

KIC 005097454

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})
005097454-01	OBS	4244.01	1.288037	132.001906	4546.2	6.048	762.2	213.1	0.64	5233	7.21	696.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005097454-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—SEASONAL_DEPTH_DV—SEASONAL_DEPTH_ALT— CENT_RESOLVED_OFFSET—EPHEM_MATCH

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 005097454-01

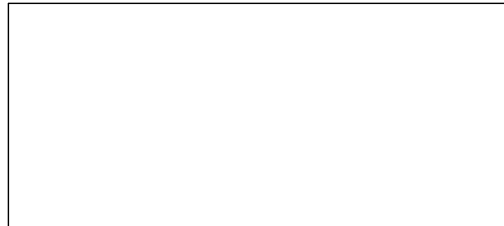
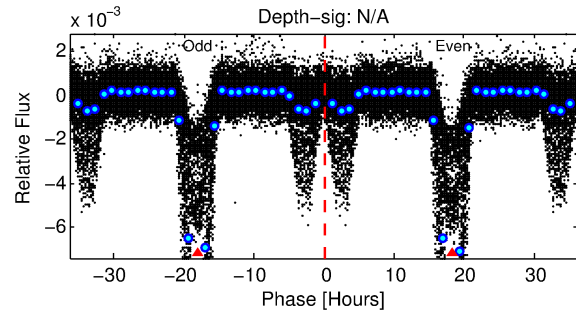
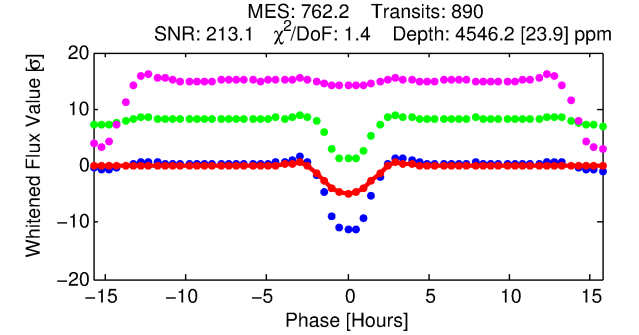
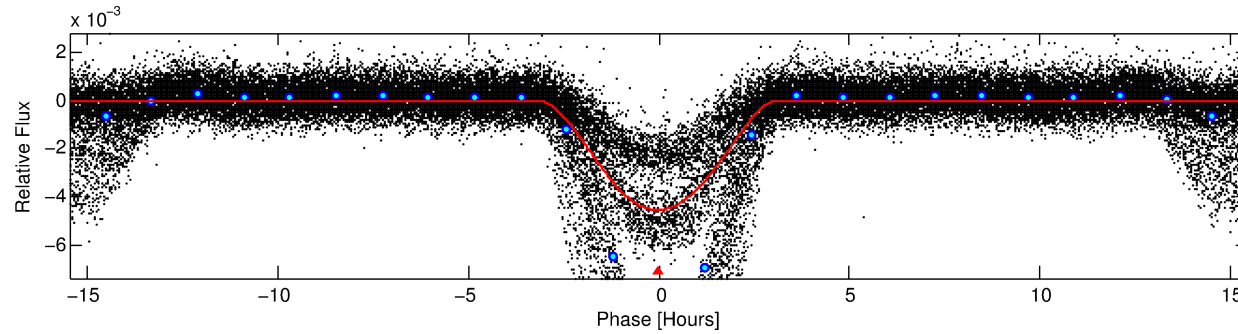
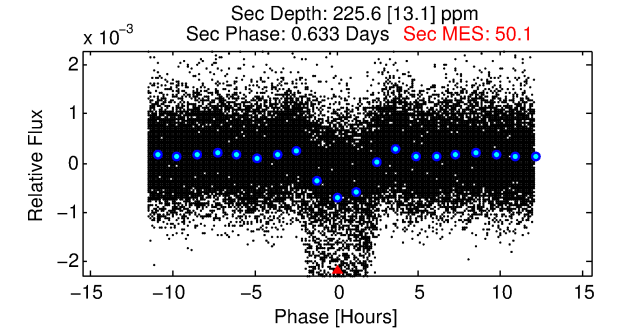
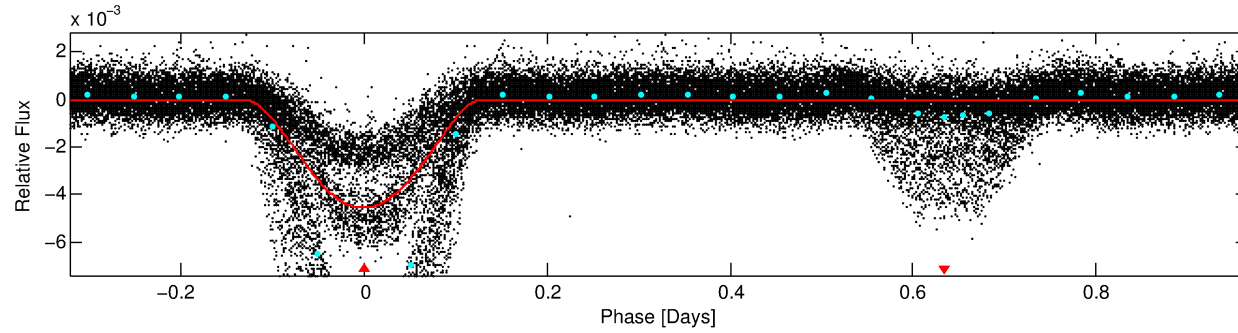
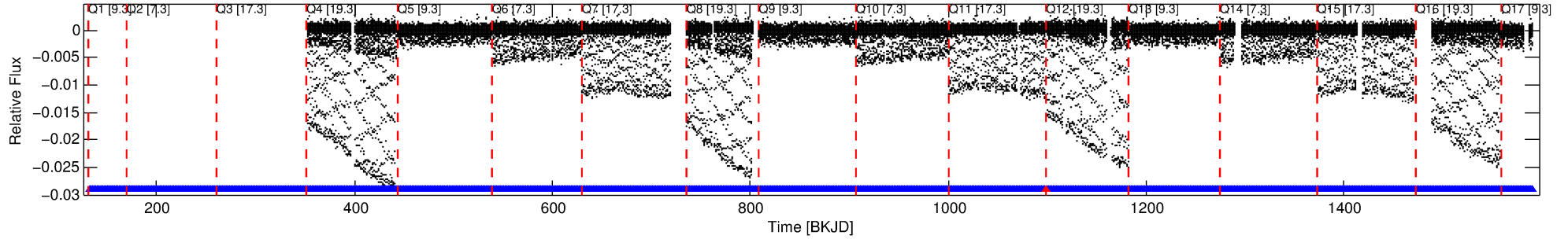
TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	Δ Row	Δ Col	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ_P	σ_T
005097454-01	5097454	005097446-01	5097446	1:1	9.5	0	-2	13.89	15.31	90.00	Direct-PRF	0	0.96	0.91

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 5097454 Candidate: 1 of 1 Period: 1.288 d
KOI: K04244.01 Corr: 0.967

Kp: 15.31 R*: 0.64 Rs Teff: 5233.0 K Logg: 4.62 Fe/H: -0.960



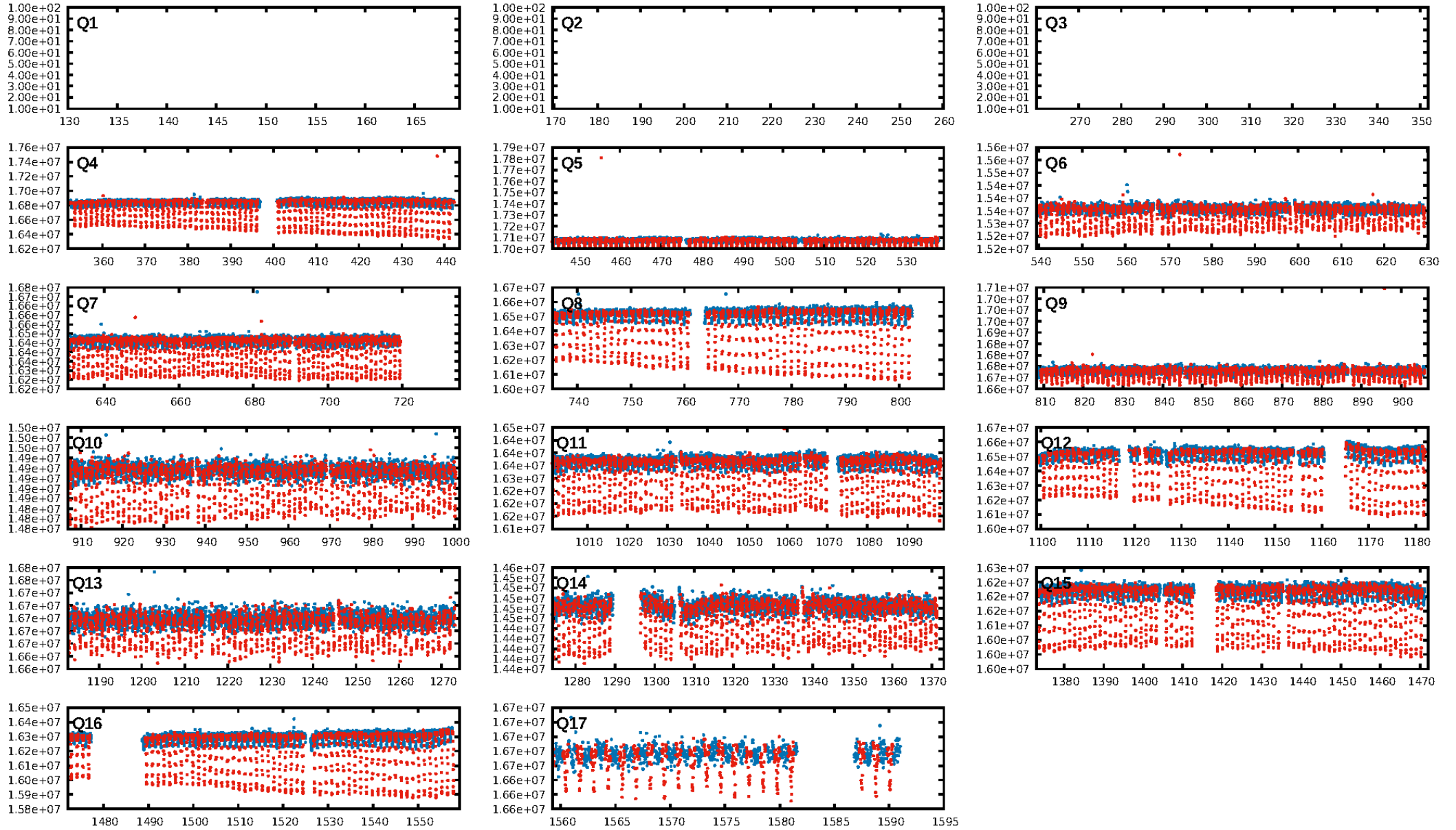
DV Fit Results:

Period = 1.28804 [0.00000] d
Epoch = 132.0019 [0.0004] BKJD
Rp/R* = 0.1034 [0.0081]
a/R* = 1.31 [0.00]
b = 0.98 [0.01]
Seff = 696.62 [127.01]
Teq = 1310 [60] K
Rp = 7.21 [0.85] Re
a = 0.0198 [0.0015] AU
Ag = 0.94 [0.19] [-0.31σ]
Teffp = 1995 [109] K [5.52σ]

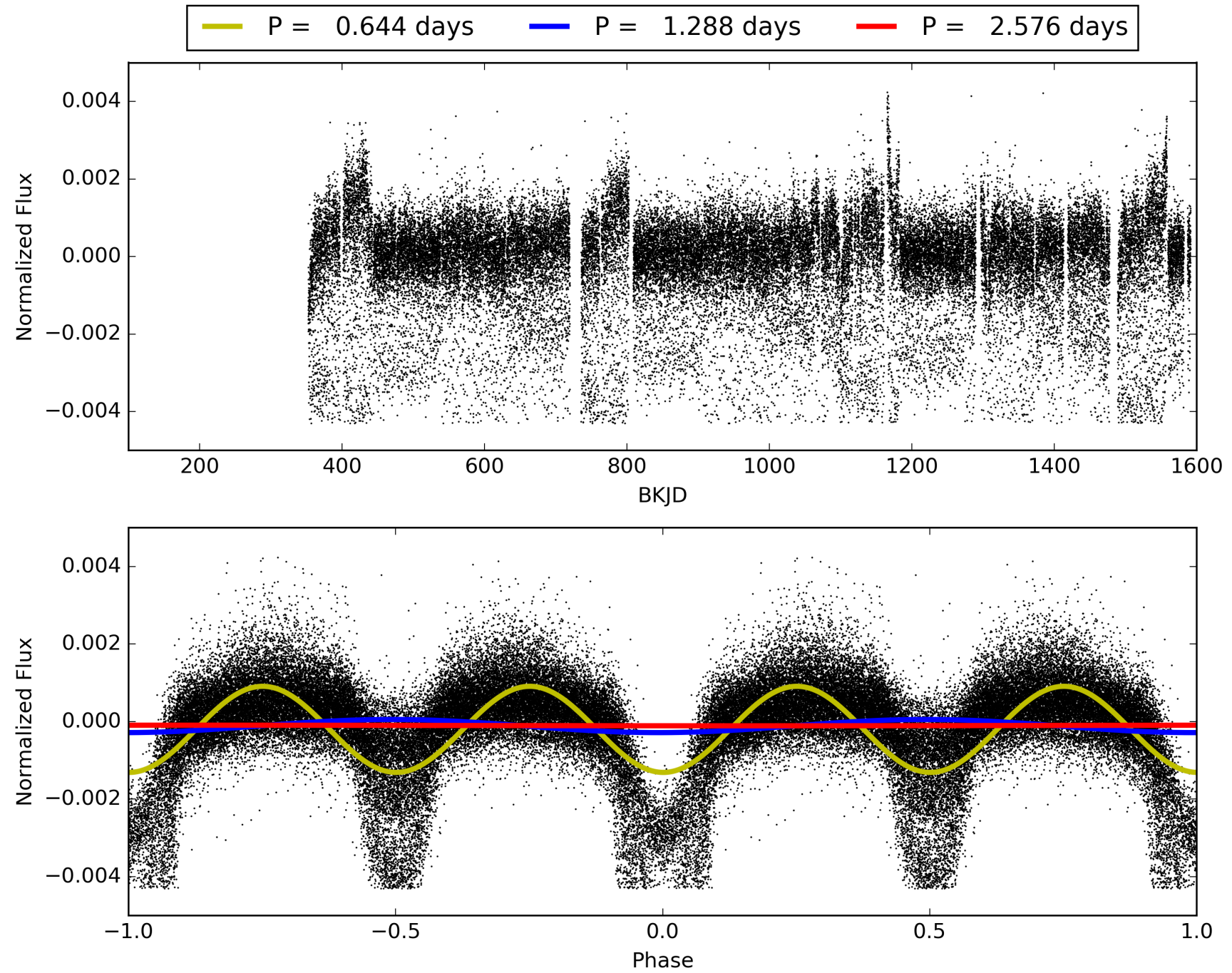
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [868/869]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: 95.084 arcsec [900.84σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [14/14]

TCE 005097454-01, PDC Light Curves

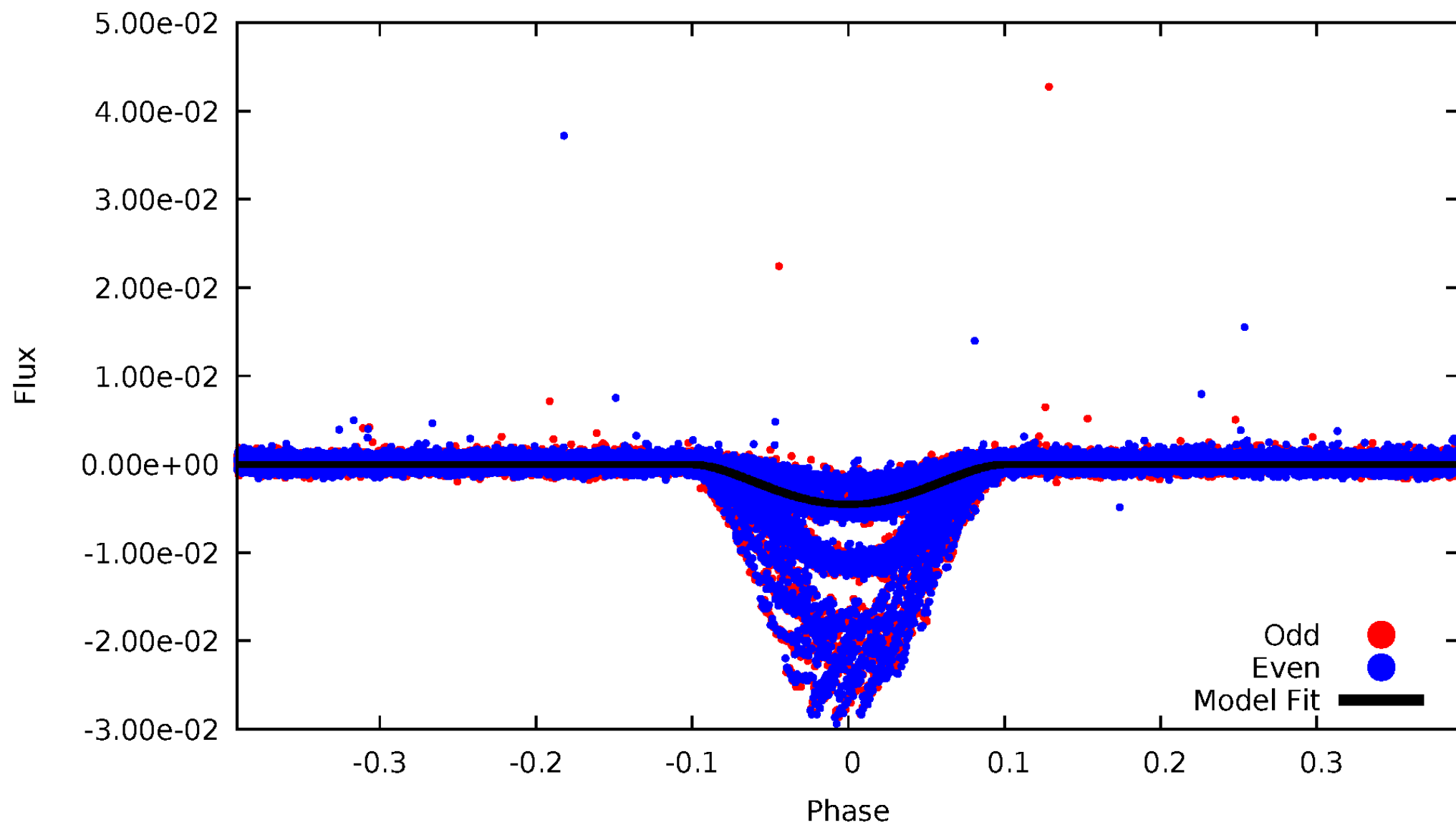


TCE 005097454-01



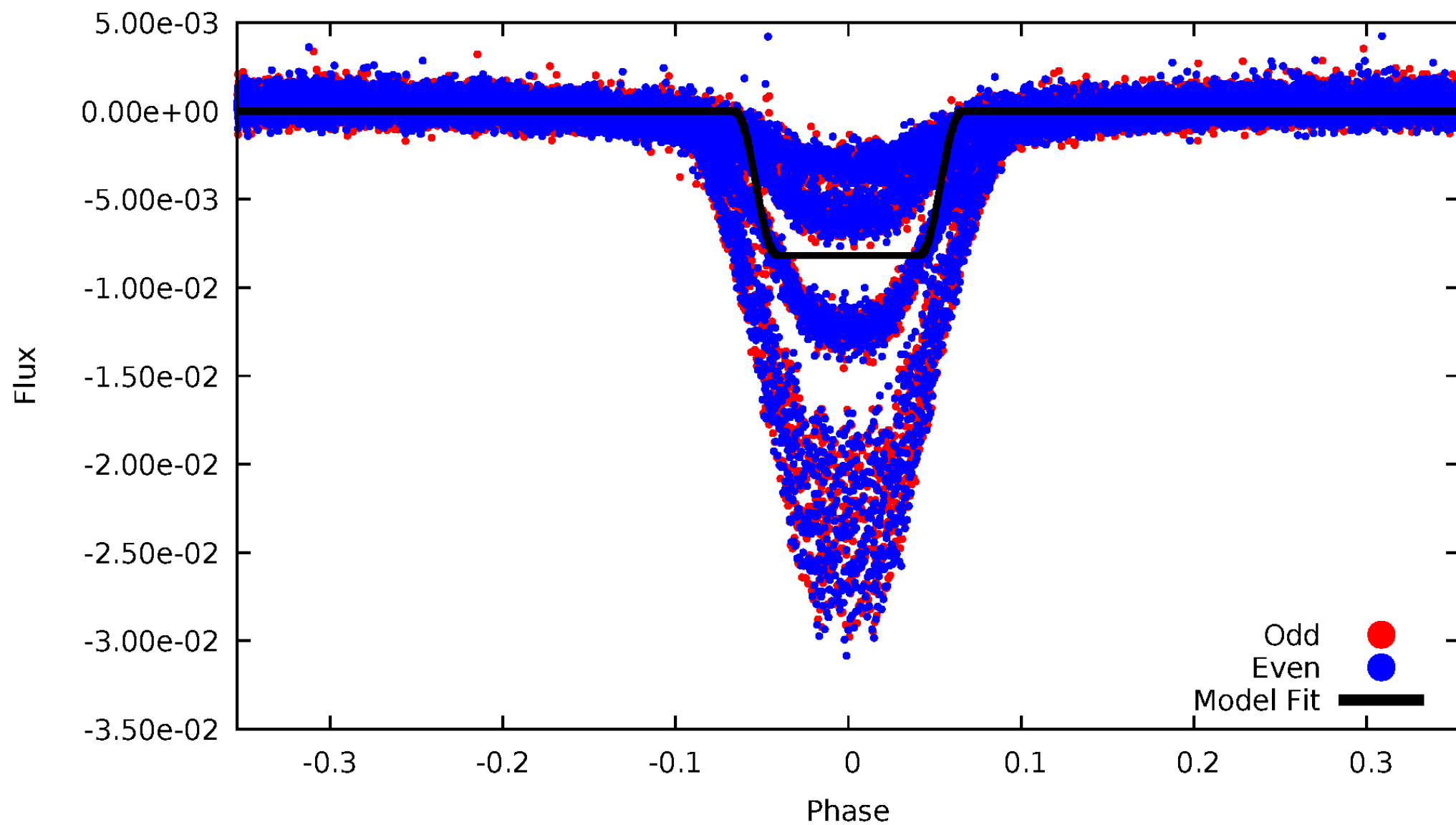
DV Odd/Even

TCE 005097454-01



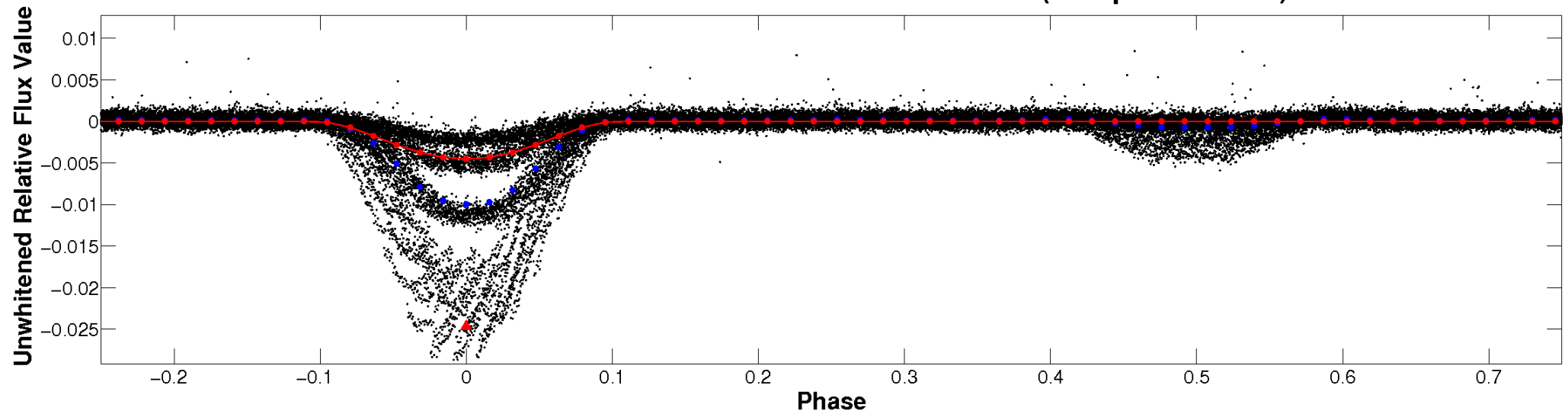
ALT Odd/Even

TCE 005097454-01

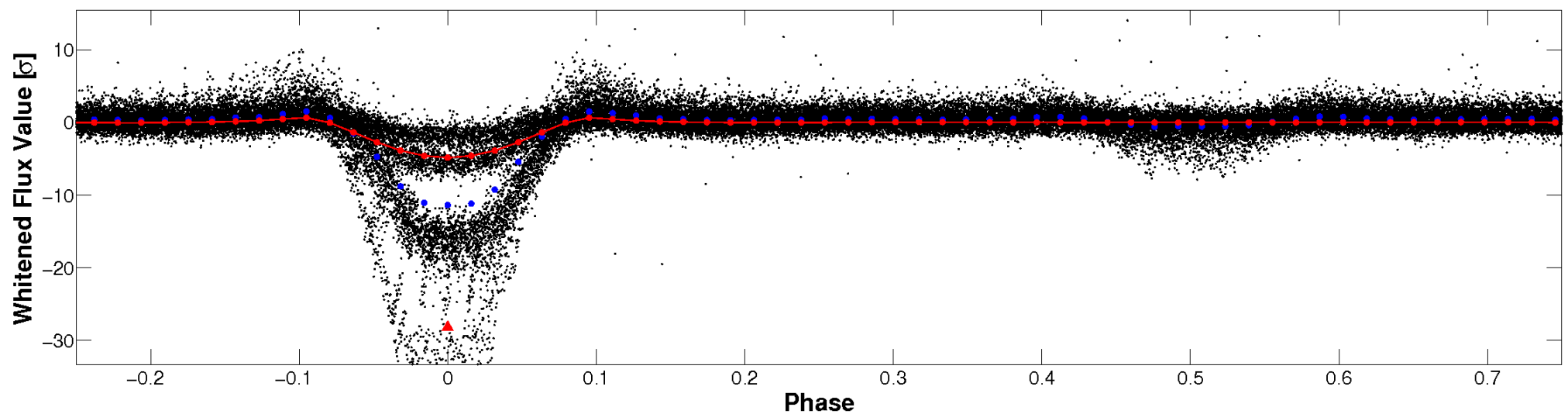


Non-Whitened Vs. Whitened Light Curve

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

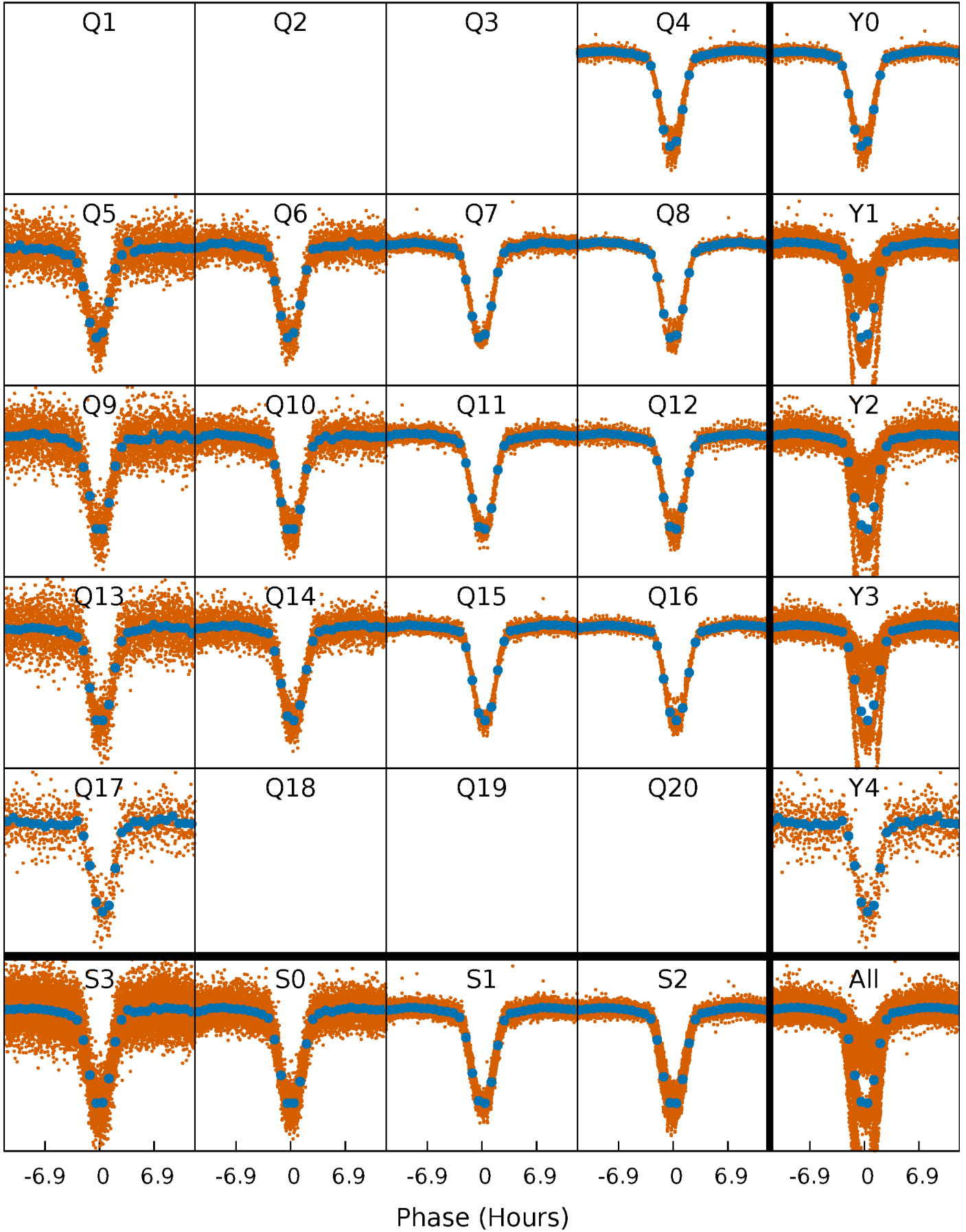


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



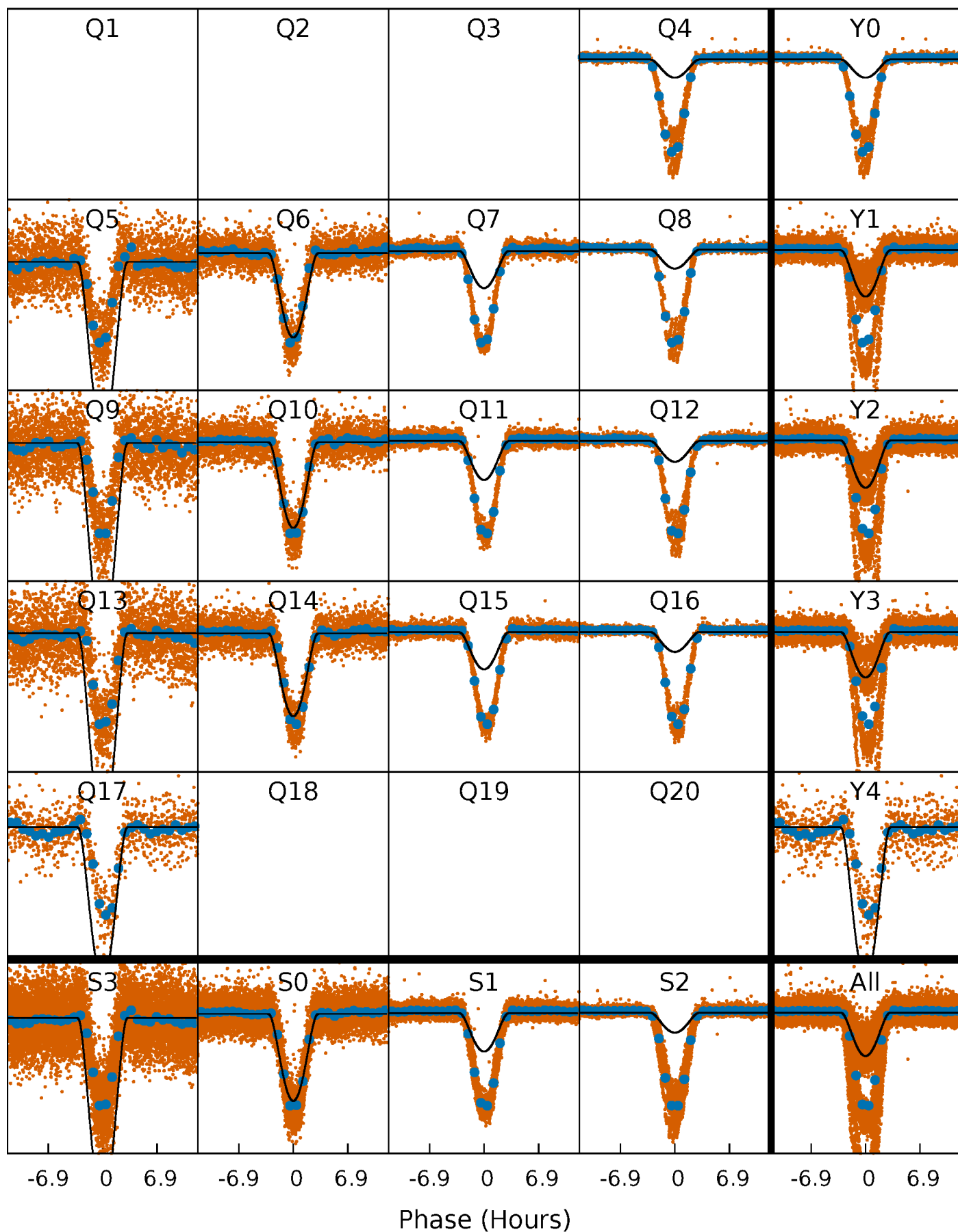
PDC Quarter-Phased Transit Curves

TCE 005097454-01 P= 1.288037 Days $T_0=132.001906$ (BKJD)



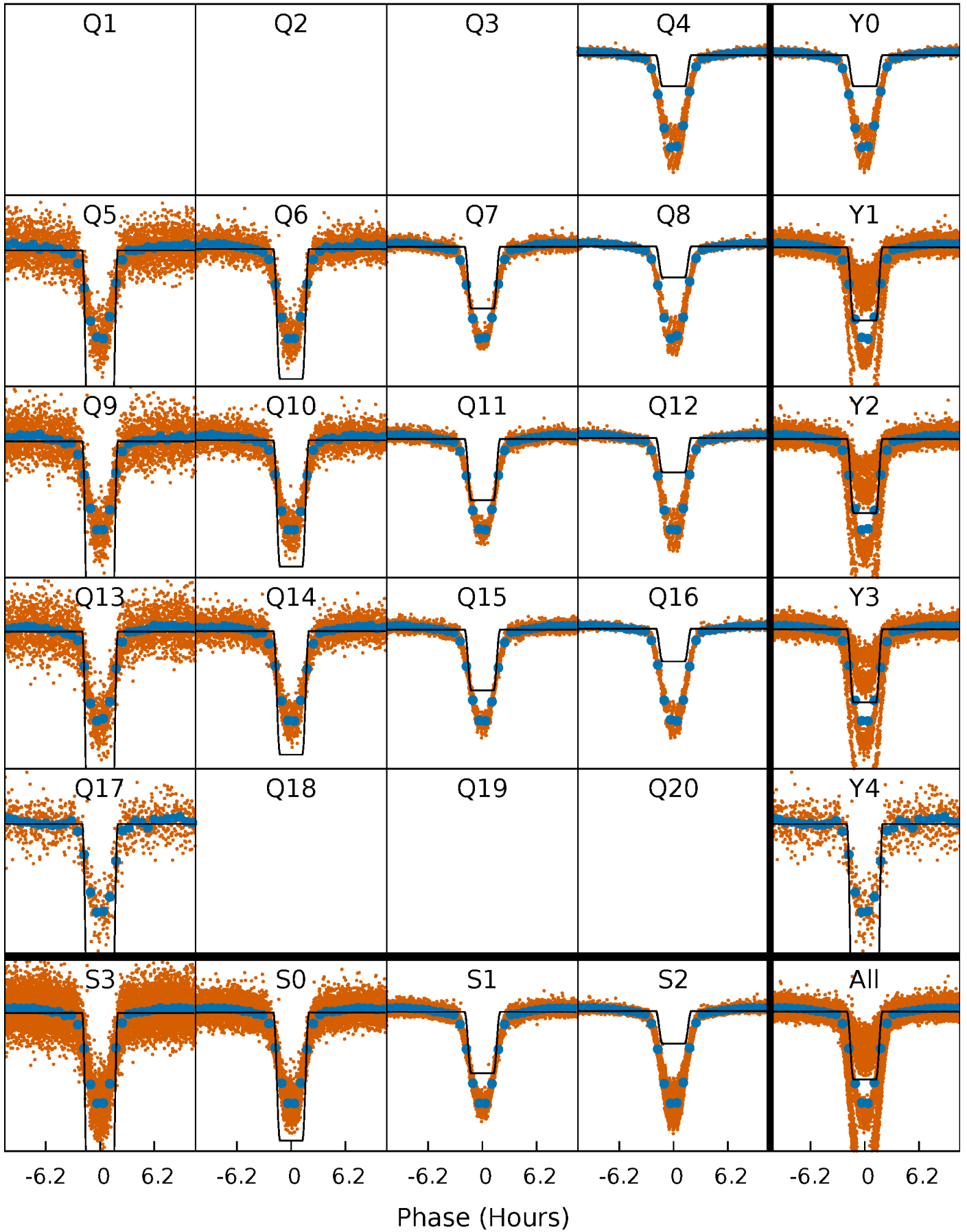
DV Quarter-Phased Transit Curves

TCE 005097454-01 P= 1.288037 Days $T_0=132.001906$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

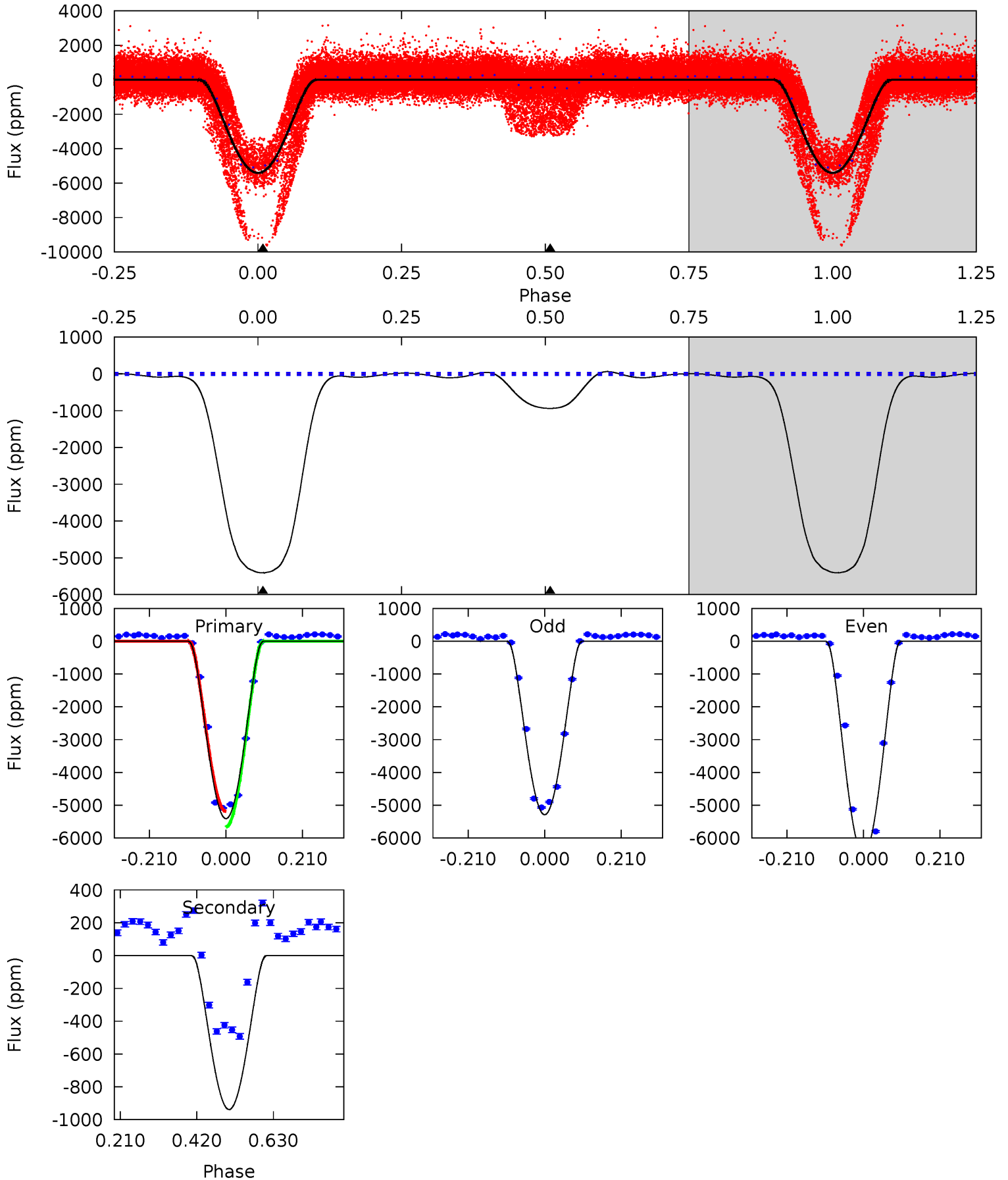
TCE 005097454-01 P= 1.288063 Days $T_0=131.987400$ (BKJD)



DV Model-Shift Uniqueness Test

005097454-01, P = 1.288037 Days, E = 132.001906 Days

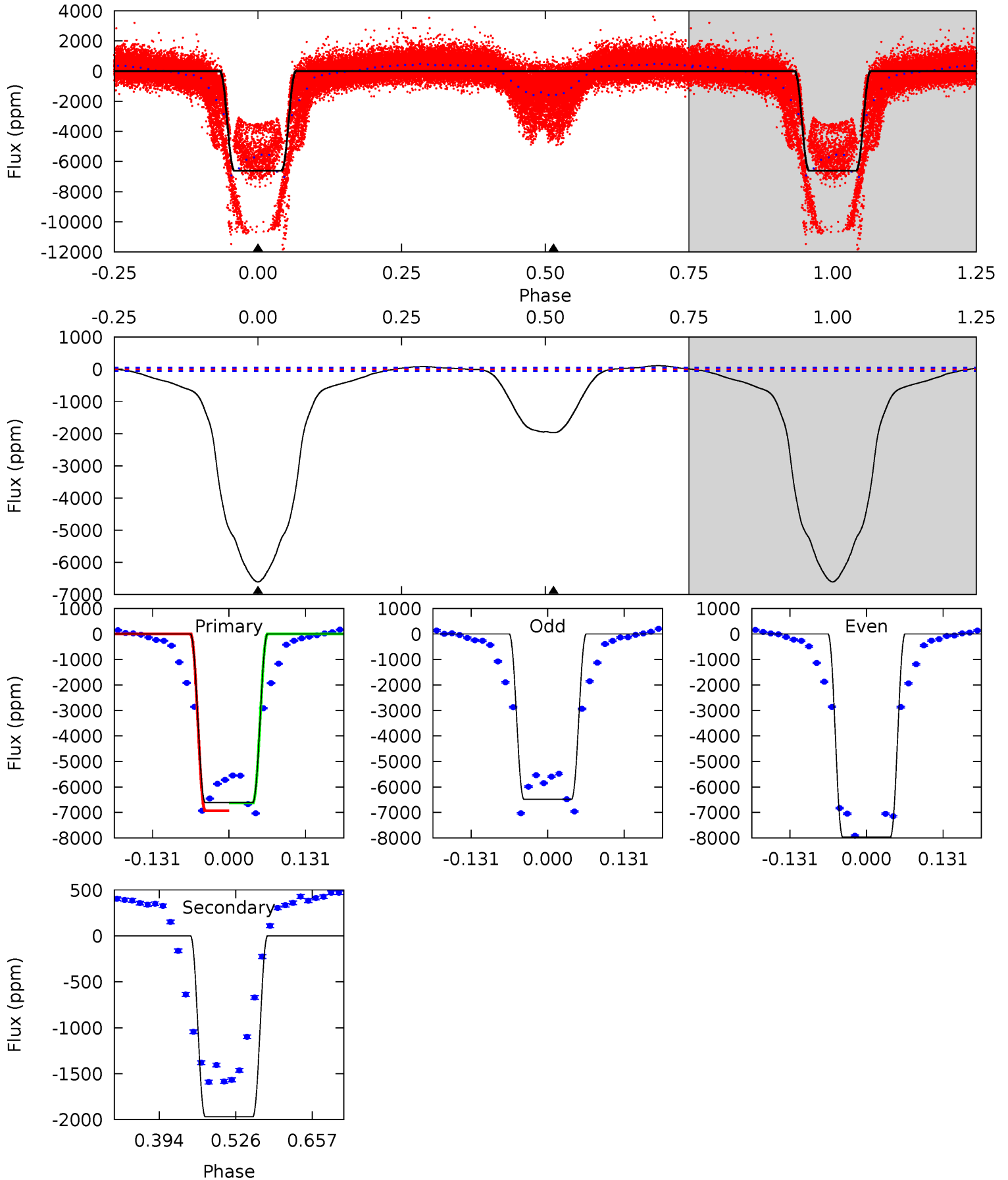
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
783.8	136.0	0	0	4.41	1.25	2.41	783.8	783.8	136.0	136.0	87.4	1.68	0.01	33.9



Alt Model-Shift Uniqueness Test

005097454-01, P = 1.288063 Days, E = 131.987400 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
569.0	169.5	0	0	4.51	1.51	15.9	569.0	569.0	169.5	169.5	64.2	1.60	0.02	12.8



Stellar Parameters For KIC 005097454

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5233^{+183}_{-183}	$4.625^{+0.066}_{-0.048}$	$-0.960^{+0.300}_{-0.300}$	$0.639^{+0.056}_{-0.050}$	$0.627^{+0.065}_{-0.028}$	$3.393^{+0.949}_{-0.572}$
	+3%/-3%	+1%/-1%	+31%/-31%	+9%/-8%	+10%/-4%	+28%/-17%
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 005097454-01 / KOI 4244.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-939 ± 7	$7.25^{+0.66}_{-0.68}$	1824^{+73}_{-75}	3310^{+125}_{-113}	$3.935^{+0.827}_{-0.621}$
Alt.	-1968 ± 12	$6.31^{+0.70}_{-0.60}$	1820^{+82}_{-69}	3936^{+185}_{-158}	11^{+2}_{-2}

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

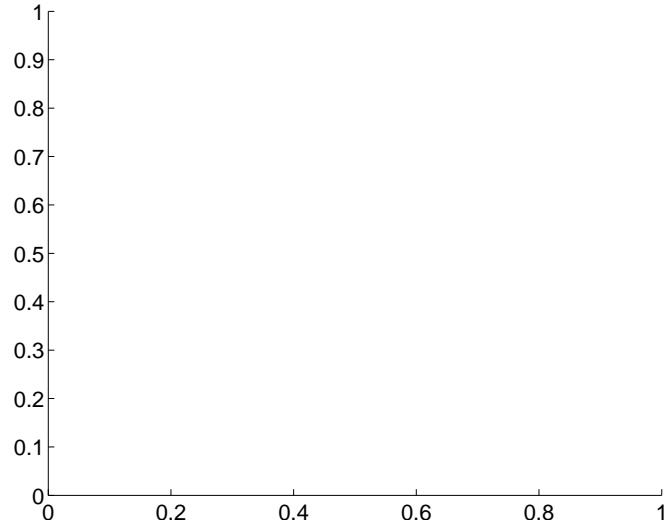
Supplemental centroid analysis for 005097454-01. Kepler magnitude: 15.31. Transit SNR 213.11

There are 0 quarters with good PRF difference image offsets

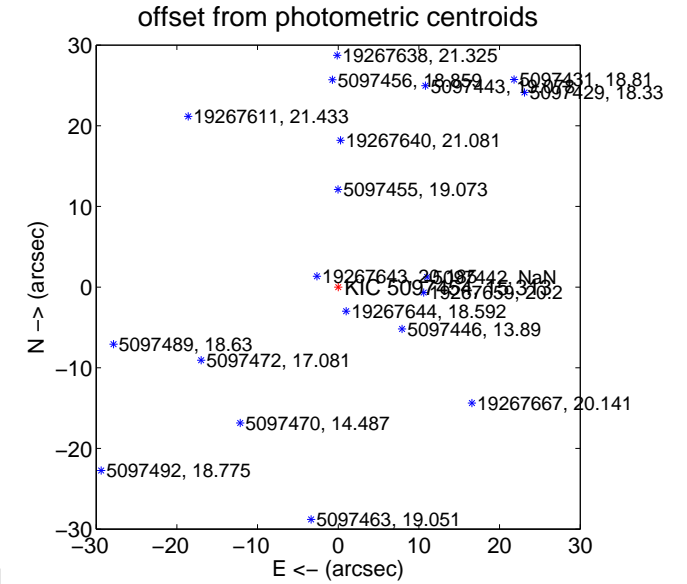
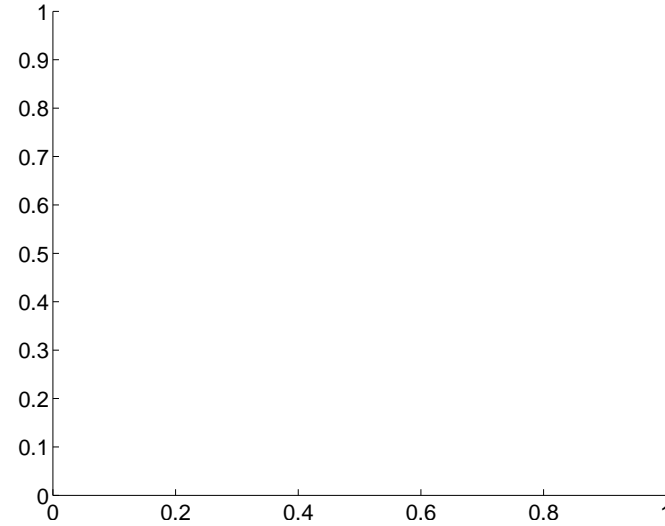
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	95.10 ± 0.11	900.76	-80.84 ± 0.12	-50.08 ± 0.05

There is no PRF-fit offset from OOT-fit

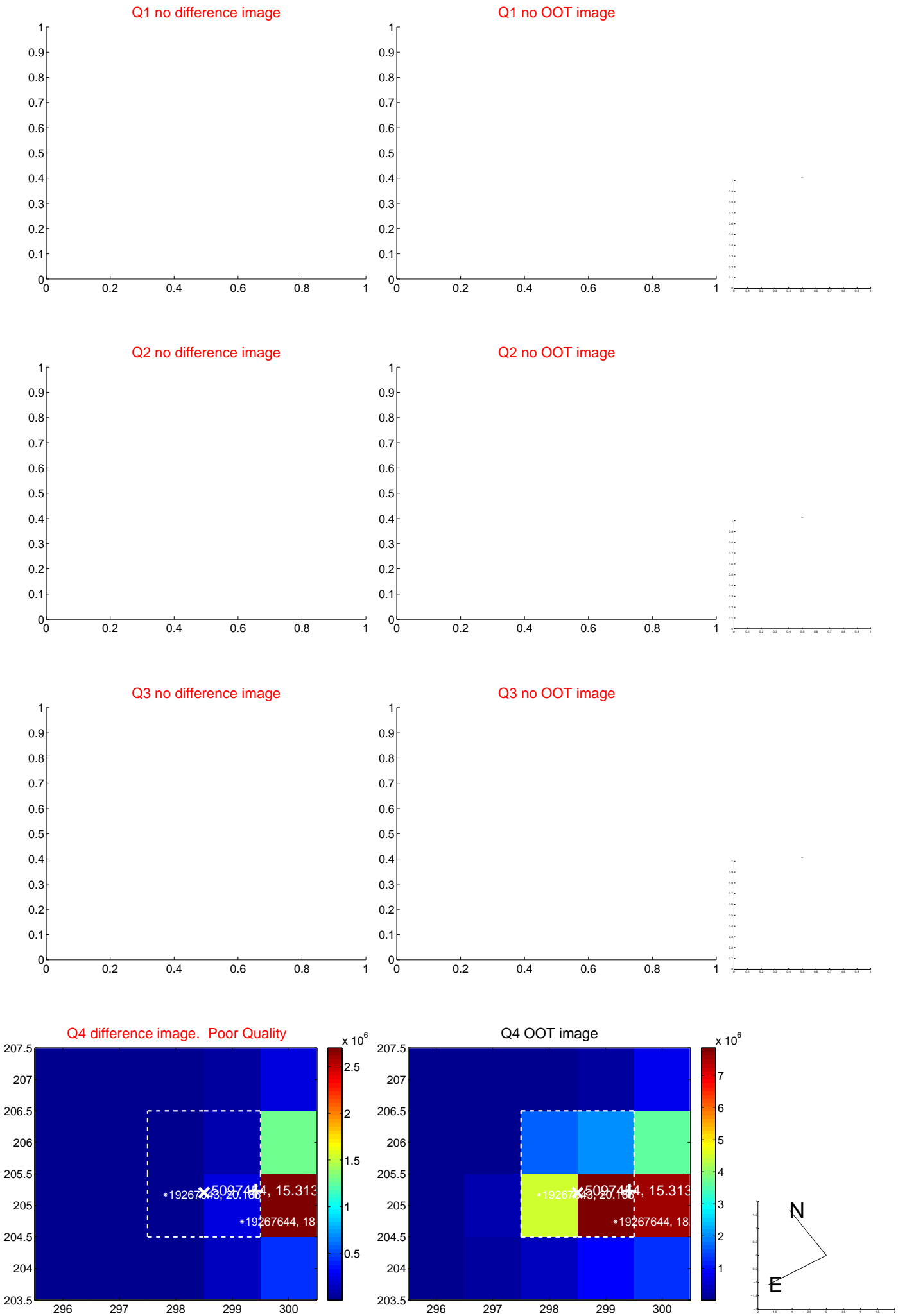


There is no PRF-fit offset from KIC

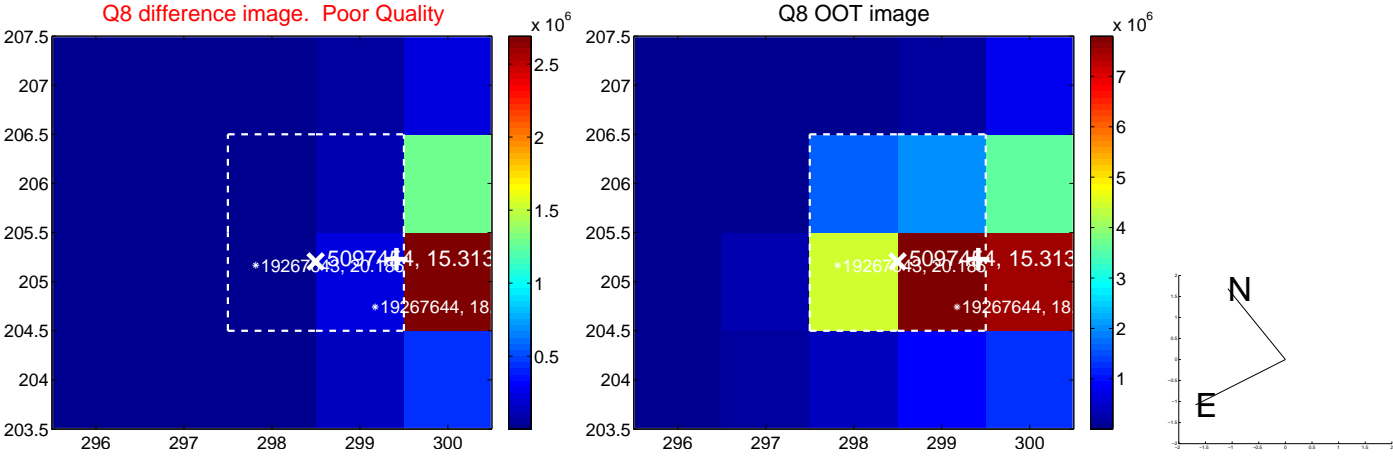
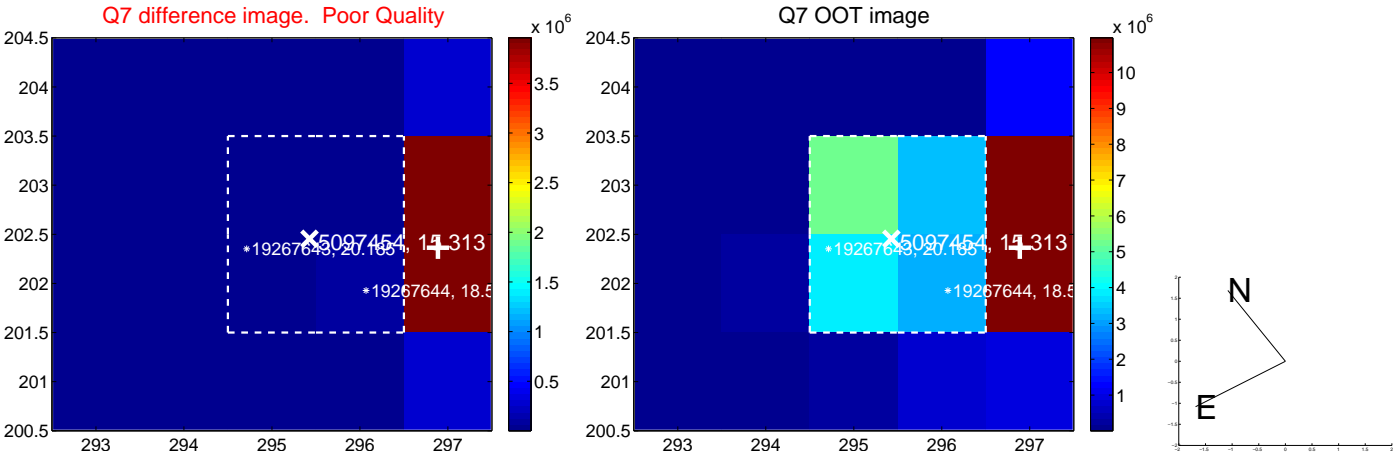
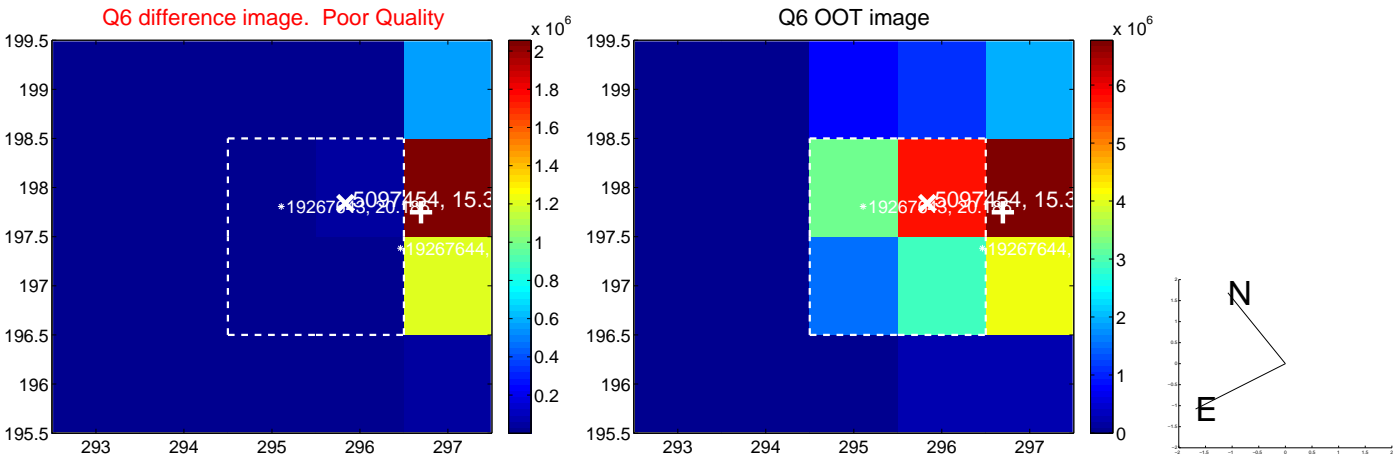
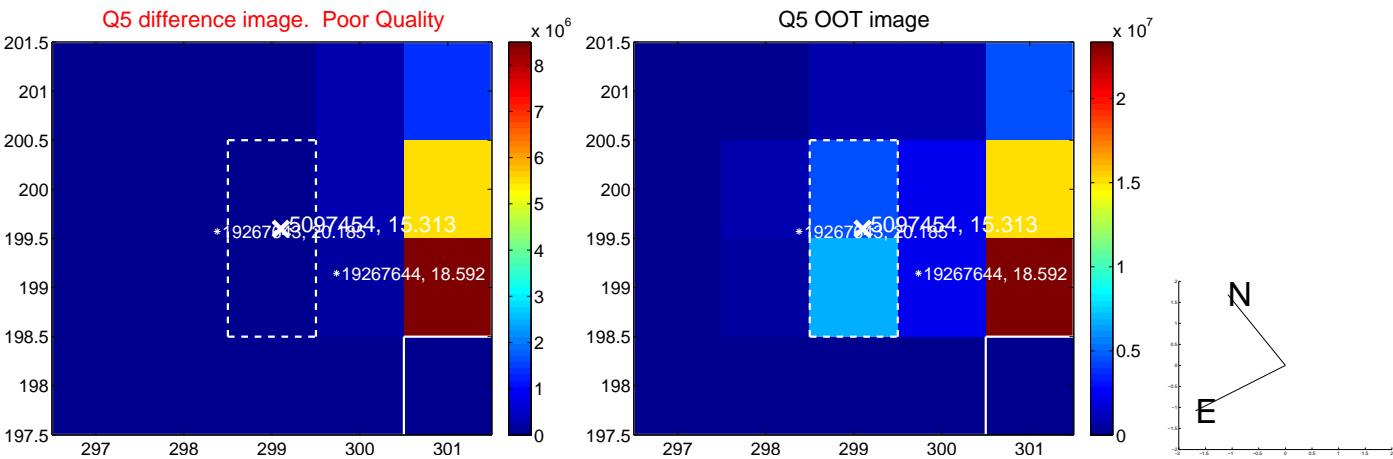


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

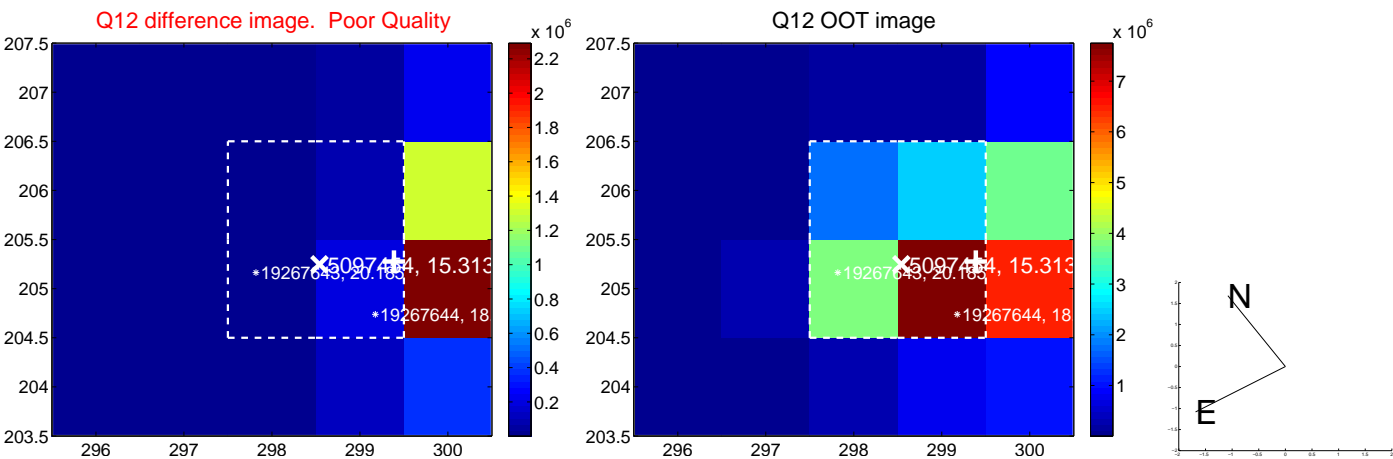
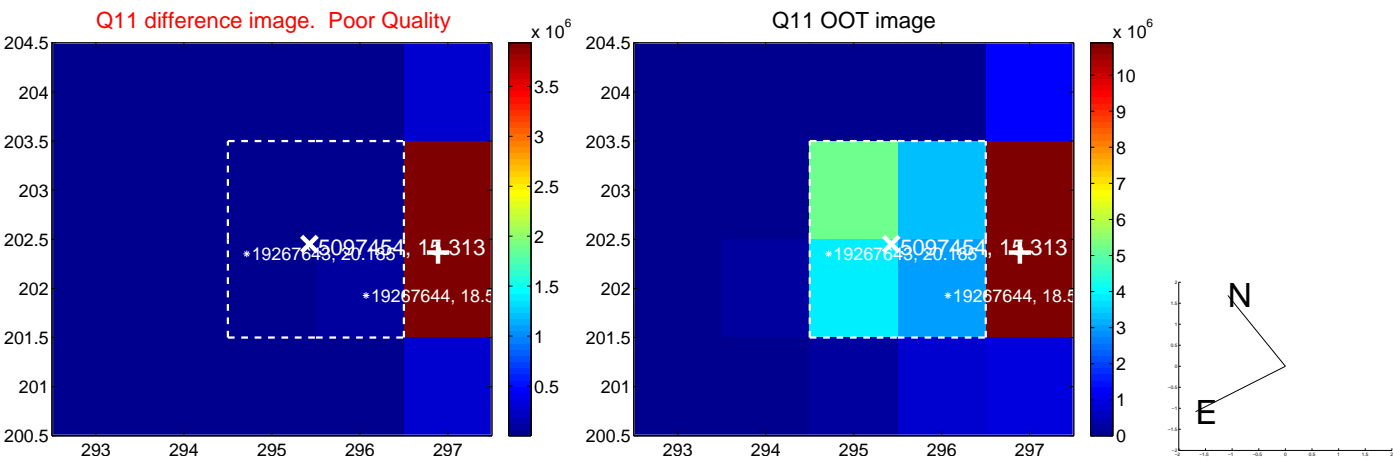
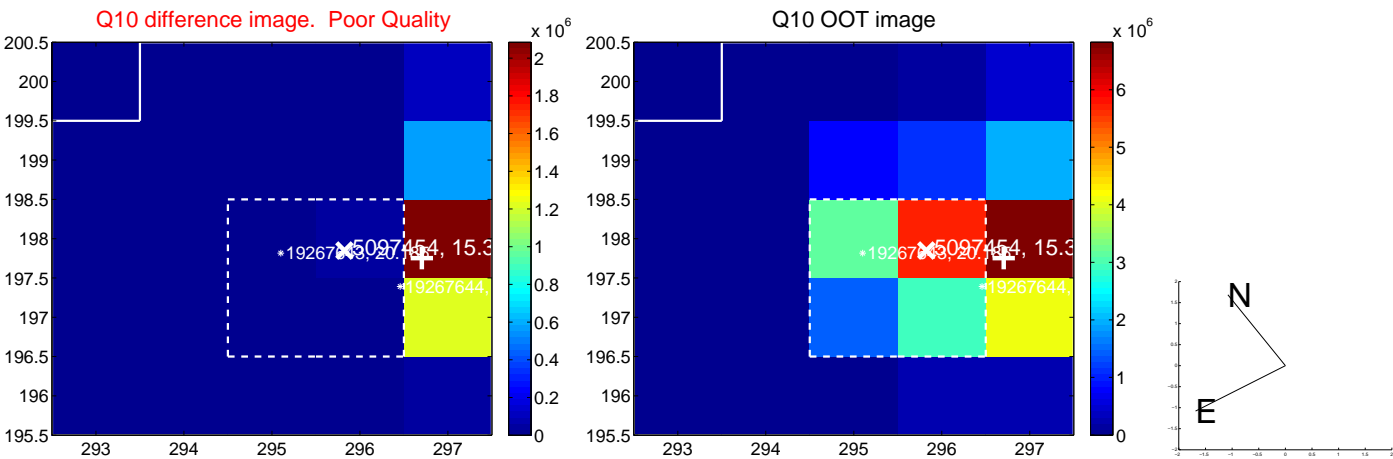
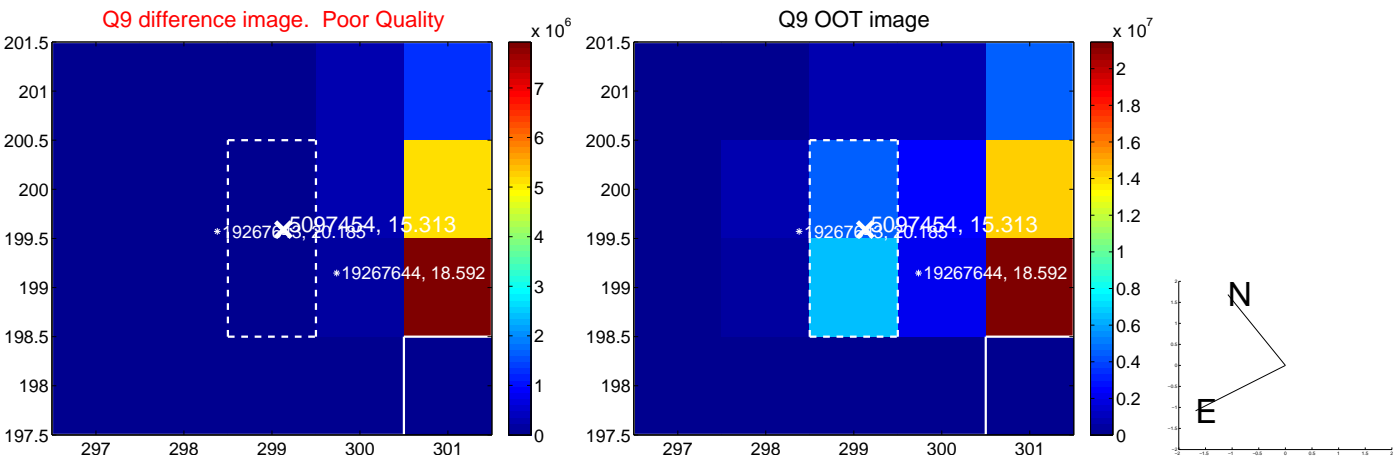
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



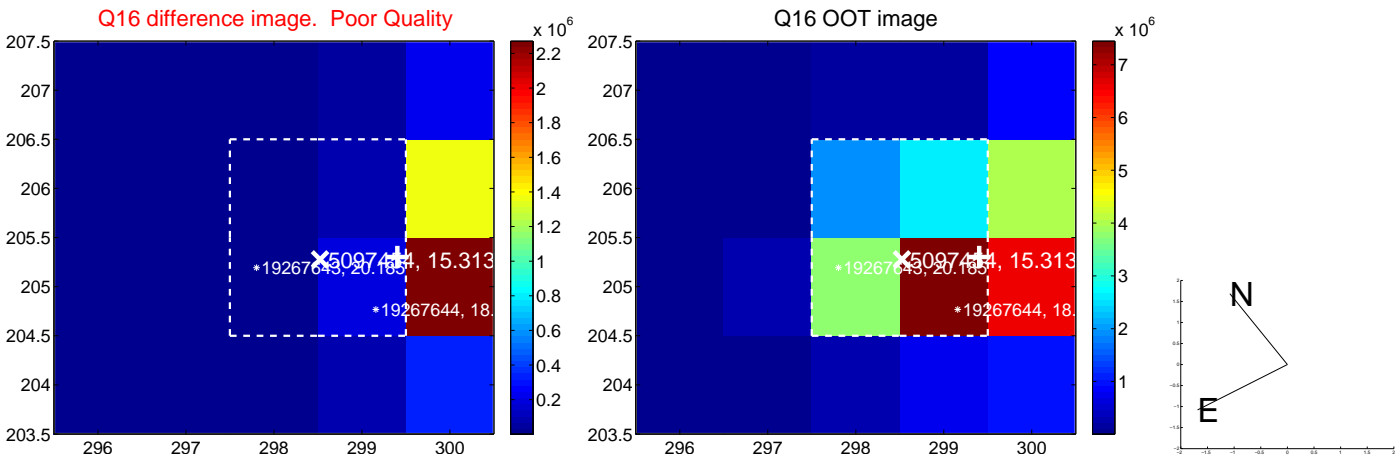
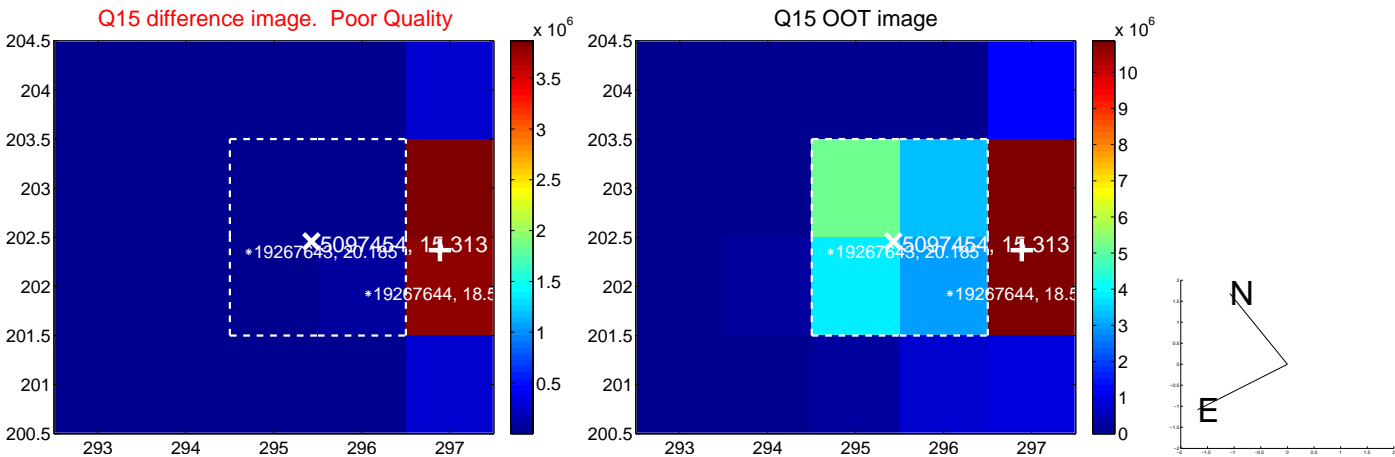
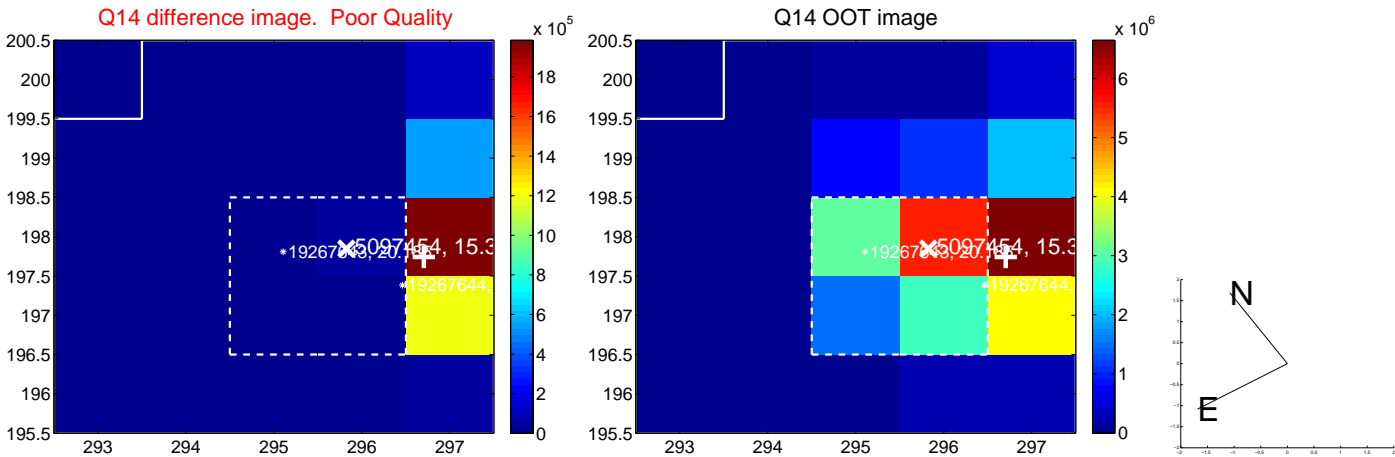
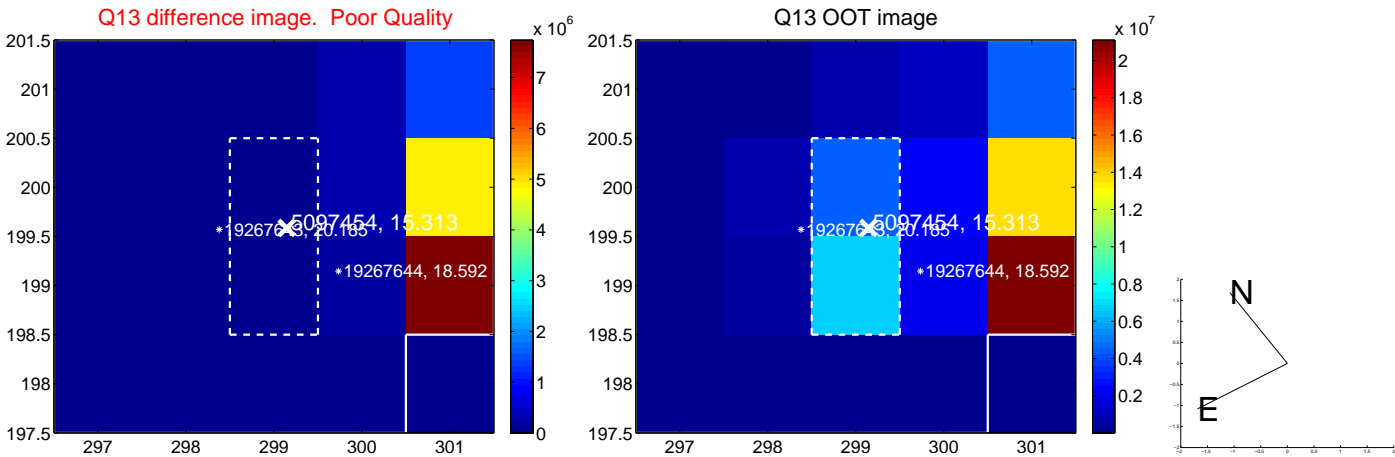
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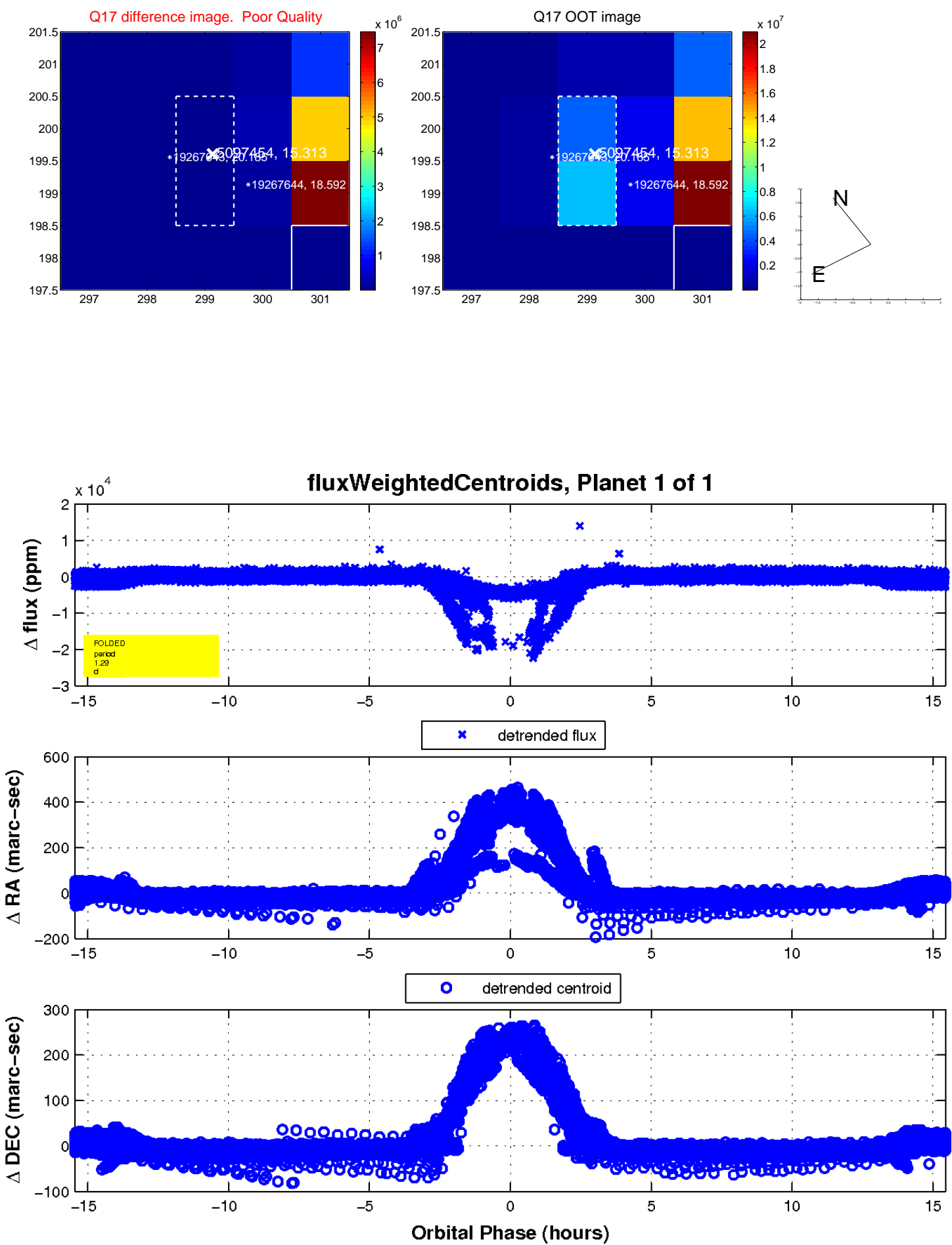
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UKIRT Image

Declination

