

KIC 005084199

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})
005084199-01	OBS	No	389.199014	305.378692	898.7	12.364	9.9	5.7	0.65	4458	2.01	0.17
005084199-02	OBS	No	340.678703	405.626802	684.8	4.696	8.2	5.3	0.65	4458	1.88	0.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005084199-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005084199-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_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.

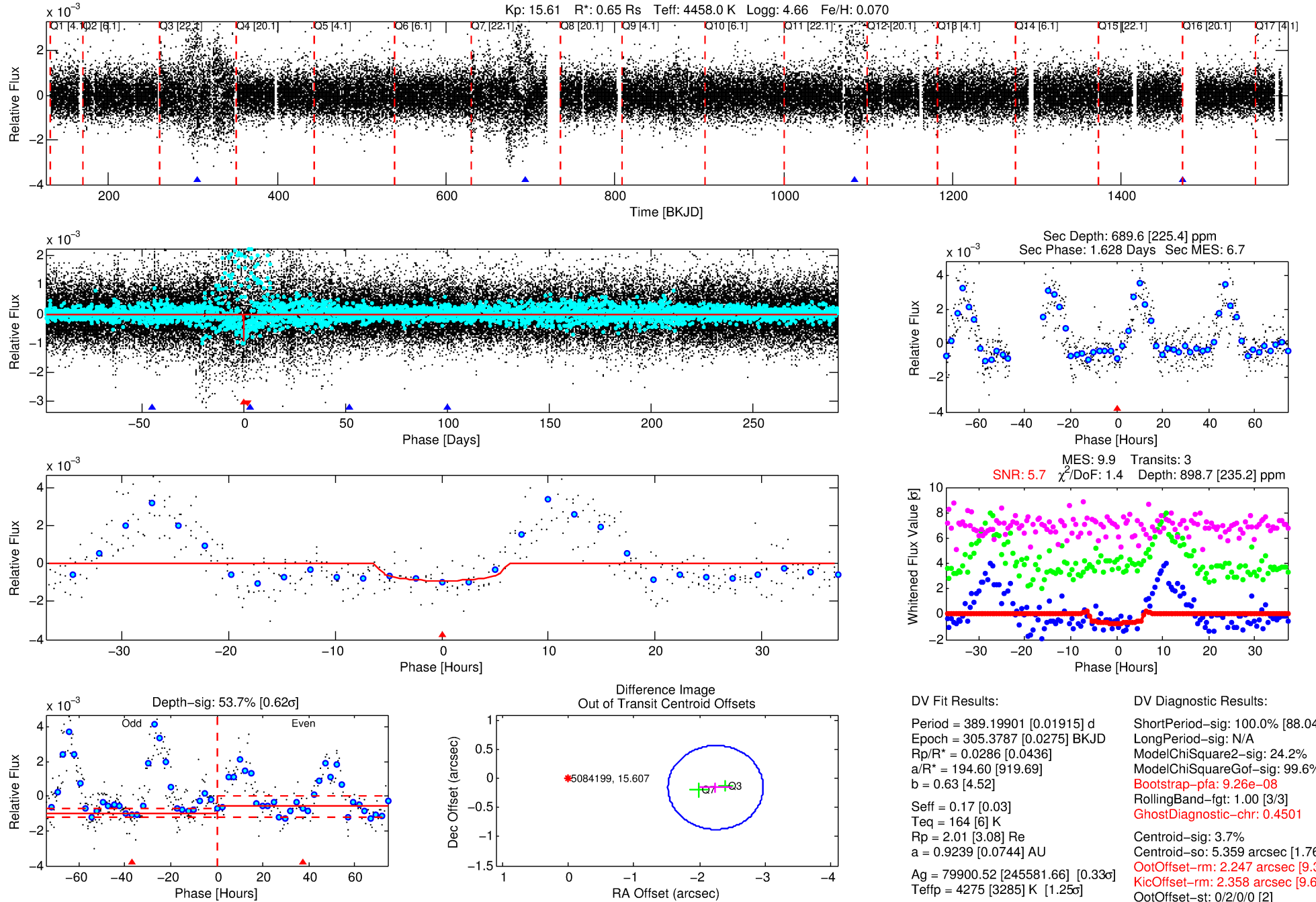
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005084199-01

No Significant Match Found

DV One-Page Summary

KIC: 5084199 Candidate: 1 of 2 Period: 389.199 d



DV Fit Results:

Period = 389.19901 [0.01915] d
Epoch = 305.3787 [0.0275] BKJD
Rp/R* = 0.0286 [0.0436]
a/R* = 194.60 [919.69]
b = 0.63 [4.52]
Seff = 0.17 [0.03]
Teq = 164 [6] K
Rp = 2.01 [3.08] Re
a = 0.9239 [0.0744] AU
Ag = 79900.52 [245581.66] [0.33 σ]
Teffp = 4275 [3285] K [1.25 σ]

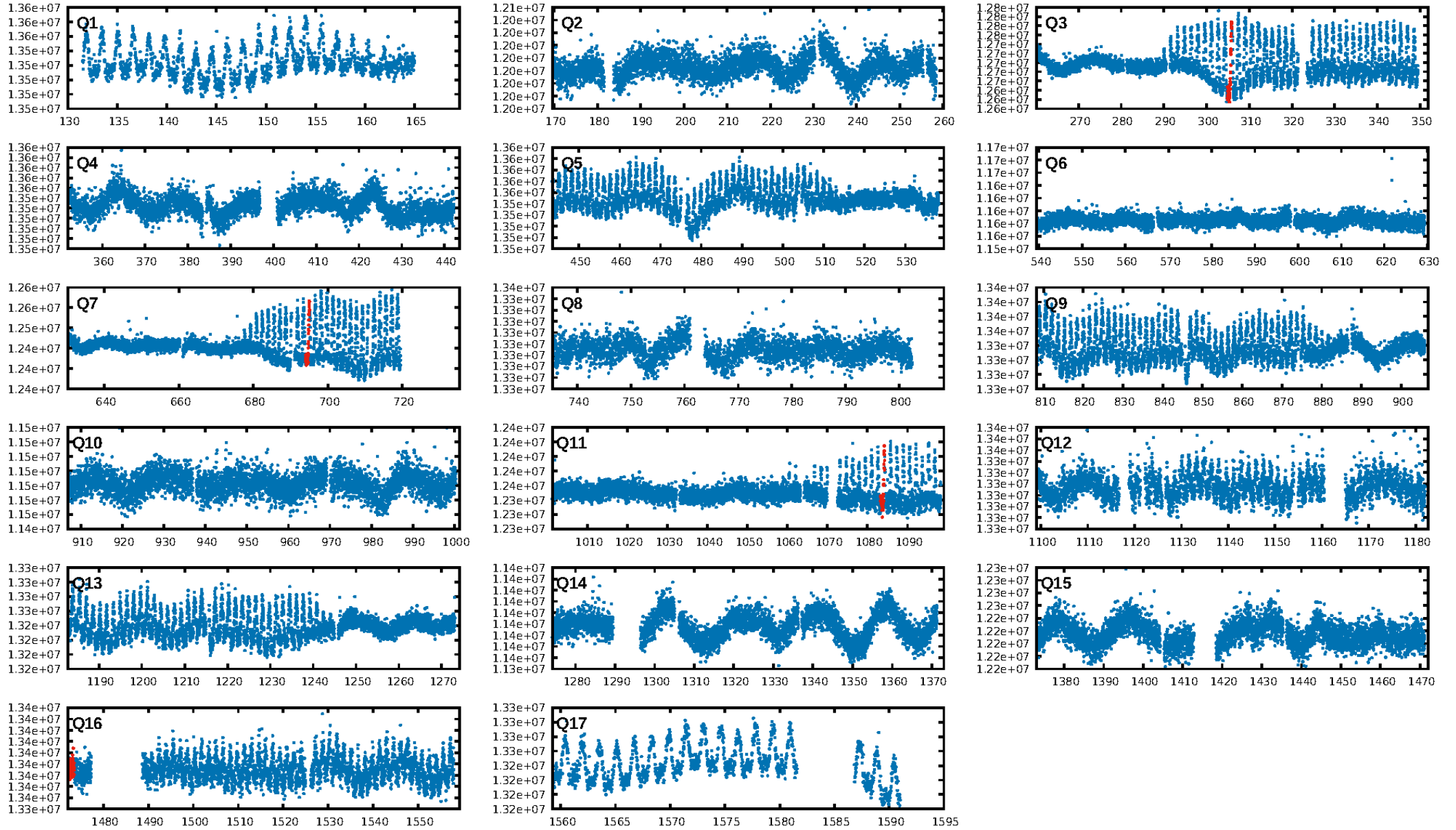
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [88.04 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 24.2%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 9.26e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.4501
Centroid-sig: 3.7%
Centroid-so: 5.359 arcsec [1.76 σ]
OotOffset-rm: 2.247 arcsec [9.31 σ]
KicOffset-rm: 2.358 arcsec [9.68 σ]
OotOffset-st: 0/2/0/0 [2]
KicOffset-st: 0/2/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

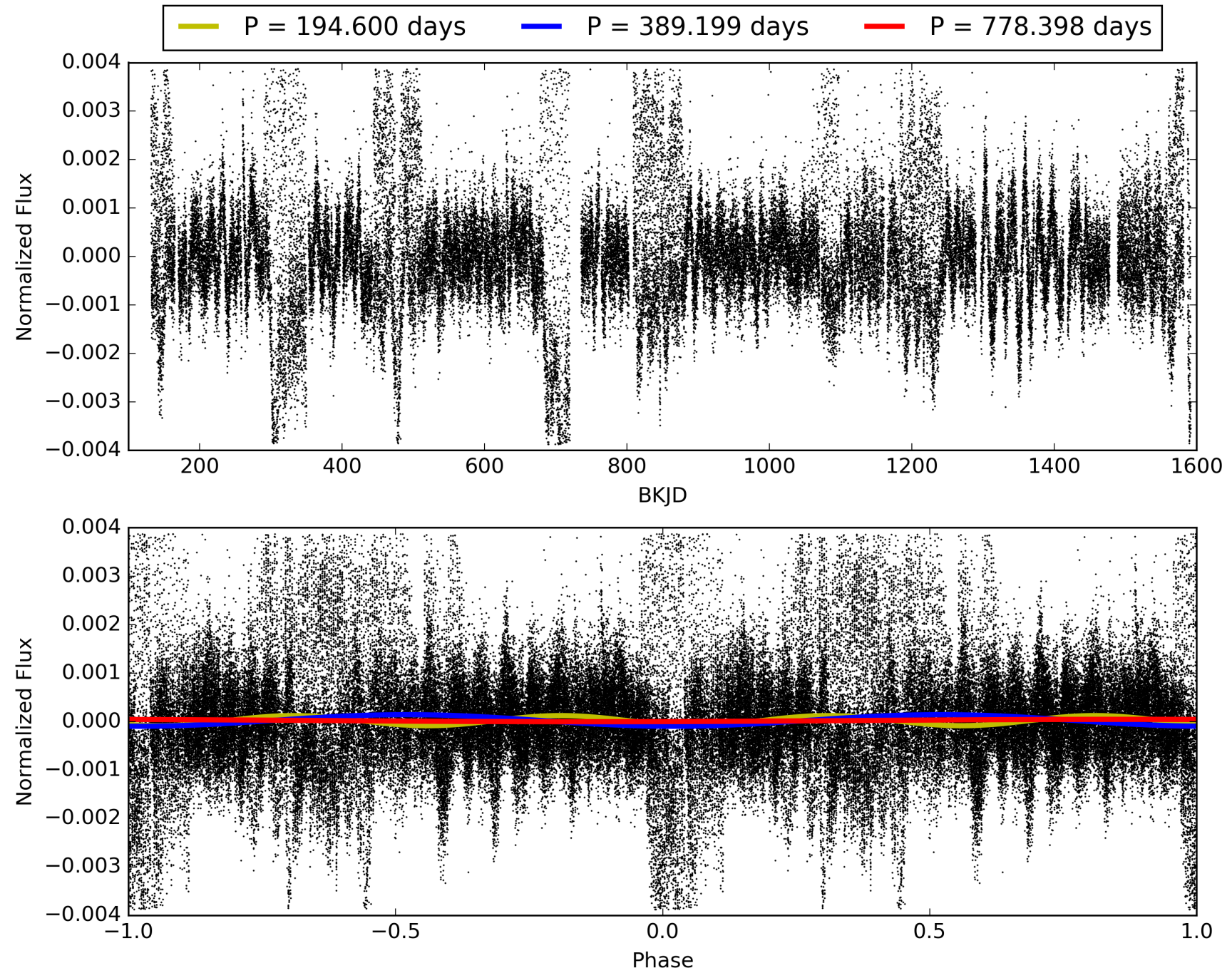
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 11:51:57 Z

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

TCE 005084199-01, PDC Light Curves

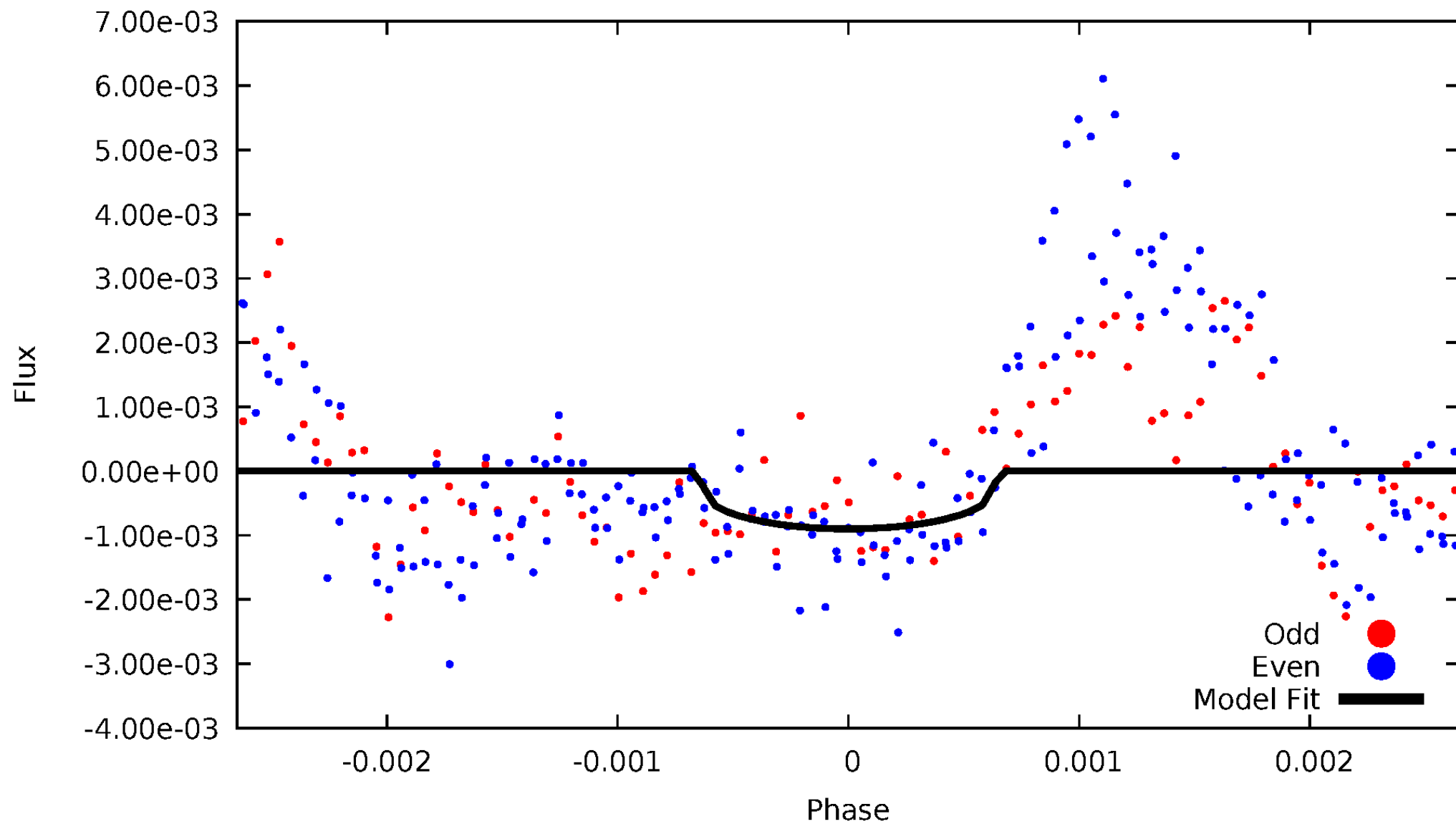


TCE 005084199-01



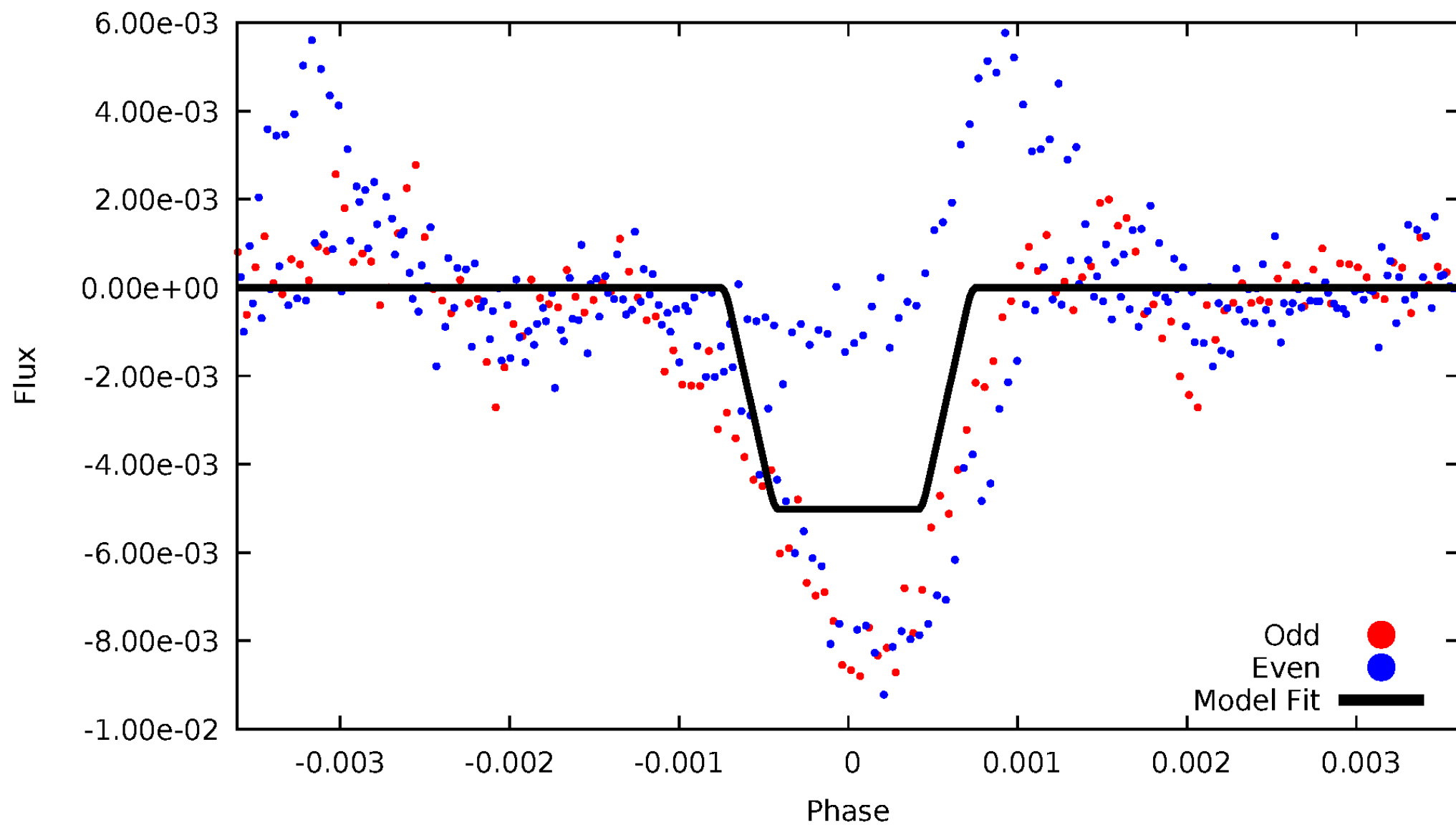
DV Odd/Even

TCE 005084199-01



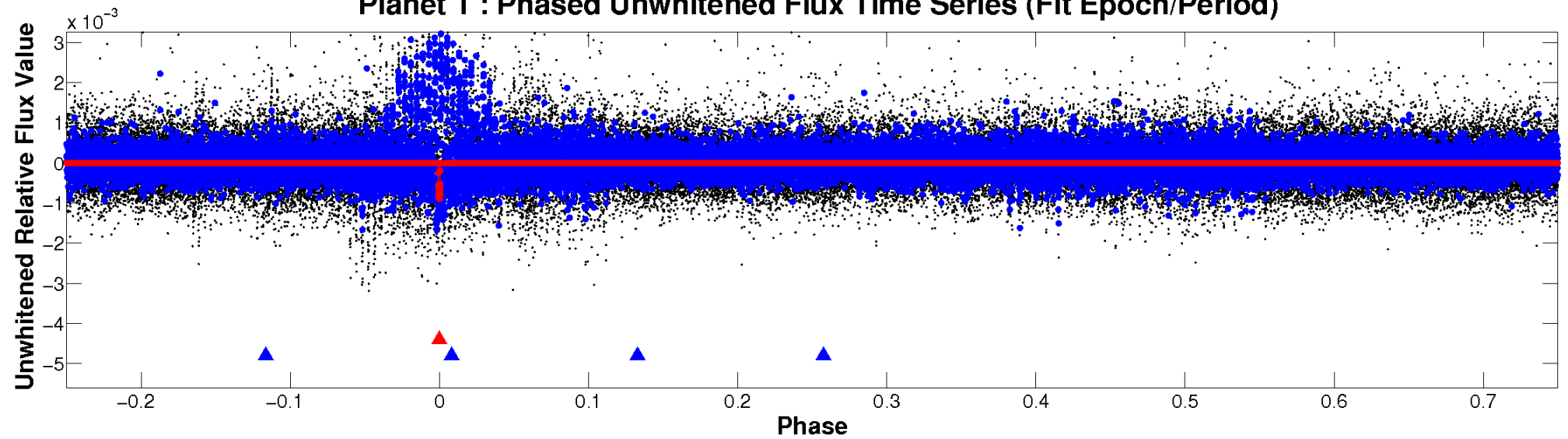
ALT Odd/Even

TCE 005084199-01

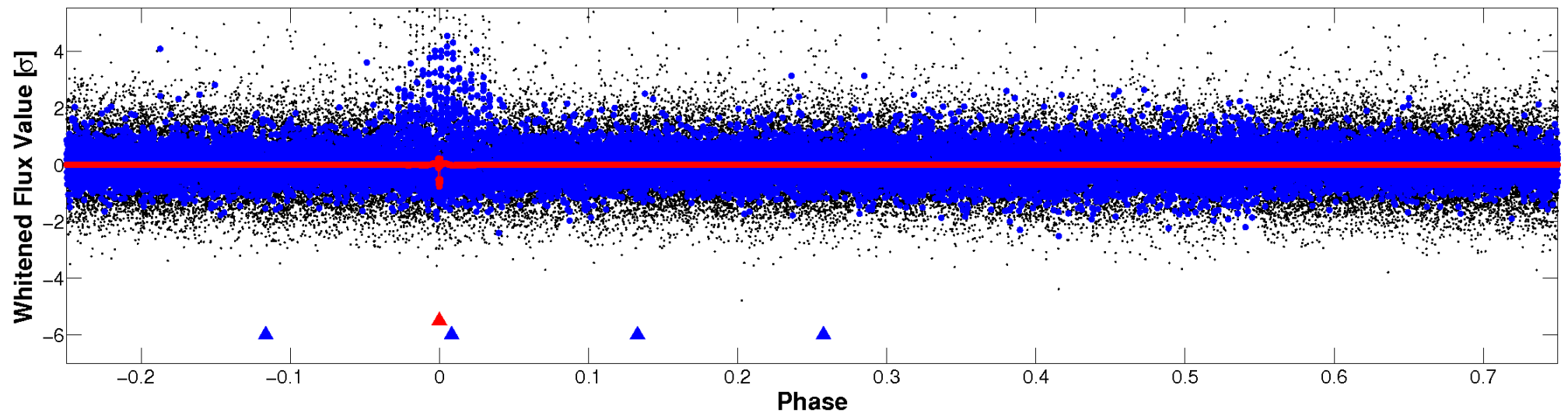


Non-Whitened Vs. Whitened Light Curve

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

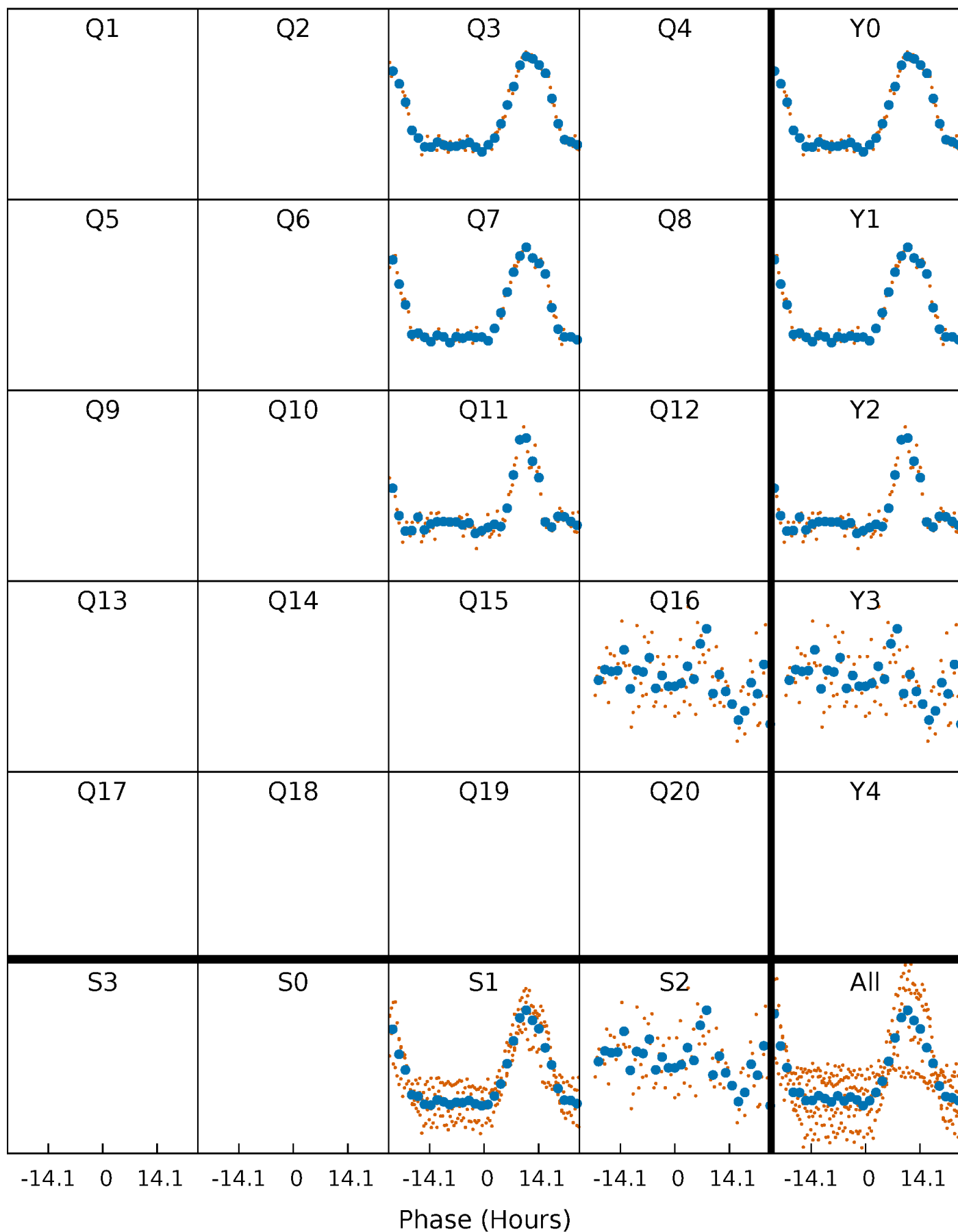


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



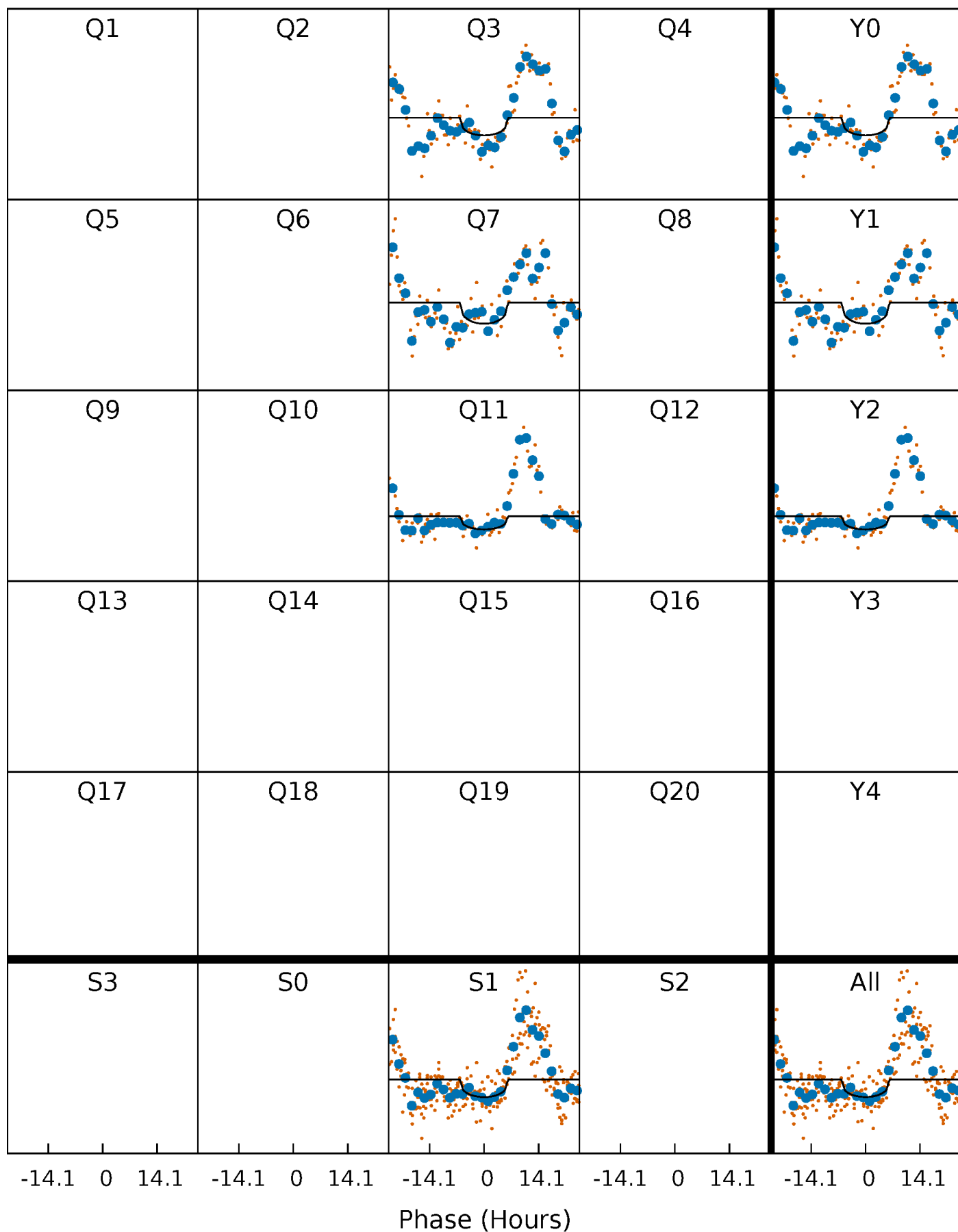
PDC Quarter-Phased Transit Curves

TCE 005084199-01 P=389.199014 Days $T_0=305.378692$ (BKJD)



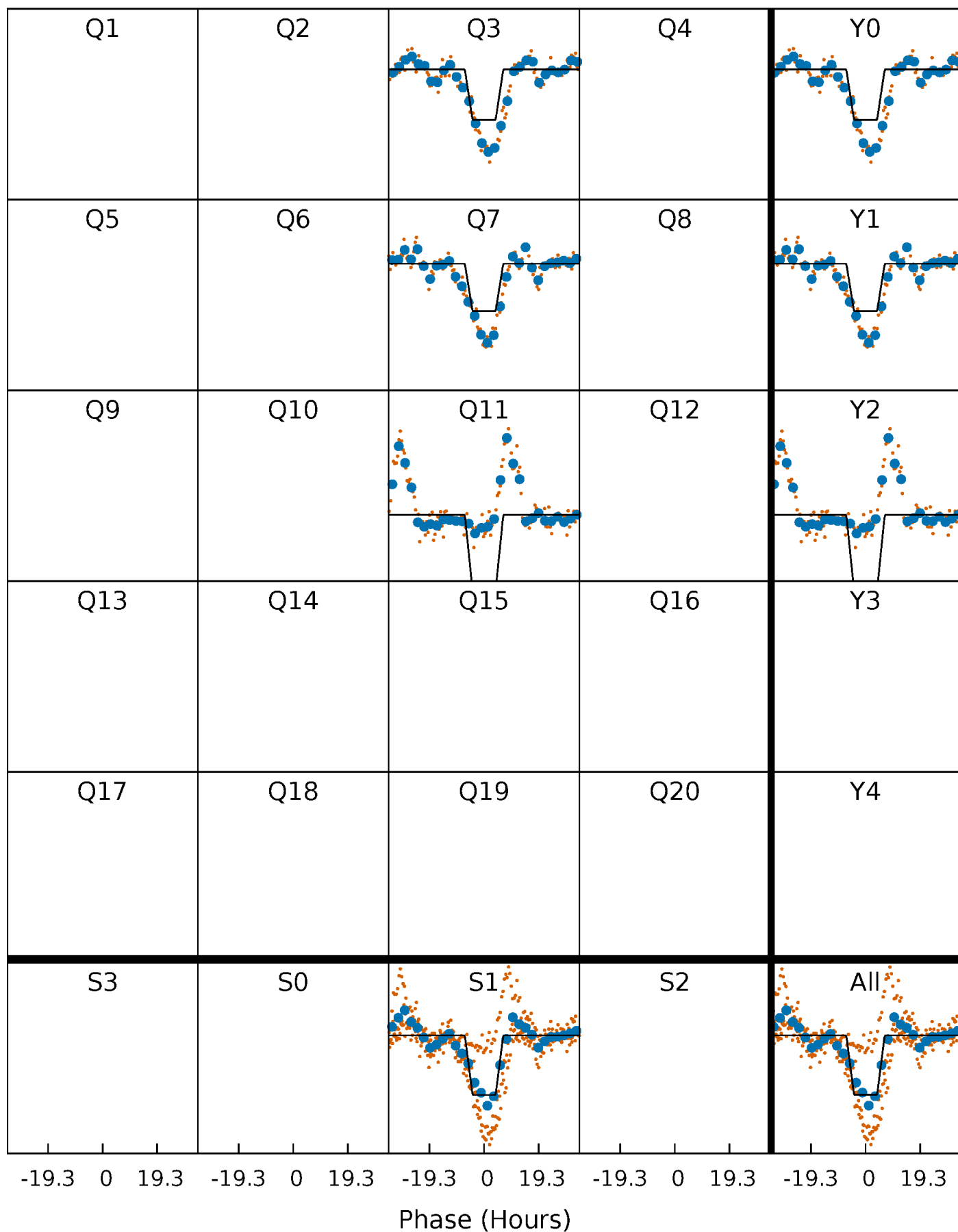
DV Quarter-Phased Transit Curves

TCE 005084199-01 $P=389.199014$ Days $T_0=305.378692$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

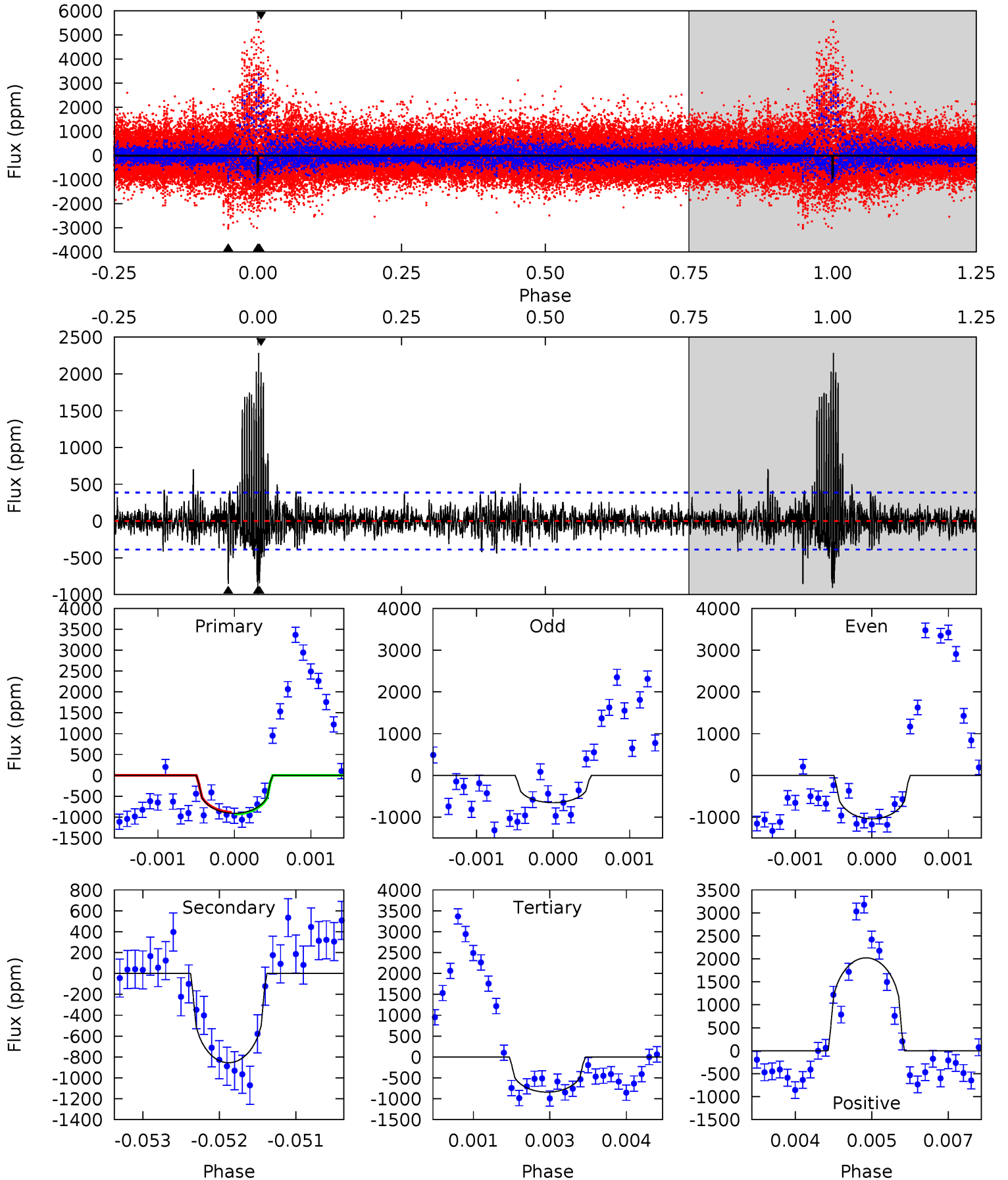
TCE 005084199-01 P=389.232073 Days $T_0=305.381129$ (BKJD)



DV Model-Shift Uniqueness Test

005084199-01, P = 389.199014 Days, E = 305.378692 Days

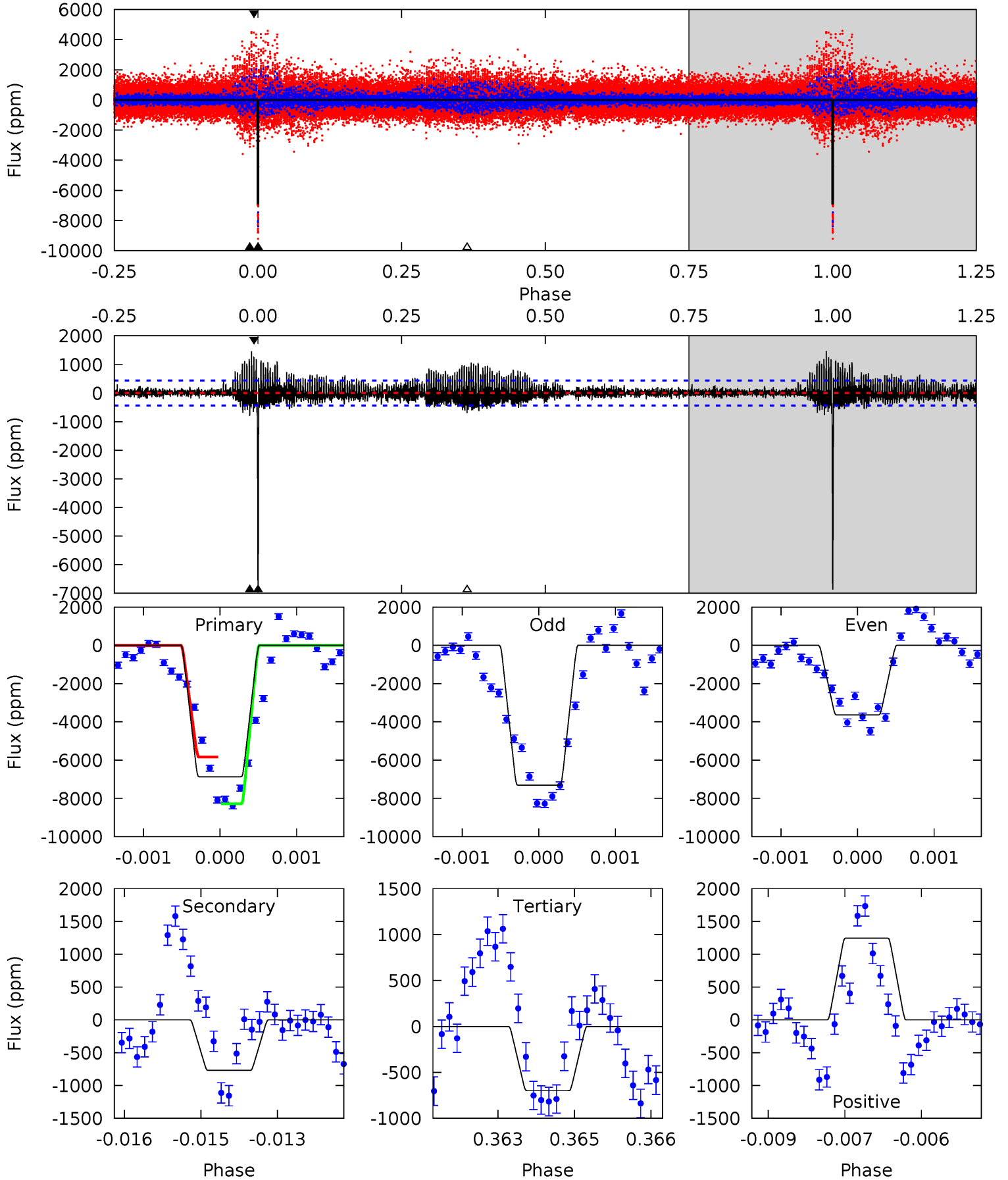
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.7	11.9	11.7	28.1	5.40	3.20	2.71	0.93	-15.5	0.18	-16.2	2.49	1.09	0.72	0.27



Alt Model-Shift Uniqueness Test

005084199-01, P = 389.232073 Days, E = 305.381129 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
84.3	9.45	8.58	15.3	5.38	3.18	2.74	75.7	69.0	0.87	-5.84	24.6	0.70	0.17	0



Stellar Parameters For KIC 005084199

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4458^{+121}_{-121}	$4.659^{+0.021}_{-0.056}$	$0.070^{+0.300}_{-0.300}$	$0.646^{+0.066}_{-0.038}$	$0.719^{+0.042}_{-0.063}$	$3.752^{+0.407}_{-0.801}$
	+3%/-3%	+0%/-1%	+429%/-429%	+10%/-6%	+6%/-9%	+11%/-21%
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 005084199-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-855 ± 72	$3.11^{+2.72}_{-2.00}$	232^{+8}_{-7}	3877^{+2031}_{-711}	$43625^{+304122}_{-31998}$
Alt.	-770 ± 81	$5.32^{+3.01}_{-3.01}$	232^{+7}_{-8}	3206^{+1039}_{-370}	12881^{+54748}_{-7542}

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 $A_{obs} \gg 1.0$

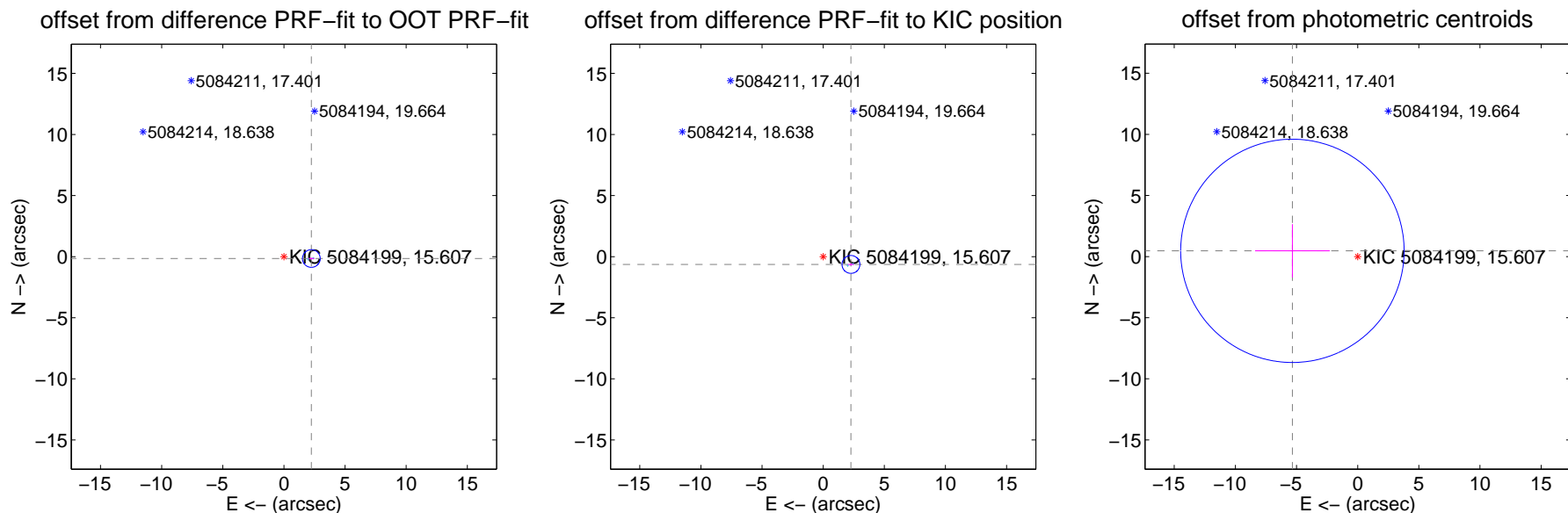
DV Centroid Data

Supplemental centroid analysis for 005084199-01. Kepler magnitude: 15.61. Transit SNR 5.68

There are 2 quarters with good PRF difference image offsets

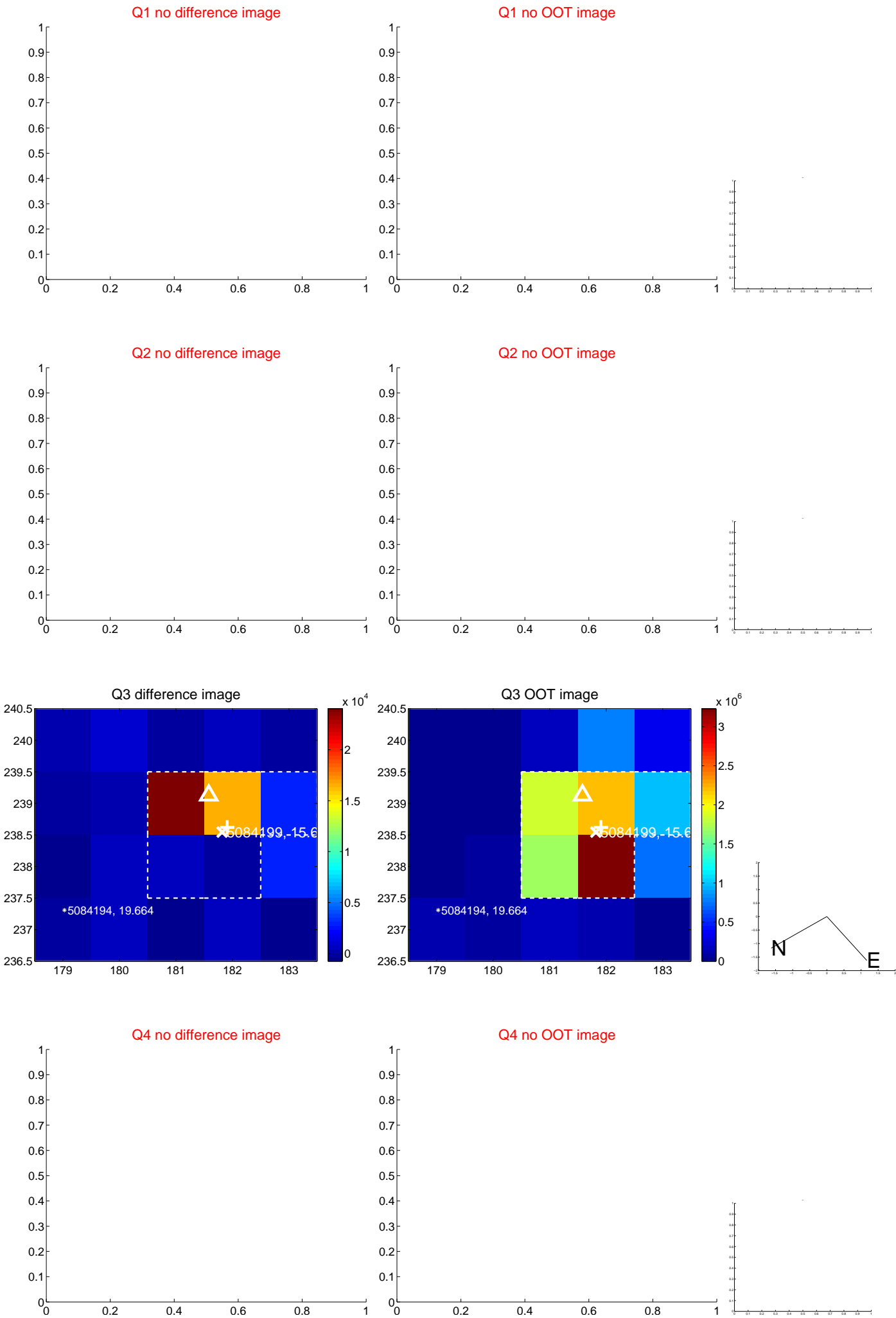
The direct PRF centroid is offset from the target star catalog position by about 0.52 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.247 ± 0.241	9.31	-2.242 ± 0.242	-0.152 ± 0.077
PRF-fit source offset from KIC position	2.358 ± 0.244	9.68	-2.271 ± 0.251	-0.636 ± 0.097
photometric centroid source offset	5.36 ± 3.04	1.76	5.34 ± 3.05	0.47 ± 2.18

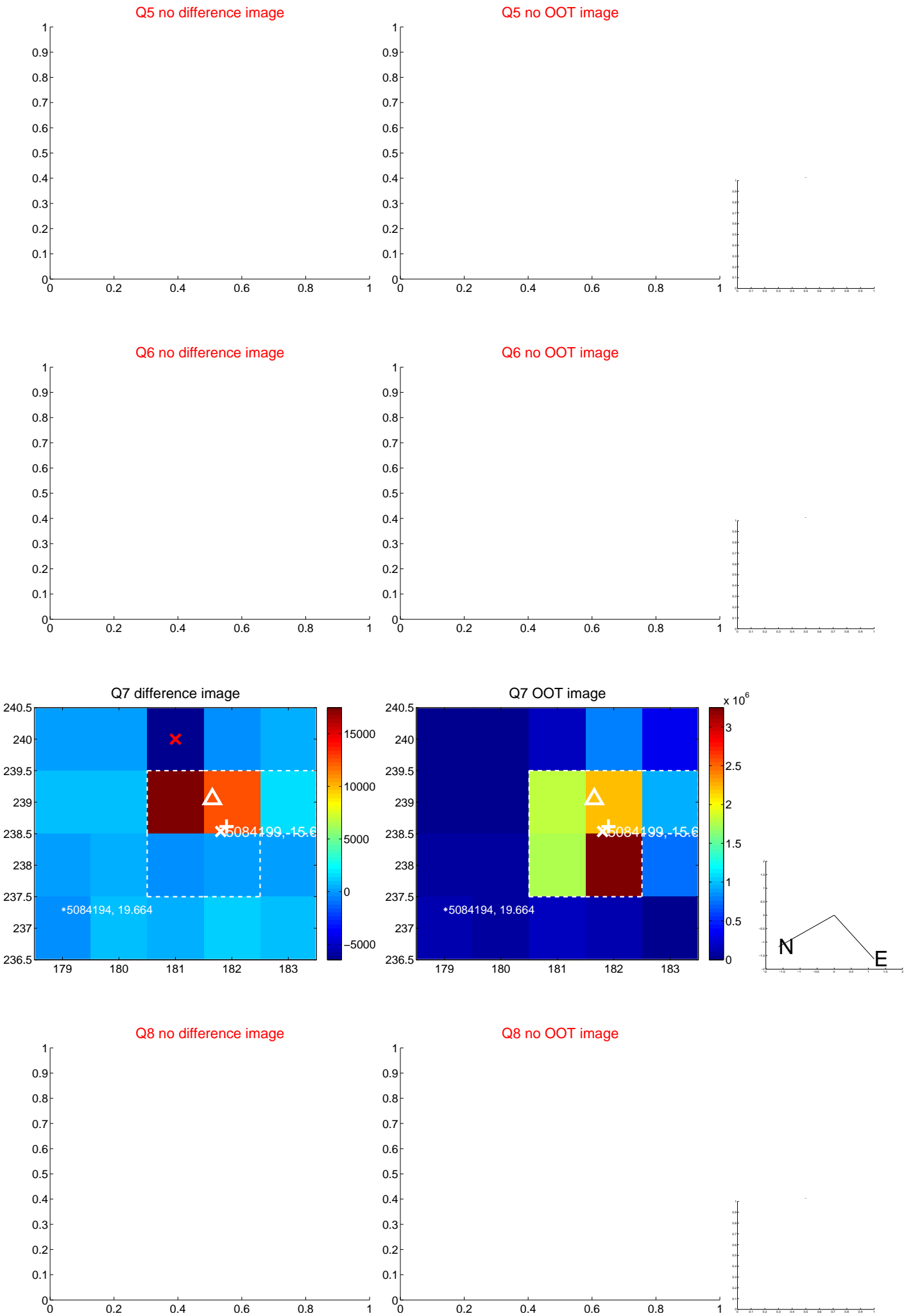


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



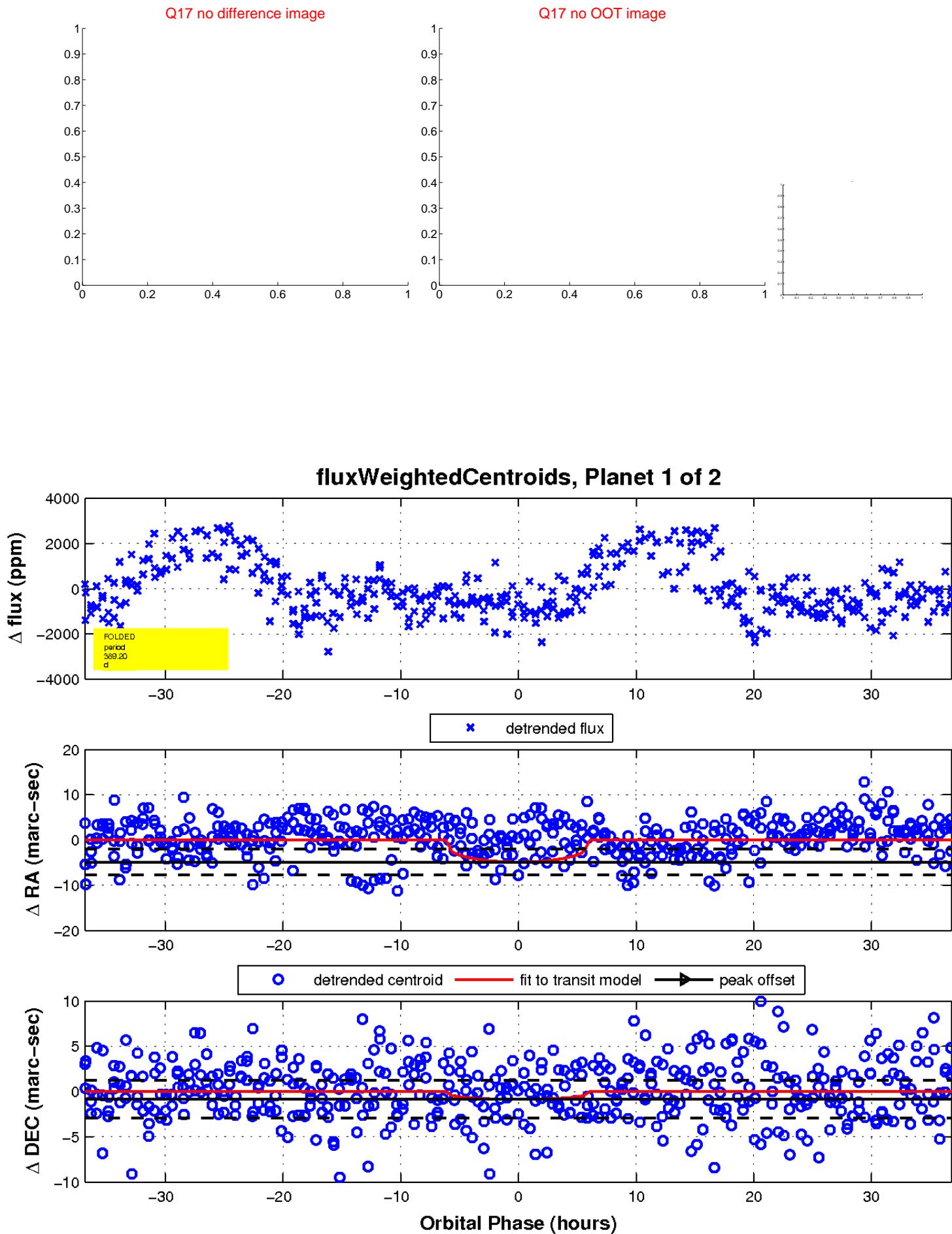
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

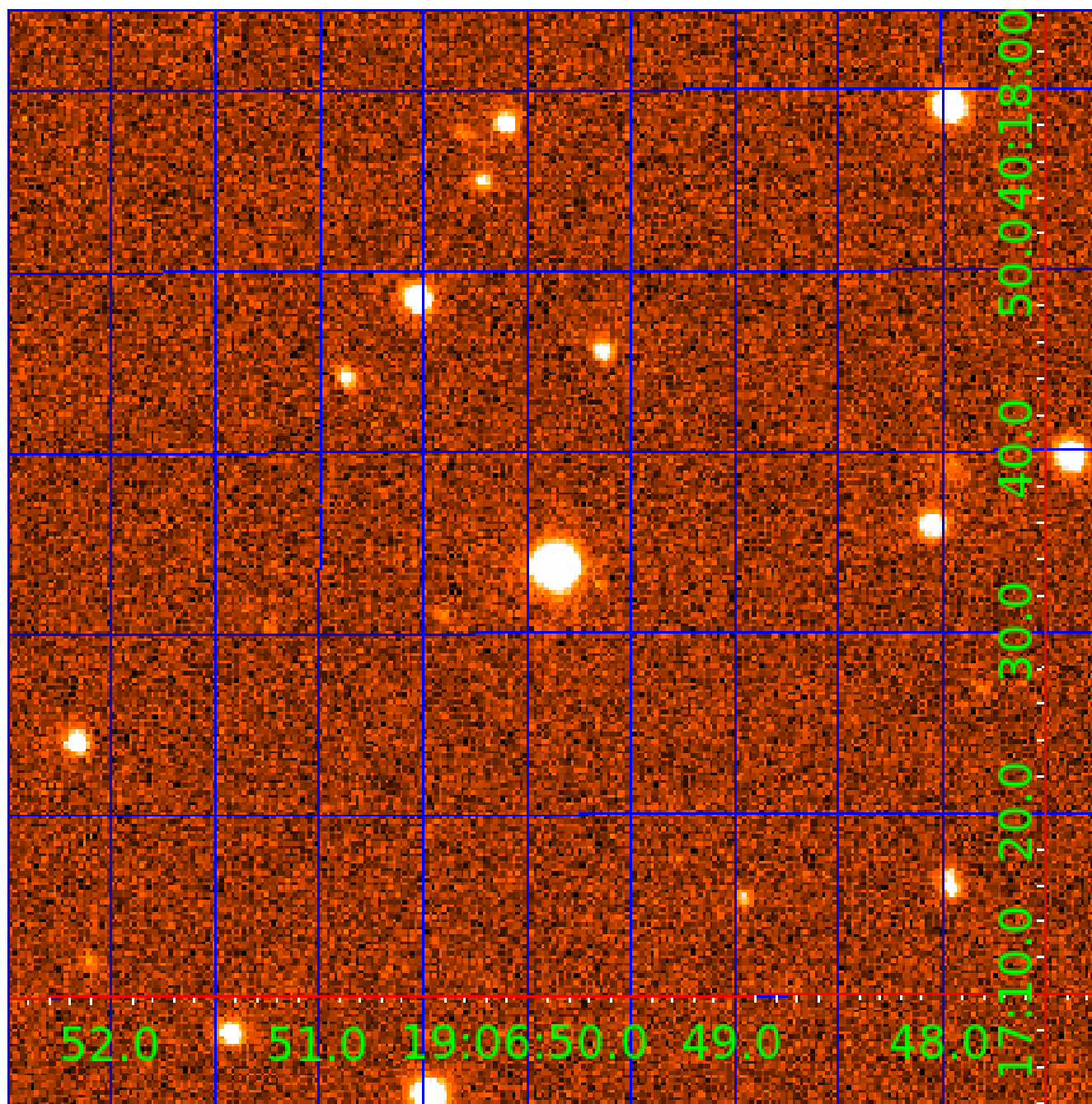


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005084199

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})
005084199-01	OBS	No	389.199014	305.378692	898.7	12.364	9.9	5.7	0.65	4458	2.01	0.17
005084199-02	OBS	No	340.678703	405.626802	684.8	4.696	8.2	5.3	0.65	4458	1.88	0.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005084199-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005084199-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_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.

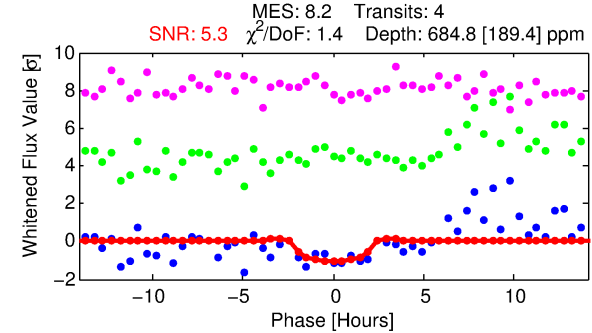
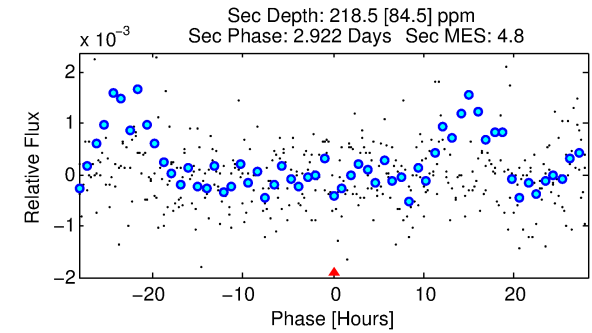
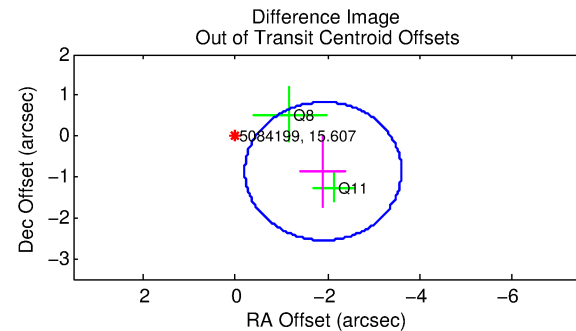
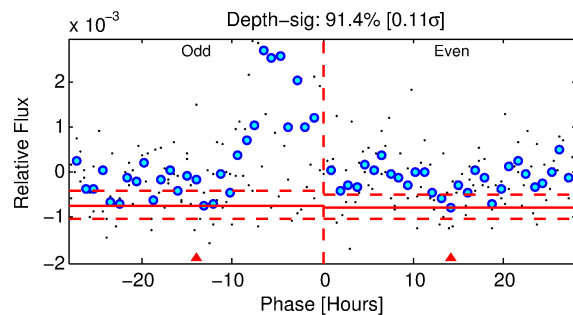
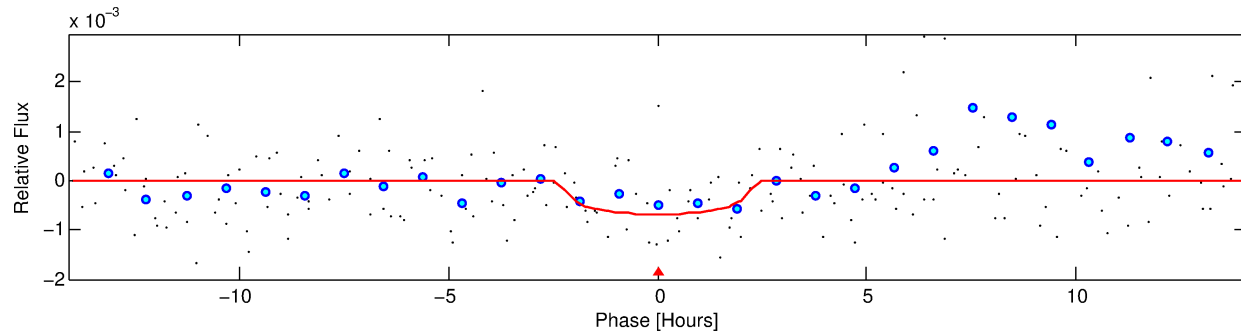
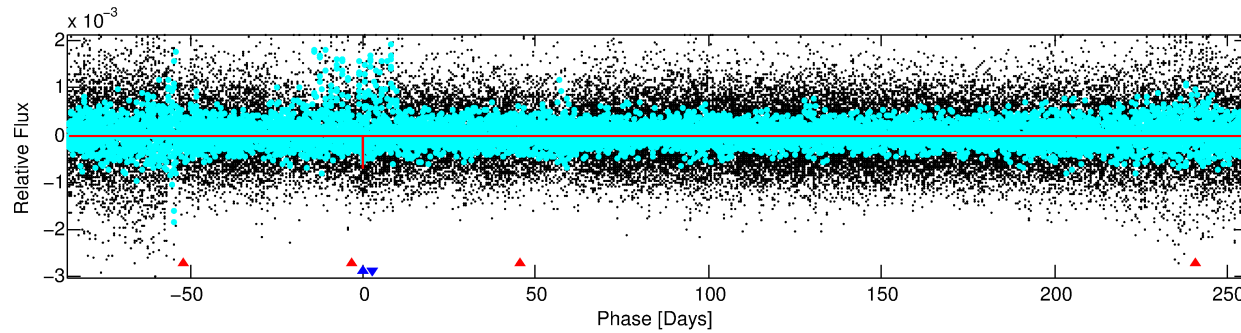
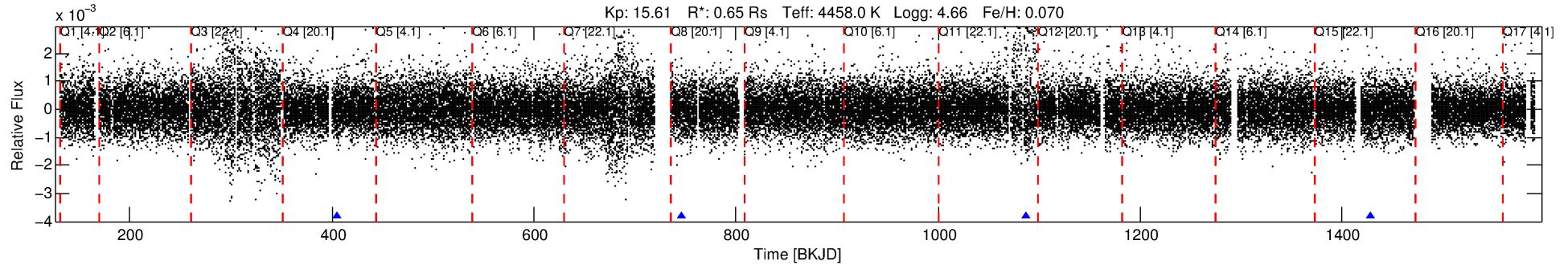
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005084199-02

No Significant Match Found

DV One-Page Summary

KIC: 5084199 Candidate: 2 of 2 Period: 340.679 d



DV Fit Results:

Period = 340.67870 [0.01141] d
Epoch = 405.6268 [0.0216] BKJD
Rp/R* = 0.0267 [0.0438]
a/R* = 370.35 [1954.37]
b = 0.78 [2.73]
Seff = 0.21 [0.03]
Teq = 172 [7] K
Rp = 1.88 [3.10] Re
a = 0.8454 [0.0681] AU
Ag = 24298.27 [80445.21] [0.30 σ]
Teffp = 3319 [2747] K [1.15 σ]

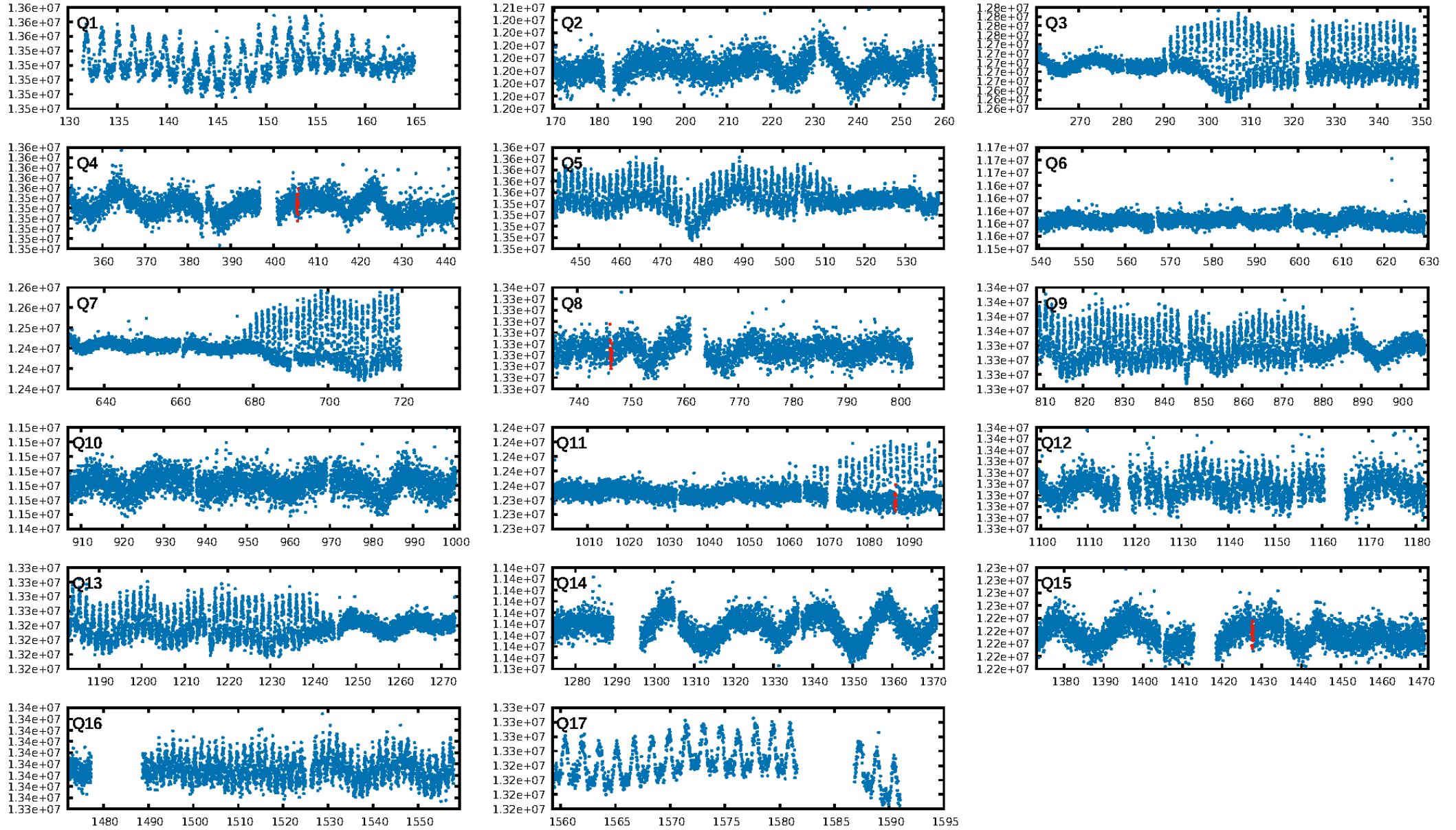
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [88.04 σ]
ModelChiSquare2-sig: 75.7%
ModelChiSquareGof-sig: 96.0%
Bootstrap-pfa: 2.63e-06
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.401
Centroid-sig: 24.3%
Centroid-so: 2.057 arcsec [0.69 σ]
OotOffset-rm: 2.092 arcsec [3.71 σ]
KicOffset-rm: 2.408 arcsec [3.28 σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [4/4]

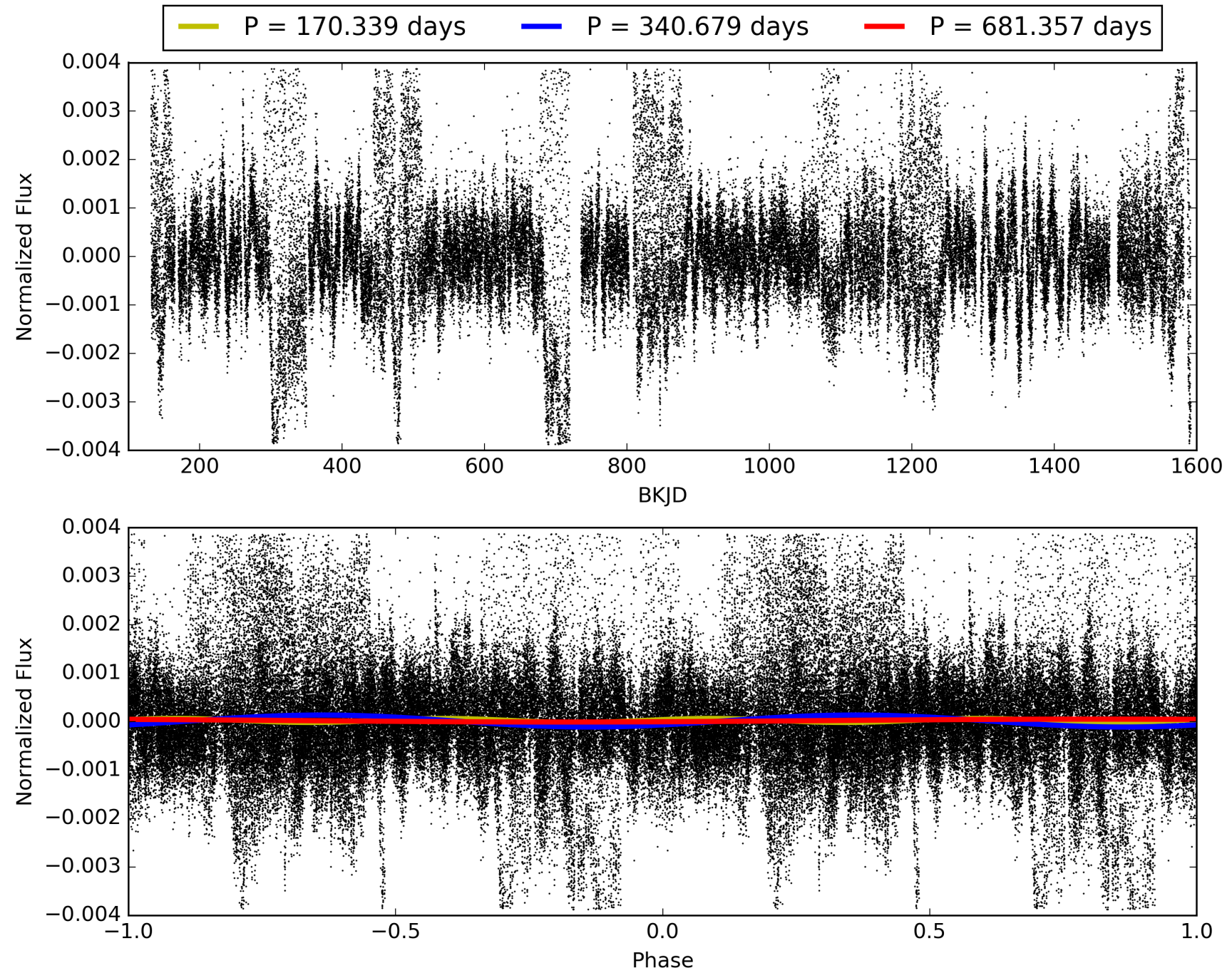
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 11:52:09 Z

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

TCE 005084199-02, PDC Light Curves

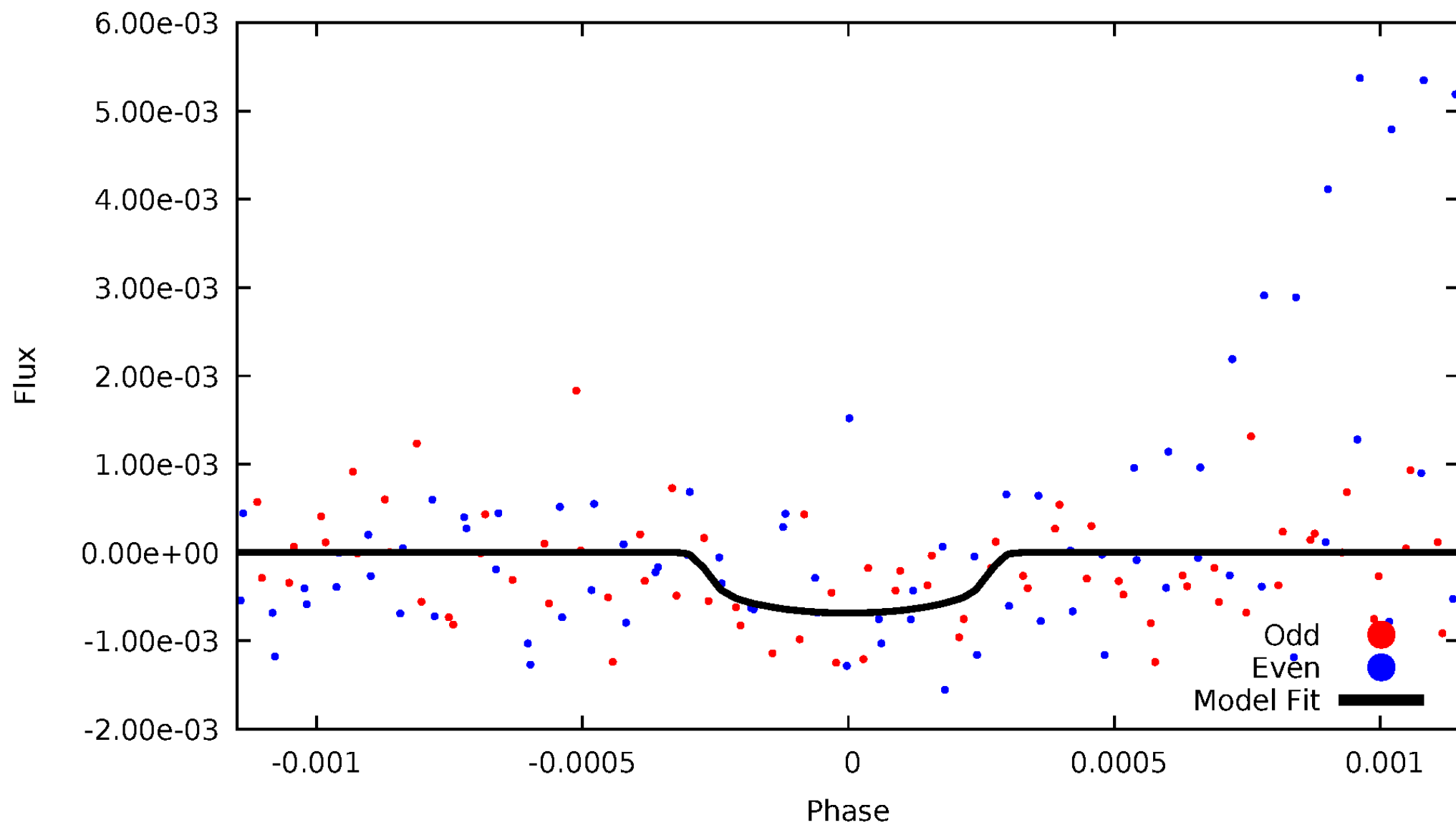


TCE 005084199-02



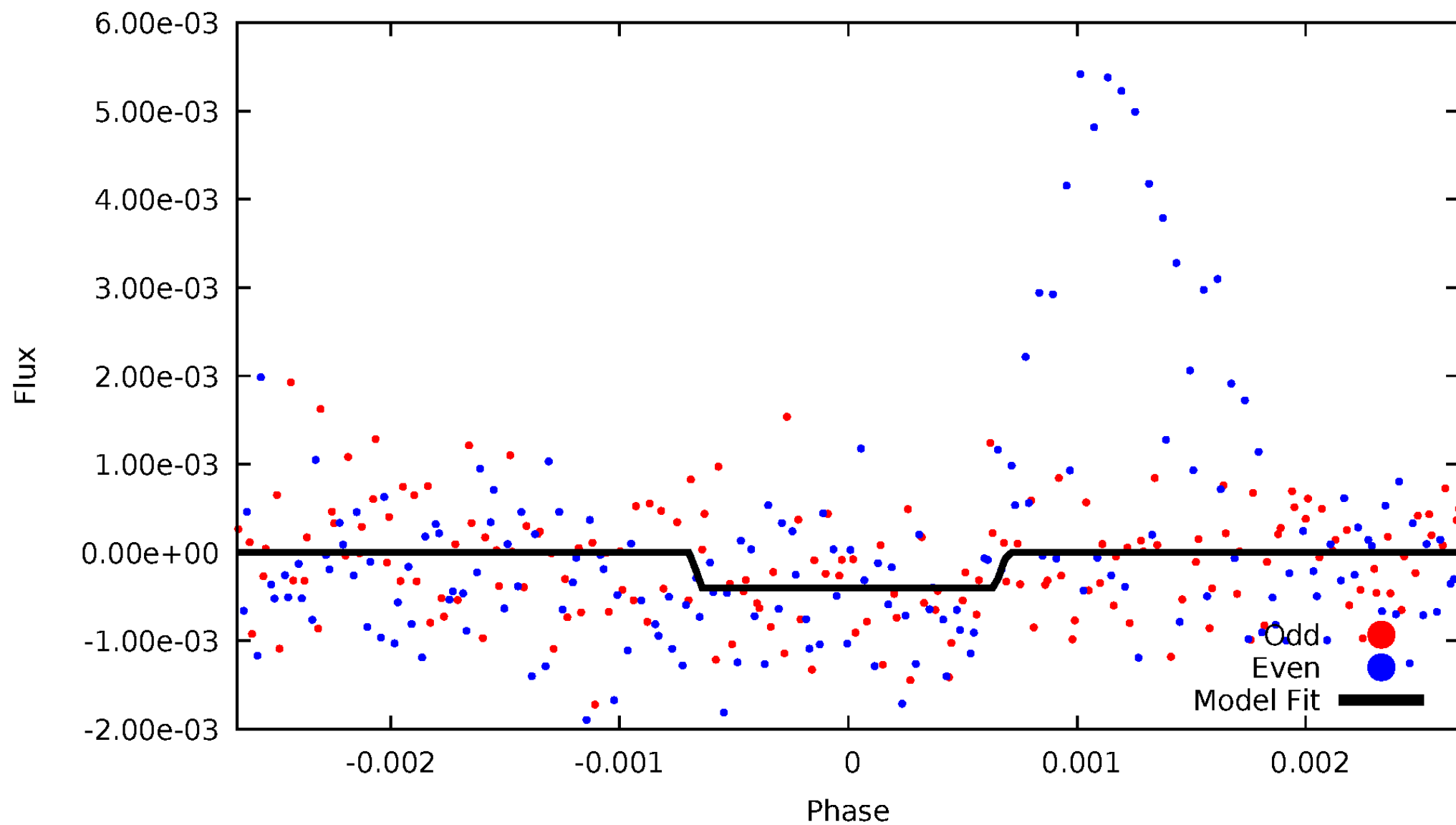
DV Odd/Even

TCE 005084199-02



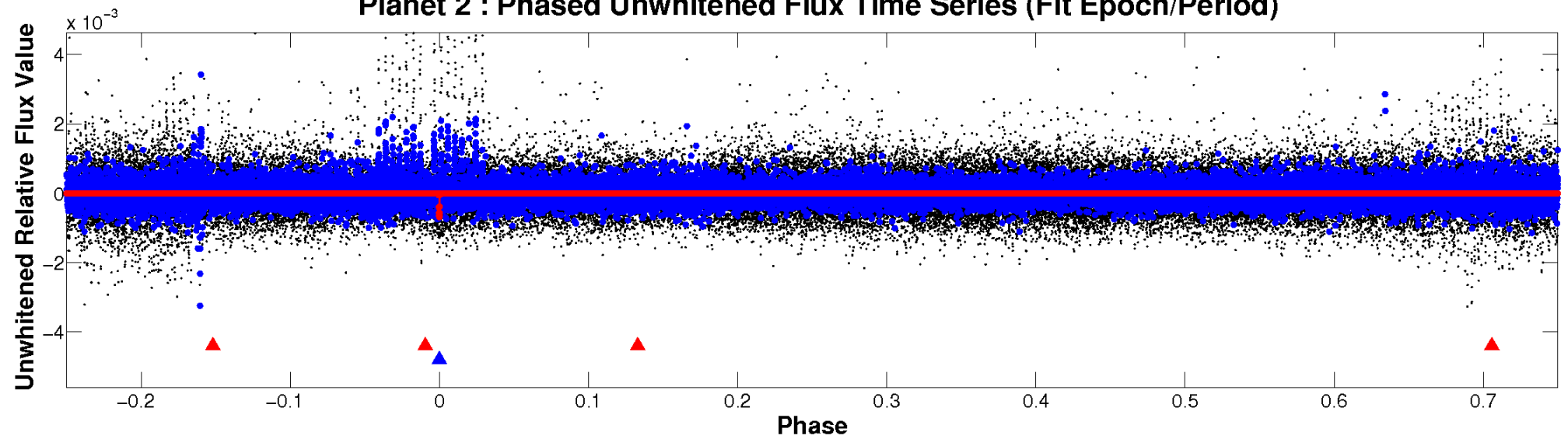
ALT Odd/Even

TCE 005084199-02

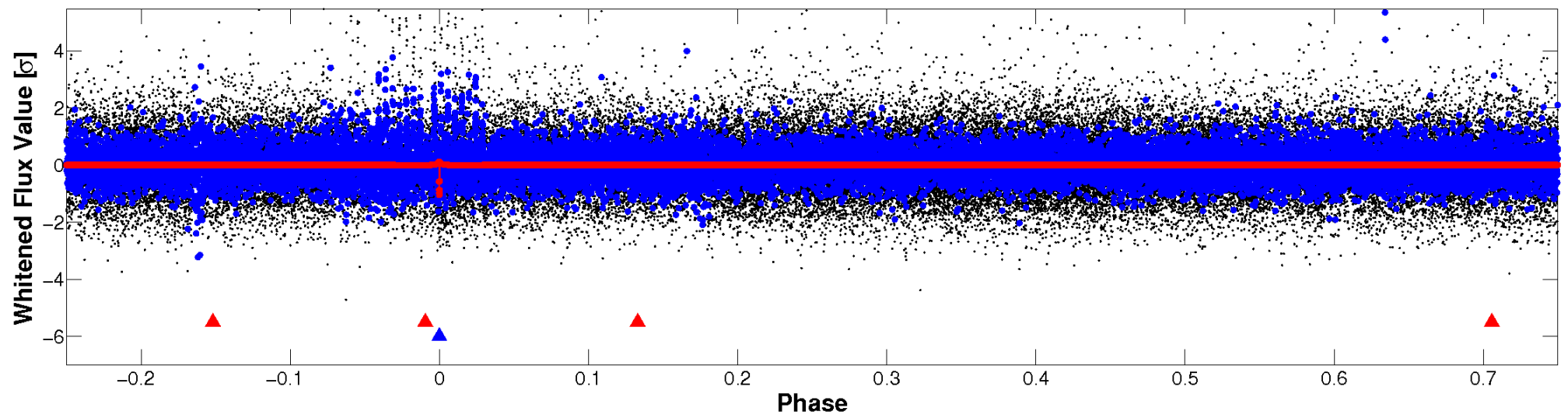


Non-Whitened Vs. Whitened Light Curve

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

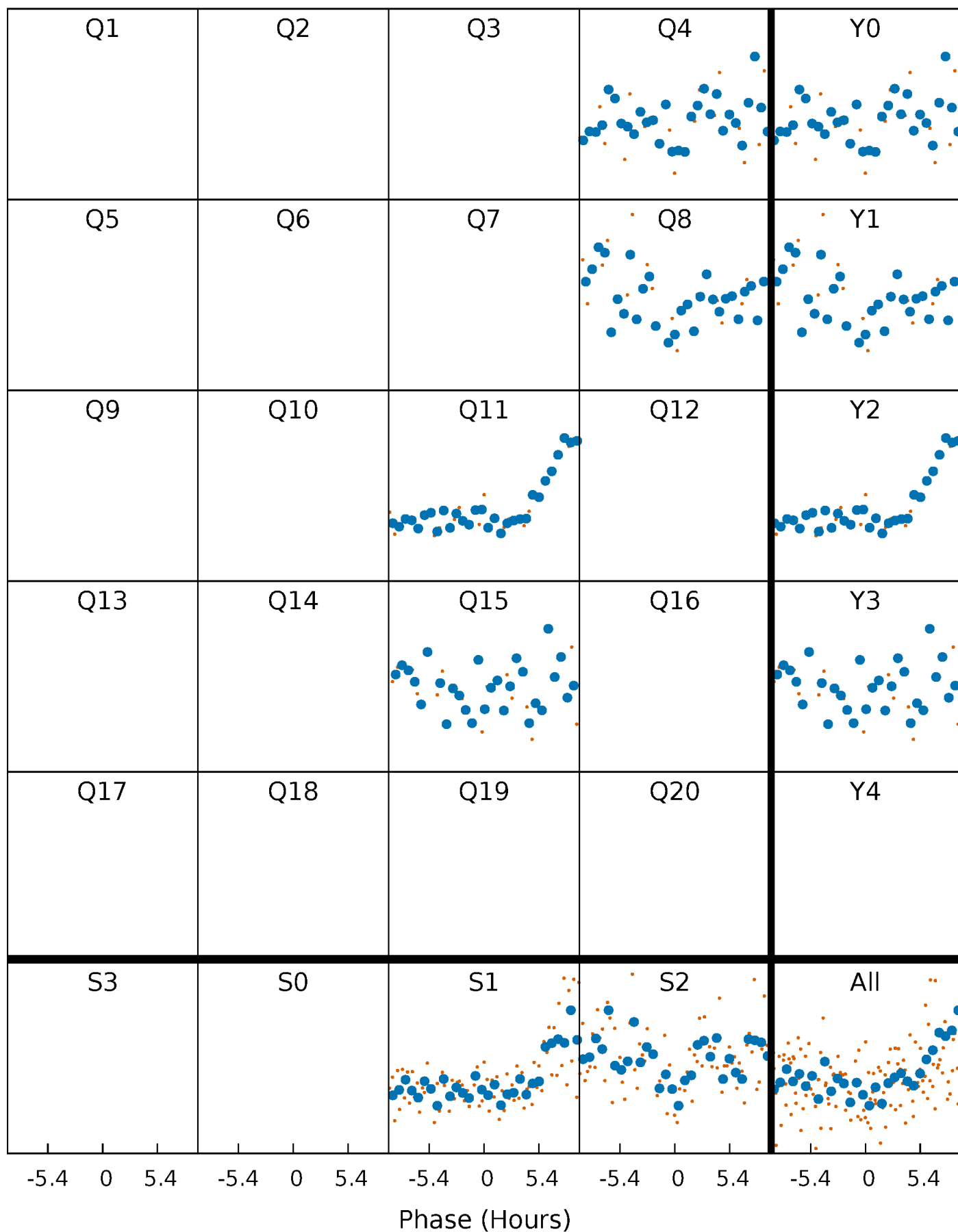


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 005084199-02 P=340.678703 Days $T_0=405.626802$ (BKJD)



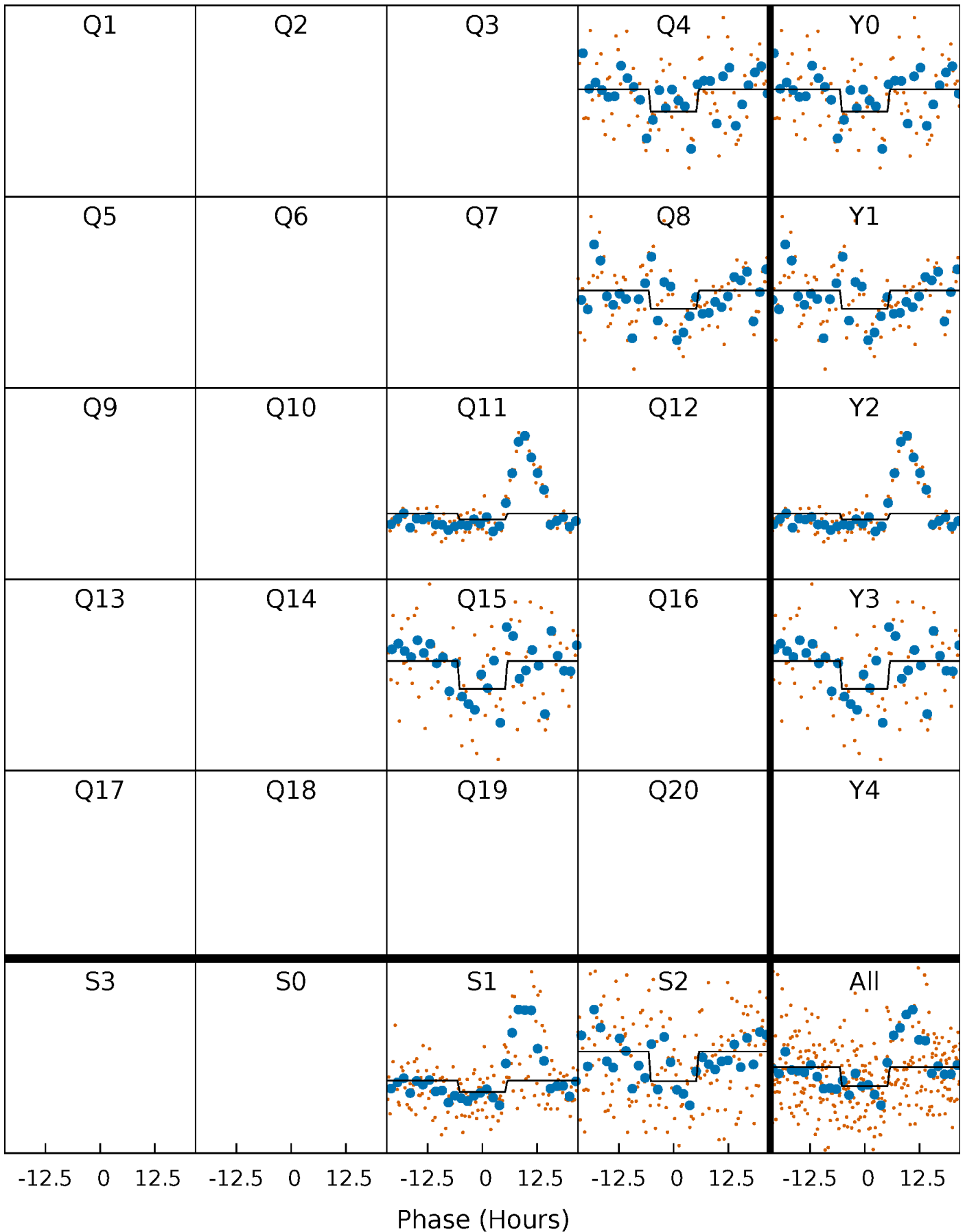
DV Quarter-Phased Transit Curves

TCE 005084199-02 $P=340.678703$ Days $T_0=405.626802$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

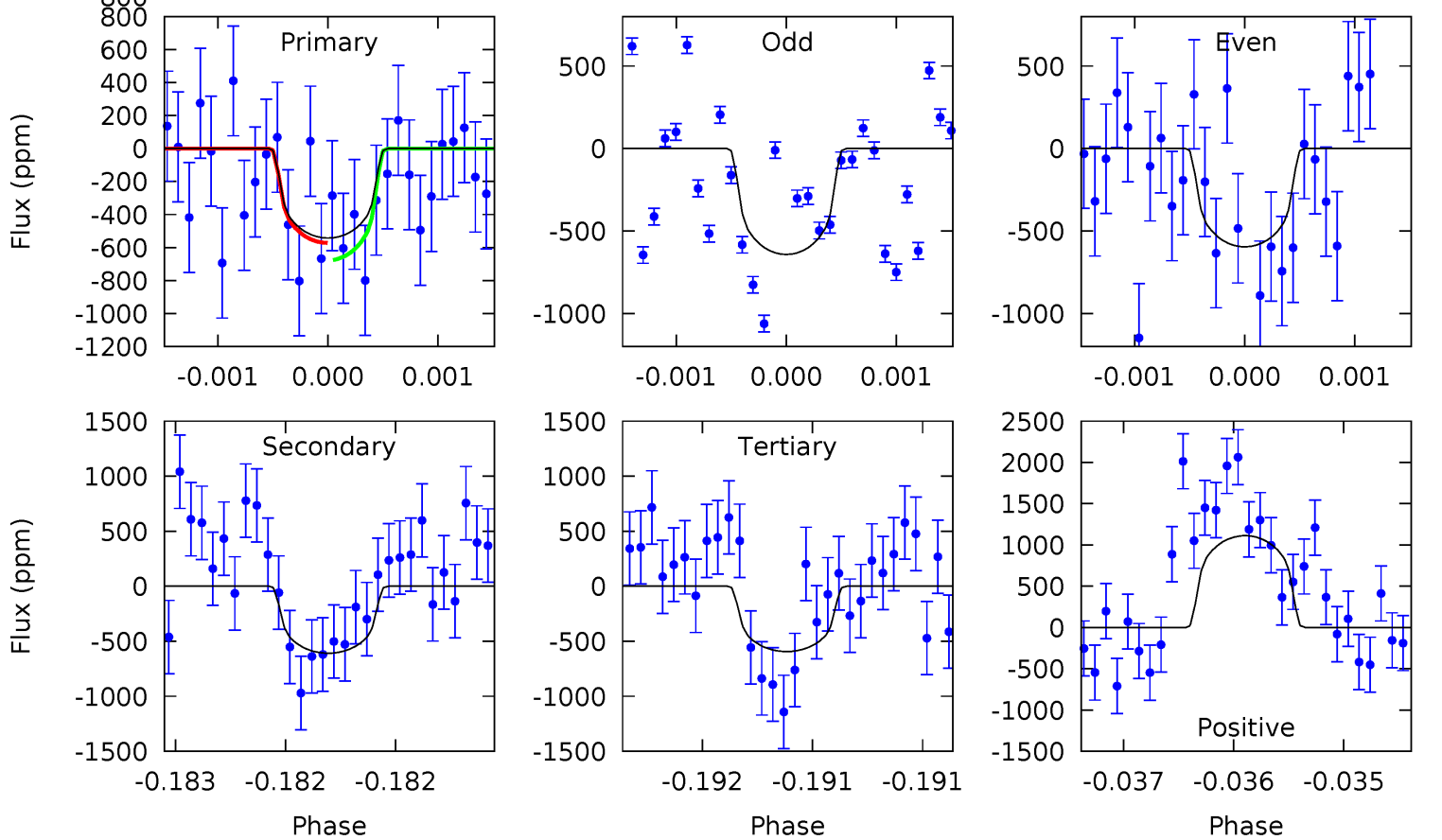
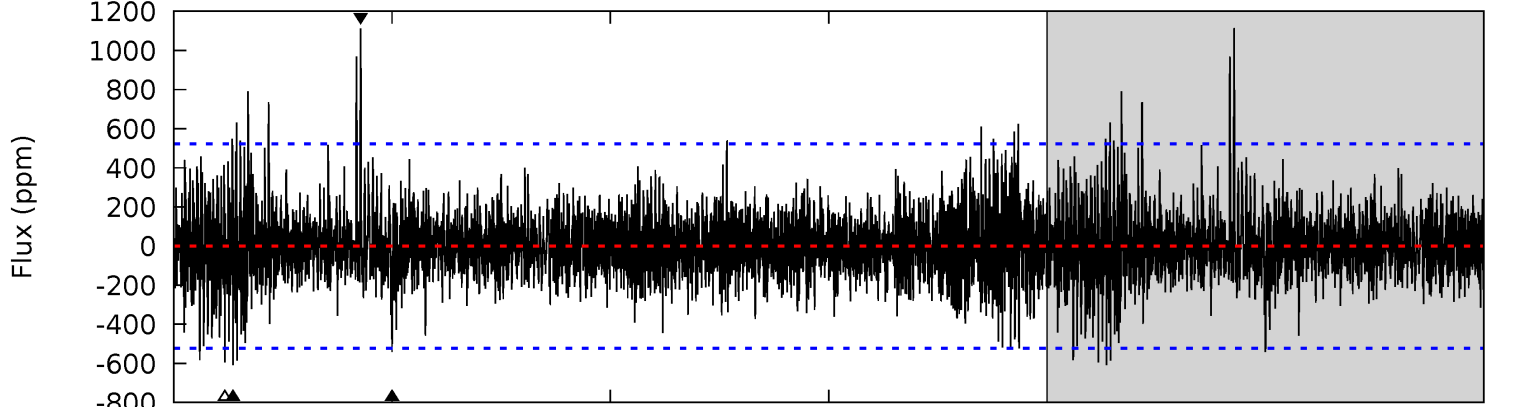
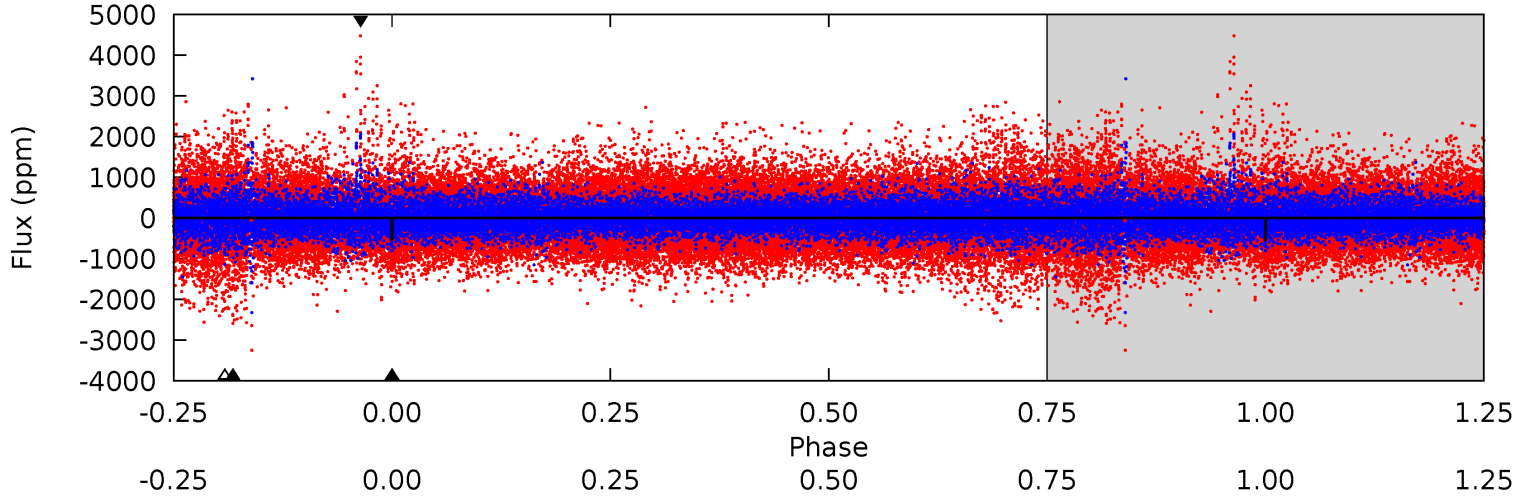
TCE 005084199-02 $P=340.743235$ Days $T_0=405.479633$ (BKJD)



DV Model-Shift Uniqueness Test

005084199-02, P = 340.678703 Days, E = 64.948099 Days

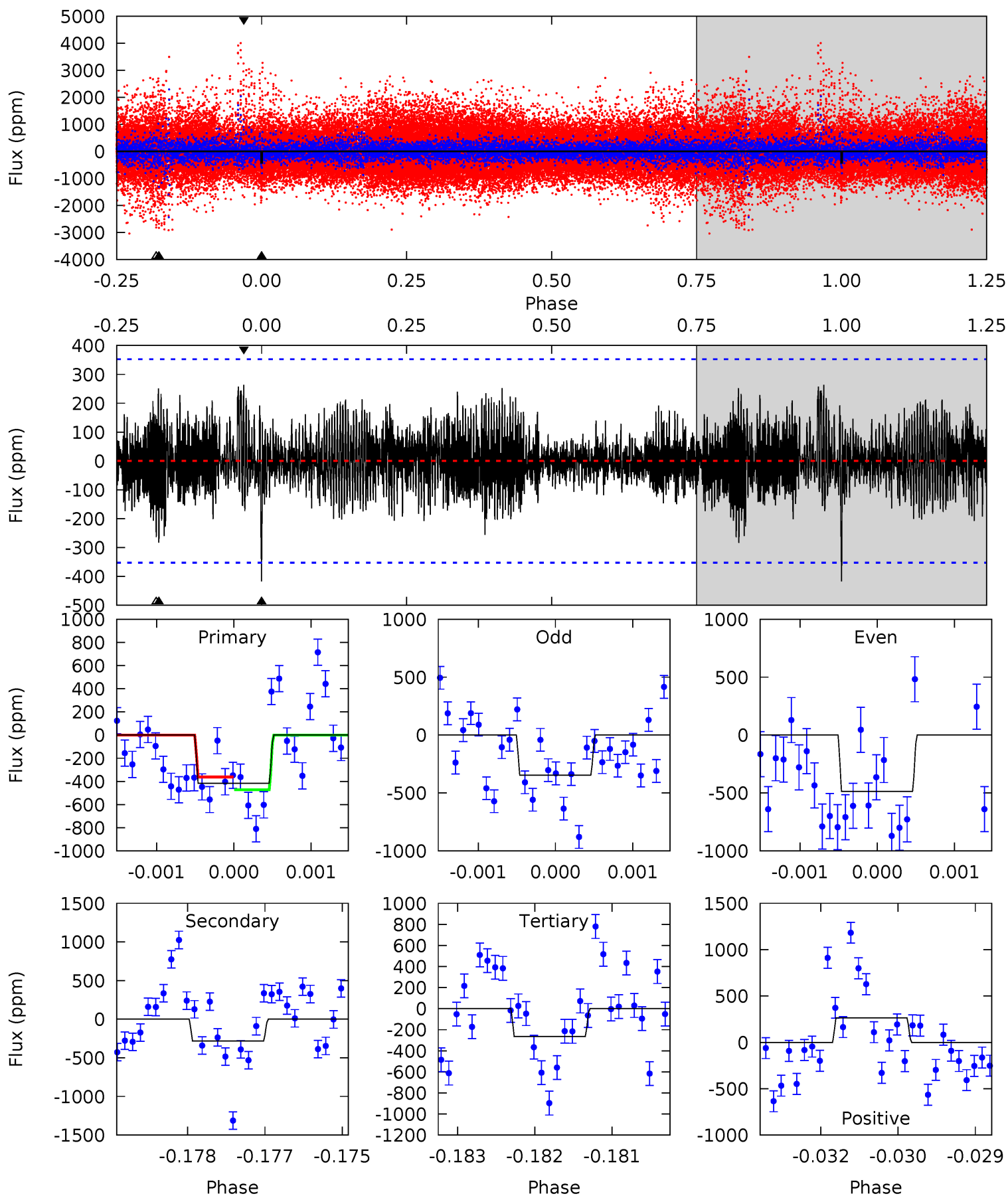
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.76	6.46	6.30	11.8	5.54	3.43	1.58	-0.54	-6.05	0.16	-5.35	0.23	1.09	0.65	0.53



Alt Model-Shift Uniqueness Test

005084199-02, P = 340.743235 Days, E = 64.736398 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.38	4.33	4.04	4.02	5.39	3.20	1.15	2.33	2.35	0.29	0.31	1.02	1.14	0.39	0.85



Stellar Parameters For KIC 005084199

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4458^{+121}_{-121}	$4.659^{+0.021}_{-0.056}$	$0.070^{+0.300}_{-0.300}$	$0.646^{+0.066}_{-0.038}$	$0.719^{+0.042}_{-0.063}$	$3.752^{+0.407}_{-0.801}$
	+3%/-3%	+0%/-1%	+429%/-429%	+10%/-6%	+6%/-9%	+11%/-21%
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 005084199-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-609 ± 94	$3.14^{+2.78}_{-2.01}$	242^{+8}_{-8}	3652^{+1686}_{-675}	$24306^{+152853}_{-17909}$
Alt.	-283 ± 65	$2.64^{+2.69}_{-1.66}$	242^{+8}_{-8}	3412^{+1500}_{-638}	$15937^{+108251}_{-12115}$

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

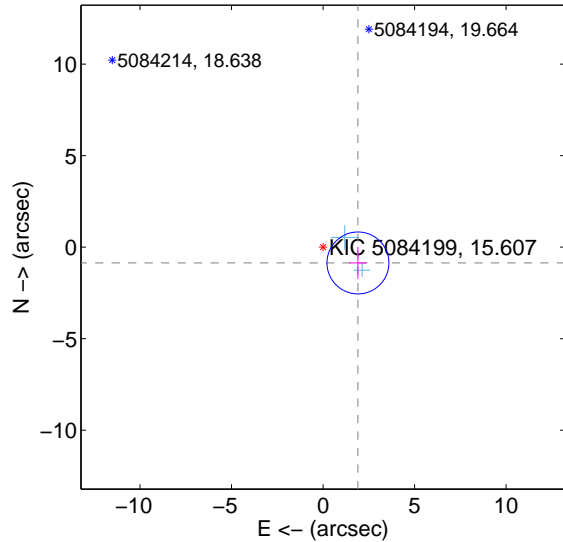
Supplemental centroid analysis for 005084199-02. Kepler magnitude: 15.61. Transit SNR 5.27

There are 2 quarters with good PRF difference image offsets

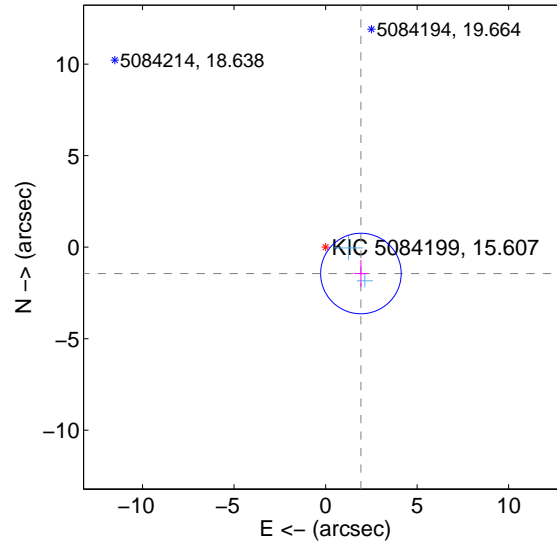
The direct PRF centroid is offset from the target star catalog position by about 0.58 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.092 ± 0.564	3.71	-1.907 ± 0.476	-0.862 ± 0.873
PRF-fit source offset from KIC position	2.408 ± 0.733	3.28	-1.930 ± 0.369	-1.439 ± 0.738
photometric centroid source offset	2.06 ± 2.99	0.69	0.87 ± 2.95	1.86 ± 2.99

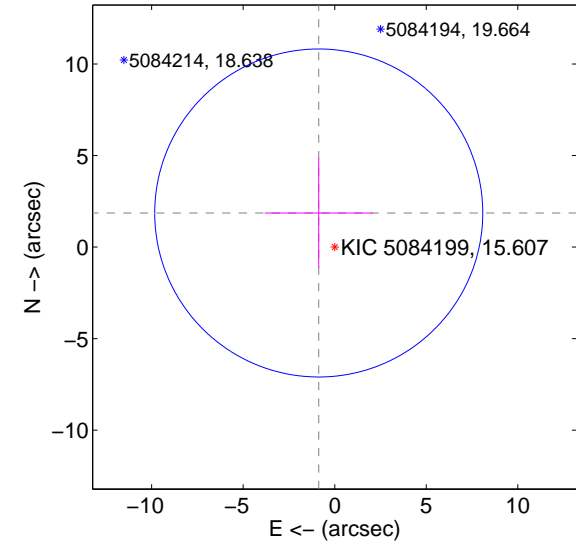
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

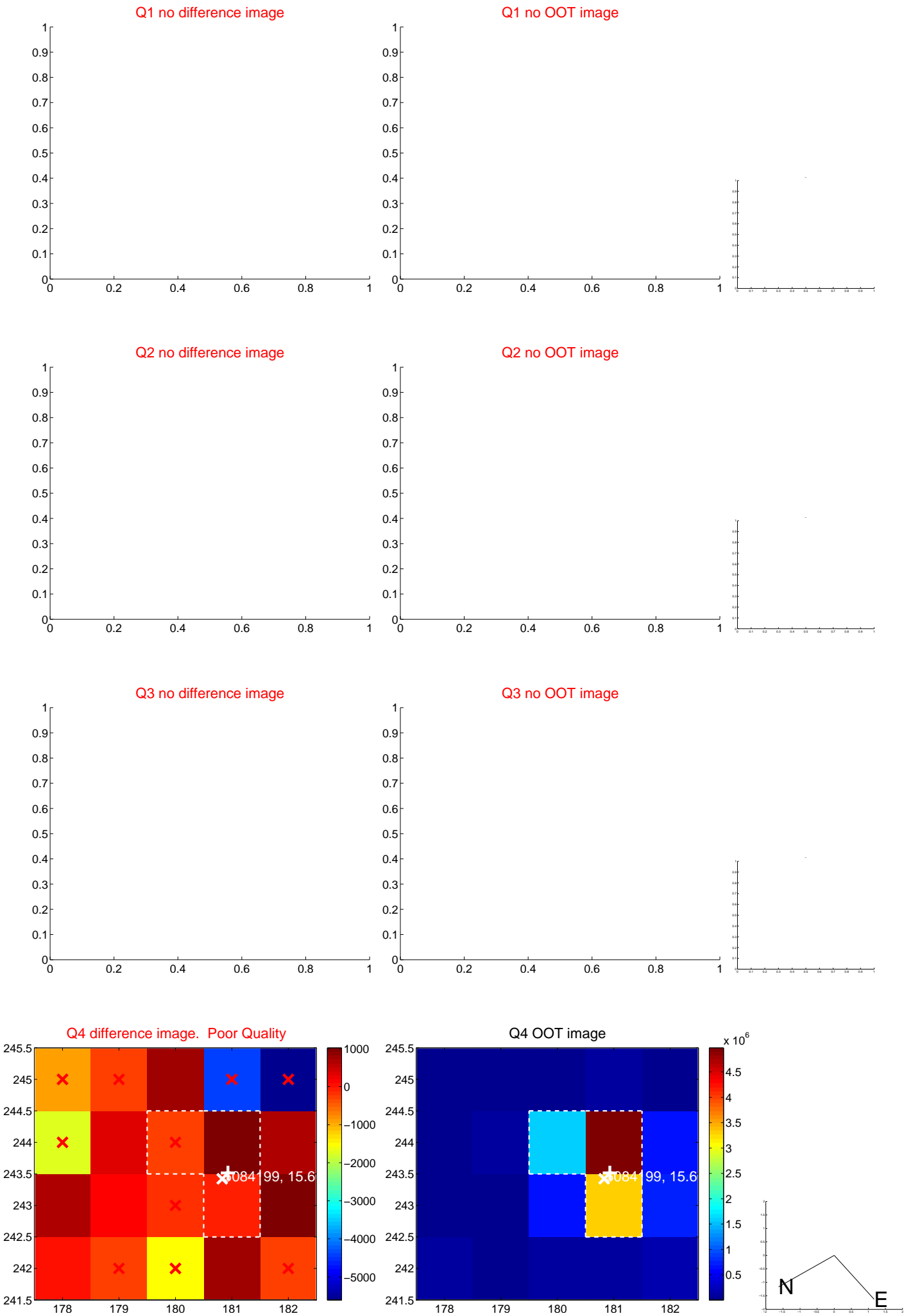


offset from photometric centroids

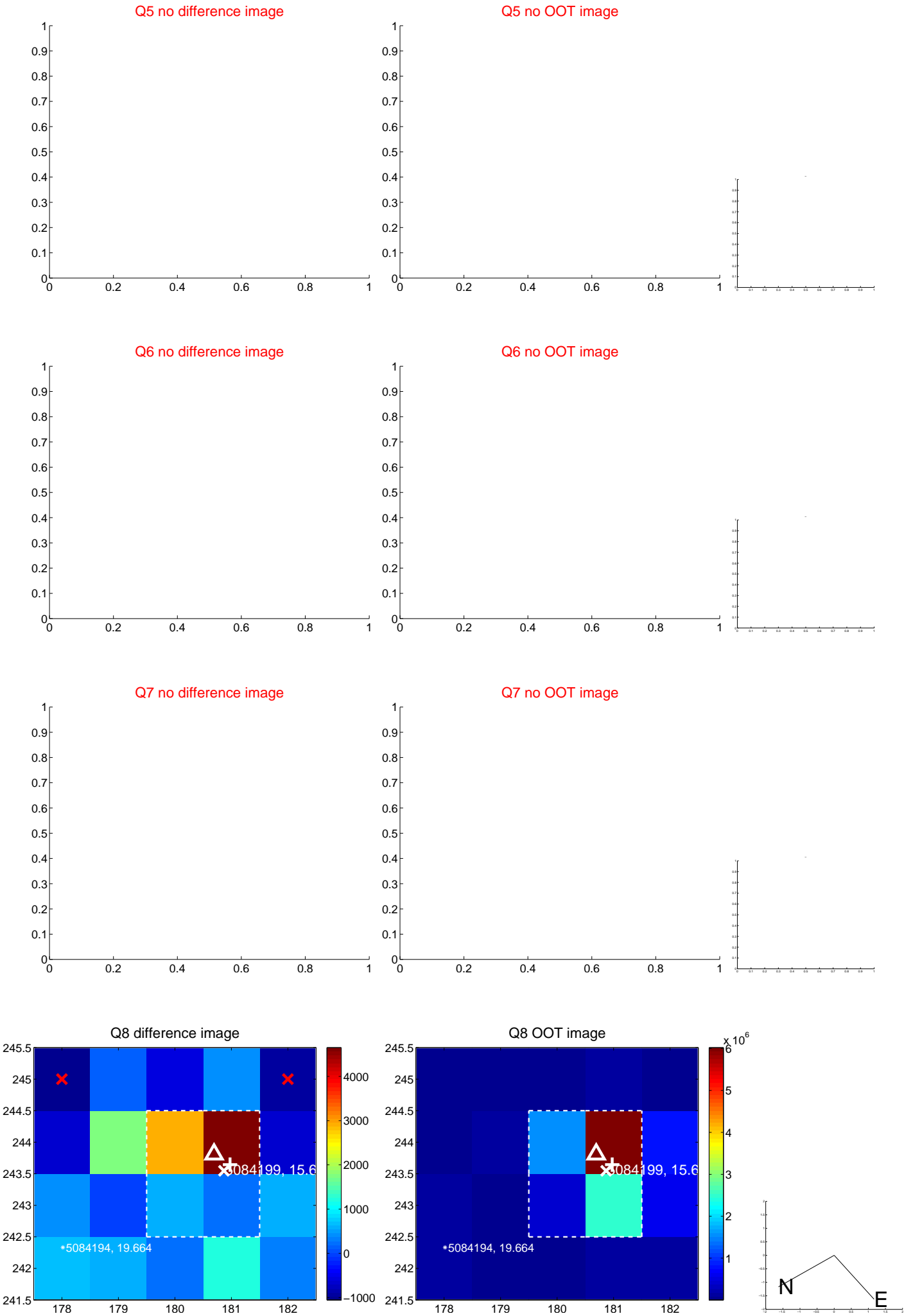


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

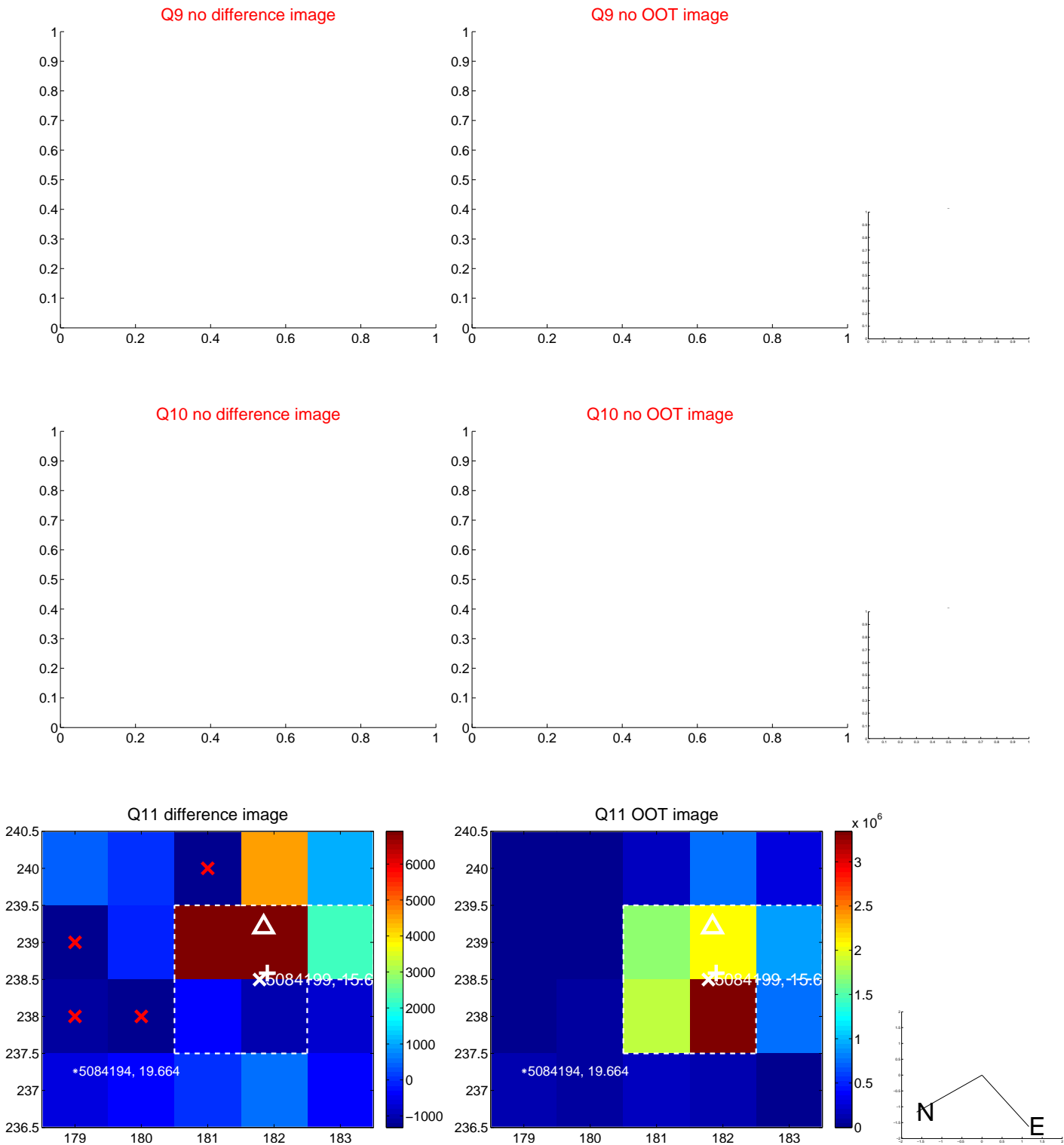
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



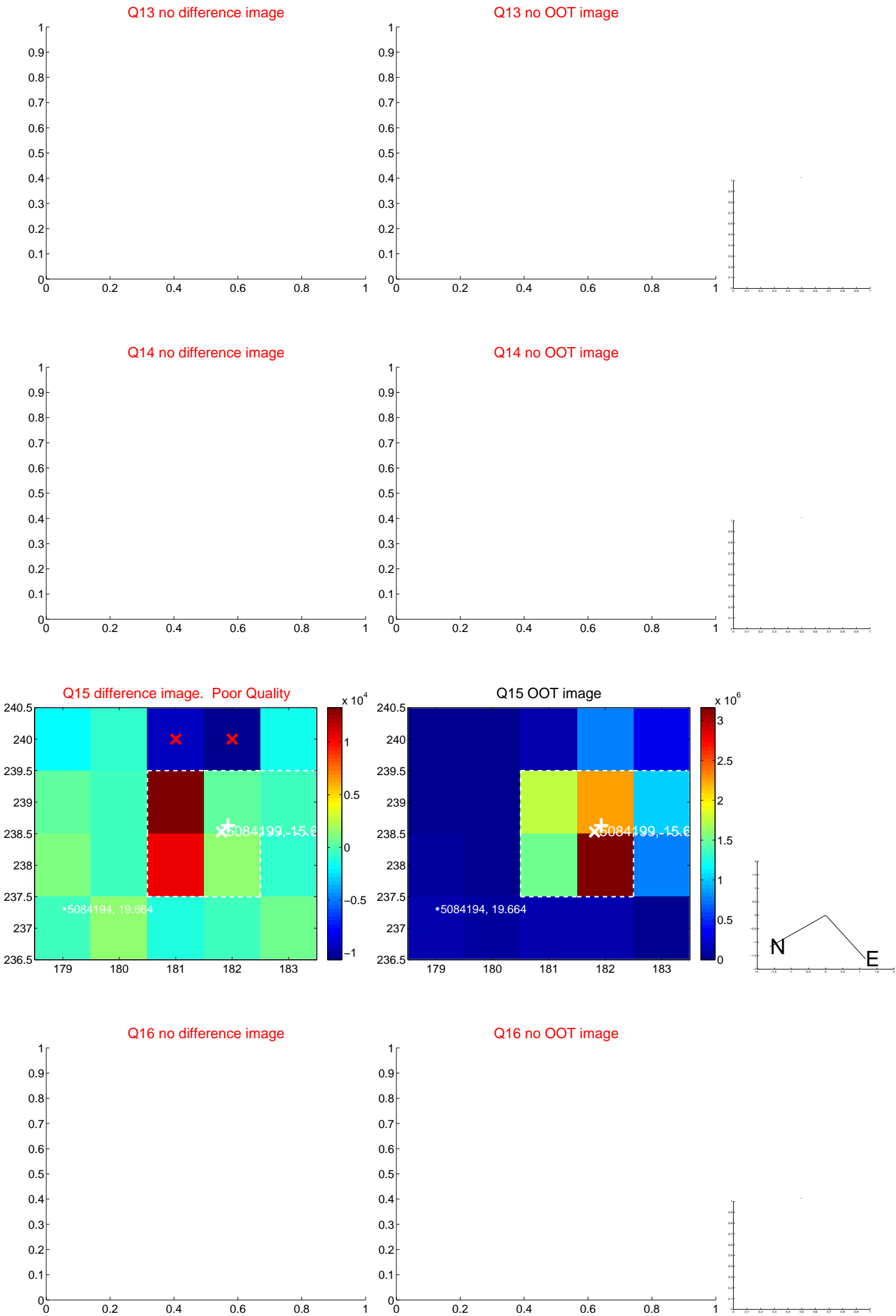
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



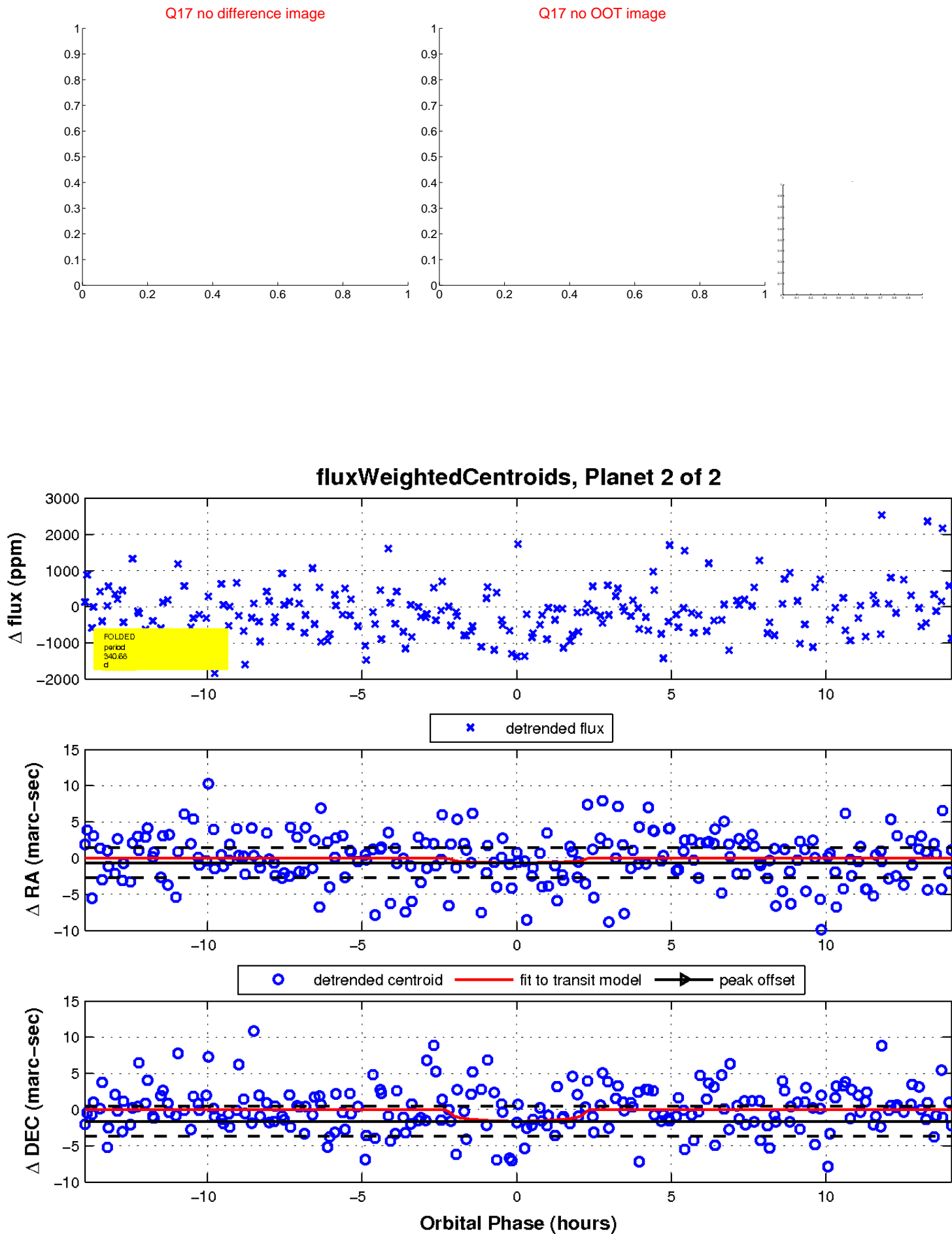
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: 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

