

KIC 008481129

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})
008481129-01	OBS	2402.01	16.301362	133.790808	257.2	4.124	15.6	16.6	0.80	4873	1.52	22.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008481129-01	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.

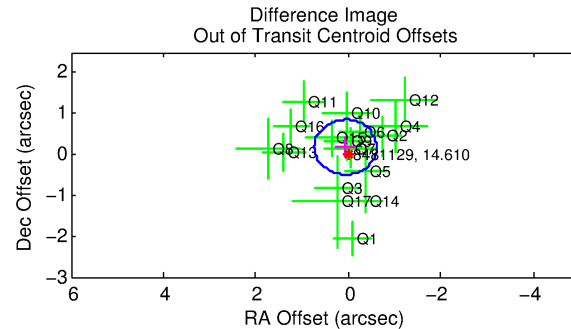
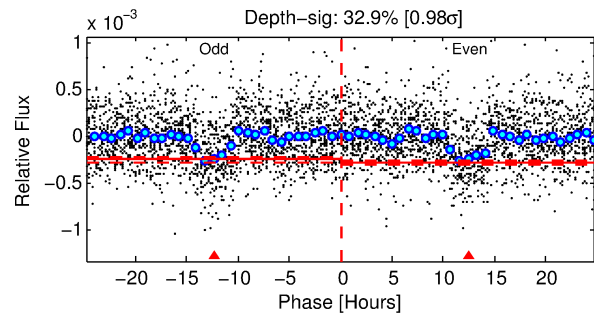
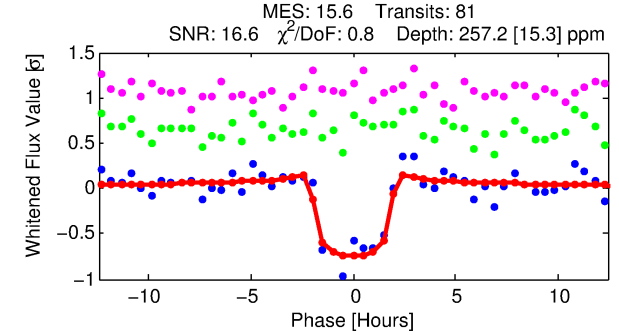
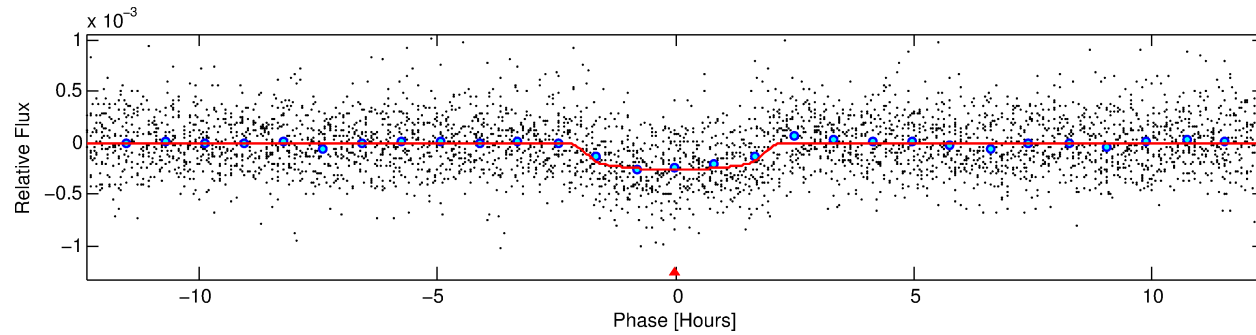
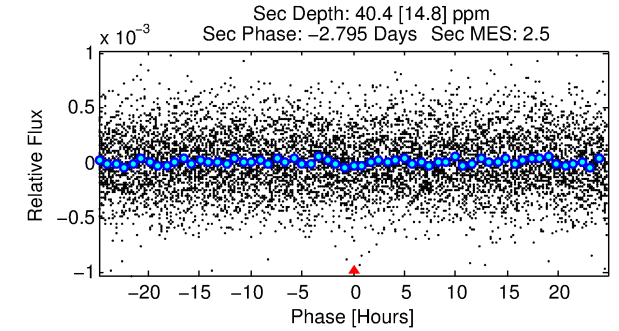
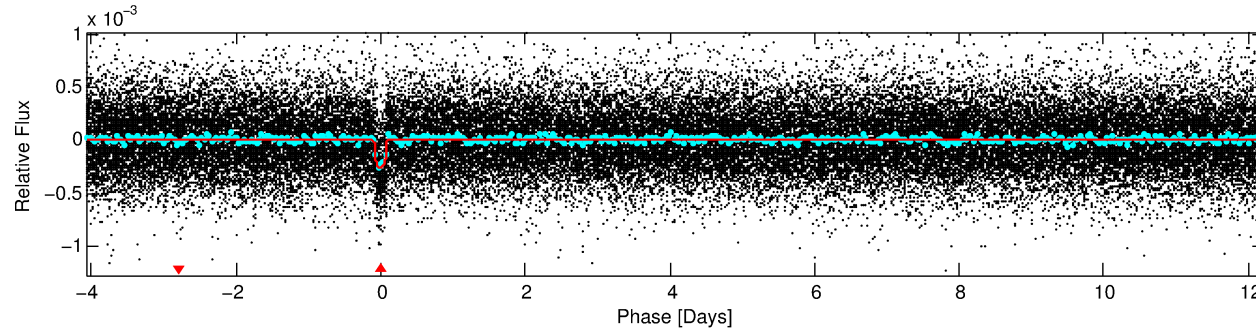
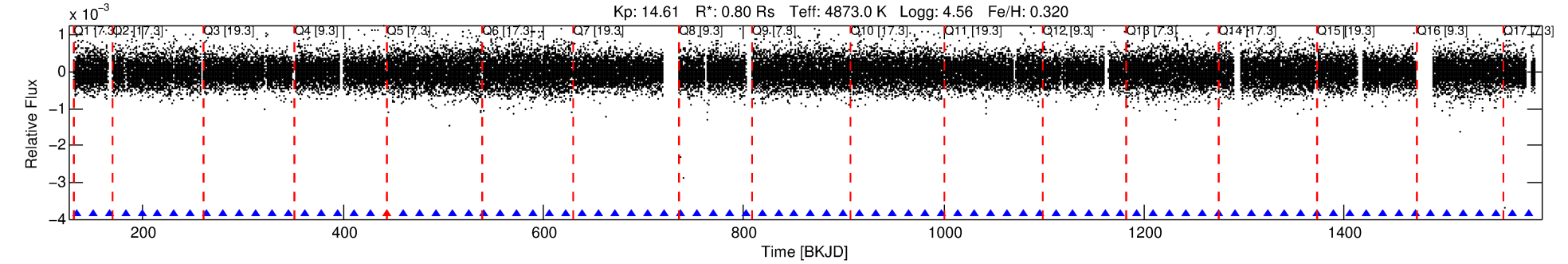
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008481129-01

No Significant Match Found

DV One-Page Summary

KIC: 8481129 Candidate: 1 of 1 Period: 16.301 d
KOI: K02402.01 Corr: 0.976



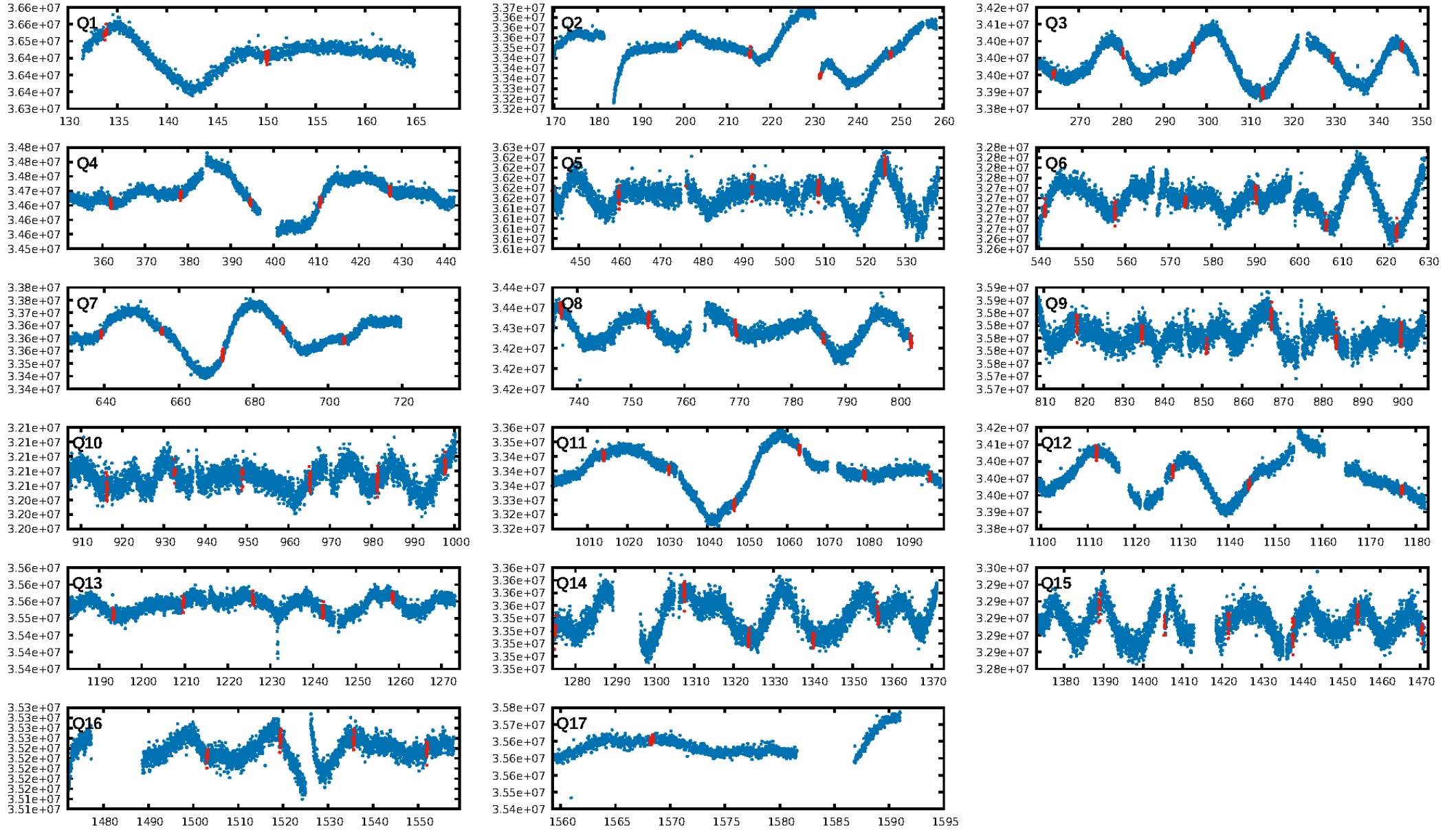
DV Fit Results:

Period = 16.30136 [0.00009] d
Epoch = 133.7908 [0.0046] BKJD
Rp/R* = 0.0176 [0.0055]
a/R* = 15.65 [18.08]
b = 0.88 [0.32]
Seff = 22.79 [3.34]
Teq = 557 [20] K
Rp = 1.52 [0.49] Re
a = 0.1185 [0.0072] AU
Ag = 134.12 [98.00] [1.36σ]
Teffp = 2931 [539] K [4.40σ]

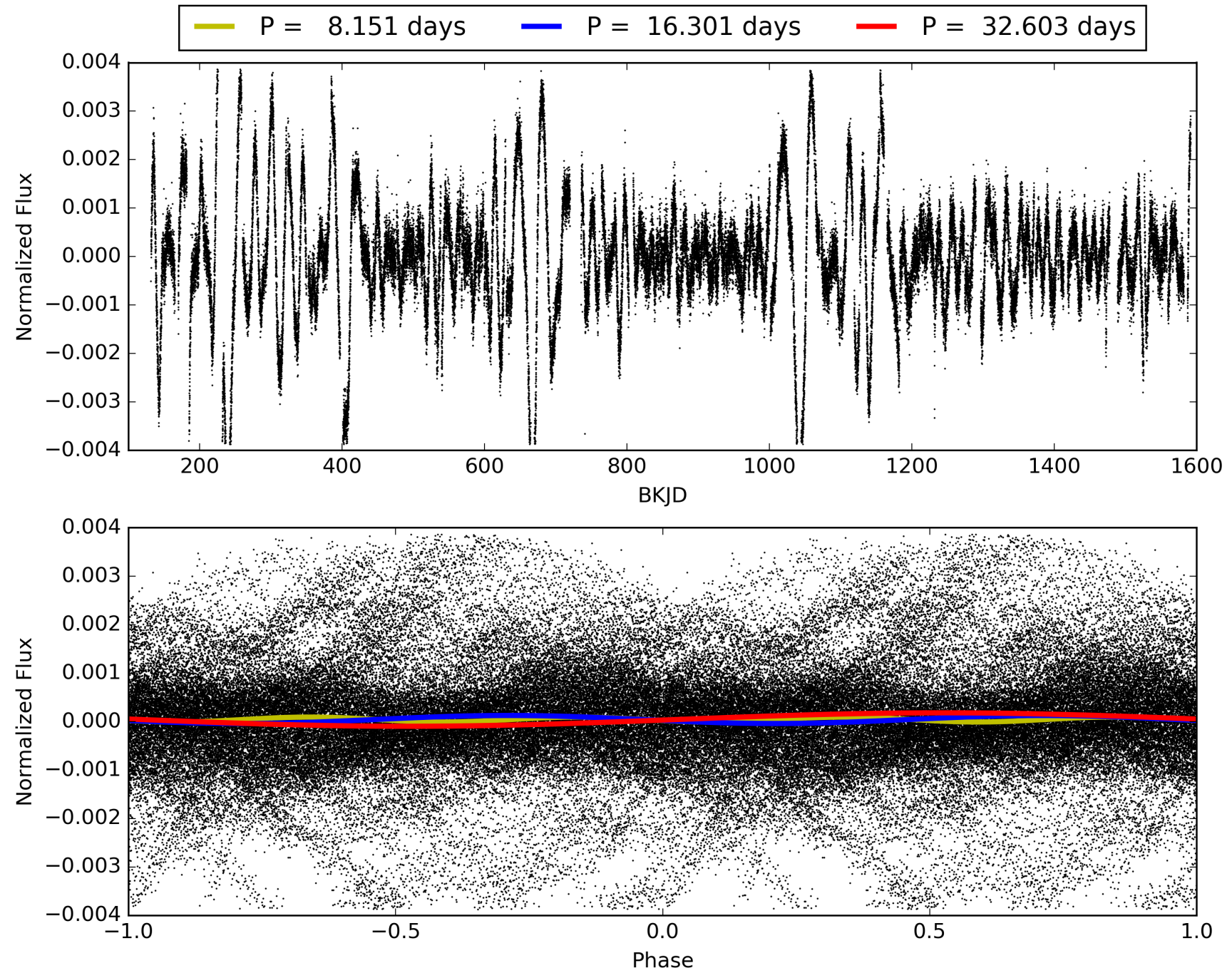
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.04e-51
RollingBand-fgt: 0.99 [77/78]
GhostDiagnostic-chr: 5.674
Centroid-sig: 58.4%
Centroid-so: 0.309 arcsec [0.57σ]
OotOffset-rm: 0.193 arcsec [0.86σ]
KicOffset-rm: 0.230 arcsec [1.01σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008481129-01, PDC Light Curves

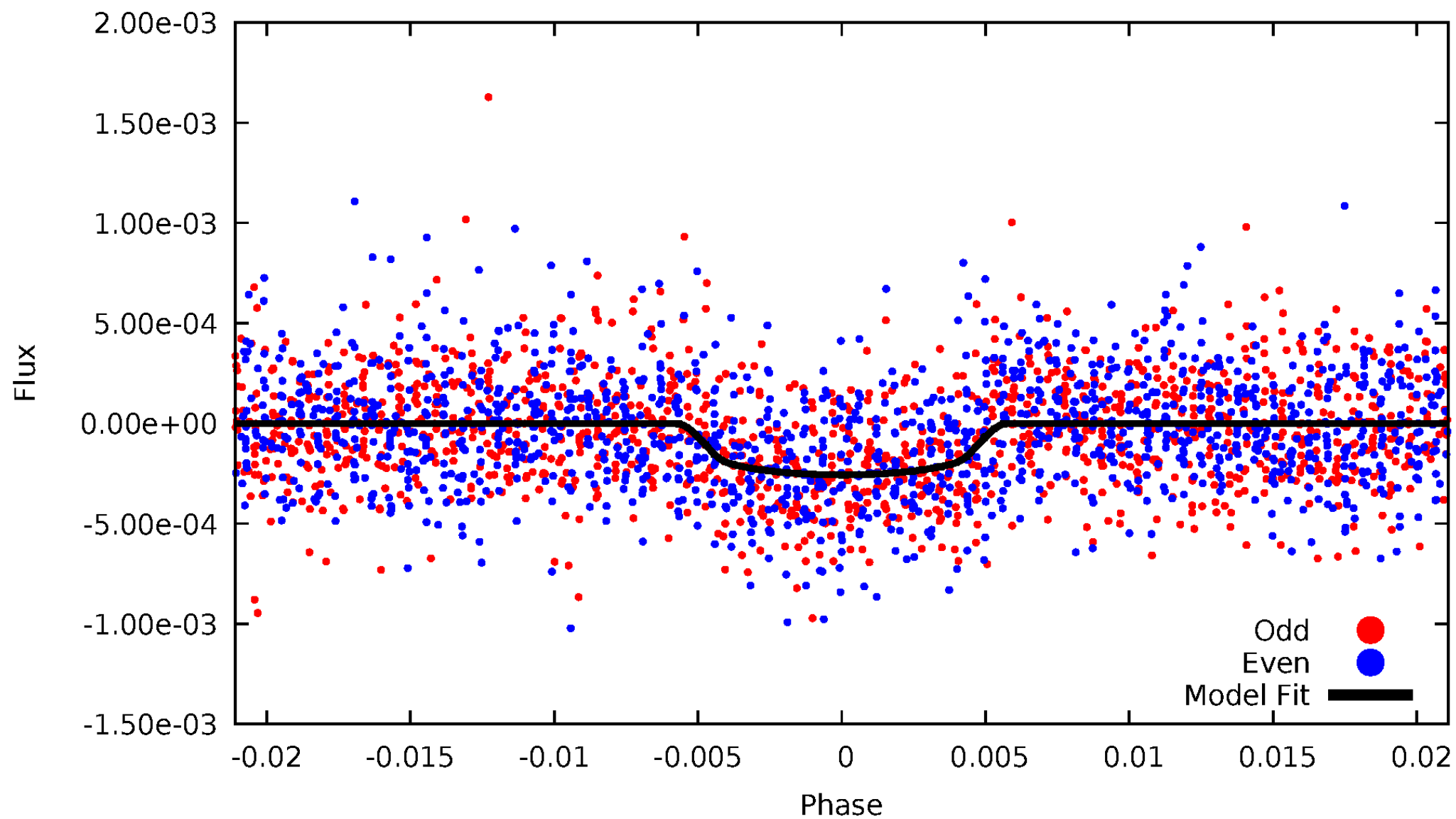


TCE 008481129-01



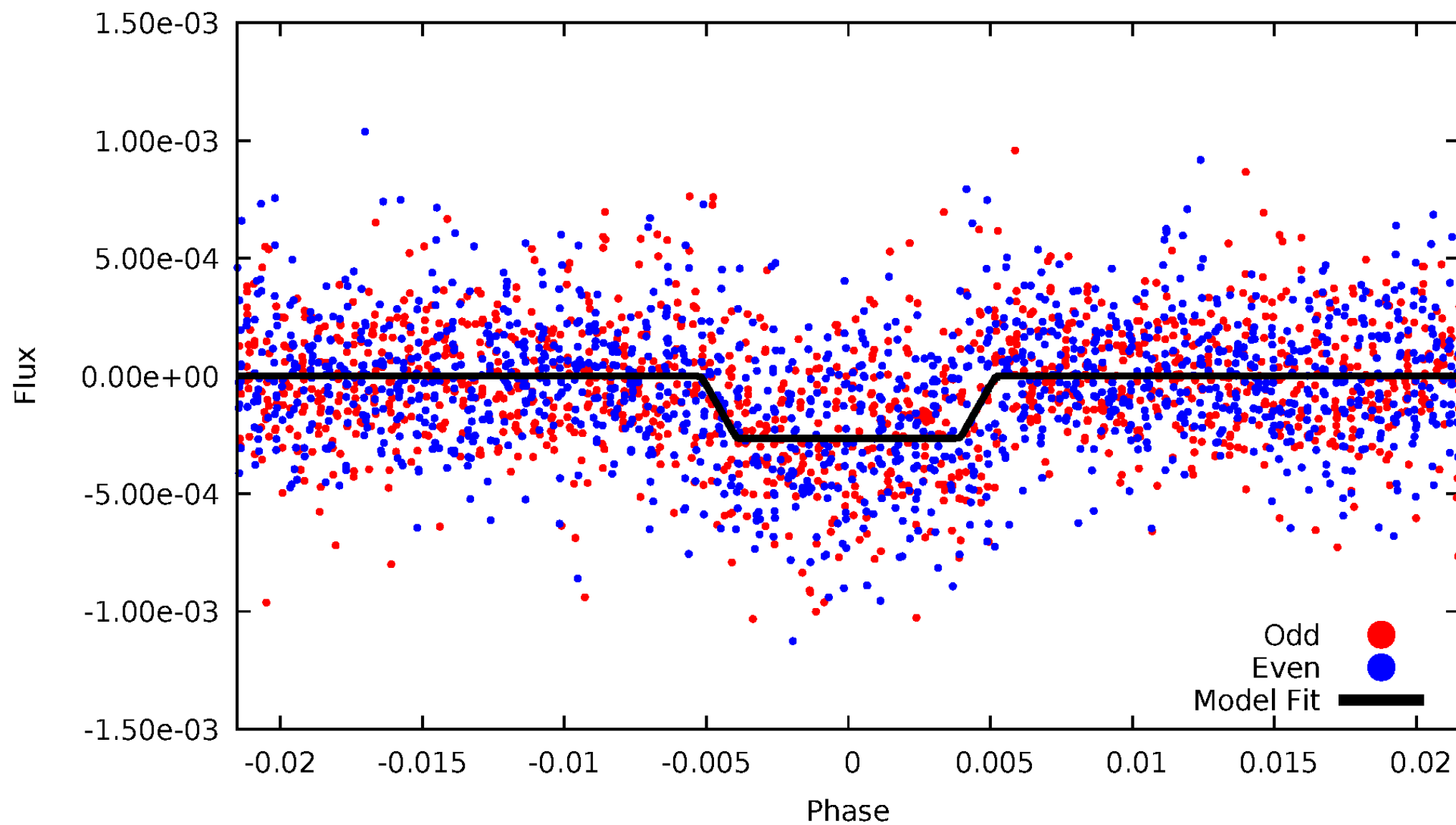
DV Odd/Even

TCE 008481129-01

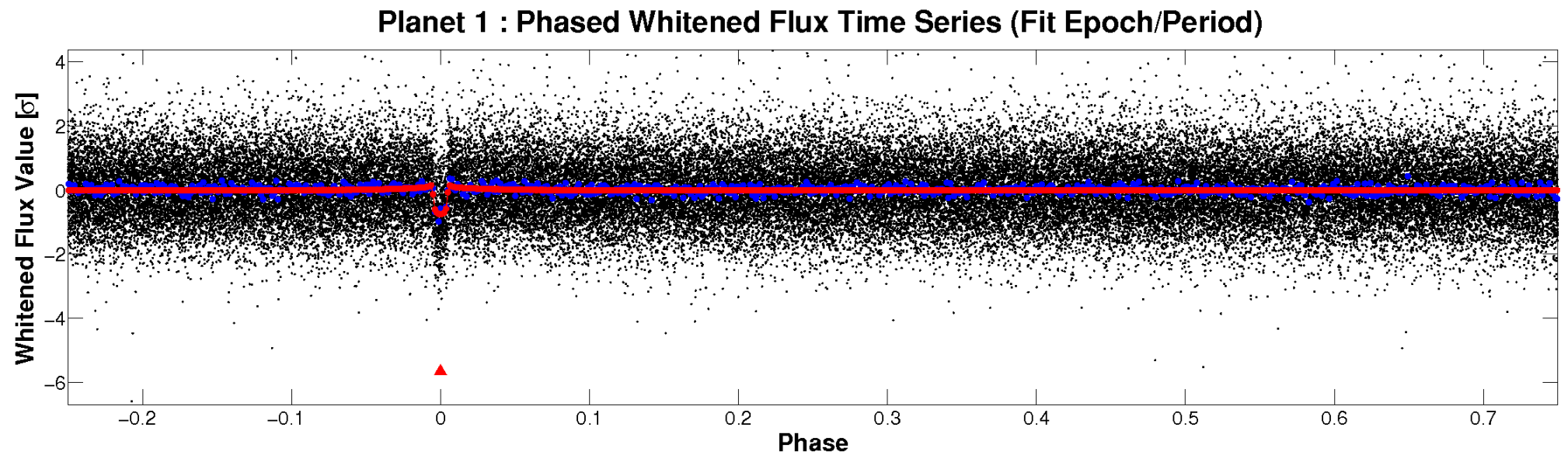
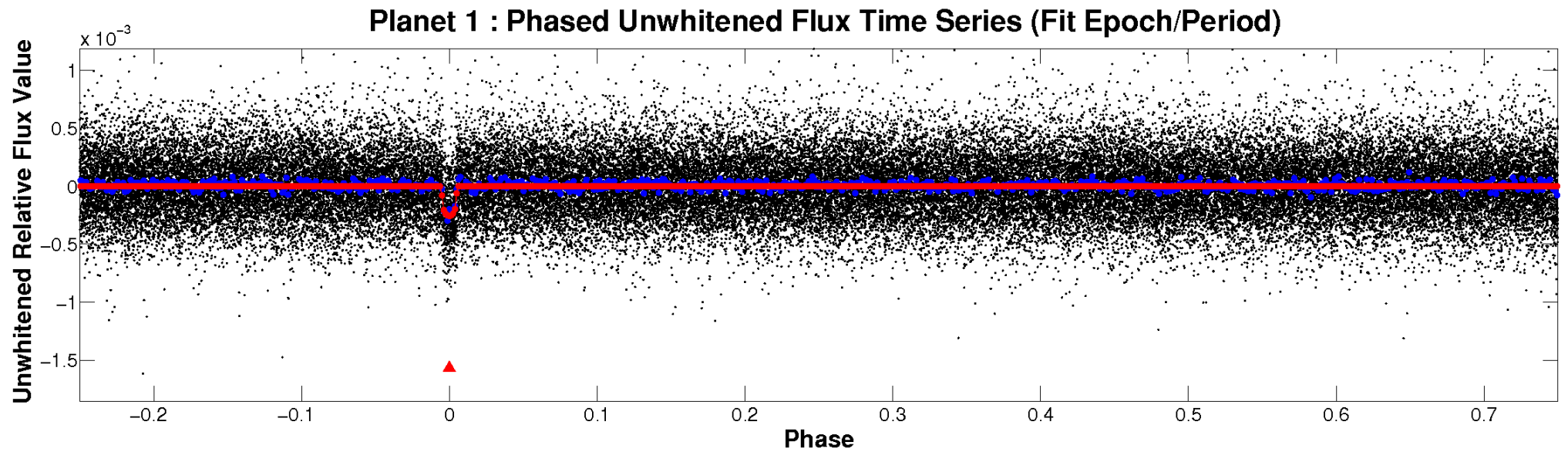


ALT Odd/Even

TCE 008481129-01

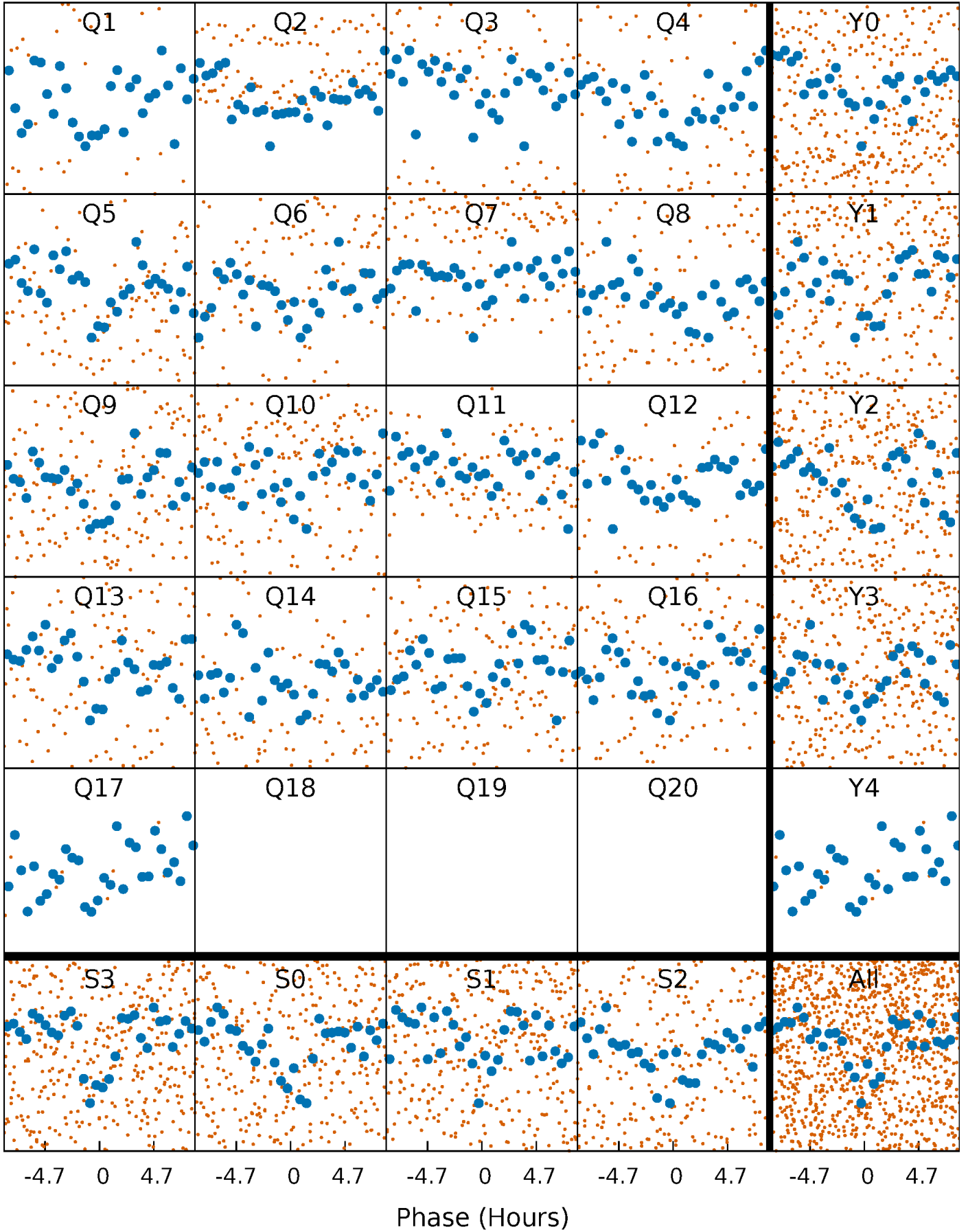


Non-Whitened Vs. Whitened Light Curve



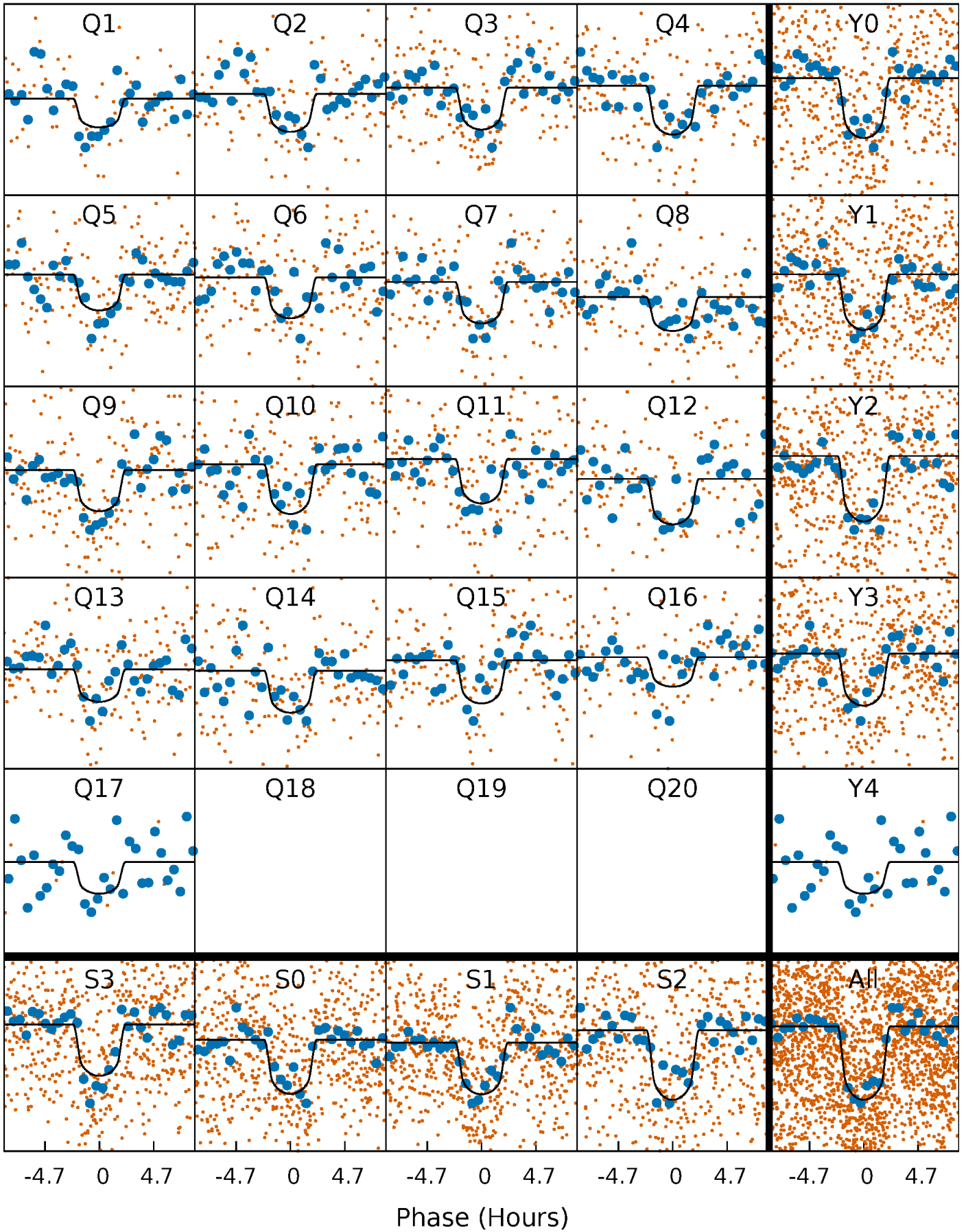
PDC Quarter-Phased Transit Curves

TCE 008481129-01 P= 16.301362 Days $T_0=133.790808$ (BKJD)



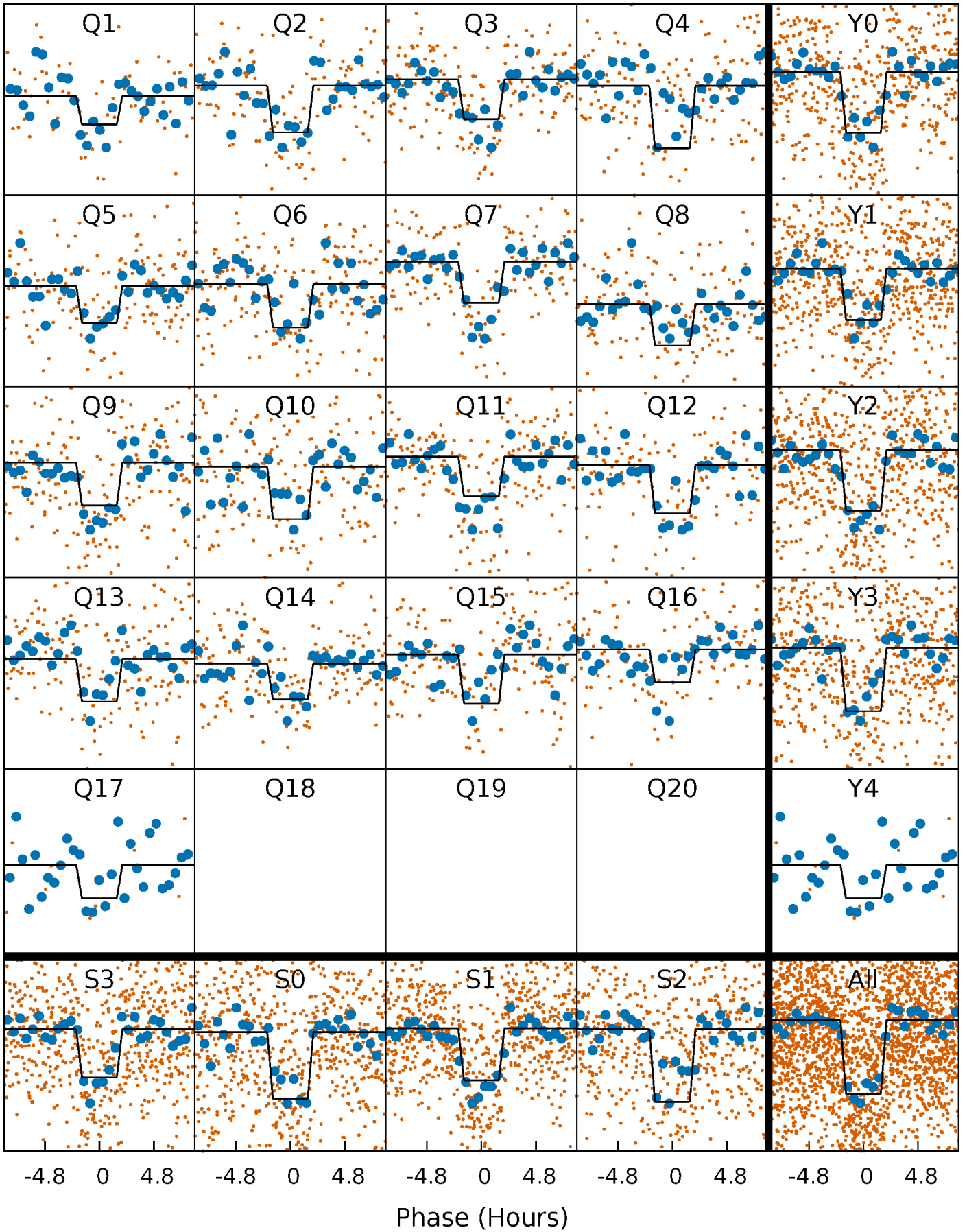
DV Quarter-Phased Transit Curves

TCE 008481129-01 P= 16.301362 Days $T_0=133.790808$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

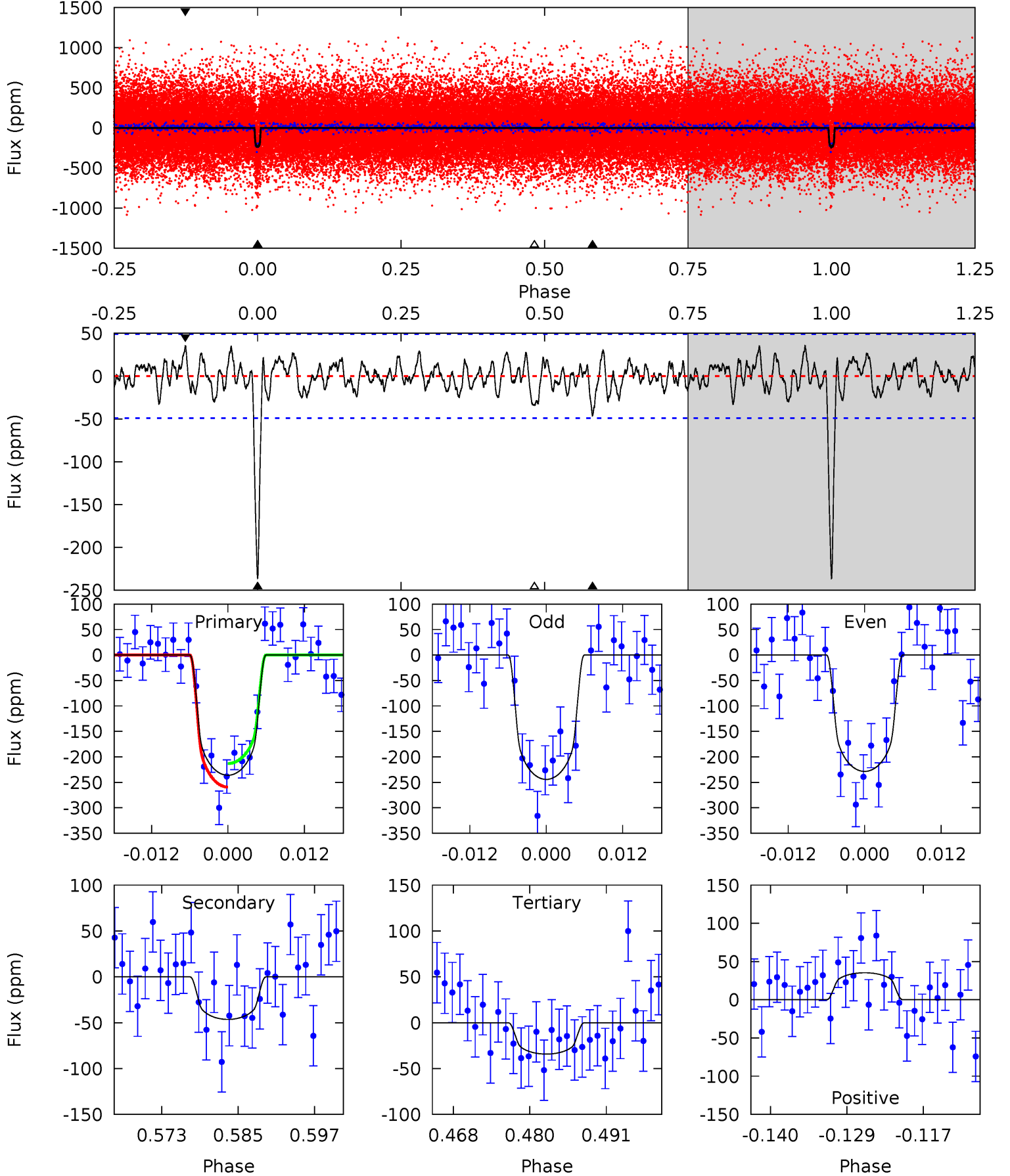
TCE 008481129-01 P= 16.301378 Days $T_0=133.791404$ (BKJD)



DV Model-Shift Uniqueness Test

008481129-01, P = 16.301362 Days, E = 117.489446 Days

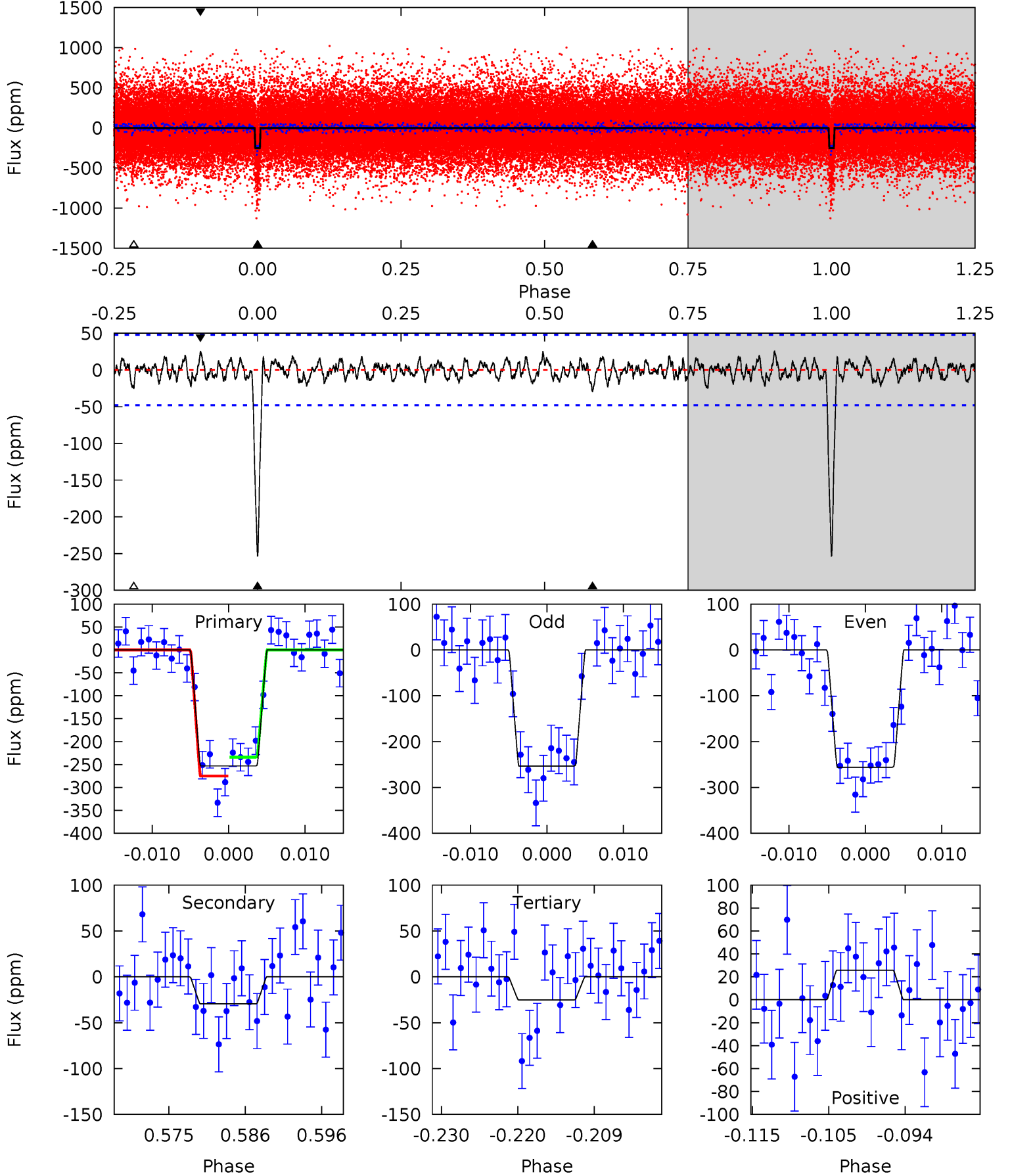
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.0	4.72	3.48	3.59	5.00	2.52	1.34	20.5	20.4	1.24	1.13	0.80	0.93	0.13	2.35



Alt Model-Shift Uniqueness Test

008481129-01, P = 16.301378 Days, E = 117.490026 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.5	3.08	2.63	2.70	5.02	2.56	0.94	23.9	23.8	0.45	0.38	0.13	0.99	0.09	2.17



Stellar Parameters For KIC 008481129

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4873^{+145}_{-130}	$4.558^{+0.041}_{-0.045}$	$0.320^{+0.100}_{-0.300}$	$0.796^{+0.049}_{-0.060}$	$0.836^{+0.036}_{-0.067}$	$2.331^{+0.410}_{-0.349}$
	+3%/-3%	+1%/-1%	+31%/-94%	+6%/-8%	+4%/-8%	+18%/-15%
Source	PHO1	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 008481129-01 / KOI 2402.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-46 ± 10	$1.55^{+0.49}_{-0.50}$	779^{+26}_{-23}	3438^{+451}_{-298}	149^{+169}_{-67}
Alt.	-29 ± 10	$1.44^{+0.45}_{-0.46}$	778^{+26}_{-24}	3288^{+444}_{-334}	110^{+131}_{-56}

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

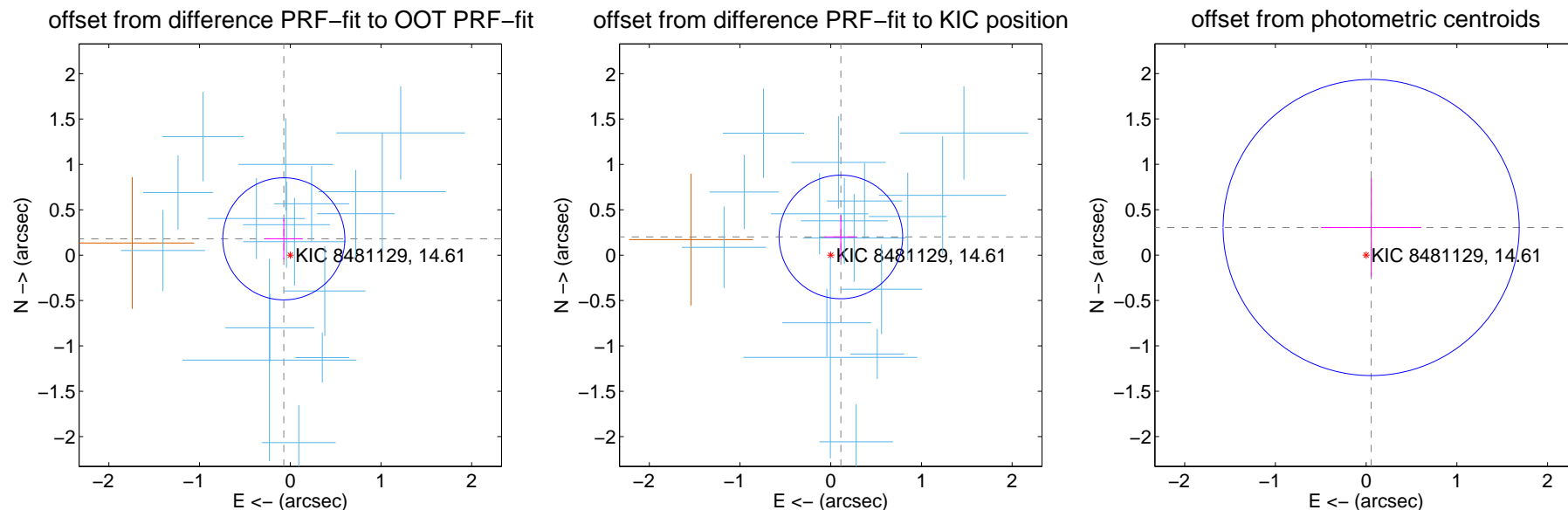
DV Centroid Data

Supplemental centroid analysis for 008481129-01. Kepler magnitude: 14.61. Transit SNR 16.57

There are 16 quarters with good PRF difference image offsets

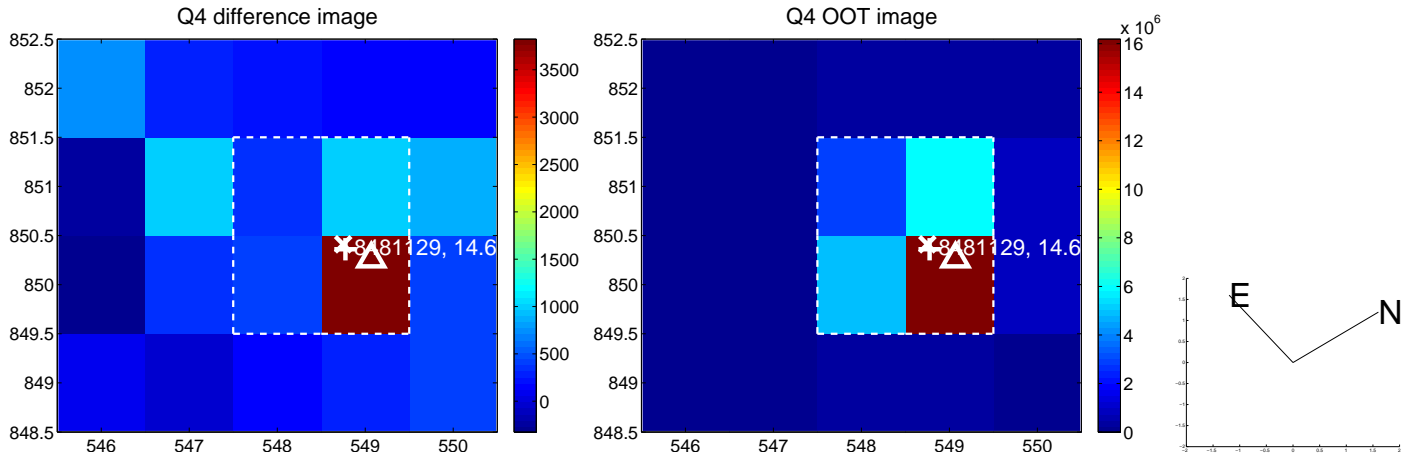
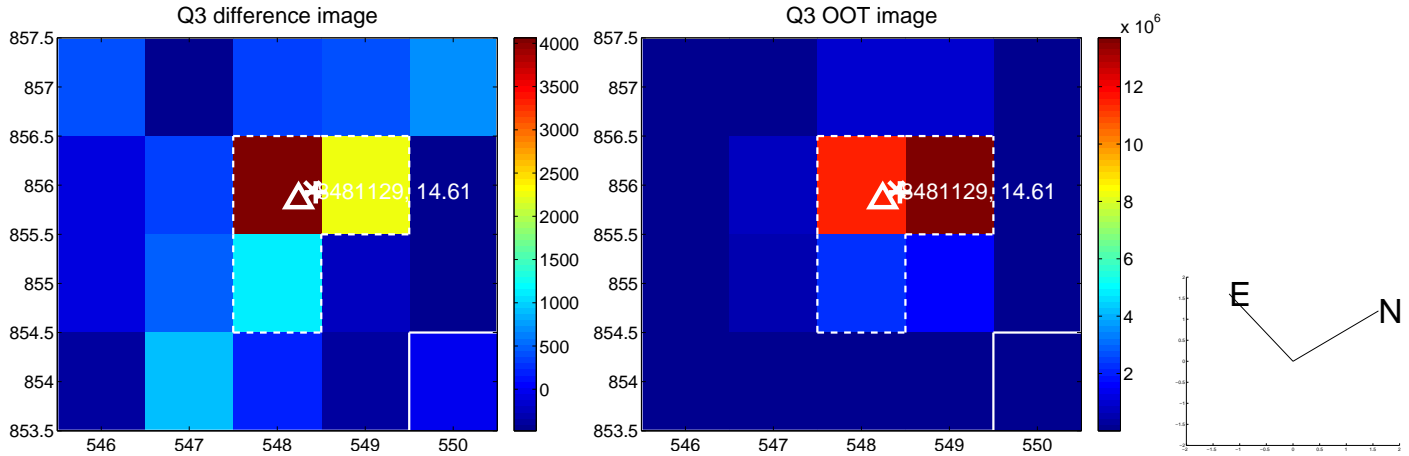
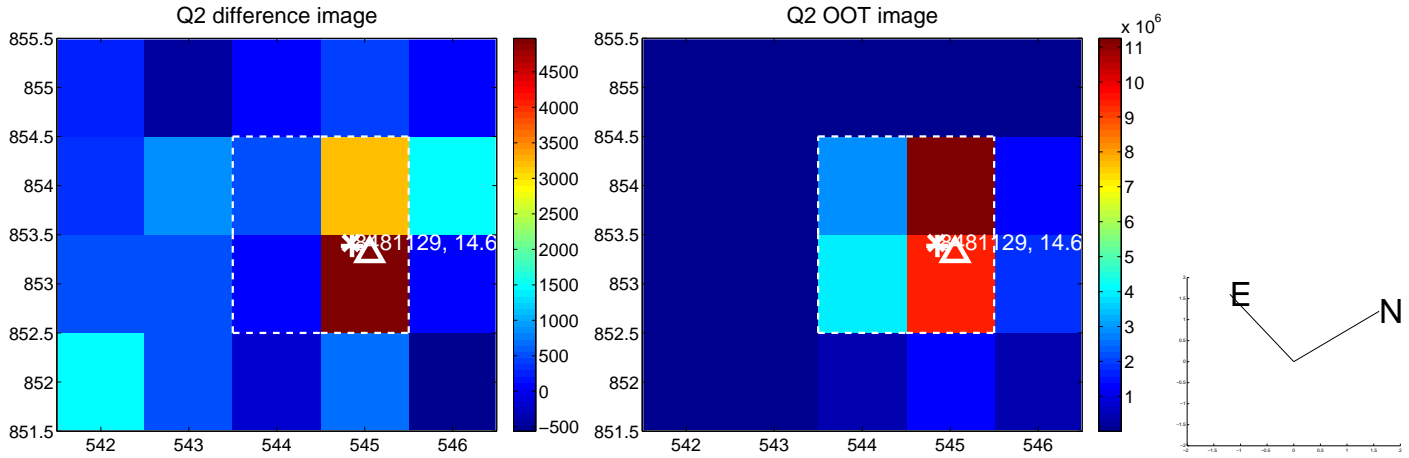
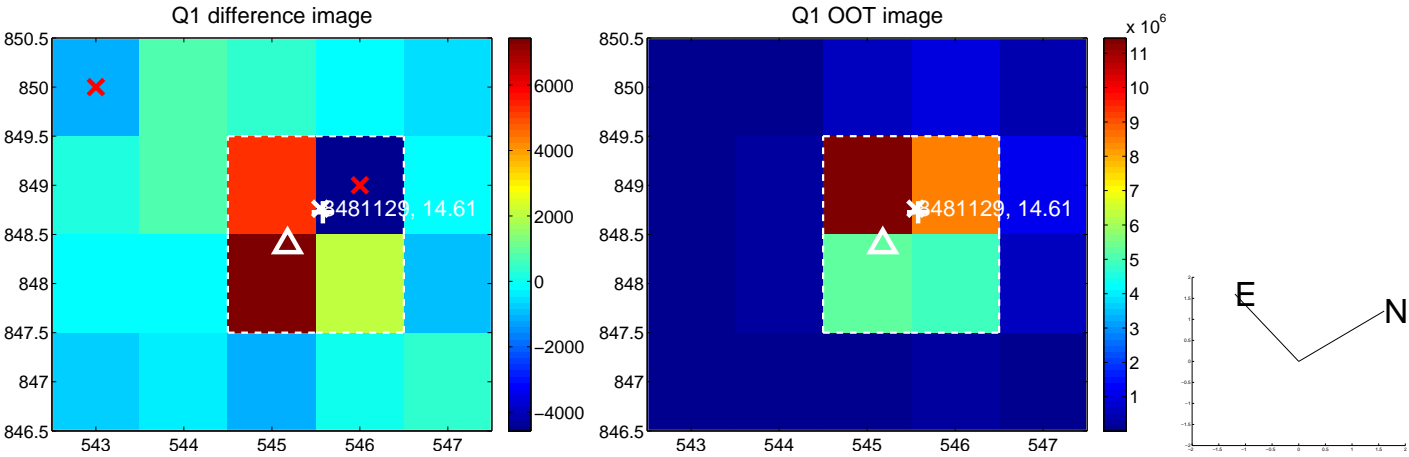
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.193 ± 0.224	0.86	0.071 ± 0.211	0.180 ± 0.226
PRF-fit source offset from KIC position	0.230 ± 0.227	1.01	-0.112 ± 0.179	0.201 ± 0.242
photometric centroid source offset	0.31 ± 0.54	0.57	-0.06 ± 0.55	0.30 ± 0.54

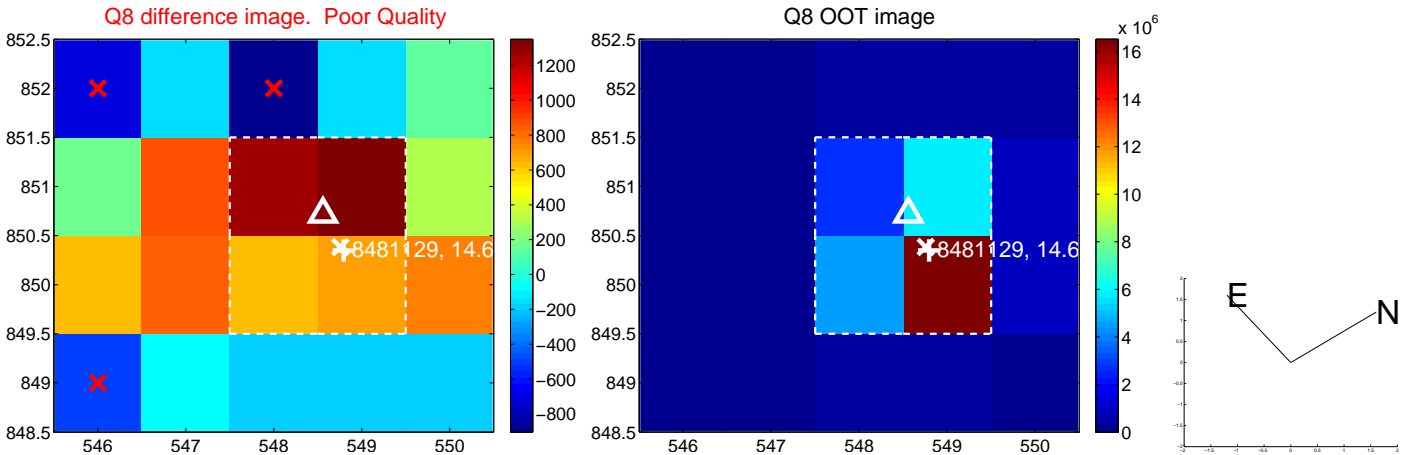
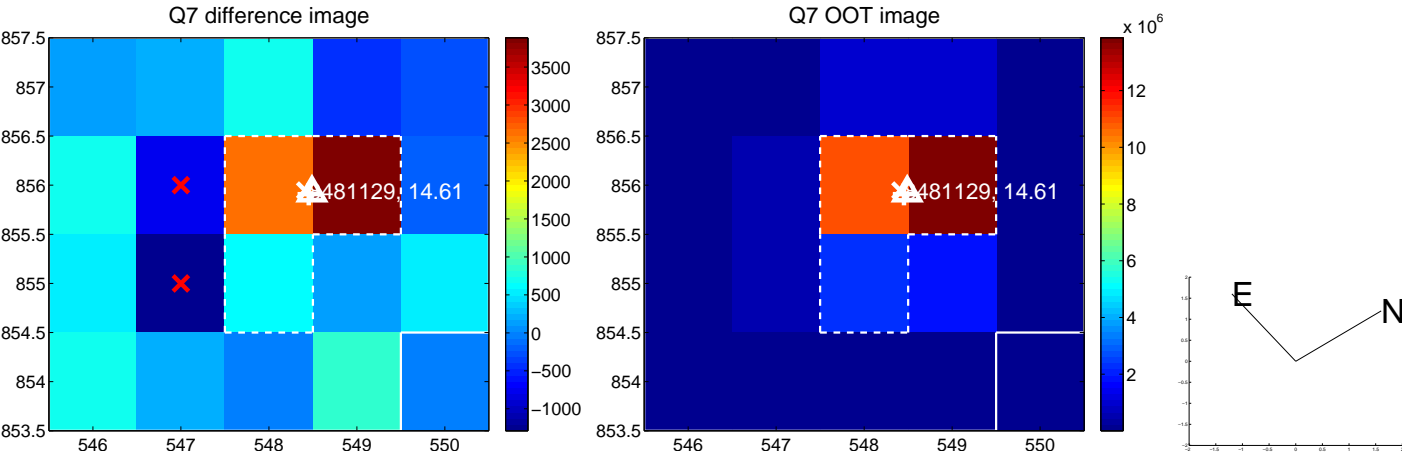
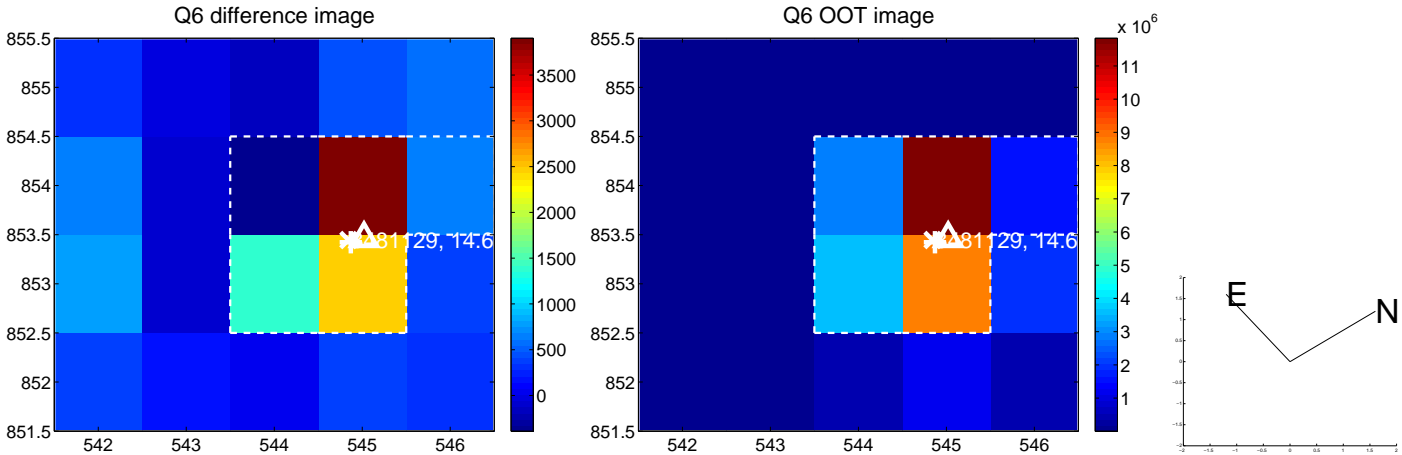
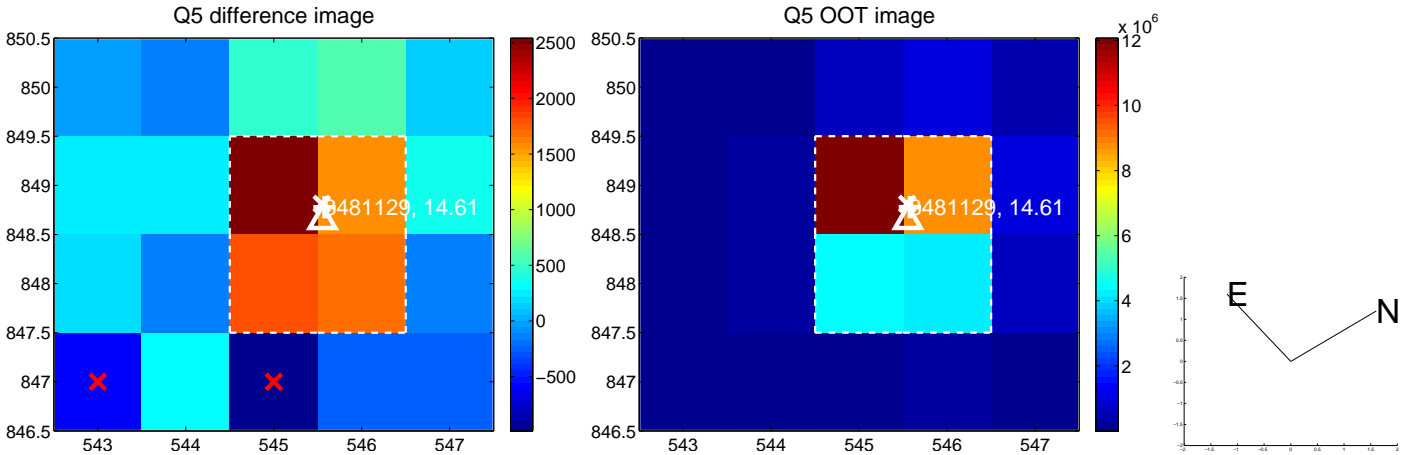


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

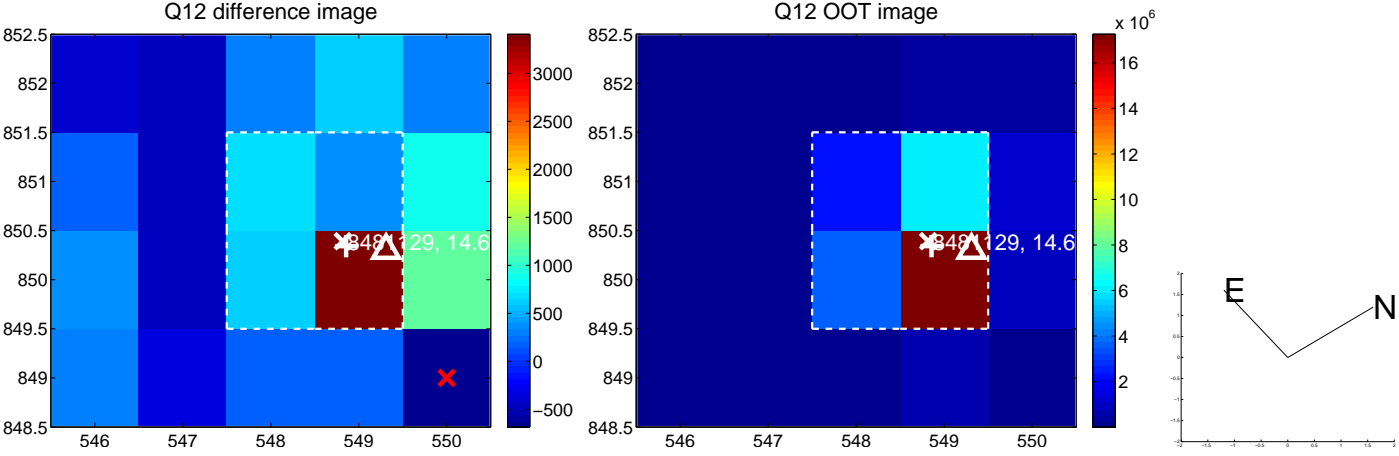
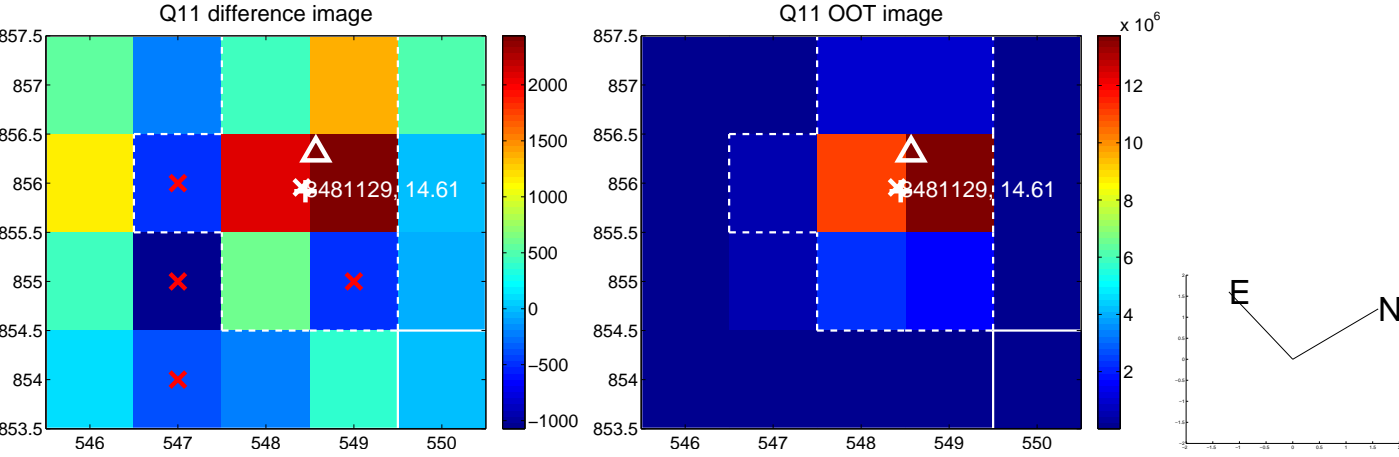
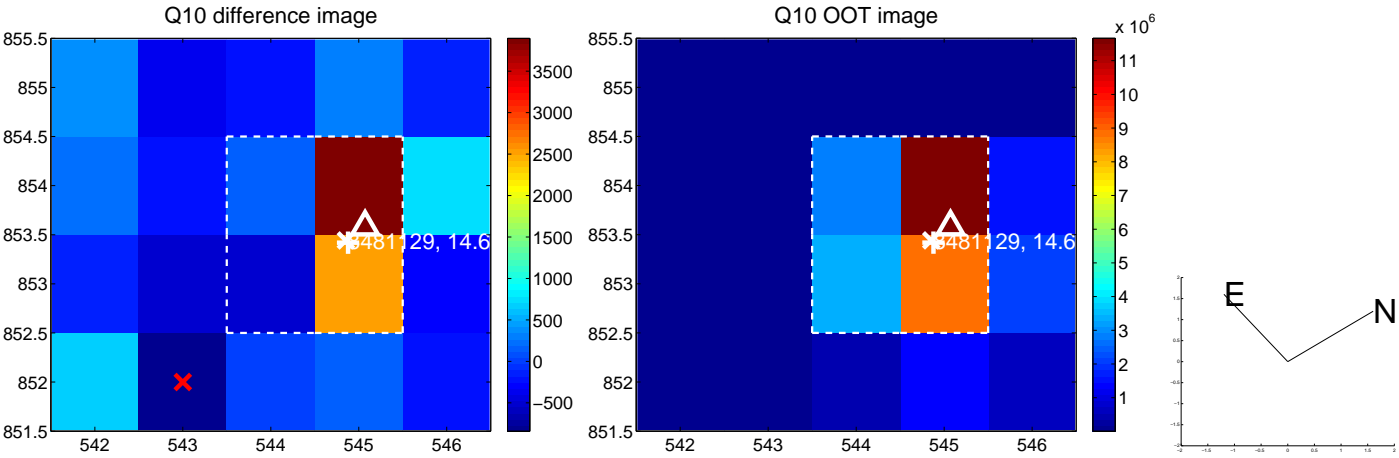
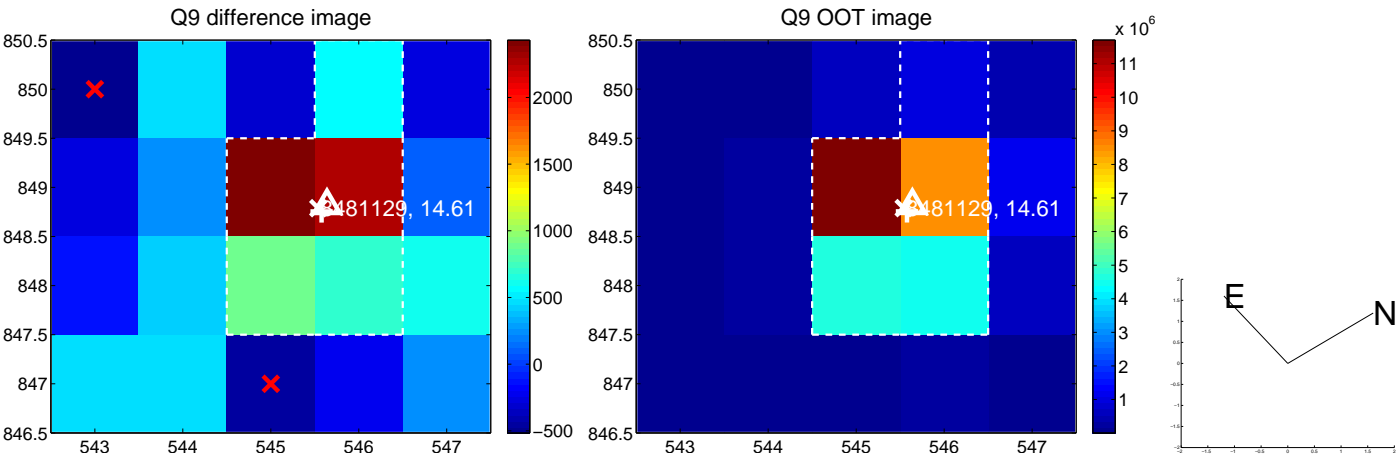
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



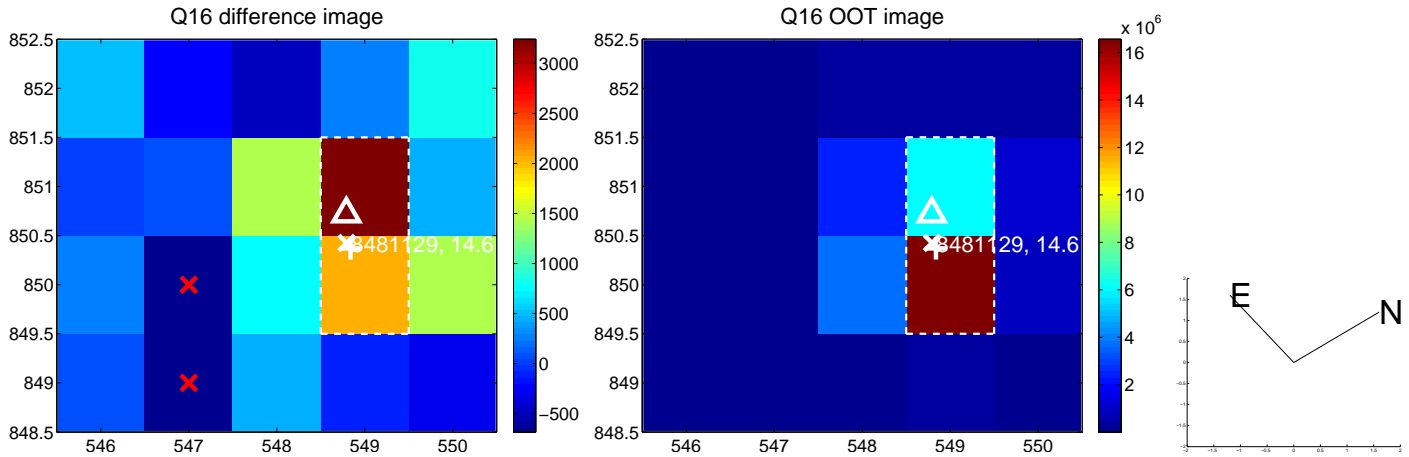
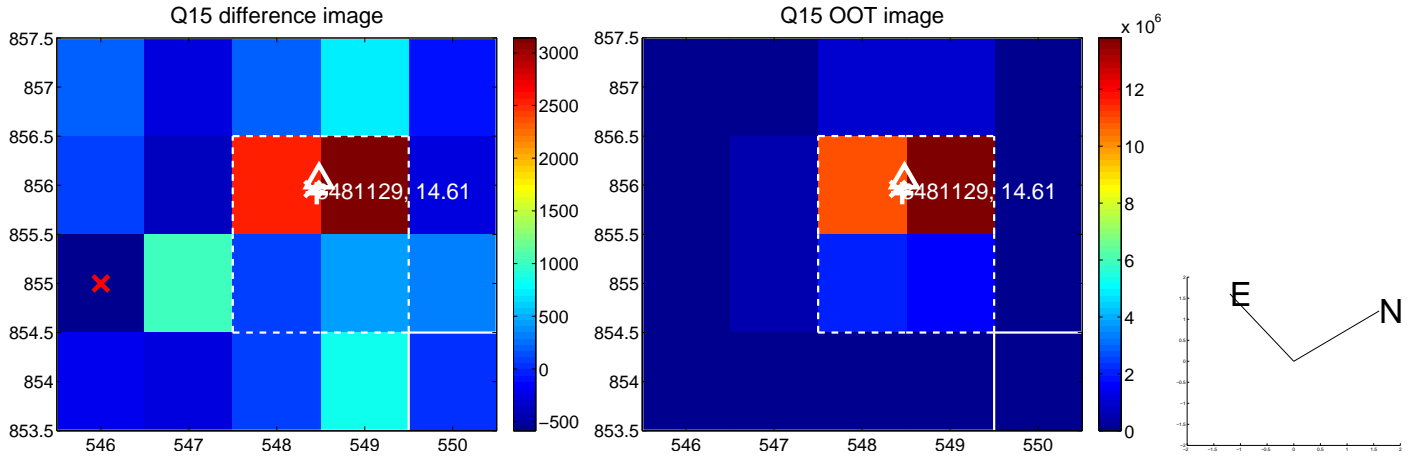
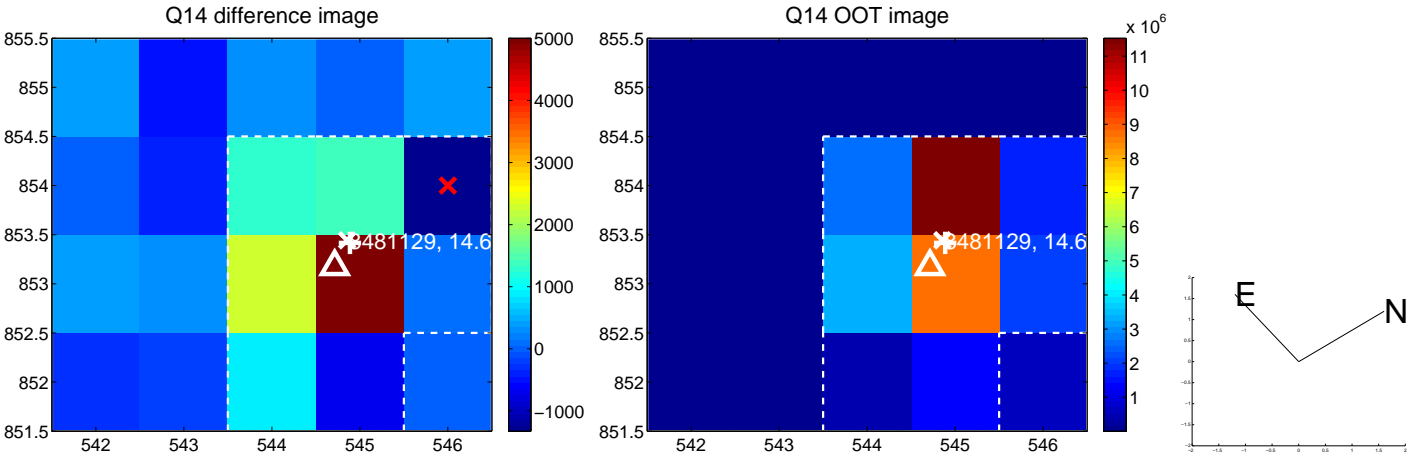
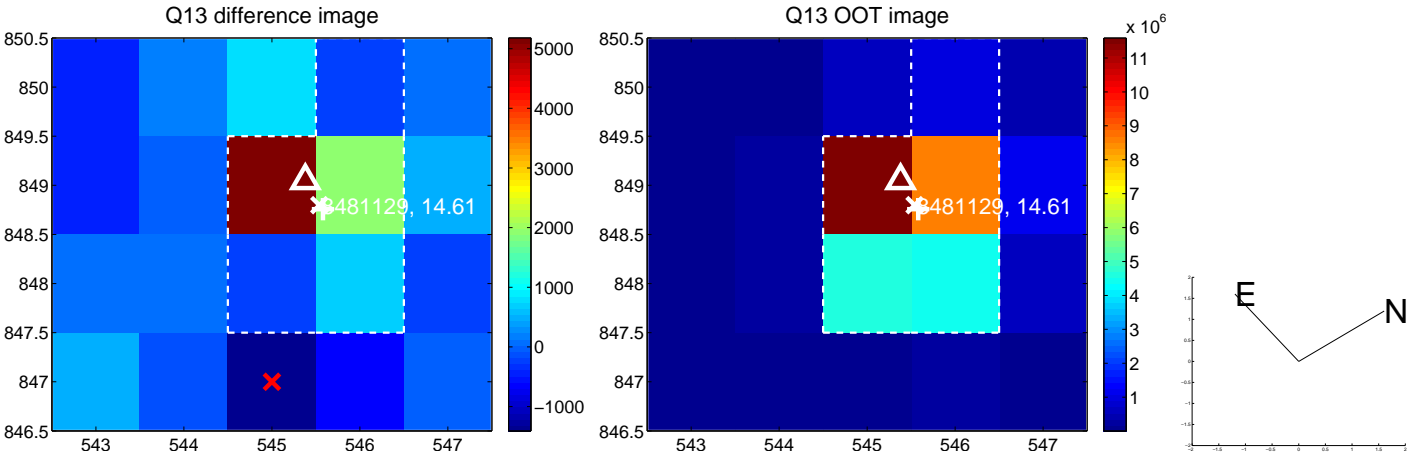
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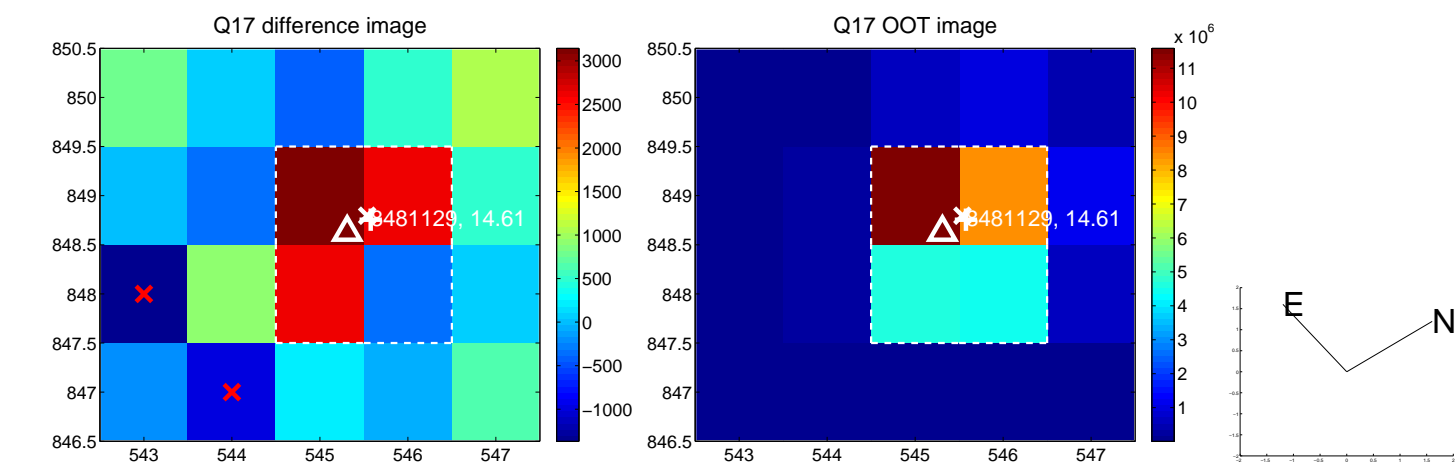
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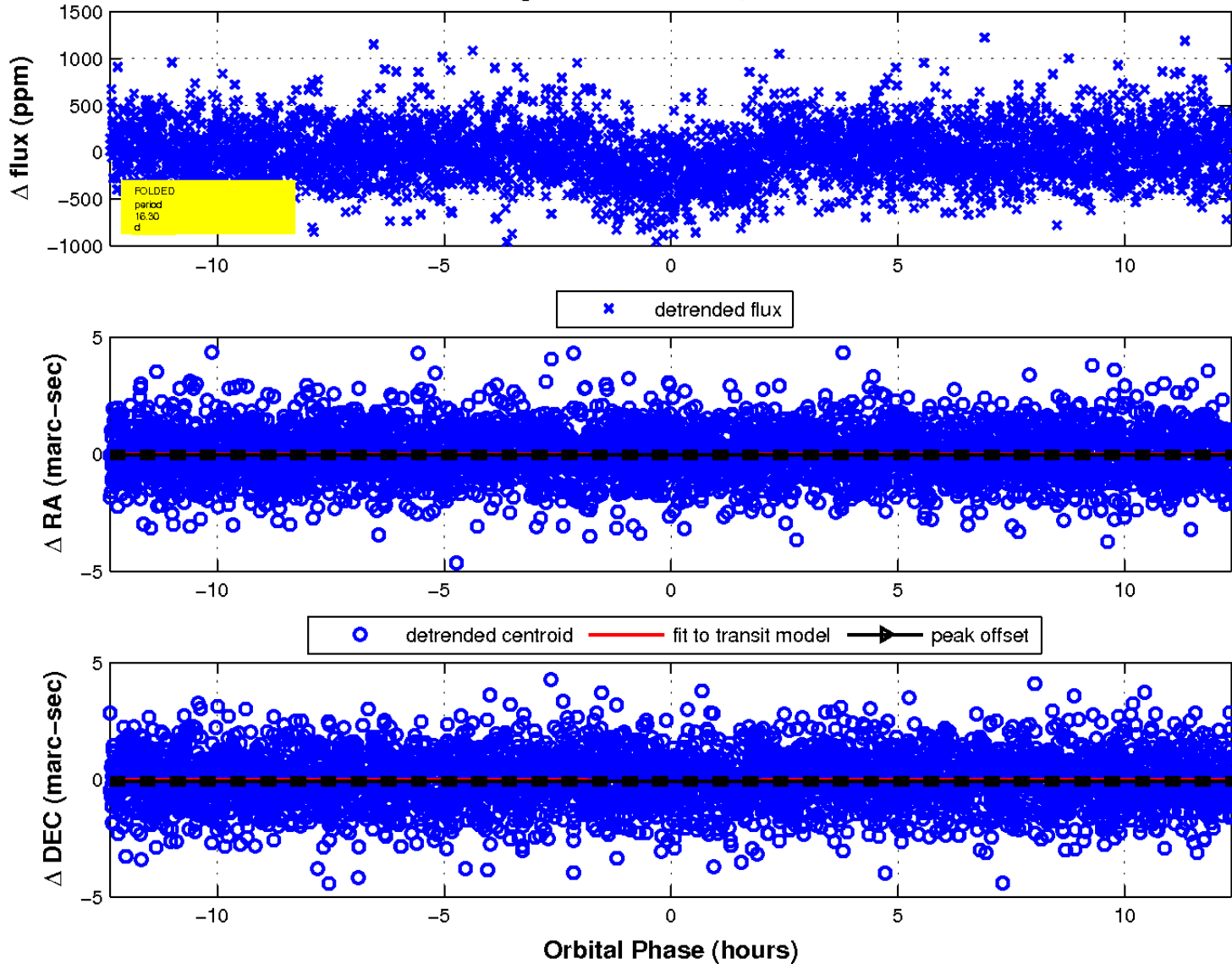
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

