

KIC 005179979

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})
005179979-01	OBS	No	0.553245	131.814022	114.8	2.413	15.3	16.8	1.60	7094	1.99	26974.48
005179979-02	OBS	No	0.904570	131.544527	215.7	3.000	13.3	-1.0	1.60	7094	2.38	14004.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005179979-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005179979-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

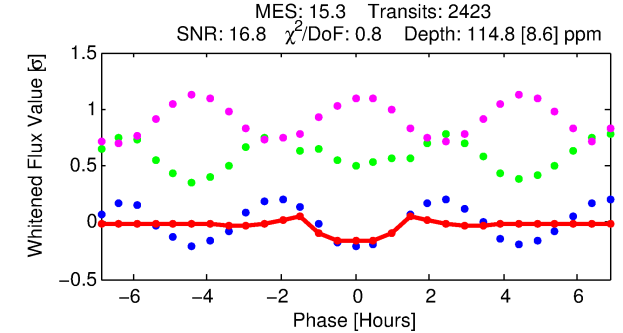
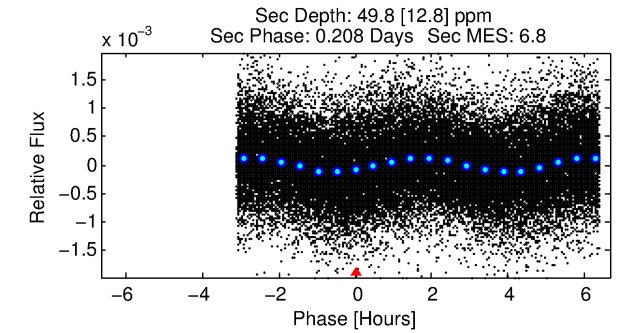
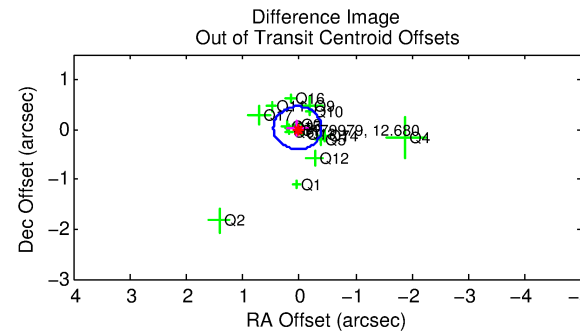
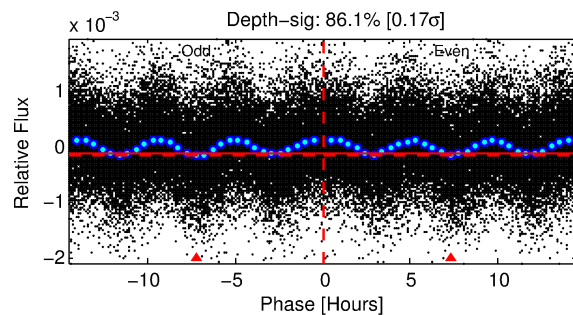
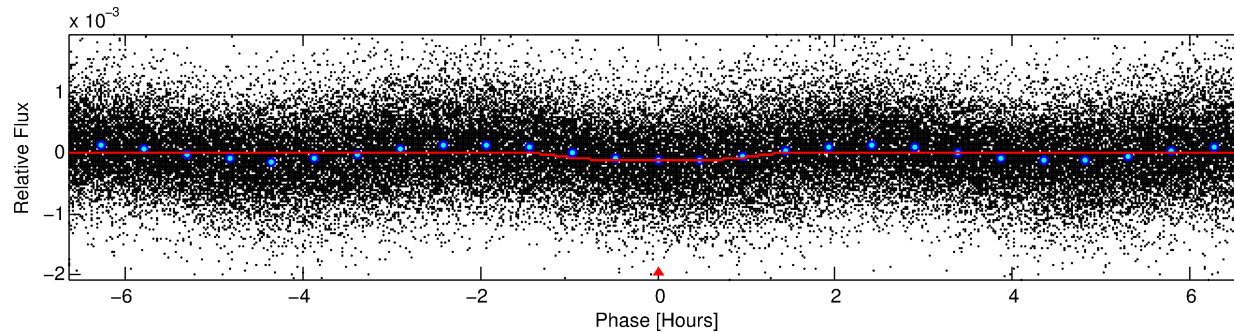
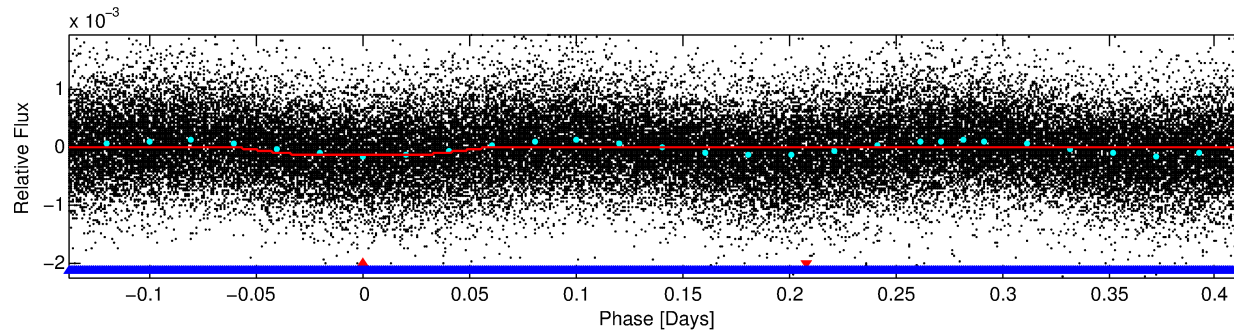
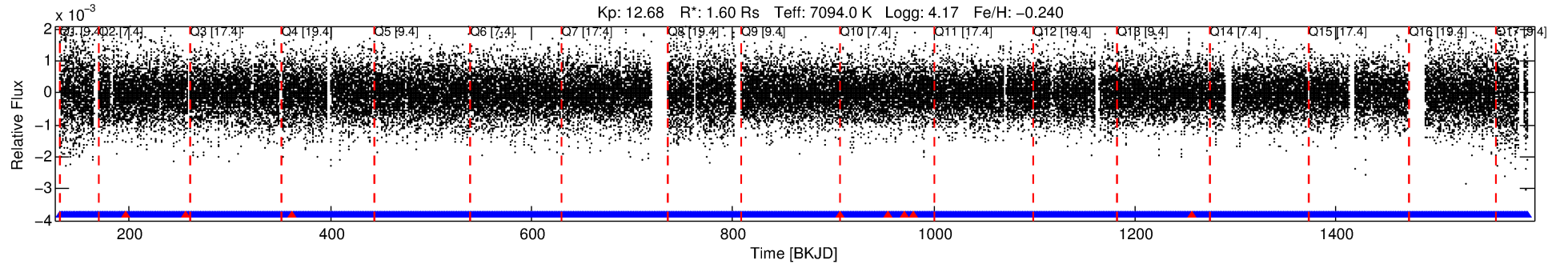
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005179979-01

No Significant Match Found

DV One-Page Summary

KIC: 5179979 Candidate: 1 of 2 Period: 0.553 d



DV Fit Results:

Period = 0.55325 [0.00001] d
Epoch = 131.8140 [0.0012] BKJD
Rp/R* = 0.0114 [0.0023]
a/R* = 1.24 [0.54]
b = 0.90 [0.27]
Seff = 26974.48 [10146.93]
Teq = 3268 [307] K
Rp = 1.99 [0.72] Re
a = 0.0147 [0.0036] AU
Ag = 1.49 [0.88] [0.56 σ]
Teffp = 5585 [700] K [3.03 σ]

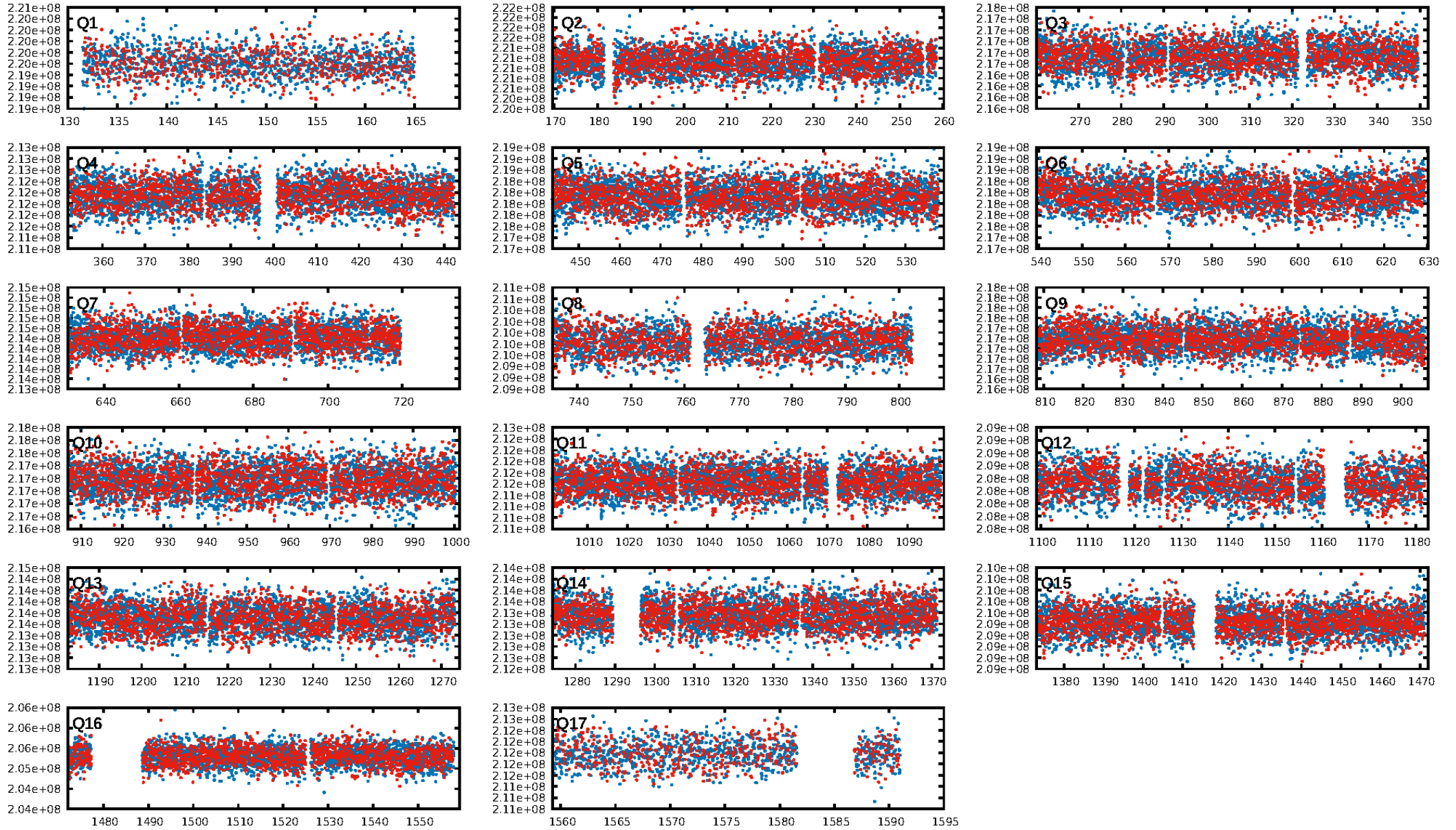
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 97.1% [2.19 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2305/2313]
GhostDiagnostic-chr: 1.495
Centroid-sig: 69.1%
Centroid-so: 0.157 arcsec [1.66 σ]
OotOffset-rm: 0.041 arcsec [0.28 σ]
KicOffset-rm: 0.035 arcsec [0.22 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

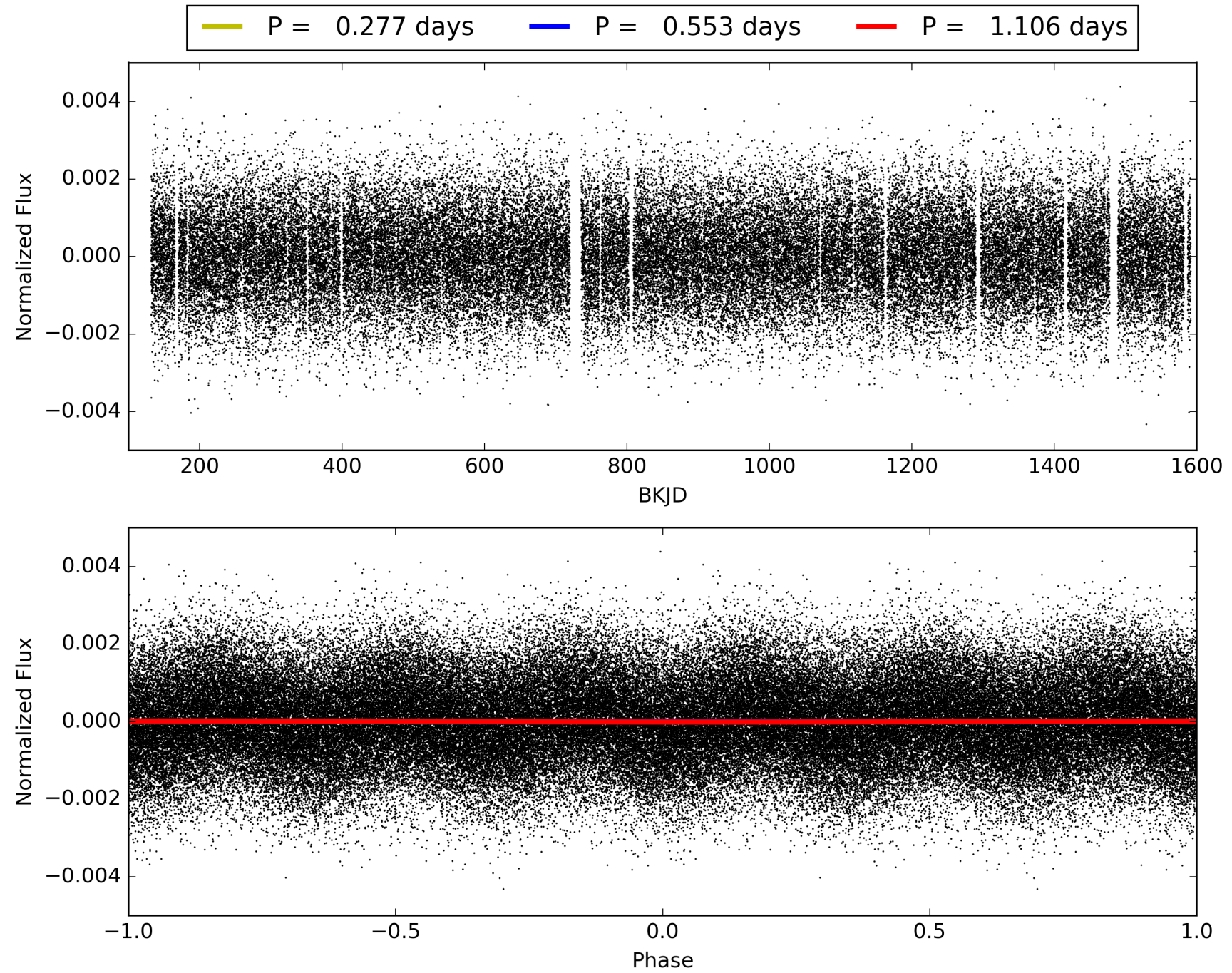
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 00:46:12 Z

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

TCE 005179979-01, PDC Light Curves

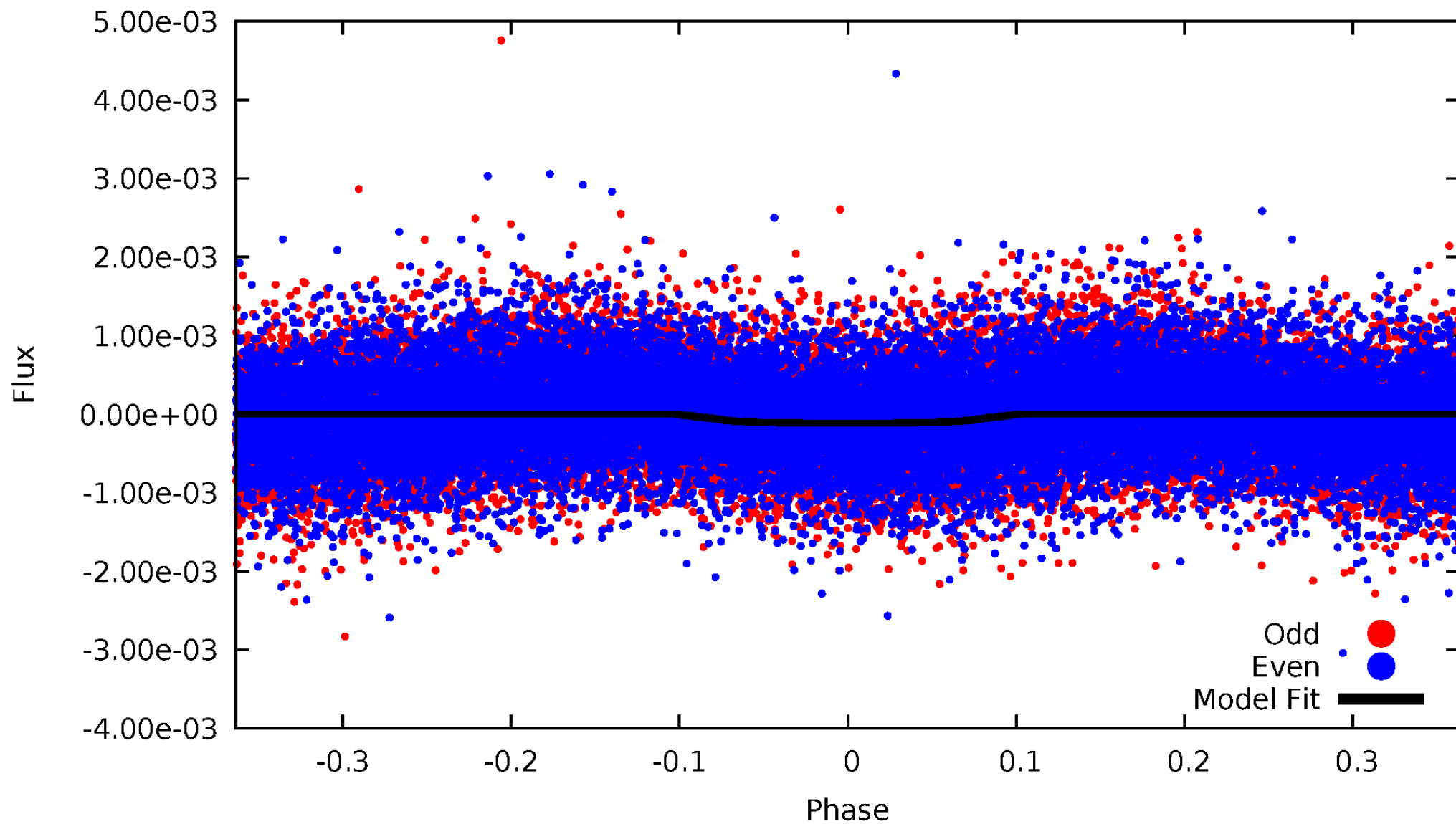


TCE 005179979-01



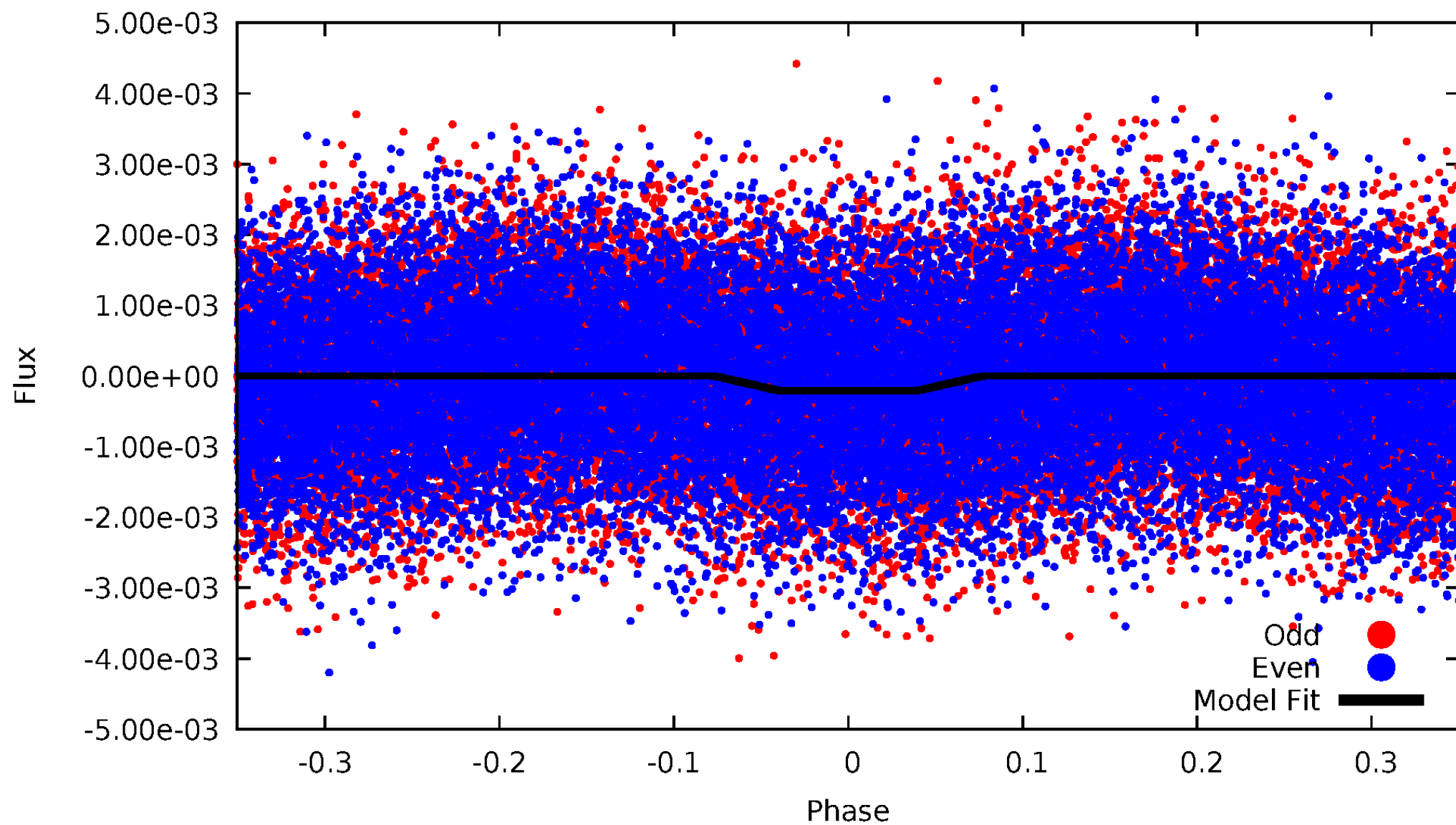
DV Odd/Even

TCE 005179979-01



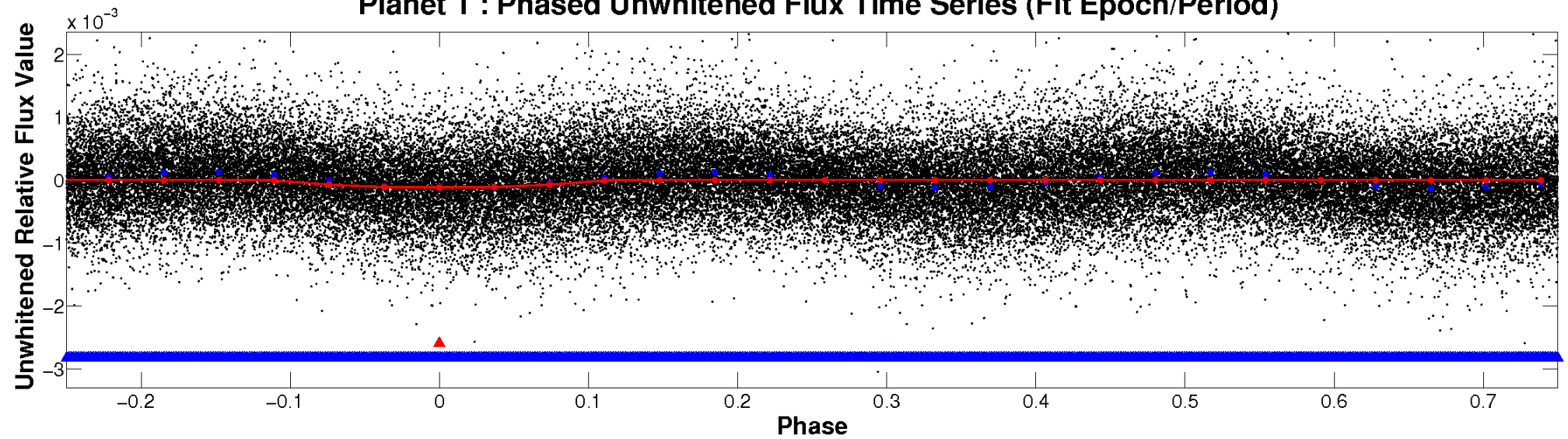
ALT Odd/Even

TCE 005179979-01

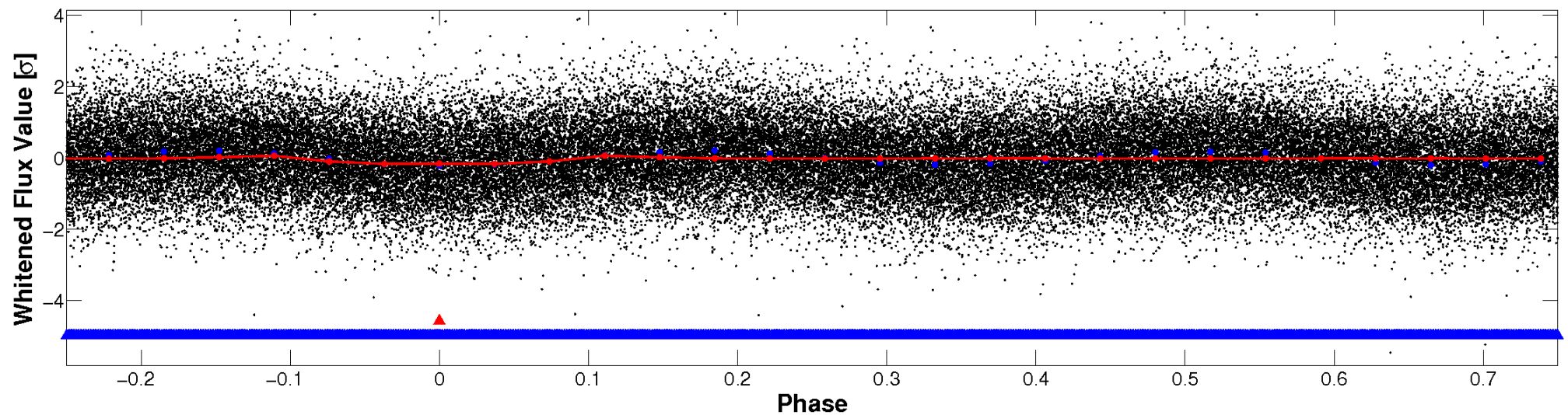


Non-Whitened Vs. Whitened Light Curve

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

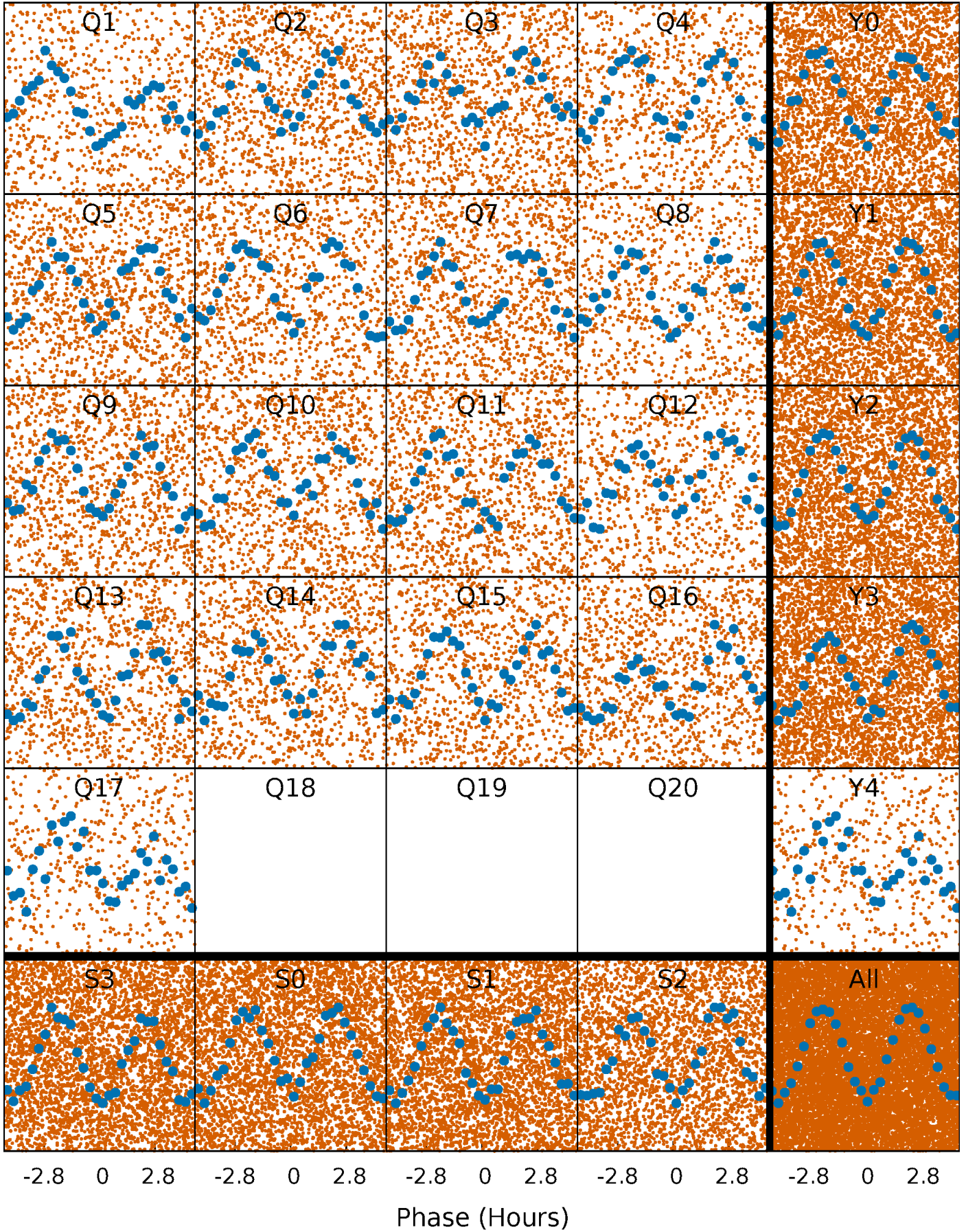


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



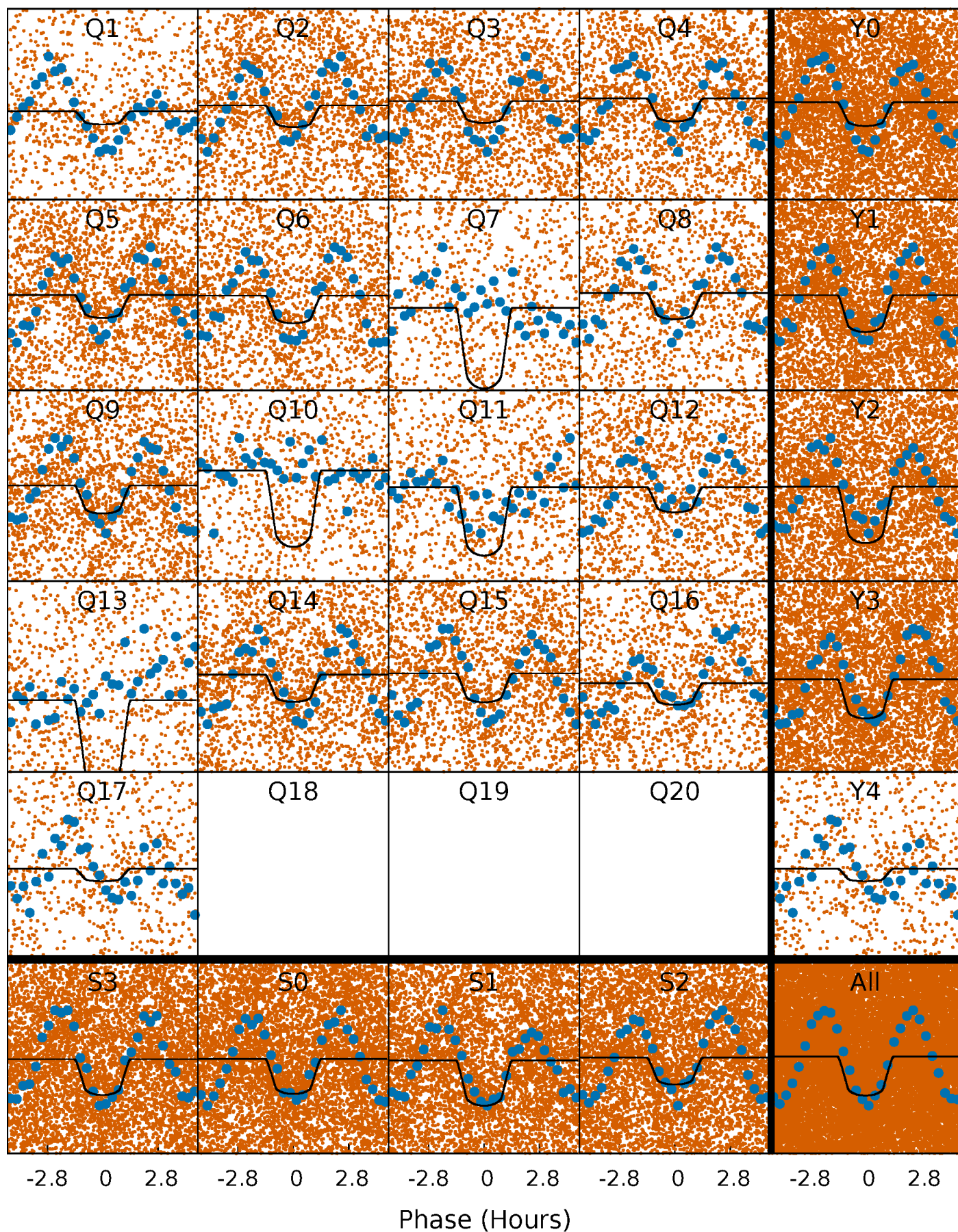
PDC Quarter-Phased Transit Curves

TCE 005179979-01 P= 0.553245 Days $T_0=131.814022$ (BKJD)



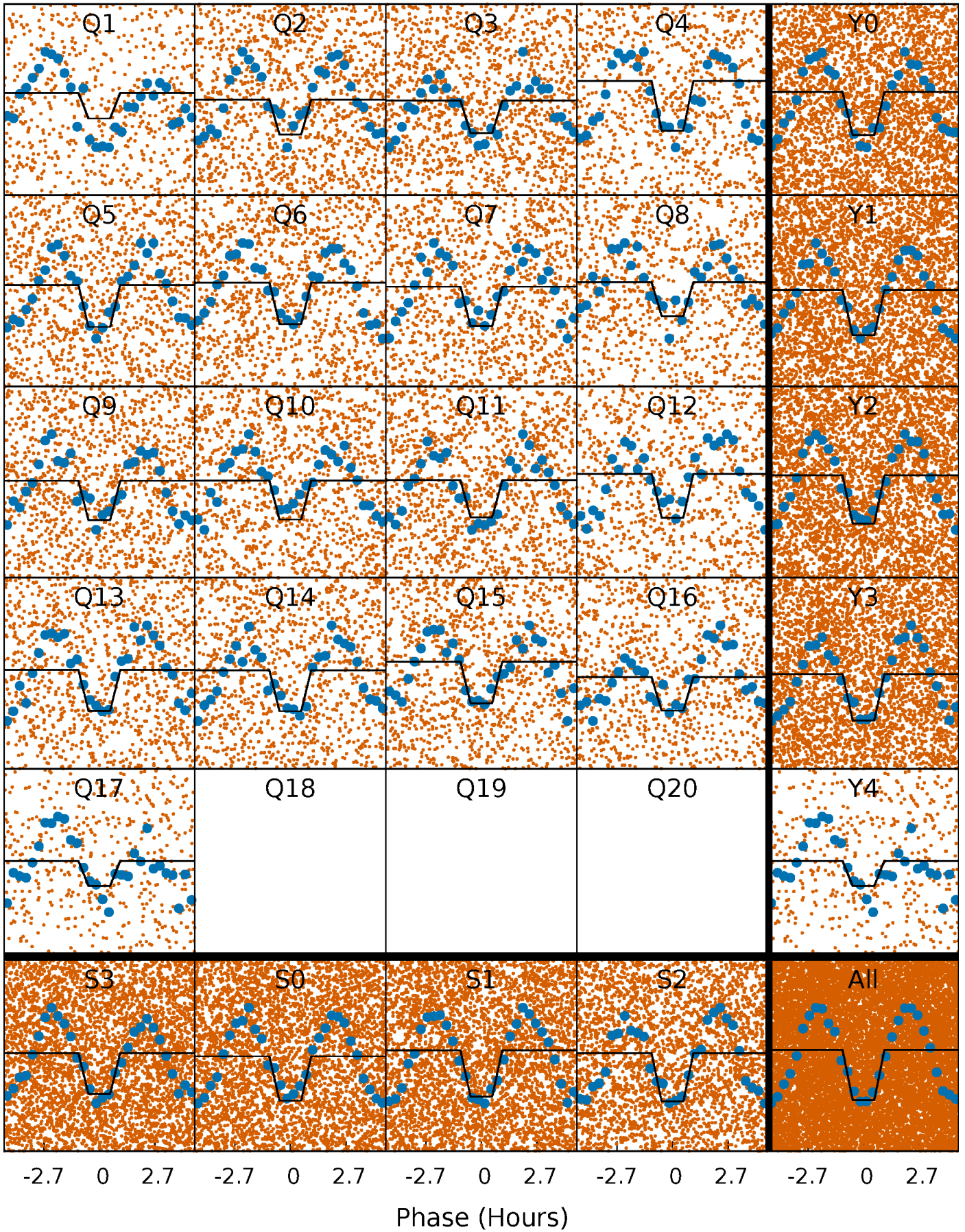
DV Quarter-Phased Transit Curves

TCE 005179979-01 P= 0.553245 Days $T_0=131.814022$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

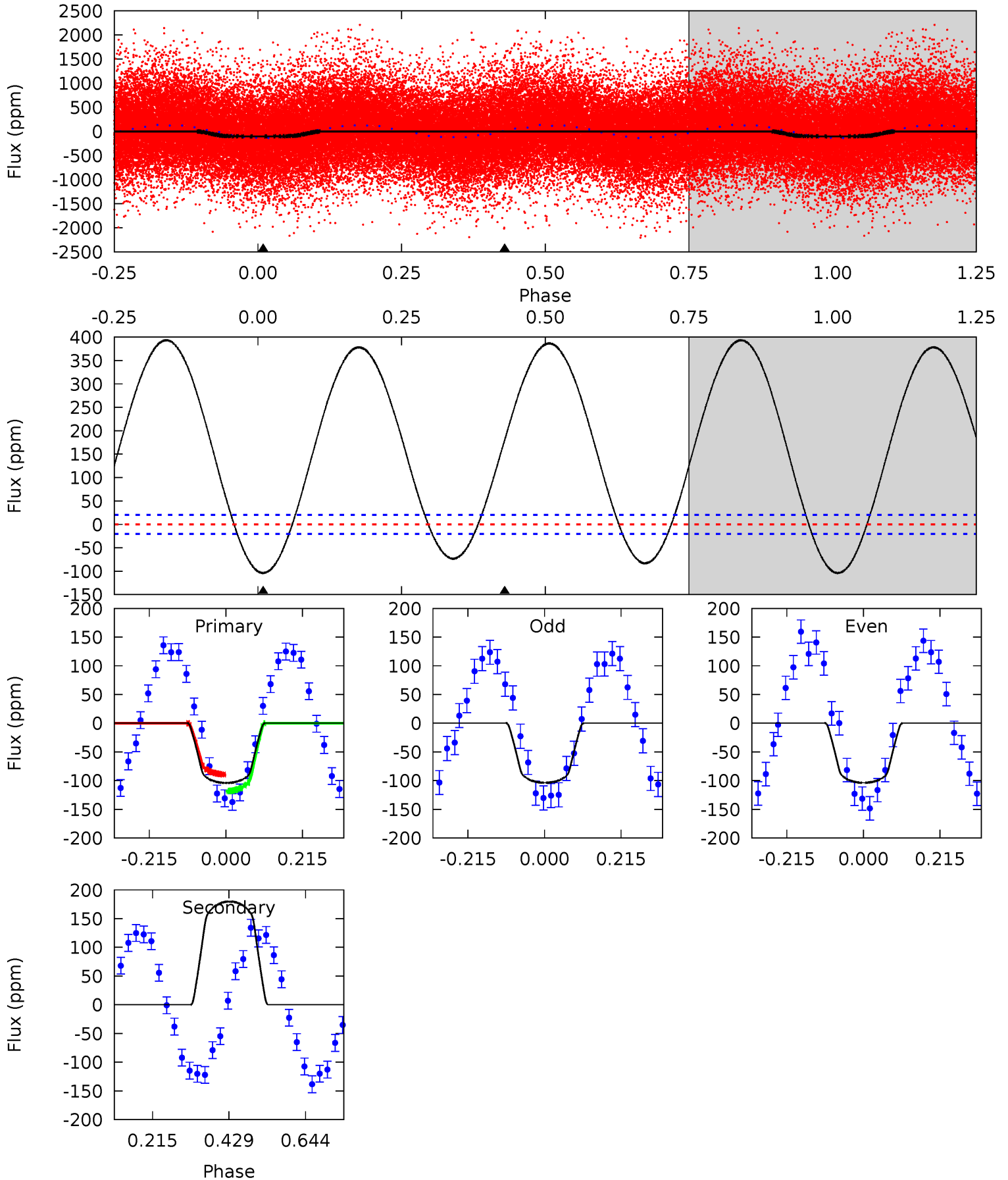
TCE 005179979-01 P= 0.553253 Days $T_0=131.809040$ (BKJD)



DV Model-Shift Uniqueness Test

005179979-01, P = 0.553245 Days, E = 131.260777 Days

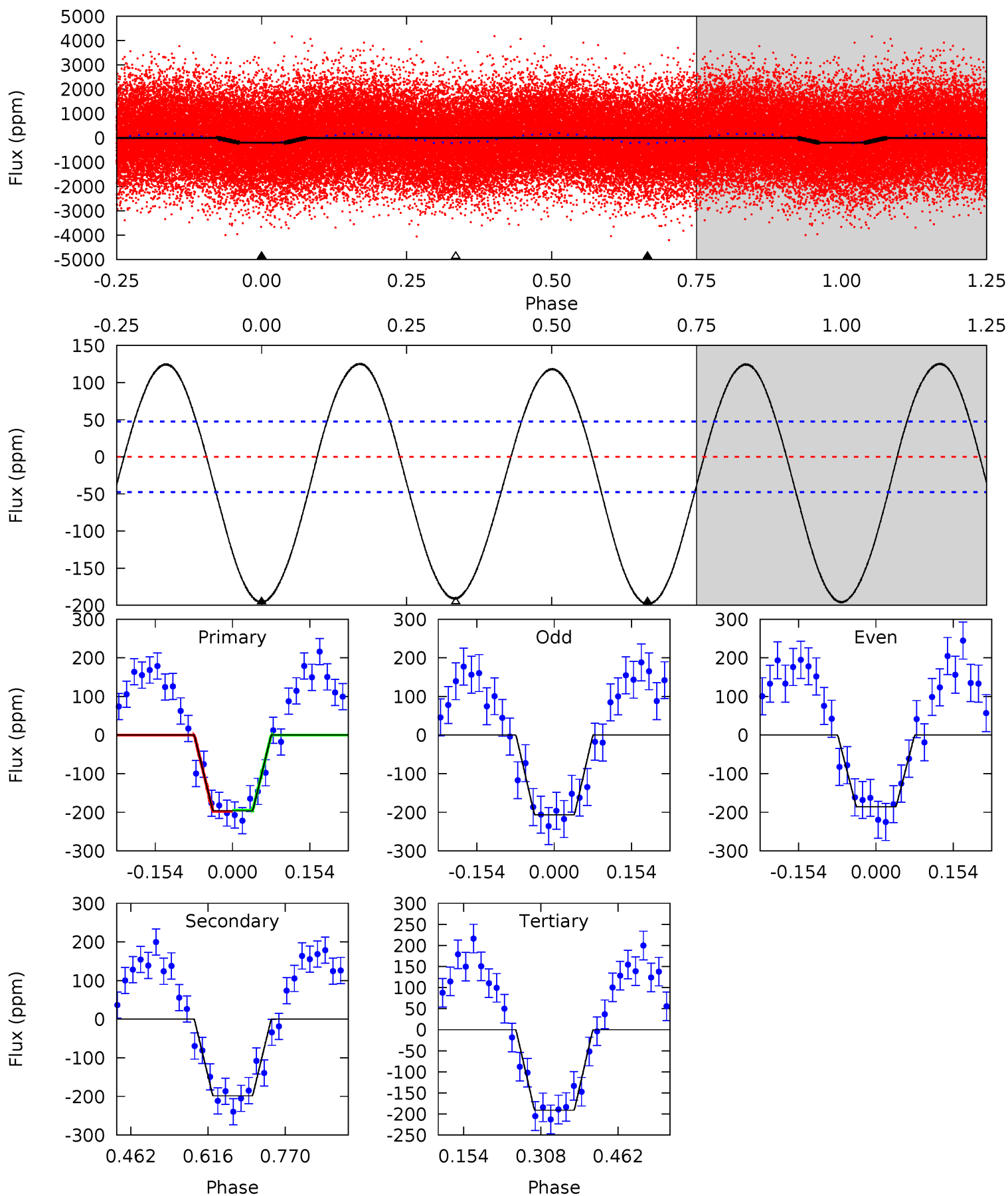
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.4	-38.7	0	0	4.40	1.24	27.4	22.4	22.4	-38.7	-38.7	0.00	1.01	0.79	3.26



Alt Model-Shift Uniqueness Test

005179979-01, P = 0.553253 Days, E = 131.255787 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.5	18.7	18.0	0	4.47	1.43	10.9	0.48	18.5	0.69	18.7	1.00	1.05	0.39	0.13



Stellar Parameters For KIC 005179979

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7094^{+174}_{-274}	$4.168^{+0.148}_{-0.181}$	$-0.240^{+0.250}_{-0.350}$	$1.598^{+0.482}_{-0.362}$	$1.376^{+0.214}_{-0.214}$	$0.475^{+0.359}_{-0.234}$
	+2%/-4%	+4%/-4%	+104%/-146%	+30%/-23%	+16%/-16%	+76%/-49%
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 005179979-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	180 ± 5	$2.02^{+0.54}_{-0.48}$	4564^{+363}_{-283}	-7877^{+831}_{-1366}	$-5.192^{+1.948}_{-3.686}$
Alt.	-198 ± 11	$2.56^{+0.65}_{-0.53}$	4586^{+358}_{-317}	6753^{+787}_{-560}	$3.543^{+2.039}_{-1.198}$

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 $A_{obs} \gg 1.0$

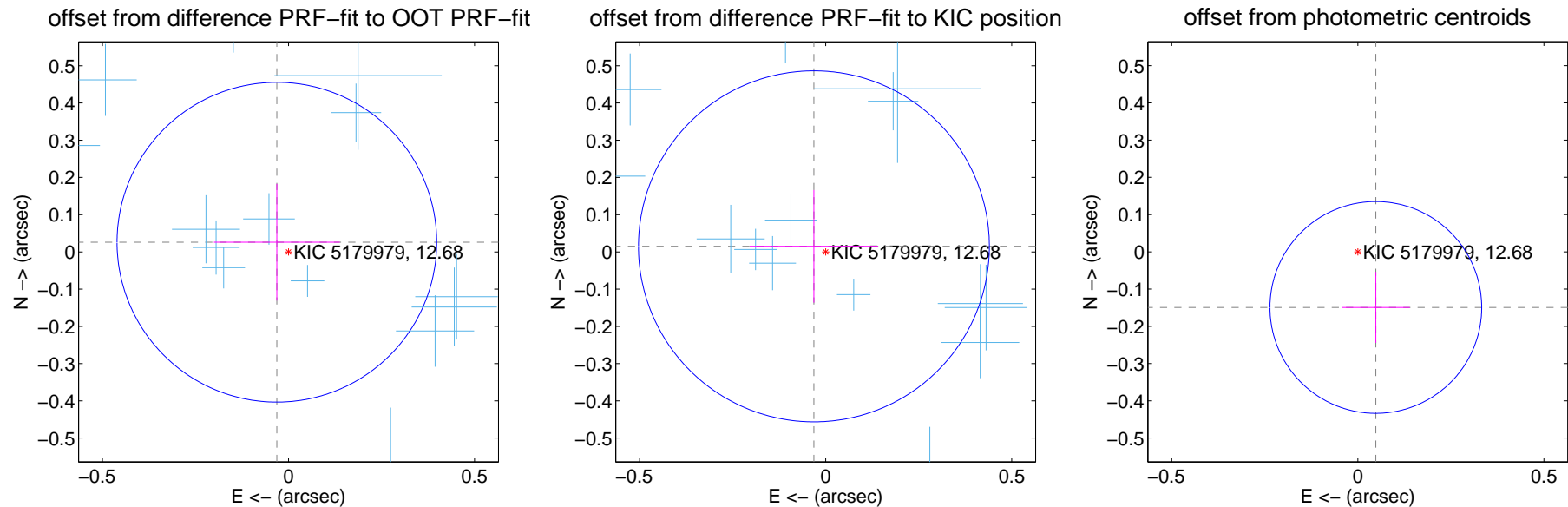
DV Centroid Data

Supplemental centroid analysis for 005179979-01. Kepler magnitude: 12.68. Transit SNR 16.75

There are 16 quarters with good PRF difference image offsets

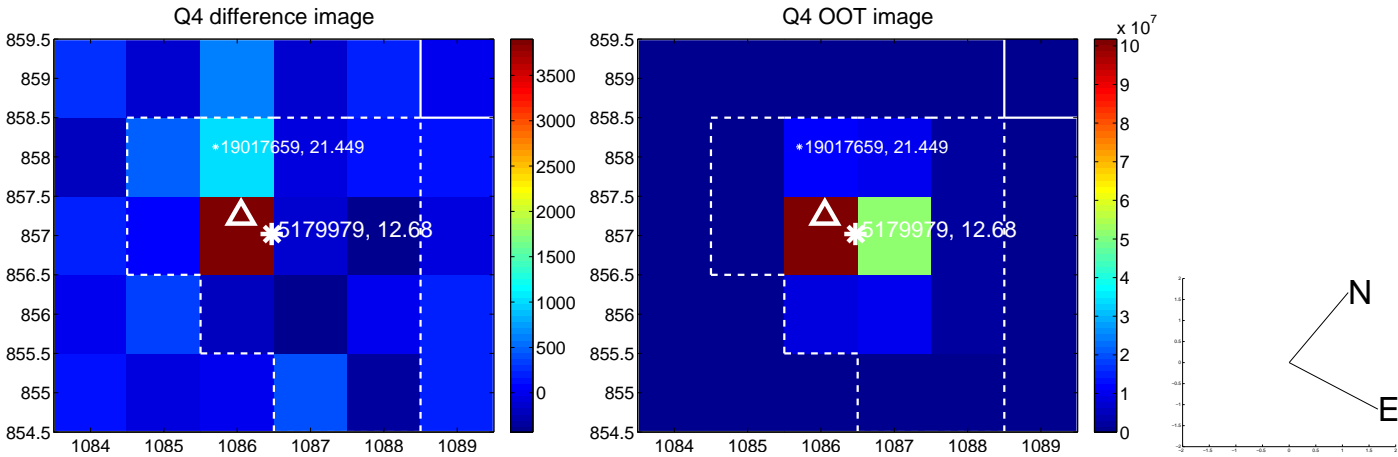
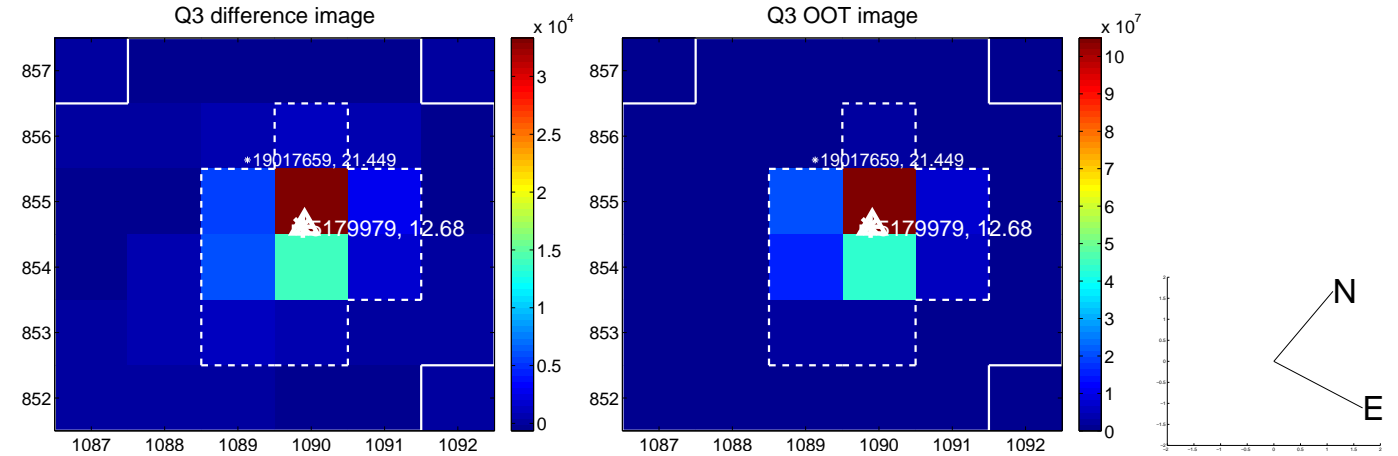
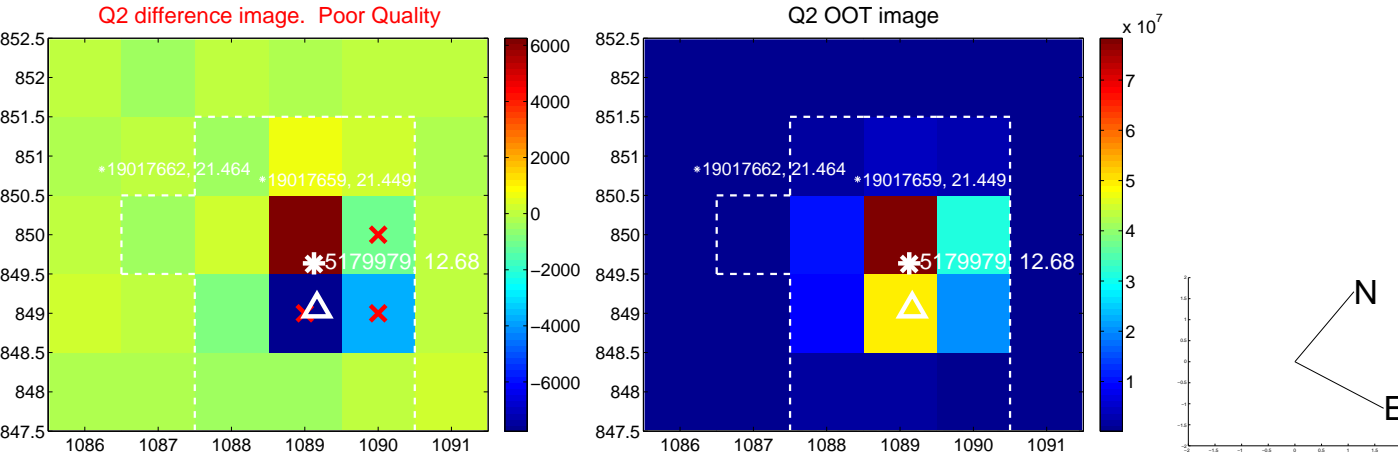
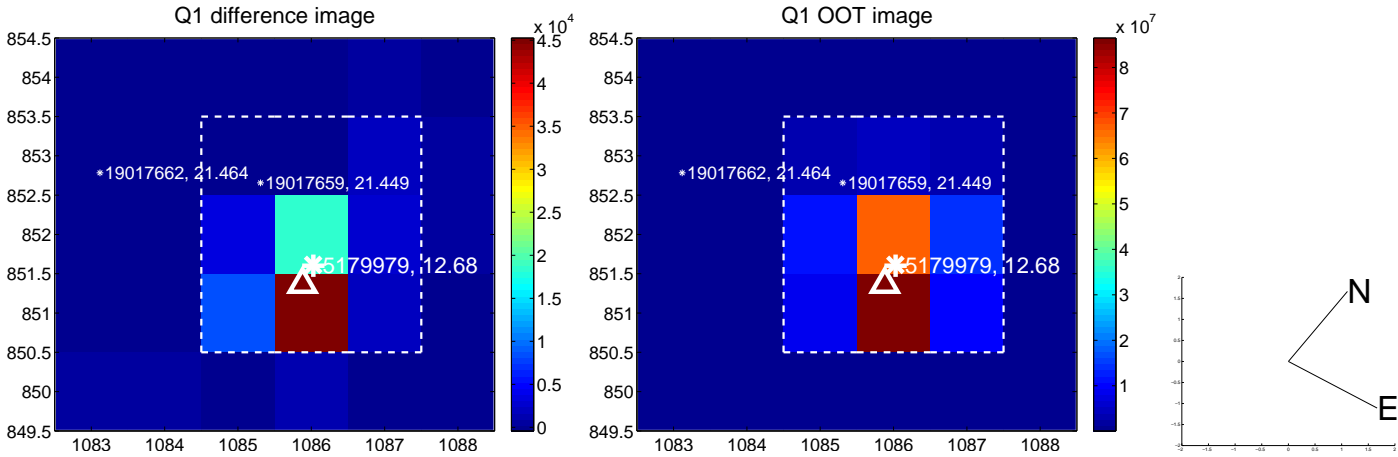
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.041 ± 0.143	0.28	0.031 ± 0.169	0.026 ± 0.157
PRF-fit source offset from KIC position	0.035 ± 0.157	0.22	0.032 ± 0.173	0.015 ± 0.151
photometric centroid source offset	0.16 ± 0.09	1.66	-0.05 ± 0.09	-0.15 ± 0.10

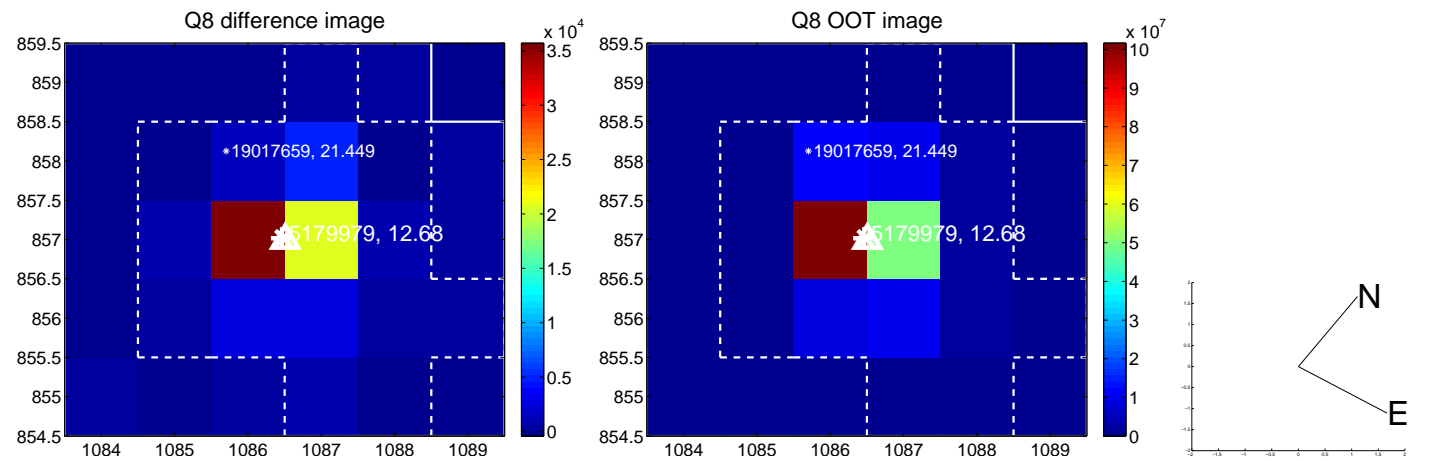
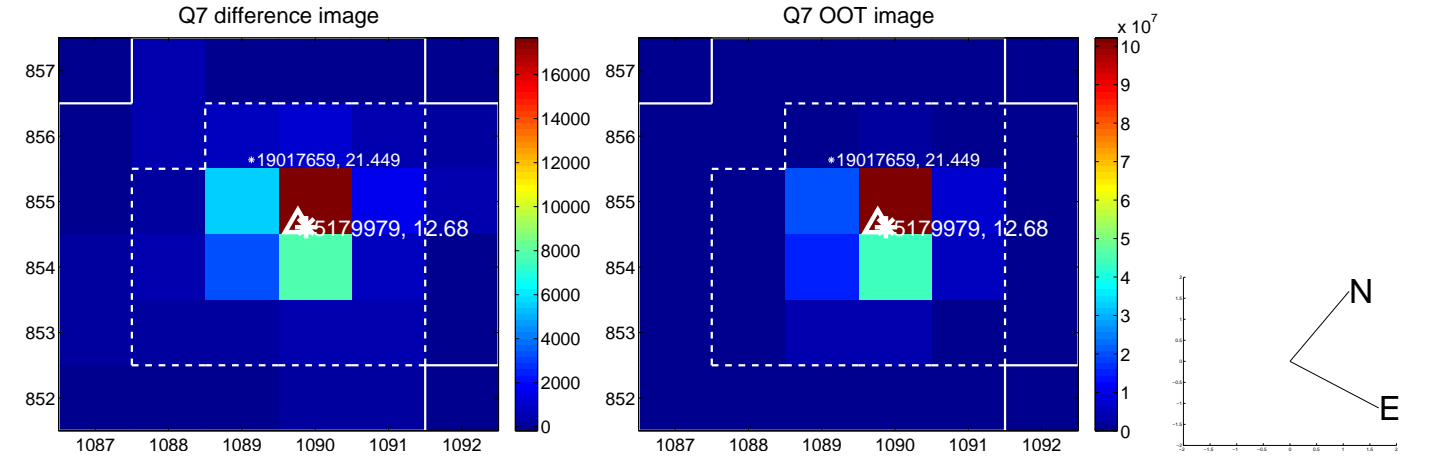
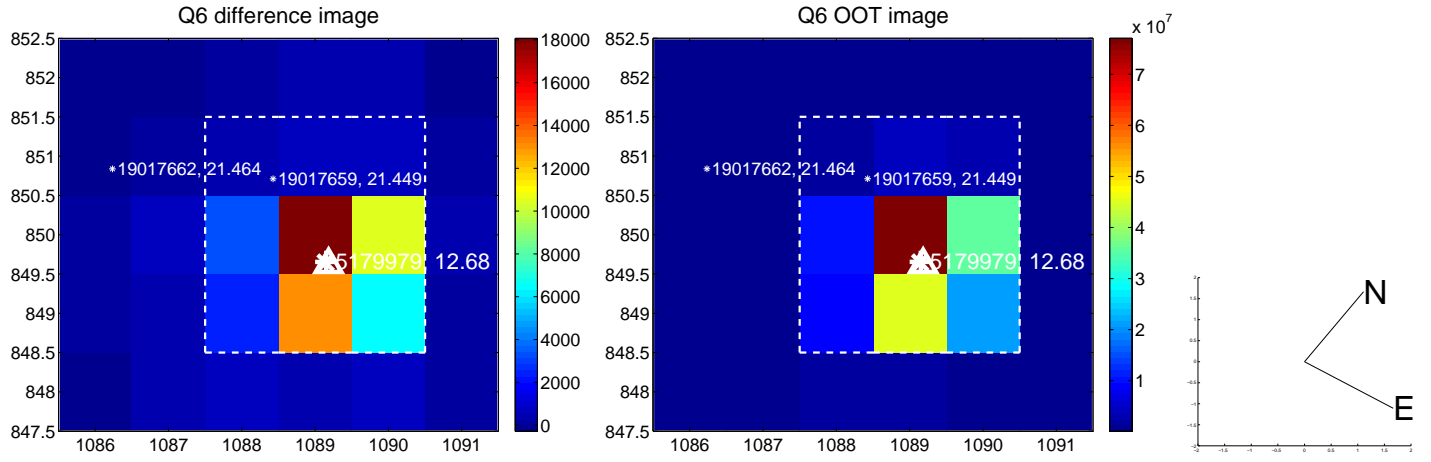
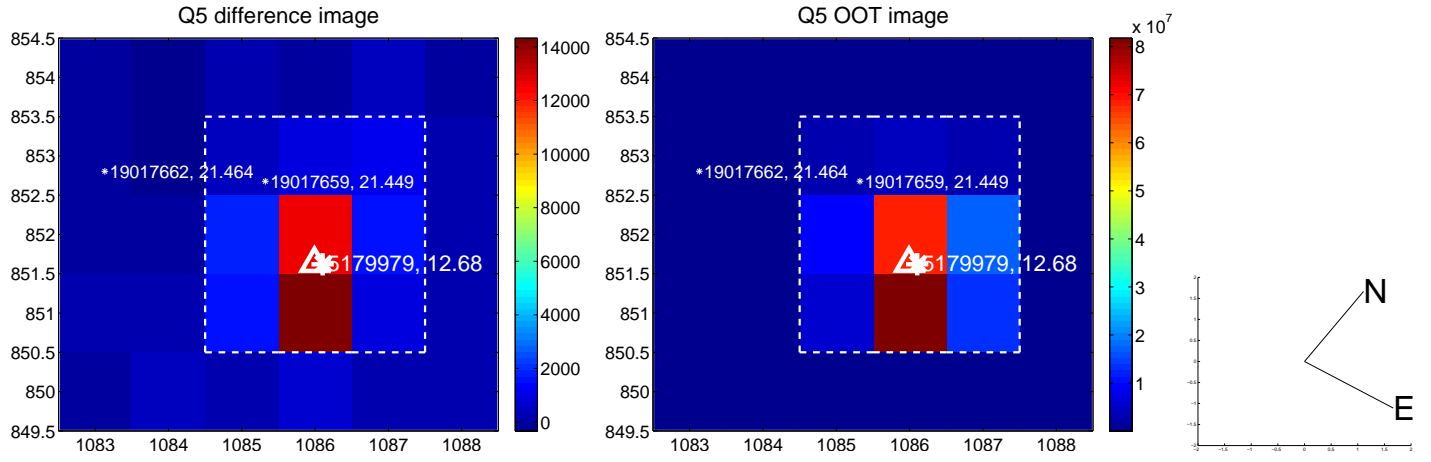


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

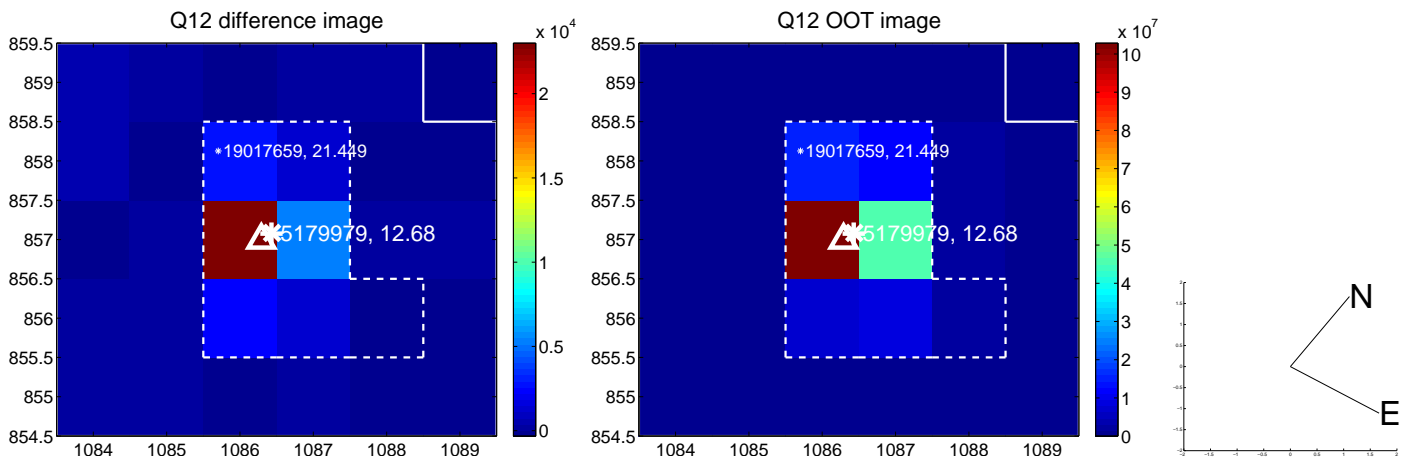
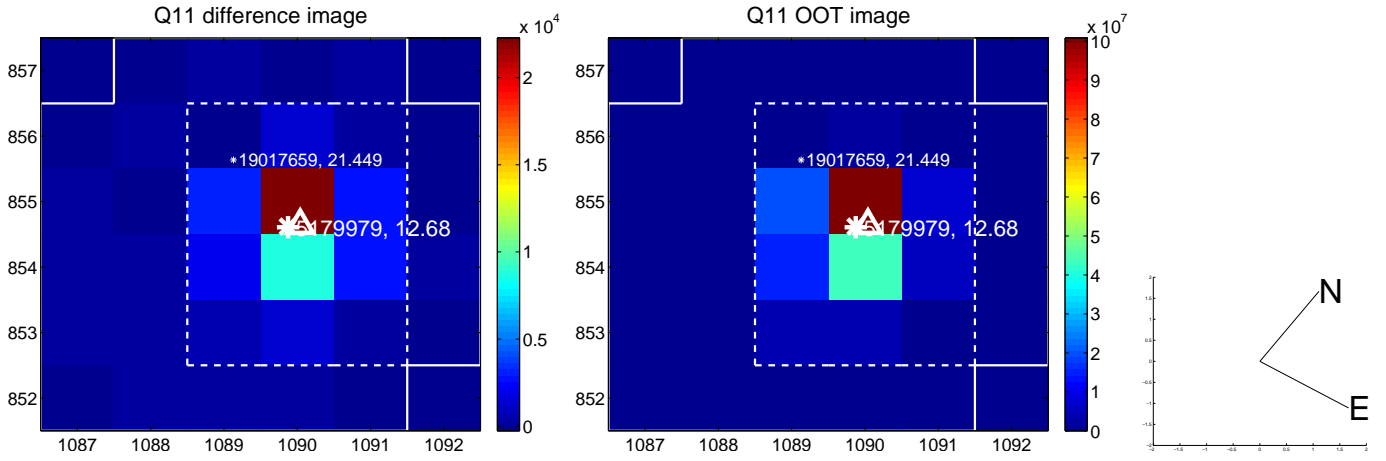
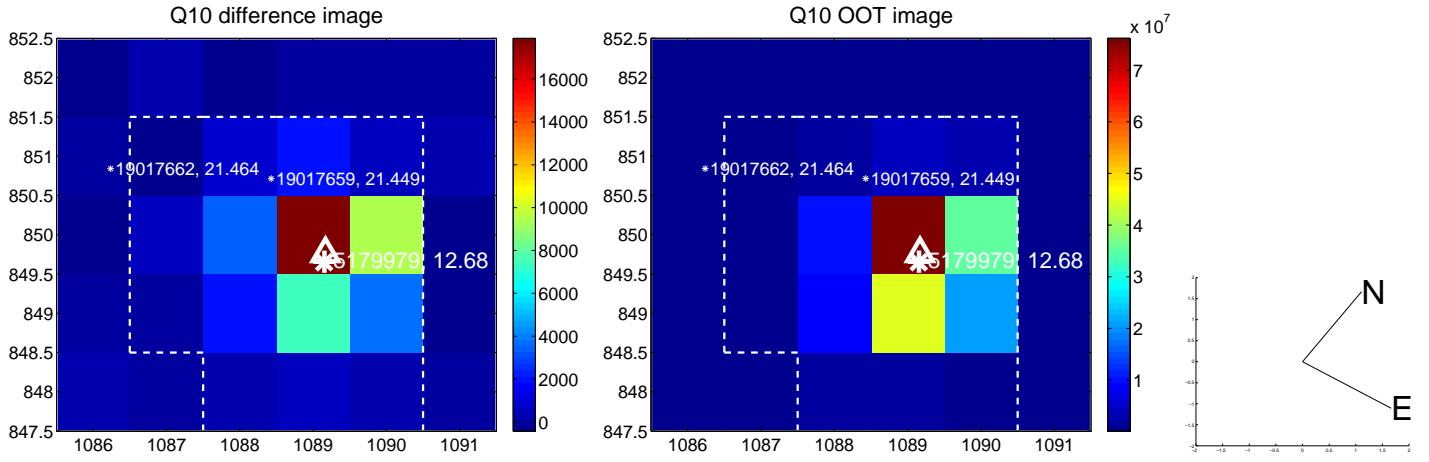
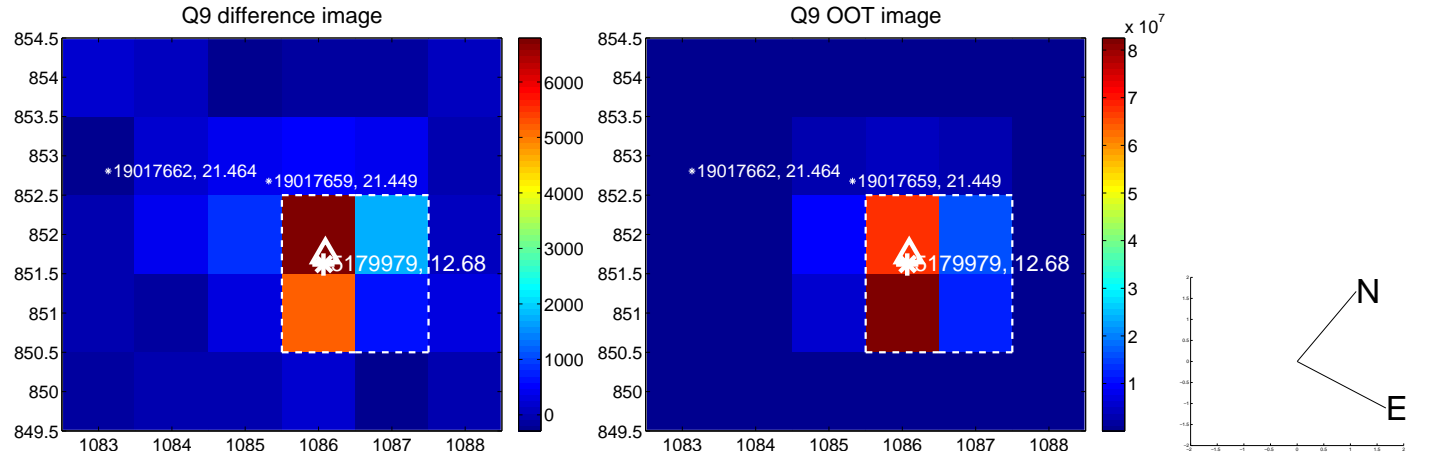
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



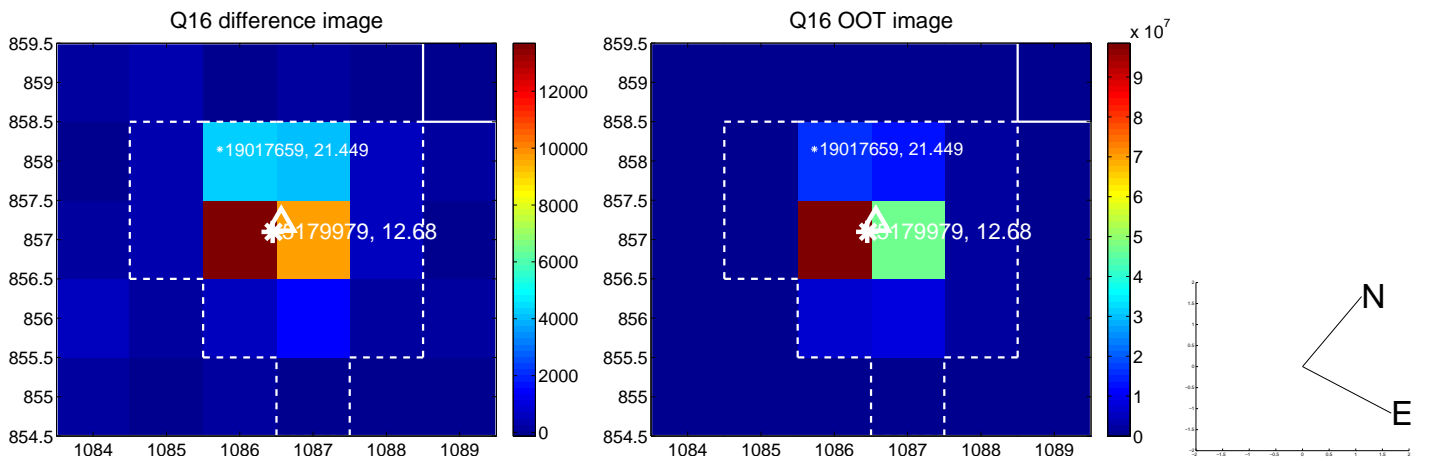
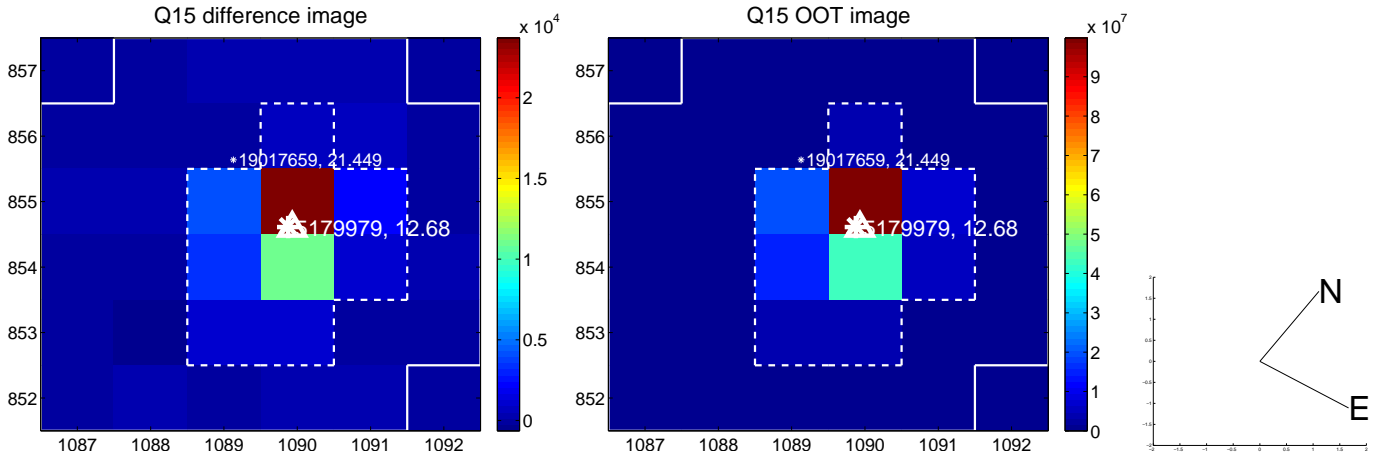
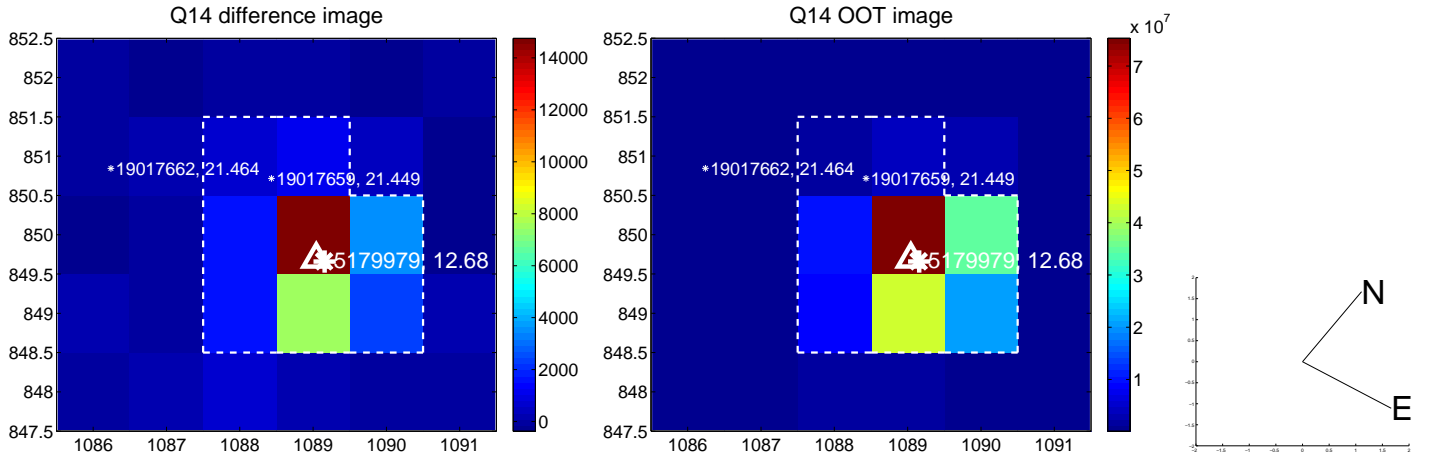
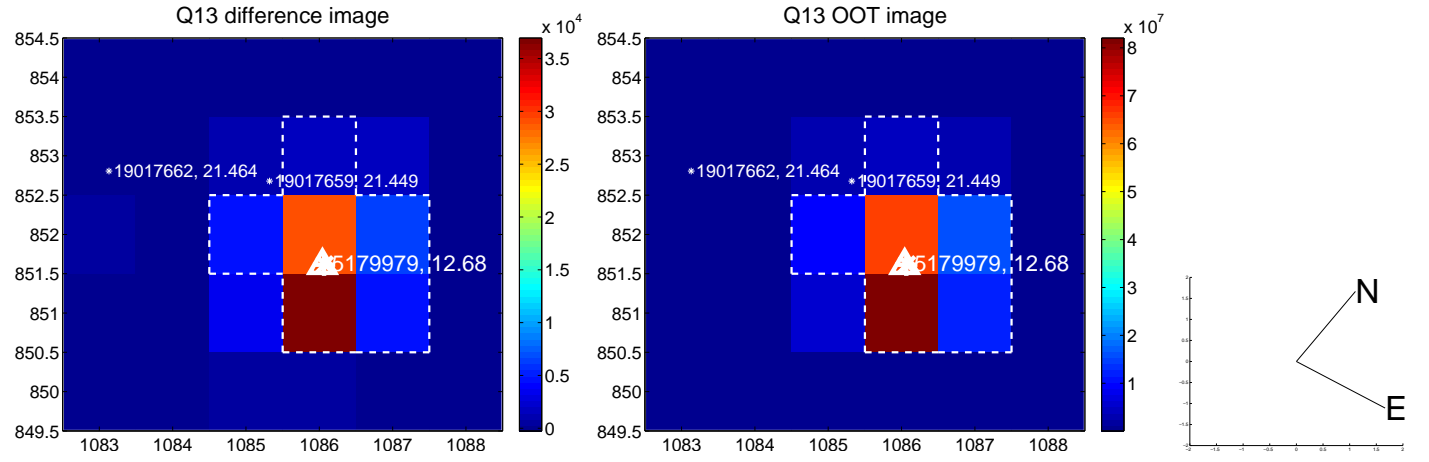
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



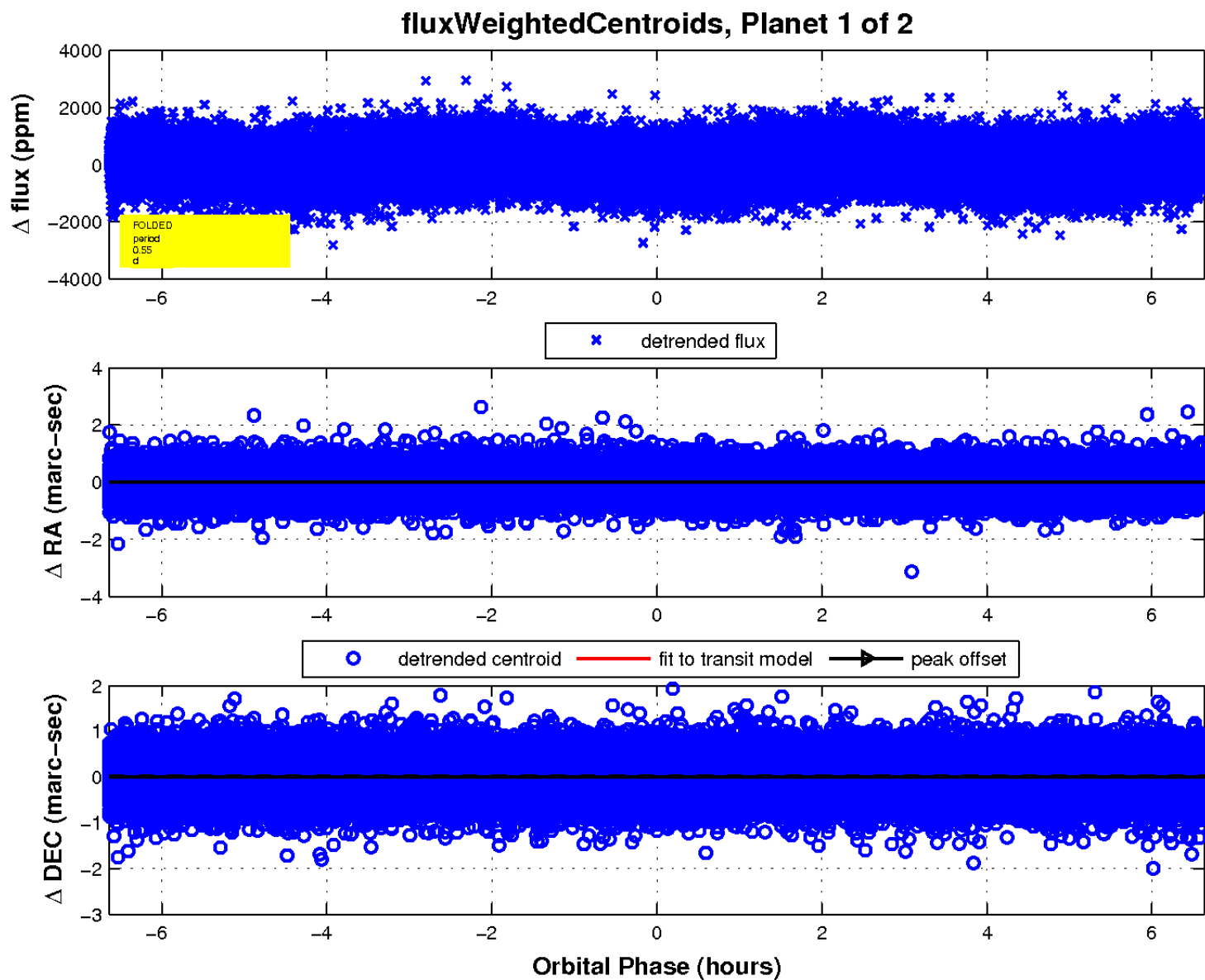
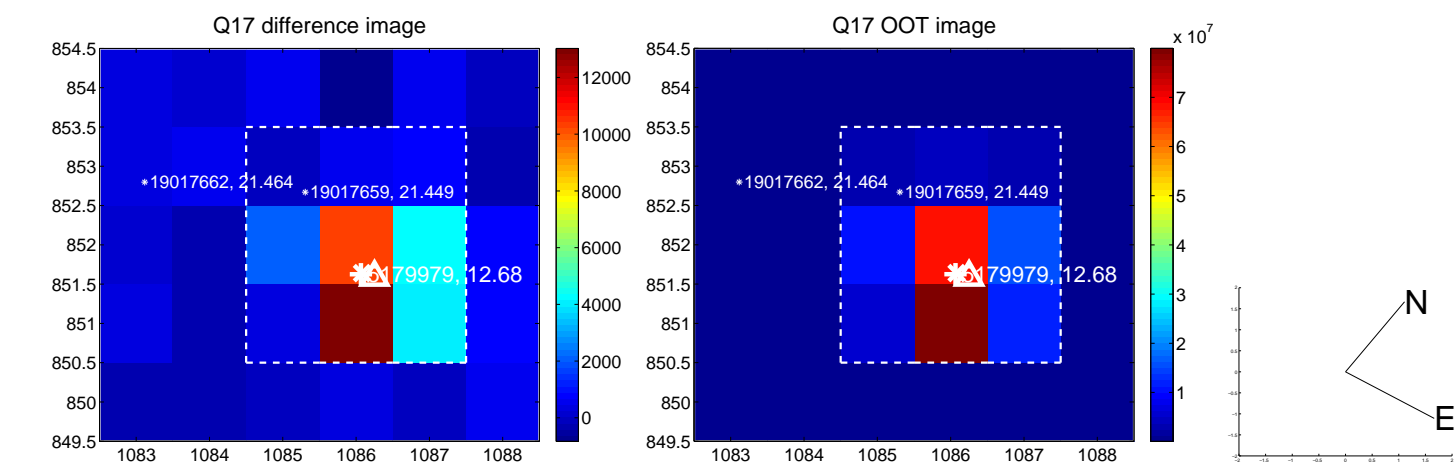
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

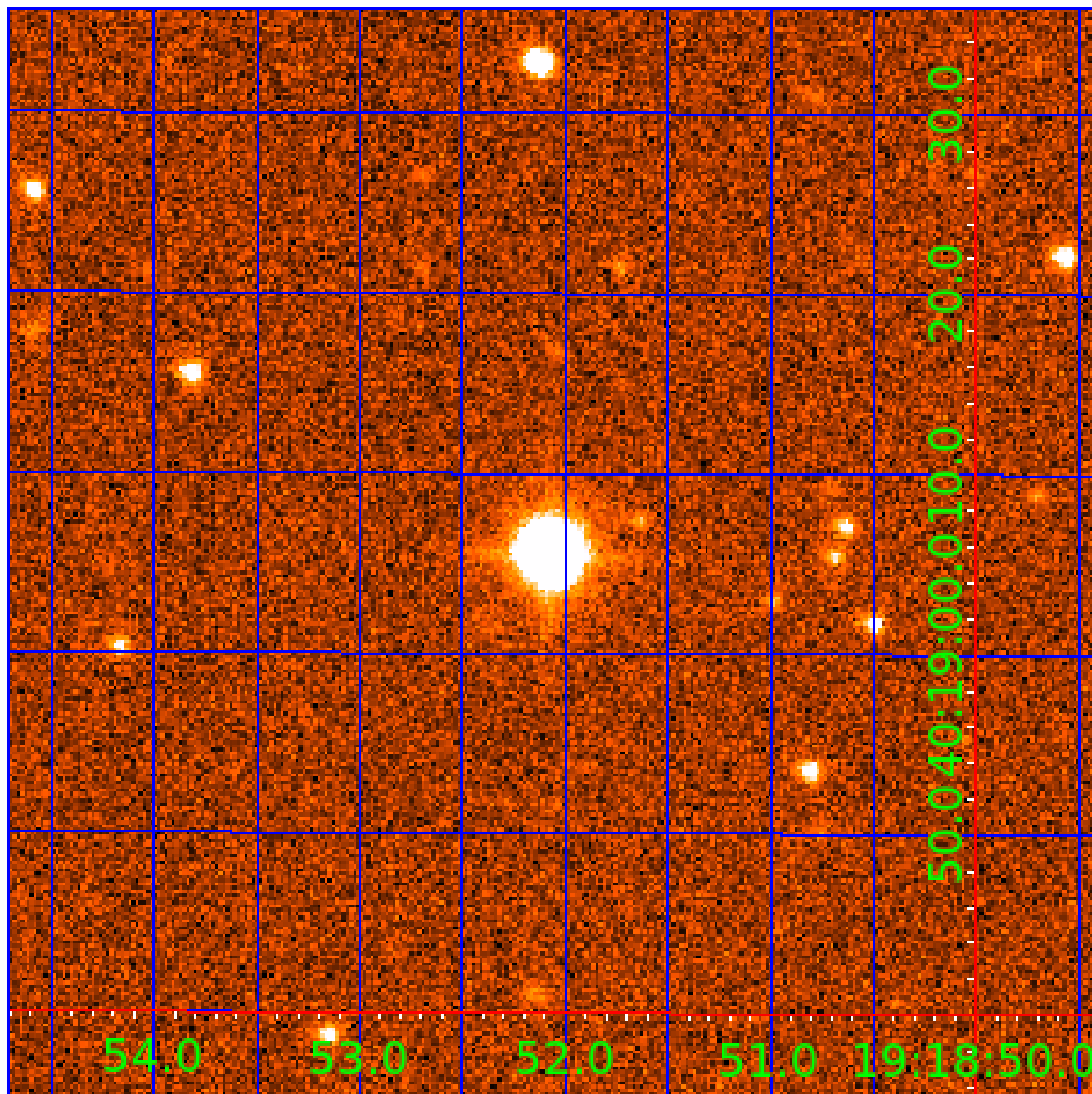


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005179979

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})
005179979-01	OBS	No	0.553245	131.814022	114.8	2.413	15.3	16.8	1.60	7094	1.99	26974.48
005179979-02	OBS	No	0.904570	131.544527	215.7	3.000	13.3	-1.0	1.60	7094	2.38	14004.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005179979-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005179979-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

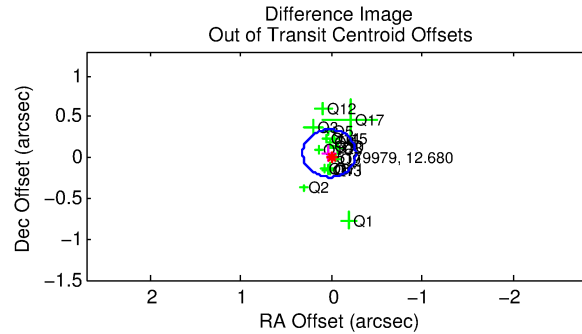
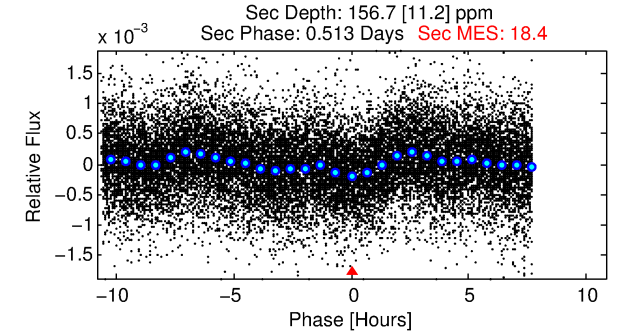
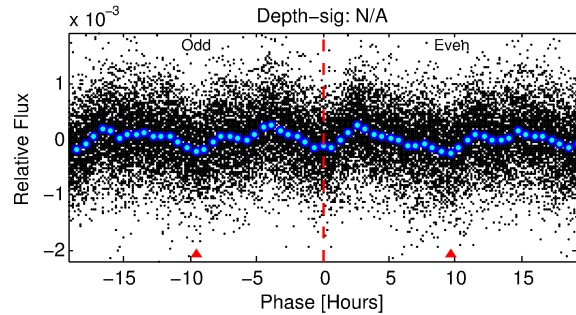
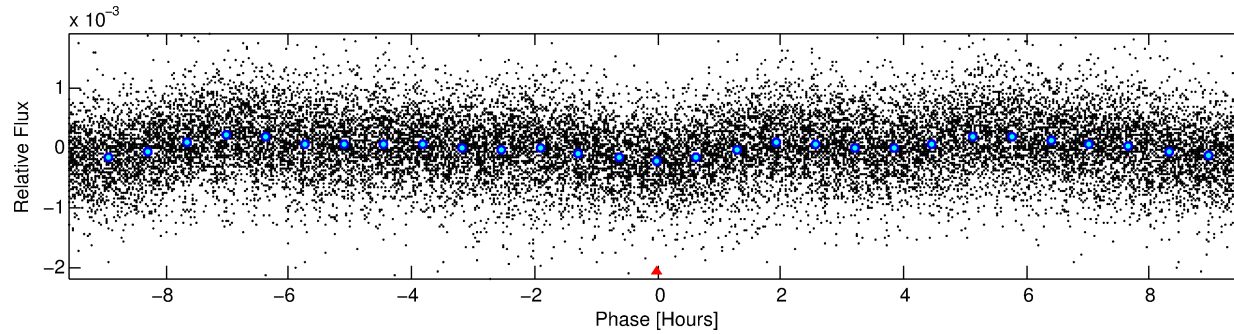
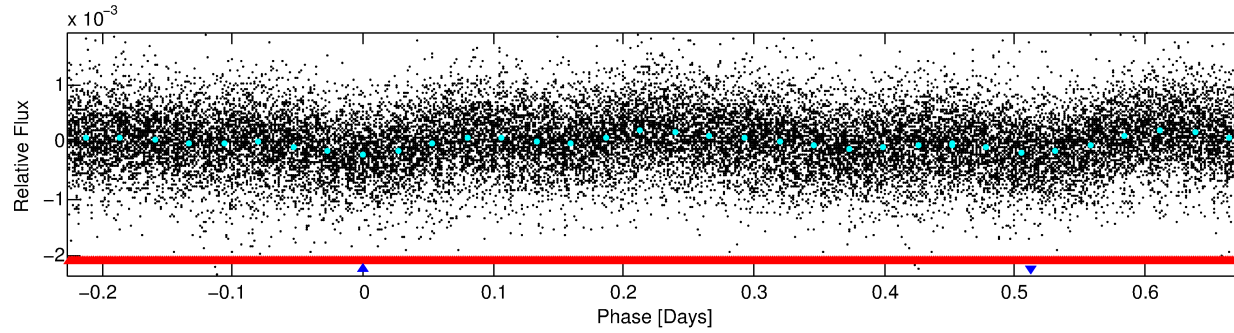
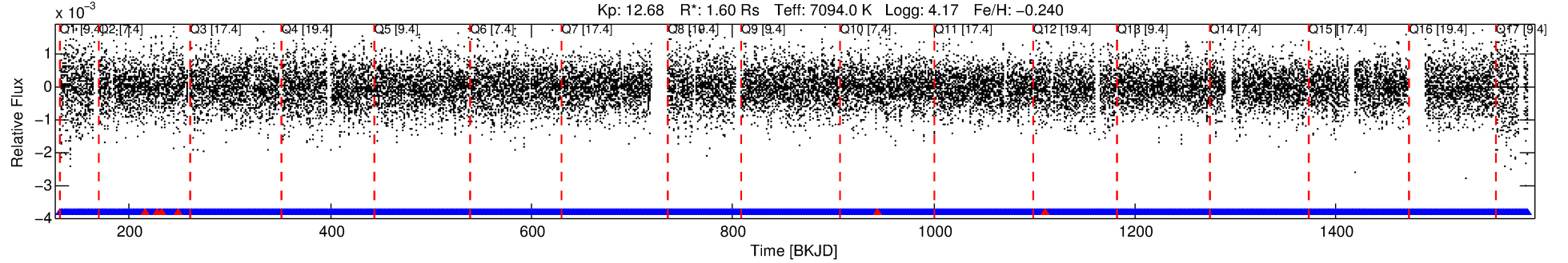
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005179979-02

No Significant Match Found

DV One-Page Summary

KIC: 5179979 Candidate: 2 of 2 Period: 0.905 d



TPS TCE Results:

Period = 0.90457 d
Epoch = 131.5445 BKJD

DV fit results are unavailable

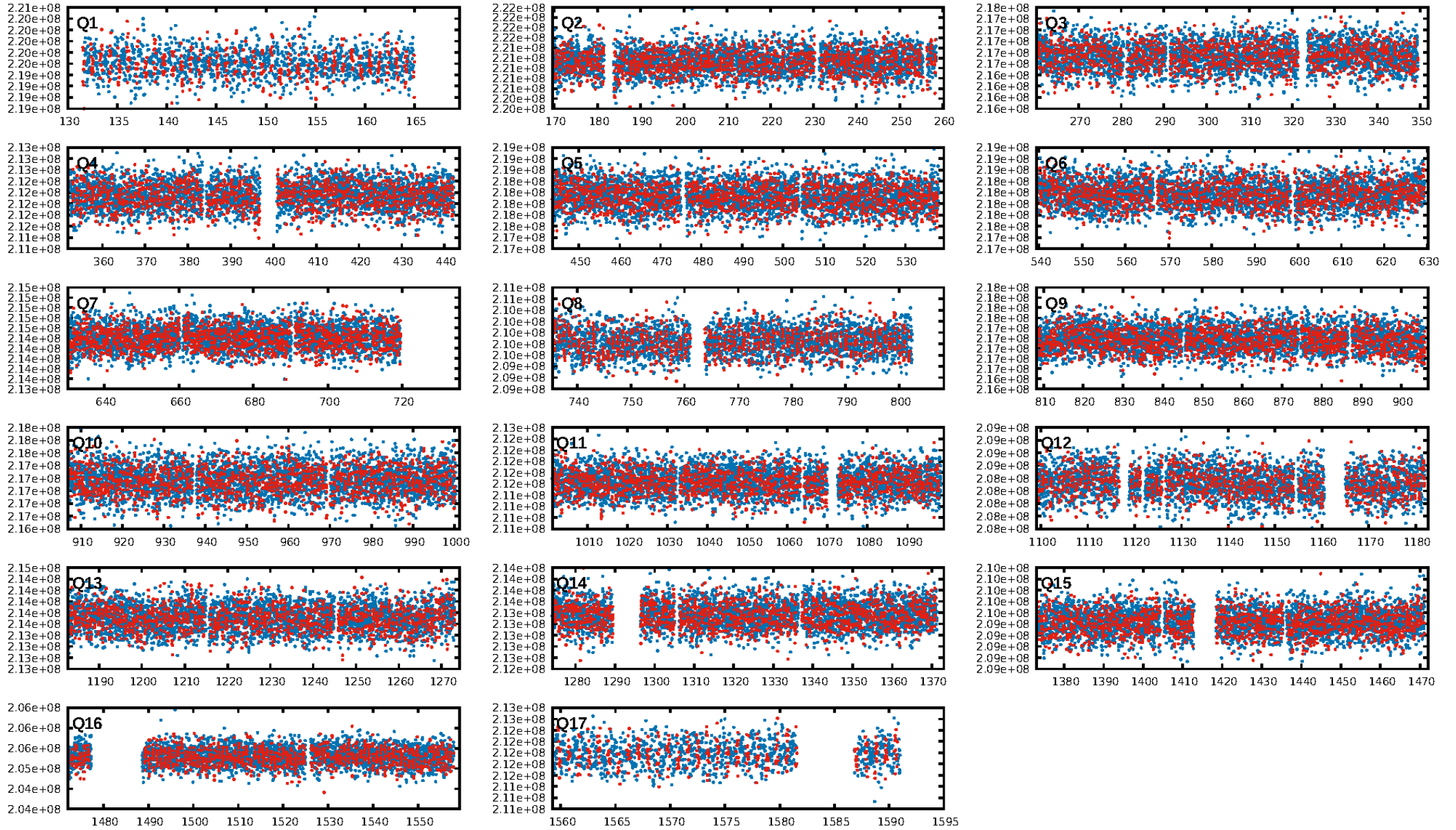
DV Diagnostic Results:

ShortPeriod-sig: 97.1% [2.19 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [916/922]
GhostDiagnostic-chr: 1.06
Centroid-sig: 1.1%
Centroid-so: 0.116 arcsec [2.12 σ]
OotOffset-rm: 0.057 arcsec [0.59 σ]
KicOffset-rm: 0.050 arcsec [0.54 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

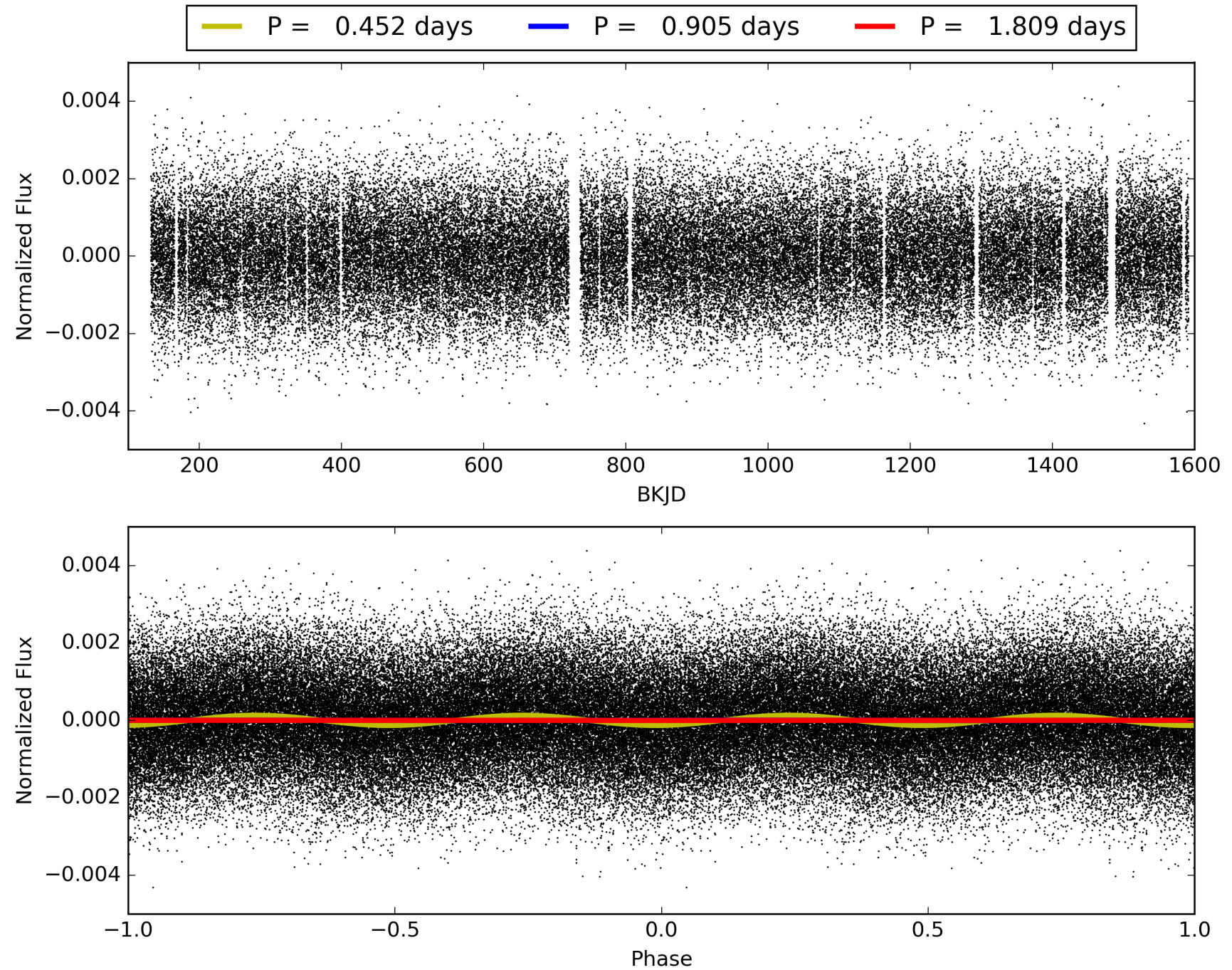
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 00:46:24 Z

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

TCE 005179979-02, PDC Light Curves

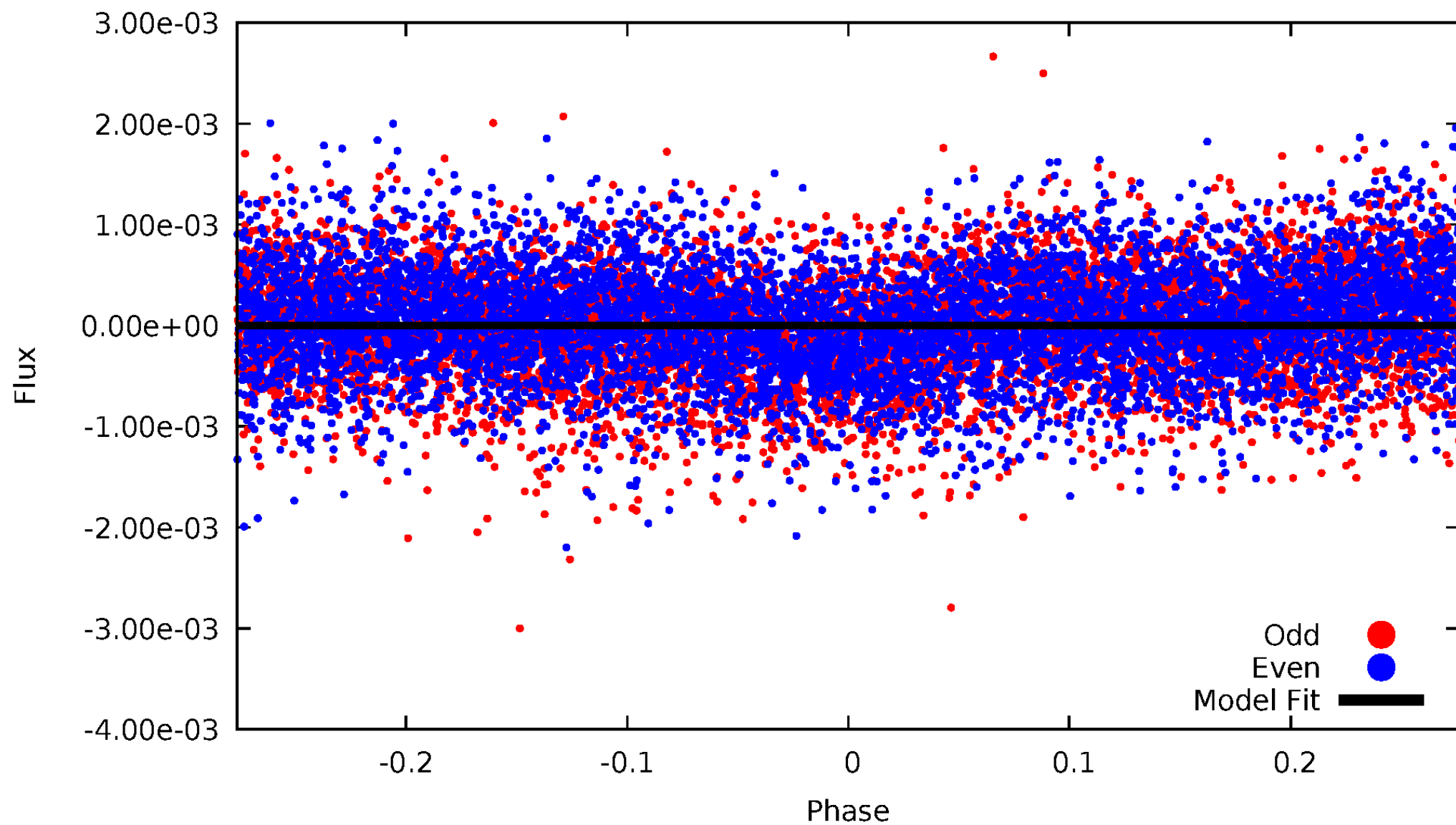


TCE 005179979-02



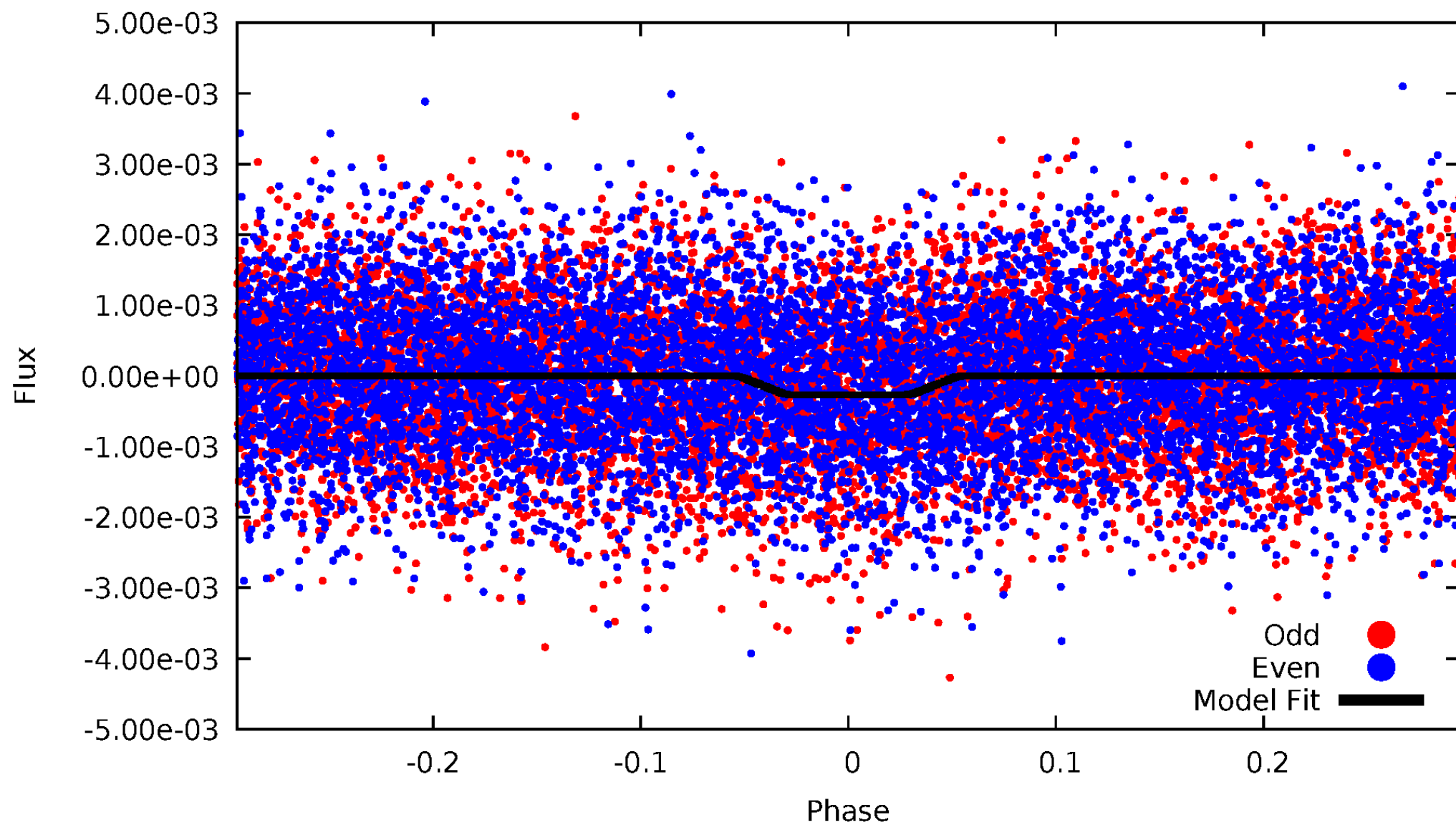
DV Odd/Even

TCE 005179979-02



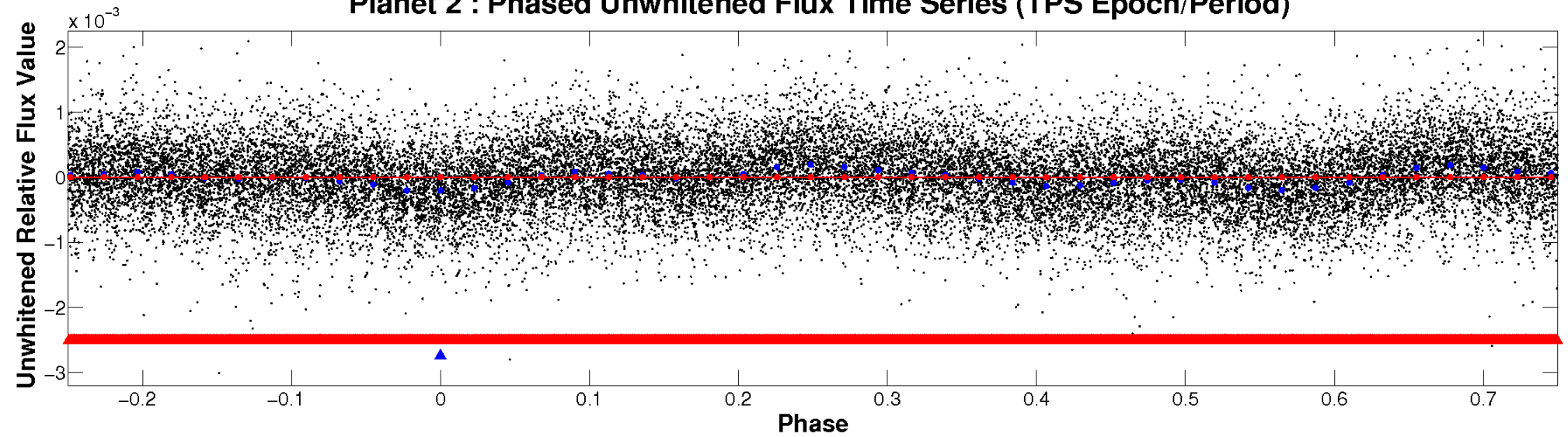
ALT Odd/Even

TCE 005179979-02



Non-Whitened Vs. Whitened Light Curve

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

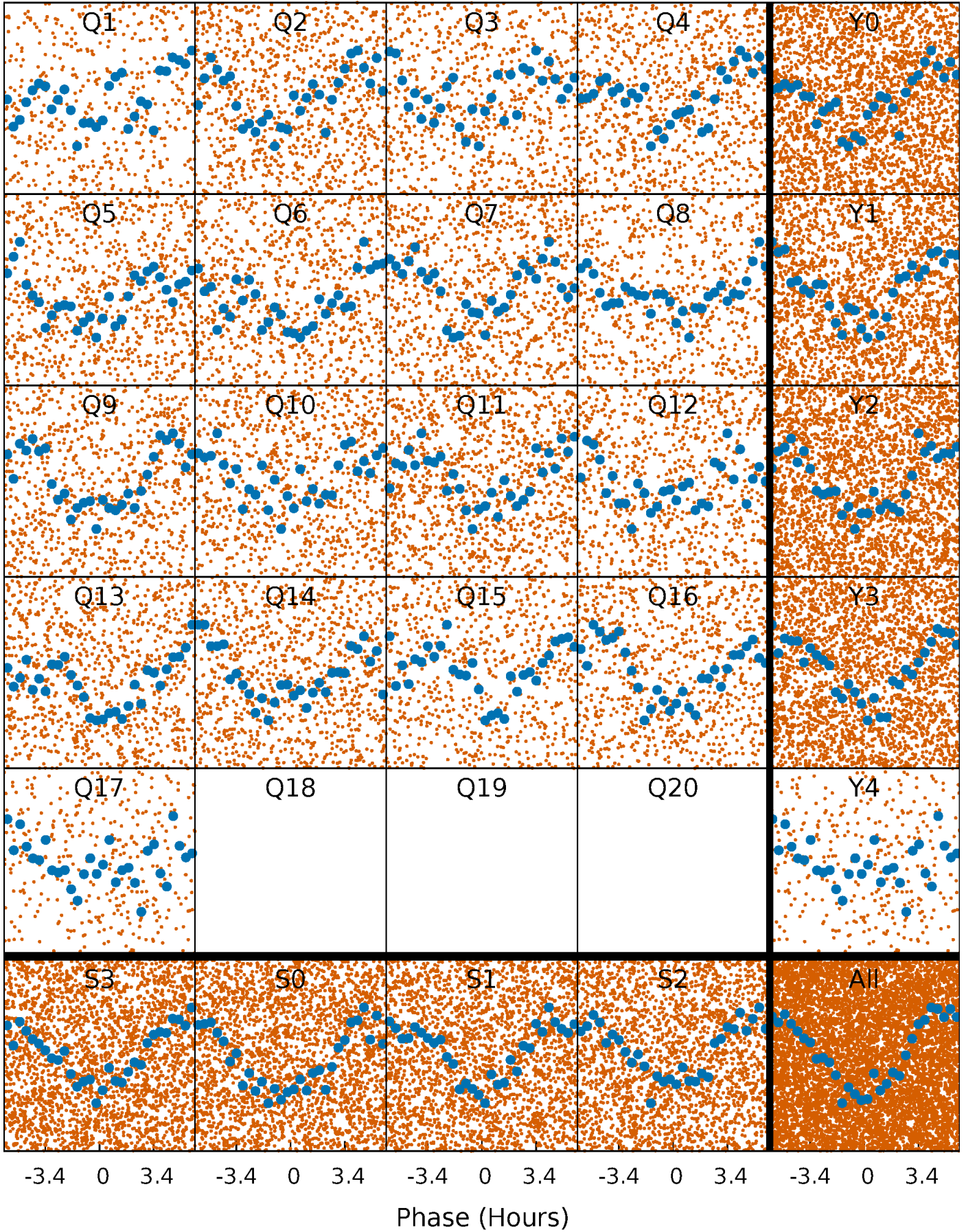


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



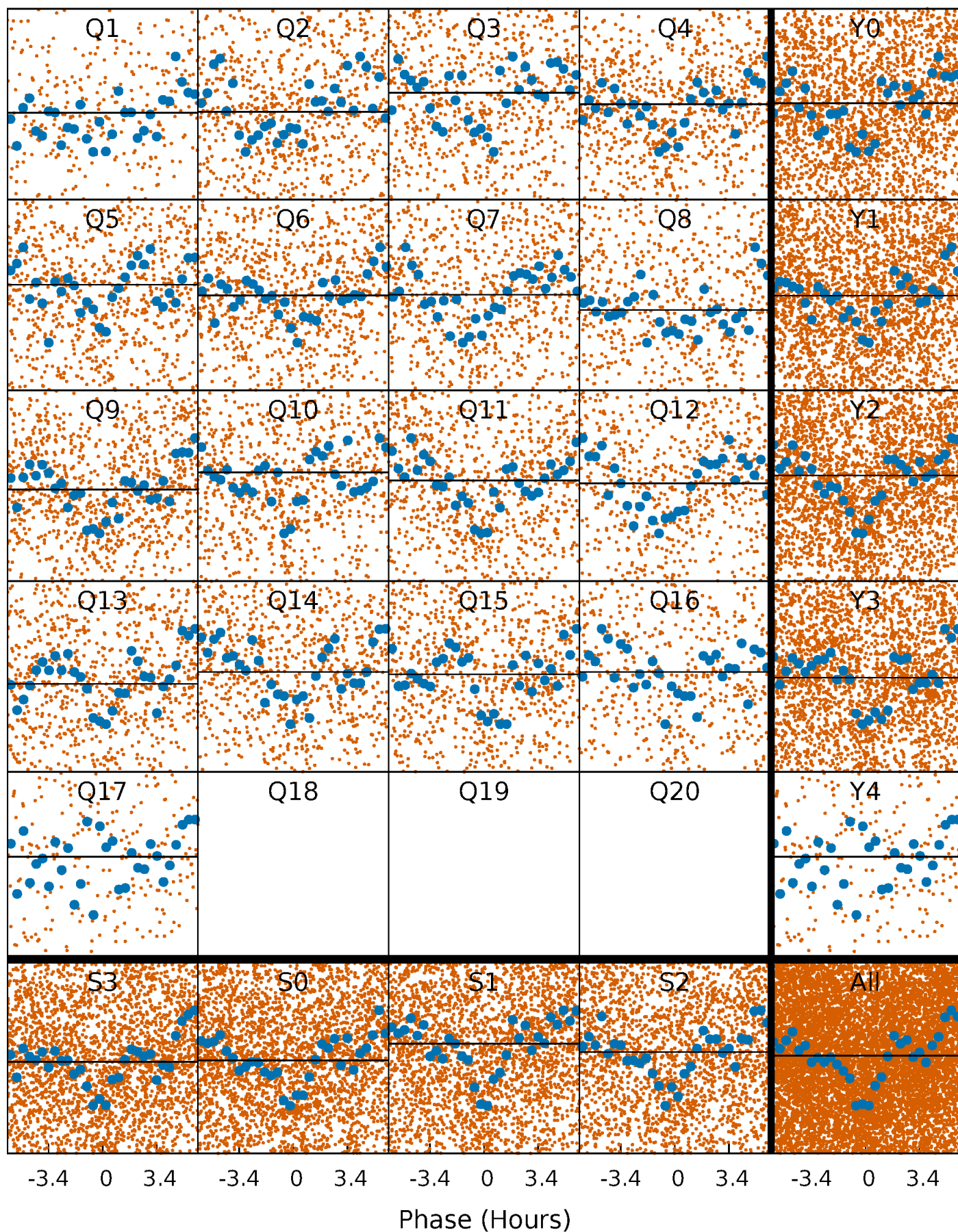
PDC Quarter-Phased Transit Curves

TCE 005179979-02 P= 0.904570 Days $T_0=131.544527$ (BKJD)



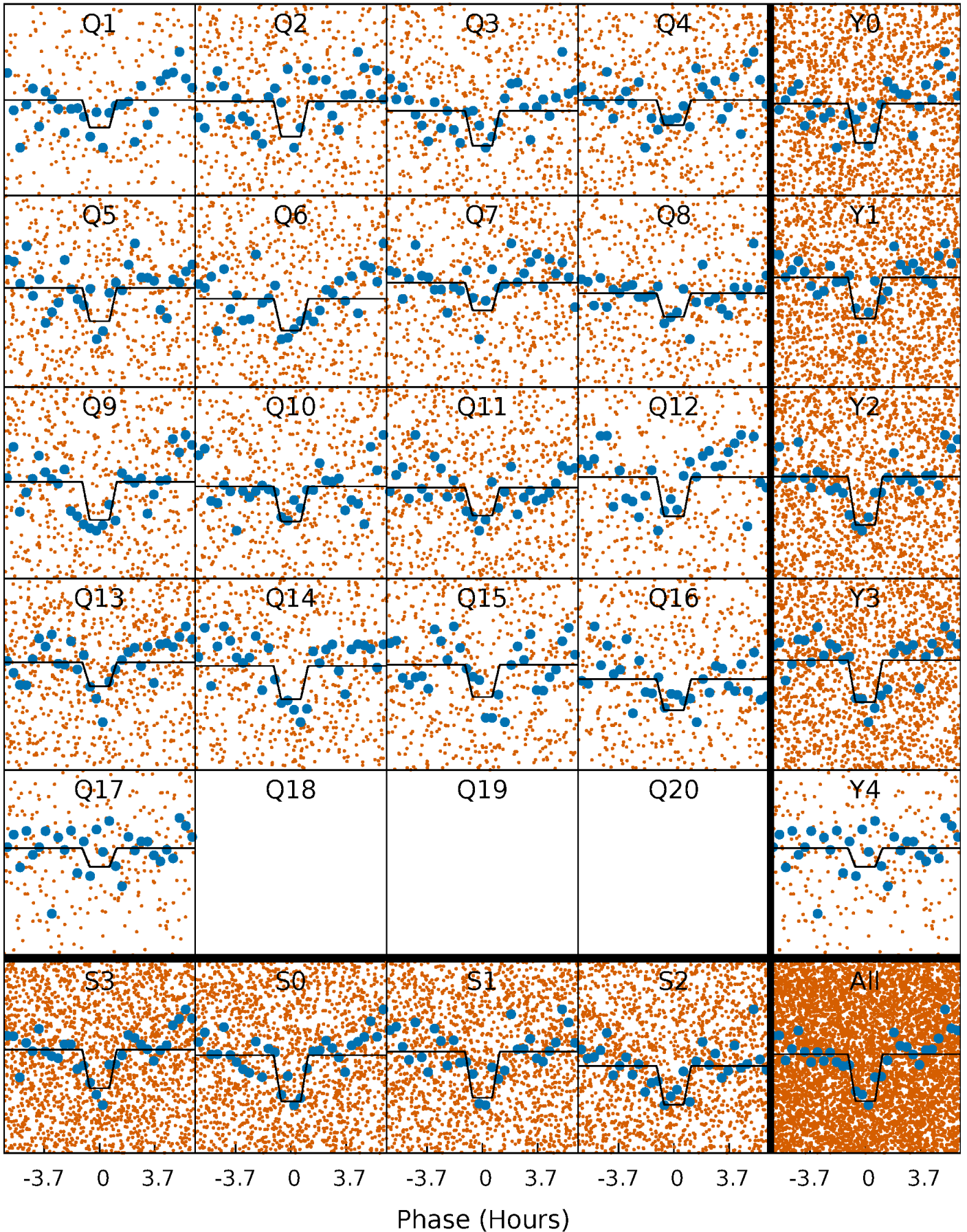
DV Quarter-Phased Transit Curves

TCE 005179979-02 P= 0.904570 Days $T_0=131.544527$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

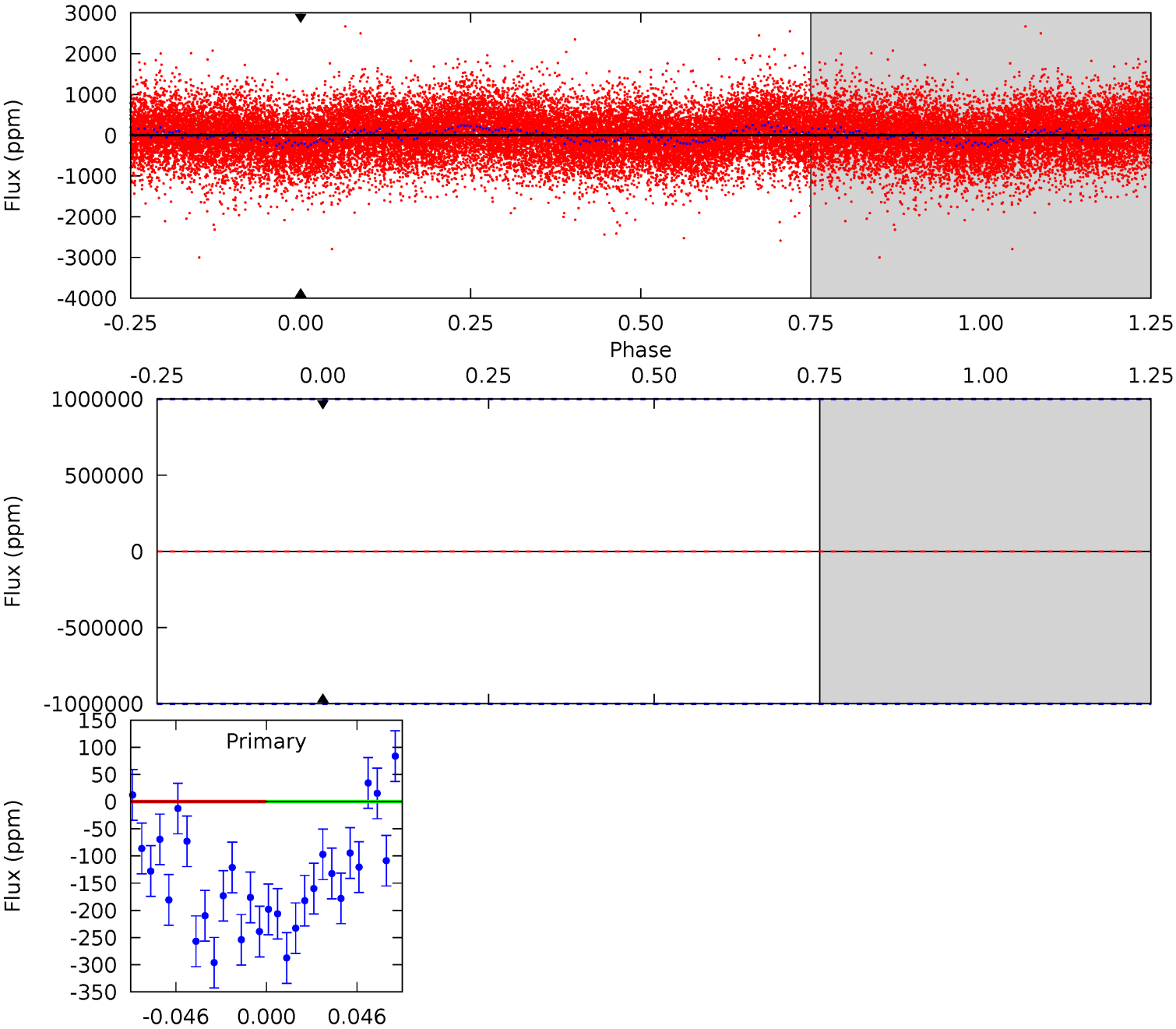
TCE 005179979-02 P= 0.904570 Days $T_0=131.542316$ (BKJD)



DV Model-Shift Uniqueness Test

005179979-02, P = 0.904570 Days, E = 130.639957 Days

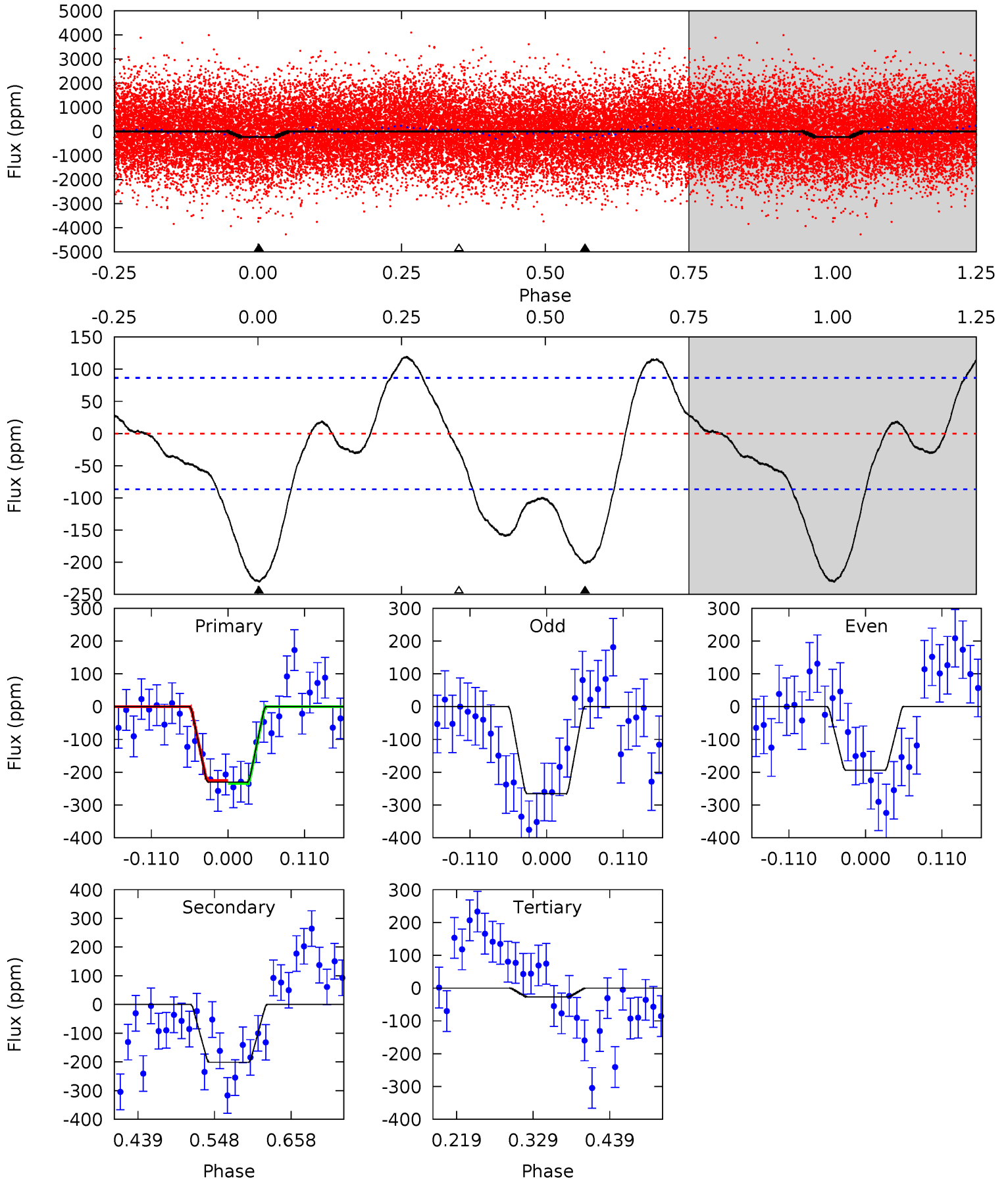
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

005179979-02, P = 0.904570 Days, E = 130.637746 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	10.6	1.44	0	4.55	1.60	4.04	10.6	12.1	9.13	10.6	1.89	1.14	0.34	0.22



Stellar Parameters For KIC 005179979

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7094^{+174}_{-274}	$4.168^{+0.148}_{-0.181}$	$-0.240^{+0.250}_{-0.350}$	$1.598^{+0.482}_{-0.362}$	$1.376^{+0.214}_{-0.214}$	$0.475^{+0.359}_{-0.234}$
	+2%/-4%	+4%/-4%	+104%/-146%	+30%/-23%	+16%/-16%	+76%/-49%
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 005179979-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$11.89^{+13.97}_{-8.37}$	3885^{+273}_{-271}	5120^{+46098}_{-38546}	$3.076^{+400.484}_{-241.542}$
Alt.	-201 ± 19	$13.73^{+14.13}_{-9.02}$	3877^{+304}_{-251}	-2717^{+7771}_{-786}	$0.249^{+1.841}_{-0.190}$

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 $A_{obs} \gg 1.0$

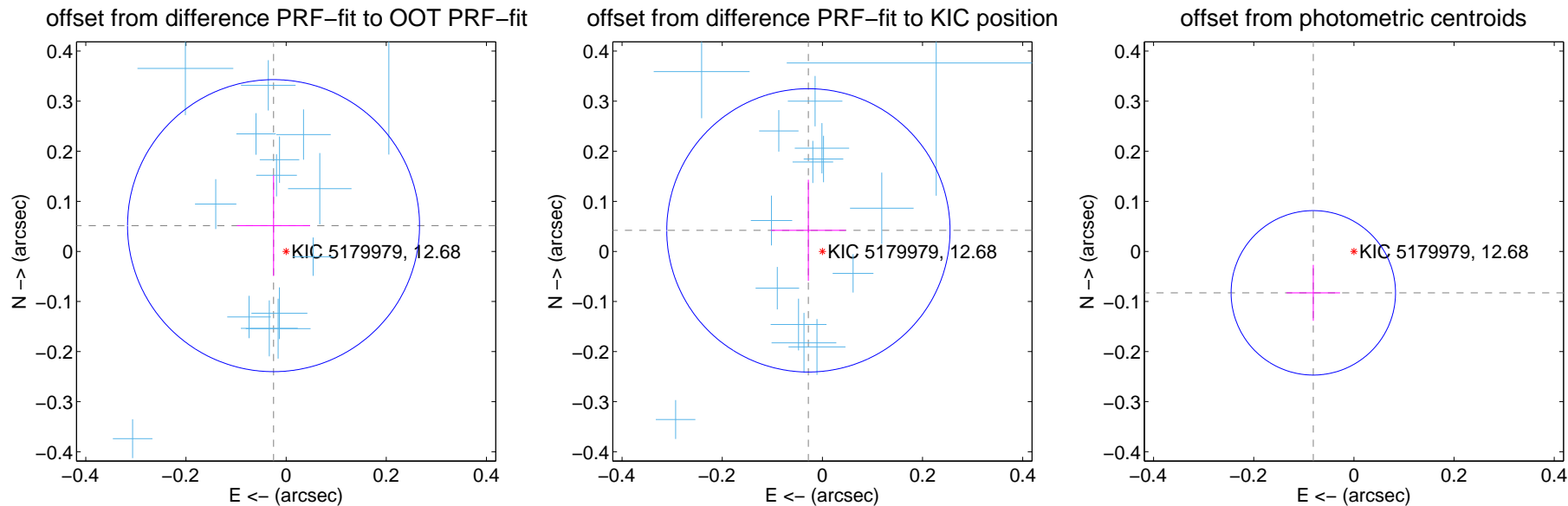
DV Centroid Data

Supplemental centroid analysis for 005179979-02. Kepler magnitude: 12.68. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

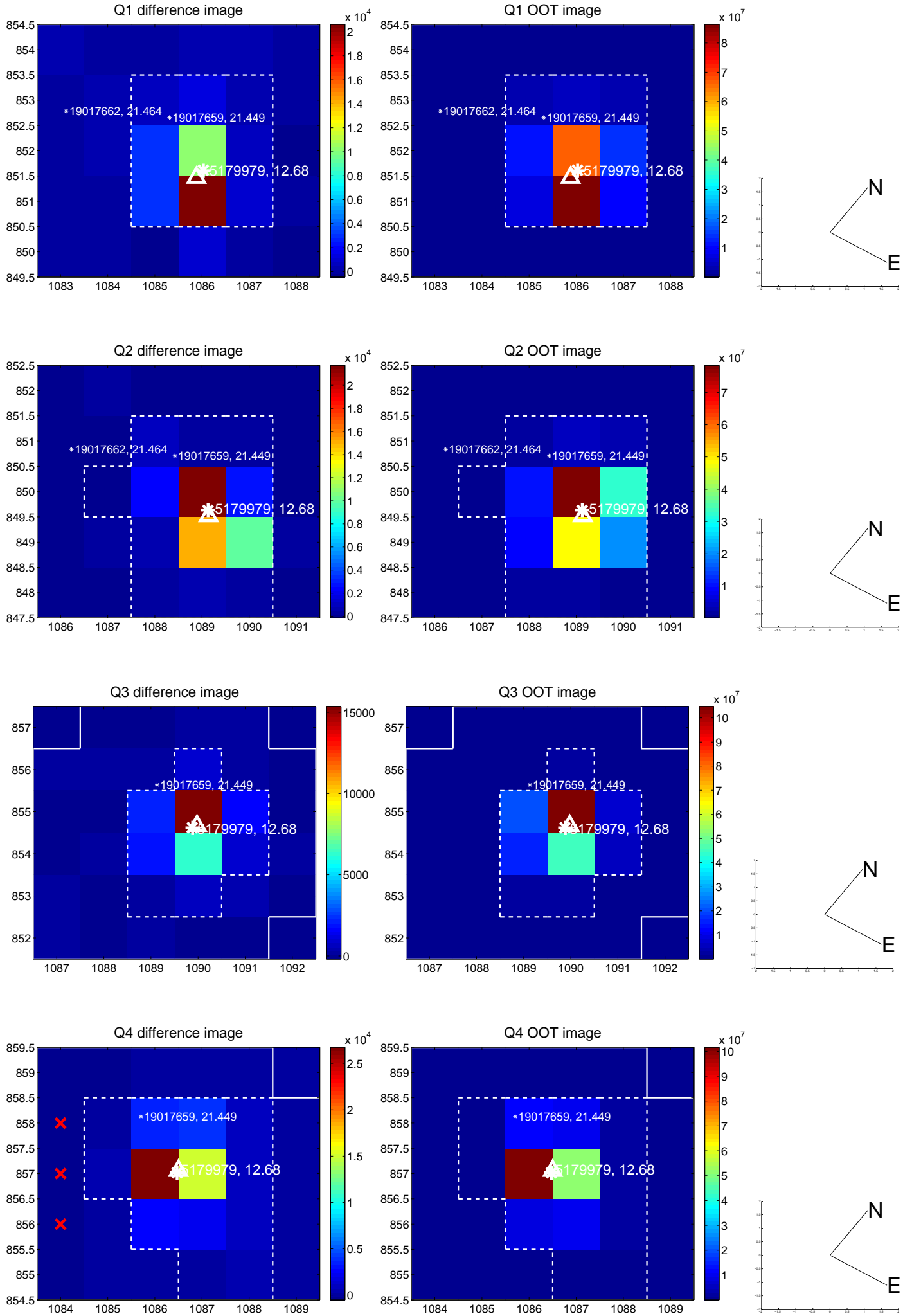
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.057 ± 0.097	0.59	0.025 ± 0.073	0.051 ± 0.100
PRF-fit source offset from KIC position	0.050 ± 0.094	0.54	0.028 ± 0.075	0.042 ± 0.101
photometric centroid source offset	0.12 ± 0.05	2.12	0.08 ± 0.05	-0.08 ± 0.06

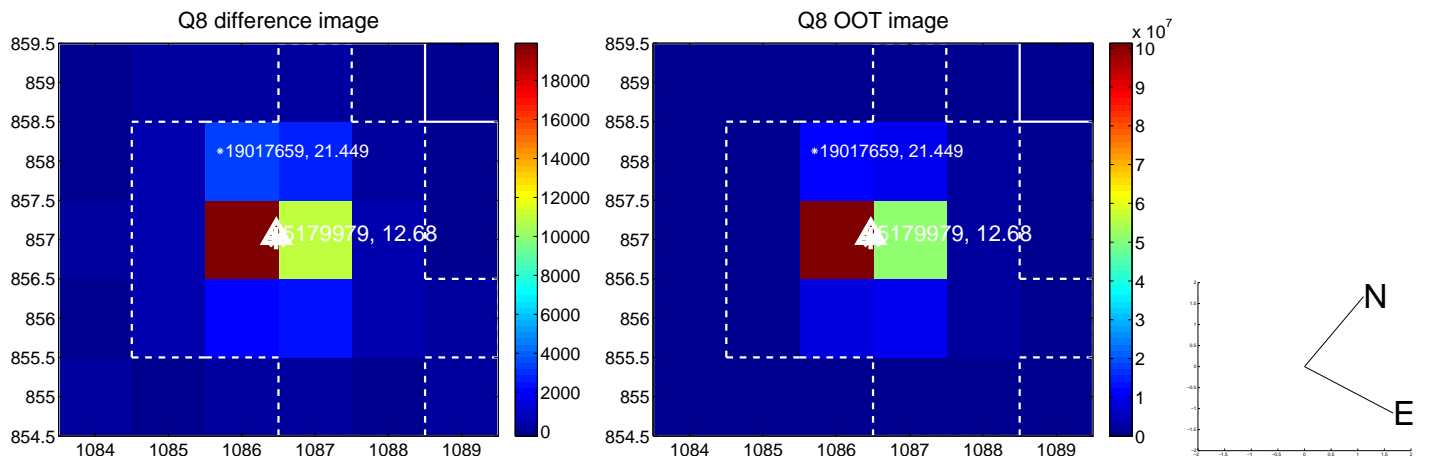
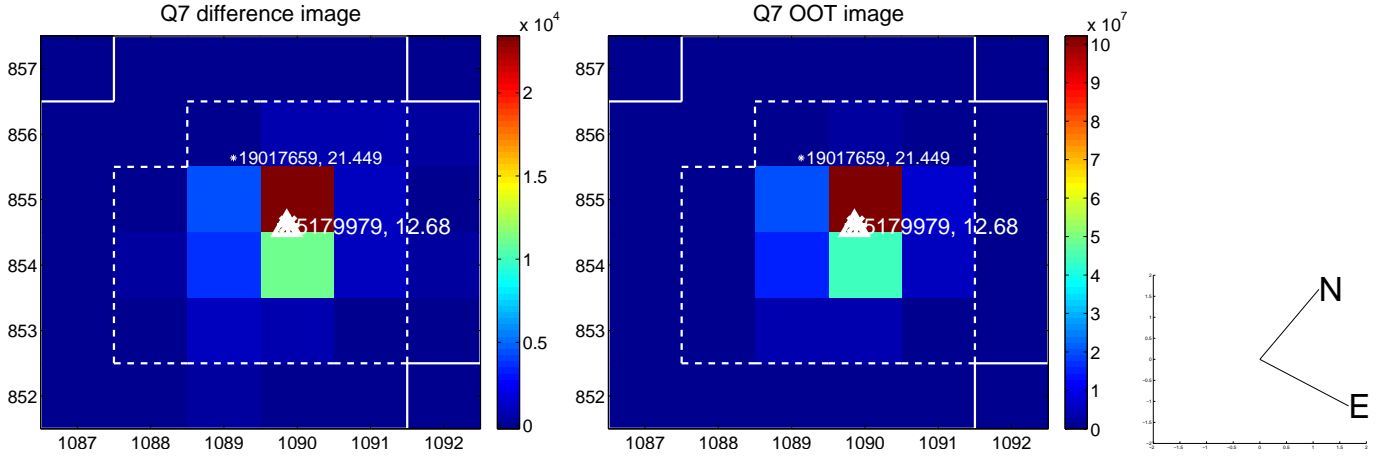
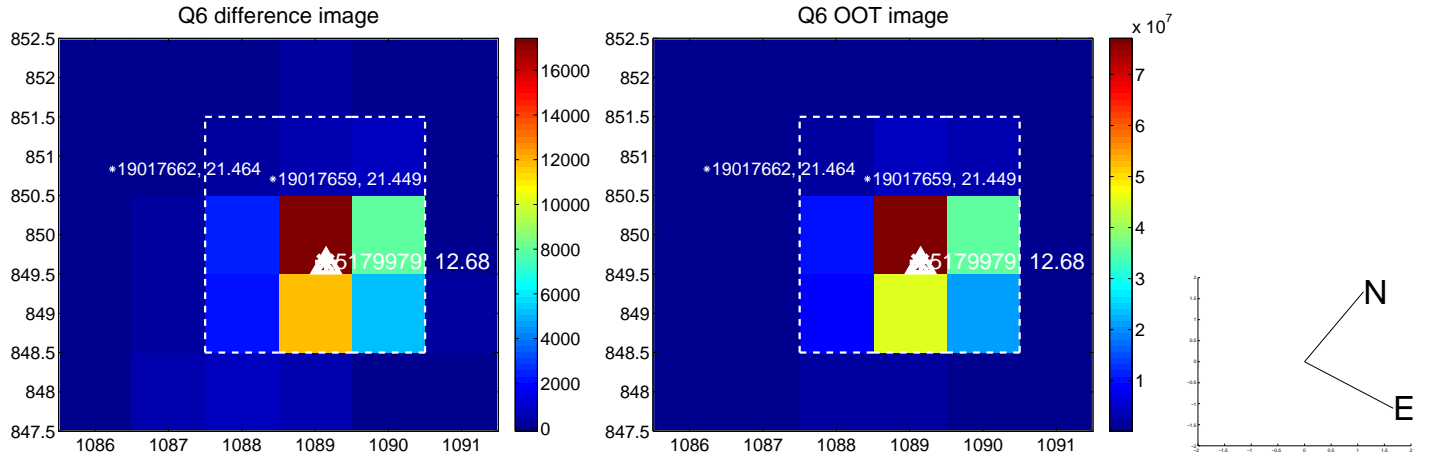
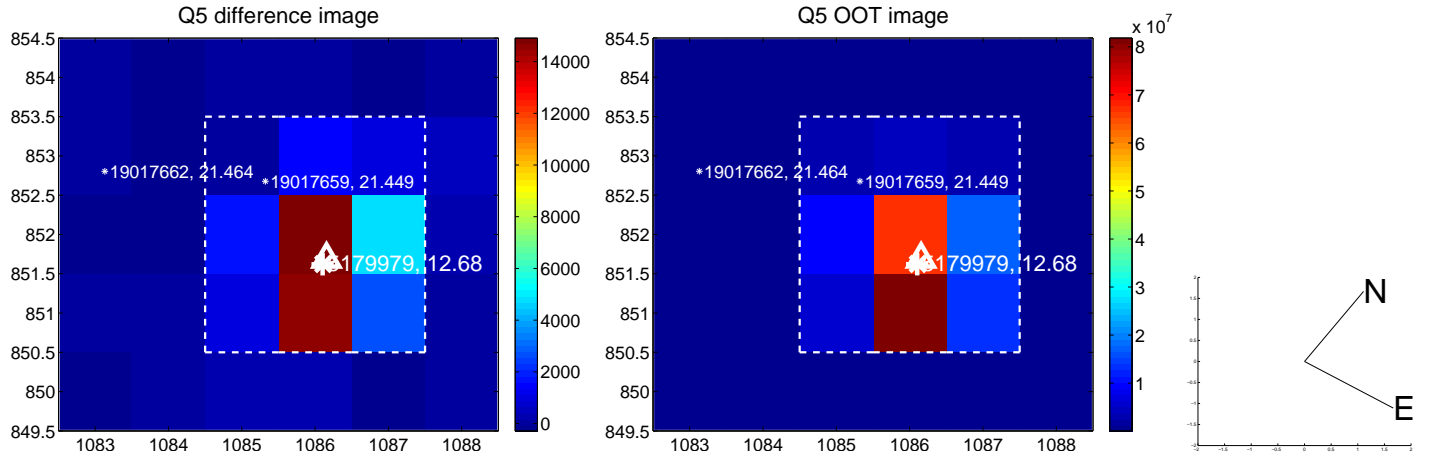


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

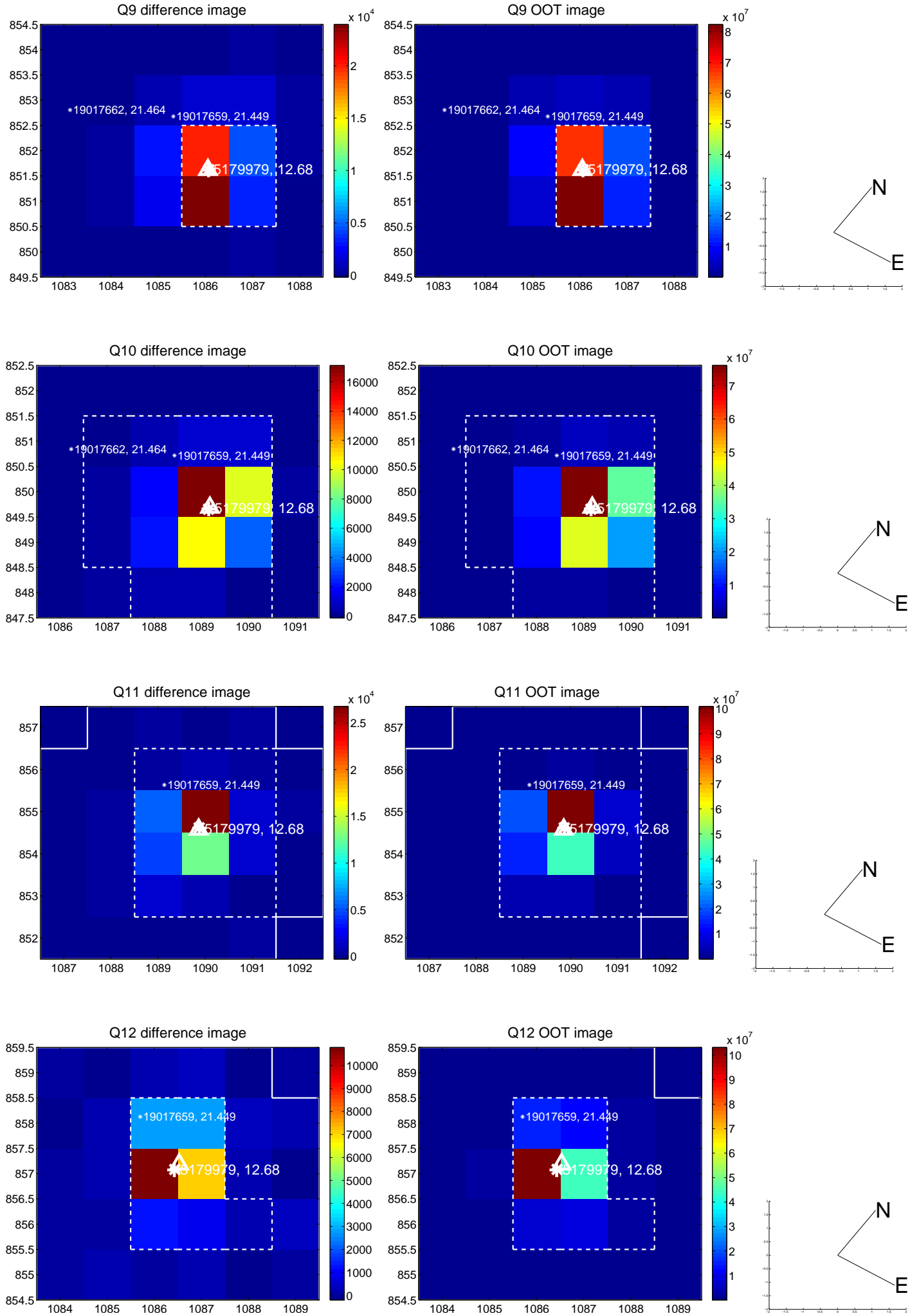
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



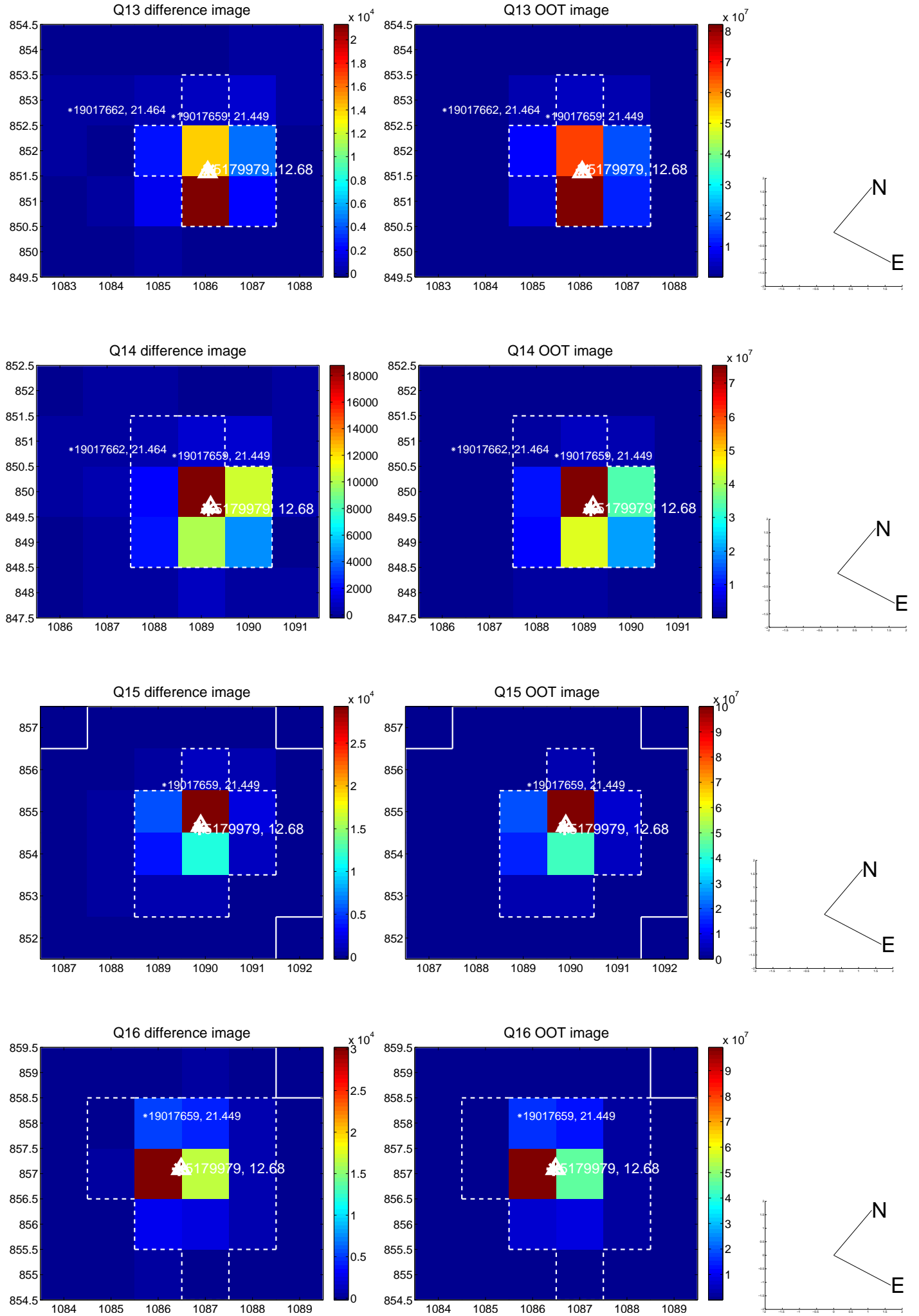
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



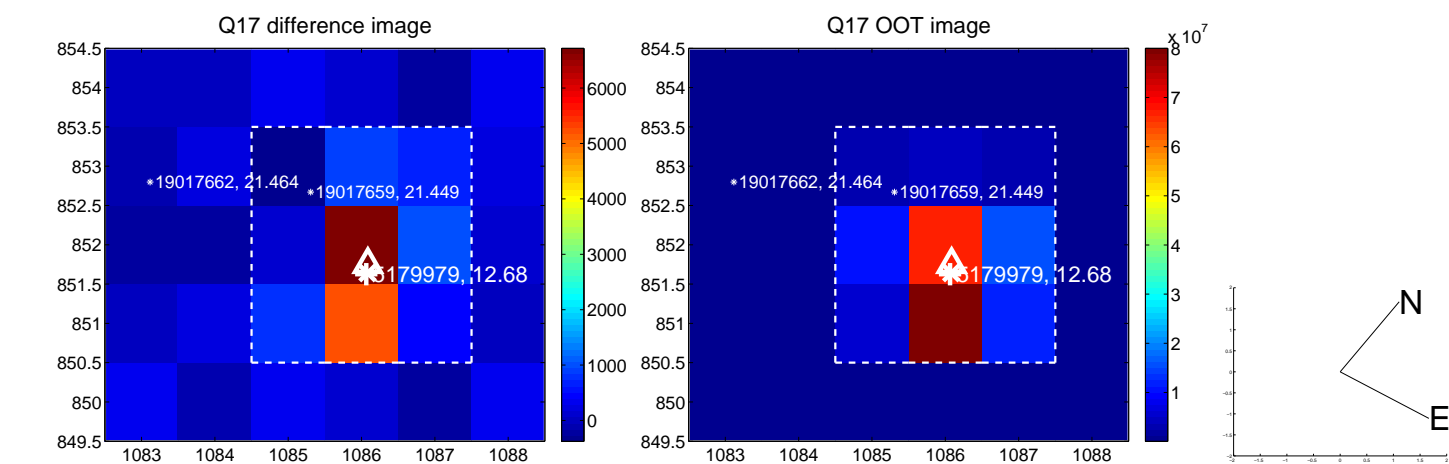
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



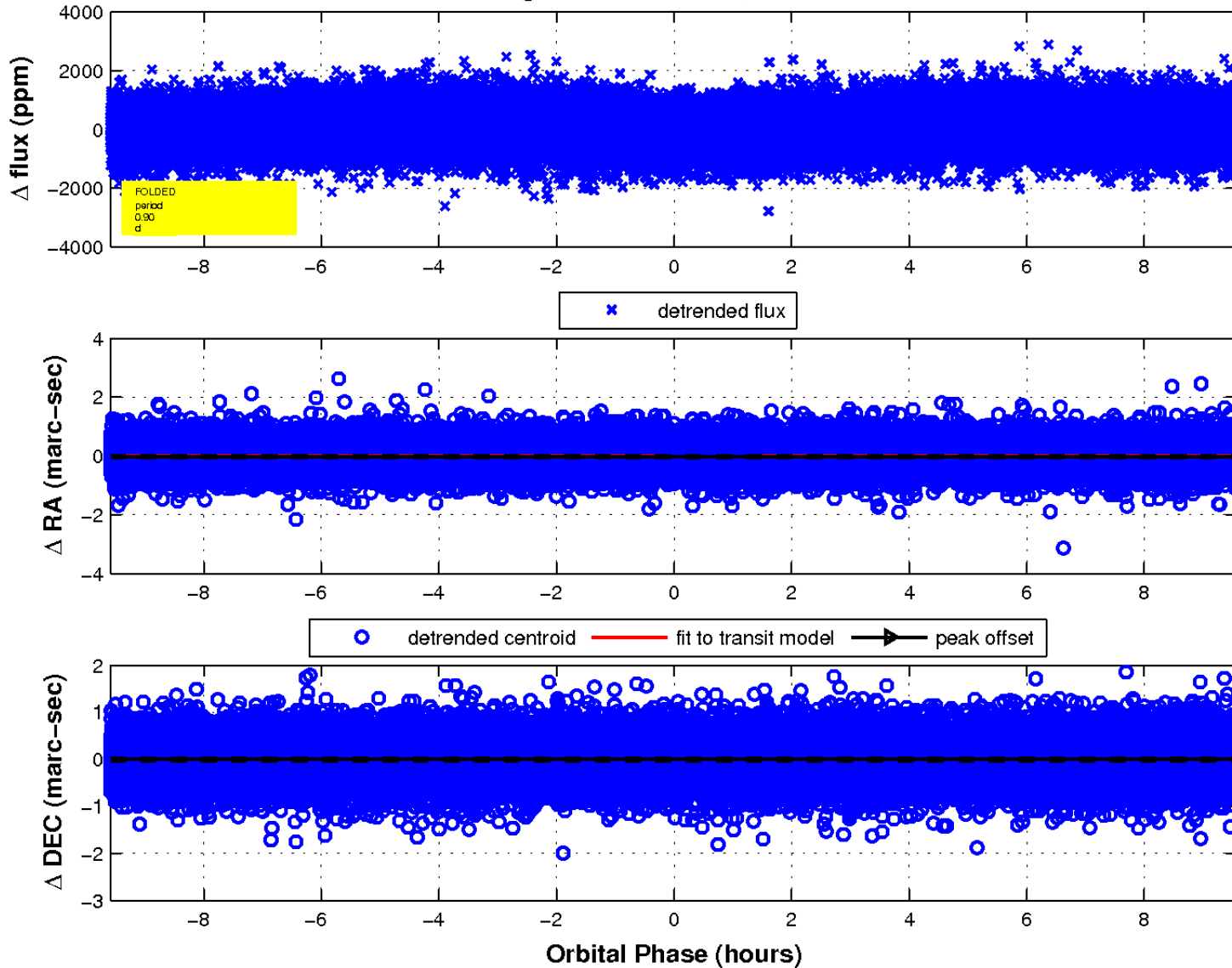
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

