

KIC 005542983

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})
005542983-01	OBS	2501.01	4.768855	132.102721	115.5	1.565	16.1	18.7	1.85	6063	2.32	1304.13
005542983-02	OBS	No	4.768838	134.751165	54.1	1.579	8.3	9.0	1.85	6063	1.61	1304.14

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005542983-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_UNRESOLVED_OFFSET
005542983-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET

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

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

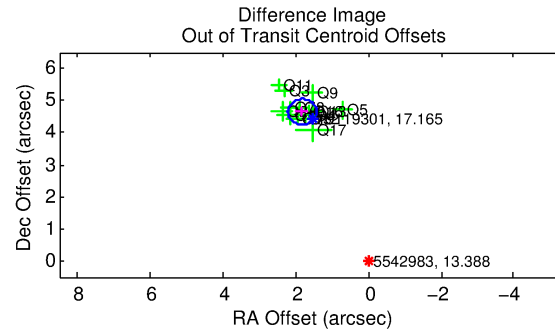
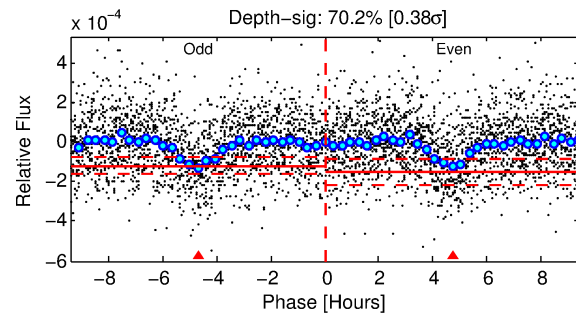
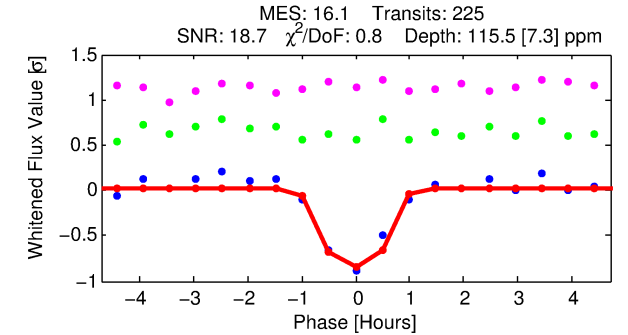
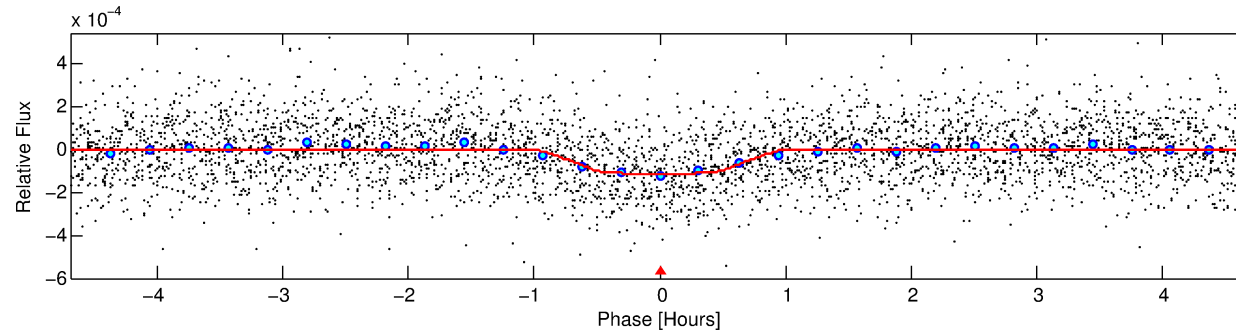
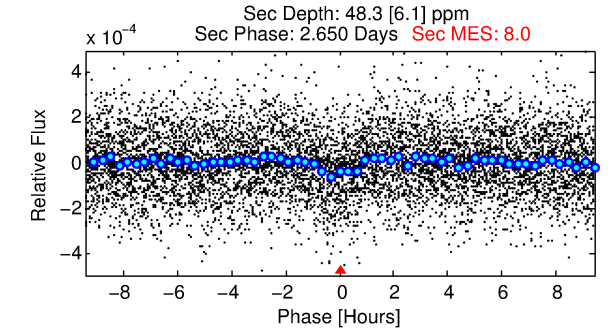
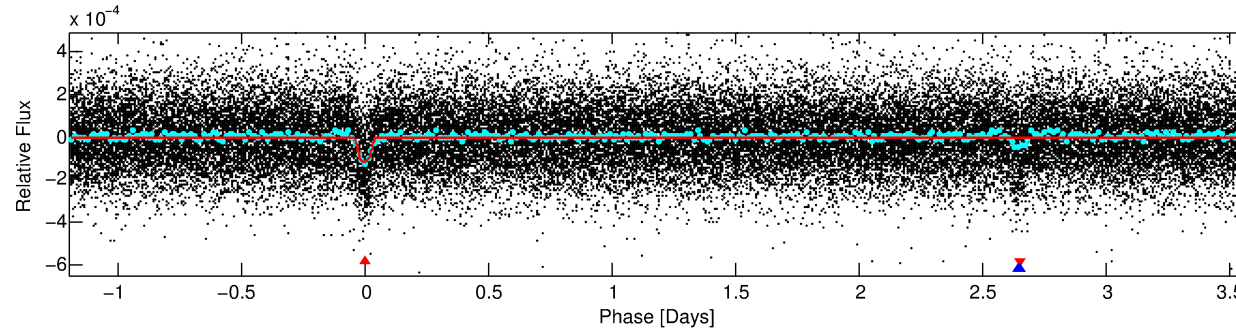
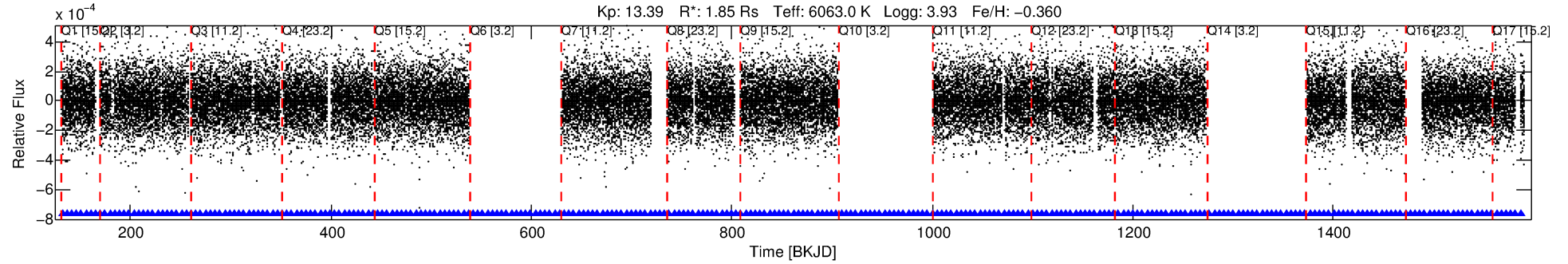
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005542983-01

No Significant Match Found

DV One-Page Summary

KIC: 5542983 Candidate: 1 of 2 Period: 4.769 d
KOI: K02501.01 Corr: 0.980



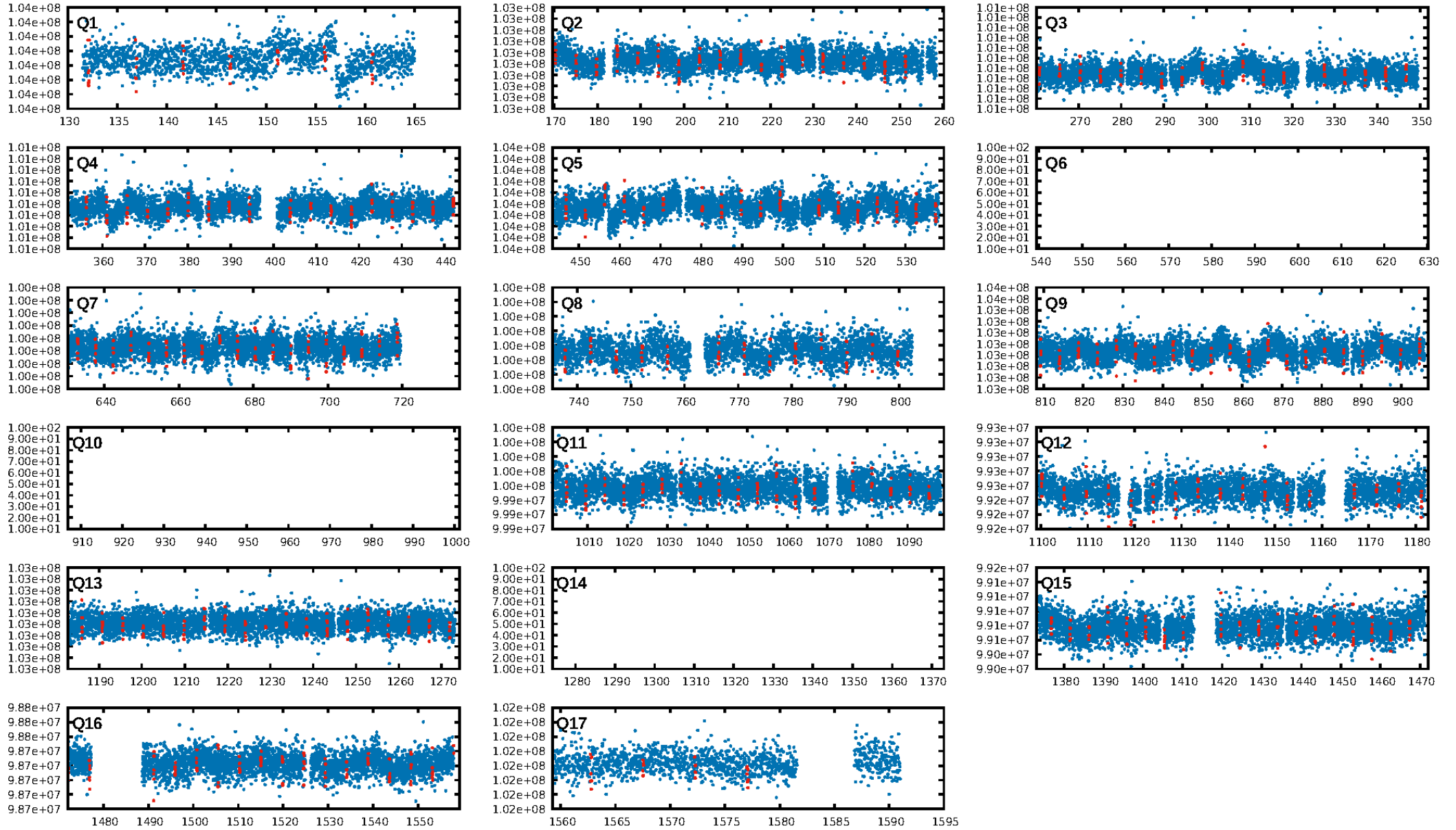
DV Fit Results:

Period = 4.76885 [0.00001] d
Epoch = 132.1027 [0.0017] BKJD
Rp/R* = 0.0115 [0.0040]
a/R* = 11.49 [21.18]
b = 0.88 [0.47]
Seff = 1304.13 [690.16]
Teq = 1532 [203] K
Rp = 2.32 [1.09] Re
a = 0.0565 [0.0179] AU
Ag = 15.79 [13.88] [1.07σ]
Teff = 4723 [848] K [3.66σ]

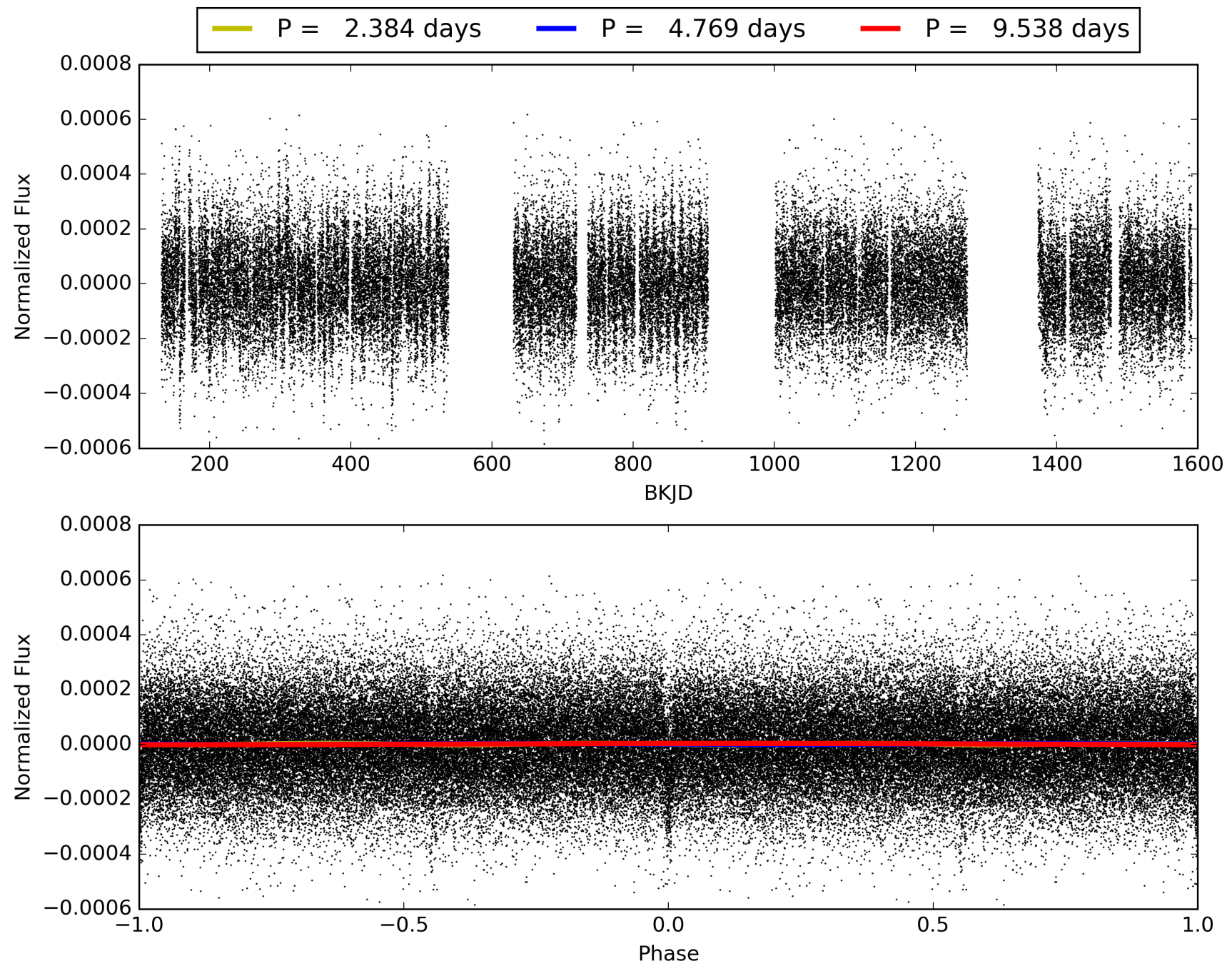
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 3.65e-56
RollingBand-fgt: 1.00 [214/214]
GhostDiagnostic-chr: 0.648
Centroid-sig: 0.0%
Centroid-so: 7.041 arcsec [10.89σ]
OotOffset-rm: 4.997 arcsec [38.13σ]
KicOffset-rm: 5.013 arcsec [38.21σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 005542983-01, PDC Light Curves

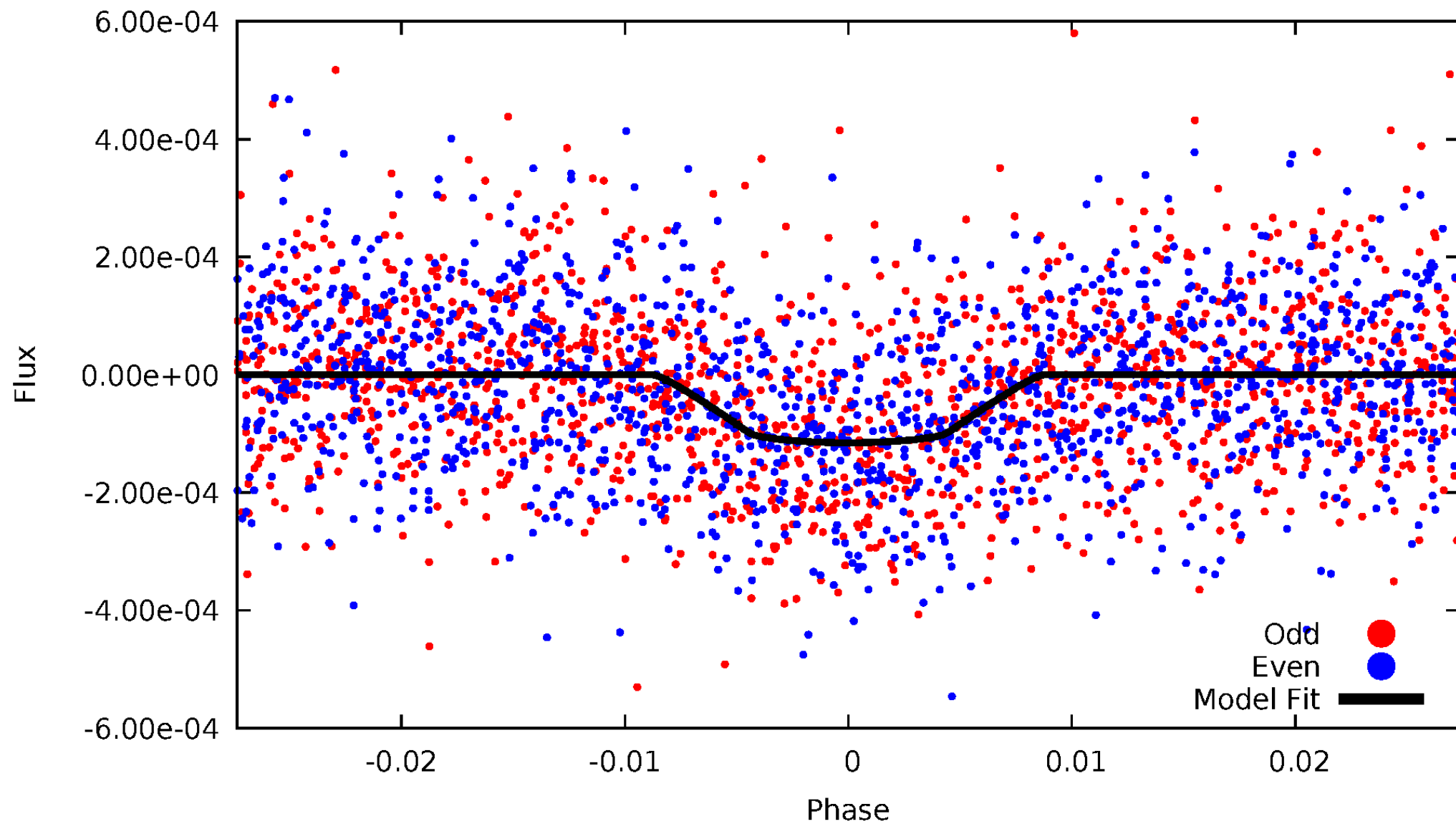


TCE 005542983-01



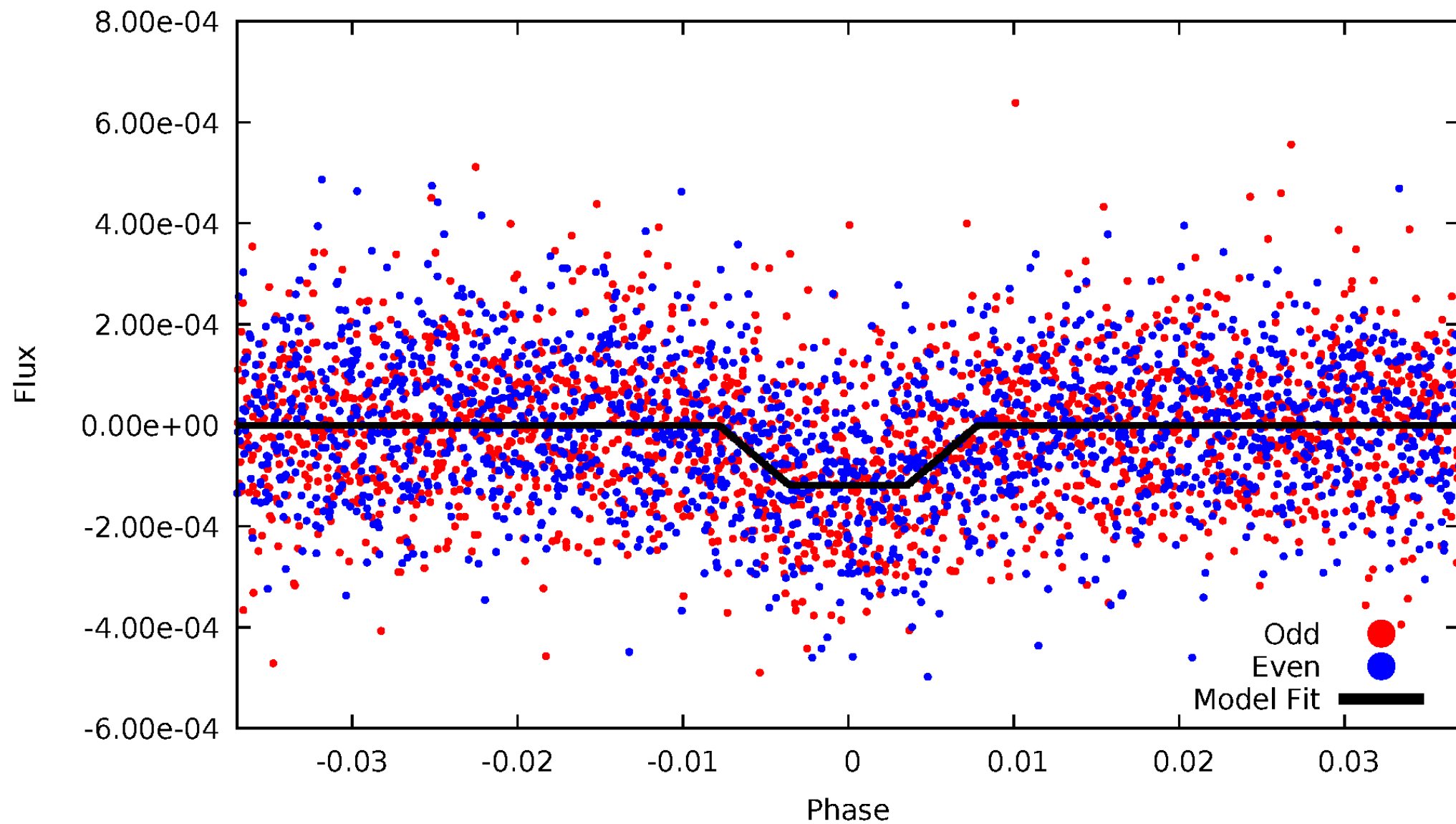
DV Odd/Even

TCE 005542983-01

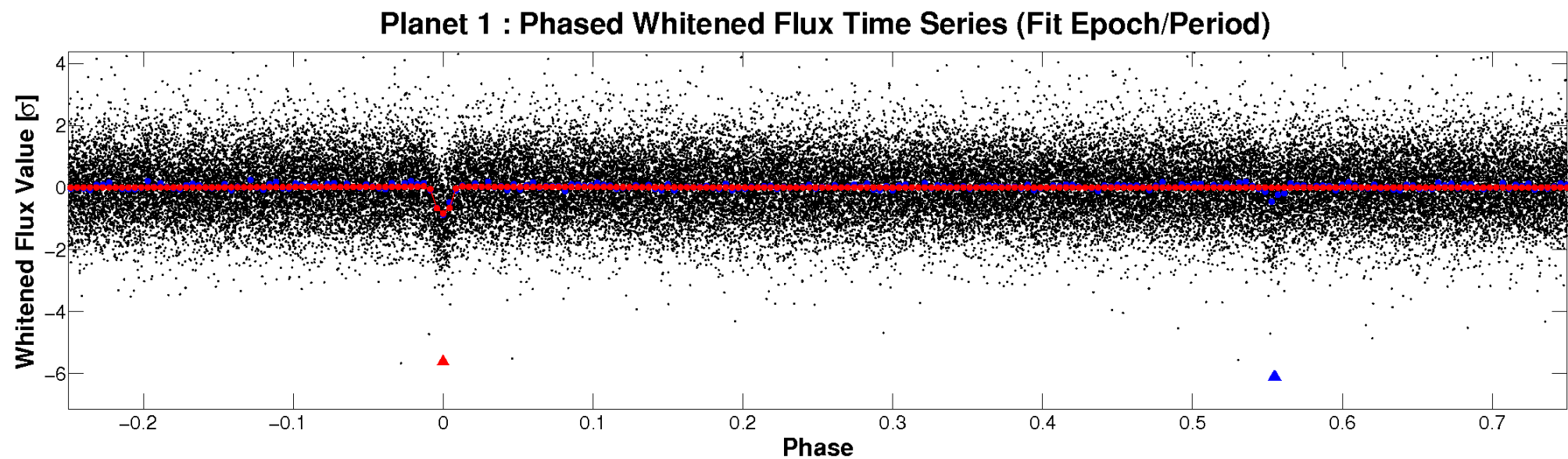
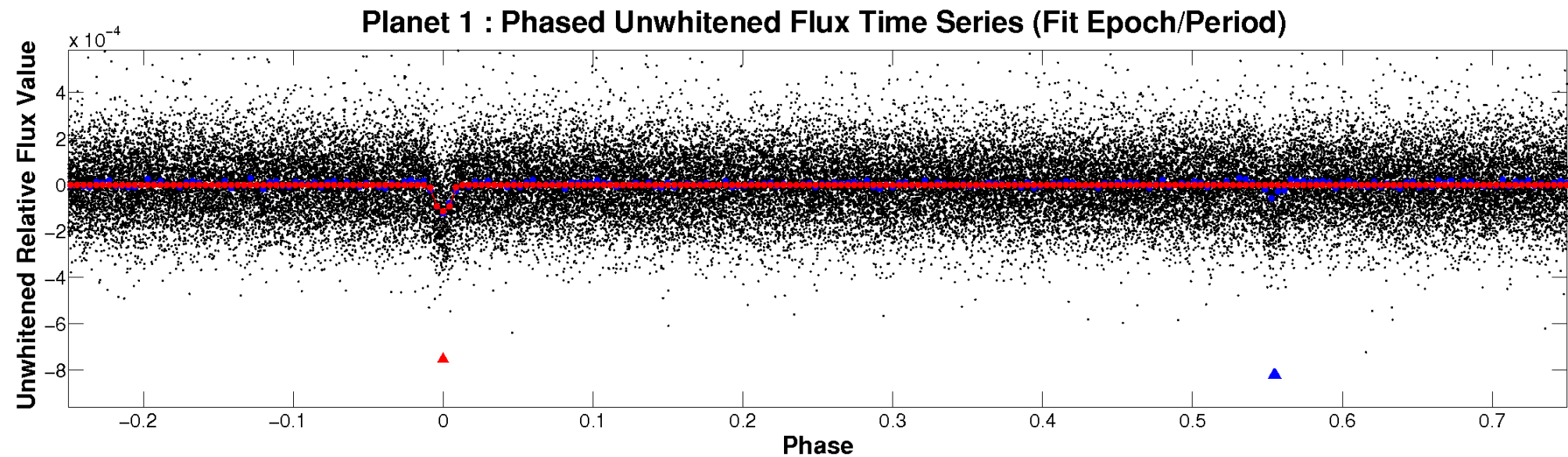


ALT Odd/Even

TCE 005542983-01

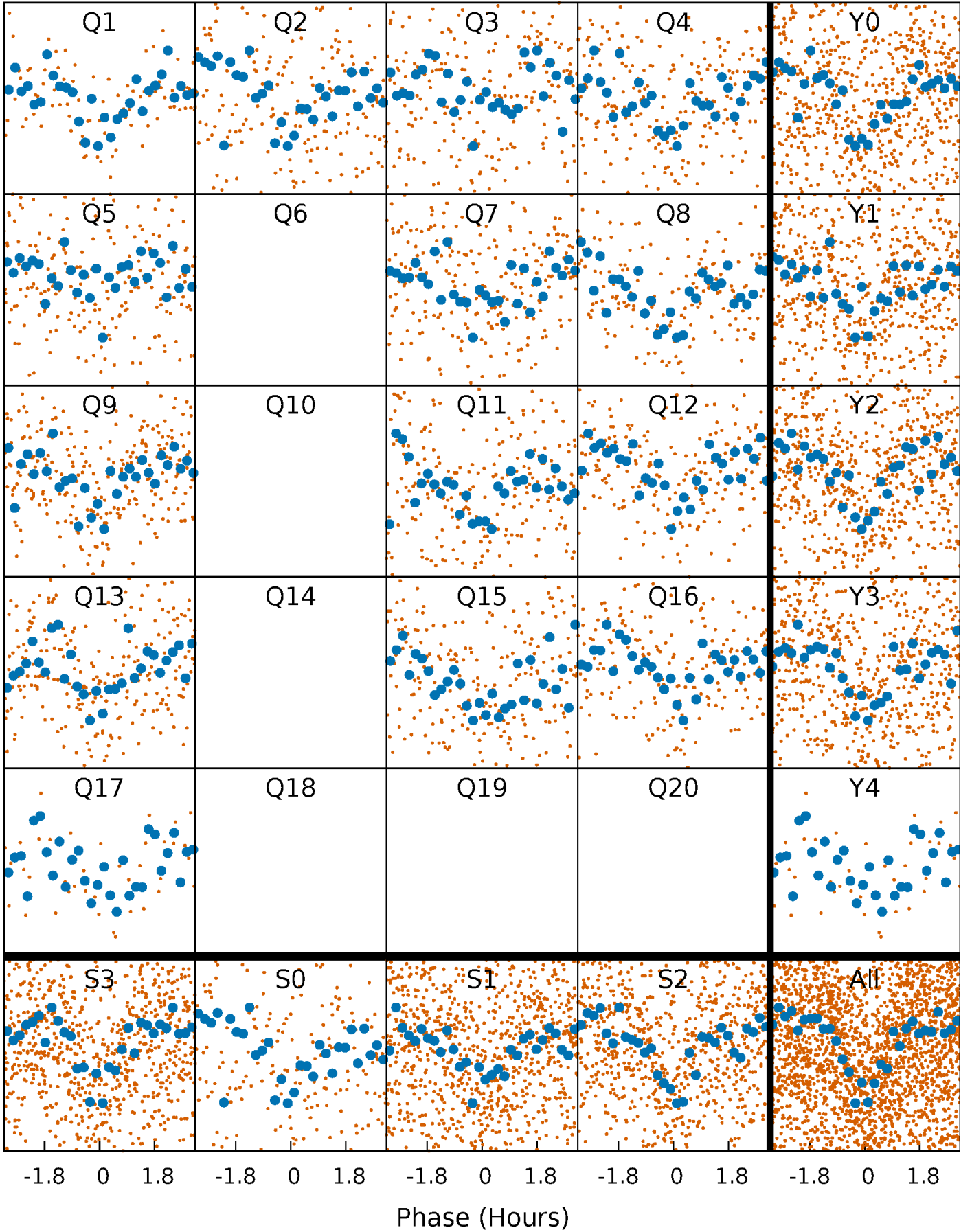


Non-Whitened Vs. Whitened Light Curve



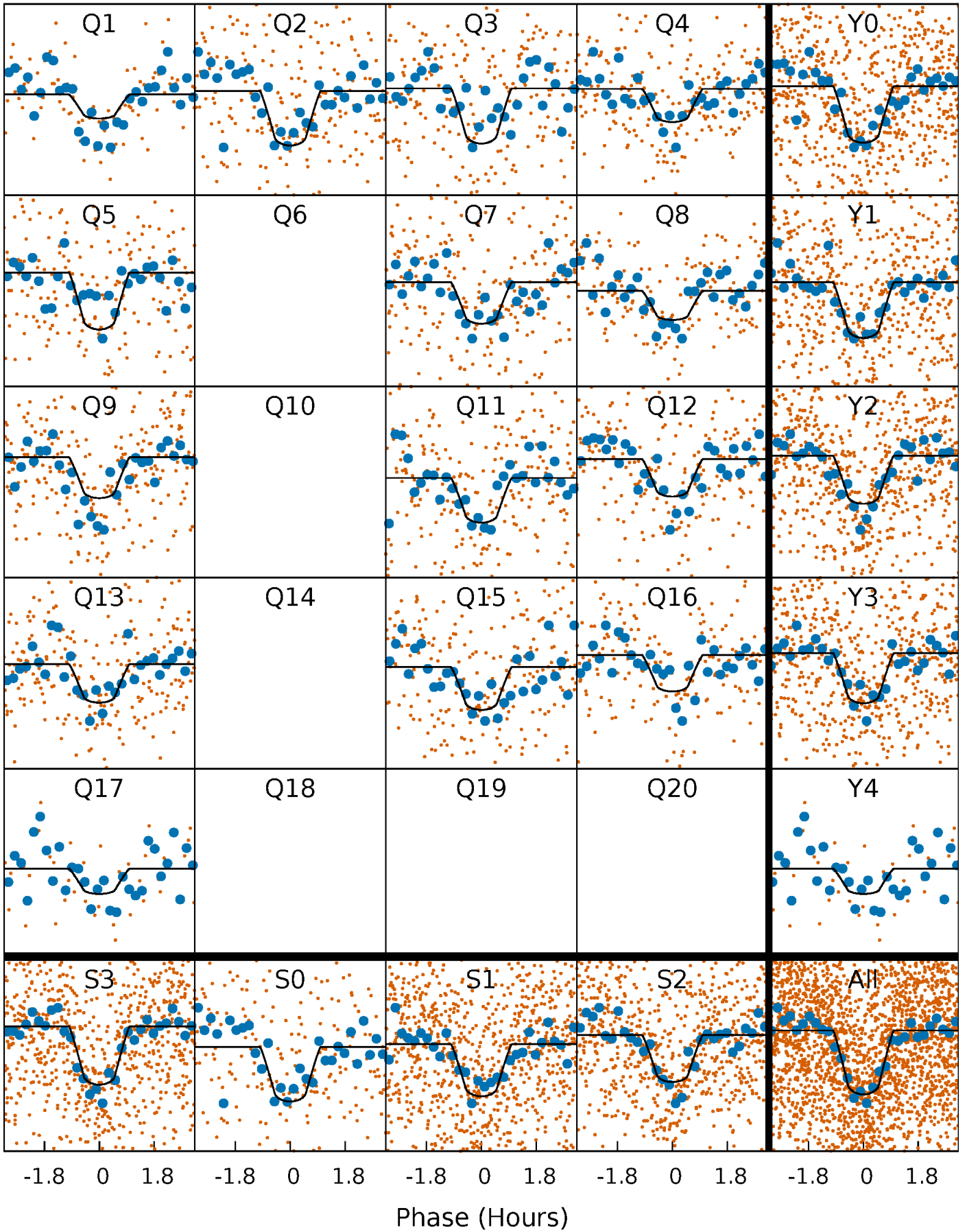
PDC Quarter-Phased Transit Curves

TCE 005542983-01 P= 4.768855 Days $T_0=132.102721$ (BKJD)



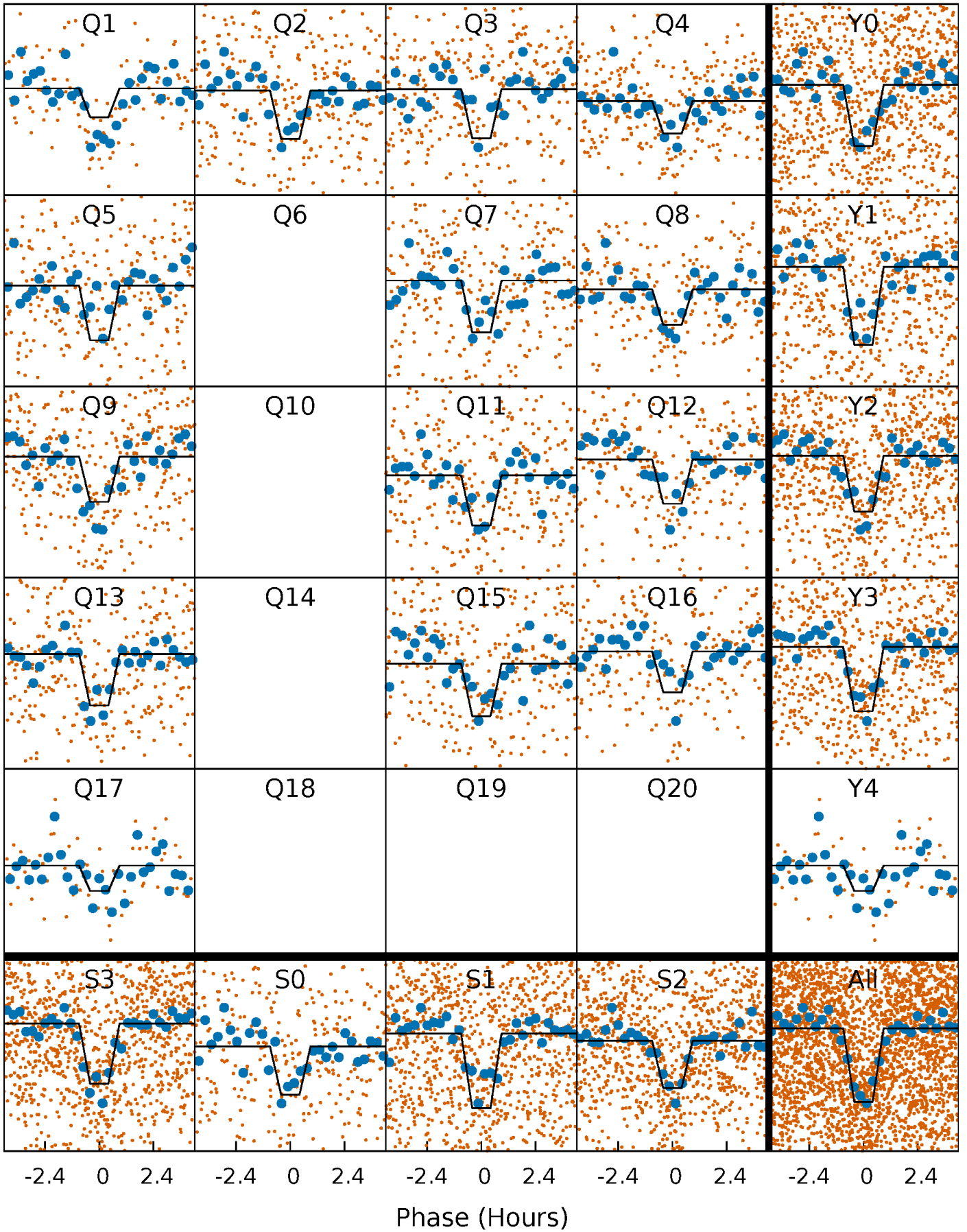
DV Quarter-Phased Transit Curves

TCE 005542983-01 P= 4.768855 Days $T_0=132.102721$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

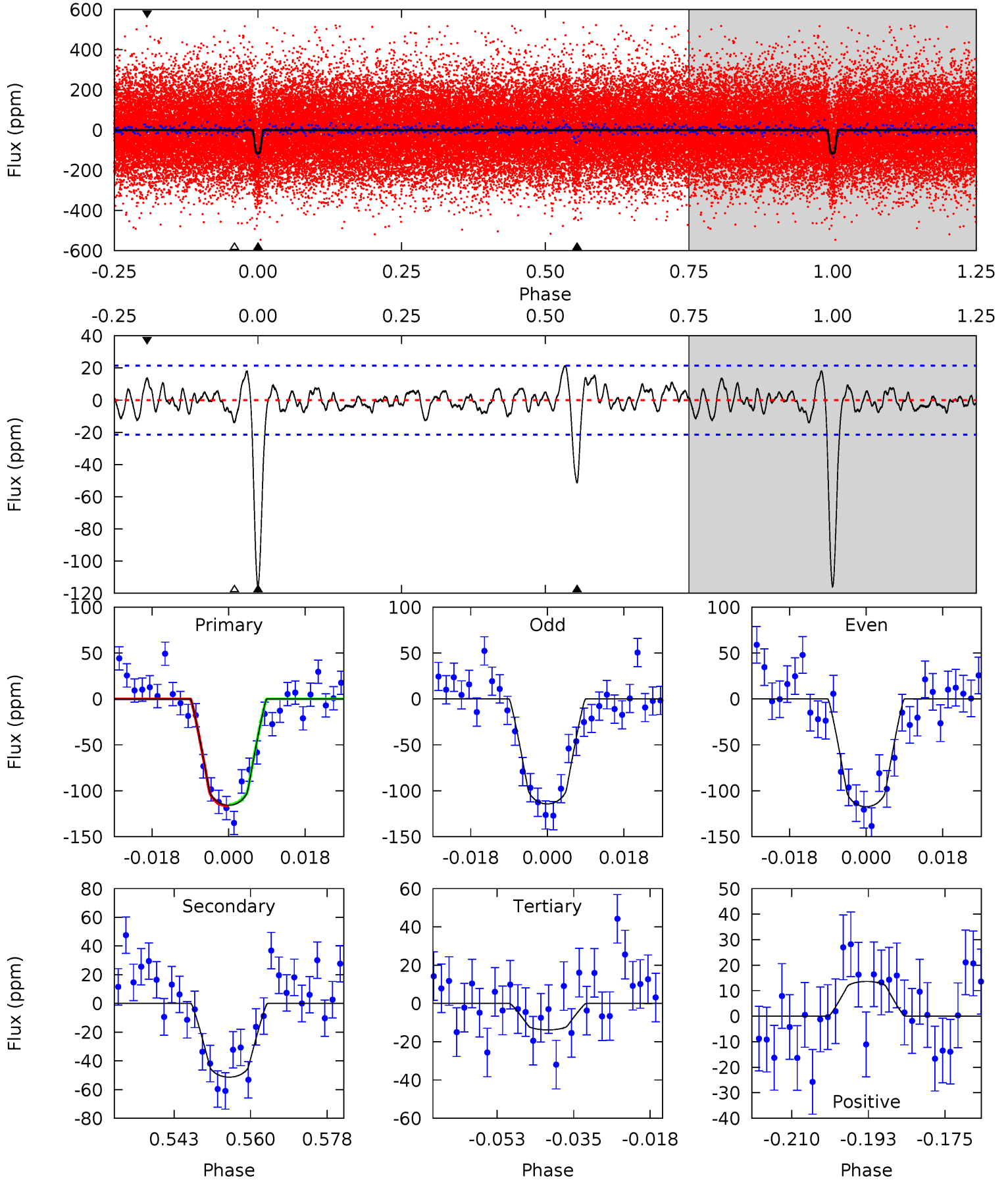
TCE 005542983-01 P= 4.768867 Days $T_0=132.100131$ (BKJD)



DV Model-Shift Uniqueness Test

005542983-01, P = 4.768855 Days, E = 127.333866 Days

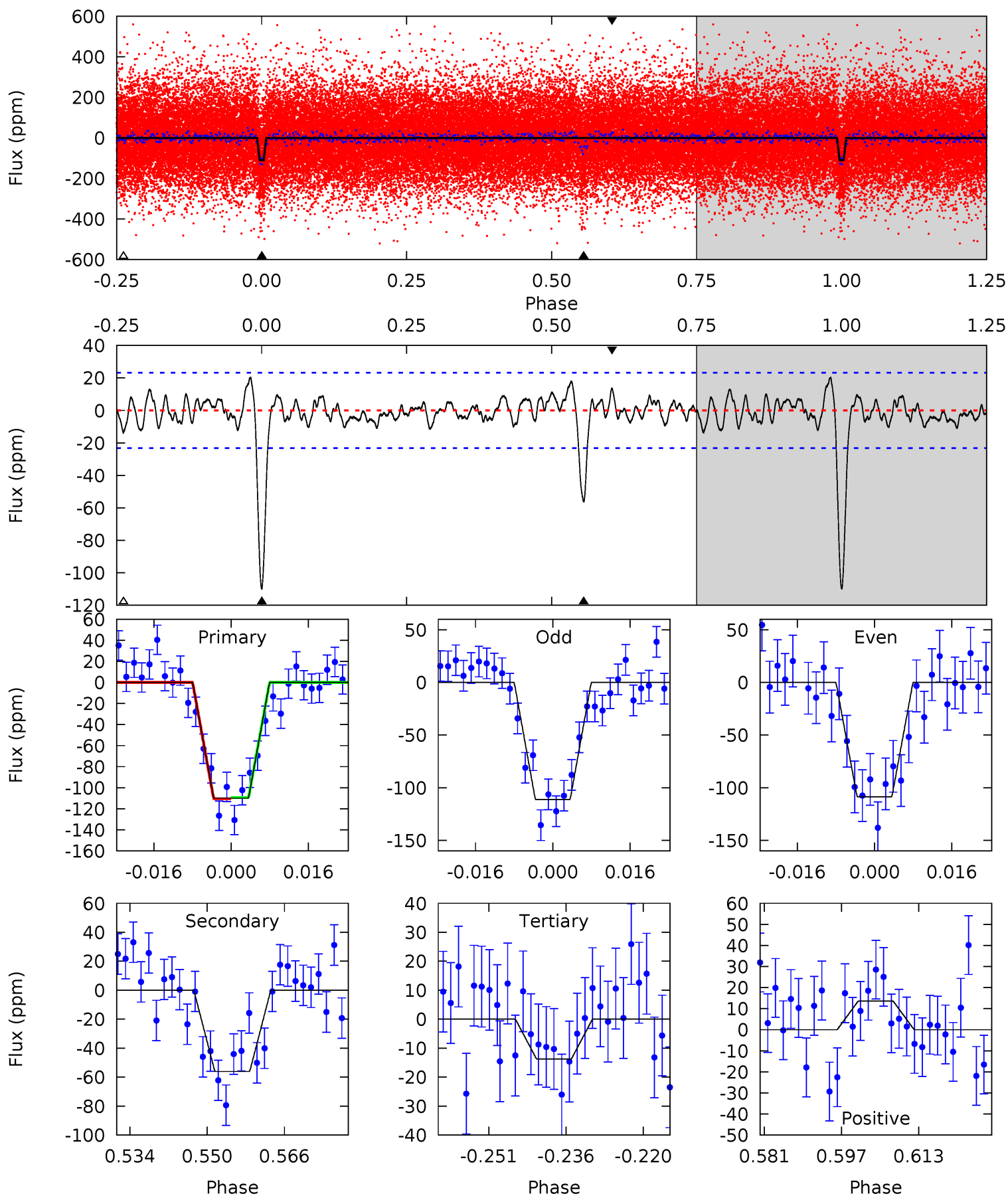
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.6	11.8	3.17	3.13	4.92	2.38	1.34	23.4	23.5	8.61	8.66	0.35	0.96	0.16	0.17



Alt Model-Shift Uniqueness Test

005542983-01, P = 4.768867 Days, E = 127.331264 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.4	12.0	2.93	2.90	4.94	2.42	1.26	20.5	20.5	9.02	9.05	0.28	0.96	0.16	0.10



Stellar Parameters For KIC 005542983

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6063^{+163}_{-163}	$3.926^{+0.308}_{-0.103}$	$-0.360^{+0.350}_{-0.250}$	$1.855^{+0.344}_{-0.590}$	$1.058^{+0.176}_{-0.176}$	$0.234^{+0.429}_{-0.083}$
	+3%/-3%	+8%/-3%	+97%/-69%	+19%/-32%	+17%/-17%	+184%/-35%
Source	PHO1	FLK73	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 005542983-01 / KOI 2501.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-51 ± 4	$2.15^{+0.87}_{-0.81}$	2102^{+137}_{-184}	4939^{+1019}_{-577}	20^{+29}_{-10}
Alt.	-56 ± 5	$2.12^{+0.92}_{-0.79}$	2104^{+141}_{-182}	5063^{+1213}_{-667}	22^{+35}_{-12}

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 $A_{obs} \gg 1.0$

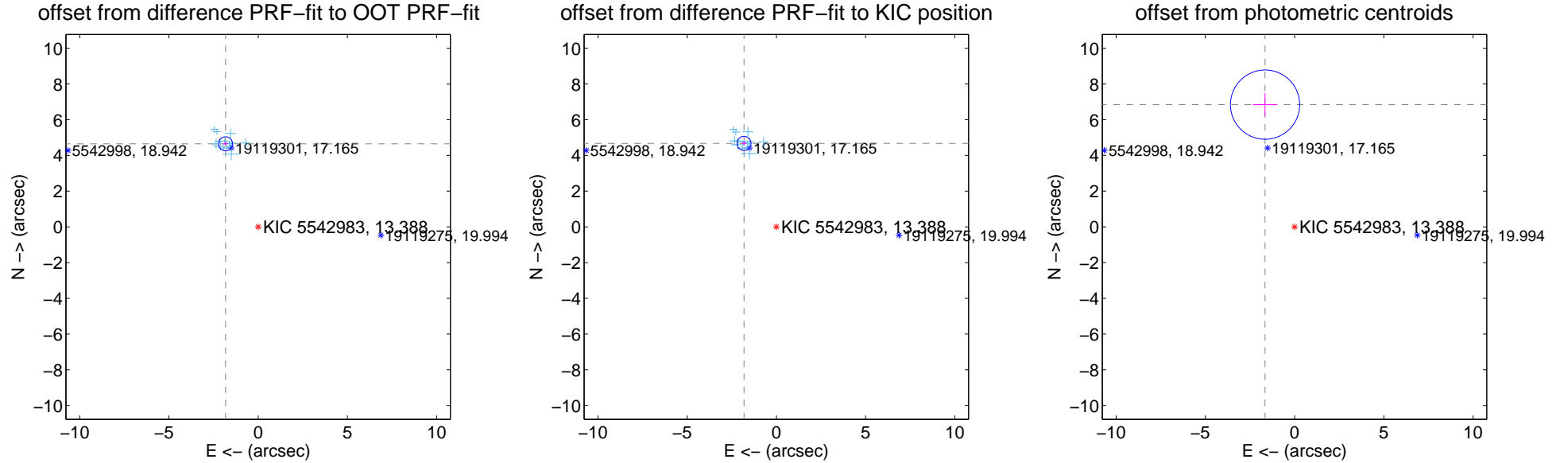
DV Centroid Data

Supplemental centroid analysis for 005542983-01. Kepler magnitude: 13.39. Transit SNR 18.69

There are 14 quarters with good PRF difference image offsets

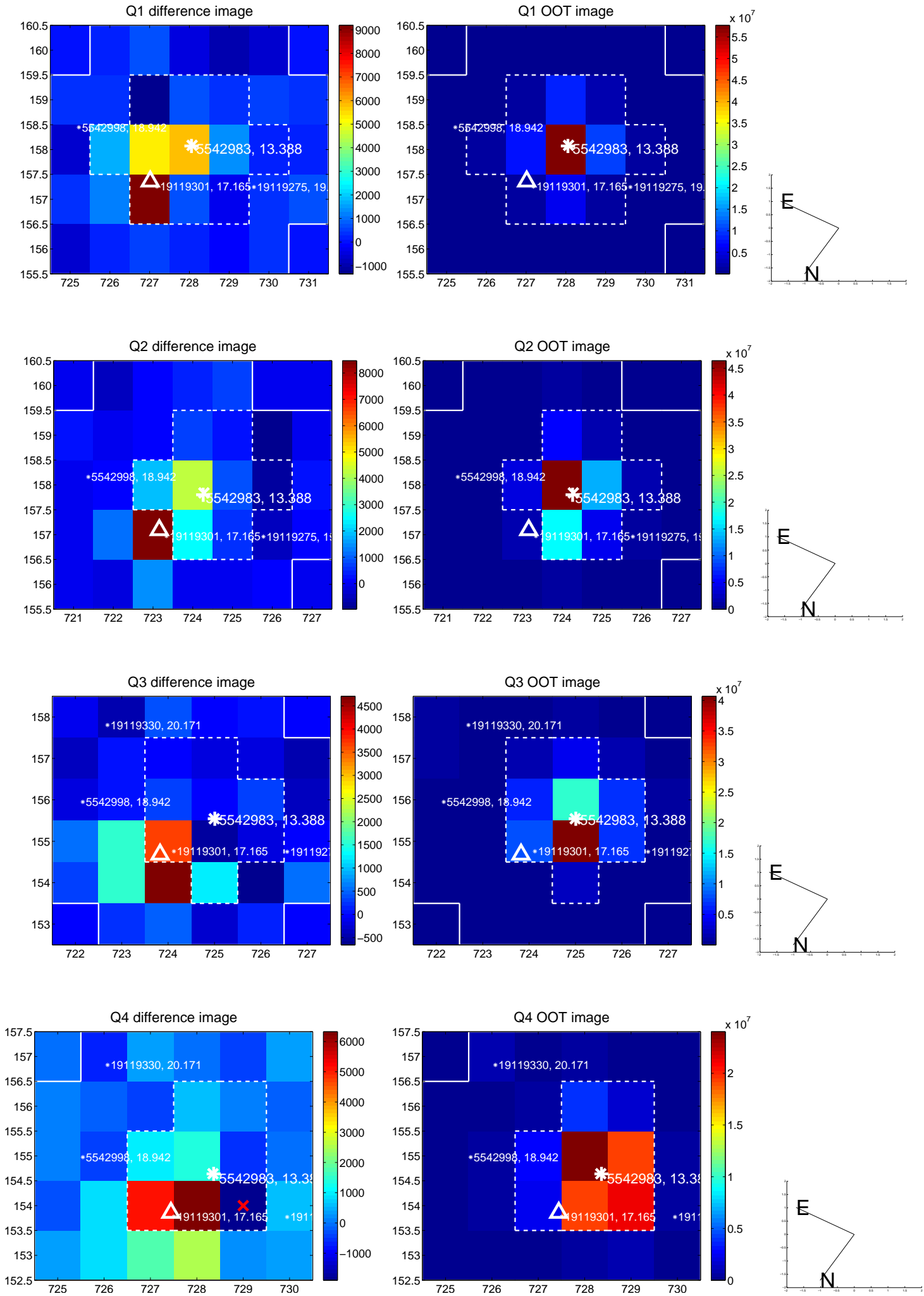
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.997 \pm 0.131	38.13	1.828 \pm 0.136	4.650 \pm 0.117
PRF-fit source offset from KIC position	5.013 \pm 0.131	38.21	1.814 \pm 0.127	4.674 \pm 0.122
photometric centroid source offset	7.04 \pm 0.65	10.89	1.65 \pm 0.68	6.84 \pm 0.64

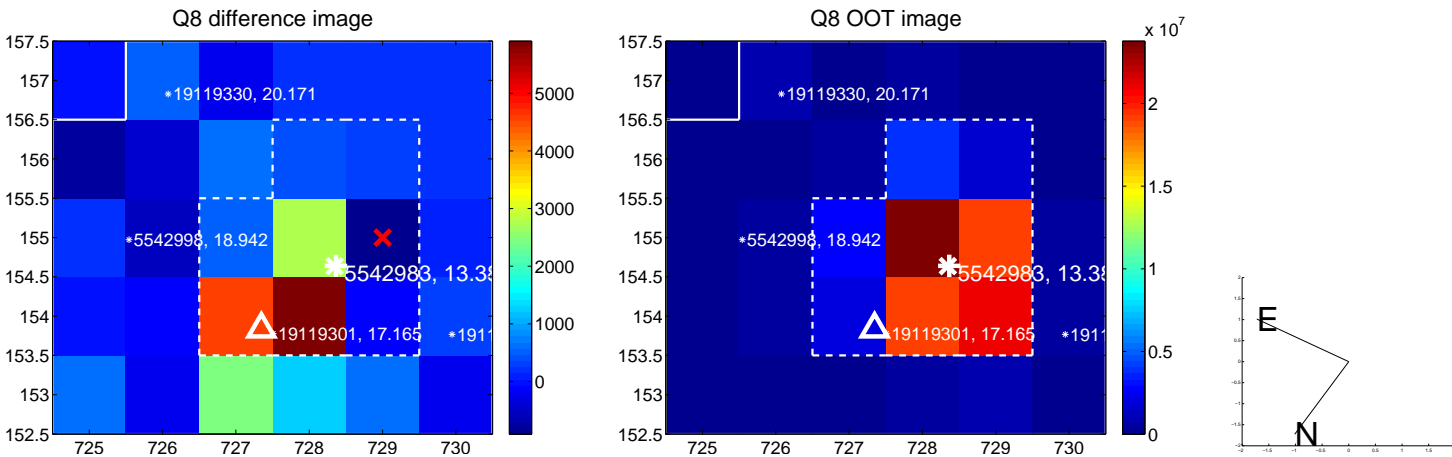
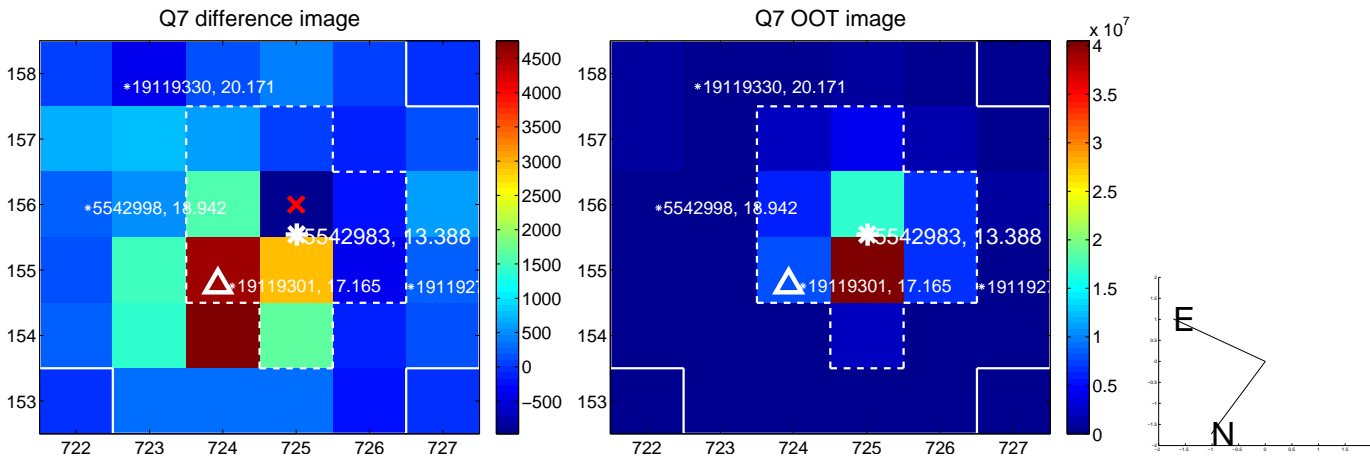
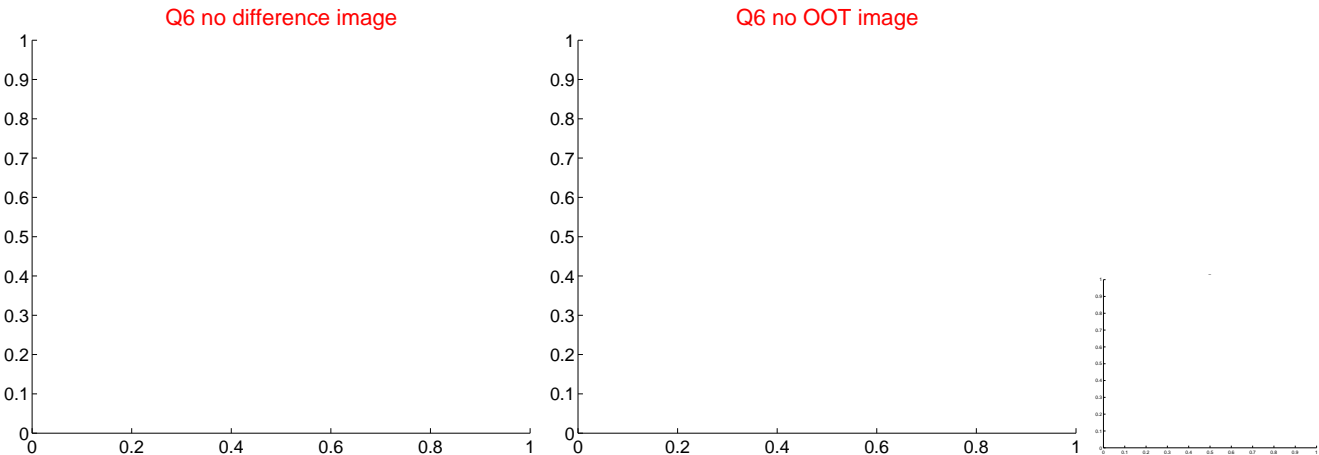
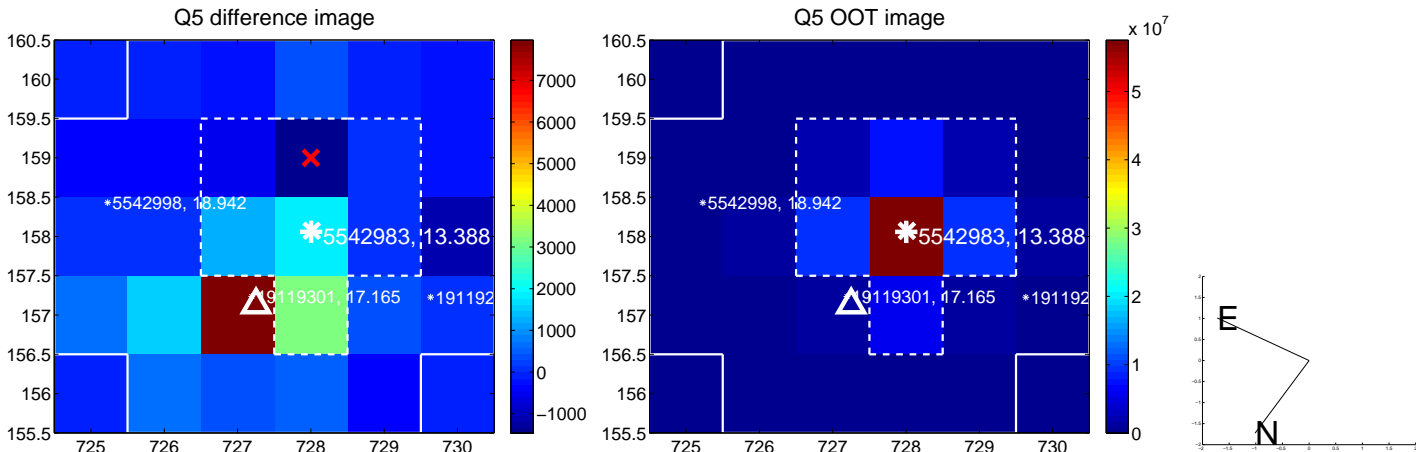


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

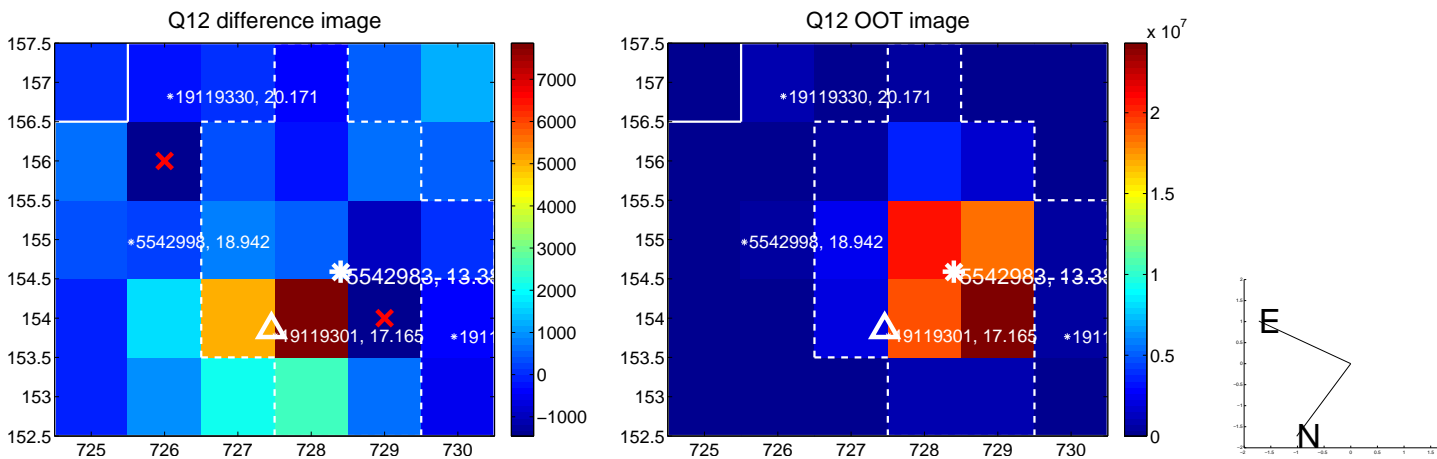
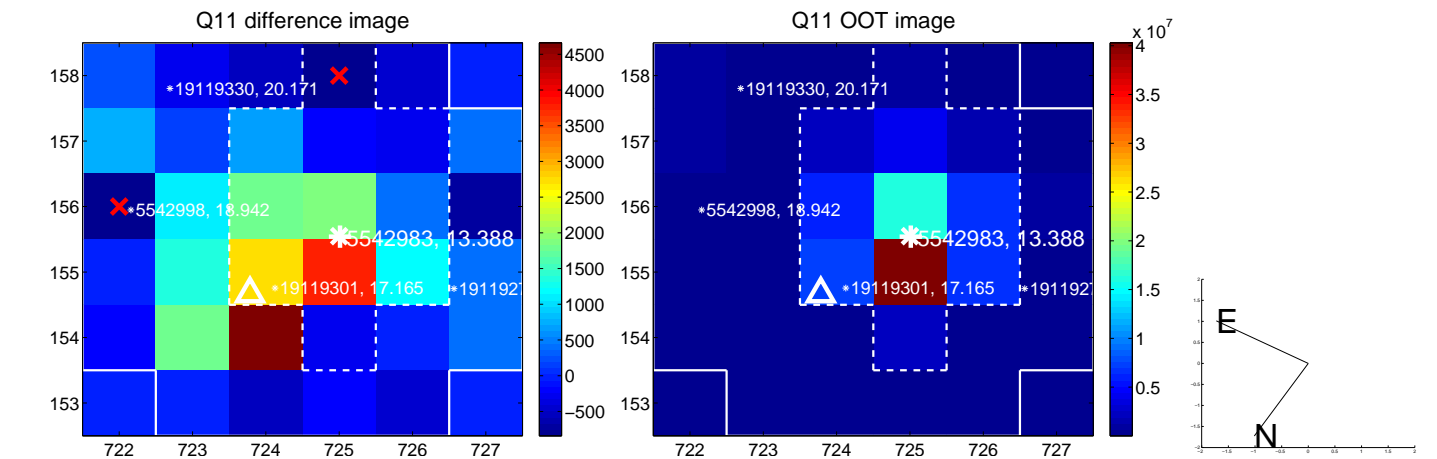
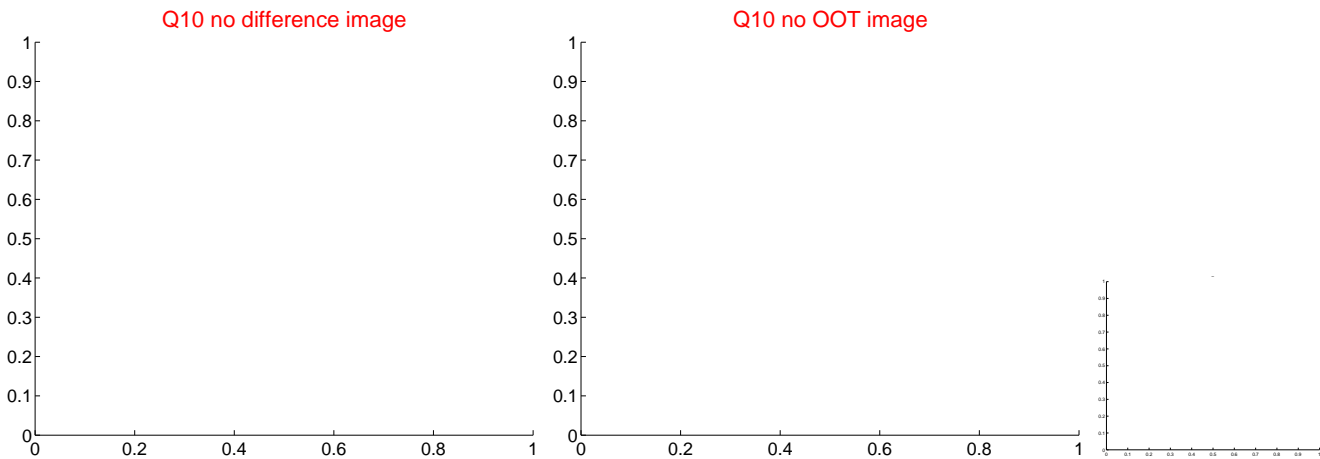
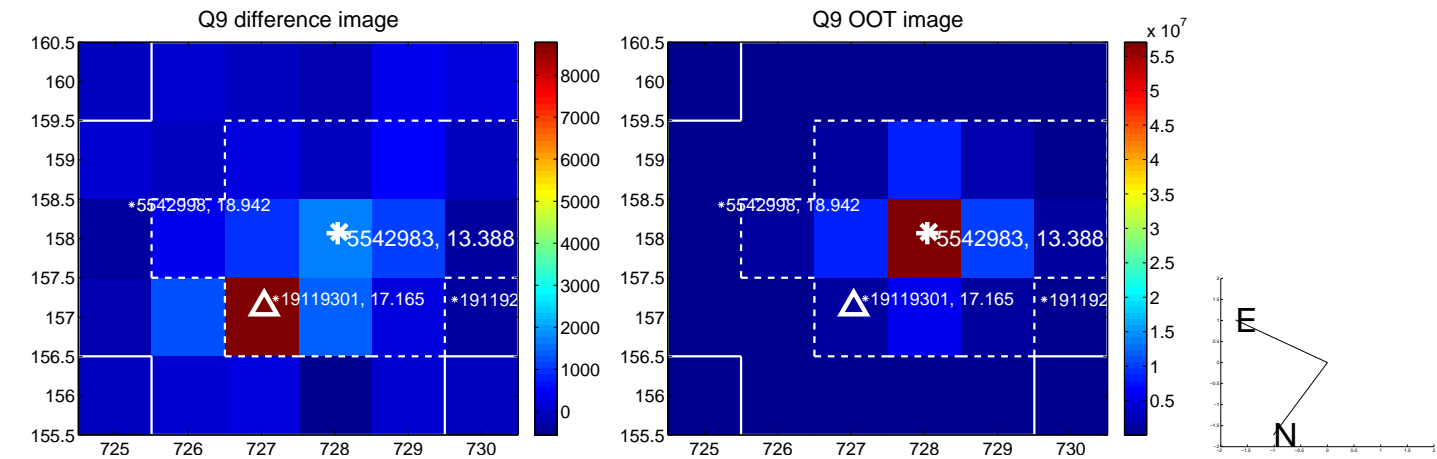
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



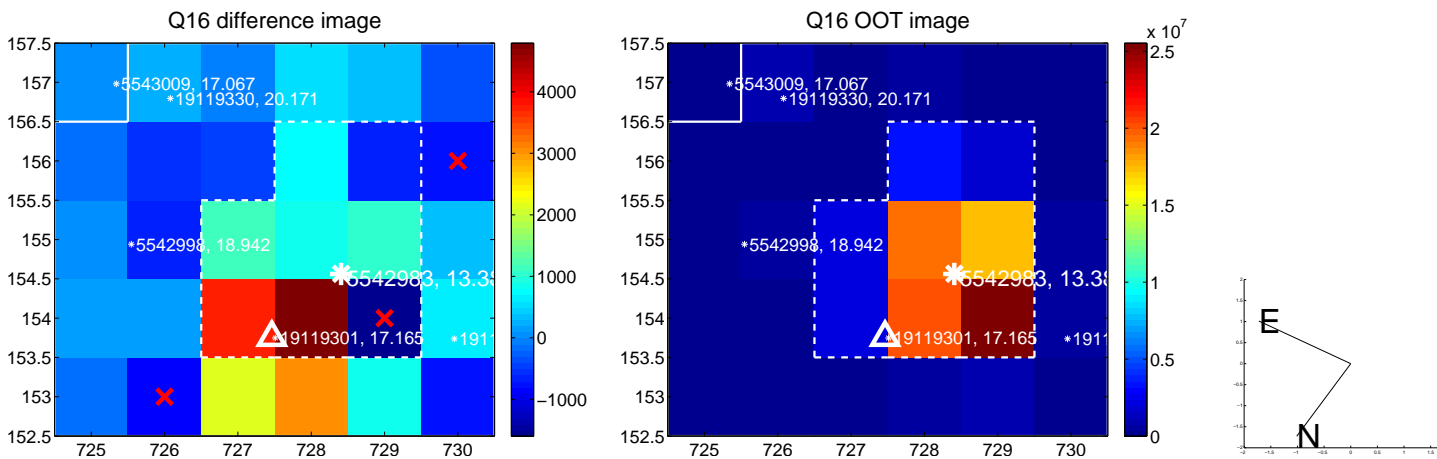
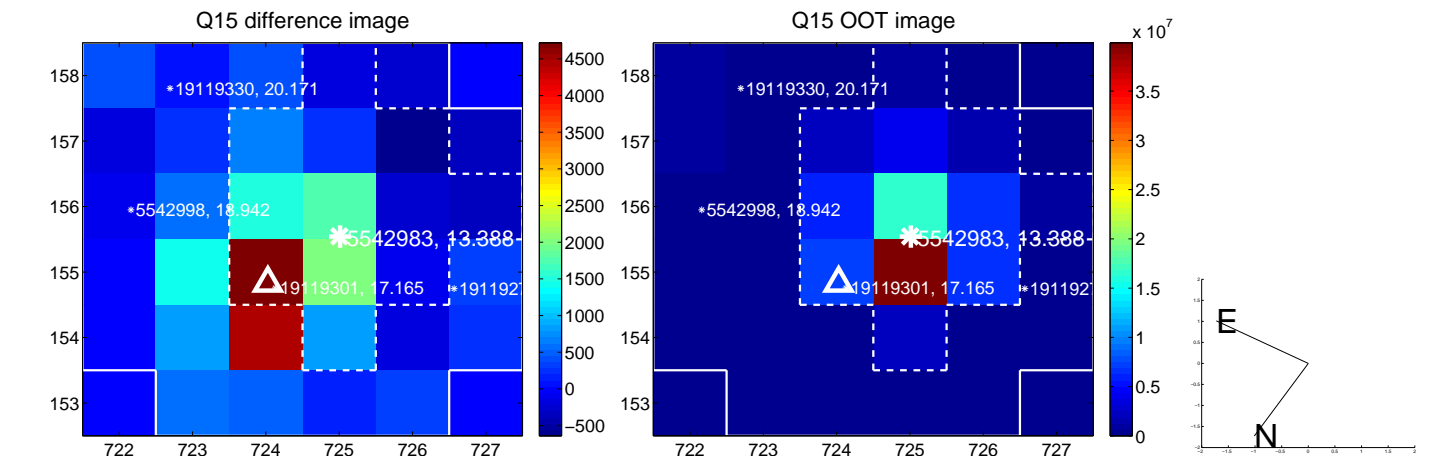
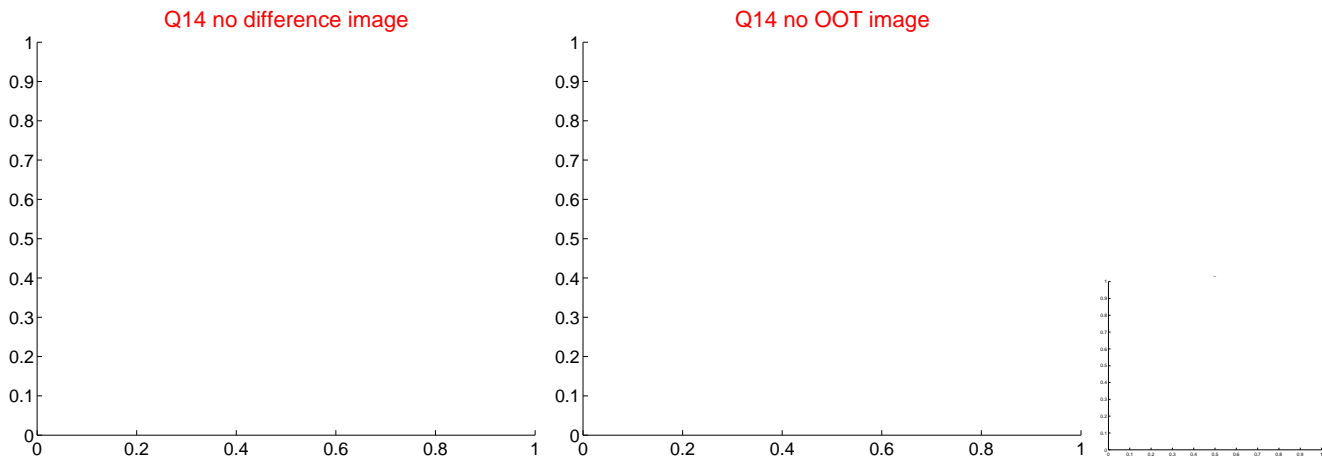
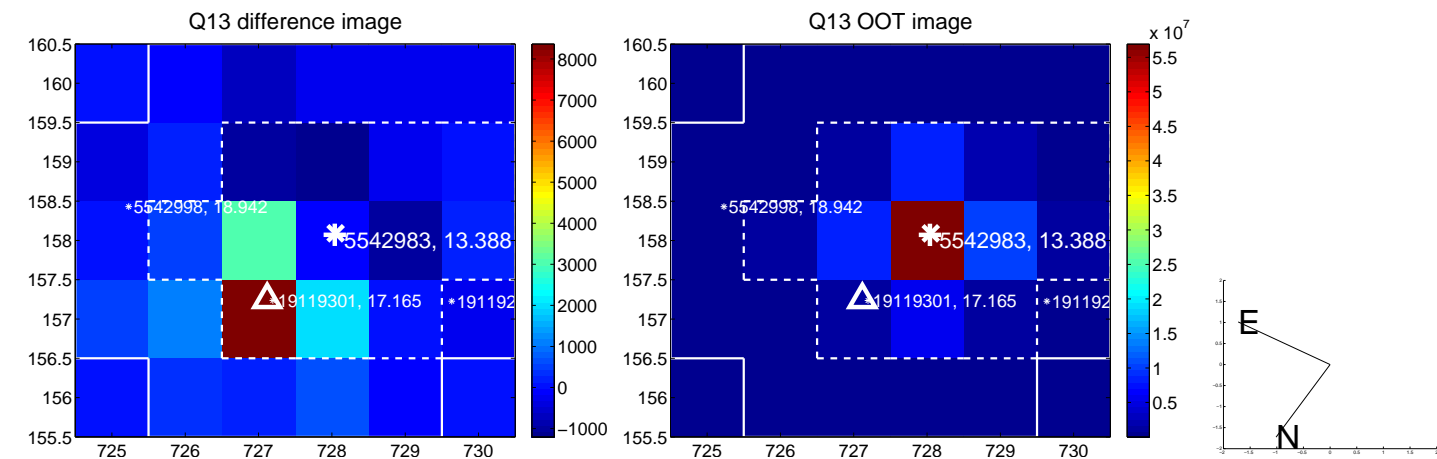
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

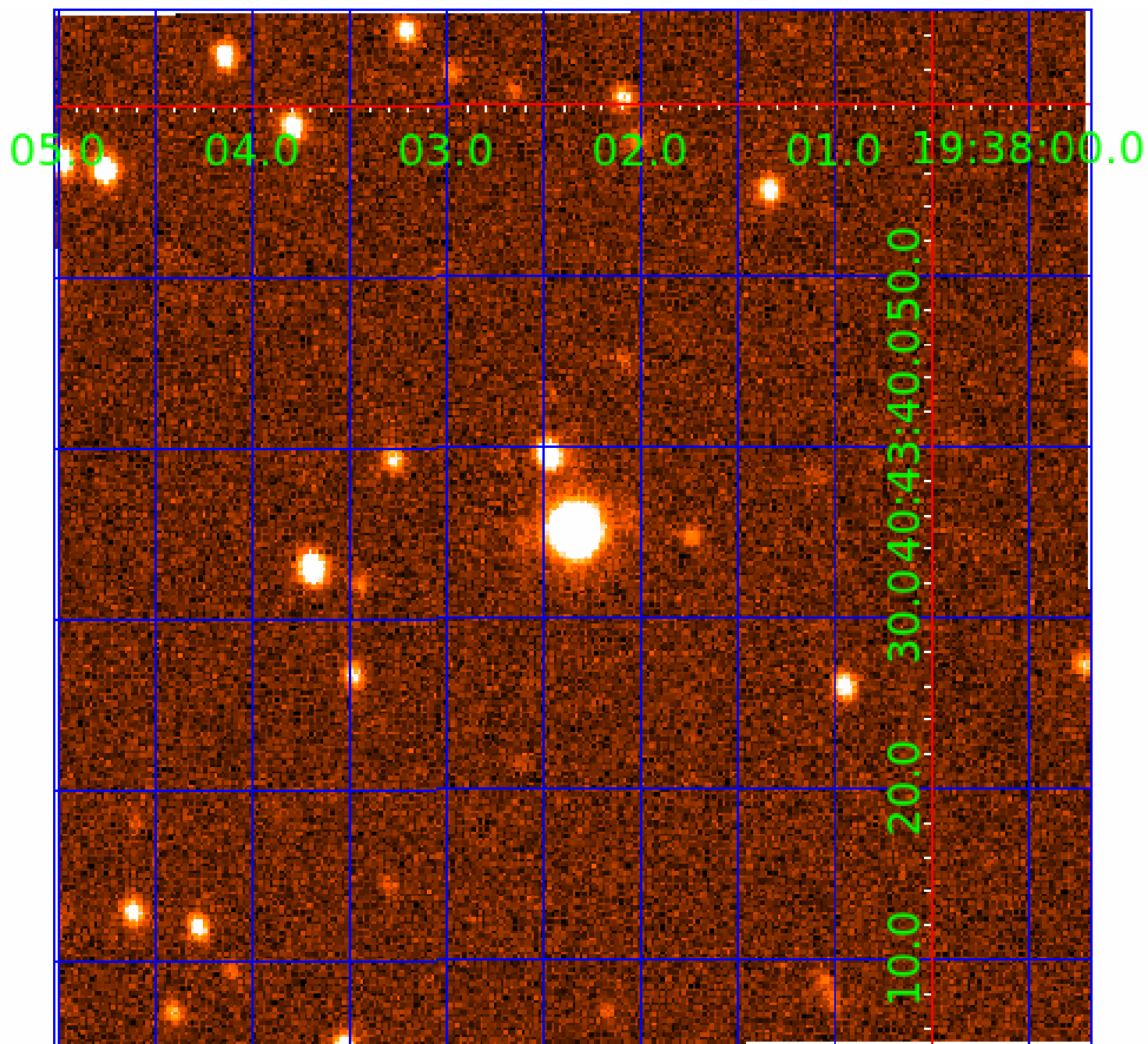


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005542983

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})
005542983-01	OBS	2501.01	4.768855	132.102721	115.5	1.565	16.1	18.7	1.85	6063	2.32	1304.13
005542983-02	OBS	No	4.768838	134.751165	54.1	1.579	8.3	9.0	1.85	6063	1.61	1304.14

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005542983-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_UNRESOLVED_OFFSET
005542983-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET

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

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

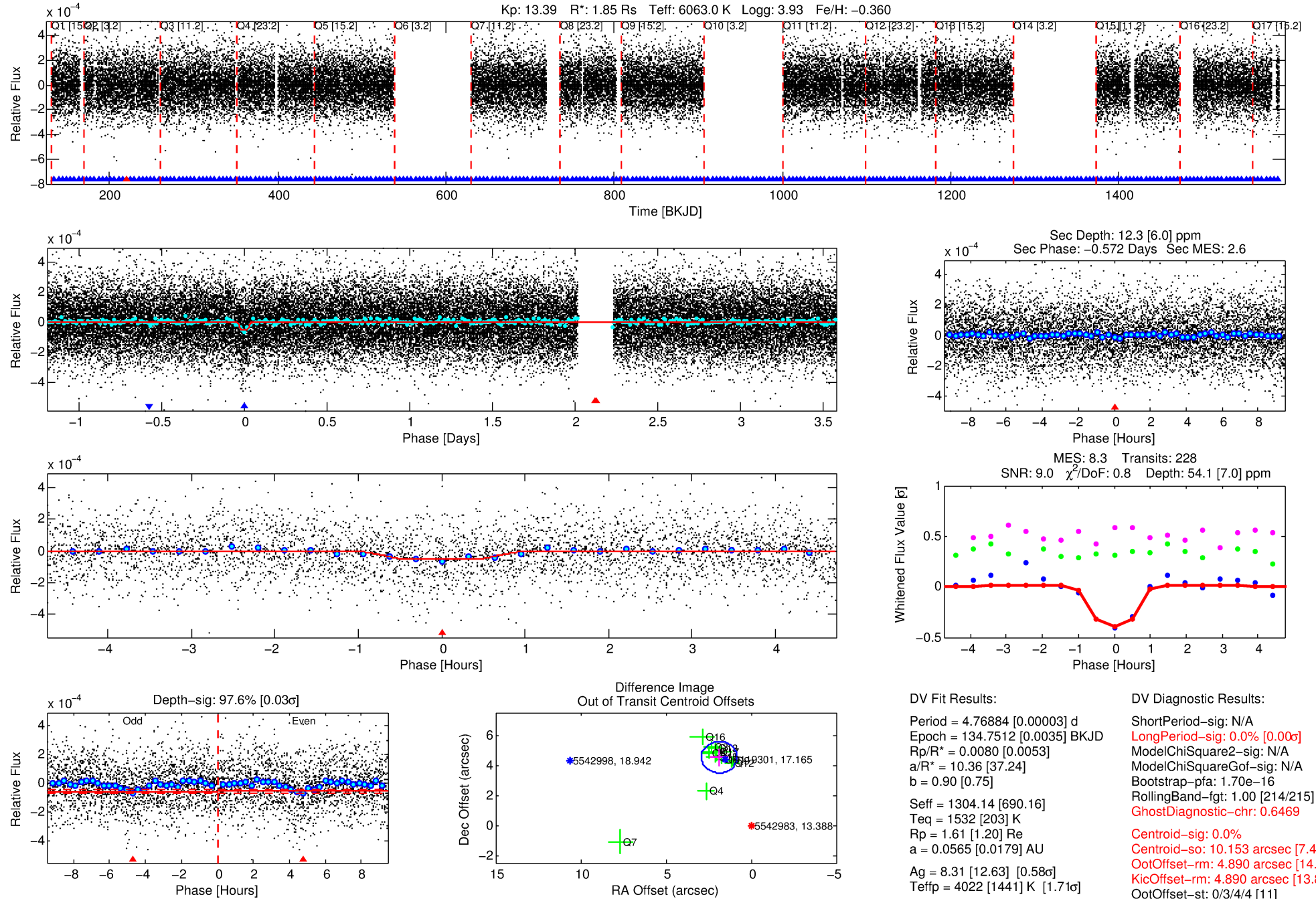
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005542983-02

No Significant Match Found

DV One-Page Summary

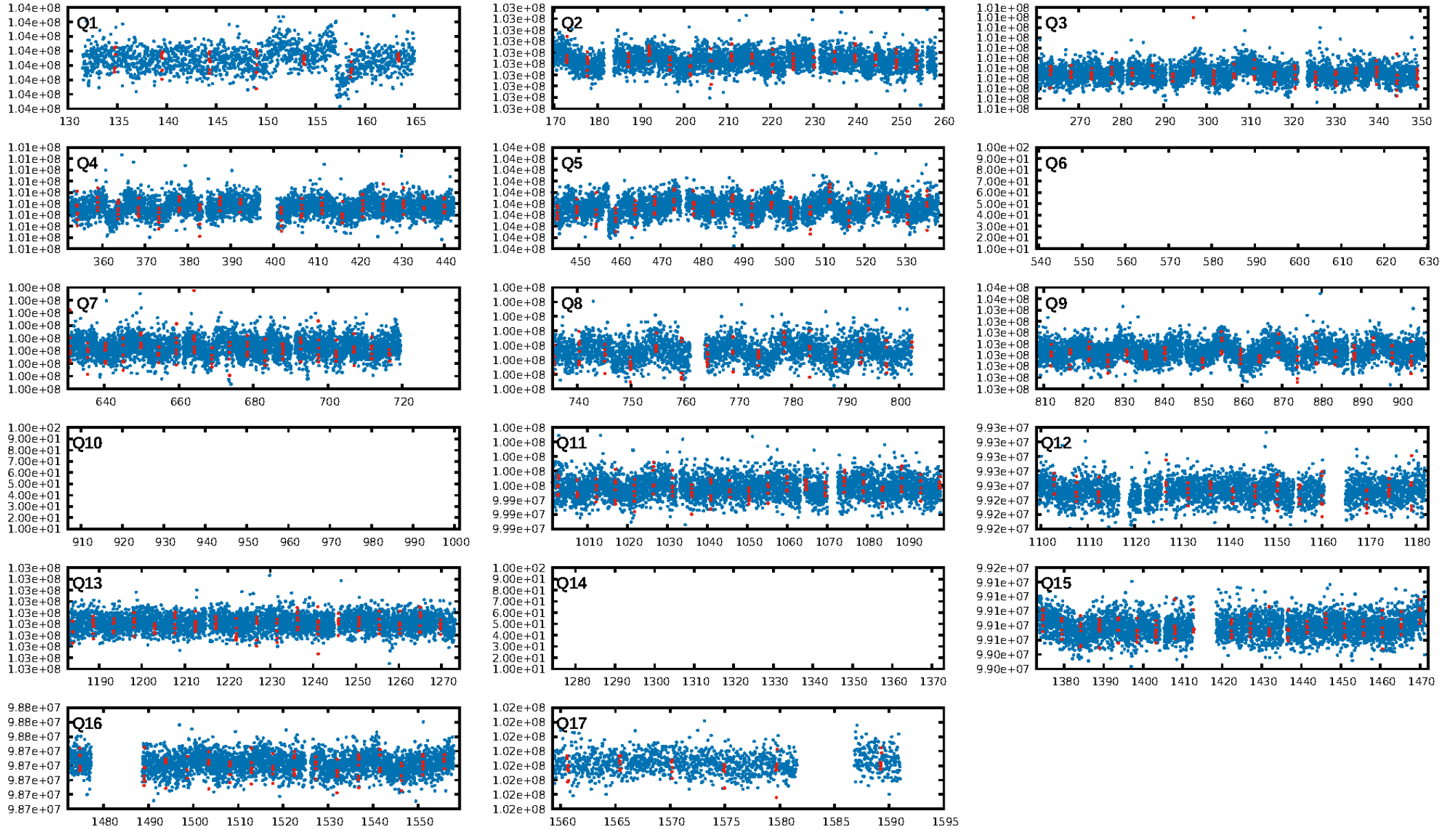
KIC: 5542983 Candidate: 2 of 2 Period: 4.769 d
KOI: K02501 Corr: No Ephemeris Match



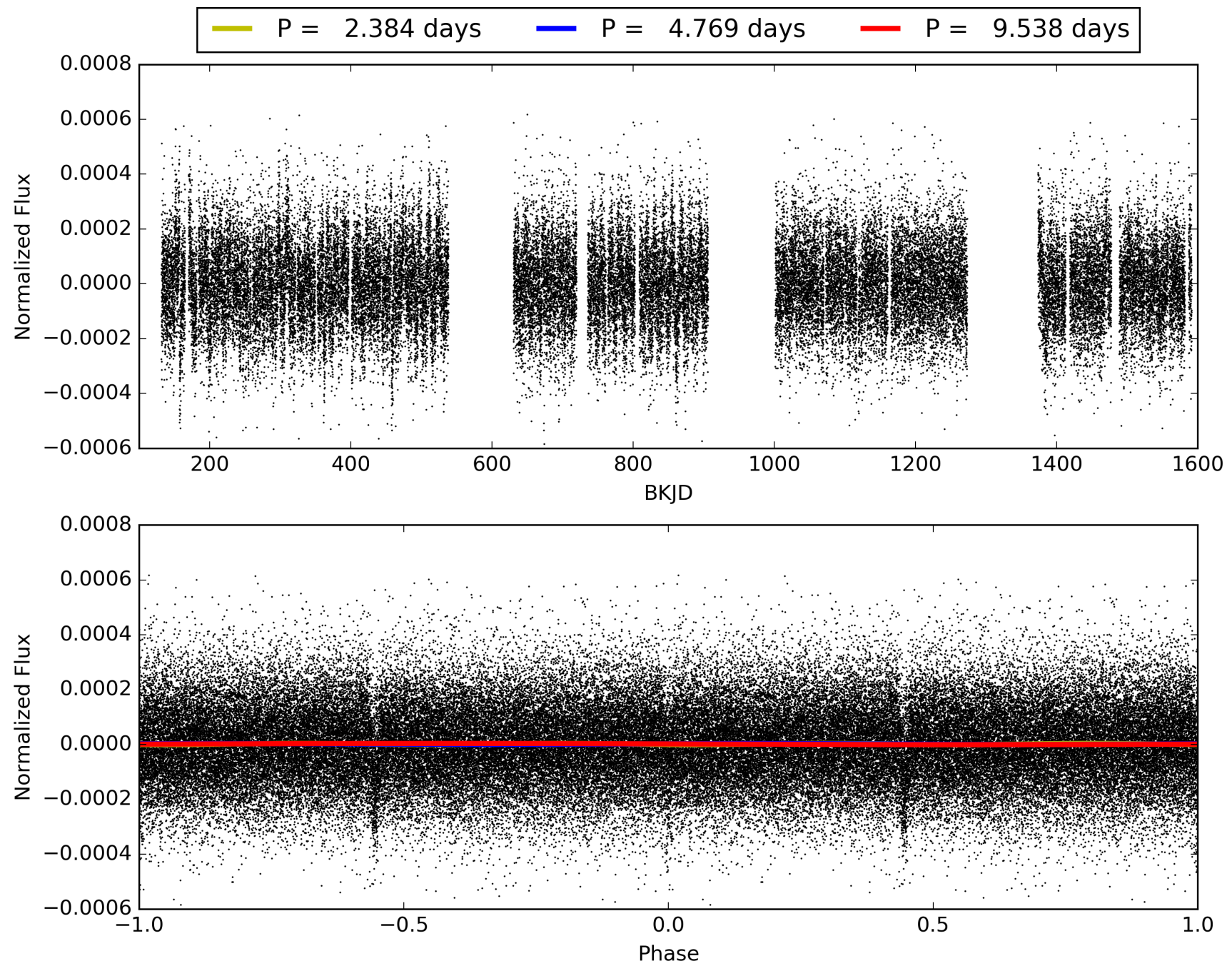
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:36:09 Z

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

TCE 005542983-02, PDC Light Curves

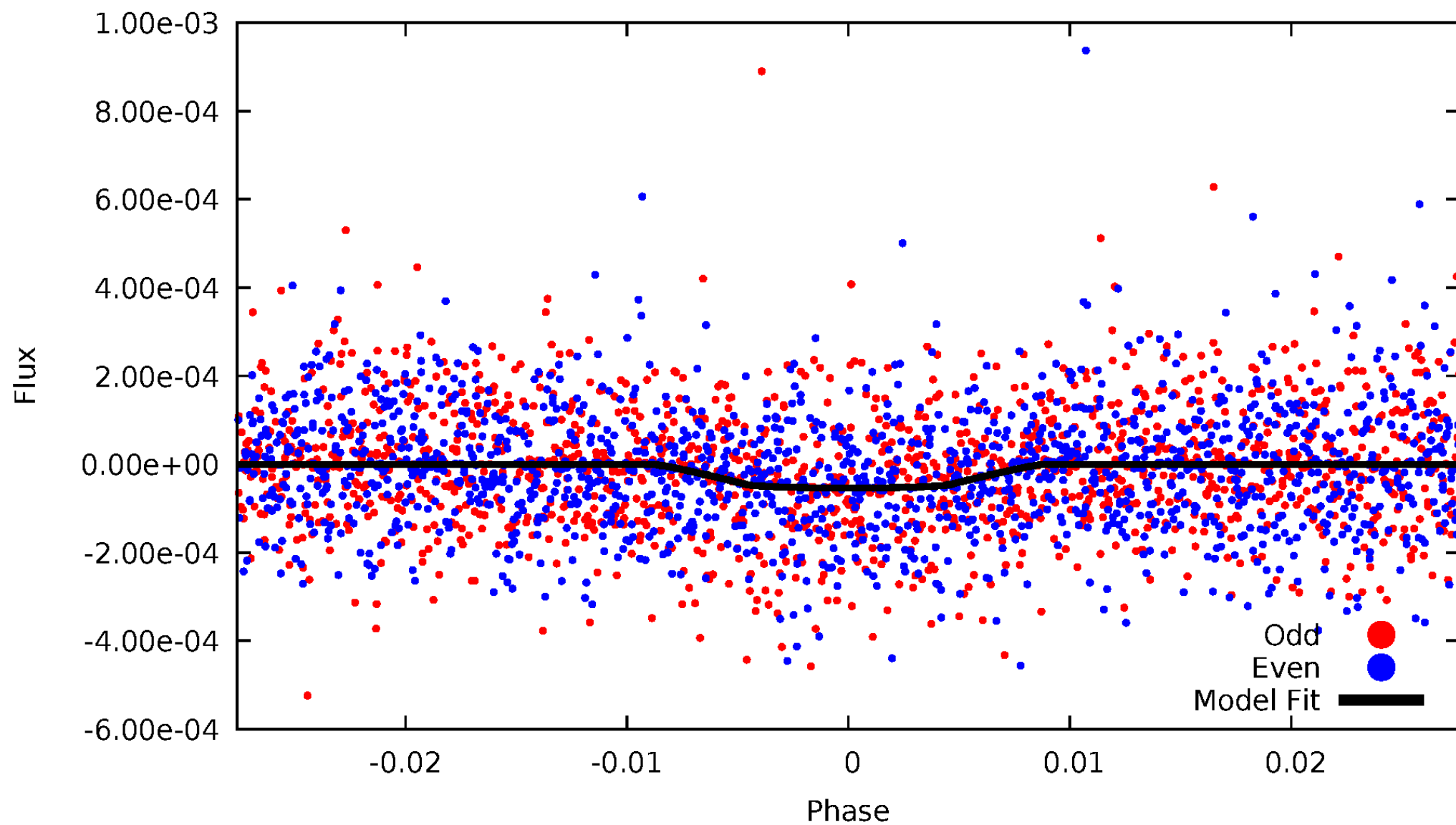


TCE 005542983-02



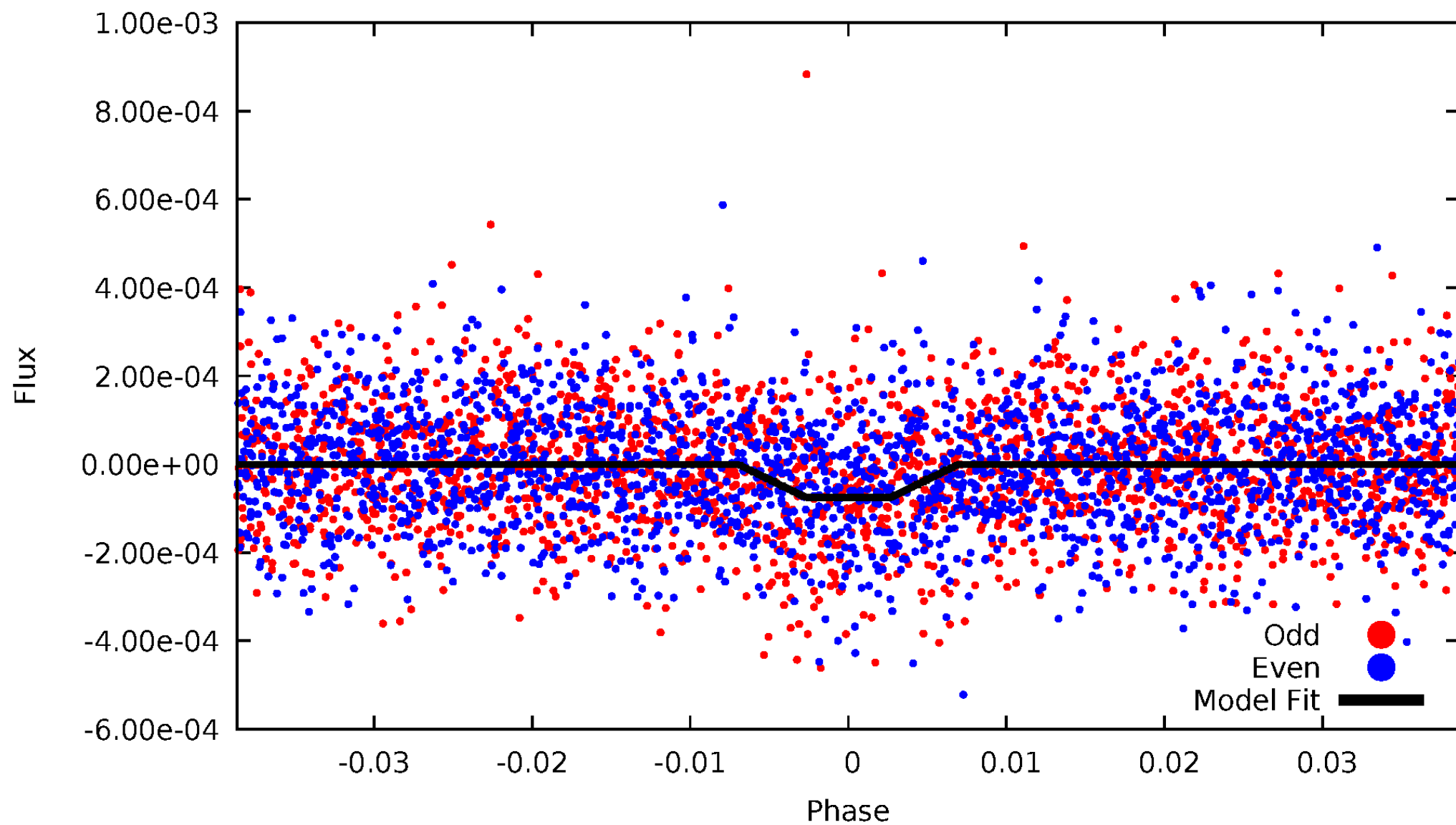
DV Odd/Even

TCE 005542983-02



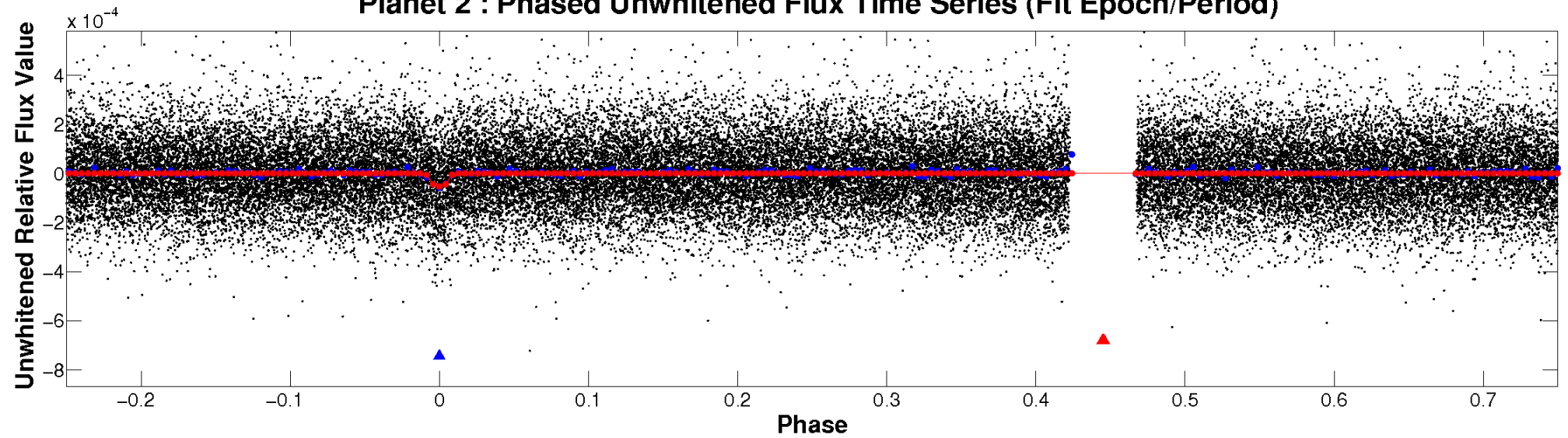
ALT Odd/Even

TCE 005542983-02

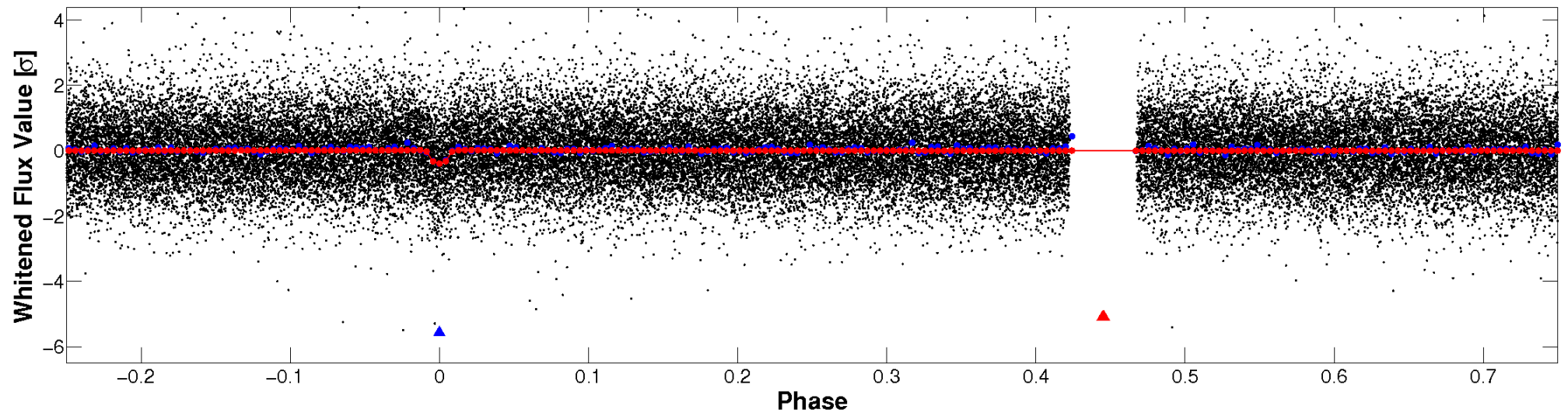


Non-Whitened Vs. Whitened Light Curve

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

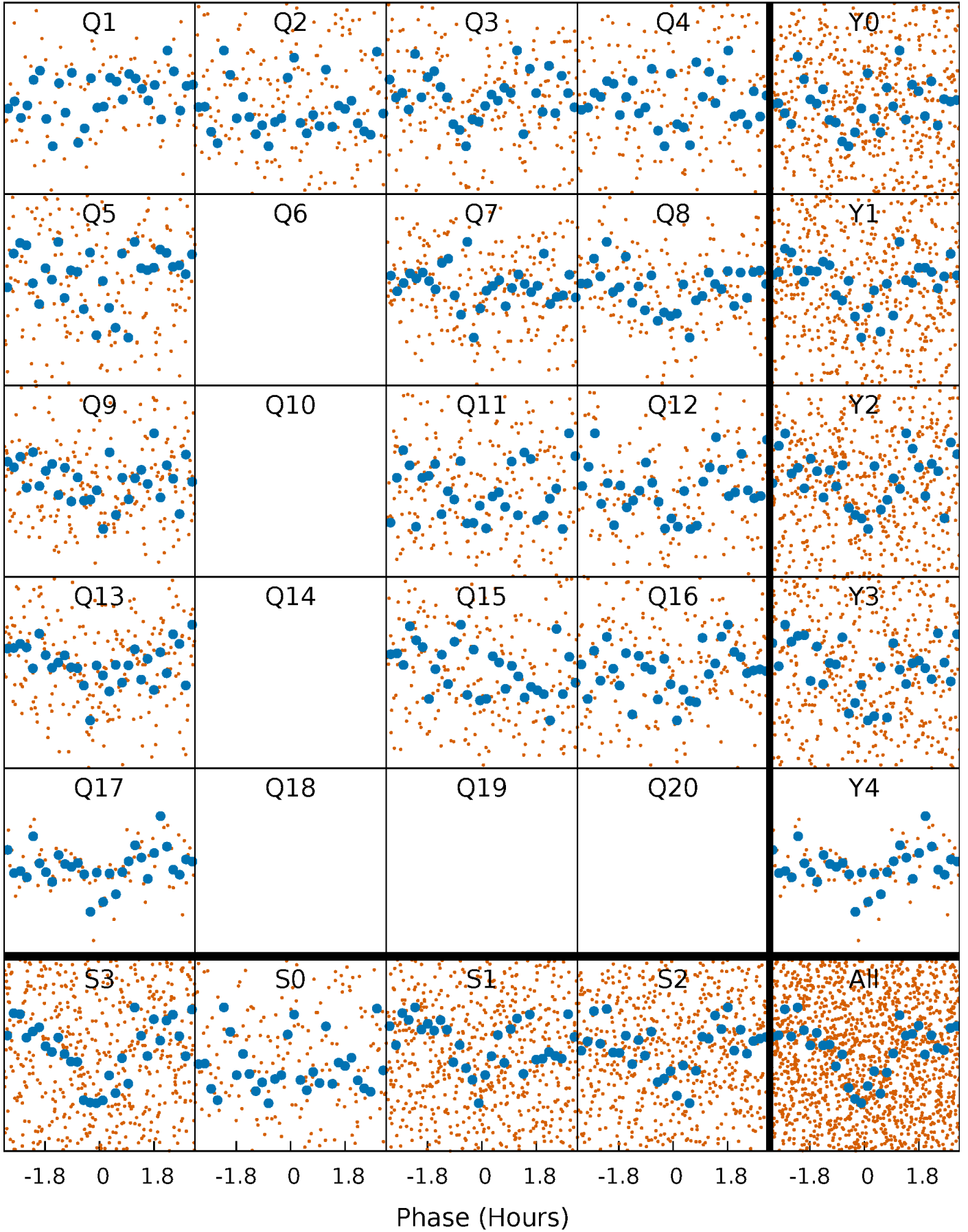


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



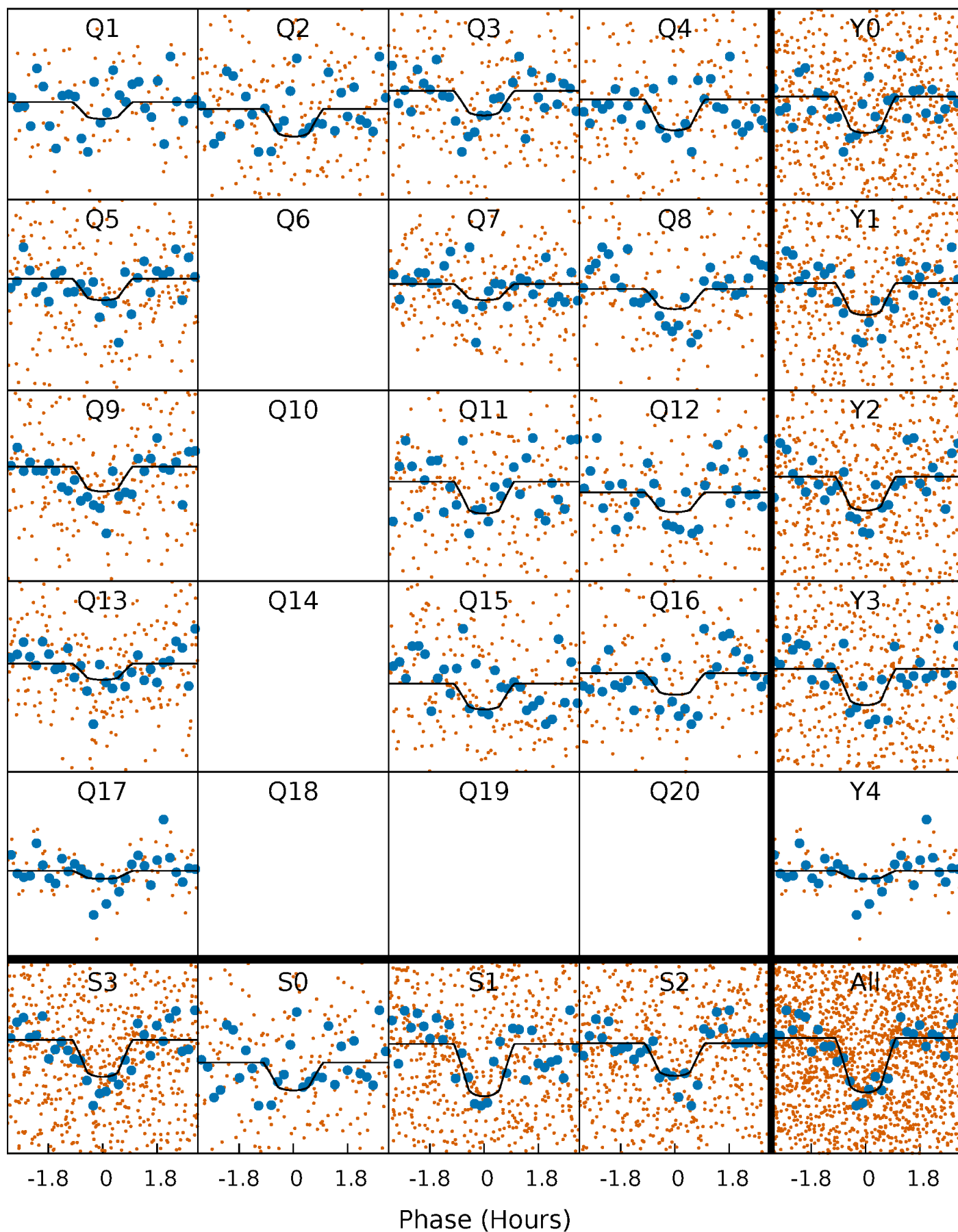
PDC Quarter-Phased Transit Curves

TCE 005542983-02 P= 4.768838 Days $T_0=134.751165$ (BKJD)



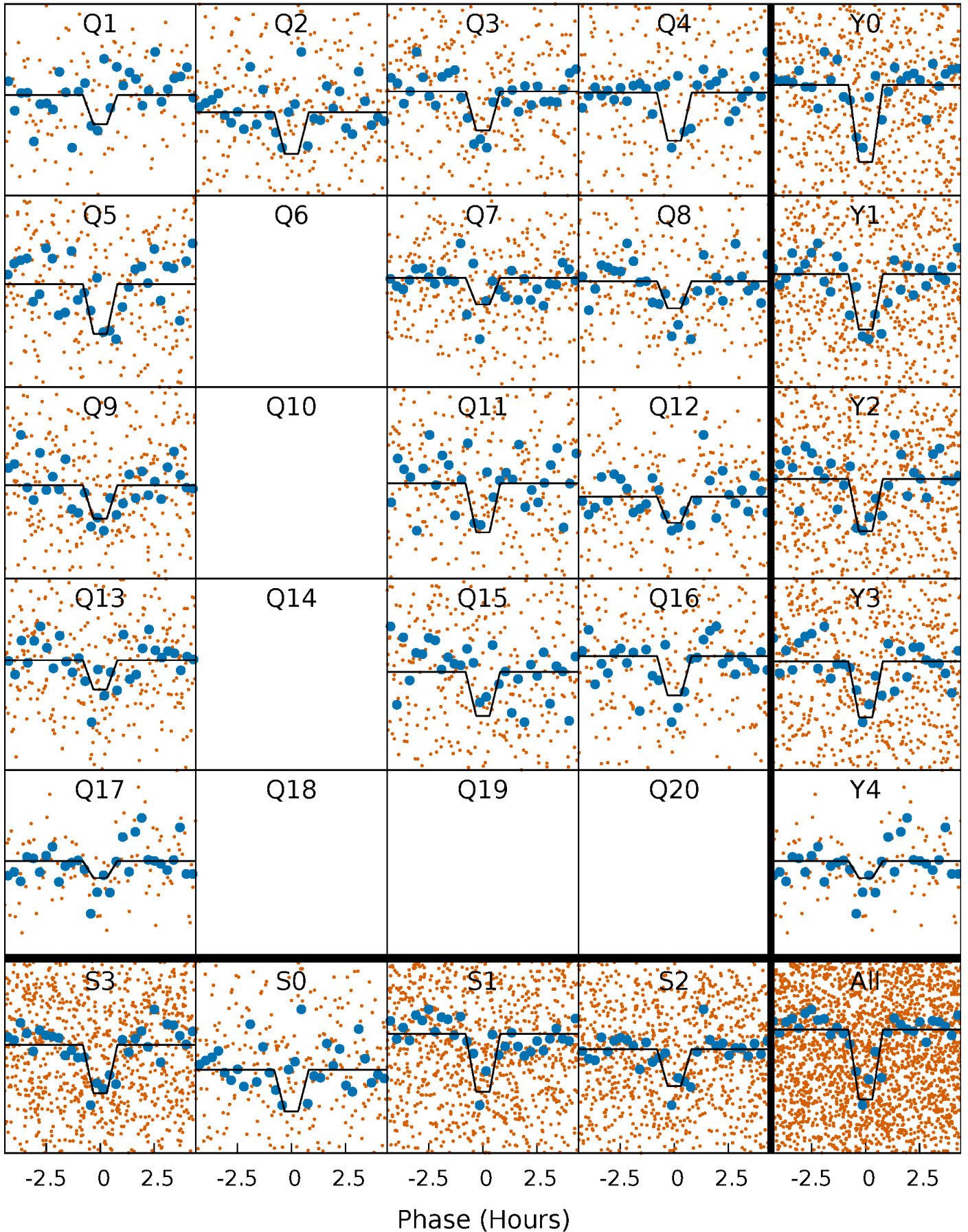
DV Quarter-Phased Transit Curves

TCE 005542983-02 P= 4.768838 Days $T_0=134.751165$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

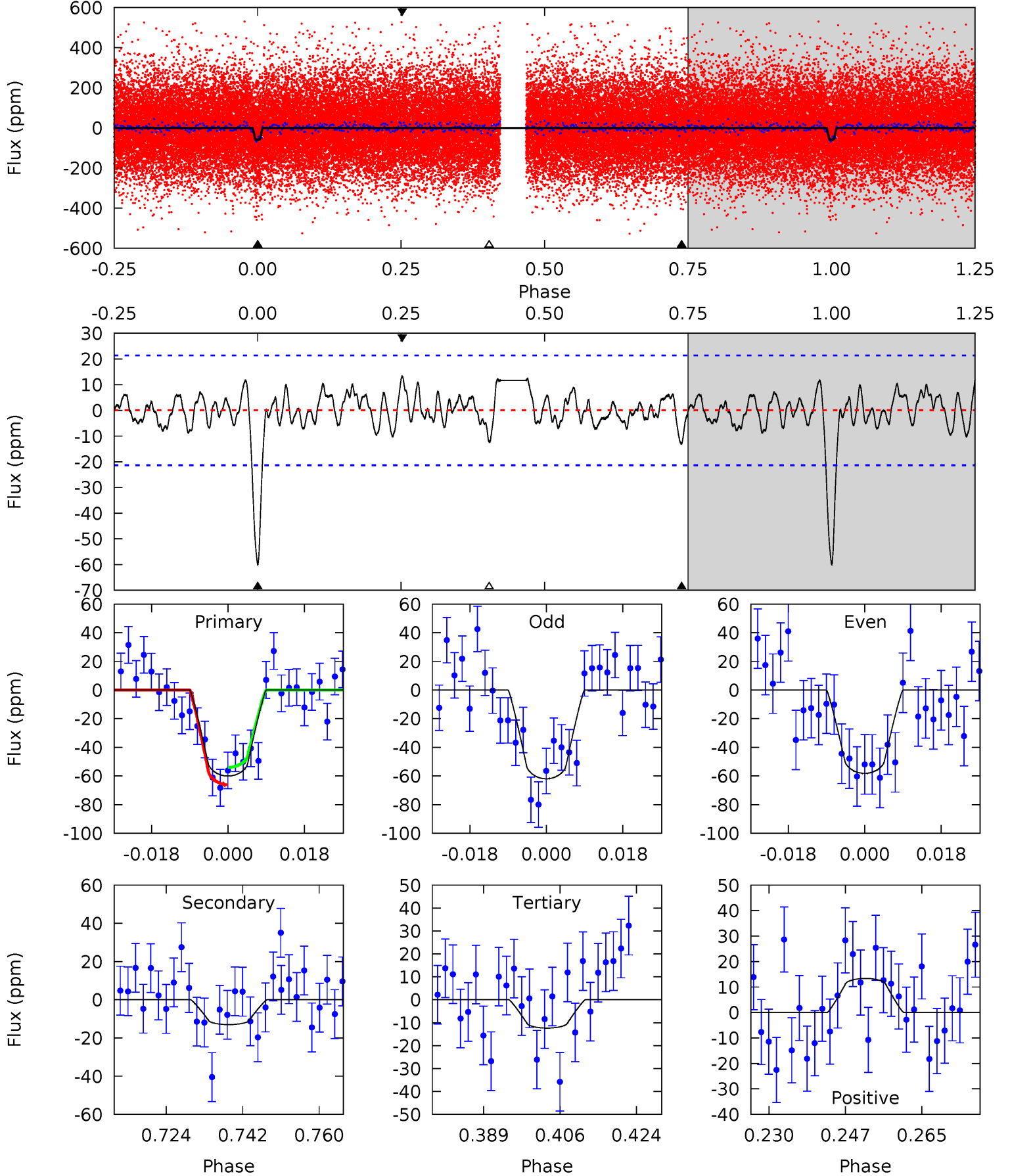
TCE 005542983-02 $P = 4.768908$ Days $T_0 = 134.737340$ (BKJD)



DV Model-Shift Uniqueness Test

005542983-02, P = 4.768838 Days, E = 129.982327 Days

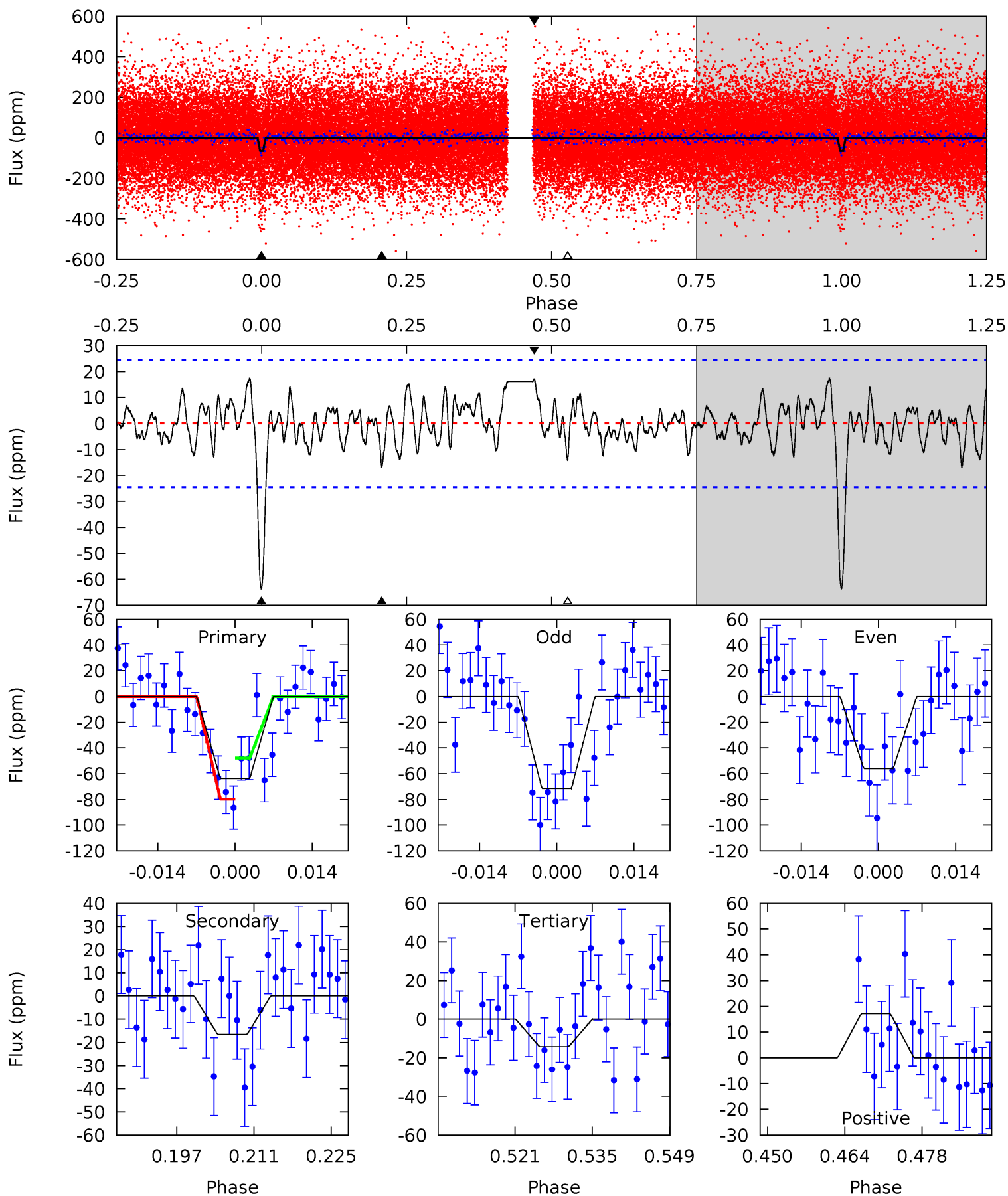
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.8	2.99	2.84	3.08	4.92	2.37	1.13	11.0	10.7	0.15	-0.08	0.44	1.01	0.18	1.40



Alt Model-Shift Uniqueness Test

005542983-02, P = 4.768908 Days, E = 129.968432 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	3.35	2.86	3.45	4.96	2.46	1.26	10.0	9.42	0.49	-0.10	1.57	0.97	0.21	3.22



Stellar Parameters For KIC 005542983

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6063^{+163}_{-163}	$3.926^{+0.308}_{-0.103}$	$-0.360^{+0.350}_{-0.250}$	$1.855^{+0.344}_{-0.590}$	$1.058^{+0.176}_{-0.176}$	$0.234^{+0.429}_{-0.083}$
	+3%/-3%	+8%/-3%	+97%/-69%	+19%/-32%	+17%/-17%	+184%/-35%
Source	PHO1	FLK73	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 005542983-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-13 ± 4	$1.63^{+1.09}_{-0.85}$	2096^{+132}_{-171}	4154^{+1555}_{-705}	$8.272^{+30.838}_{-5.461}$
Alt.	-17 ± 5	$1.69^{+1.10}_{-0.92}$	2117^{+125}_{-184}	4310^{+1736}_{-748}	$9.986^{+35.570}_{-6.711}$

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 $A_{obs} \gg 1.0$

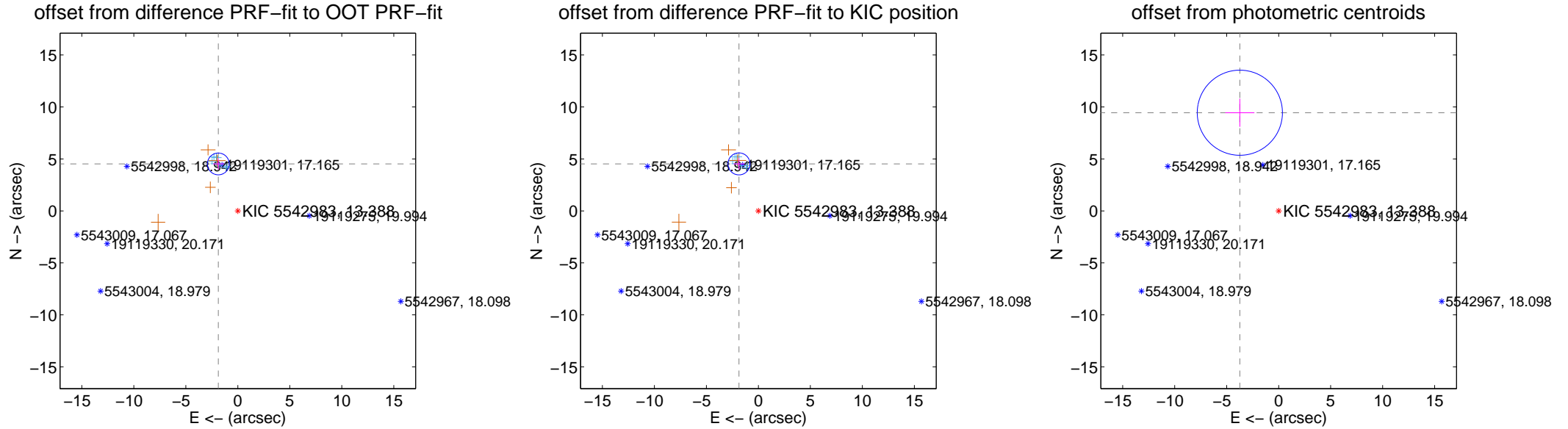
DV Centroid Data

Supplemental centroid analysis for 005542983-02. Kepler magnitude: 13.39. Transit SNR 9.04

There are 7 quarters with good PRF difference image offsets

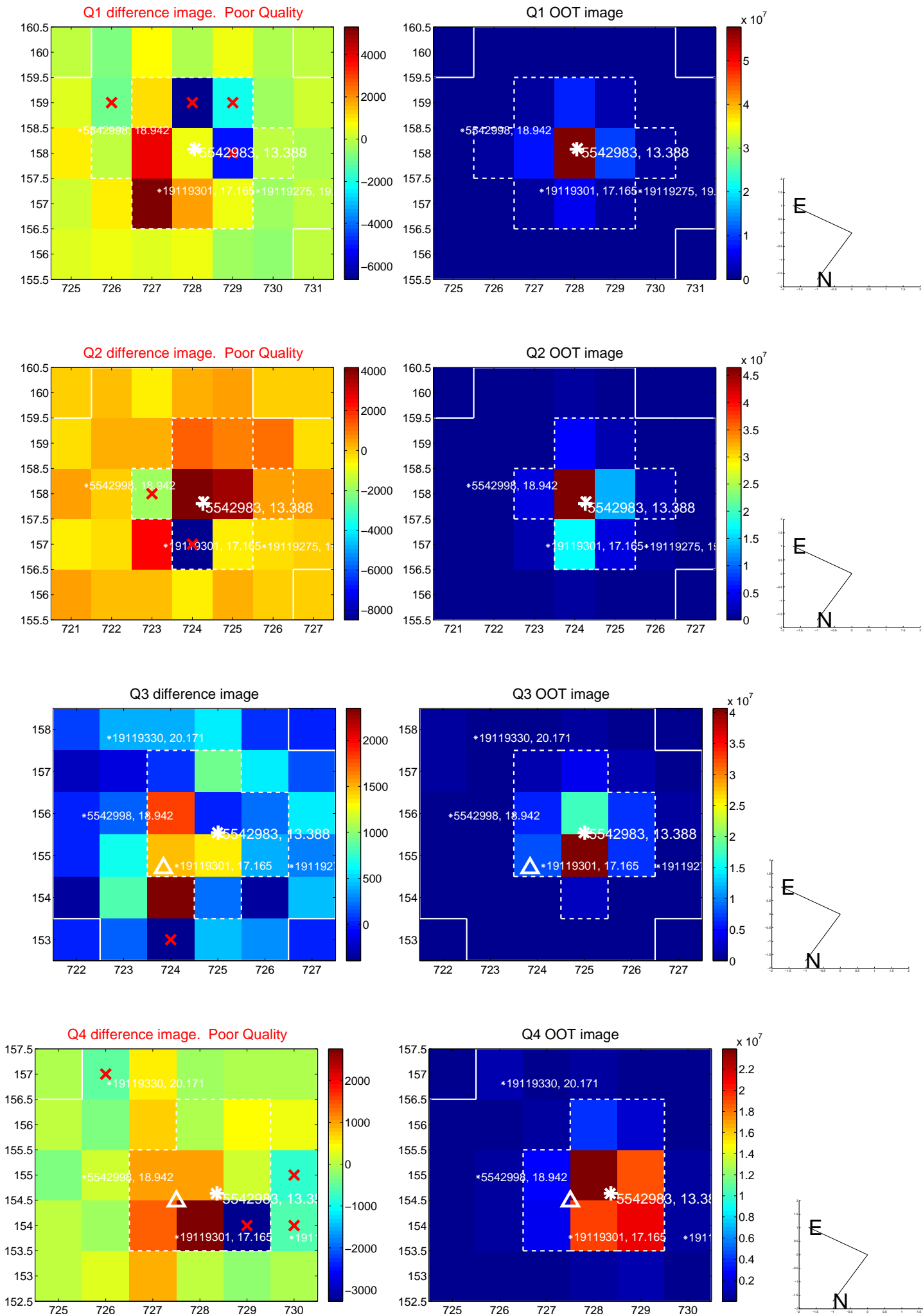
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.890 ± 0.349	14.00	1.874 ± 0.501	4.516 ± 0.524
PRF-fit source offset from KIC position	4.890 ± 0.352	13.87	1.866 ± 0.519	4.520 ± 0.525
photometric centroid source offset	10.15 ± 1.36	7.44	3.73 ± 1.40	9.44 ± 1.36

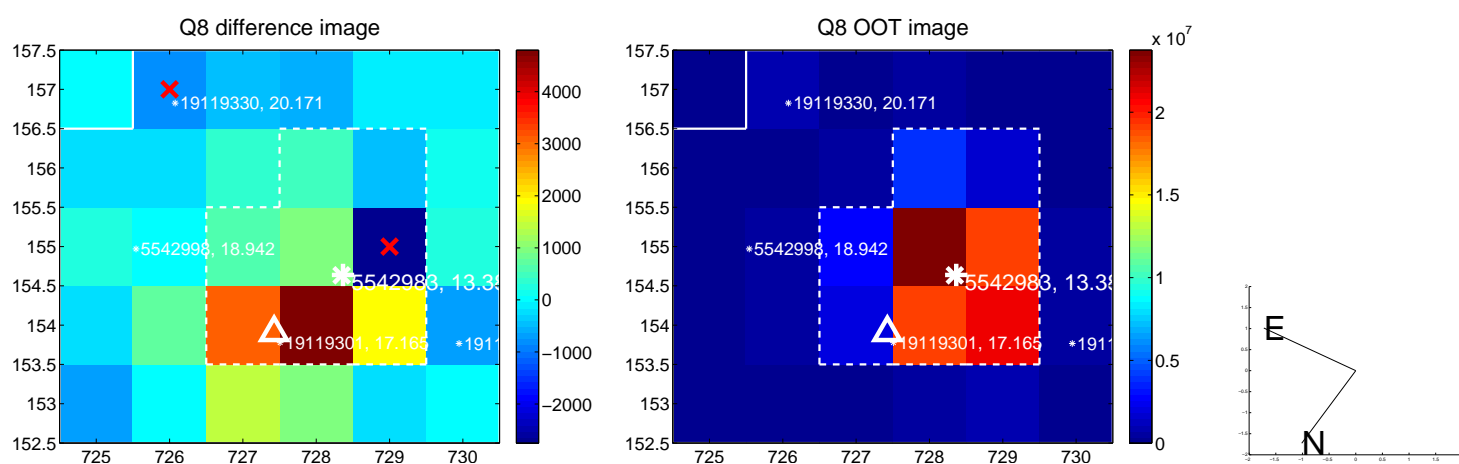
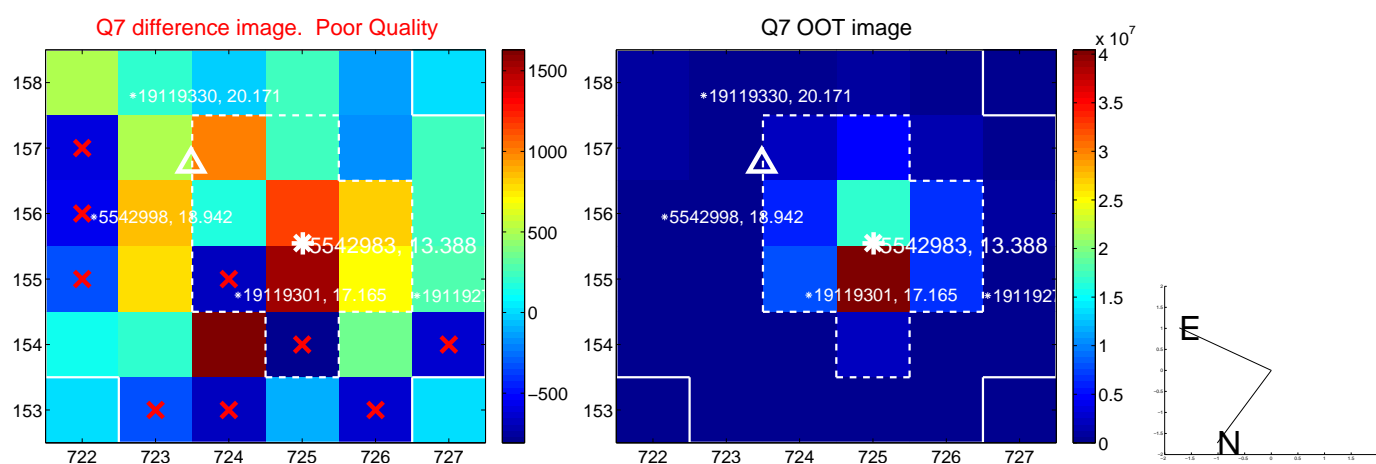
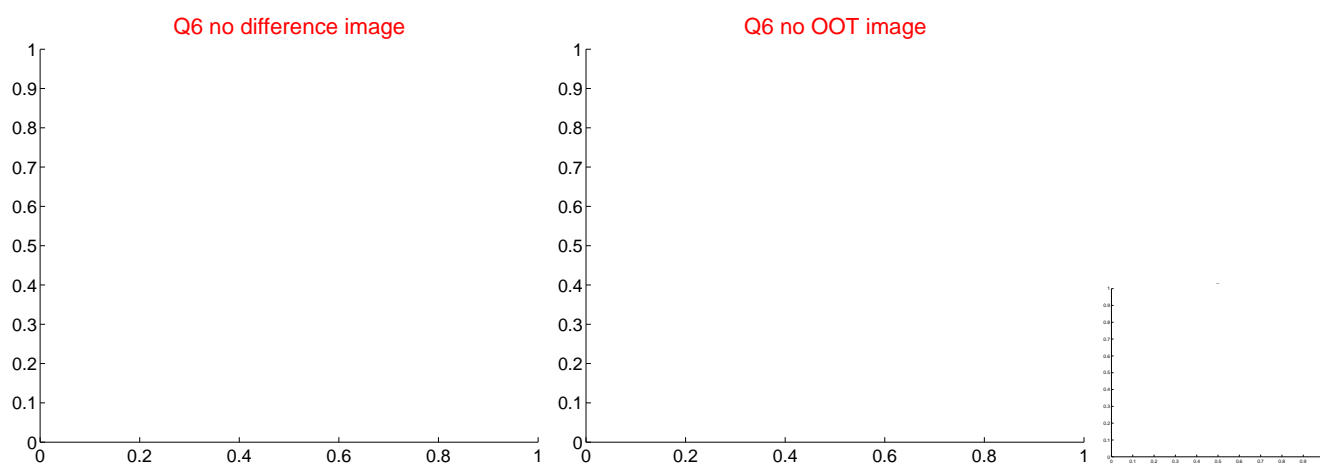
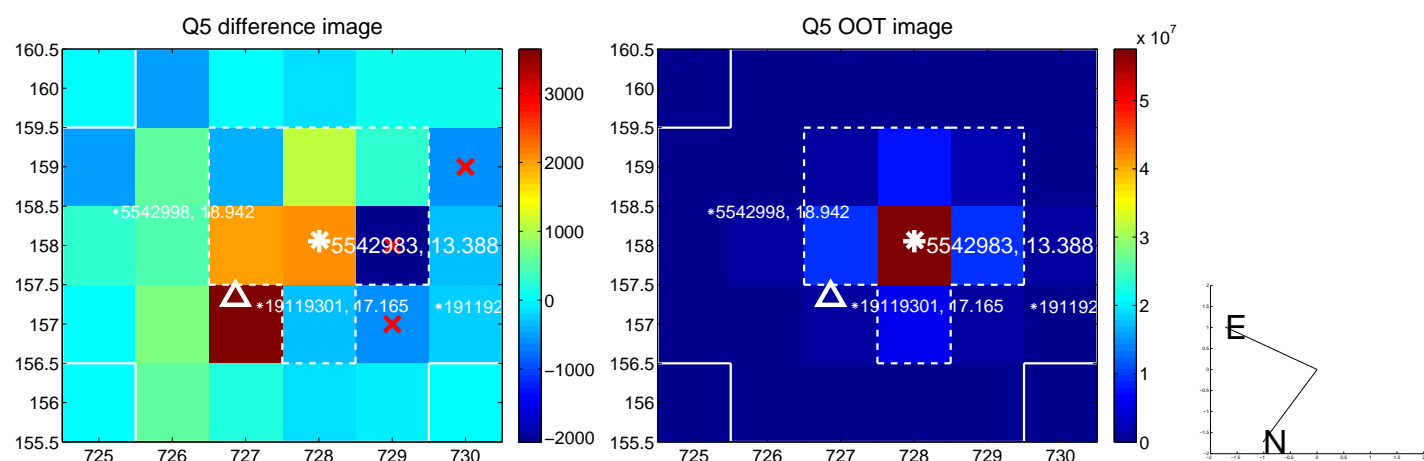


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

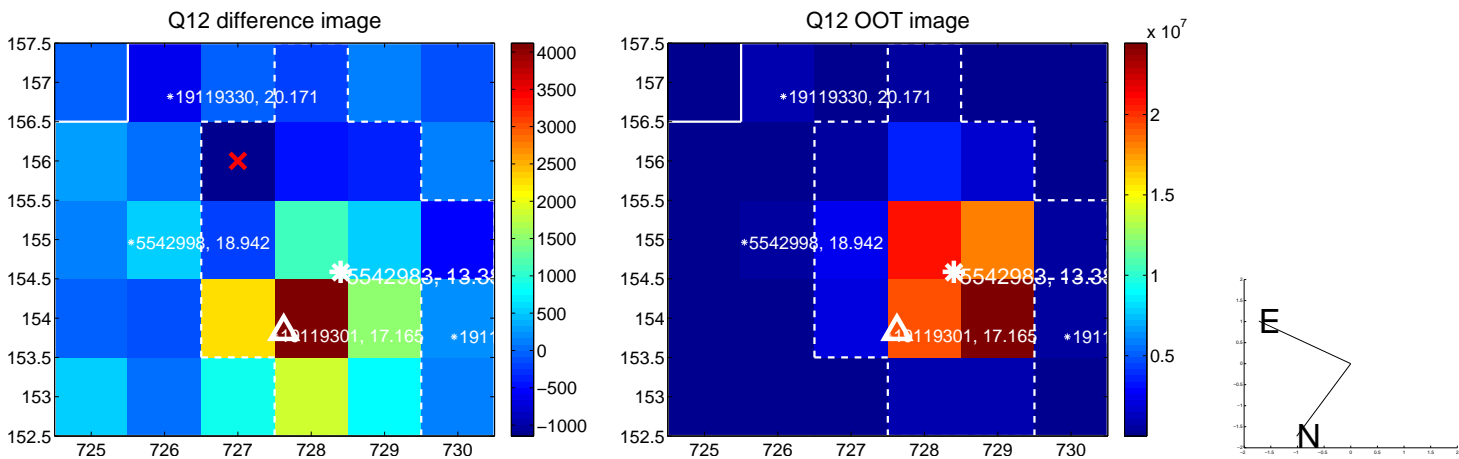
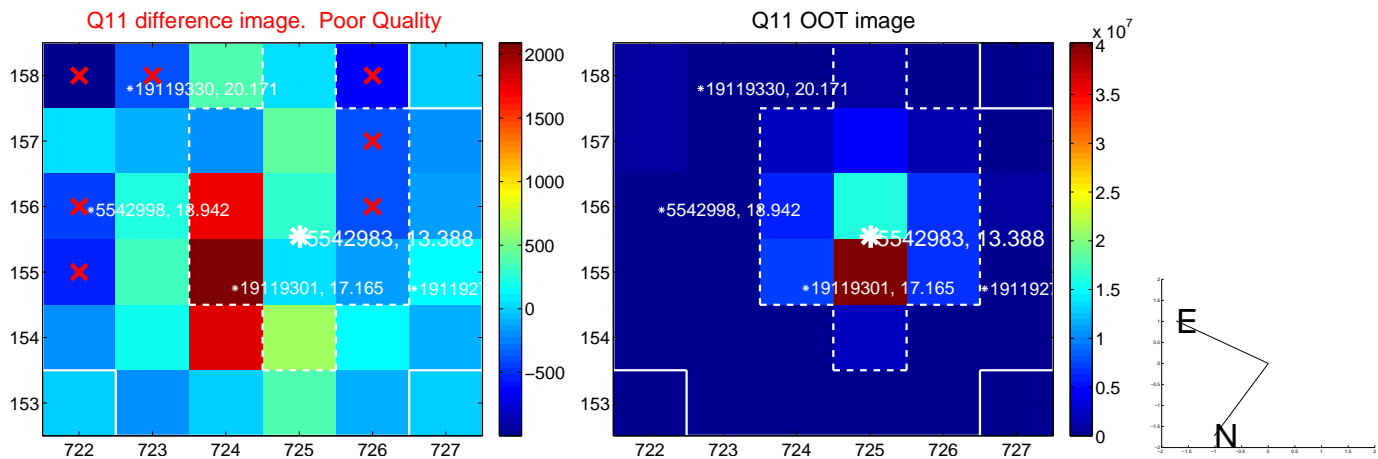
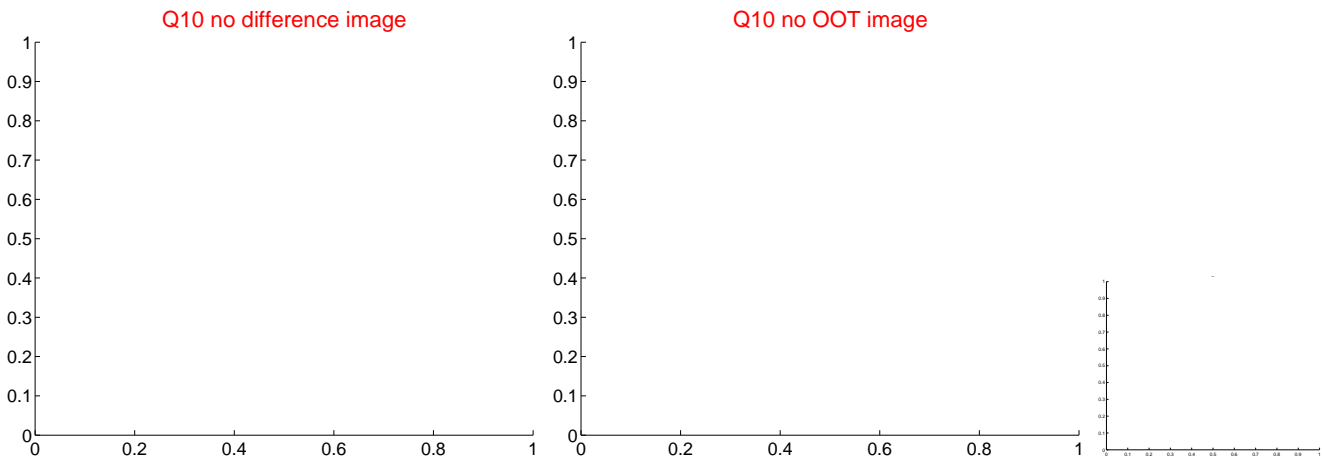
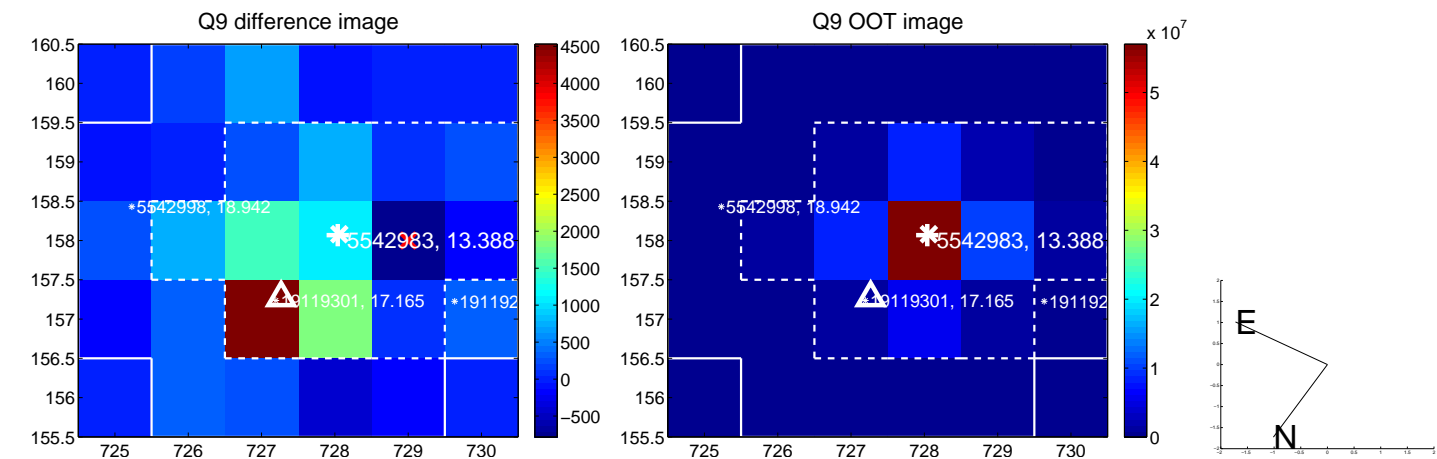
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



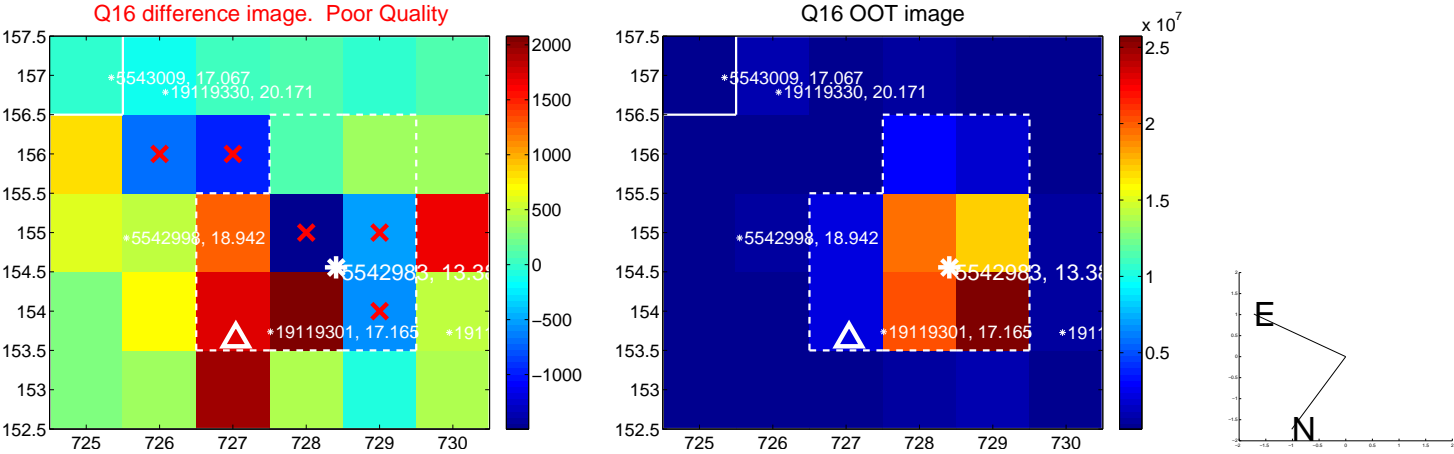
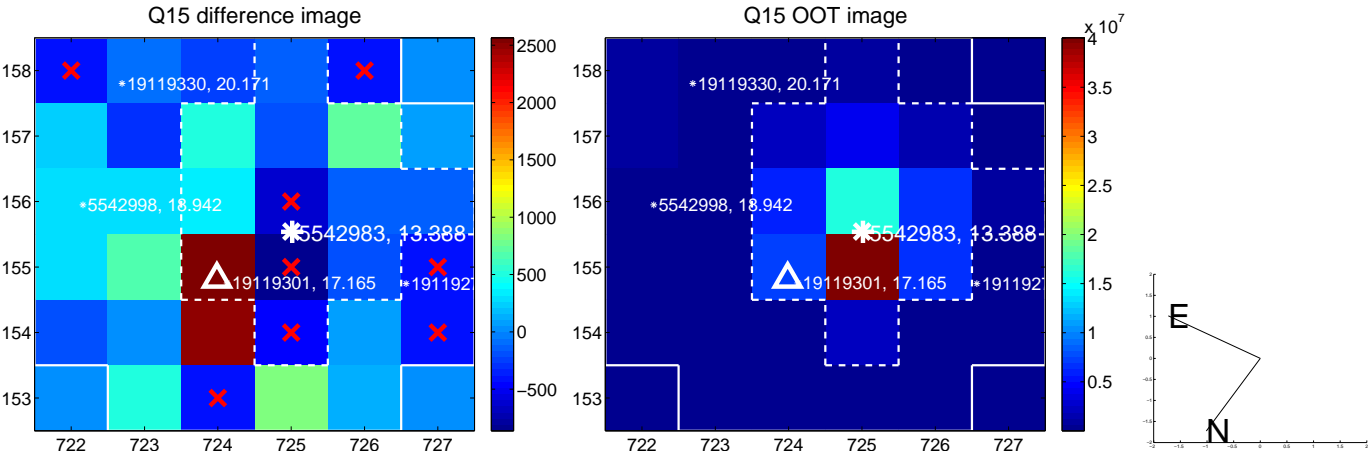
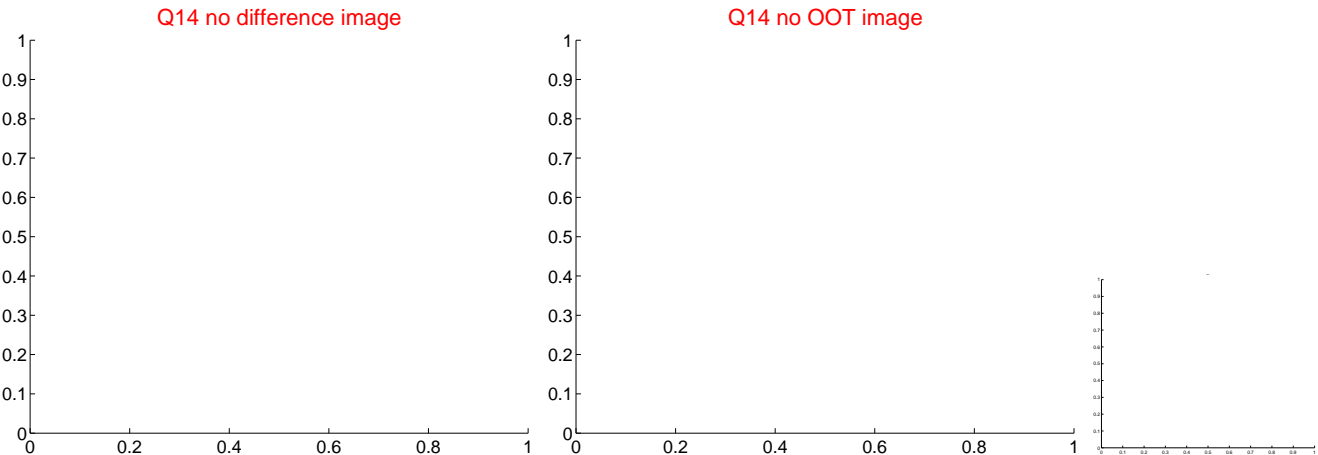
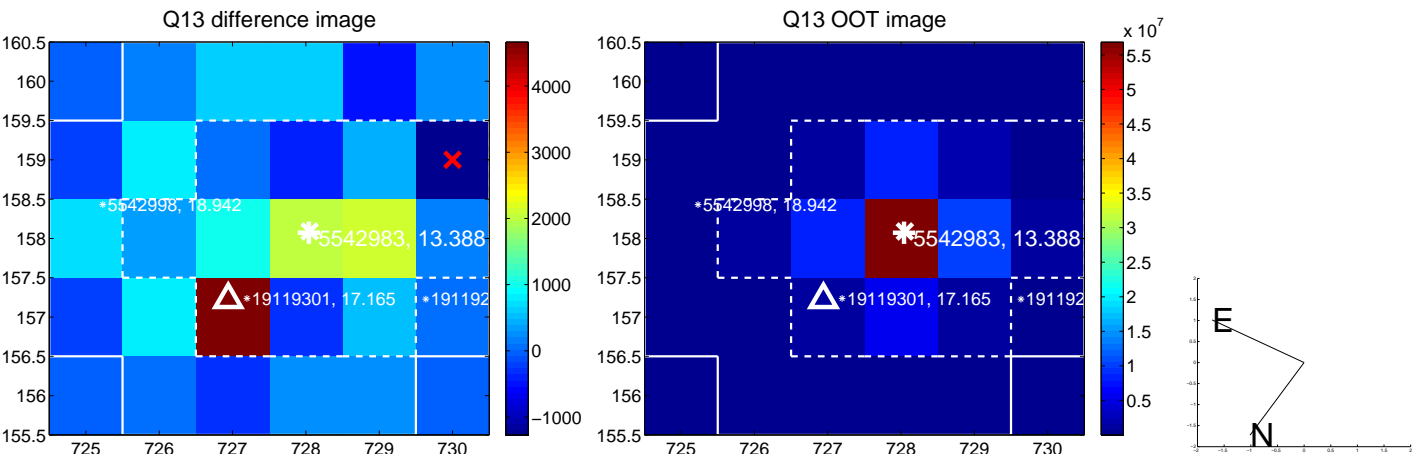
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



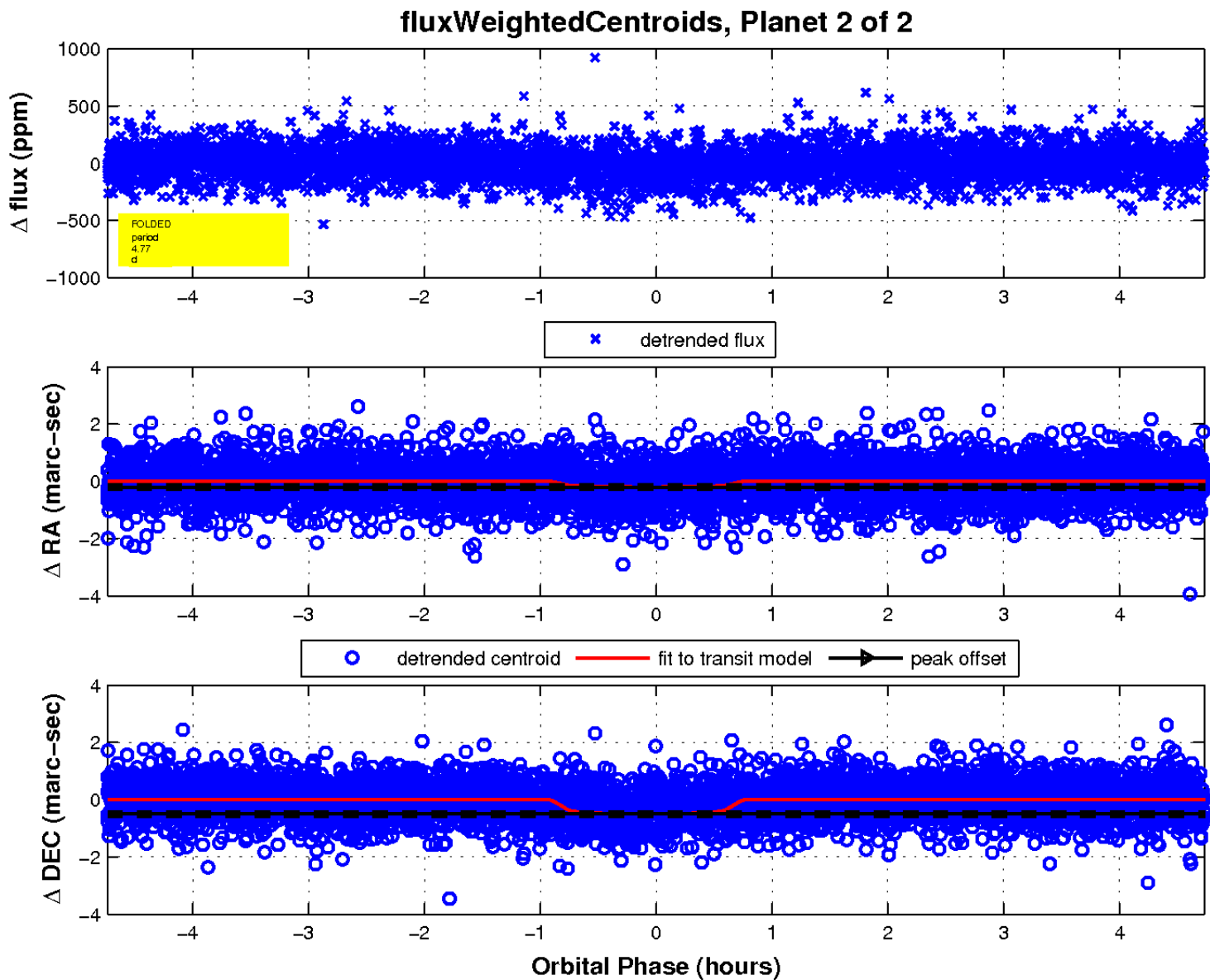
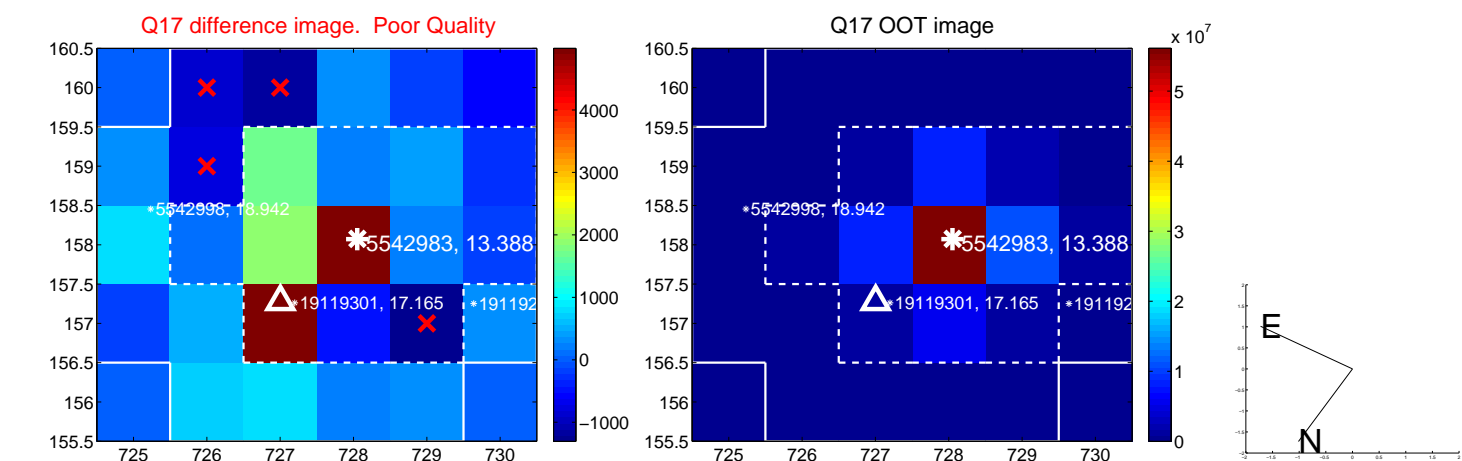
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

