

KIC 003120904

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})
003120904-01	OBS	3277.01	42.913631	139.888326	154.0	5.388	14.6	14.4	2.48	6049	3.49	101.74

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003120904-01	OBS	PC	0.99	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.

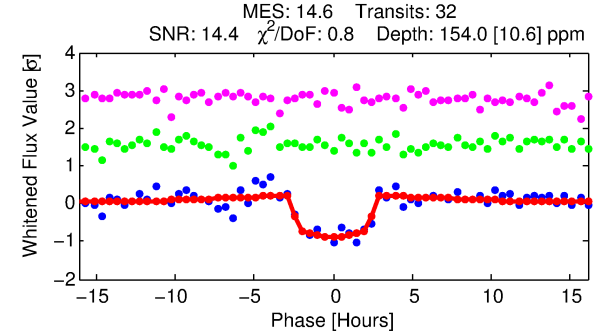
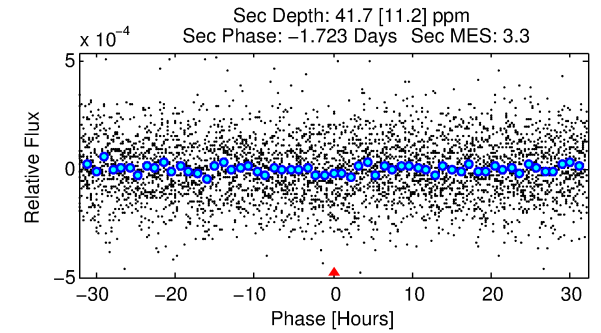
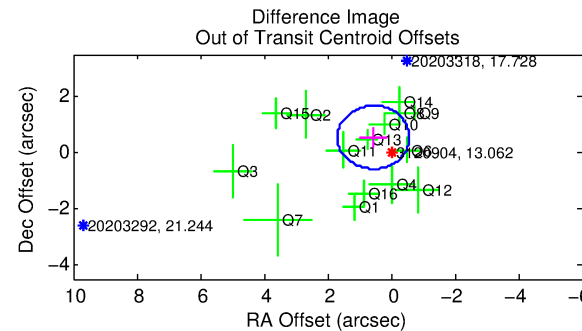
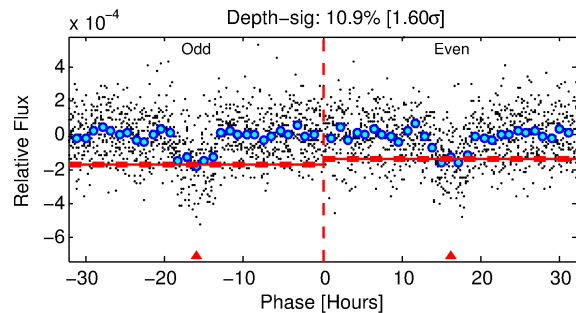
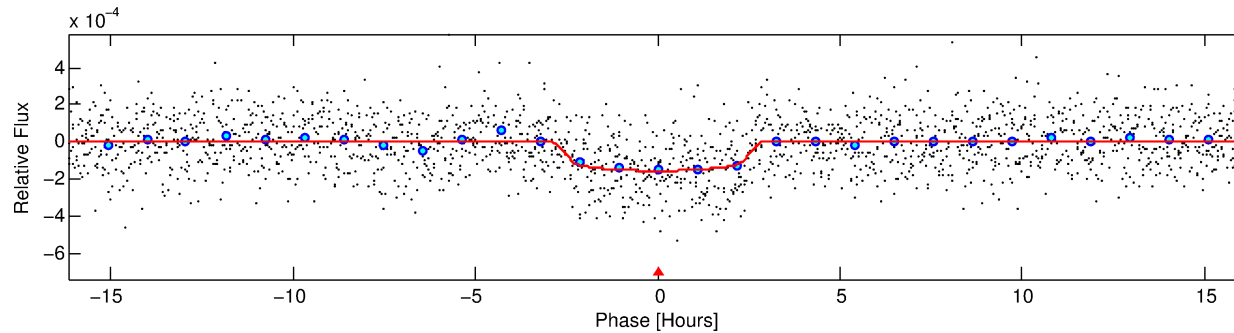
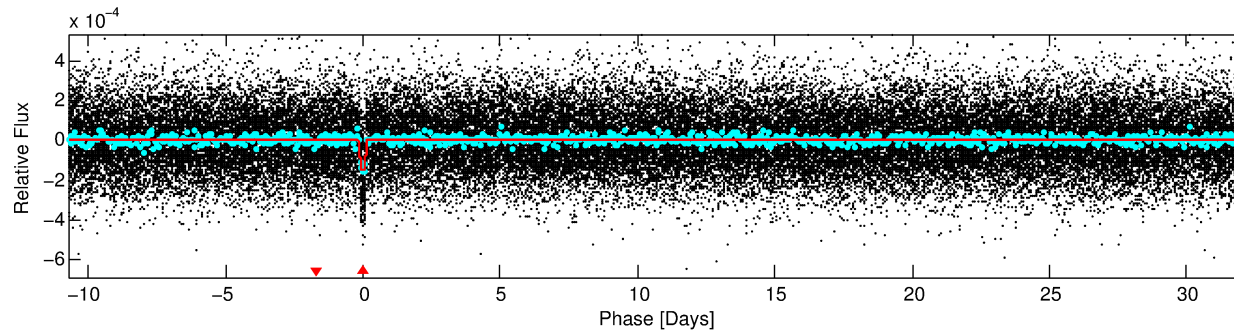
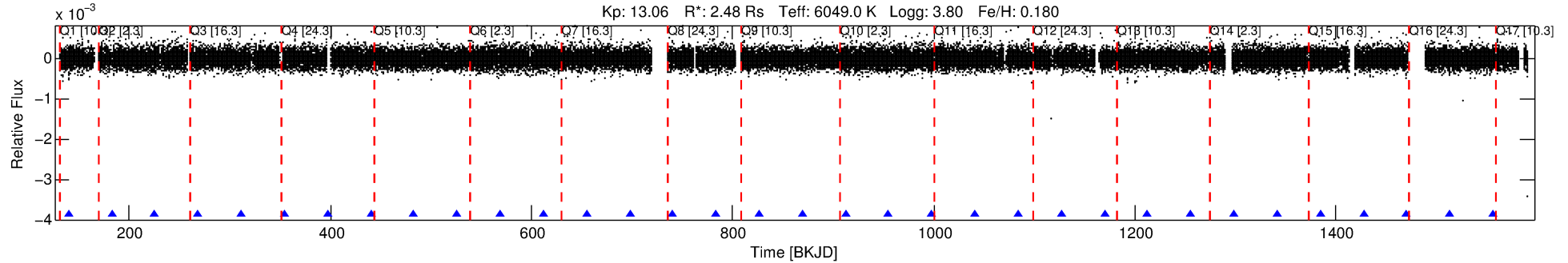
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003120904-01

No Significant Match Found

DV One-Page Summary

KIC: 3120904 Candidate: 1 of 1 Period: 42.914 d
KOI: K03277.01 Corr: 0.975



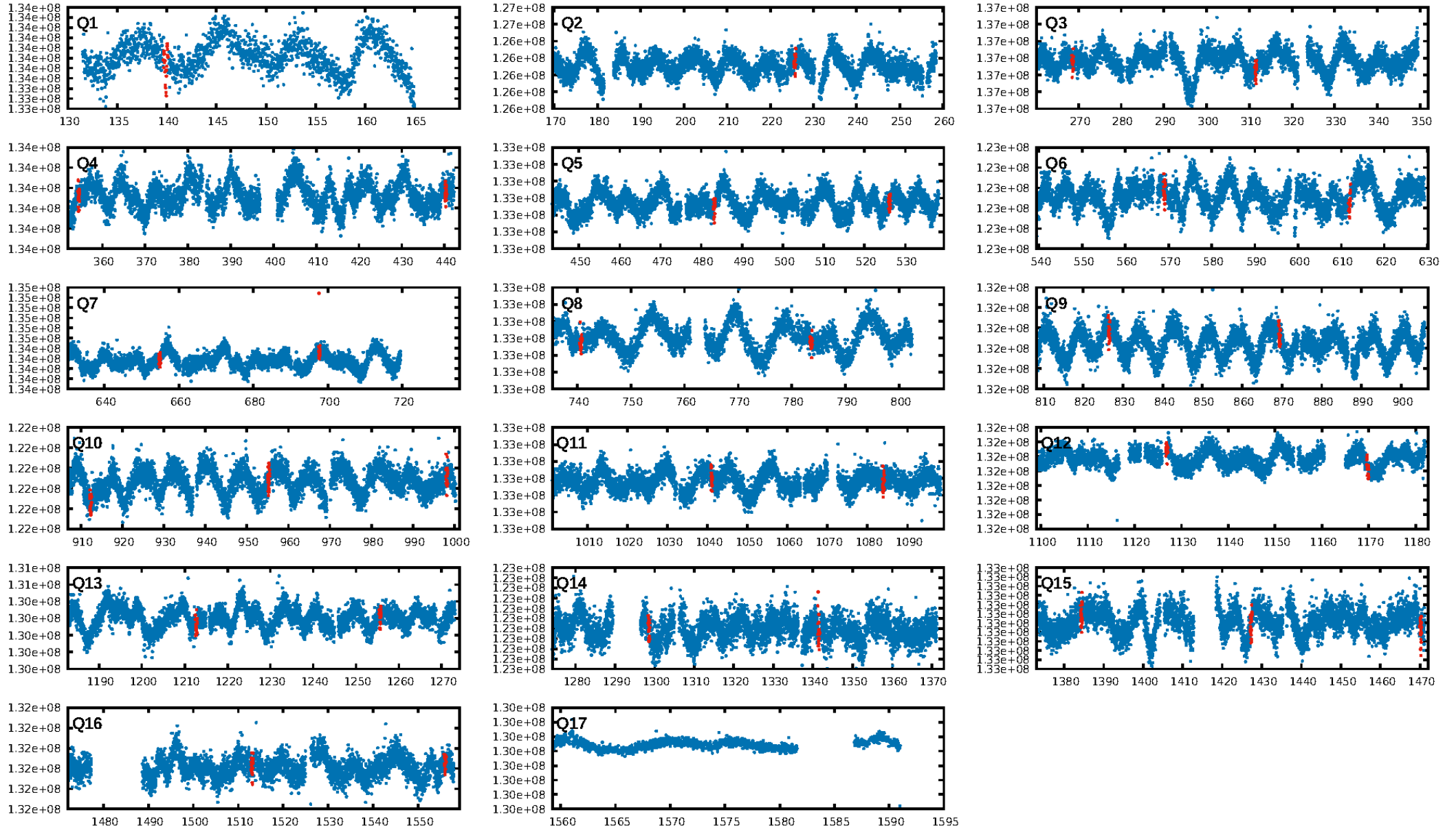
DV Fit Results:

Period = 42.91363 [0.00033] d
Epoch = 139.8883 [0.0068] BKJD
Rp/R* = 0.0129 [0.0046]
a/R* = 34.01 [59.71]
b = 0.84 [0.60]
Seff = 101.74 [38.15]
Teq = 810 [76] K
Rp = 3.49 [1.55] Re
a = 0.2696 [0.0639] AU
Ag = 136.54 [115.62] [1.17 σ]
Teffp = 4280 [821] K [4.21 σ]

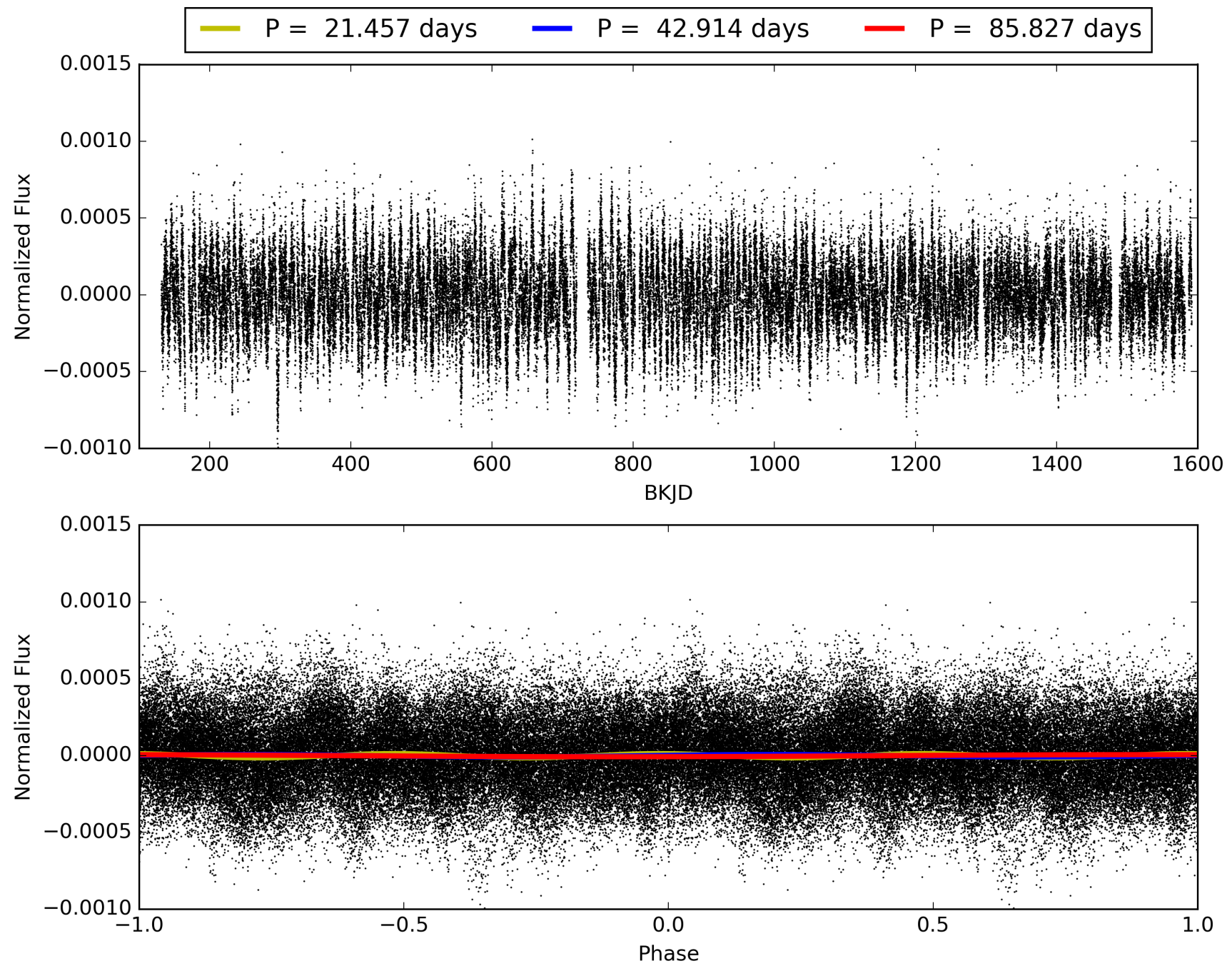
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 95.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.22e-47
RollingBand-fgt: 1.00 [31/31]
GhostDiagnostic-chr: 1.724
Centroid-sig: 32.7%
Centroid-so: 0.807 arcsec [0.85 σ]
OotOffset-rm: 0.786 arcsec [2.09 σ]
KicOffset-rm: 0.709 arcsec [1.85 σ]
OotOffset-st: 4/4/4/3 [15]
KicOffset-st: 4/4/4/3 [15]
DiffImageQuality-fgm: 0.73 [11/15]
DiffImageOverlap-fno: 1.00 [16/16]

TCE 003120904-01, PDC Light Curves

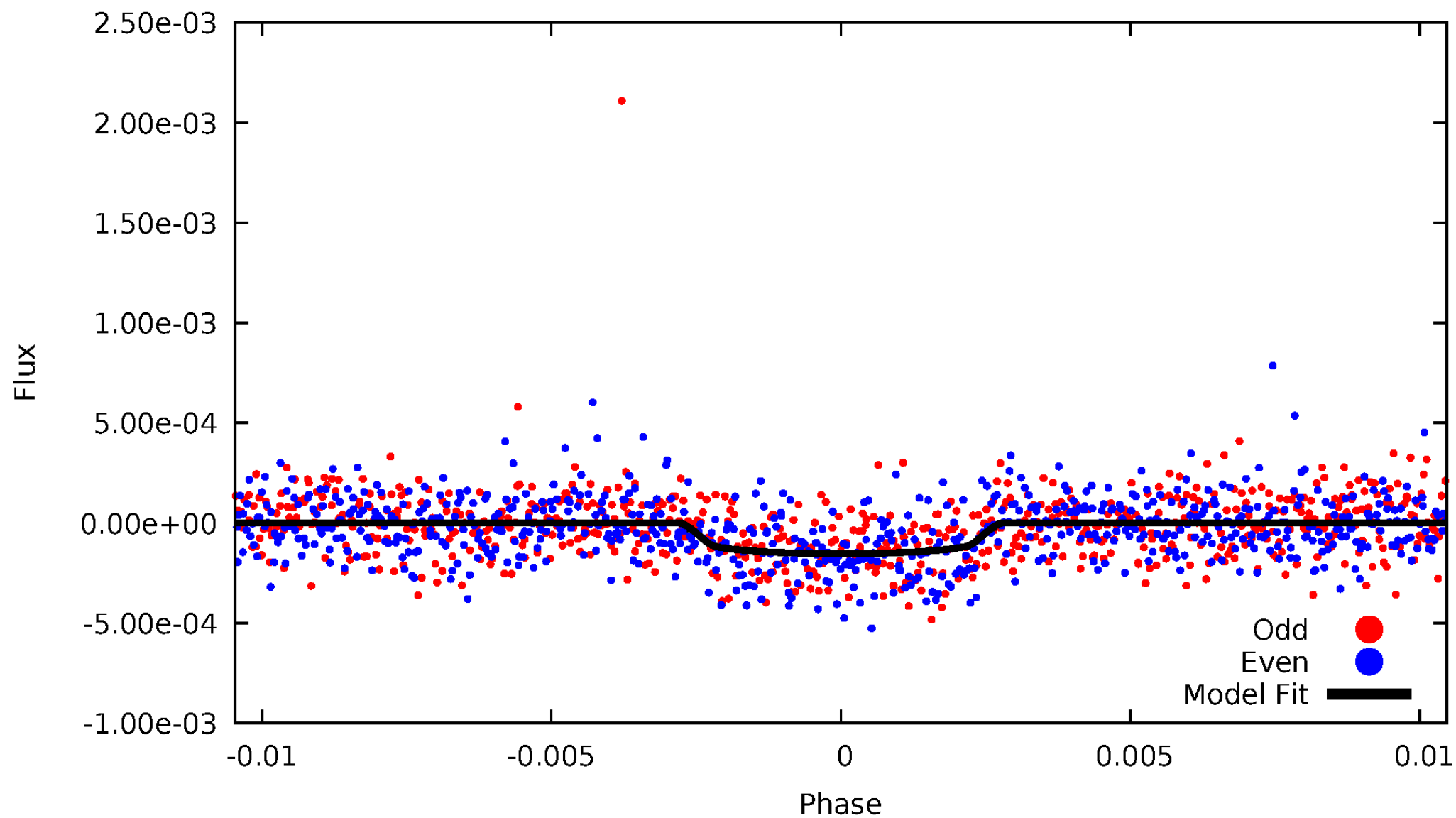


TCE 003120904-01



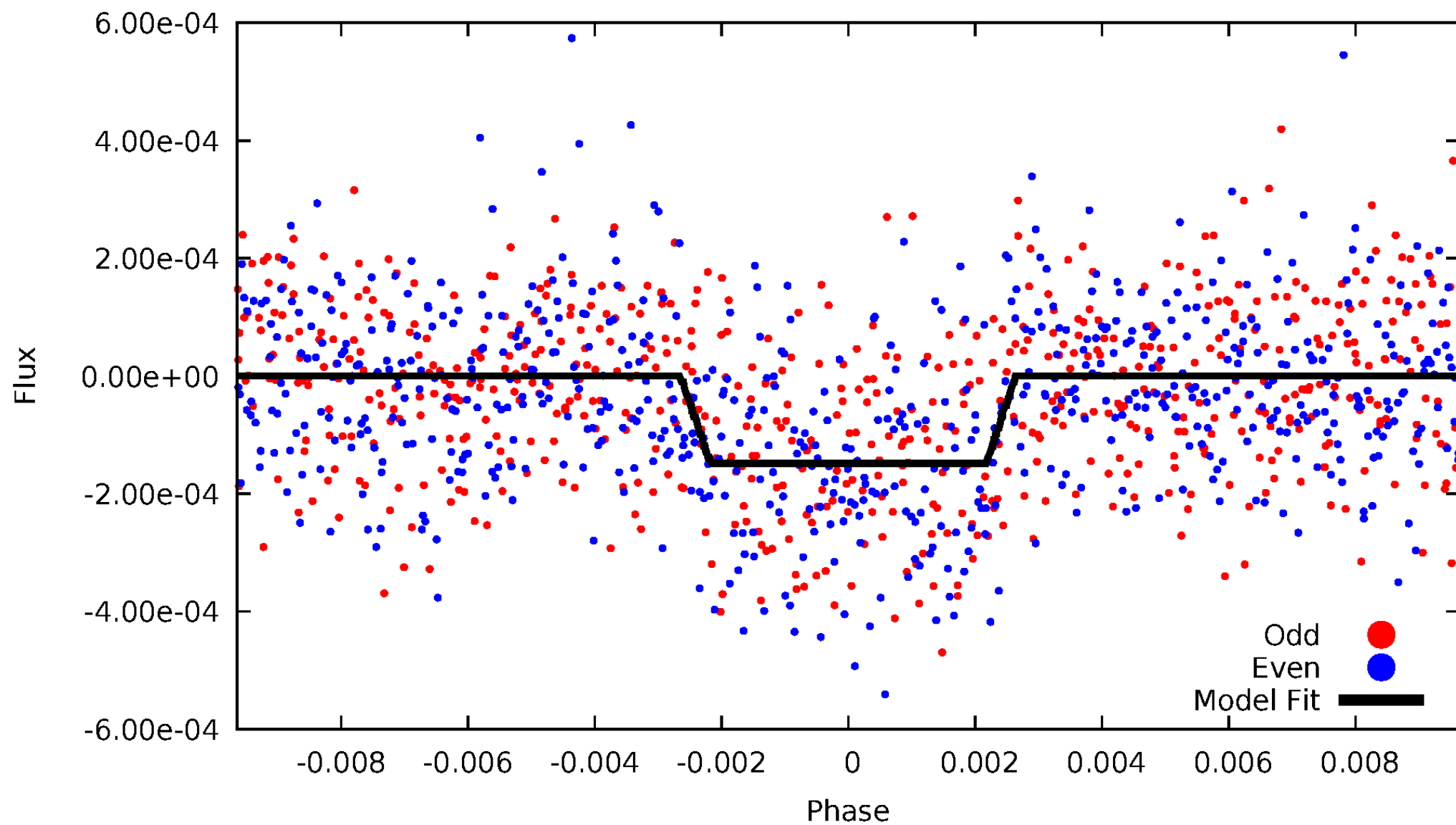
DV Odd/Even

TCE 003120904-01



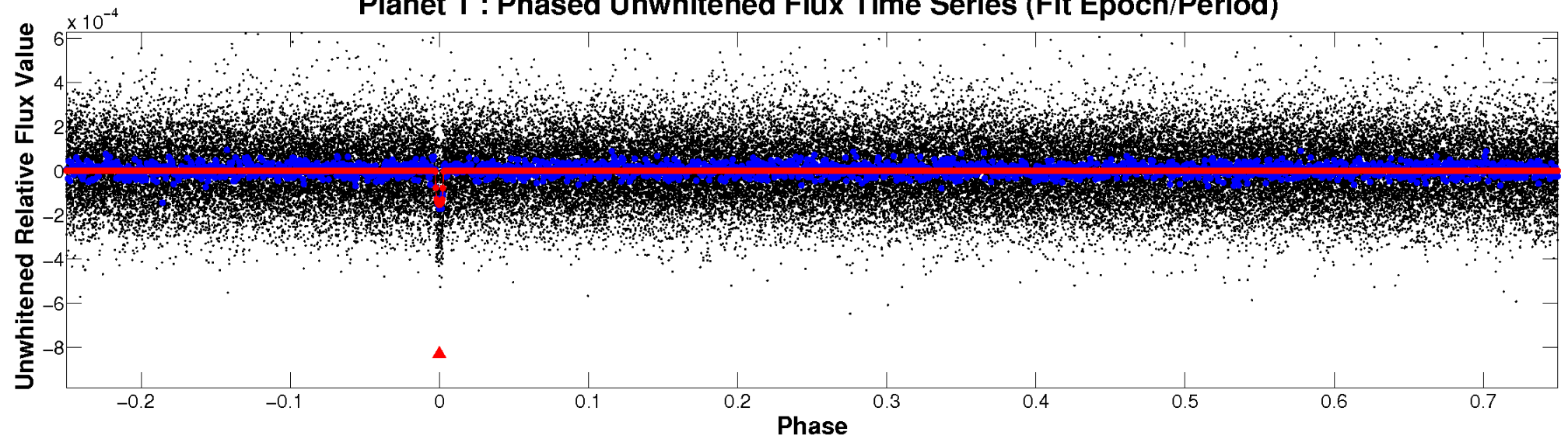
ALT Odd/Even

TCE 003120904-01

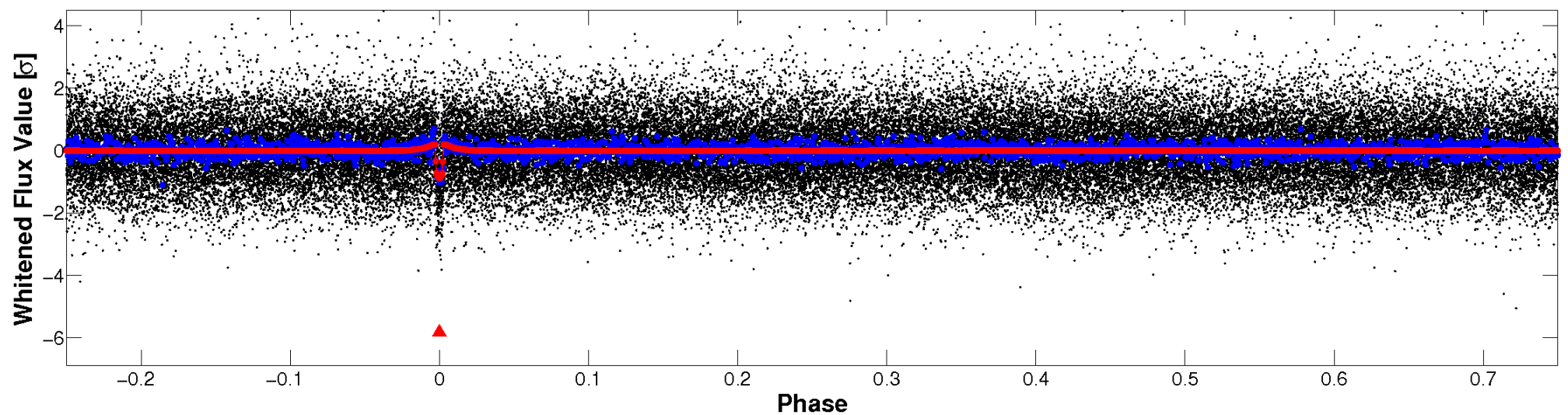


Non-Whitened Vs. Whitened Light Curve

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

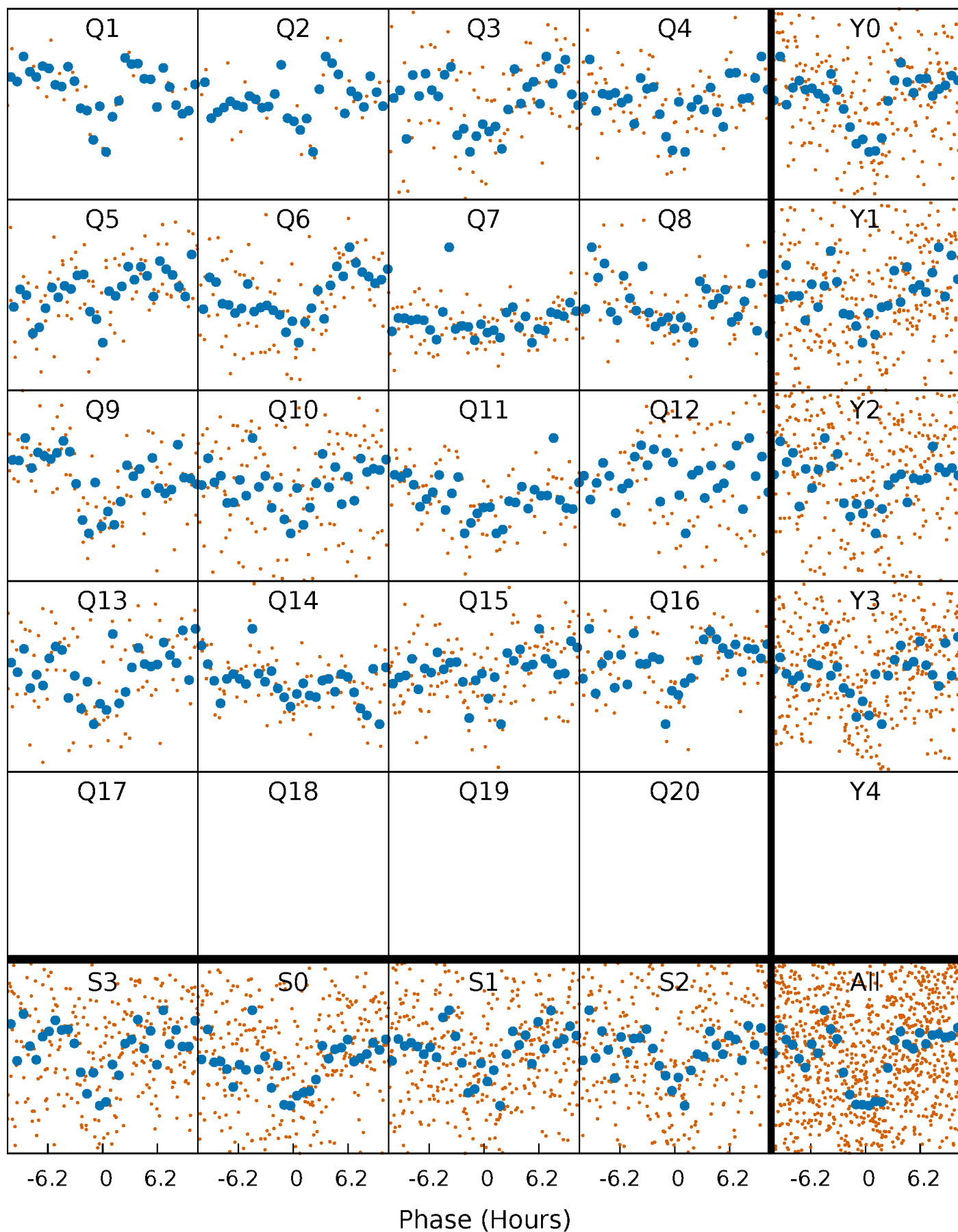


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



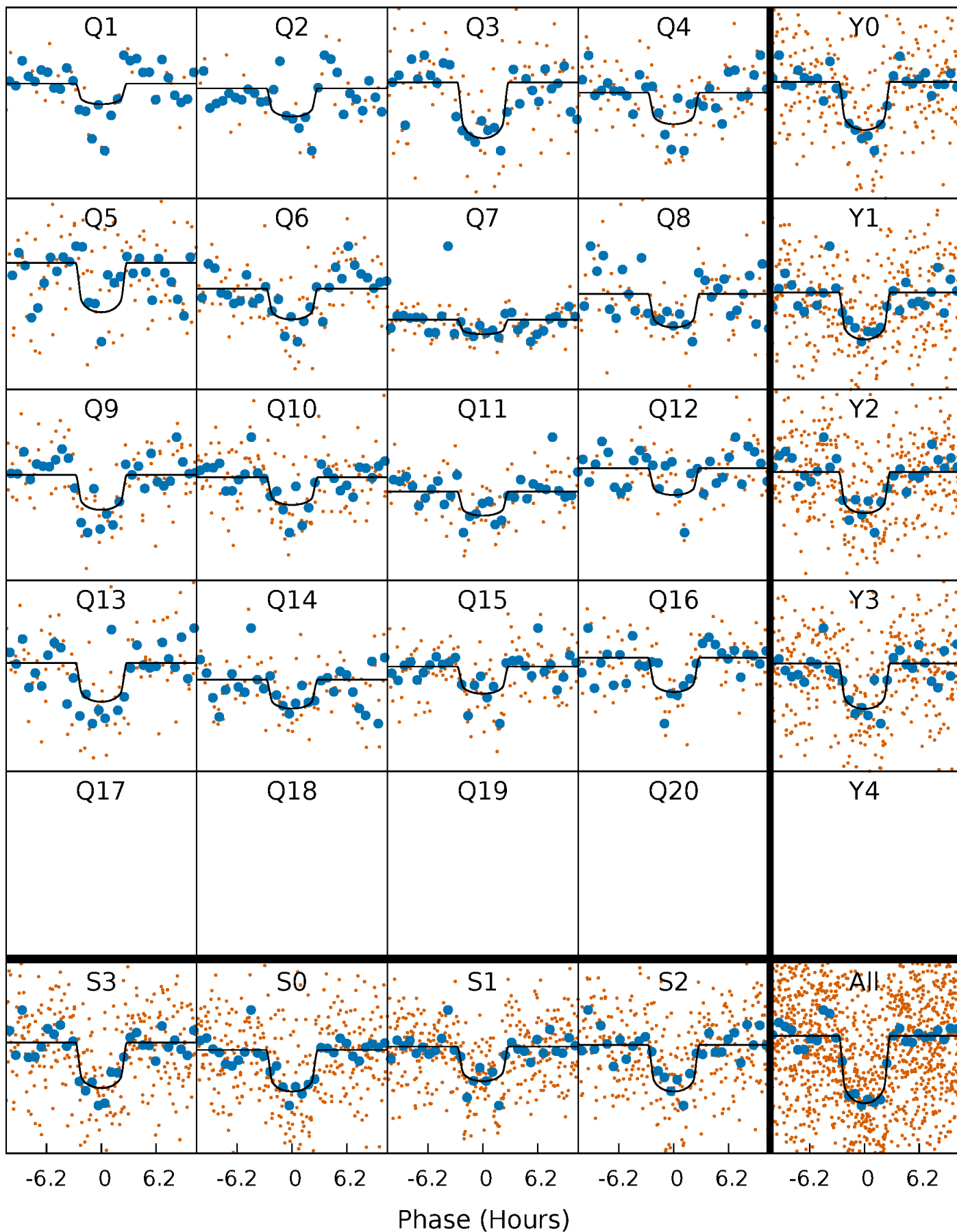
PDC Quarter-Phased Transit Curves

TCE 003120904-01 P= 42.913631 Days $T_0=139.888326$ (BKJD)



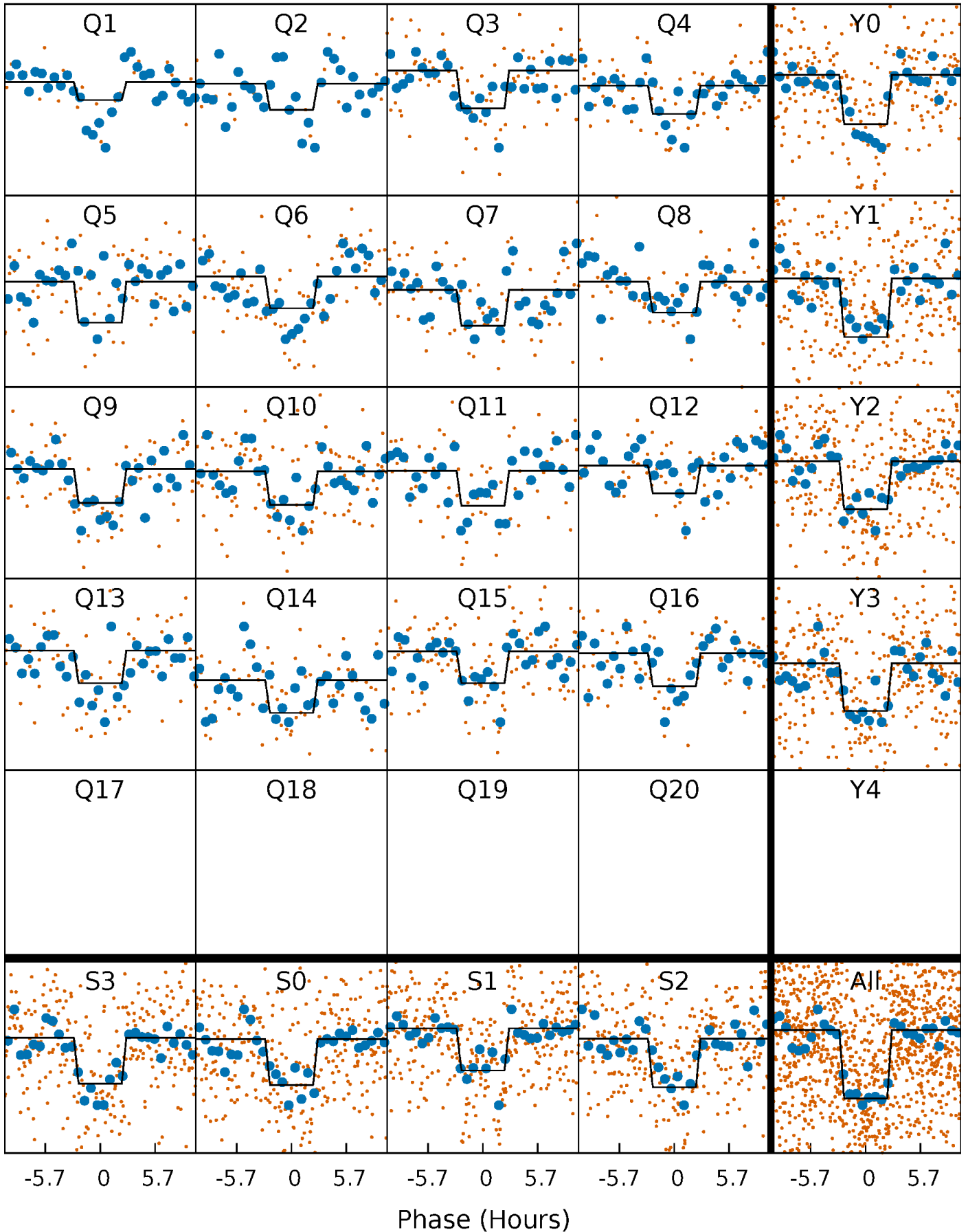
DV Quarter-Phased Transit Curves

TCE 003120904-01 P= 42.913631 Days $T_0=139.888326$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

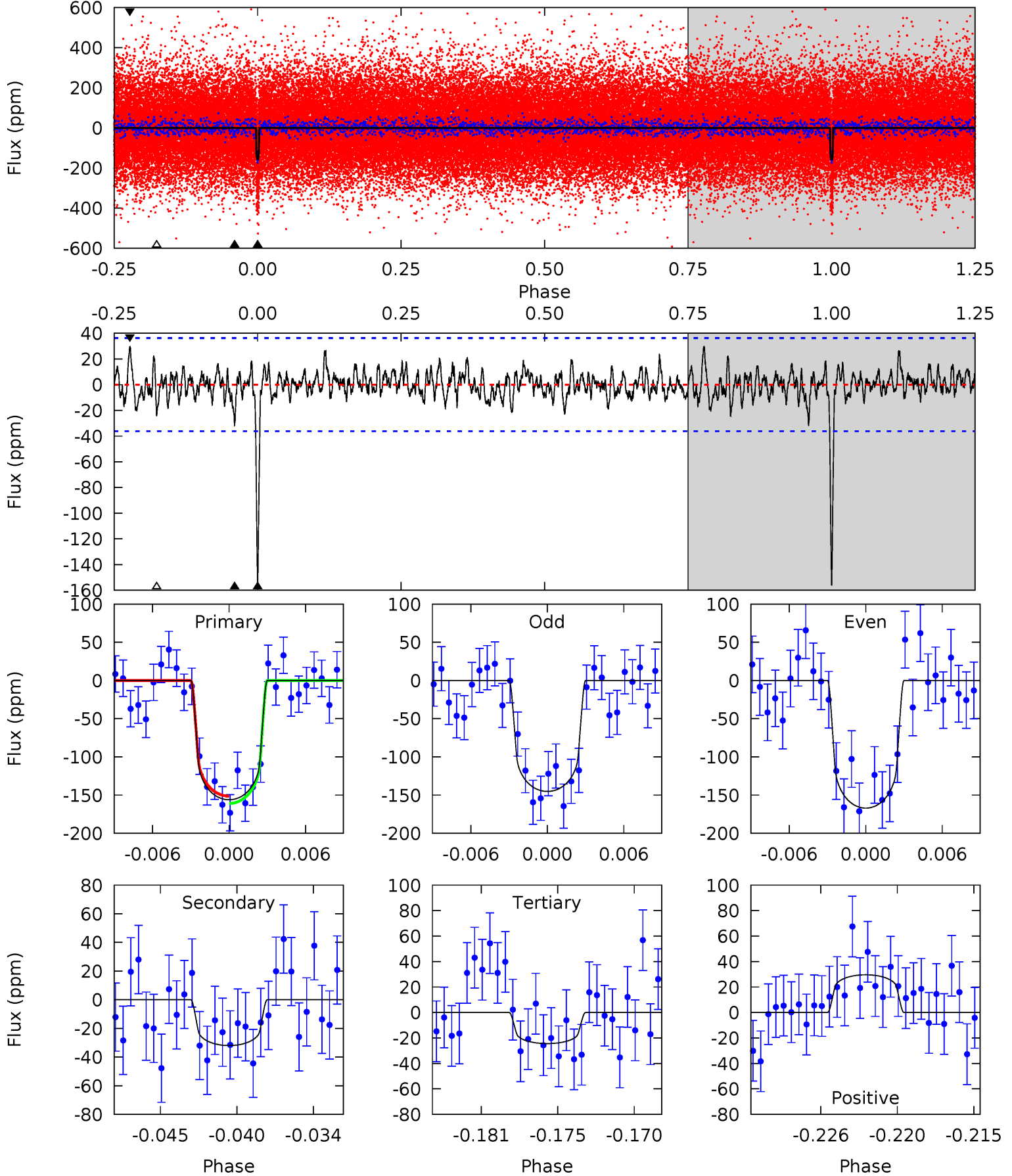
TCE 003120904-01 P= 42.913815 Days $T_0=139.886314$ (BKJD)



DV Model-Shift Uniqueness Test

003120904-01, P = 42.913631 Days, E = 96.974695 Days

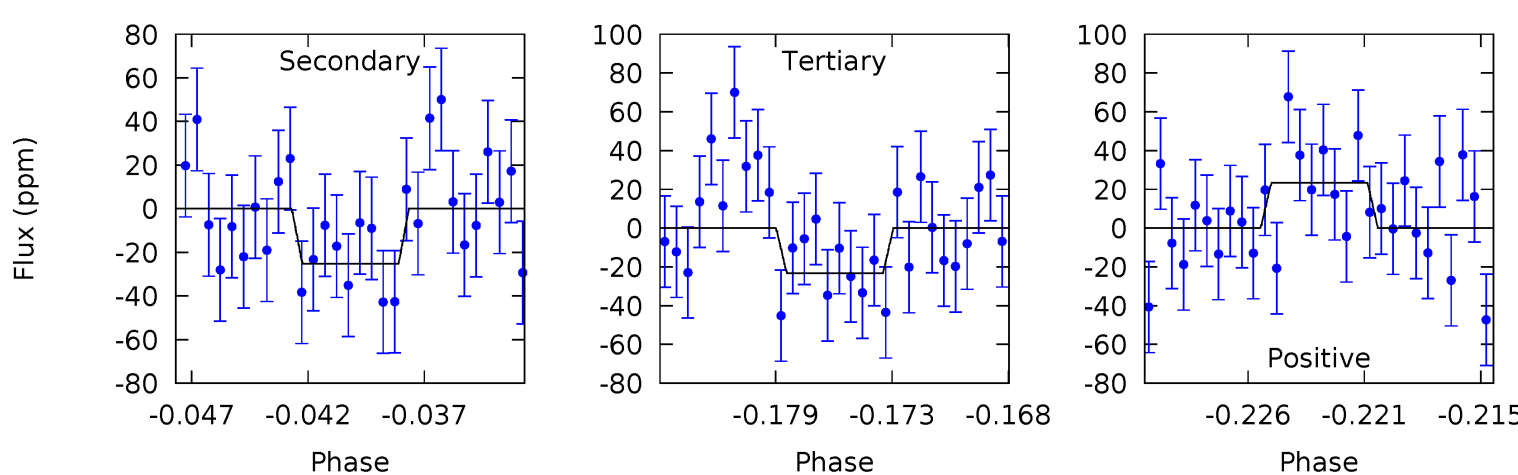
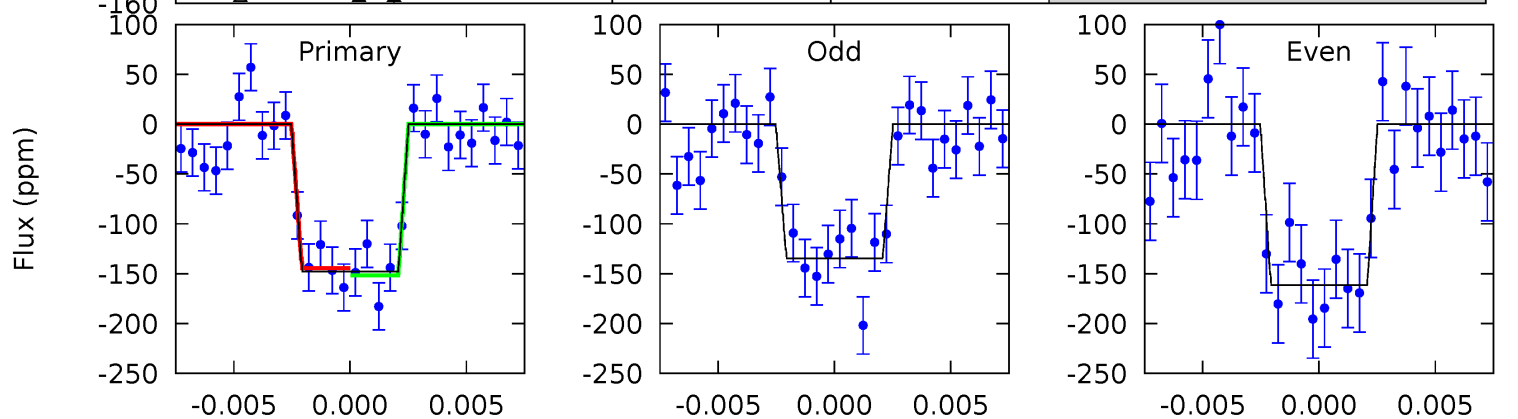
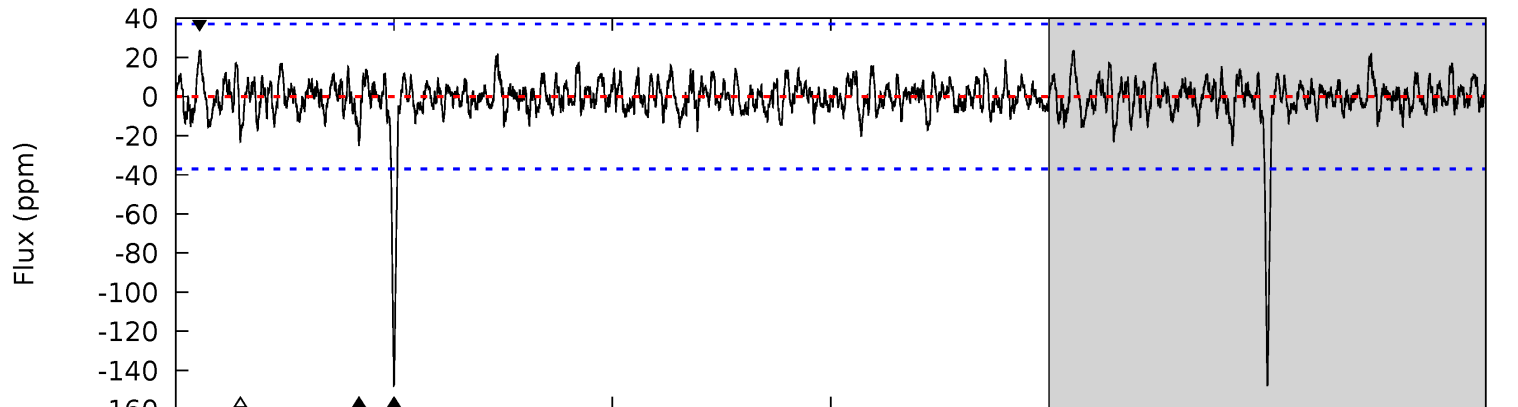
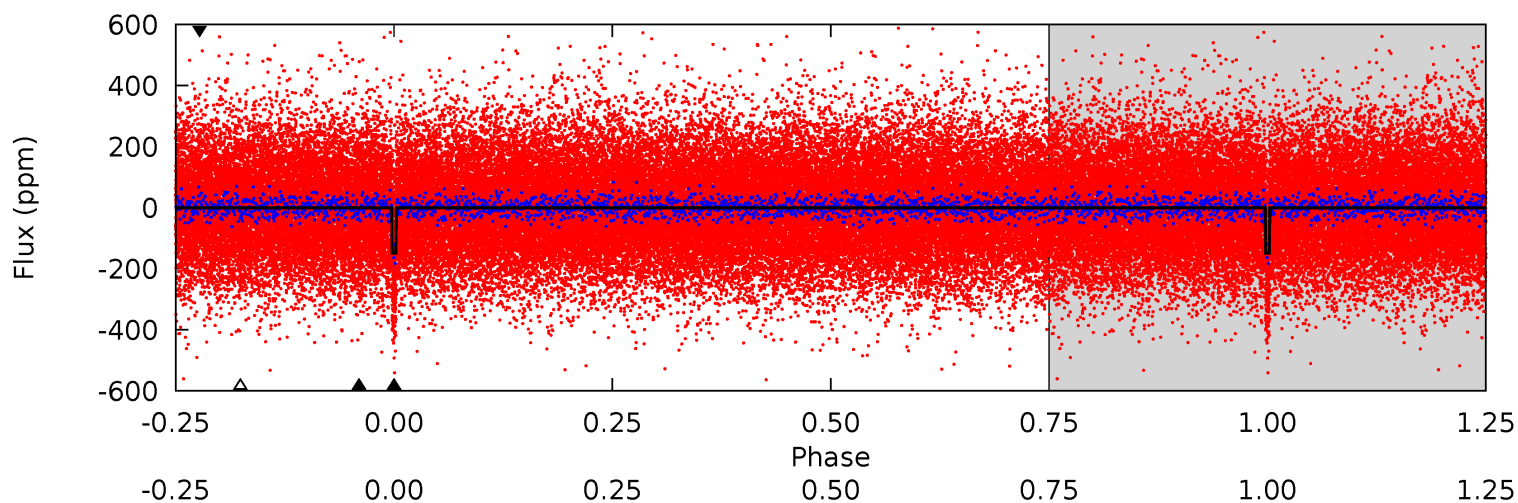
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.1	4.53	3.46	4.20	5.13	2.77	1.17	18.7	17.9	1.07	0.33	1.55	0.99	0.16	0.68



Alt Model-Shift Uniqueness Test

003120904-01, P = 42.913815 Days, E = 96.972499 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.6	3.50	3.24	3.25	5.15	2.79	0.94	17.3	17.3	0.26	0.25	1.87	0.94	0.14	0.50



Stellar Parameters For KIC 003120904

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6049^{+121}_{-121}	$3.800^{+0.210}_{-0.070}$	$0.180^{+0.150}_{-0.150}$	$2.483^{+0.299}_{-0.648}$	$1.419^{+0.157}_{-0.192}$	$0.131^{+0.155}_{-0.030}$
	+2%/-2%	+6%/-2%	+83%/-83%	+12%/-26%	+11%/-14%	+119%/-23%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 003120904-01 / KOI 3277.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-32 ± 7	$3.26^{+1.30}_{-1.08}$	1117^{+48}_{-70}	4280^{+776}_{-461}	120^{+166}_{-60}
Alt.	-25 ± 7	$3.17^{+1.30}_{-1.15}$	1116^{+48}_{-69}	4138^{+789}_{-472}	99^{+145}_{-53}

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

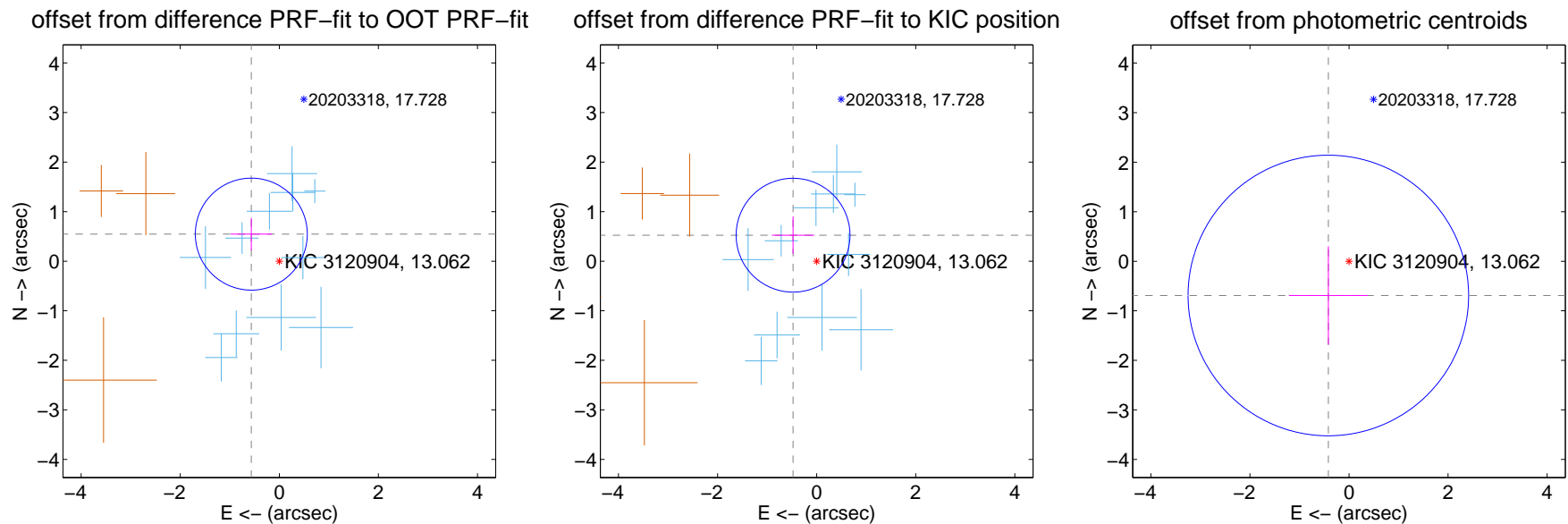
DV Centroid Data

Supplemental centroid analysis for 003120904-01. Kepler magnitude: 13.06. Transit SNR 14.40

There are 11 quarters with good PRF difference image offsets

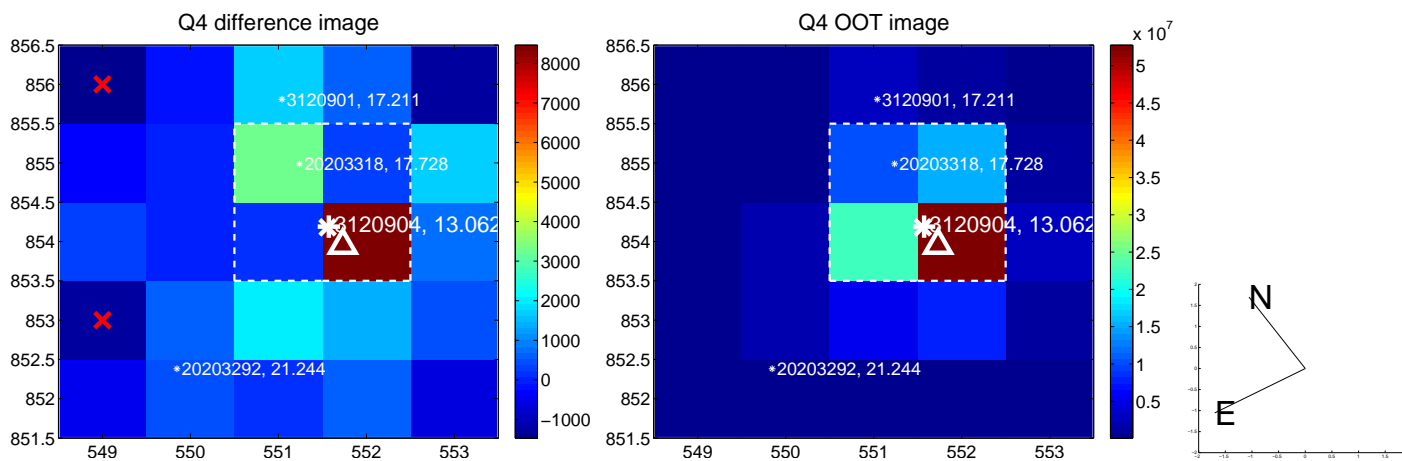
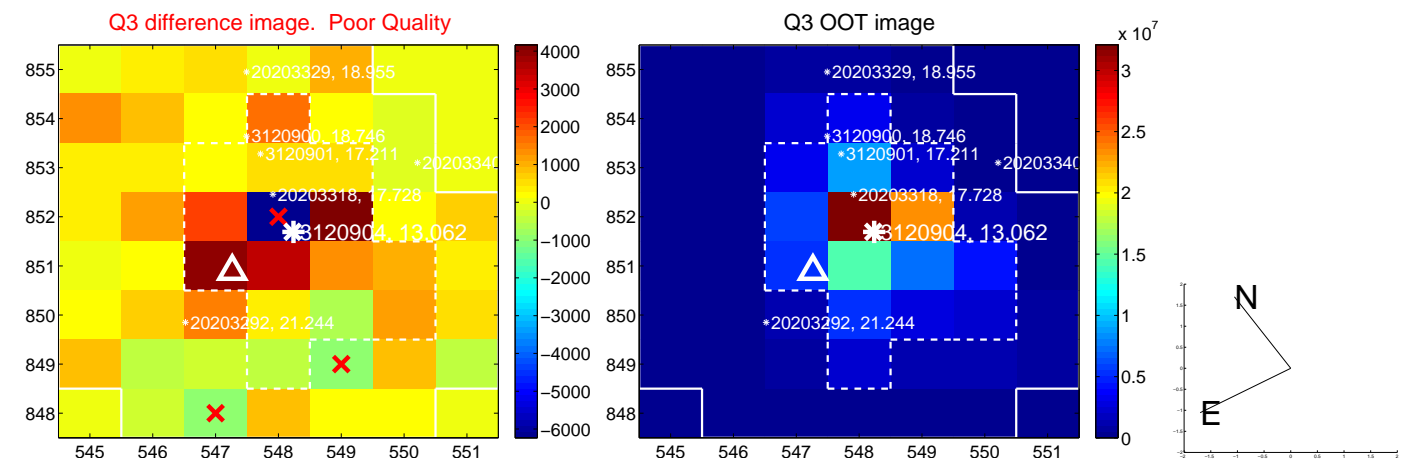
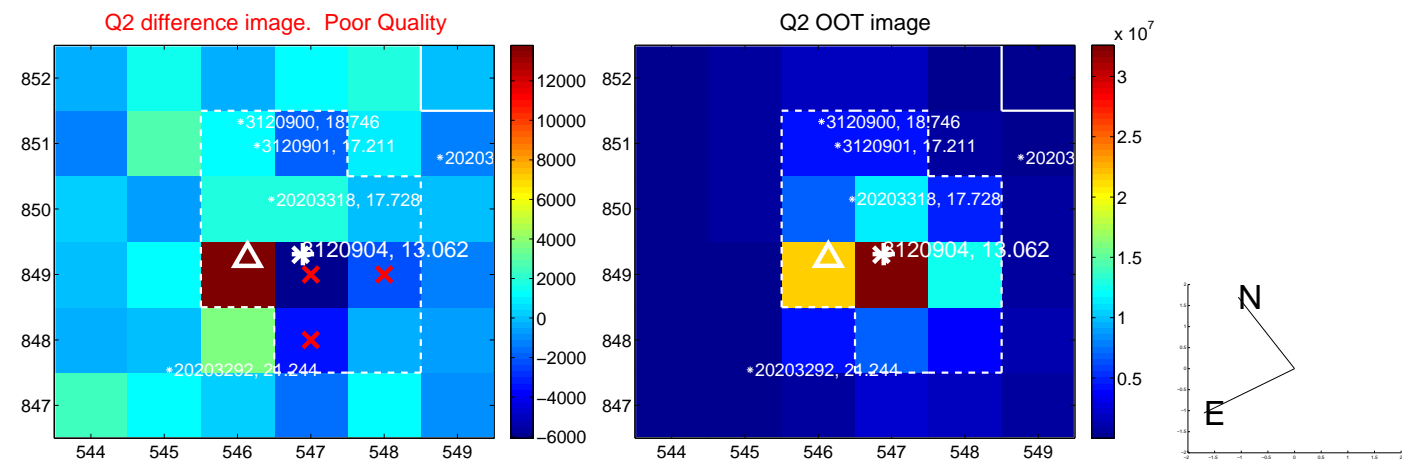
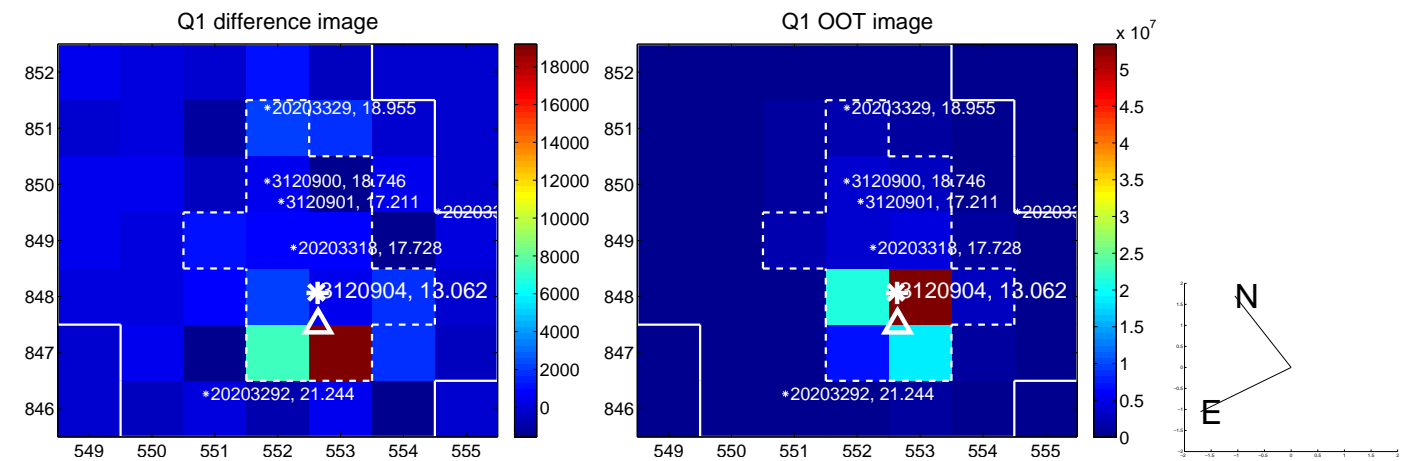
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.786 ± 0.377	2.09	0.565 ± 0.417	0.546 ± 0.328
PRF-fit source offset from KIC position	0.709 ± 0.383	1.85	0.476 ± 0.428	0.525 ± 0.377
photometric centroid source offset	0.81 ± 0.94	0.85	0.42 ± 0.79	-0.69 ± 0.99

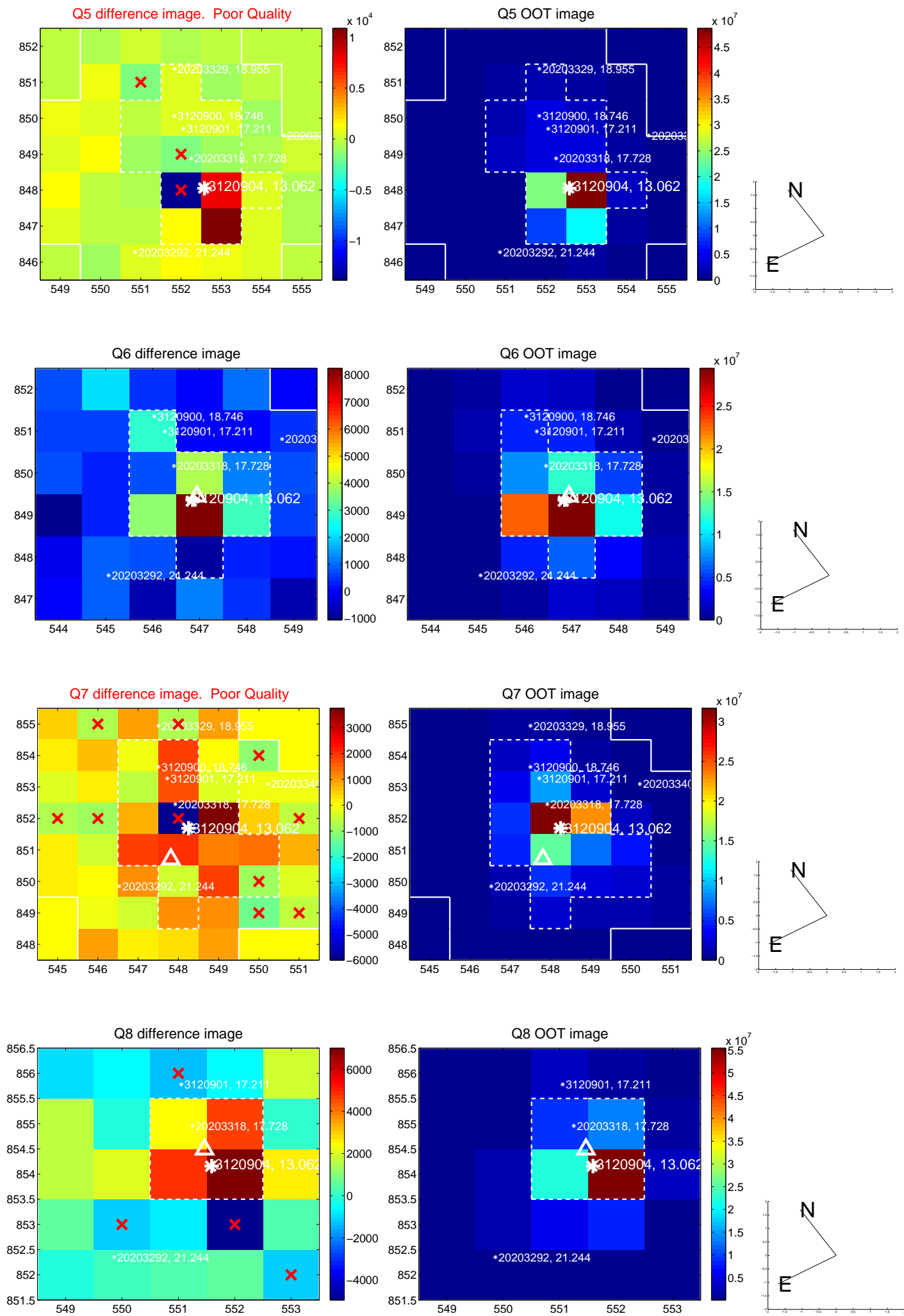


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

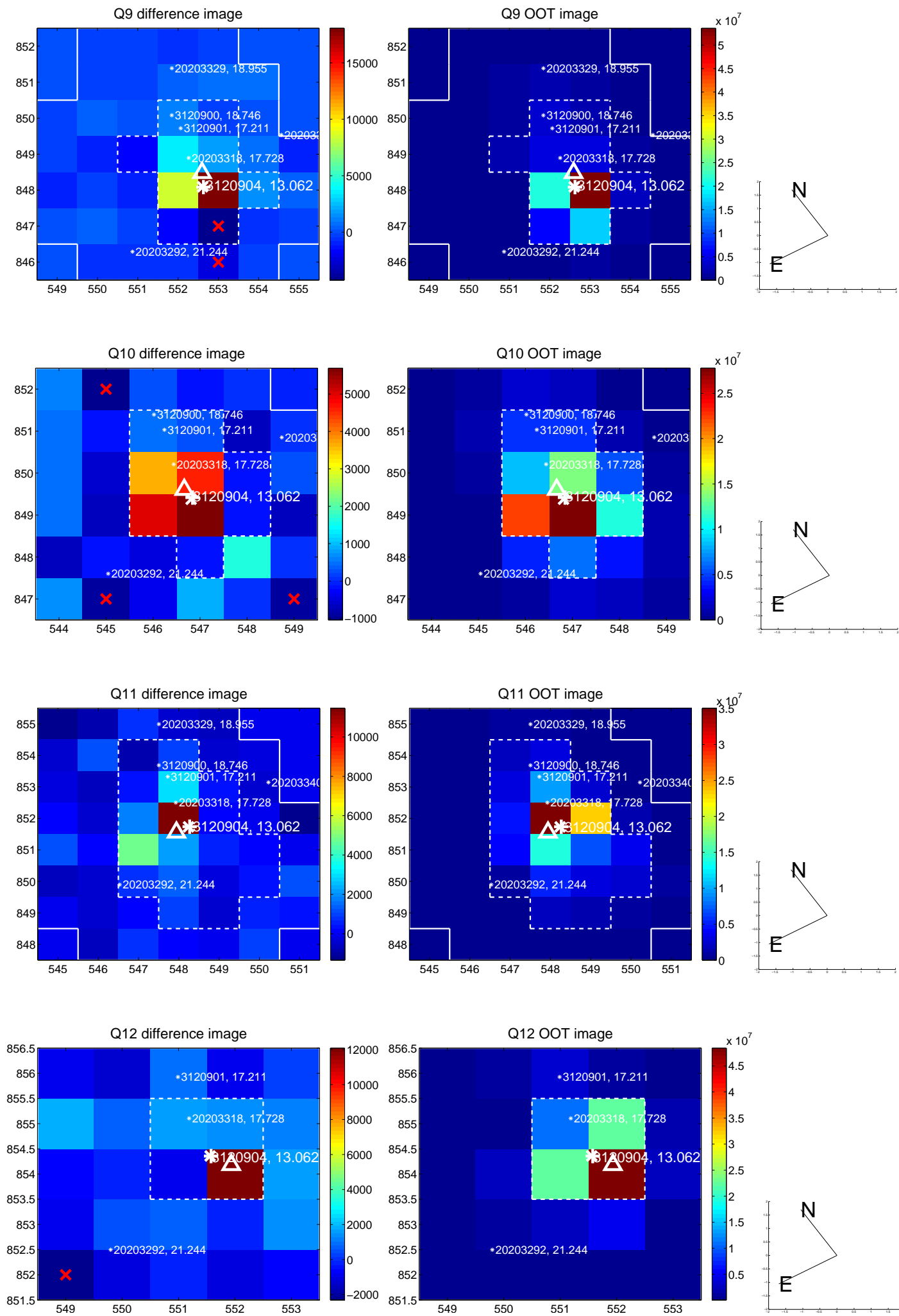
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



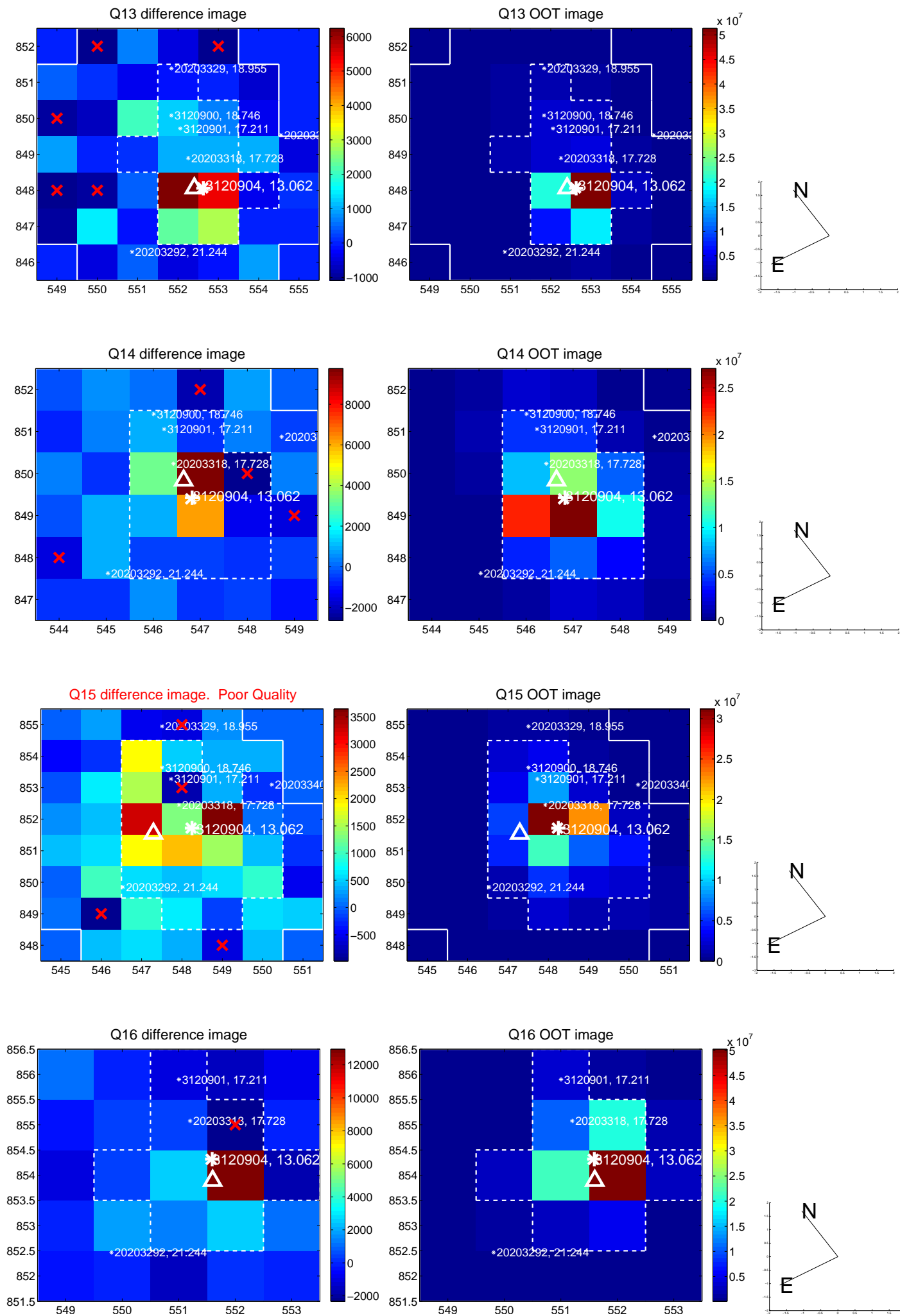
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



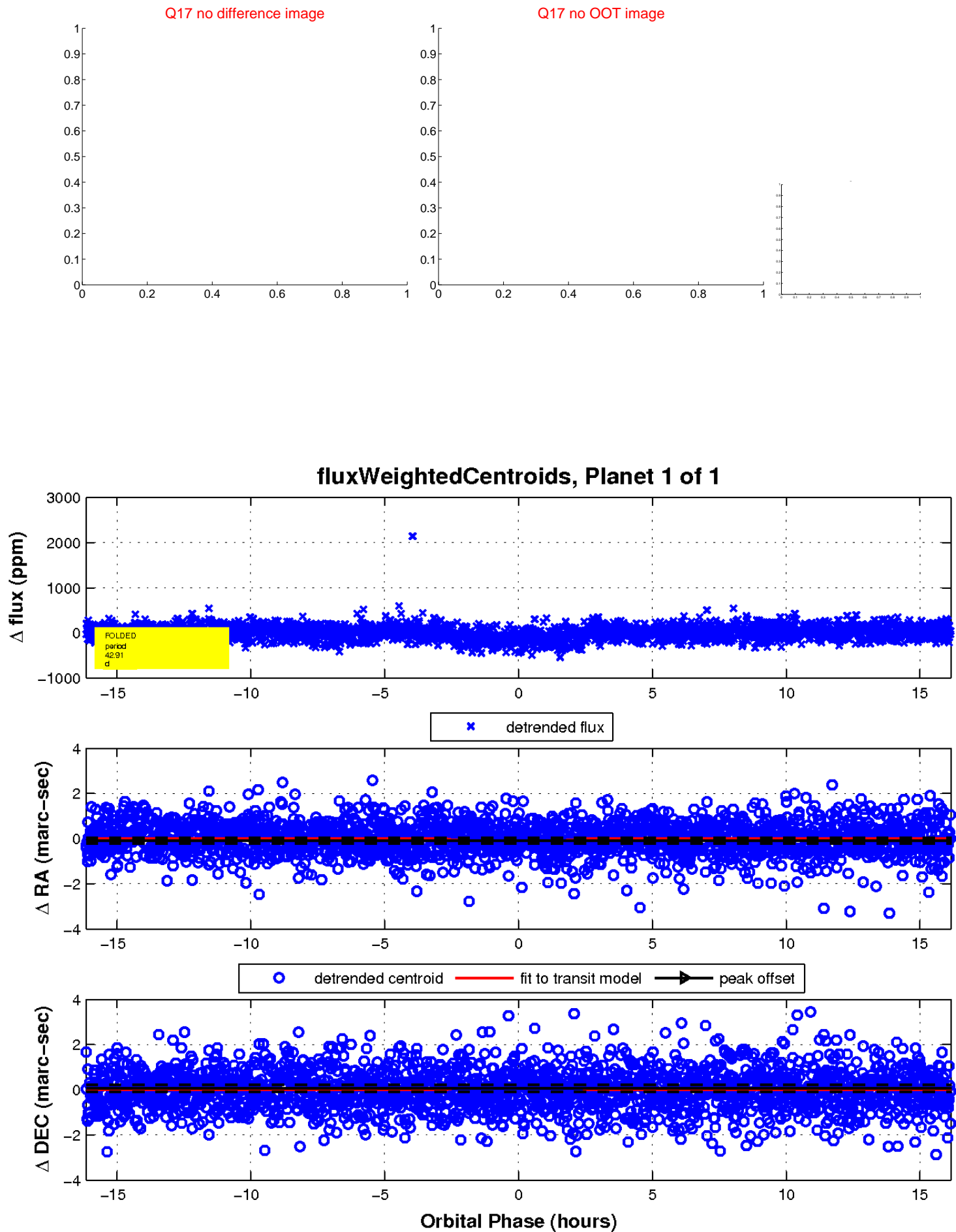
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UKIRT Image

