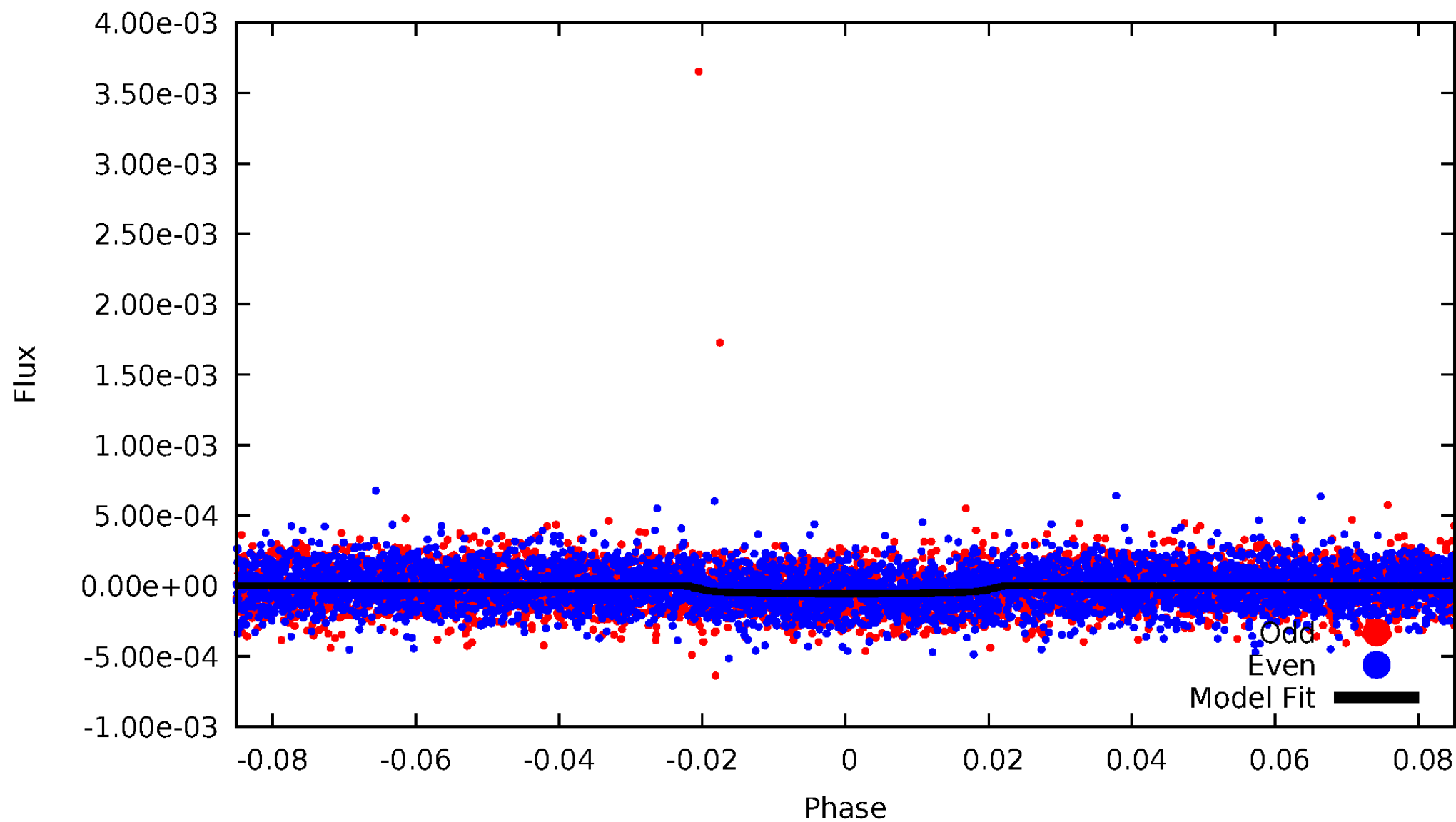


TCE 011754430-02



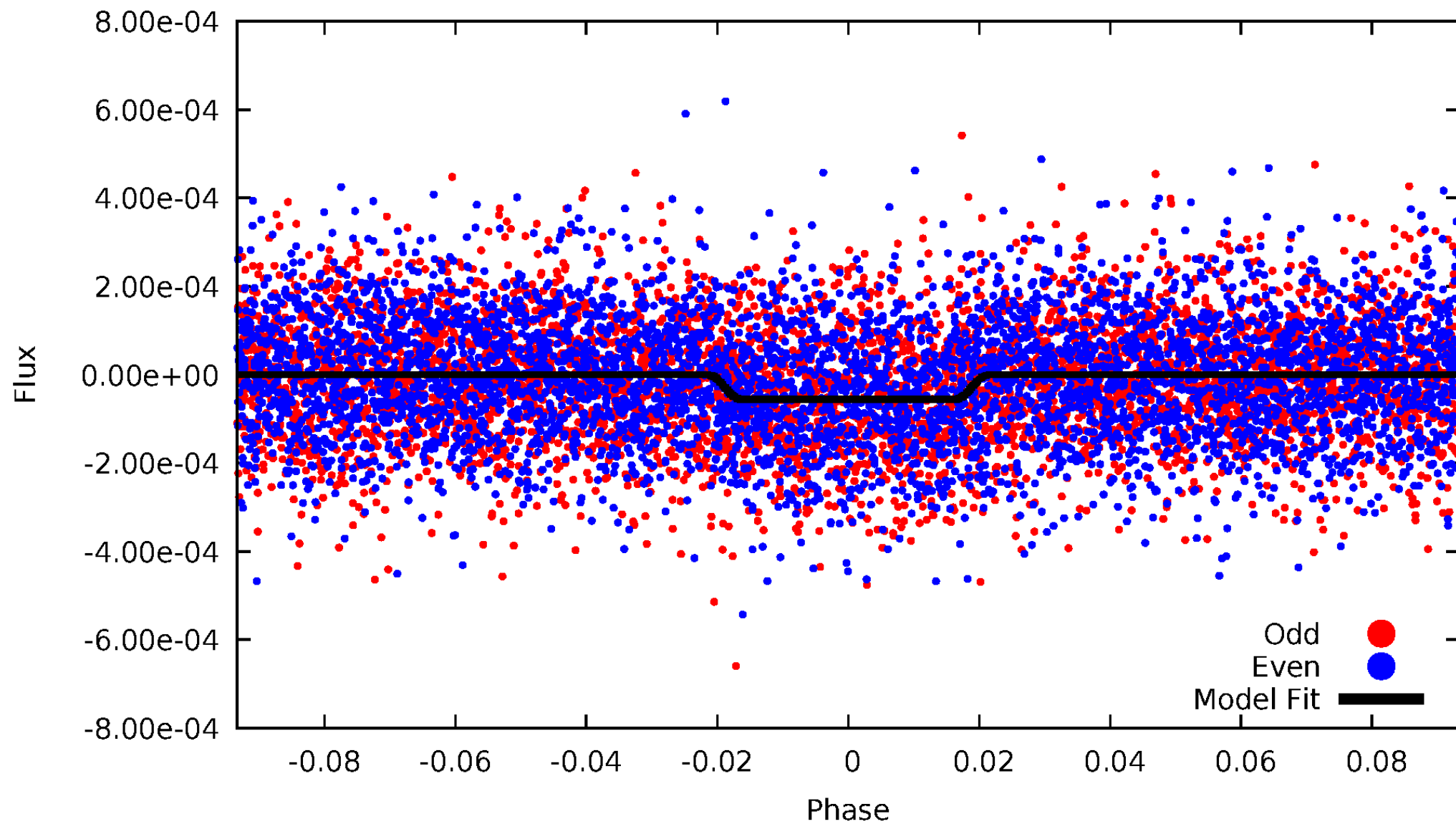
DV Odd/Even

TCE 011754430-02



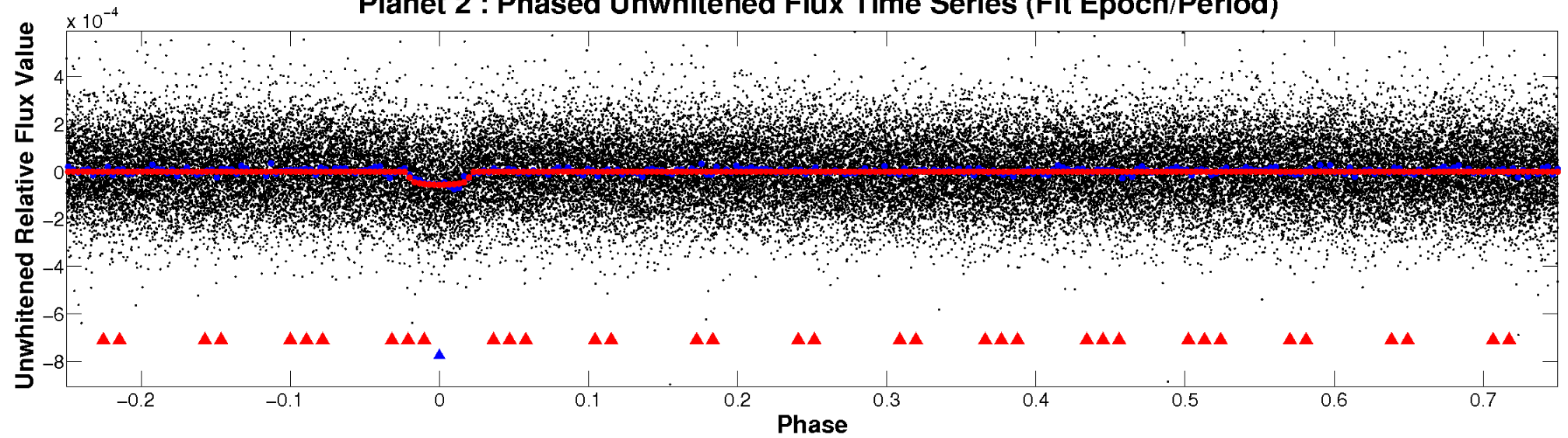
ALT Odd/Even

TCE 011754430-02

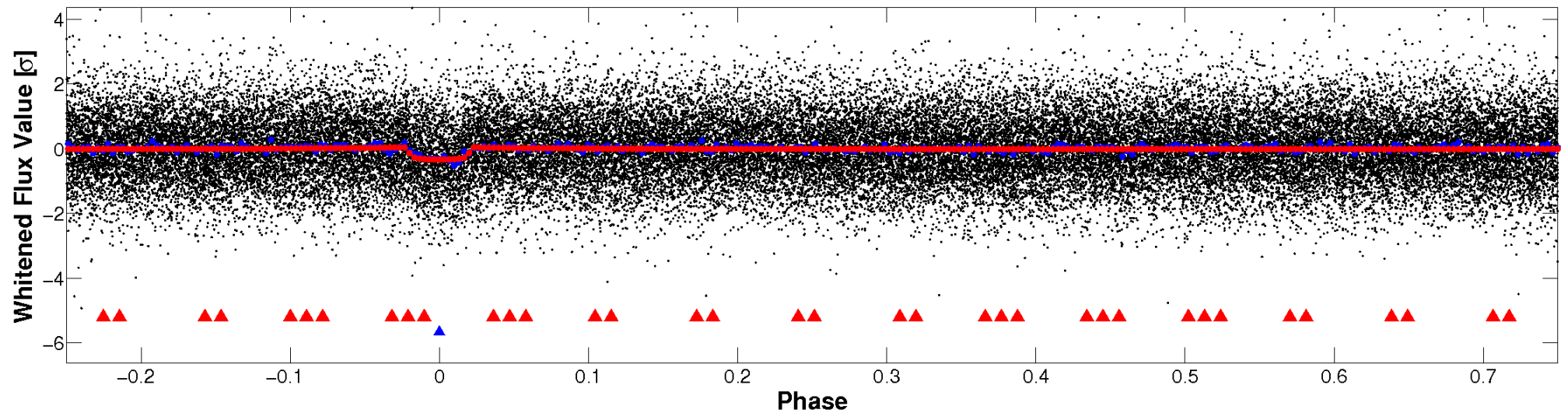


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

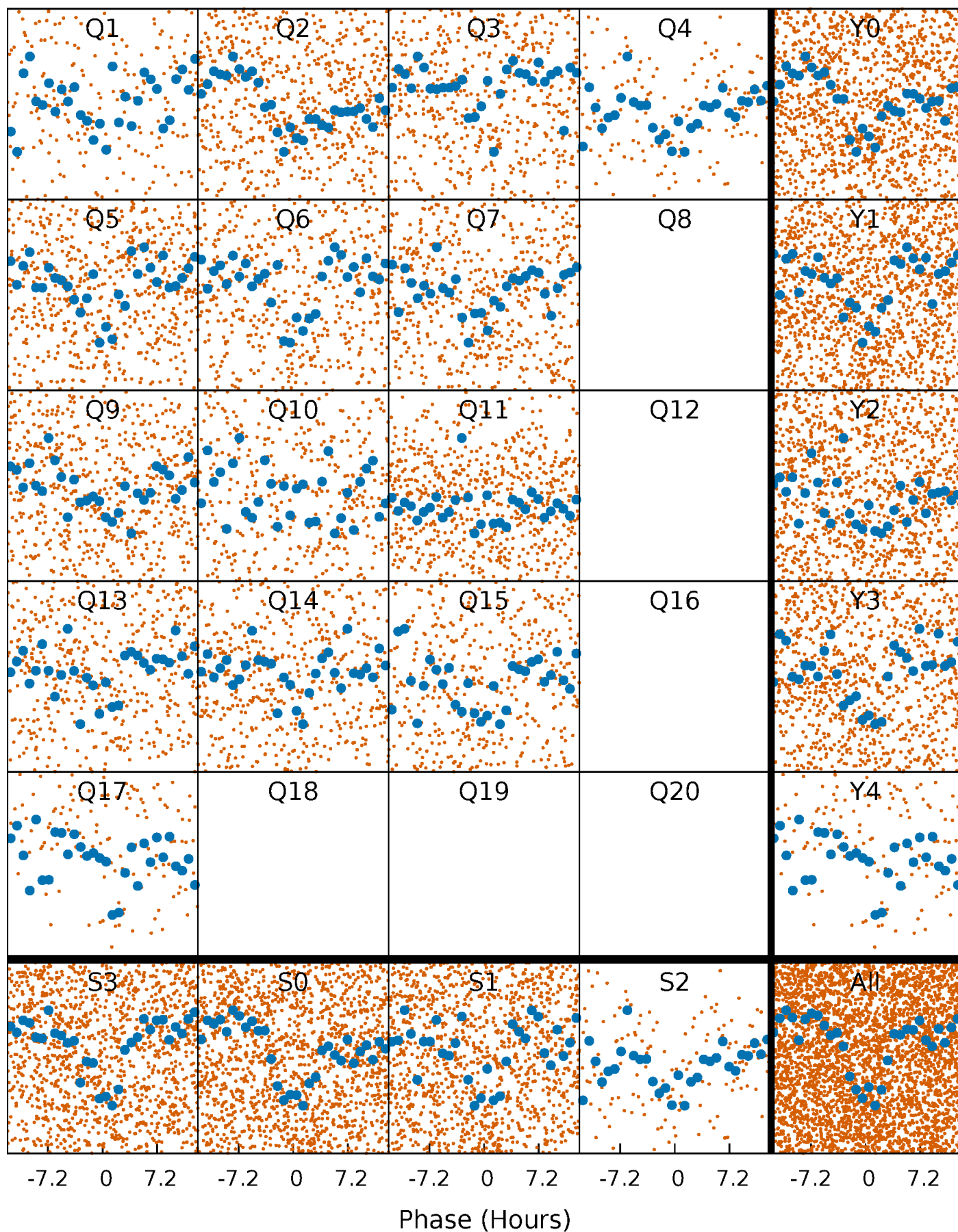


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



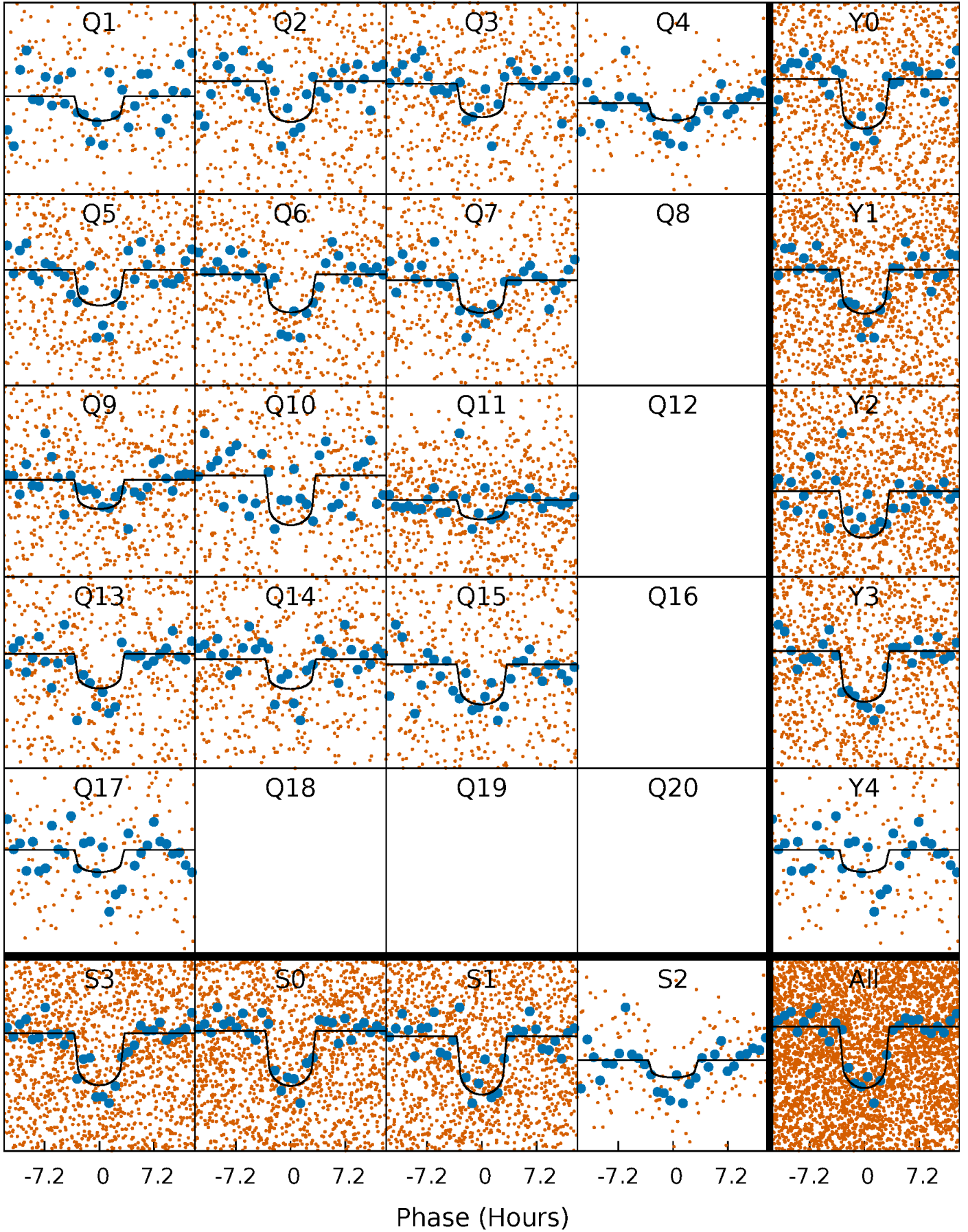
PDC Quarter-Phased Transit Curves

TCE 011754430-02 P= 6.158270 Days $T_0=135.497243$ (BKJD)



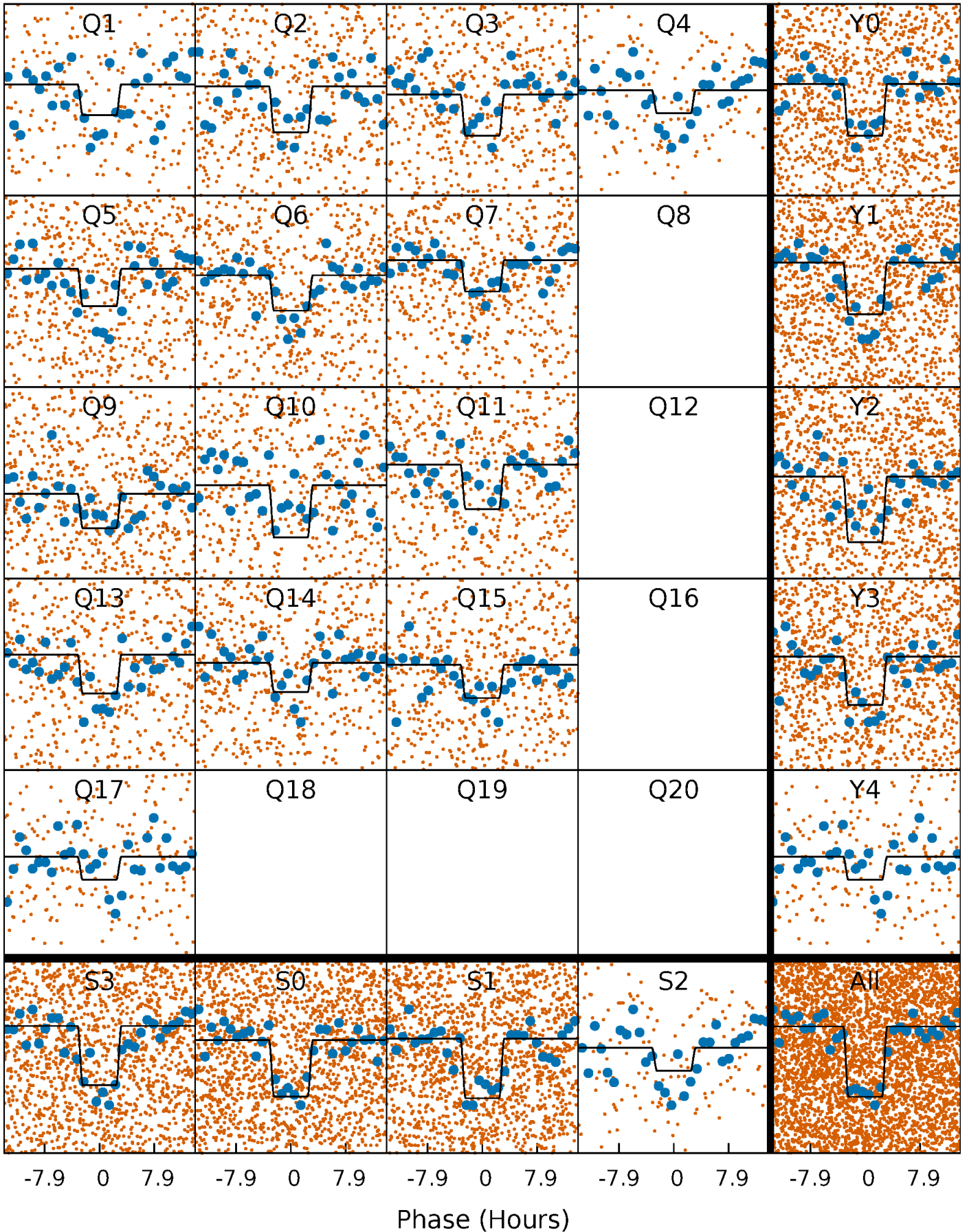
DV Quarter-Phased Transit Curves

TCE 011754430-02 P= 6.158270 Days $T_0=135.497243$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

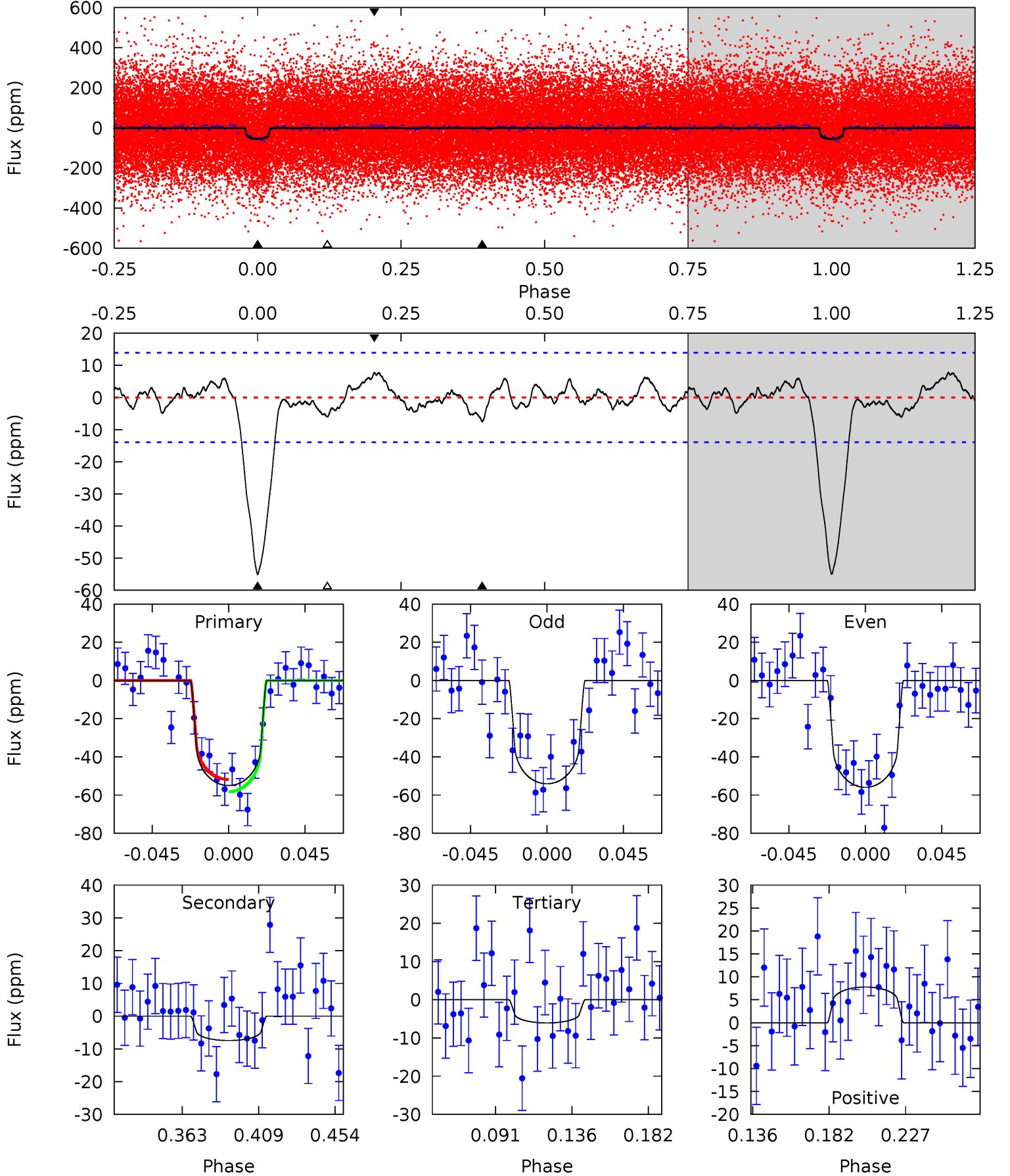
TCE 011754430-02 P= 6.158217 Days $T_0=135.500901$ (BKJD)



DV Model-Shift Uniqueness Test

011754430-02, P = 6.158270 Days, E = 129.338973 Days

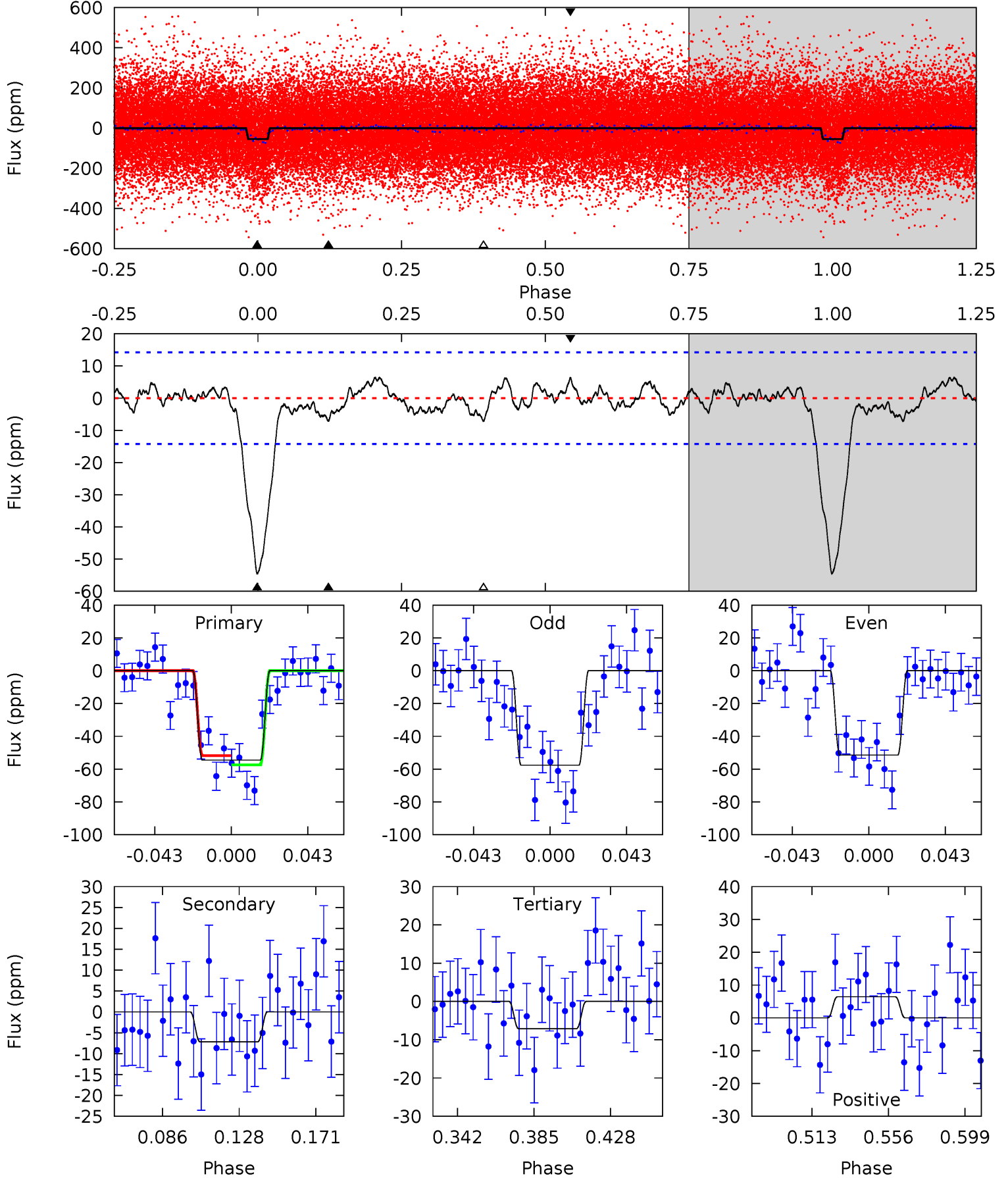
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.7	2.53	2.06	2.64	4.73	2.00	0.99	16.6	16.1	0.47	-0.11	0.32	0.96	0.12	1.10



Alt Model-Shift Uniqueness Test

011754430-02, P = 6.158217 Days, E = 129.342684 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.1	2.38	2.36	2.14	4.74	2.03	0.96	15.8	16.0	0.01	0.23	1.02	0.98	0.11	0.94



Stellar Parameters For KIC 011754430

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5710^{+114}_{-91}	$4.073^{+0.201}_{-0.093}$	$0.000^{+0.150}_{-0.150}$	$1.524^{+0.244}_{-0.336}$	$1.003^{+0.096}_{-0.087}$	$0.399^{+0.416}_{-0.127}$
	+2%/-2%	+5%/-2%	+inf%/-inf%	+16%/-22%	+10%/-9%	+104%/-32%
Source	SPE57	SPE57	SPE57	DSEP		

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

Secondary Eclipse Parameters for KIC 011754430-02 / KOI 3403.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-7 ± 3	$1.27^{+0.48}_{-0.47}$	1679^{+84}_{-101}	3727^{+632}_{-435}	11^{+16}_{-6}
Alt.	-7 ± 3	$1.21^{+0.52}_{-0.45}$	1678^{+86}_{-94}	3741^{+748}_{-488}	11^{+19}_{-7}

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

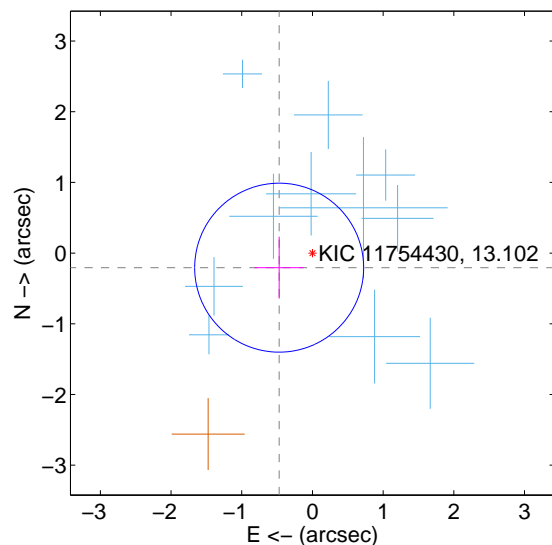
Supplemental centroid analysis for 011754430-02. Kepler magnitude: 13.10. Transit SNR 12.90

There are 11 quarters with good PRF difference image offsets

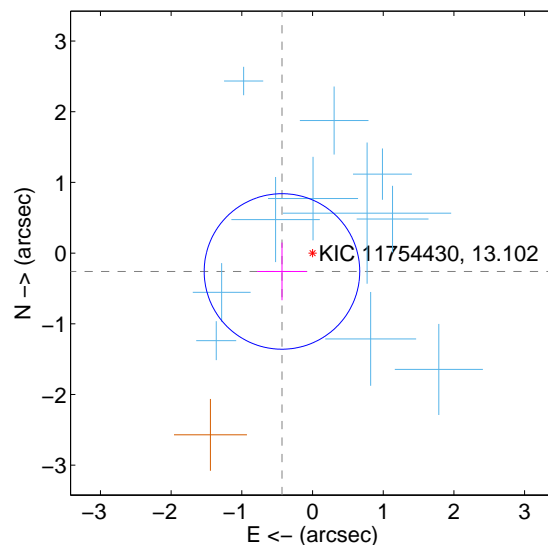
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.514 ± 0.398	1.29	0.471 ± 0.349	-0.206 ± 0.438
PRF-fit source offset from KIC position	0.504 ± 0.367	1.38	0.432 ± 0.351	-0.260 ± 0.408
photometric centroid source offset	0.43 ± 0.81	0.53	-0.41 ± 0.80	0.10 ± 0.98

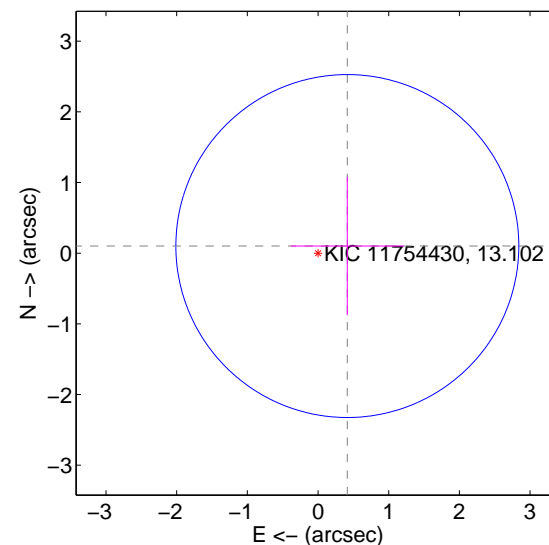
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

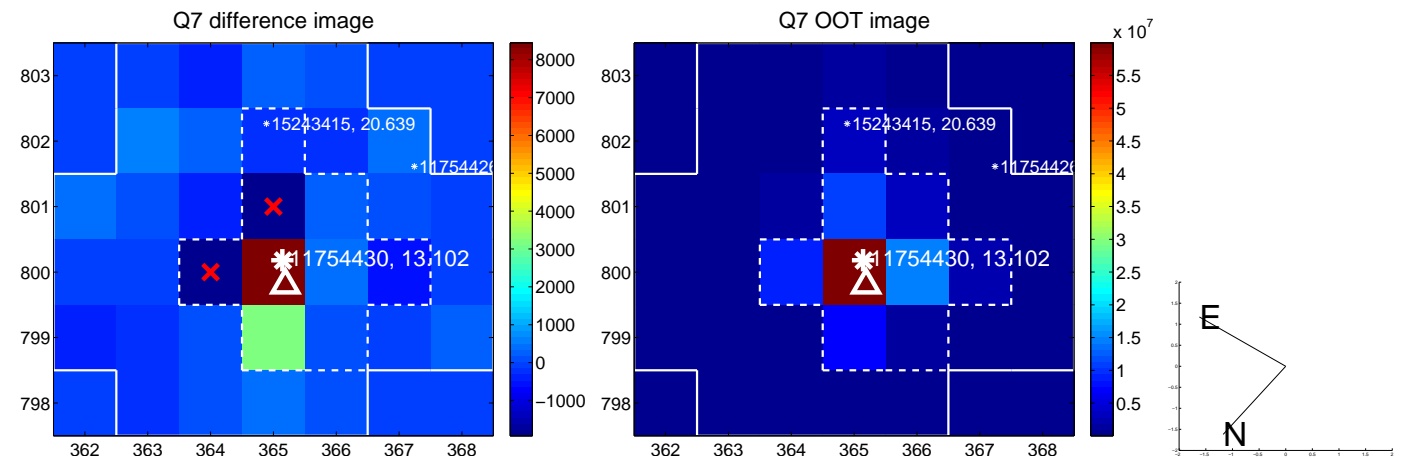
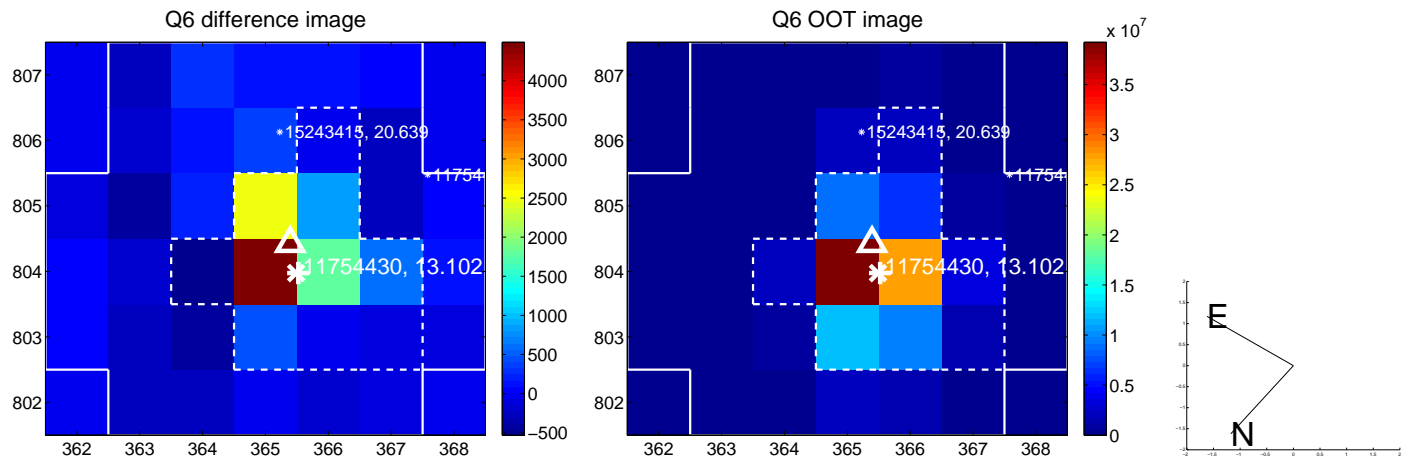
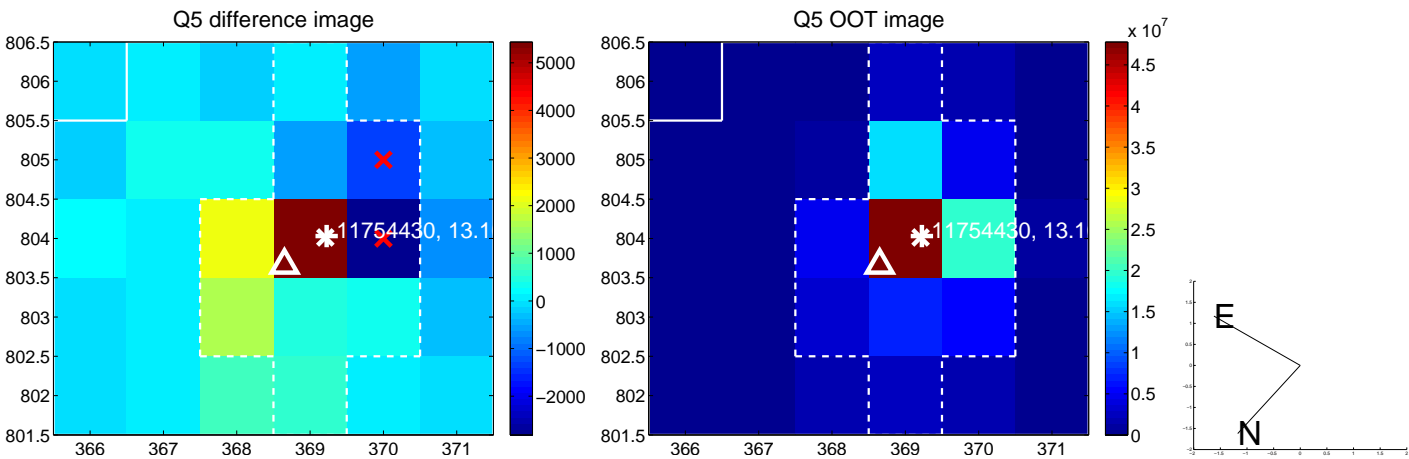


offset from photometric centroids

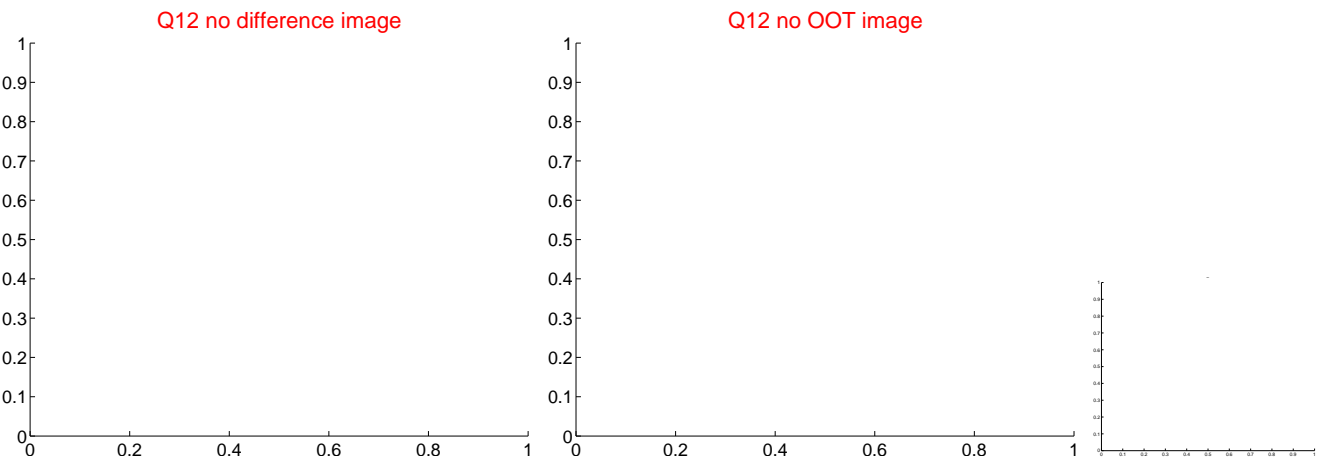
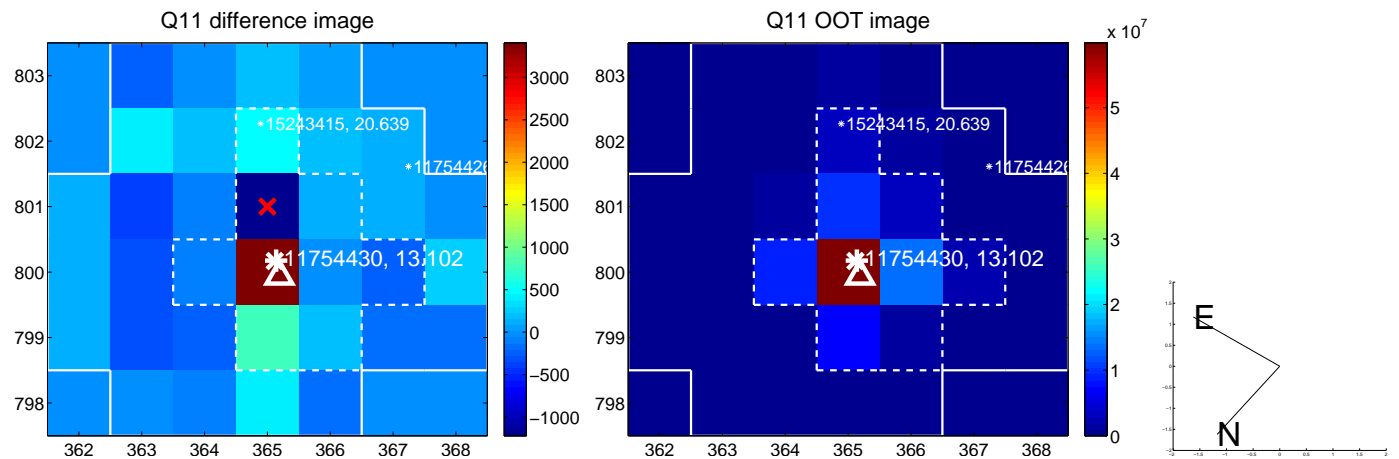
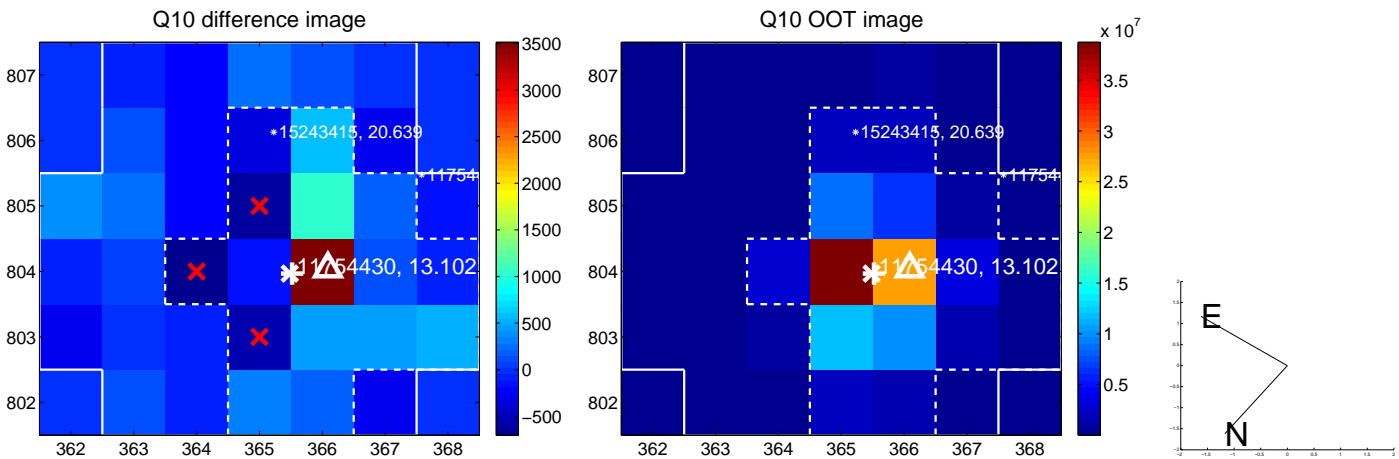
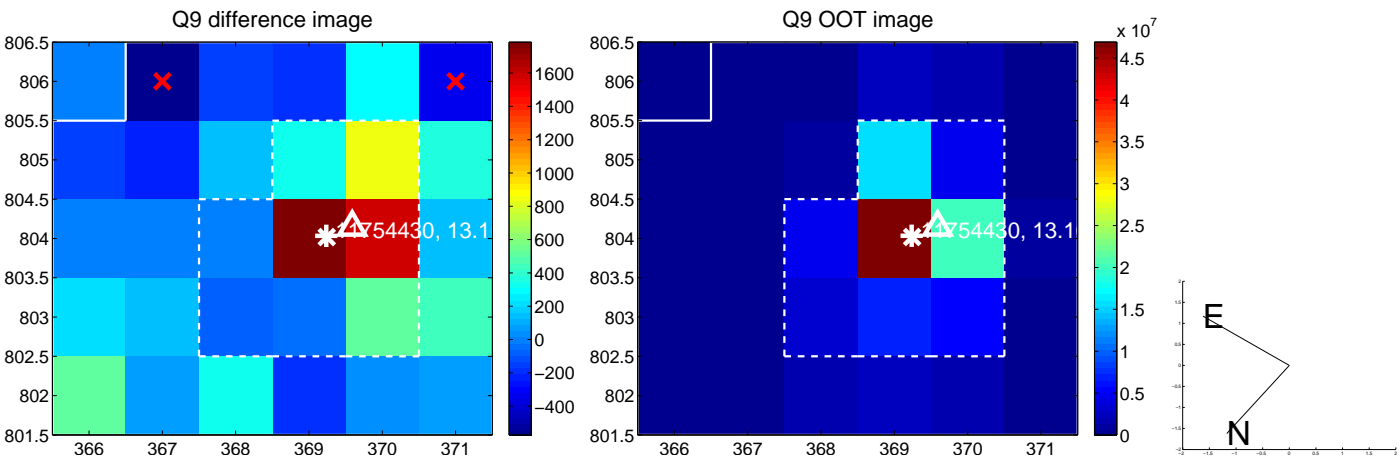


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

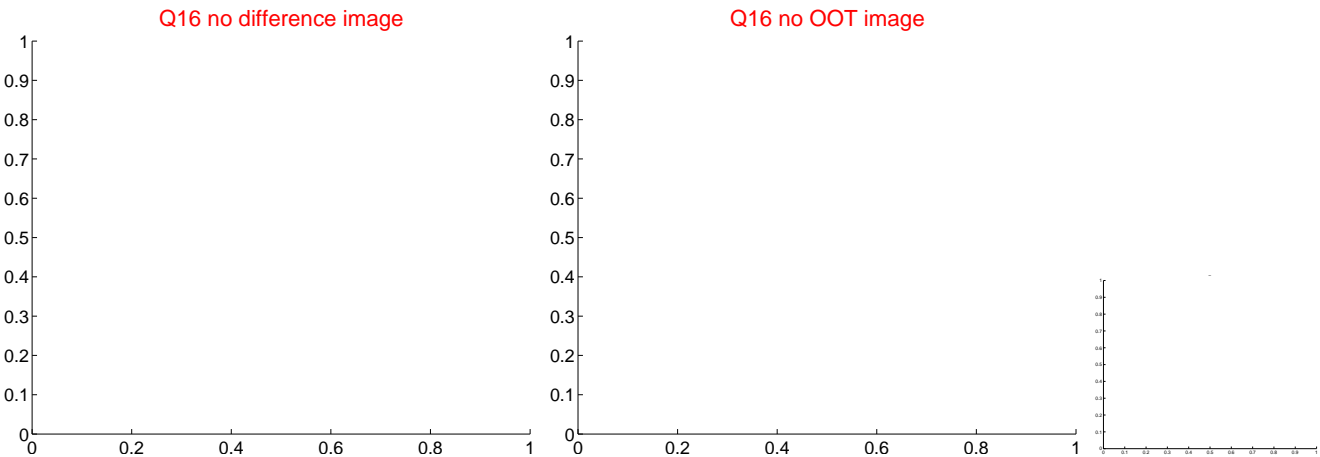
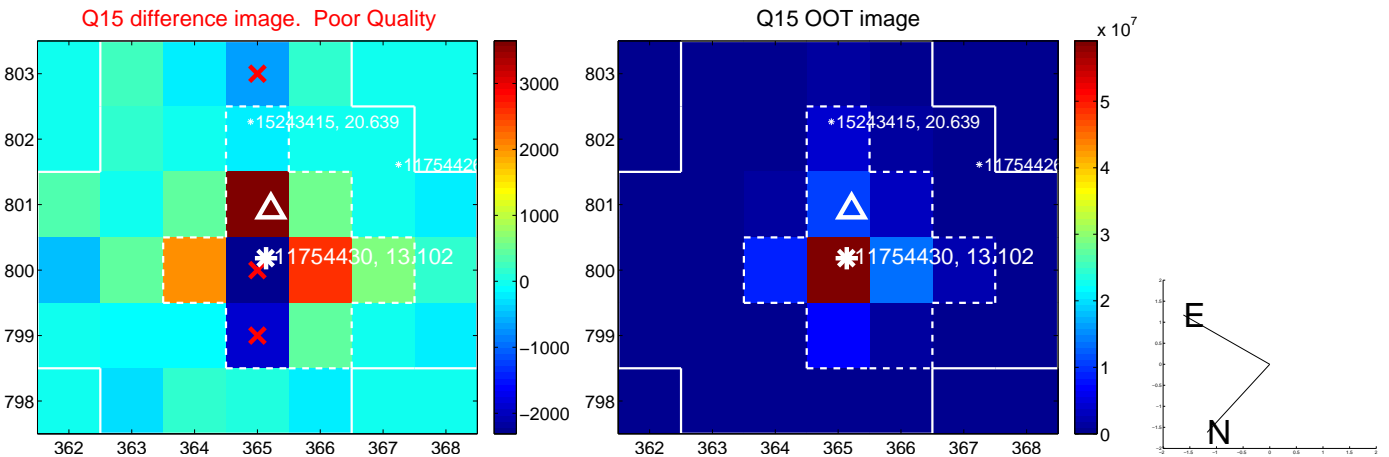
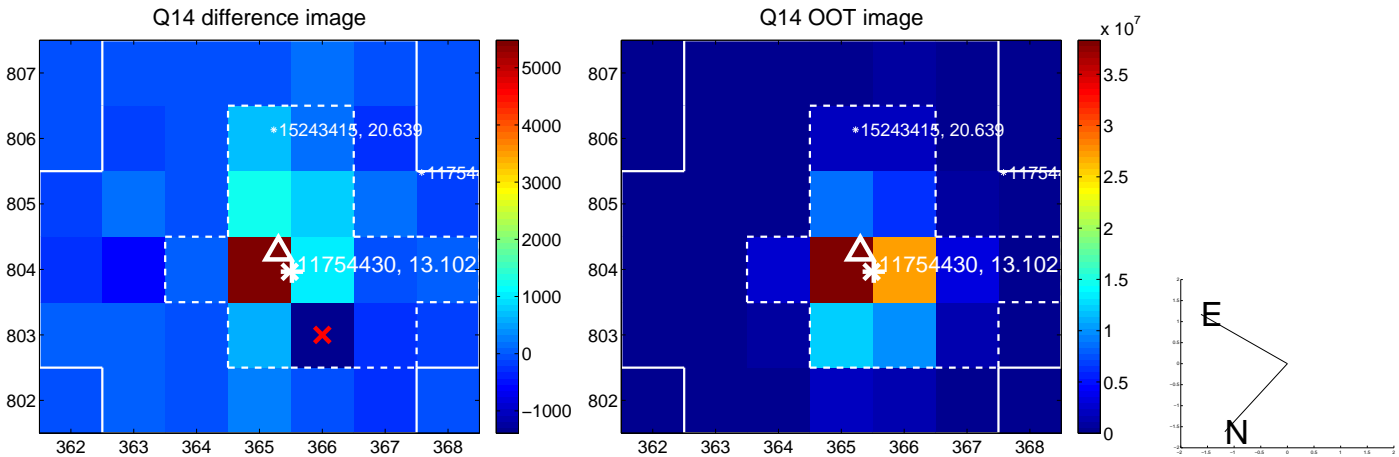
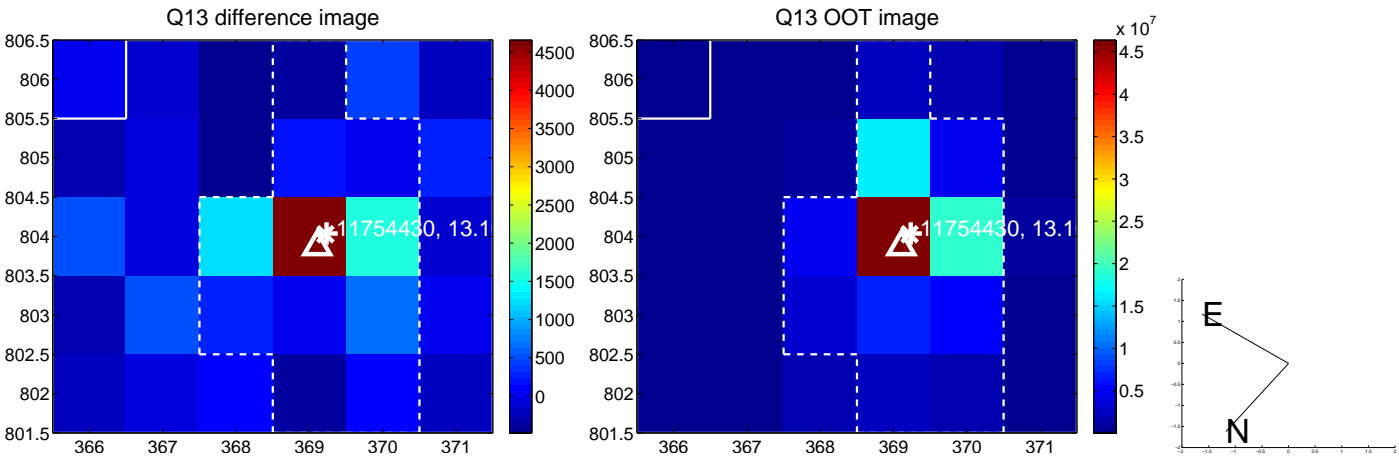
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



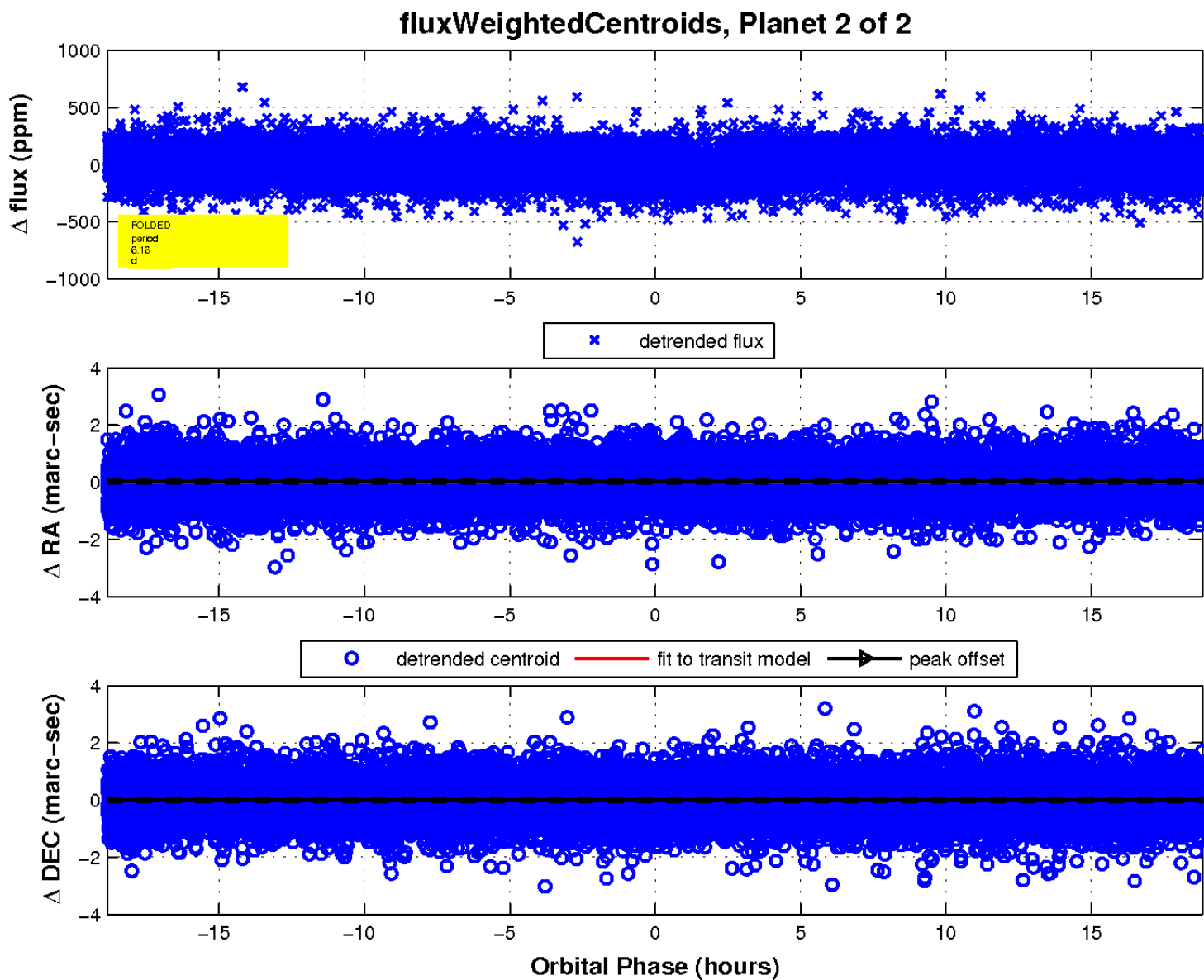
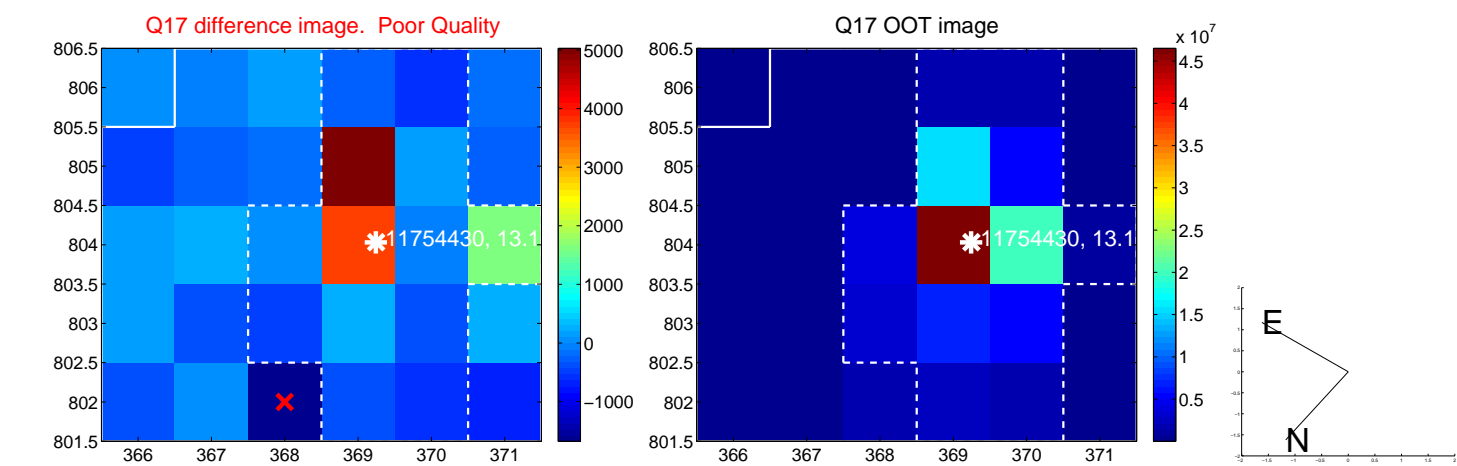
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

