

KIC 002305543

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})
002305543-01	OBS	4936.01	0.681137	131.578475	104227.2	2.699	6146.0	2778.1	0.86	5872	37.01	3981.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002305543-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—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.

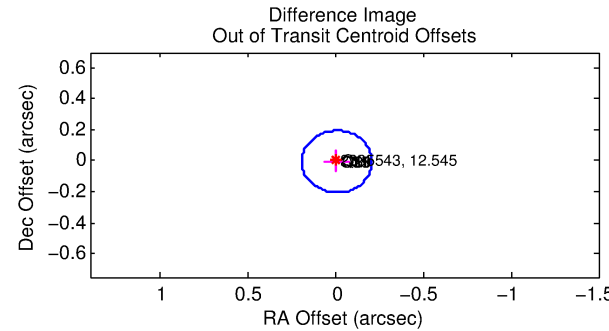
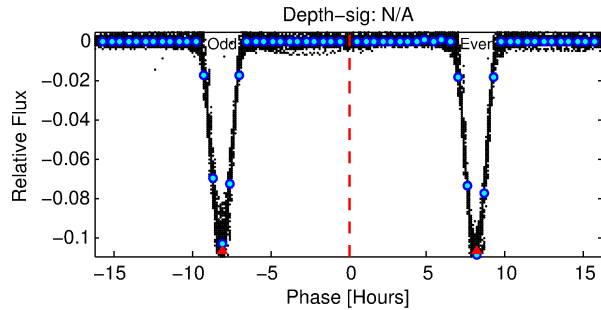
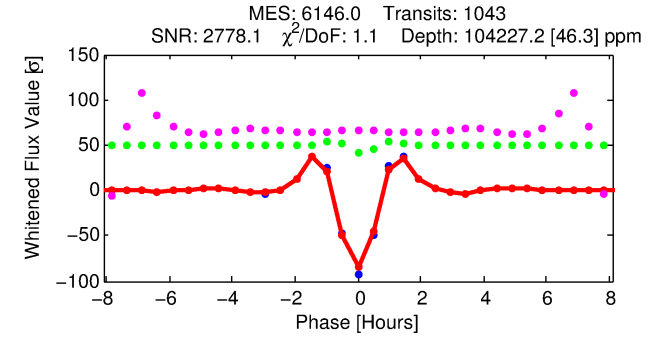
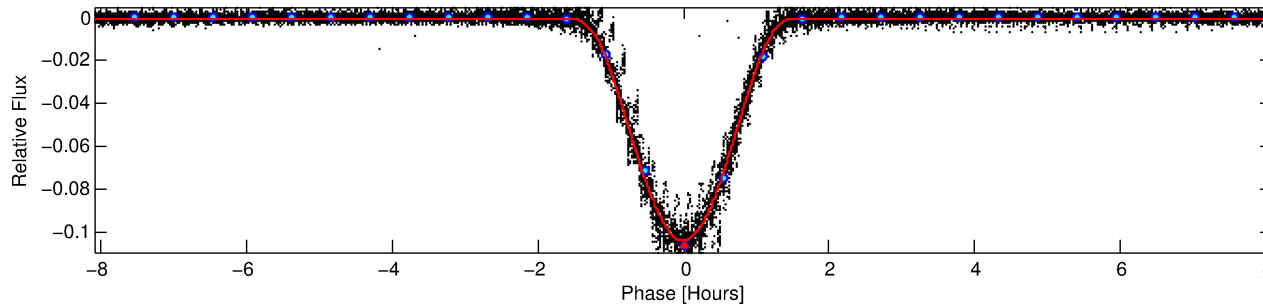
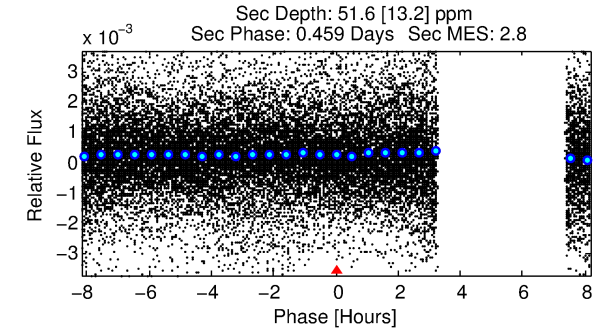
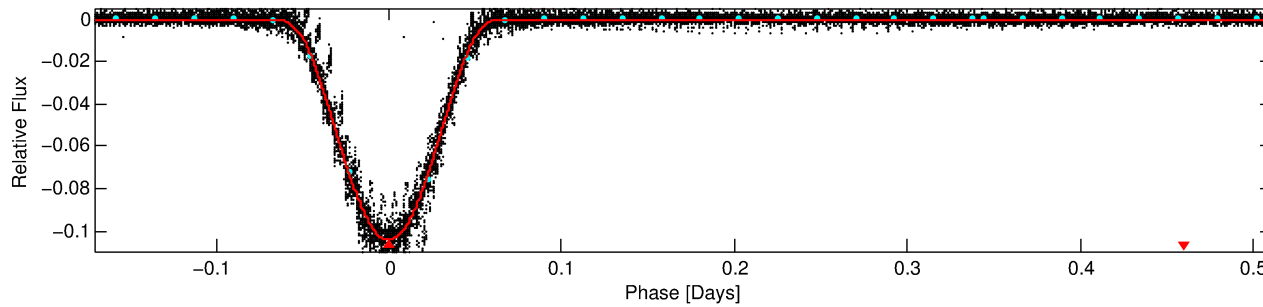
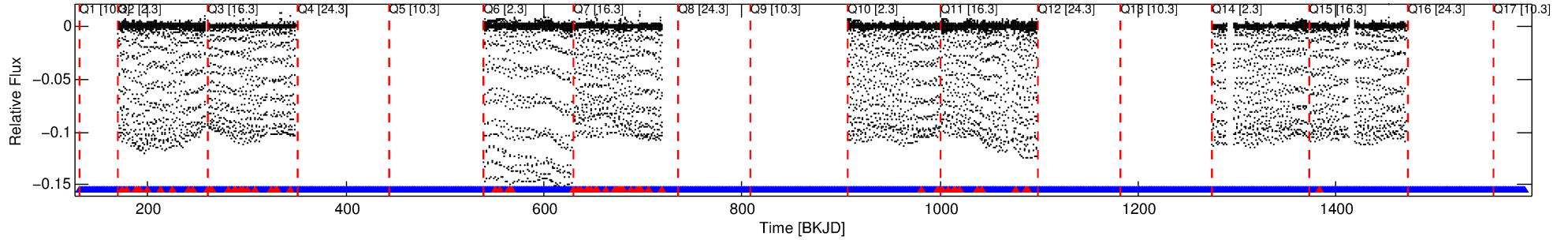
Ephemeris Match Information For 002305543-01

No Significant Match Found

DV One-Page Summary

KIC: 2305543 Candidate: 1 of 1 Period: 0.681 d
KOI: K04936.01 Corr: 0.993

Kp: 12.55 R*: 0.86 Rs Teff: 5872.0 K Logg: 4.47 Fe/H: -0.580



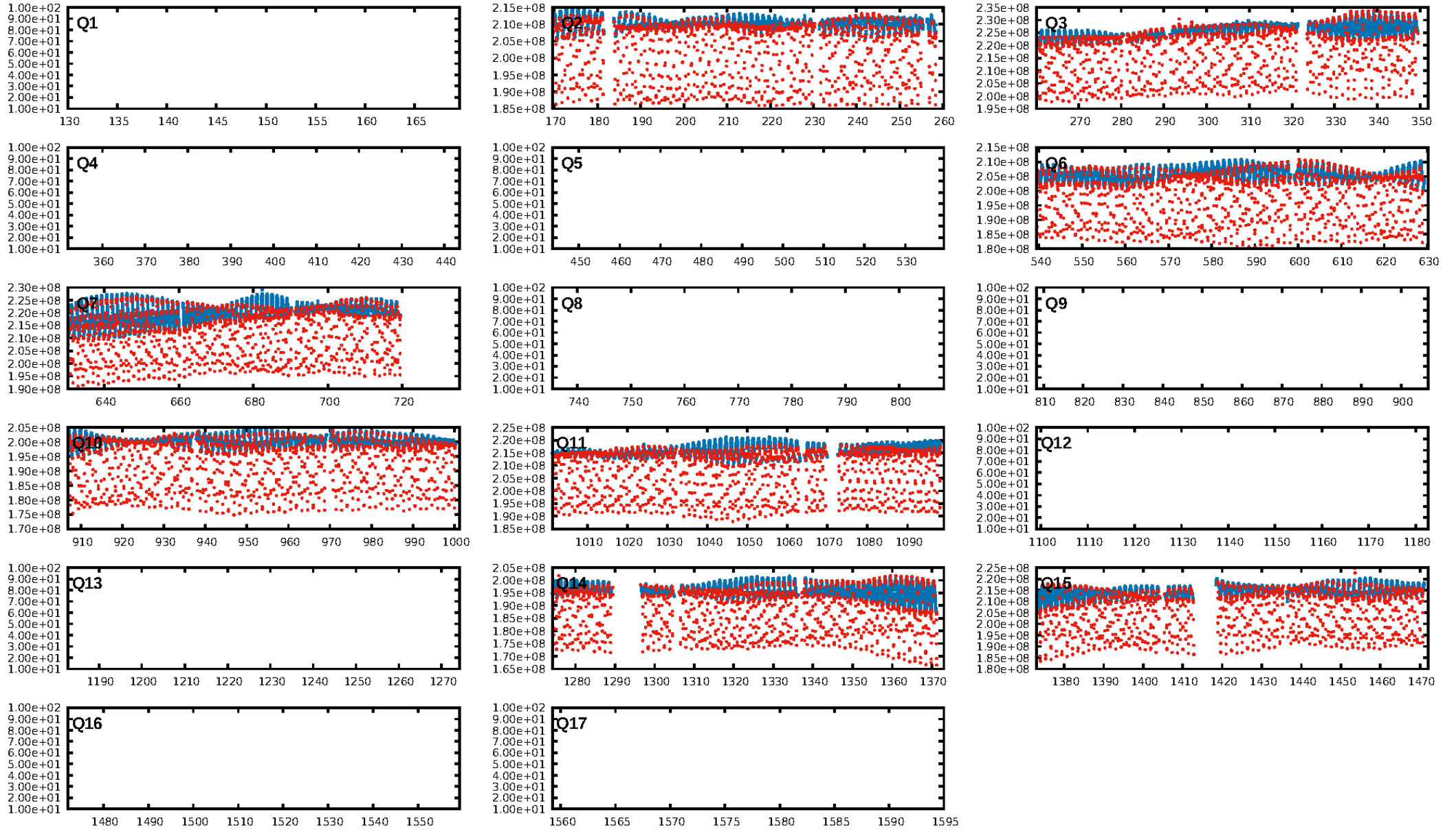
DV Fit Results:

Period = 0.68114 [0.00000] d
Epoch = 131.5785 [0.0000] BKJD
Rp/R* = 0.3925 [0.0019]
a/R* = 2.40 [0.00]
b = 0.83 [0.00]
Seff = 3981.70 [1294.77]
Teq = 2026 [165] K
Rp = 37.01 [9.00] Re
a = 0.0141 [0.0029] AU
Ag = 0.00 [0.00] [-614.41σ]
Teffp = 795 [57] K [-7.06σ]

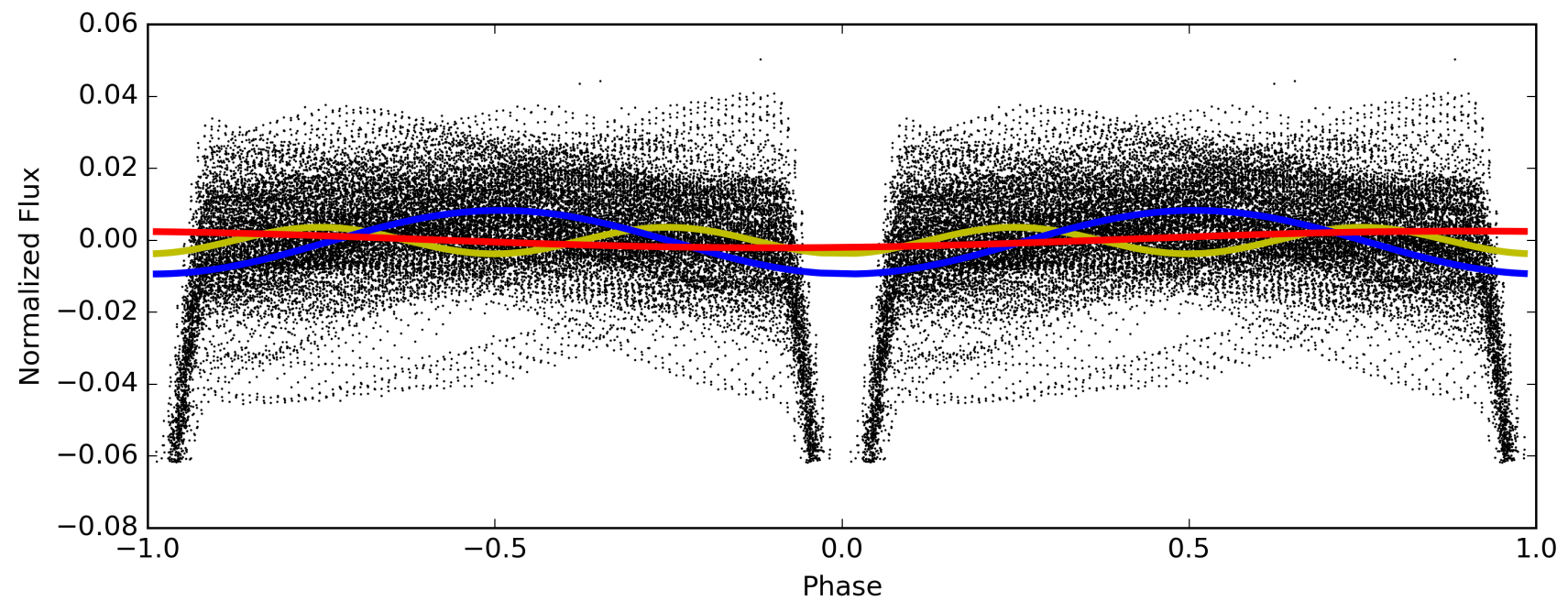
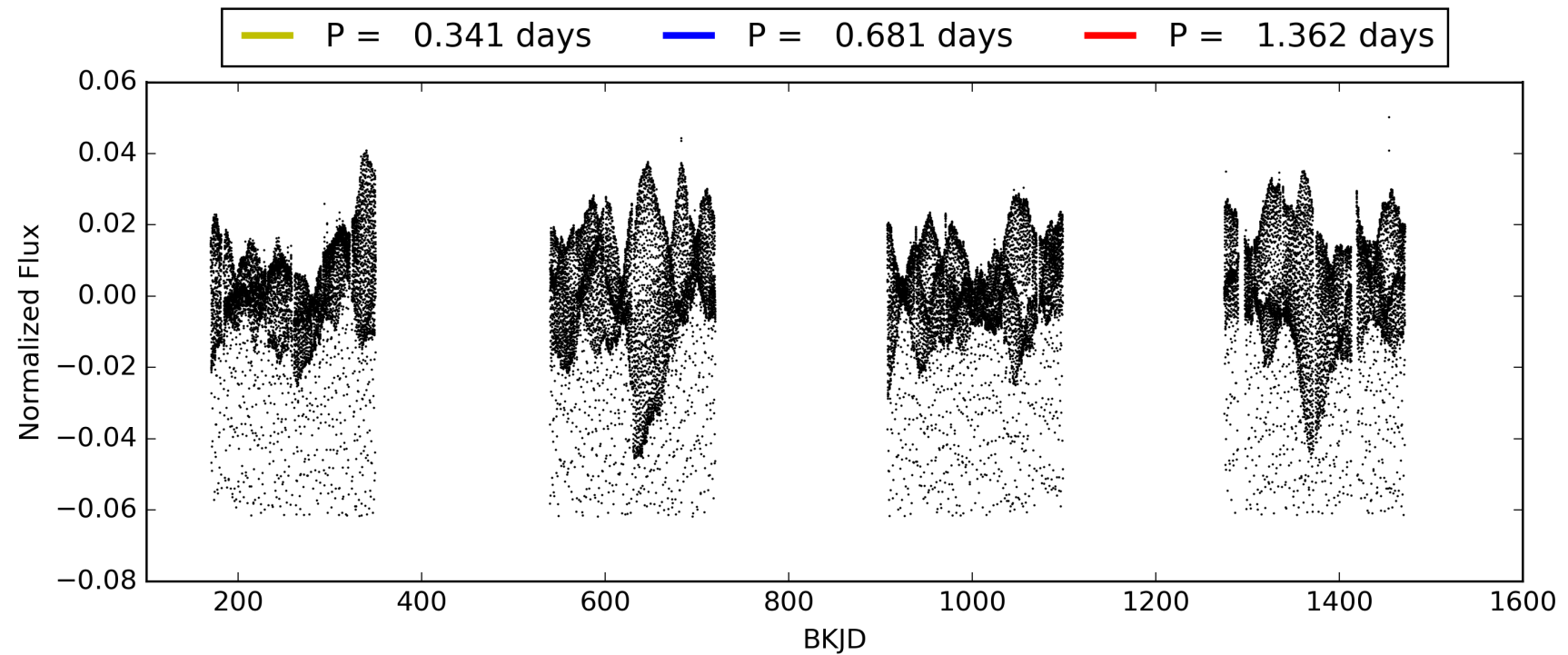
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.93 [974/1043]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 0.213 arcsec [413.23σ]
OotOffset-rm: 0.008 arcsec [0.12σ]
KicOffset-rm: 0.106 arcsec [1.42σ]
OotOffset-st: 4/4/0/0 [8]
KicOffset-st: 4/4/0/0 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [8/8]

TCE 002305543-01, PDC Light Curves

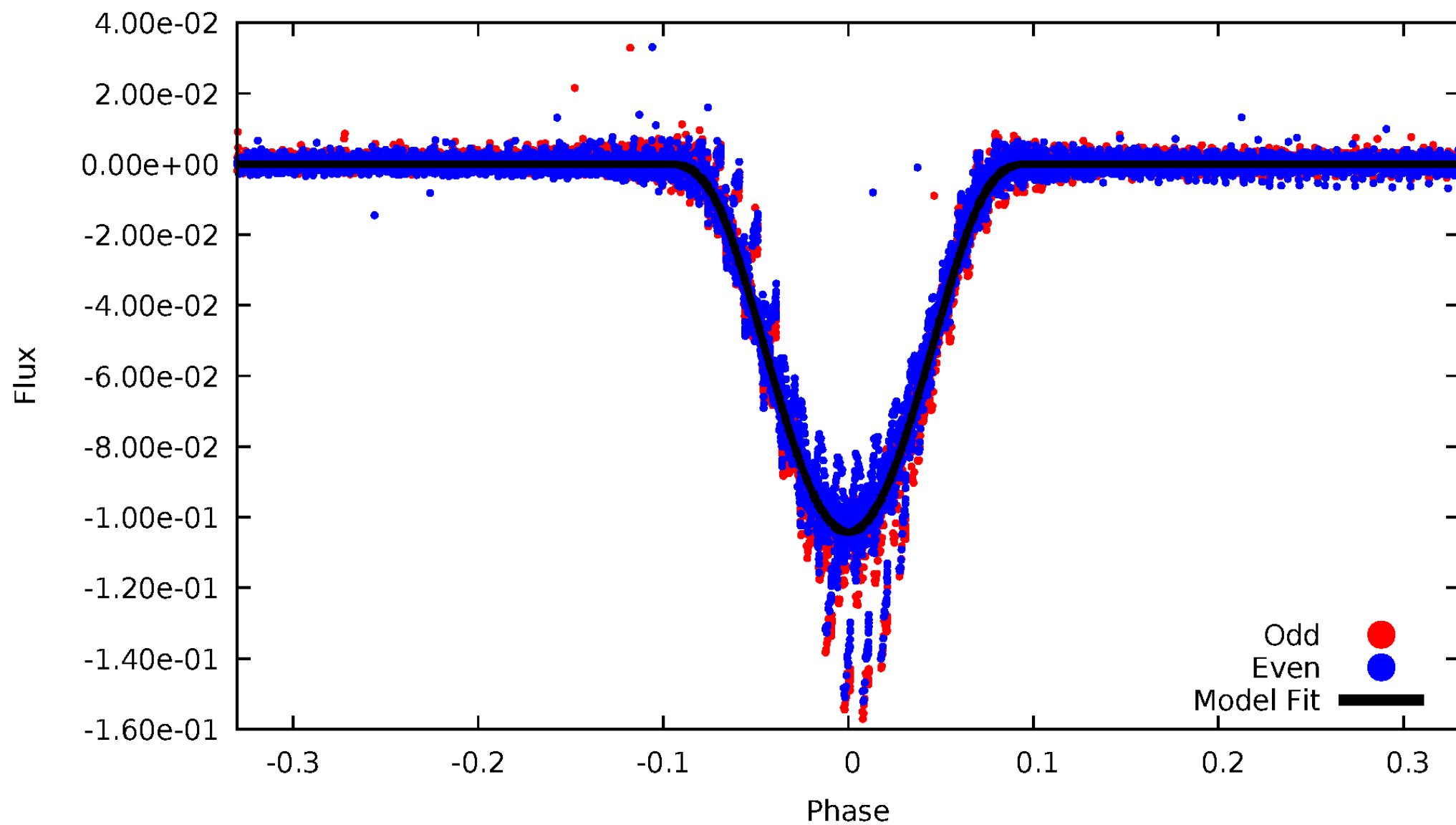


TCE 002305543-01



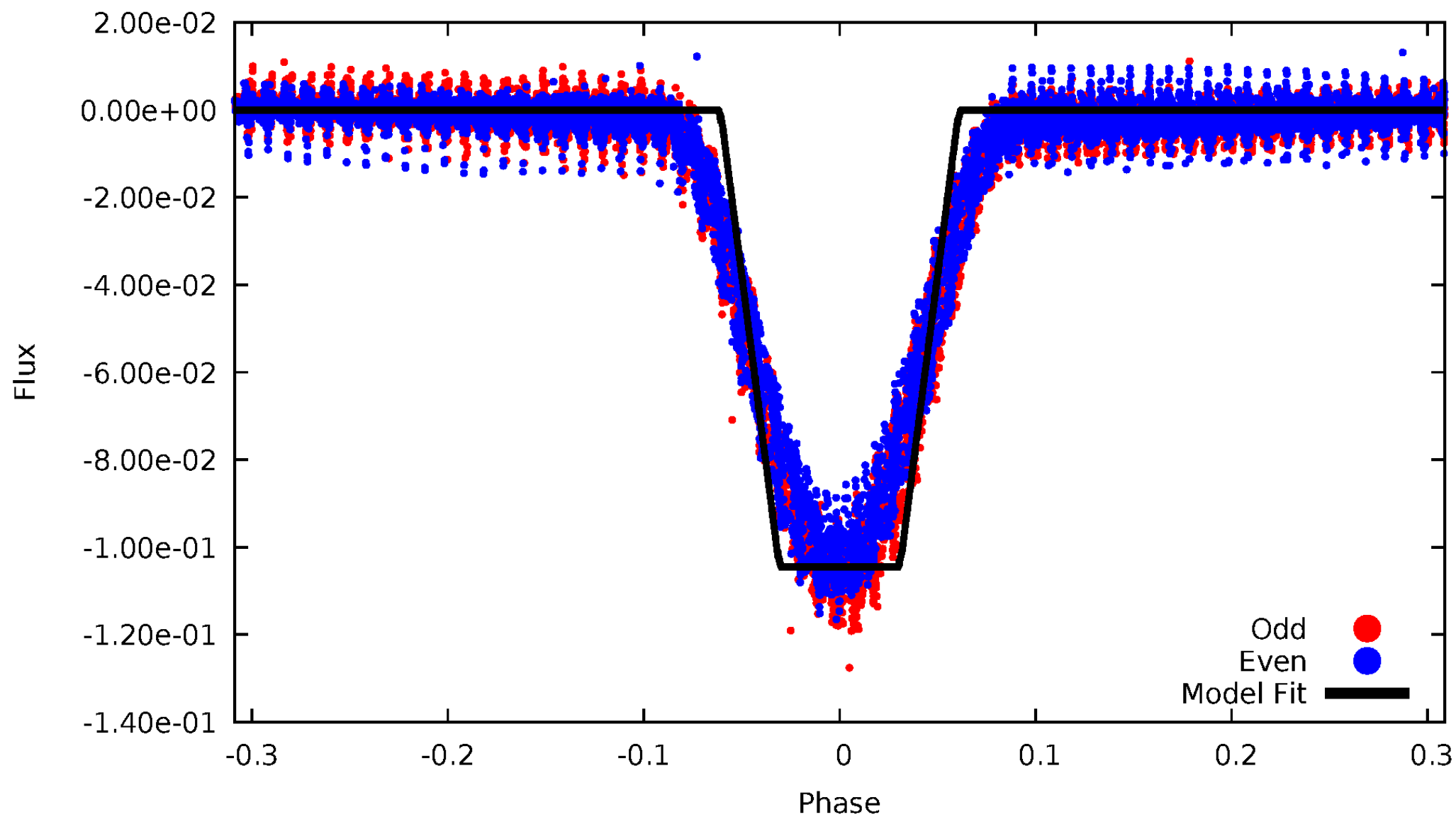
DV Odd/Even

TCE 002305543-01



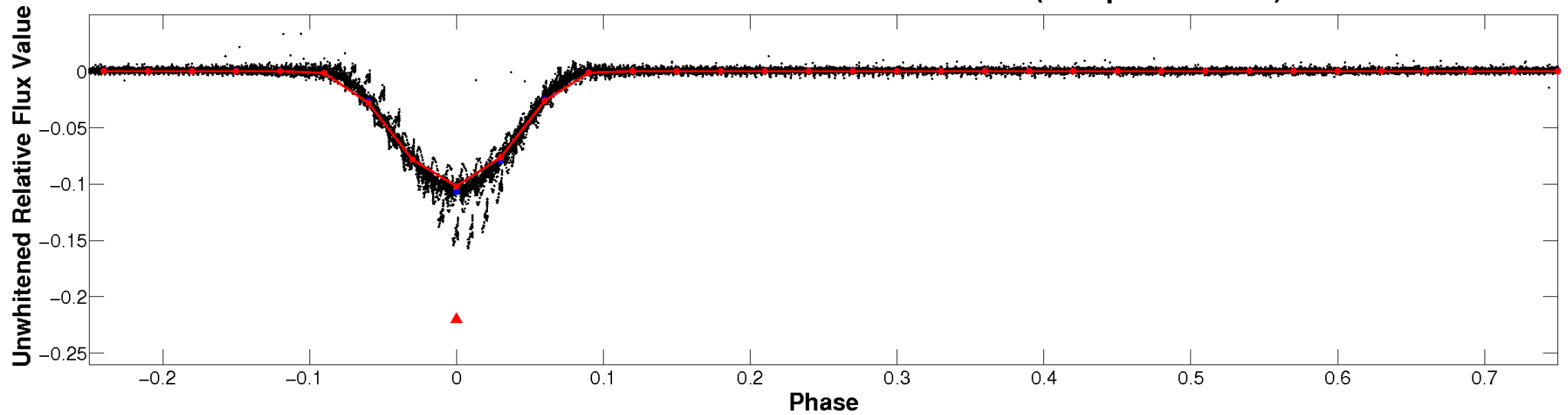
ALT Odd/Even

TCE 002305543-01

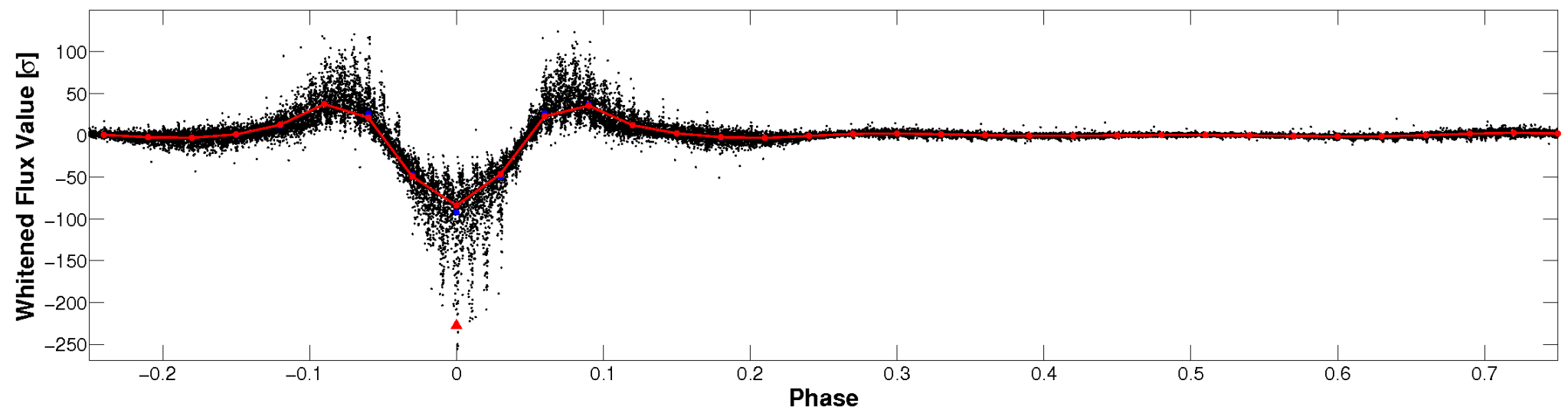


Non-Whitened Vs. Whitened Light Curve

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

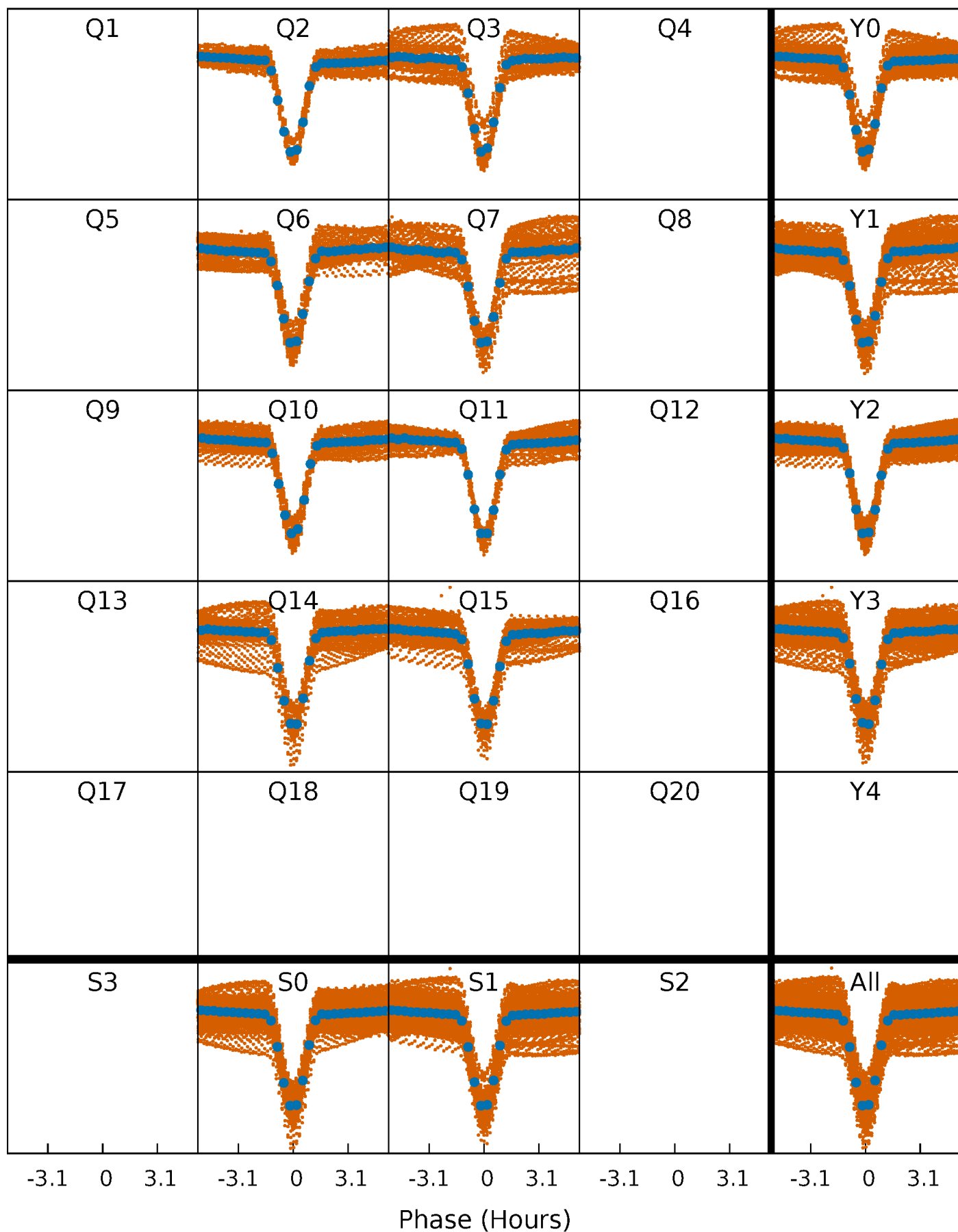


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



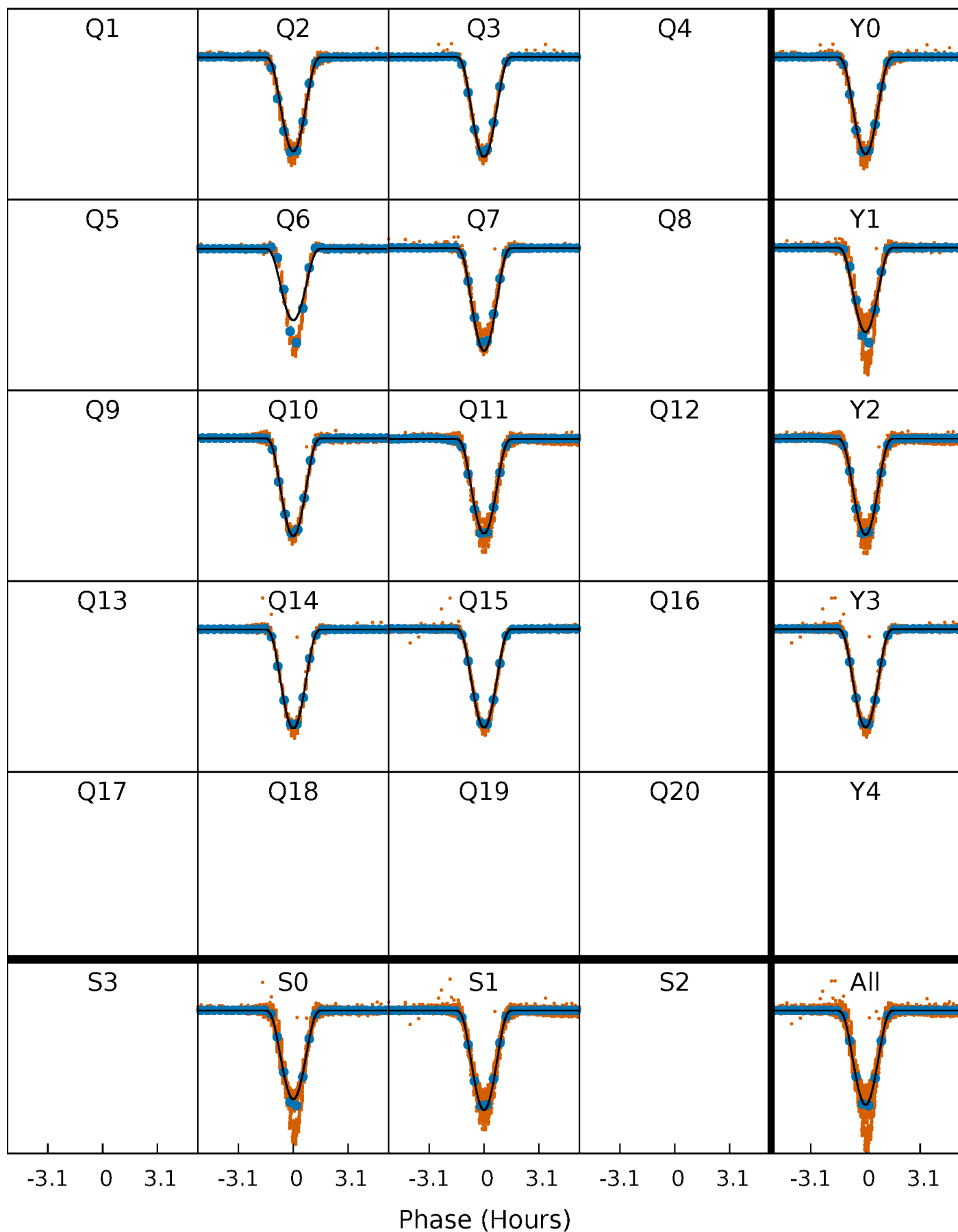
PDC Quarter-Phased Transit Curves

TCE 002305543-01 P= 0.681137 Days $T_0=131.578475$ (BKJD)



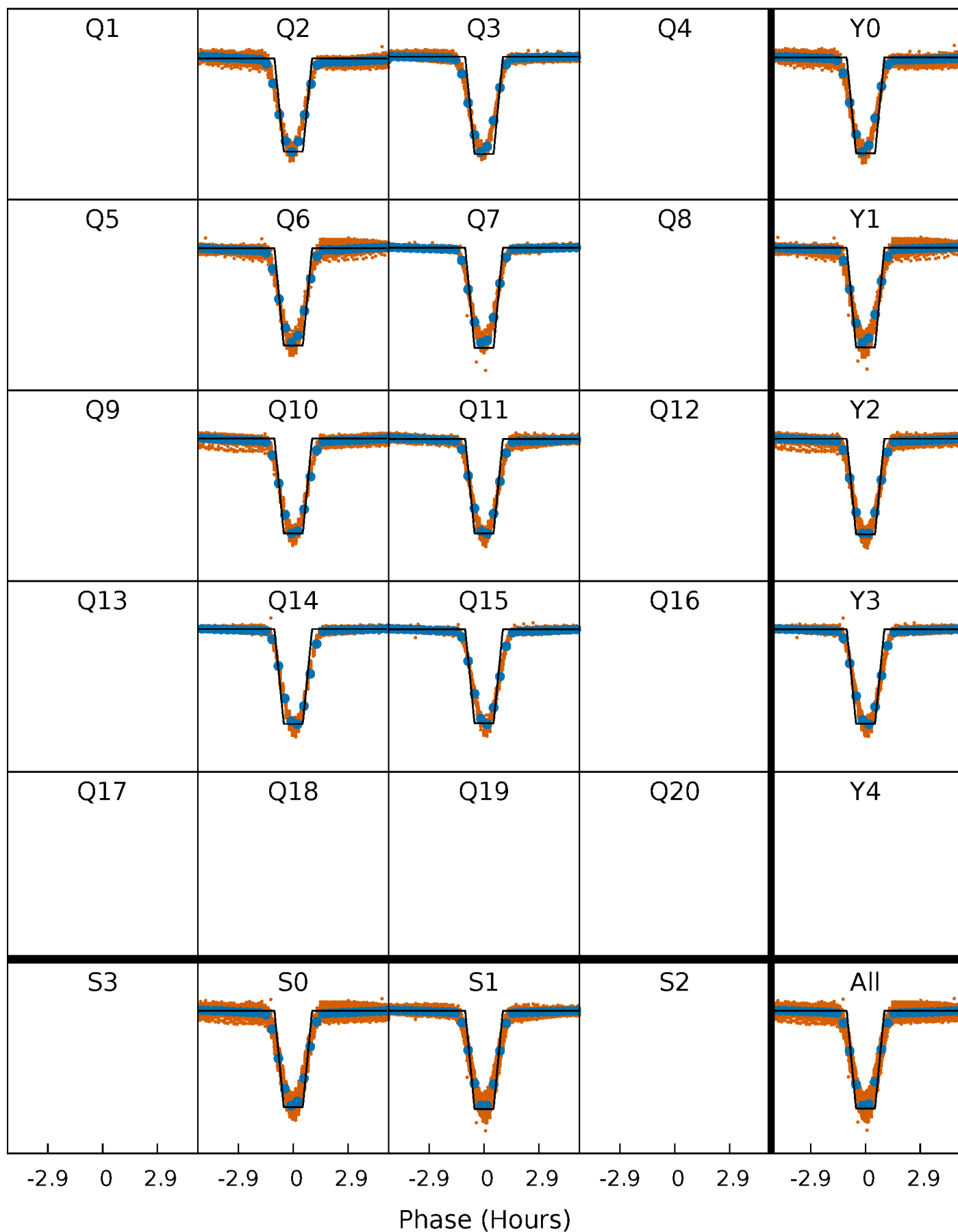
DV Quarter-Phased Transit Curves

TCE 002305543-01 P= 0.681137 Days $T_0=131.578475$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

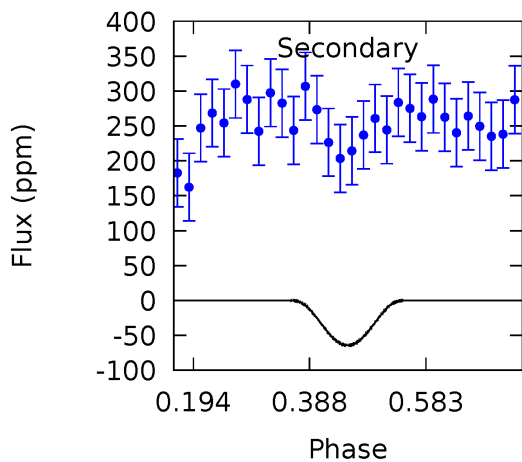
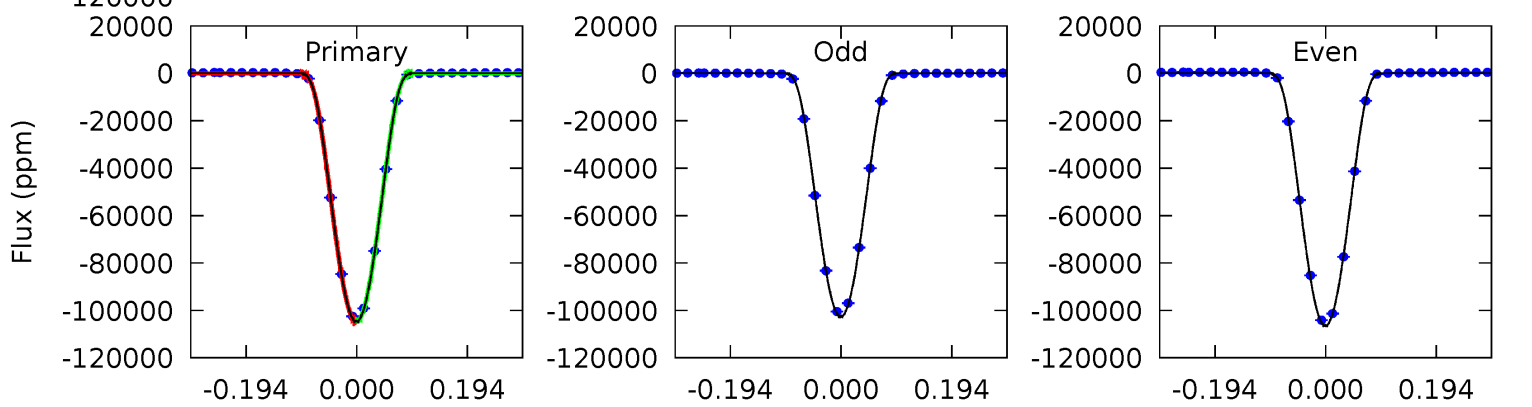
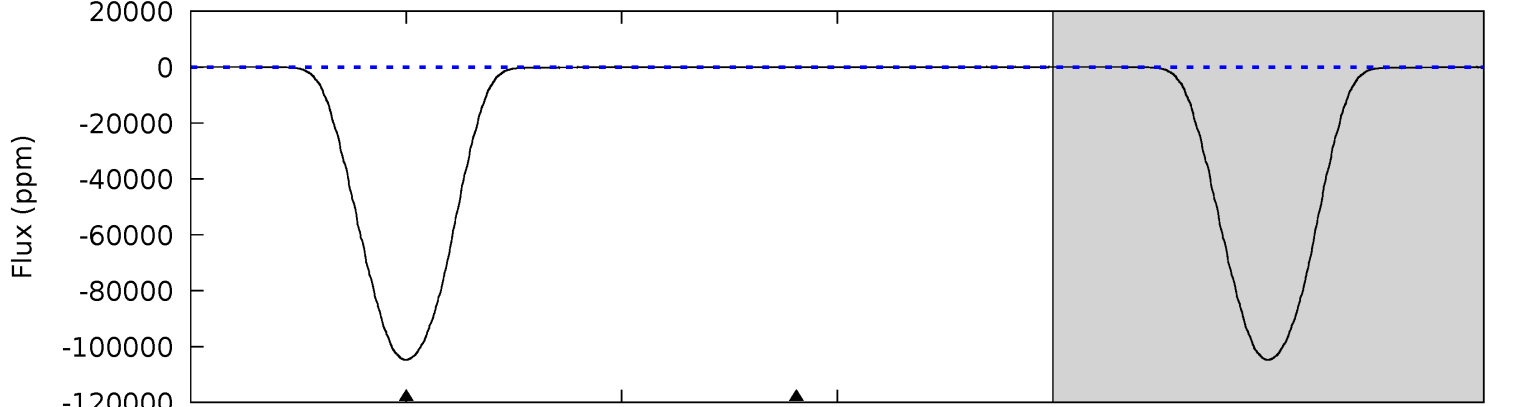
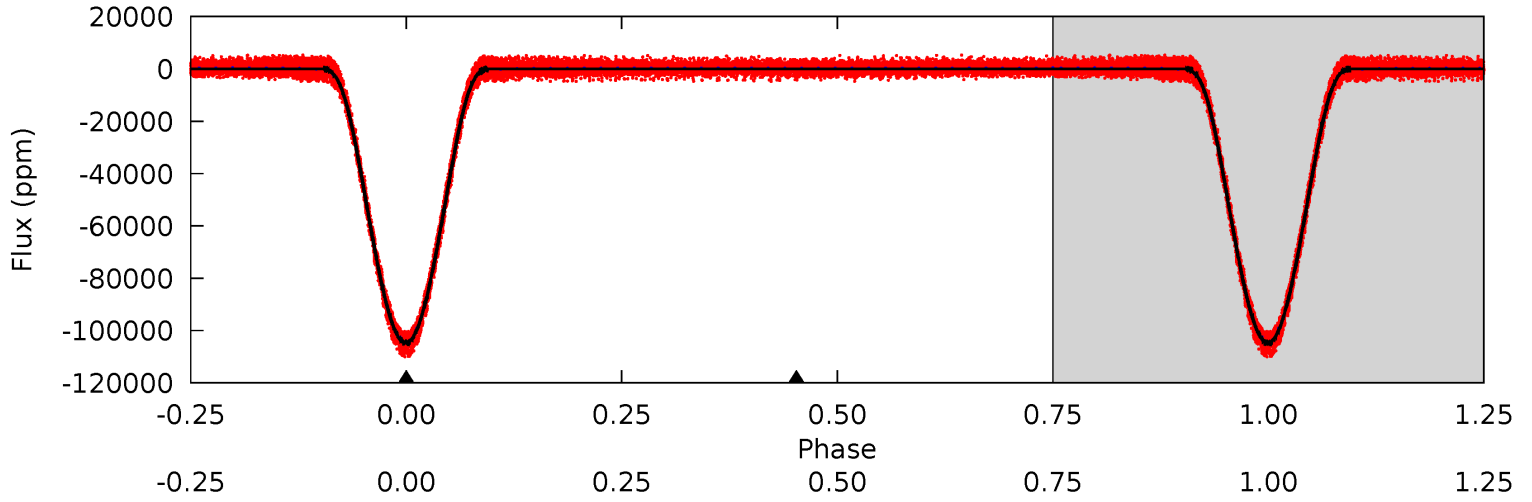
TCE 002305543-01 P= 0.681134 Days $T_0=131.581292$ (BKJD)



DV Model-Shift Uniqueness Test

002305543-01, P = 0.681137 Days, E = 131.578475 Days

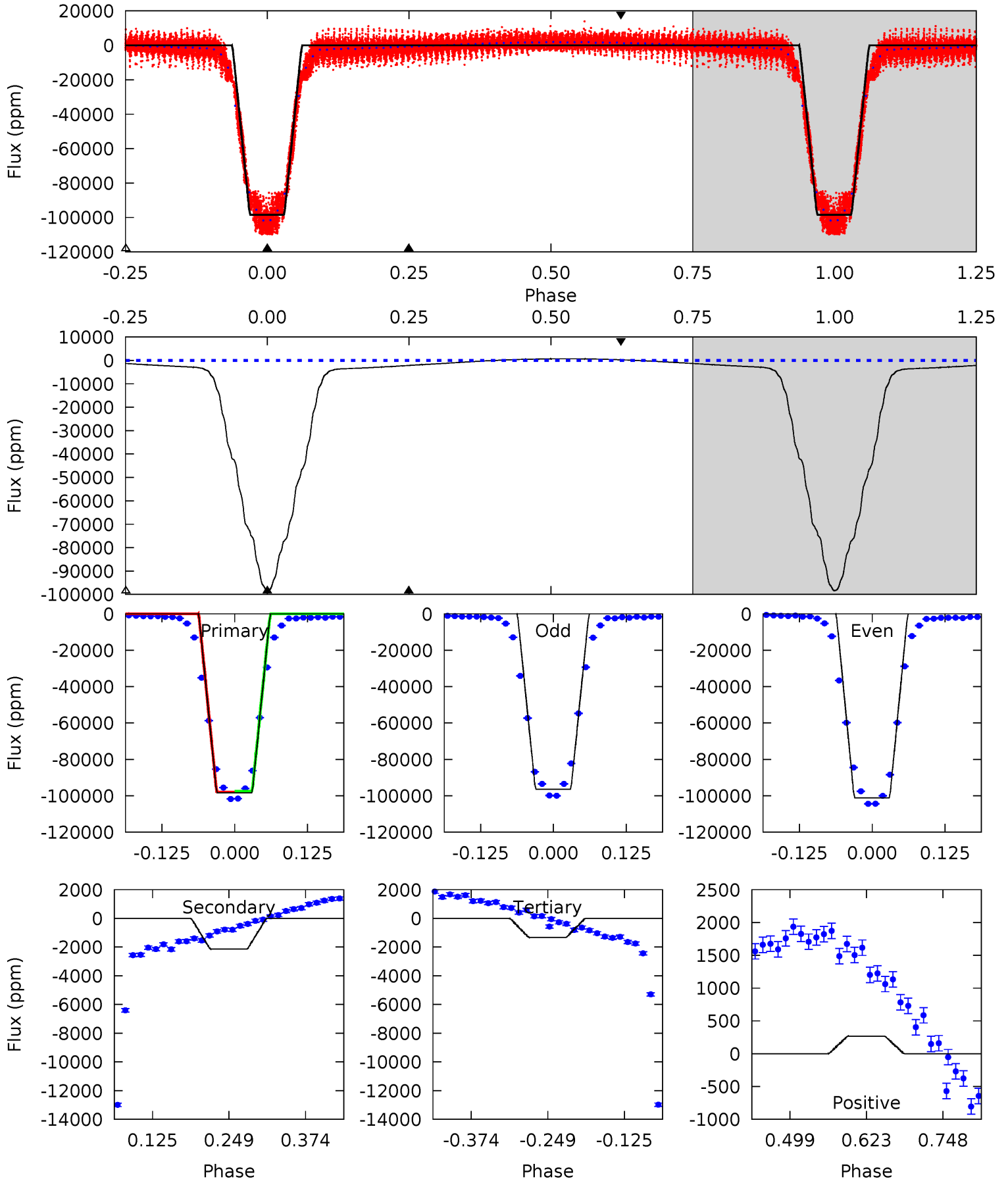
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5952	3.66	0	0	4.42	1.30	2.90	5952	5952	3.66	3.66	109.4	1.01	0.00	2.14



Alt Model-Shift Uniqueness Test

002305543-01, P = 0.681134 Days, E = 131.581292 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1975	42.7	26.7	5.35	4.52	1.54	22.6	1949	1970	16.0	37.3	47.4	1.00	0.01	0



Stellar Parameters For KIC 002305543

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5872^{+195}_{-195}	$4.474^{+0.094}_{-0.162}$	$-0.580^{+0.300}_{-0.300}$	$0.864^{+0.210}_{-0.113}$	$0.811^{+0.105}_{-0.061}$	$1.774^{+0.833}_{-0.776}$
	+3%/-3%	+2%/-4%	+52%/-52%	+24%/-13%	+13%/-8%	+47%/-44%
Source	KIC0	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 002305543-01 / KOI 4936.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-64 ± 18	$37.45^{+5.08}_{-2.62}$	2865^{+184}_{-151}	-3004^{+90}_{-111}	$0.005^{+0.002}_{-0.002}$
Alt.	-2127 ± 50	$30.52^{+4.34}_{-2.08}$	2845^{+182}_{-155}	-2370^{+443}_{-311}	$0.250^{+0.041}_{-0.054}$

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 $A_{obs} \gg 1.0$

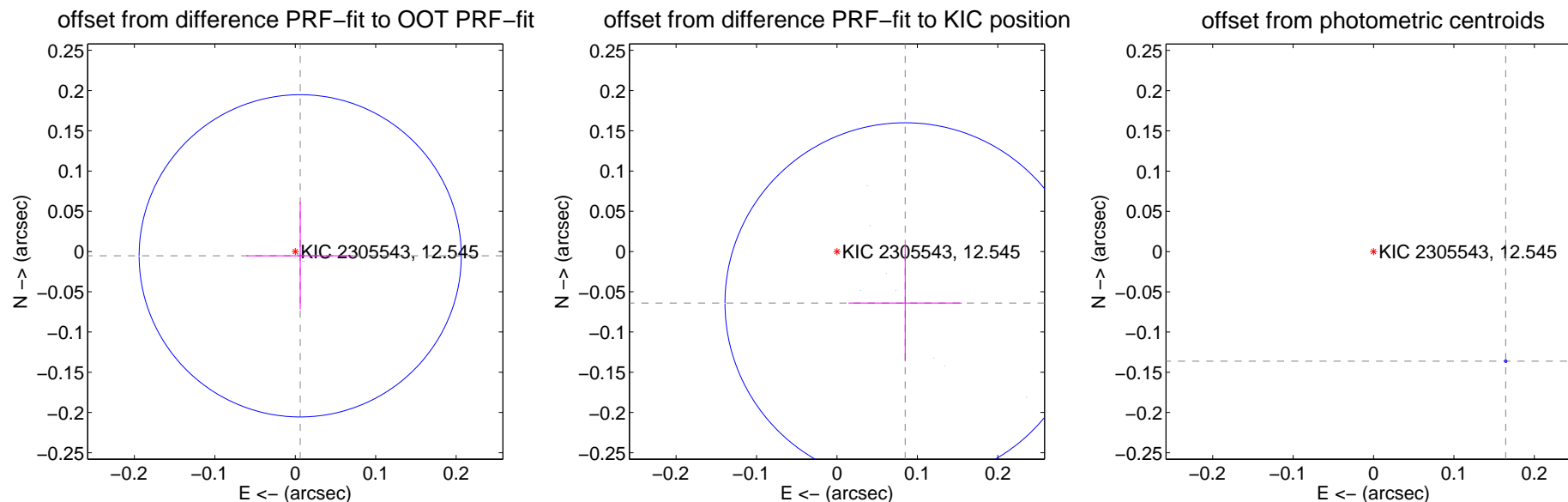
DV Centroid Data

Supplemental centroid analysis for 002305543-01. Kepler magnitude: 12.54. Transit SNR 2778.14

There are 8 quarters with good PRF difference image offsets

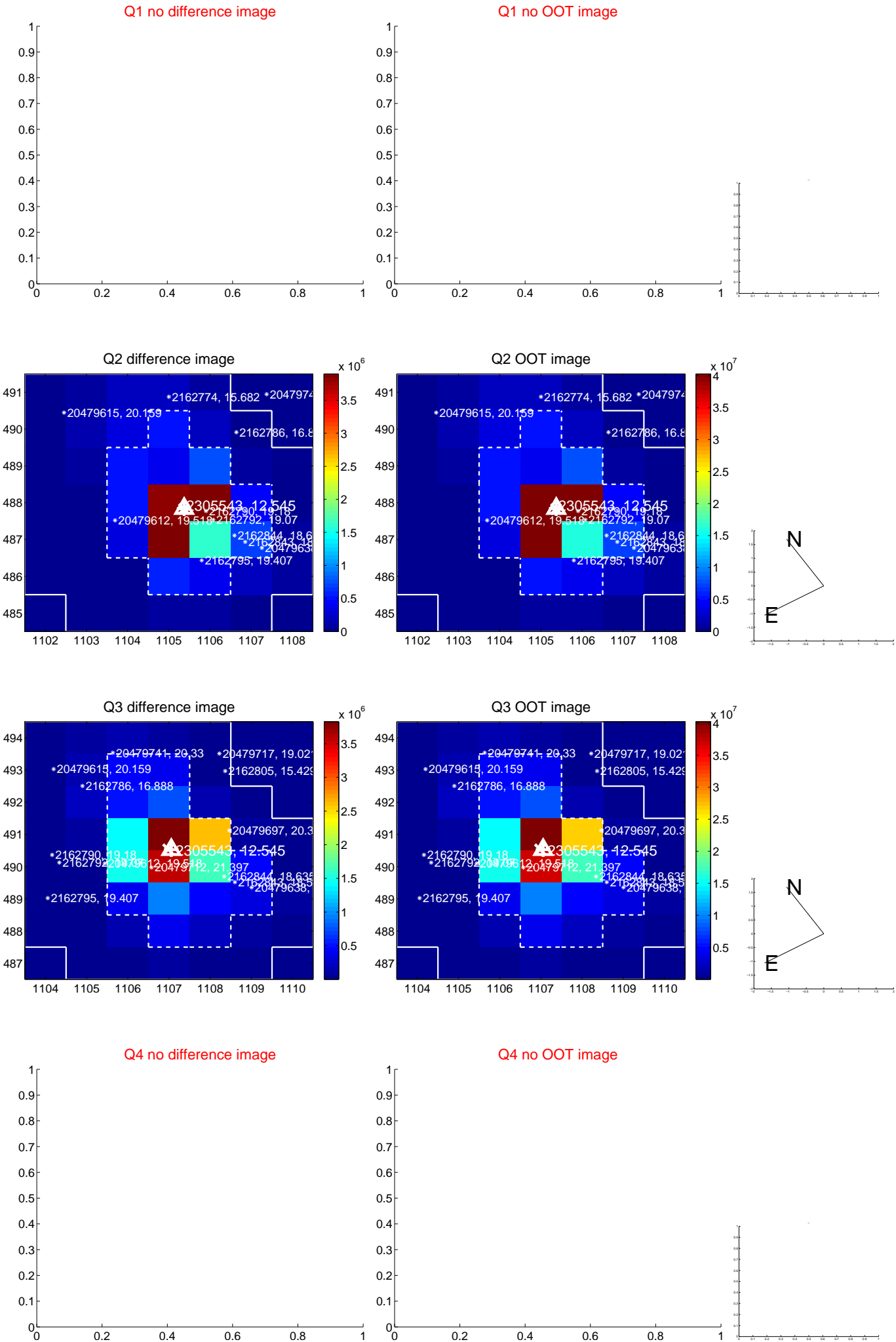
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.008 ± 0.067	0.12	-0.006 ± 0.067	-0.005 ± 0.067
PRF-fit source offset from KIC position	0.106 ± 0.075	1.42	-0.085 ± 0.070	-0.064 ± 0.073
photometric centroid source offset	0.21 ± 0.00	413.23	-0.16 ± 0.00	-0.14 ± 0.00

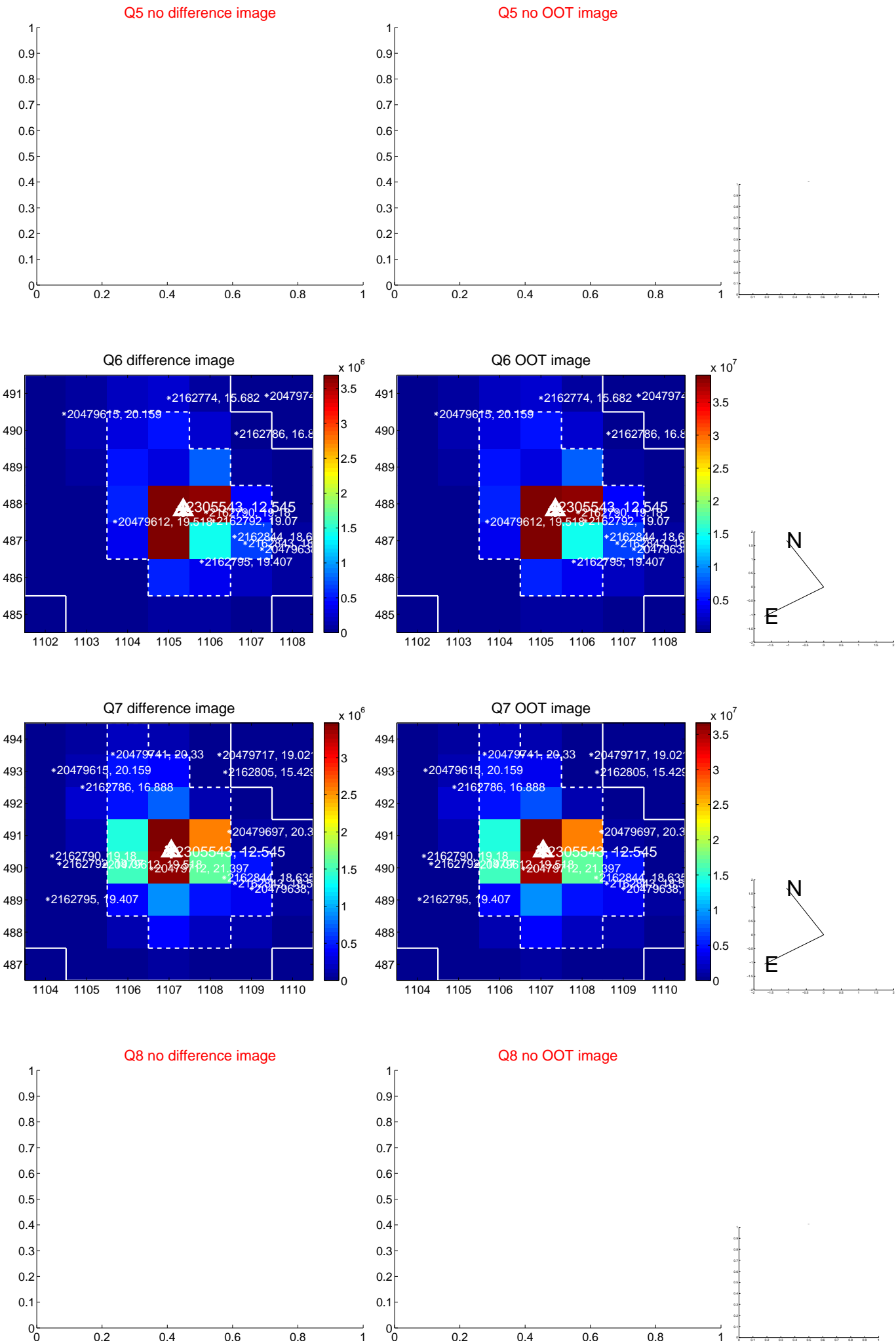


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

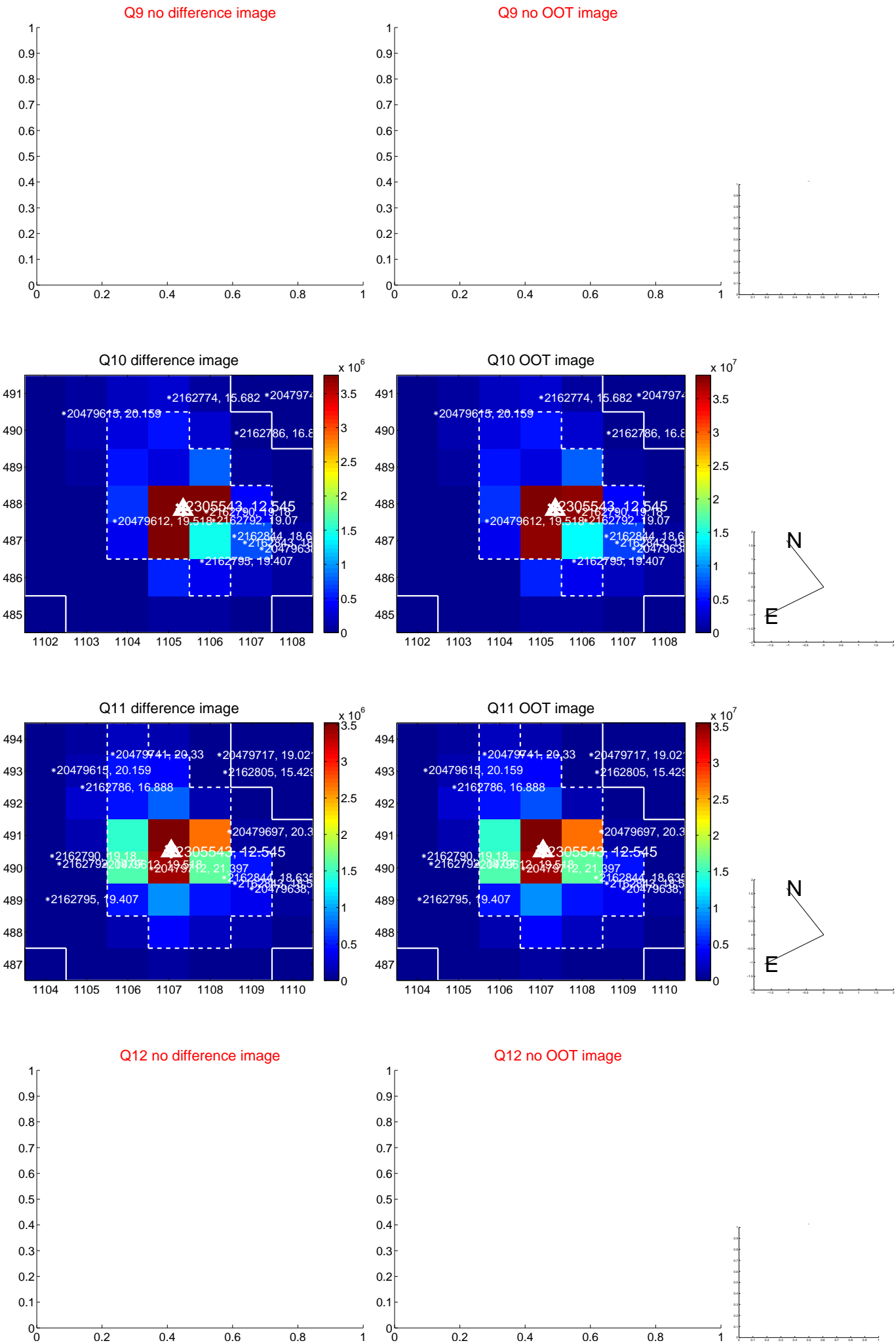
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



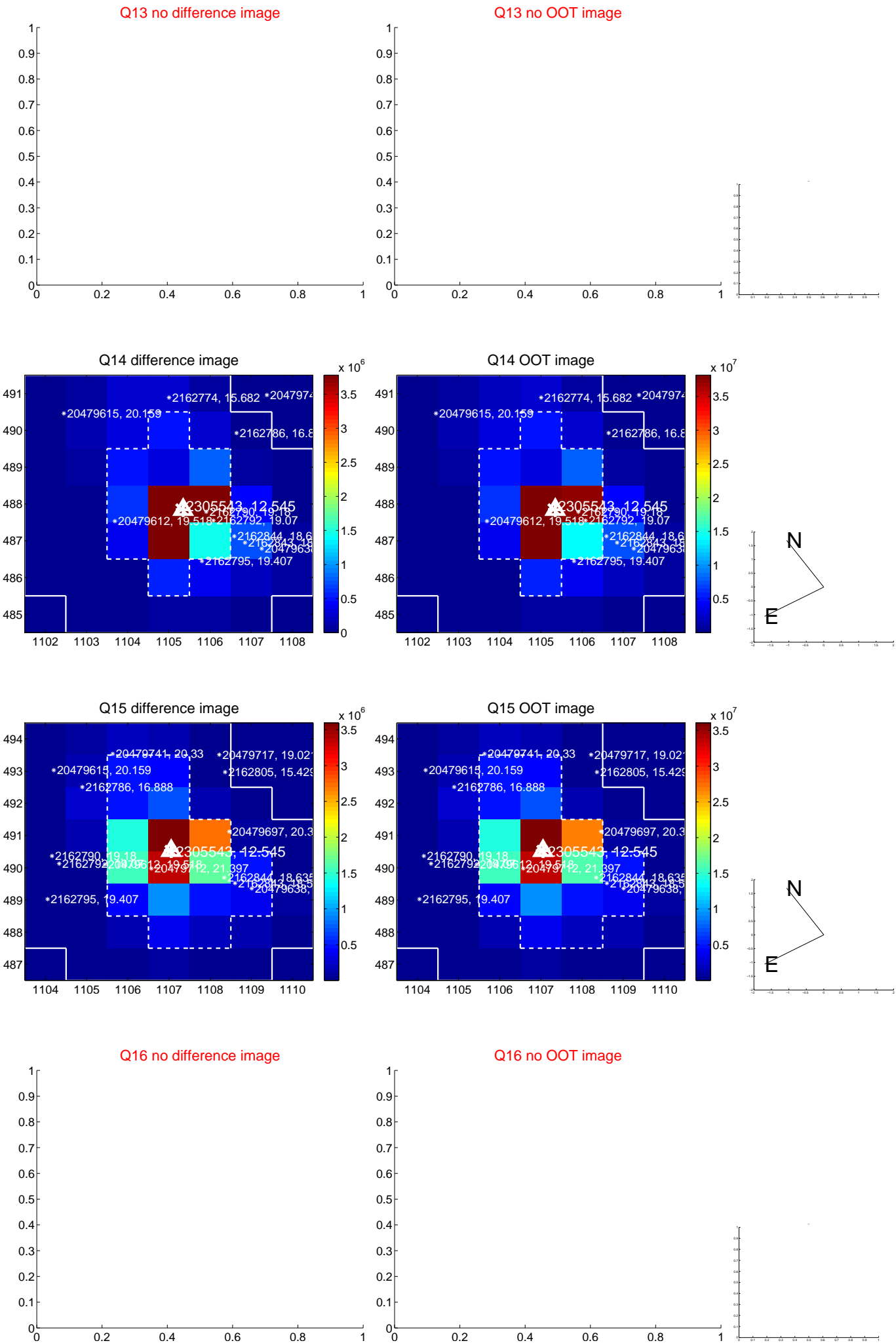
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



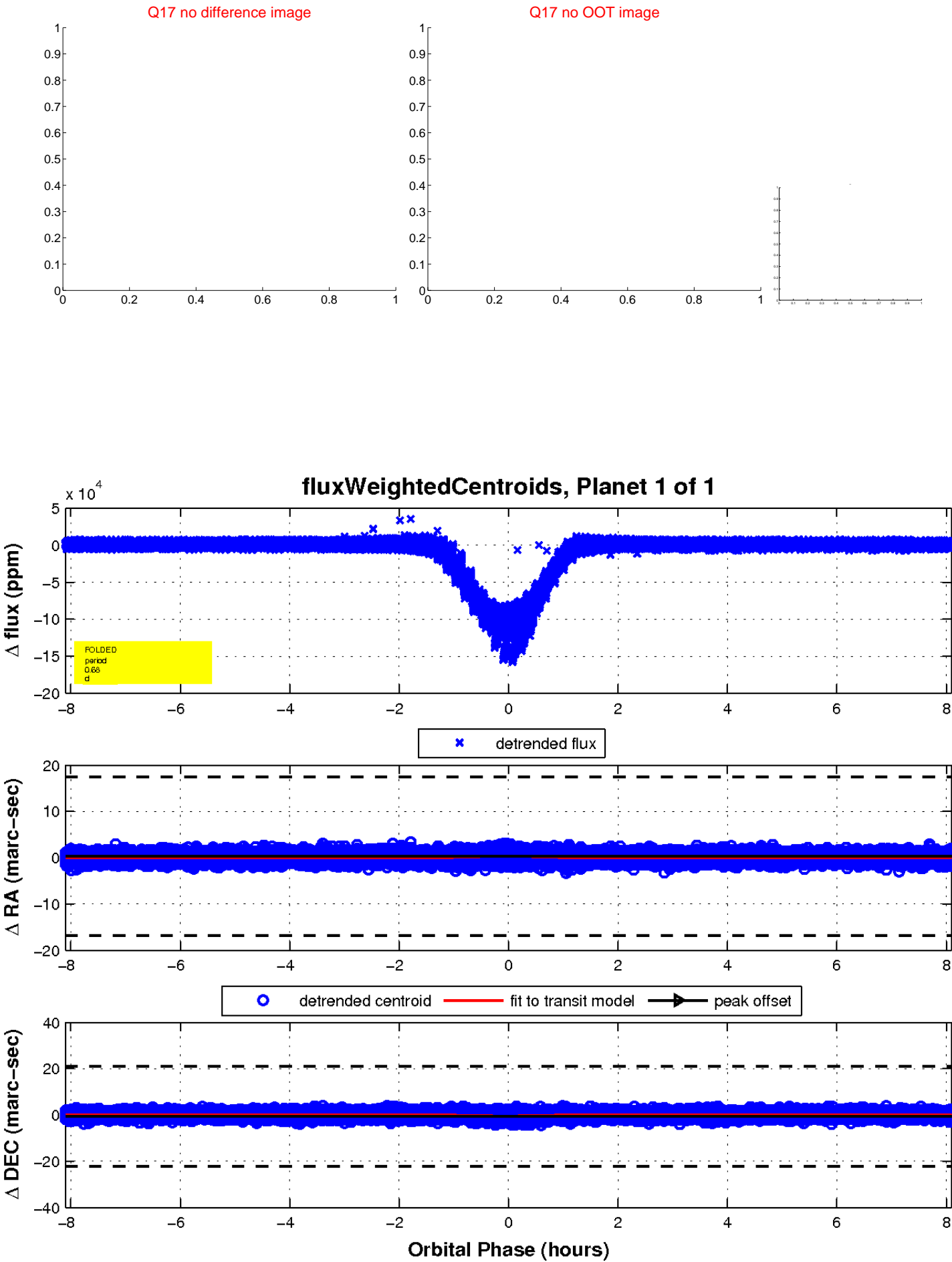
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UKIRT Image

Declination

