

KIC 009009036

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})
009009036-01	OBS	4585.01	6.762903	135.675578	50.1	6.232	10.4	11.5	1.63	6547	1.32	755.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009009036-01	OBS	PC	0.55	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.

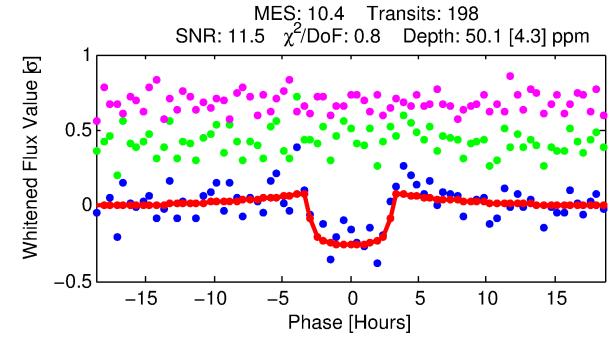
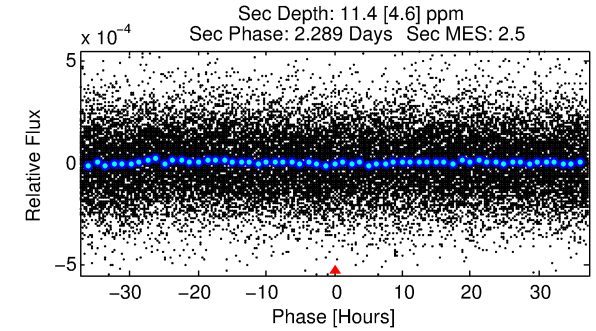
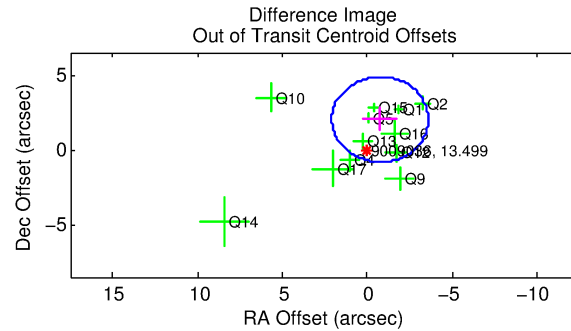
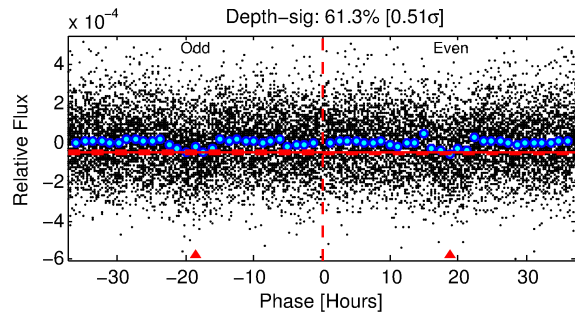
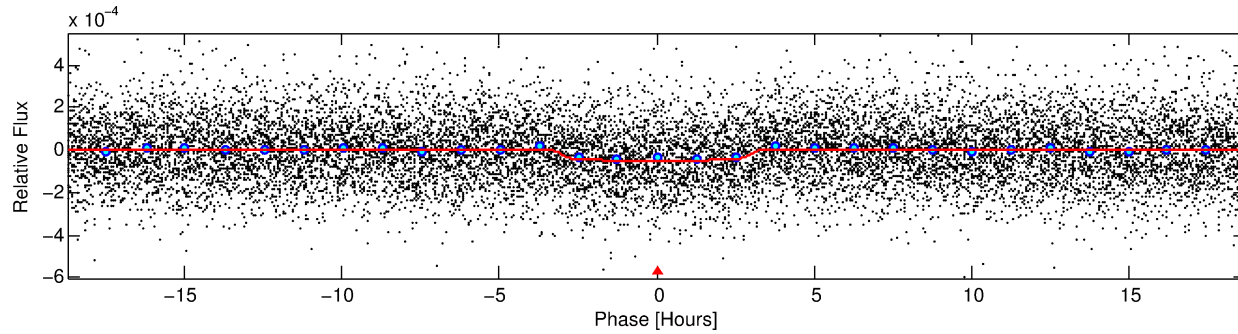
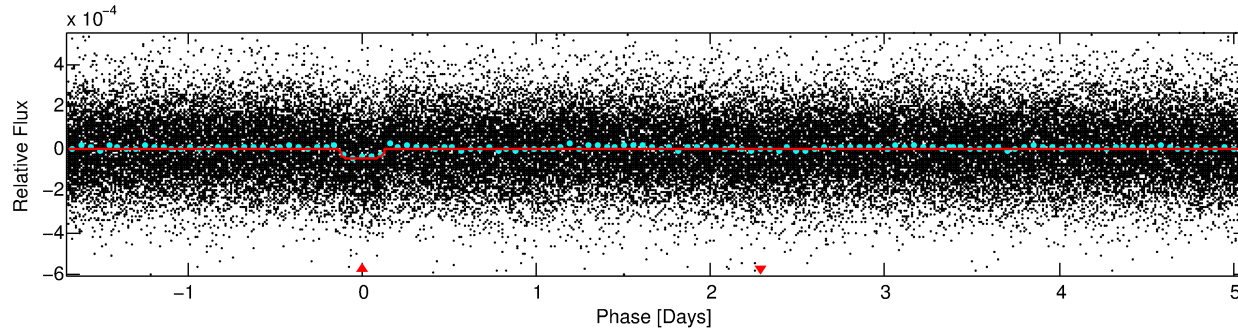
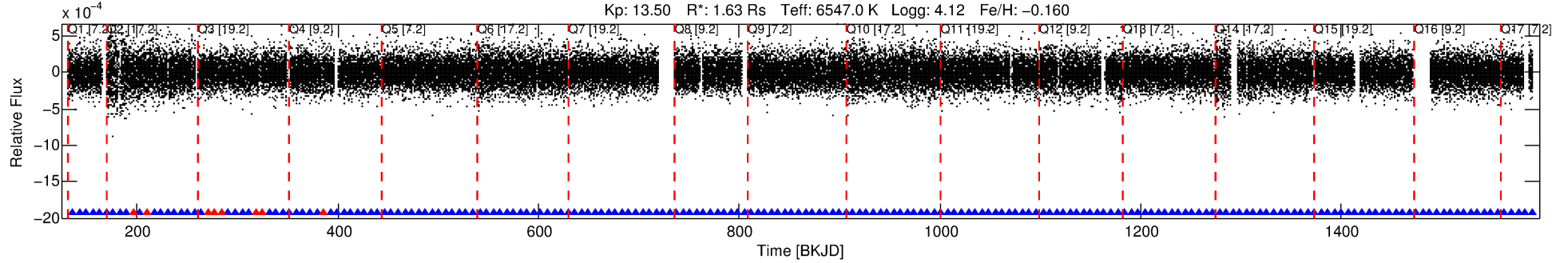
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009009036-01

No Significant Match Found

DV One-Page Summary

KIC: 9009036 Candidate: 1 of 1 Period: 6.763 d
KOI: K04585.01 Corr: 0.970



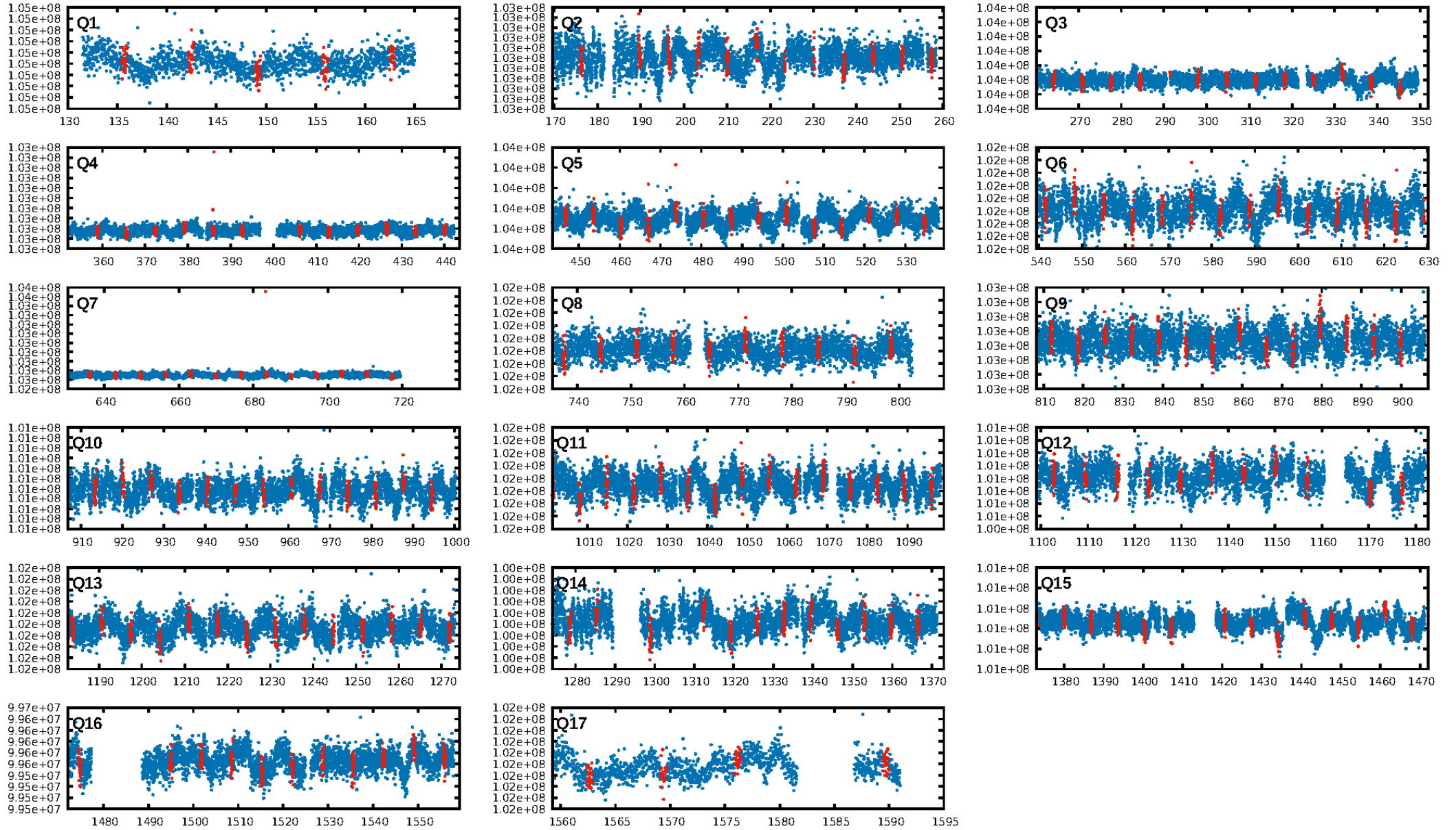
DV Fit Results:

Period = 6.76290 [0.00006] d
Epoch = 135.6756 [0.0068] BKJD
Rp/R* = 0.0074 [0.0021]
a/R* = 4.24 [6.37]
b = 0.88 [0.43]
Seff = 755.69 [270.31]
Teq = 1337 [120] K
Rp = 1.32 [0.49] Re
a = 0.0761 [0.0168] AU
Ag = 20.80 [15.91] [1.24 σ]
Teffp = 4414 [769] K [3.95 σ]

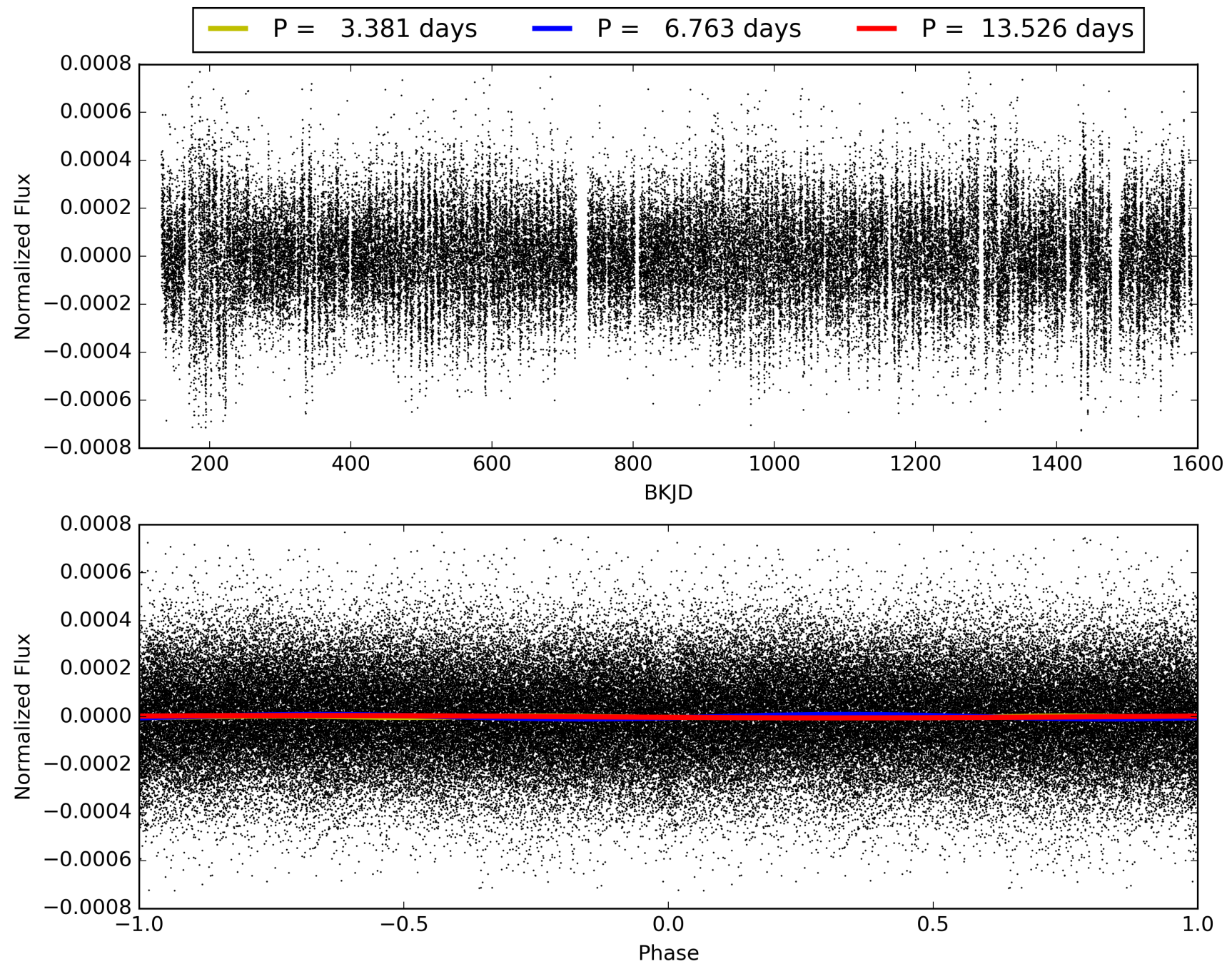
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.04e-24
RollingBand-fgt: 0.96 [181/189]
GhostDiagnostic-chr: 4.387
Centroid-sig: 17.9%
Centroid-so: 0.928 arcsec [1.00 σ]
OotOffset-rm: 2.160 arcsec [2.28 σ]
KicOffset-rm: 2.125 arcsec [2.47 σ]
OotOffset-st: 3/1/3/5 [12]
KicOffset-st: 3/1/3/5 [12]
DiffImageQuality-fgm: 0.67 [8/12]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 009009036-01, PDC Light Curves

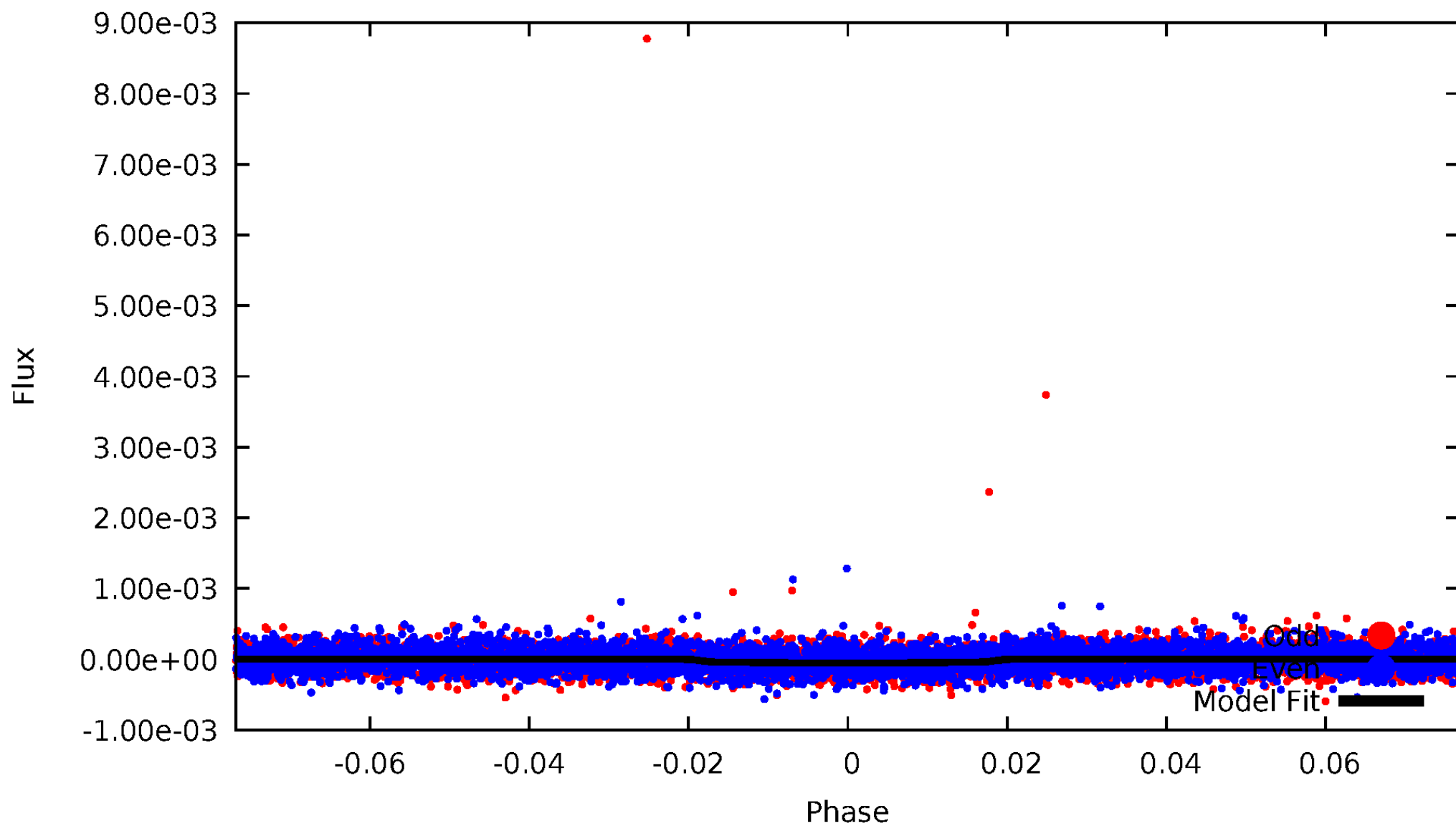


TCE 009009036-01



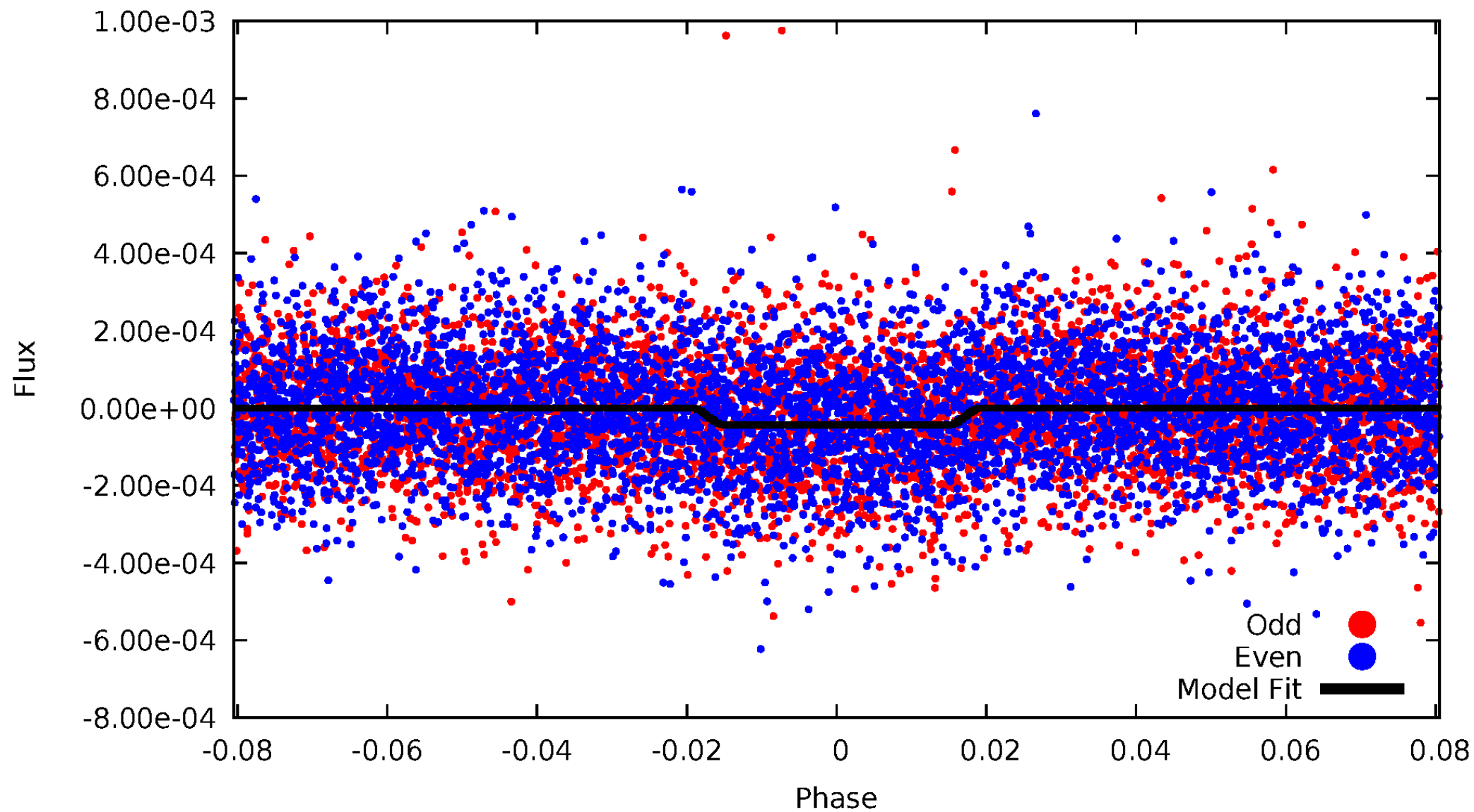
DV Odd/Even

TCE 009009036-01



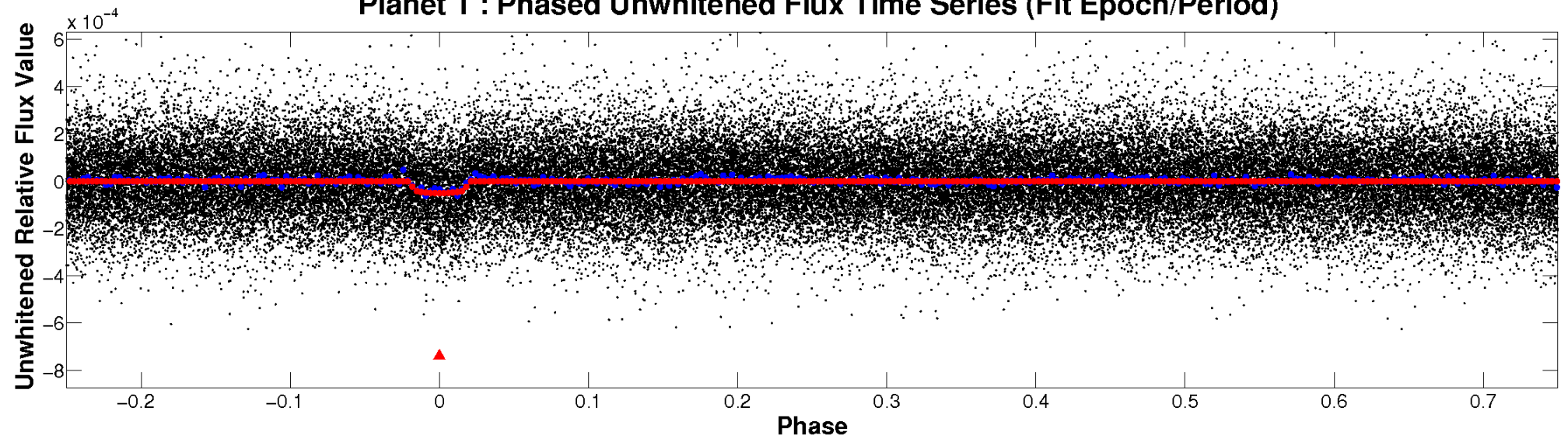
ALT Odd/Even

TCE 009009036-01

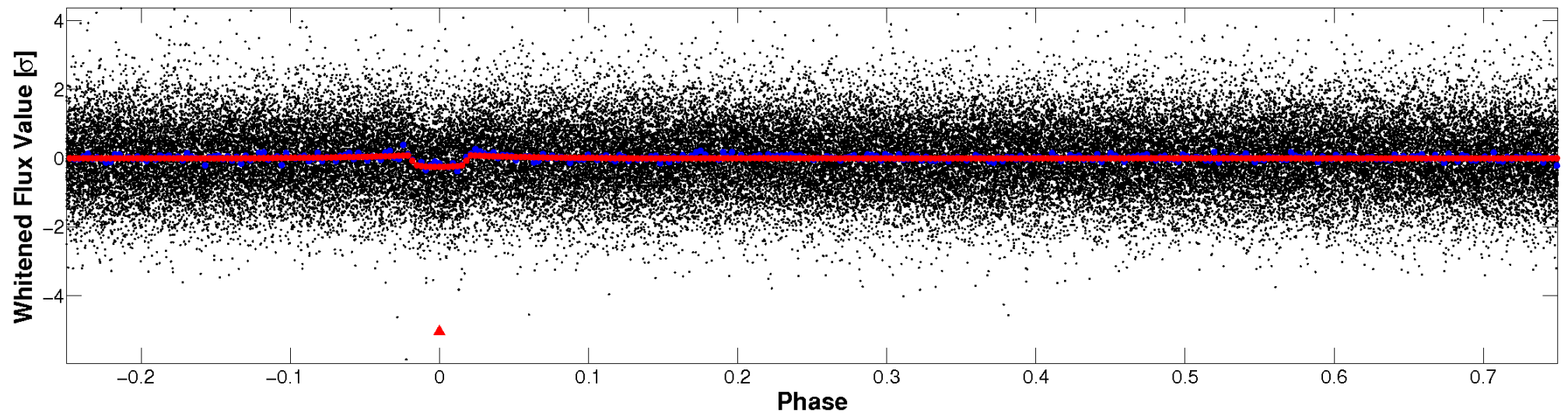


Non-Whitened Vs. Whitened Light Curve

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

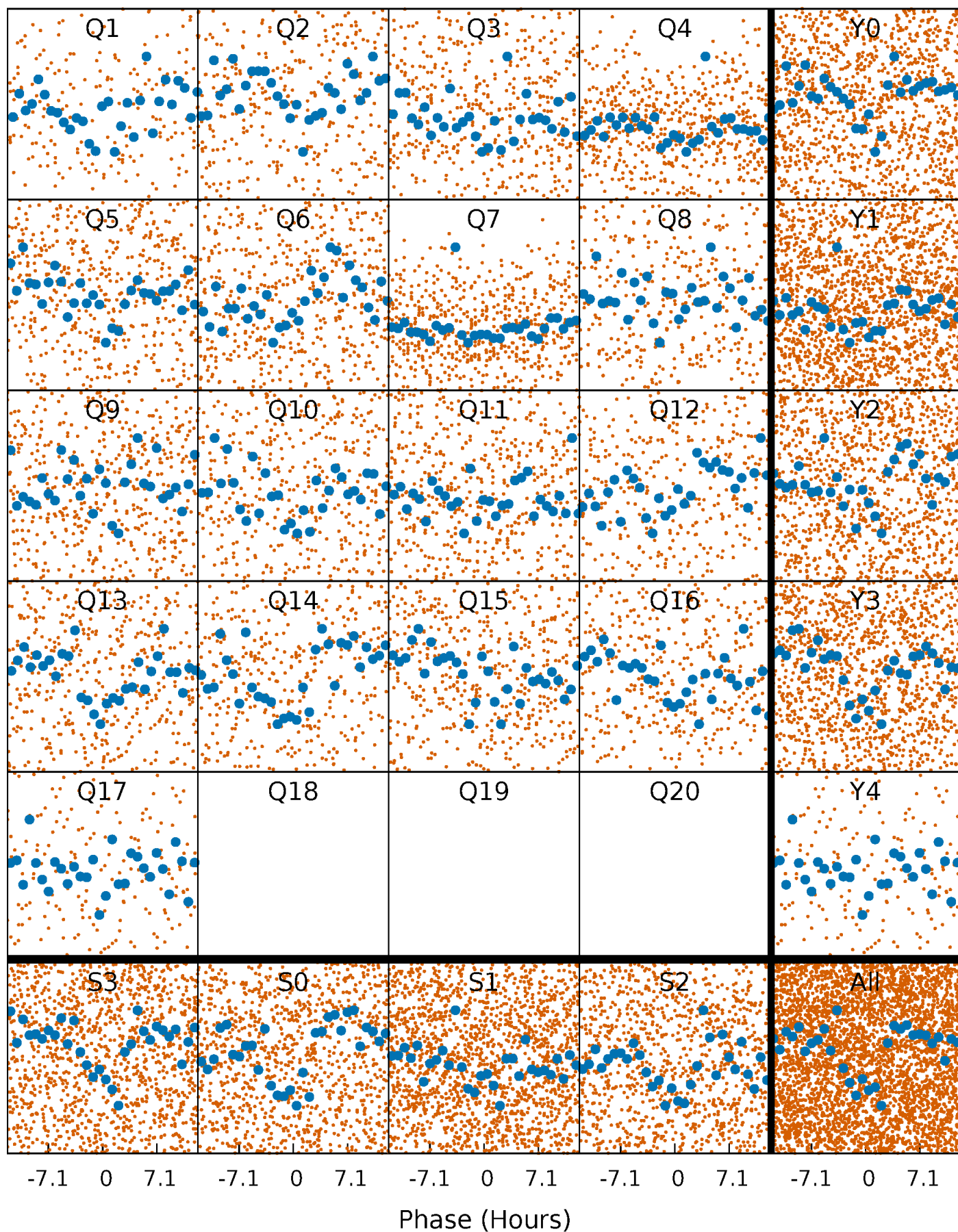


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



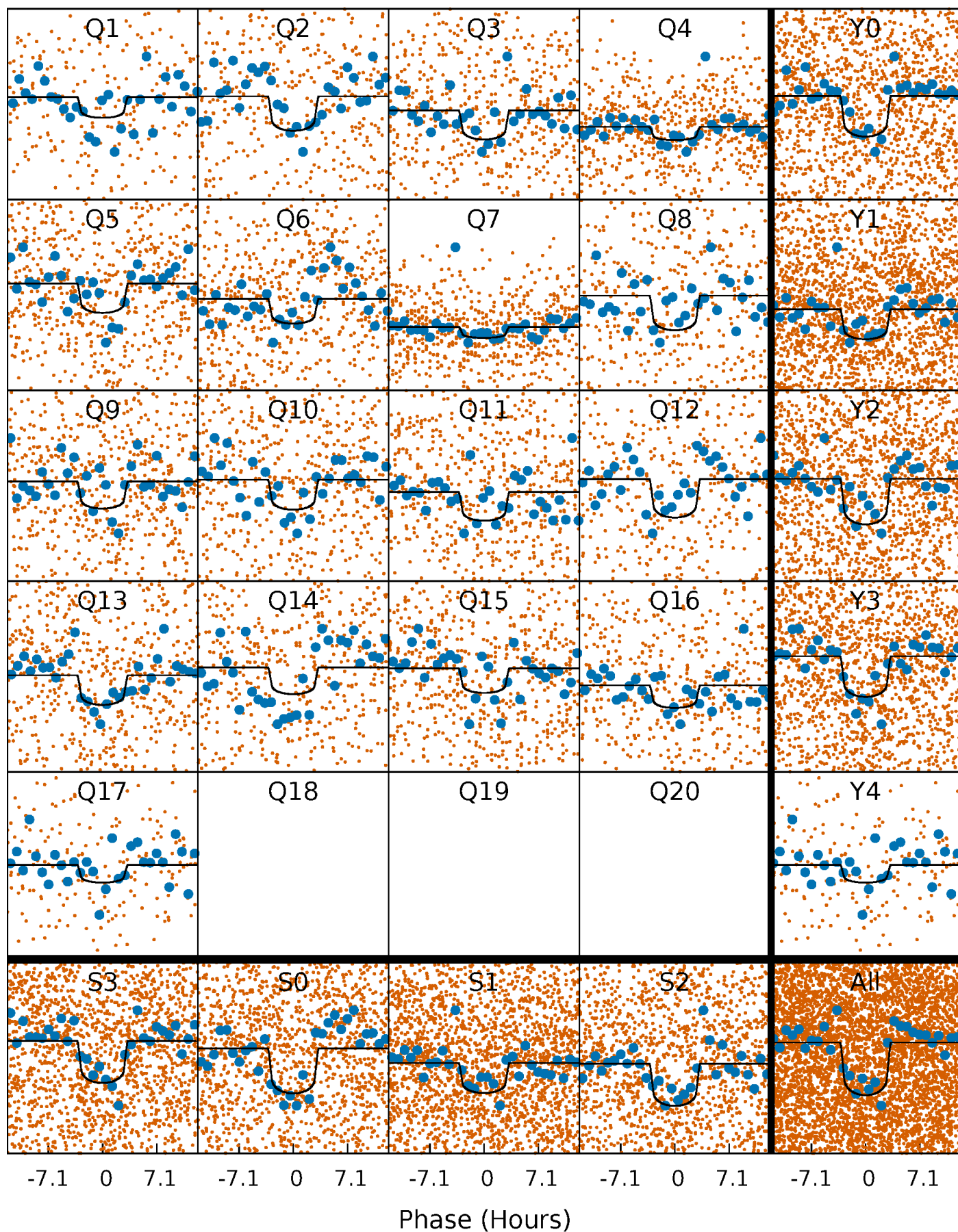
PDC Quarter-Phased Transit Curves

TCE 009009036-01 P= 6.762903 Days $T_0=135.675578$ (BKJD)



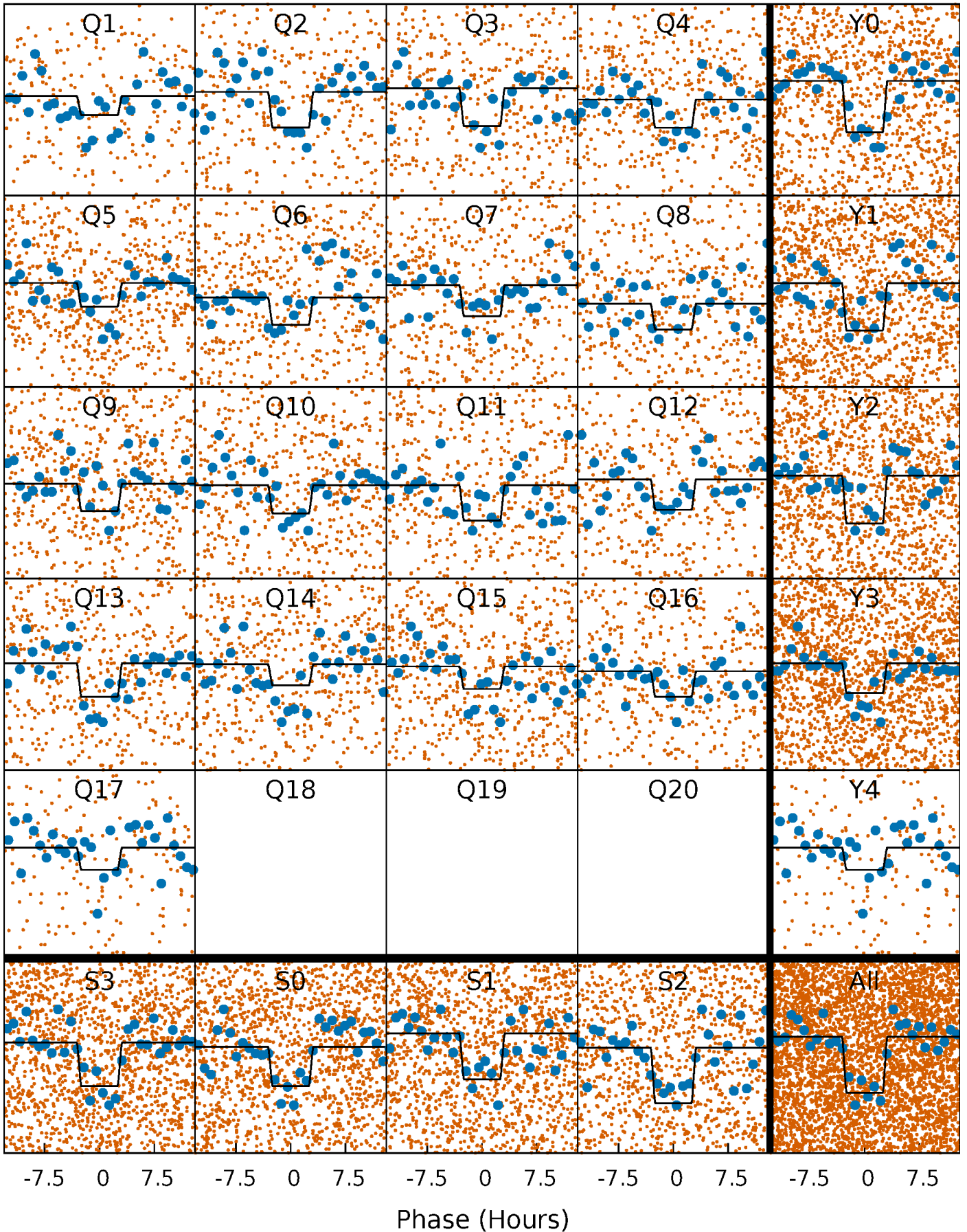
DV Quarter-Phased Transit Curves

TCE 009009036-01 P= 6.762903 Days $T_0=135.675578$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

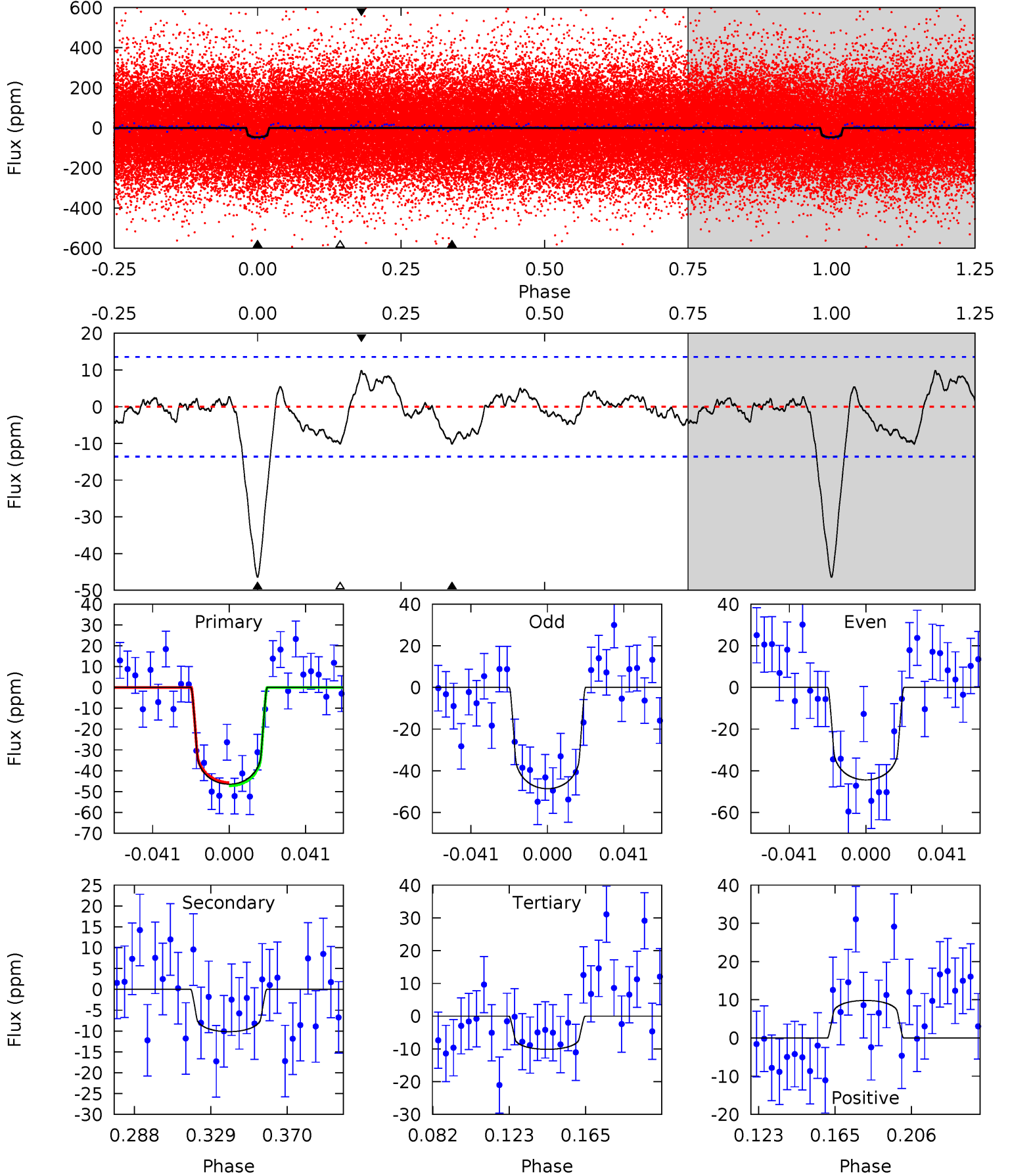
TCE 009009036-01 P= 6.762868 Days $T_0=135.679321$ (BKJD)



DV Model-Shift Uniqueness Test

009009036-01, P = 6.762903 Days, E = 128.912675 Days

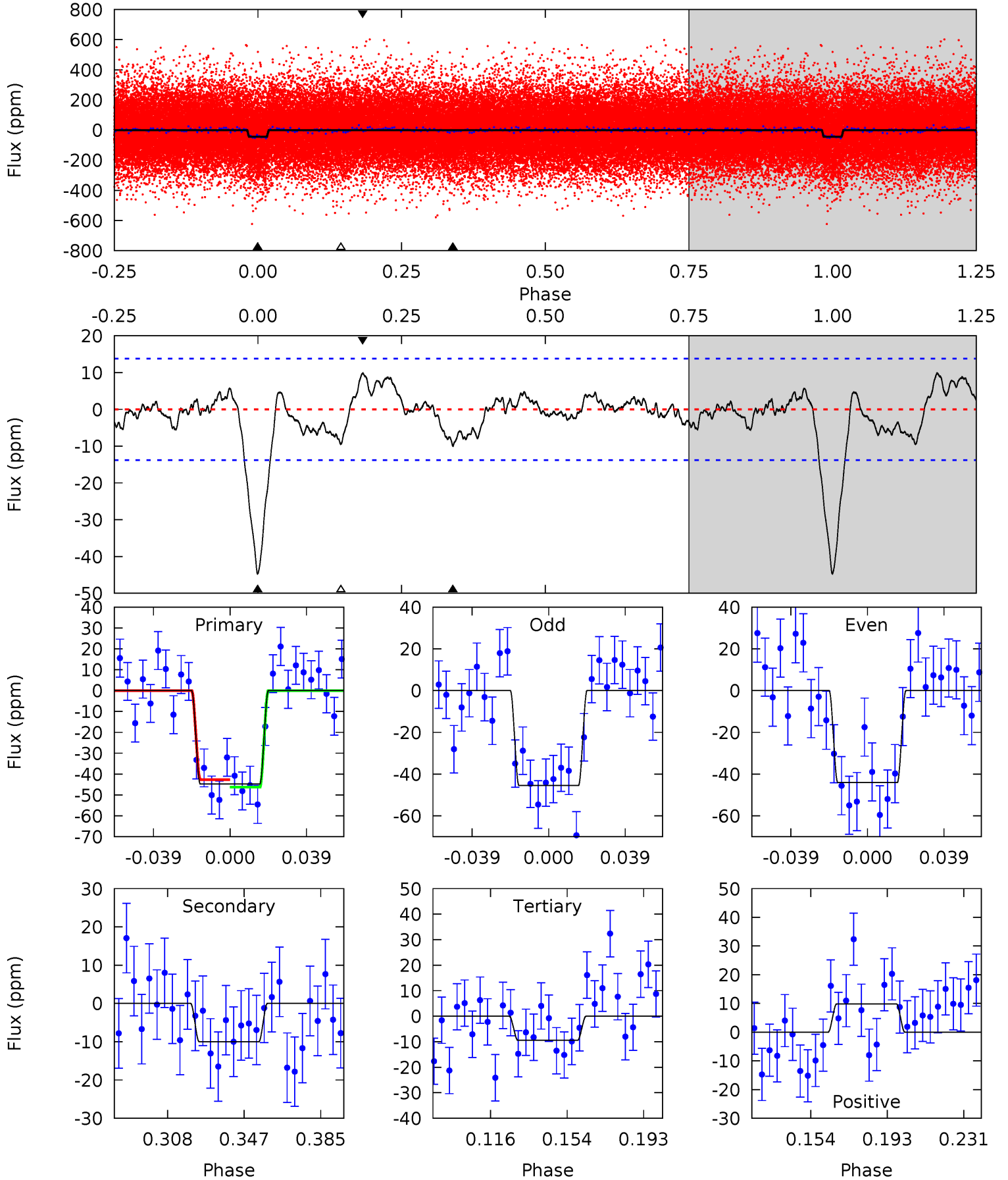
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.2	3.55	3.55	3.43	4.75	2.04	1.34	12.7	12.8	0.01	0.12	0.74	1.08	0.17	0.26



Alt Model-Shift Uniqueness Test

009009036-01, P = 6.762868 Days, E = 128.916453 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.4	3.45	3.26	3.40	4.76	2.07	1.25	12.2	12.0	0.18	0.04	0.24	1.08	0.18	0.63



Stellar Parameters For KIC 009009036

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6547^{+146}_{-194}	$4.122^{+0.192}_{-0.128}$	$-0.160^{+0.250}_{-0.300}$	$1.630^{+0.329}_{-0.402}$	$1.289^{+0.150}_{-0.225}$	$0.419^{+0.402}_{-0.164}$
	+2%/-3%	+5%/-3%	+156%/-188%	+20%/-25%	+12%/-17%	+96%/-39%
Source	PHO1	FLK73	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 009009036-01 / KOI 4585.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-10 ± 3	$1.28^{+0.46}_{-0.39}$	1855^{+117}_{-113}	4466^{+702}_{-530}	19^{+20}_{-9}
Alt.	-10 ± 3	$1.11^{+0.44}_{-0.36}$	1859^{+108}_{-128}	4679^{+954}_{-574}	24^{+33}_{-13}

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 $A_{obs} \gg 1.0$

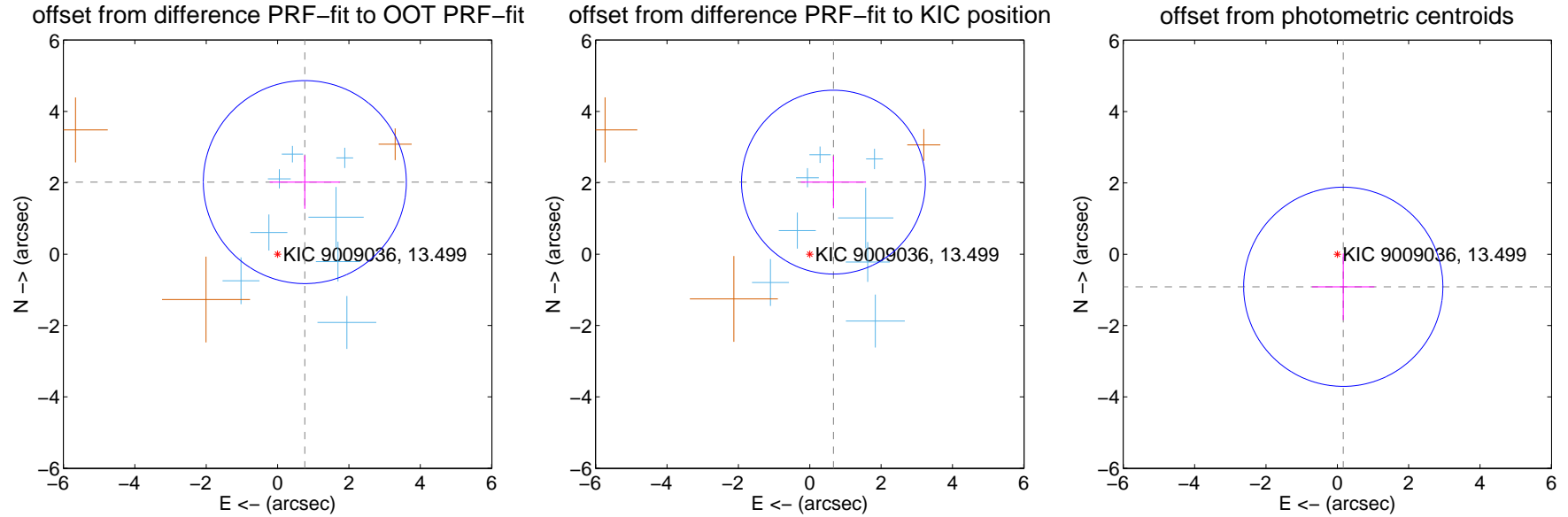
DV Centroid Data

Supplemental centroid analysis for 009009036-01. Kepler magnitude: 13.50. Transit SNR 11.51

There are 8 quarters with good PRF difference image offsets

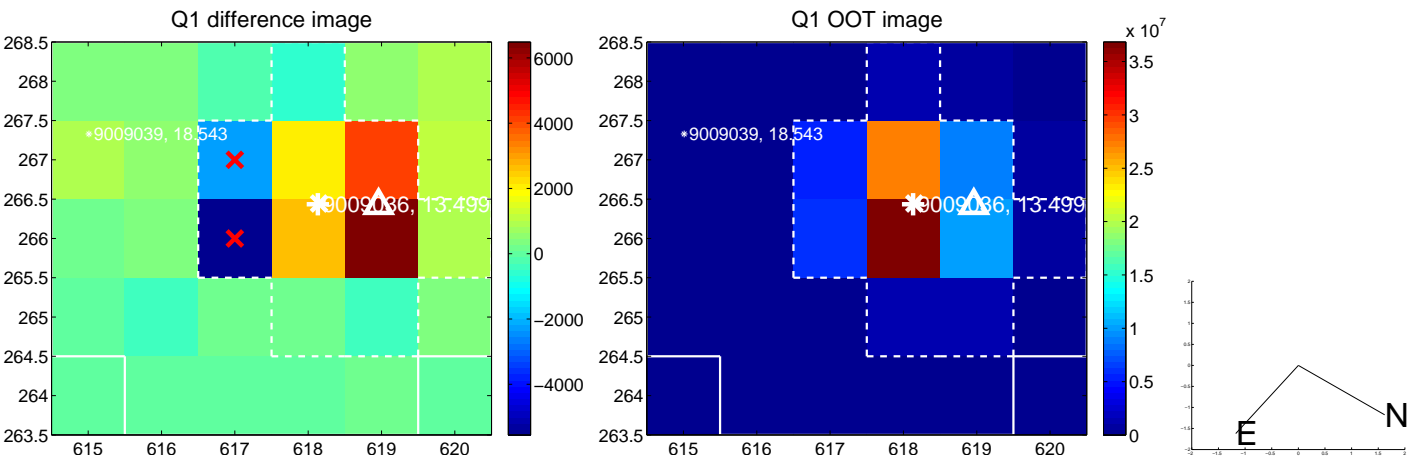
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.160 ± 0.948	2.28	-0.764 ± 0.984	2.020 ± 0.748
PRF-fit source offset from KIC position	2.125 ± 0.859	2.47	-0.664 ± 0.912	2.019 ± 0.732
photometric centroid source offset	0.93 ± 0.93	1.00	-0.17 ± 0.87	-0.91 ± 0.93

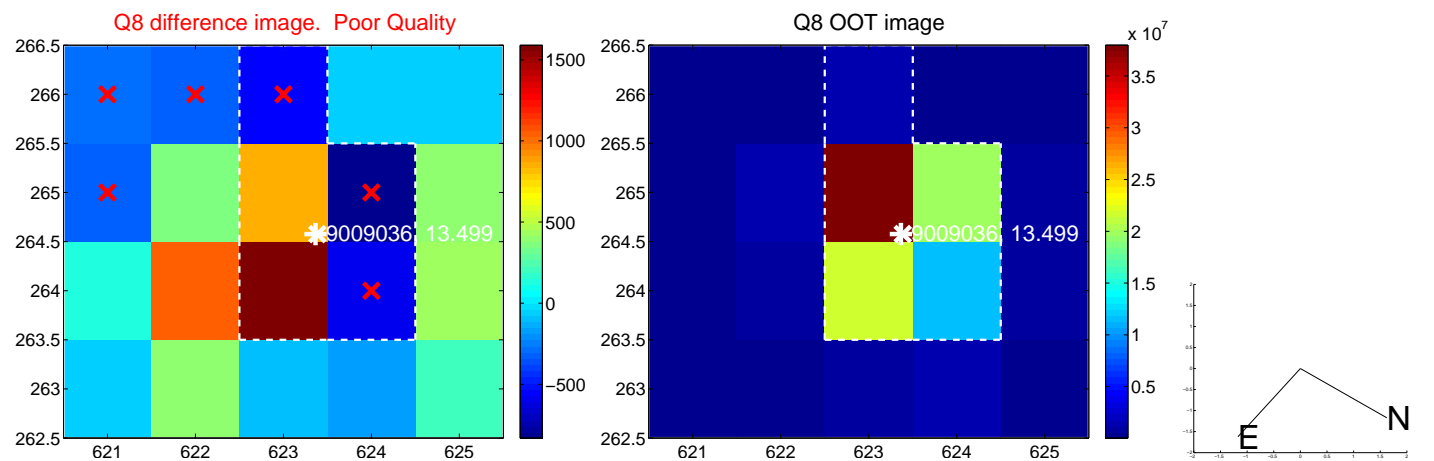
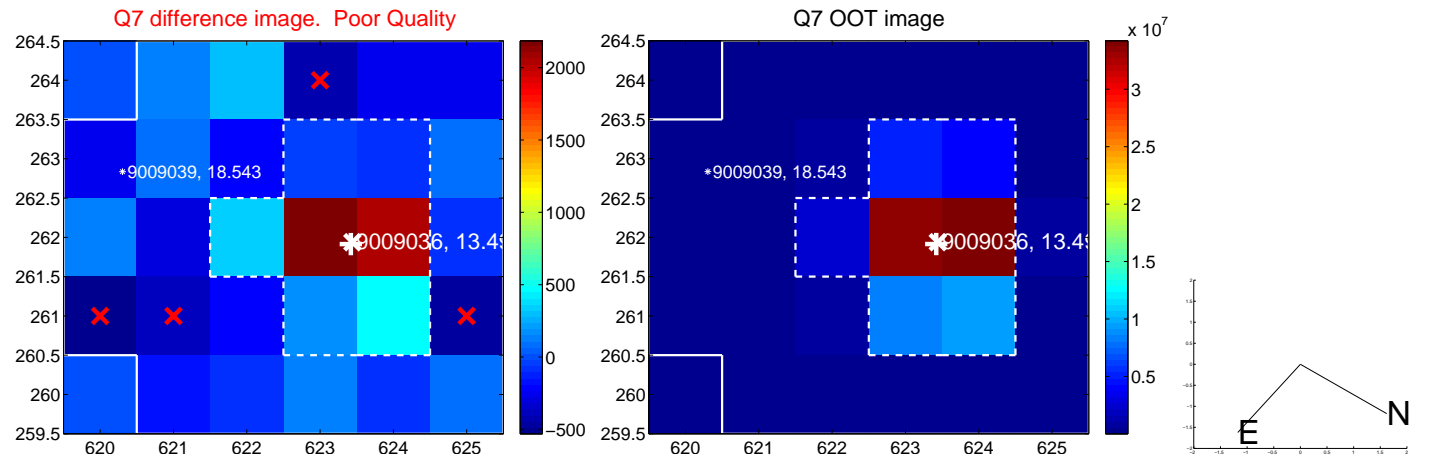
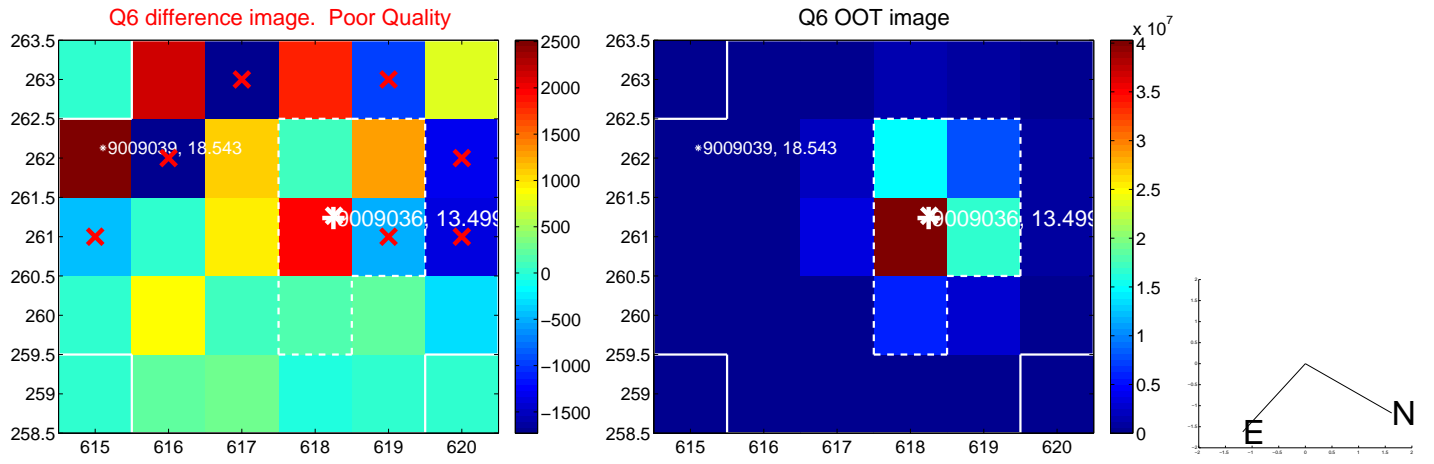
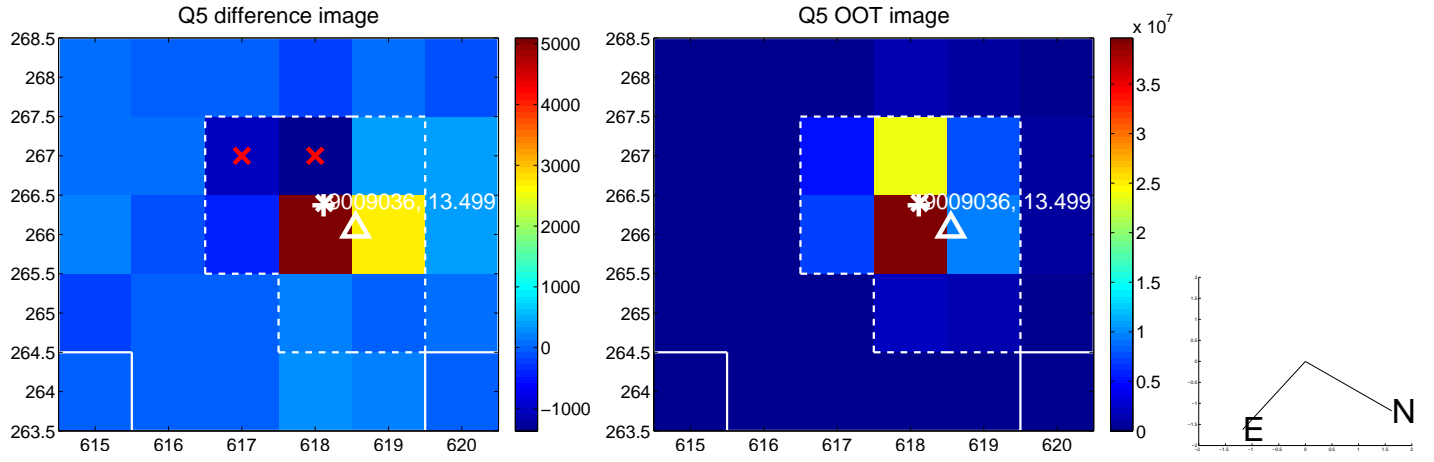


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

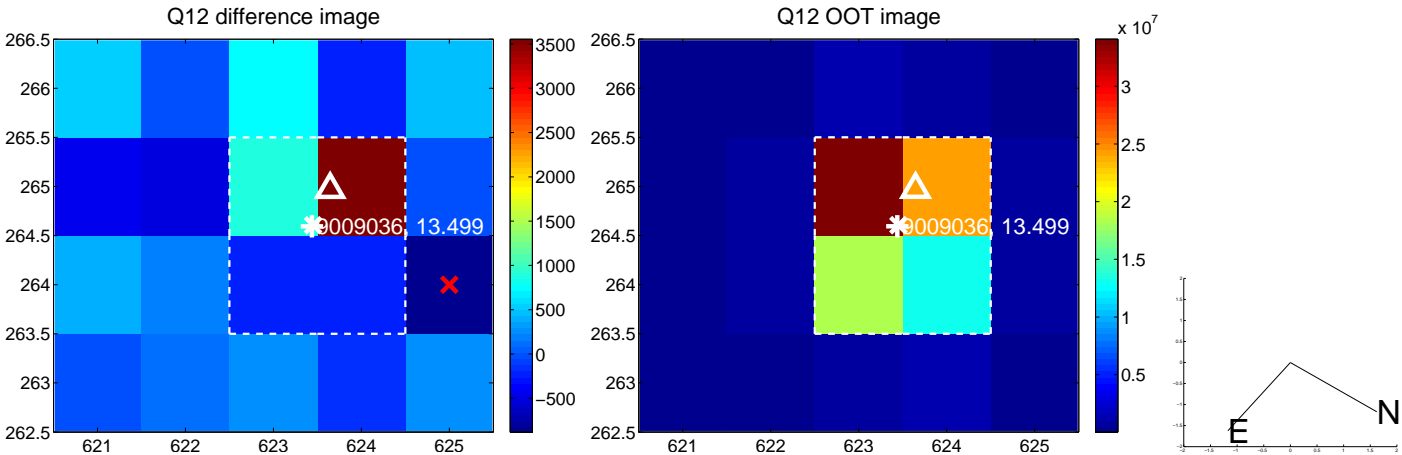
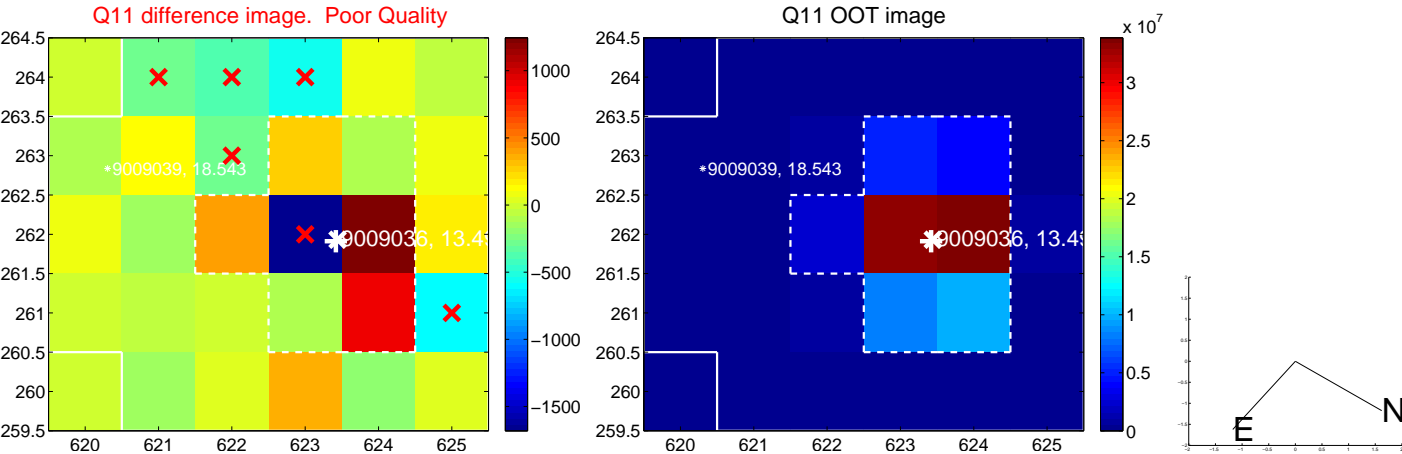
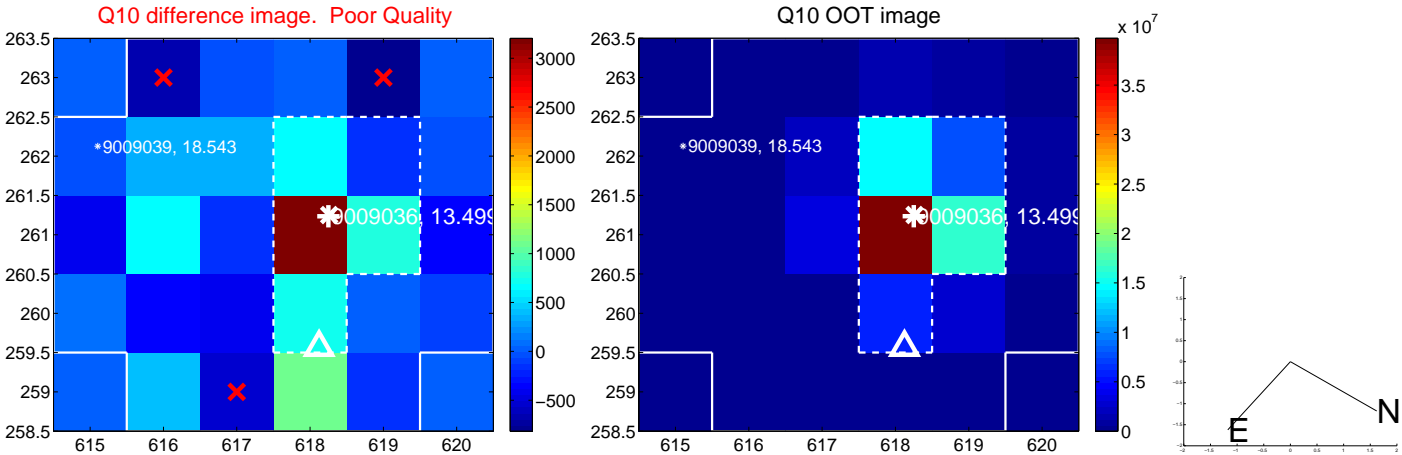
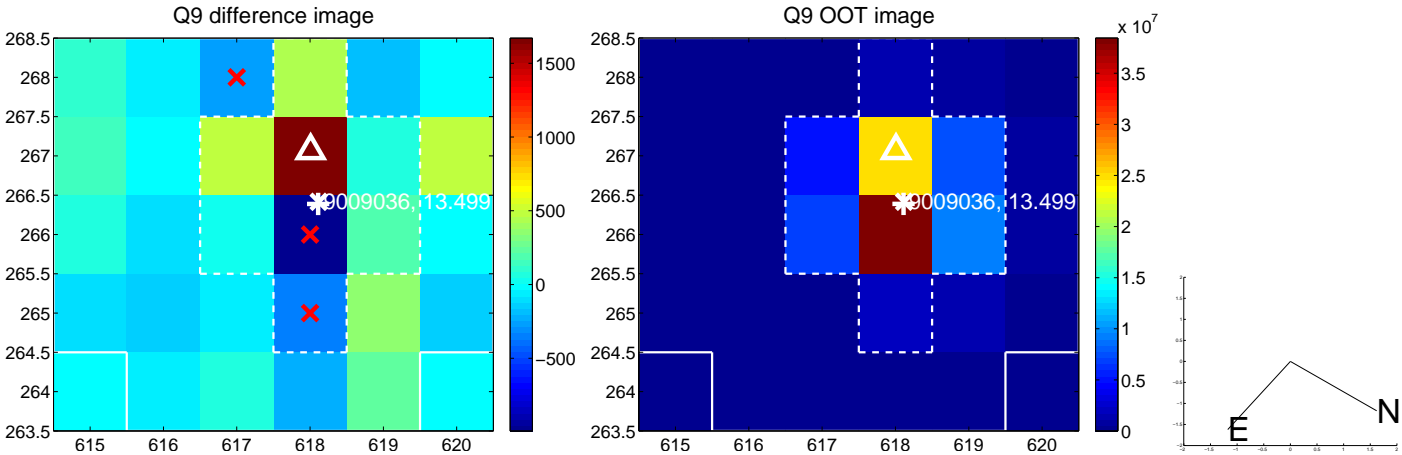
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



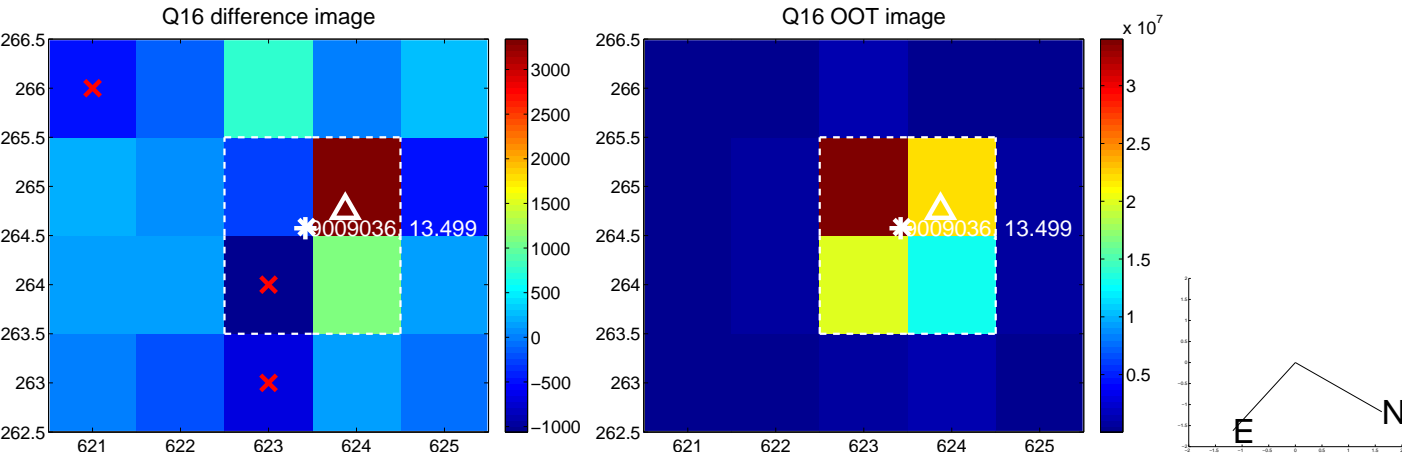
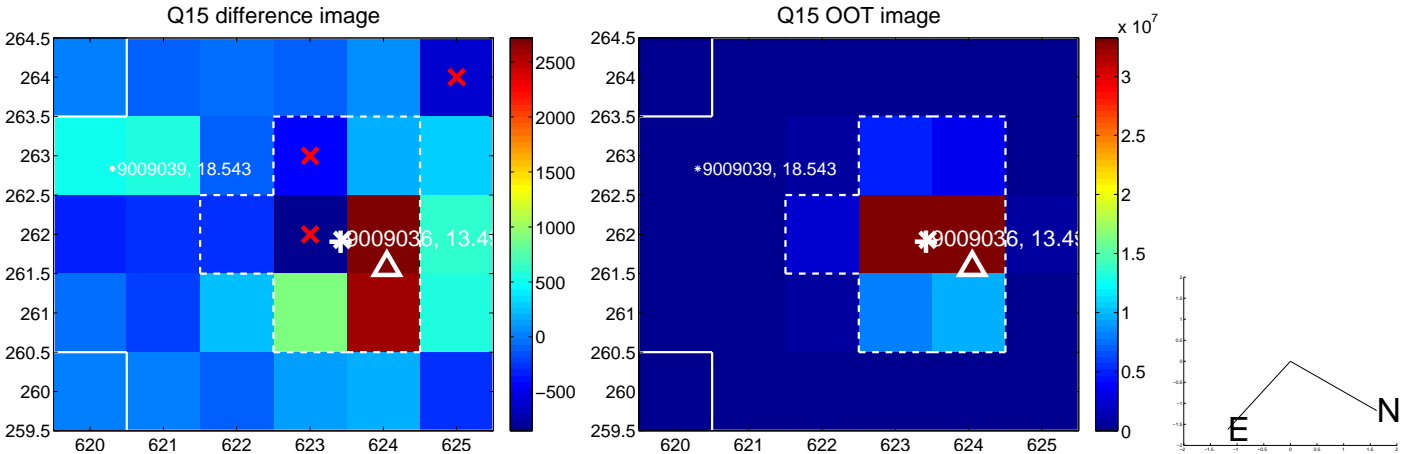
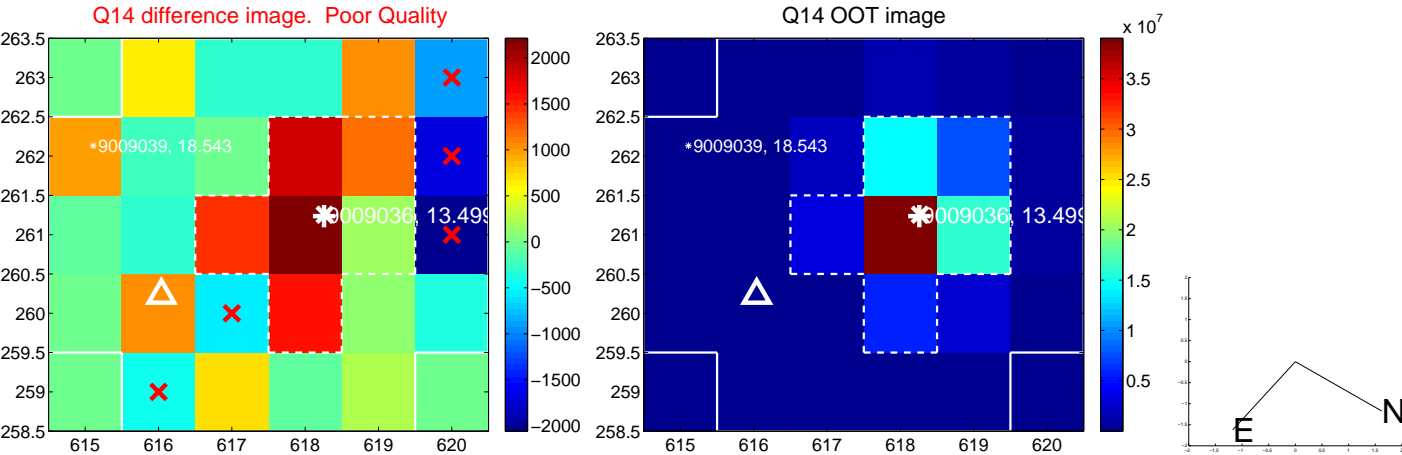
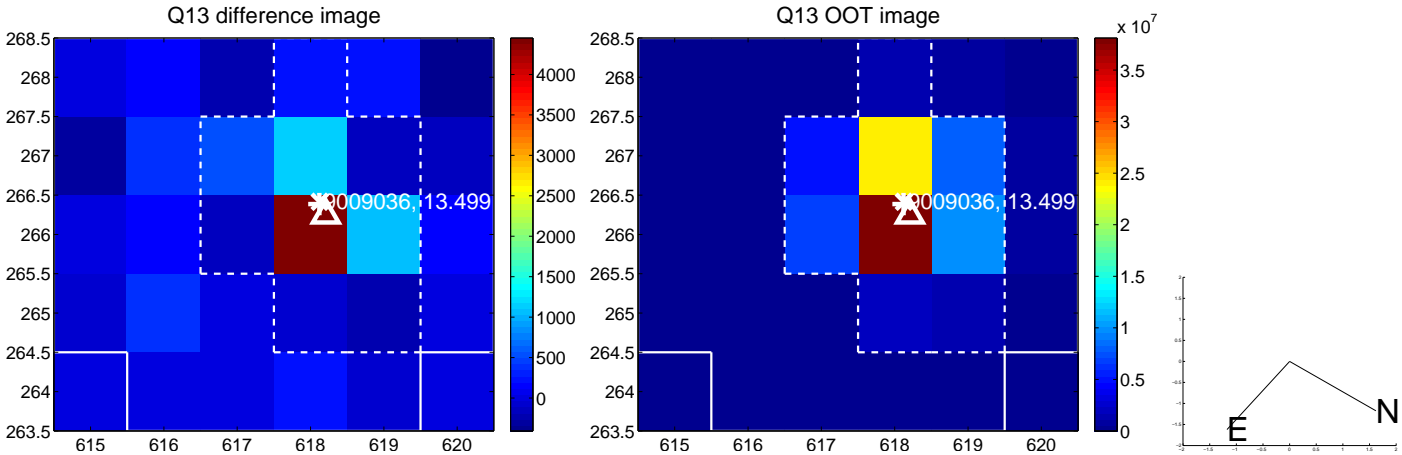
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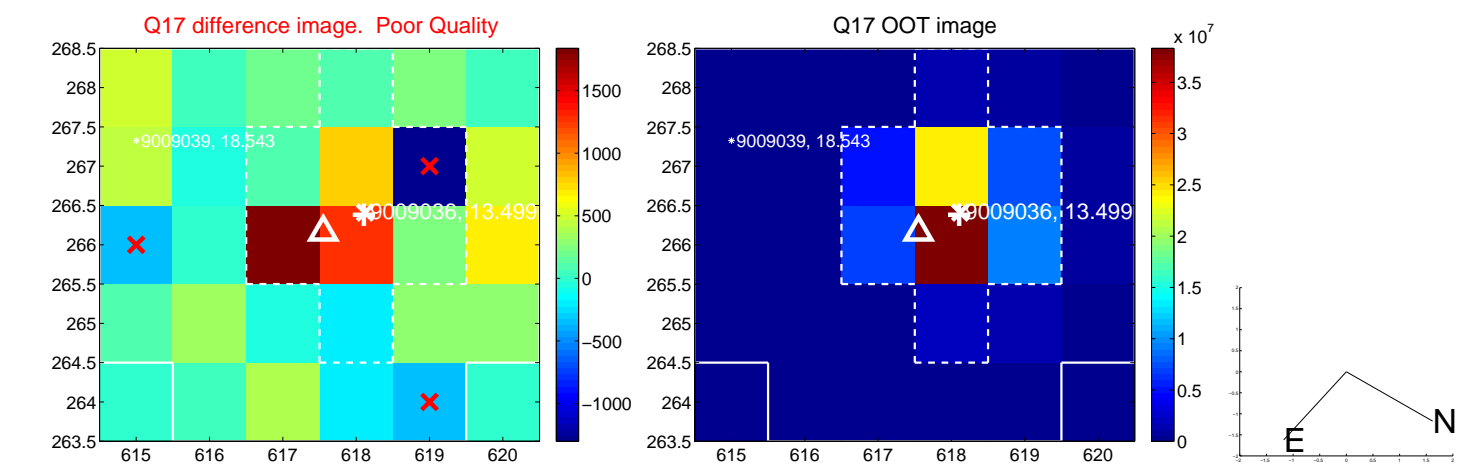
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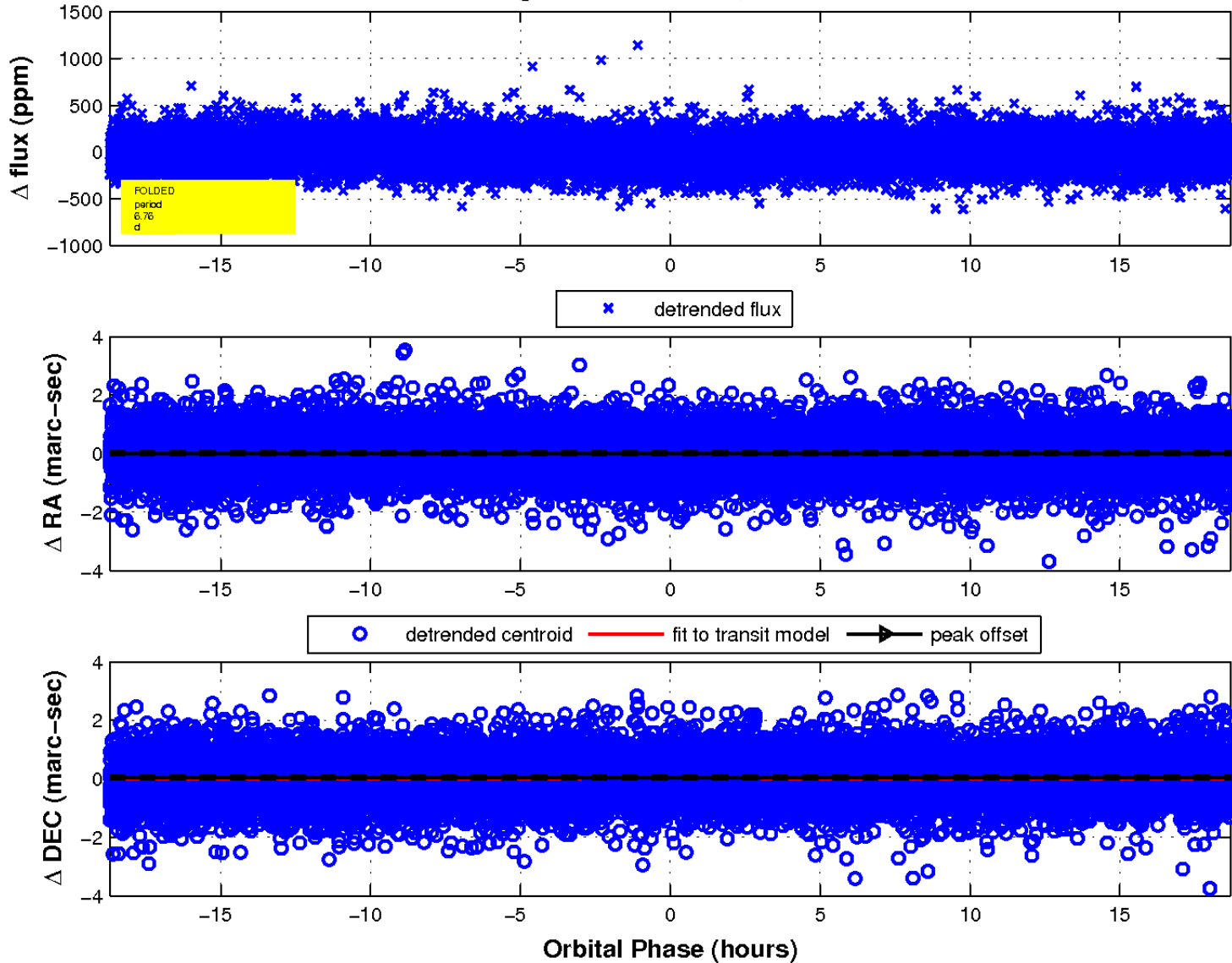
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

