

KIC 010779585

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})
010779585-01	OBS	No	413.420454	298.186823	1439.1	5.867	24.2	10.5	0.94	6008	3.65	0.96
010779585-02	OBS	No	2.696290	132.726632	207.6	9.727	17.7	26.5	0.94	6008	1.67	787.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010779585-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010779585-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

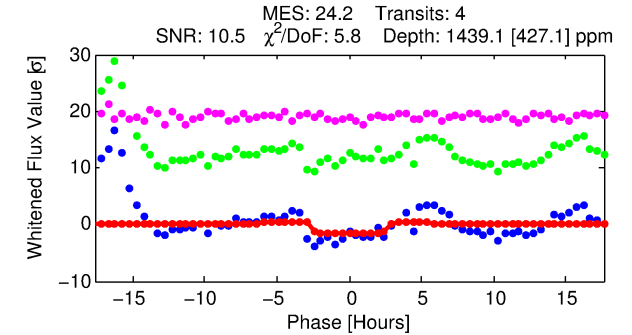
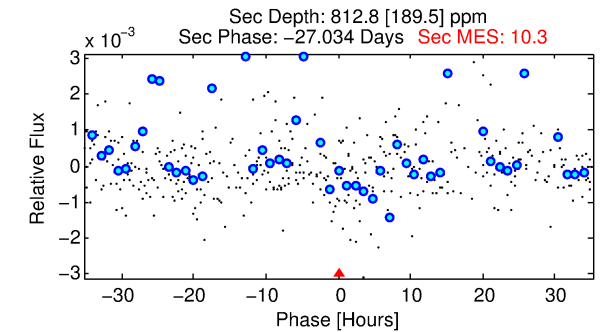
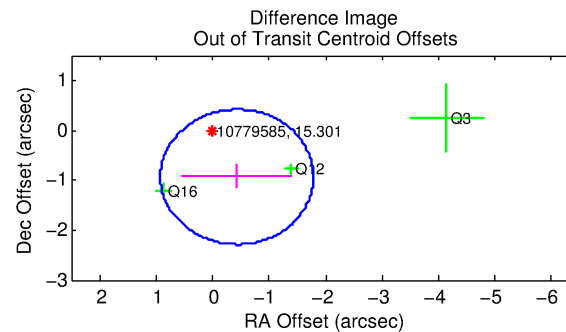
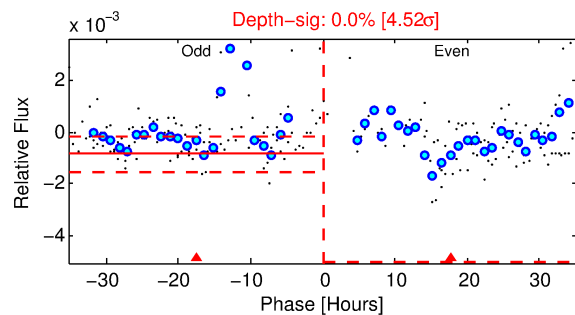
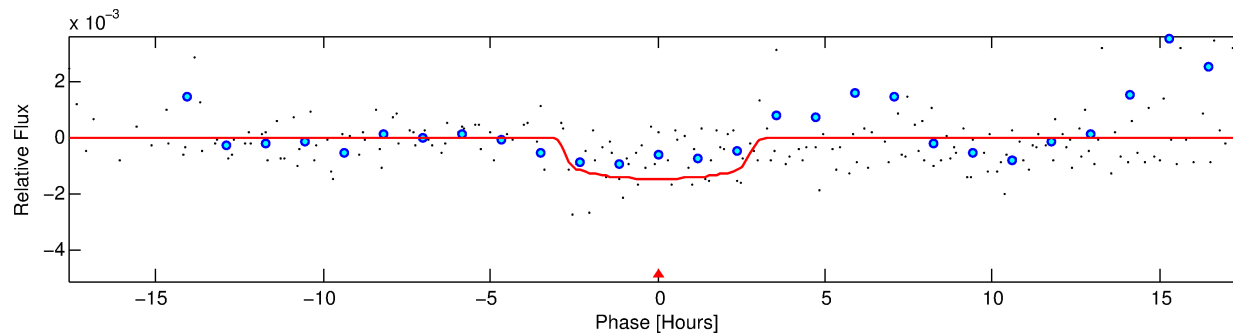
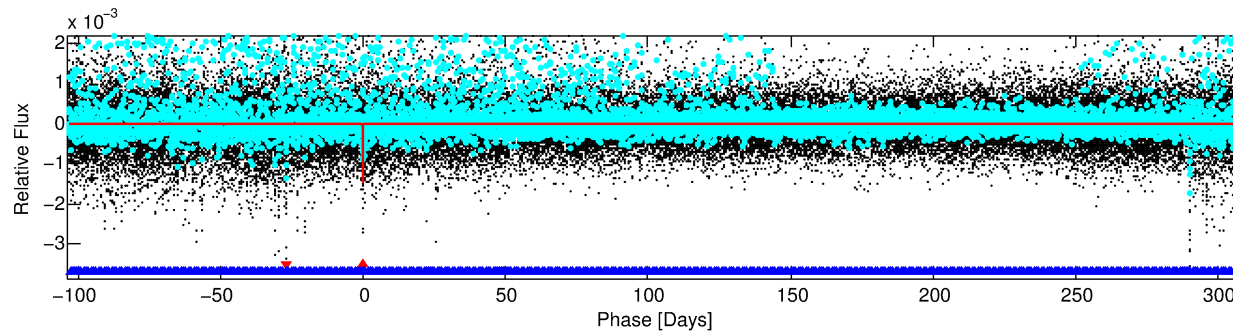
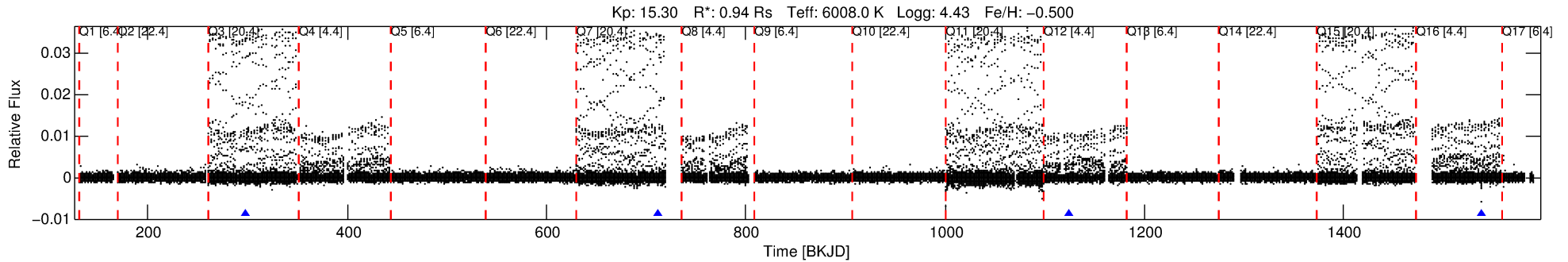
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010779585-01

No Significant Match Found

DV One-Page Summary

KIC: 10779585 Candidate: 1 of 2 Period: 413.420 d



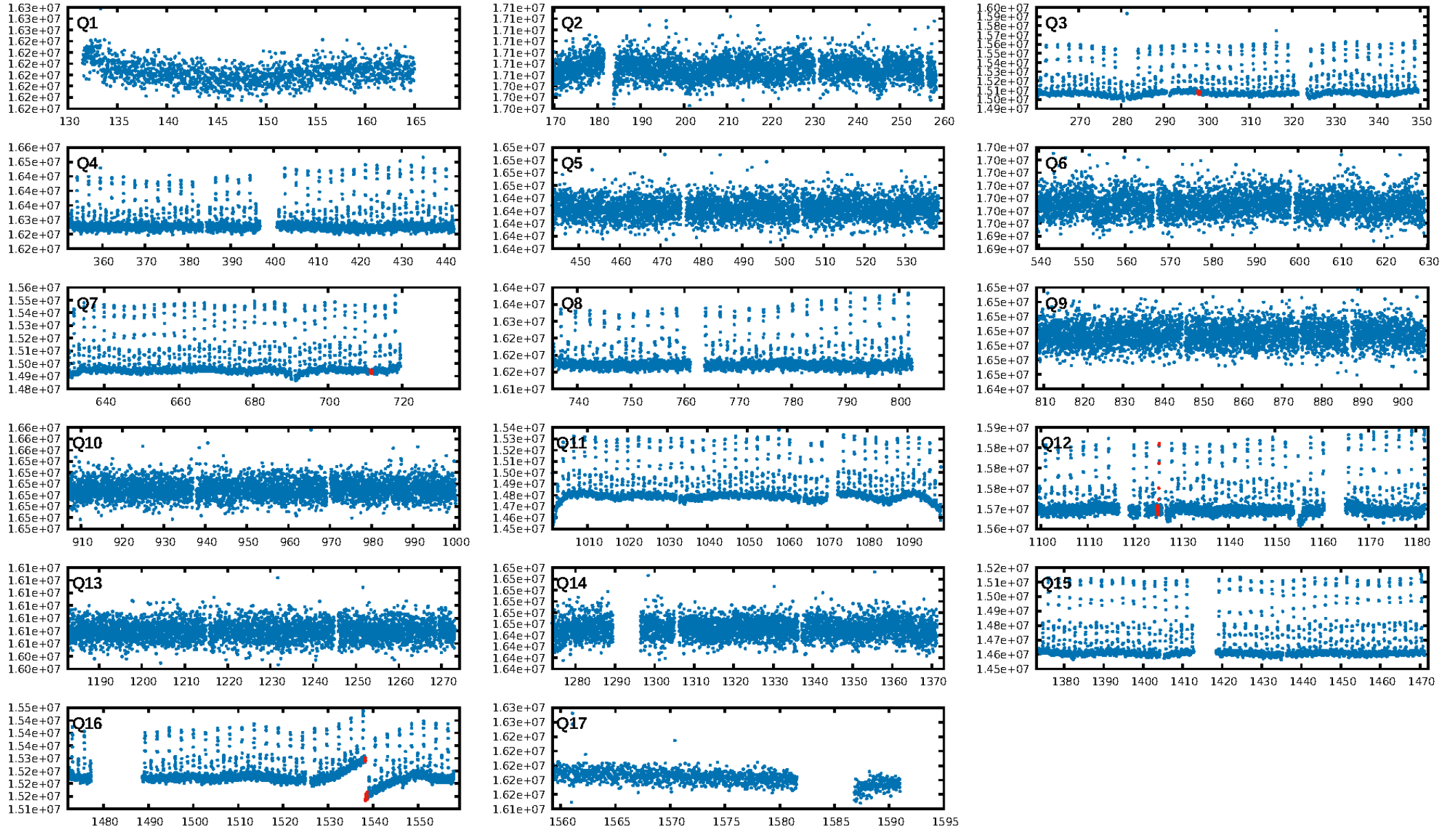
DV Fit Results:

Period = 413.42045 [0.01319] d
Epoch = 298.1868 [0.0266] BKJD
Rp/R* = 0.0356 [0.0555]
a/R* = 500.31 [3840.76]
b = 0.46 [13.40]
Seff = 0.96 [0.34]
Teq = 252 [23] K
Rp = 3.66 [5.78] Re
a = 1.0376 [0.2342] AU
Ag = 36027.72 [113382.67] [0.32σ]
Teffp = 5377 [4209] K [1.22σ]

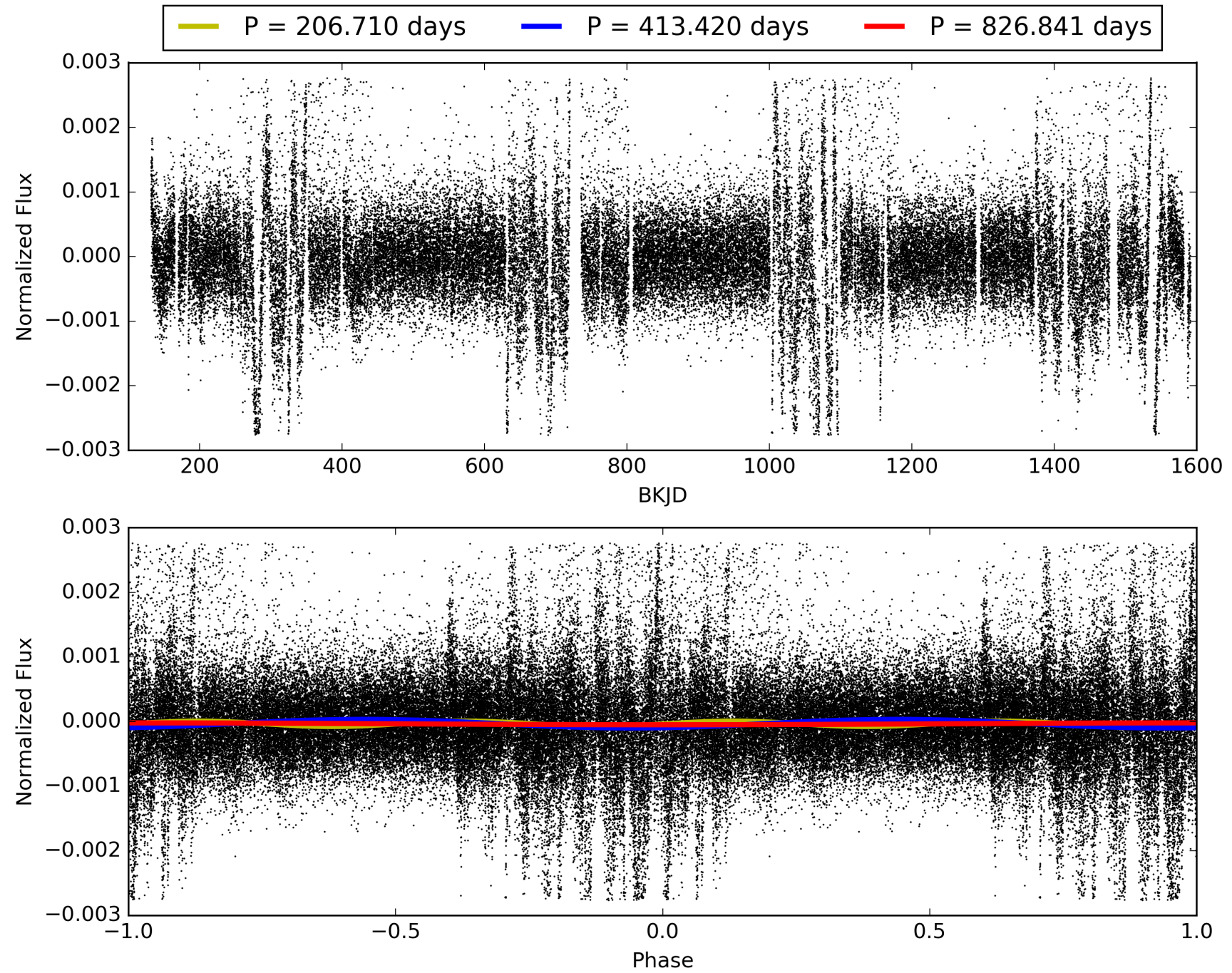
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [867.77σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 3.617
Centroid-sig: 0.0%
Centroid-so: 3.228 arcsec [2.51σ]
OotOffset-rm: 1.030 arcsec [2.29σ]
KicOffset-rm: 1.063 arcsec [2.01σ]
OotOffset-st: 0/1/2/0 [3]
KicOffset-st: 0/1/2/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.67 [2/3]

TCE 010779585-01, PDC Light Curves

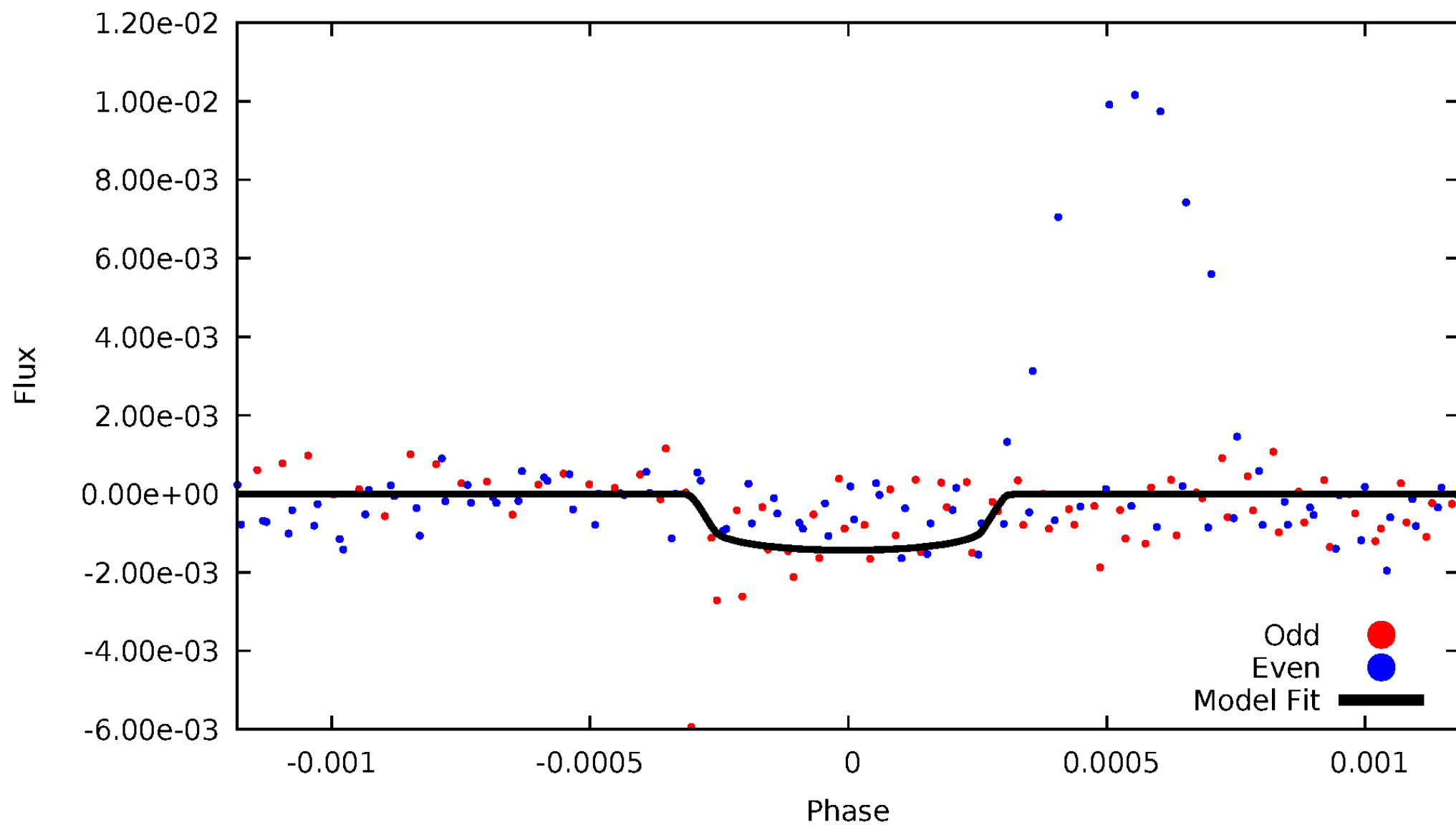


TCE 010779585-01



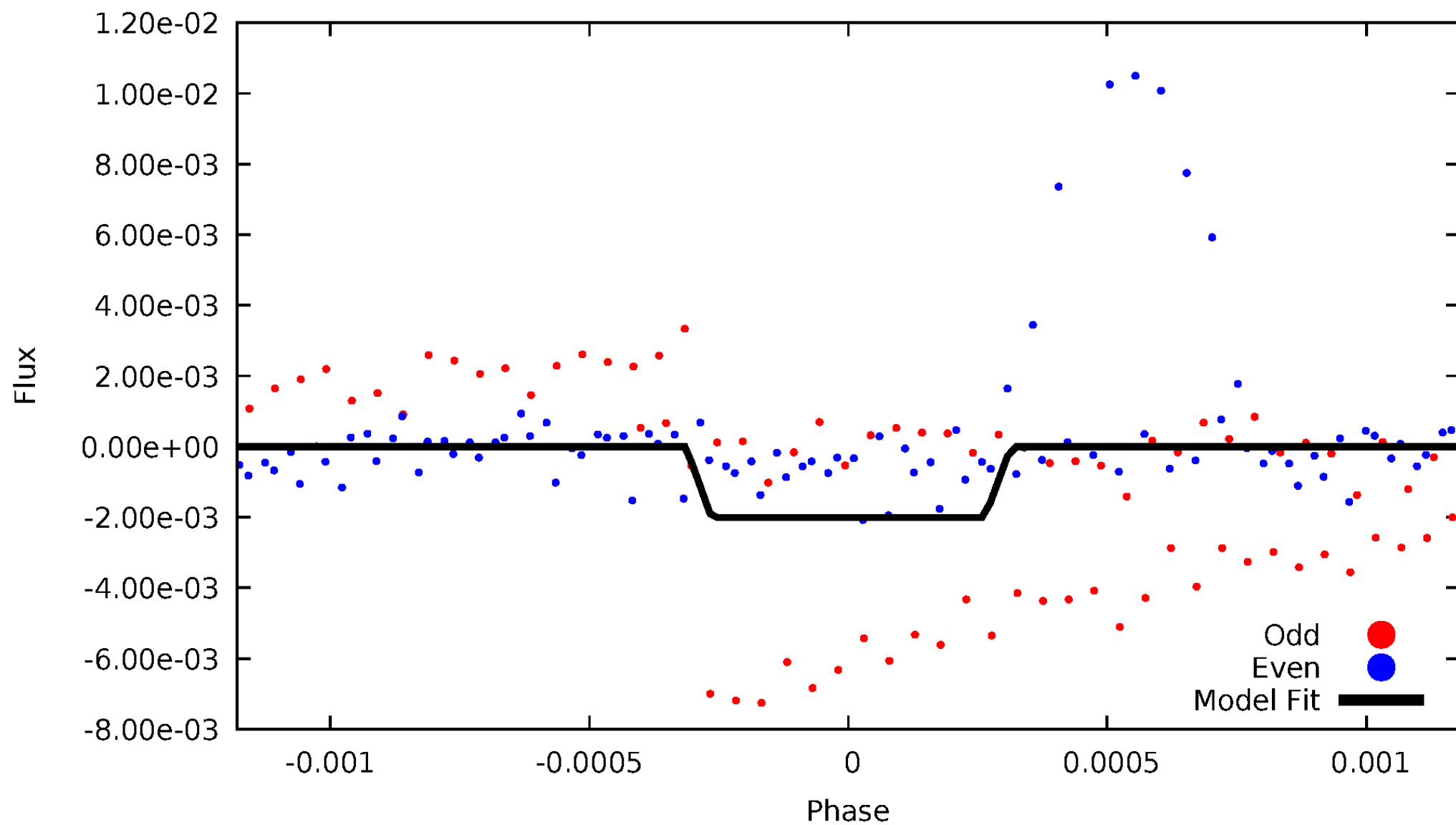
DV Odd/Even

TCE 010779585-01



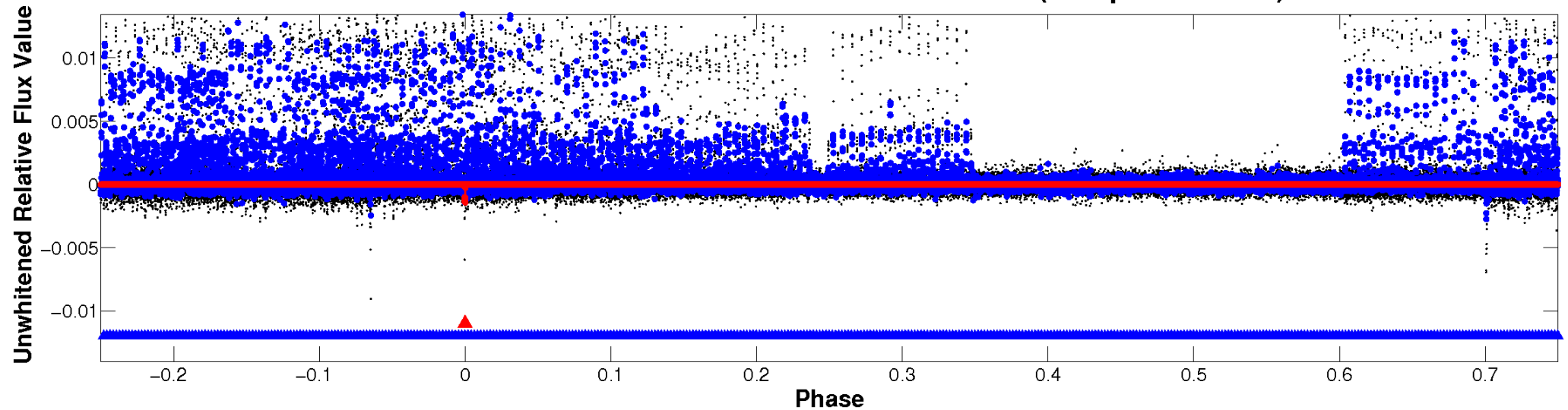
ALT Odd/Even

TCE 010779585-01

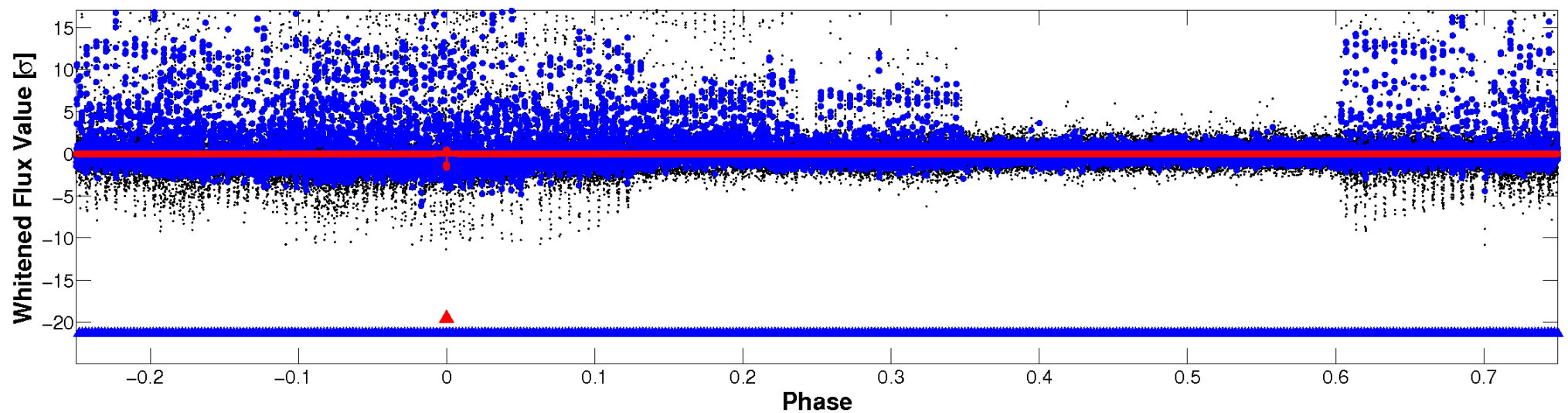


Non-Whitened Vs. Whitened Light Curve

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

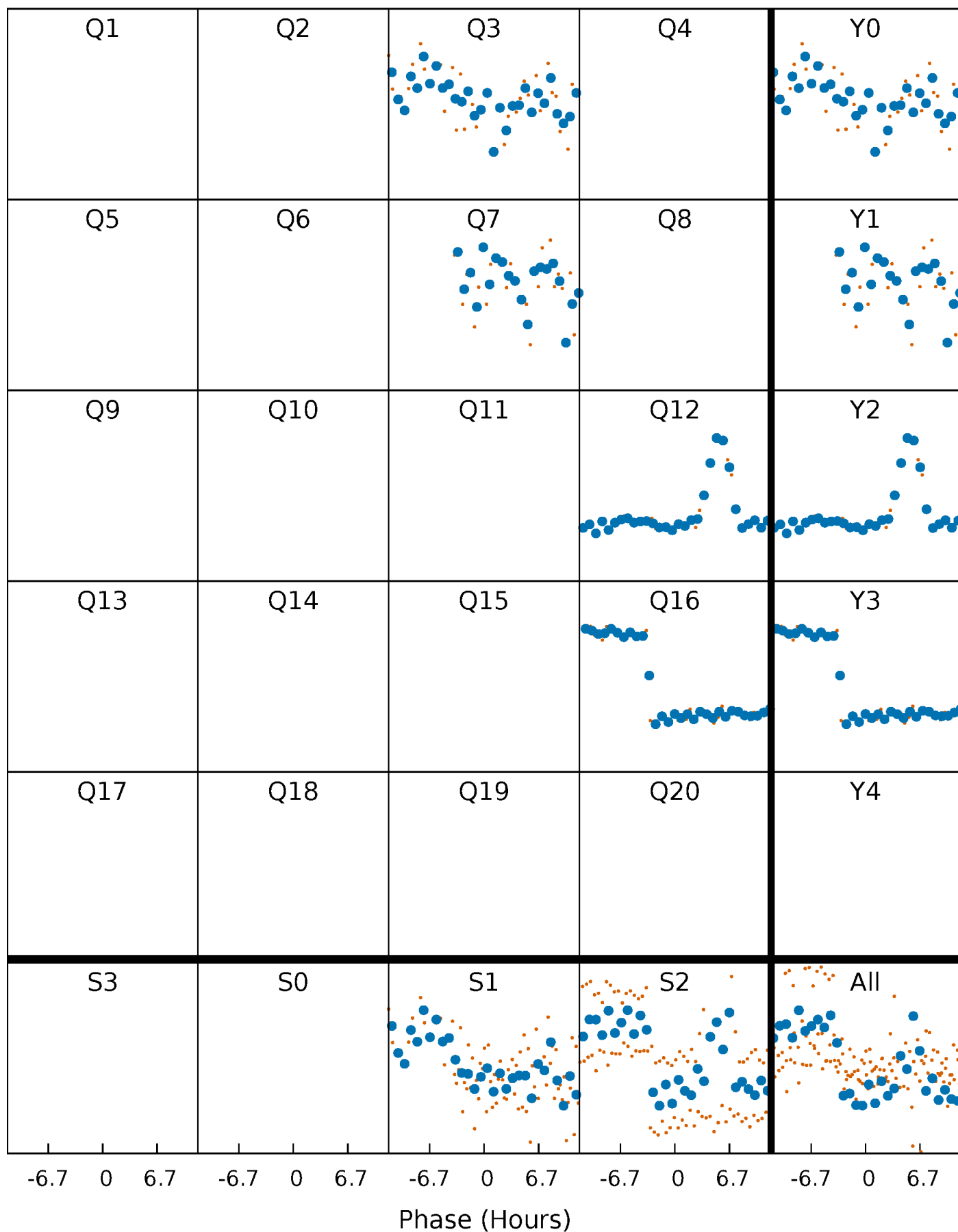


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



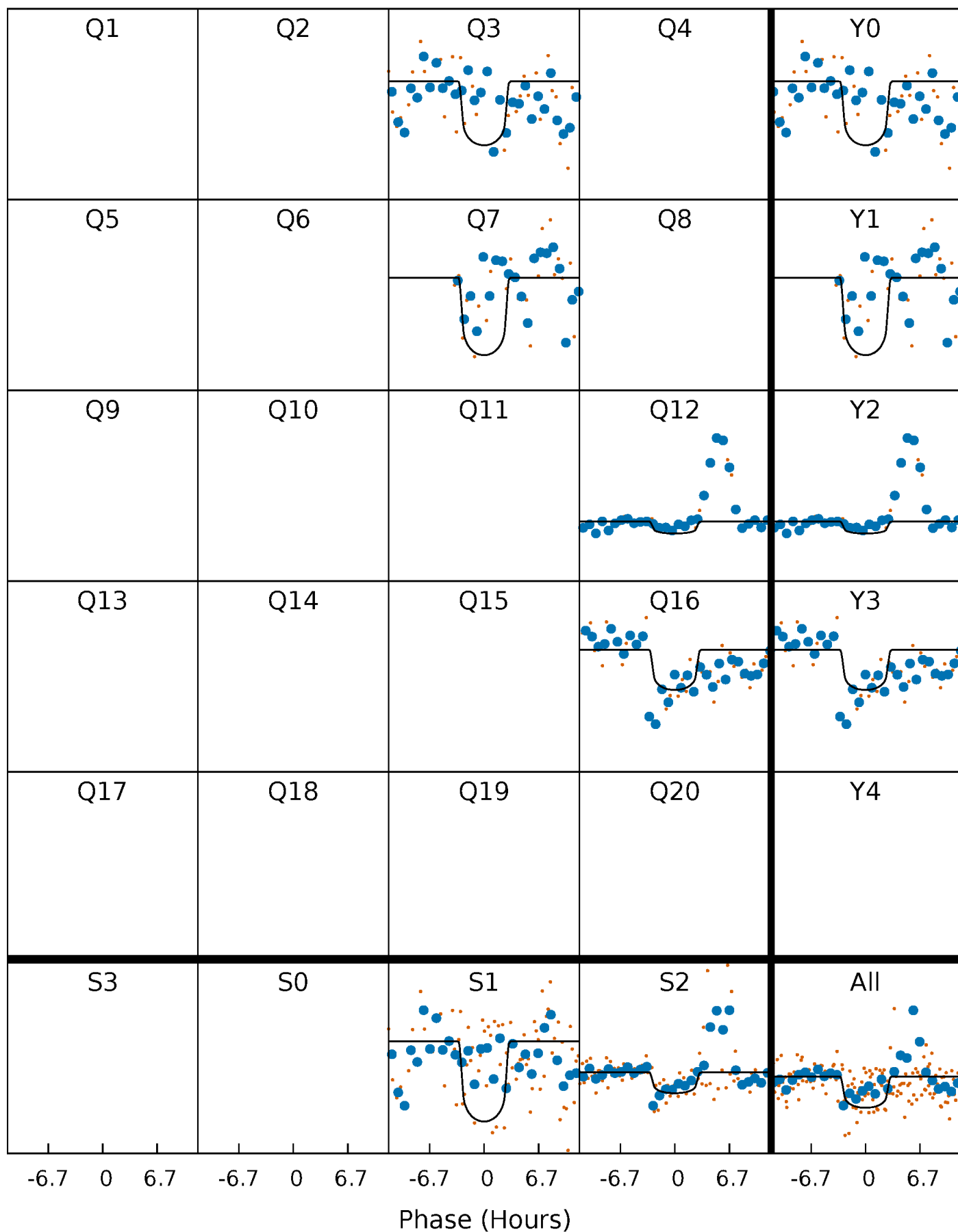
PDC Quarter-Phased Transit Curves

TCE 010779585-01 P=413.420454 Days $T_0=298.186823$ (BKJD)



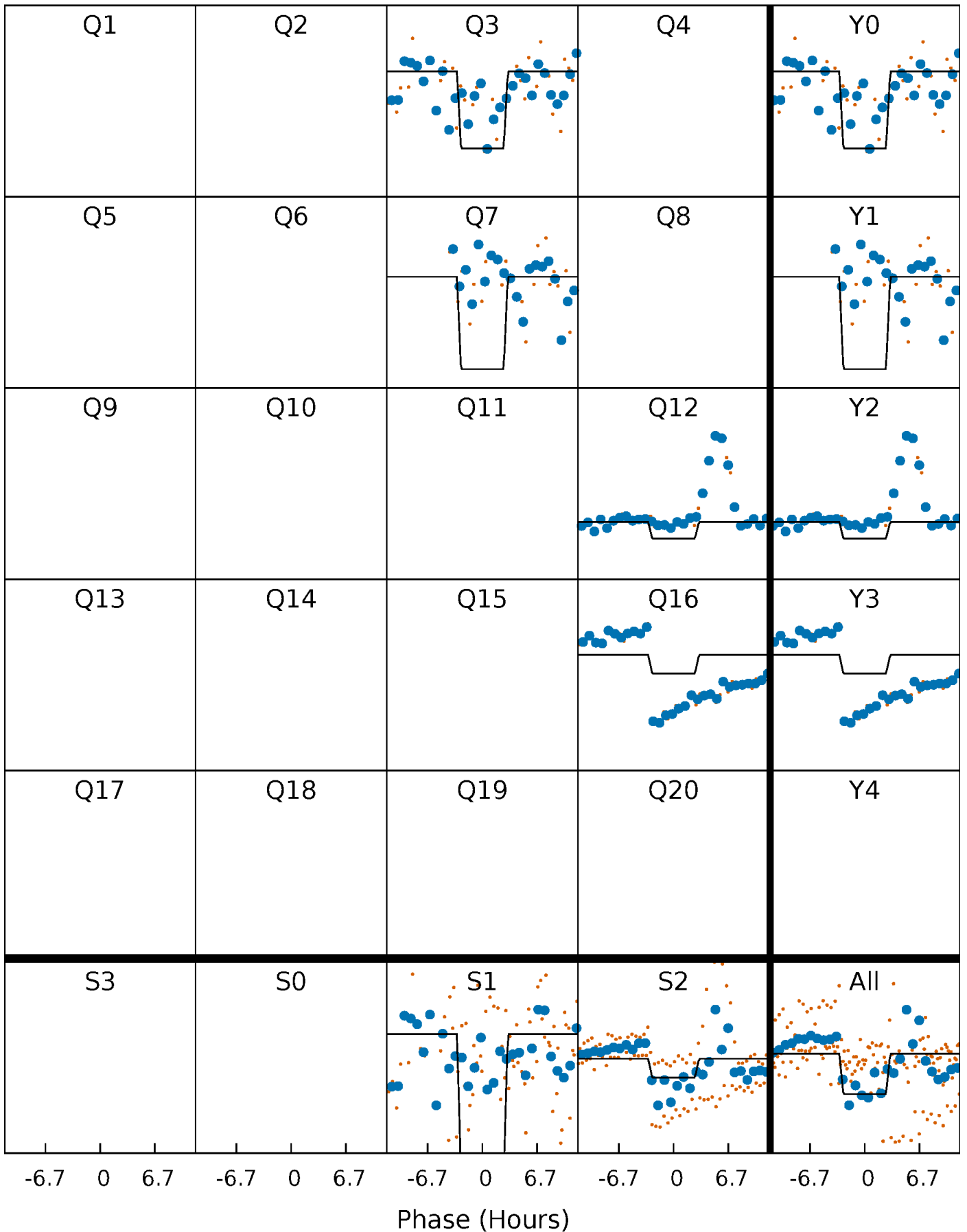
DV Quarter-Phased Transit Curves

TCE 010779585-01 $P=413.420454$ Days $T_0=298.186823$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

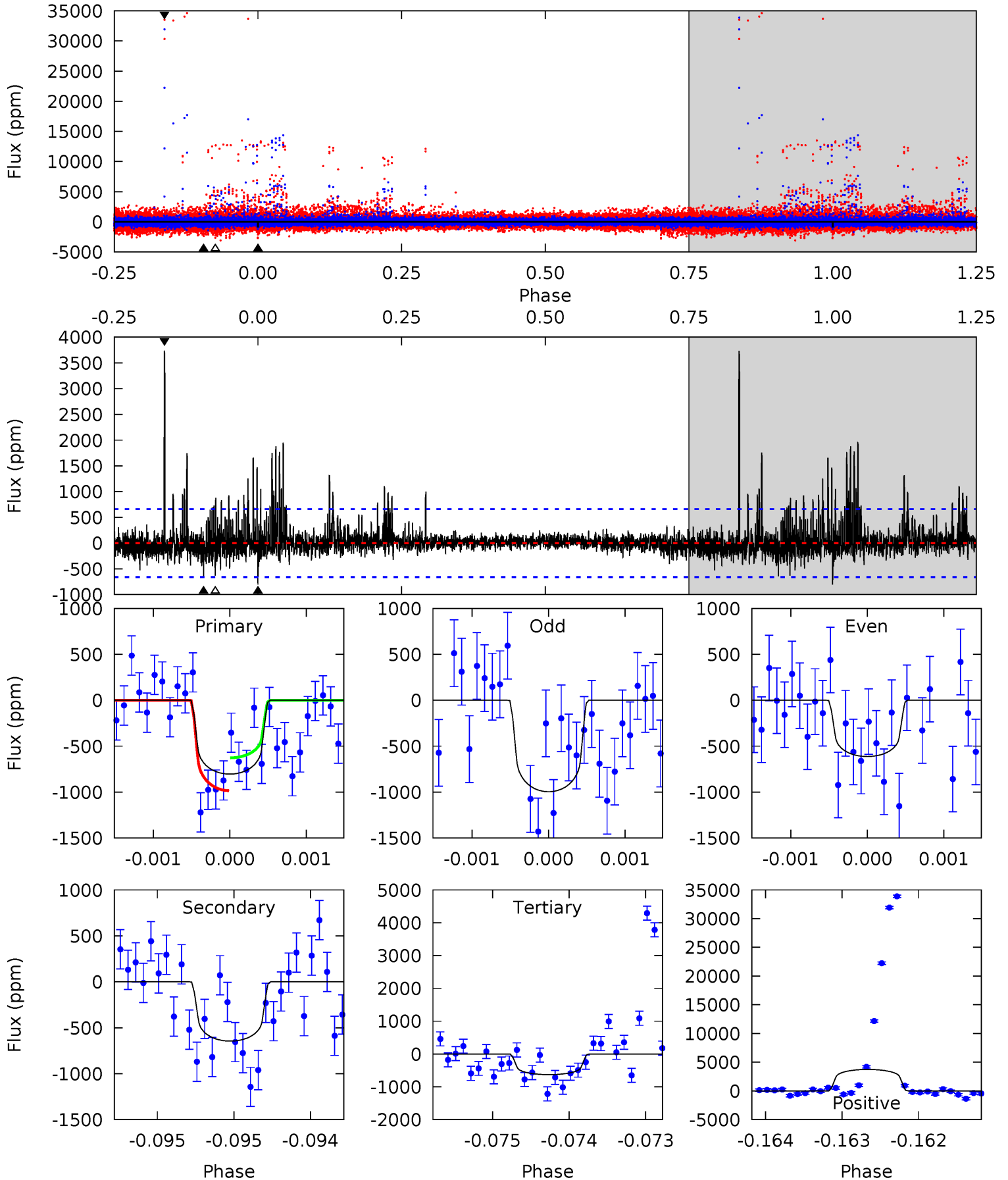
TCE 010779585-01 P=413.404975 Days $T_0=298.217878$ (BKJD)



DV Model-Shift Uniqueness Test

010779585-01, P = 413.420454 Days, E = 298.186823 Days

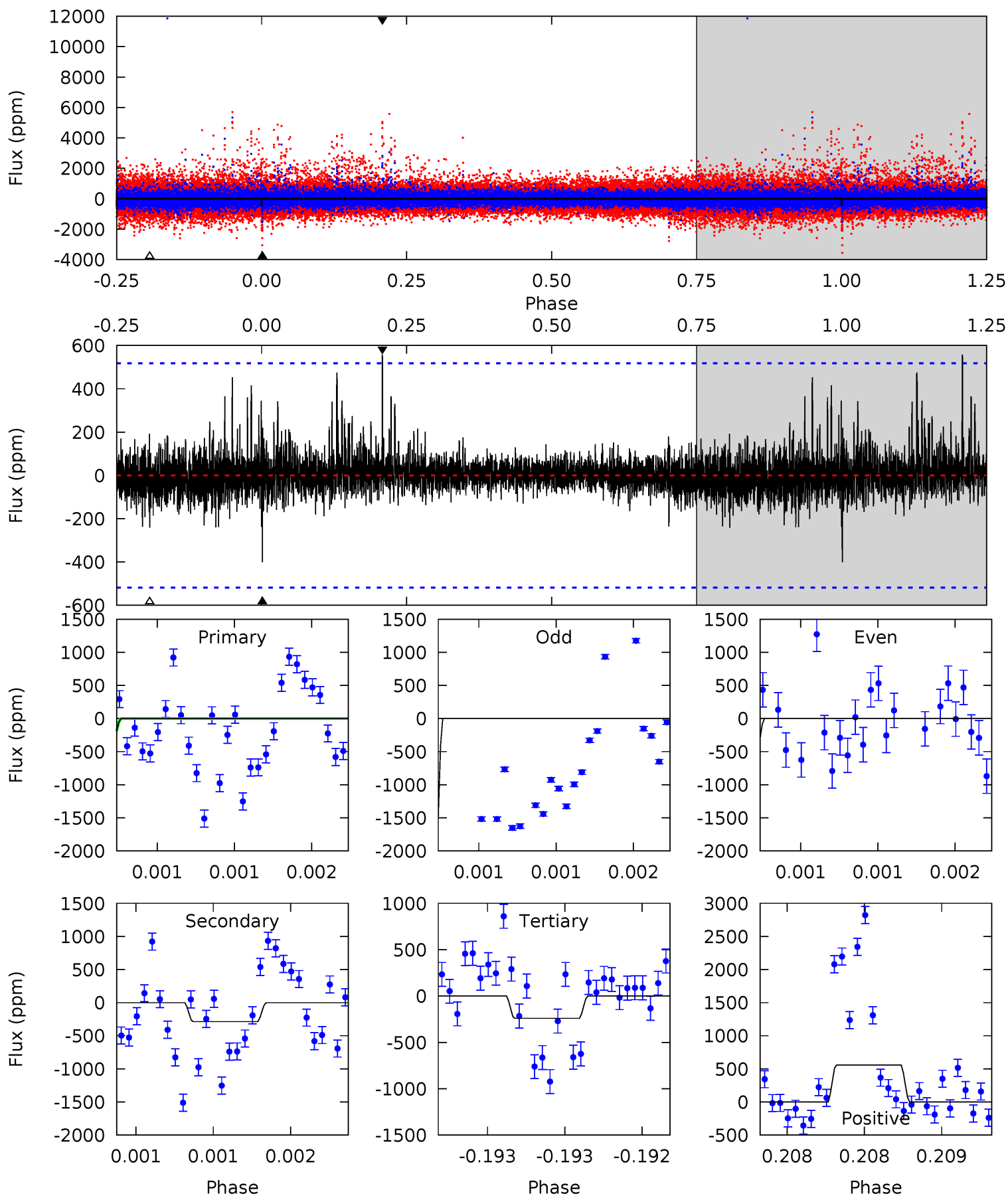
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.73	5.40	5.26	31.2	5.54	3.42	1.86	1.47	-24.5	0.14	-25.8	0.57	1.33	0.82	1.50



Alt Model-Shift Uniqueness Test

010779585-01, P = 413.404975 Days, E = 298.217878 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.27	3.06	2.58	5.97	5.54	3.43	0.70	1.70	-1.70	0.48	-2.91	10.2	2.95	0.58	0.07



Stellar Parameters For KIC 010779585

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6008^{+161}_{-179}	$4.431^{+0.116}_{-0.188}$	$-0.500^{+0.300}_{-0.300}$	$0.941^{+0.245}_{-0.132}$	$0.871^{+0.108}_{-0.081}$	$1.472^{+0.766}_{-0.683}$
	+3%/-3%	+3%/-4%	+60%/-60%	+26%/-14%	+12%/-9%	+52%/-46%
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 010779585-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-645 ± 120	$5.58^{+5.43}_{-3.44}$	354^{+25}_{-19}	4330^{+2382}_{-889}	11777^{+71341}_{-8704}
Alt.	-286 ± 94	$6.28^{+4.91}_{-4.17}$	356^{+24}_{-19}	3627^{+1813}_{-637}	4205^{+30960}_{-2982}

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

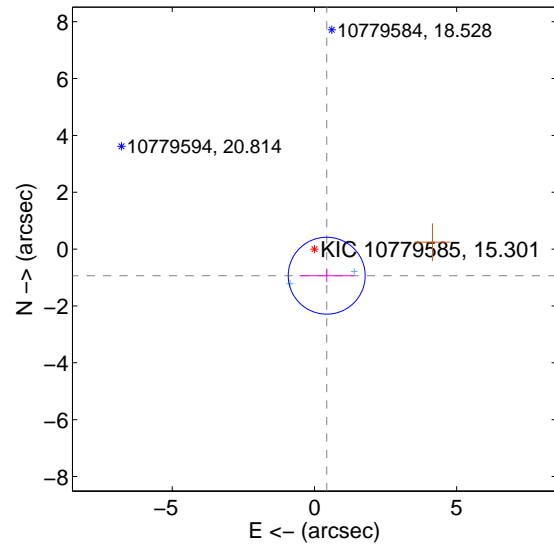
Supplemental centroid analysis for 010779585-01. Kepler magnitude: 15.30. Transit SNR 10.53

There are 2 quarters with good PRF difference image offsets

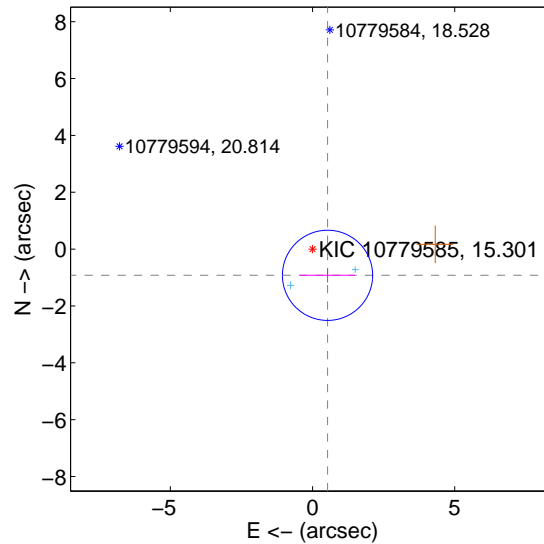
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.030 ± 0.451	2.29	-0.431 ± 0.962	-0.936 ± 0.223
PRF-fit source offset from KIC position	1.063 ± 0.529	2.01	-0.528 ± 0.970	-0.922 ± 0.250
photometric centroid source offset	3.23 ± 1.29	2.51	0.29 ± 1.10	-3.22 ± 1.29

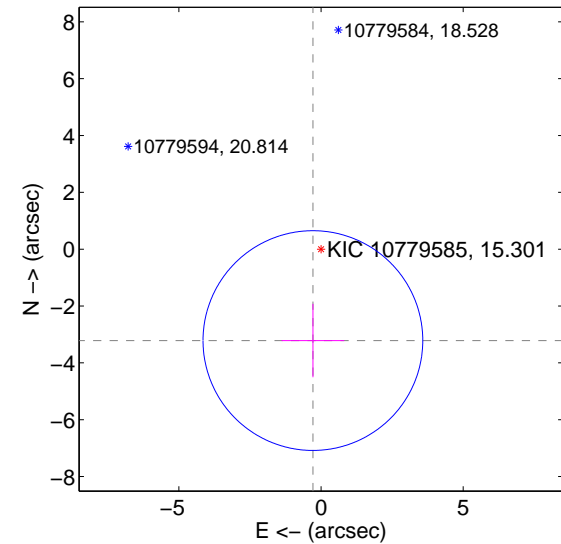
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

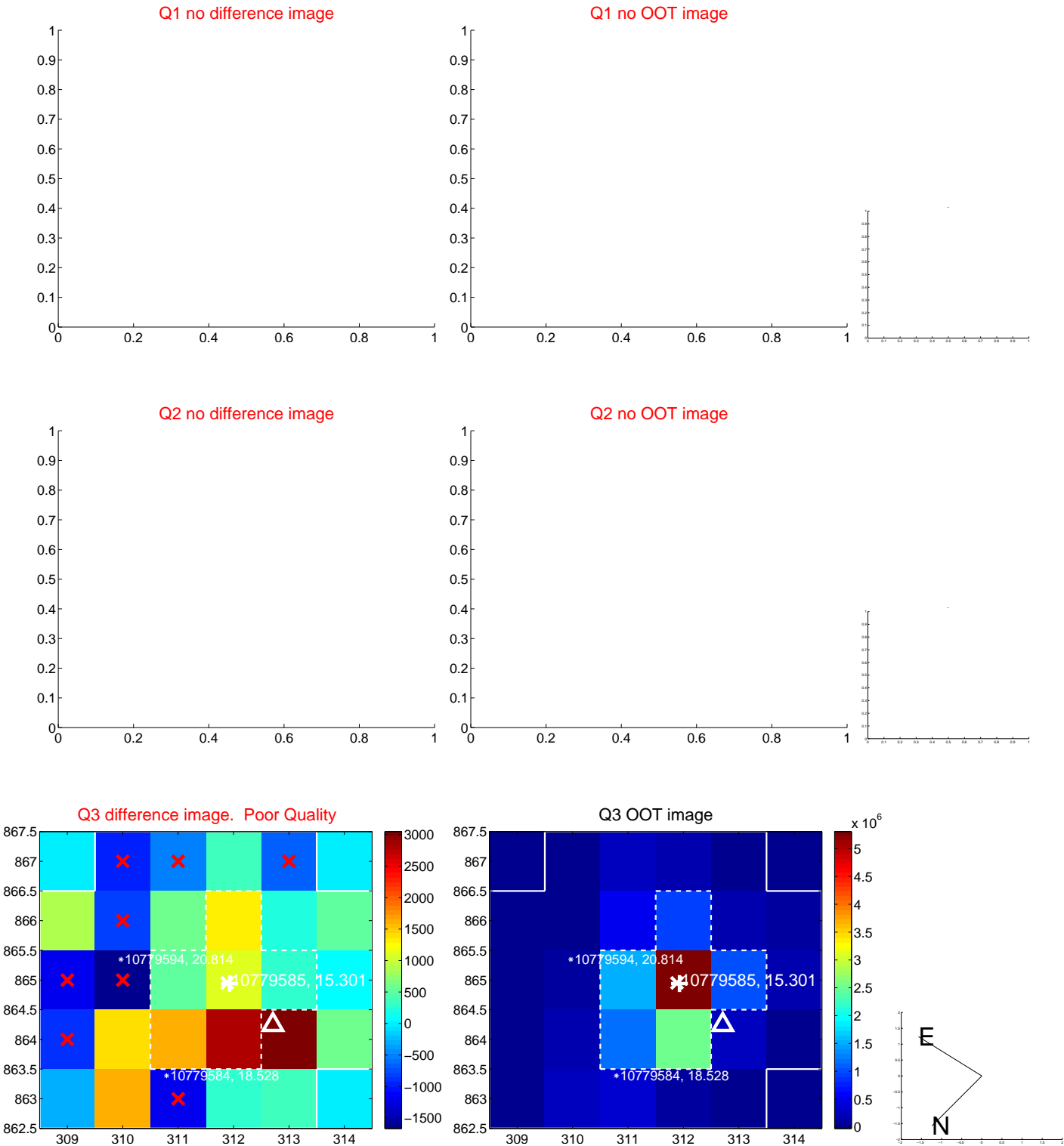


offset from photometric centroids



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.

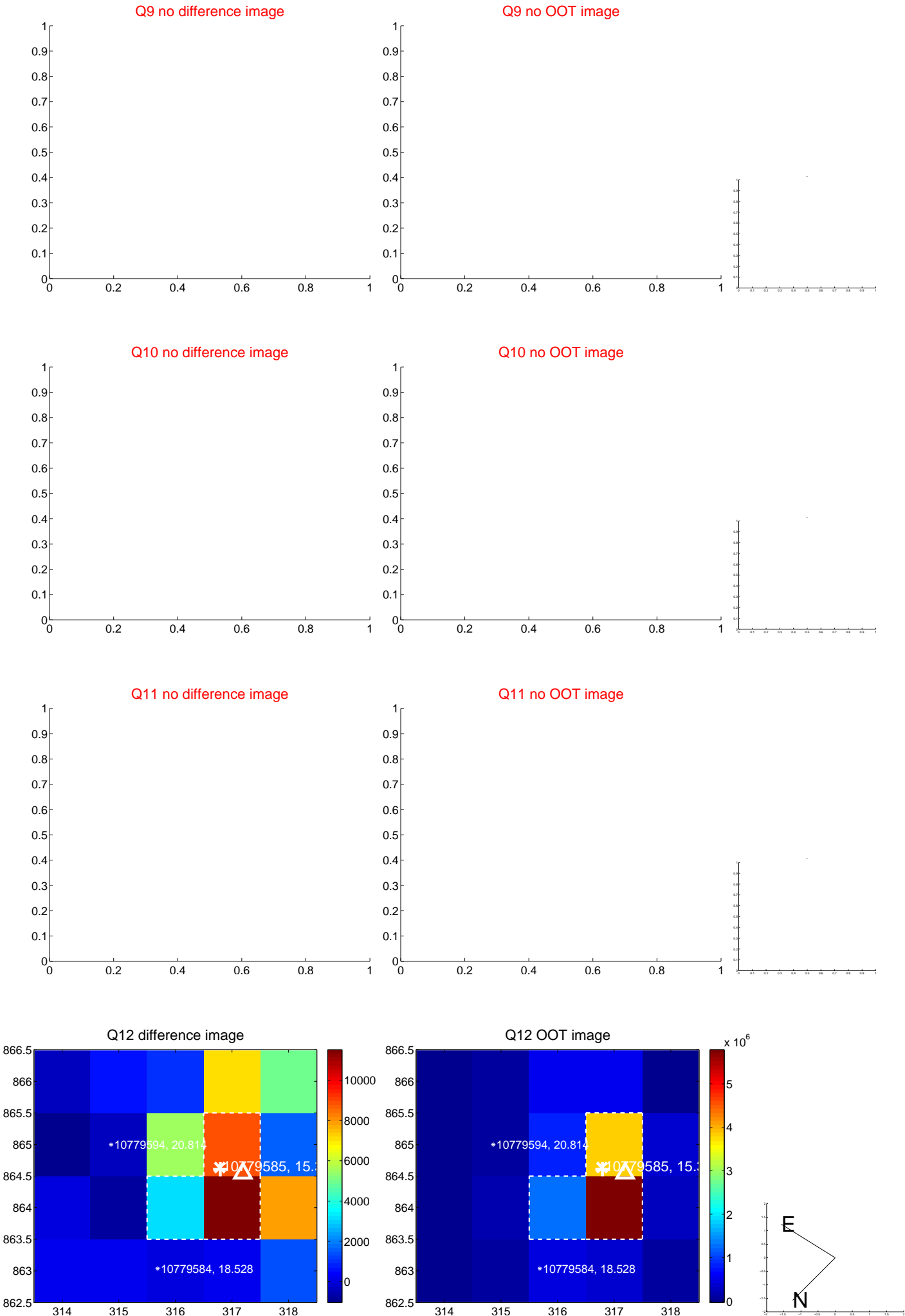
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



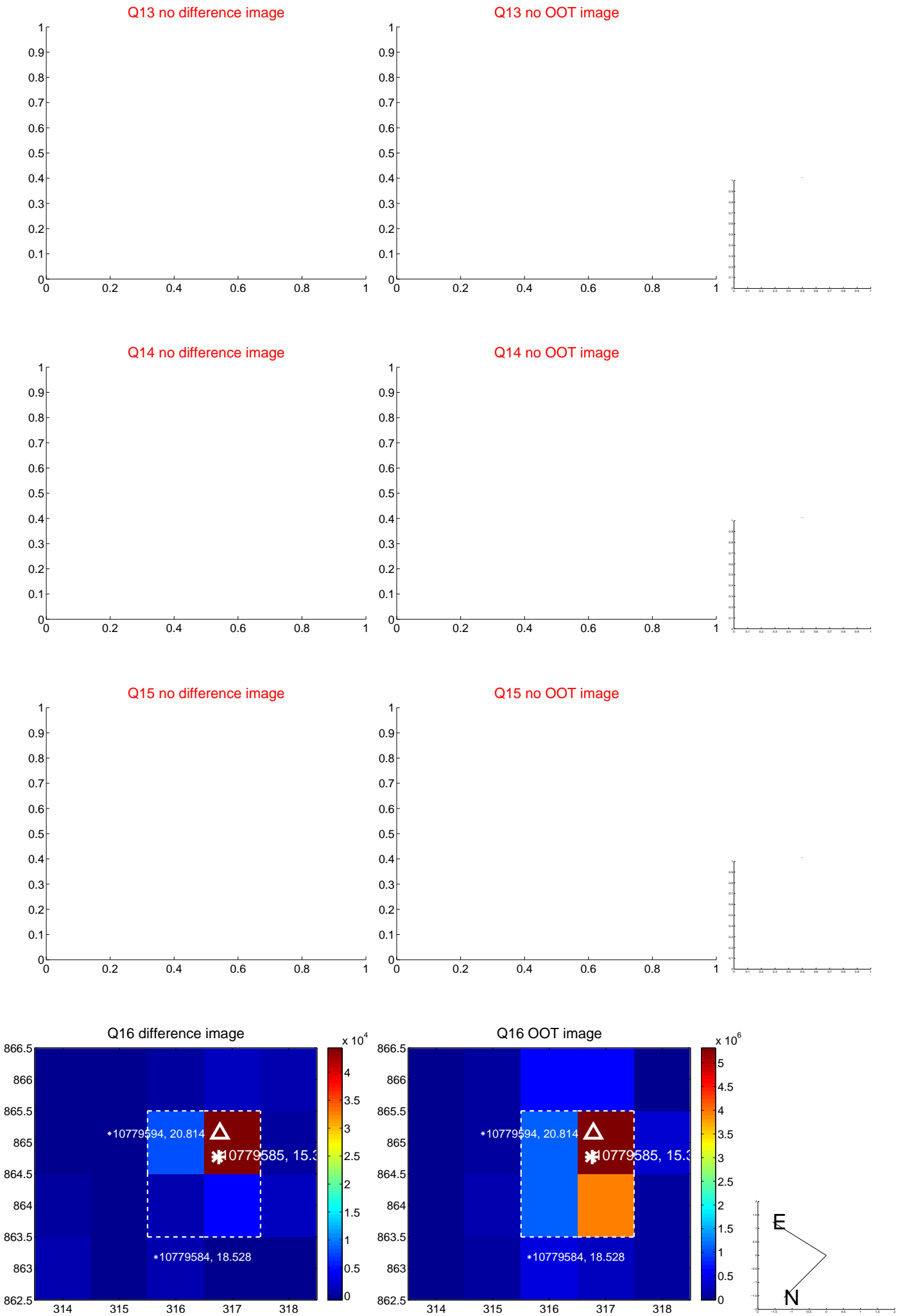
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



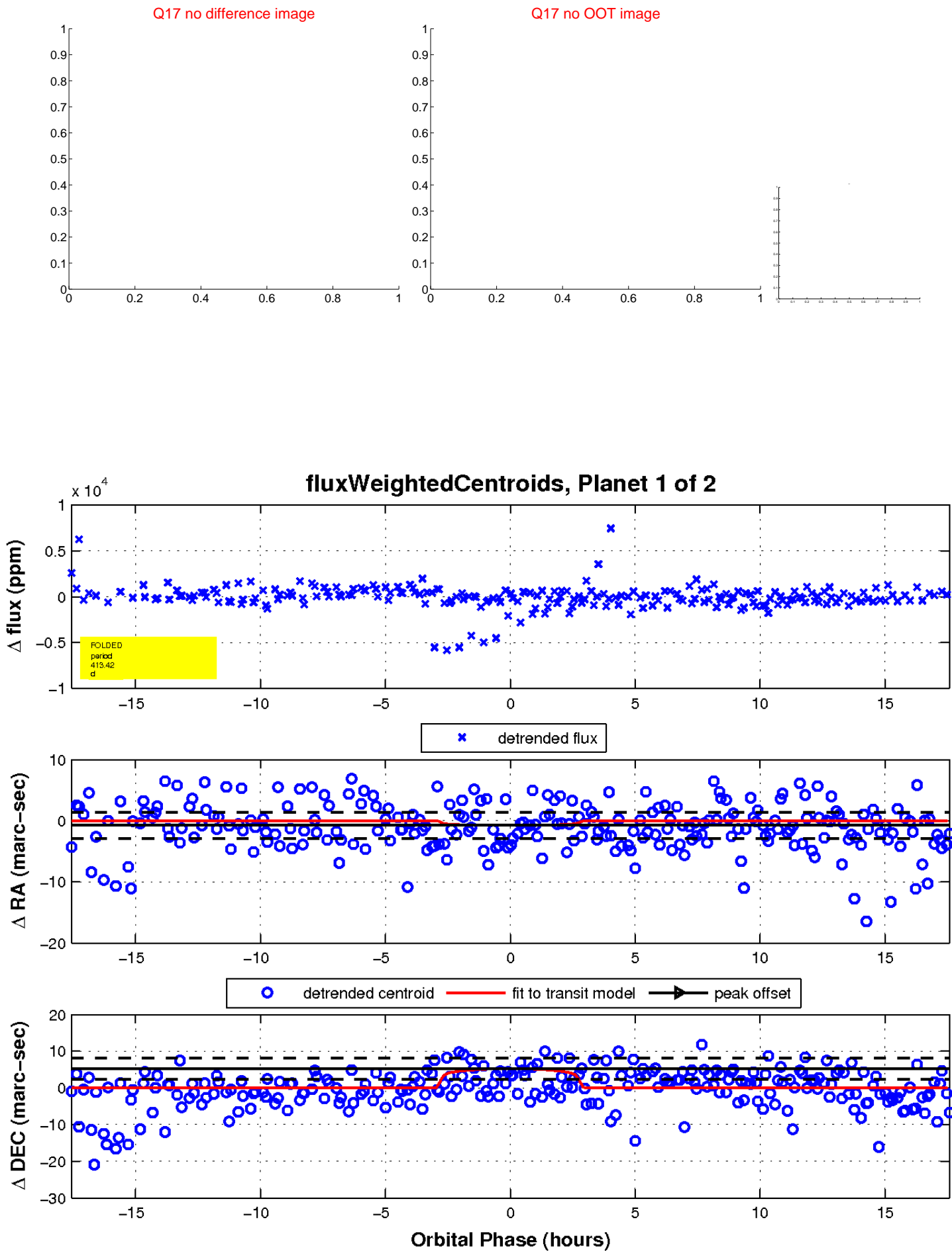
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

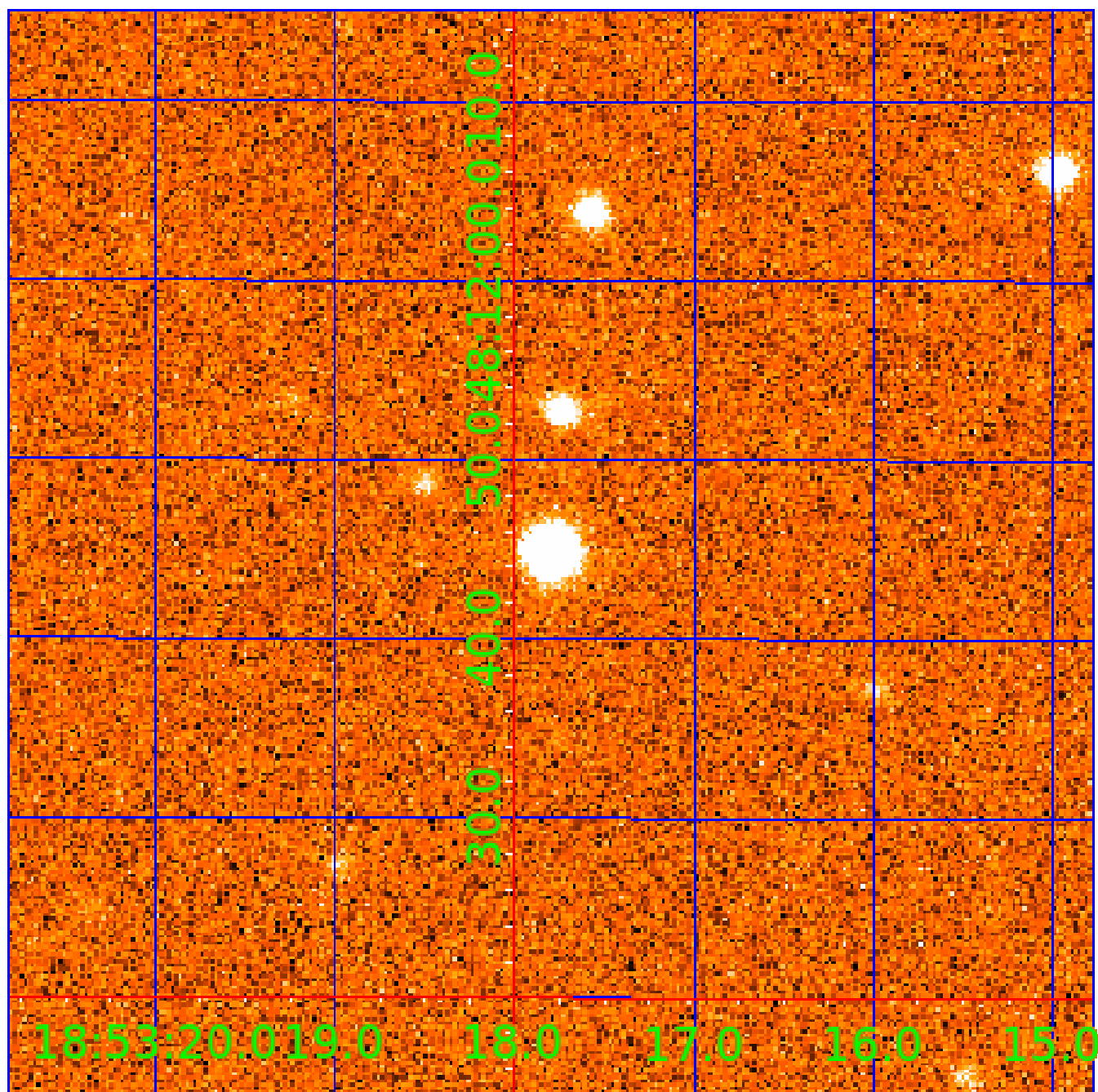


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010779585

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})
010779585-01	OBS	No	413.420454	298.186823	1439.1	5.867	24.2	10.5	0.94	6008	3.65	0.96
010779585-02	OBS	No	2.696290	132.726632	207.6	9.727	17.7	26.5	0.94	6008	1.67	787.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010779585-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010779585-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

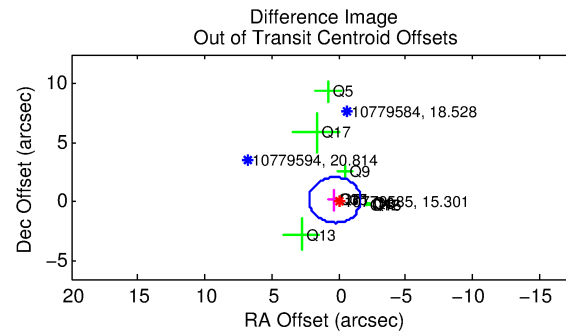
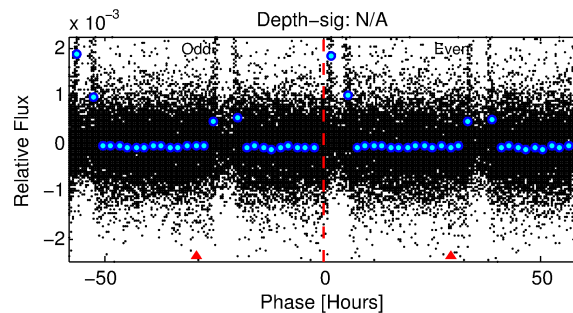
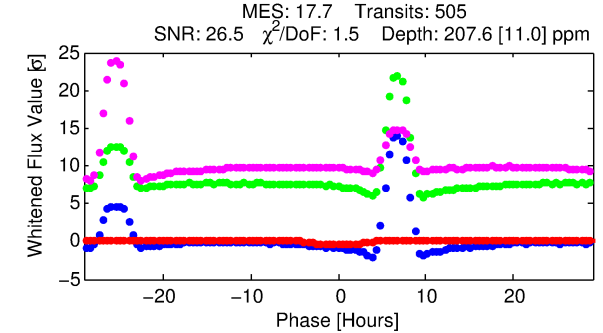
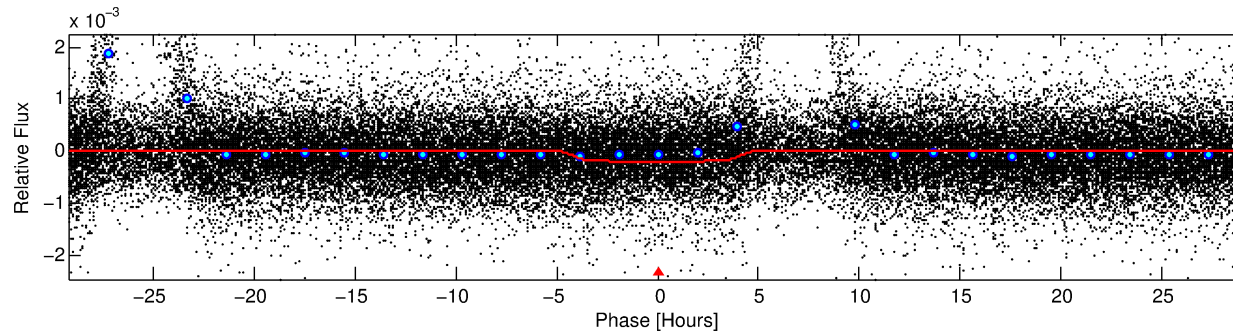
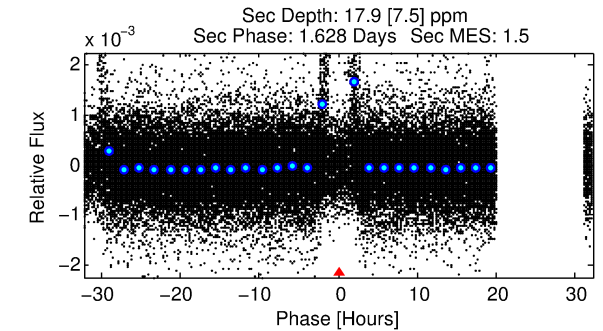
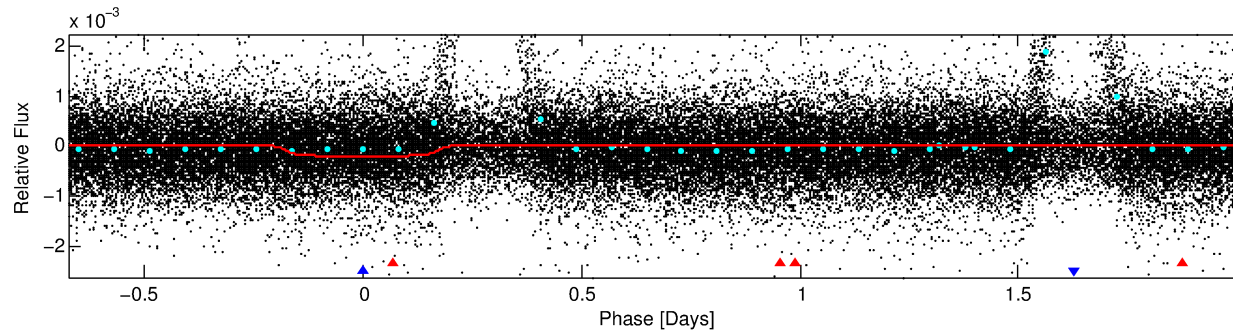
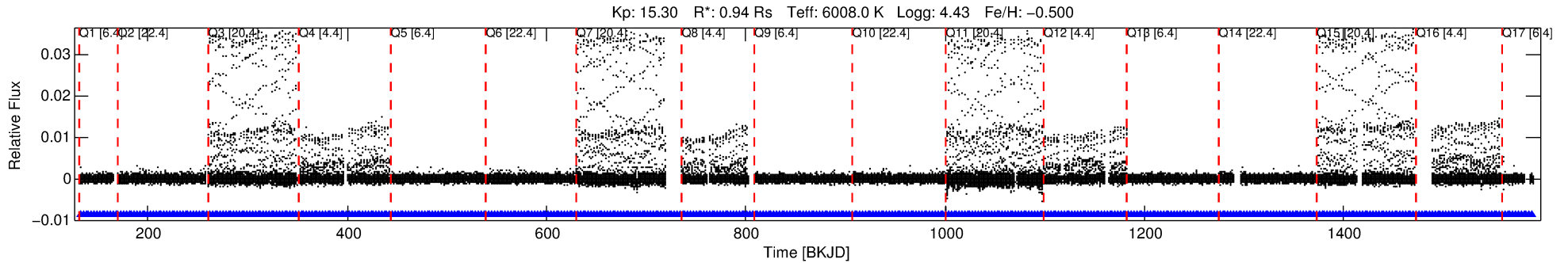
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010779585-02

No Significant Match Found

DV One-Page Summary

KIC: 10779585 Candidate: 2 of 2 Period: 2.696 d



DV Fit Results:

Period = 2.69629 [0.00003] d
Epoch = 132.7266 [0.0071] BKJD
Rp/R* = 0.0163 [0.0008]
a/R* = 1.26 [0.11]
b = 0.94 [0.03]
Seff = 787.99 [281.49]
Teff = 1351 [121] K
Rp = 1.67 [0.44] Re
a = 0.0362 [0.0082] AU
Ag = 4.63 [2.52] [1.44σ]
Teffp = 3064 [341] K [4.74σ]

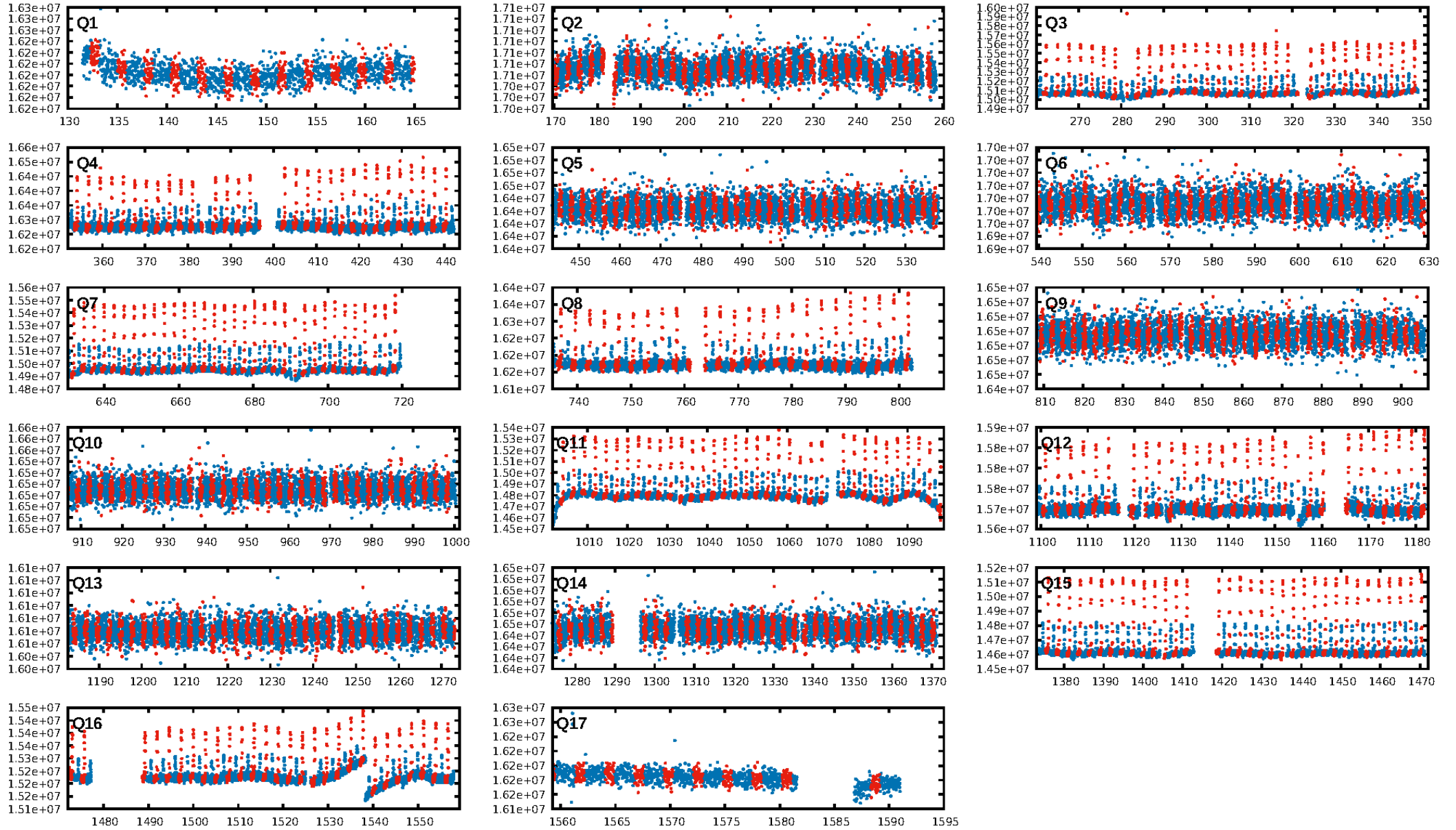
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [867.77σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [482/482]
GhostDiagnostic-chr: 2.193
Centroid-sig: 48.3%
Centroid-so: 0.458 arcsec [0.95σ]
OotOffset-rm: 0.351 arcsec [0.55σ]
KicOffset-rm: 0.220 arcsec [0.32σ]
OotOffset-st: 0/4/4/4 [12]
KicOffset-st: 0/4/4/4 [12]
DiffImageQuality-fgm: 0.67 [8/12]
DiffImageOverlap-fno: 1.00 [17/17]

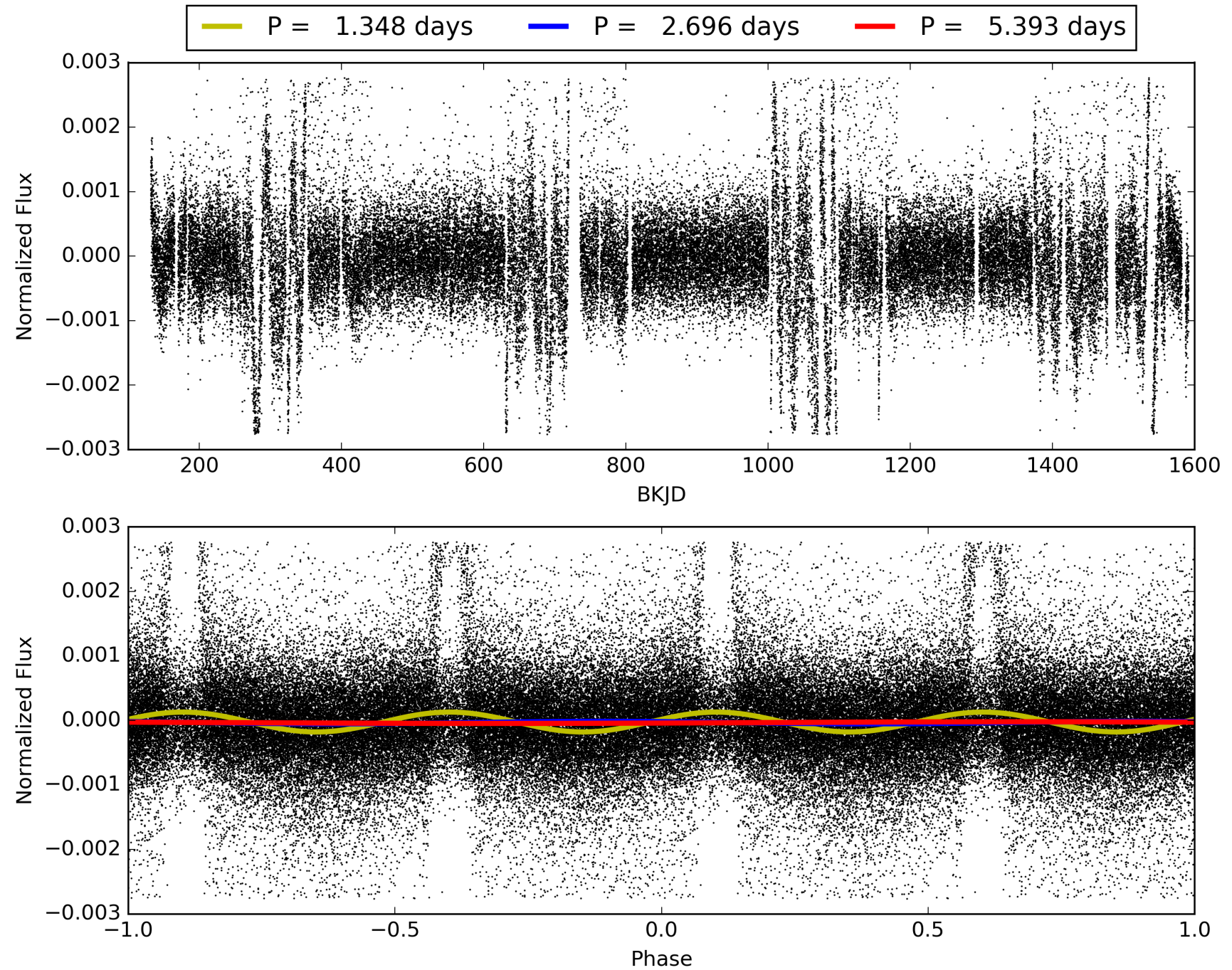
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 09:45:22 Z

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

TCE 010779585-02, PDC Light Curves

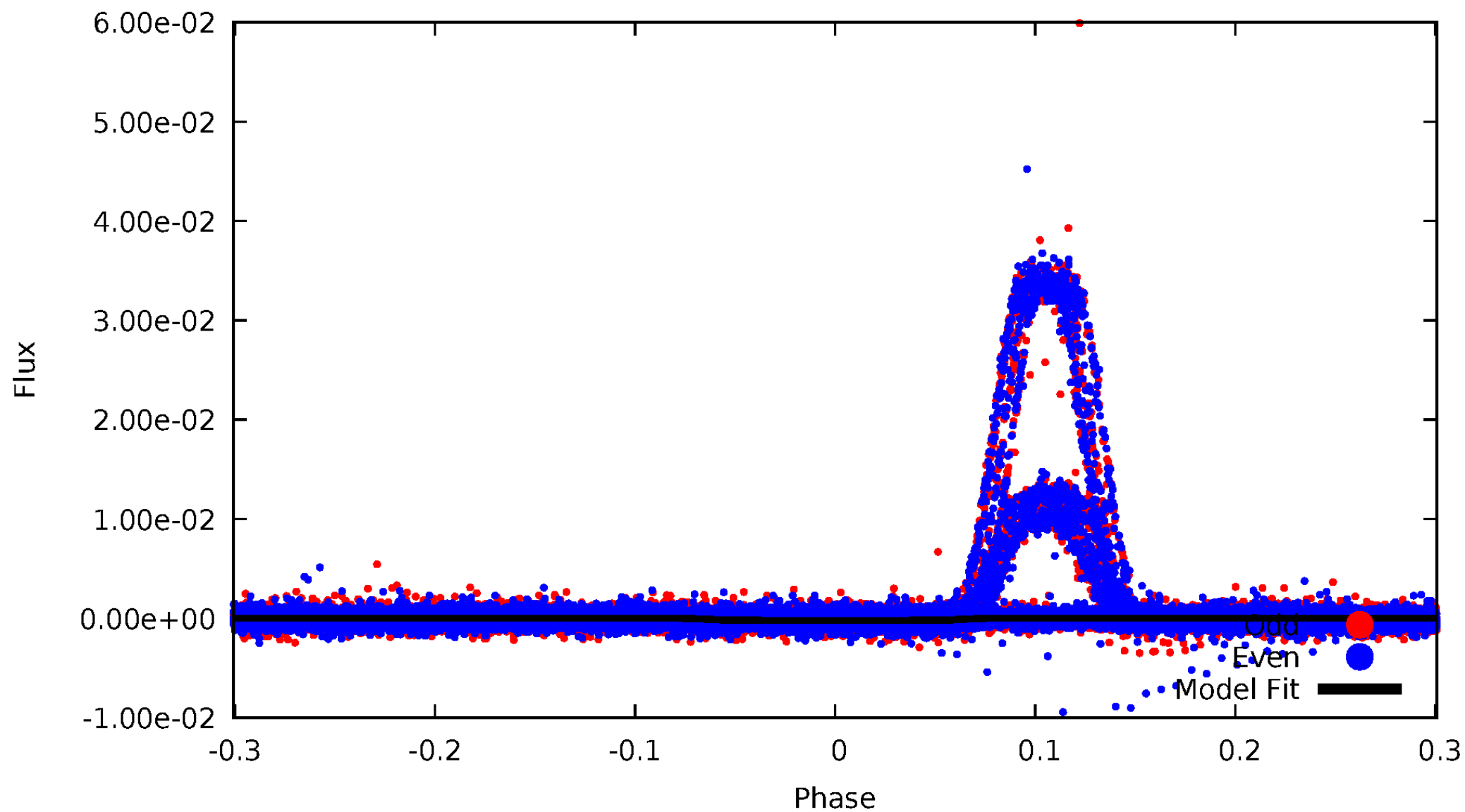


TCE 010779585-02



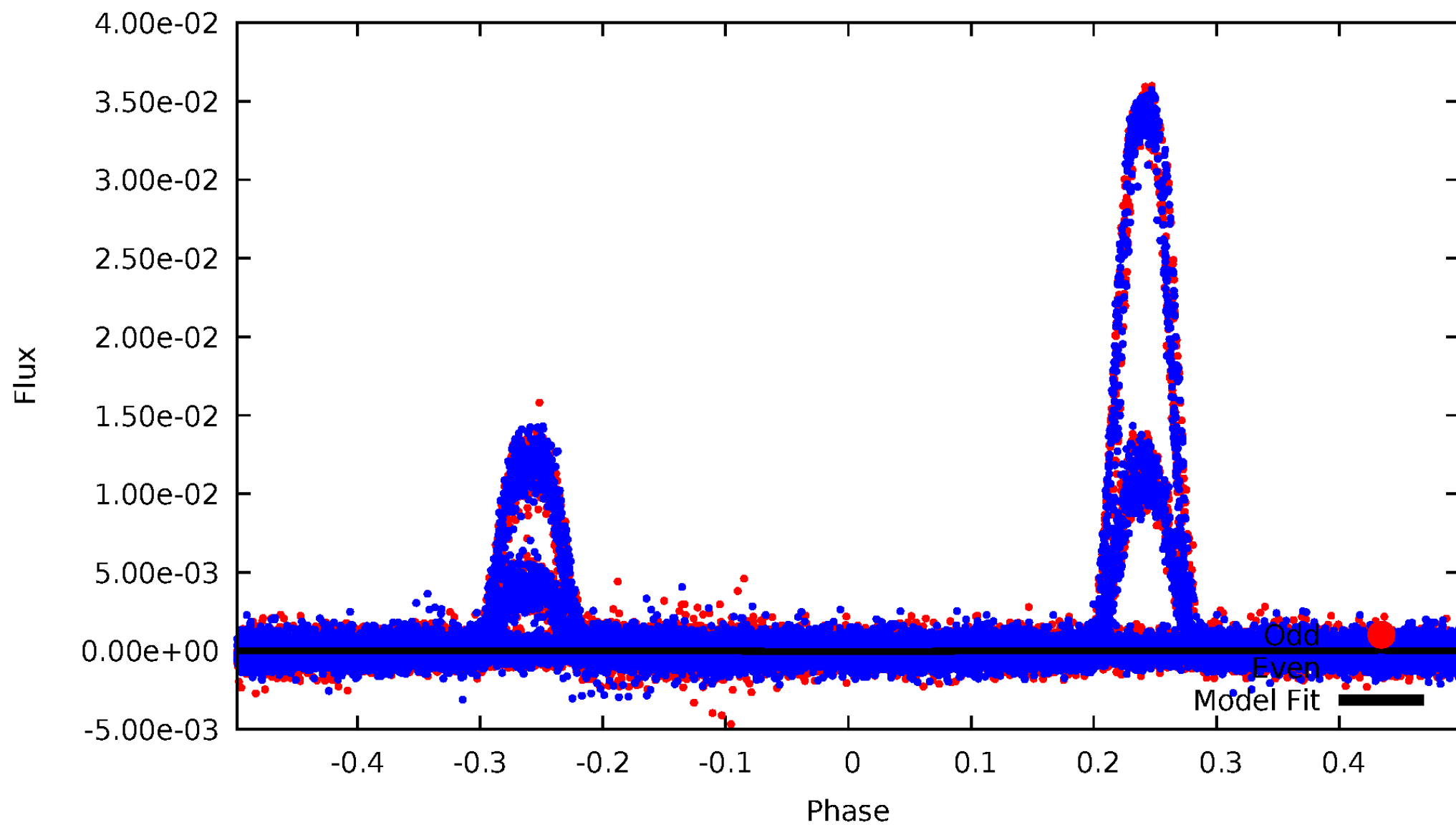
DV Odd/Even

TCE 010779585-02



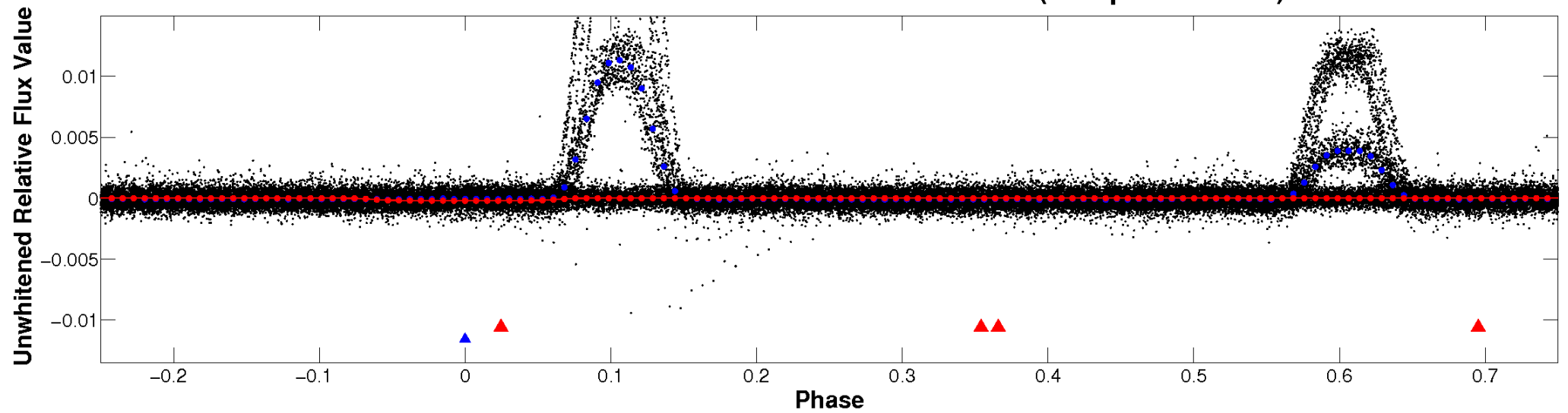
ALT Odd/Even

TCE 010779585-02

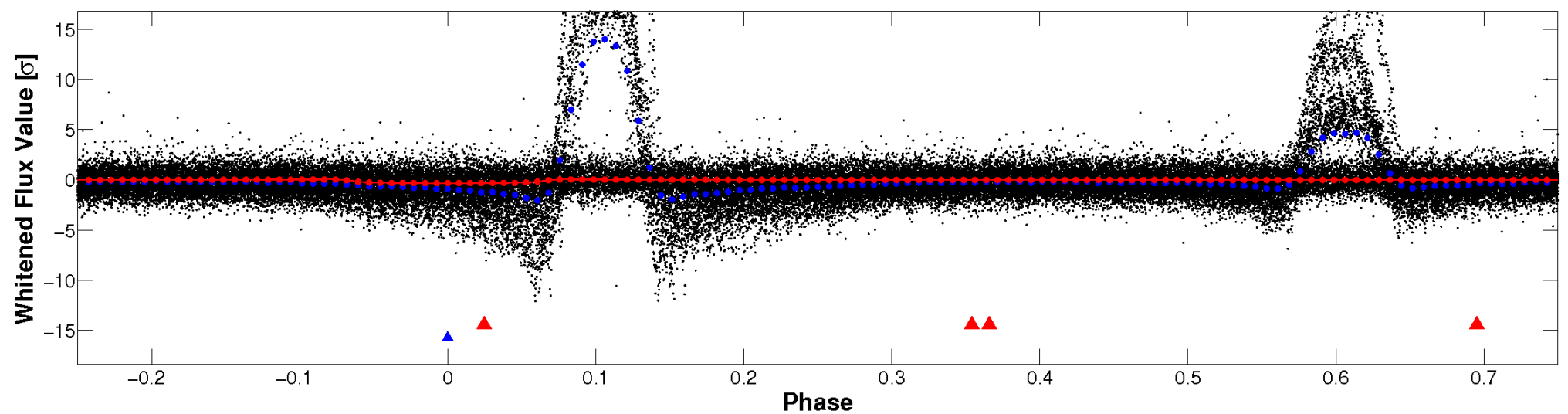


Non-Whitened Vs. Whitened Light Curve

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

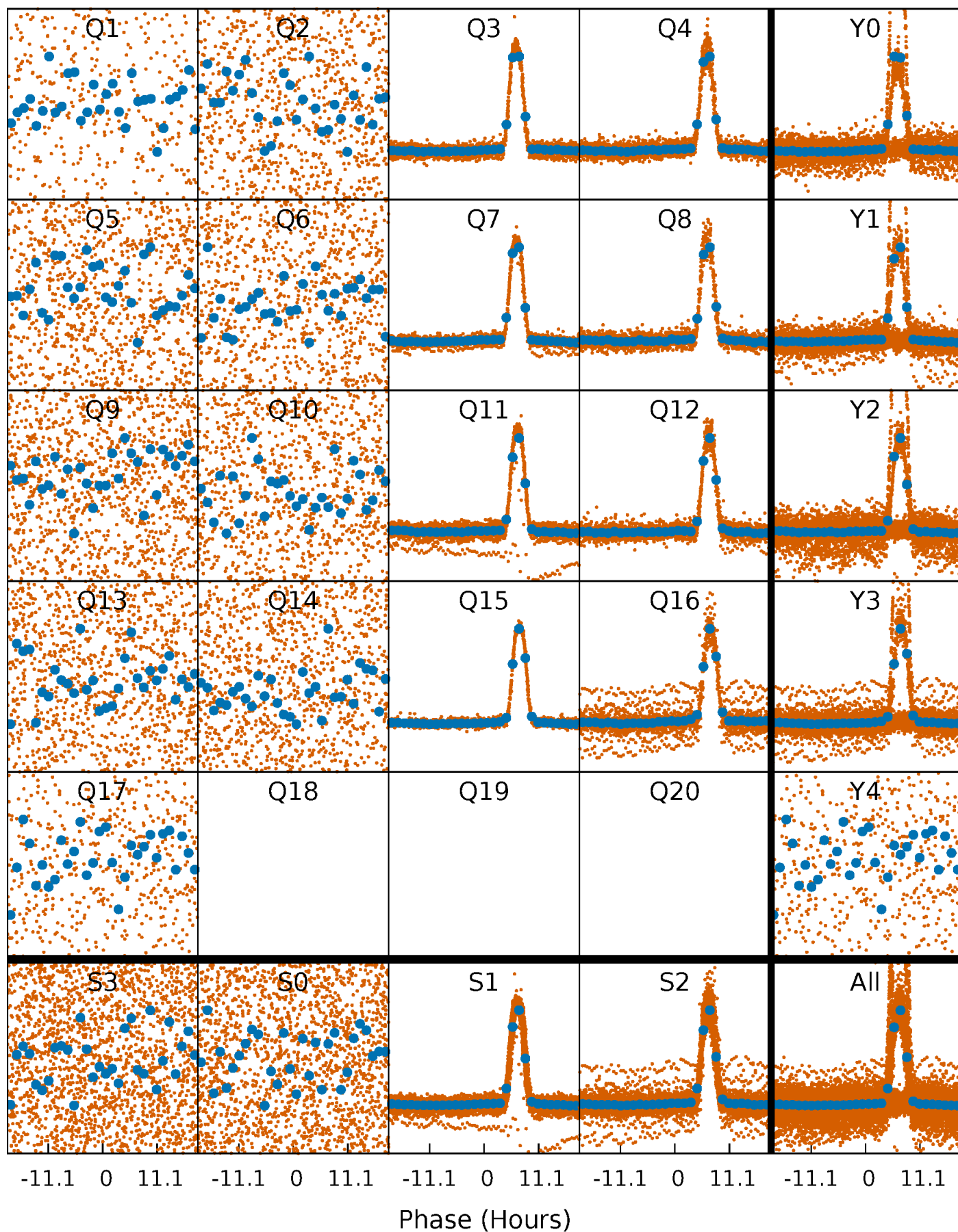


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



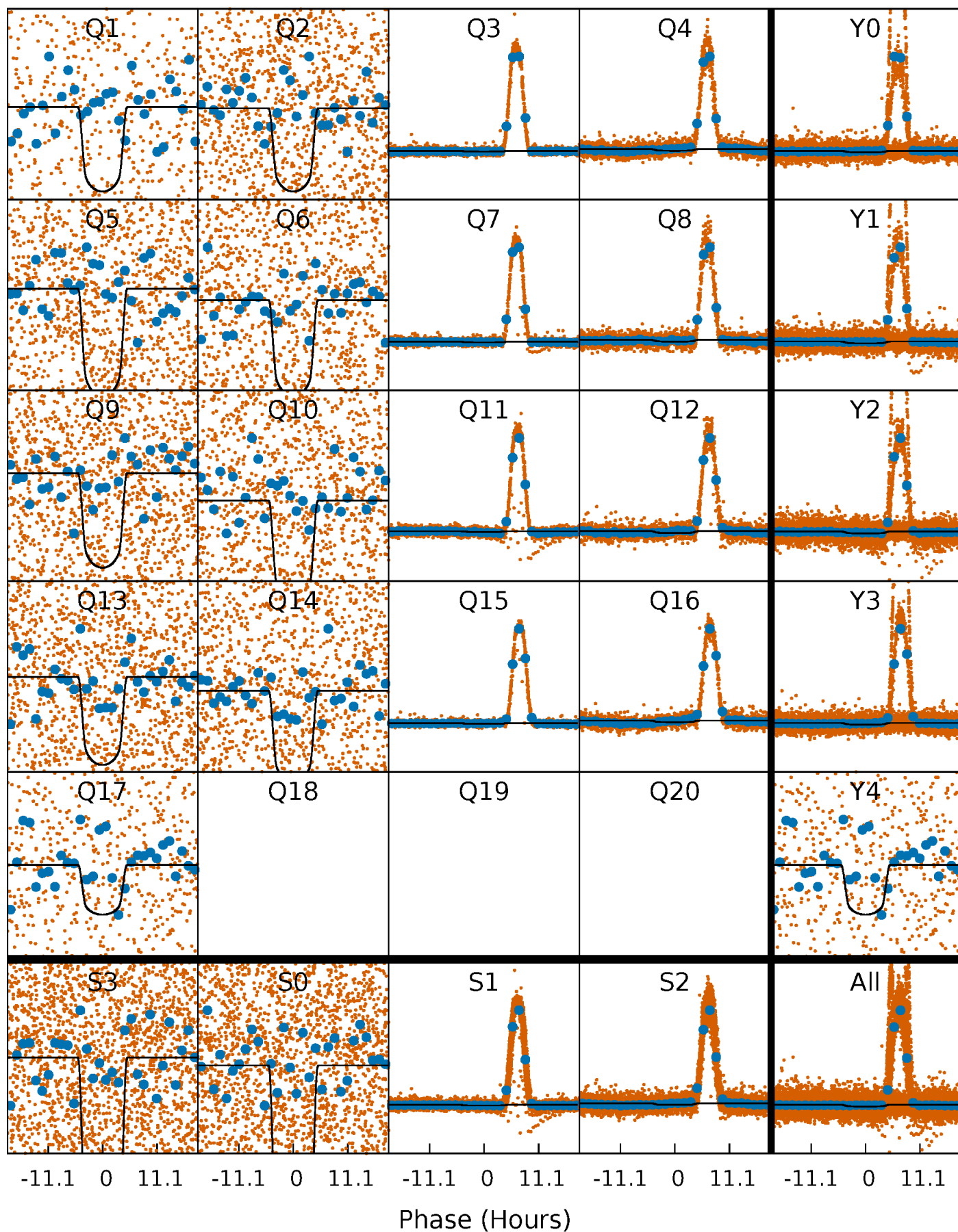
PDC Quarter-Phased Transit Curves

TCE 010779585-02 P= 2.696290 Days $T_0=132.726632$ (BKJD)



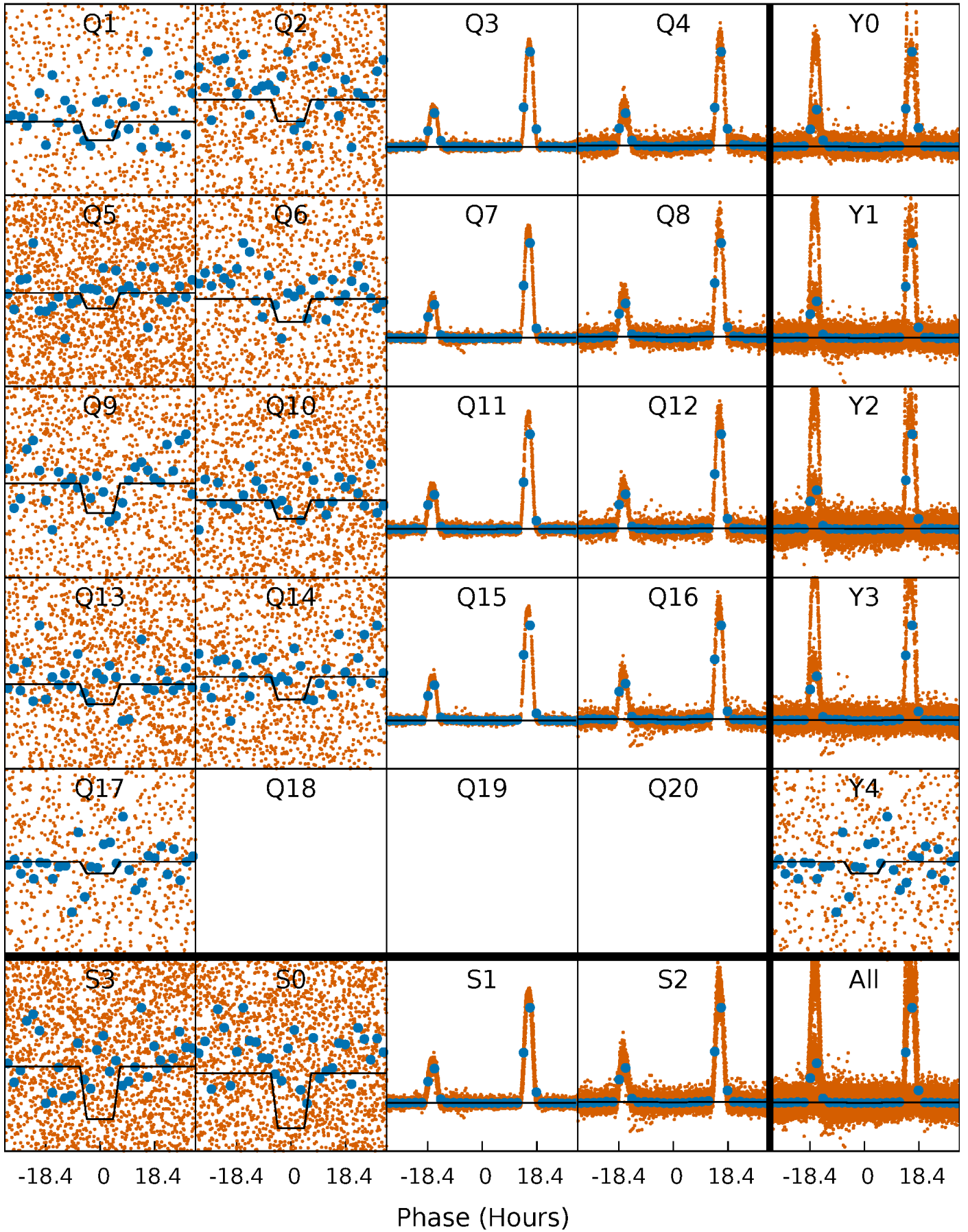
DV Quarter-Phased Transit Curves

TCE 010779585-02 P= 2.696290 Days $T_0=132.726632$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

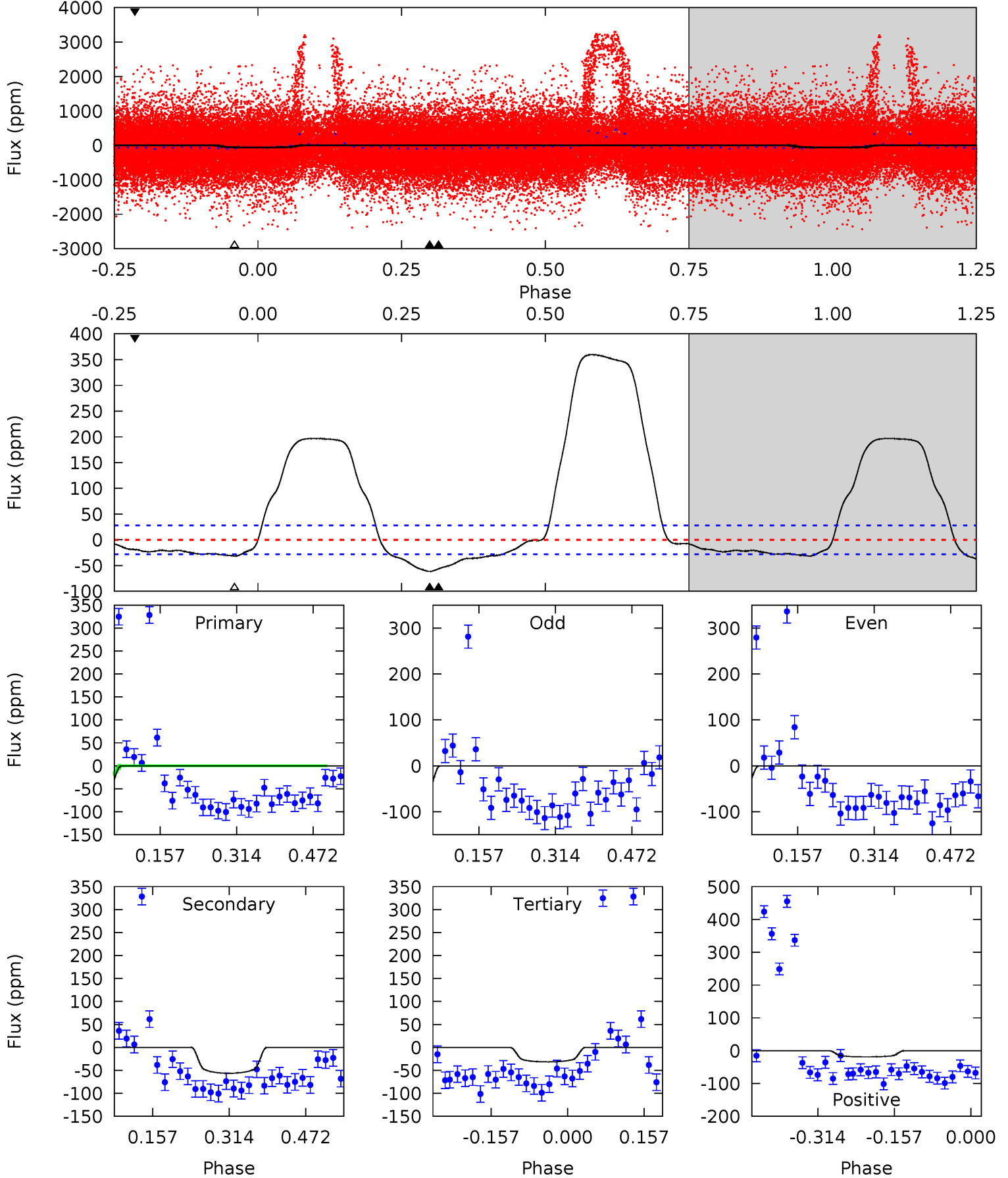
TCE 010779585-02 P= 2.696393 Days $T_0=132.331303$ (BKJD)



DV Model-Shift Uniqueness Test

010779585-02, P = 2.696290 Days, E = 130.030342 Days

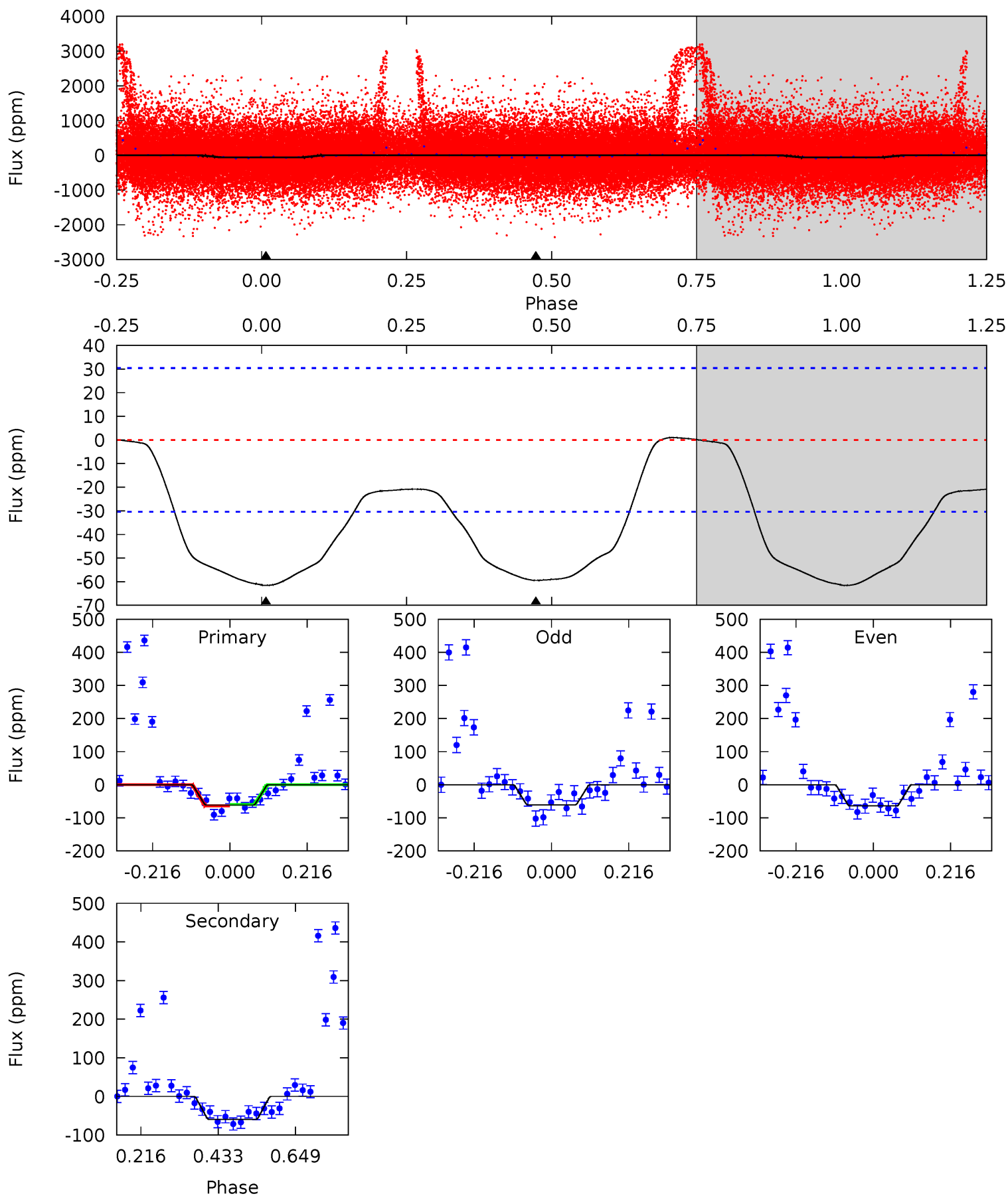
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.78	9.00	5.02	-3.00	4.47	1.41	21.3	4.77	12.8	3.98	12.0	1.06	2.32	0.85	3.41



Alt Model-Shift Uniqueness Test

010779585-02, P = 2.696393 Days, E = 129.634910 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.90	8.60	0	0	4.40	1.24	1.18	8.90	8.90	8.60	8.60	0.20	2.03	0.02	0.31



Stellar Parameters For KIC 010779585

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6008^{+161}_{-179}	$4.431^{+0.116}_{-0.188}$	$-0.500^{+0.300}_{-0.300}$	$0.941^{+0.245}_{-0.132}$	$0.871^{+0.108}_{-0.081}$	$1.472^{+0.766}_{-0.683}$
	+3%/-3%	+3%/-4%	+60%/-60%	+26%/-14%	+12%/-9%	+52%/-46%
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 010779585-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-56 ± 6	$1.68^{+0.24}_{-0.17}$	1892^{+127}_{-100}	4299^{+146}_{-147}	14^{+4}_{-3}
Alt.	-59 ± 7	$0.64^{+0.12}_{-0.10}$	1899^{+130}_{-101}	6770^{+641}_{-489}	106^{+52}_{-32}

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

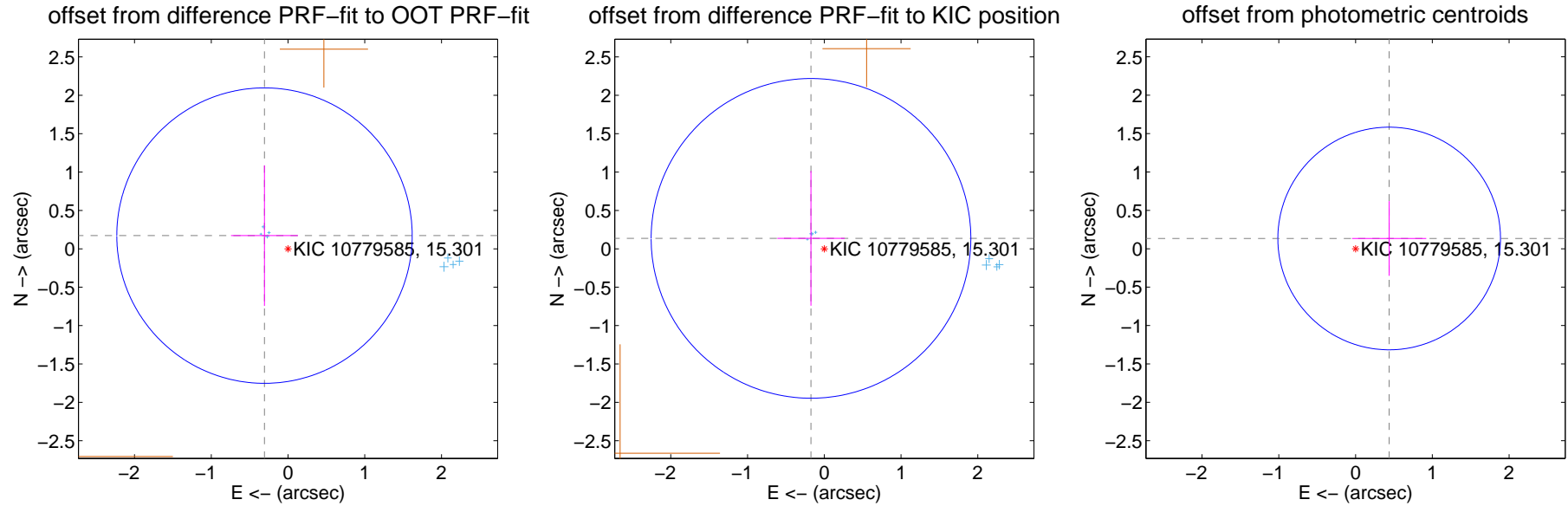
DV Centroid Data

Supplemental centroid analysis for 010779585-02. Kepler magnitude: 15.30. Transit SNR 26.52

There are 8 quarters with good PRF difference image offsets

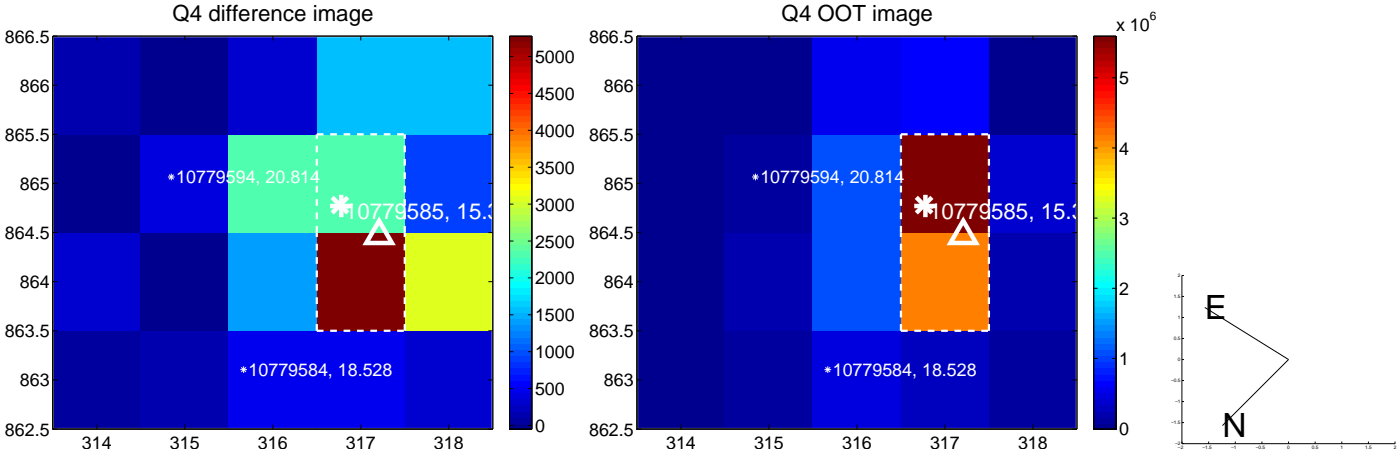
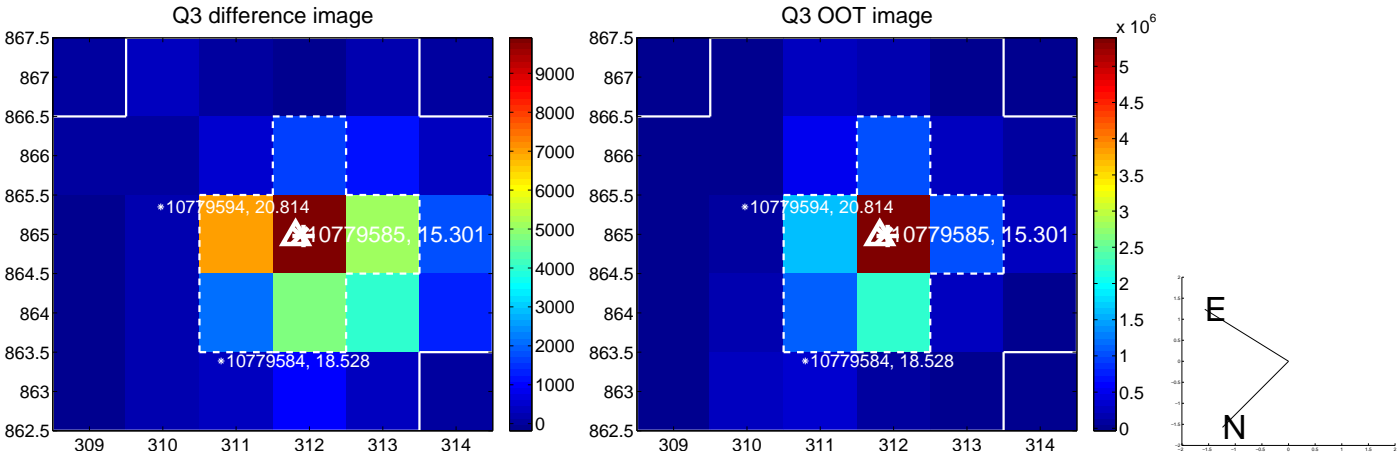
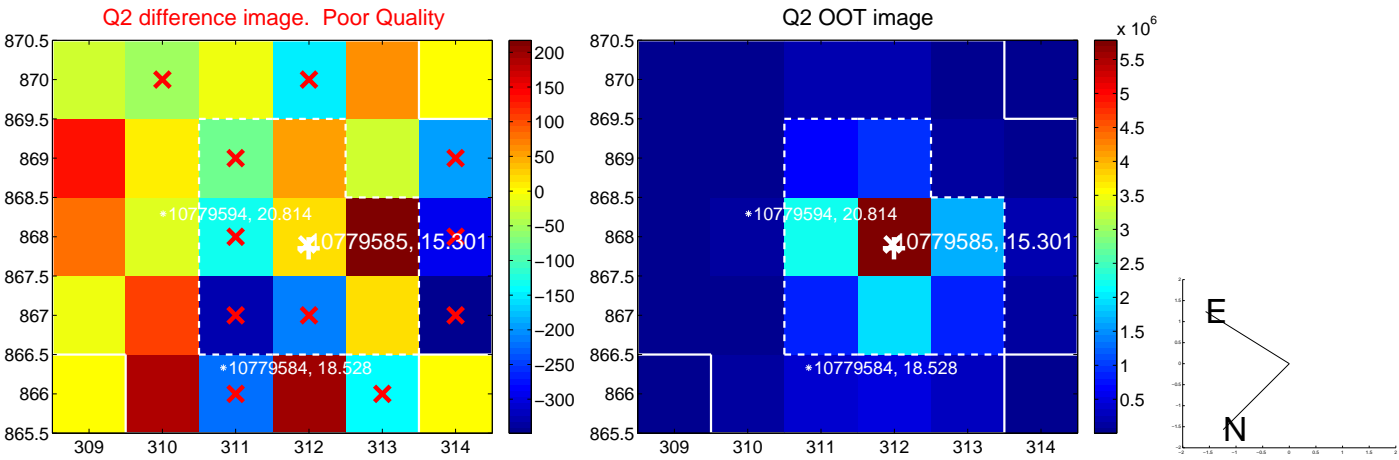
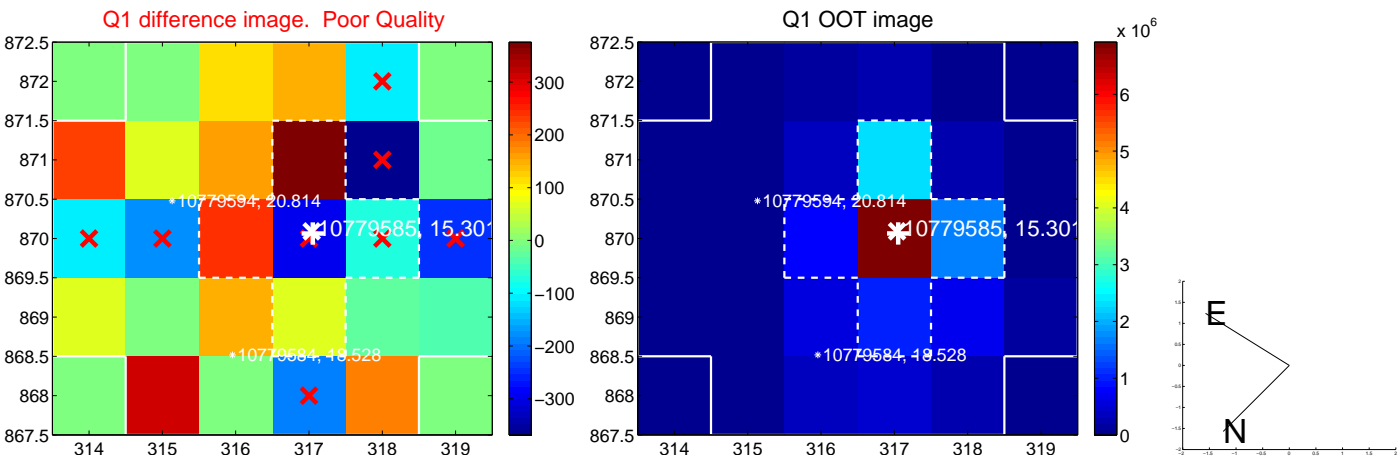
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.351 ± 0.642	0.55	0.307 ± 0.436	0.172 ± 0.916
PRF-fit source offset from KIC position	0.220 ± 0.694	0.32	0.173 ± 0.439	0.136 ± 0.877
photometric centroid source offset	0.46 ± 0.48	0.95	-0.44 ± 0.48	0.13 ± 0.49

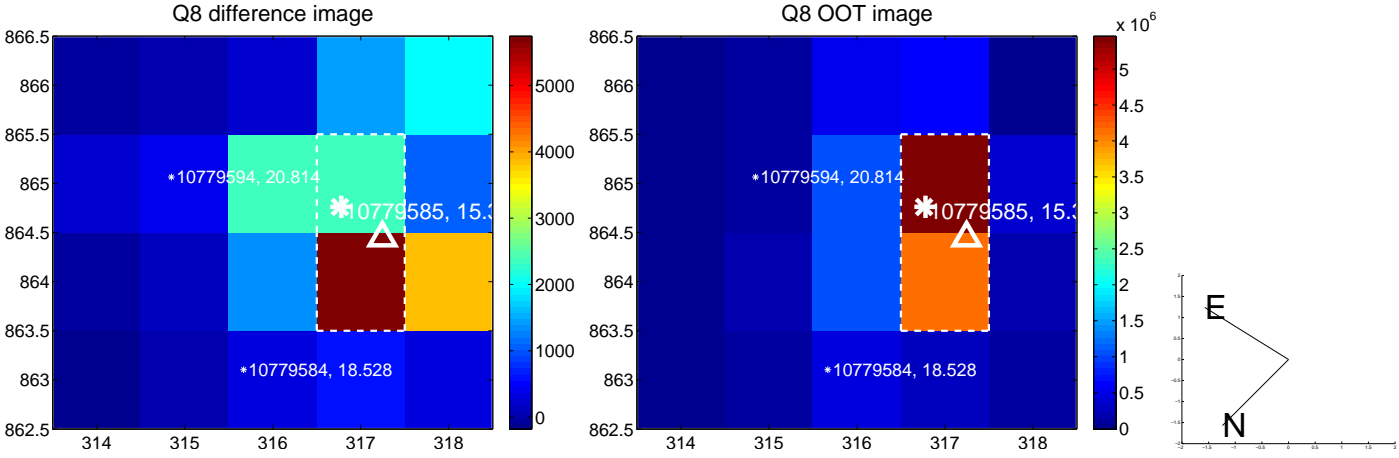
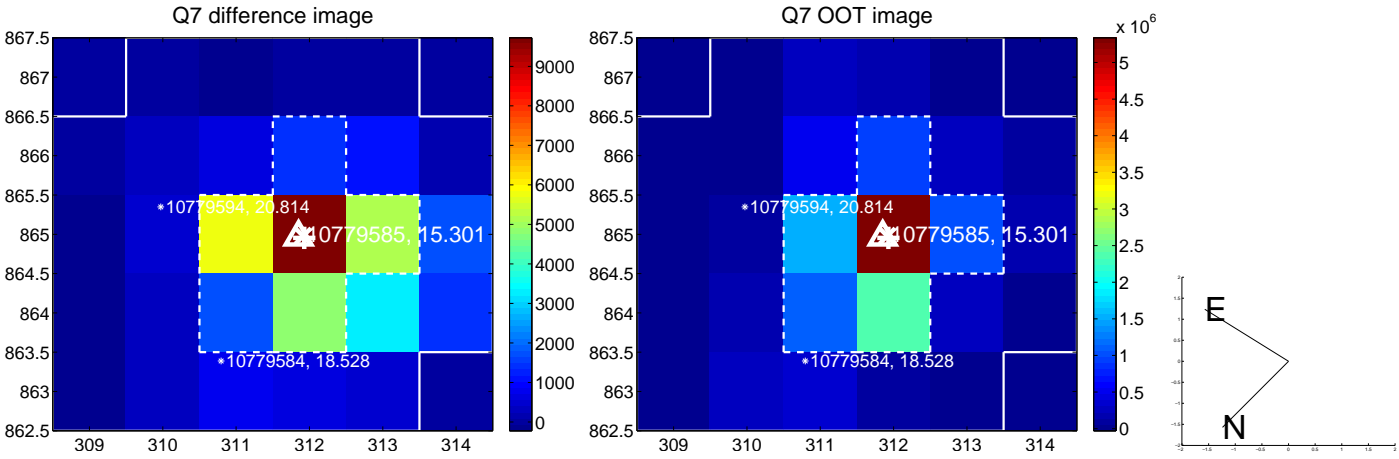
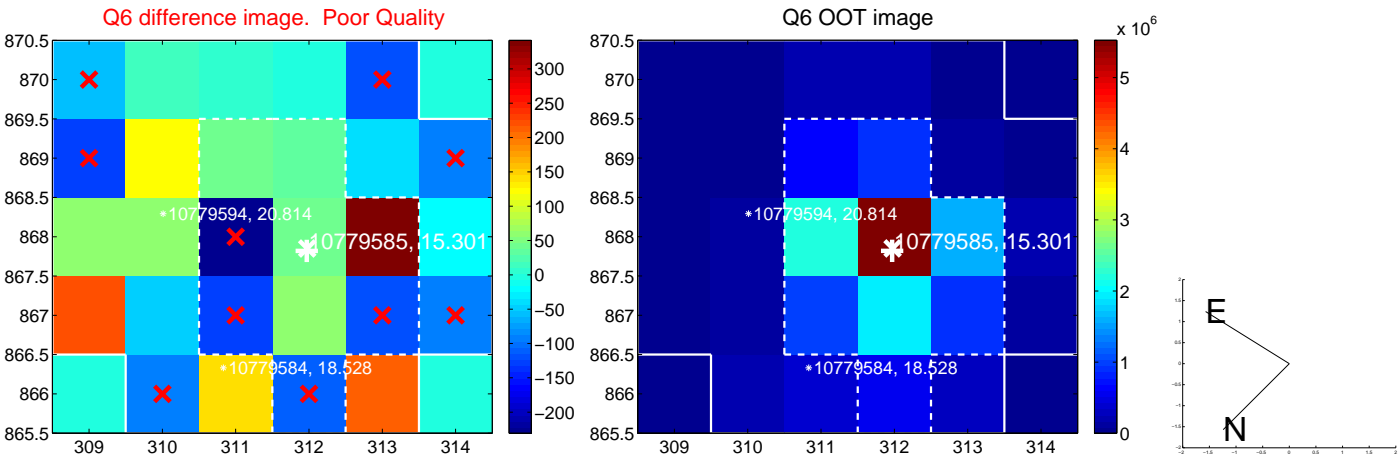
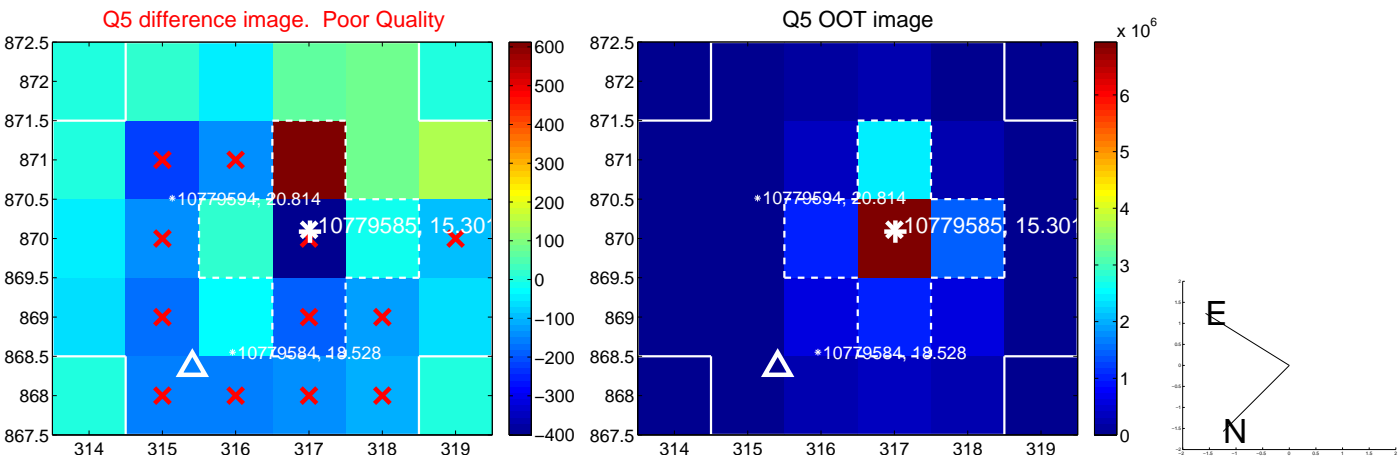


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

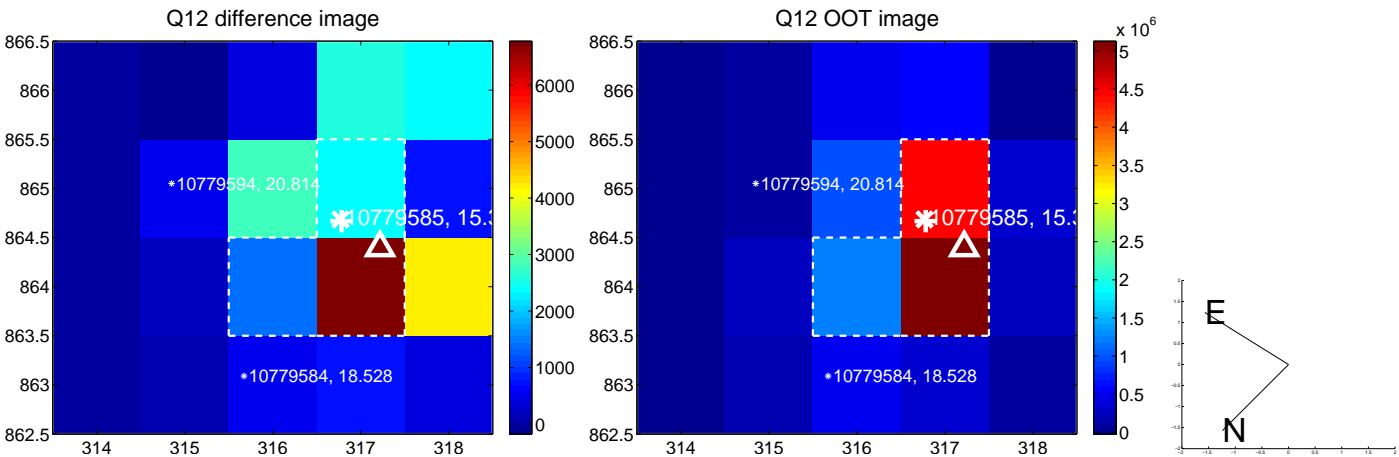
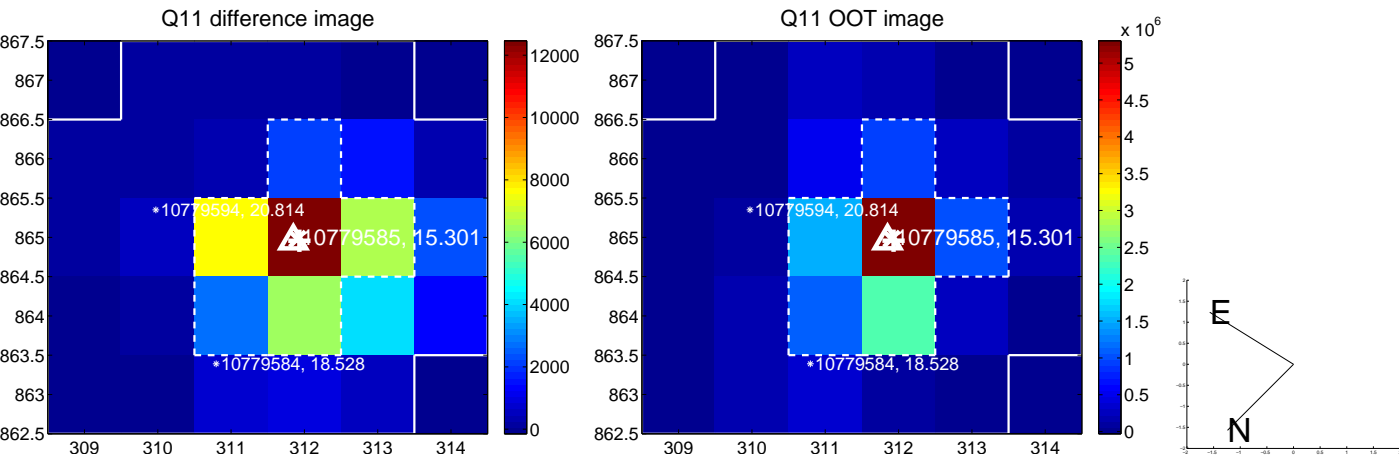
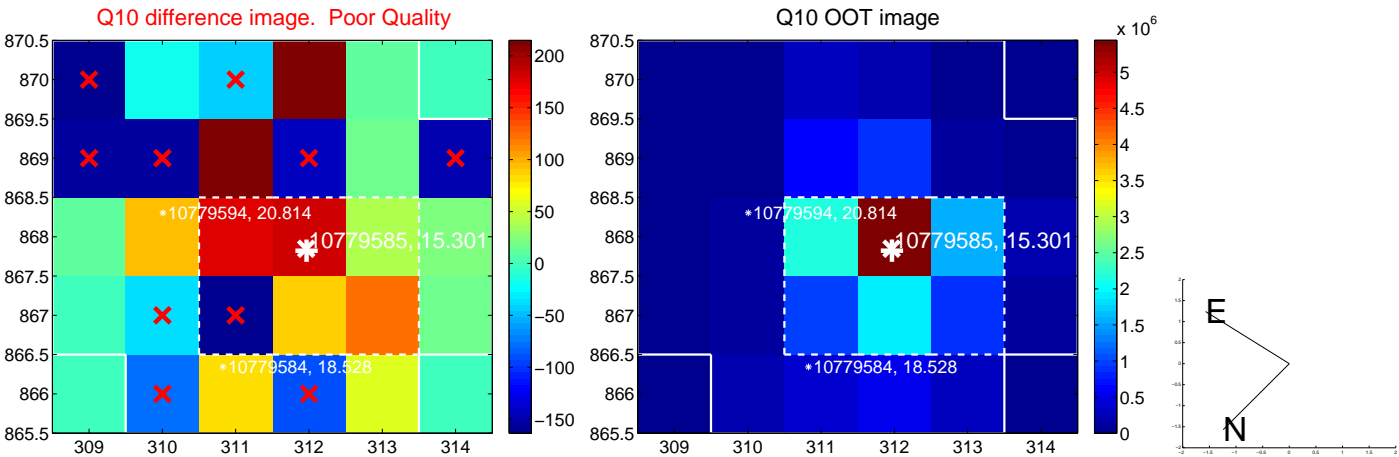
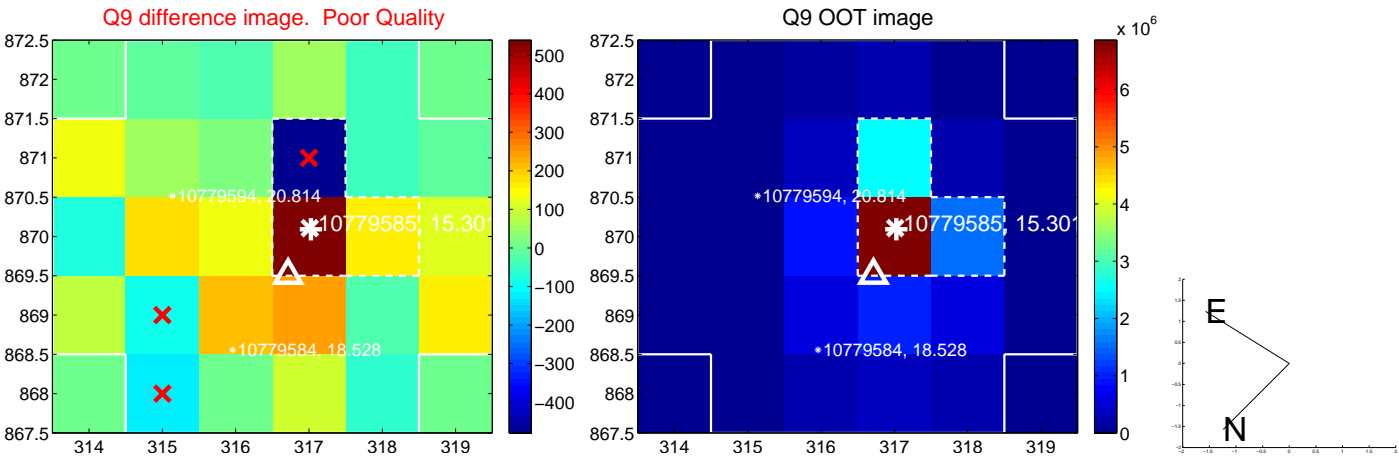
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



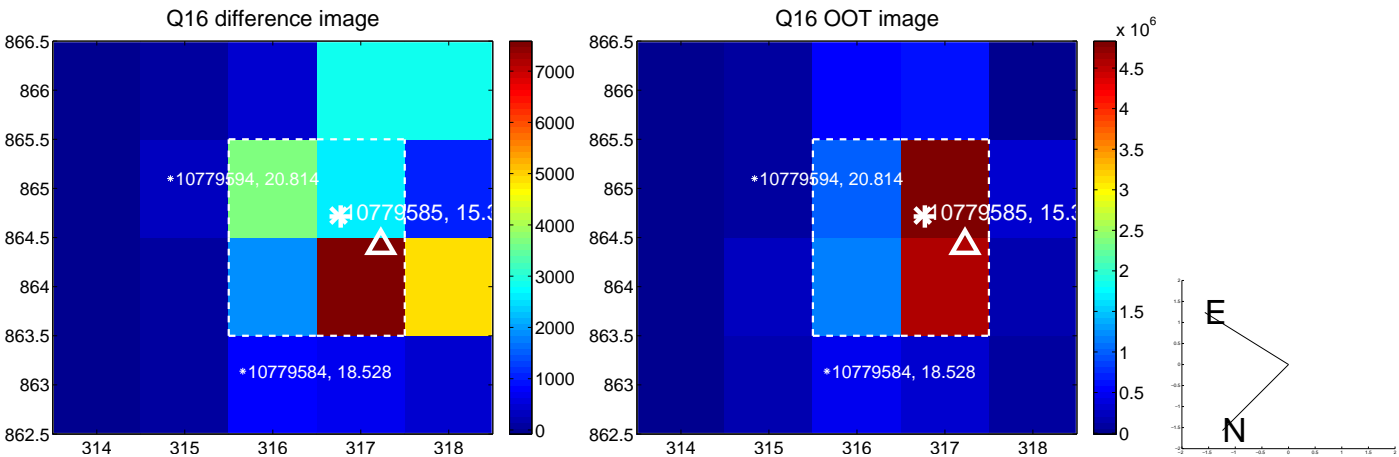
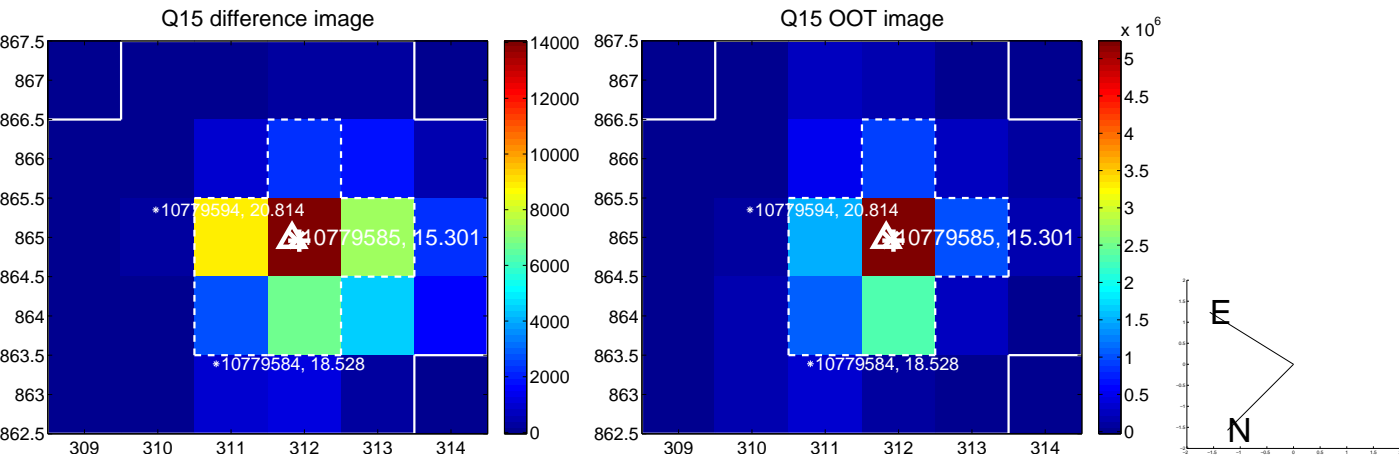
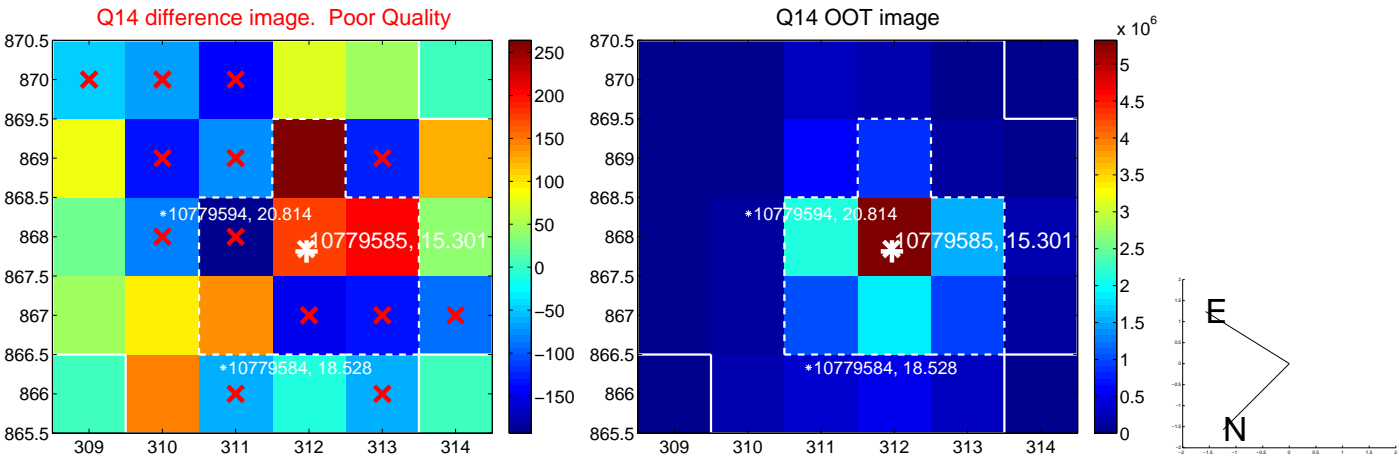
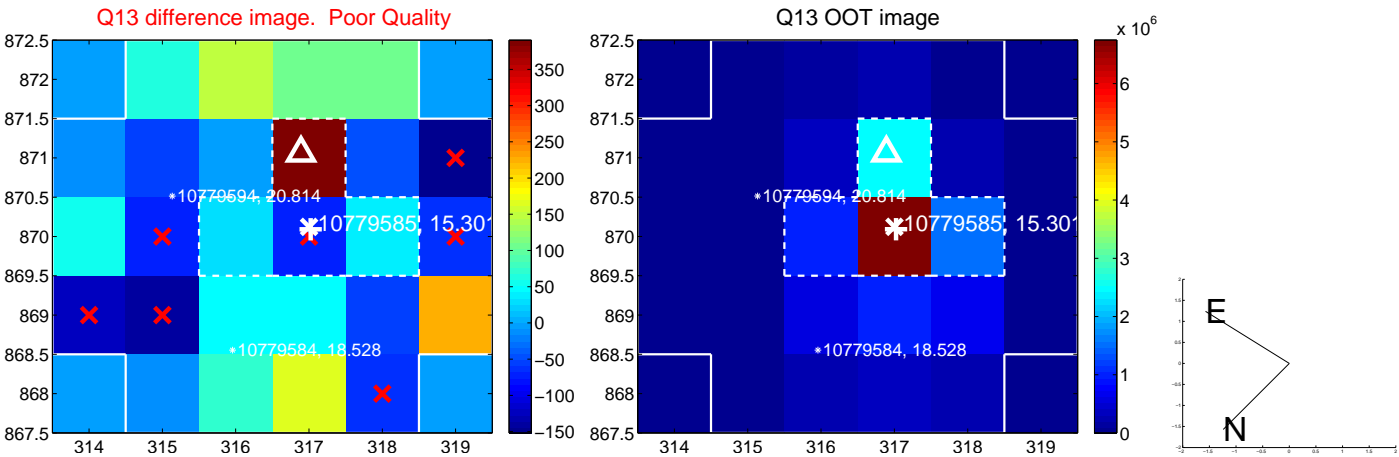
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



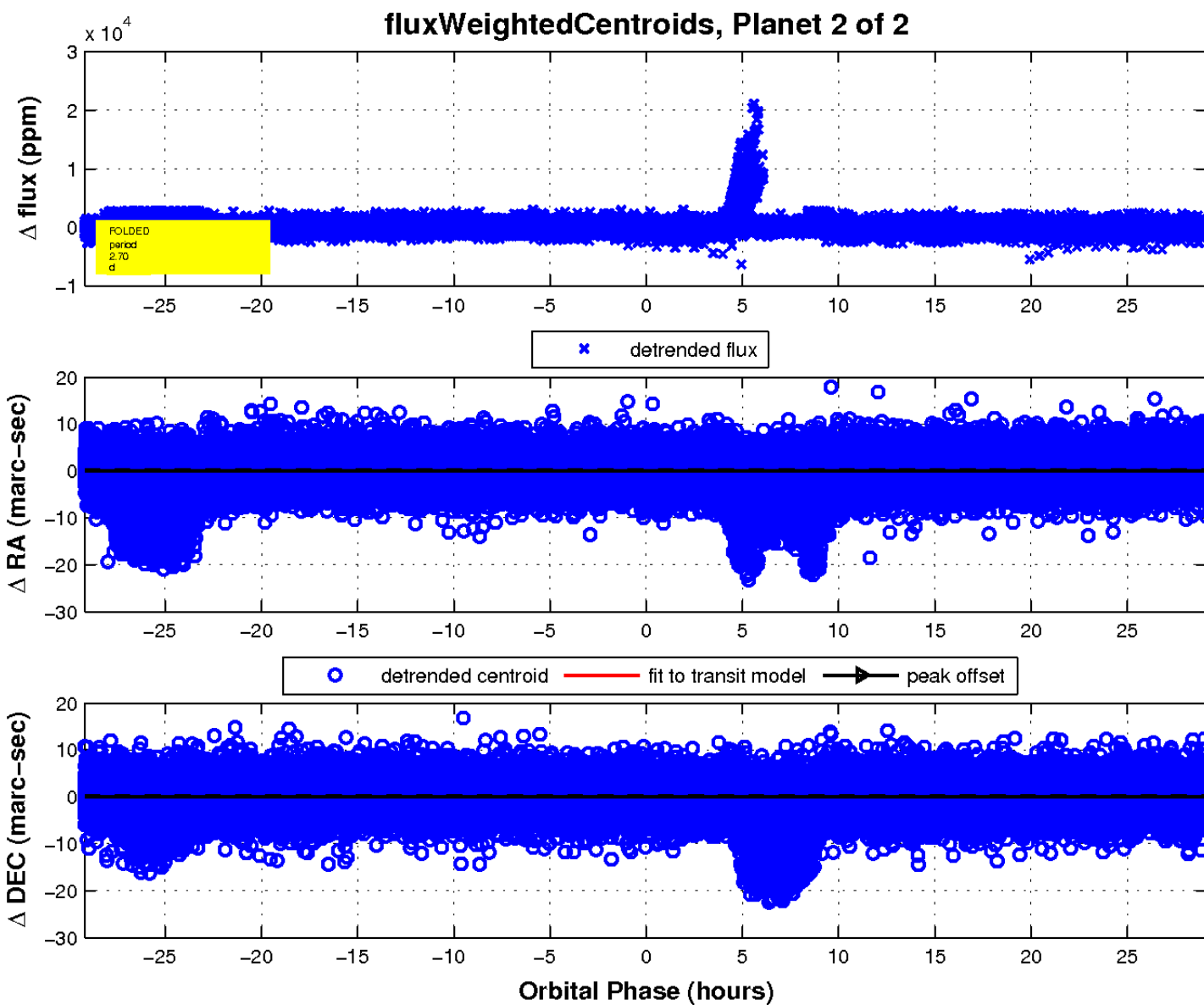
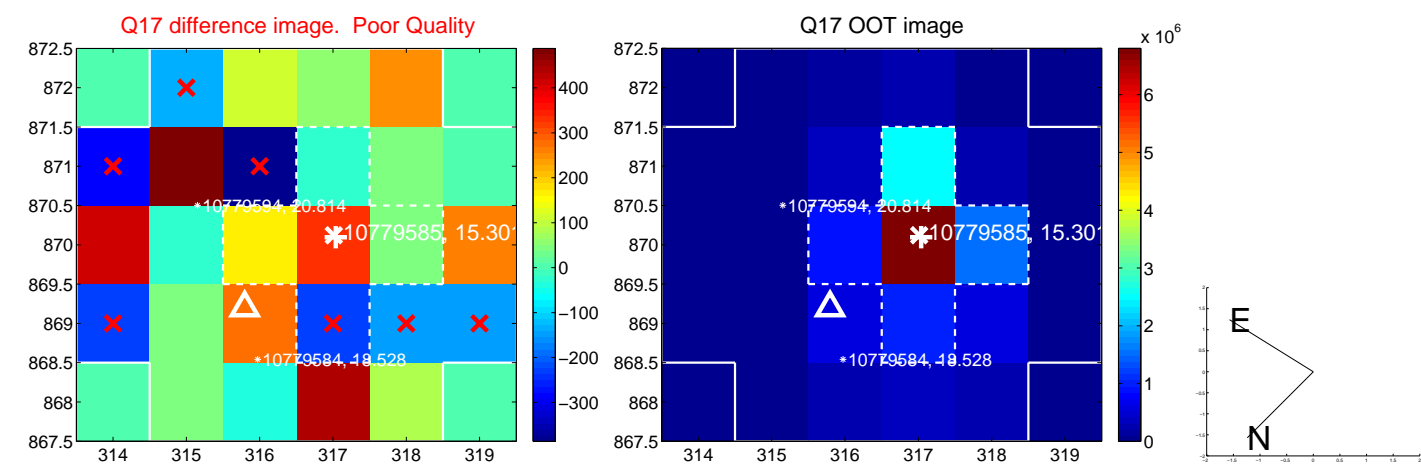
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

