

KIC 008519253

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})
008519253-01	OBS	1267.01	5.938224	136.526362	474.7	2.412	31.8	34.2	0.85	6123	2.44	232.71
008519253-02	OBS	No	5.938240	133.558219	164.3	1.947	12.3	13.1	0.85	6123	1.28	232.71

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008519253-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
008519253-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST

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.

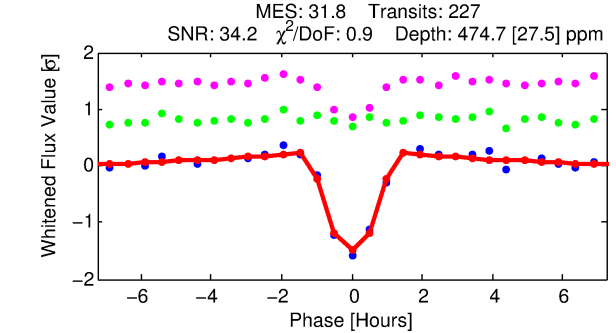
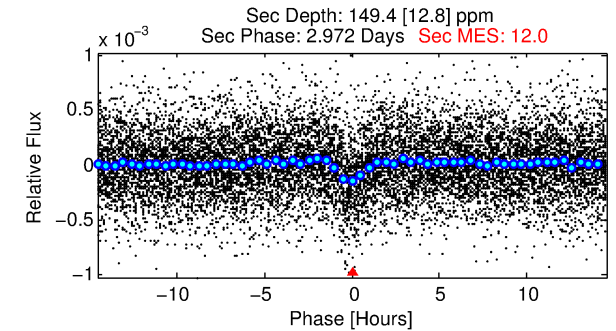
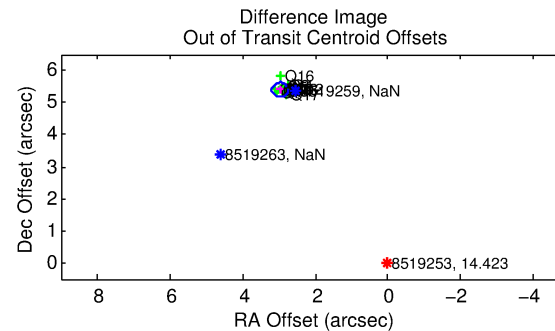
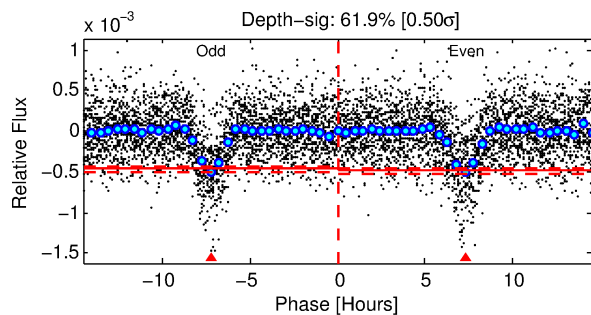
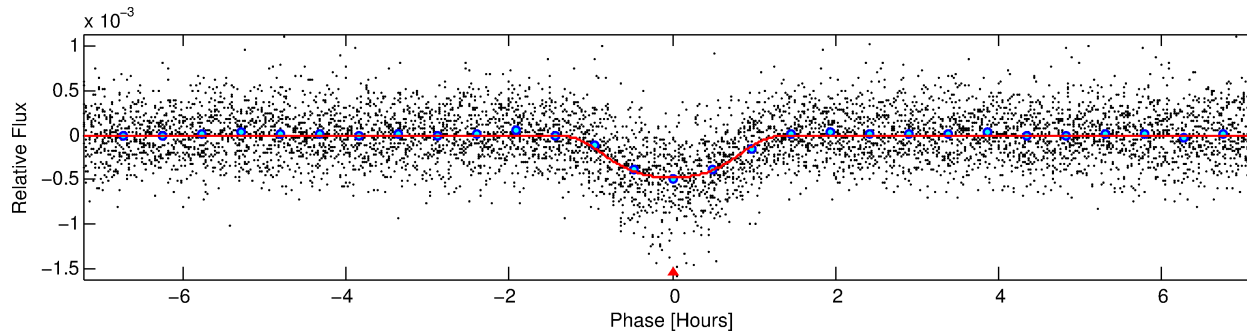
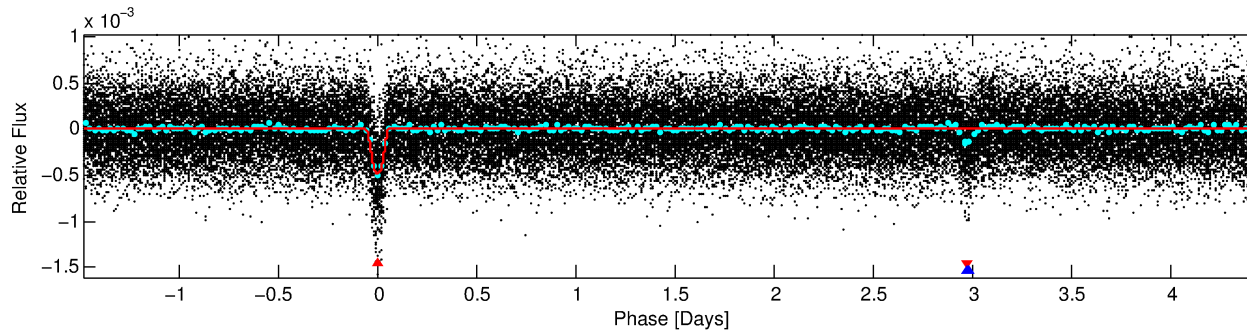
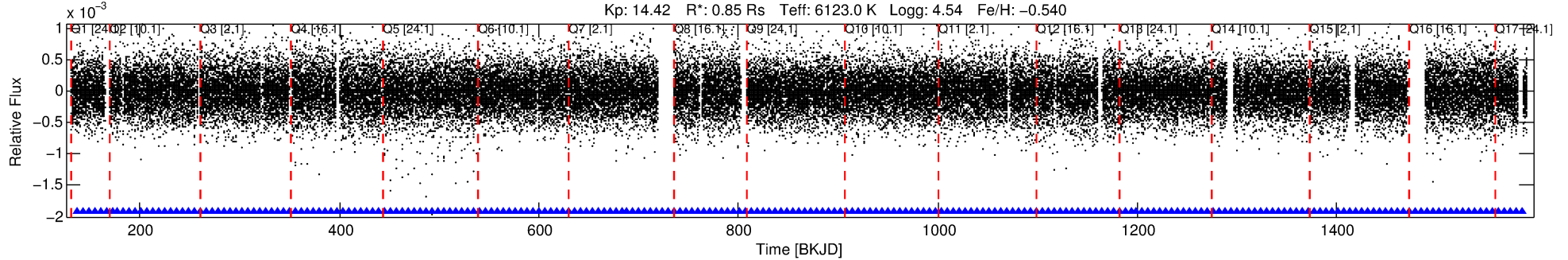
Ephemeris Match Information For 008519253-01

No Significant Match Found

DV One-Page Summary

KIC: 8519253 Candidate: 1 of 2 Period: 5.938 d
KOI: K01267.01 Corr: 0.969

Kp: 14.42 R*: 0.85 Rs Teff: 6123.0 K Logg: 4.54 Fe/H: -0.540



DV Fit Results:

Period = 5.93822 [0.00001] d
Epoch = 136.5264 [0.0015] BKJD
Rp/R* = 0.0263 [0.0012]
a/R* = 6.21 [0.49]
b = 0.97 [0.01]
Seff = 232.71 [90.04]
Teq = 996 [96] K
Rp = 2.44 [0.69] Re
a = 0.0625 [0.0152] AU
Ag = 54.06 [20.84] [2.55σ]
Teffp = 4175 [190] K [14.94σ]

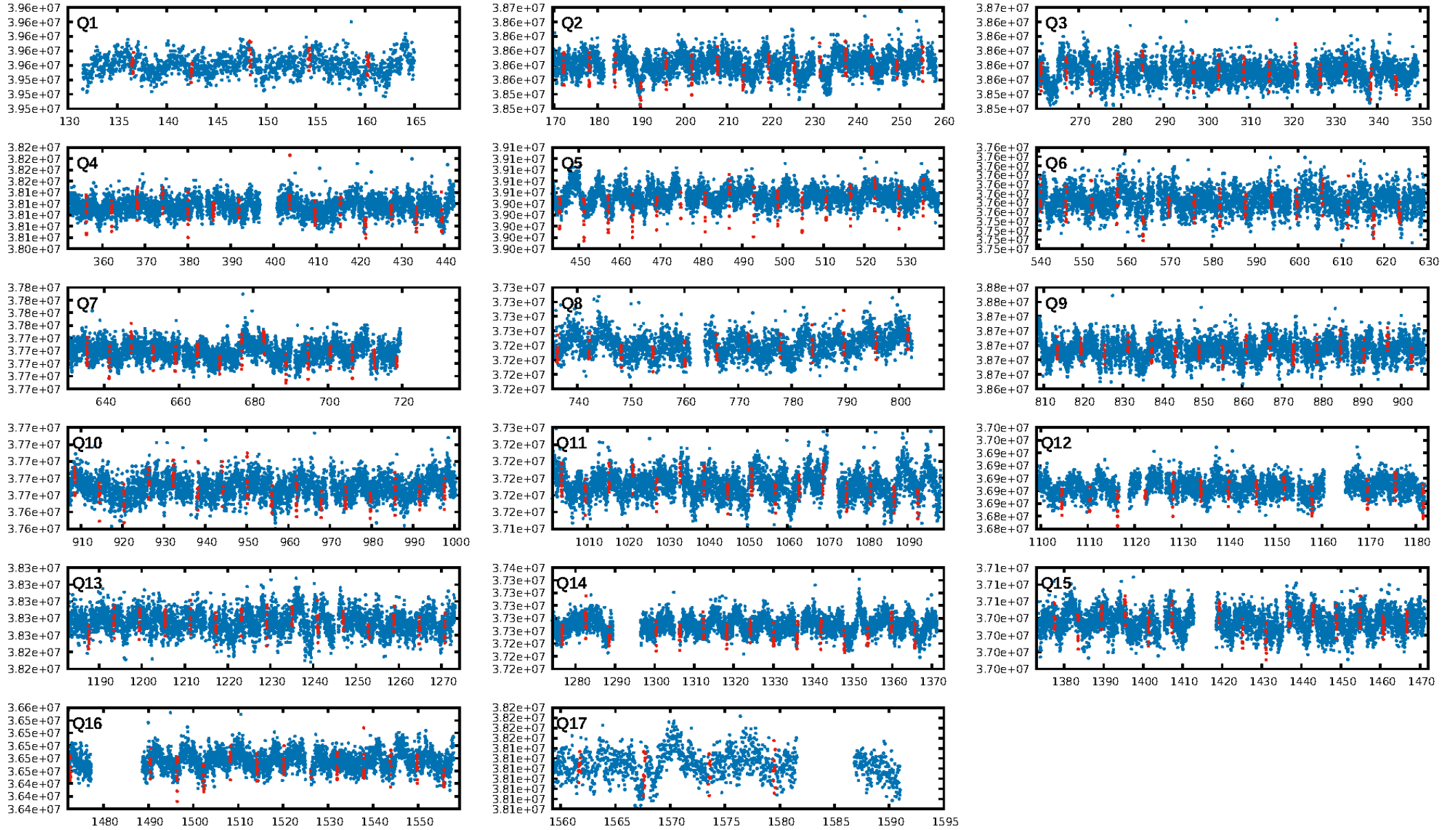
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.70e-211
RollingBand-fgt: 1.00 [218/218]
GhostDiagnostic-chr: -0.08031
Centroid-sig: 0.0%
Centroid-so: 17.704 arcsec [51.13σ]
OotOffset-rm: 6.169 arcsec [82.92σ]
KicOffset-rm: 6.077 arcsec [82.97σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [17/17]

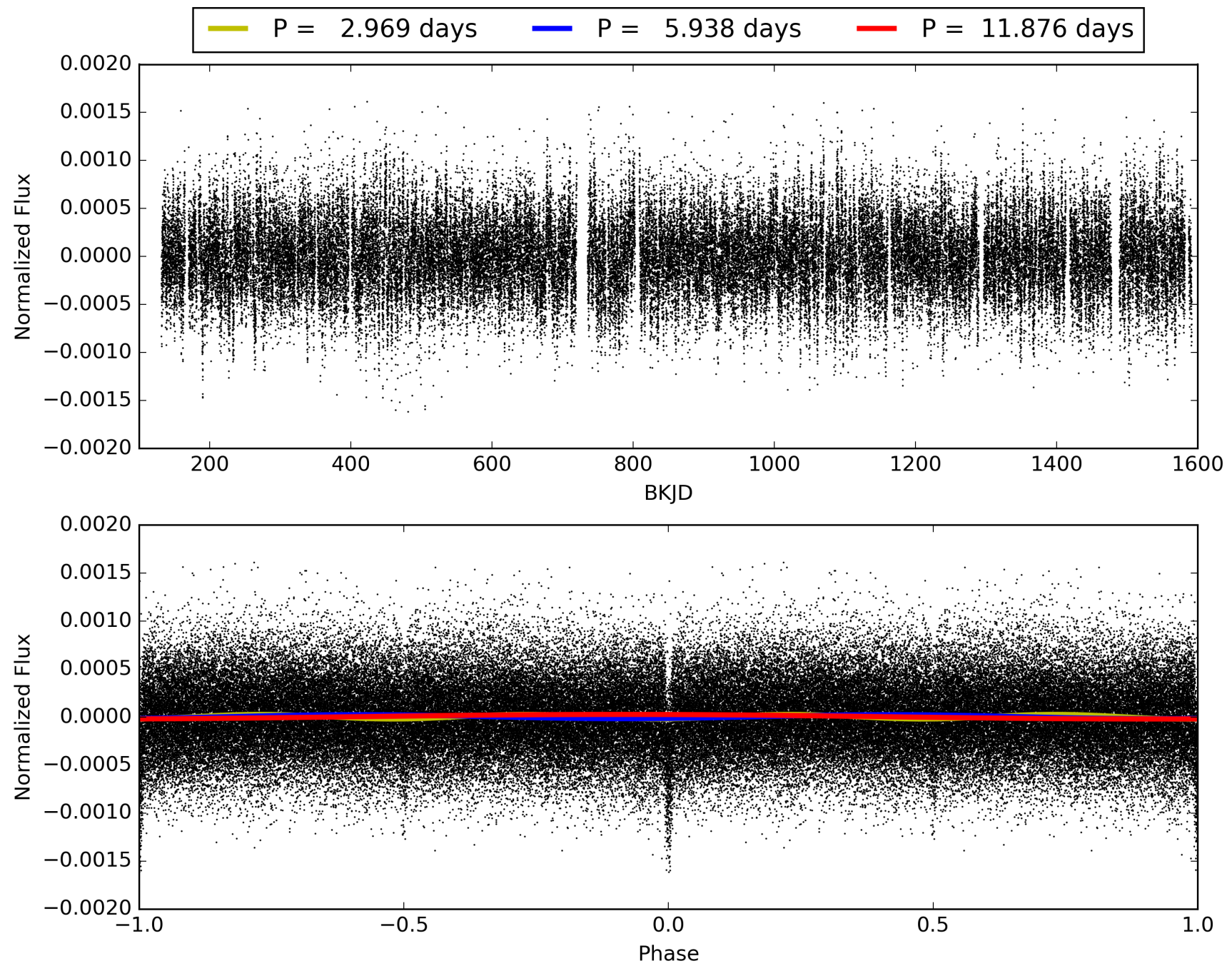
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 21:46:13 Z

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

TCE 008519253-01, PDC Light Curves

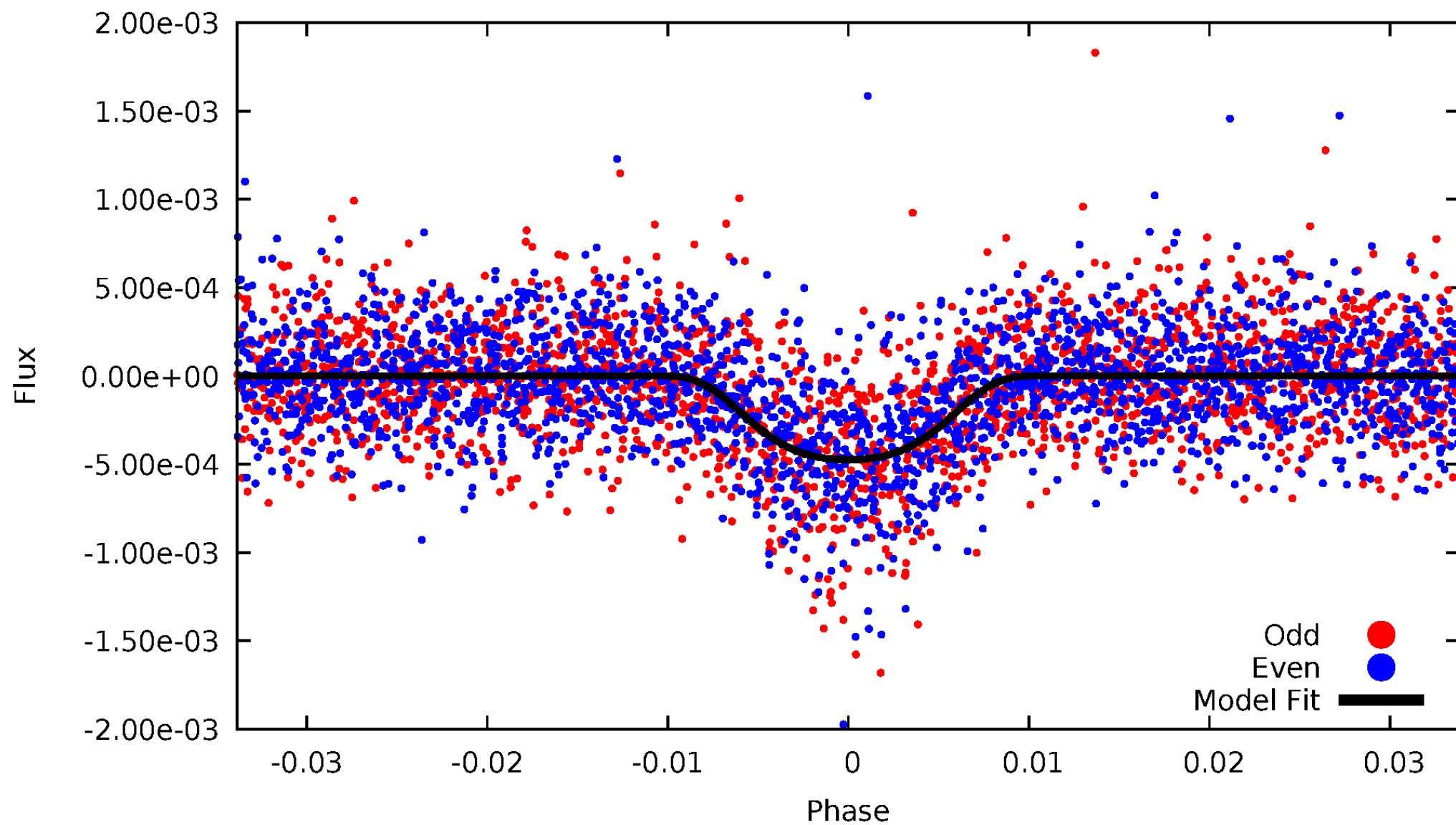


TCE 008519253-01



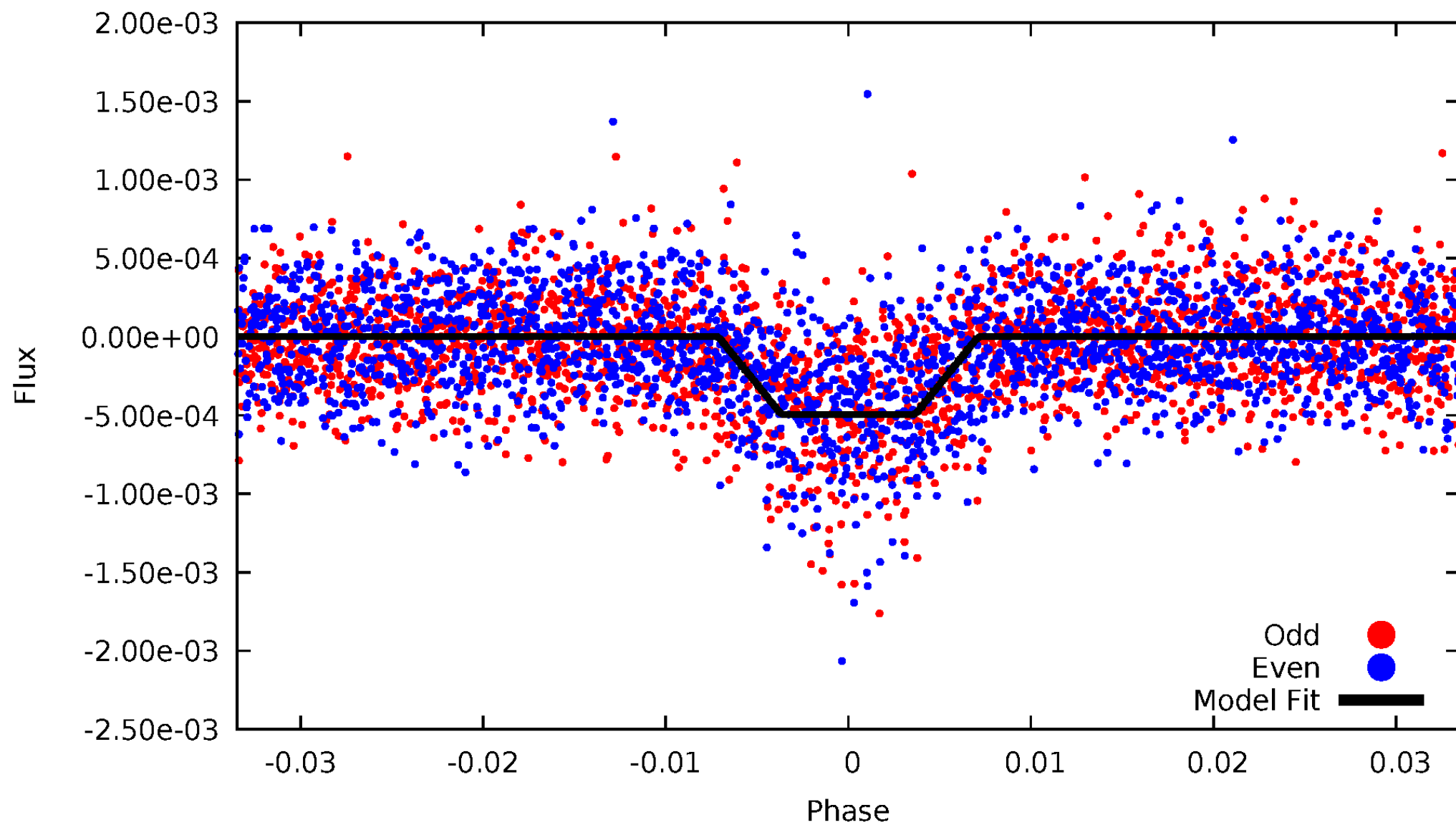
DV Odd/Even

TCE 008519253-01

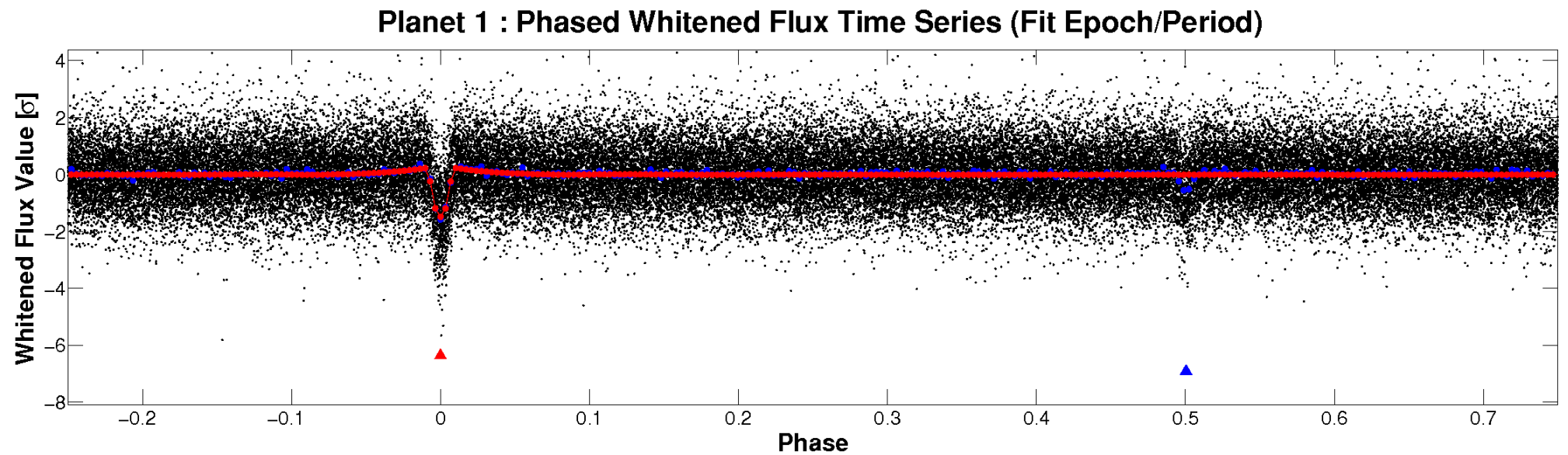
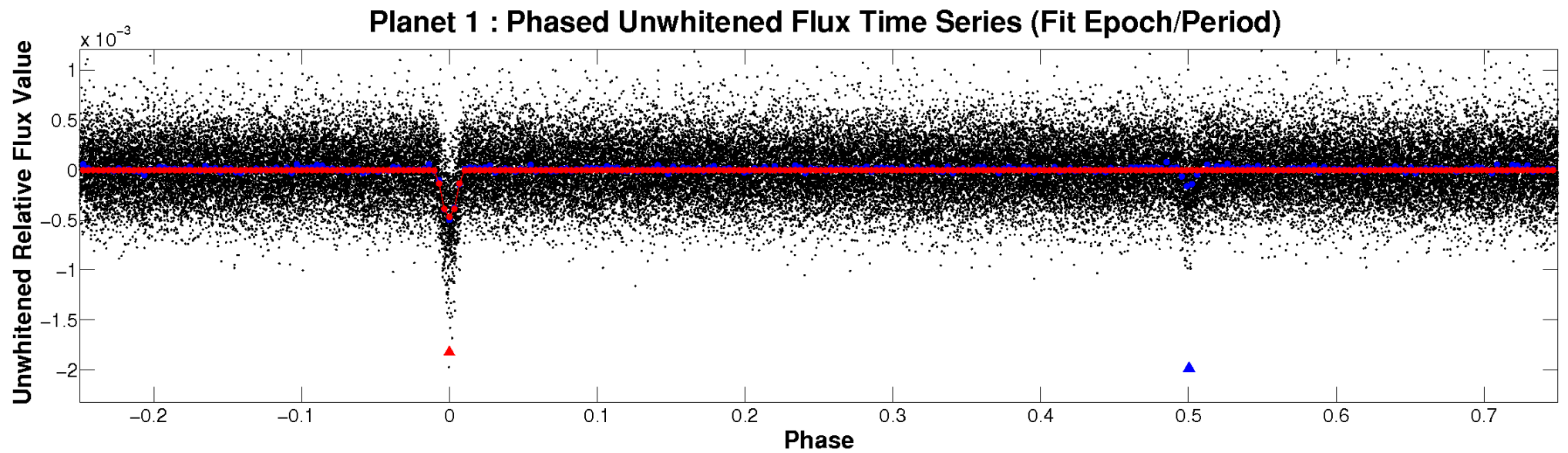


ALT Odd/Even

TCE 008519253-01

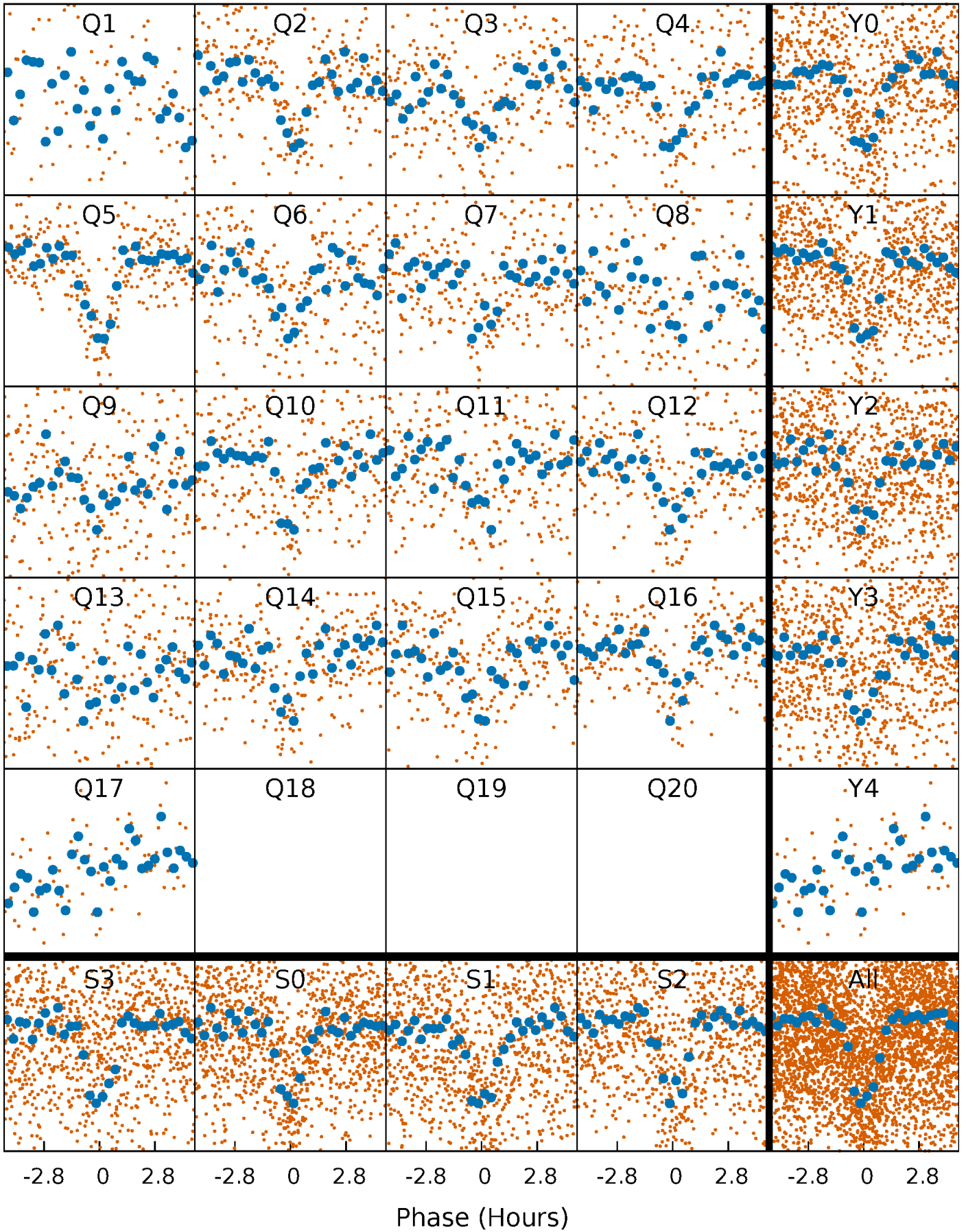


Non-Whitened Vs. Whitened Light Curve



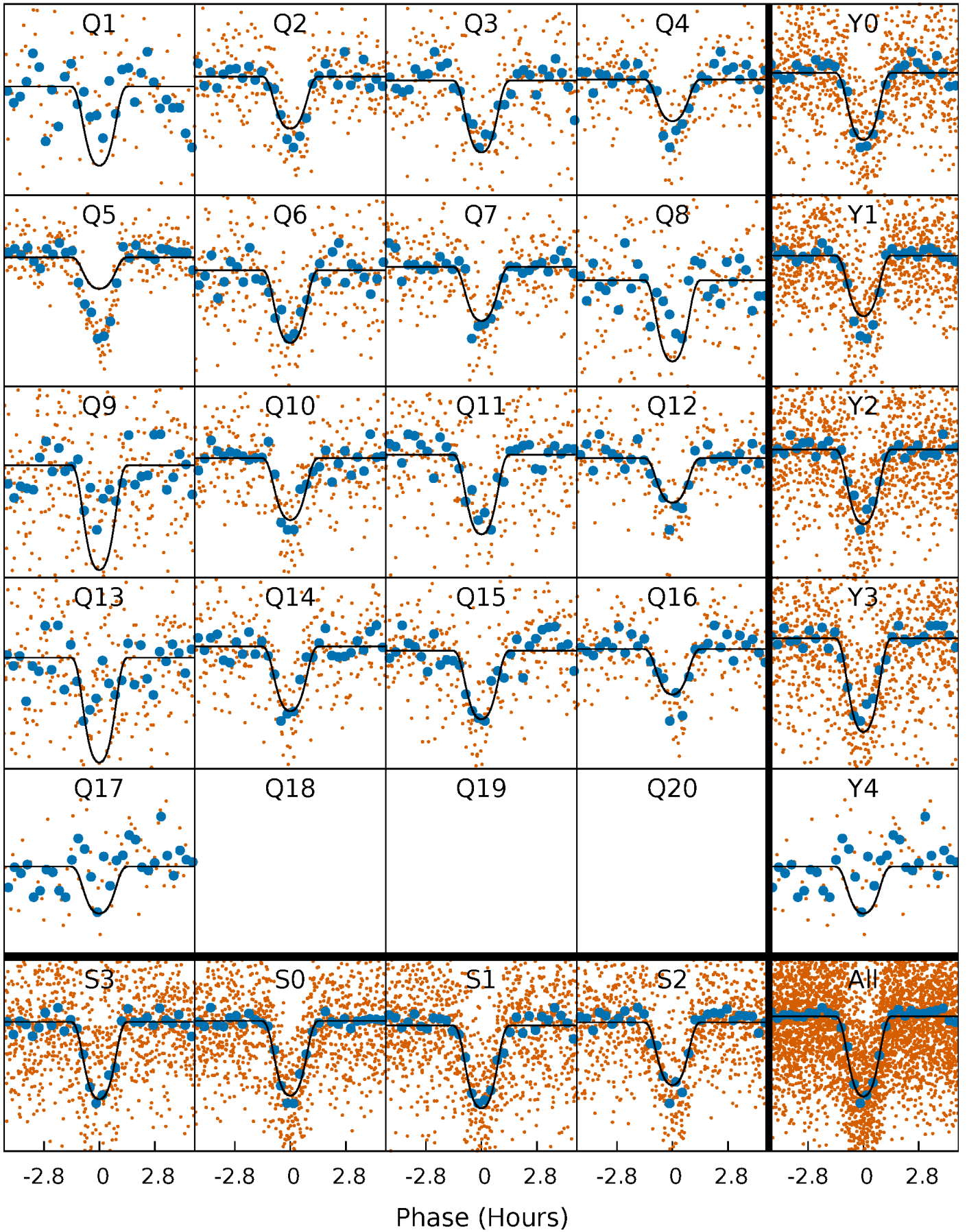
PDC Quarter-Phased Transit Curves

TCE 008519253-01 P= 5.938224 Days $T_0=136.526362$ (BKJD)



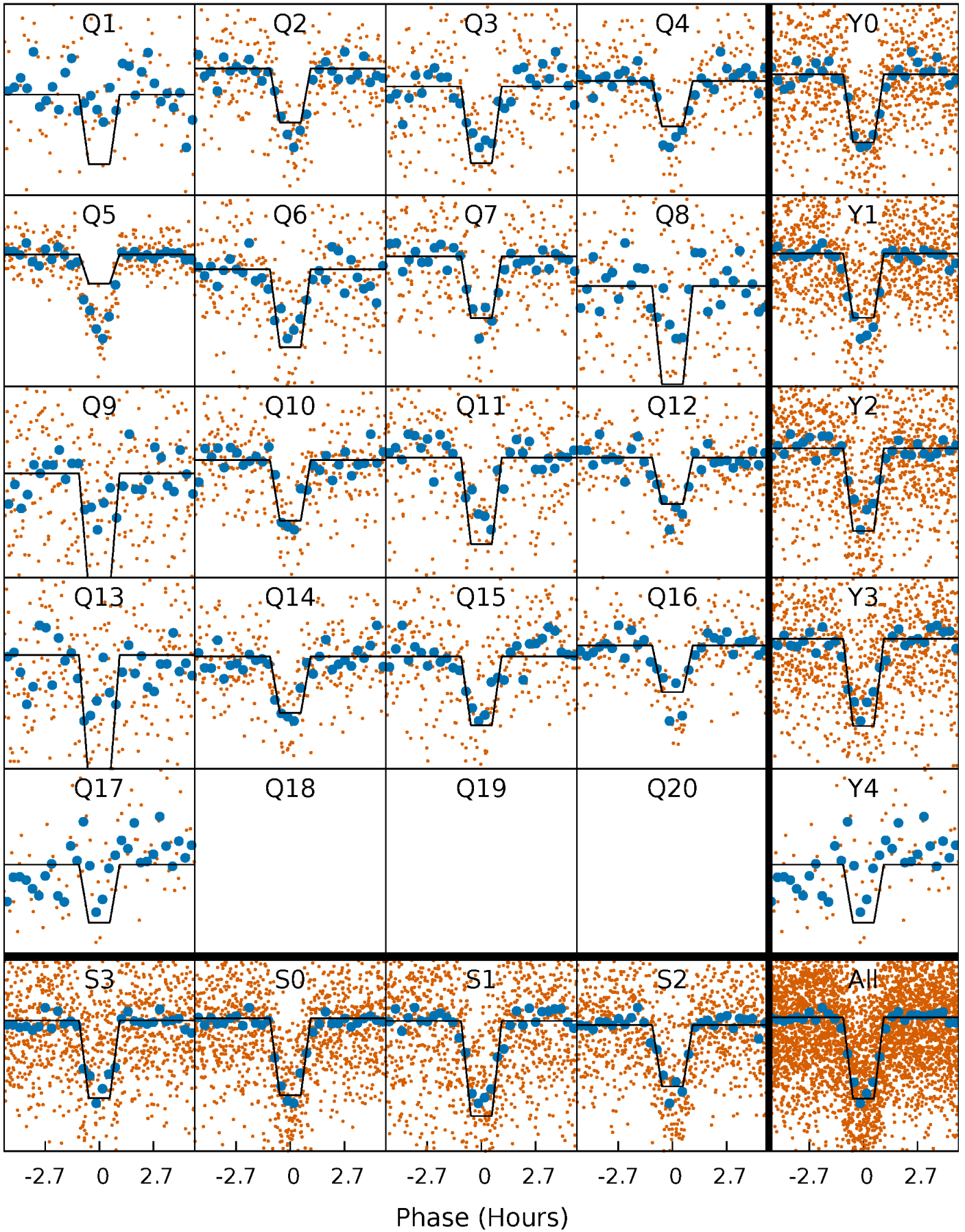
DV Quarter-Phased Transit Curves

TCE 008519253-01 P= 5.938224 Days $T_0=136.526362$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

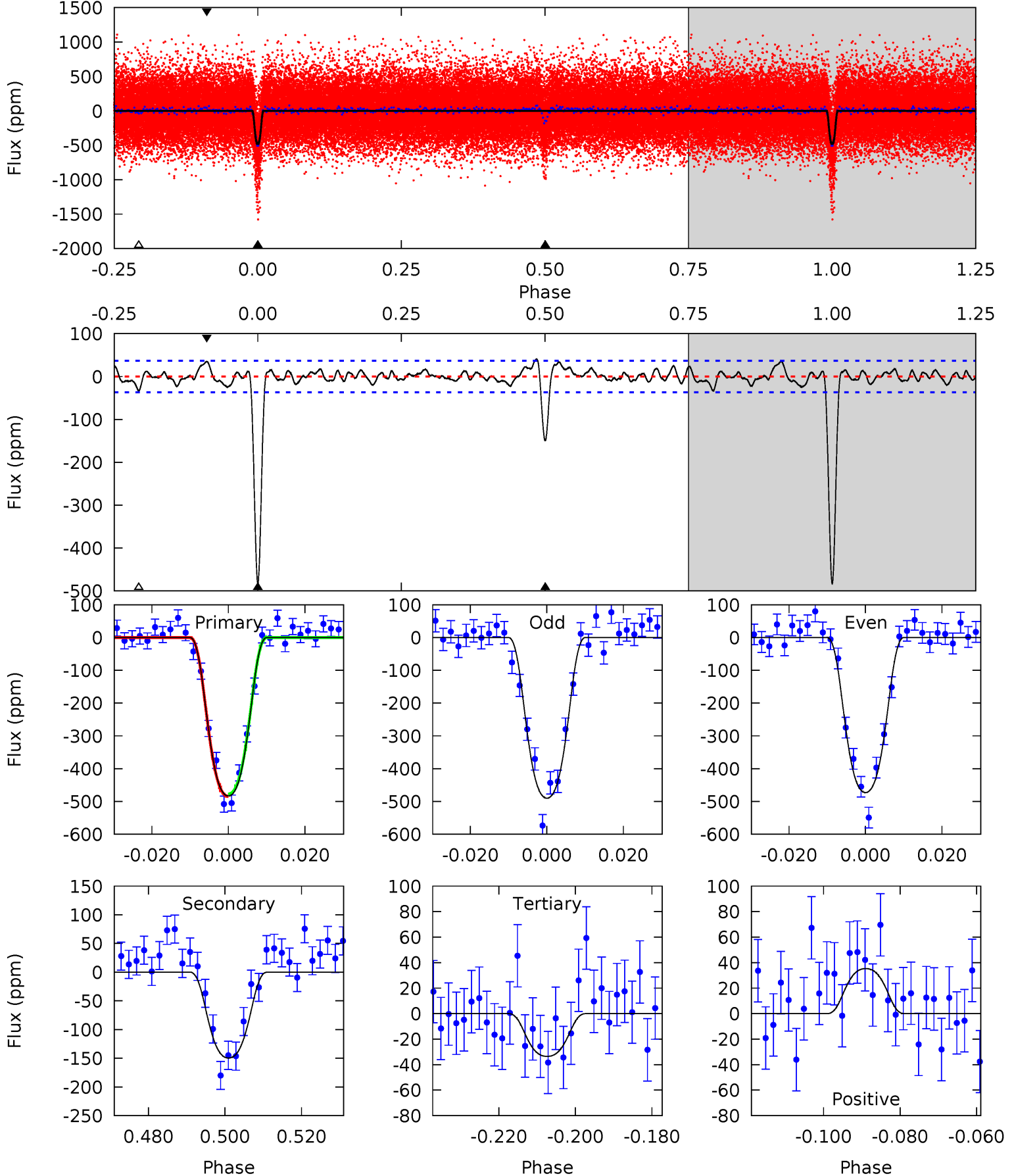
TCE 008519253-01 P= 5.938223 Days $T_0=136.526934$ (BKJD)



DV Model-Shift Uniqueness Test

008519253-01, P = 5.938224 Days, E = 130.588138 Days

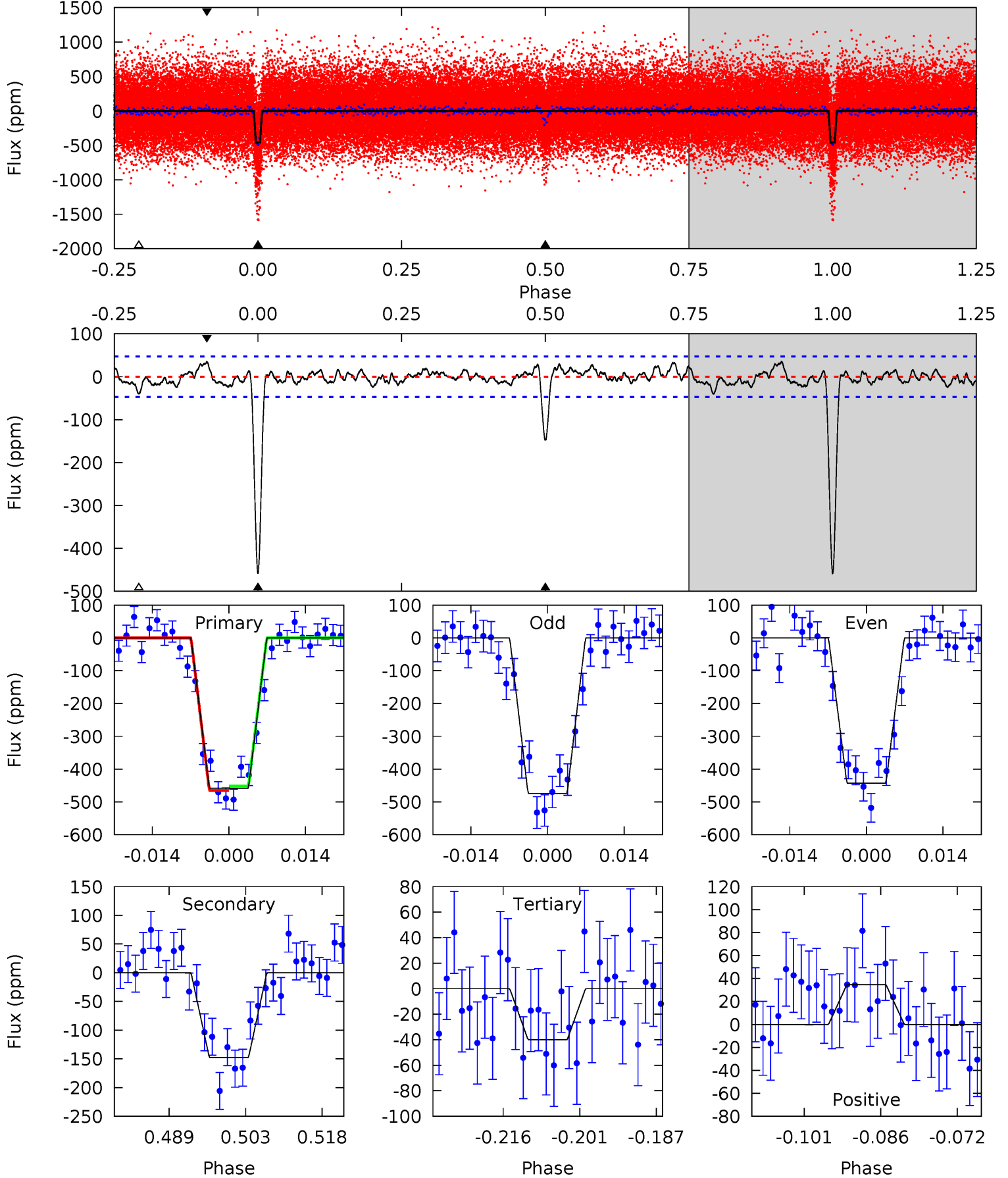
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
64.2	19.9	4.46	4.70	4.89	2.33	1.53	59.8	59.5	15.4	15.2	1.14	1.06	0.08	0.49



Alt Model-Shift Uniqueness Test

008519253-01, P = 5.938223 Days, E = 130.588711 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
48.3	15.6	4.22	3.66	4.96	2.45	1.33	44.1	44.6	11.4	11.9	1.66	1.09	0.07	0.69



Stellar Parameters For KIC 008519253

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6123^{+164}_{-200}	$4.545^{+0.036}_{-0.204}$	$-0.540^{+0.300}_{-0.300}$	$0.850^{+0.237}_{-0.079}$	$0.924^{+0.097}_{-0.108}$	$2.117^{+0.407}_{-1.061}$
	+3%/-3%	+1%/-4%	+56%/-56%	+28%/-9%	+10%/-12%	+19%/-50%
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 008519253-01 / KOI 1267.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-150 ± 8	$2.53^{+0.40}_{-0.23}$	1427^{+106}_{-67}	4384^{+138}_{-139}	48^{+10}_{-11}
Alt.	-148 ± 9	$2.15^{+0.33}_{-0.21}$	1424^{+101}_{-63}	4663^{+166}_{-165}	67^{+14}_{-15}

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 $A_{obs} \gg 1.0$

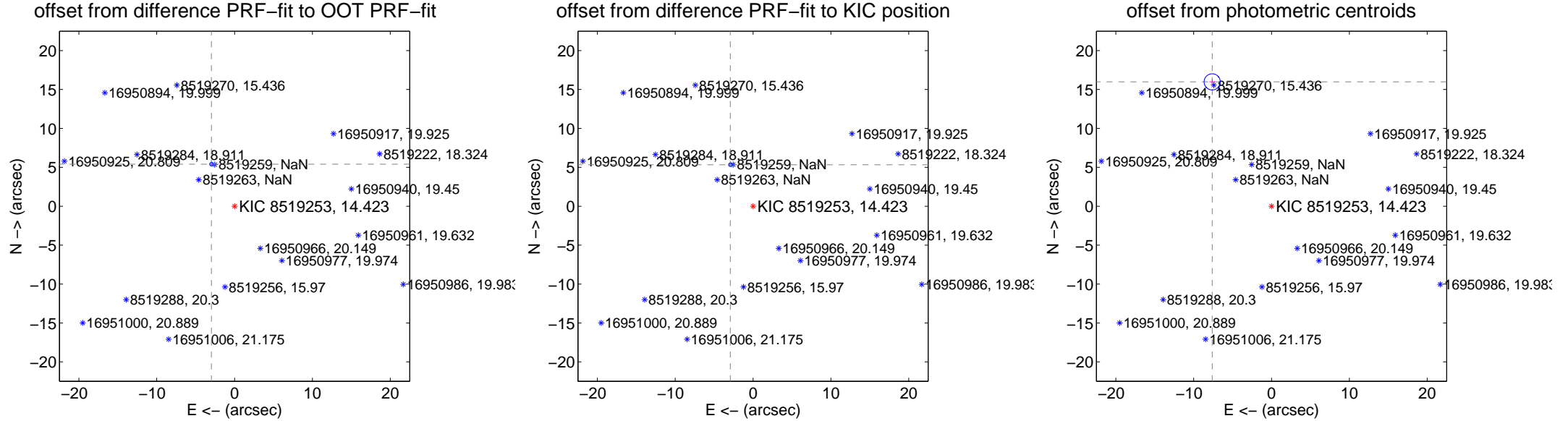
DV Centroid Data

Supplemental centroid analysis for 008519253-01. Kepler magnitude: 14.42. Transit SNR 34.22

There are 16 quarters with good PRF difference image offsets

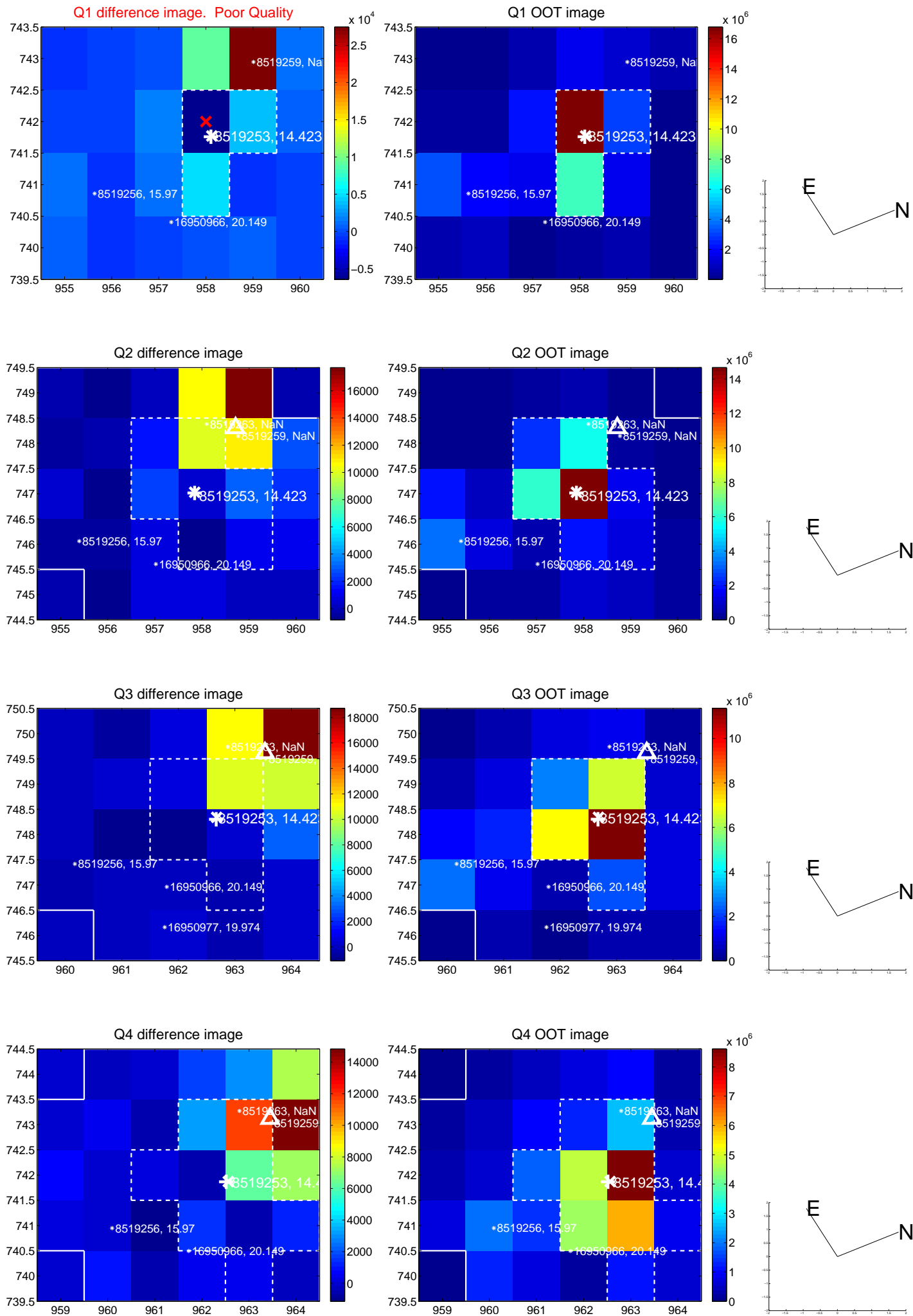
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.169 ± 0.074	82.92	2.977 ± 0.073	5.403 ± 0.075
PRF-fit source offset from KIC position	6.077 ± 0.073	82.97	2.921 ± 0.071	5.329 ± 0.072
photometric centroid source offset	17.70 ± 0.35	51.13	7.62 ± 0.35	15.98 ± 0.34

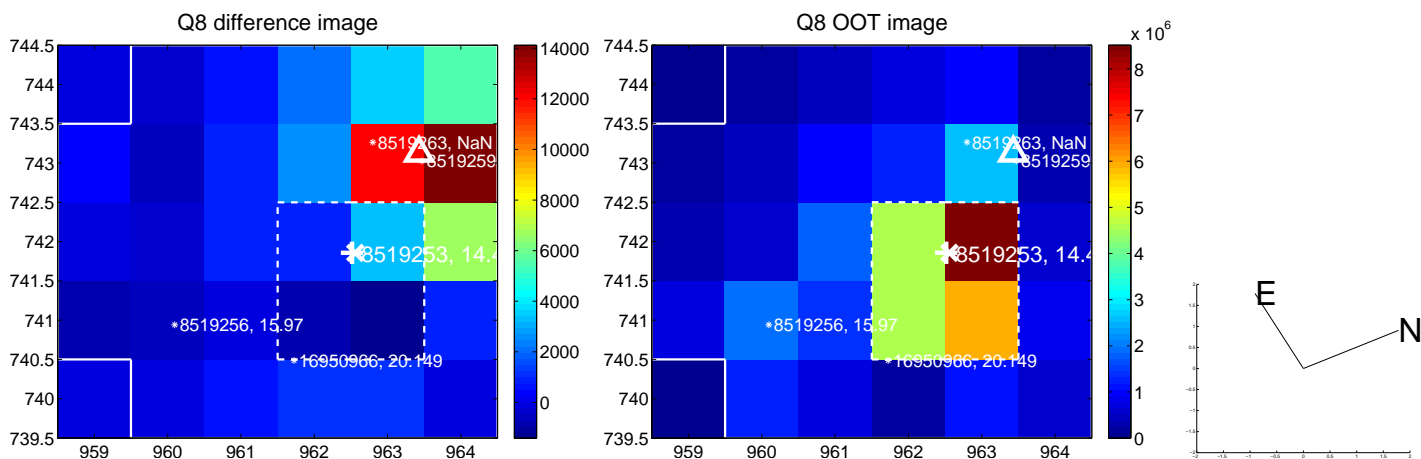
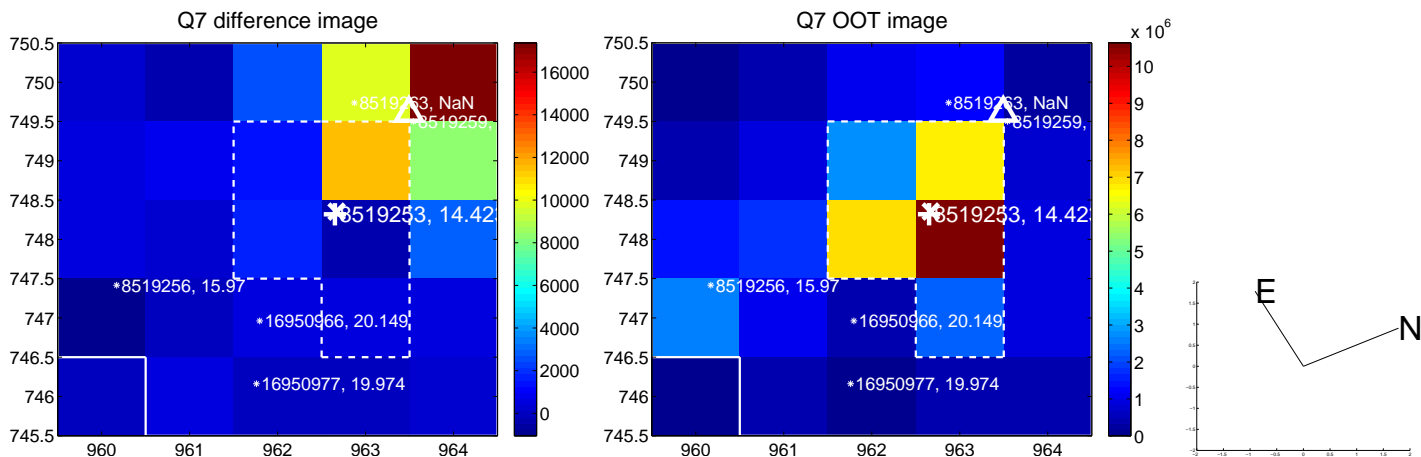
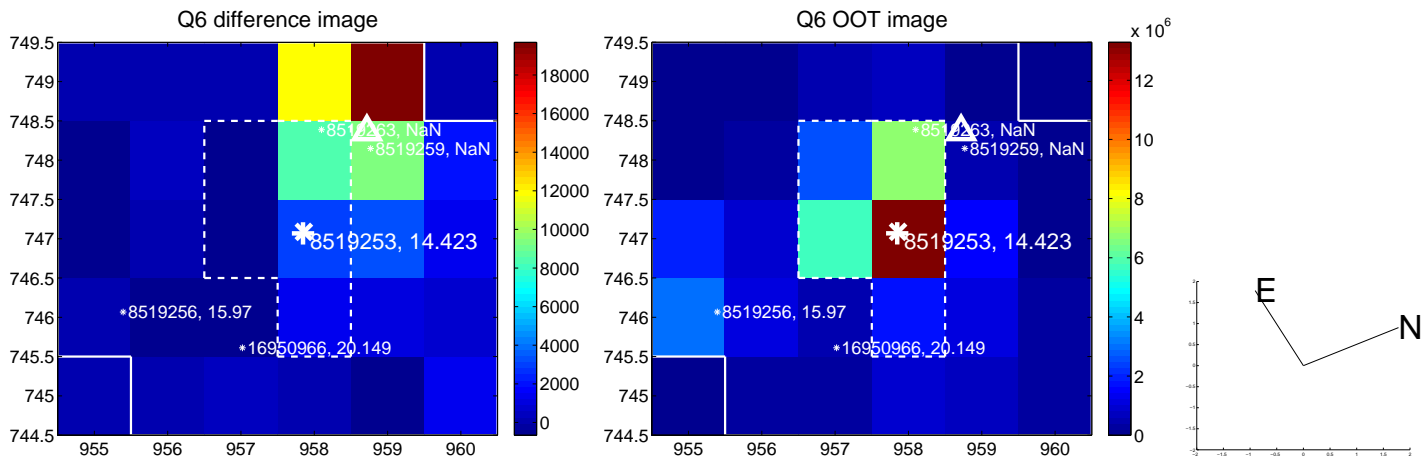
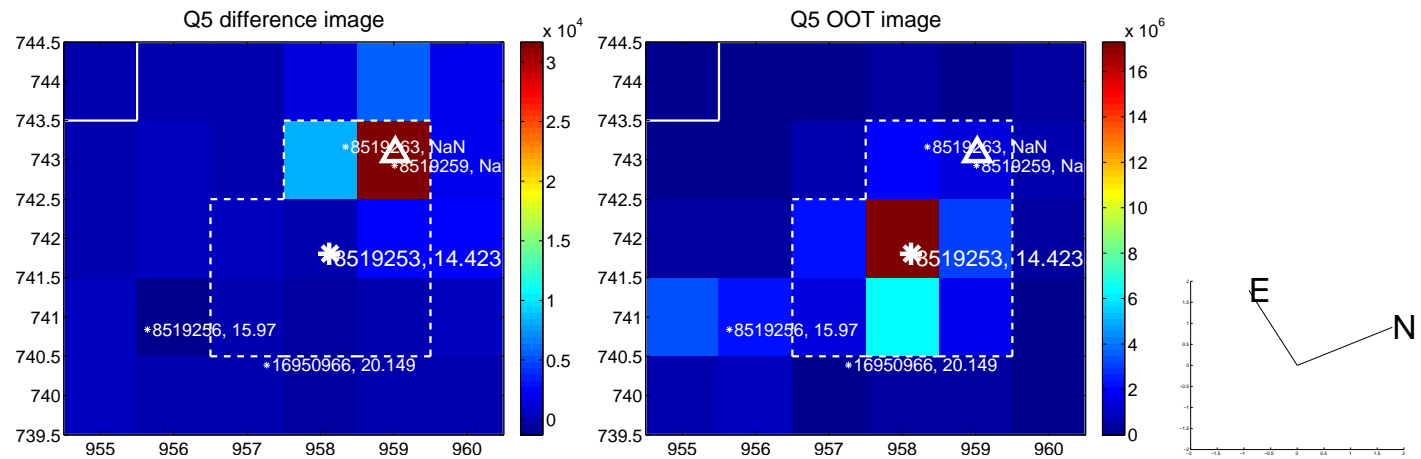


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

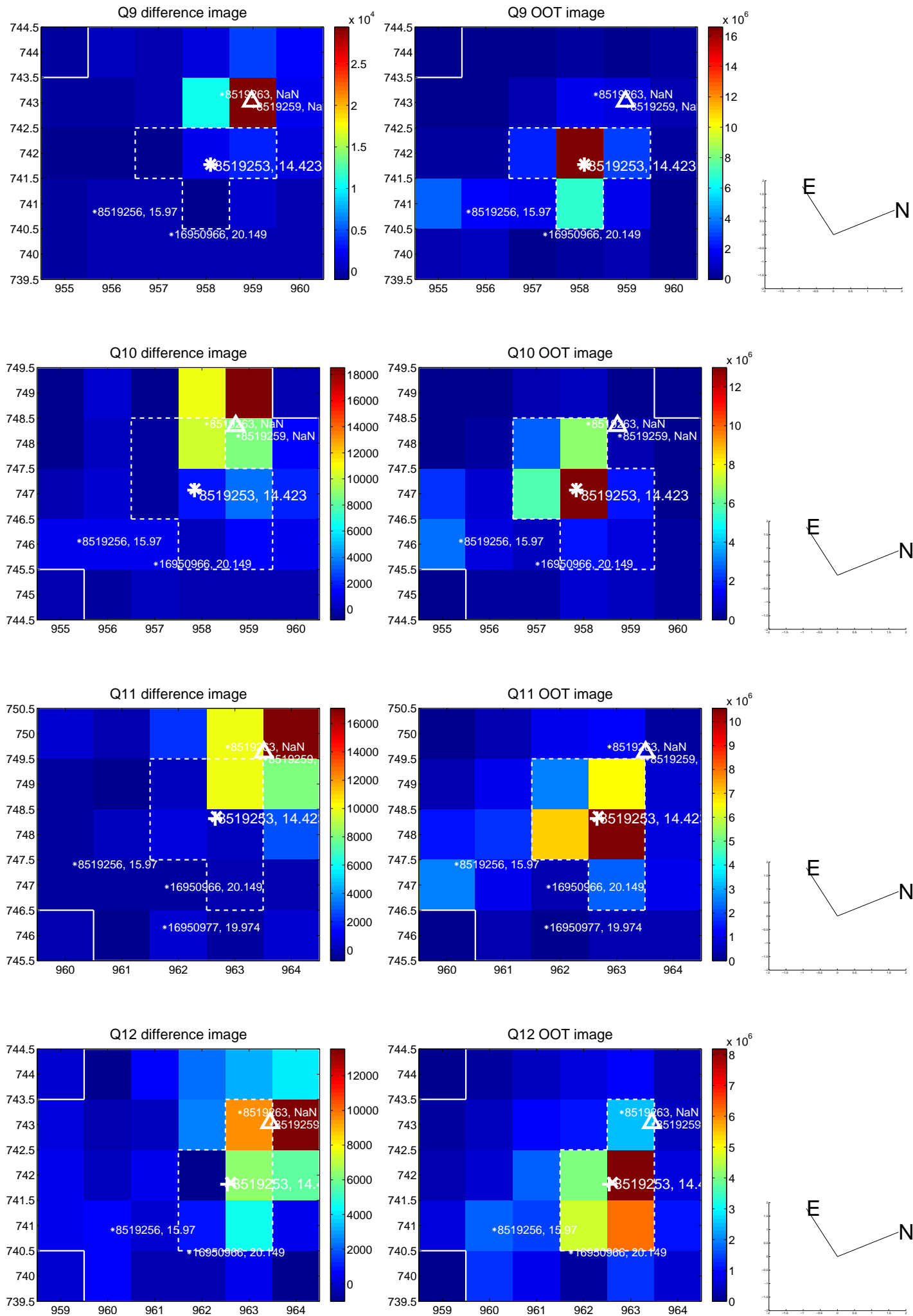
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



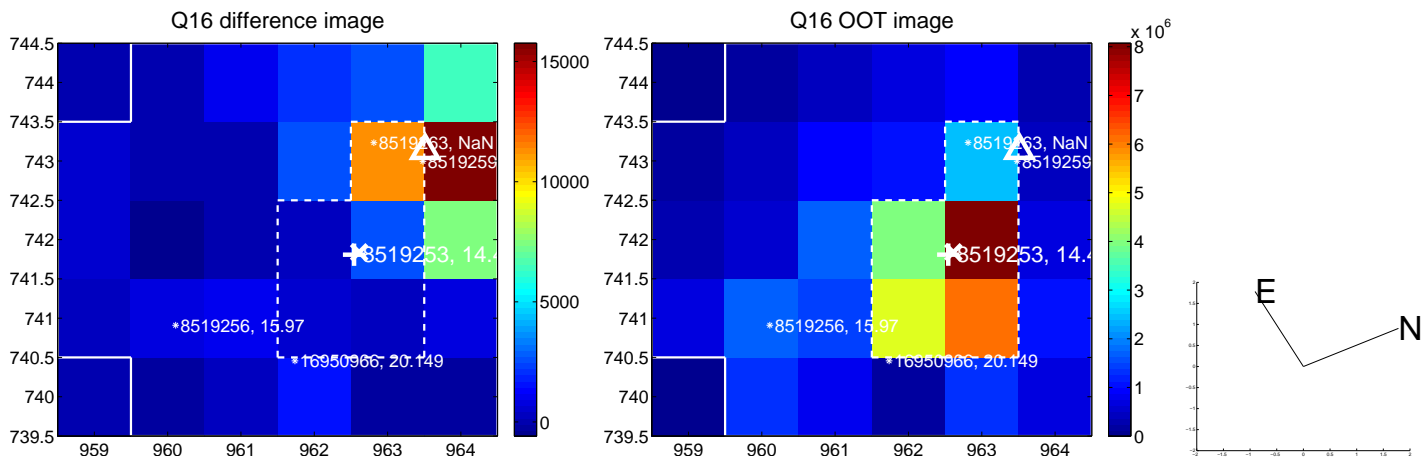
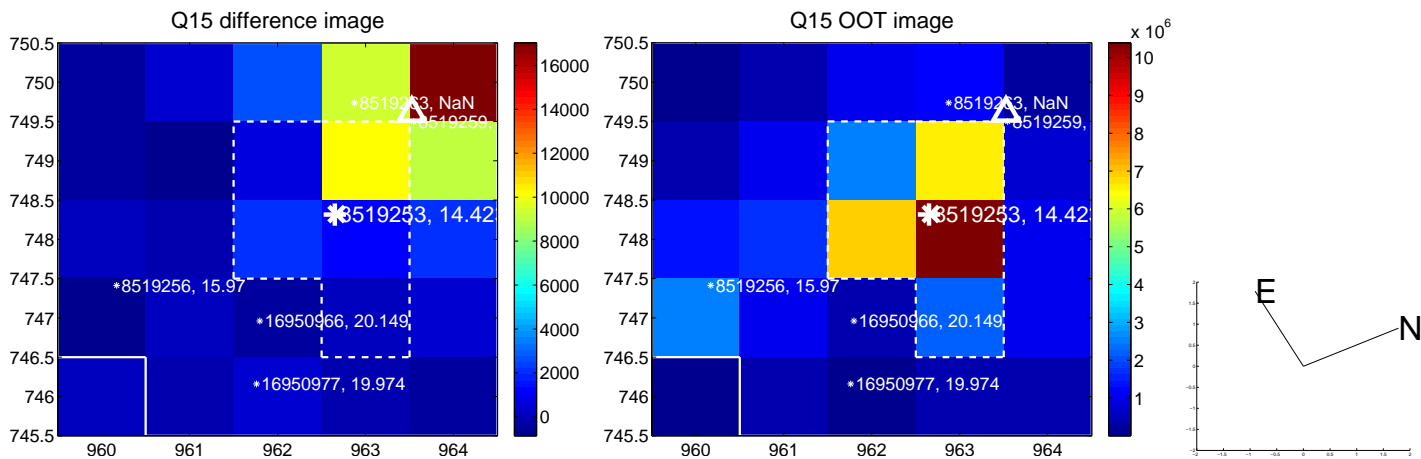
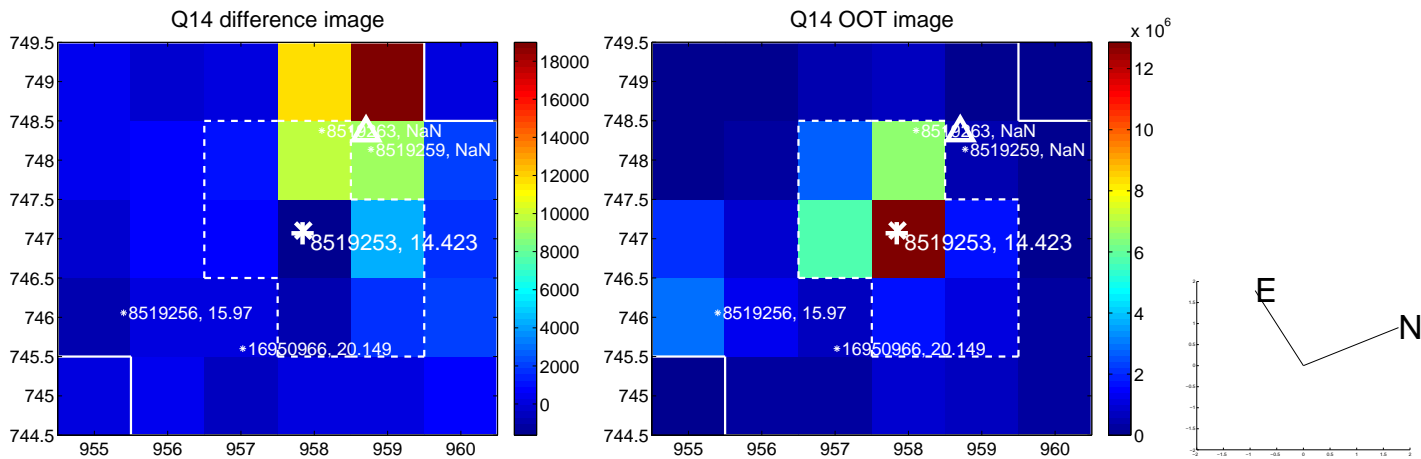
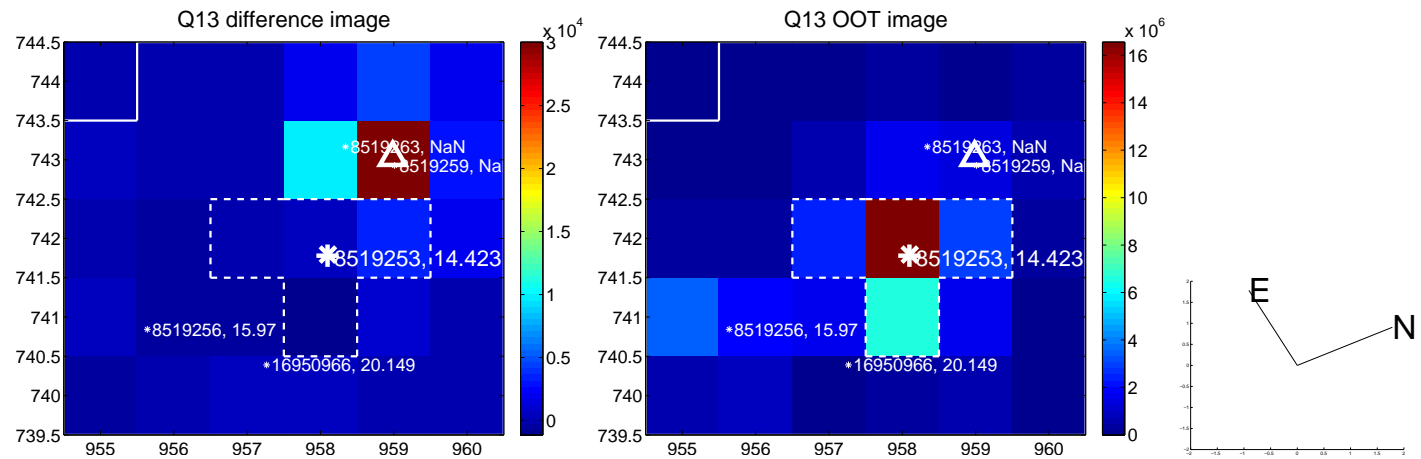
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



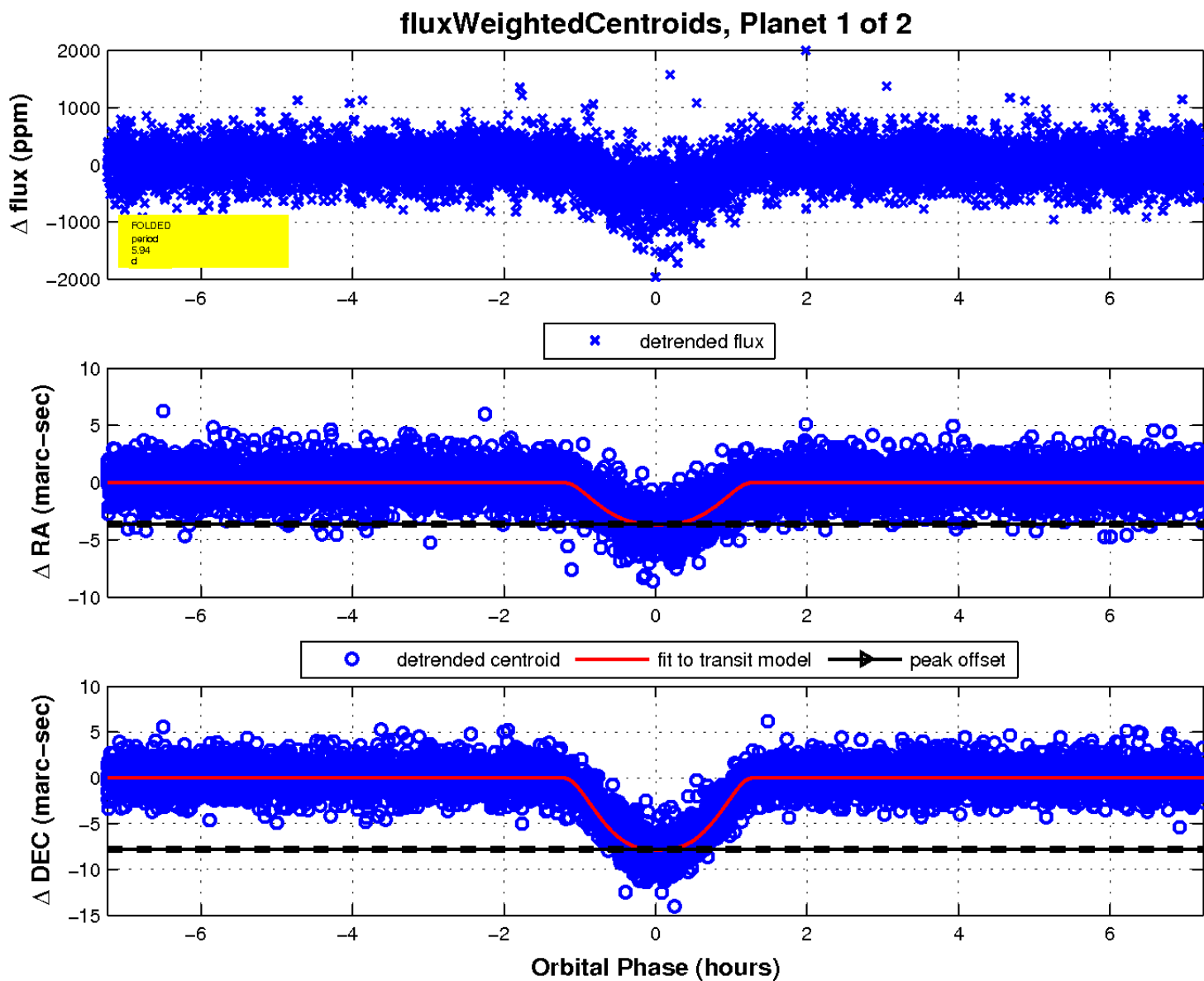
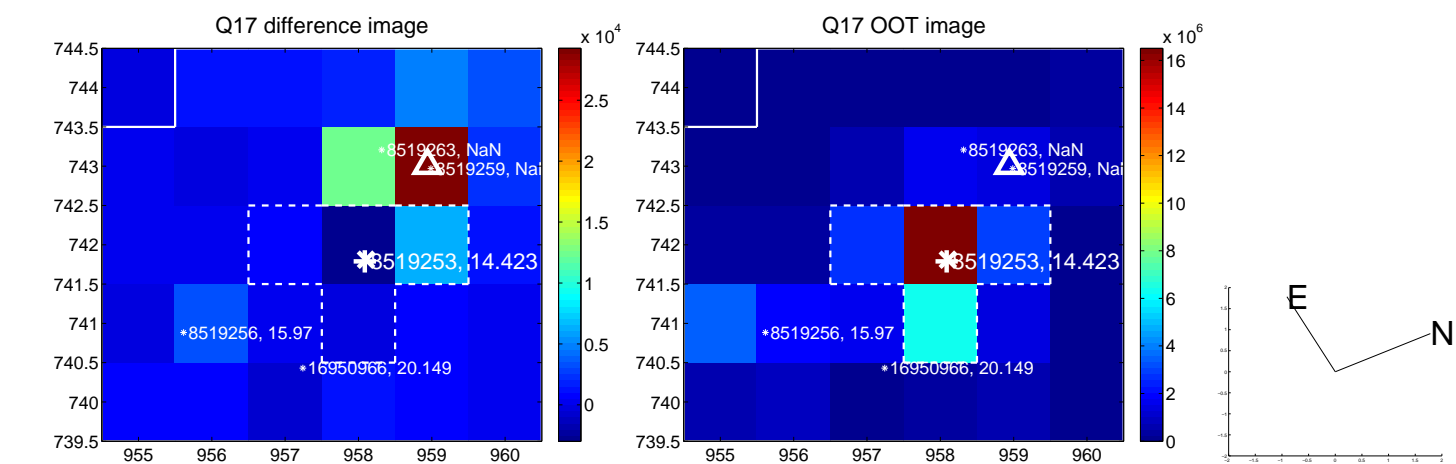
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



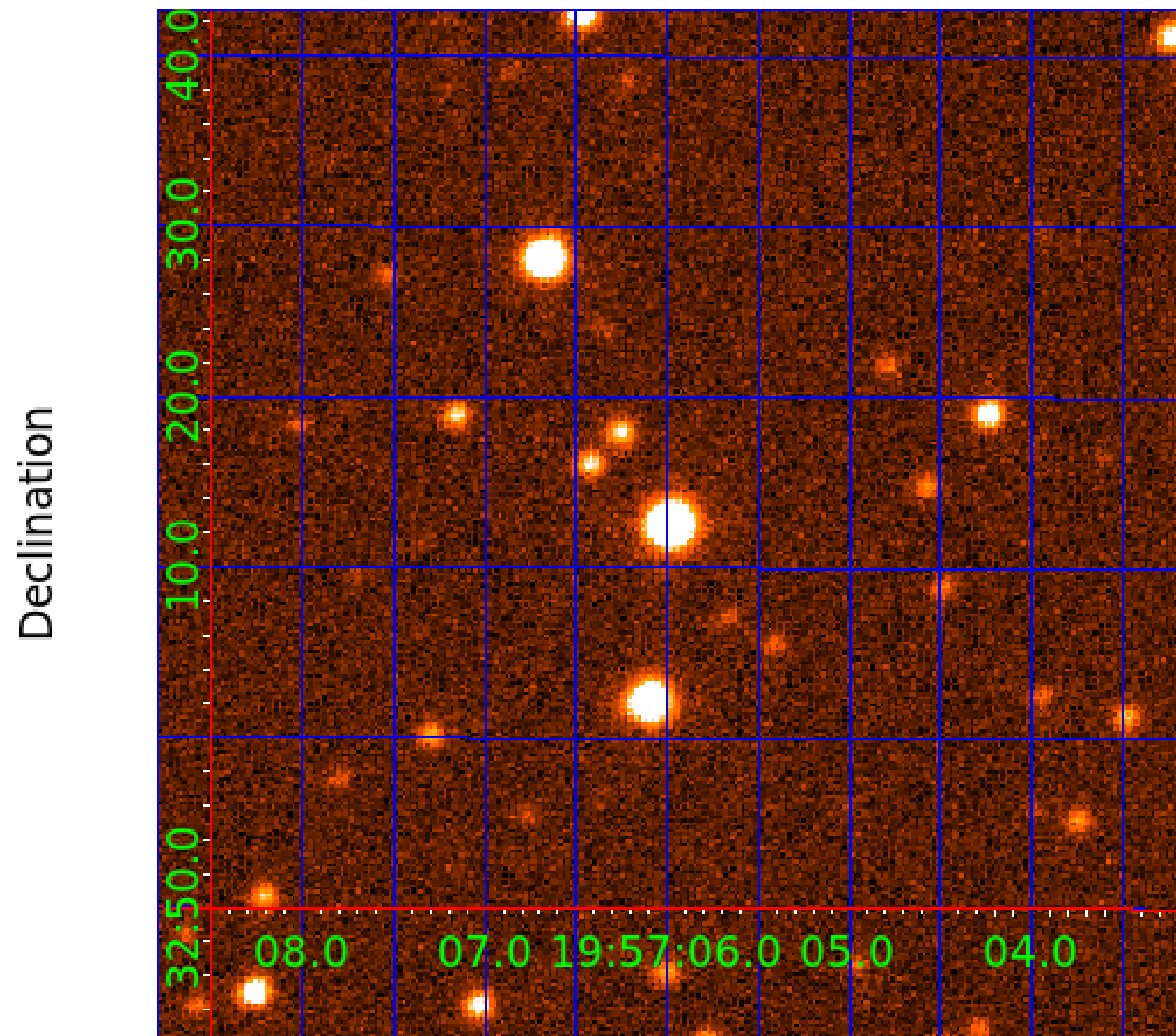
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 008519253

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})
008519253-01	OBS	1267.01	5.938224	136.526362	474.7	2.412	31.8	34.2	0.85	6123	2.44	232.71
008519253-02	OBS	No	5.938240	133.558219	164.3	1.947	12.3	13.1	0.85	6123	1.28	232.71

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008519253-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
008519253-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST

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 008519253-02

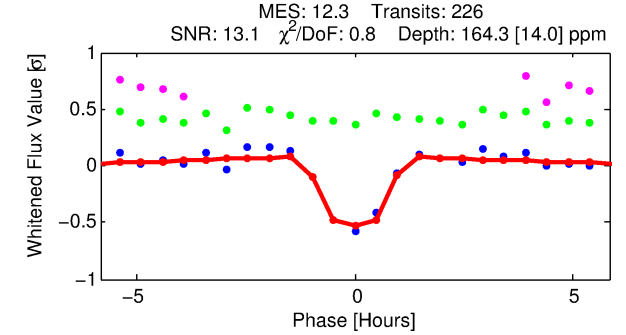
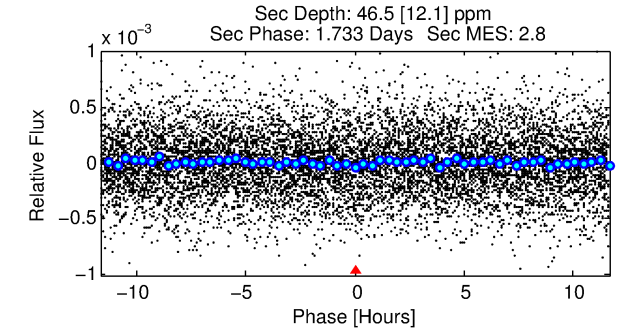
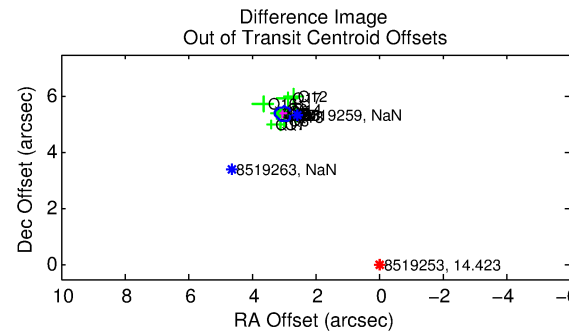
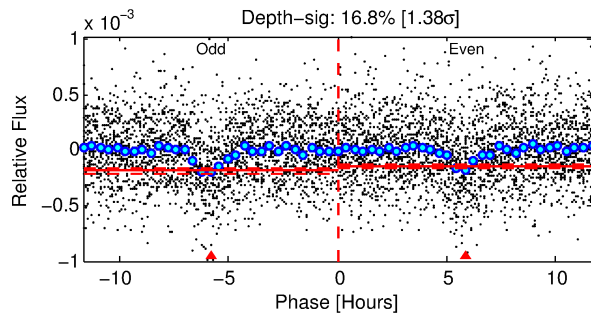
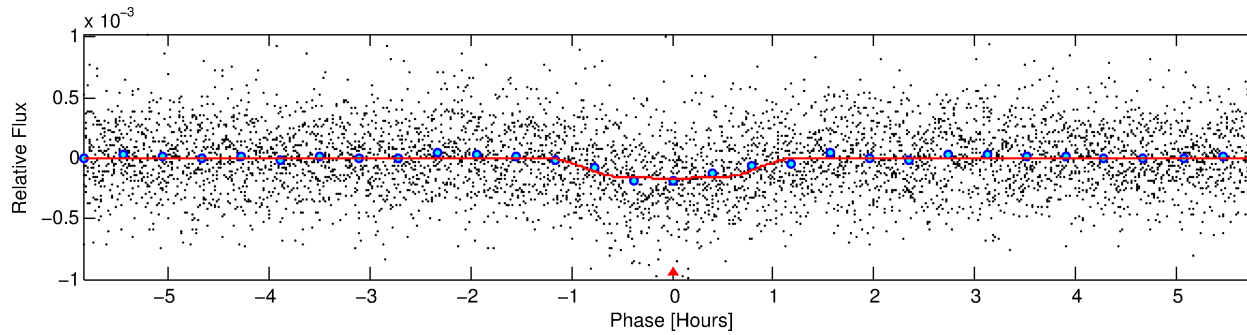
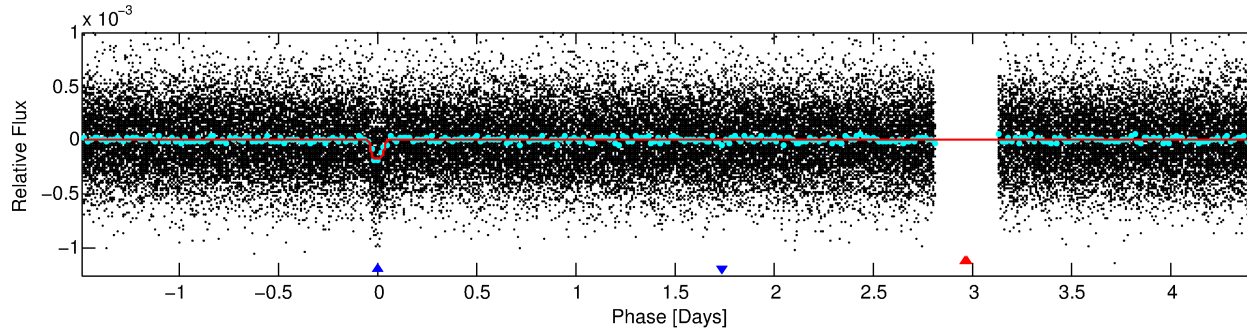
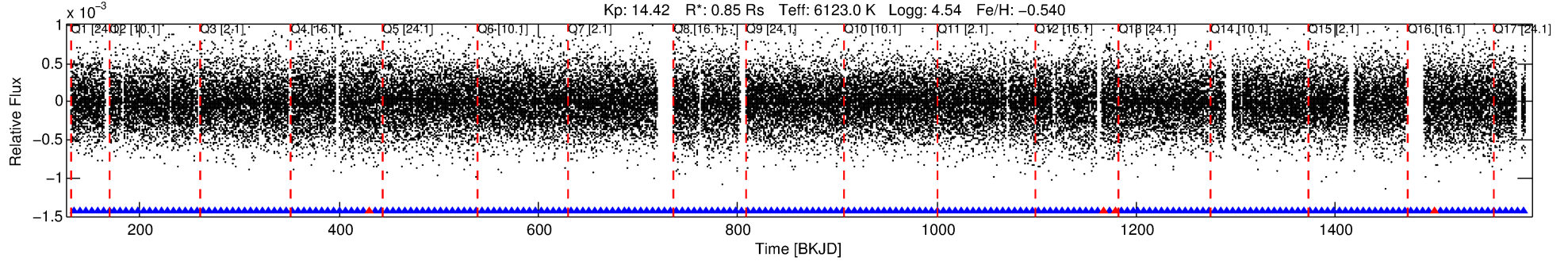
No Significant Match Found

DV One-Page Summary

KIC: 8519253 Candidate: 2 of 2 Period: 5.938 d

KOI: K01267 Corr: No Ephemeris Match

Kp: 14.42 R*: 0.85 Rs Teff: 6123.0 K Logg: 4.54 Fe/H: -0.540



DV Fit Results:

Period = 5.93824 [0.00002] d
Epoch = 133.5582 [0.0028] BKJD
Rp/R* = 0.0138 [0.0056]
a/R* = 10.88 [24.18]
b = 0.90 [0.48]
Seff = 232.71 [90.04]
Teq = 996 [96] K
Rp = 1.28 [0.63] Re
a = 0.0625 [0.0152] AU
Ag = 61.14 [56.79] [1.06σ]
Teffp = 4306 [931] K [3.54σ]

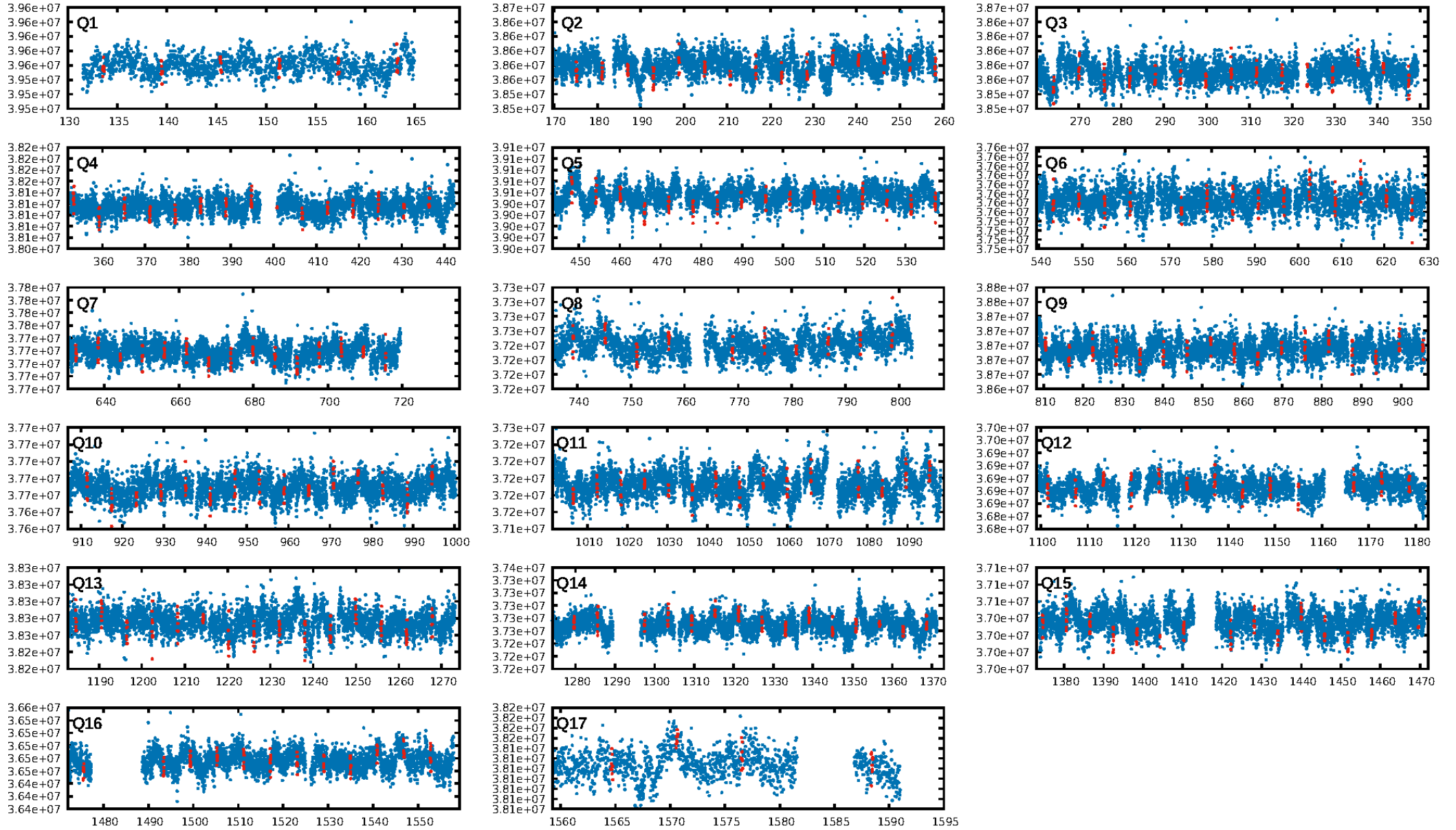
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.73e-33
RollingBand-fgt: 0.98 [212/216]
GhostDiagnostic-chr: -0.08531
Centroid-sig: 0.0%
Centroid-so: 17.897 arcsec [19.37σ]
OotOffset-rm: 6.164 arcsec [71.81σ]
KicOffset-rm: 6.074 arcsec [70.25σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
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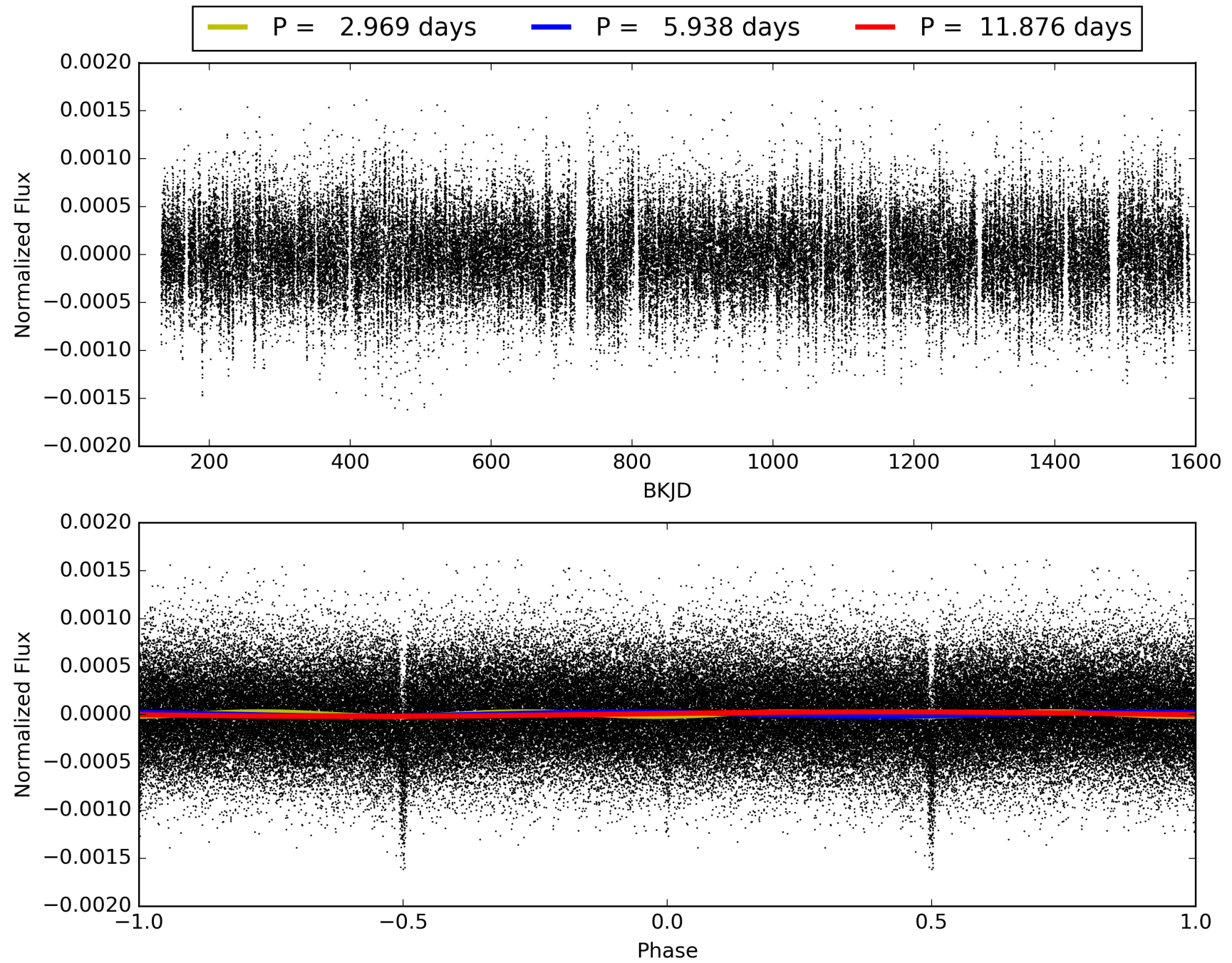
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 21:46:20 Z

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

TCE 008519253-02, PDC Light Curves

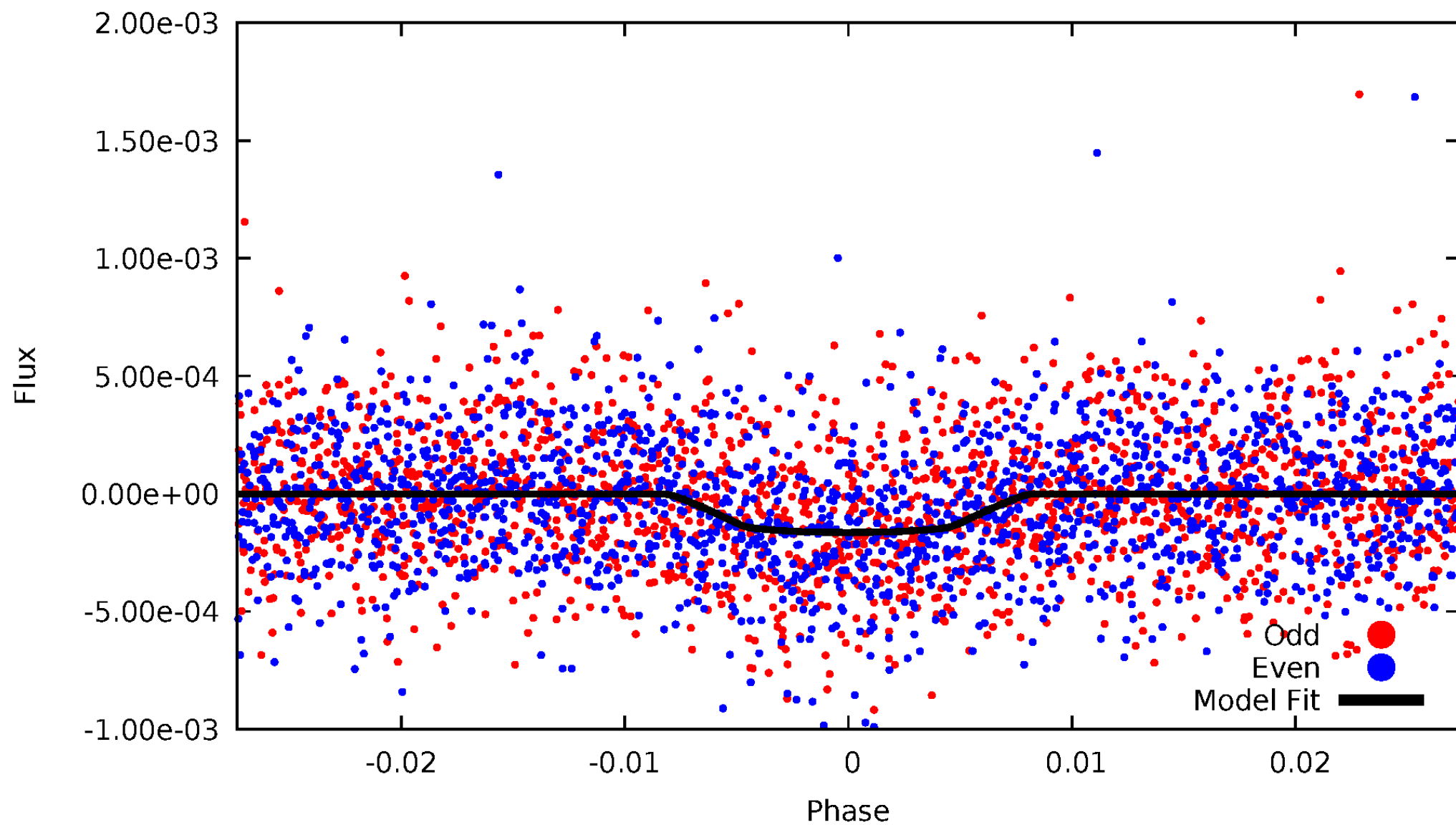


TCE 008519253-02



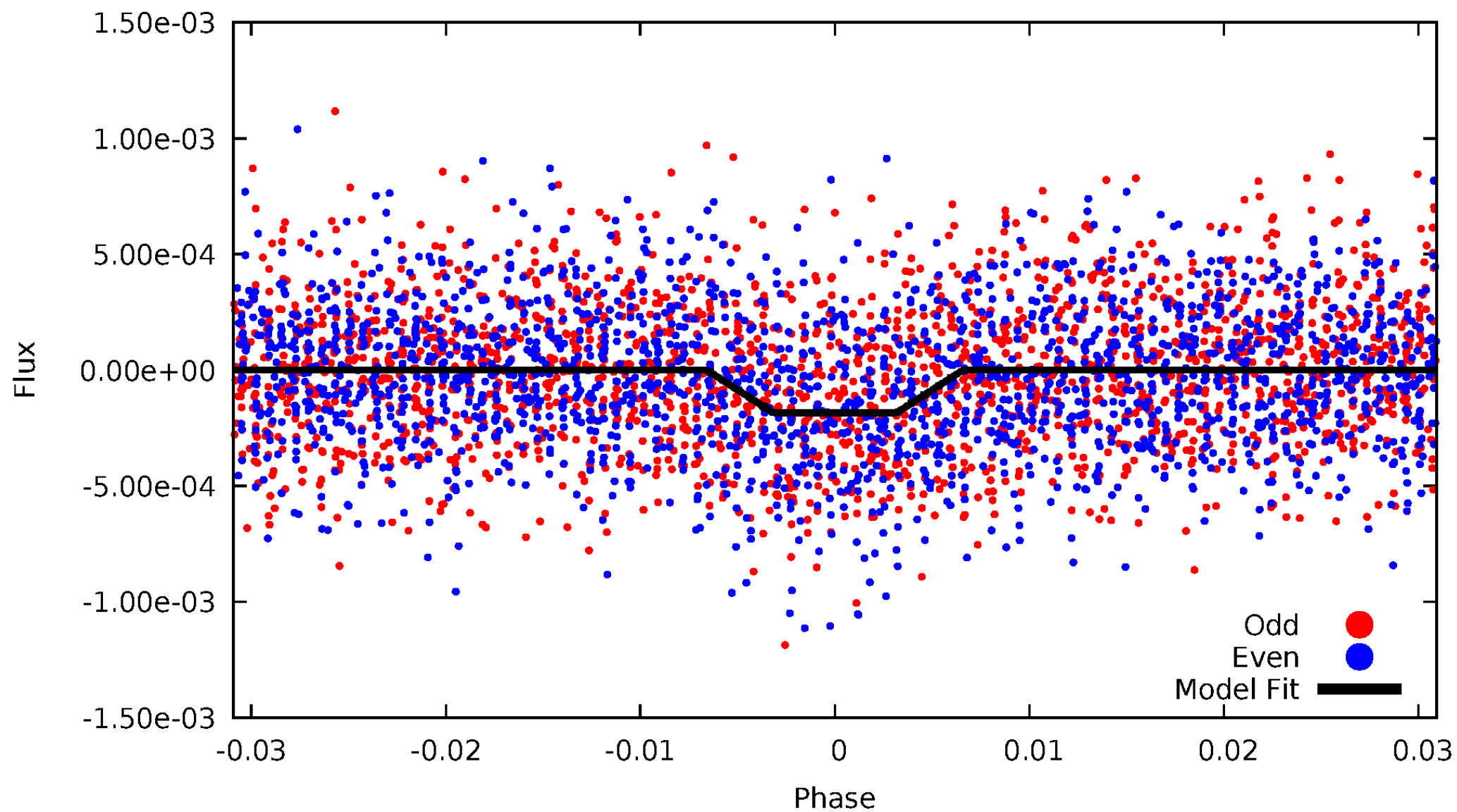
DV Odd/Even

TCE 008519253-02



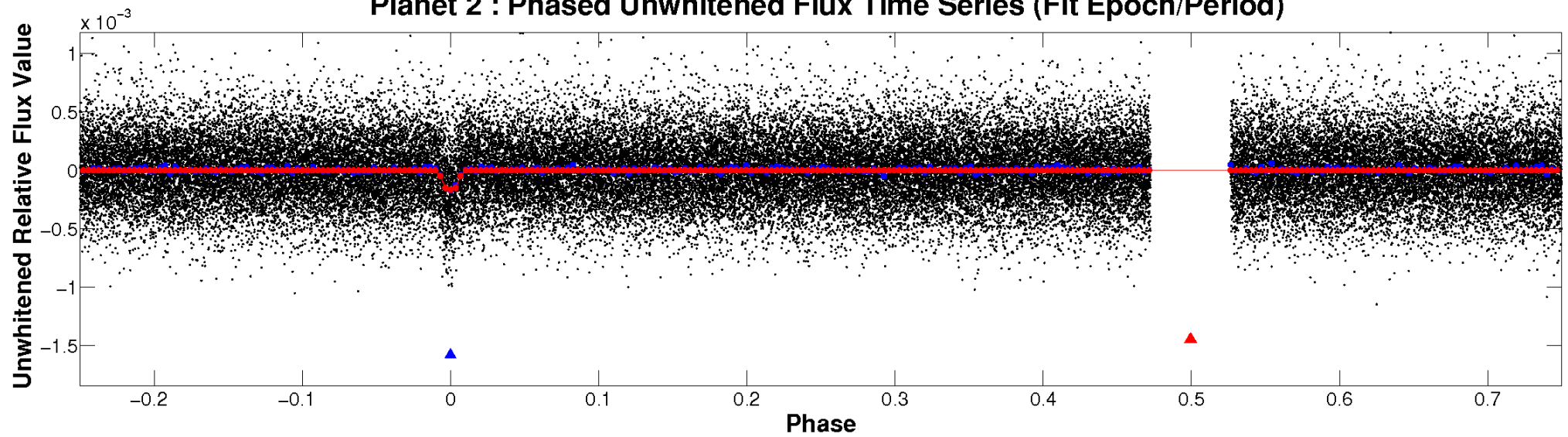
ALT Odd/Even

TCE 008519253-02

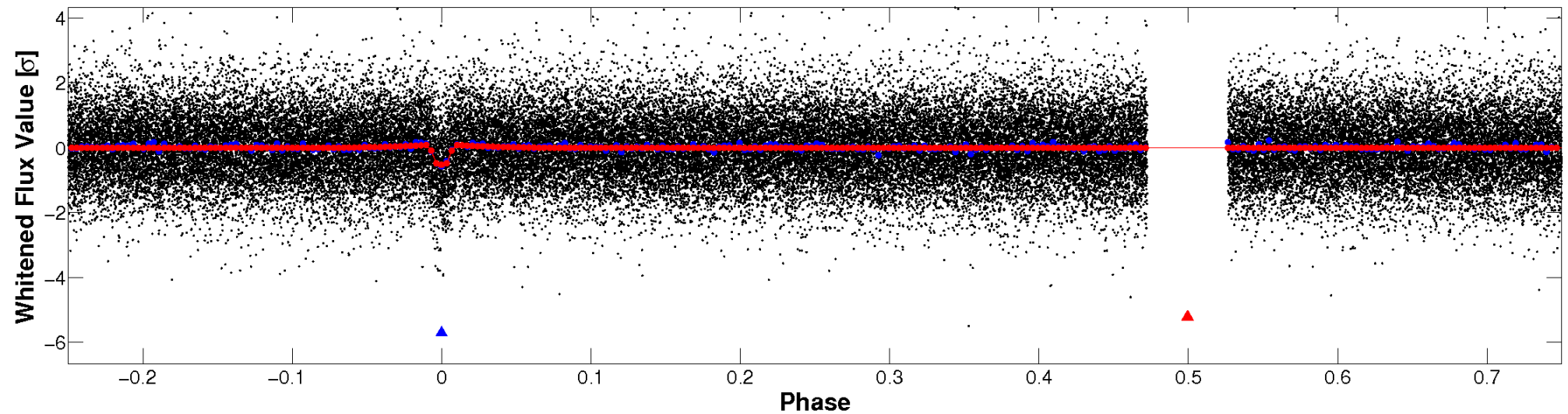


Non-Whitened Vs. Whitened Light Curve

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

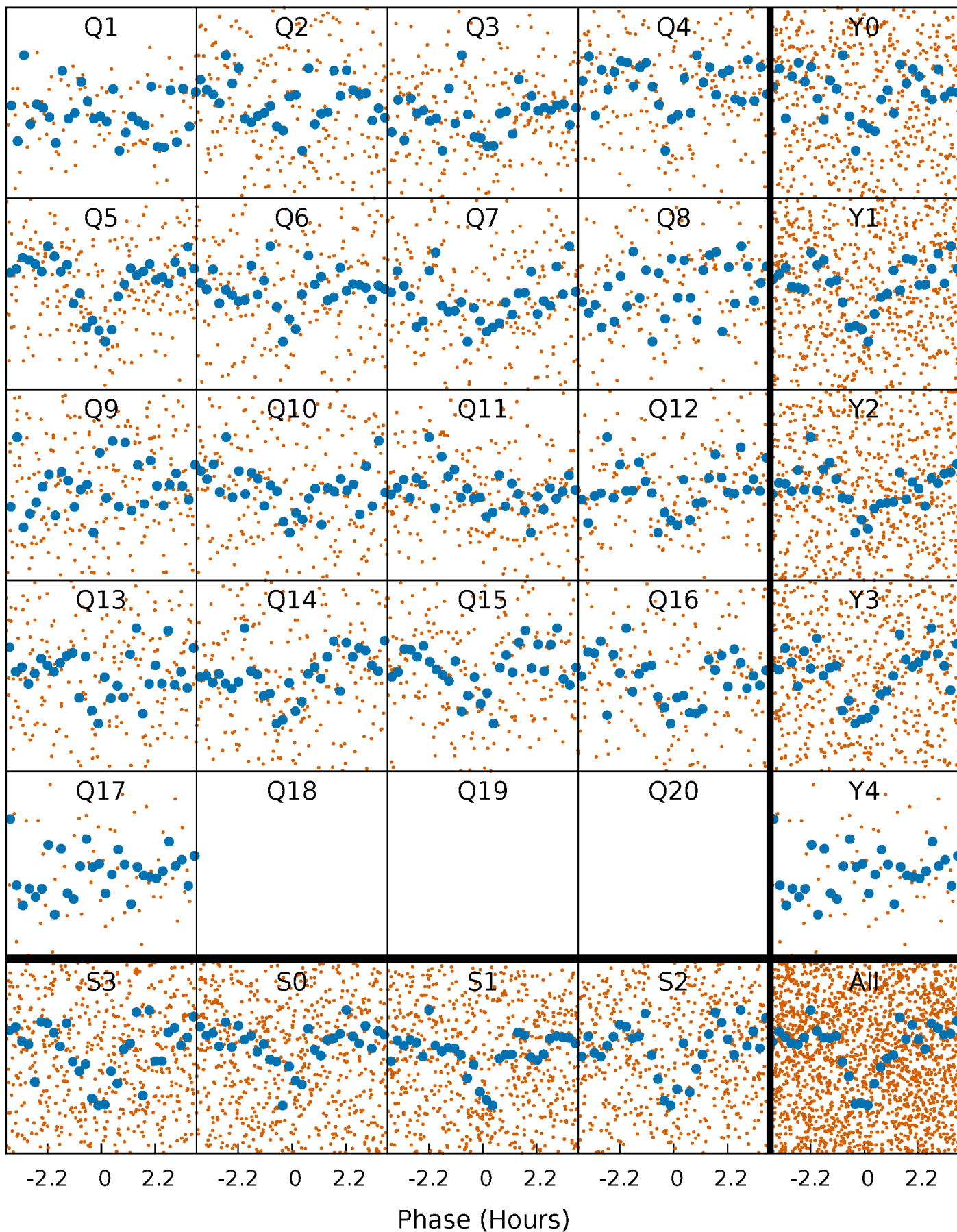


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



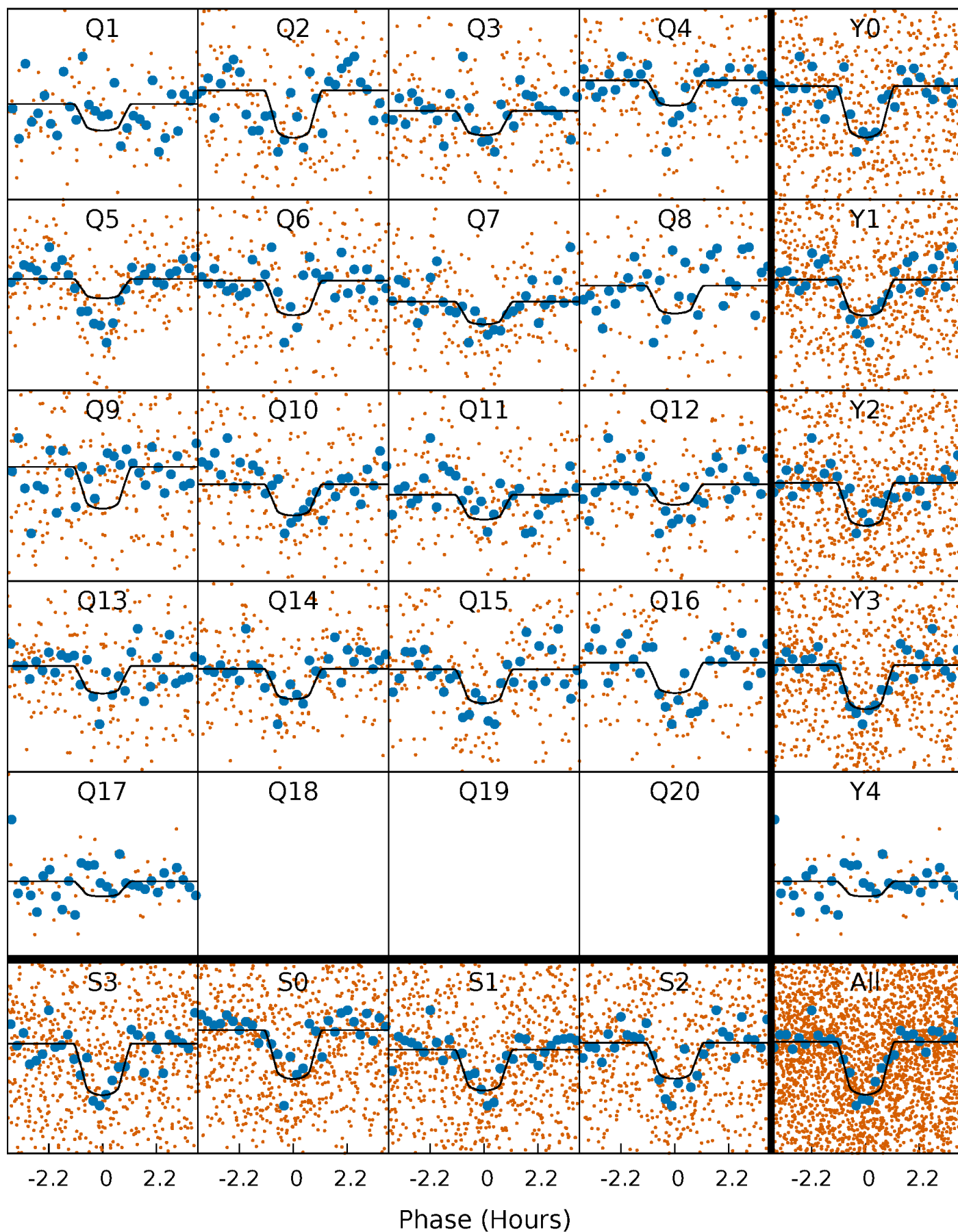
PDC Quarter-Phased Transit Curves

TCE 008519253-02 P= 5.938240 Days $T_0=133.558219$ (BKJD)



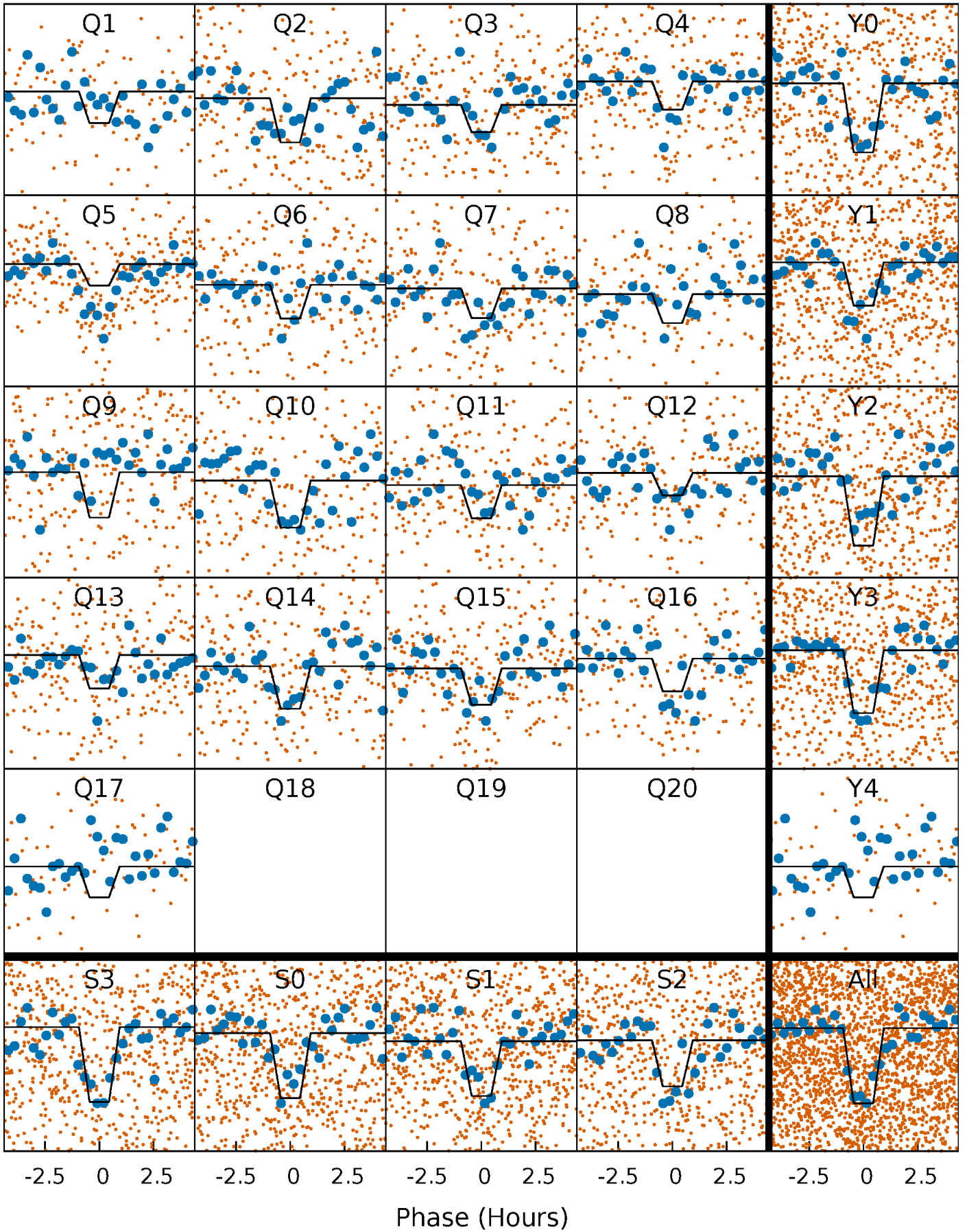
DV Quarter-Phased Transit Curves

TCE 008519253-02 P= 5.938240 Days $T_0=133.558219$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

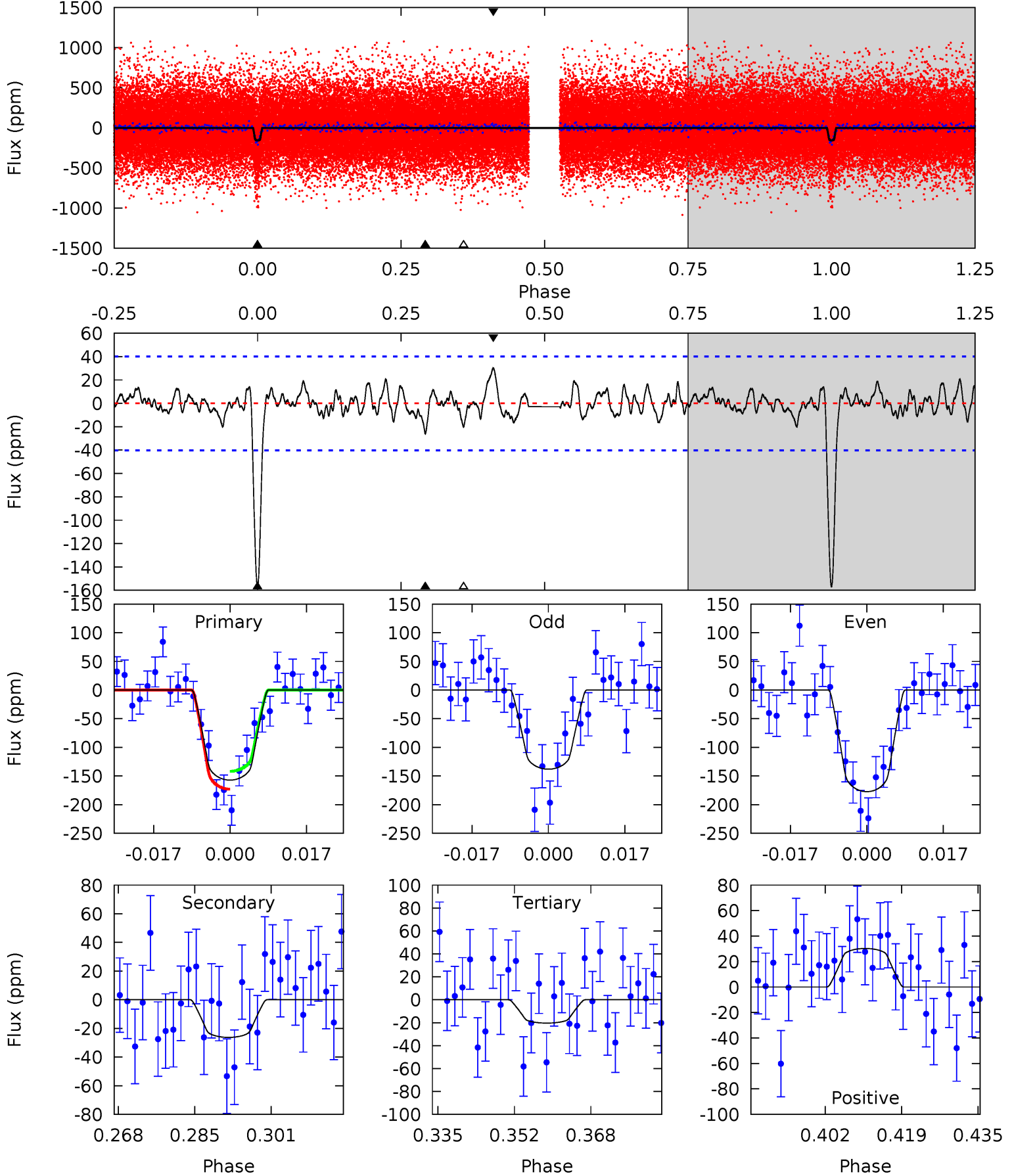
TCE 008519253-02 P= 5.938198 Days $T_0=133.560665$ (BKJD)



DV Model-Shift Uniqueness Test

008519253-02, P = 5.938240 Days, E = 127.619979 Days

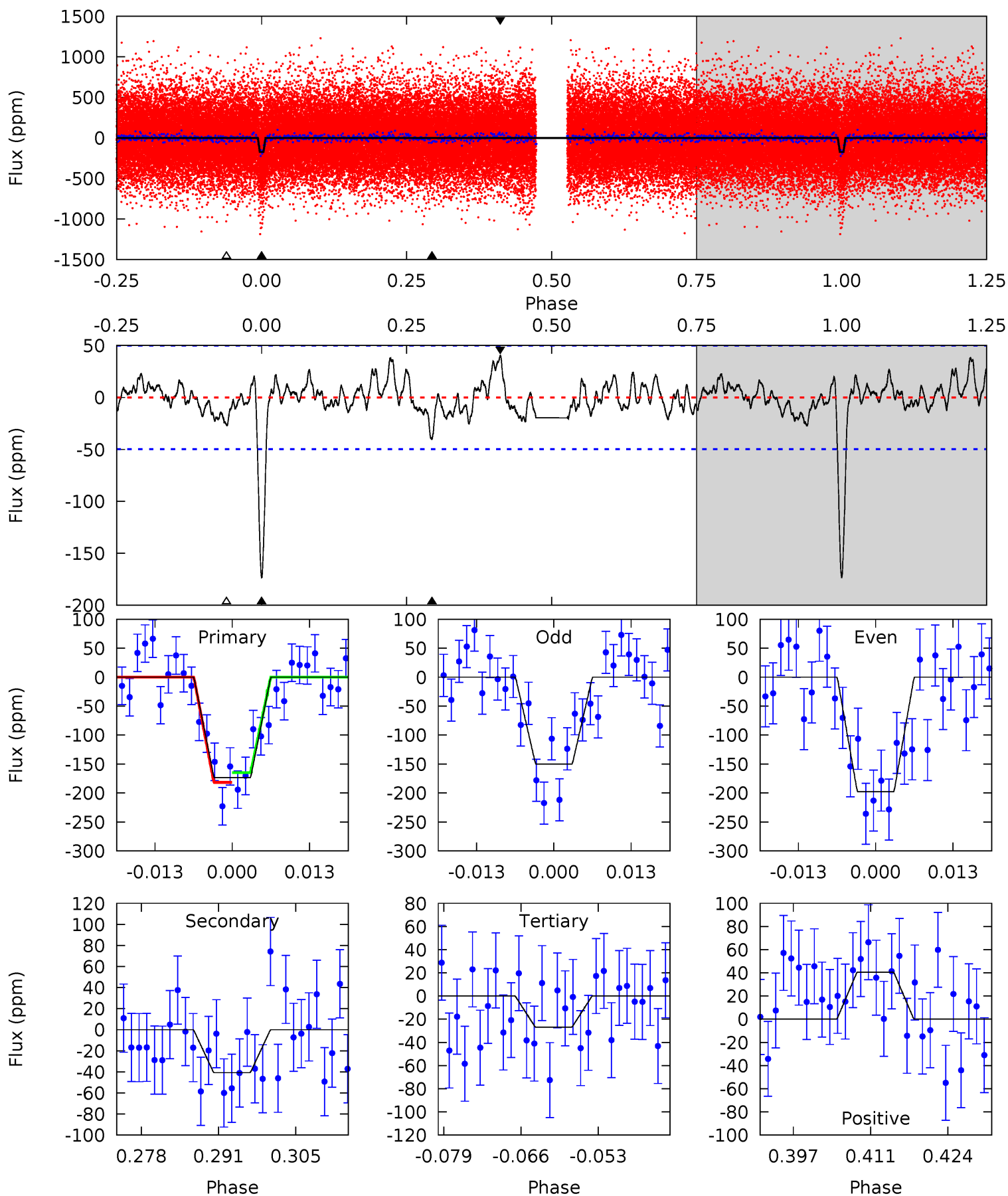
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.3	3.22	2.49	3.71	4.93	2.39	1.02	16.8	15.6	0.73	-0.49	2.41	1.00	0.16	1.92



Alt Model-Shift Uniqueness Test

008519253-02, P = 5.938198 Days, E = 127.622467 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.3	4.07	2.69	4.06	4.97	2.48	1.27	14.6	13.3	1.38	0.01	2.38	1.03	0.19	0.85



Stellar Parameters For KIC 008519253

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6123^{+164}_{-200}	$4.545^{+0.036}_{-0.204}$	$-0.540^{+0.300}_{-0.300}$	$0.850^{+0.237}_{-0.079}$	$0.924^{+0.097}_{-0.108}$	$2.117^{+0.407}_{-1.061}$
	+3%/-3%	+1%/-4%	+56%/-56%	+28%/-9%	+10%/-12%	+19%/-50%
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 008519253-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-26 ± 8	$1.33^{+0.57}_{-0.51}$	1424^{+99}_{-66}	4015^{+885}_{-508}	30^{+53}_{-17}
Alt.	-41 ± 10	$1.31^{+0.61}_{-0.55}$	1424^{+97}_{-65}	4374^{+1202}_{-552}	48^{+105}_{-27}

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

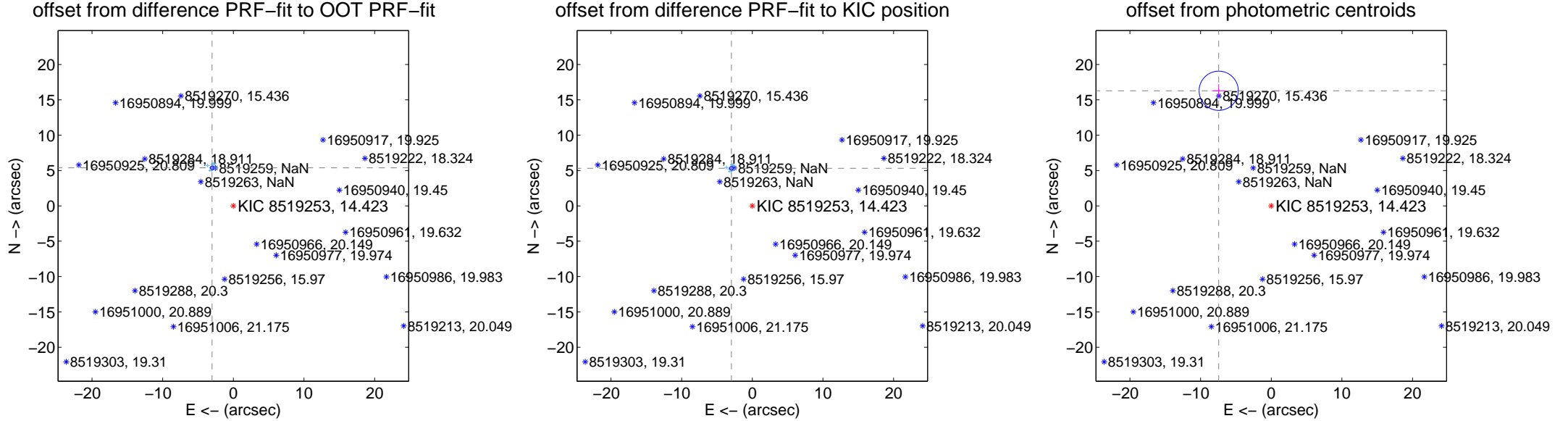
DV Centroid Data

Supplemental centroid analysis for 008519253-02. Kepler magnitude: 14.42. Transit SNR 13.10

There are 16 quarters with good PRF difference image offsets

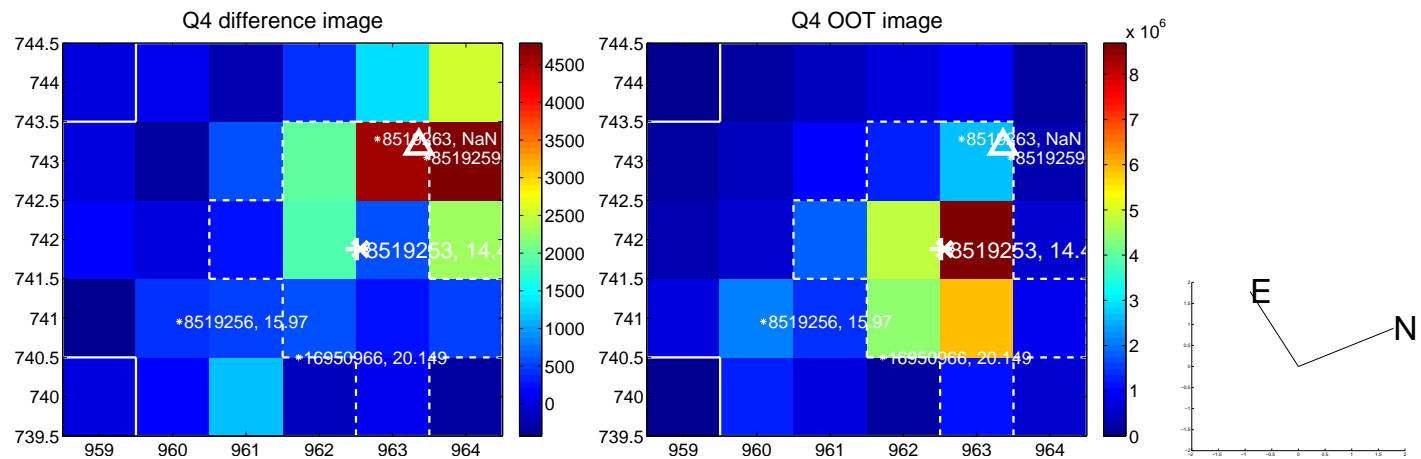
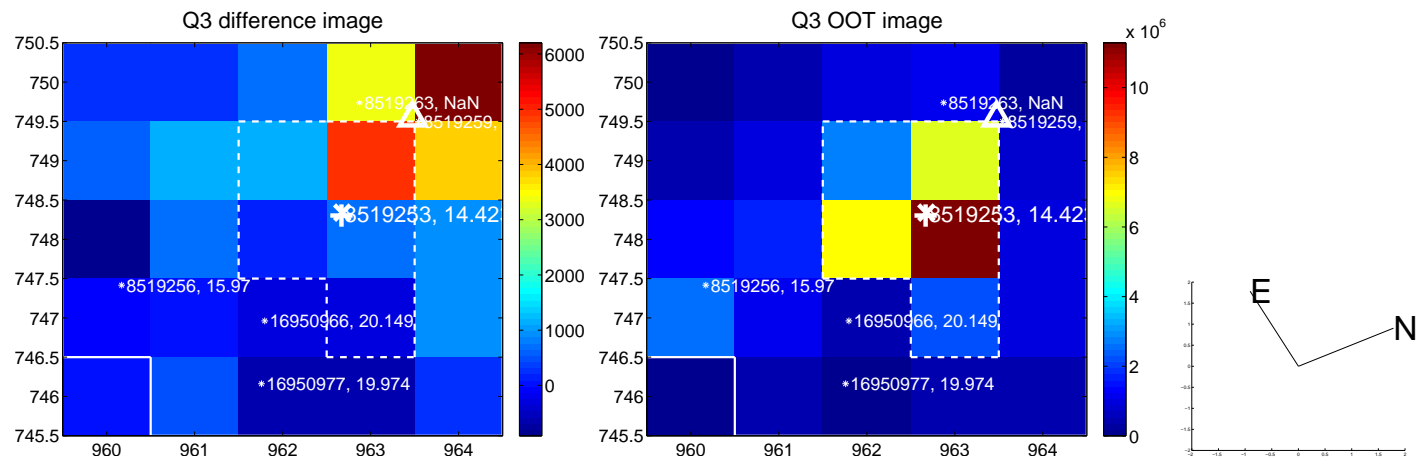
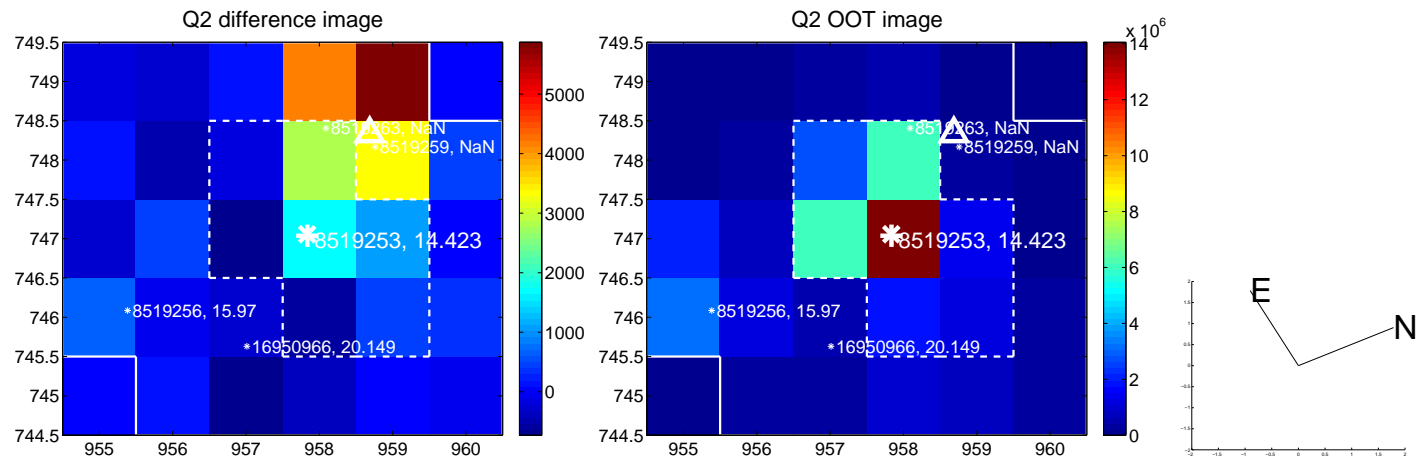
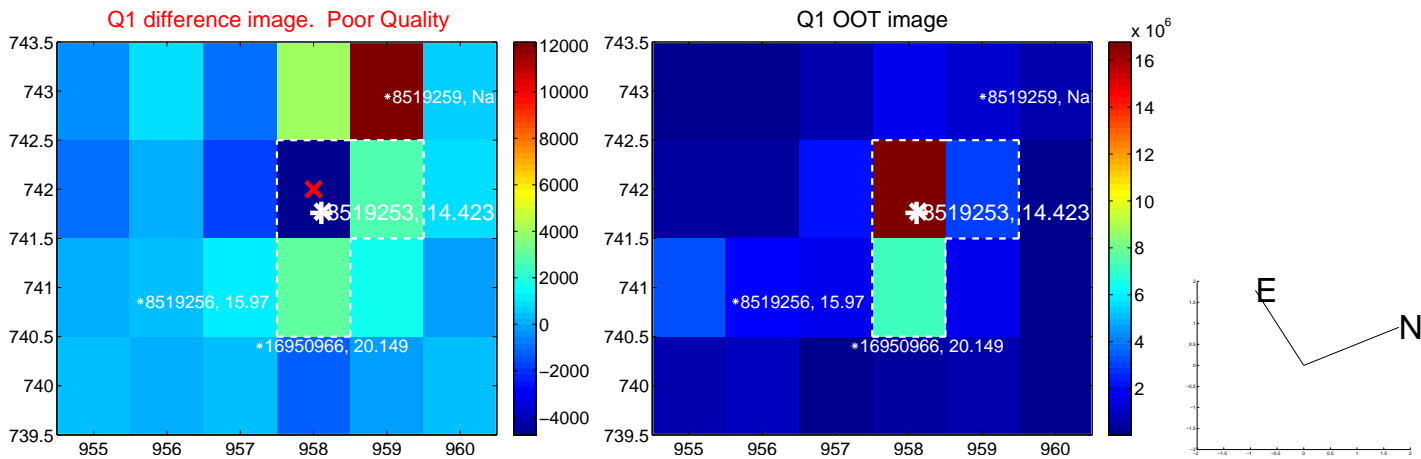
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.164 \pm 0.086	71.81	3.010 \pm 0.091	5.379 \pm 0.090
PRF-fit source offset from KIC position	6.074 \pm 0.086	70.25	2.951 \pm 0.093	5.309 \pm 0.092
photometric centroid source offset	17.90 \pm 0.92	19.37	7.43 \pm 0.95	16.28 \pm 0.92

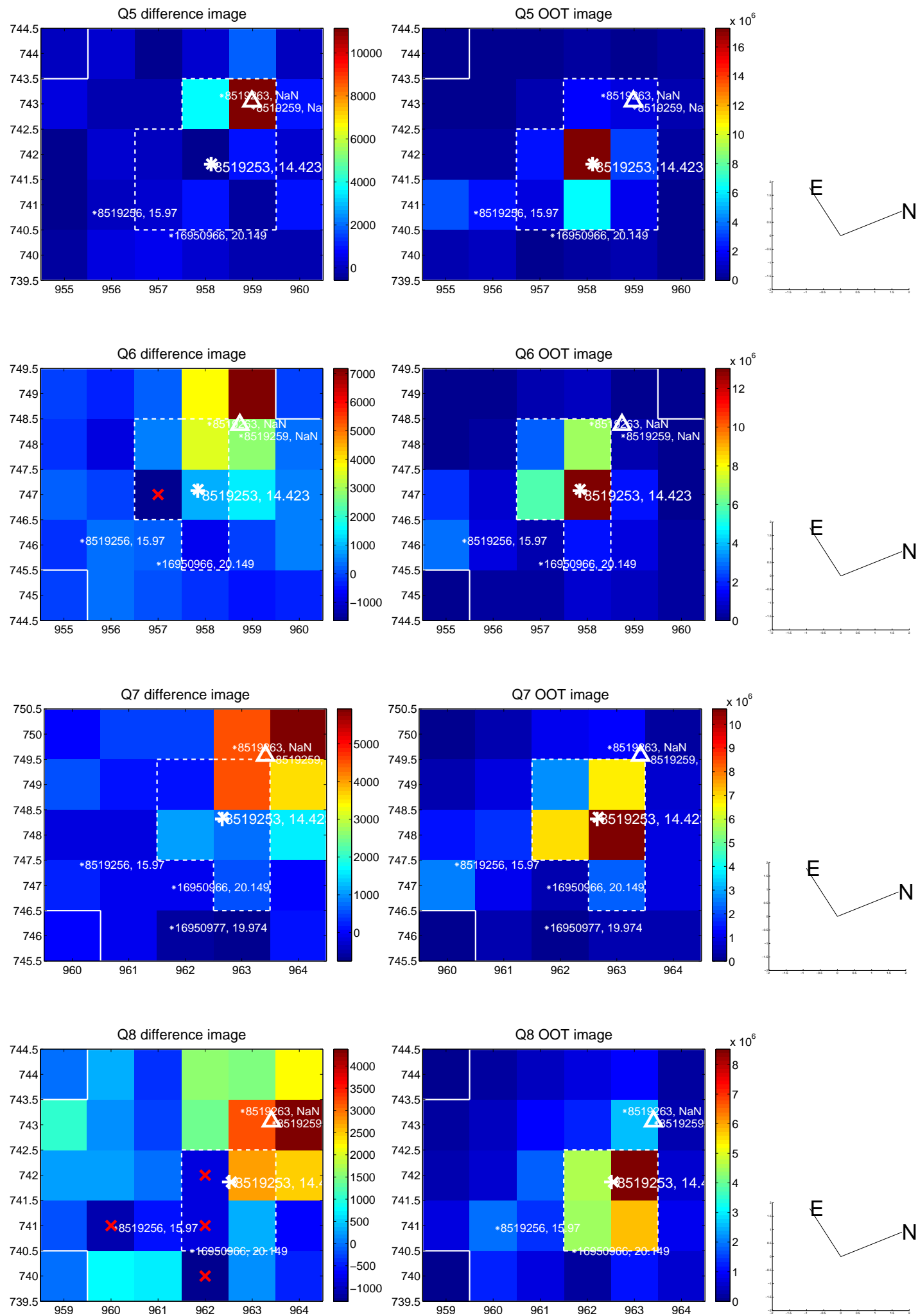


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

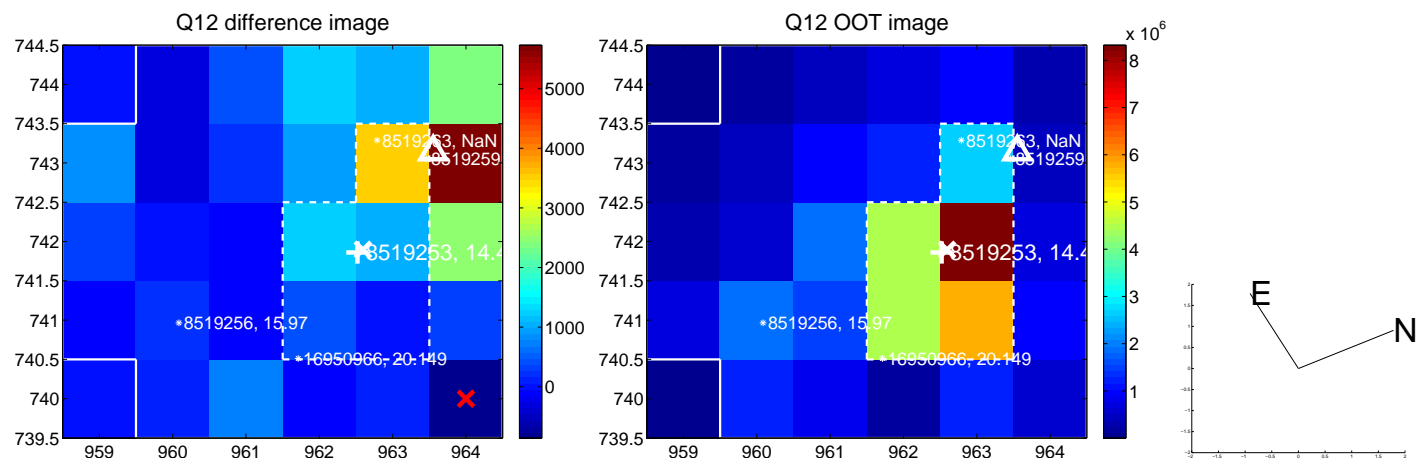
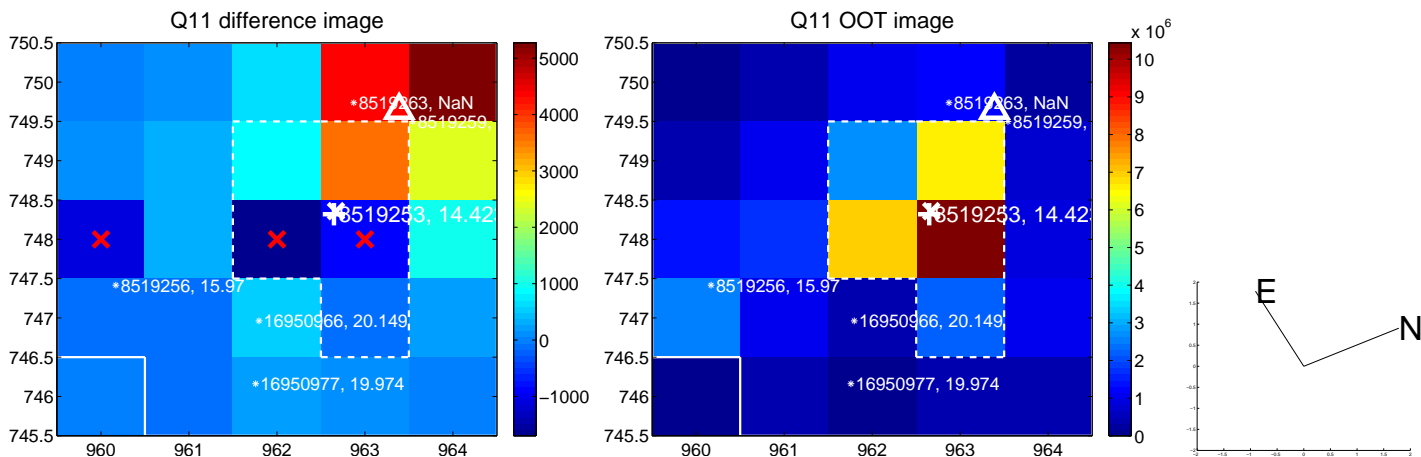
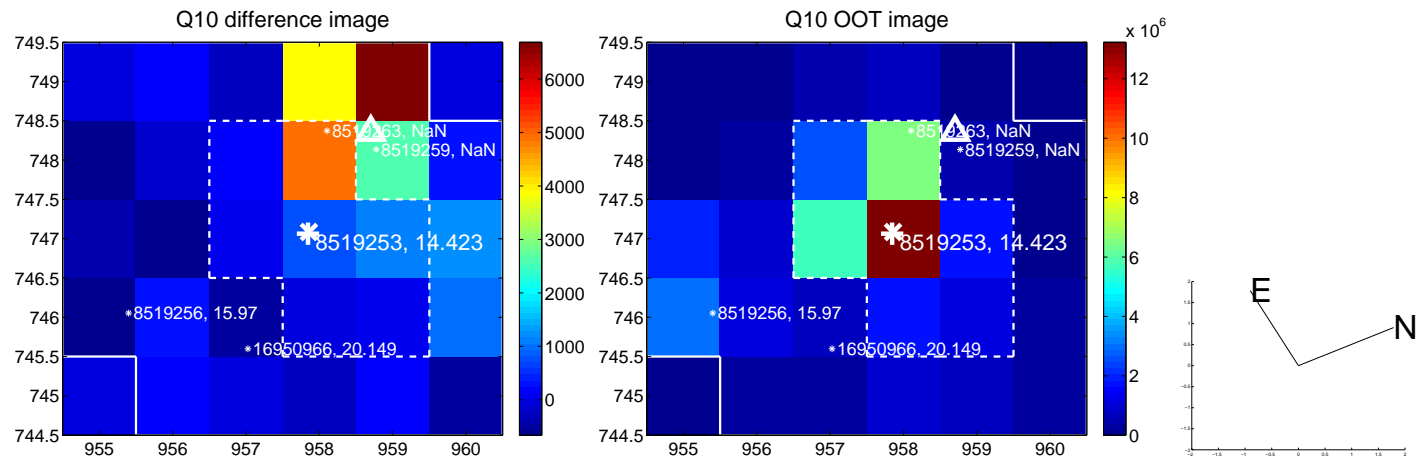
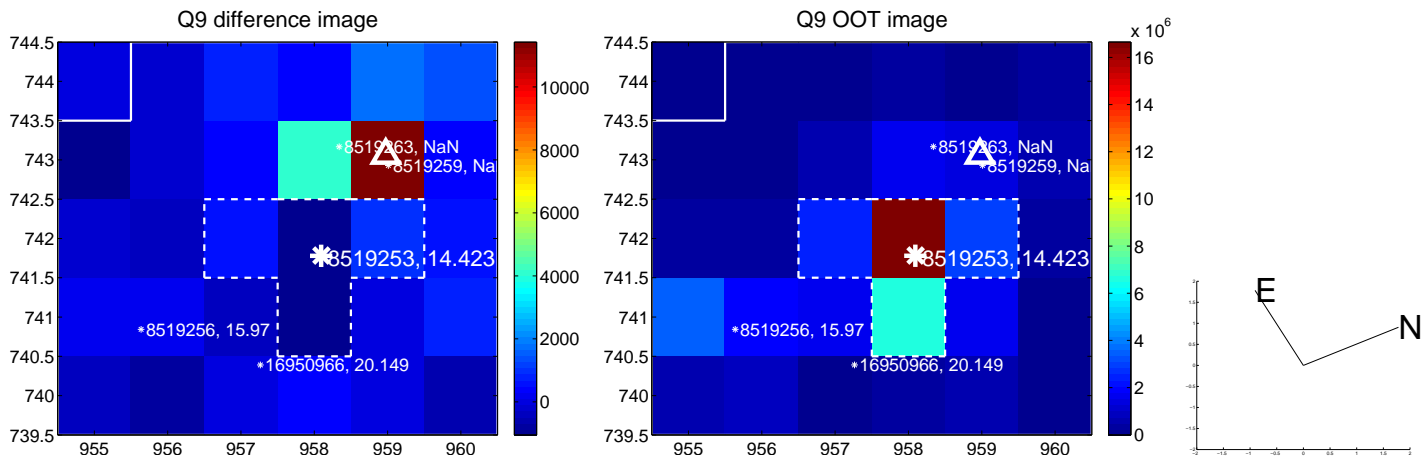
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



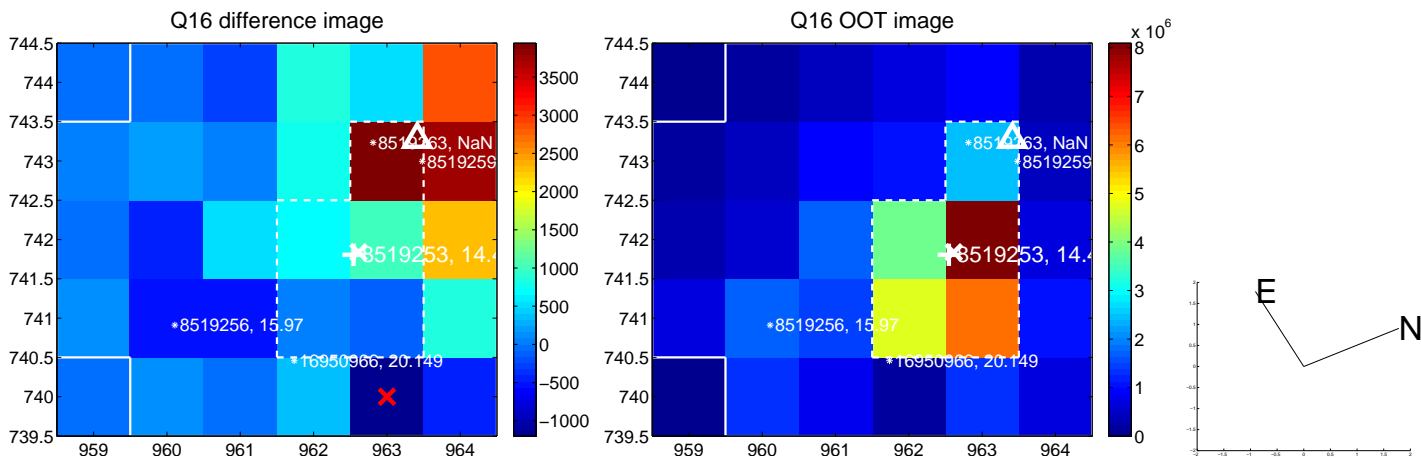
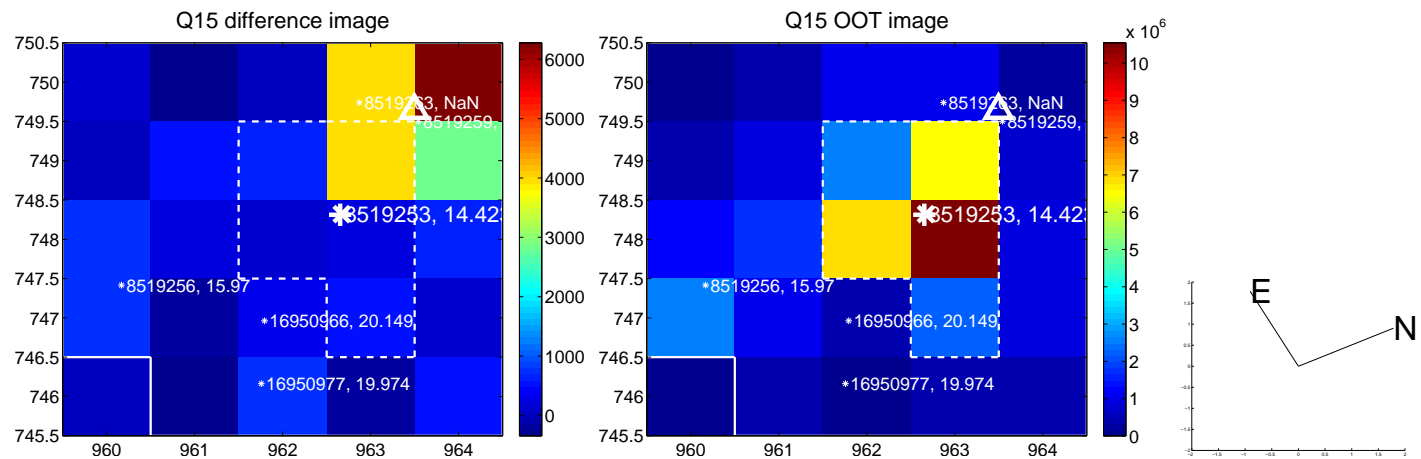
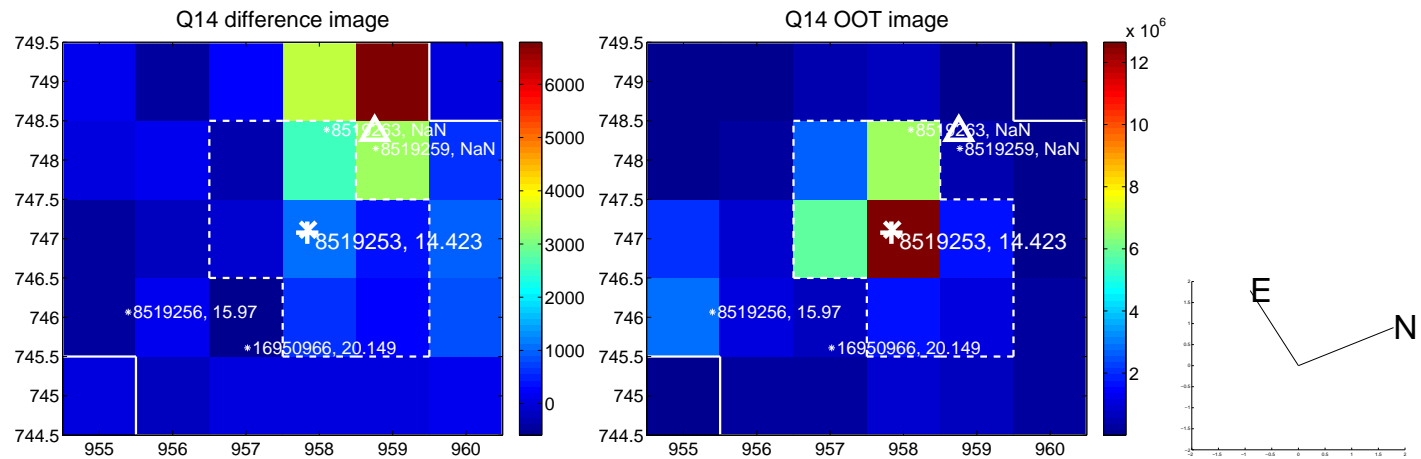
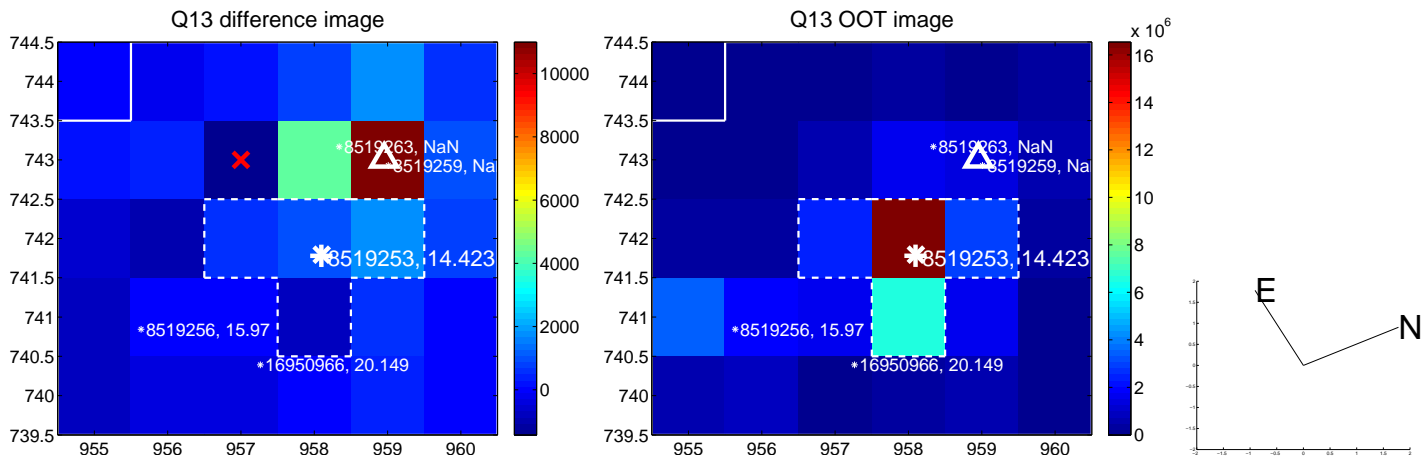
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



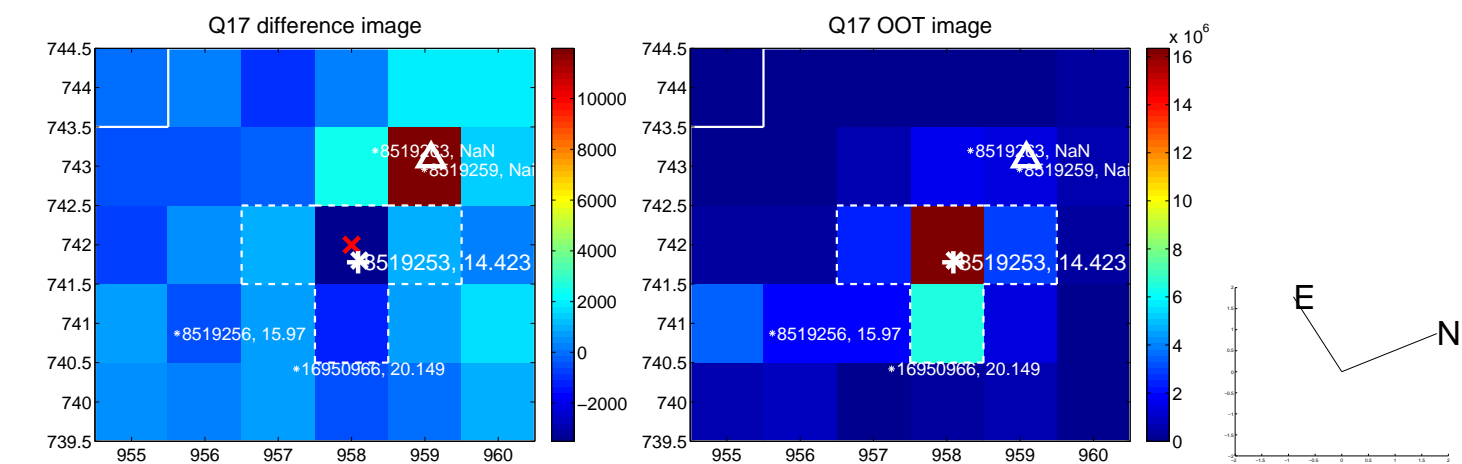
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



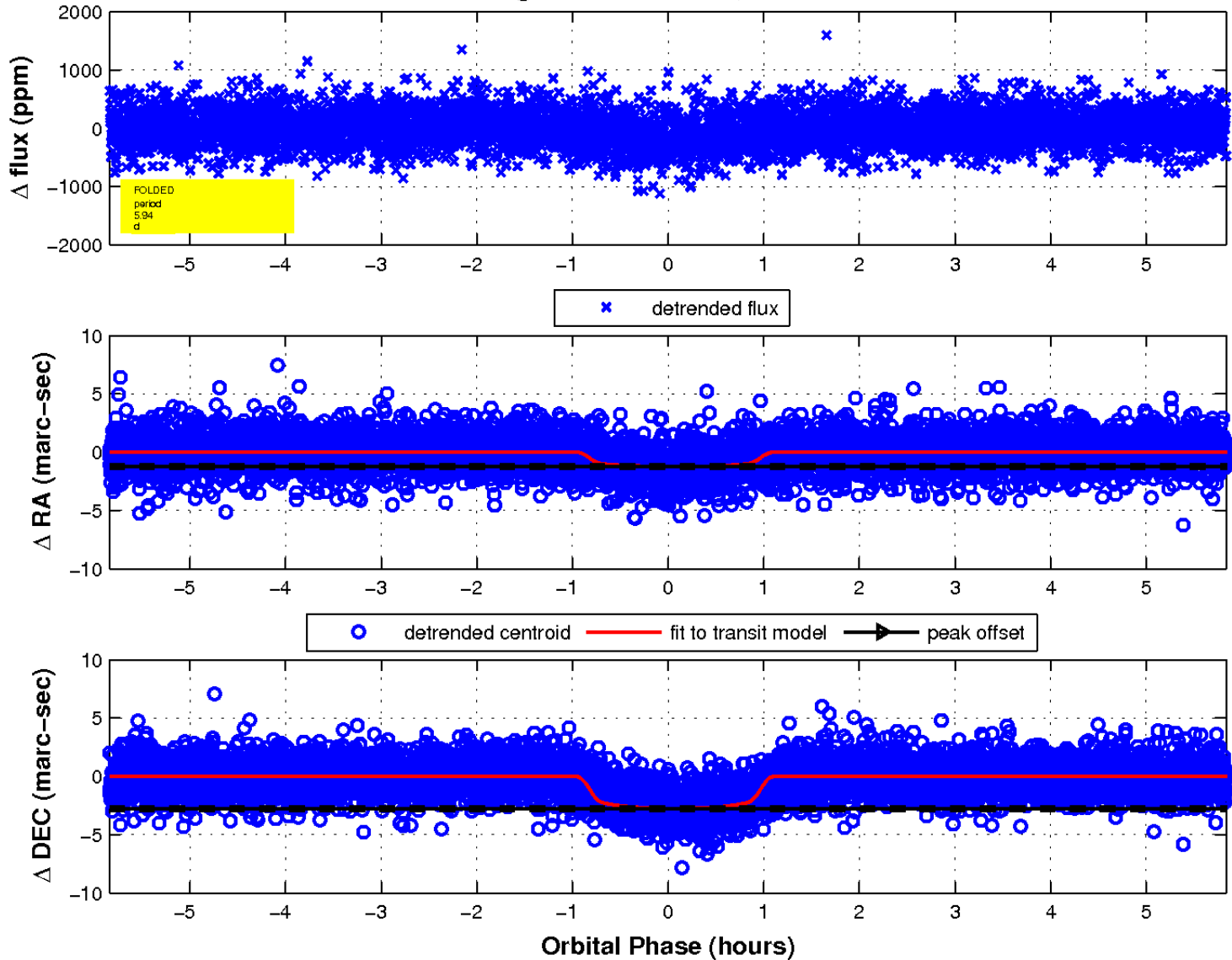
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

