

KIC 002579147

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})
002579147-01	OBS	No	0.919785	131.568995	129.6	1.099	9.4	11.6	2.40	7301	2.85	29377.26
002579147-02	OBS	No	7.351746	137.611353	520.8	14.761	9.5	9.2	2.40	7301	9.08	1838.25
002579147-03	OBS	No	7.352587	134.277102	665.7	21.433	10.0	12.9	2.40	7301	11.62	1837.97
002579147-04	OBS	No	7.353951	132.136855	339.6	20.710	7.3	10.1	2.40	7301	4.62	1837.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002579147-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
002579147-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
002579147-03	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
002579147-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

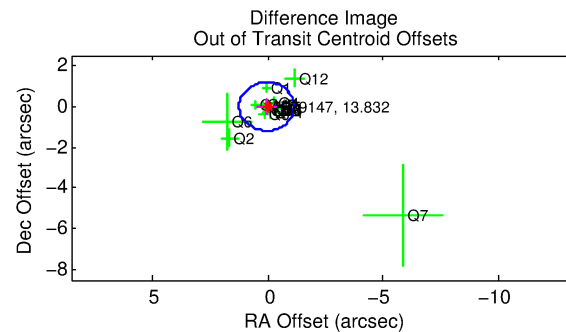
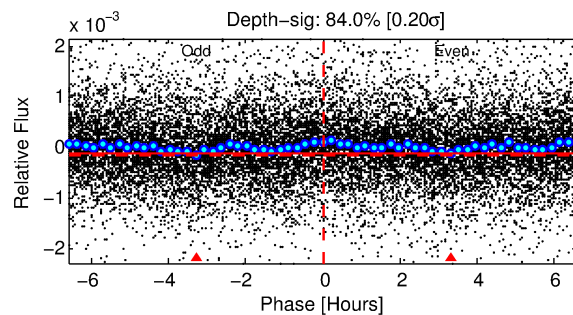
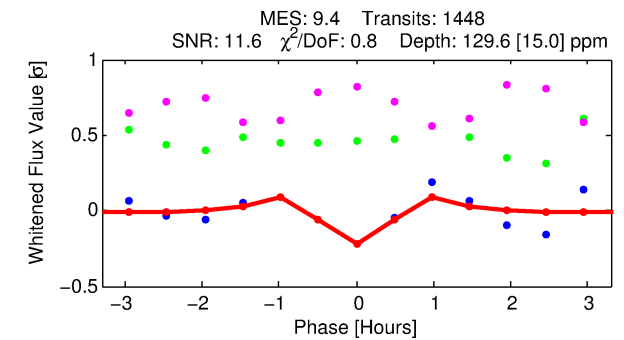
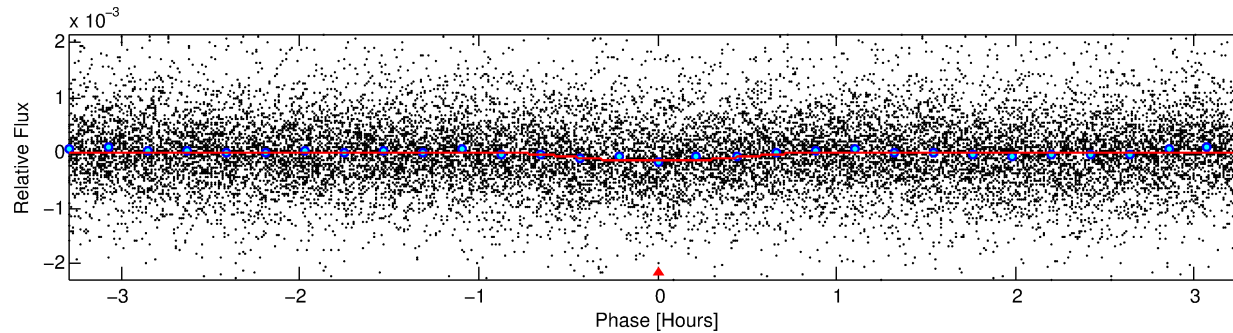
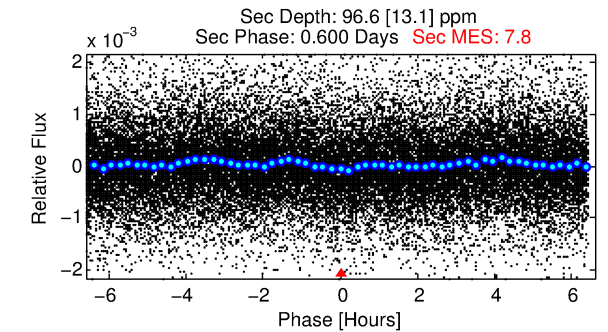
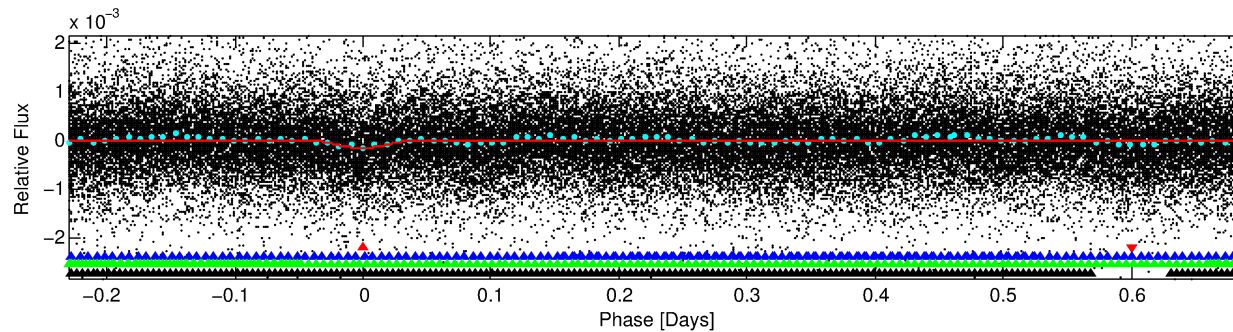
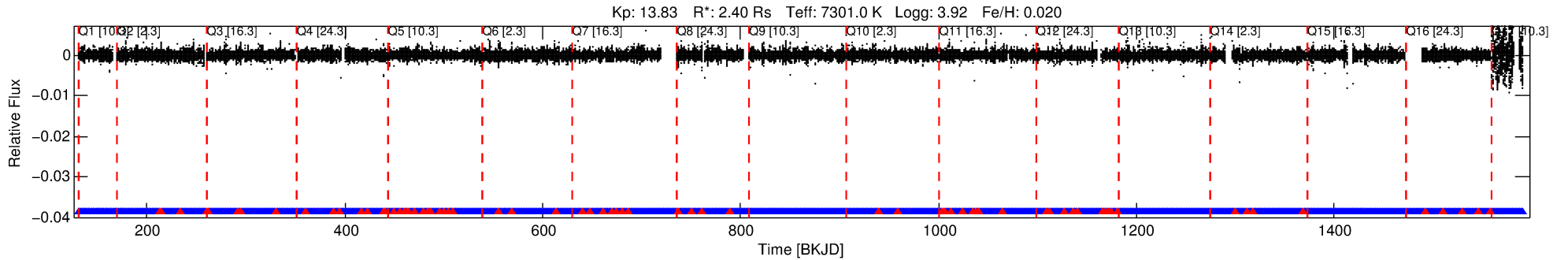
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002579147-01

No Significant Match Found

DV One-Page Summary

KIC: 2579147 Candidate: 1 of 4 Period: 0.920 d



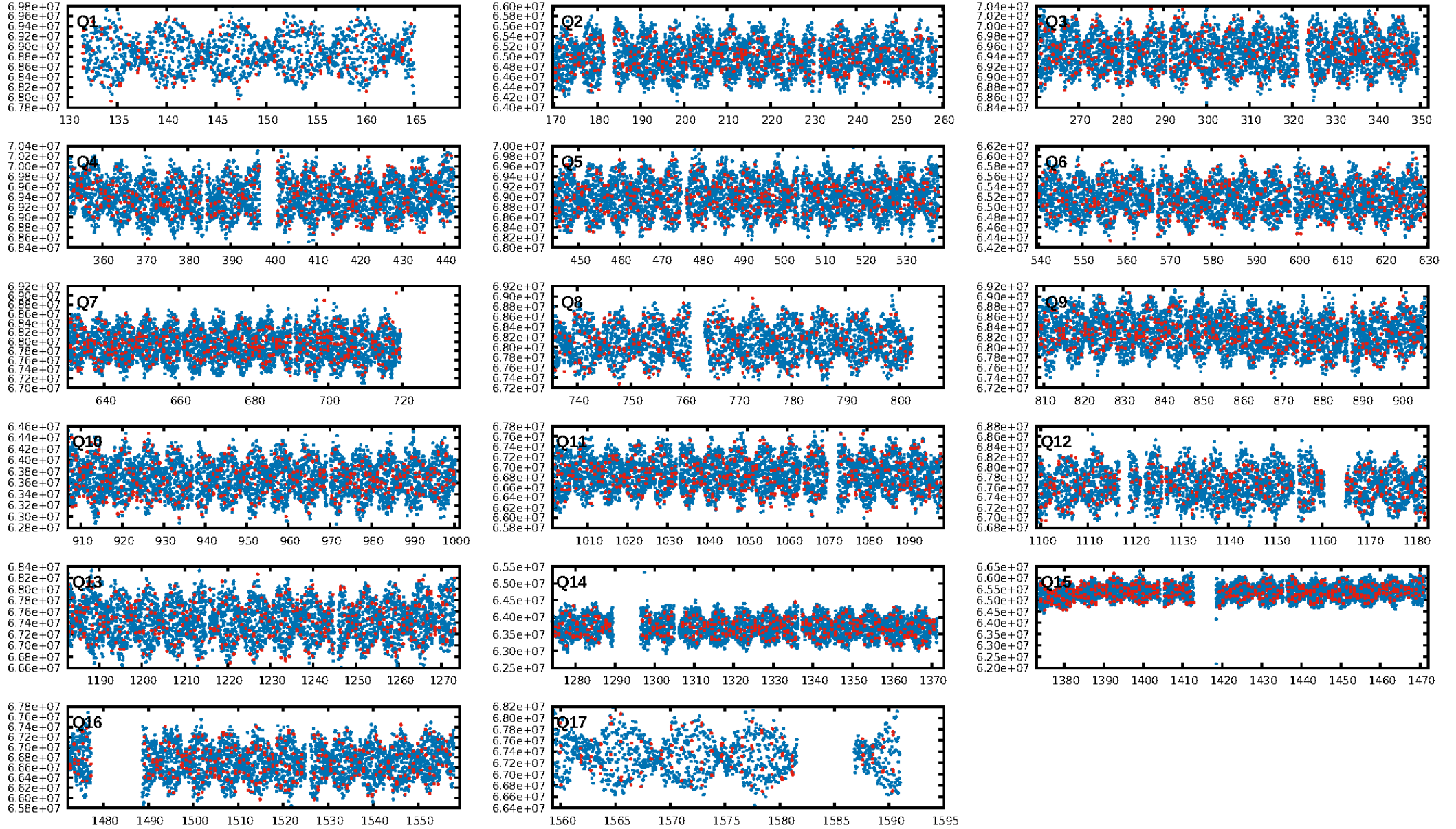
DV Fit Results:

Period = 0.91978 [0.00001] d
Epoch = 131.5690 [0.0011] BKJD
Rp/R* = 0.0109 [0.0035]
a/R* = 5.69 [10.35]
b = 0.49 [2.91]
Seff = 29377.26 [15039.99]
Teq = 3338 [427] K
Rp = 2.85 [1.33] Re
a = 0.0224 [0.0069] AU
Ag = 3.27 [2.62] [0.87σ]
Teffp = 6938 [1181] K [2.87σ]

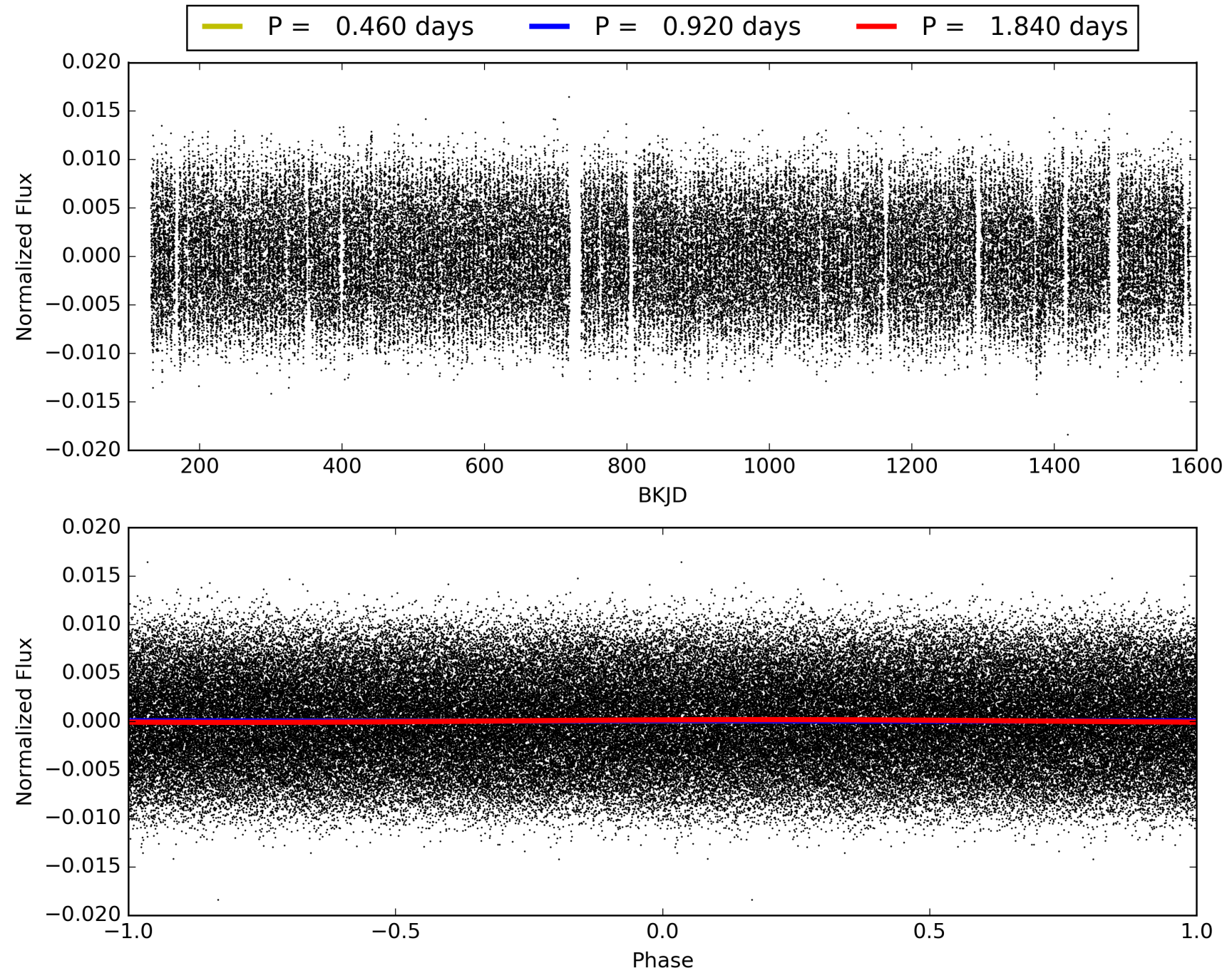
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [10.43σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.95 [1310/1384]
GhostDiagnostic-chr: 2.798
Centroid-sig: 22.7%
Centroid-so: 0.731 arcsec [1.26σ]
OotOffset-rm: 0.056 arcsec [0.14σ]
KicOffset-rm: 0.060 arcsec [0.14σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.56 [9/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 002579147-01, PDC Light Curves

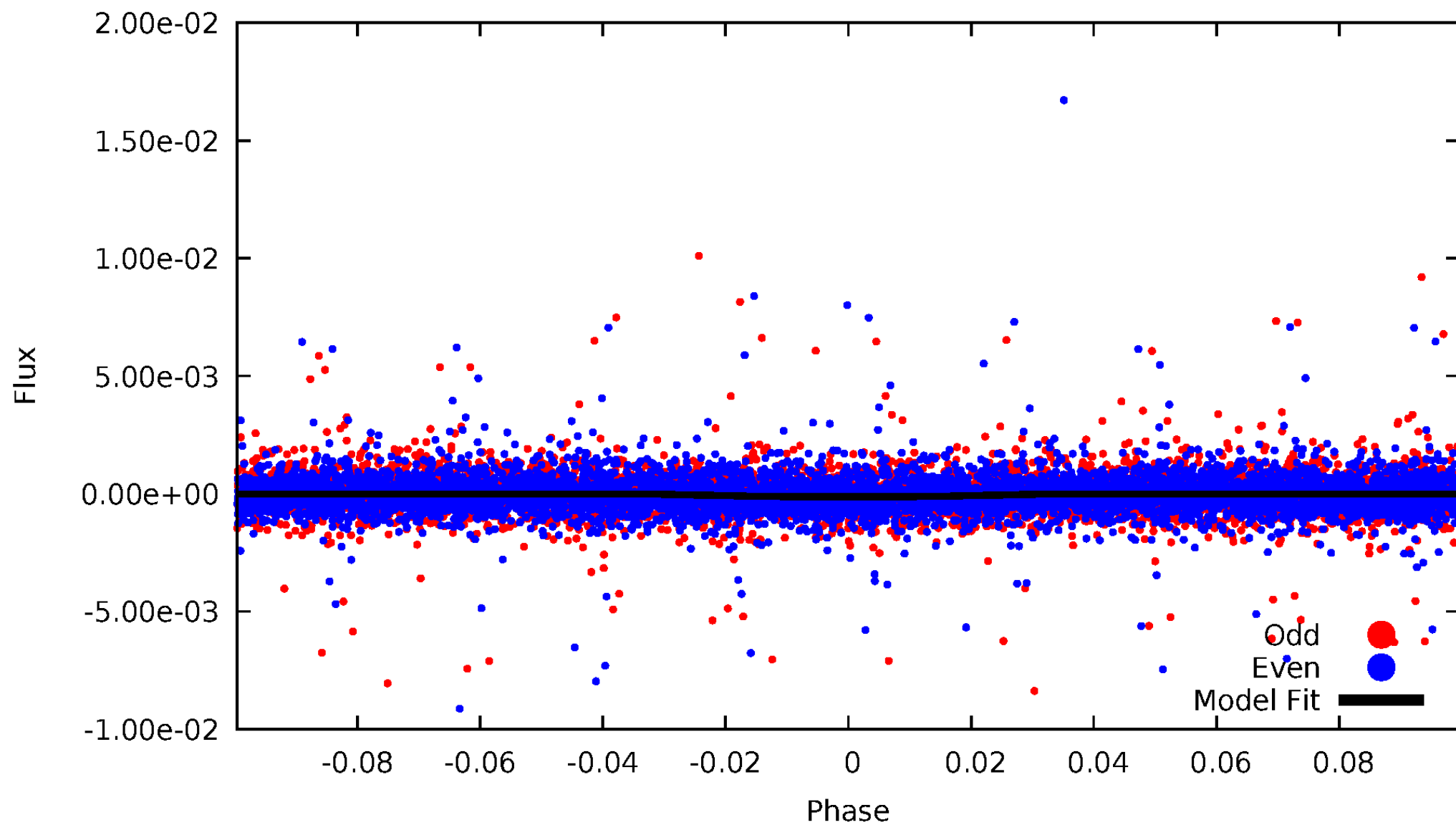


TCE 002579147-01



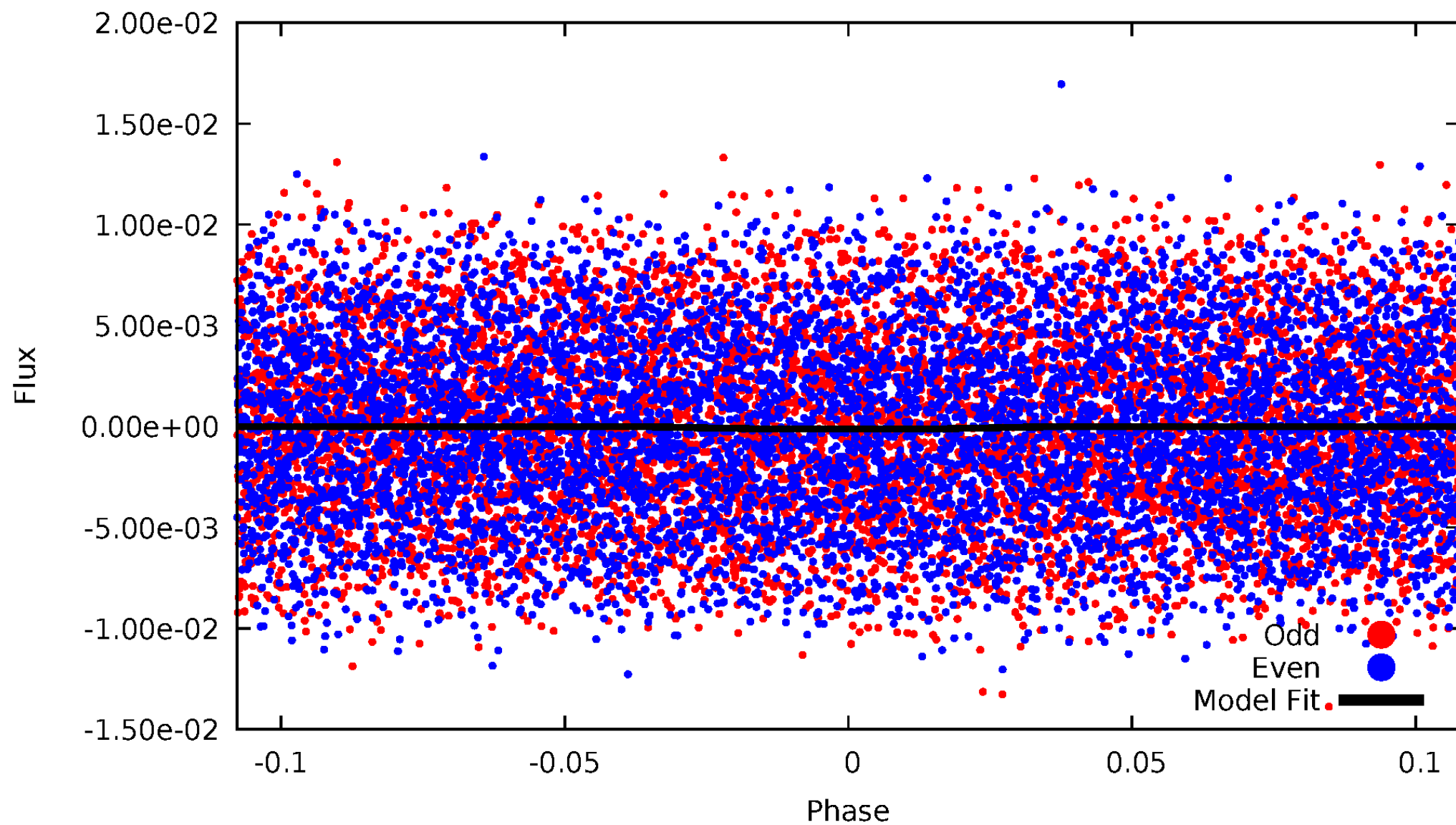
DV Odd/Even

TCE 002579147-01



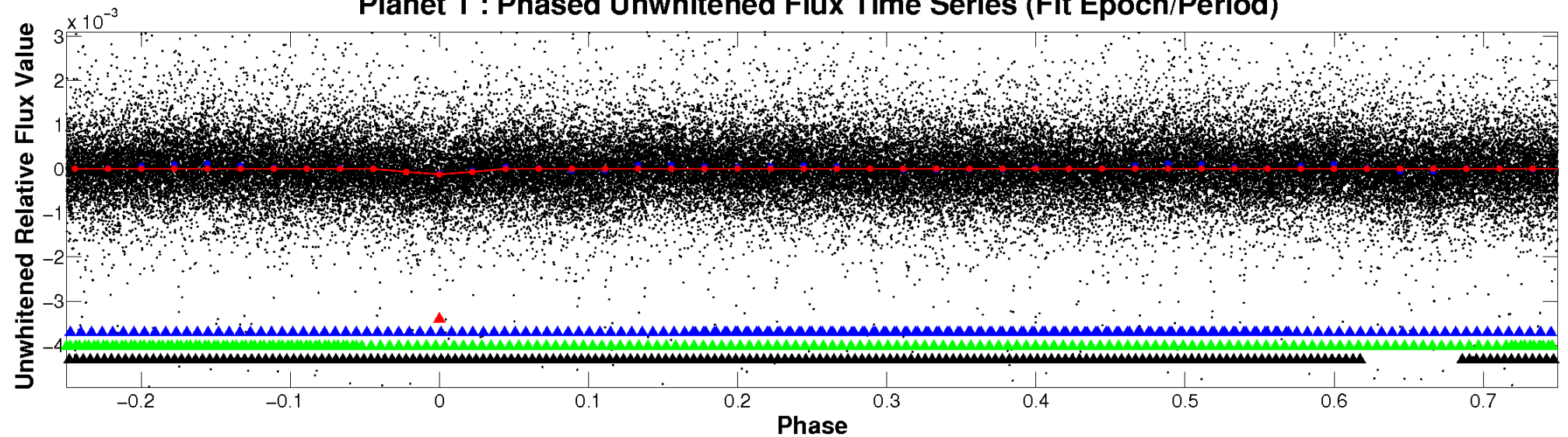
ALT Odd/Even

TCE 002579147-01

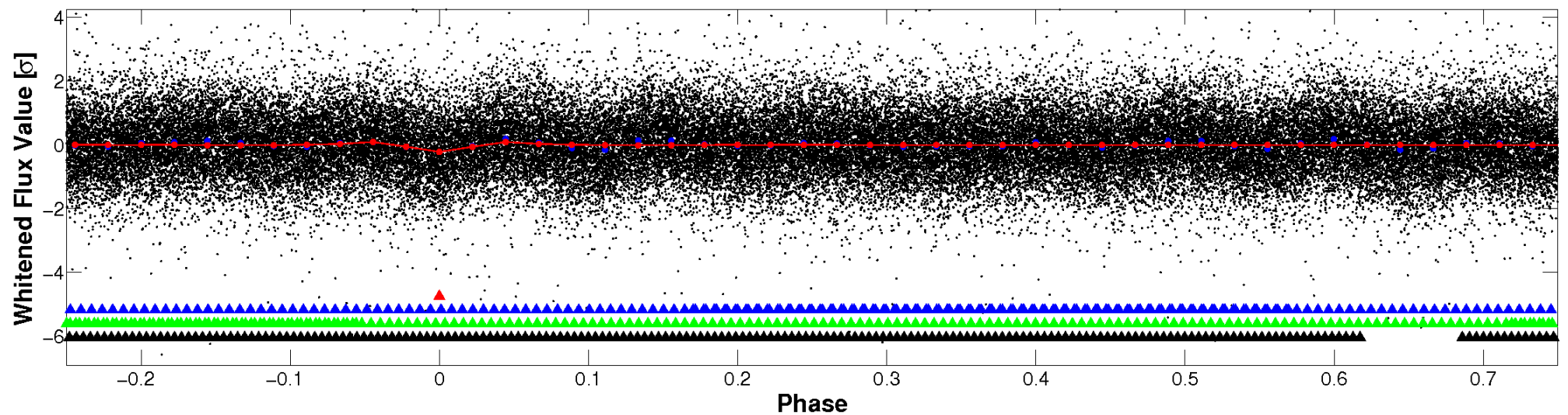


Non-Whitened Vs. Whitened Light Curve

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

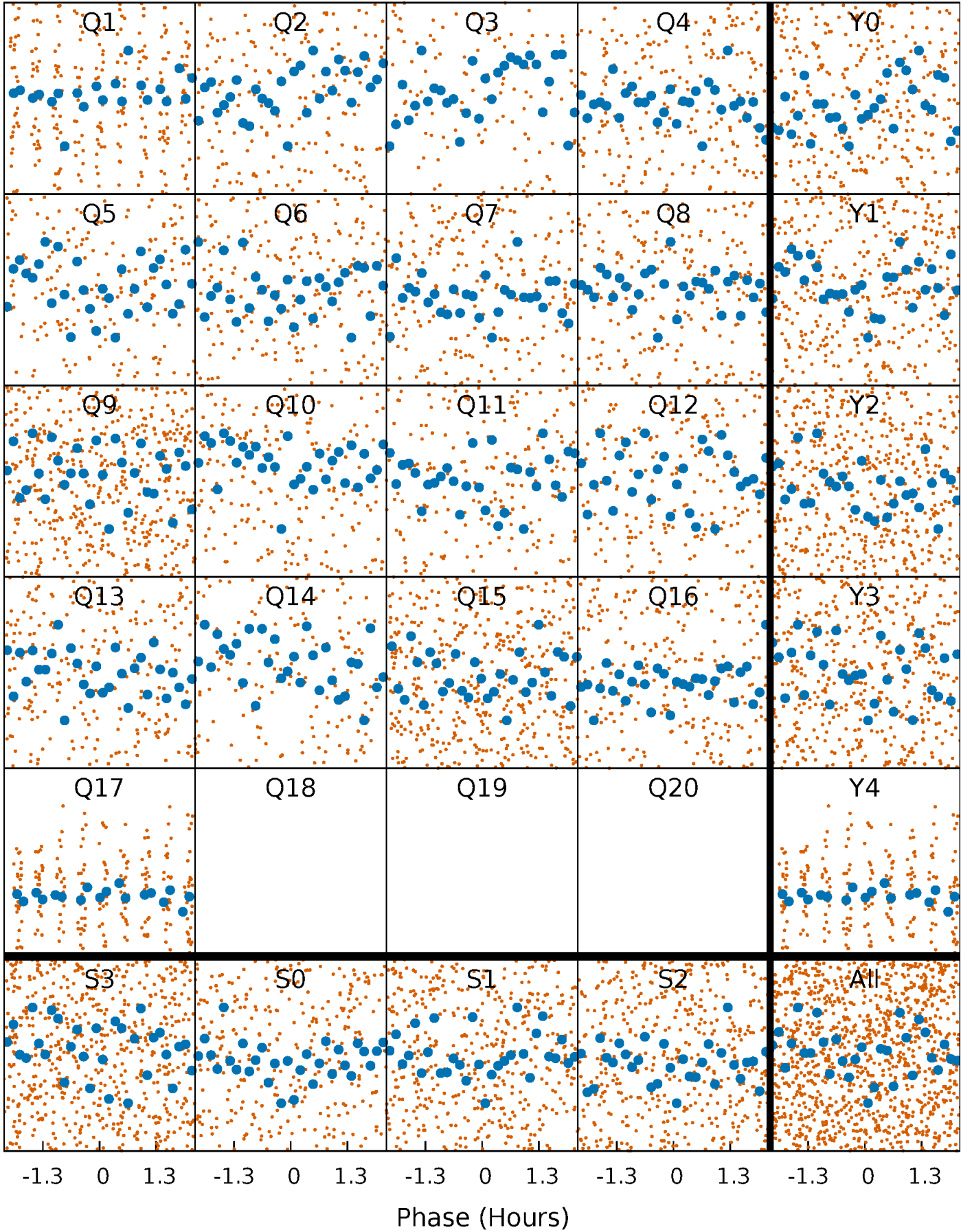


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



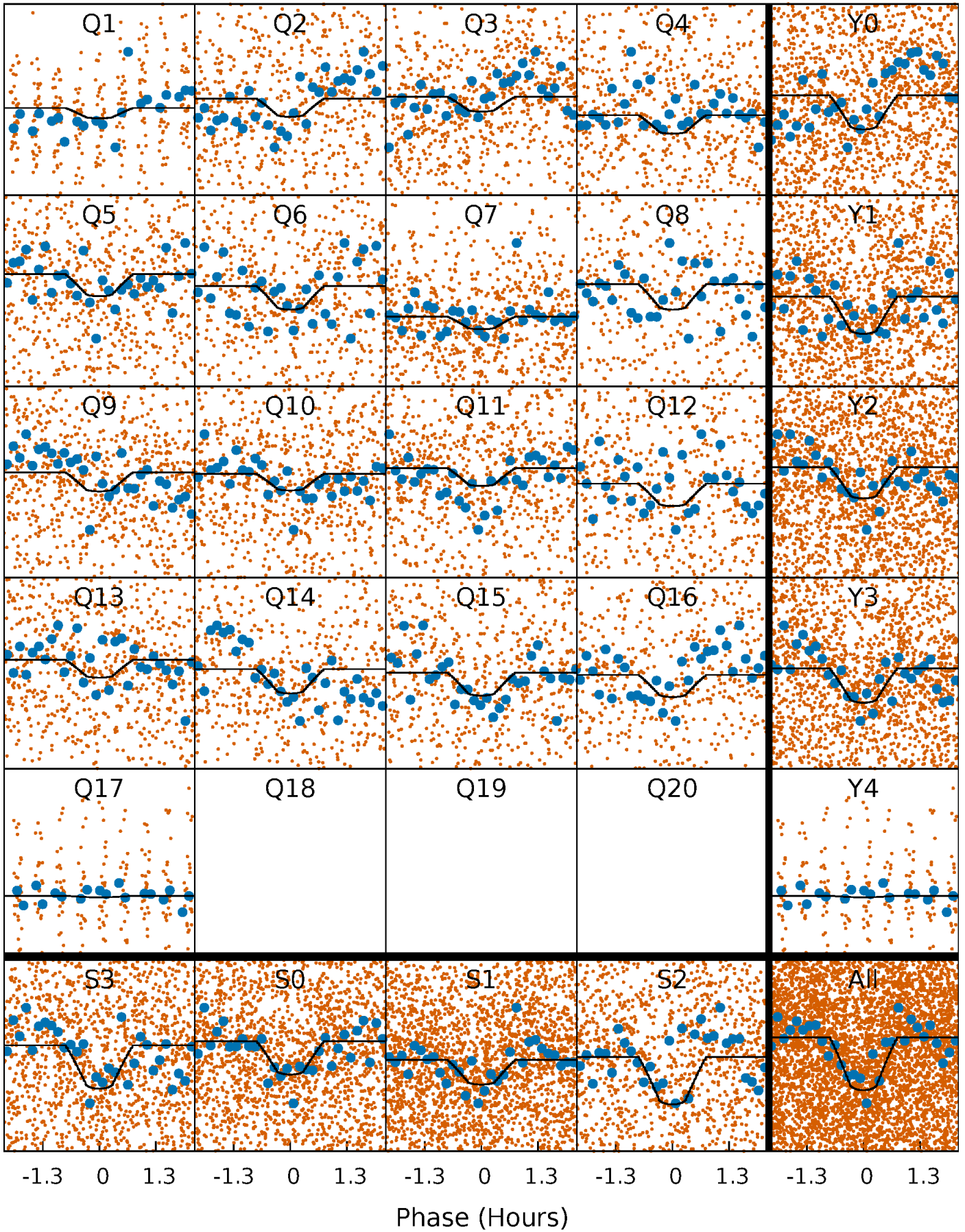
PDC Quarter-Phased Transit Curves

TCE 002579147-01 P= 0.919785 Days $T_0=131.568995$ (BKJD)



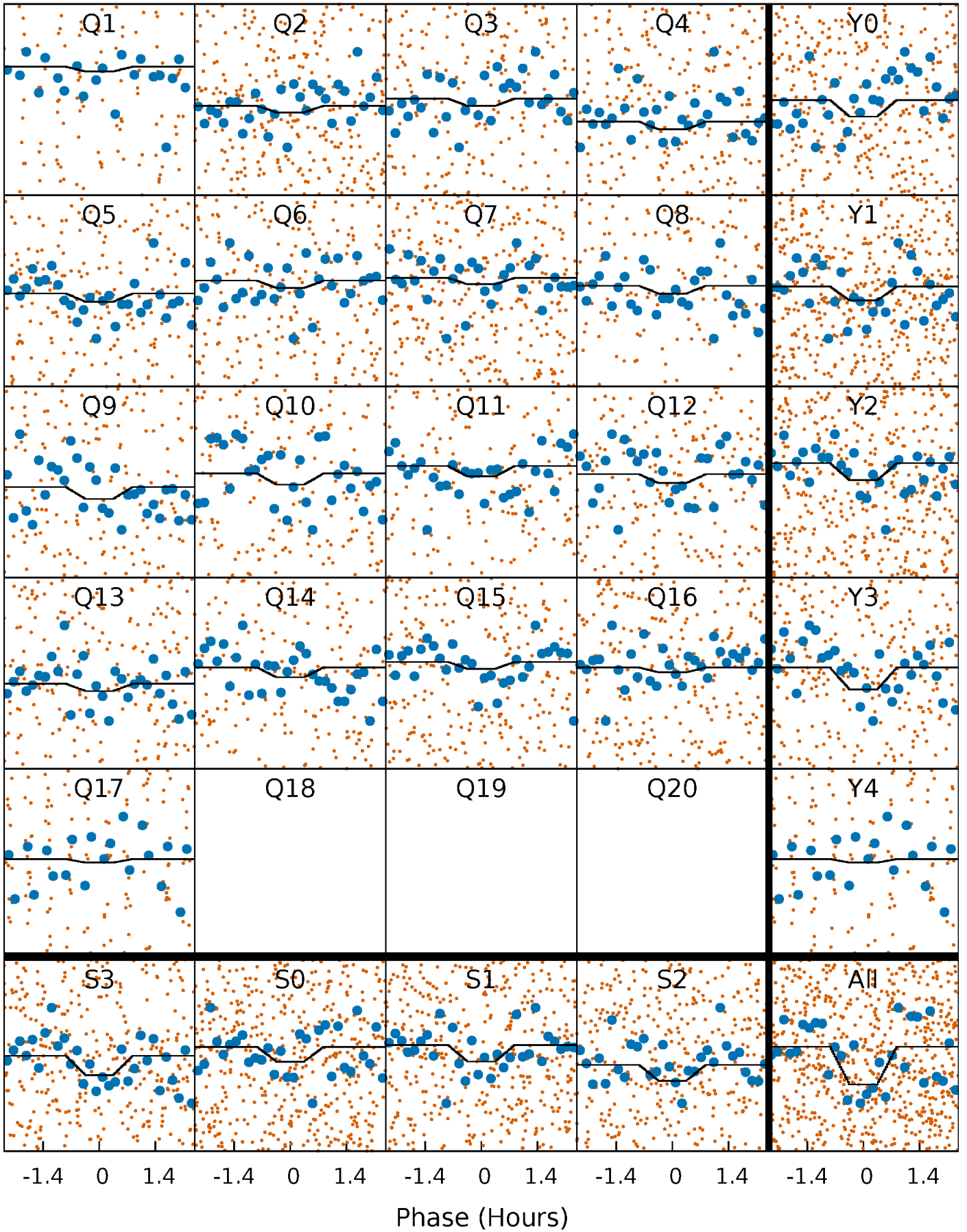
DV Quarter-Phased Transit Curves

TCE 002579147-01 P= 0.919785 Days $T_0=131.568995$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

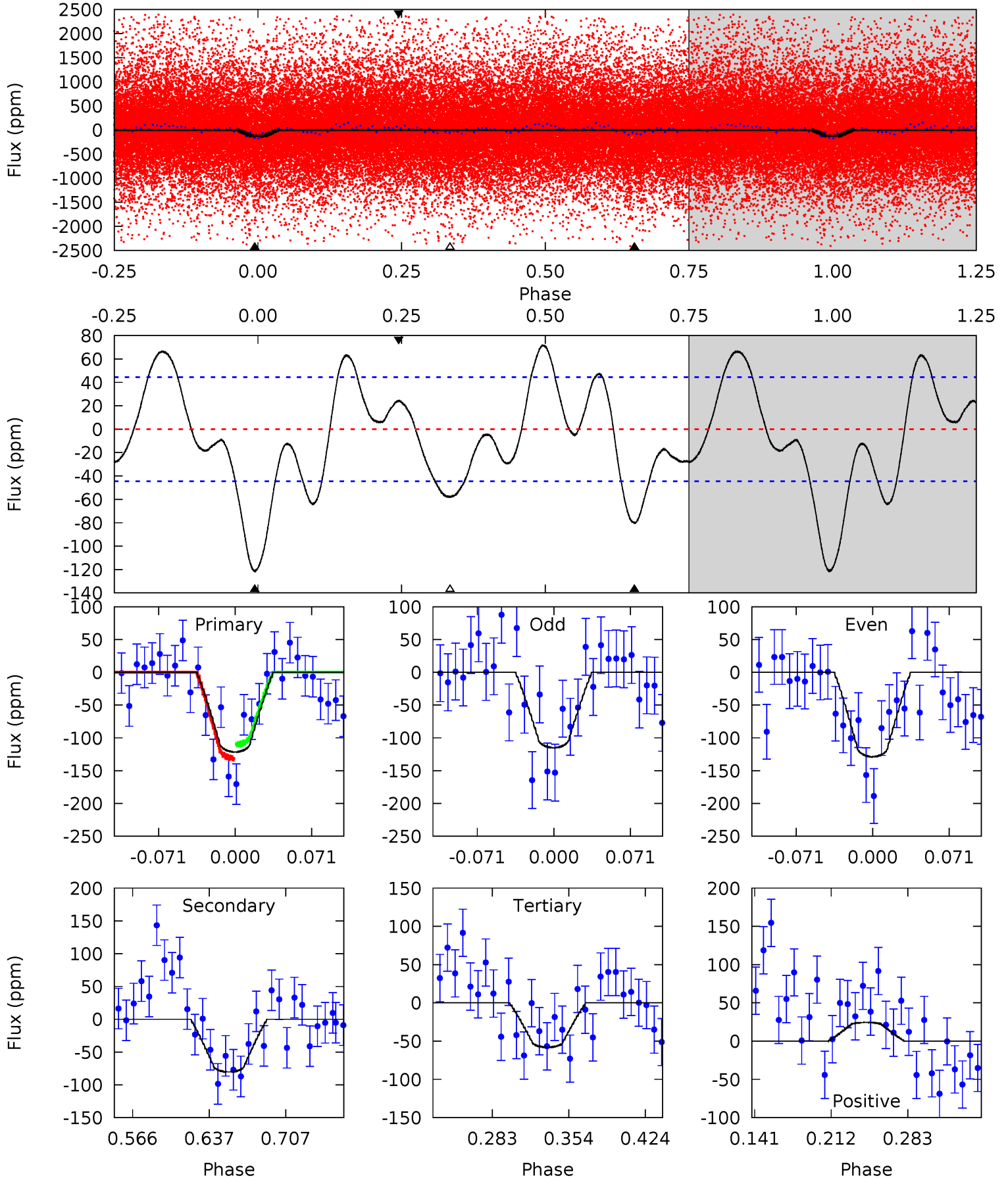
TCE 002579147-01 P= 0.919782 Days $T_0=131.568649$ (BKJD)



DV Model-Shift Uniqueness Test

002579147-01, P = 0.919785 Days, E = 130.649210 Days

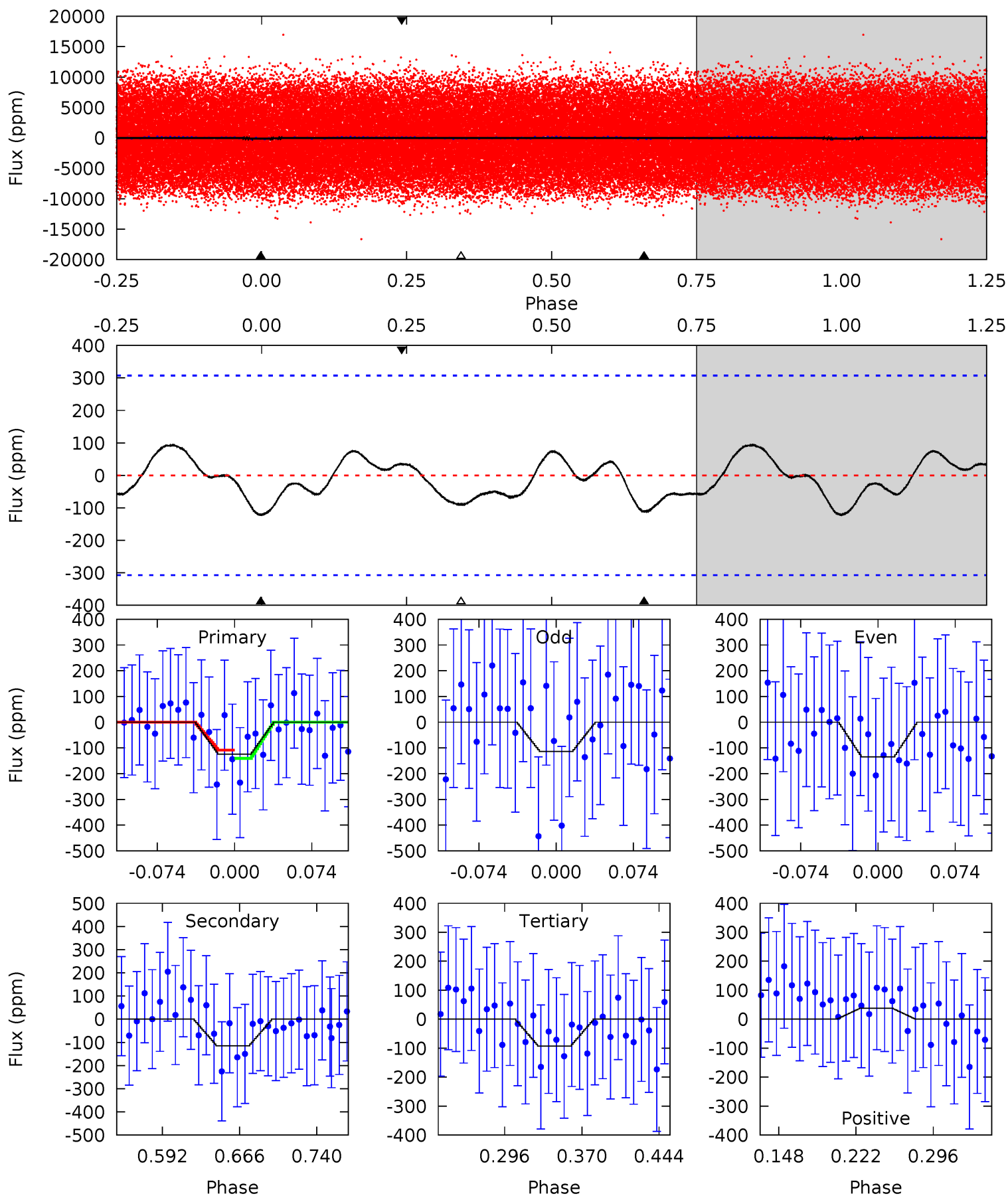
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.7	8.37	6.05	2.54	4.64	1.81	3.81	6.62	10.1	2.33	5.83	0.73	0.76	0.37	1.13



Alt Model-Shift Uniqueness Test

002579147-01, P = 0.919782 Days, E = 130.648867 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.87	1.72	1.40	0.57	4.63	1.79	0.78	0.47	1.31	0.32	1.15	0.16	0.47	0.44	0.24



Stellar Parameters For KIC 002579147

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7301^{+230}_{-374}	$3.923^{+0.267}_{-0.144}$	$0.020^{+0.200}_{-0.350}$	$2.403^{+0.549}_{-0.823}$	$1.765^{+0.196}_{-0.392}$	$0.179^{+0.322}_{-0.077}$
	+3%/-5%	+7%/-4%	+1000%/-1750%	+23%/-34%	+11%/-22%	+180%/-43%
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 002579147-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-80±10	$2.78^{+1.06}_{-0.96}$	4596^{+350}_{-432}	6249^{+1778}_{-923}	$2.824^{+3.705}_{-1.306}$
Alt.	-114±66	$2.79^{+0.99}_{-0.98}$	4595^{+332}_{-414}	6857^{+2263}_{-1743}	$3.820^{+6.342}_{-2.479}$

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 $A_{obs} \gg 1.0$

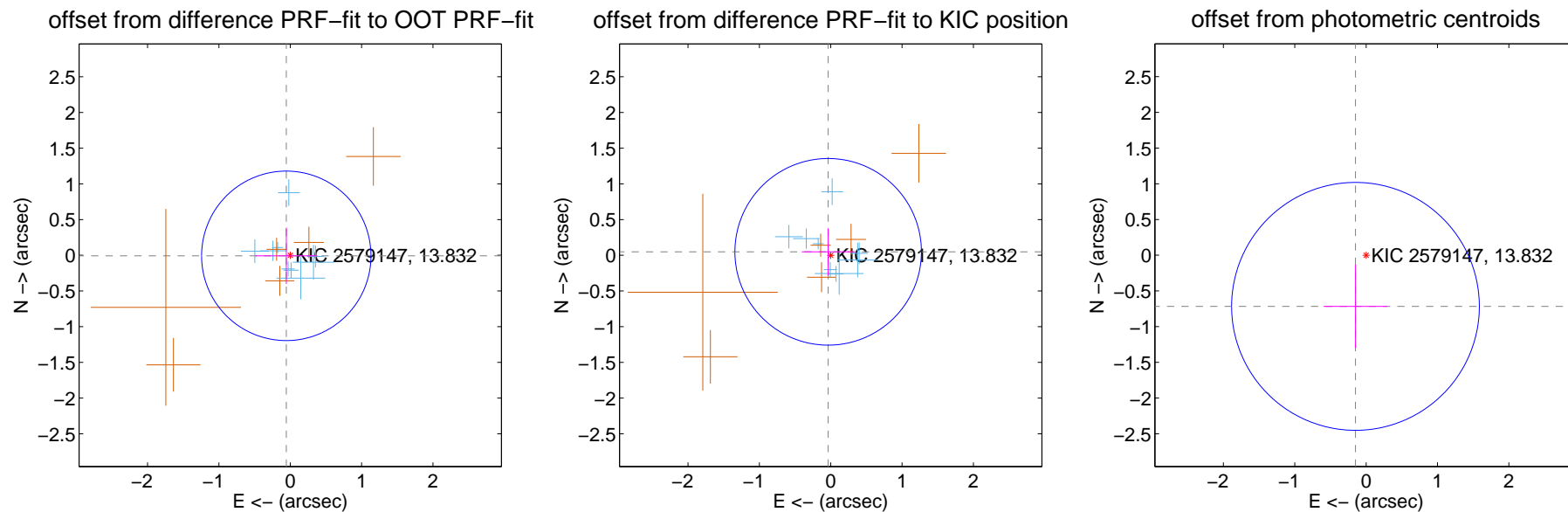
DV Centroid Data

Supplemental centroid analysis for 002579147-01. Kepler magnitude: 13.83. Transit SNR 11.62

There are 9 quarters with good PRF difference image offsets

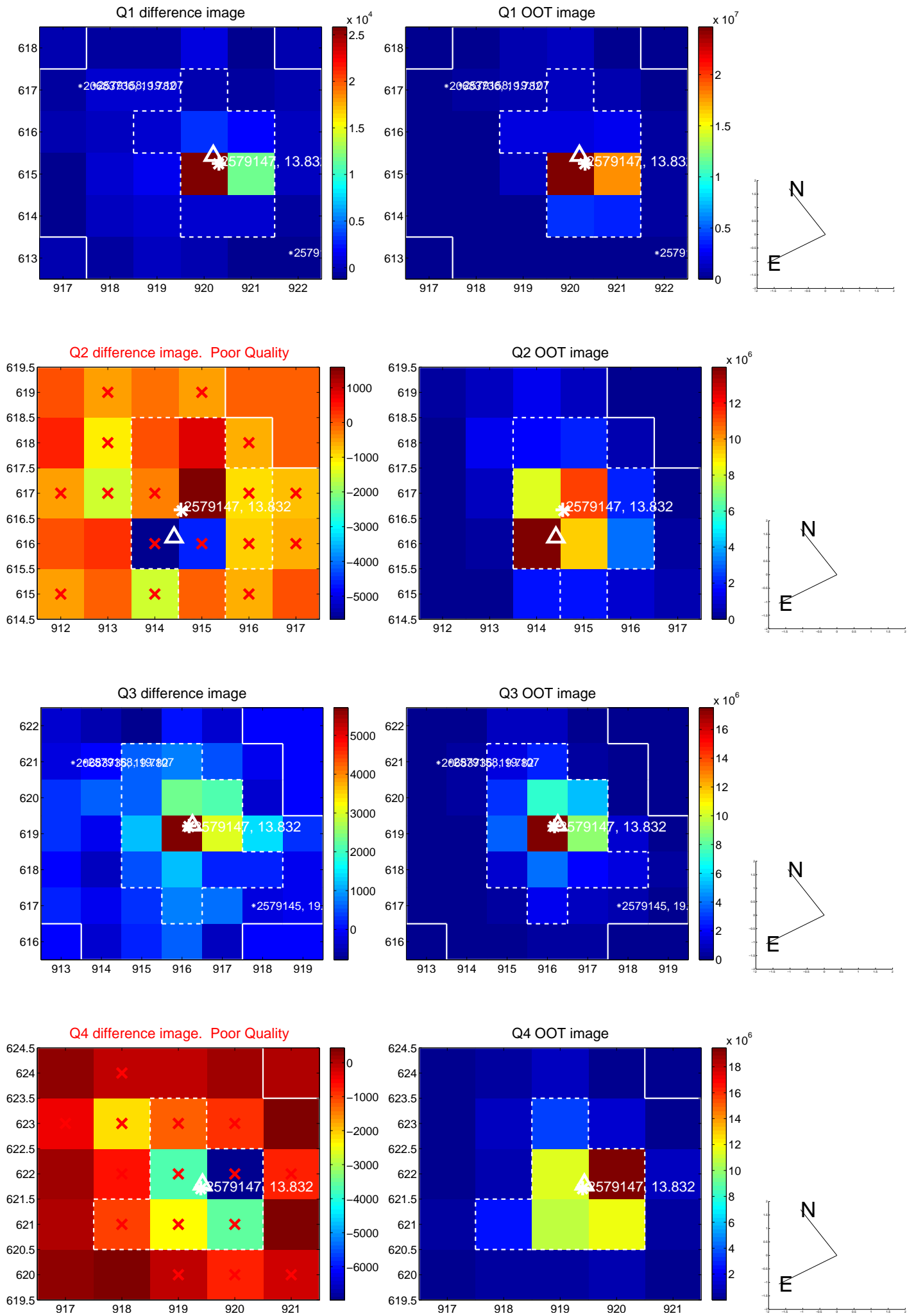
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.056 ± 0.396	0.14	0.056 ± 0.436	-0.008 ± 0.393
PRF-fit source offset from KIC position	0.060 ± 0.435	0.14	0.036 ± 0.370	0.048 ± 0.329
photometric centroid source offset	0.73 ± 0.58	1.26	0.15 ± 0.45	-0.72 ± 0.58

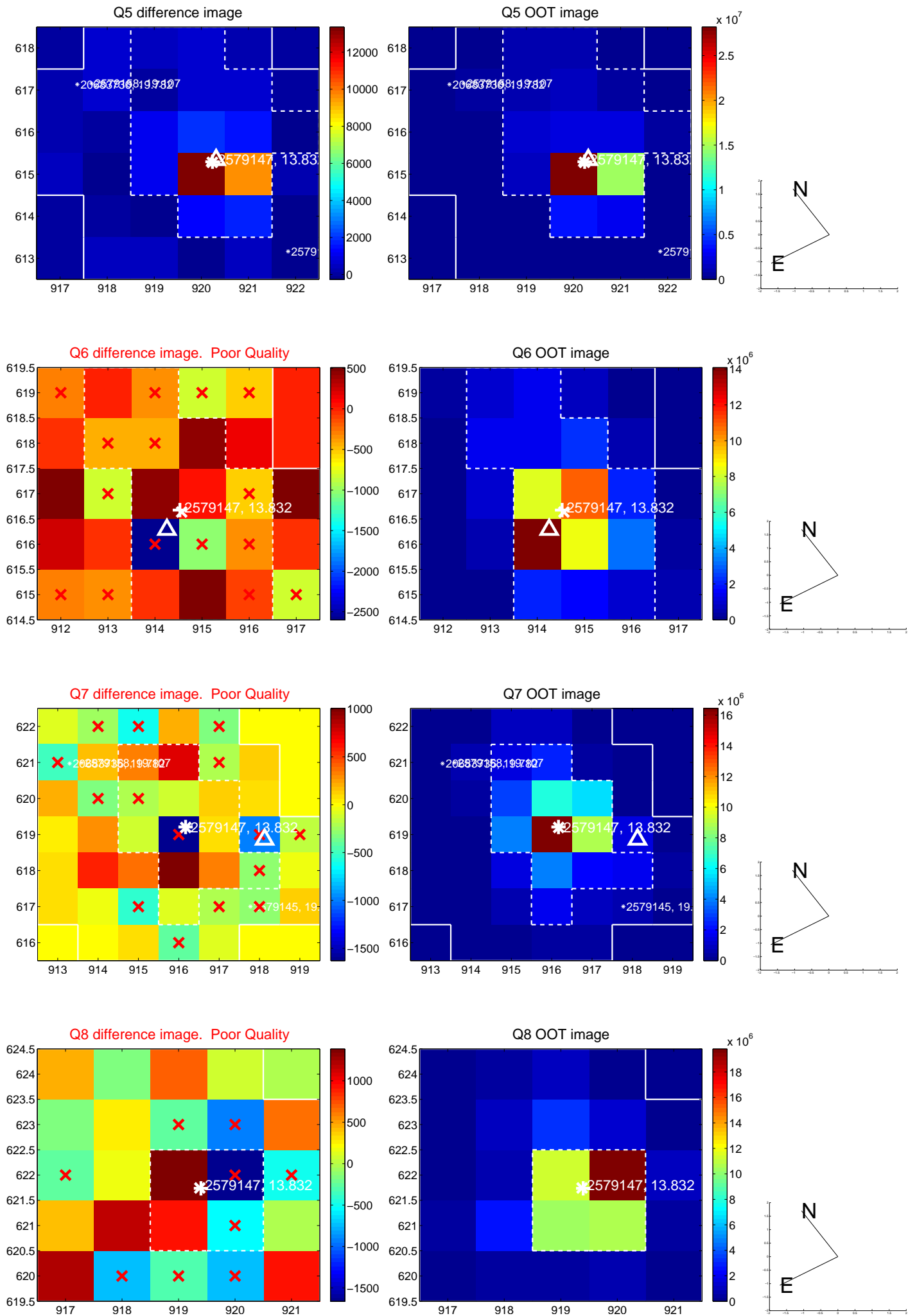


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

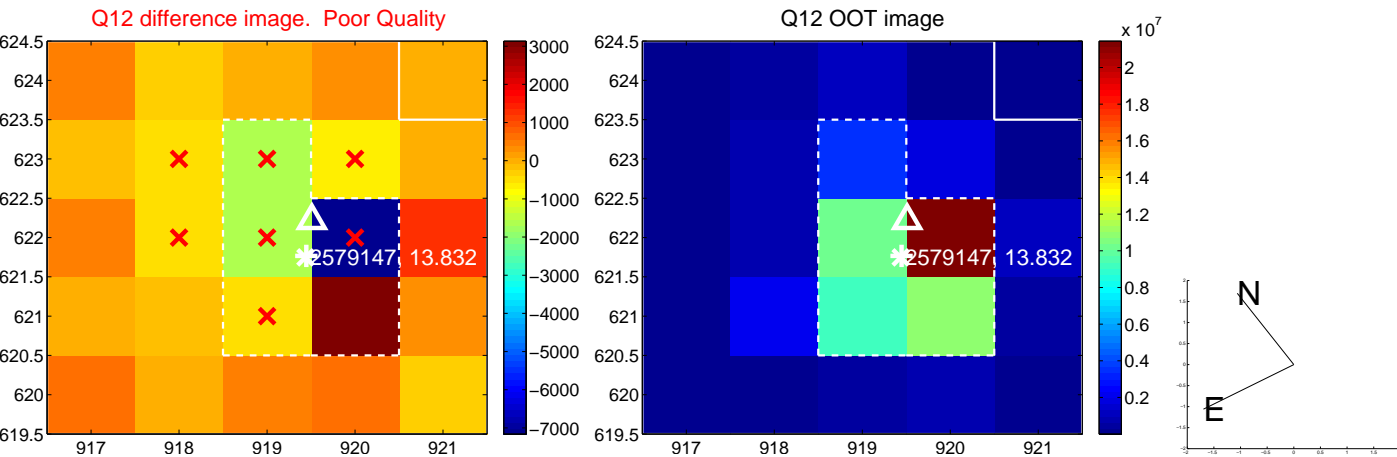
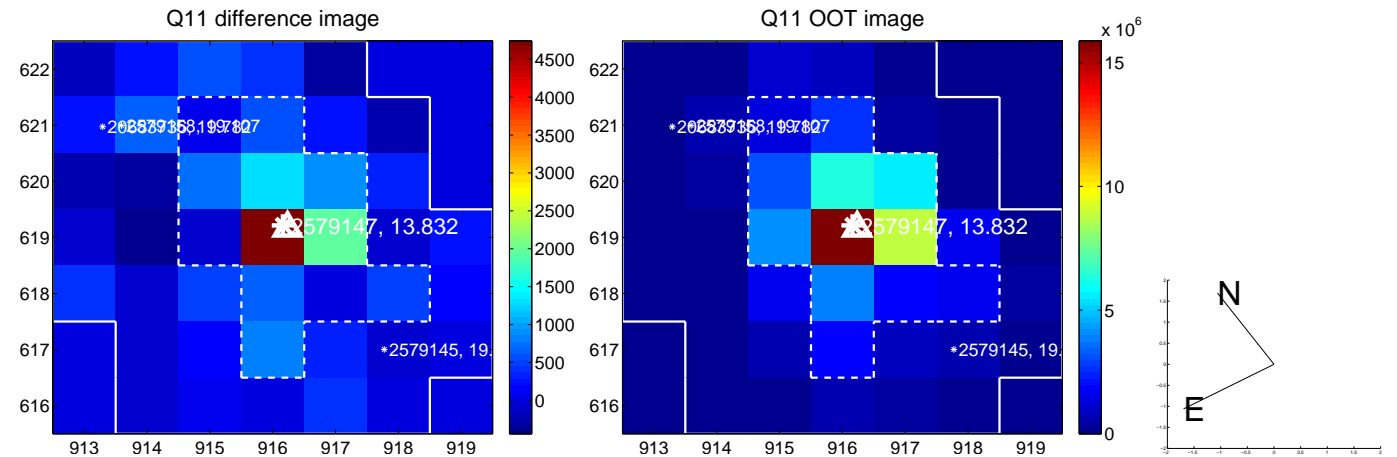
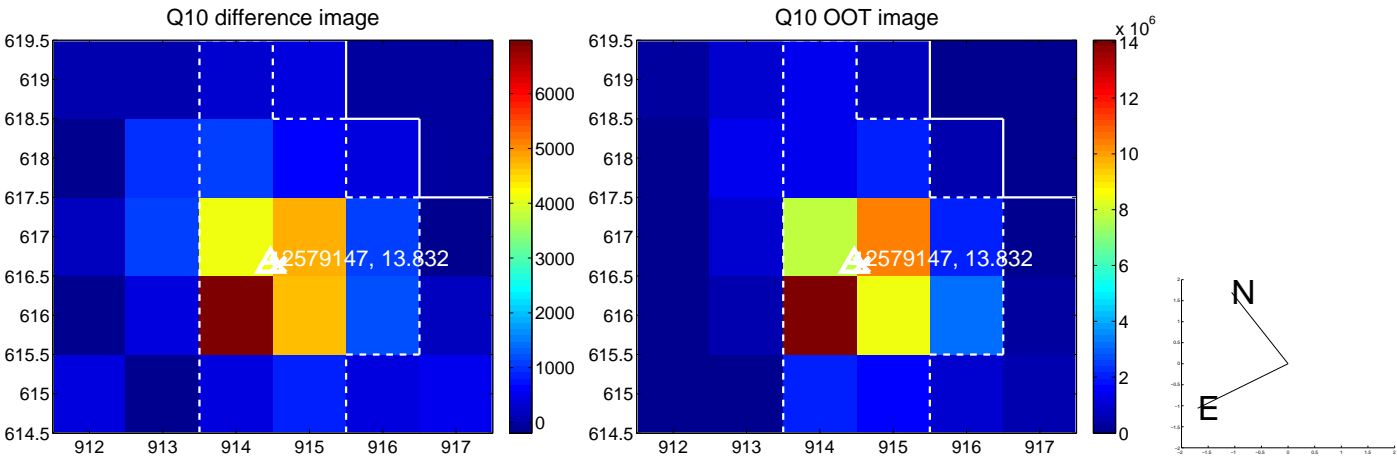
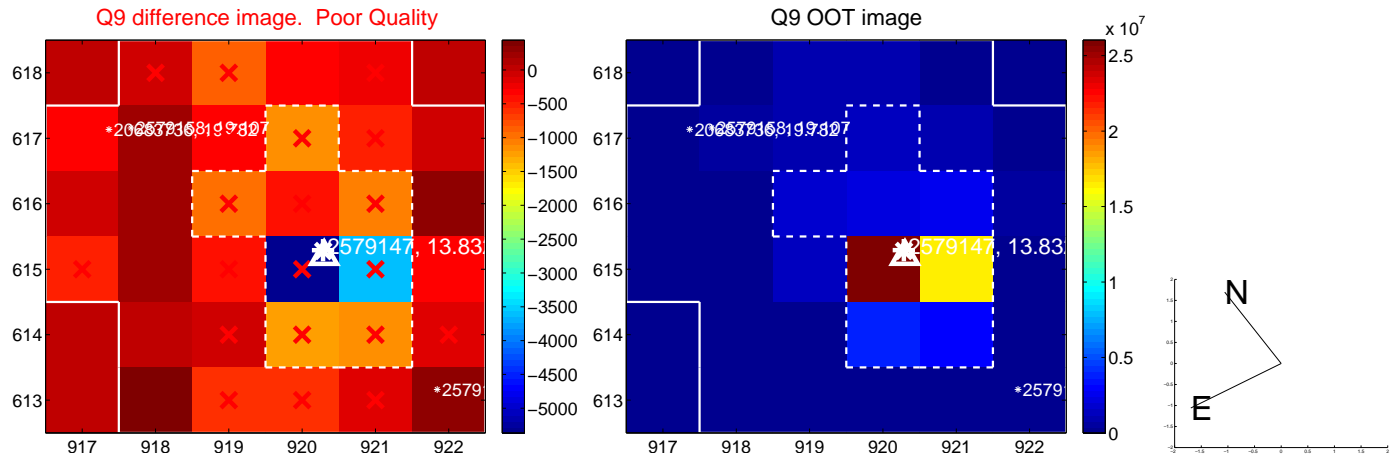
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



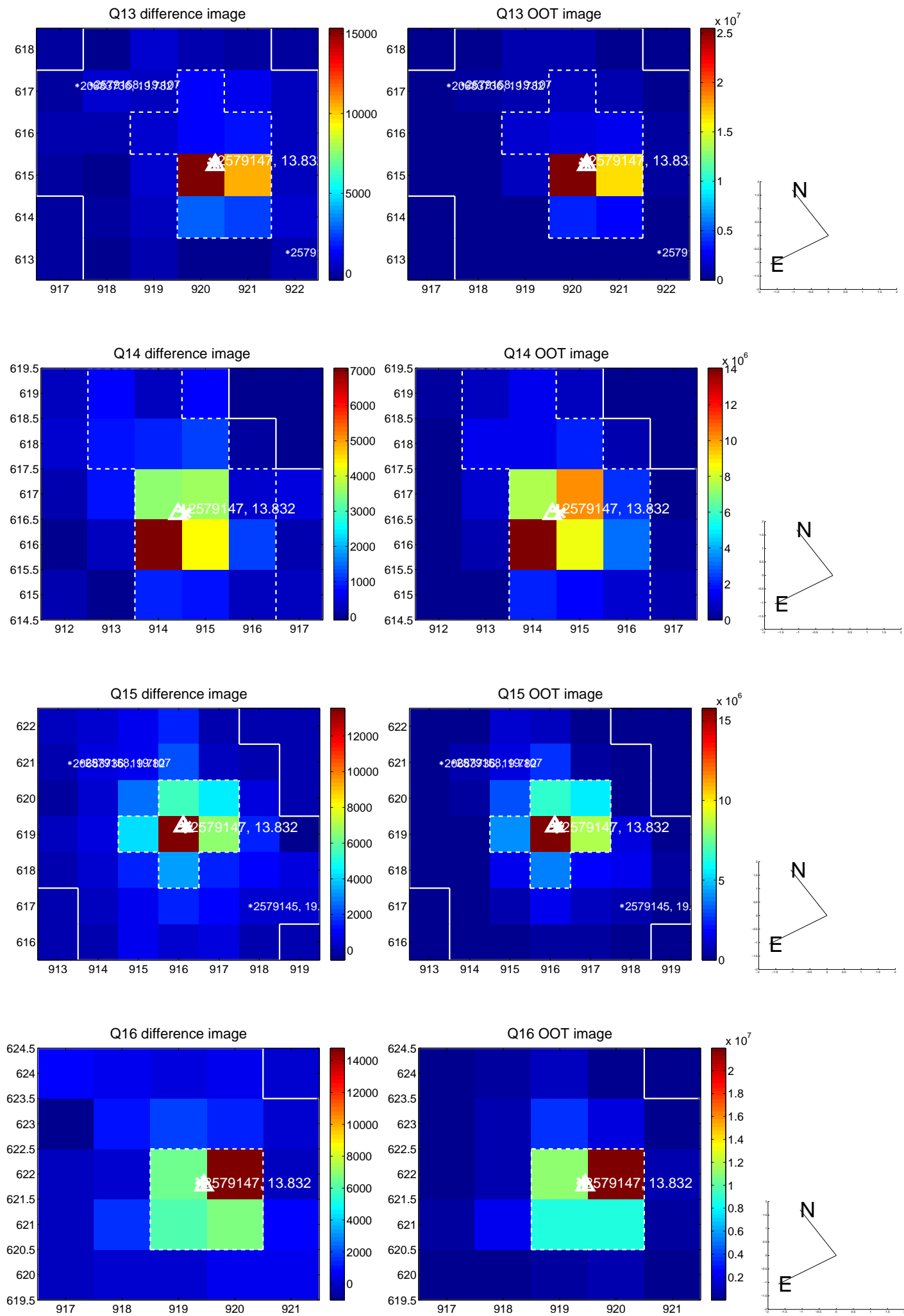
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



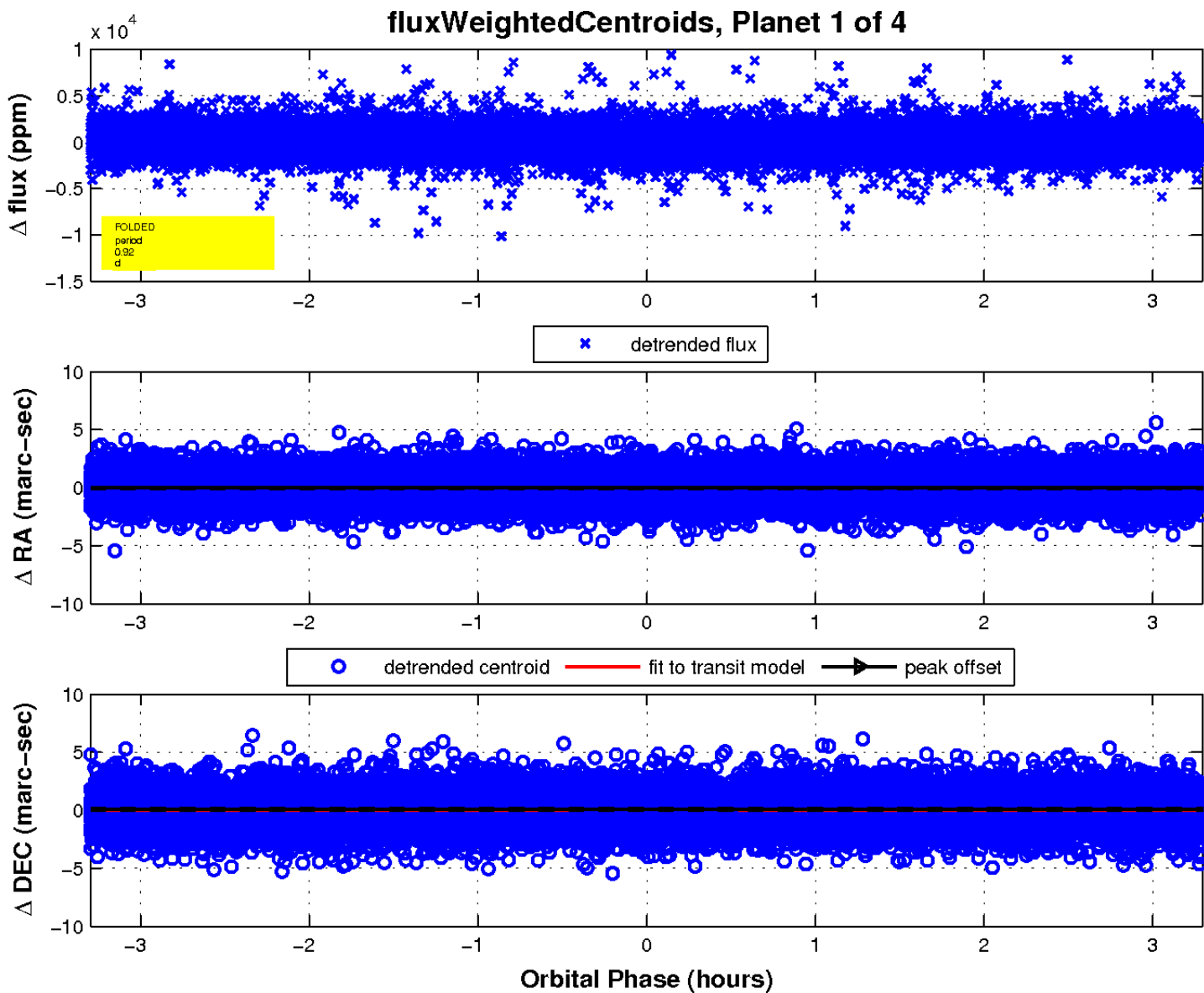
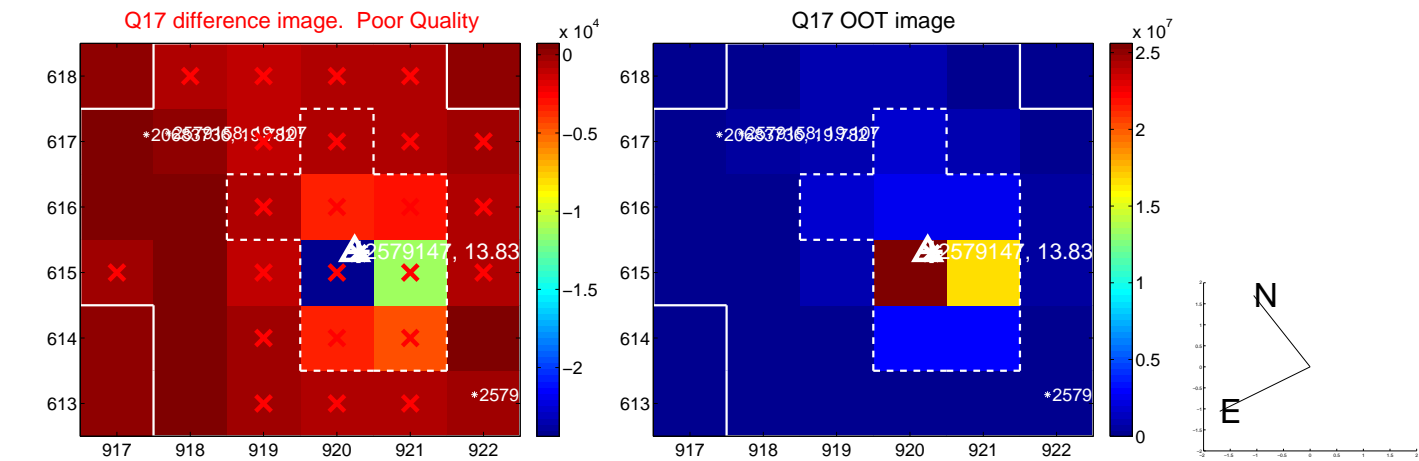
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

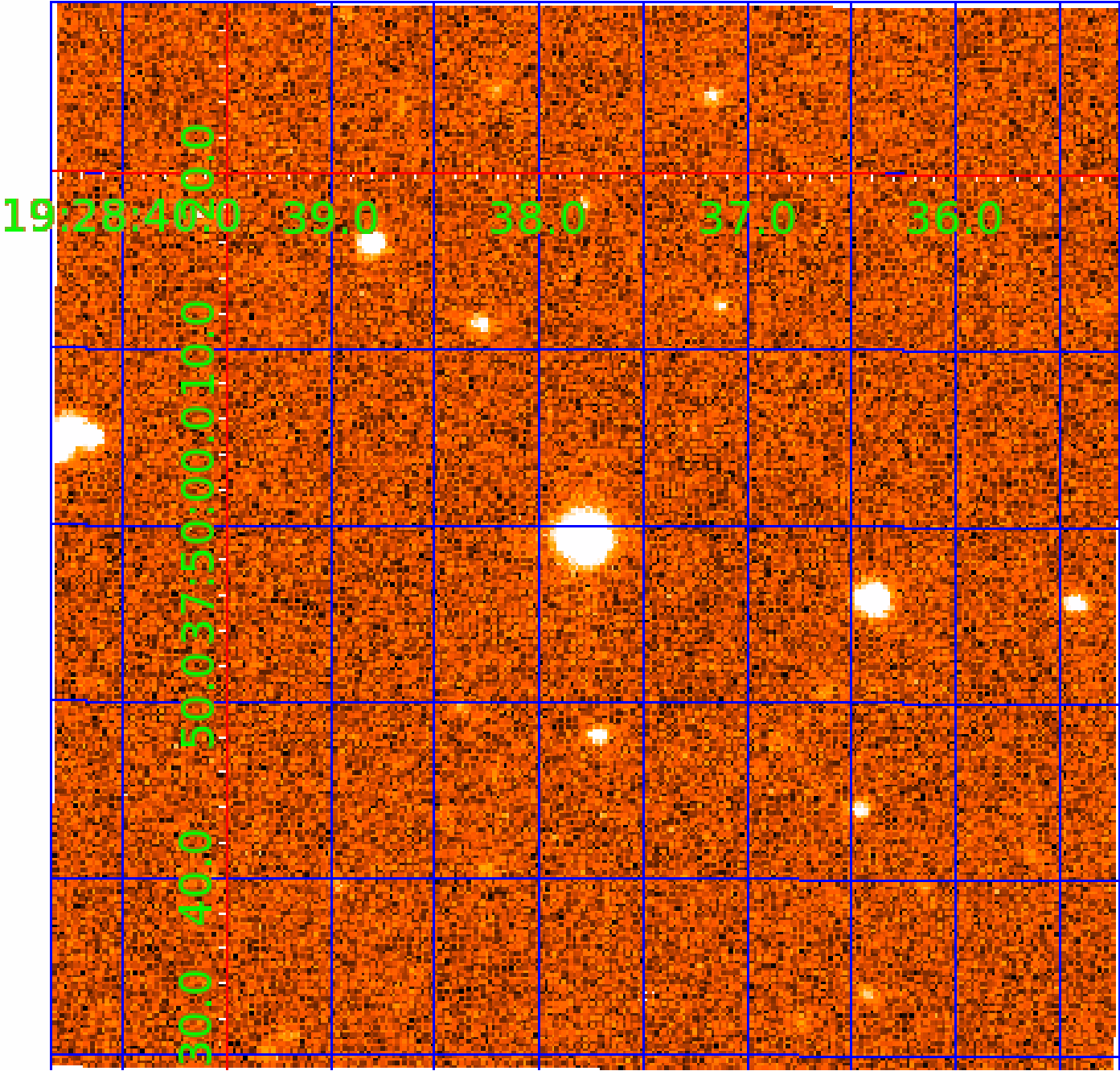


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002579147

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})
002579147-01	OBS	No	0.919785	131.568995	129.6	1.099	9.4	11.6	2.40	7301	2.85	29377.26
002579147-02	OBS	No	7.351746	137.611353	520.8	14.761	9.5	9.2	2.40	7301	9.08	1838.25
002579147-03	OBS	No	7.352587	134.277102	665.7	21.433	10.0	12.9	2.40	7301	11.62	1837.97
002579147-04	OBS	No	7.353951	132.136855	339.6	20.710	7.3	10.1	2.40	7301	4.62	1837.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002579147-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
002579147-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
002579147-03	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
002579147-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

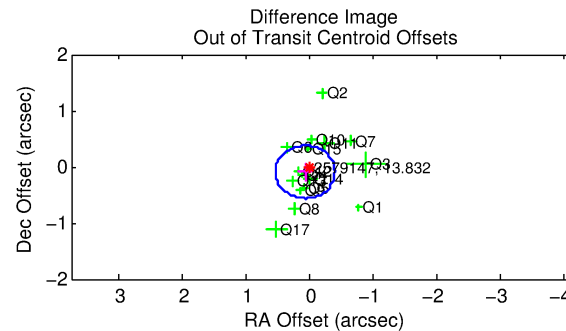
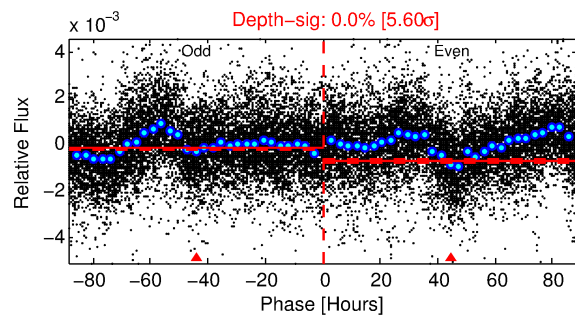
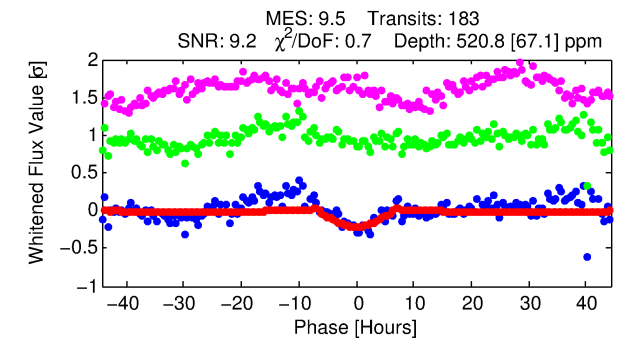
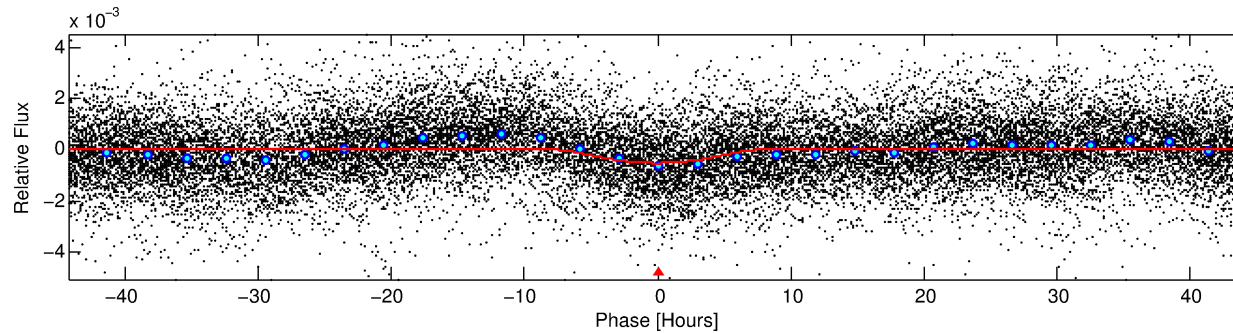
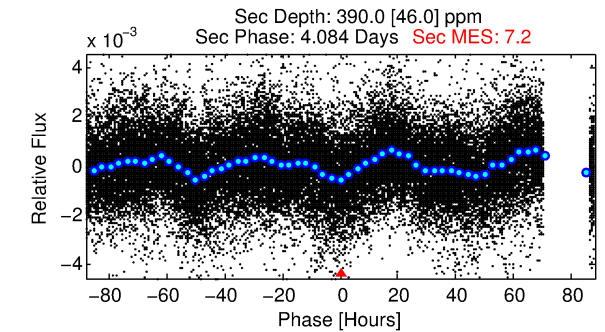
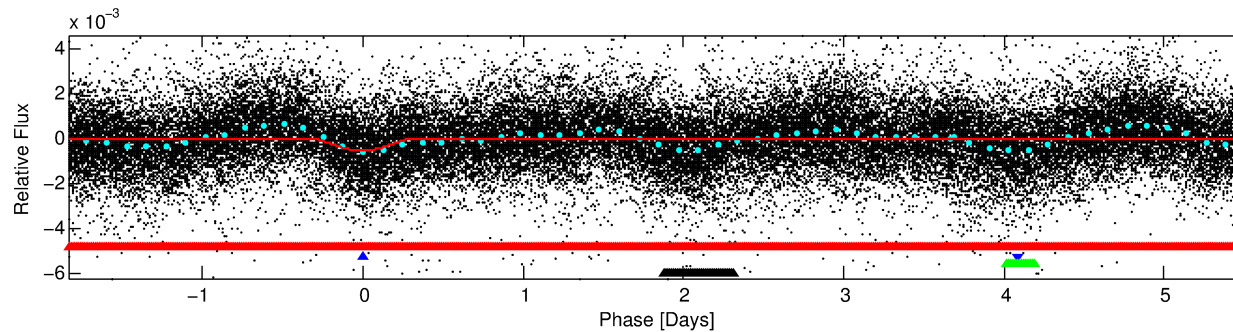
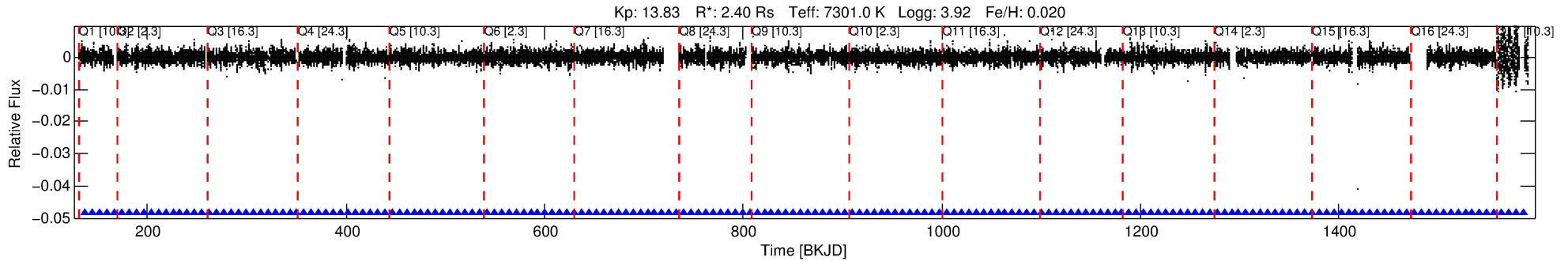
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002579147-02

No Significant Match Found

DV One-Page Summary

KIC: 2579147 Candidate: 2 of 4 Period: 7.352 d



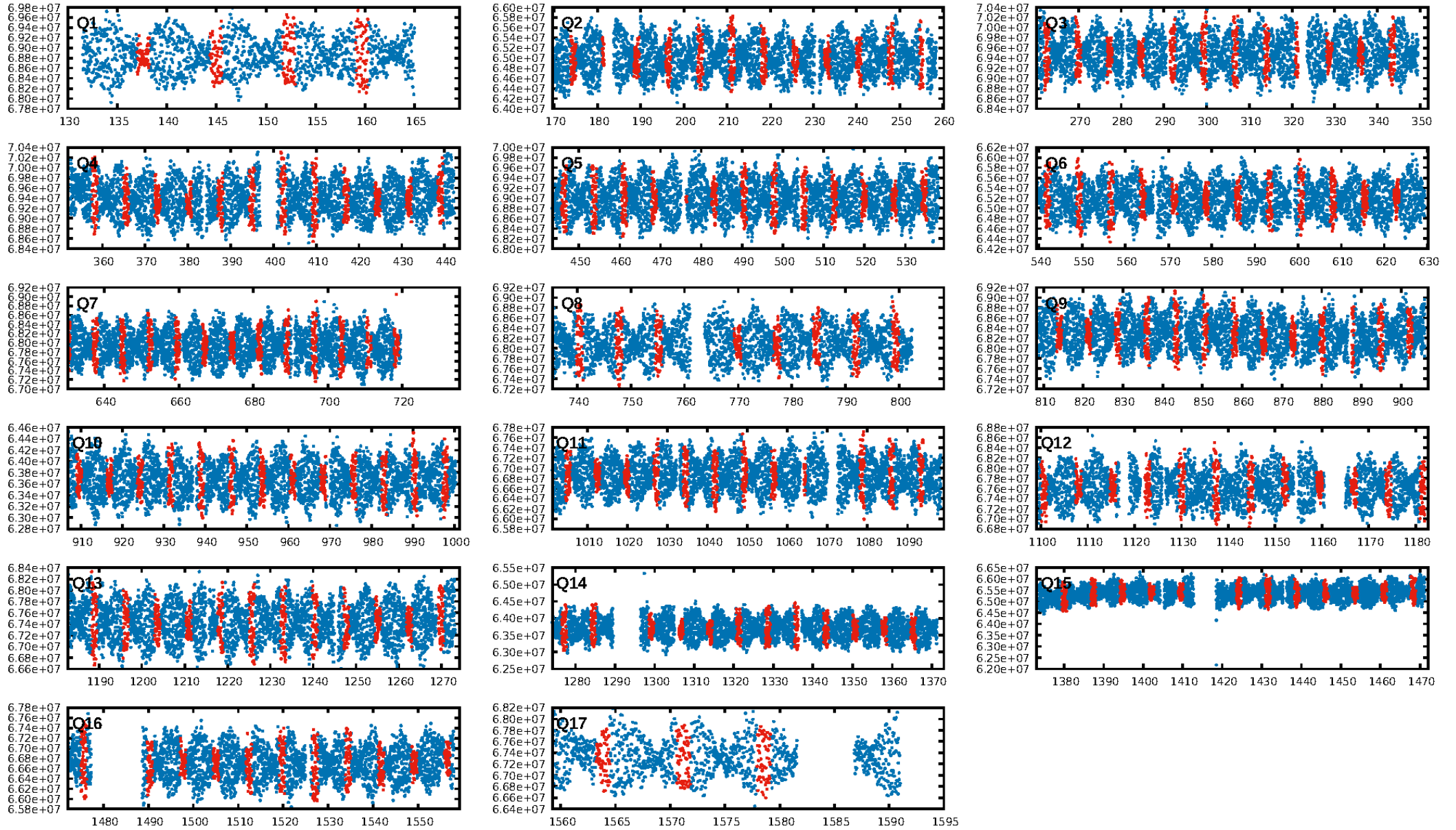
DV Fit Results:

Period = 7.35175 [0.00028] d
Epoch = 137.6114 [0.0312] BKJD
Rp/R* = 0.0346 [0.0435]
a/R* = 1.50 [0.26]
b = 0.99 [0.07]
Seff = 1838.25 [941.11]
Teq = 1670 [214] K
Rp = 9.08 [11.83] Re
a = 0.0894 [0.0274] AU
Ag = 20.79 [53.20] [0.37 σ]
Teffp = 5512 [3478] K [1.10 σ]

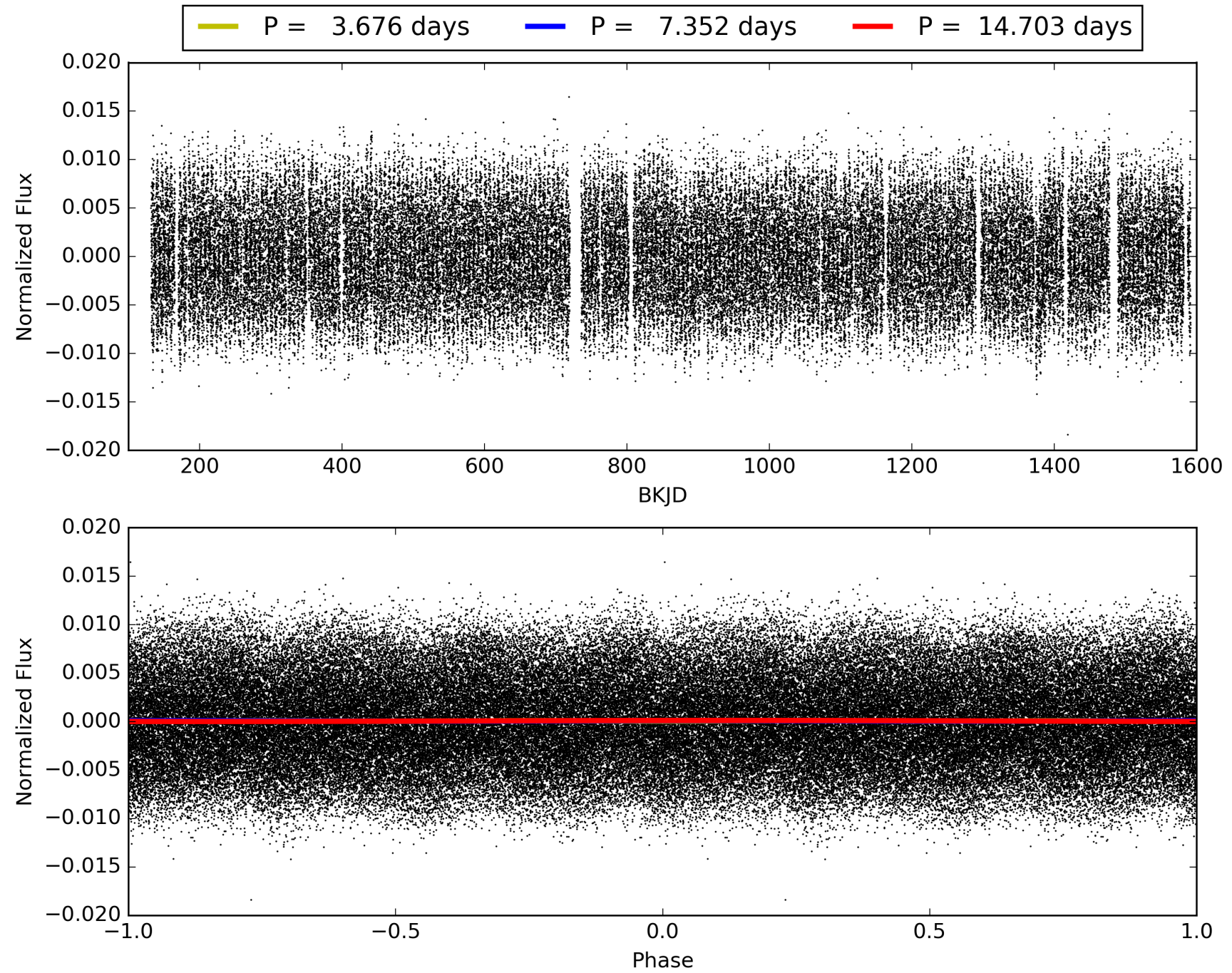
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [10.43 σ]
LongPeriod-sig: 0.1% [0.00 σ]
ModelChiSquare2-sig: 91.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [176/176]
GhostDiagnostic-chr: 1.072
Centroid-sig: 73.3%
Centroid-so: 0.255 arcsec [1.69 σ]
OotOffset-rm: 0.121 arcsec [0.77 σ]
KicOffset-rm: 0.075 arcsec [0.55 σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 002579147-02, PDC Light Curves

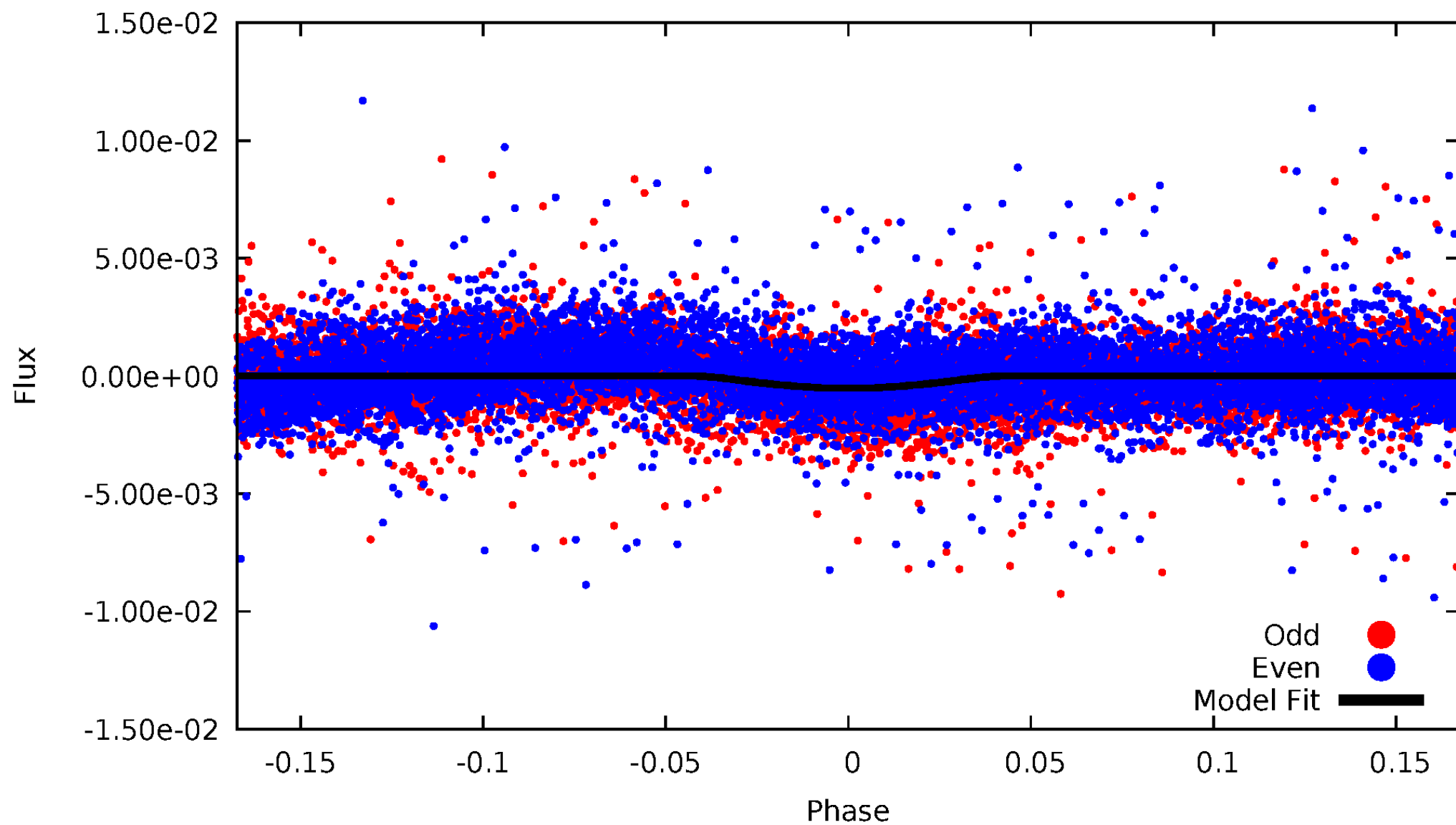


TCE 002579147-02



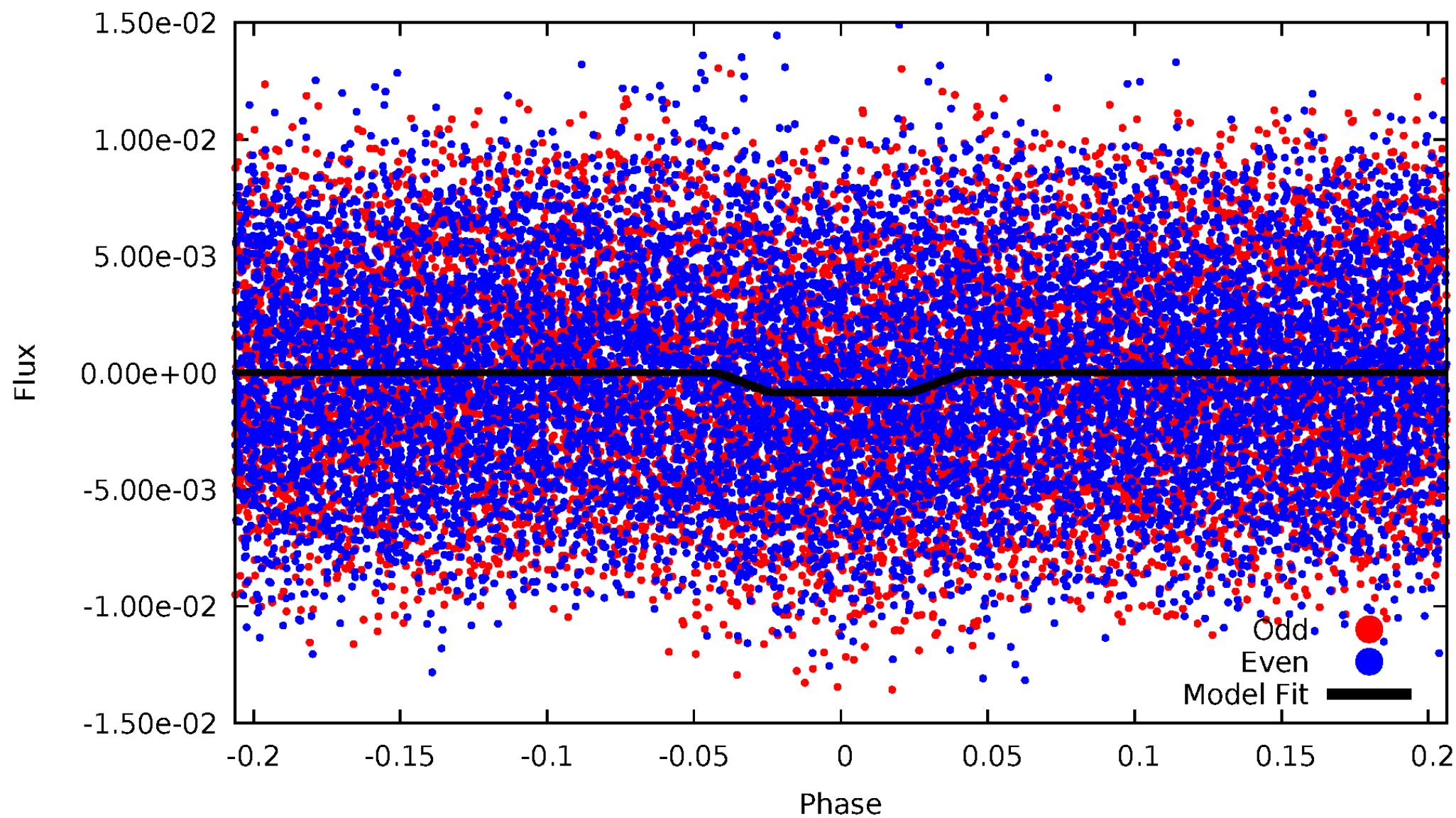
DV Odd/Even

TCE 002579147-02



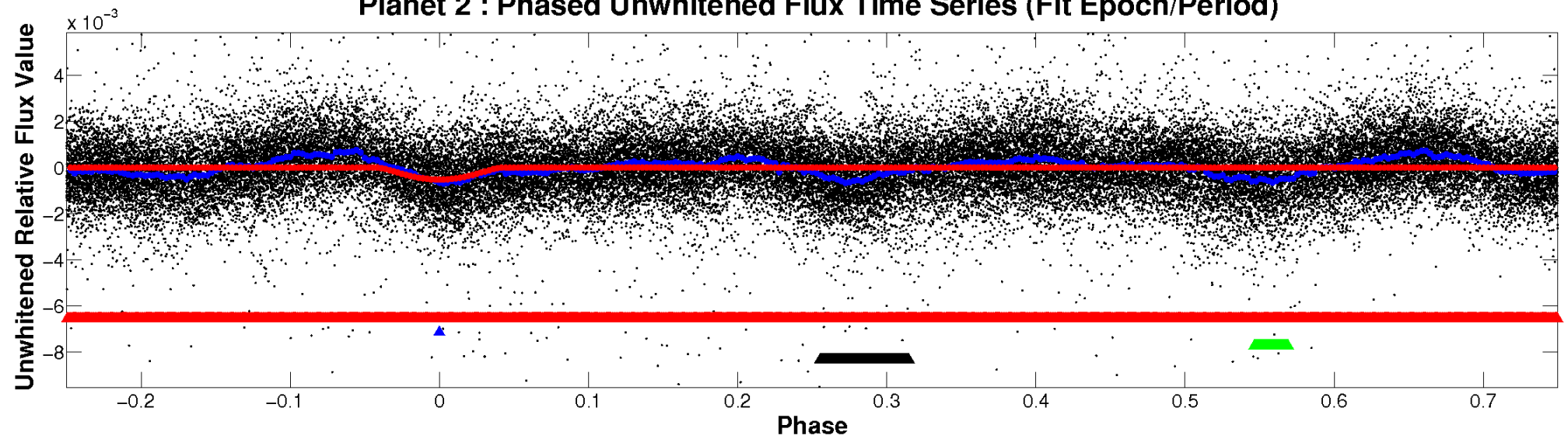
ALT Odd/Even

TCE 002579147-02

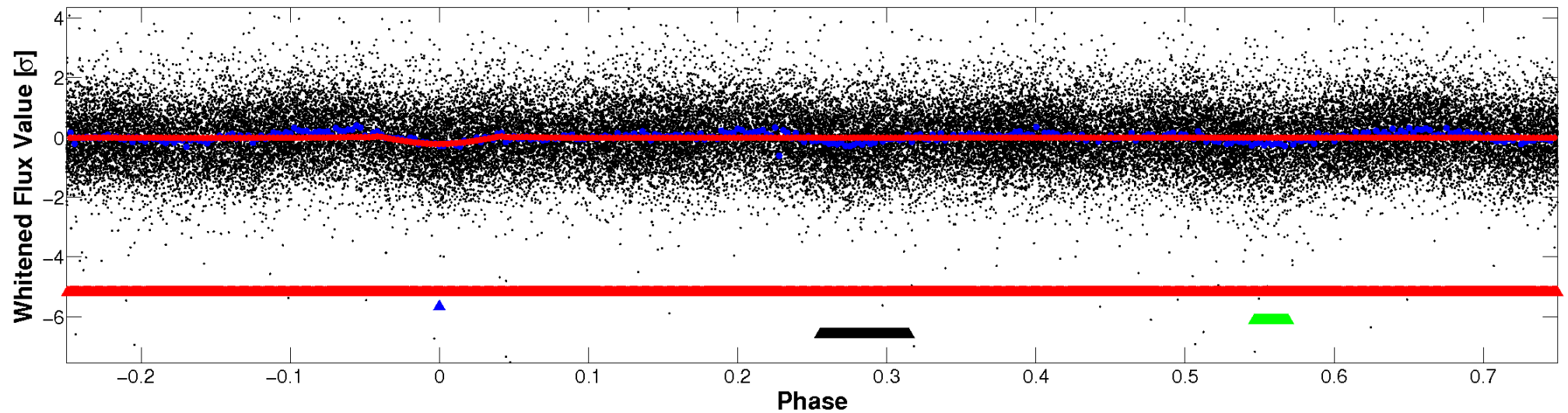


Non-Whitened Vs. Whitened Light Curve

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

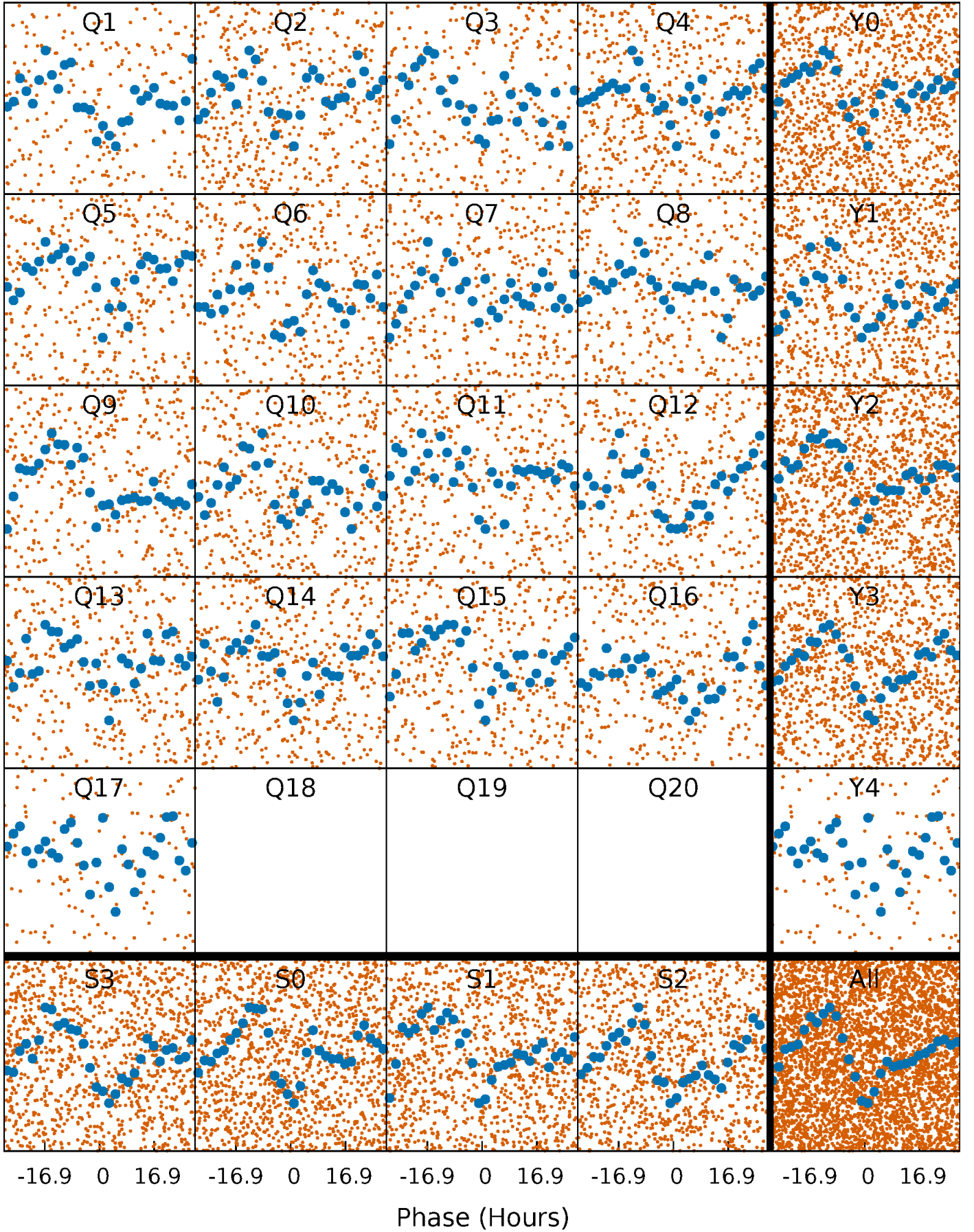


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



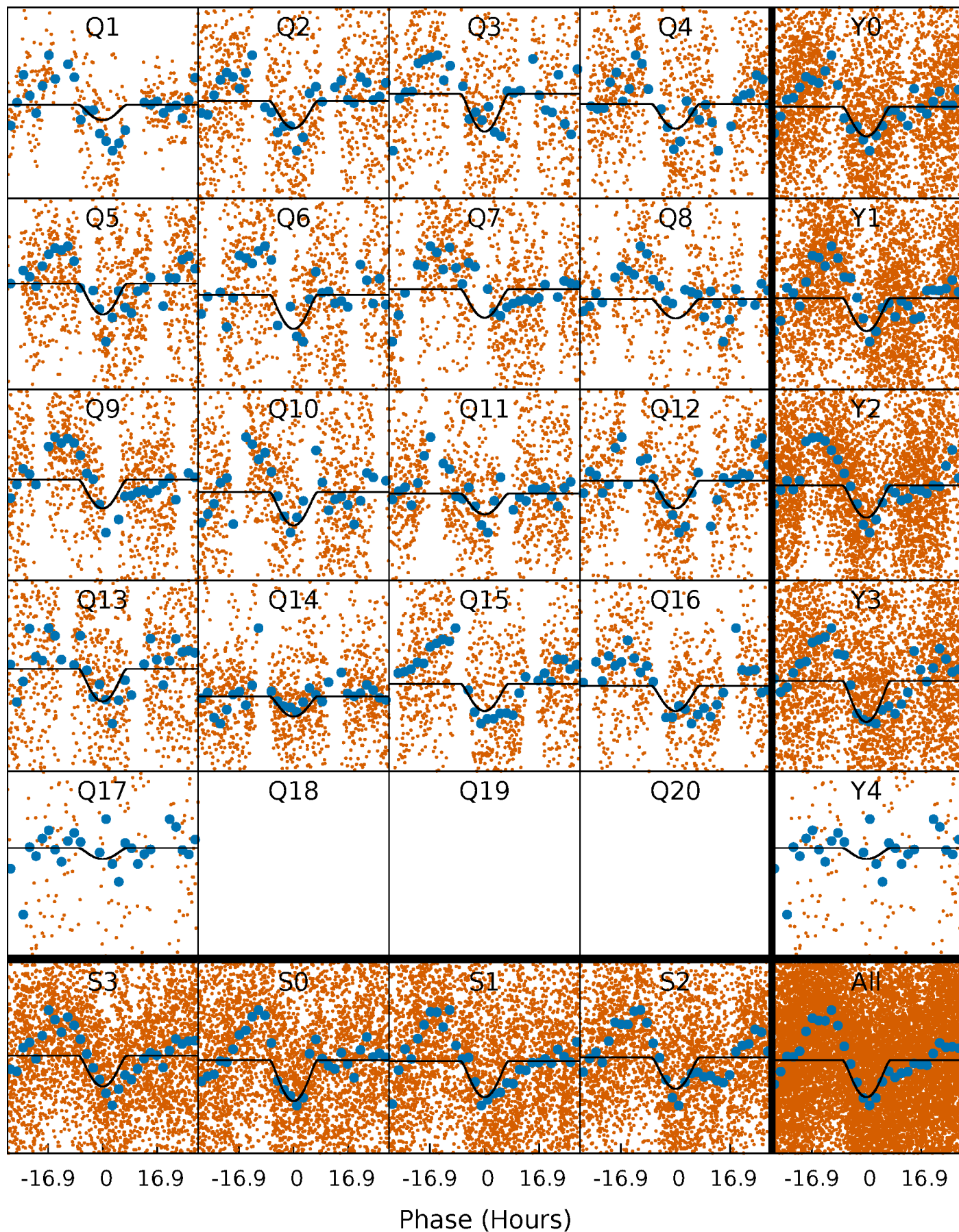
PDC Quarter-Phased Transit Curves

TCE 002579147-02 P= 7.351746 Days $T_0=137.611354$ (BKJD)



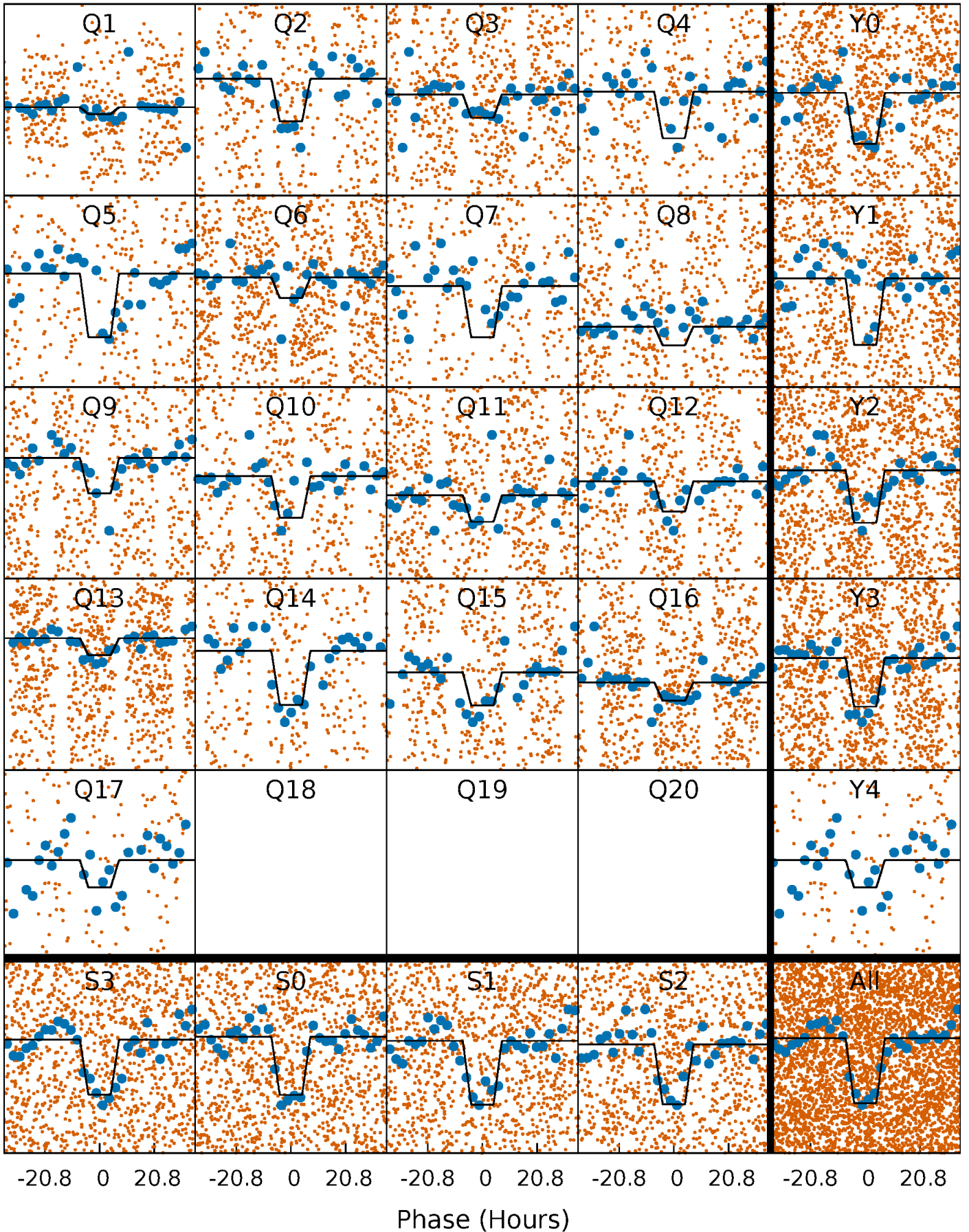
DV Quarter-Phased Transit Curves

TCE 002579147-02 $P = 7.351746$ Days $T_0 = 137.611354$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

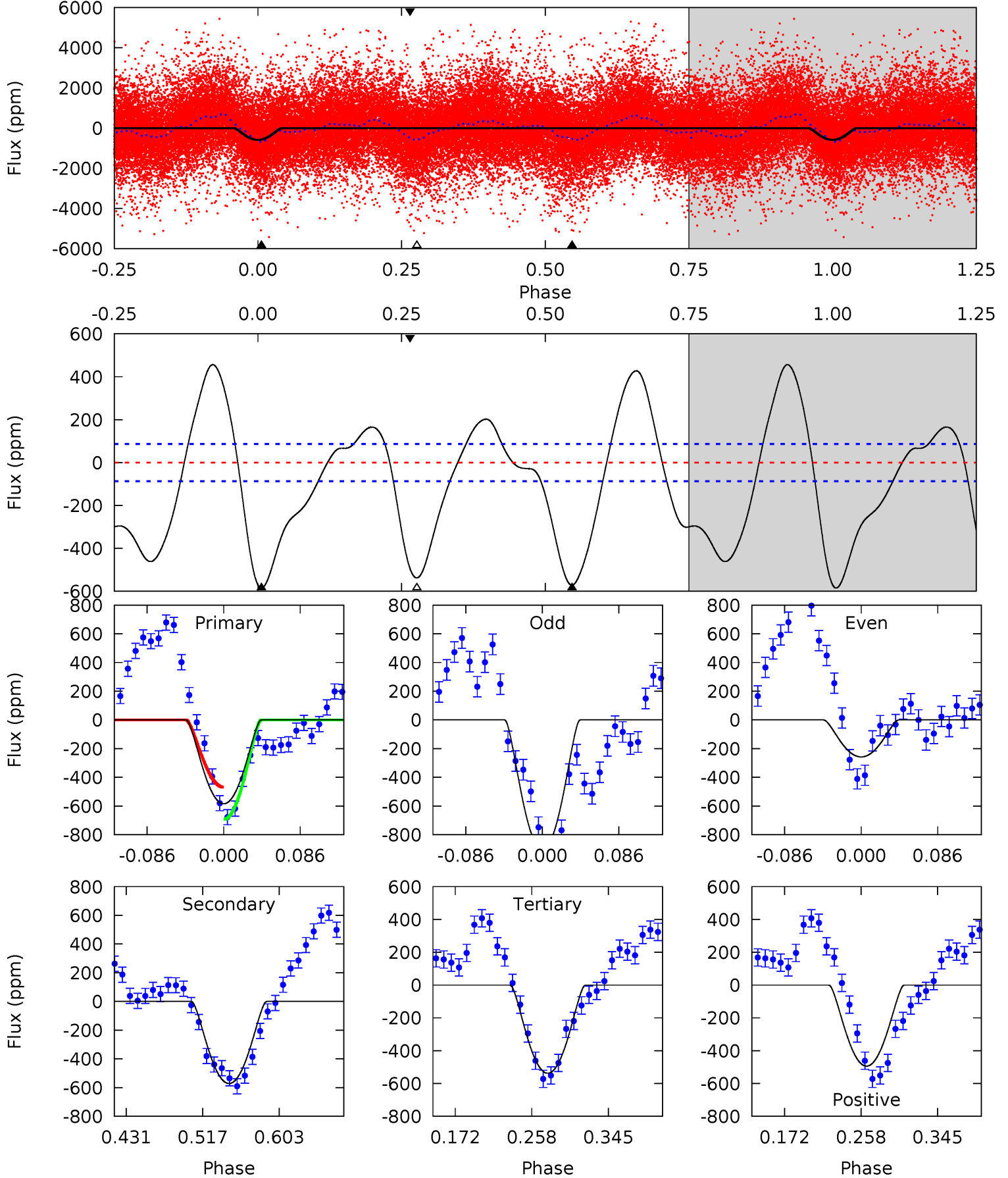
TCE 002579147-02 P= 7.353282 Days $T_0=137.498999$ (BKJD)



DV Model-Shift Uniqueness Test

002579147-02, P = 7.351746 Days, E = 130.259608 Days

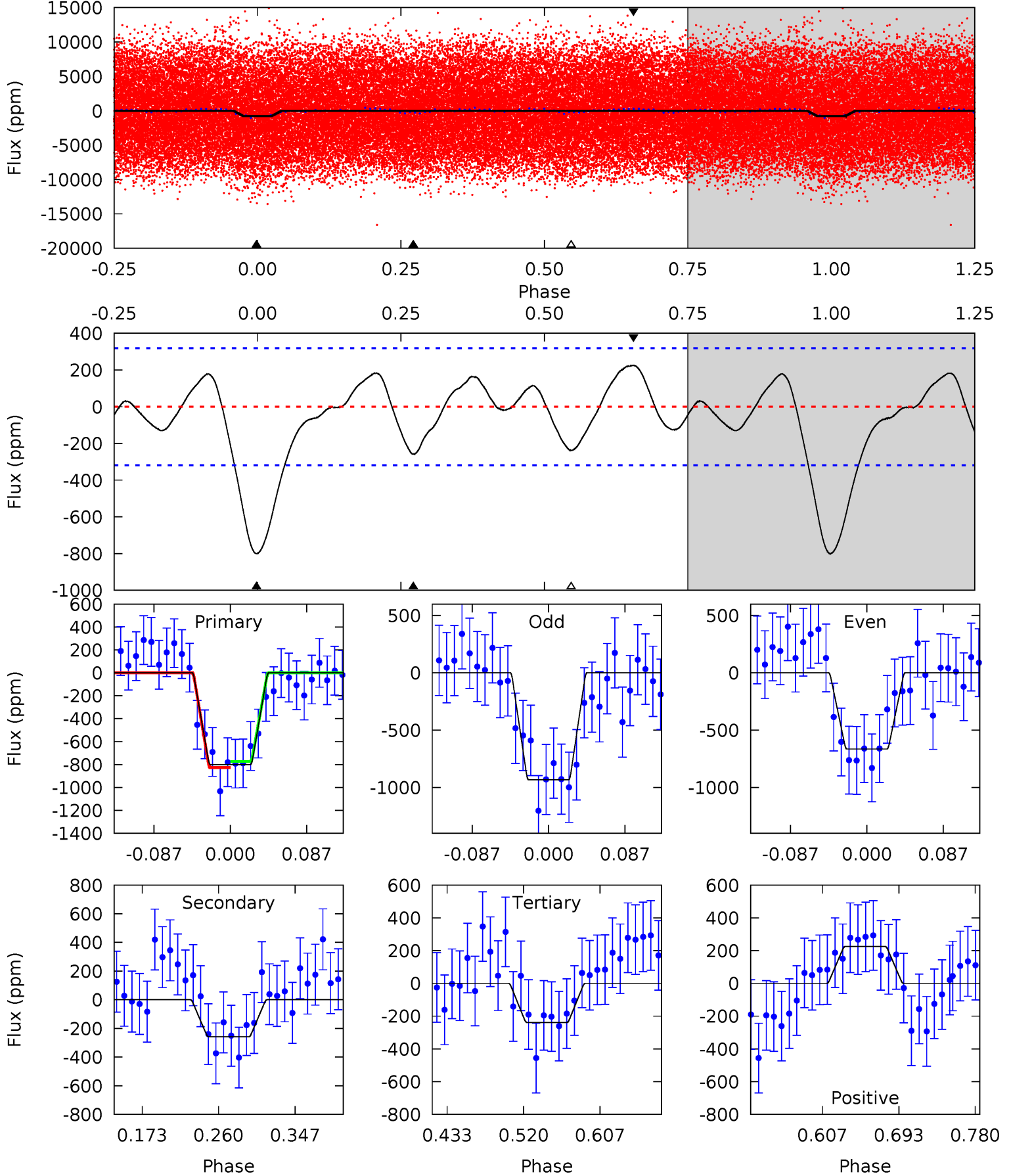
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.0	30.3	28.5	-26.2	4.60	1.72	14.0	2.49	57.1	1.79	56.4	17.2	0.88	0.44	5.99



Alt Model-Shift Uniqueness Test

002579147-02, P = 7.353282 Days, E = 130.145717 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	3.74	3.44	3.25	4.59	1.71	1.60	8.10	8.29	0.30	0.49	1.94	0.99	0.22	0.38



Stellar Parameters For KIC 002579147

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7301^{+230}_{-374}	$3.923^{+0.267}_{-0.144}$	$0.020^{+0.200}_{-0.350}$	$2.403^{+0.549}_{-0.823}$	$1.765^{+0.196}_{-0.392}$	$0.179^{+0.322}_{-0.077}$
	+3%/-5%	+7%/-4%	+1000%/-1750%	+23%/-34%	+11%/-22%	+180%/-43%
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 002579147-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-572 ± 19	$11.60^{+10.34}_{-7.31}$	2292^{+167}_{-208}	5155^{+3465}_{-1115}	18^{+115}_{-13}
Alt.	-259 ± 69	$10.53^{+9.87}_{-7.12}$	2296^{+166}_{-211}	4516^{+3369}_{-1000}	$9.629^{+77.223}_{-7.160}$

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

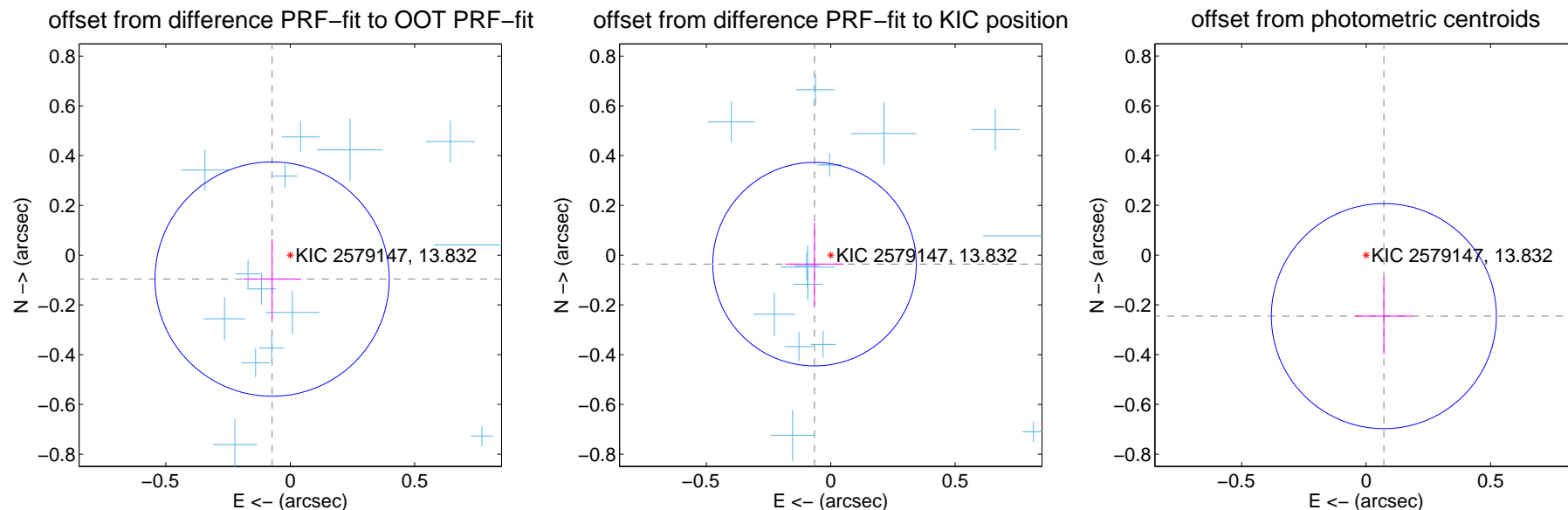
DV Centroid Data

Supplemental centroid analysis for 002579147-02. Kepler magnitude: 13.83. Transit SNR 9.16

There are 16 quarters with good PRF difference image offsets

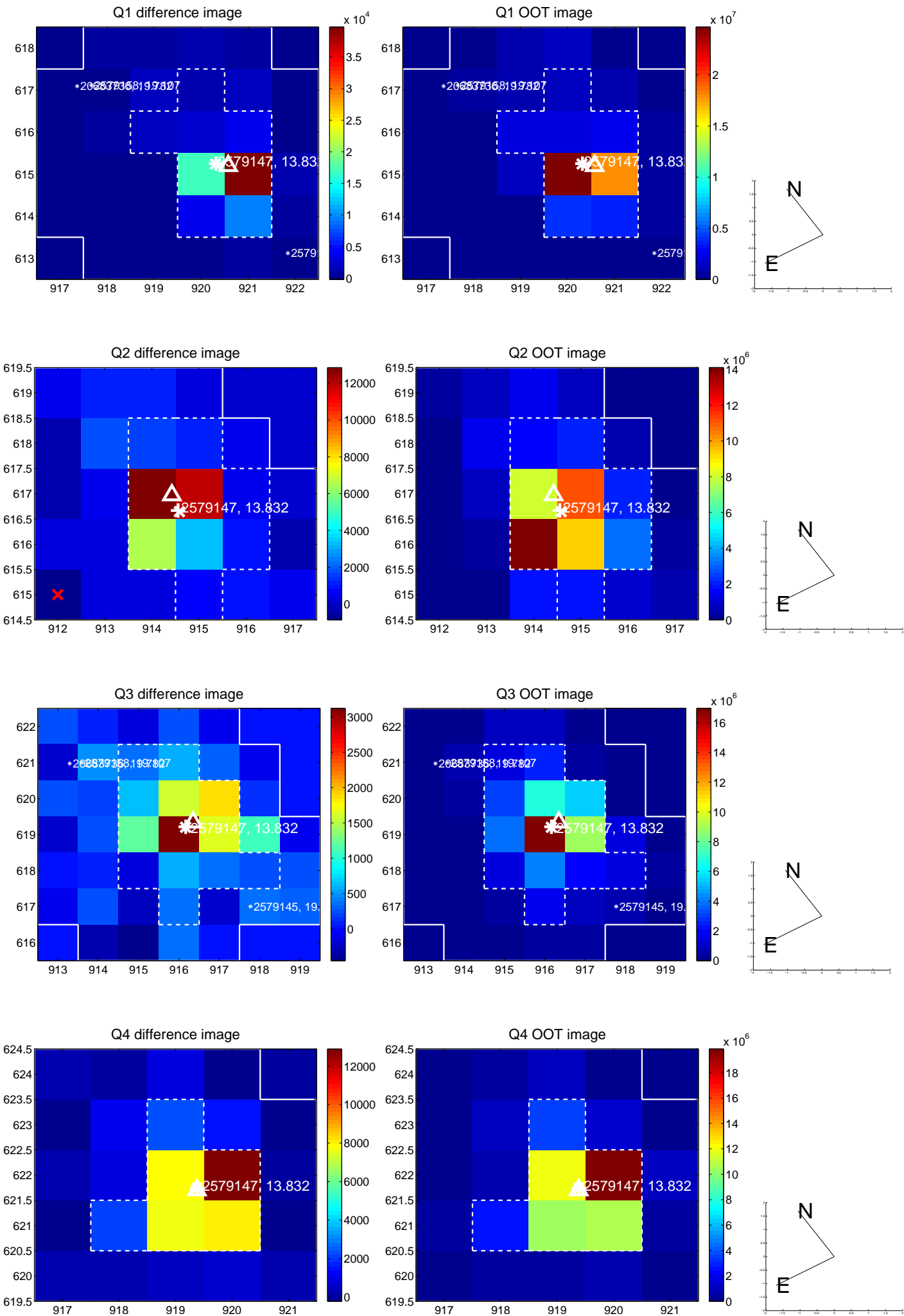
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.121 ± 0.157	0.77	0.073 ± 0.116	-0.096 ± 0.161
PRF-fit source offset from KIC position	0.075 ± 0.136	0.55	0.065 ± 0.118	-0.036 ± 0.166
photometric centroid source offset	0.26 ± 0.15	1.69	-0.07 ± 0.12	-0.25 ± 0.15

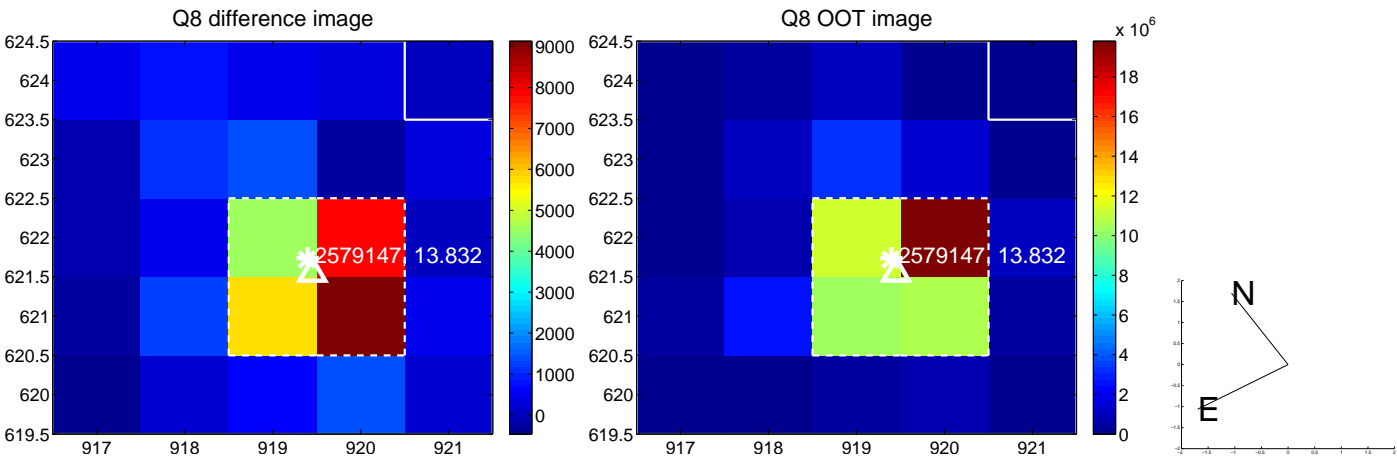
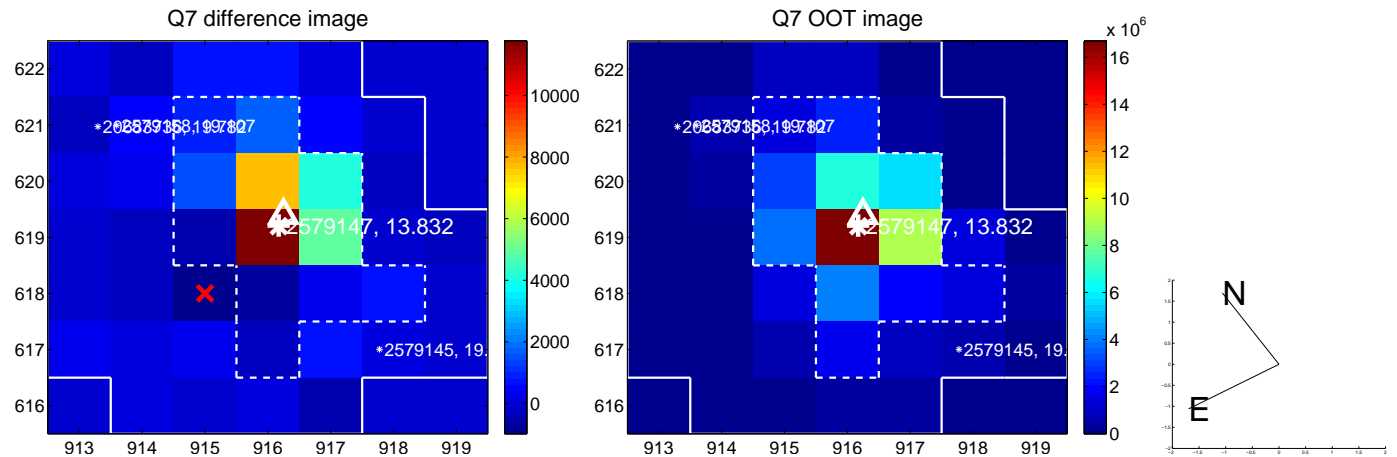
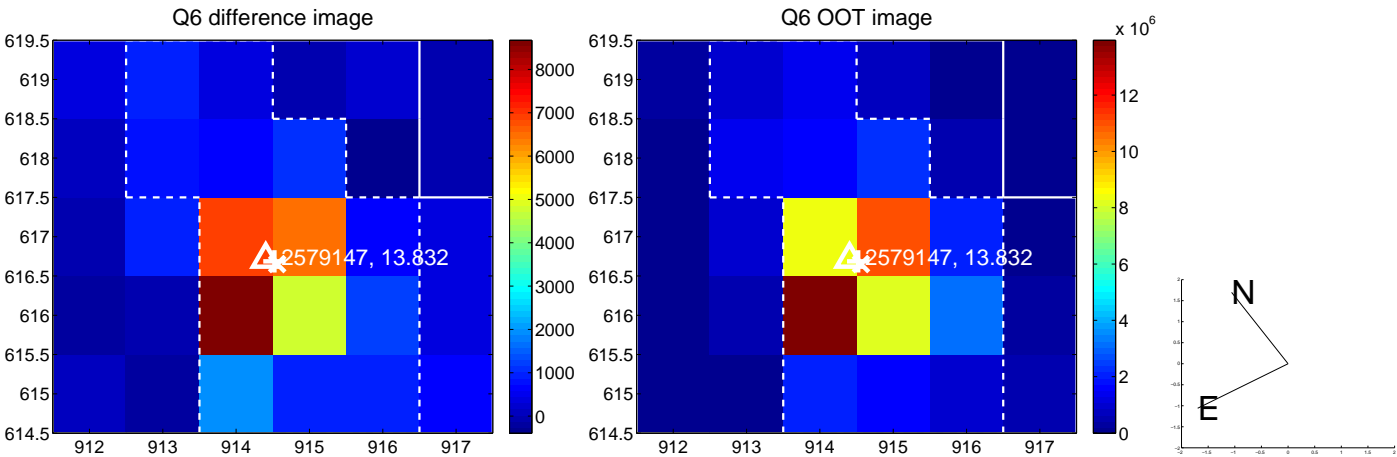
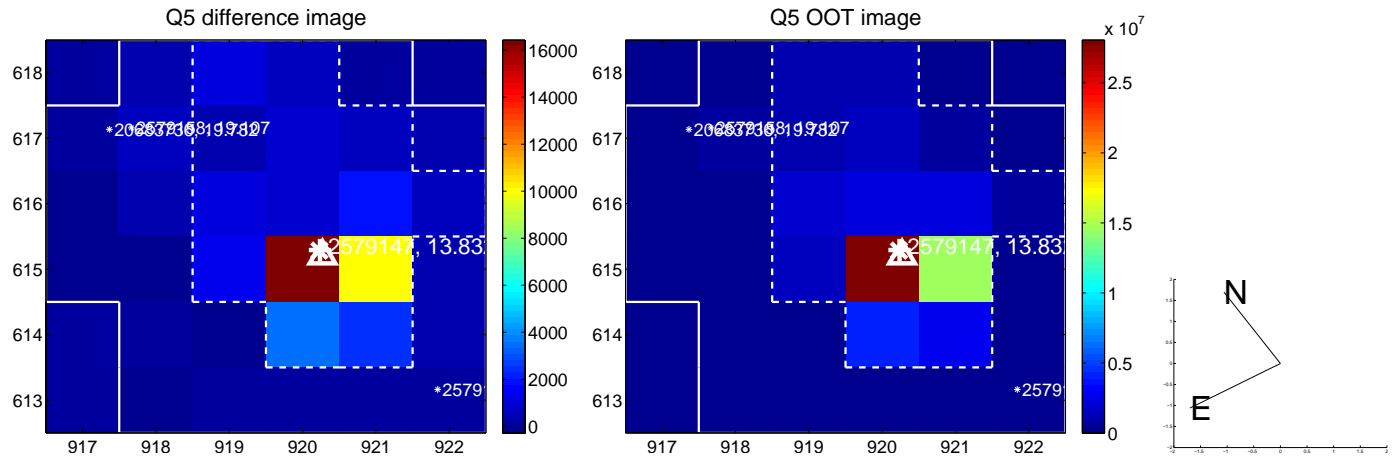


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

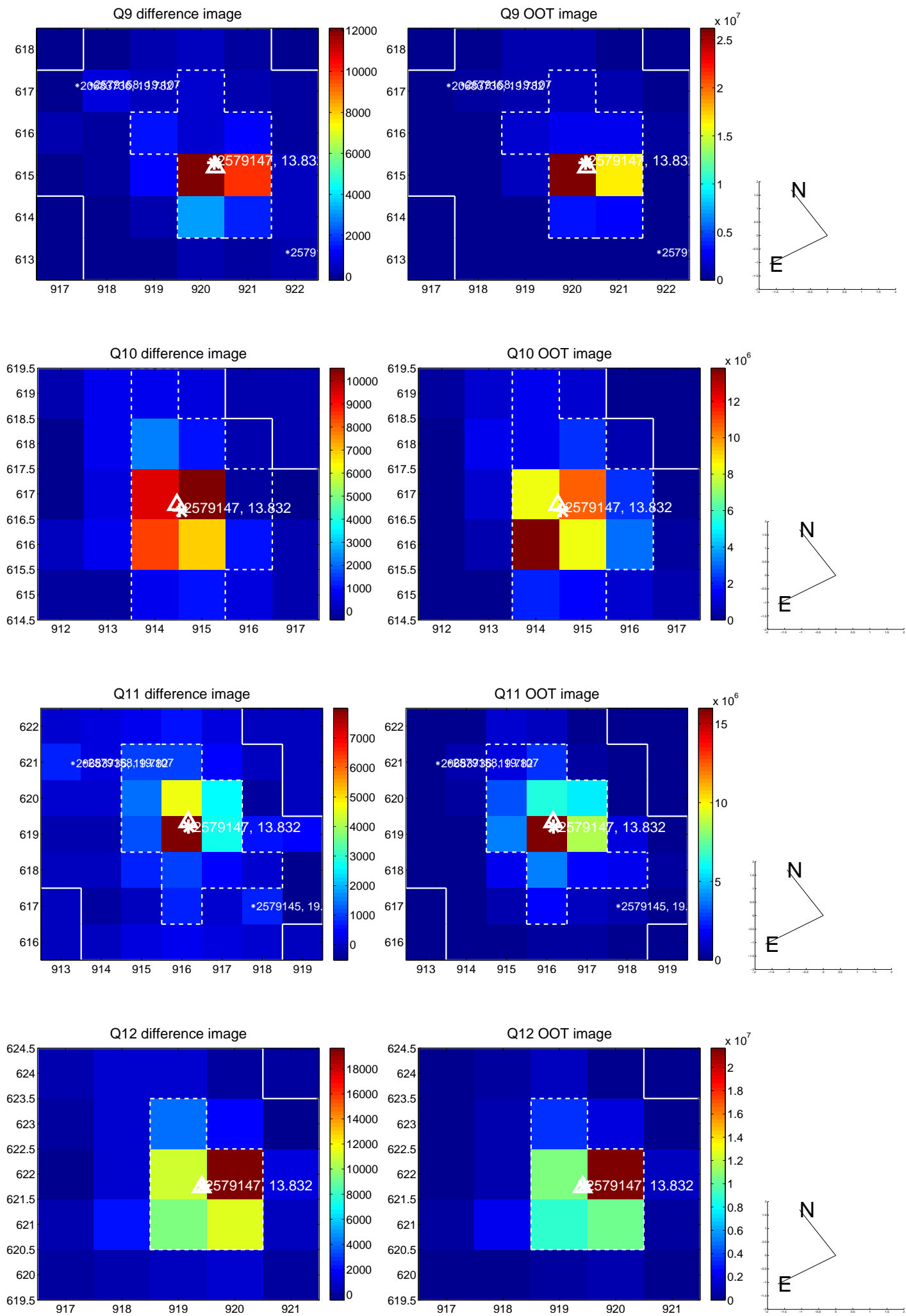
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



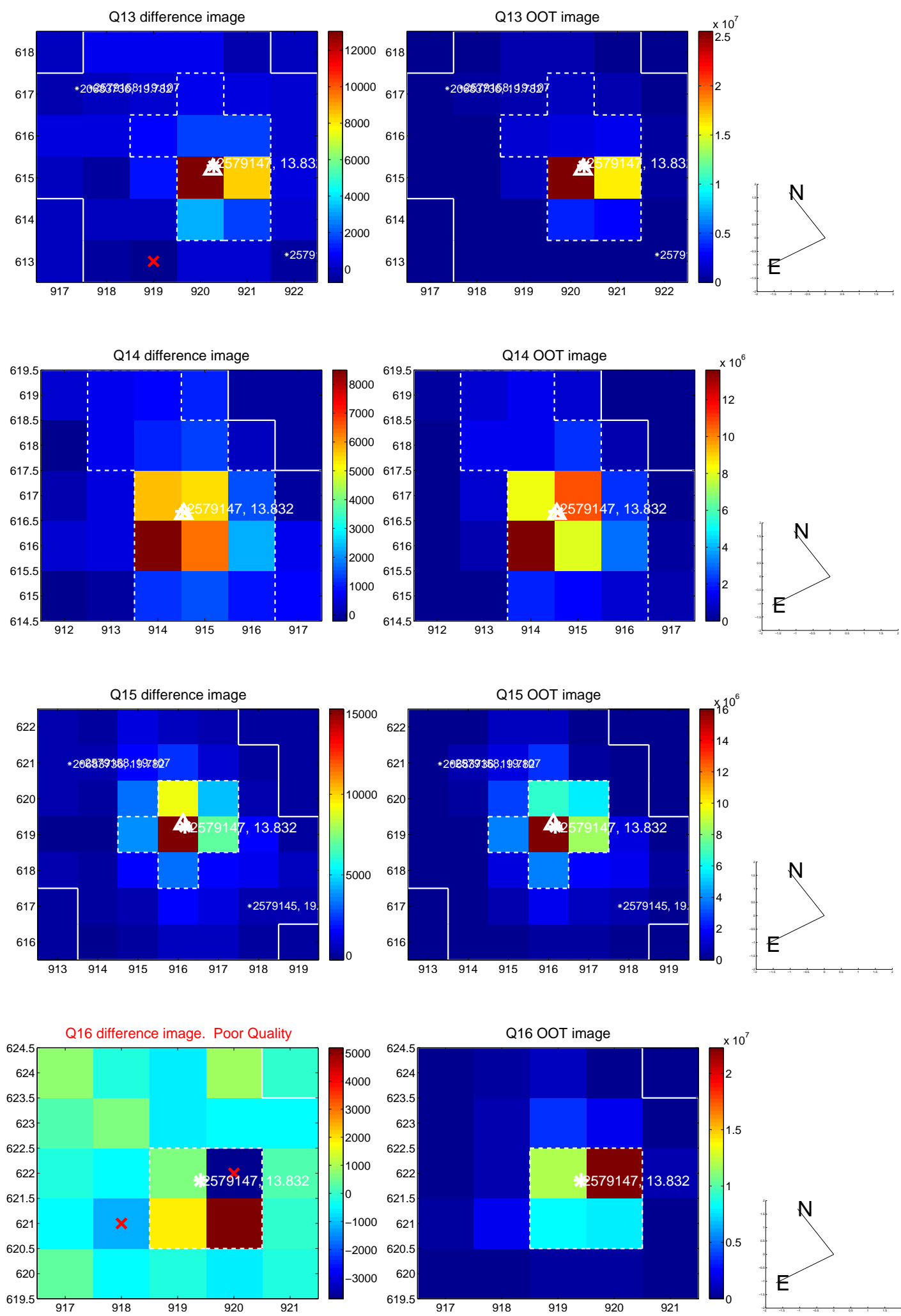
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



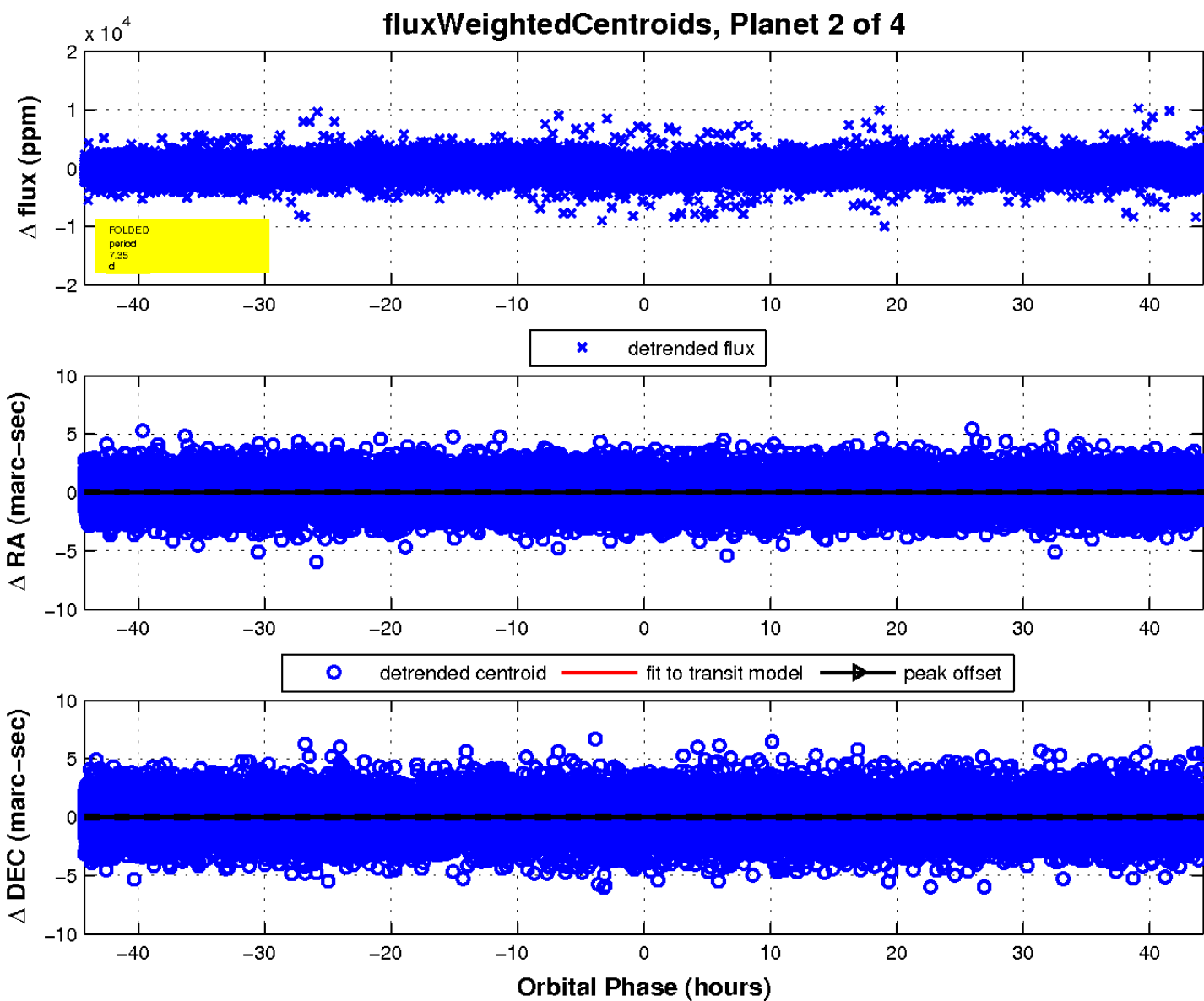
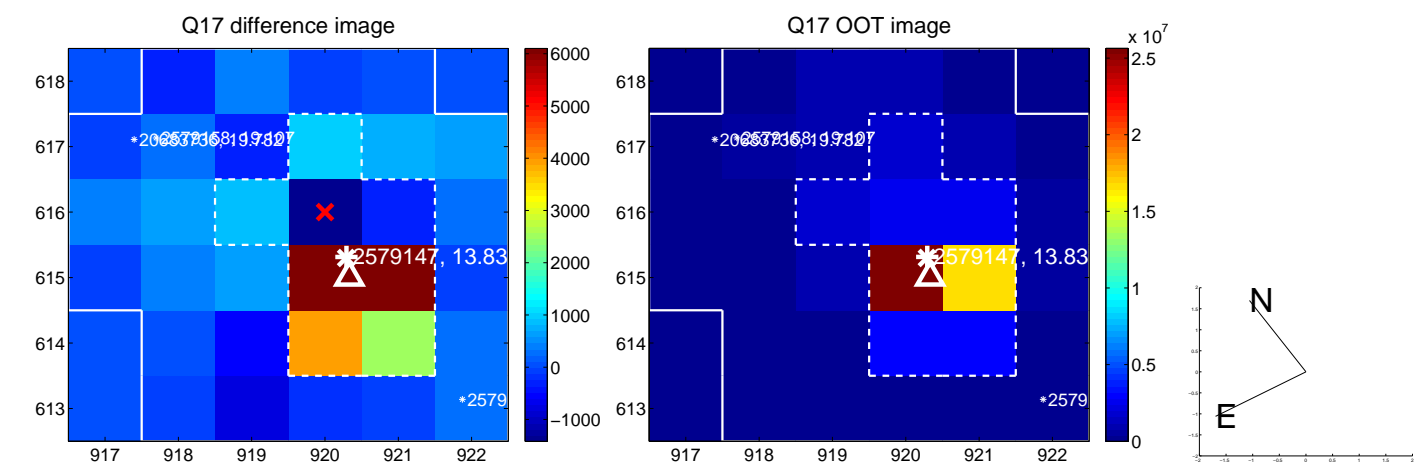
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

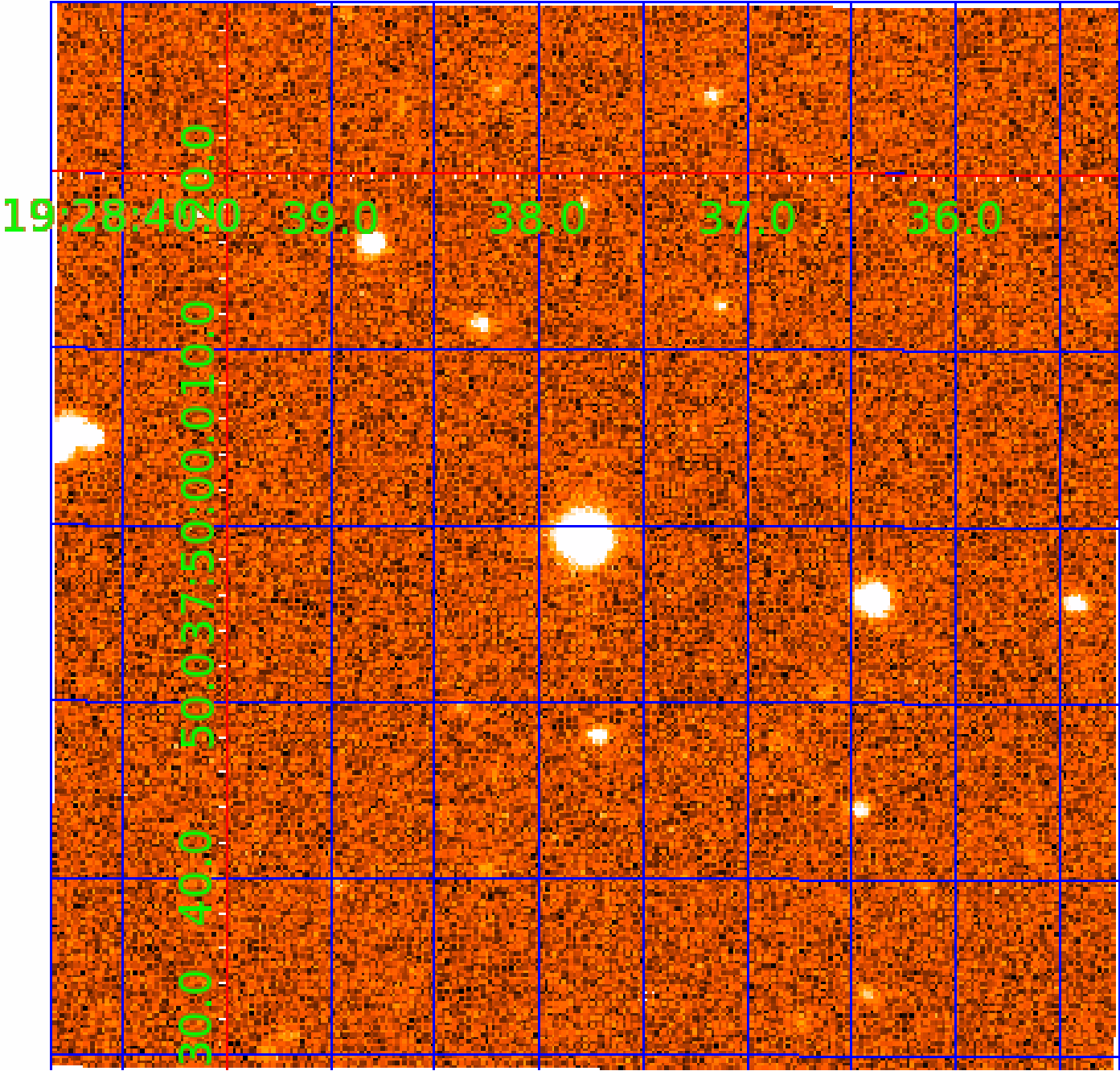


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002579147

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})
002579147-01	OBS	No	0.919785	131.568995	129.6	1.099	9.4	11.6	2.40	7301	2.85	29377.26
002579147-02	OBS	No	7.351746	137.611353	520.8	14.761	9.5	9.2	2.40	7301	9.08	1838.25
002579147-03	OBS	No	7.352587	134.277102	665.7	21.433	10.0	12.9	2.40	7301	11.62	1837.97
002579147-04	OBS	No	7.353951	132.136855	339.6	20.710	7.3	10.1	2.40	7301	4.62	1837.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002579147-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
002579147-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
002579147-03	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
002579147-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

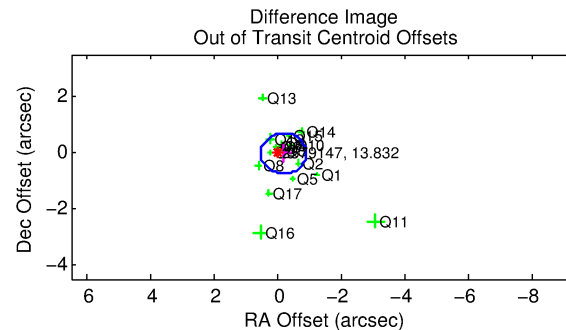
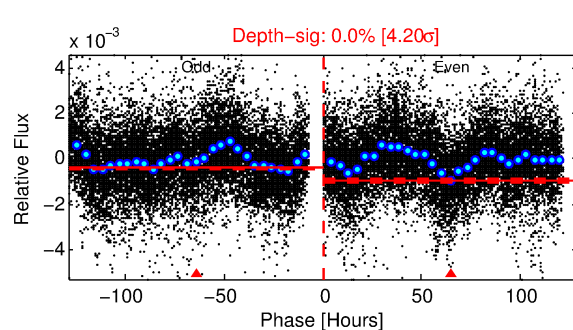
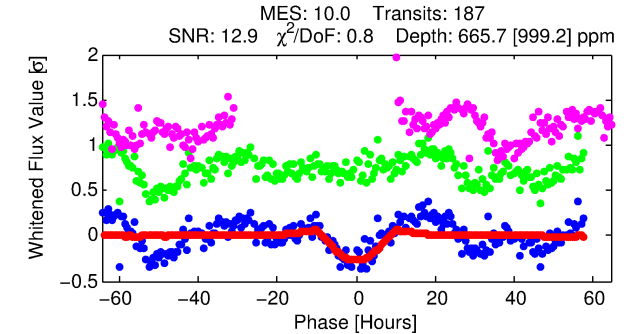
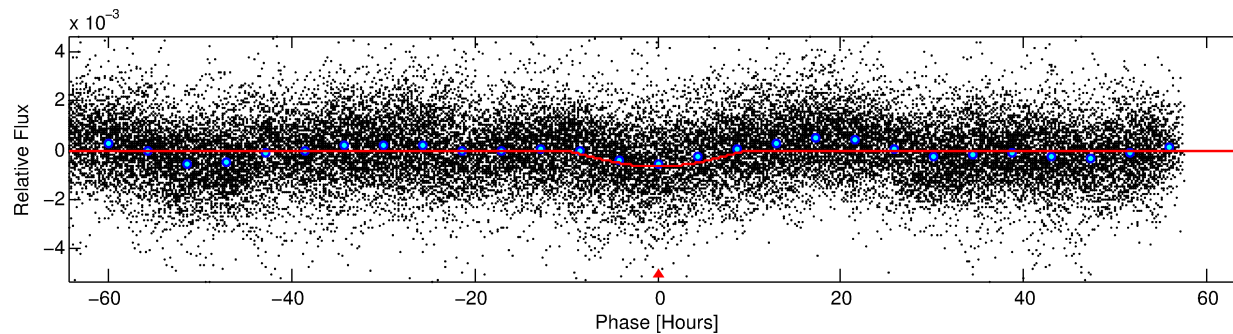
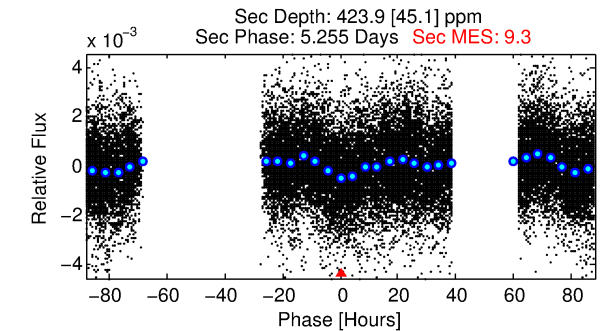
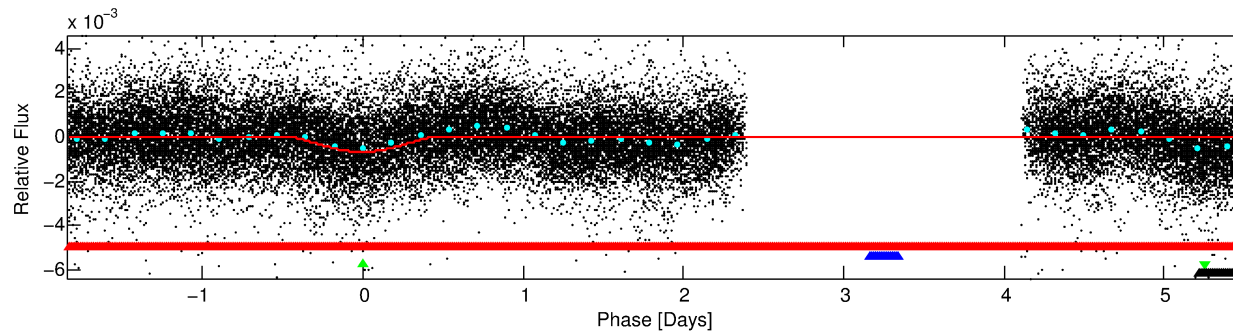
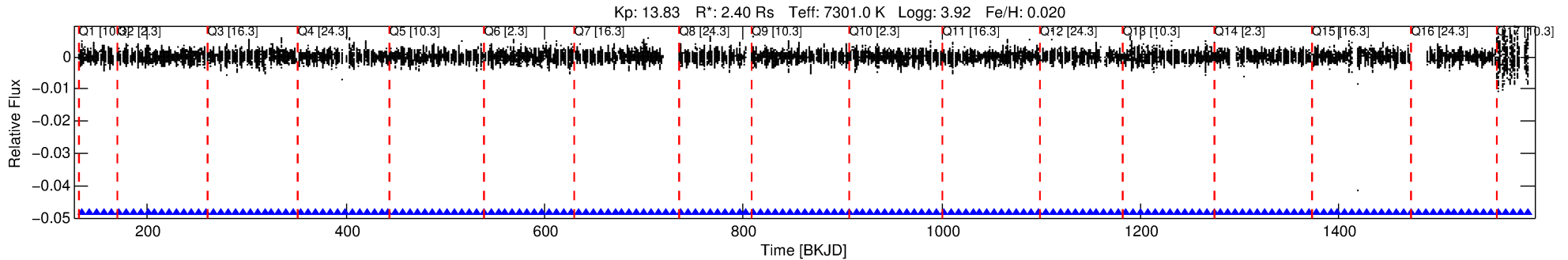
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002579147-03

No Significant Match Found

DV One-Page Summary

KIC: 2579147 Candidate: 3 of 4 Period: 7.353 d



DV Fit Results:

Period = 7.35259 [0.00025] d
Epoch = 134.2771 [0.0299] BKJD
Rp/R* = 0.0443 [0.0730]
a/R* = 1.29 [0.12]
b = 1.00 [0.15]
Seff = 1837.97 [940.97]
Teq = 1670 [214] K
Rp = 11.62 [19.55] Re
a = 0.0894 [0.0274] AU
Ag = 13.81 [45.96] [0.28σ]
Teffp = 4976 [4107] K [0.80σ]

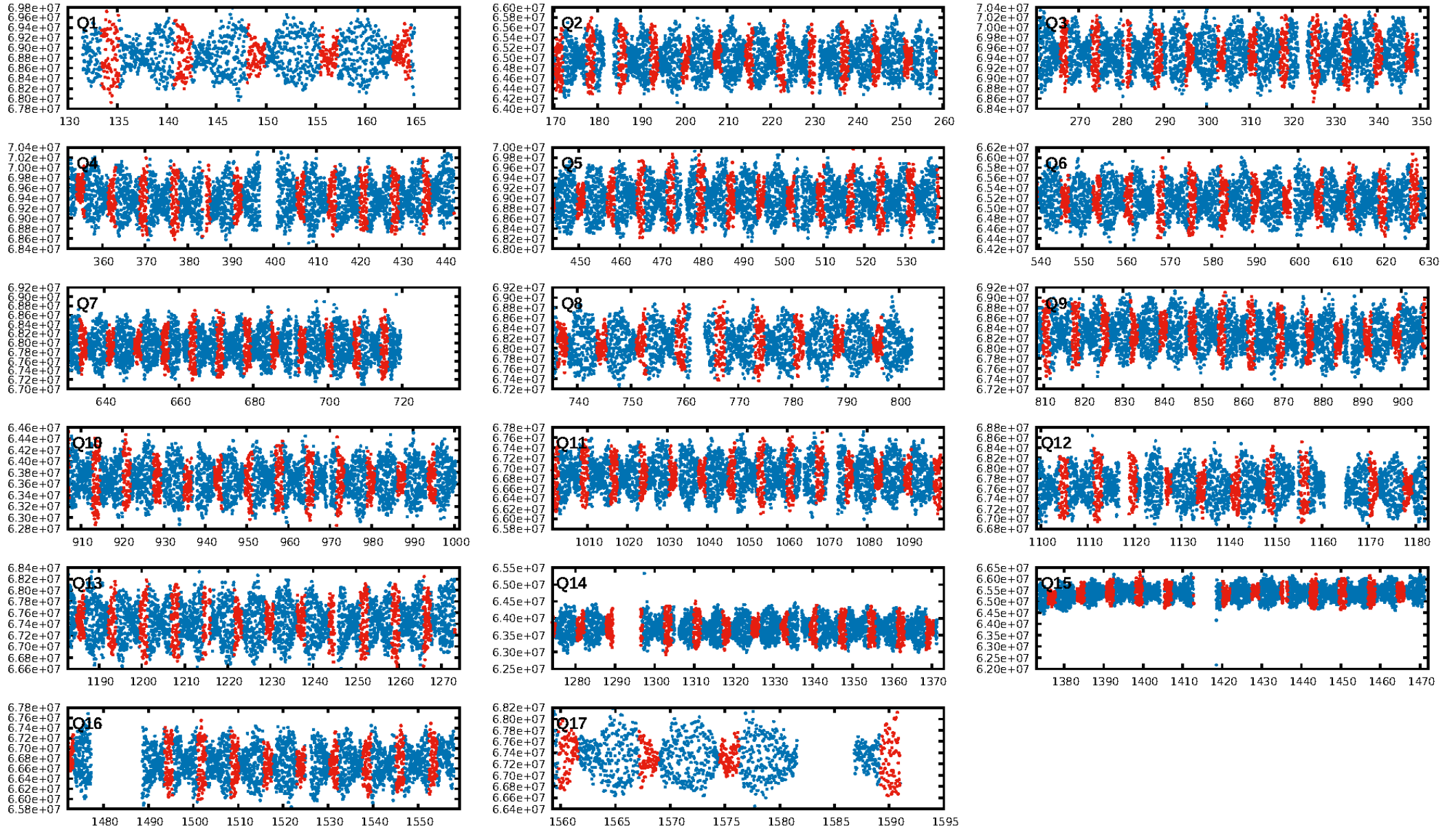
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00σ]
LongPeriod-sig: 0.1% [0.00σ]
ModelChiSquare2-sig: 60.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [178/178]
GhostDiagnostic-chr: 1.768
Centroid-sig: 21.1%
Centroid-so: 0.239 arcsec [2.39σ]
OotOffset-rm: 0.183 arcsec [0.77σ]
KicOffset-rm: 0.170 arcsec [0.81σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.88 [15/17]
DiffImageOverlap-fno: 0.00 [0/17]

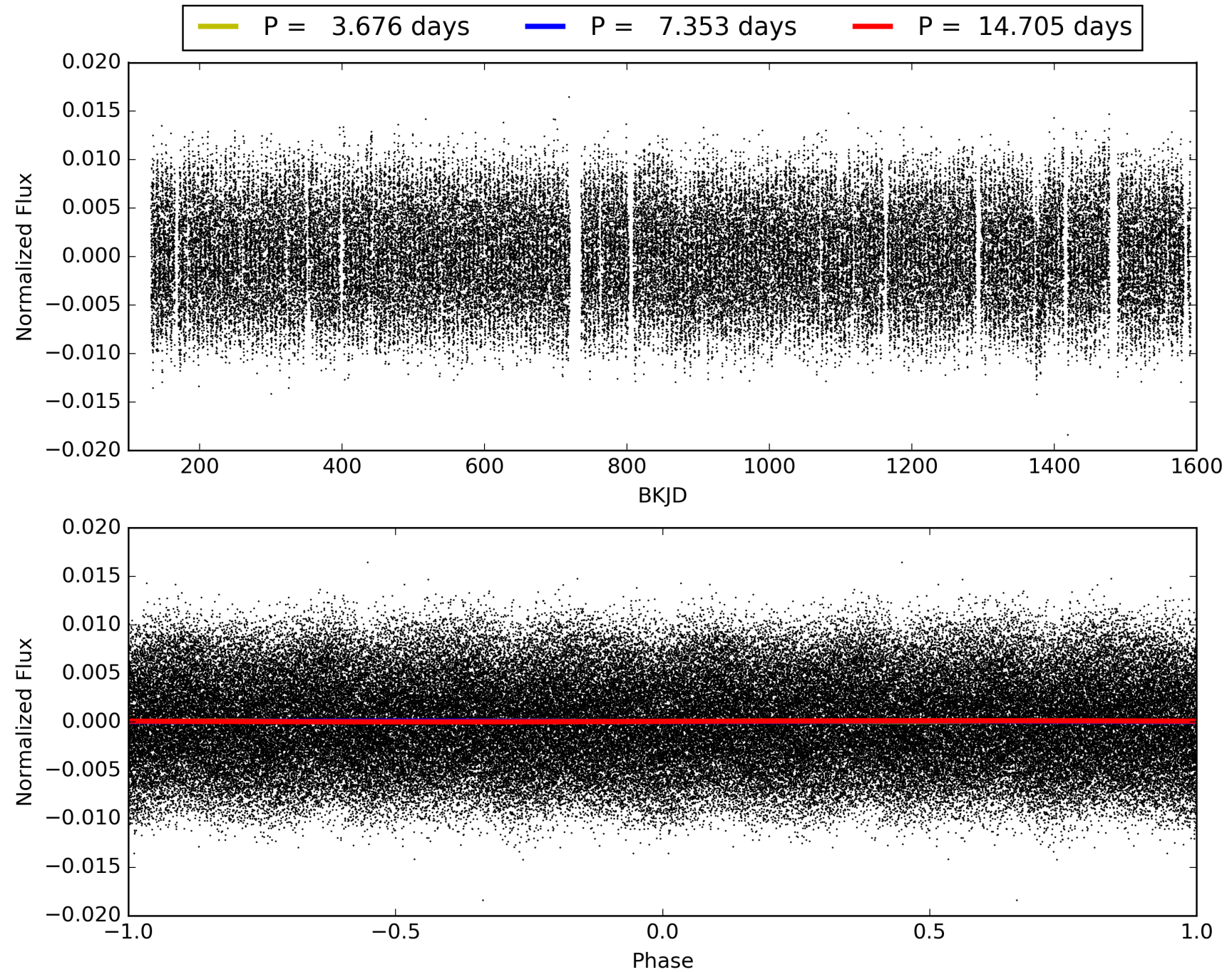
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:32:18 Z

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

TCE 002579147-03, PDC Light Curves

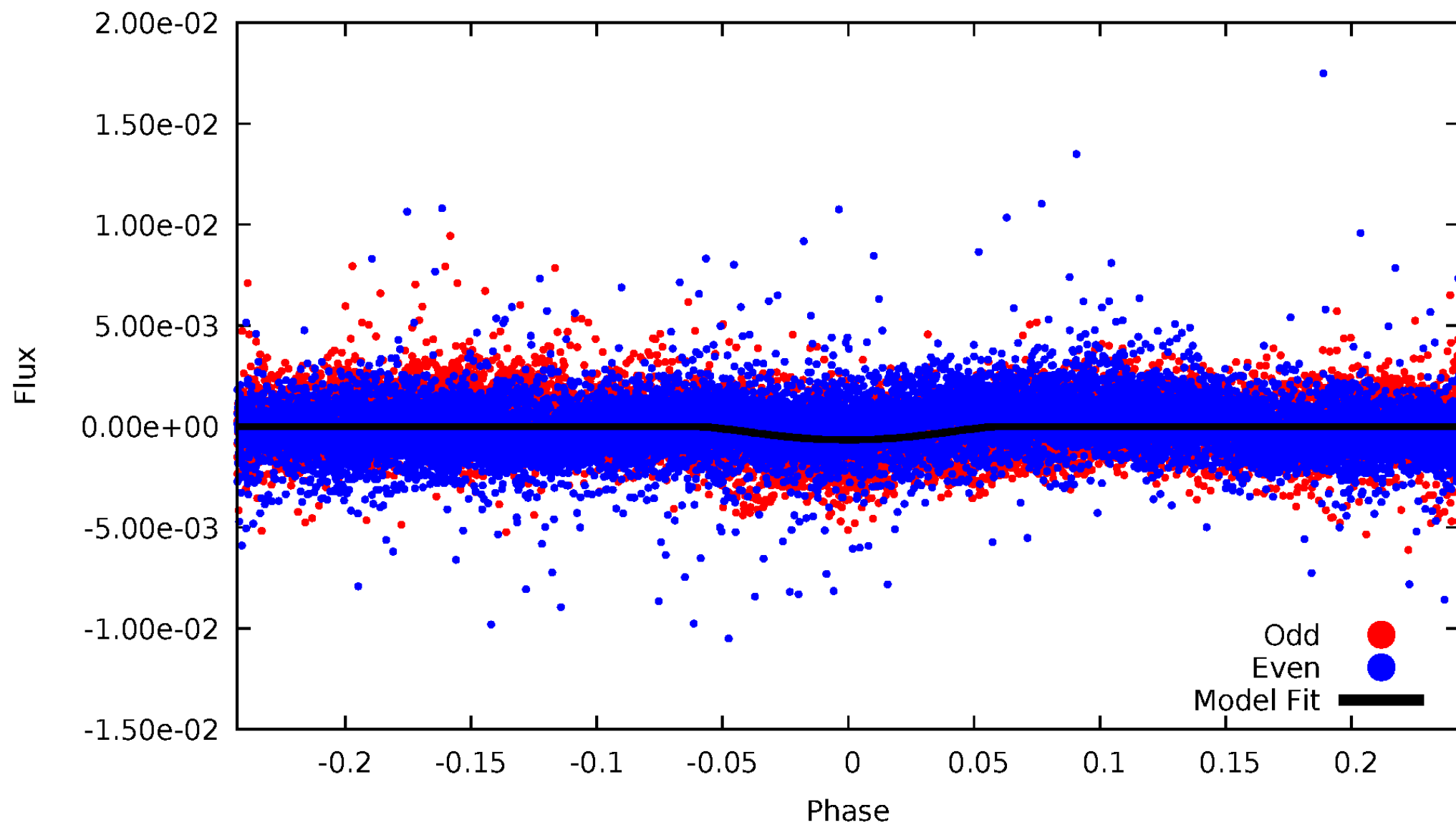


TCE 002579147-03



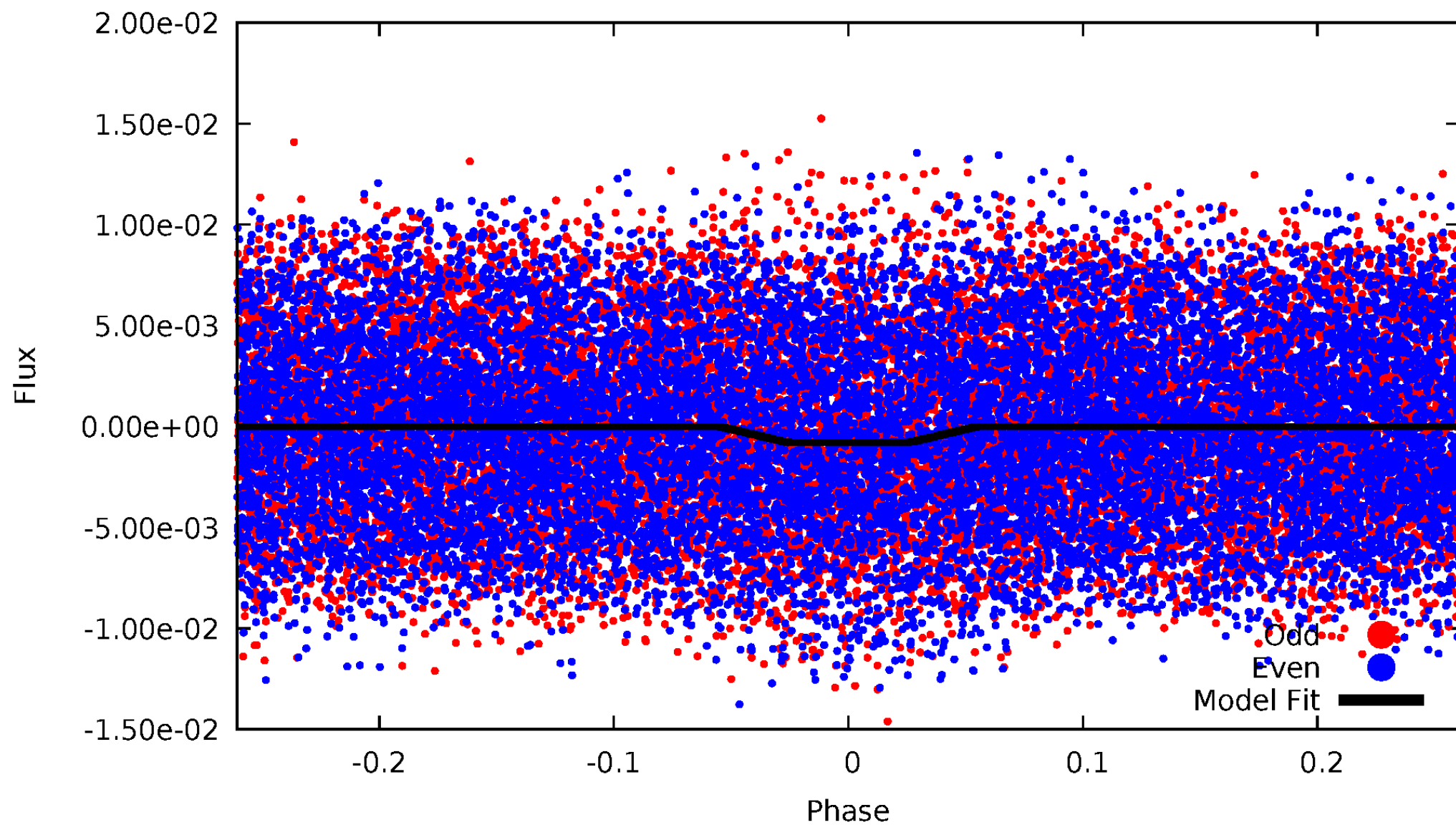
DV Odd/Even

TCE 002579147-03



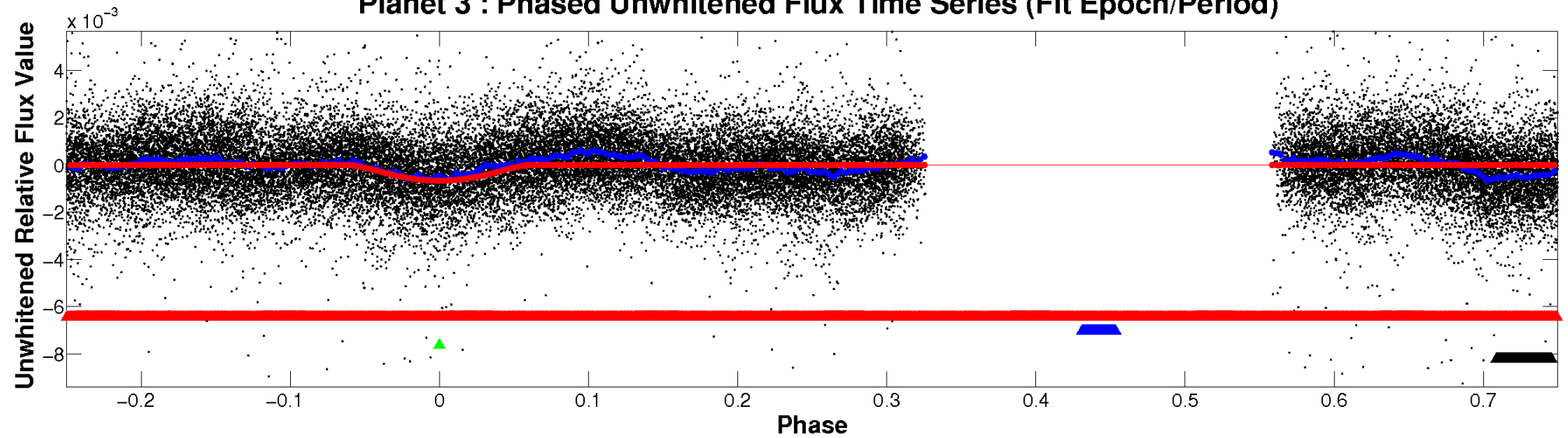
ALT Odd/Even

TCE 002579147-03

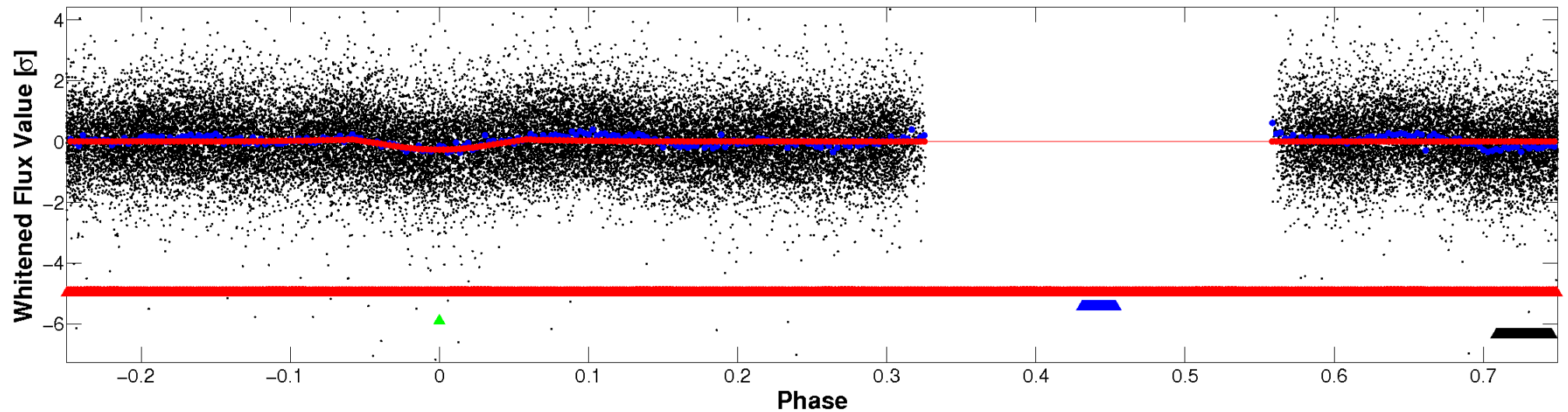


Non-Whitened Vs. Whitened Light Curve

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

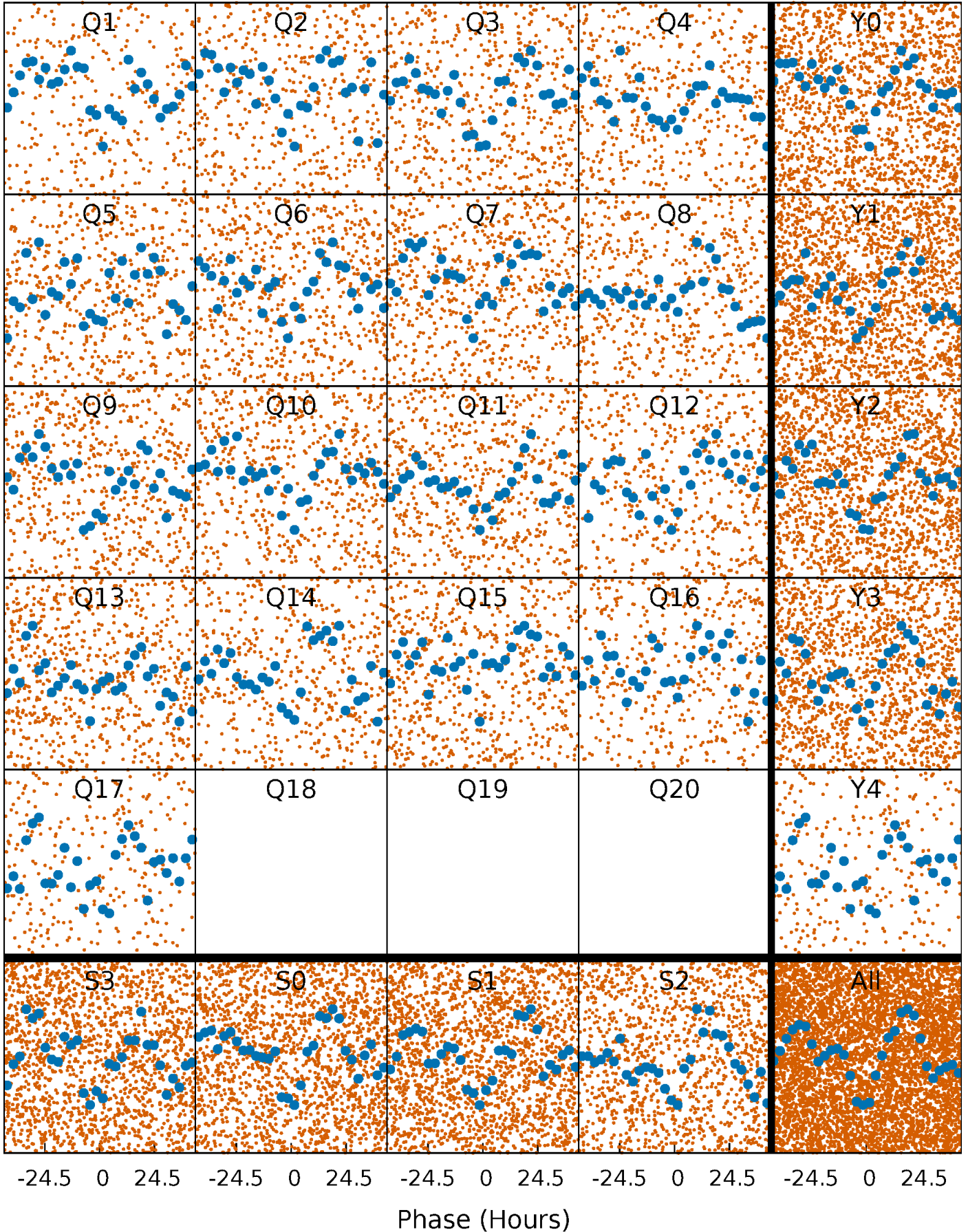


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



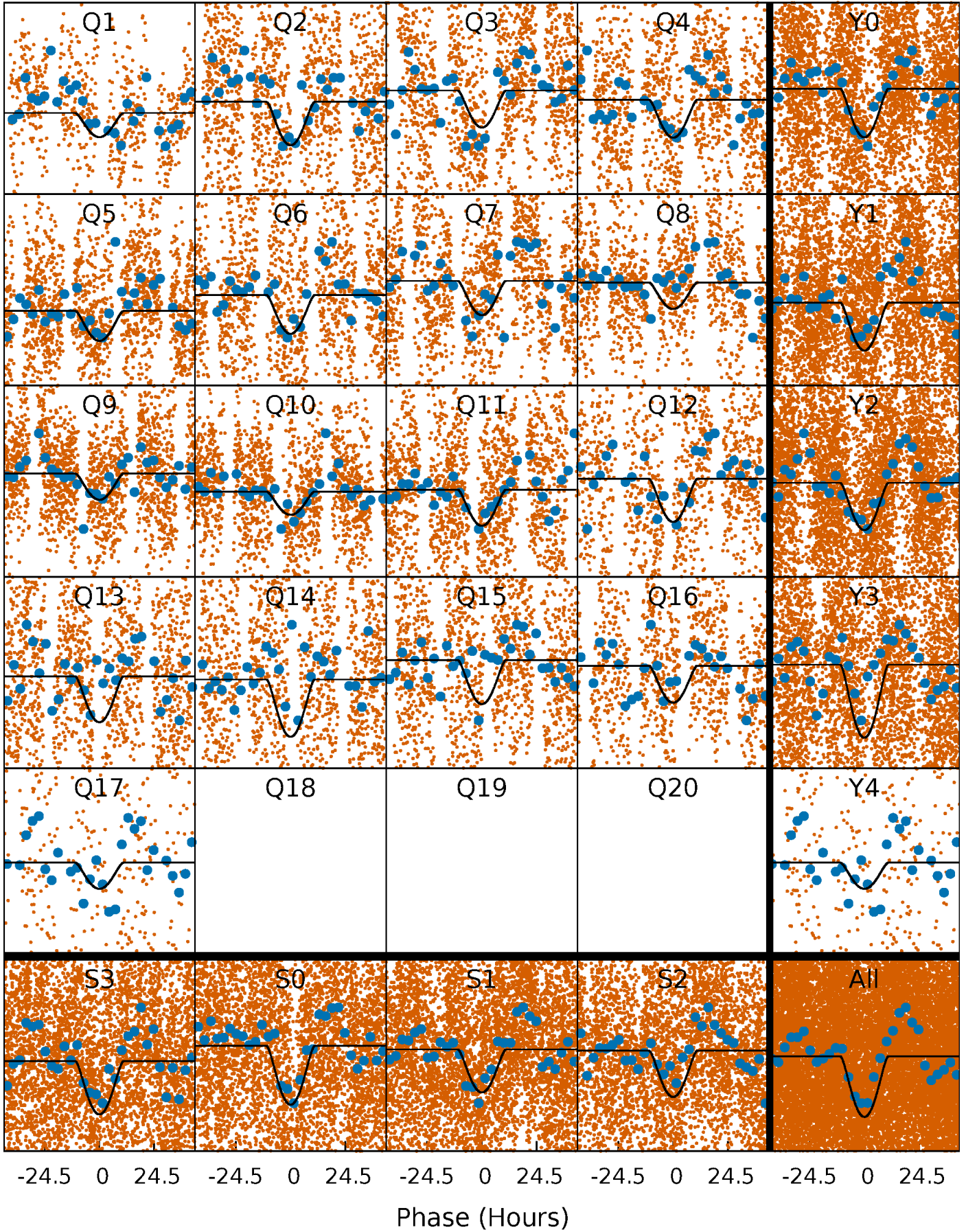
PDC Quarter-Phased Transit Curves

TCE 002579147-03 P= 7.352587 Days $T_0=134.277102$ (BKJD)



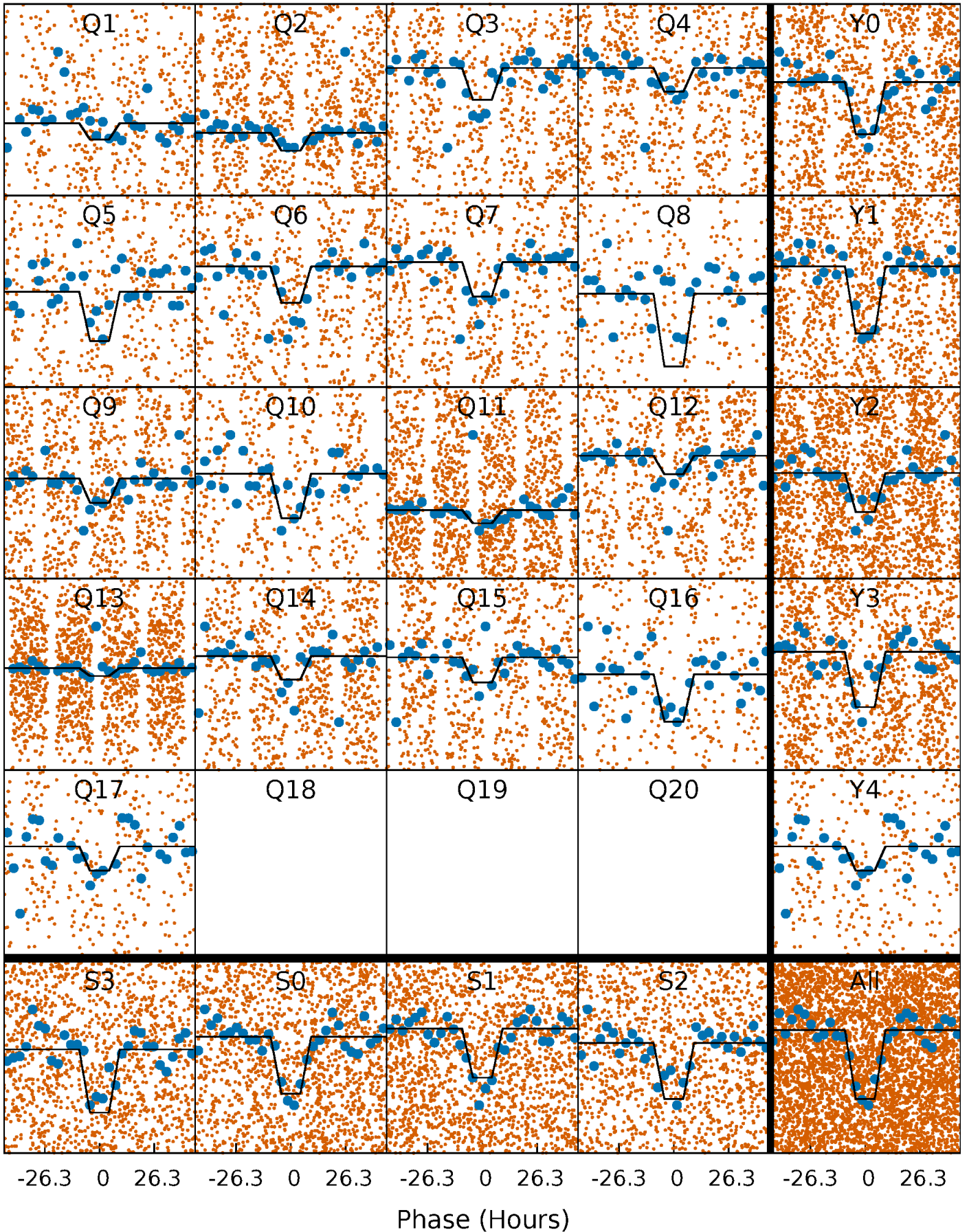
DV Quarter-Phased Transit Curves

TCE 002579147-03 P= 7.352587 Days $T_0=134.277102$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

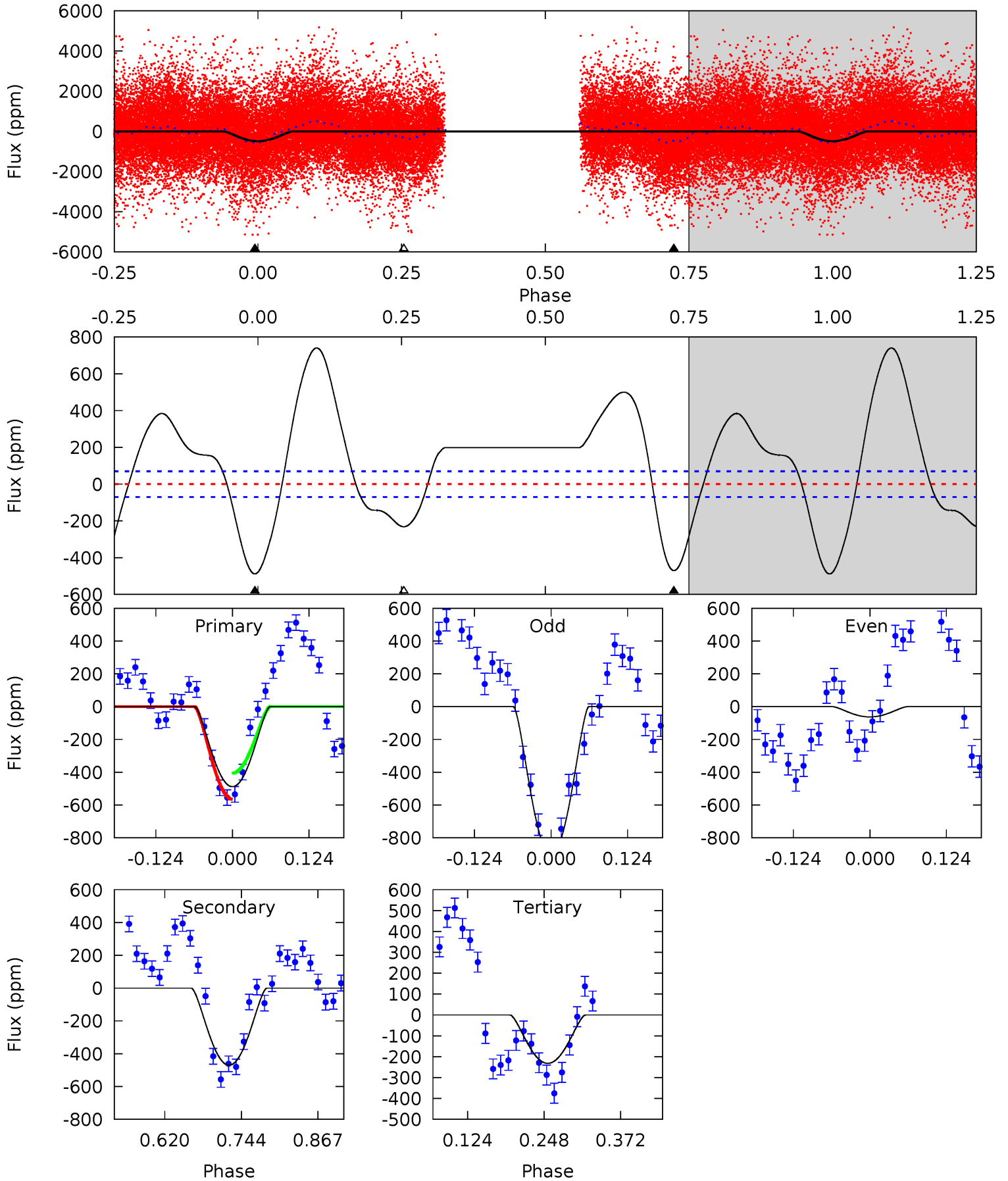
TCE 002579147-03 P= 7.353282 Days $T_0=134.193392$ (BKJD)



DV Model-Shift Uniqueness Test

002579147-03, P = 7.352587 Days, E = 126.924515 Days

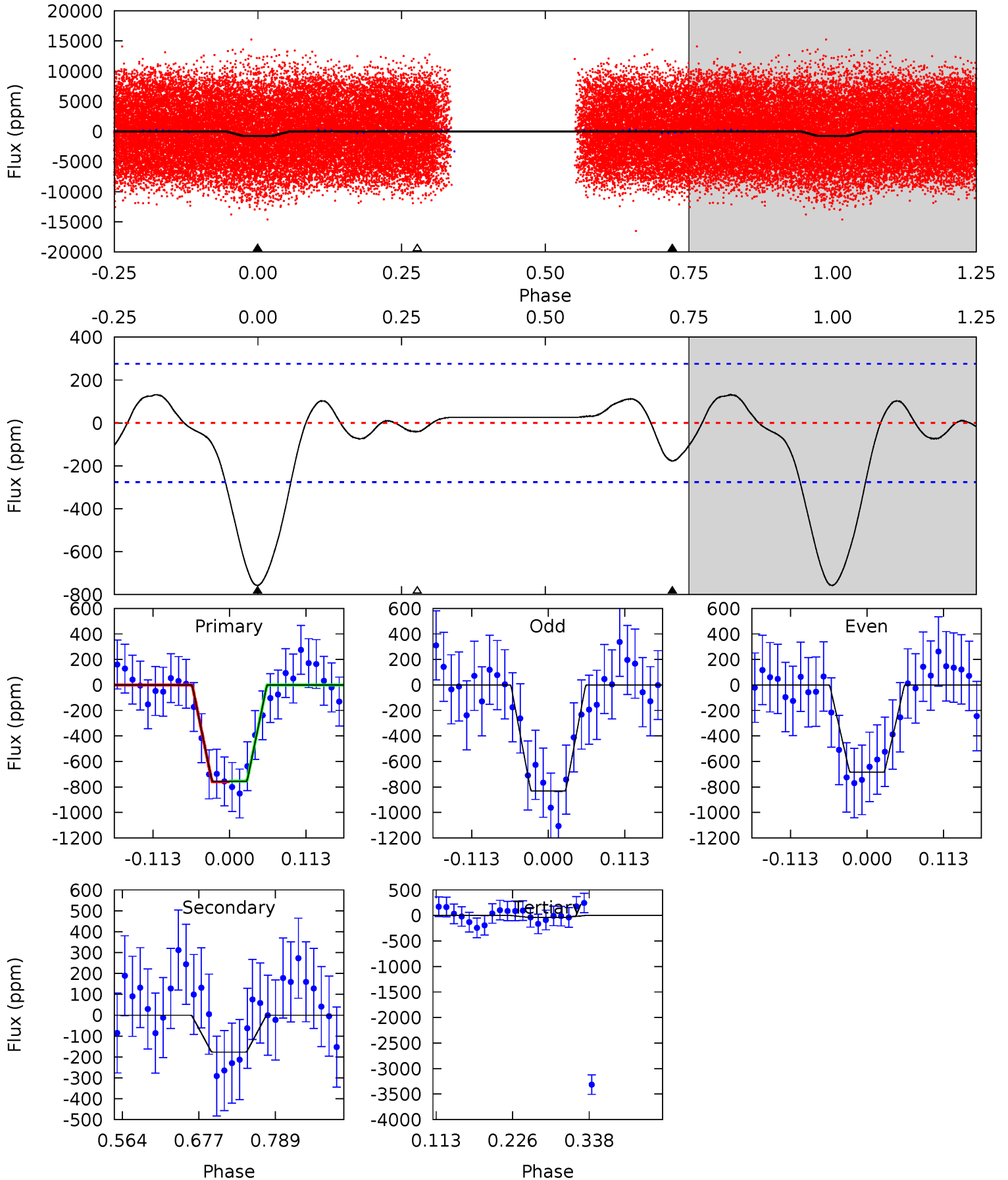
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.6	30.4	15.0	0	4.52	1.54	15.7	16.6	31.6	15.4	30.4	26.2	1.37	0.60	5.19



Alt Model-Shift Uniqueness Test

002579147-03, P = 7.353282 Days, E = 126.840110 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.5	2.91	0.67	0	4.54	1.59	0.79	11.8	12.5	2.25	2.91	1.21	1.04	0.15	0.05



Stellar Parameters For KIC 002579147

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7301^{+230}_{-374}	$3.923^{+0.267}_{-0.144}$	$0.020^{+0.200}_{-0.350}$	$2.403^{+0.549}_{-0.823}$	$1.765^{+0.196}_{-0.392}$	$0.179^{+0.322}_{-0.077}$
	+3%/-5%	+7%/-4%	+1000%/-1750%	+23%/-34%	+11%/-22%	+180%/-43%
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 002579147-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-470 ± 15	$16.66^{+17.15}_{-10.82}$	2294^{+184}_{-214}	4303^{+2377}_{-994}	$7.601^{+51.808}_{-5.803}$
Alt.	-177 ± 61	$14.60^{+16.25}_{-10.07}$	2296^{+178}_{-203}	3729^{+2484}_{-938}	$3.509^{+34.953}_{-2.775}$

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 $A_{obs} \gg 1.0$

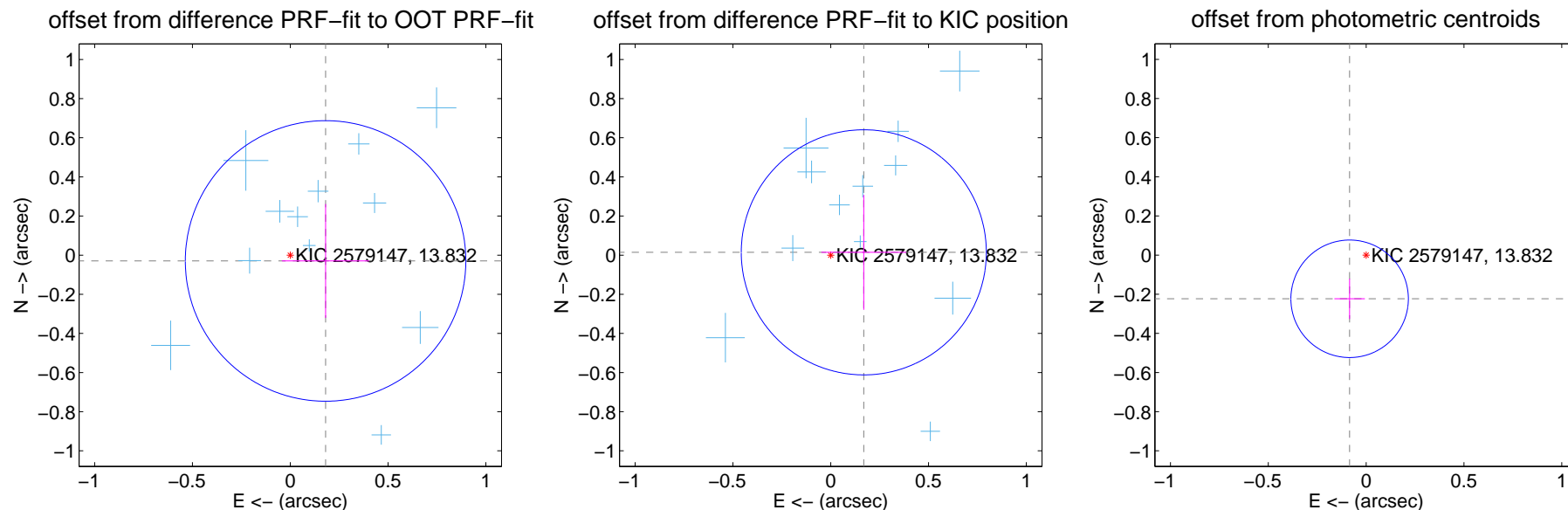
DV Centroid Data

Supplemental centroid analysis for 002579147-03. Kepler magnitude: 13.83. Transit SNR 12.89

There are 15 quarters with good PRF difference image offsets

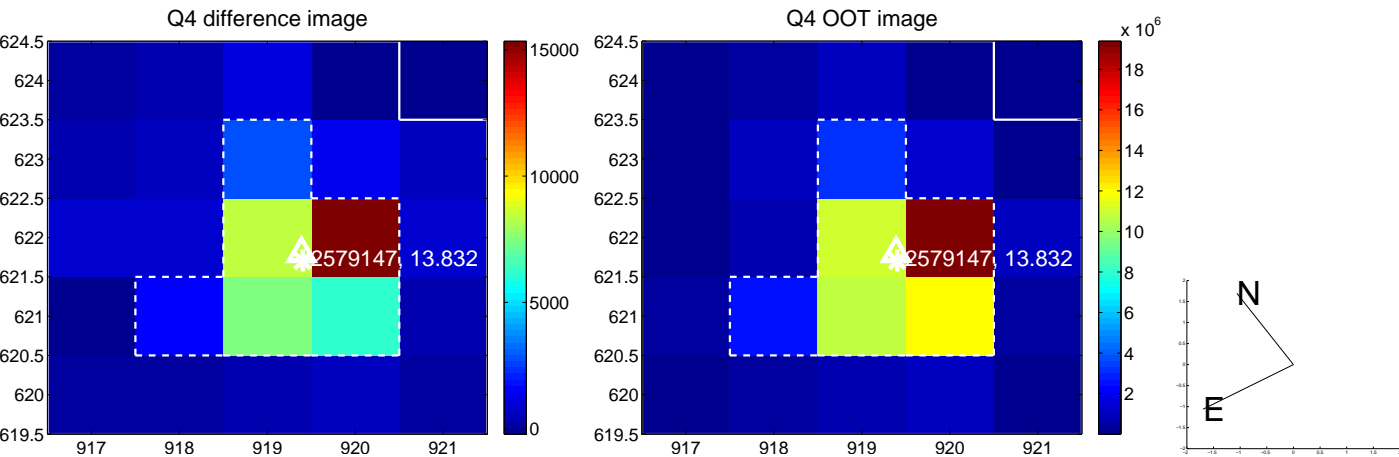
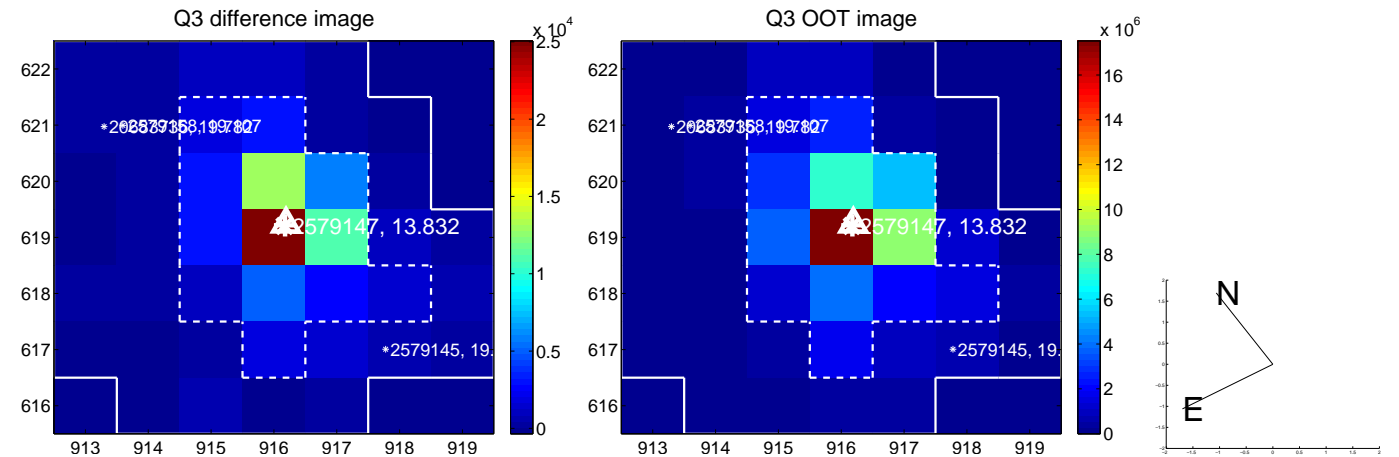
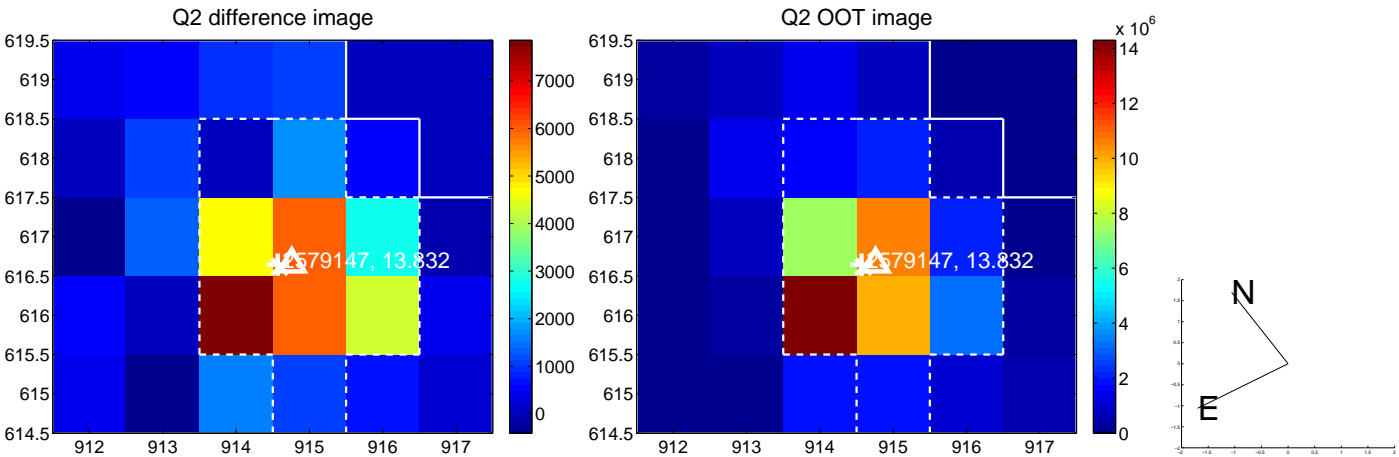
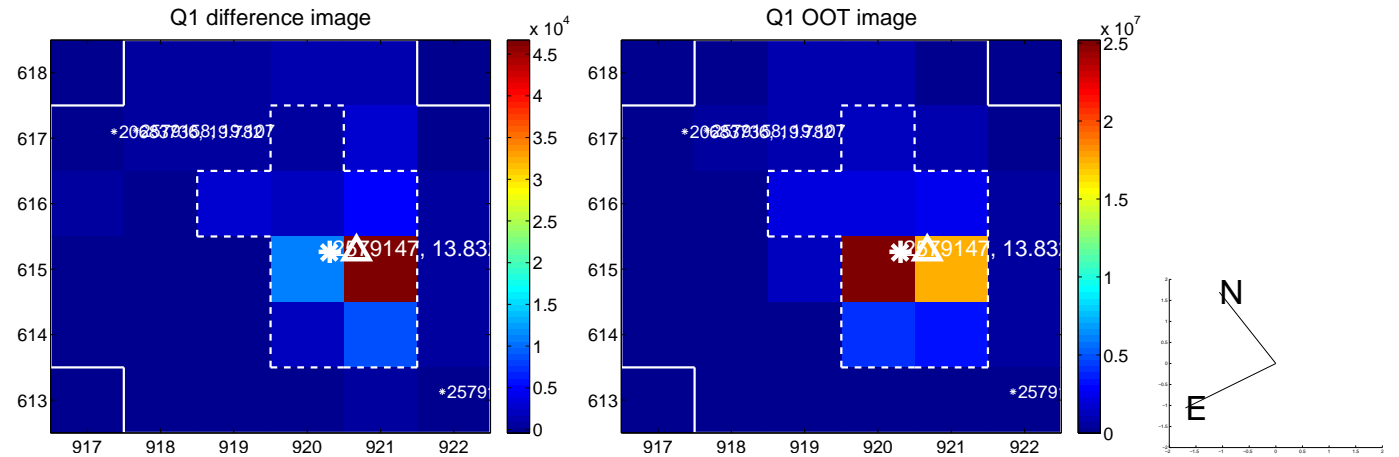
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.183 ± 0.239	0.77	-0.181 ± 0.223	-0.030 ± 0.291
PRF-fit source offset from KIC position	0.170 ± 0.209	0.81	-0.169 ± 0.217	0.014 ± 0.294
photometric centroid source offset	0.24 ± 0.10	2.39	0.08 ± 0.08	-0.22 ± 0.10

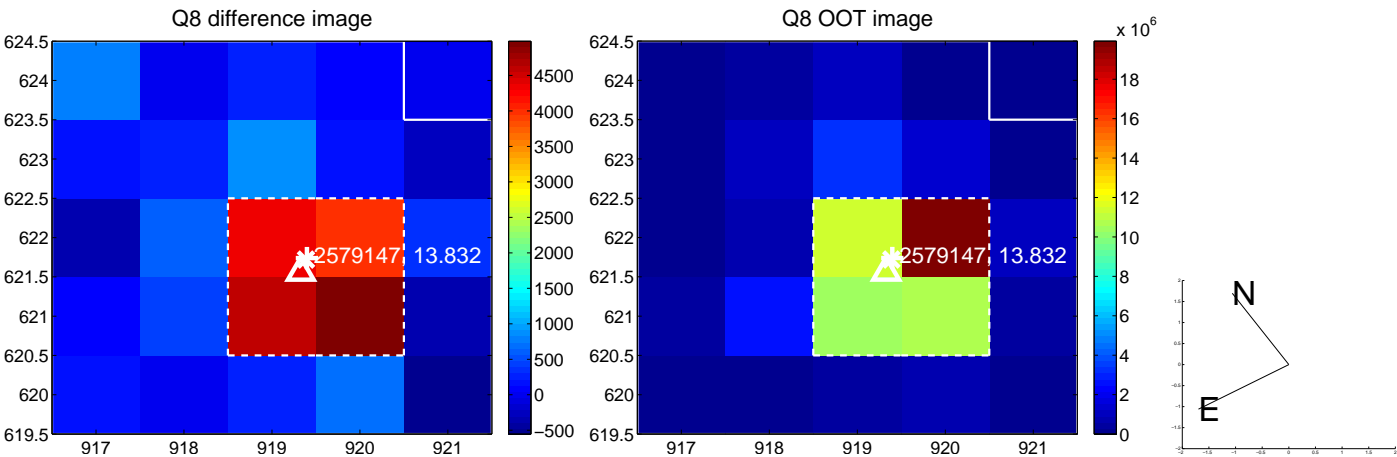
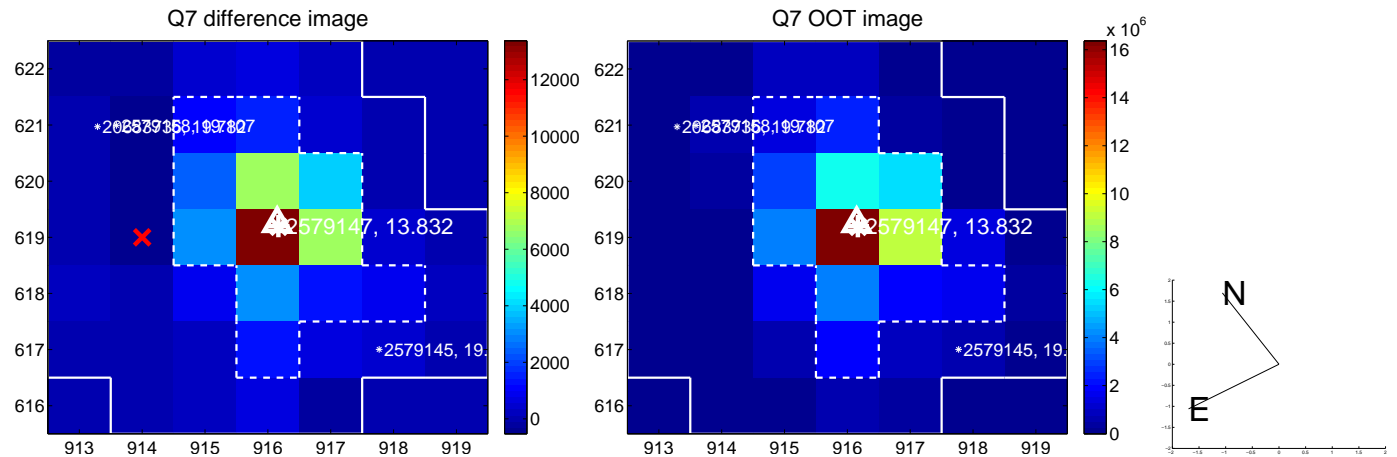
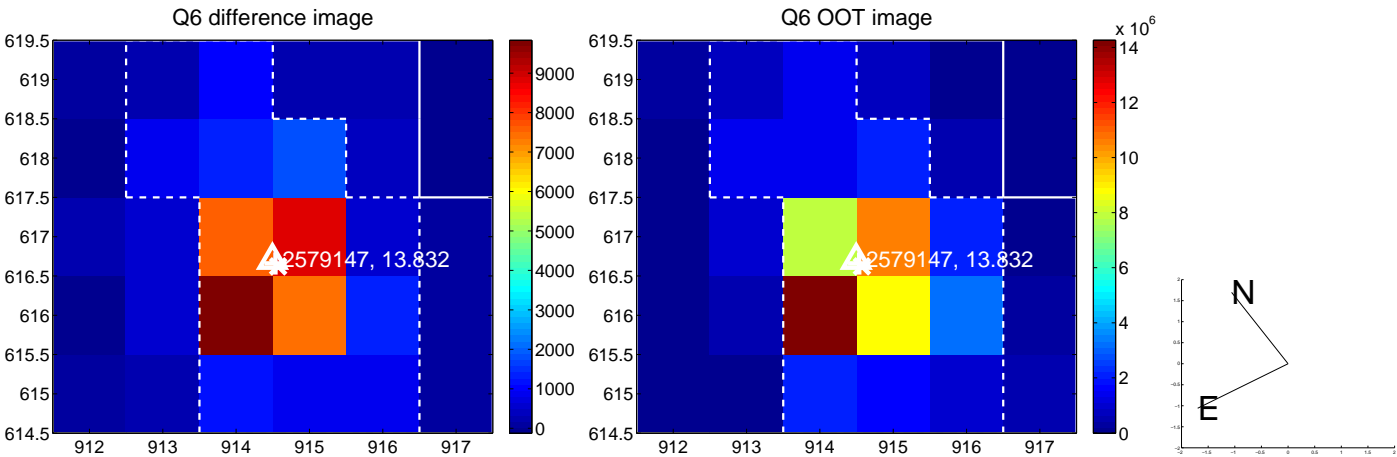
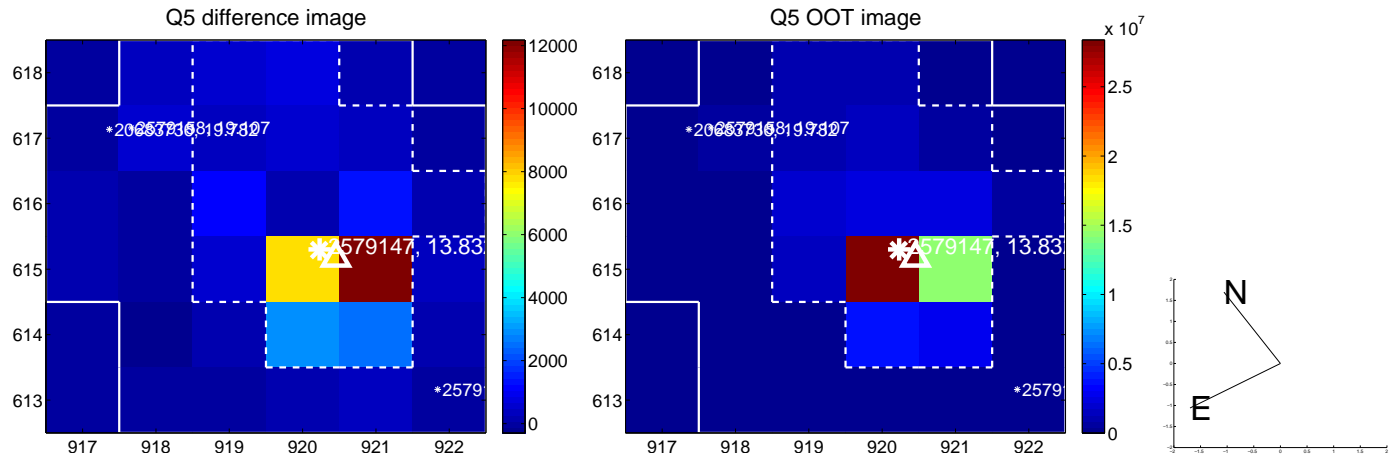


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

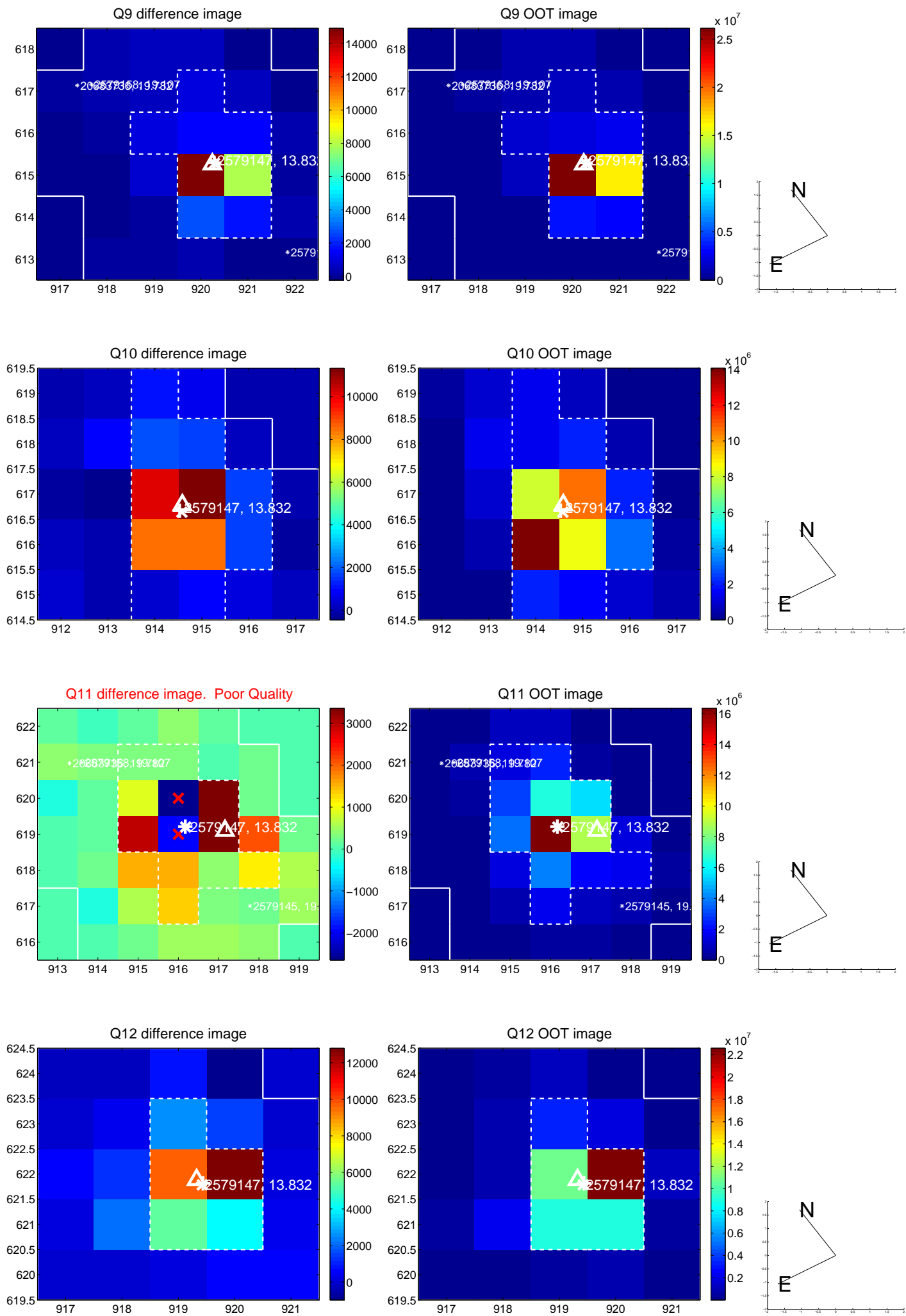
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



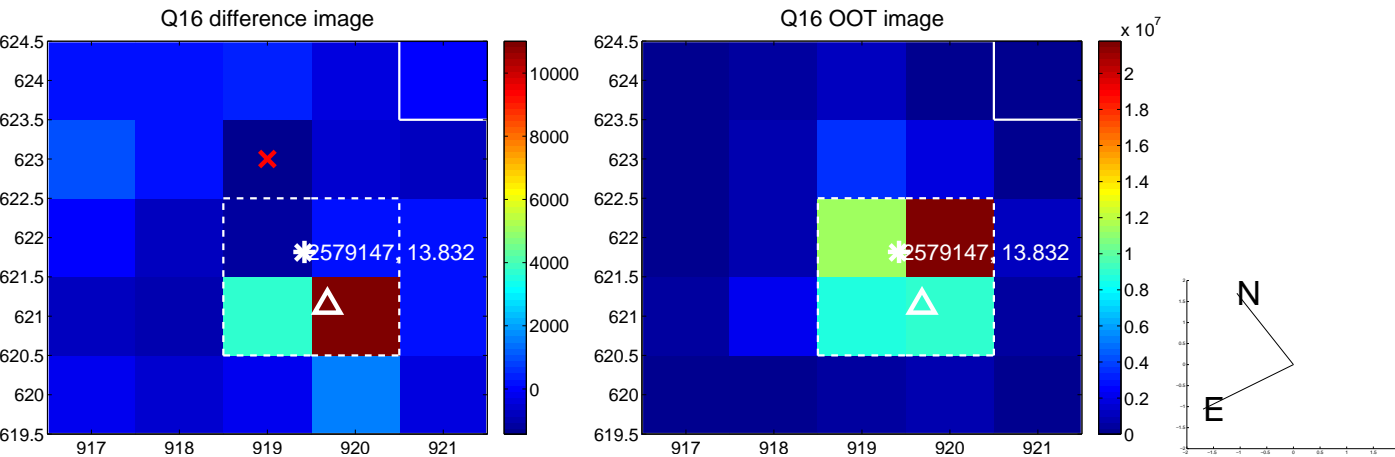
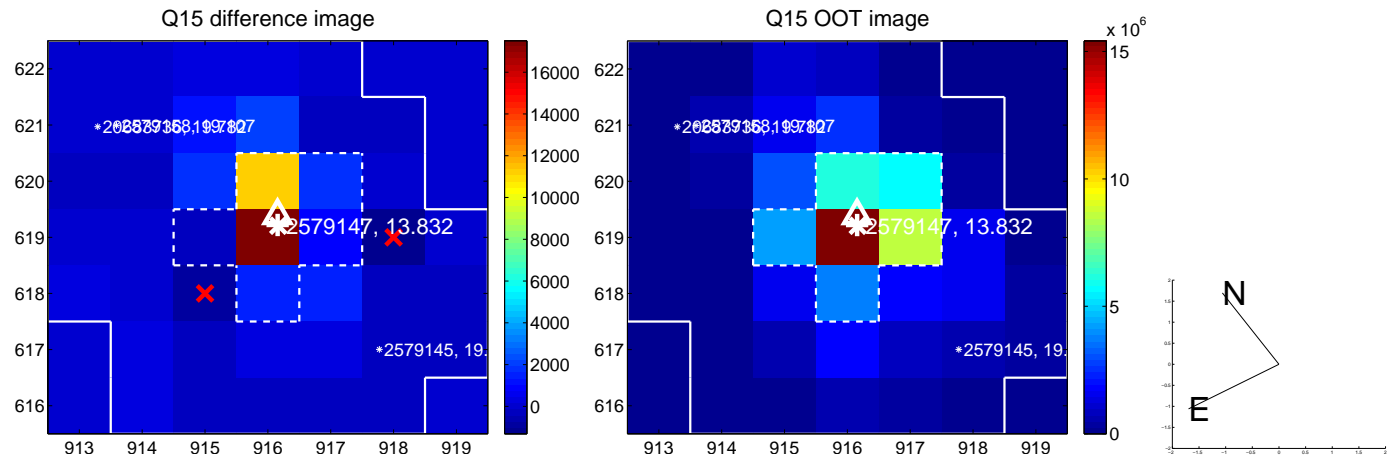
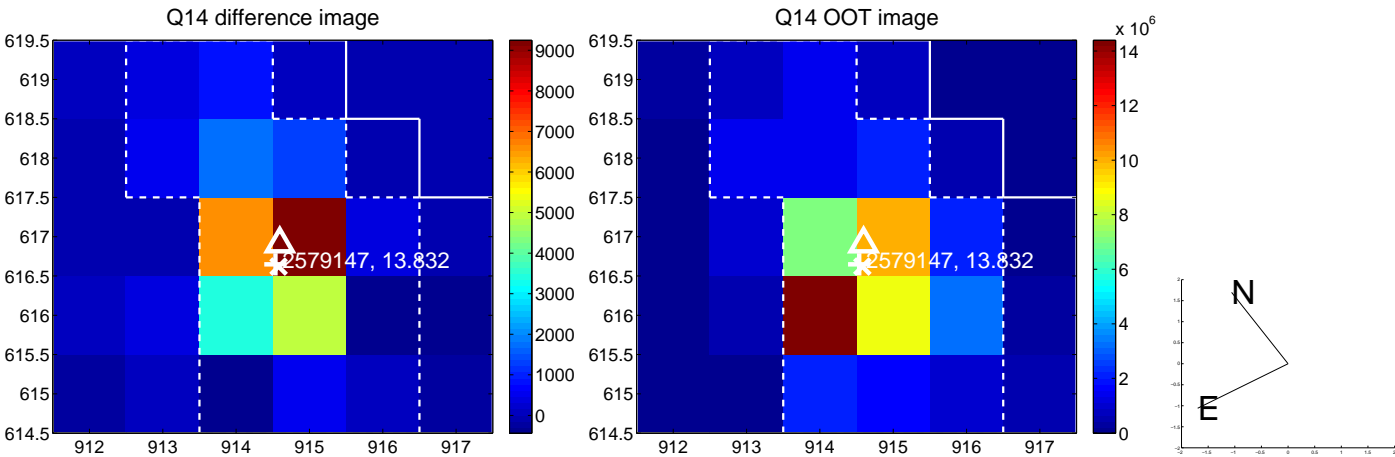
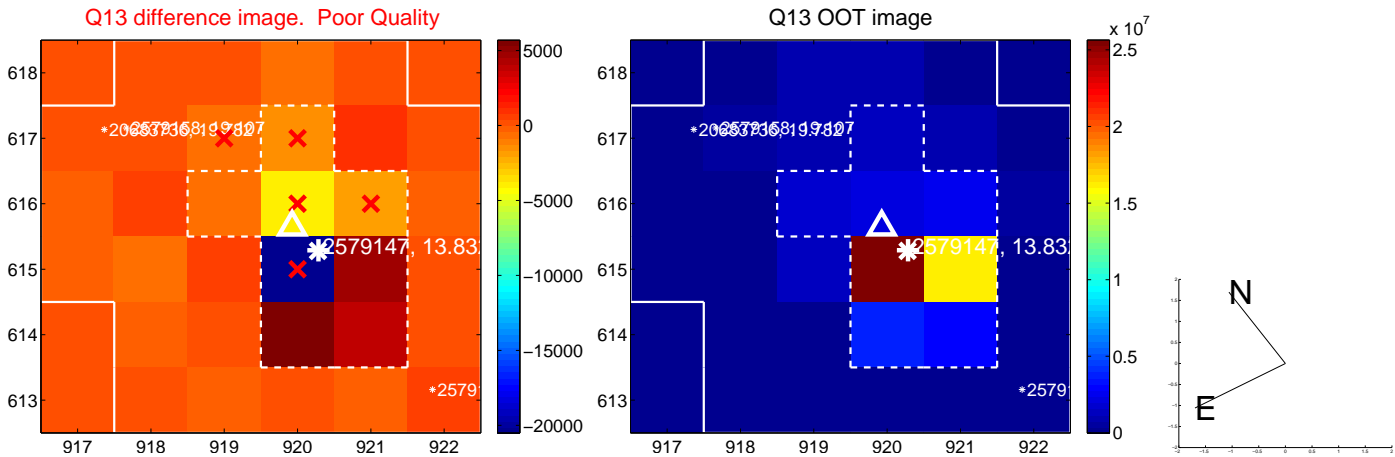
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



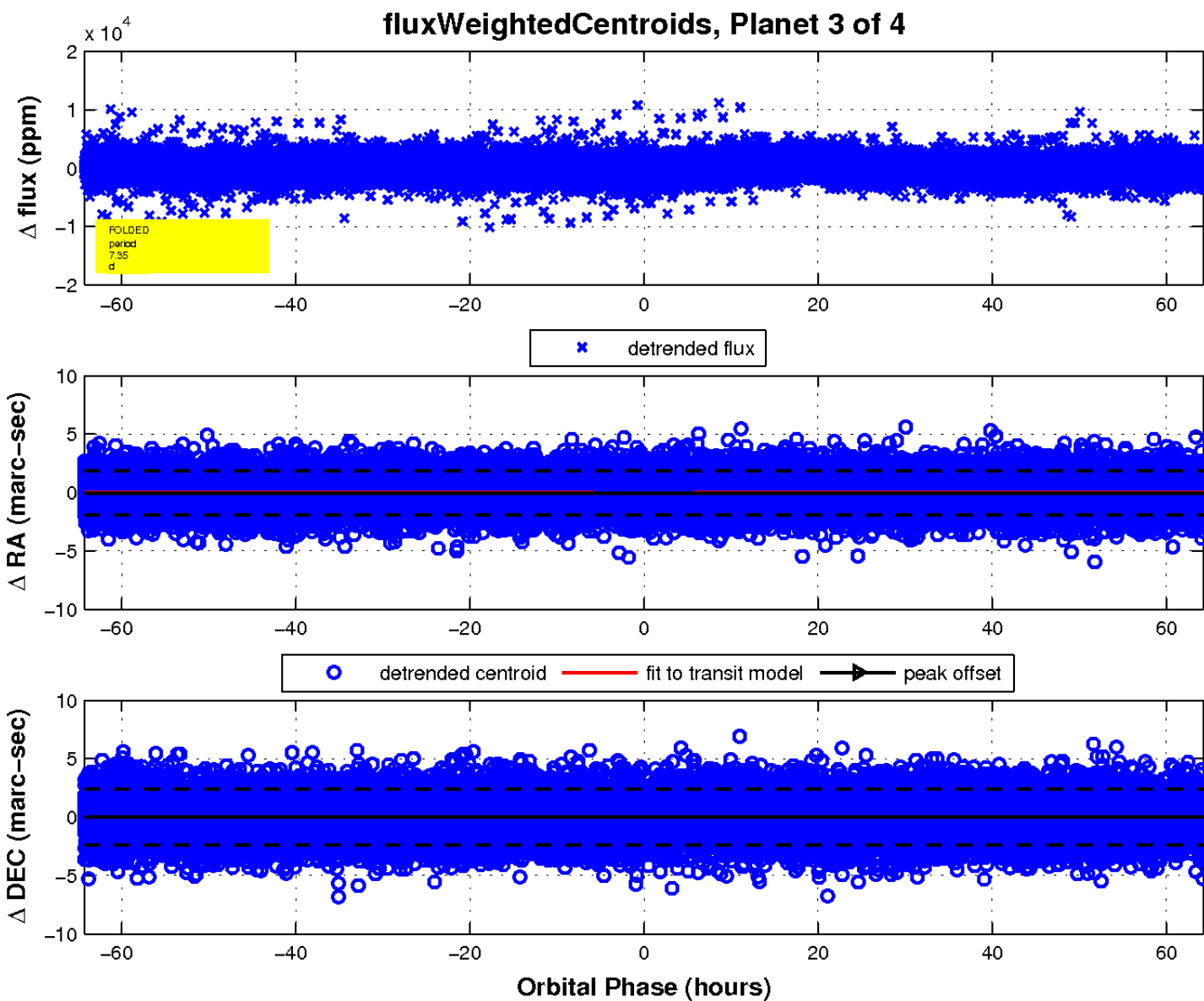
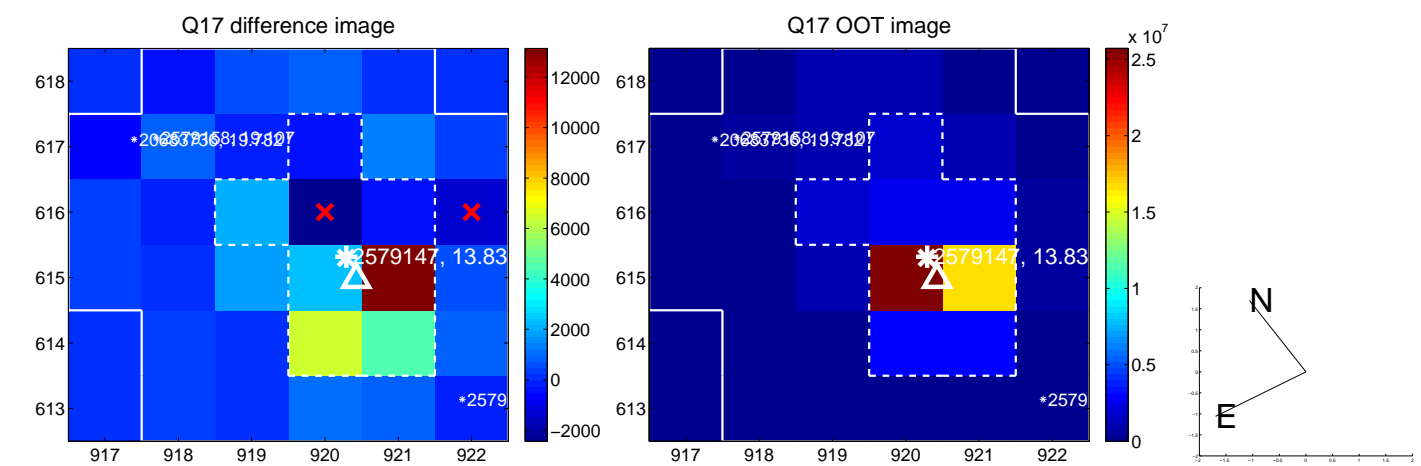
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

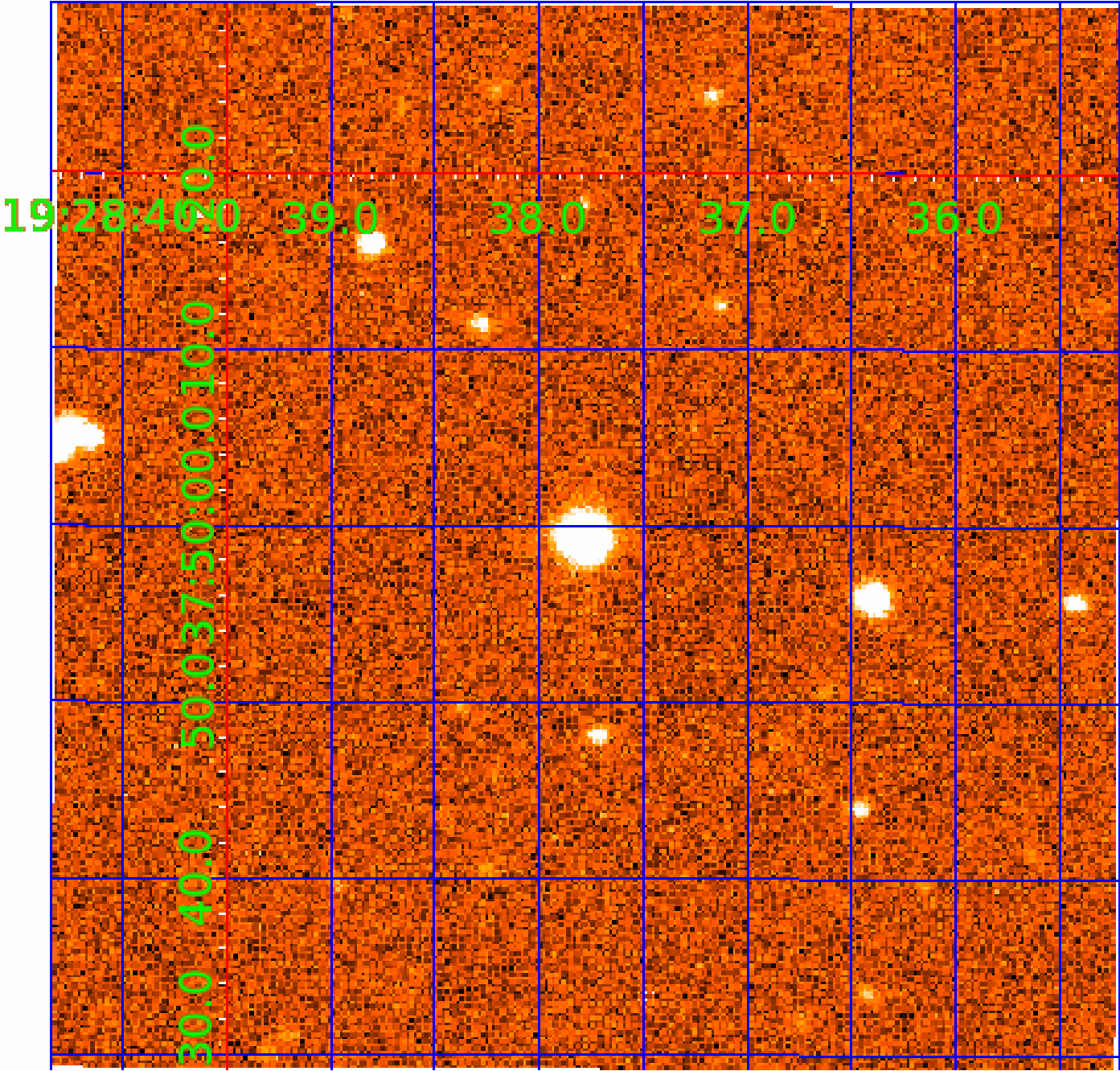


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002579147

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})
002579147-01	OBS	No	0.919785	131.568995	129.6	1.099	9.4	11.6	2.40	7301	2.85	29377.26
002579147-02	OBS	No	7.351746	137.611353	520.8	14.761	9.5	9.2	2.40	7301	9.08	1838.25
002579147-03	OBS	No	7.352587	134.277102	665.7	21.433	10.0	12.9	2.40	7301	11.62	1837.97
002579147-04	OBS	No	7.353951	132.136855	339.6	20.710	7.3	10.1	2.40	7301	4.62	1837.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002579147-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
002579147-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
002579147-03	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
002579147-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

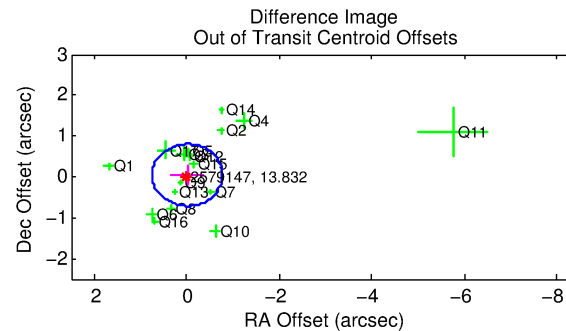
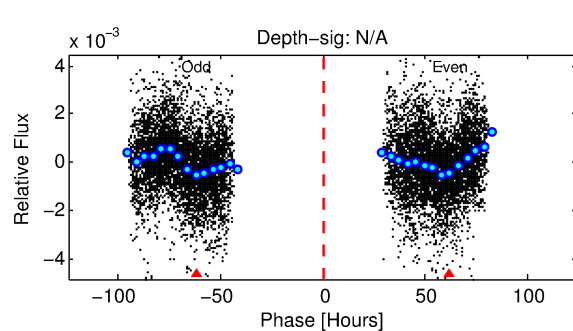
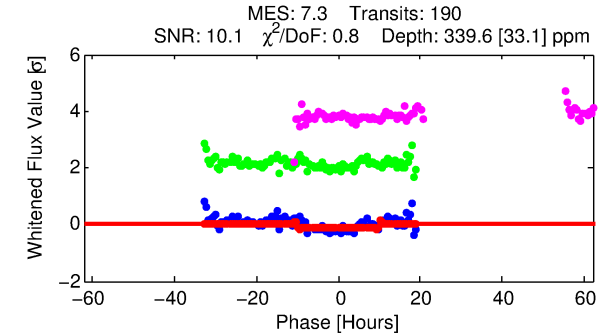
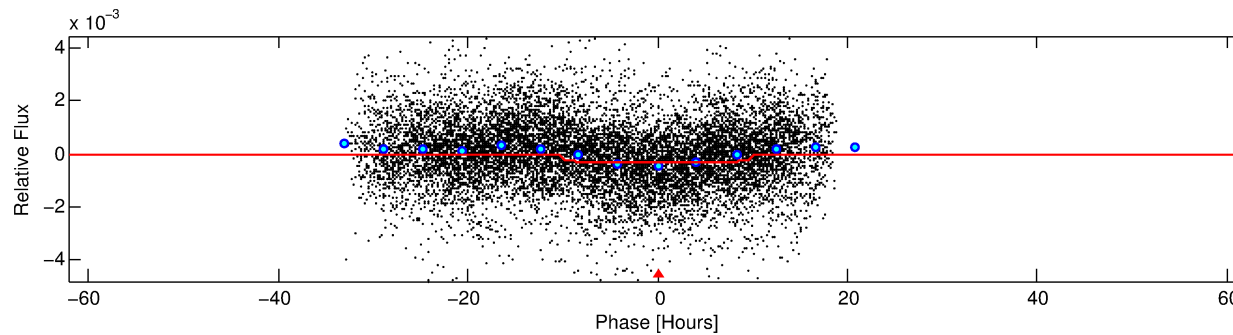
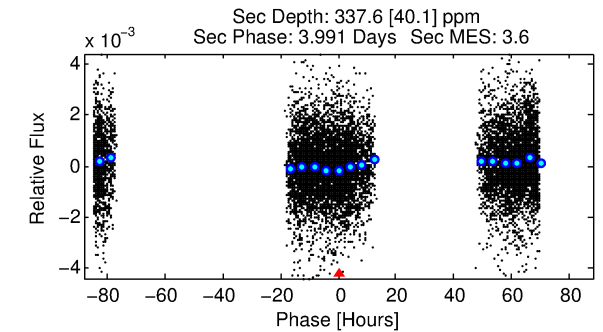
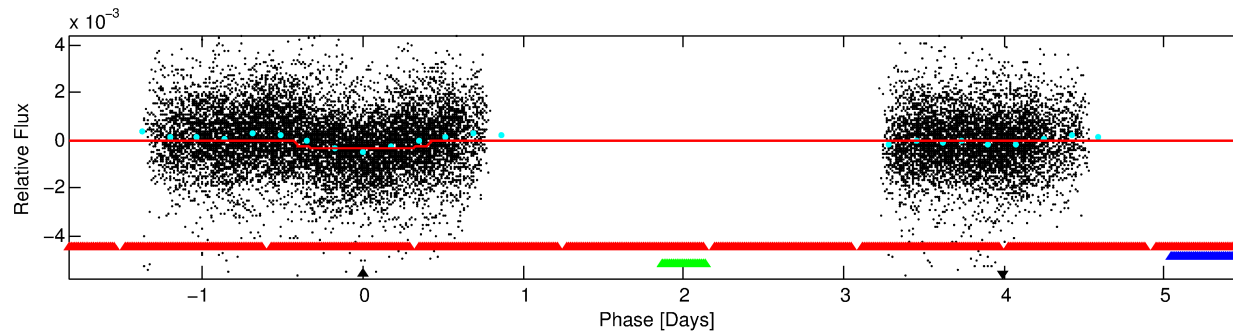
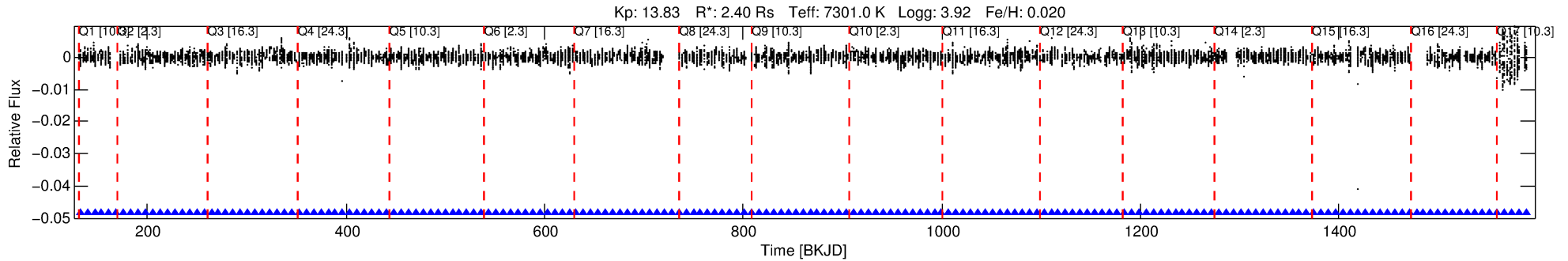
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002579147-04

No Significant Match Found

DV One-Page Summary

KIC: 2579147 Candidate: 4 of 4 Period: 7.354 d



DV Fit Results:

Period = 7.35395 [0.00007] d
Epoch = 132.1369 [0.0069] BKJD
Rp/R* = 0.0176 [0.0016]
a/R* = 2.45 [0.89]
b = 0.54 [0.57]
Seff = 1837.52 [940.74]
Teq = 1669 [214] K
Rp = 4.62 [1.64] Re
a = 0.0894 [0.0274] AU
Ag = 69.57 [35.98] [1.91σ]
Teffp = 7455 [557] K [9.70σ]

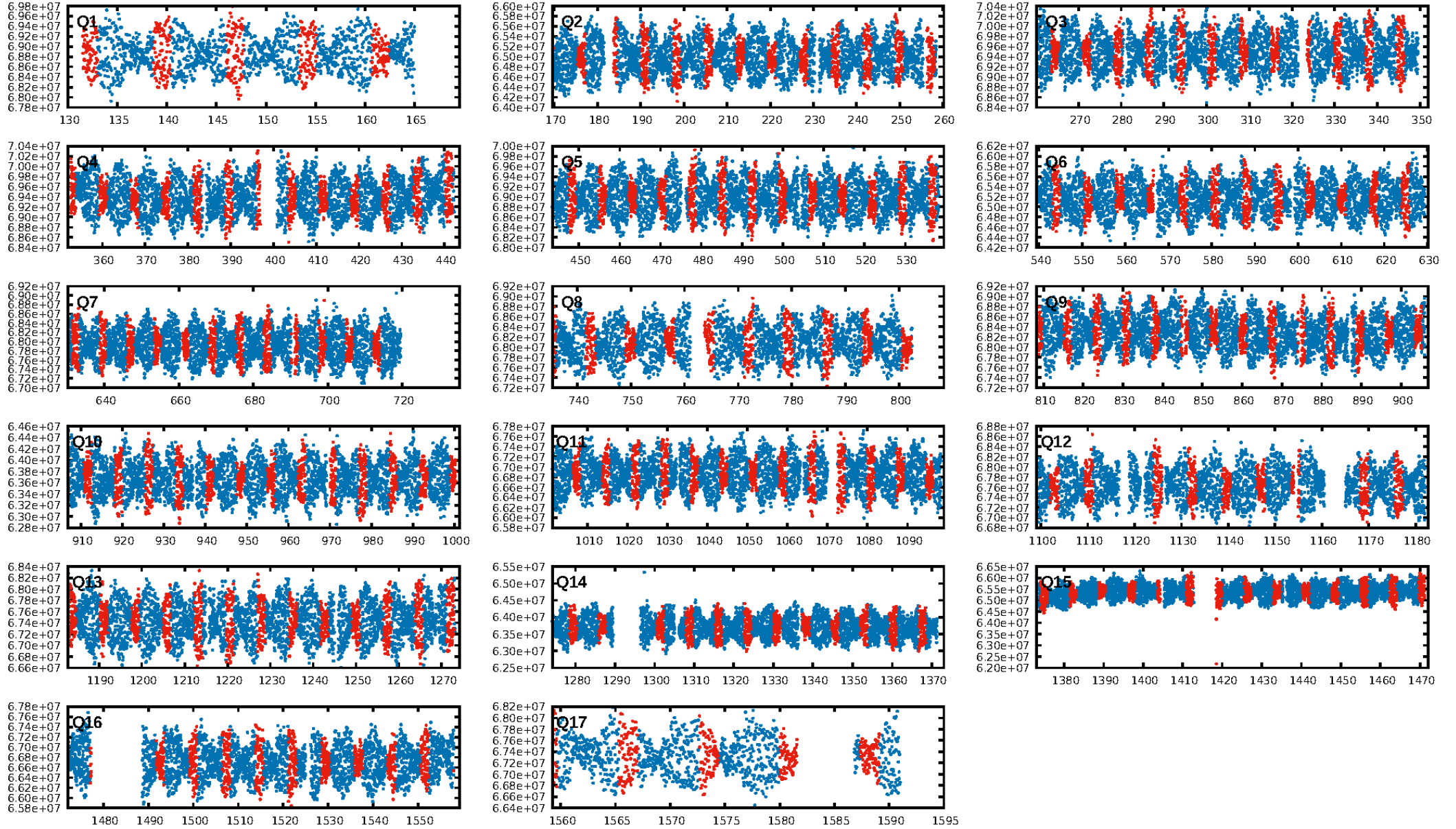
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 98.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [181/181]
GhostDiagnostic-chr: 1.448
Centroid-sig: 4.1%
Centroid-so: 0.286 arcsec [2.21σ]
OotOffset-rm: 0.045 arcsec [0.18σ]
KicOffset-rm: 0.092 arcsec [0.32σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 0.00 [0/17]

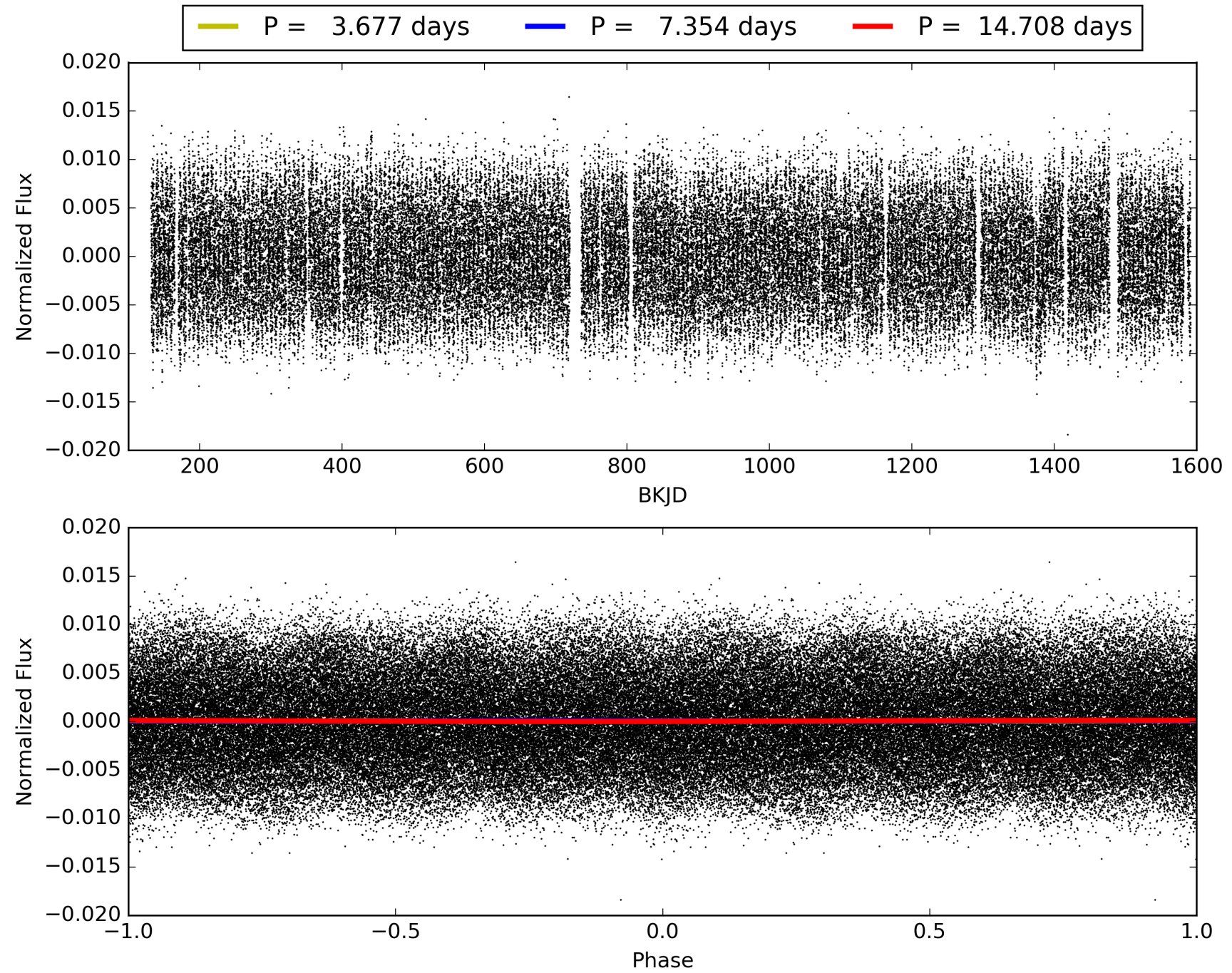
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:32:27 Z

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

TCE 002579147-04, PDC Light Curves

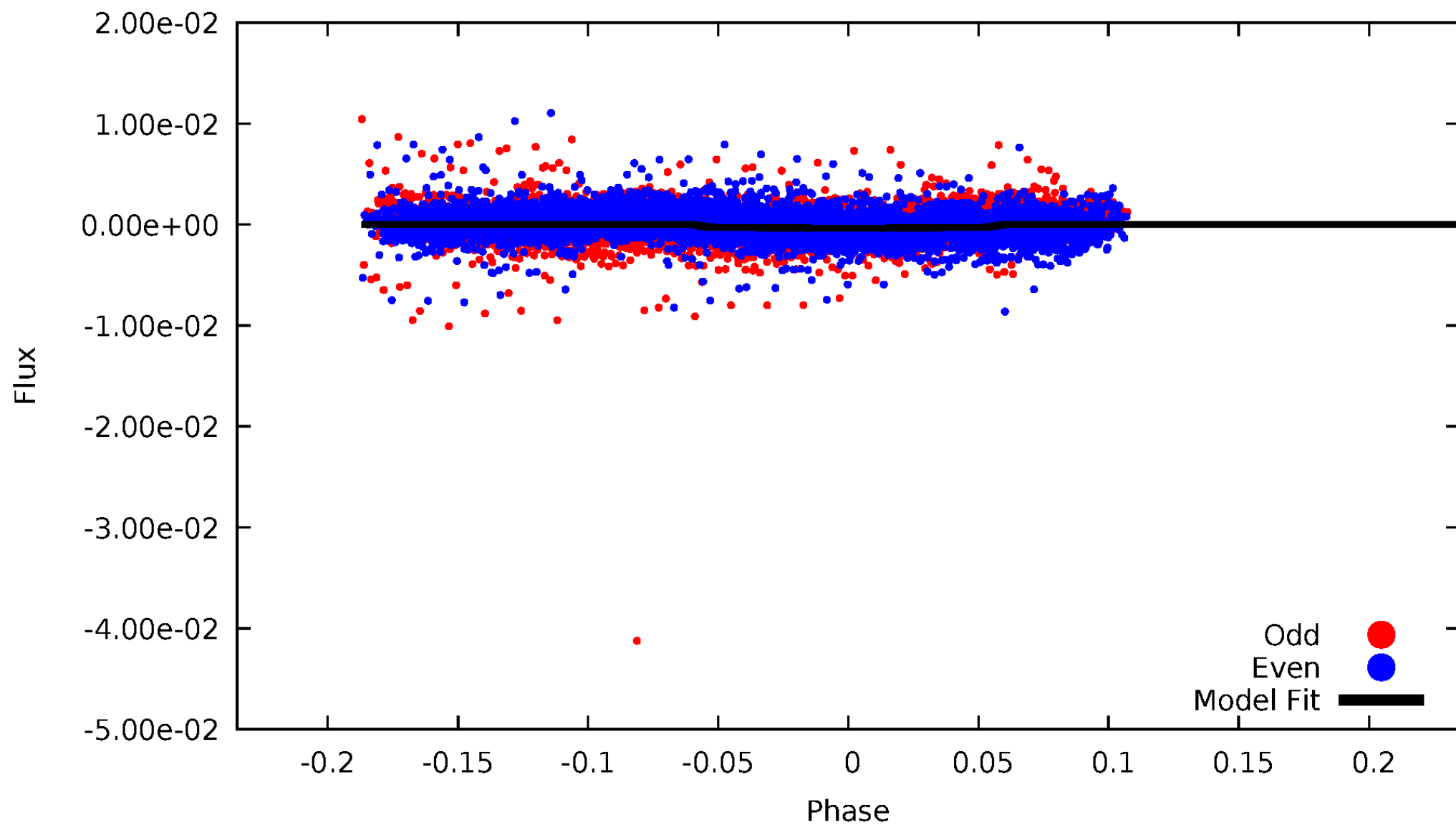


TCE 002579147-04



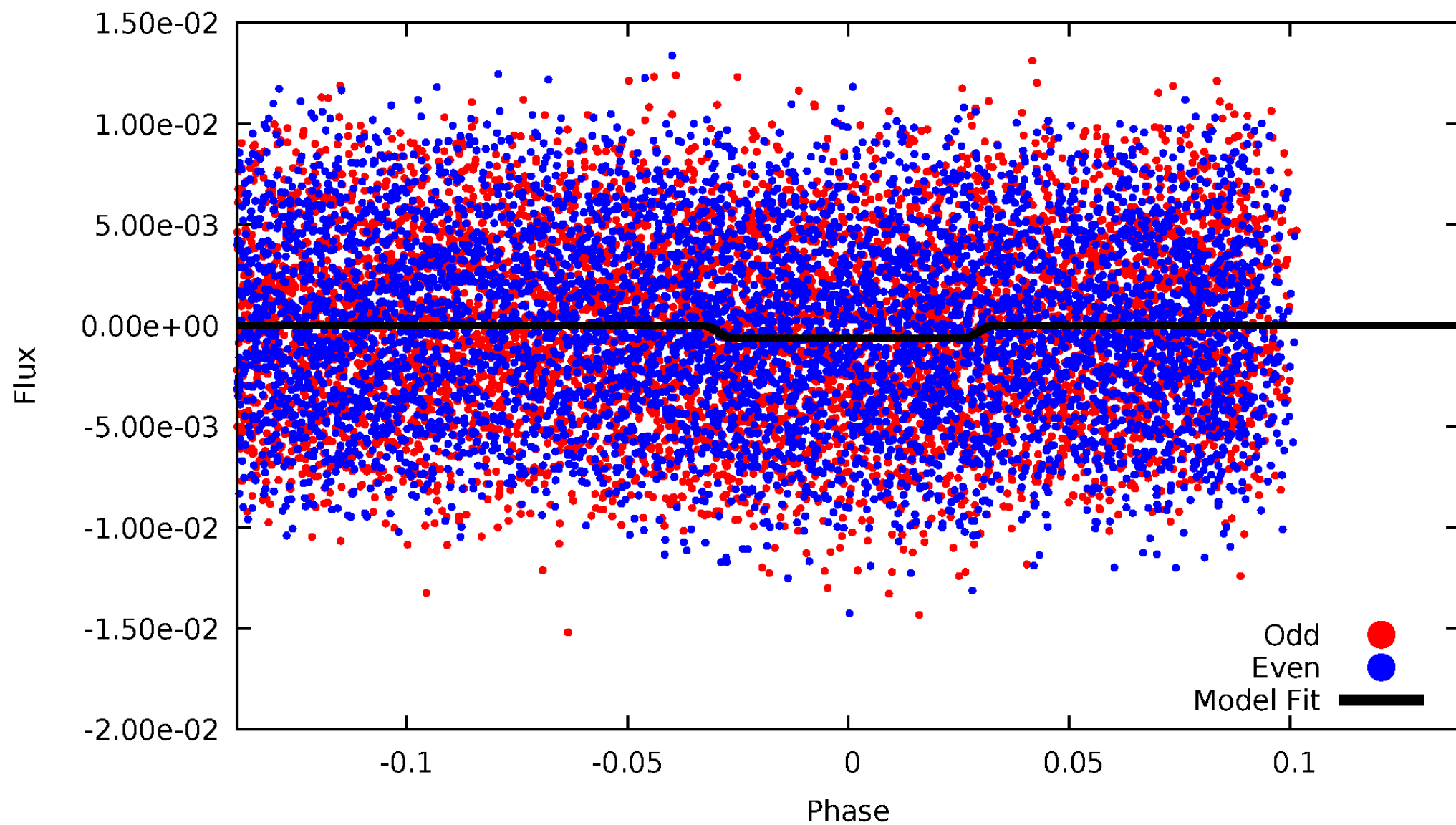
DV Odd/Even

TCE 002579147-04



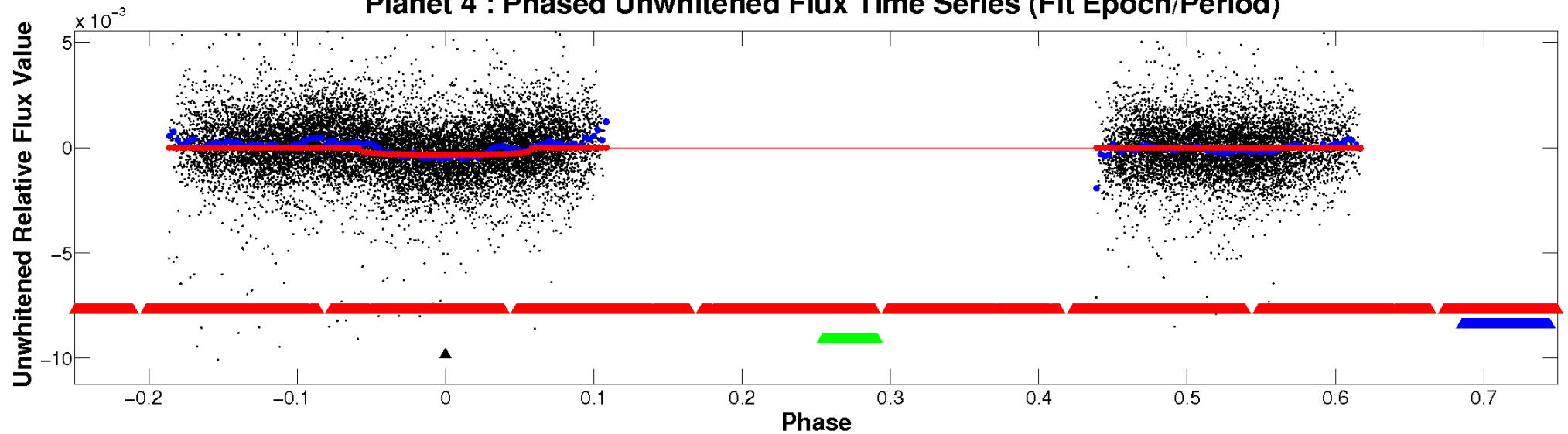
ALT Odd/Even

TCE 002579147-04

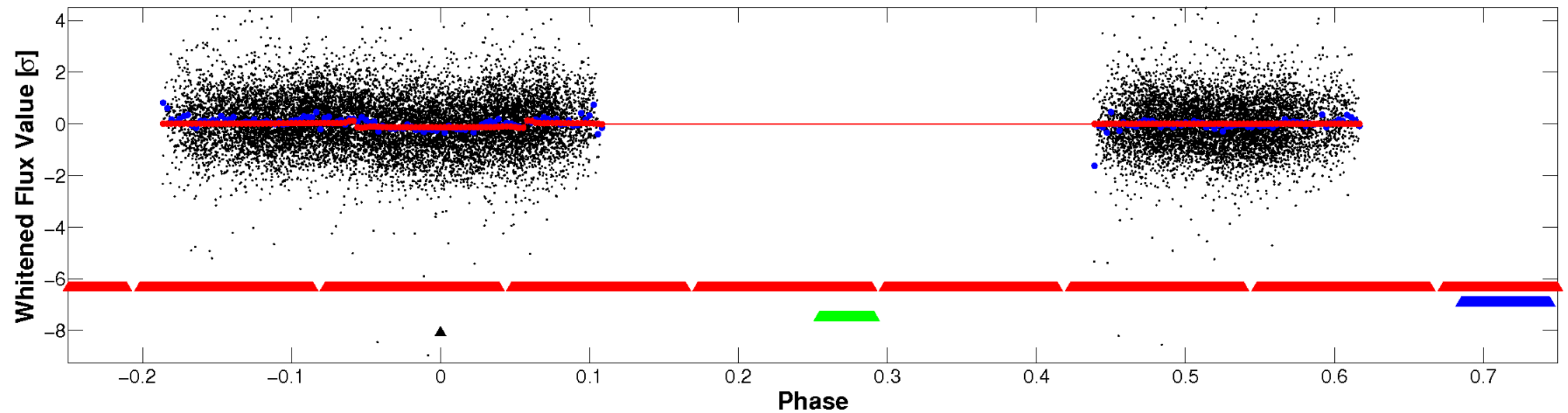


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

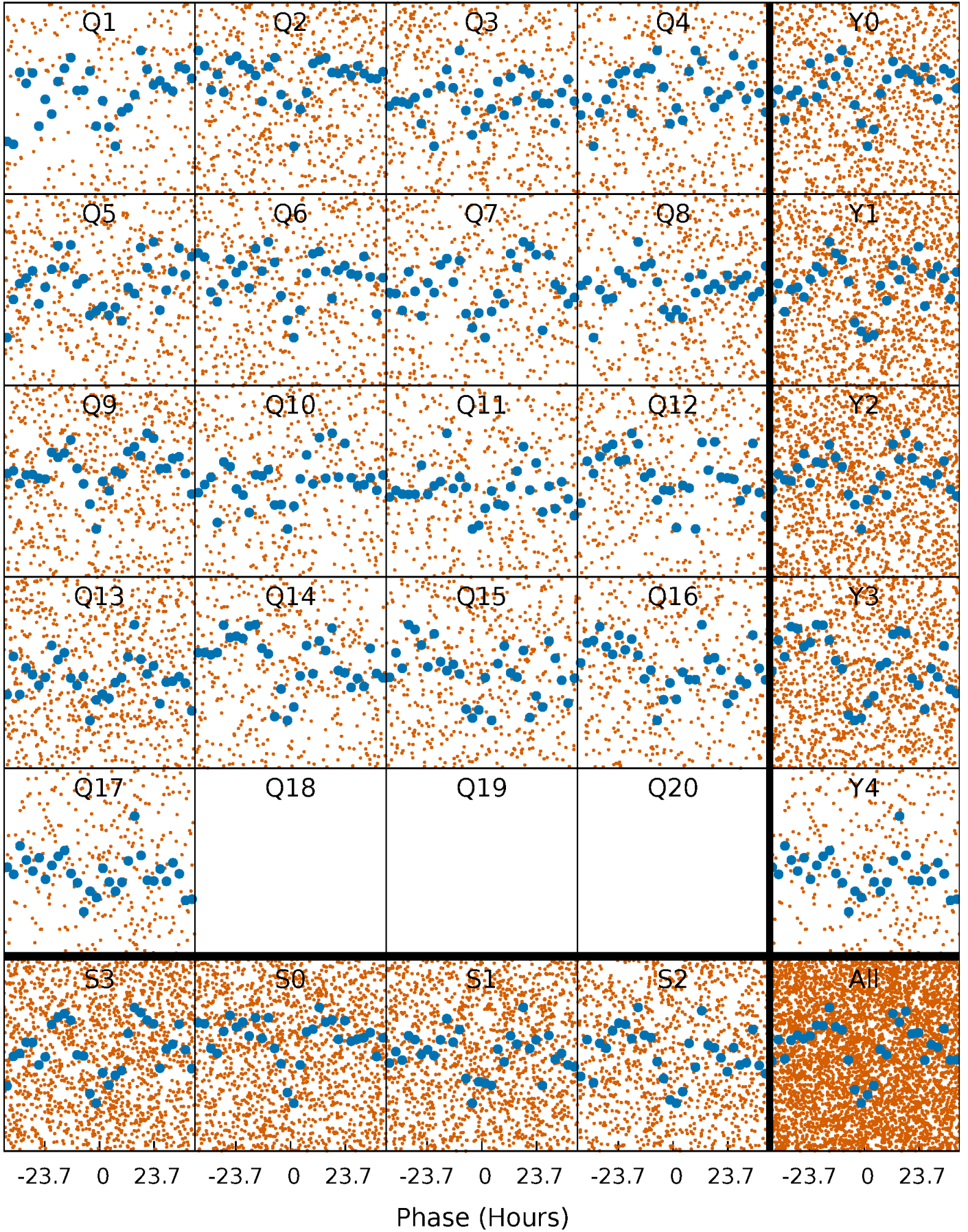


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



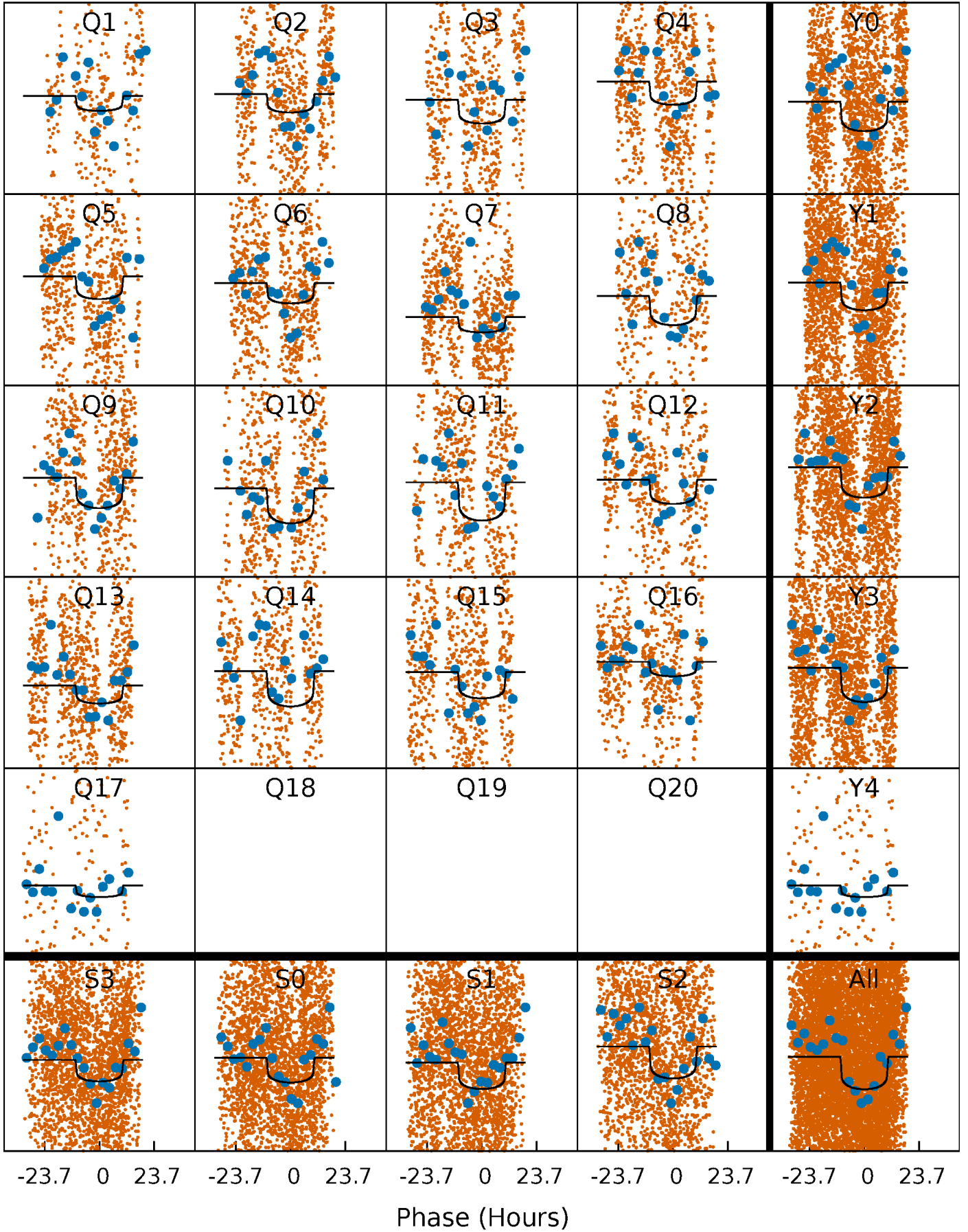
PDC Quarter-Phased Transit Curves

TCE 002579147-04 P= 7.353951 Days $T_0=132.136855$ (BKJD)



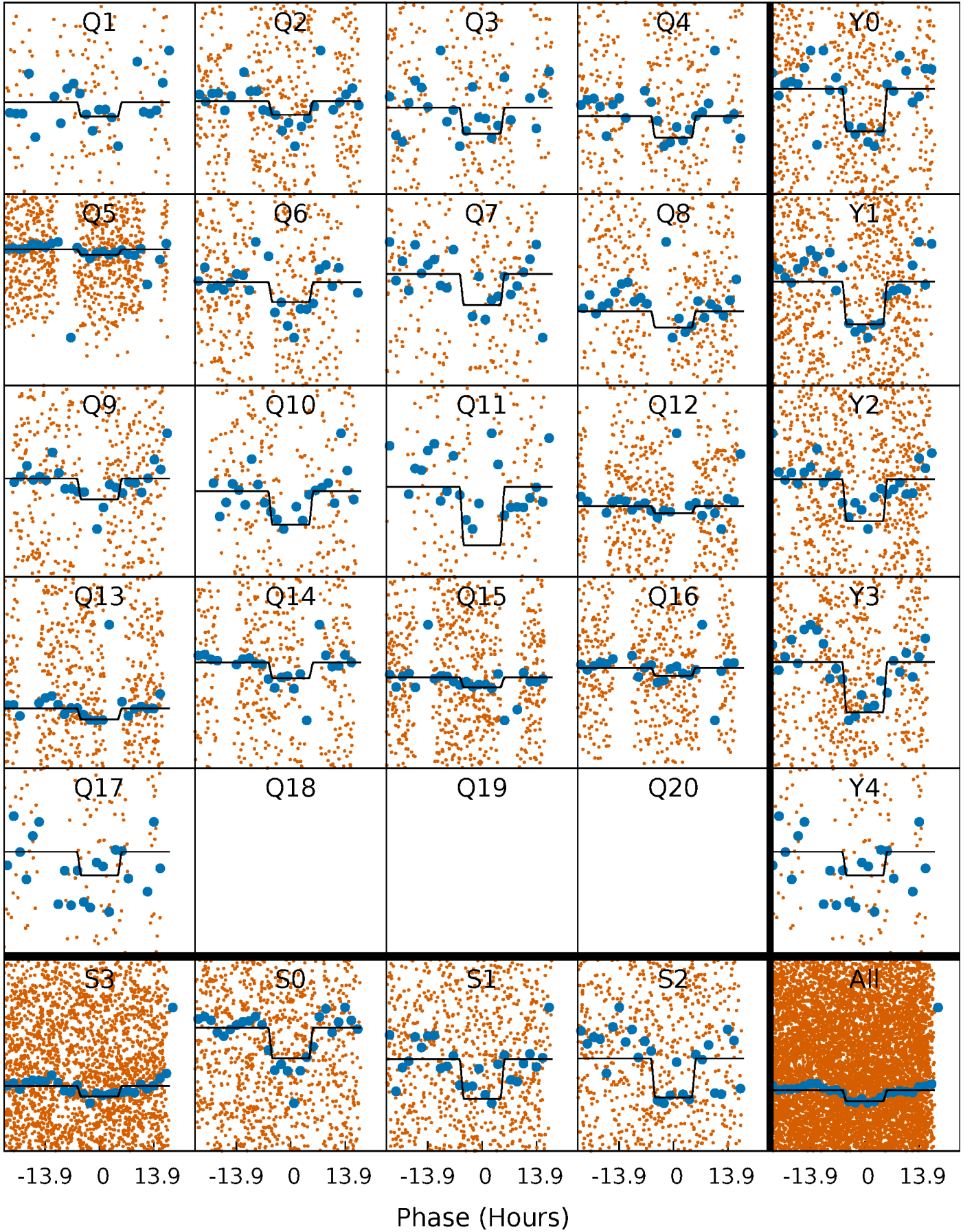
DV Quarter-Phased Transit Curves

TCE 002579147-04 P= 7.353951 Days $T_0=132.136855$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

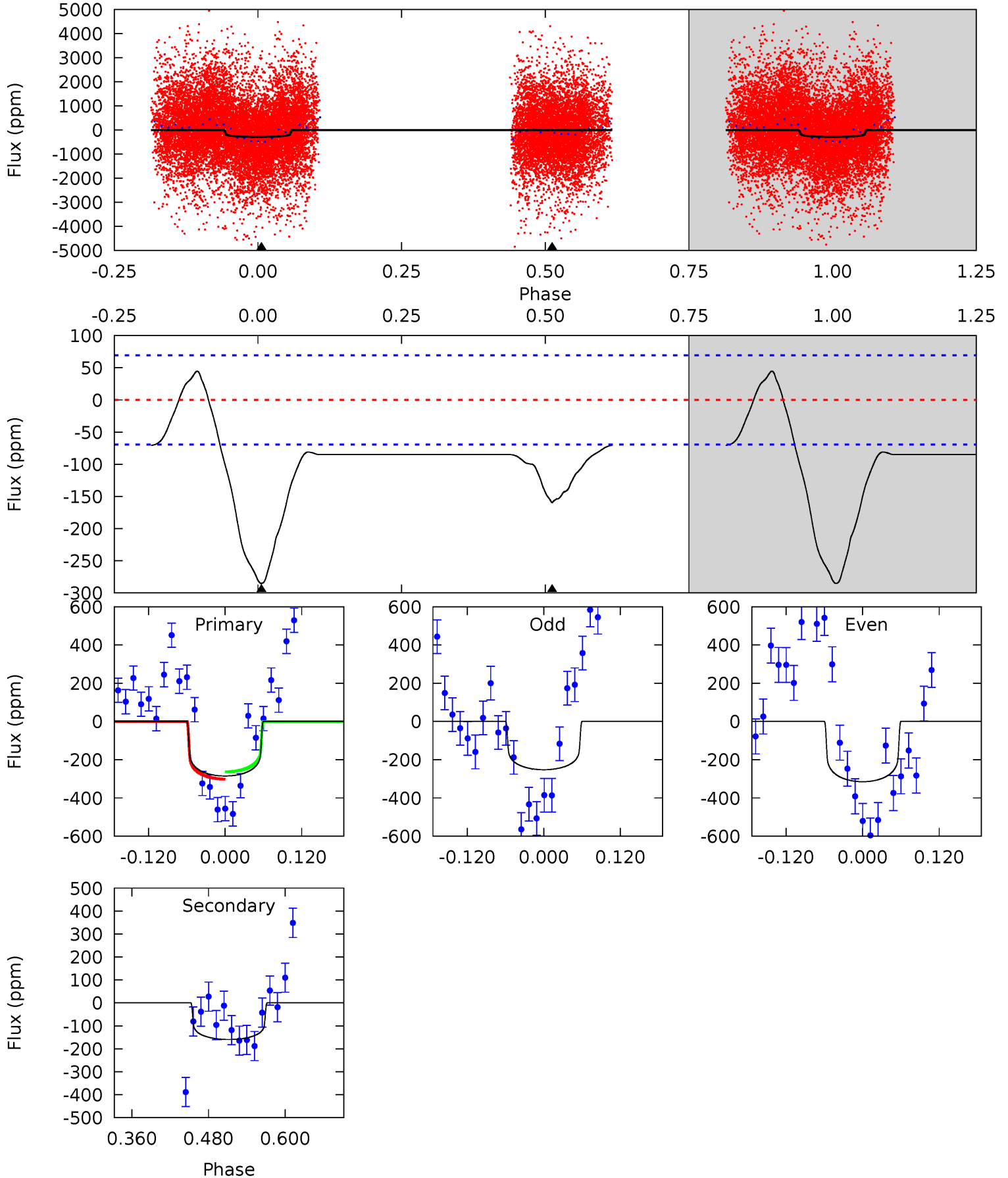
TCE 002579147-04 P= 7.353075 Days $T_0=132.179967$ (BKJD)



DV Model-Shift Uniqueness Test

002579147-04, P = 7.353951 Days, E = 124.782904 Days

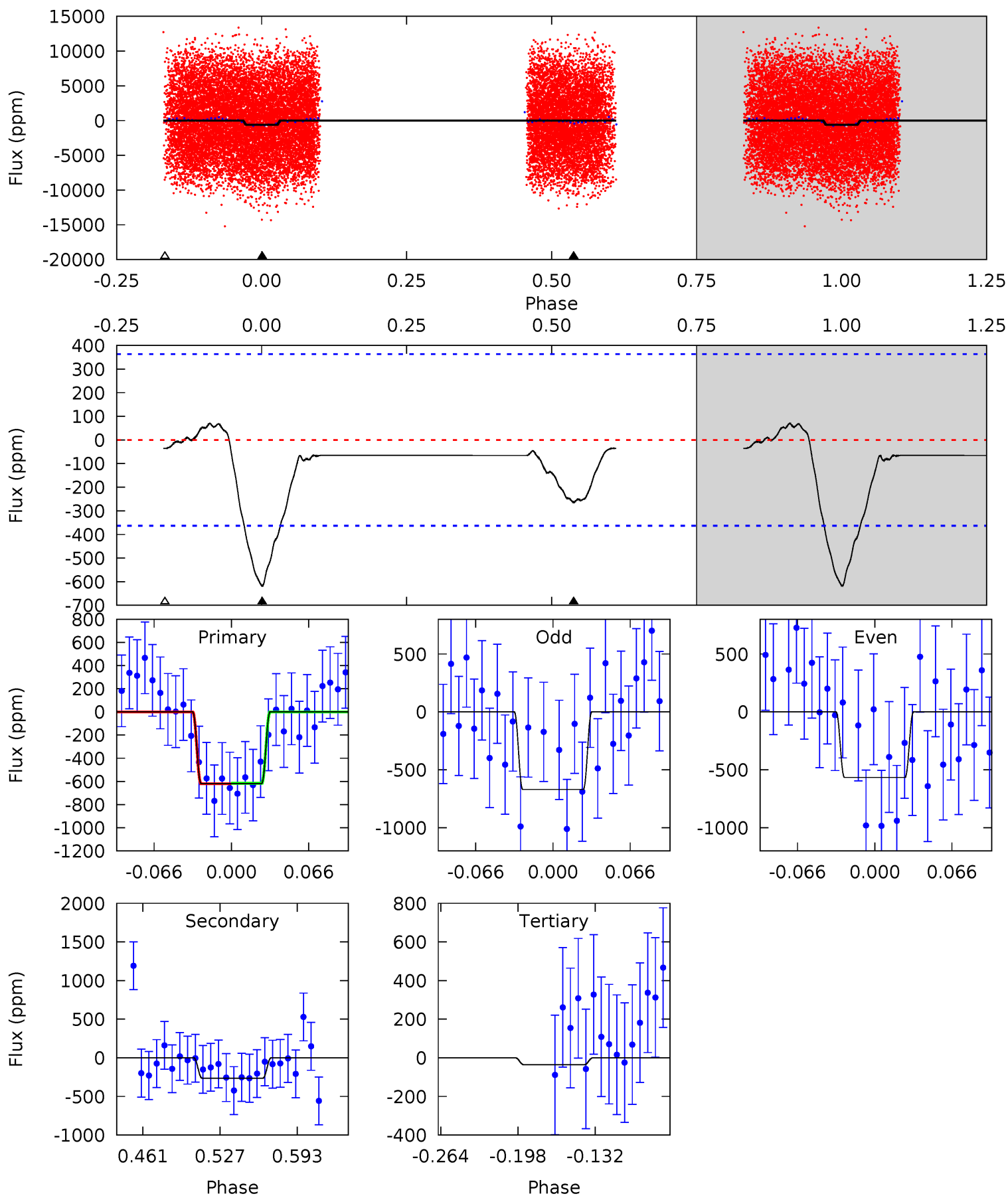
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.6	10.4	0	0	4.53	1.55	2.25	18.6	18.6	10.4	10.4	2.09	1.16	0.14	1.21



Alt Model-Shift Uniqueness Test

002579147-04, P = 7.353075 Days, E = 124.826892 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.91	3.38	0.46	0	4.65	1.84	0.67	7.45	7.91	2.92	3.38	0.67	1.36	0.10	0.02



Stellar Parameters For KIC 002579147

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7301^{+230}_{-374}	$3.923^{+0.267}_{-0.144}$	$0.020^{+0.200}_{-0.350}$	$2.403^{+0.549}_{-0.823}$	$1.765^{+0.196}_{-0.392}$	$0.179^{+0.322}_{-0.077}$
	+3%/-5%	+7%/-4%	+1000%/-1750%	+23%/-34%	+11%/-22%	+180%/-43%
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 002579147-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-160 ± 15	$4.42^{+0.89}_{-0.84}$	2290^{+190}_{-217}	6065^{+397}_{-366}	35^{+18}_{-10}
Alt.	-264 ± 78	$6.36^{+1.06}_{-1.10}$	2293^{+175}_{-207}	5752^{+493}_{-477}	28^{+15}_{-10}

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

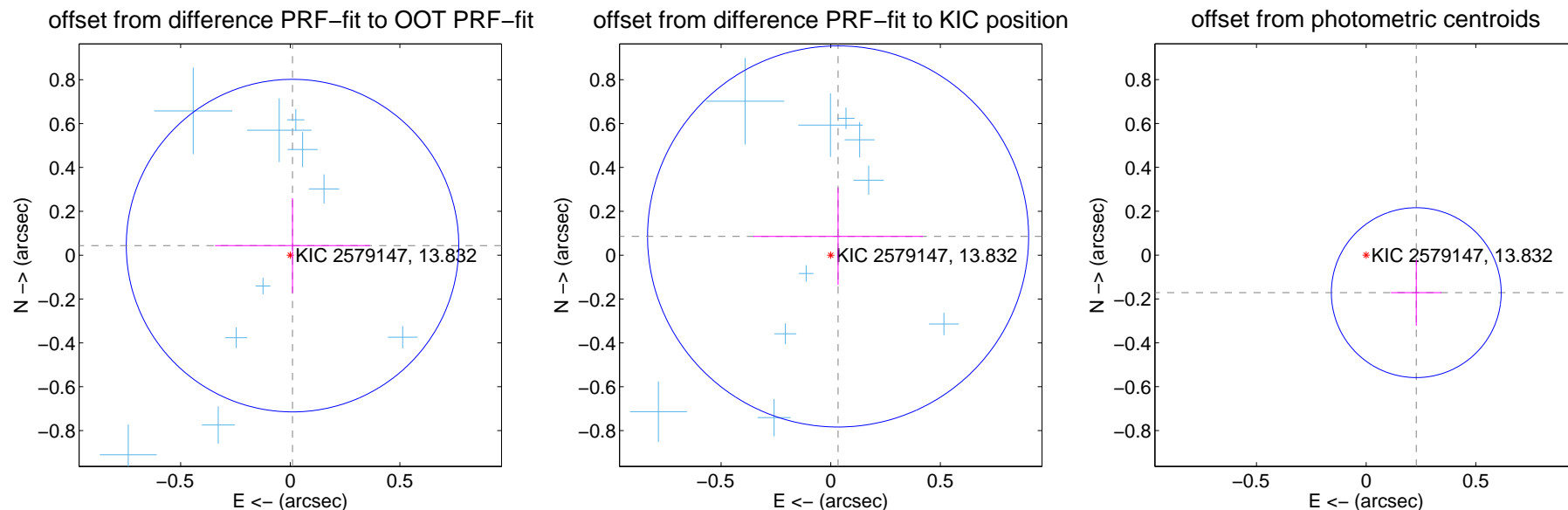
DV Centroid Data

Supplemental centroid analysis for 002579147-04. Kepler magnitude: 13.83. Transit SNR 10.12

There are 16 quarters with good PRF difference image offsets

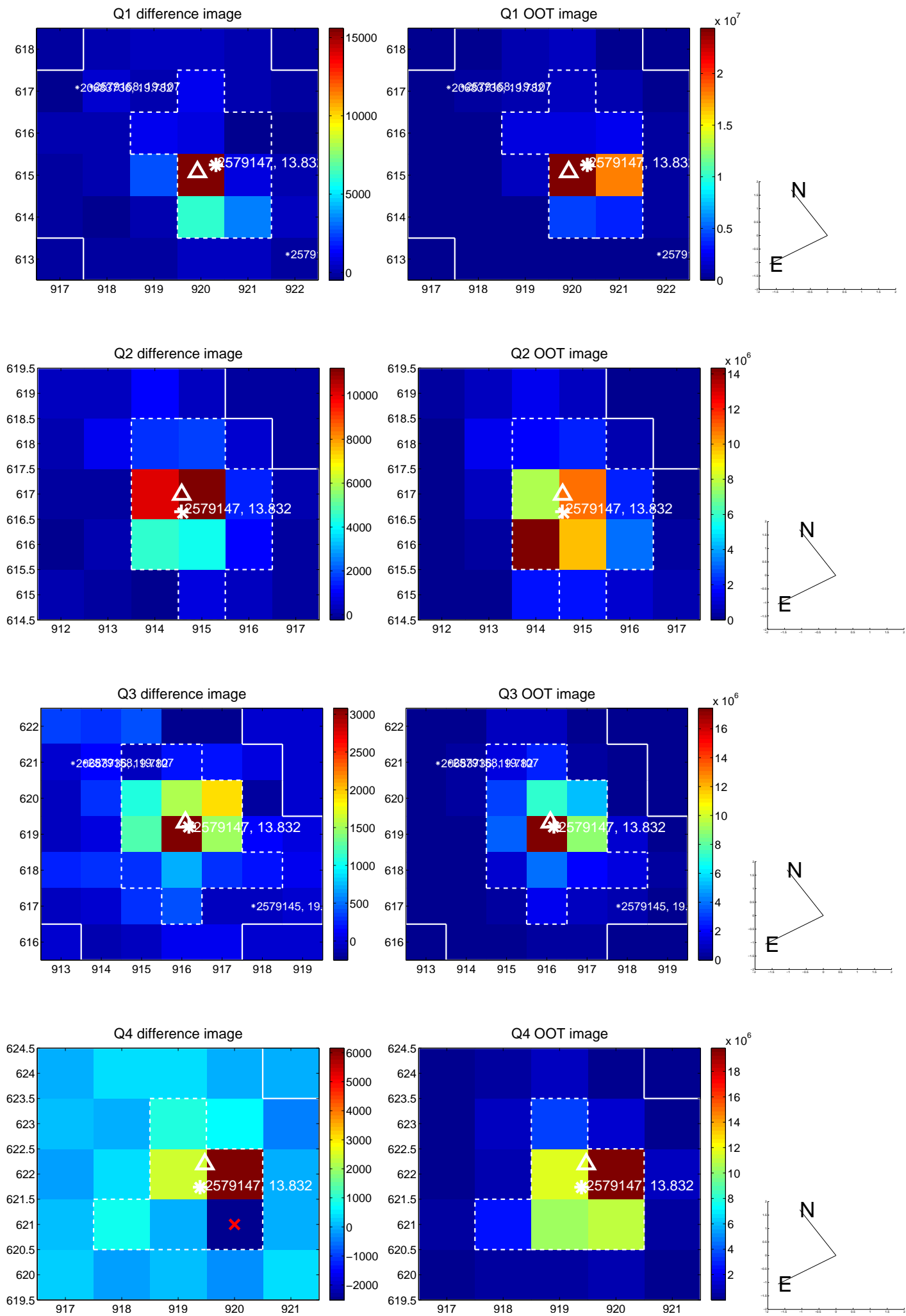
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.045 ± 0.253	0.18	-0.010 ± 0.353	0.043 ± 0.216
PRF-fit source offset from KIC position	0.092 ± 0.290	0.32	-0.034 ± 0.387	0.085 ± 0.221
photometric centroid source offset	0.29 ± 0.13	2.21	-0.23 ± 0.12	-0.17 ± 0.15

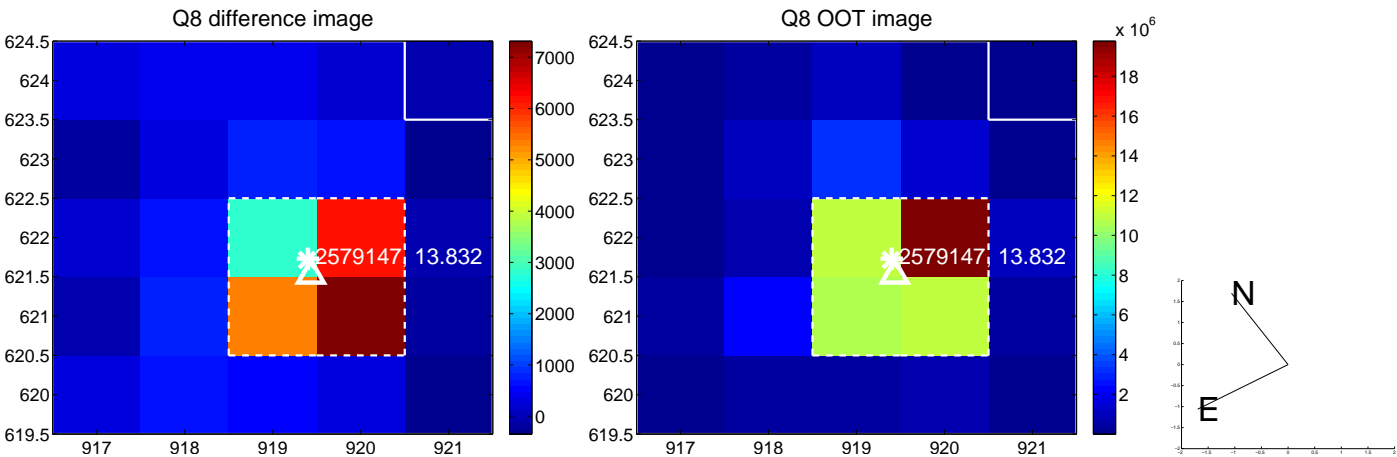
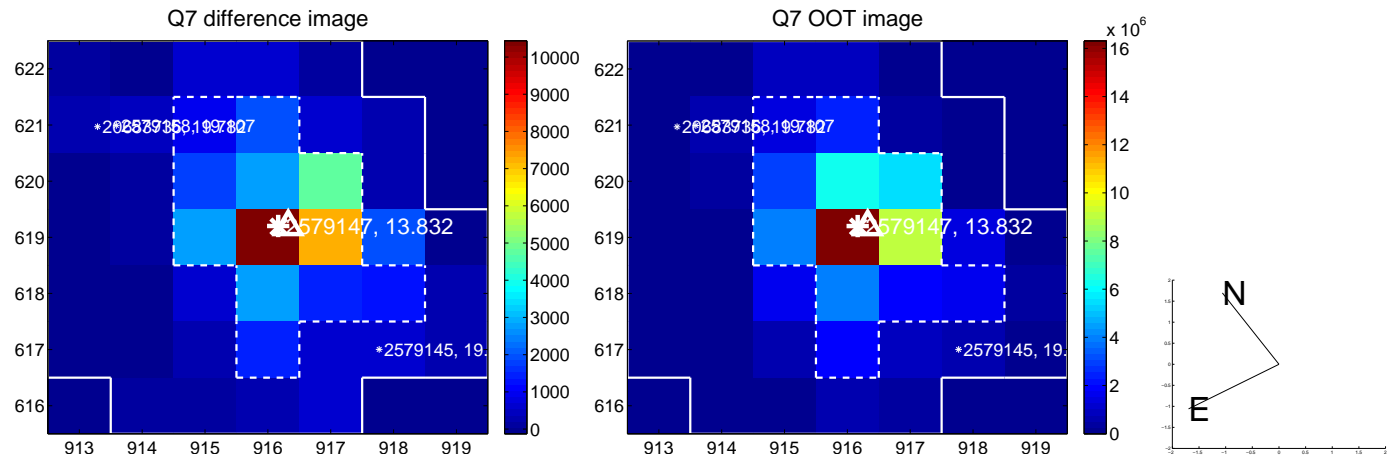
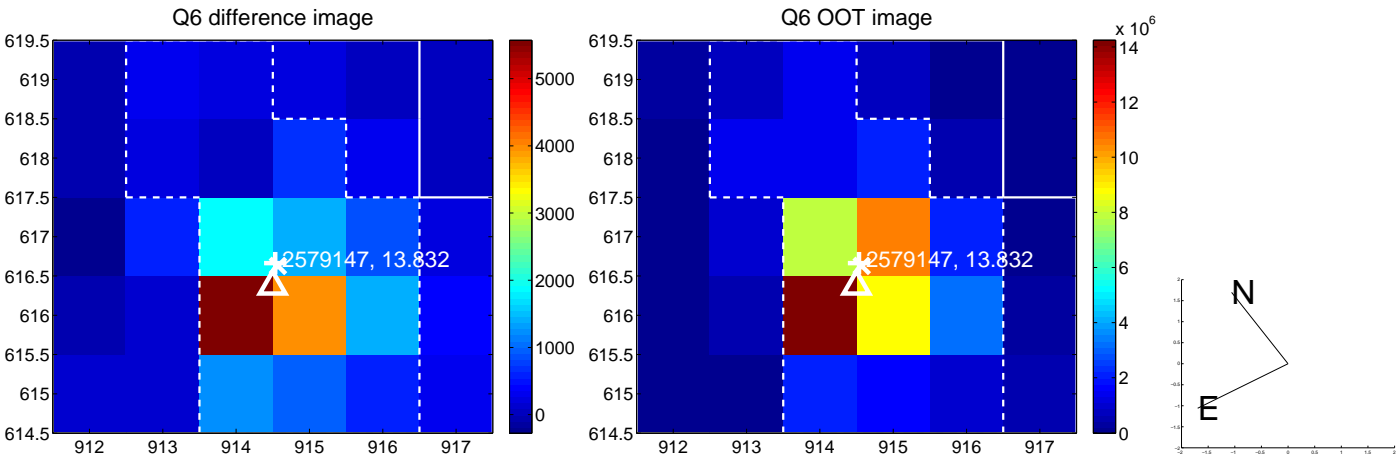
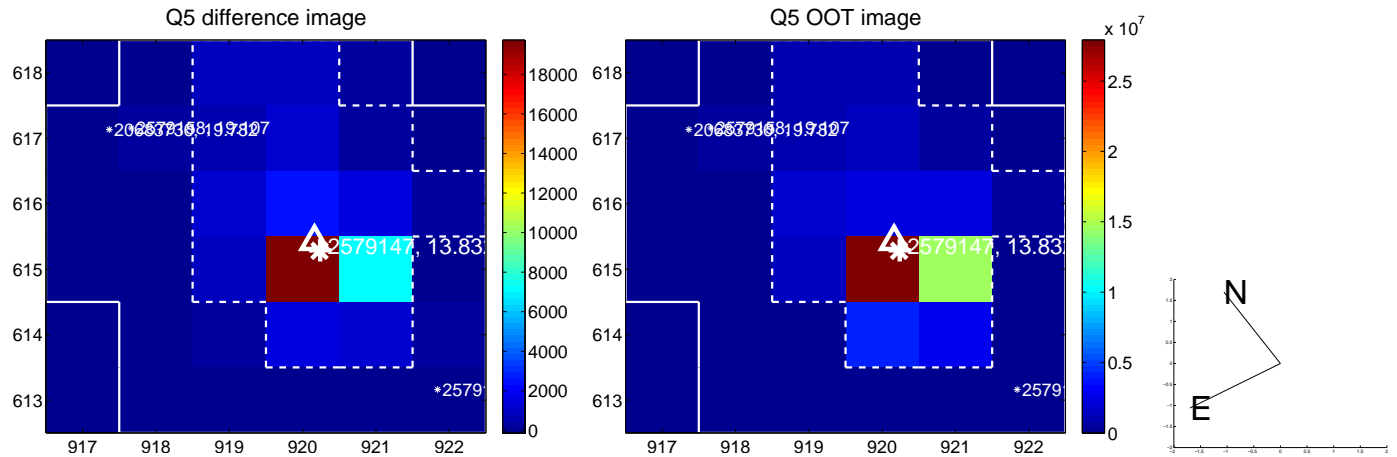


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

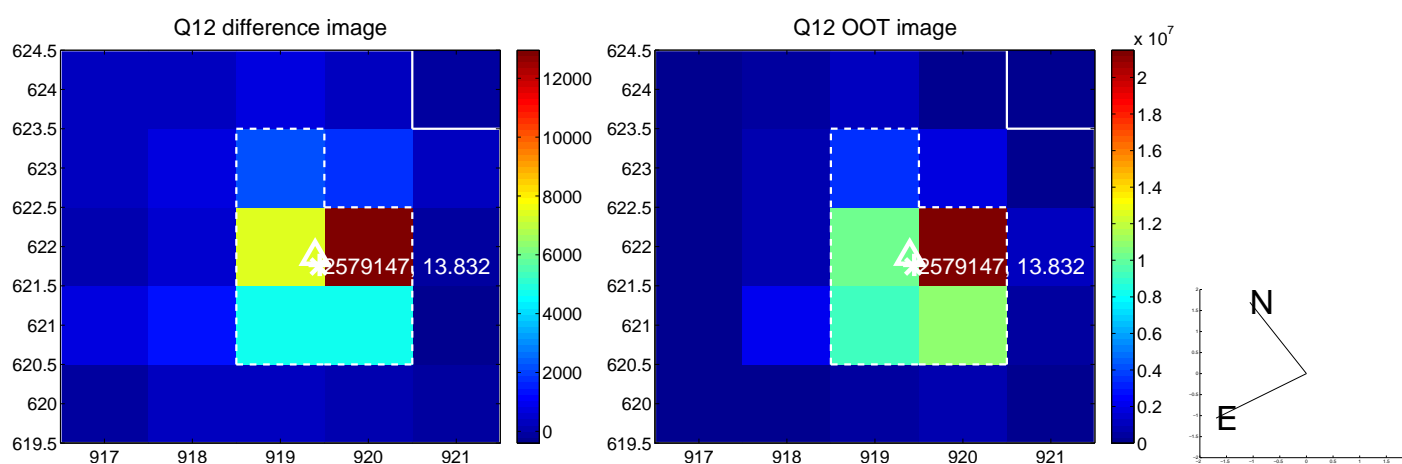
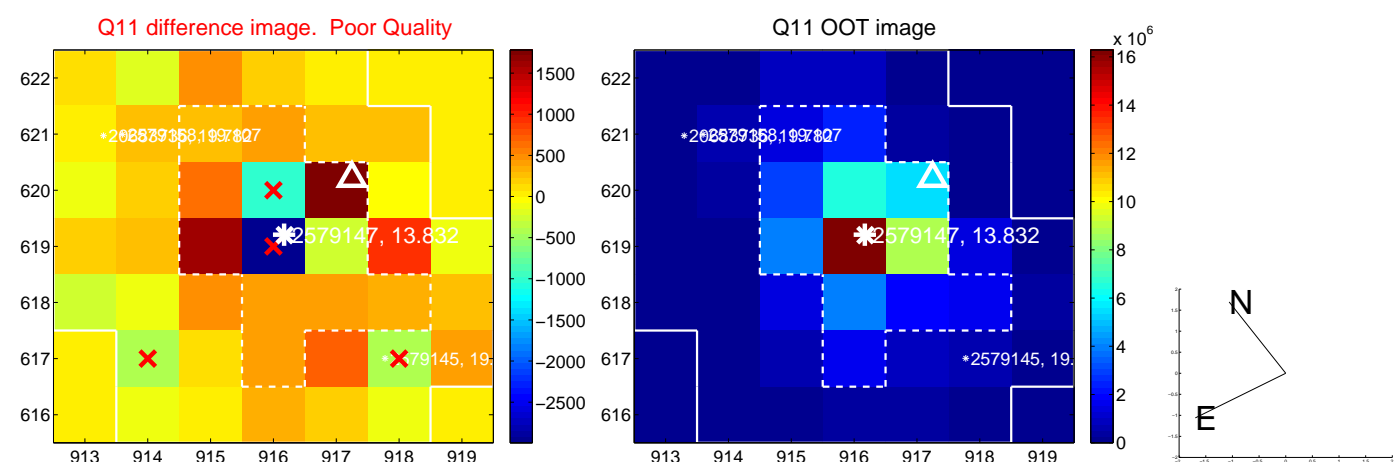
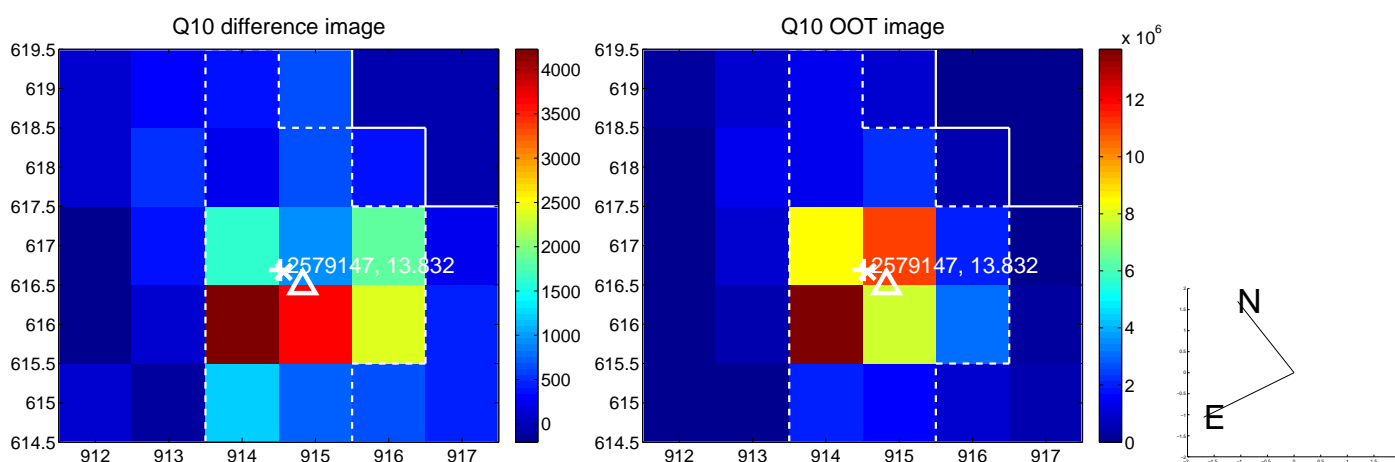
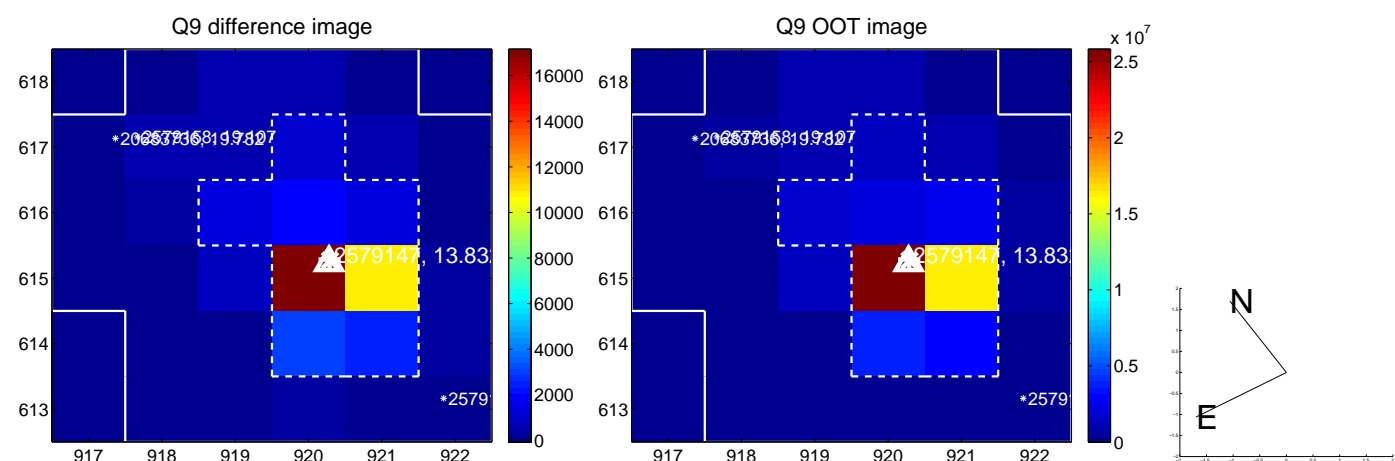
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



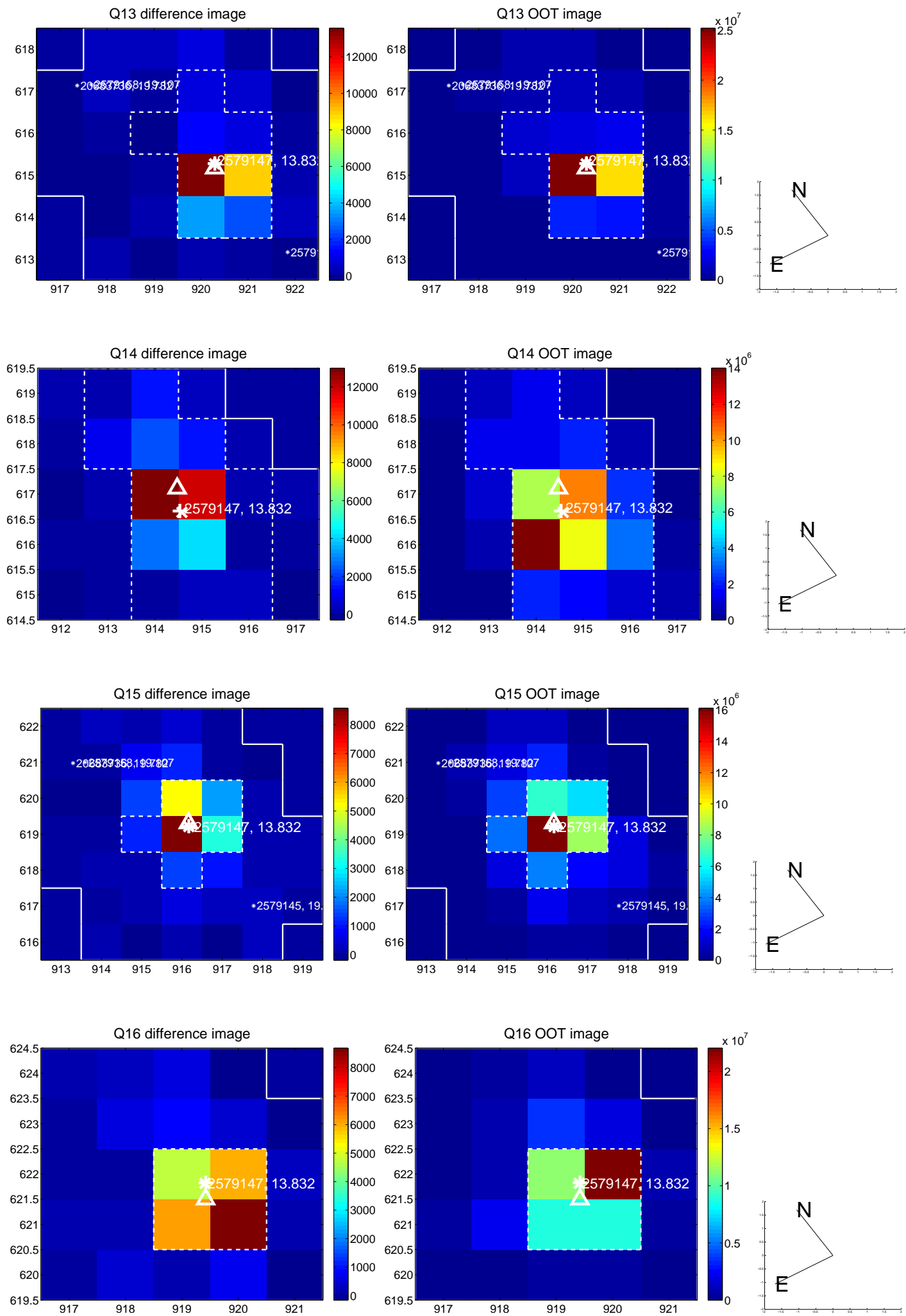
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



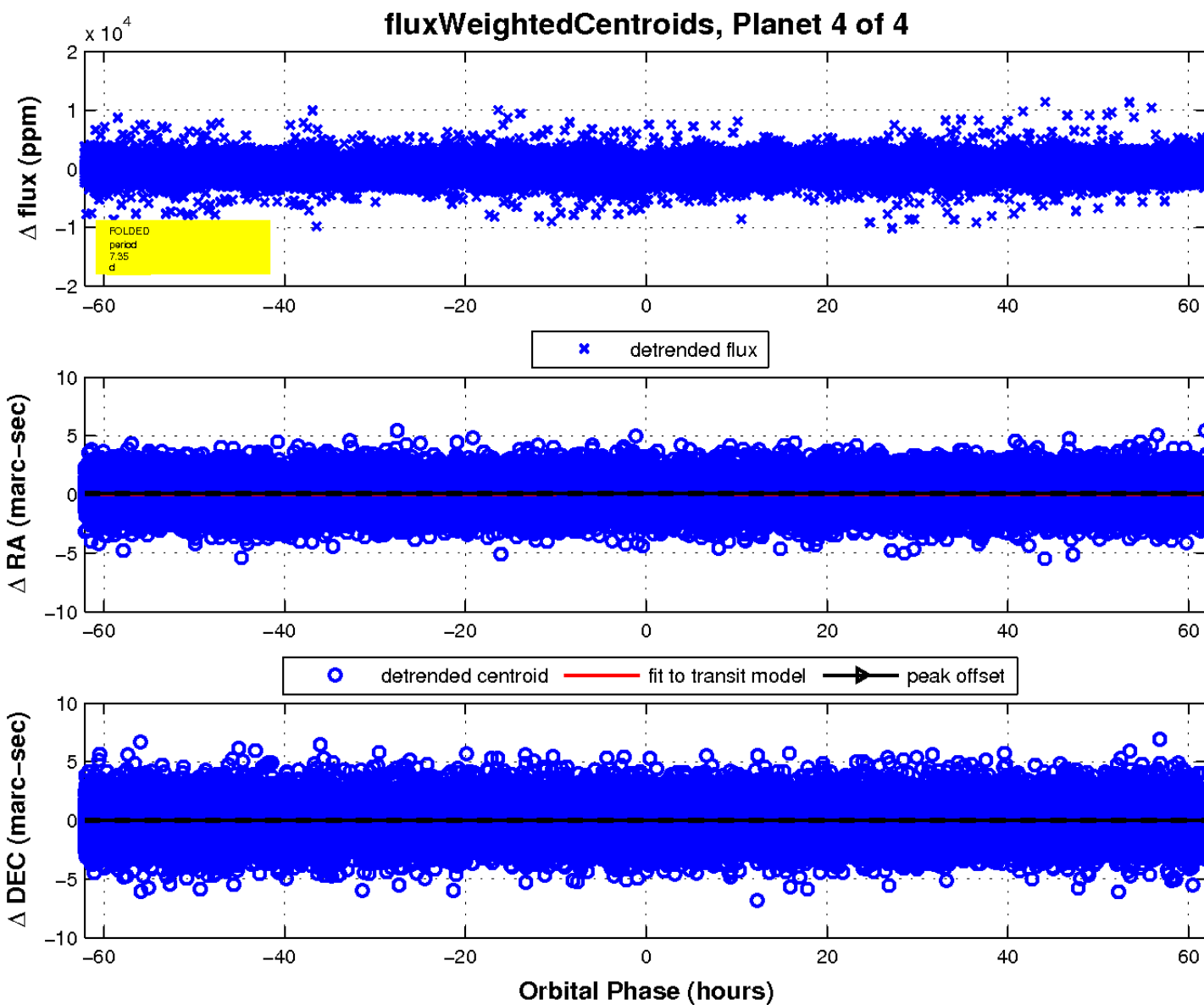
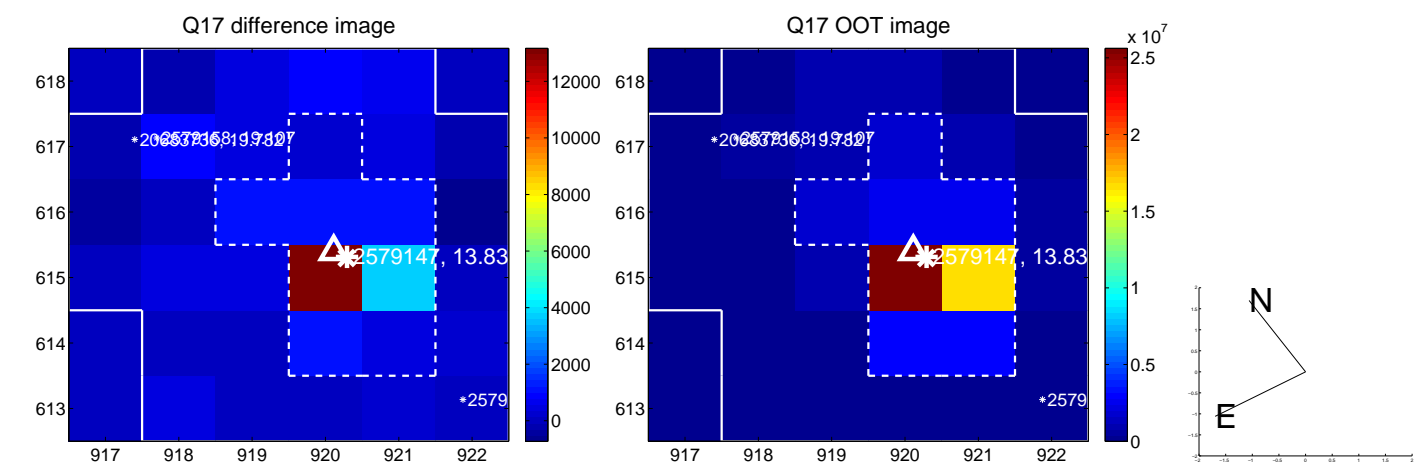
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

