

KIC 006387185

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})
006387185-01	OBS	No	1.259044	131.943581	149.1	5.603	11.0	11.2	1.65	6072	2.62	6326.89
006387185-02	OBS	No	3.415344	131.690960	271.0	20.717	8.6	11.0	1.65	6072	3.53	1672.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006387185-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006387185-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT

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

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

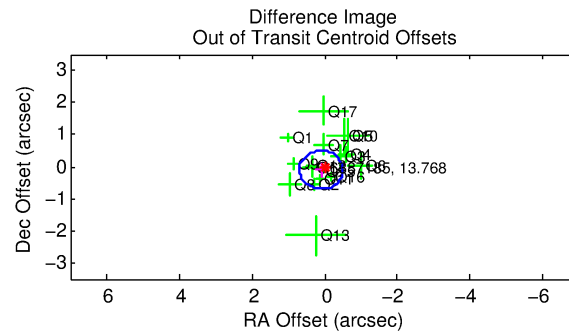
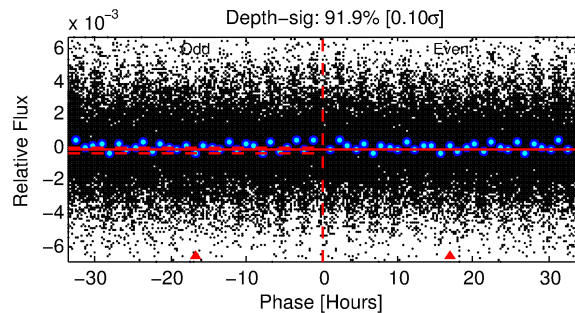
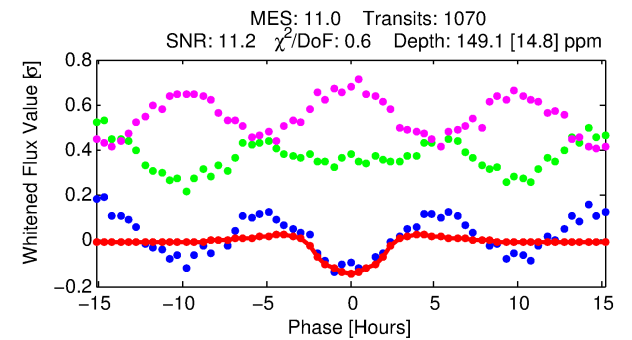
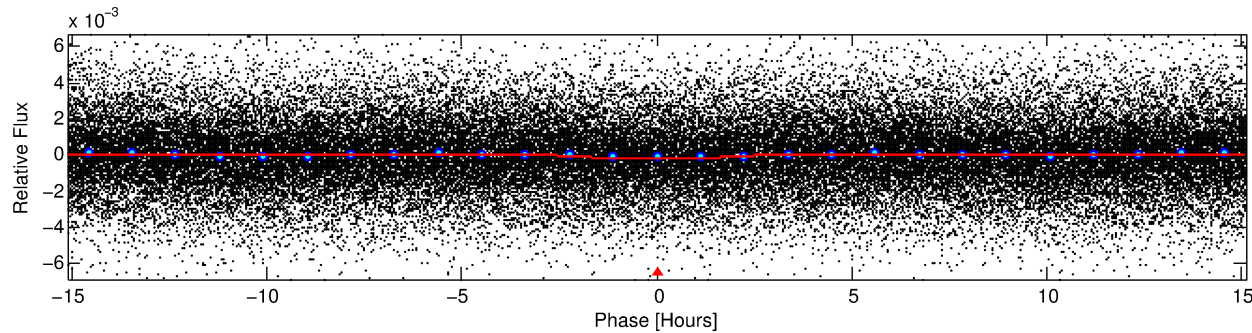
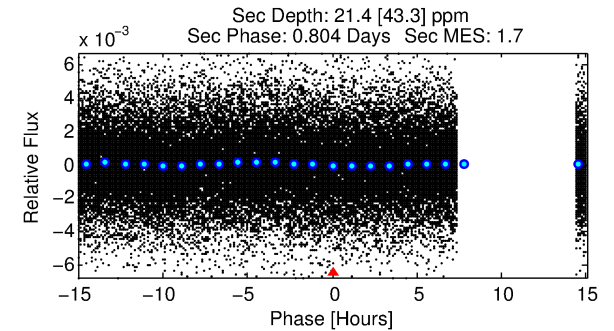
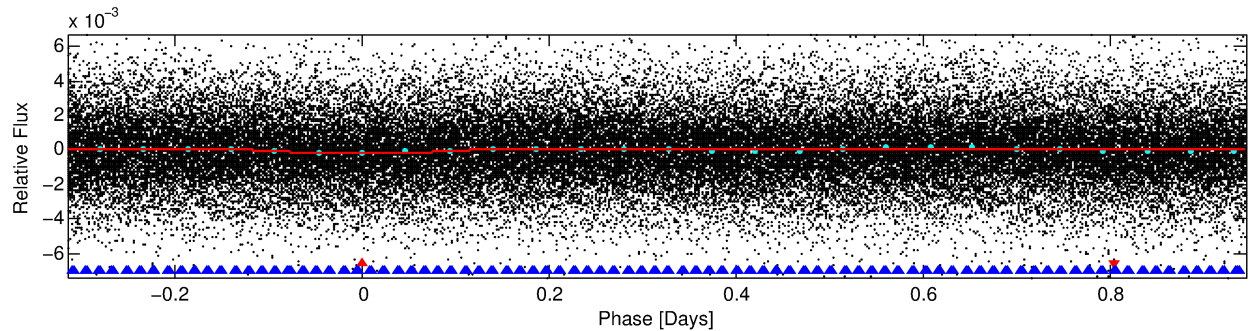
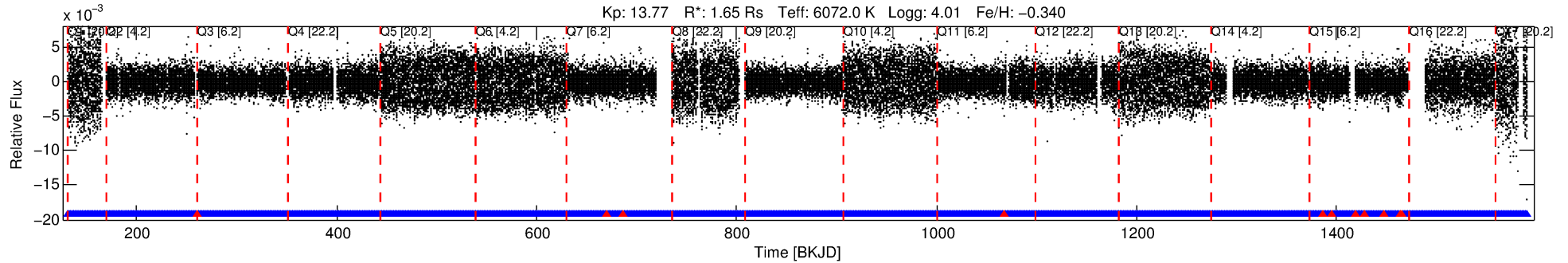
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006387185-01

No Significant Match Found

DV One-Page Summary

KIC: 6387185 Candidate: 1 of 2 Period: 1.259 d



DV Fit Results:

Period = 1.25904 [0.00001] d
Epoch = 131.9436 [0.0069] BKJD
Rp/R* = 0.0145 [0.0011]
a/R* = 1.11 [0.06]
b = 0.97 [0.02]
Seff = 6326.89 [4426.17]
Teff = 2274 [398] K
Rp = 2.62 [1.06] Re
a = 0.0229 [0.0095] AU
Ag = 0.90 [1.93] [-0.05σ]
Teffp = 3428 [1742] K [0.65σ]

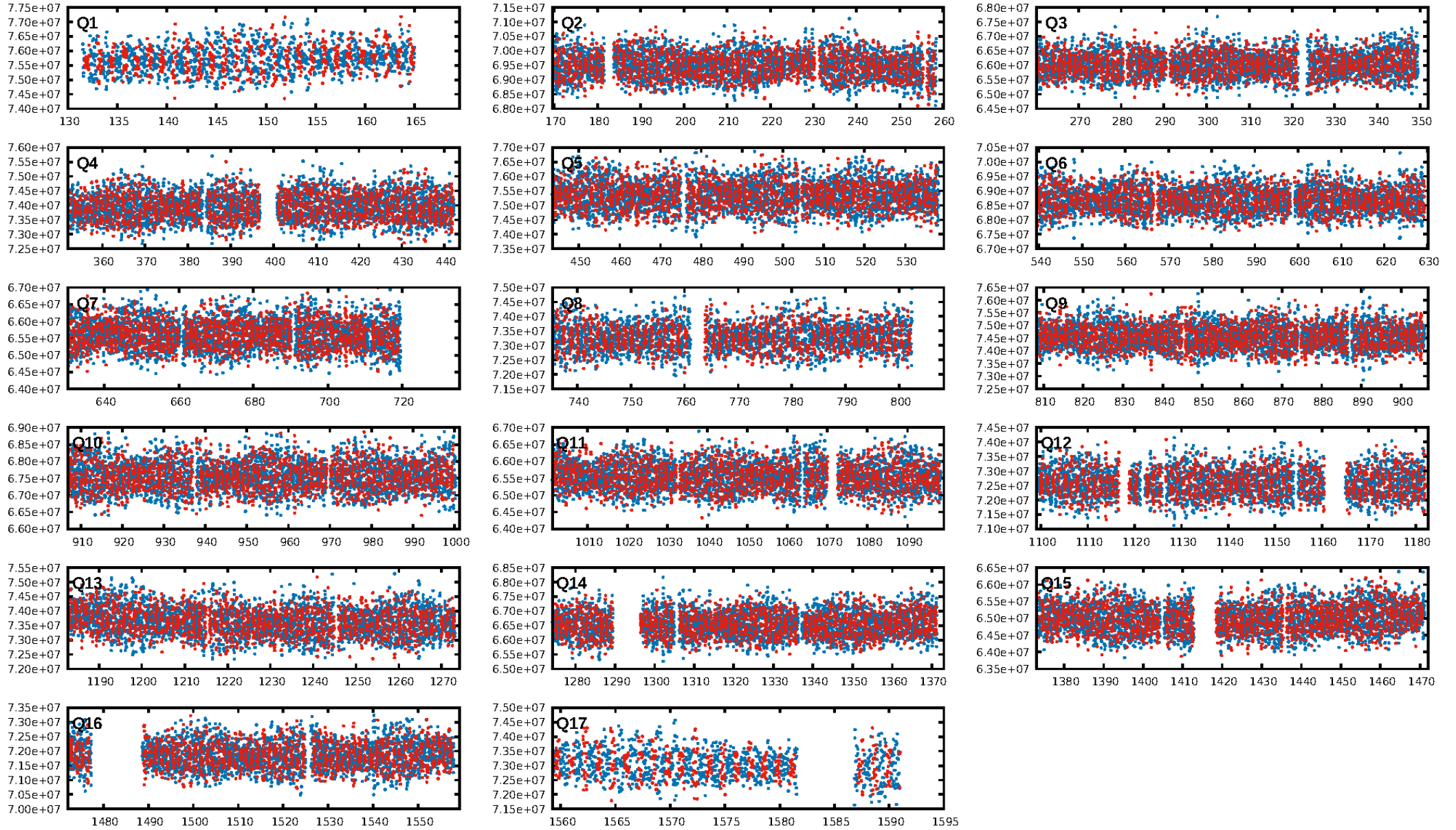
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 98.4% [2.41σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [1011/1022]
GhostDiagnostic-chr: 1.352
Centroid-sig: 36.0%
Centroid-so: 0.195 arcsec [0.85σ]
OotOffset-rm: 0.139 arcsec [0.69σ]
KicOffset-rm: 0.097 arcsec [0.46σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

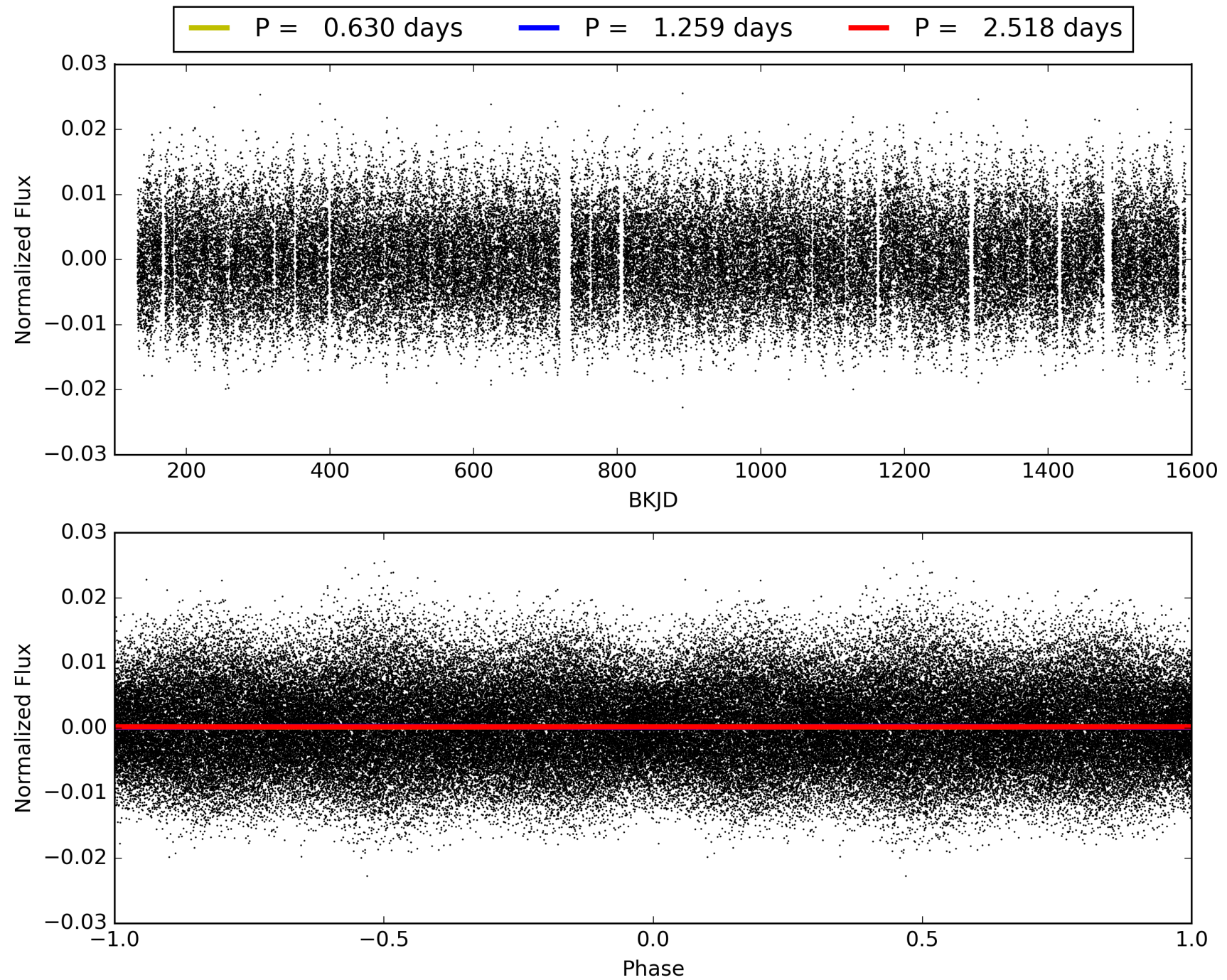
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:45:05 Z

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

TCE 006387185-01, PDC Light Curves

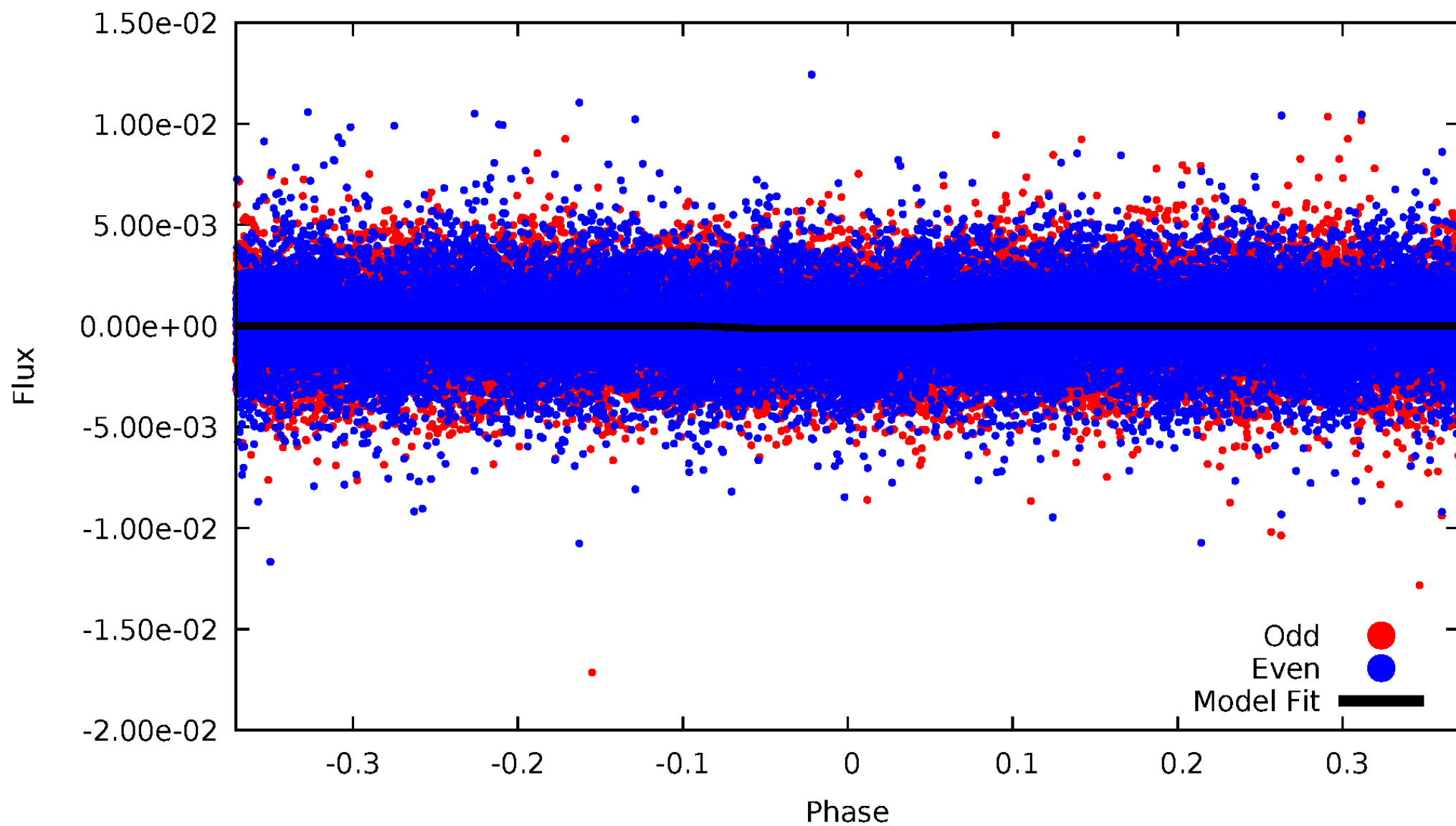


TCE 006387185-01



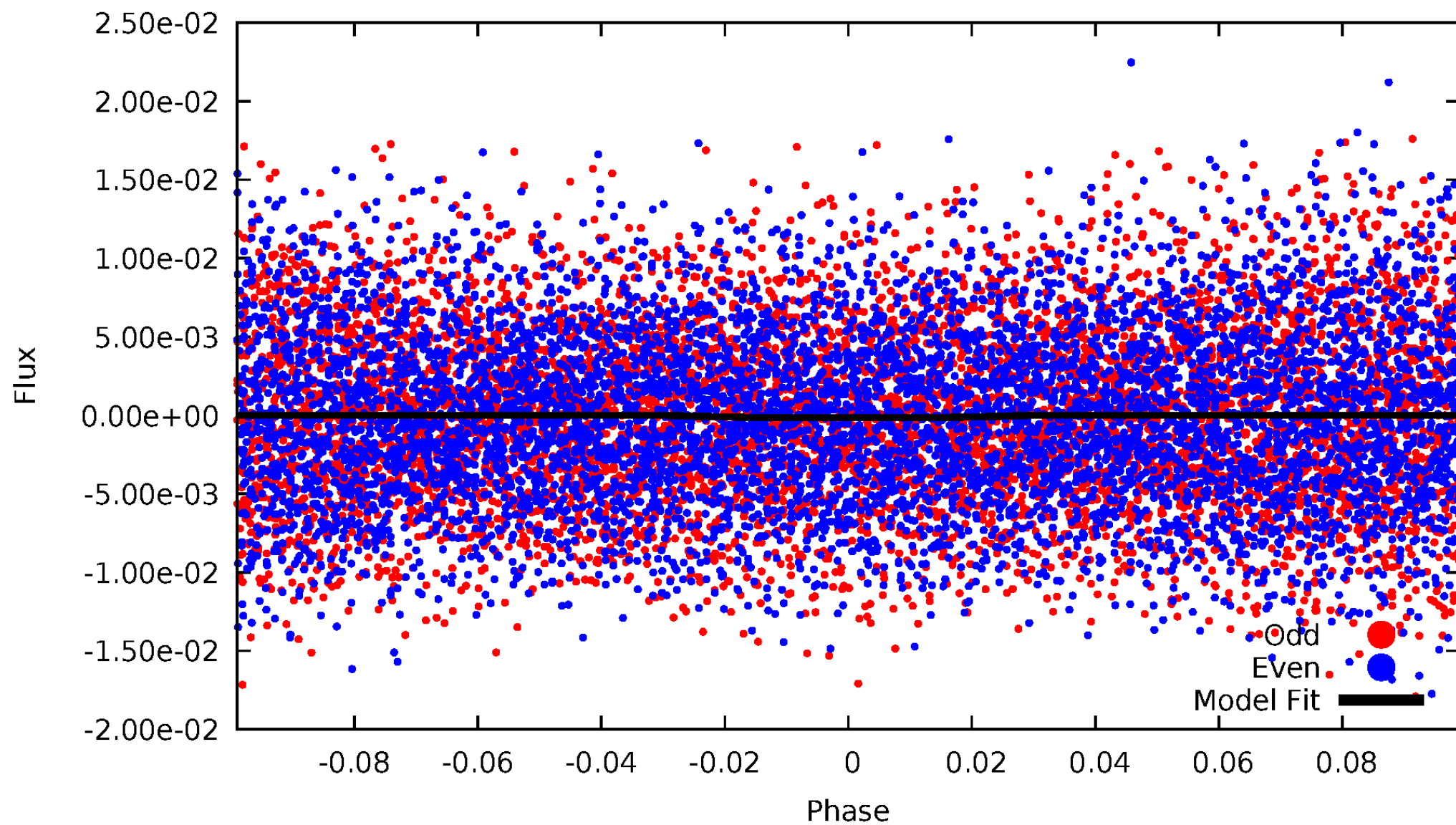
DV Odd/Even

TCE 006387185-01



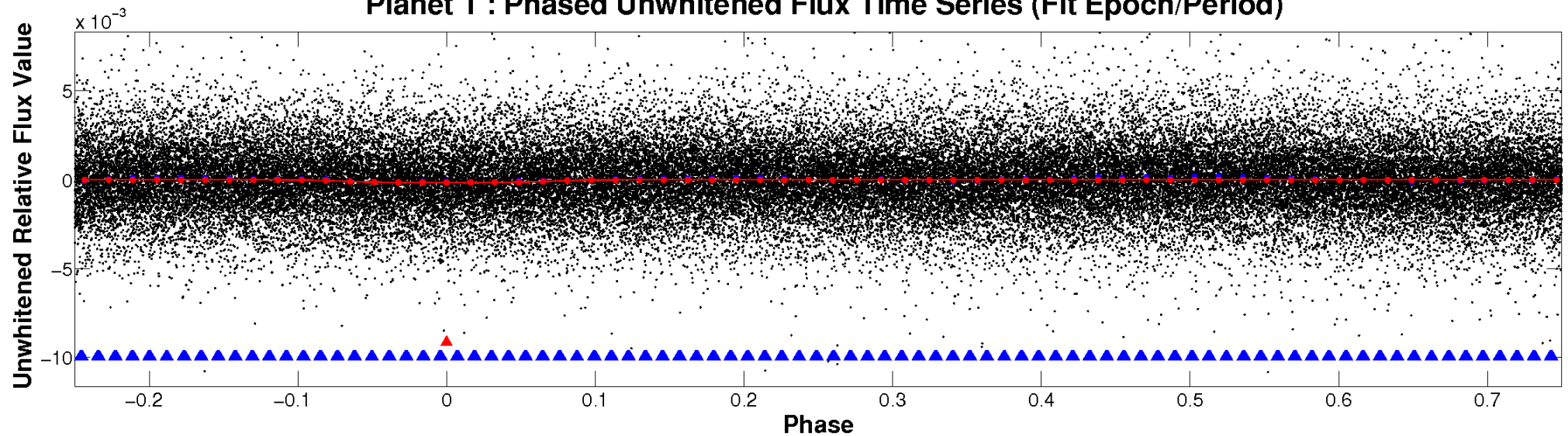
ALT Odd/Even

TCE 006387185-01

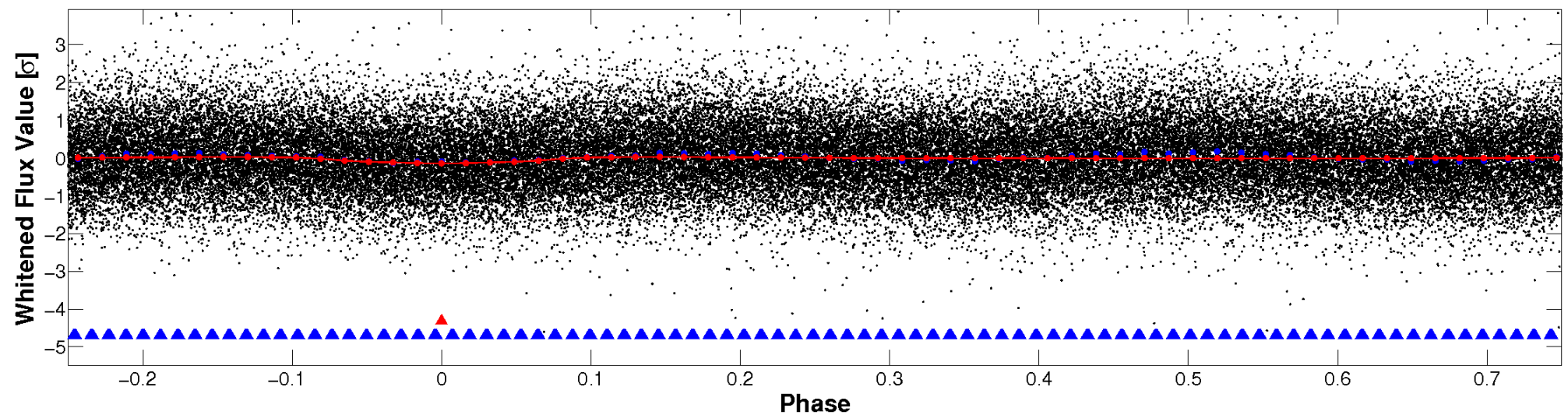


Non-Whitened Vs. Whitened Light Curve

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

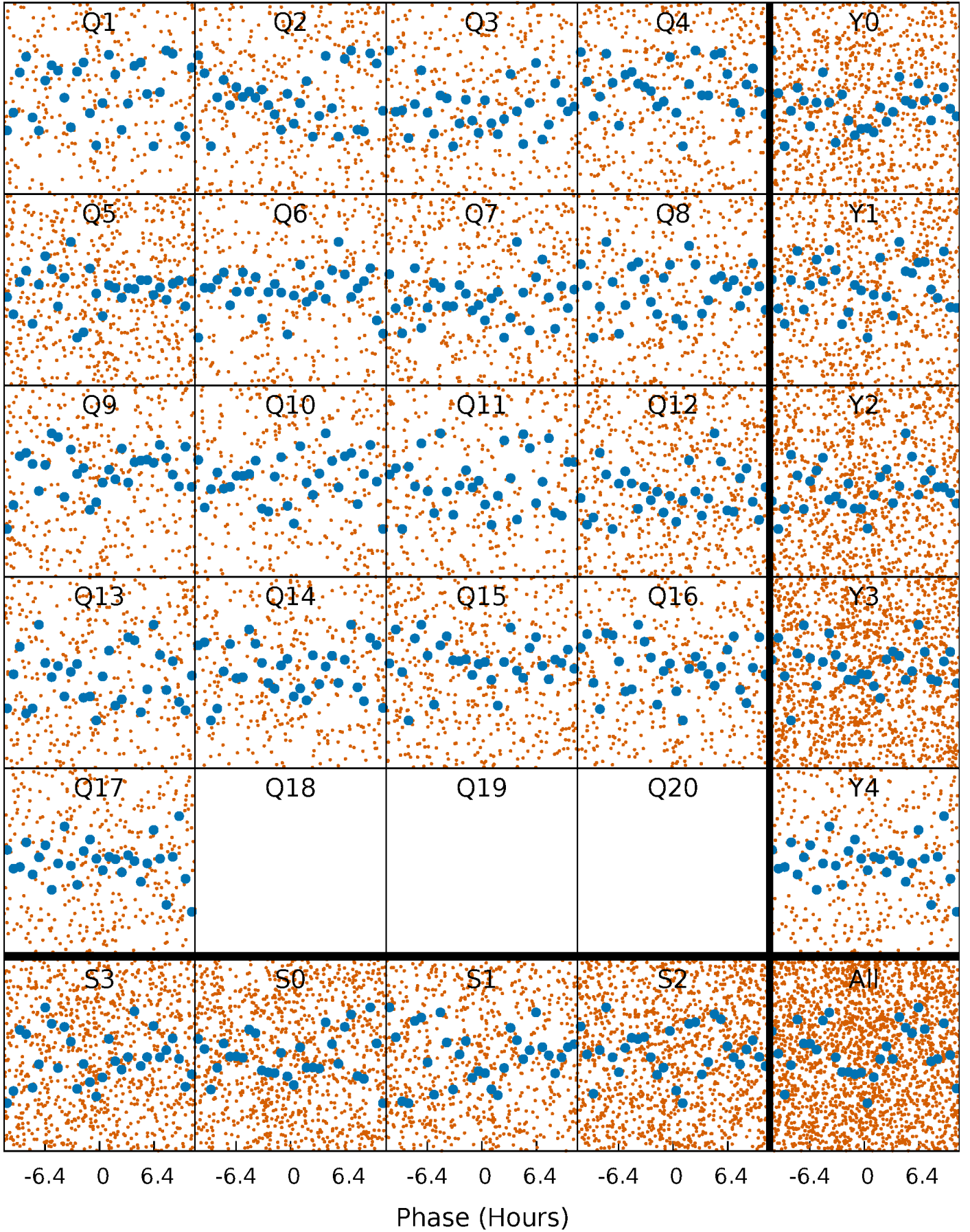


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



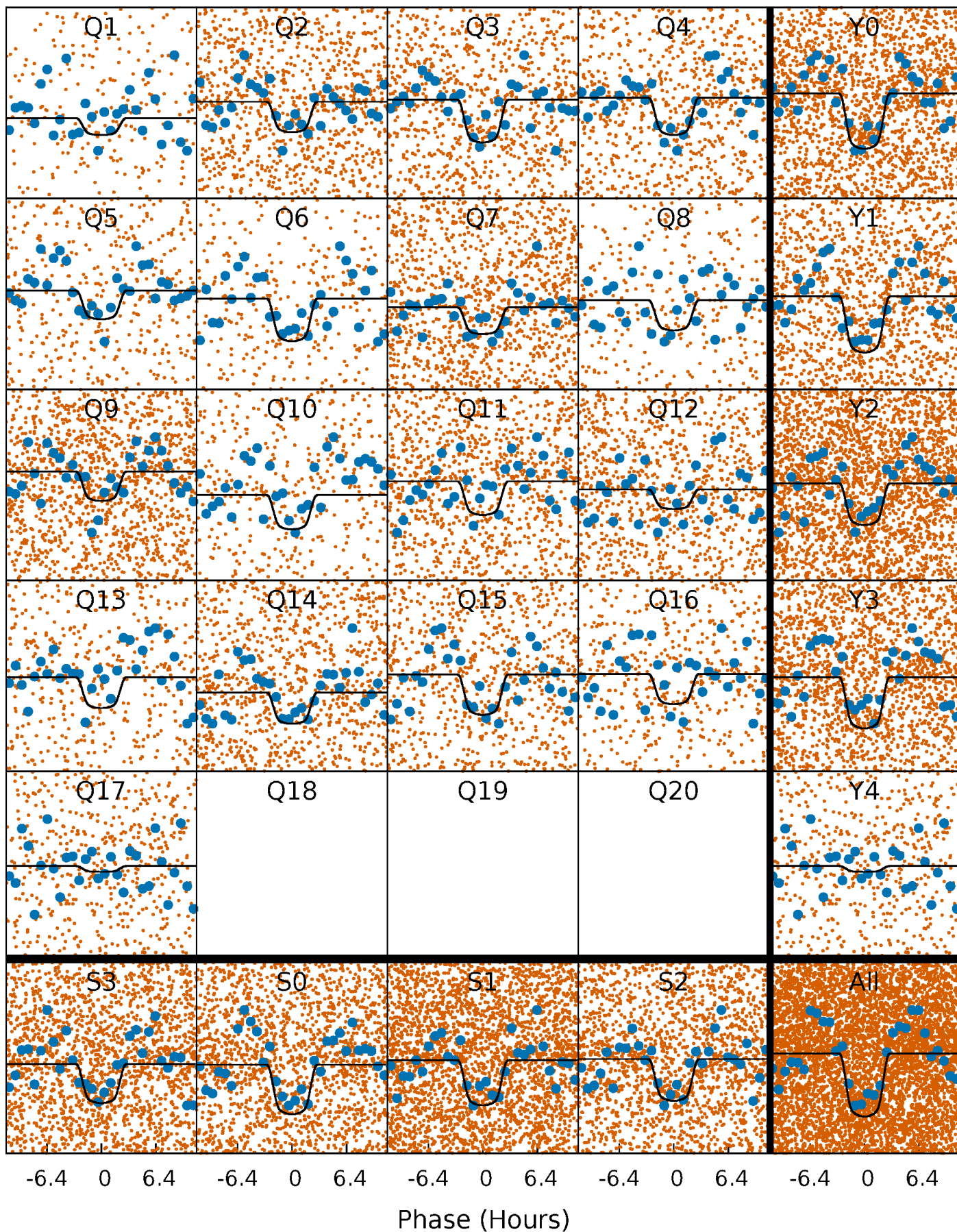
PDC Quarter-Phased Transit Curves

TCE 006387185-01 $P = 1.259044$ Days $T_0 = 131.943581$ (BKJD)



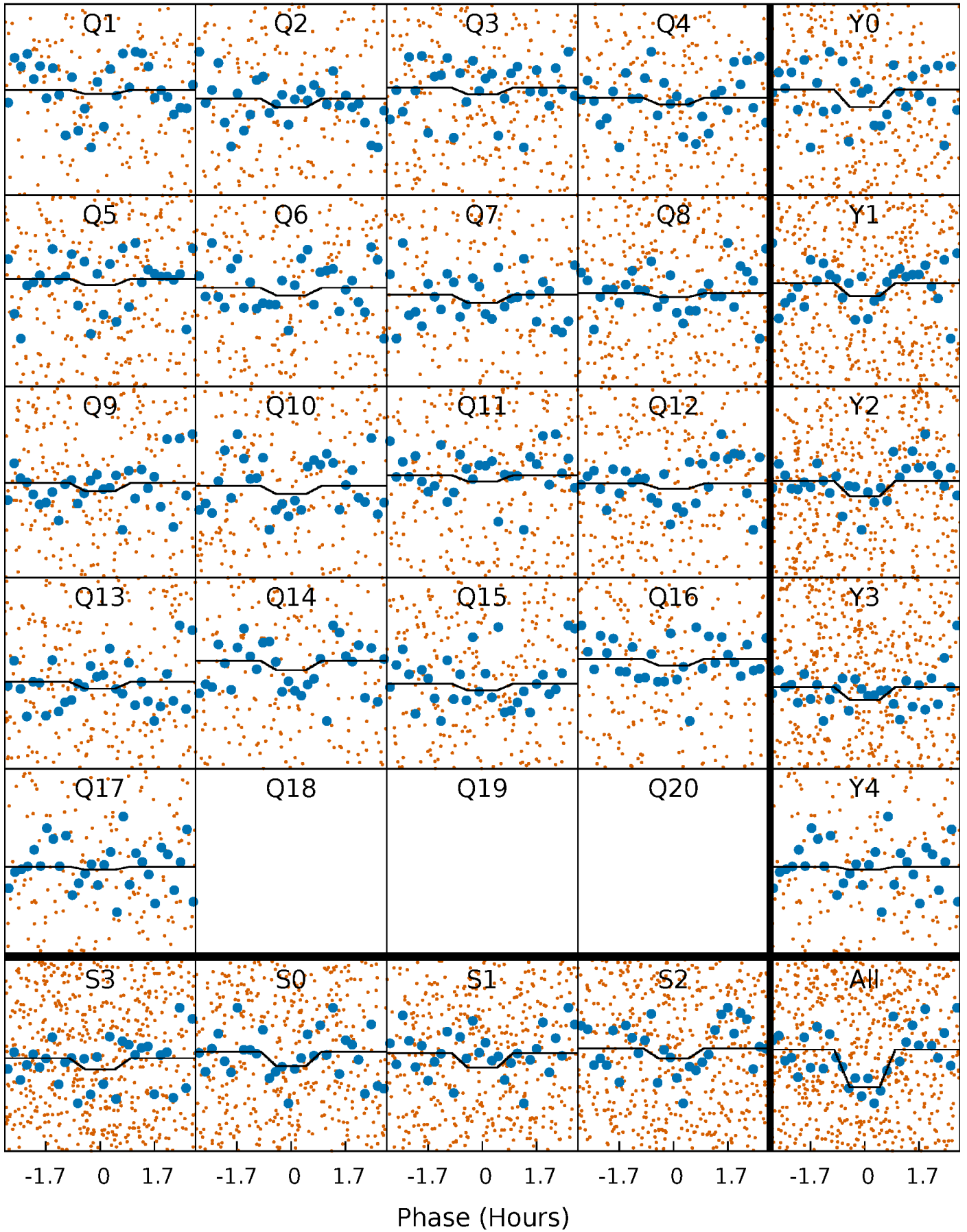
DV Quarter-Phased Transit Curves

TCE 006387185-01 P= 1.259044 Days $T_0=131.943581$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

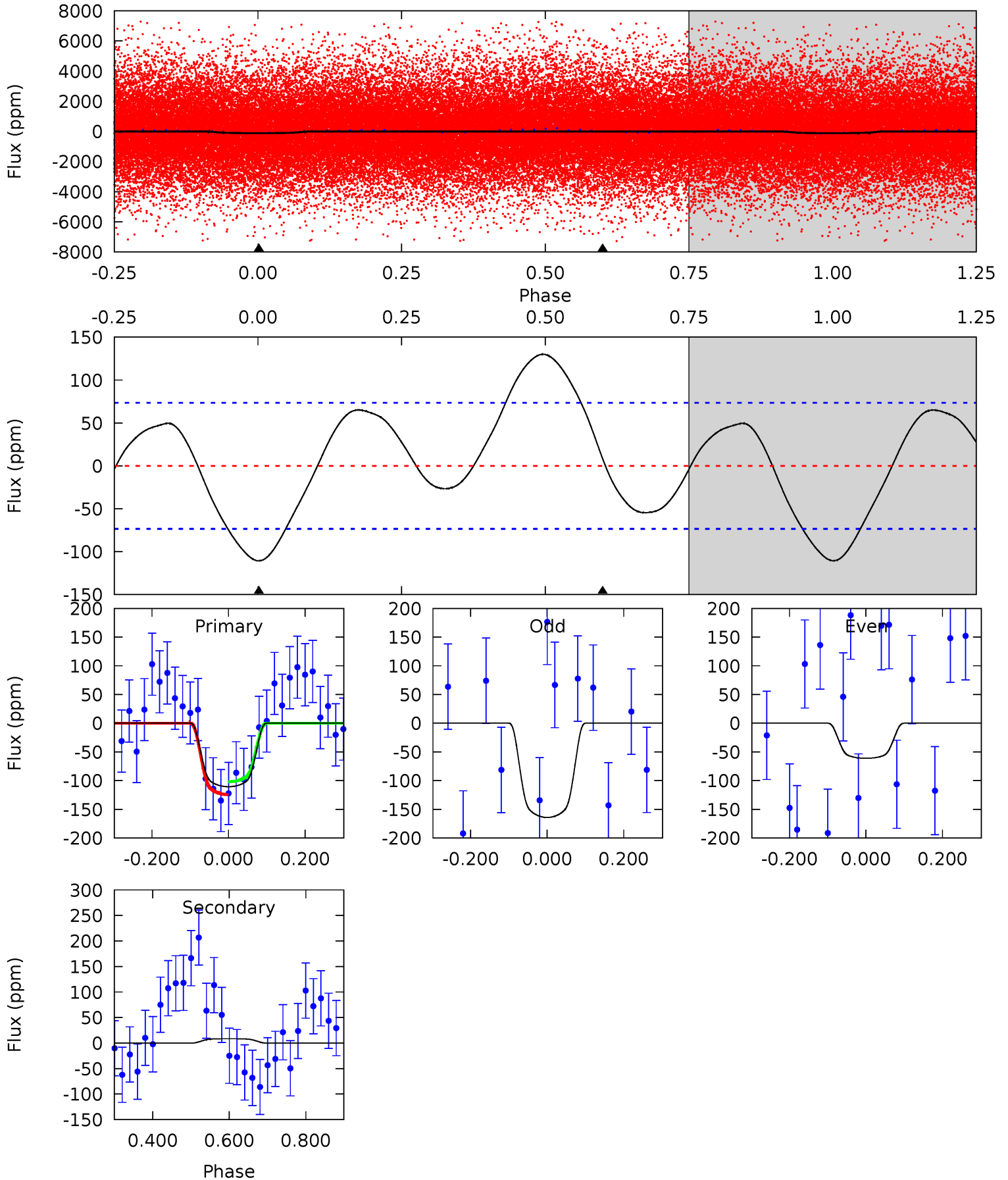
TCE 006387185-01 P= 1.259056 Days $T_0=131.953439$ (BKJD)



DV Model-Shift Uniqueness Test

006387185-01, P = 1.259044 Days, E = 130.684537 Days

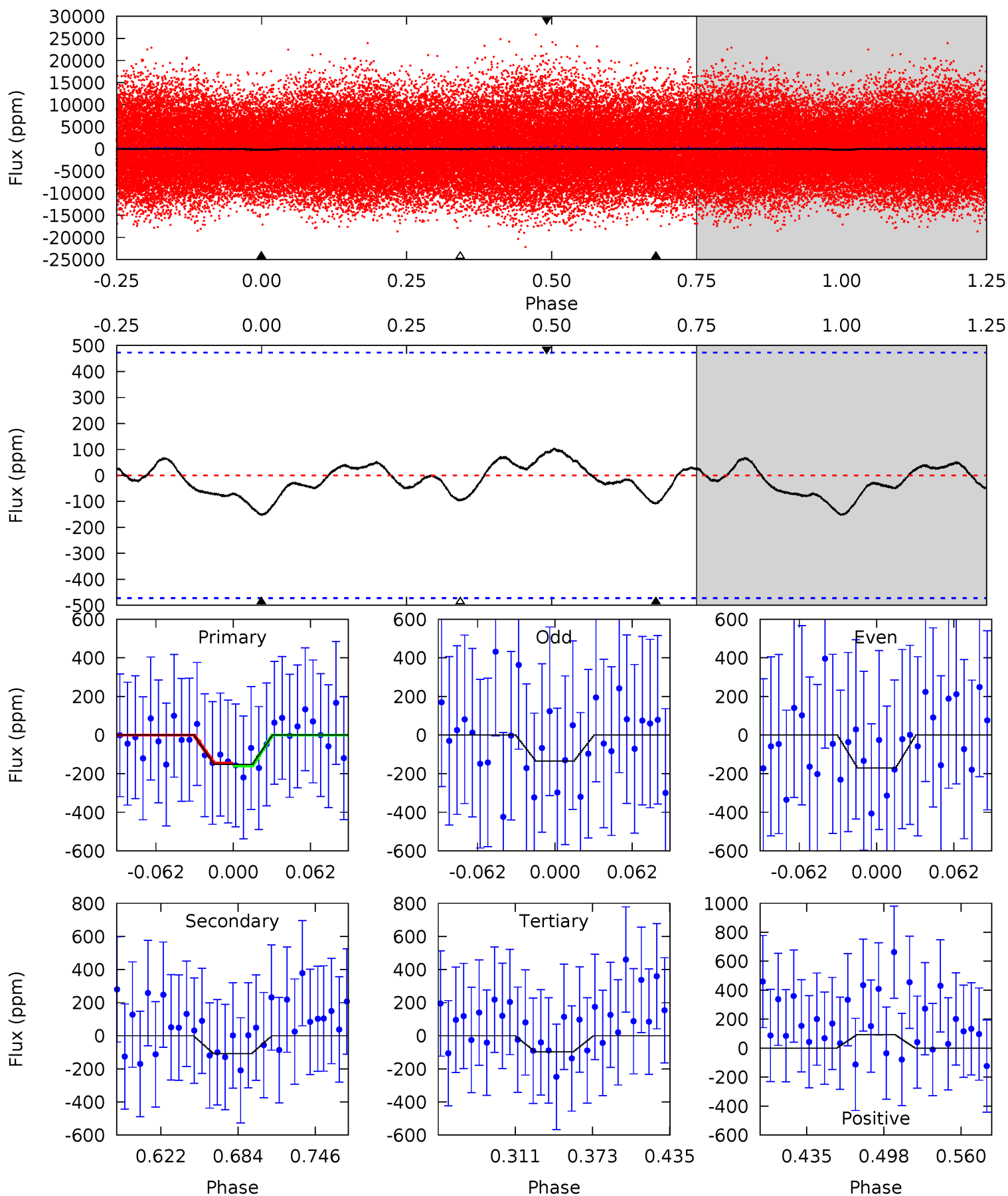
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.66	-0.51	0	0	4.42	1.28	1.71	6.66	6.66	-0.51	-0.51	3.12	0.99	0.54	0.68



Alt Model-Shift Uniqueness Test

006387185-01, P = 1.259056 Days, E = 130.694383 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.50	1.07	0.96	0.91	4.66	1.86	0.47	0.55	0.59	0.11	0.16	0.18	0.99	0.41	0.08



Stellar Parameters For KIC 006387185

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6072^{+200}_{-200}	$4.008^{+0.413}_{-0.138}$	$-0.340^{+0.300}_{-0.300}$	$1.654^{+0.438}_{-0.657}$	$1.016^{+0.158}_{-0.142}$	$0.316^{+1.001}_{-0.148}$
	+3%/-3%	+10%/-3%	+88%/-88%	+26%/-40%	+16%/-14%	+317%/-47%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006387185-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	9 ± 17	$2.49^{+0.47}_{-0.55}$	3095^{+260}_{-359}	-3580^{+6218}_{-510}	$-0.410^{+0.795}_{-0.879}$
Alt.	-108 ± 101	$2.08^{+0.41}_{-0.46}$	3100^{+239}_{-320}	5582^{+1064}_{-8161}	$7.105^{+9.278}_{-6.877}$

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 $A_{obs} \gg 1.0$

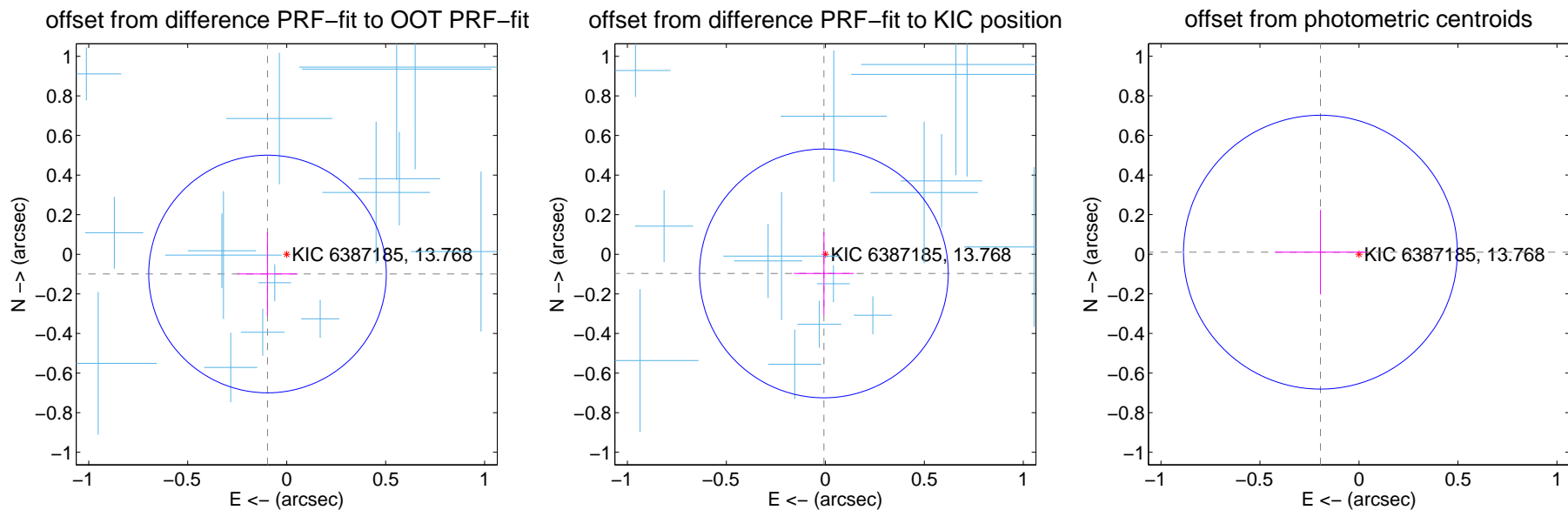
DV Centroid Data

Supplemental centroid analysis for 006387185-01. Kepler magnitude: 13.77. Transit SNR 11.17

There are 17 quarters with good PRF difference image offsets

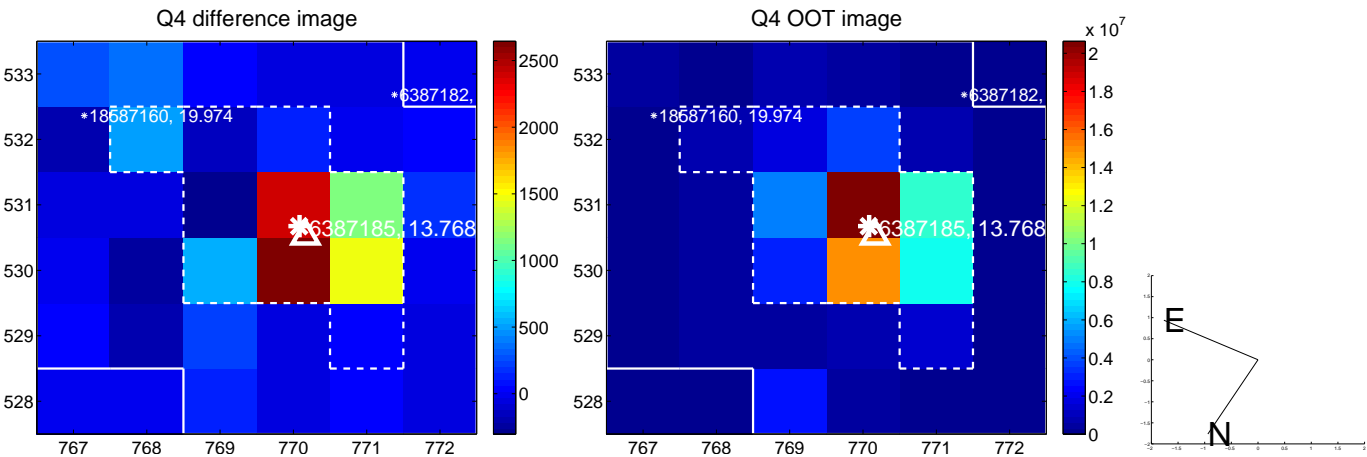
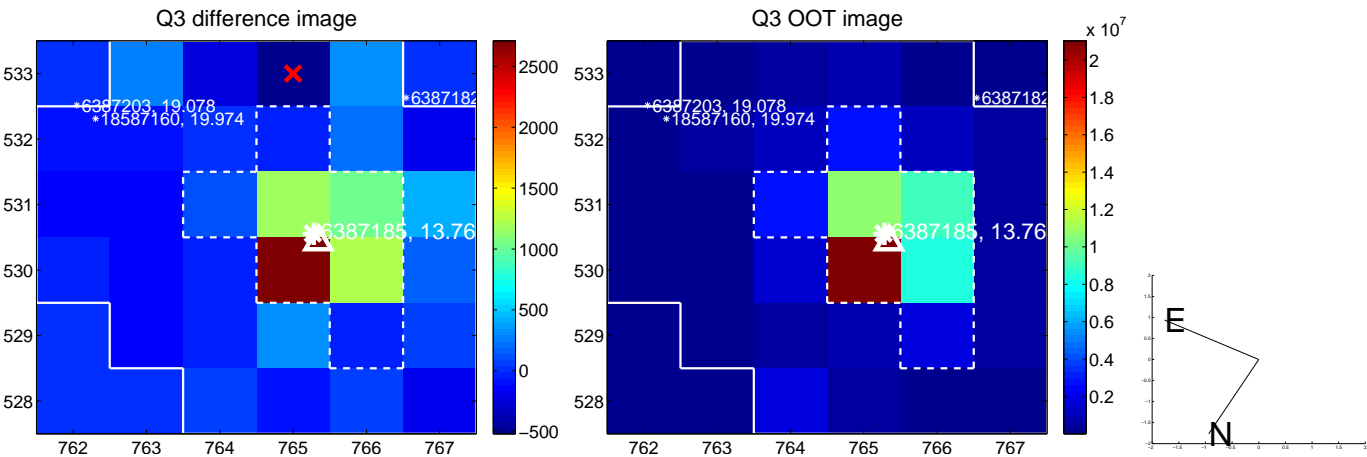
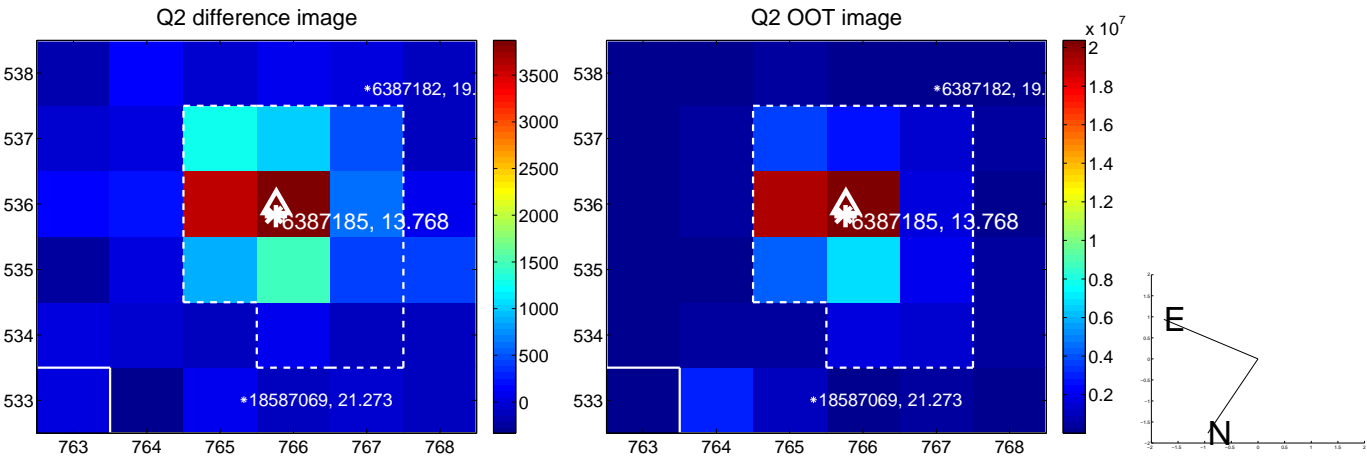
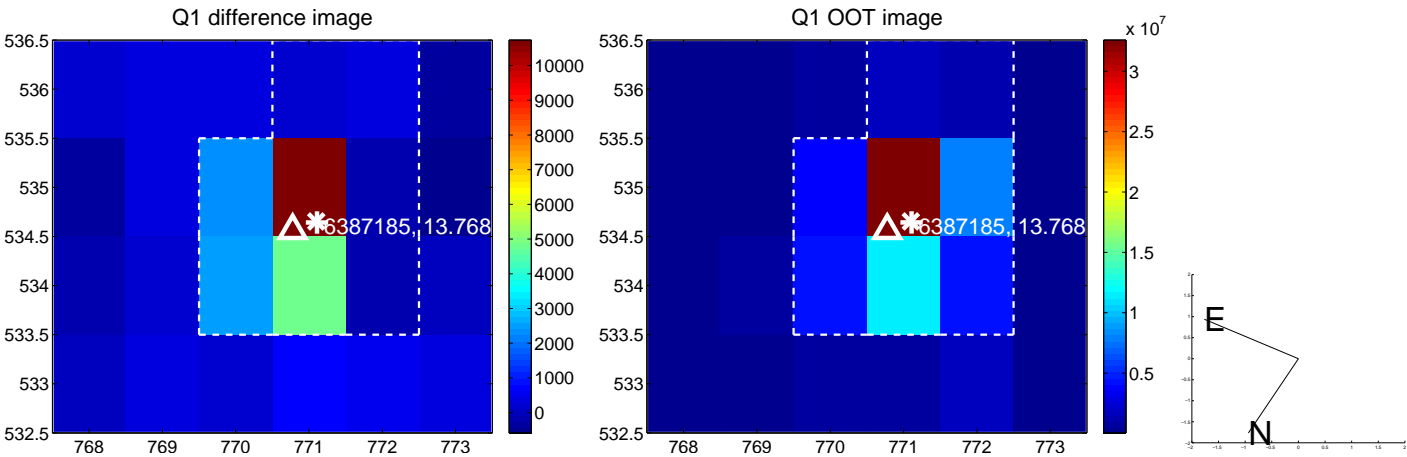
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.139 ± 0.200	0.69	0.097 ± 0.152	-0.100 ± 0.209
PRF-fit source offset from KIC position	0.097 ± 0.209	0.46	0.007 ± 0.152	-0.097 ± 0.208
photometric centroid source offset	0.19 ± 0.23	0.85	0.19 ± 0.23	0.01 ± 0.21

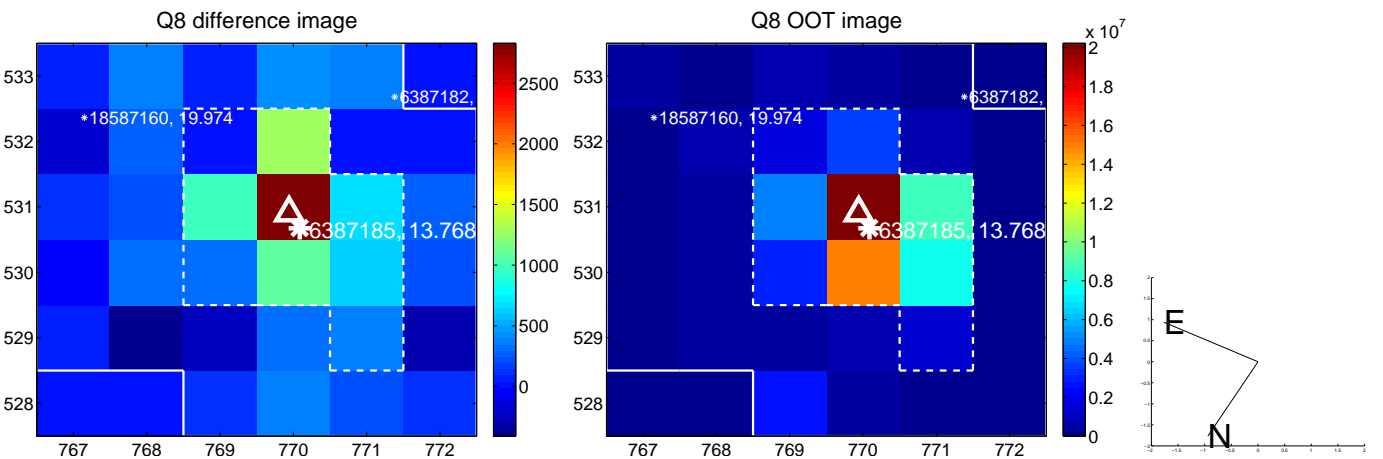
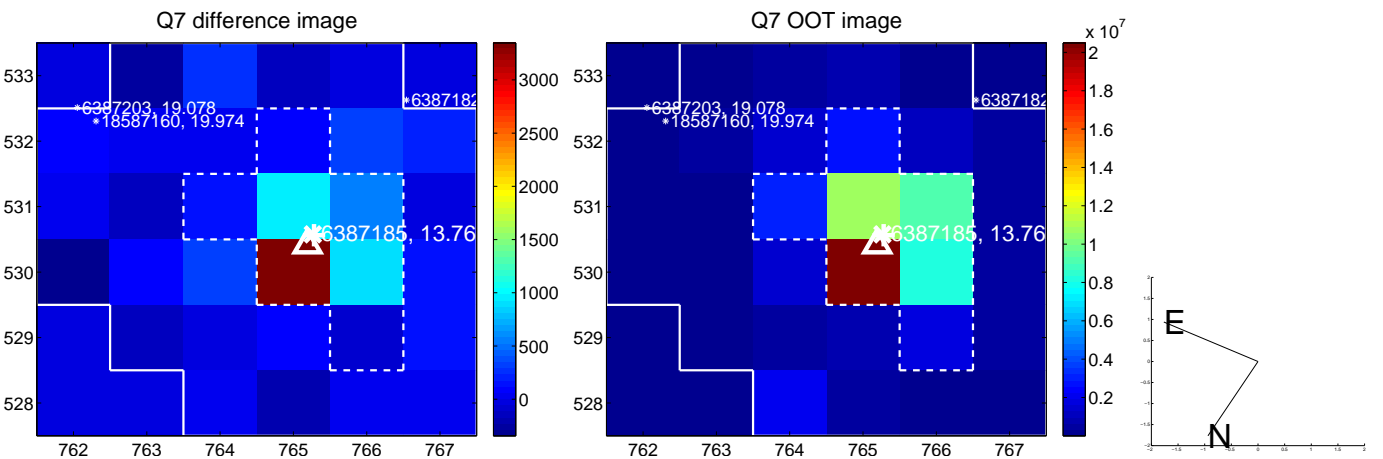
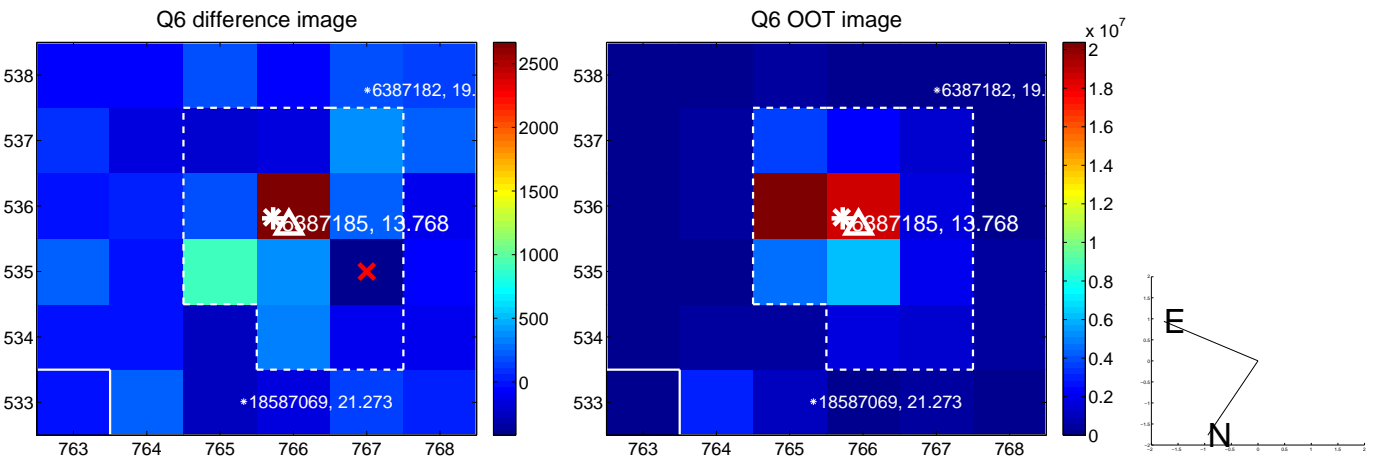
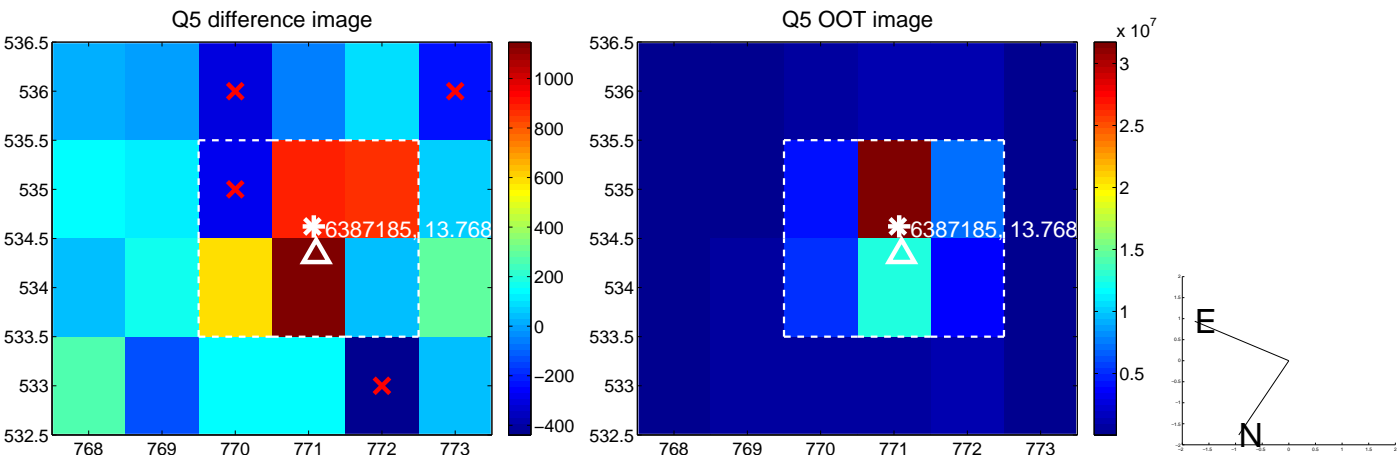


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

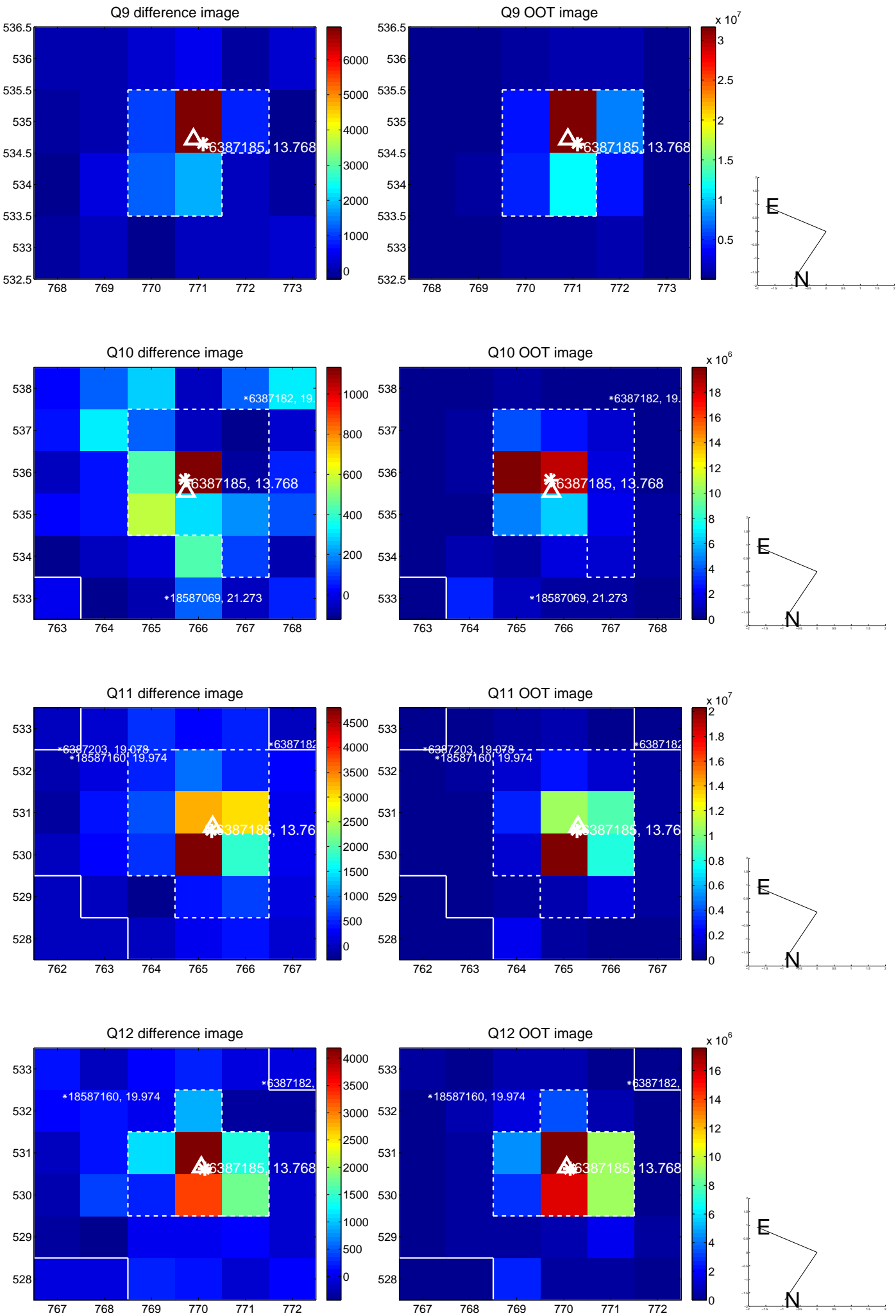
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



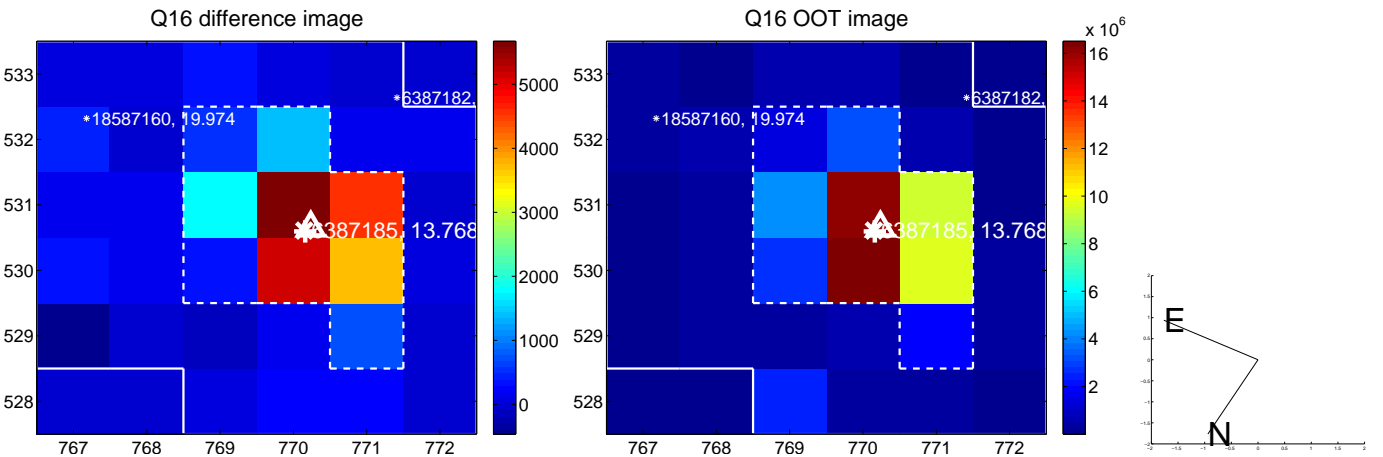
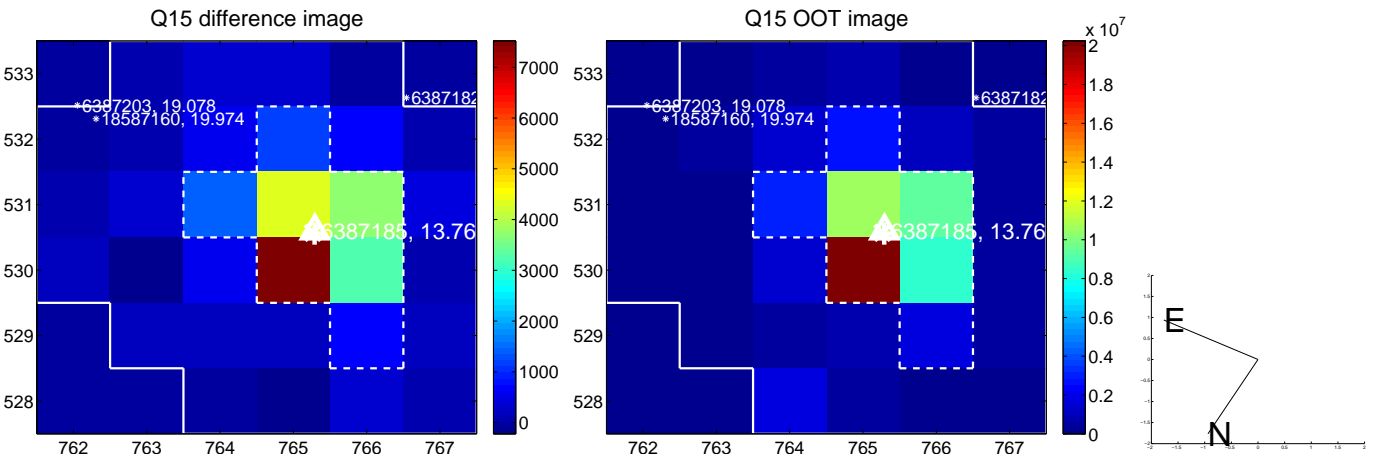
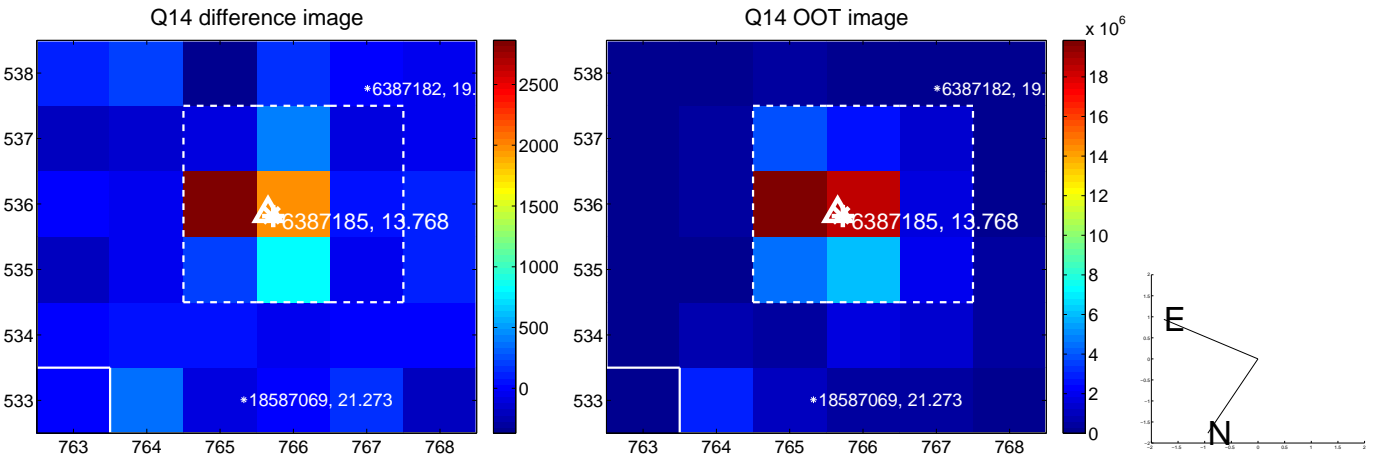
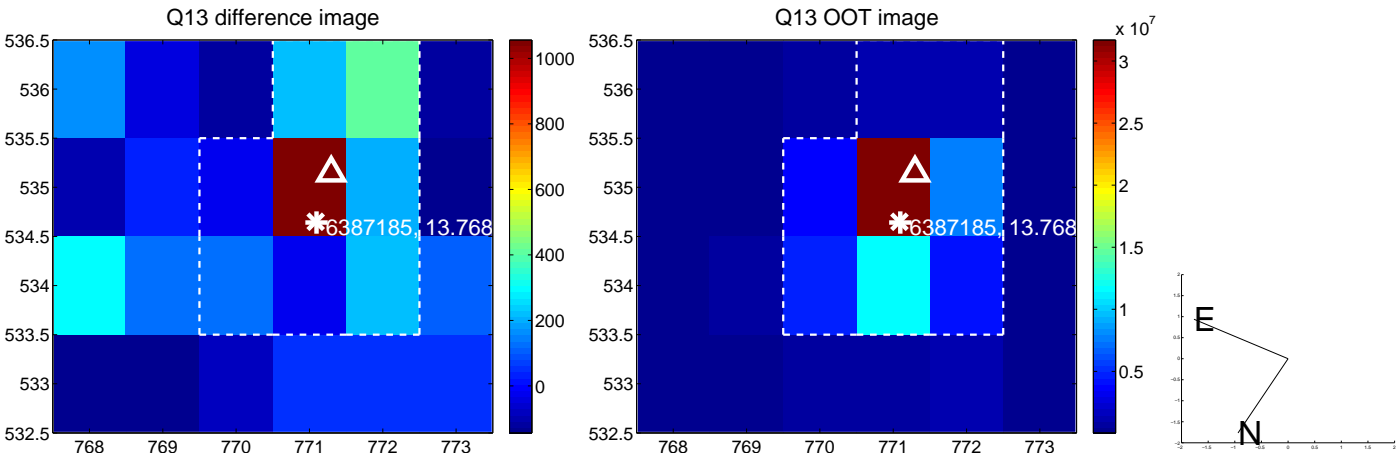
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



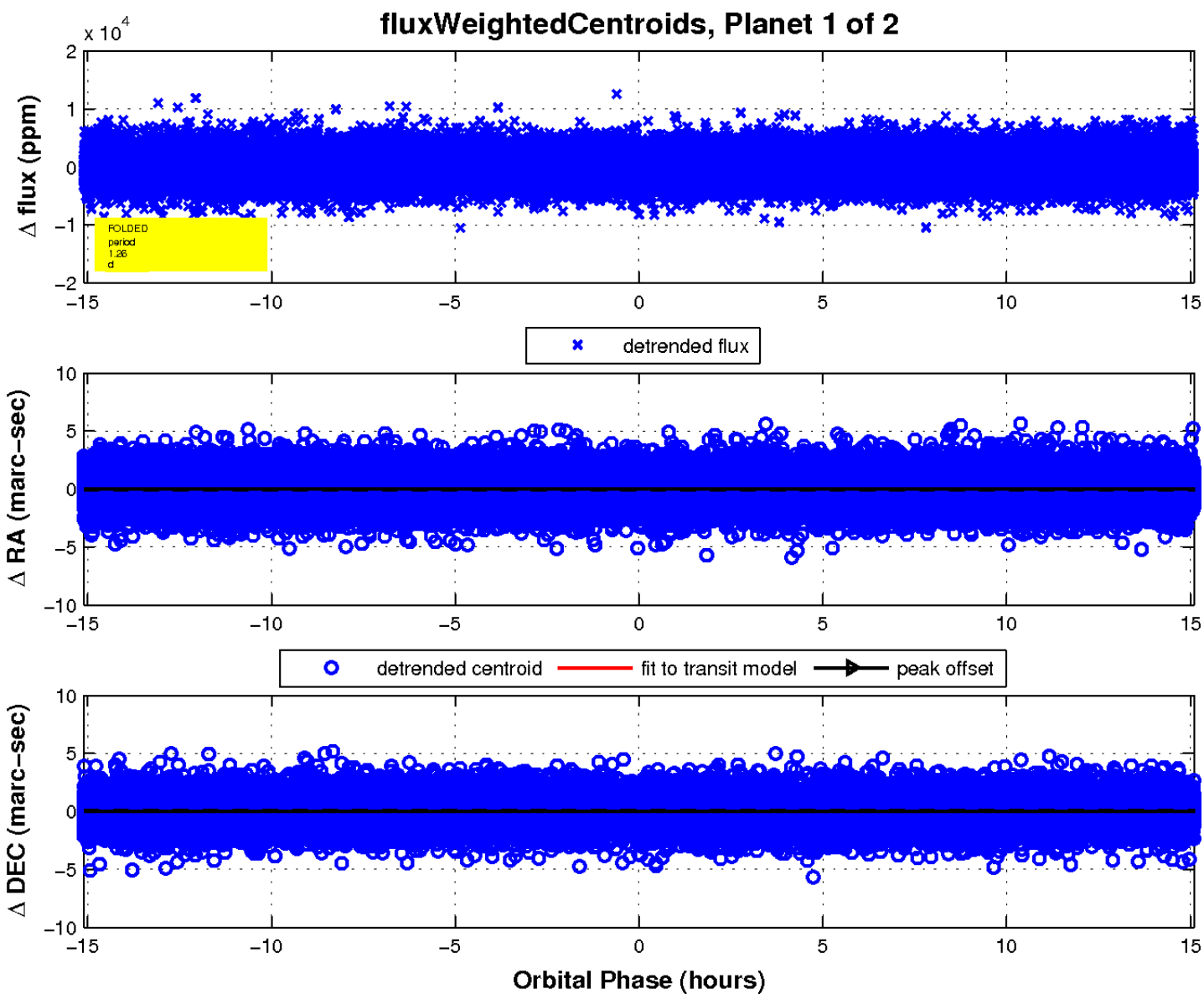
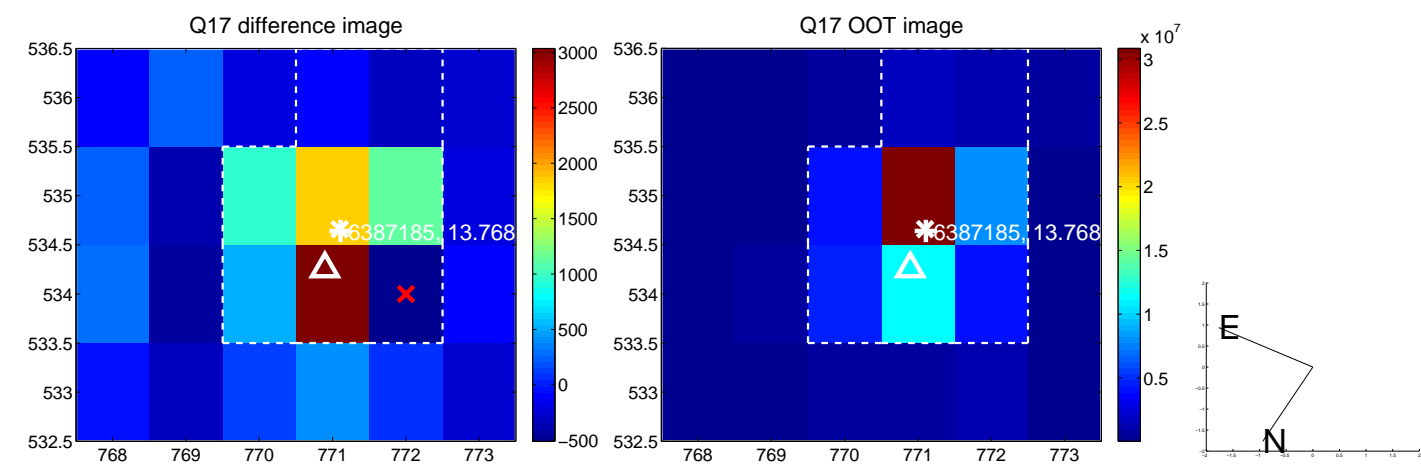
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

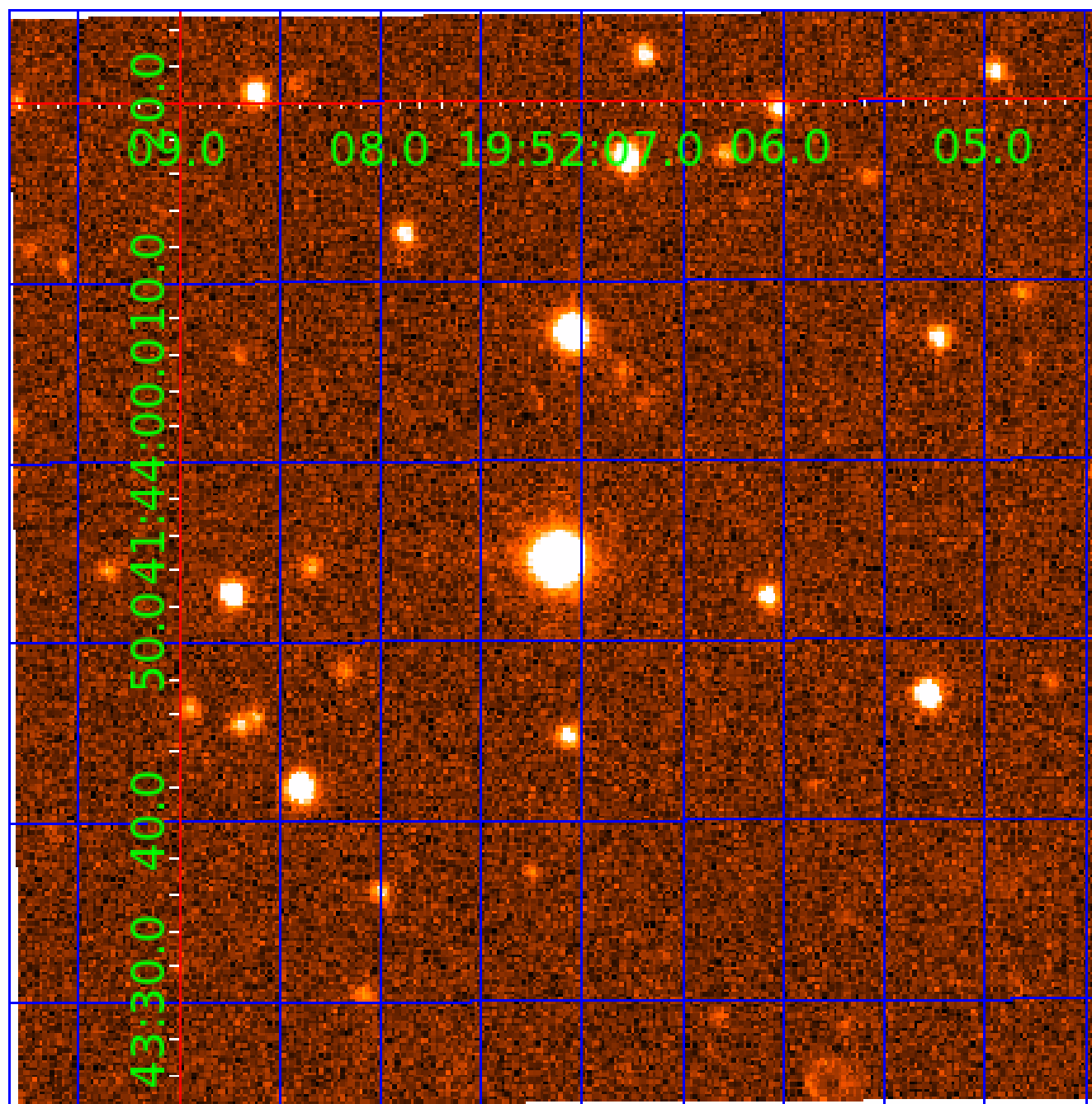


white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006387185

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})
006387185-01	OBS	No	1.259044	131.943581	149.1	5.603	11.0	11.2	1.65	6072	2.62	6326.89
006387185-02	OBS	No	3.415344	131.690960	271.0	20.717	8.6	11.0	1.65	6072	3.53	1672.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006387185-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006387185-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT

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

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

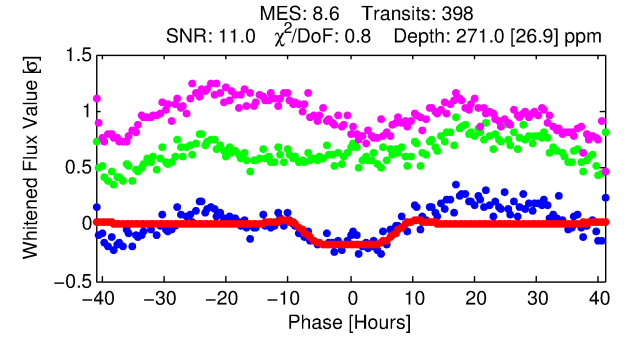
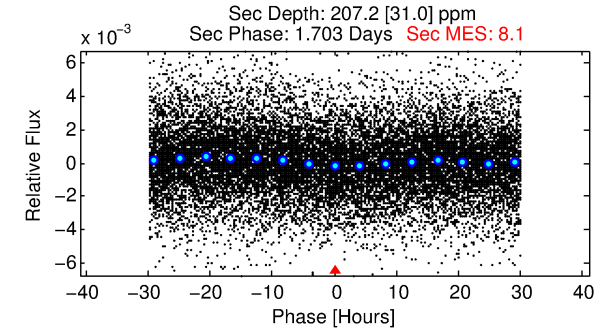
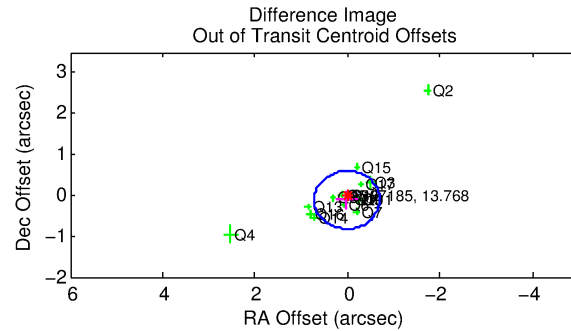
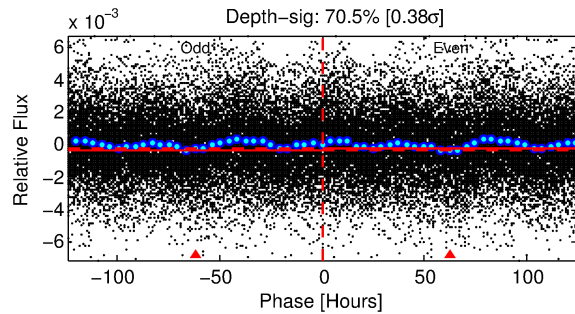
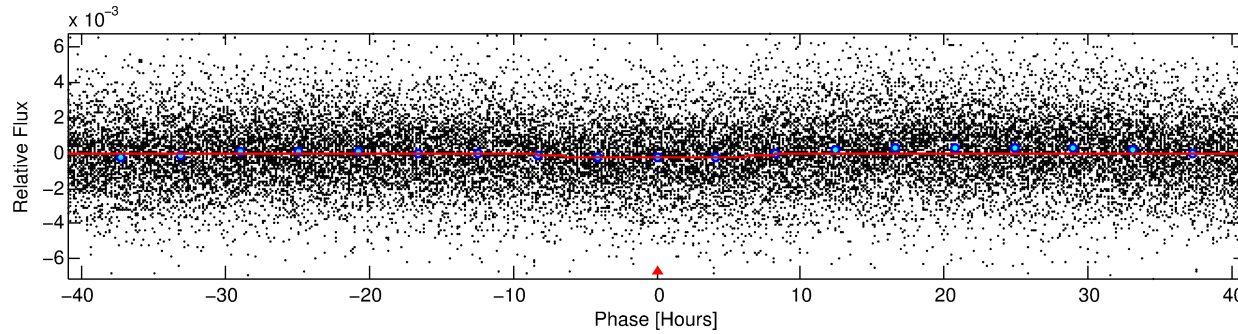
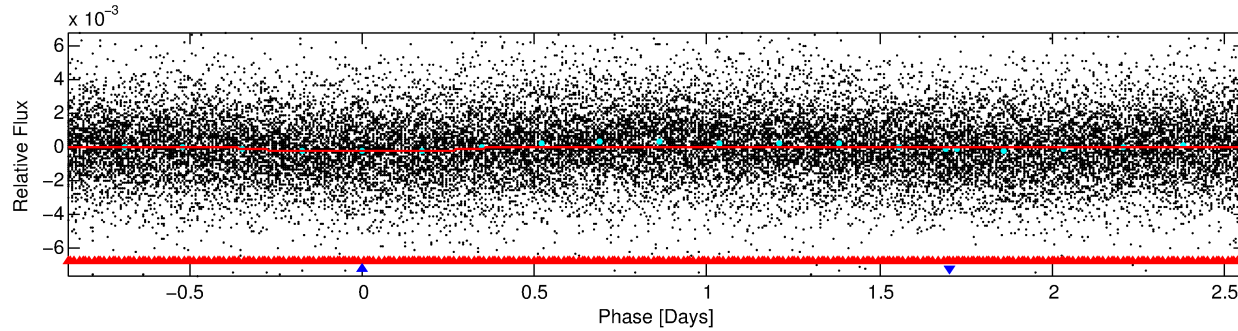
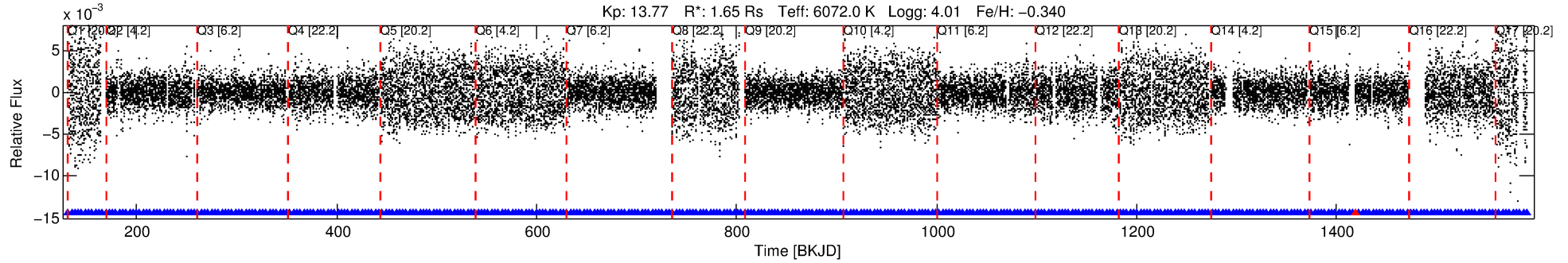
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006387185-02

No Significant Match Found

DV One-Page Summary

KIC: 6387185 Candidate: 2 of 2 Period: 3.415 d



DV Fit Results:

Period = 3.41534 [0.00015] d
Epoch = 131.6910 [0.0344] BKJD
Rp/R* = 0.0195 [0.0013]
a/R* = 1.07 [0.02]
b = 0.97 [0.01]
Seff = 1672.37 [1169.96]
Teq = 1631 [285] K
Rp = 3.53 [1.42] Re
a = 0.0446 [0.0184] AU
Ag = 18.26 [13.06] [1.32 σ]
Teffp = 5212 [311] K [8.49 σ]

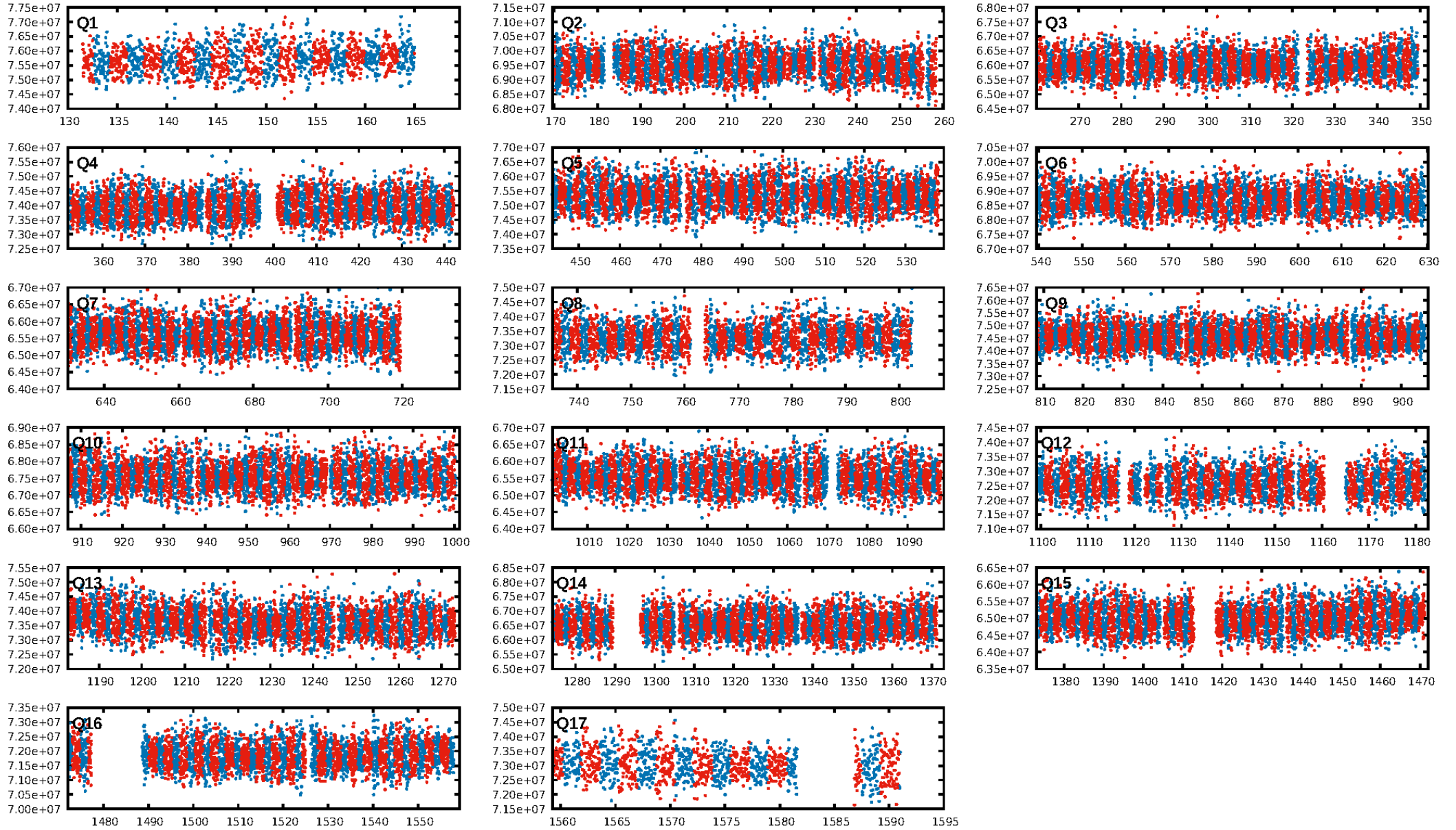
DV Diagnostic Results:

ShortPeriod-sig: 98.4% [2.41 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [378/379]
GhostDiagnostic-chr: 1.084
Centroid-sig: 90.6%
Centroid-so: 0.178 arcsec [1.45 σ]
OotOffset-rm: 0.117 arcsec [0.50 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-rm: 0.115 arcsec [0.91 σ]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 0.00 [0/17]

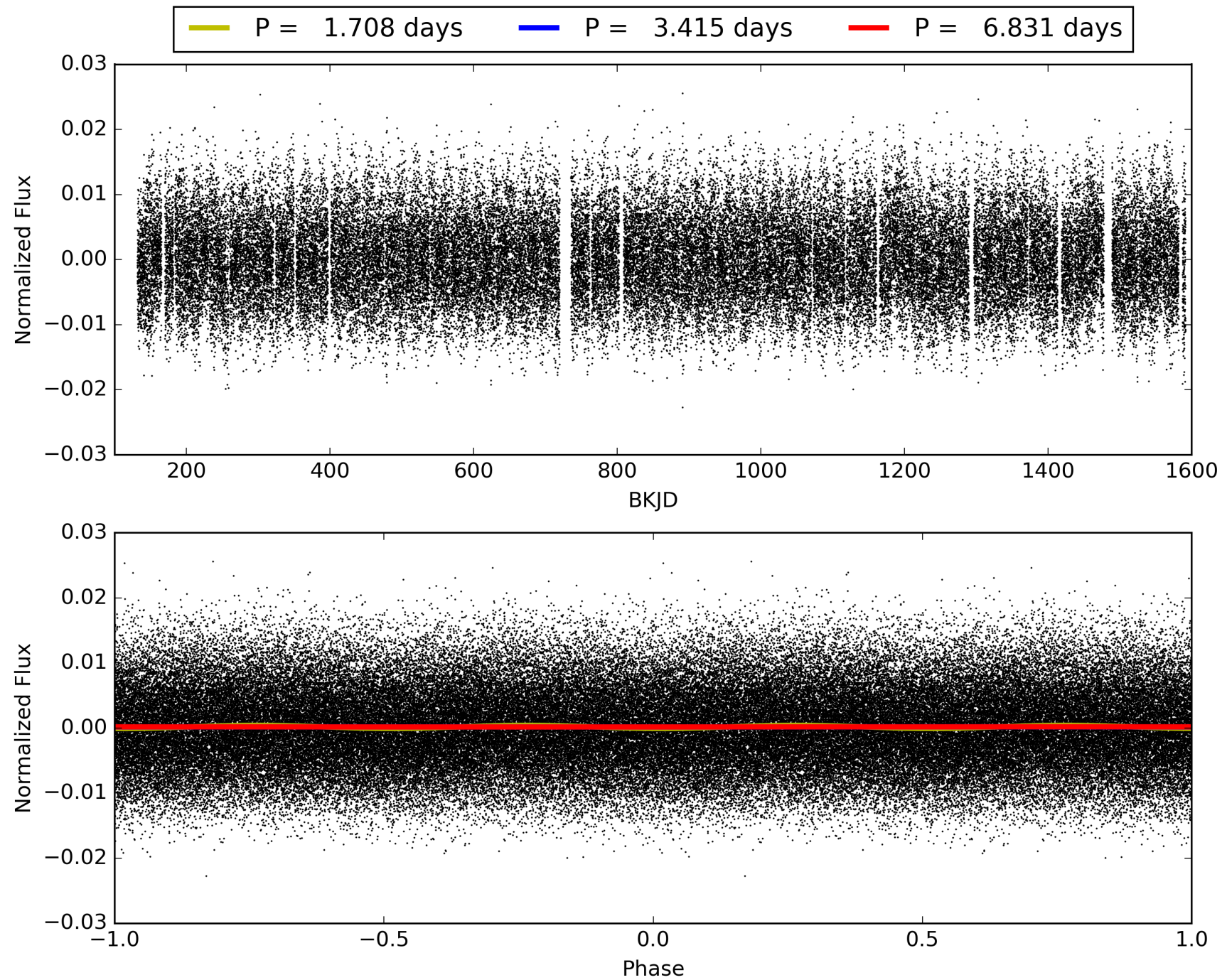
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:45:20 Z

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

TCE 006387185-02, PDC Light Curves

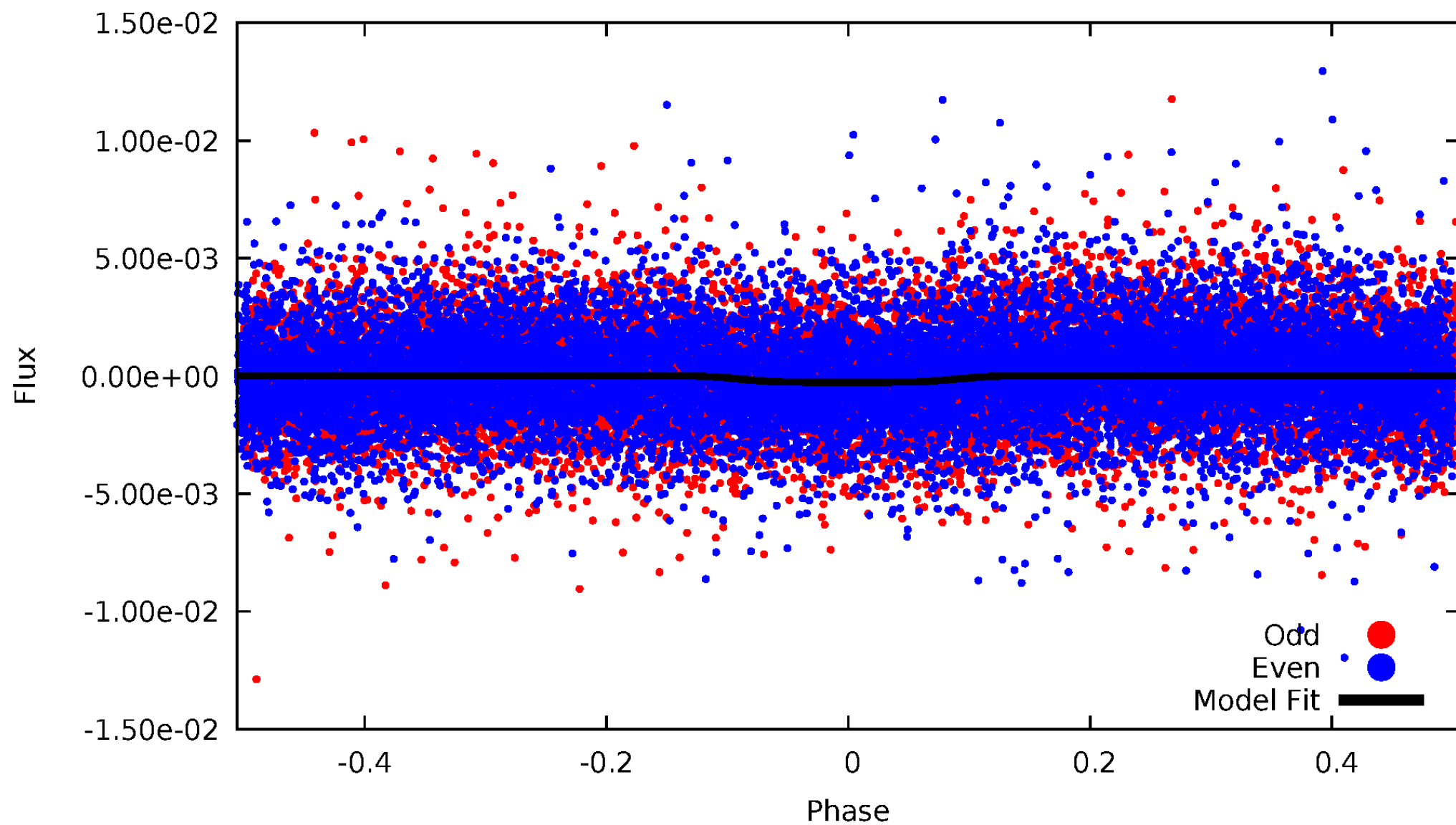


TCE 006387185-02



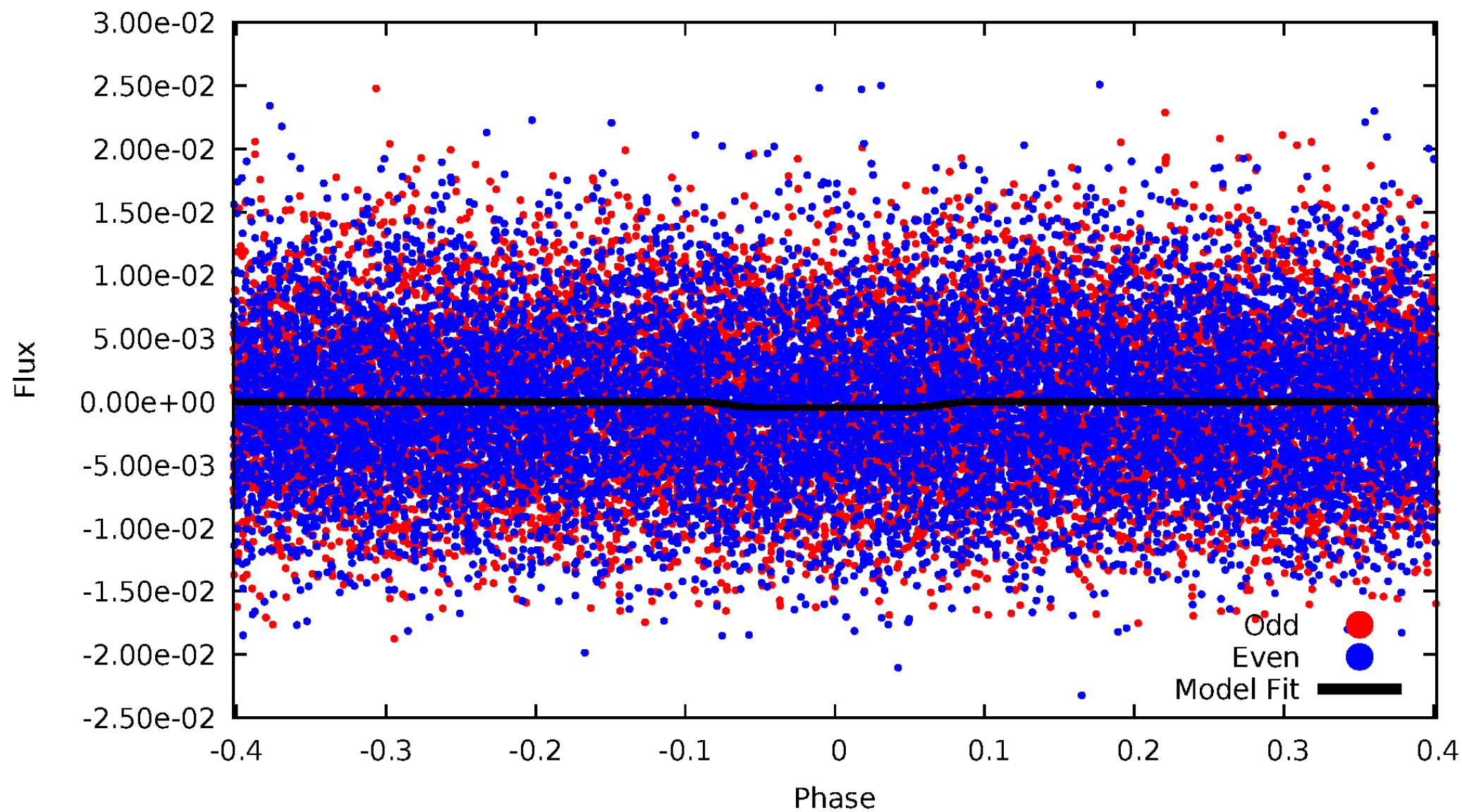
DV Odd/Even

TCE 006387185-02



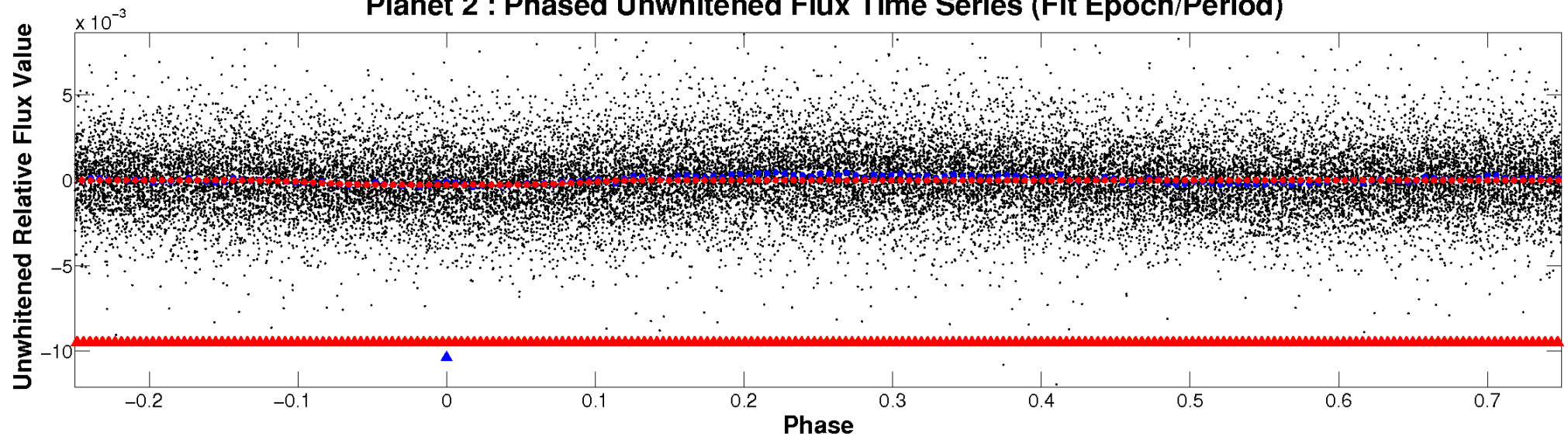
ALT Odd/Even

TCE 006387185-02

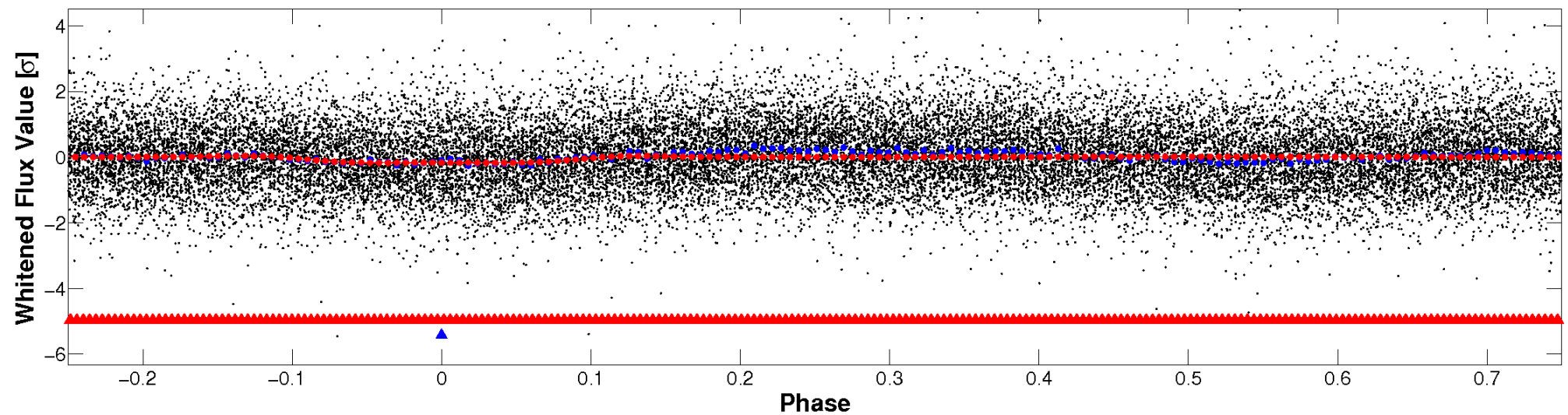


Non-Whitened Vs. Whitened Light Curve

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

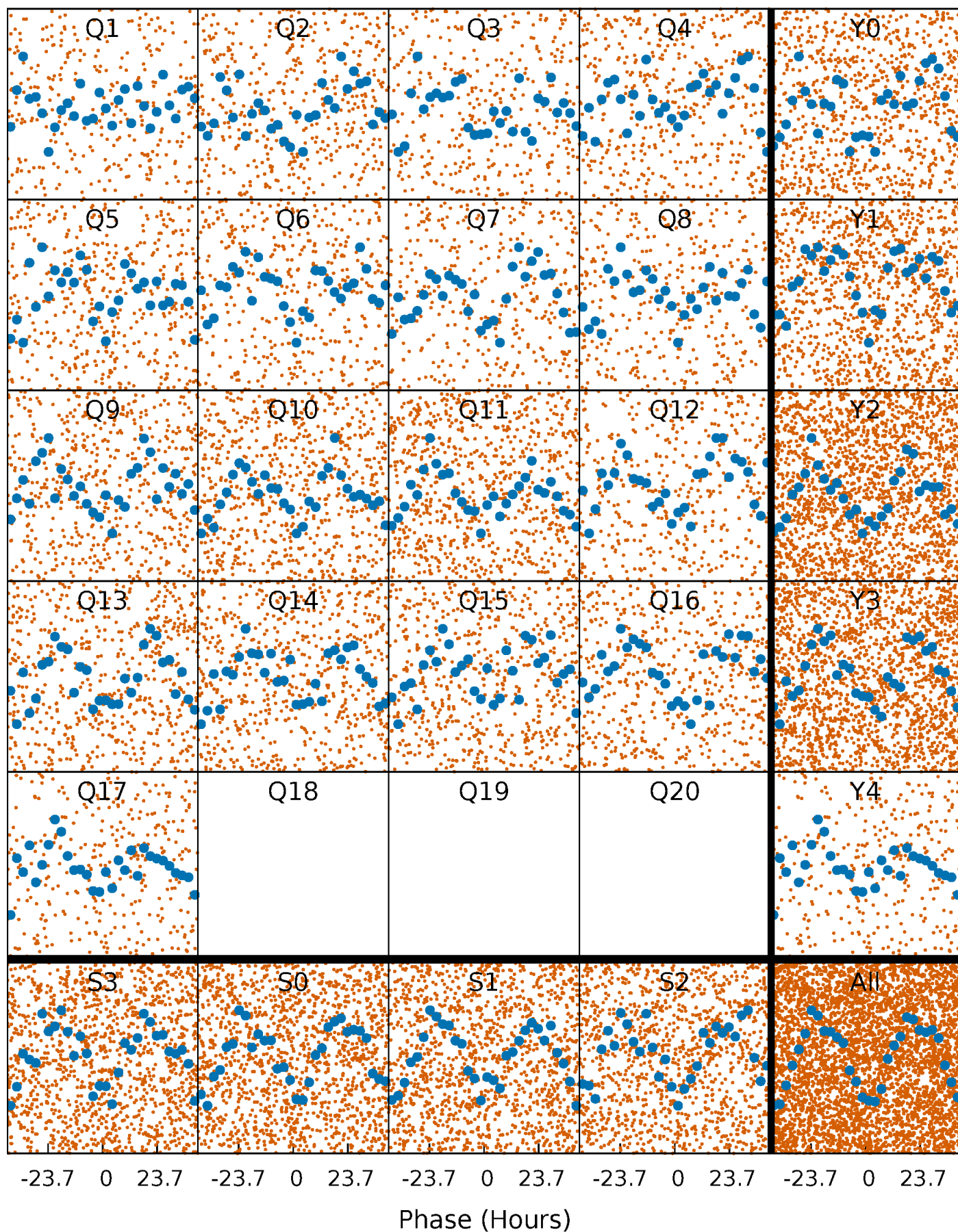


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



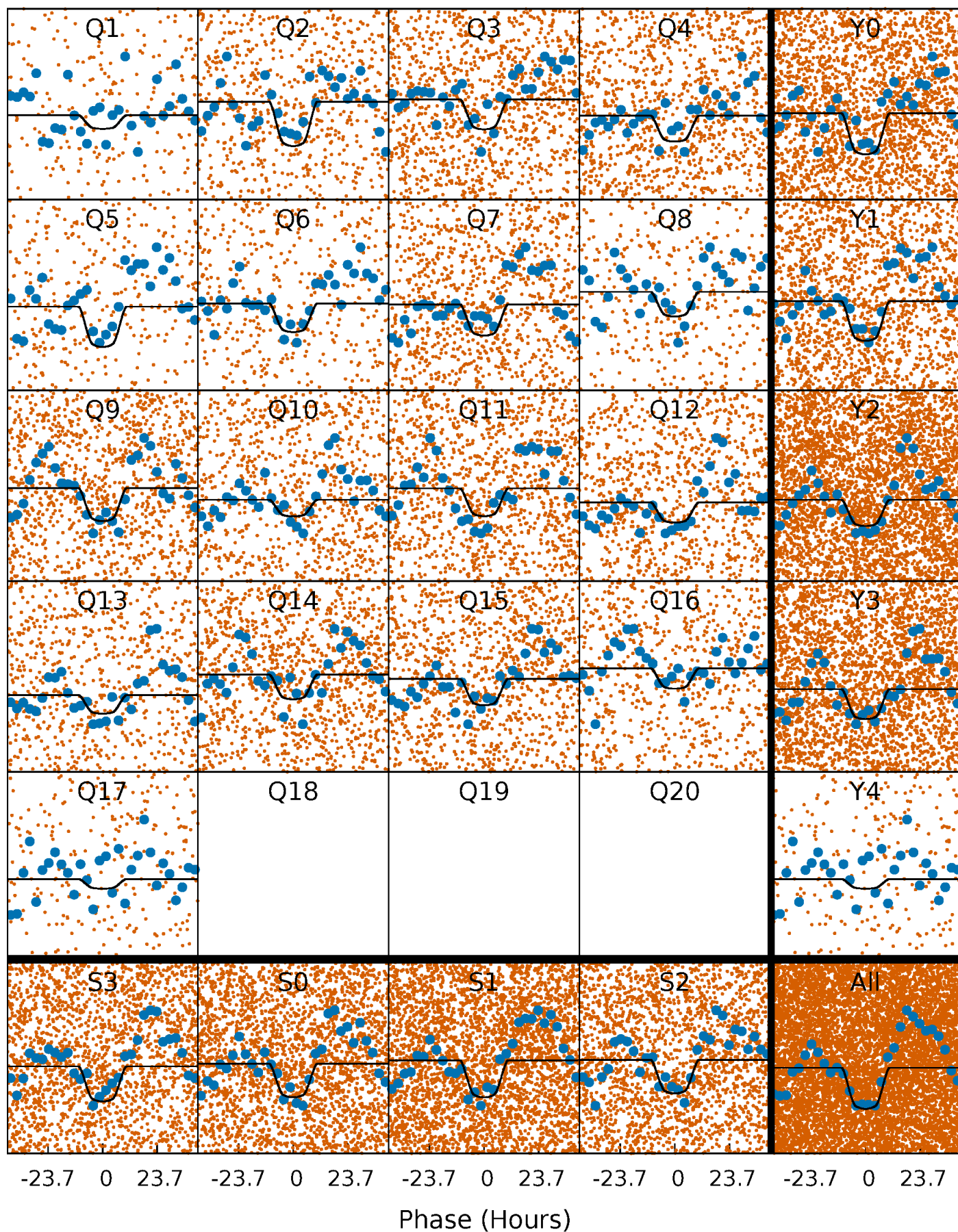
PDC Quarter-Phased Transit Curves

TCE 006387185-02 P= 3.415344 Days $T_0=131.690960$ (BKJD)



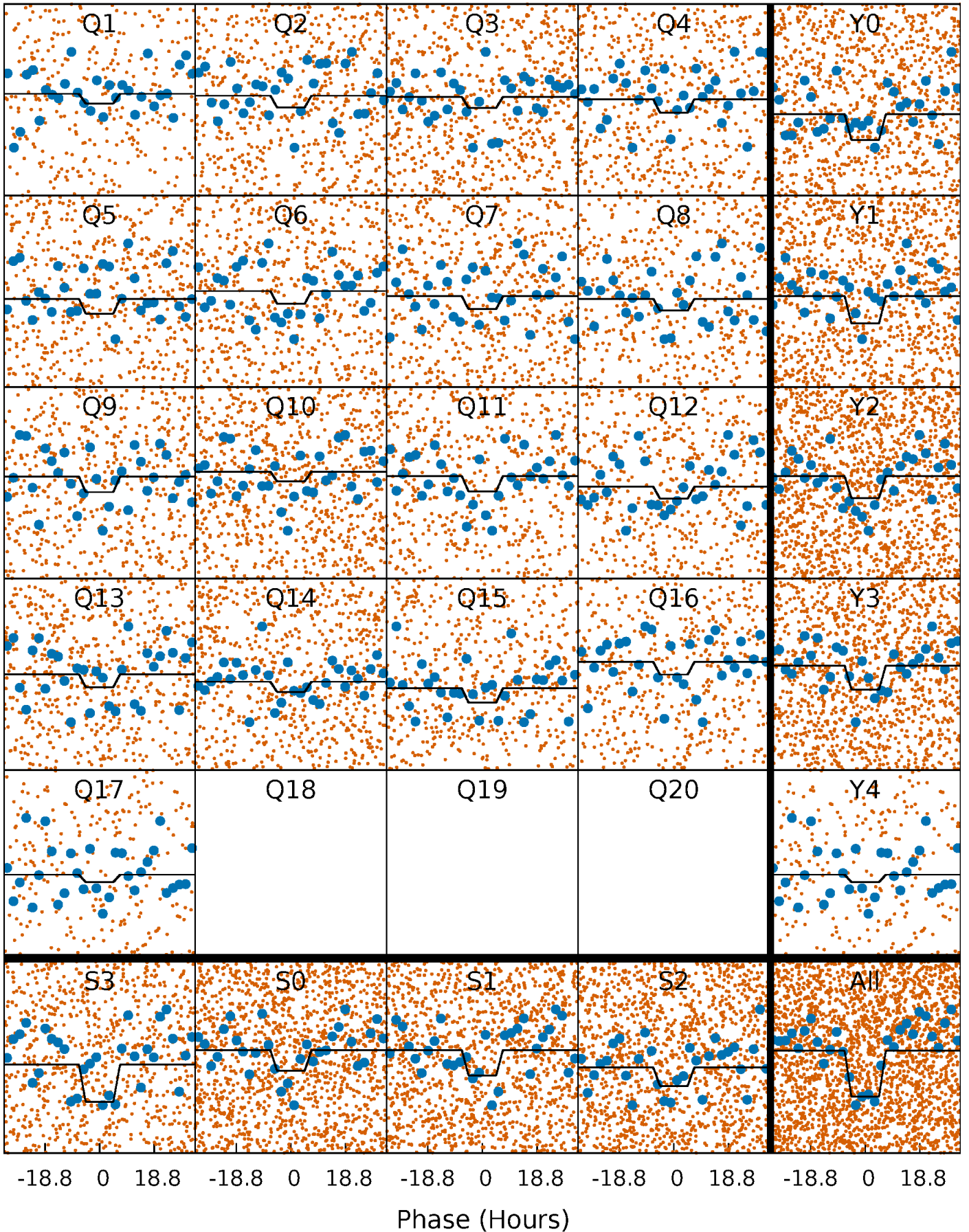
DV Quarter-Phased Transit Curves

TCE 006387185-02 P= 3.415344 Days $T_0=131.690960$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

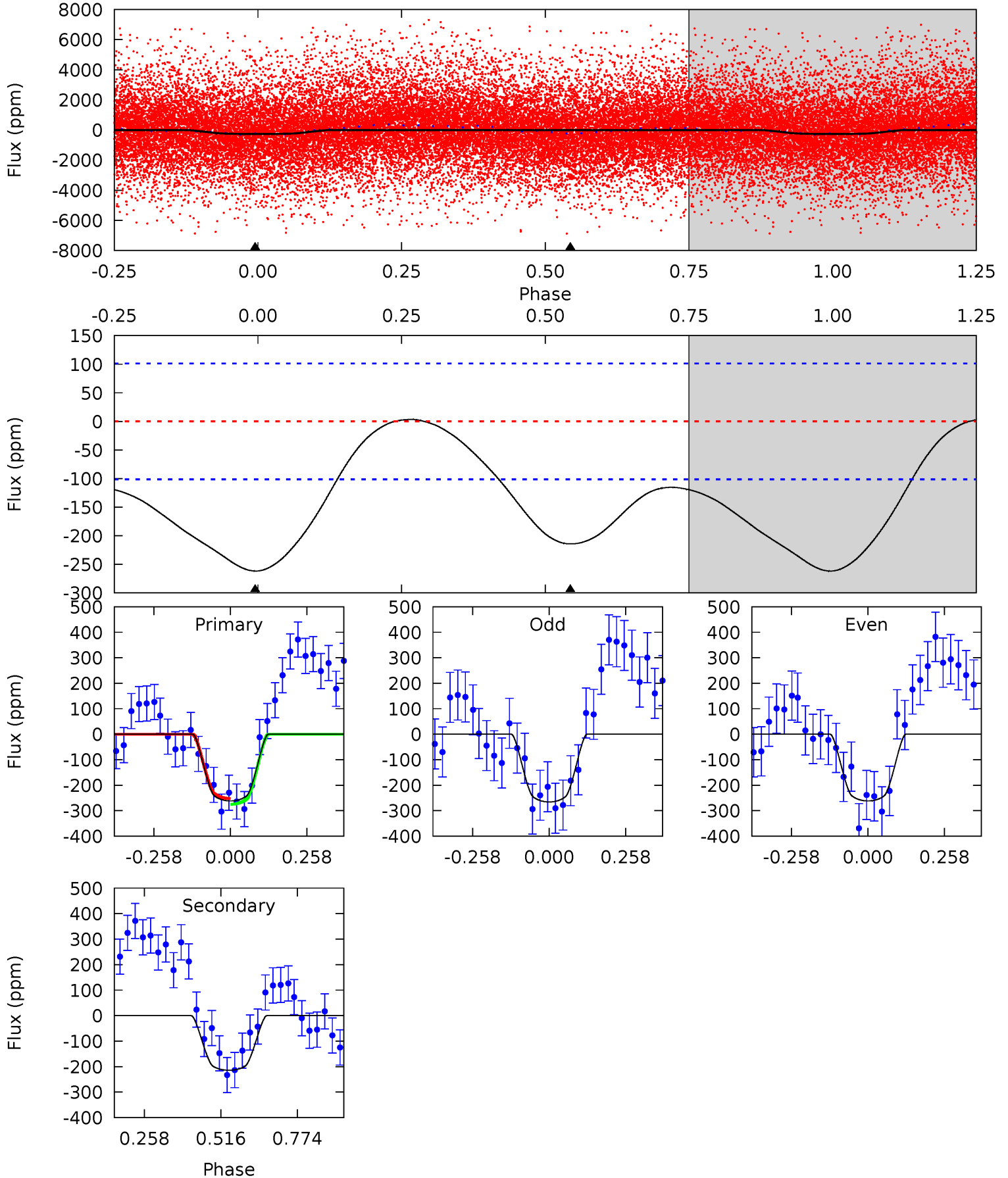
TCE 006387185-02 P= 3.415431 Days $T_0=131.689033$ (BKJD)



DV Model-Shift Uniqueness Test

006387185-02, P = 3.415344 Days, E = 128.275616 Days

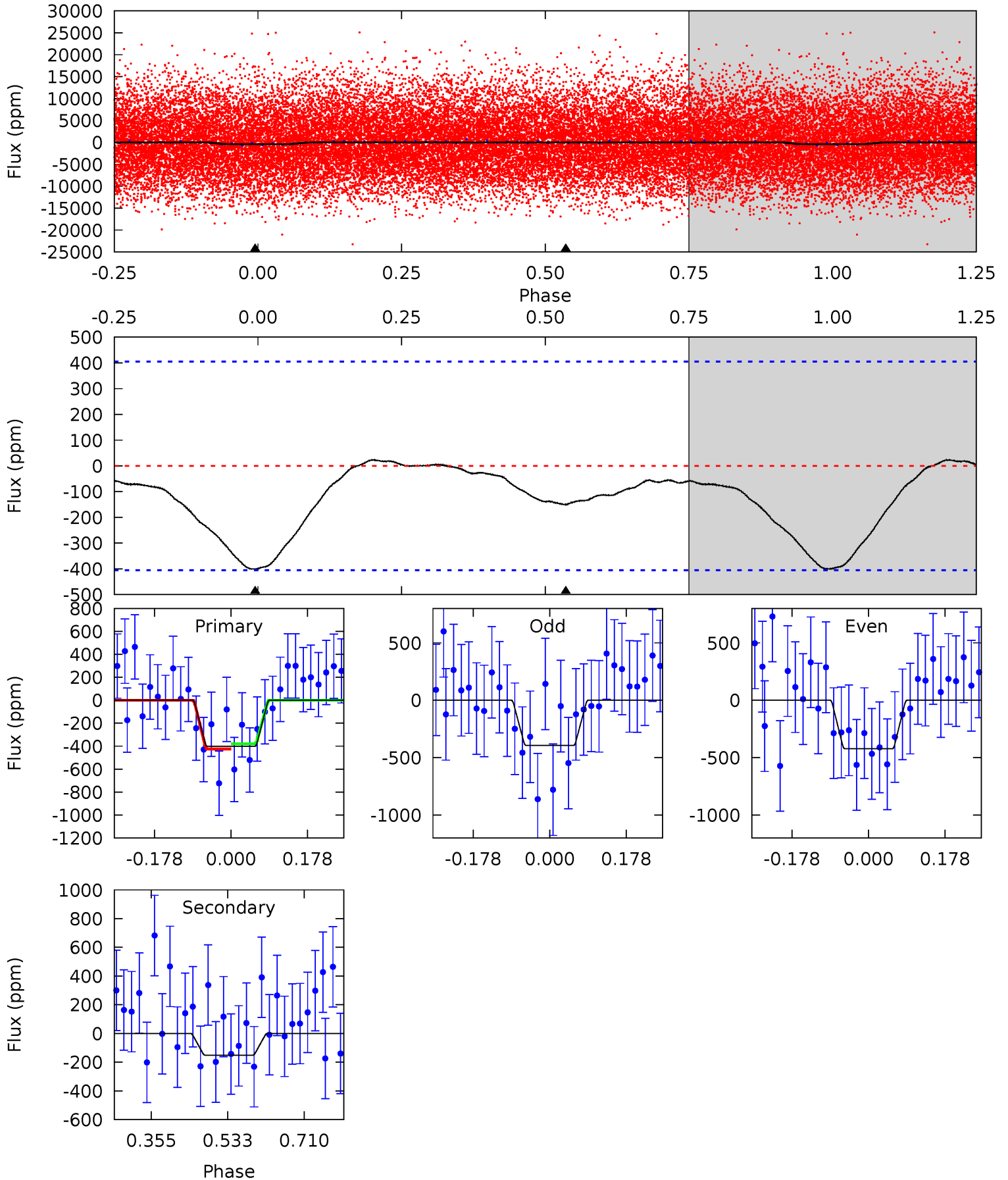
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	9.23	0	0	4.36	1.13	0.91	11.3	11.3	9.23	9.23	0.09	1.40	0.01	0.49



Alt Model-Shift Uniqueness Test

006387185-02, P = 3.415431 Days, E = 128.273602 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.40	1.66	0	0	4.44	1.35	0.40	4.40	4.40	1.66	1.66	0.16	2.24	0.06	0.25



Stellar Parameters For KIC 006387185

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6072^{+200}_{-200}	$4.008^{+0.413}_{-0.138}$	$-0.340^{+0.300}_{-0.300}$	$1.654^{+0.438}_{-0.657}$	$1.016^{+0.158}_{-0.142}$	$0.316^{+1.001}_{-0.148}$
	+3%/-3%	+10%/-3%	+88%/-88%	+26%/-40%	+16%/-14%	+317%/-47%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006387185-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-214 ± 23	$3.40^{+0.60}_{-0.69}$	2227^{+183}_{-224}	5278^{+278}_{-233}	21^{+11}_{-6}
Alt.	-151 ± 91	$3.55^{+0.66}_{-0.75}$	2227^{+175}_{-266}	4803^{+546}_{-766}	13^{+13}_{-8}

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

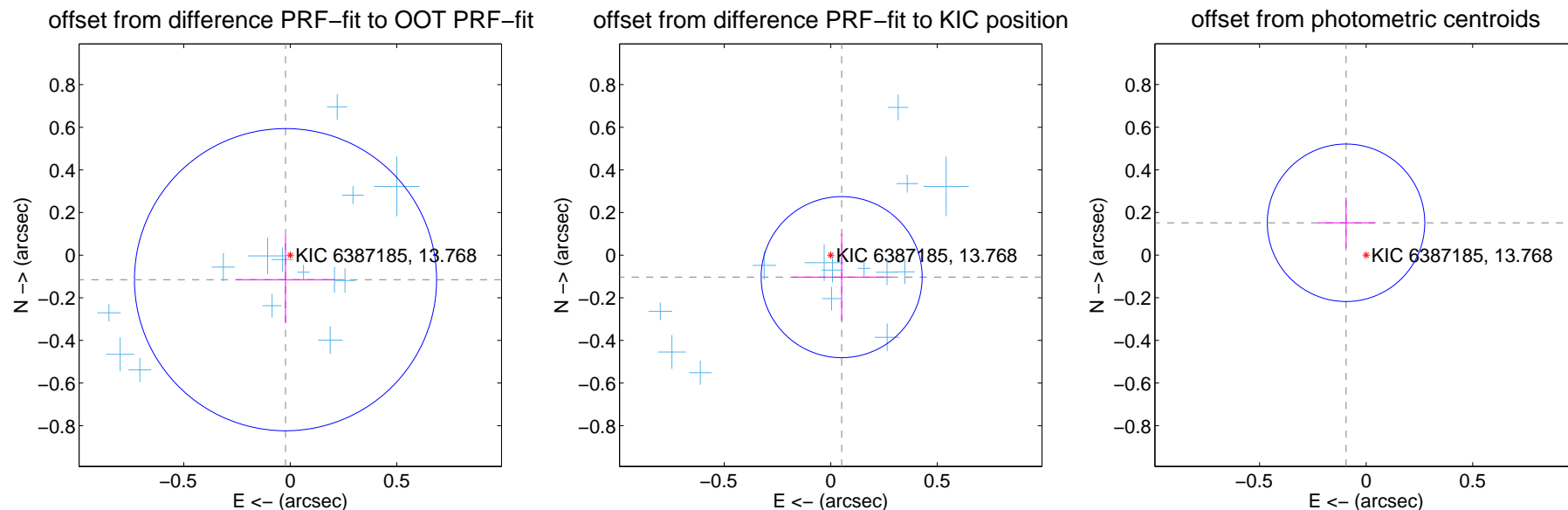
DV Centroid Data

Supplemental centroid analysis for 006387185-02. Kepler magnitude: 13.77. Transit SNR 11.01

There are 16 quarters with good PRF difference image offsets

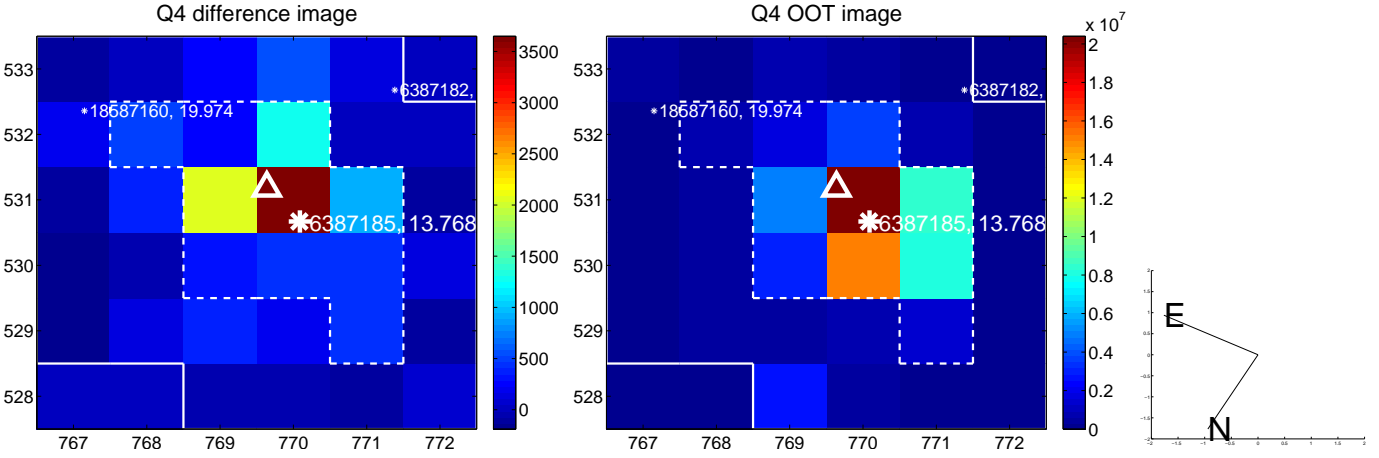
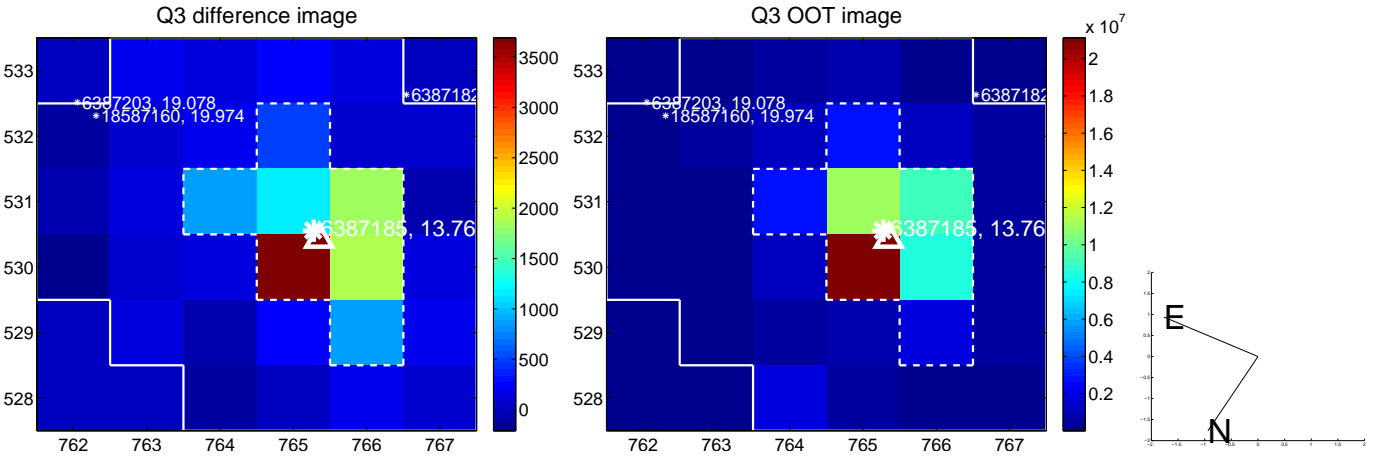
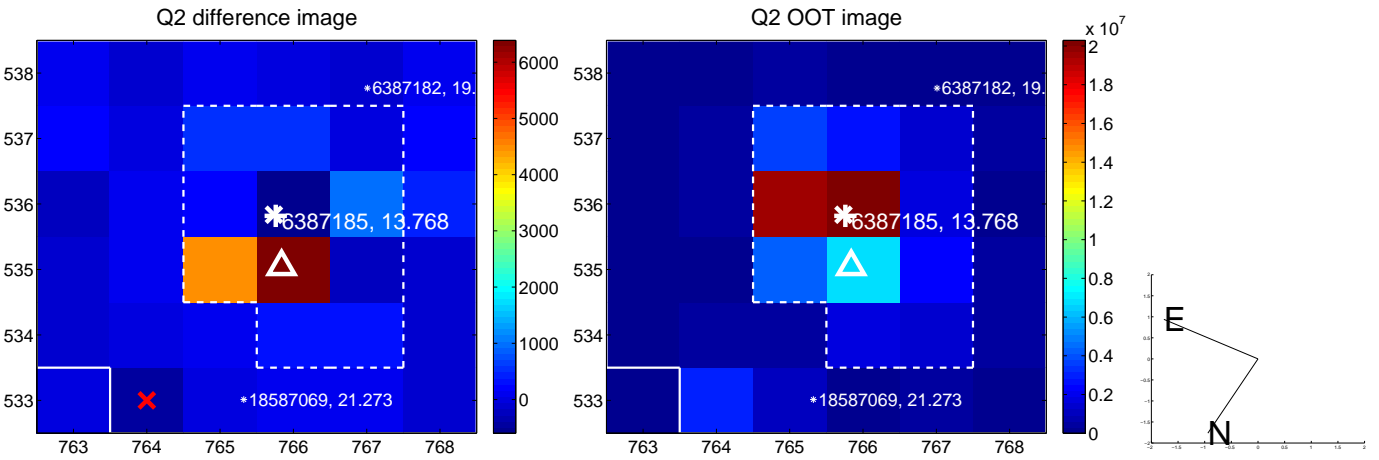
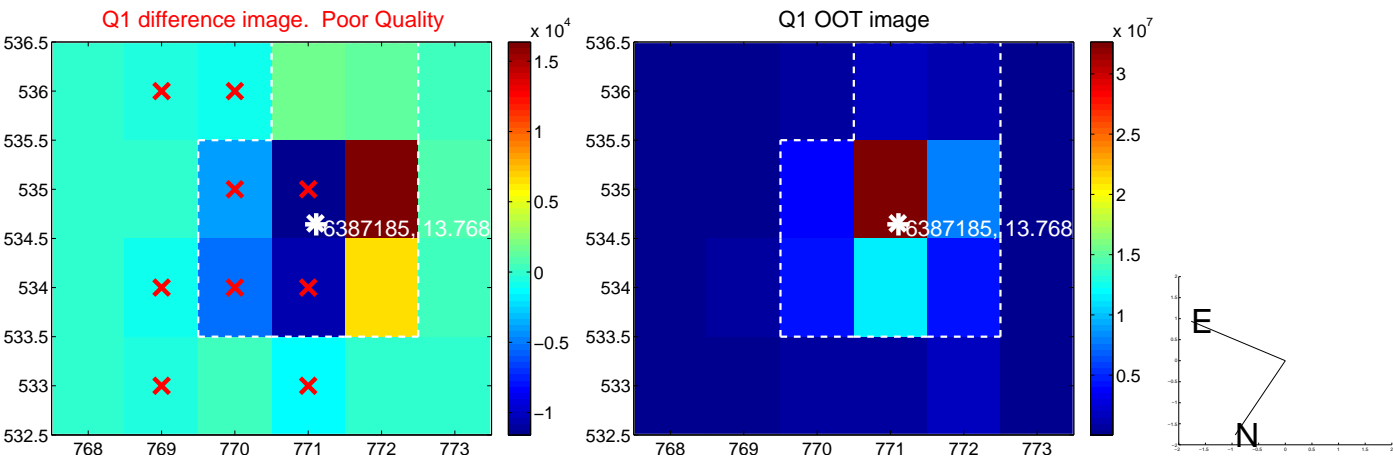
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.117 ± 0.236	0.50	0.022 ± 0.233	-0.115 ± 0.205
PRF-fit source offset from KIC position	0.115 ± 0.126	0.91	-0.051 ± 0.232	-0.103 ± 0.204
photometric centroid source offset	0.18 ± 0.12	1.45	0.09 ± 0.13	0.15 ± 0.12

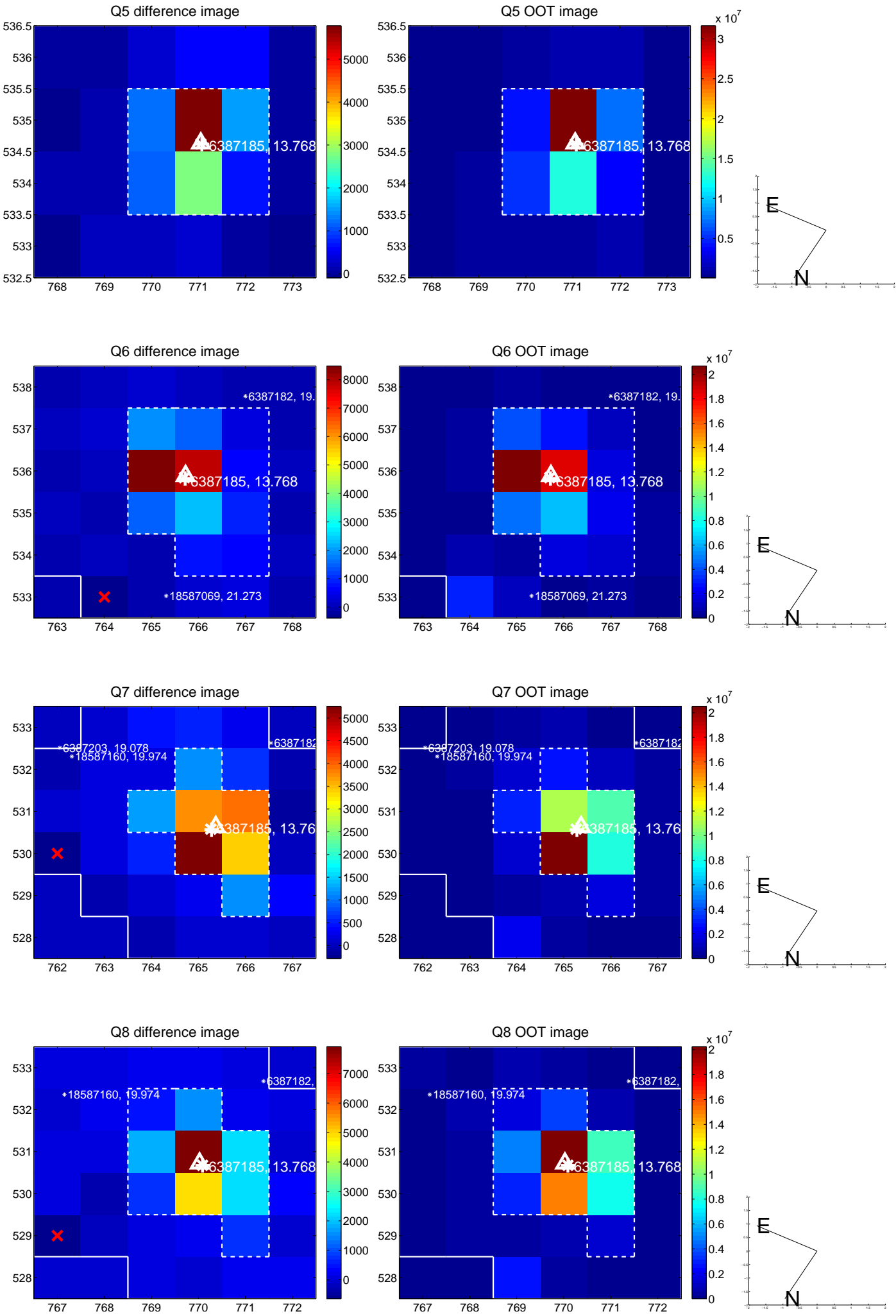


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

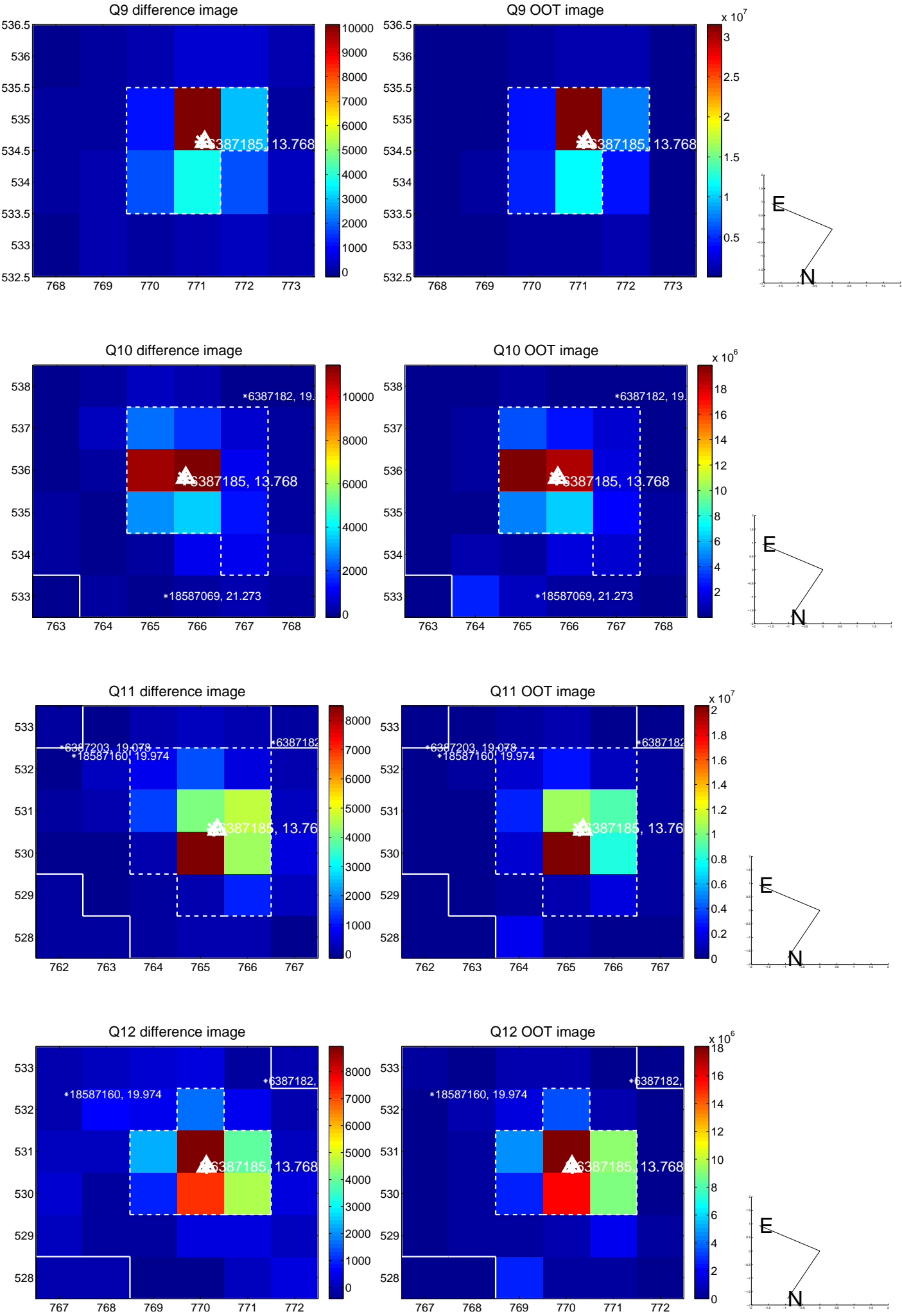
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



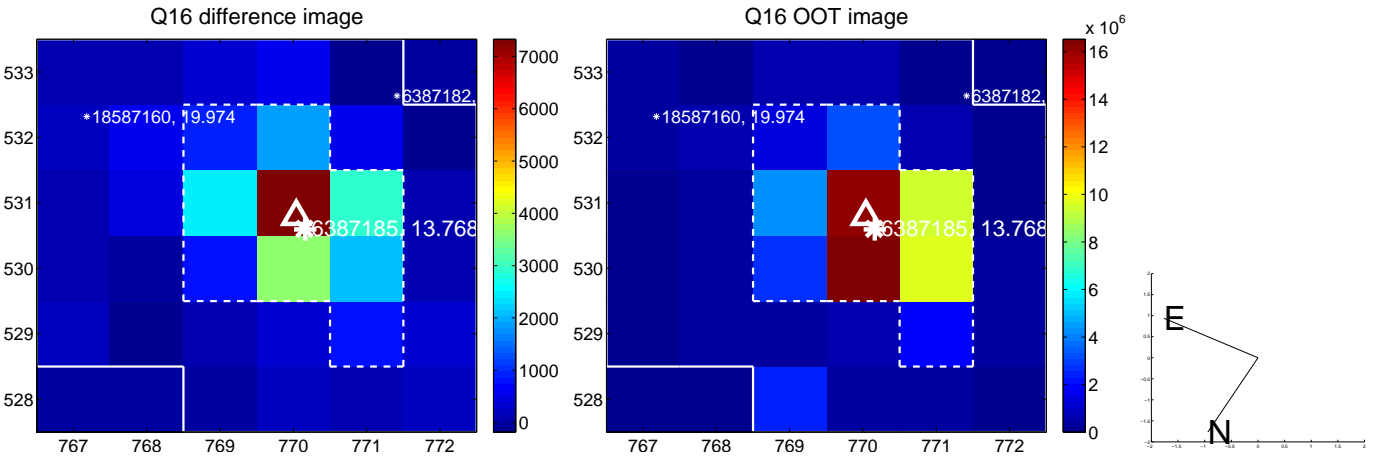
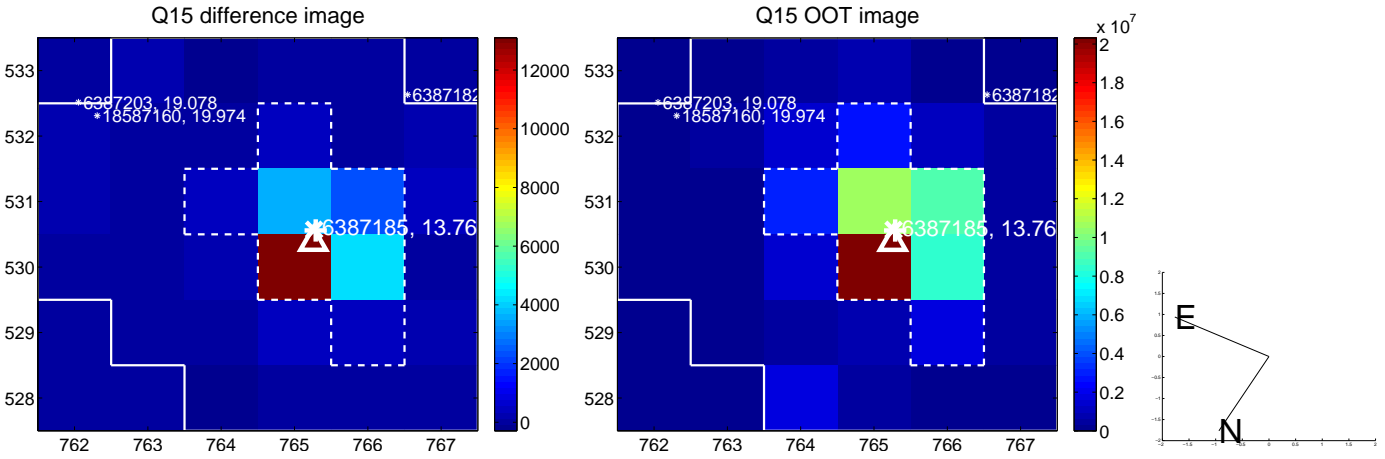
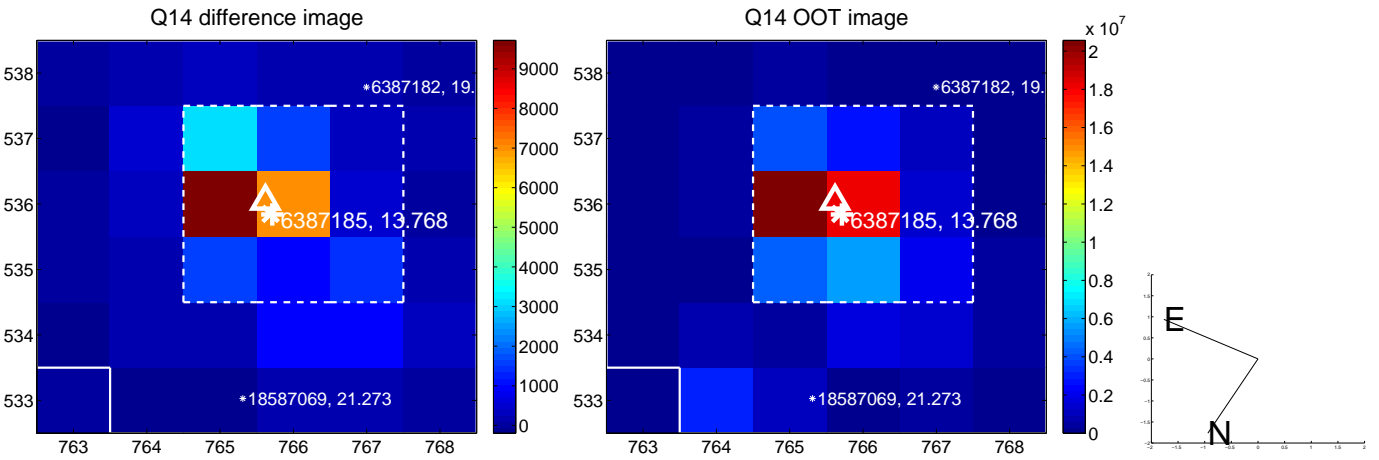
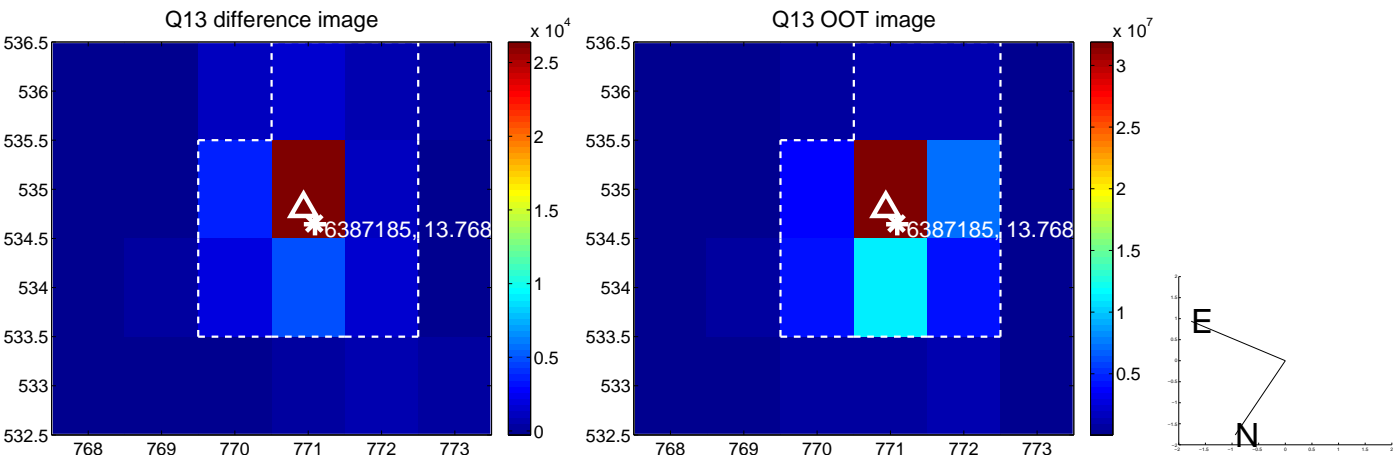
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



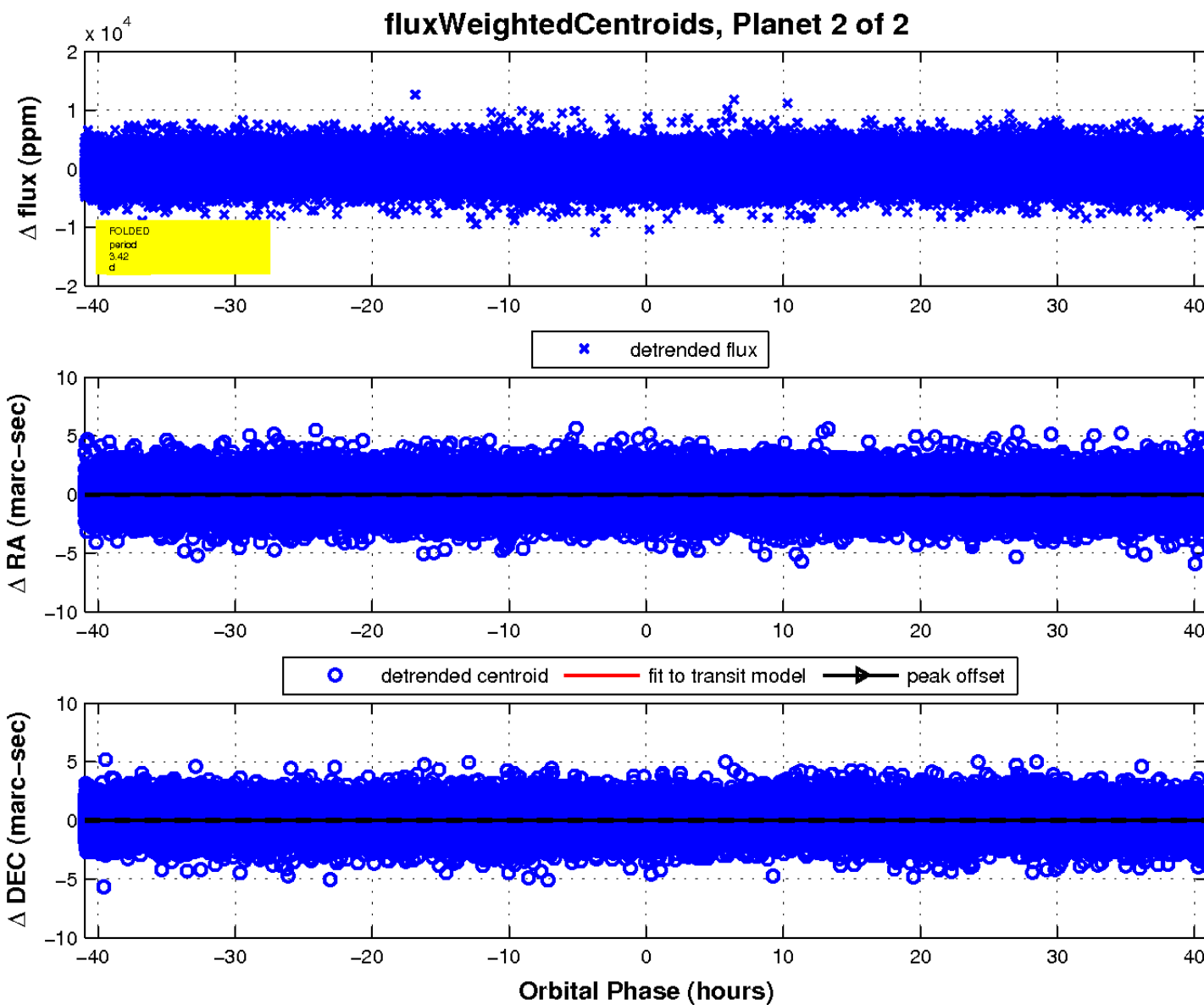
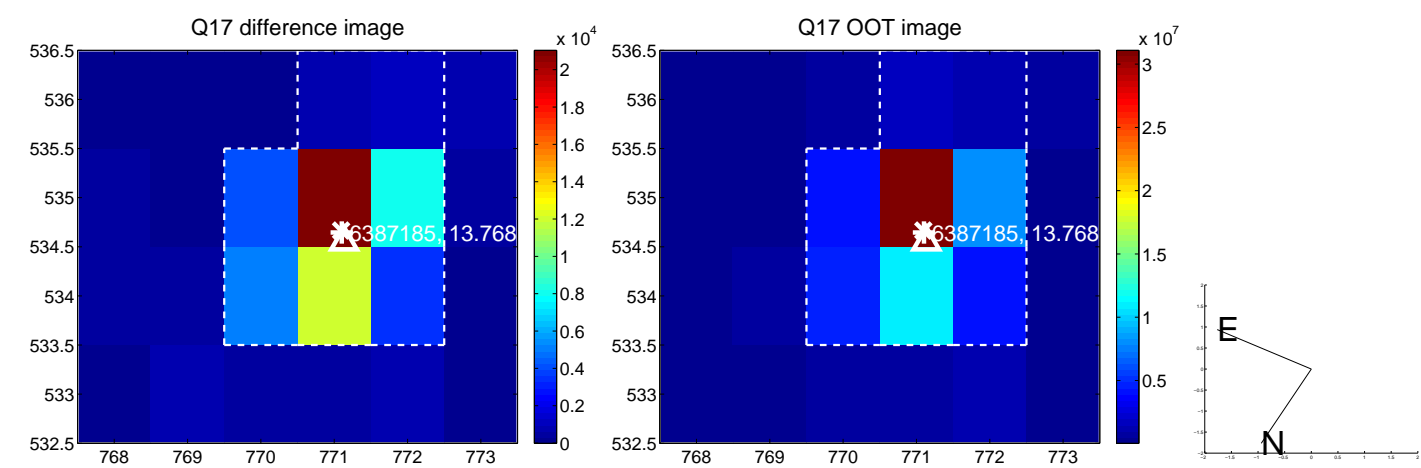
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

