

KIC 006467826

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})
006467826-01	OBS	No	1.762040	132.654915	9.9	6.933	7.7	5.2	2.01	6534	0.75	7451.49
006467826-02	OBS	No	313.673338	147.668437	139.1	12.666	7.1	7.3	2.01	6534	2.53	7.44

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006467826-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
006467826-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

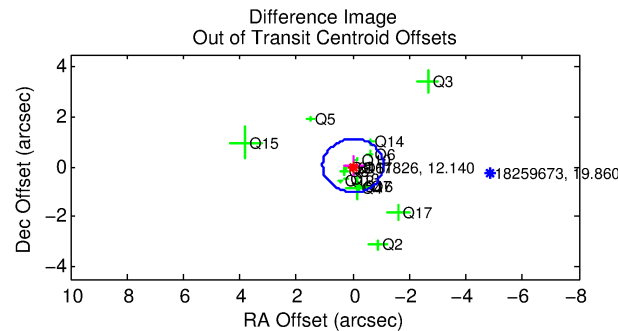
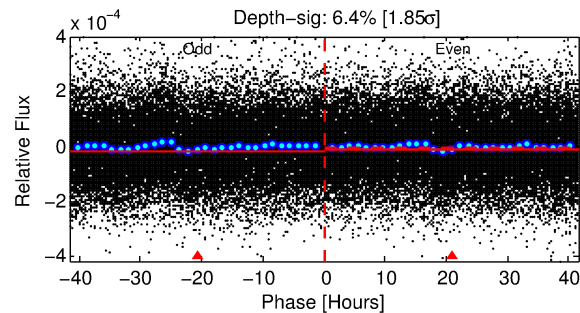
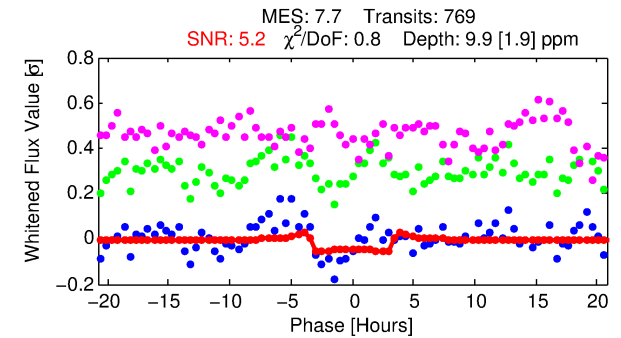
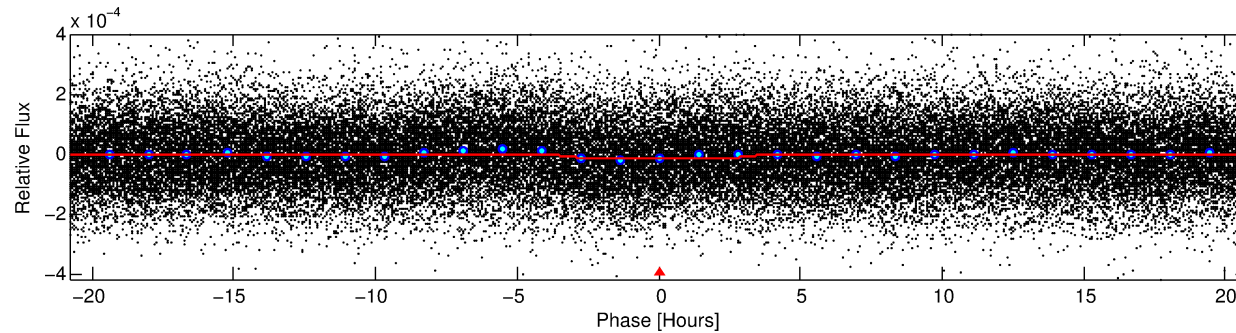
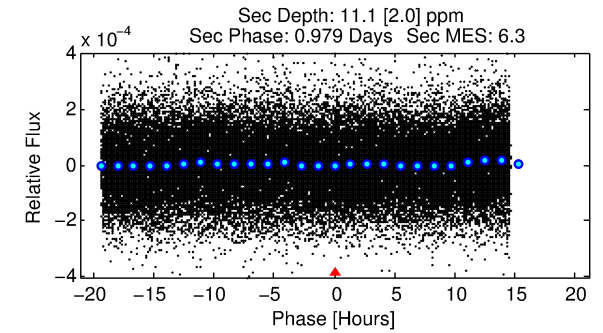
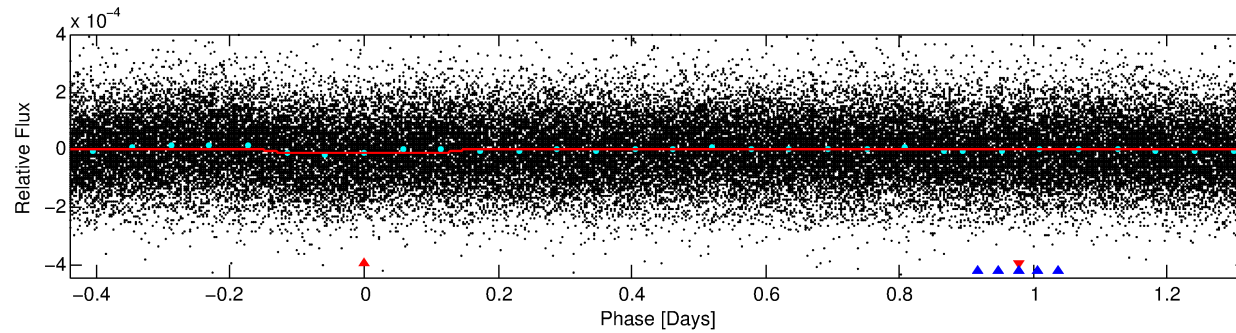
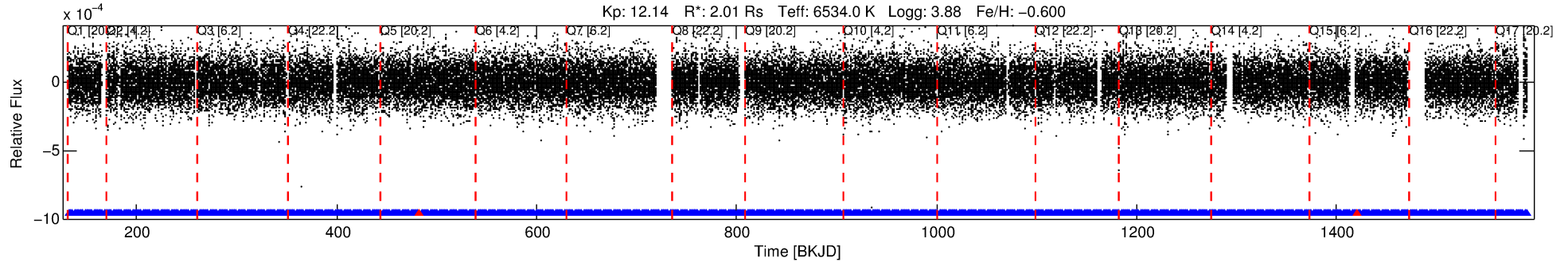
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006467826-01

No Significant Match Found

DV One-Page Summary

KIC: 6467826 Candidate: 1 of 2 Period: 1.762 d



DV Fit Results:

Period = 1.76204 [0.00003] d
Epoch = 132.6549 [0.0075] BKJD
Rp/R* = 0.0034 [0.0010]
a/R* = 1.21 [0.66]
b = 0.93 [0.26]
Seff = 7451.49 [3991.25]
Teq = 2369 [317] K
Rp = 0.75 [0.34] Re
a = 0.0297 [0.0098] AU
Ag = 9.48 [7.66] [1.11σ]
Teffp = 6428 [997] K [3.88σ]

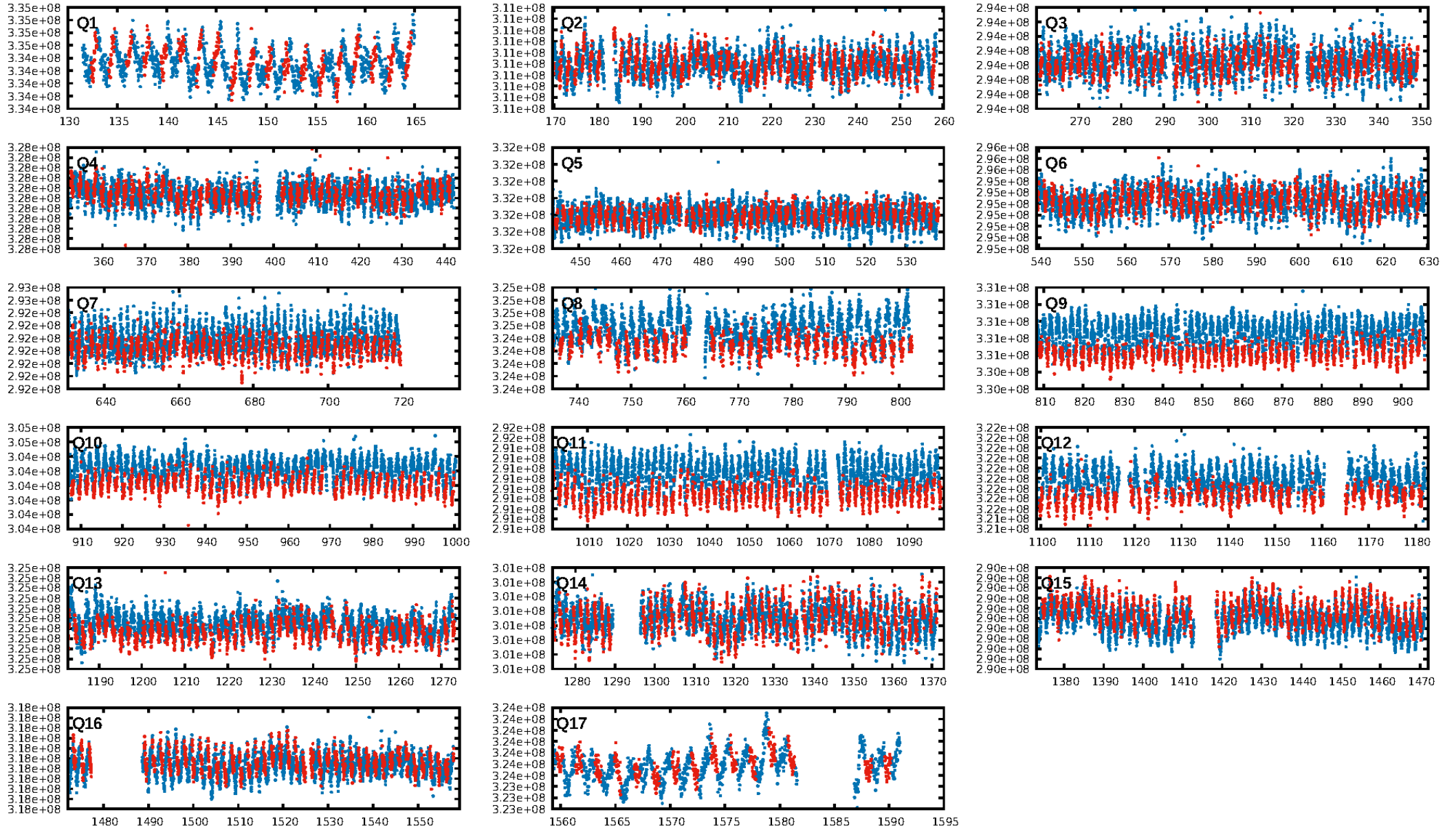
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [518.45σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.36e-11
RollingBand-fgt: 1.00 [733/735]
GhostDiagnostic-chr: 1.628
Centroid-sig: 7.6%
Centroid-so: 2.255 arcsec [1.65σ]
OotOffset-rm: 0.042 arcsec [0.12σ]
KicOffset-rm: 0.081 arcsec [0.26σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.88 [14/16]
DiffImageOverlap-fno: 1.00 [17/17]

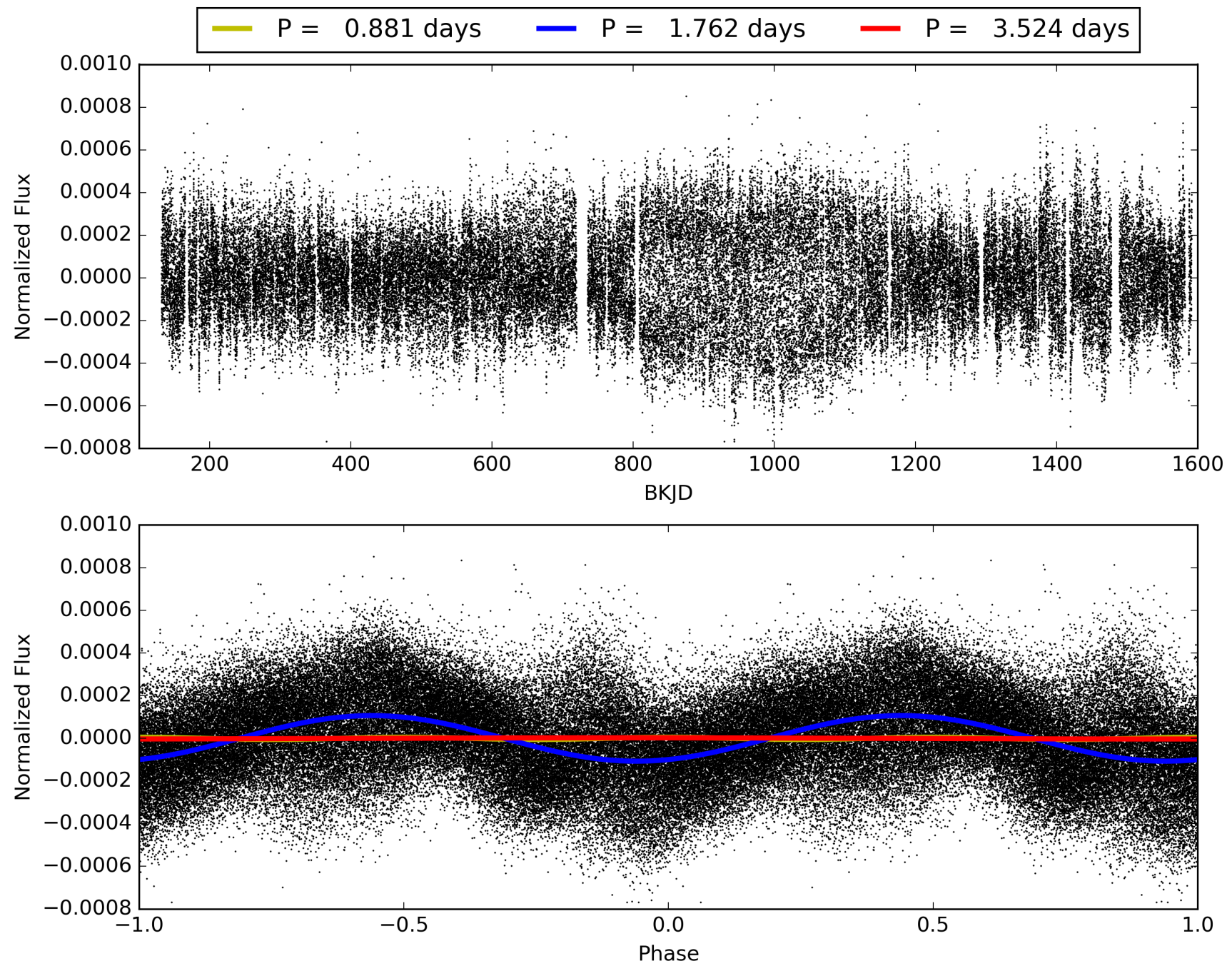
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 01:44:28 Z

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

TCE 006467826-01, PDC Light Curves

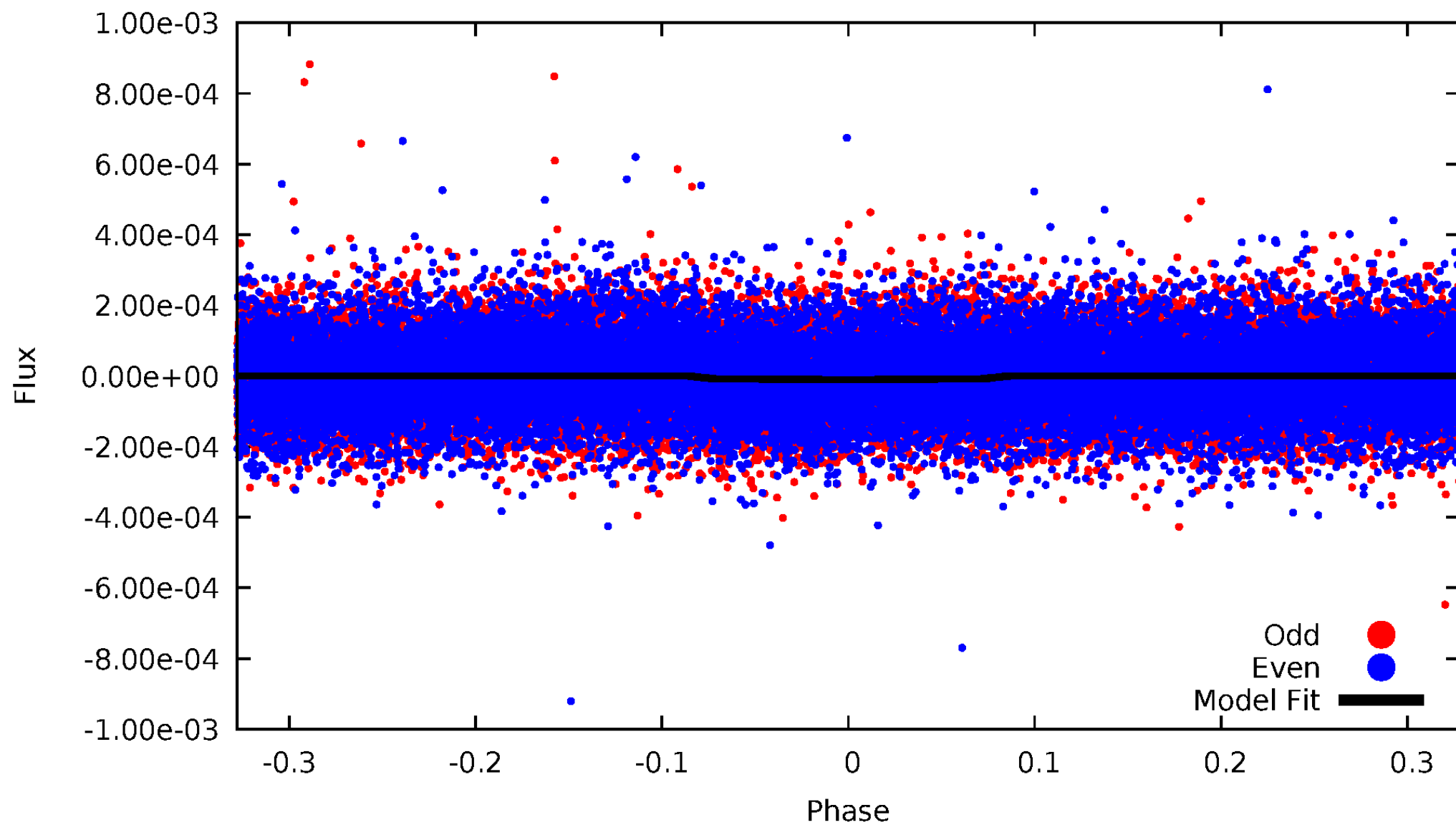


TCE 006467826-01



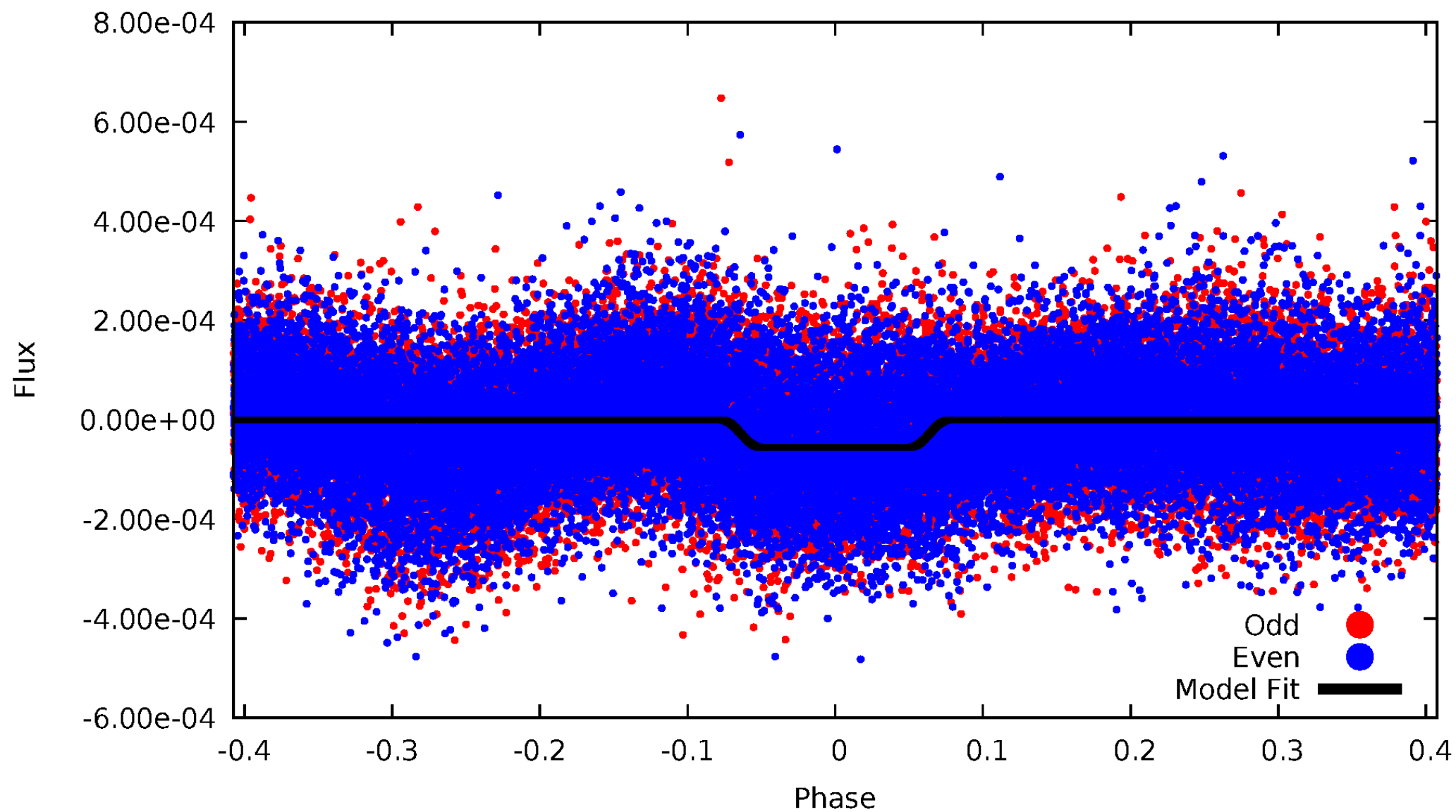
DV Odd/Even

TCE 006467826-01



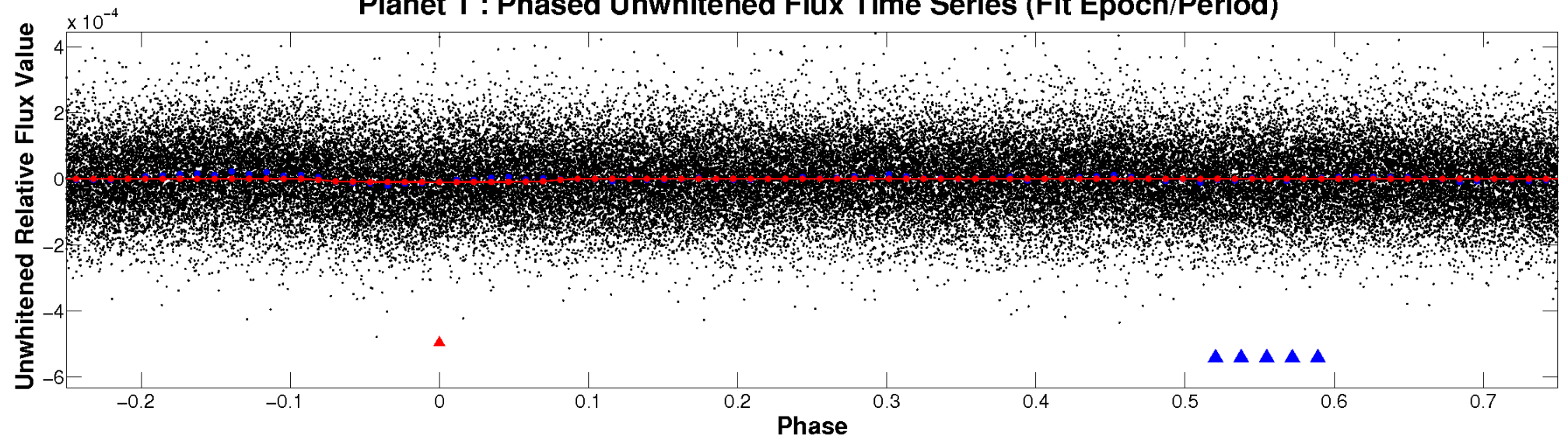
ALT Odd/Even

TCE 006467826-01

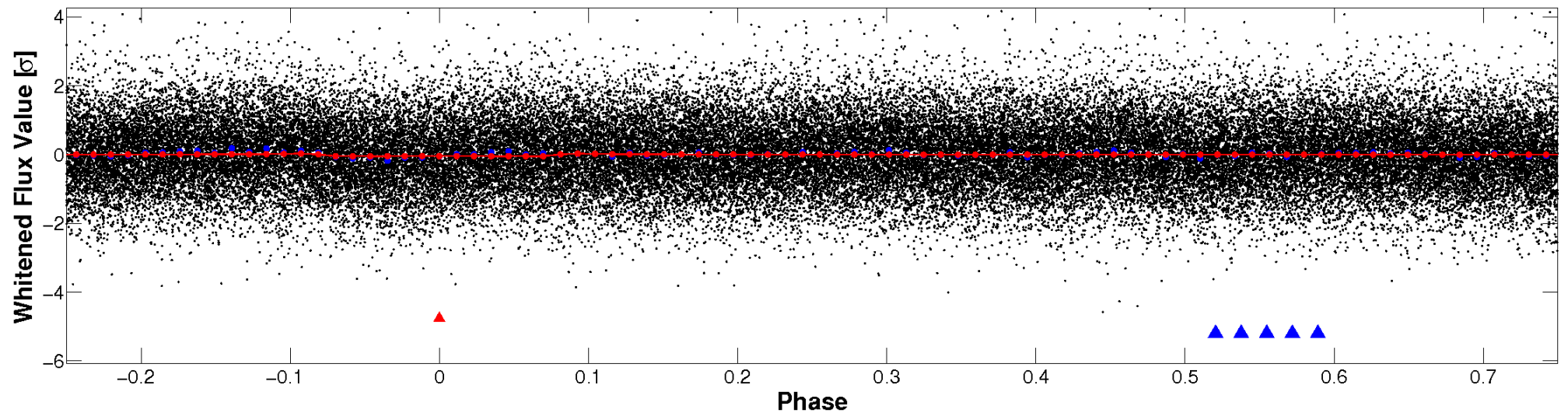


Non-Whitened Vs. Whitened Light Curve

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

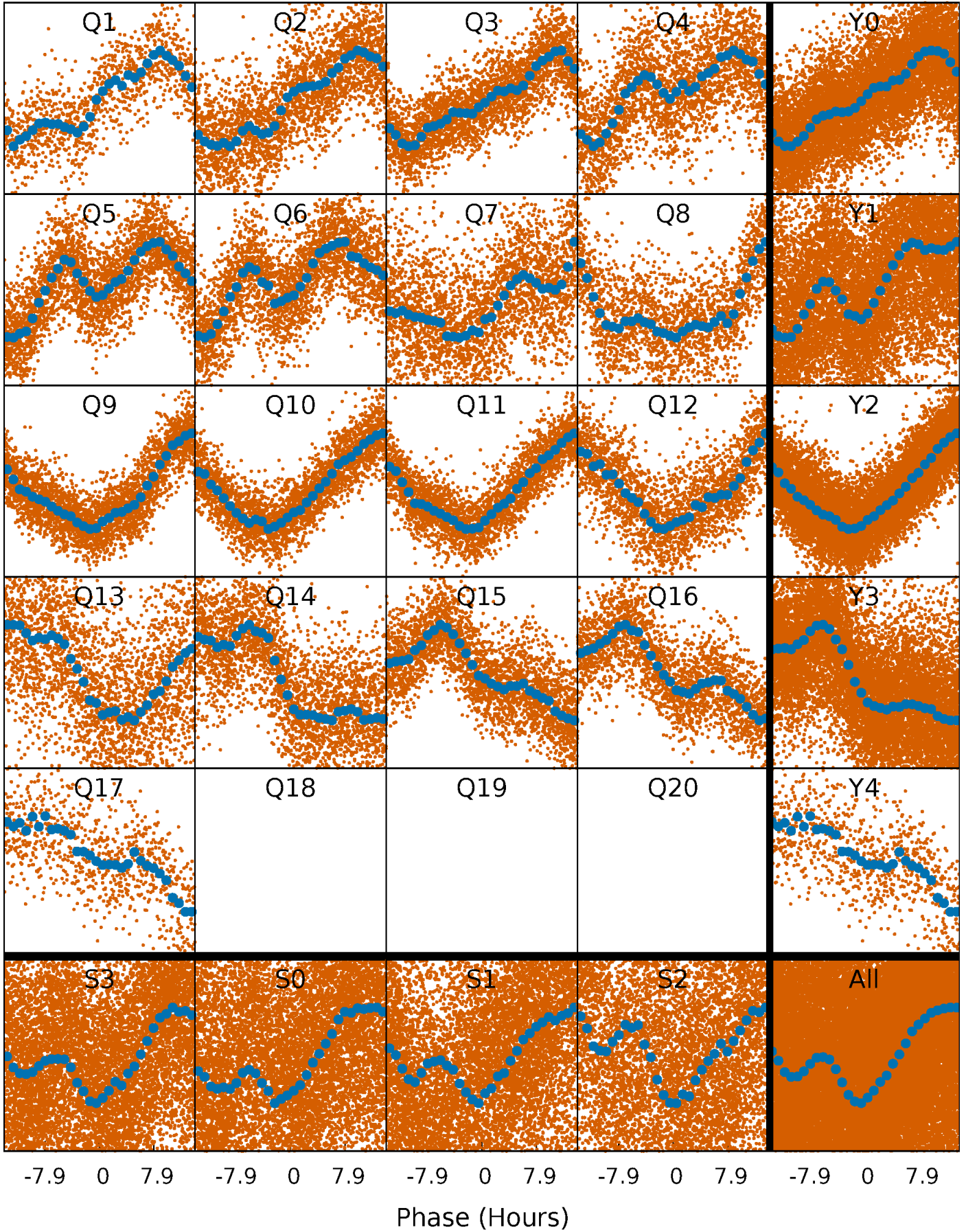


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



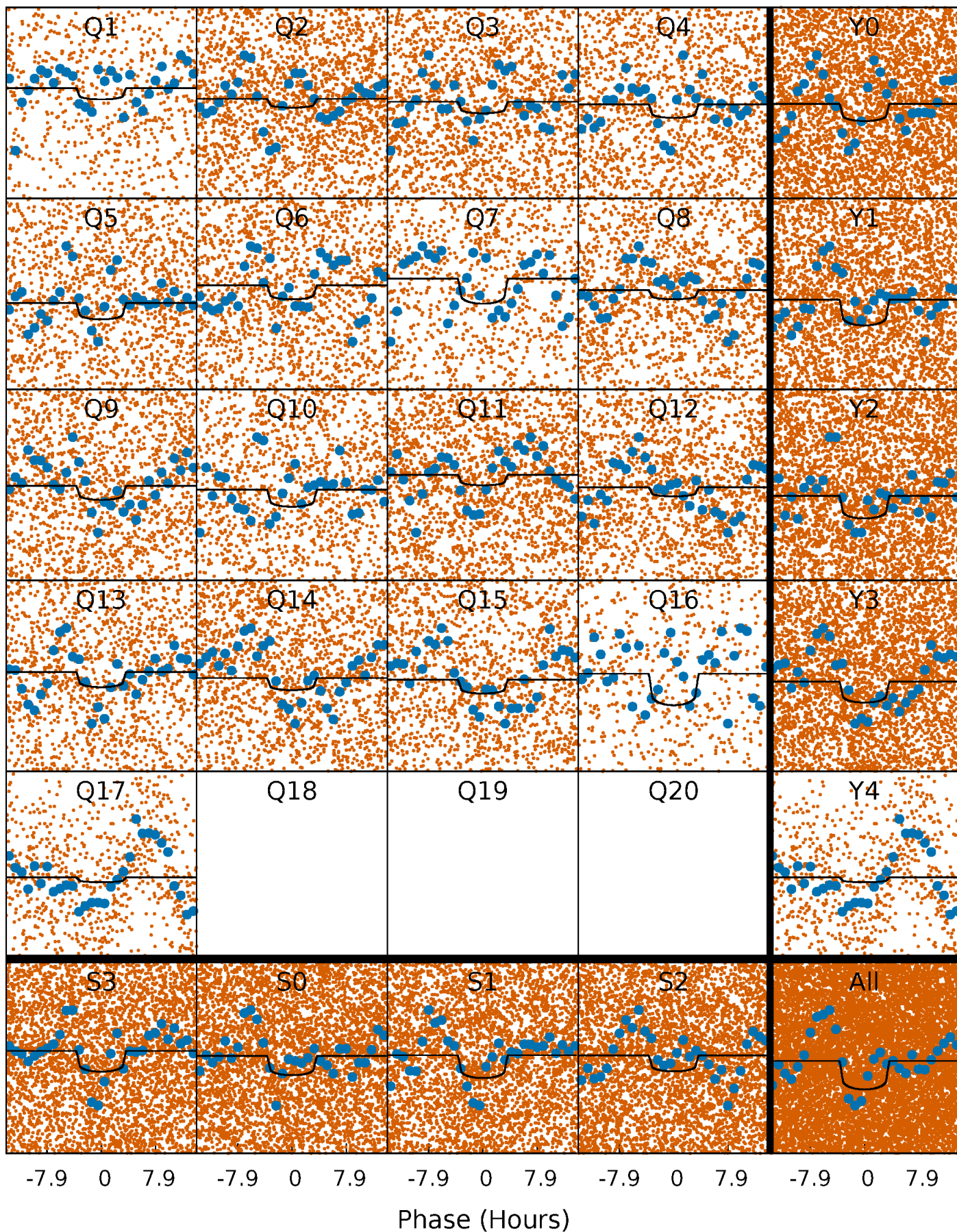
PDC Quarter-Phased Transit Curves

TCE 006467826-01 P= 1.762040 Days $T_0=132.654915$ (BKJD)



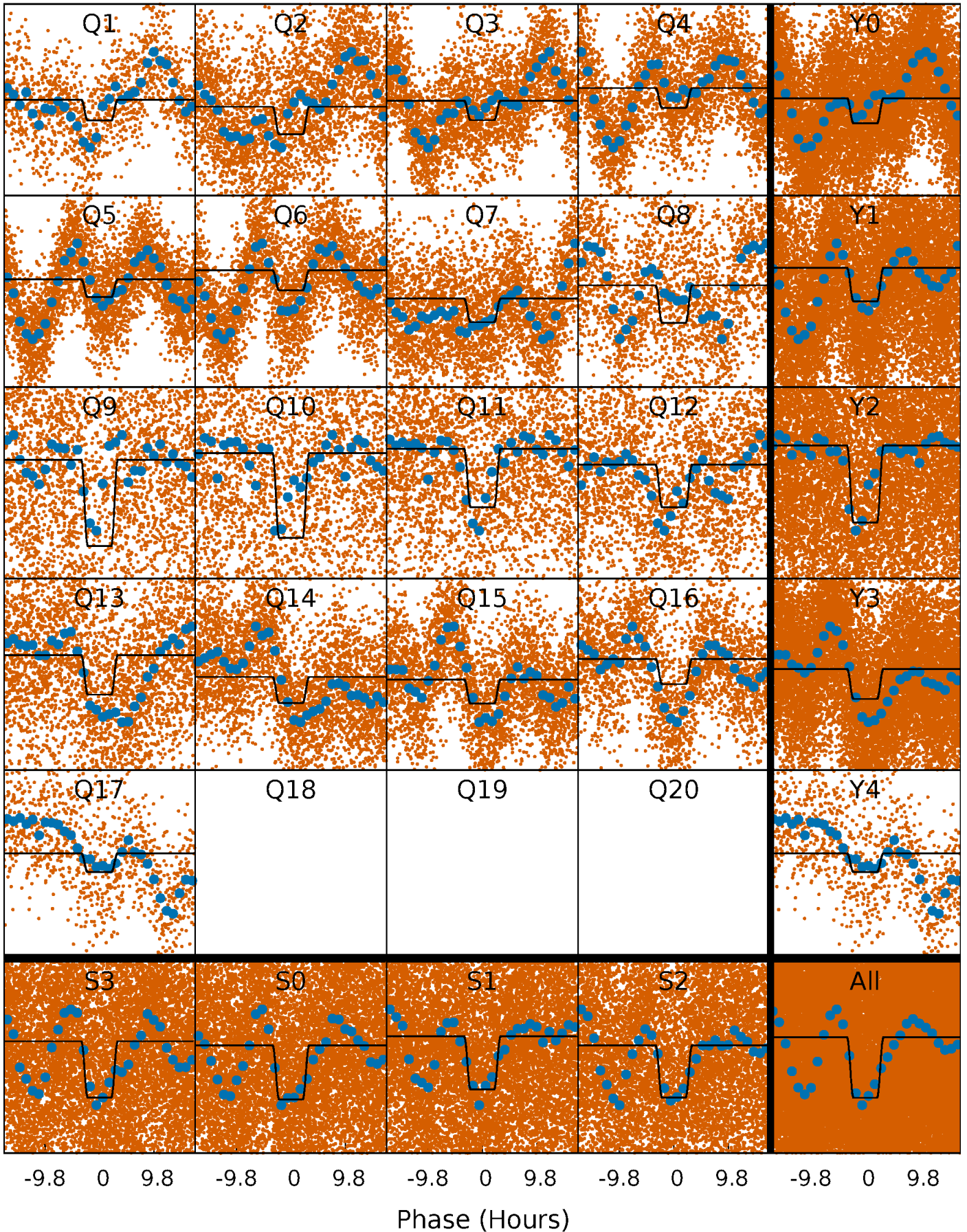
DV Quarter-Phased Transit Curves

TCE 006467826-01 P= 1.762040 Days $T_0=132.654915$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

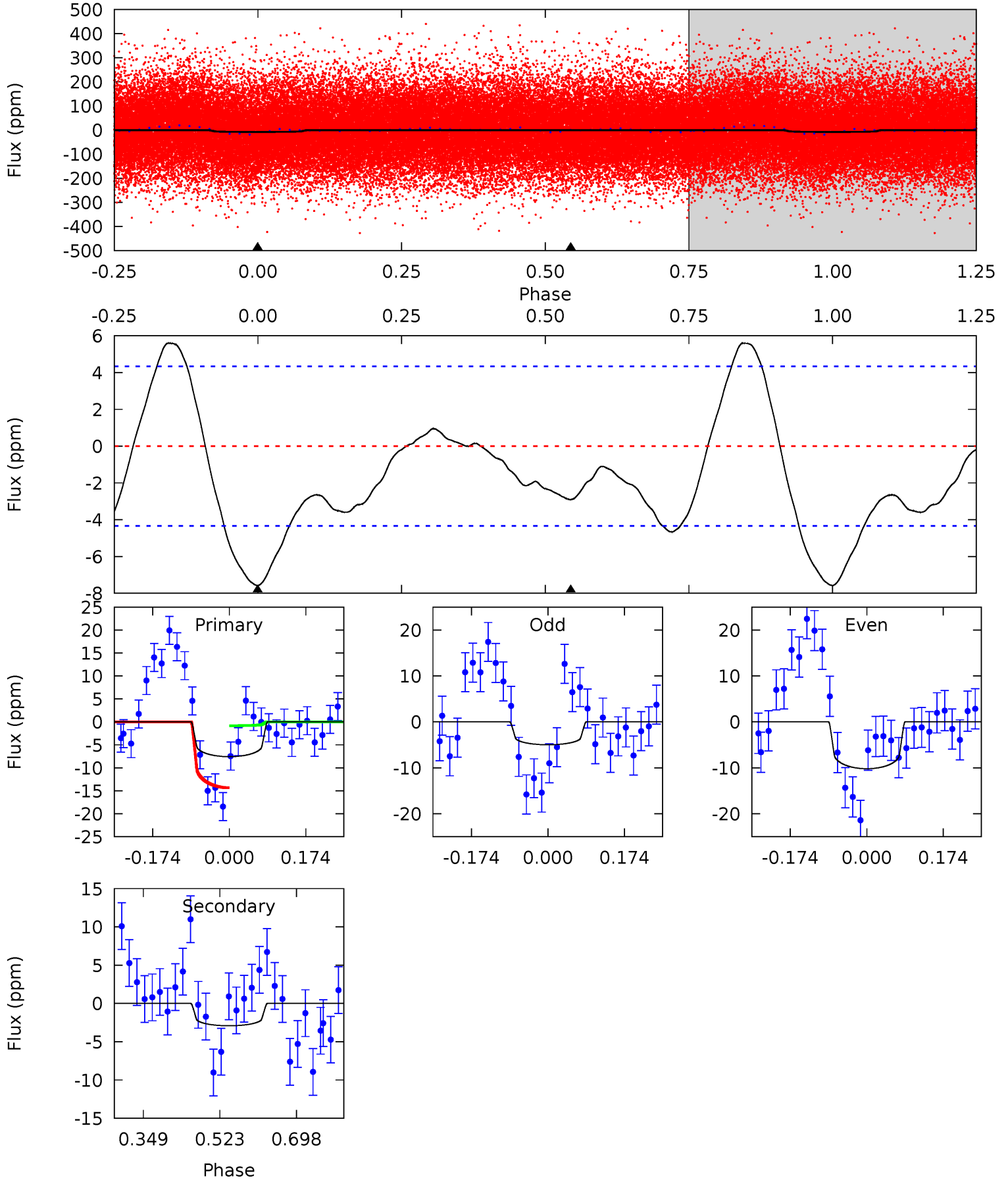
TCE 006467826-01 P= 1.762094 Days $T_0=132.620507$ (BKJD)



DV Model-Shift Uniqueness Test

006467826-01, P = 1.762040 Days, E = 130.892875 Days

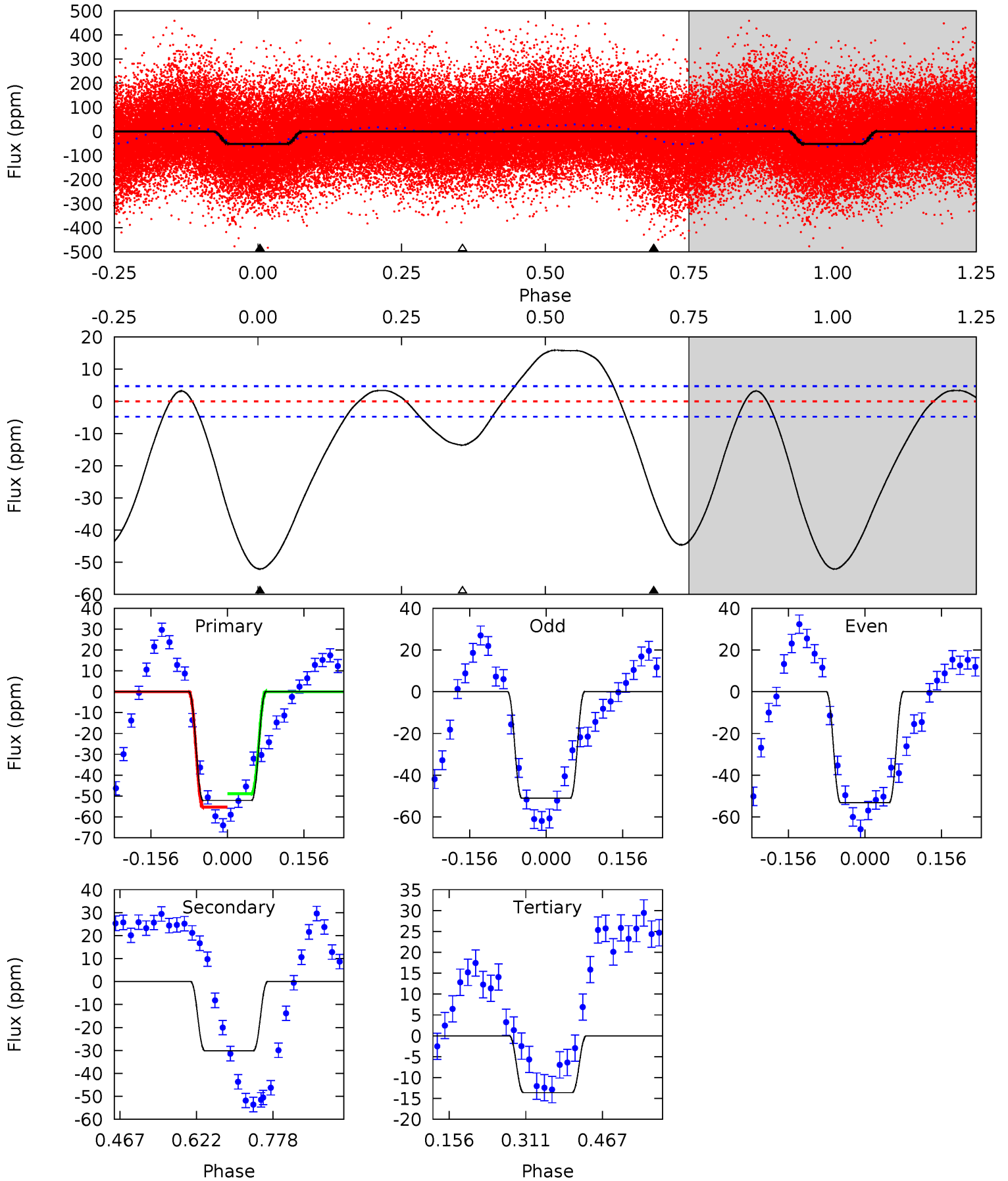
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.77	2.99	0	0	4.45	1.36	2.08	7.77	7.77	2.99	2.99	2.68	0.68	0.43	6.99



Alt Model-Shift Uniqueness Test

006467826-01, P = 1.762094 Days, E = 130.858413 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
49.1	28.4	12.8	0	4.47	1.42	8.37	36.3	49.1	15.6	28.4	1.06	0.89	0.23	2.99



Stellar Parameters For KIC 006467826

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6534^{+166}_{-166}	$3.885^{+0.308}_{-0.103}$	$-0.600^{+0.350}_{-0.300}$	$2.009^{+0.374}_{-0.694}$	$1.130^{+0.199}_{-0.181}$	$0.196^{+0.415}_{-0.061}$
	+3%/-3%	+8%/-3%	+58%/-50%	+19%/-35%	+18%/-16%	+211%/-31%
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 006467826-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-3 ± 1	$0.72^{+0.26}_{-0.23}$	3255^{+180}_{-302}	4580^{+824}_{-651}	$2.754^{+3.279}_{-1.408}$
Alt.	-30 ± 1	$1.58^{+0.31}_{-0.34}$	3250^{+195}_{-265}	5523^{+434}_{-353}	$6.012^{+3.305}_{-1.832}$

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

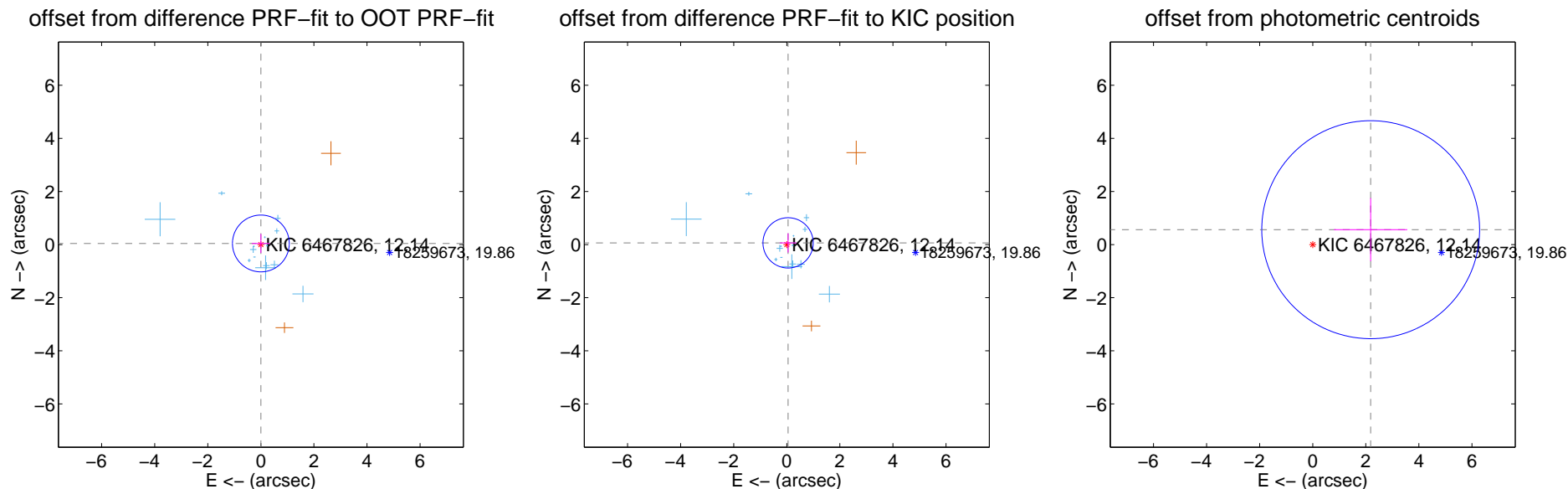
DV Centroid Data

Supplemental centroid analysis for 006467826-01. Kepler magnitude: 12.14. Transit SNR 5.20

There are 14 quarters with good PRF difference image offsets

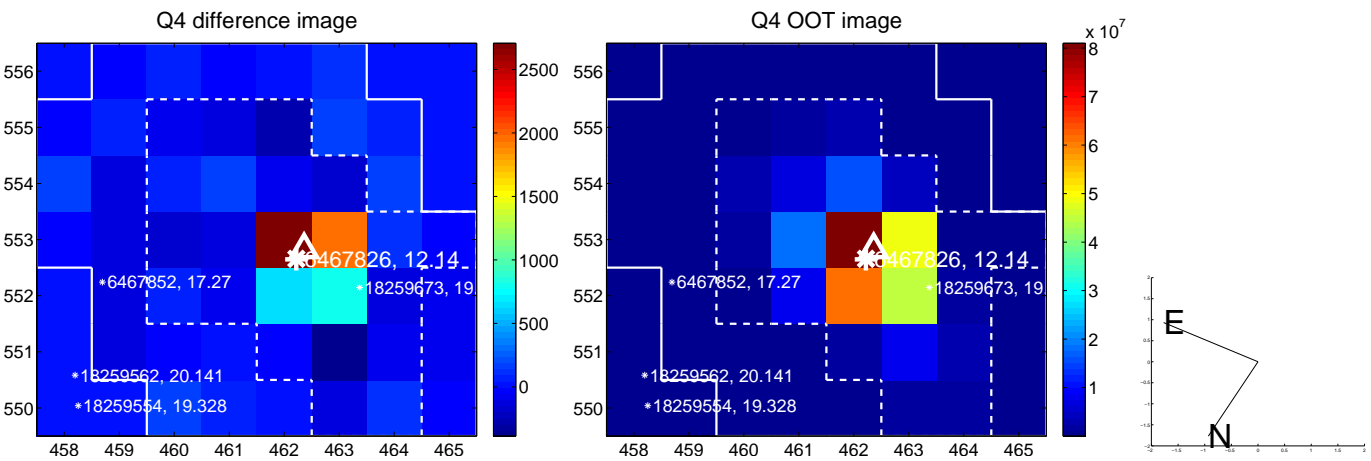
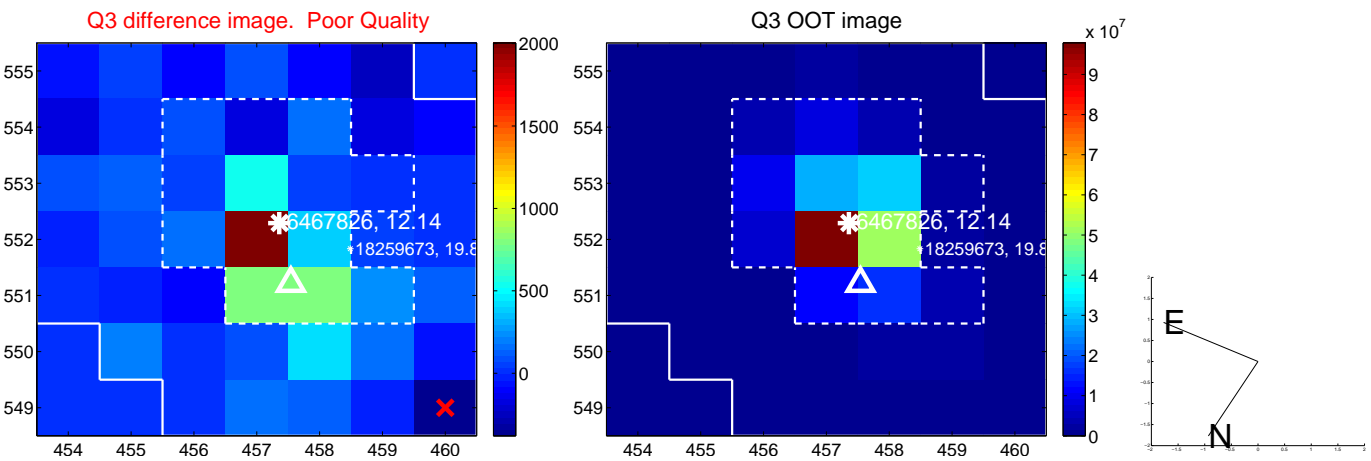
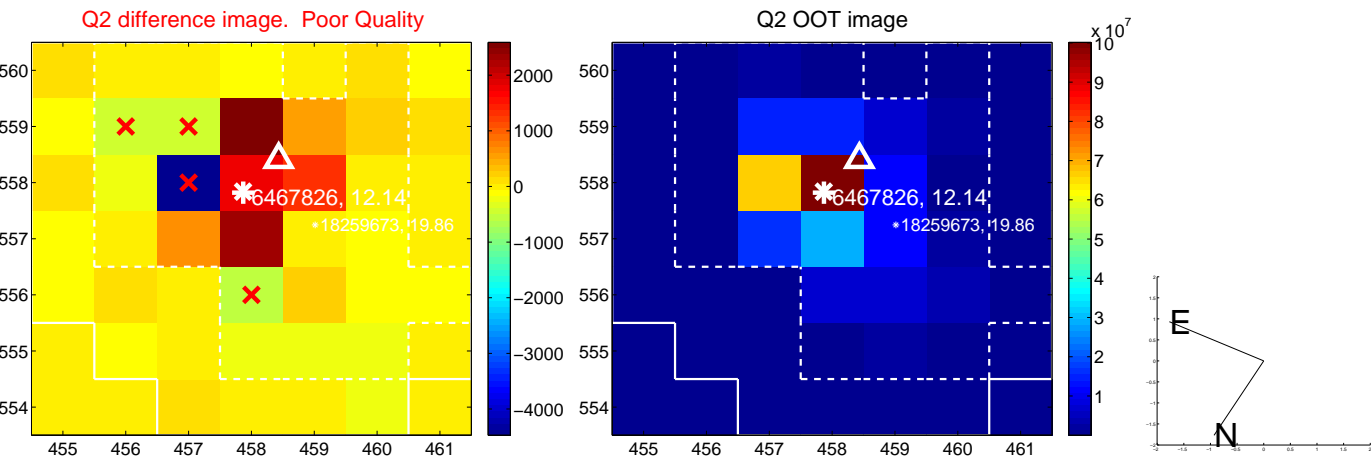
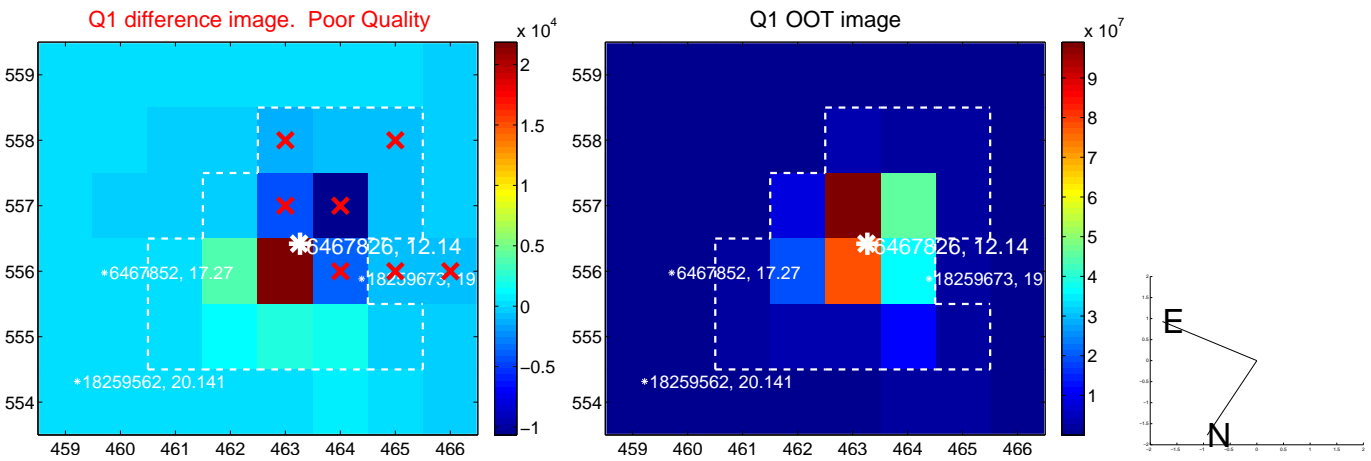
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.042 ± 0.357	0.12	-0.000 ± 0.336	0.042 ± 0.357
PRF-fit source offset from KIC position	0.081 ± 0.316	0.26	-0.049 ± 0.313	0.065 ± 0.361
photometric centroid source offset	2.25 ± 1.37	1.65	-2.18 ± 1.38	0.56 ± 1.19

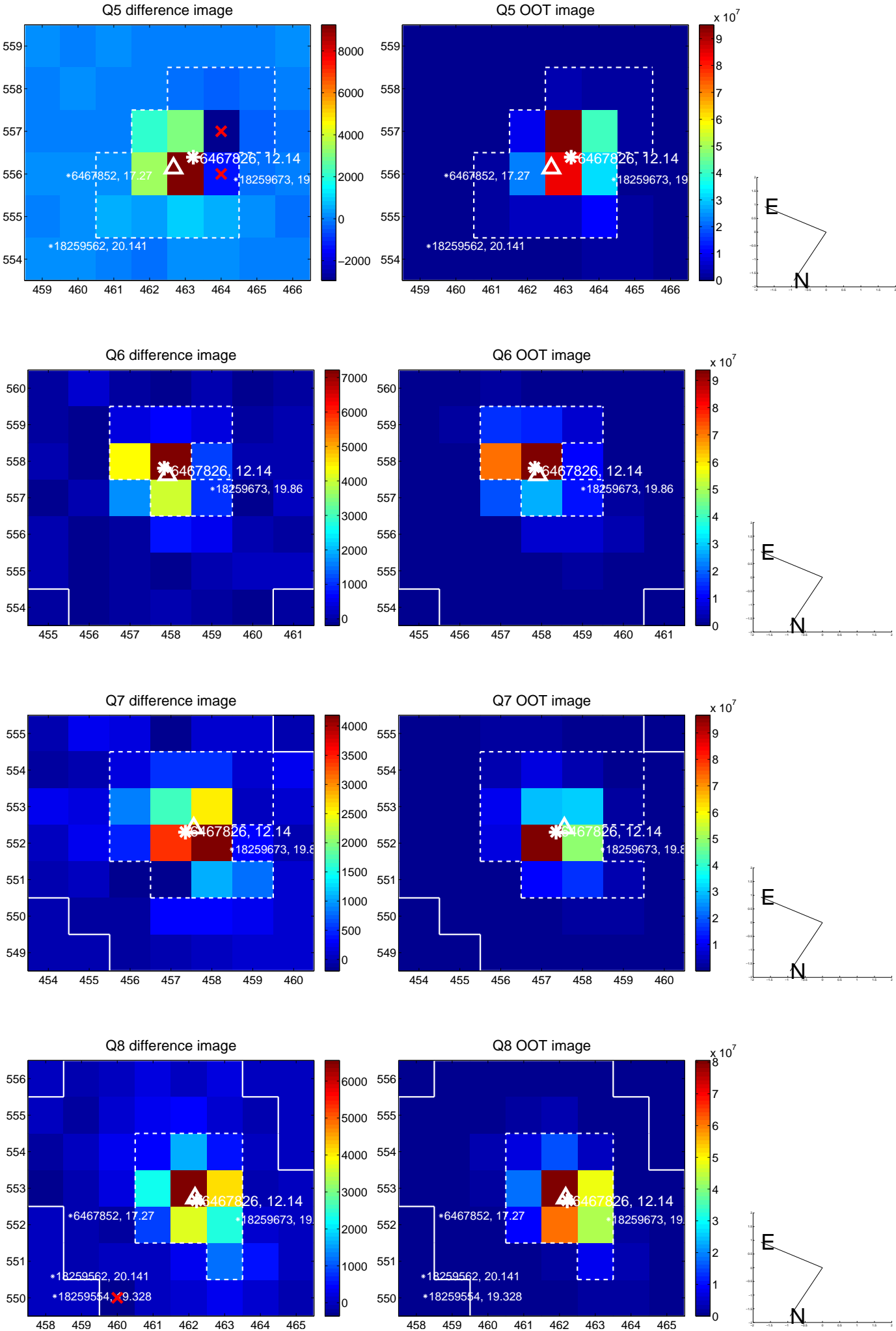


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

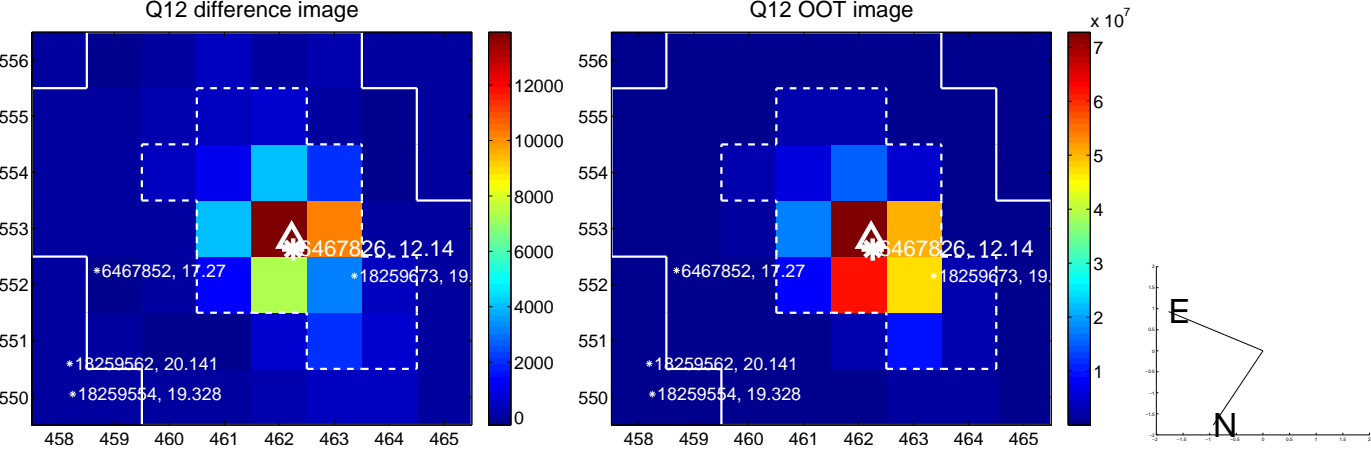
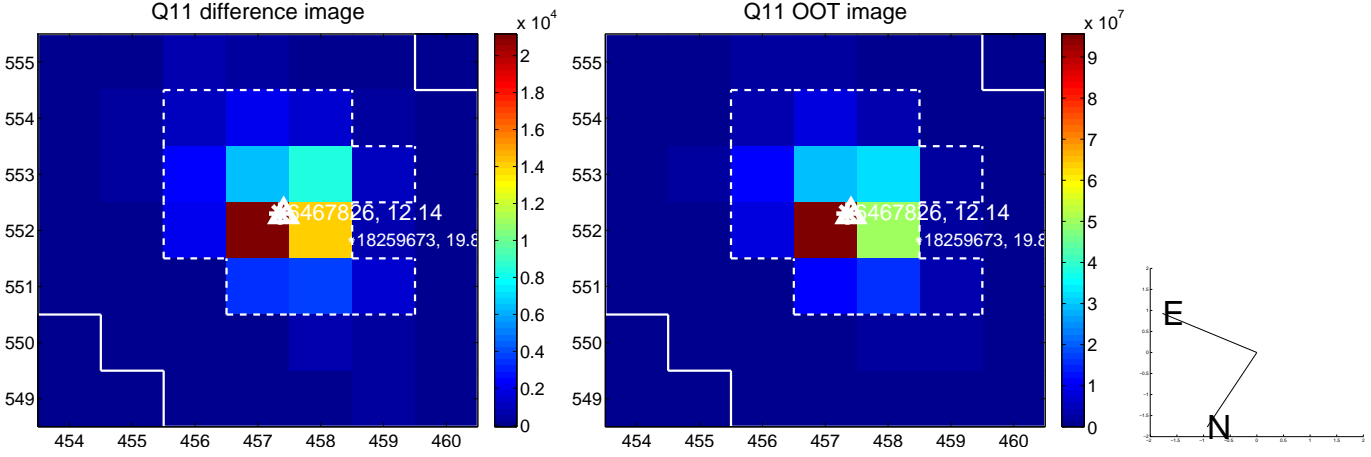
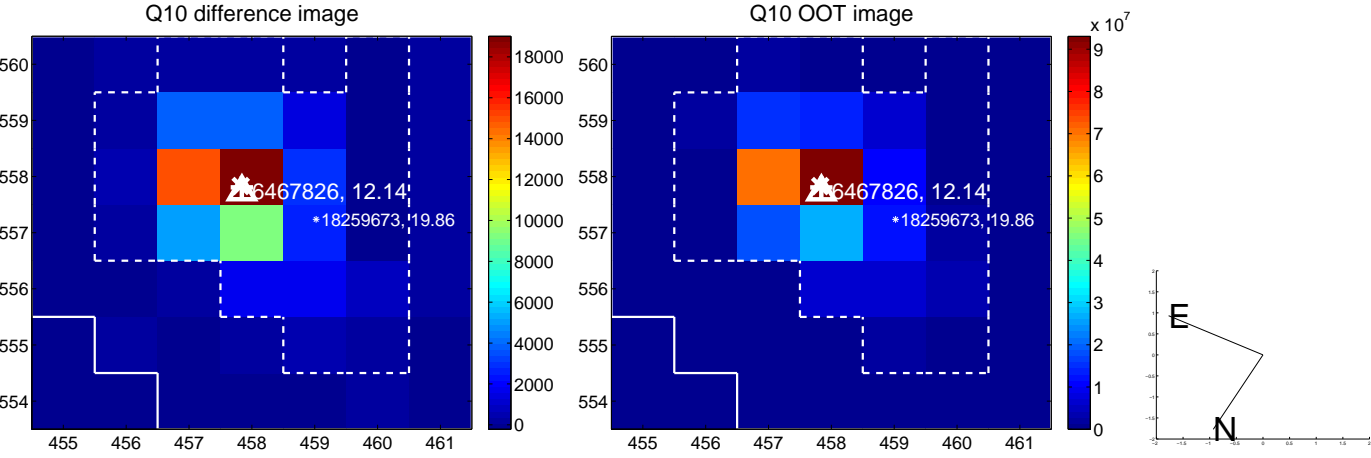
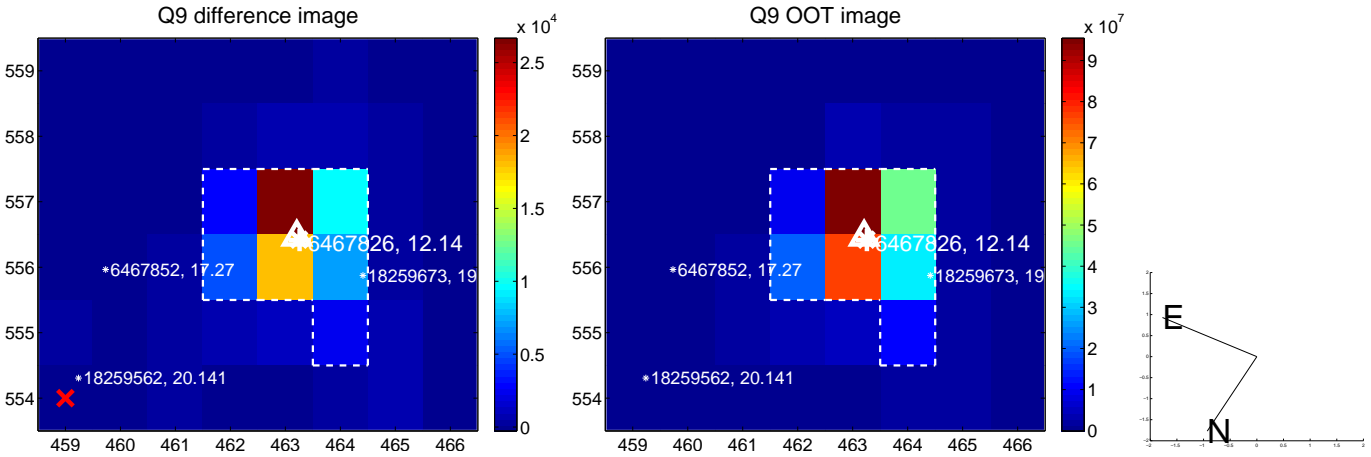
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



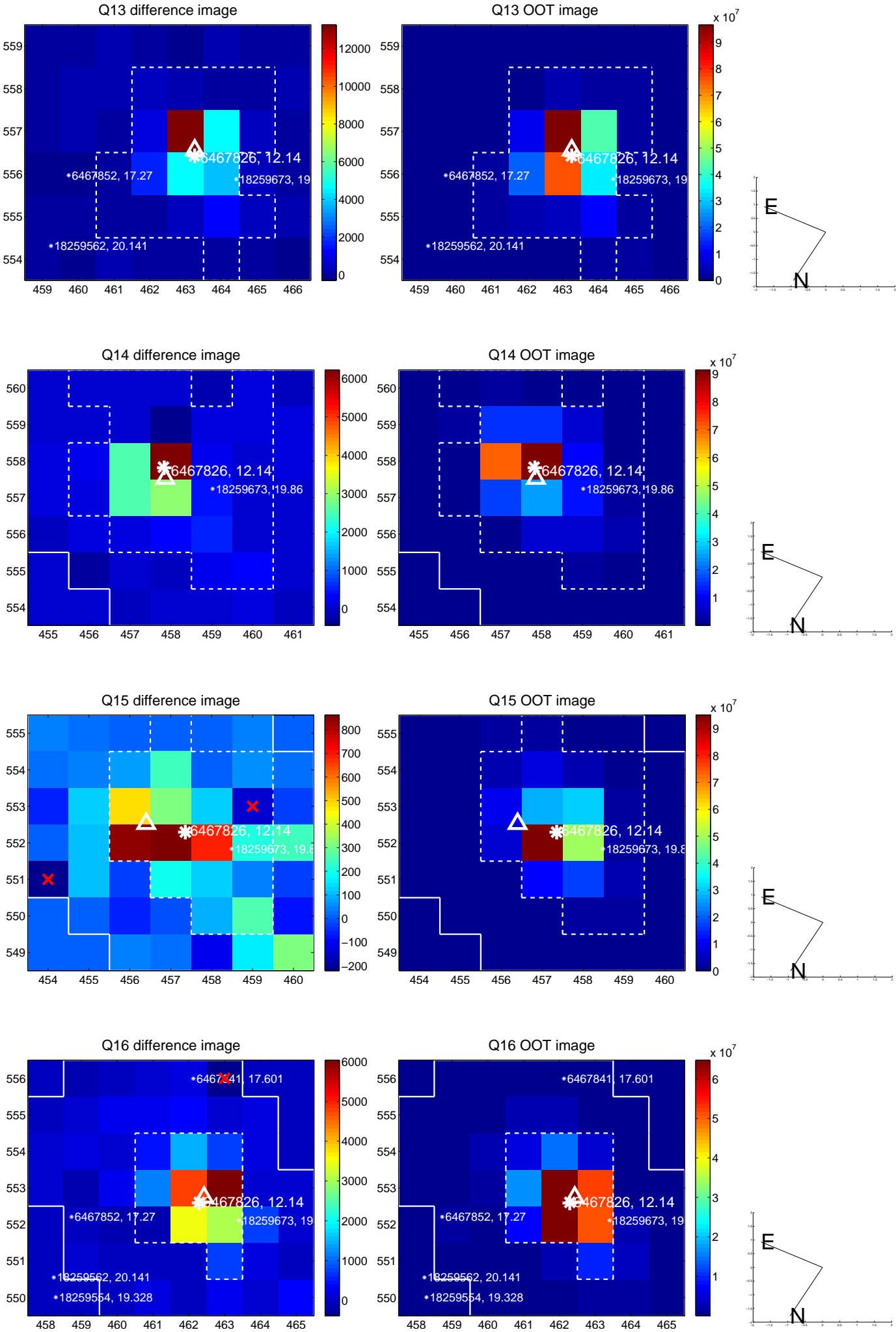
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



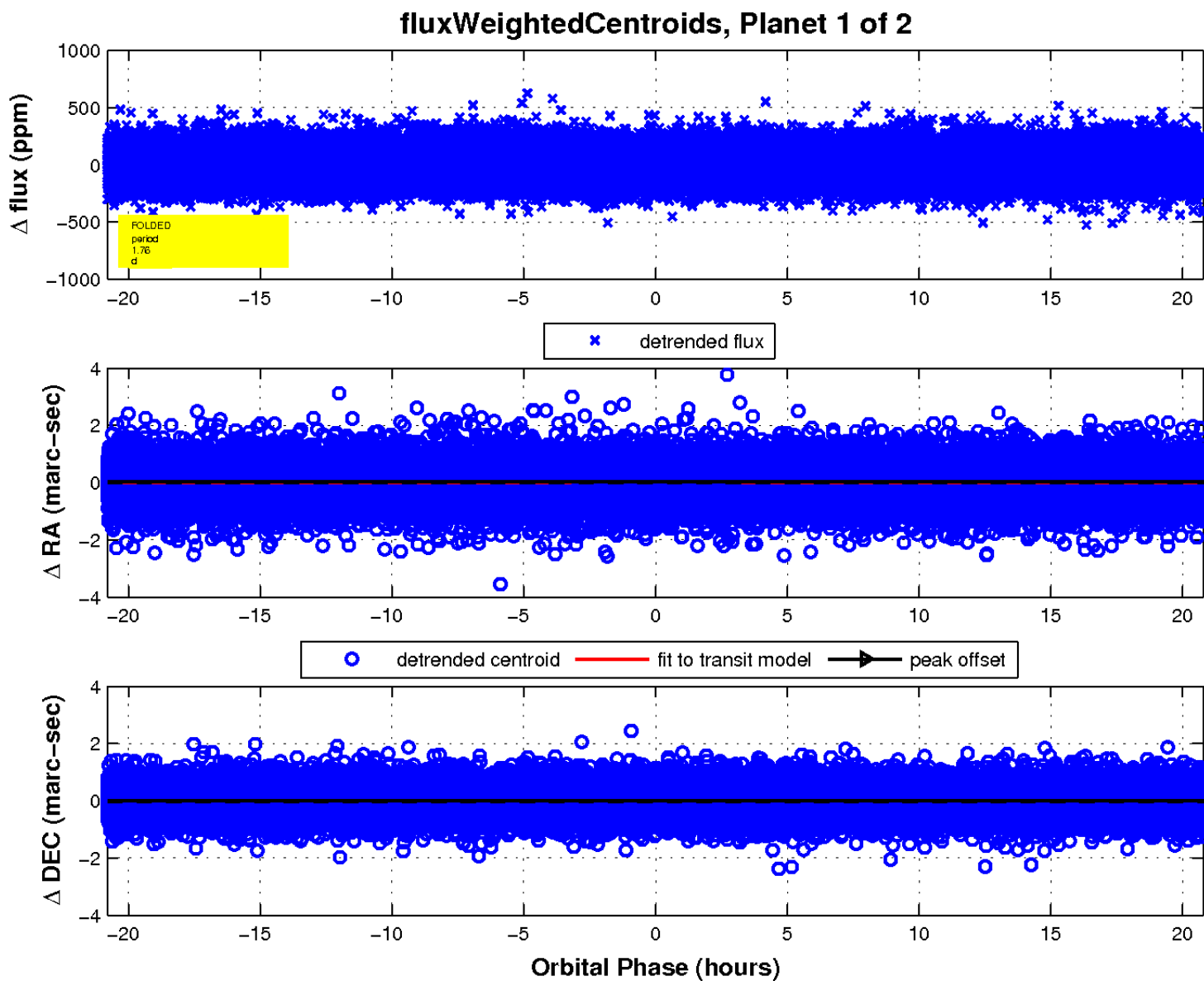
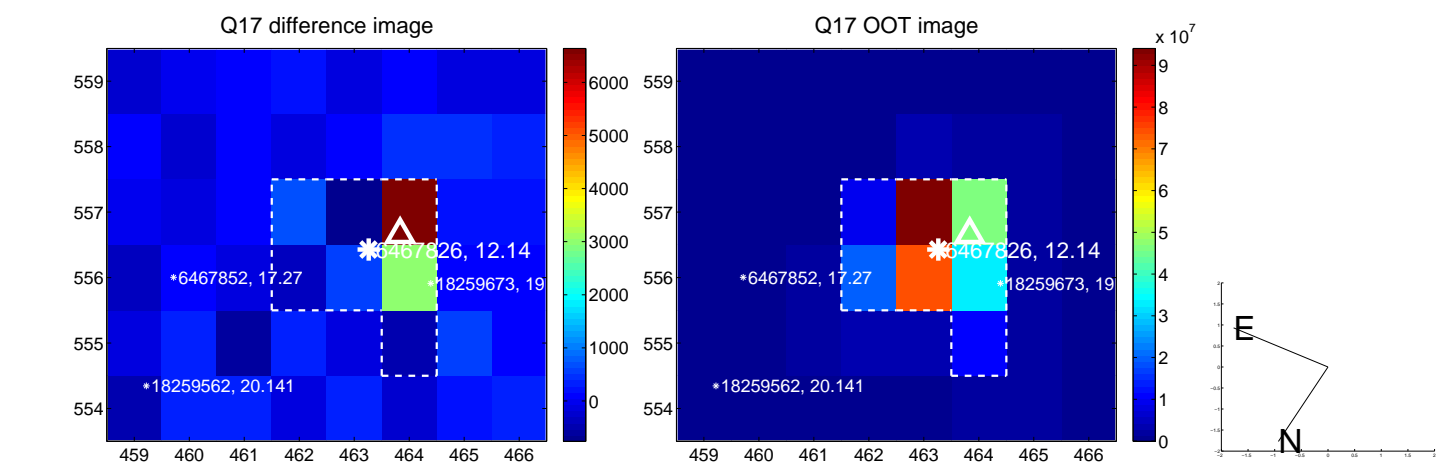
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



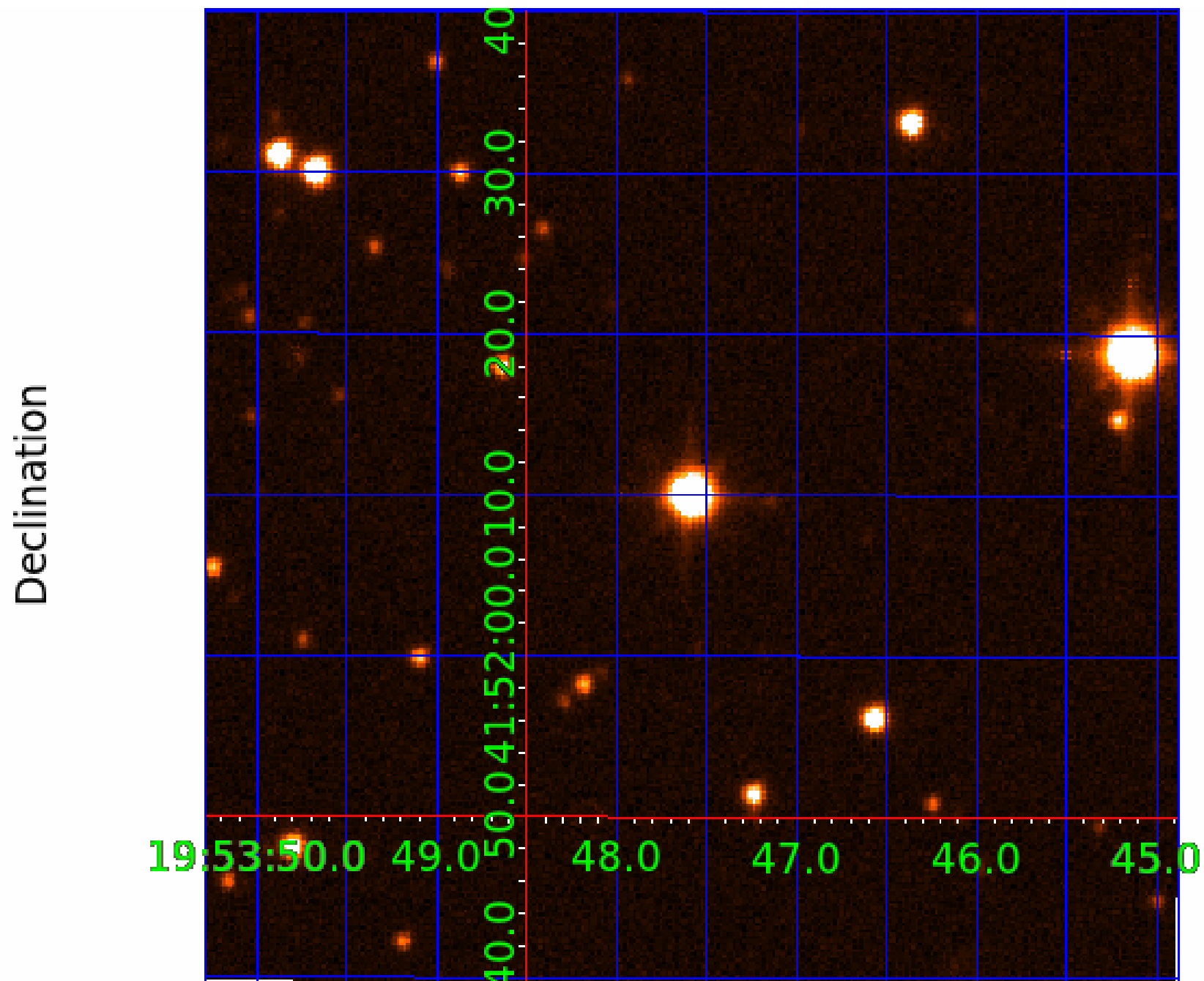
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 006467826

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})
006467826-01	OBS	No	1.762040	132.654915	9.9	6.933	7.7	5.2	2.01	6534	0.75	7451.49
006467826-02	OBS	No	313.673338	147.668437	139.1	12.666	7.1	7.3	2.01	6534	2.53	7.44

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006467826-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
006467826-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

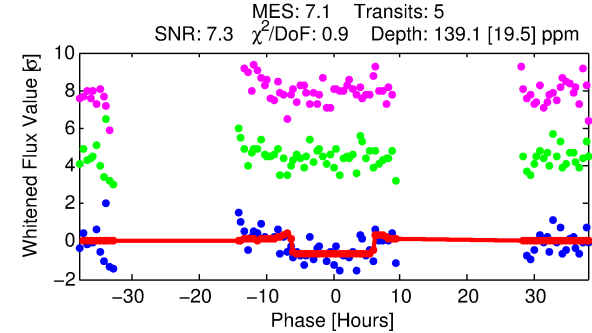
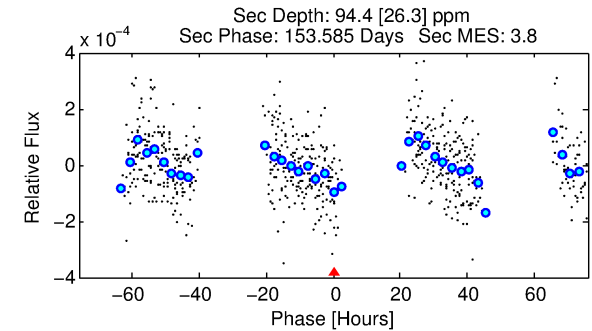
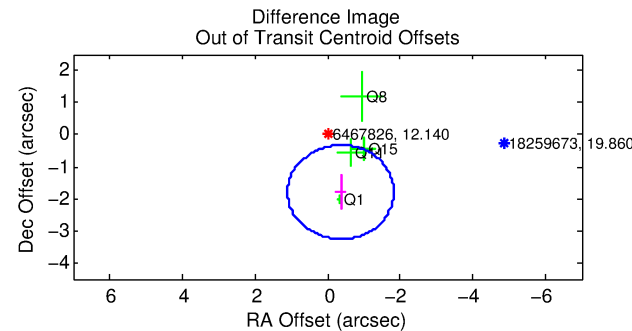
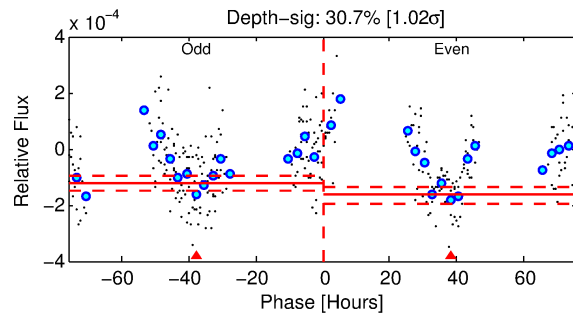
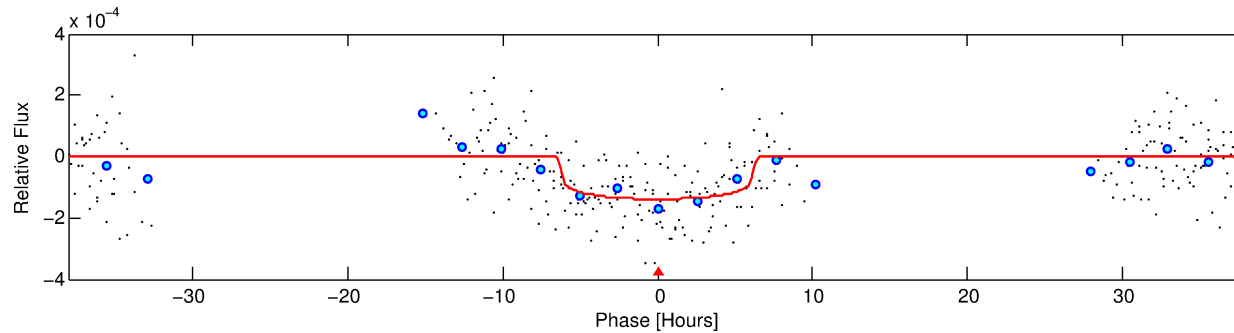
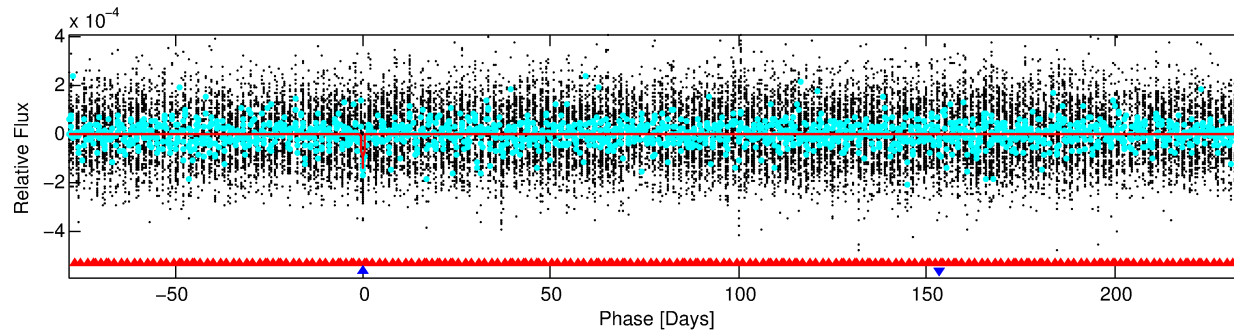
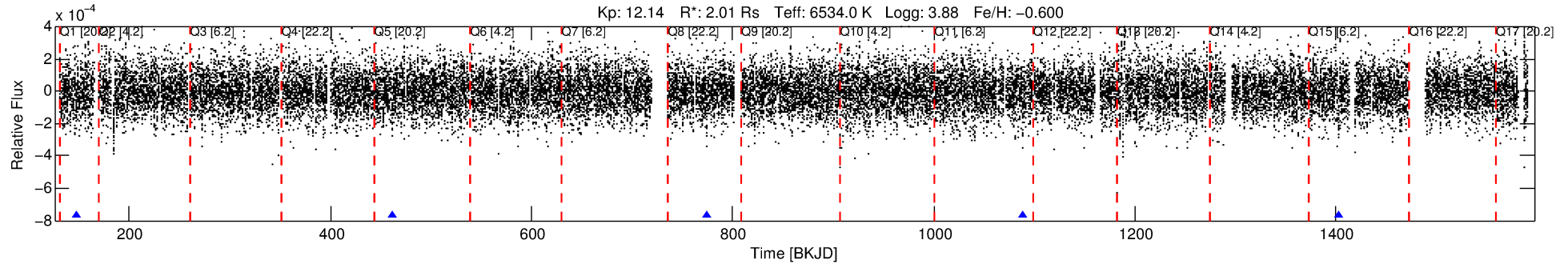
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006467826-02

No Significant Match Found

DV One-Page Summary

KIC: 6467826 Candidate: 2 of 2 Period: 313.673 d



DV Fit Results:

Period = 313.67334 [0.00528] d
Epoch = 147.6684 [0.0124] BKJD
Rp/R* = 0.0116 [0.0043]
a/R* = 138.83 [282.58]
b = 0.70 [1.51]
Seff = 7.44 [3.99]
Teq = 421 [56] K
Rp = 2.53 [1.29] Re
a = 0.9412 [0.3106] AU
Ag = 7161.79 [6816.94] [1.05σ]
Teffp = 5990 [1198] K [4.64σ]

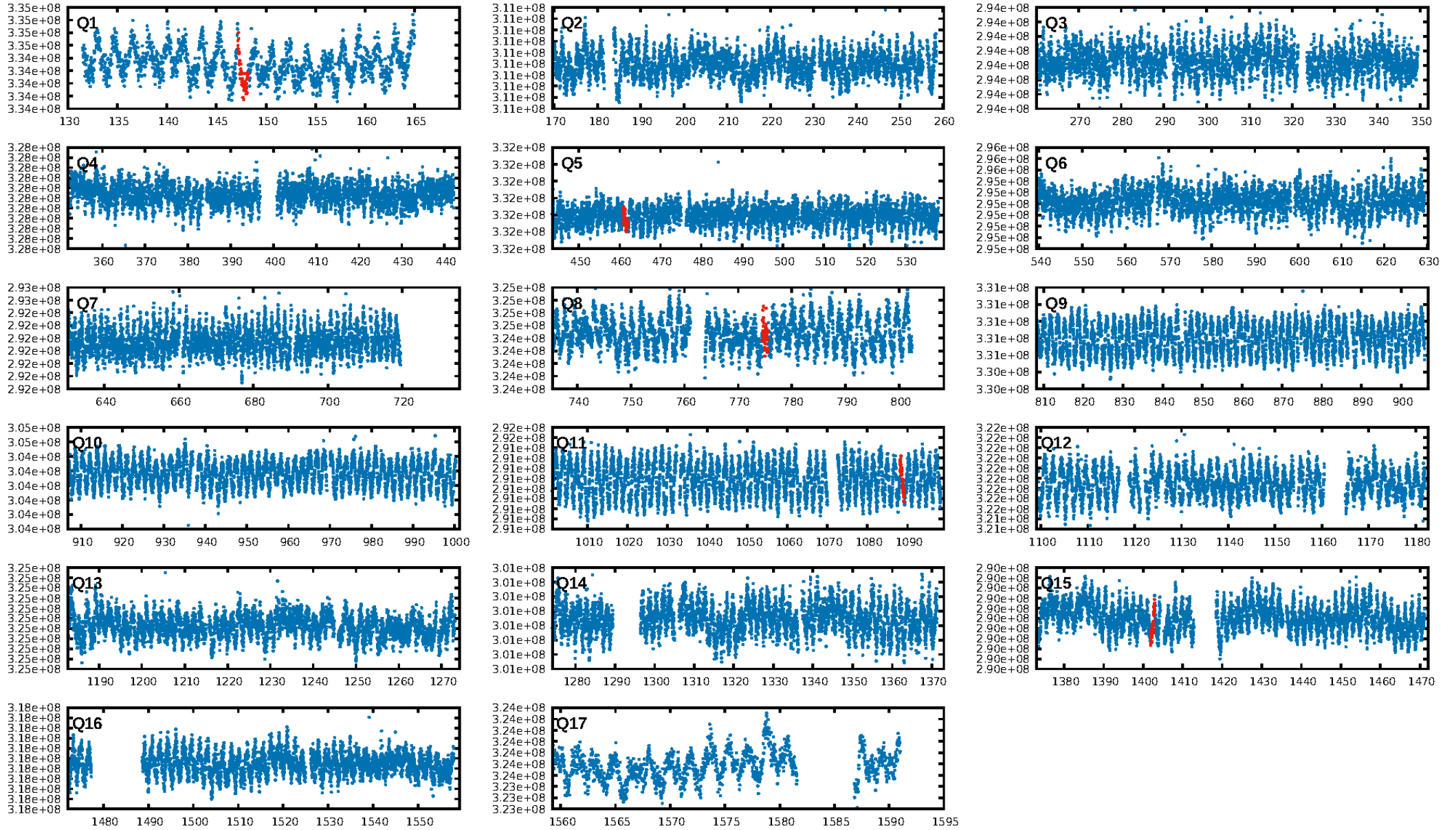
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [518.45σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 44.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.11e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 21.02
Centroid-sig: 8.6%
Centroid-so: 1.244 arcsec [1.41σ]
OotOffset-rm: 1.831 arcsec [3.76σ]
KicOffset-rm: 1.868 arcsec [3.83σ]
OotOffset-st: 0/2/1/1 [4]
KicOffset-st: 0/2/1/1 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 0.00 [0/5]

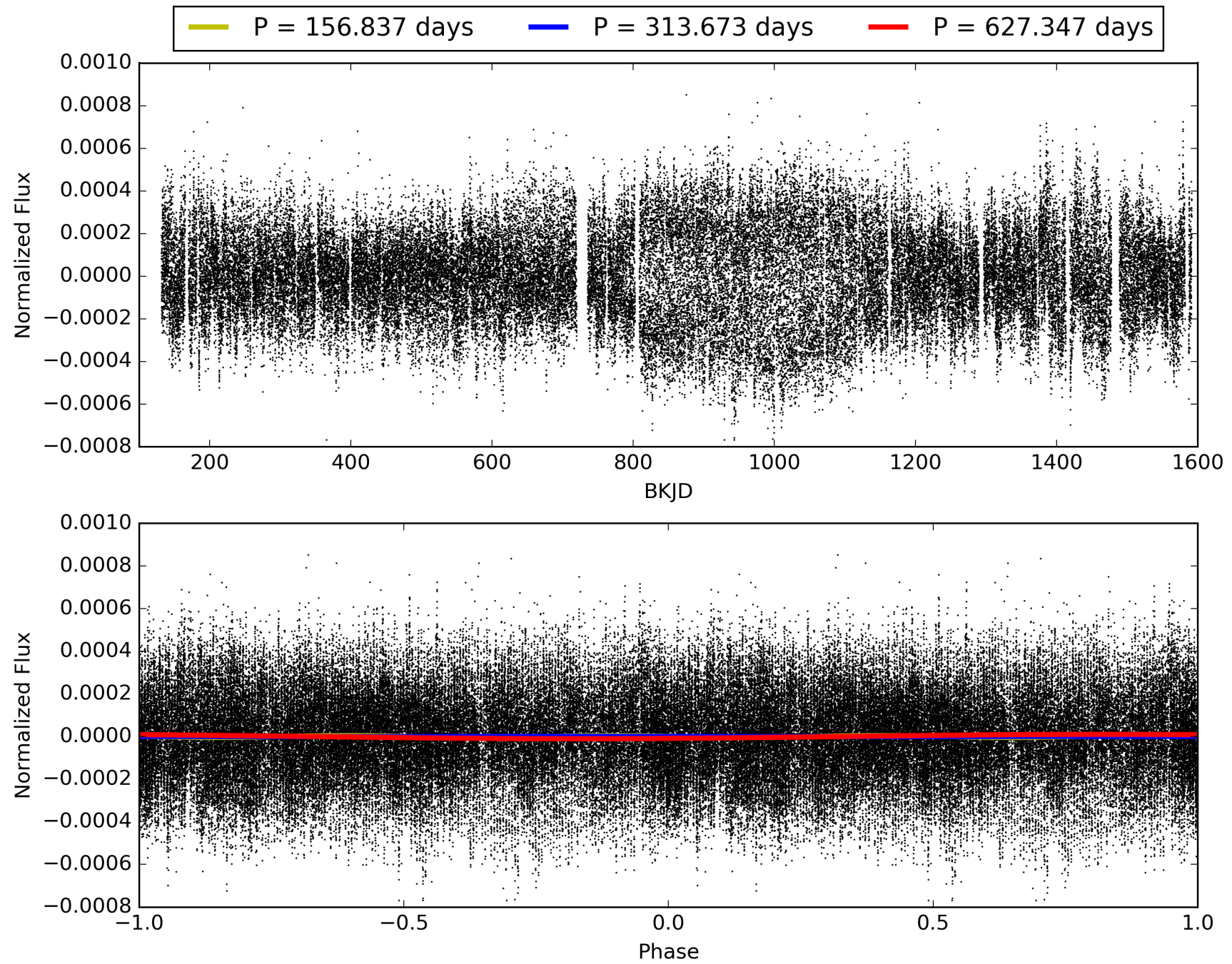
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 01:44:40 Z

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TCE 006467826-02, PDC Light Curves

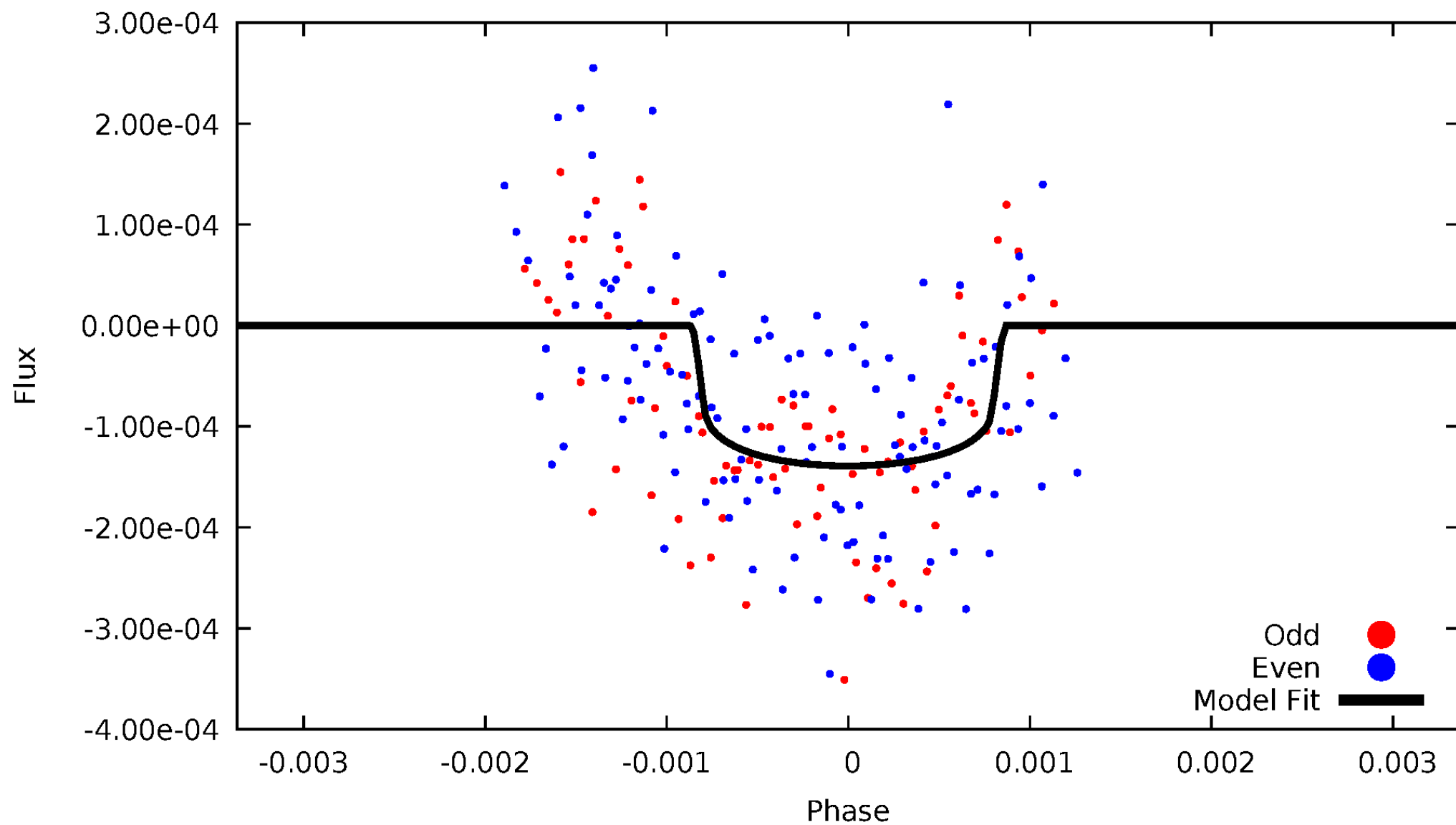


TCE 006467826-02



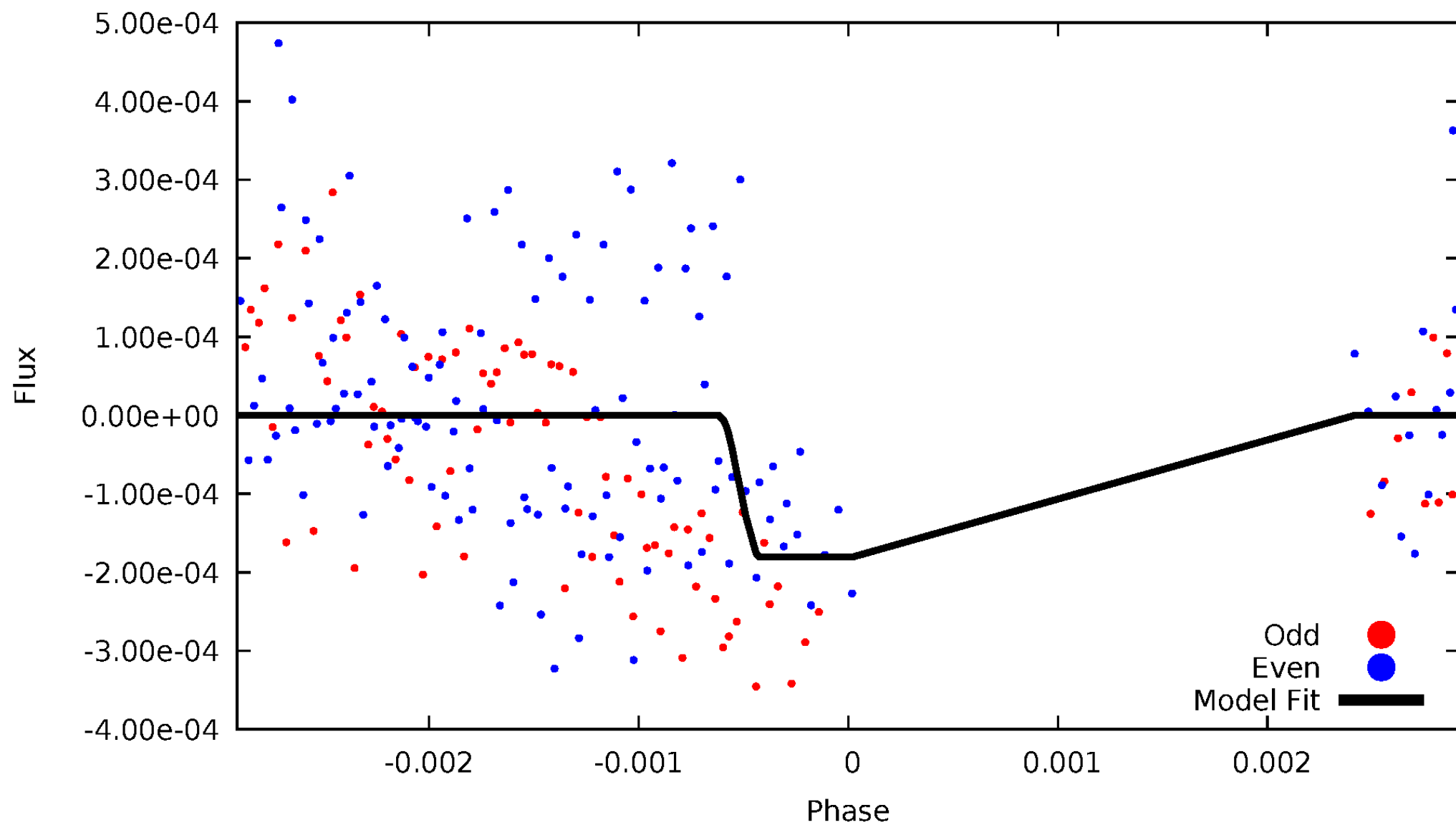
DV Odd/Even

TCE 006467826-02



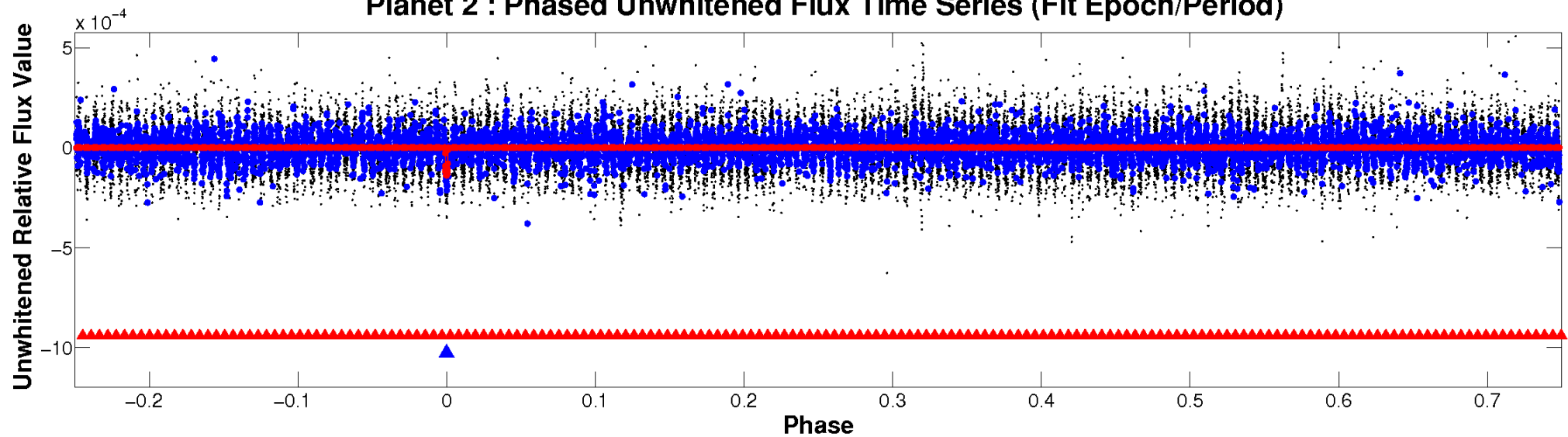
ALT Odd/Even

TCE 006467826-02

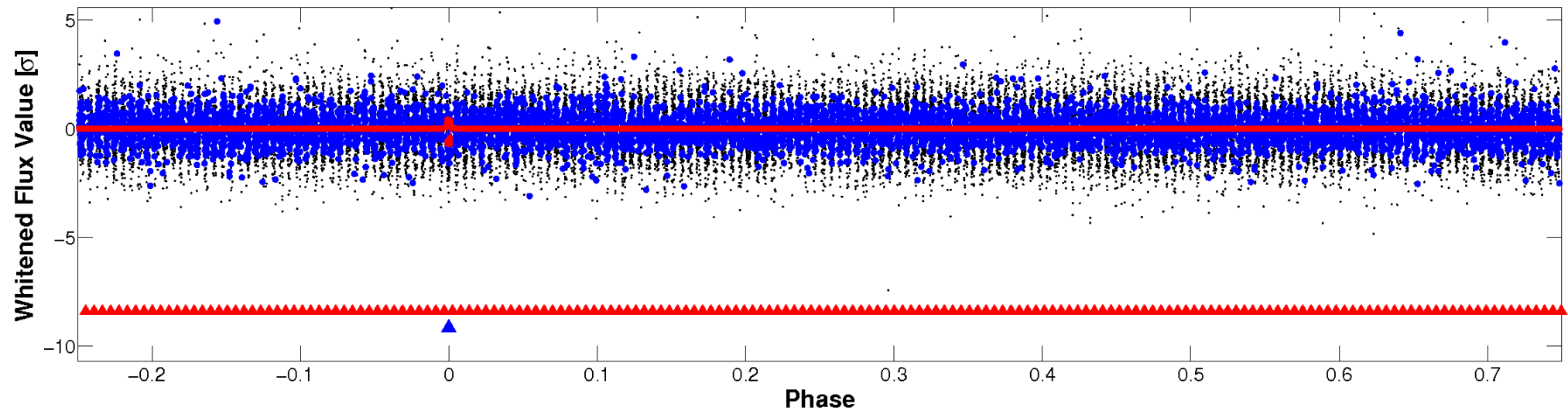


Non-Whitened Vs. Whitened Light Curve

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

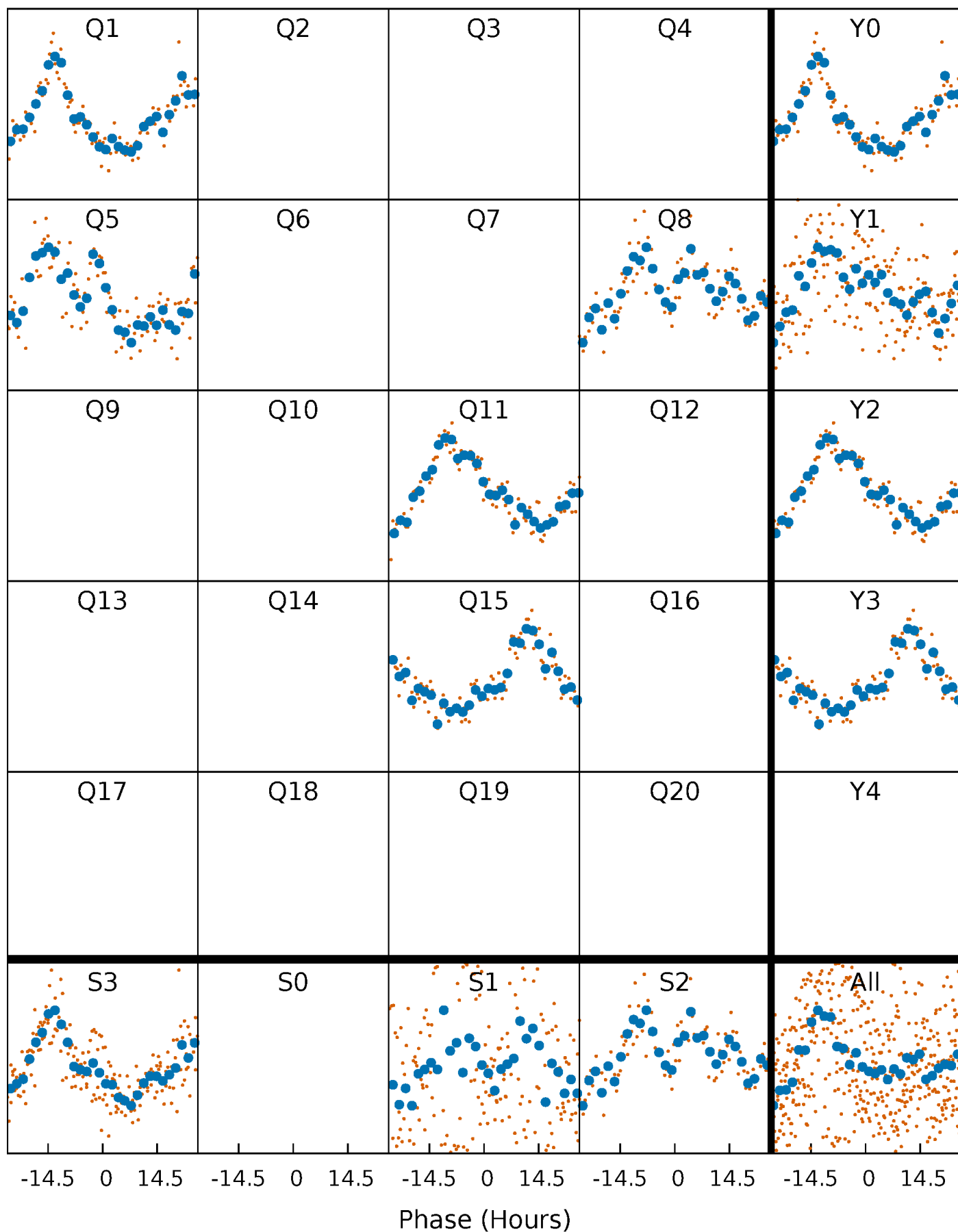


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



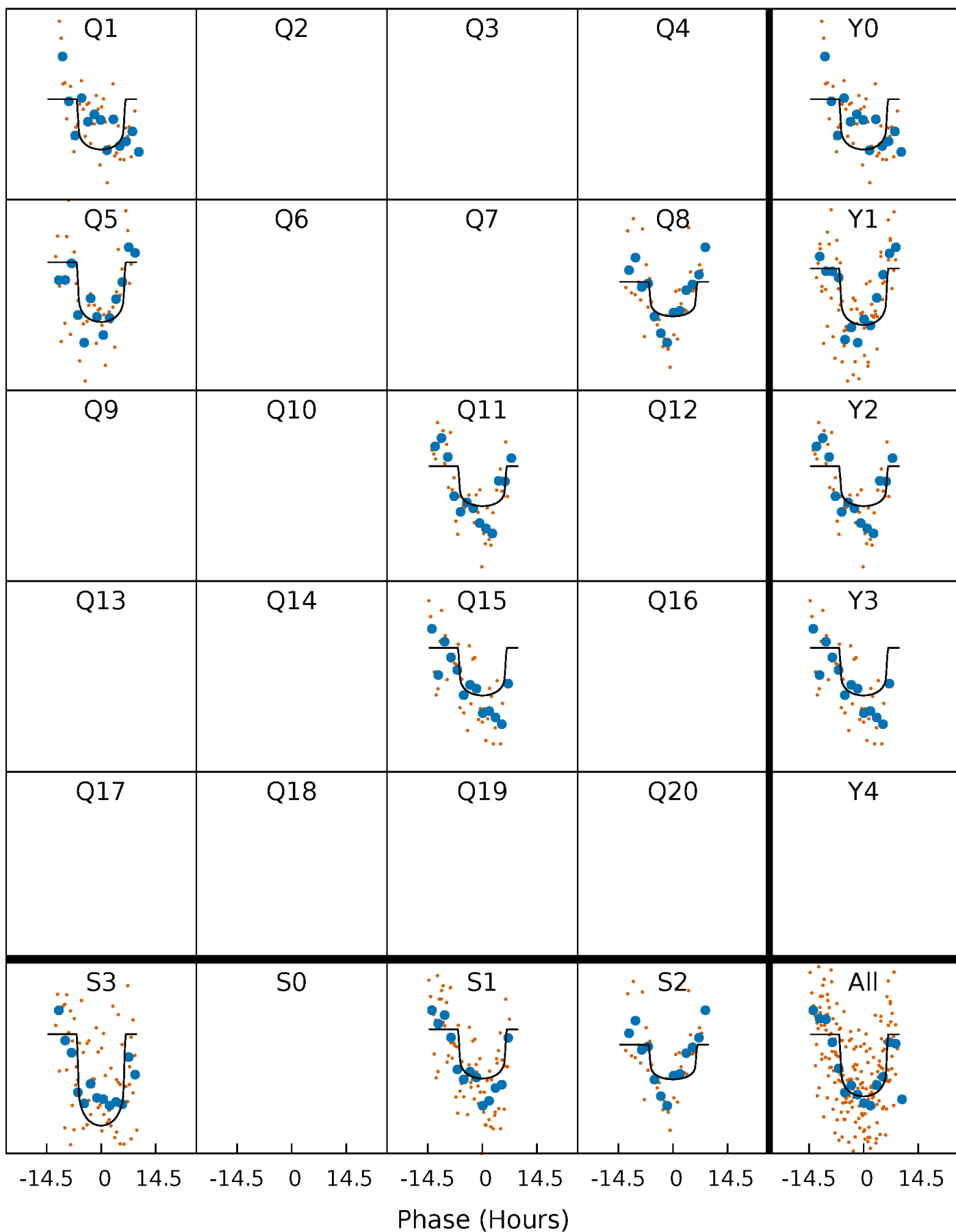
PDC Quarter-Phased Transit Curves

TCE 006467826-02 $P=313.673338$ Days $T_0=147.668437$ (BKJD)



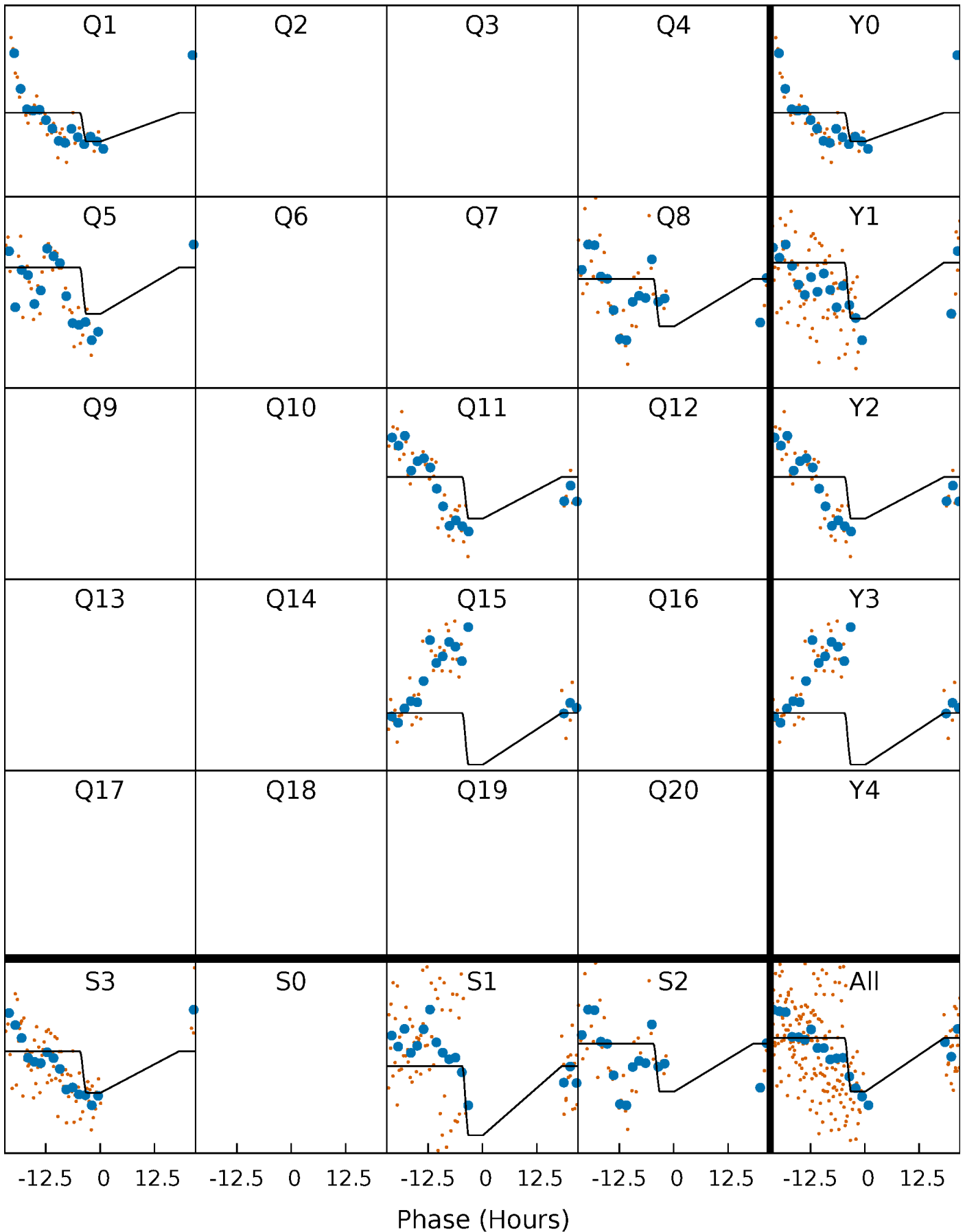
DV Quarter-Phased Transit Curves

TCE 006467826-02 $P=313.673338$ Days $T_0=147.668437$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

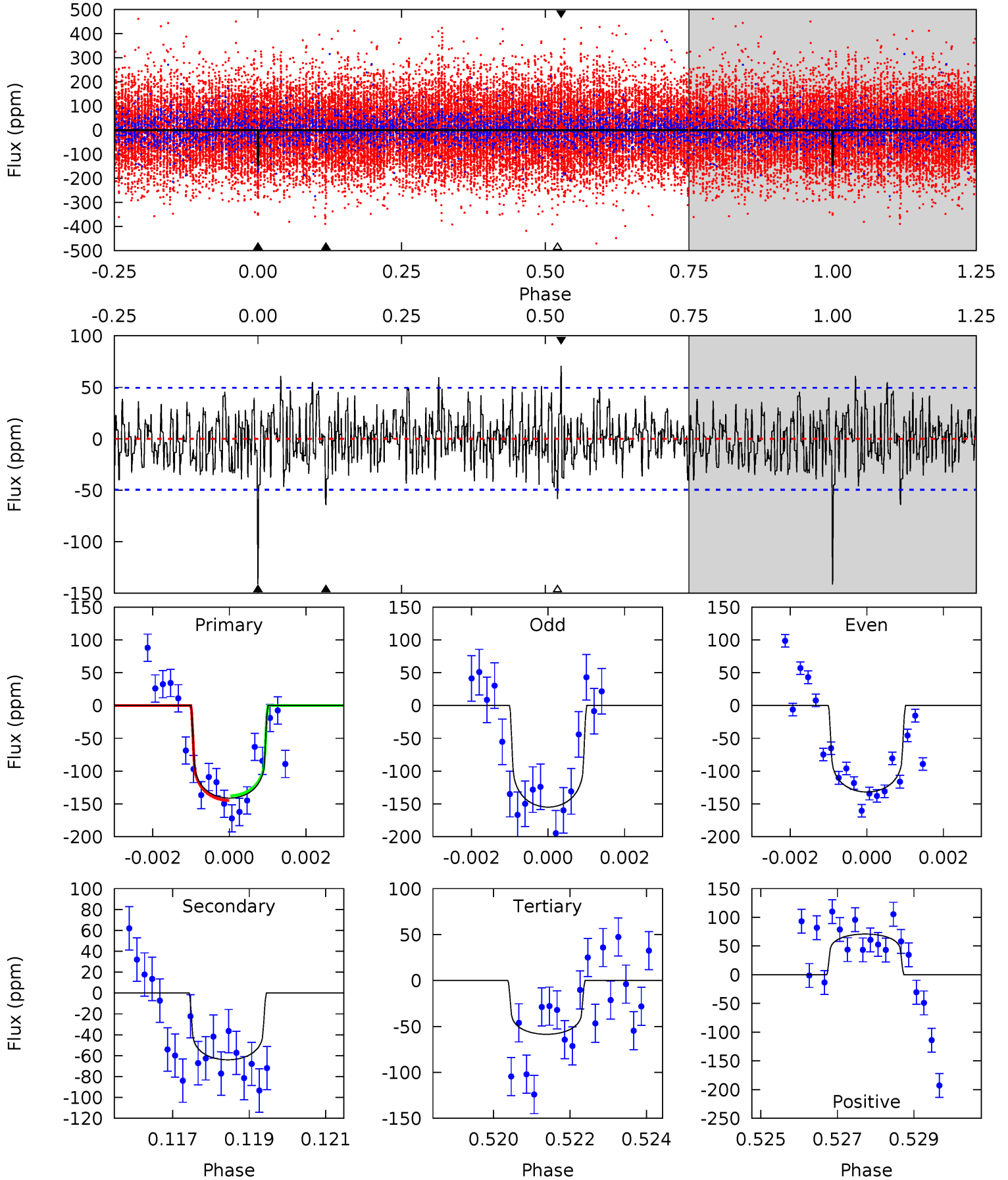
TCE 006467826-02 P=313.682391 Days $T_0=148.058304$ (BKJD)



DV Model-Shift Uniqueness Test

006467826-02, P = 313.673338 Days, E = 147.668437 Days

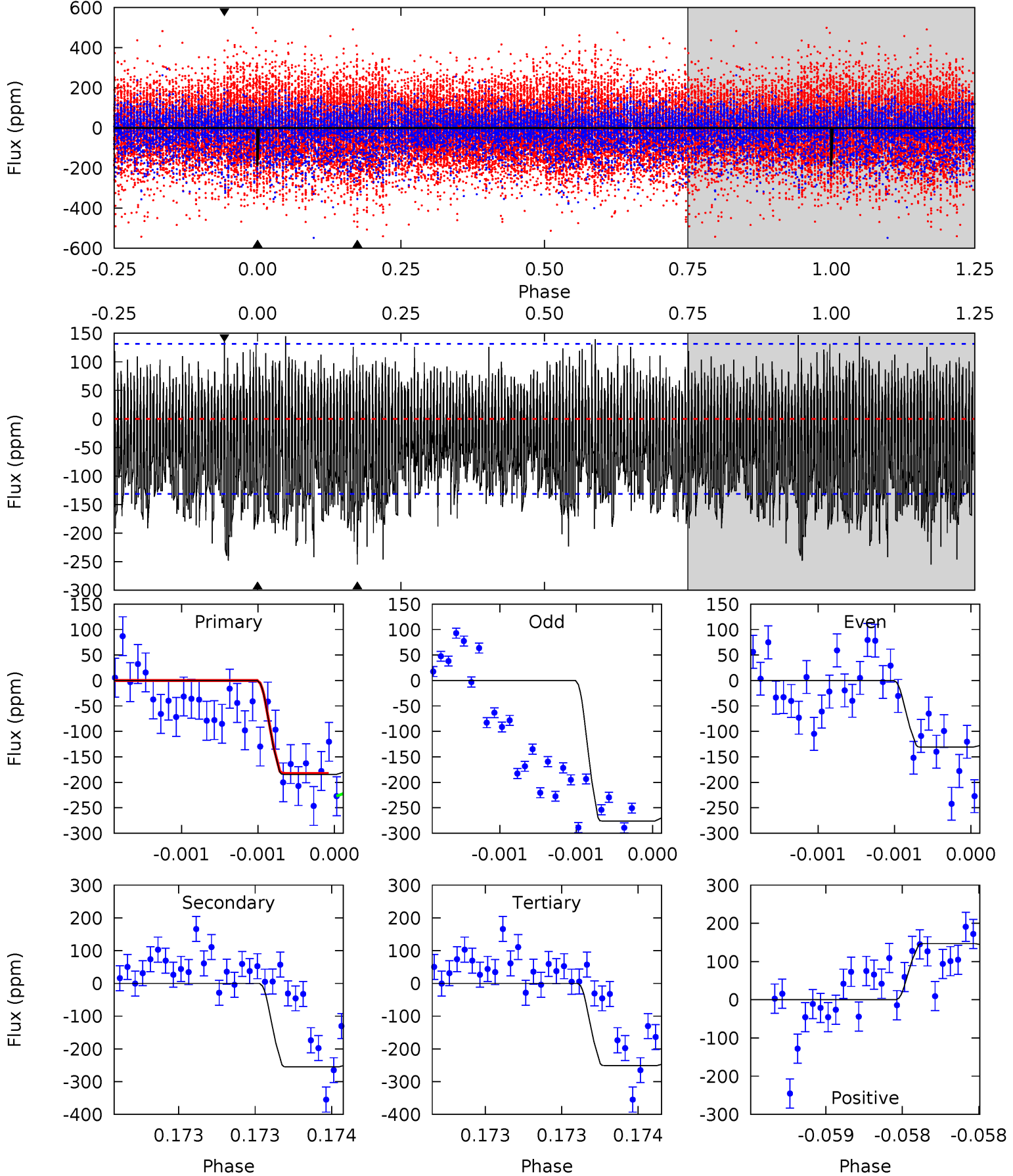
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.3	6.92	6.34	7.67	5.35	3.13	2.10	8.94	7.61	0.59	-0.74	1.21	1.02	0.33	0.39



Alt Model-Shift Uniqueness Test

006467826-02, P = 313.682391 Days, E = 148.058304 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.77	10.7	10.6	6.19	5.54	3.43	2.32	-2.80	1.58	0.17	4.55	2.91	0	0.37	1.32



Stellar Parameters For KIC 006467826

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6534^{+166}_{-166}	$3.885^{+0.308}_{-0.103}$	$-0.600^{+0.350}_{-0.300}$	$2.009^{+0.374}_{-0.694}$	$1.130^{+0.199}_{-0.181}$	$0.196^{+0.415}_{-0.061}$
	+3%/-3%	+8%/-3%	+58%/-50%	+19%/-35%	+18%/-16%	+211%/-31%
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 006467826-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-64 ± 9	$2.31^{+1.02}_{-0.83}$	578^{+38}_{-47}	5477^{+1509}_{-728}	5854^{+9334}_{-3137}
Alt.	-255 ± 24	$2.81^{+1.18}_{-0.98}$	580^{+36}_{-51}	7066^{+2084}_{-968}	15915^{+20930}_{-8060}

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

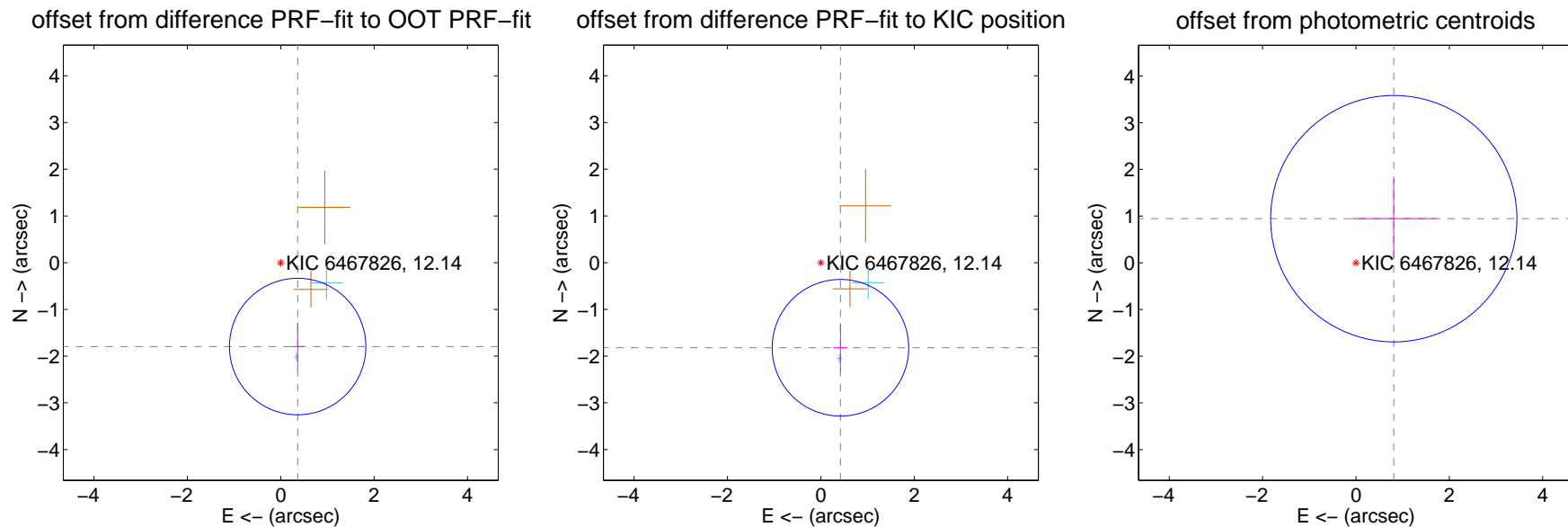
DV Centroid Data

Supplemental centroid analysis for 006467826-02. Kepler magnitude: 12.14. Transit SNR 7.25

There are 2 quarters with good PRF difference image offsets

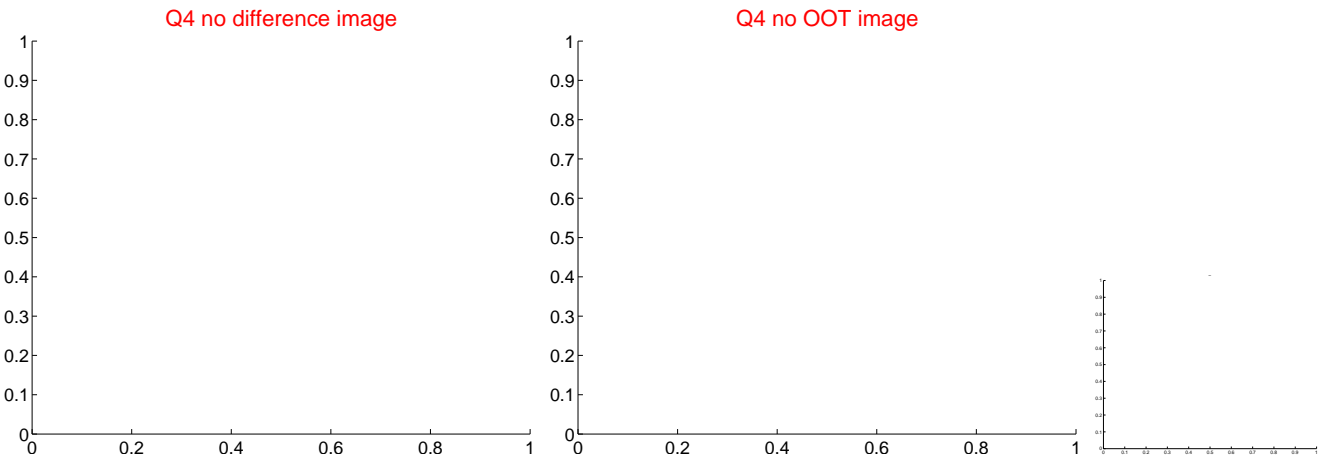
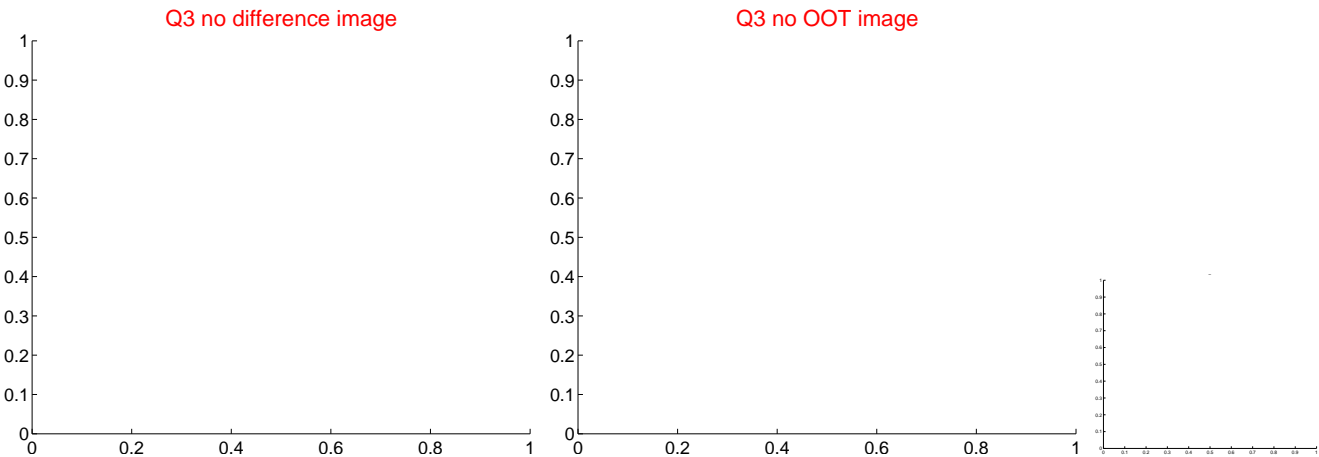
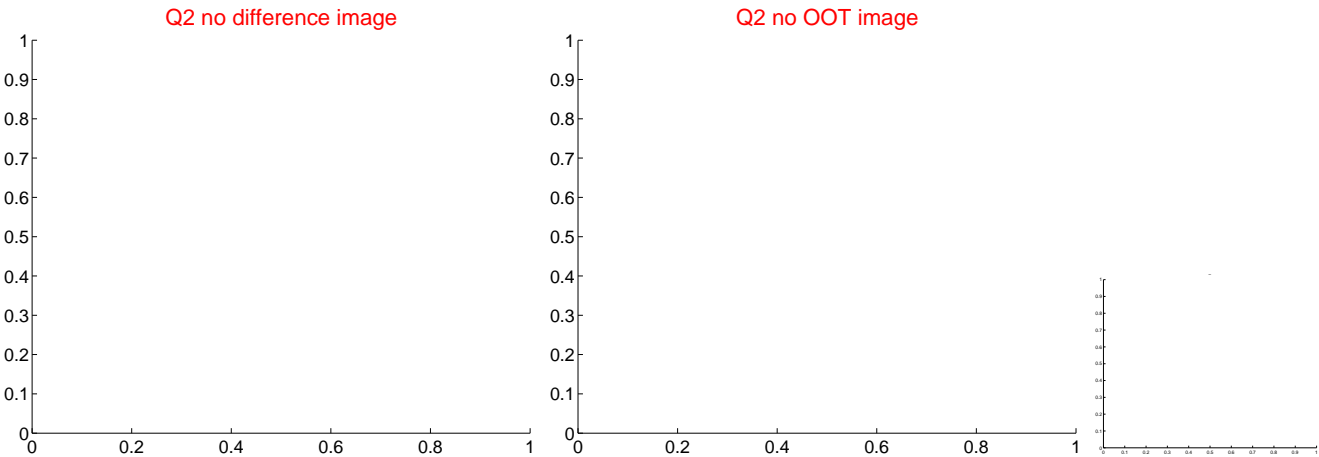
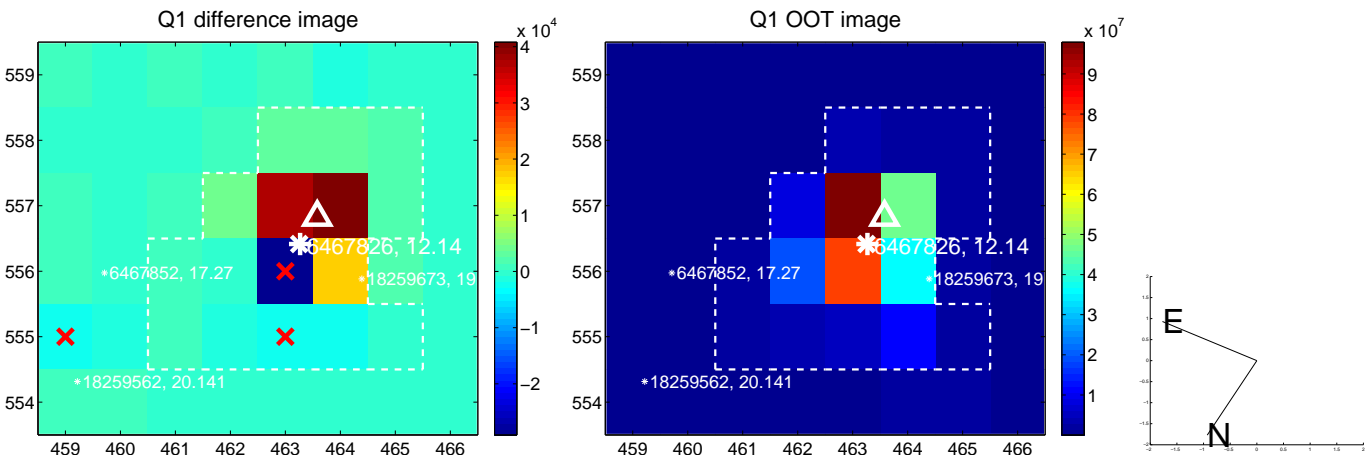
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.831 ± 0.487	3.76	-0.362 ± 0.139	-1.794 ± 0.515
PRF-fit source offset from KIC position	1.868 ± 0.487	3.83	-0.420 ± 0.149	-1.820 ± 0.523
photometric centroid source offset	1.24 ± 0.88	1.41	-0.81 ± 0.90	0.94 ± 0.87

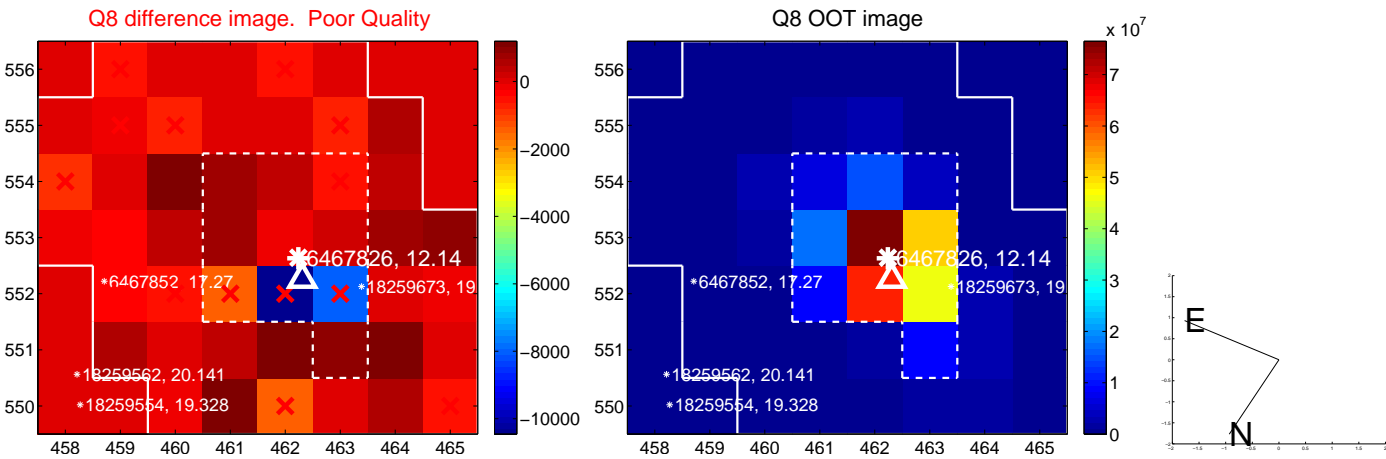
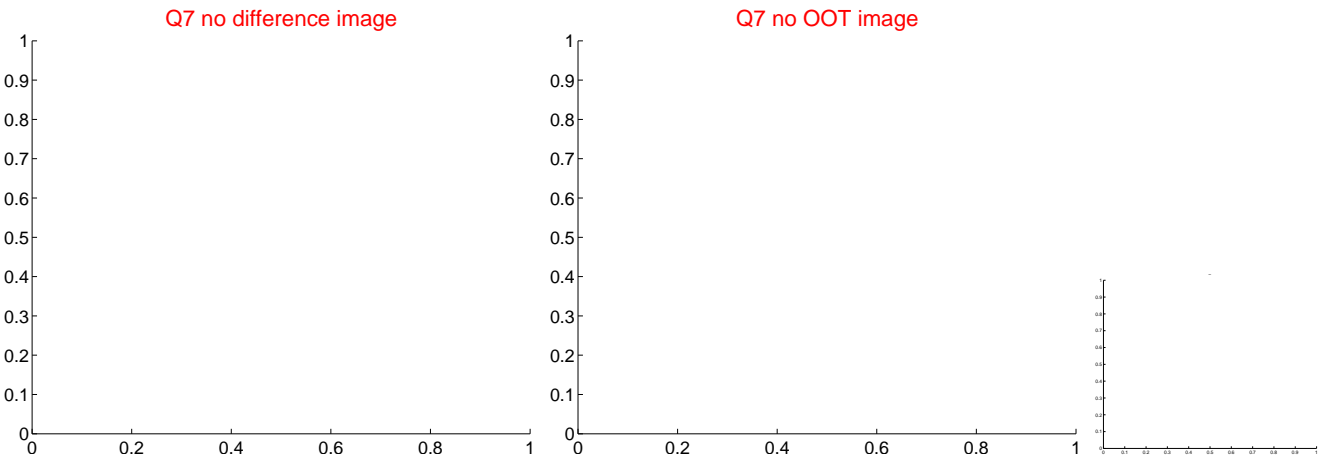
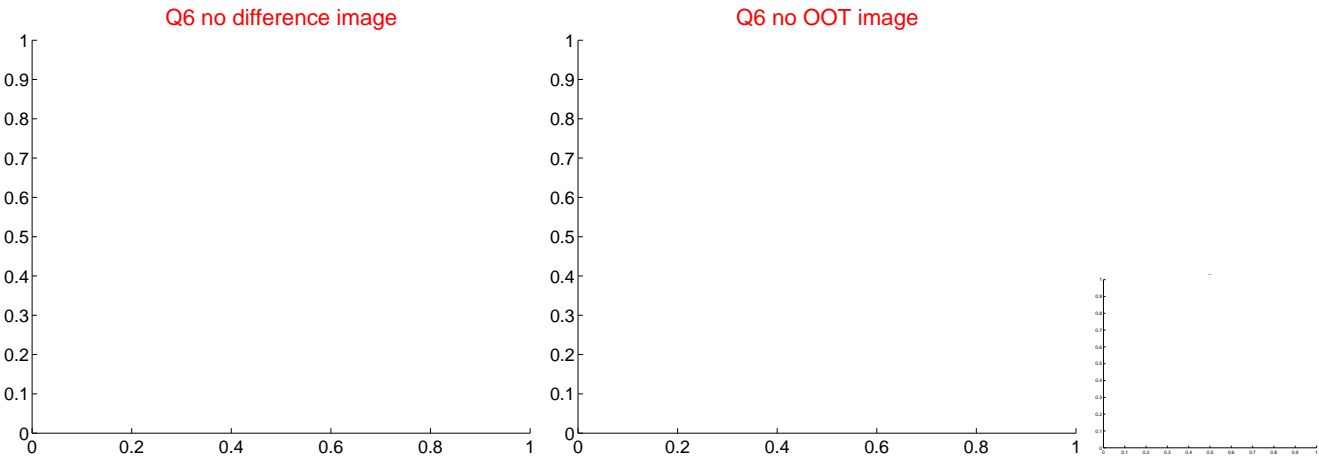
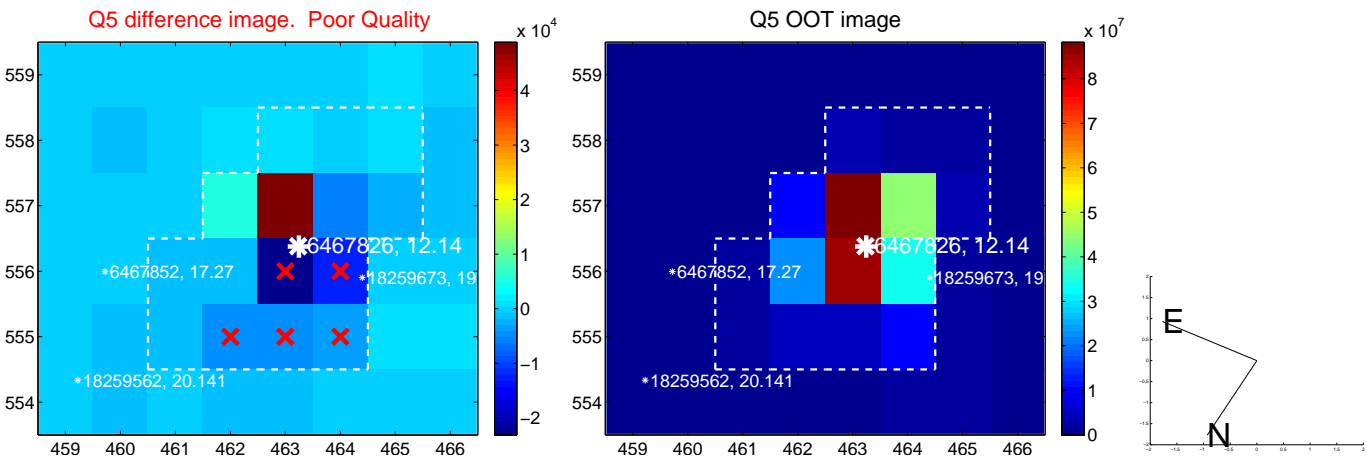


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

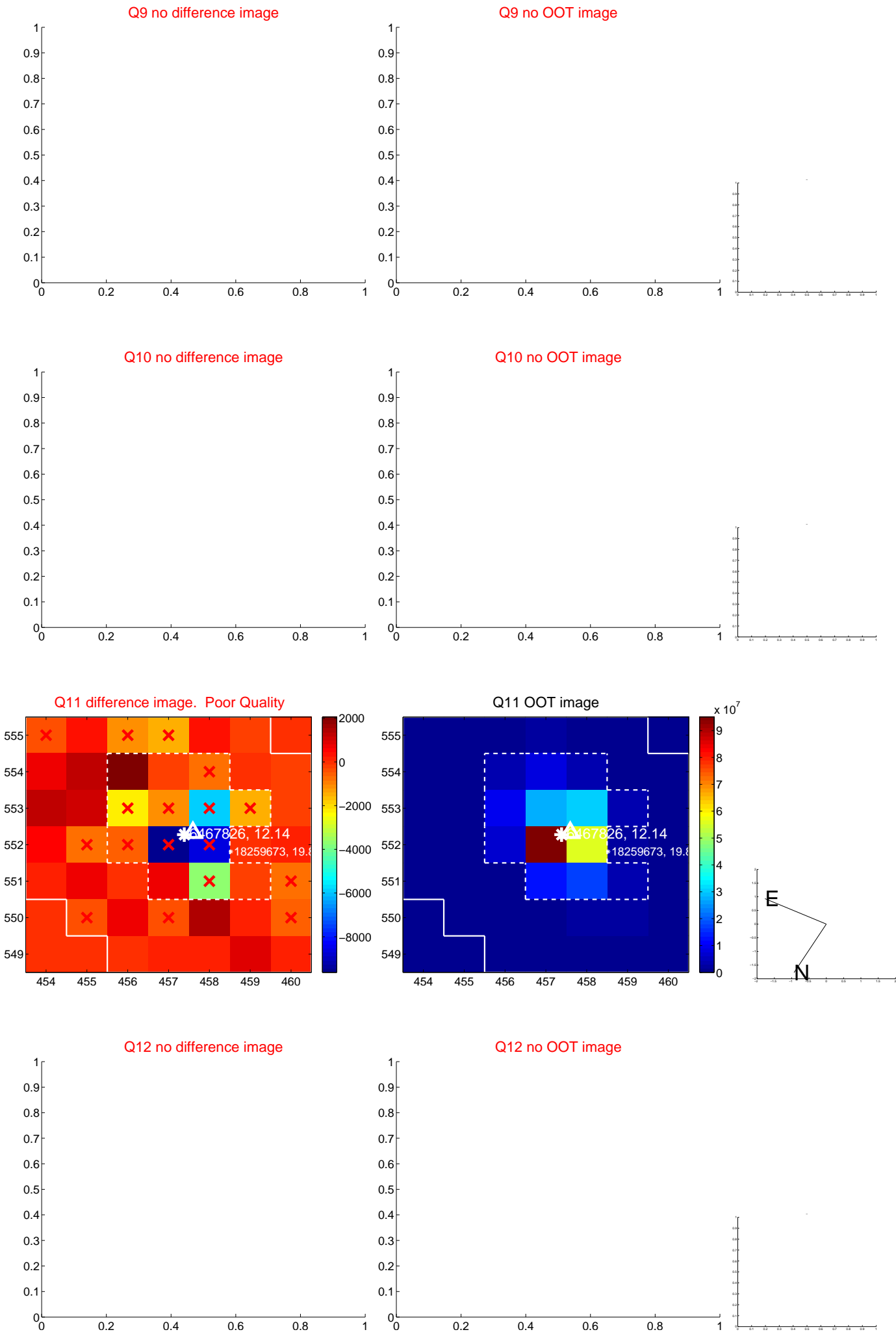
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



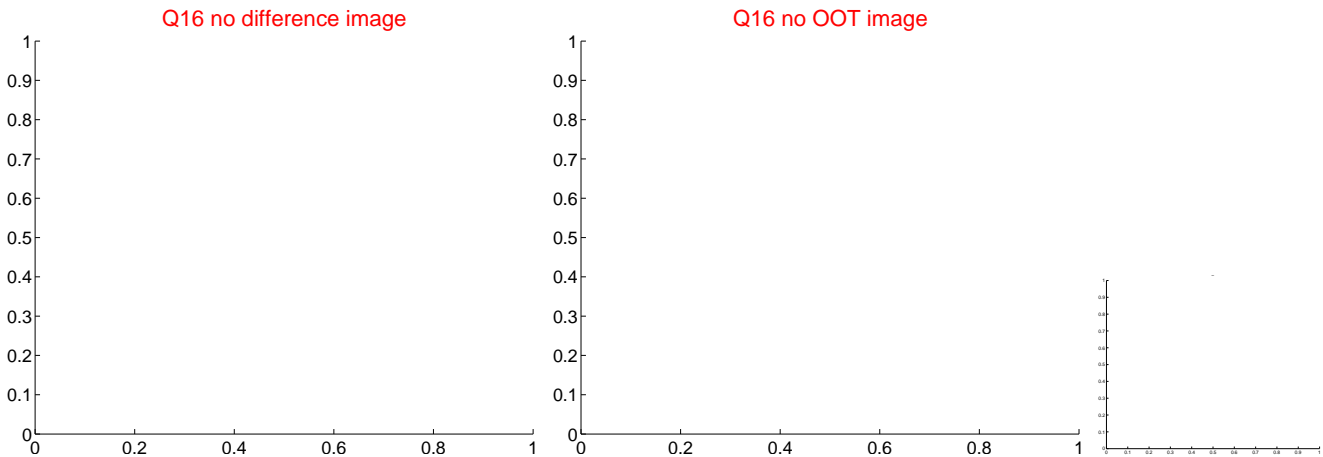
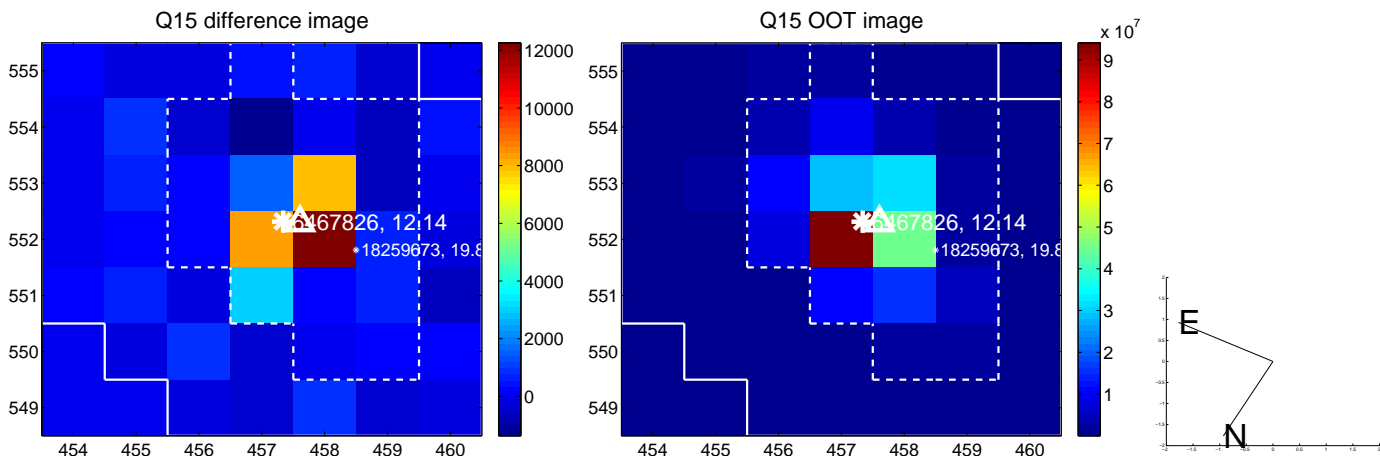
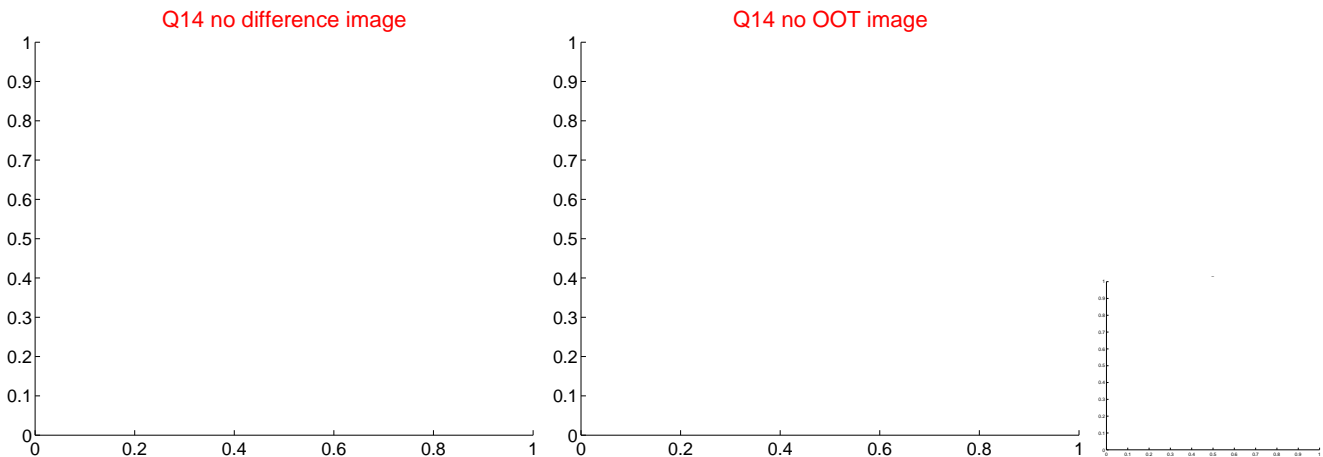
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



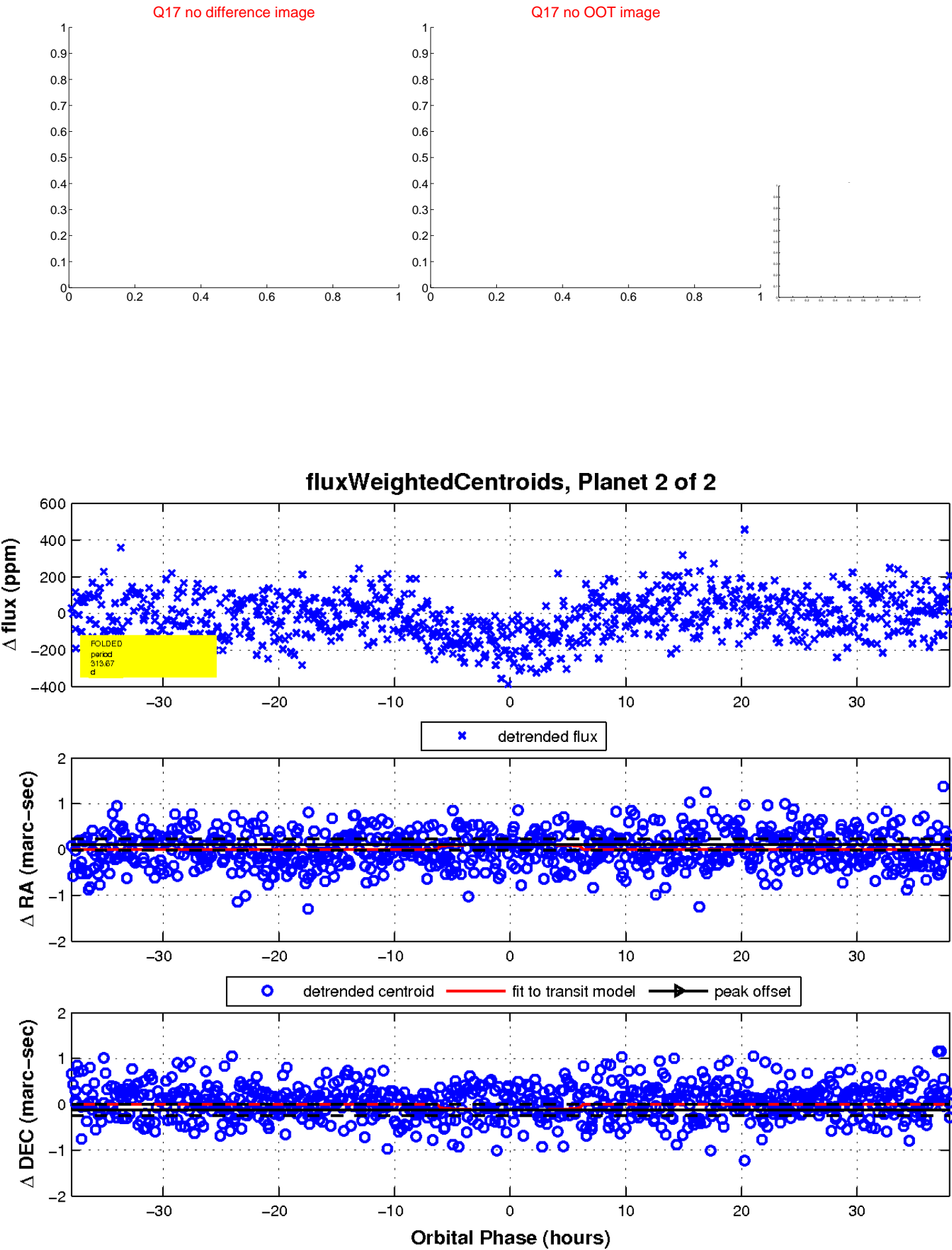
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

