

KIC 005018787

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})
005018787-01	OBS	6487.01	0.607188	132.023382	14402.3	1.278	1180.8	754.0	0.67	5370	8.70	2267.30
005018787-02	OBS	No	0.607189	131.717244	7196.3	1.500	209.2	-1.0	0.67	5370	5.68	2267.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005018787-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
005018787-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS

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

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

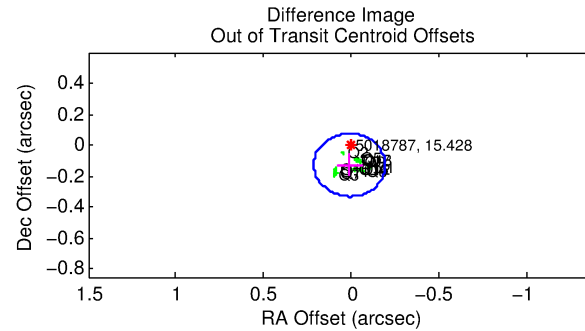
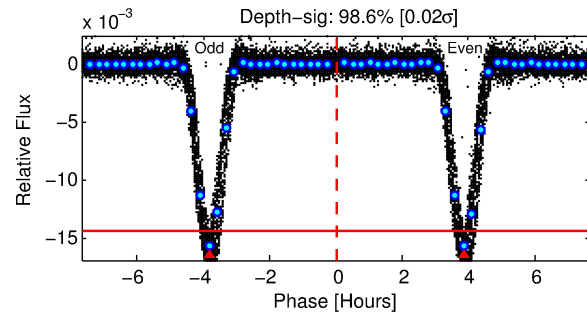
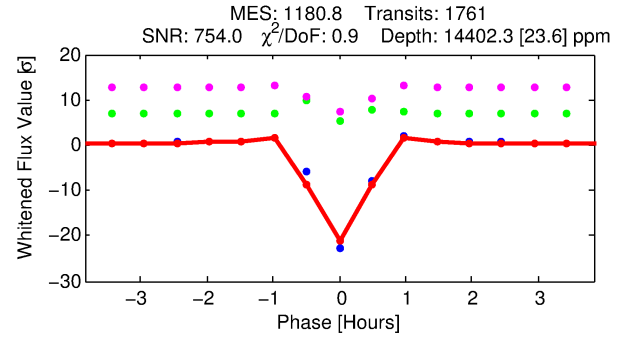
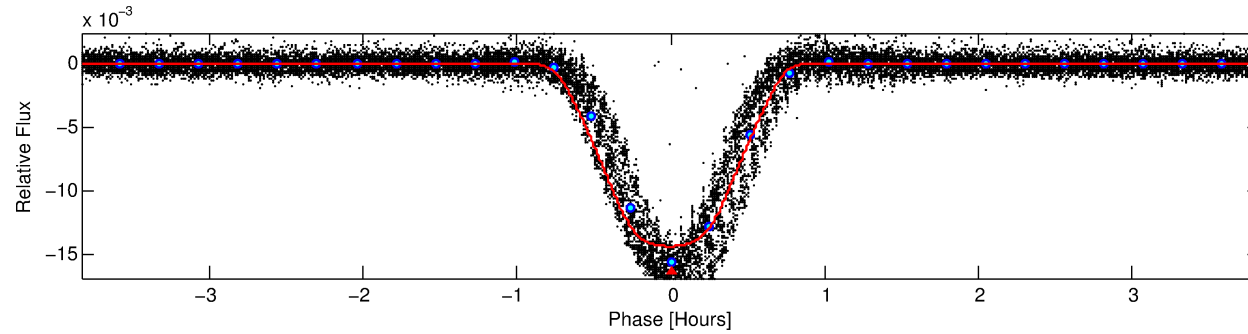
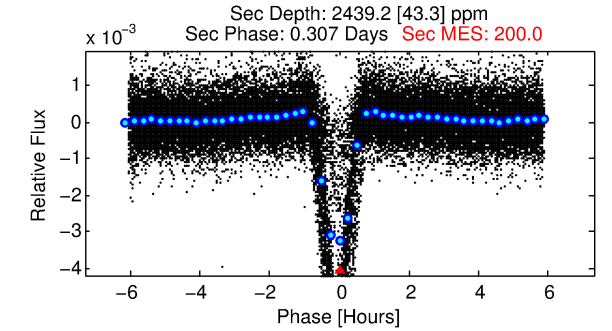
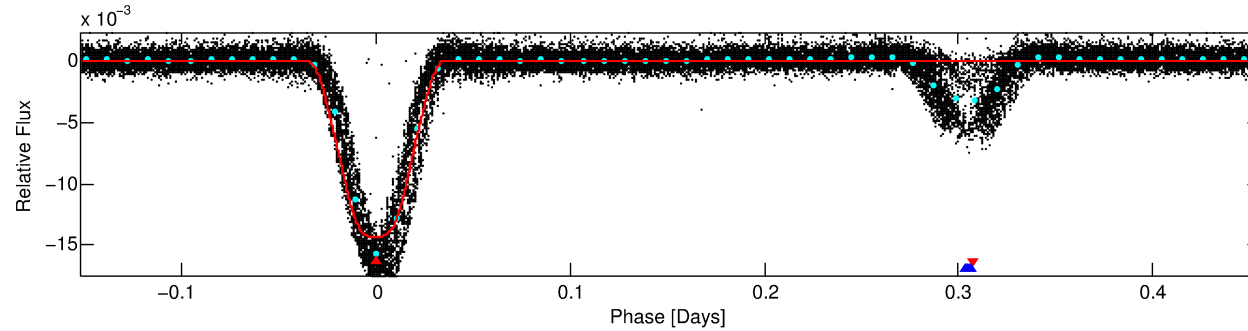
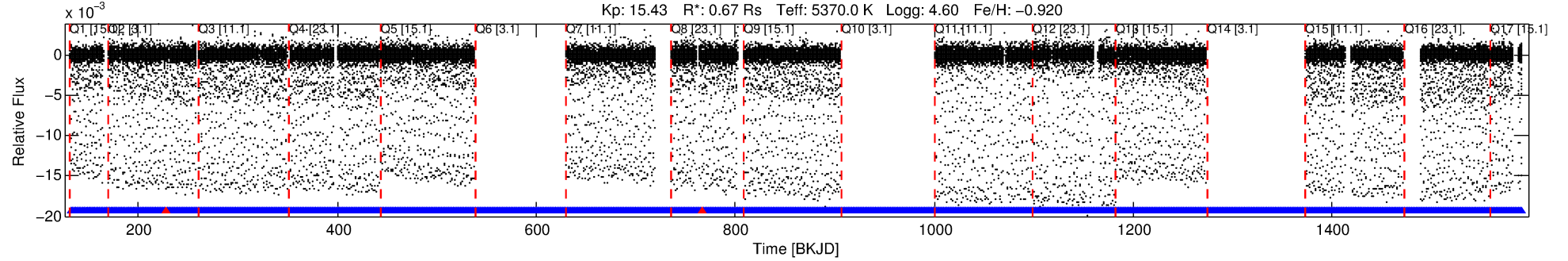
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005018787-01

No Significant Match Found

DV One-Page Summary

KIC: 5018787 Candidate: 1 of 2 Period: 0.607 d
KOI: K06487.01 Corr: 0.947



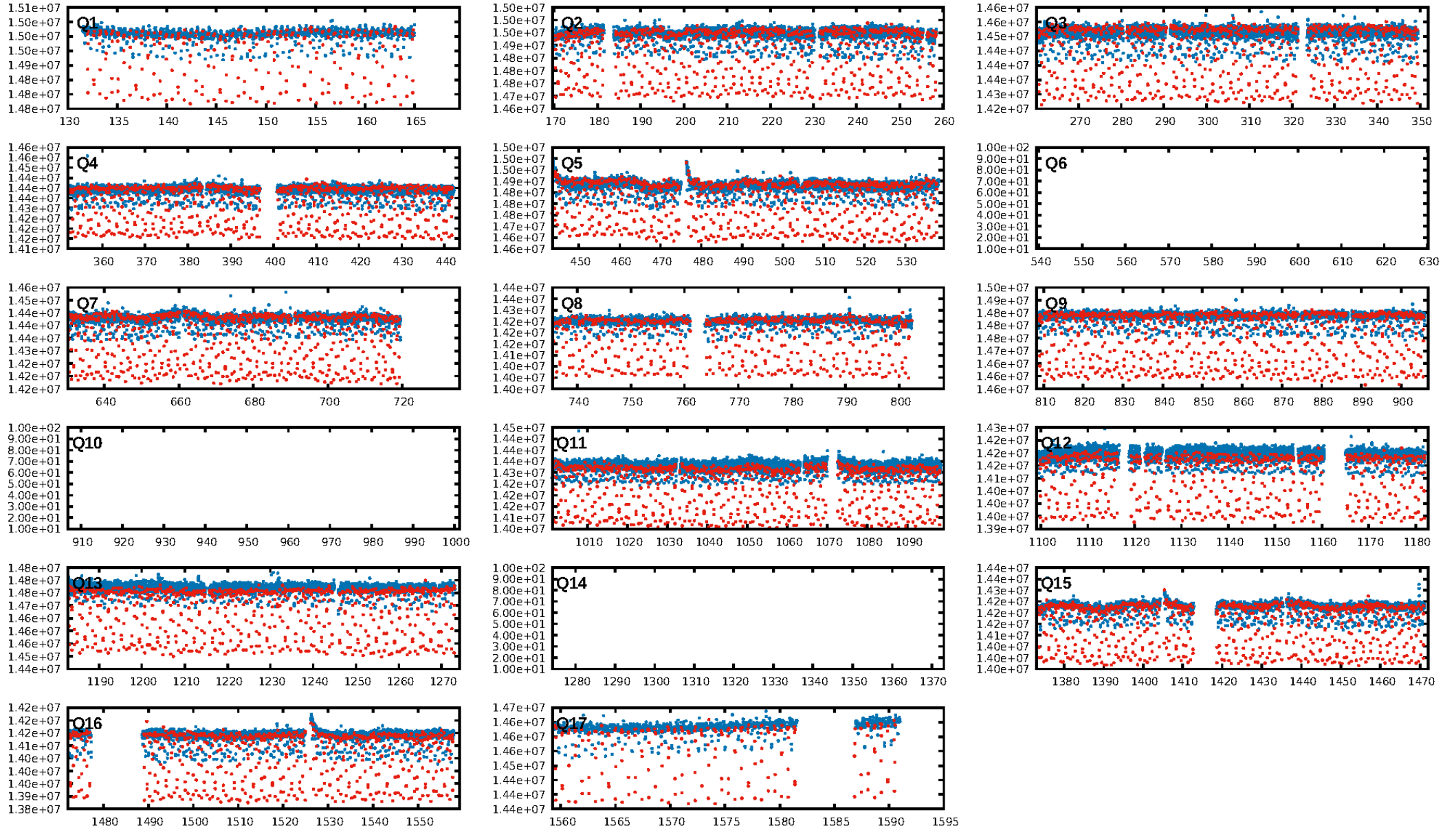
DV Fit Results:

Period = 0.60719 [0.00000] d
Epoch = 132.0234 [0.0000] BKJD
Rp/R* = 0.1187 [0.0004]
a/R* = 3.28 [0.04]
b = 0.70 [0.01]
Seff = 2267.30 [427.59]
Teq = 1760 [83] K
Rp = 8.69 [0.83] Re
a = 0.0122 [0.0011] AU
Ag = 2.63 [0.36] [4.52 σ]
Teffp = 3463 [115] K [12.03 σ]

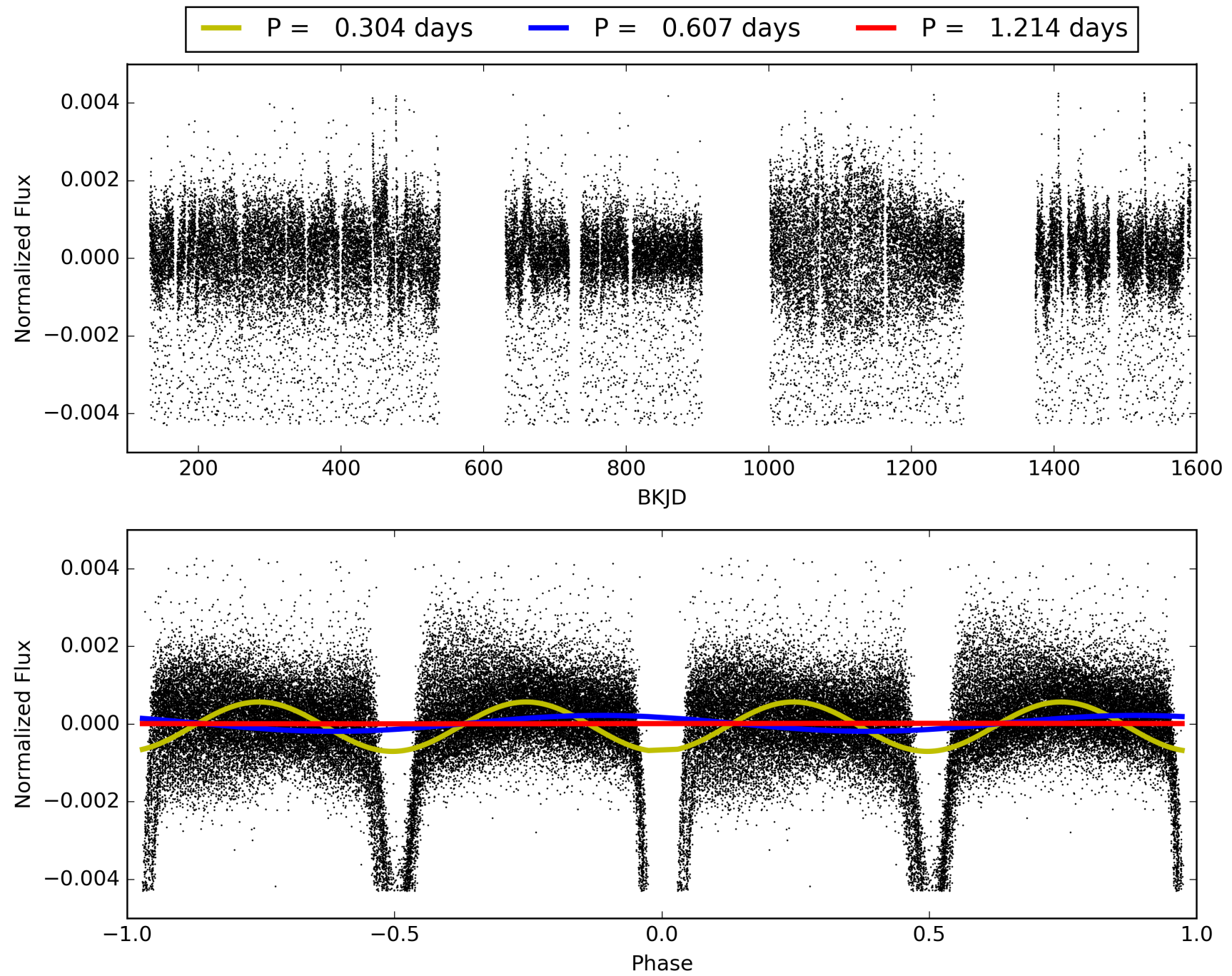
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1660/1662]
GhostDiagnostic-chr: 8.08
Centroid-sig: 0.0%
Centroid-so: 0.141 arcsec [14.27 σ]
OotOffset-rm: 0.128 arcsec [1.88 σ]
KicOffset-rm: 0.165 arcsec [2.36 σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 005018787-01, PDC Light Curves

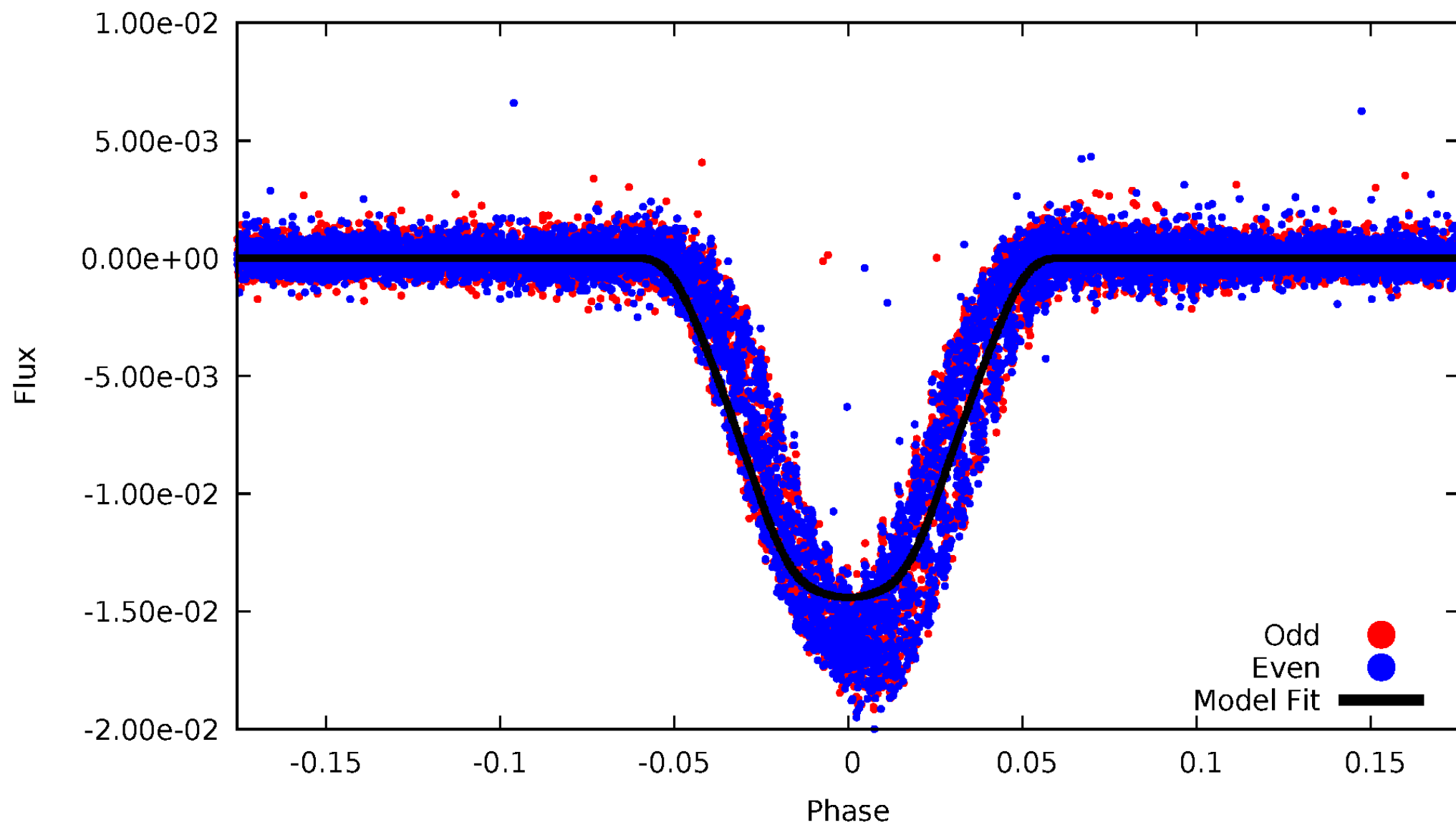


TCE 005018787-01



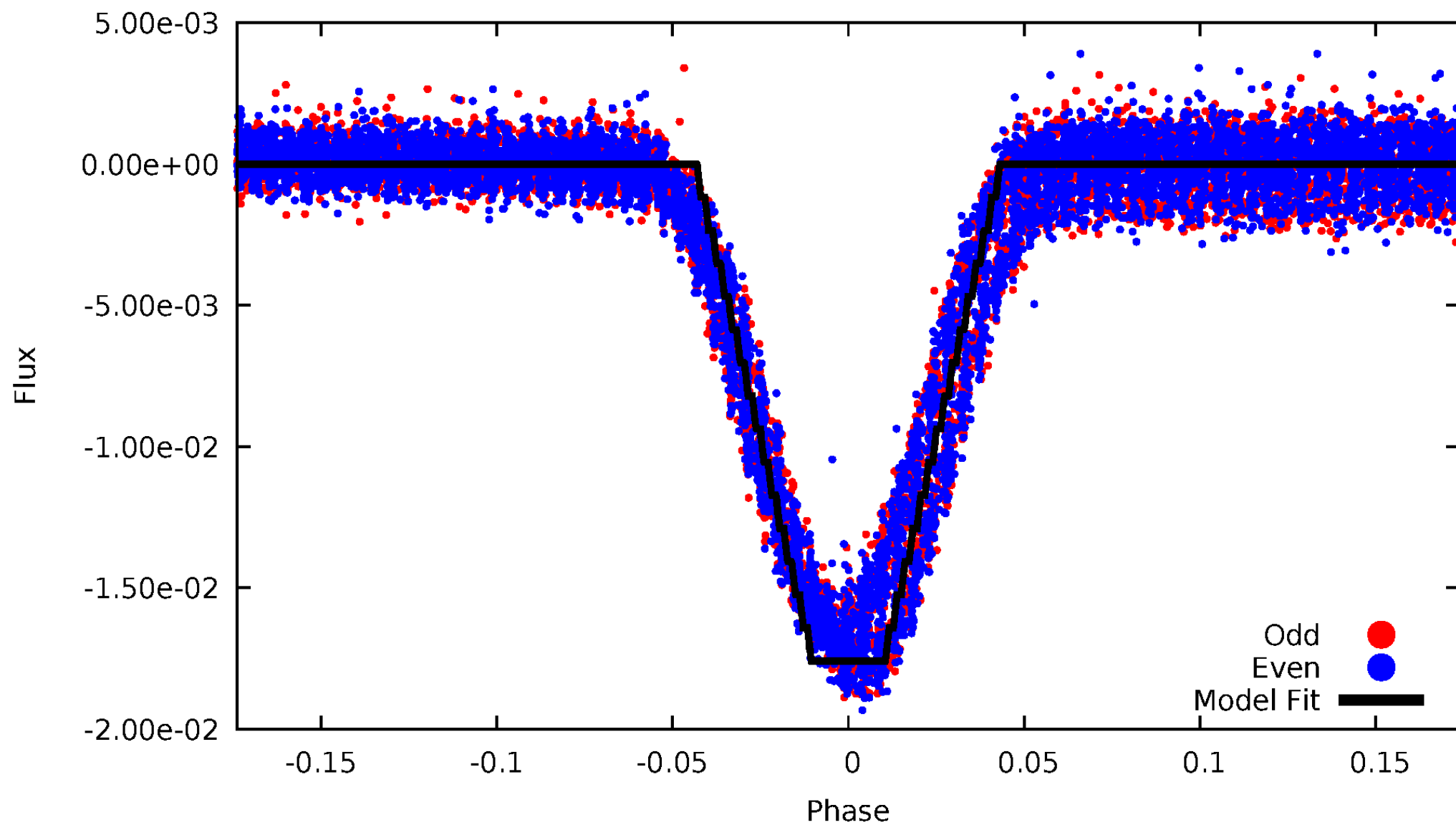
DV Odd/Even

TCE 005018787-01



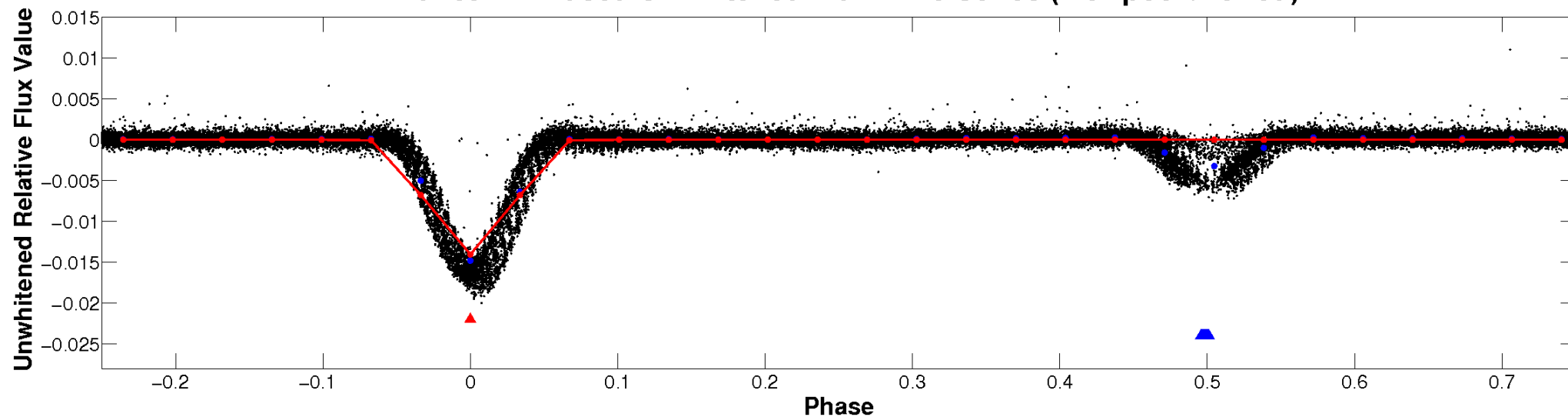
ALT Odd/Even

TCE 005018787-01

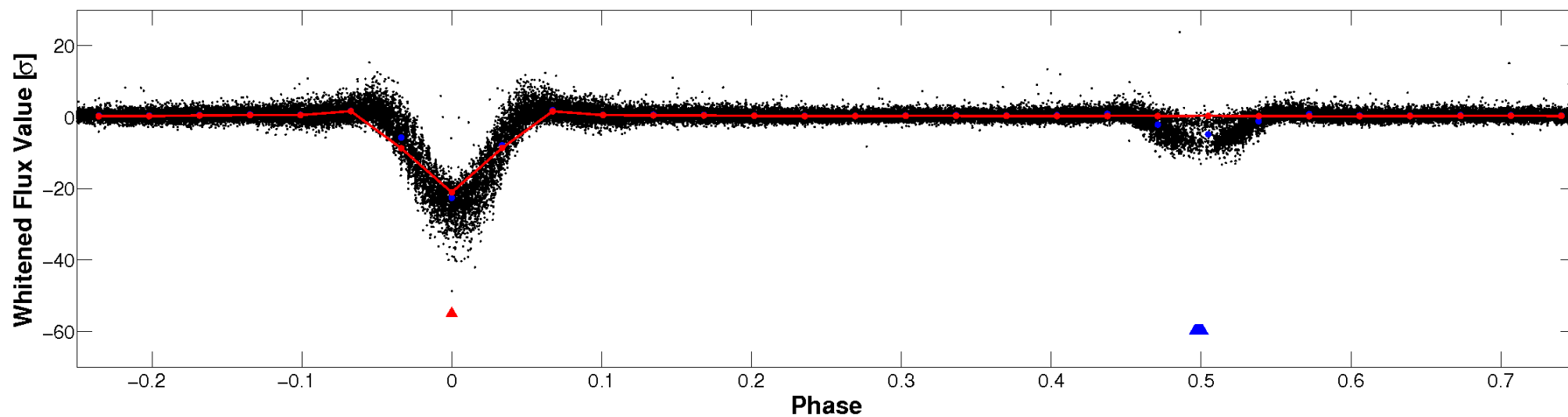


Non-Whitened Vs. Whitened Light Curve

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

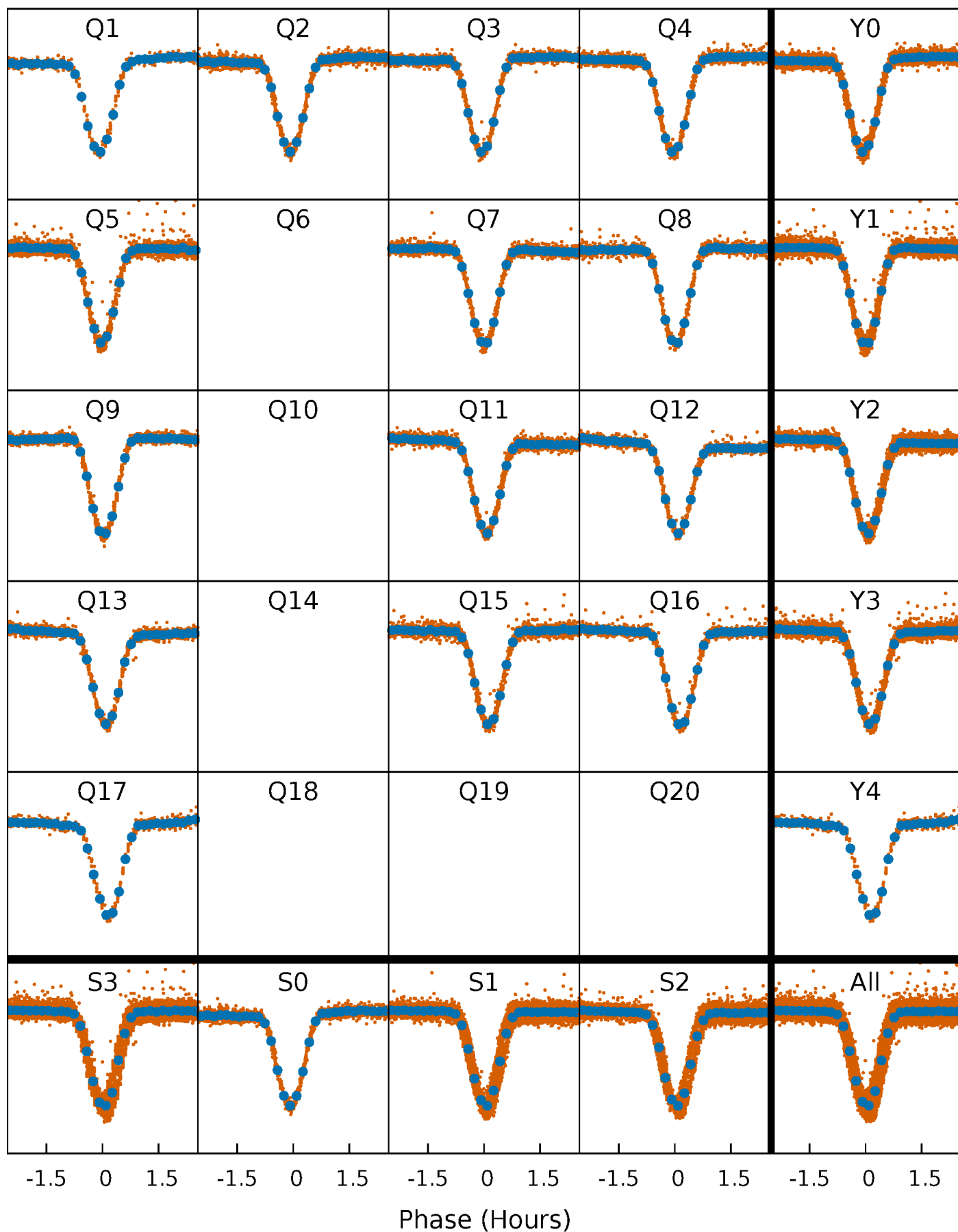


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



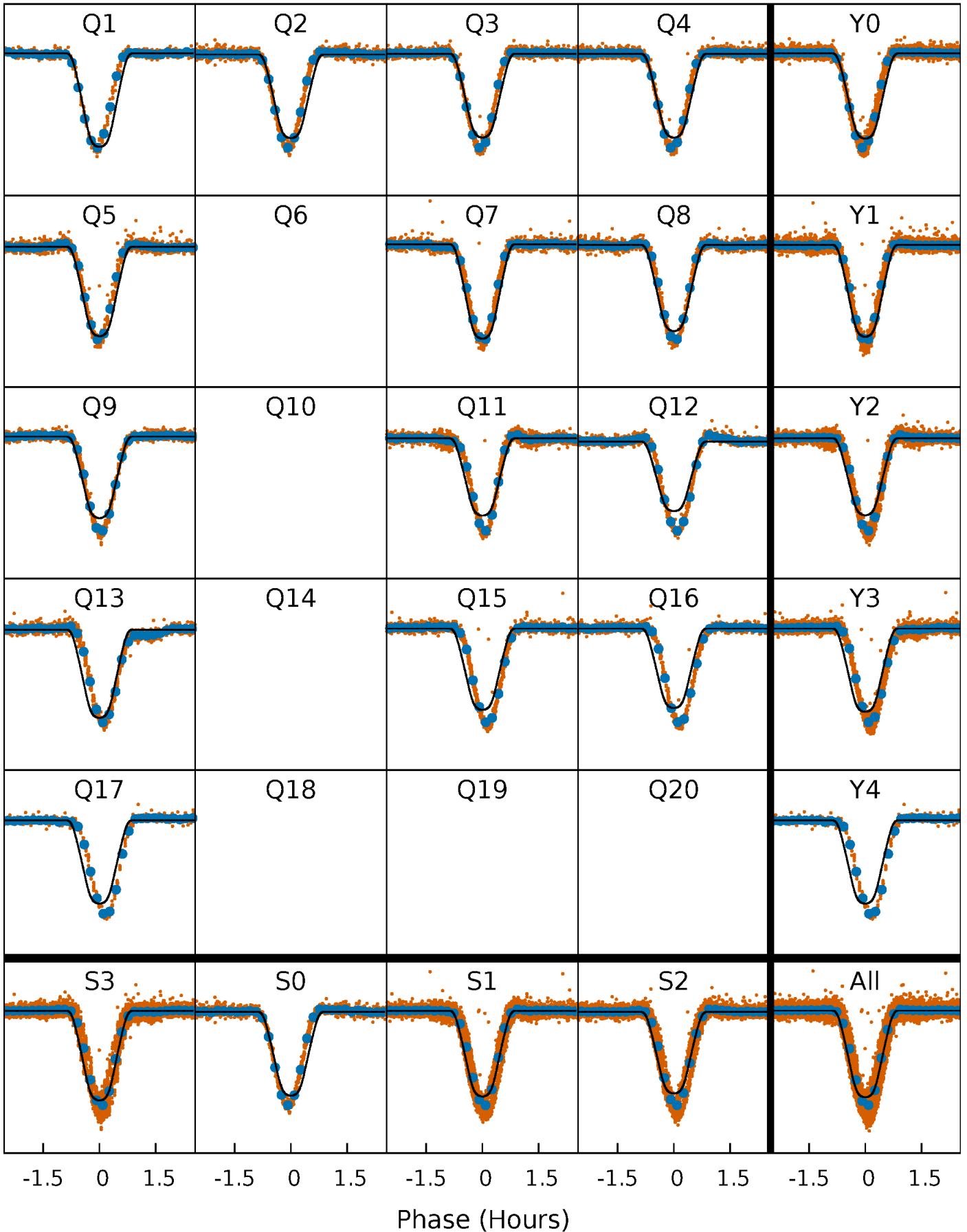
PDC Quarter-Phased Transit Curves

TCE 005018787-01 P= 0.607188 Days $T_0=132.023382$ (BKJD)



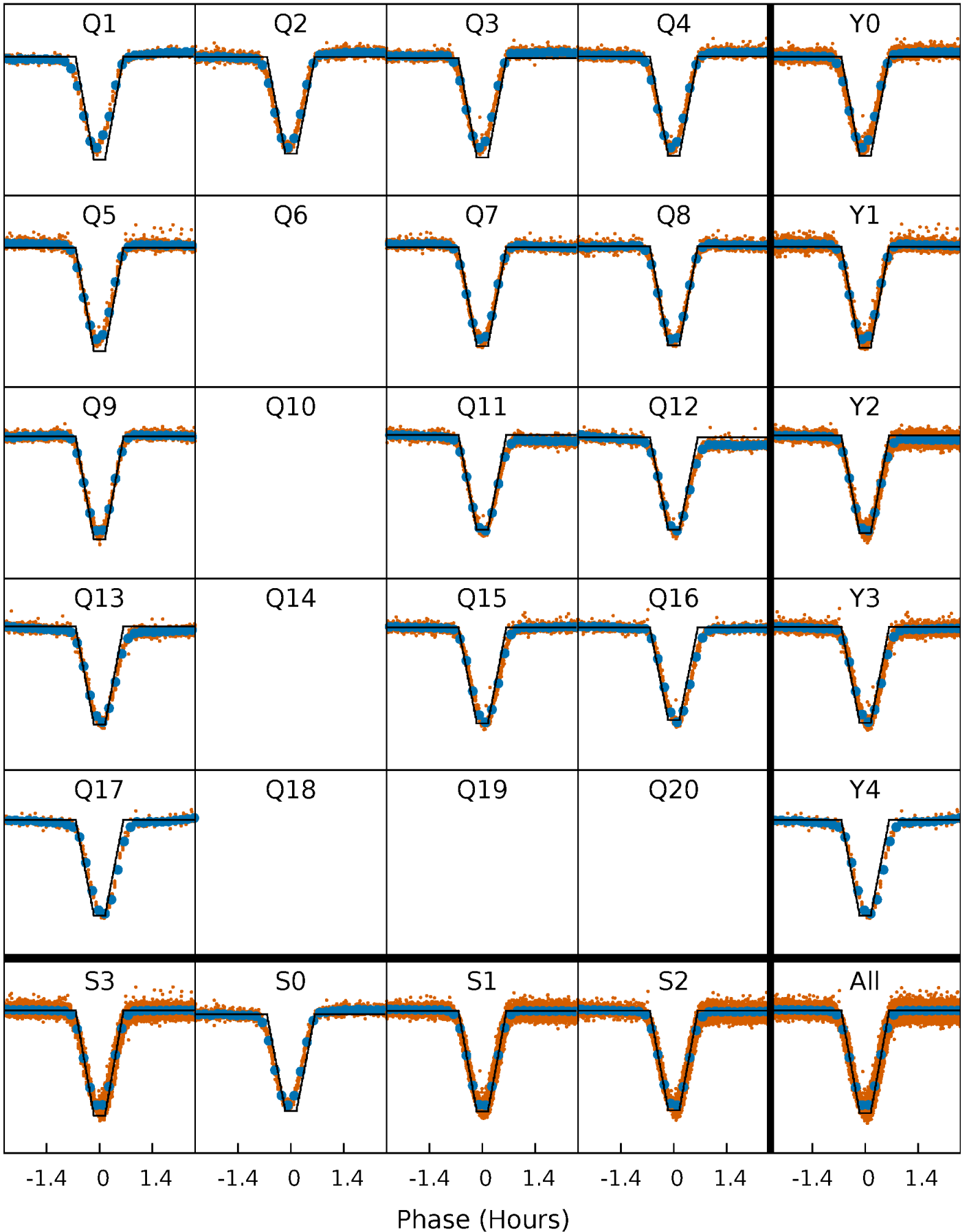
DV Quarter-Phased Transit Curves

TCE 005018787-01 P= 0.607188 Days $T_0=132.023382$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

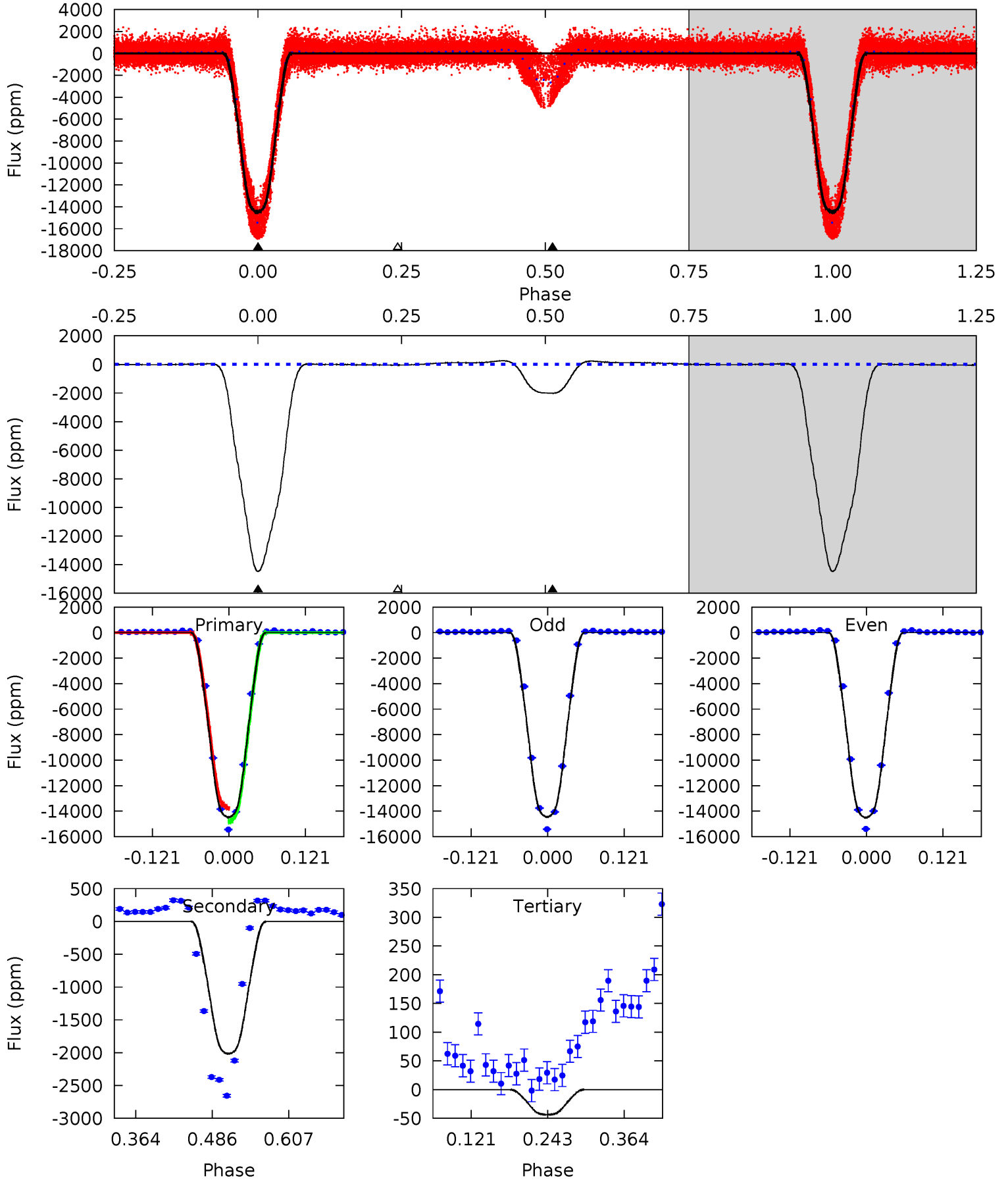
TCE 005018787-01 P= 0.607189 Days $T_0=132.023238$ (BKJD)



DV Model-Shift Uniqueness Test

005018787-01, P = 0.607188 Days, E = 131.416194 Days

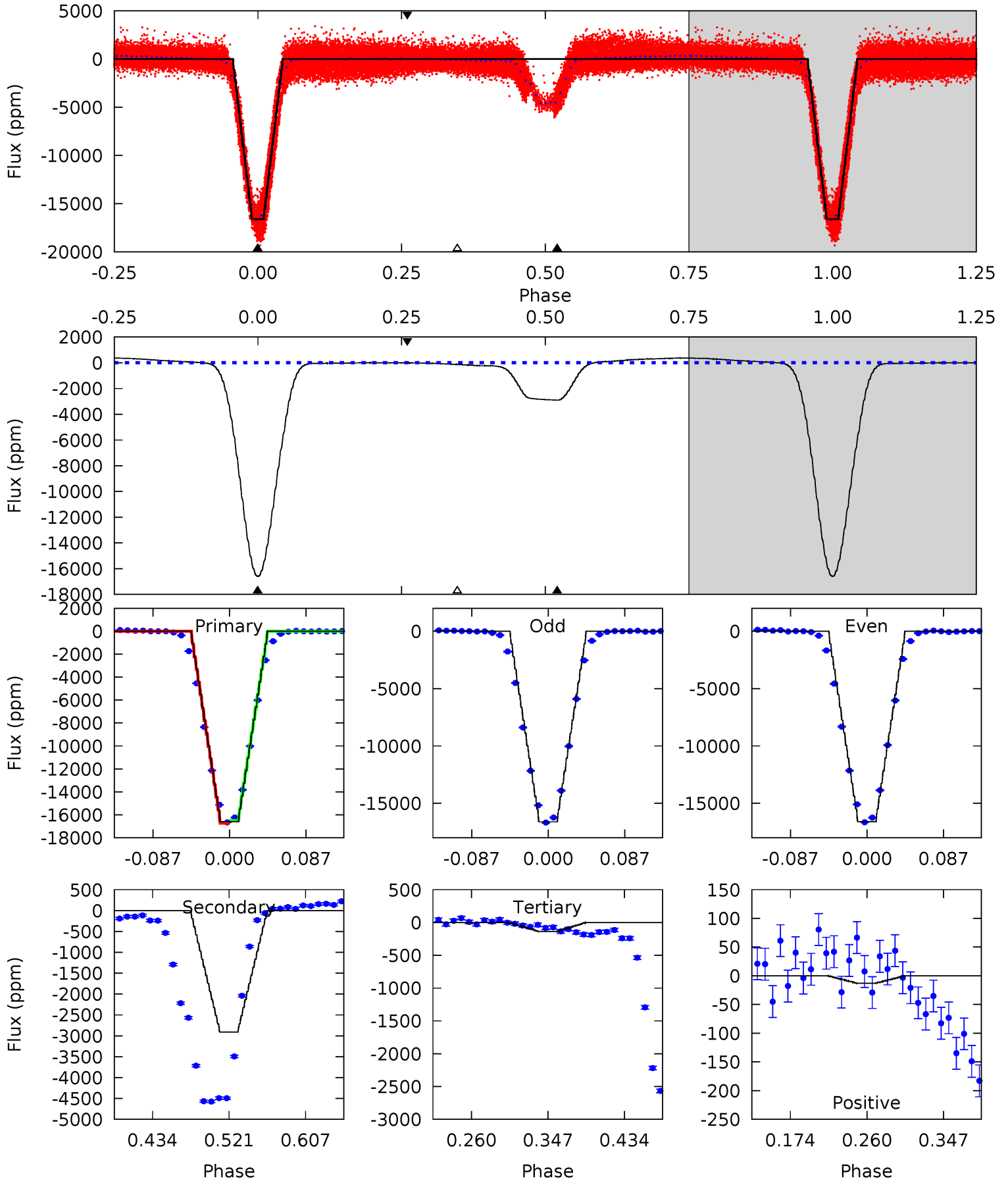
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1991	277.2	6.01	0	4.52	1.55	8.41	1985	1991	271.2	277.2	3.46	1.00	0.02	0



Alt Model-Shift Uniqueness Test

005018787-01, P = 0.607189 Days, E = 131.416049 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1505	263.6	12.4	-1.19	4.59	1.71	17.2	1492	1506	251.2	264.8	0.98	1.00	0.02	11.4



Stellar Parameters For KIC 005018787

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5370^{+176}_{-176}	$4.598^{+0.078}_{-0.052}$	$-0.920^{+0.300}_{-0.300}$	$0.671^{+0.064}_{-0.057}$	$0.649^{+0.066}_{-0.024}$	$3.031^{+0.932}_{-0.598}$
	+3%/-3%	+2%/-1%	+33%/-33%	+10%/-8%	+10%/-4%	+31%/-20%
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 005018787-01 / KOI 6487.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2016 ± 7	$8.69^{+0.50}_{-0.44}$	2445^{+108}_{-93}	3608^{+88}_{-93}	$2.197^{+0.234}_{-0.185}$
Alt.	-2908 ± 11	$9.69^{+0.55}_{-0.47}$	2449^{+96}_{-103}	3712^{+81}_{-95}	$2.547^{+0.248}_{-0.211}$

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 $A_{obs} \gg 1.0$

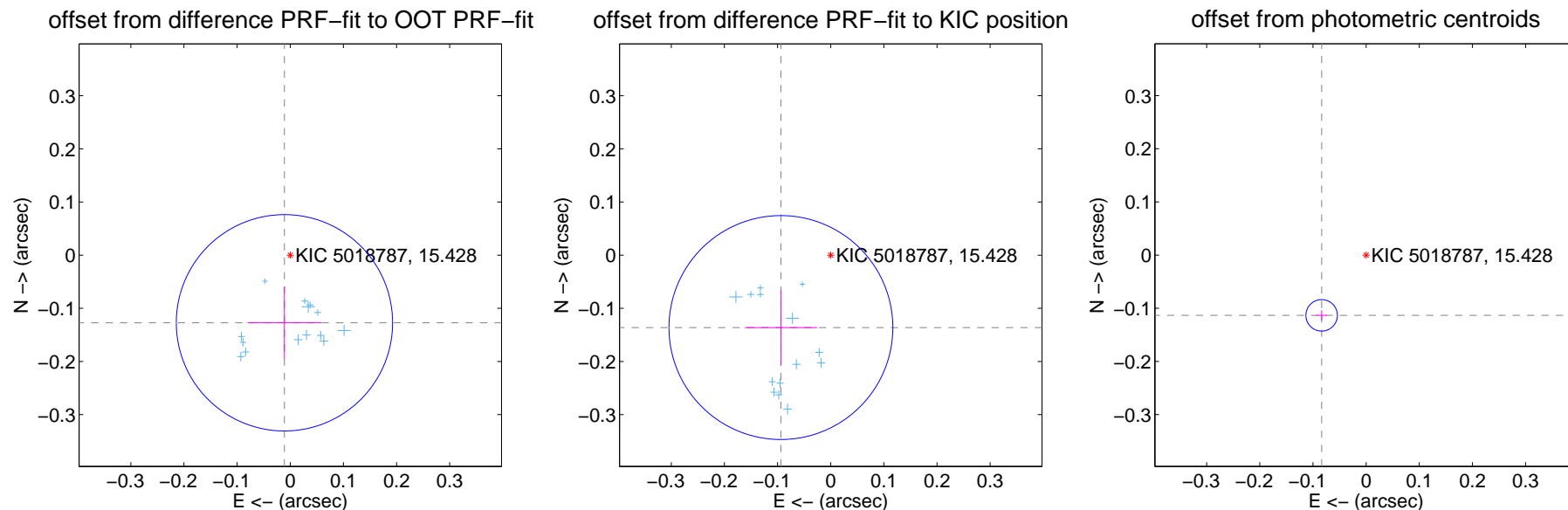
DV Centroid Data

Supplemental centroid analysis for 005018787-01. Kepler magnitude: 15.43. Transit SNR 753.96

There are 14 quarters with good PRF difference image offsets

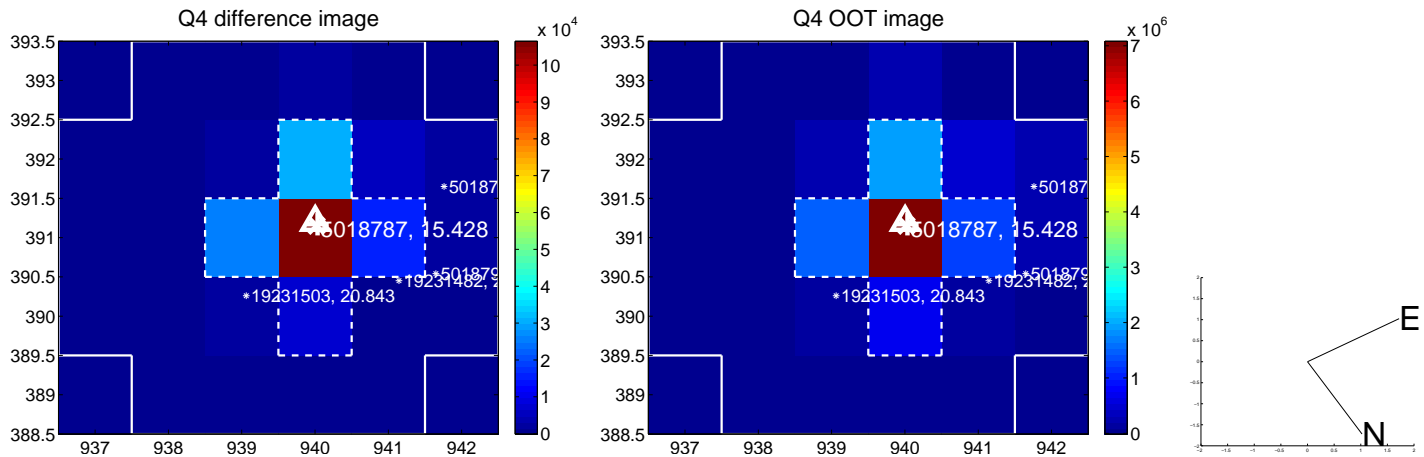
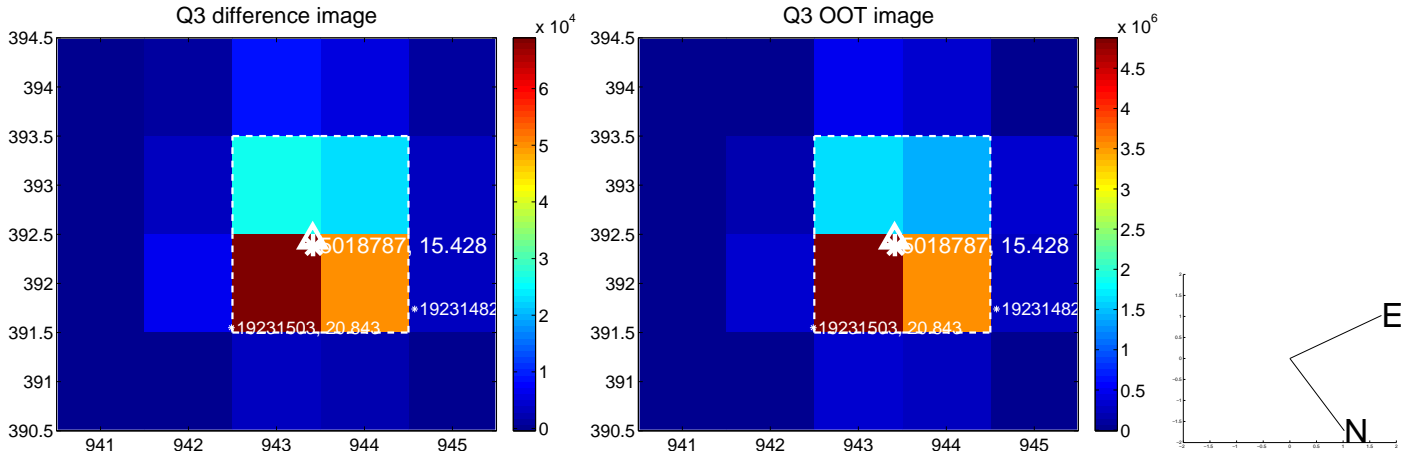
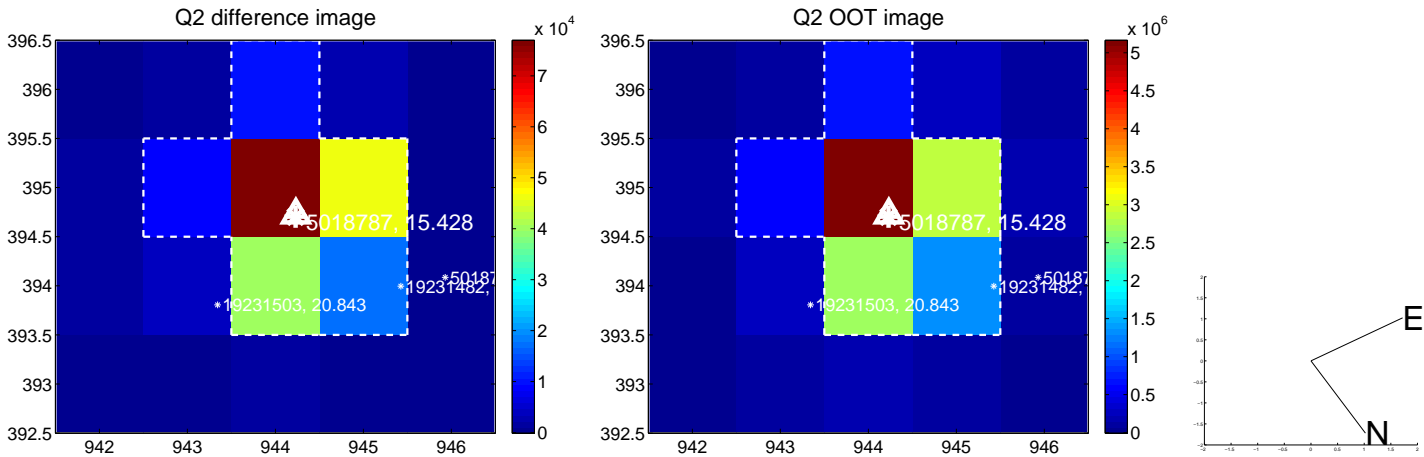
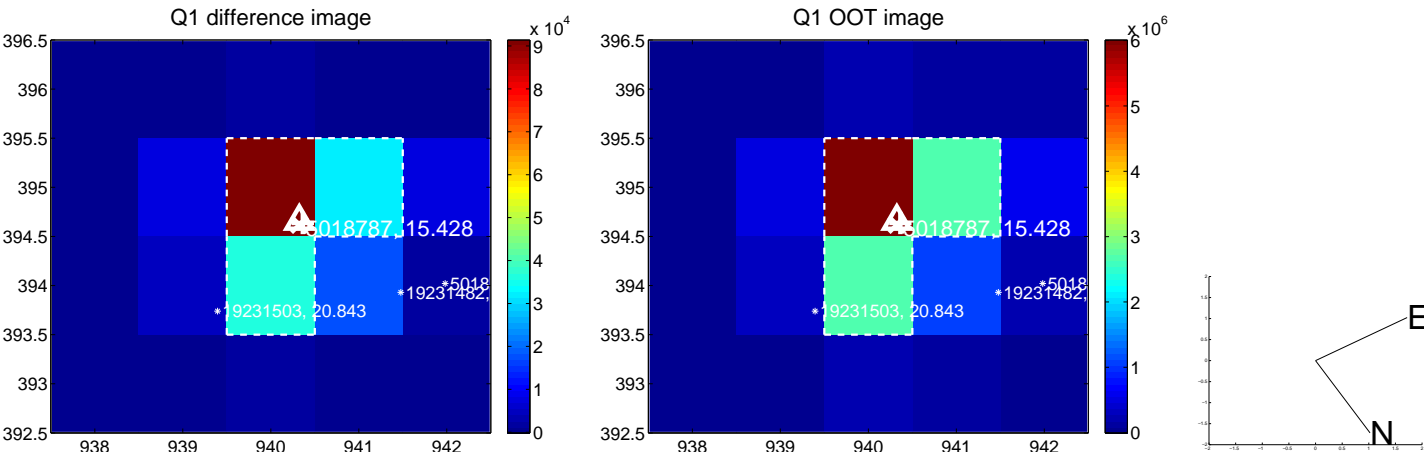
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.128 ± 0.068	1.88	0.011 ± 0.069	-0.127 ± 0.068
PRF-fit source offset from KIC position	0.165 ± 0.070	2.36	0.094 ± 0.068	-0.136 ± 0.071
photometric centroid source offset	0.14 ± 0.01	14.27	0.08 ± 0.01	-0.11 ± 0.01

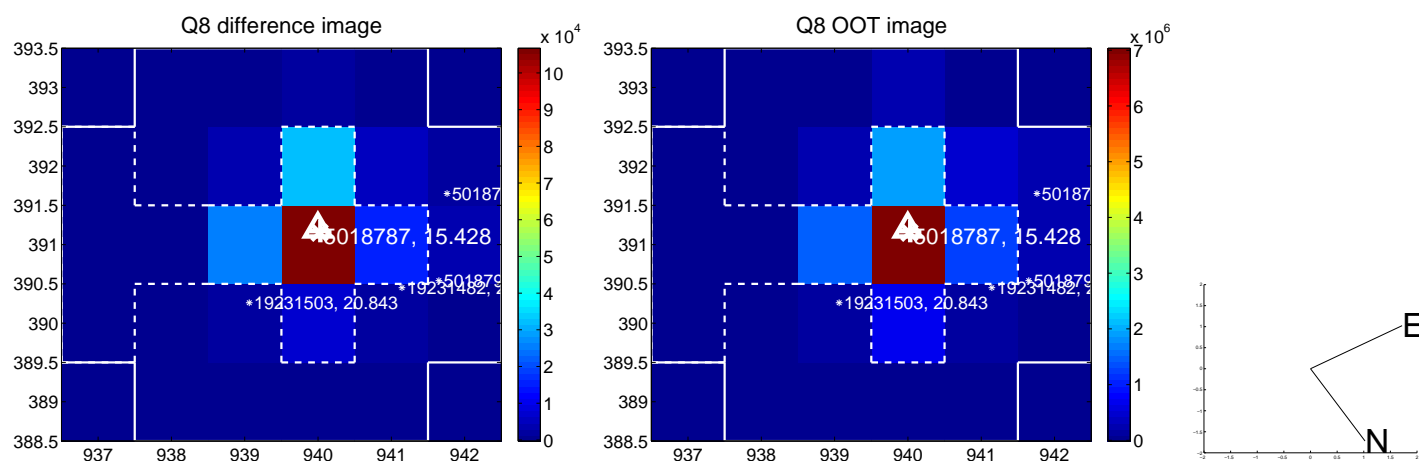
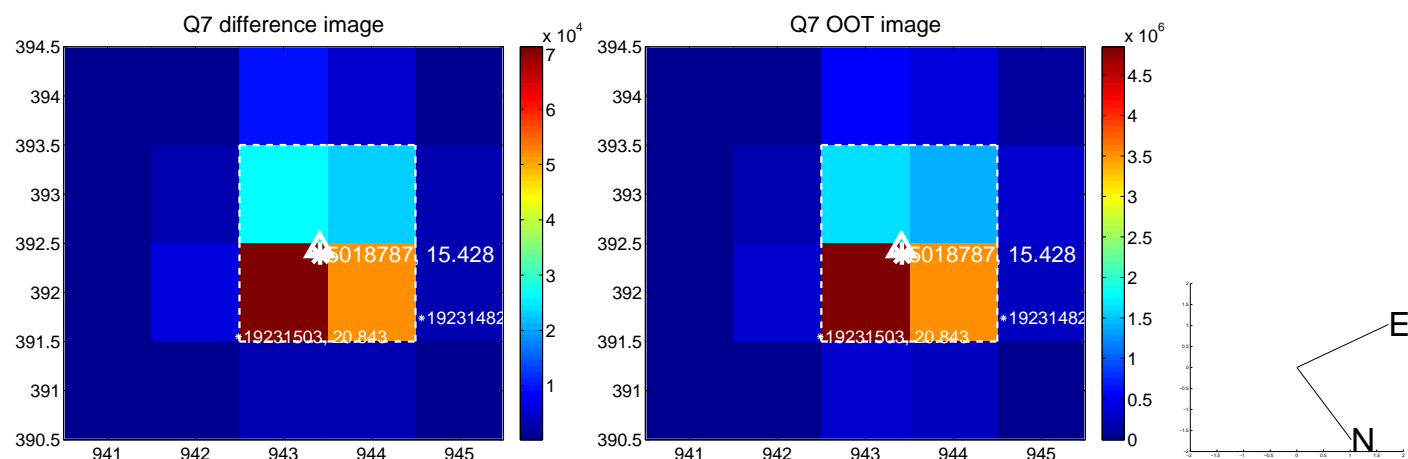
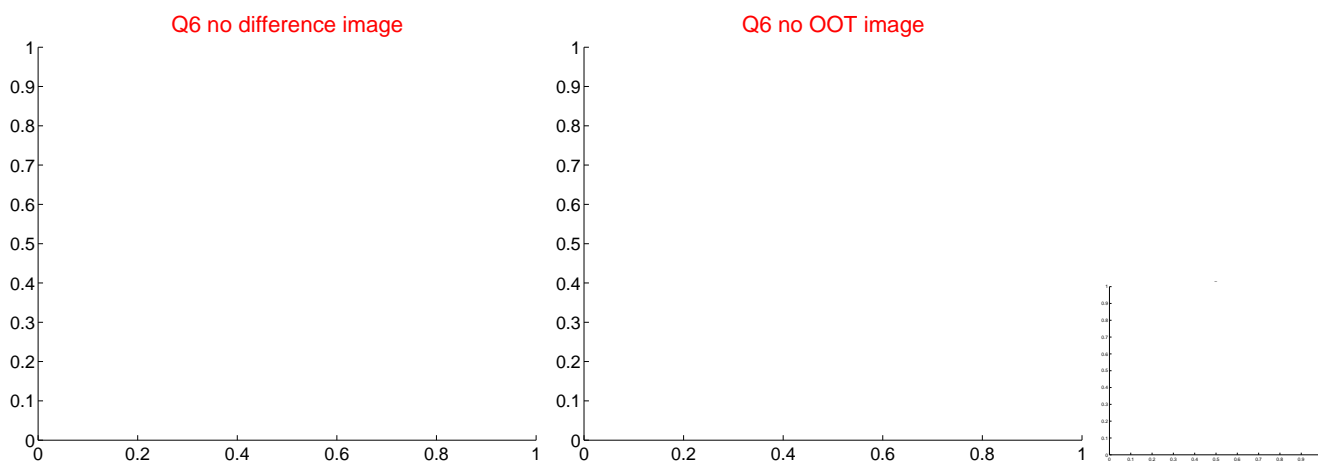
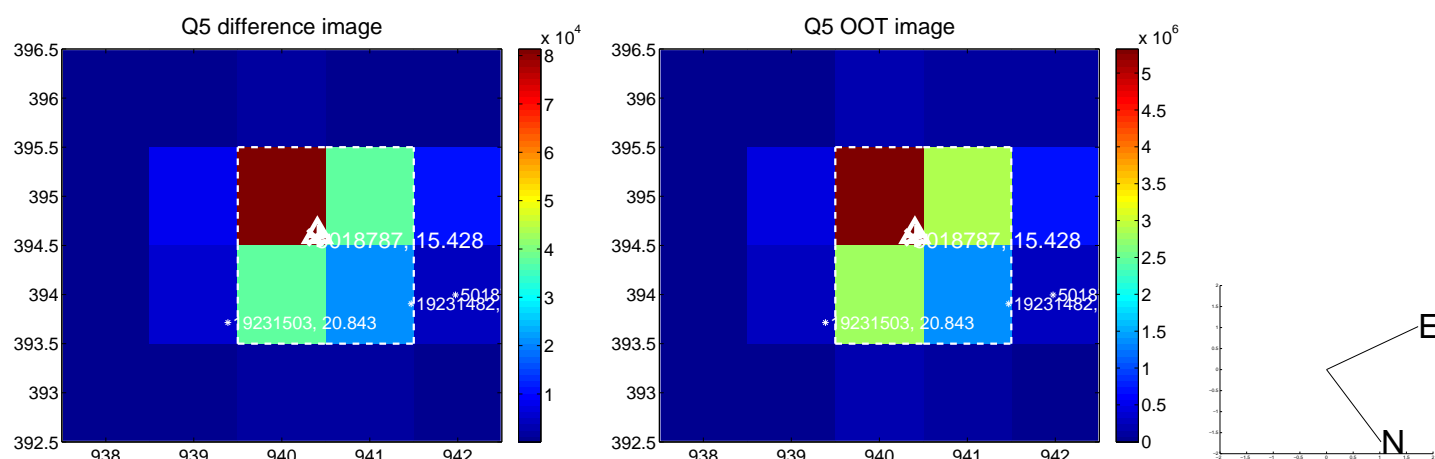


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

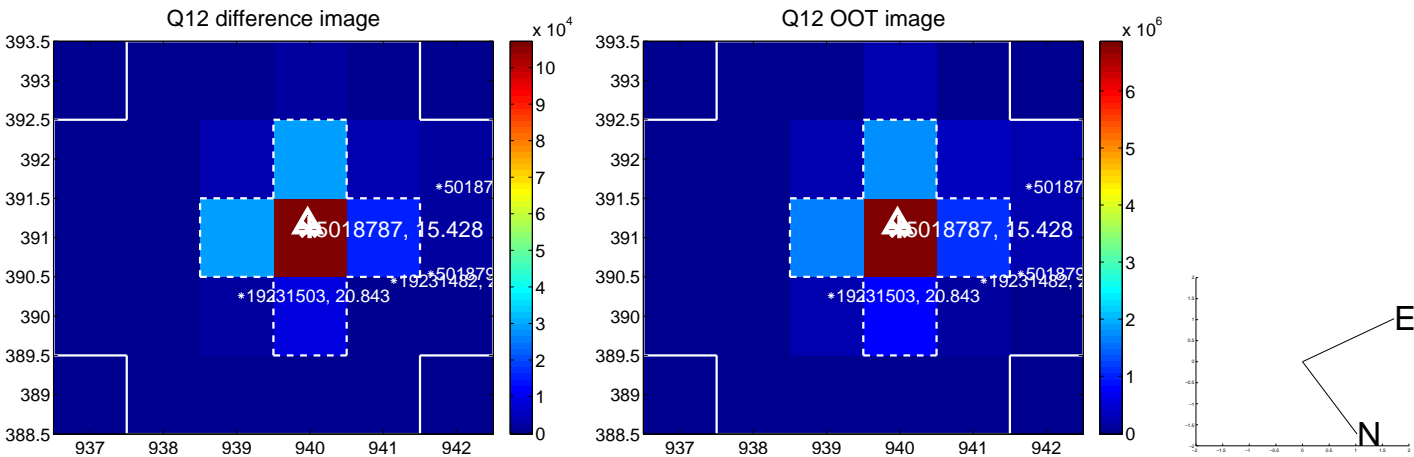
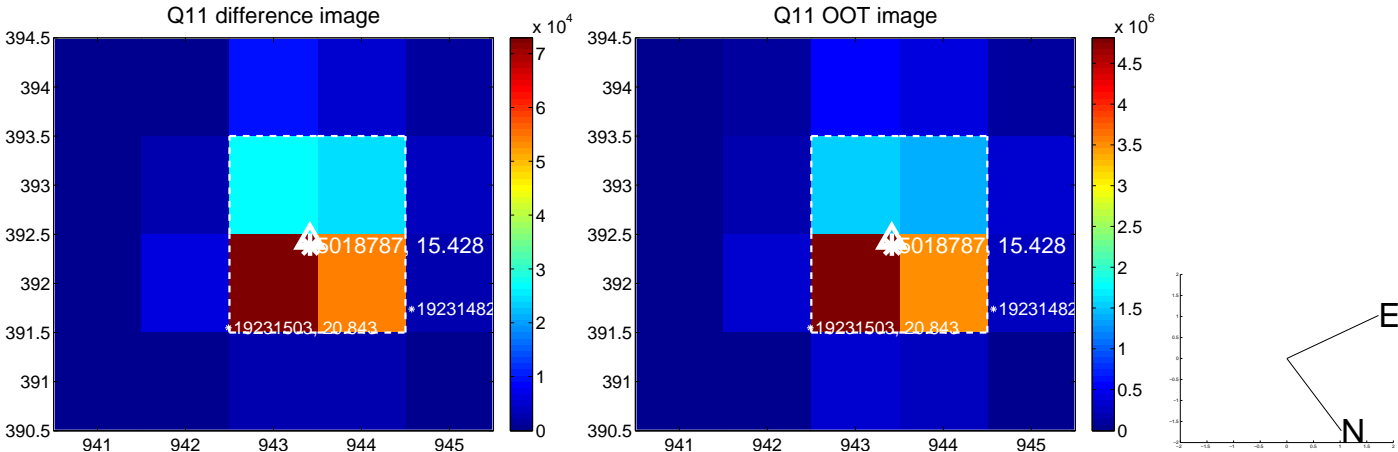
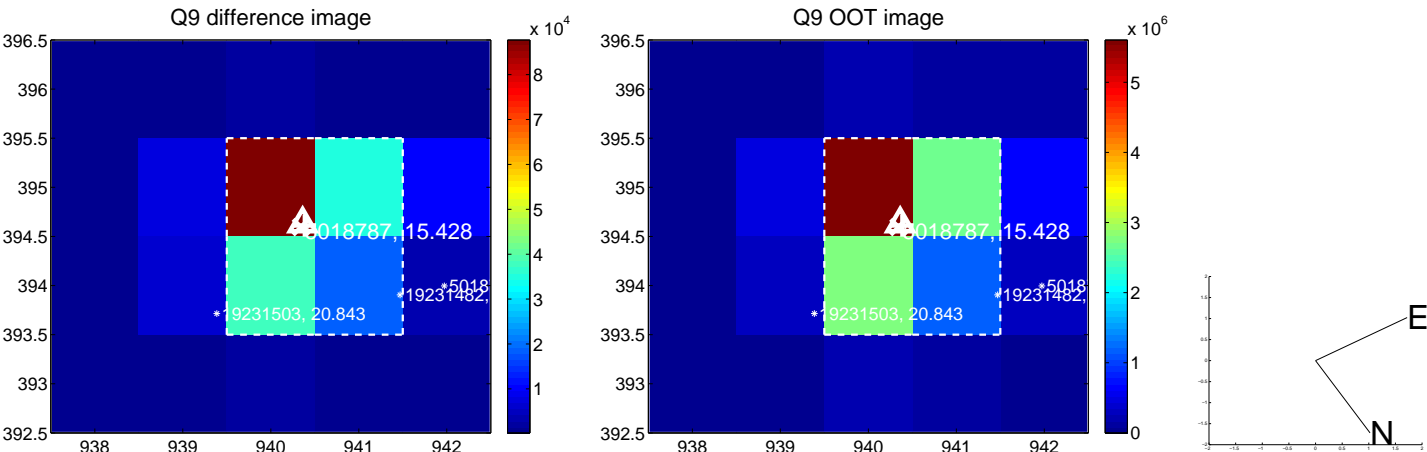
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



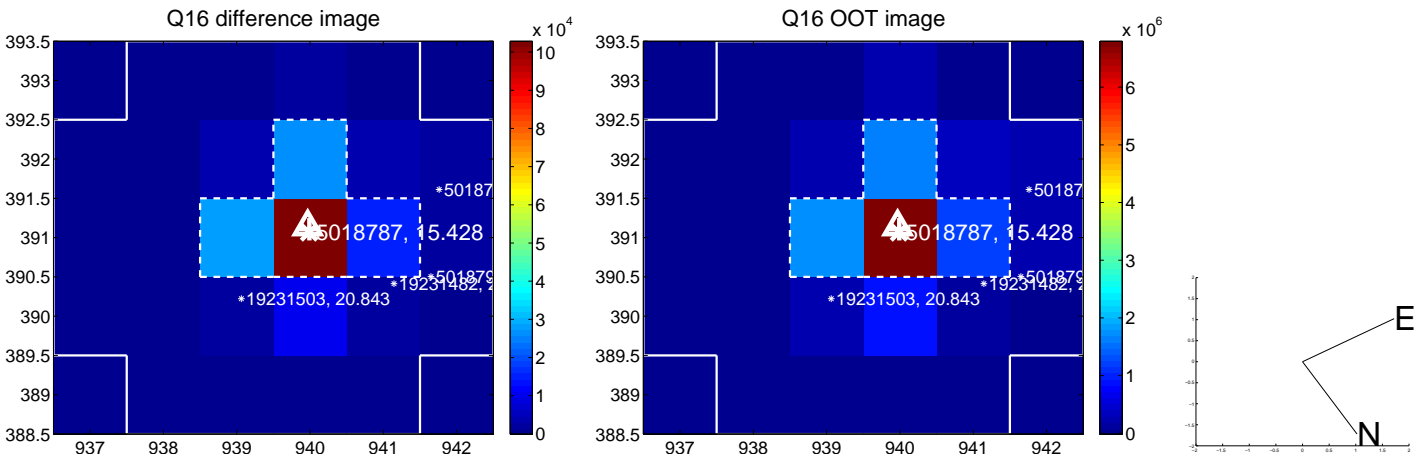
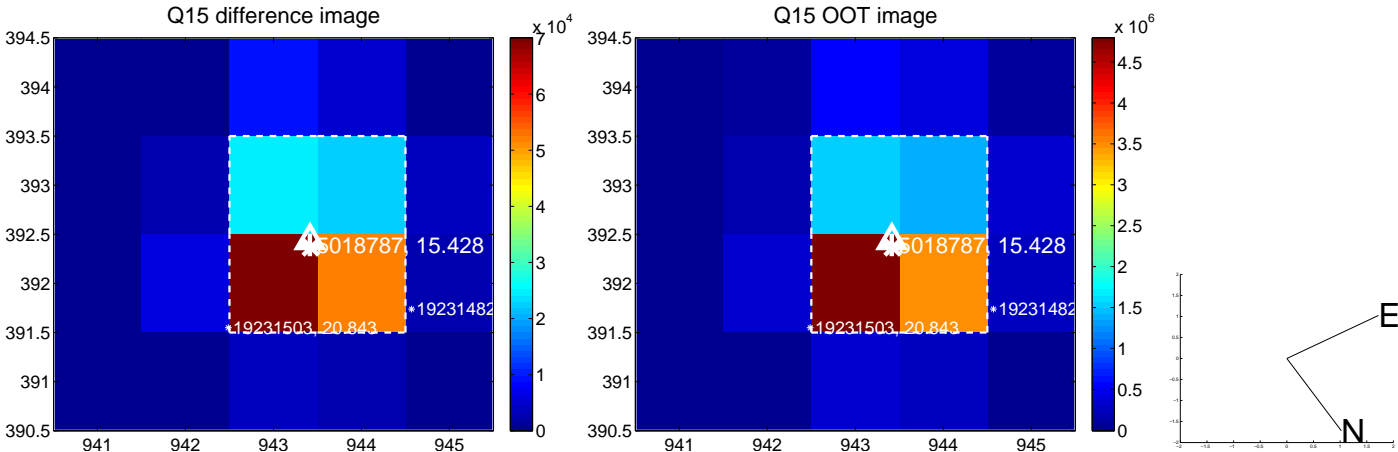
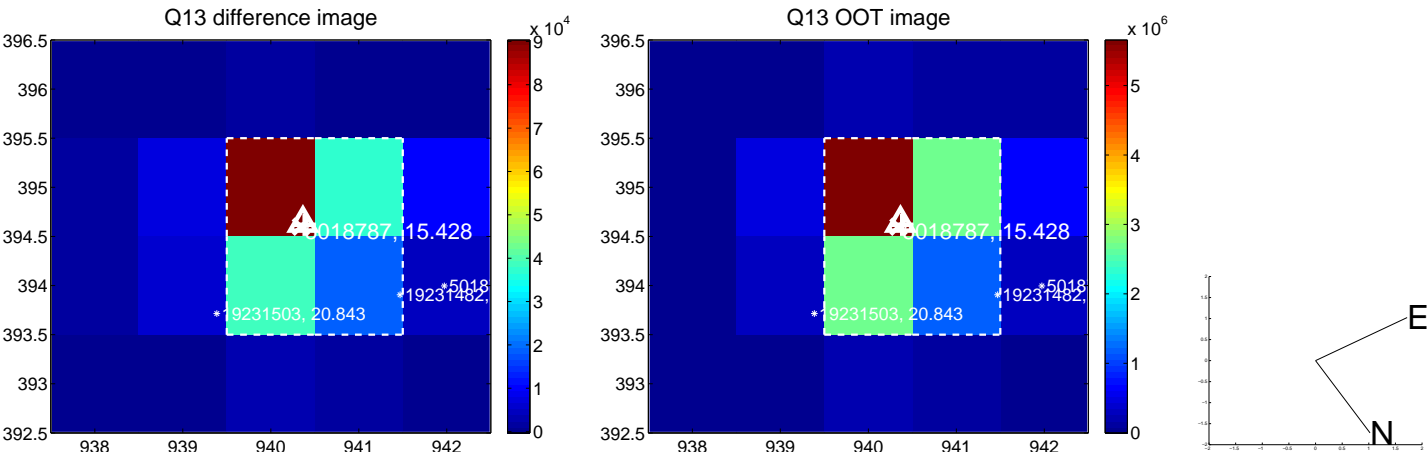
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



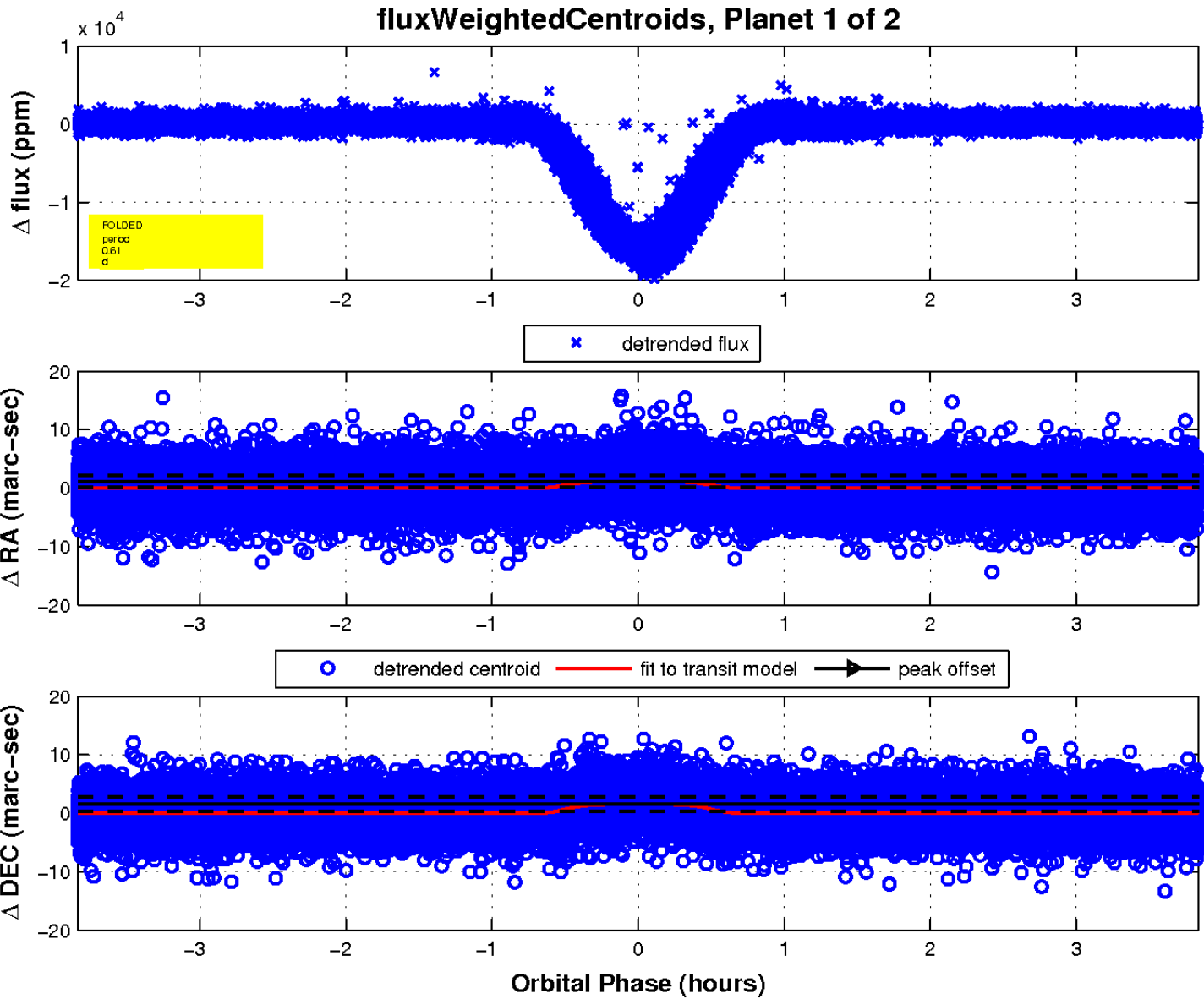
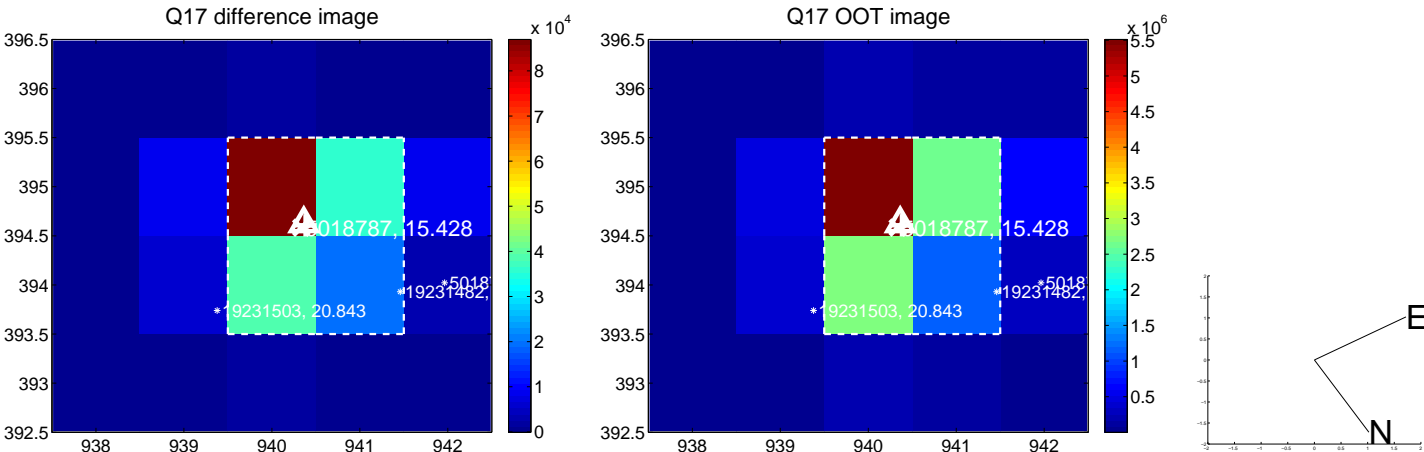
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

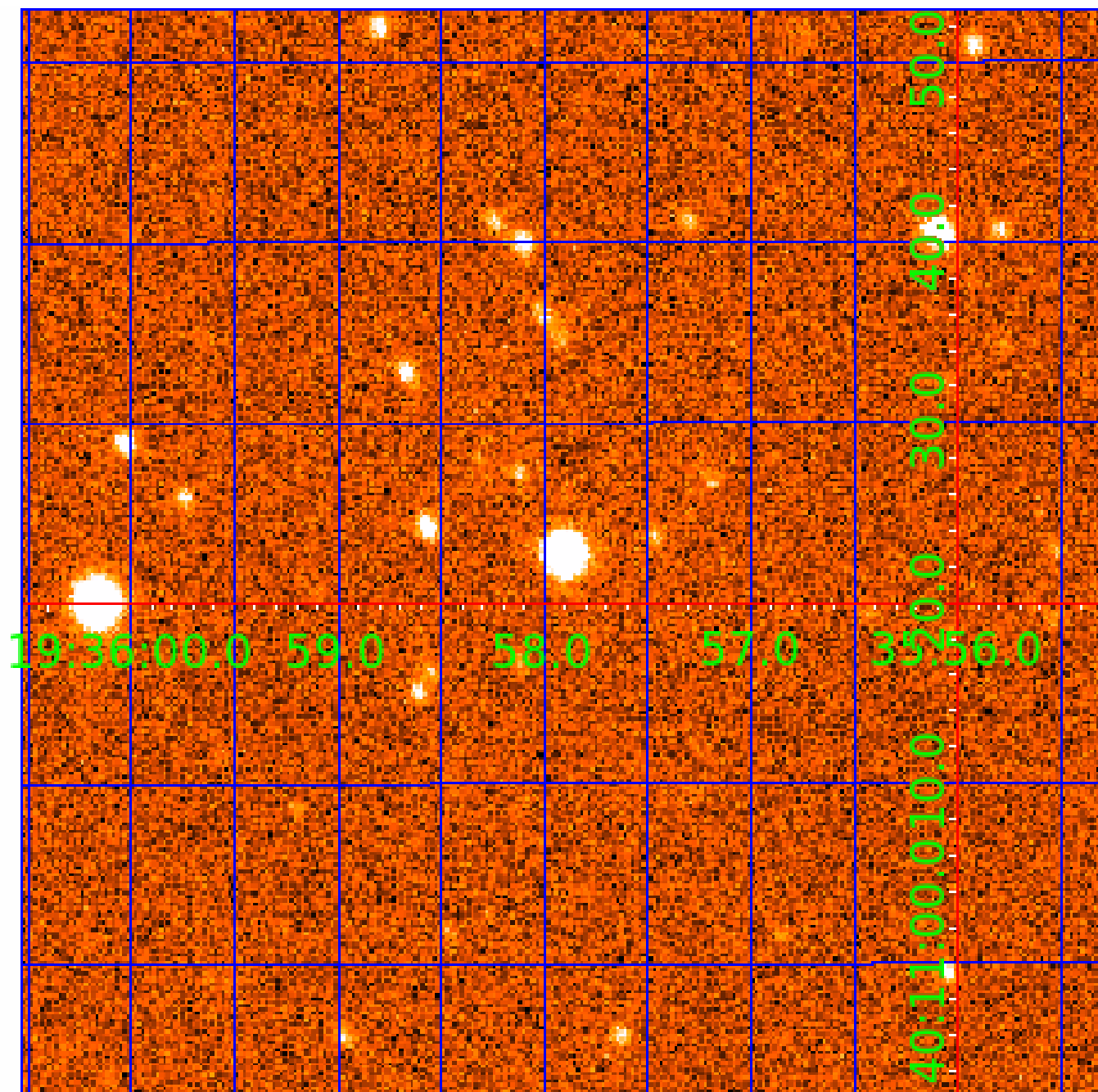


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005018787

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})
005018787-01	OBS	6487.01	0.607188	132.023382	14402.3	1.278	1180.8	754.0	0.67	5370	8.70	2267.30
005018787-02	OBS	No	0.607189	131.717244	7196.3	1.500	209.2	-1.0	0.67	5370	5.68	2267.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005018787-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
005018787-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS

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.

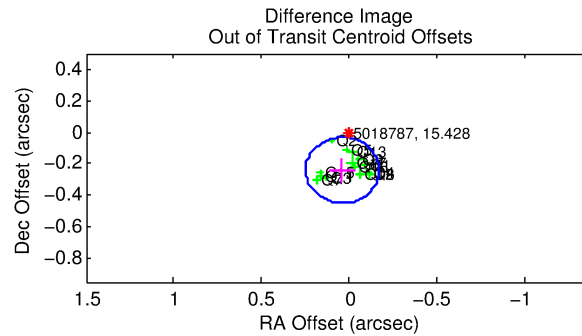
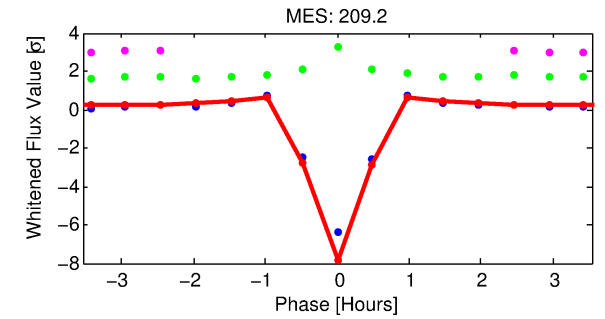
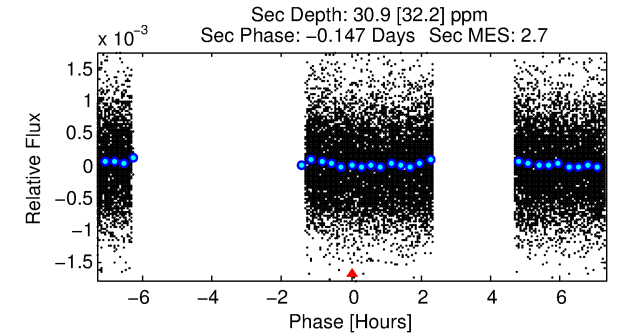
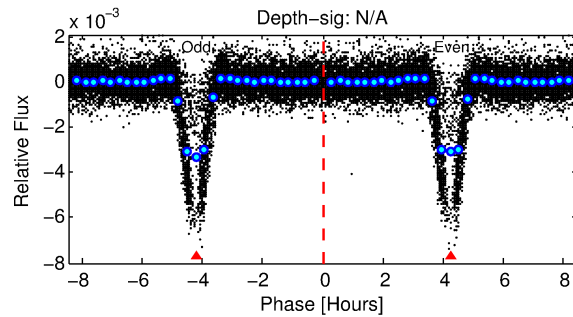
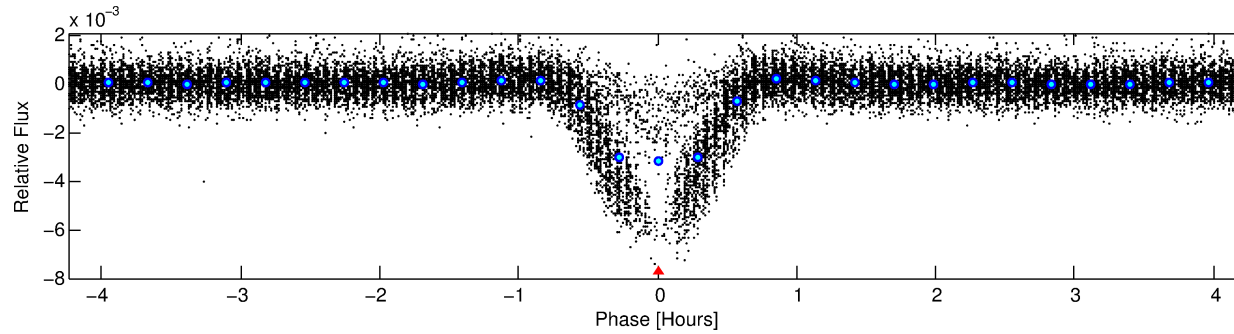
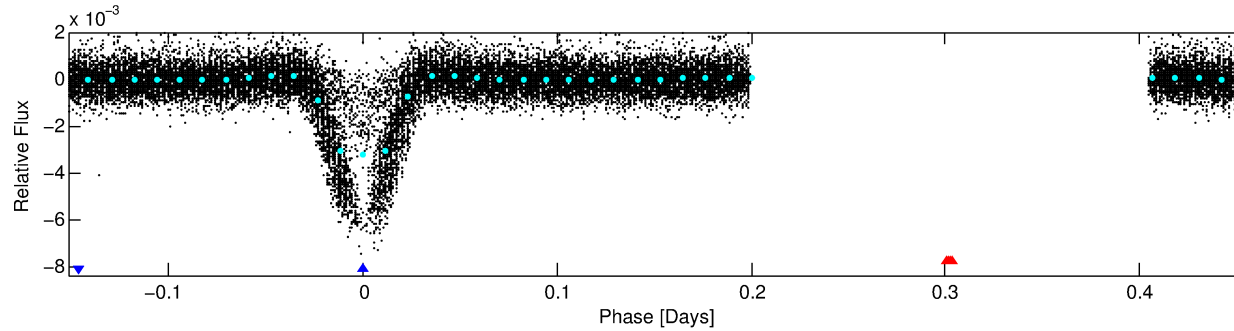
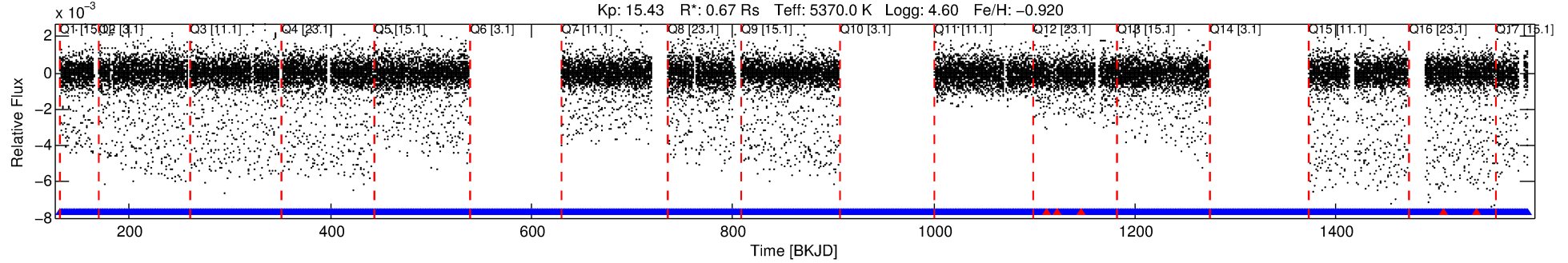
Ephemeris Match Information For 005018787-02

No Significant Match Found

DV One-Page Summary

KIC: 5018787 Candidate: 2 of 2 Period: 0.607 d
KOI: K06487 Corr: No Ephemeris Match

Kp: 15.43 R*: 0.67 Rs Teff: 5370.0 K Logg: 4.60 Fe/H: -0.920



TPS TCE Results:

Period = 0.60719 d
Epoch = 131.7172 BKJD

DV fit results are unavailable

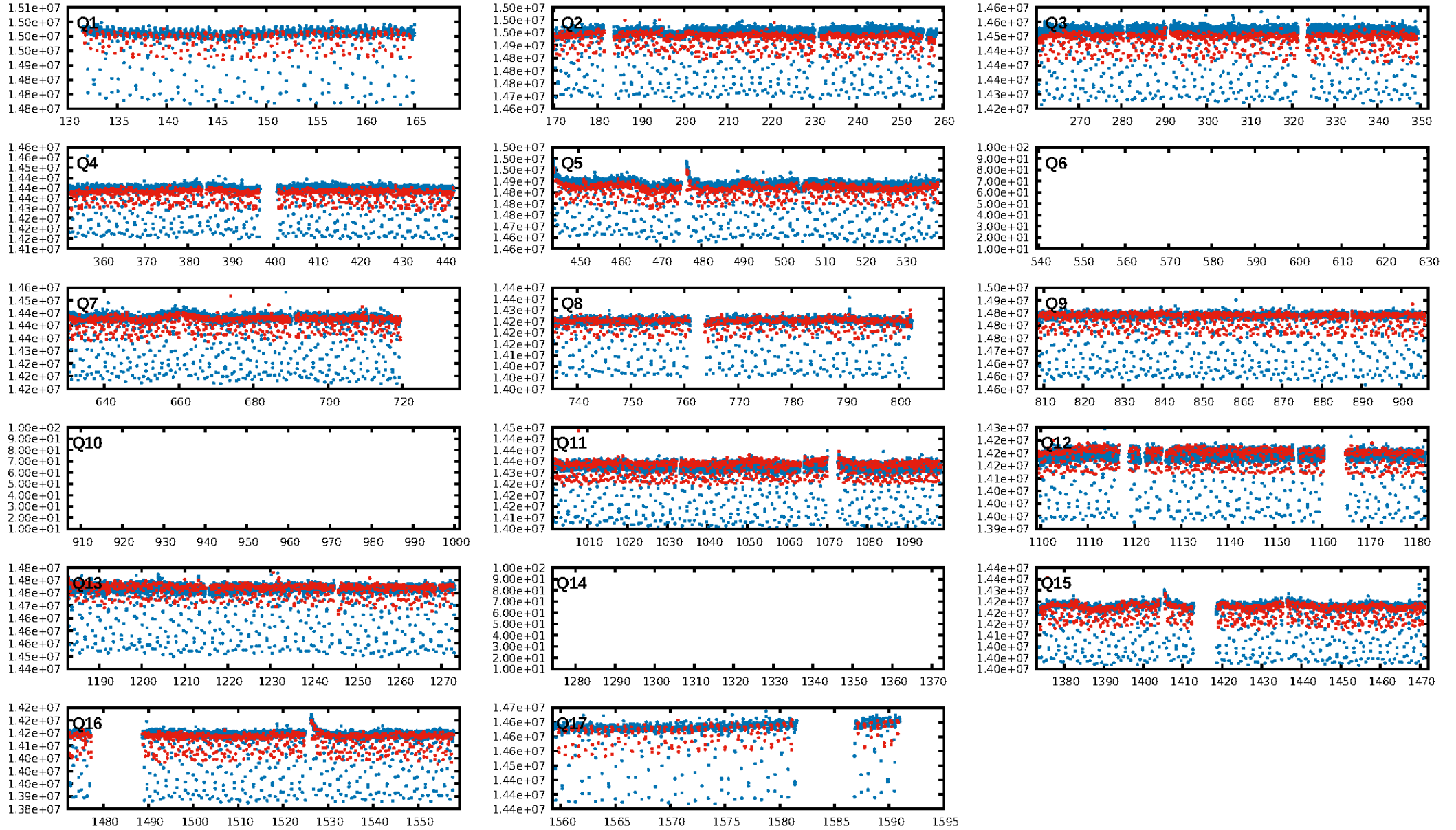
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1655/1661]
GhostDiagnostic-chr: -40.42
Centroid-sig: 0.0%
Centroid-so: 0.104 arcsec [4.49 σ]
OotOffset-rm: 0.244 arcsec [3.49 σ]
KicOffset-rm: 0.242 arcsec [3.25 σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

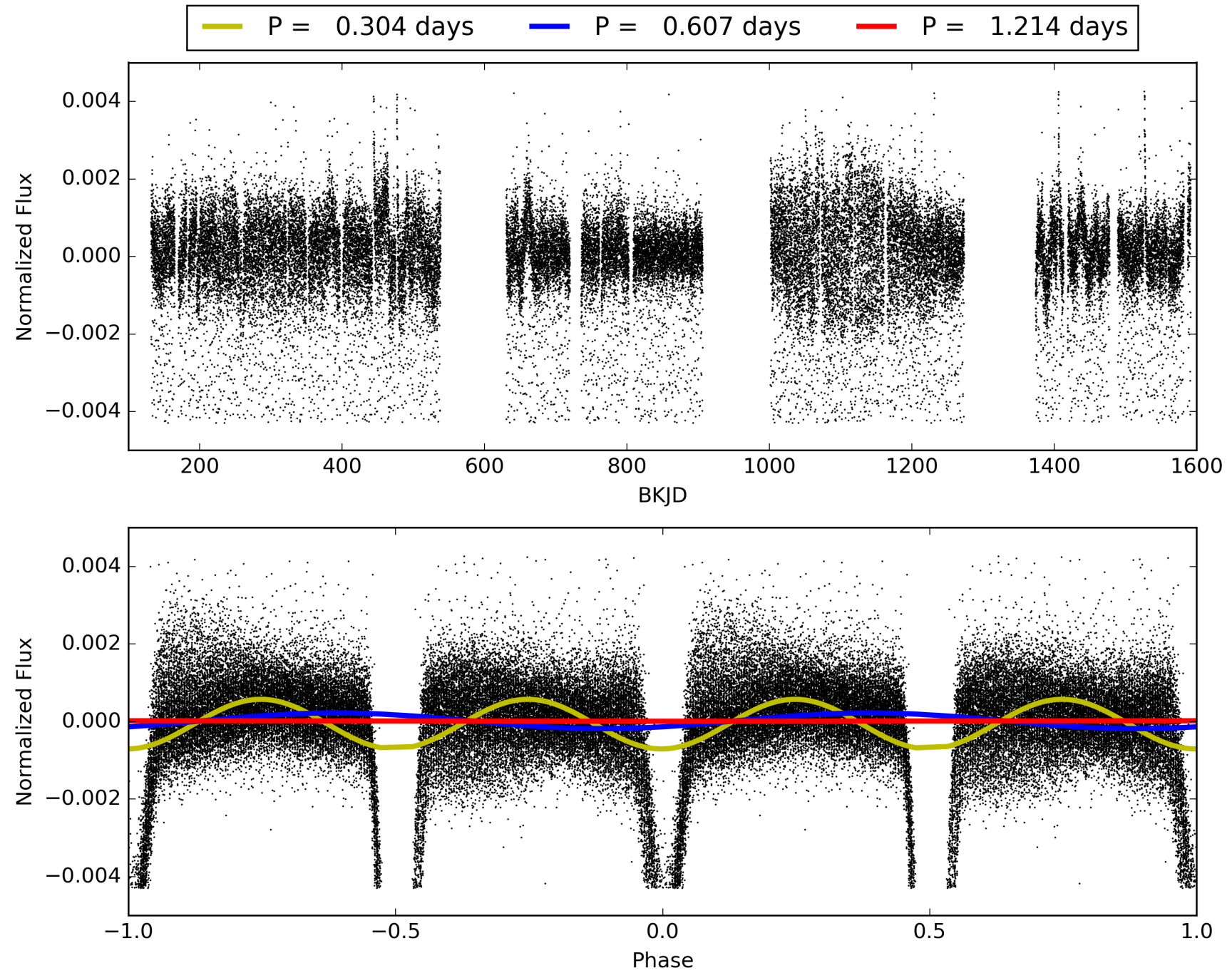
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 13:54:49 Z

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

TCE 005018787-02, PDC Light Curves

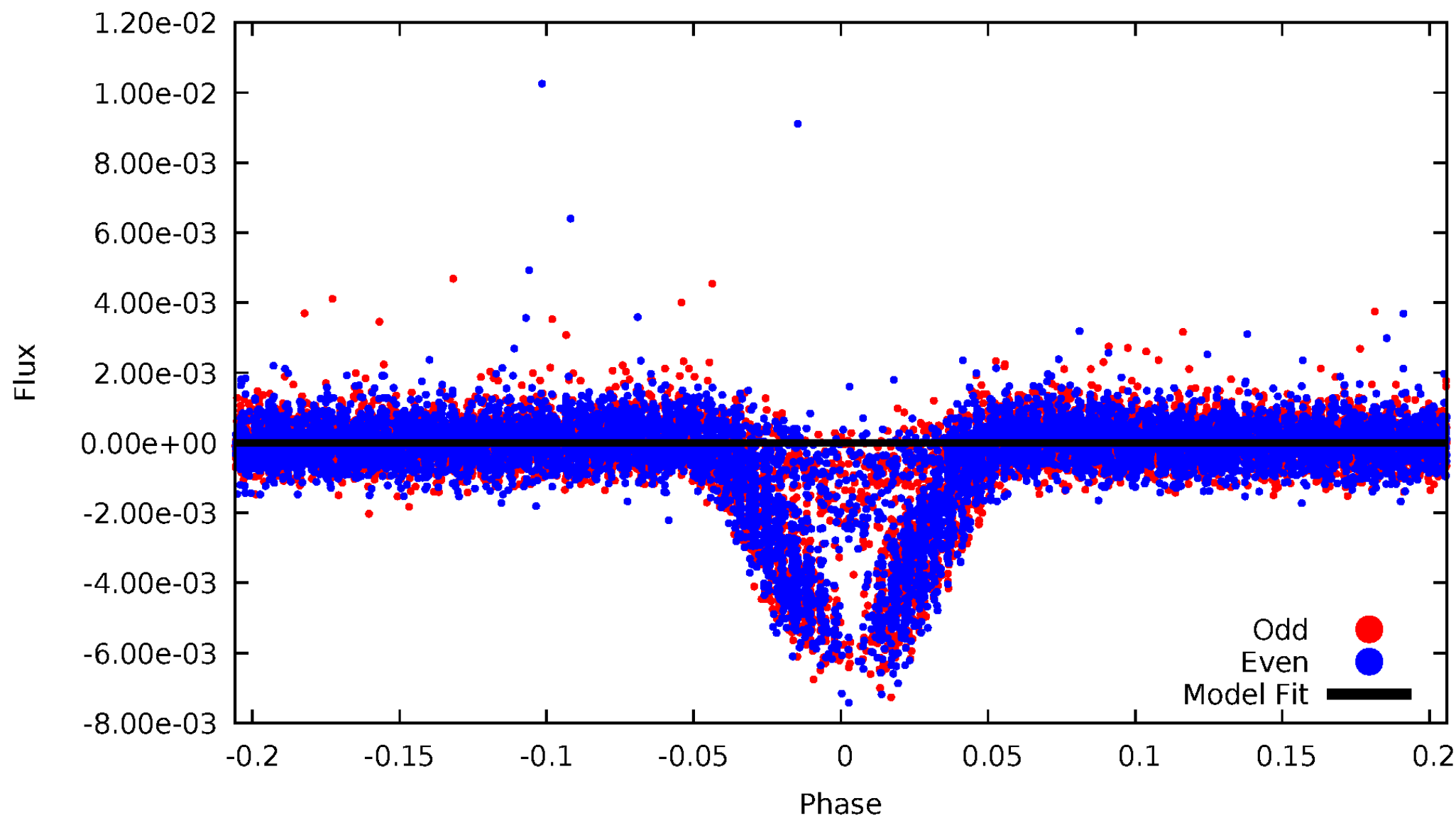


TCE 005018787-02



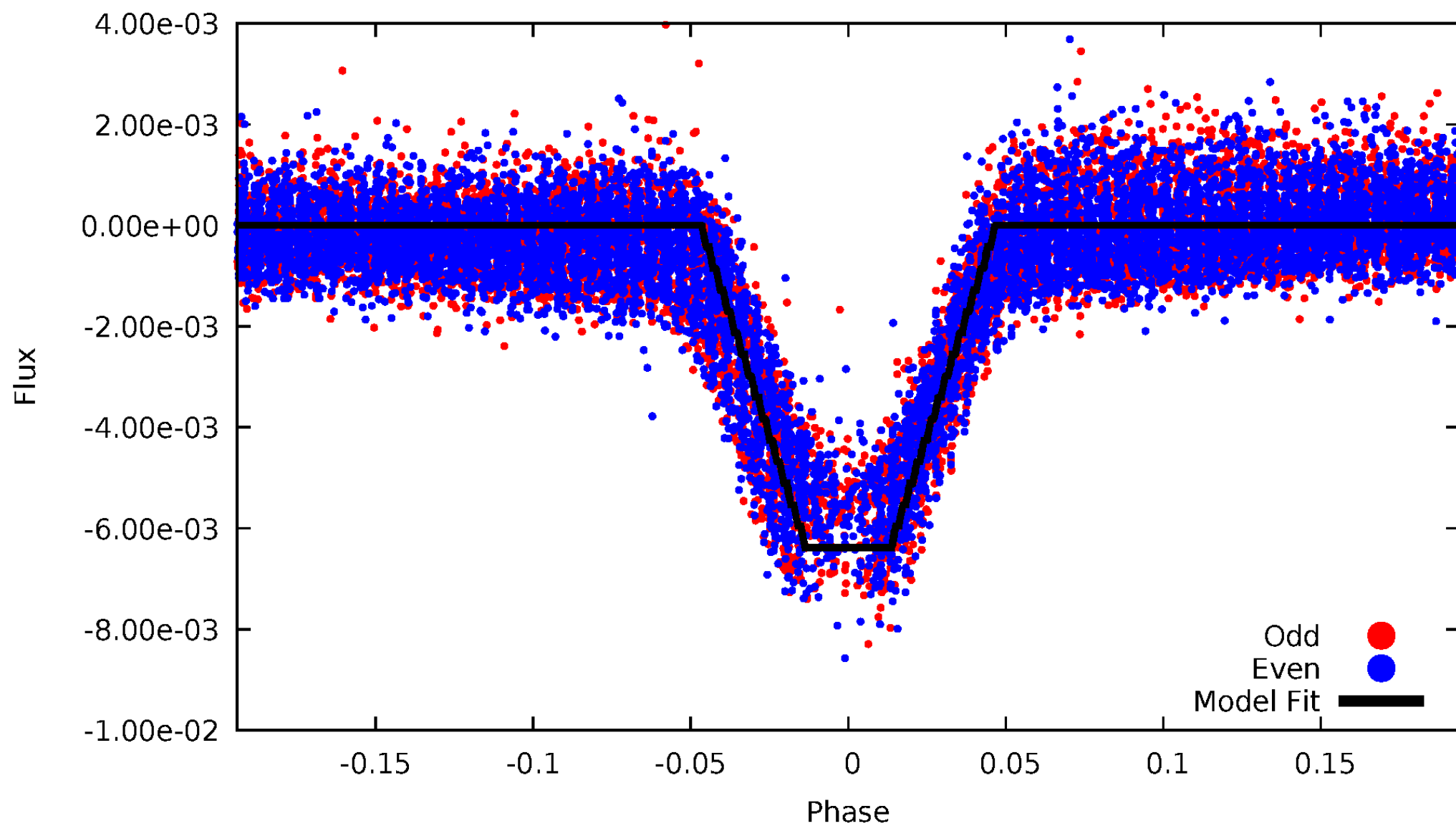
DV Odd/Even

TCE 005018787-02



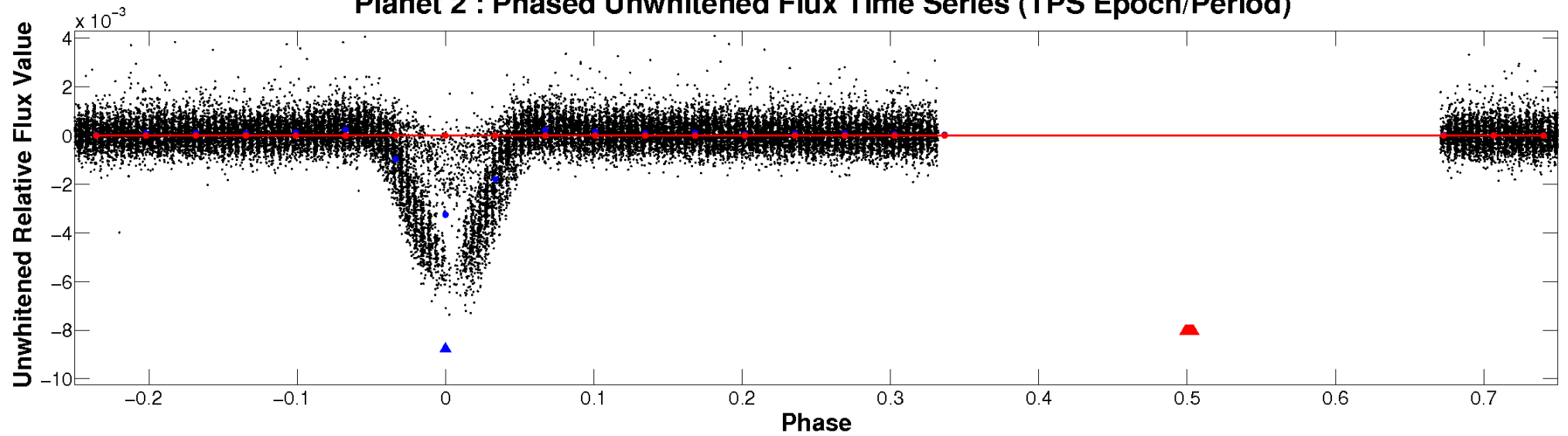
ALT Odd/Even

TCE 005018787-02

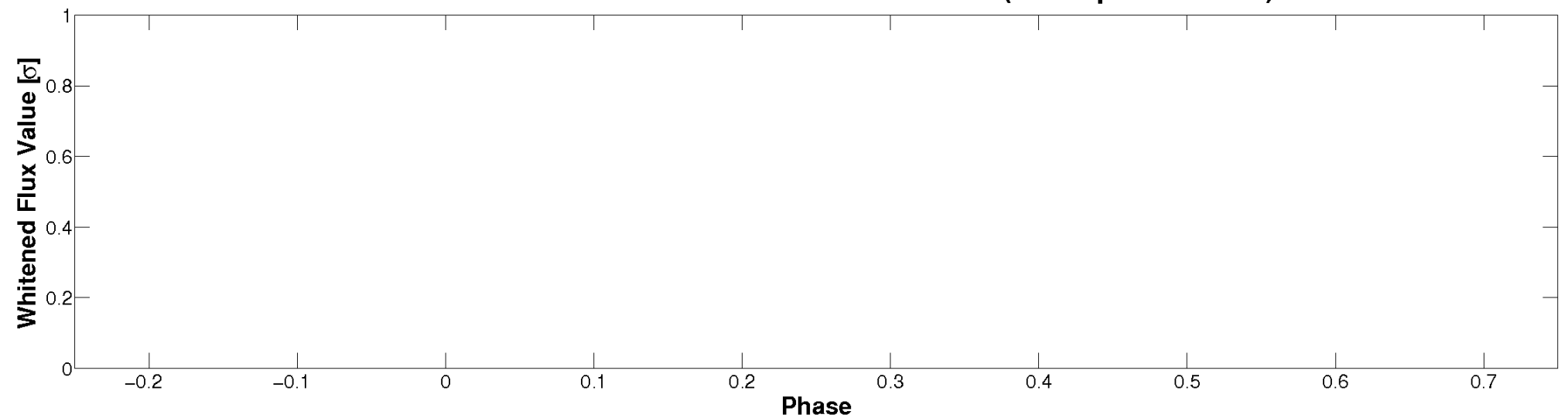


Non-Whitened Vs. Whitened Light Curve

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

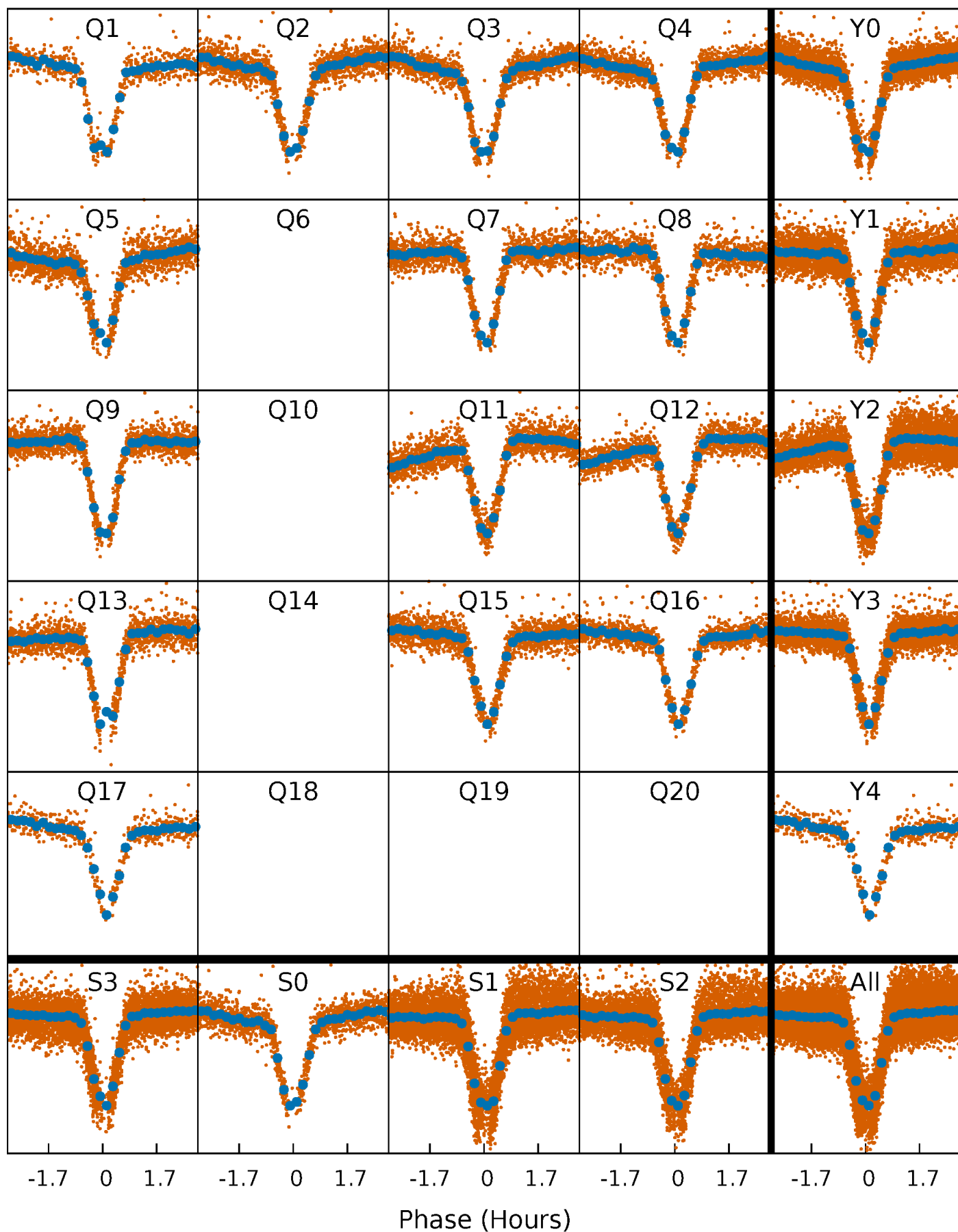


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



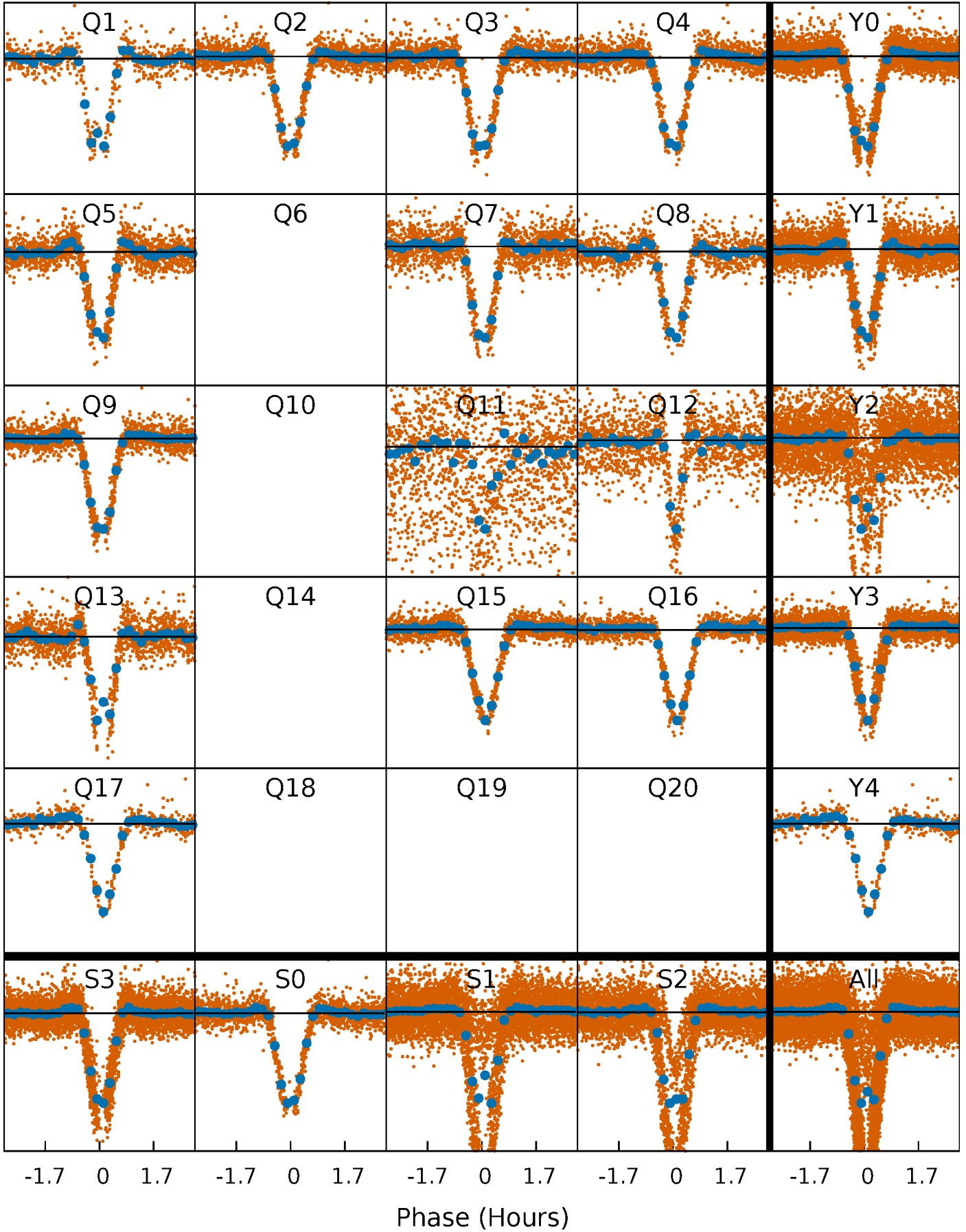
PDC Quarter-Phased Transit Curves

TCE 005018787-02 P= 0.607189 Days $T_0=131.717244$ (BKJD)



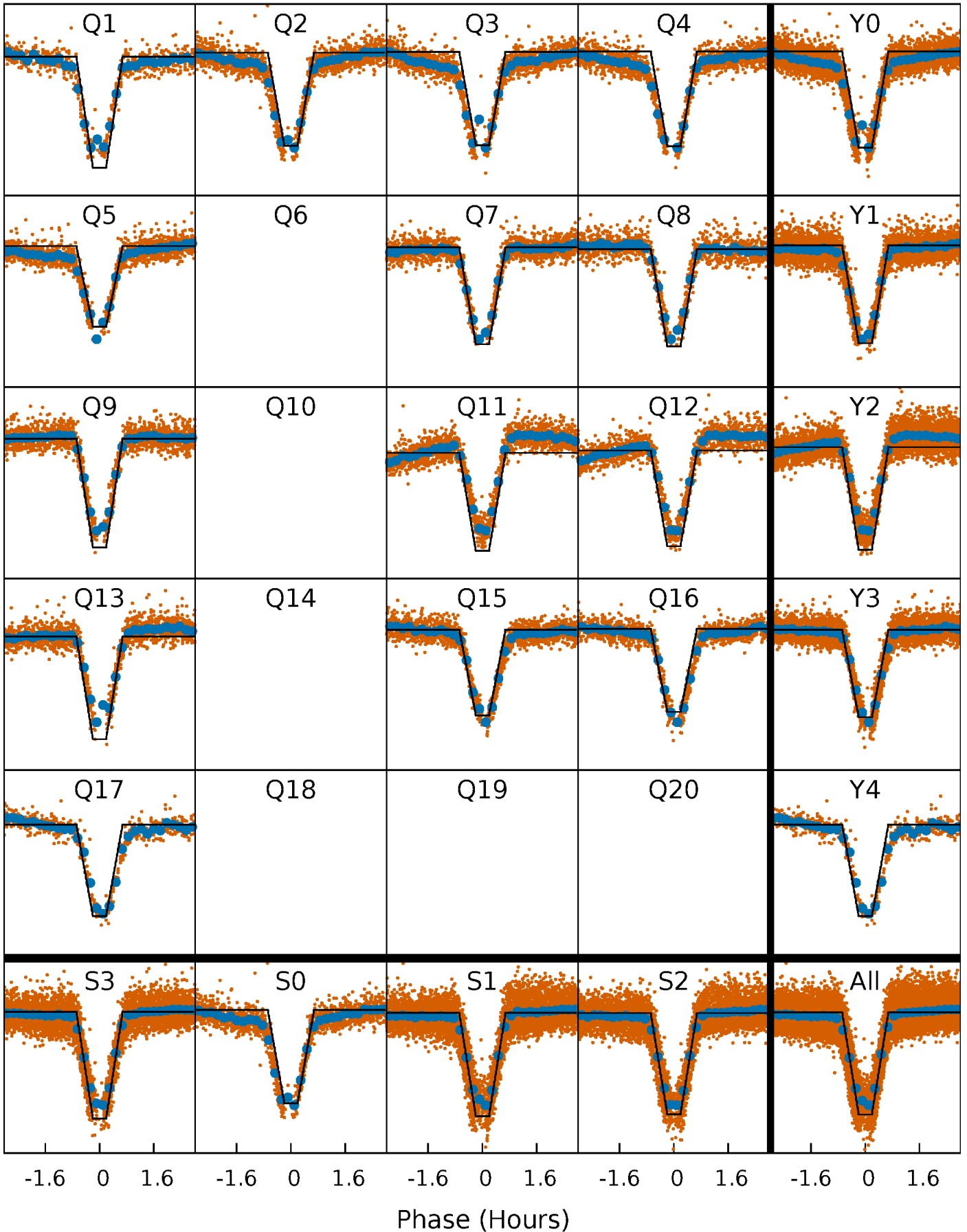
DV Quarter-Phased Transit Curves

TCE 005018787-02 $P = 0.607189$ Days $T_0 = 131.717244$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

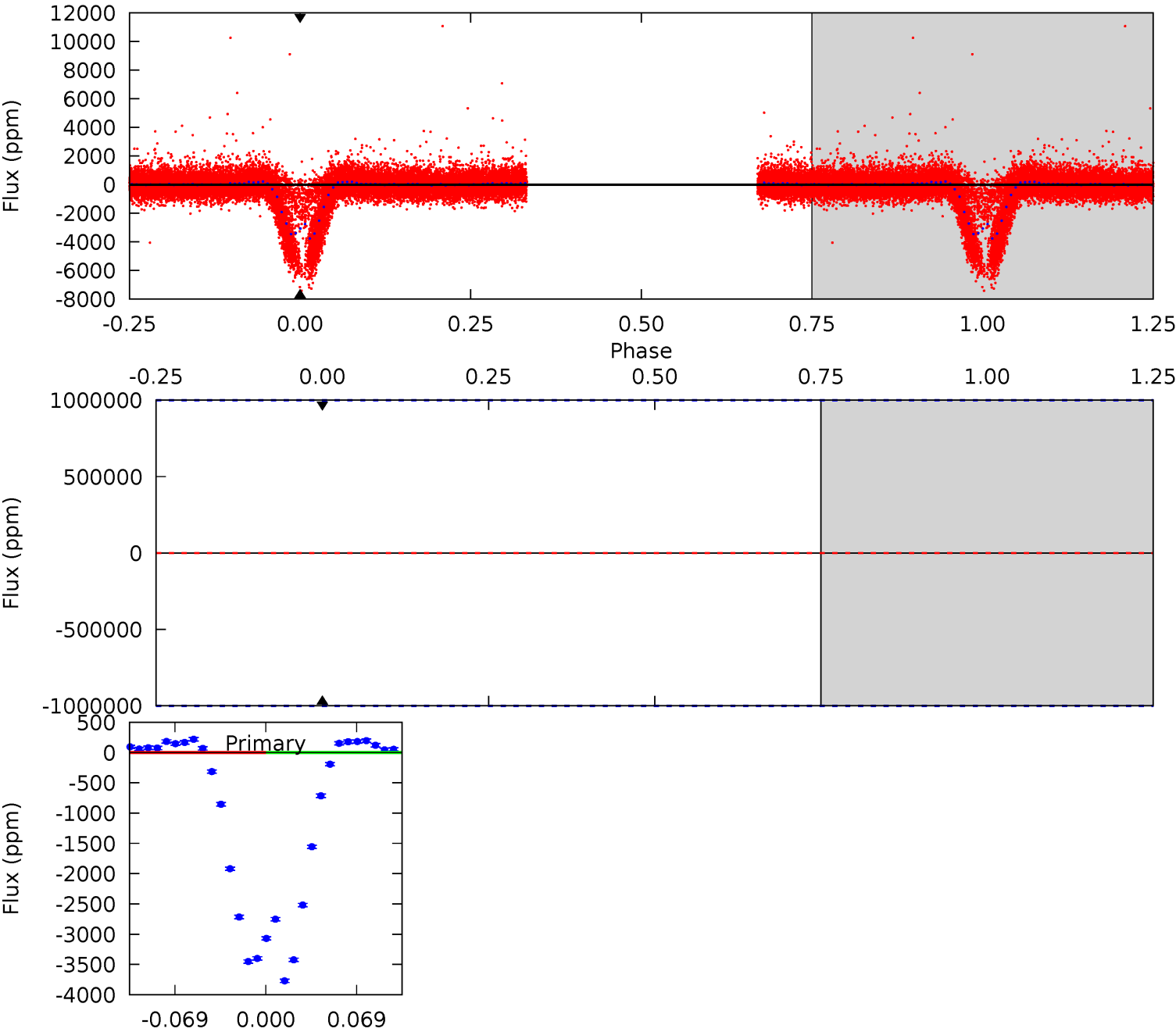
TCE 005018787-02 $P = 0.607189$ Days $T_0 = 131.719524$ (BKJD)



DV Model-Shift Uniqueness Test

005018787-02, P = 0.607189 Days, E = 131.110055 Days

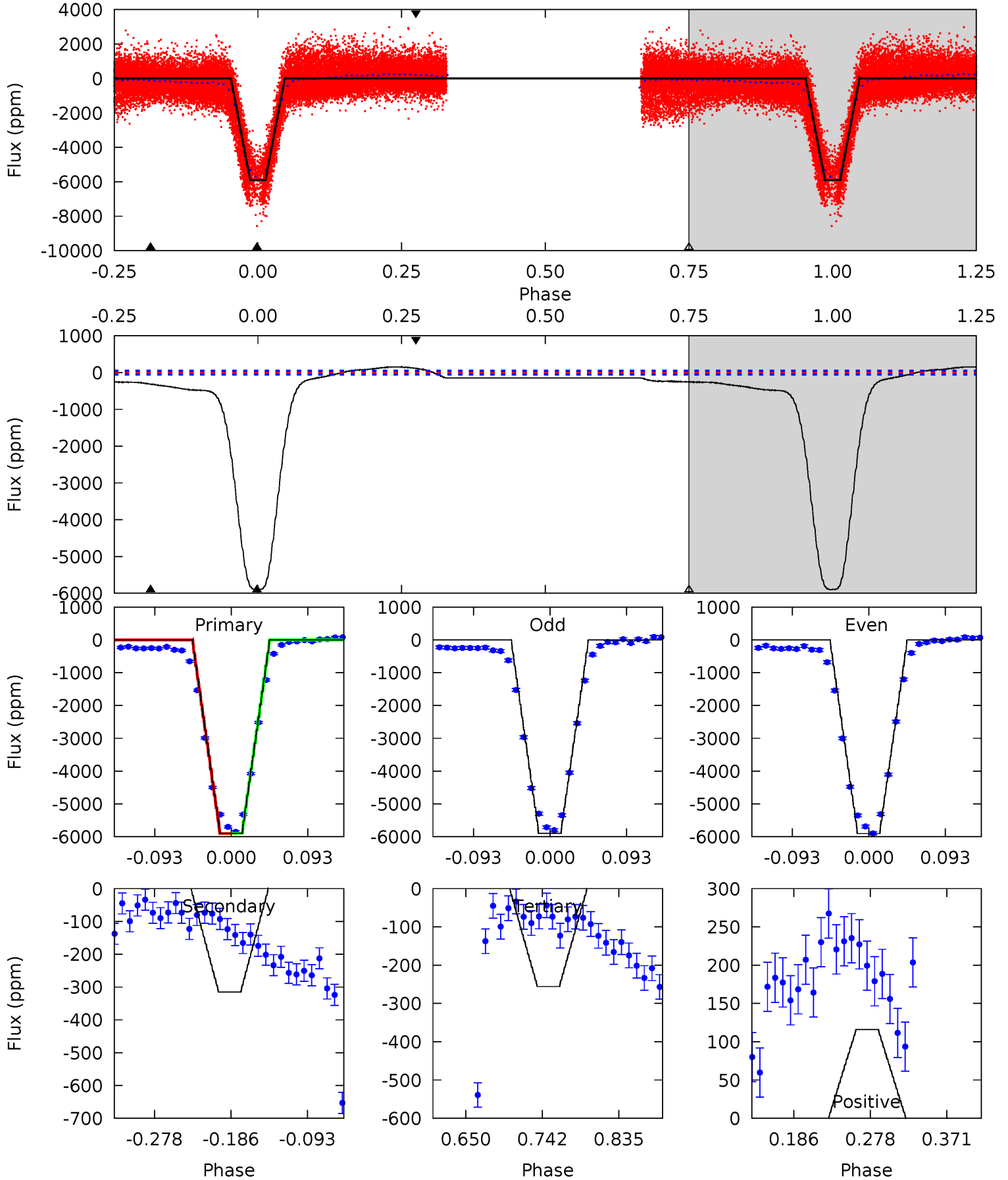
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

005018787-02, P = 0.607189 Days, E = 131.112335 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
509.3	27.2	22.1	10.0	4.58	1.68	12.6	487.2	499.3	5.13	17.2	0.30	1.01	0.03	0.53



Stellar Parameters For KIC 005018787

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5370^{+176}_{-176}	$4.598^{+0.078}_{-0.052}$	$-0.920^{+0.300}_{-0.300}$	$0.671^{+0.064}_{-0.057}$	$0.649^{+0.066}_{-0.024}$	$3.031^{+0.932}_{-0.598}$
	+3%/-3%	+2%/-1%	+33%/-33%	+10%/-8%	+10%/-4%	+31%/-20%
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 005018787-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$7.80^{+5.80}_{-5.01}$	2445^{+106}_{-98}	3185^{+9825}_{-14144}	$1.261^{+265.127}_{-189.915}$
Alt.	-315 ± 12	$7.94^{+6.04}_{-5.25}$	2451^{+98}_{-98}	2445^{+1517}_{-5006}	$0.427^{+3.251}_{-0.297}$

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 $A_{obs} \gg 1.0$

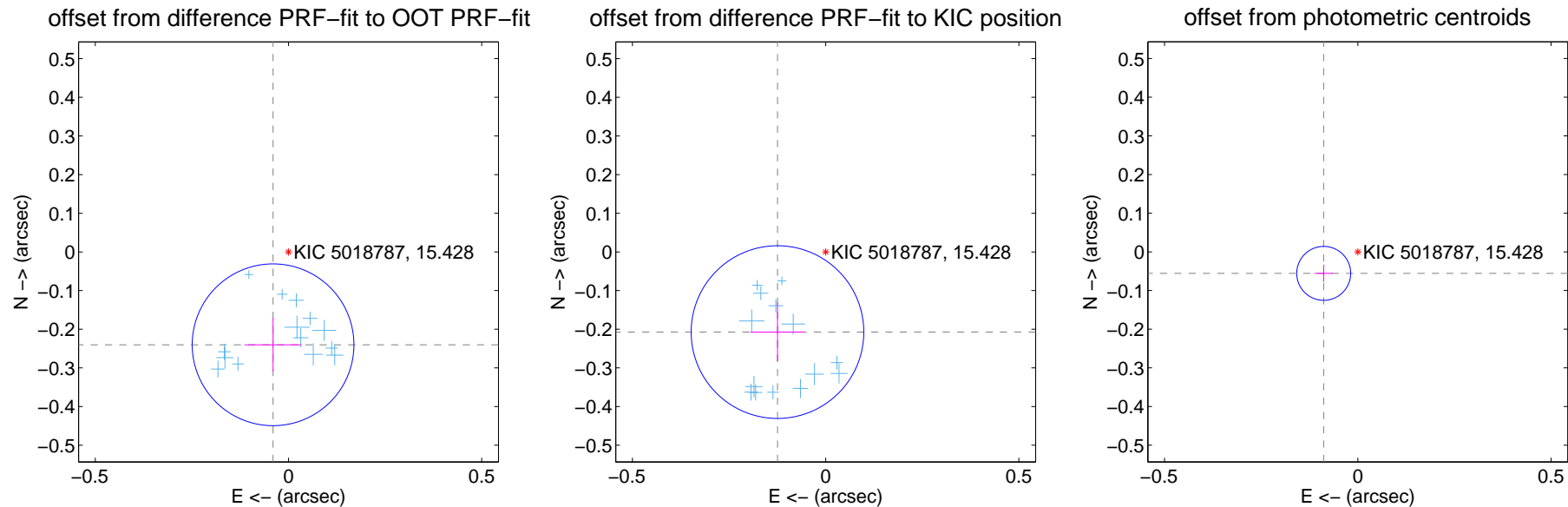
DV Centroid Data

Supplemental centroid analysis for 005018787-02. Kepler magnitude: 15.43. Transit SNR -1.00

There are 14 quarters with good PRF difference image offsets

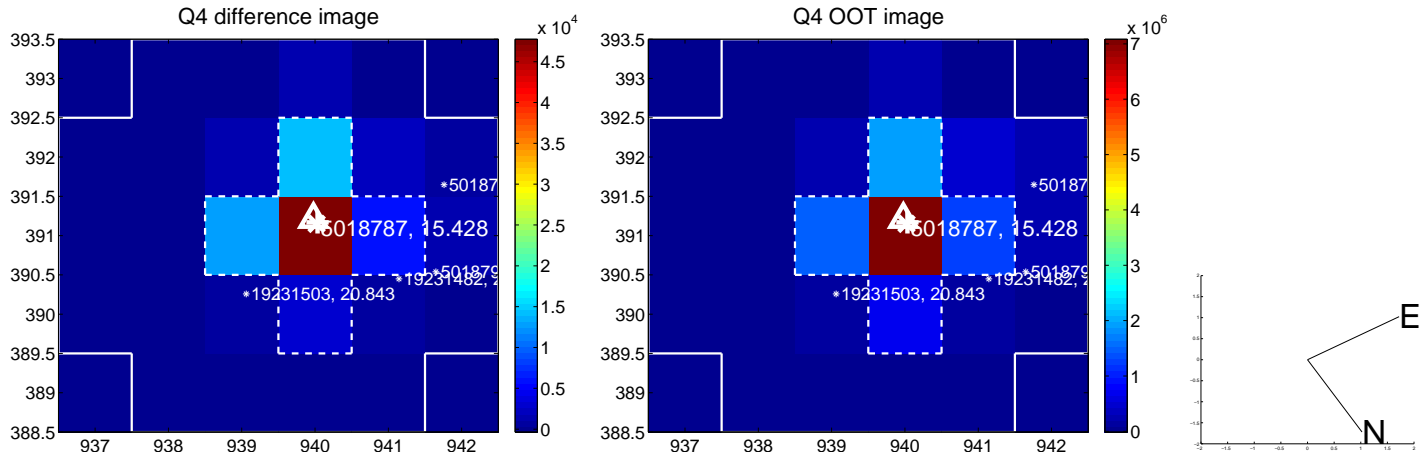
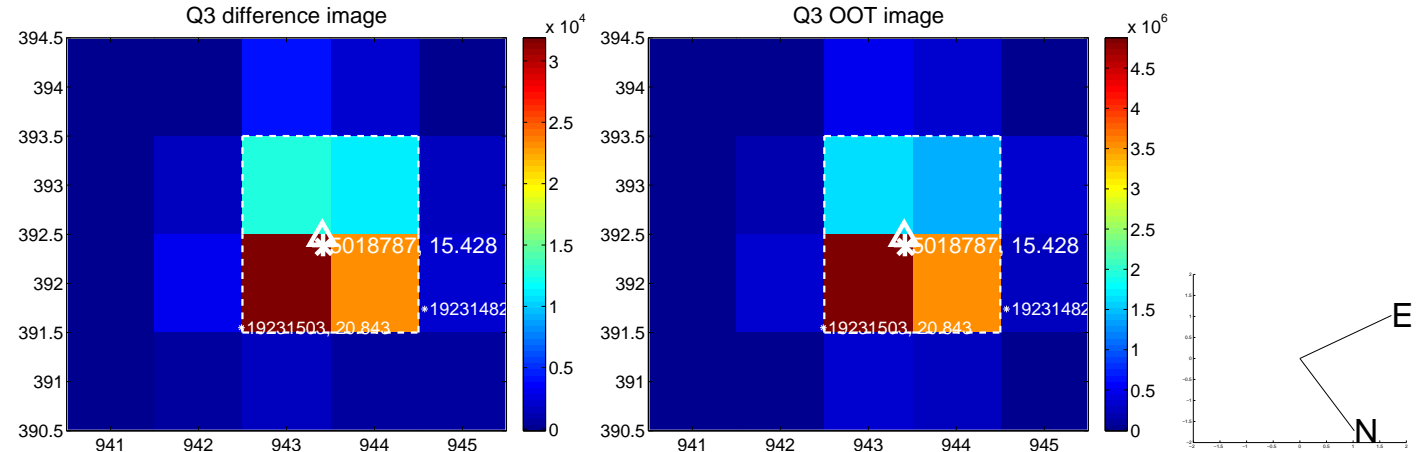
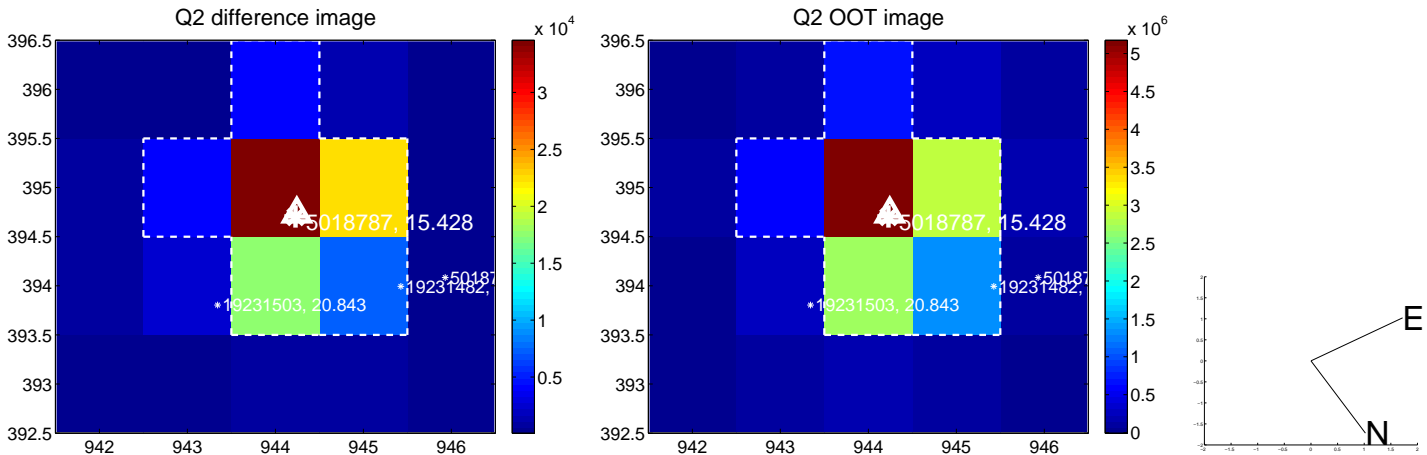
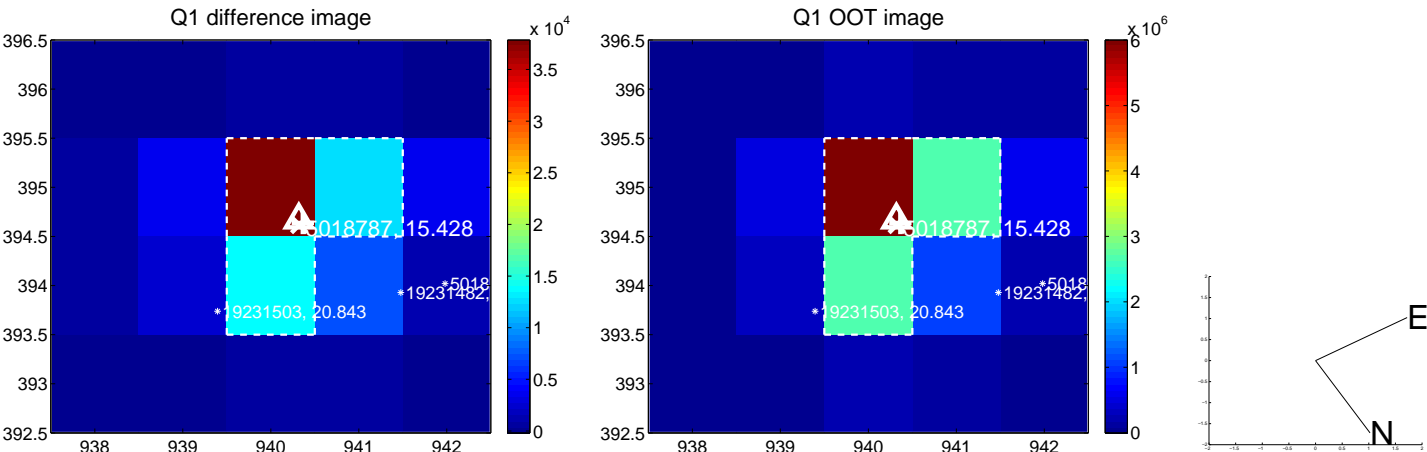
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.244 ± 0.070	3.49	0.040 ± 0.074	-0.240 ± 0.069
PRF-fit source offset from KIC position	0.242 ± 0.074	3.25	0.125 ± 0.070	-0.207 ± 0.076
photometric centroid source offset	0.10 ± 0.02	4.49	0.09 ± 0.02	-0.06 ± 0.02

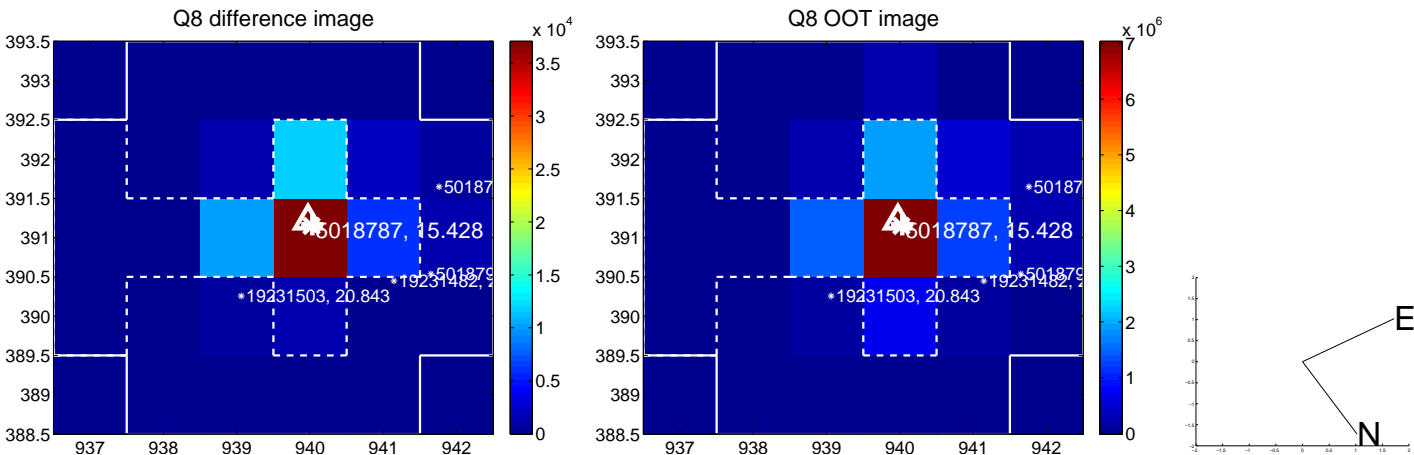
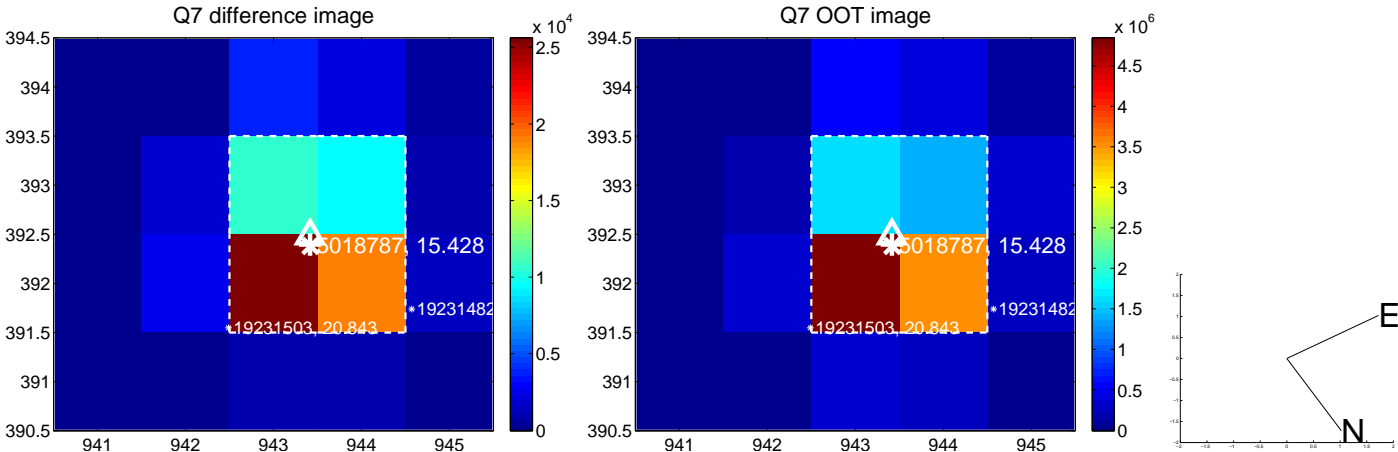
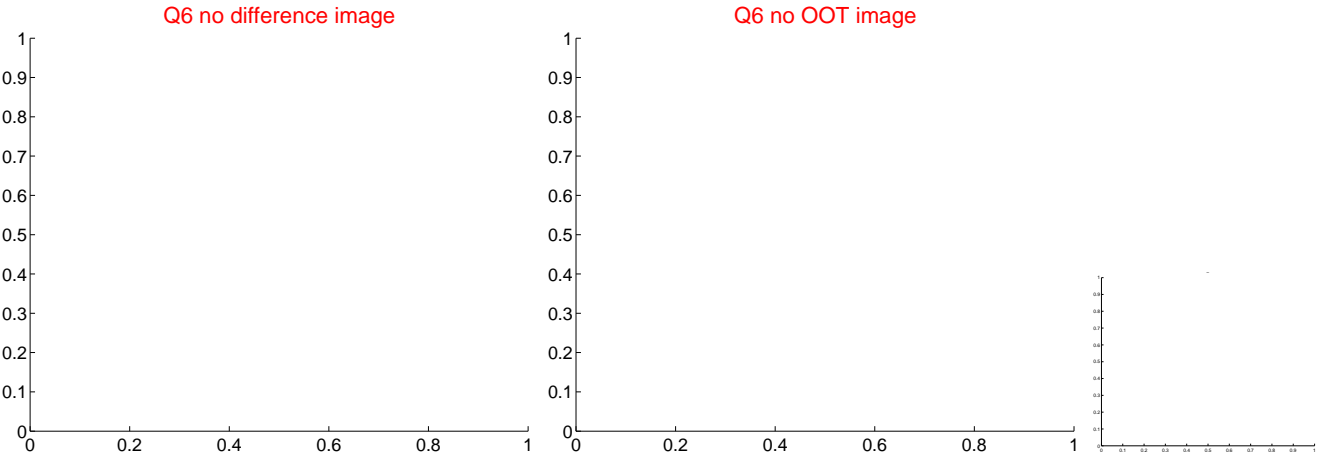
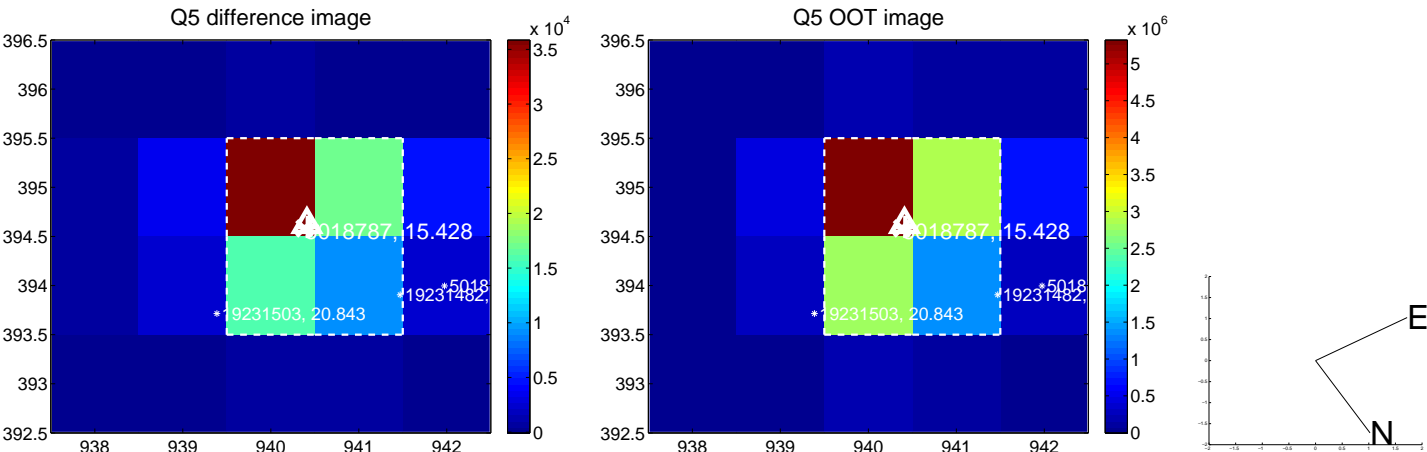


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

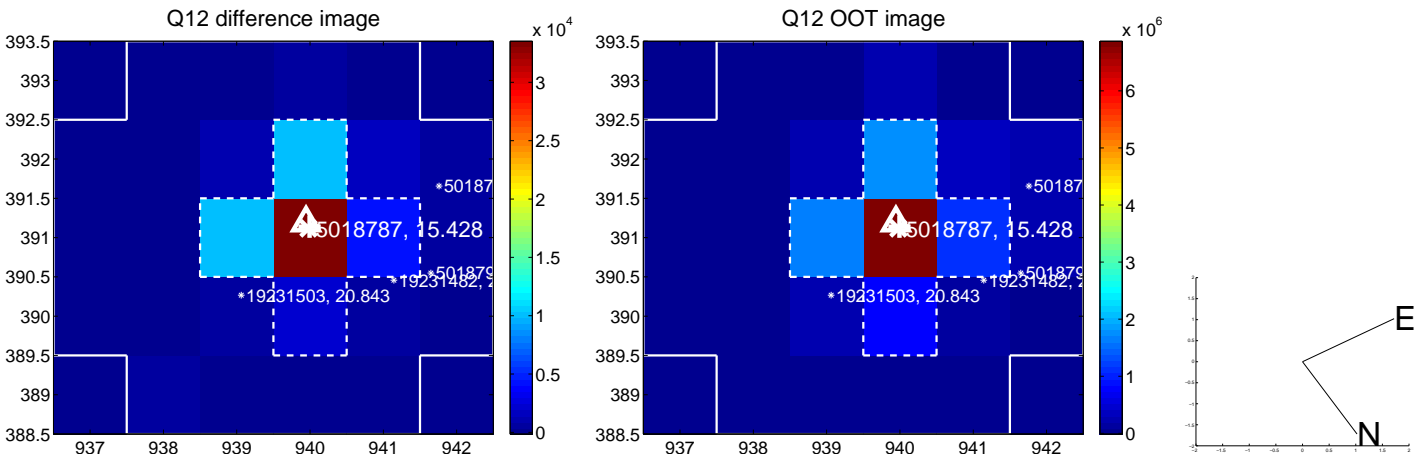
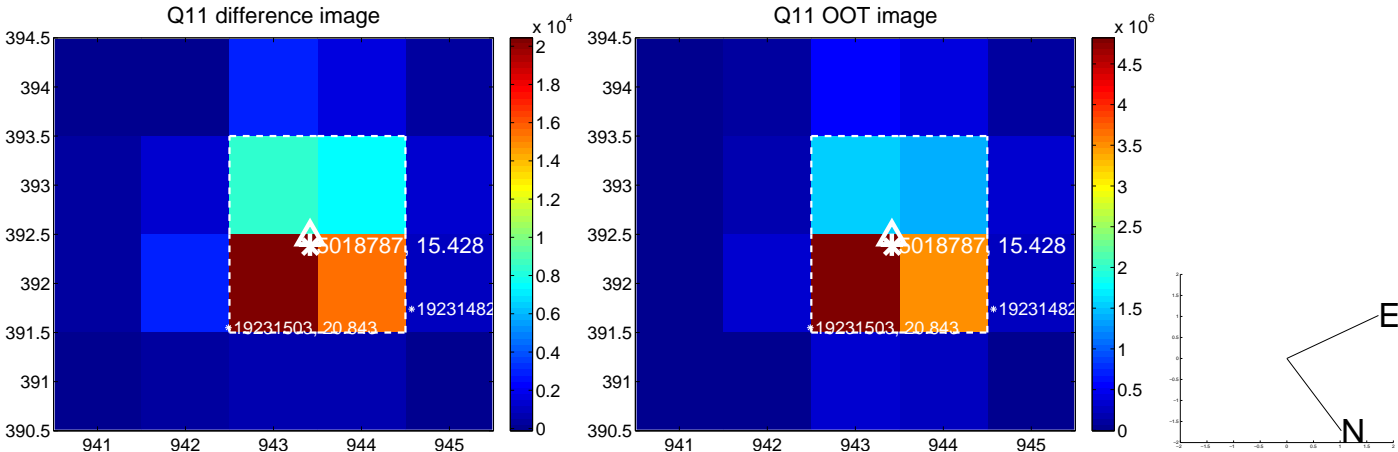
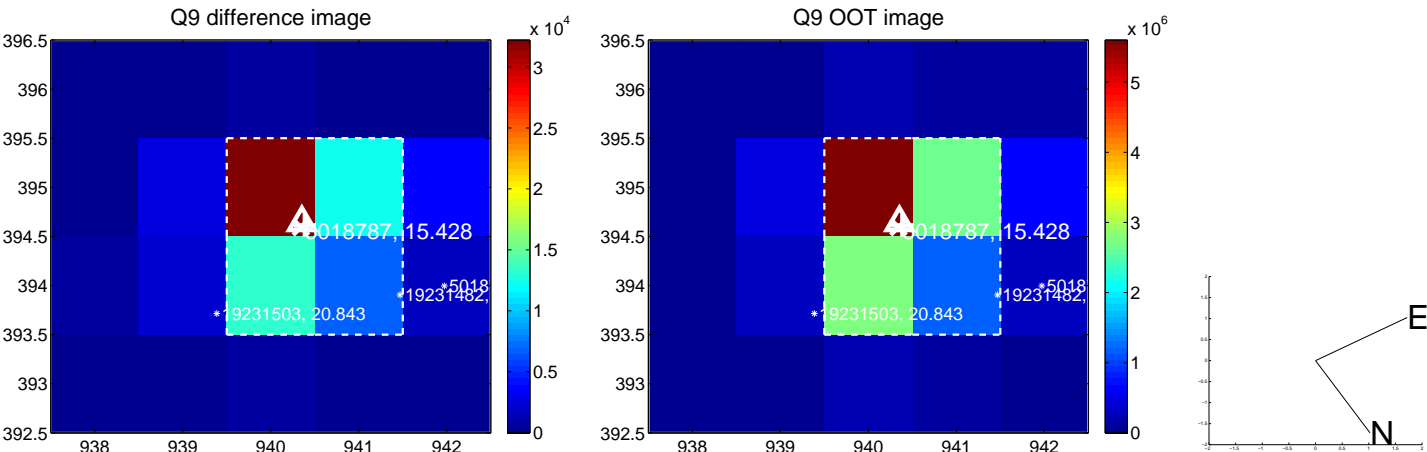
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



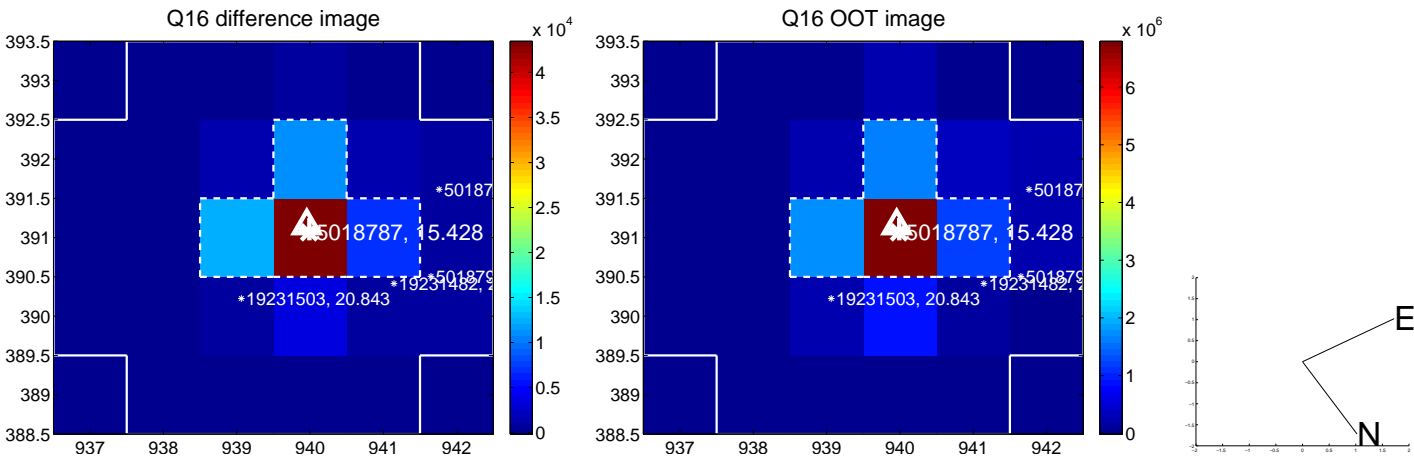
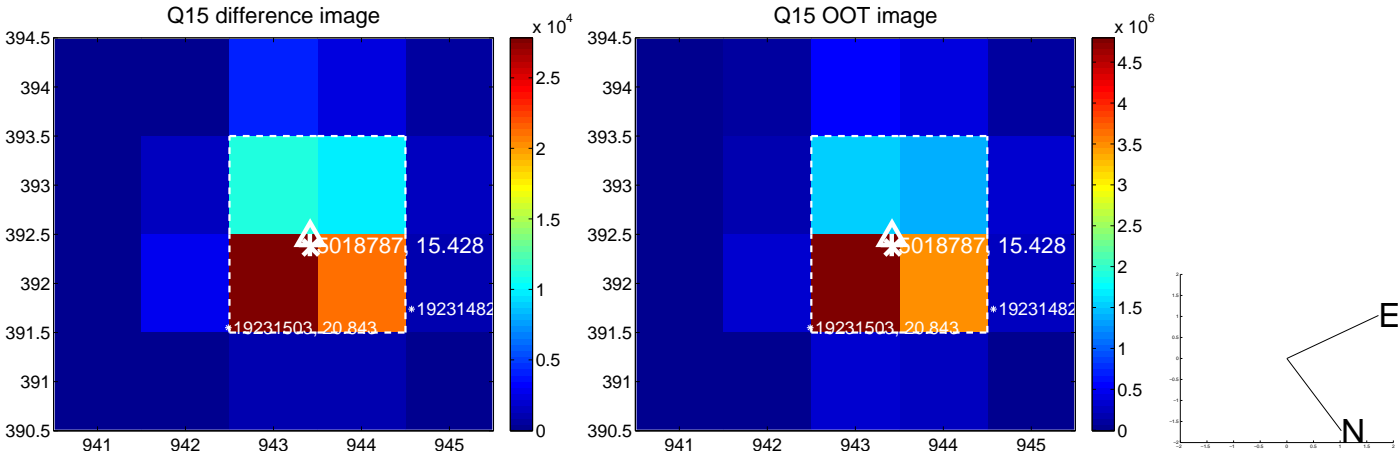
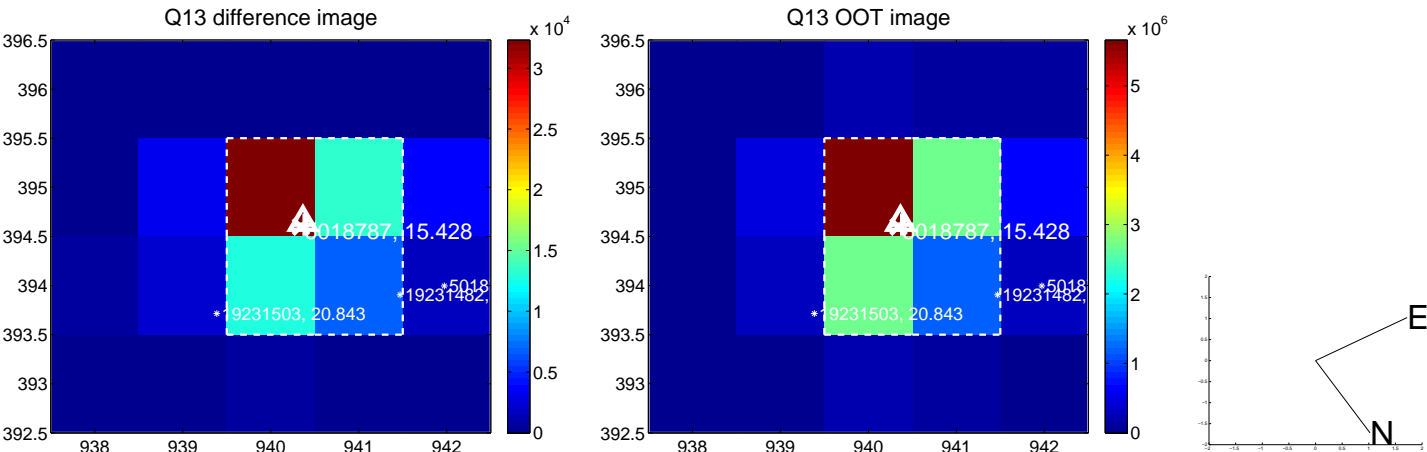
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



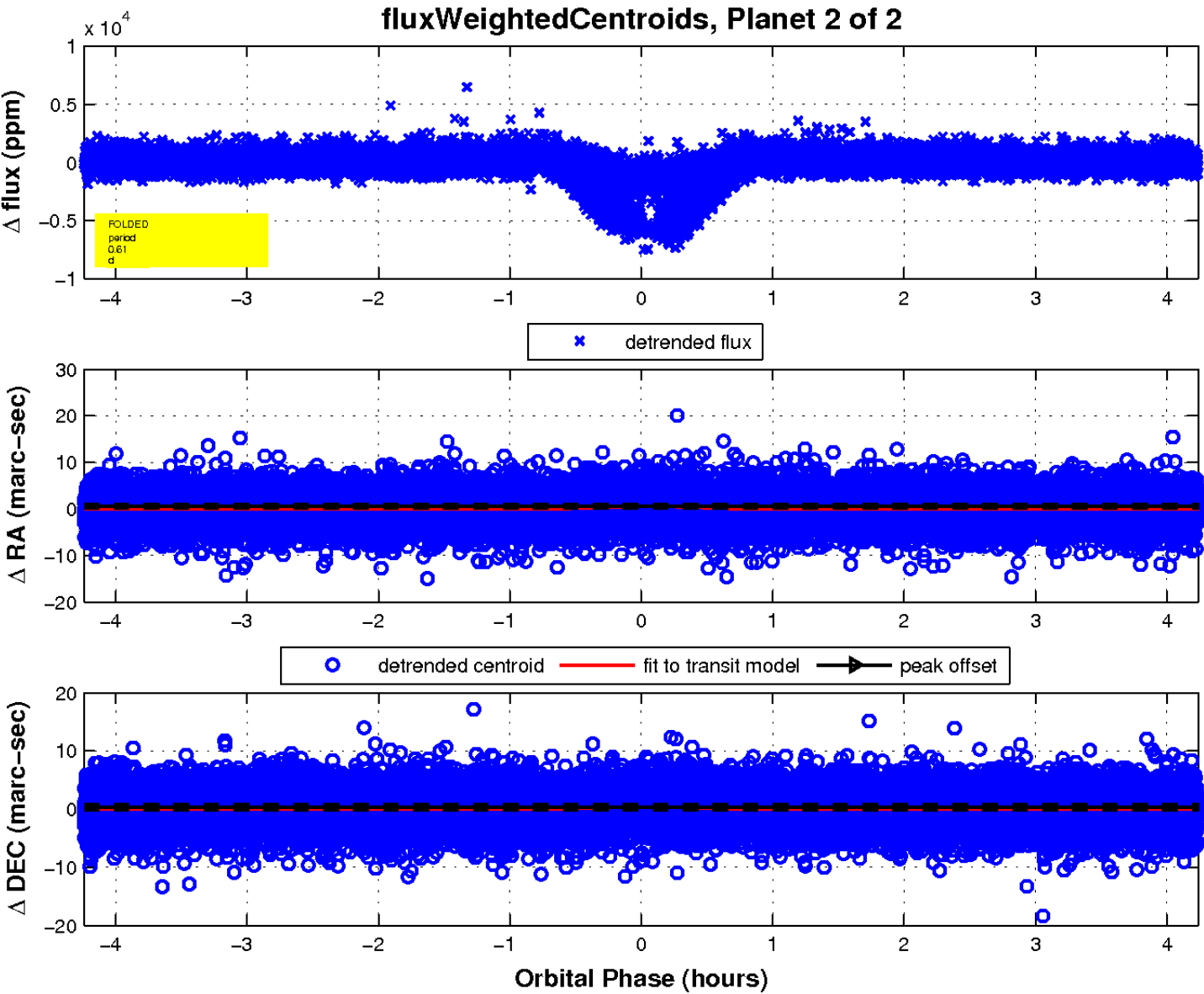
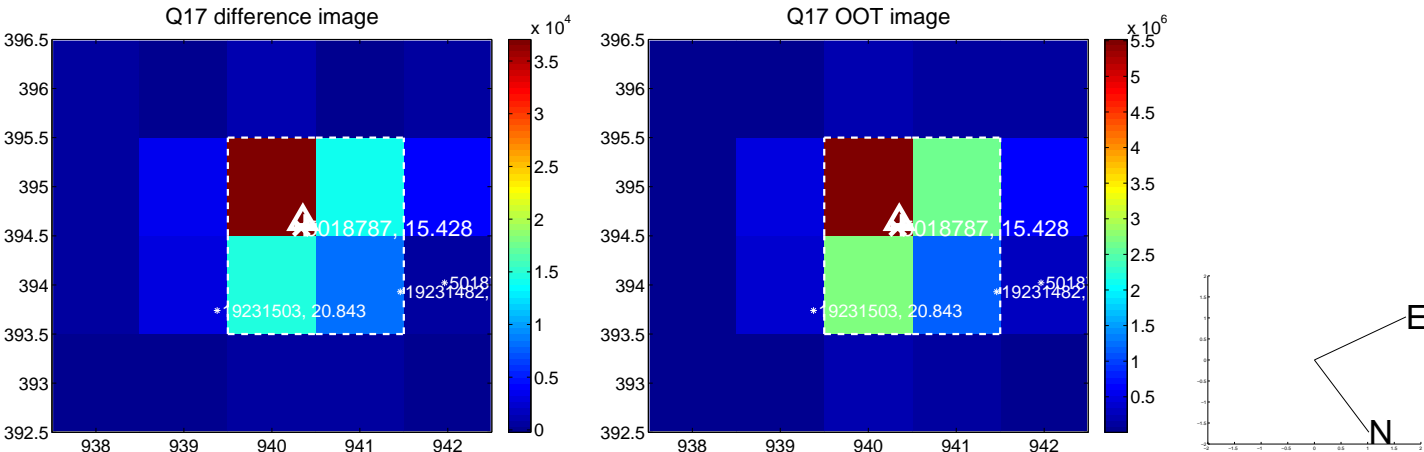
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

