

KIC 006206627

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})
006206627-01	OBS	No	2.418535	132.010429	57.5	5.222	10.0	11.8	3.13	7095	2.79	10917.56
006206627-02	OBS	No	418.462037	365.247578	434.1	0.613	16.8	1.4	3.13	7095	7.83	11.32
006206627-03	OBS	No	418.881566	364.205468	1109.1	42.912	16.5	9.1	3.13	7095	12.39	11.31
006206627-04	OBS	No	0.657565	131.755898	80.1	1.251	10.0	11.2	3.13	7095	2.85	61983.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006206627-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006206627-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
006206627-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006206627-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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.

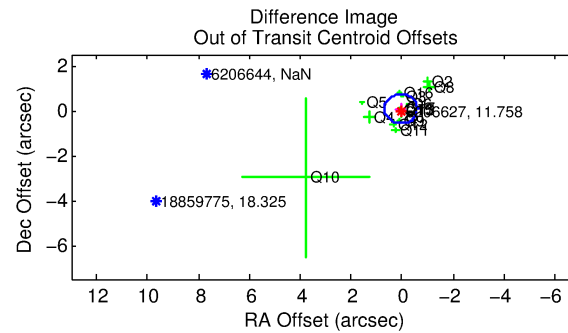
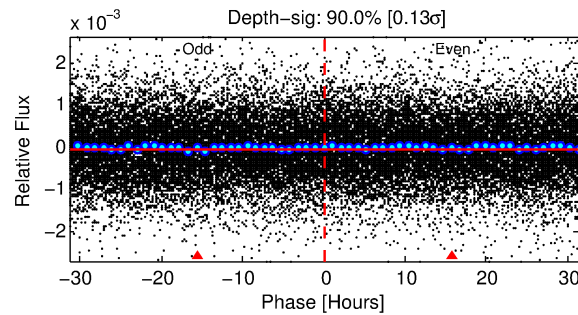
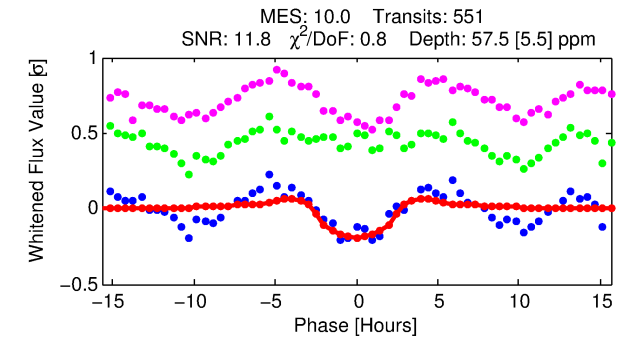
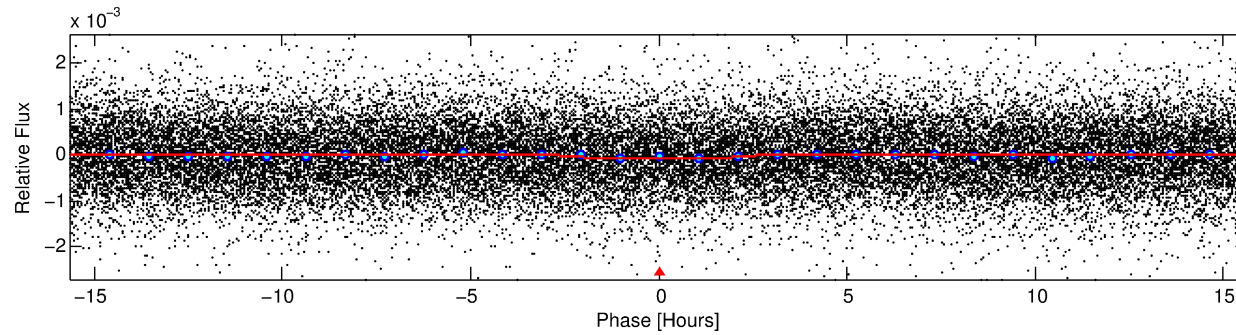
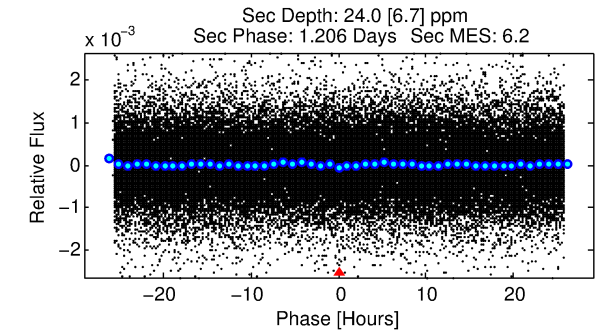
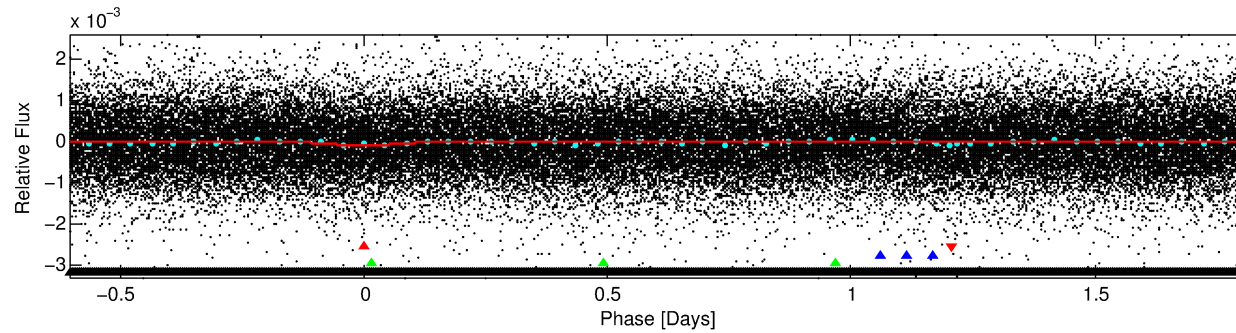
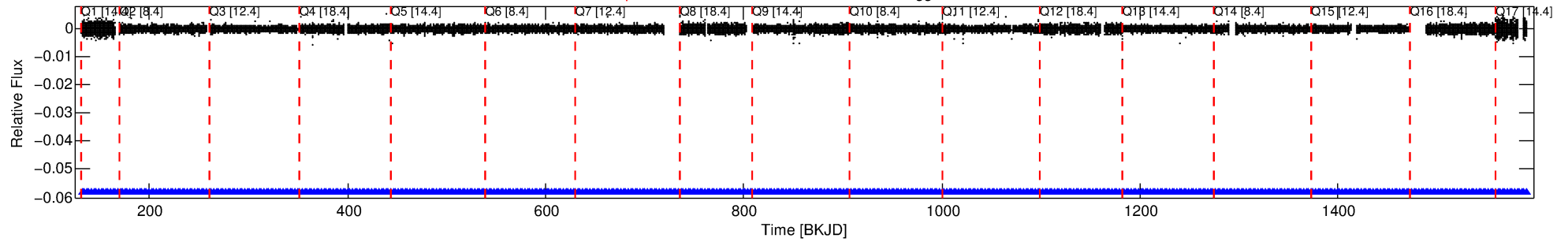
Ephemeris Match Information For 006206627-01

No Significant Match Found

DV One-Page Summary

KIC: 6206627 Candidate: 1 of 4 Period: 2.419 d

Kp: 11.76 R*: 3.13 Rs Teff: 7095.0 K Logg: 3.77 Fe/H: 0.560



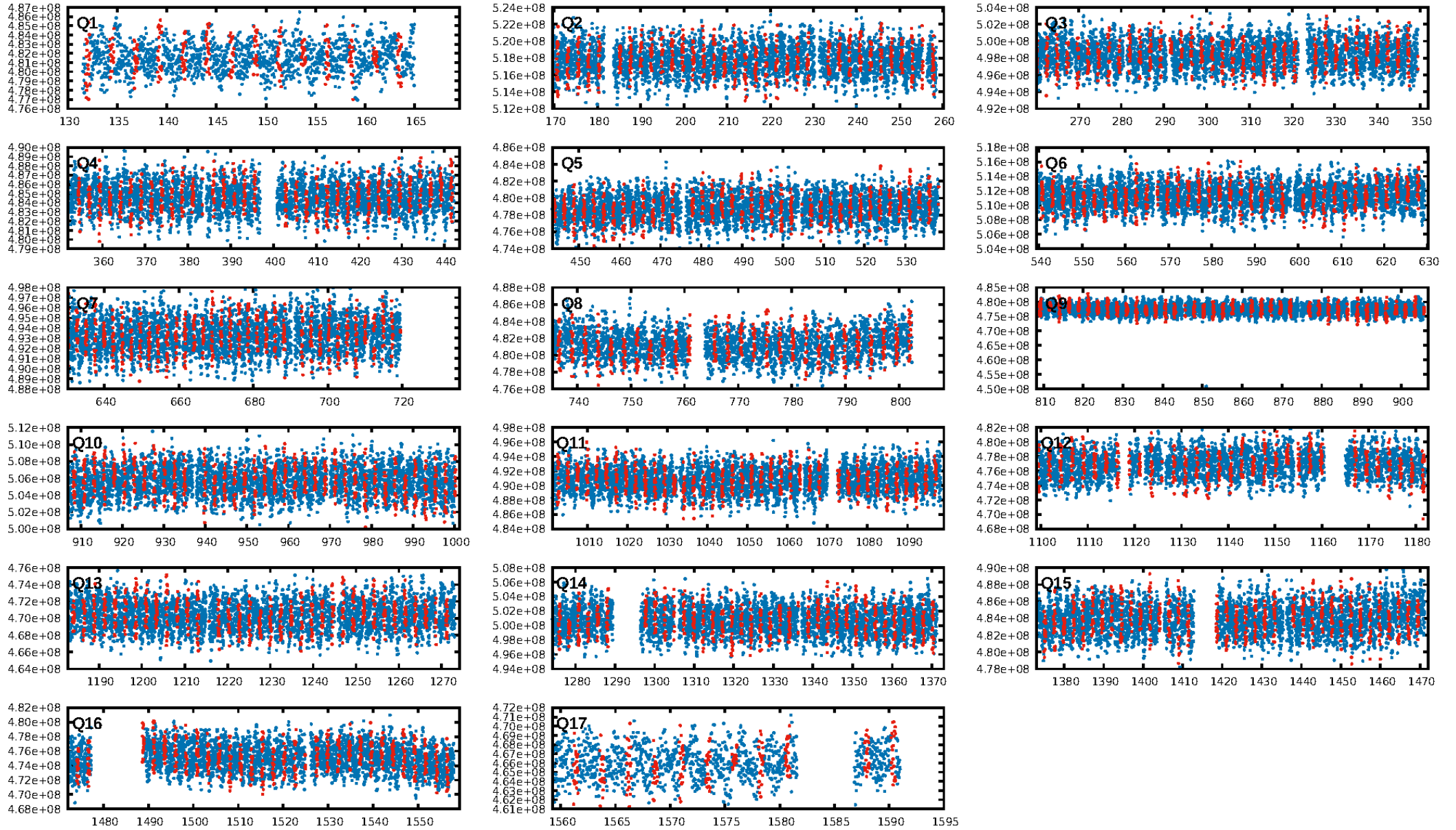
DV Fit Results:

Period = 2.41854 [0.00003] d
Epoch = 132.0104 [0.0081] BKJD
Rp/R* = 0.0082 [0.0043]
a/R* = 1.78 [3.95]
b = 0.91 [0.59]
Seff = 10917.56 [3381.89]
Teff = 2606 [202] K
Rp = 2.79 [1.59] Re
a = 0.0452 [0.0090] AU
Ag = 3.46 [3.91] [0.63σ]
Teffp = 5498 [1496] K [1.92σ]

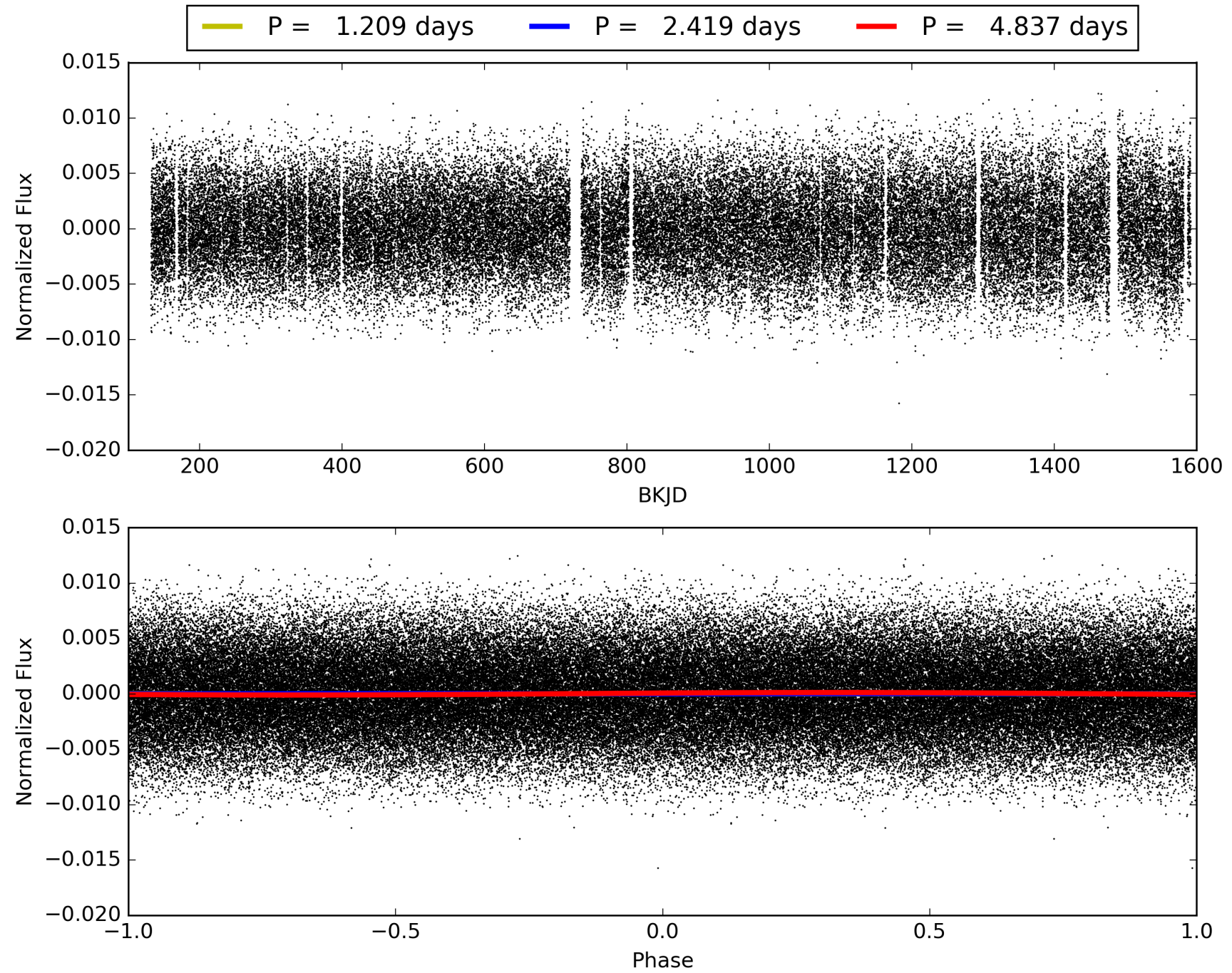
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [7.87σ]
LongPeriod-sig: 100.0% [1899.25σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 2.05e-23
RollingBand-fgt: 1.00 [526/526]
GhostDiagnostic-chr: -11.77
Centroid-sig: 1.2%
Centroid-so: 0.355 arcsec [1.66σ]
OotOffset-rm: 0.087 arcsec [0.40σ]
KicOffset-rm: 0.138 arcsec [0.60σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.50 [8/16]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 006206627-01, PDC Light Curves

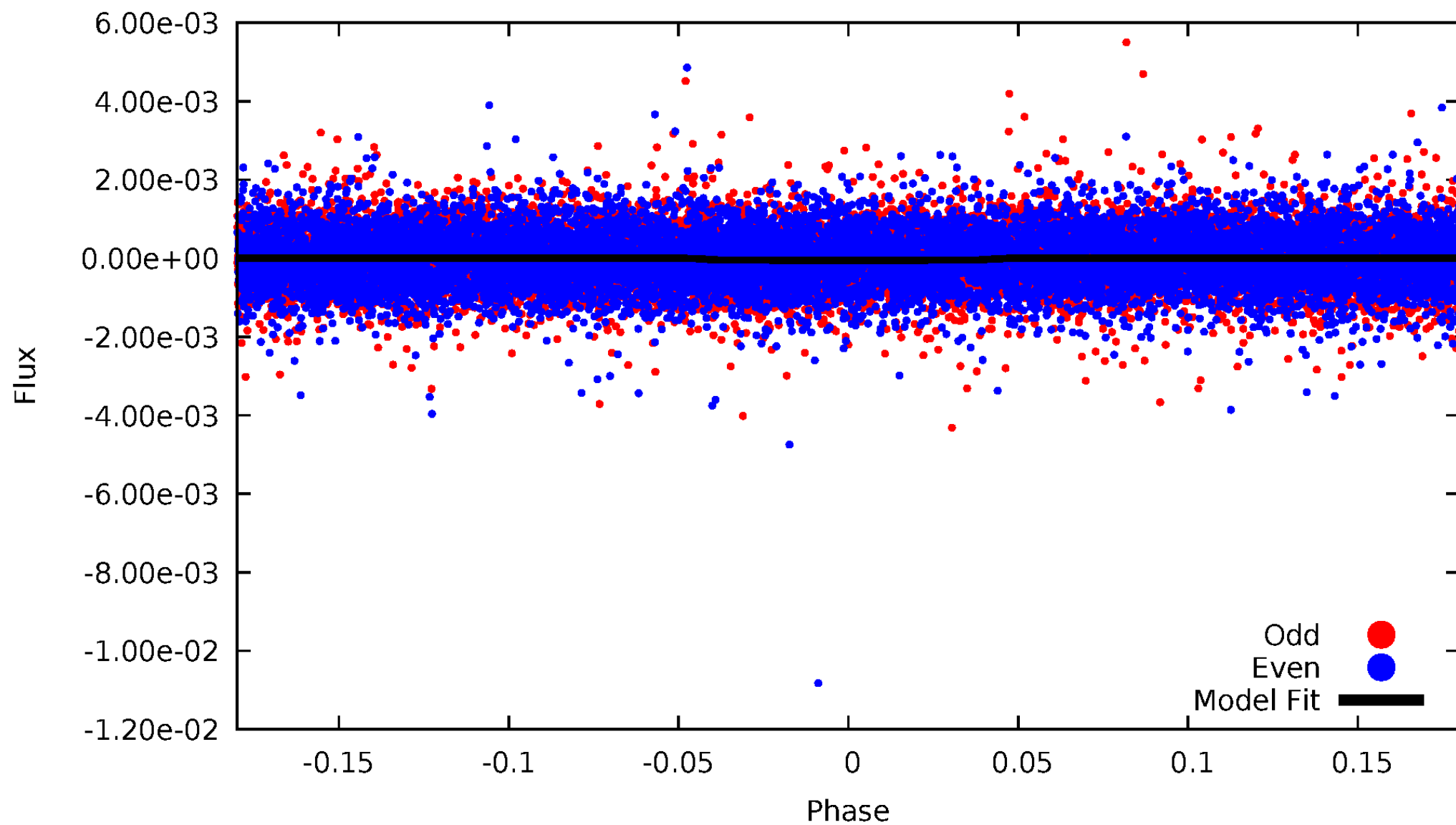


TCE 006206627-01



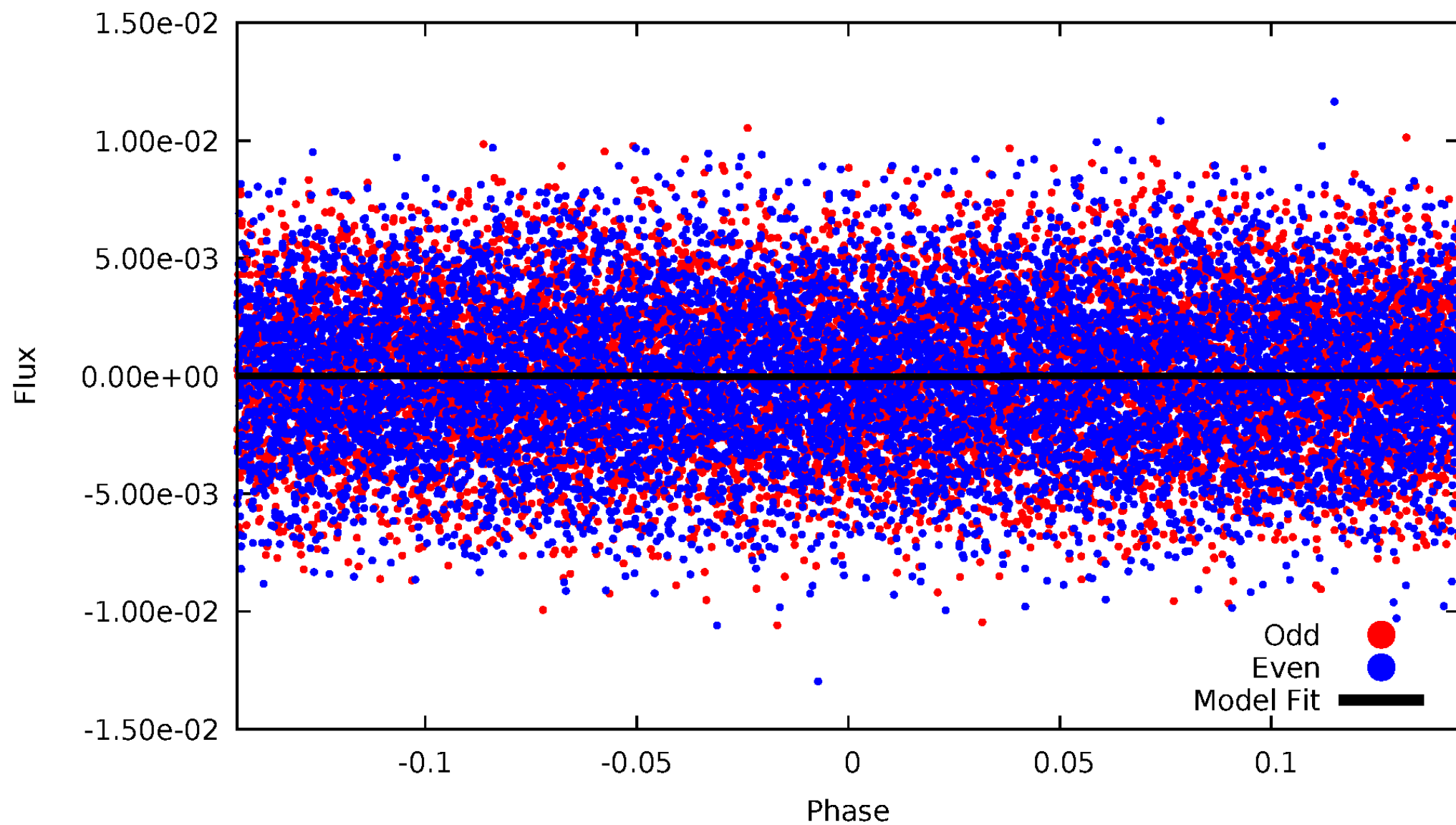
DV Odd/Even

TCE 006206627-01

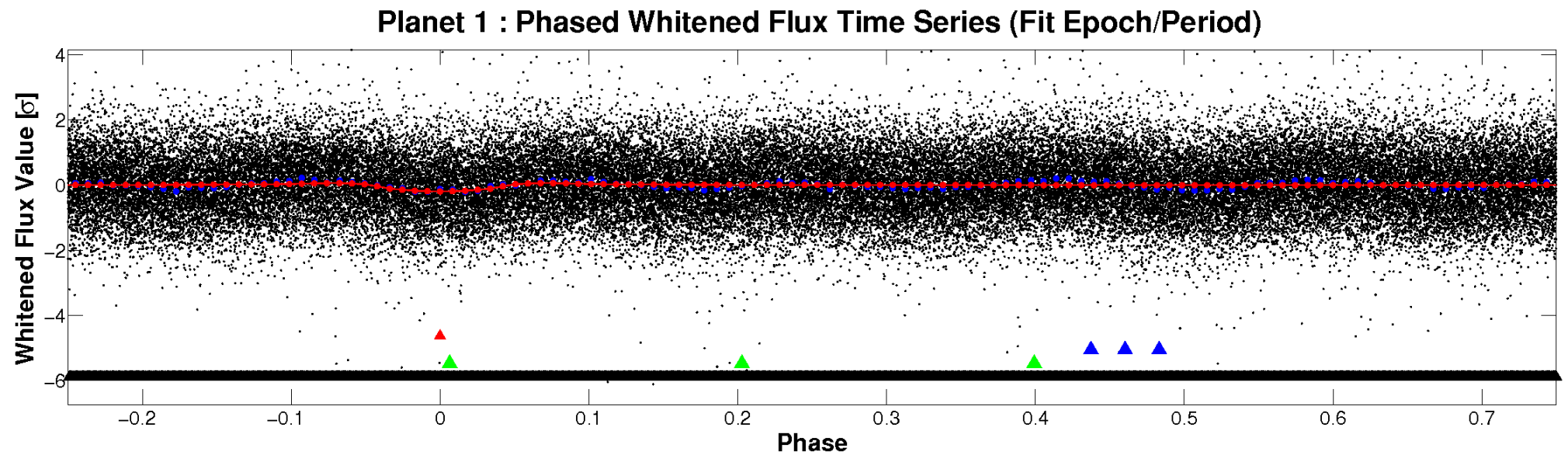
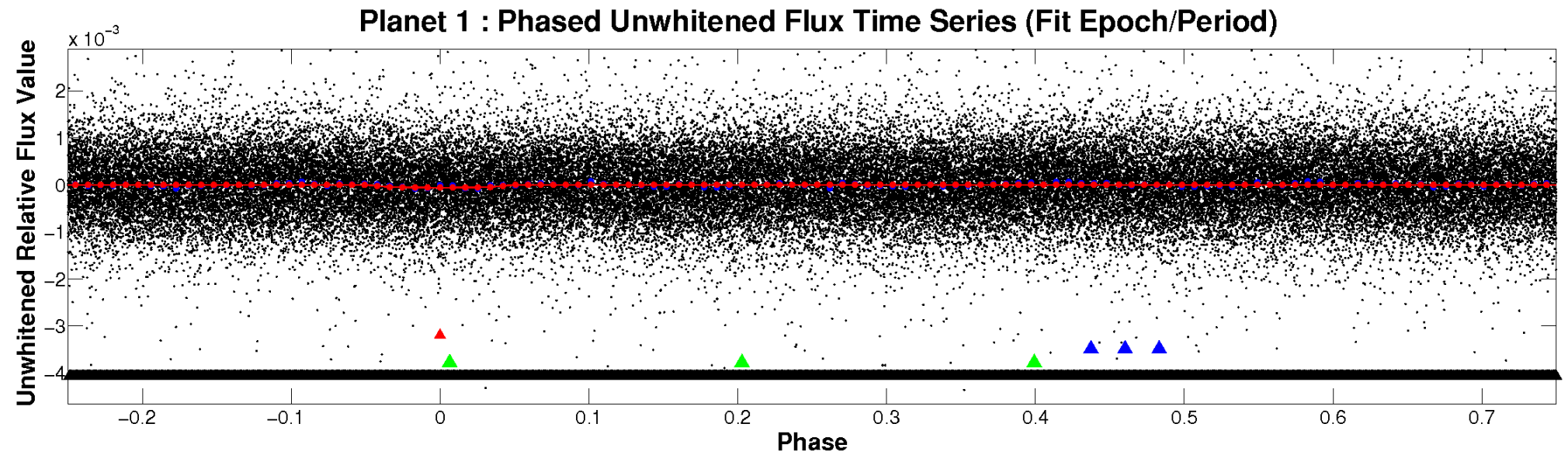


ALT Odd/Even

TCE 006206627-01

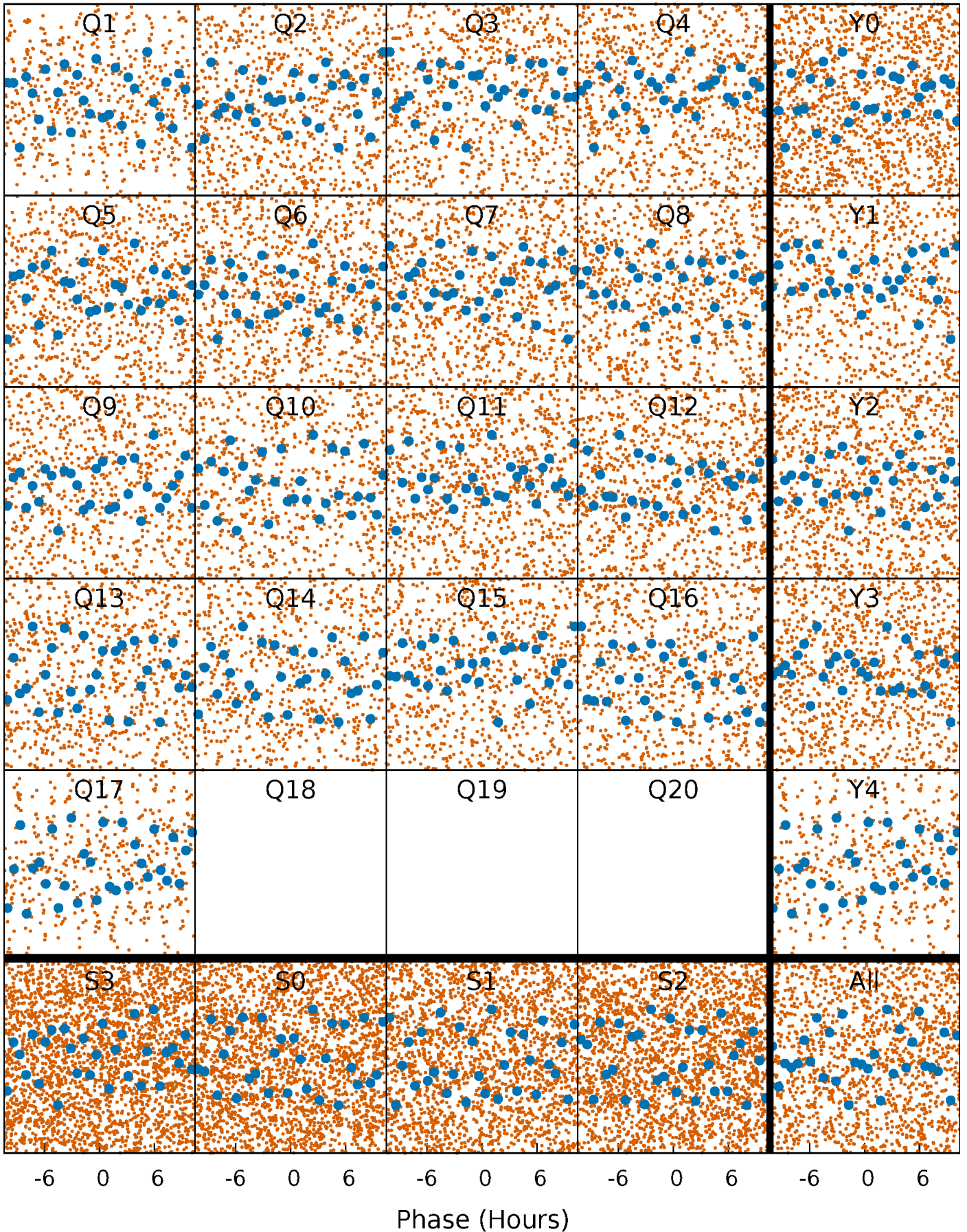


Non-Whitened Vs. Whitened Light Curve



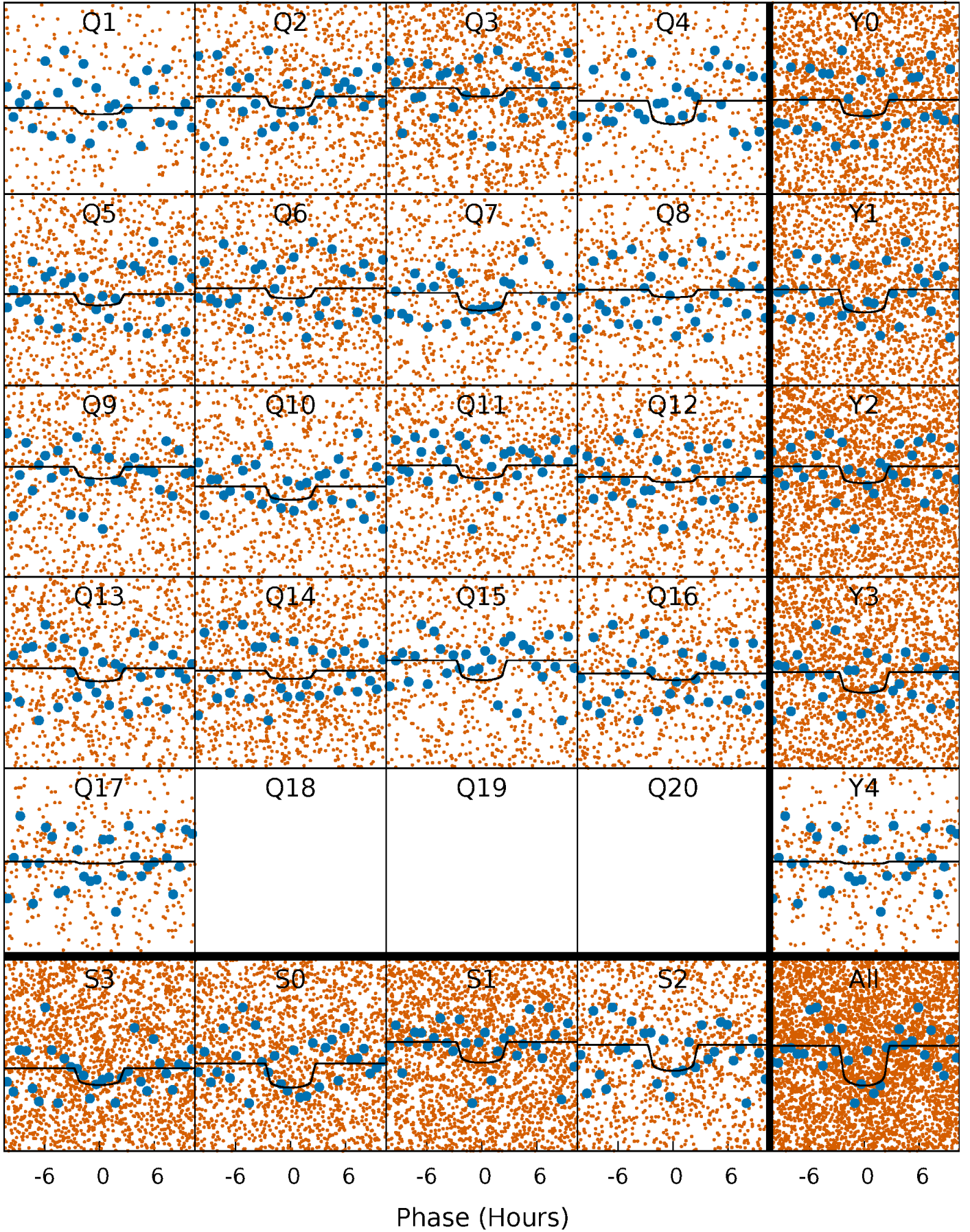
PDC Quarter-Phased Transit Curves

TCE 006206627-01 P= 2.418535 Days $T_0=132.010428$ (BKJD)



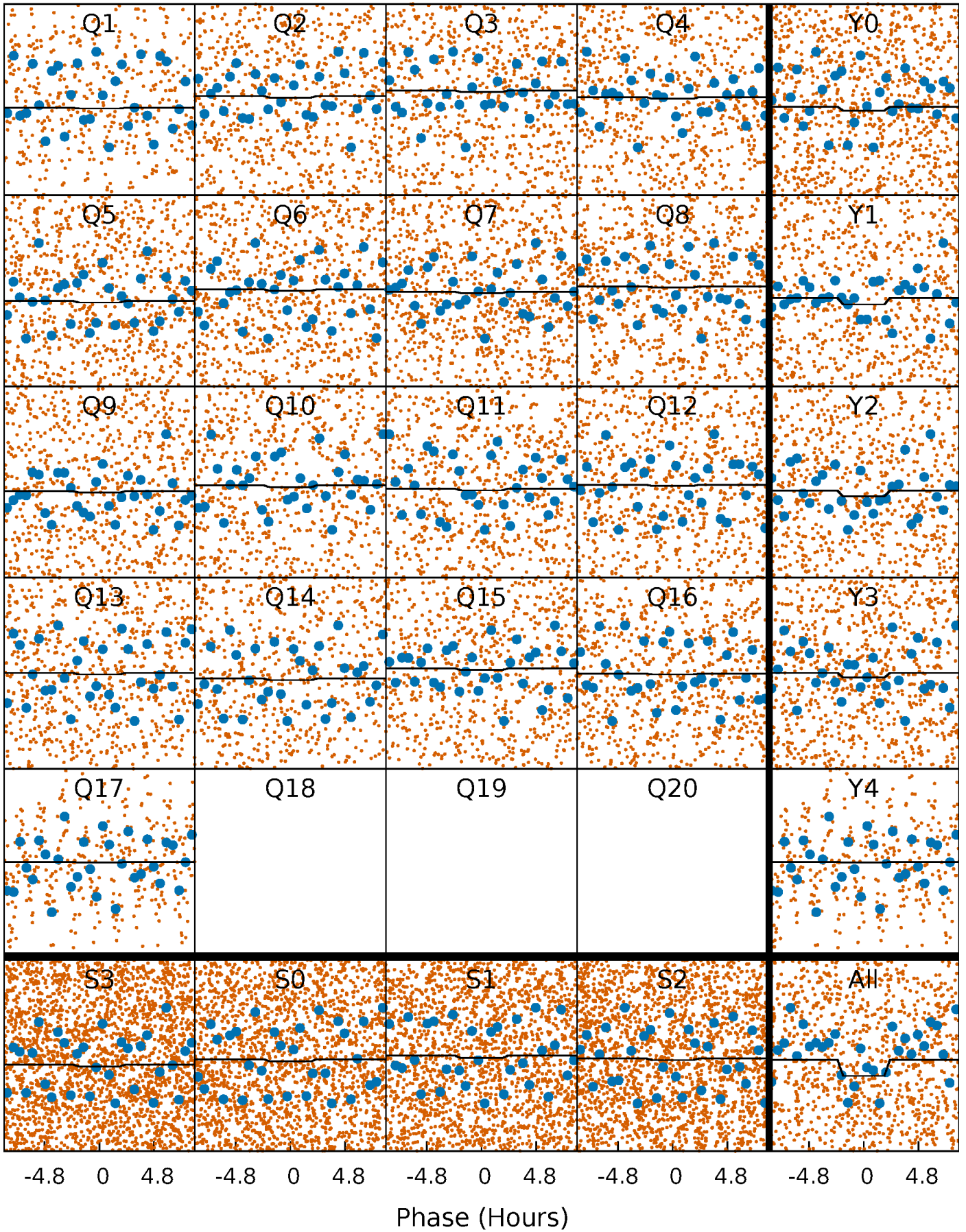
DV Quarter-Phased Transit Curves

TCE 006206627-01 P= 2.418535 Days $T_0=132.010428$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

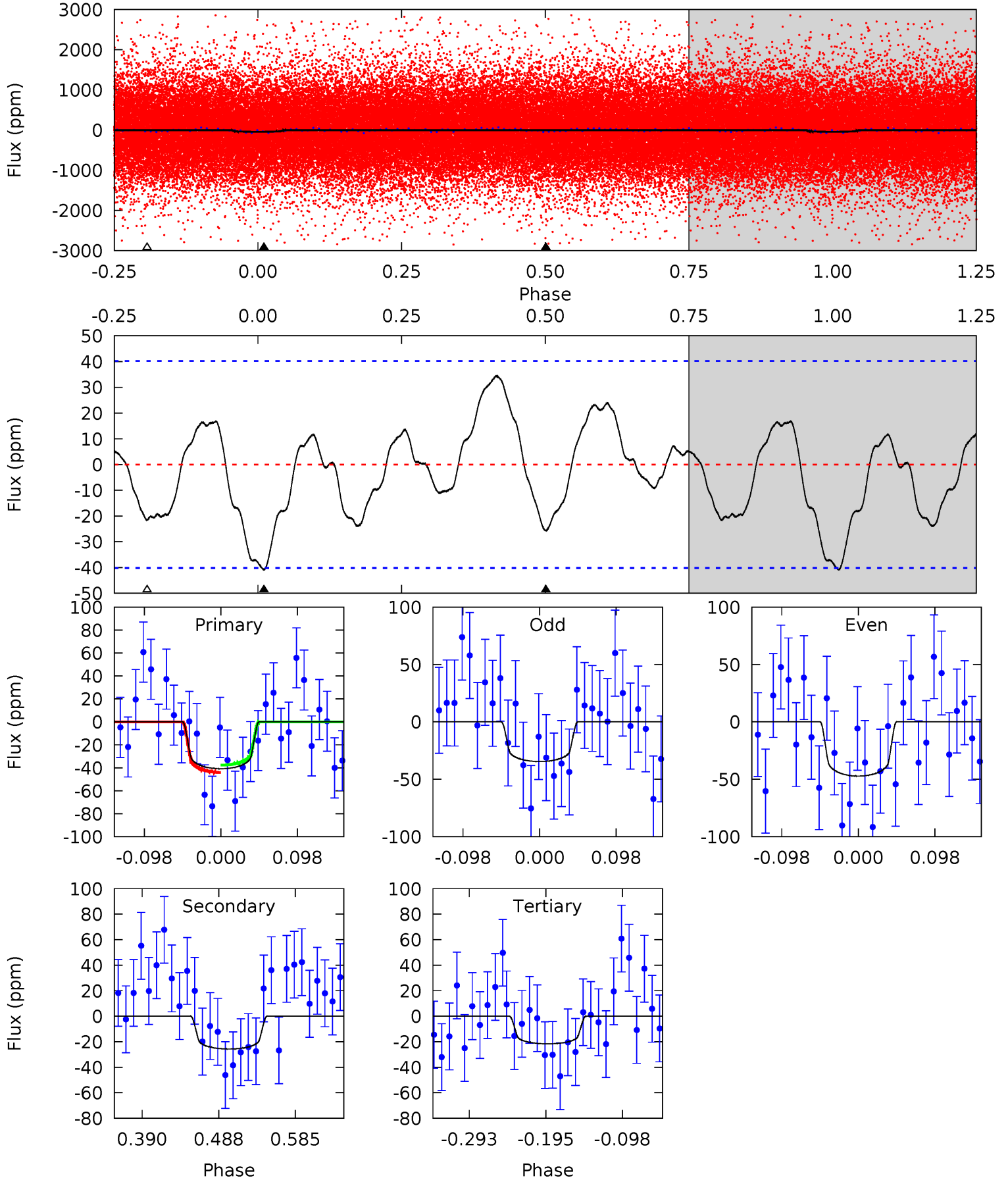
TCE 006206627-01 P= 2.418544 Days $T_0=132.002341$ (BKJD)



DV Model-Shift Uniqueness Test

006206627-01, P = 2.418535 Days, E = 129.591893 Days

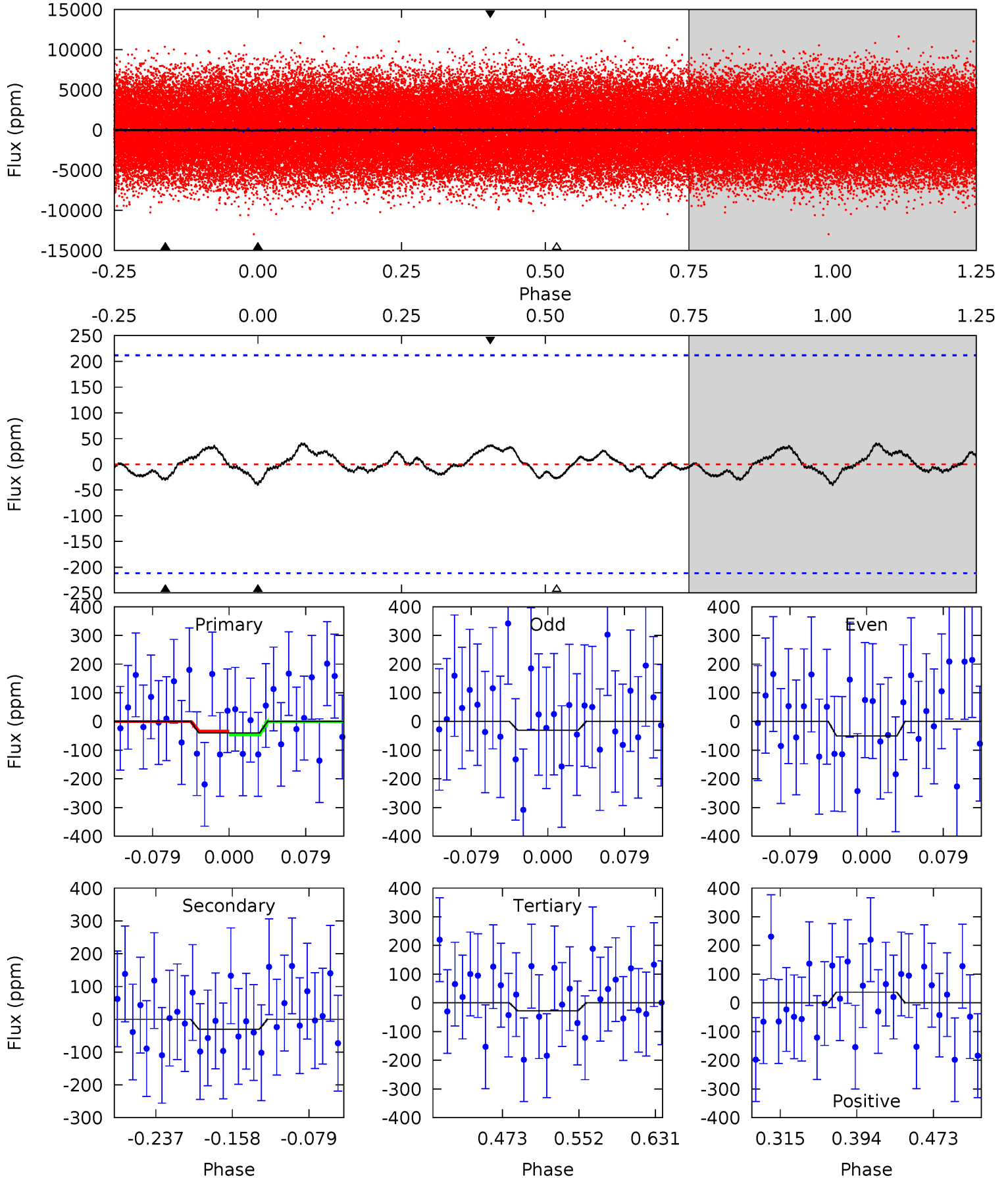
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.64	2.92	2.46	0	4.57	1.66	1.46	2.18	4.64	0.46	2.92	0.72	1.17	0.46	0.36



Alt Model-Shift Uniqueness Test

006206627-01, P = 2.418544 Days, E = 129.583797 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.87	0.66	0.59	0.81	4.61	1.76	0.36	0.28	0.07	0.07	-0.14	0.22	0.94	0.50	0.14



Stellar Parameters For KIC 006206627

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	7095^{+77}_{-77}	$3.769^{+0.175}_{-0.108}$	$0.560^{+0.050}_{-0.200}$	$3.135^{+0.522}_{-0.696}$	$2.103^{+0.173}_{-0.231}$	$0.096^{+0.083}_{-0.029}$
	+1%/-1%	+5%/-3%	+9%/-36%	+17%/-22%	+8%/-11%	+86%/-30%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 006206627-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-26 ± 9	$2.87^{+1.42}_{-1.46}$	3628^{+167}_{-207}	5265^{+2452}_{-1001}	$3.398^{+10.953}_{-2.105}$
Alt.	-30 ± 46	$2.23^{+1.35}_{-1.24}$	3626^{+166}_{-187}	6038^{+5150}_{-11395}	$5.683^{+35.126}_{-8.561}$

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 $A_{obs} \gg 1.0$

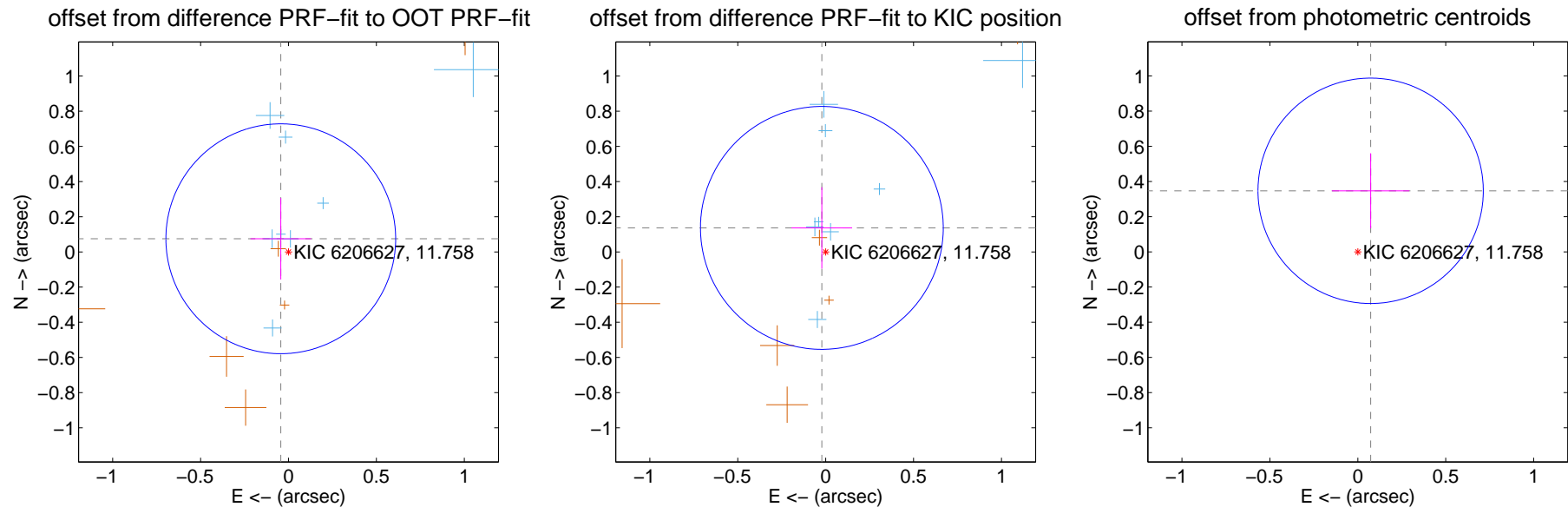
DV Centroid Data

Supplemental centroid analysis for 006206627-01. **Kepler magnitude: 11.76.** Transit SNR 11.81

There are 8 quarters with good PRF difference image offsets

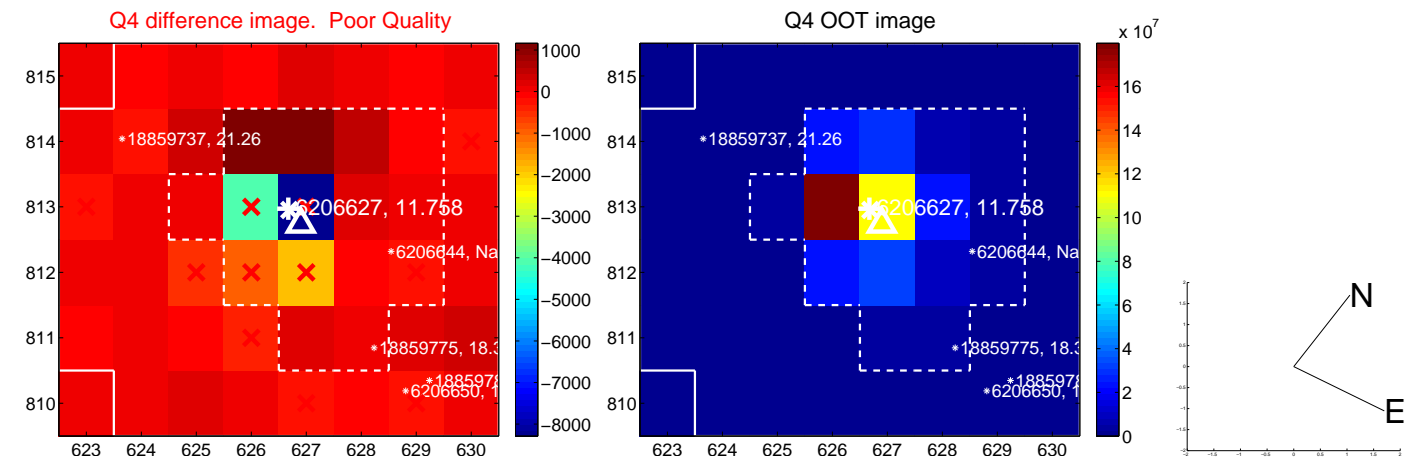
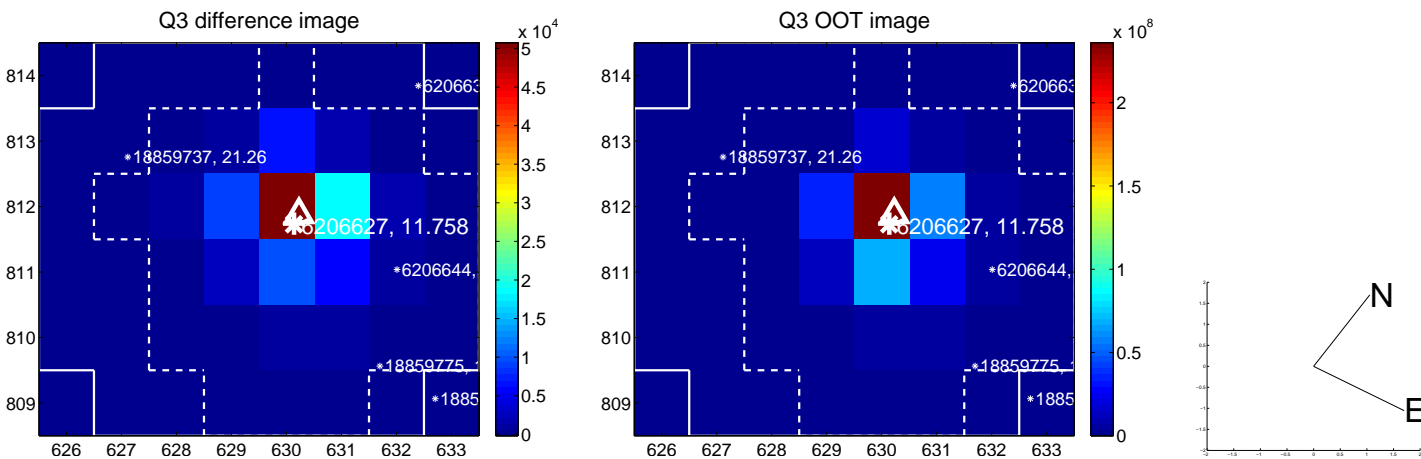
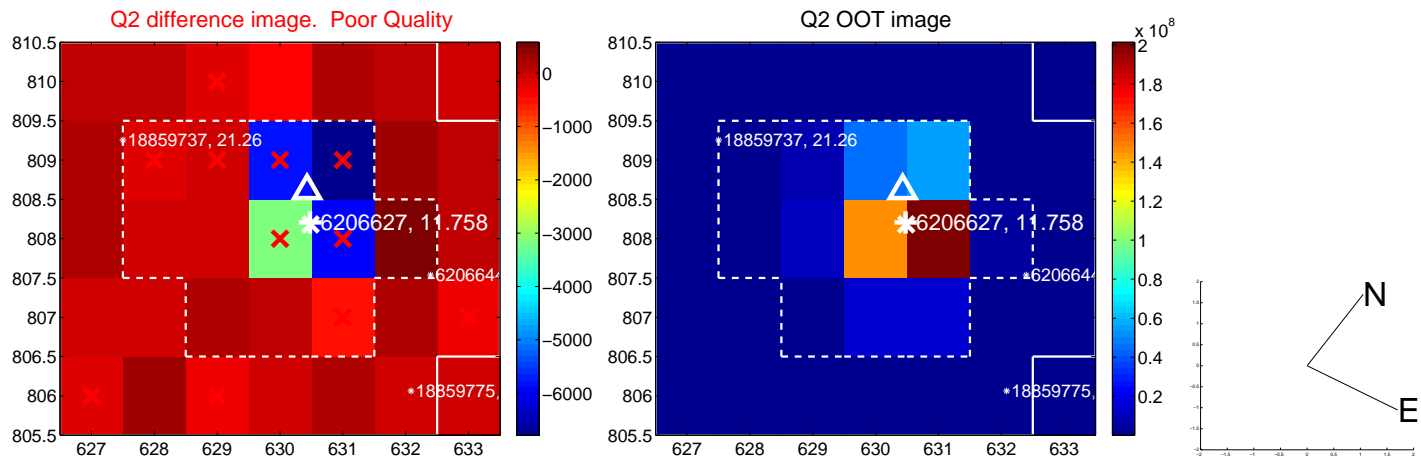
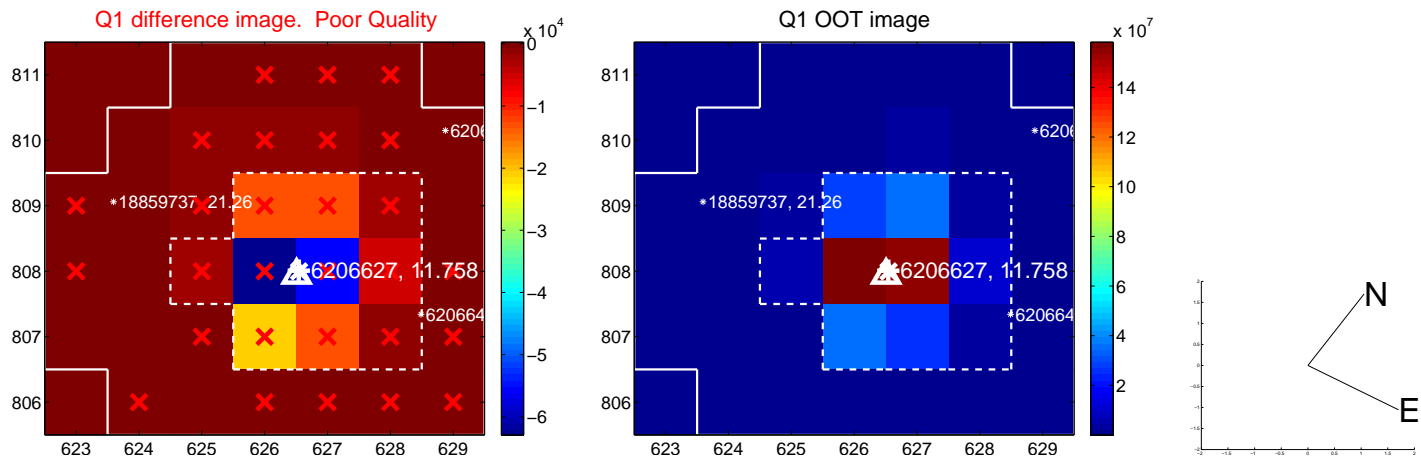
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.087 ± 0.218	0.40	0.044 ± 0.172	0.075 ± 0.231
PRF-fit source offset from KIC position	0.138 ± 0.230	0.60	0.022 ± 0.172	0.137 ± 0.231
photometric centroid source offset	0.35 ± 0.21	1.66	-0.07 ± 0.22	0.35 ± 0.21

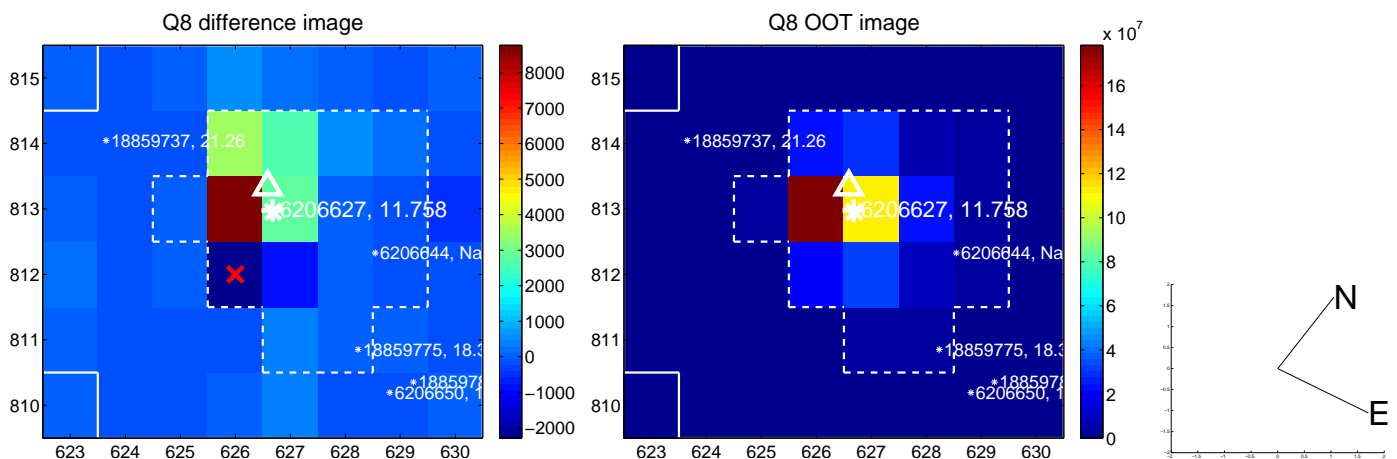
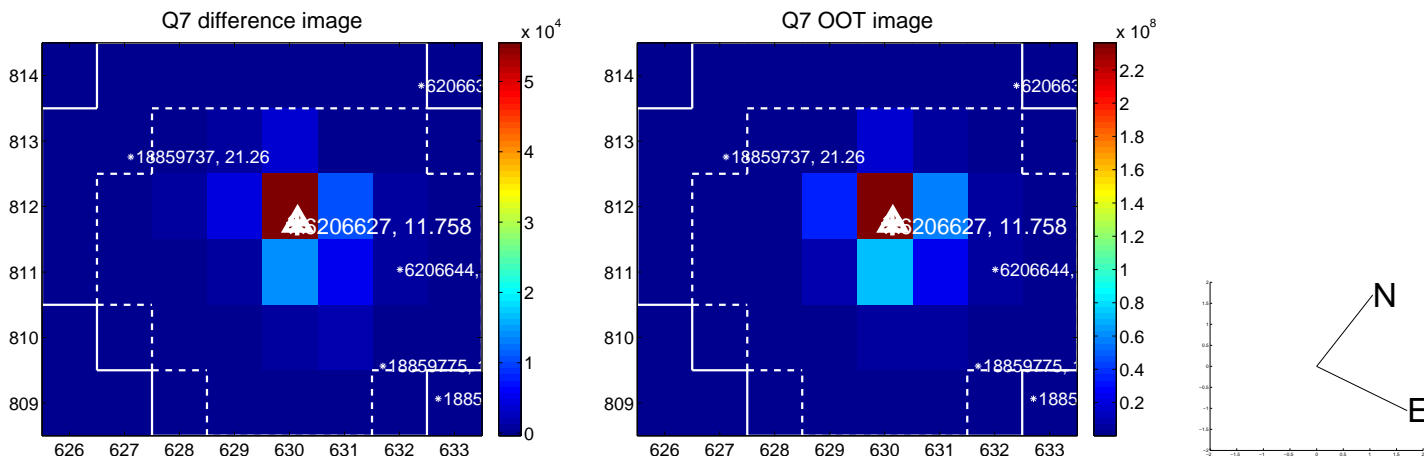
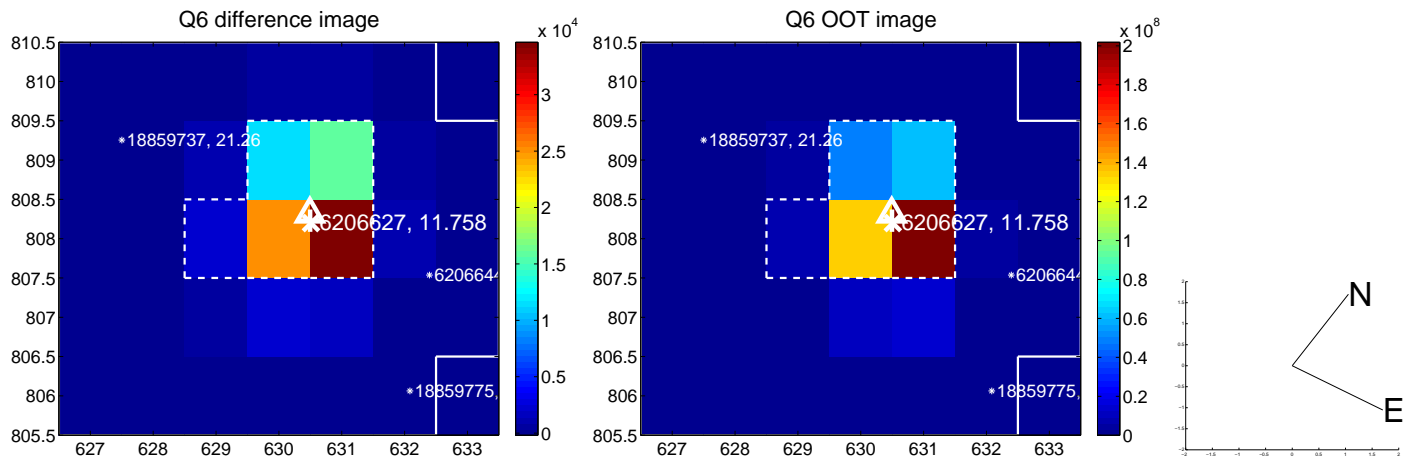
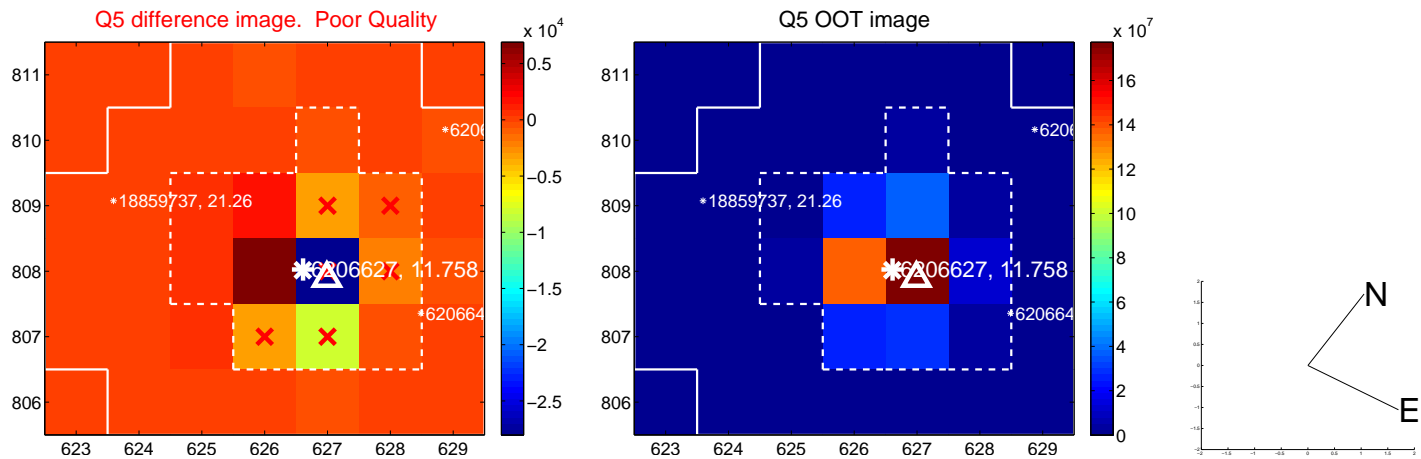


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

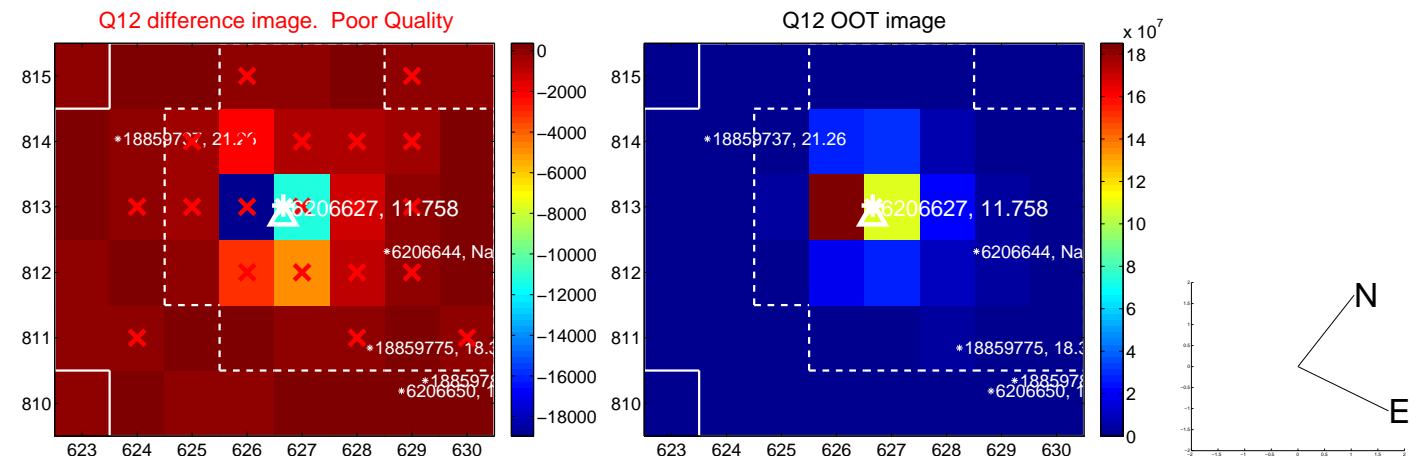
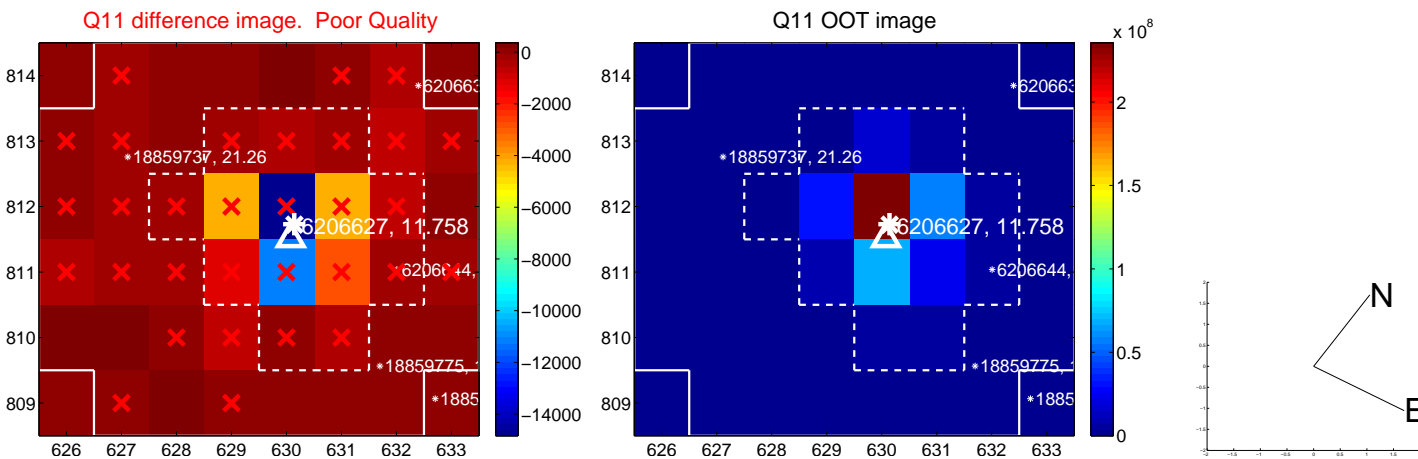
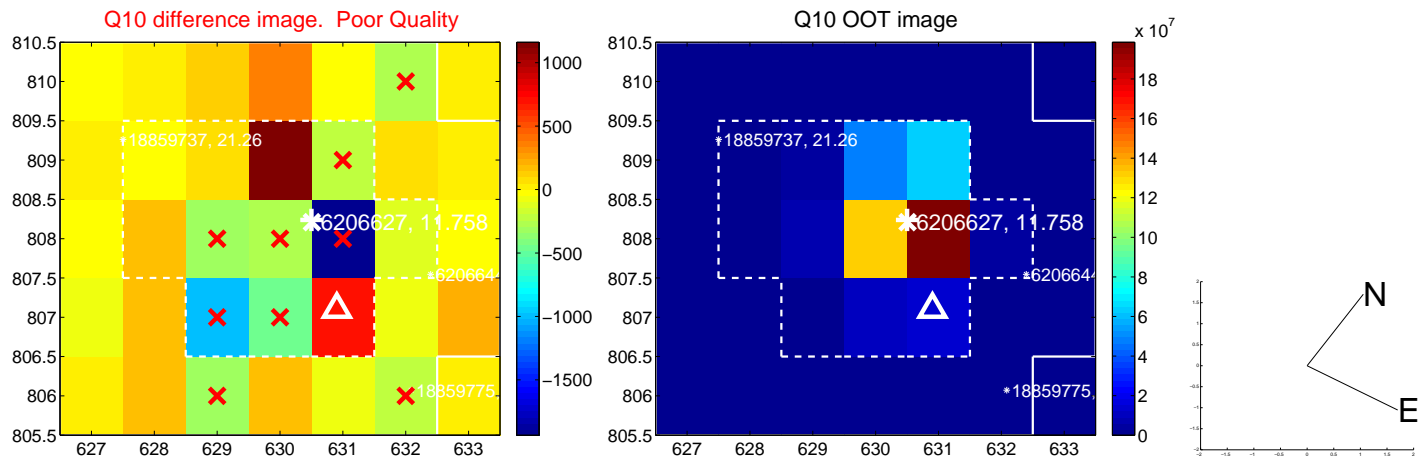
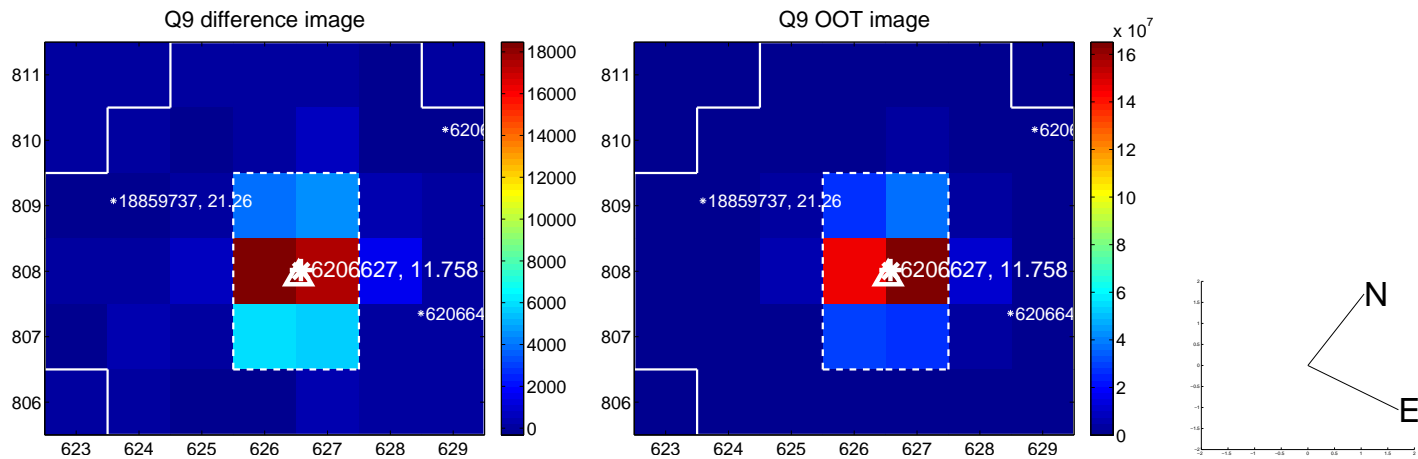
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



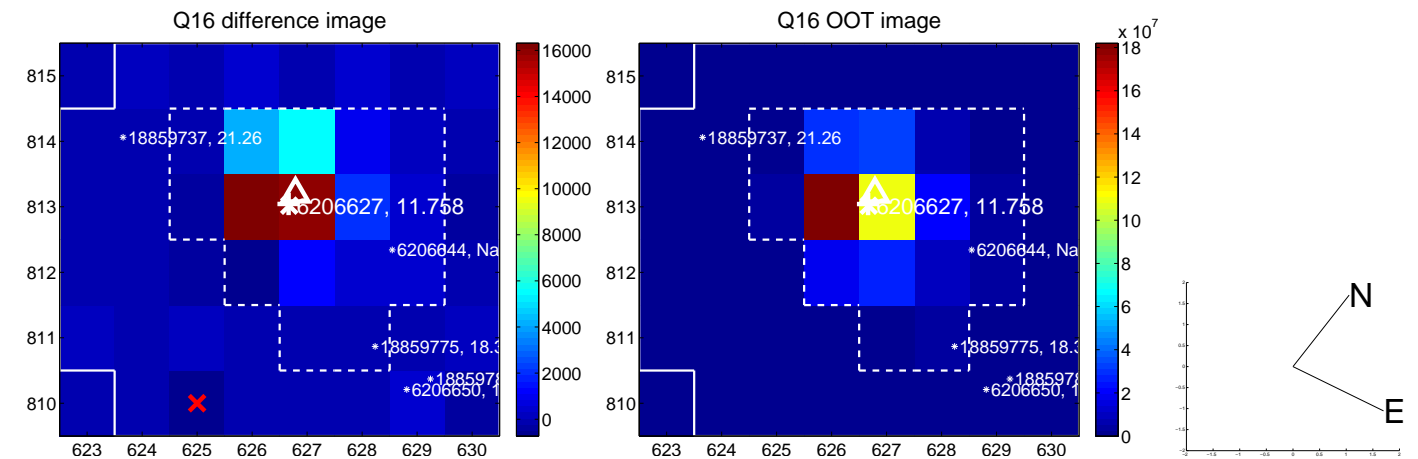
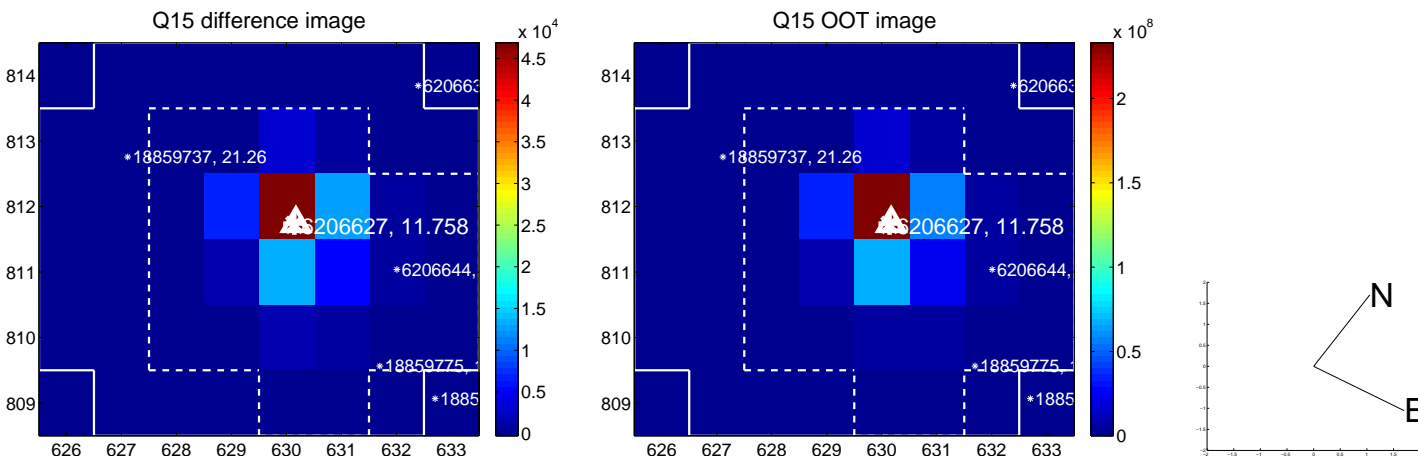
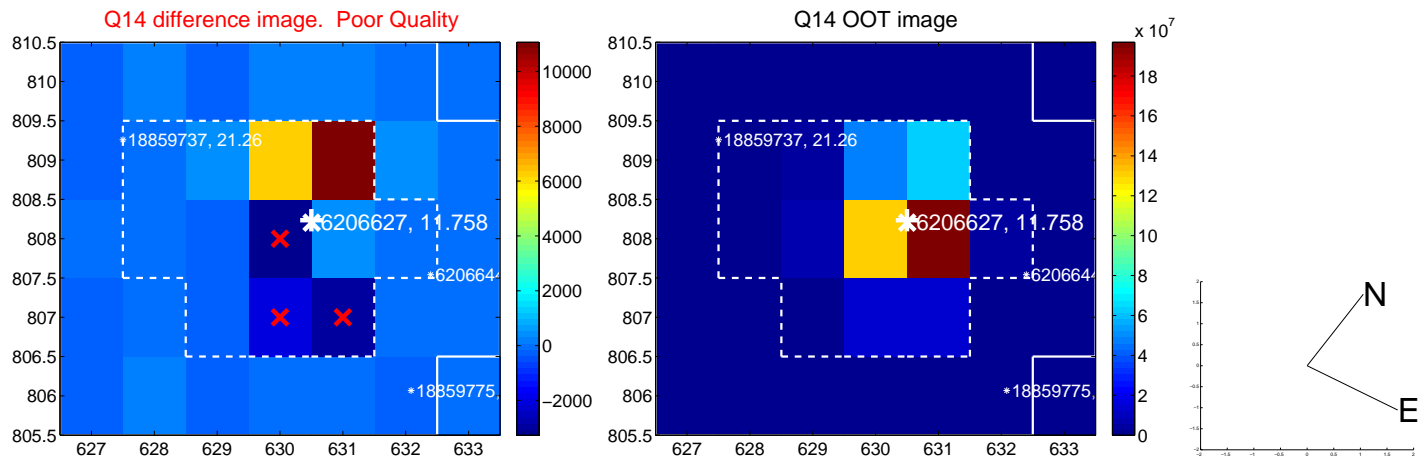
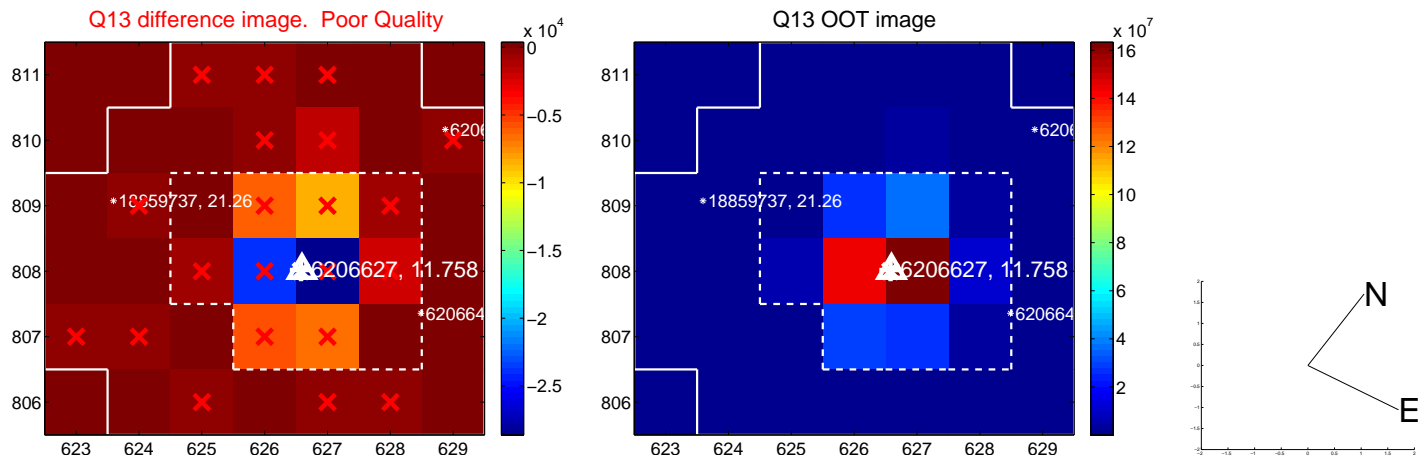
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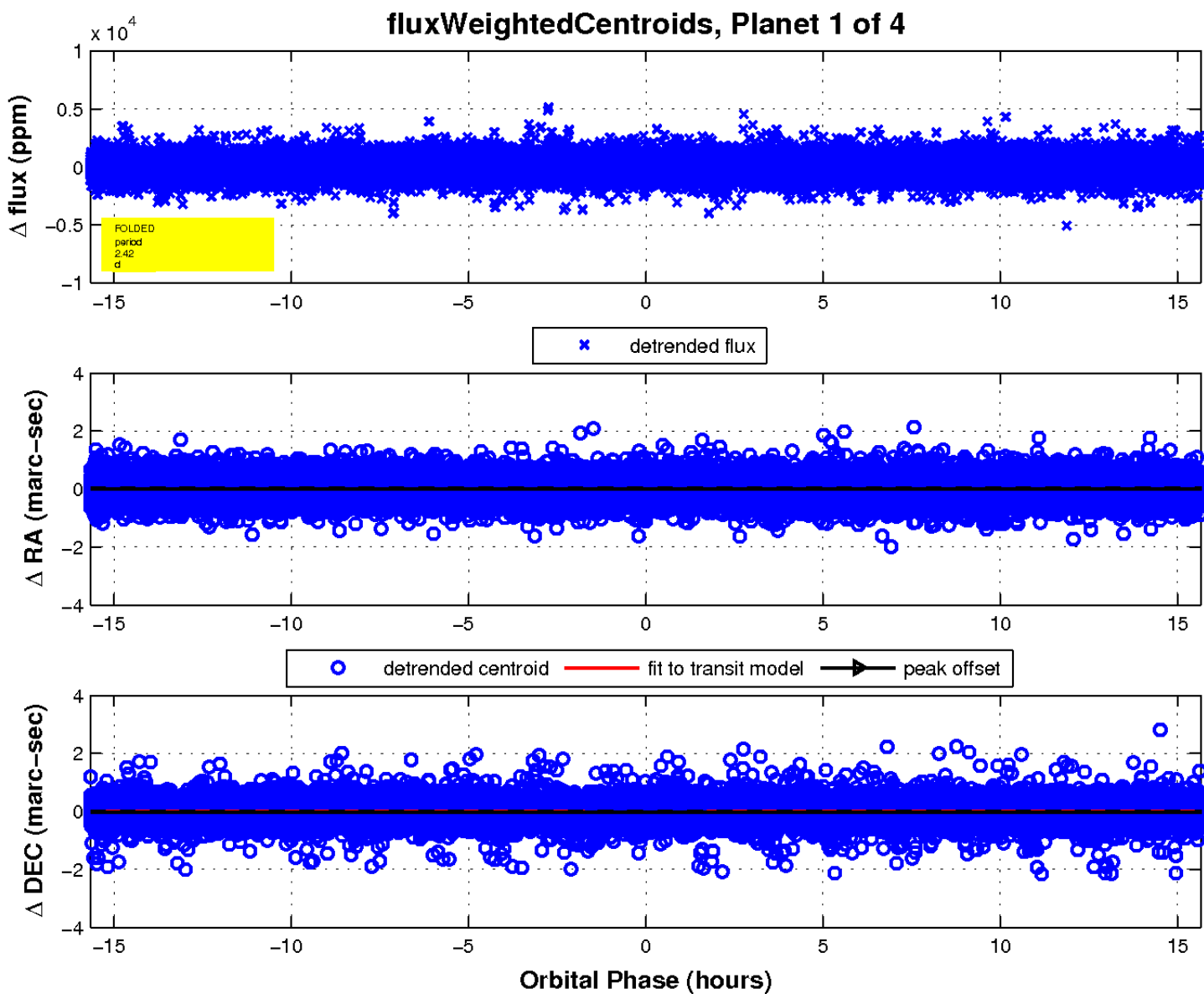
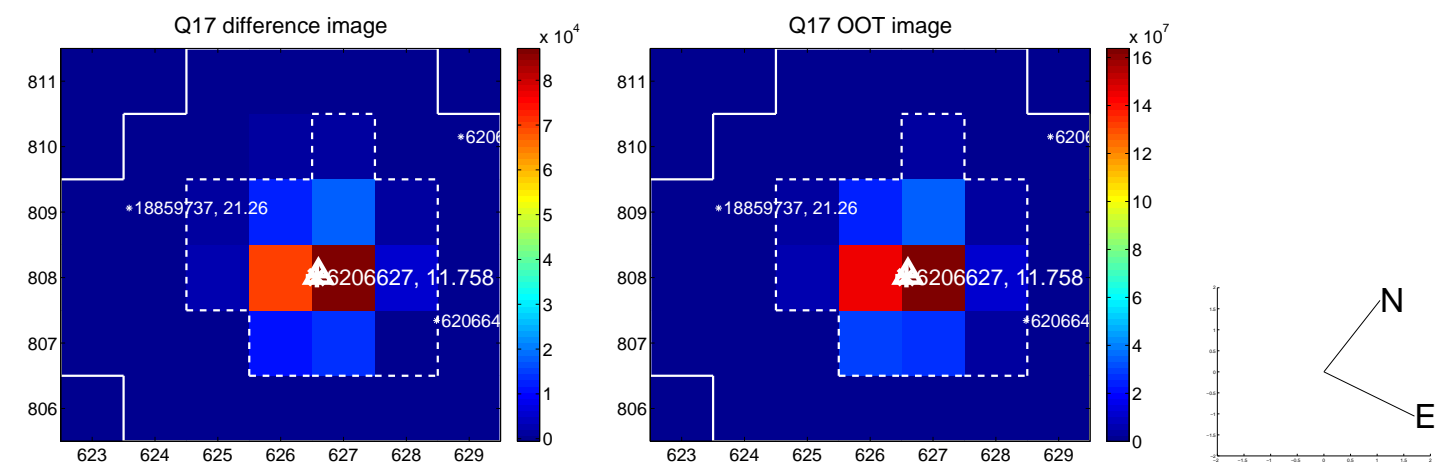
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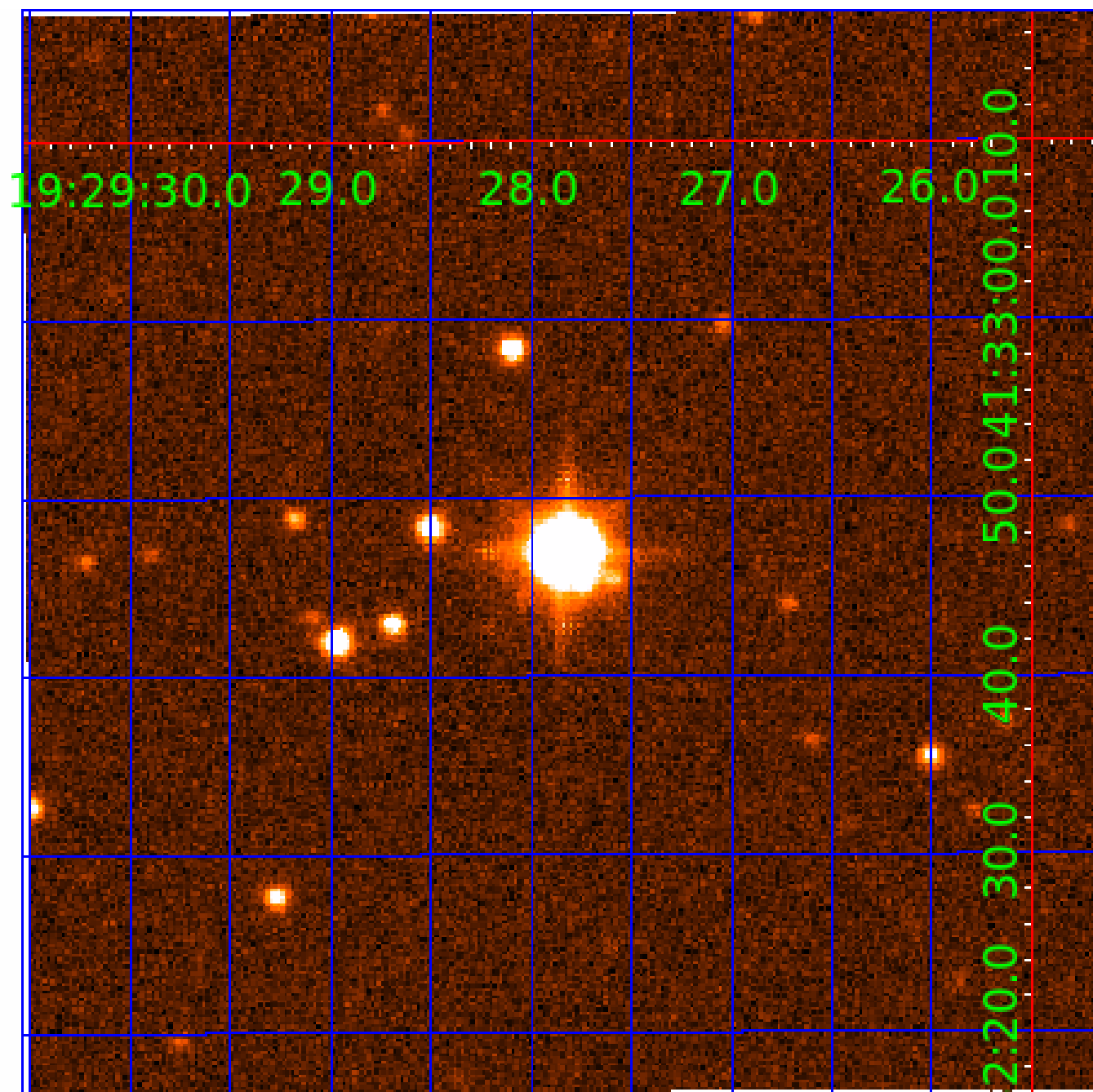


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006206627

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})
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Robovetter Results

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006206627-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
006206627-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006206627-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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.

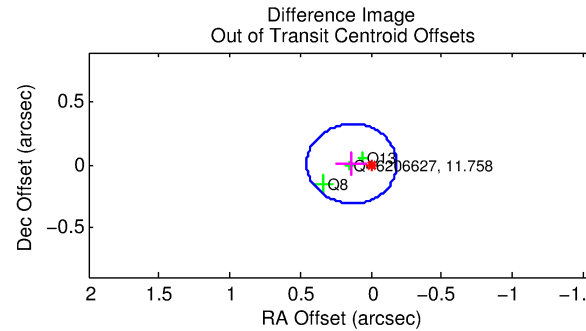
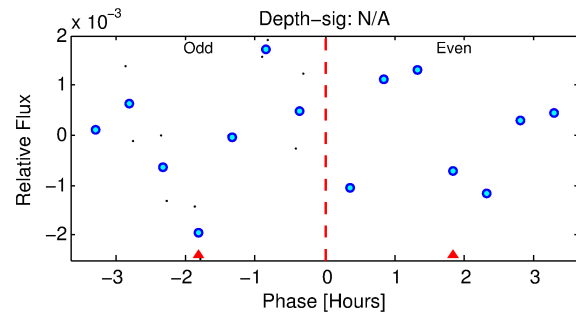
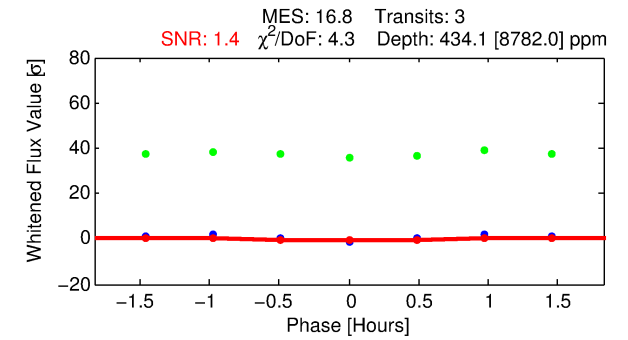
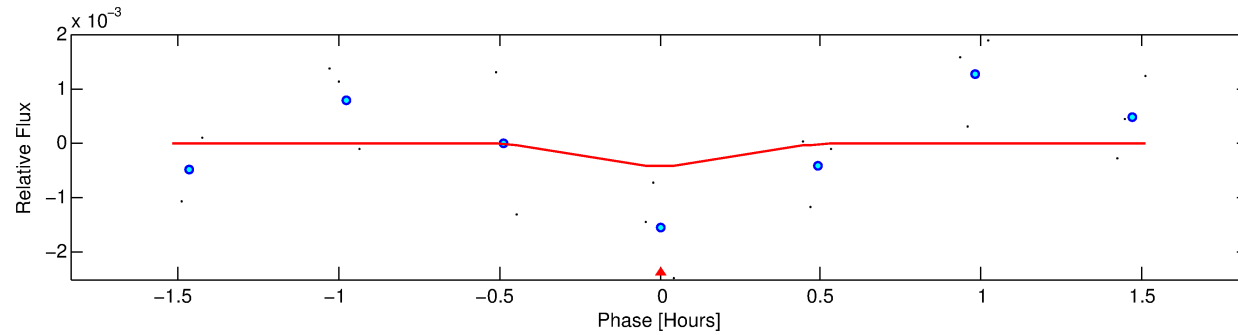
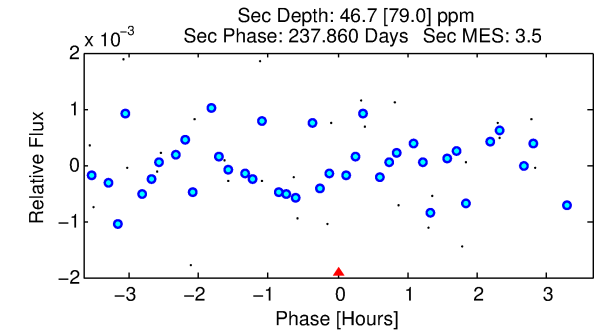
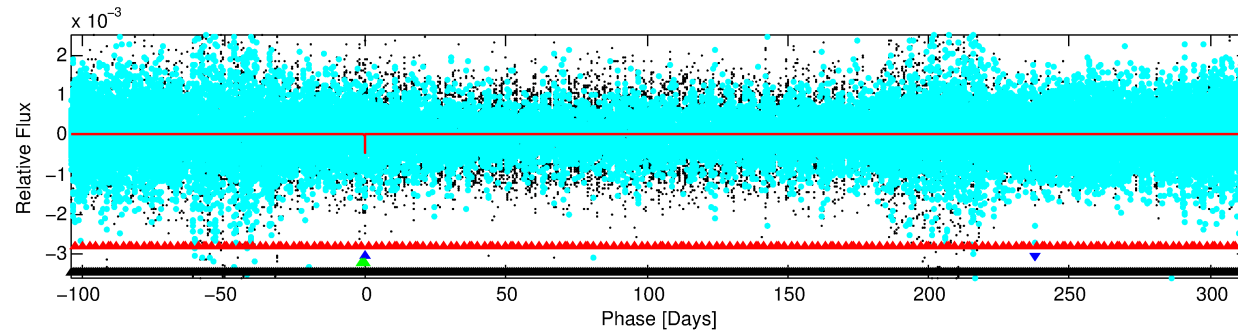
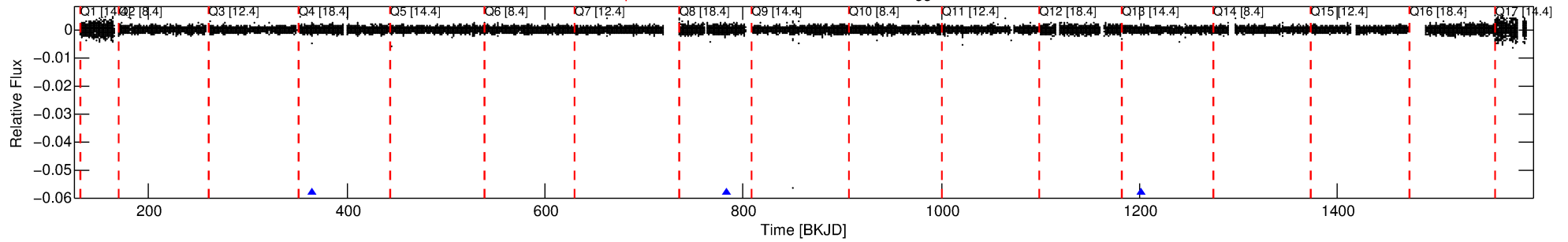
Ephemeris Match Information For 006206627-02

No Significant Match Found

DV One-Page Summary

KIC: 6206627 Candidate: 2 of 4 Period: 418.462 d

Kp: 11.76 R*: 3.13 Rs Teff: 7095.0 K Logg: 3.77 Fe/H: 0.560



DV Fit Results:

Period = 418.46204 [0.07305] d
Epoch = 365.2476 [0.0673] BKJD
Rp/R* = 0.0229 [0.5298]
a/R* = 2536.96 [310737.74]
b = 0.90 [26.75]
Seff = 11.32 [3.51]
Teq = 468 [36] K
Rp = 7.83 [181.24] Re
a = 1.4038 [0.2806] AU
Ag = 825.44 [38229.72] [0.02σ]
Teffp = 3876 [44883] K [0.08σ]

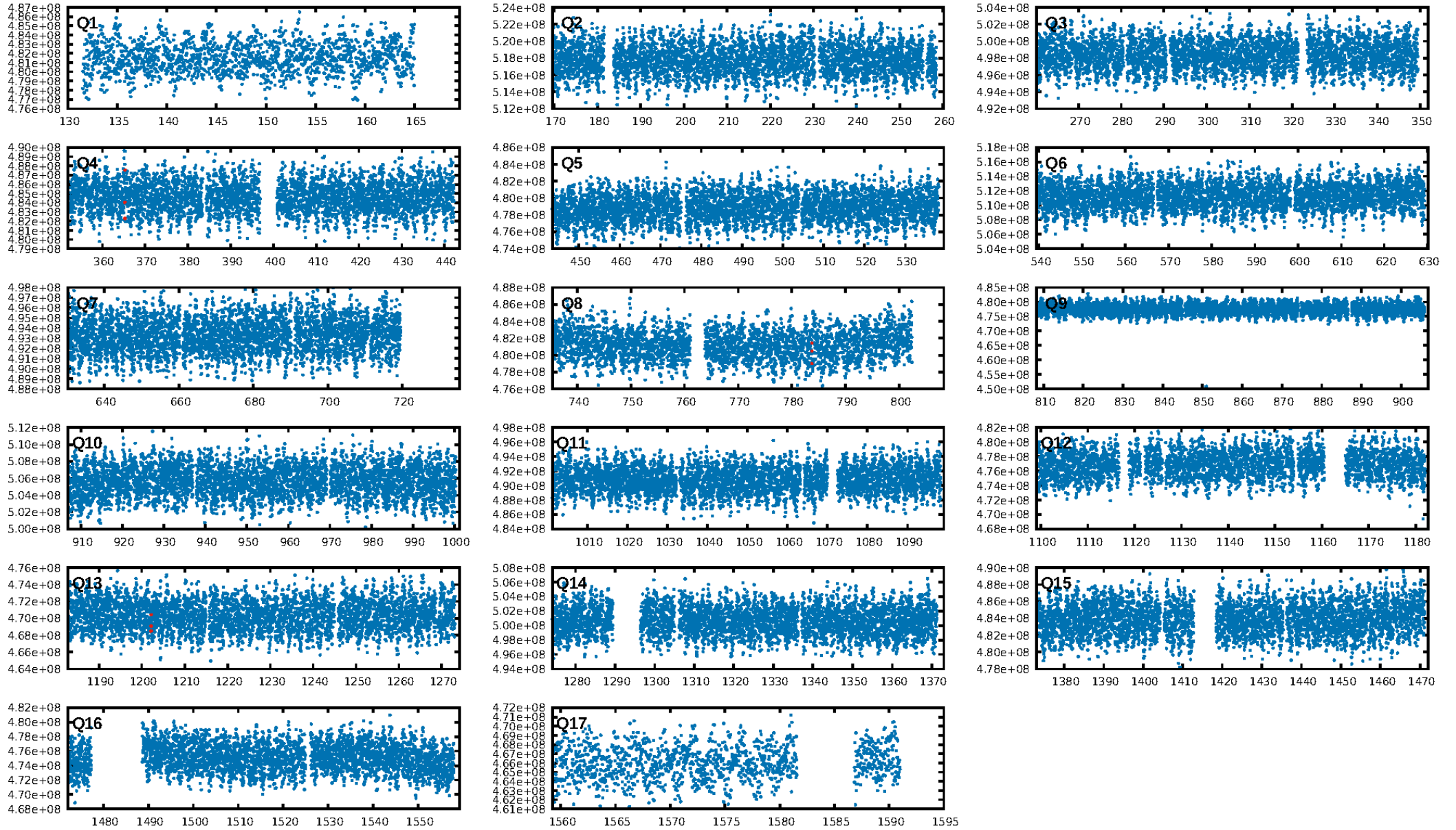
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1899.25σ]
LongPeriod-sig: 18.5% [0.23σ]
ModelChiSquare2-sig: 24.2%
ModelChiSquareGoF-sig: 46.4%
Bootstrap-pfa: 2.25e-32
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 4.293
Centroid-sig: 66.5%
Centroid-so: 0.417 arcsec [0.37σ]
OotOffset-rm: 0.137 arcsec [1.29σ]
KicOffset-rm: 0.064 arcsec [0.85σ]
OotOffset-st: 0/0/2/1 [3]
KicOffset-st: 0/0/2/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.00 [0/3]

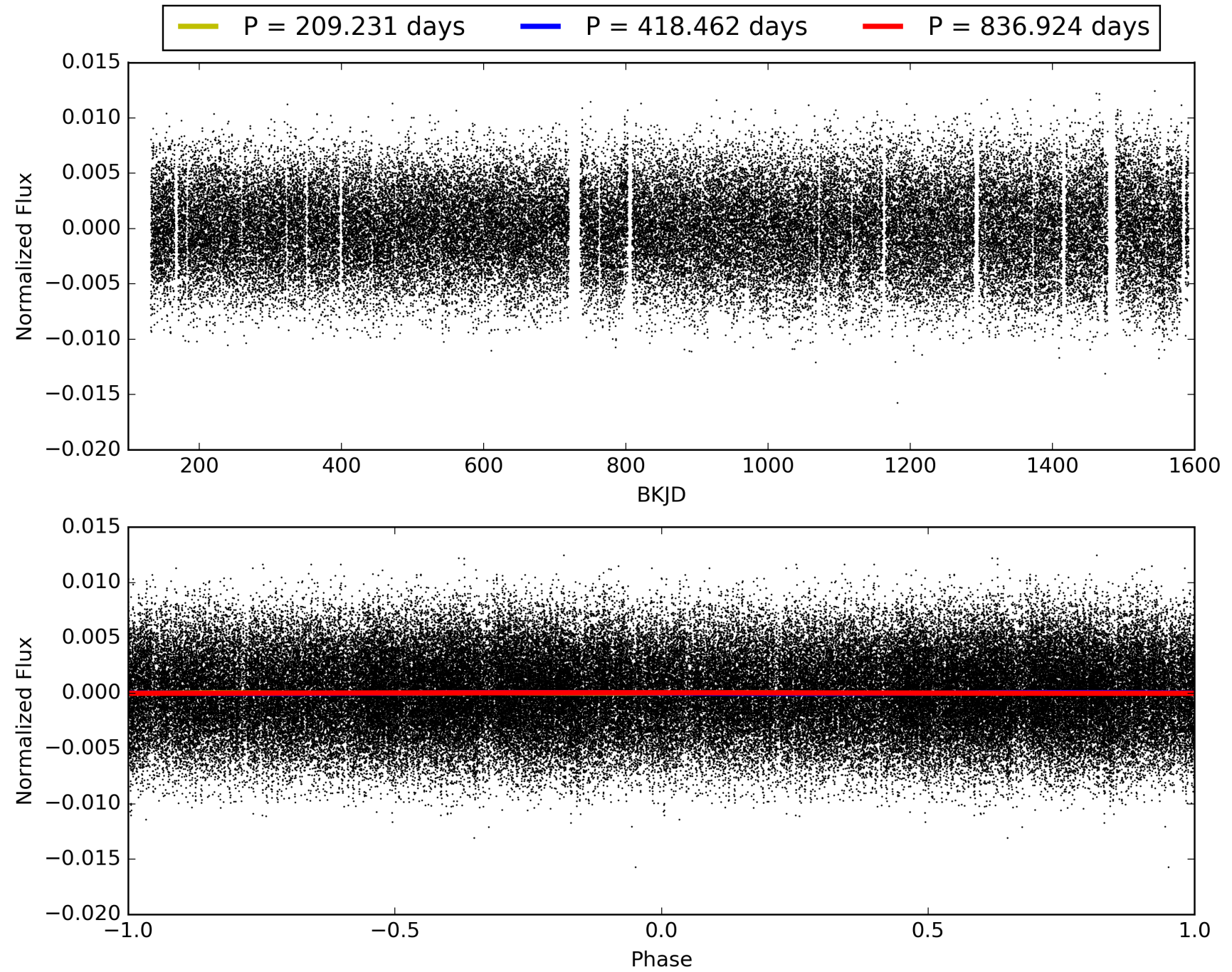
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006206627-02, PDC Light Curves

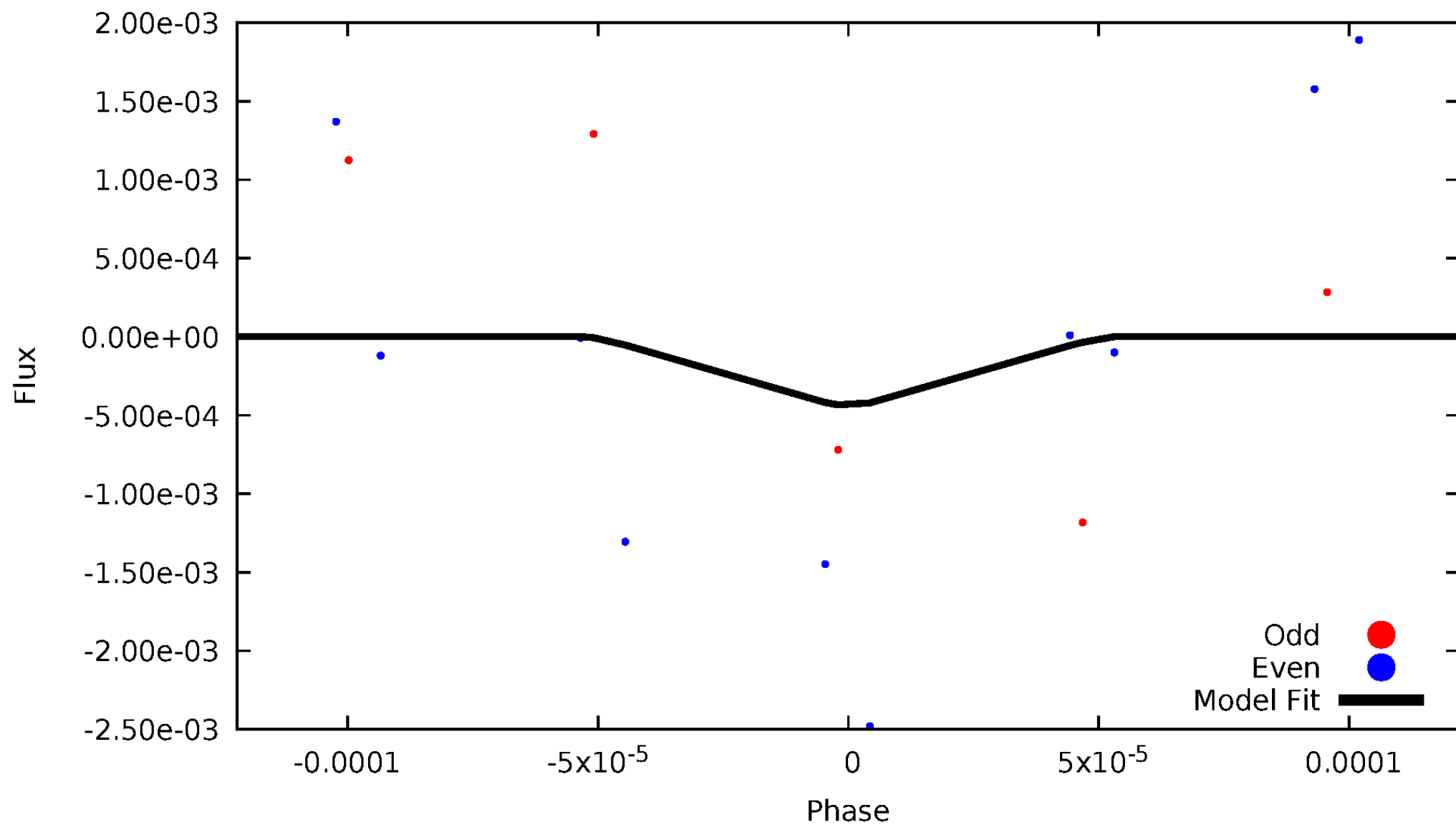


TCE 006206627-02



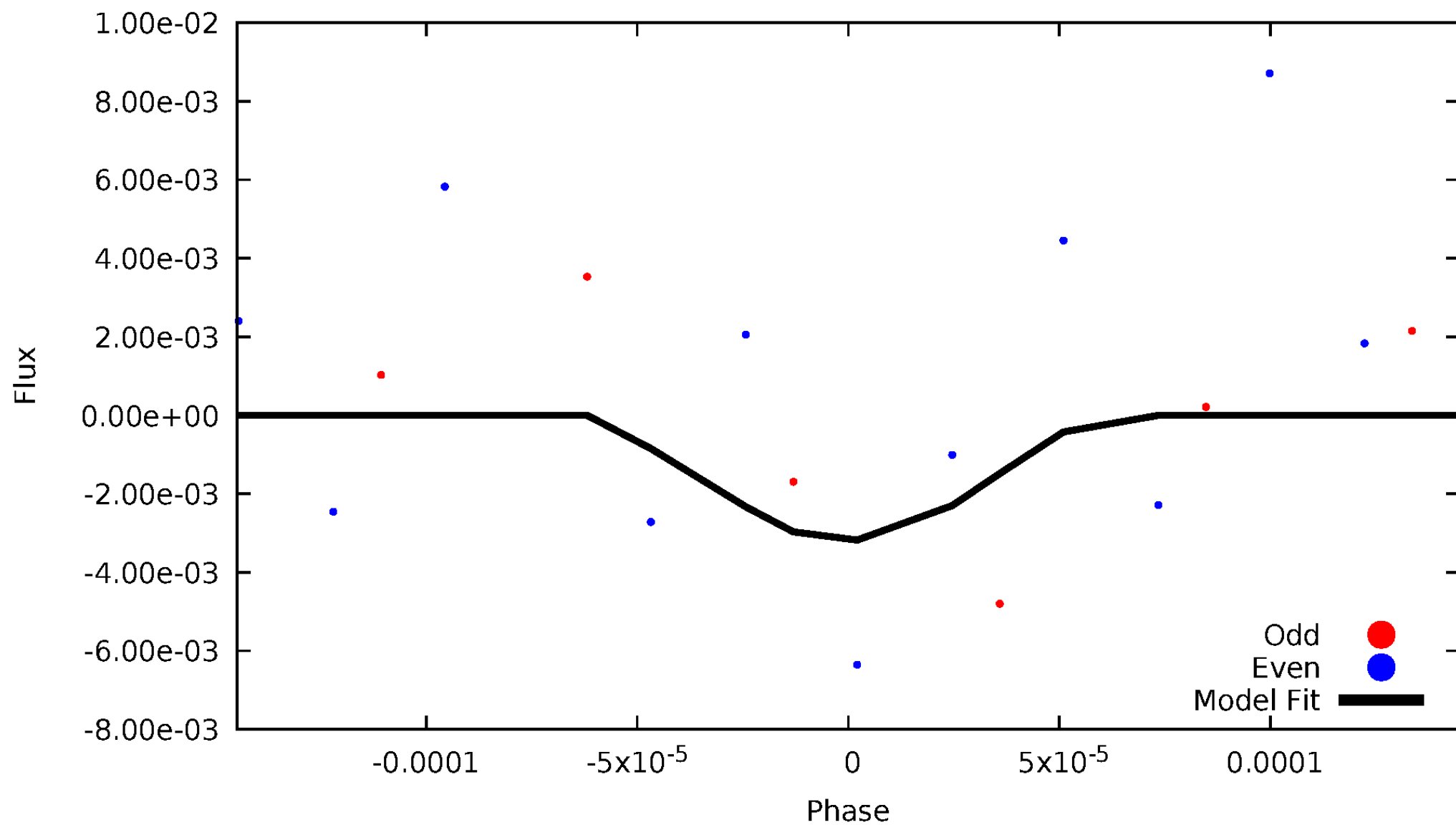
DV Odd/Even

TCE 006206627-02



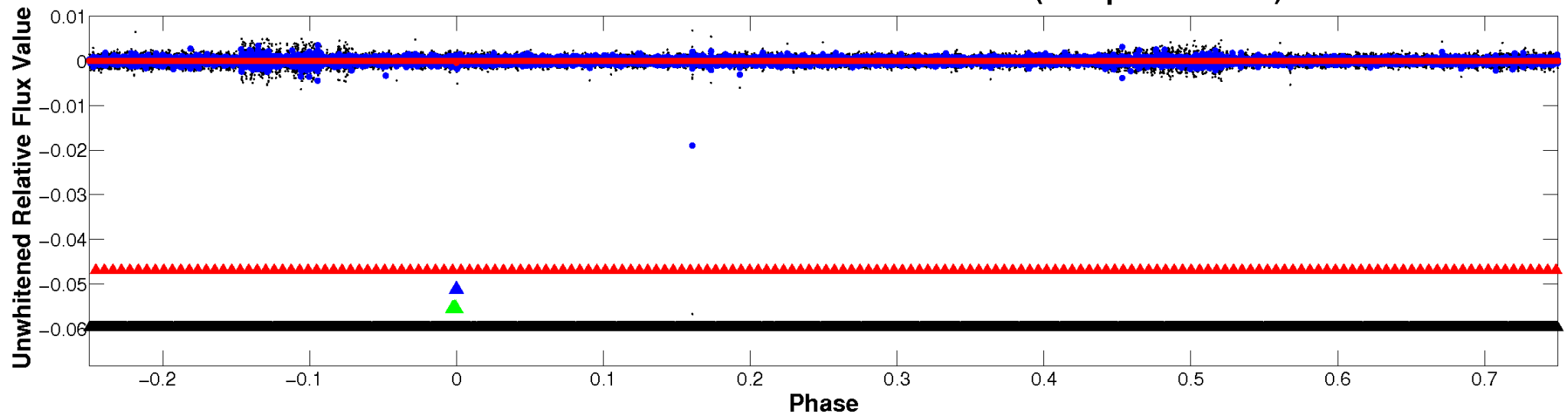
ALT Odd/Even

TCE 006206627-02

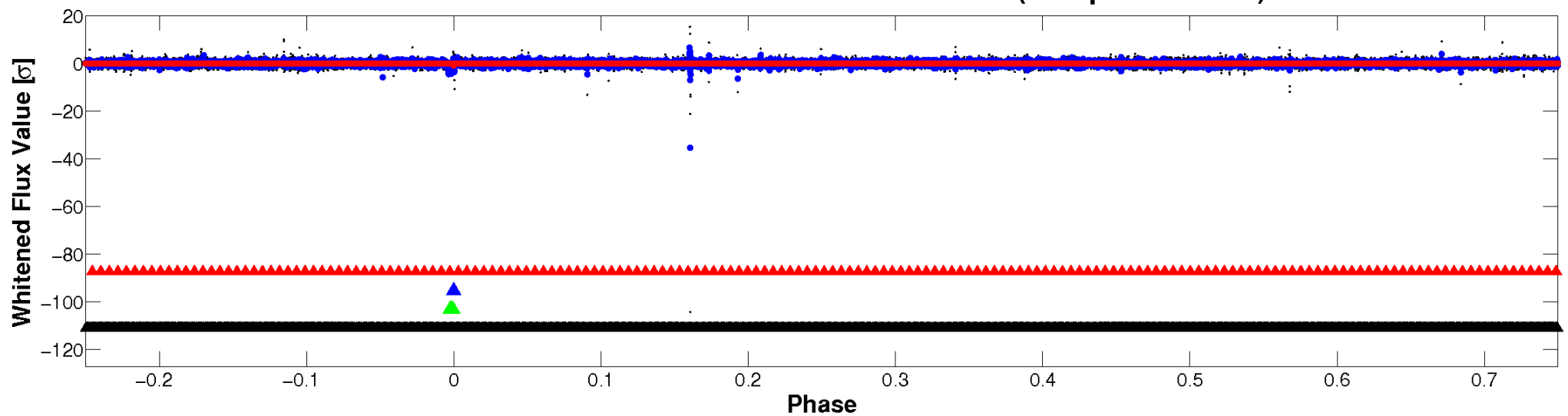


Non-Whitened Vs. Whitened Light Curve

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

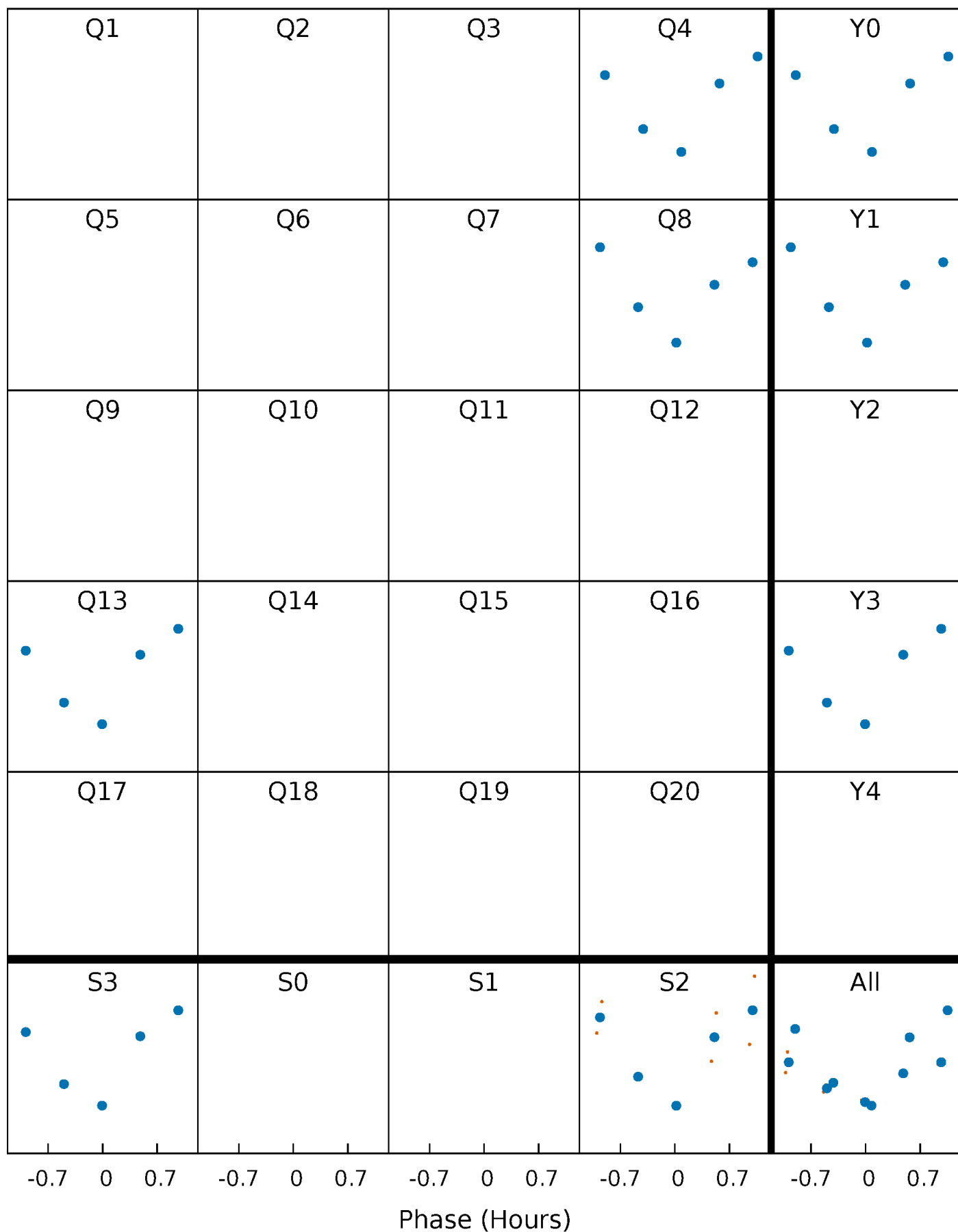


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



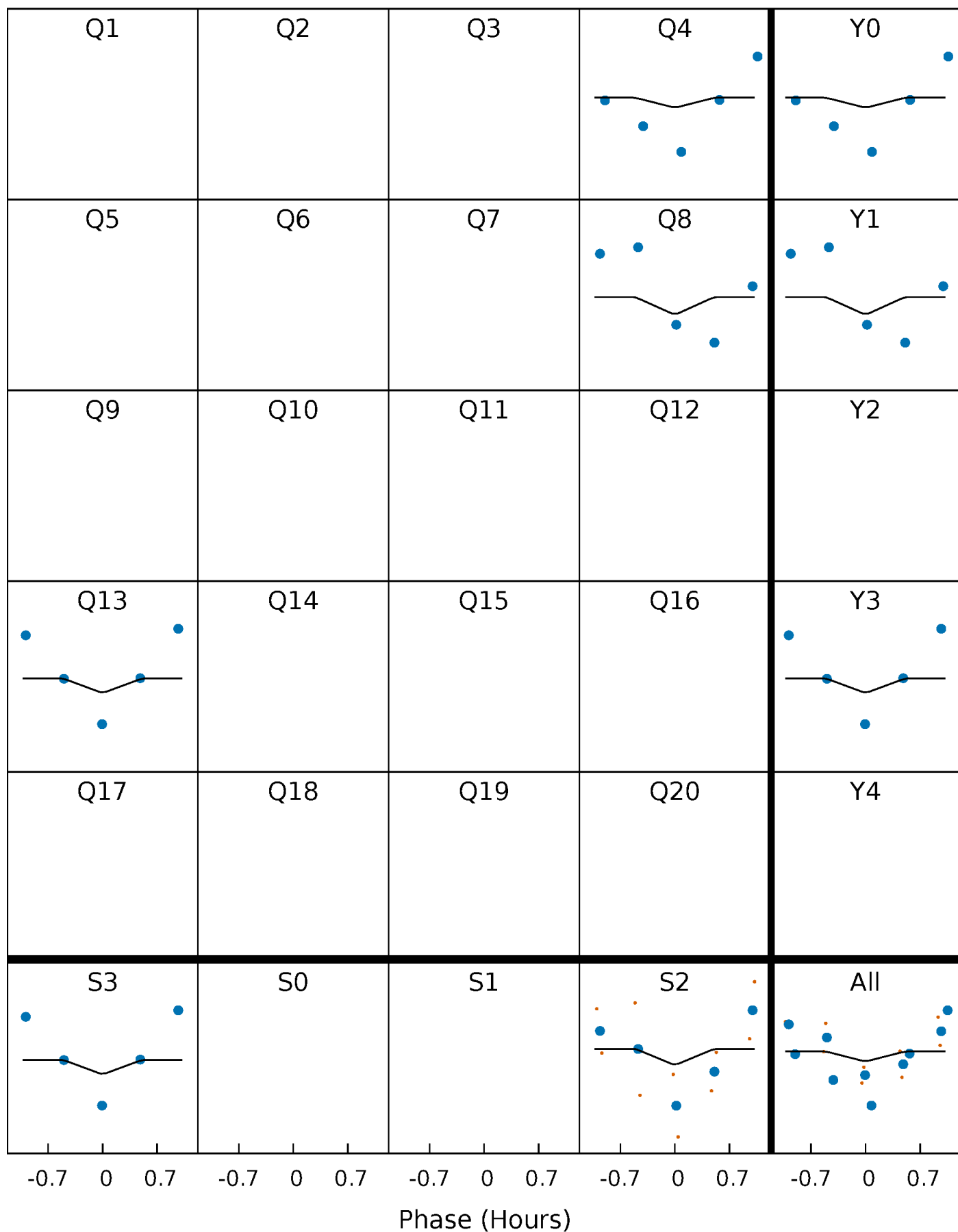
PDC Quarter-Phased Transit Curves

TCE 006206627-02 P=418.462037 Days $T_0=365.247578$ (BKJD)



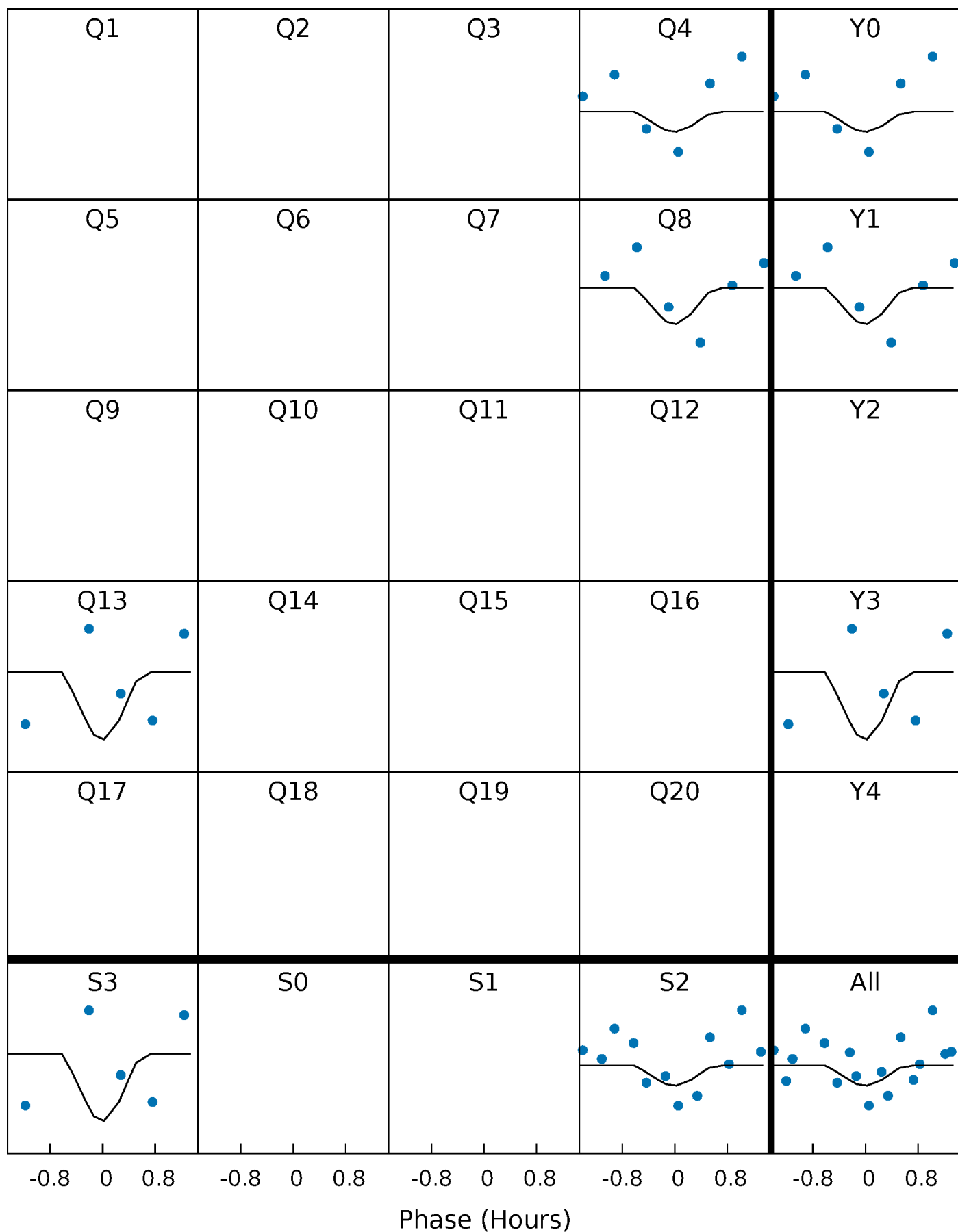
DV Quarter-Phased Transit Curves

TCE 006206627-02 P=418.462037 Days $T_0=365.247578$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

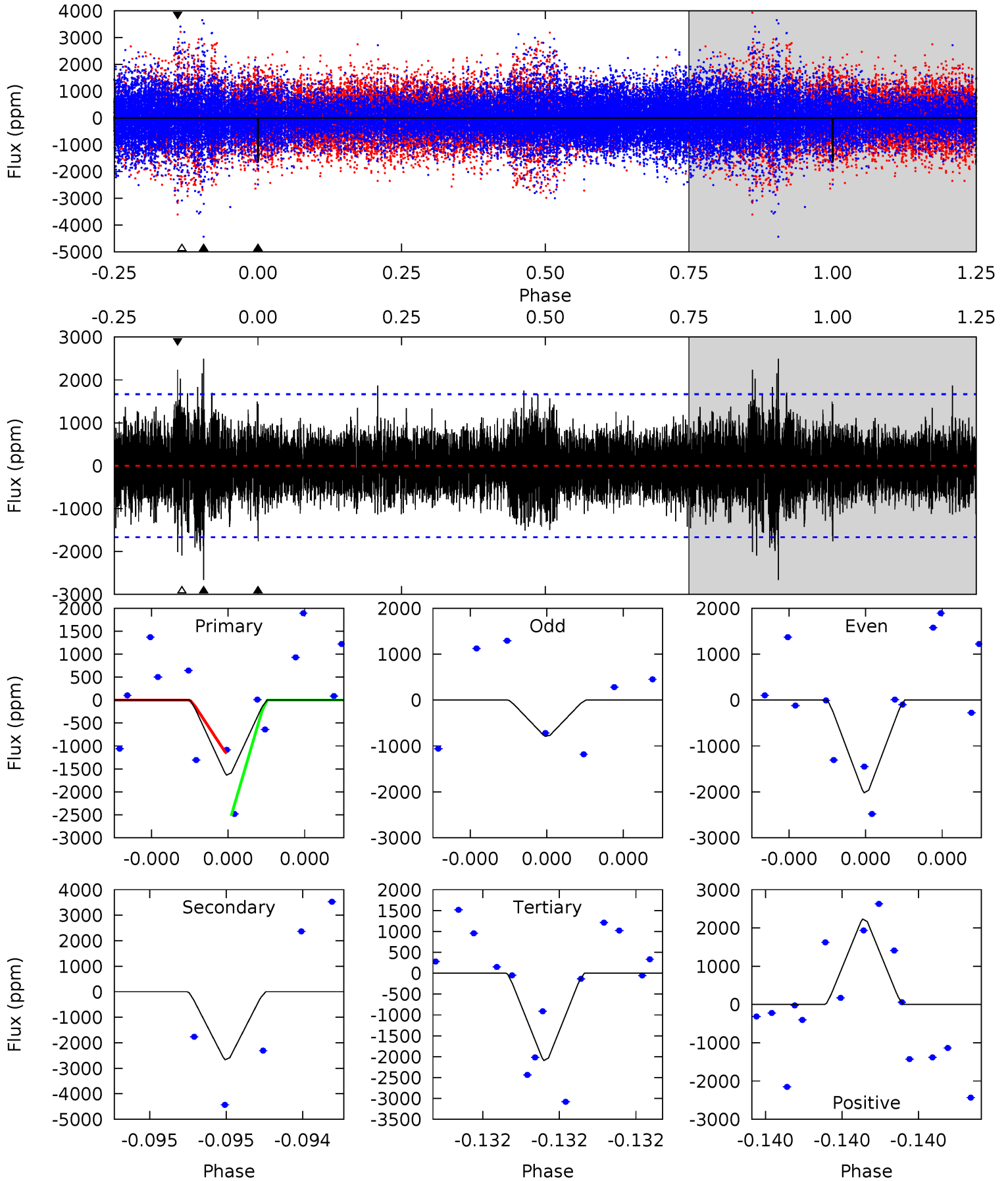
TCE 006206627-02 P=418.445253 Days $T_0=365.248498$ (BKJD)



DV Model-Shift Uniqueness Test

006206627-02, P = 418.462037 Days, E = 365.247578 Days

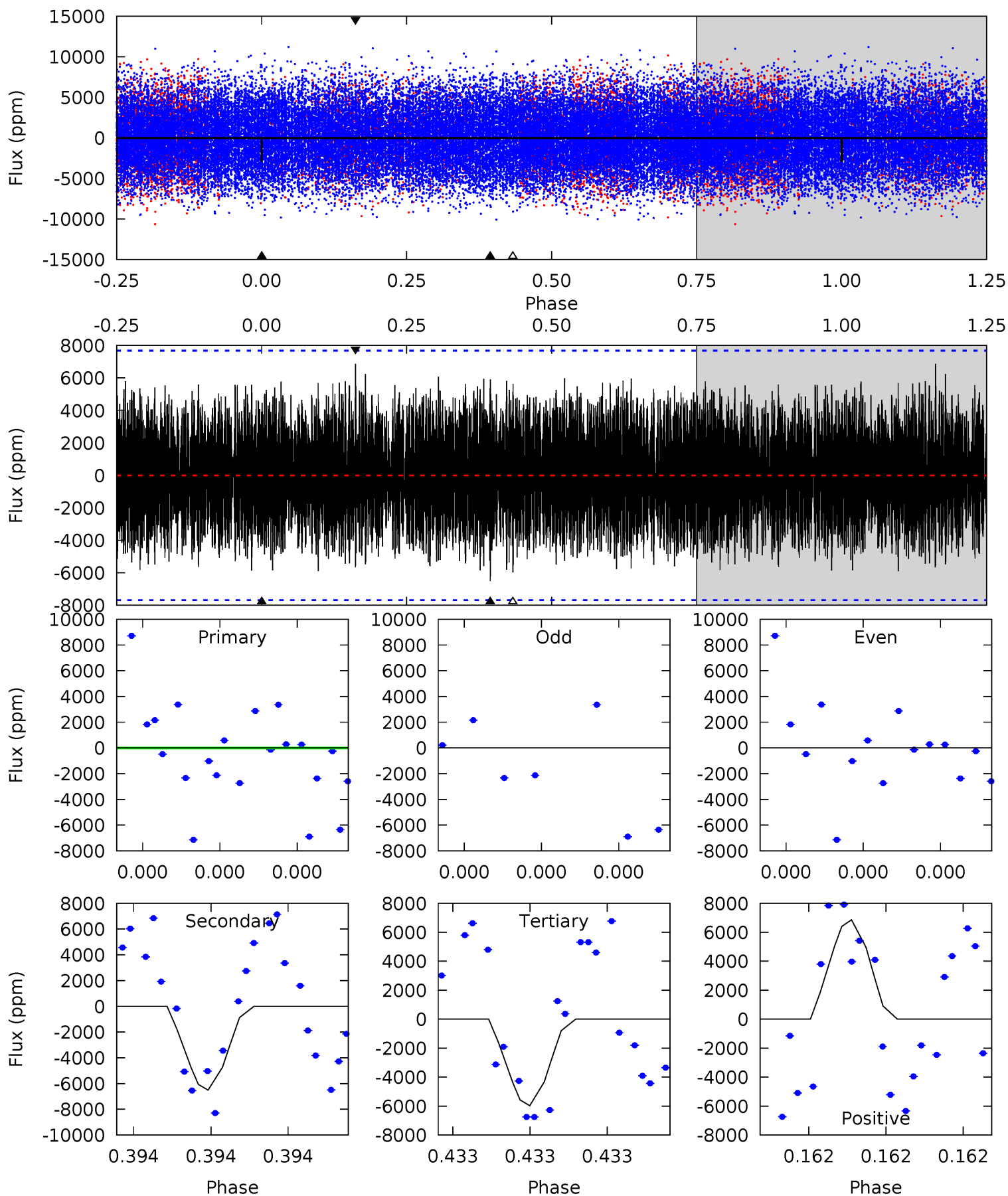
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.73	9.34	7.33	7.82	5.84	3.88	1.34	-1.60	-2.09	2.01	1.52	1.89	1.12	0.48	2.39



Alt Model-Shift Uniqueness Test

006206627-02, P = 418.445253 Days, E = 365.248498 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.23	4.93	4.52	5.20	5.82	3.85	1.55	-2.30	-2.97	0.41	-0.27	0.22	0.83	0.51	1.59



Stellar Parameters For KIC 006206627

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7095^{+77}_{-77}	$3.769^{+0.175}_{-0.108}$	$0.560^{+0.050}_{-0.200}$	$3.135^{+0.522}_{-0.696}$	$2.103^{+0.173}_{-0.231}$	$0.096^{+0.083}_{-0.029}$
	+1%/-1%	+5%/-3%	+9%/-36%	+17%/-22%	+8%/-11%	+86%/-30%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 006206627-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2665 ± 285	$120.78^{+147.75}_{-87.01}$	651^{+31}_{-35}	3247^{+1829}_{-626}	200^{+2234}_{-159}
Alt.	-6510 ± 1321	$119.31^{+148.94}_{-81.29}$	651^{+31}_{-35}	3731^{+2264}_{-796}	477^{+4612}_{-381}

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

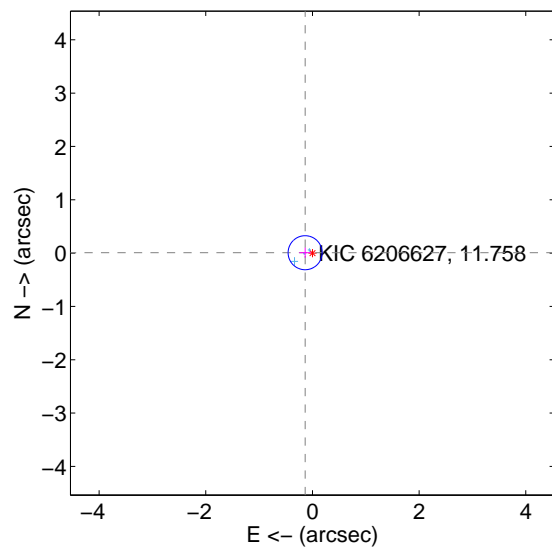
Supplemental centroid analysis for 006206627-02. **Kepler magnitude: 11.76.** Transit SNR 1.42

There are 3 quarters with good PRF difference image offsets

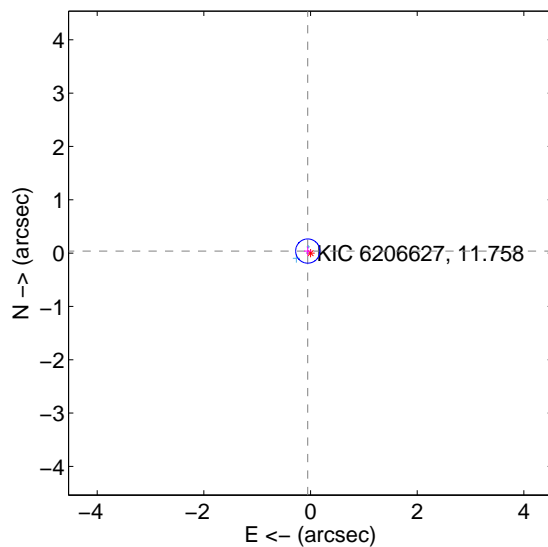
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.137 ± 0.106	1.29	0.137 ± 0.109	0.007 ± 0.094
PRF-fit source offset from KIC position	0.064 ± 0.076	0.85	0.052 ± 0.070	0.038 ± 0.086
photometric centroid source offset	0.42 ± 1.12	0.37	0.36 ± 1.16	-0.21 ± 1.02

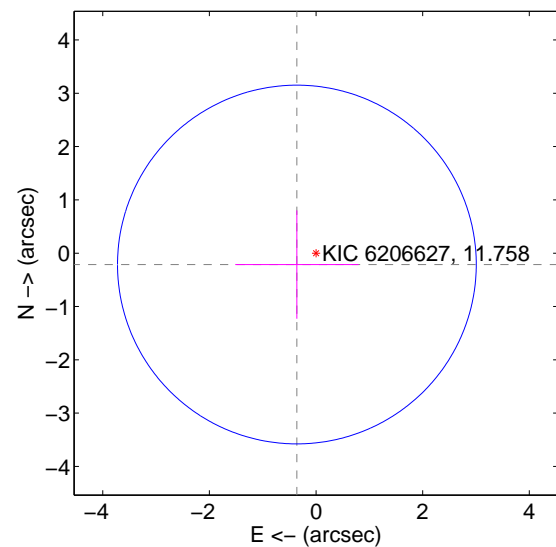
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

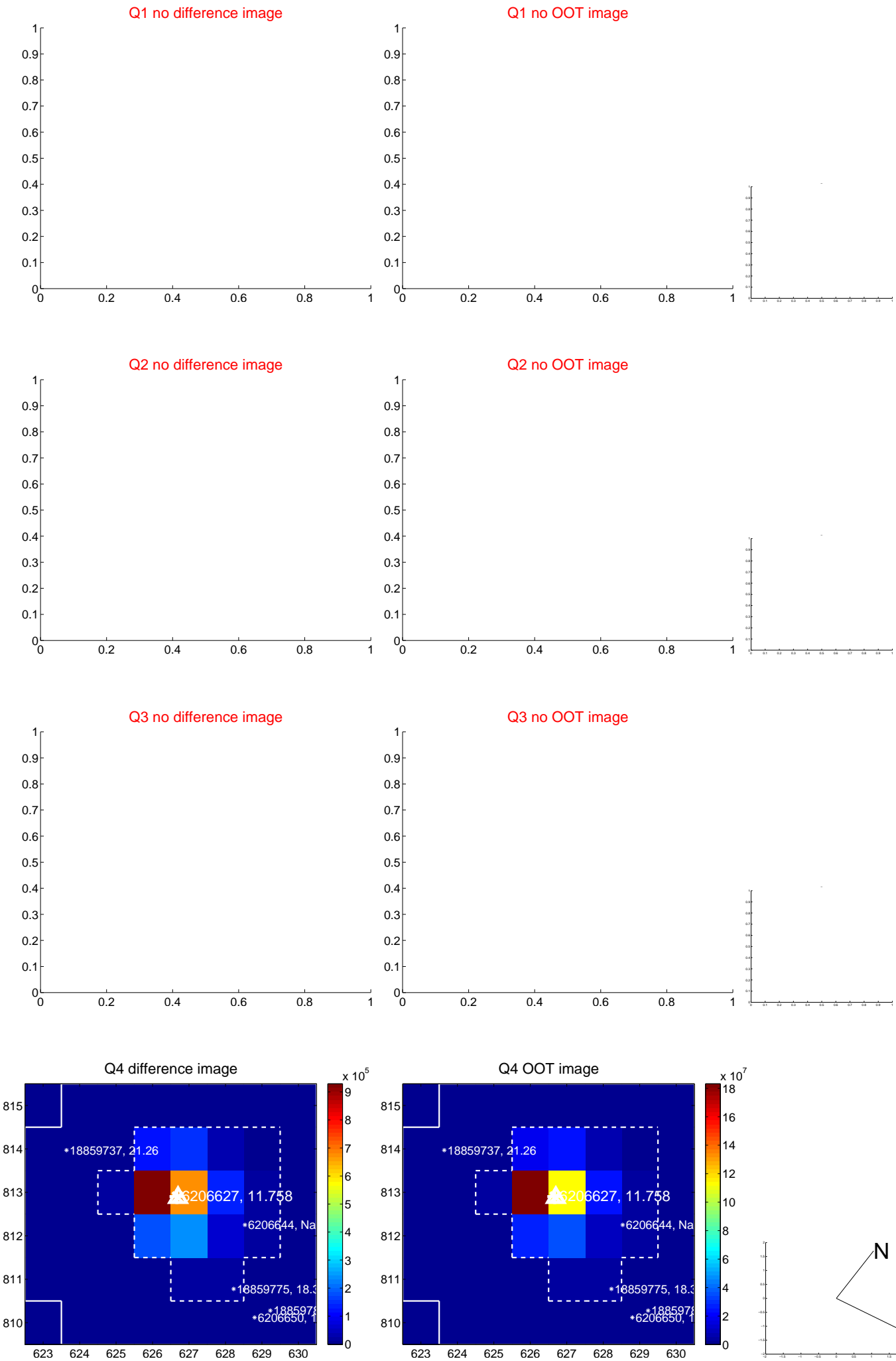


offset from photometric centroids

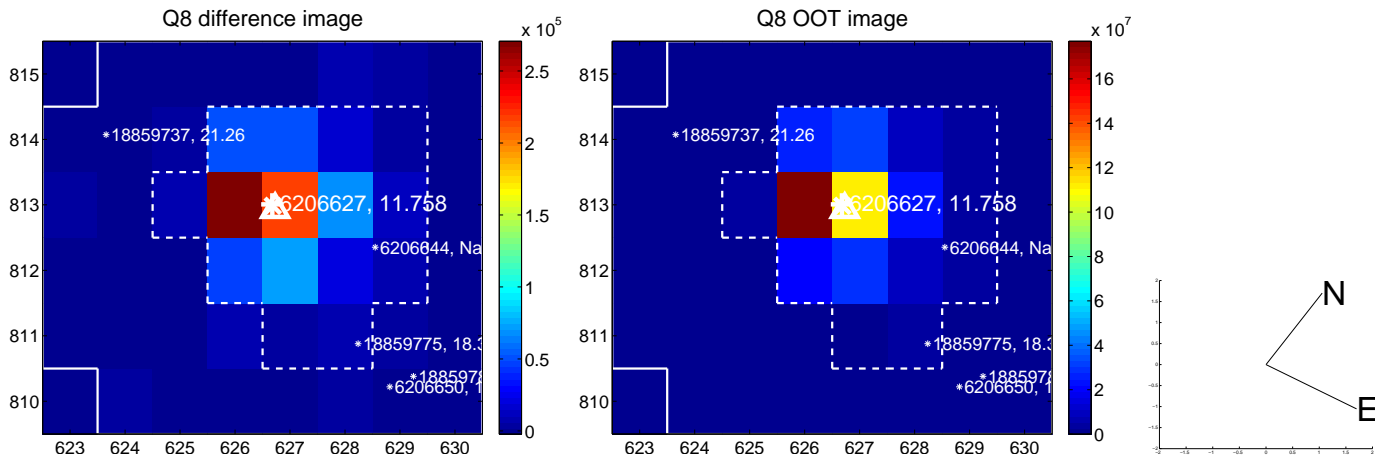
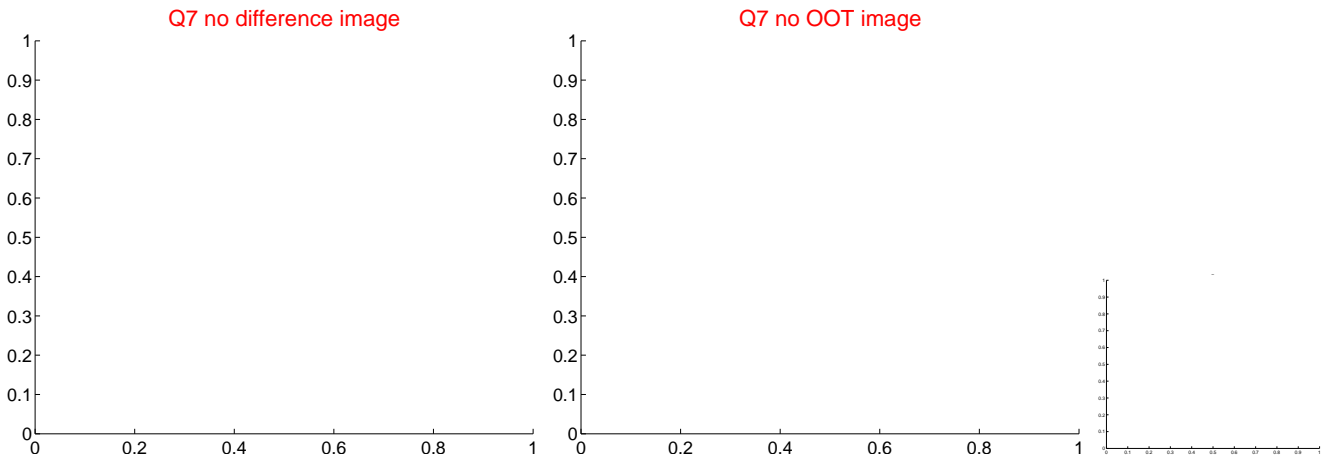
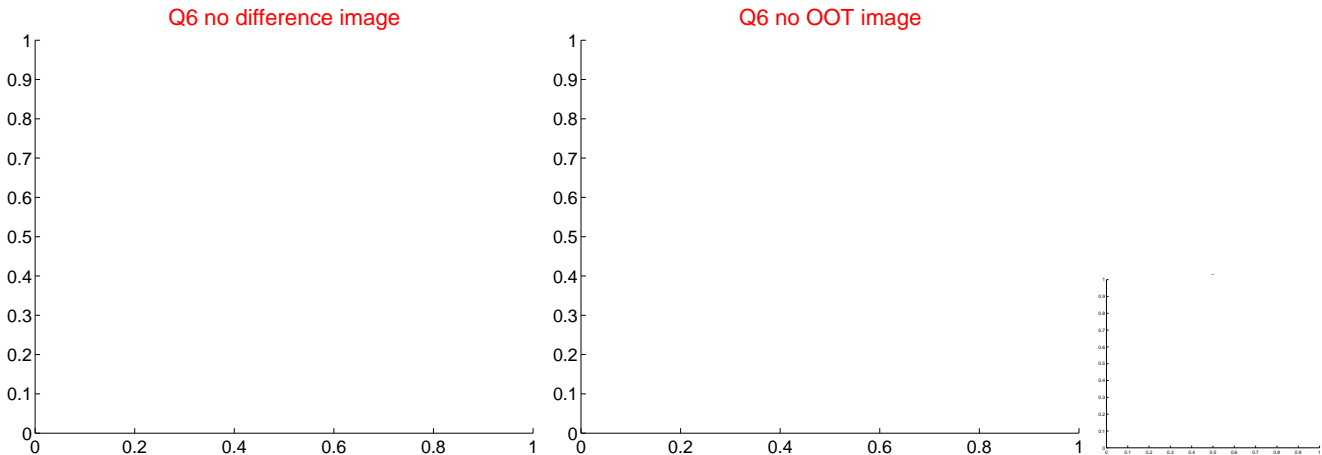
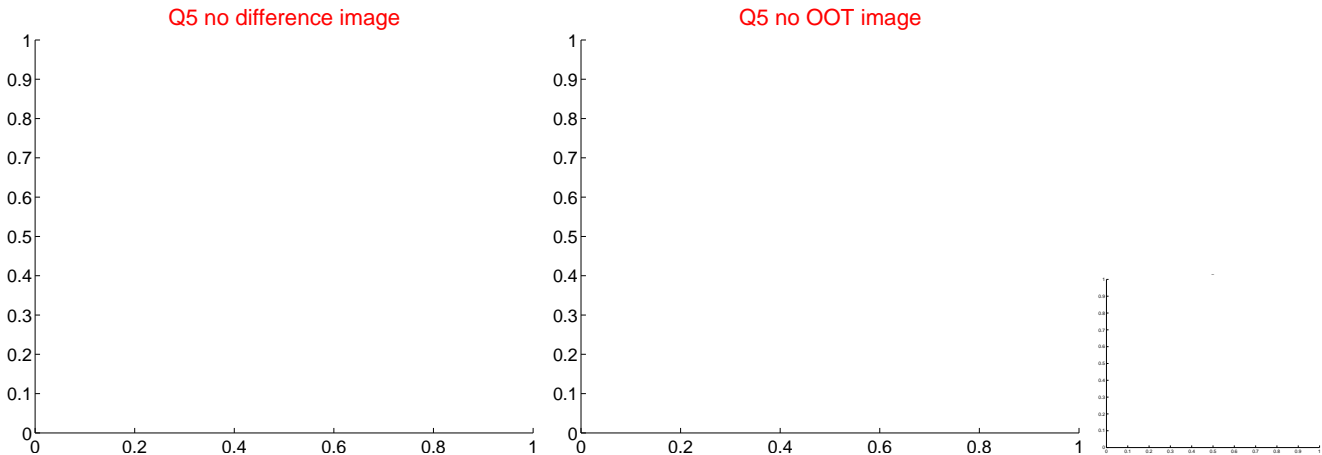


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



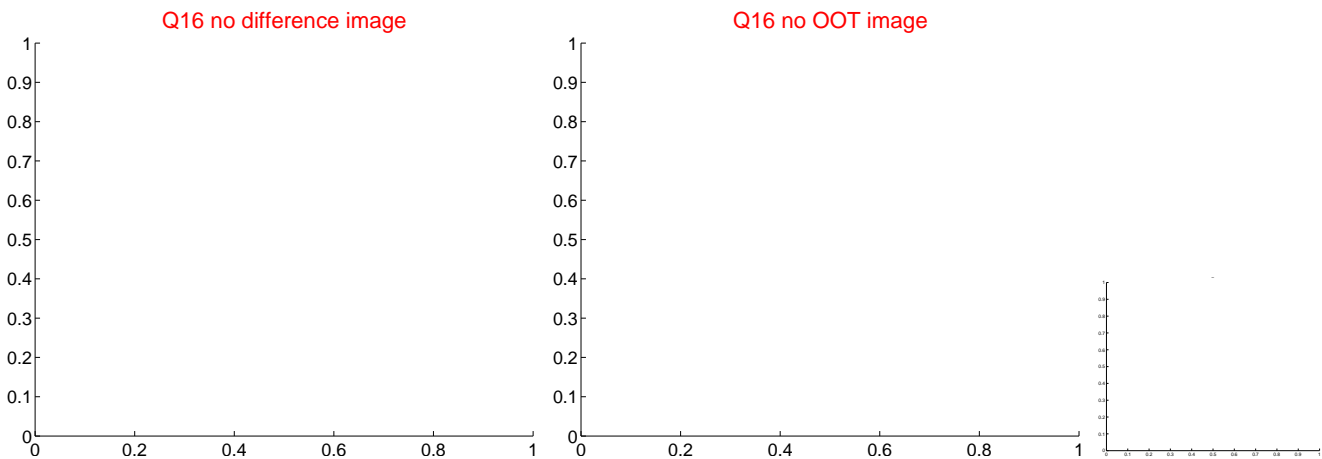
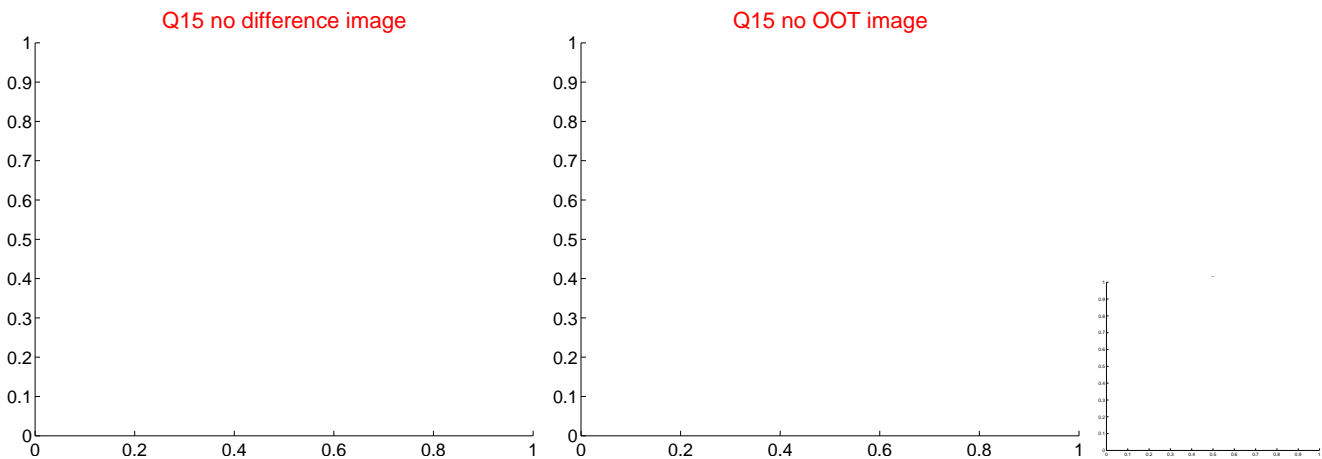
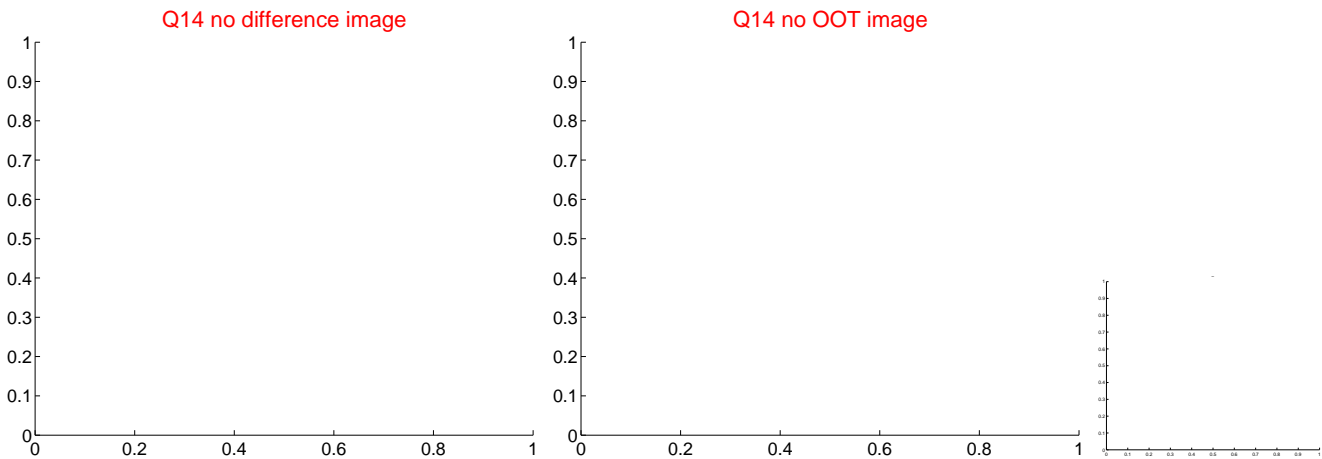
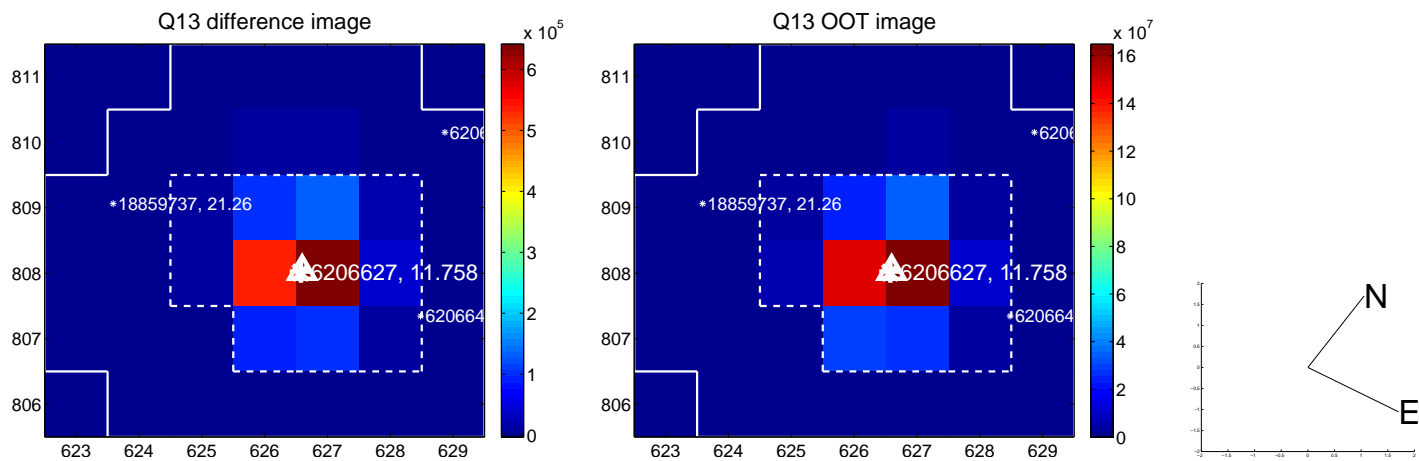
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



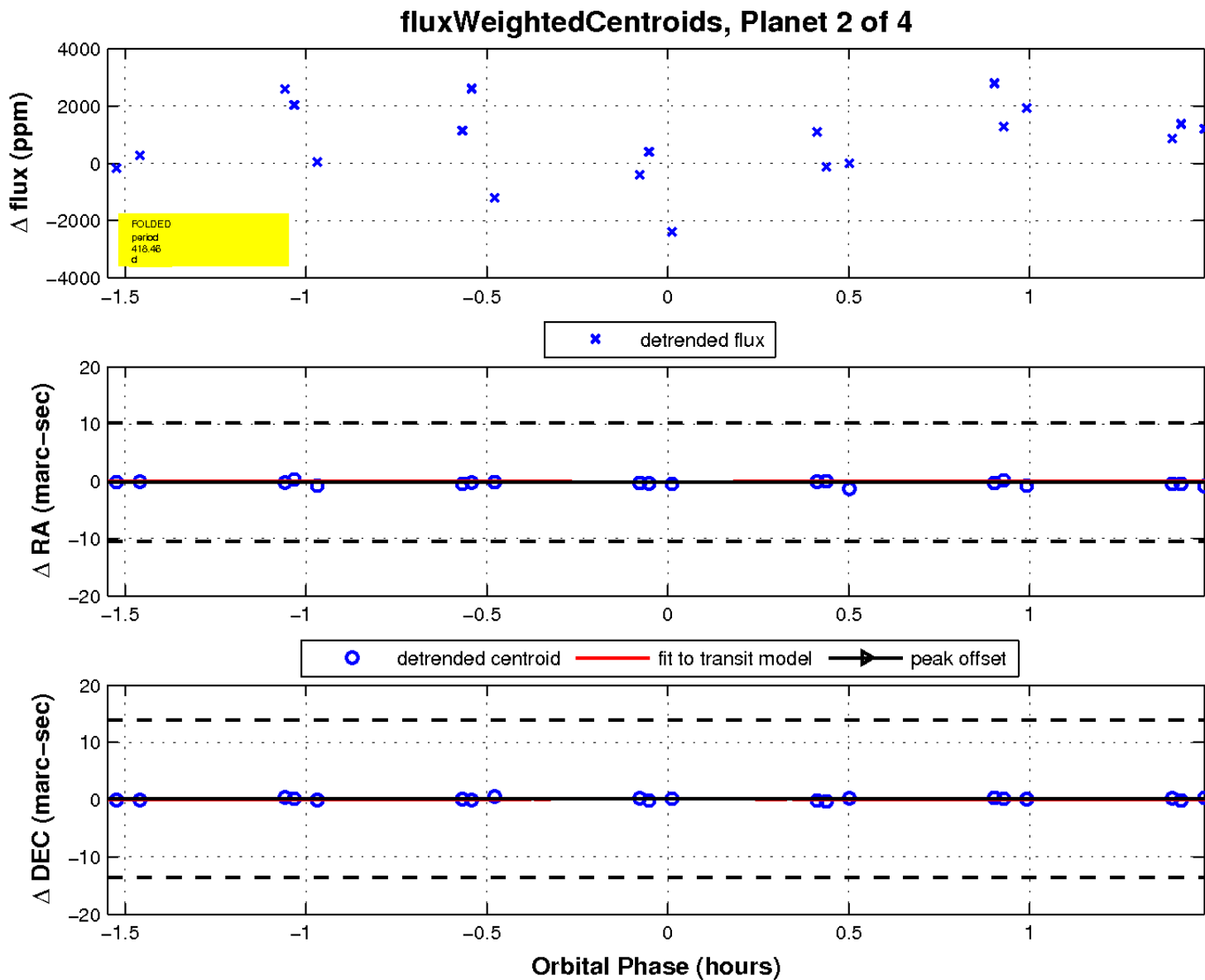
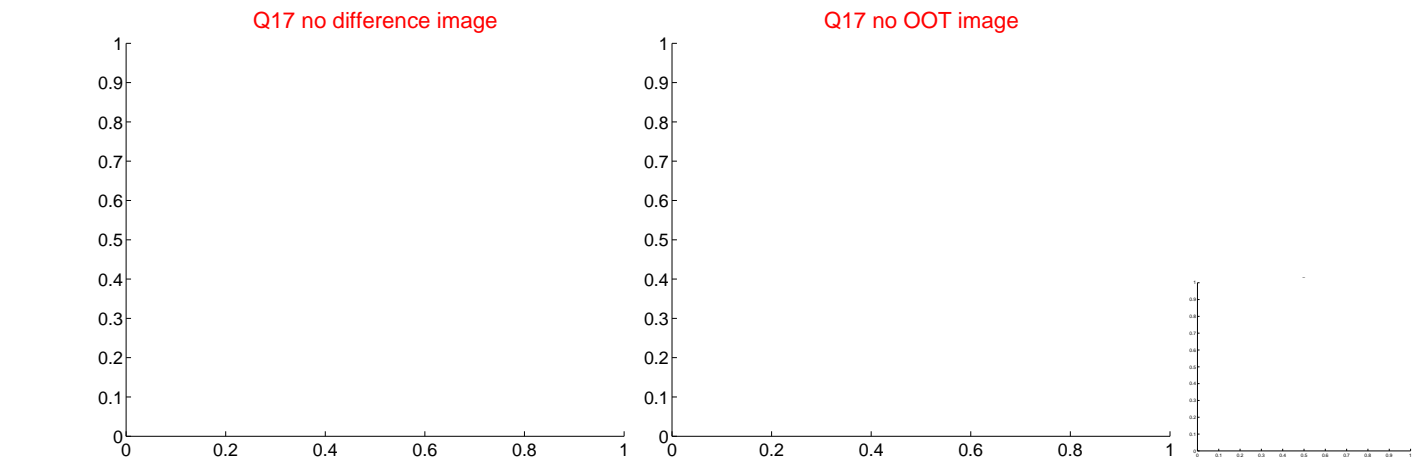
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

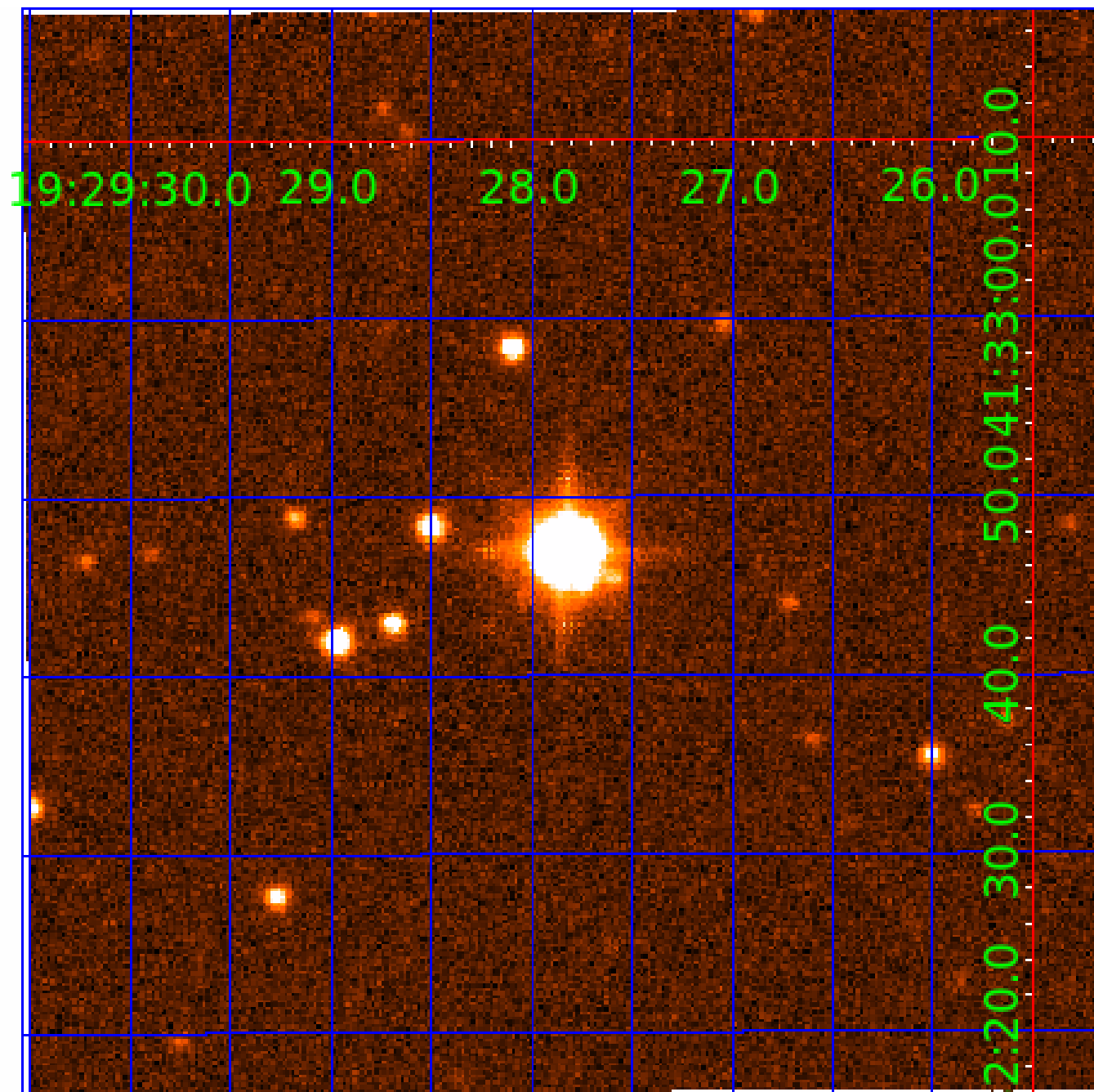


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006206627

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})
006206627-01	OBS	No	2.418535	132.010429	57.5	5.222	10.0	11.8	3.13	7095	2.79	10917.56
006206627-02	OBS	No	418.462037	365.247578	434.1	0.613	16.8	1.4	3.13	7095	7.83	11.32
006206627-03	OBS	No	418.881566	364.205468	1109.1	42.912	16.5	9.1	3.13	7095	12.39	11.31
006206627-04	OBS	No	0.657565	131.755898	80.1	1.251	10.0	11.2	3.13	7095	2.85	61983.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006206627-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006206627-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
006206627-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006206627-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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.

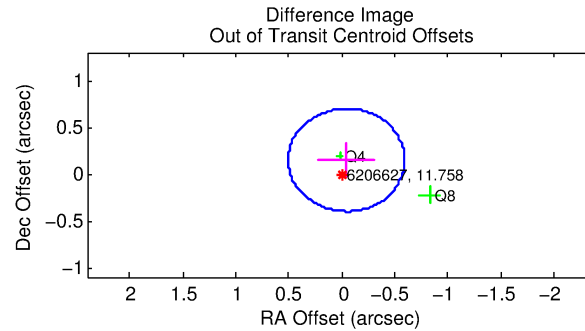
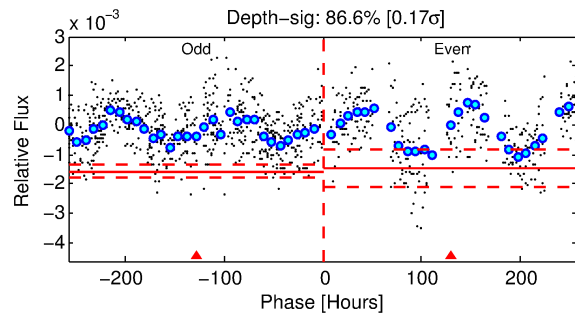
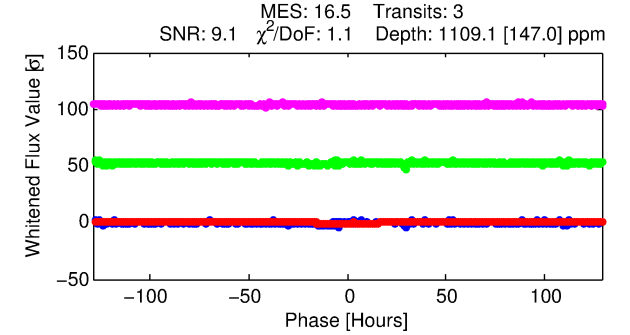
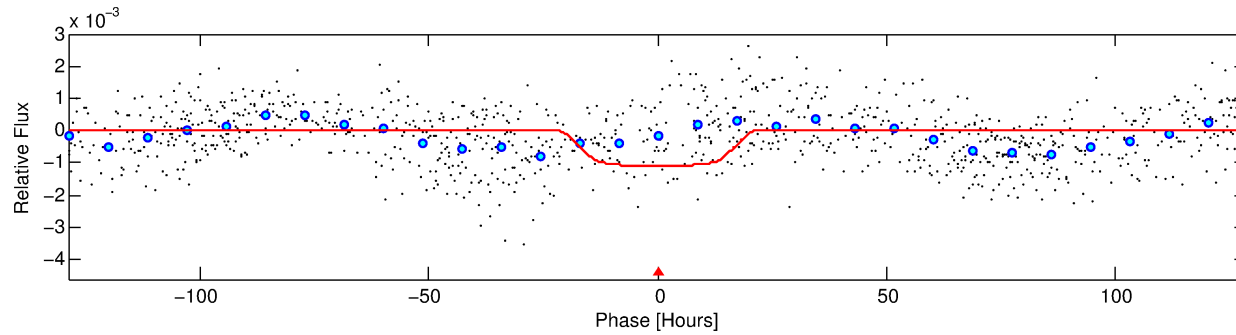
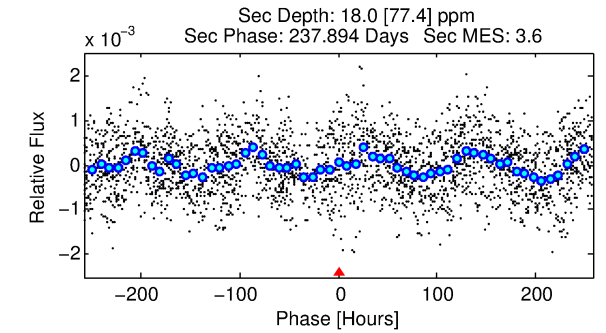
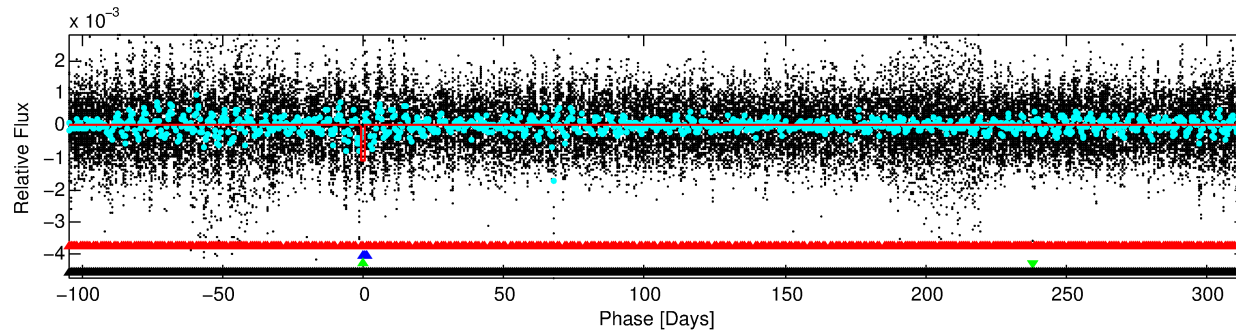
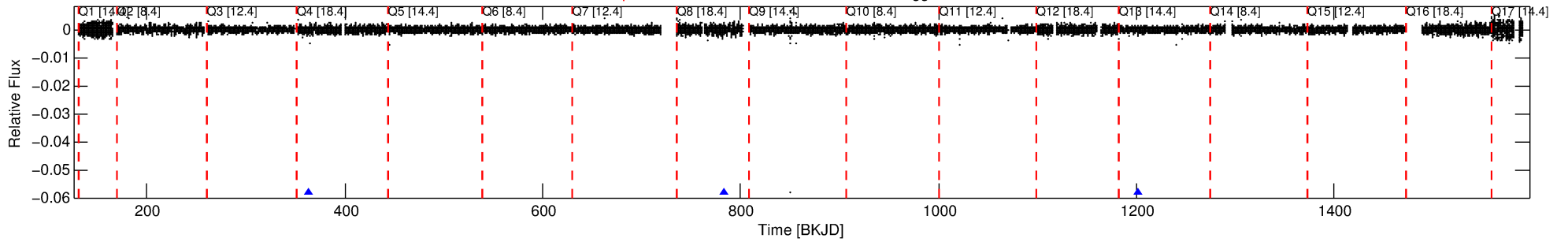
Ephemeris Match Information For 006206627-03

No Significant Match Found

DV One-Page Summary

KIC: 6206627 Candidate: 3 of 4 Period: 418.882 d

Kp: 11.76 R*: 3.13 Rs Teff: 7095.0 K Logg: 3.77 Fe/H: 0.560



DV Fit Results:

Period = 418.88157 [0.03239] d
Epoch = 364.2055 [0.0363] BKJD
Rp/R* = 0.0362 [0.0027]
a/R* = 35.17 [4.13]
b = 0.92 [0.02]
Seff = 11.31 [3.50]
Teq = 468 [36] K
Rp = 12.39 [2.90] Re
a = 1.4047 [0.2808] AU
Ag = 127.26 [549.39] [0.23σ]
Teffp = 2428 [2614] K [0.75σ]

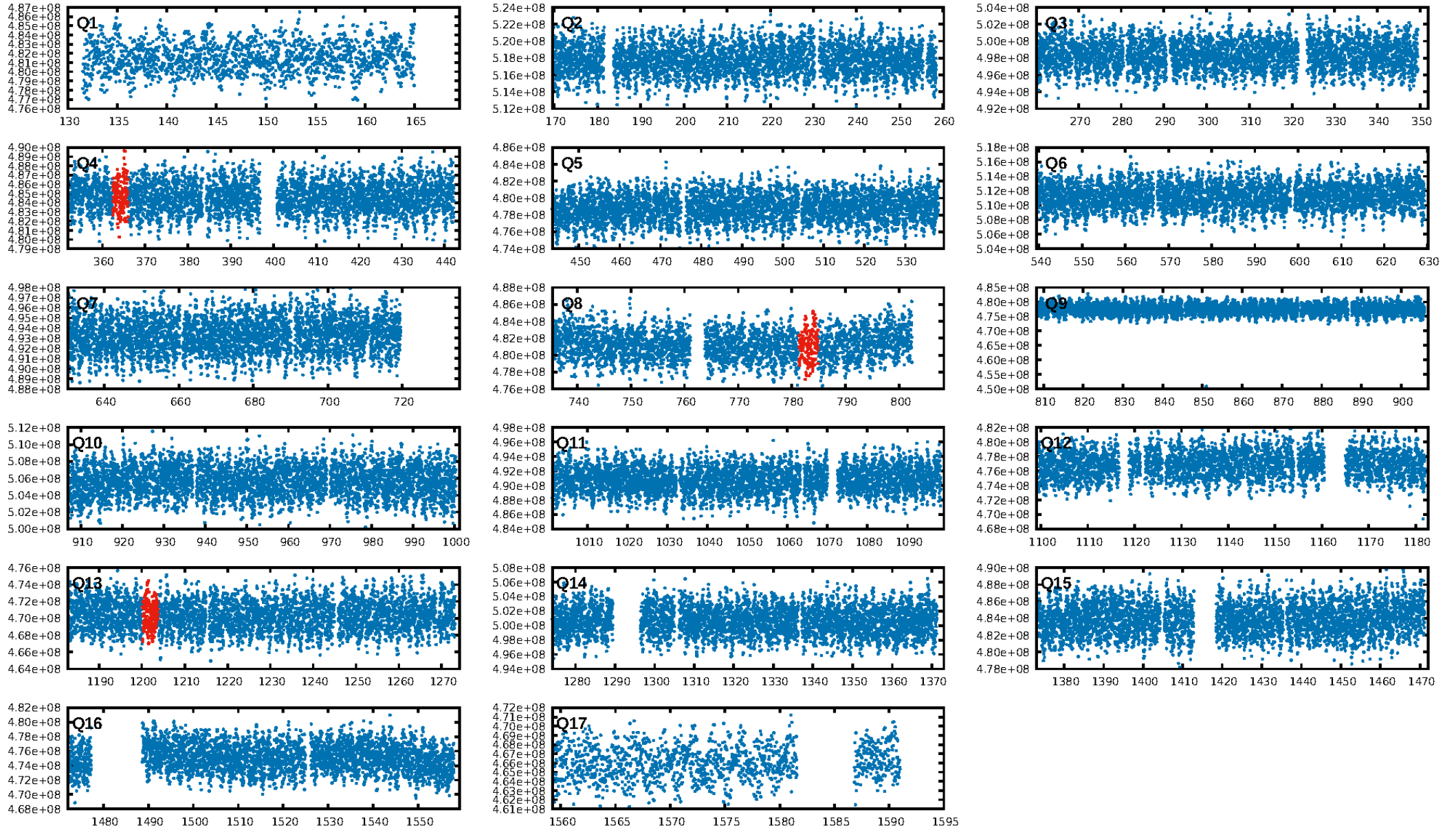
DV Diagnostic Results:

ShortPeriod-sig: 18.5% [0.23σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.68e-31
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.7786
Centroid-sig: 3.3%
Centroid-so: 0.066 arcsec [0.68σ]
OotOffset-rm: 0.156 arcsec [0.85σ]
KicOffset-rm: 0.219 arcsec [1.06σ]
OotOffset-st: 0/0/2/0 [2]
KicOffset-st: 0/0/2/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 0.00 [0/2]

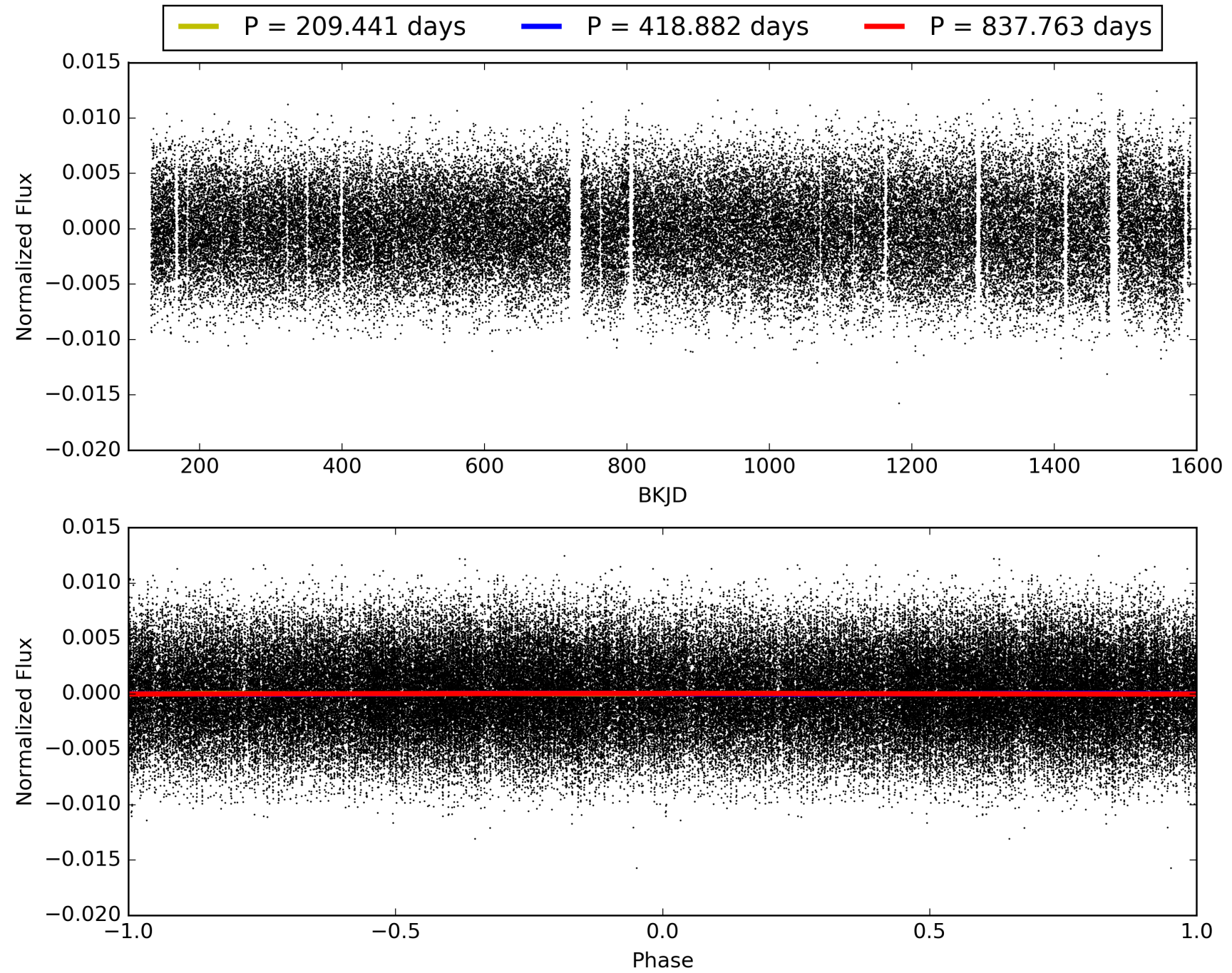
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:57:01 Z

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

TCE 006206627-03, PDC Light Curves

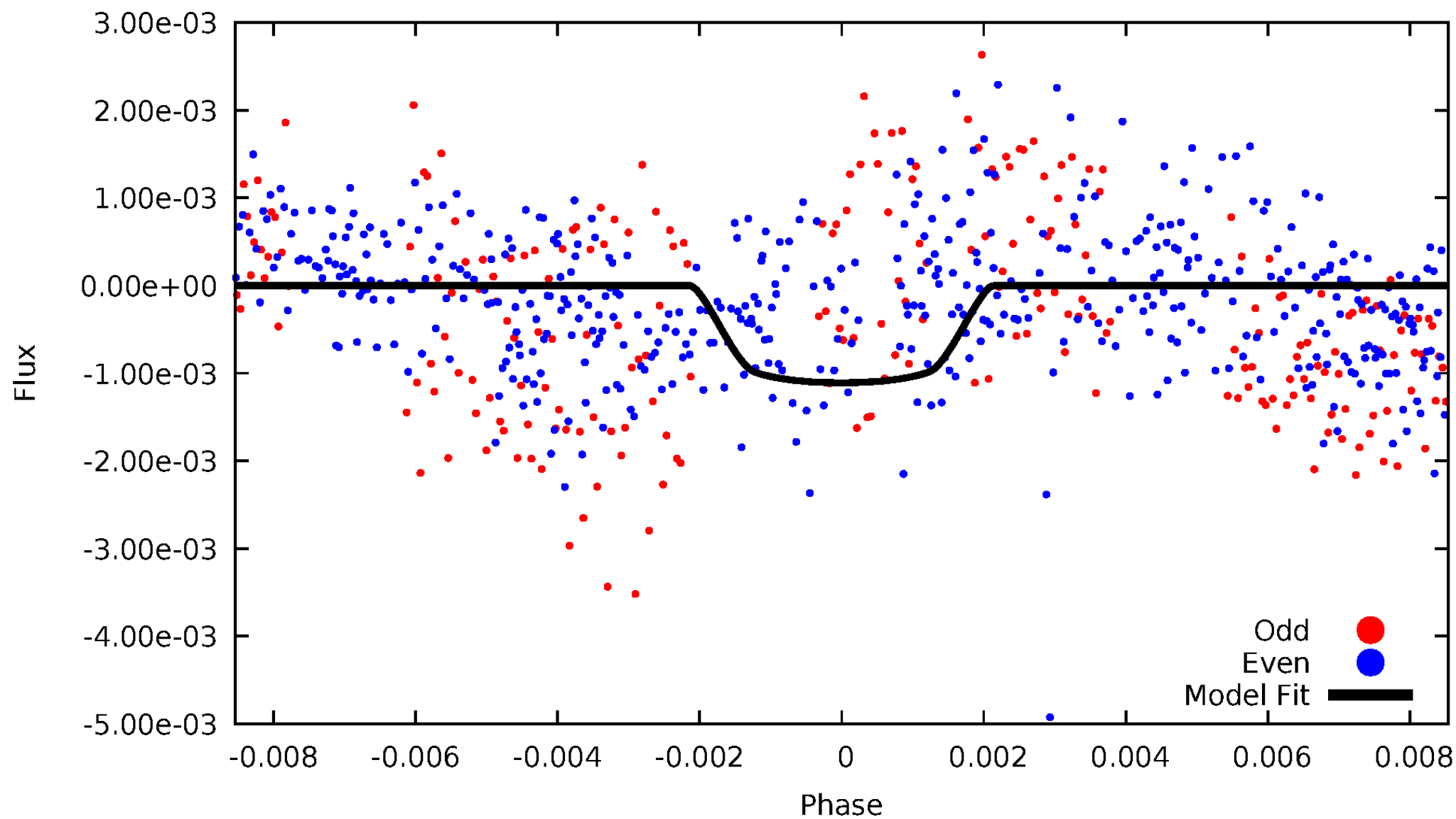


TCE 006206627-03



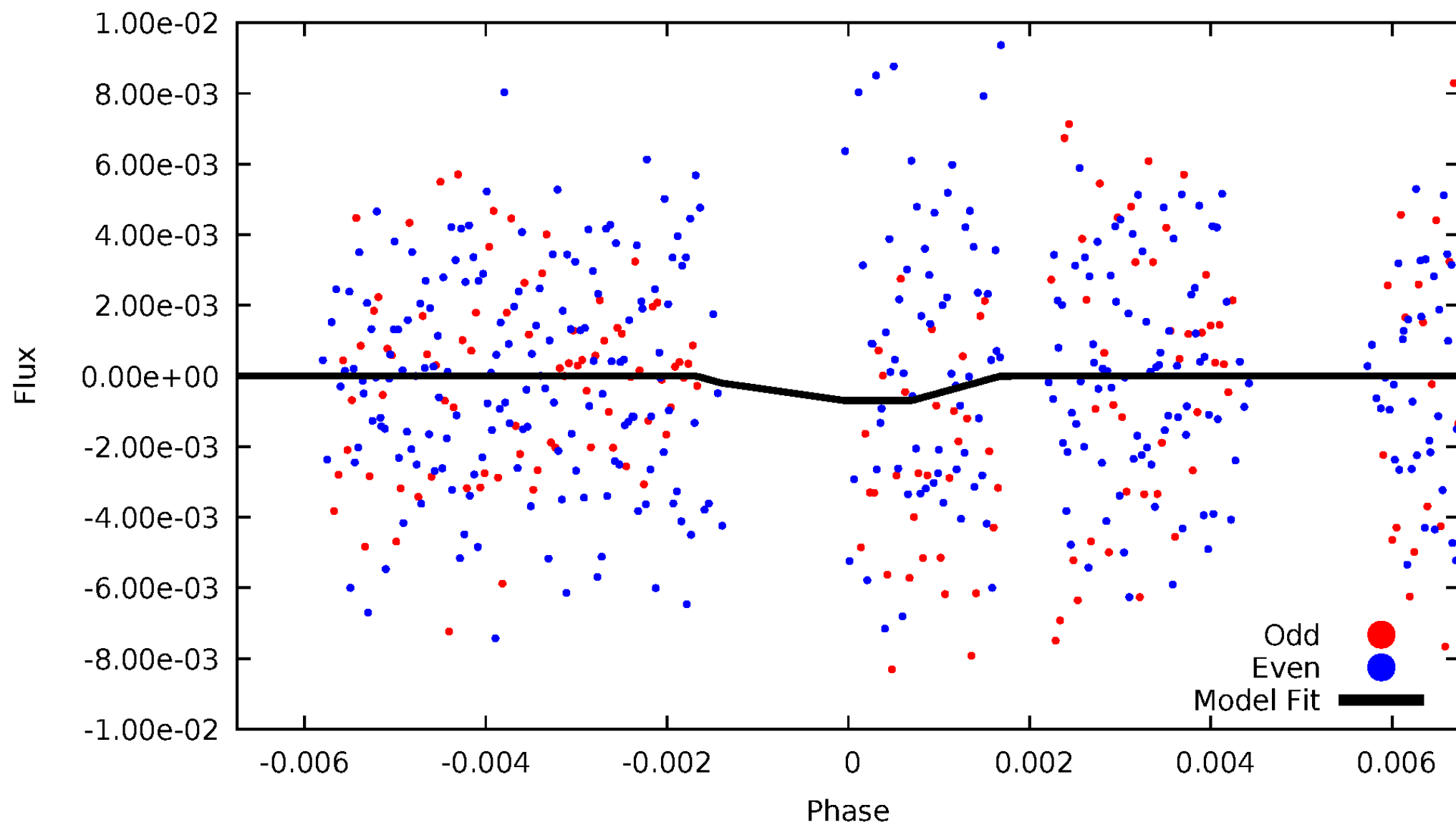
DV Odd/Even

TCE 006206627-03



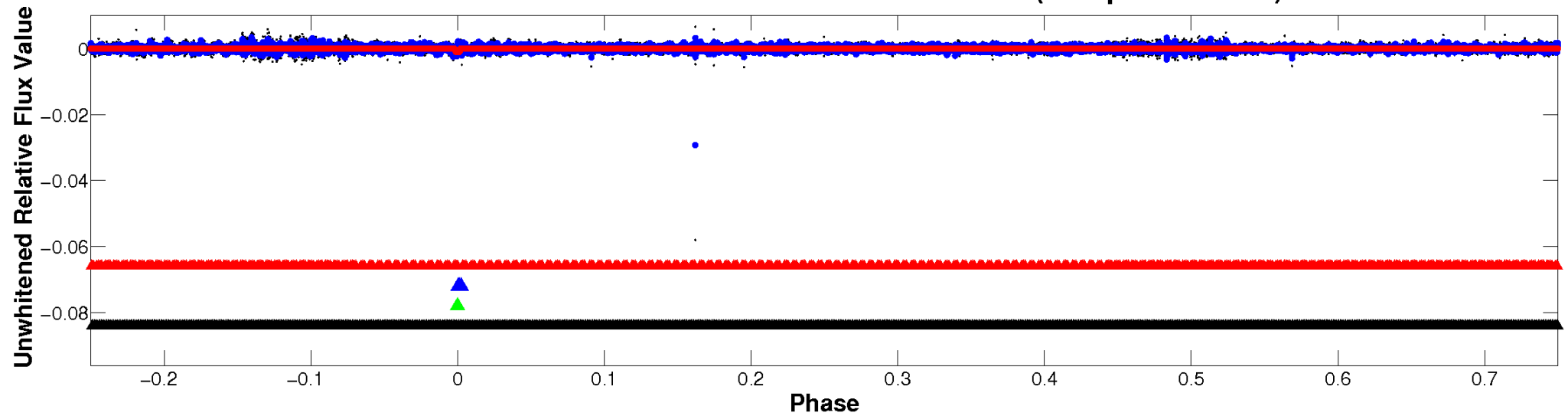
ALT Odd/Even

TCE 006206627-03

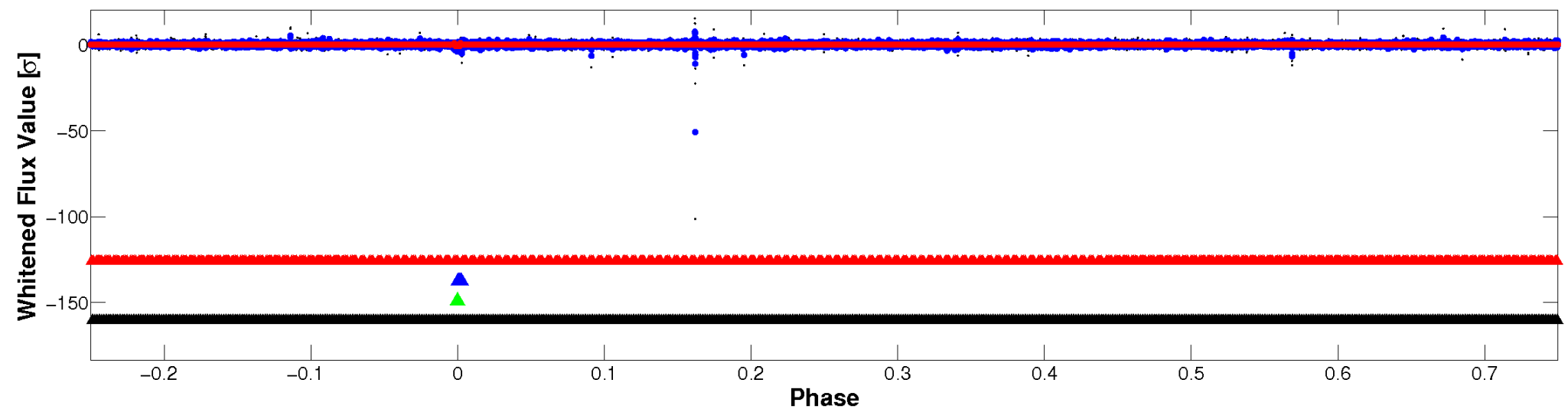


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

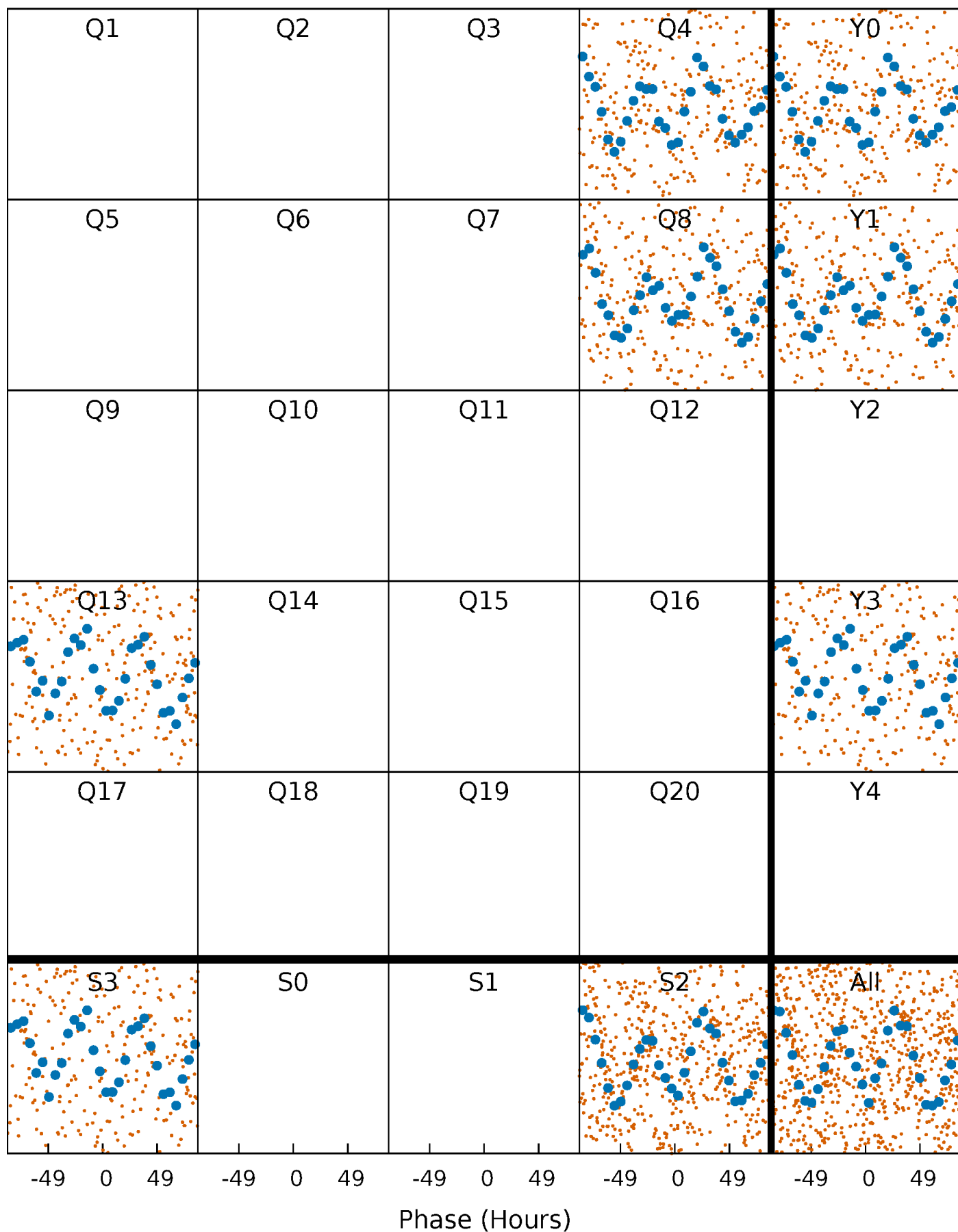


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 006206627-03 P=418.881566 Days $T_0=364.205468$ (BKJD)



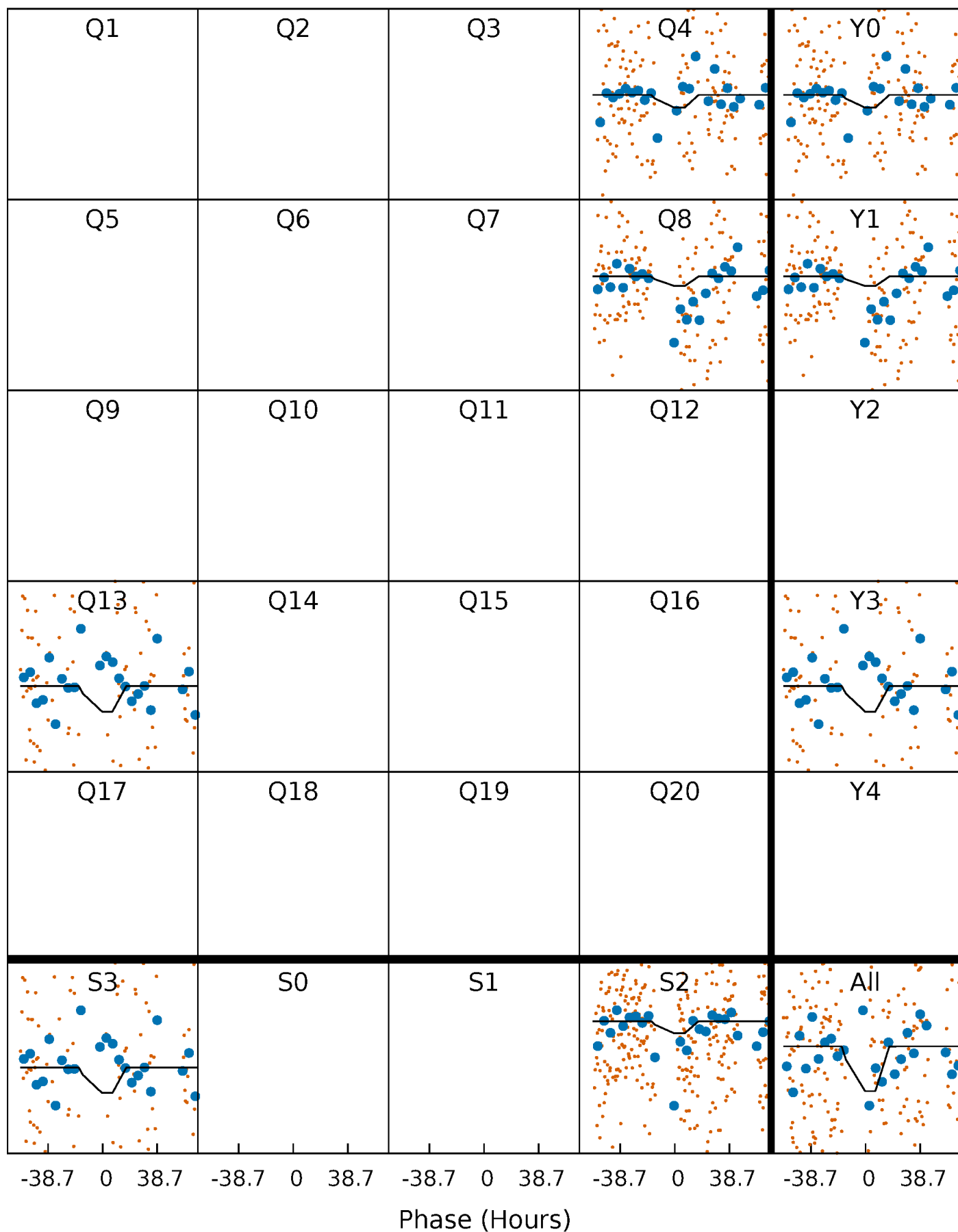
DV Quarter-Phased Transit Curves

TCE 006206627-03 $P=418.881566$ Days $T_0=364.205468$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

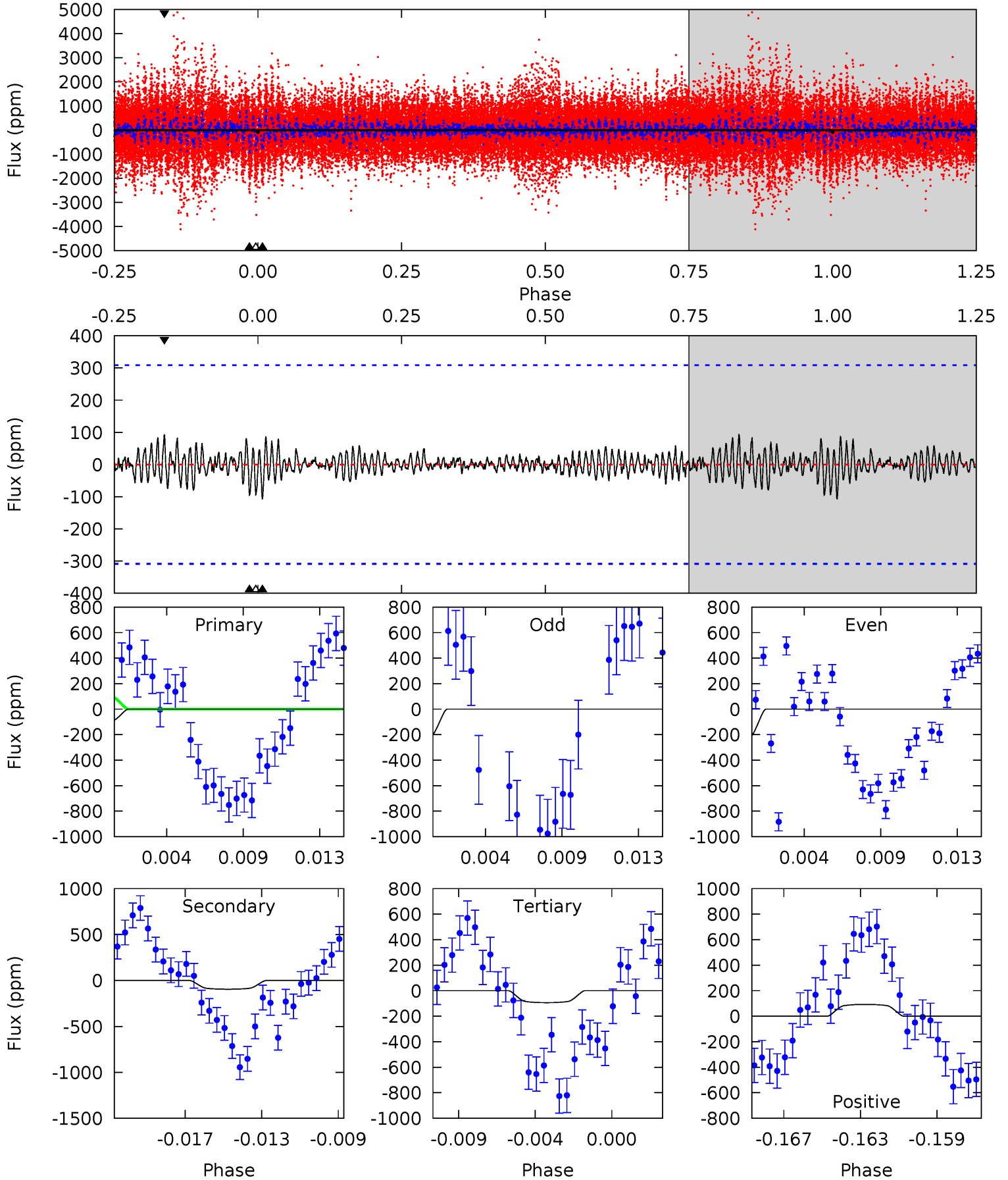
TCE 006206627-03 $P=418.472498$ Days $T_0=364.422155$ (BKJD)



DV Model-Shift Uniqueness Test

006206627-03, P = 418.881566 Days, E = 364.205468 Days

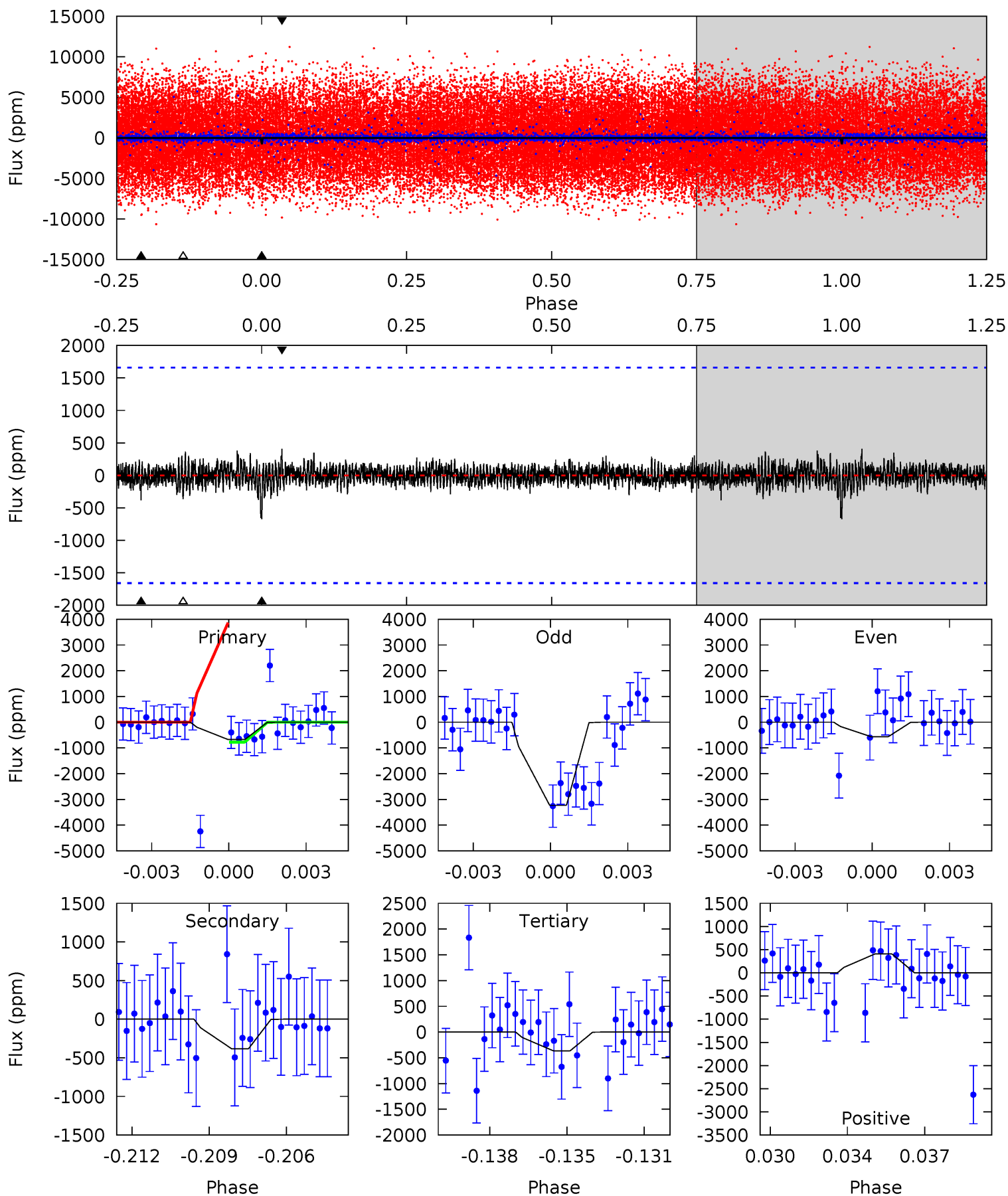
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.79	1.60	1.58	1.55	5.19	2.86	0.43	0.21	0.23	0.02	0.04	0.08	-1.03	0.46	2.13



Alt Model-Shift Uniqueness Test

006206627-03, P = 418.472498 Days, E = 364.422155 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.13	1.21	1.15	1.29	5.23	2.93	0.28	0.98	0.84	0.06	-0.08	3.92	-1.74	0.38	2.59



Stellar Parameters For KIC 006206627

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	7095^{+77}_{-77}	$3.769^{+0.175}_{-0.108}$	$0.560^{+0.050}_{-0.200}$	$3.135^{+0.522}_{-0.696}$	$2.103^{+0.173}_{-0.231}$	$0.096^{+0.083}_{-0.029}$
	+1%/-1%	+5%/-3%	+9%/-36%	+17%/-22%	+8%/-11%	+86%/-30%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 006206627-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-95 ± 60	$12.28^{+1.56}_{-1.70}$	653^{+28}_{-37}	3972^{+387}_{-679}	668^{+500}_{-457}
Alt.	-383 ± 317	$8.85^{+1.38}_{-1.27}$	651^{+30}_{-36}	6068^{+1091}_{-1636}	5190^{+5193}_{-4029}

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 $A_{obs} \gg 1.0$

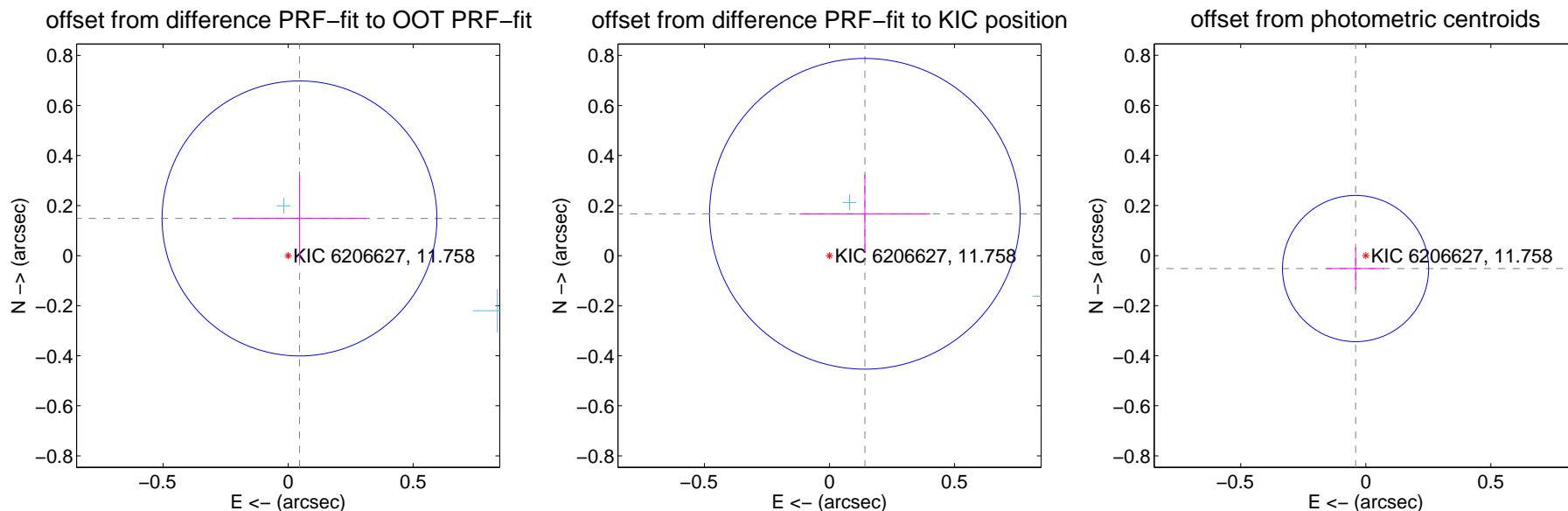
DV Centroid Data

Supplemental centroid analysis for 006206627-03. **Kepler magnitude: 11.76.** Transit SNR 9.10

There are 2 quarters with good PRF difference image offsets

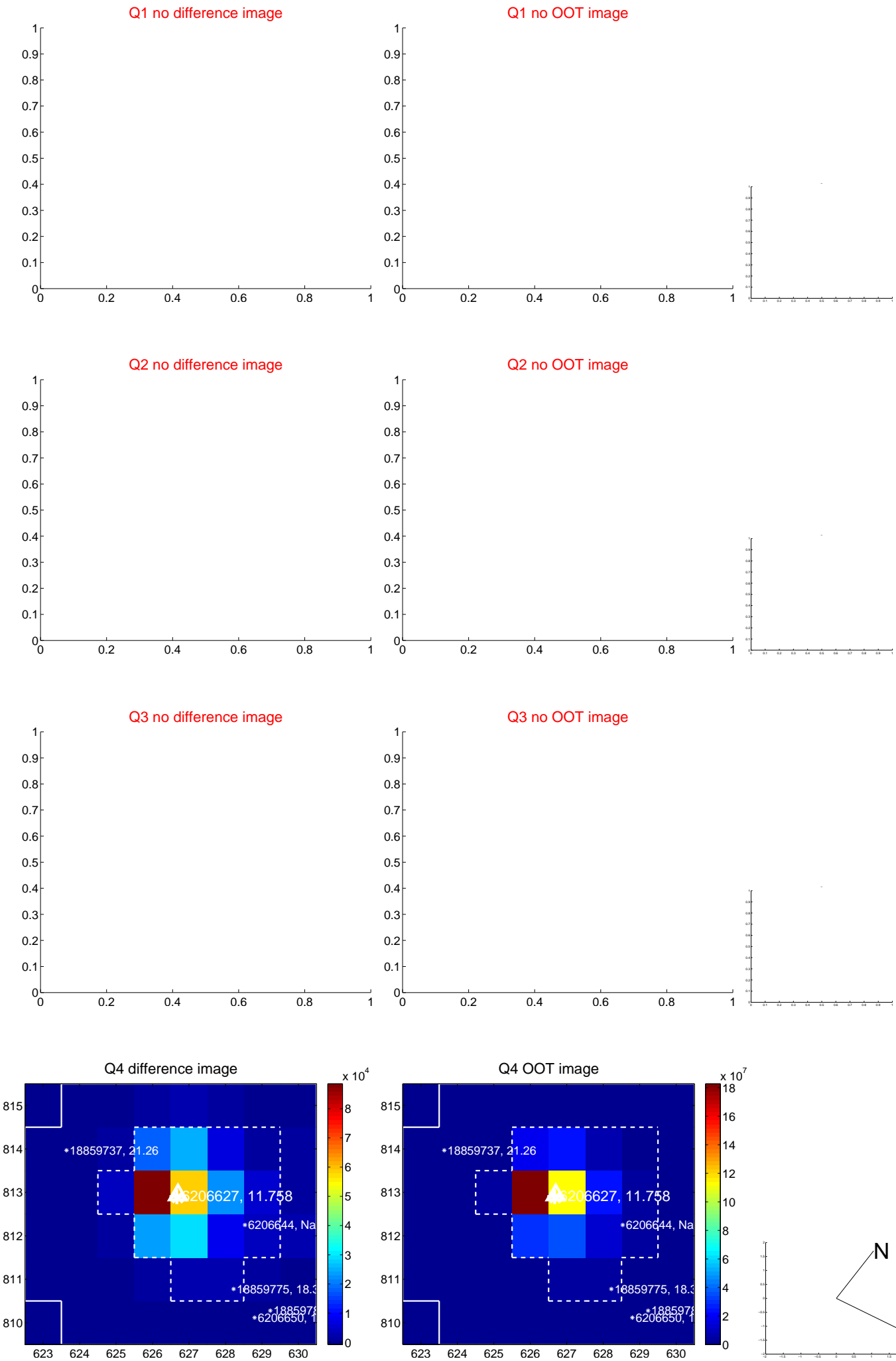
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.156 ± 0.183	0.85	-0.045 ± 0.268	0.149 ± 0.173
PRF-fit source offset from KIC position	0.219 ± 0.207	1.06	-0.141 ± 0.261	0.167 ± 0.158
photometric centroid source offset	0.07 ± 0.10	0.68	0.04 ± 0.12	-0.05 ± 0.08

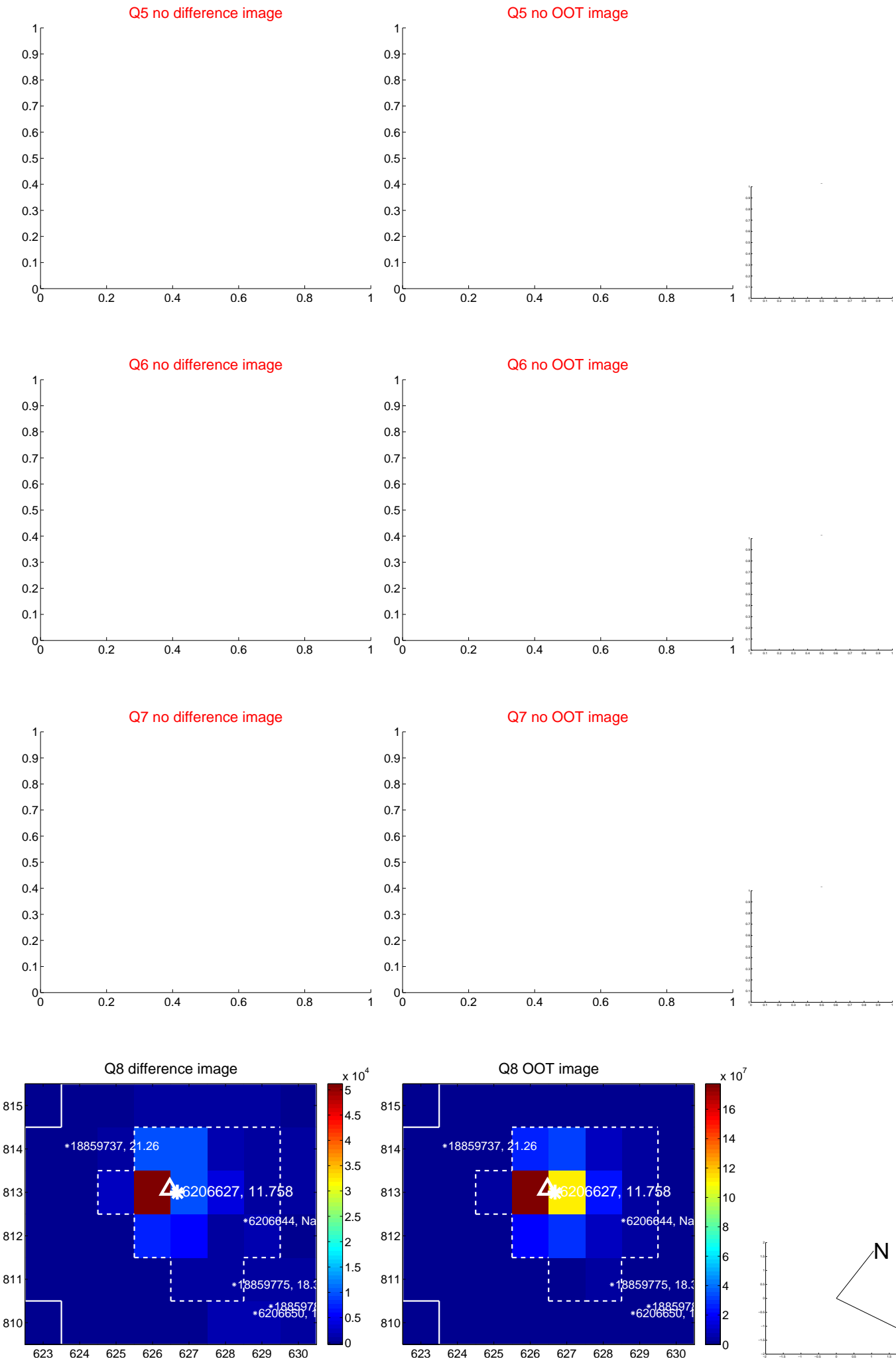


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



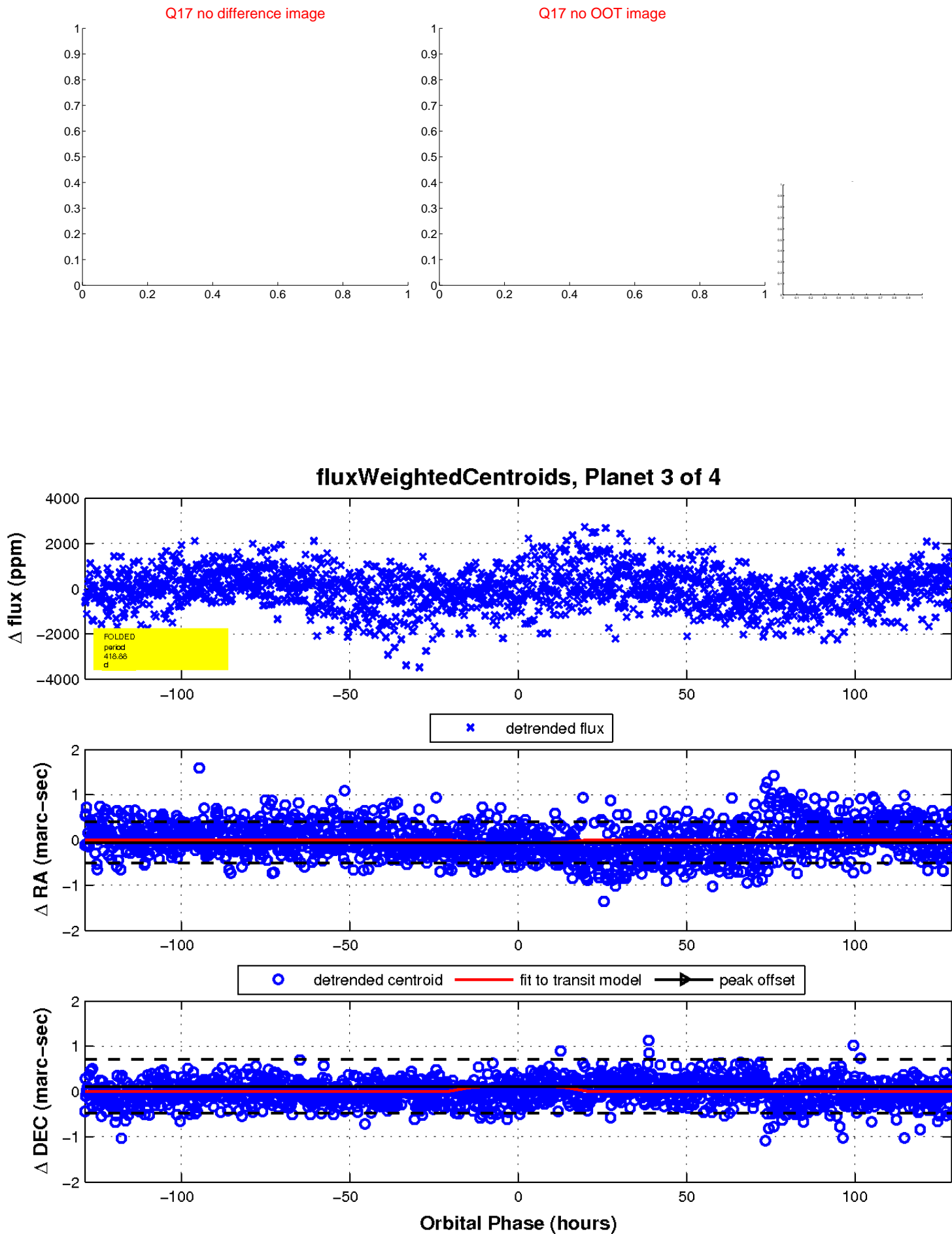
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

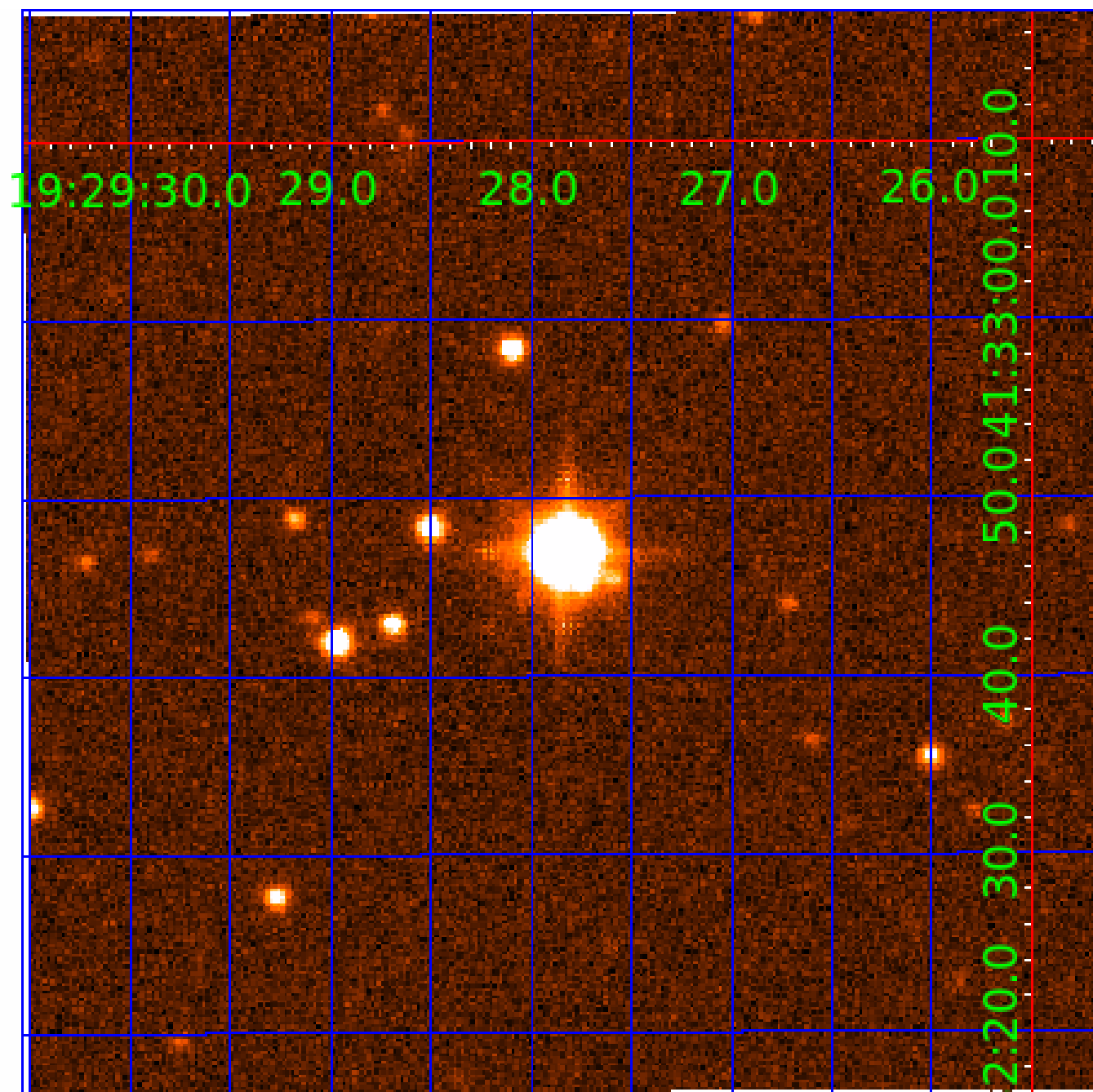


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006206627

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})
006206627-01	OBS	No	2.418535	132.010429	57.5	5.222	10.0	11.8	3.13	7095	2.79	10917.56
006206627-02	OBS	No	418.462037	365.247578	434.1	0.613	16.8	1.4	3.13	7095	7.83	11.32
006206627-03	OBS	No	418.881566	364.205468	1109.1	42.912	16.5	9.1	3.13	7095	12.39	11.31
006206627-04	OBS	No	0.657565	131.755898	80.1	1.251	10.0	11.2	3.13	7095	2.85	61983.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006206627-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006206627-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
006206627-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006206627-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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.

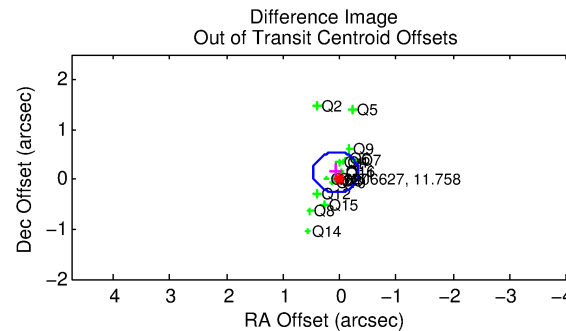
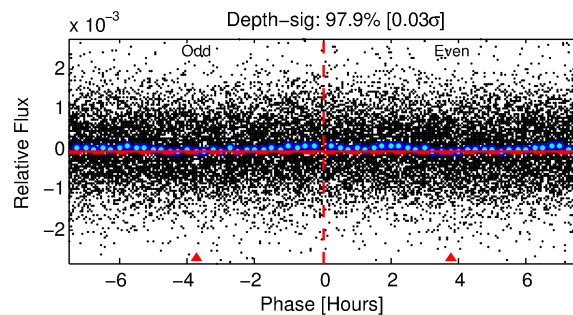
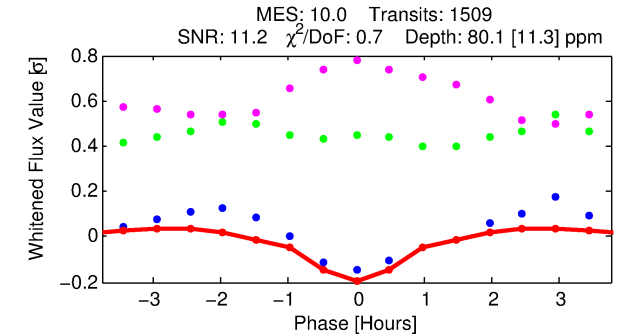
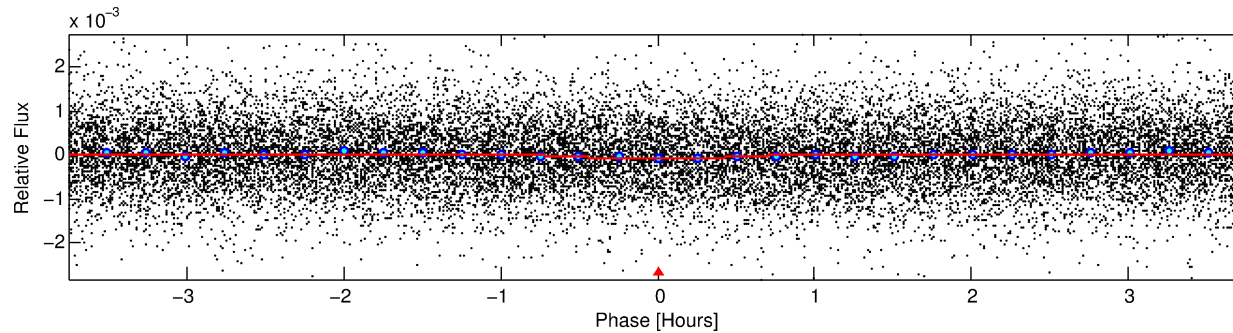
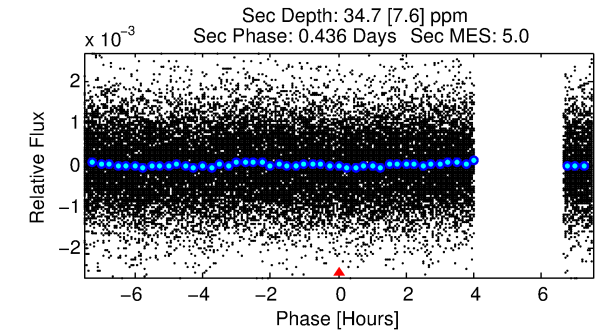
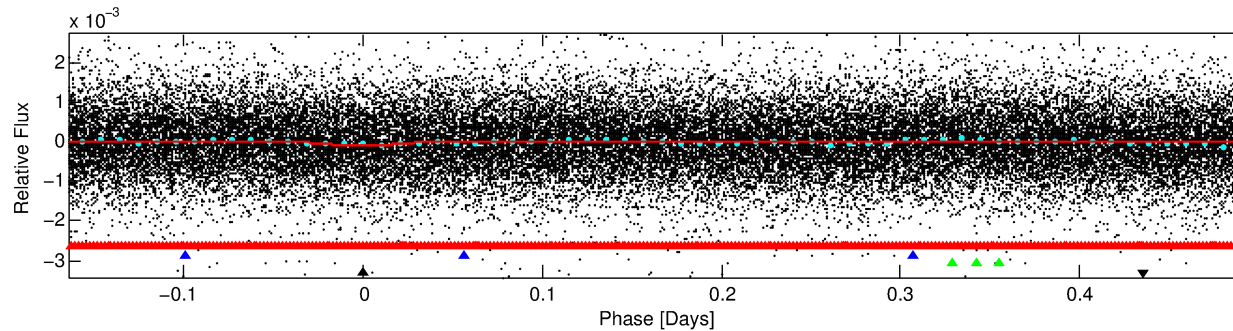
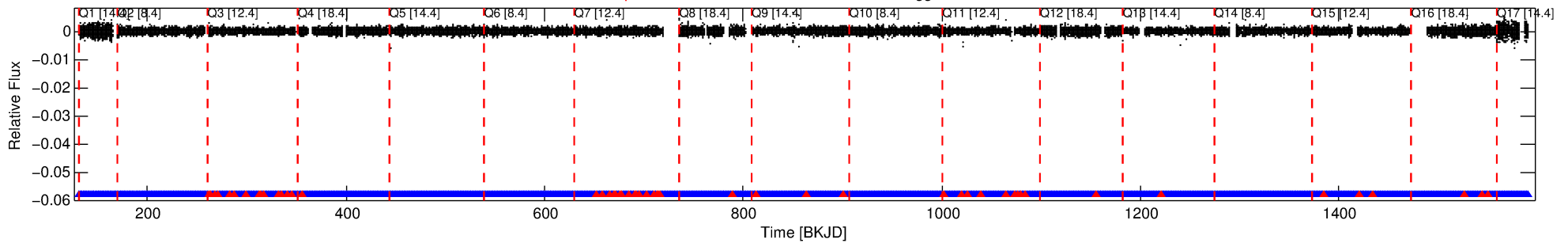
Ephemeris Match Information For 006206627-04

No Significant Match Found

DV One-Page Summary

KIC: 6206627 Candidate: 4 of 4 Period: 0.658 d

Kp: 11.76 R*: 3.13 Rs Teff: 7095.0 K Logg: 3.77 Fe/H: 0.560



DV Fit Results:

Period = 0.65756 [0.00001] d
Epoch = 131.7559 [0.0024] BKJD
Rp/R* = 0.0083 [0.0120]
a/R* = 4.07 [31.56]
b = 0.11 [77.90]
Seff = 61983.72 [19200.46]
Teq = 4023 [312] K
Rp = 2.85 [4.16] Re
a = 0.0190 [0.0038] AU
Ag = 0.85 [2.47] [-0.06σ]
Teffp = 5967 [4322] K [0.45σ]

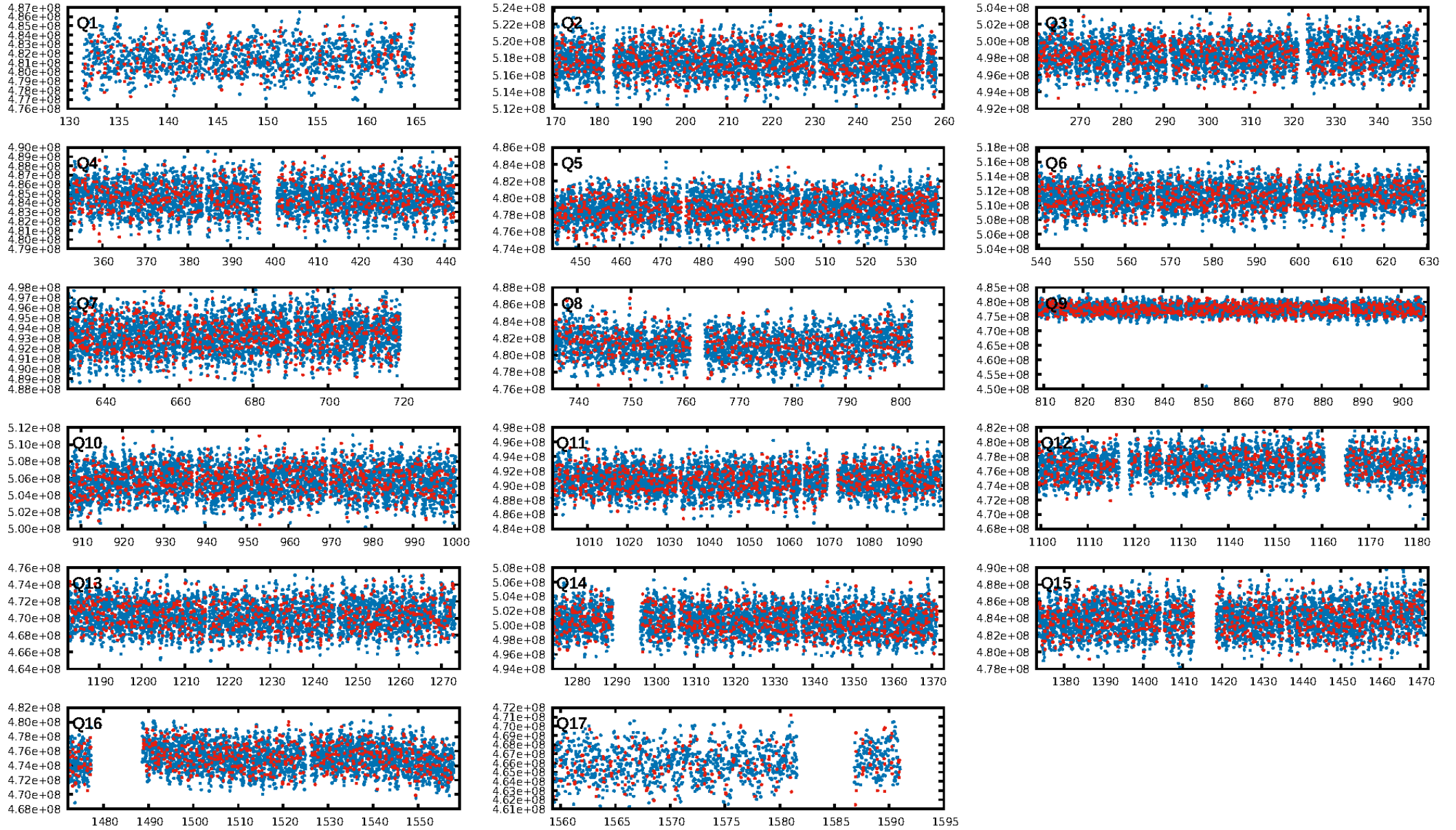
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [7.87σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.50e-29
RollingBand-fgt: 0.96 [1380/1437]
GhostDiagnostic-chr: 0.805
Centroid-sig: 59.2%
Centroid-so: 0.119 arcsec [0.77σ]
OotOffset-rm: 0.154 arcsec [1.14σ]
KicOffset-rm: 0.197 arcsec [1.25σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.53 [9/17]
DiffImageOverlap-fno: 1.00 [17/17]

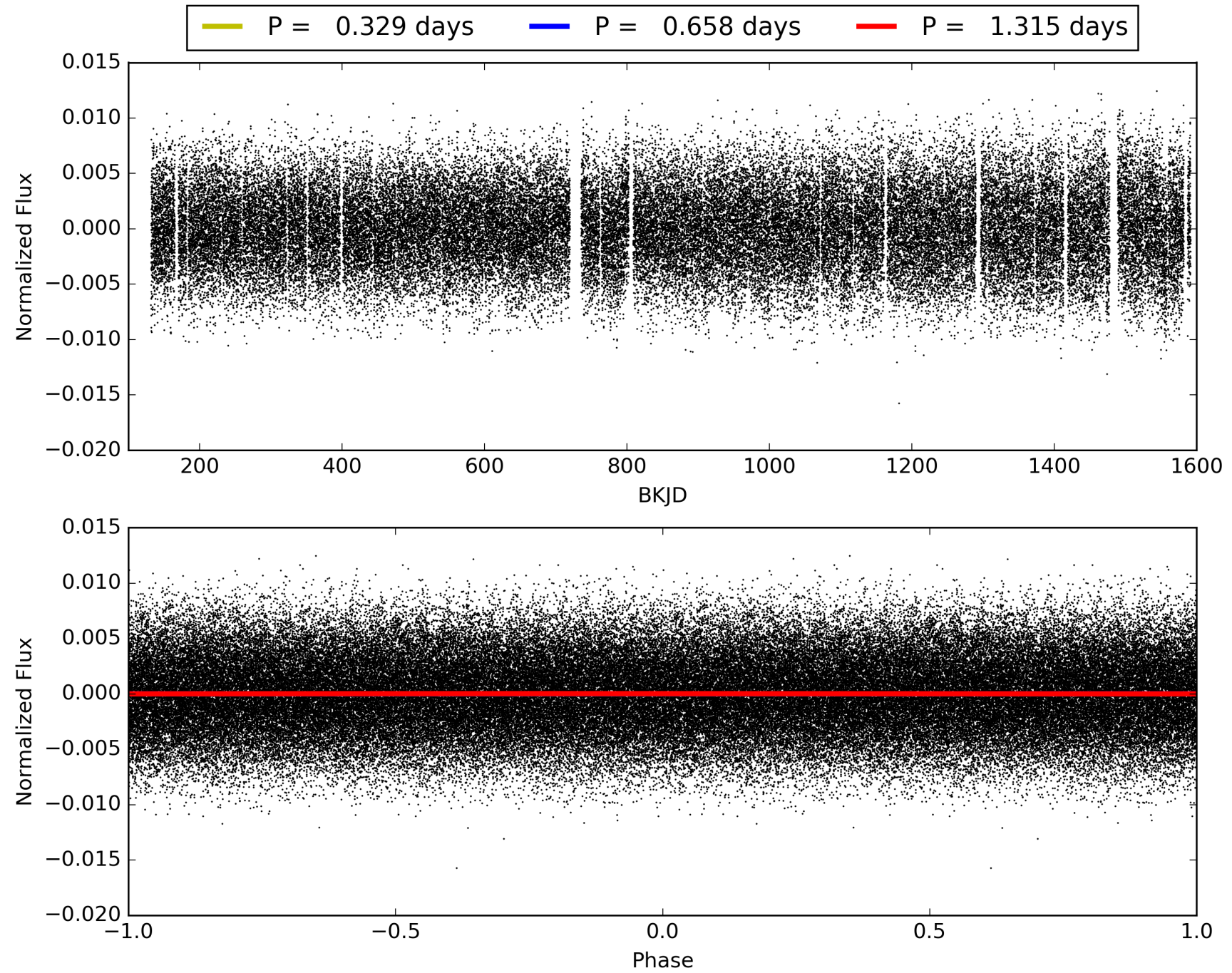
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:57:07 Z

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

TCE 006206627-04, PDC Light Curves

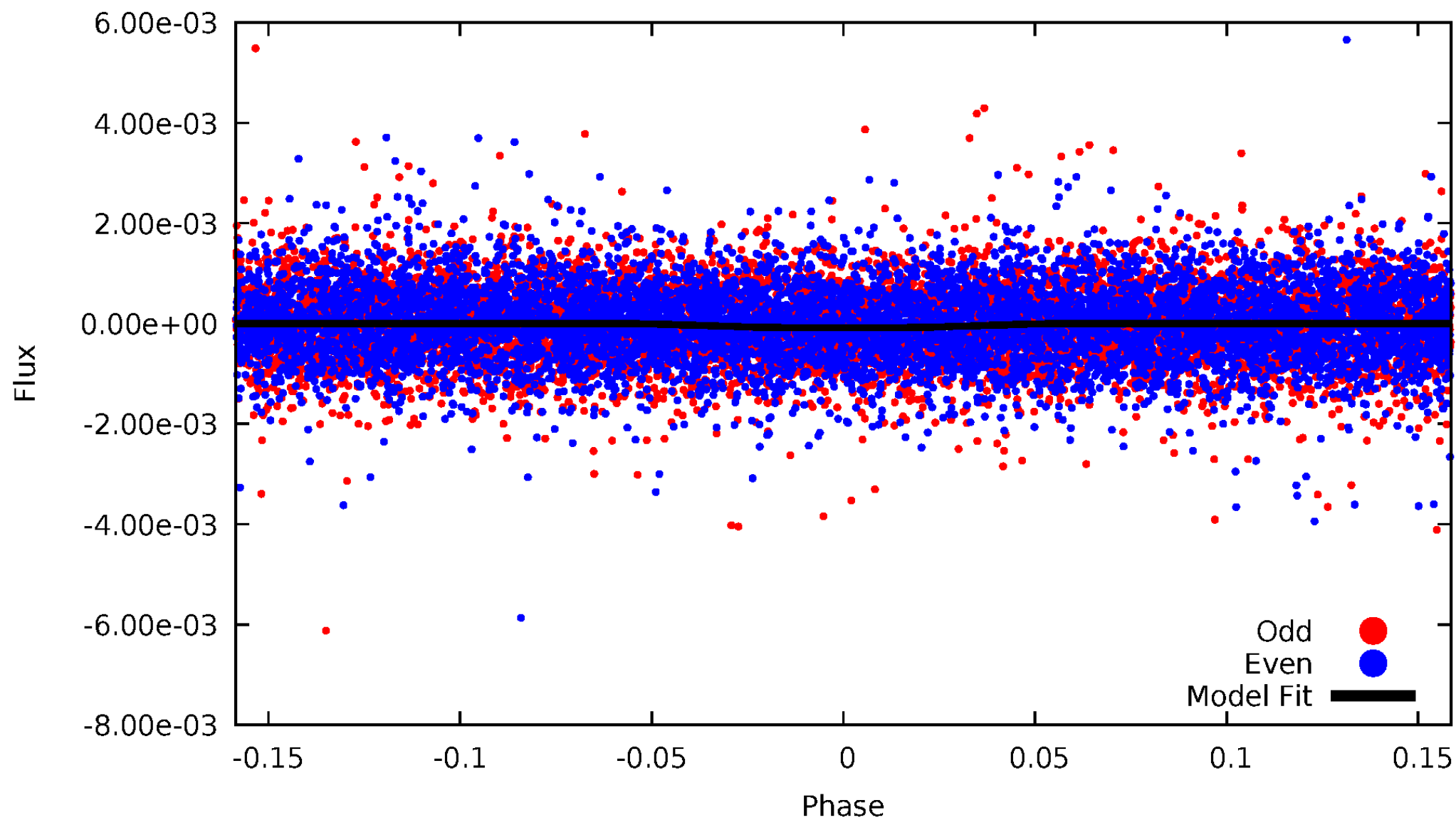


TCE 006206627-04



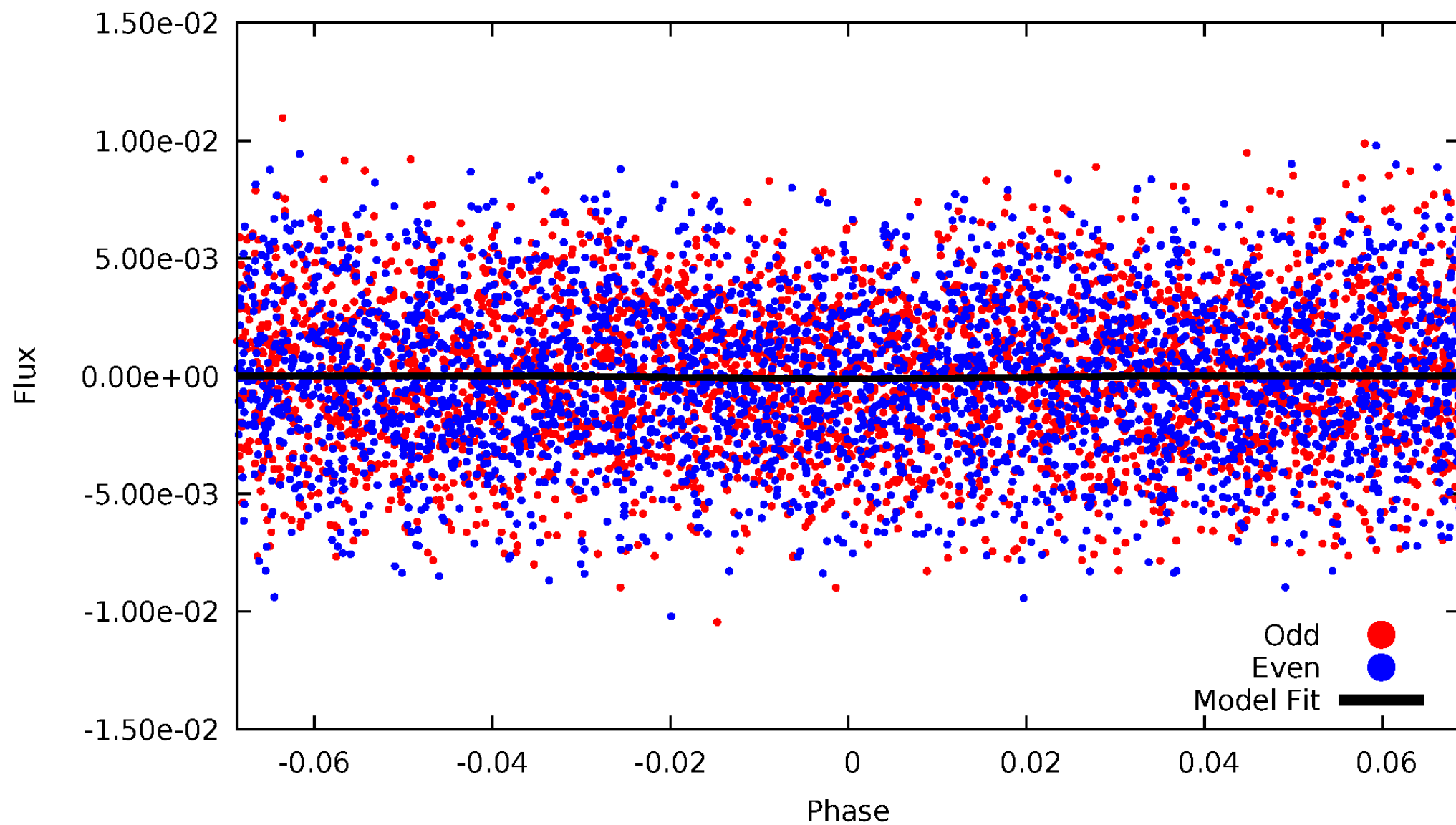
DV Odd/Even

TCE 006206627-04



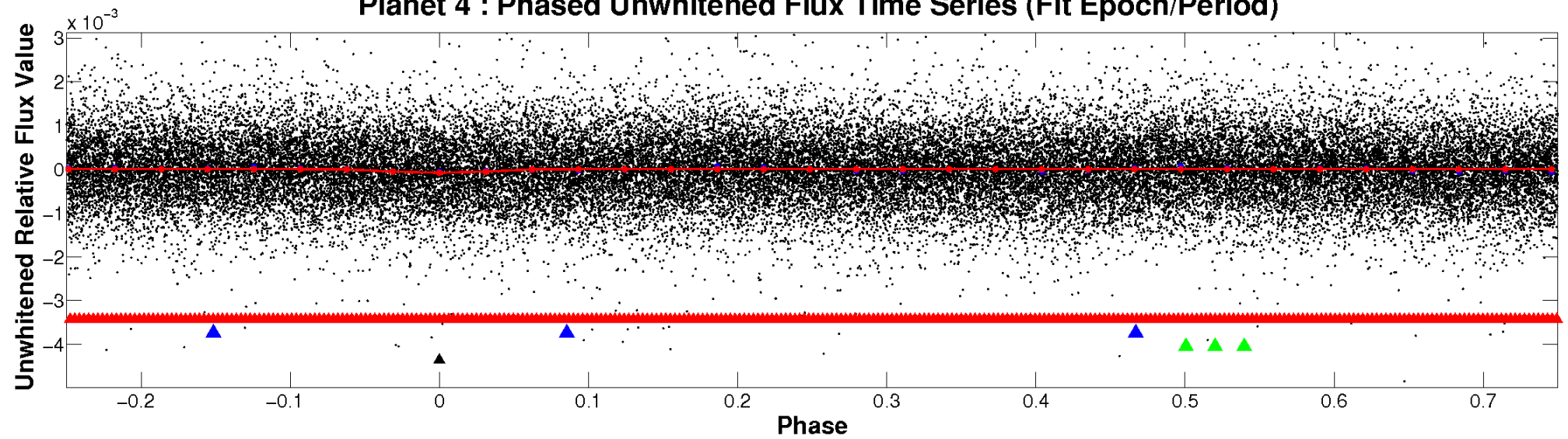
ALT Odd/Even

TCE 006206627-04

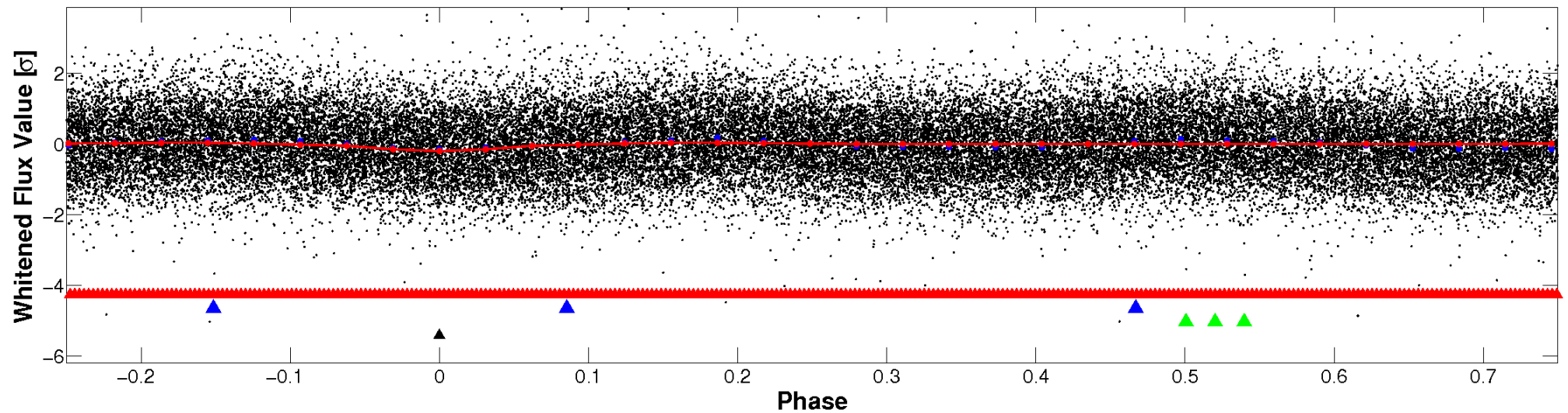


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

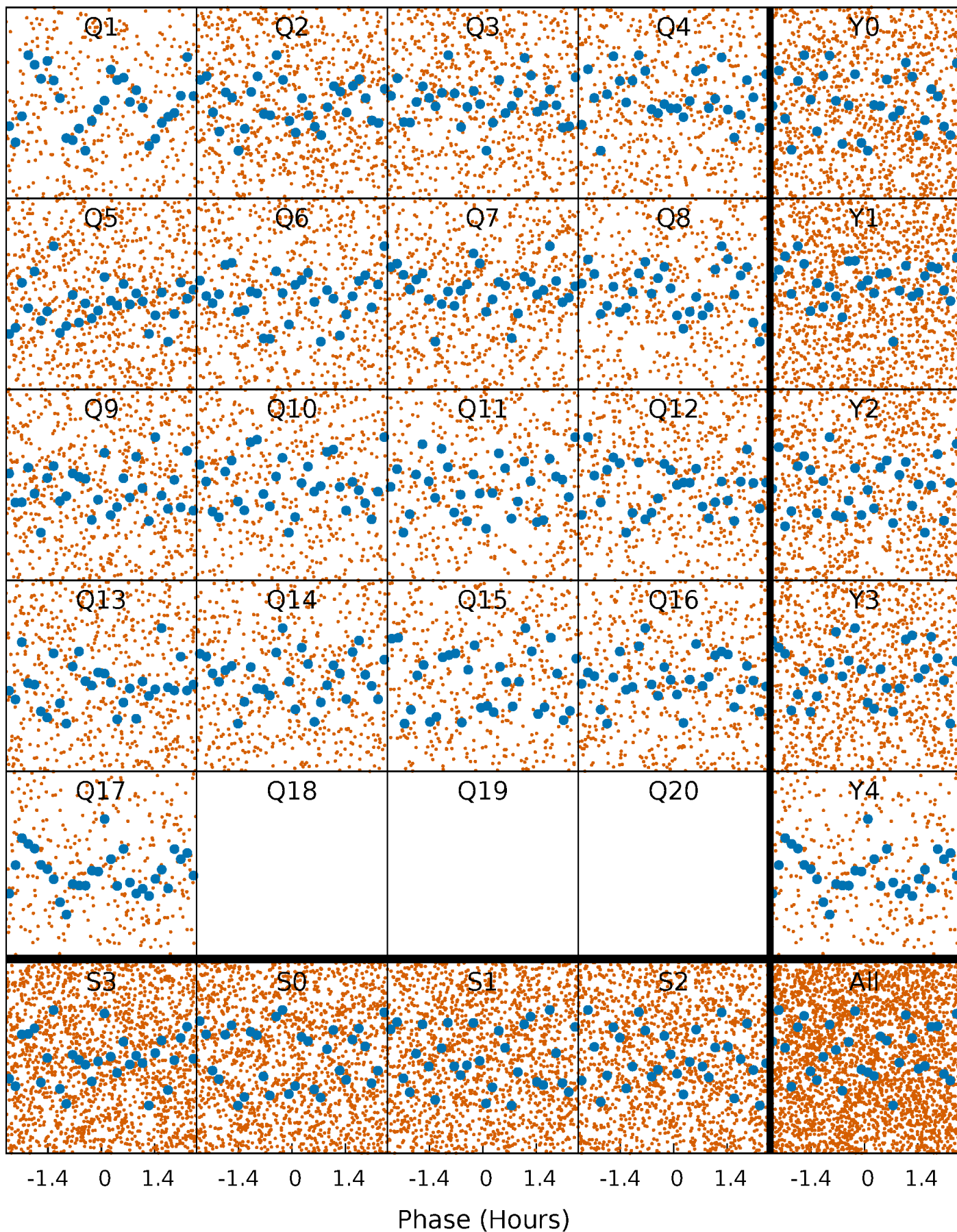


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



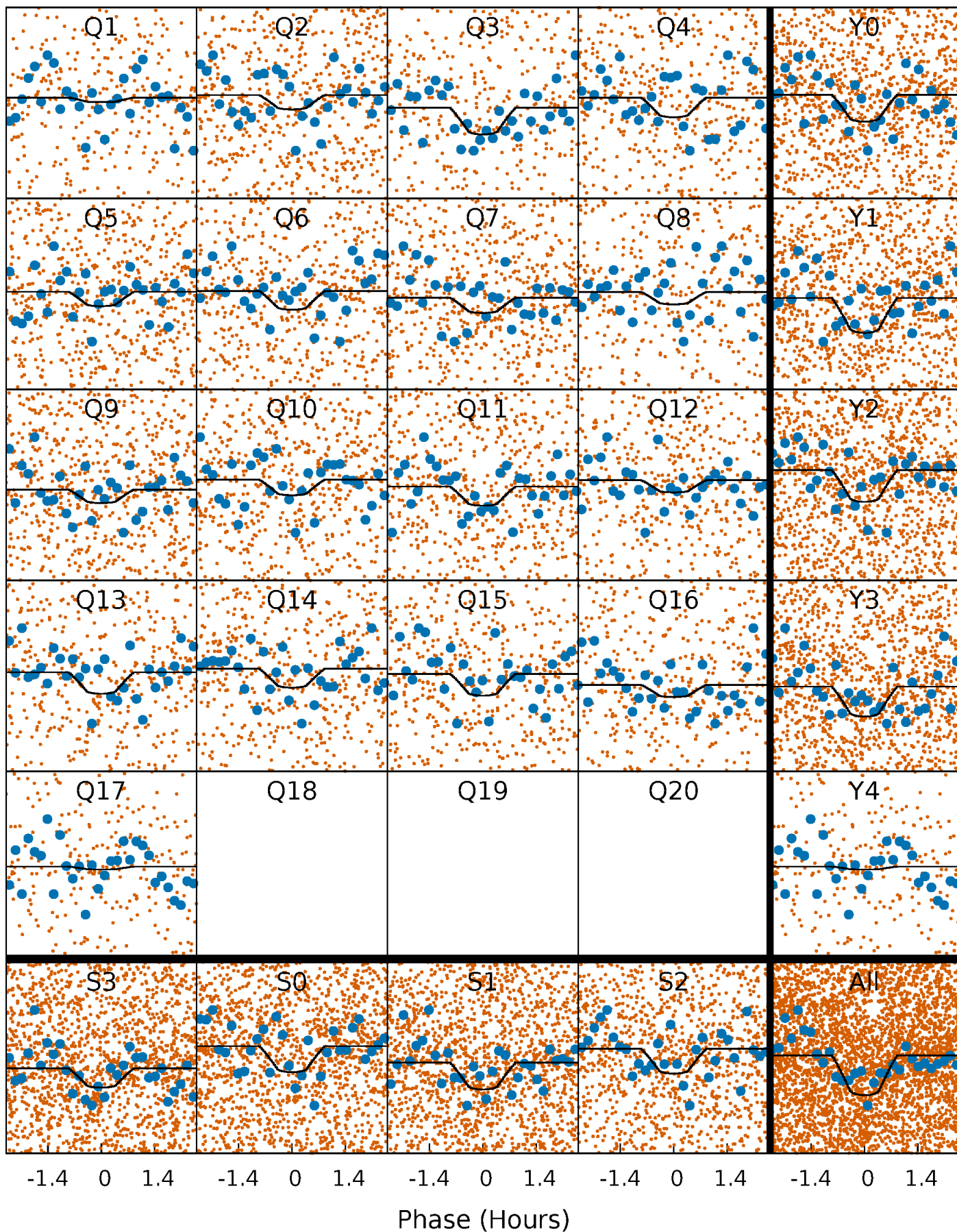
PDC Quarter-Phased Transit Curves

TCE 006206627-04 P= 0.657565 Days $T_0=131.755898$ (BKJD)



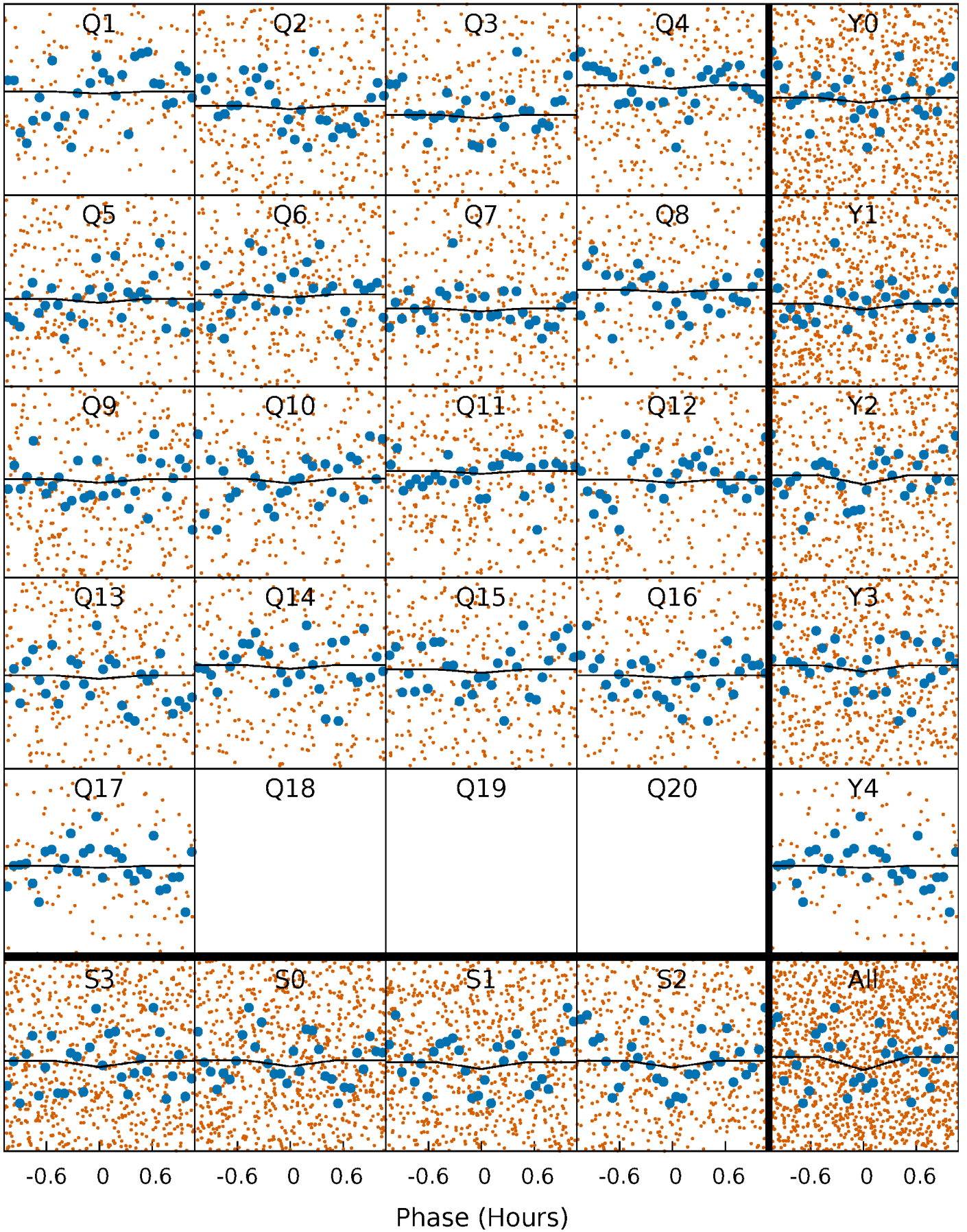
DV Quarter-Phased Transit Curves

TCE 006206627-04 $P = 0.657565$ Days $T_0 = 131.755898$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

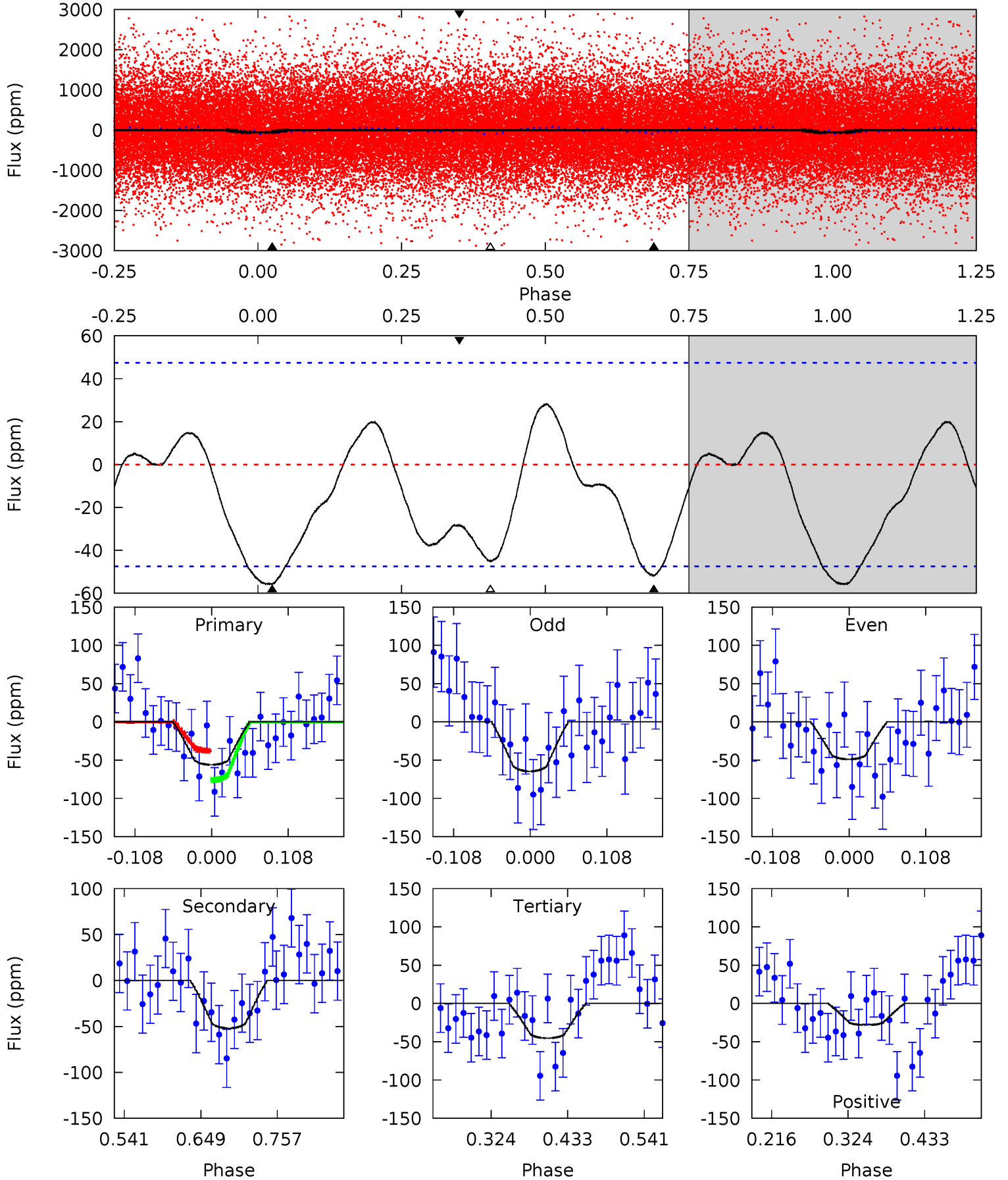
TCE 006206627-04 P= 0.657569 Days $T_0=131.756916$ (BKJD)



DV Model-Shift Uniqueness Test

006206627-04, P = 0.657565 Days, E = 131.098333 Days

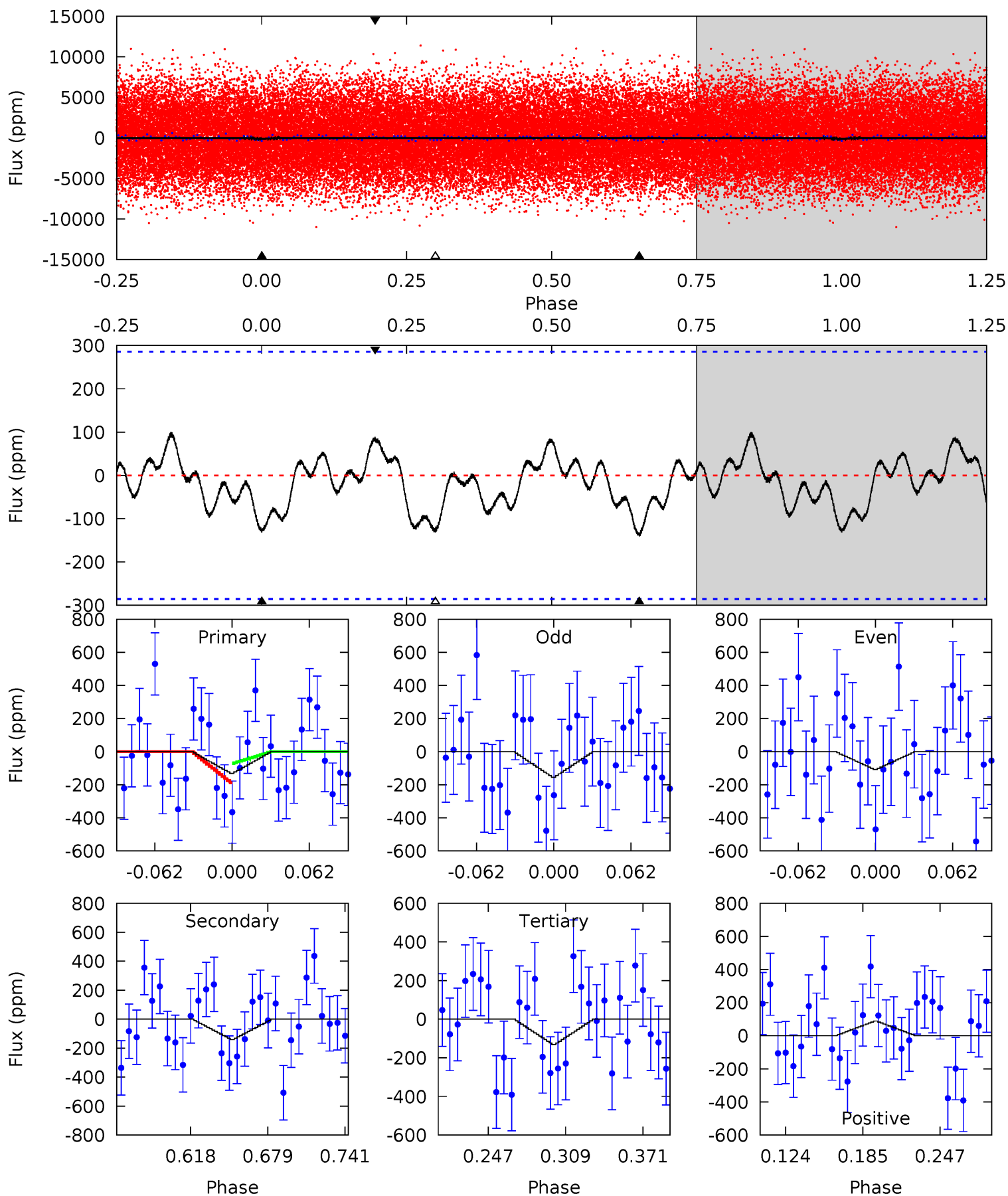
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.37	4.99	4.34	-2.70	4.55	1.61	2.08	1.03	8.07	0.65	7.68	0.76	0.91	0.34	1.85



Alt Model-Shift Uniqueness Test

006206627-04, P = 0.657569 Days, E = 131.099347 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.15	2.30	2.15	1.45	4.66	1.87	0.81	0.00	0.70	0.15	0.85	0.38	1.51	0.42	0.95



Stellar Parameters For KIC 006206627

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	7095^{+77}_{-77}	$3.769^{+0.175}_{-0.108}$	$0.560^{+0.050}_{-0.200}$	$3.135^{+0.522}_{-0.696}$	$2.103^{+0.173}_{-0.231}$	$0.096^{+0.083}_{-0.029}$
	+1%/-1%	+5%/-3%	+9%/-36%	+17%/-22%	+8%/-11%	+86%/-30%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 006206627-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-52 ± 10	$4.14^{+3.48}_{-2.71}$	5601^{+254}_{-322}	4652^{+4862}_{-8652}	$0.598^{+4.340}_{-0.427}$
Alt.	-141 ± 61	$4.43^{+3.68}_{-2.81}$	5591^{+258}_{-279}	6178^{+6472}_{-2935}	$1.338^{+8.466}_{-1.004}$

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 $A_{obs} \gg 1.0$

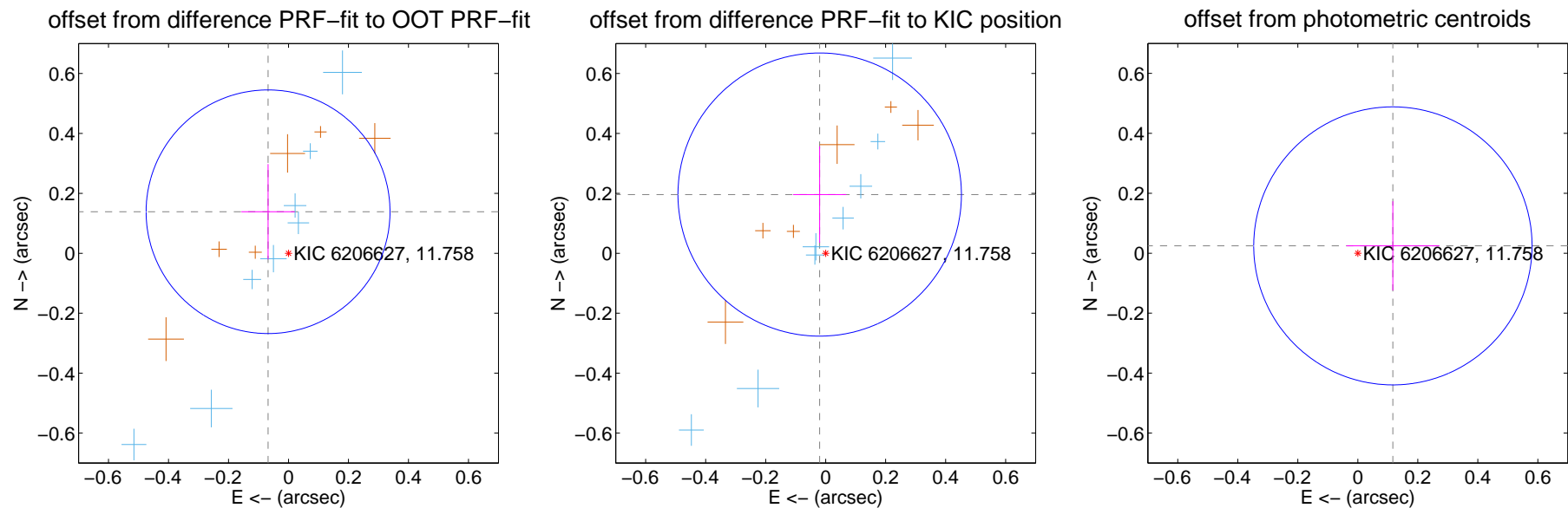
DV Centroid Data

Supplemental centroid analysis for 006206627-04. **Kepler magnitude: 11.76.** Transit SNR 11.23

There are 9 quarters with good PRF difference image offsets

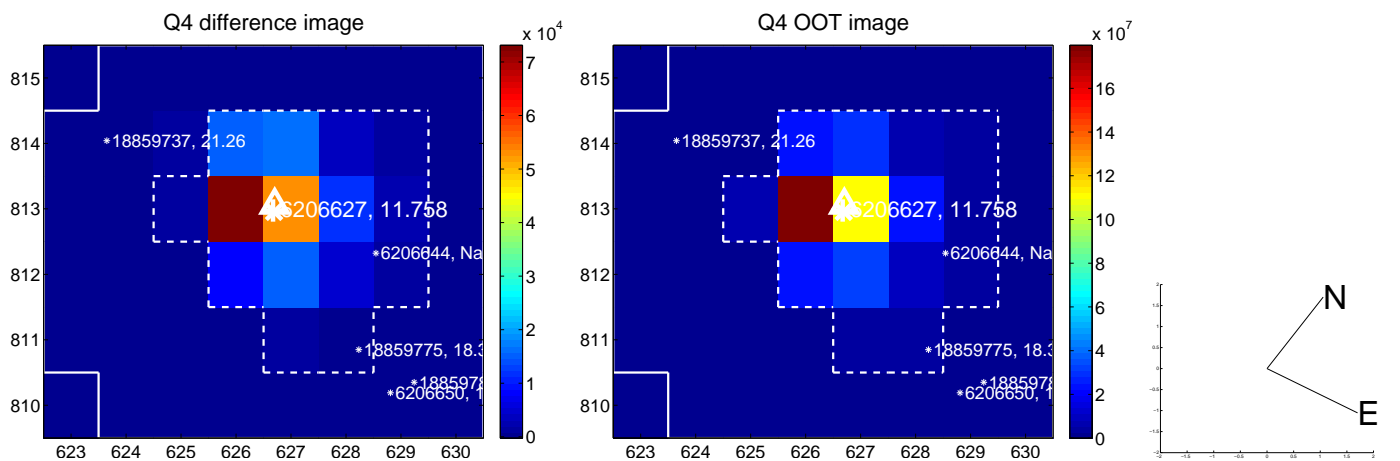
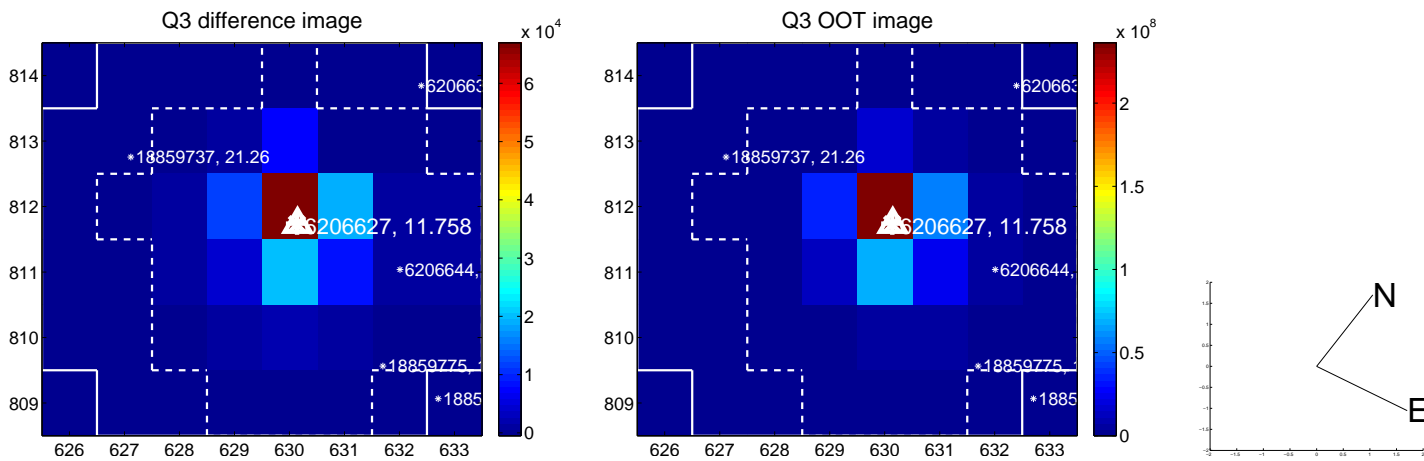
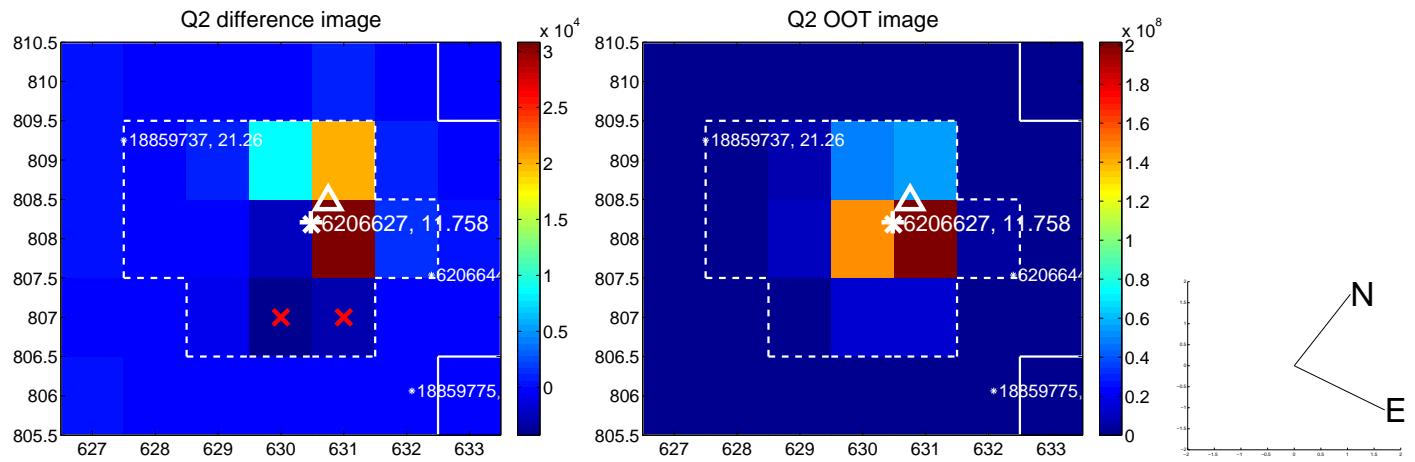
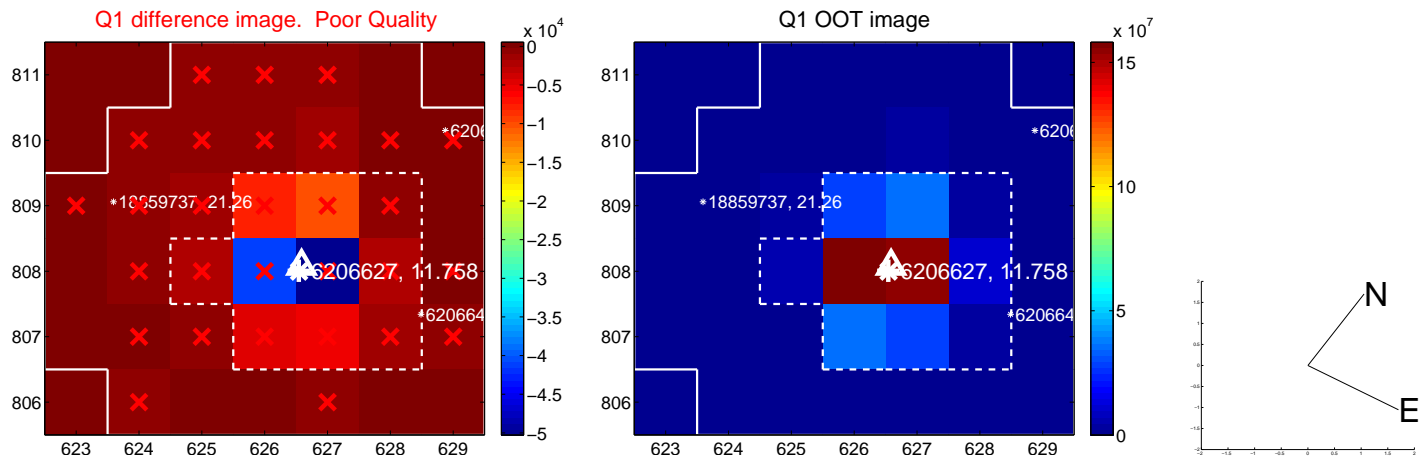
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.154 ± 0.135	1.14	0.068 ± 0.089	0.139 ± 0.159
PRF-fit source offset from KIC position	0.197 ± 0.157	1.25	0.020 ± 0.089	0.196 ± 0.161
photometric centroid source offset	0.12 ± 0.15	0.77	-0.12 ± 0.15	0.02 ± 0.15

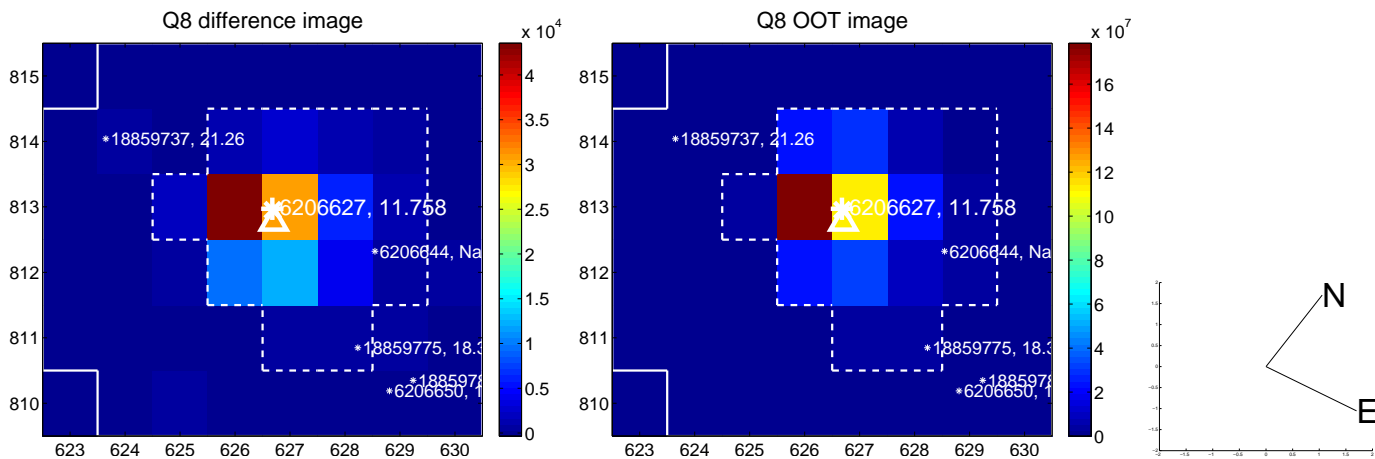
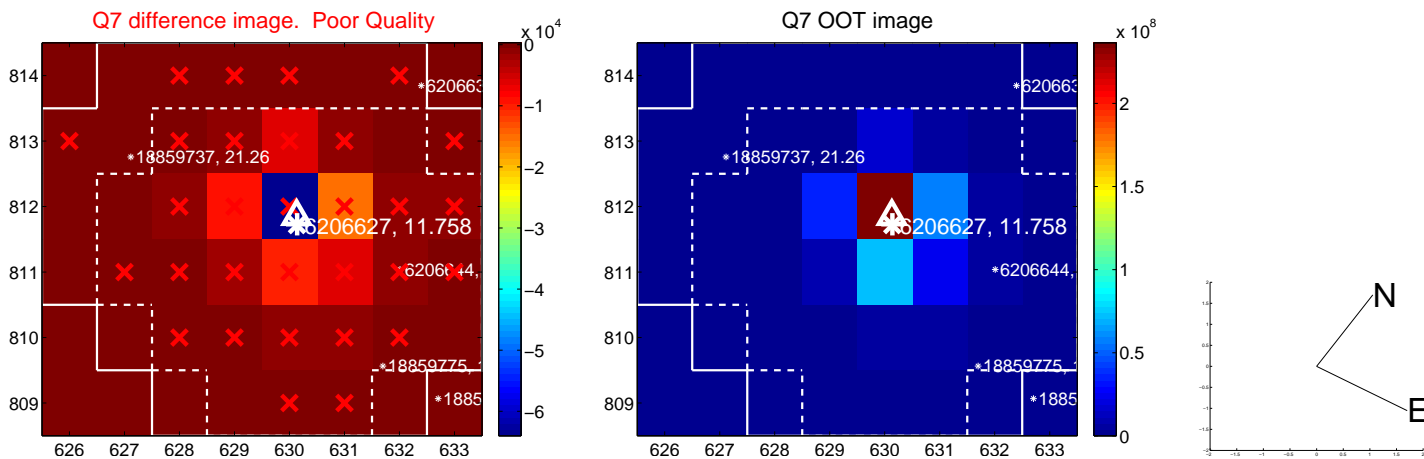
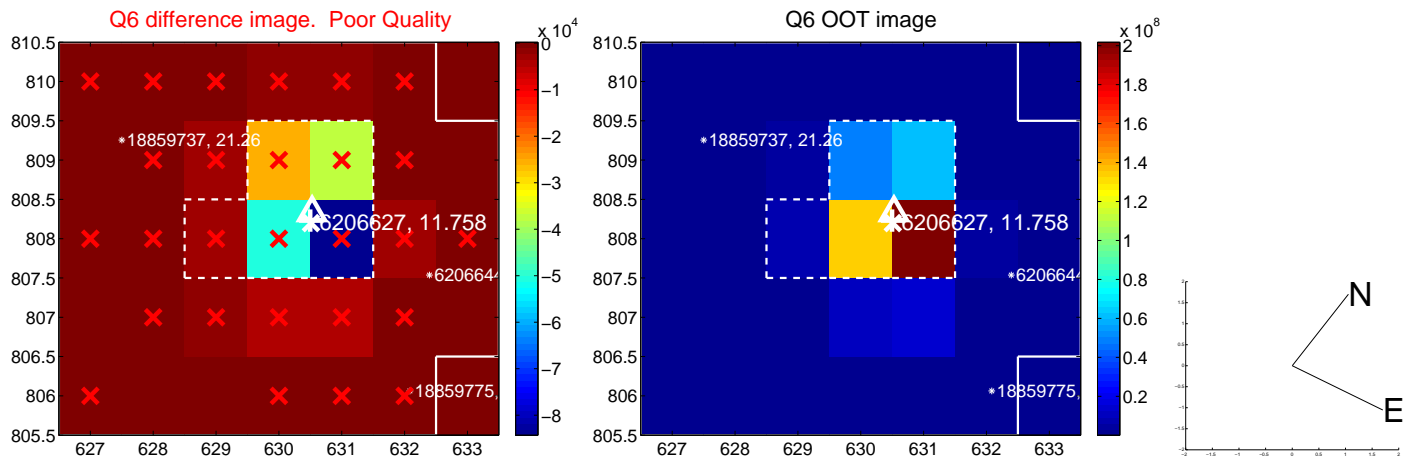
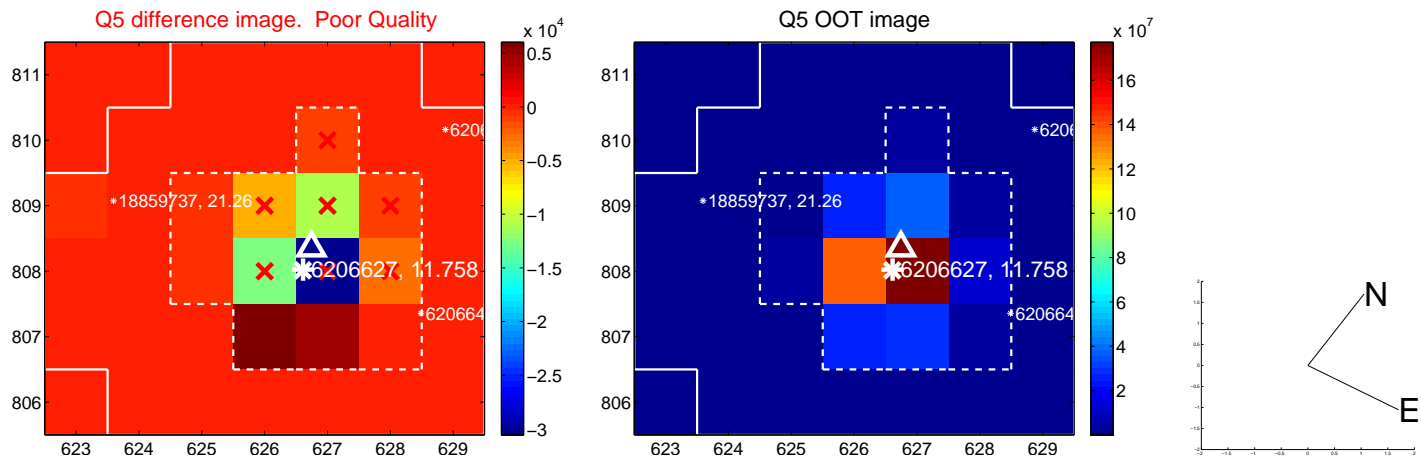


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

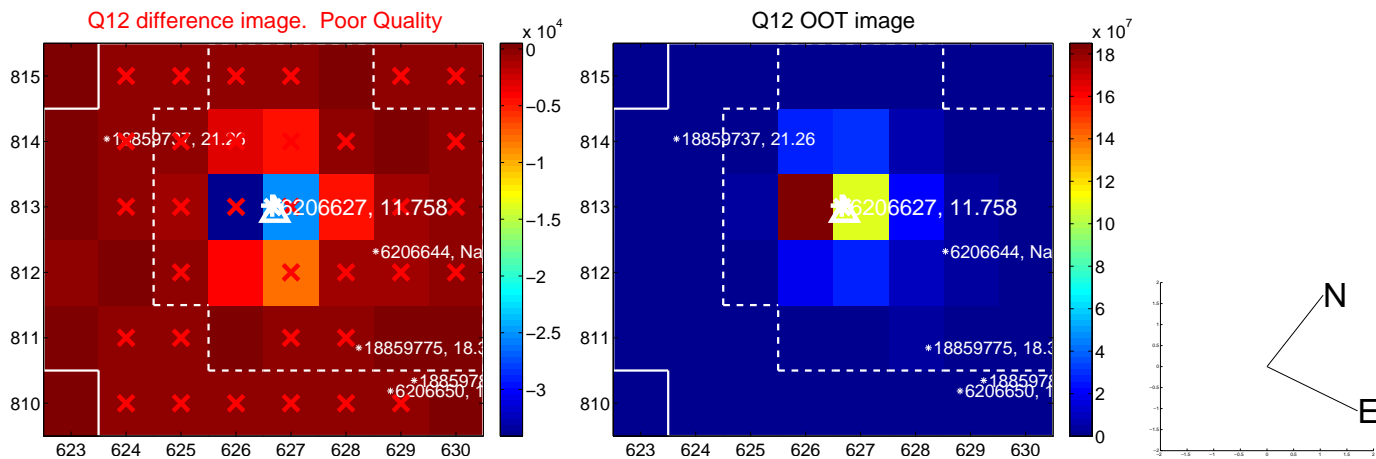
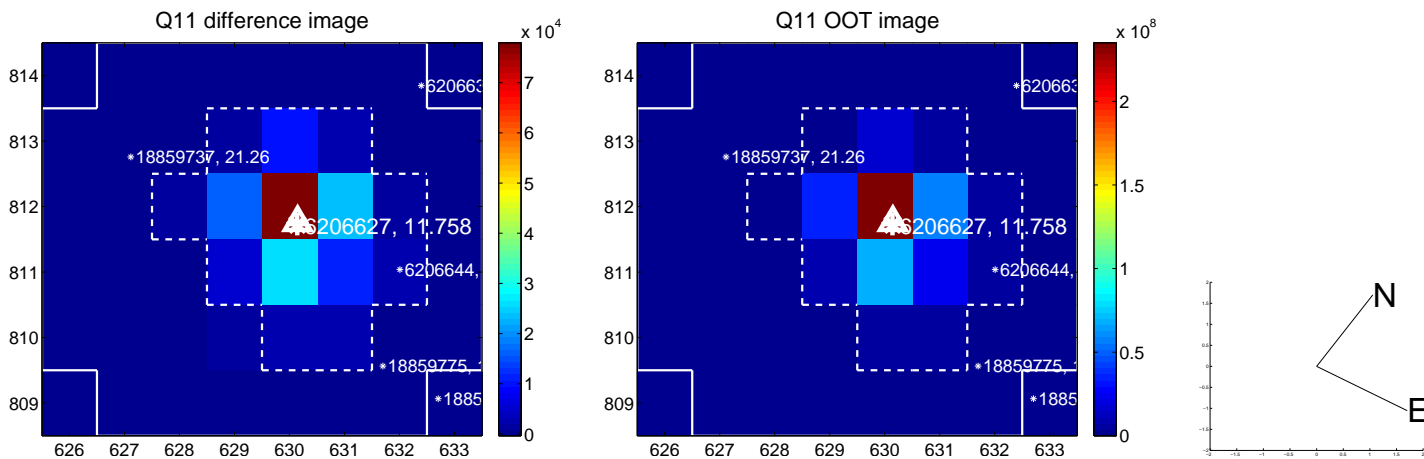
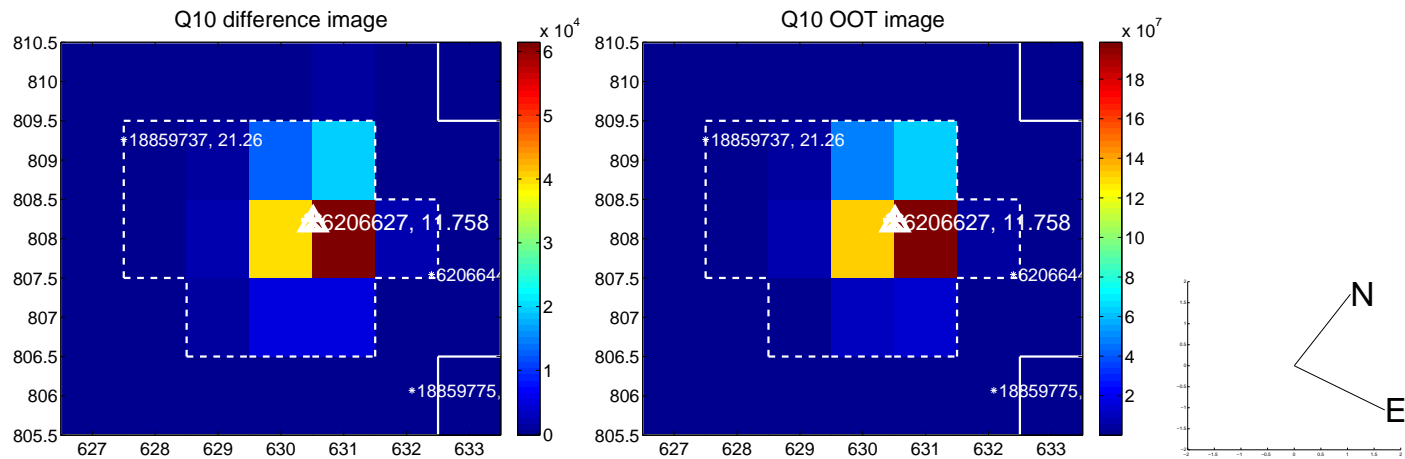
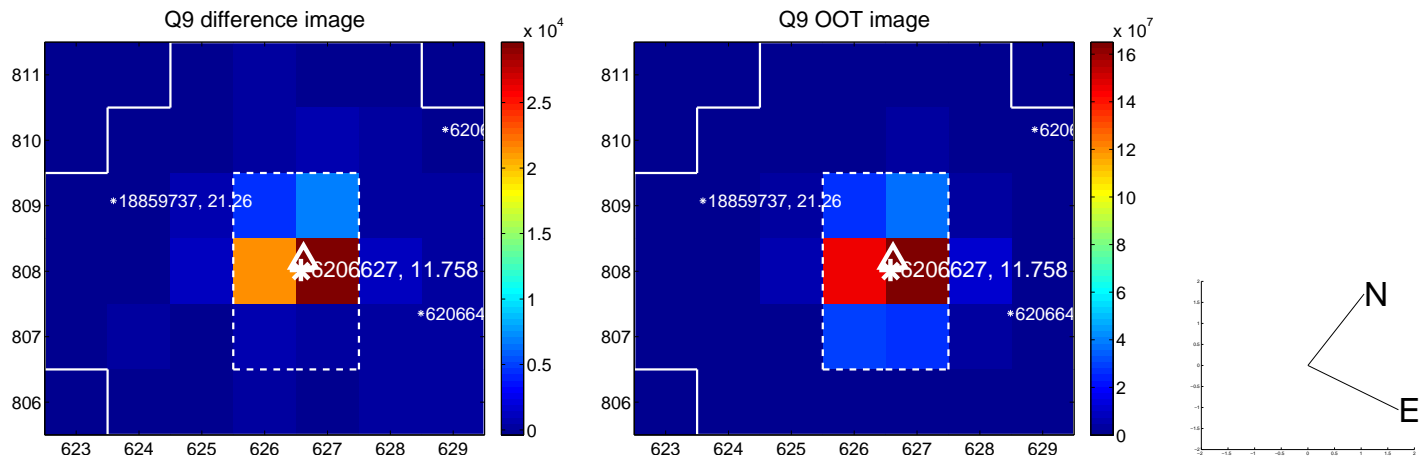
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



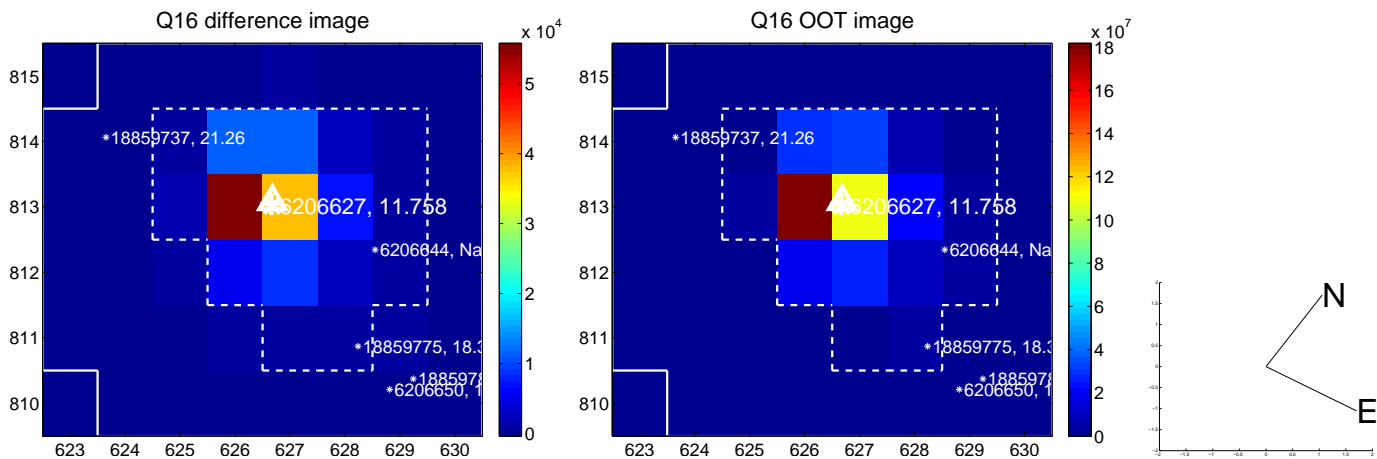
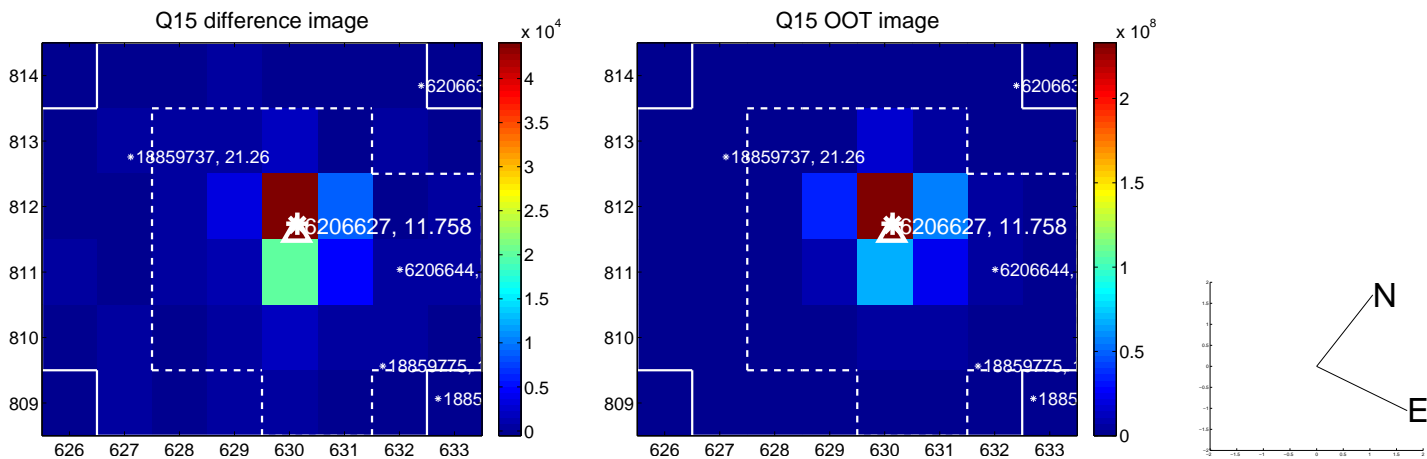
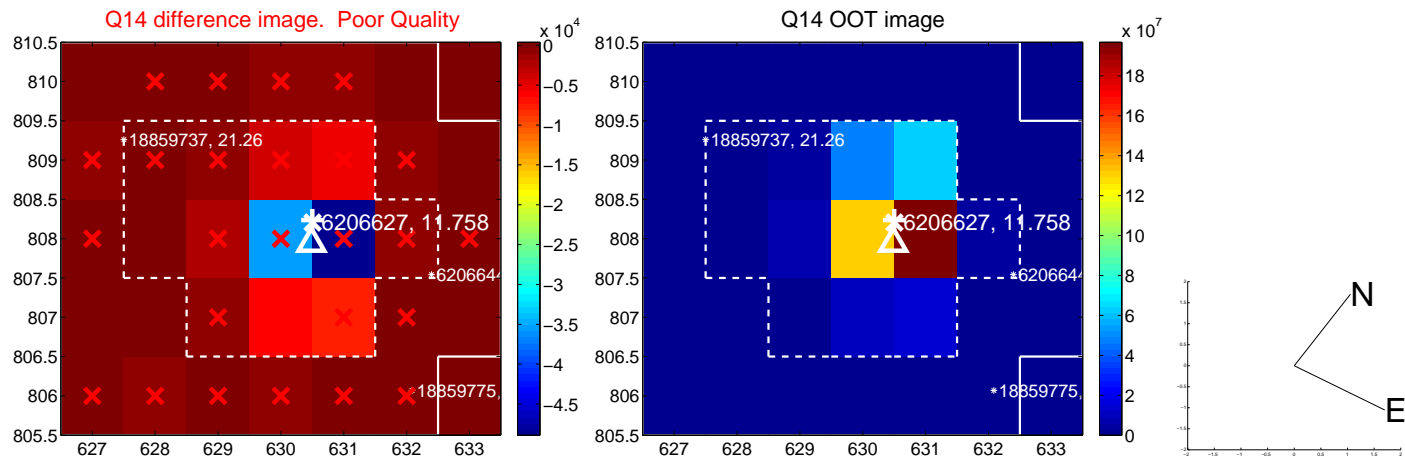
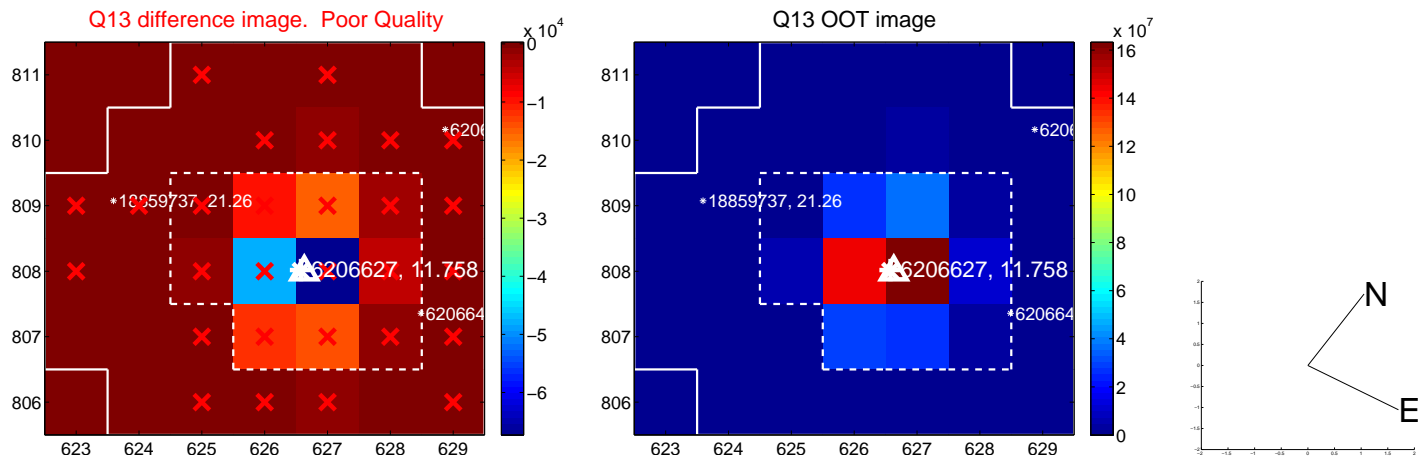
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



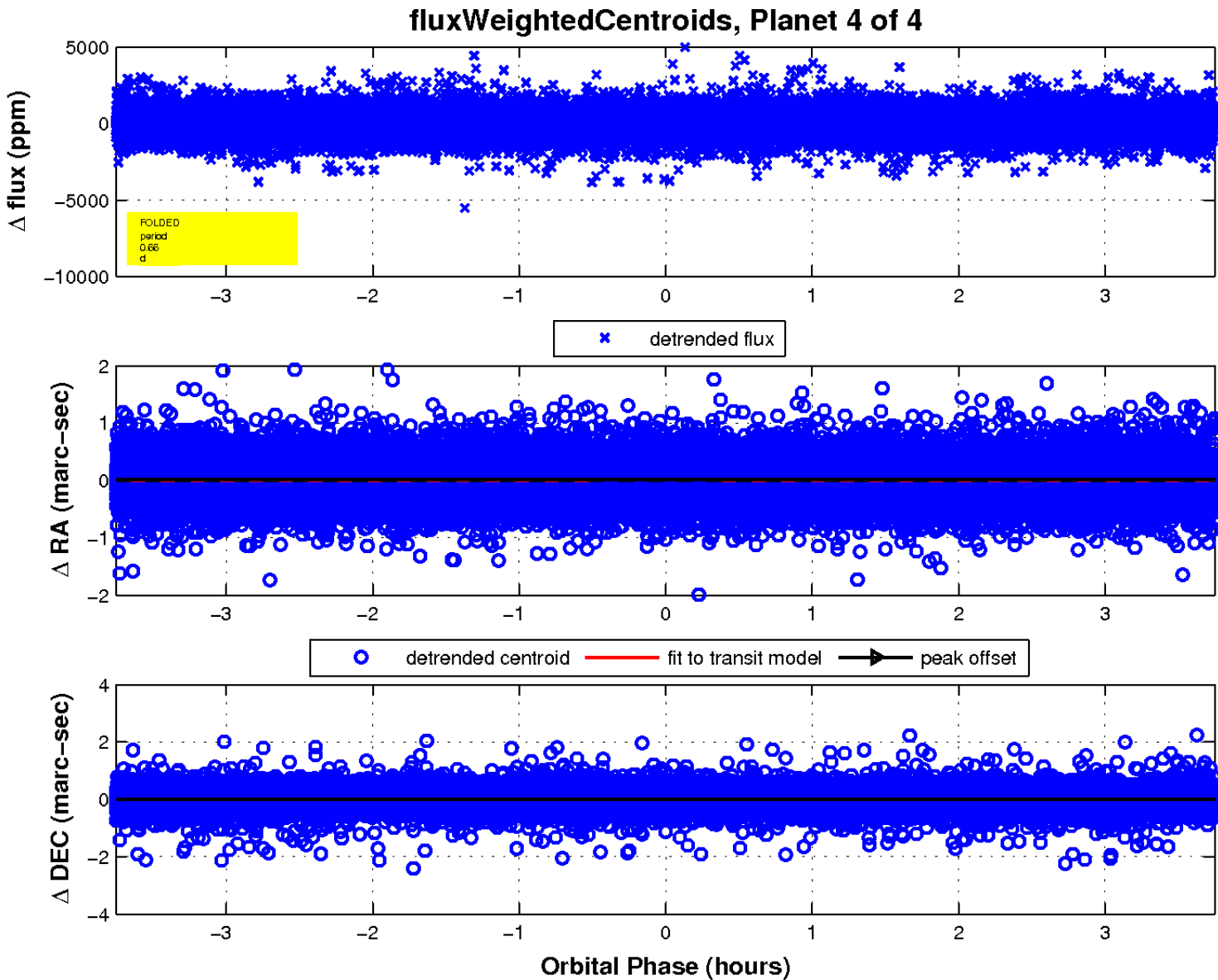
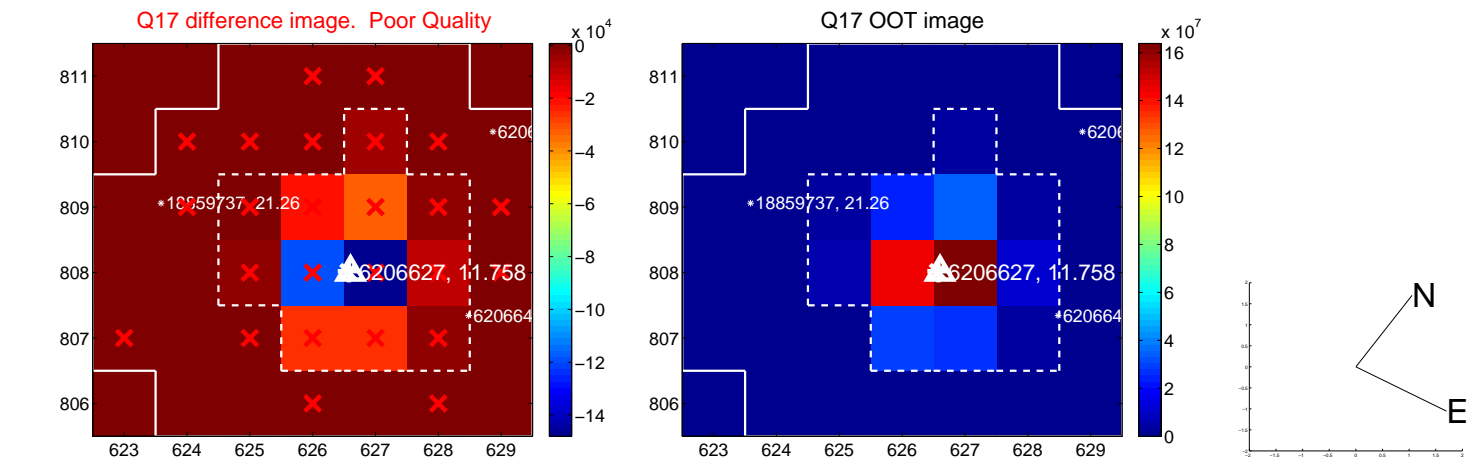
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

