

KIC 010979359

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})
010979359-01	OBS	No	0.922618	132.286324	6.1	6.758	9.7	1.2	1.73	7263	0.44	16911.84
010979359-02	OBS	No	33.198551	159.510493	1837.4	1.864	16.2	15.1	1.73	7263	7.95	142.36
010979359-03	OBS	No	31.549808	153.610826	1031.5	1.113	10.5	7.9	1.73	7263	5.99	152.37
010979359-07	OBS	No	107.956506	136.419499	1037.7	3.078	8.6	9.8	1.73	7263	5.96	29.55
010979359-08	OBS	No	51.689076	163.146241	923.9	5.881	7.2	6.2	1.73	7263	8.70	78.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010979359-01	OBS	FP	0.00	1	0	0	0	LPP_DV
010979359-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
010979359-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010979359-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—HALO_GHOST
010979359-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

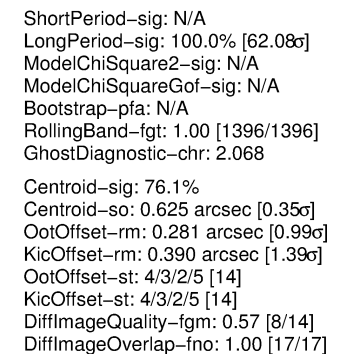
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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

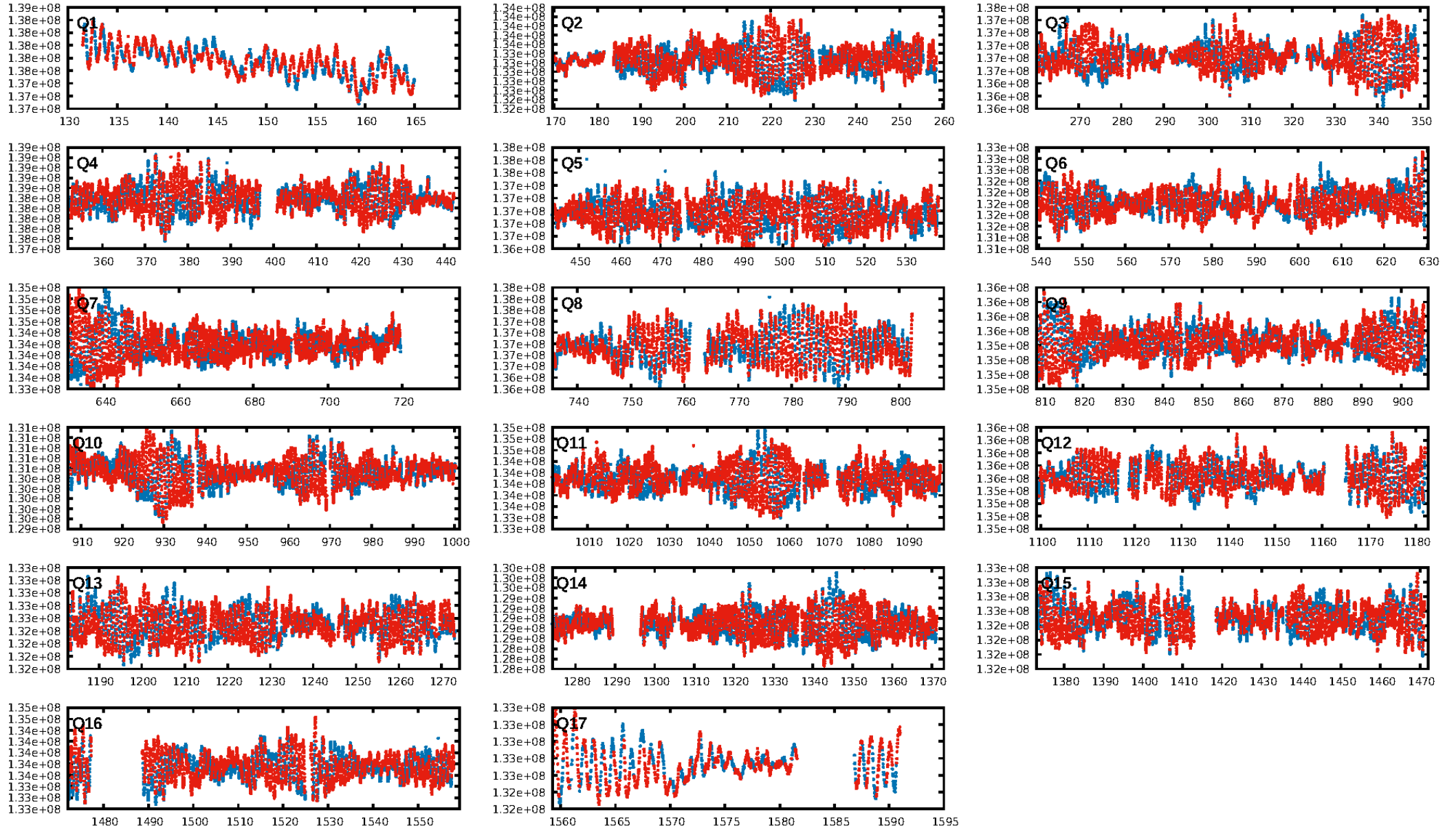
Ephemeris Match Information For 010979359-01

No Significant Match Found

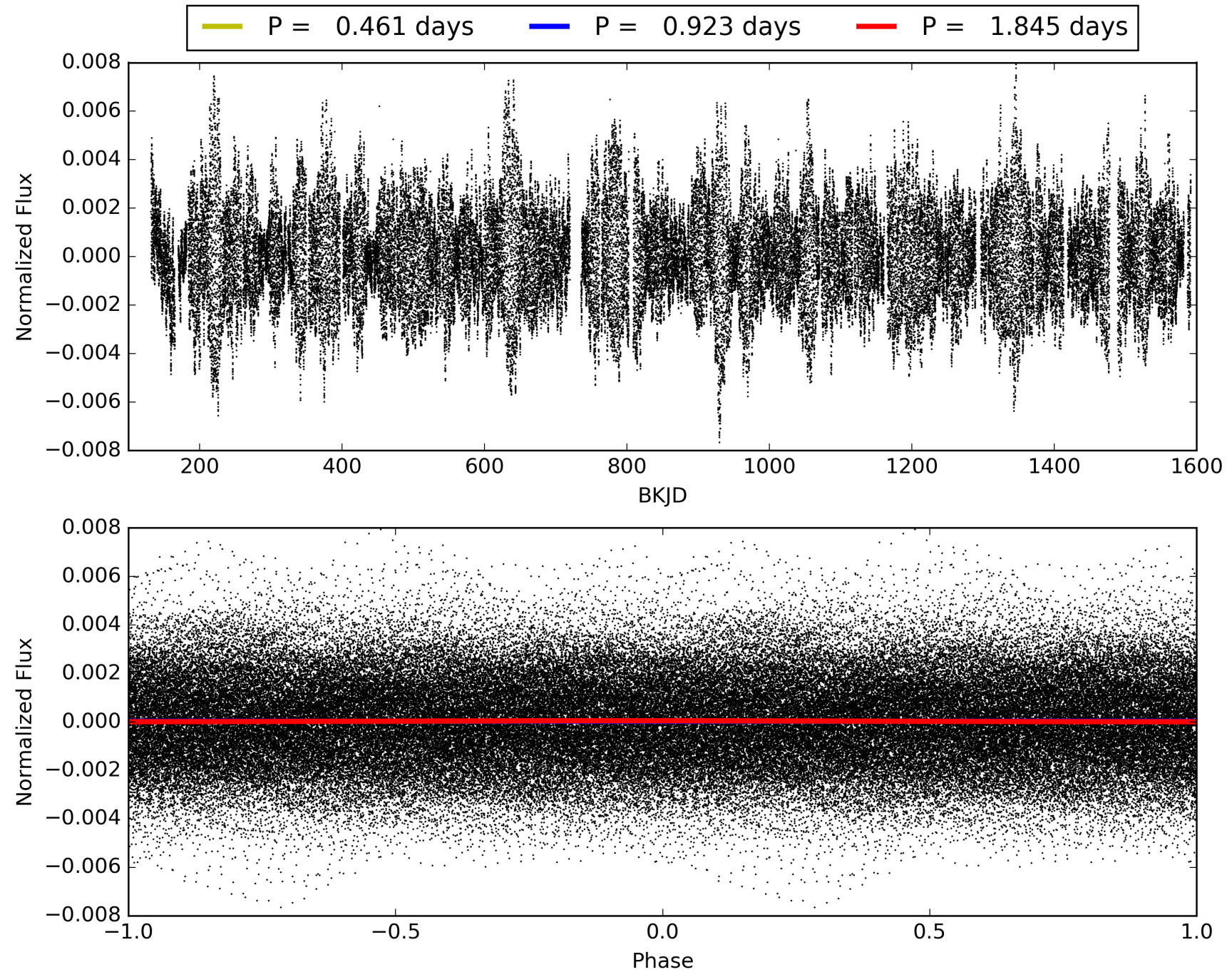
KIC: 10979359 Candidate: 1 of 8 Period: 0.923 d



TCE 010979359-01, PDC Light Curves

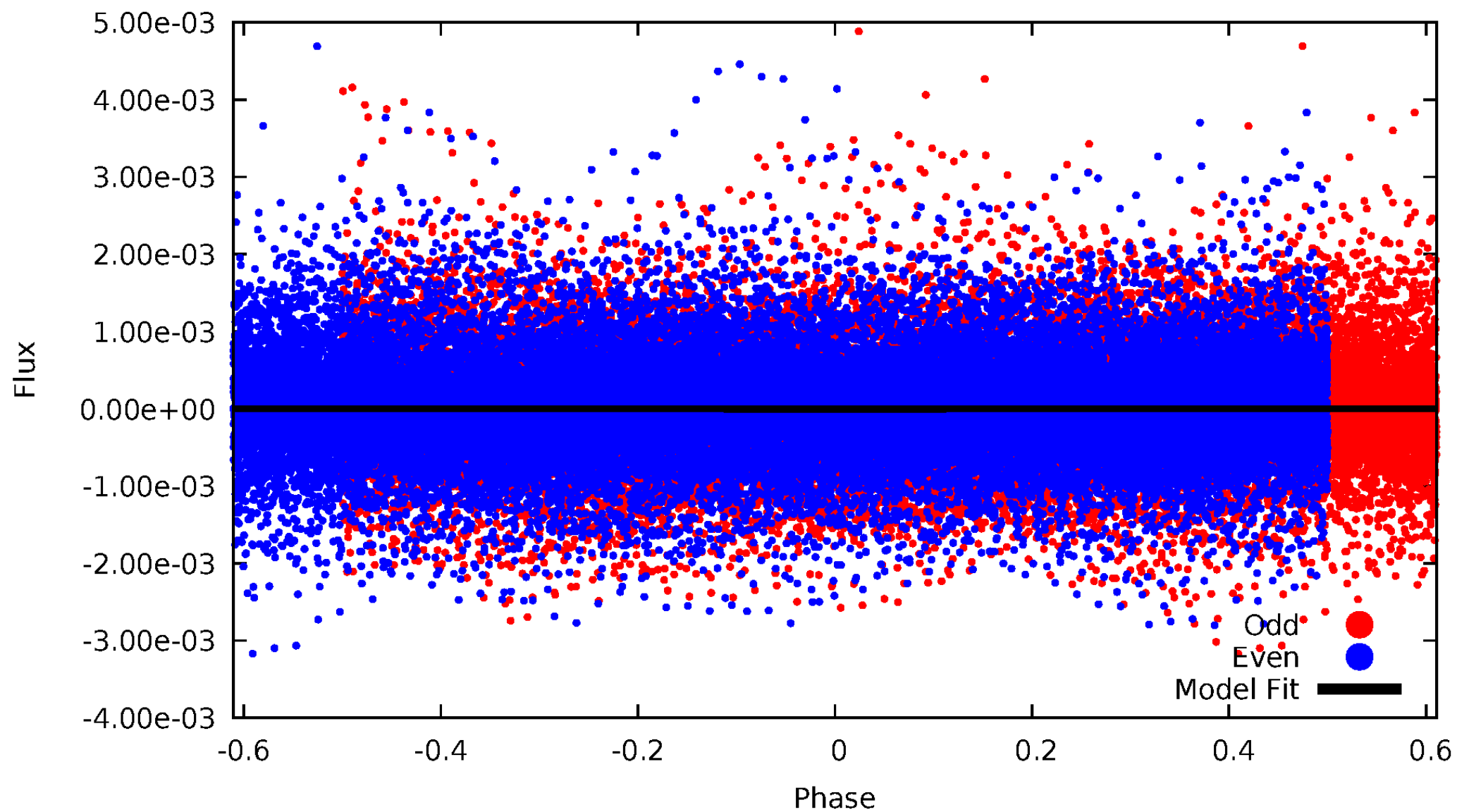


TCE 010979359-01



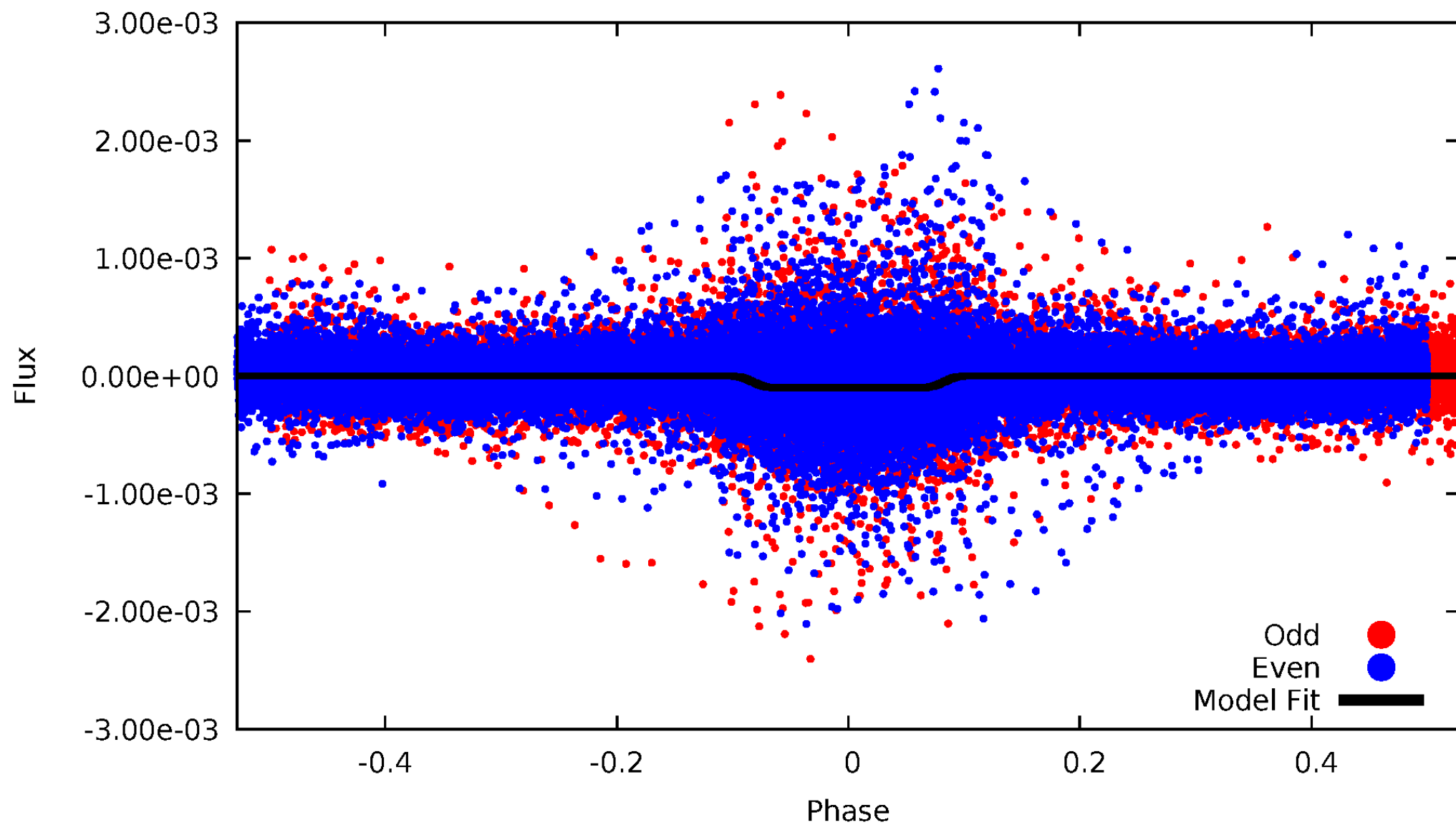
DV Odd/Even

TCE 010979359-01



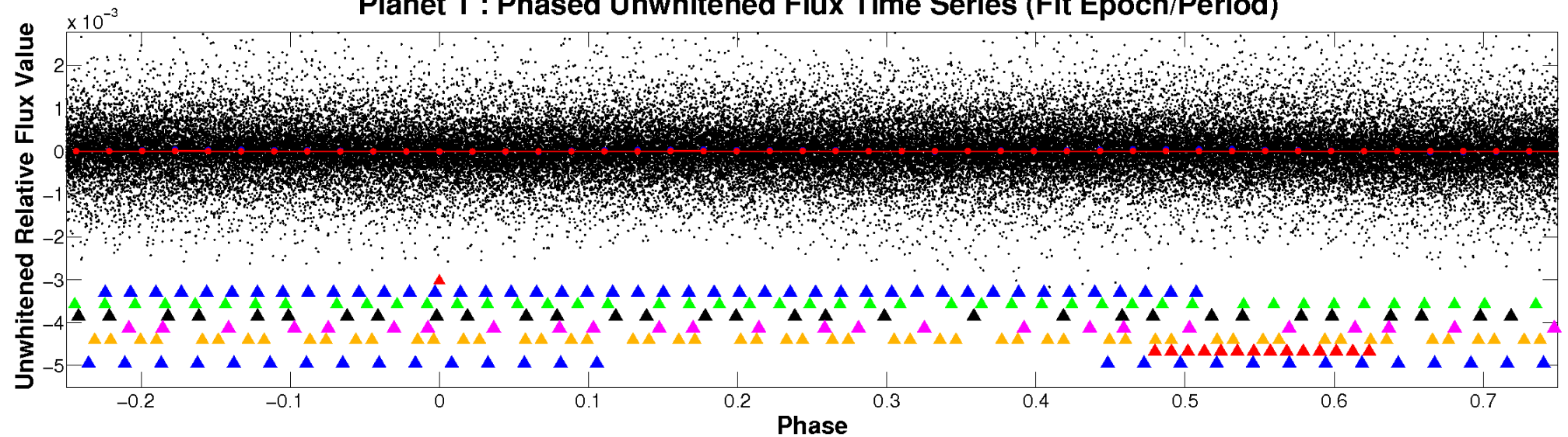
ALT Odd/Even

TCE 010979359-01

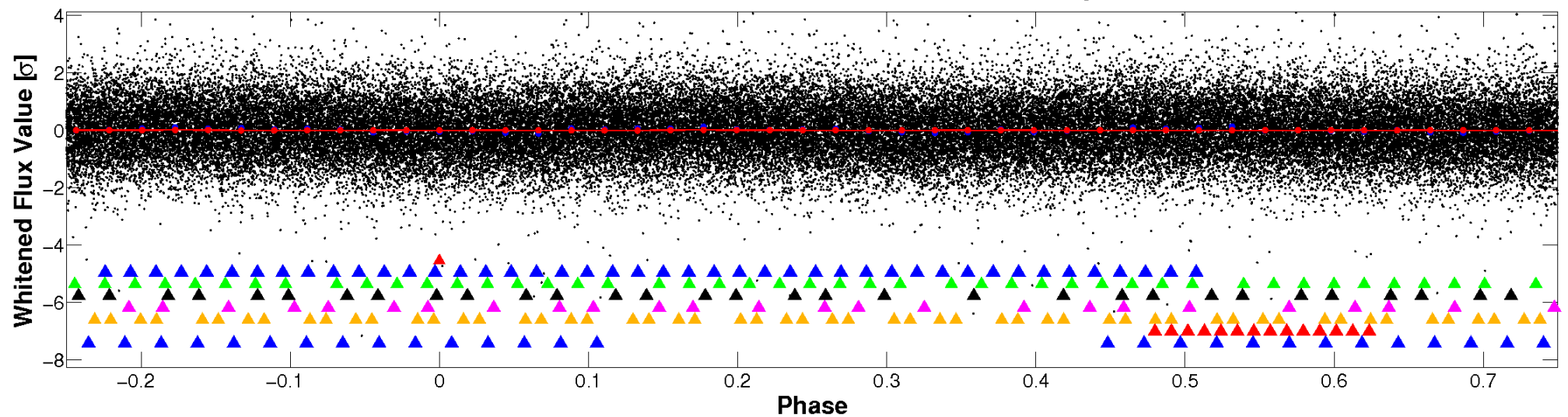


Non-Whitened Vs. Whitened Light Curve

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

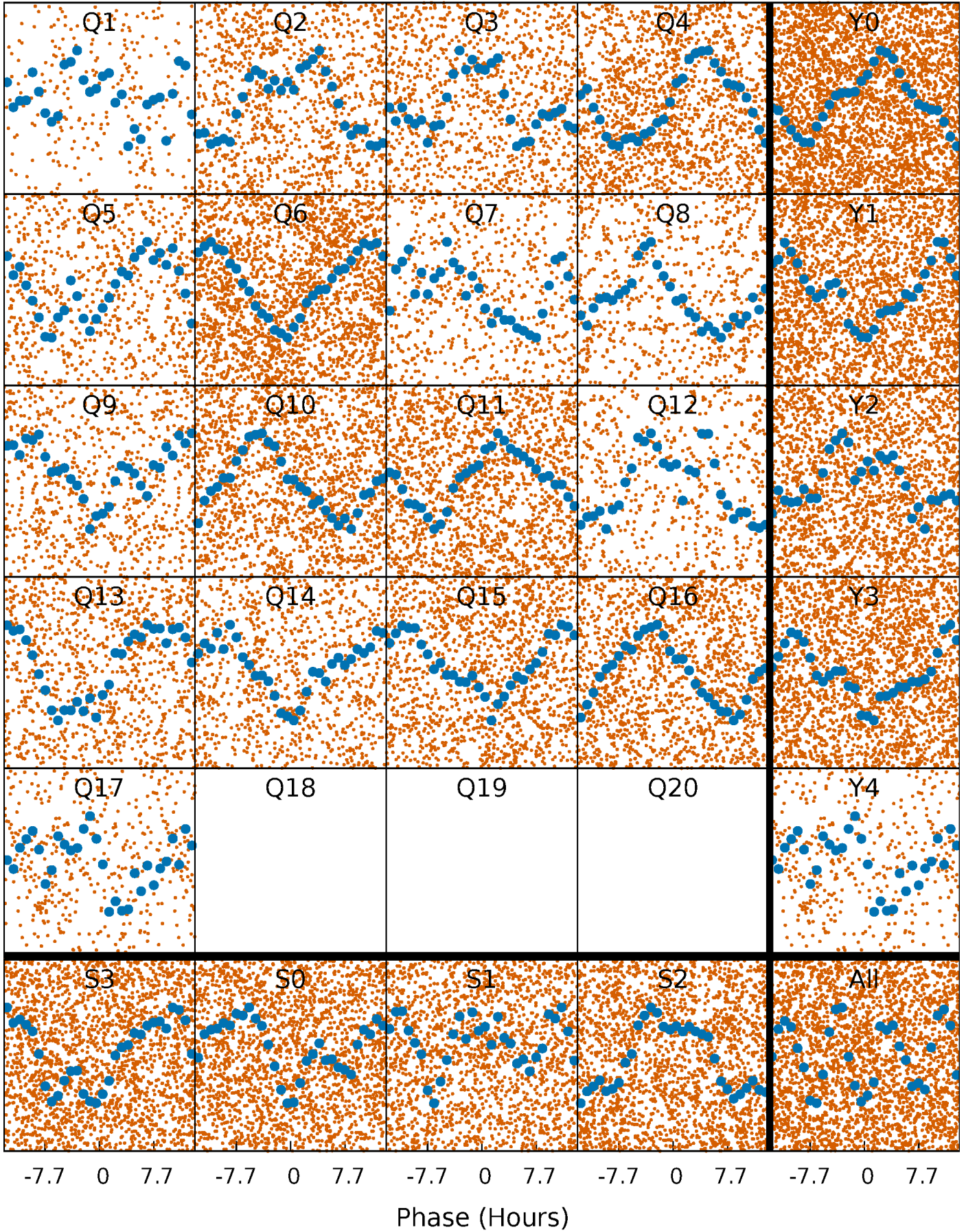


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



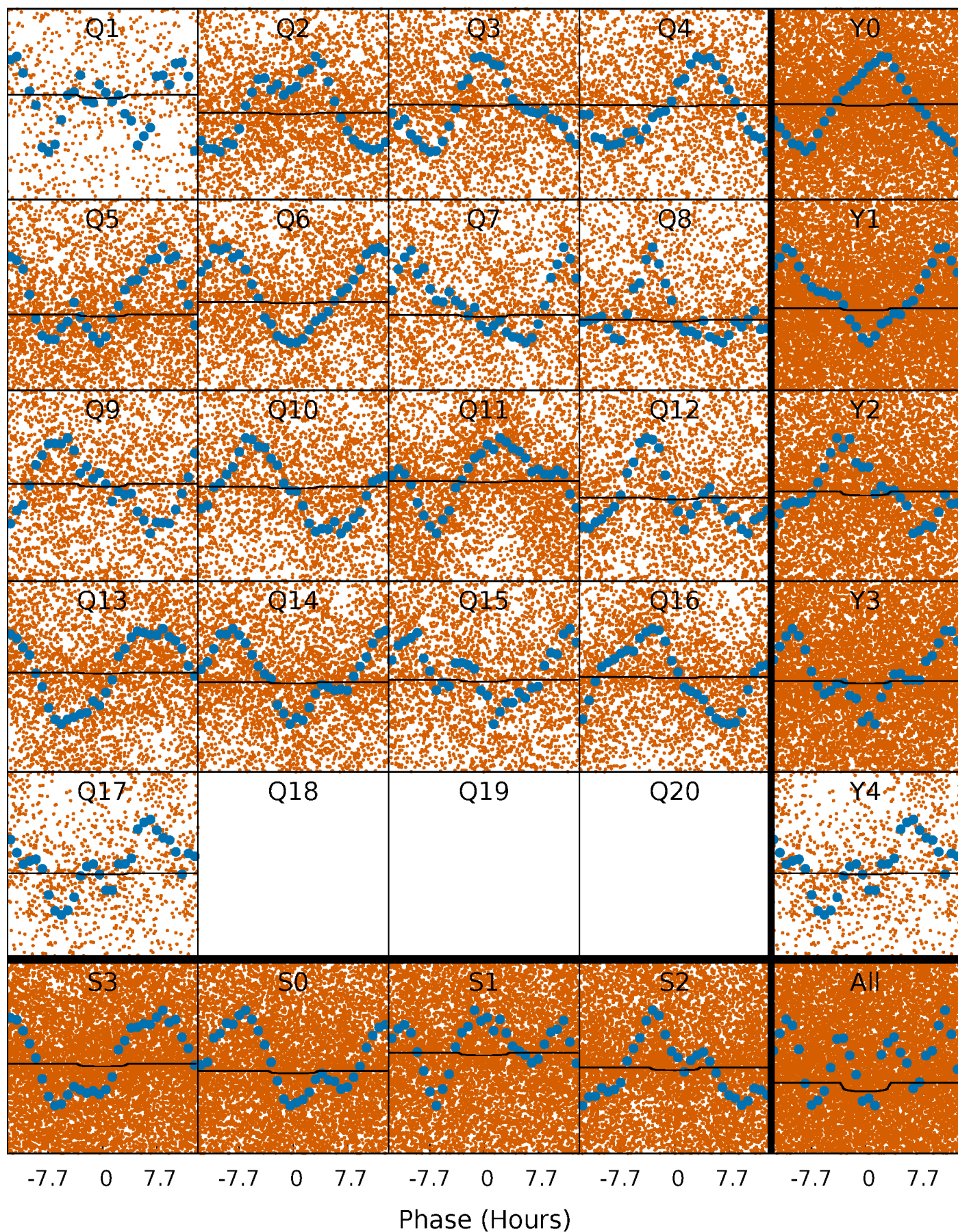
PDC Quarter-Phased Transit Curves

TCE 010979359-01 P= 0.922618 Days $T_0=132.286324$ (BKJD)



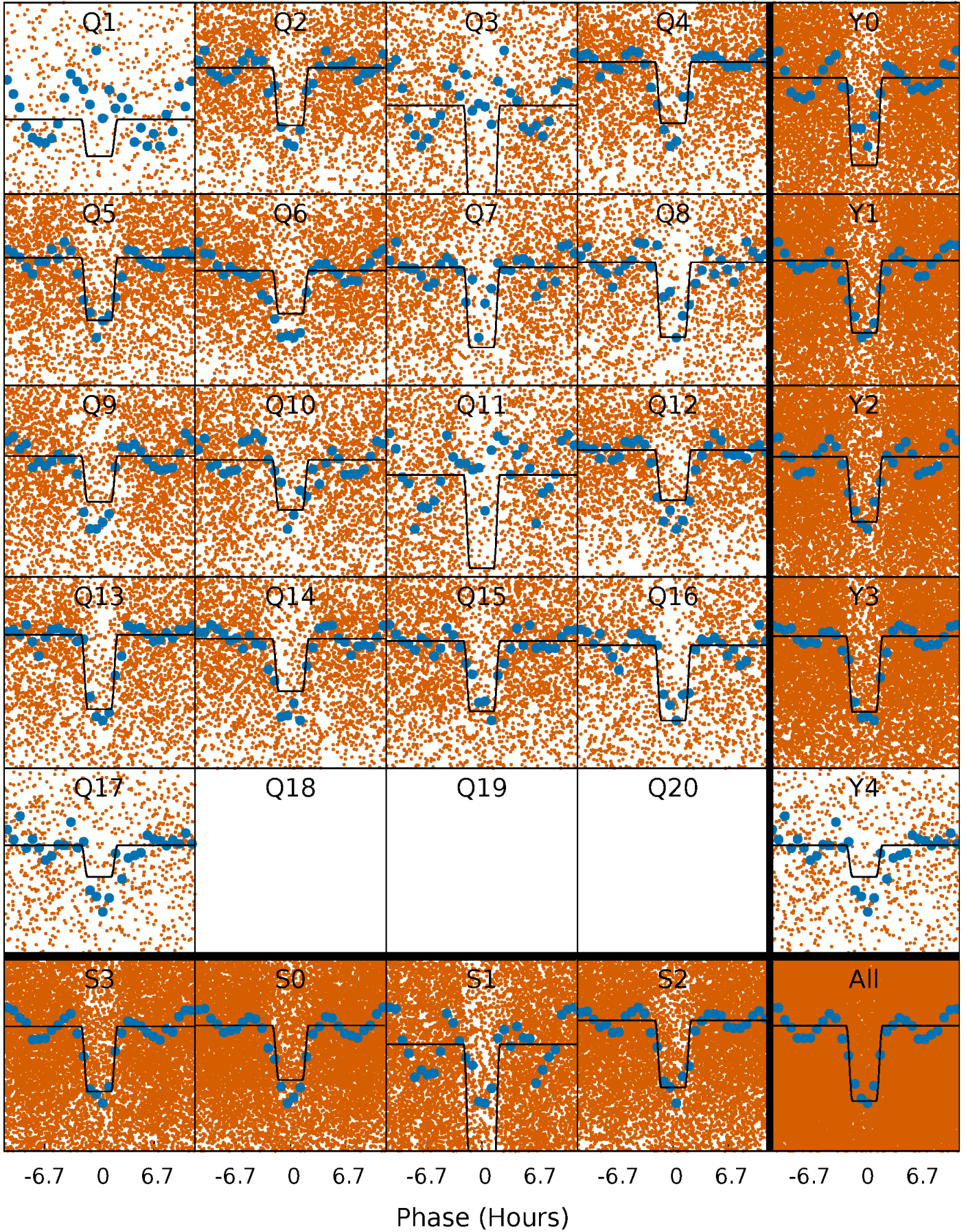
DV Quarter-Phased Transit Curves

TCE 010979359-01 P= 0.922618 Days $T_0=132.286324$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

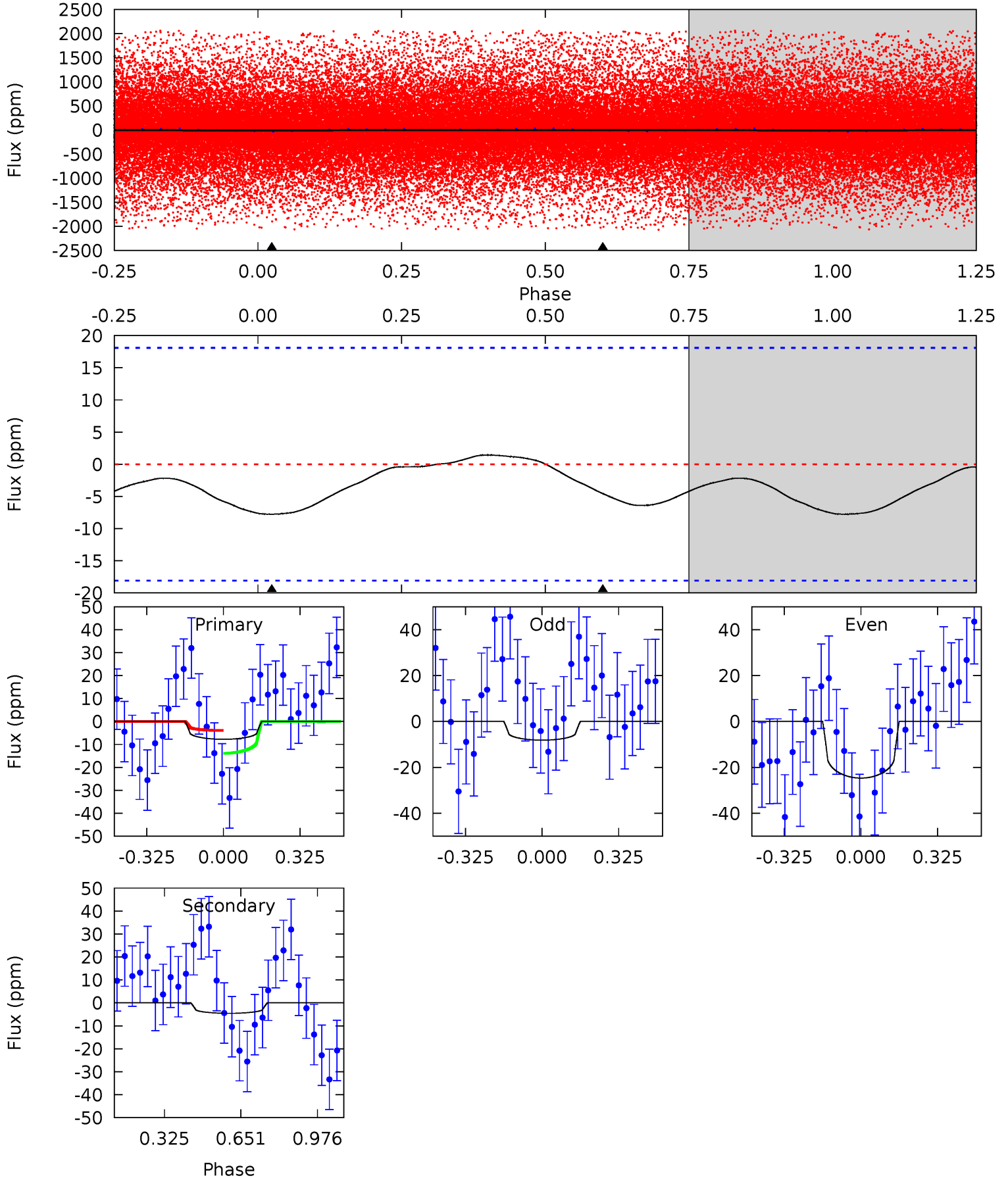
TCE 010979359-01 P= 0.922652 Days $T_0=132.261205$ (BKJD)



DV Model-Shift Uniqueness Test

010979359-01, P = 0.922618 Days, E = 131.363706 Days

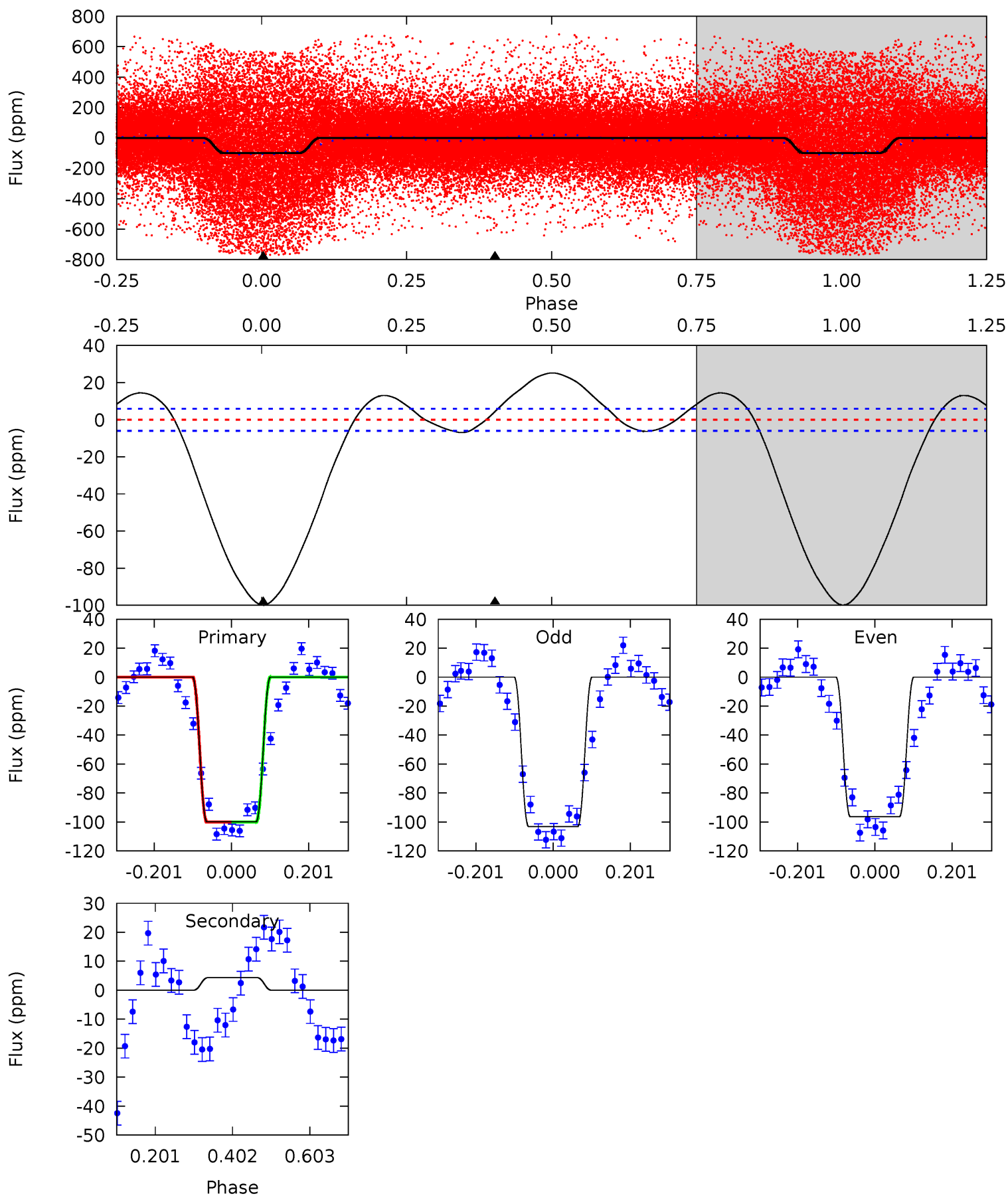
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.85	1.09	0	0	4.31	0.98	0.09	1.85	1.85	1.09	1.09	1.97	2.10	0.16	1.20



Alt Model-Shift Uniqueness Test

010979359-01, P = 0.922652 Days, E = 131.338553 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
74.3	-3.22	0	0	4.42	1.28	5.40	74.3	74.3	-3.22	-3.22	2.53	0.83	0.20	0.01



Stellar Parameters For KIC 010979359

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7263^{+228}_{-304}	$4.123^{+0.153}_{-0.187}$	$-0.220^{+0.250}_{-0.350}$	$1.727^{+0.508}_{-0.416}$	$1.442^{+0.219}_{-0.241}$	$0.394^{+0.360}_{-0.187}$
	+3%/-4%	+4%/-5%	+114%/-159%	+29%/-24%	+15%/-17%	+91%/-47%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010979359-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-5 ± 4	$0.59^{+0.48}_{-0.37}$	4086^{+306}_{-286}	5494^{+4786}_{-8663}	$2.506^{+17.080}_{-2.331}$
Alt.	4 ± 1	$1.88^{+0.69}_{-0.57}$	4080^{+305}_{-289}	-4211^{+267}_{-359}	$-0.282^{+0.140}_{-0.343}$

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

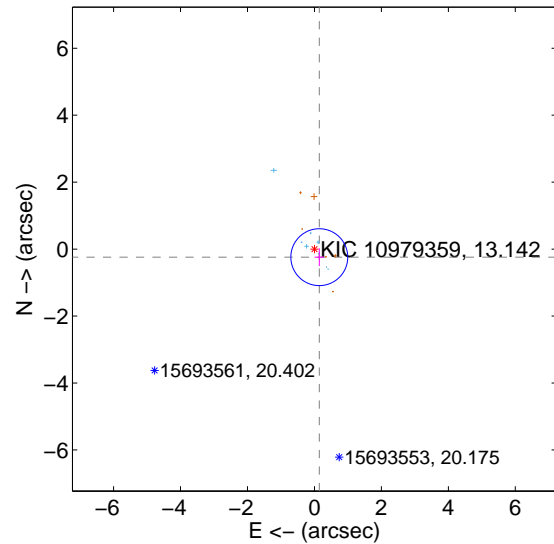
Supplemental centroid analysis for 010979359-01. Kepler magnitude: 13.14. Transit SNR 1.17

There are 8 quarters with good PRF difference image offsets

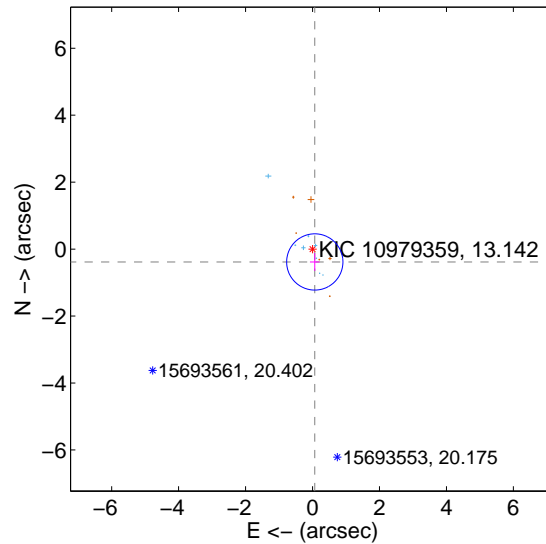
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.281 ± 0.283	0.99	-0.145 ± 0.141	-0.241 ± 0.265
PRF-fit source offset from KIC position	0.390 ± 0.280	1.39	-0.067 ± 0.143	-0.384 ± 0.266
photometric centroid source offset	0.63 ± 1.80	0.35	0.32 ± 2.01	0.54 ± 1.72

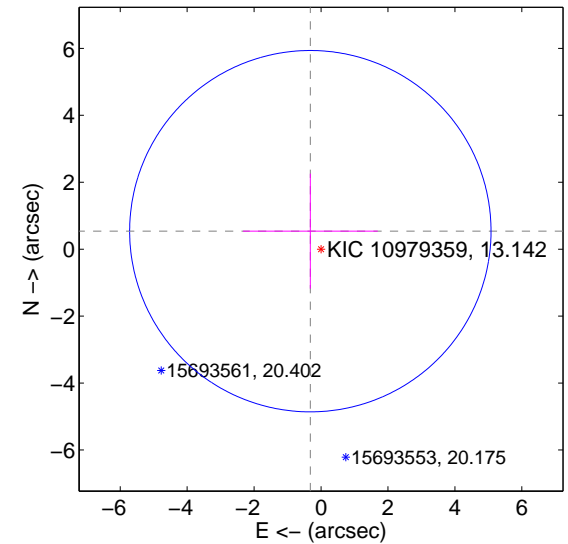
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

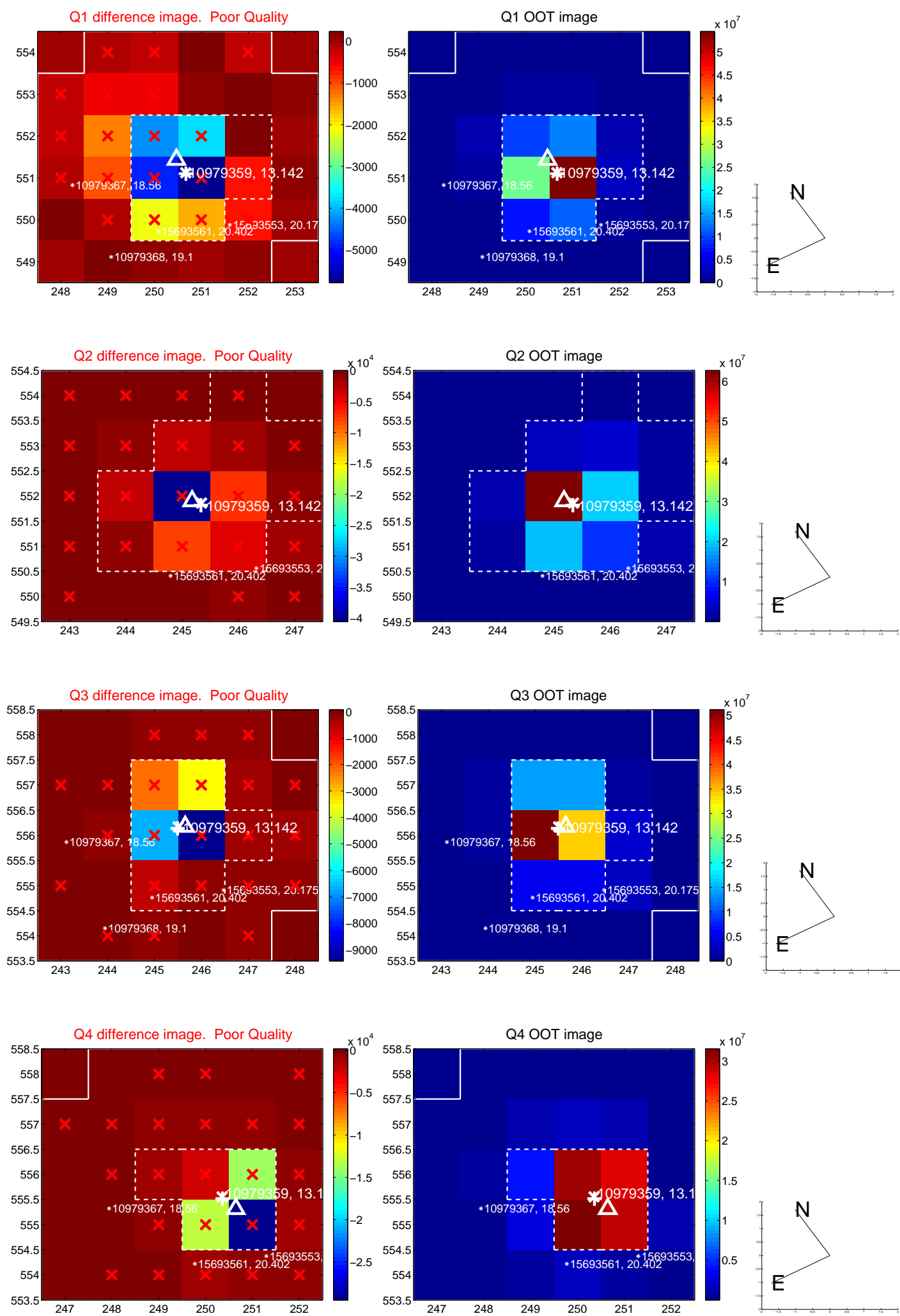


offset from photometric centroids

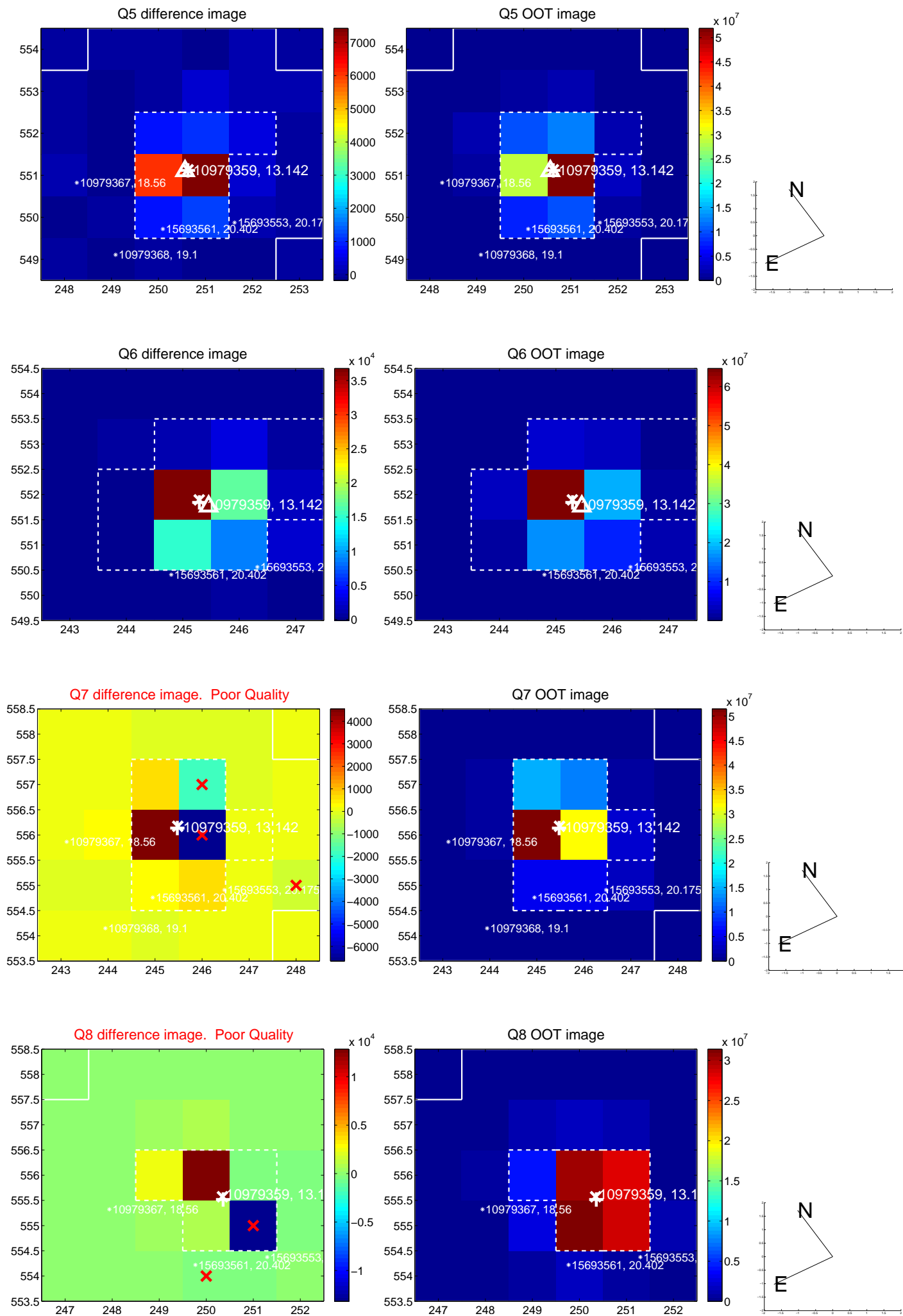


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

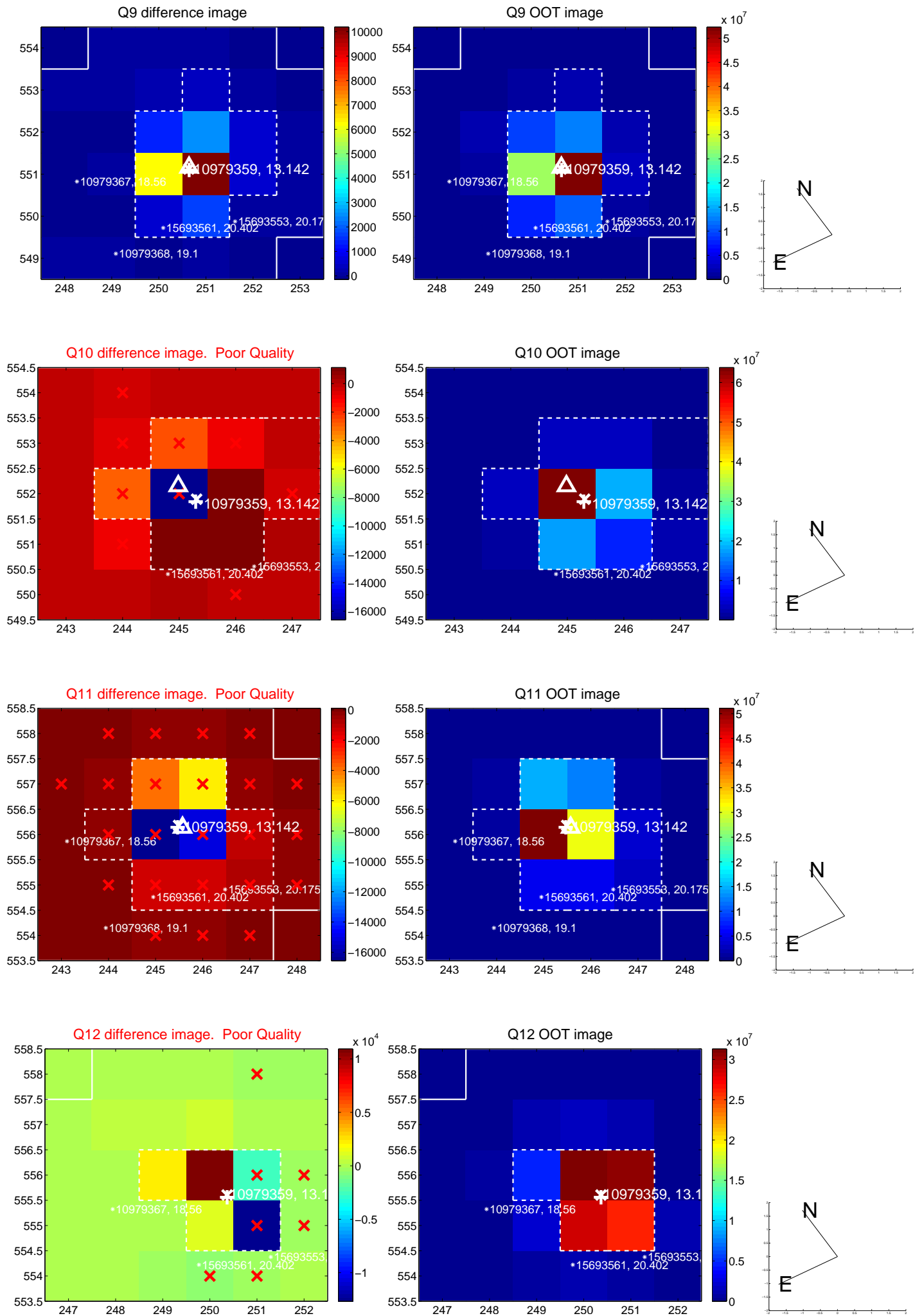
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



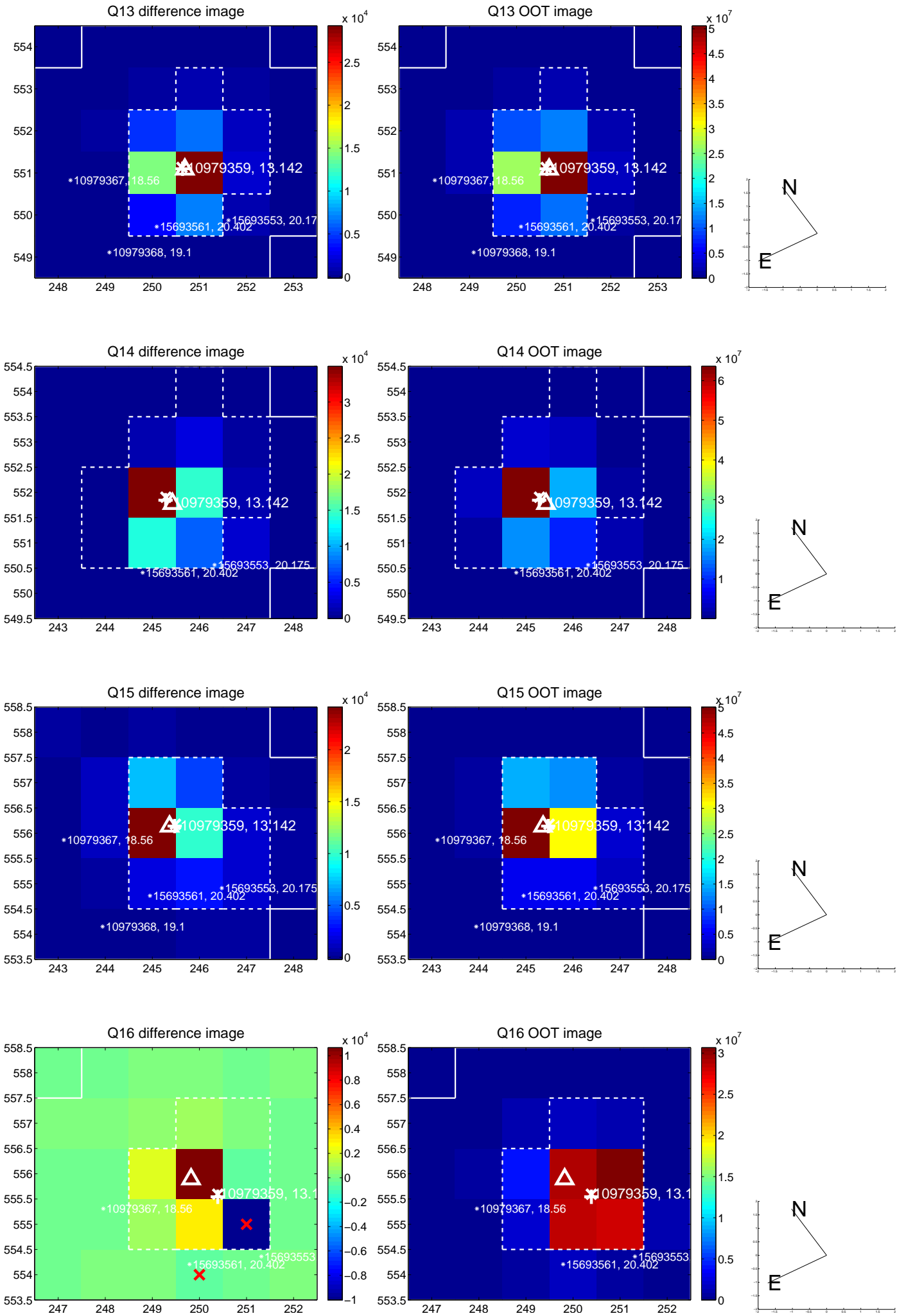
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



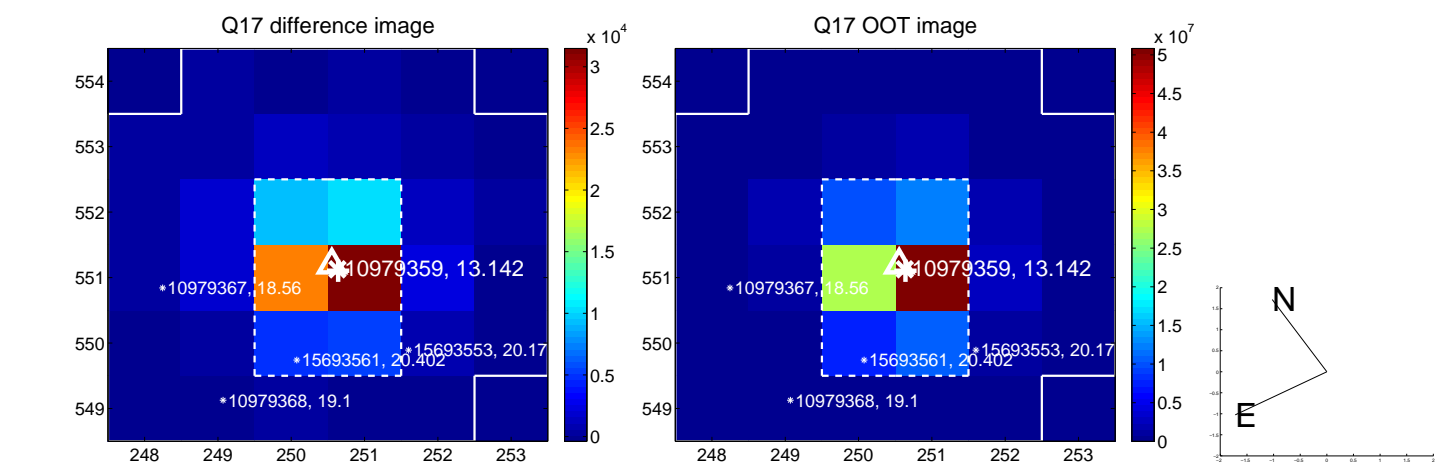
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



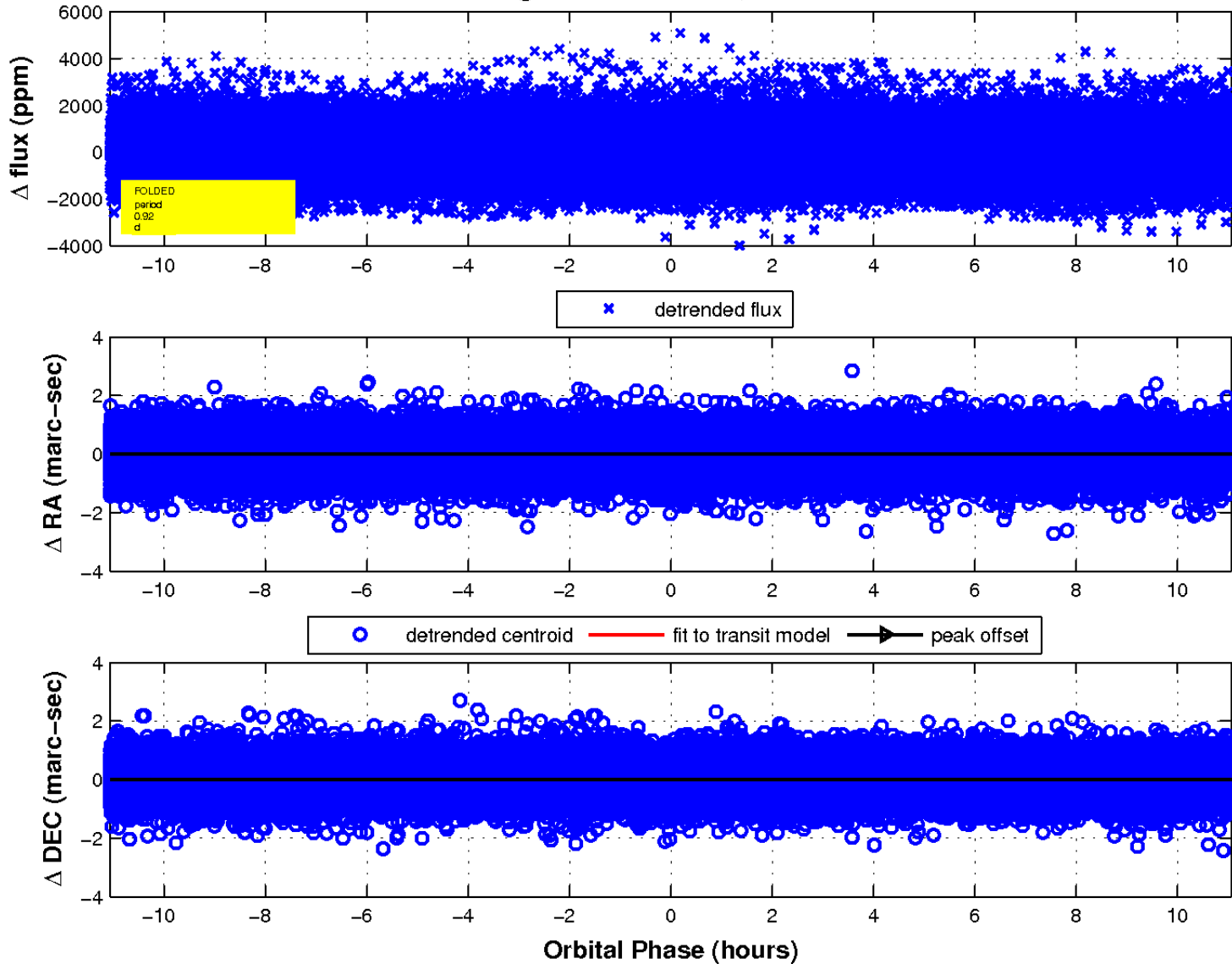
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

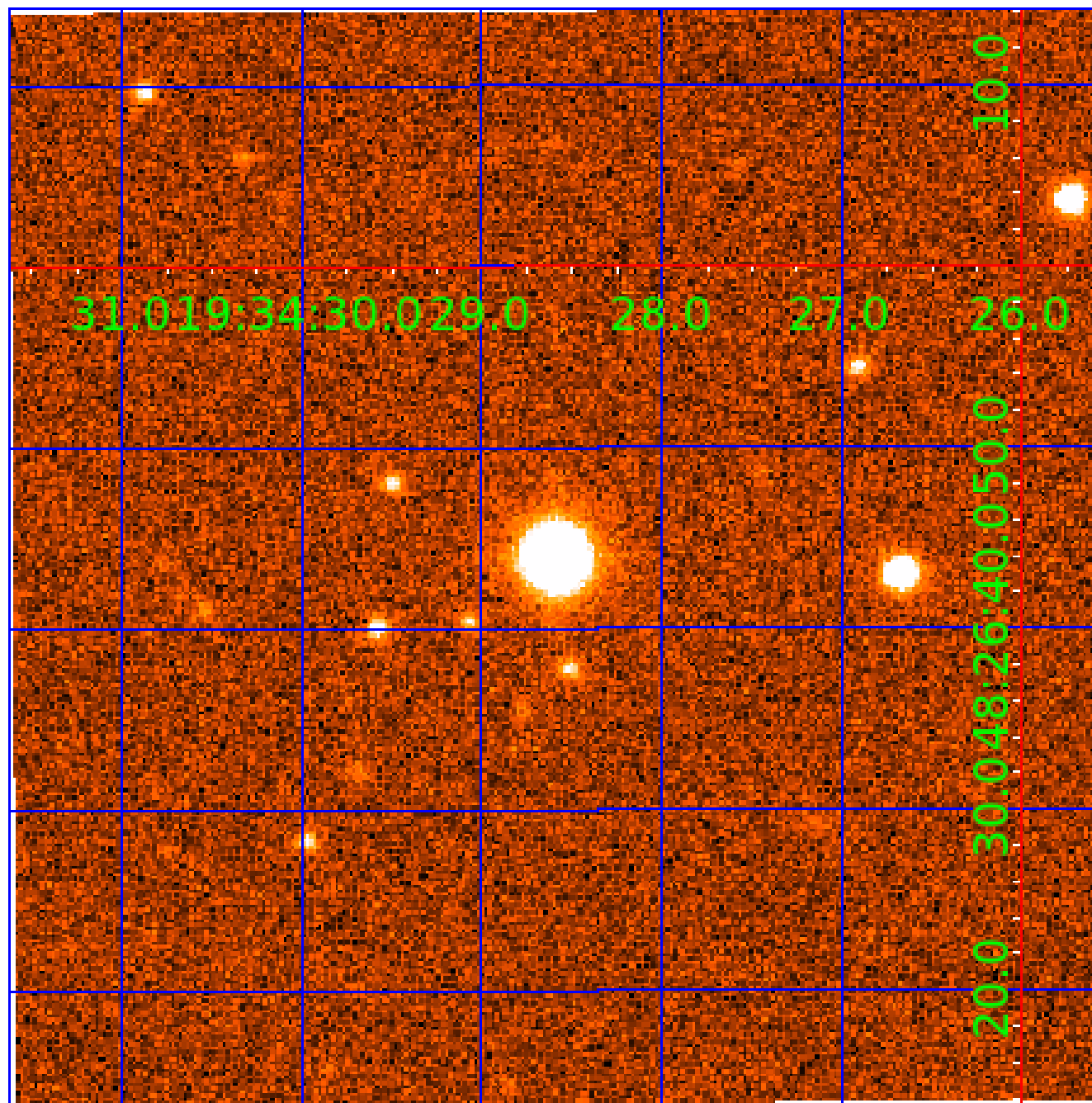


fluxWeightedCentroids, Planet 1 of 8



UKIRT Image

Declination



KIC 010979359

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})
010979359-01	OBS	No	0.922618	132.286324	6.1	6.758	9.7	1.2	1.73	7263	0.44	16911.84
010979359-02	OBS	No	33.198551	159.510493	1837.4	1.864	16.2	15.1	1.73	7263	7.95	142.36
010979359-03	OBS	No	31.549808	153.610826	1031.5	1.113	10.5	7.9	1.73	7263	5.99	152.37
010979359-07	OBS	No	107.956506	136.419499	1037.7	3.078	8.6	9.8	1.73	7263	5.96	29.55
010979359-08	OBS	No	51.689076	163.146241	923.9	5.881	7.2	6.2	1.73	7263	8.70	78.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010979359-01	OBS	FP	0.00	1	0	0	0	LPP_DV
010979359-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
010979359-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010979359-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—HALO_GHOST
010979359-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

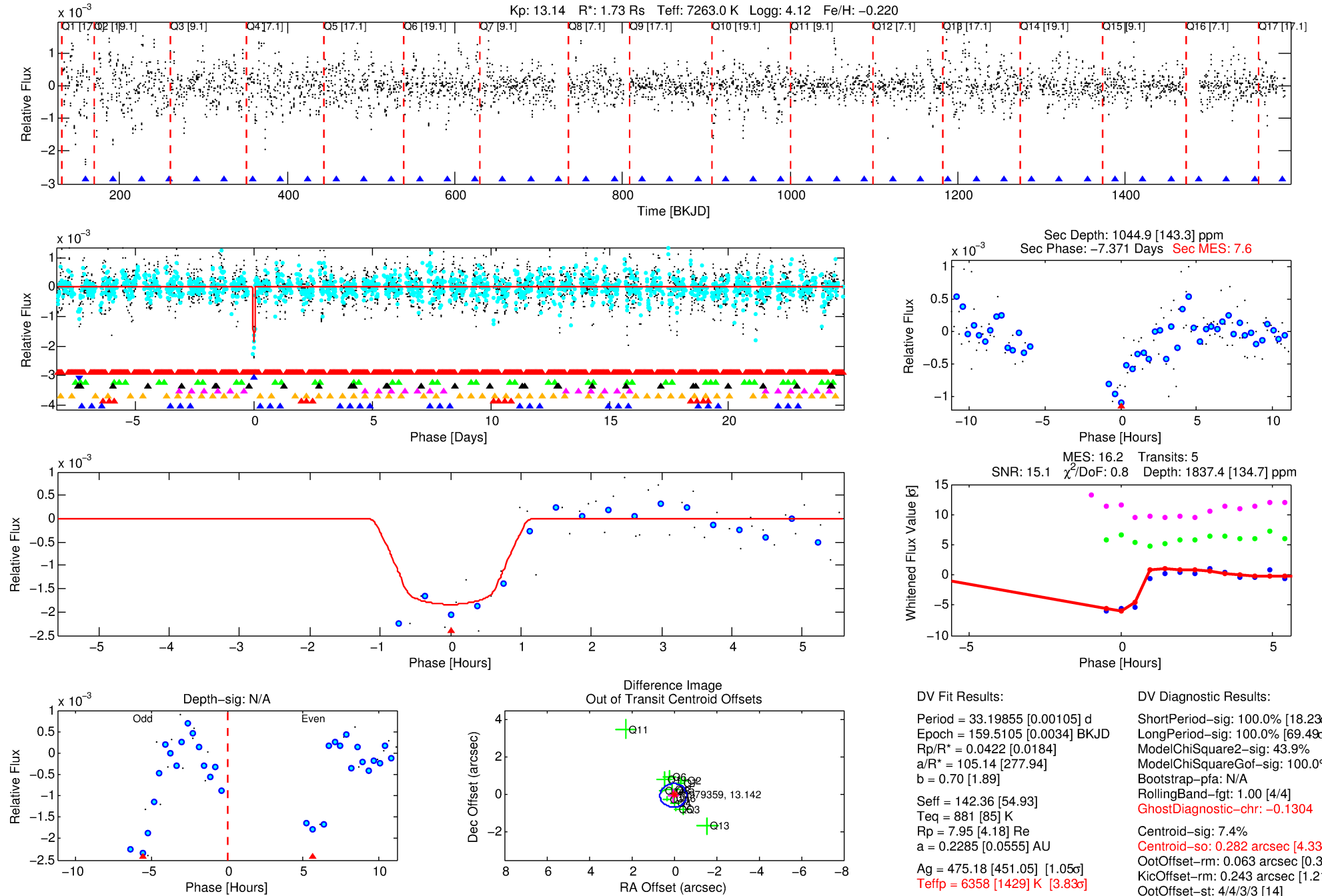
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010979359-02

No Significant Match Found

DV One-Page Summary

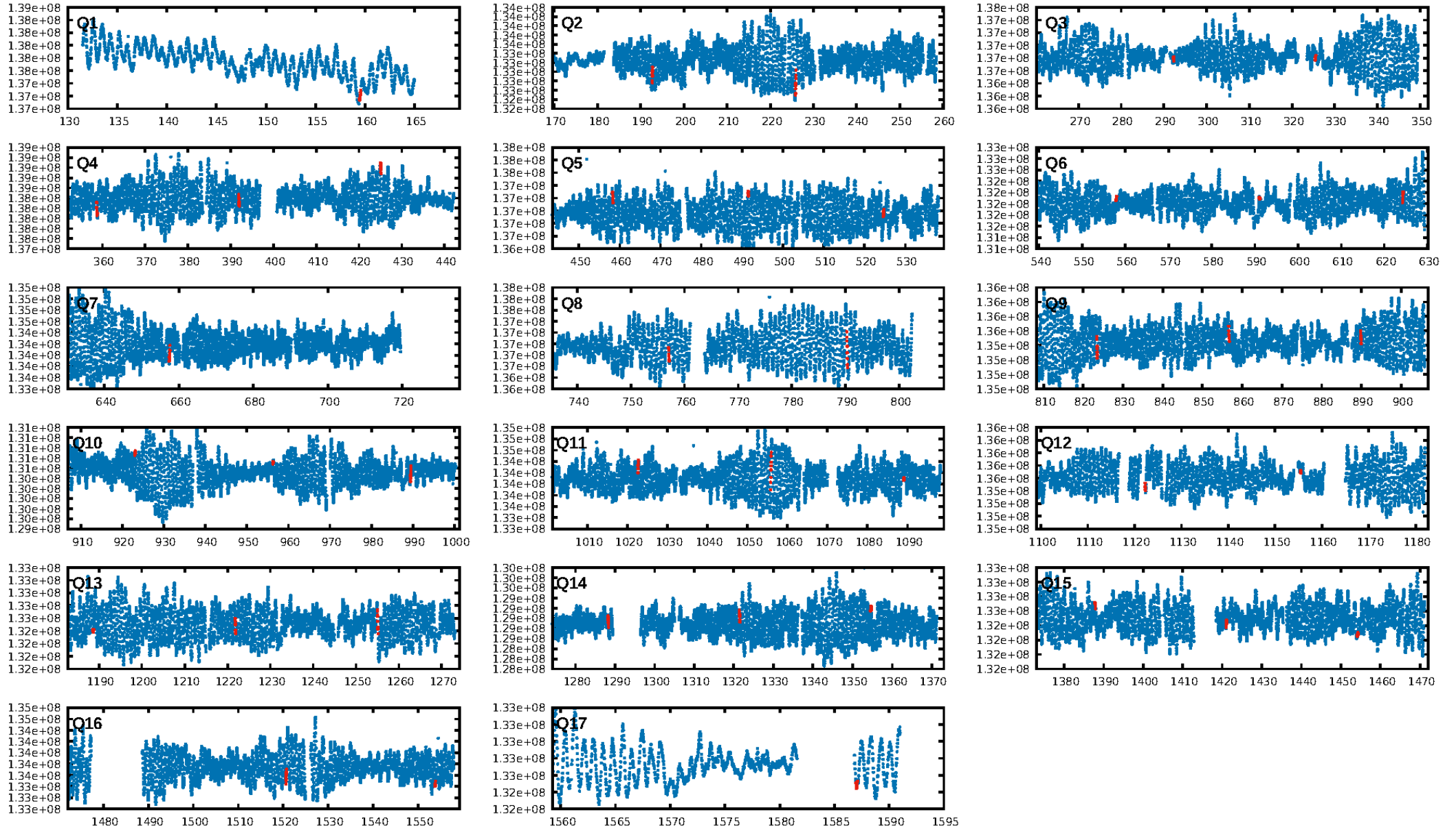
KIC: 10979359 Candidate: 2 of 8 Period: 33.199 d



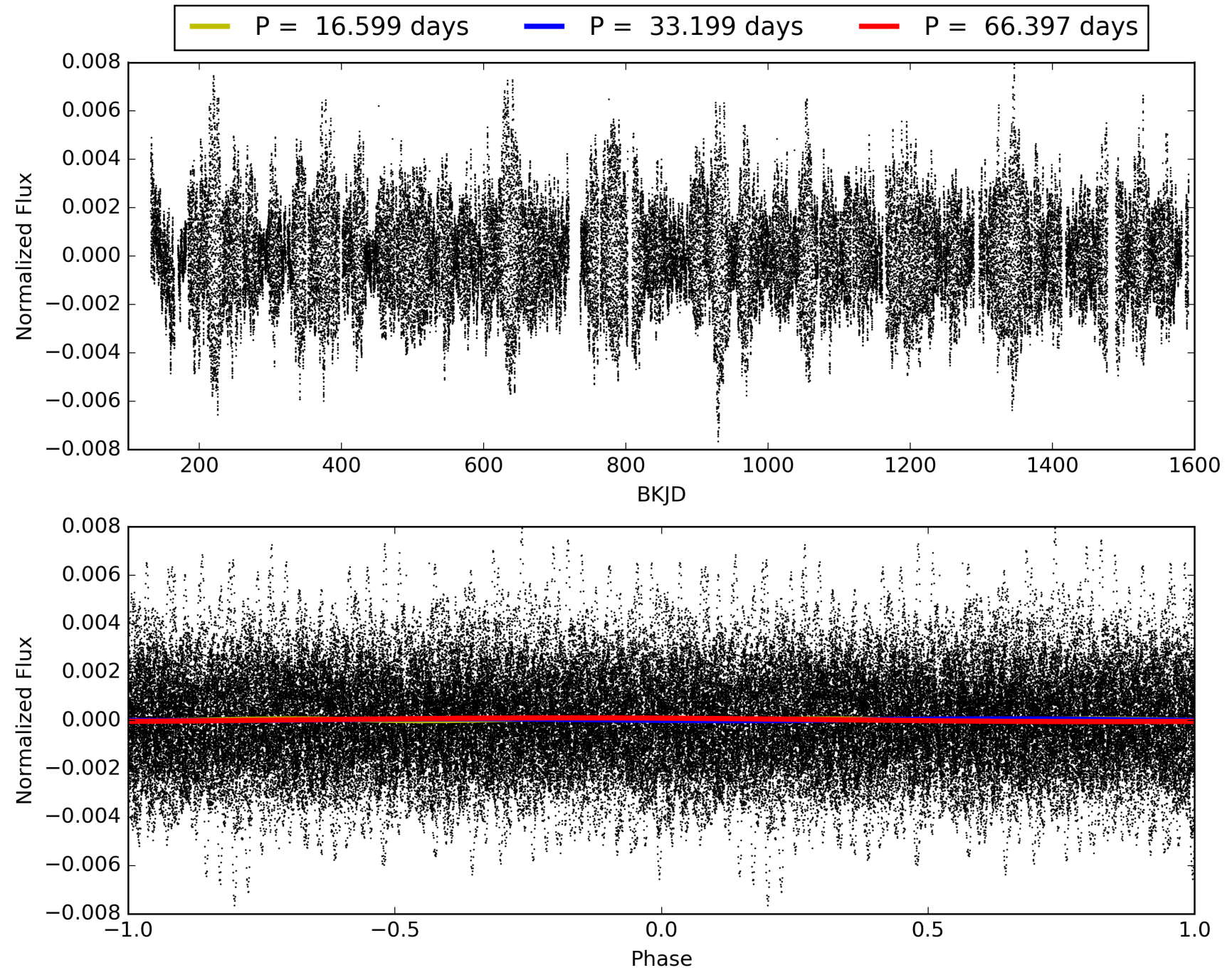
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:26:43 Z

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

TCE 010979359-02, PDC Light Curves

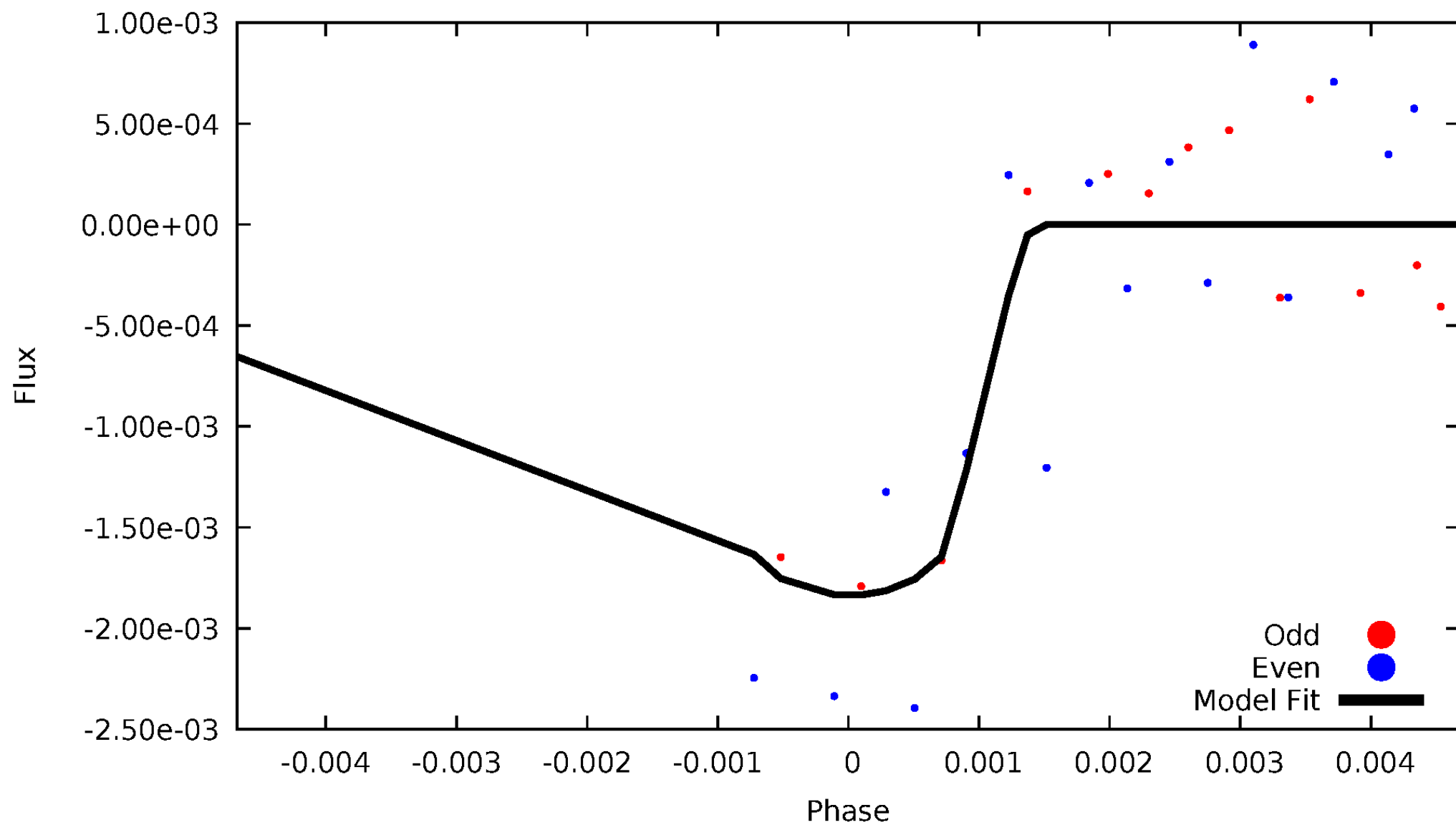


TCE 010979359-02



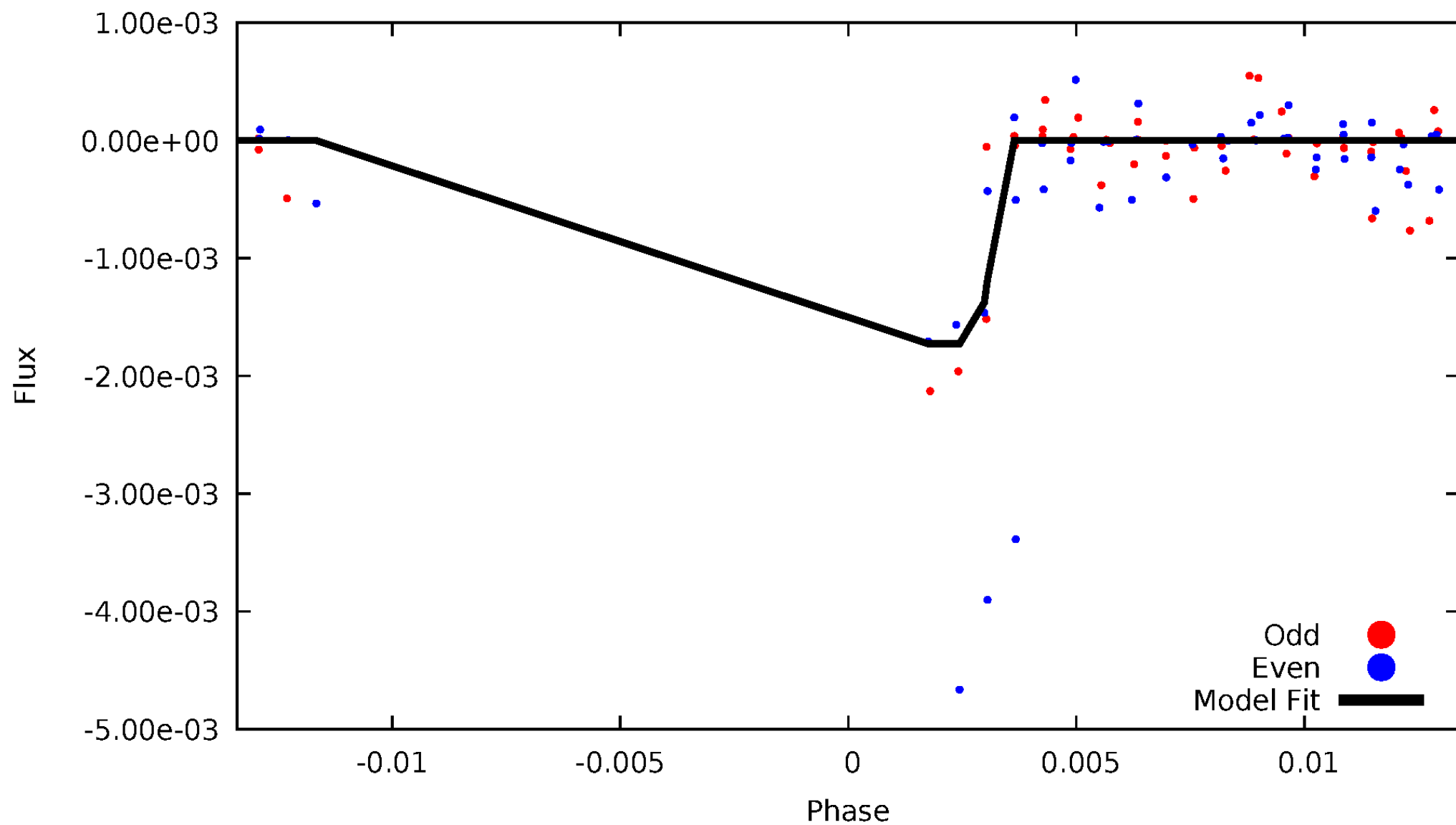
DV Odd/Even

TCE 010979359-02



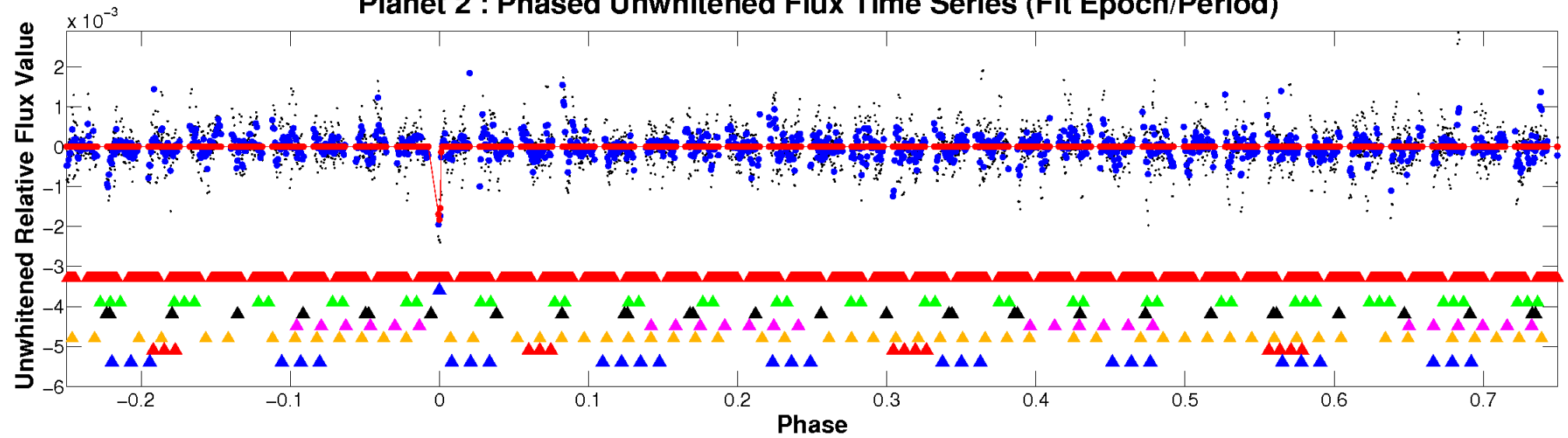
ALT Odd/Even

TCE 010979359-02

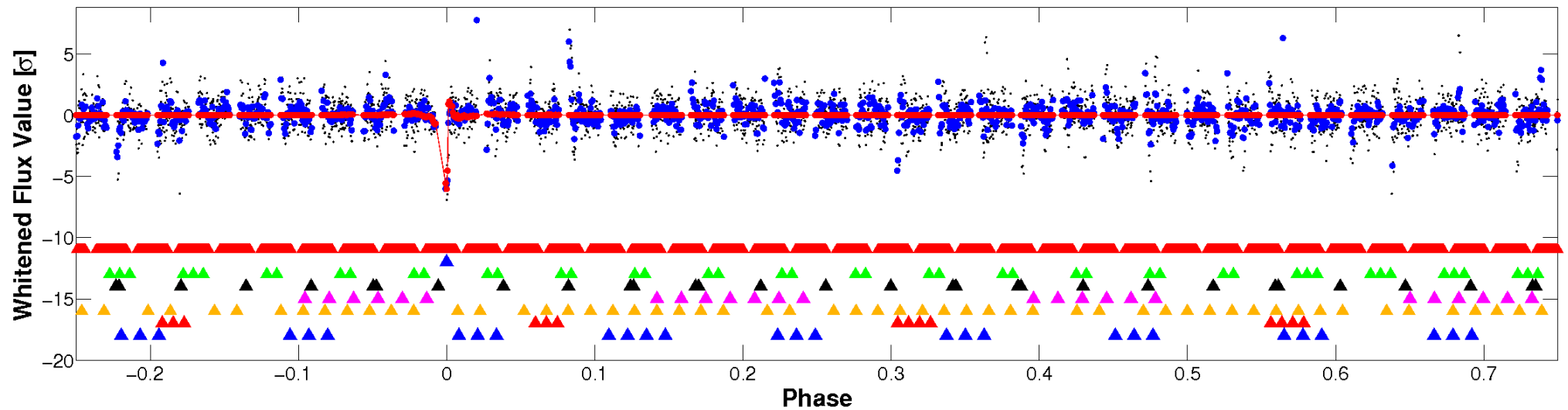


Non-Whitened Vs. Whitened Light Curve

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

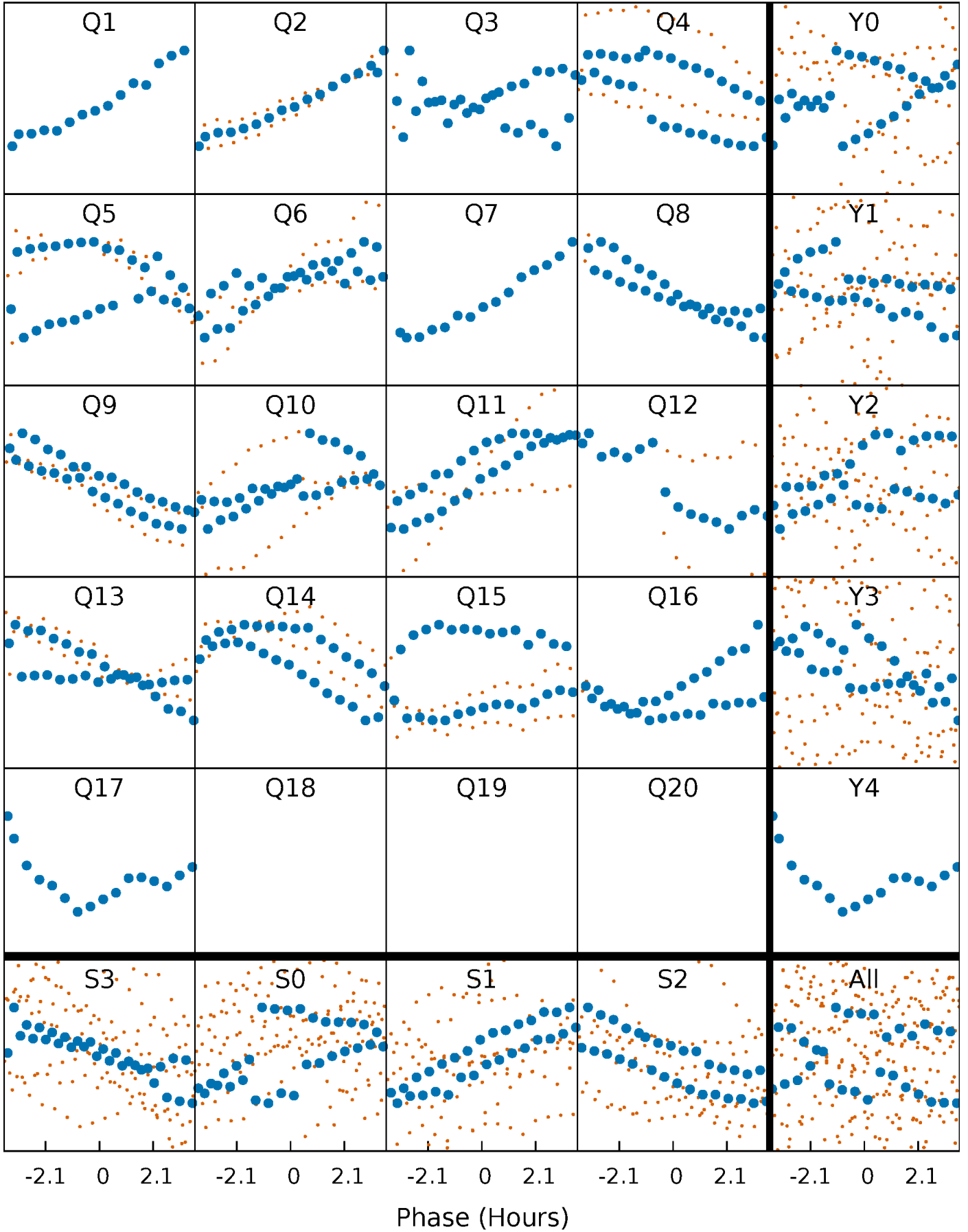


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



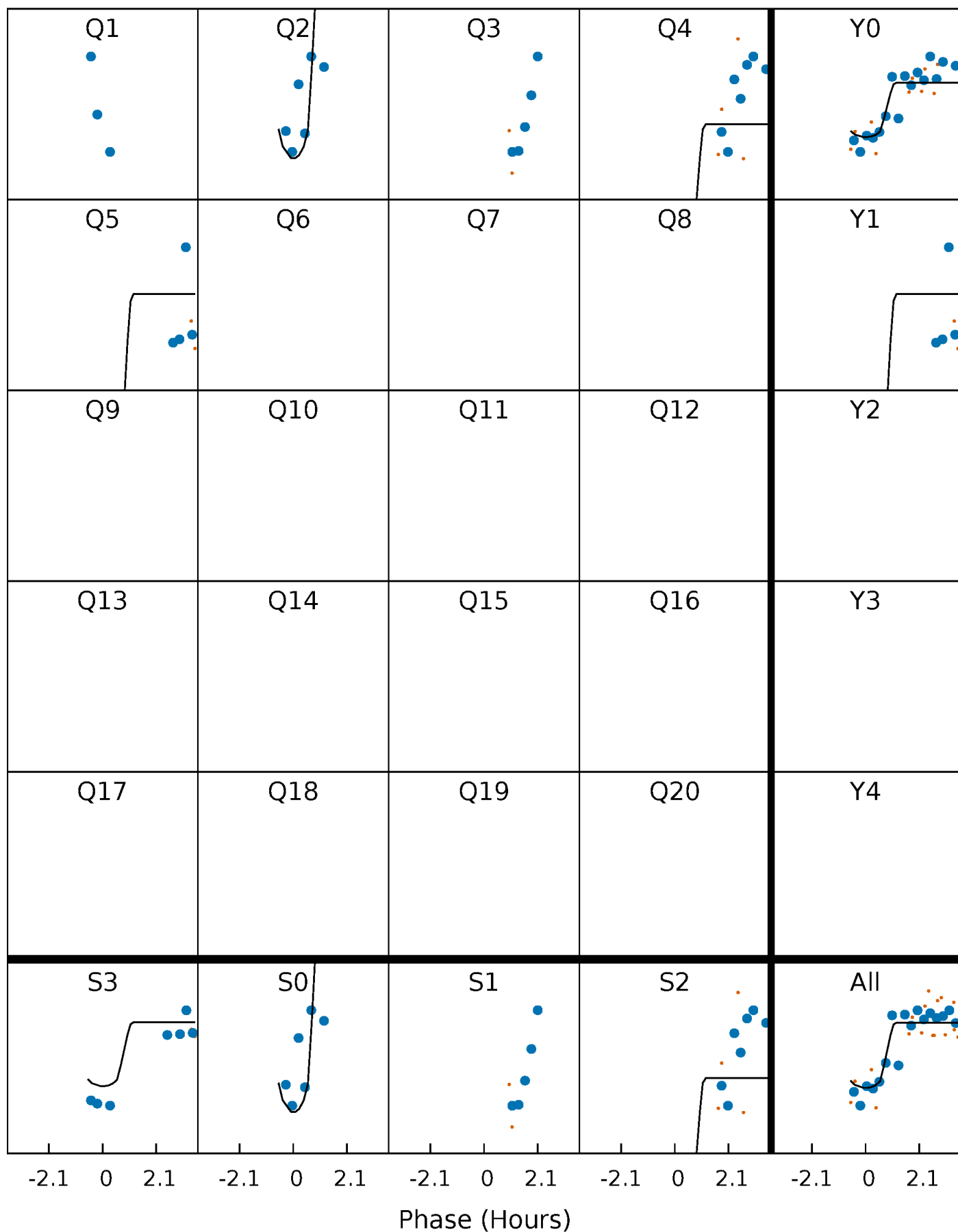
PDC Quarter-Phased Transit Curves

TCE 010979359-02 P= 33.198551 Days $T_0=159.510493$ (BKJD)



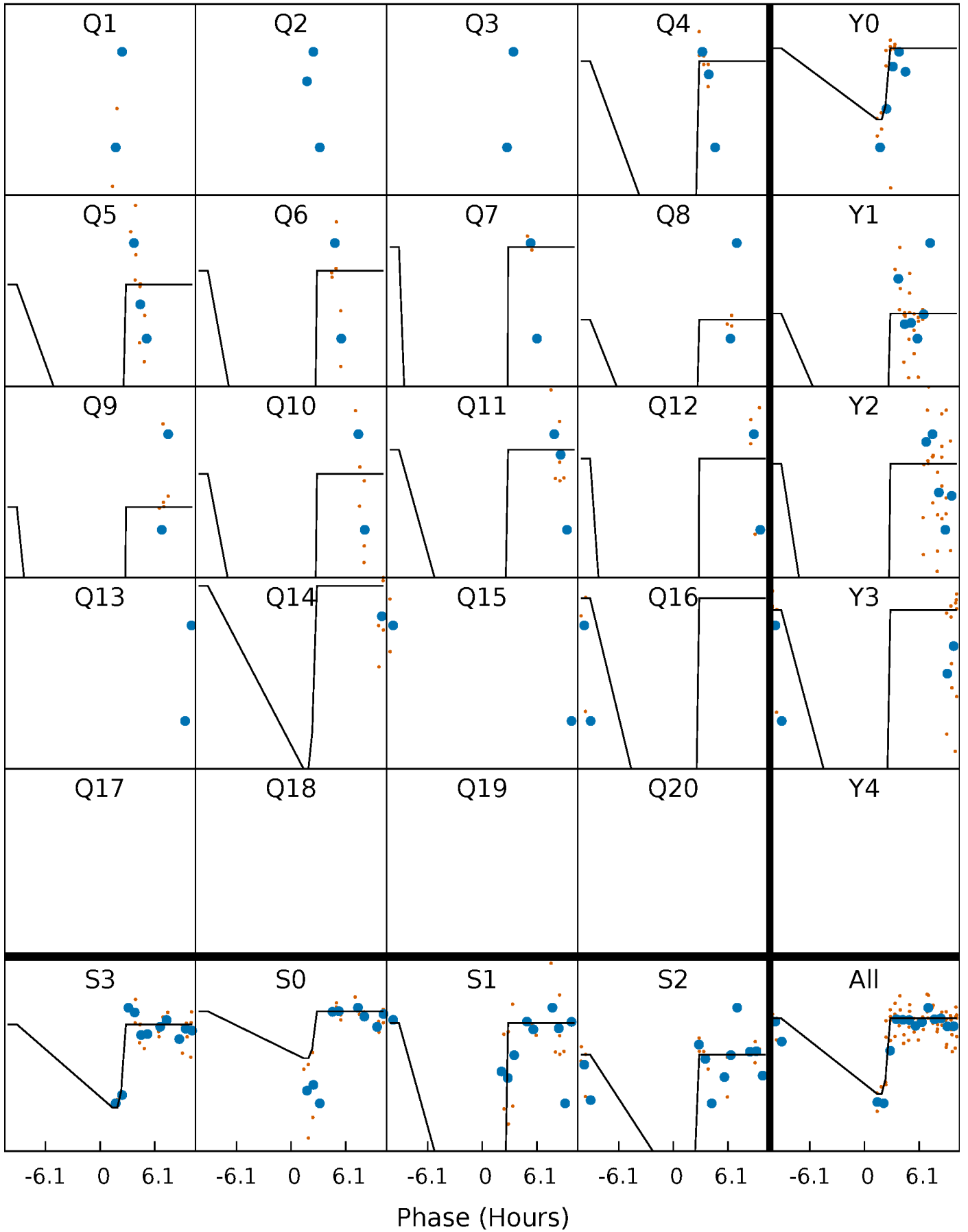
DV Quarter-Phased Transit Curves

TCE 010979359-02 P= 33.198551 Days $T_0=159.510493$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

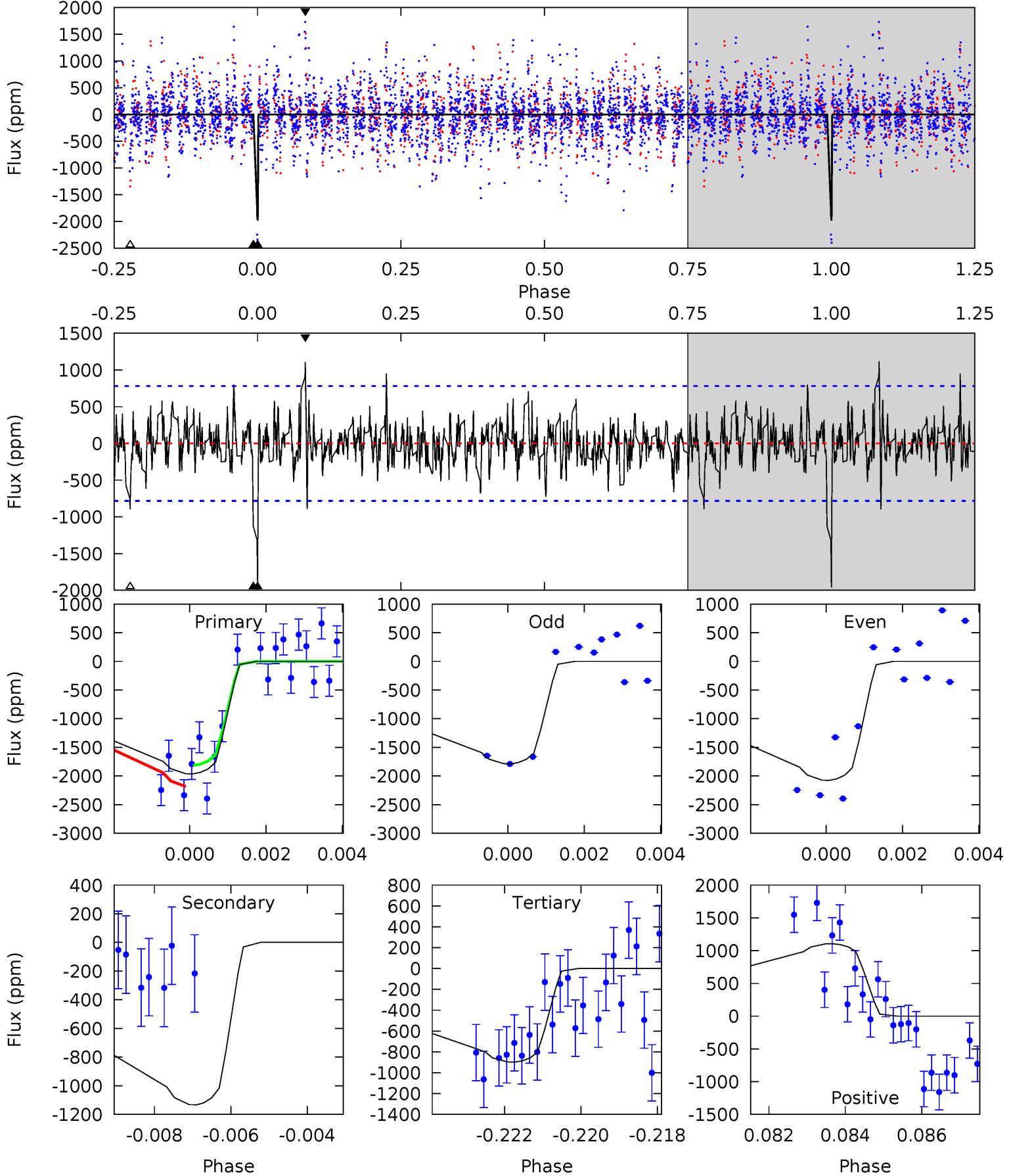
TCE 010979359-02 P= 33.203945 Days $T_0=159.428306$ (BKJD)



DV Model-Shift Uniqueness Test

010979359-02, P = 33.198551 Days, E = 126.311942 Days

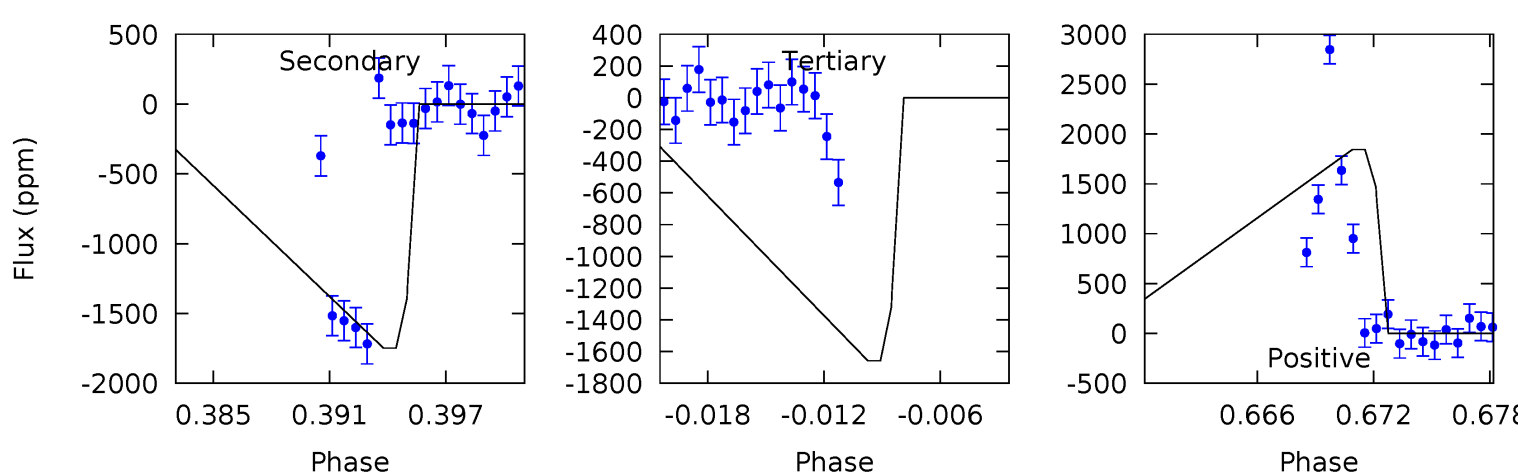
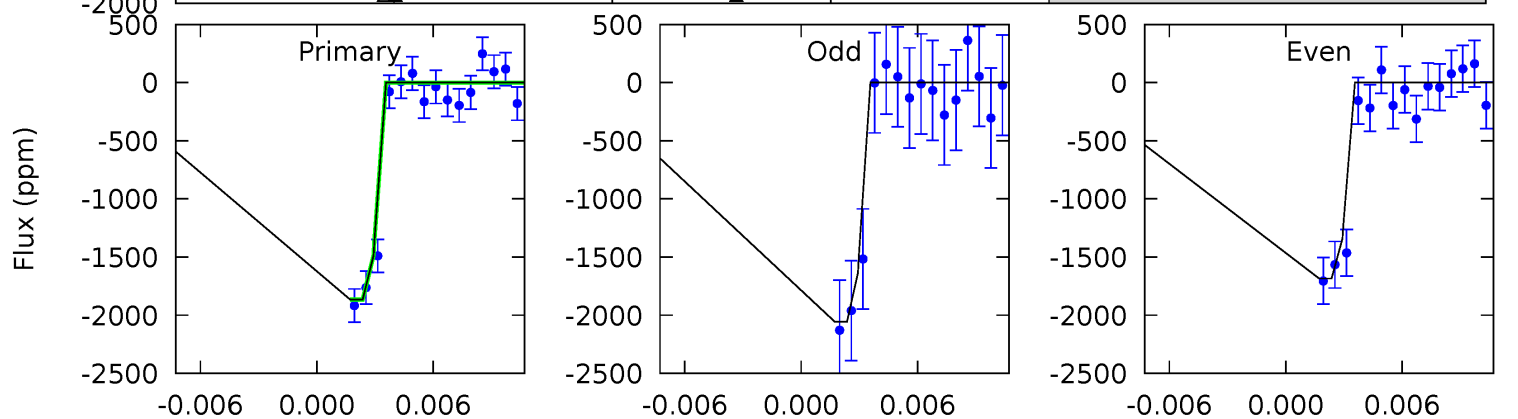
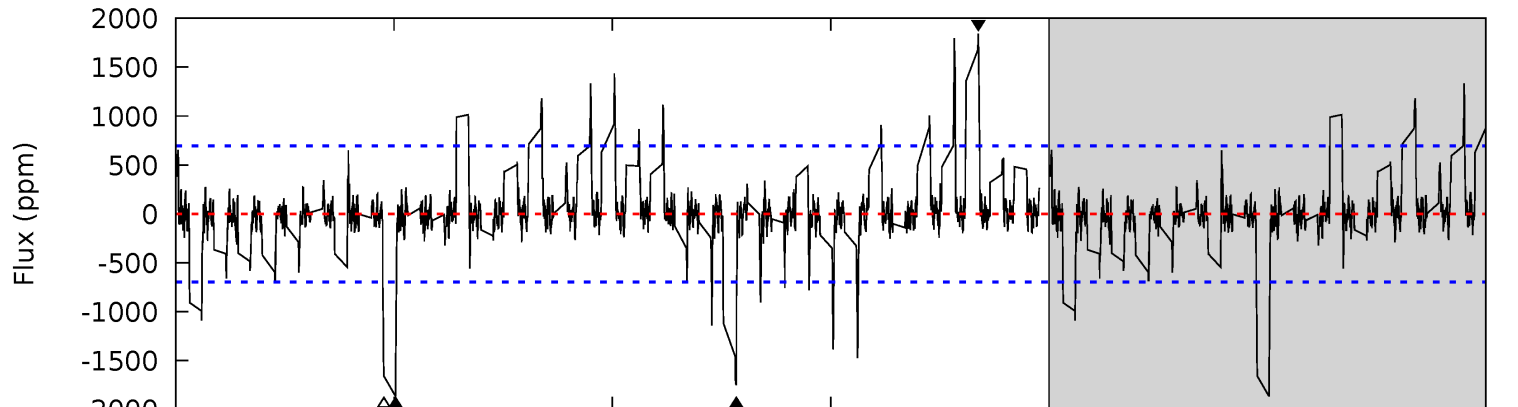
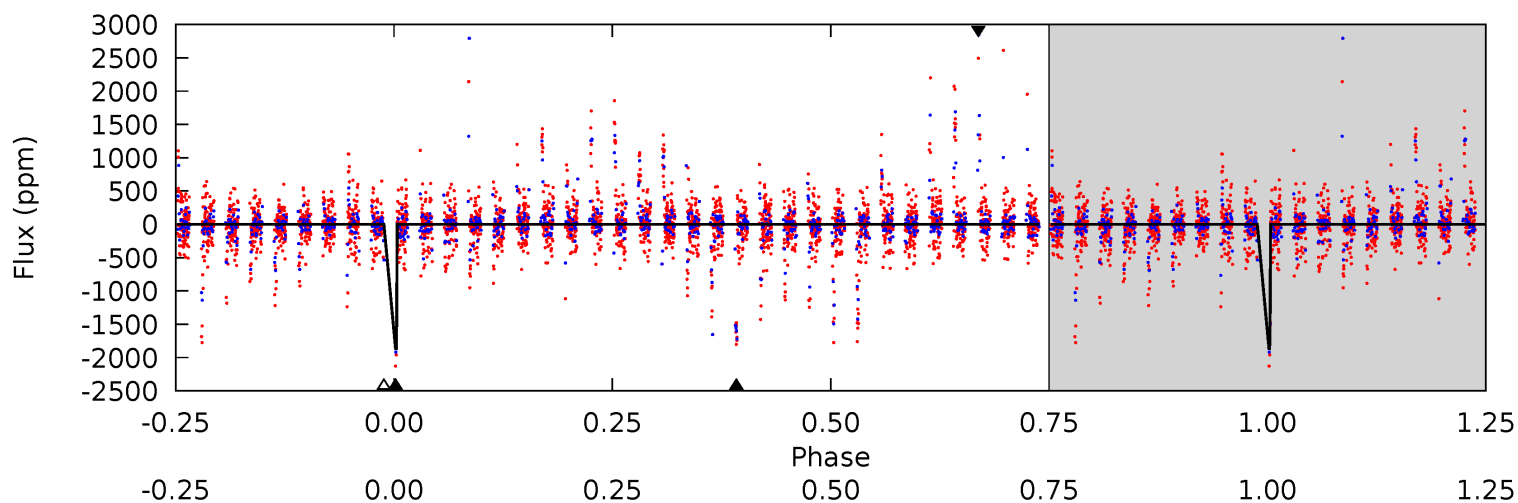
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.3	7.70	6.10	7.51	5.32	3.08	1.50	7.23	5.83	1.60	0.19	0.95	1.06	0.36	1.11



Alt Model-Shift Uniqueness Test

010979359-02, P = 33.203945 Days, E = 126.224361 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	12.9	12.2	13.6	5.12	2.74	1.74	1.53	0.16	0.66	-0.71	1.12	1.42	0.50	0



Stellar Parameters For KIC 010979359

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7263^{+228}_{-304}	$4.123^{+0.153}_{-0.187}$	$-0.220^{+0.250}_{-0.350}$	$1.727^{+0.508}_{-0.416}$	$1.442^{+0.219}_{-0.241}$	$0.394^{+0.360}_{-0.187}$
	+3%/-4%	+4%/-5%	+114%/-159%	+29%/-24%	+15%/-17%	+91%/-47%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010979359-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1132 ± 147	$7.98^{+3.93}_{-3.35}$	1237^{+91}_{-90}	6363^{+2387}_{-1029}	511^{+942}_{-284}
Alt.	-1748 ± 136	$7.91^{+3.96}_{-3.49}$	1236^{+90}_{-86}	7218^{+3206}_{-1284}	801^{+1659}_{-442}

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 $A_{obs} \gg 1.0$

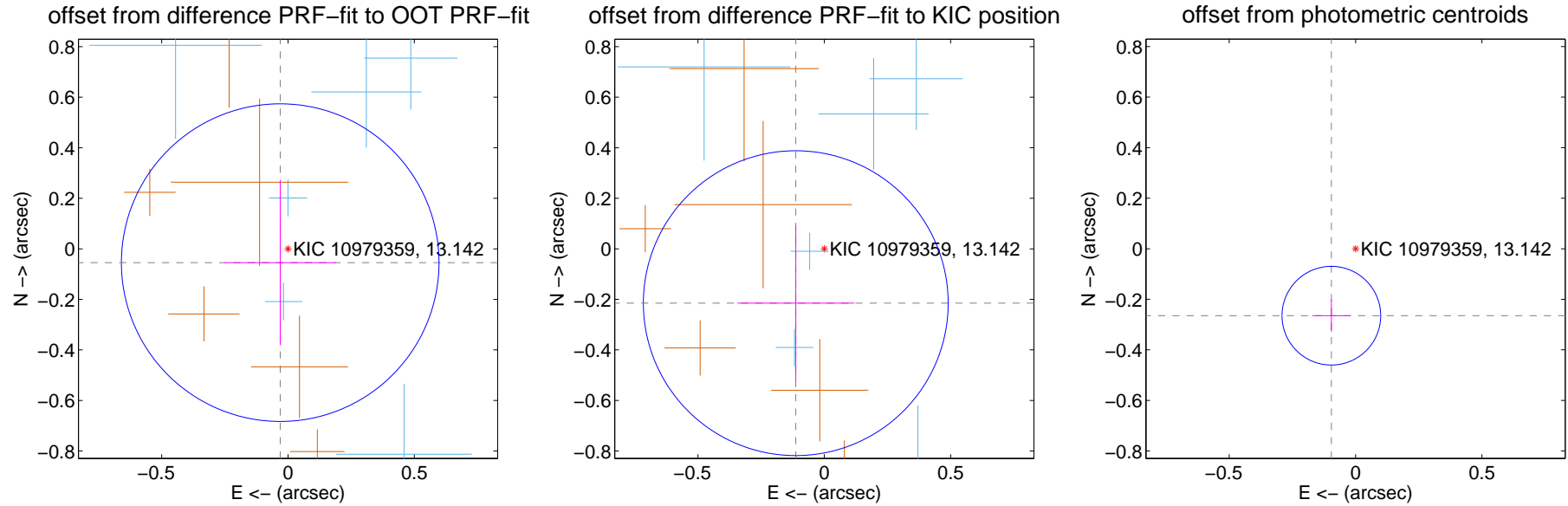
DV Centroid Data

Supplemental centroid analysis for 010979359-02. Kepler magnitude: 13.14. Transit SNR 15.13

There are 6 quarters with good PRF difference image offsets

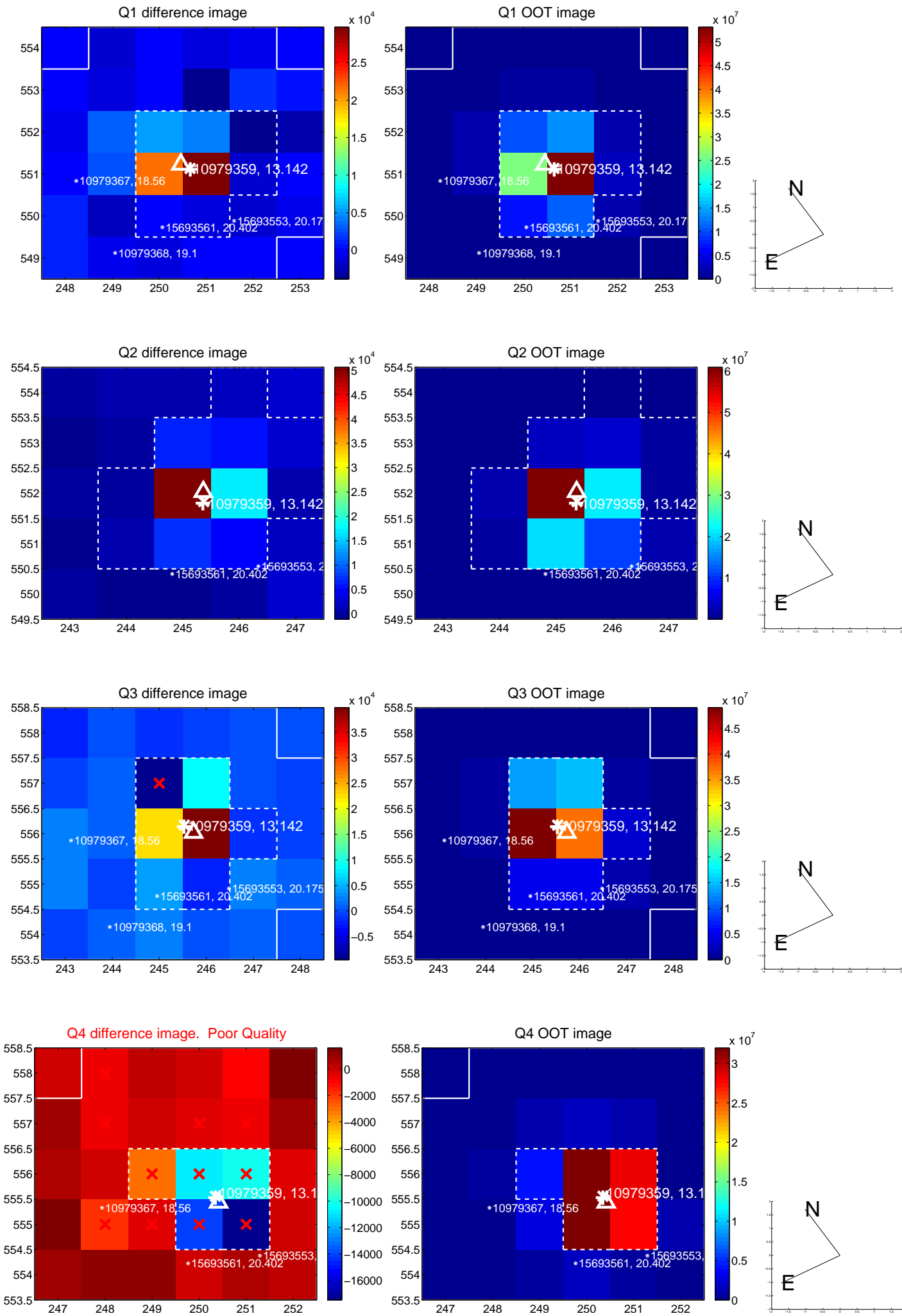
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.063 ± 0.209	0.30	0.031 ± 0.220	-0.055 ± 0.327
PRF-fit source offset from KIC position	0.243 ± 0.201	1.21	0.113 ± 0.231	-0.215 ± 0.306
photometric centroid source offset	0.28 ± 0.07	4.33	0.10 ± 0.08	-0.26 ± 0.06

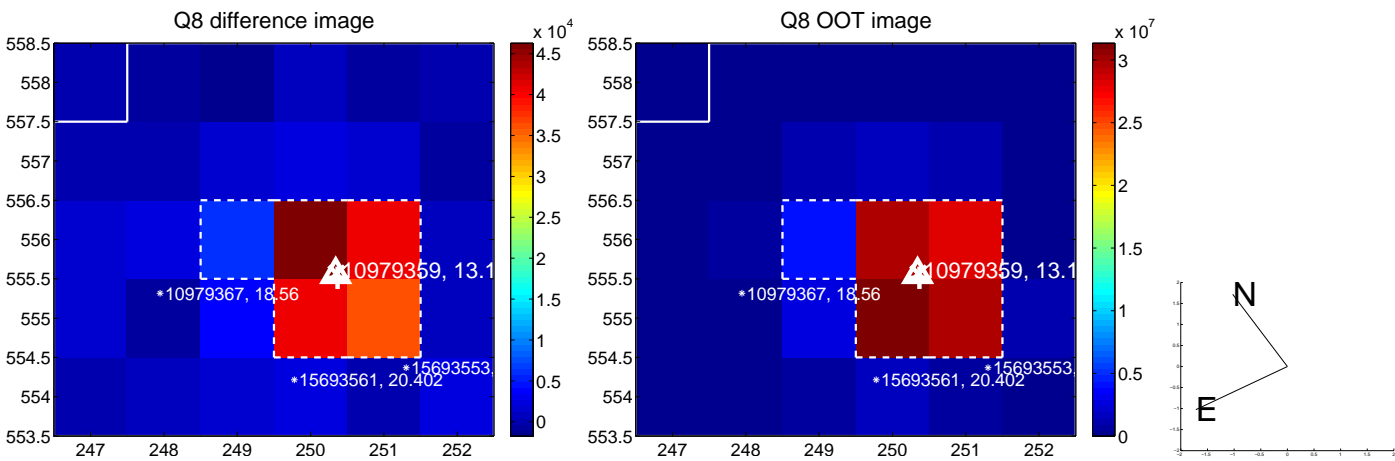
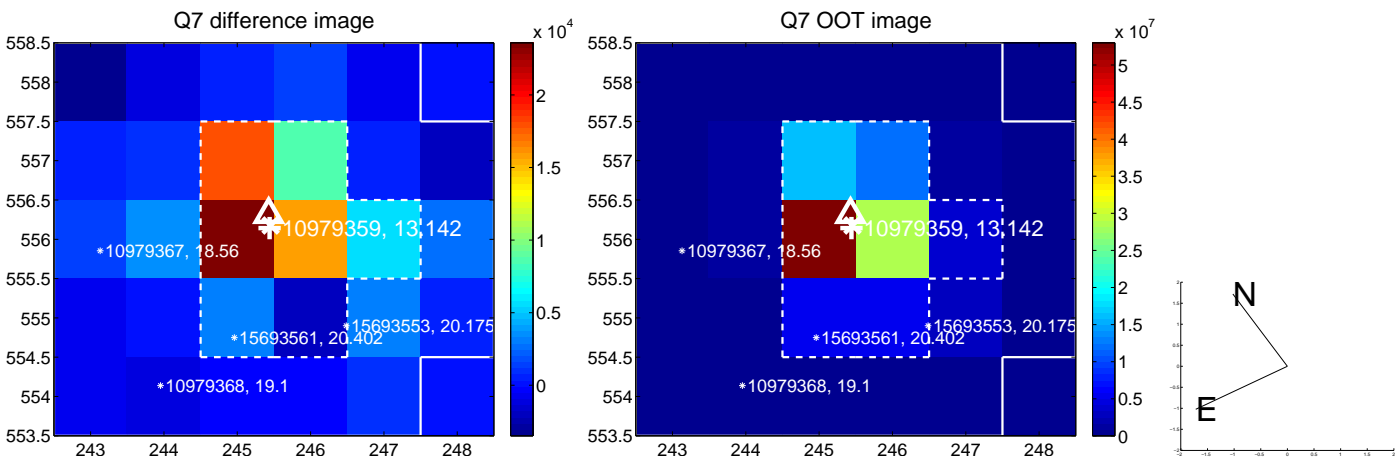
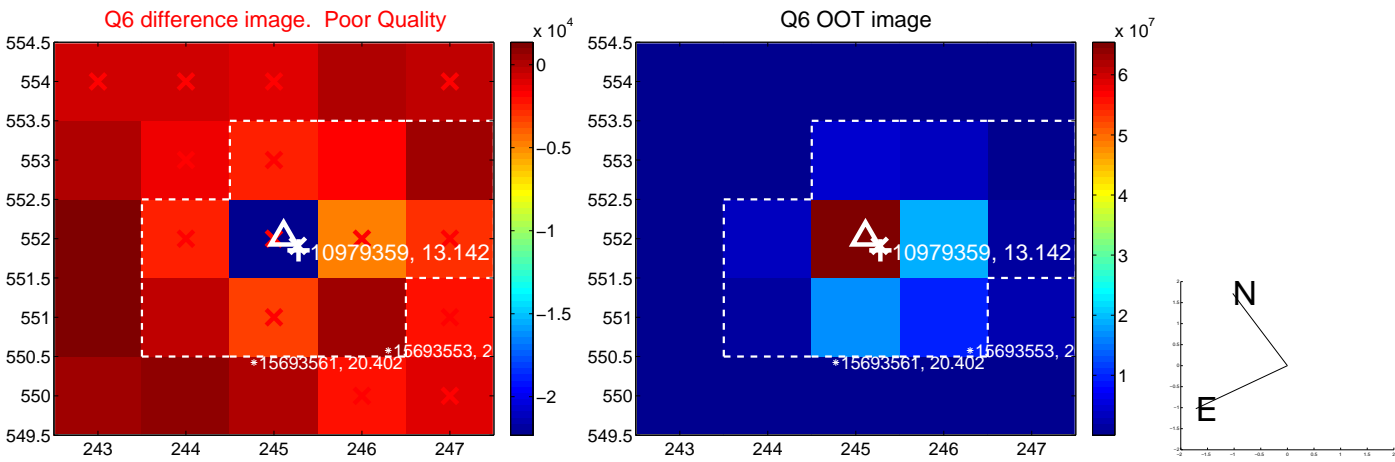
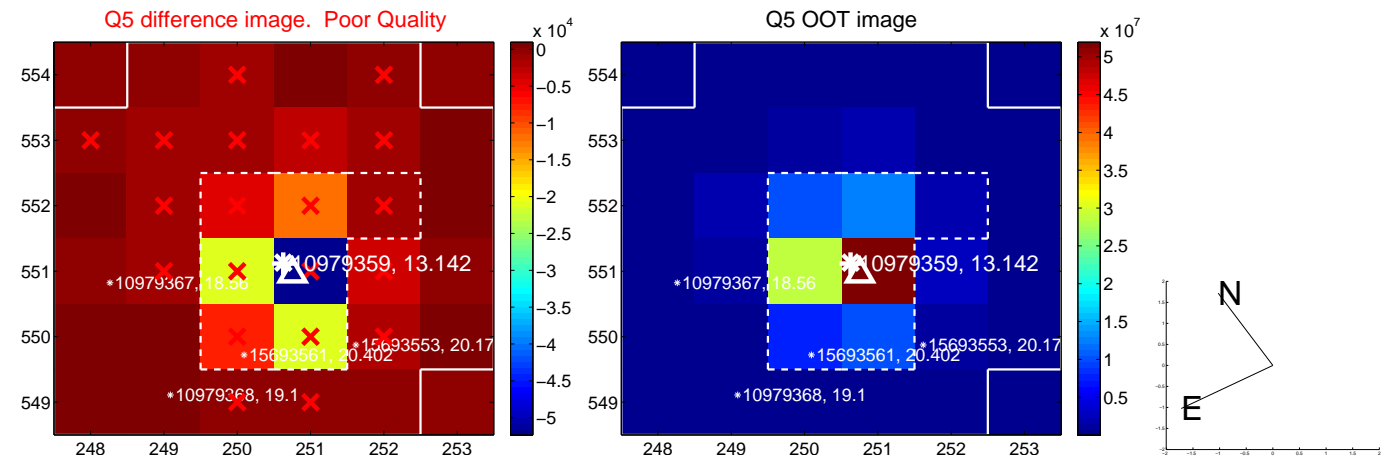


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

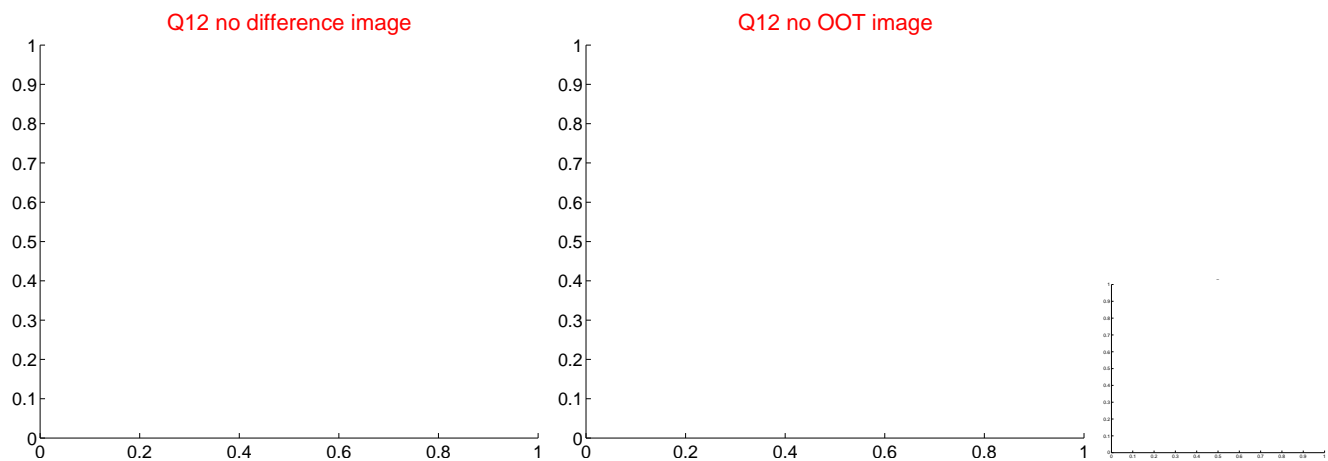
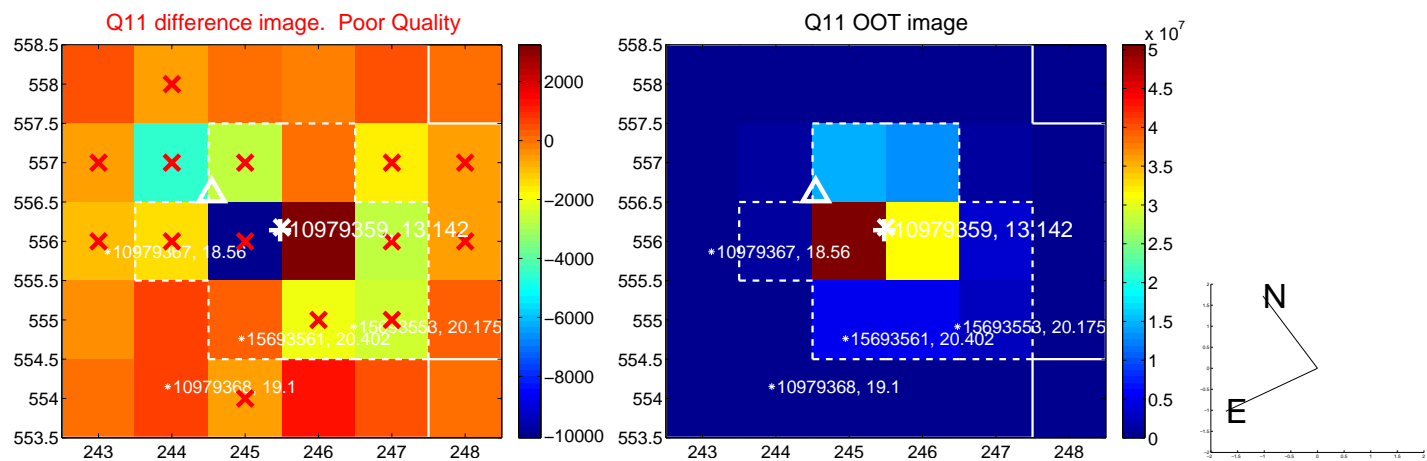
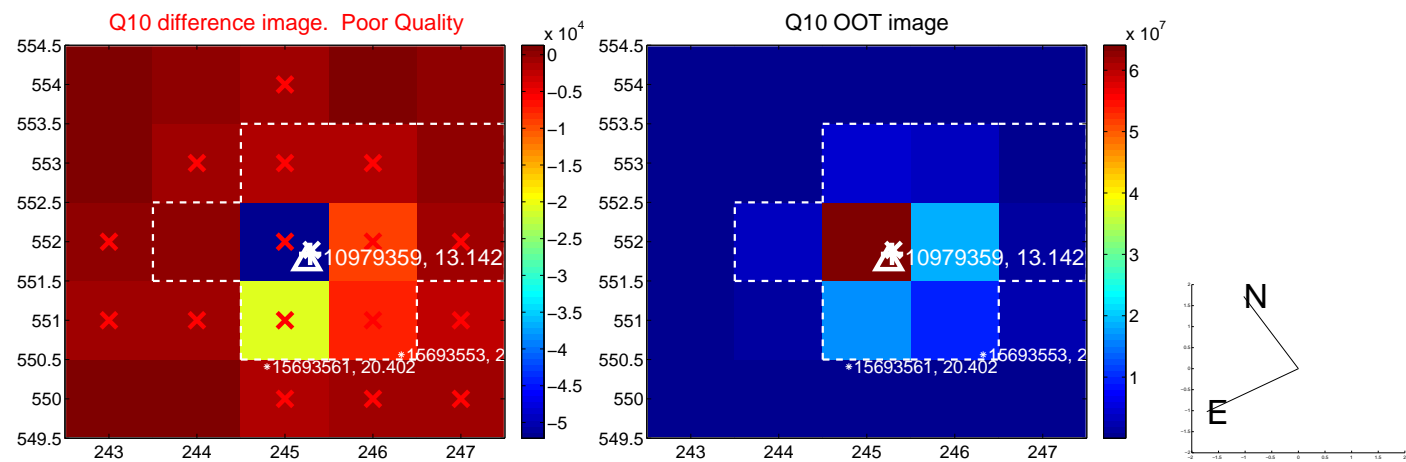
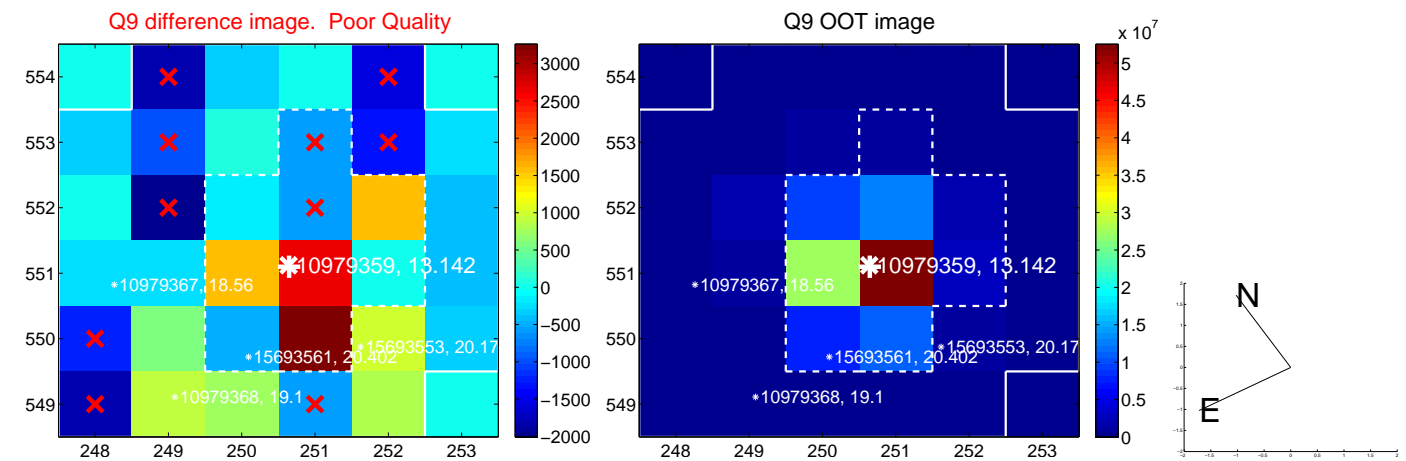
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



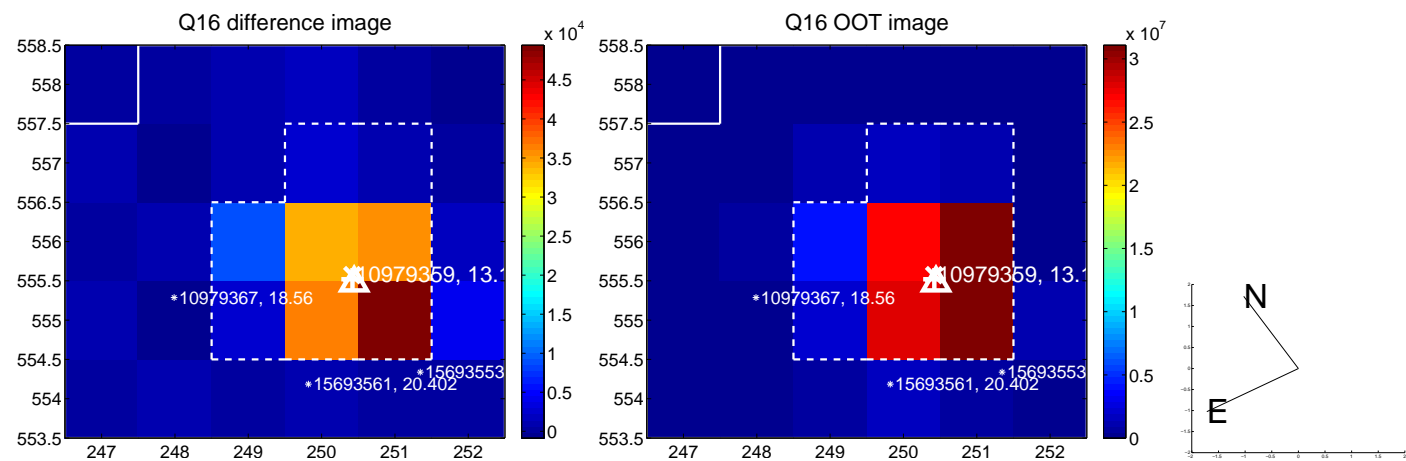
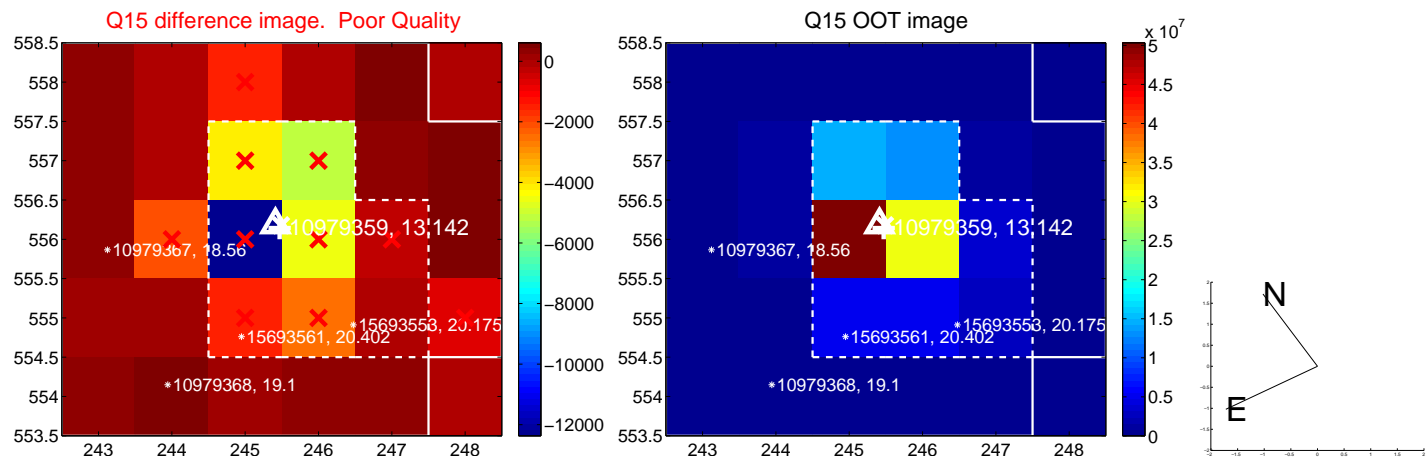
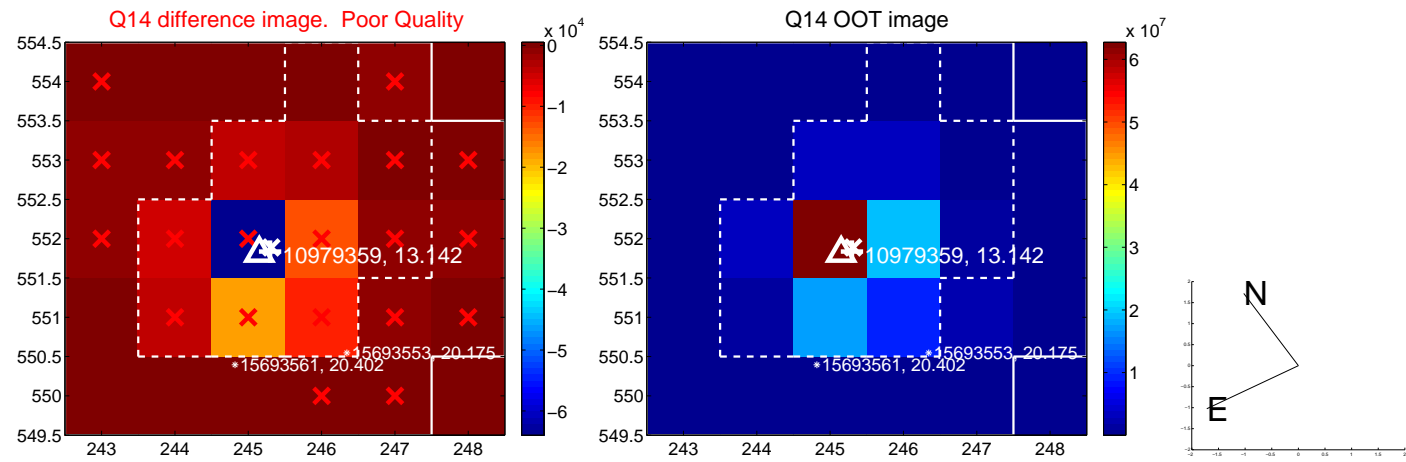
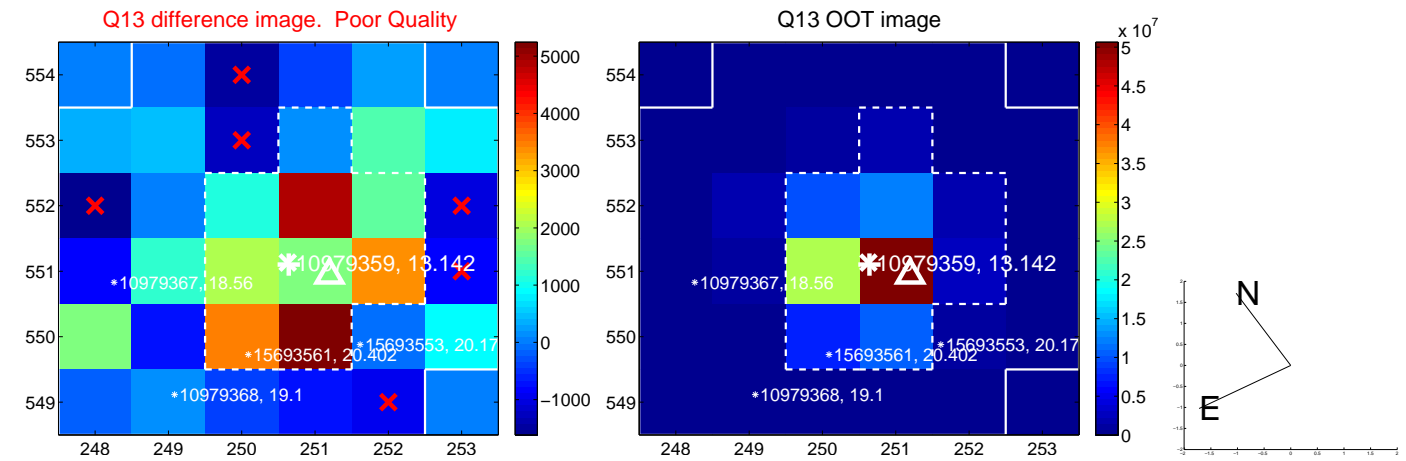
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



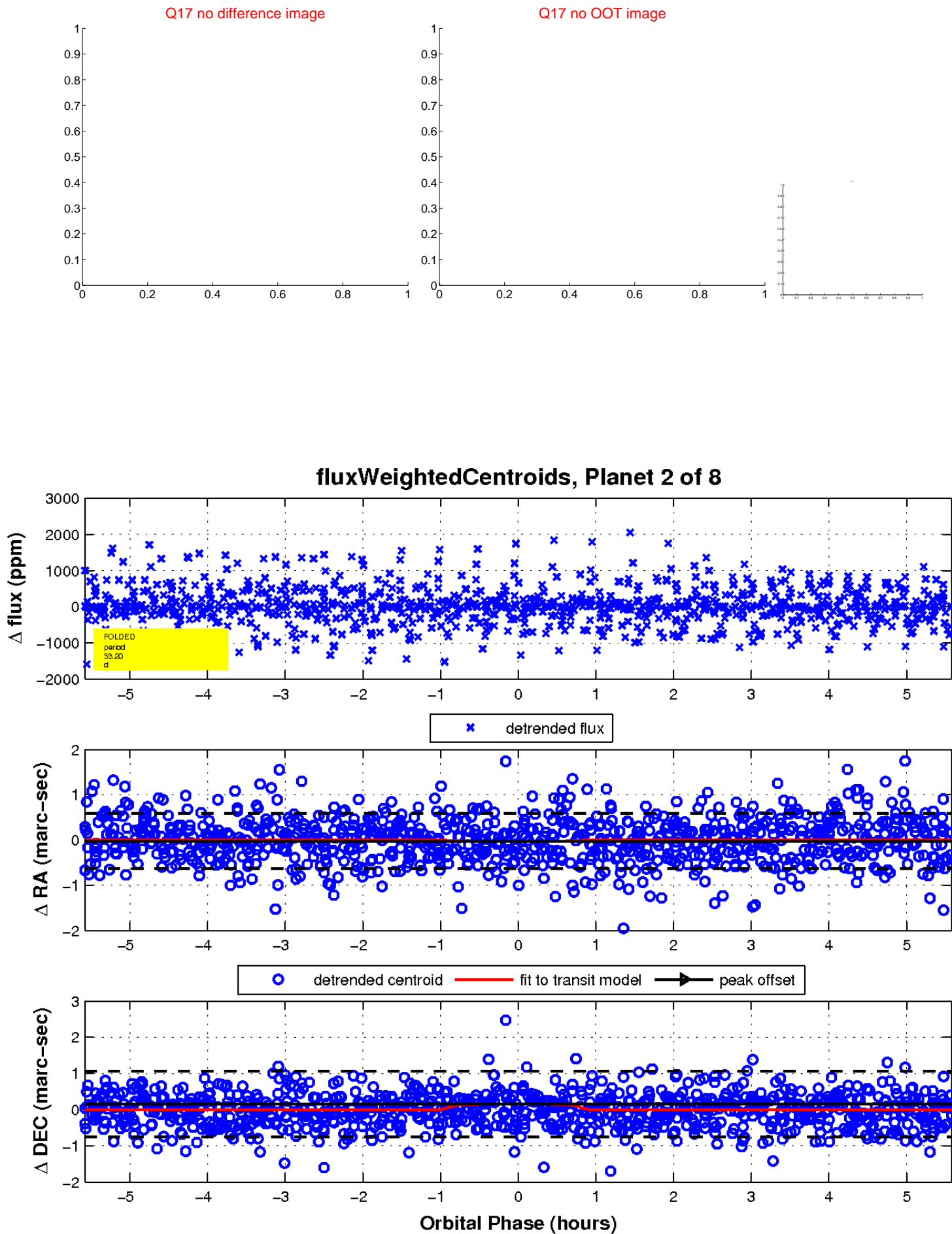
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

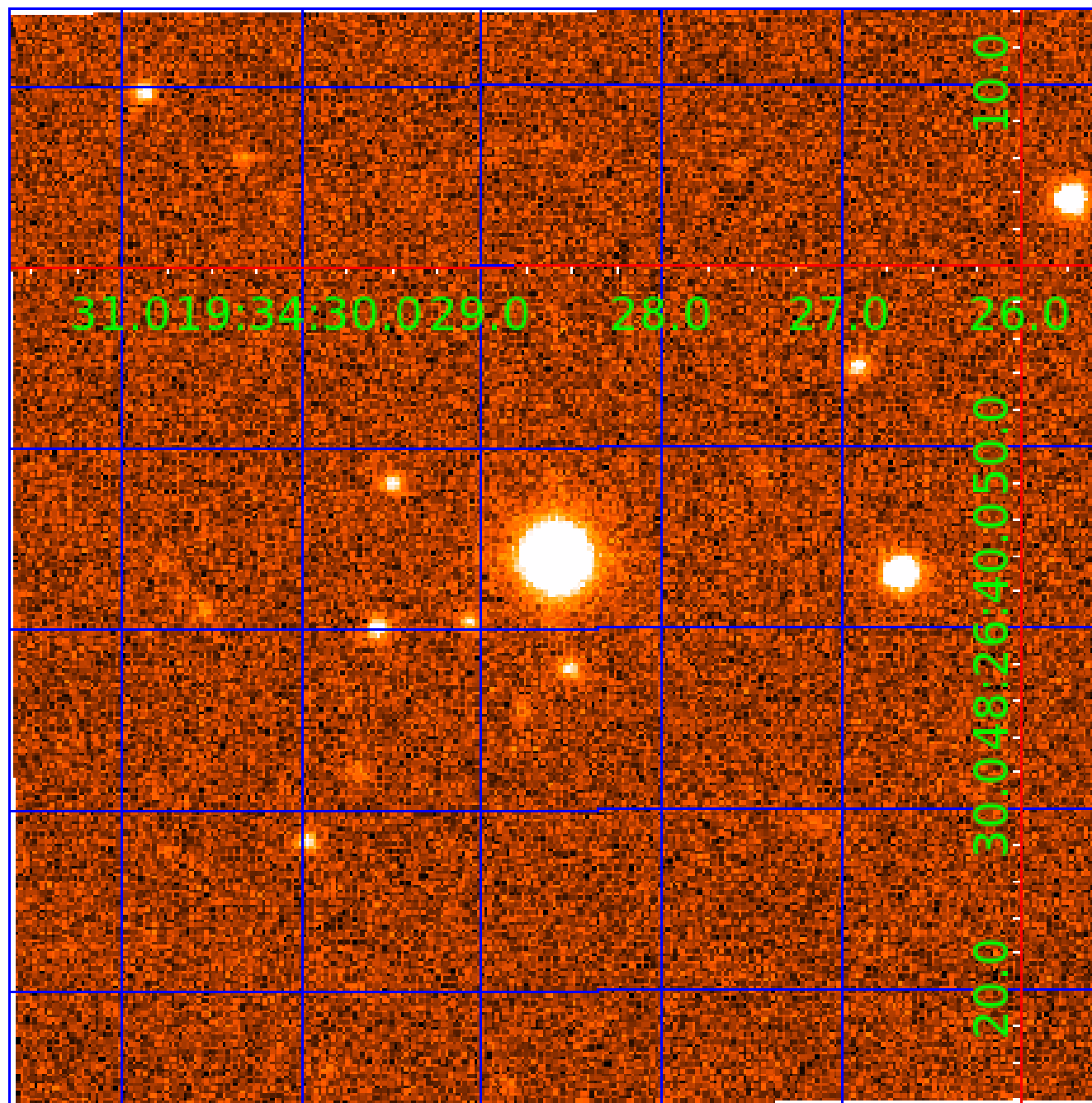


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010979359

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})
010979359-01	OBS	No	0.922618	132.286324	6.1	6.758	9.7	1.2	1.73	7263	0.44	16911.84
010979359-02	OBS	No	33.198551	159.510493	1837.4	1.864	16.2	15.1	1.73	7263	7.95	142.36
010979359-03	OBS	No	31.549808	153.610826	1031.5	1.113	10.5	7.9	1.73	7263	5.99	152.37
010979359-07	OBS	No	107.956506	136.419499	1037.7	3.078	8.6	9.8	1.73	7263	5.96	29.55
010979359-08	OBS	No	51.689076	163.146241	923.9	5.881	7.2	6.2	1.73	7263	8.70	78.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010979359-01	OBS	FP	0.00	1	0	0	0	LPP_DV
010979359-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
010979359-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010979359-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—HALO_GHOST
010979359-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

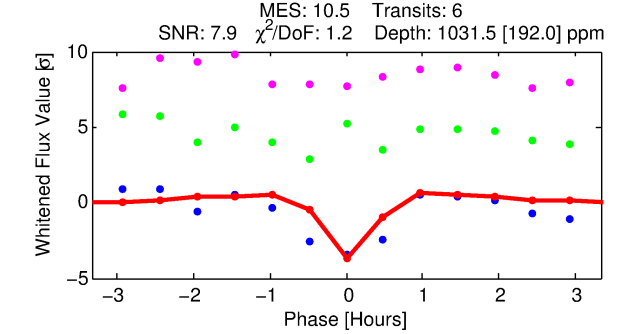
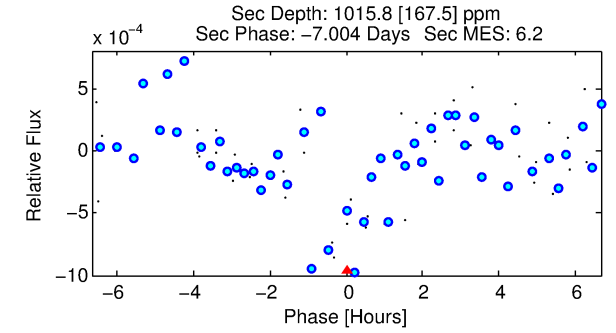
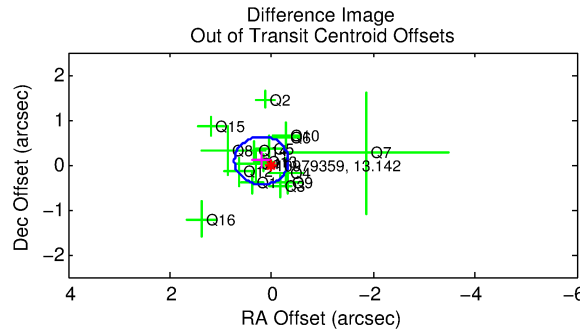
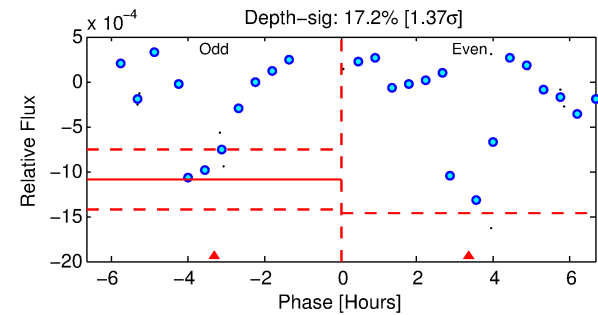
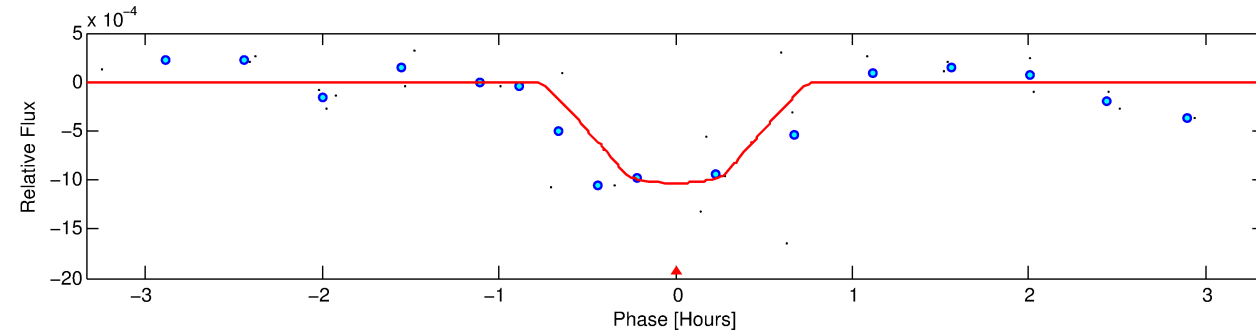
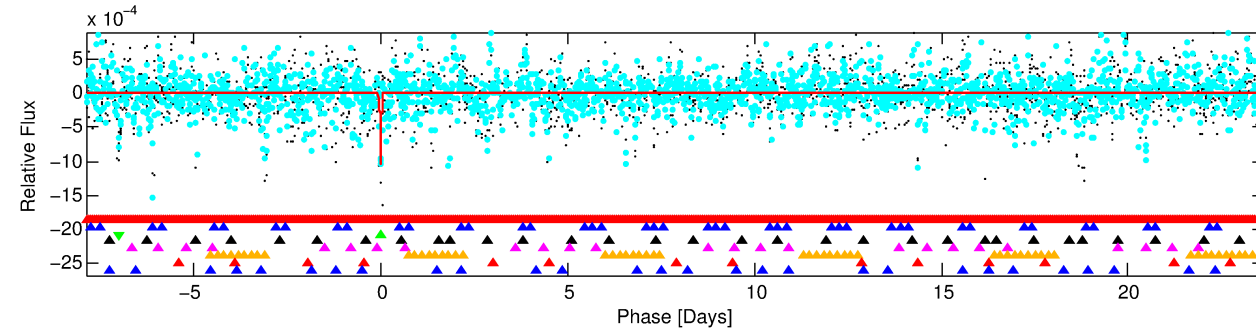
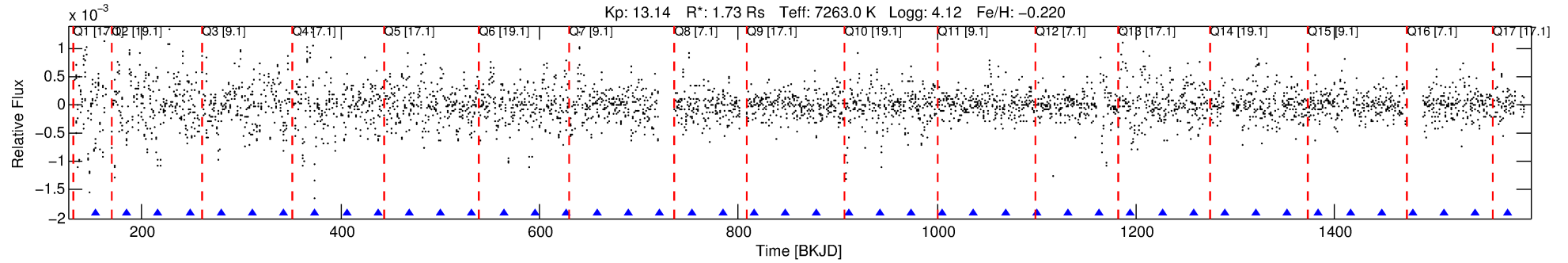
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010979359-03

No Significant Match Found

DV One-Page Summary

KIC: 10979359 Candidate: 3 of 8 Period: 31.550 d



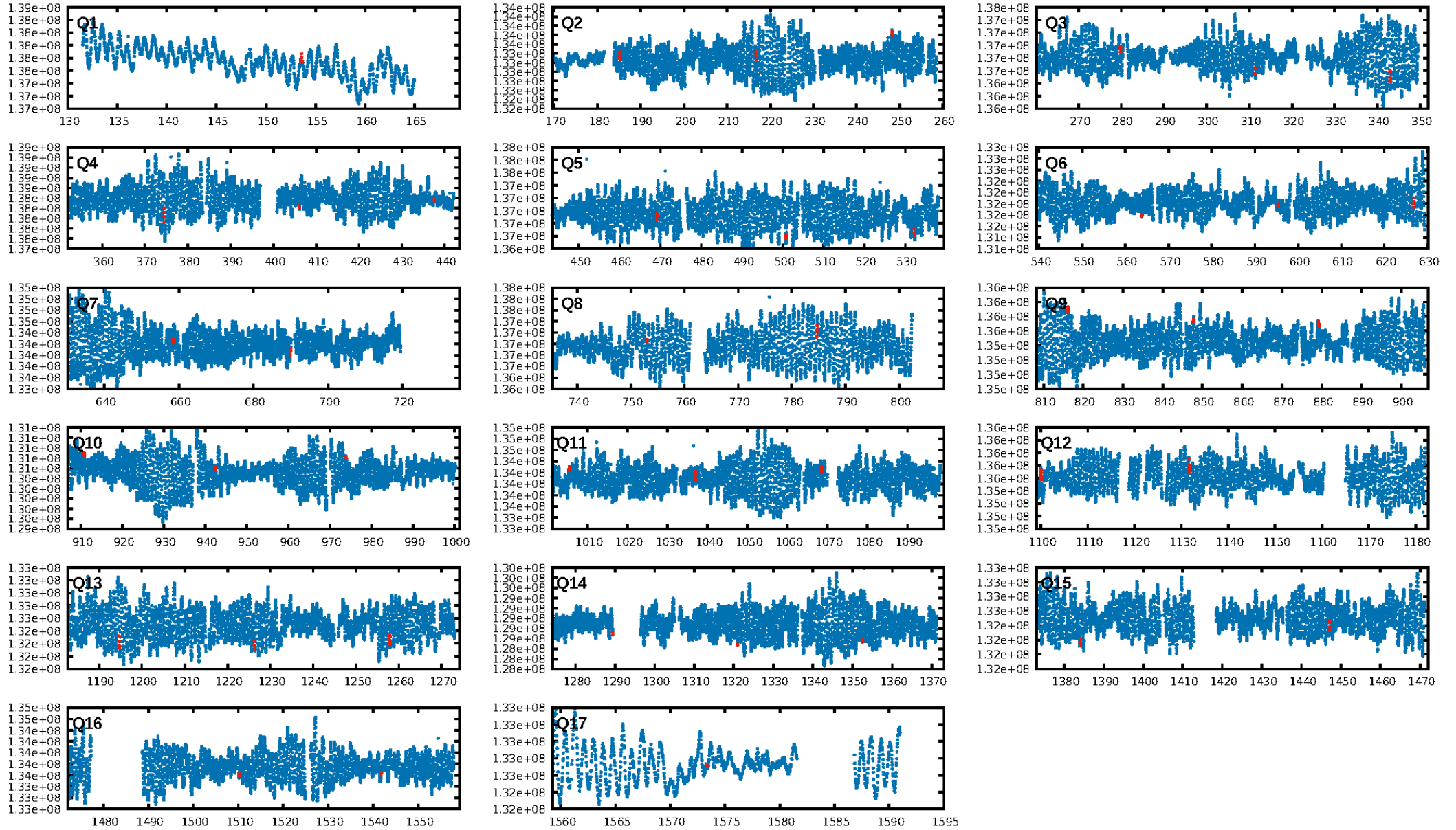
DV Fit Results:

Period = 31.54981 [0.00023] d
Epoch = 153.6108 [0.0047] BKJD
Rp/R* = 0.0318 [0.0282]
a/R* = 162.59 [844.30]
b = 0.71 [3.70]
Seff = 152.37 [58.79]
Teq = 896 [86] K
Rp = 5.99 [5.60] Re
a = 0.2209 [0.0537] AU
Ag = 759.87 [1378.77] [0.55 σ]
Teffp = 7272 [3252] K [1.96 σ]

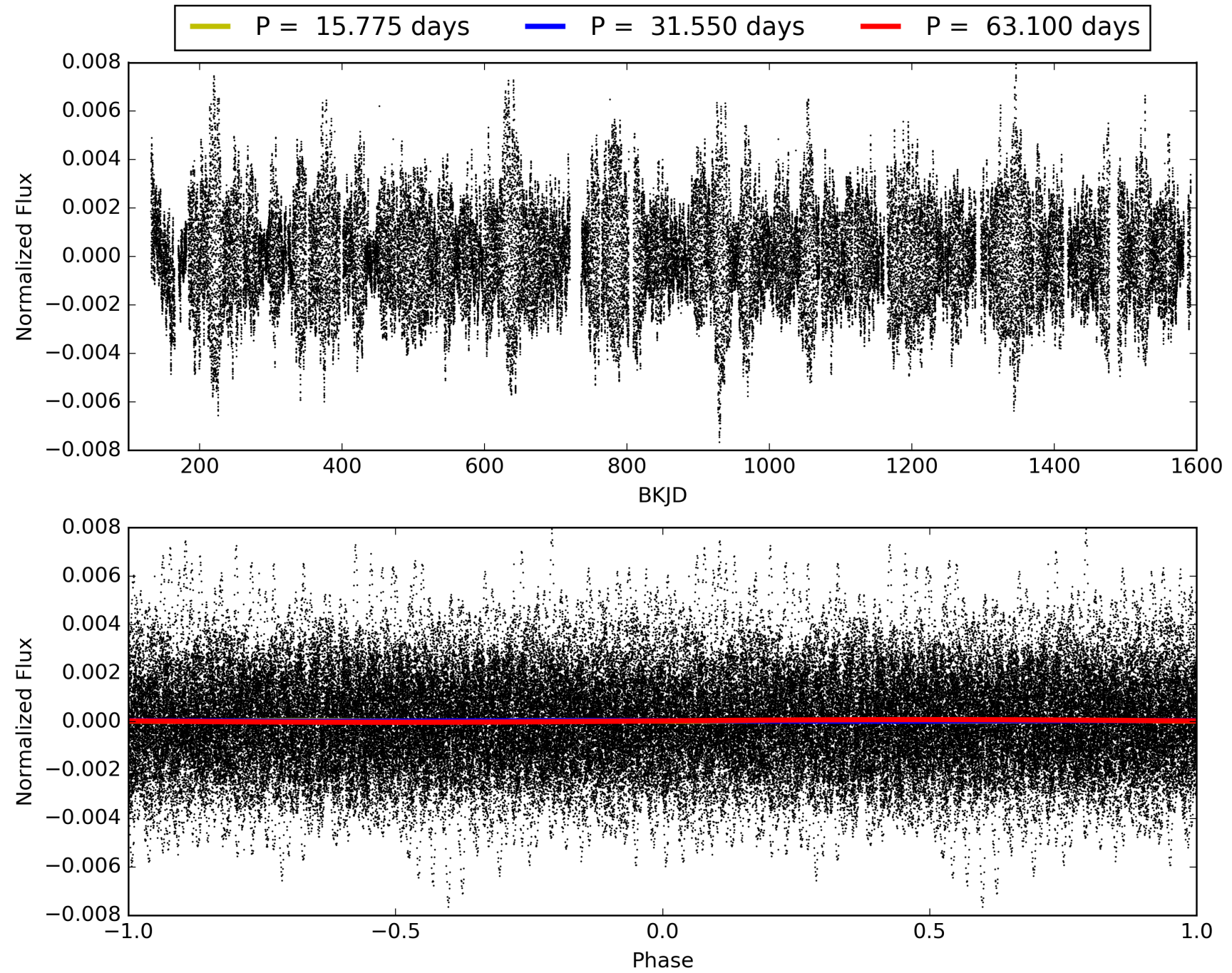
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [17.68 σ]
LongPeriod-sig: 100.0% [18.23 σ]
ModelChiSquare2-sig: 38.2%
ModelChiSquareGof-sig: 98.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -4.878
Centroid-sig: 86.6%
Centroid-so: 0.246 arcsec [1.62 σ]
OotOffset-rm: 0.217 arcsec [1.22 σ]
KicOffset-rm: 0.283 arcsec [1.38 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.50 [8/16]
DiffImageOverlap-fno: 0.47 [8/17]

TCE 010979359-03, PDC Light Curves

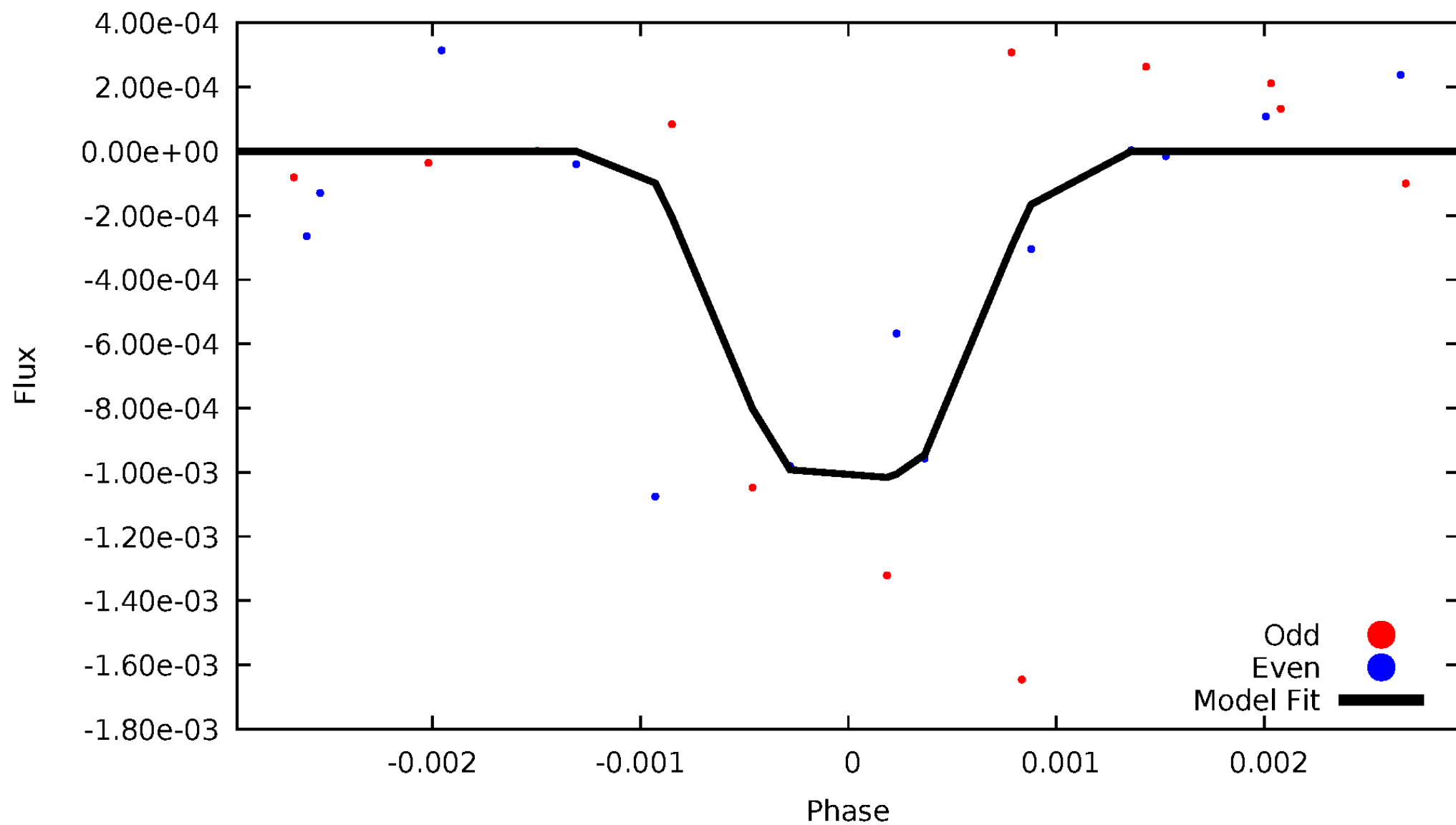


TCE 010979359-03



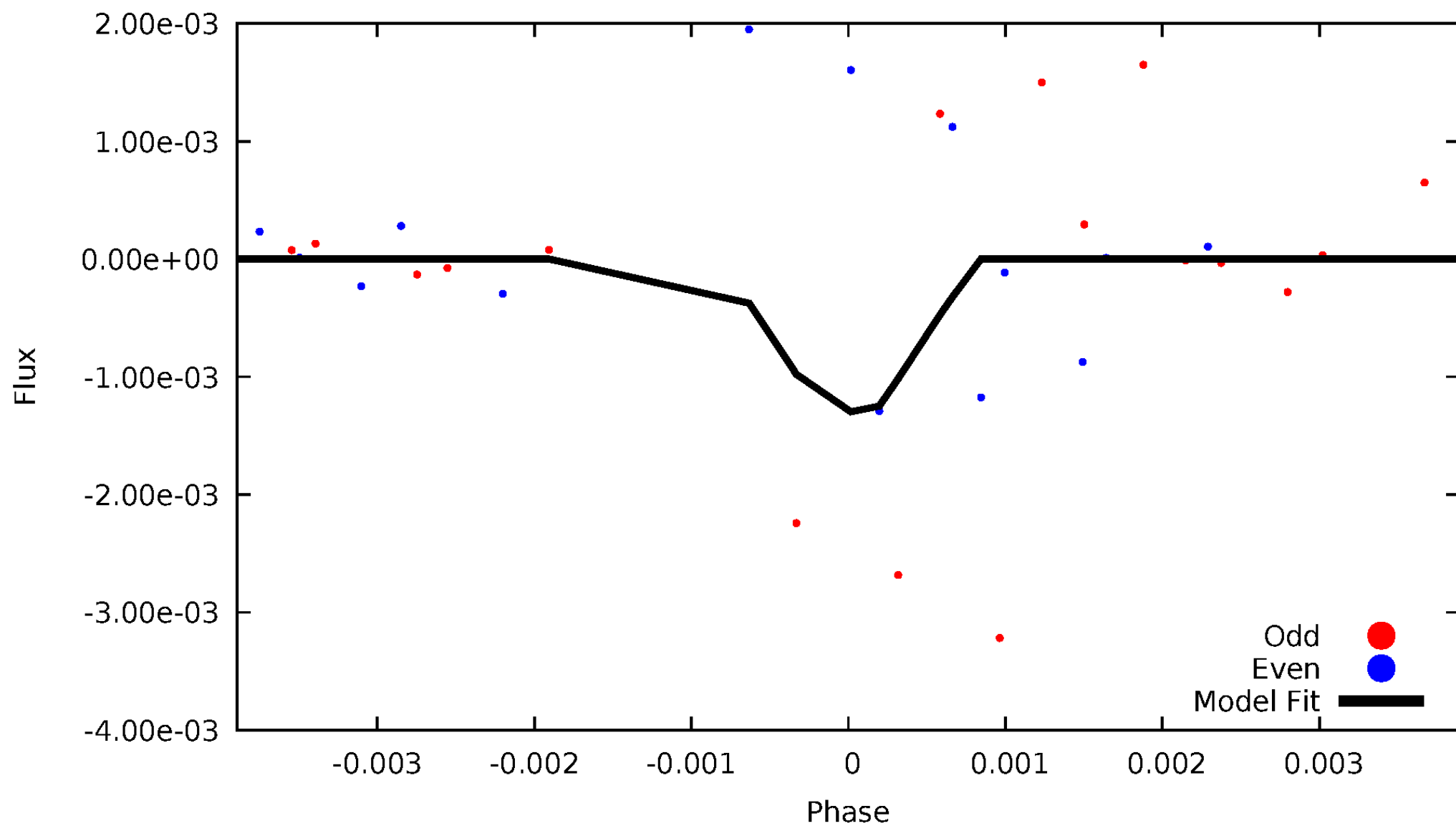
DV Odd/Even

TCE 010979359-03



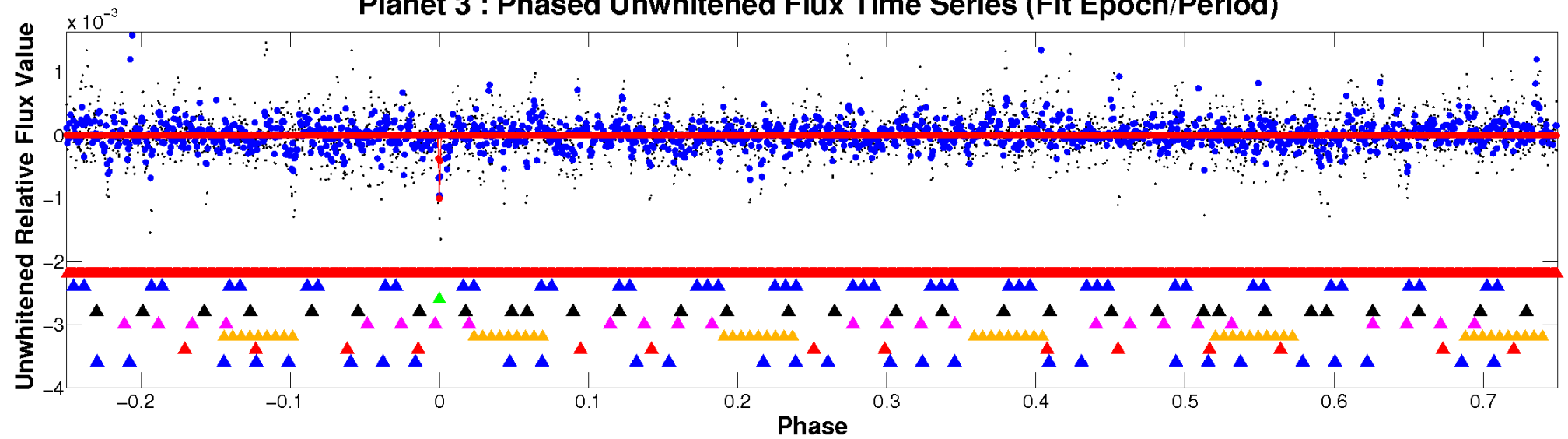
ALT Odd/Even

TCE 010979359-03

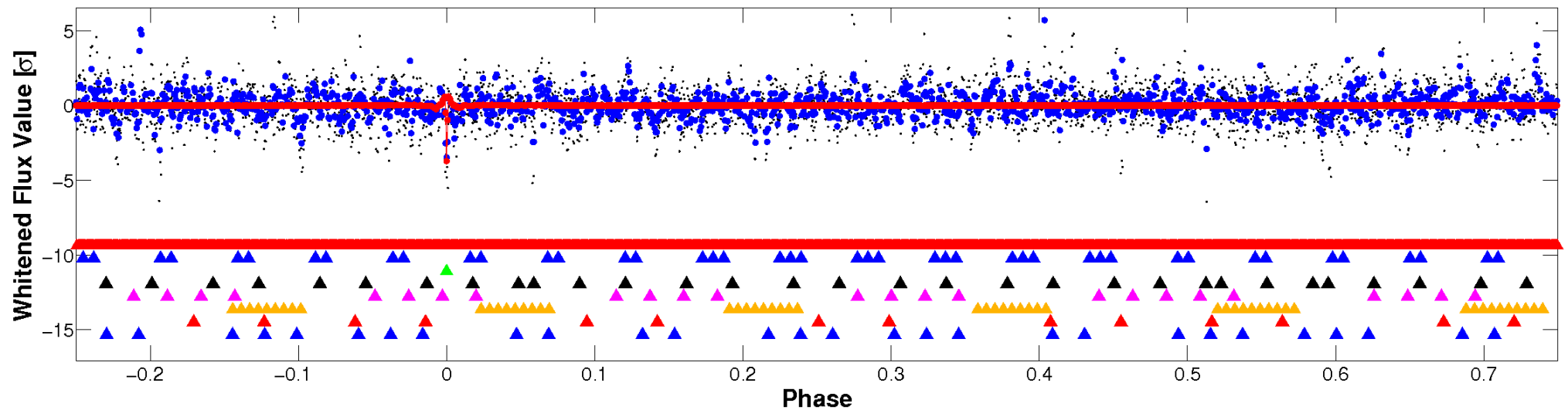


Non-Whitened Vs. Whitened Light Curve

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

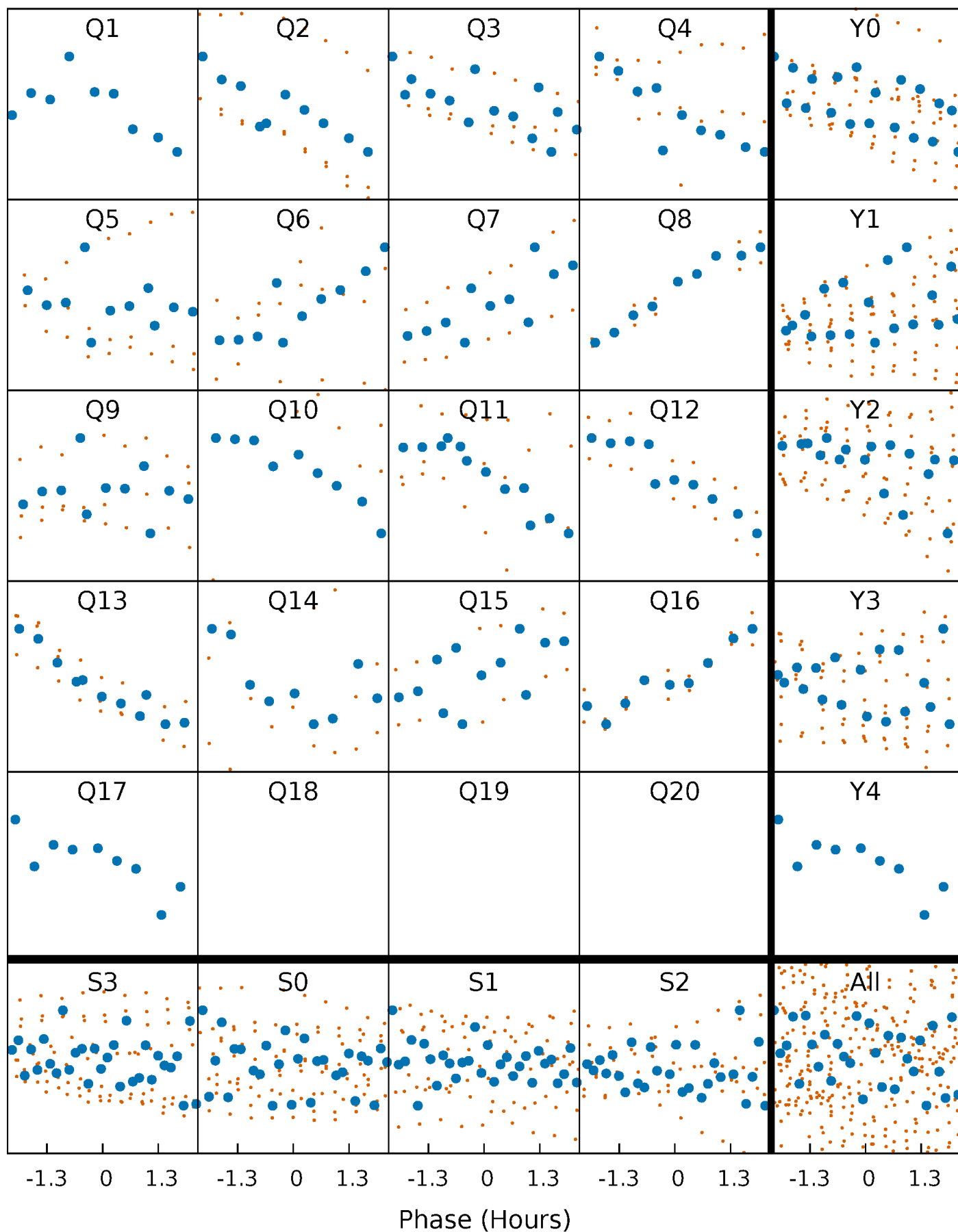


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



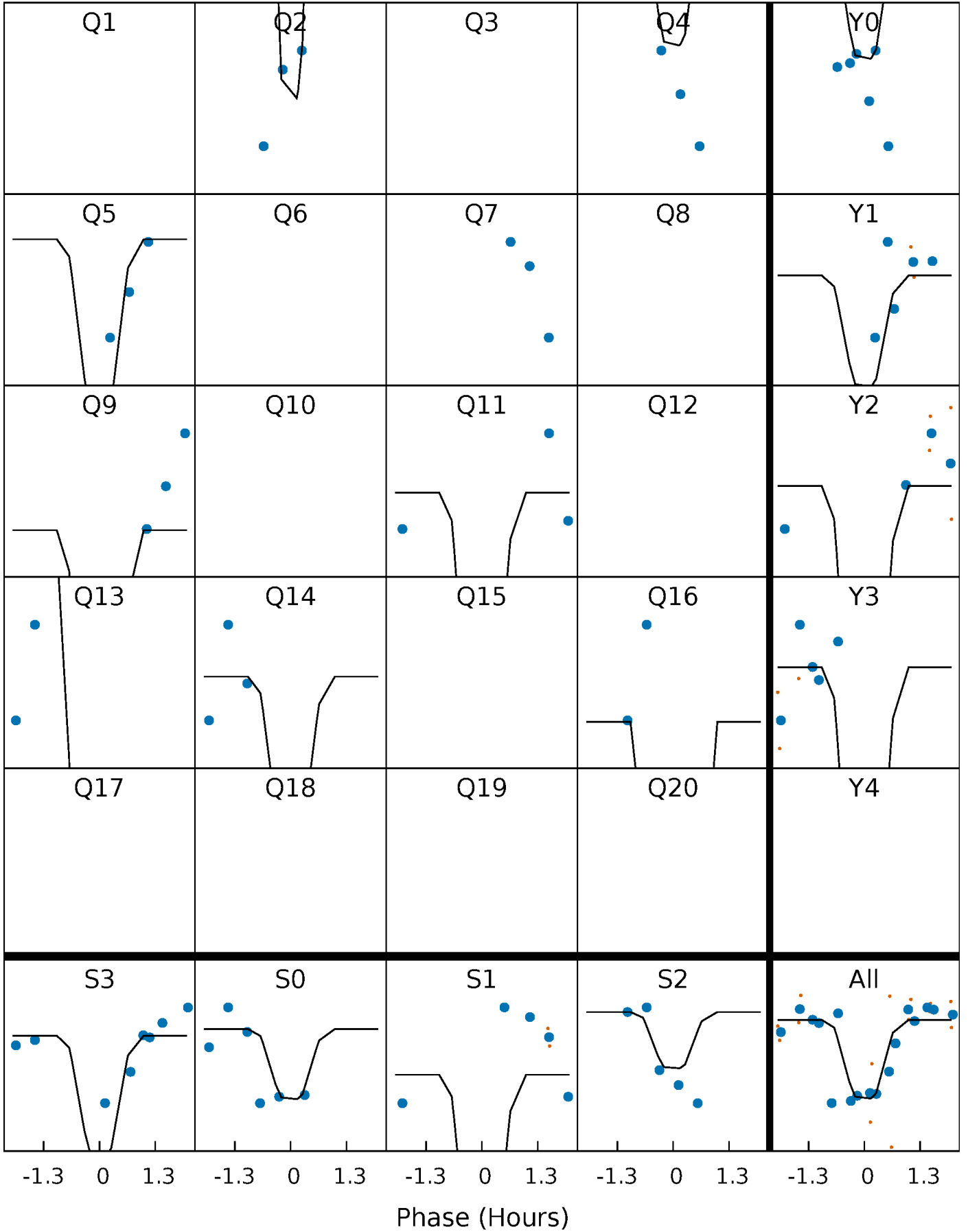
PDC Quarter-Phased Transit Curves

TCE 010979359-03 P= 31.549808 Days $T_0=153.610826$ (BKJD)



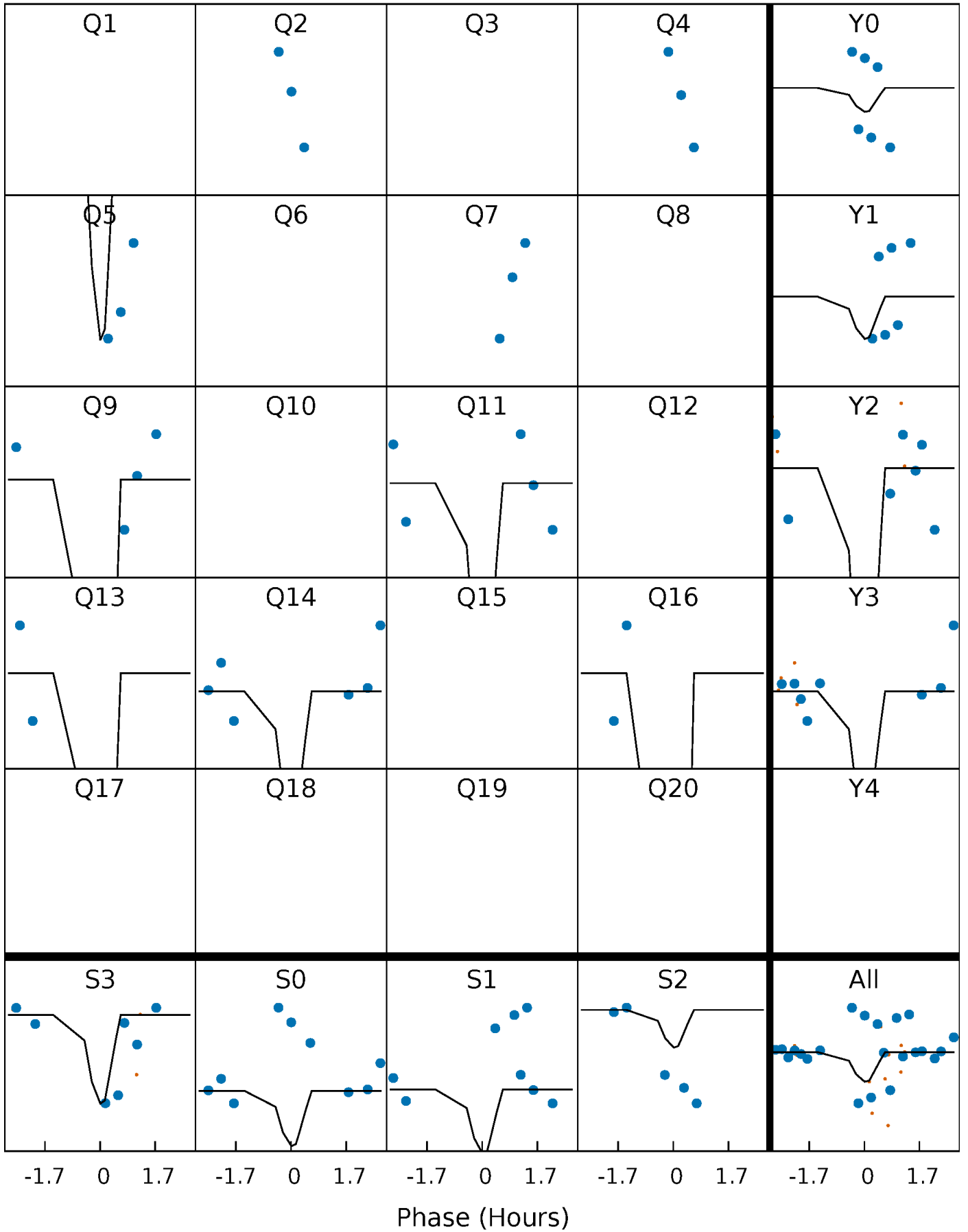
DV Quarter-Phased Transit Curves

TCE 010979359-03 $P = 31.549808$ Days $T_0 = 153.610826$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

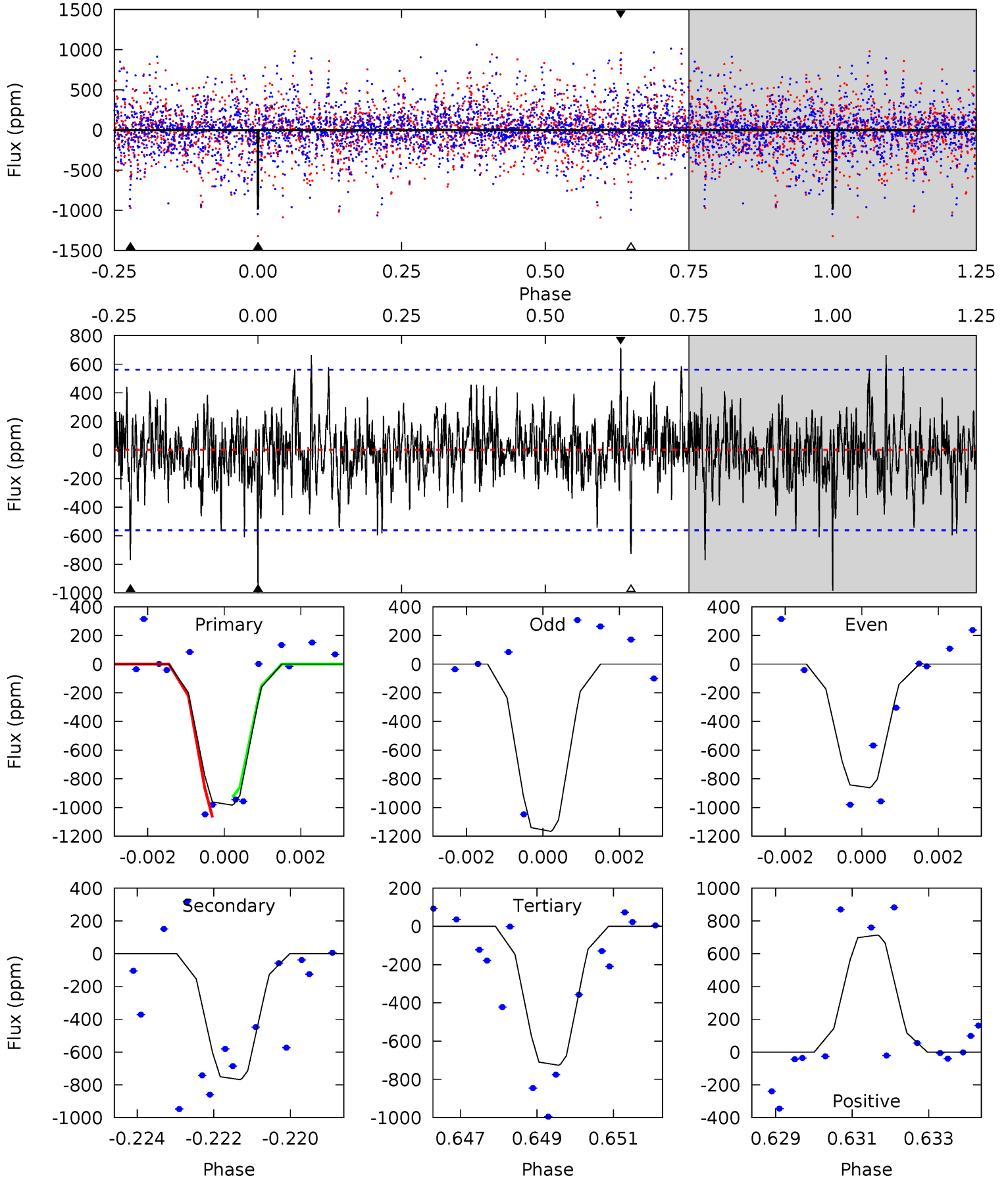
TCE 010979359-03 $P = 31.550851$ Days $T_0 = 153.599405$ (BKJD)



DV Model-Shift Uniqueness Test

010979359-03, P = 31.549808 Days, E = 122.061018 Days

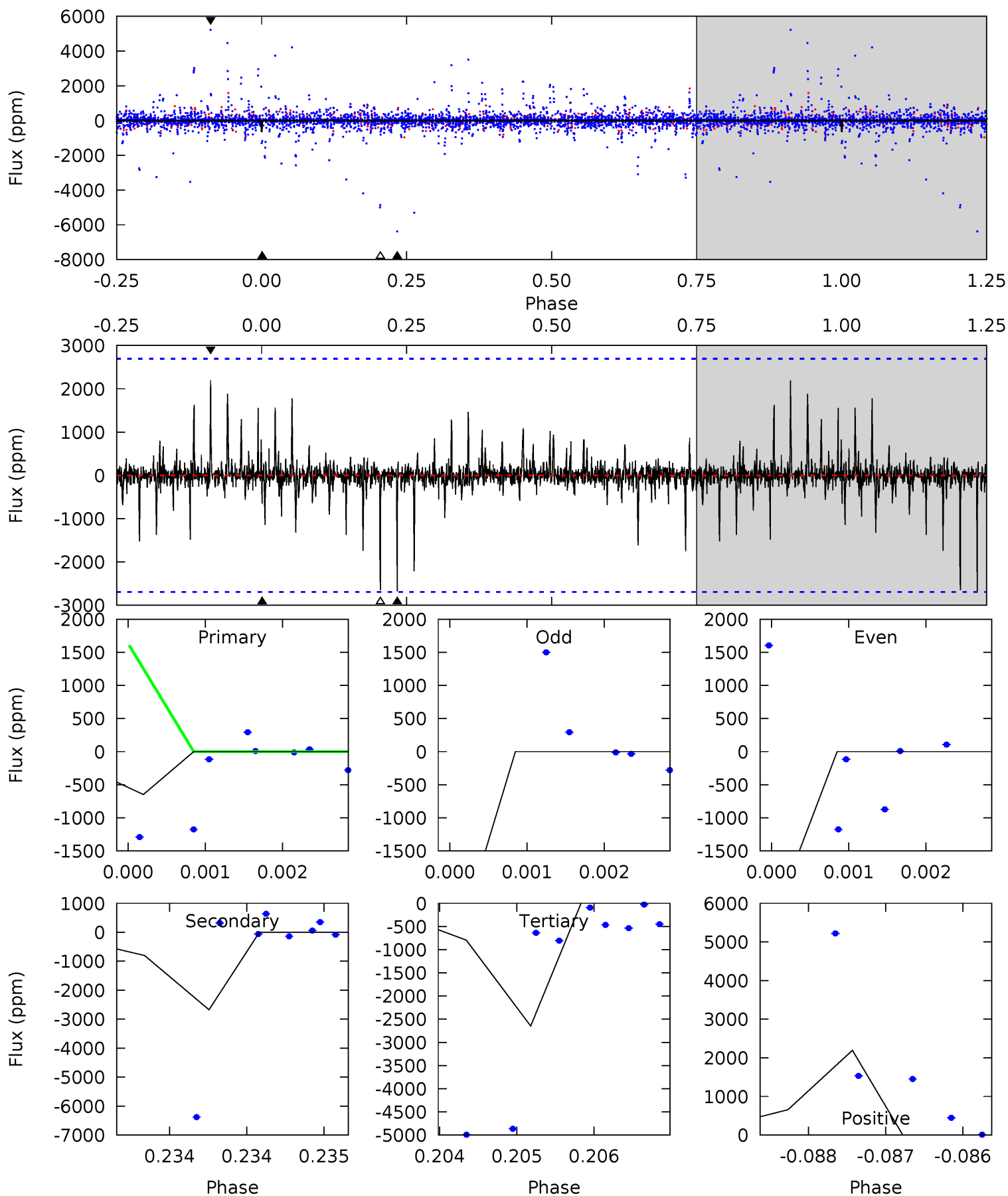
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.36	7.32	6.92	6.80	5.35	3.12	1.59	2.45	2.56	0.40	0.52	1.40	0.99	0.42	0.68



Alt Model-Shift Uniqueness Test

010979359-03, P = 31.550851 Days, E = 122.048554 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.31	5.42	5.36	4.44	5.45	3.29	0.48	-4.05	-3.13	0.06	0.98	0.57	1.00	0.45	0



Stellar Parameters For KIC 010979359

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7263^{+228}_{-304}	$4.123^{+0.153}_{-0.187}$	$-0.220^{+0.250}_{-0.350}$	$1.727^{+0.508}_{-0.416}$	$1.442^{+0.219}_{-0.241}$	$0.394^{+0.360}_{-0.187}$
	+3%/-4%	+4%/-5%	+114%/-159%	+29%/-24%	+15%/-17%	+91%/-47%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010979359-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-768 ± 105	$7.27^{+4.90}_{-4.55}$	1260^{+97}_{-83}	6132^{+5081}_{-1297}	395^{+2378}_{-256}
Alt.	-2675 ± 494	$7.54^{+5.19}_{-4.42}$	1249^{+104}_{-83}	8451^{+8751}_{-2237}	1209^{+5829}_{-807}

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

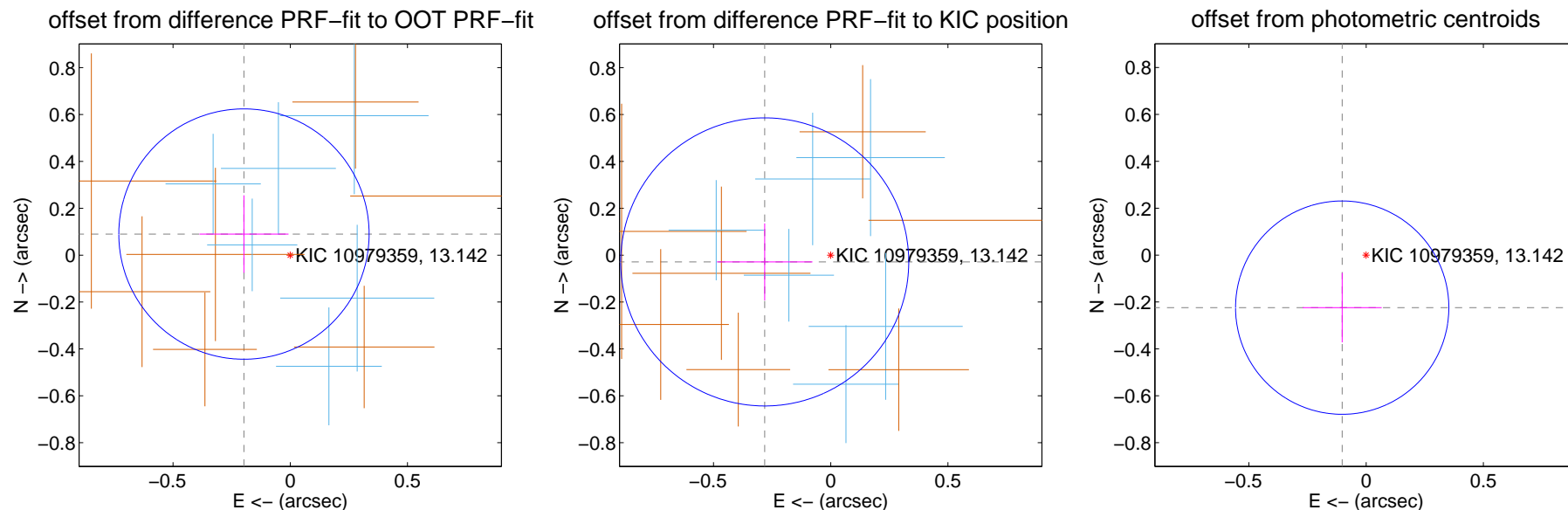
DV Centroid Data

Supplemental centroid analysis for 010979359-03. Kepler magnitude: 13.14. Transit SNR 7.86

There are 8 quarters with good PRF difference image offsets

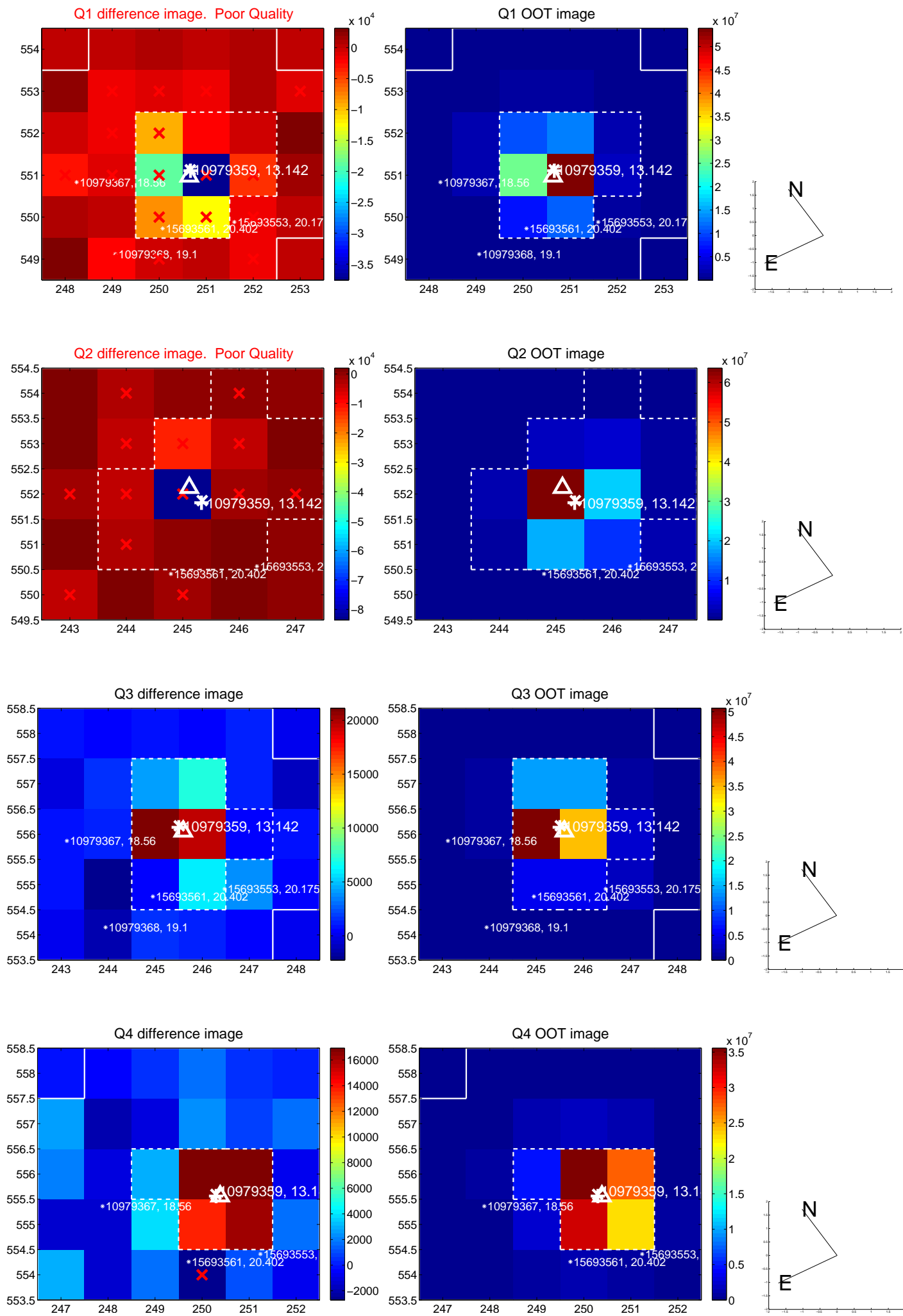
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.217 ± 0.178	1.22	0.198 ± 0.190	0.090 ± 0.165
PRF-fit source offset from KIC position	0.283 ± 0.205	1.38	0.282 ± 0.204	-0.029 ± 0.164
photometric centroid source offset	0.25 ± 0.15	1.62	0.10 ± 0.17	-0.22 ± 0.15

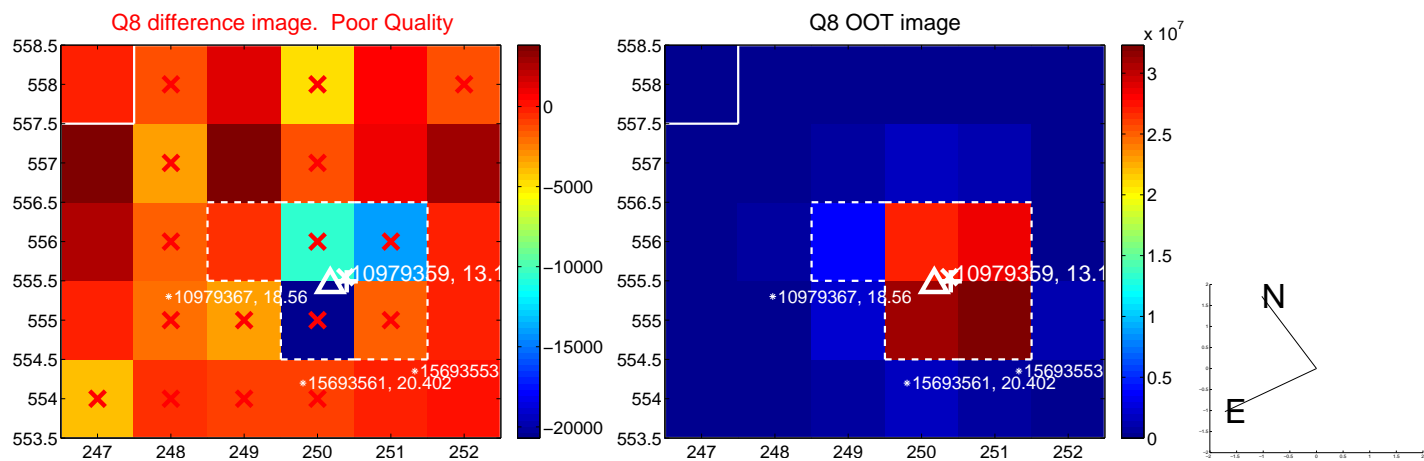
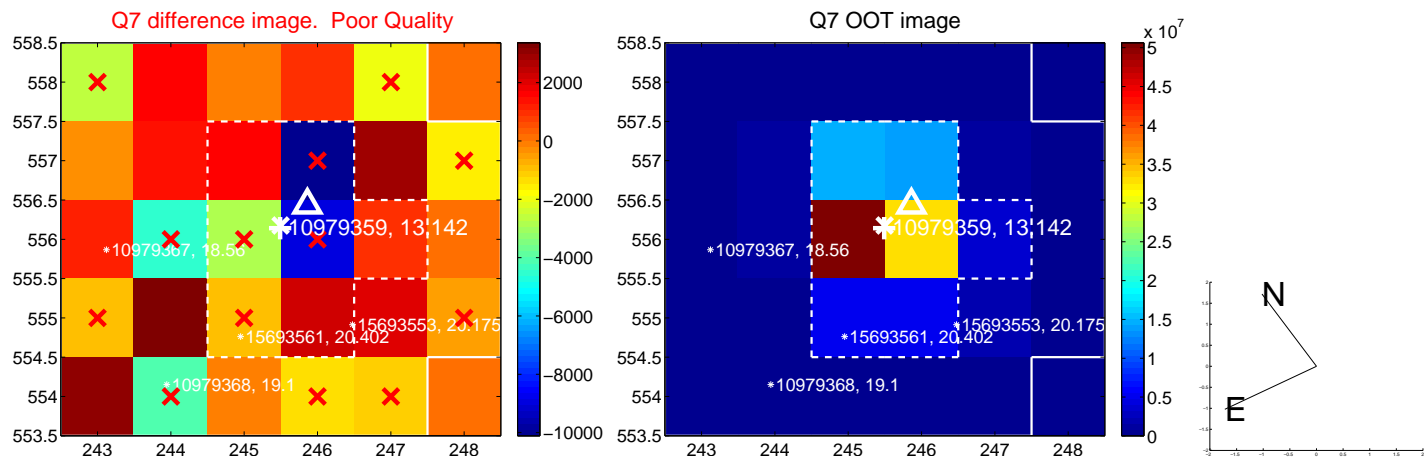
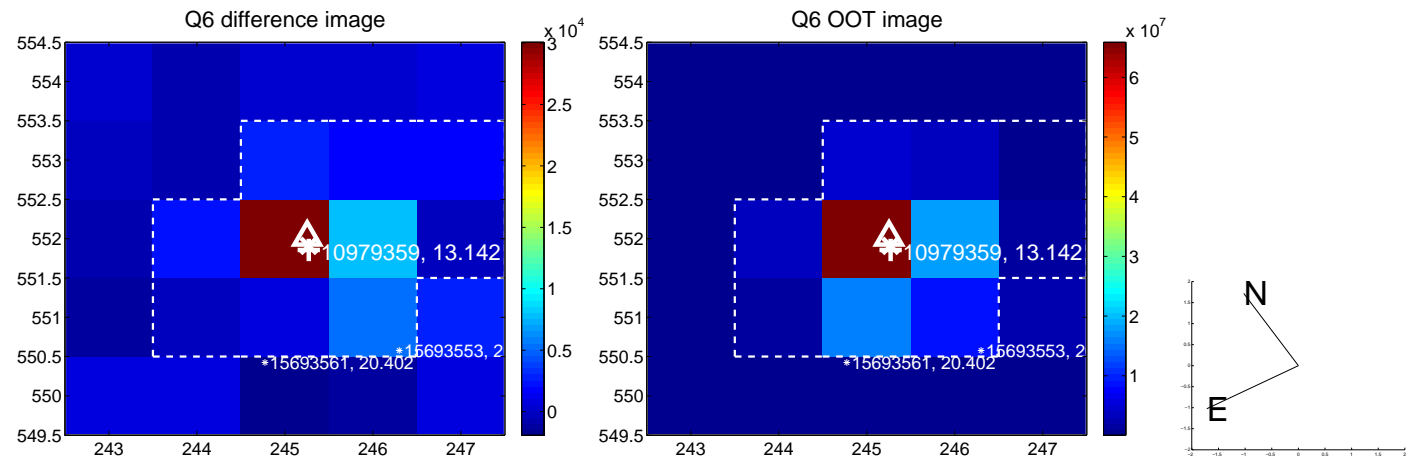
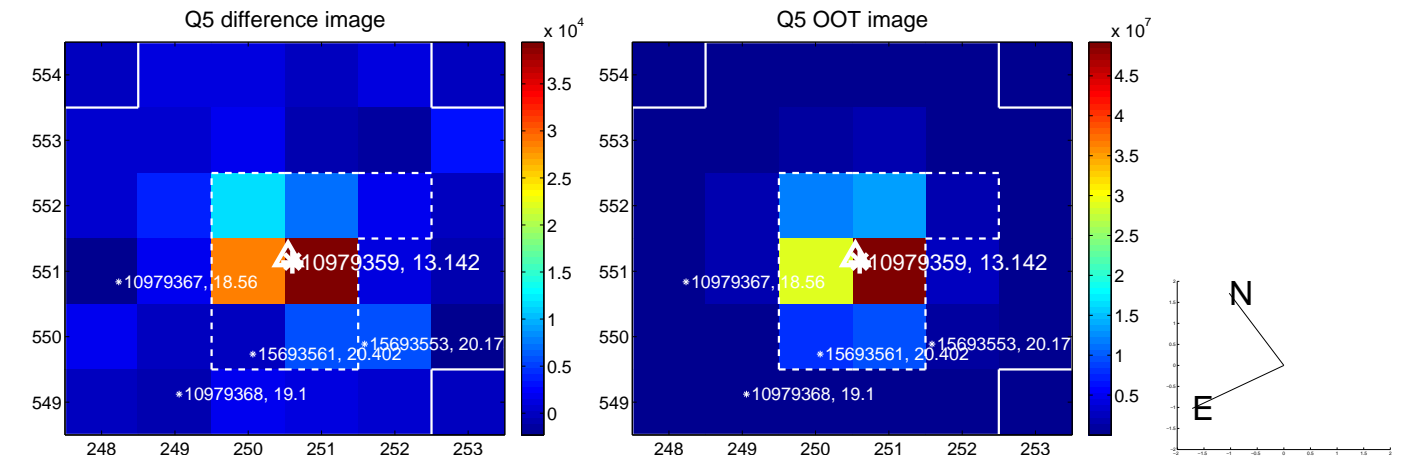


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

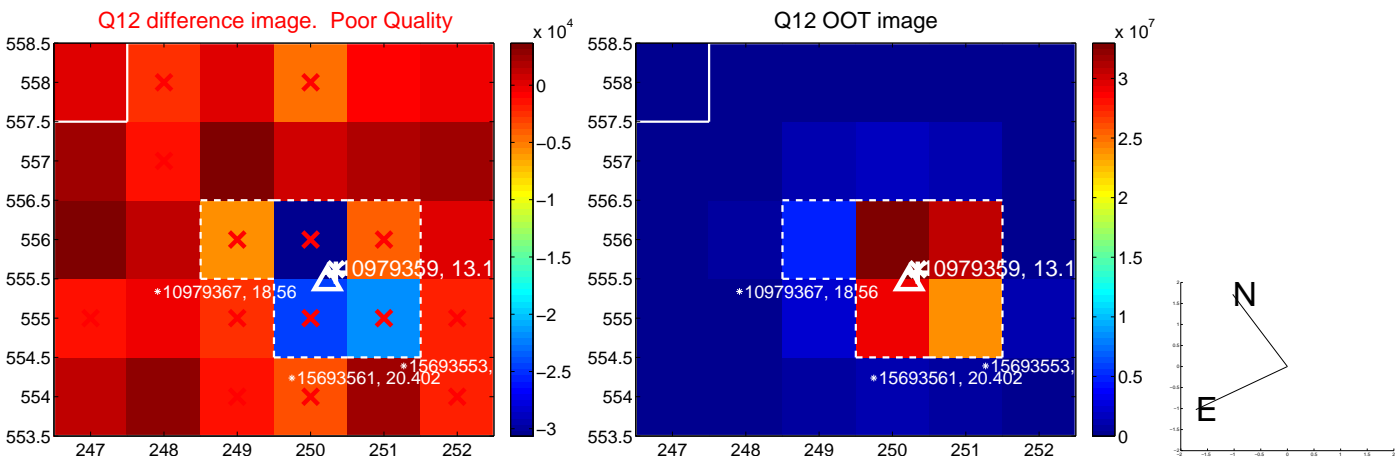
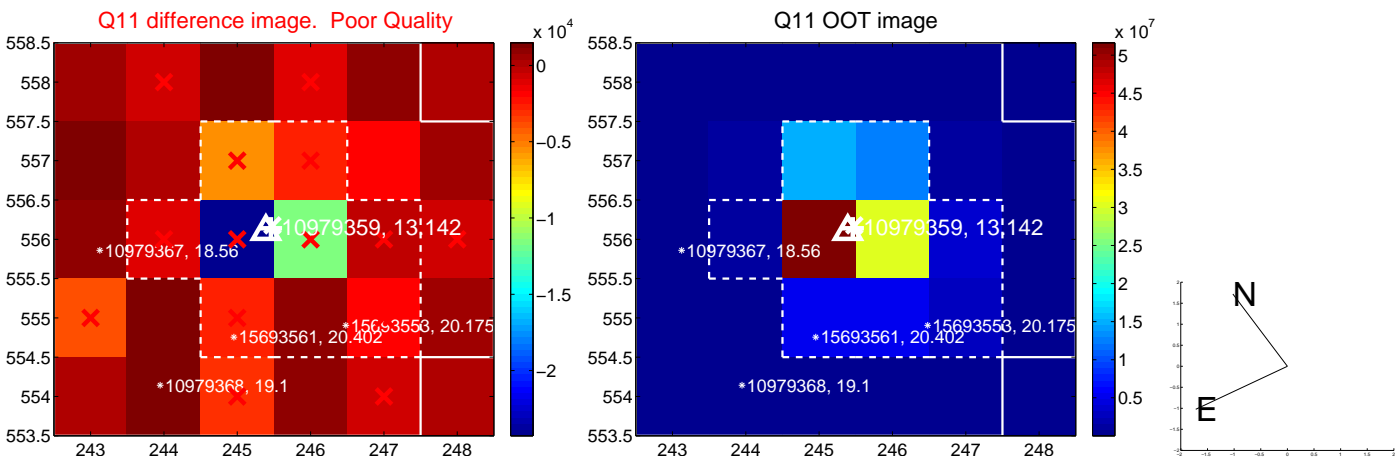
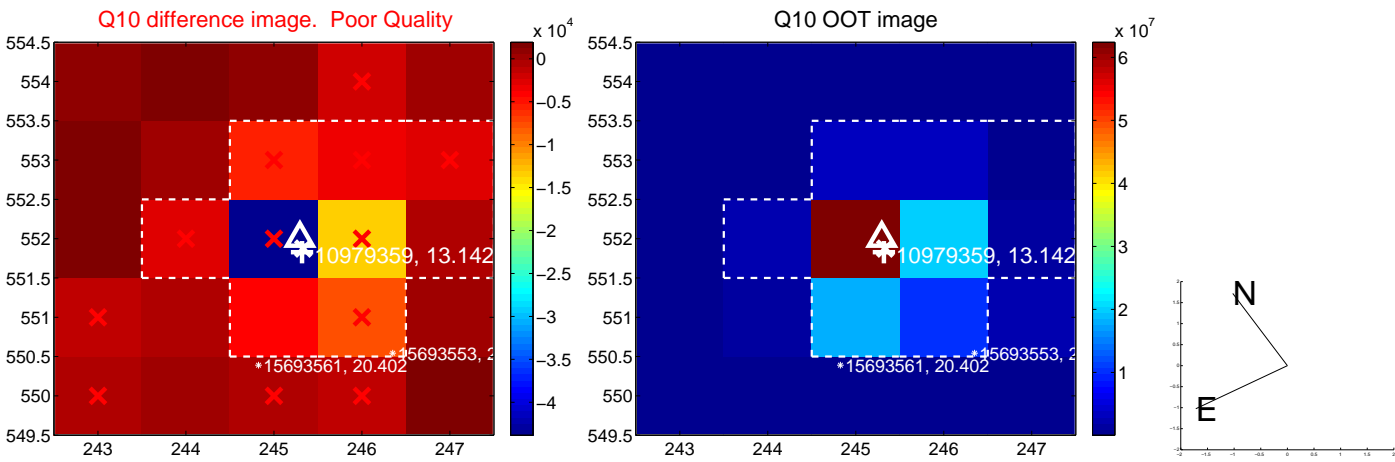
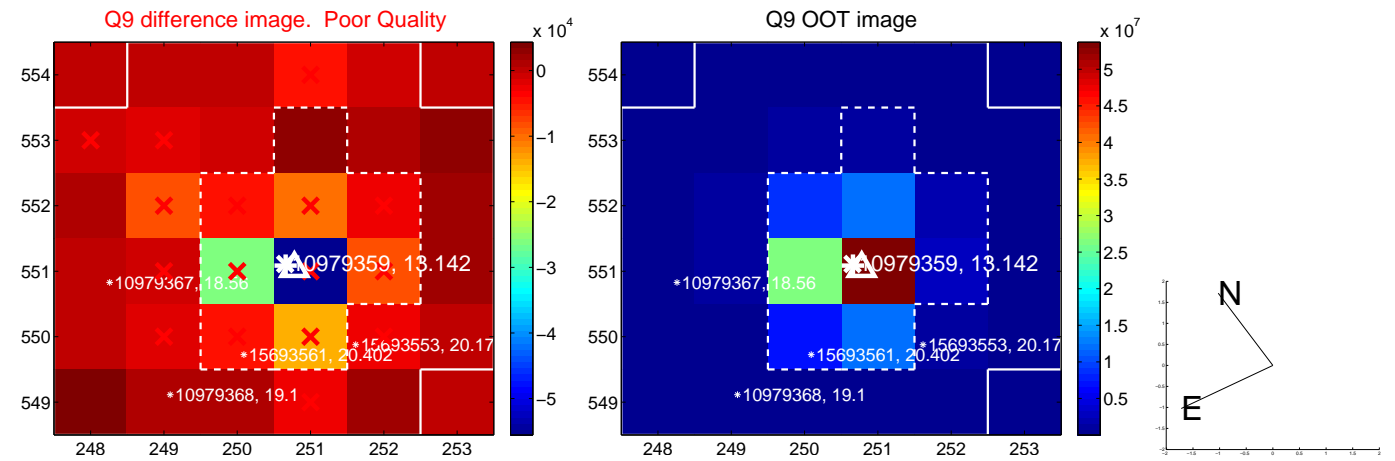
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



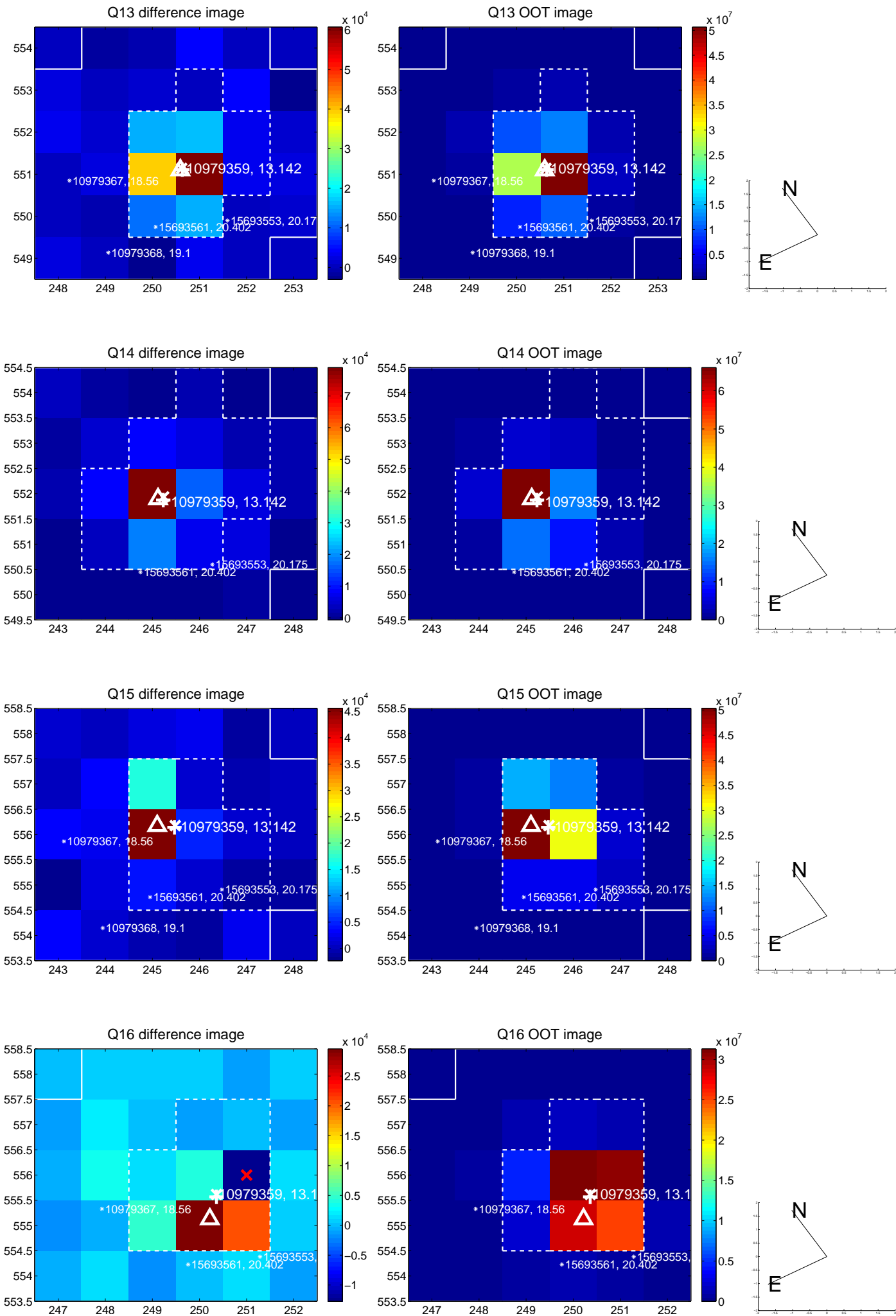
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



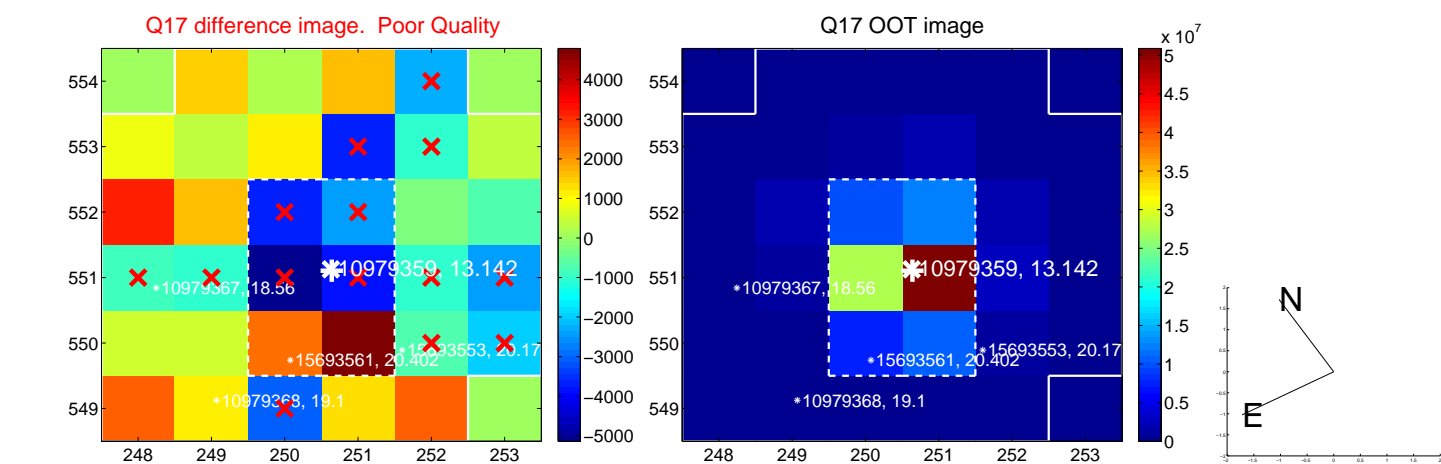
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



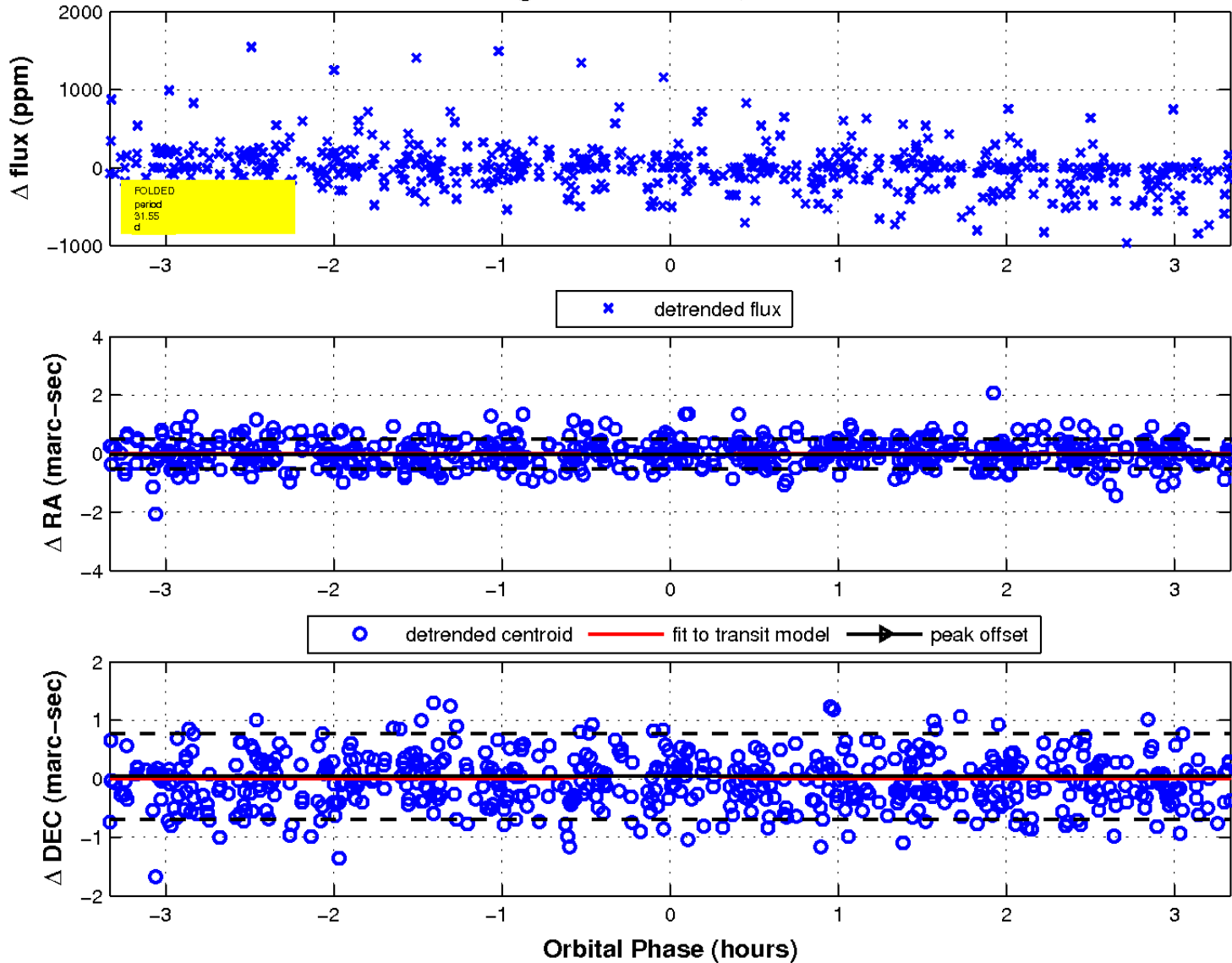
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

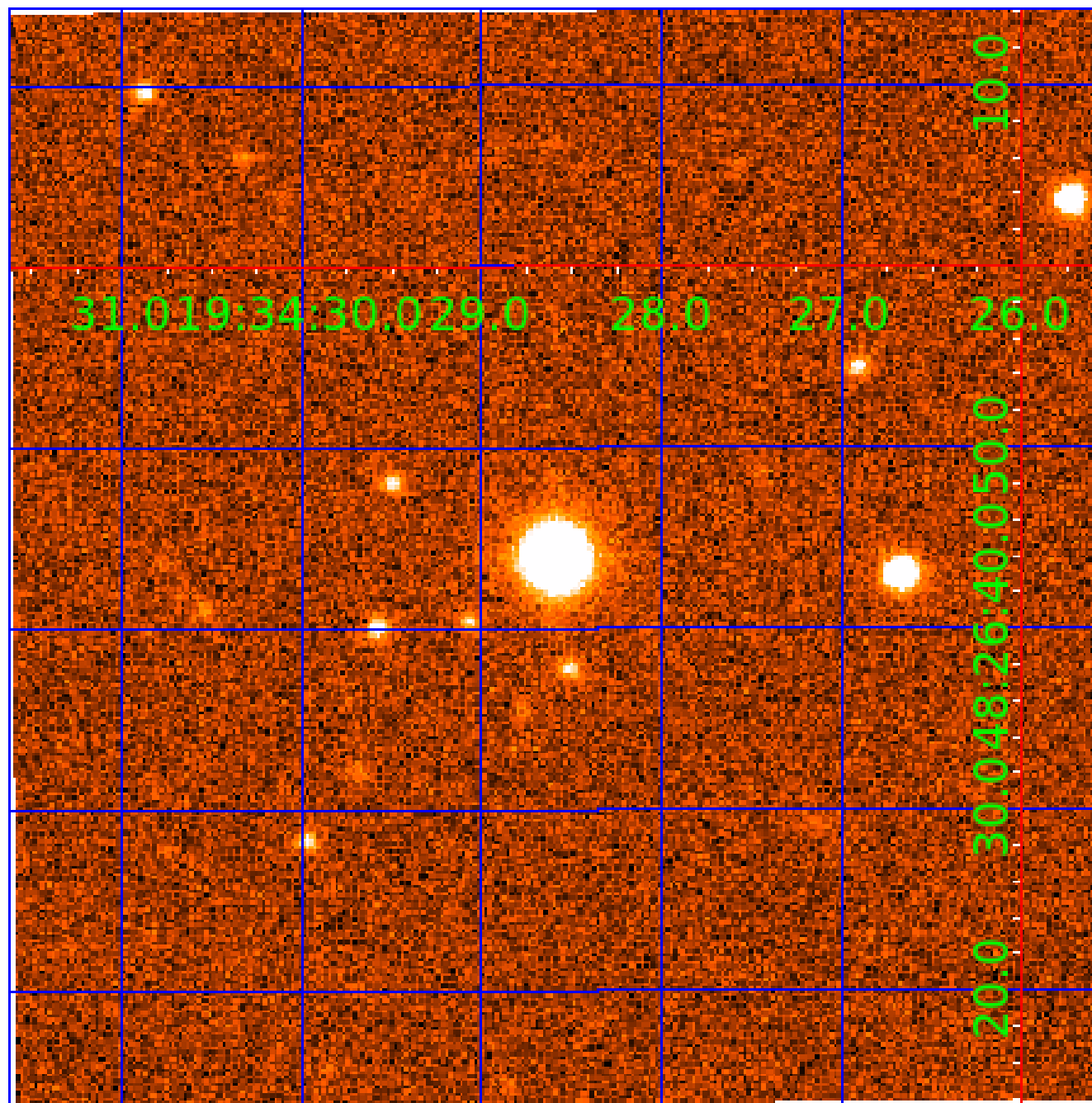


fluxWeightedCentroids, Planet 3 of 8



UKIRT Image

Declination



KIC 010979359

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})
010979359-01	OBS	No	0.922618	132.286324	6.1	6.758	9.7	1.2	1.73	7263	0.44	16911.84
010979359-02	OBS	No	33.198551	159.510493	1837.4	1.864	16.2	15.1	1.73	7263	7.95	142.36
010979359-03	OBS	No	31.549808	153.610826	1031.5	1.113	10.5	7.9	1.73	7263	5.99	152.37
010979359-07	OBS	No	107.956506	136.419499	1037.7	3.078	8.6	9.8	1.73	7263	5.96	29.55
010979359-08	OBS	No	51.689076	163.146241	923.9	5.881	7.2	6.2	1.73	7263	8.70	78.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010979359-01	OBS	FP	0.00	1	0	0	0	LPP_DV
010979359-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
010979359-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010979359-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—HALO_GHOST
010979359-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

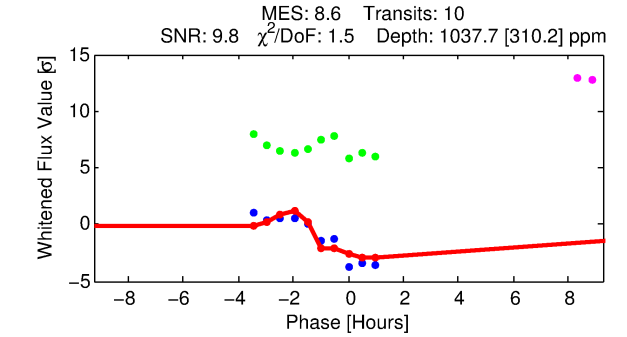
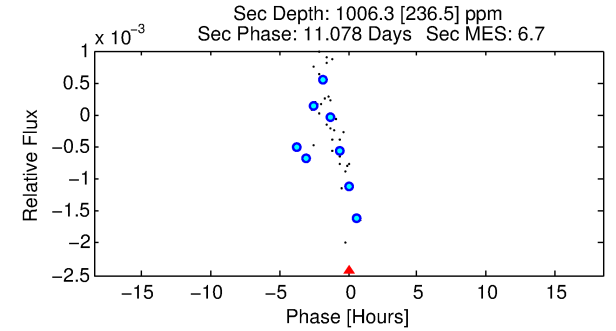
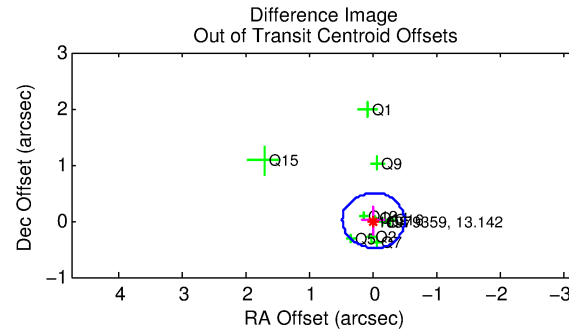
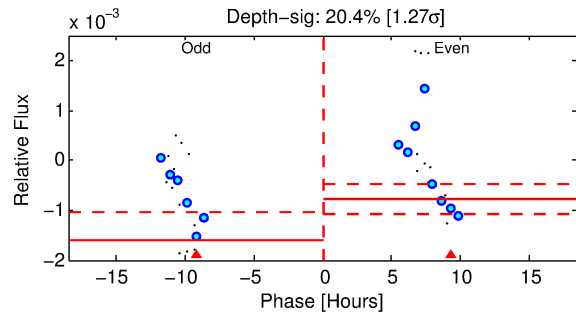
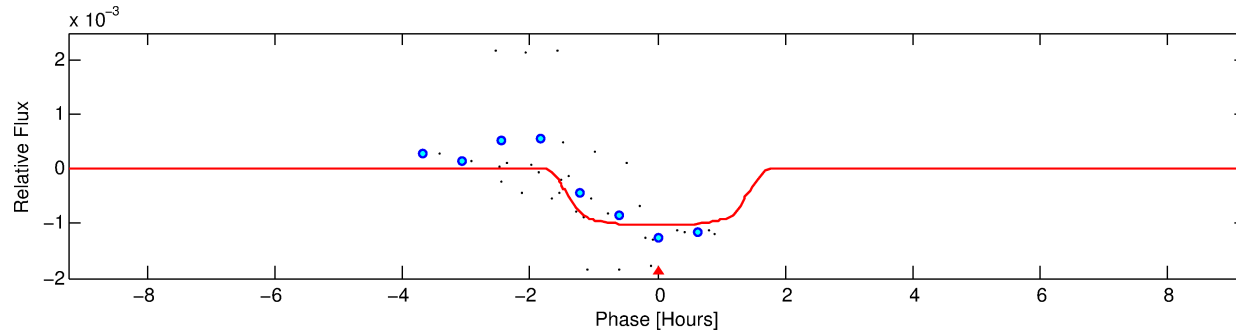
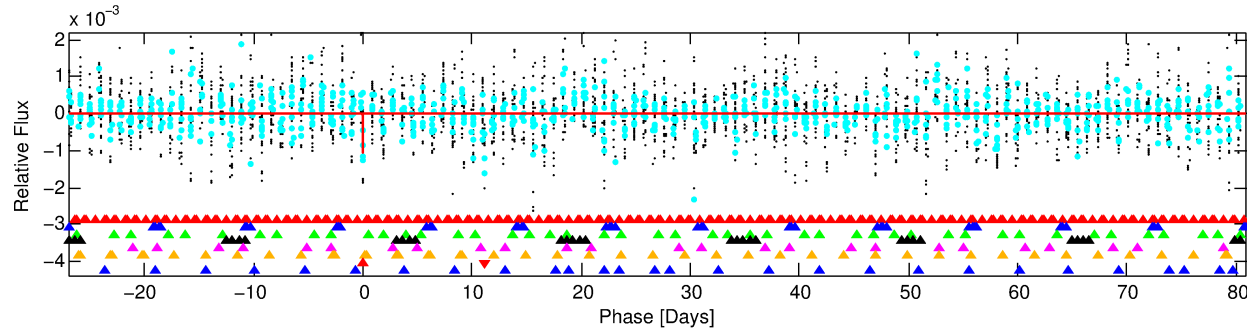
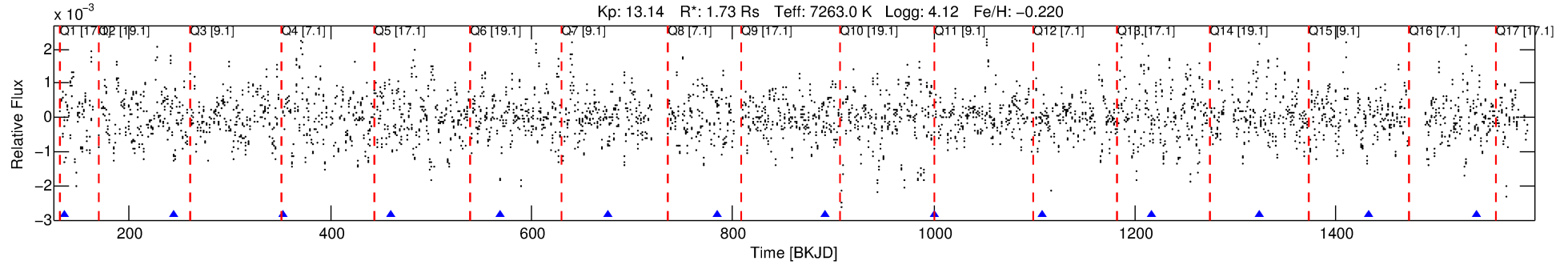
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010979359-07

No Significant Match Found

DV One-Page Summary

KIC: 10979359 Candidate: 7 of 8 Period: 107.957 d



DV Fit Results:

Period = 107.95651 [0.00170] d
Epoch = 136.4195 [0.0289] BKJD
Rp/R* = 0.0316 [0.0381]
a/R* = 203.34 [1536.40]
b = 0.70 [5.87]
Seff = 29.55 [11.40]
Teq = 595 [57] K
Rp = 5.96 [7.40] Re
a = 0.5016 [0.1219] AU
Ag = 3917.39 [9583.68] [0.41 σ]
Teffp = 7272 [4413] K [1.51 σ]

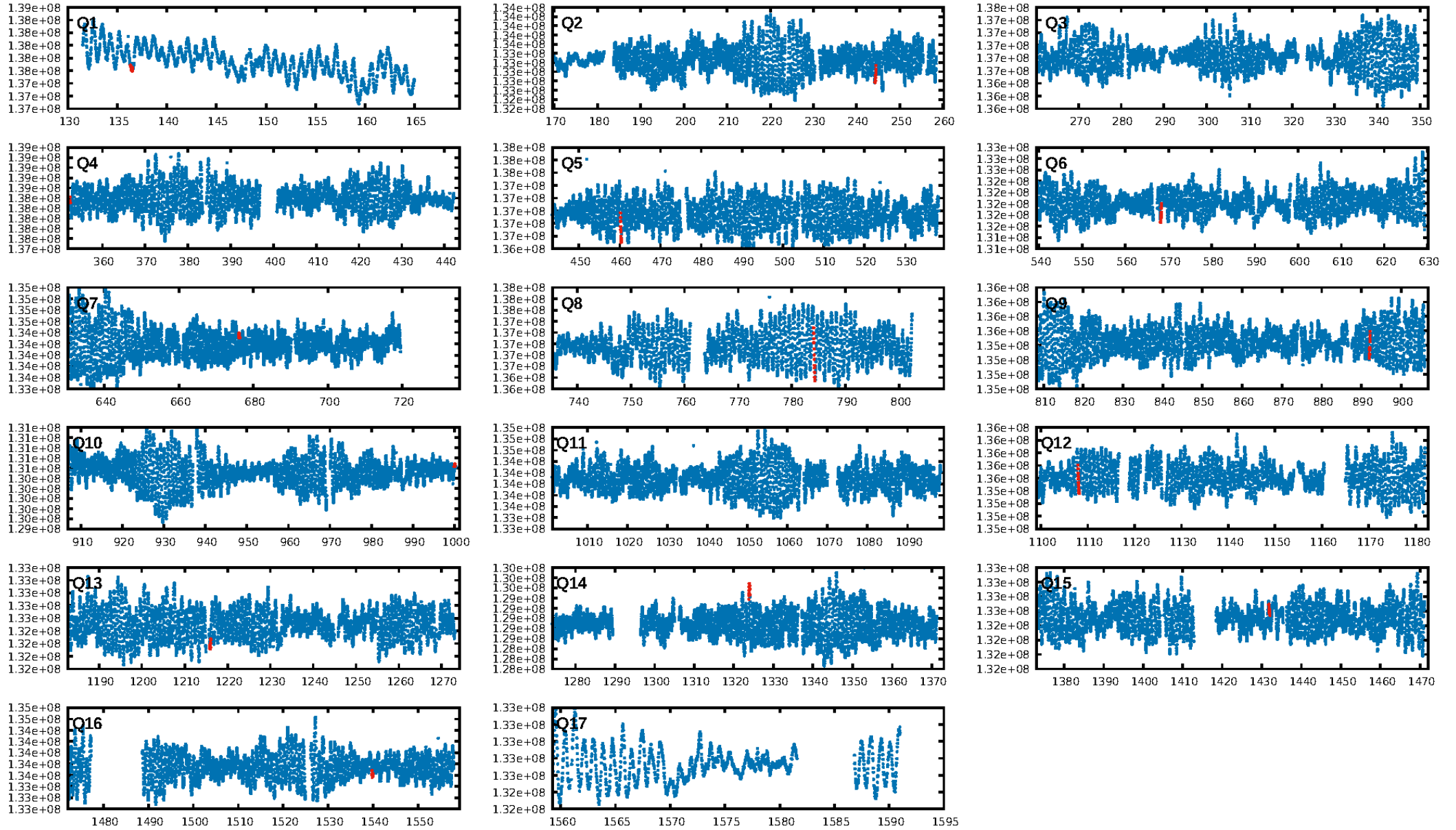
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [167.57 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: 0.05969
Centroid-sig: 15.2%
Centroid-so: 0.104 arcsec [0.57 σ]
OotOffset-rm: 0.006 arcsec [0.04 σ]
OotOffset-st: 2/2/3/3 [10]
KicOffset-rm: 0.213 arcsec [1.13 σ]
KicOffset-st: 2/2/3/3 [10]
DiffImageQuality-fgm: 0.70 [7/10]
DiffImageOverlap-fno: 0.00 [0/10]

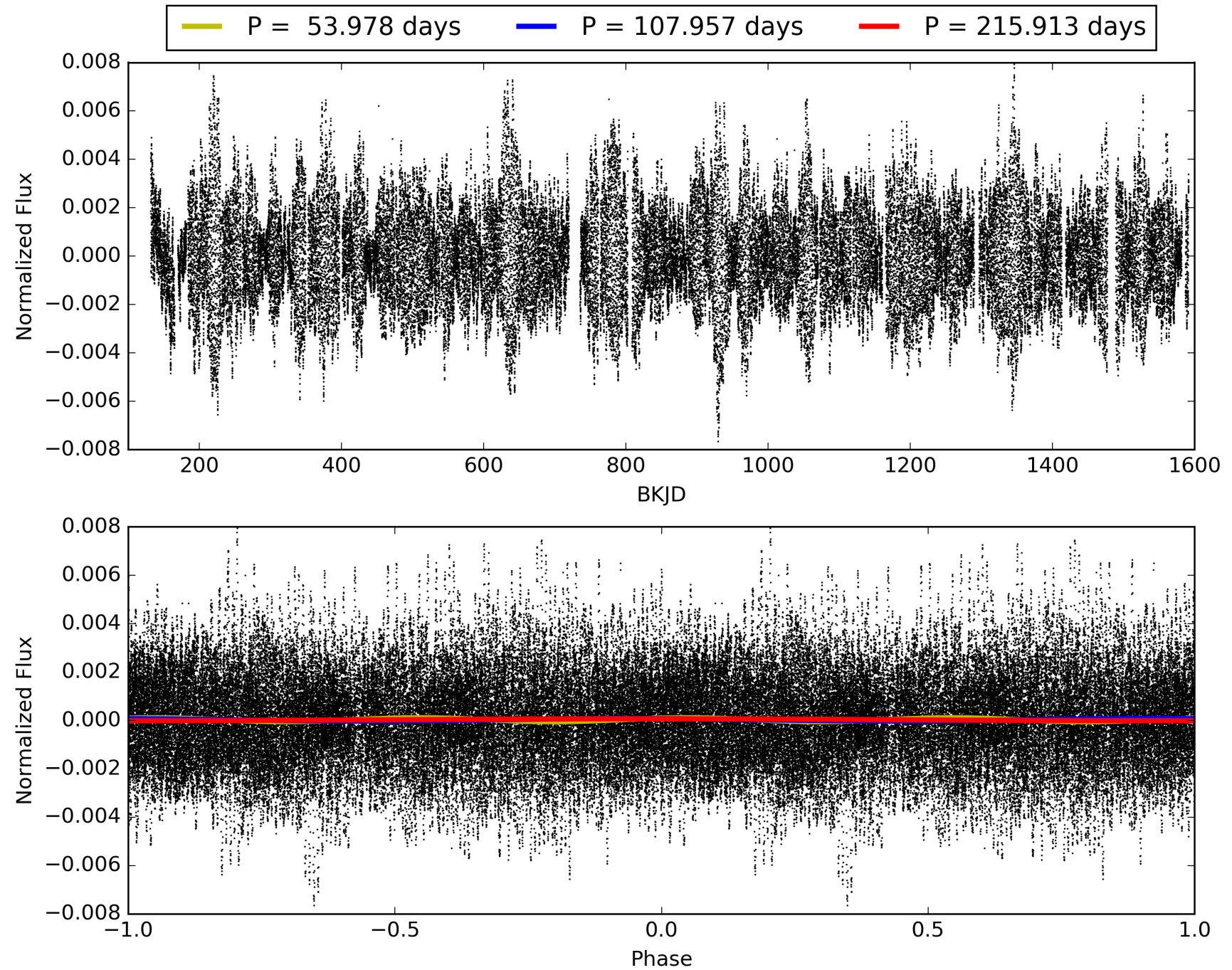
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:26:58 Z

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

TCE 010979359-07, PDC Light Curves

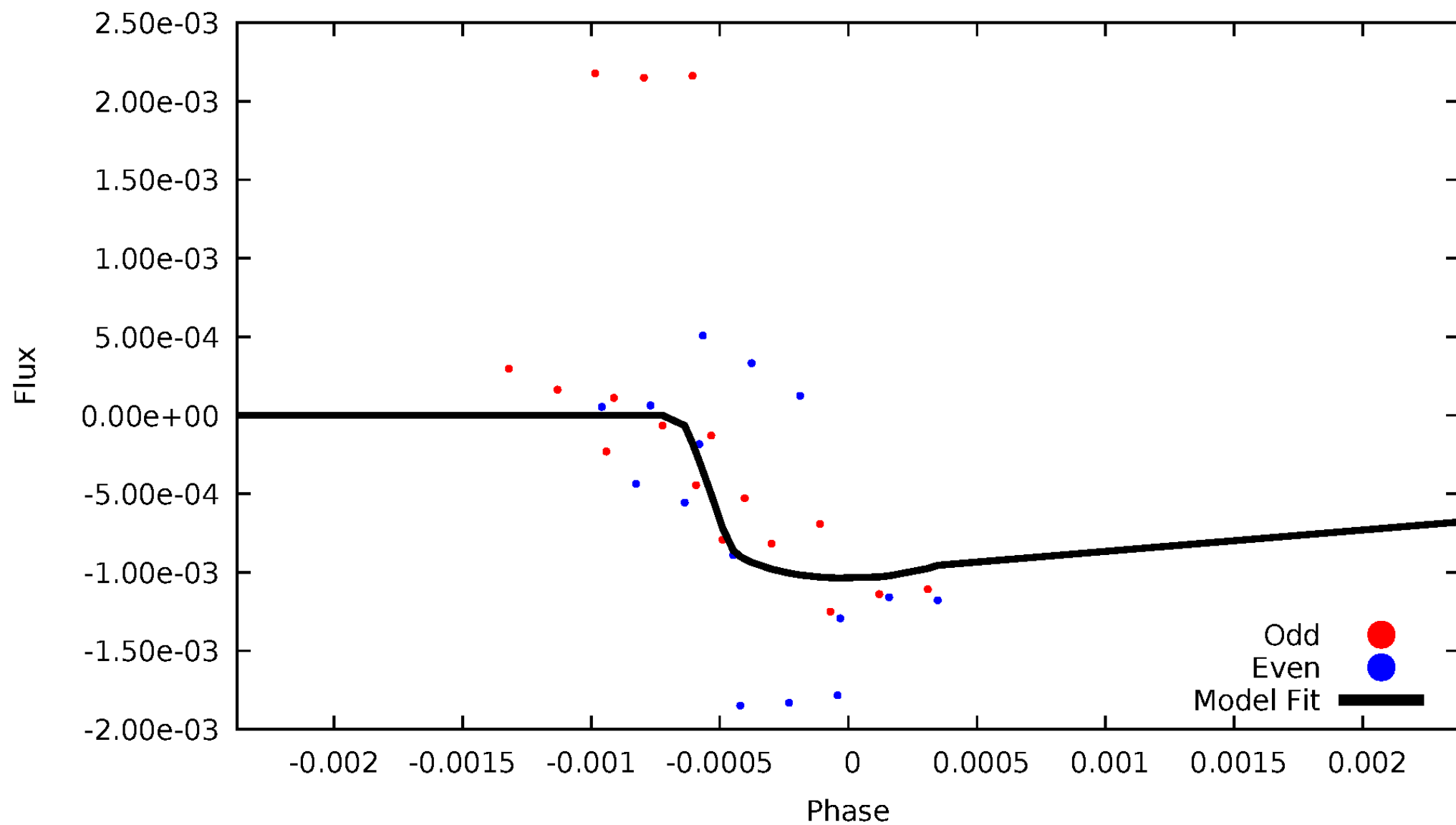


TCE 010979359-07



DV Odd/Even

TCE 010979359-07

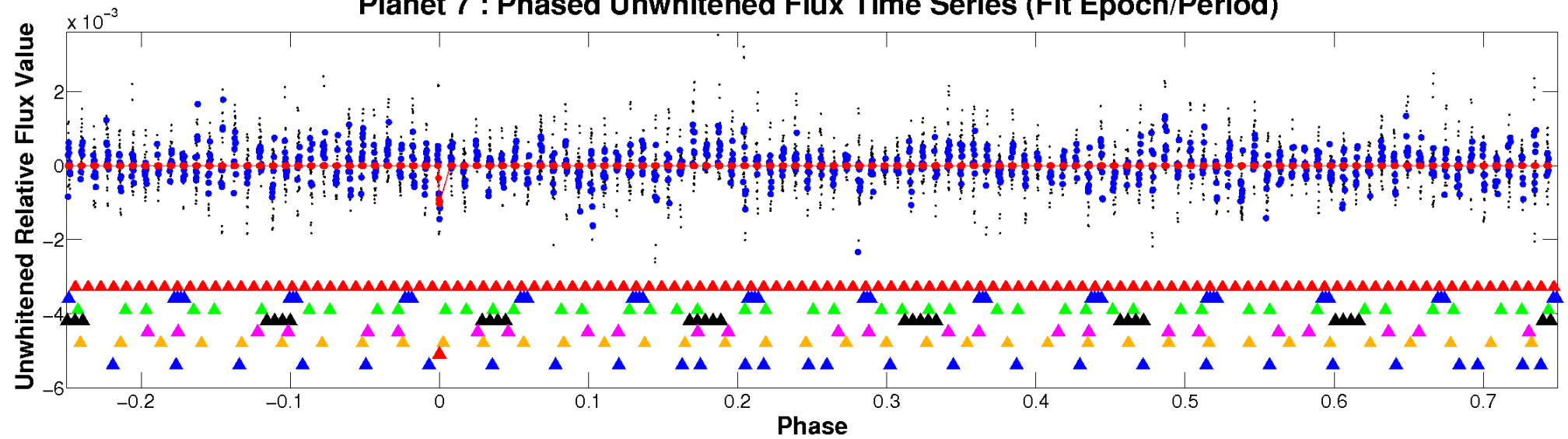


ALT Odd/Even

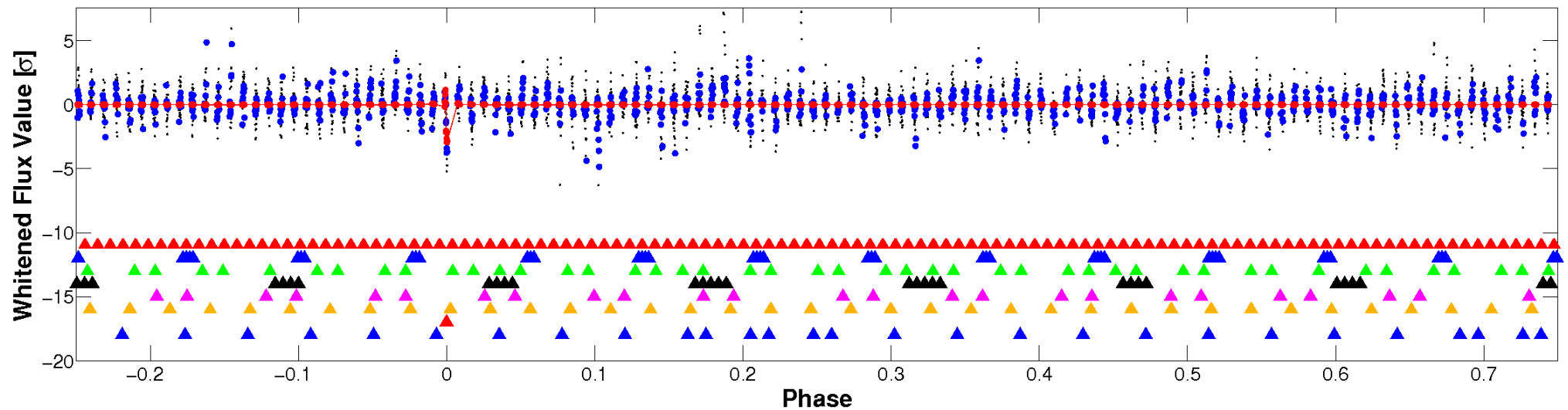
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

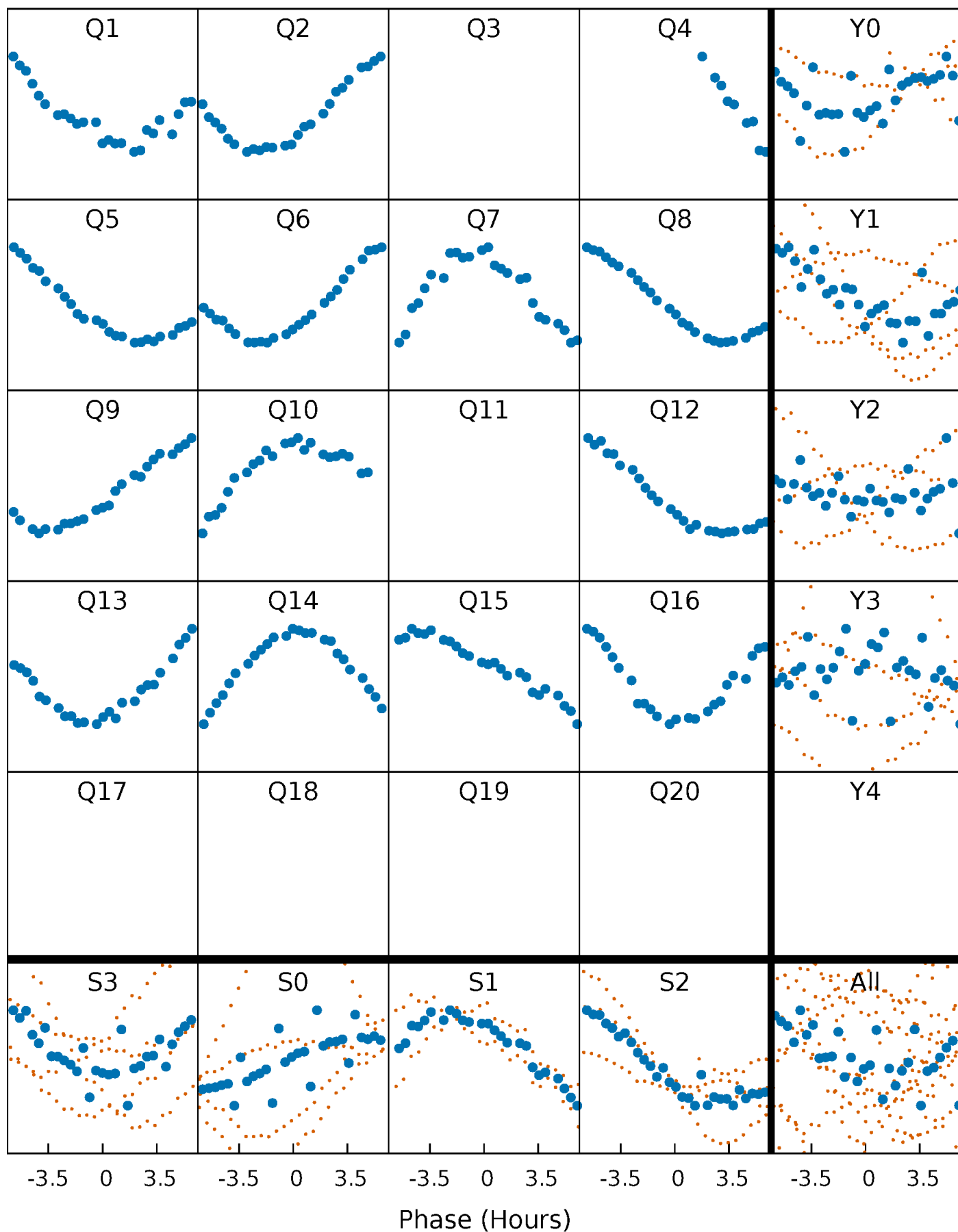


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



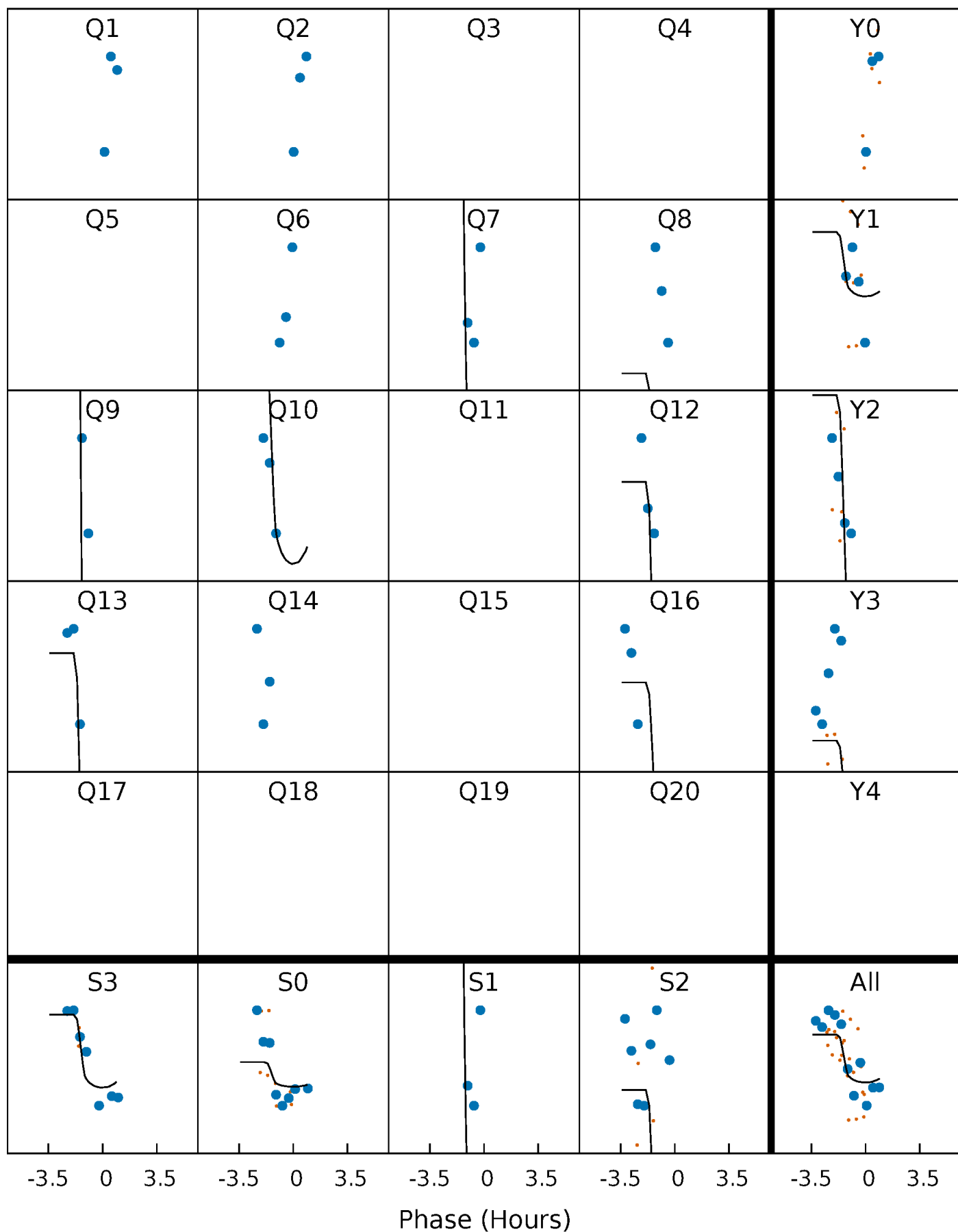
PDC Quarter-Phased Transit Curves

TCE 010979359-07 $P=107.956506$ Days $T_0=136.419500$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 010979359-07 P=107.956506 Days $T_0=136.419500$ (BKJD)

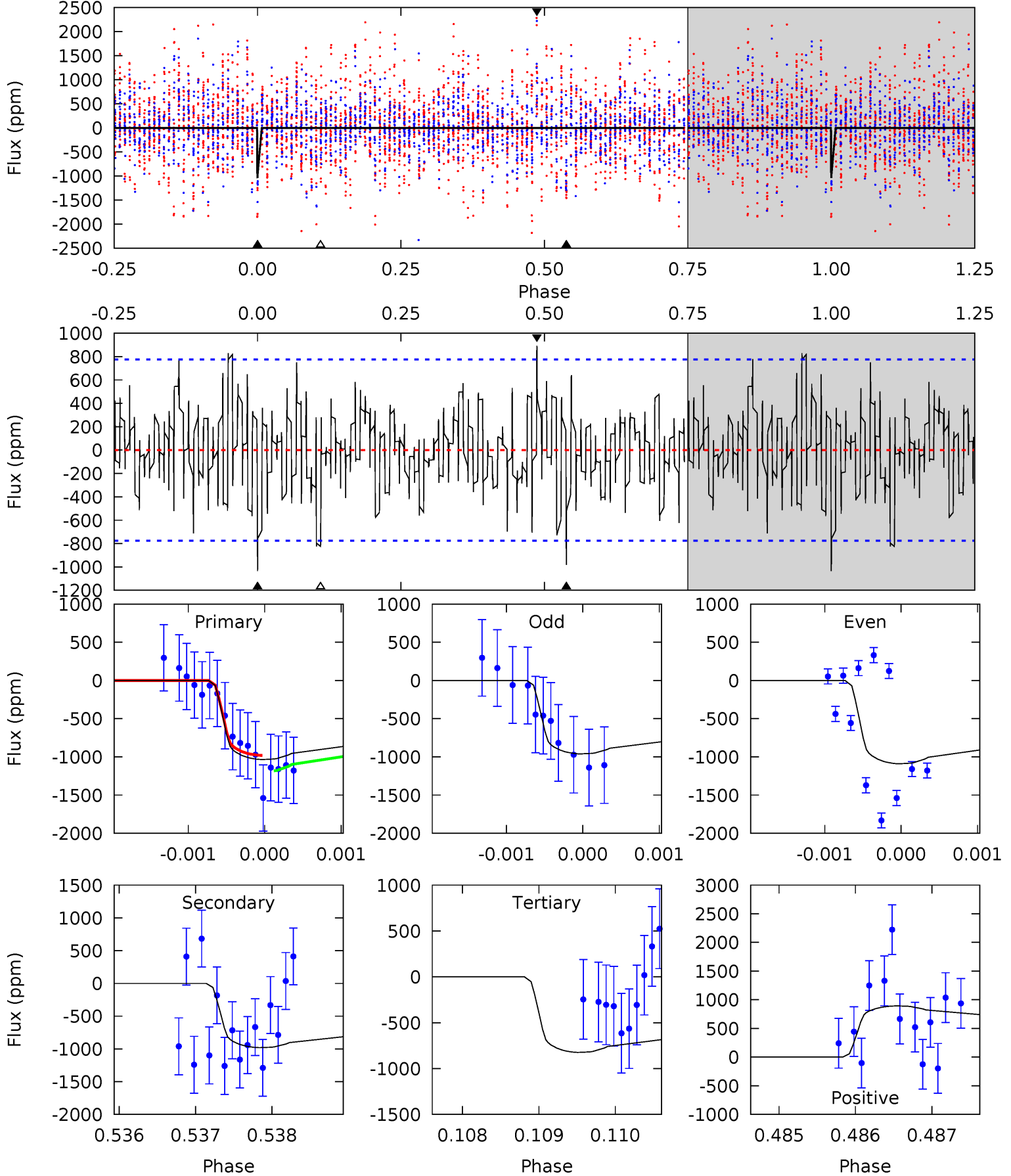


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

010979359-07, $P = 107.956506$ Days, $E = 28.462994$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.28	6.90	5.80	6.28	5.45	3.29	1.96	1.48	1.00	1.10	0.62	0.46	0.86	0.46	0.53



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 010979359

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7263^{+228}_{-304}	$4.123^{+0.153}_{-0.187}$	$-0.220^{+0.250}_{-0.350}$	$1.727^{+0.508}_{-0.416}$	$1.442^{+0.219}_{-0.241}$	$0.394^{+0.360}_{-0.187}$
	+3%/-4%	+4%/-5%	+114%/-159%	+29%/-24%	+15%/-17%	+91%/-47%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010979359-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-981±142	$7.74^{+6.97}_{-5.10}$	834^{+63}_{-59}	6292^{+6010}_{-1608}	2256^{+15714}_{-1640}
Alt.	N/A	N/A	N/A	N/A	N/A

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 $A_{obs} \gg 1.0$

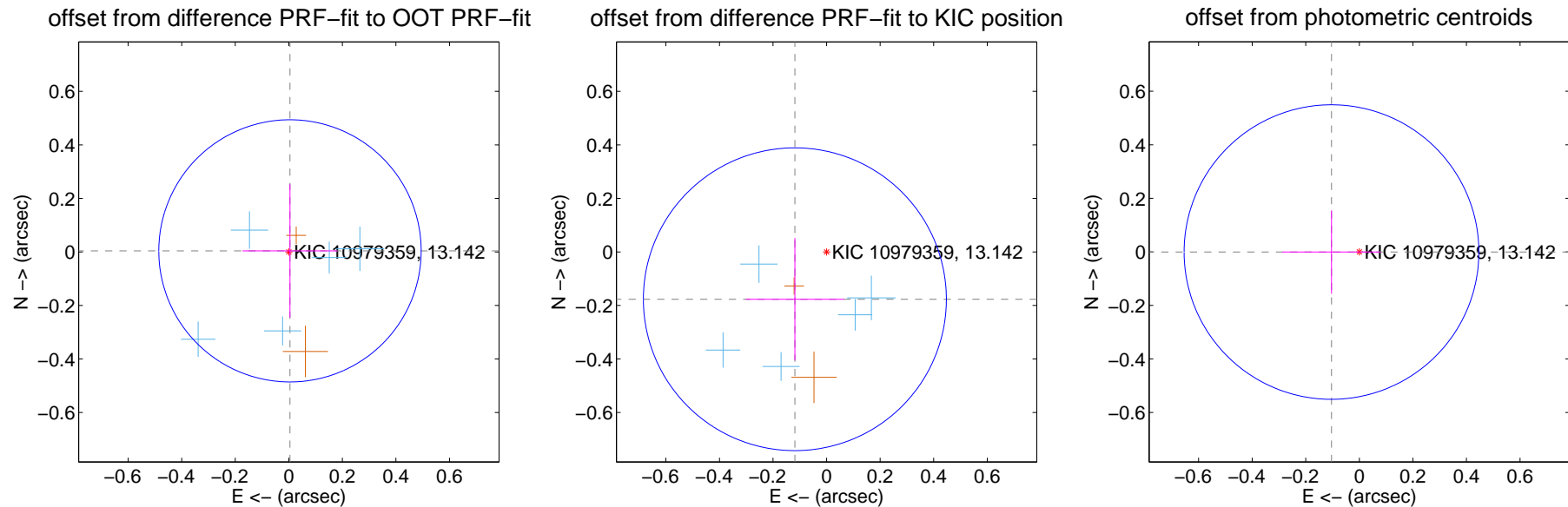
DV Centroid Data

Supplemental centroid analysis for 010979359-07. Kepler magnitude: 13.14. Transit SNR 9.85

There are 7 quarters with good PRF difference image offsets

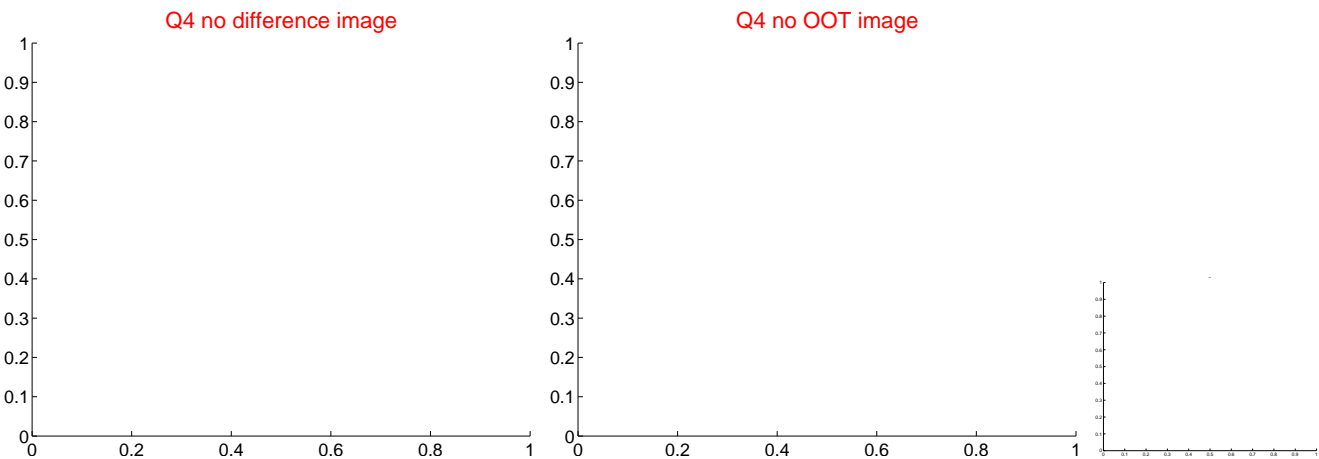
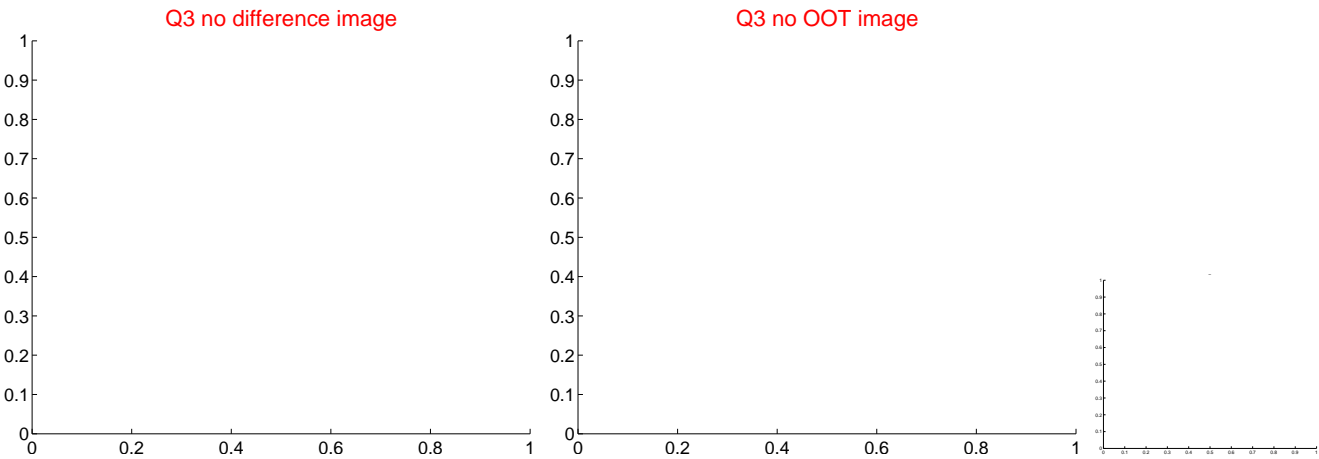
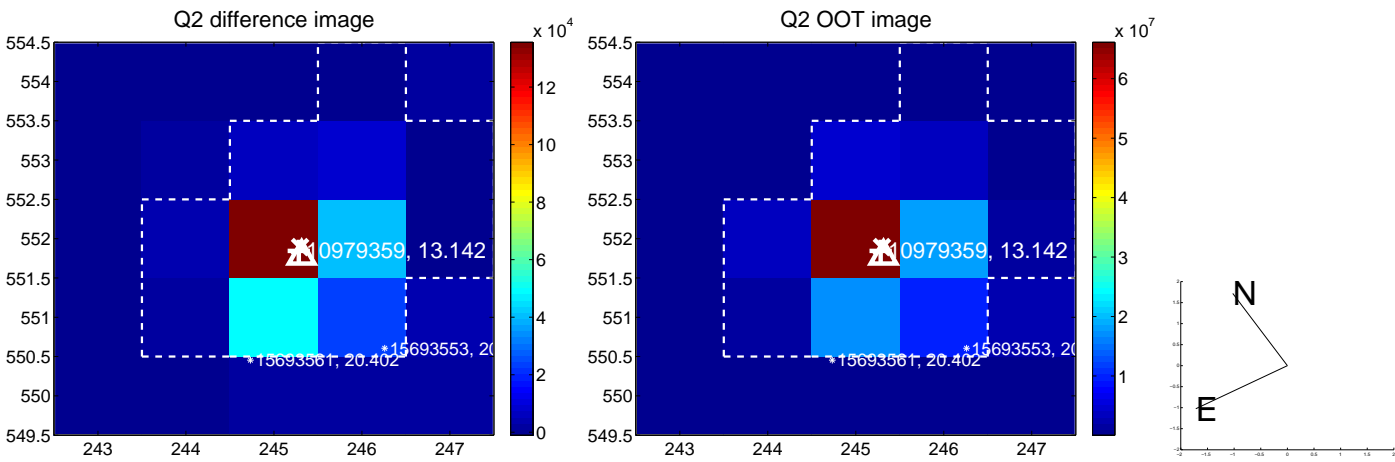
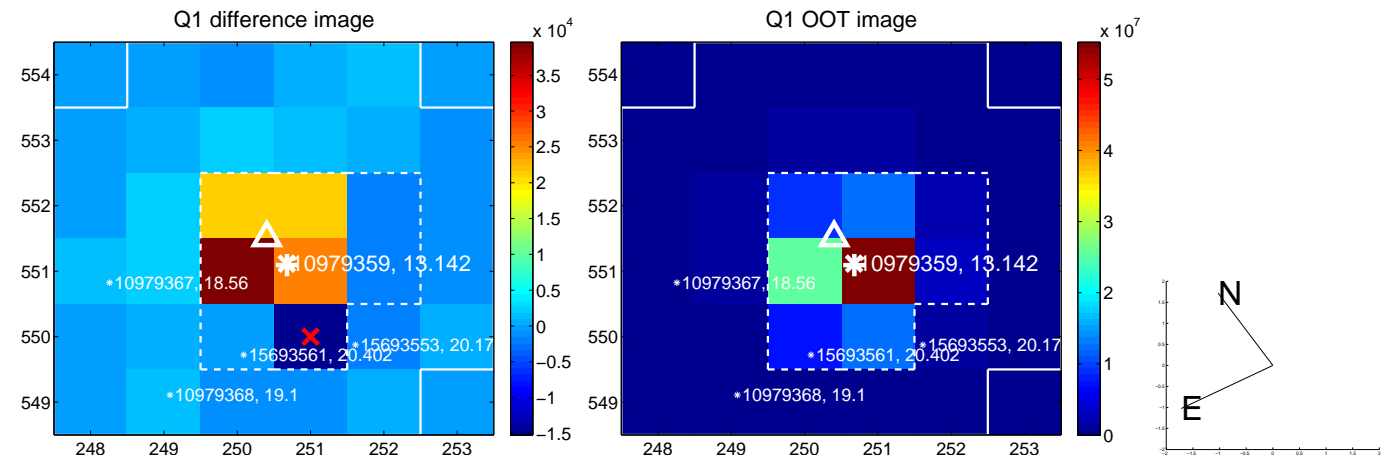
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.006 ± 0.163	0.04	-0.004 ± 0.177	0.004 ± 0.249
PRF-fit source offset from KIC position	0.213 ± 0.189	1.13	0.118 ± 0.183	-0.177 ± 0.229
photometric centroid source offset	0.10 ± 0.18	0.57	0.10 ± 0.18	-0.00 ± 0.16

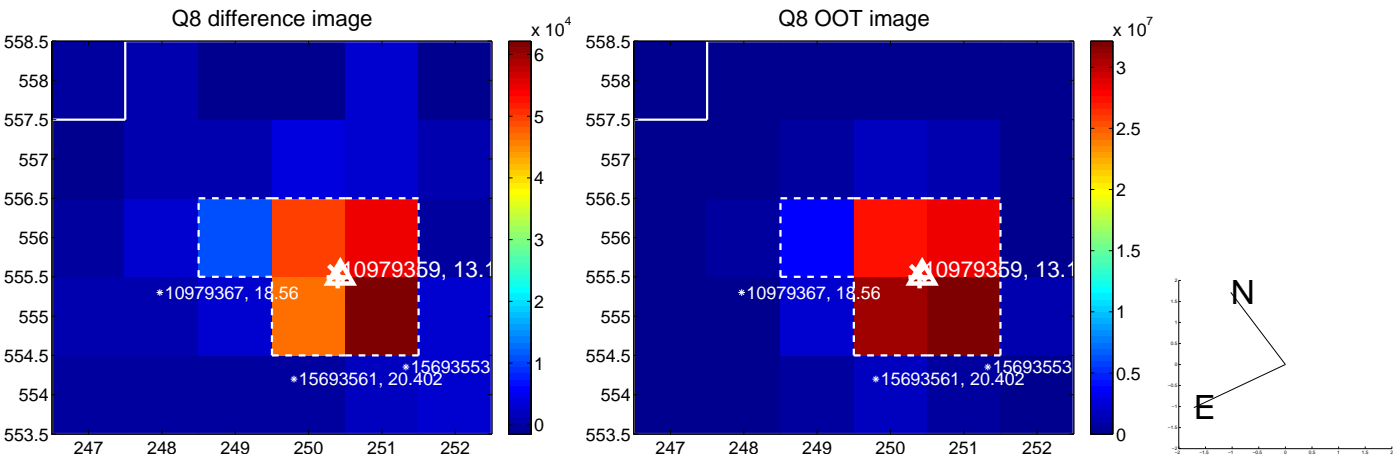
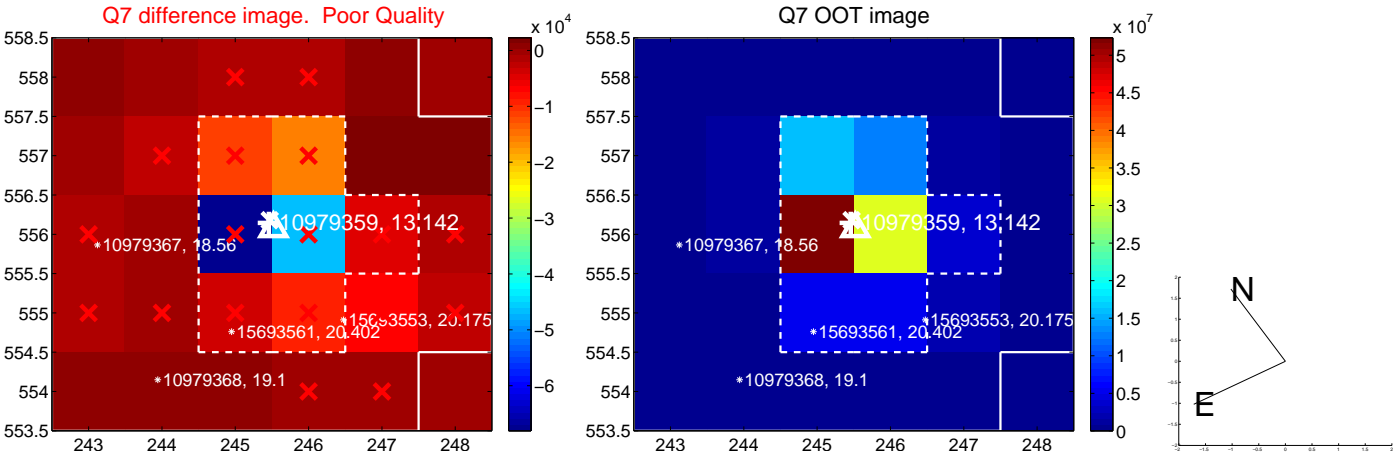
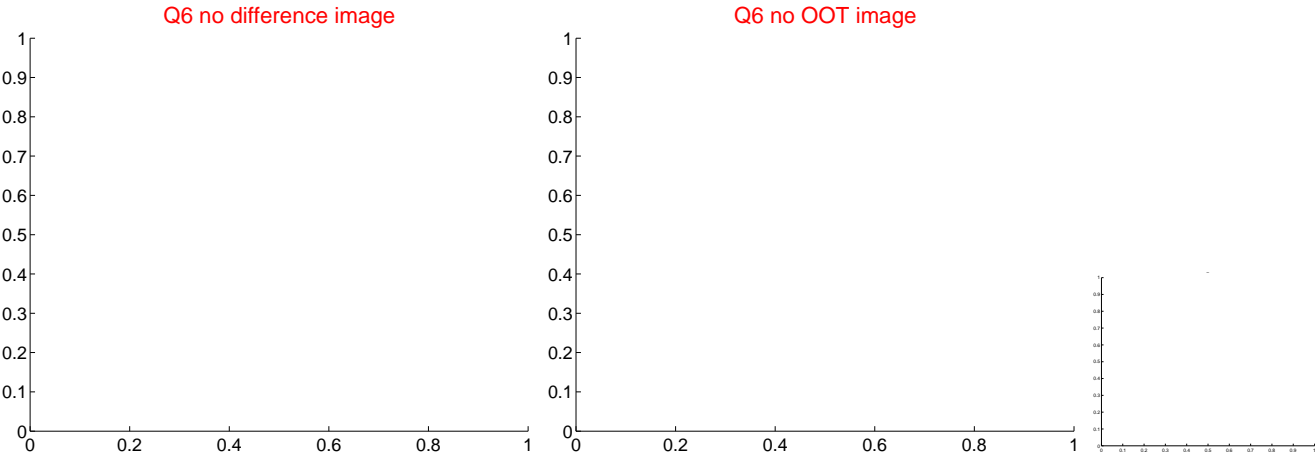
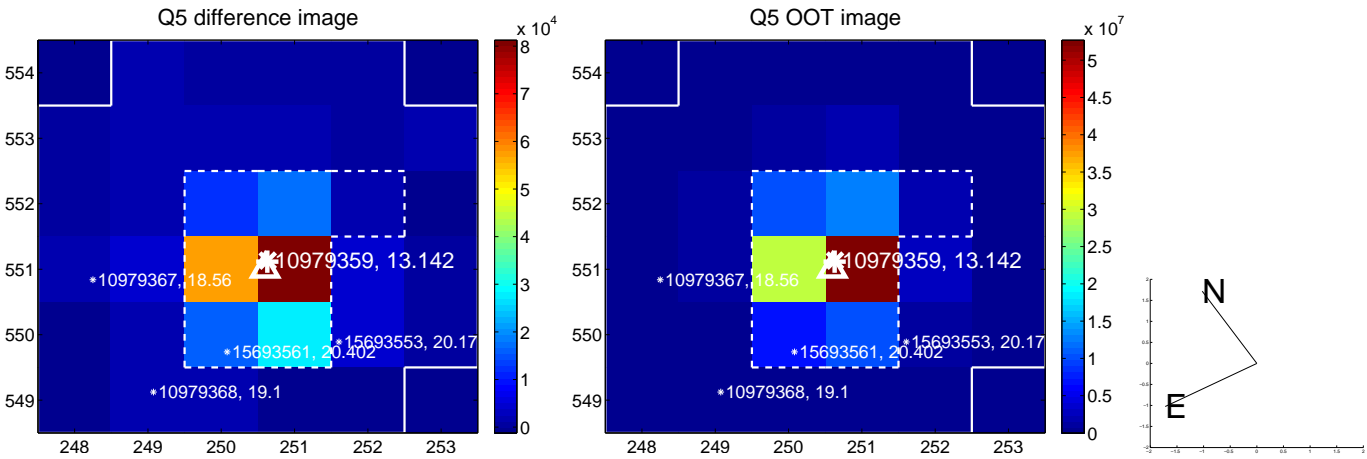


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

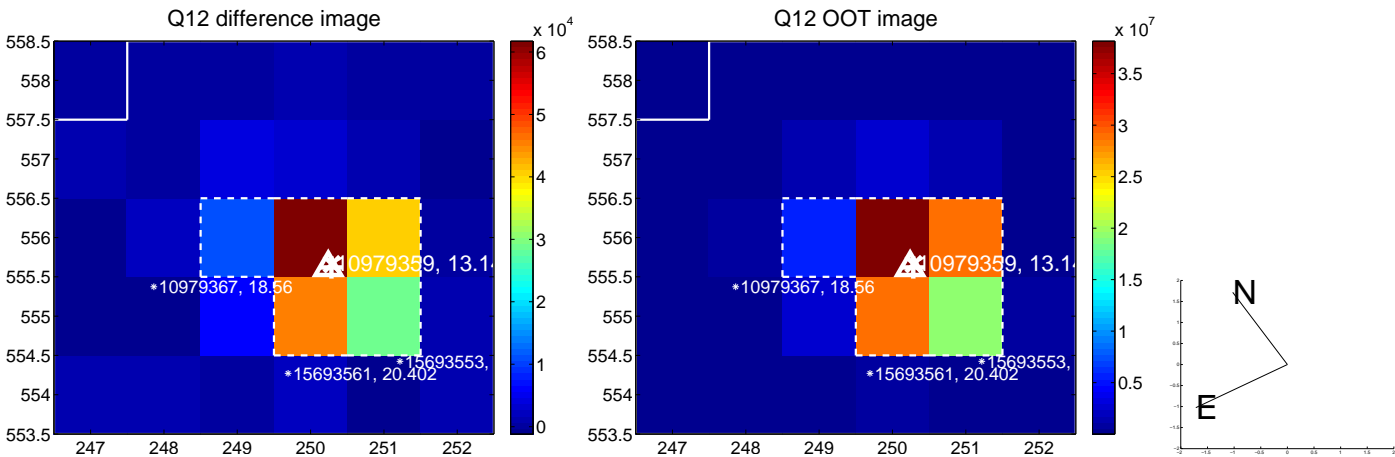
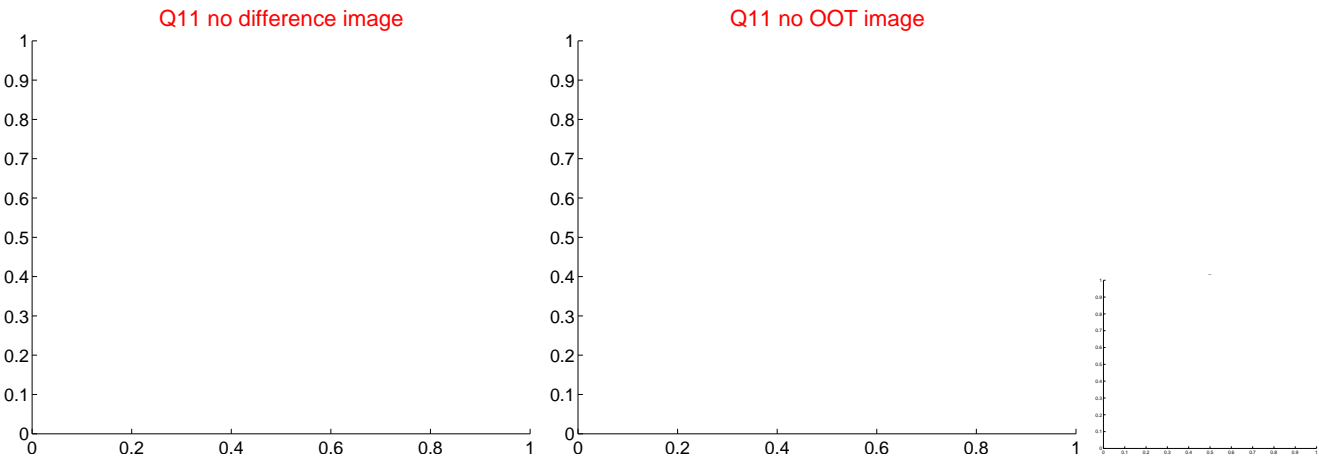
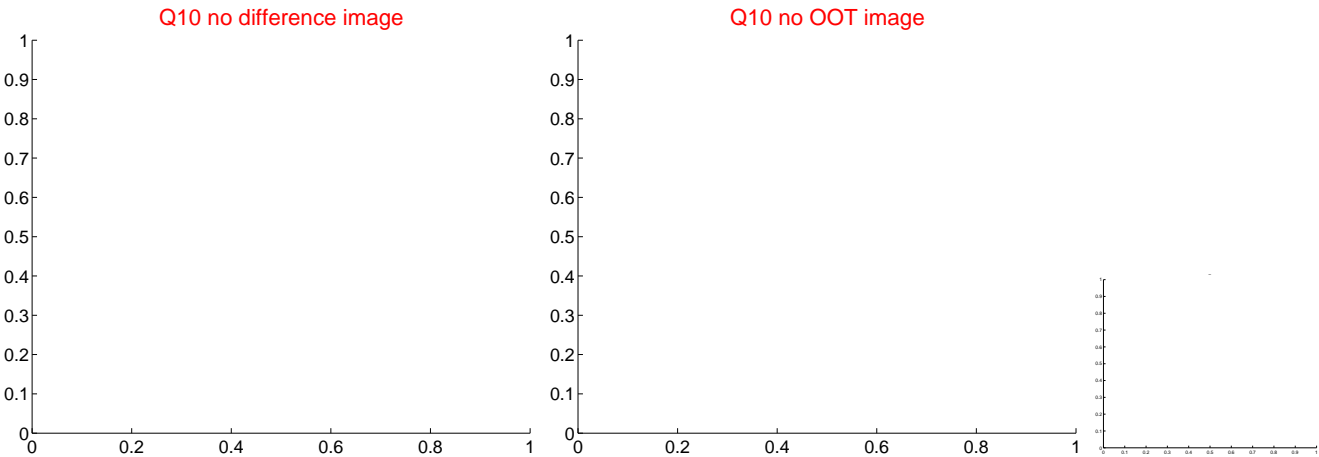
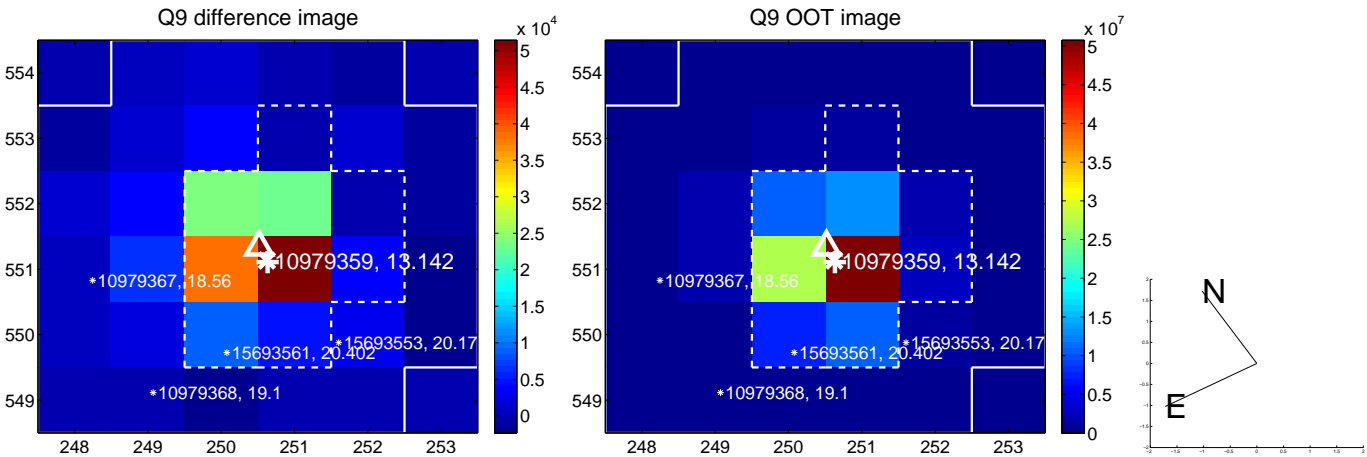
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



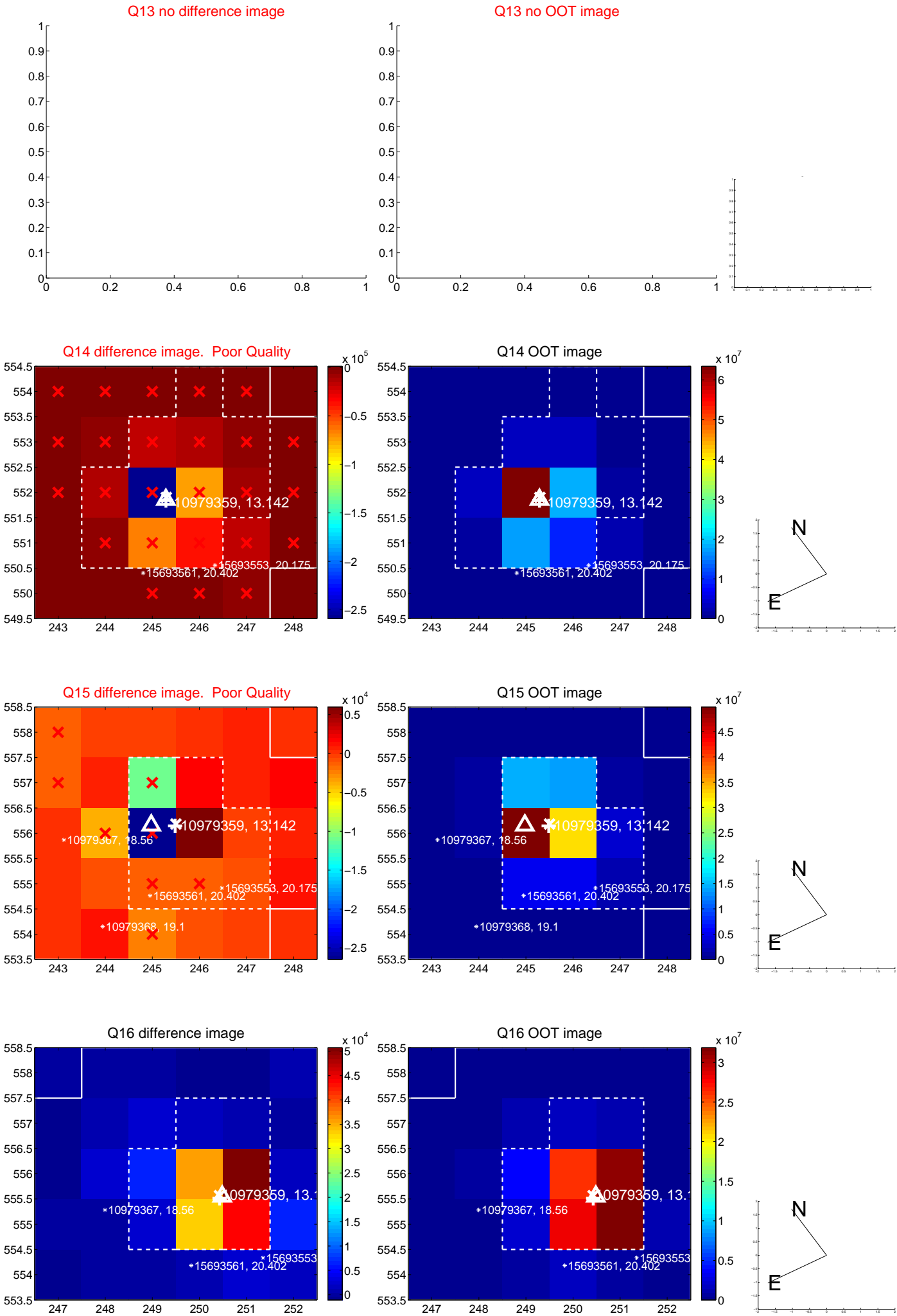
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



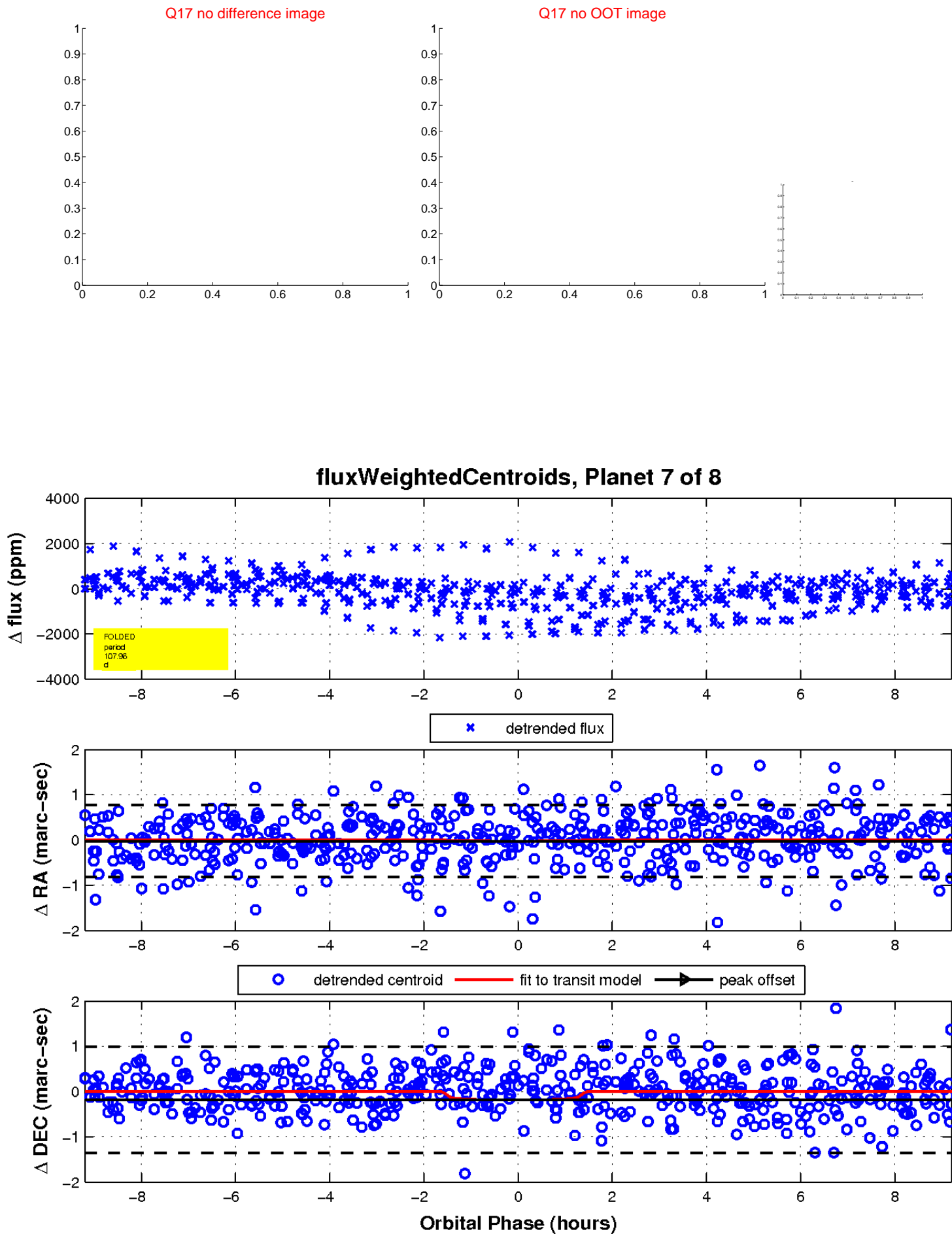
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

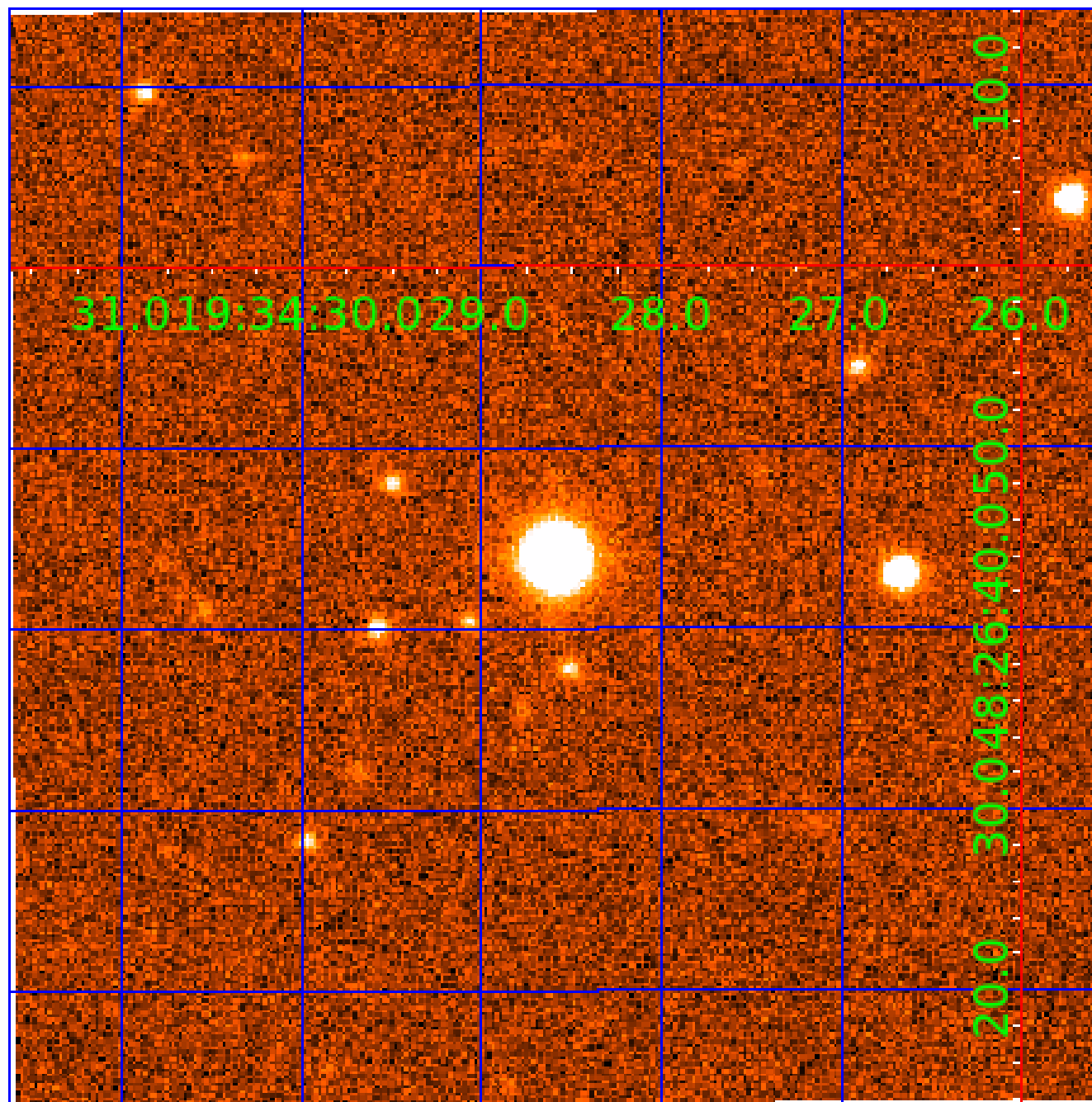


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010979359

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})
010979359-01	OBS	No	0.922618	132.286324	6.1	6.758	9.7	1.2	1.73	7263	0.44	16911.84
010979359-02	OBS	No	33.198551	159.510493	1837.4	1.864	16.2	15.1	1.73	7263	7.95	142.36
010979359-03	OBS	No	31.549808	153.610826	1031.5	1.113	10.5	7.9	1.73	7263	5.99	152.37
010979359-07	OBS	No	107.956506	136.419499	1037.7	3.078	8.6	9.8	1.73	7263	5.96	29.55
010979359-08	OBS	No	51.689076	163.146241	923.9	5.881	7.2	6.2	1.73	7263	8.70	78.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010979359-01	OBS	FP	0.00	1	0	0	0	LPP_DV
010979359-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
010979359-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010979359-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—HALO_GHOST
010979359-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

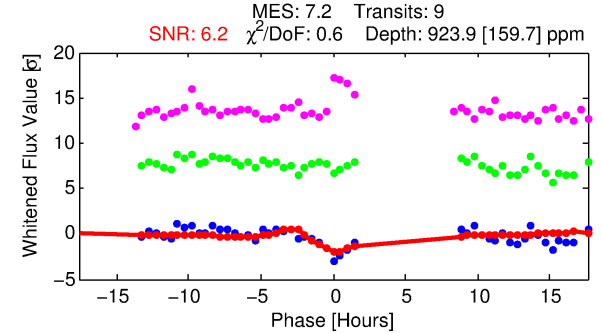
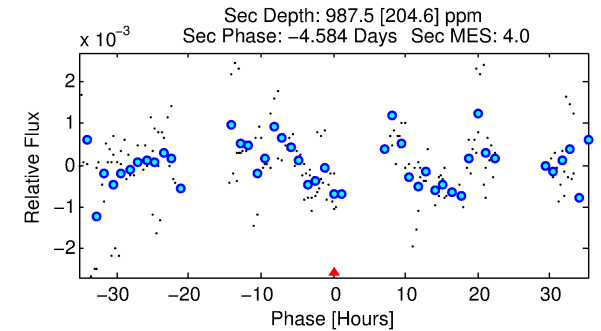
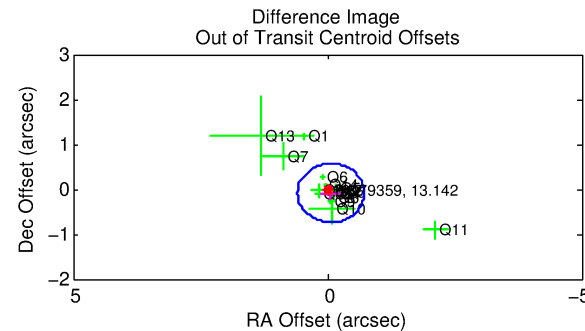
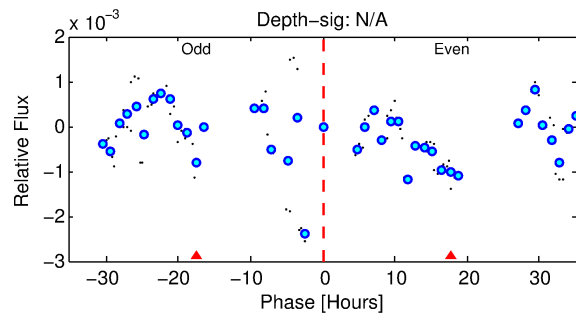
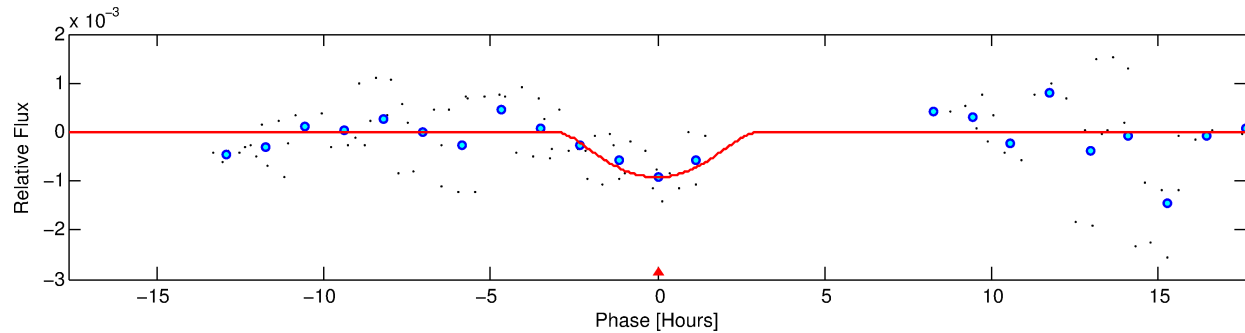
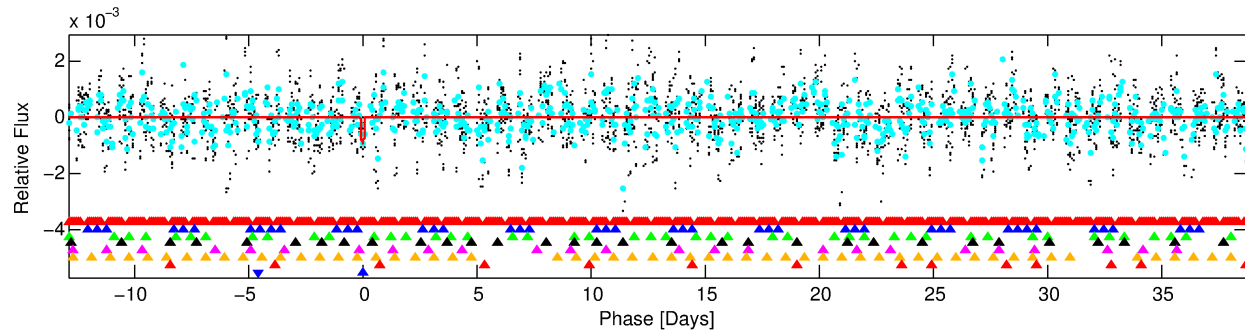
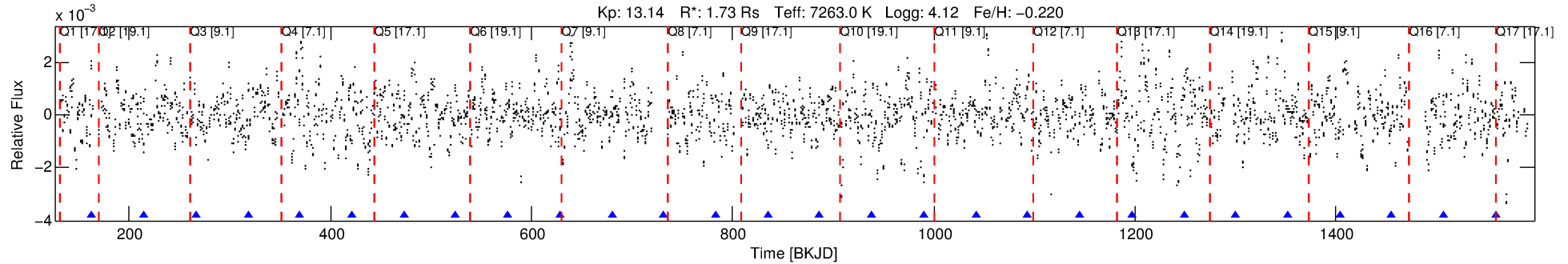
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010979359-08

No Significant Match Found

DV One-Page Summary

KIC: 10979359 Candidate: 8 of 8 Period: 51.689 d



DV Fit Results:

Period = 51.68908 [0.00416] d
Epoch = 163.1462 [0.0185] BKJD
Rp/R* = 0.0462 [0.1004]
a/R* = 22.52 [15.70]
b = 0.99 [0.17]
Seff = 78.89 [30.44]
Teq = 760 [73] K
Rp = 8.70 [19.10] Re
a = 0.3070 [0.0746] AU
Ag = 676.09 [2953.48] [0.23σ]
Teffp = 5991 [6527] K [0.80σ]

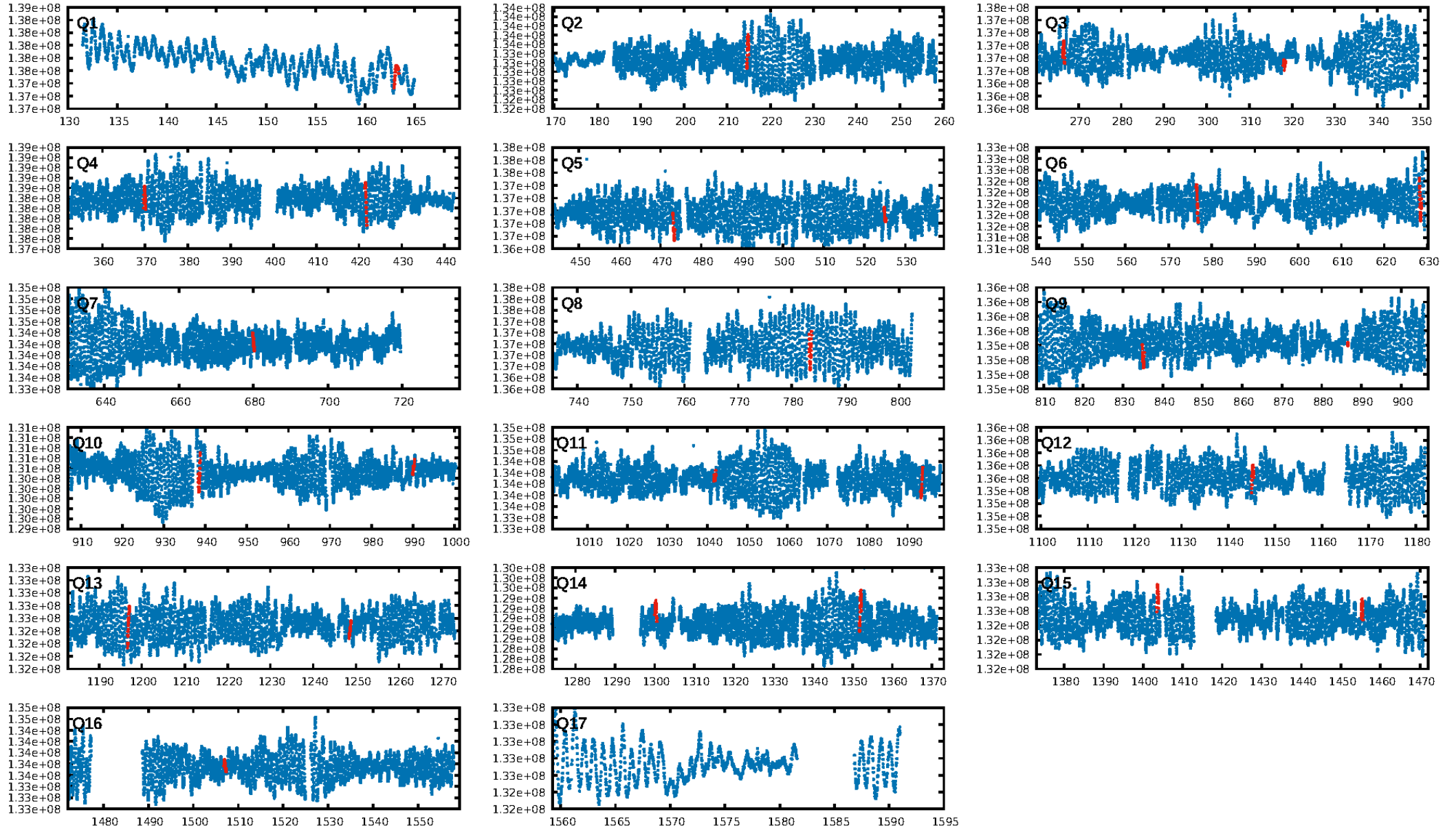
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [18.45σ]
LongPeriod-sig: 100.0% [17.22σ]
ModelChiSquare2-sig: 42.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: -1.341
Centroid-sig: 0.5%
Centroid-so: 0.404 arcsec [2.95σ]
OotOffset-rm: 0.108 arcsec [0.49σ]
KicOffset-rm: 0.180 arcsec [1.33σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.50 [8/16]
DiffImageOverlap-fno: 0.00 [0/16]

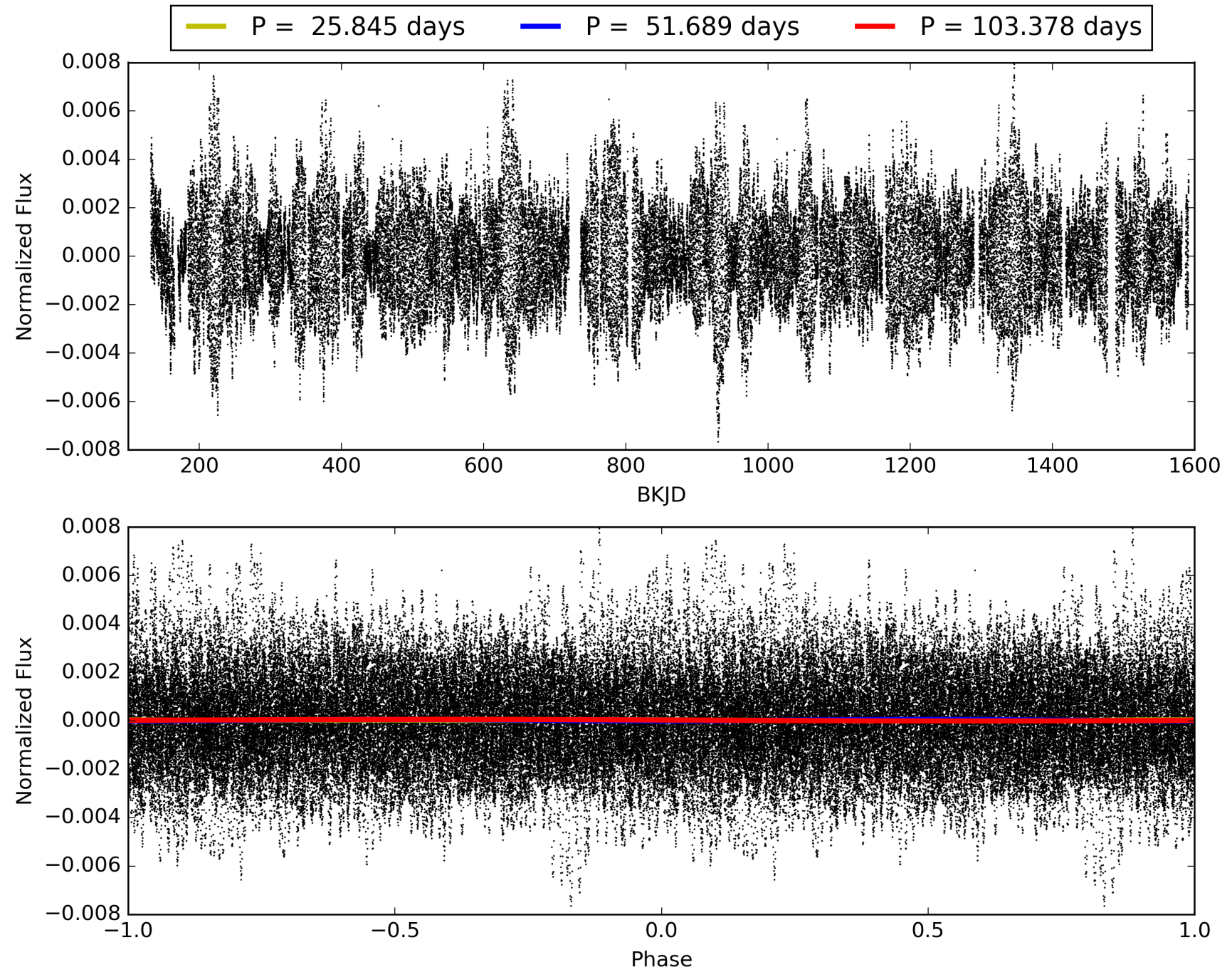
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:27:01 Z

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

TCE 010979359-08, PDC Light Curves

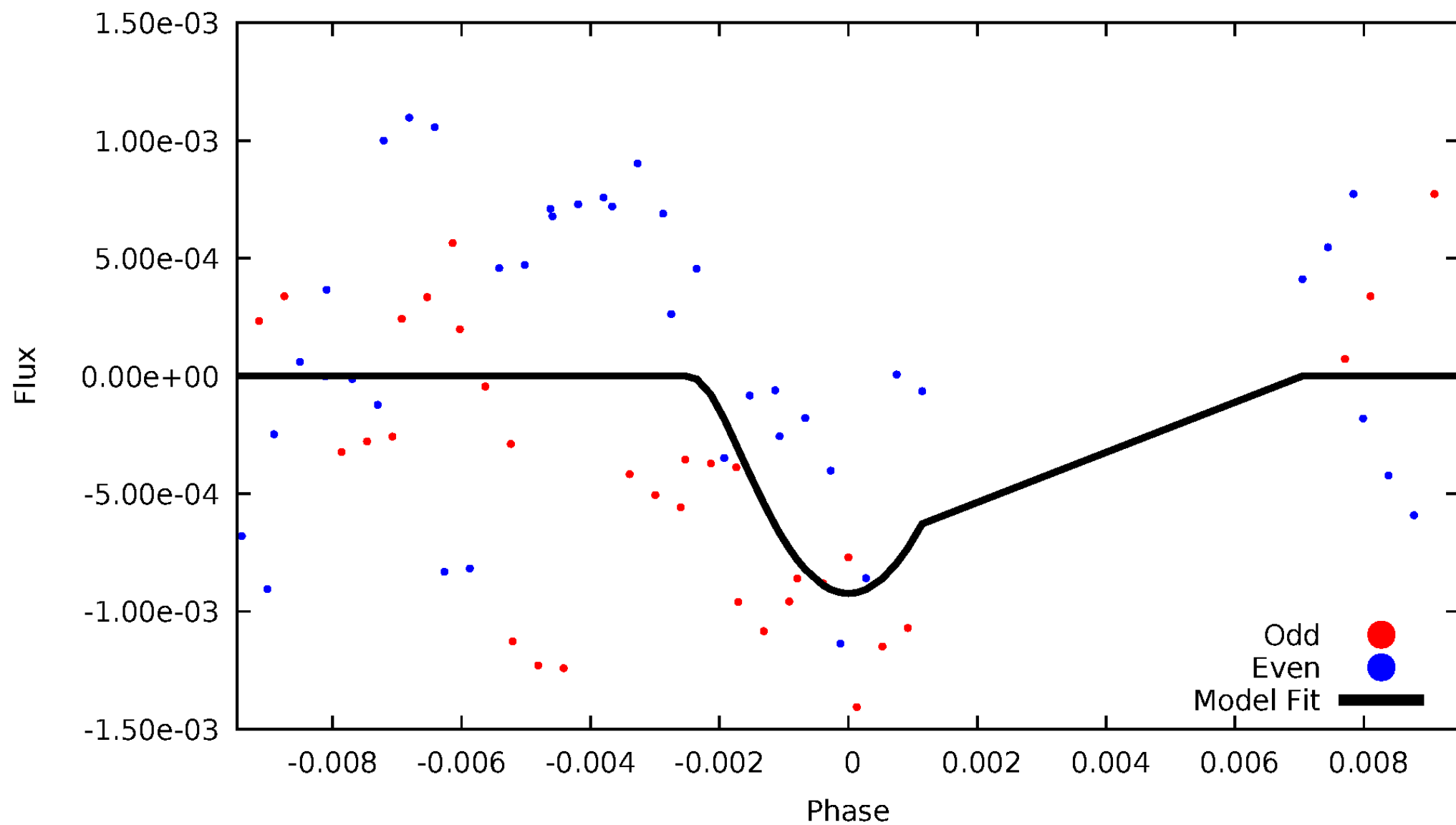


TCE 010979359-08



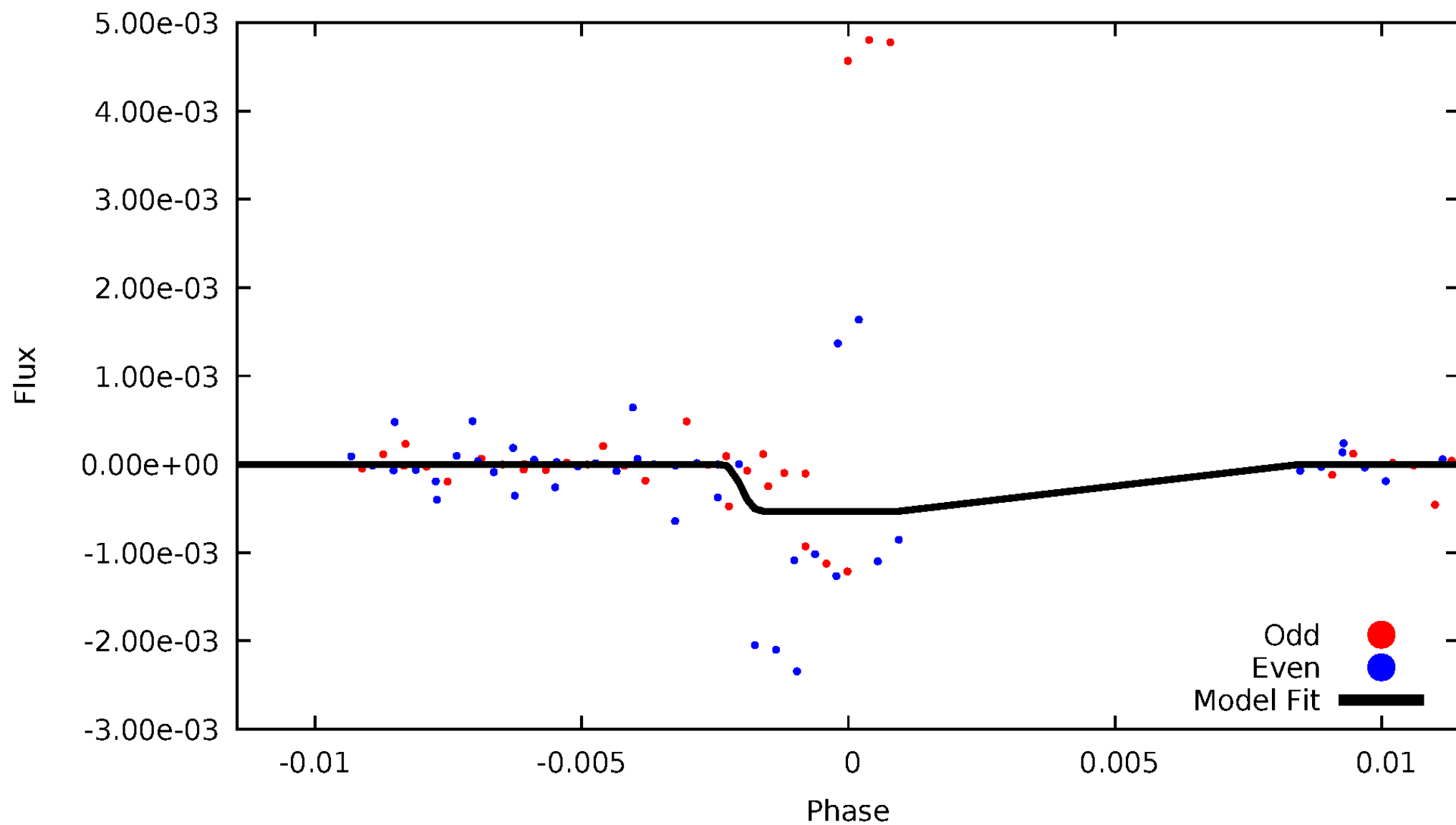
DV Odd/Even

TCE 010979359-08



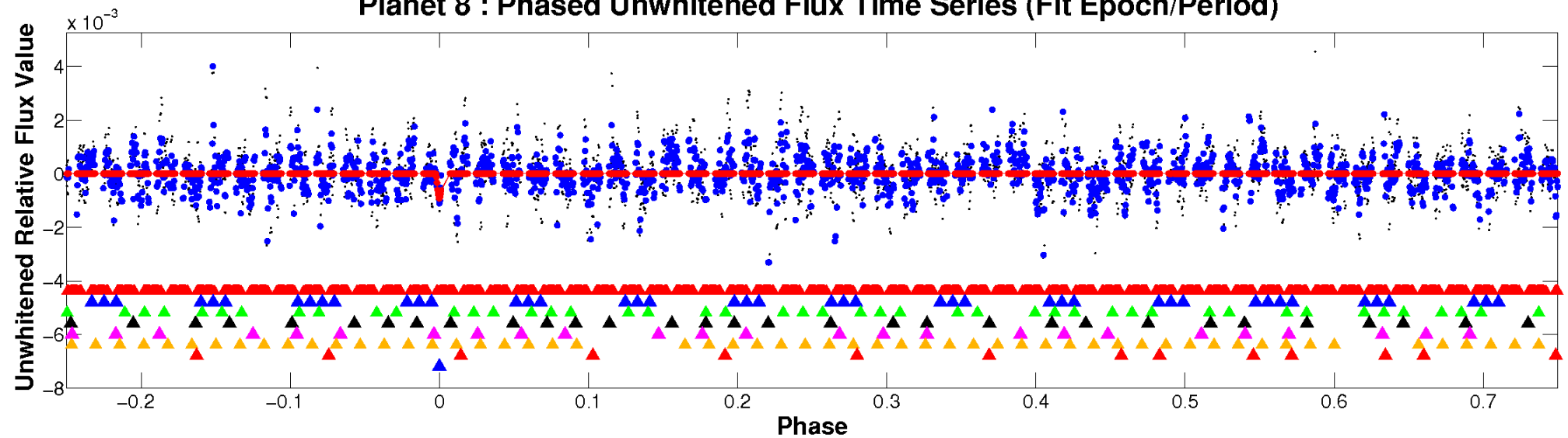
ALT Odd/Even

TCE 010979359-08

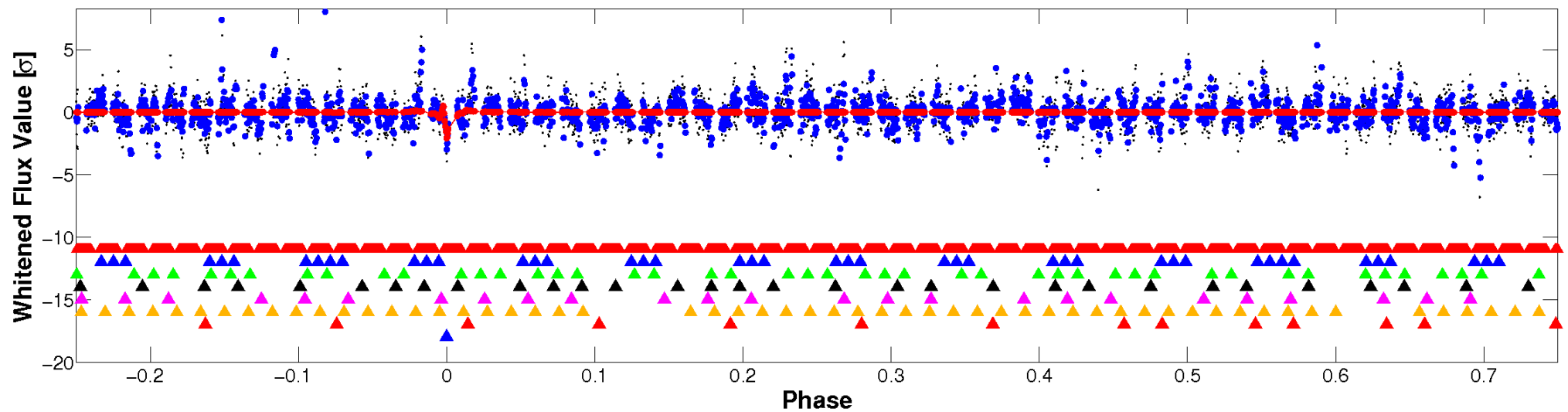


Non-Whitened Vs. Whitened Light Curve

Planet 8 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

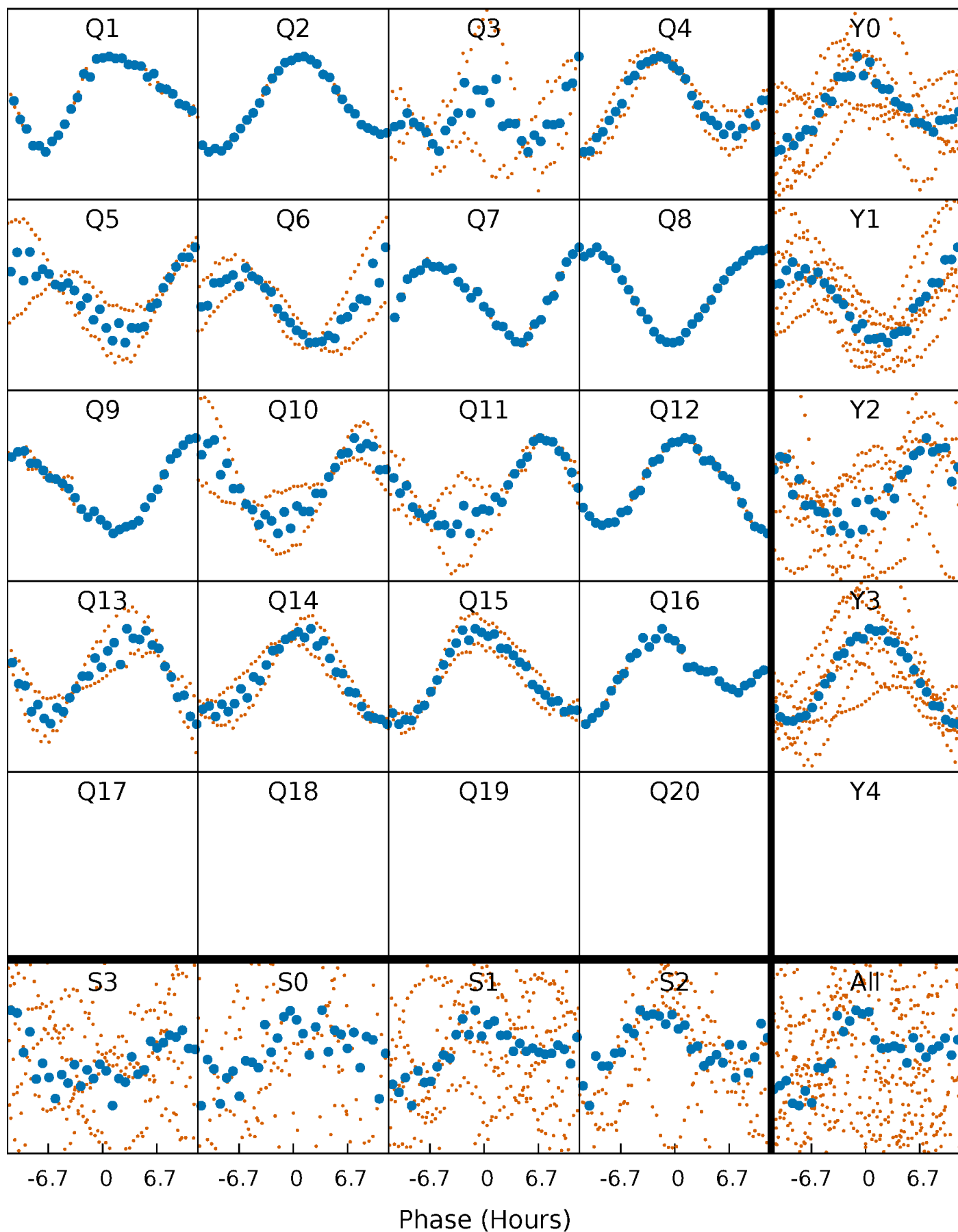


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



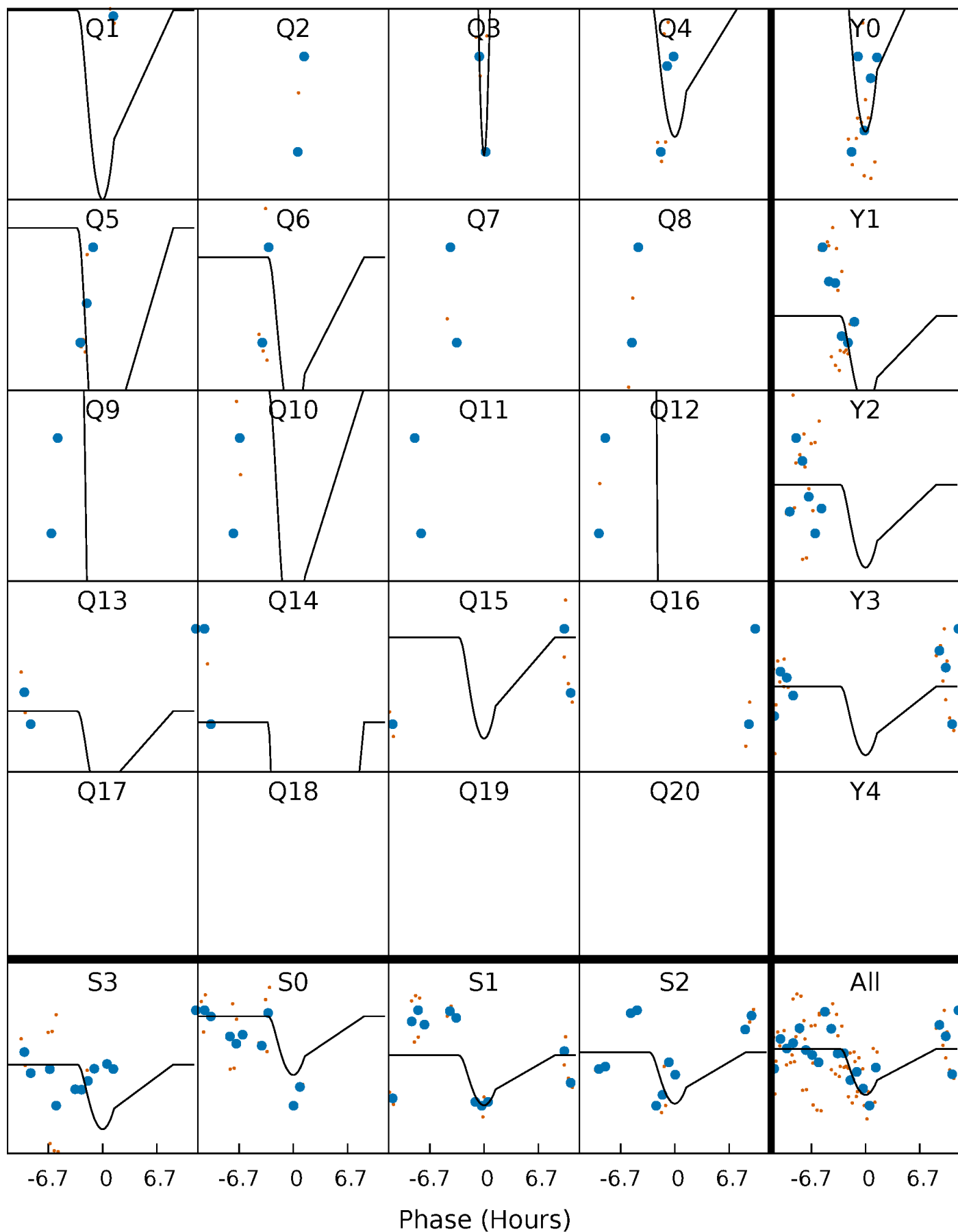
PDC Quarter-Phased Transit Curves

TCE 010979359-08 P= 51.689076 Days $T_0=163.146241$ (BKJD)



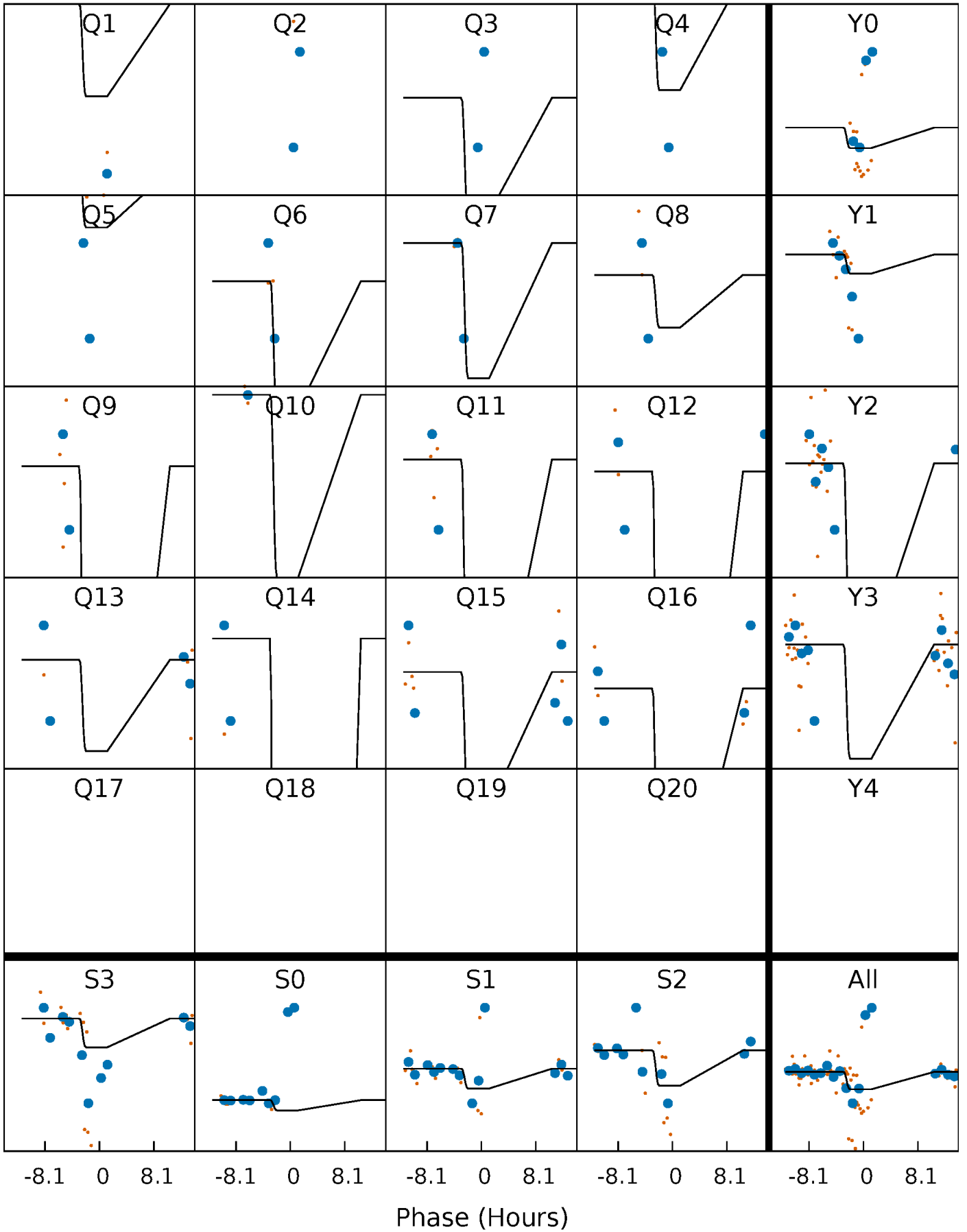
DV Quarter-Phased Transit Curves

TCE 010979359-08 P= 51.689076 Days $T_0=163.146241$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

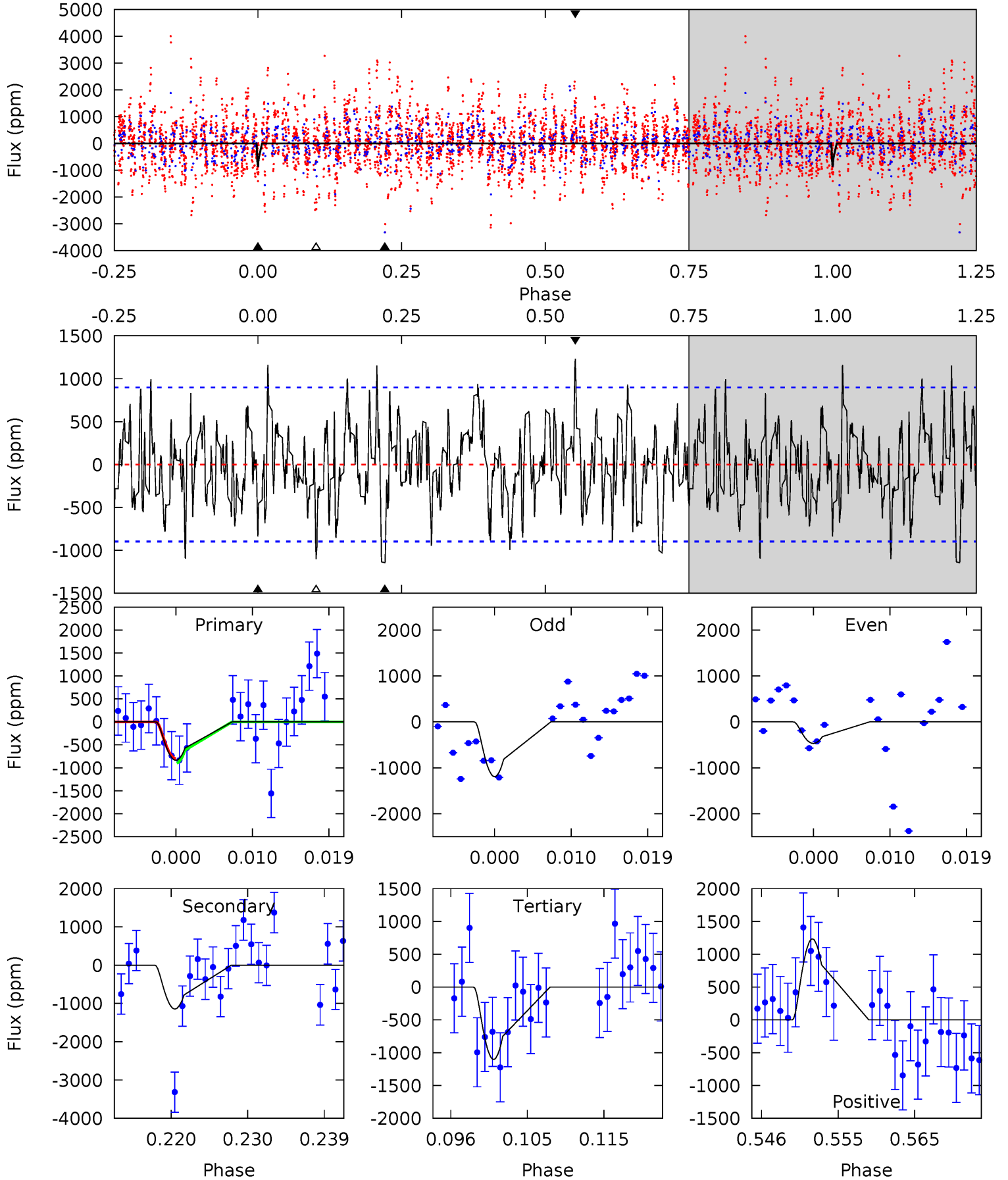
TCE 010979359-08 P= 51.685843 Days $T_0=163.156643$ (BKJD)



DV Model-Shift Uniqueness Test

010979359-08, P = 51.689076 Days, E = 111.457165 Days

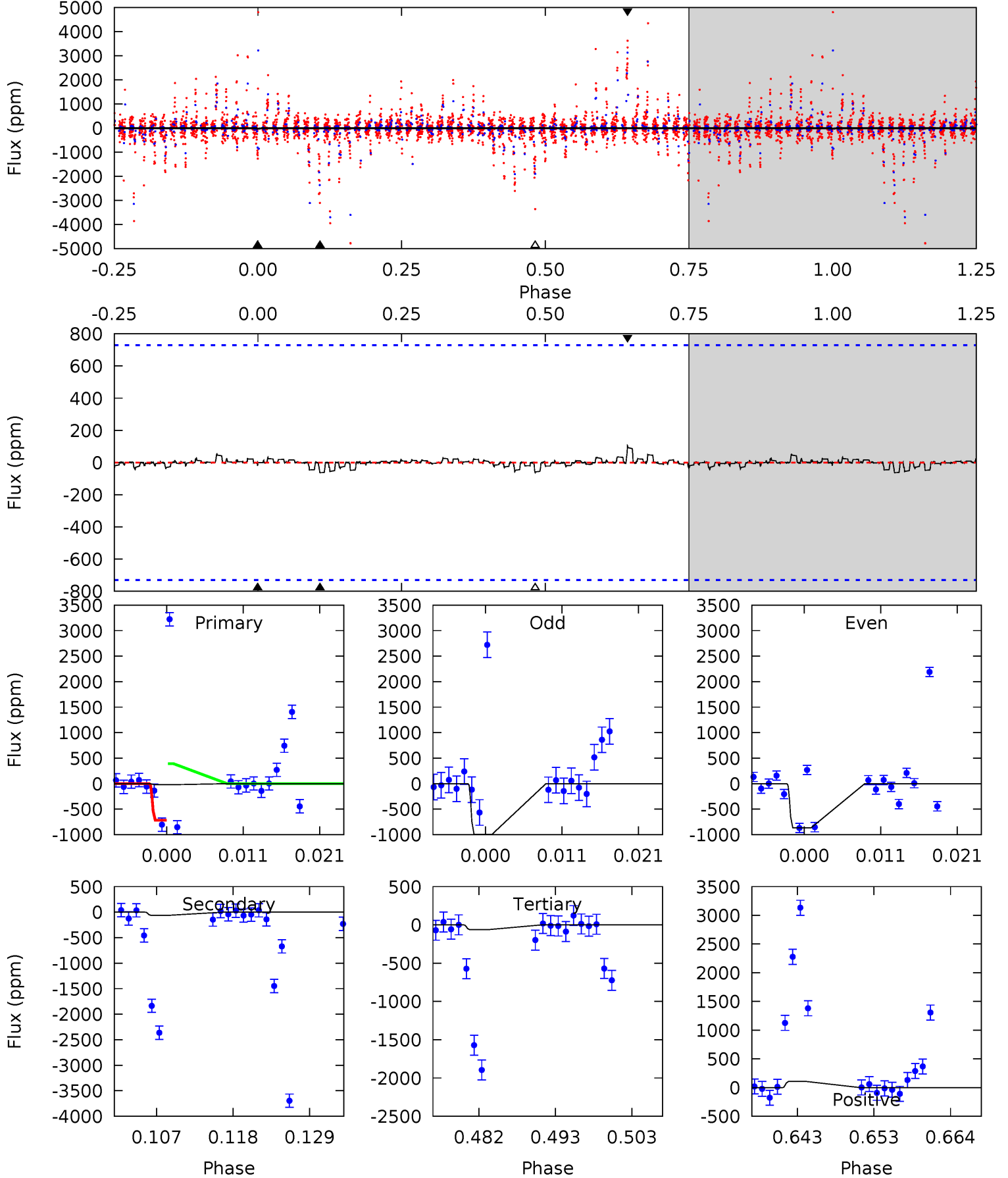
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.69	6.41	6.18	6.91	5.03	2.59	2.22	-1.49	-2.22	0.23	-0.50	2.01	0.90	0.52	0.25



Alt Model-Shift Uniqueness Test

010979359-08, P = 51.685843 Days, E = 111.470800 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.14	0.43	0.43	0.73	5.01	2.55	0.09	-0.29	-0.59	0.00	-0.30	0.40	-0.13	0.63	0



Stellar Parameters For KIC 010979359

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7263^{+228}_{-304}	$4.123^{+0.153}_{-0.187}$	$-0.220^{+0.250}_{-0.350}$	$1.727^{+0.508}_{-0.416}$	$1.442^{+0.219}_{-0.241}$	$0.394^{+0.360}_{-0.187}$
	+3%/-4%	+4%/-5%	+114%/-159%	+29%/-24%	+15%/-17%	+91%/-47%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010979359-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1144±178	$16.21^{+16.71}_{-10.75}$	1067^{+81}_{-75}	4685^{+3288}_{-1047}	233^{+1729}_{-181}
Alt.	-63±145	$15.39^{+14.85}_{-10.63}$	1063^{+88}_{-73}	2732^{+1387}_{-5746}	$8.099^{+116.726}_{-25.414}$

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 $A_{obs} \gg 1.0$

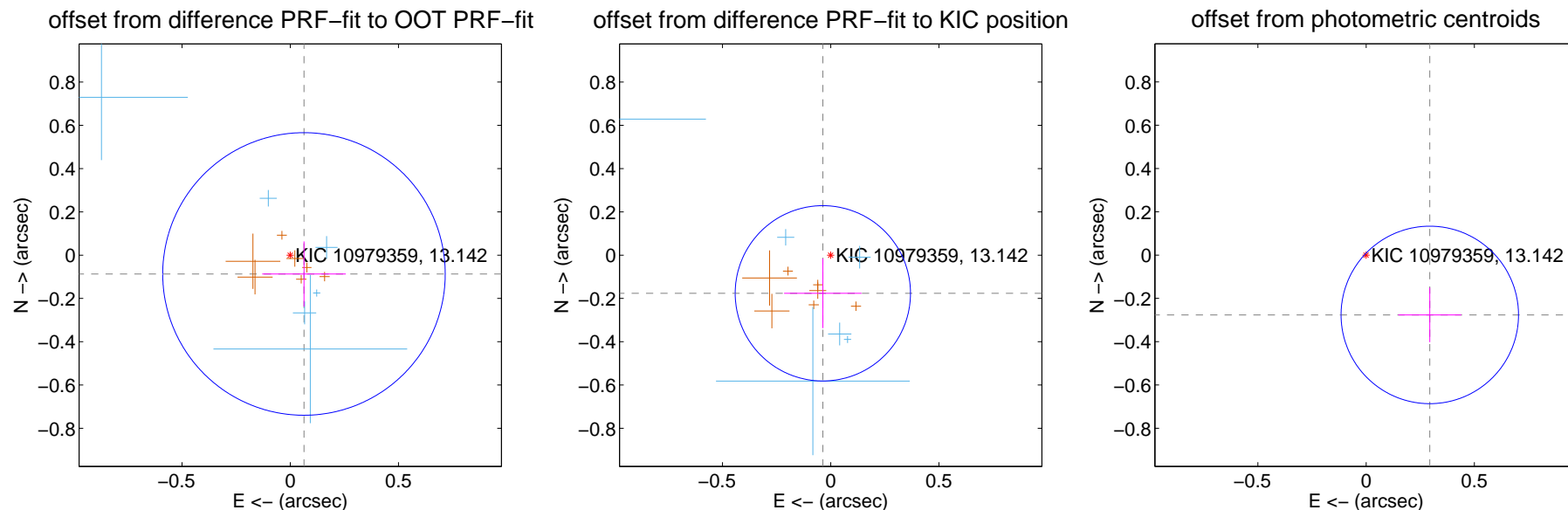
DV Centroid Data

Supplemental centroid analysis for 010979359-08. Kepler magnitude: 13.14. Transit SNR 6.15

There are 8 quarters with good PRF difference image offsets

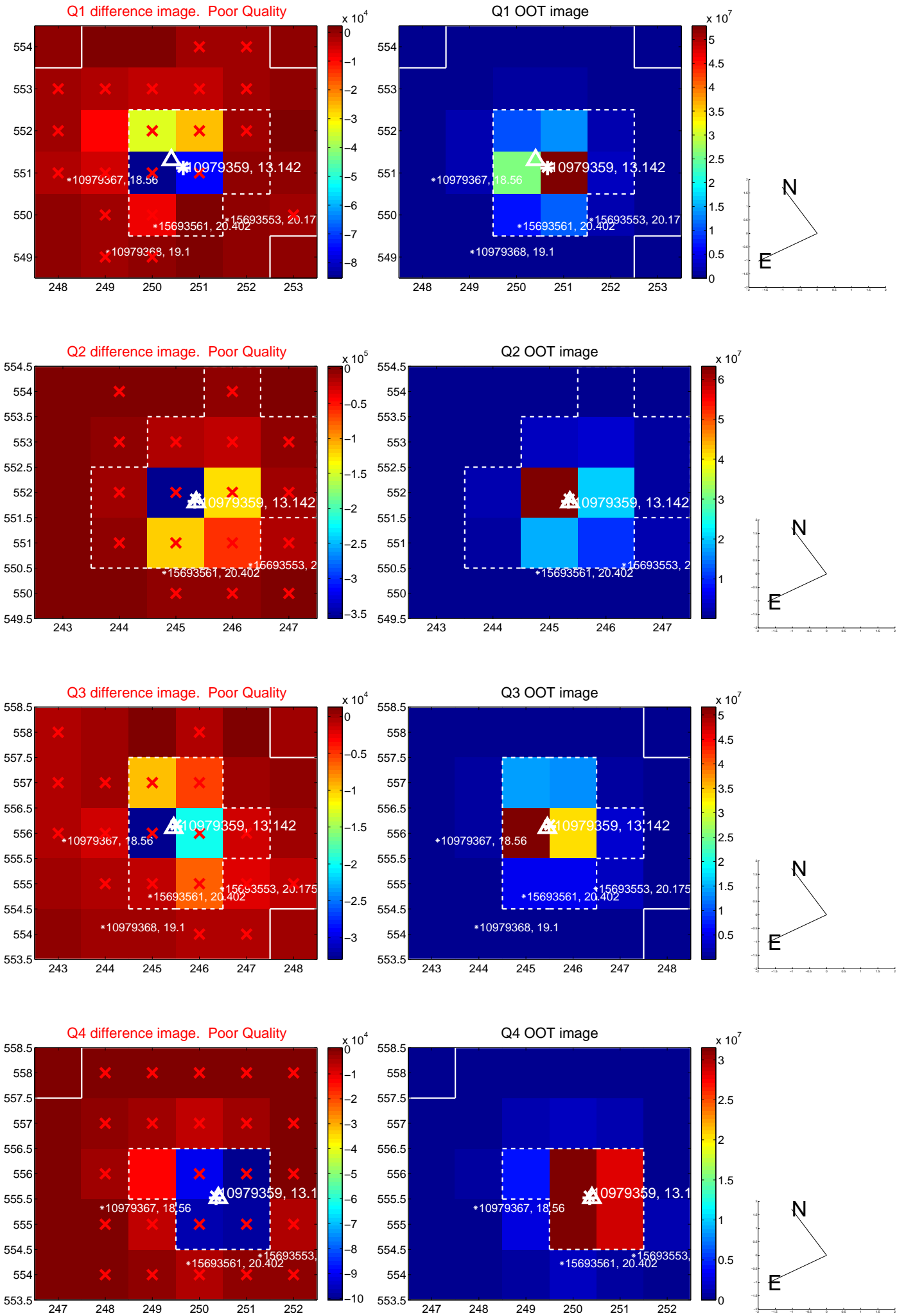
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.108 ± 0.218	0.49	-0.063 ± 0.193	-0.087 ± 0.151
PRF-fit source offset from KIC position	0.180 ± 0.135	1.33	0.036 ± 0.179	-0.176 ± 0.160
photometric centroid source offset	0.40 ± 0.14	2.95	-0.29 ± 0.15	-0.28 ± 0.13

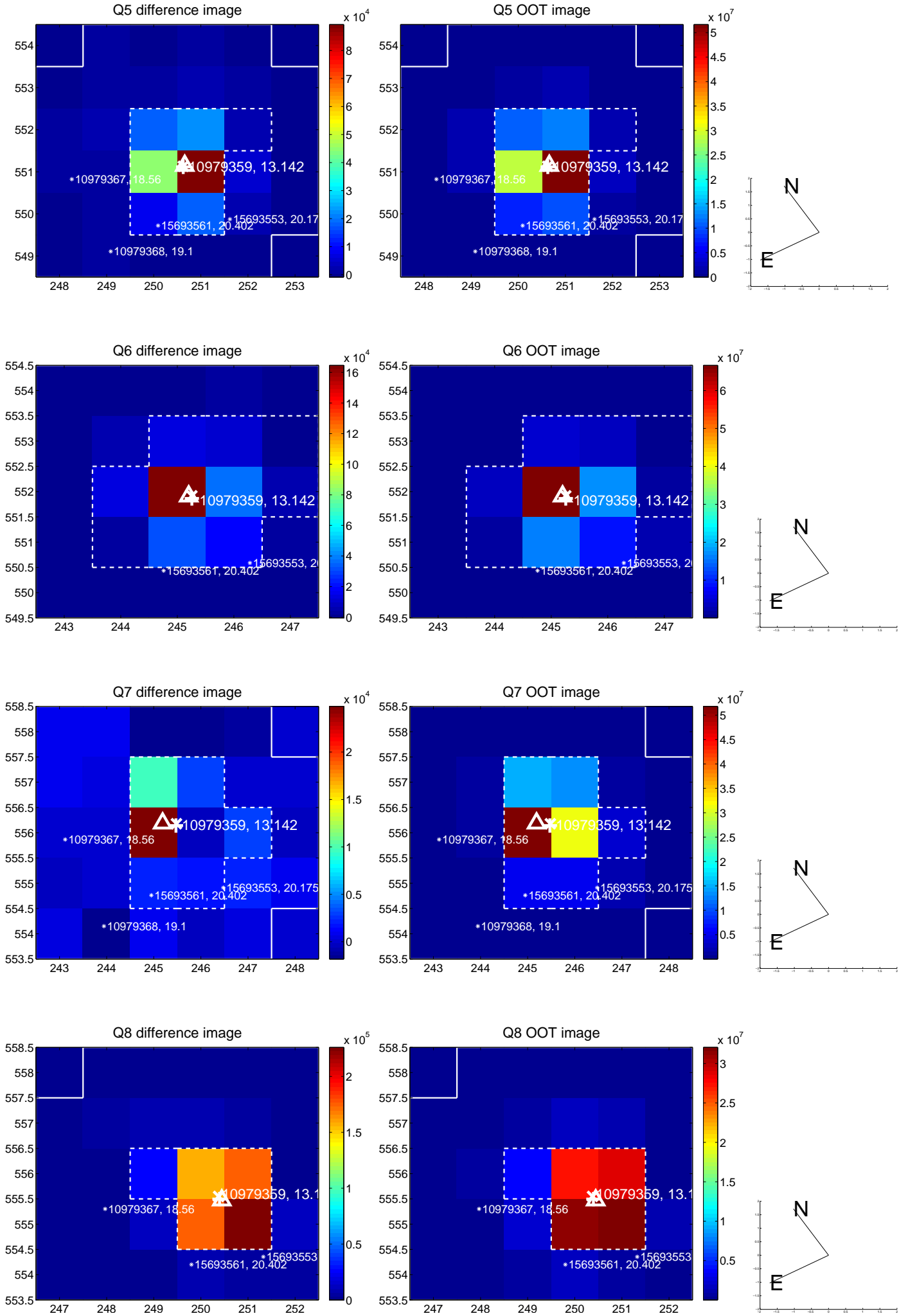


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

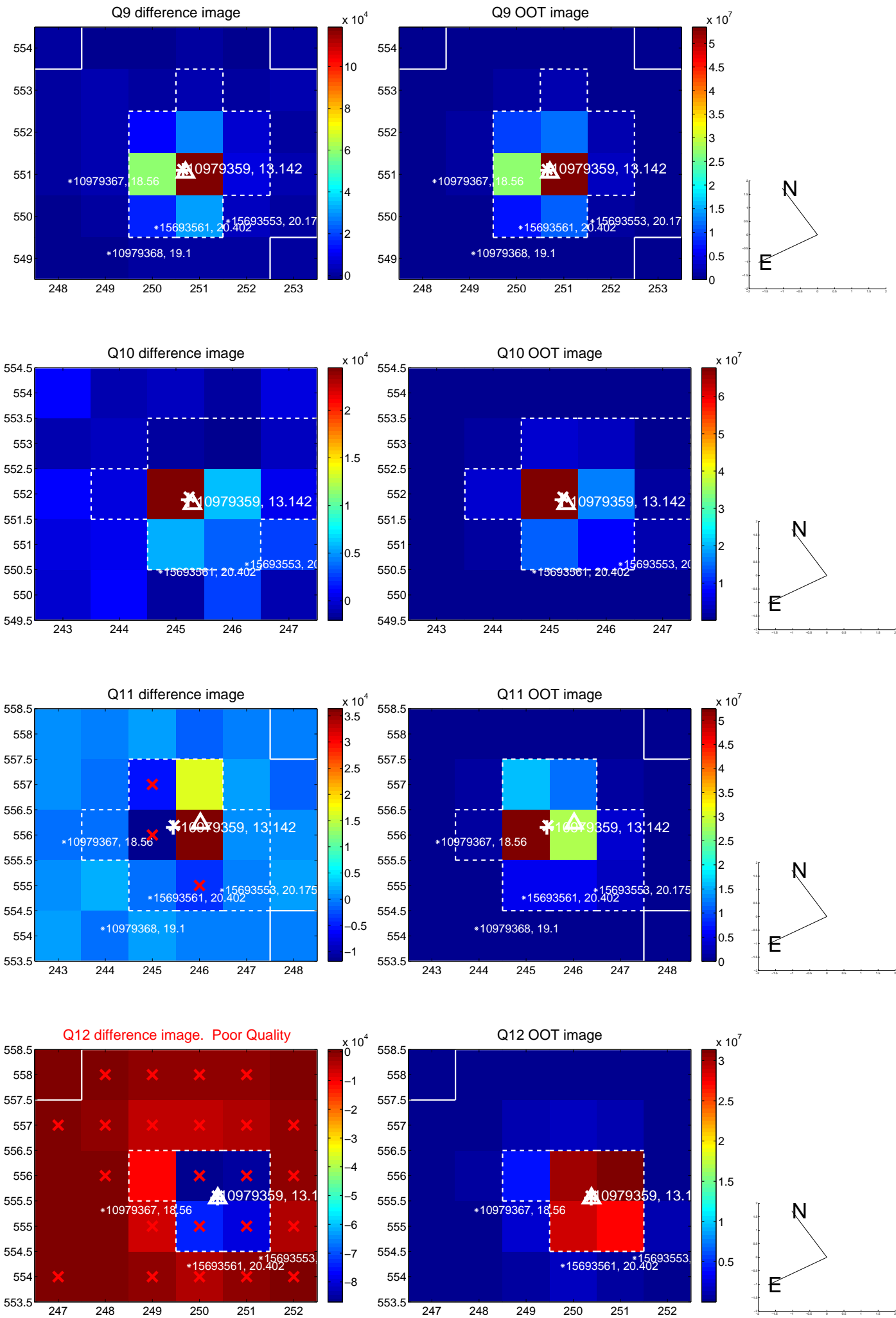
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



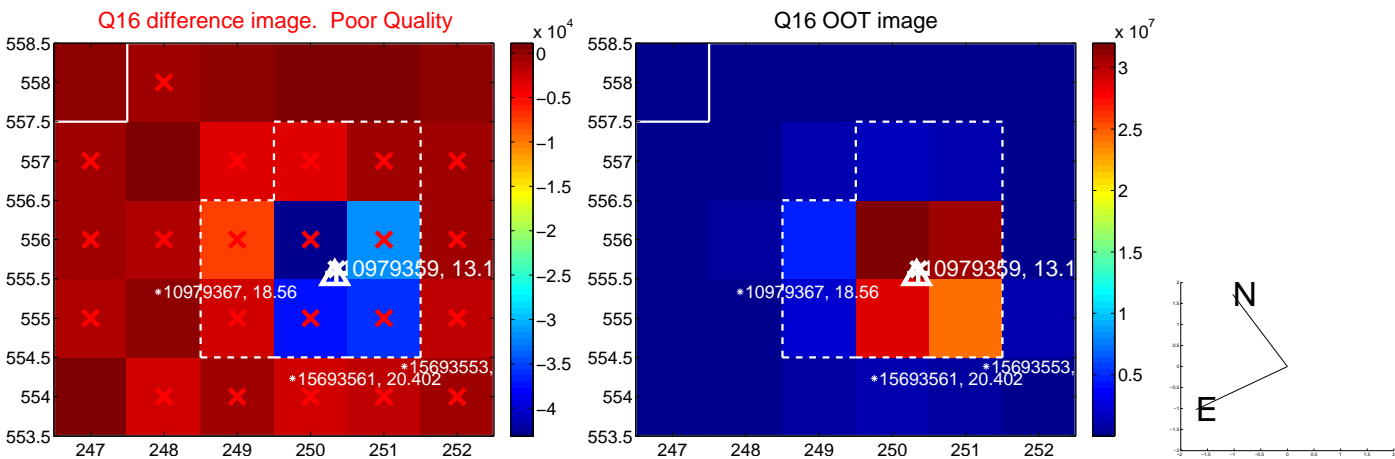
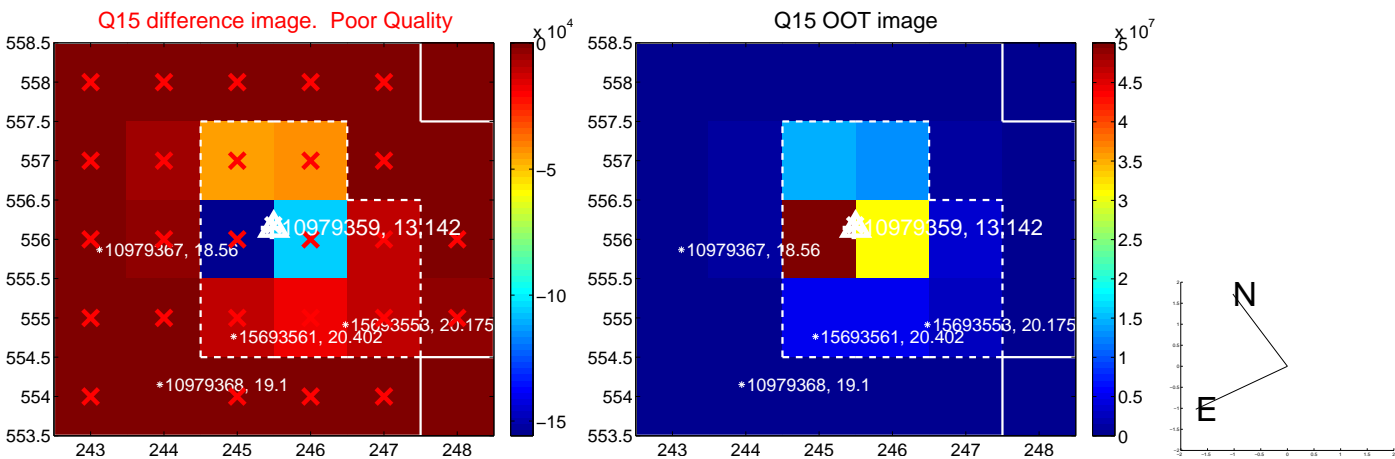
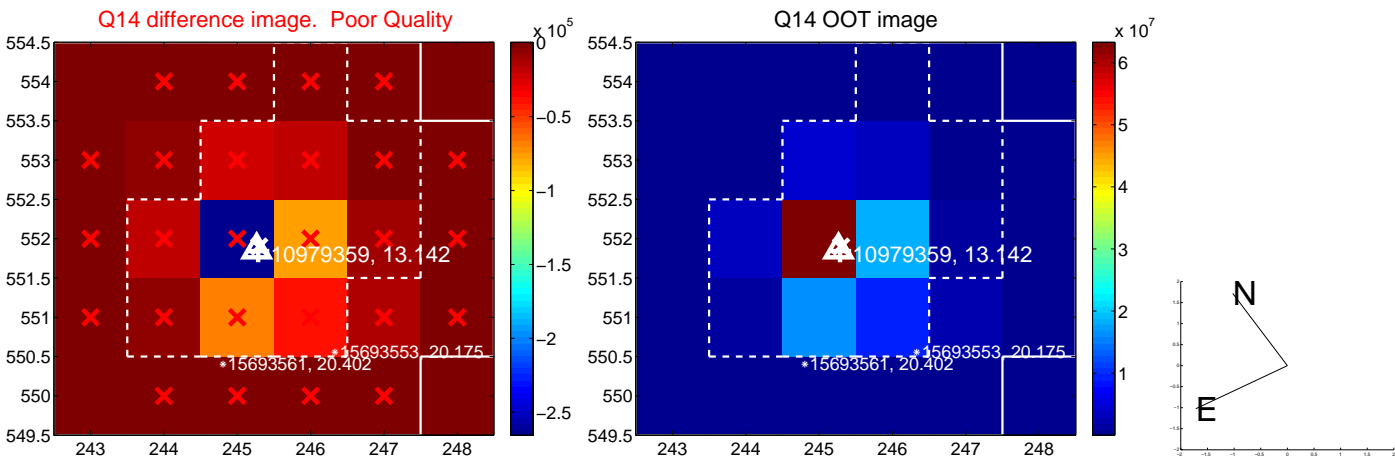
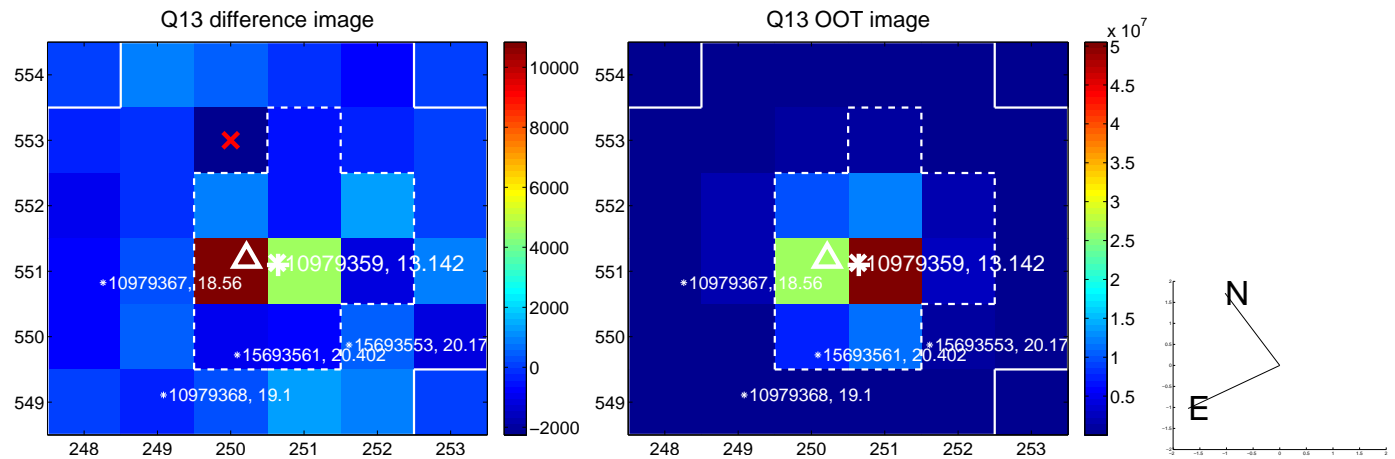
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



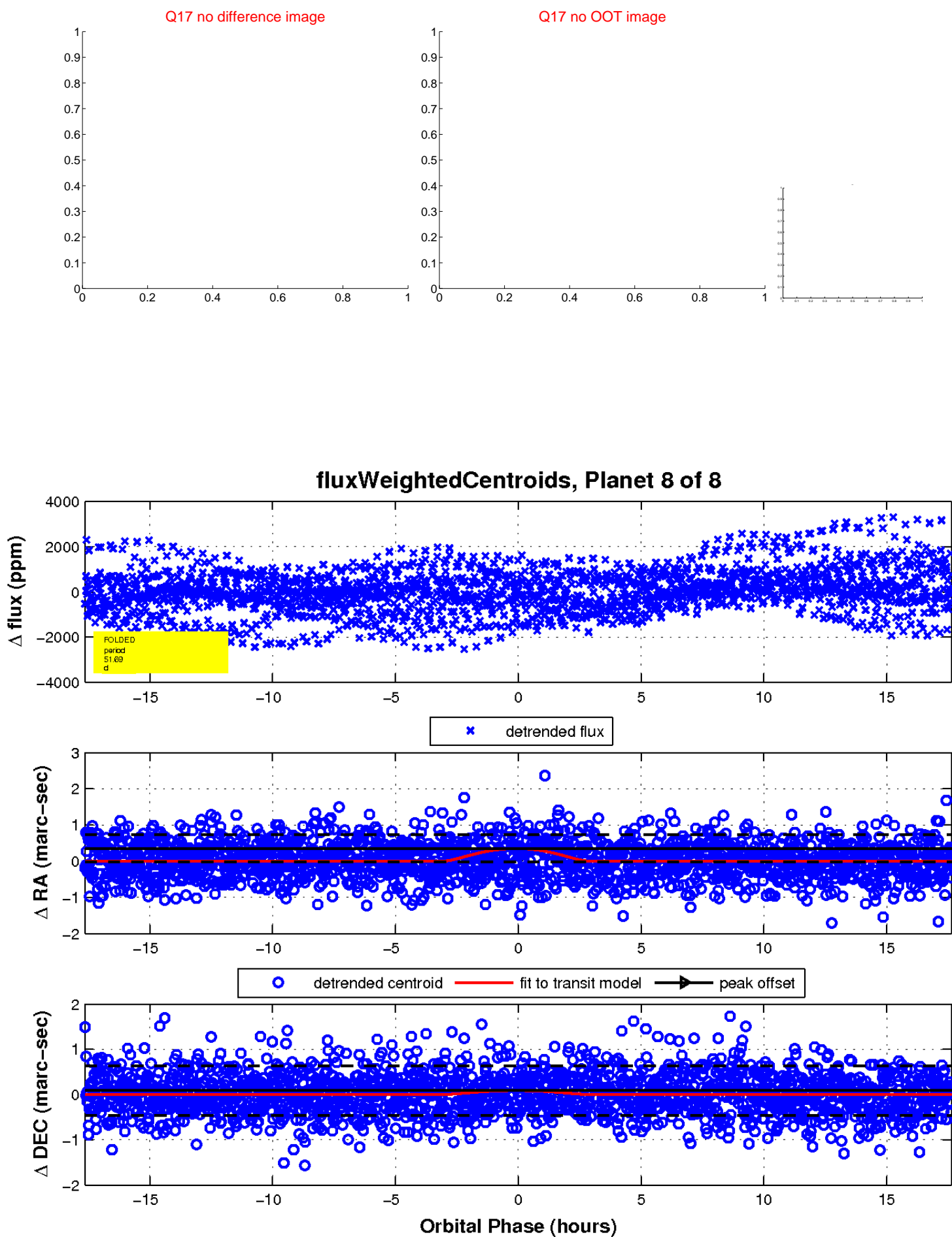
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

