

KIC 008573459

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})
008573459-01	OBS	No	1.061987	131.562975	15.3	4.186	9.0	8.7	5.02	6578	2.16	63847.52
008573459-02	OBS	No	337.141056	148.165851	256.1	3.015	7.4	7.9	5.02	6578	8.61	29.48
008573459-03	OBS	No	1.060506	132.299456	8.7	0.963	9.2	2.2	5.02	6578	1.70	63966.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008573459-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT
008573459-02	OBS	FP	0.00	1	0	0	0	LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008573459-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_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.

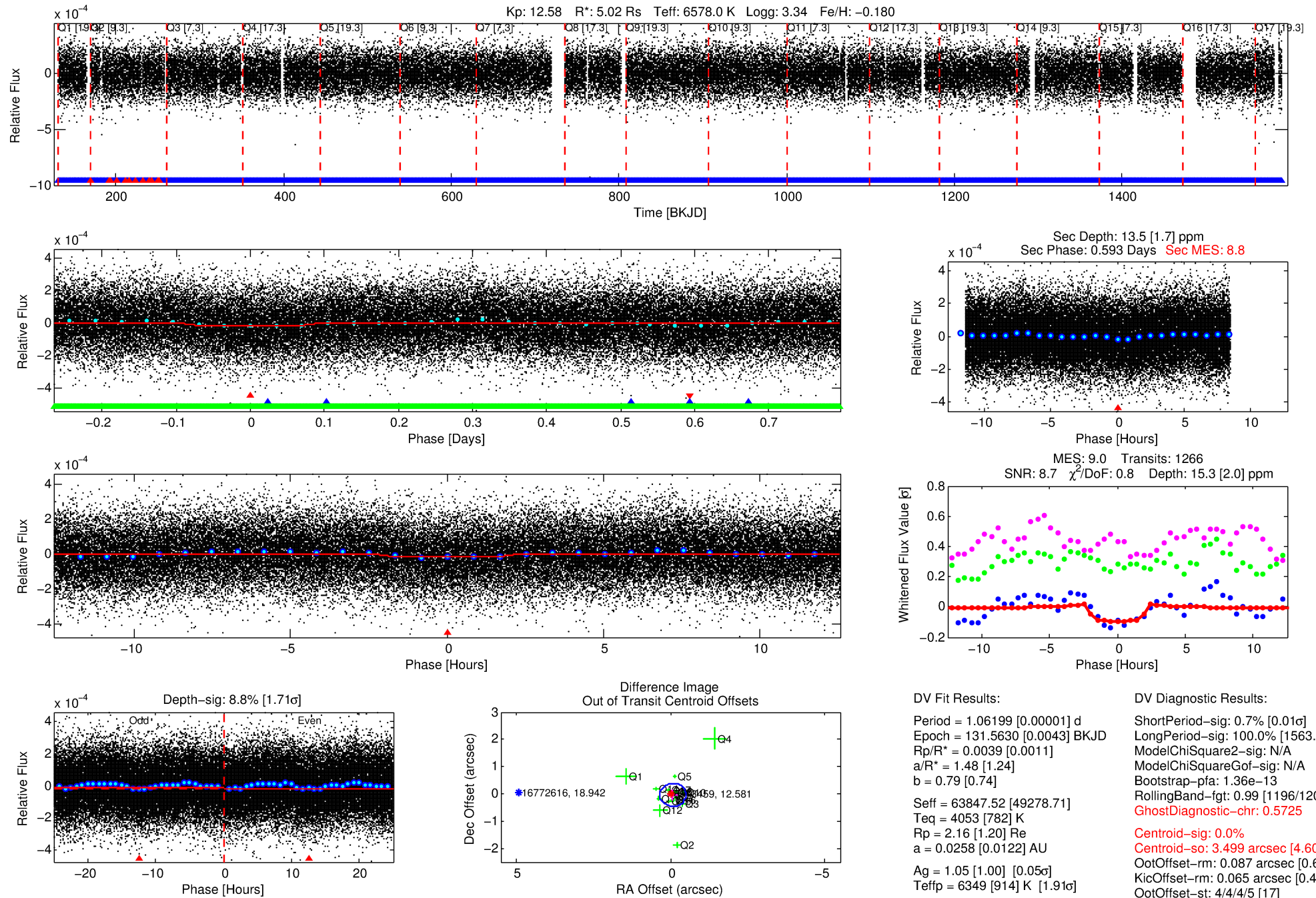
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008573459-01

No Significant Match Found

DV One-Page Summary

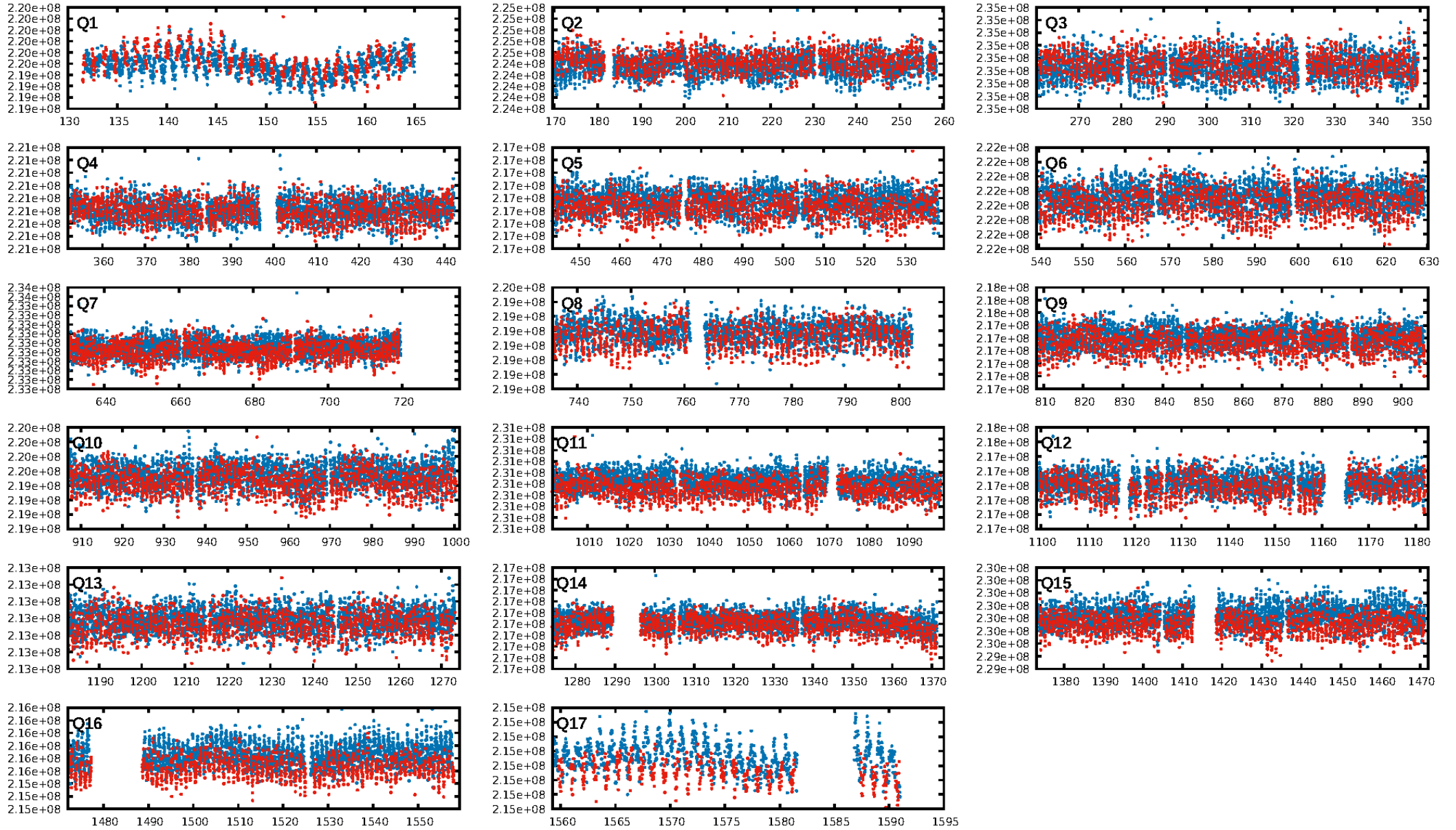
KIC: 8573459 Candidate: 1 of 3 Period: 1.062 d



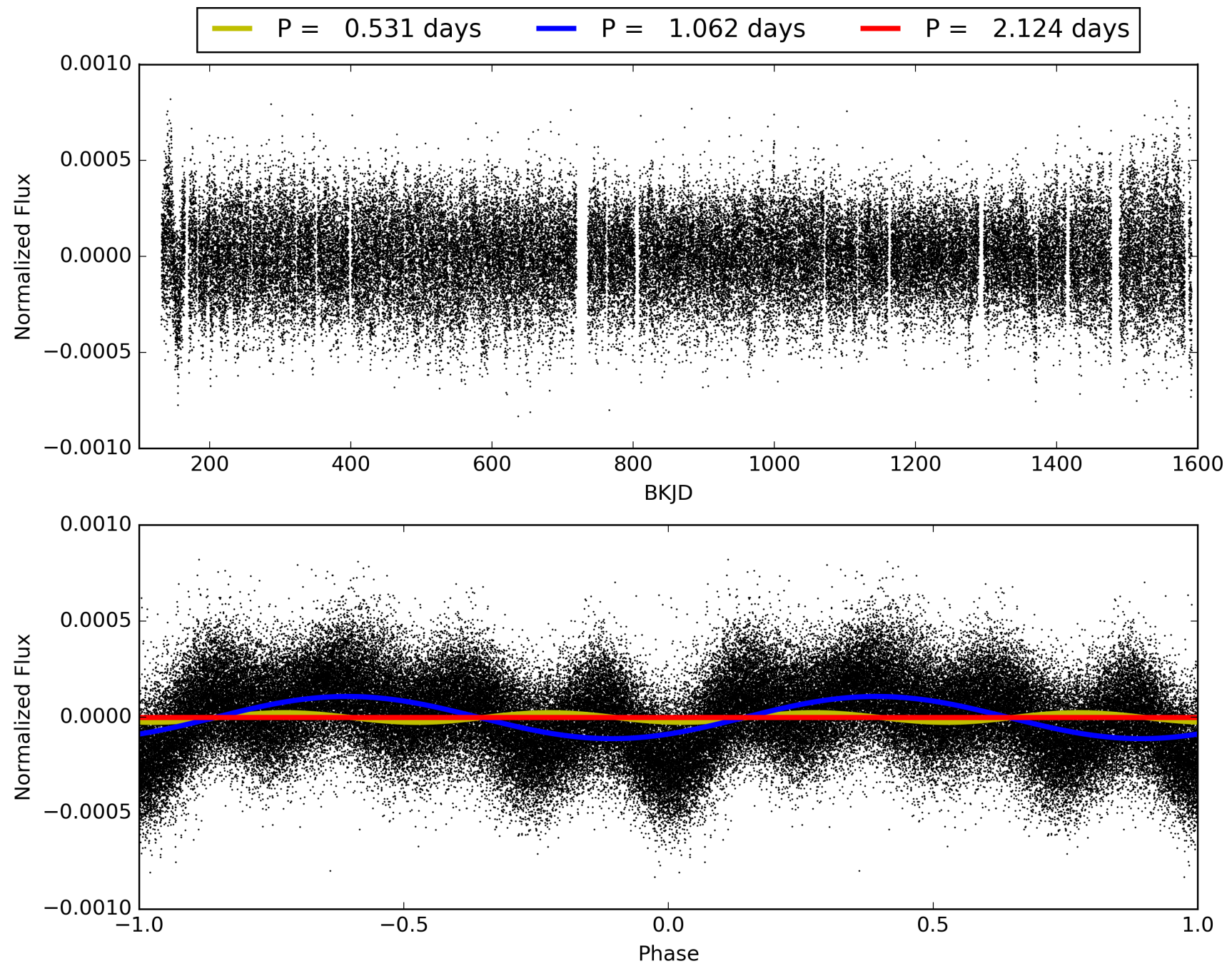
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:30:49 Z

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

TCE 008573459-01, PDC Light Curves

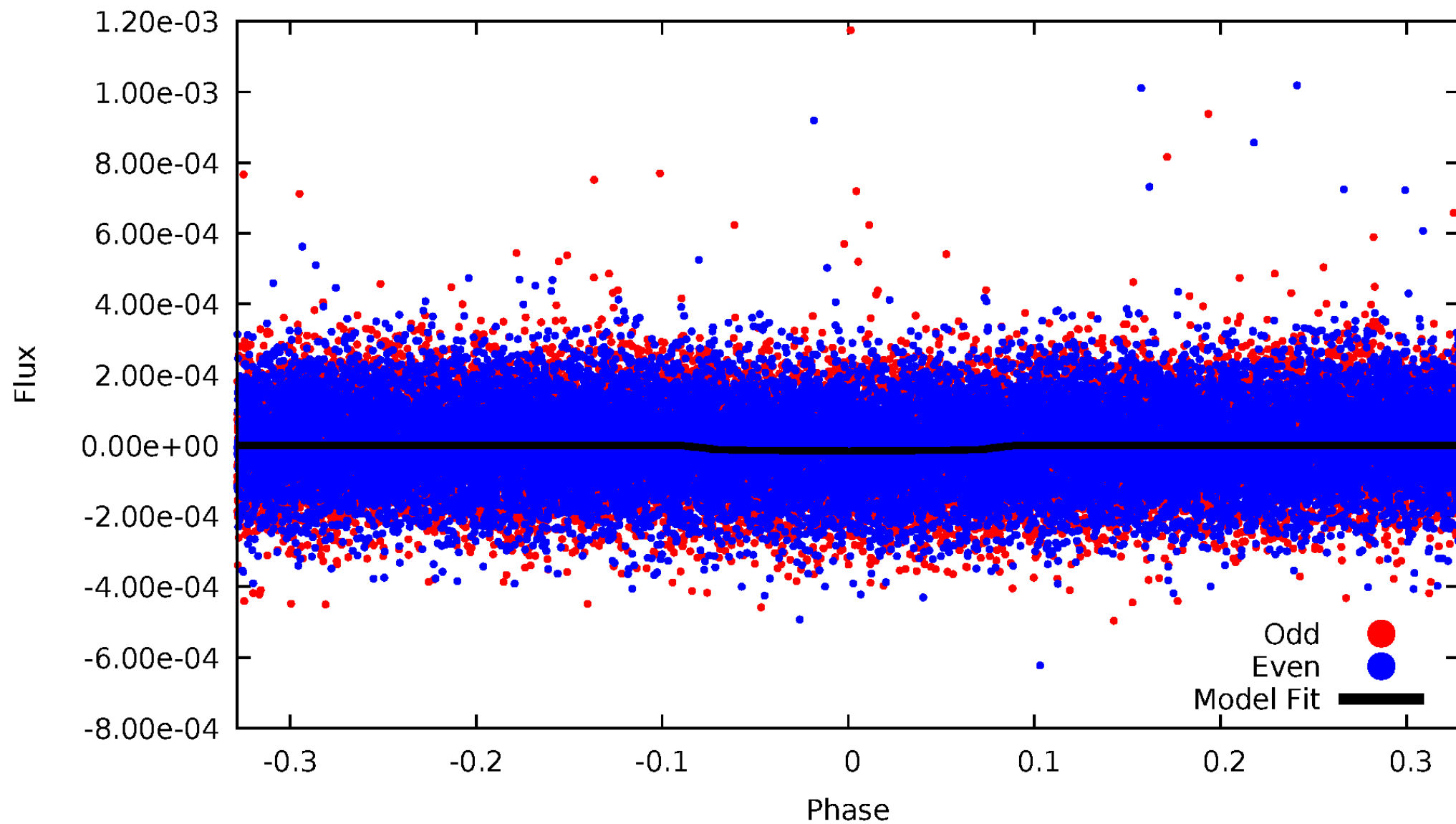


TCE 008573459-01



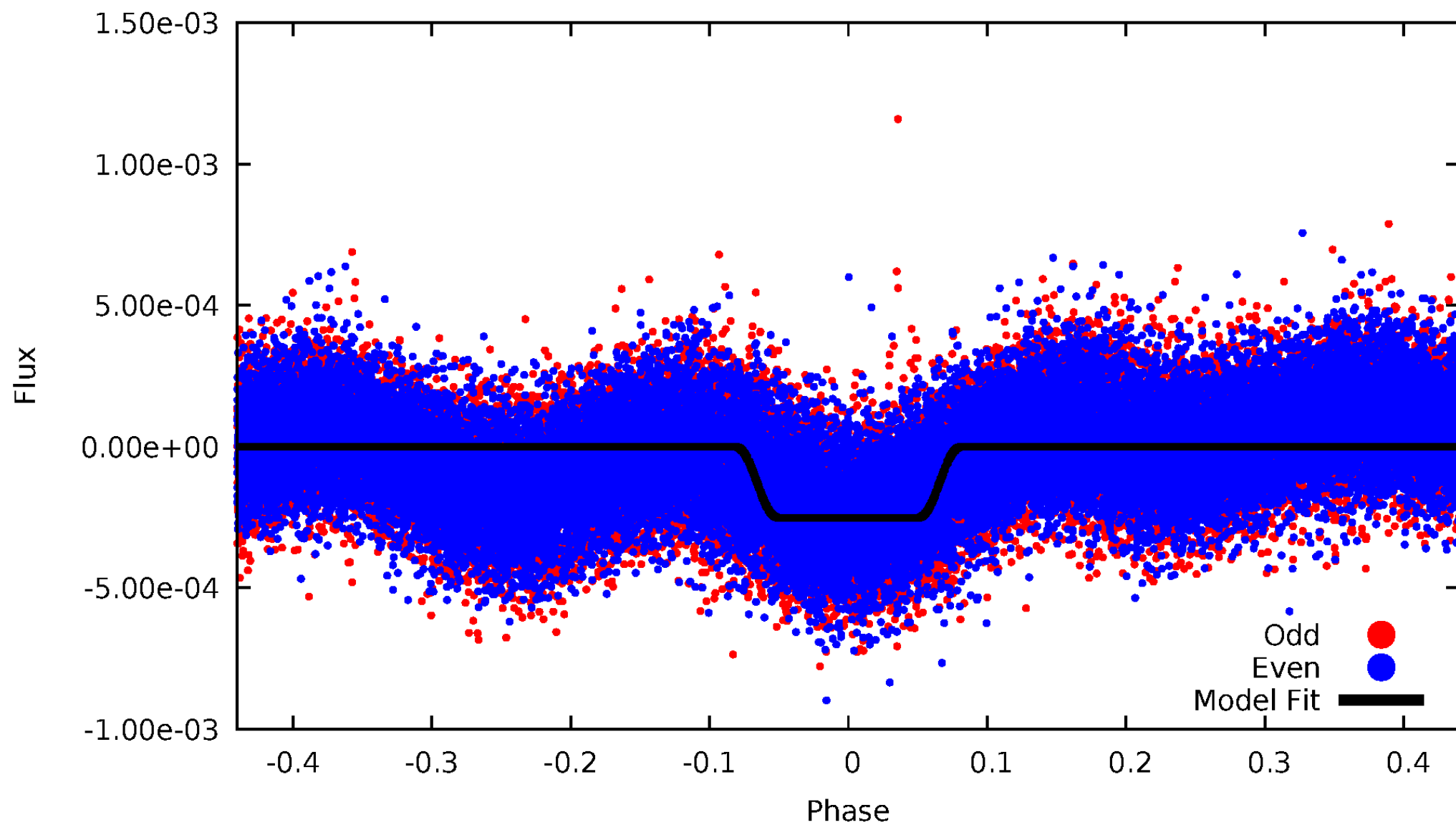
DV Odd/Even

TCE 008573459-01

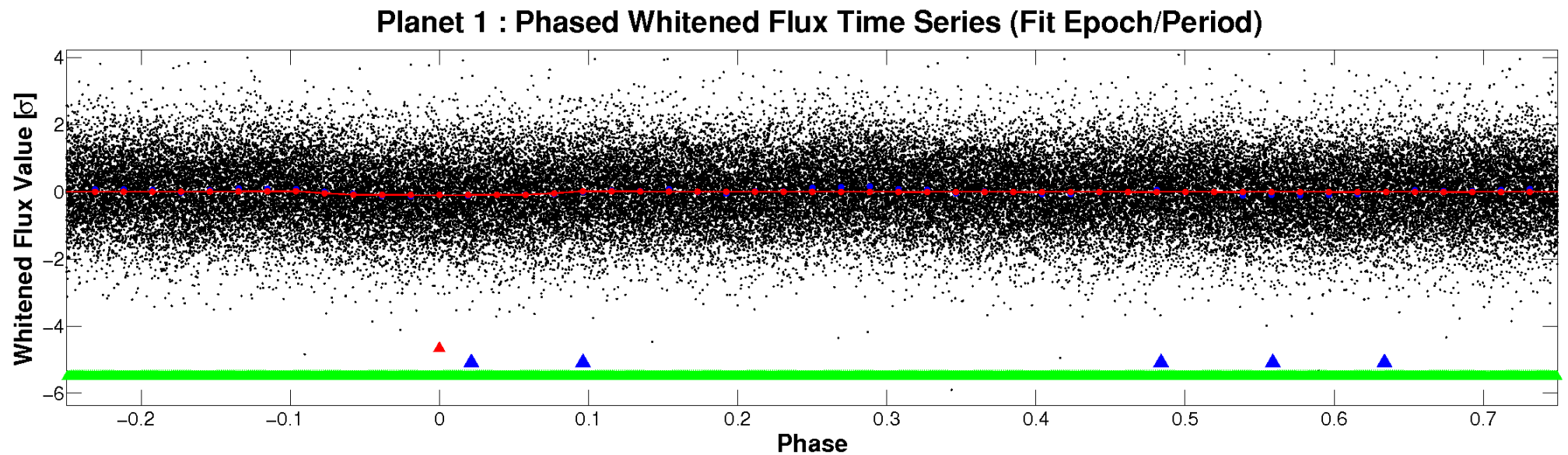
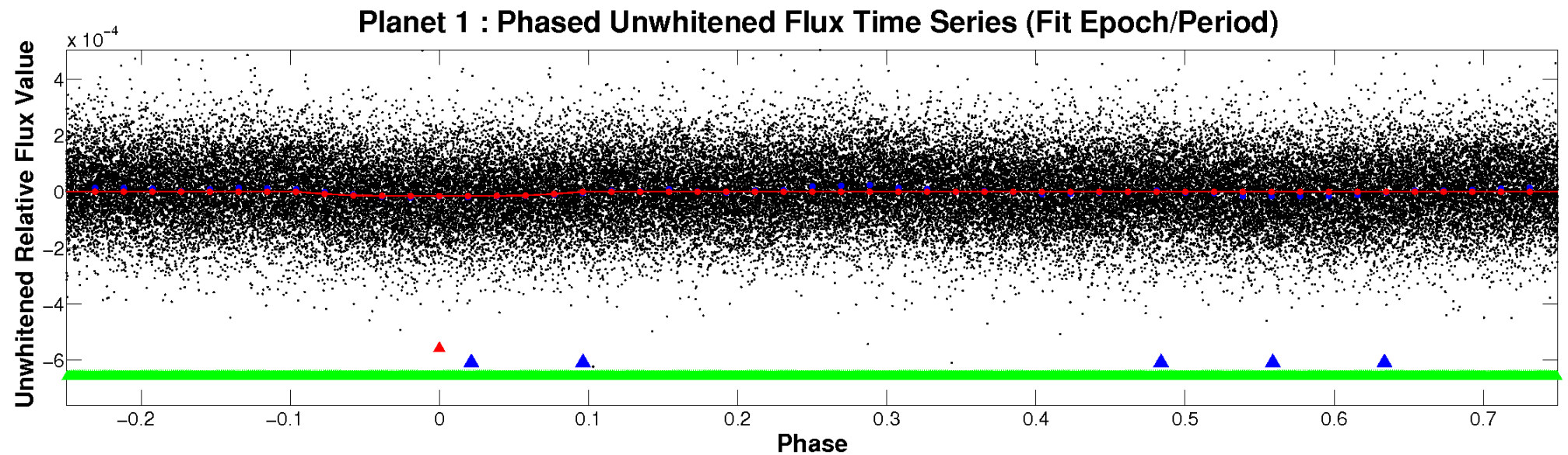


ALT Odd/Even

TCE 008573459-01

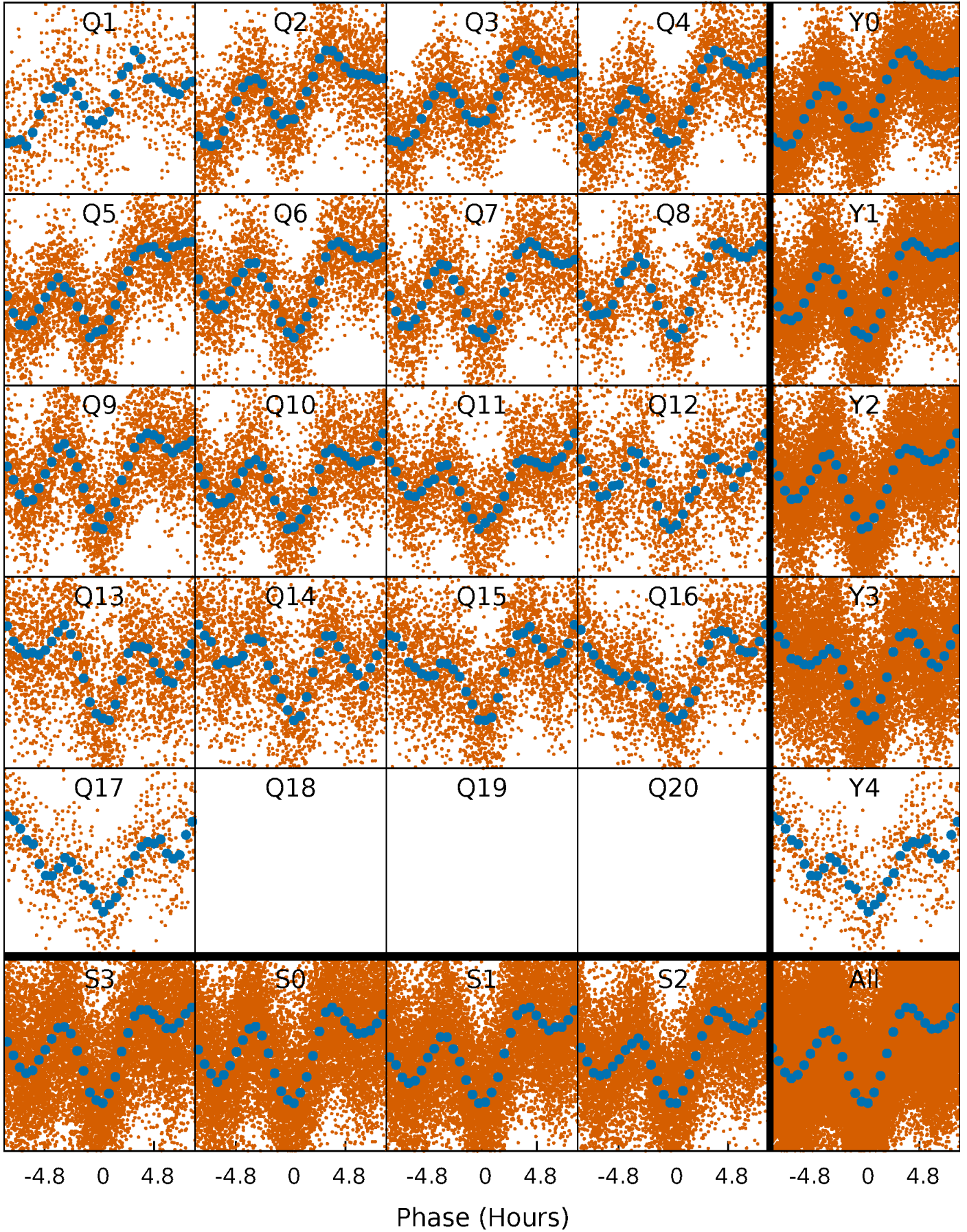


Non-Whitened Vs. Whitened Light Curve



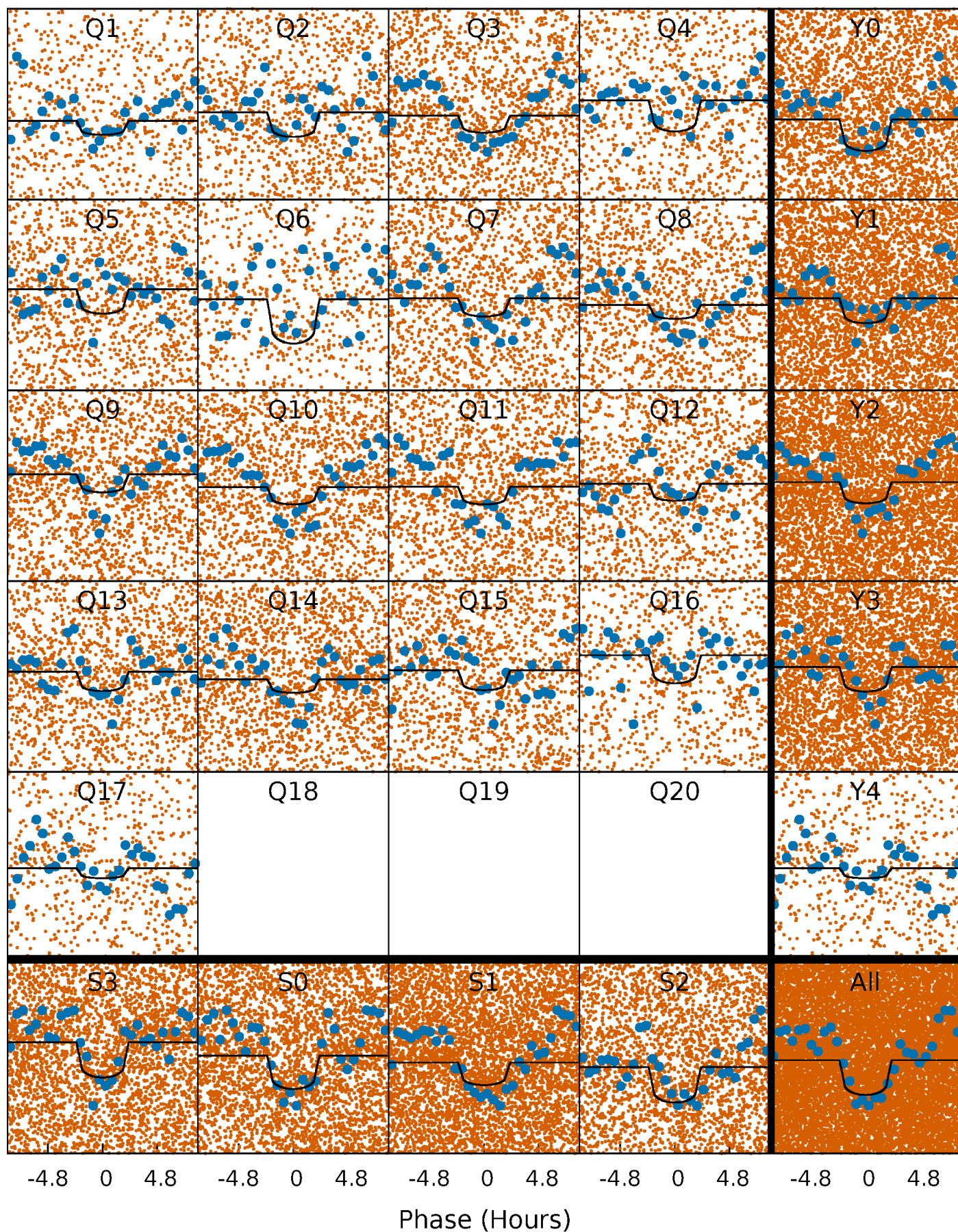
PDC Quarter-Phased Transit Curves

TCE 008573459-01 P= 1.061987 Days $T_0=131.562975$ (BKJD)



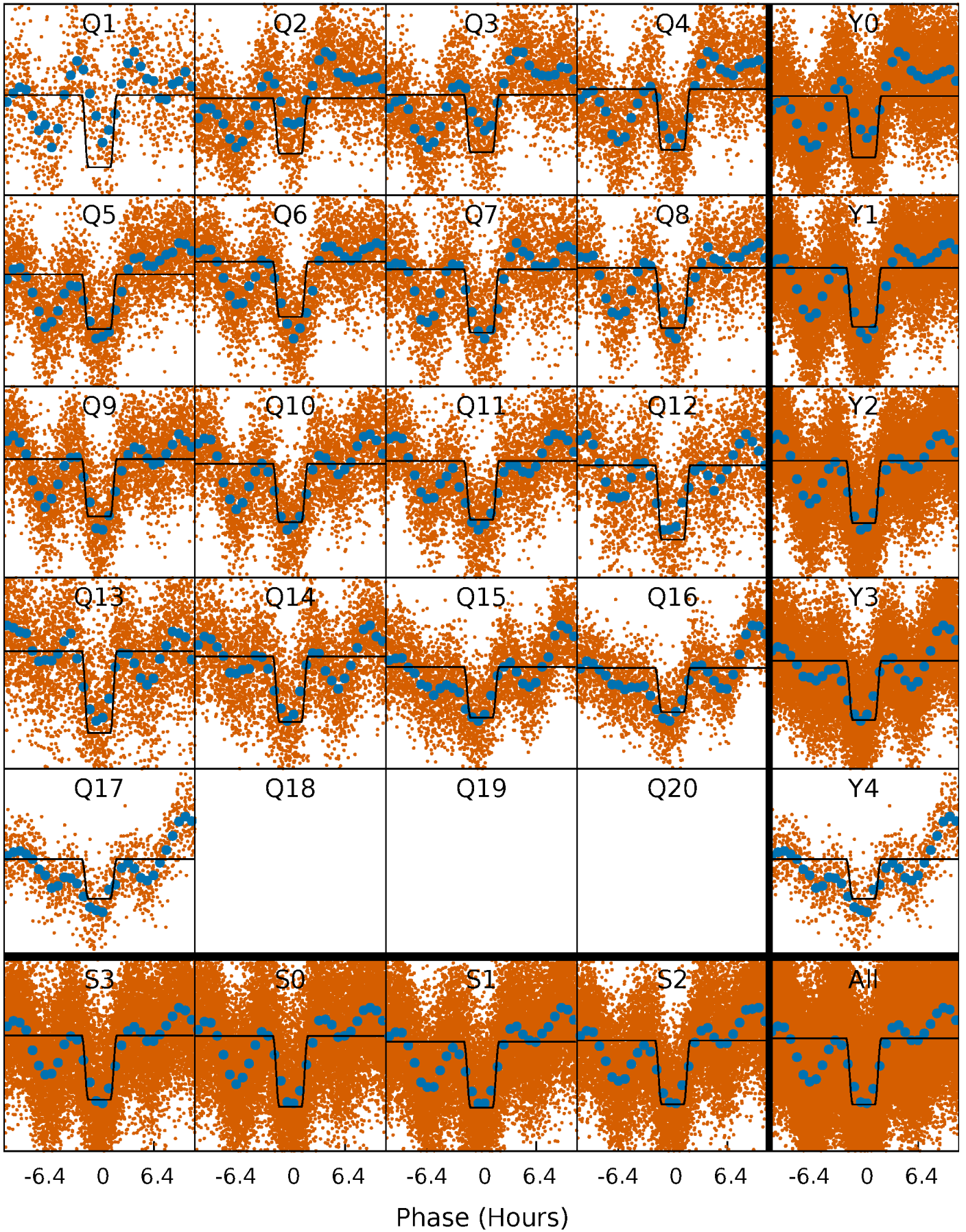
DV Quarter-Phased Transit Curves

TCE 008573459-01 P= 1.061987 Days $T_0=131.562975$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

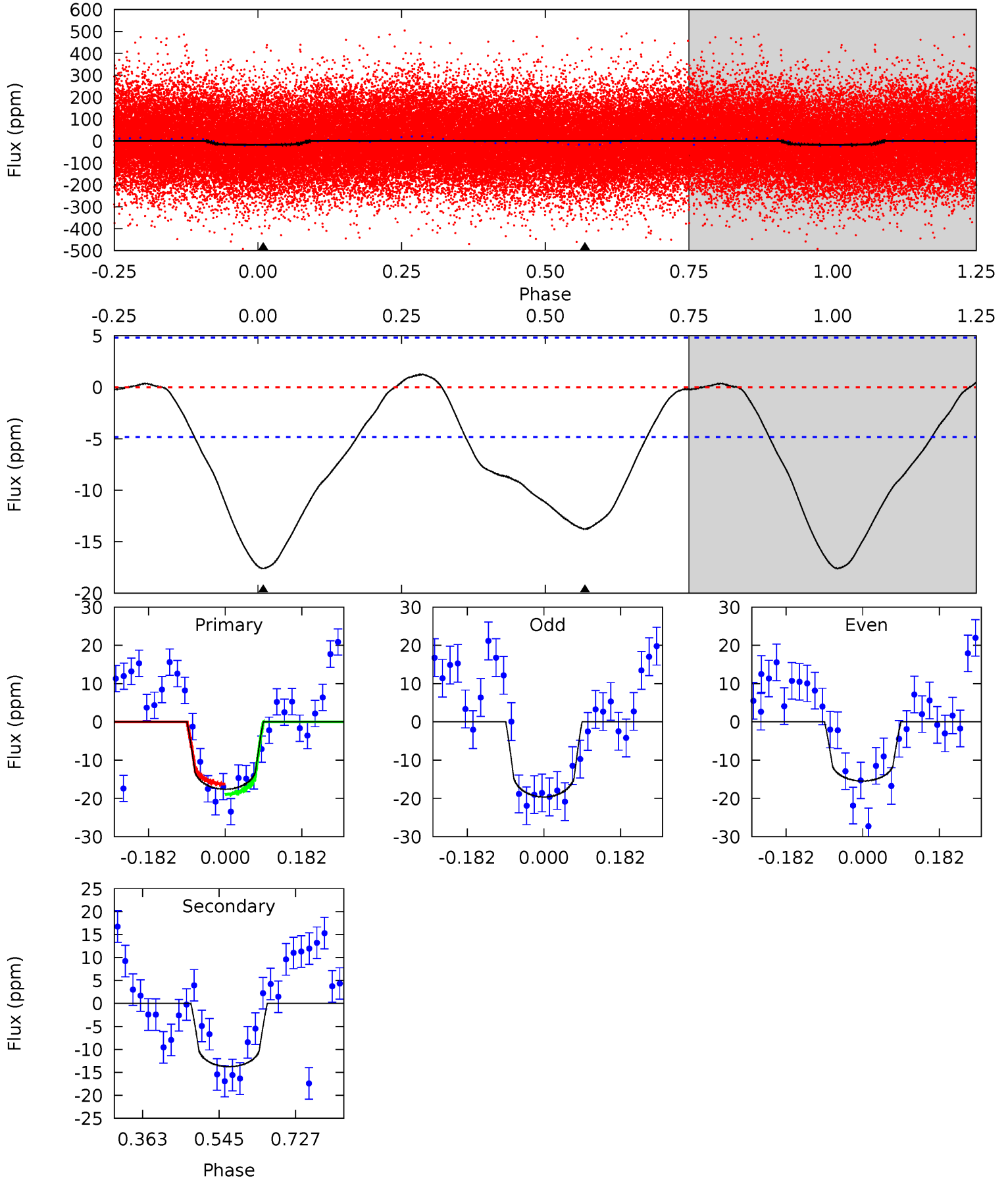
TCE 008573459-01 P= 1.062043 Days $T_0=131.525278$ (BKJD)



DV Model-Shift Uniqueness Test

008573459-01, P = 1.061987 Days, E = 130.500988 Days

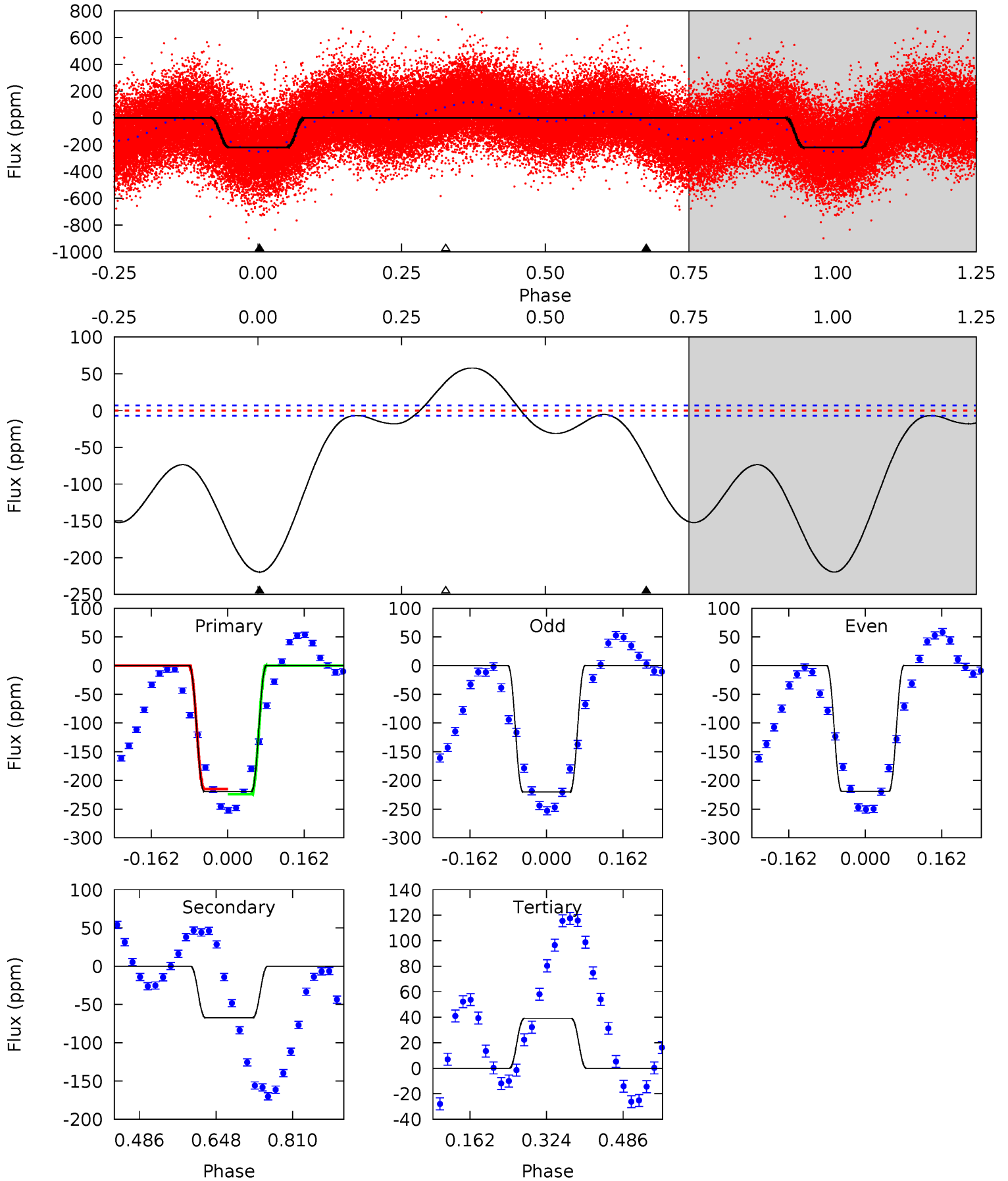
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.2	12.7	0	0	4.44	1.34	2.03	16.2	16.2	12.7	12.7	1.92	0.90	0.07	1.22



Alt Model-Shift Uniqueness Test

008573459-01, P = 1.062043 Days, E = 130.463235 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
138.2	42.3	-24.5	0	4.46	1.40	19.0	162.7	138.2	66.9	42.3	0.33	0.99	0.21	2.58



Stellar Parameters For KIC 008573459

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6578^{+166}_{-199}	$3.341^{+0.450}_{-0.050}$	$-0.180^{+0.350}_{-0.300}$	$5.024^{+0.270}_{-2.429}$	$2.020^{+0.123}_{-0.522}$	$0.022^{+0.098}_{-0.004}$
	+3%/-3%	+13%/-1%	+194%/-167%	+5%/-48%	+6%/-26%	+438%/-17%
Source	PHO1	FLK73	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 008573459-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-14 ± 1	$1.94^{+0.69}_{-0.62}$	5532^{+252}_{-578}	5958^{+1373}_{-892}	$1.326^{+1.449}_{-0.587}$
Alt.	-67 ± 2	$8.31^{+0.99}_{-1.95}$	5533^{+277}_{-618}	3517^{+707}_{-6279}	$0.356^{+0.226}_{-0.066}$

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 $A_{obs} \gg 1.0$

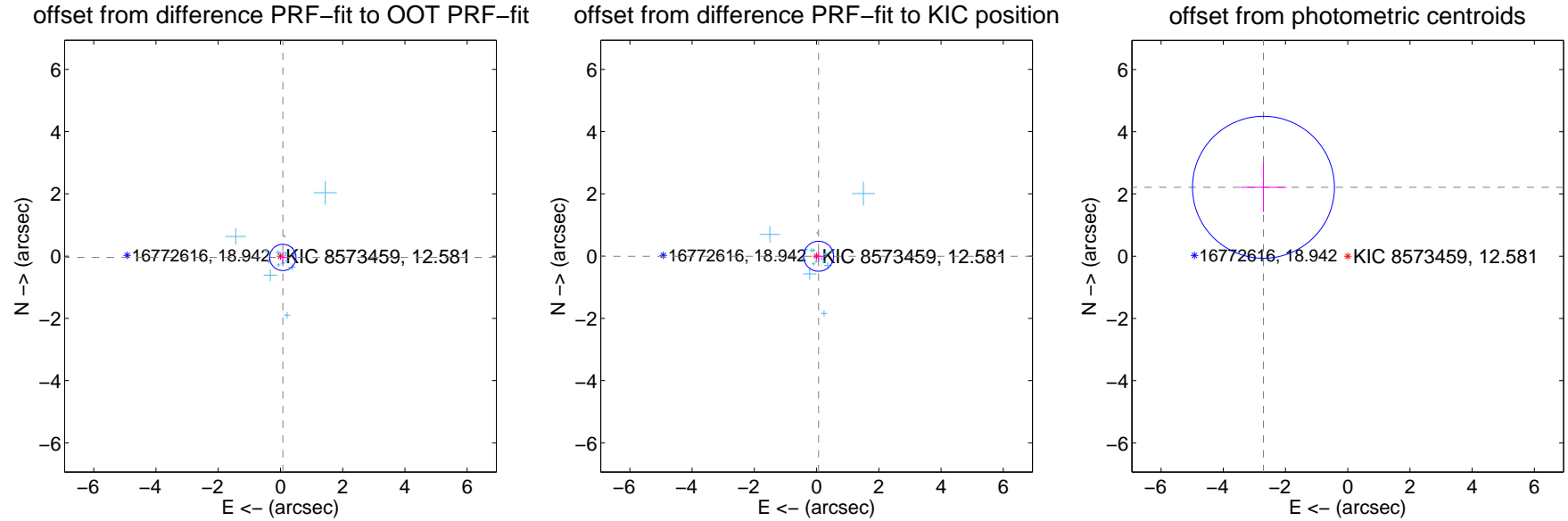
DV Centroid Data

Supplemental centroid analysis for 008573459-01. Kepler magnitude: 12.58. Transit SNR 8.73

There are 17 quarters with good PRF difference image offsets

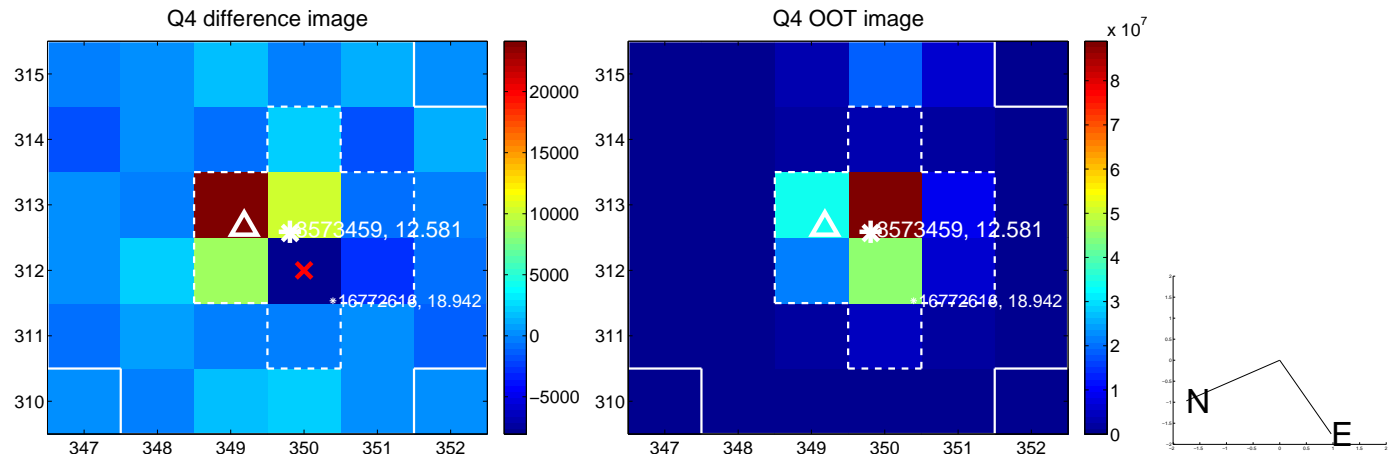
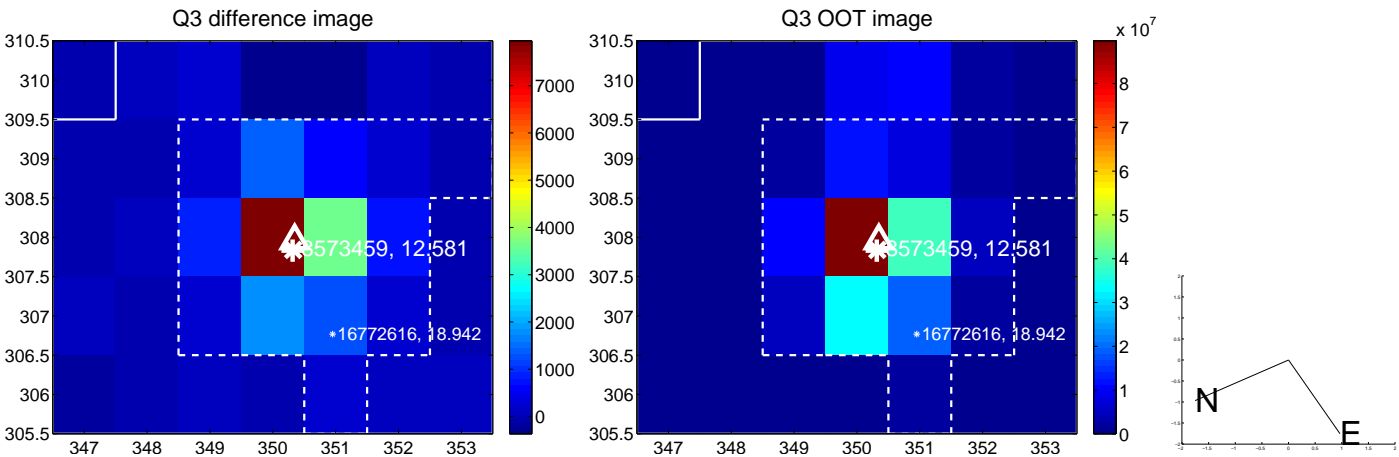
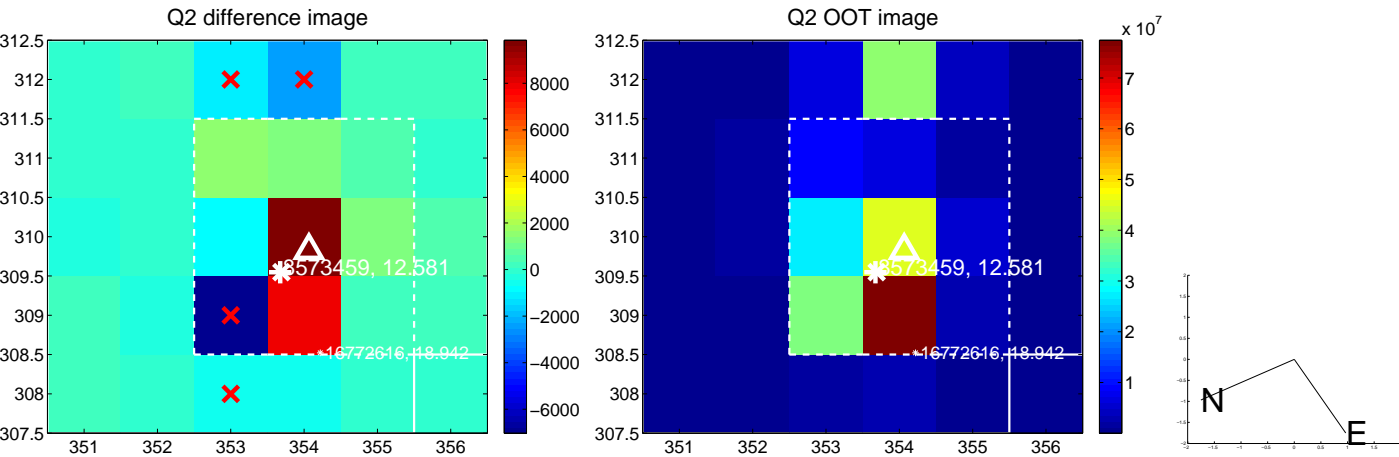
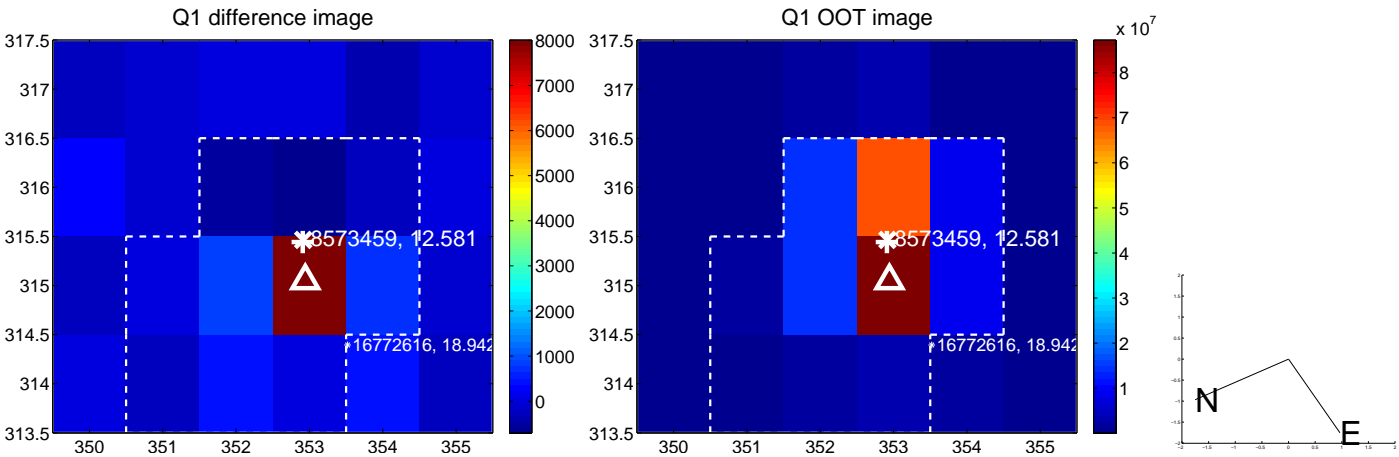
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.087 ± 0.141	0.62	-0.077 ± 0.144	-0.042 ± 0.184
PRF-fit source offset from KIC position	0.065 ± 0.161	0.41	-0.065 ± 0.162	-0.004 ± 0.168
photometric centroid source offset	3.50 ± 0.76	4.60	2.71 ± 0.74	2.22 ± 0.80

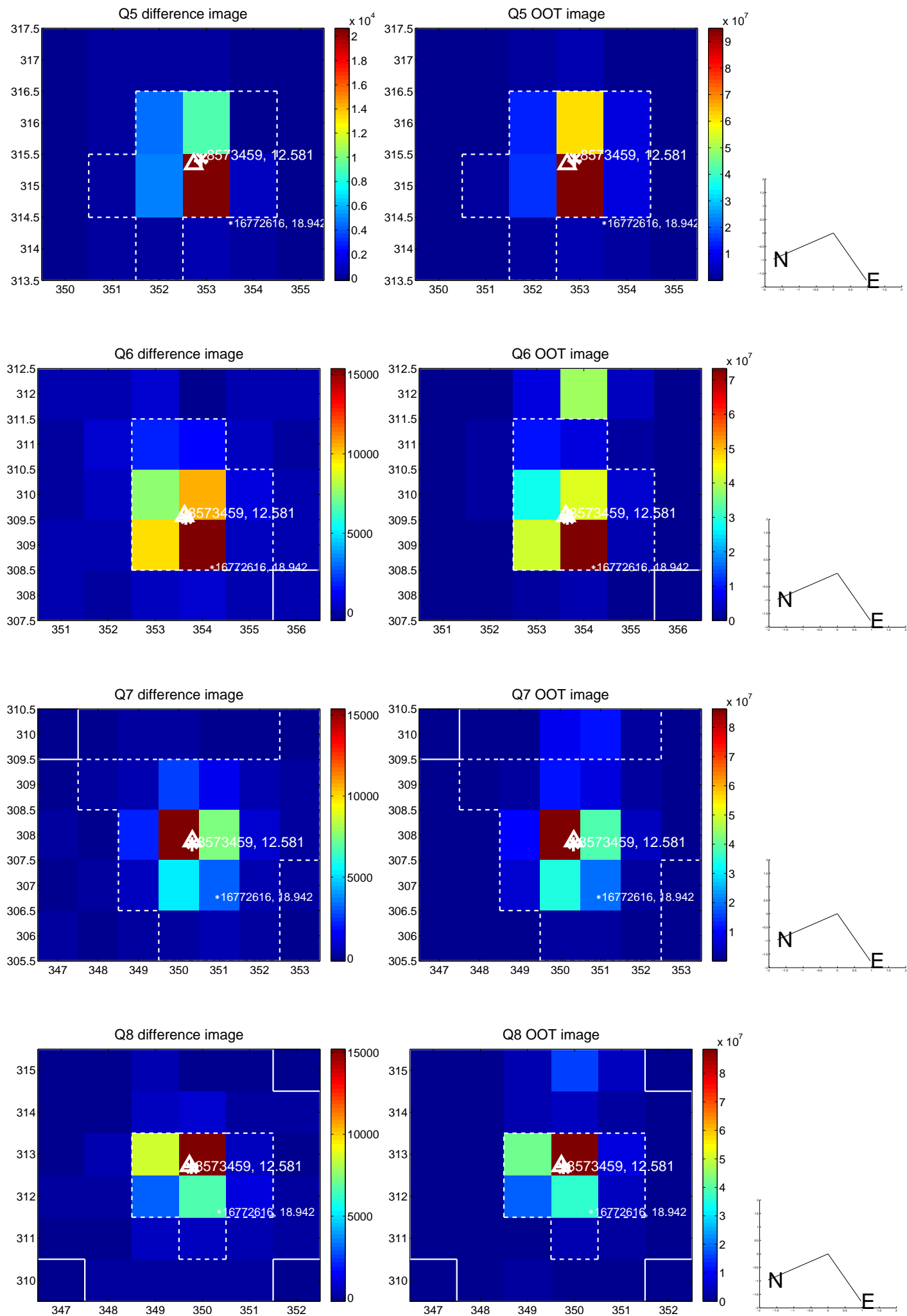


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

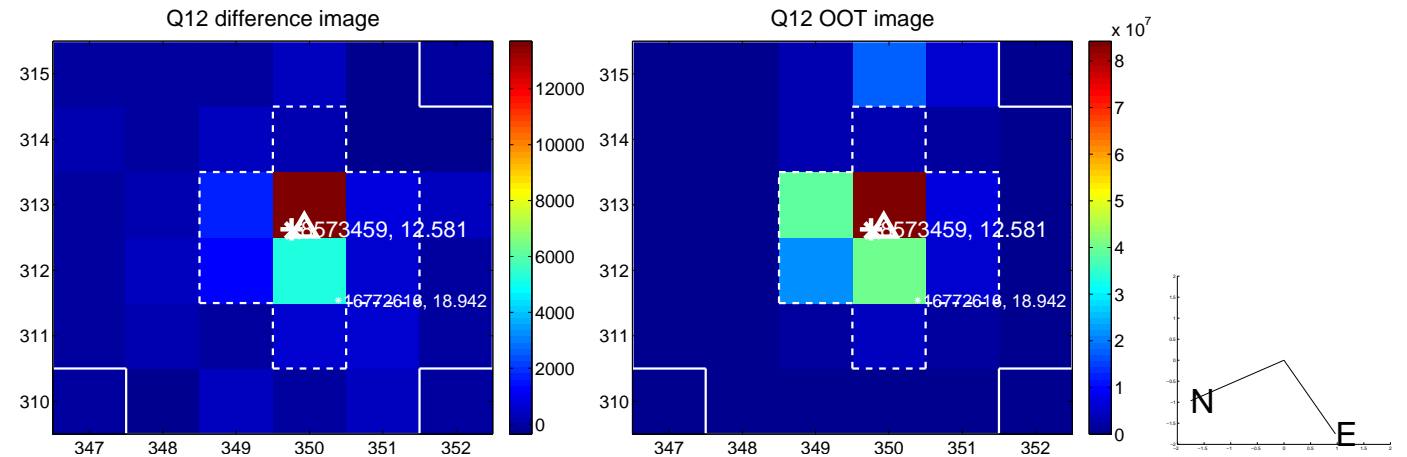
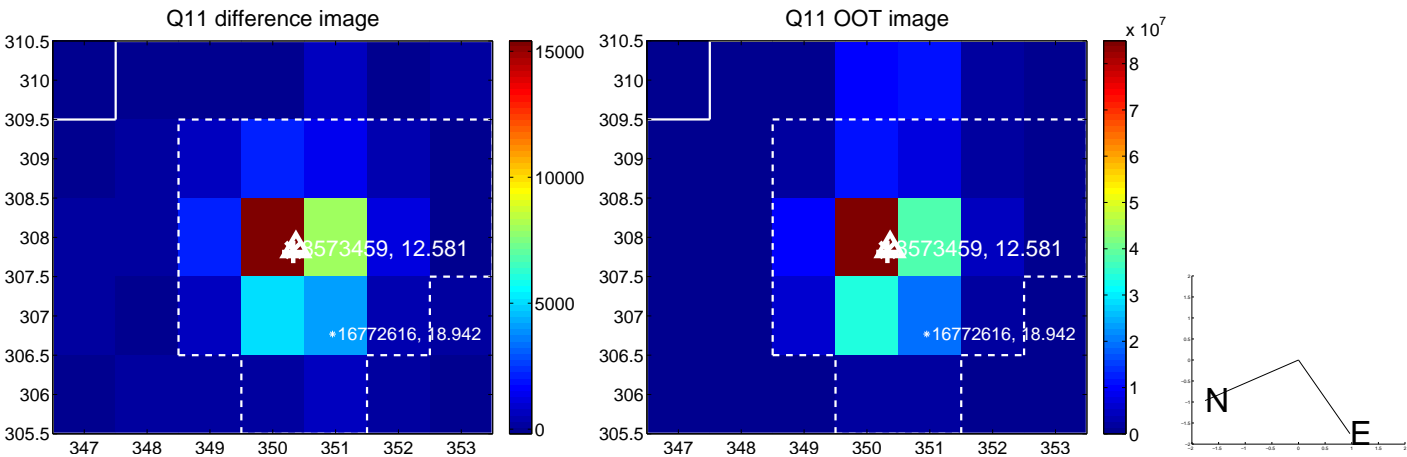
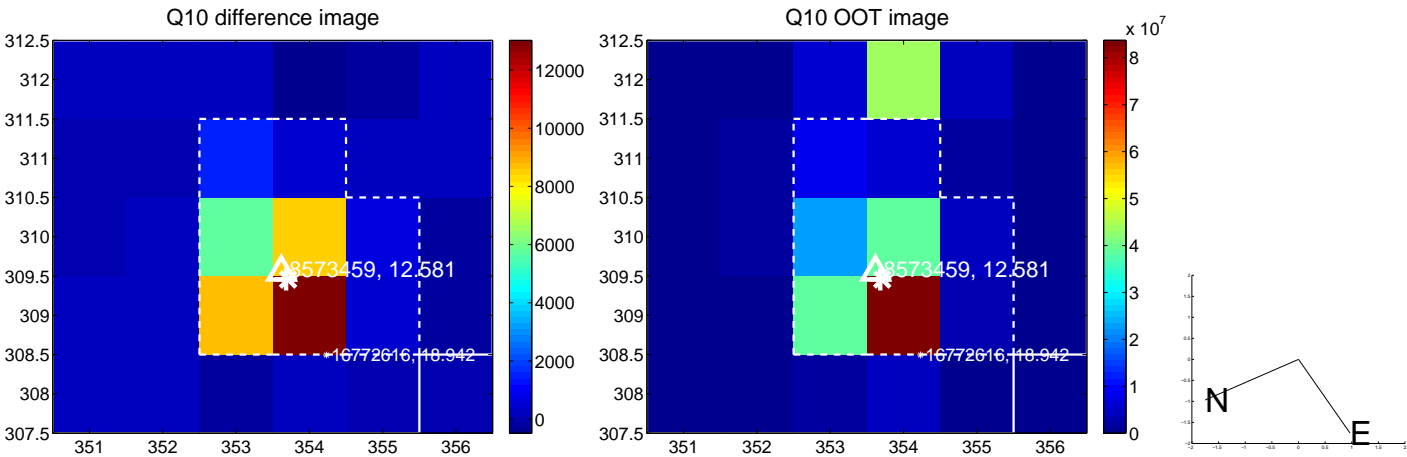
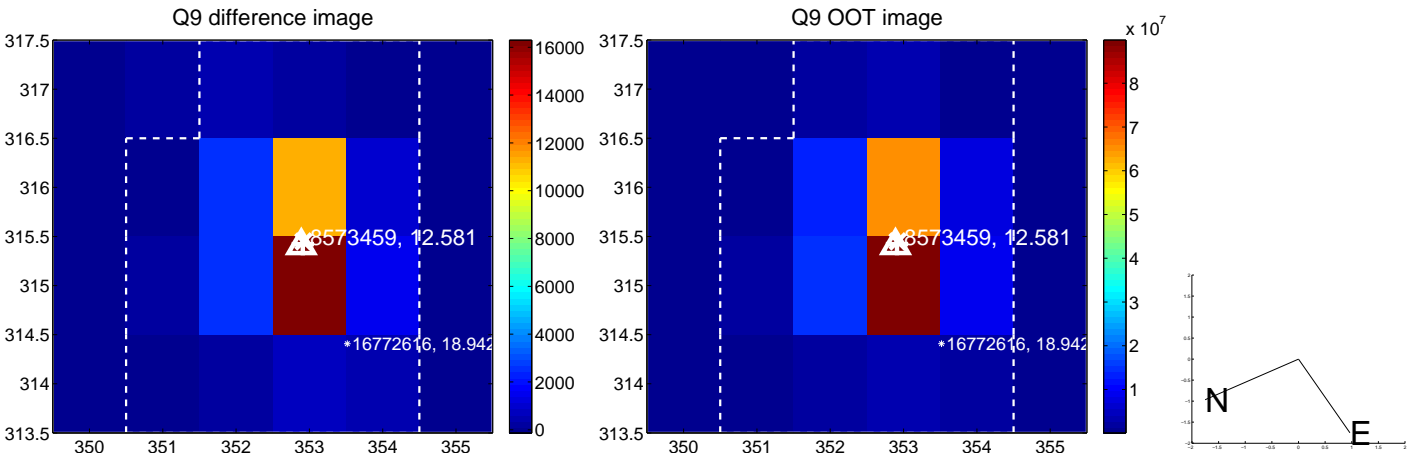
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



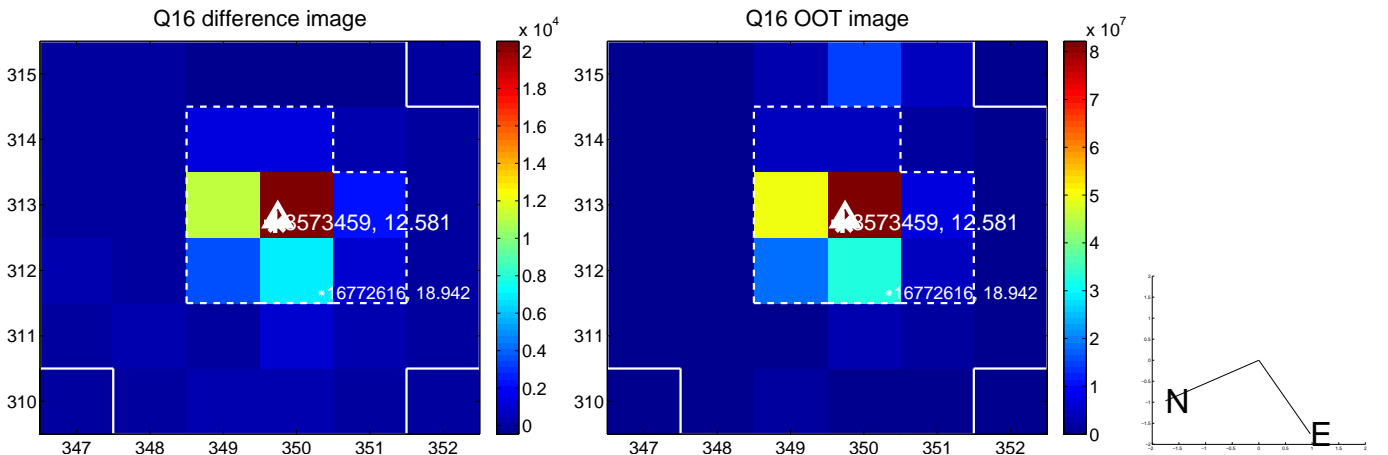
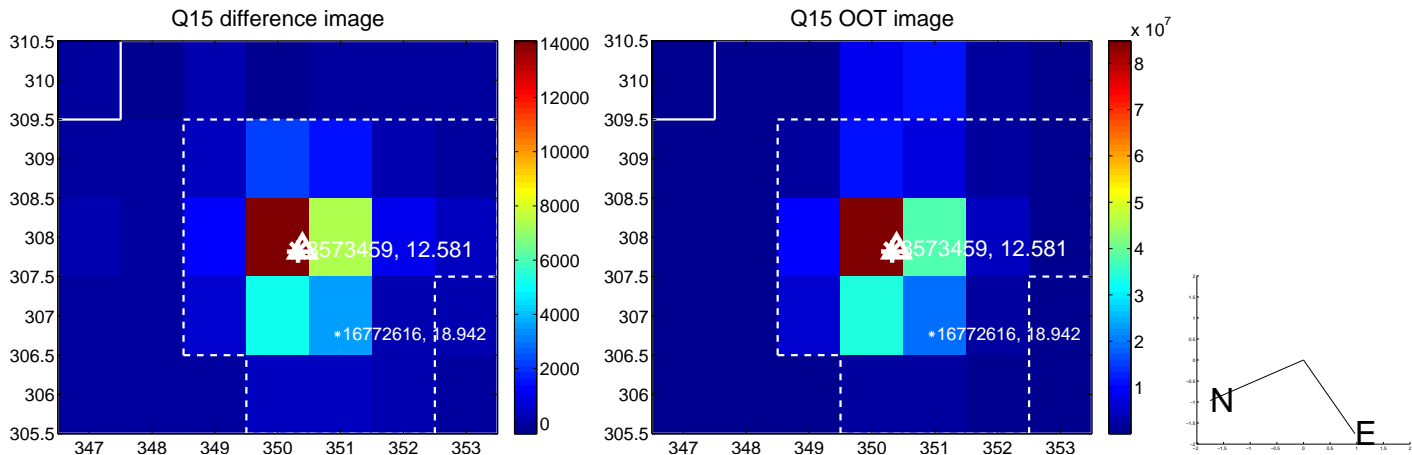
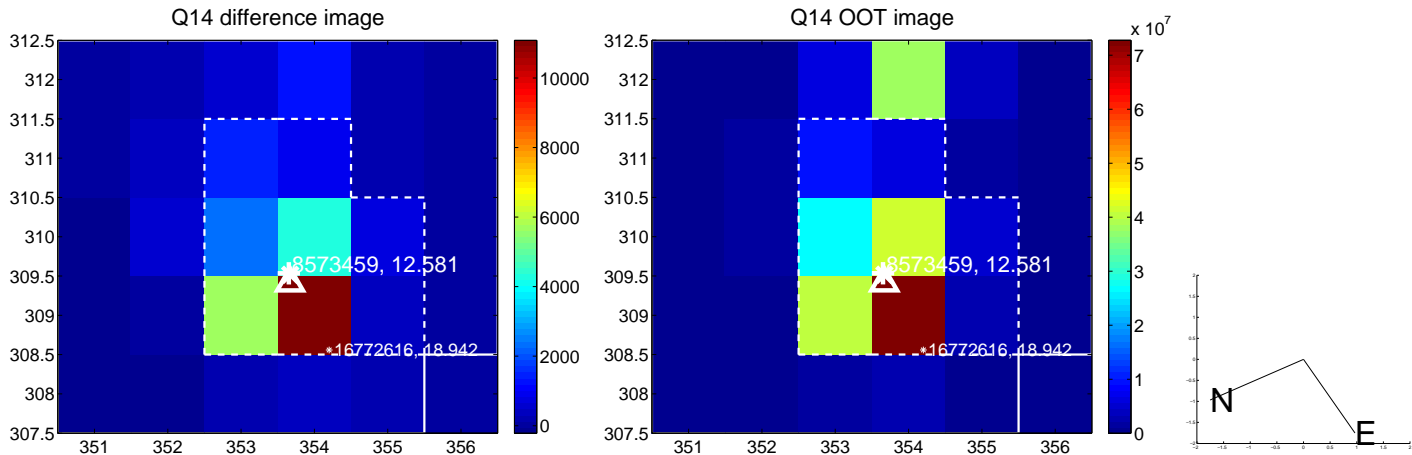
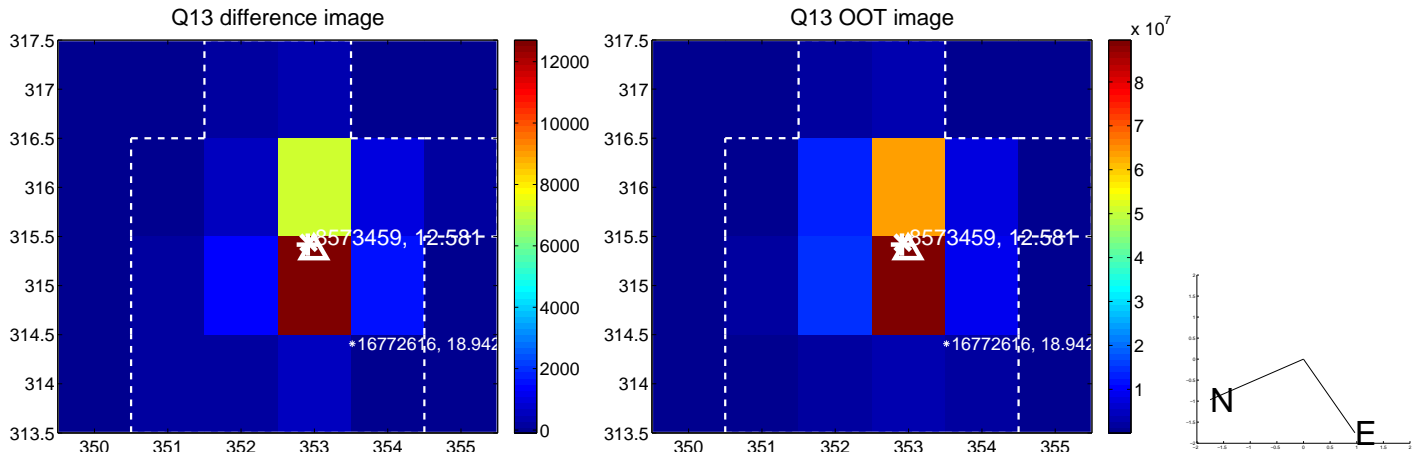
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



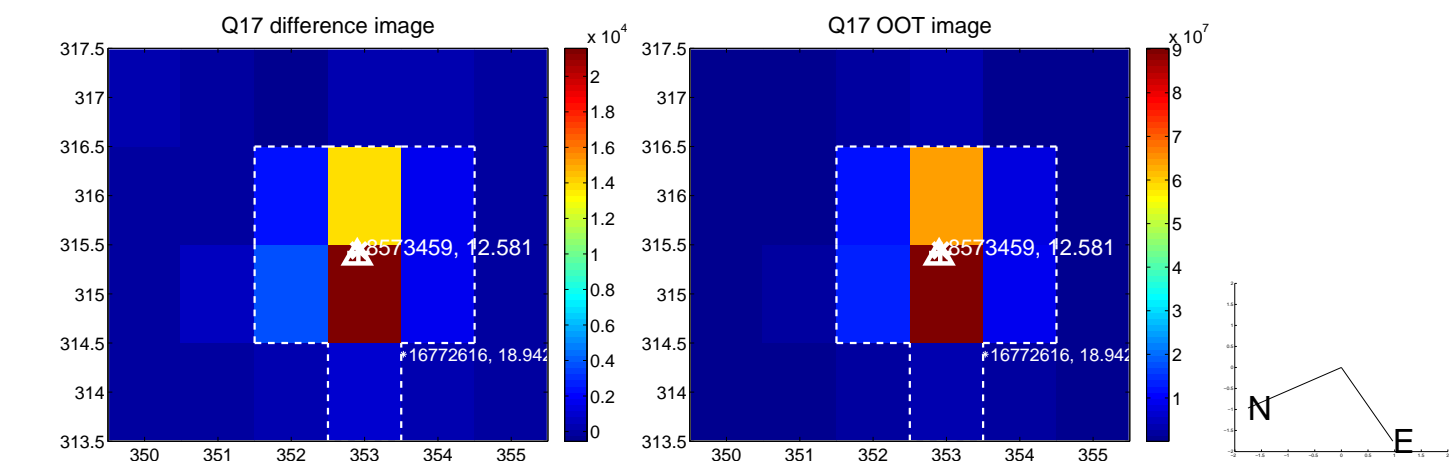
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



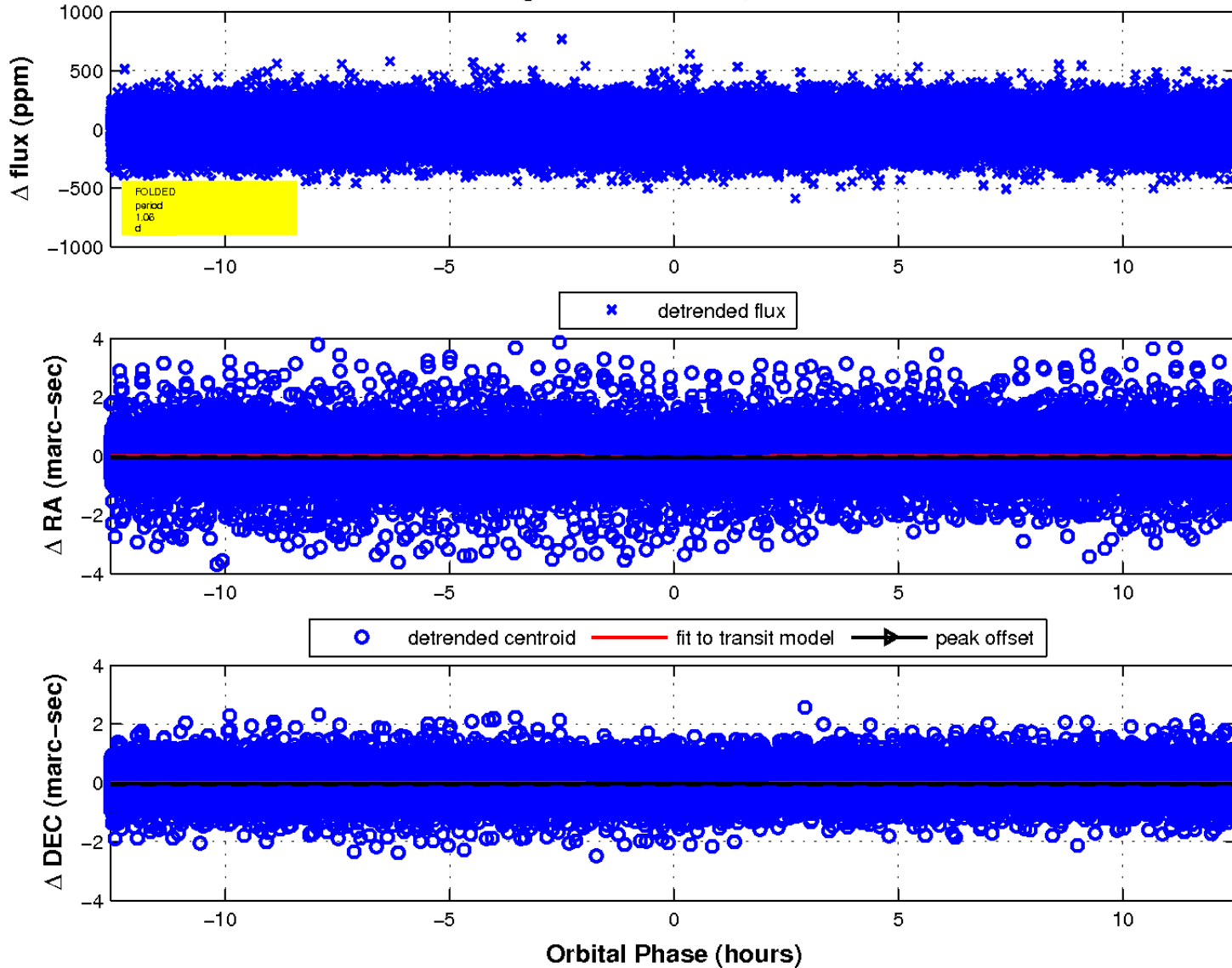
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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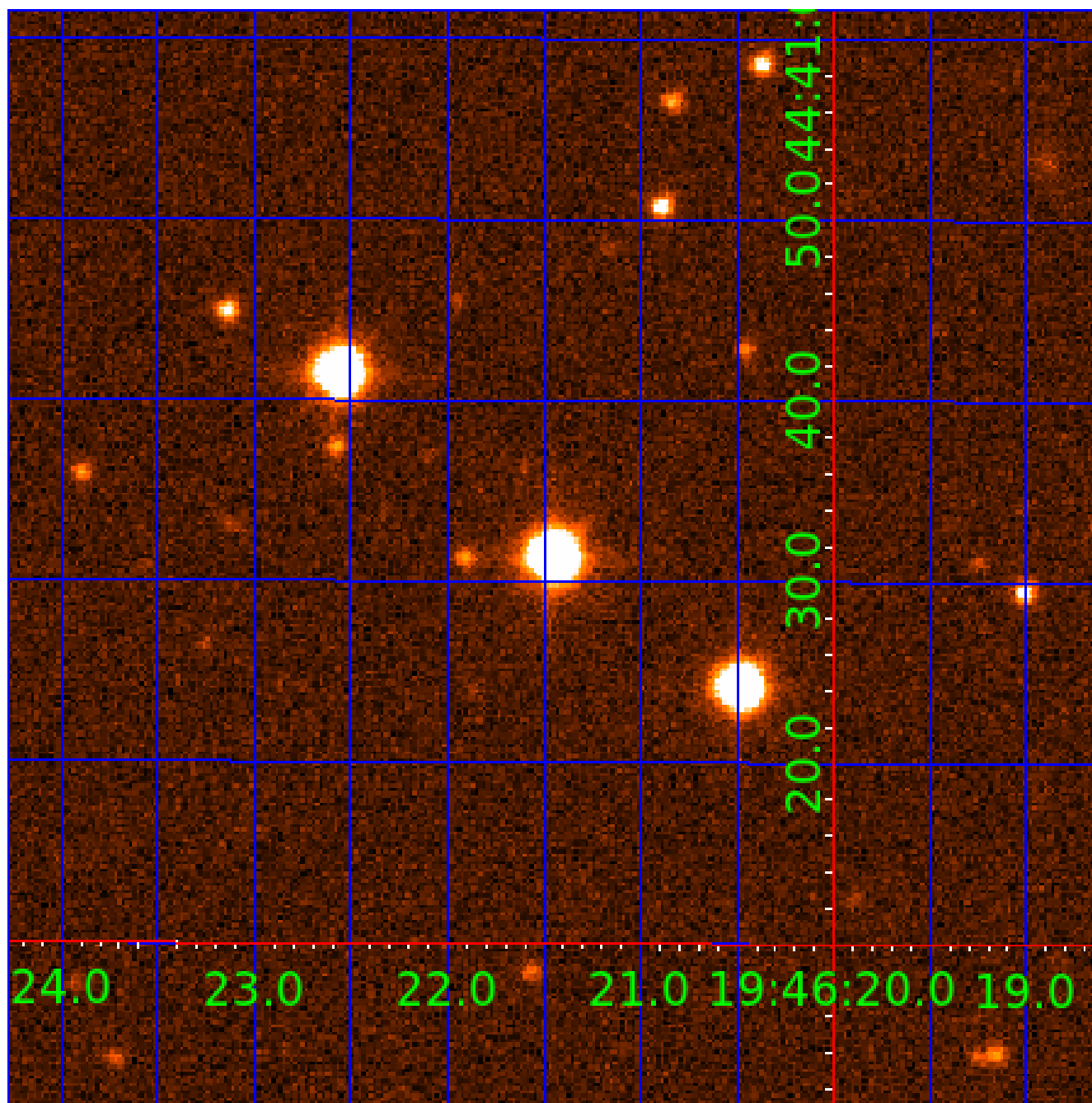


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 008573459

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})
008573459-01	OBS	No	1.061987	131.562975	15.3	4.186	9.0	8.7	5.02	6578	2.16	63847.52
008573459-02	OBS	No	337.141056	148.165851	256.1	3.015	7.4	7.9	5.02	6578	8.61	29.48
008573459-03	OBS	No	1.060506	132.299456	8.7	0.963	9.2	2.2	5.02	6578	1.70	63966.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008573459-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT
008573459-02	OBS	FP	0.00	1	0	0	0	LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008573459-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_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.

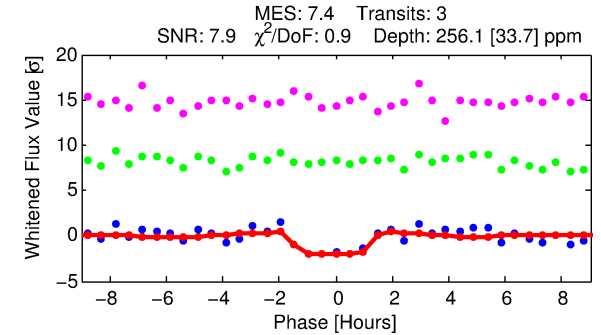
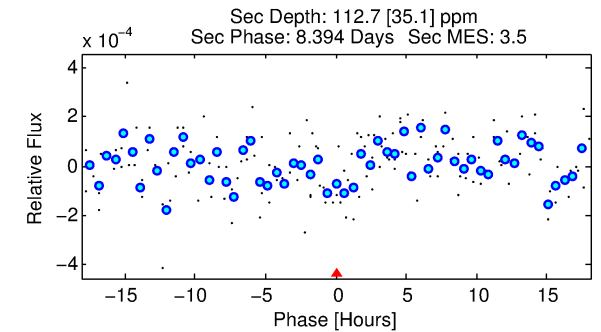
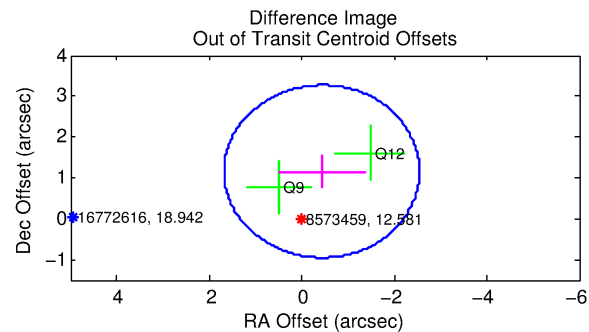
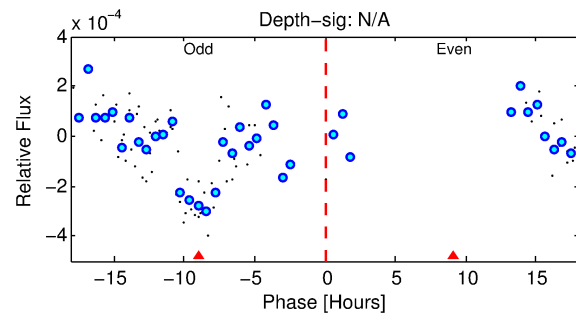
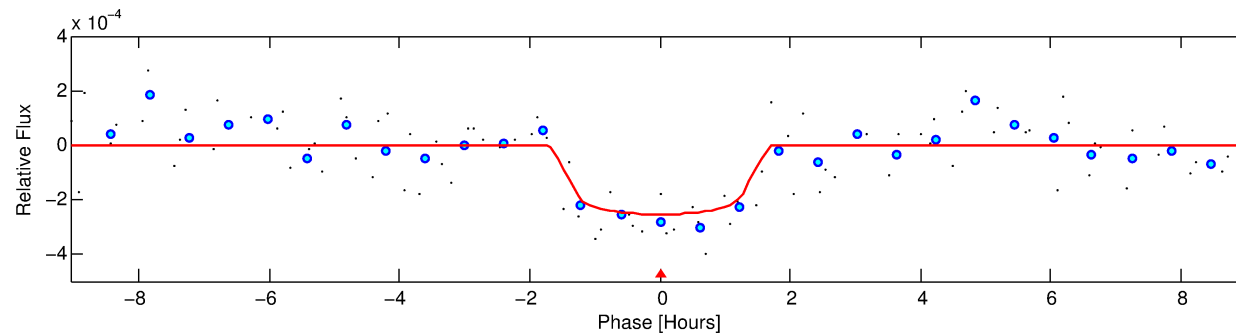
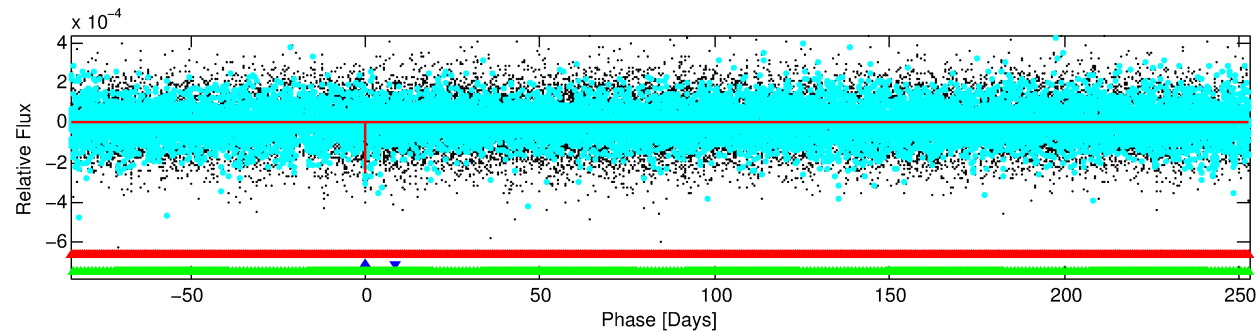
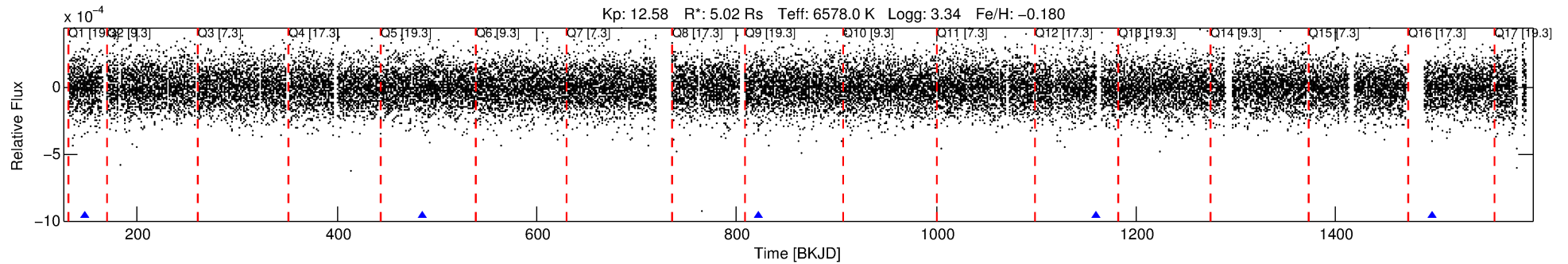
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008573459-02

No Significant Match Found

DV One-Page Summary

KIC: 8573459 Candidate: 2 of 3 Period: 337.141 d



DV Fit Results:

Period = 337.14106 [0.00257] d
 Epoch = 148.1659 [0.0068] BKJD
 Rp/R* = 0.0157 [0.0248]
 a/R* = 628.56 [5612.41]
 b = 0.70 [6.47]
 Seff = 29.48 [22.75]
 Teq = 594 [115] K
 Rp = 8.61 [14.20] Re
 a = 1.1984 [0.5662] AU
 Ag = 1200.01 [3908.88] [0.31σ]
 Tefp = 5407 [4284] K [1.12σ]

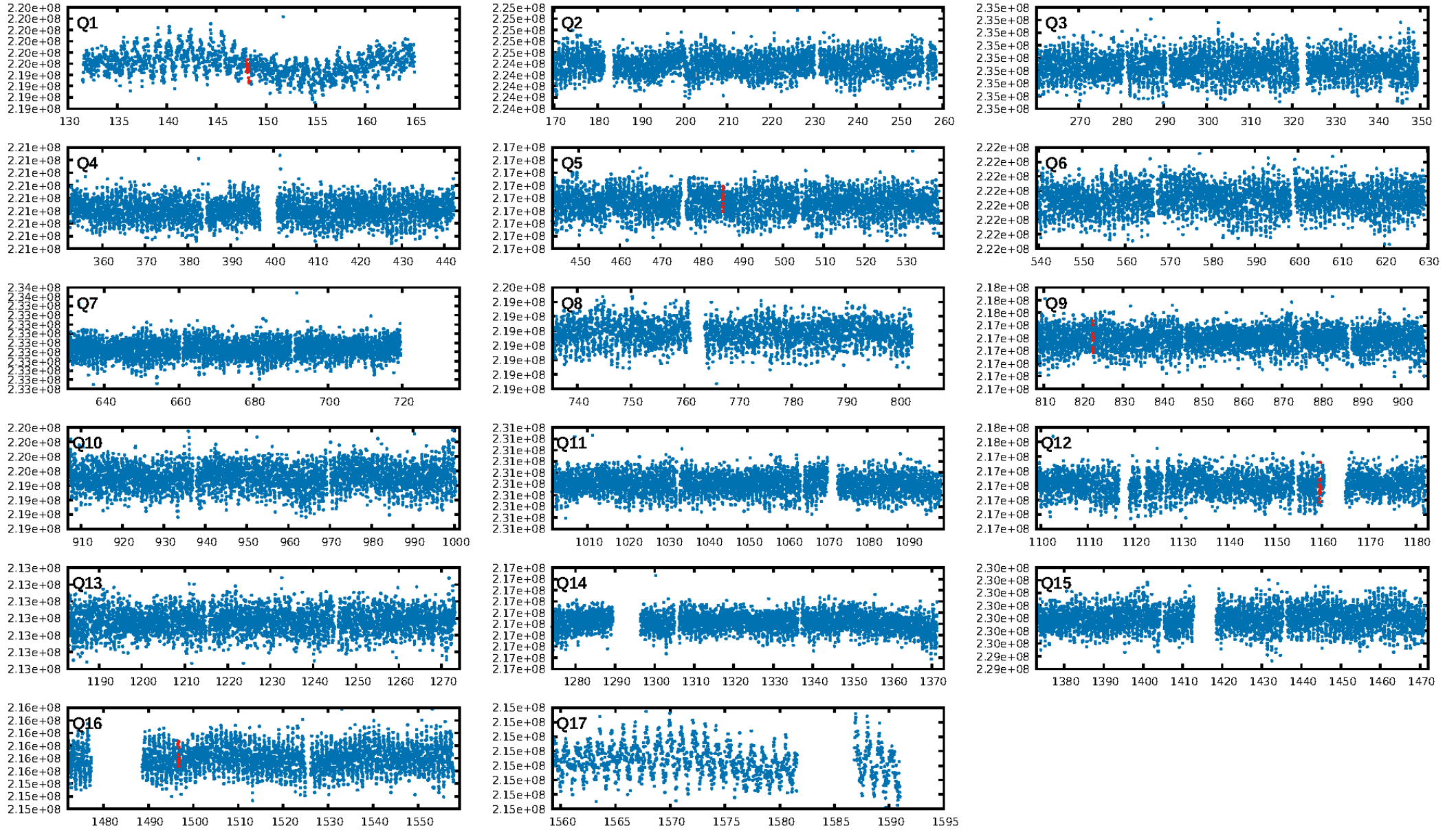
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1563.44σ]
 LongPeriod-sig: N/A
 ModelChiSquare2-sig: 64.4%
 ModelChiSquareGof-sig: 98.8%
 Bootstrap-pfa: 9.95e-10
 RollingBand-fgt: 1.00 [2/2]
 GhostDiagnostic-chr: -5.002
 Centroid-sig: 80.7%
 Centroid-so: 0.693 arcsec [0.81σ]
 OotOffset-rm: 1.236 arcsec [1.75σ]
 OotOffset-st: 0/0/1/1 [2]
 KicOffset-rm: 1.299 arcsec [2.15σ]
 KicOffset-st: 0/0/1/1 [2]
 DiffImageQuality-fgm: 1.00 [2/2]
 DiffImageOverlap-fno: 0.20 [1/5]

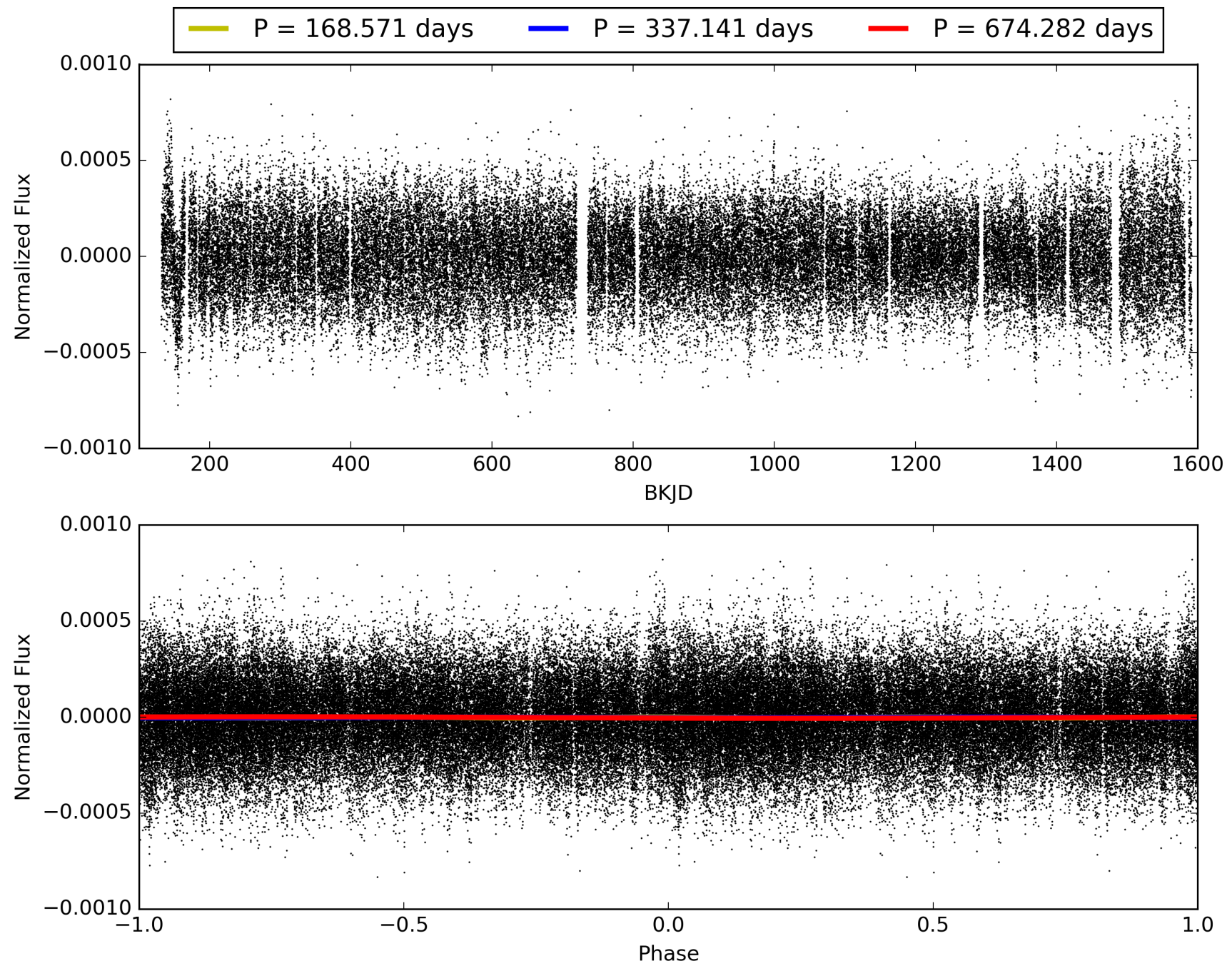
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:31:05 Z

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

TCE 008573459-02, PDC Light Curves

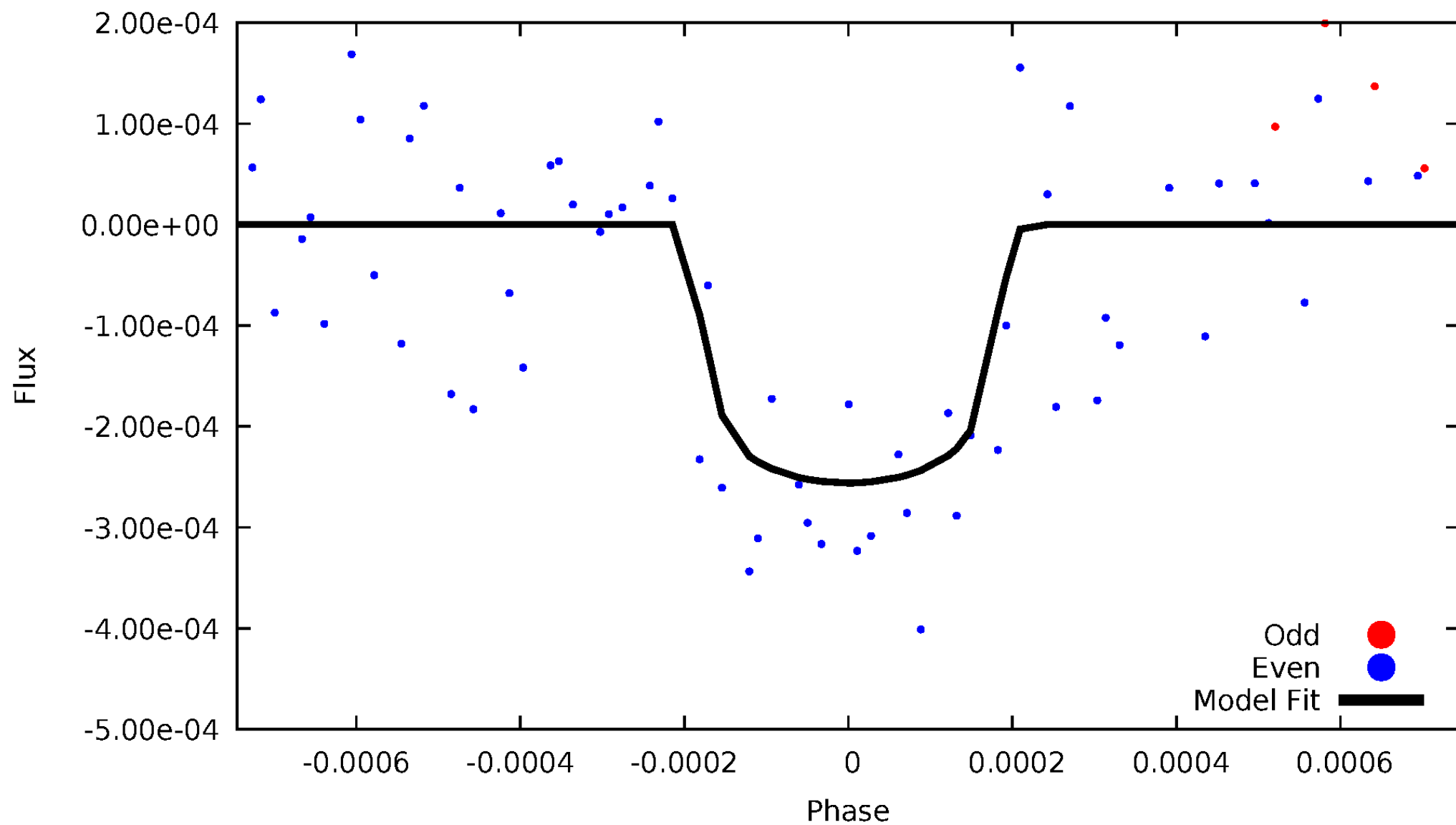


TCE 008573459-02



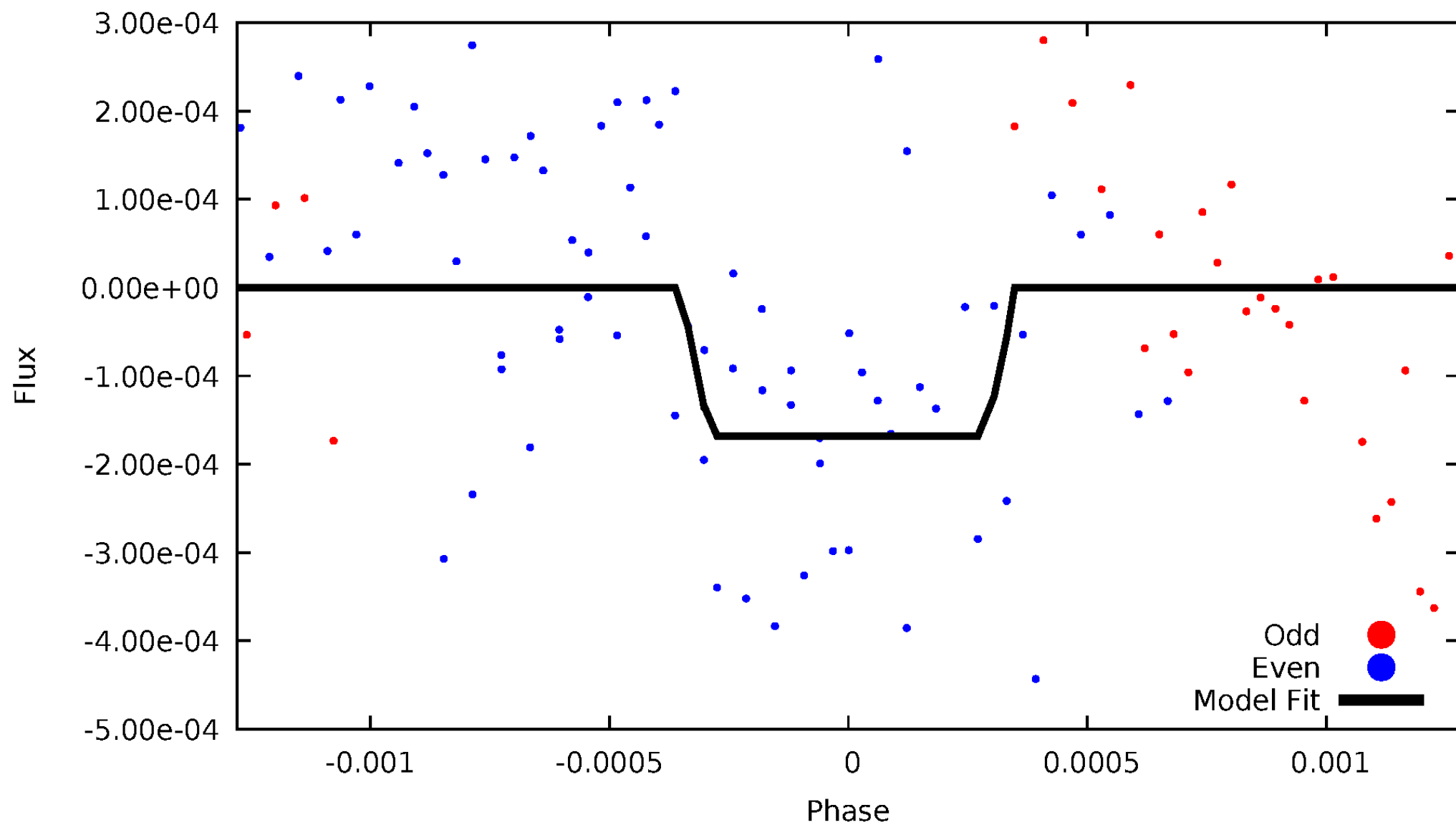
DV Odd/Even

TCE 008573459-02



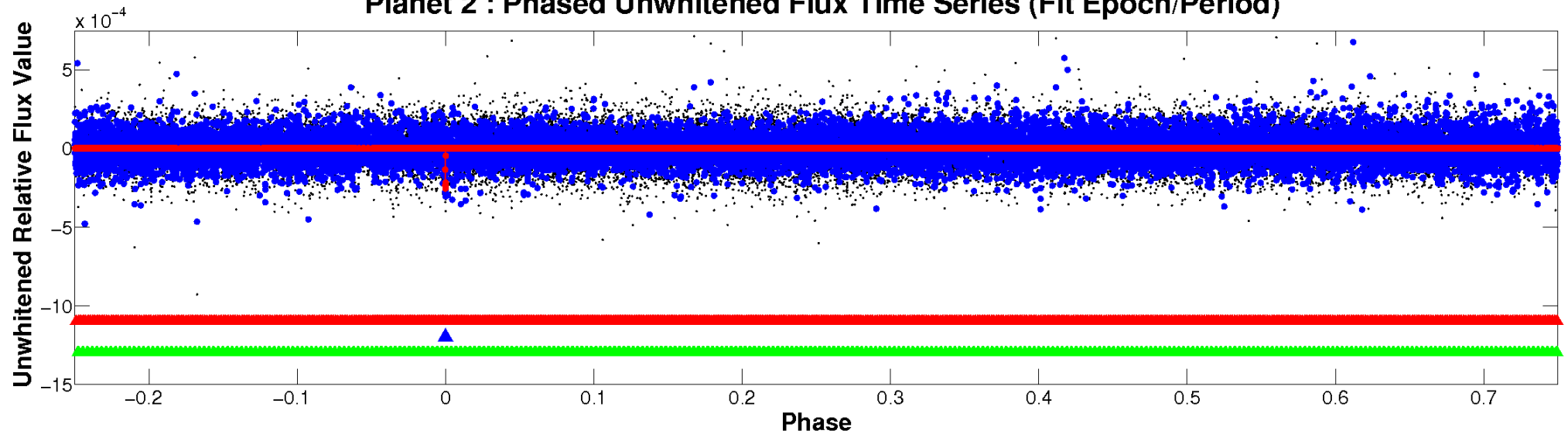
ALT Odd/Even

TCE 008573459-02

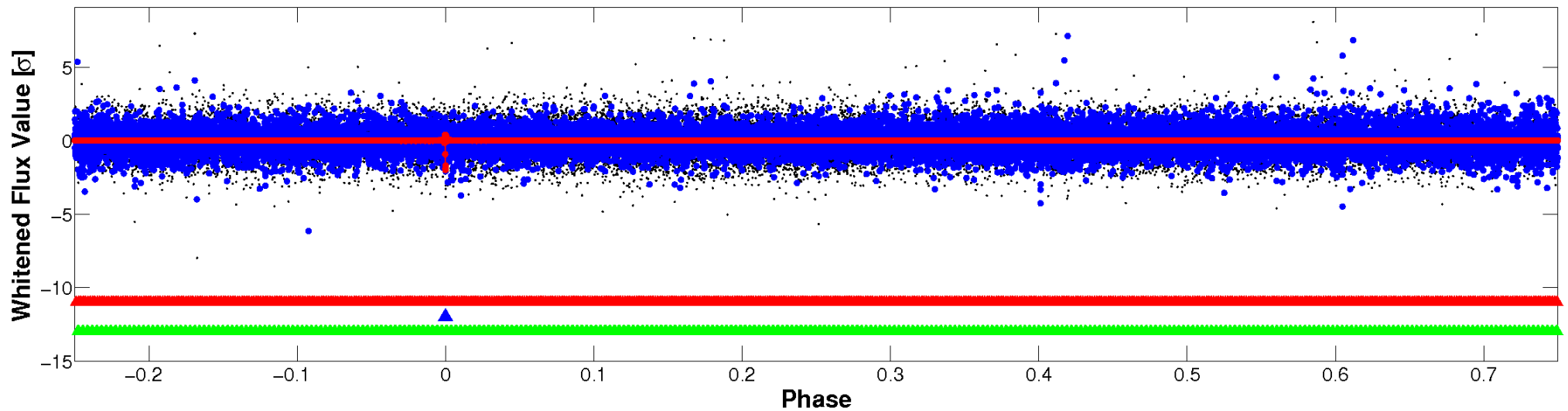


Non-Whitened Vs. Whitened Light Curve

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

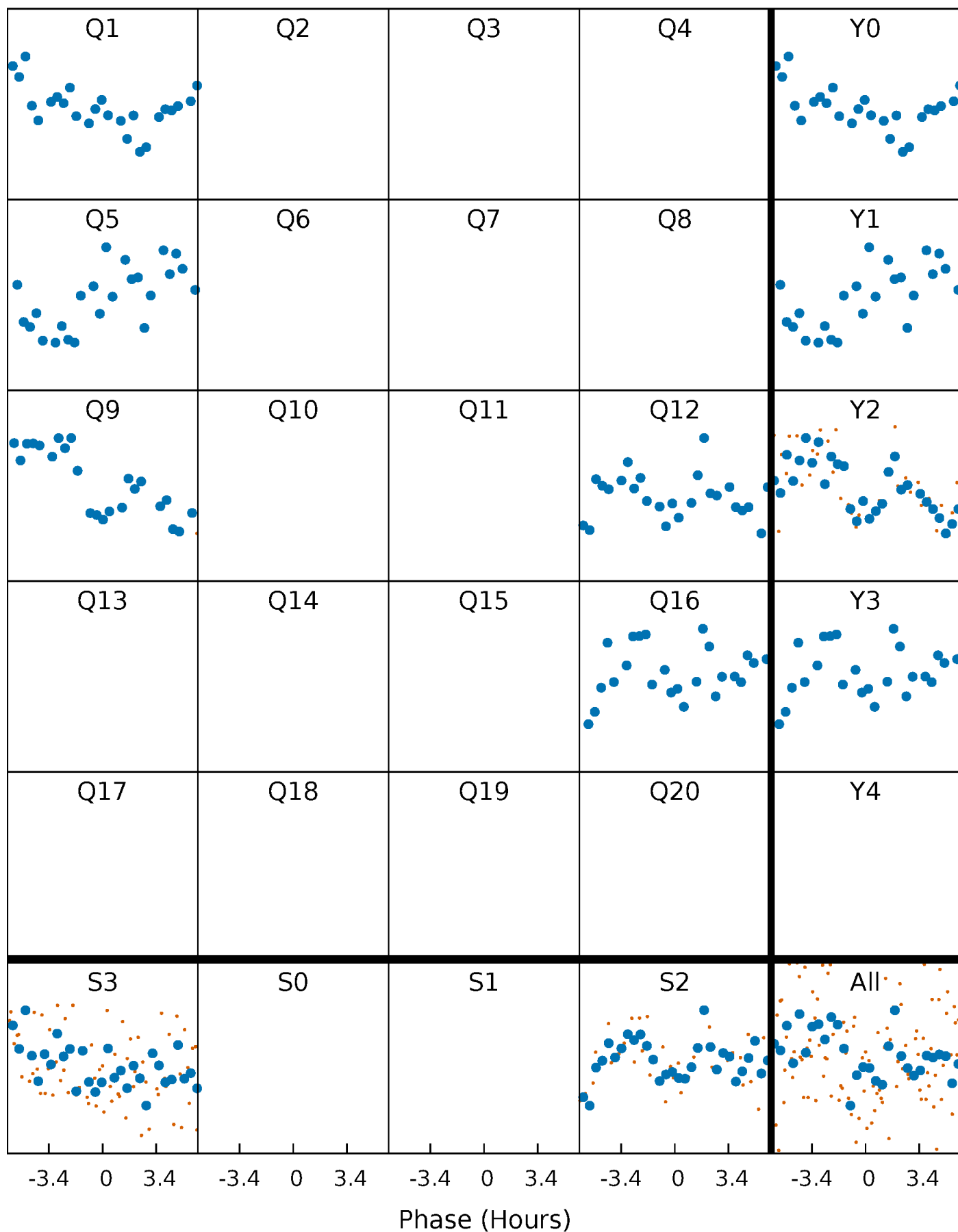


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



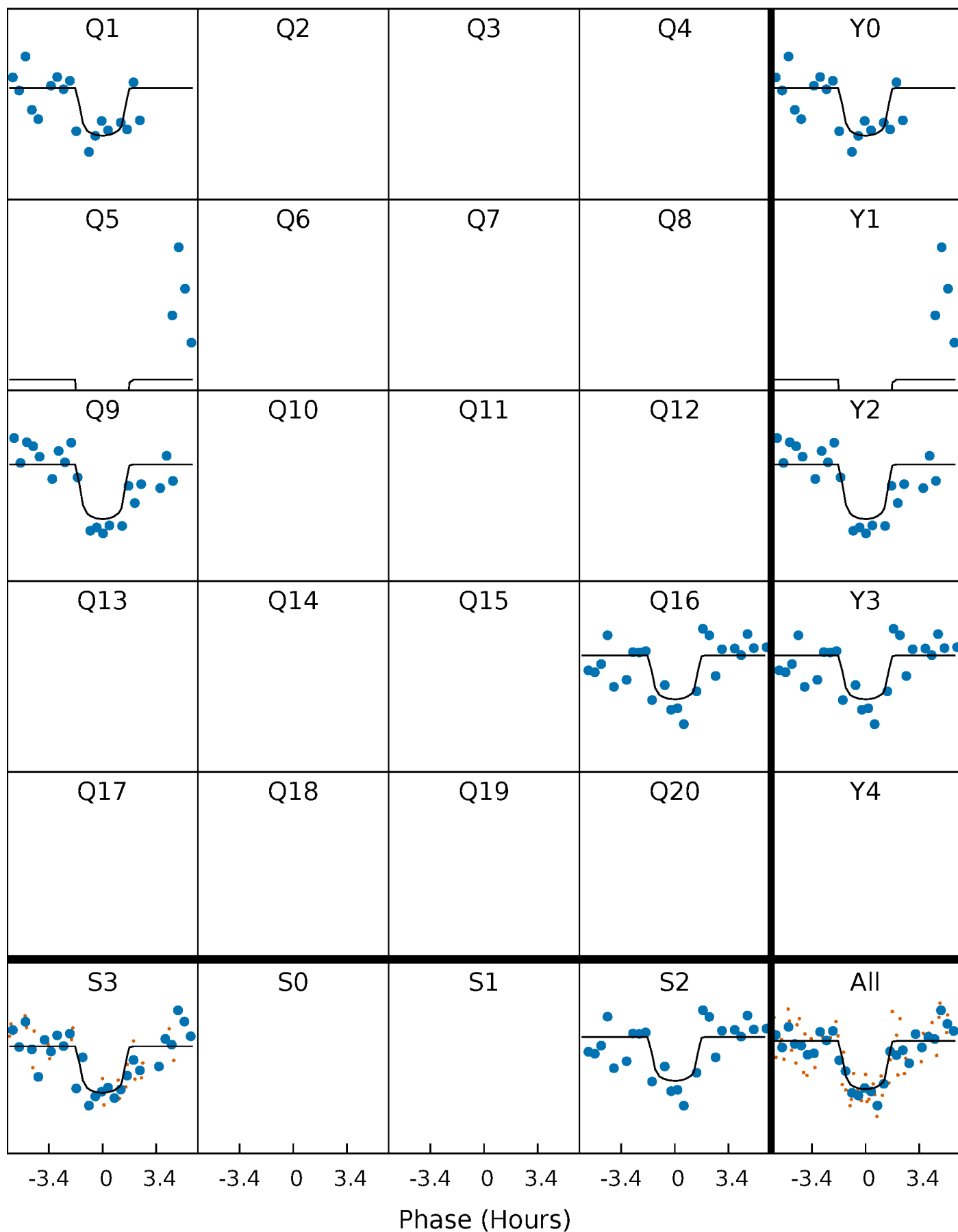
PDC Quarter-Phased Transit Curves

TCE 008573459-02 P=337.141056 Days $T_0=148.165851$ (BKJD)



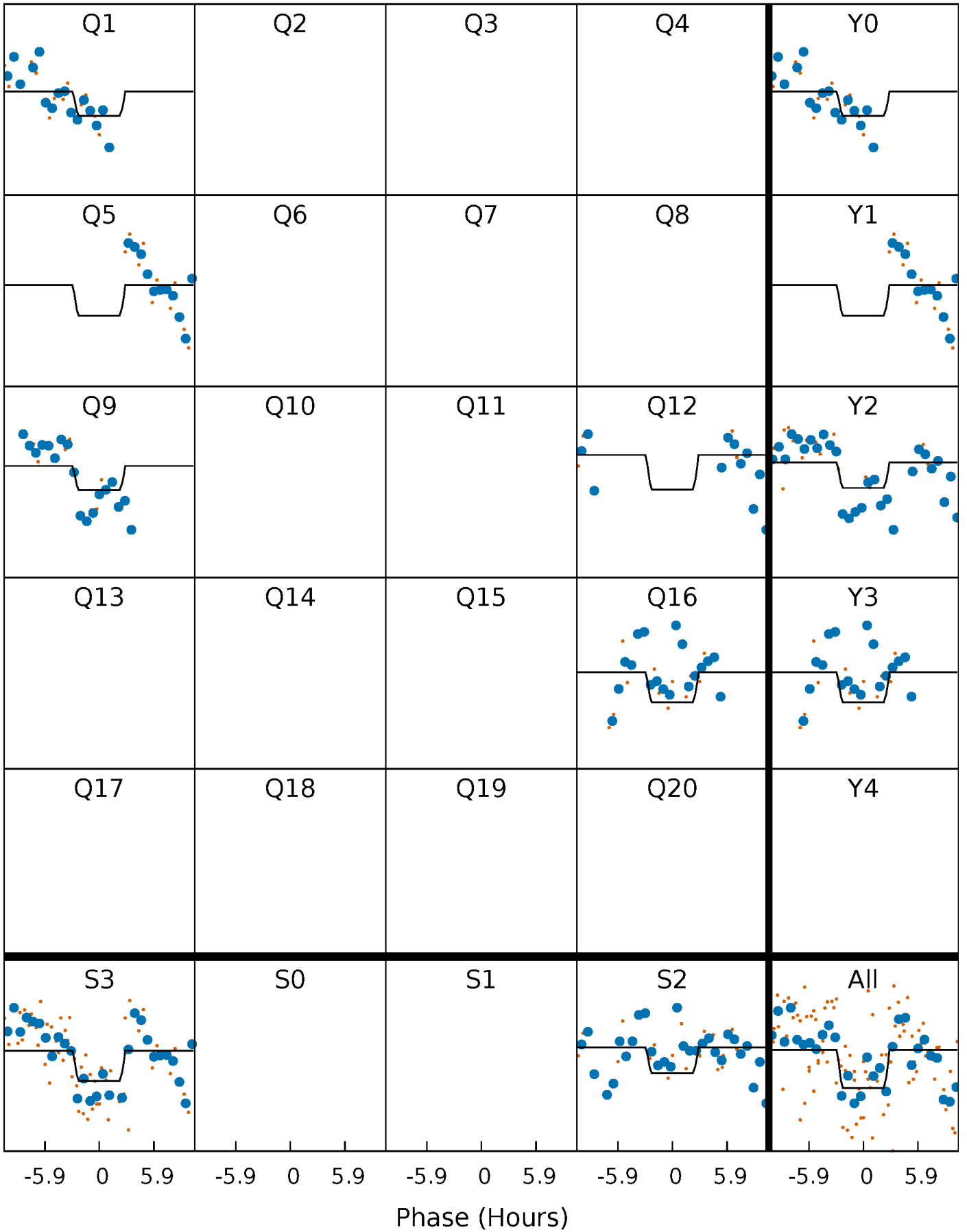
DV Quarter-Phased Transit Curves

TCE 008573459-02 P=337.141056 Days $T_0=148.165851$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

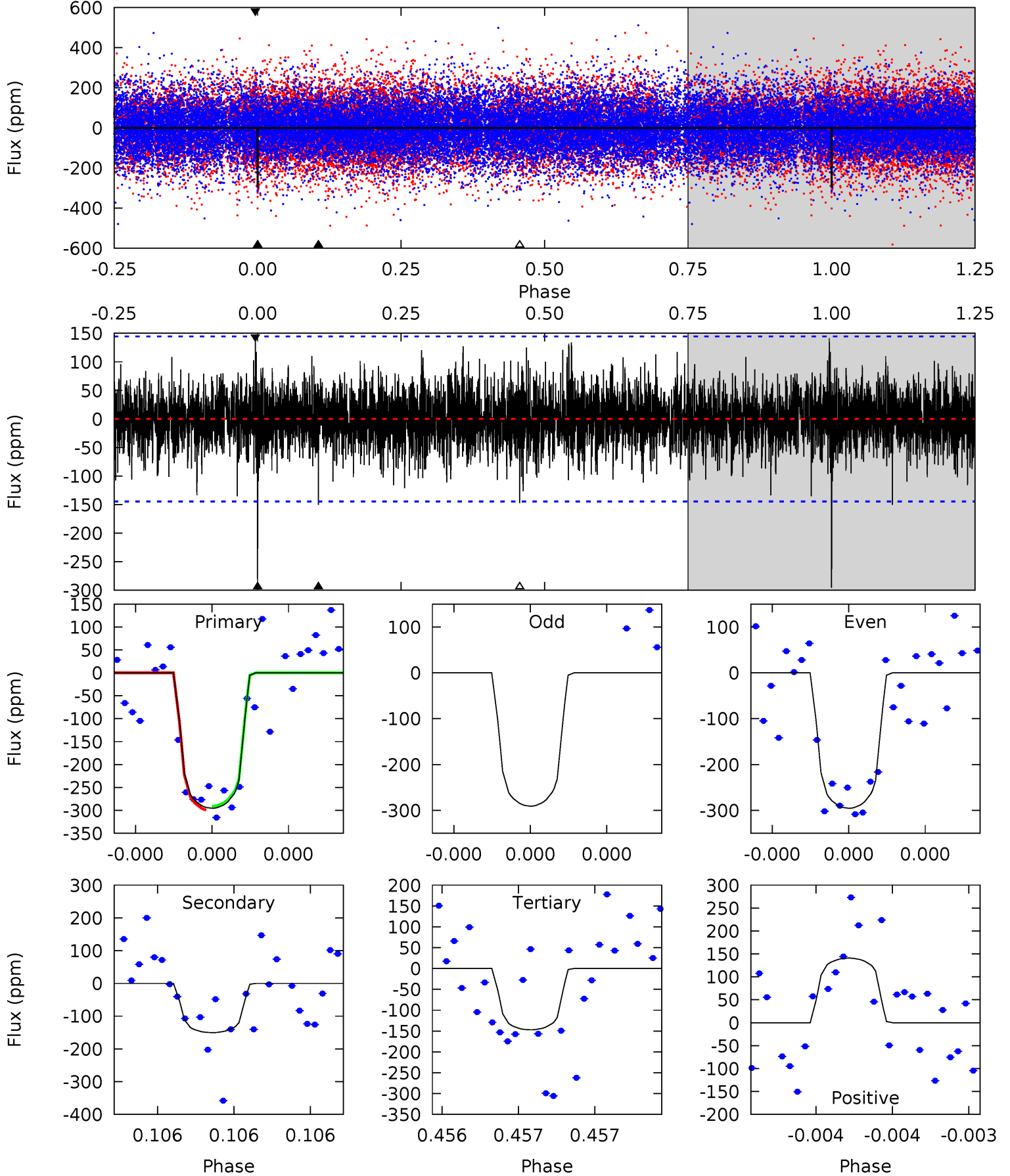
TCE 008573459-02 $P=337.138180$ Days $T_0=148.226983$ (BKJD)



DV Model-Shift Uniqueness Test

008573459-02, P = 337.141056 Days, E = 148.165851 Days

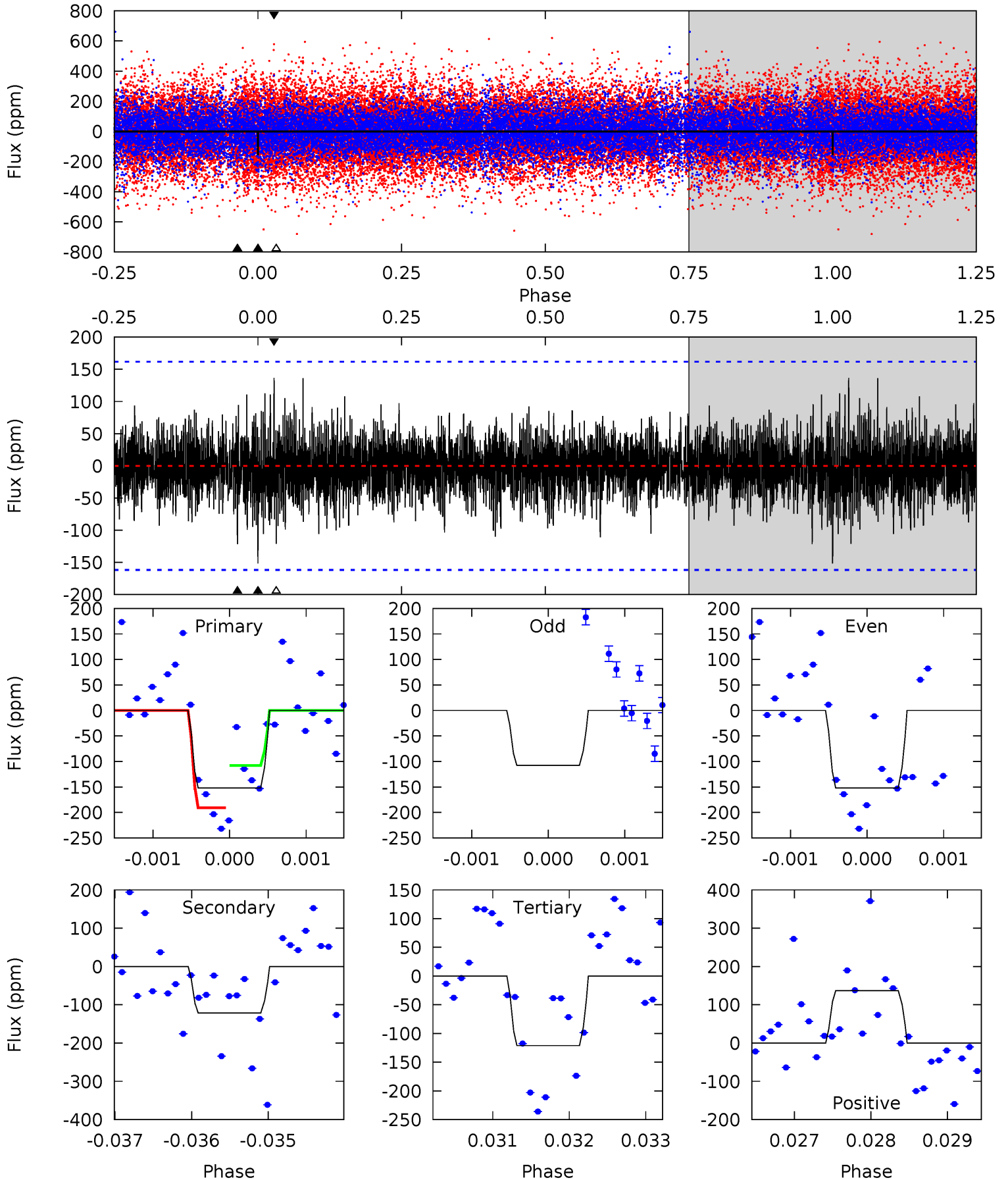
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	5.83	5.71	5.46	5.60	3.52	1.41	5.75	5.99	0.13	0.37	0.11	0.96	0.32	0.16



Alt Model-Shift Uniqueness Test

008573459-02, P = 337.138180 Days, E = 148.226983 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.18	4.15	4.14	4.67	5.52	3.40	1.12	1.05	0.51	0.01	-0.52	0.85	0.87	0.47	1.41



Stellar Parameters For KIC 008573459

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6578^{+166}_{-199}	$3.341^{+0.450}_{-0.050}$	$-0.180^{+0.350}_{-0.300}$	$5.024^{+0.270}_{-2.429}$	$2.020^{+0.123}_{-0.522}$	$0.022^{+0.098}_{-0.004}$
	+3%/-3%	+13%/-1%	+194%/-167%	+5%/-48%	+6%/-26%	+438%/-17%
Source	PHO1	FLK73	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 008573459-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-150 ± 26	$11.38^{+11.06}_{-7.56}$	808^{+41}_{-94}	4830^{+3748}_{-1024}	895^{+7512}_{-665}
Alt.	-121 ± 29	$10.14^{+12.40}_{-6.77}$	809^{+39}_{-88}	4817^{+3717}_{-1129}	850^{+6682}_{-657}

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

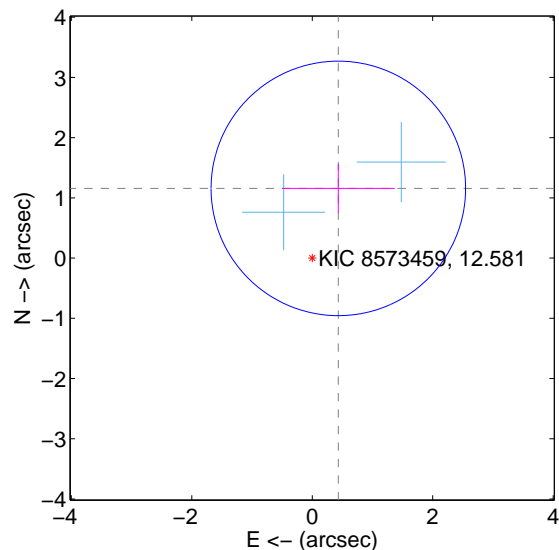
Supplemental centroid analysis for 008573459-02. Kepler magnitude: 12.58. Transit SNR 7.94

There are 2 quarters with good PRF difference image offsets

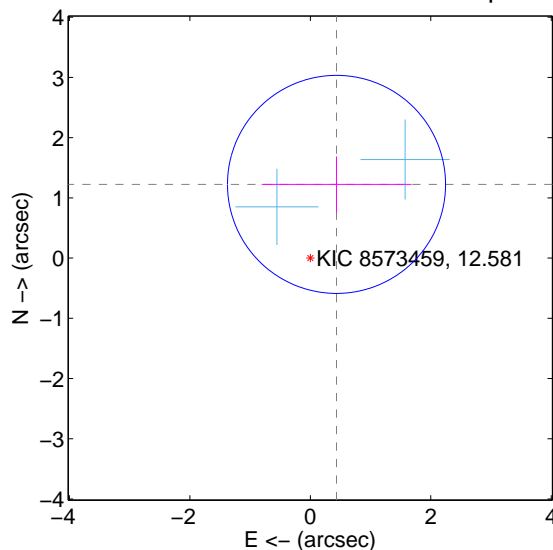
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.236 ± 0.704	1.75	-0.433 ± 0.937	1.157 ± 0.404
PRF-fit source offset from KIC position	1.299 ± 0.603	2.15	-0.435 ± 1.242	1.224 ± 0.464
photometric centroid source offset	0.69 ± 0.86	0.81	-0.32 ± 0.73	-0.61 ± 0.89

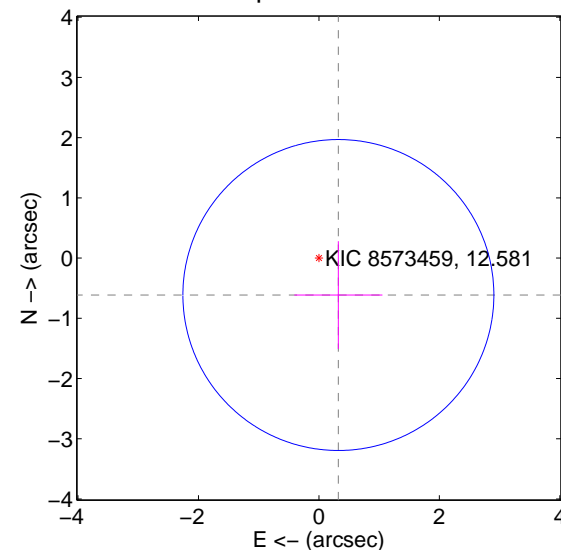
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

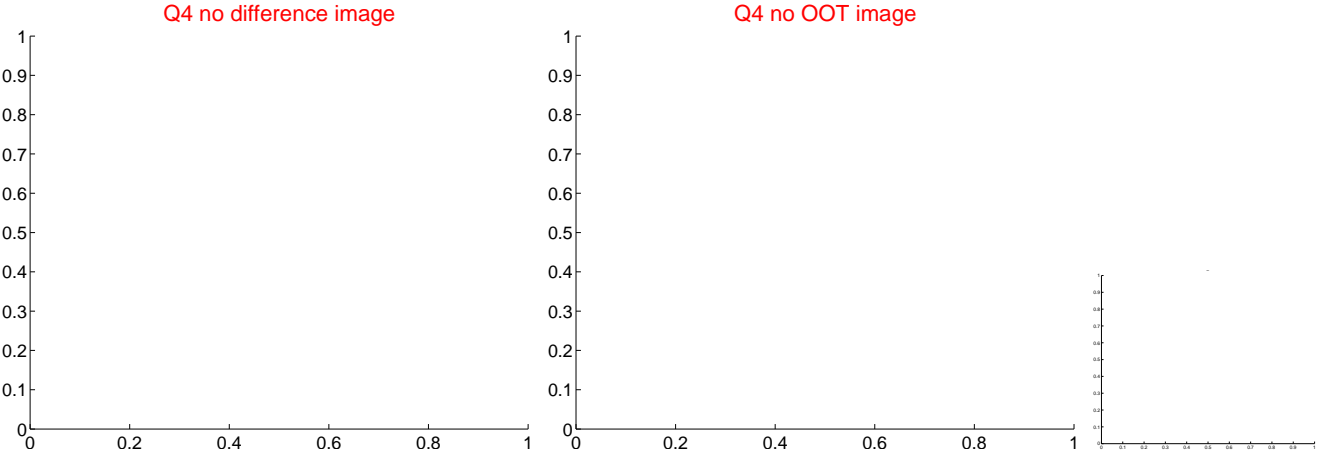
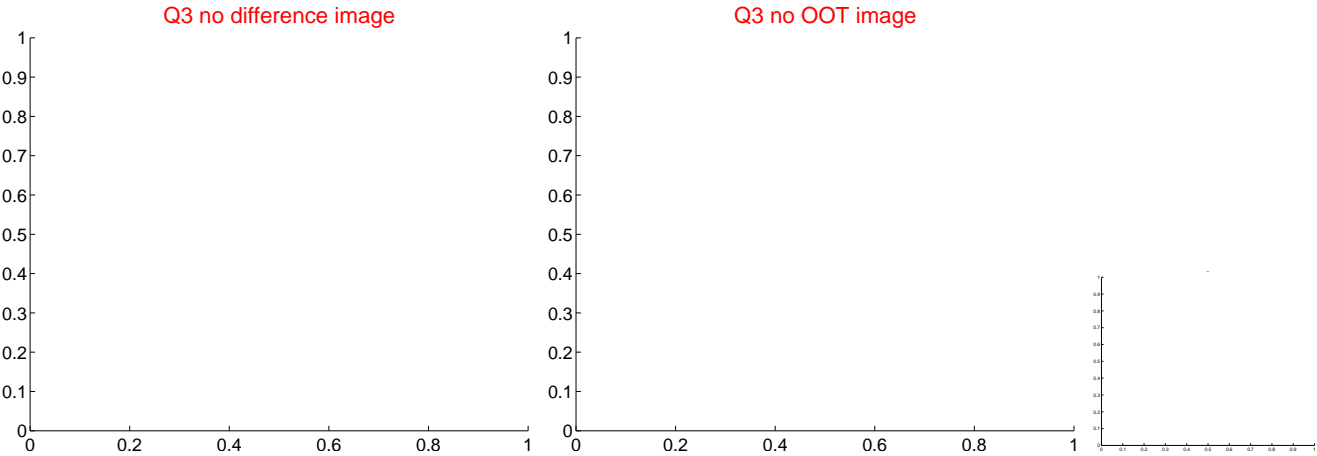
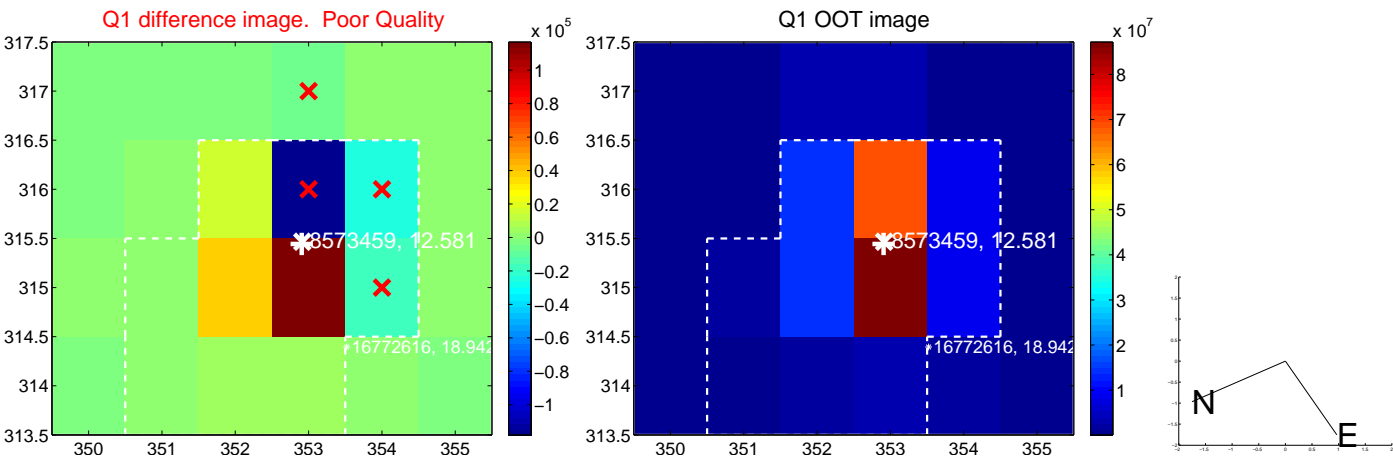


offset from photometric centroids

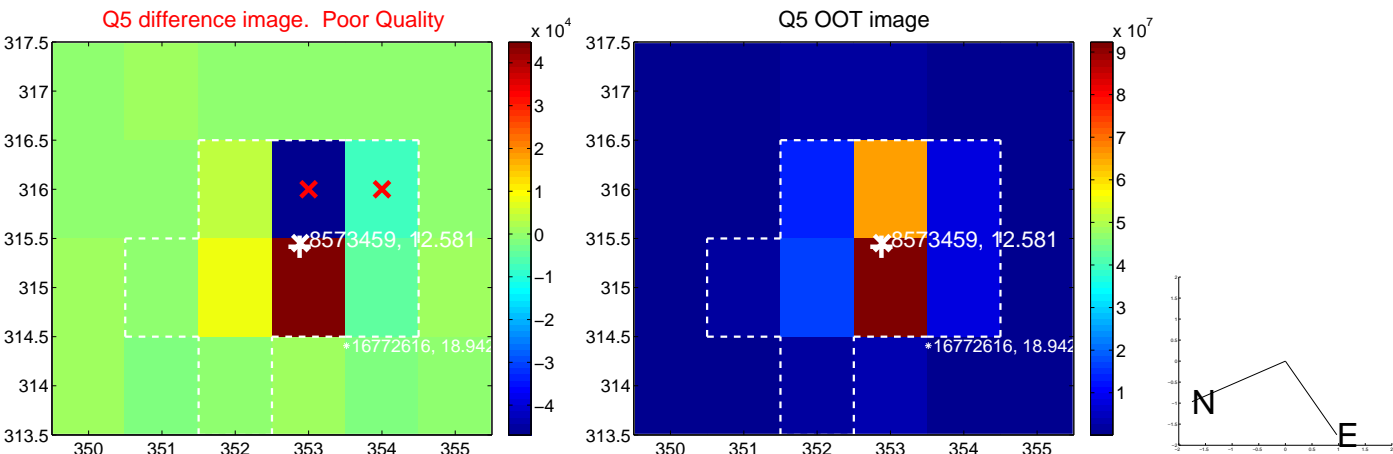


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

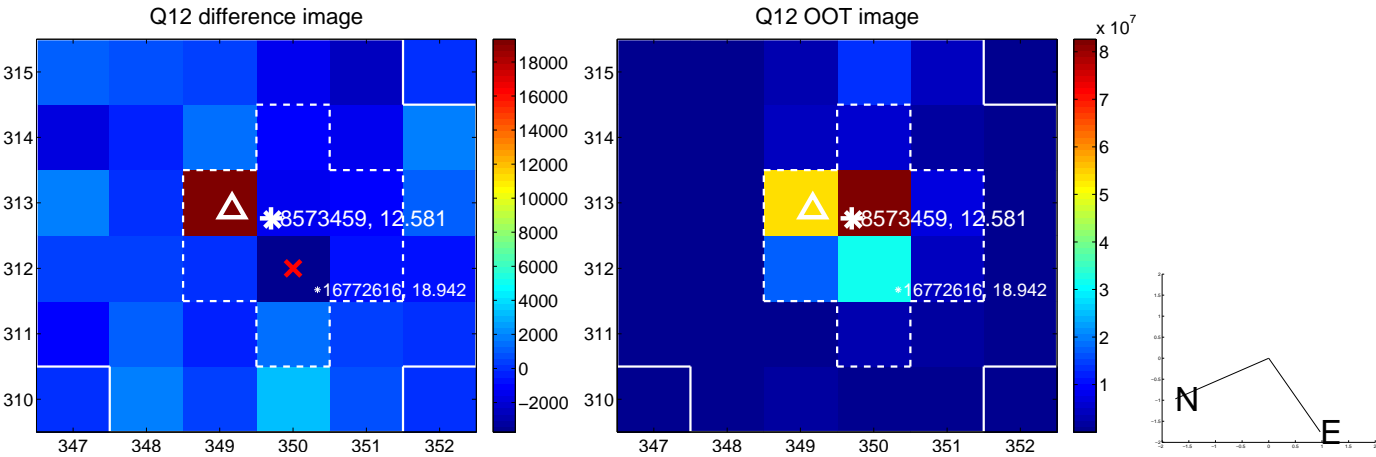
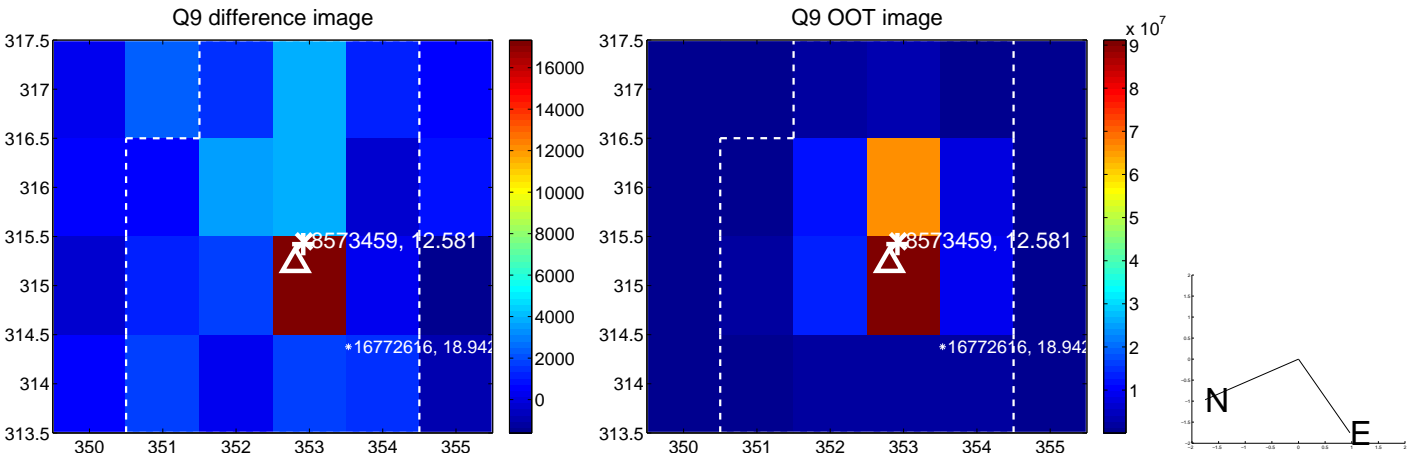
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



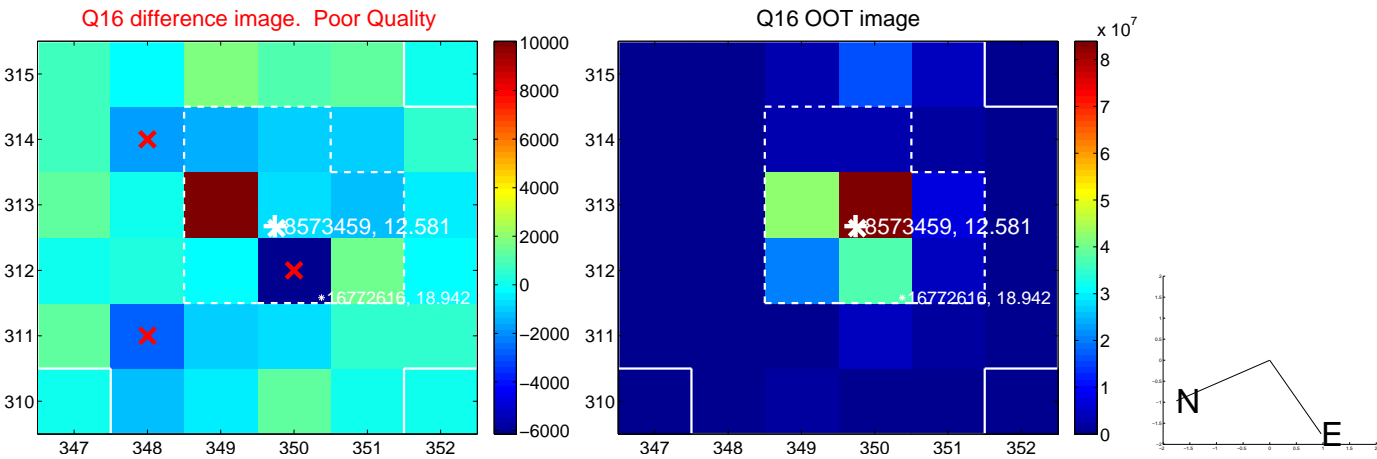
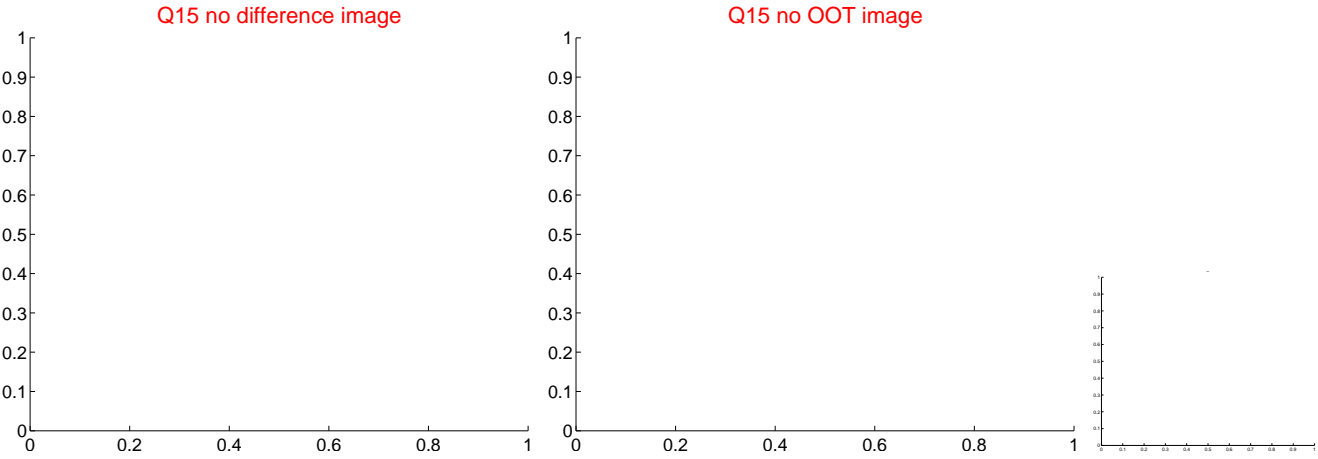
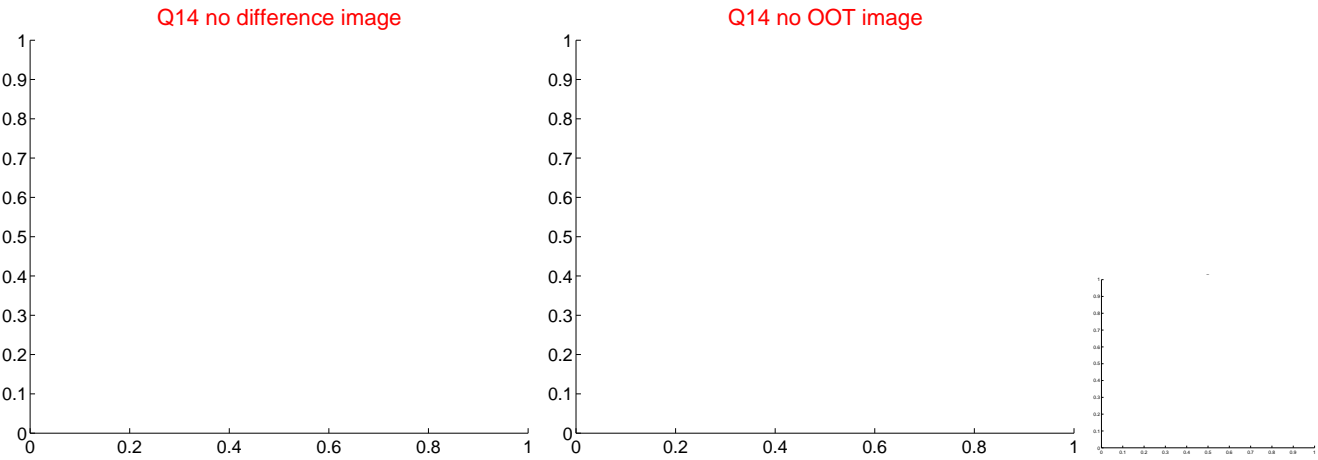
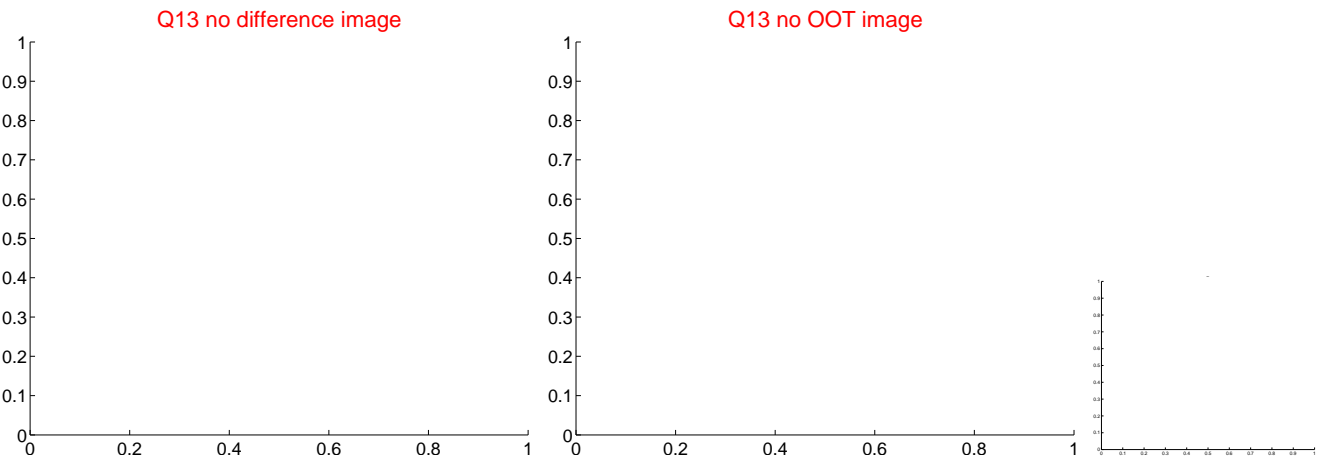
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



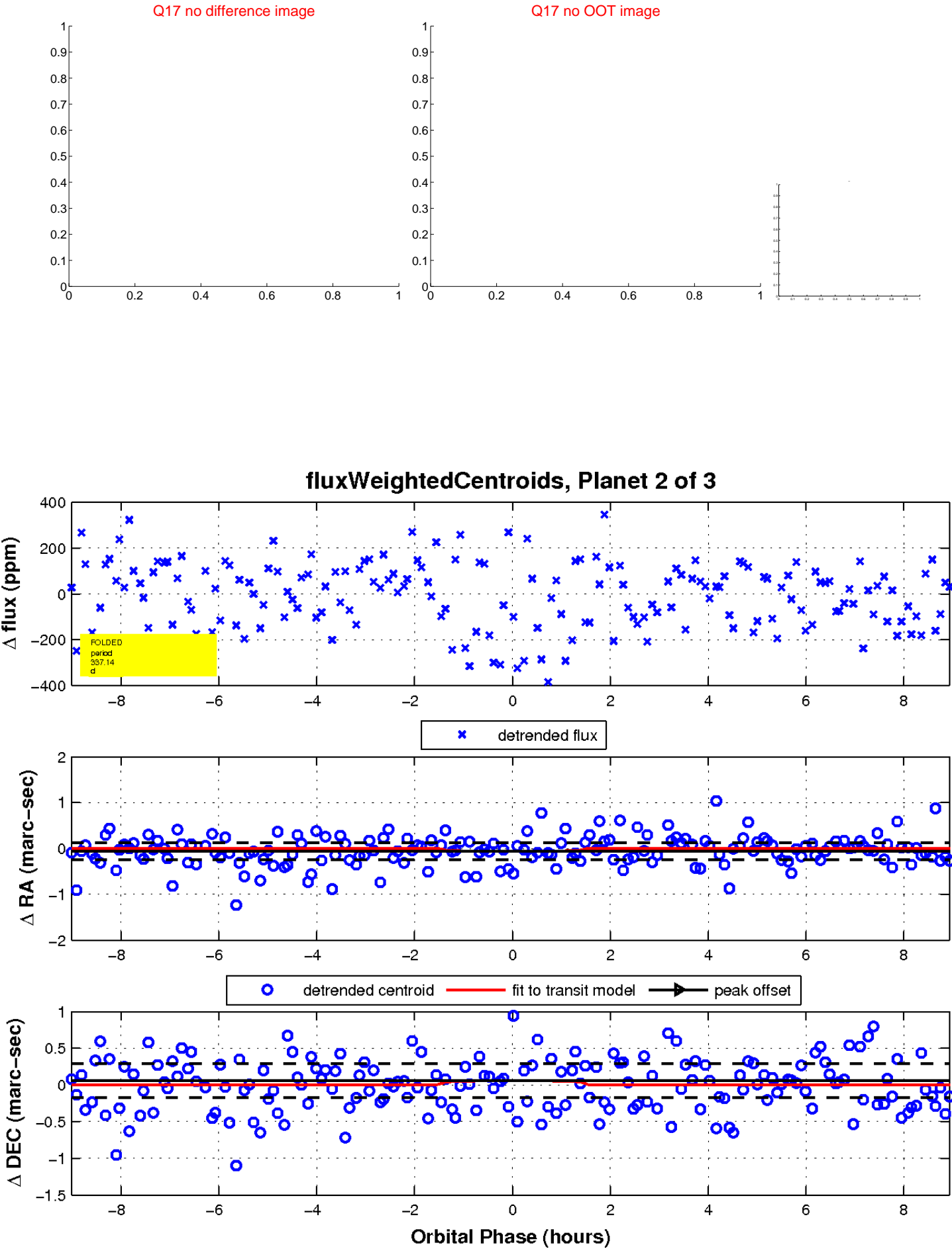
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

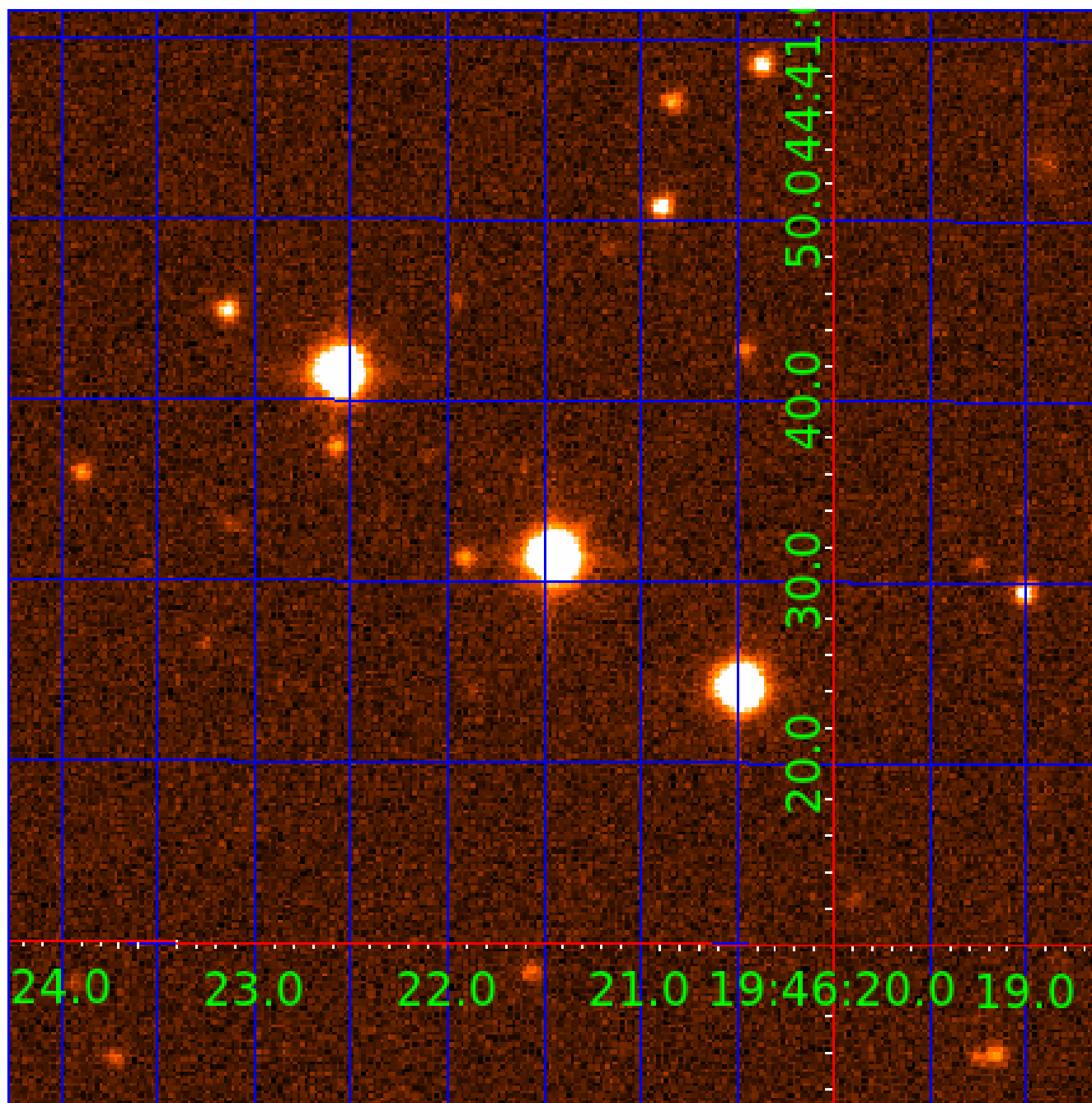


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008573459

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})
008573459-01	OBS	No	1.061987	131.562975	15.3	4.186	9.0	8.7	5.02	6578	2.16	63847.52
008573459-02	OBS	No	337.141056	148.165851	256.1	3.015	7.4	7.9	5.02	6578	8.61	29.48
008573459-03	OBS	No	1.060506	132.299456	8.7	0.963	9.2	2.2	5.02	6578	1.70	63966.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008573459-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT
008573459-02	OBS	FP	0.00	1	0	0	0	LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008573459-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_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.

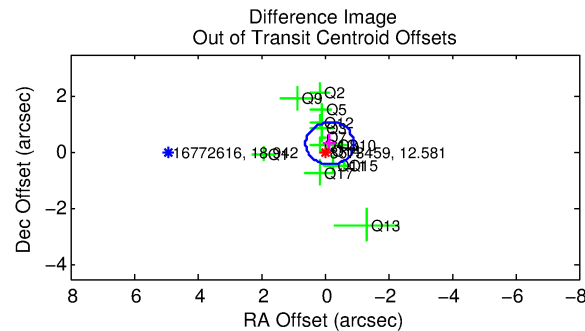
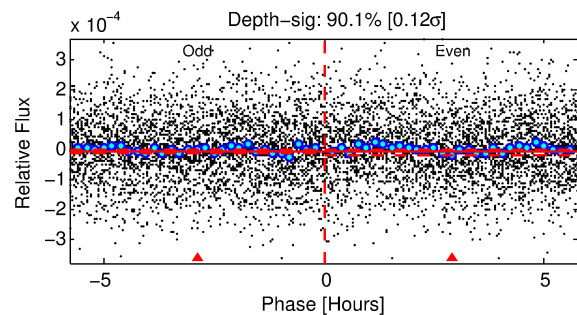
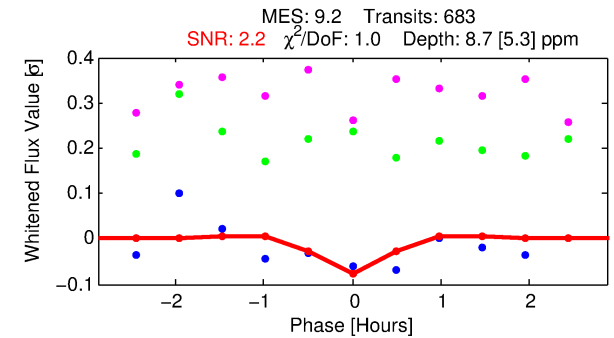
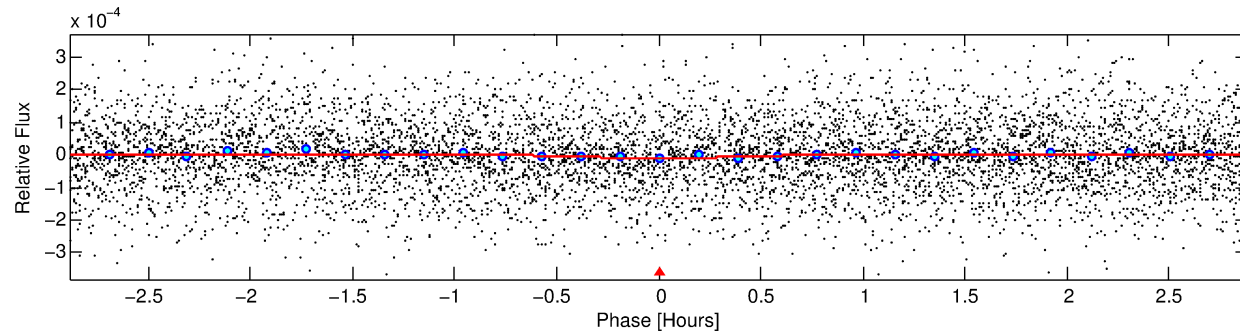
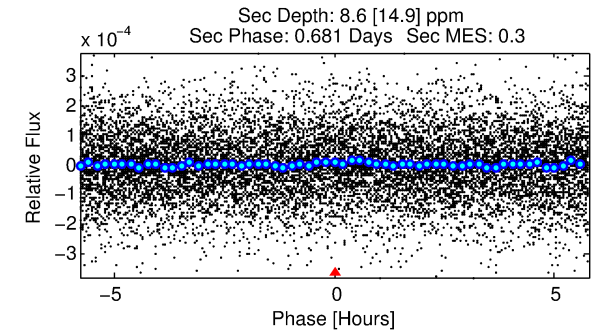
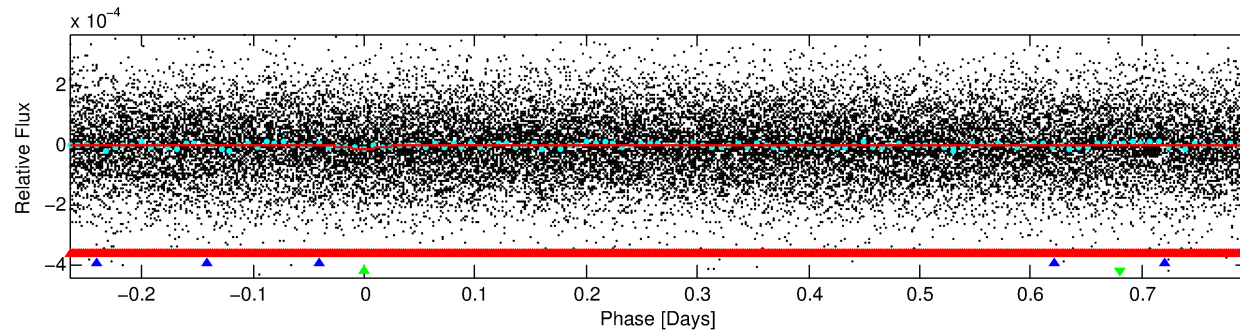
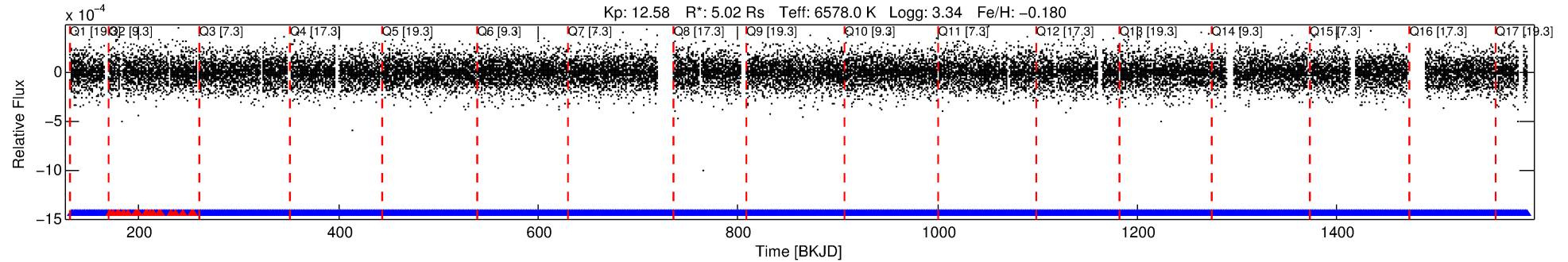
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008573459-03

No Significant Match Found

DV One-Page Summary

KIC: 8573459 Candidate: 3 of 3 Period: 1.061 d



DV Fit Results:

Period = 1.06051 [0.00005] d
Epoch = 132.2995 [0.0080] BKJD
Rp/R* = 0.0031 [0.0018]
a/R* = 4.33 [11.48]
b = 0.87 [0.80]
Seff = 63966.45 [49370.50]
Teq = 4055 [782] K
Rp = 1.70 [1.28] Re
a = 0.0257 [0.0122] AU
Ag = 1.08 [2.39] [0.03σ]
Teffp = 6389 [3333] K [0.68σ]

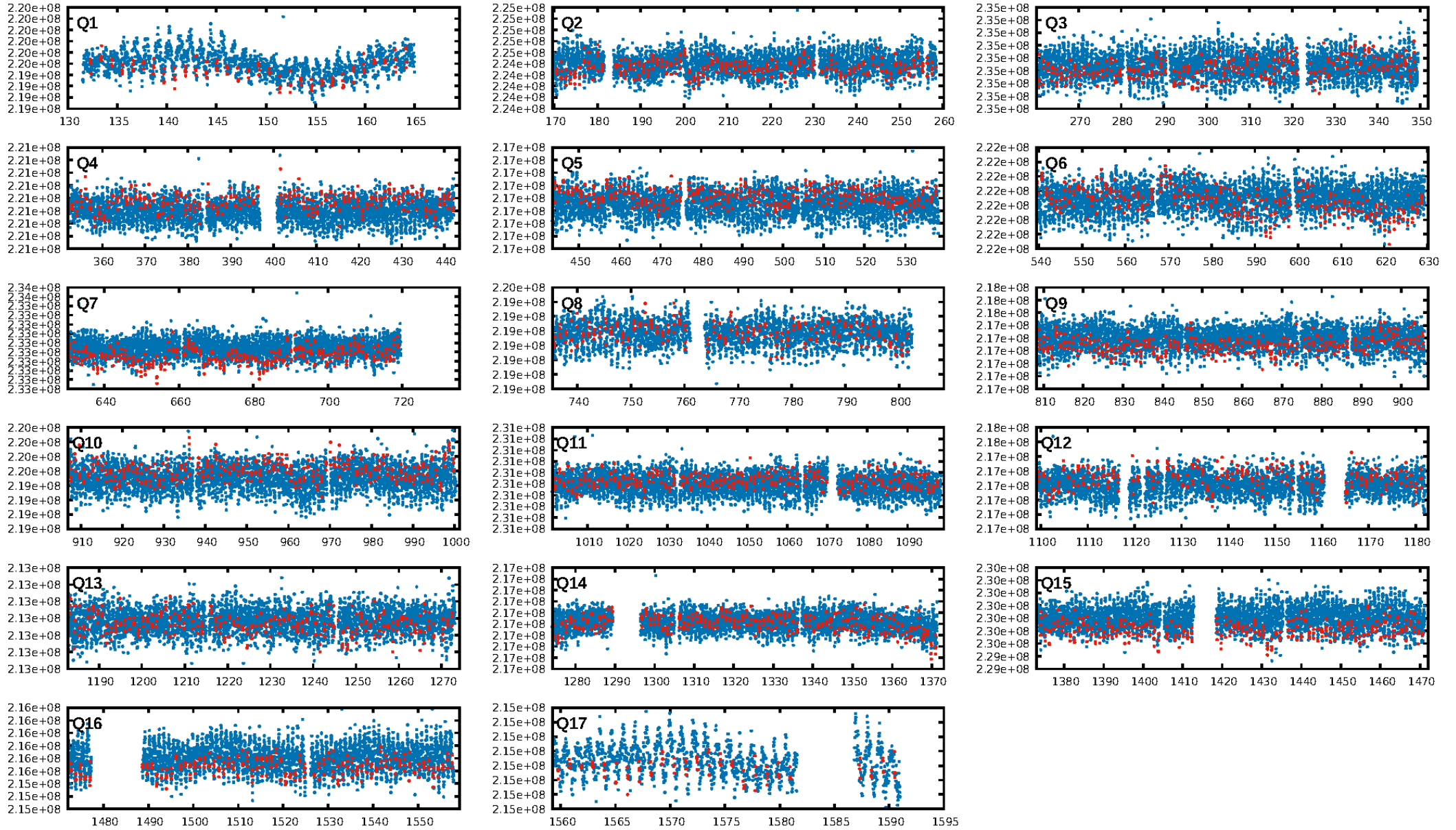
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.7% [0.01σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.87e-15
RollingBand-fgt: 0.97 [632/653]
GhostDiagnostic-chr: 0.2802
Centroid-sig: 0.0%
Centroid-so: 9.742 arcsec [3.51σ]
OotOffset-rm: 0.361 arcsec [1.43σ]
KicOffset-rm: 0.417 arcsec [1.79σ]
OotOffset-st: 3/4/3/5 [15]
KicOffset-st: 3/4/3/5 [15]
DiffImageQuality-fgm: 0.47 [7/15]
DiffImageOverlap-fno: 0.53 [9/17]

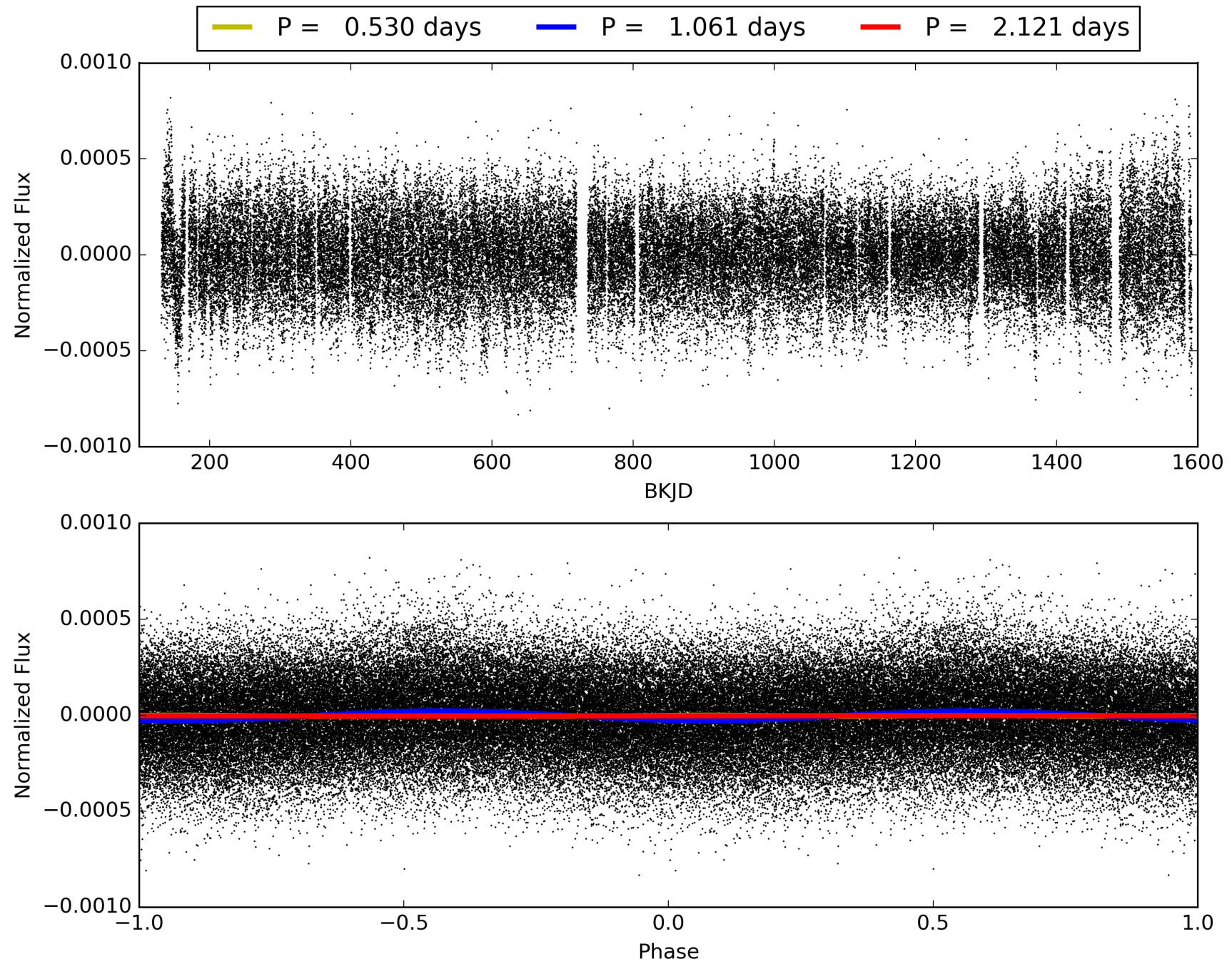
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:31:11 Z

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

TCE 008573459-03, PDC Light Curves

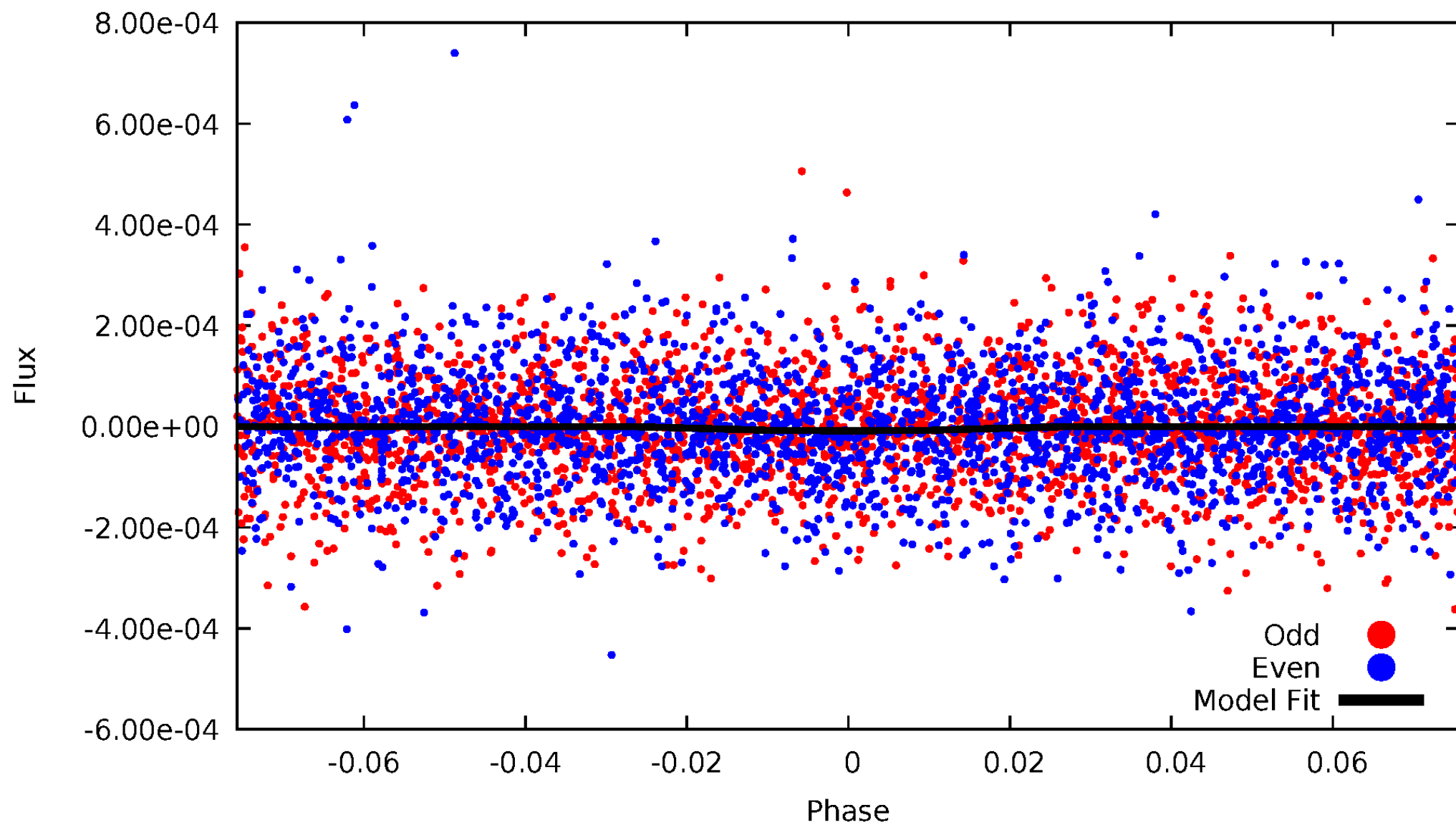


TCE 008573459-03



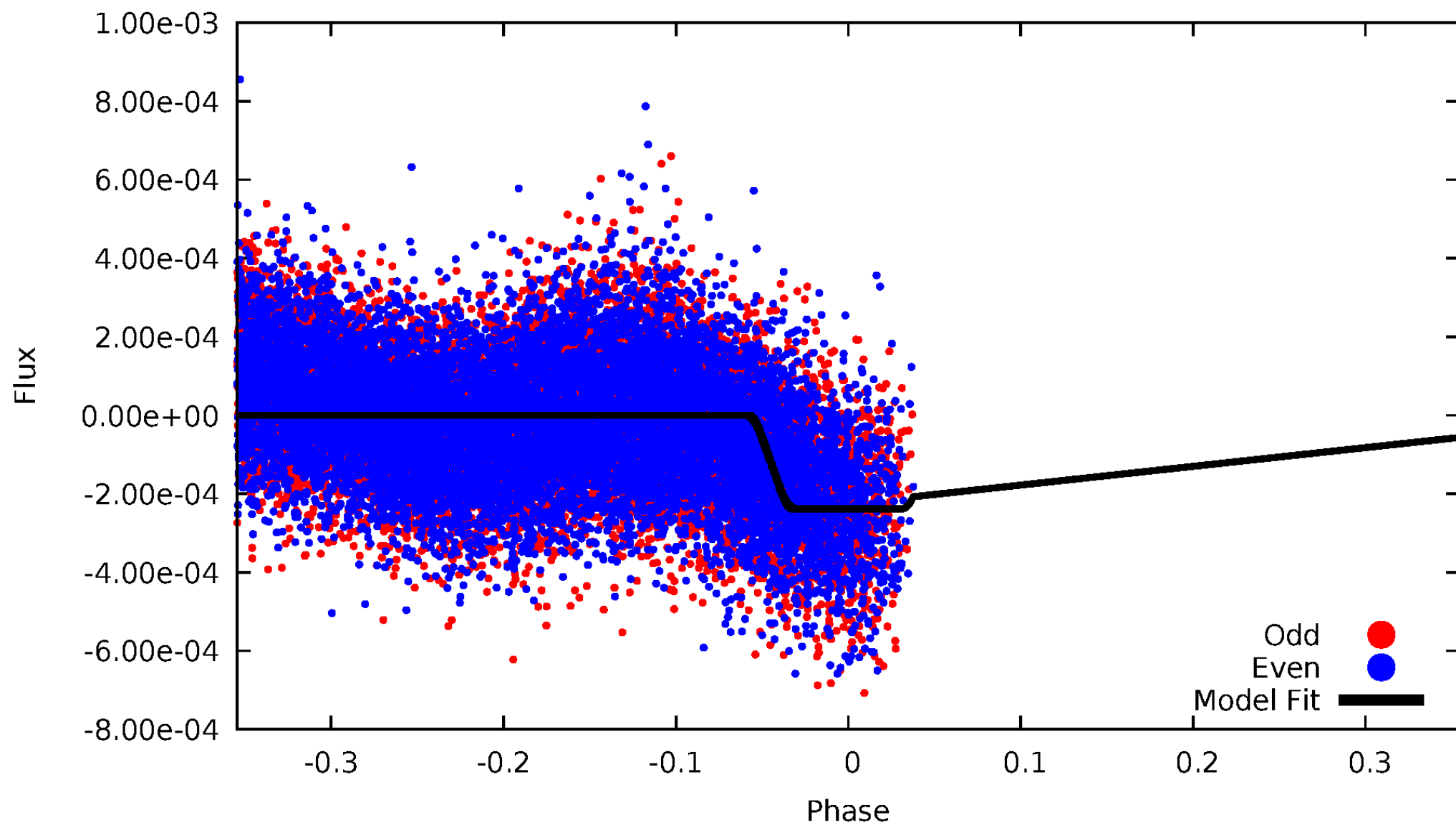
DV Odd/Even

TCE 008573459-03



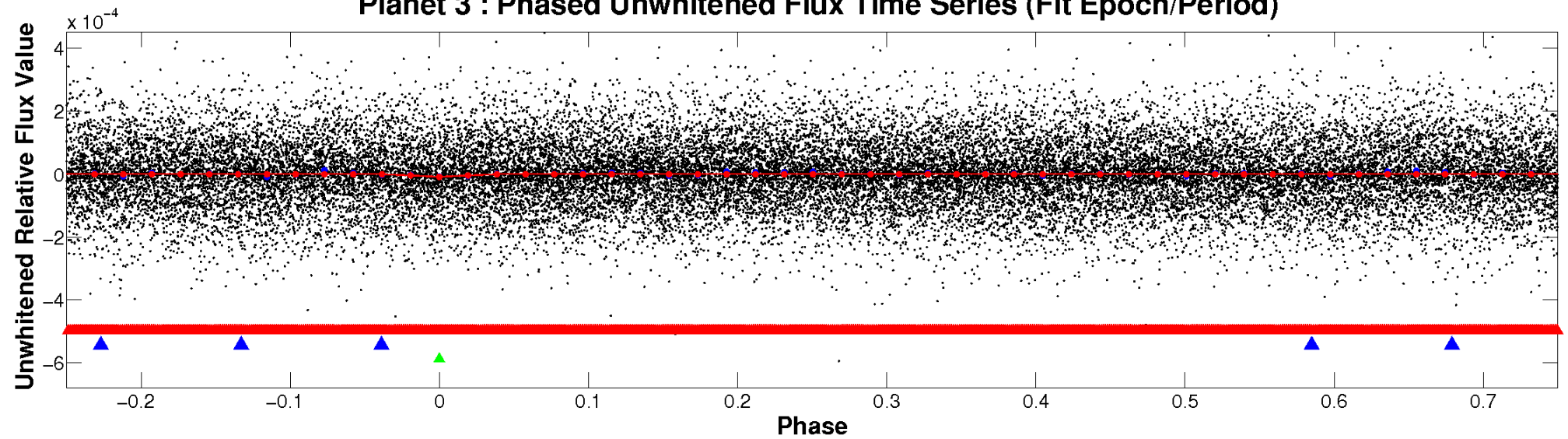
ALT Odd/Even

TCE 008573459-03

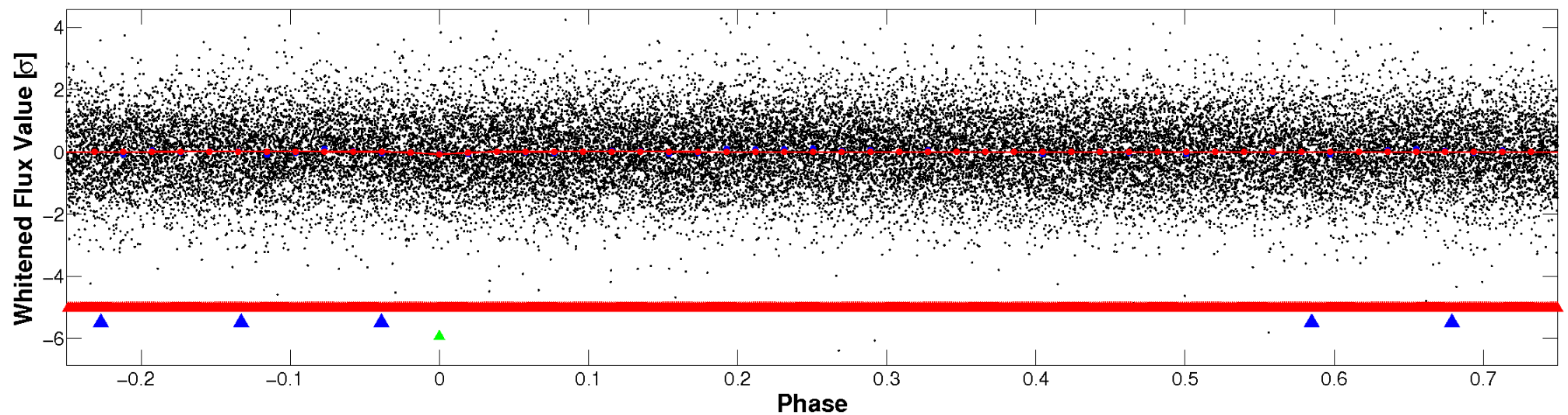


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

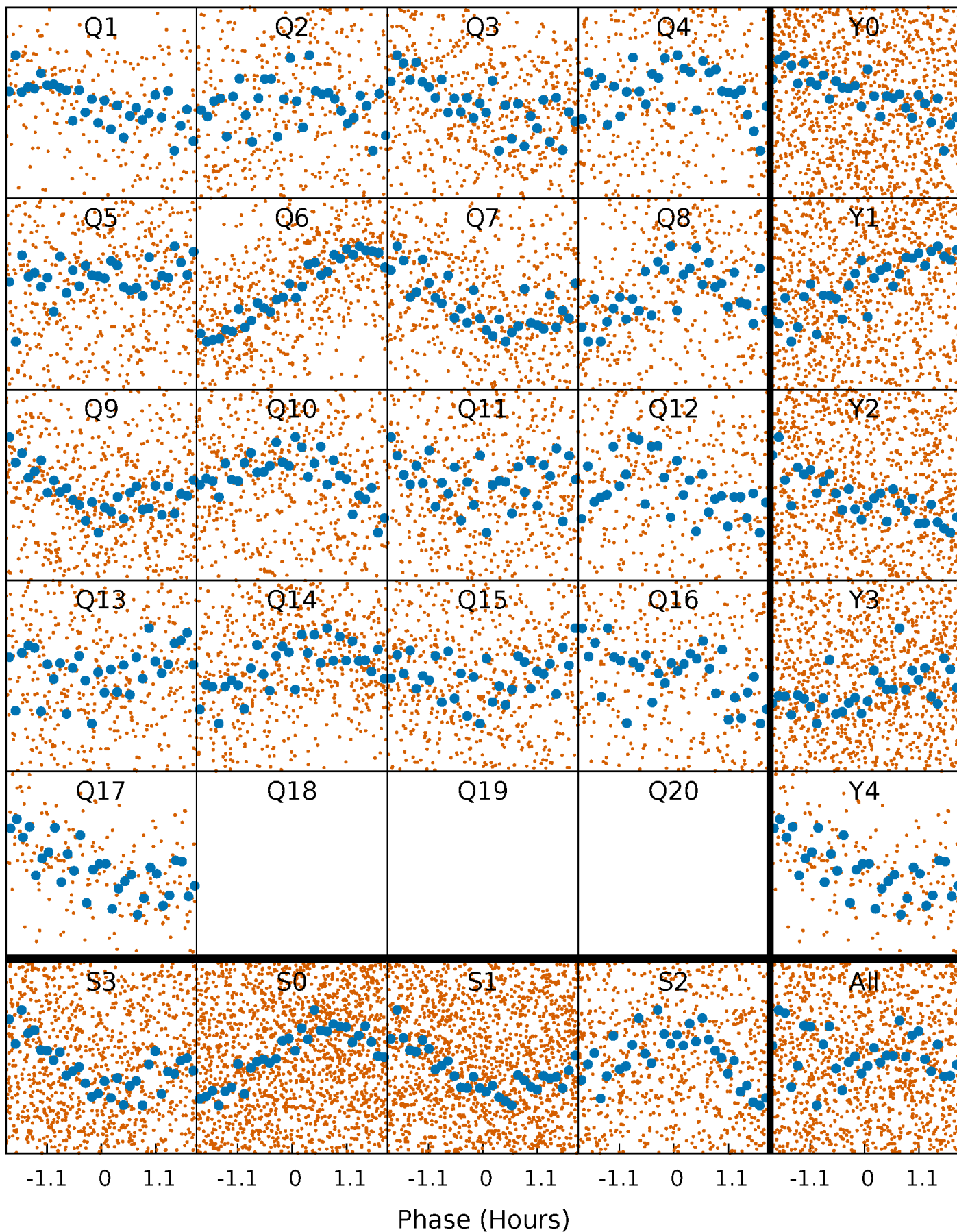


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



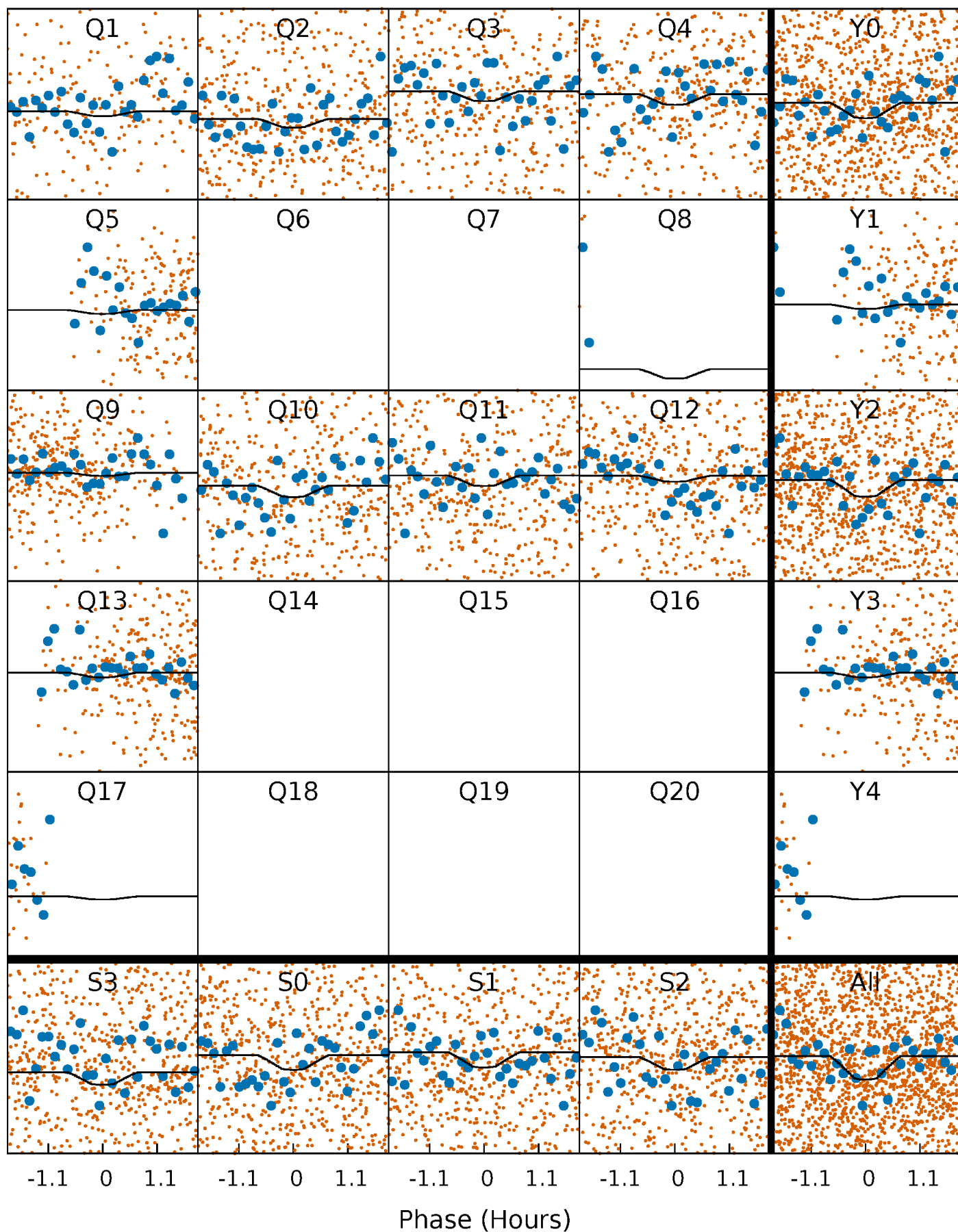
PDC Quarter-Phased Transit Curves

TCE 008573459-03 P= 1.060506 Days $T_0=132.299456$ (BKJD)



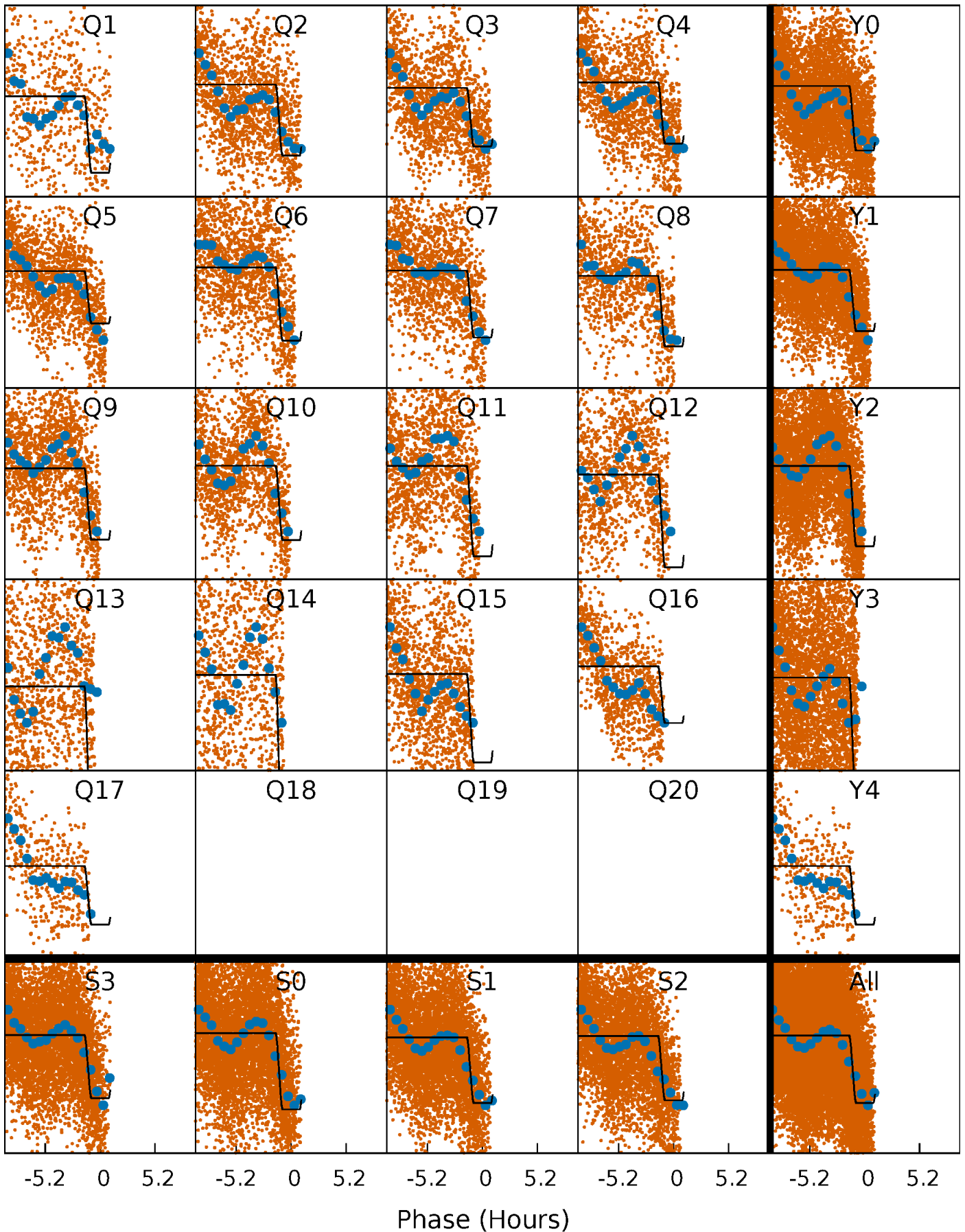
DV Quarter-Phased Transit Curves

TCE 008573459-03 P= 1.060506 Days $T_0=132.299456$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

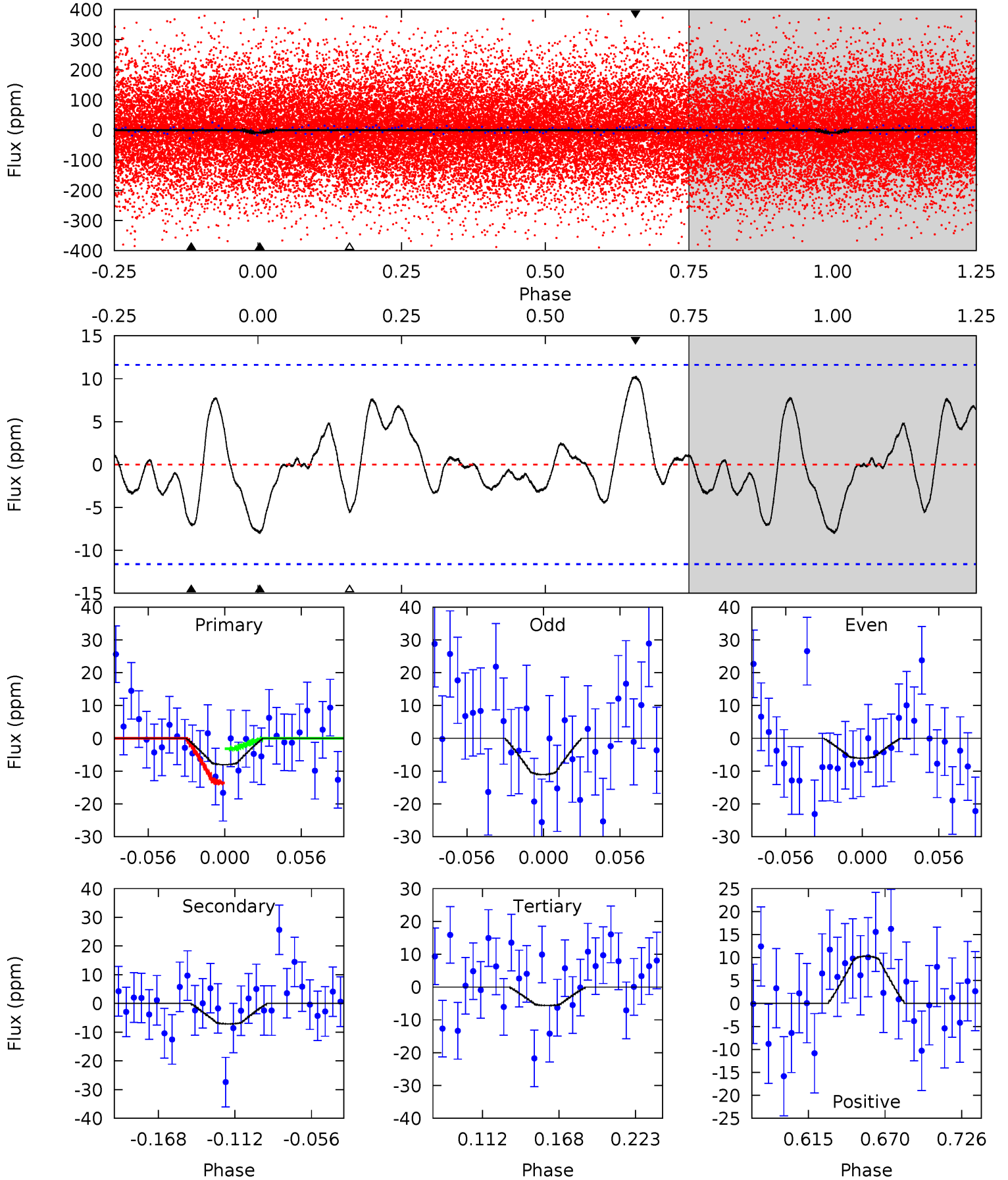
TCE 008573459-03 $P = 1.062048$ Days $T_0 = 132.312467$ (BKJD)



DV Model-Shift Uniqueness Test

008573459-03, P = 1.060506 Days, E = 131.238950 Days

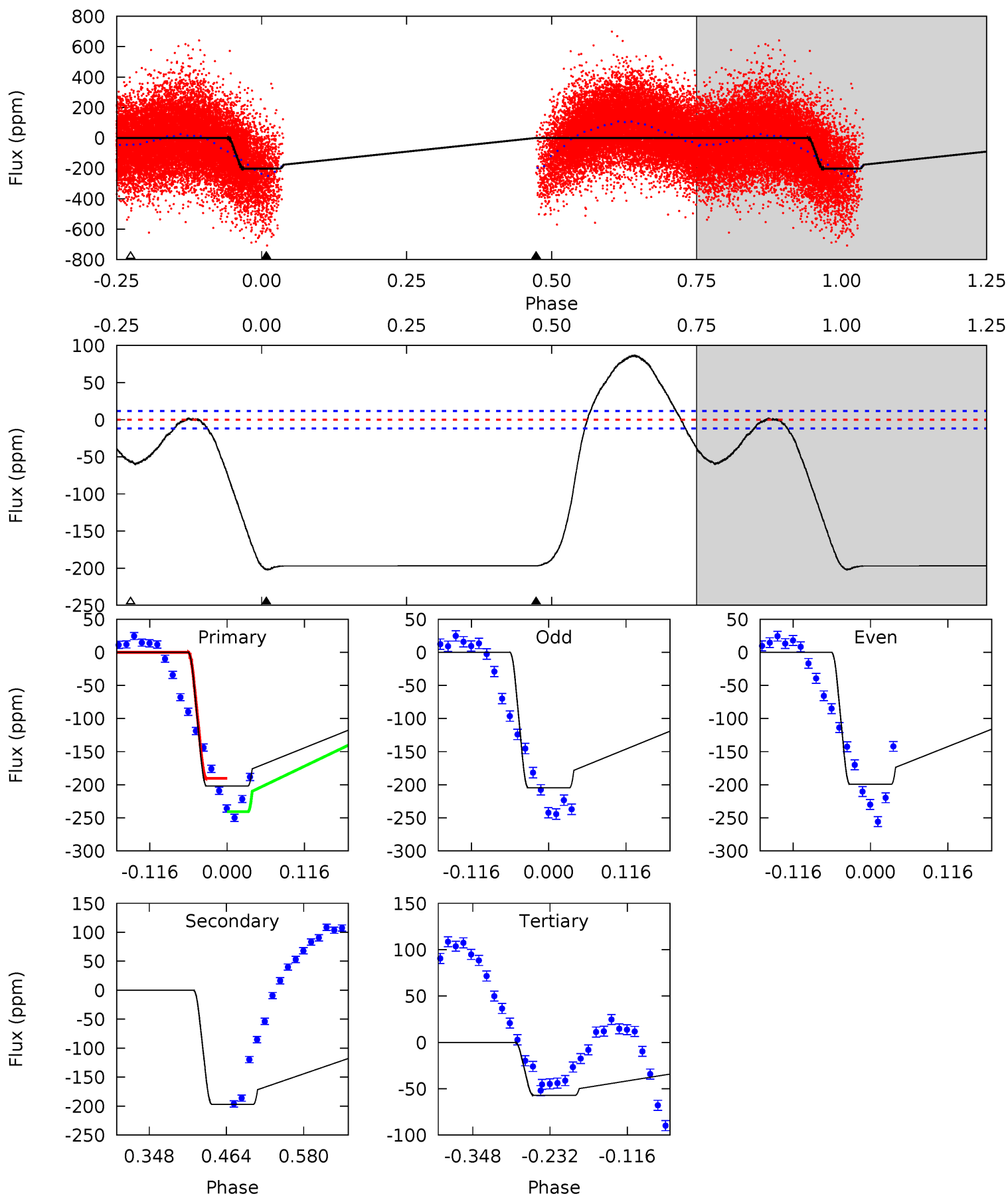
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.25	2.88	2.28	4.15	4.69	1.91	1.35	0.97	-0.91	0.60	-1.28	1.01	1.23	0.56	2.09



Alt Model-Shift Uniqueness Test

008573459-03, P = 1.062048 Days, E = 131.250419 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
78.1	76.2	22.1	0	4.53	1.57	19.1	56.0	78.1	54.0	76.2	1.01	1.01	0.30	6.85



Stellar Parameters For KIC 008573459

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6578^{+166}_{-199}	$3.341^{+0.450}_{-0.050}$	$-0.180^{+0.350}_{-0.300}$	$5.024^{+0.270}_{-2.429}$	$2.020^{+0.123}_{-0.522}$	$0.022^{+0.098}_{-0.004}$
	+3%/-3%	+13%/-1%	+194%/-167%	+5%/-48%	+6%/-26%	+438%/-17%
Source	PHO1	FLK73	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 008573459-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-7 ± 2	$1.56^{+1.05}_{-0.77}$	5521^{+274}_{-548}	5408^{+3057}_{-2165}	$1.013^{+3.265}_{-0.679}$
Alt.	-197 ± 3	$7.92^{+1.43}_{-1.79}$	5534^{+261}_{-603}	5798^{+531}_{-453}	$1.153^{+0.678}_{-0.313}$

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 $A_{obs} \gg 1.0$

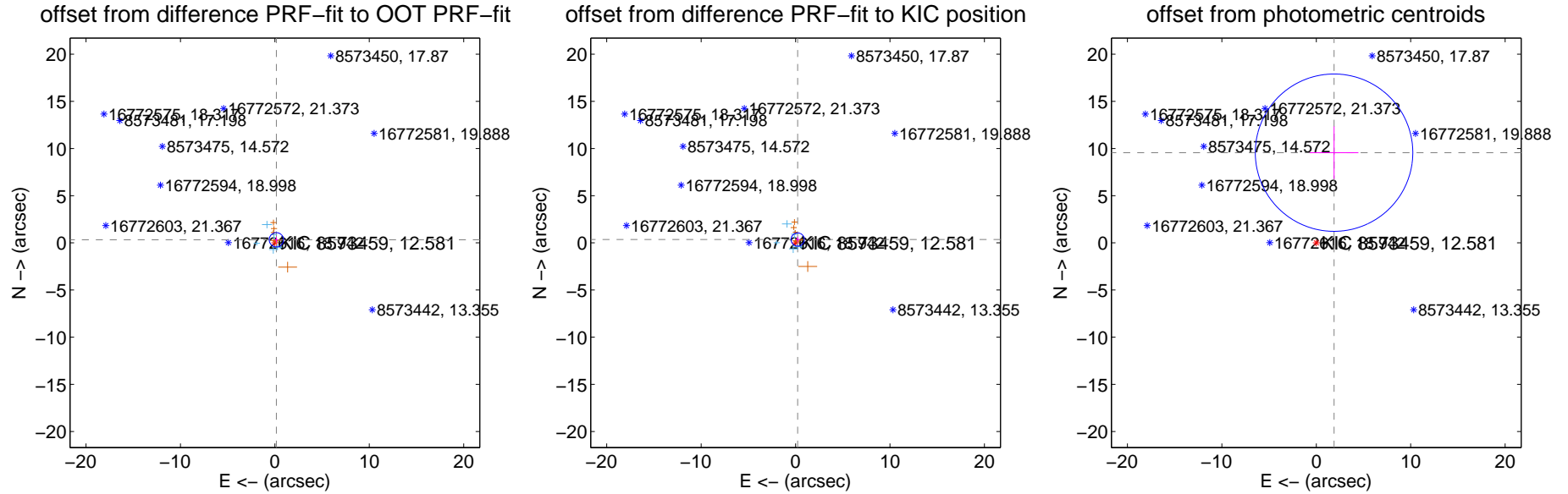
DV Centroid Data

Supplemental centroid analysis for 008573459-03. Kepler magnitude: 12.58. Transit SNR 2.24

There are 7 quarters with good PRF difference image offsets

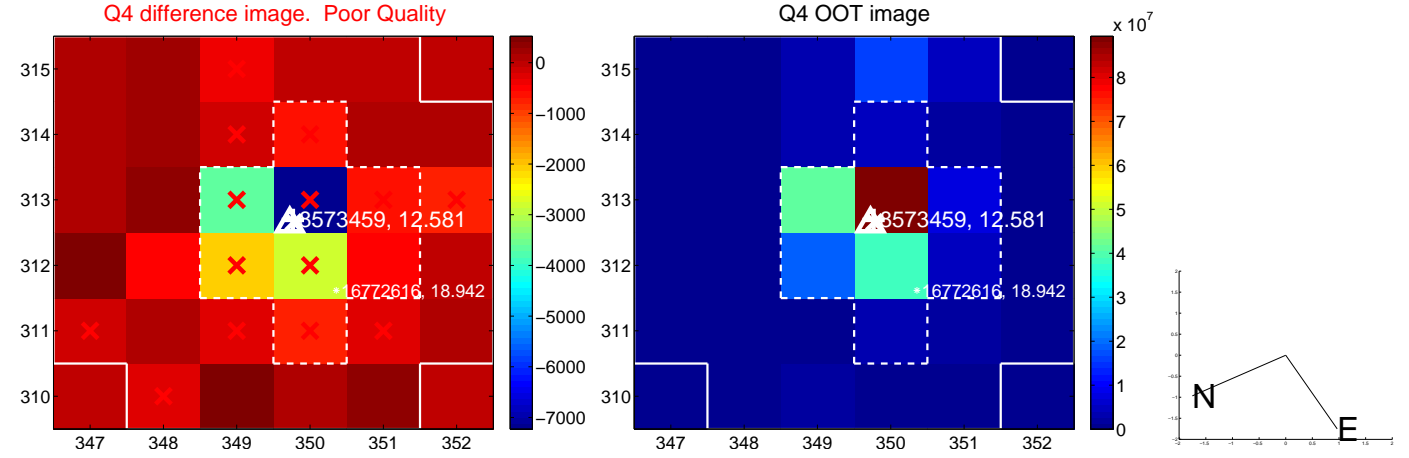
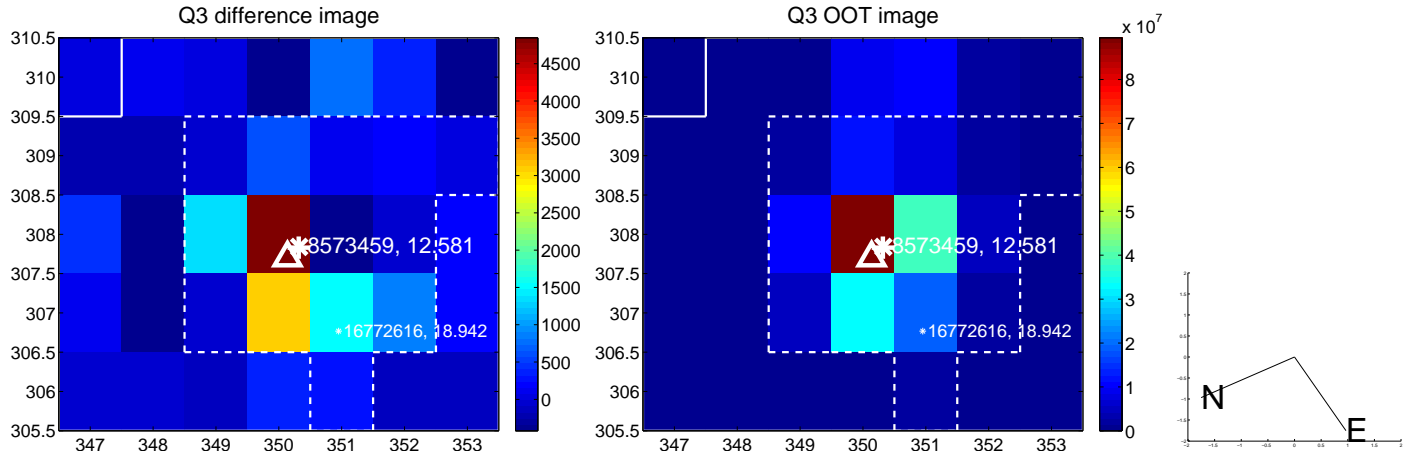
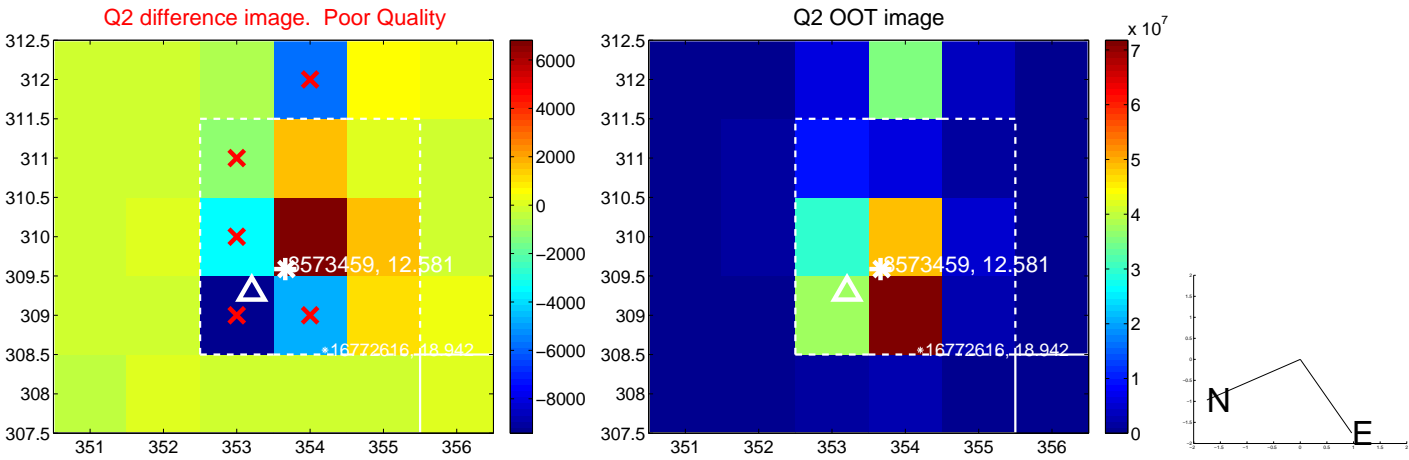
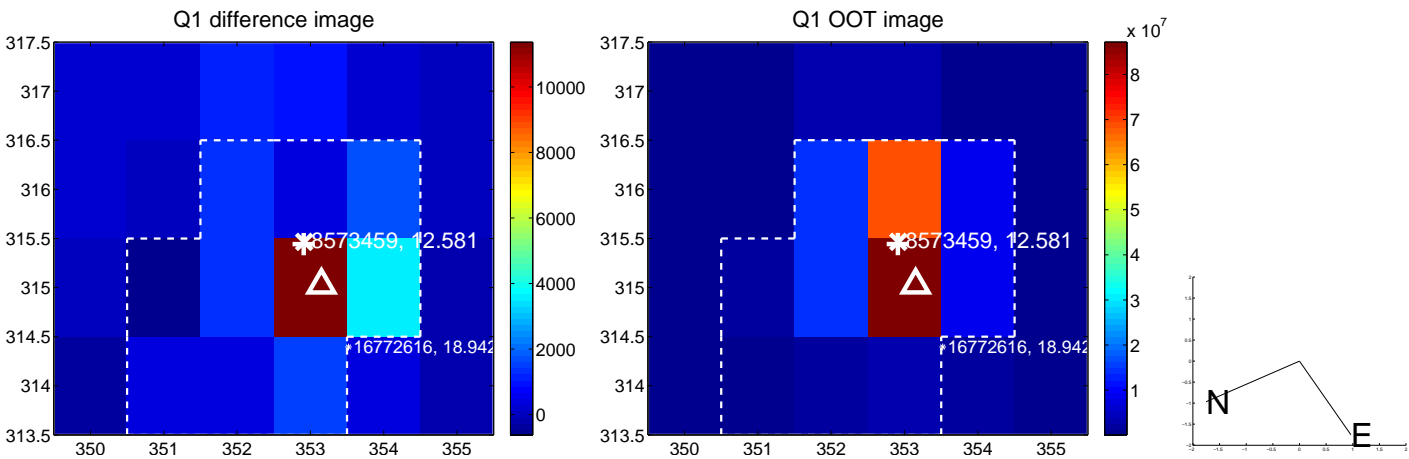
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.361 ± 0.252	1.43	-0.159 ± 0.185	0.324 ± 0.311
PRF-fit source offset from KIC position	0.417 ± 0.233	1.79	-0.222 ± 0.195	0.353 ± 0.302
photometric centroid source offset	9.74 ± 2.78	3.51	-1.88 ± 2.58	9.56 ± 2.79

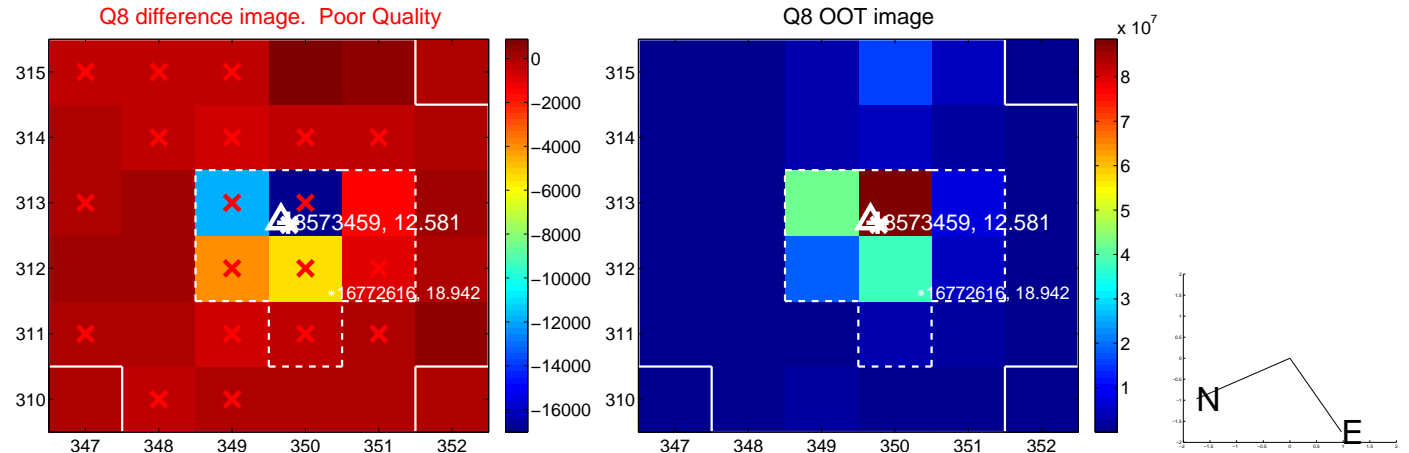
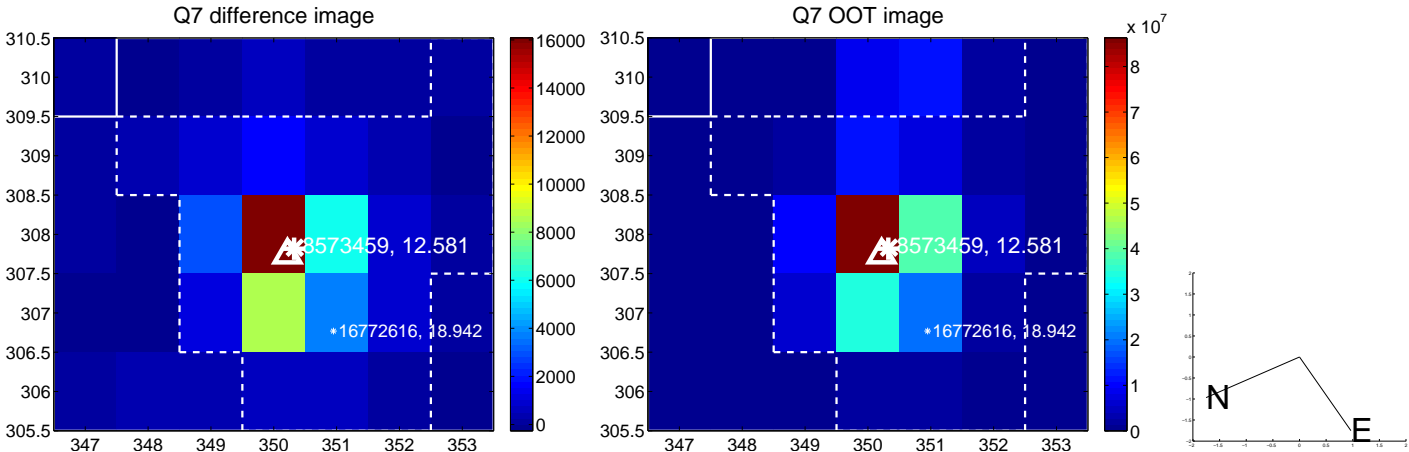
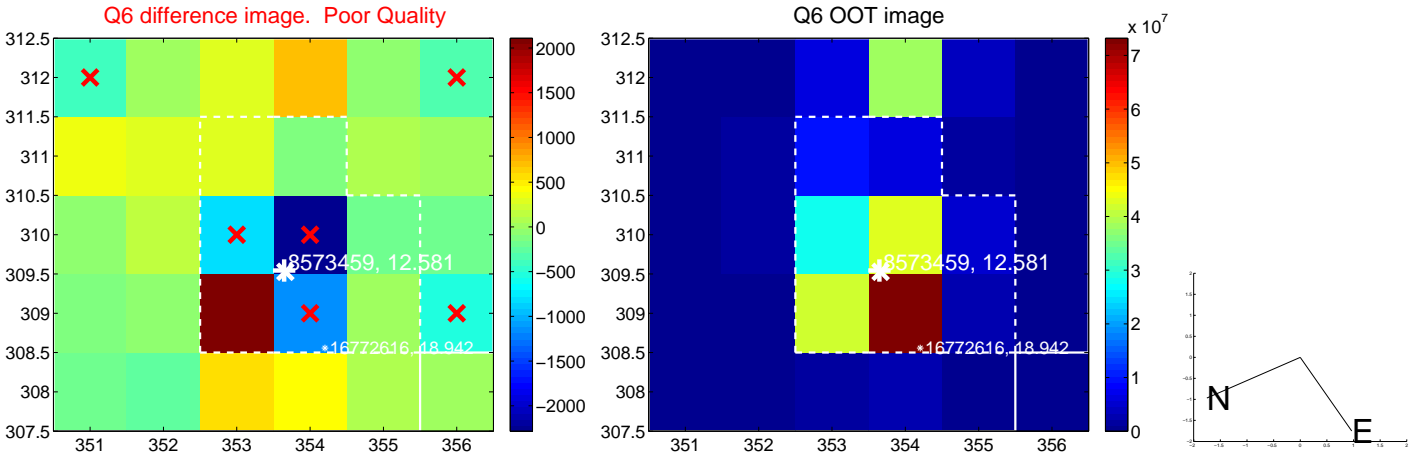
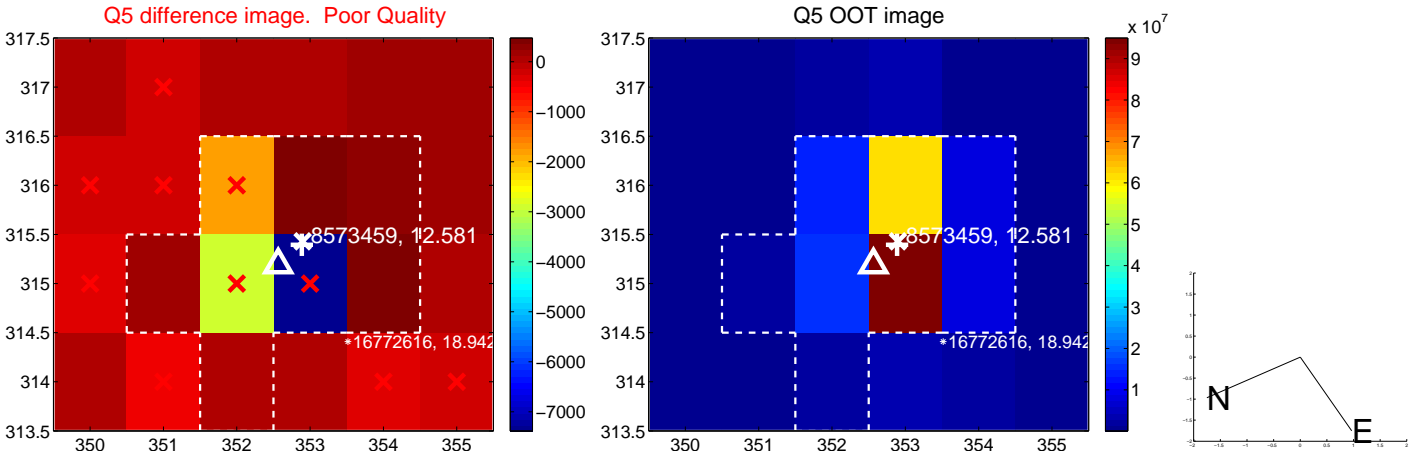


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

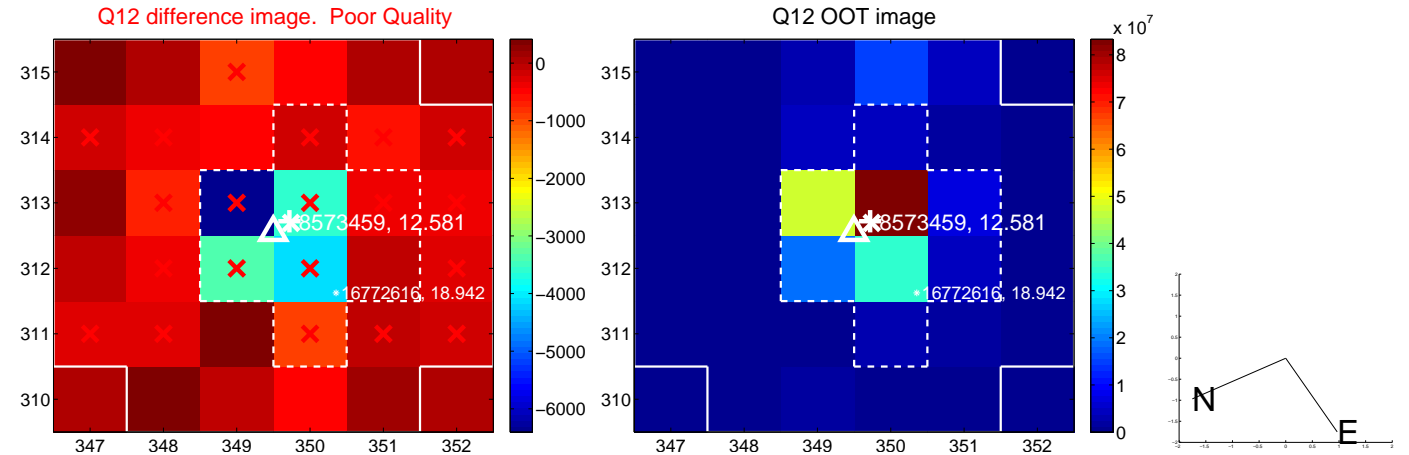
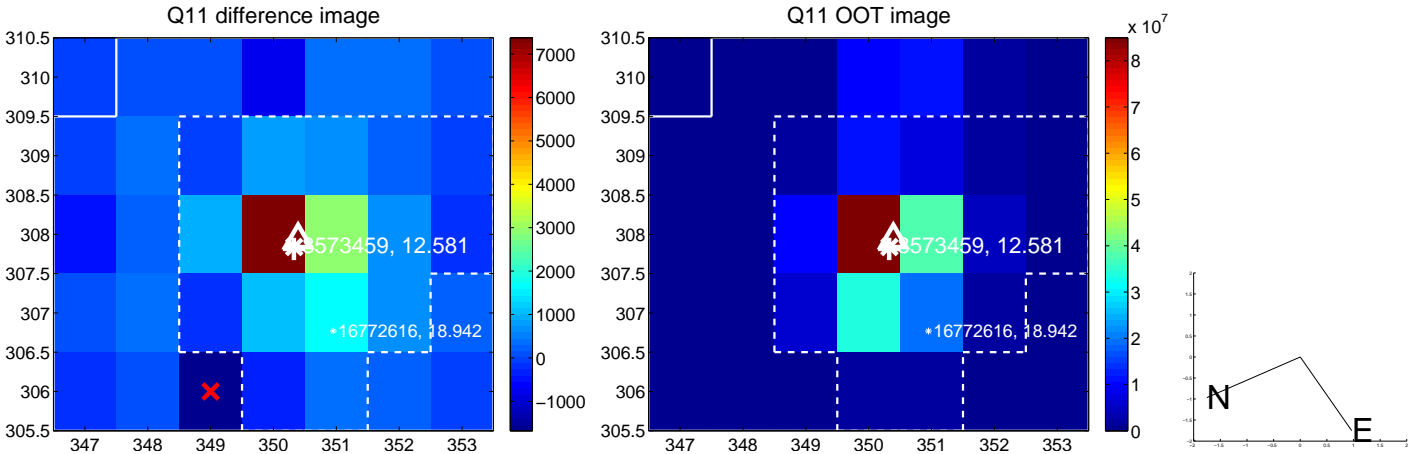
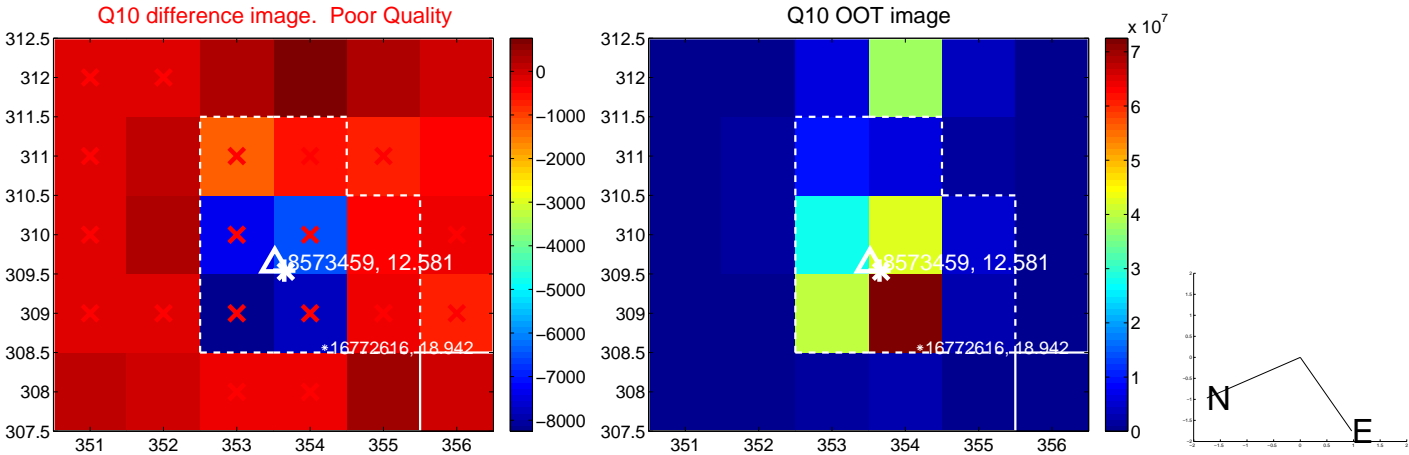
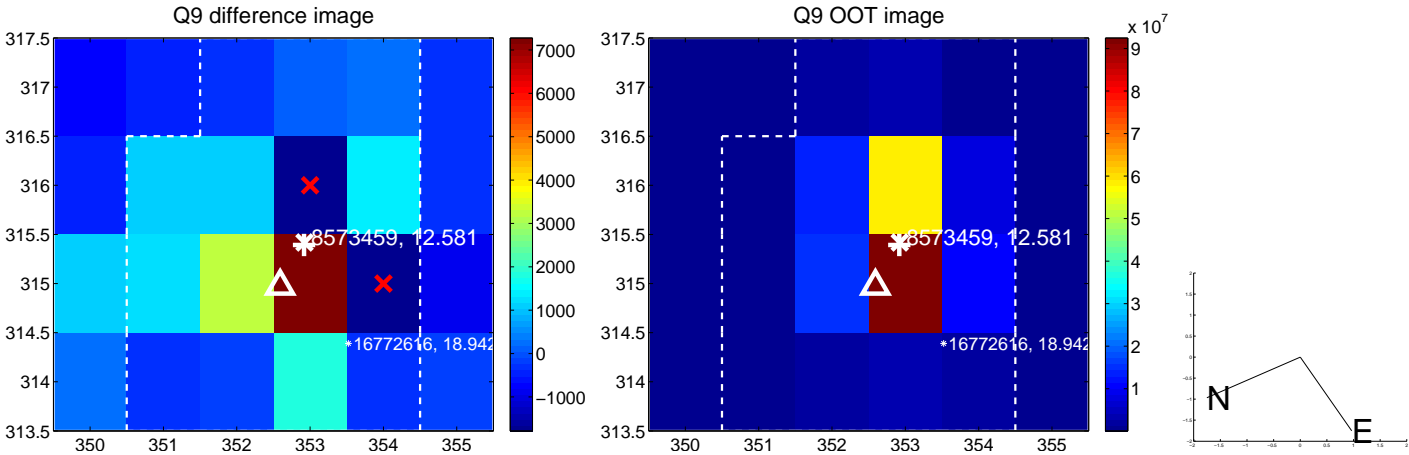
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



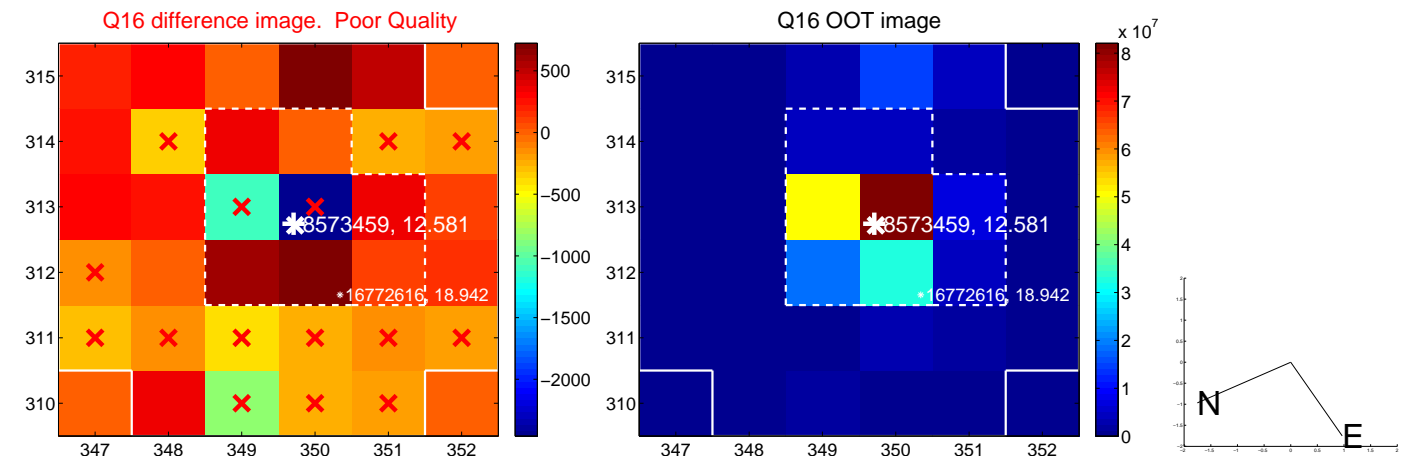
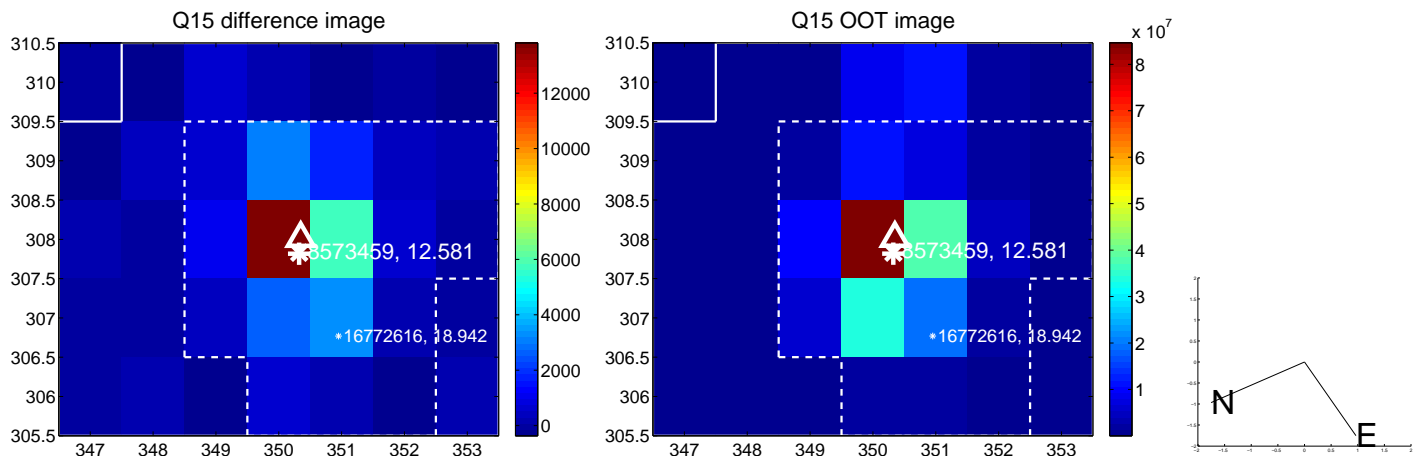
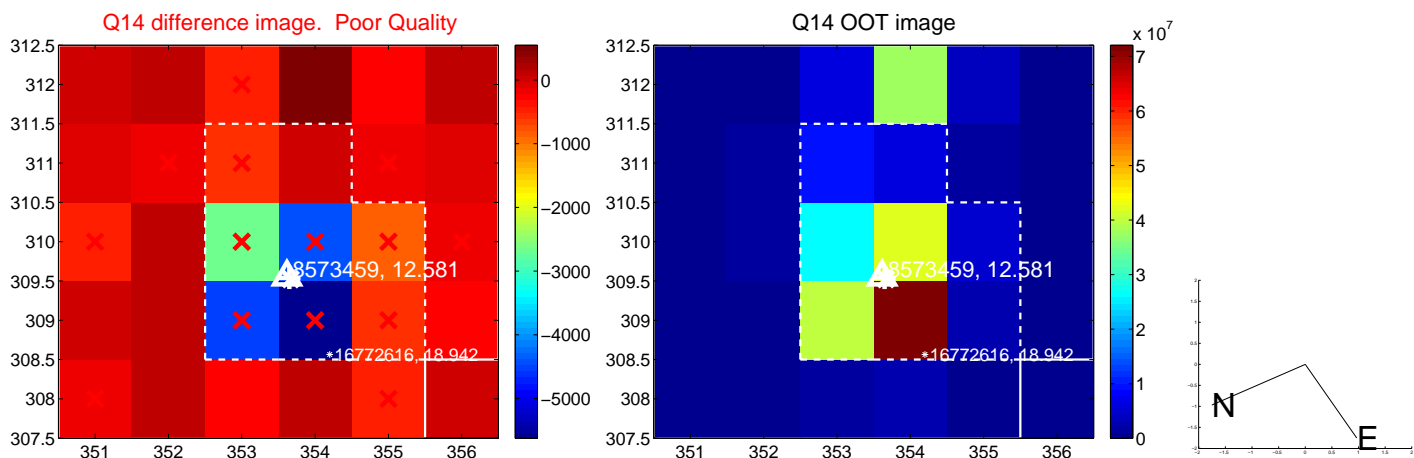
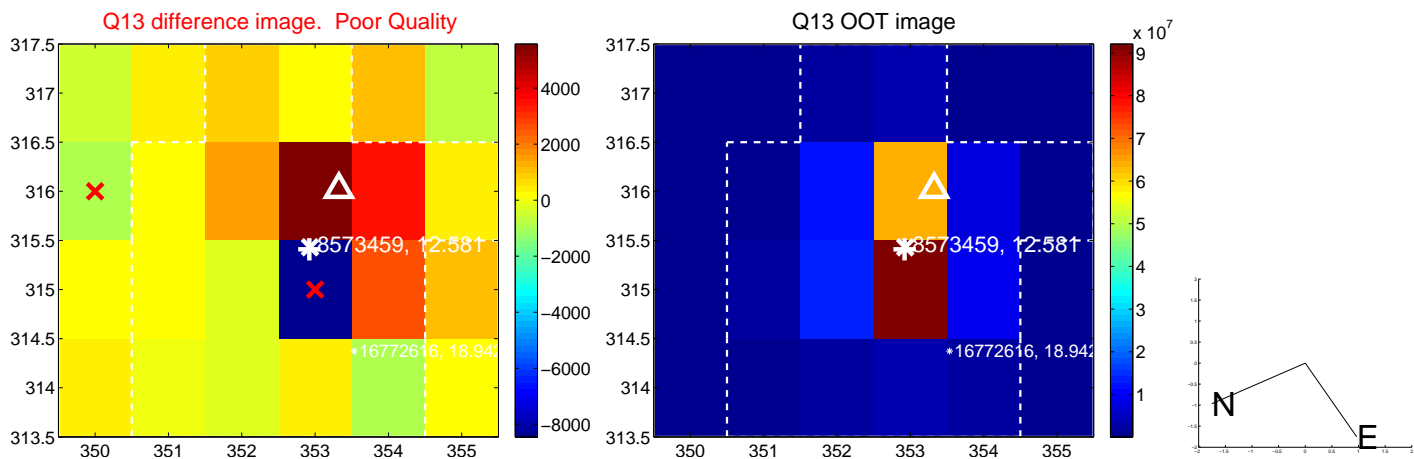
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



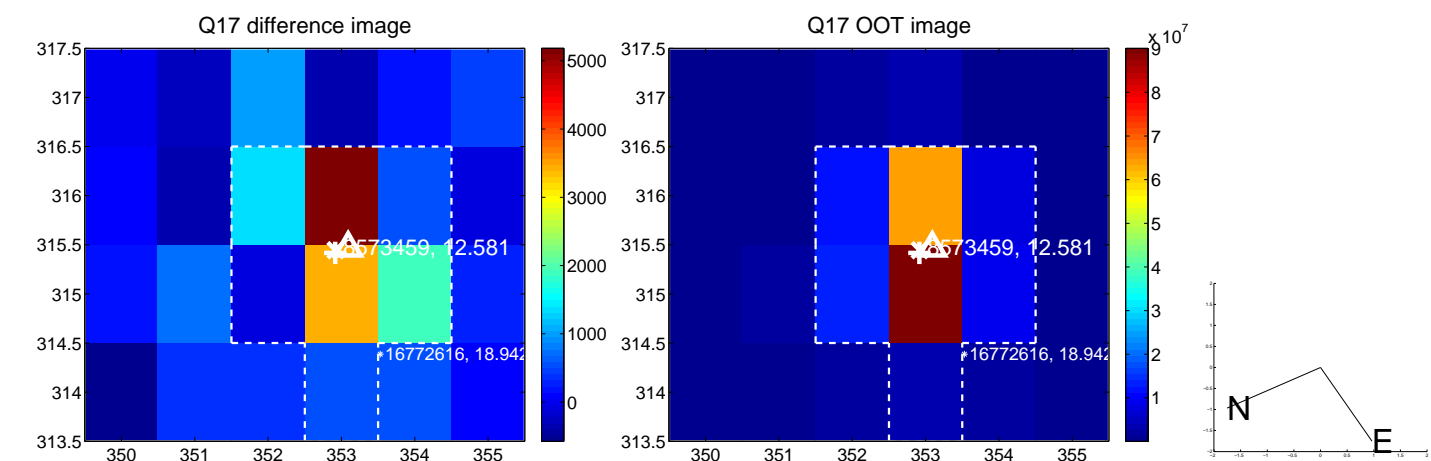
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



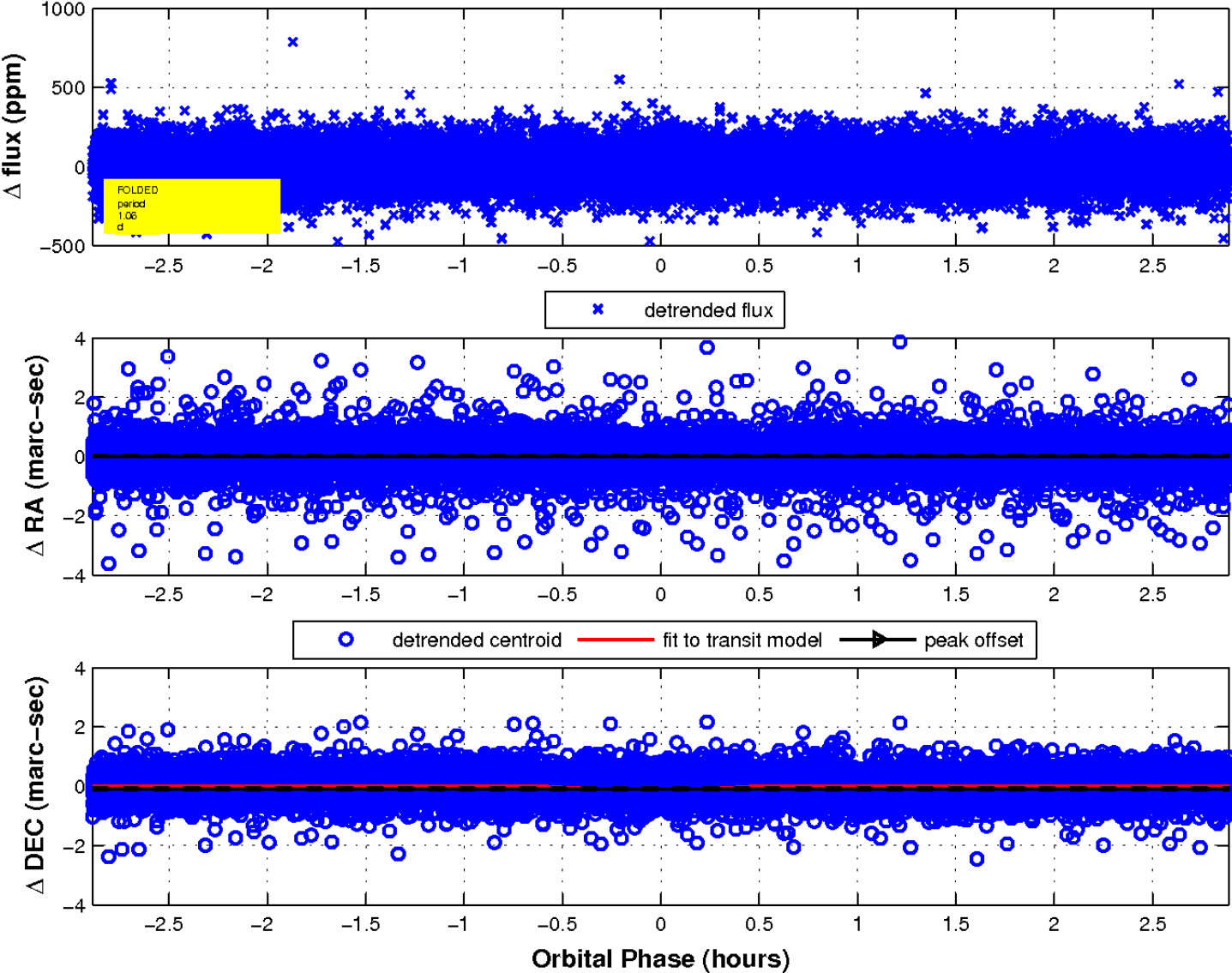
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

