

KIC 006046540

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})
006046540-01	OBS	0200.01	7.340716	134.345649	8465.9	3.092	913.0	850.5	1.50	6056	14.72	421.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006046540-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

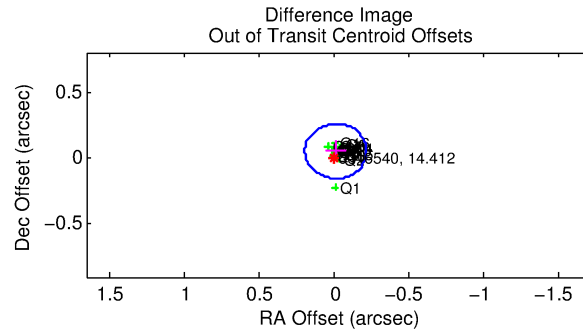
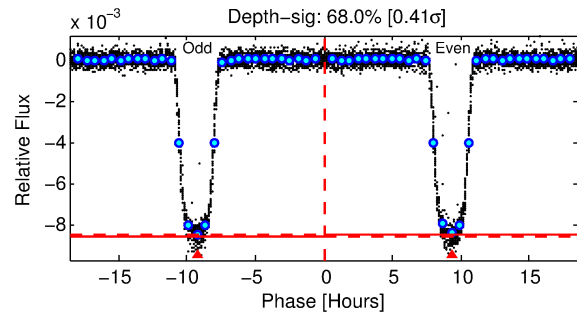
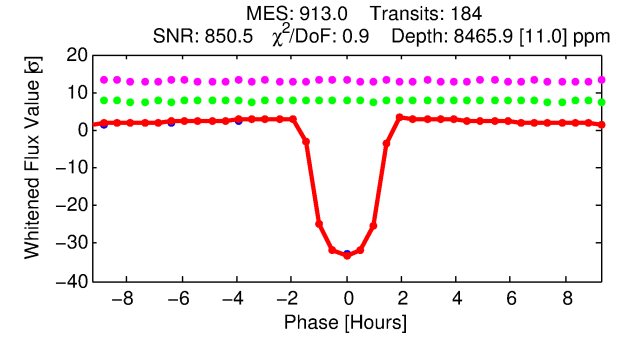
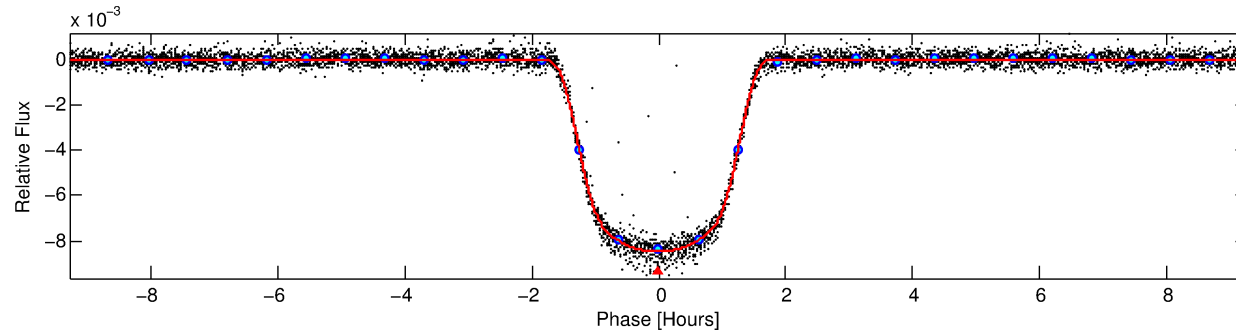
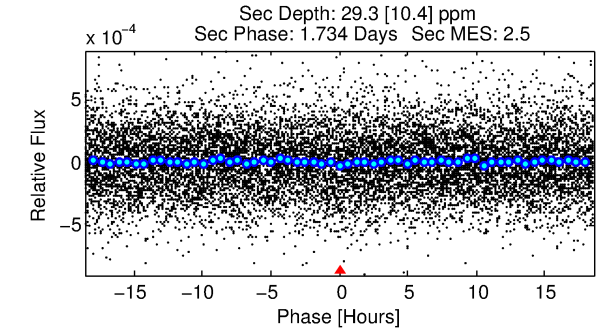
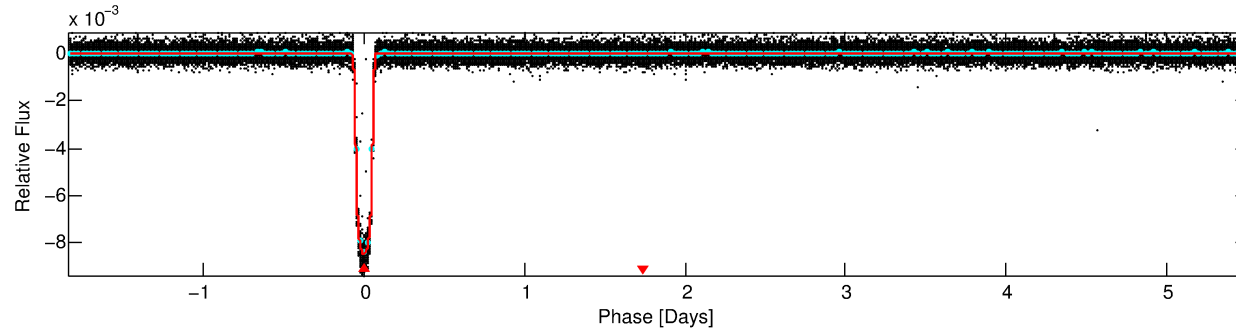
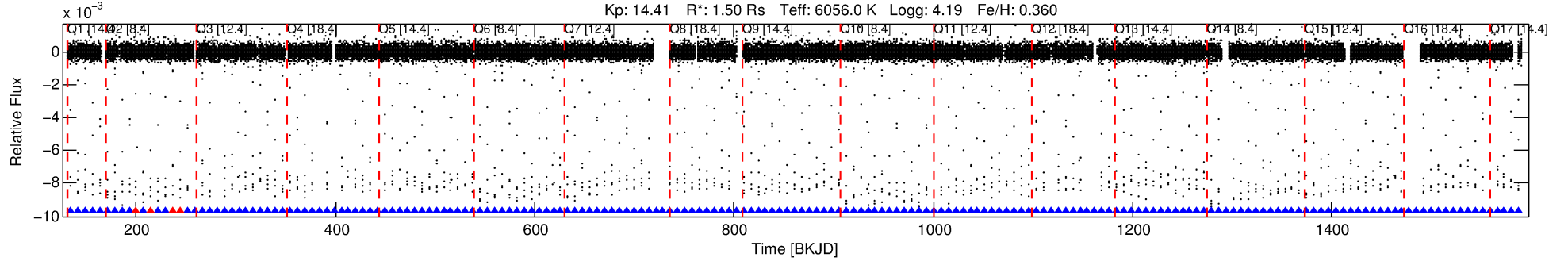
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006046540-01

No Significant Match Found

DV One-Page Summary

KIC: 6046540 Candidate: 1 of 1 Period: 7.341 d
KOI: K00200.01 Name: Kepler-74b Corr: 0.984



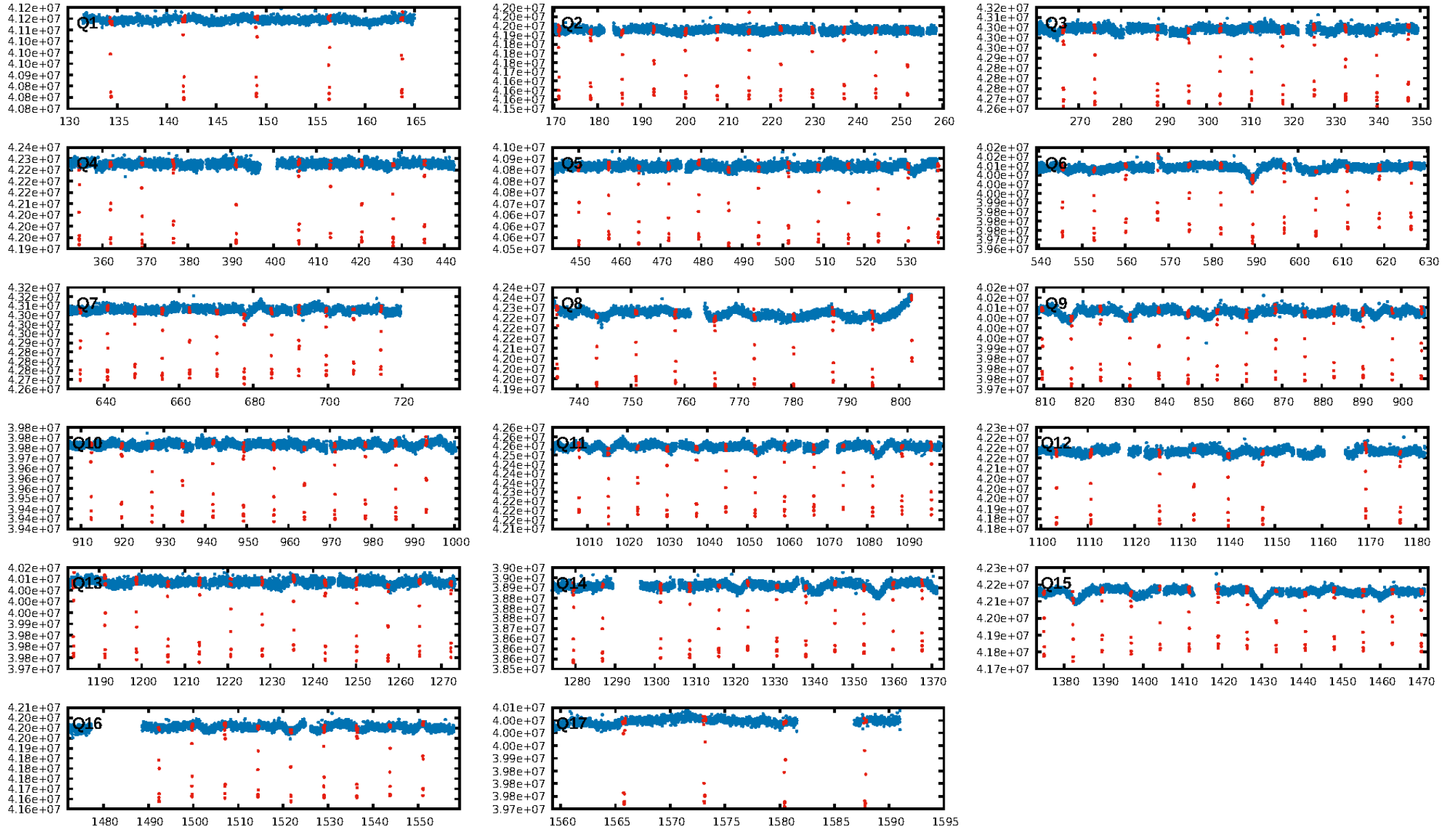
DV Fit Results:

Period = 7.34072 [0.00000] d
Epoch = 134.3456 [0.0001] BKJD
Rp/R* = 0.0901 [0.0003]
a/R* = 15.29 [0.18]
b = 0.69 [0.01]
Seff = 421.69 [61.70]
Teff = 1156 [42] K
Rp = 14.72 [1.38] Re
a = 0.0801 [0.0062] AU
Ag = 0.48 [0.18] [-2.94 σ]
Teffp = 1484 [137] K [2.30 σ]

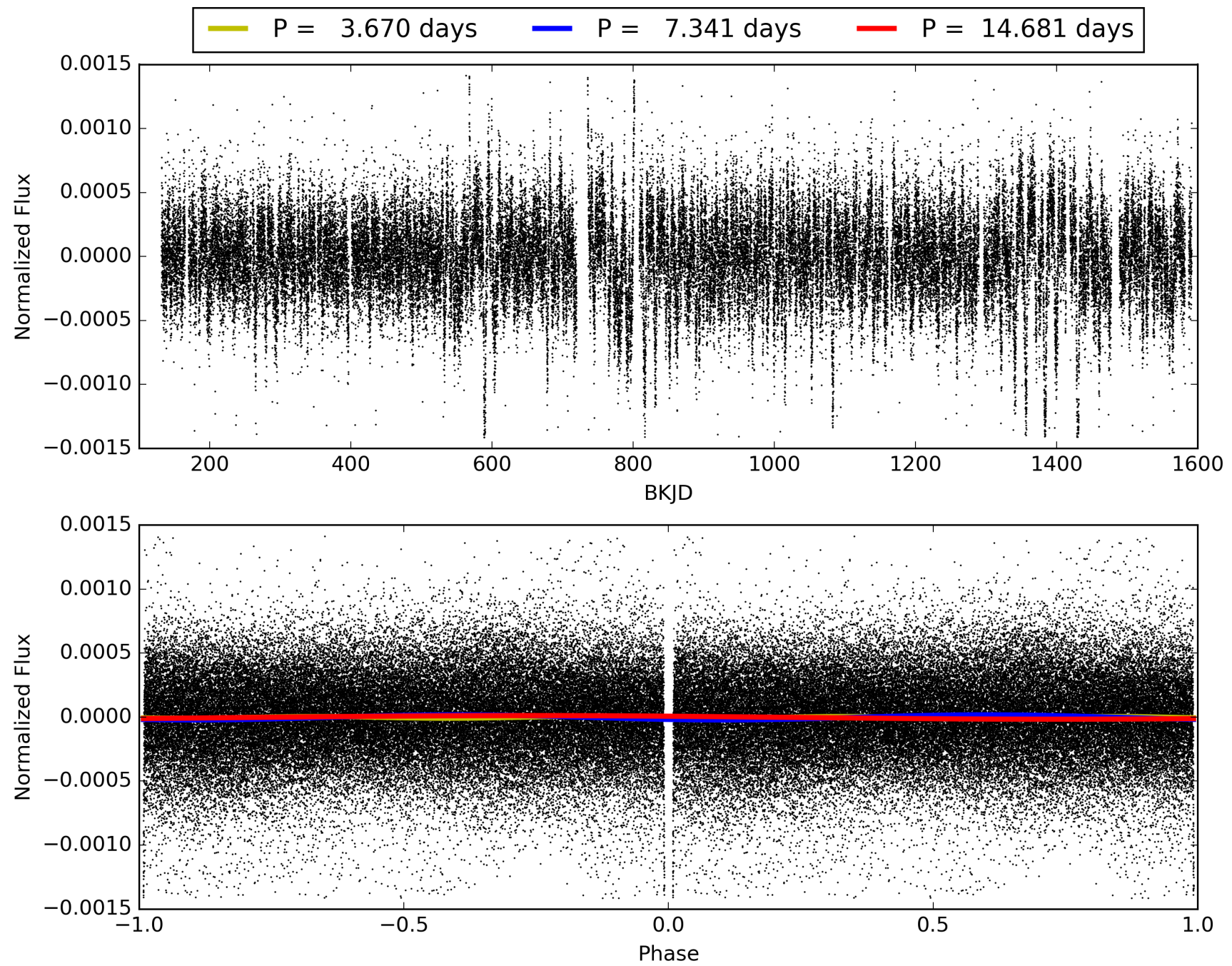
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.98 [171/175]
GhostDiagnostic-chr: 5.962
Centroid-sig: 0.0%
Centroid-so: 0.132 arcsec [9.45 σ]
OotOffset-rm: 0.055 arcsec [0.80 σ]
KicOffset-rm: 0.064 arcsec [0.93 σ]
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 006046540-01, PDC Light Curves

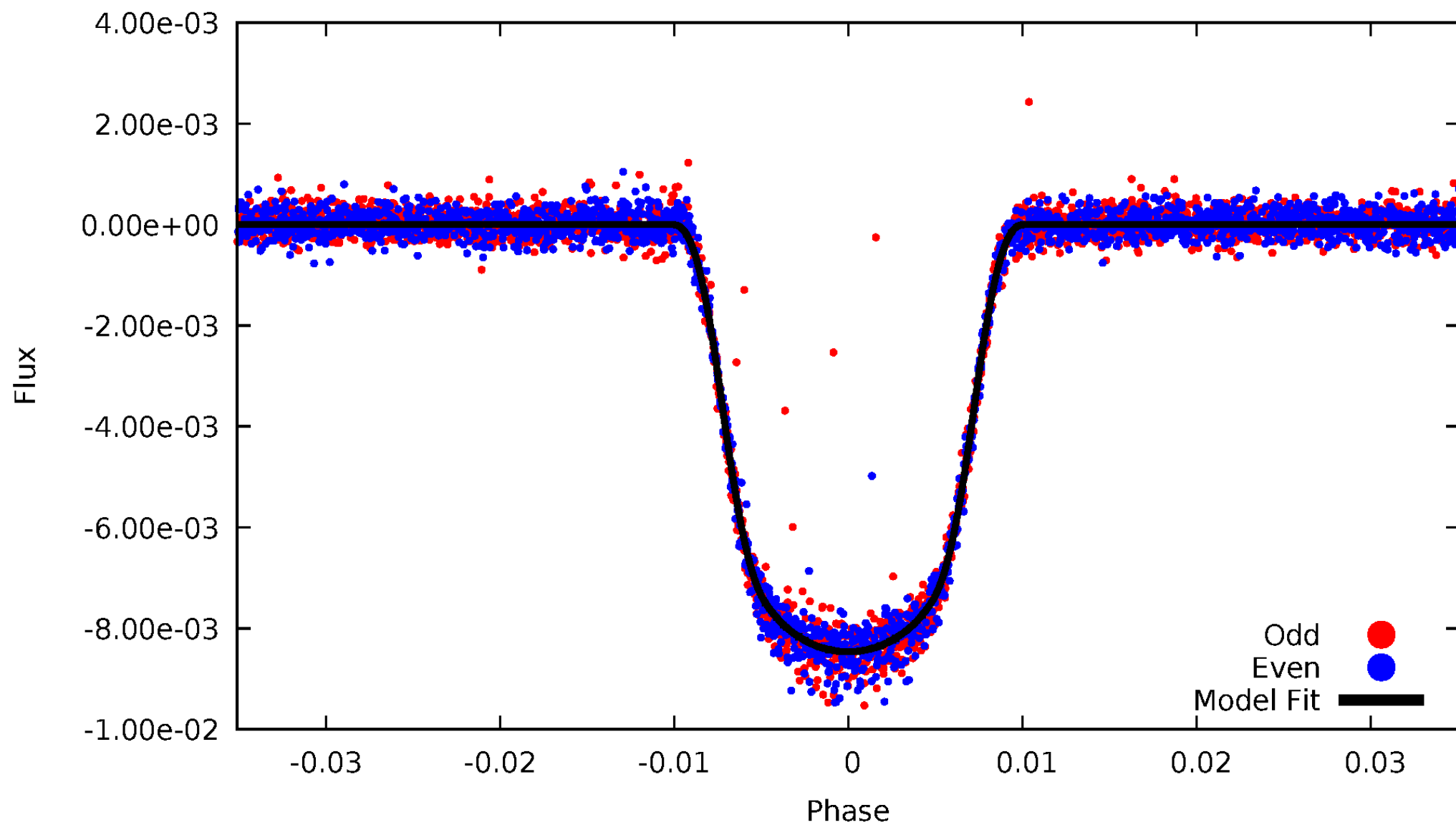


TCE 006046540-01



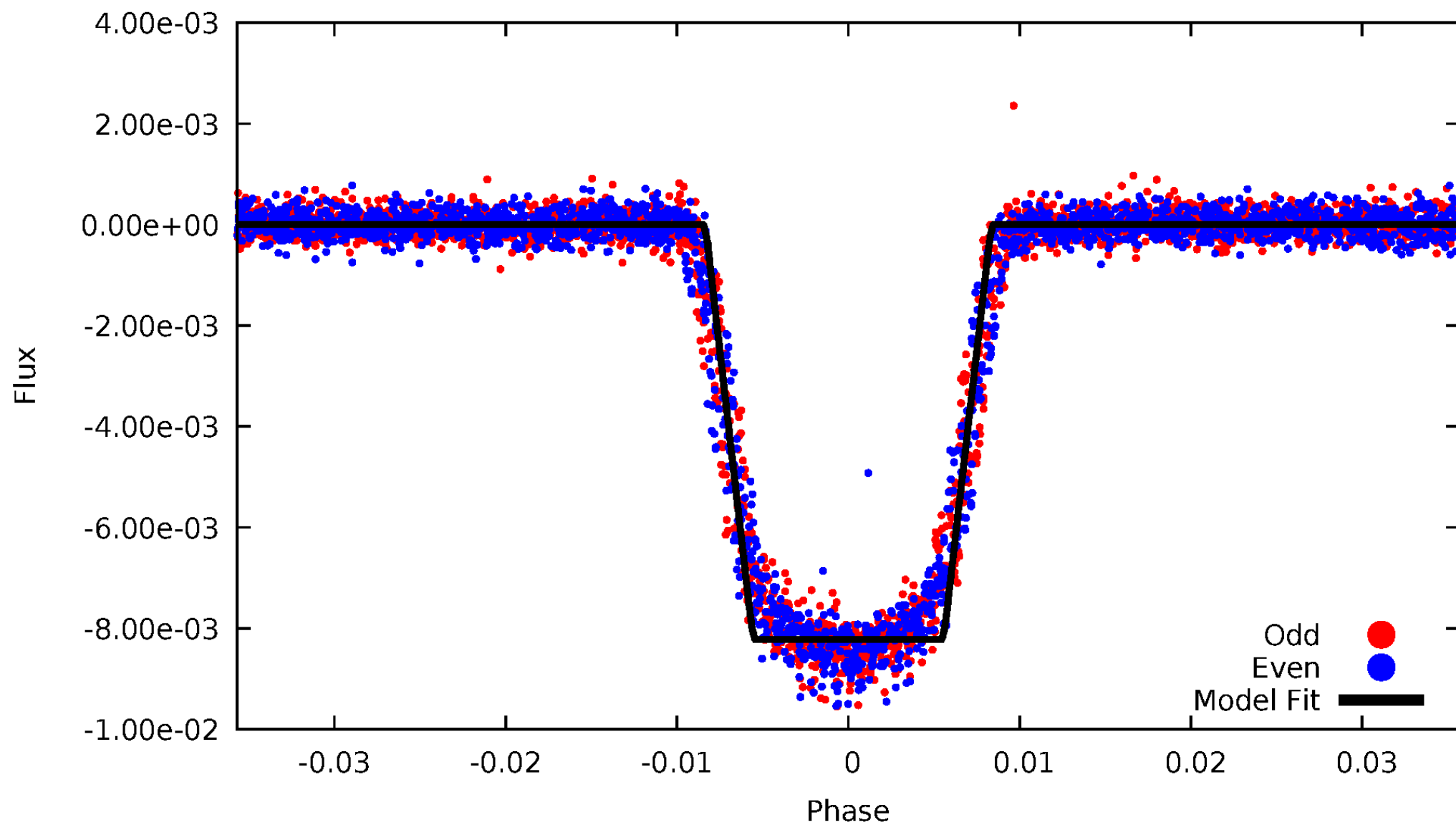
DV Odd/Even

TCE 006046540-01



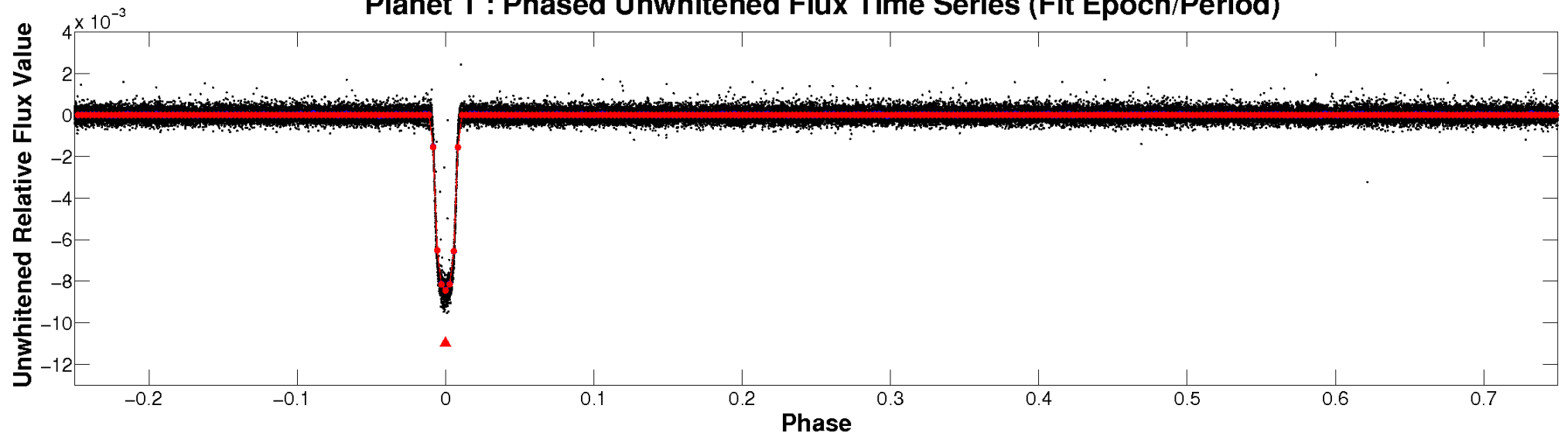
ALT Odd/Even

TCE 006046540-01

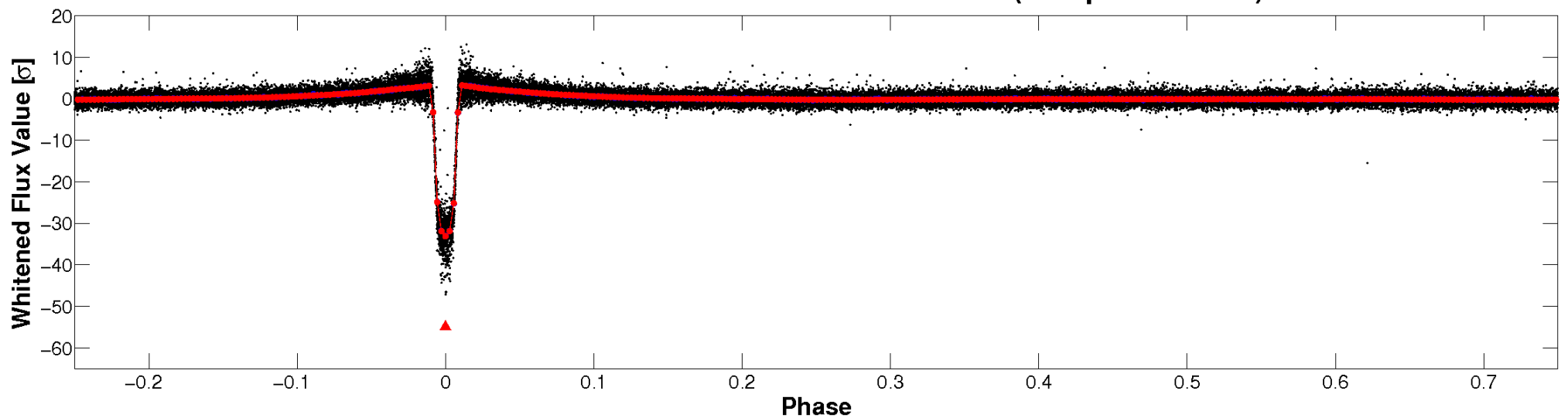


Non-Whitened Vs. Whitened Light Curve

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

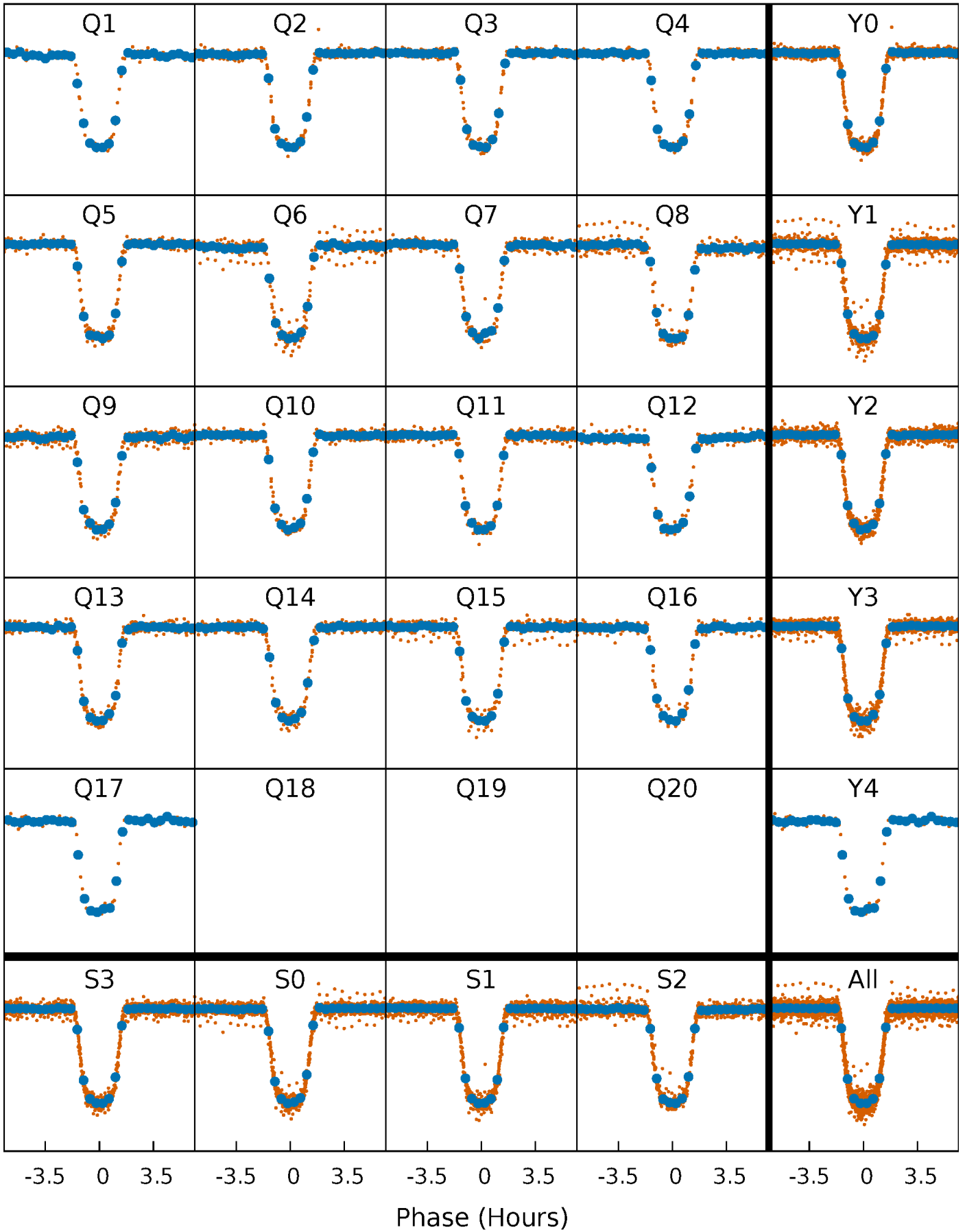


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



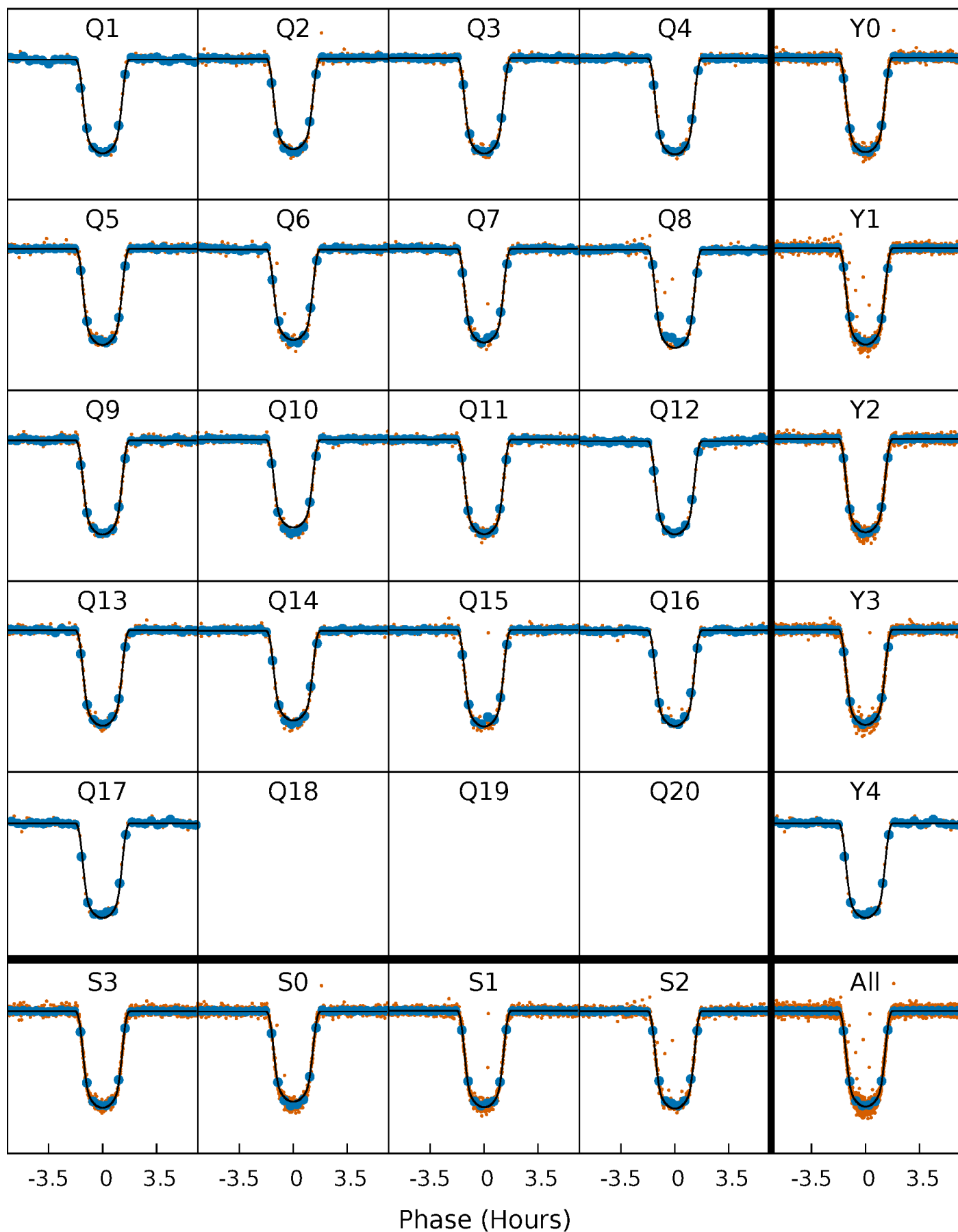
PDC Quarter-Phased Transit Curves

TCE 006046540-01 P= 7.340716 Days $T_0=134.345649$ (BKJD)



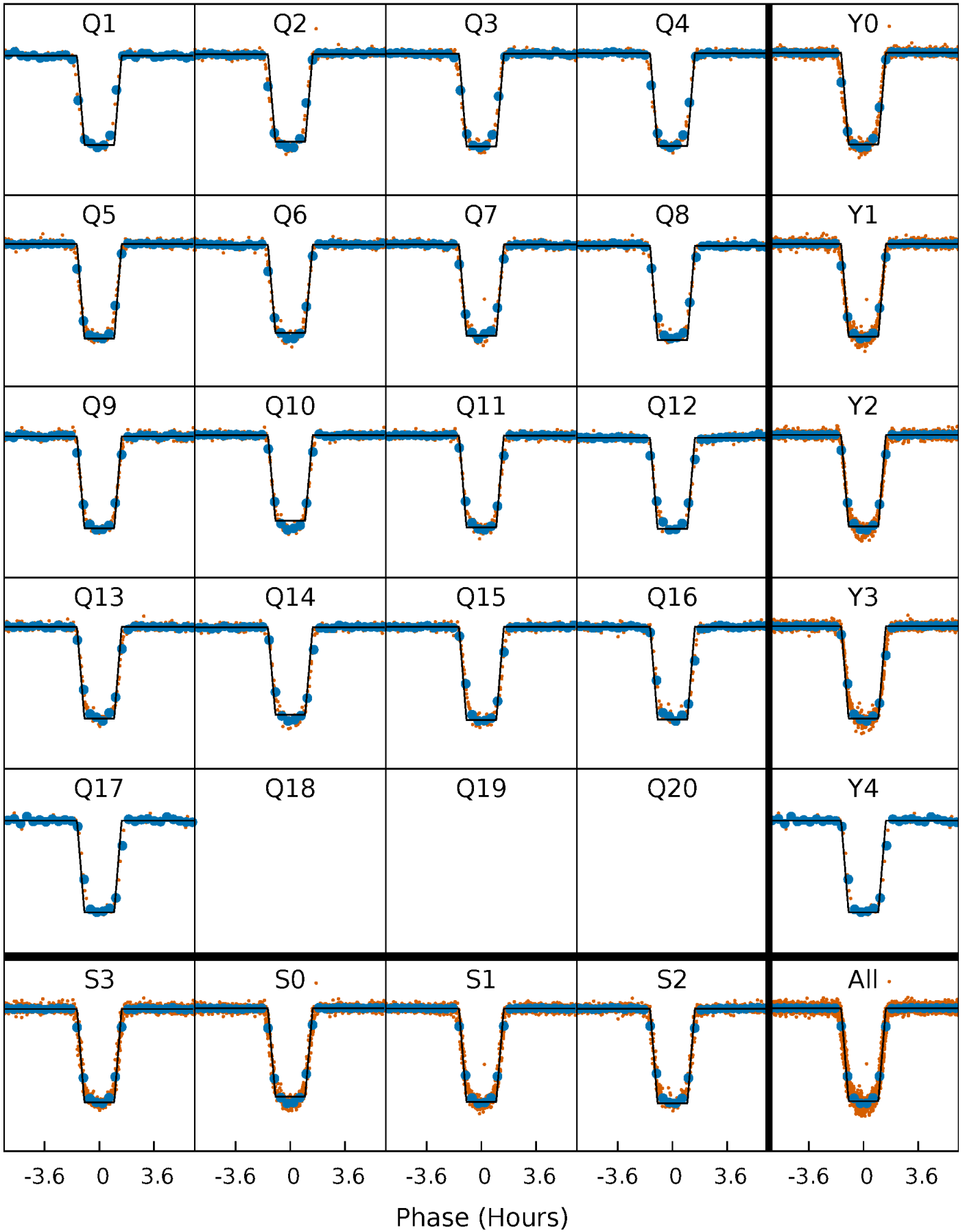
DV Quarter-Phased Transit Curves

TCE 006046540-01 P= 7.340716 Days $T_0=134.345649$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

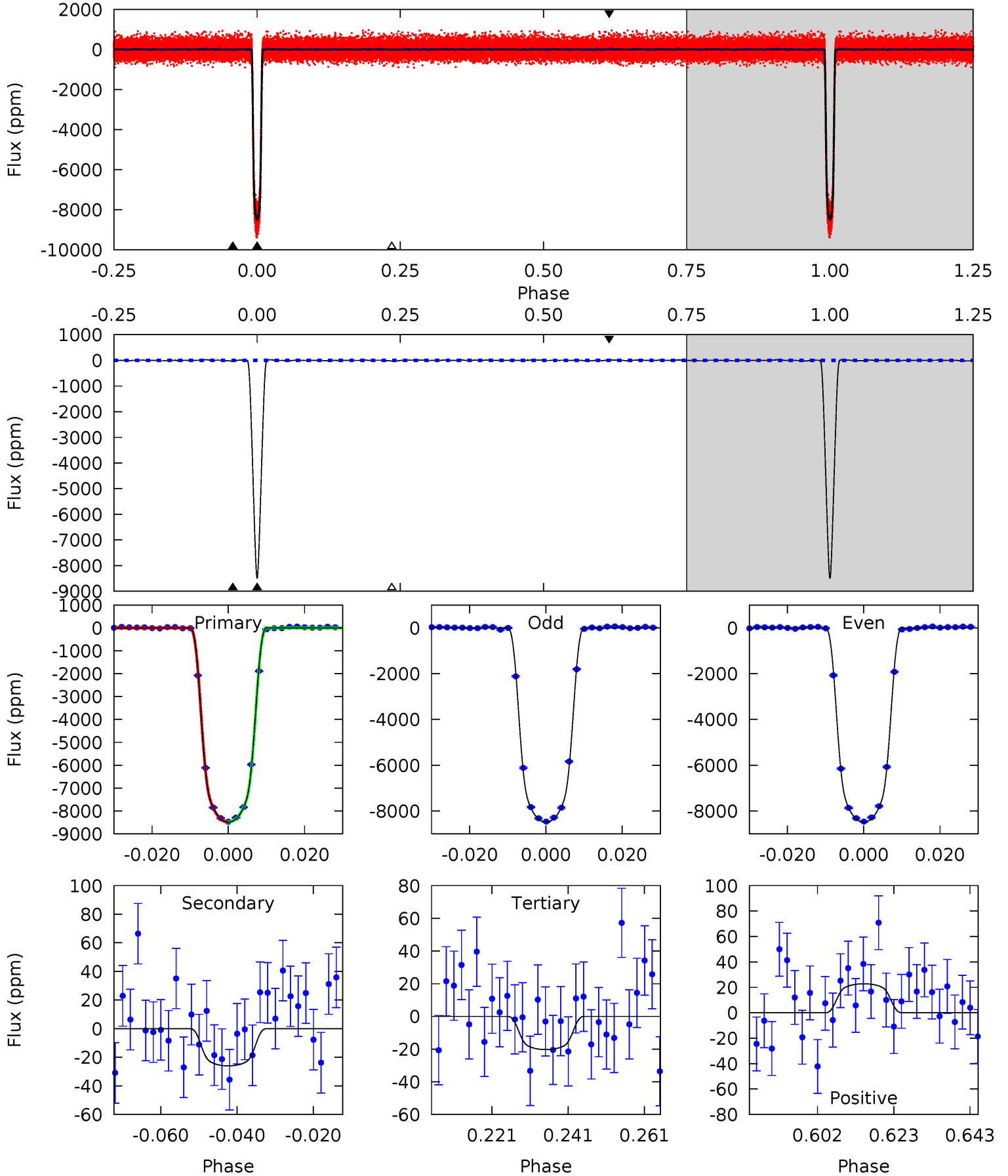
TCE 006046540-01 P= 7.340654 Days $T_0=134.351683$ (BKJD)



DV Model-Shift Uniqueness Test

006046540-01, P = 7.340716 Days, E = 127.004933 Days

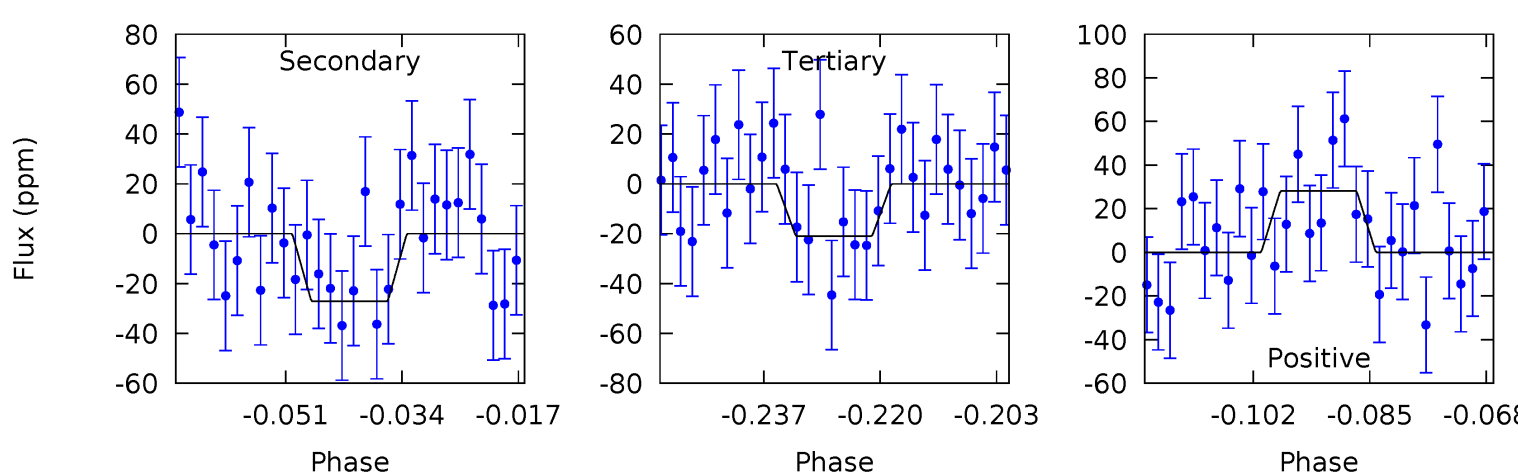
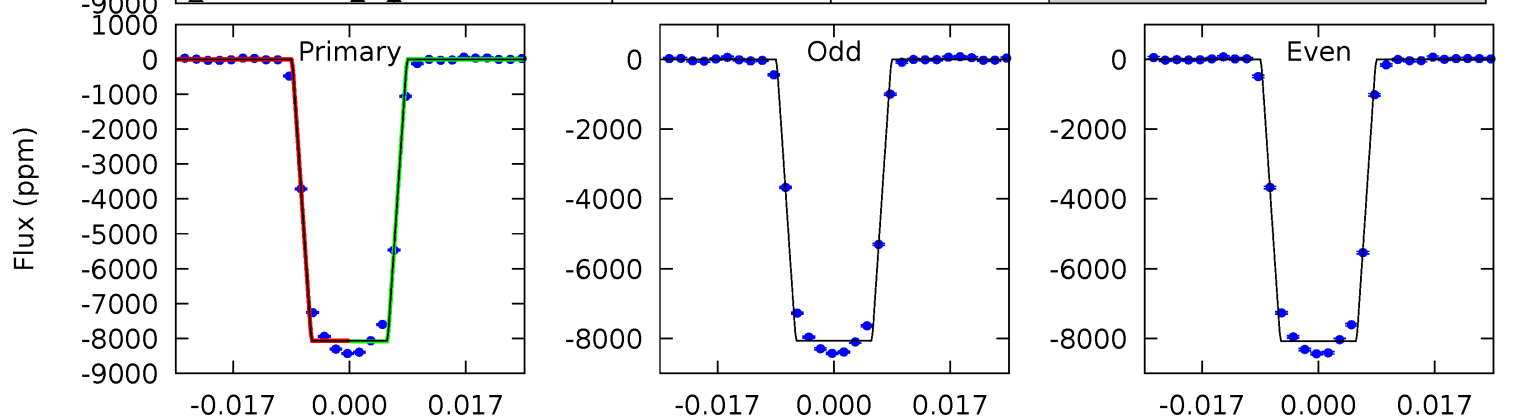
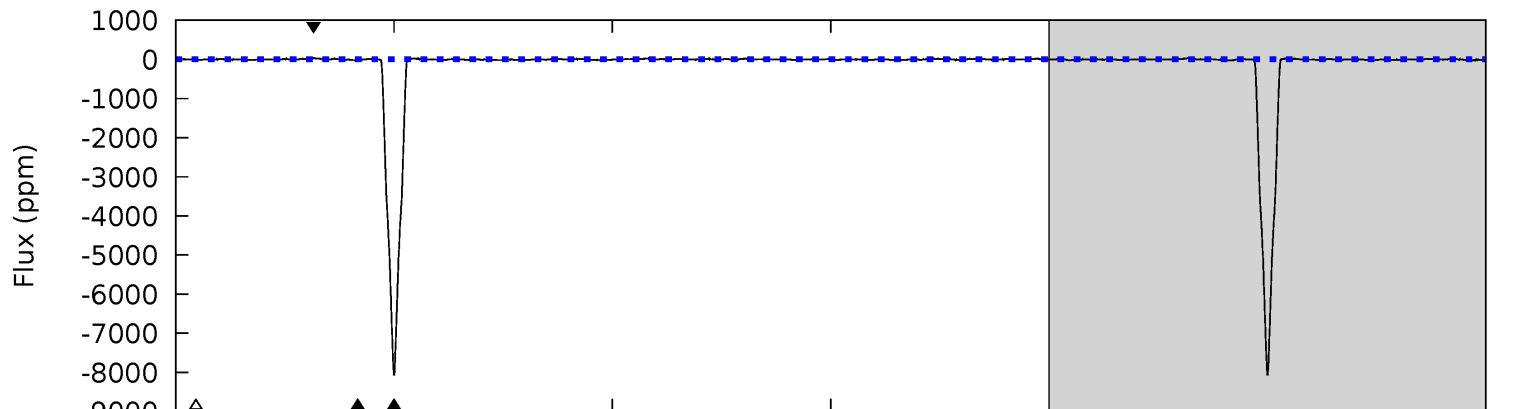
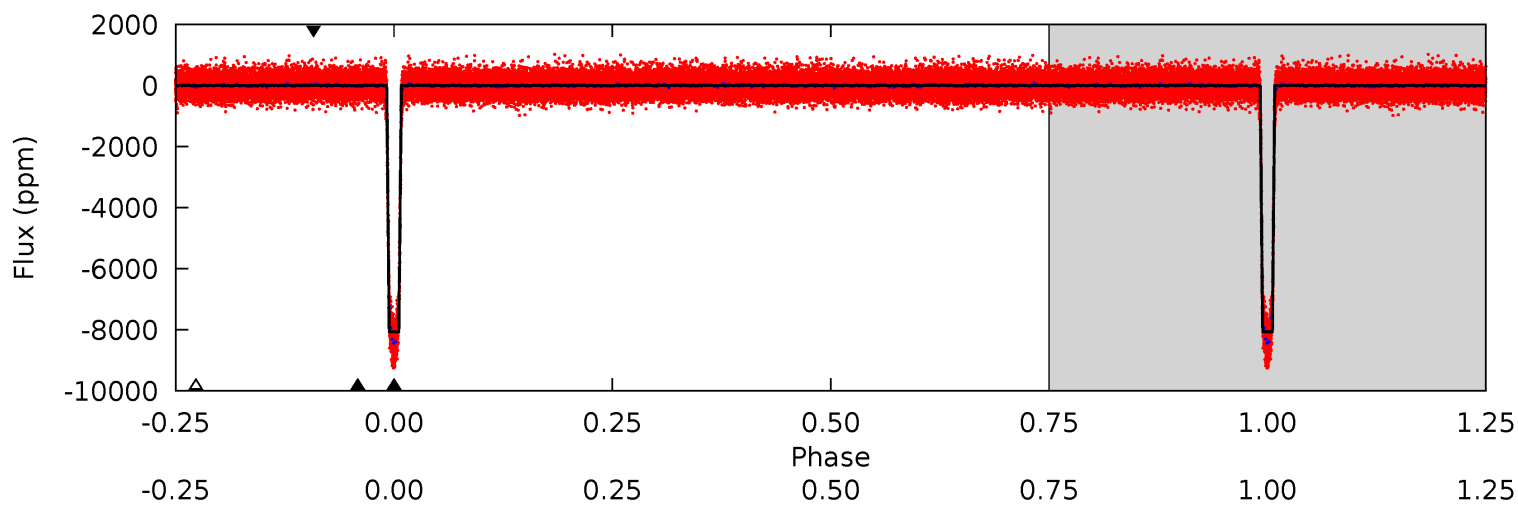
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1313	4.03	3.14	3.53	4.89	2.32	1.26	1310	1310	0.89	0.50	0.09	1.00	0.00	1.04



Alt Model-Shift Uniqueness Test

006046540-01, P = 7.340654 Days, E = 127.011029 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1034	3.47	2.68	3.61	4.92	2.39	1.17	1031	1030	0.79	-0.13	0.81	1.01	0.00	0



Stellar Parameters For KIC 006046540

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6056^{+120}_{-144}	$4.191^{+0.060}_{-0.045}$	$0.360^{+0.100}_{-0.200}$	$1.498^{+0.093}_{-0.140}$	$1.268^{+0.054}_{-0.092}$	$0.532^{+0.142}_{-0.078}$
	+2%/-2%	+1%/-1%	+28%/-56%	+6%/-9%	+4%/-7%	+27%/-15%
Source	SPE51	TRA51	SPE51	DSEP		

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

Secondary Eclipse Parameters for KIC 006046540-01 / KOI 0200.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-26 ± 6	$14.72^{+0.53}_{-0.74}$	1611^{+43}_{-46}	2053^{+147}_{-409}	$0.426^{+0.120}_{-0.115}$
Alt.	-27 ± 8	$14.88^{+0.55}_{-0.78}$	1613^{+46}_{-48}	2063^{+157}_{-590}	$0.434^{+0.136}_{-0.131}$

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

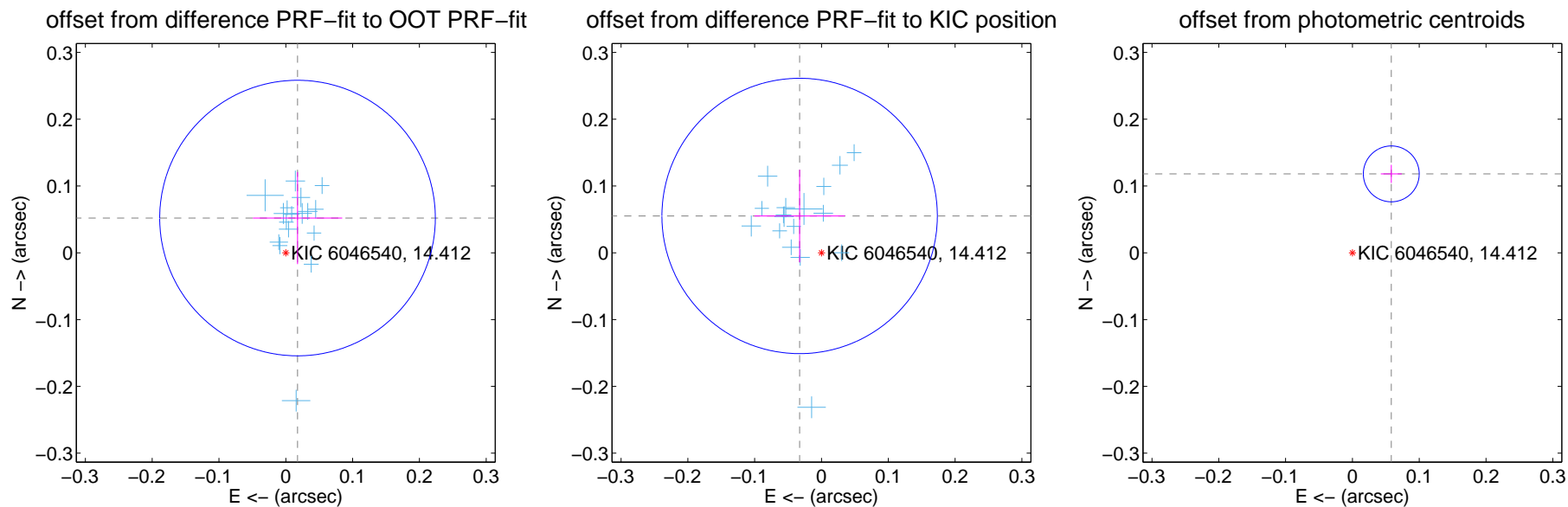
DV Centroid Data

Supplemental centroid analysis for 006046540-01. Kepler magnitude: 14.41. Transit SNR 850.55

There are 17 quarters with good PRF difference image offsets

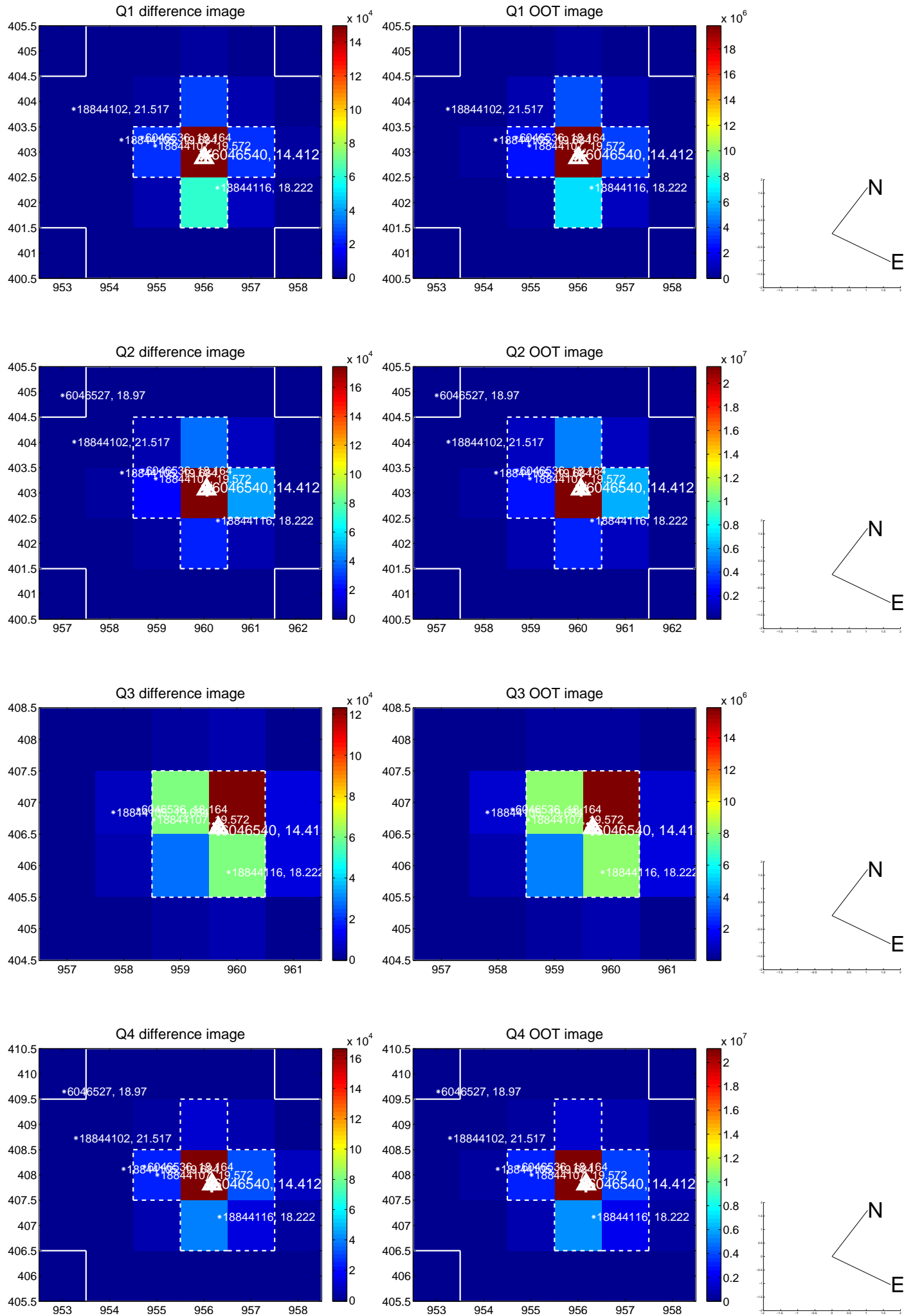
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.055 ± 0.069	0.80	-0.018 ± 0.067	0.052 ± 0.069
PRF-fit source offset from KIC position	0.064 ± 0.069	0.93	0.033 ± 0.068	0.055 ± 0.069
photometric centroid source offset	0.13 ± 0.01	9.45	-0.06 ± 0.02	0.12 ± 0.01

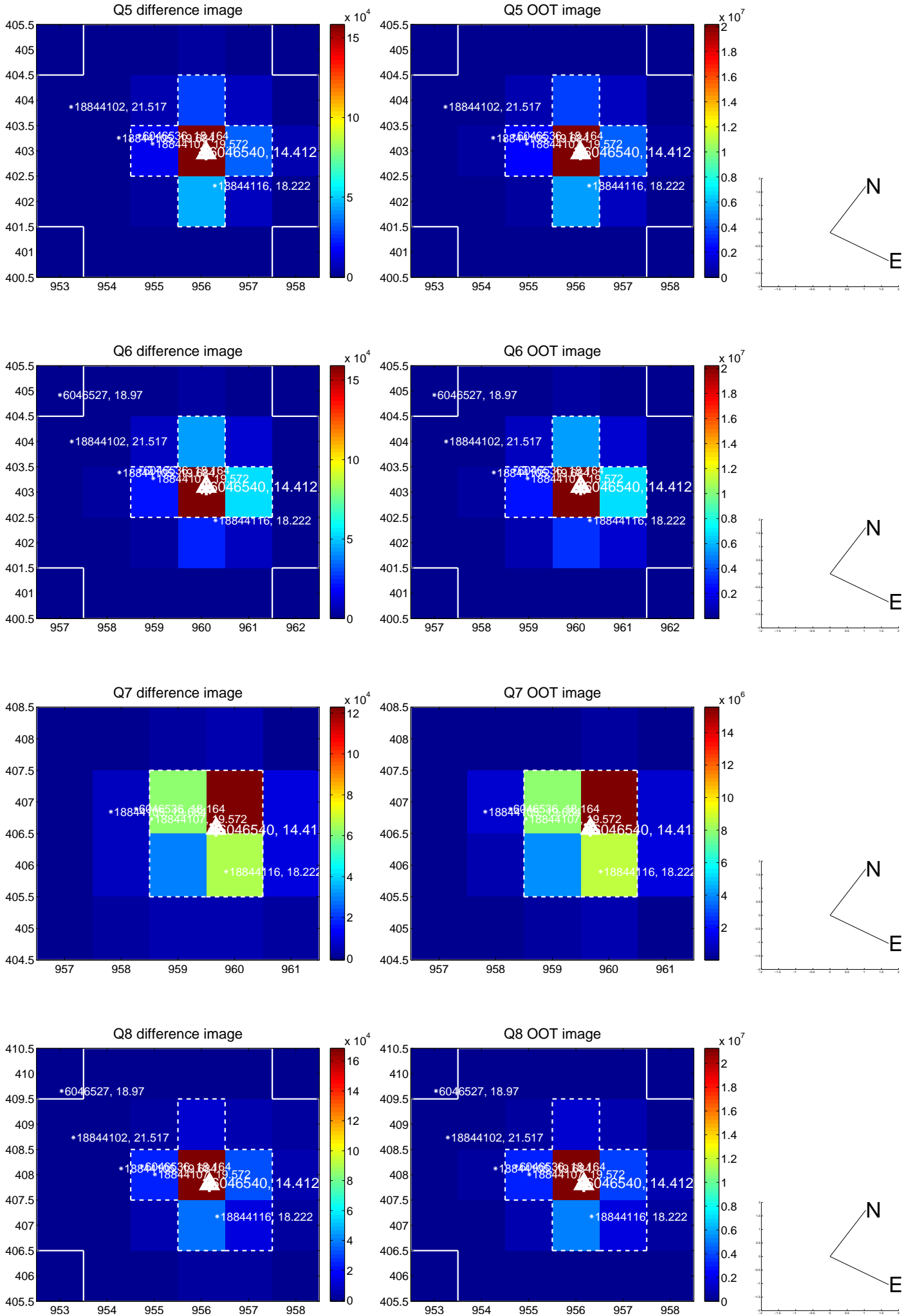


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

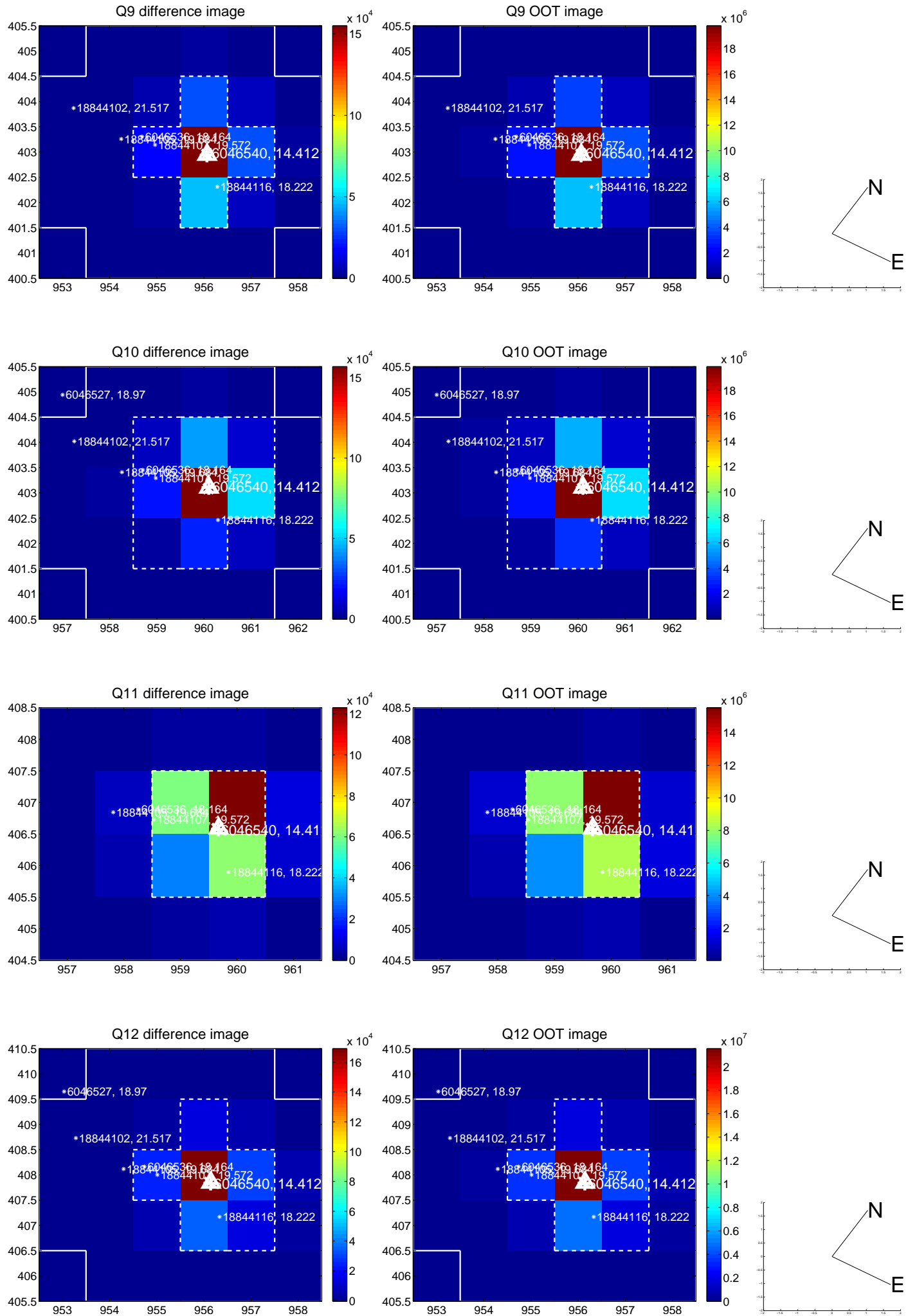
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



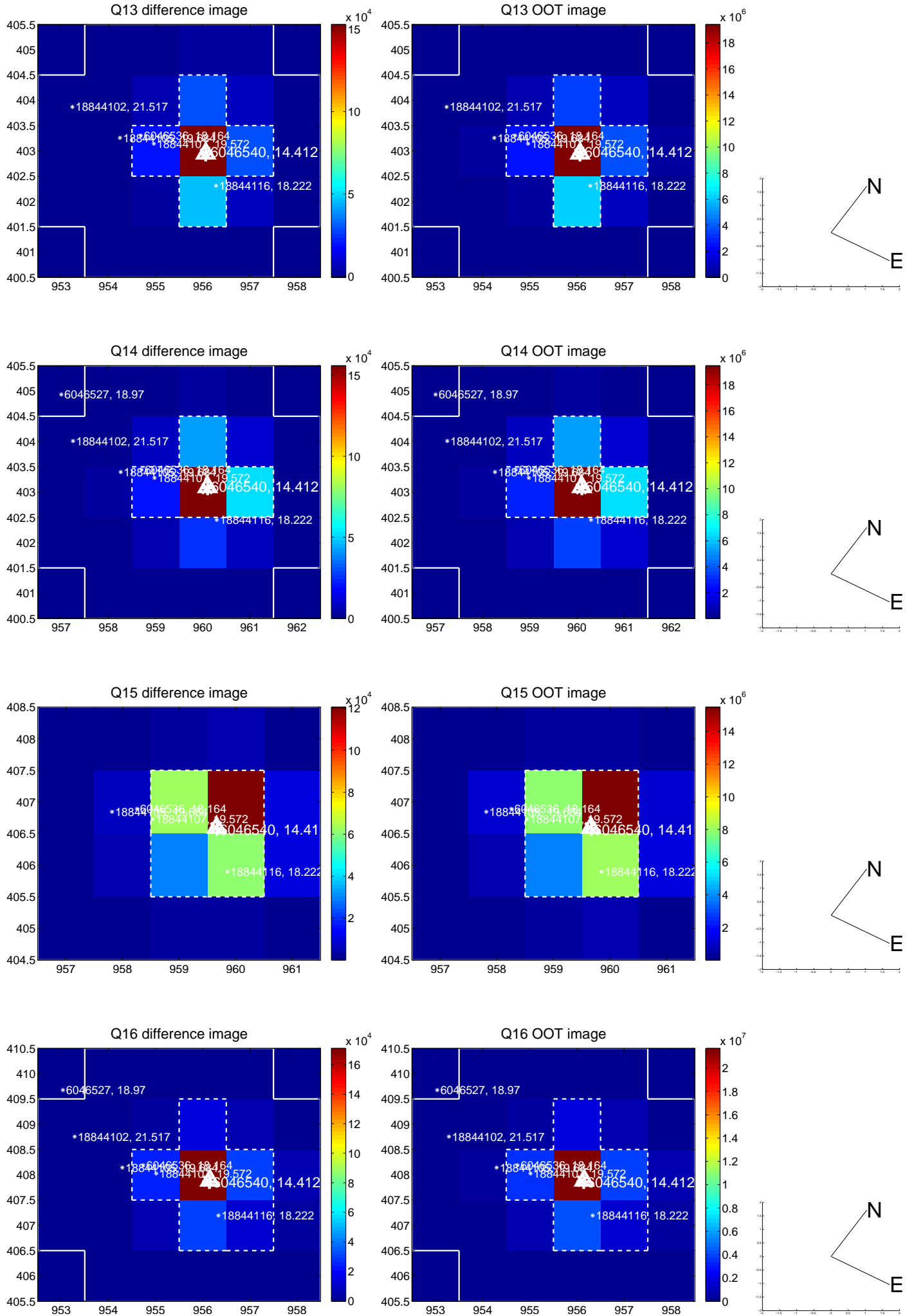
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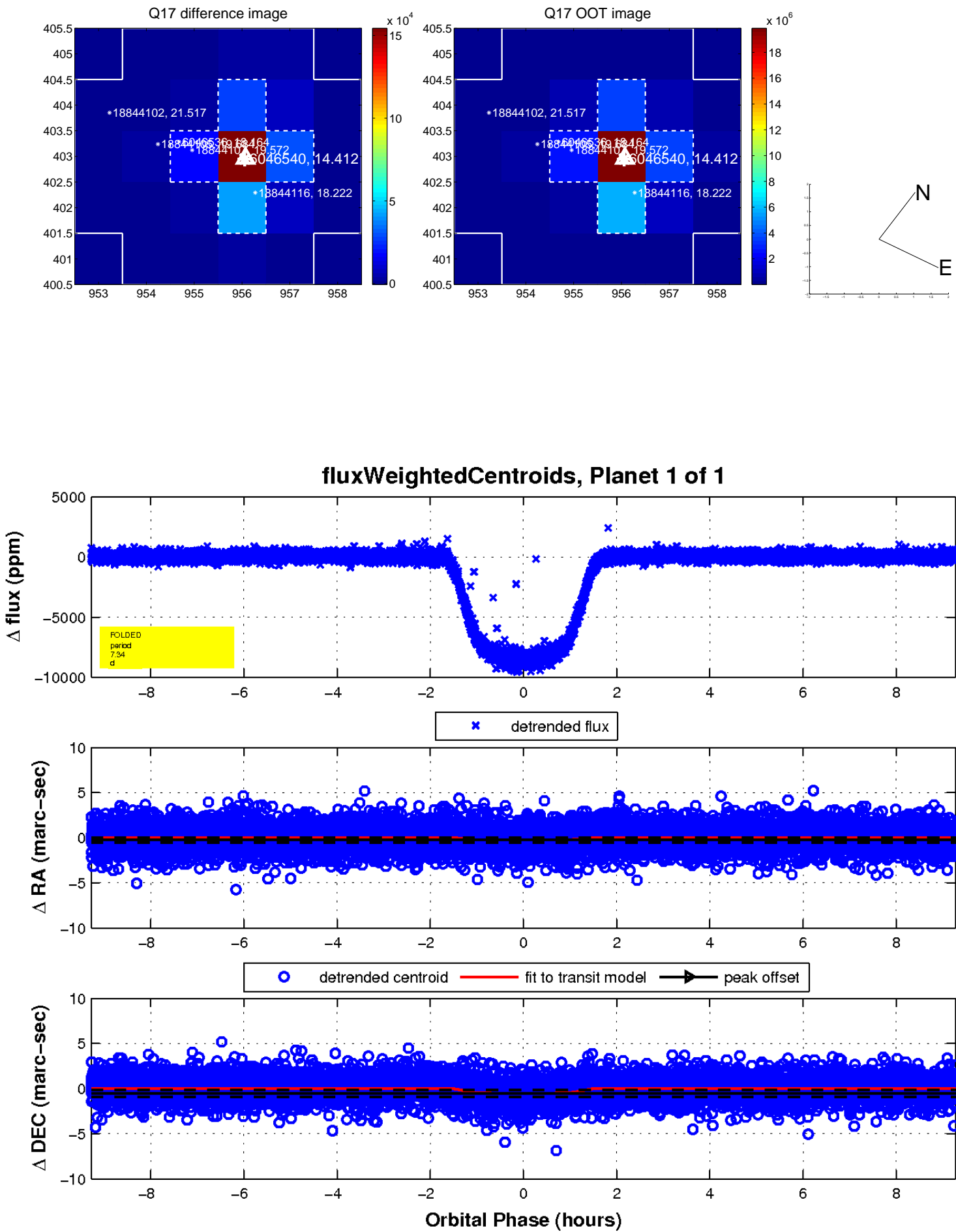
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

