

KIC 008479107

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})
008479107-01	OBS	7045.01	0.767579	131.814225	141718.8	1.939	1527.7	1354.8	0.63	5182	27.58	1298.87
008479107-02	OBS	No	0.767576	132.198494	26464.1	1.500	1171.1	-1.0	0.63	5182	10.15	1298.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008479107-01	OBS	PC	0.67	0	1	0	0	SWEET_EB—MOD_SEC_DV—PLANET_OCCULT_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
008479107-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—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.

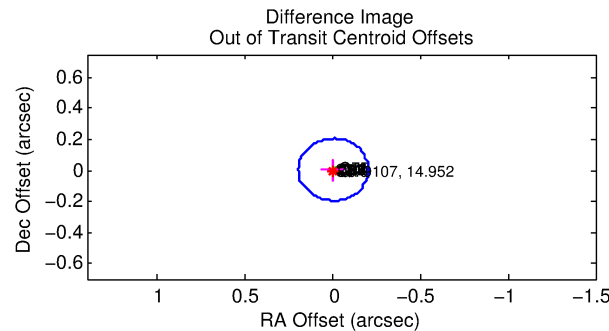
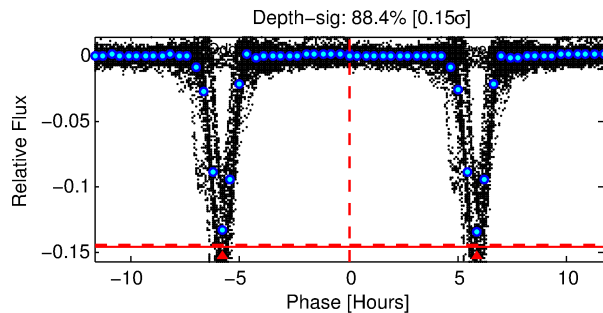
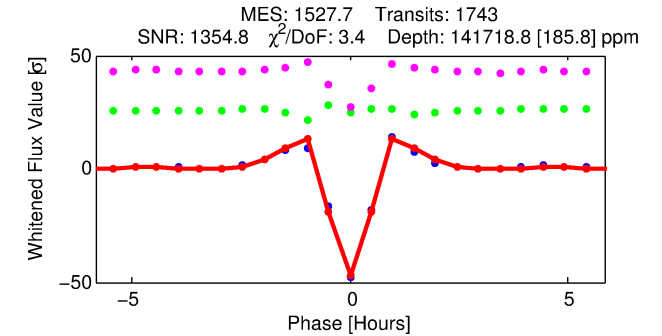
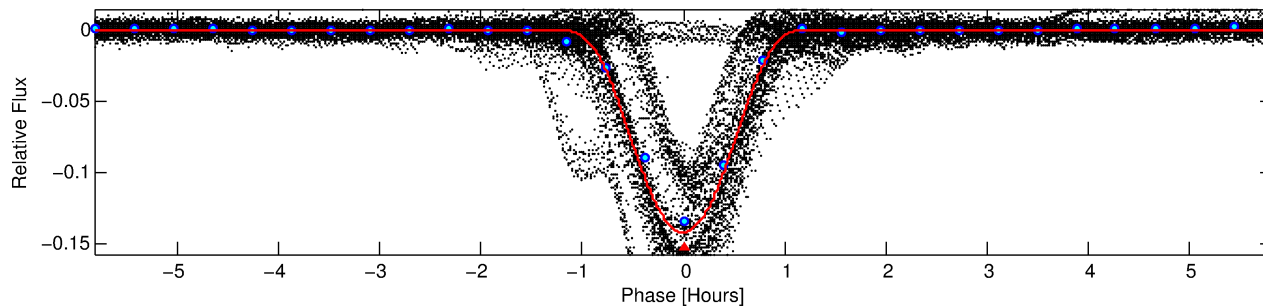
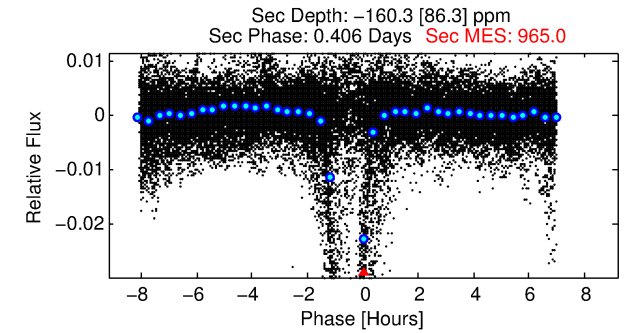
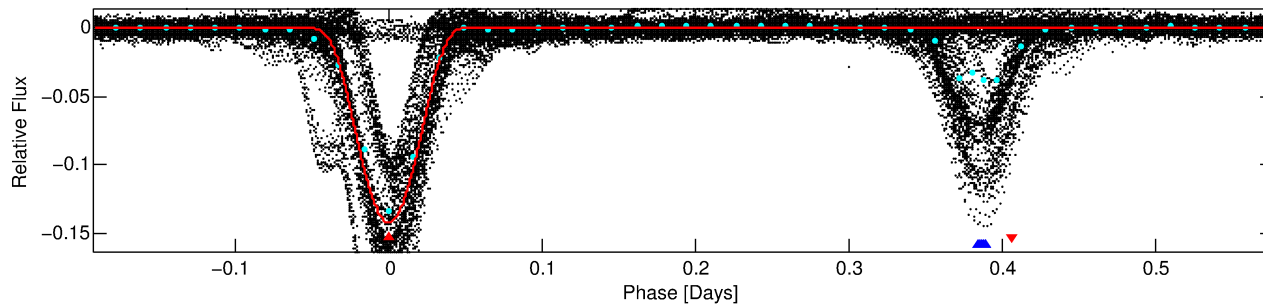
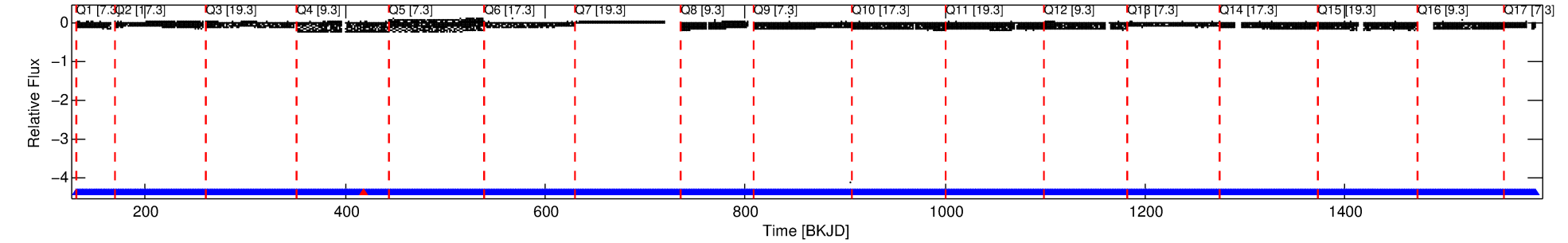
Ephemeris Match Information For 008479107-01

No Significant Match Found

DV One-Page Summary

KIC: 8479107 Candidate: 1 of 2 Period: 0.768 d
KOI: K07045.01 Corr: 0.966

Kp: 14.95 R*: 0.63 Rs Teff: 5182.0 K Logg: 4.63 Fe/H: -0.980



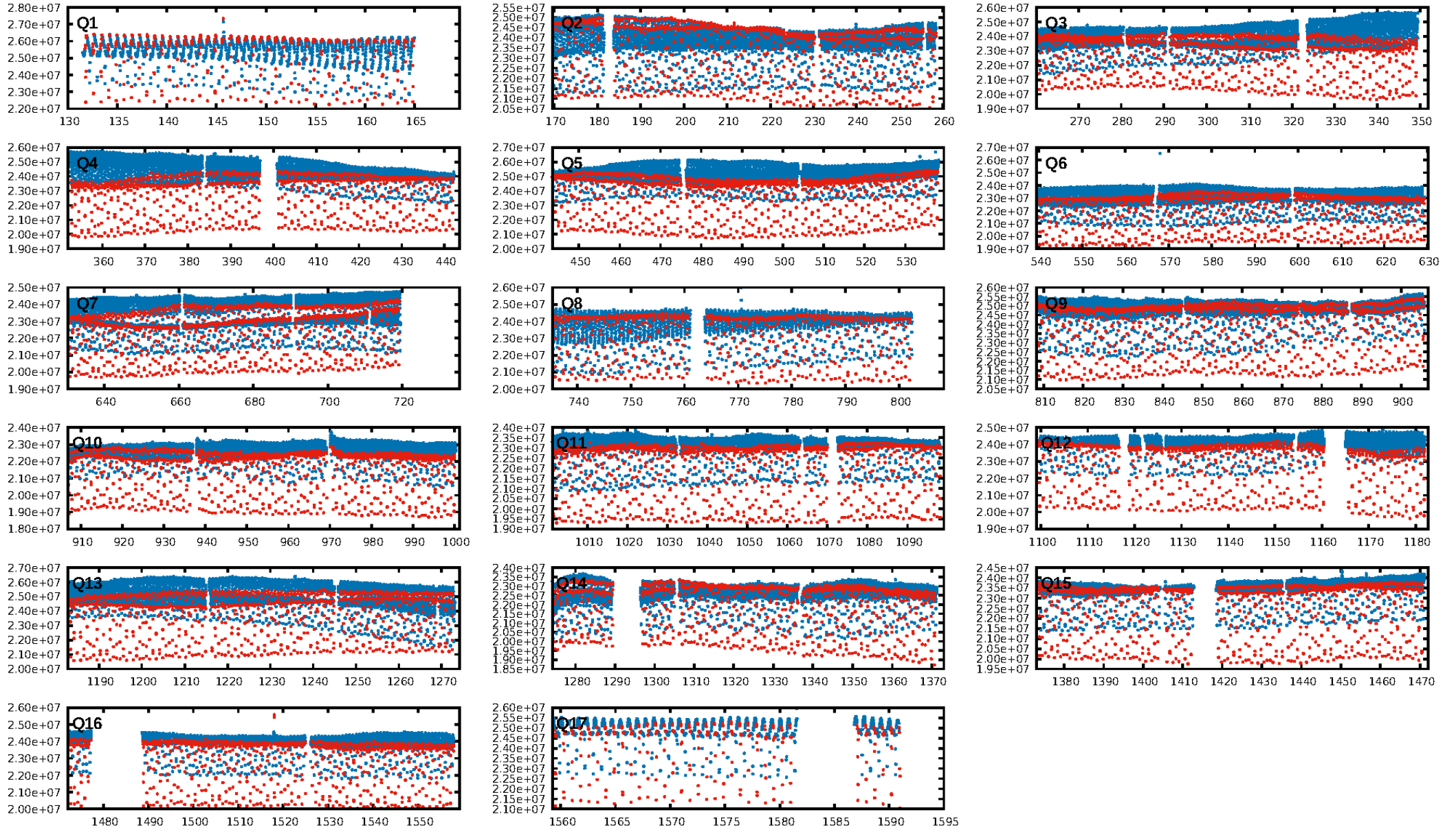
DV Fit Results:

Period = 0.76758 [0.00000] d
Epoch = 131.8142 [0.0000] BKJD
Rp/R* = 0.4031 [0.0045]
a/R* = 3.81 [0.00]
b = 0.70 [0.01]
Seff = 1298.87 [216.48]
Teff = 1531 [64] K
Rp = 27.58 [2.22] Re
a = 0.0140 [0.0010] AU
Ag = N/A
Teffp = N/A

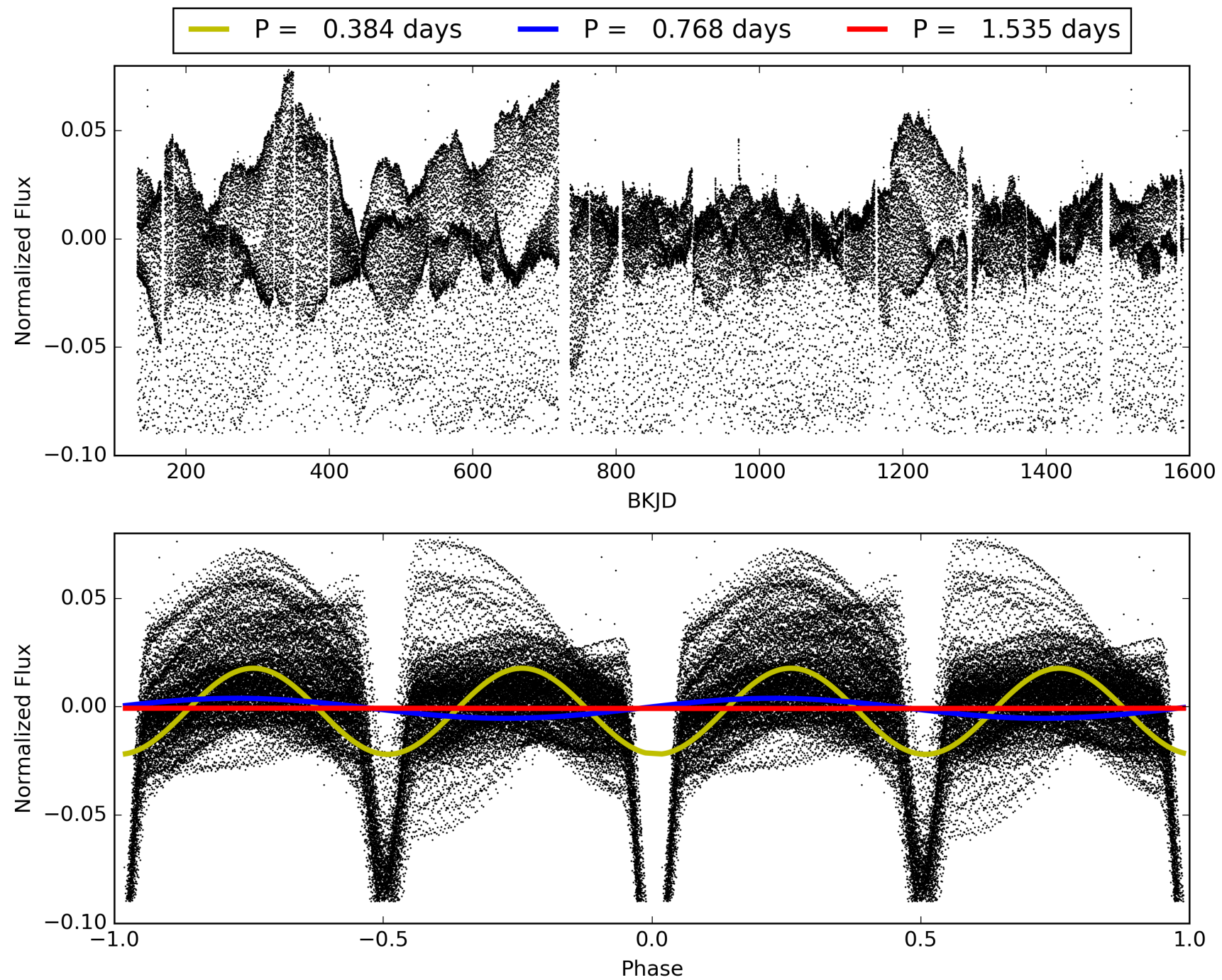
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1663/1664]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: 0.300 arcsec [369.40σ]
OotOffset-rm: 0.008 arcsec [0.11σ]
KicOffset-rm: 0.162 arcsec [2.39σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008479107-01, PDC Light Curves

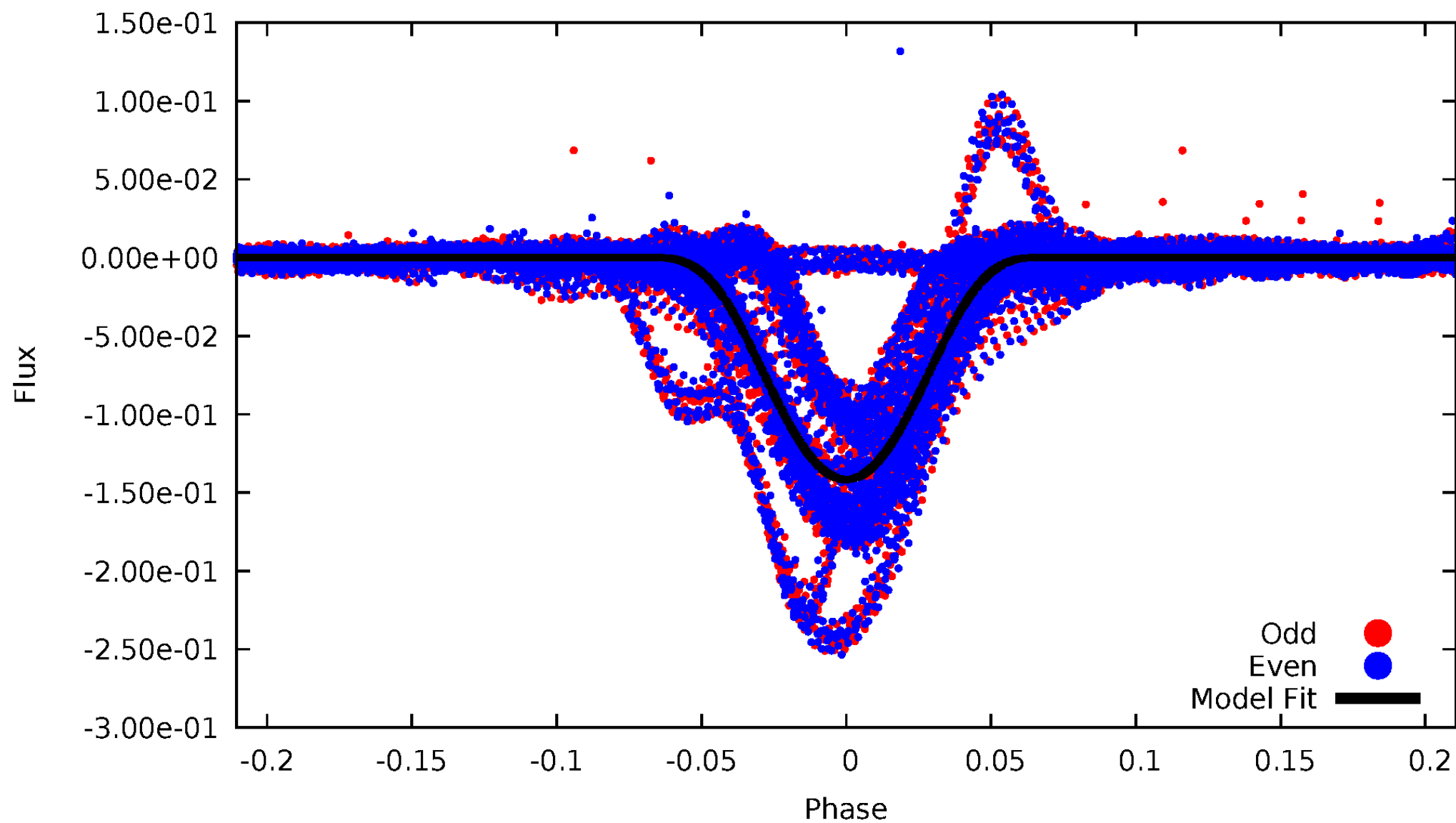


TCE 008479107-01



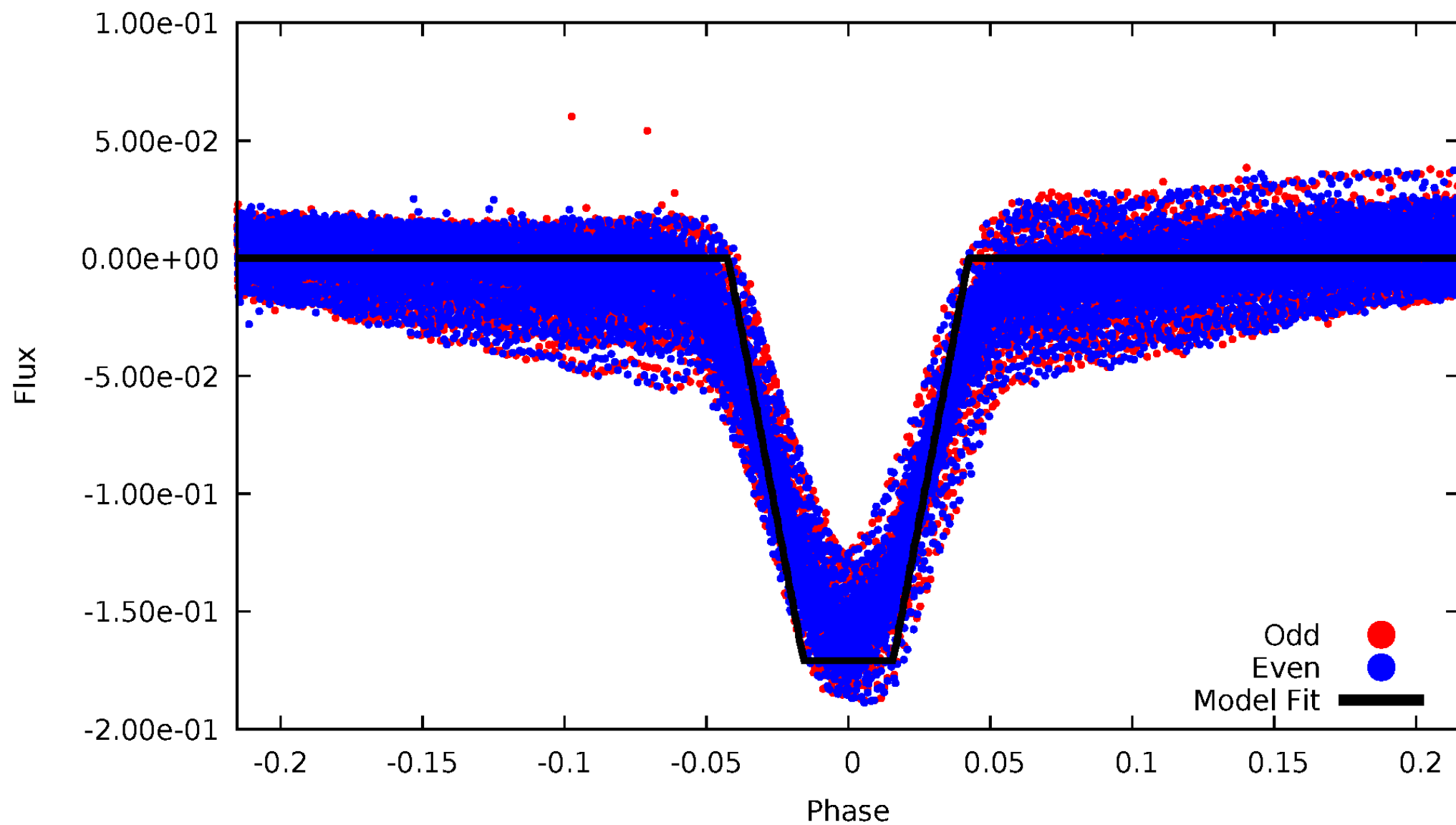
DV Odd/Even

TCE 008479107-01



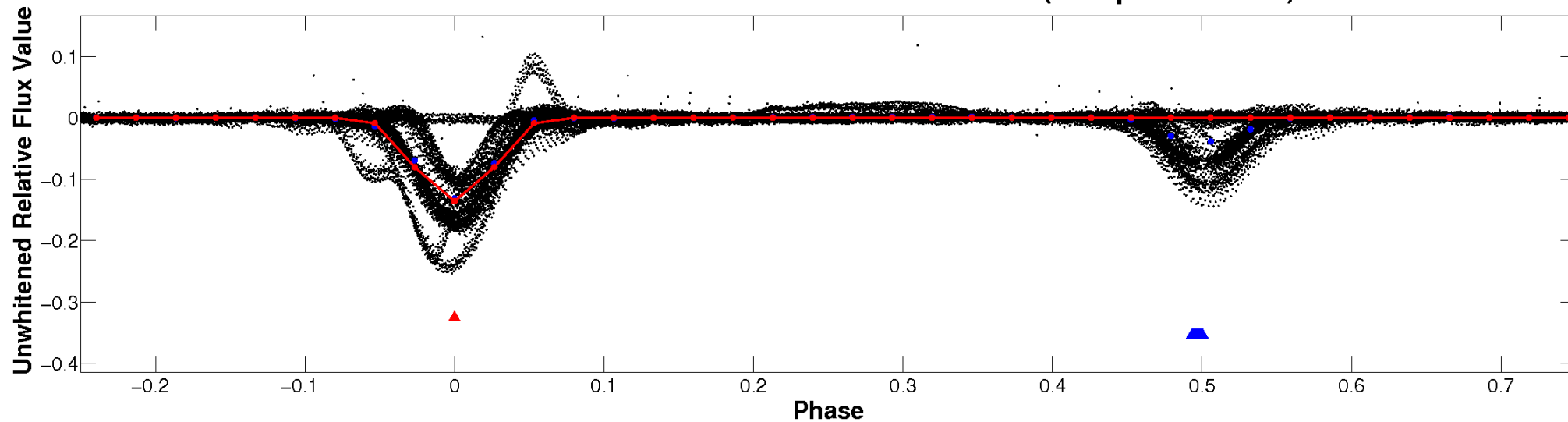
ALT Odd/Even

TCE 008479107-01

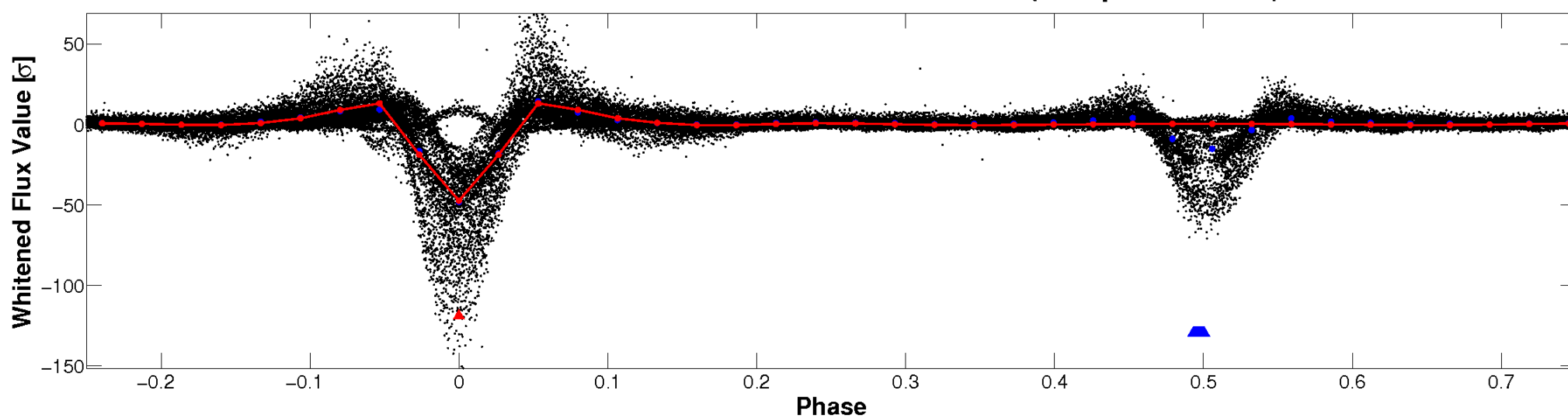


Non-Whitened Vs. Whitened Light Curve

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

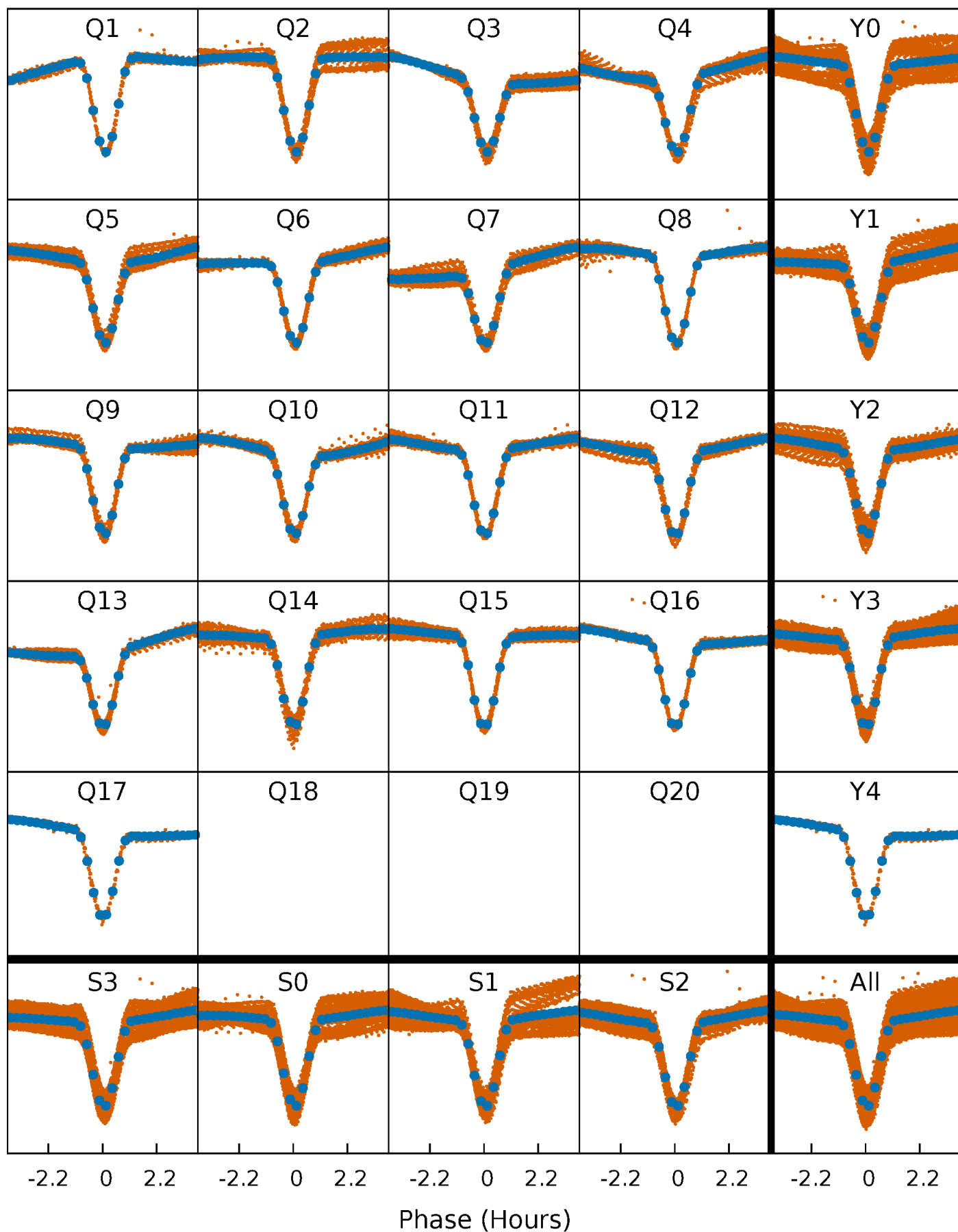


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



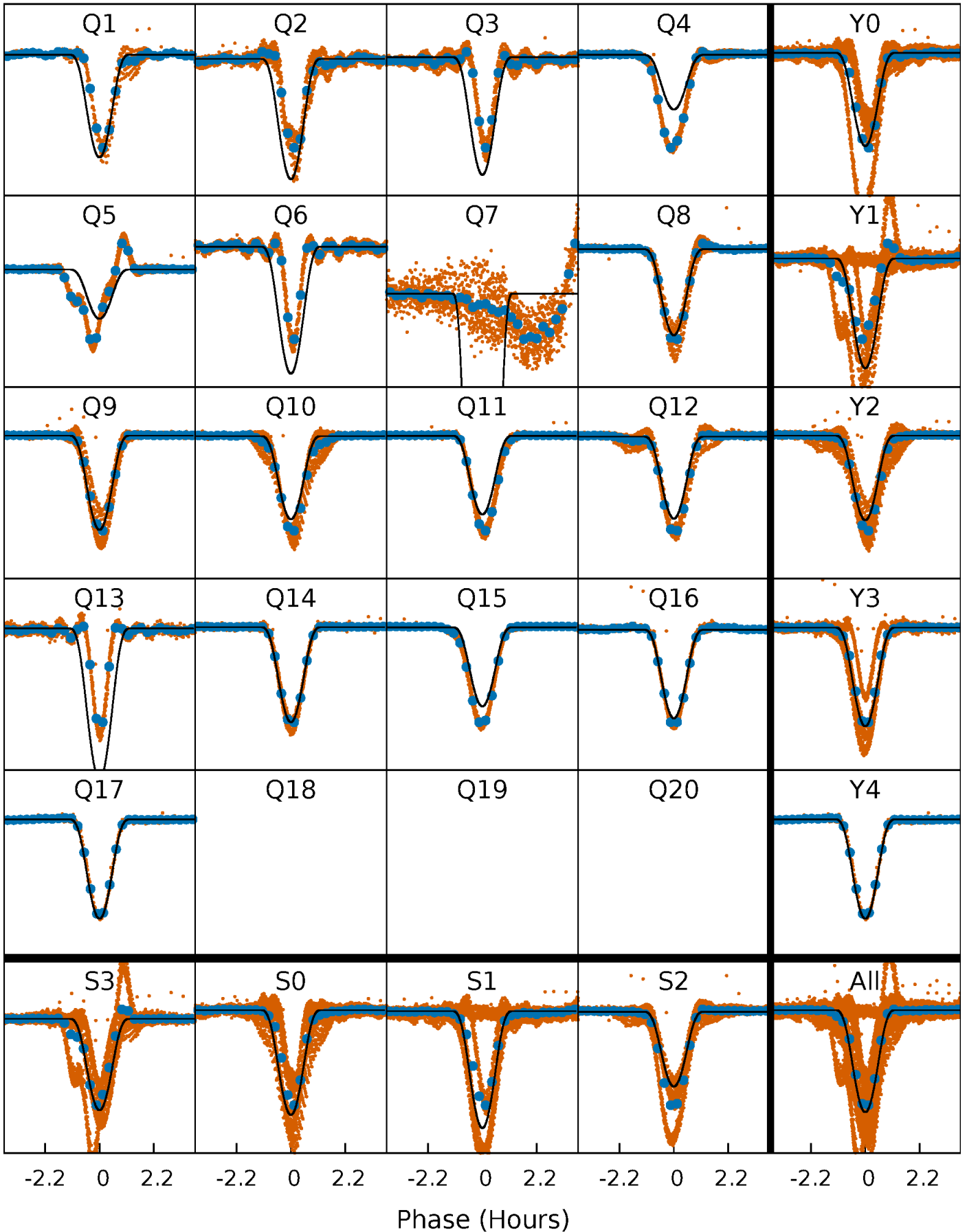
PDC Quarter-Phased Transit Curves

TCE 008479107-01 P= 0.767579 Days $T_0=131.814225$ (BKJD)



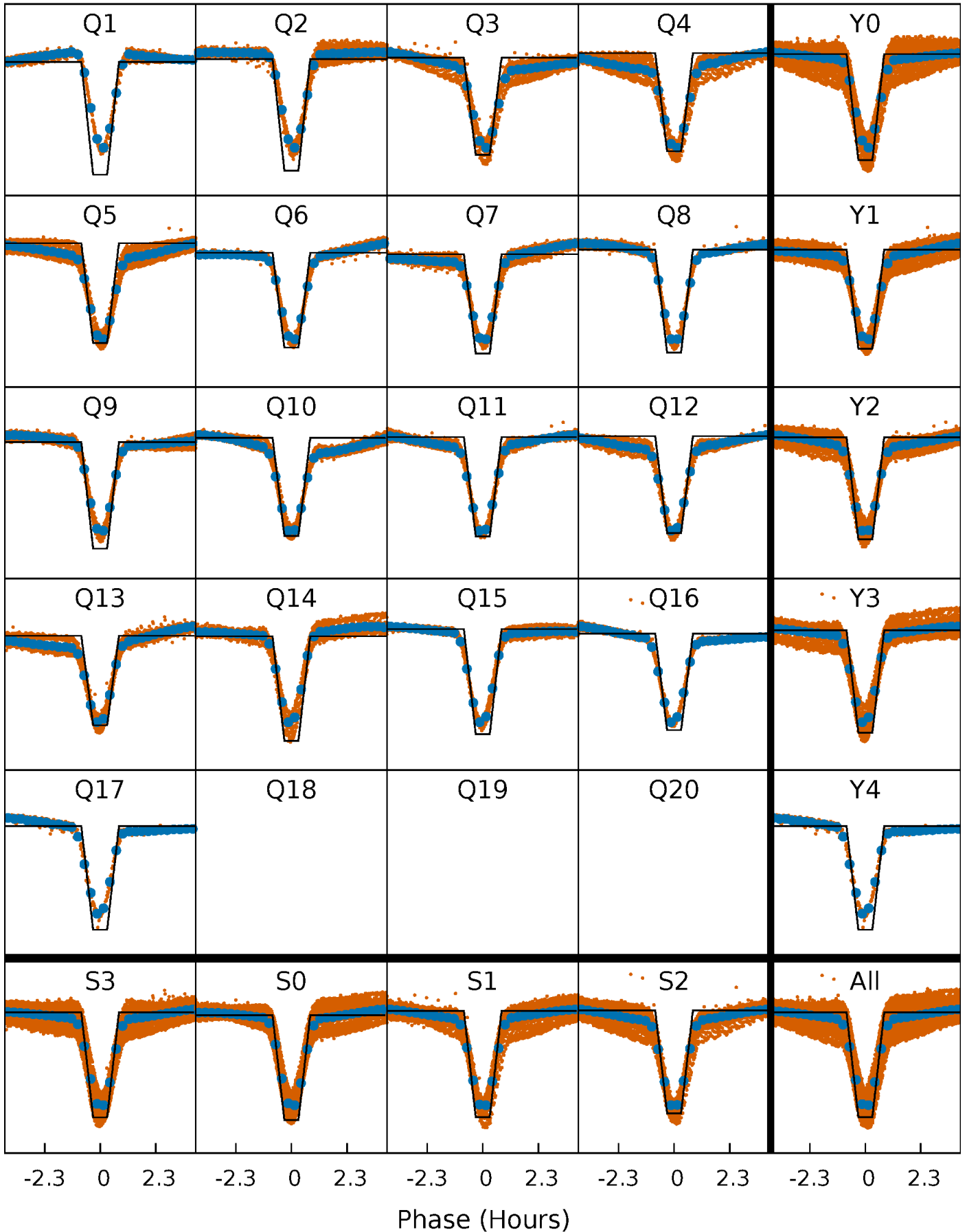
DV Quarter-Phased Transit Curves

TCE 008479107-01 P= 0.767579 Days $T_0=131.814225$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

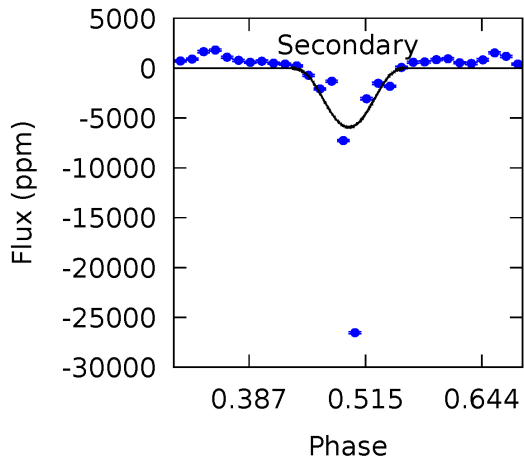
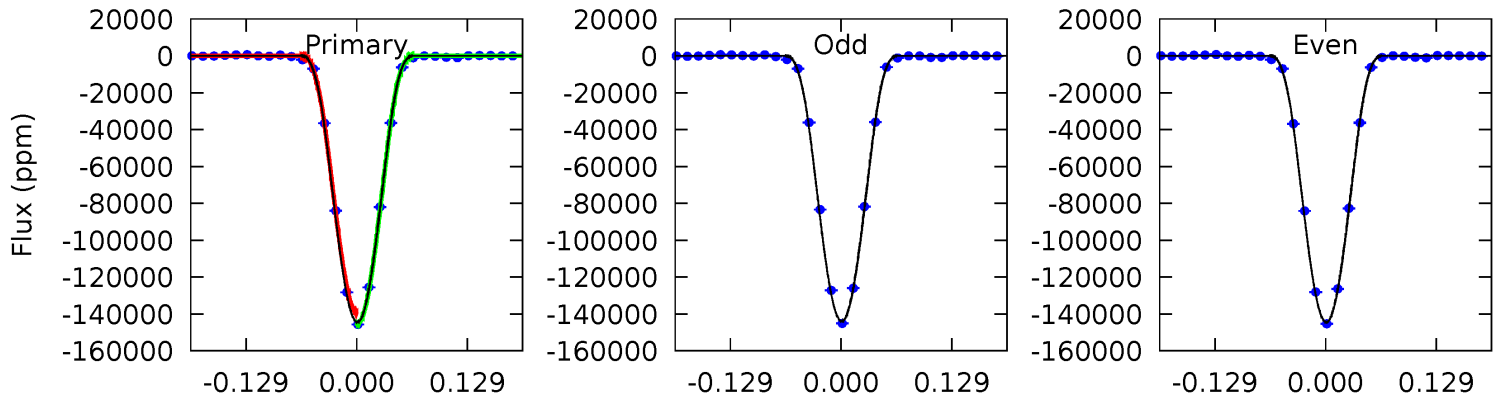
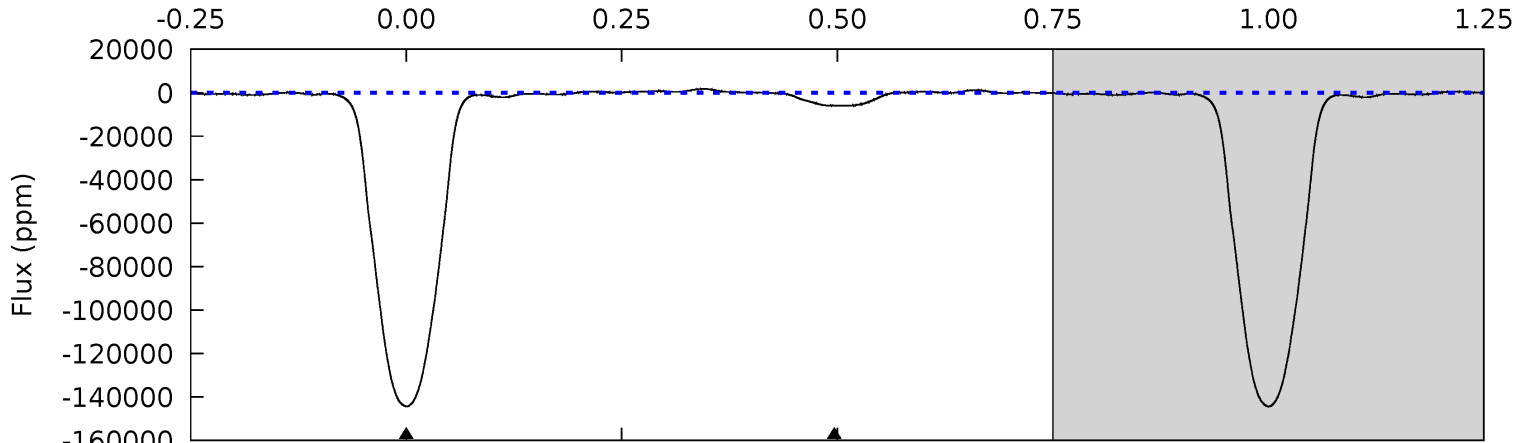
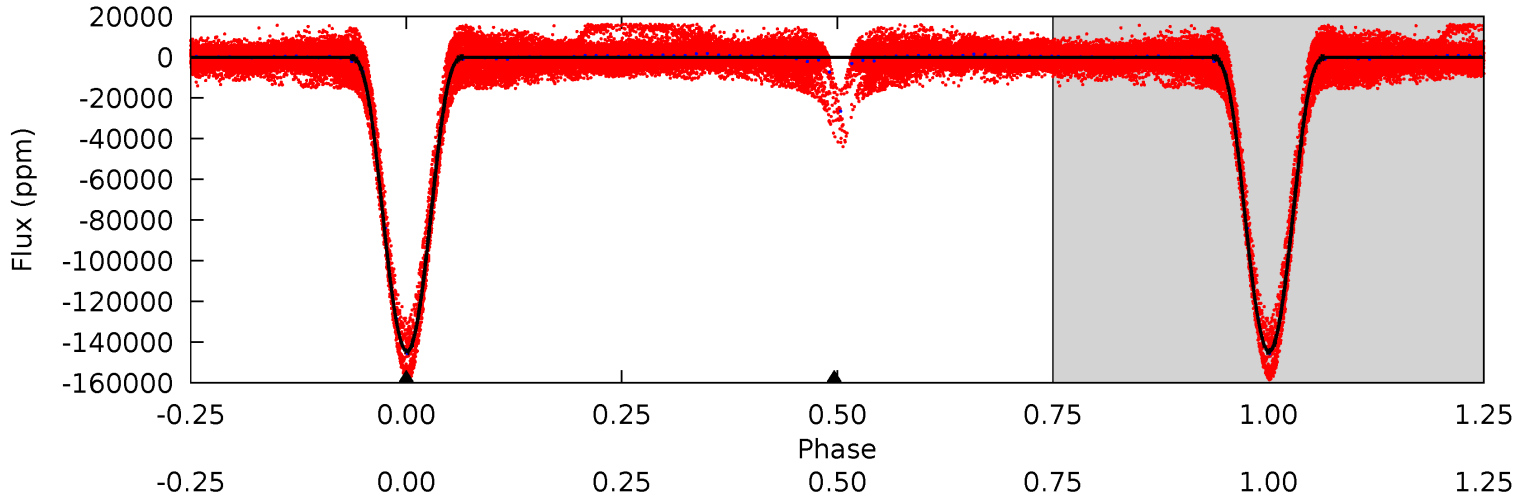
TCE 008479107-01 $P = 0.767580$ Days $T_0 = 131.815560$ (BKJD)



DV Model-Shift Uniqueness Test

008479107-01, P = 0.767579 Days, E = 131.046646 Days

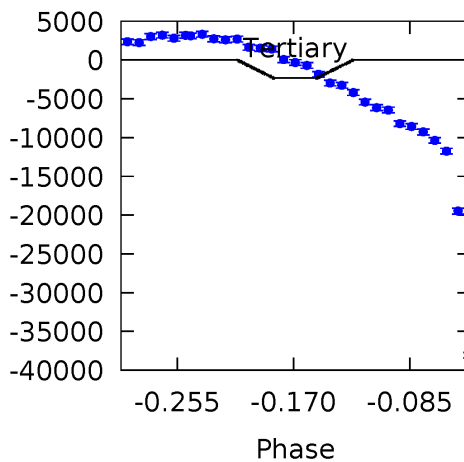
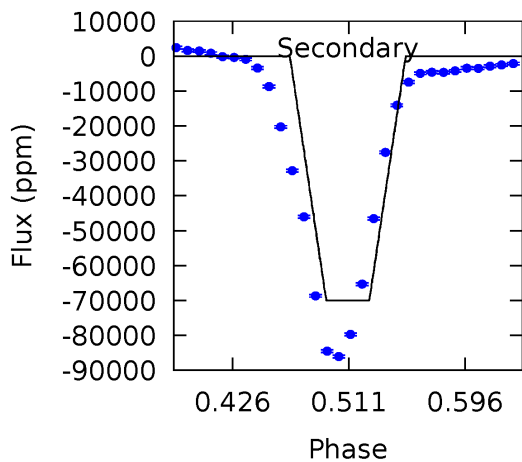
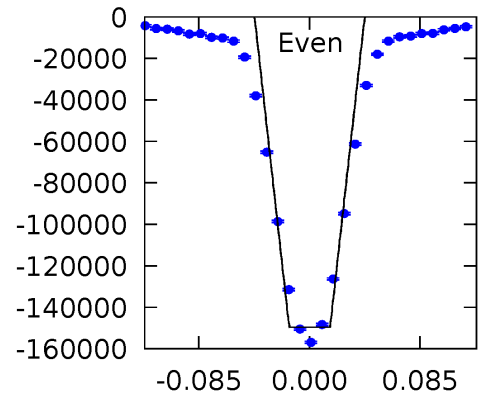
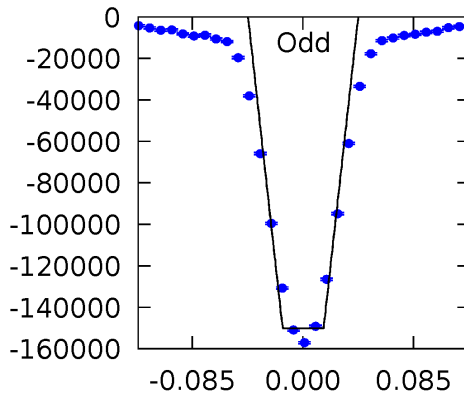
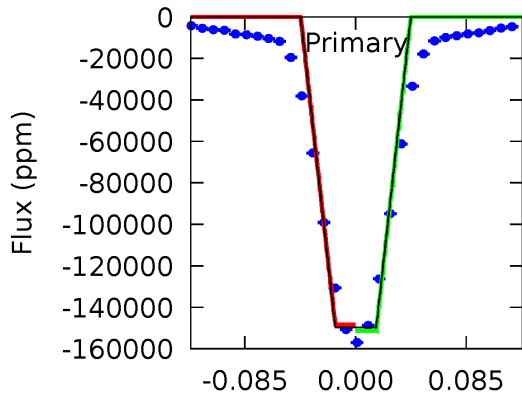
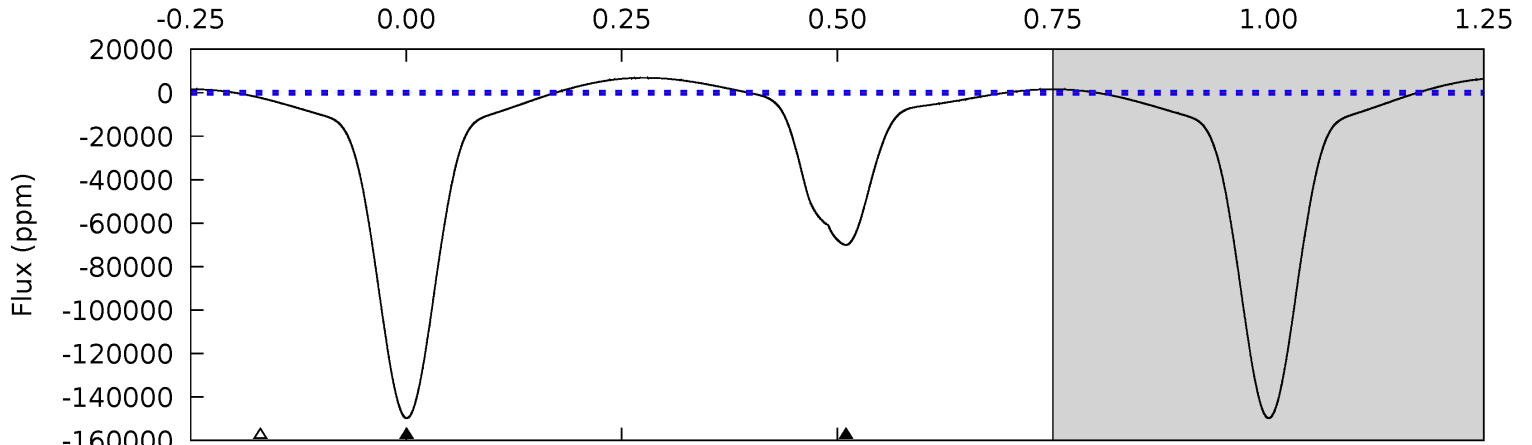
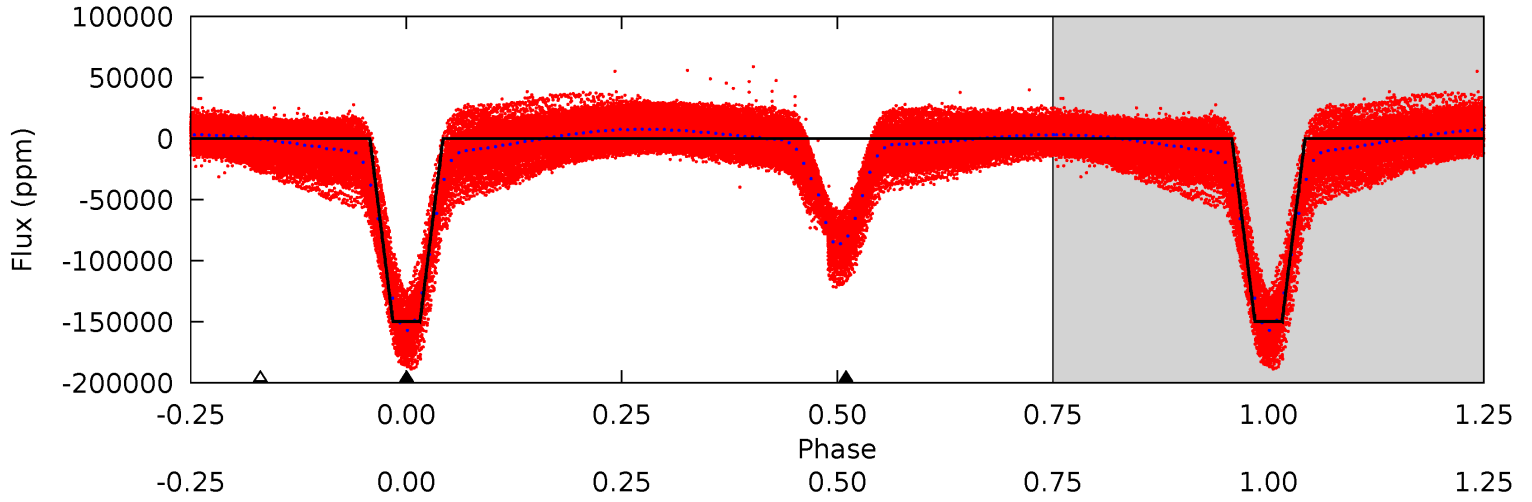
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2621	107.6	0	0	4.51	1.52	12.1	2621	2621	107.6	107.6	4.23	0.88	0.01	51.6



Alt Model-Shift Uniqueness Test

008479107-01, P = 0.767580 Days, E = 131.047980 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
955.5	447.0	14.9	0	4.60	1.72	30.9	940.6	955.5	432.1	447.0	1.64	1.00	0.04	9.50



Stellar Parameters For KIC 008479107

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5182^{+157}_{-141}	$4.635^{+0.066}_{-0.039}$	$-0.980^{+0.300}_{-0.300}$	$0.627^{+0.050}_{-0.050}$	$0.619^{+0.059}_{-0.024}$	$3.539^{+0.855}_{-0.575}$
	+3%/-3%	+1%/-1%	+31%/-31%	+8%/-8%	+10%/-4%	+24%/-16%
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 008479107-01 / KOI 7045.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-5930 ± 55	$27.51^{+1.44}_{-1.19}$	2128^{+79}_{-72}	2769^{+54}_{-53}	$0.855^{+0.080}_{-0.066}$
Alt.	-70038 ± 157	$28.23^{+1.35}_{-1.34}$	2134^{+73}_{-81}	4365^{+116}_{-115}	10^{+1}_{-1}

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

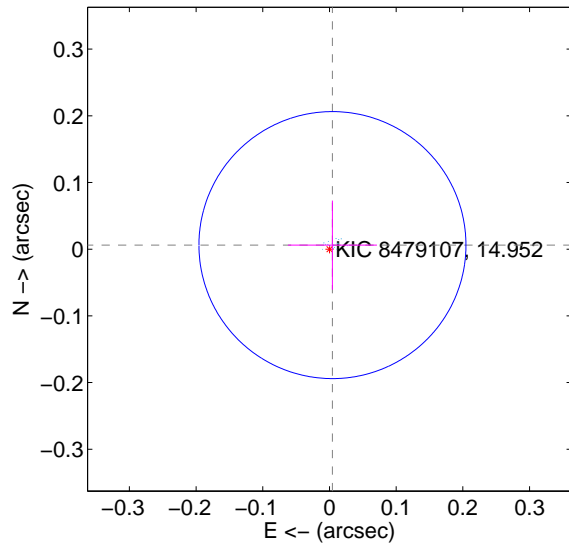
Supplemental centroid analysis for 008479107-01. Kepler magnitude: 14.95. Transit SNR 1354.79

There are 17 quarters with good PRF difference image offsets

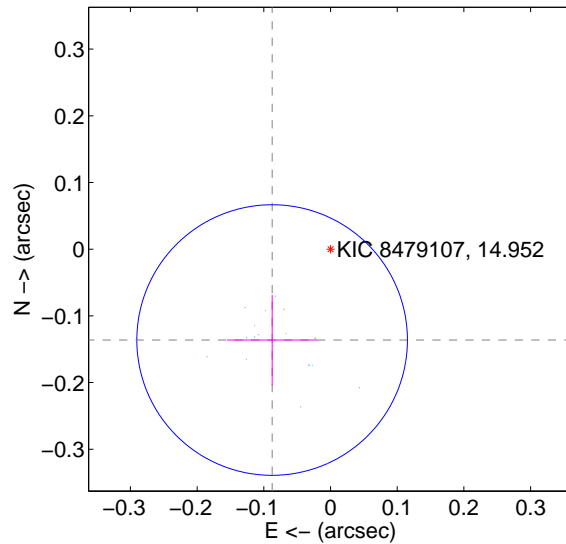
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.008 ± 0.067	0.11	-0.004 ± 0.067	0.006 ± 0.067
PRF-fit source offset from KIC position	0.162 ± 0.068	2.39	0.088 ± 0.068	-0.136 ± 0.068
photometric centroid source offset	0.30 ± 0.00	369.40	0.14 ± 0.00	-0.26 ± 0.00

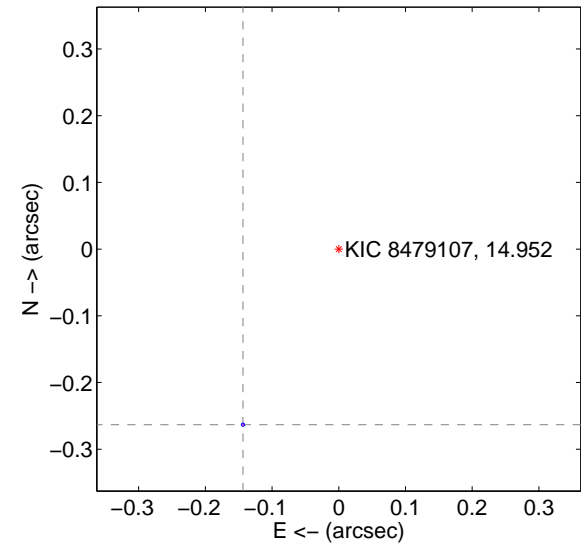
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

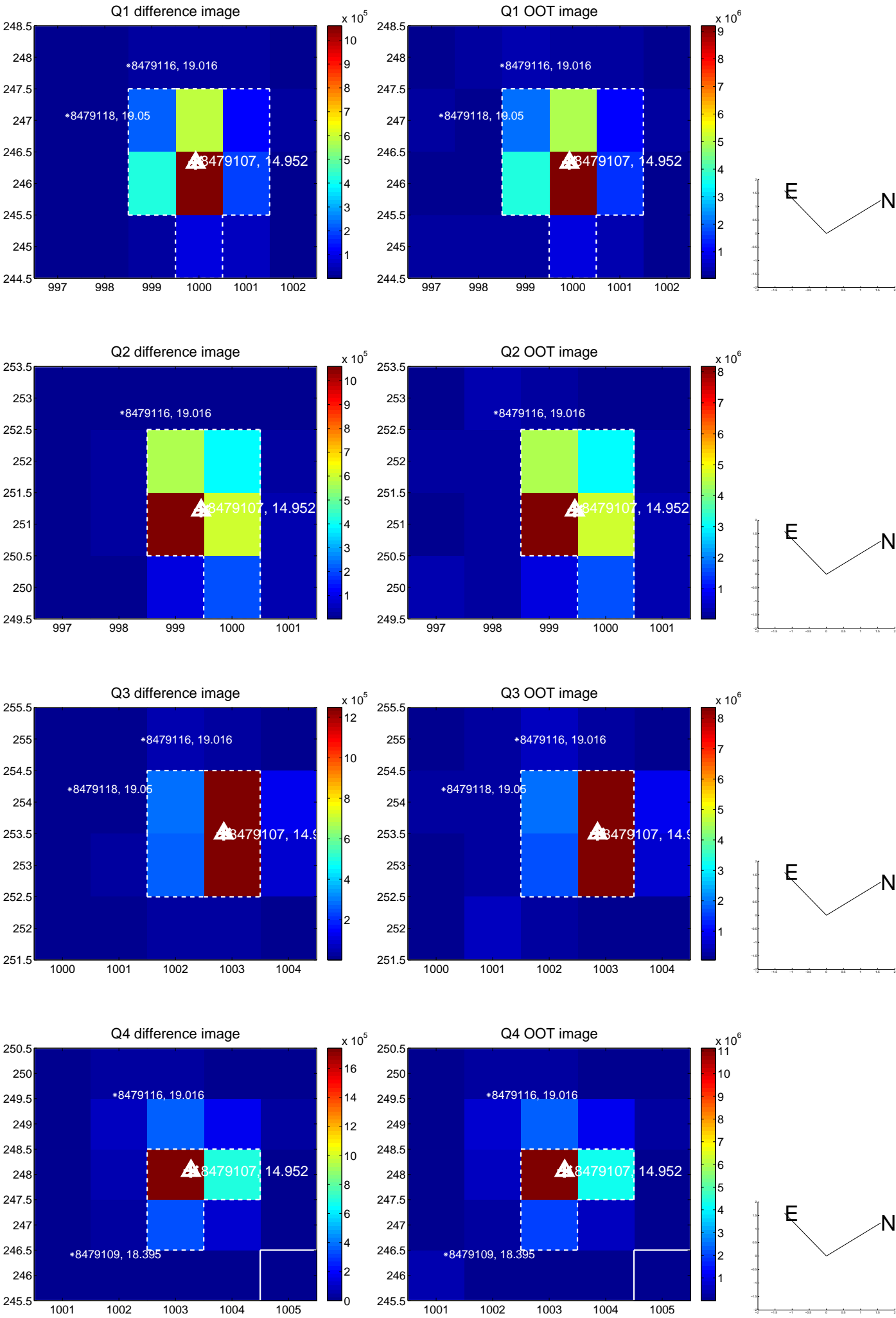


offset from photometric centroids

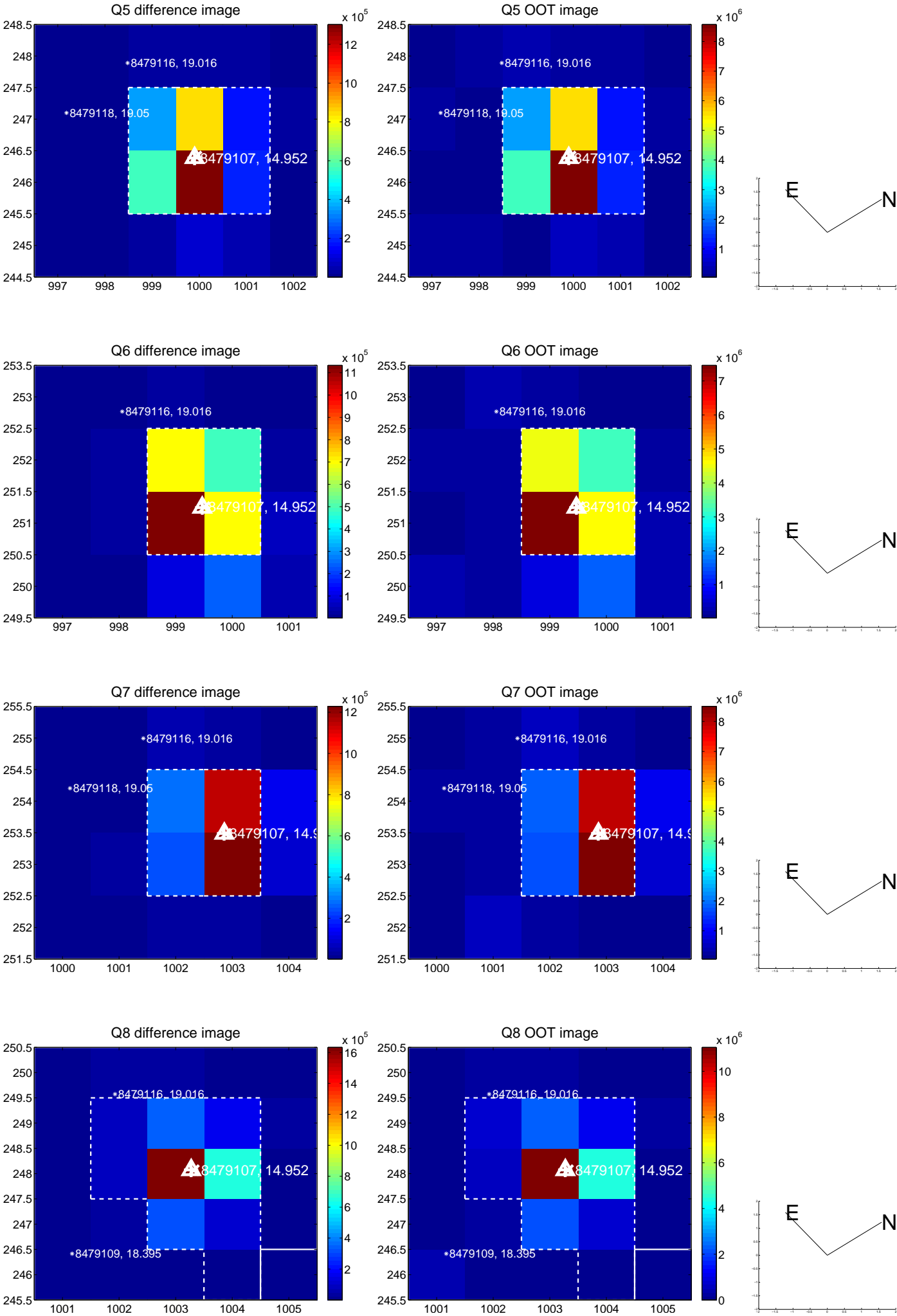


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

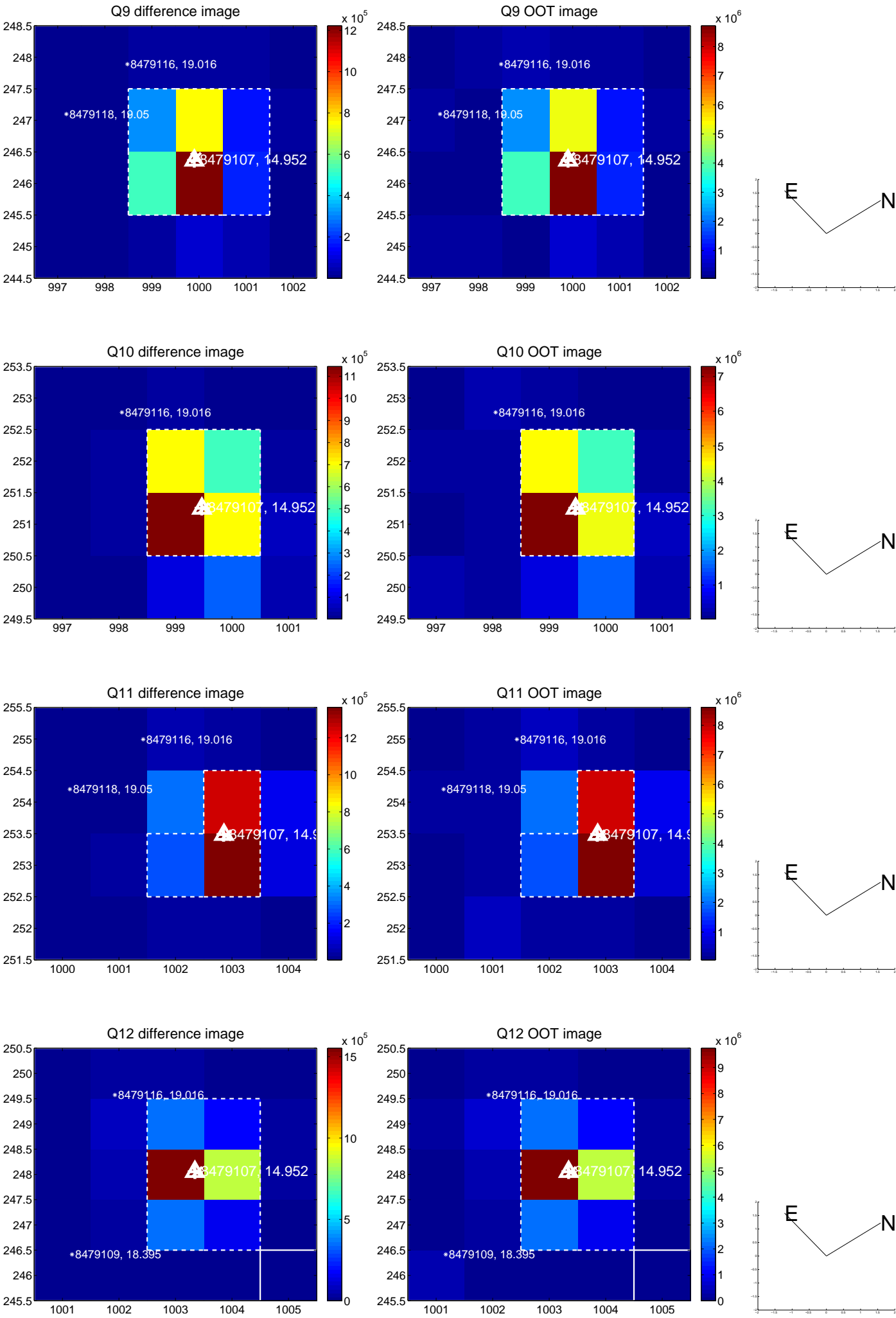
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



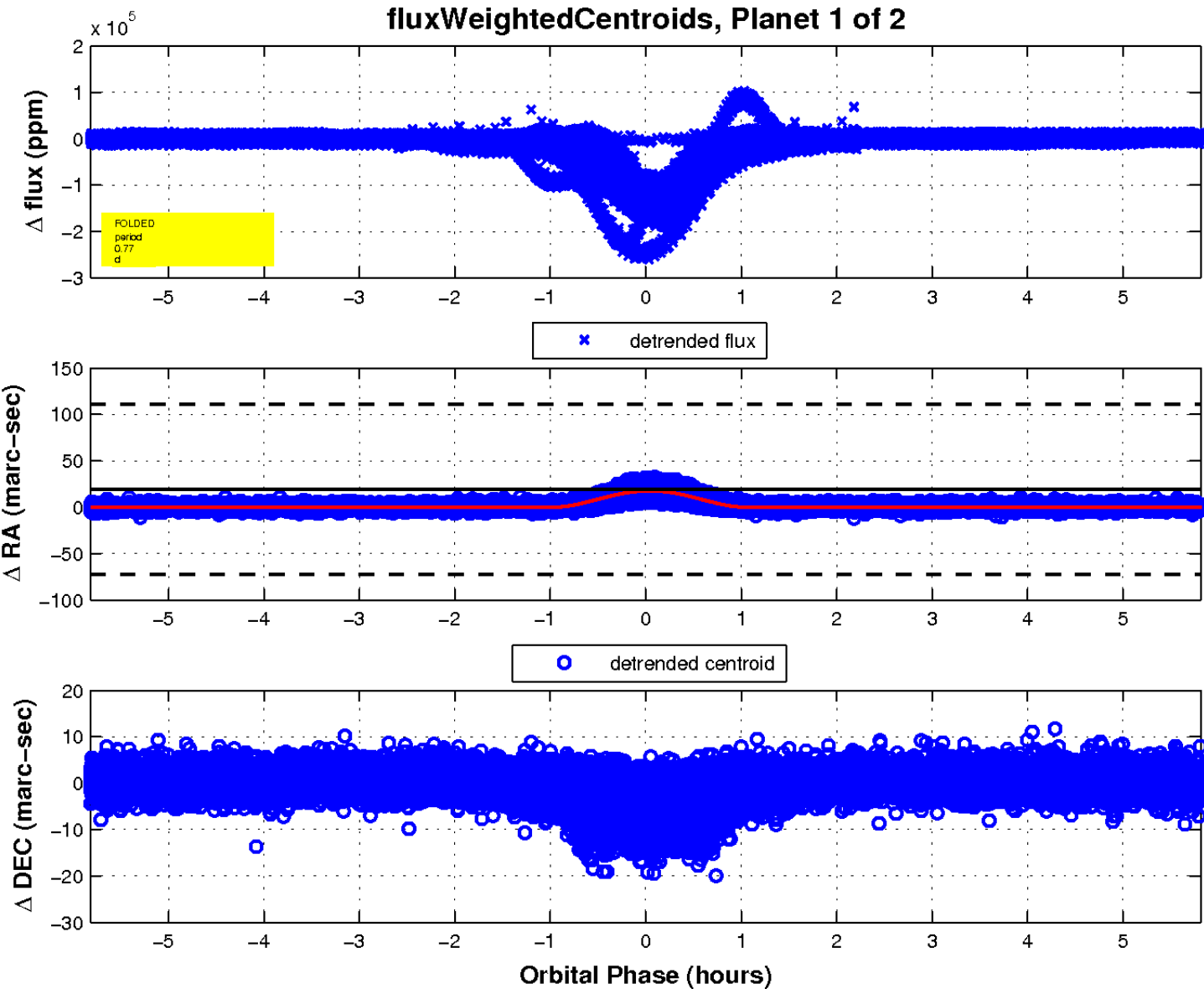
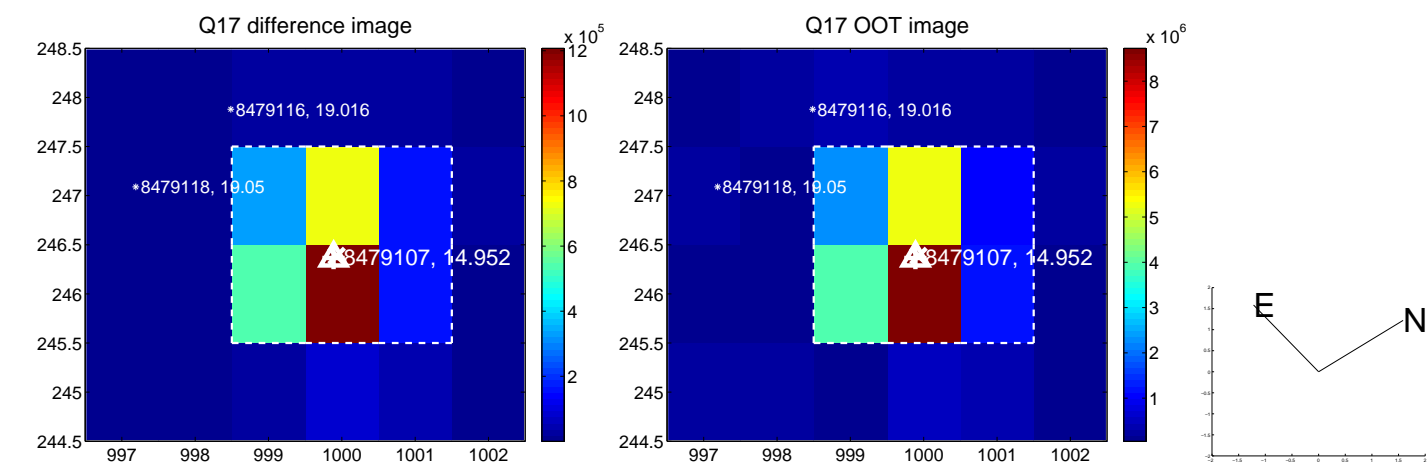
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white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

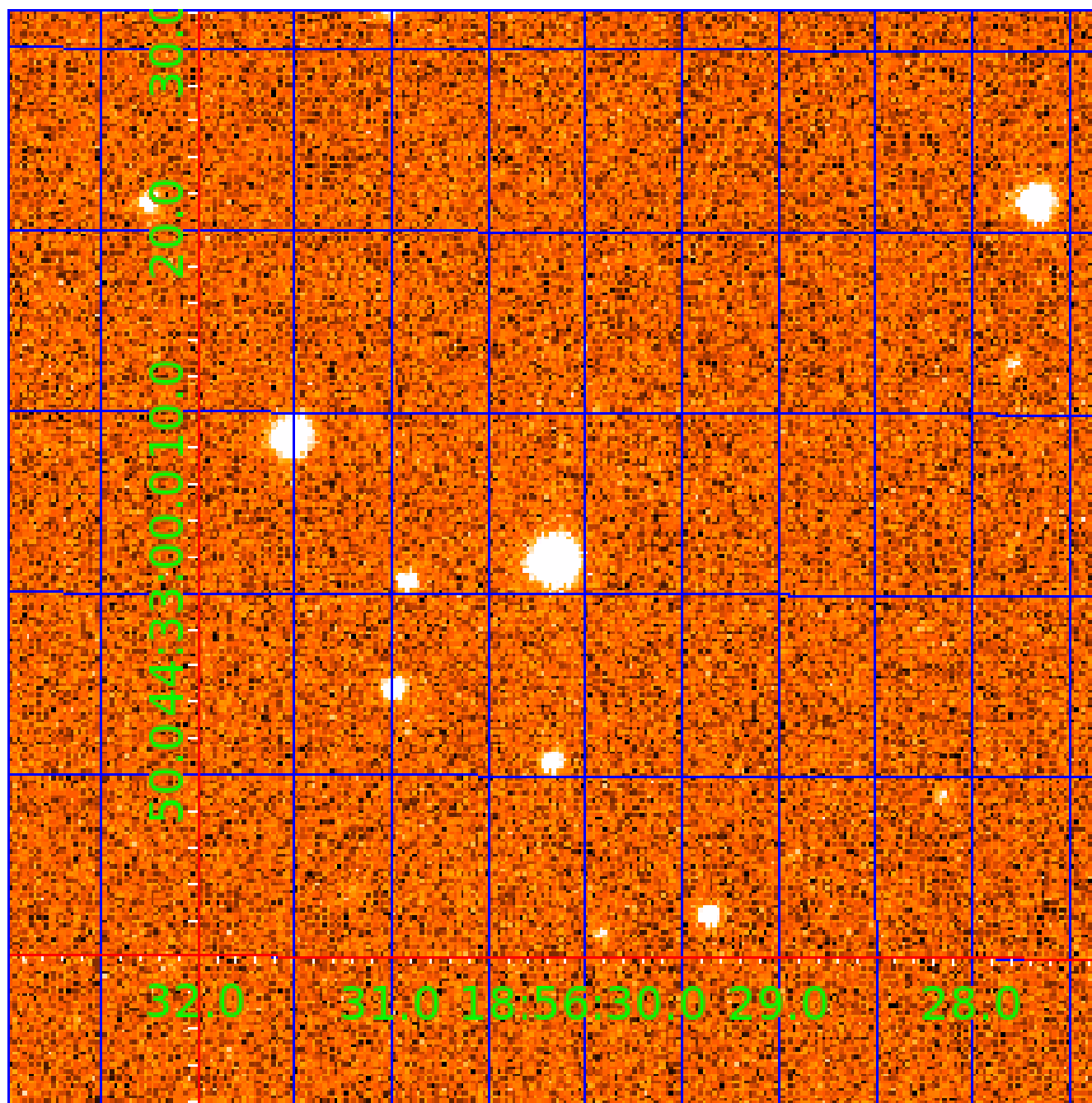


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008479107

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})
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008479107-02	OBS	No	0.767576	132.198494	26464.1	1.500	1171.1	-1.0	0.63	5182	10.15	1298.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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008479107-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—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.

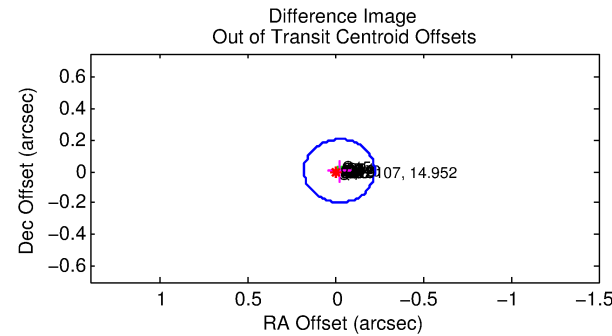
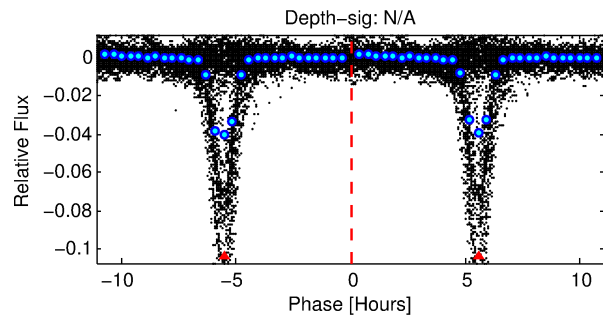
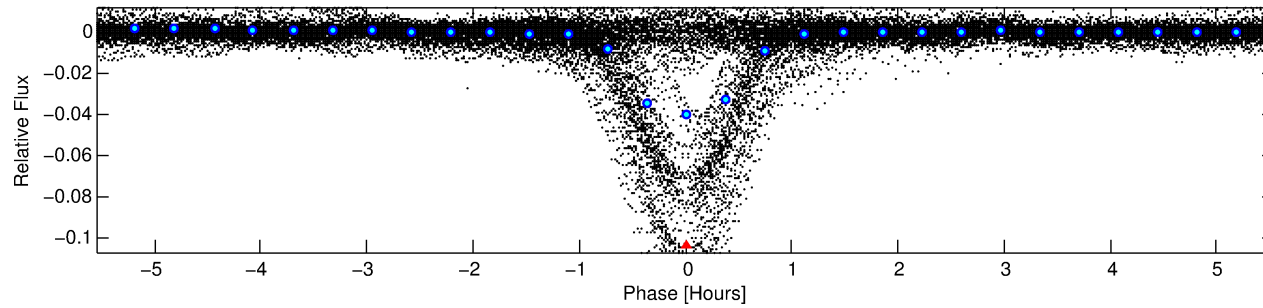
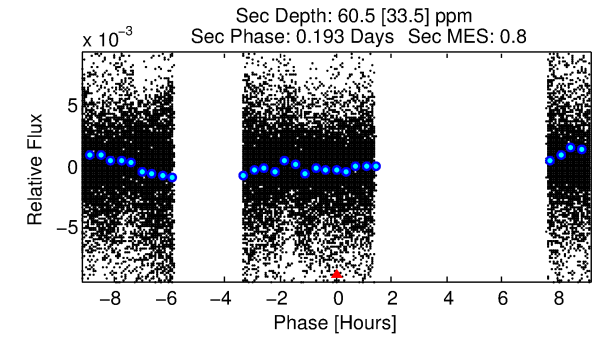
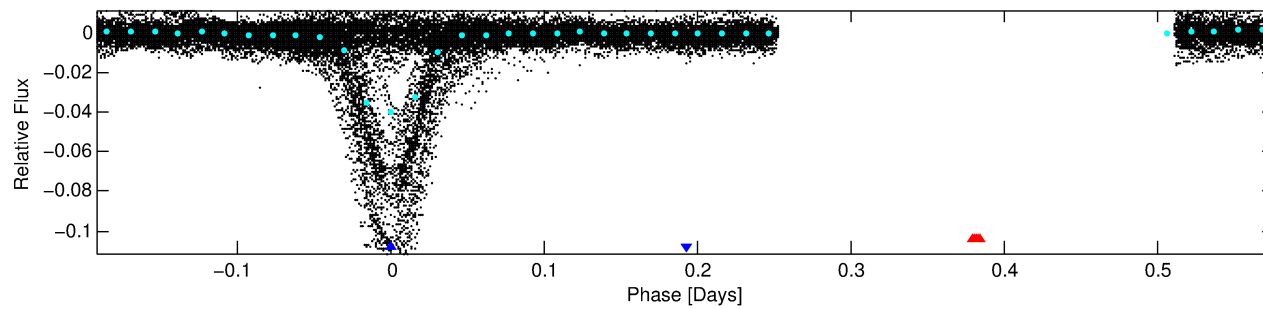
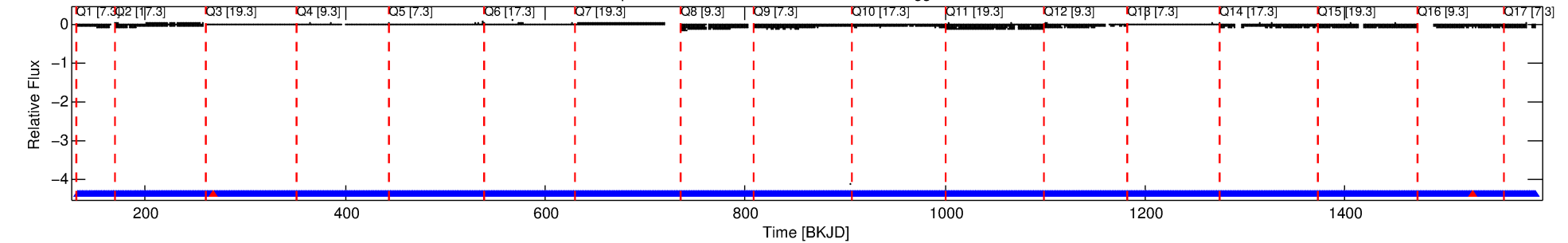
Ephemeris Match Information For 008479107-02

No Significant Match Found

DV One-Page Summary

KIC: 8479107 Candidate: 2 of 2 Period: 0.768 d
KOI: K07045 Corr: No Ephemeris Match

Kp: 14.95 R*: 0.63 Rs Teff: 5182.0 K Logg: 4.63 Fe/H: -0.980



TPS TCE Results:

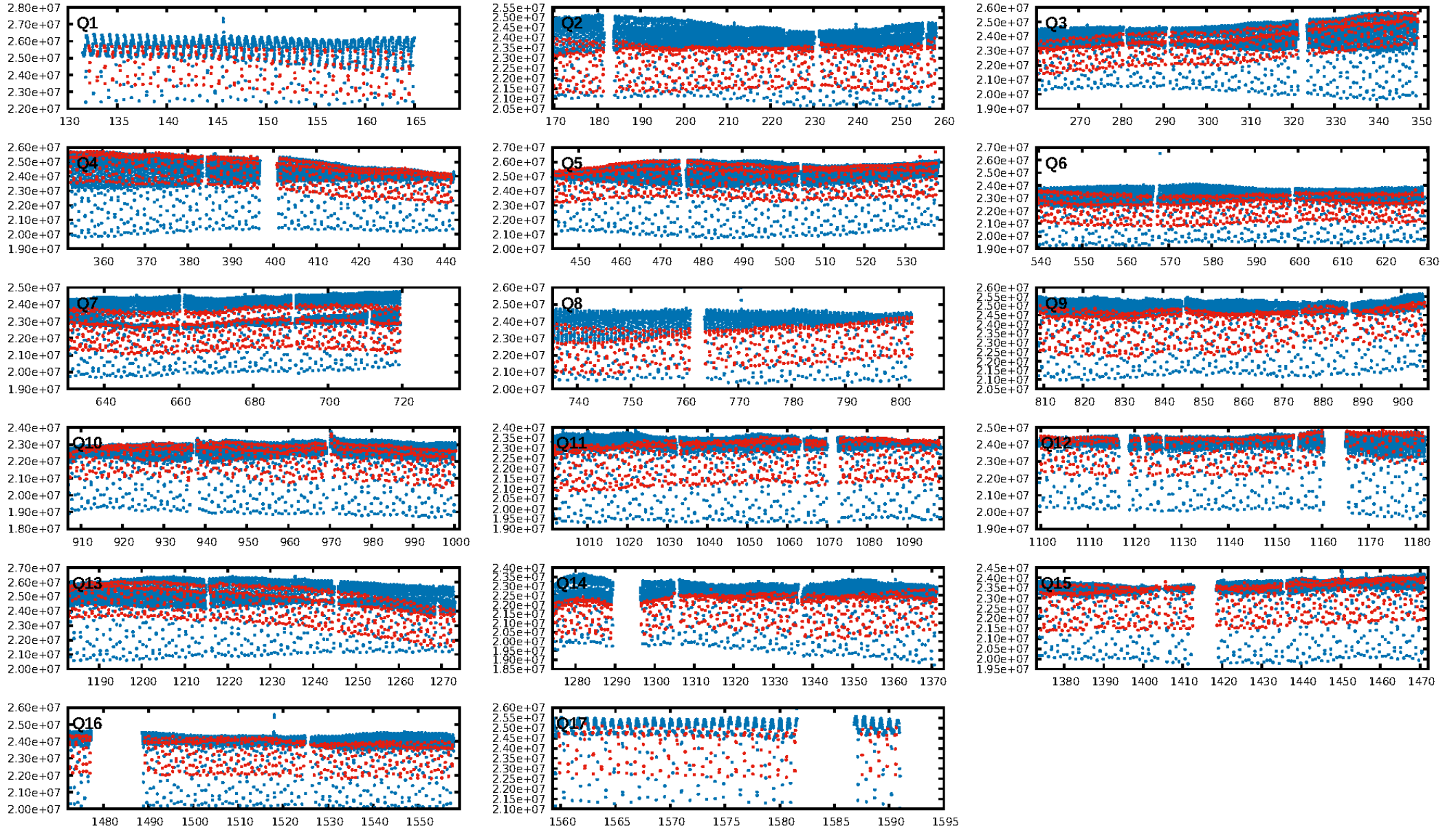
Period = 0.76758 d
Epoch = 132.1985 BKJD

DV fit results are unavailable

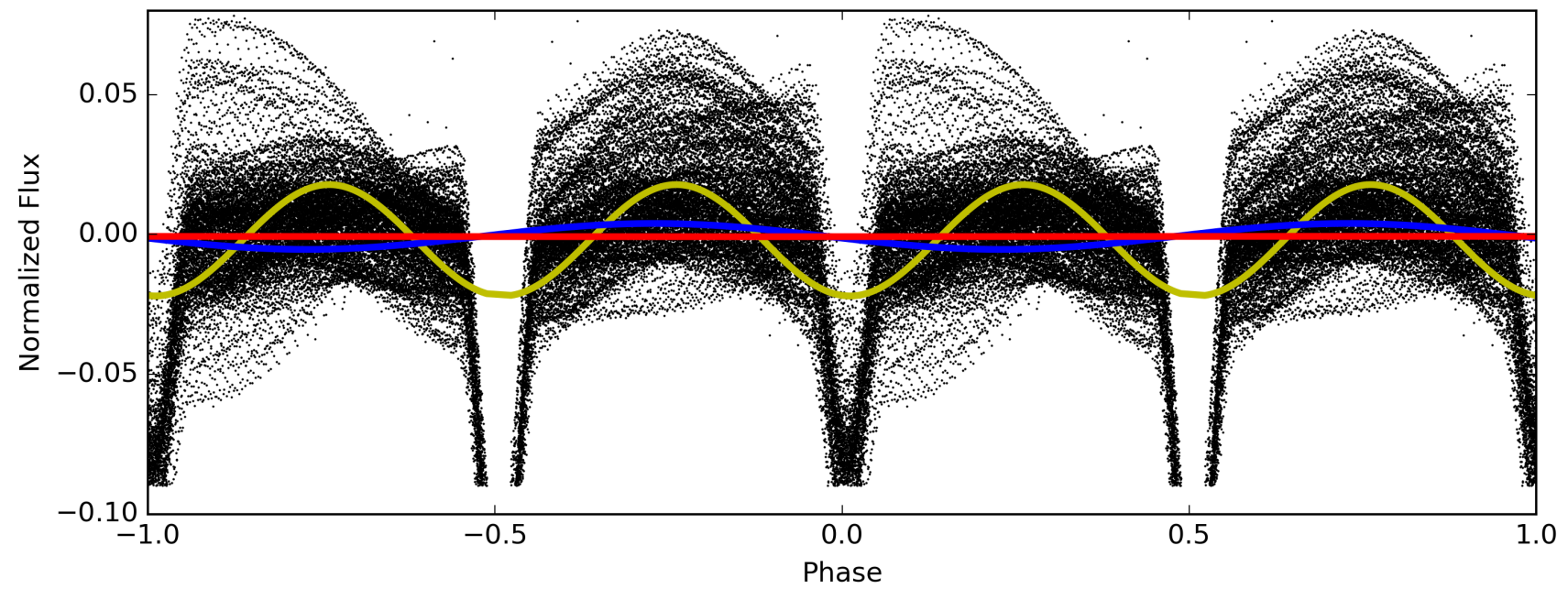
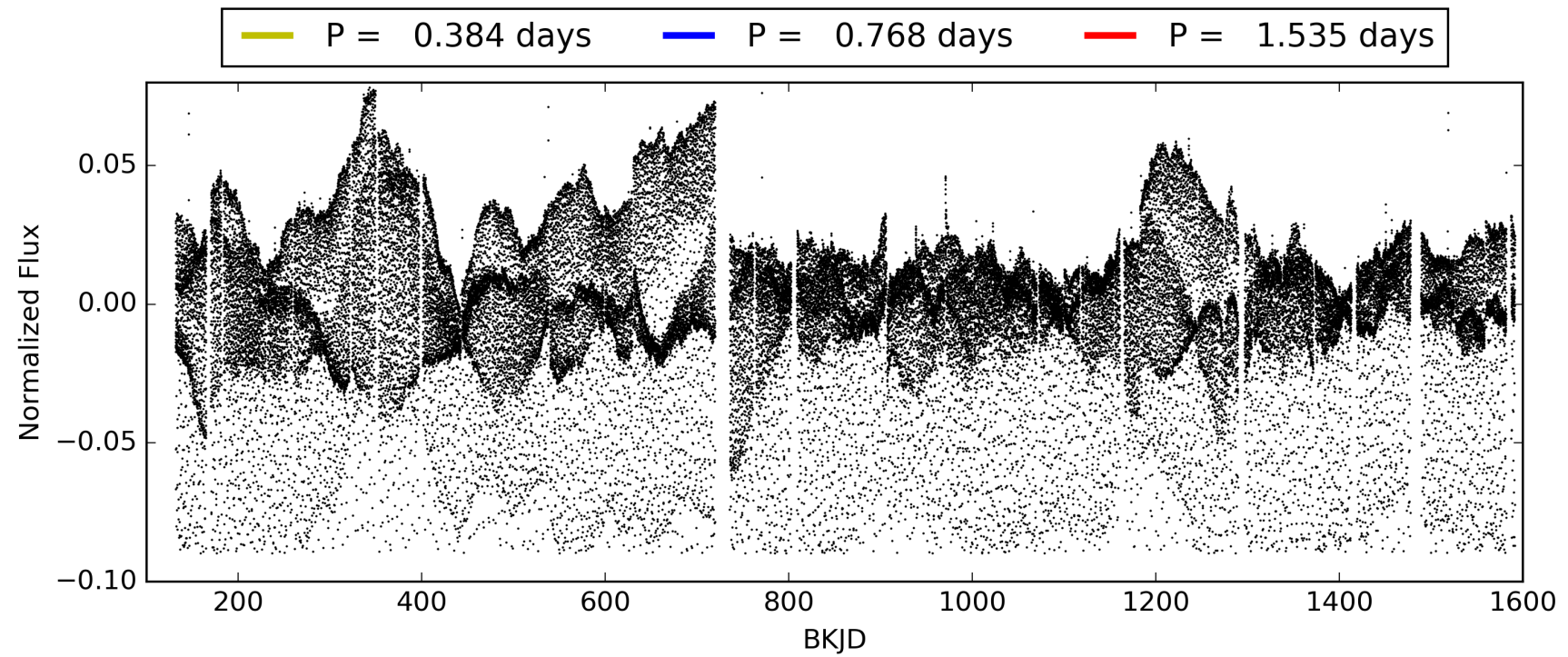
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1658/1660]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: 0.371 arcsec [355.33σ]
OotOffset-rm: 0.022 arcsec [0.33σ]
KicOffset-rm: 0.155 arcsec [2.29σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008479107-02, PDC Light Curves

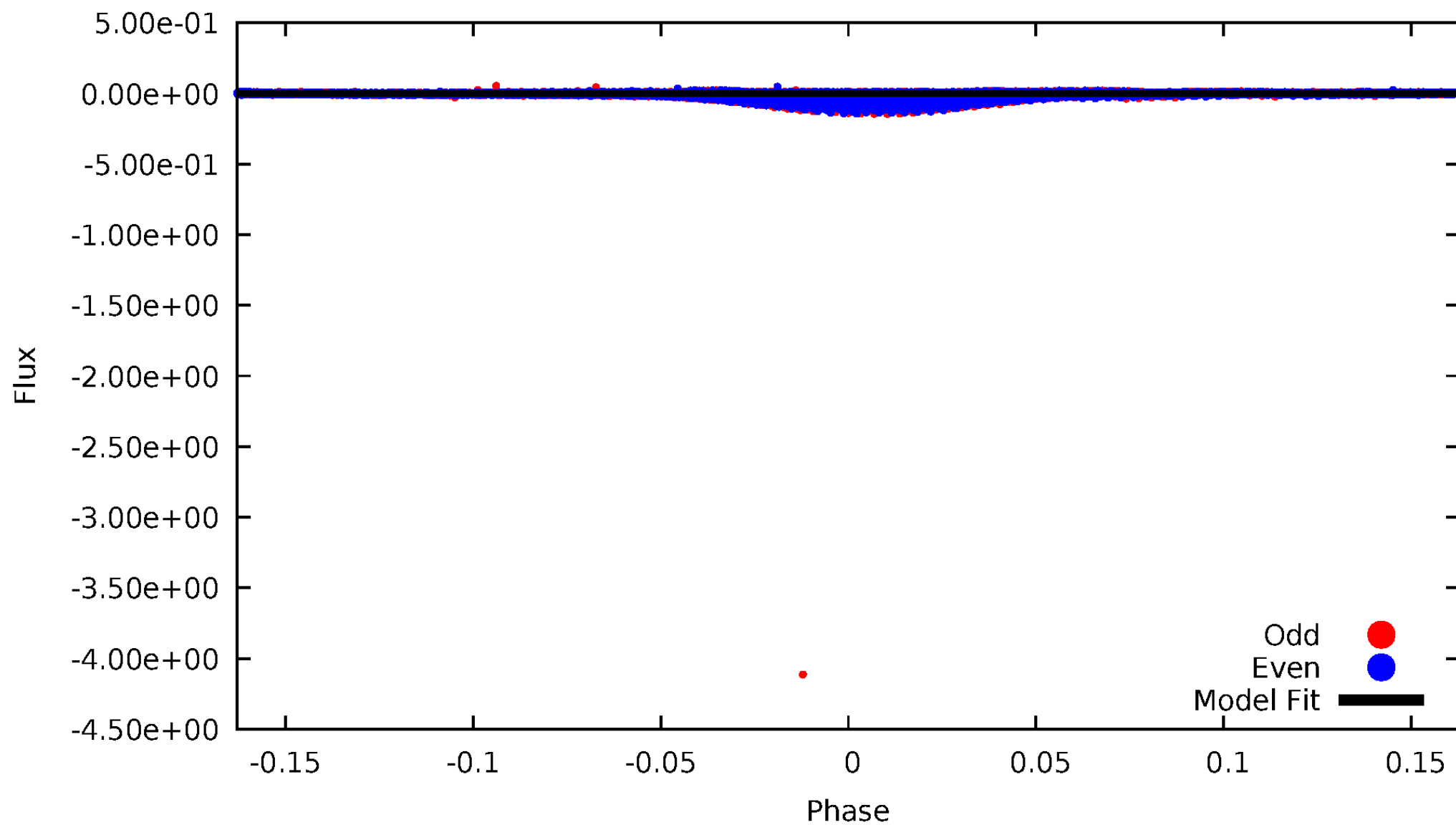


TCE 008479107-02



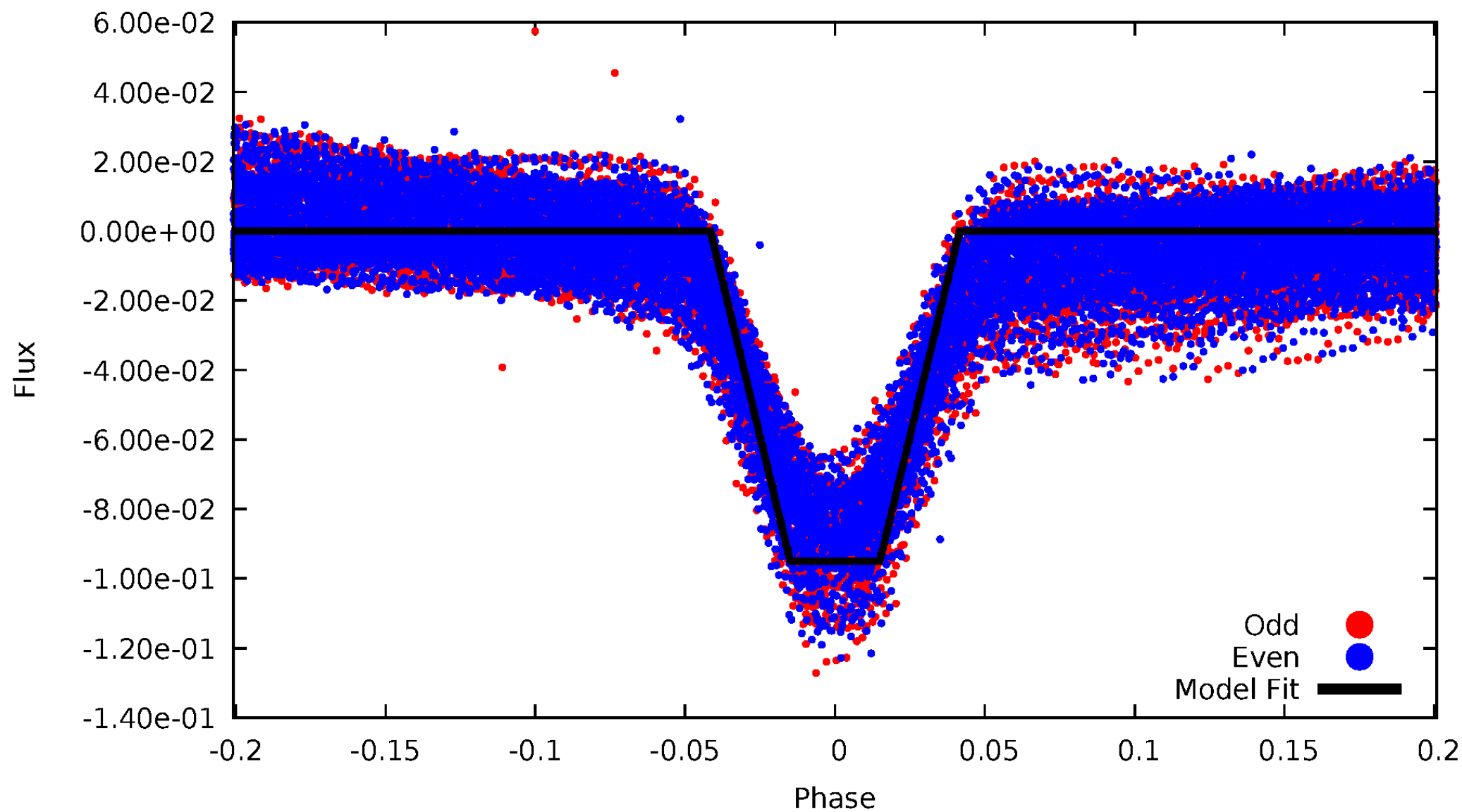
DV Odd/Even

TCE 008479107-02



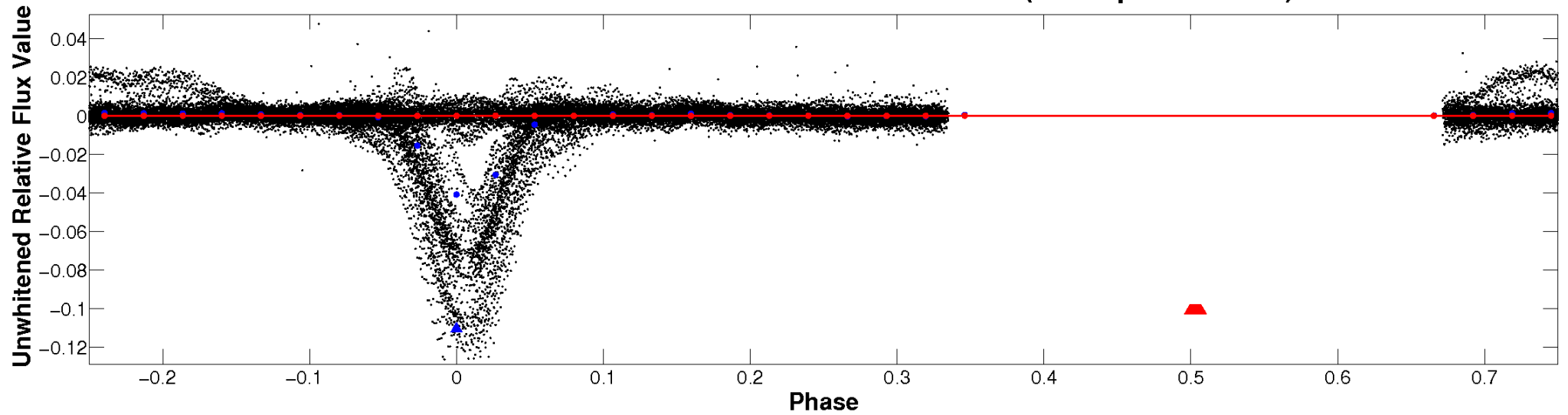
ALT Odd/Even

TCE 008479107-02

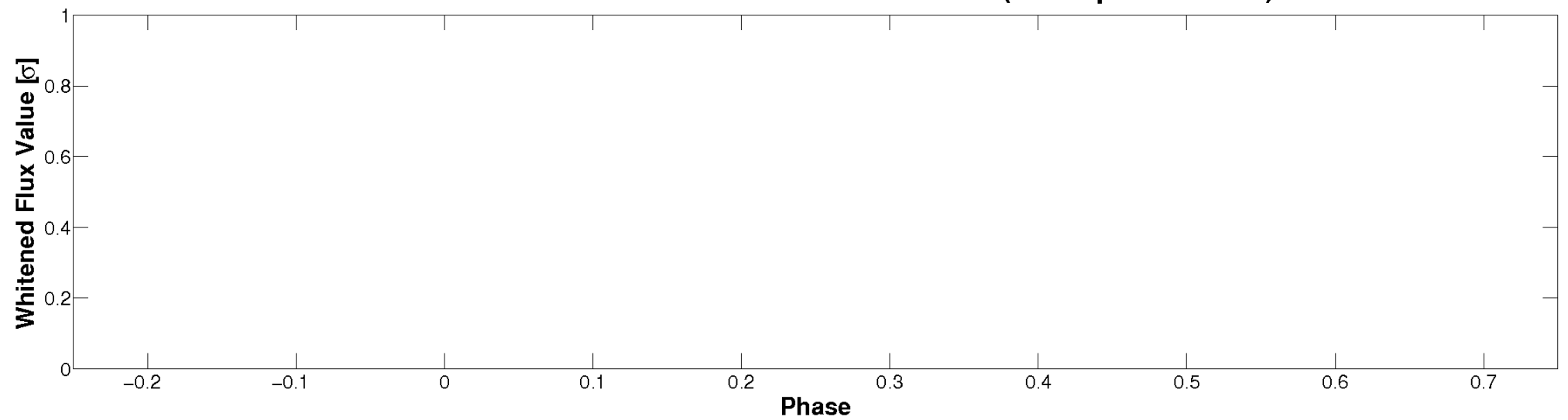


Non-Whitened Vs. Whitened Light Curve

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

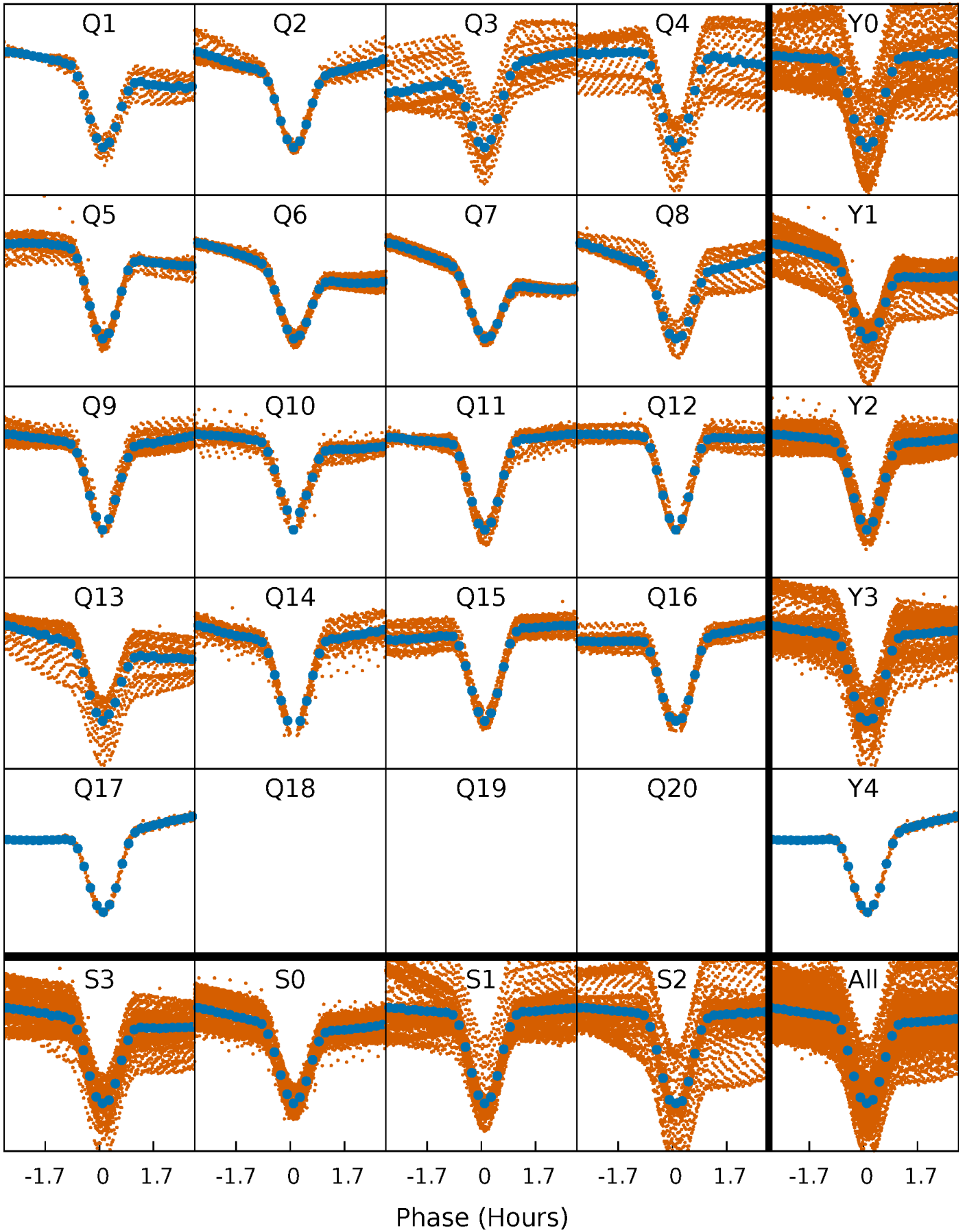


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



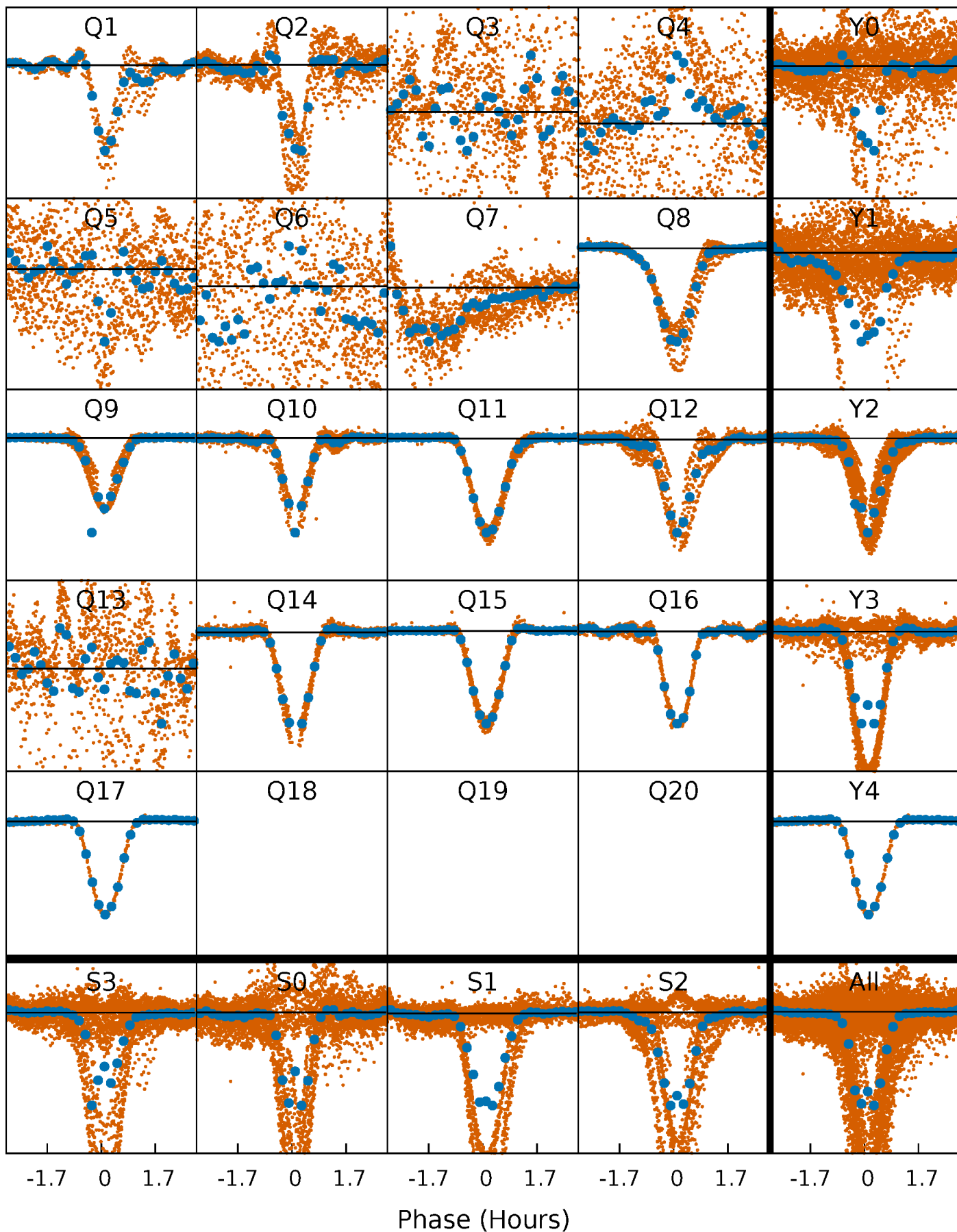
PDC Quarter-Phased Transit Curves

TCE 008479107-02 P= 0.767576 Days $T_0=132.198494$ (BKJD)



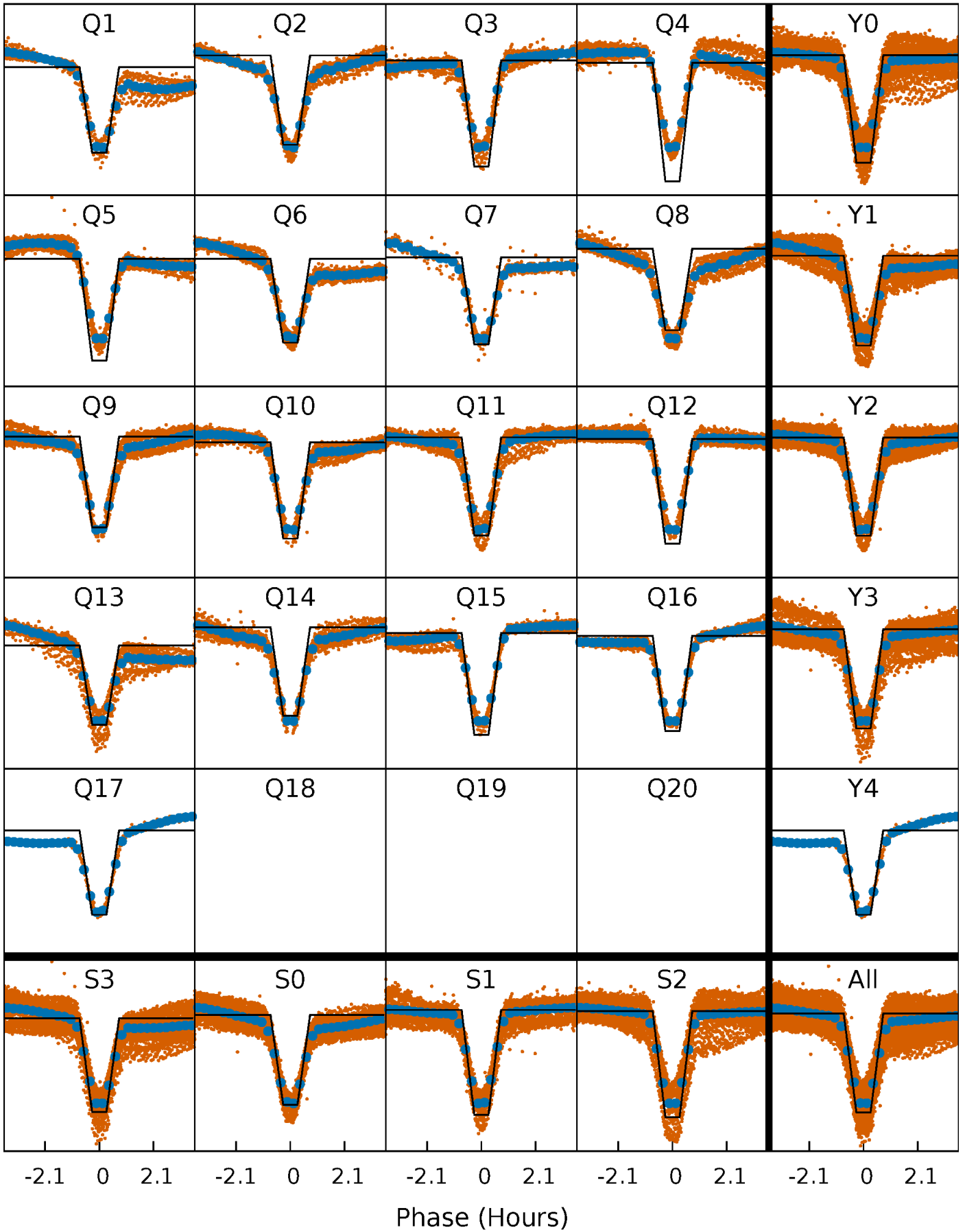
DV Quarter-Phased Transit Curves

TCE 008479107-02 P= 0.767576 Days $T_0=132.198494$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

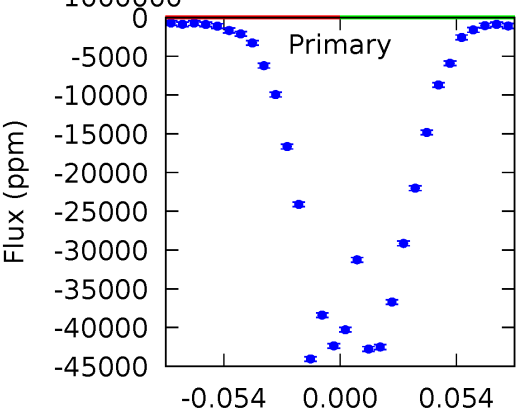
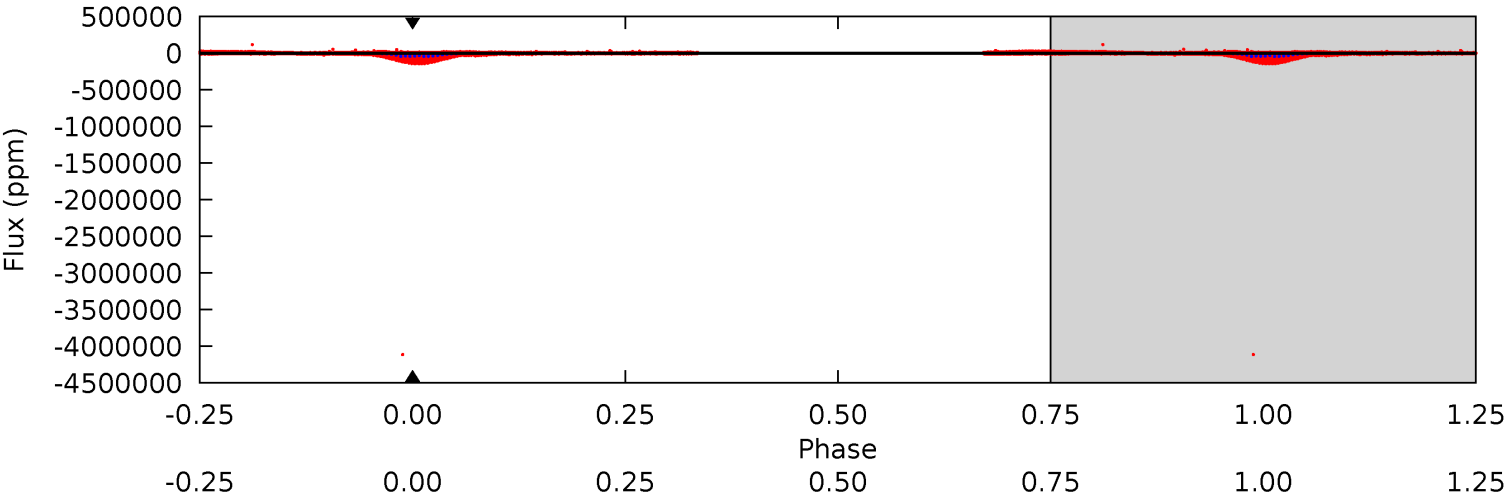
TCE 008479107-02 $P = 0.767576$ Days $T_0 = 132.203260$ (BKJD)



DV Model-Shift Uniqueness Test

008479107-02, P = 0.767576 Days, E = 131.430918 Days

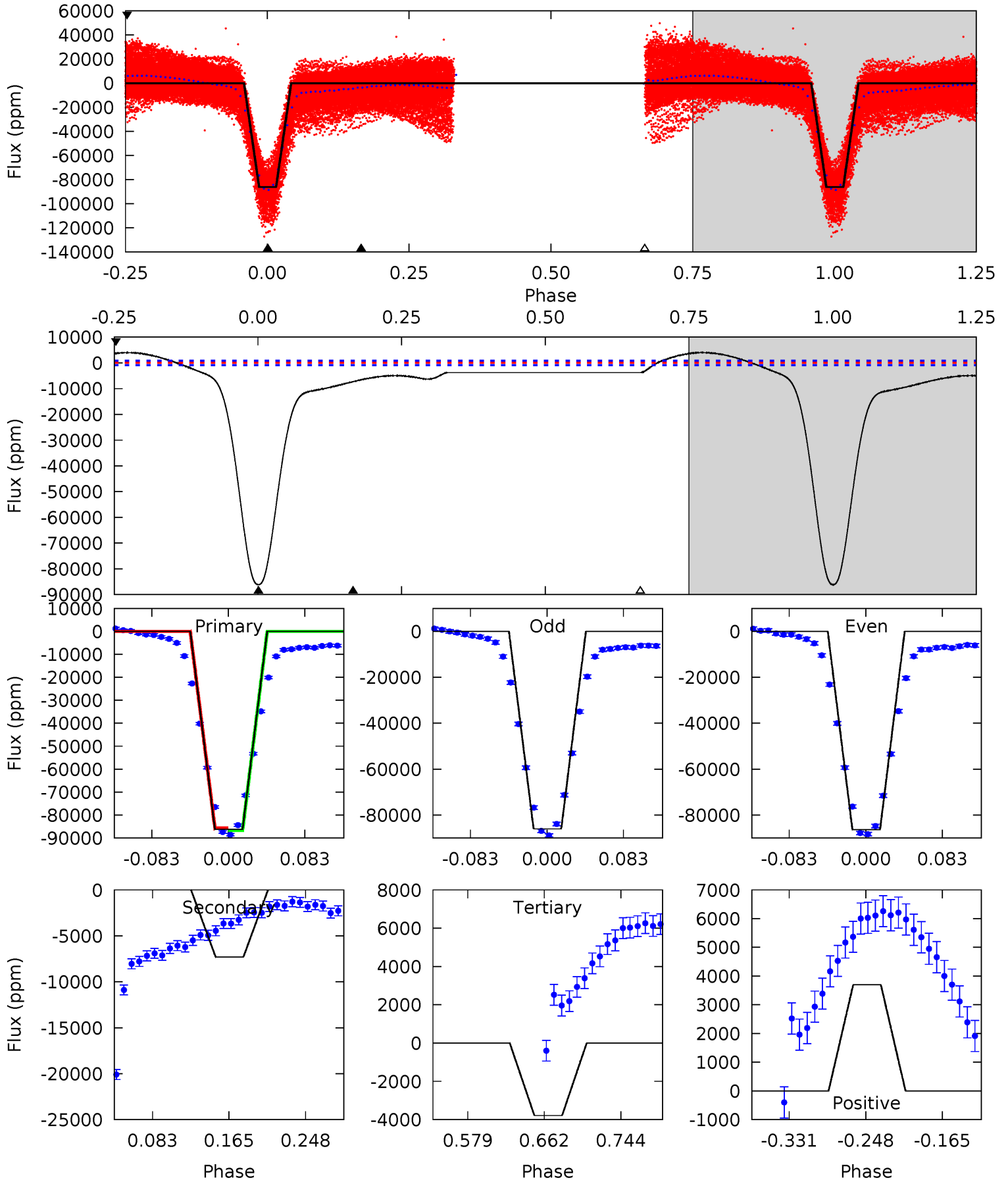
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008479107-02, P = 0.767576 Days, E = 131.435684 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
461.3	39.2	20.3	19.8	4.60	1.74	19.3	441.1	441.5	18.9	19.4	0.80	1.02	0.04	4.04



Stellar Parameters For KIC 008479107

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5182^{+157}_{-141}	$4.635^{+0.066}_{-0.039}$	$-0.980^{+0.300}_{-0.300}$	$0.627^{+0.050}_{-0.050}$	$0.619^{+0.059}_{-0.024}$	$3.539^{+0.855}_{-0.575}$
	+3%/-3%	+1%/-1%	+31%/-31%	+8%/-8%	+10%/-4%	+24%/-16%
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 008479107-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$10.46^{+6.76}_{-5.93}$	2123^{+83}_{-66}	3545^{+5079}_{-11484}	$3.276^{+165.096}_{-129.204}$
Alt.	-7313 ± 187	$20.89^{+7.11}_{-6.78}$	2129^{+73}_{-76}	3188^{+469}_{-331}	$1.844^{+2.051}_{-0.826}$

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 $A_{obs} \gg 1.0$

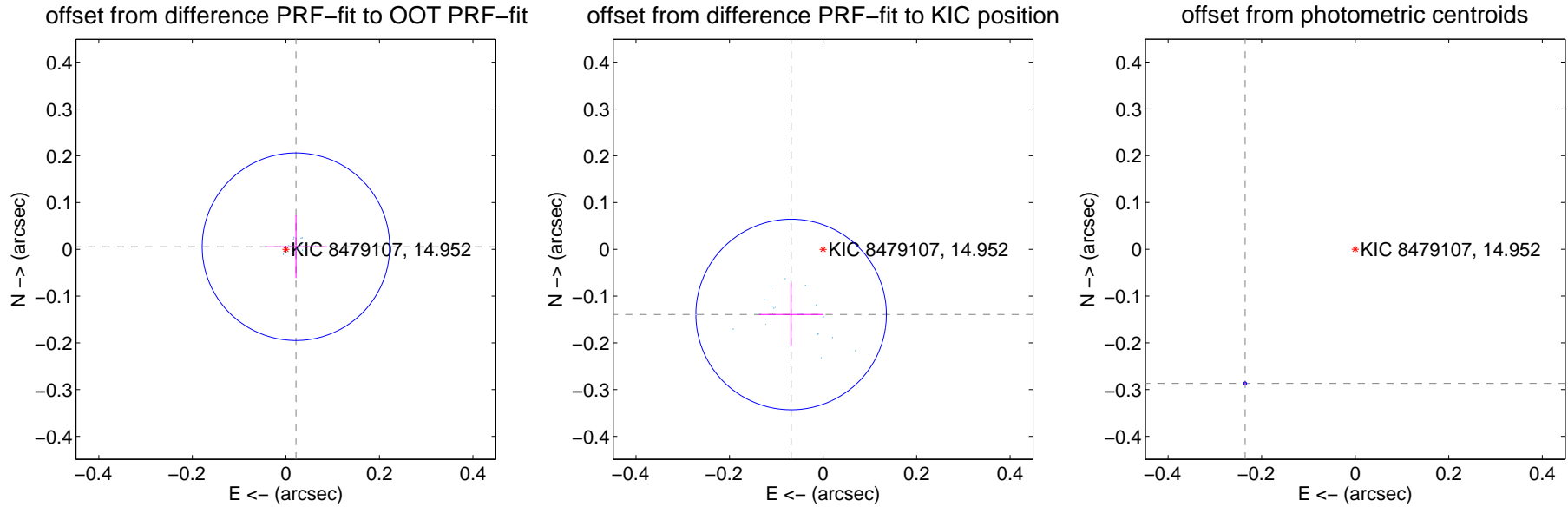
DV Centroid Data

Supplemental centroid analysis for 008479107-02. Kepler magnitude: 14.95. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

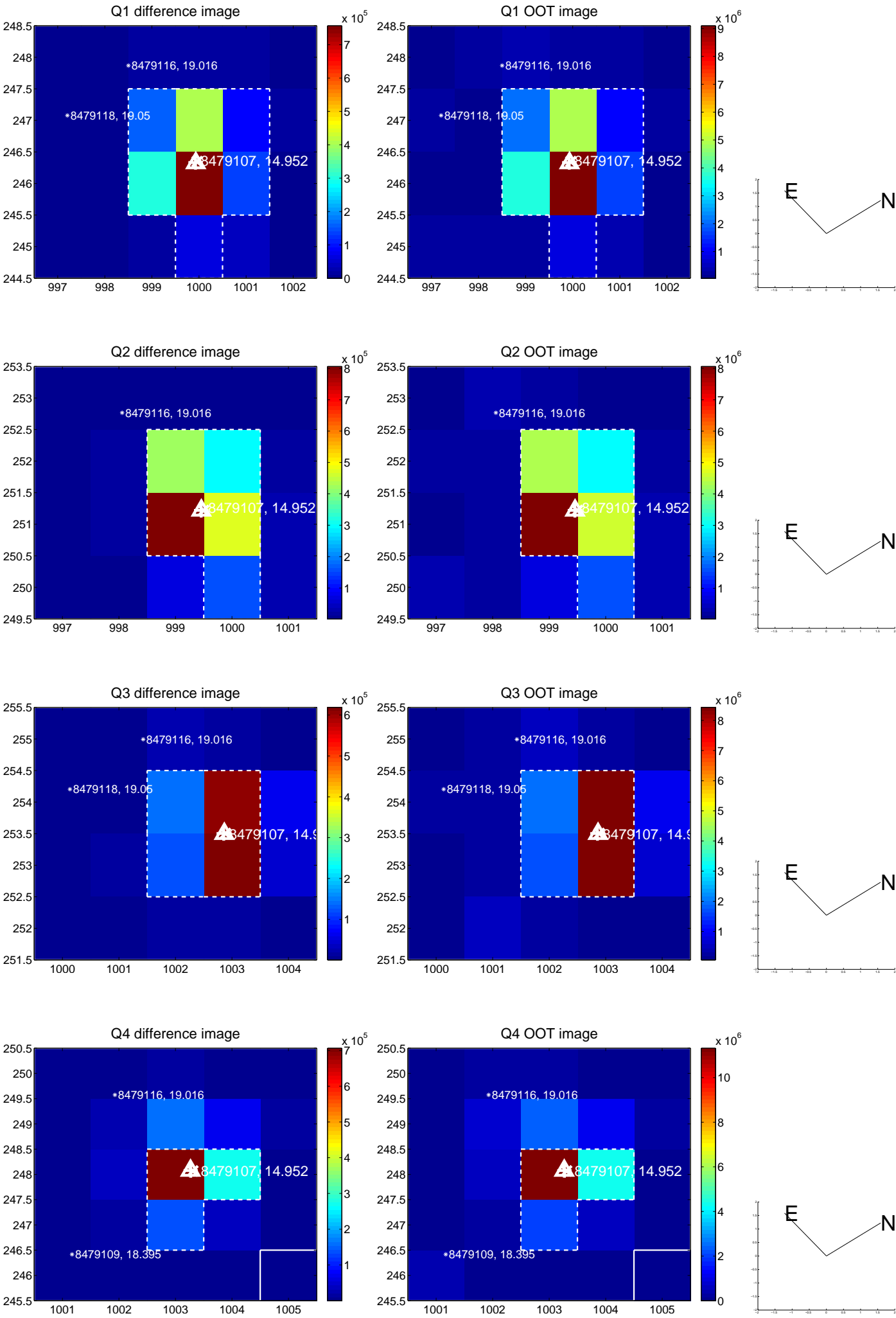
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.022 ± 0.067	0.33	-0.021 ± 0.067	0.006 ± 0.067
PRF-fit source offset from KIC position	0.155 ± 0.068	2.29	0.068 ± 0.069	-0.139 ± 0.068
photometric centroid source offset	0.37 ± 0.00	355.33	0.24 ± 0.00	-0.29 ± 0.00

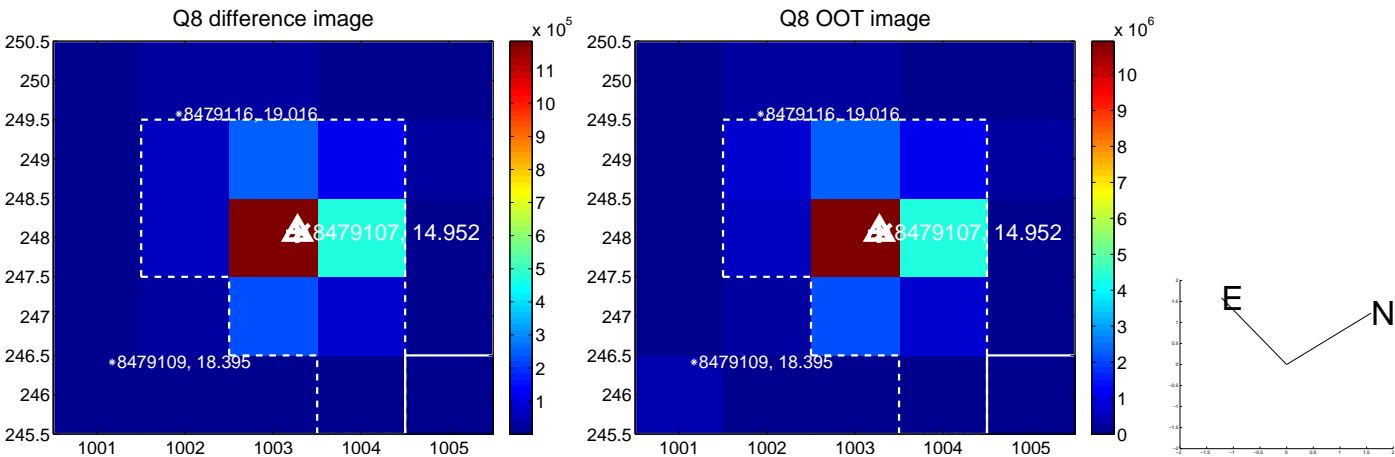
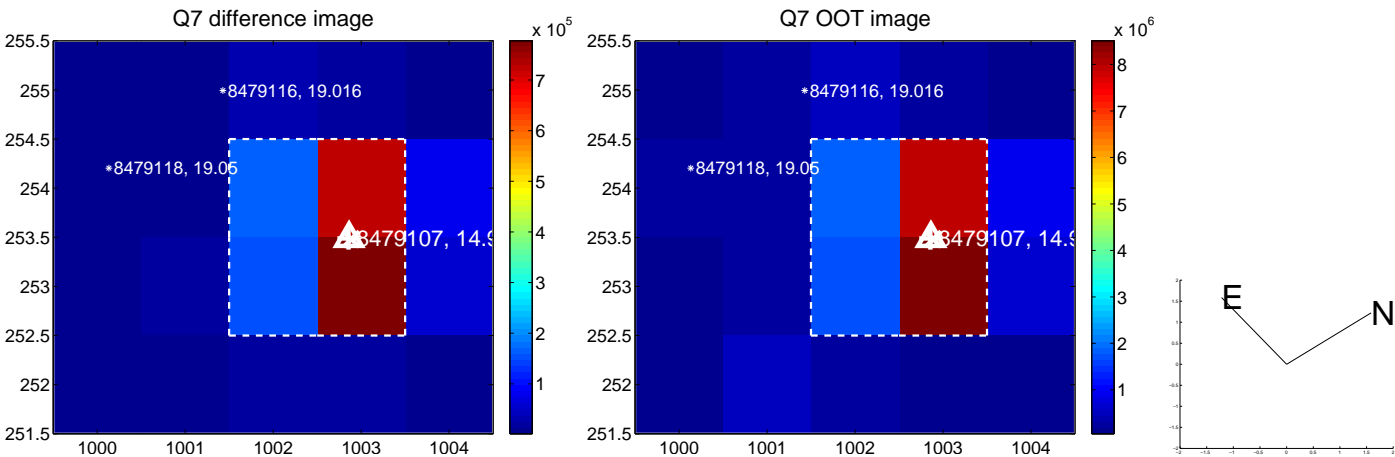
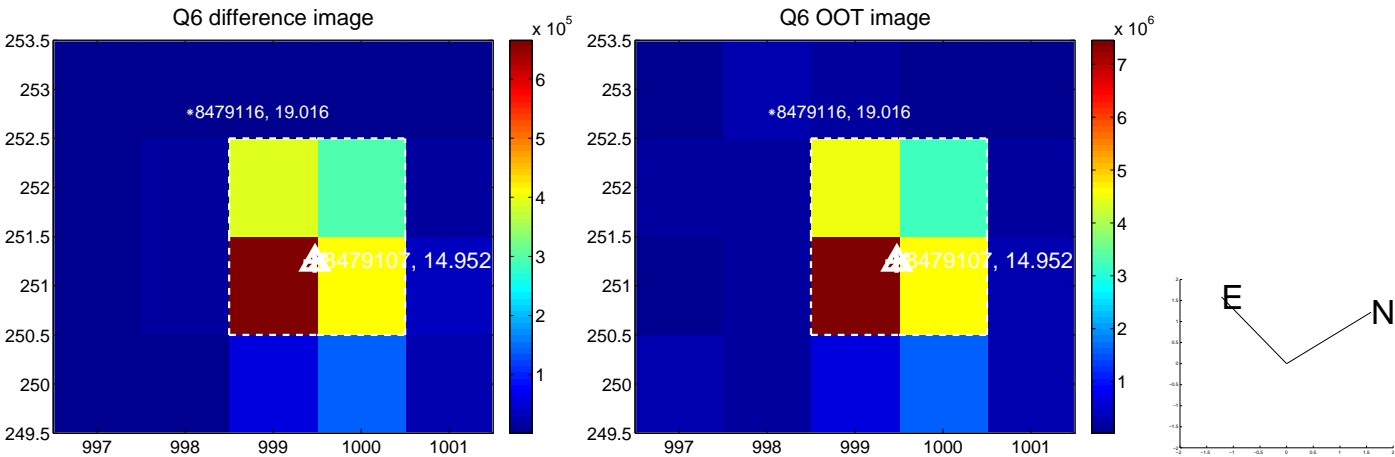
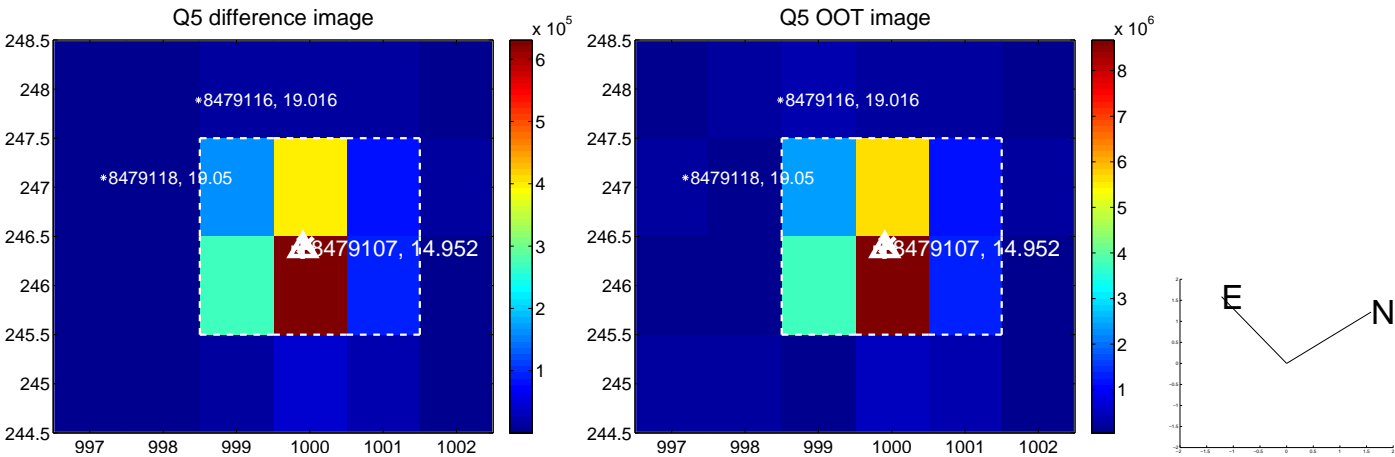


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

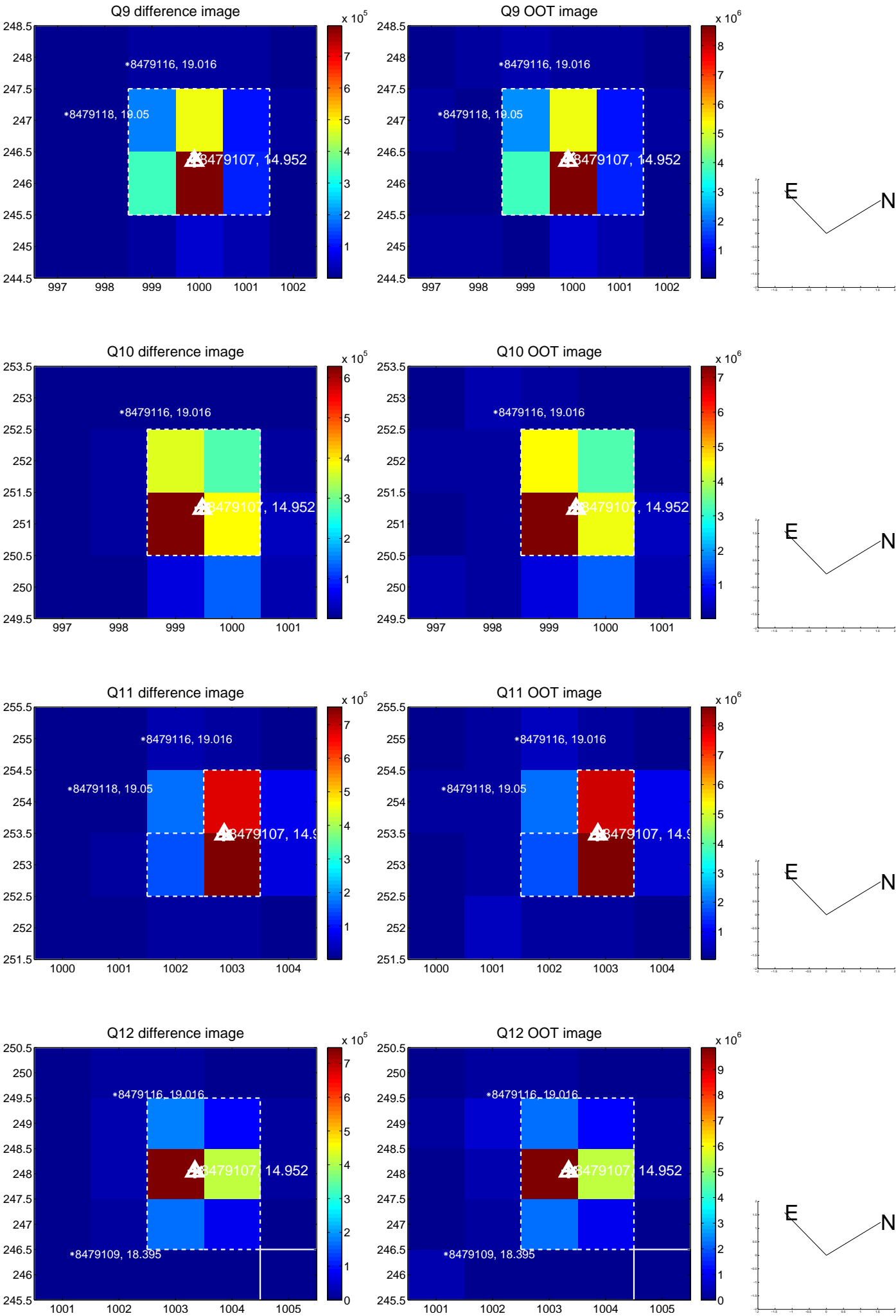
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



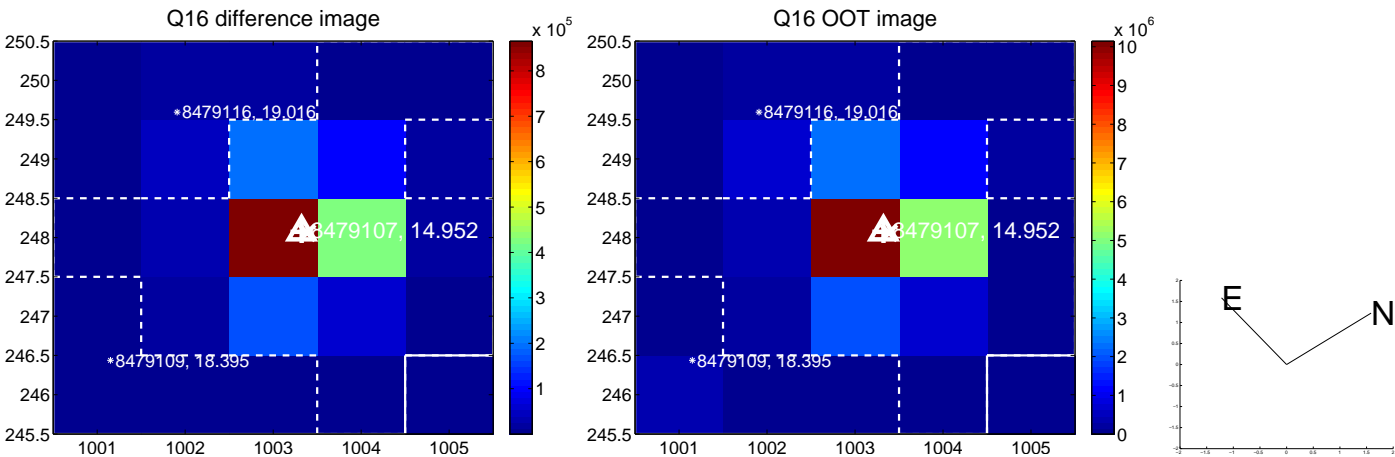
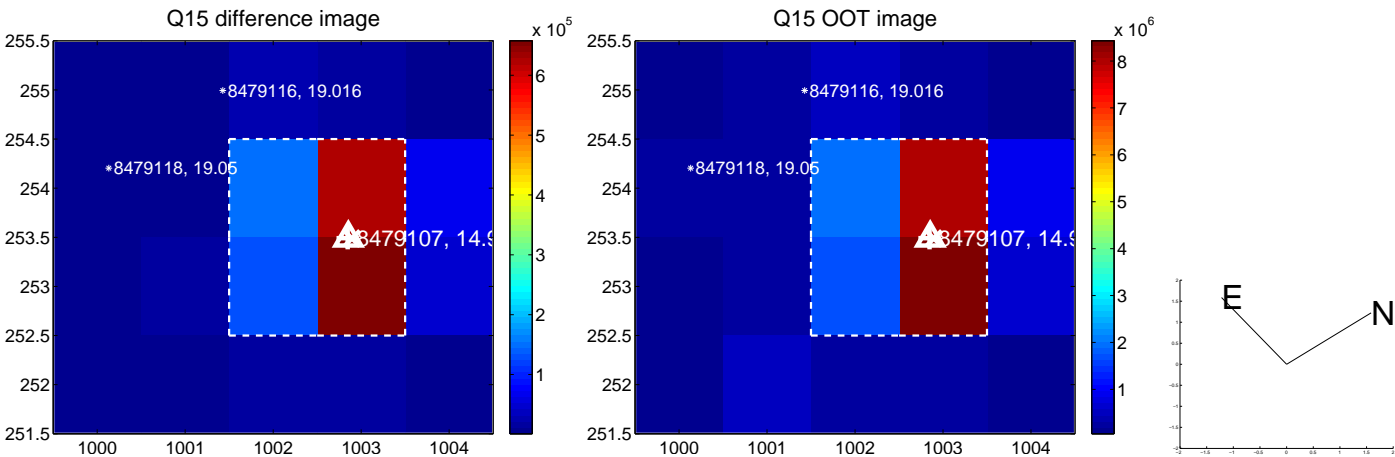
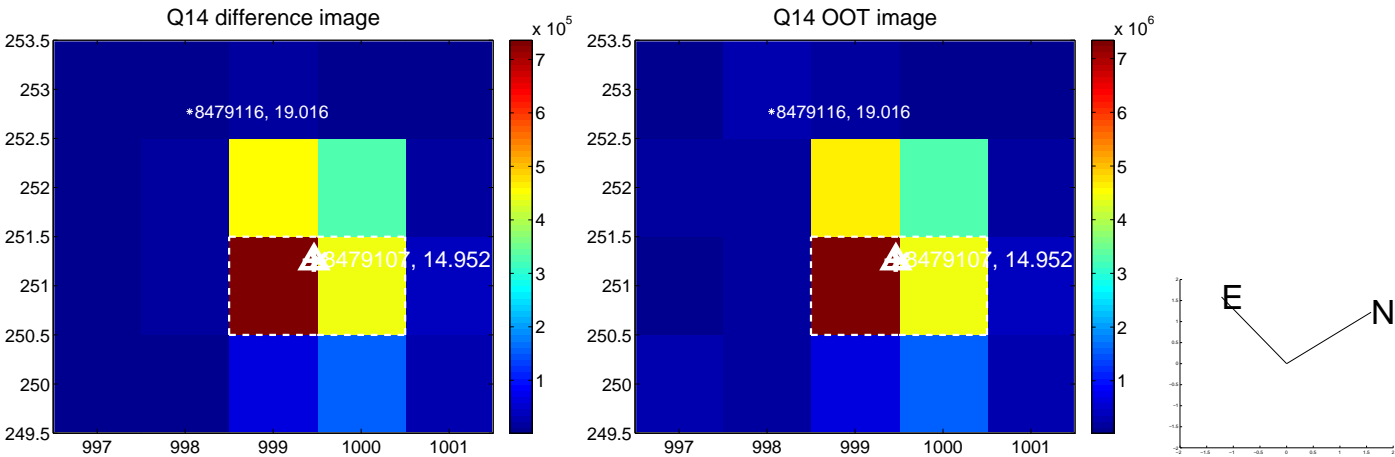
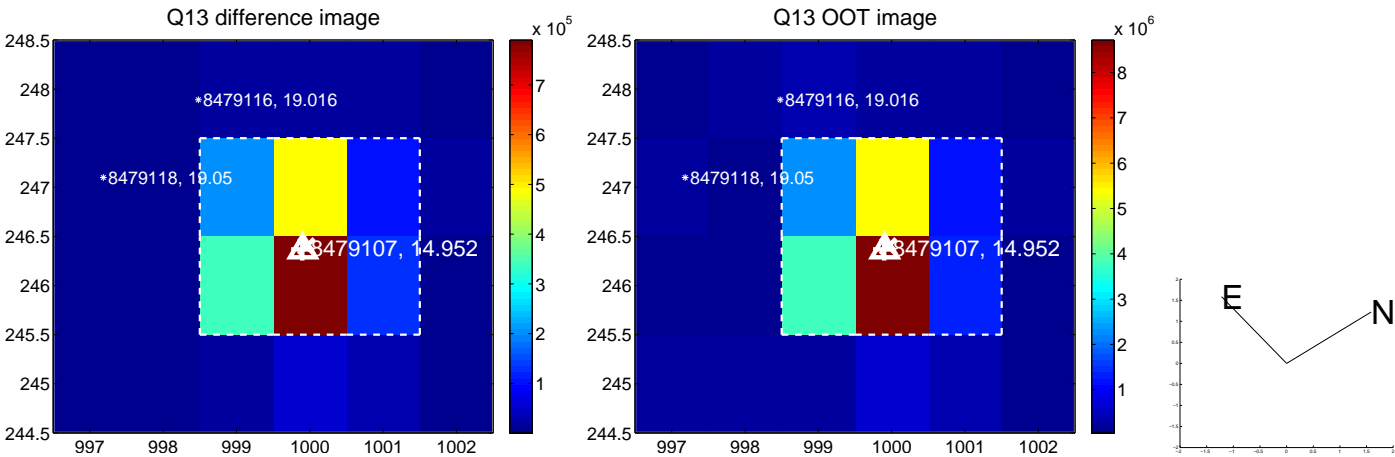
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



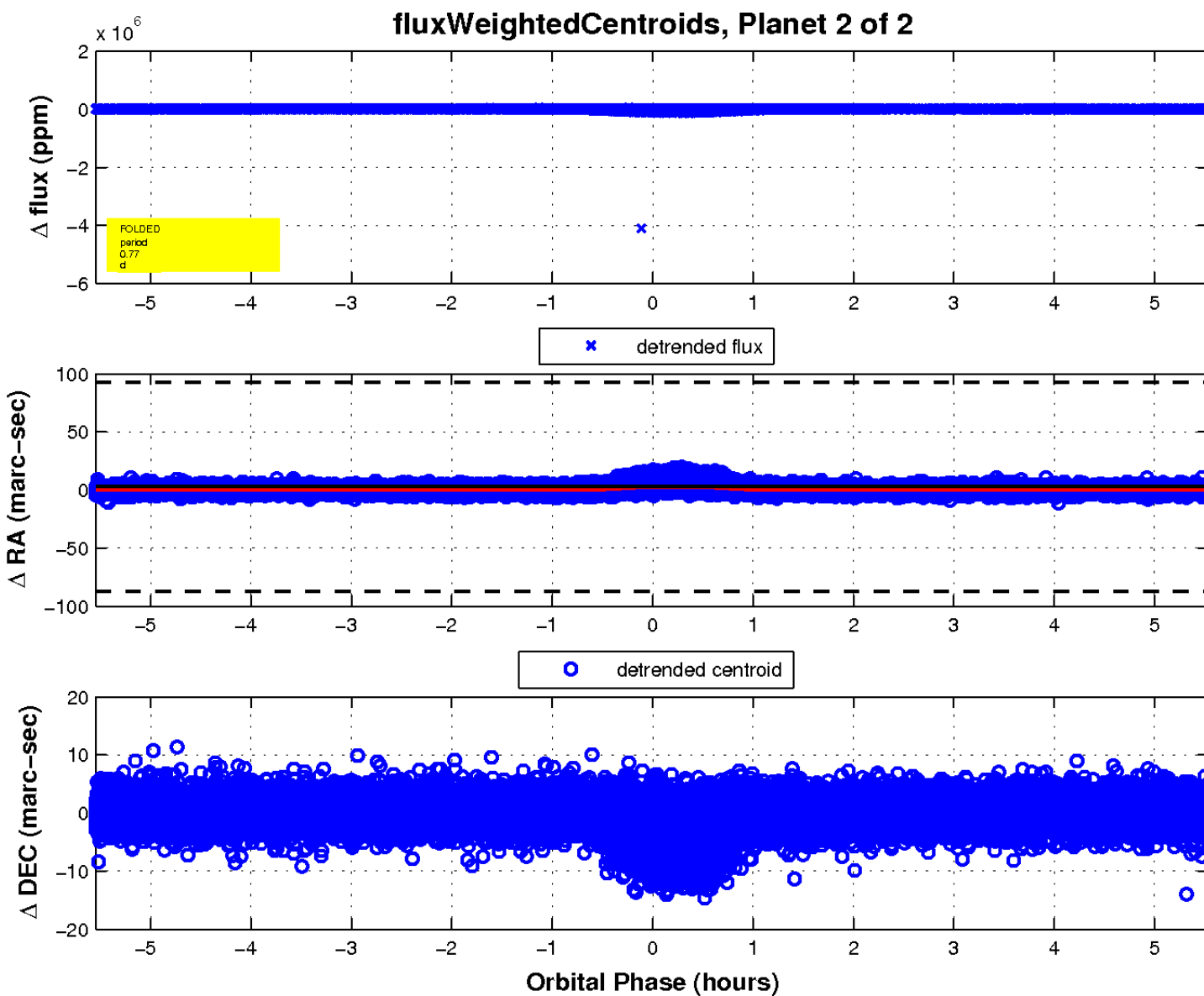
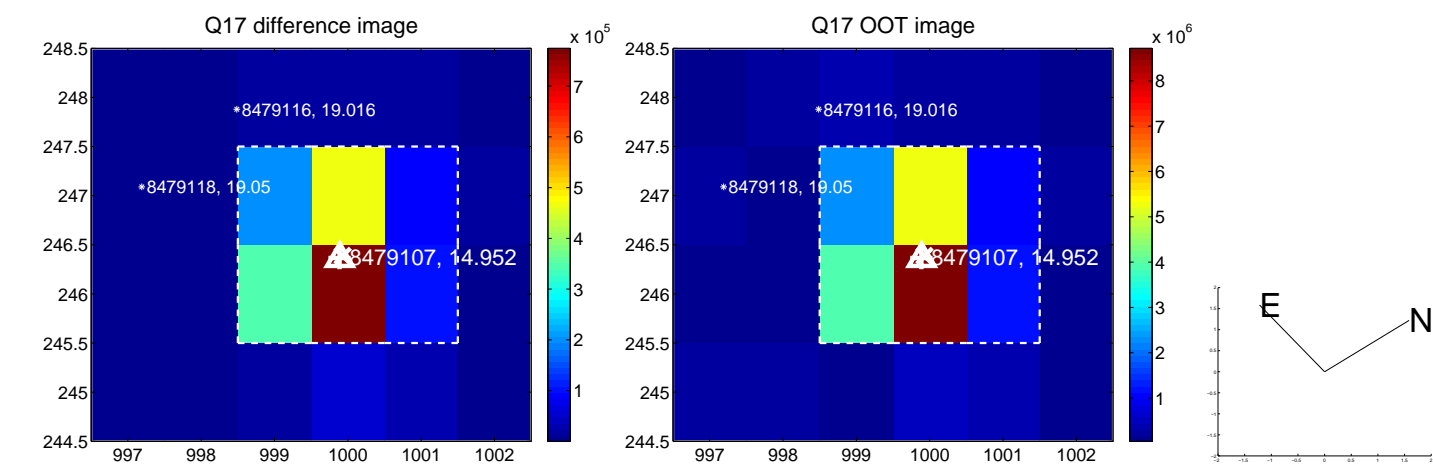
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

