

KIC 005566206

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})
005566206-01	OBS	No	2.173897	132.119955	85.2	11.266	9.1	10.7	0.76	5745	0.72	590.13
005566206-02	OBS	No	183.416672	186.777569	717.3	19.751	12.1	8.3	0.76	5745	2.15	1.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005566206-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET—HALO_GHOST
005566206-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—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.

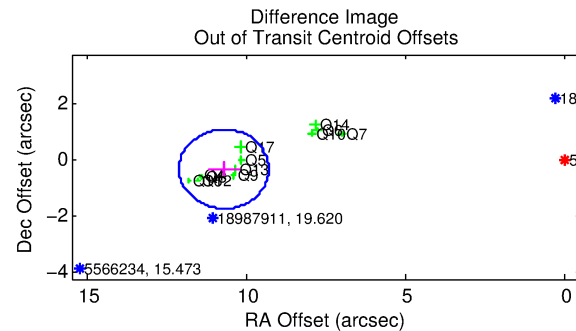
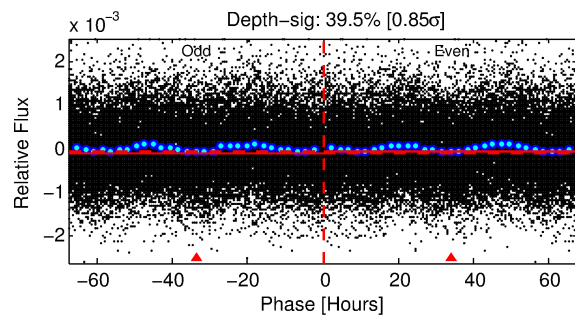
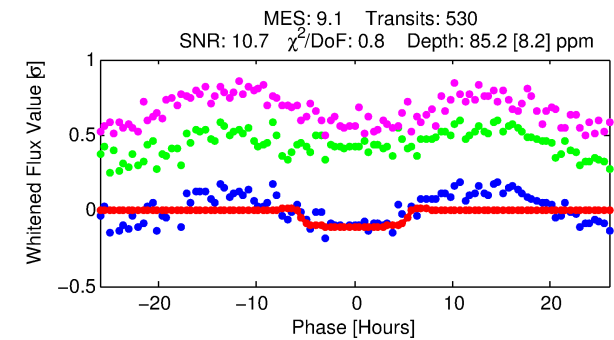
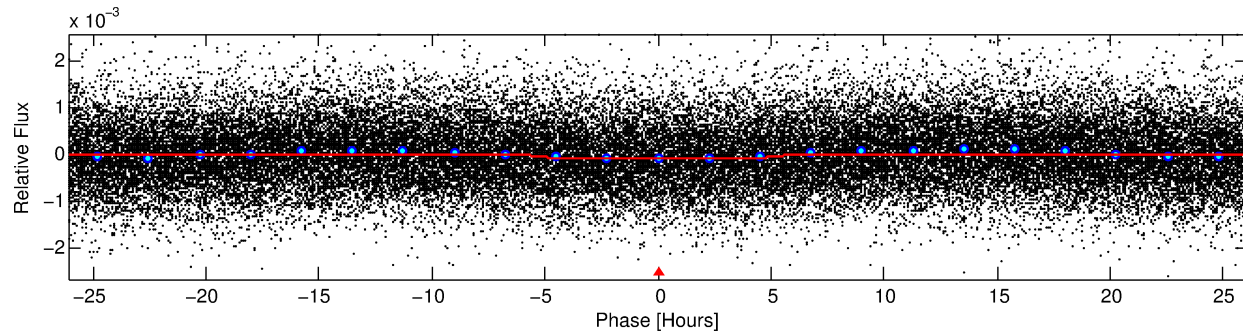
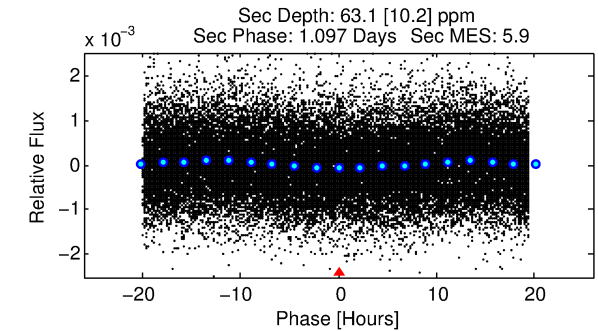
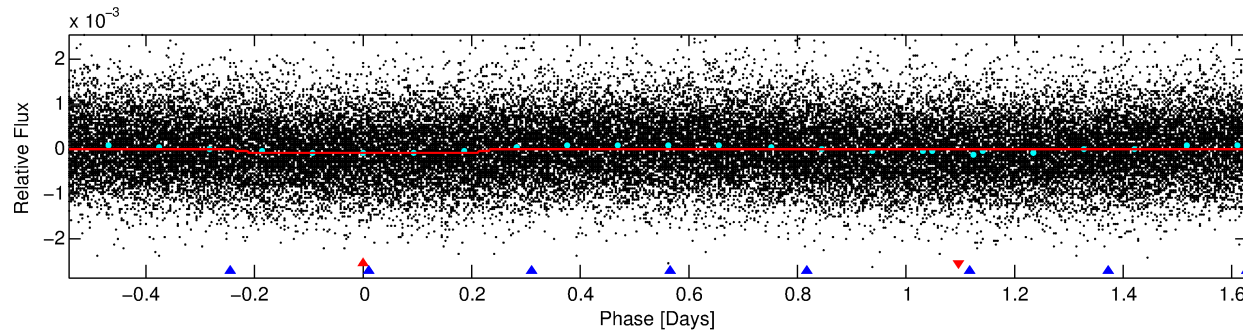
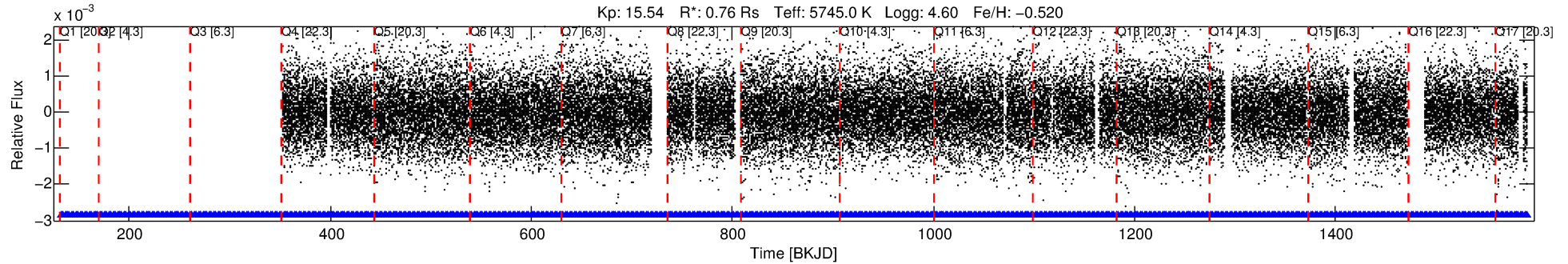
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005566206-01

No Significant Match Found

DV One-Page Summary

KIC: 5566206 Candidate: 1 of 2 Period: 2.174 d



DV Fit Results:

Period = 2.17390 [0.00003] d
Epoch = 132.1200 [0.0103] BKJD
Rp/R* = 0.0087 [0.0095]
a/R* = 1.47 [4.13]
b = 0.52 [7.36]
Seff = 590.13 [192.57]
Teff = 1257 [103] K
Rp = 0.72 [0.81] Re
a = 0.0309 [0.0065] AU
Ag = 63.62 [141.16] [0.44σ]
Teffp = 5488 [3022] K [1.40σ]

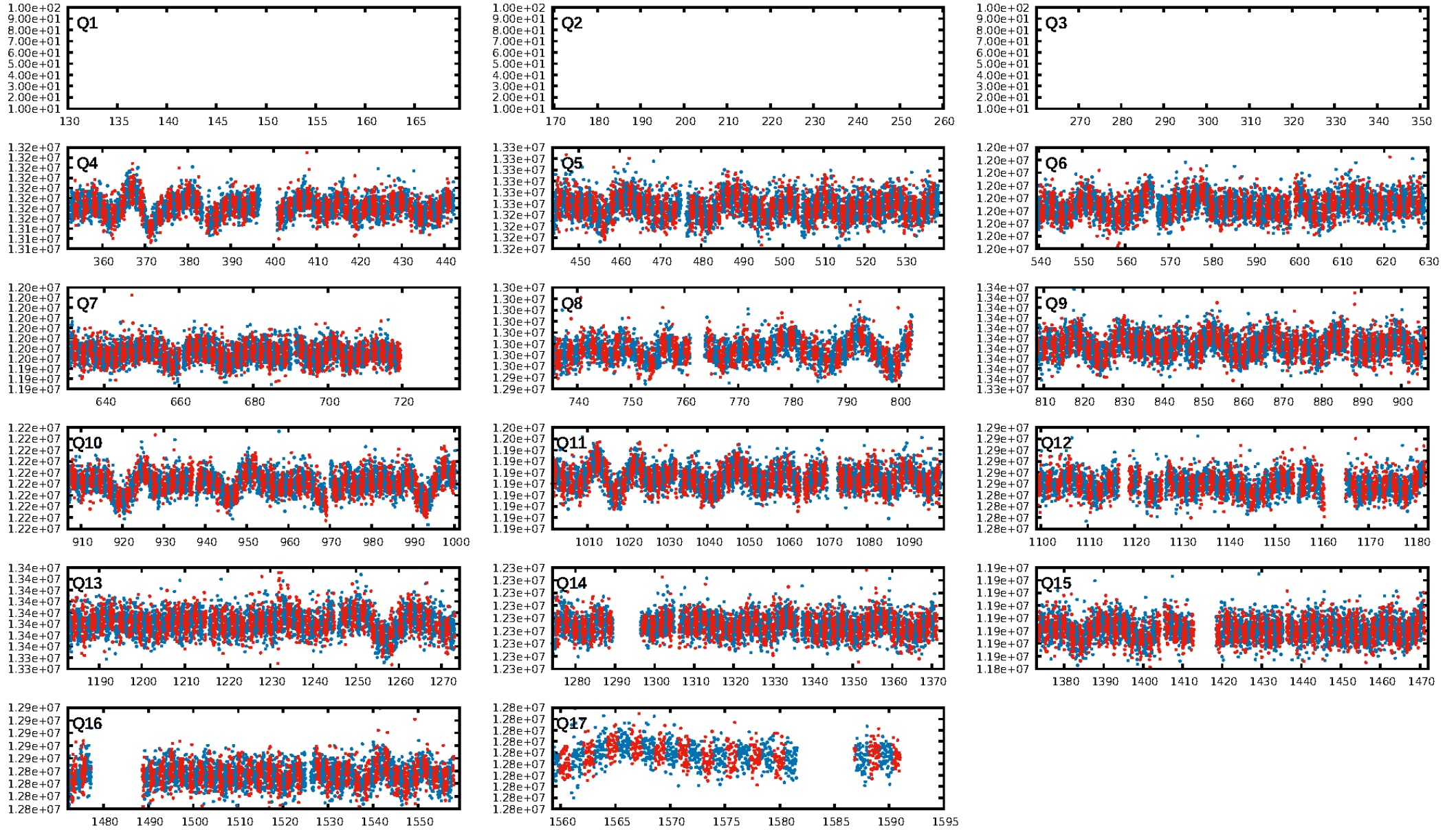
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [191.30σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.56e-13
RollingBand-fgt: 1.00 [518/518]
GhostDiagnostic-chr: -0.1861
Centroid-sig: 0.0%
Centroid-so: 4.675 arcsec [4.13σ]
OotOffset-rm: 10.722 arcsec [22.84σ]
KicOffset-rm: 10.764 arcsec [19.77σ]
OotOffset-st: 3/1/4/4 [12]
KicOffset-st: 3/1/4/4 [12]
DiffImageQuality-fgm: 0.83 [10/12]
DiffImageOverlap-fno: 1.00 [14/14]

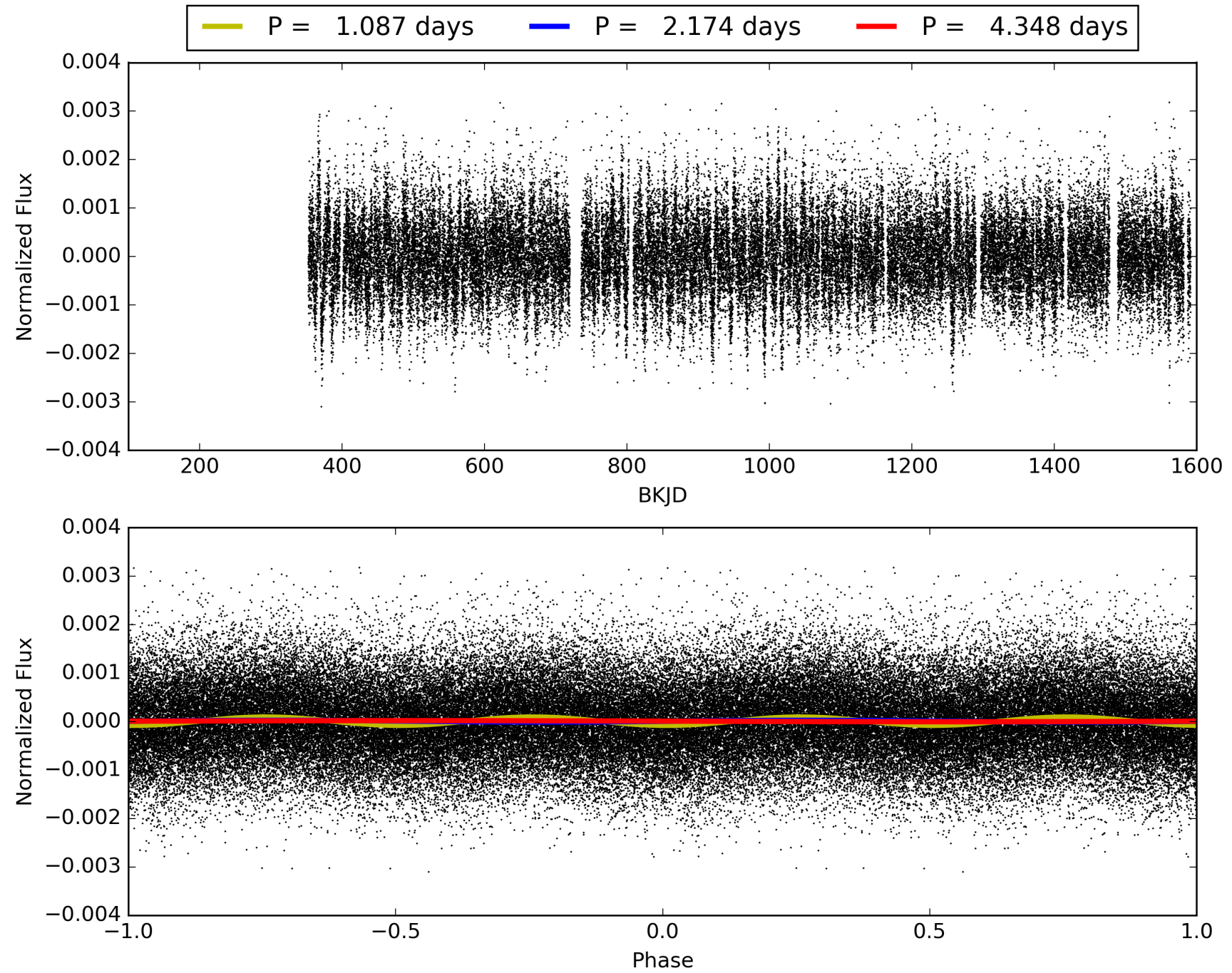
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 10:54:10 Z

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

TCE 005566206-01, PDC Light Curves

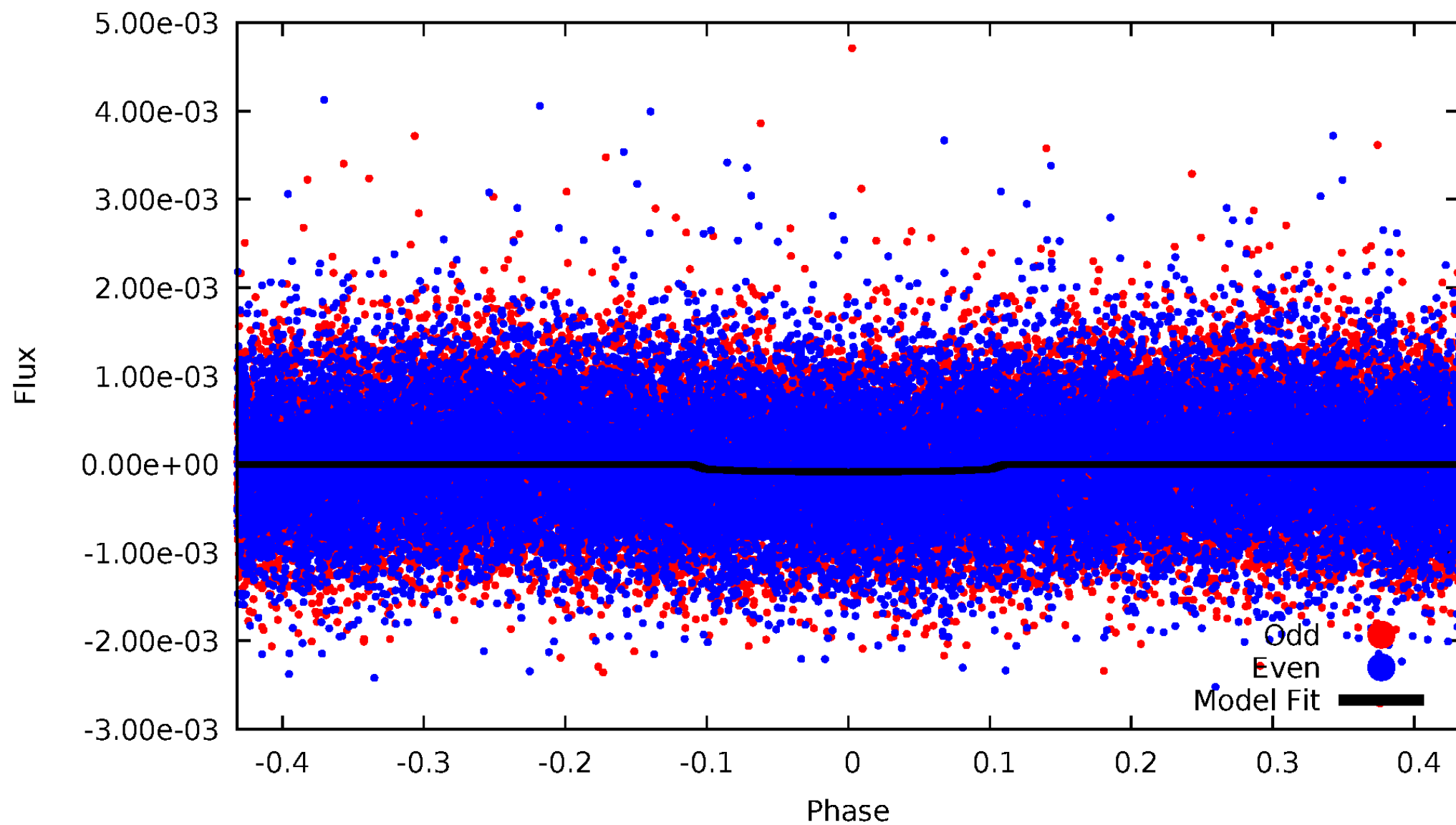


TCE 005566206-01



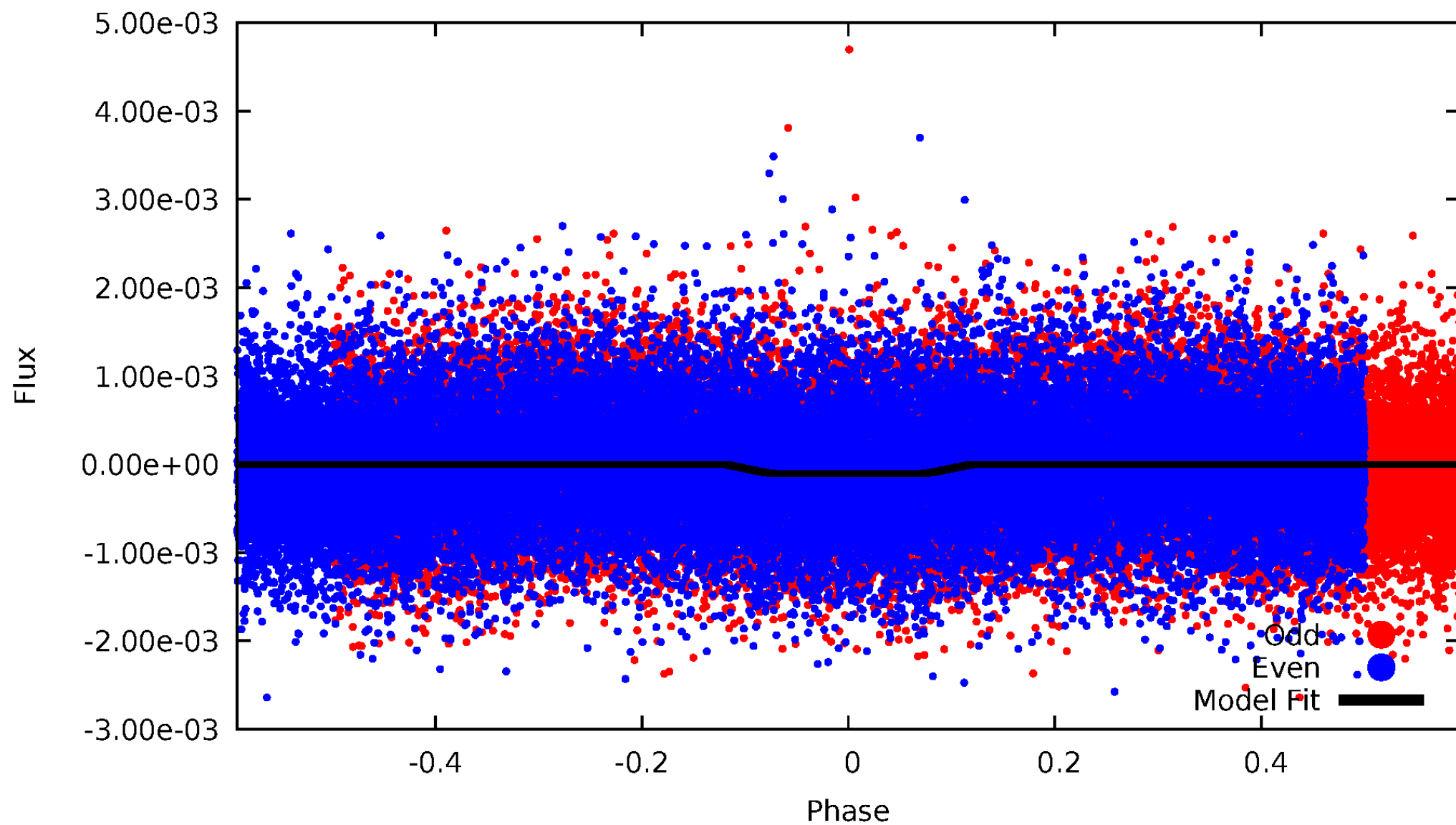
DV Odd/Even

TCE 005566206-01



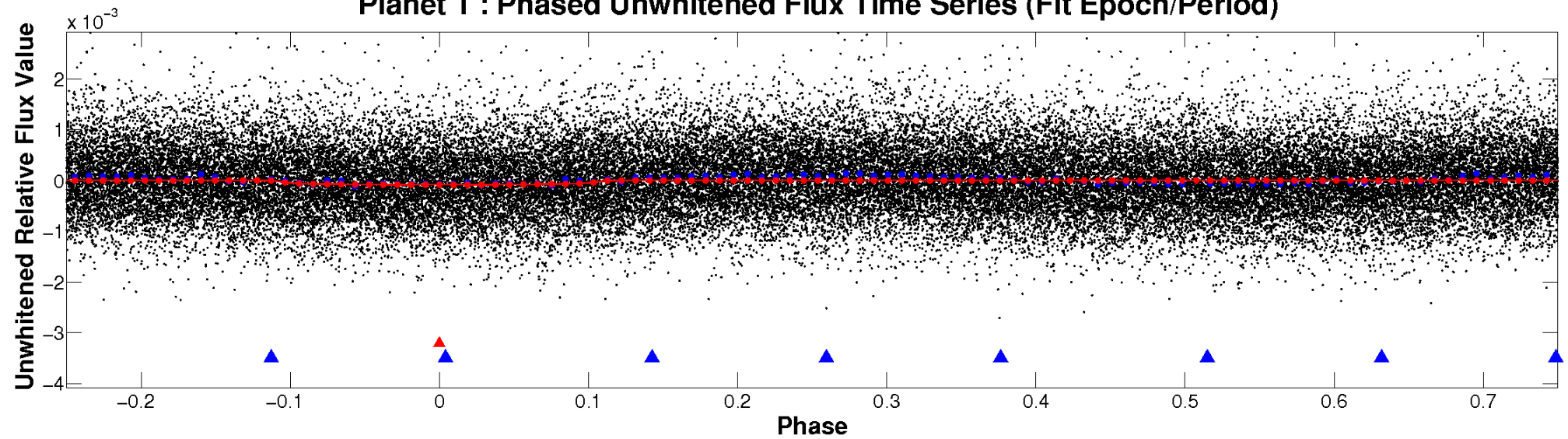
ALT Odd/Even

TCE 005566206-01

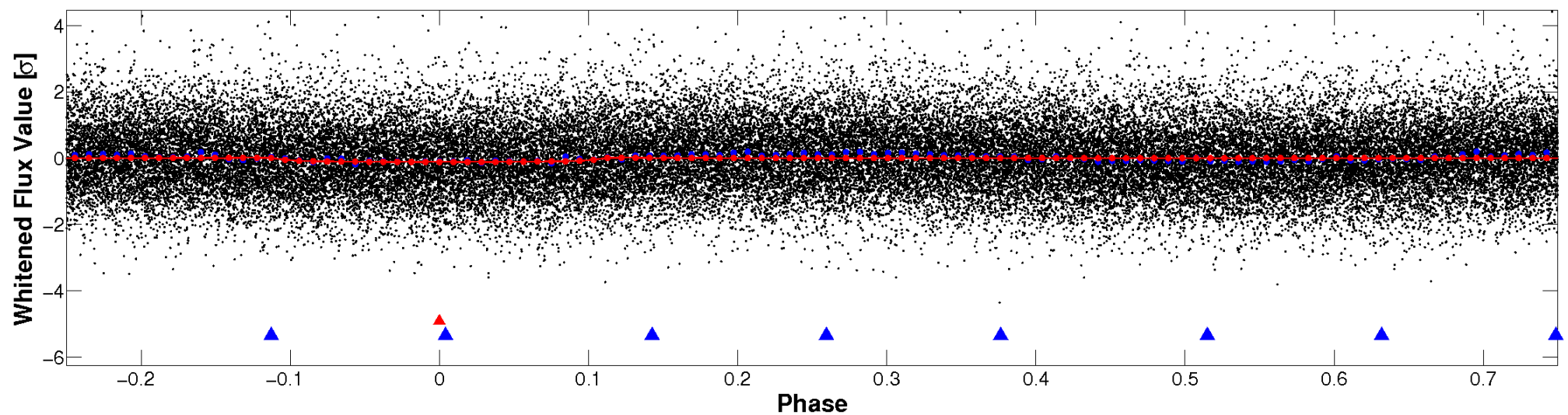


Non-Whitened Vs. Whitened Light Curve

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

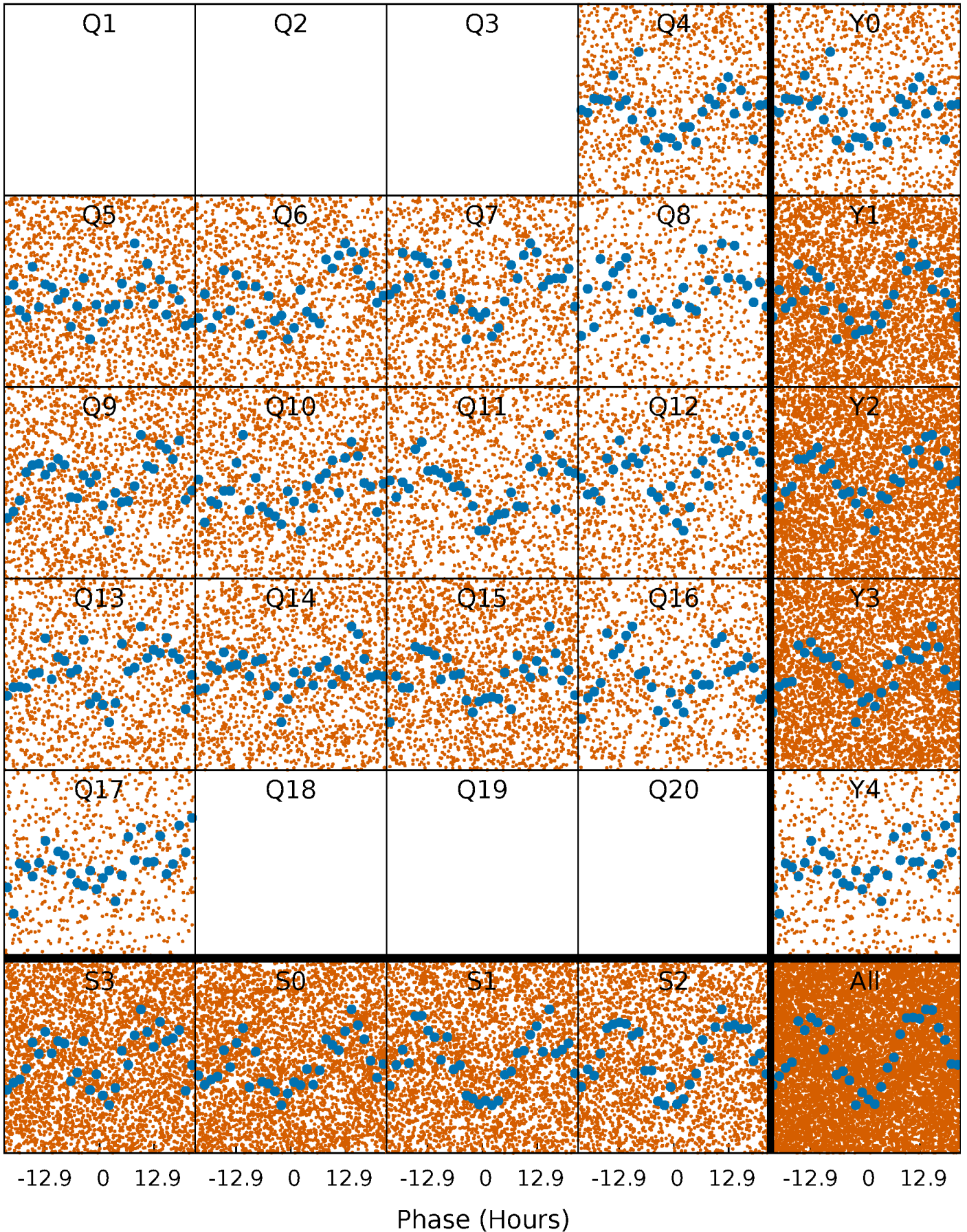


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



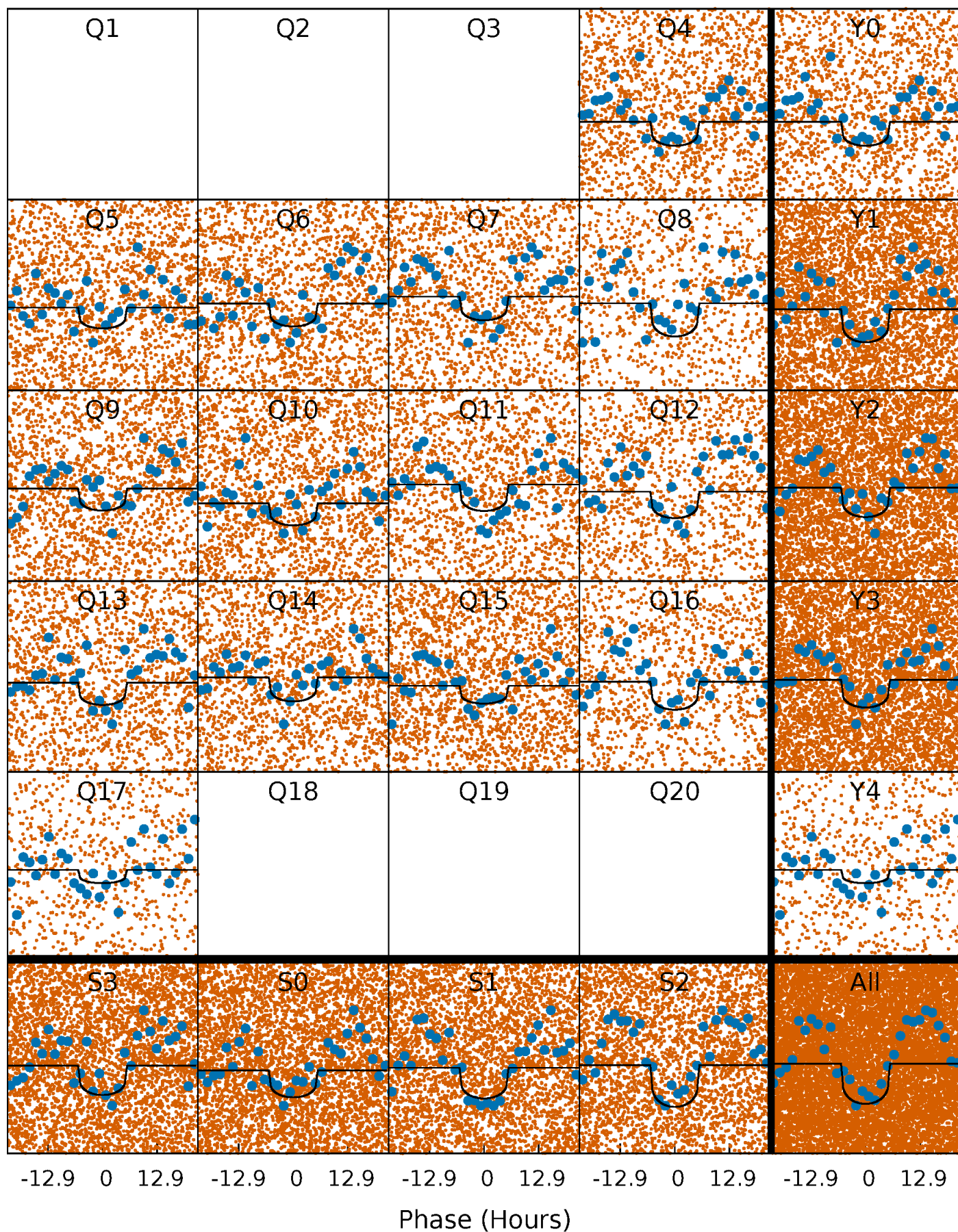
PDC Quarter-Phased Transit Curves

TCE 005566206-01 P= 2.173897 Days $T_0=132.119955$ (BKJD)



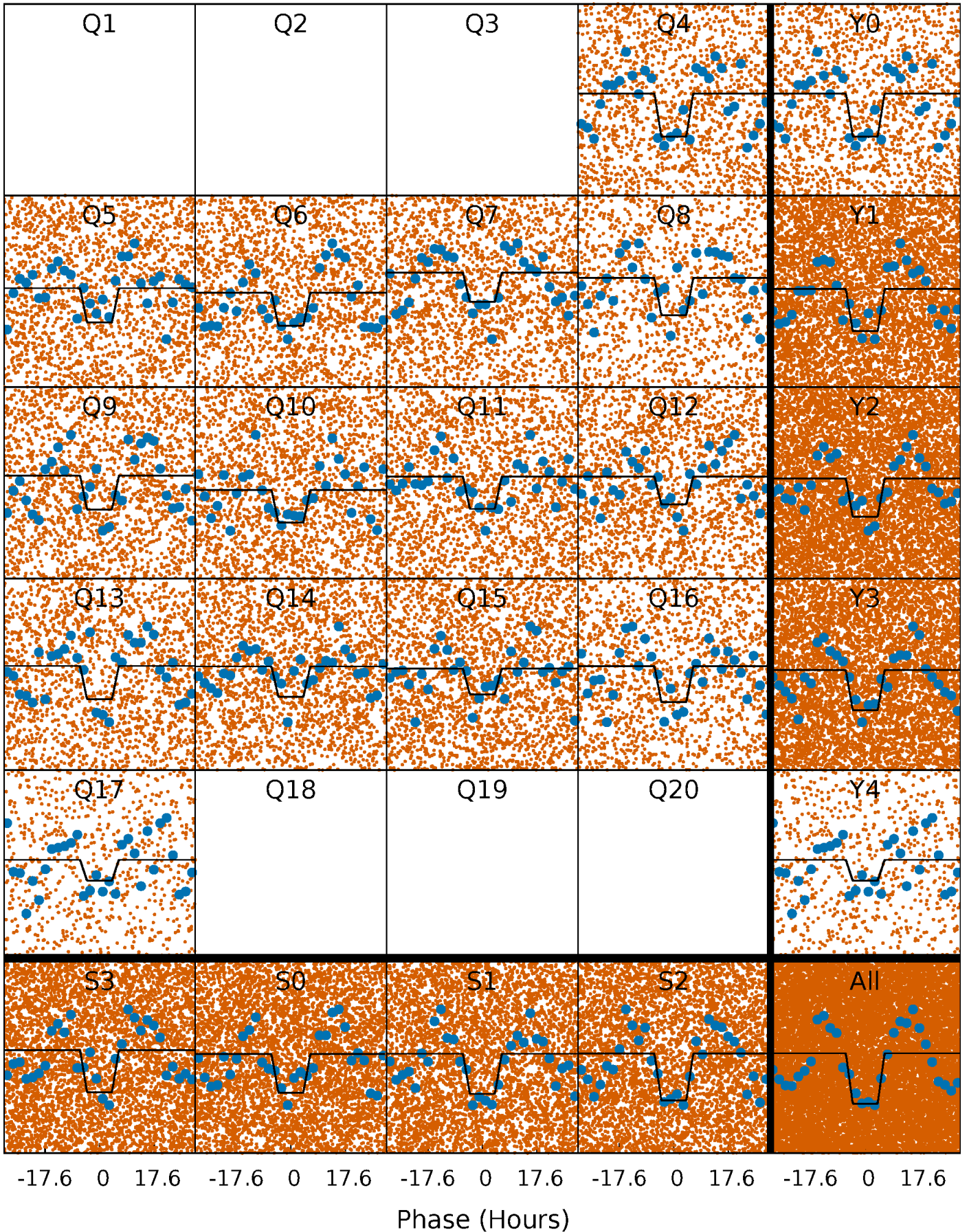
DV Quarter-Phased Transit Curves

TCE 005566206-01 P= 2.173897 Days $T_0=132.119955$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

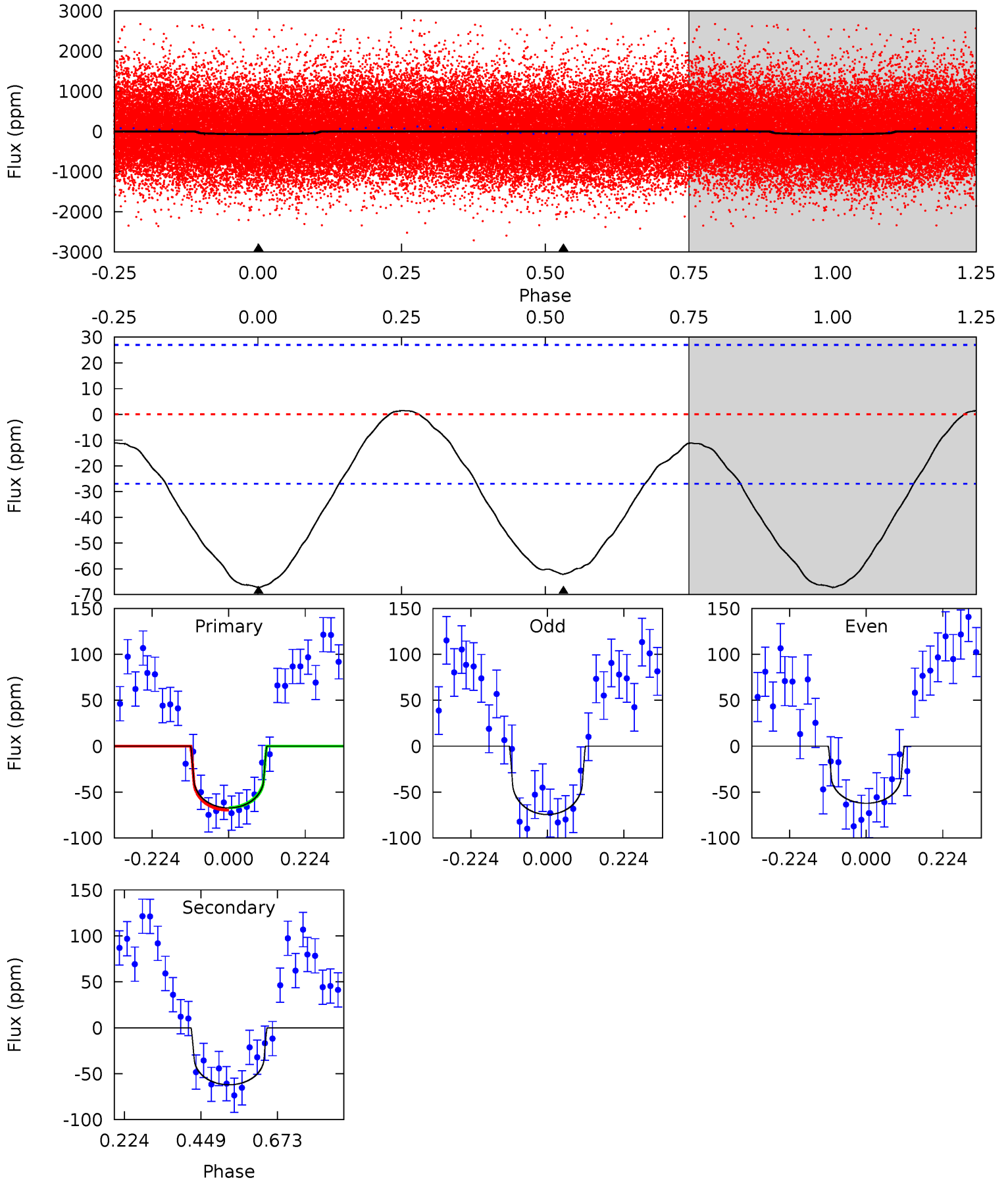
TCE 005566206-01 P= 2.173840 Days $T_0=132.137886$ (BKJD)



DV Model-Shift Uniqueness Test

005566206-01, P = 2.173897 Days, E = 132.119955 Days

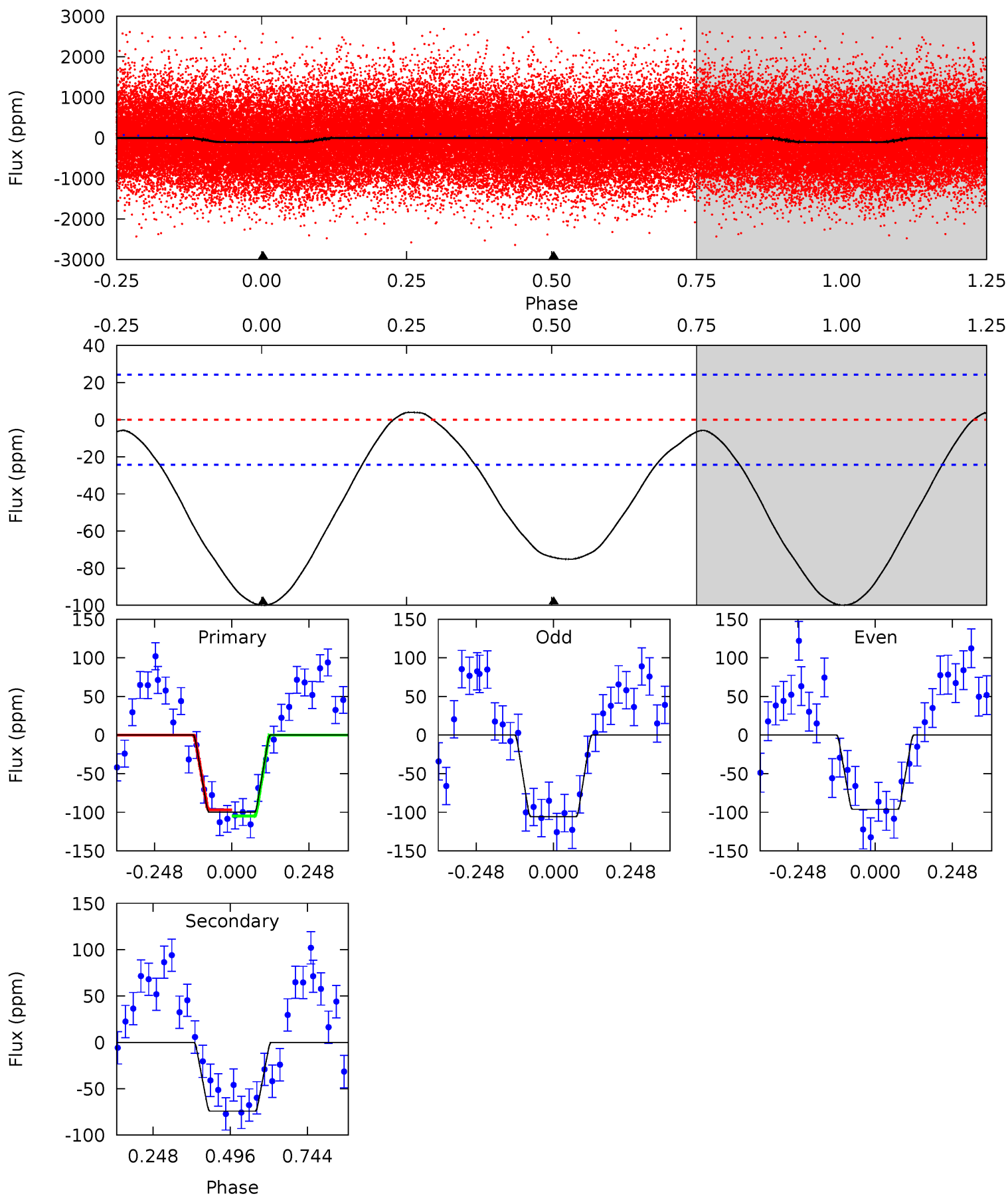
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	10.1	0	0	4.39	1.21	0.79	11.0	11.0	10.1	10.1	1.01	0.99	0.02	0.23



Alt Model-Shift Uniqueness Test

005566206-01, P = 2.173840 Days, E = 132.137886 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.0	13.4	0	0	4.37	1.15	0.97	18.0	18.0	13.4	13.4	0.85	1.00	0.04	0.71



Stellar Parameters For KIC 005566206

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5745^{+190}_{-190}	$4.597^{+0.040}_{-0.160}$	$-0.520^{+0.300}_{-0.300}$	$0.760^{+0.193}_{-0.064}$	$0.838^{+0.088}_{-0.088}$	$2.686^{+0.430}_{-1.205}$
	+3%/-3%	+1%/-3%	+58%/-58%	+25%/-8%	+11%/-11%	+16%/-45%
Source	KIC0	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 005566206-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-62 ± 6	$0.89^{+0.72}_{-0.55}$	1793^{+105}_{-79}	5147^{+3329}_{-1147}	40^{+231}_{-28}
Alt.	-74 ± 6	$1.08^{+0.76}_{-0.70}$	1794^{+111}_{-85}	4844^{+3598}_{-886}	32^{+236}_{-21}

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 $A_{obs} \gg 1.0$

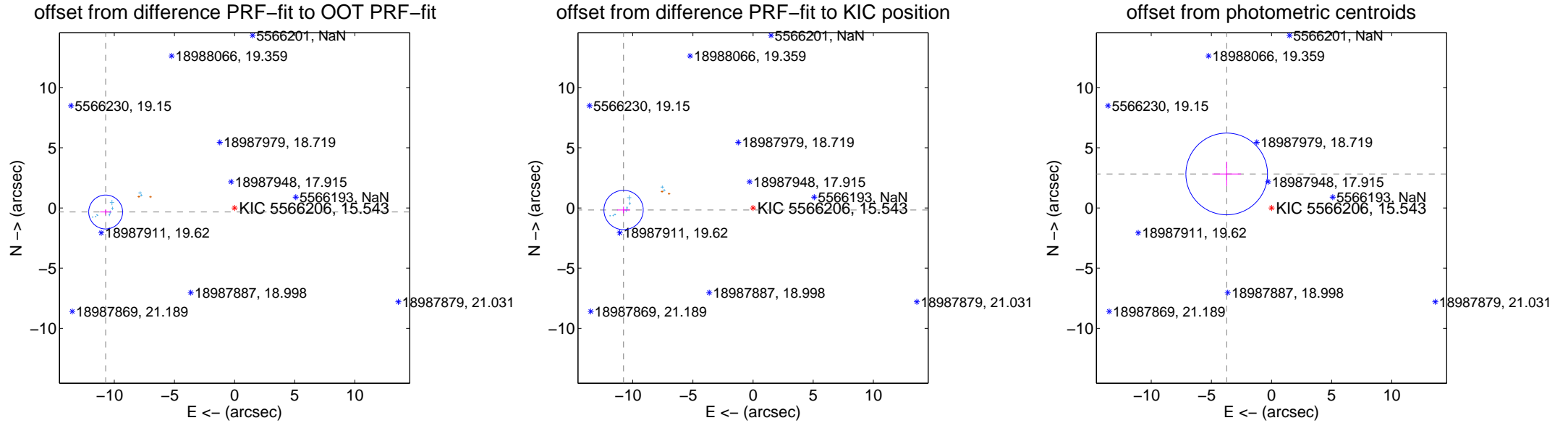
DV Centroid Data

Supplemental centroid analysis for 005566206-01. Kepler magnitude: 15.54. Transit SNR 10.67

There are 10 quarters with good PRF difference image offsets

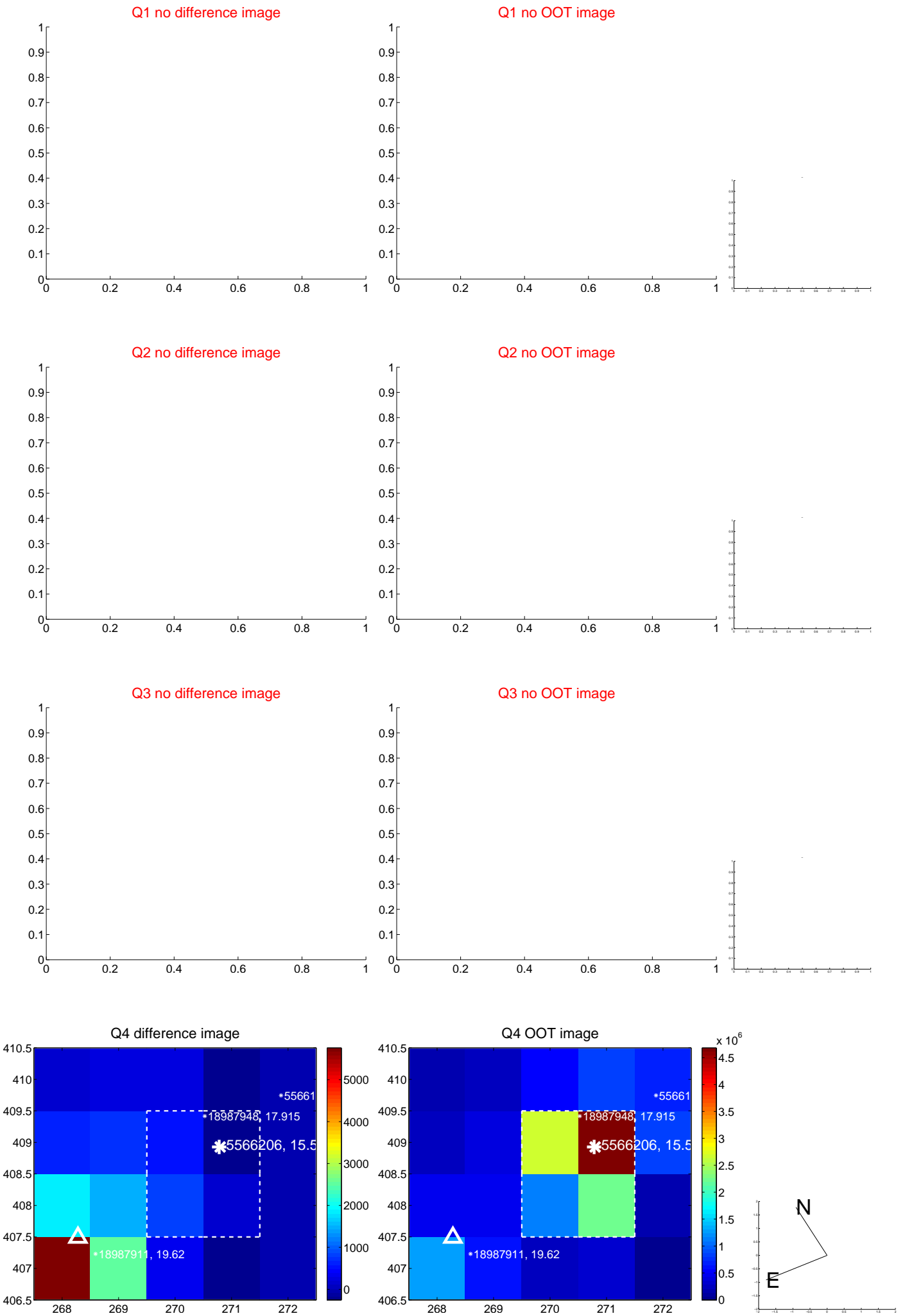
The direct PRF centroid is offset from the target star catalog position by about 0.41 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	10.722 ± 0.469	22.84	10.717 ± 0.463	-0.336 ± 0.224
PRF-fit source offset from KIC position	10.764 ± 0.544	19.77	10.762 ± 0.541	-0.169 ± 0.276
photometric centroid source offset	4.68 ± 1.13	4.13	3.73 ± 1.20	2.82 ± 1.01

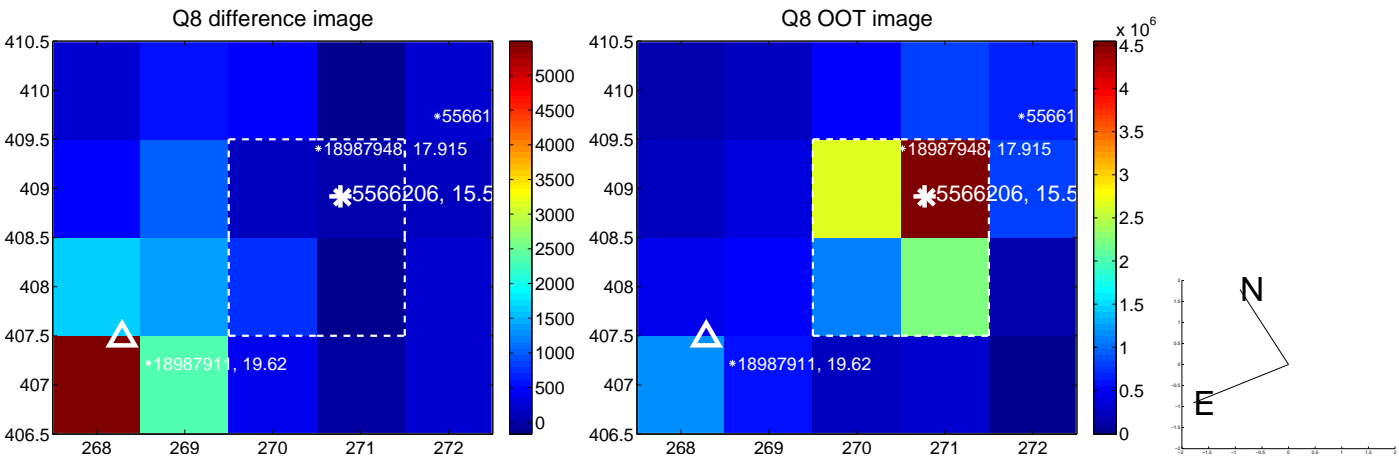
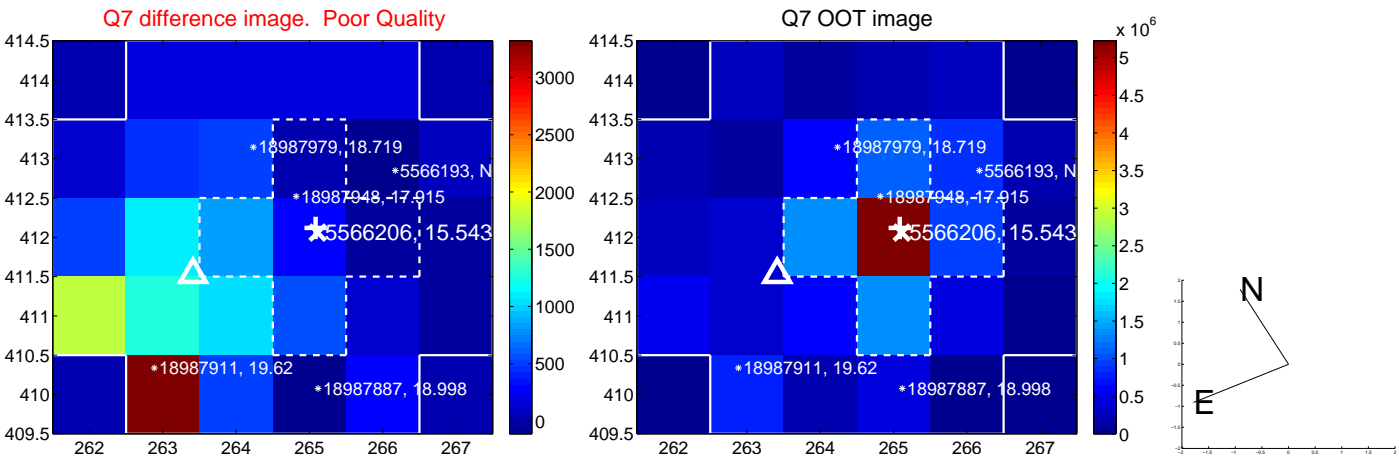
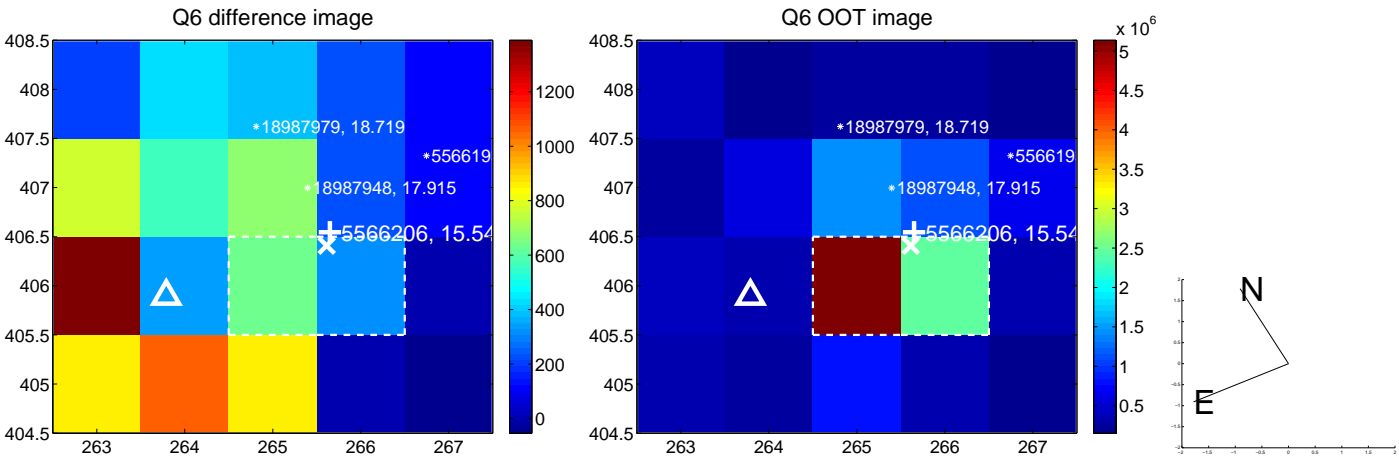
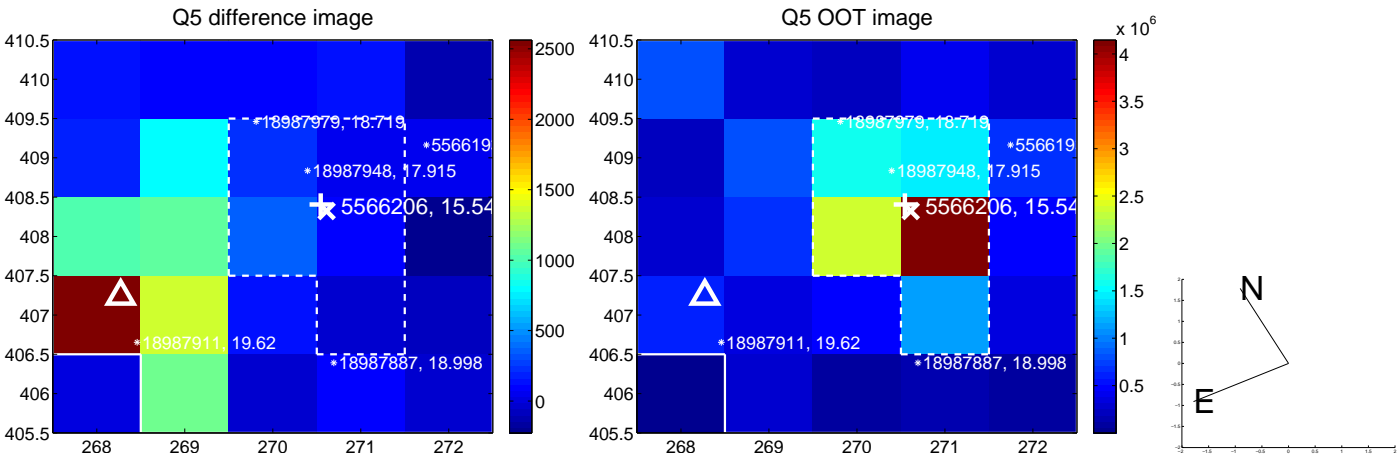


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

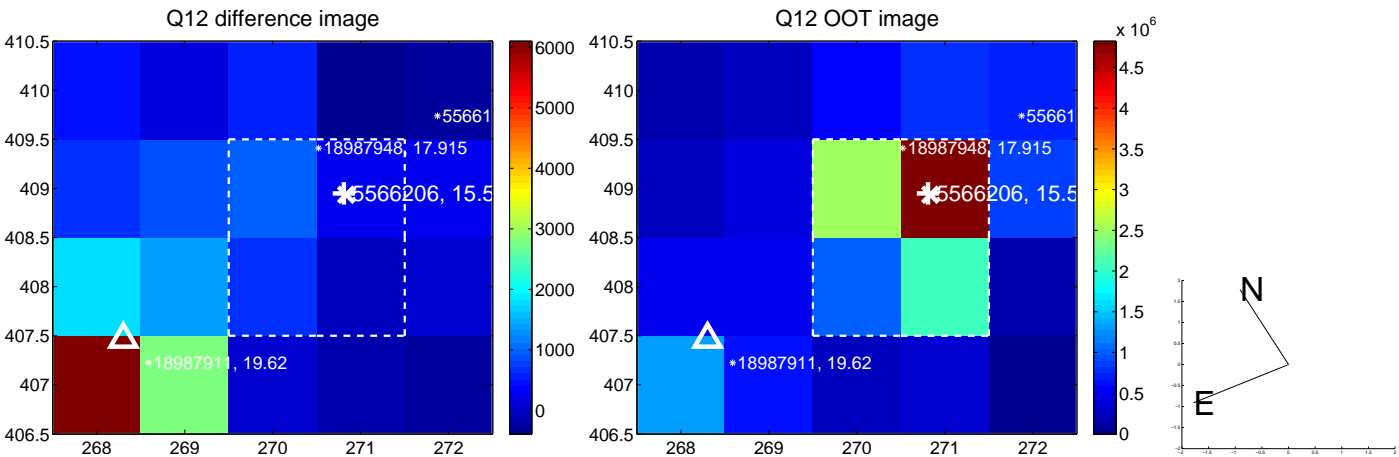
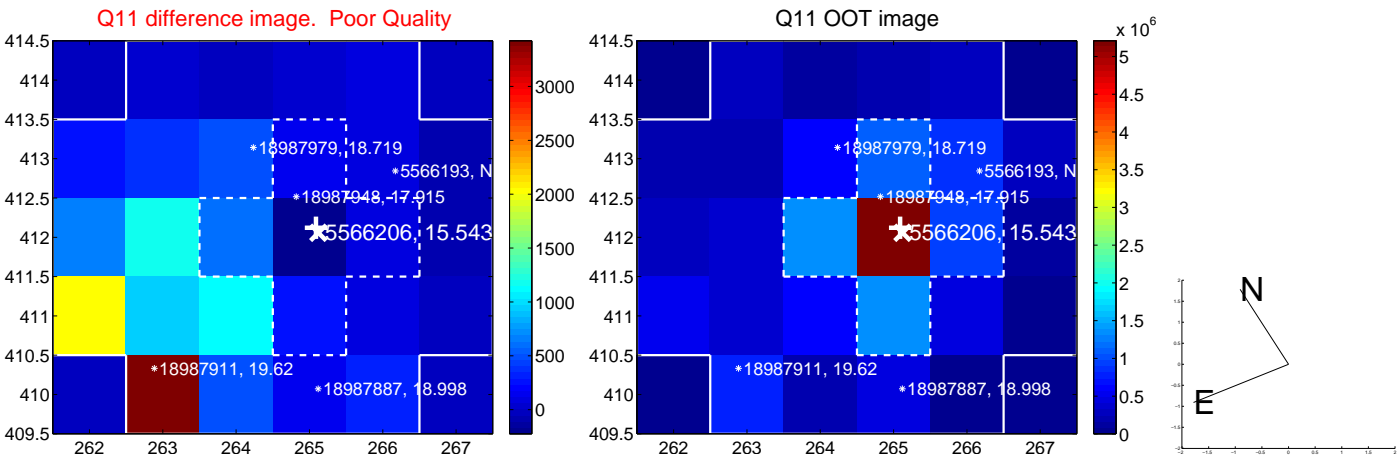
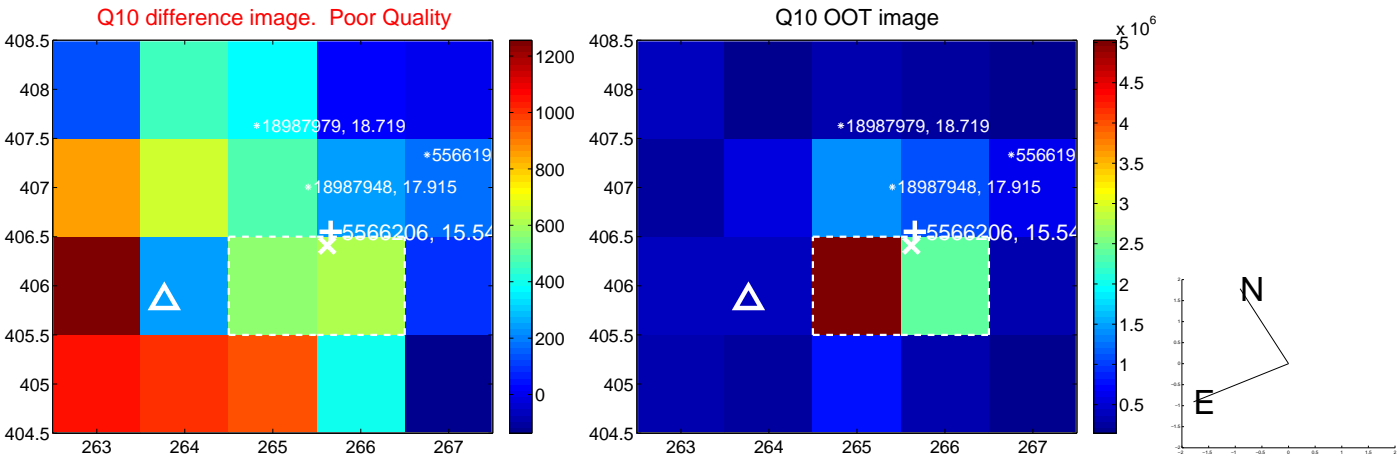
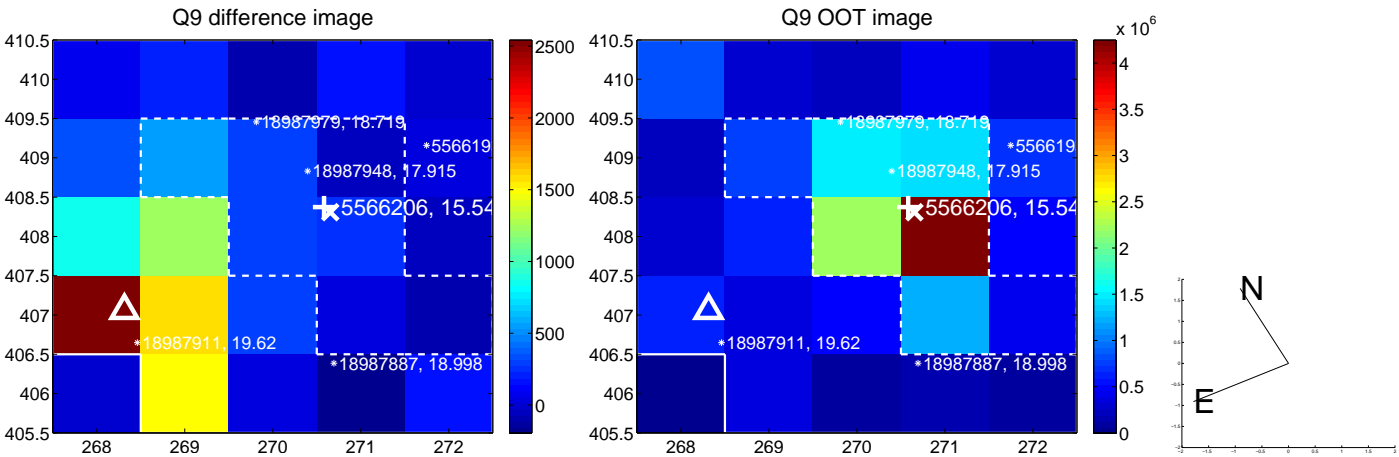
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



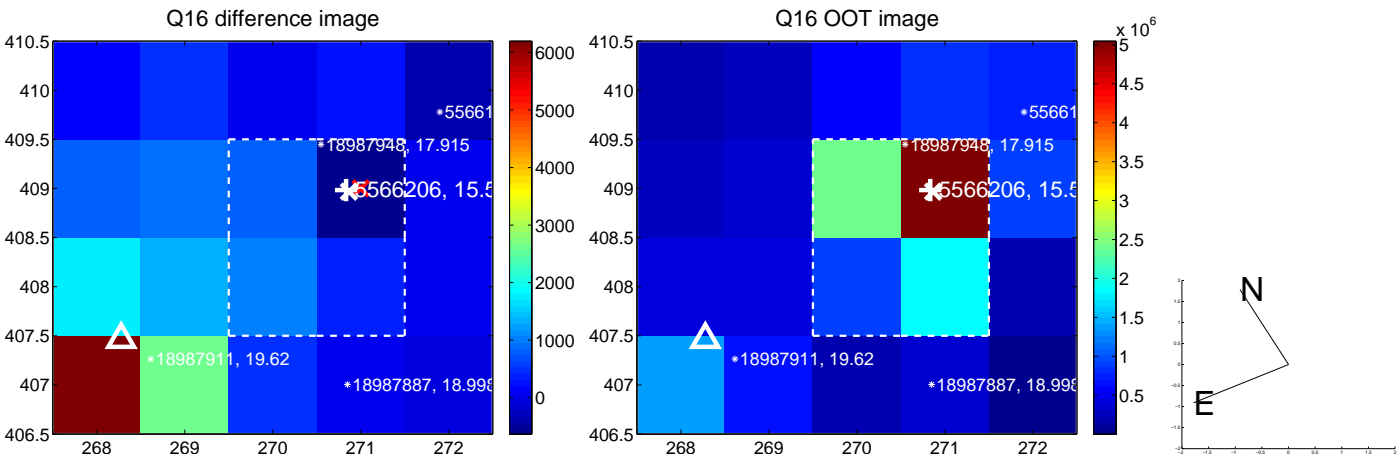
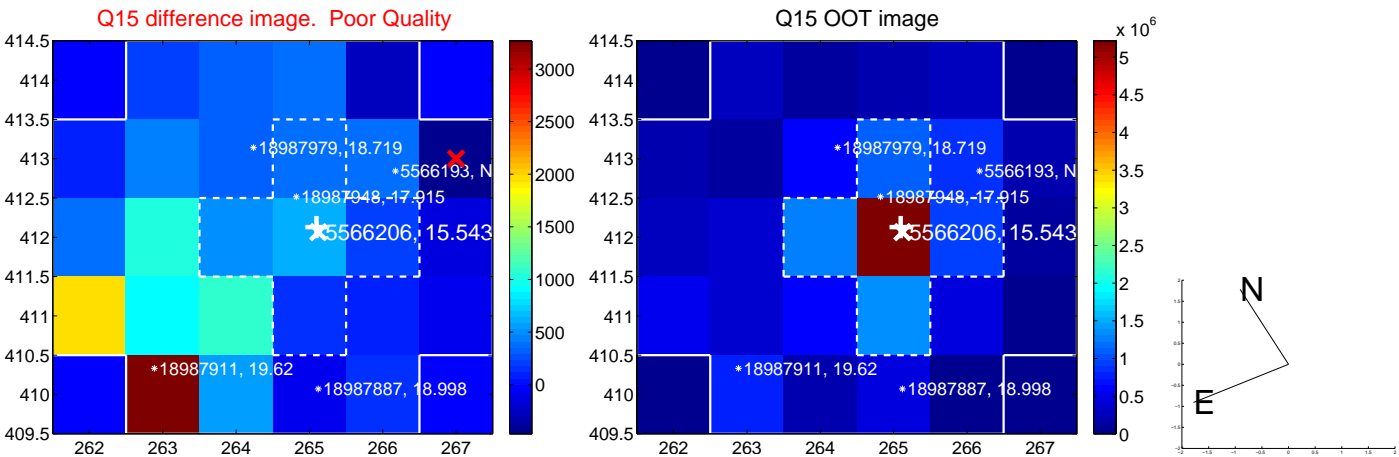
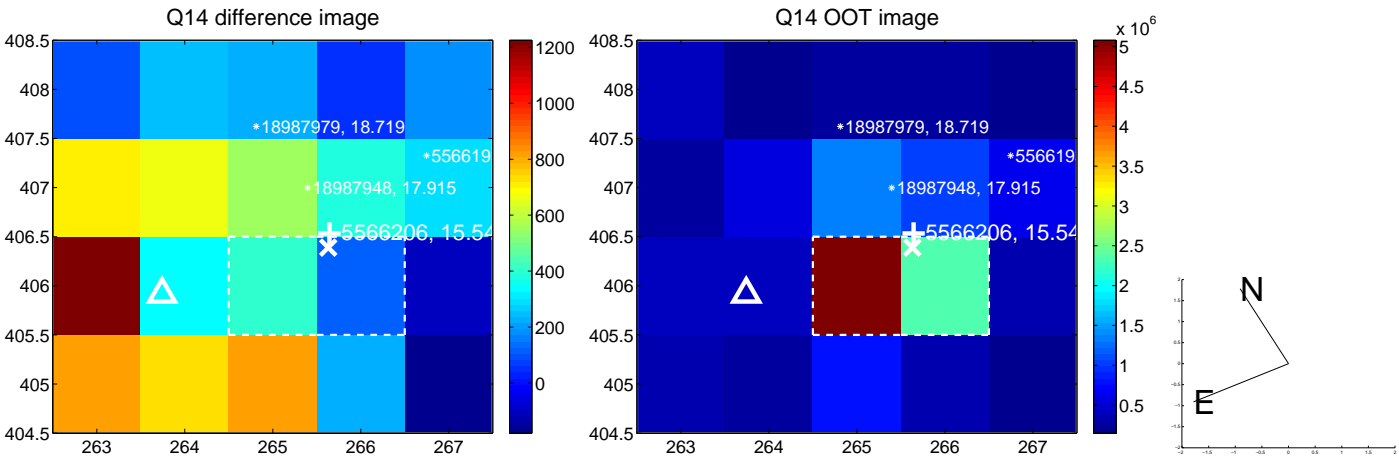
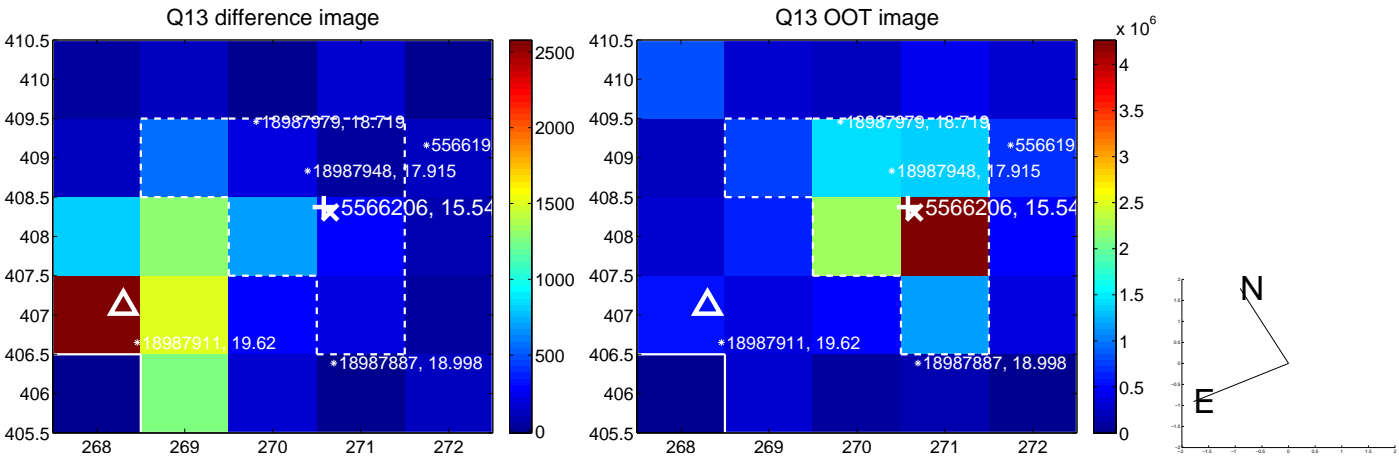
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



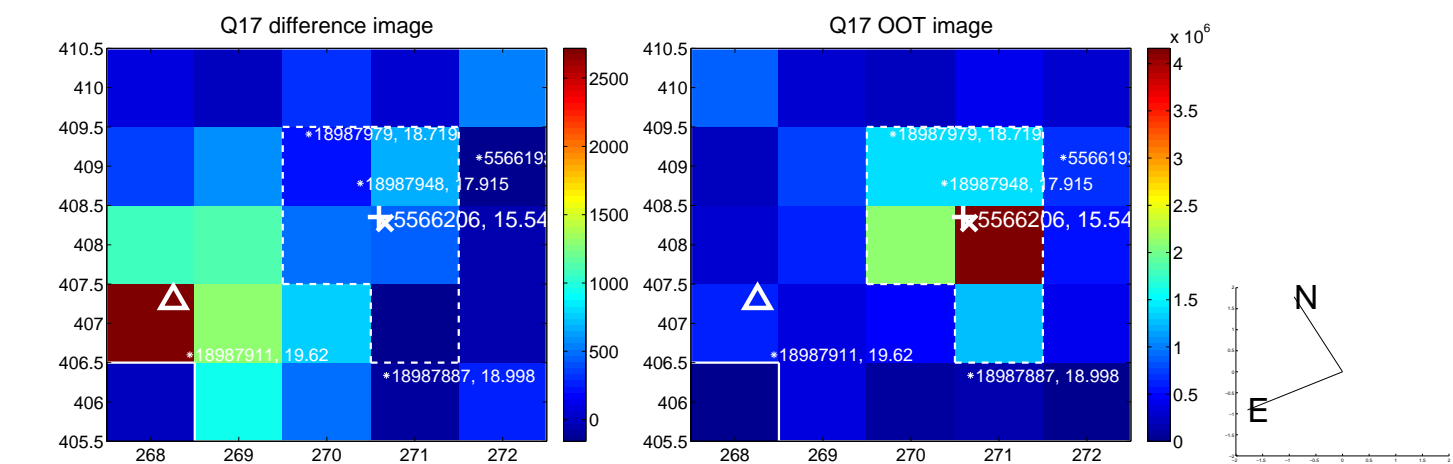
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



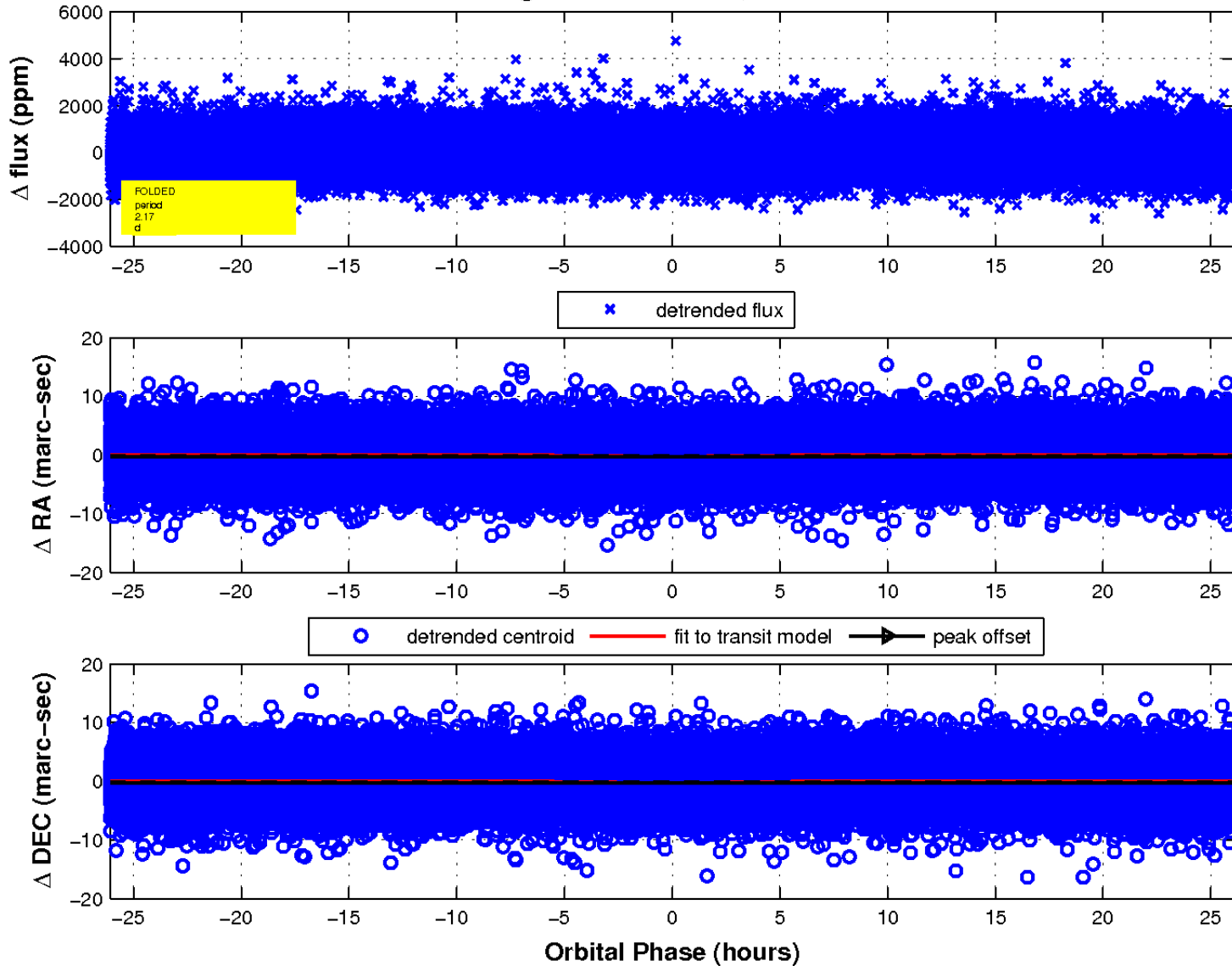
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

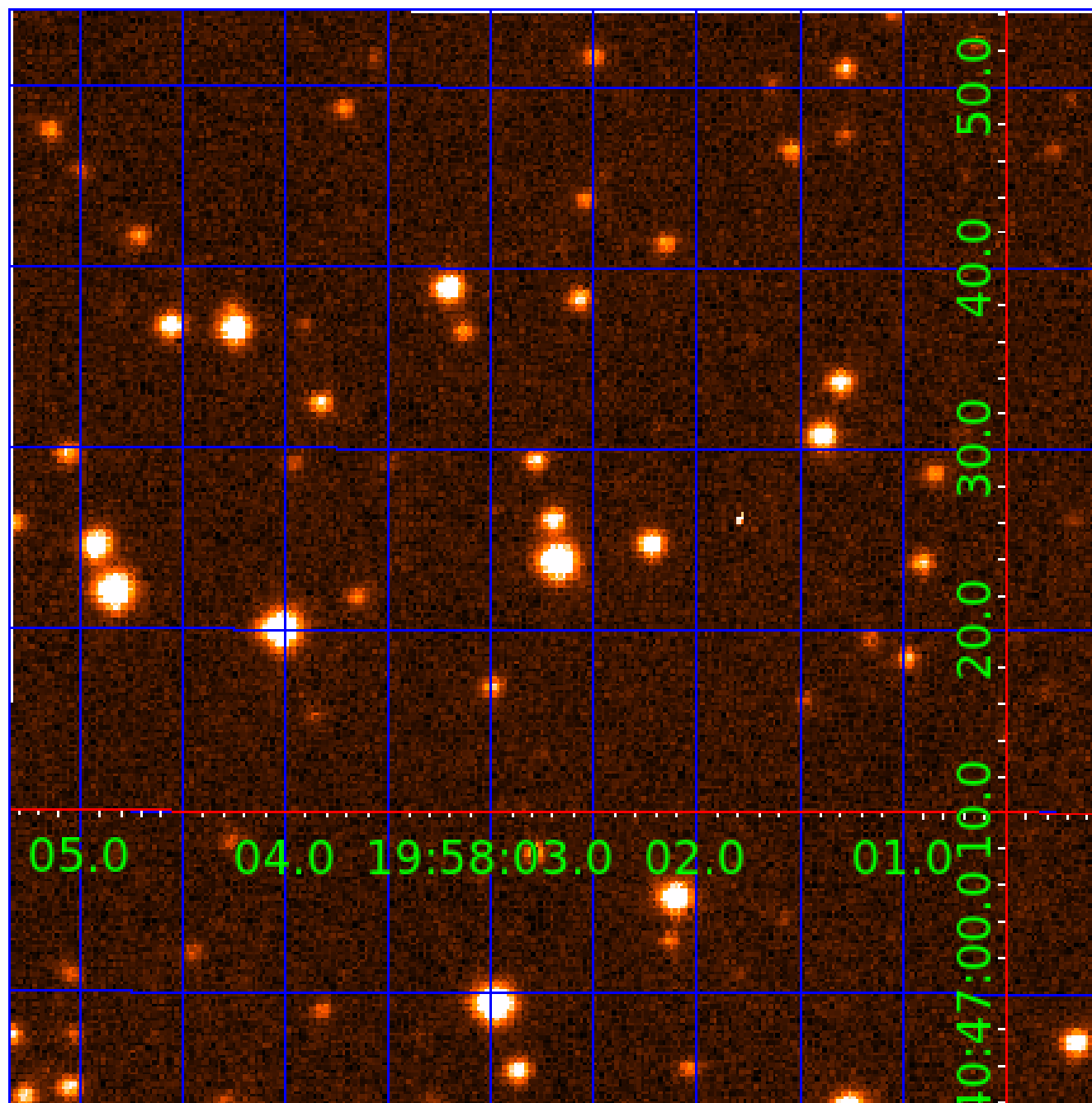


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 005566206

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})
005566206-01	OBS	No	2.173897	132.119955	85.2	11.266	9.1	10.7	0.76	5745	0.72	590.13
005566206-02	OBS	No	183.416672	186.777569	717.3	19.751	12.1	8.3	0.76	5745	2.15	1.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005566206-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET—HALO_GHOST
005566206-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—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.

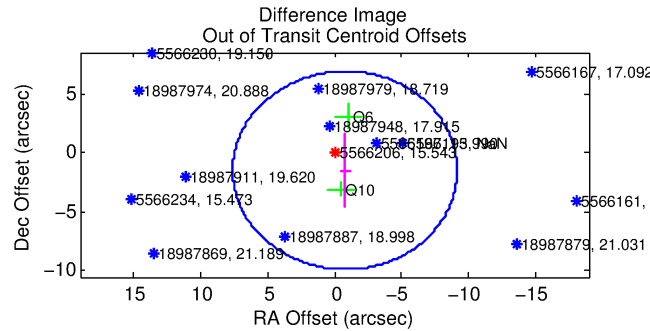
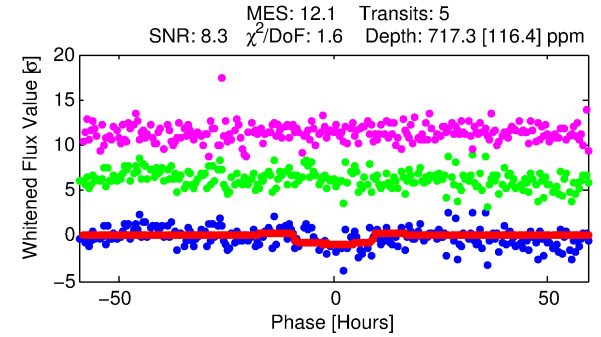
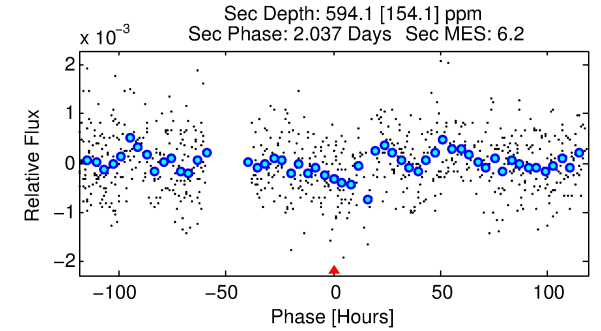
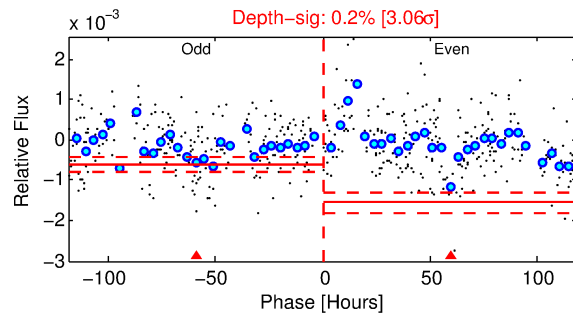
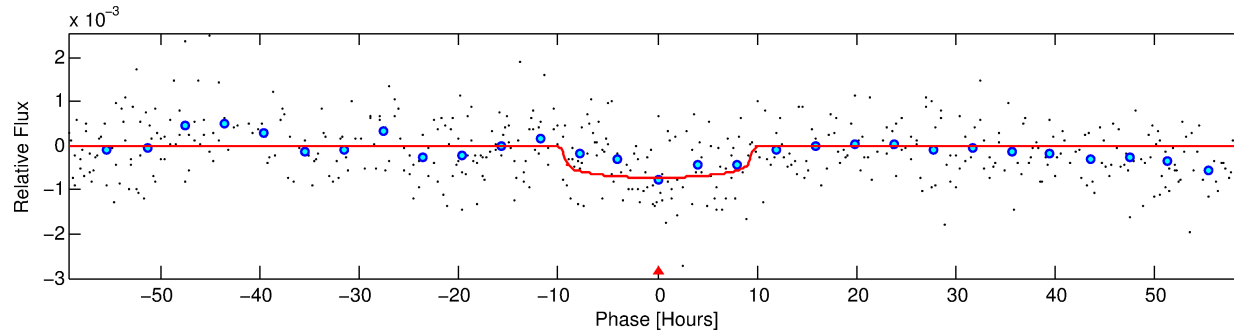
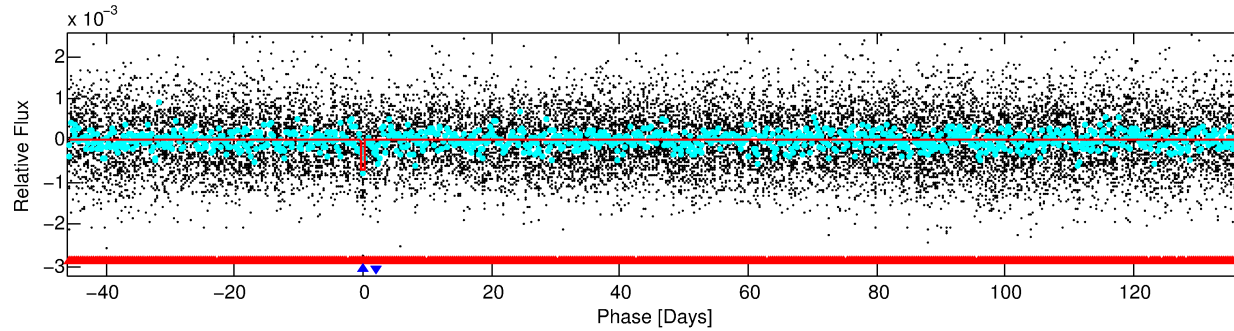
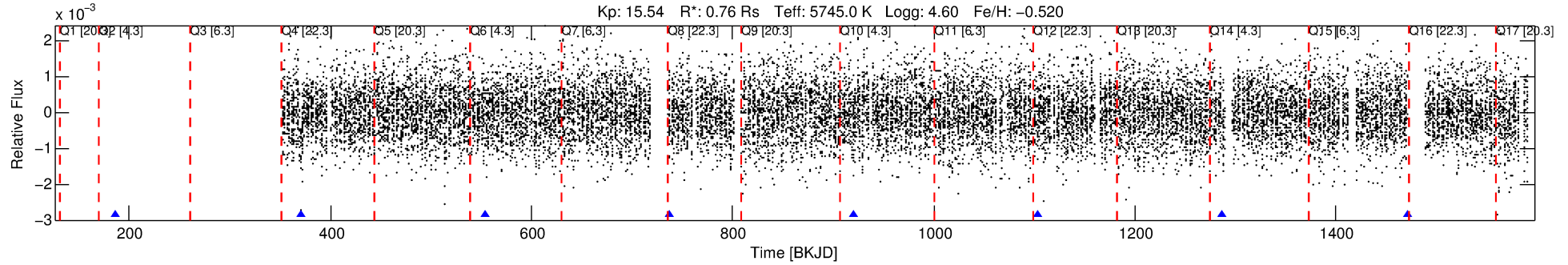
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005566206-02

No Significant Match Found

DV One-Page Summary

KIC: 5566206 Candidate: 2 of 2 Period: 183.417 d



DV Fit Results:

Period = 183.41667 [0.01023] d
Epoch = 186.7776 [0.0485] BKJD
Rp/R* = 0.0259 [0.0117]
a/R* = 56.30 [117.65]
b = 0.65 [1.87]
Seff = 1.59 [0.52]
Teq = 287 [23] K
Rp = 2.15 [1.11] Re
a = 0.5946 [0.1244] AU
Ag = 25088.25 [24687.63] [1.02σ]
Teffp = 5576 [1320] K [4.01σ]

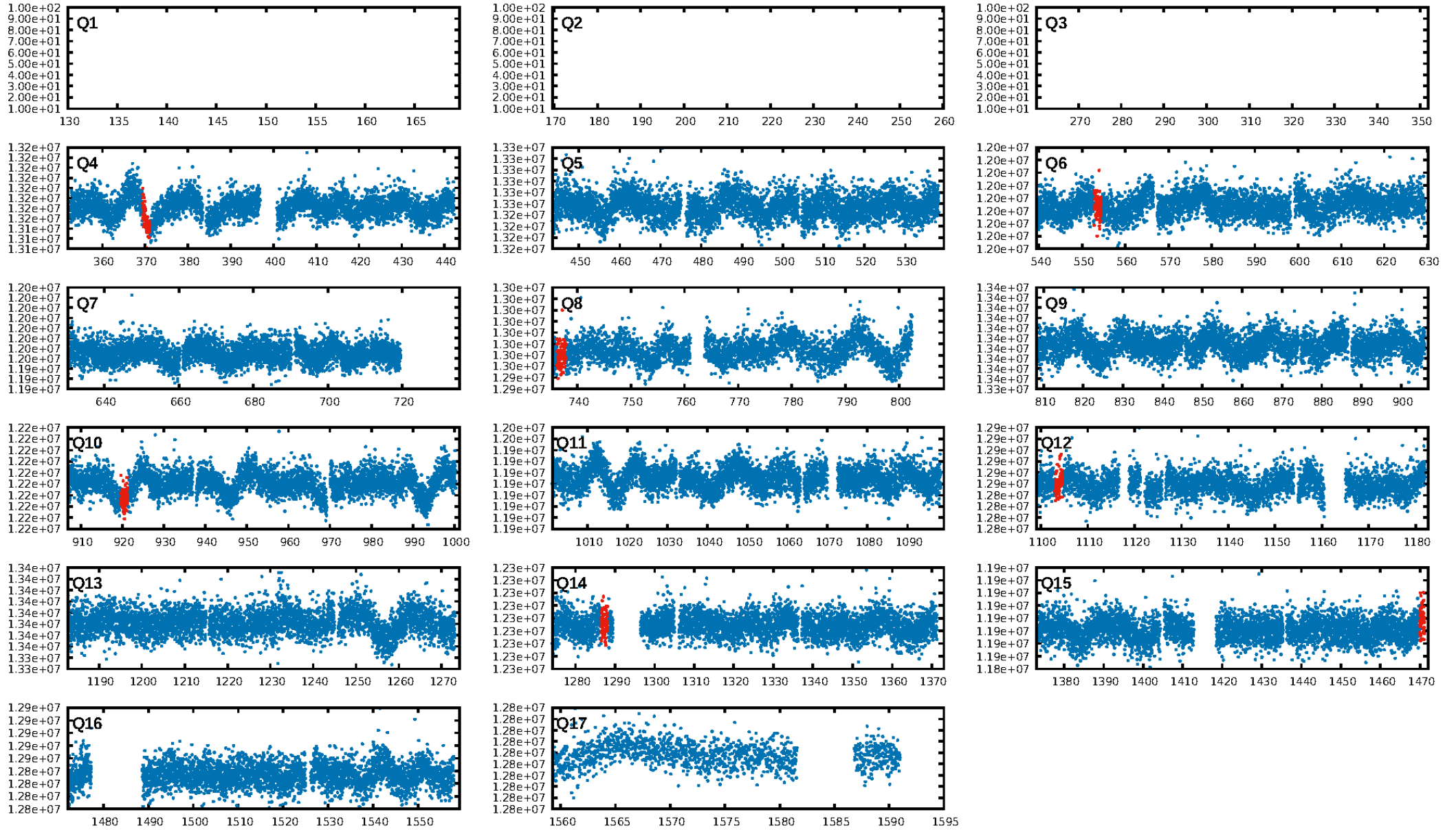
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [191.30σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.03e-21
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -0.2973
Centroid-sig: 94.0%
Centroid-so: 0.709 arcsec [0.68σ]
OotOffset-rm: 1.676 arcsec [0.60σ]
KicOffset-rm: 1.628 arcsec [0.70σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.00 [0/4]

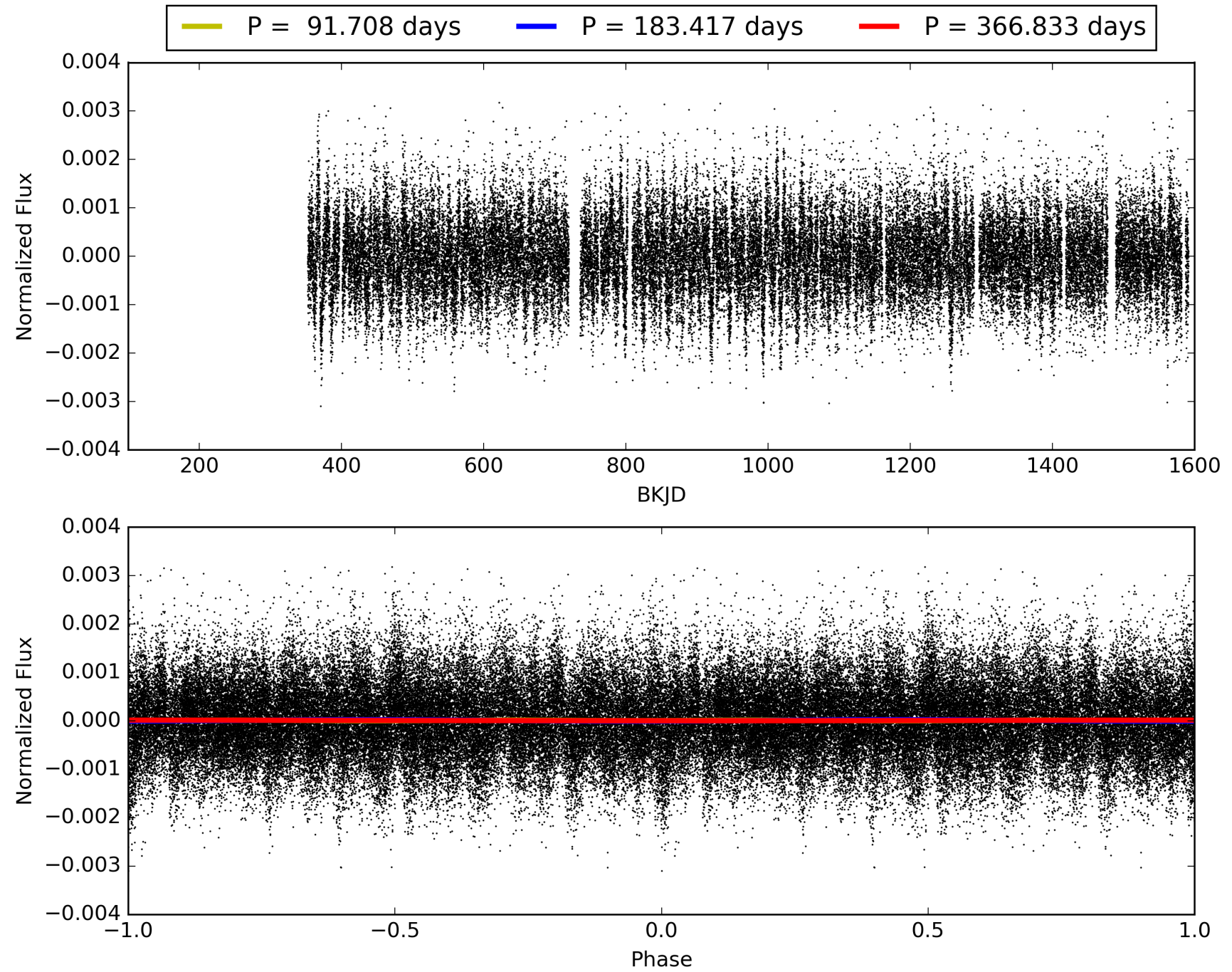
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 10:54:21 Z

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

TCE 005566206-02, PDC Light Curves

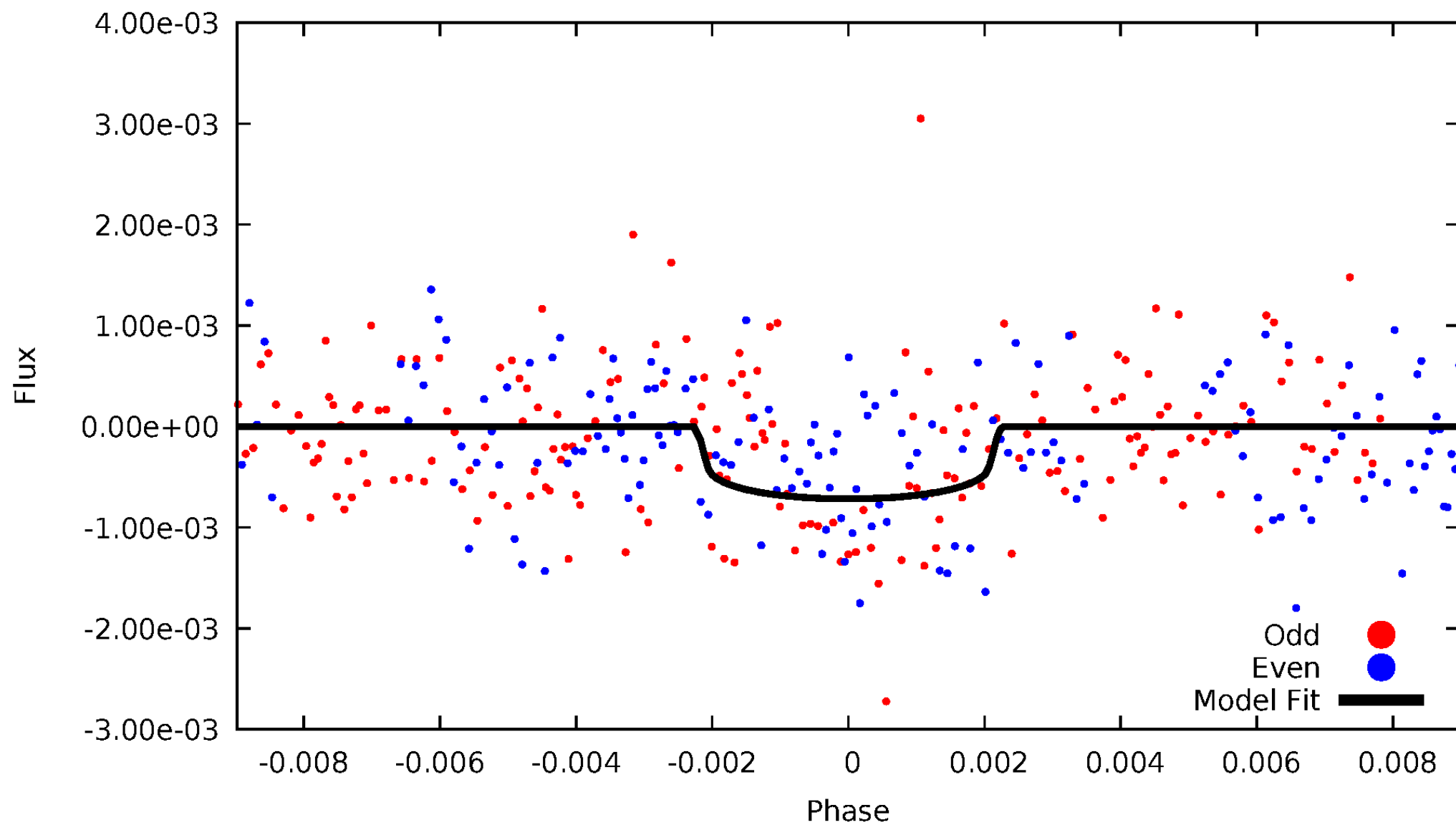


TCE 005566206-02



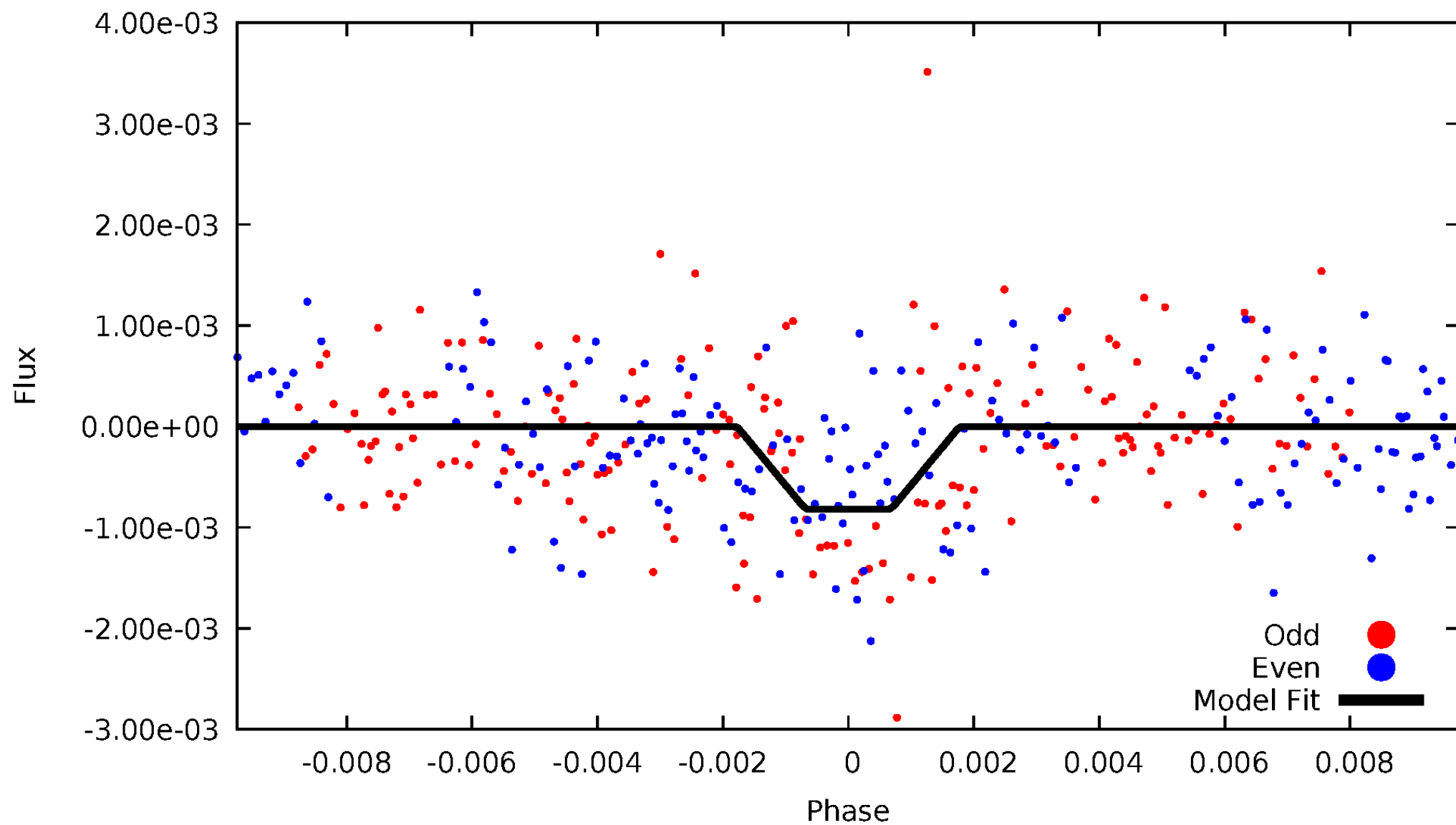
DV Odd/Even

TCE 005566206-02



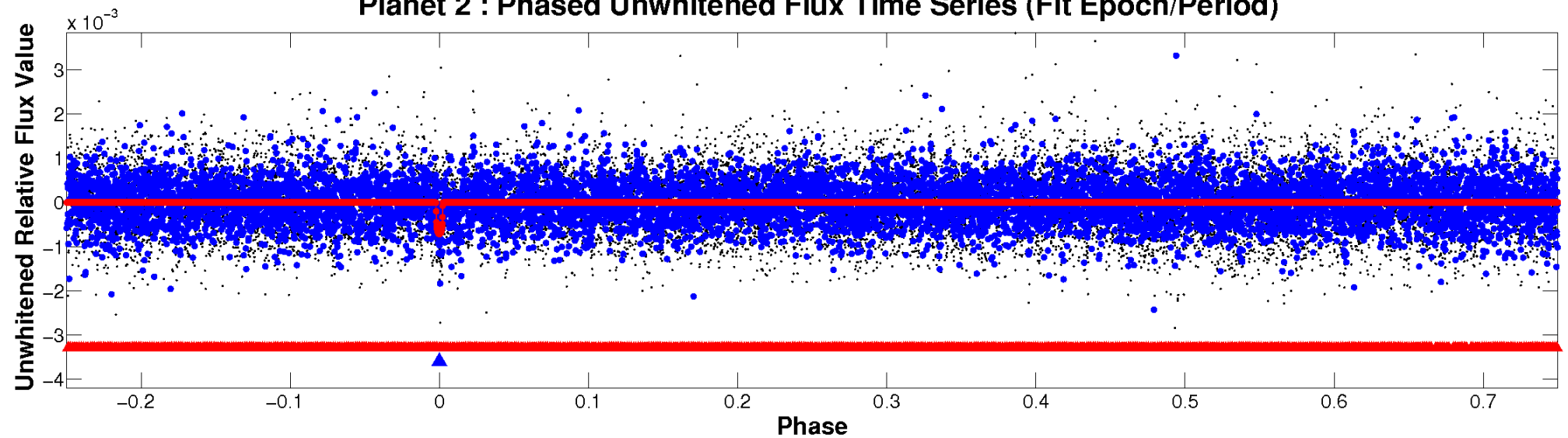
ALT Odd/Even

TCE 005566206-02

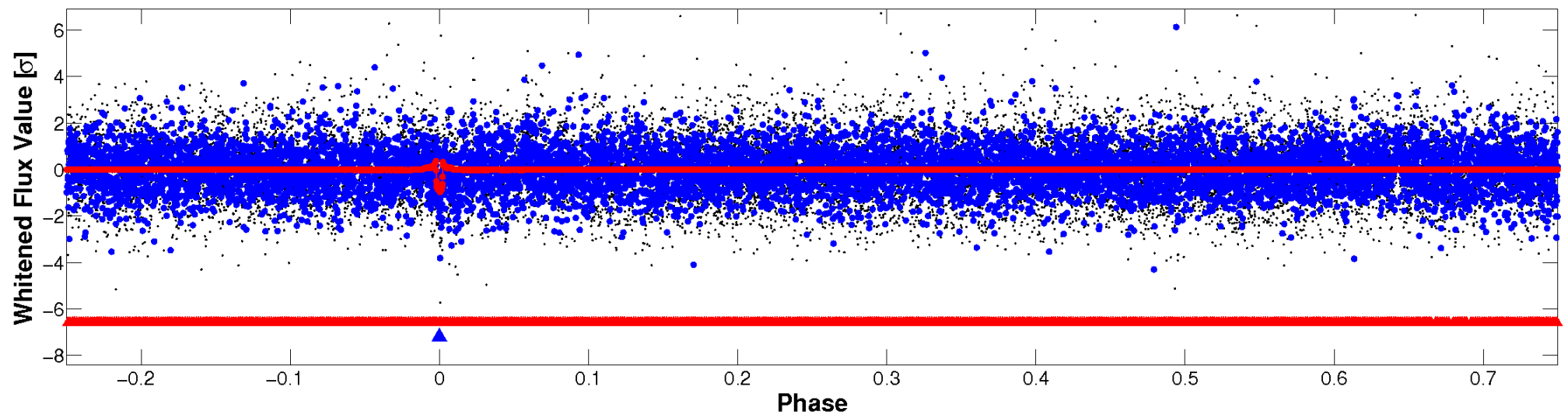


Non-Whitened Vs. Whitened Light Curve

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

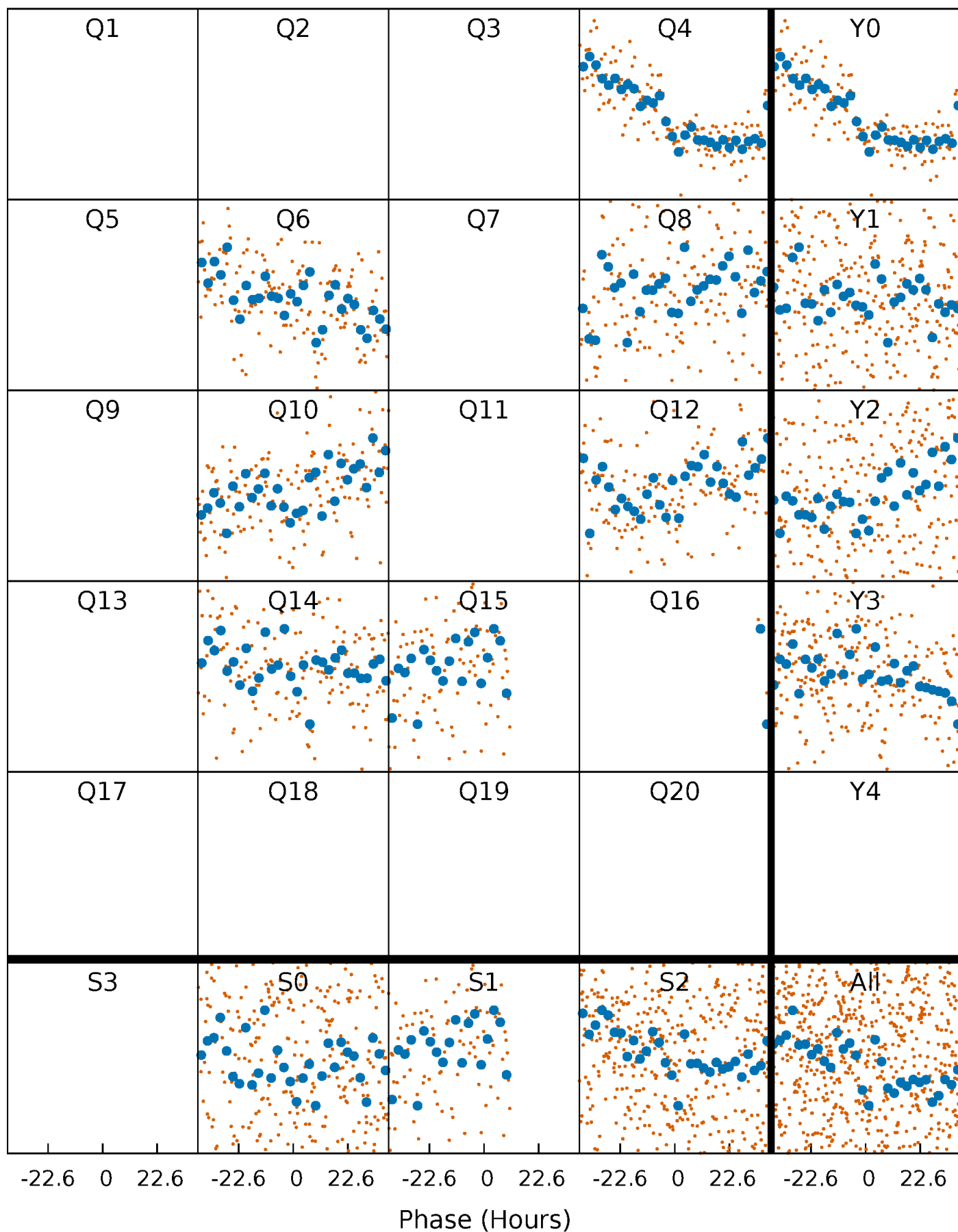


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



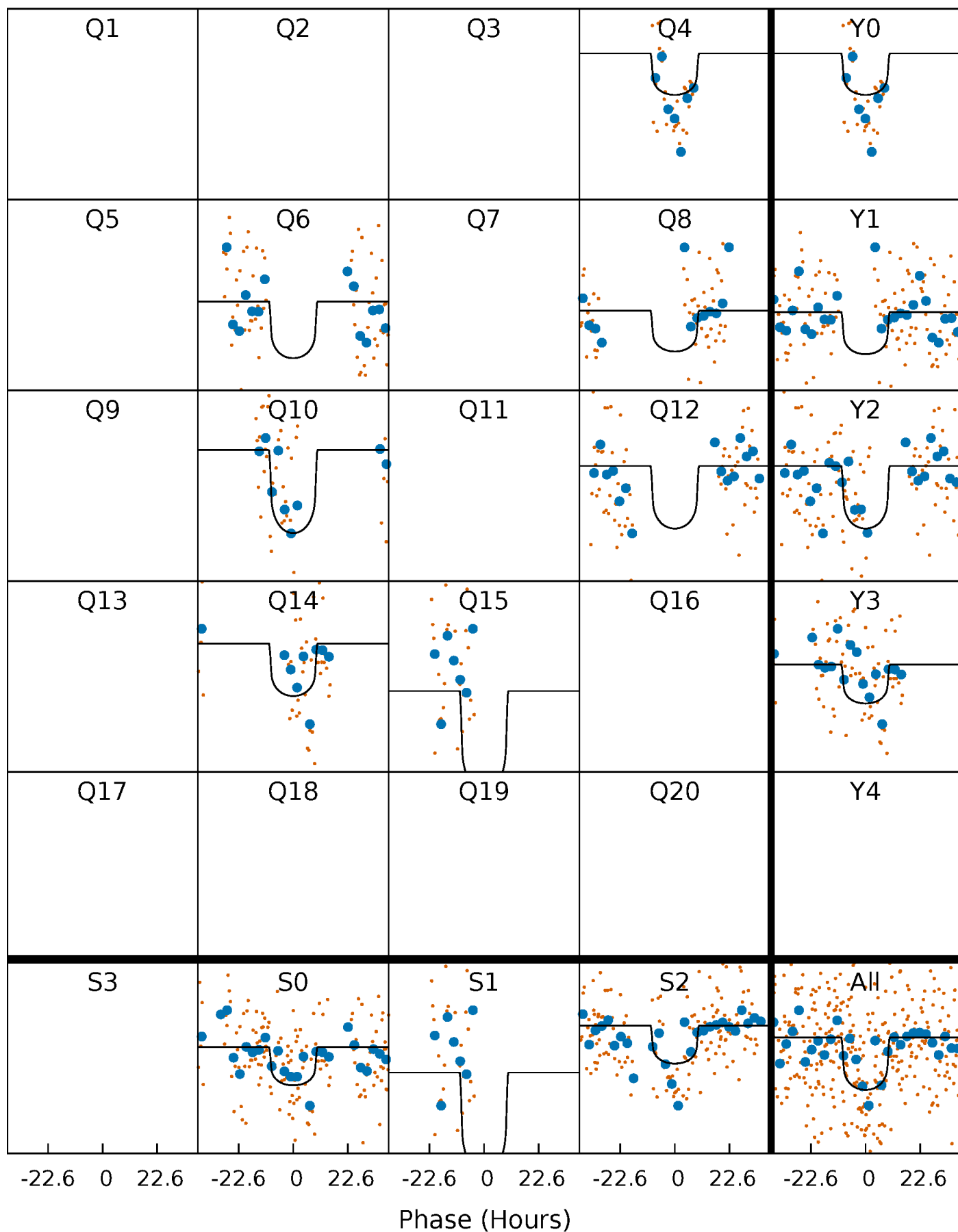
PDC Quarter-Phased Transit Curves

TCE 005566206-02 P=183.416672 Days $T_0=186.777569$ (BKJD)



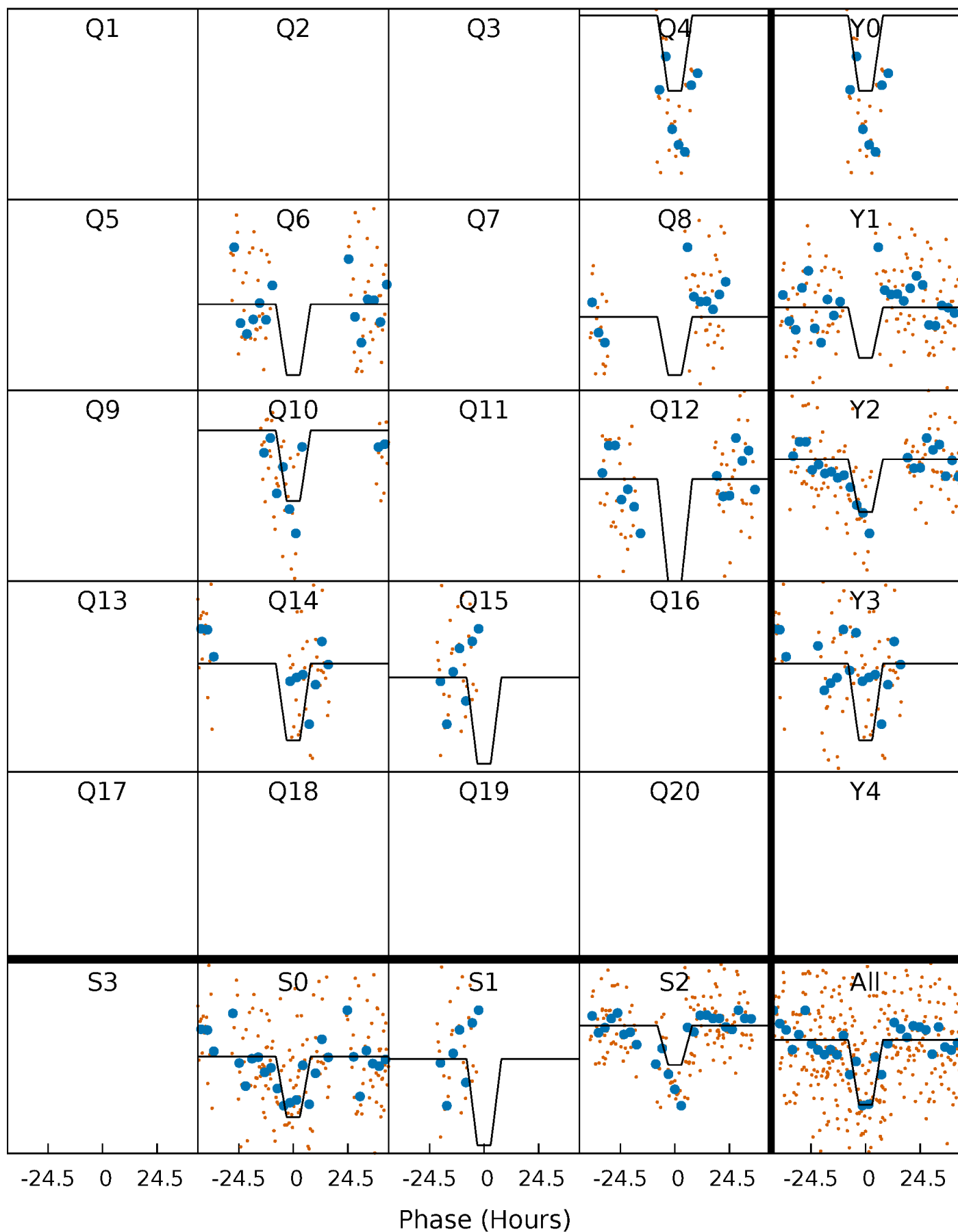
DV Quarter-Phased Transit Curves

TCE 005566206-02 P=183.416672 Days $T_0=186.777569$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

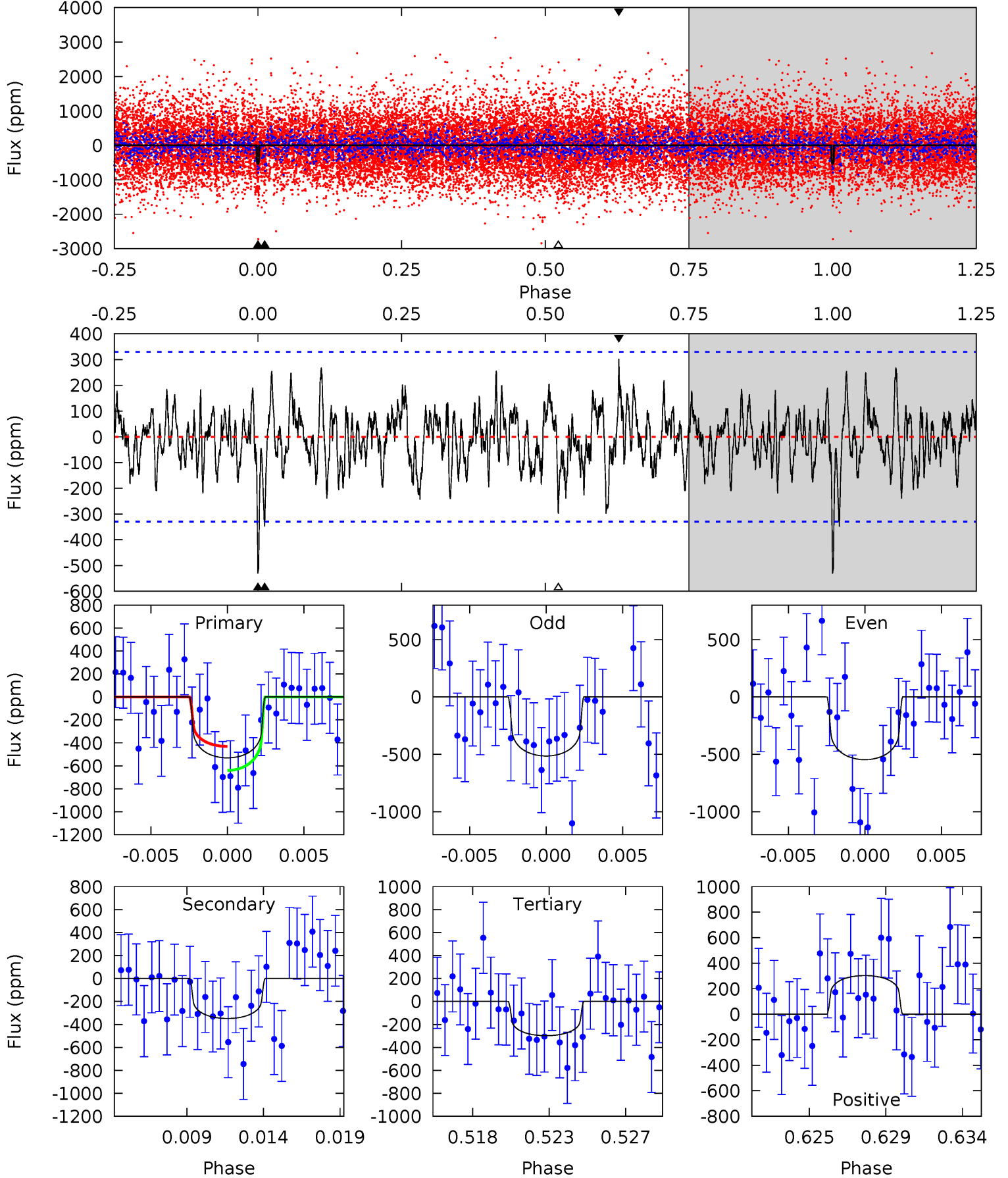
TCE 005566206-02 P=183.418446 Days $T_0=186.735853$ (BKJD)



DV Model-Shift Uniqueness Test

005566206-02, P = 183.416672 Days, E = 186.777569 Days

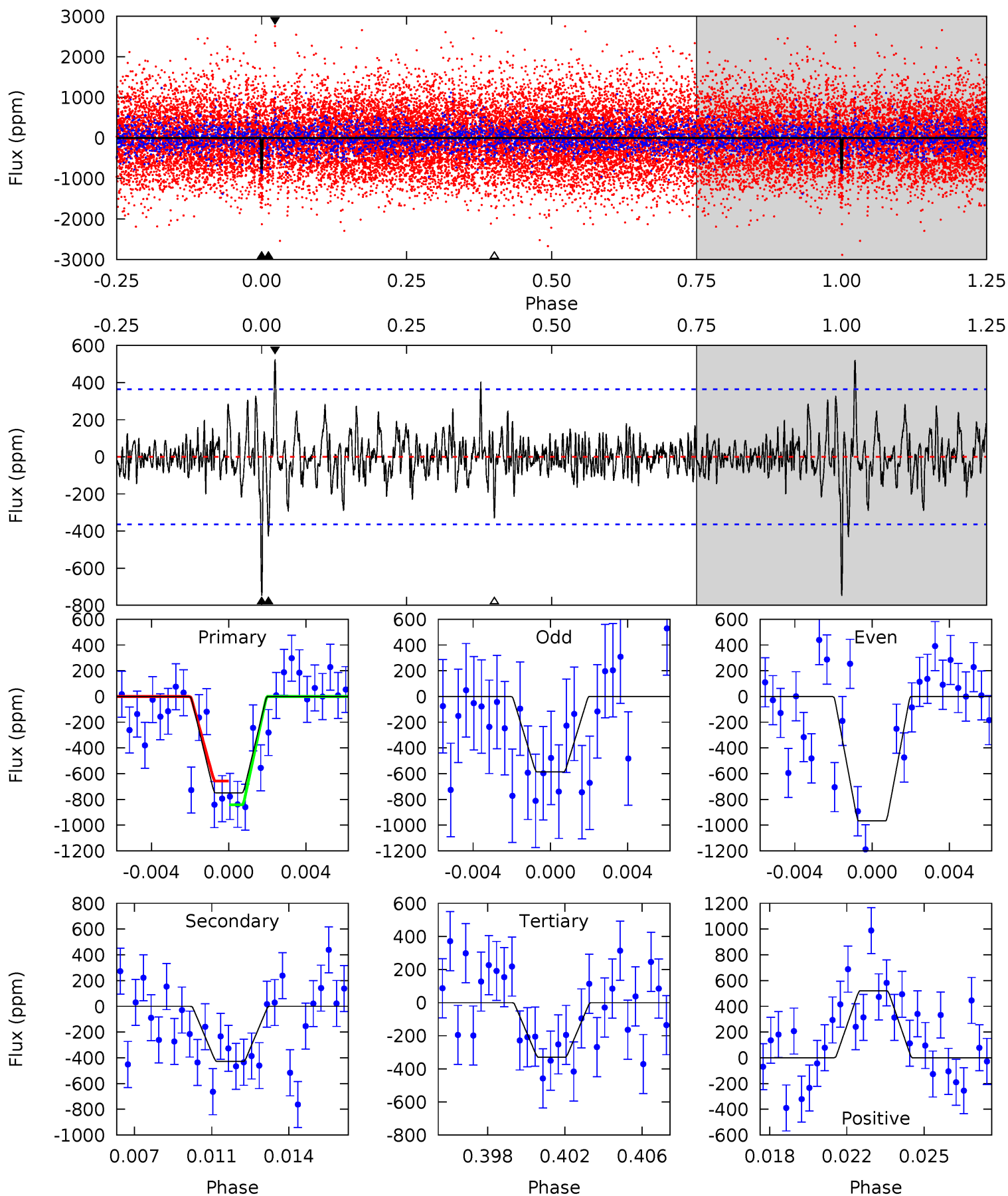
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.33	5.47	4.68	4.76	5.17	2.83	1.52	3.66	3.58	0.79	0.71	0.25	0.56	0.36	1.64



Alt Model-Shift Uniqueness Test

005566206-02, P = 183.418446 Days, E = 186.735853 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	6.12	4.73	7.46	5.22	2.91	1.34	6.00	3.27	1.40	-1.34	2.72	-0.50	0.41	1.32



Stellar Parameters For KIC 005566206

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5745^{+190}_{-190}	$4.597^{+0.040}_{-0.160}$	$-0.520^{+0.300}_{-0.300}$	$0.760^{+0.193}_{-0.064}$	$0.838^{+0.088}_{-0.088}$	$2.686^{+0.430}_{-1.205}$
	+3%/-3%	+1%/-3%	+58%/-58%	+25%/-8%	+11%/-11%	+16%/-45%
Source	KIC0	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 005566206-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-349 ± 64	$2.30^{+0.94}_{-1.00}$	410^{+23}_{-20}	4936^{+1514}_{-663}	12700^{+27951}_{-6631}
Alt.	-428 ± 70	$2.57^{+1.03}_{-1.02}$	407^{+24}_{-18}	4896^{+1264}_{-668}	12501^{+22789}_{-6449}

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

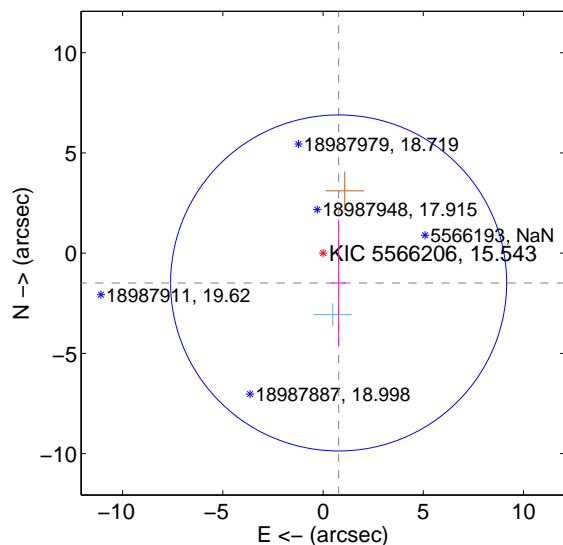
Supplemental centroid analysis for 005566206-02. Kepler magnitude: 15.54. Transit SNR 8.32

There are 1 quarters with good PRF difference image offsets

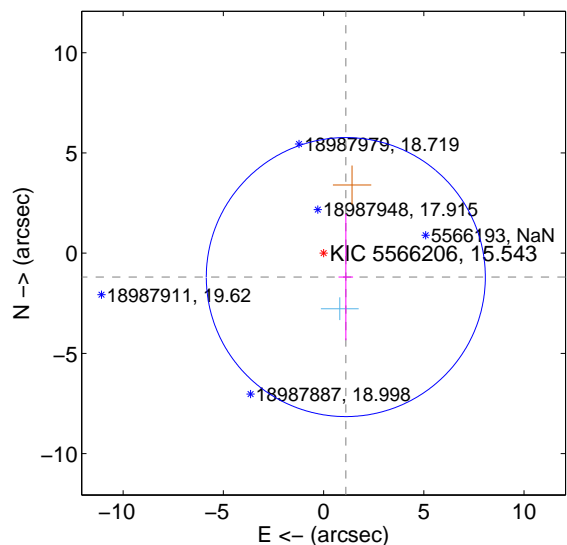
The direct PRF centroid is offset from the target star catalog position by about 0.44 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.676 ± 2.794	0.60	-0.778 ± 0.357	-1.485 ± 3.148
PRF-fit source offset from KIC position	1.628 ± 2.320	0.70	-1.109 ± 0.365	-1.192 ± 3.149
photometric centroid source offset	0.71 ± 1.04	0.68	0.71 ± 1.04	-0.07 ± 0.76

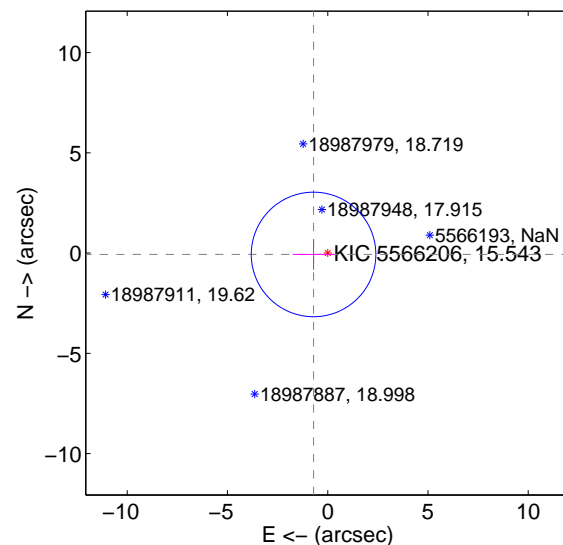
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

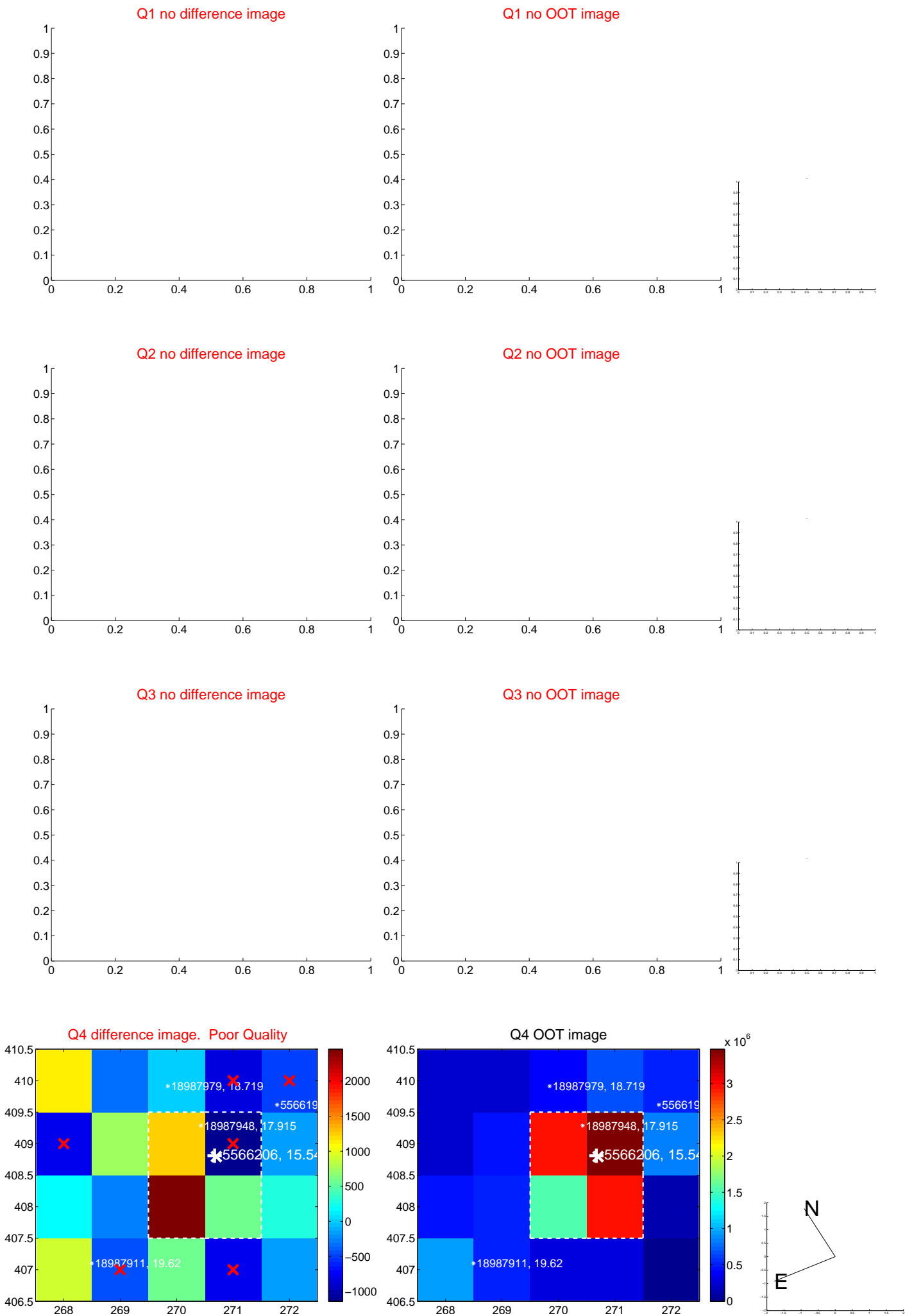


offset from photometric centroids

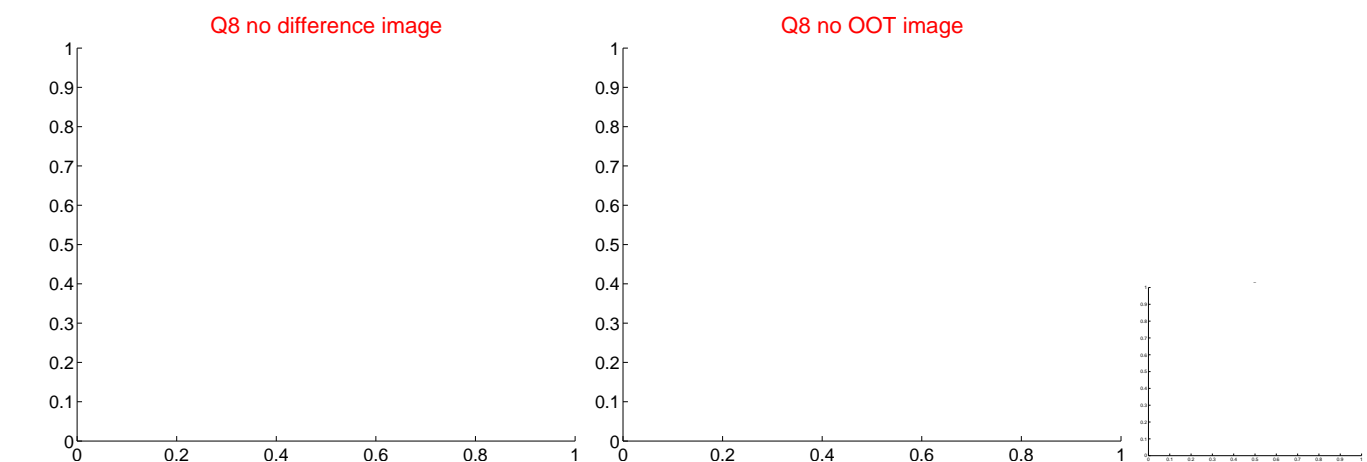
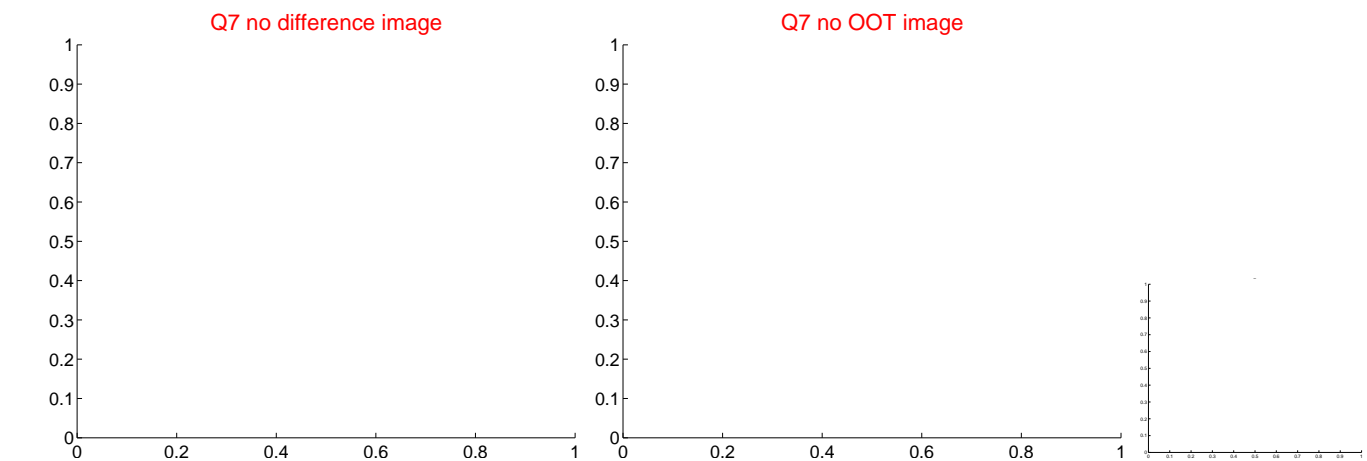
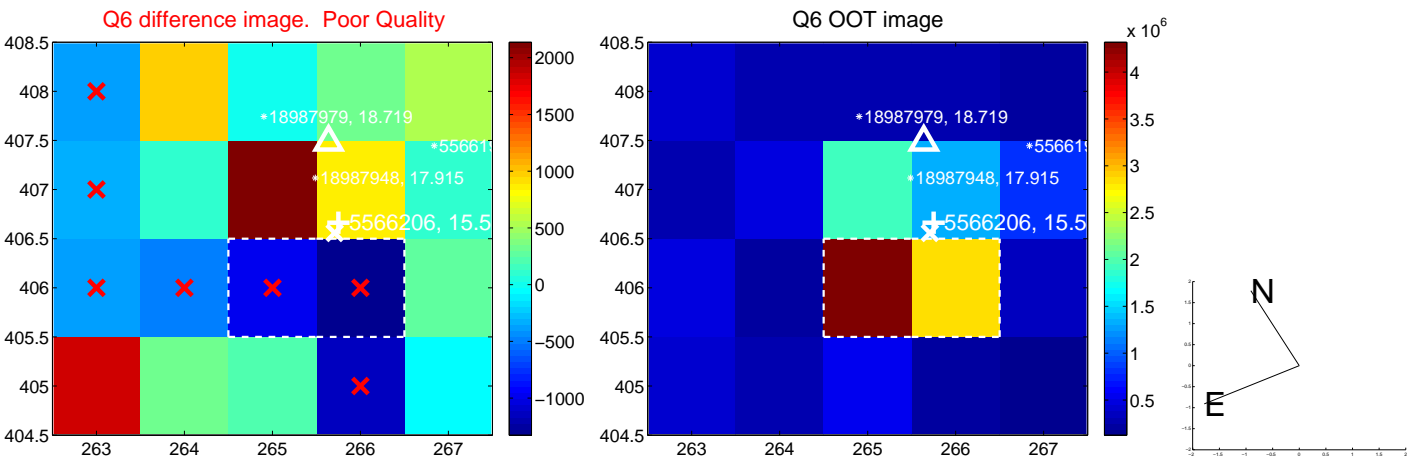
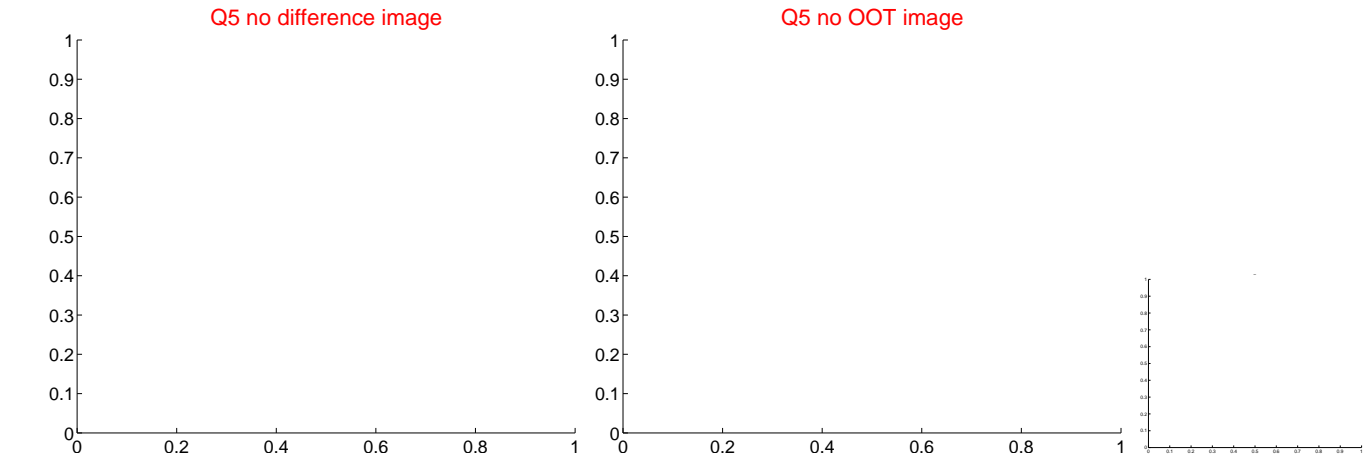


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



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

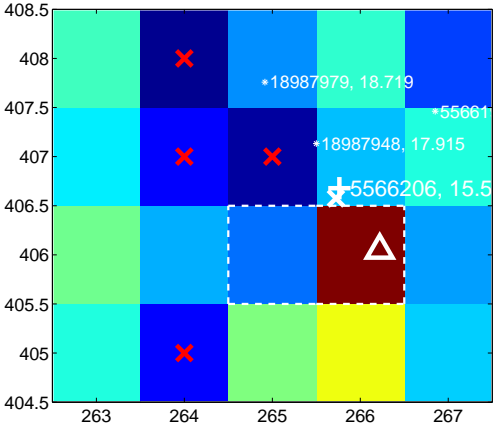
Q9 no difference image



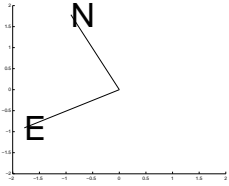
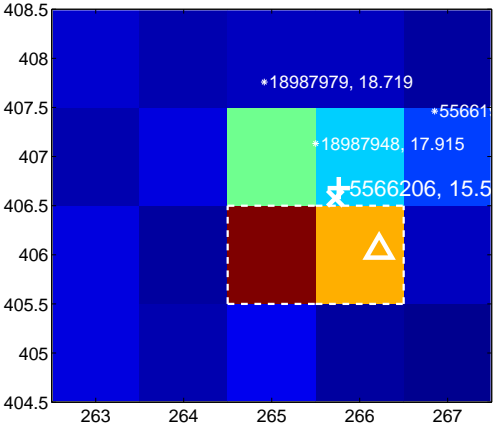
Q9 no OOT image



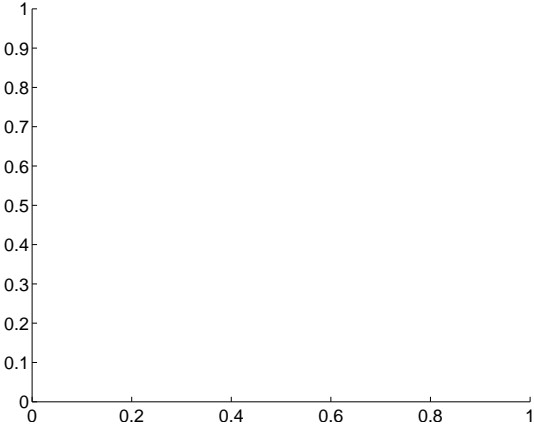
Q10 difference image



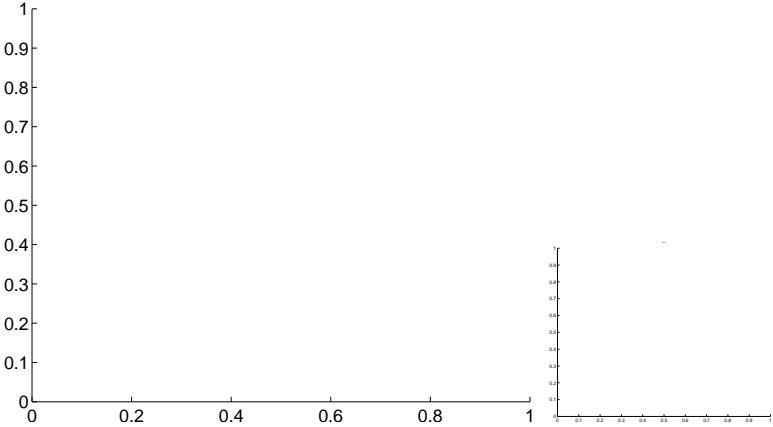
Q10 OOT image



Q11 no difference image



Q11 no OOT image



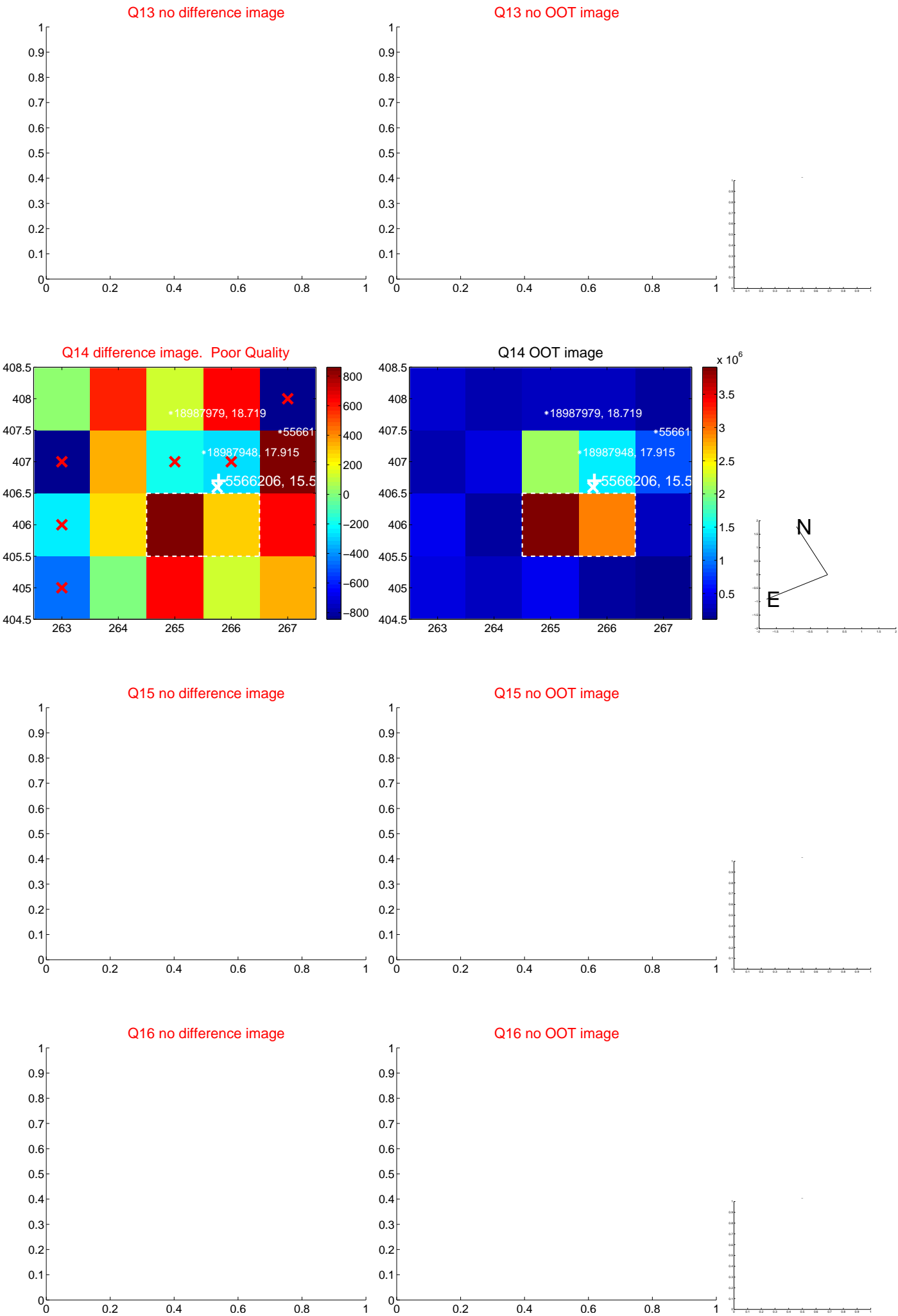
Q12 no difference image



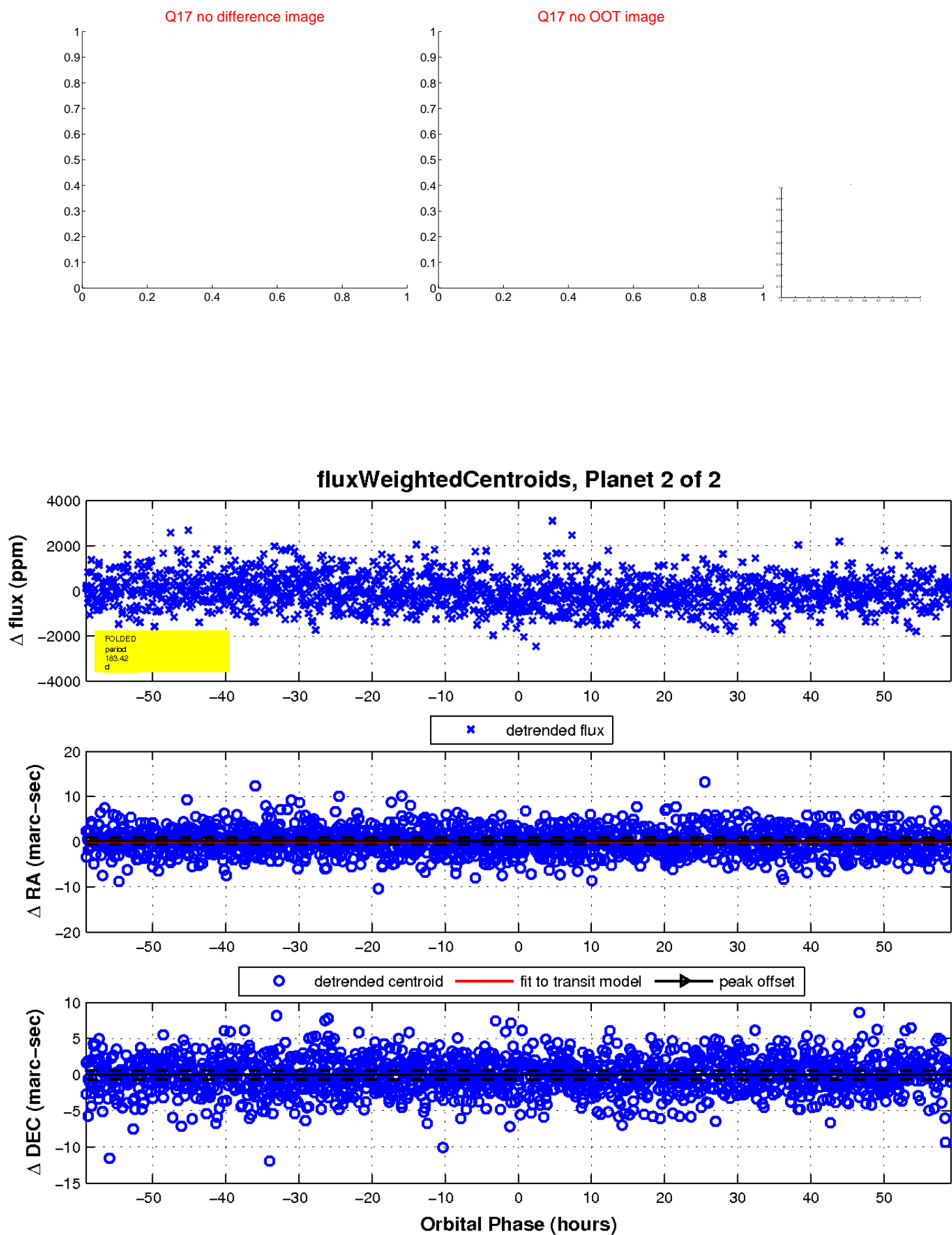
Q12 no OOT image



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



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



UKIRT Image

Declination

