

KIC 004372410

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})
004372410-01	OBS	6408.01	0.550539	131.656470	61.9	1.158	9.9	12.3	2.20	8098	2.03	72360.96

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004372410-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_SATURATED—HALO_GHOST

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.

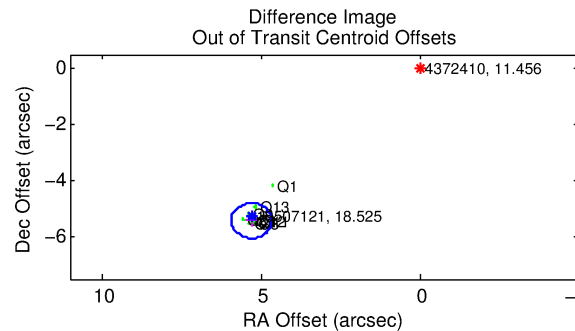
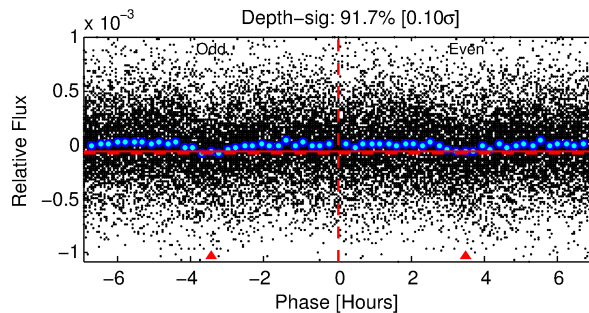
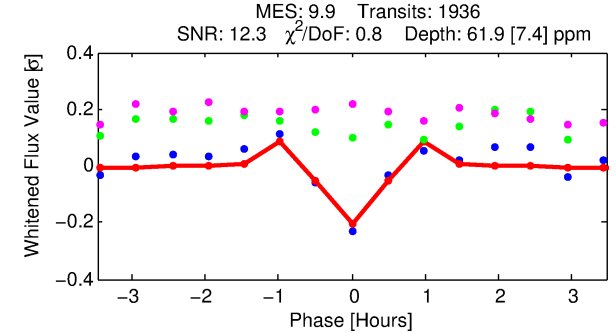
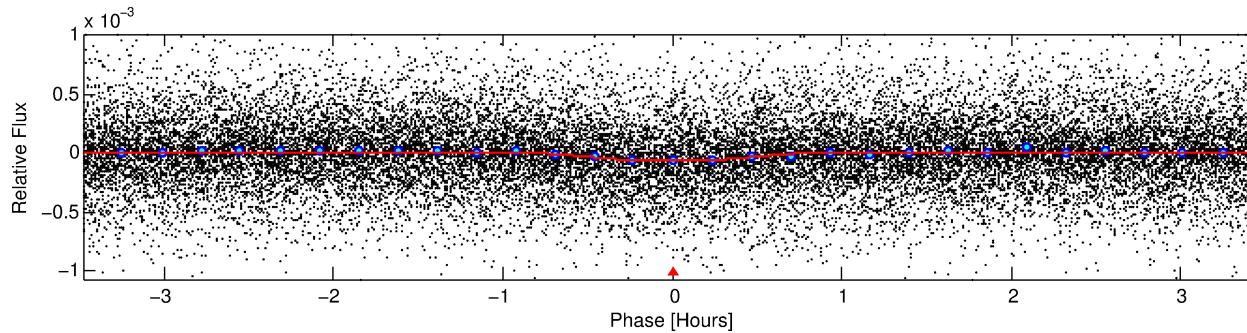
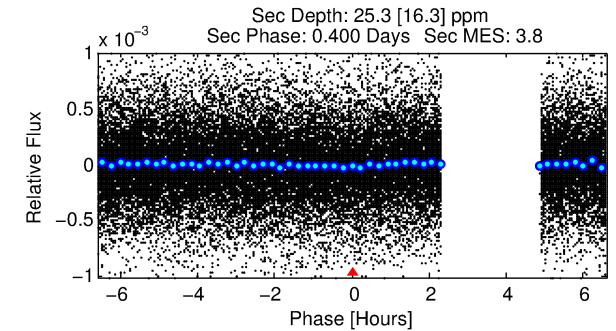
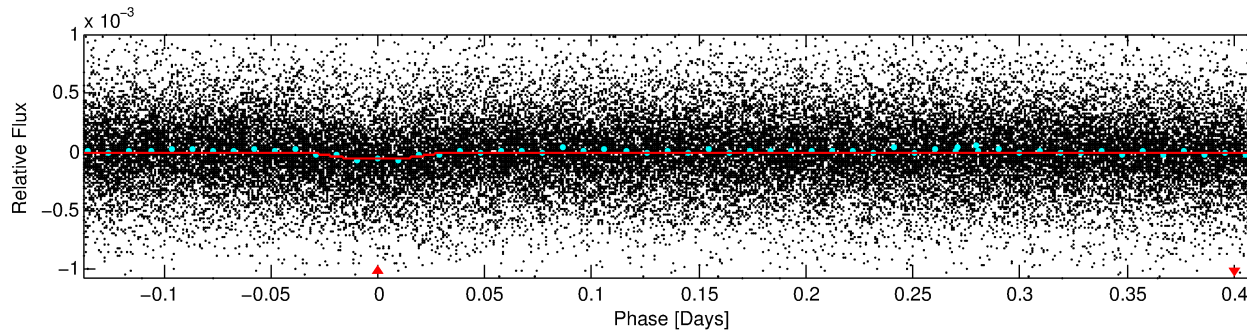
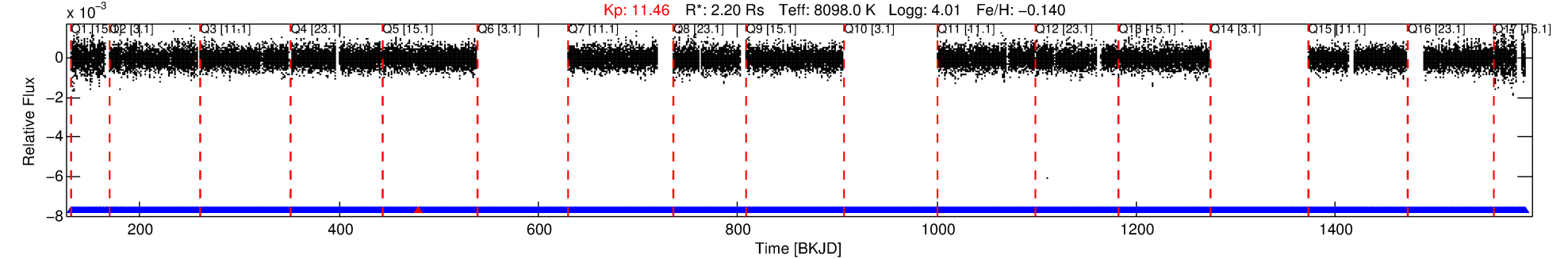
Ephemeris Match Information For 004372410-01

No Significant Match Found

DV One-Page Summary

KIC: 4372410 Candidate: 1 of 1 Period: 0.551 d
KOI: K06408.01 Corr: 0.928

Kp: 11.46 R*: 2.20 Rs Teff: 8098.0 K Logg: 4.01 Fe/H: -0.140



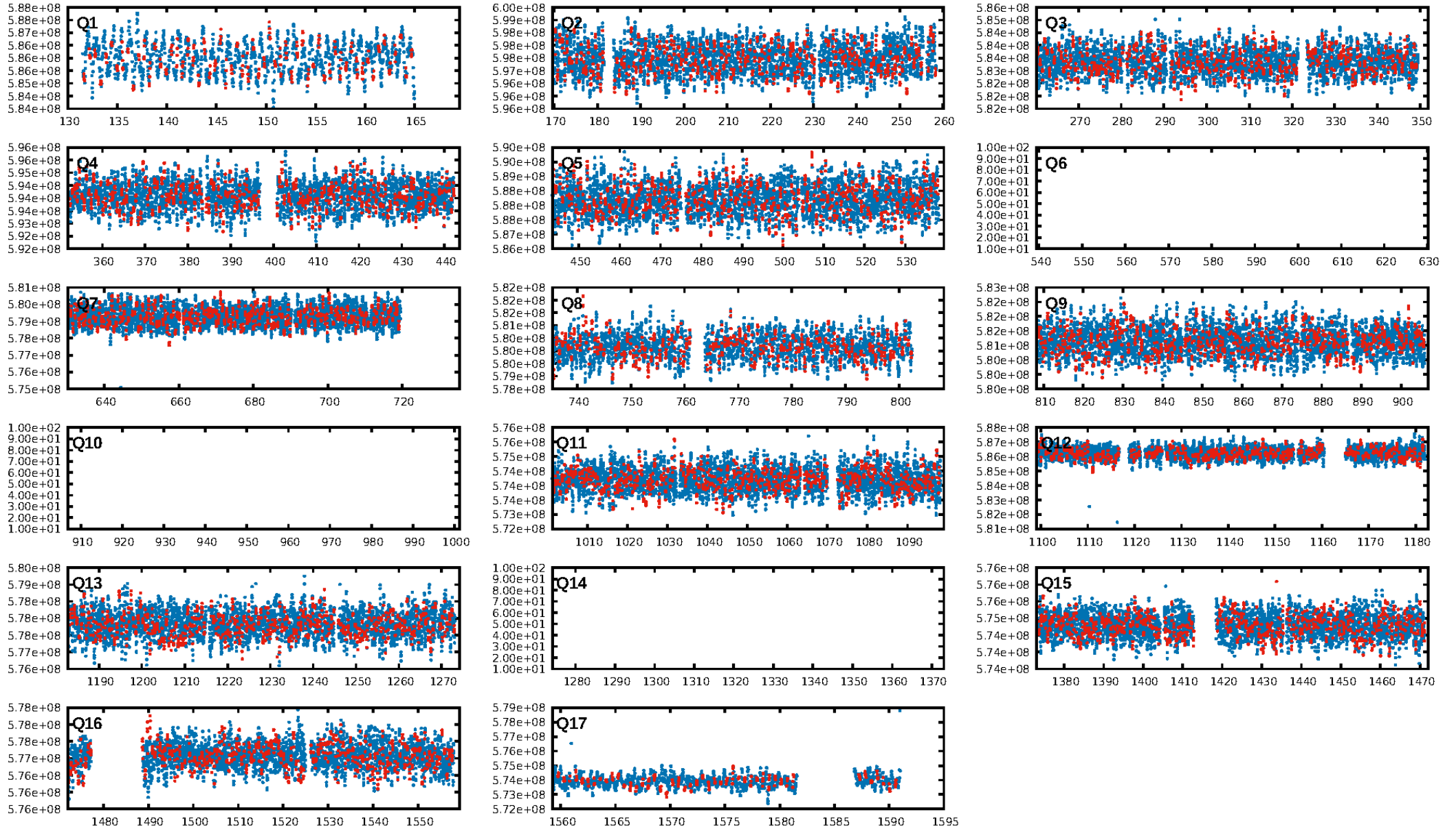
DV Fit Results:

Period = 0.55054 [0.00001] d
Epoch = 131.6565 [0.0009] BKJD
Rp/R* = 0.0084 [0.0015]
a/R* = 1.90 [1.44]
b = 0.90 [0.22]
Seff = 72360.96 [16371.63]
Teq = 4182 [237] K
Rp = 2.03 [0.50] Re
a = 0.0160 [0.0024] AU
Ag = 0.87 [0.67] [-0.19σ]
Teffp = 6253 [1153] K [1.76σ]

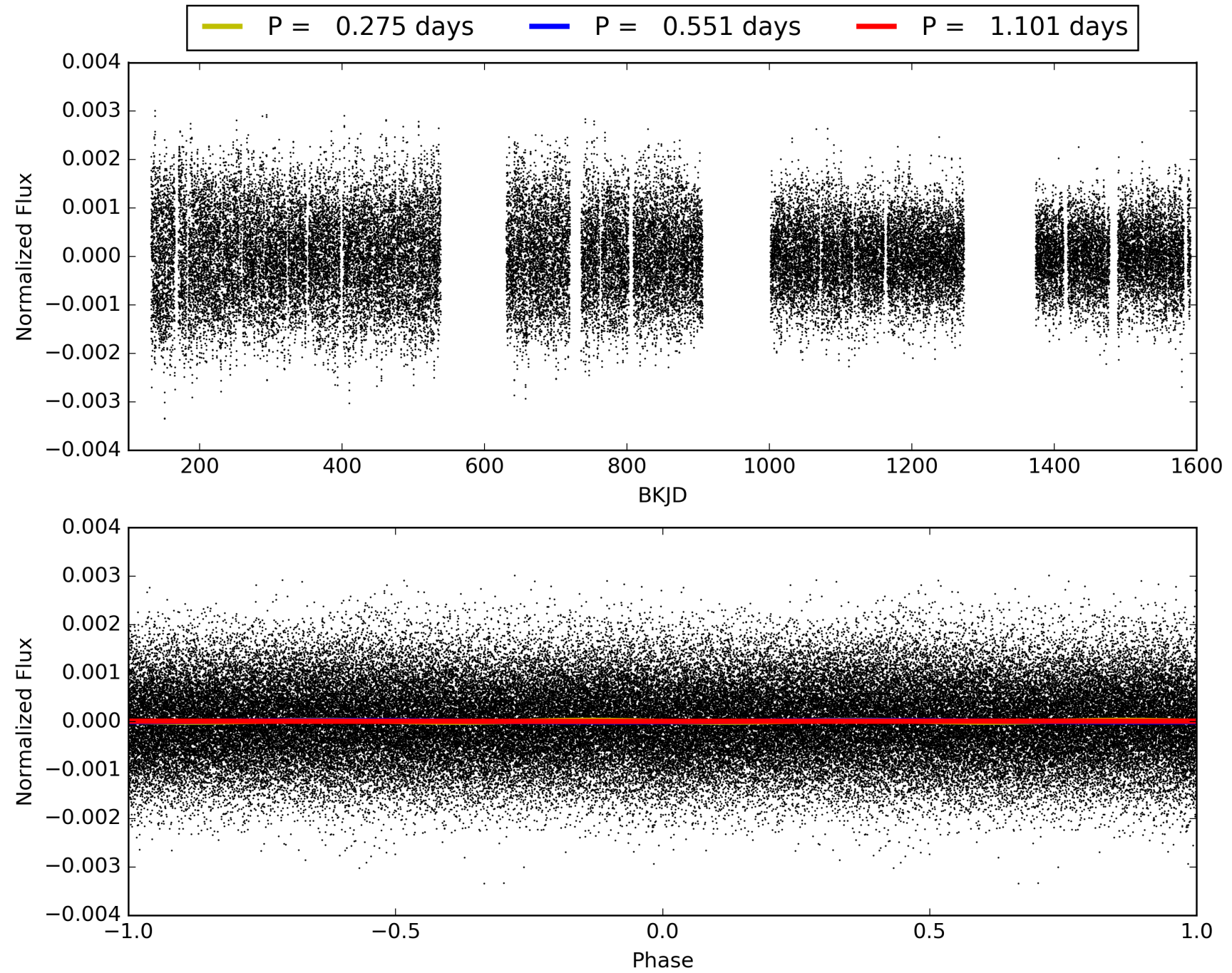
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.28e-20
RollingBand-fgt: 1.00 [1826/1827]
GhostDiagnostic-chr: -0.07048
Centroid-sig: 0.0%
Centroid-so: 1.193 arcsec [6.31σ]
OotOffset-rm: 7.575 arcsec [36.20σ]
KicOffset-rm: 7.572 arcsec [45.31σ]
OotOffset-st: 1/2/3/3 [9]
KicOffset-st: 1/2/3/3 [9]
DiffImageQuality-fgm: 0.89 [8/9]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 004372410-01, PDC Light Curves

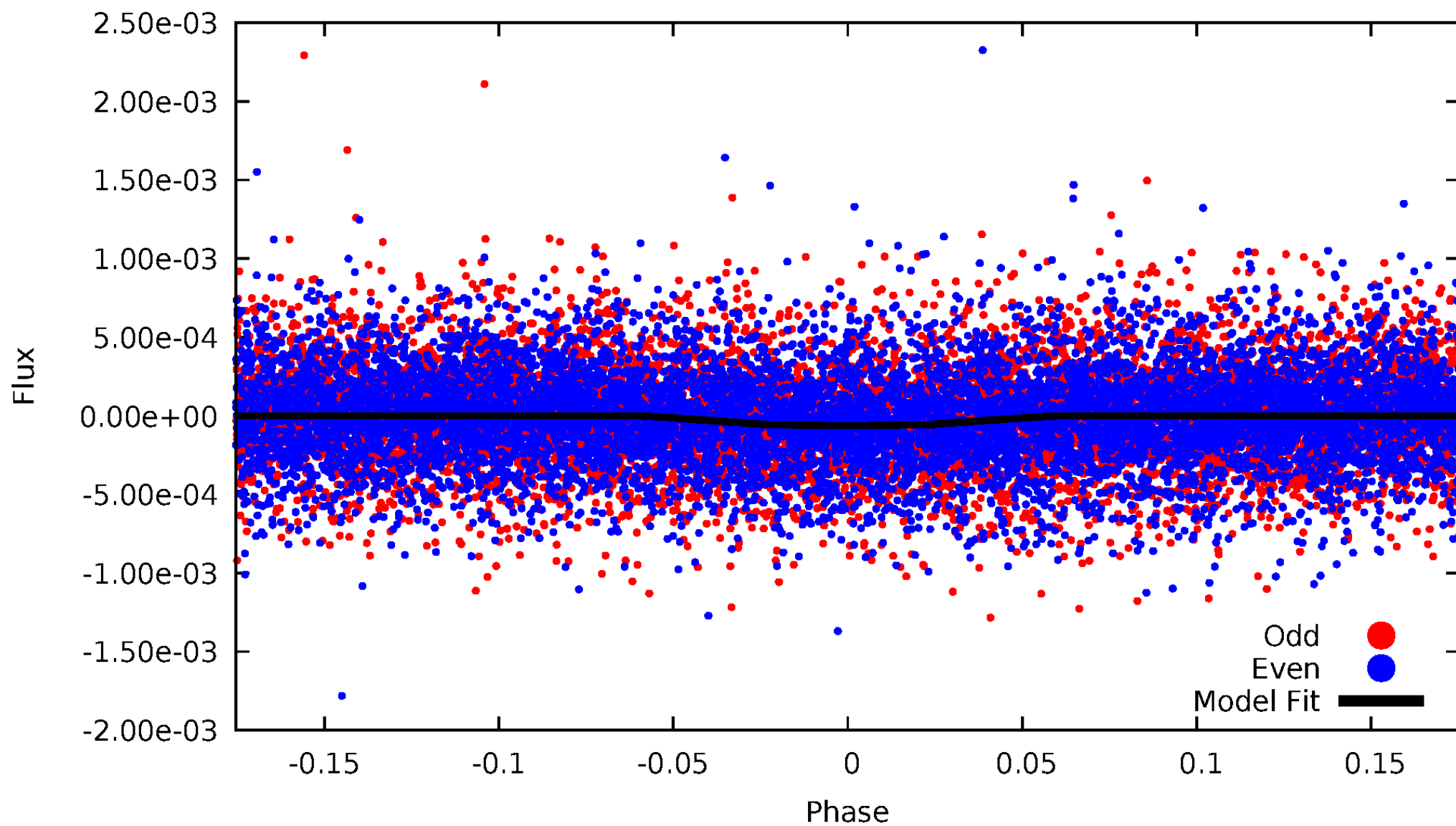


TCE 004372410-01



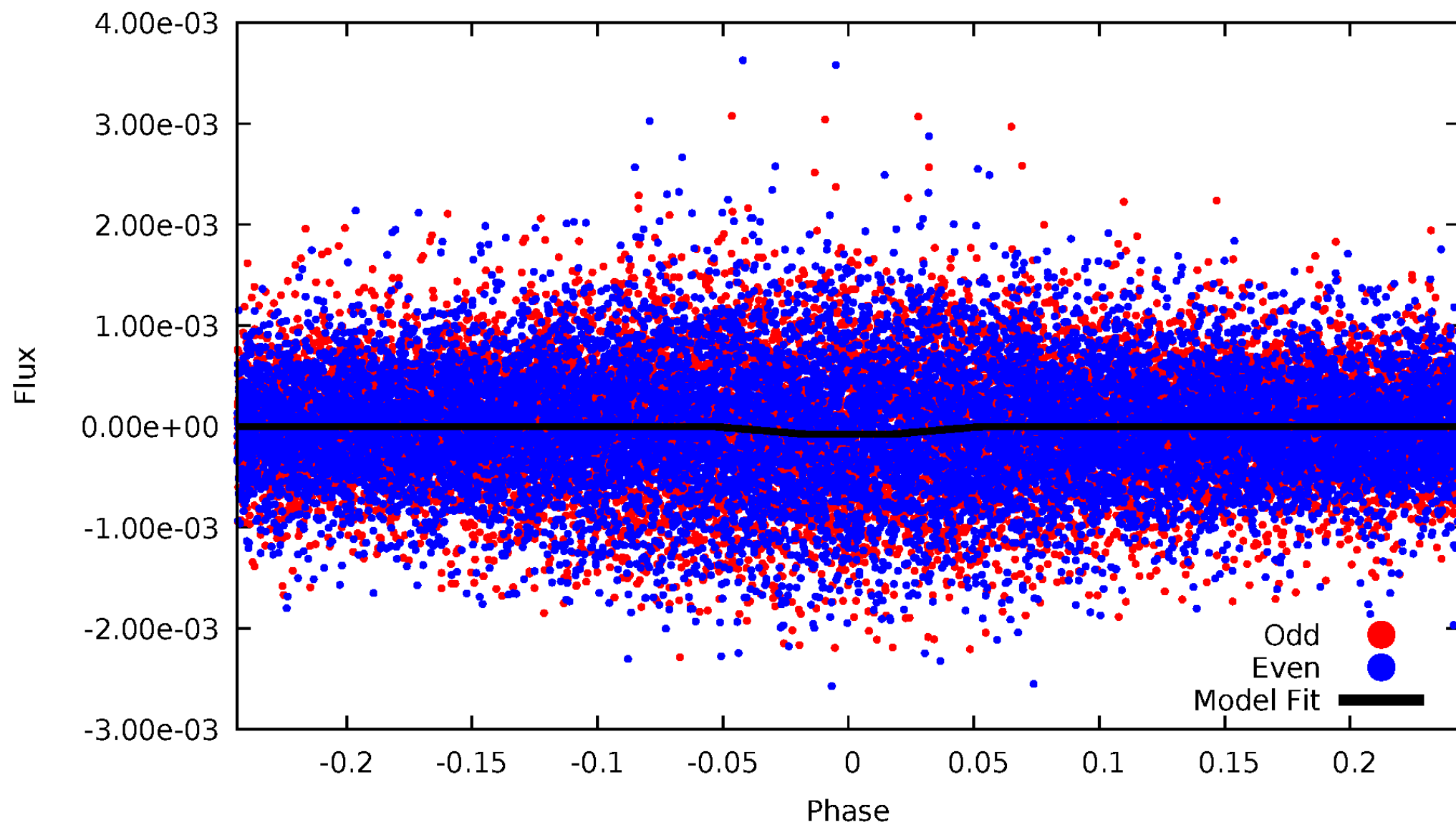
DV Odd/Even

TCE 004372410-01

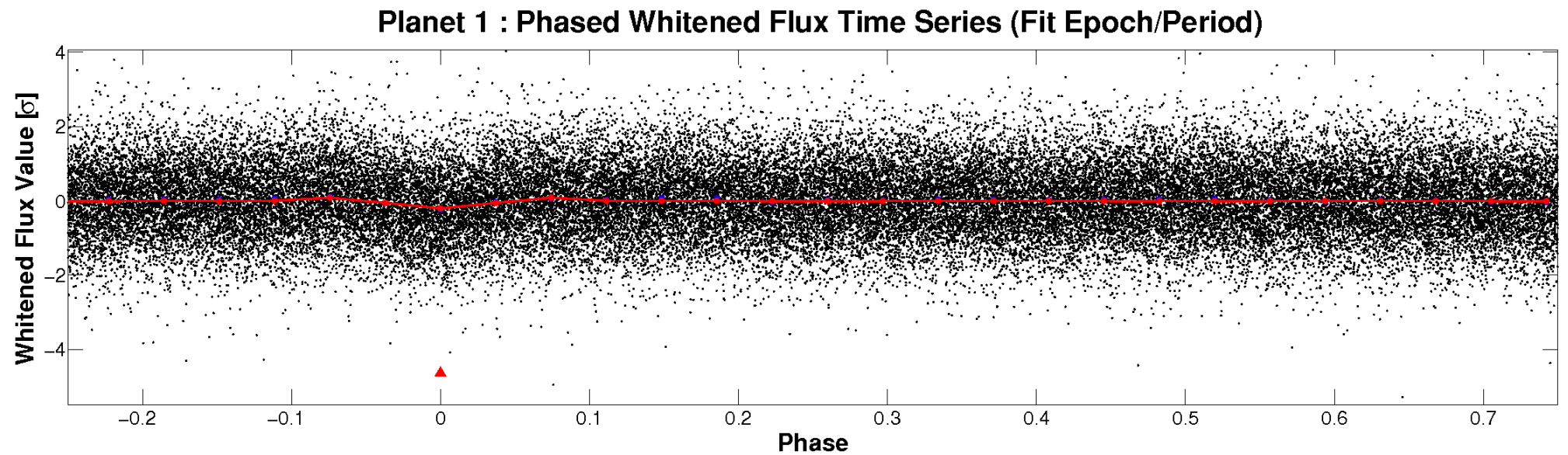
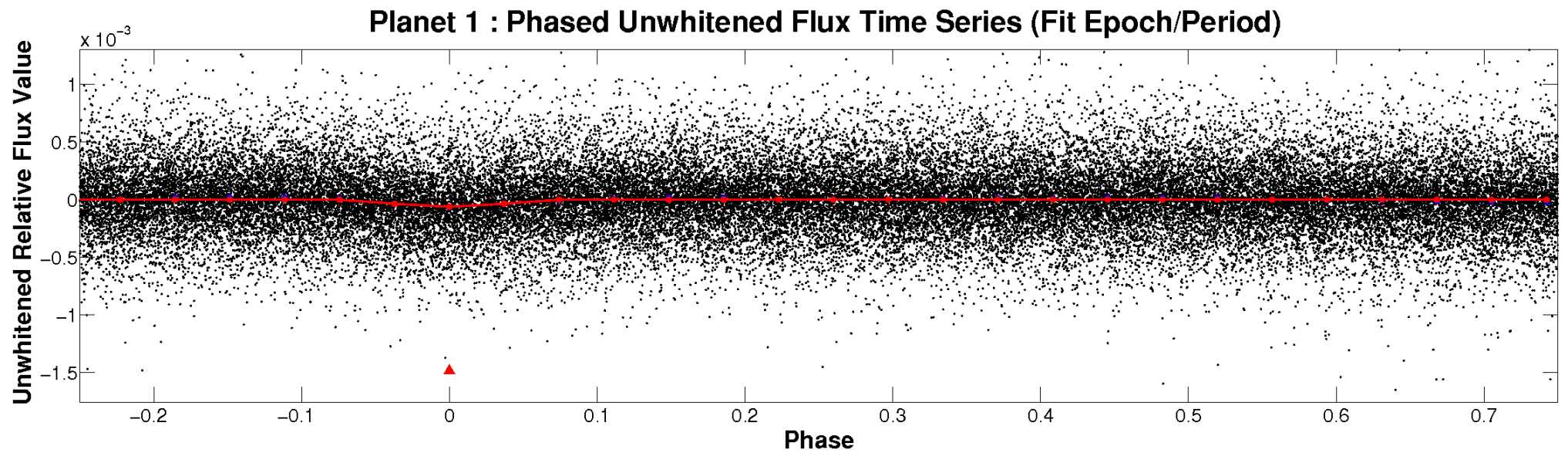


ALT Odd/Even

TCE 004372410-01

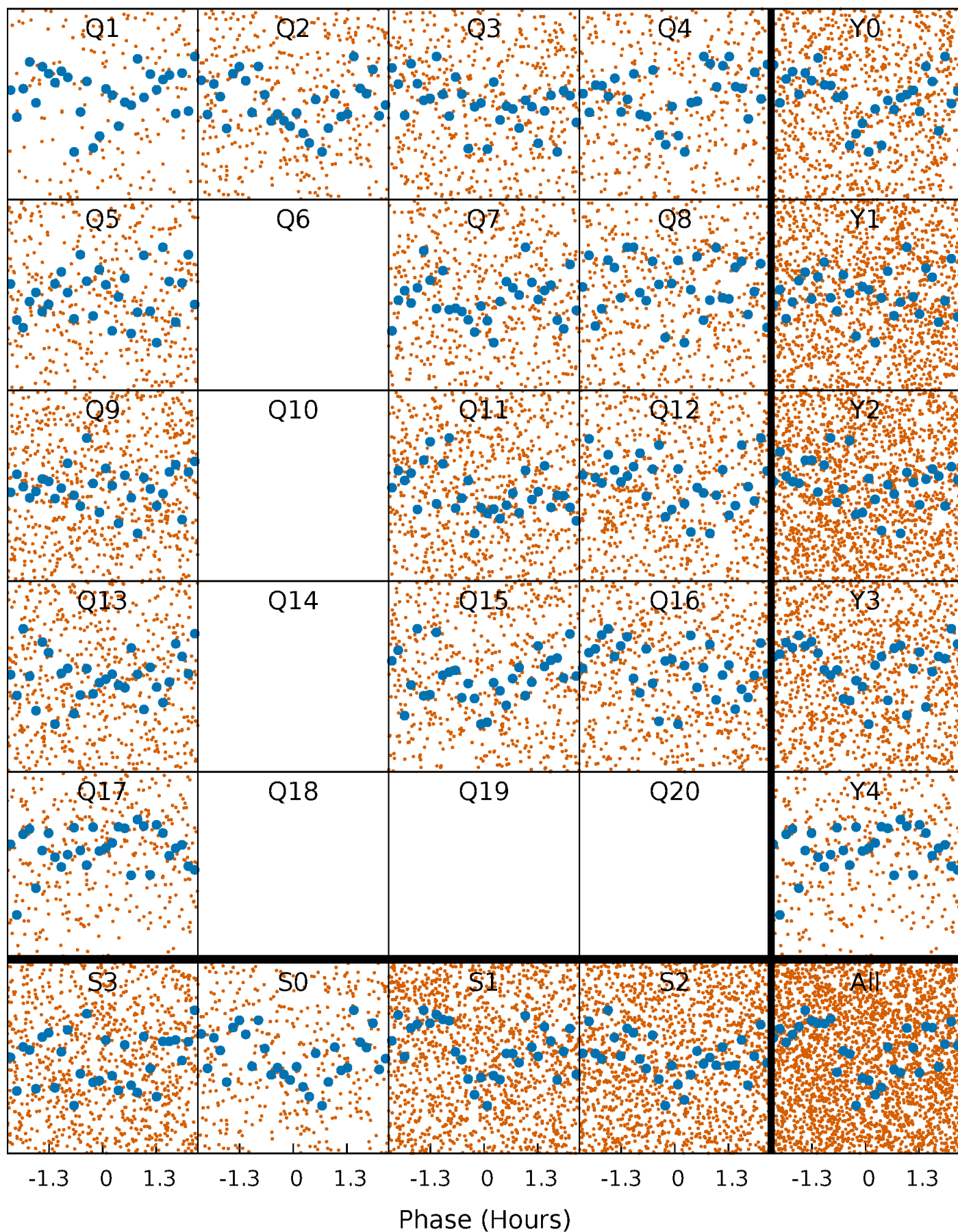


Non-Whitened Vs. Whitened Light Curve



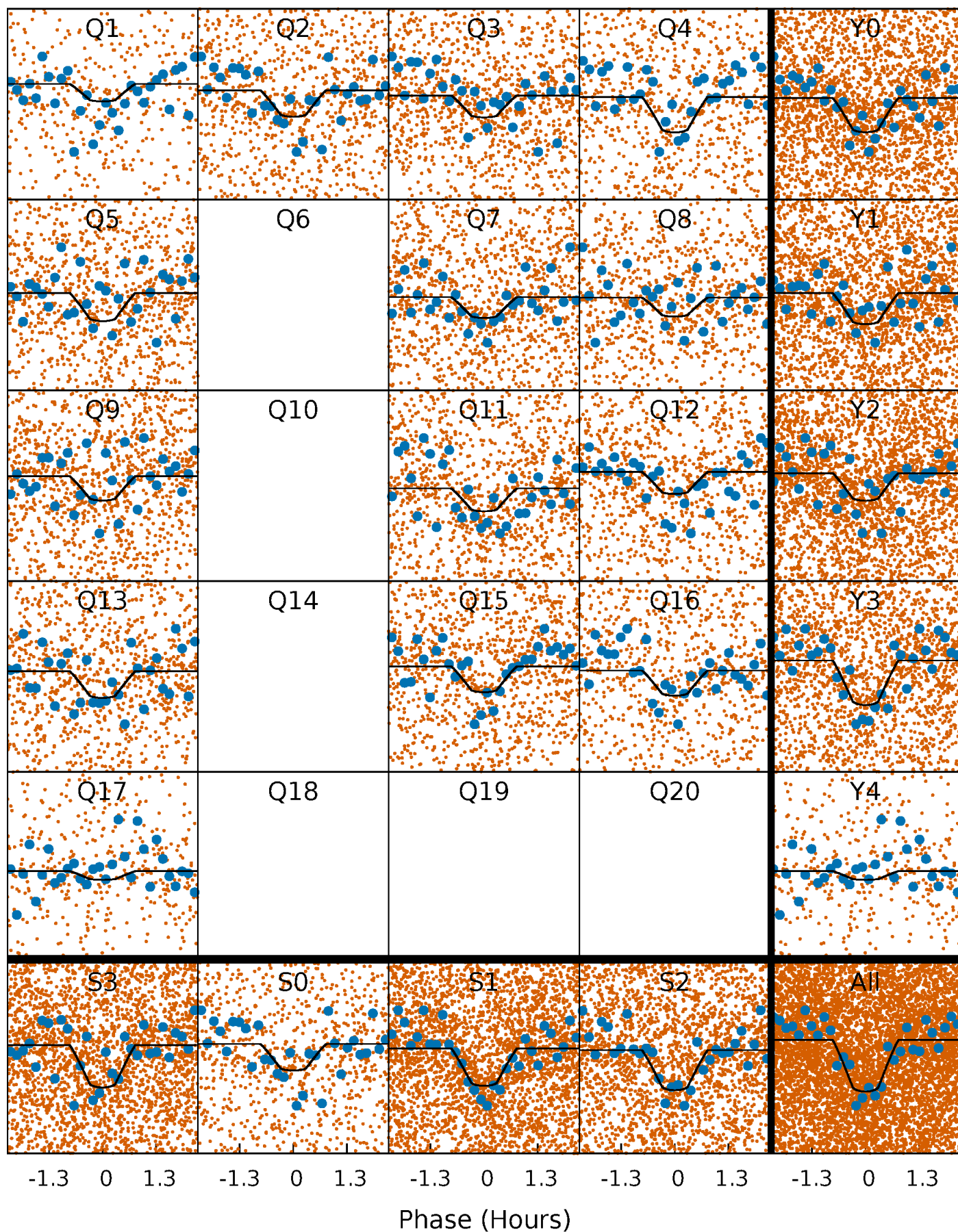
PDC Quarter-Phased Transit Curves

TCE 004372410-01 P= 0.550539 Days $T_0=131.656470$ (BKJD)



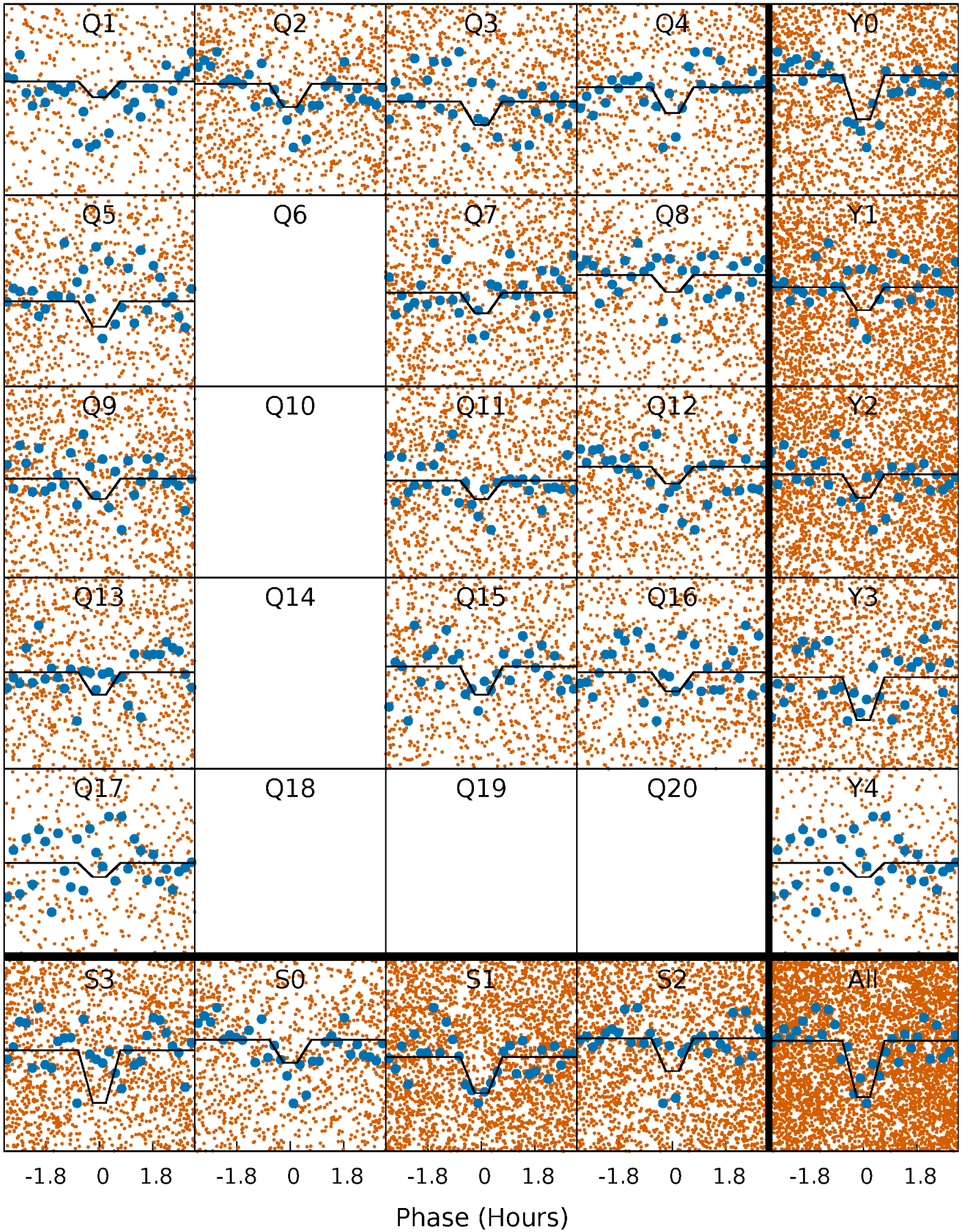
DV Quarter-Phased Transit Curves

TCE 004372410-01 P= 0.550539 Days $T_0=131.656470$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

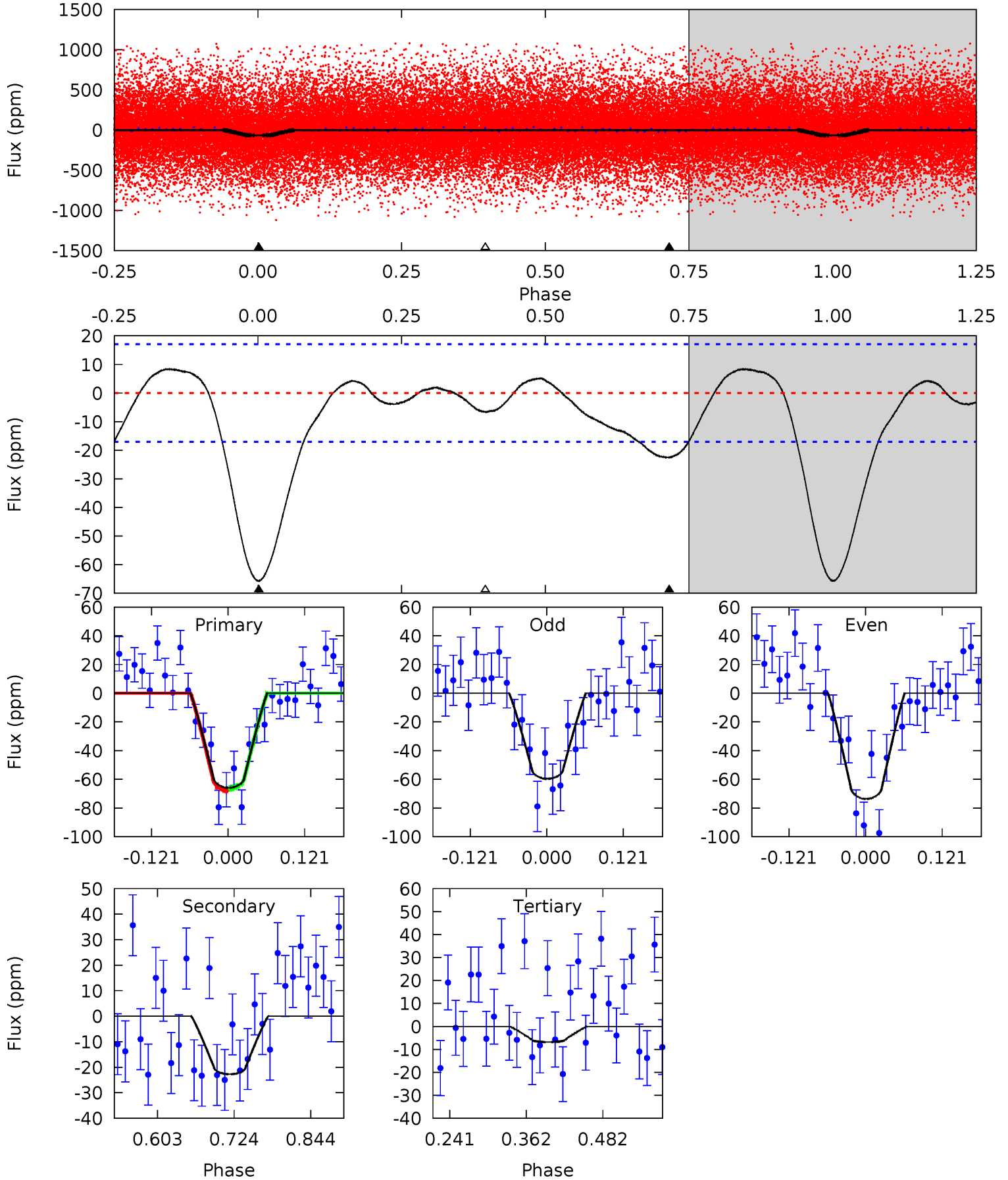
TCE 004372410-01 P= 0.550539 Days $T_0=131.660304$ (BKJD)



DV Model-Shift Uniqueness Test

004372410-01, P = 0.550539 Days, E = 131.105931 Days

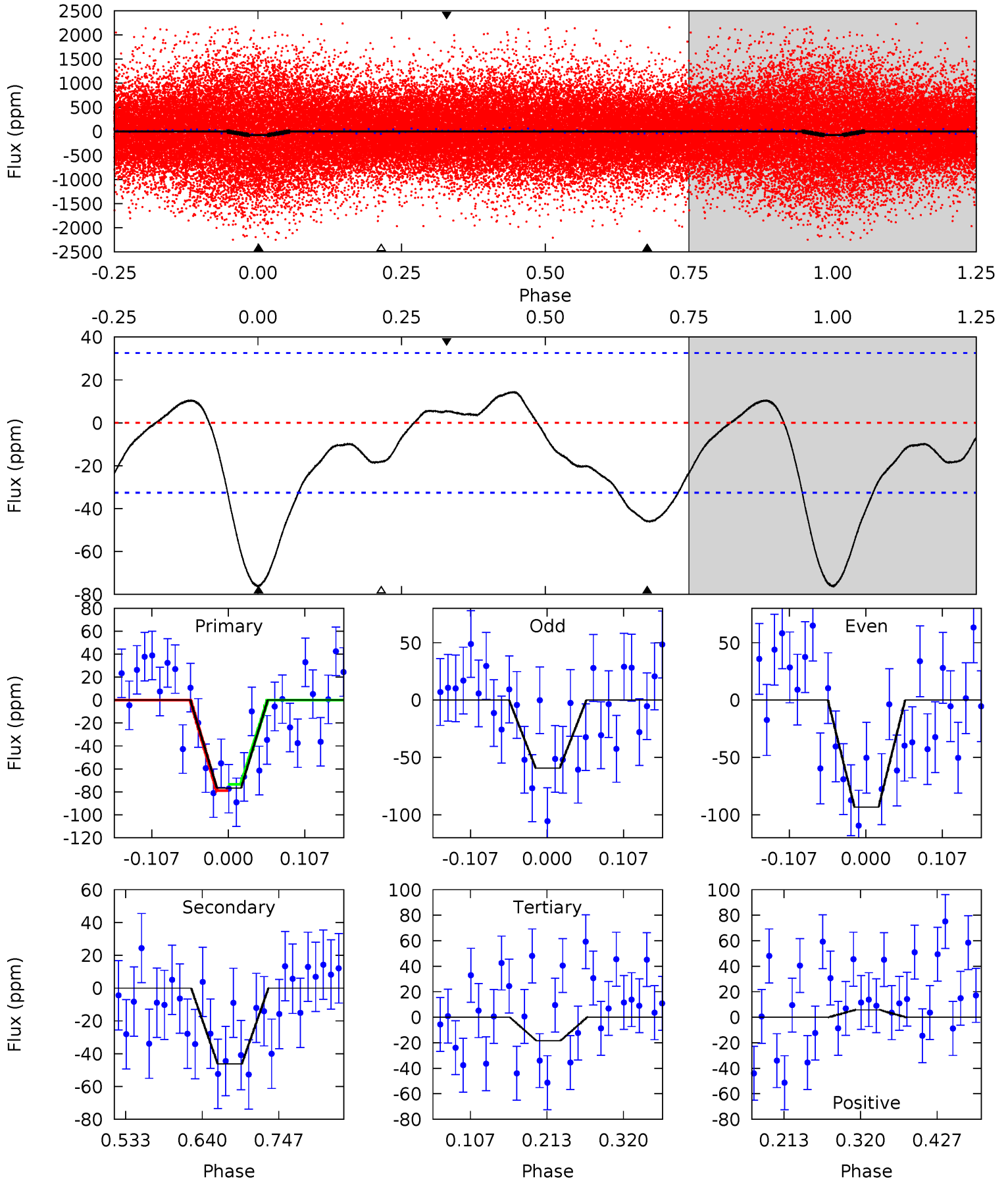
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.4	6.02	1.81	0	4.53	1.55	1.17	15.6	17.4	4.21	6.02	1.86	0.85	0.11	0.18



Alt Model-Shift Uniqueness Test

004372410-01, P = 0.550539 Days, E = 131.109765 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	6.46	2.57	0.81	4.55	1.61	1.46	8.13	9.89	3.89	5.65	2.38	0.70	0.16	0.39



Stellar Parameters For KIC 004372410

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8098^{+72}_{-81}	$4.013^{+0.126}_{-0.084}$	$-0.140^{+0.050}_{-0.150}$	$2.199^{+0.273}_{-0.364}$	$1.819^{+0.065}_{-0.163}$	$0.241^{+0.134}_{-0.062}$
	+1%/-1%	+3%/-2%	+36%/-107%	+12%/-17%	+4%/-9%	+56%/-26%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 004372410-01 / KOI 6408.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-23 ± 4	$2.01^{+0.42}_{-0.39}$	5846^{+207}_{-227}	5291^{+774}_{-754}	$0.783^{+0.459}_{-0.265}$
Alt.	-46 ± 7	$2.12^{+0.38}_{-0.43}$	5815^{+228}_{-230}	6524^{+987}_{-758}	$1.478^{+0.866}_{-0.483}$

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 $A_{obs} \gg 1.0$

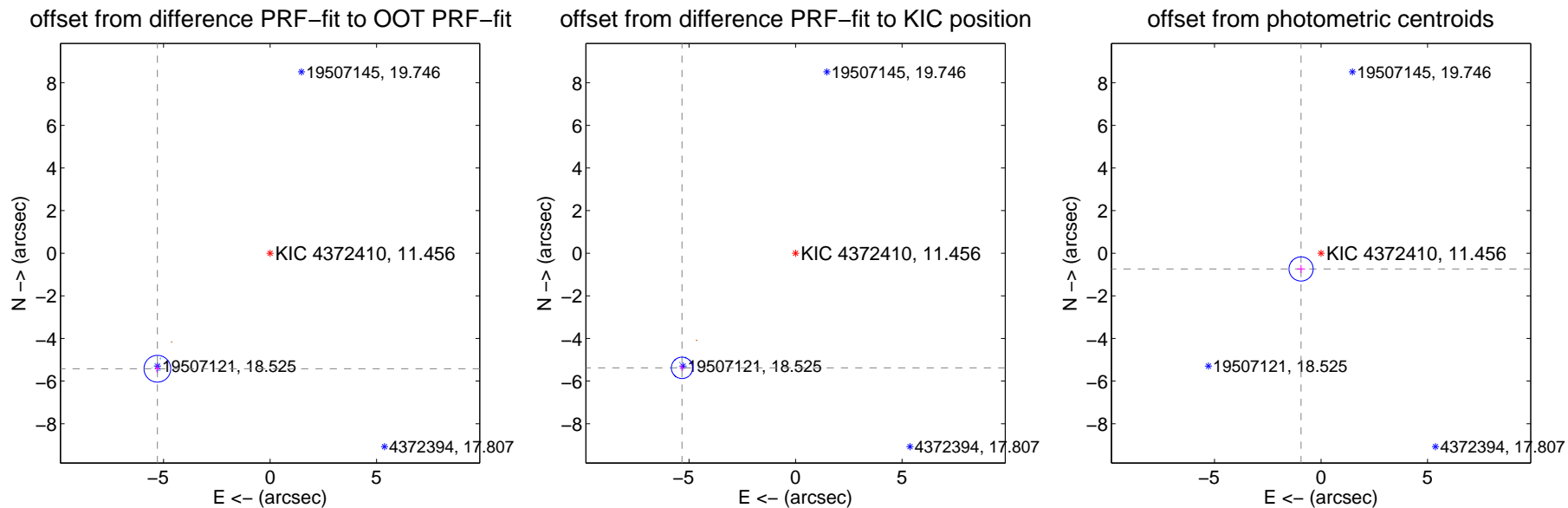
DV Centroid Data

Supplemental centroid analysis for 004372410-01. **Kepler magnitude: 11.46.** Transit SNR 12.34

There are 8 quarters with good PRF difference image offsets

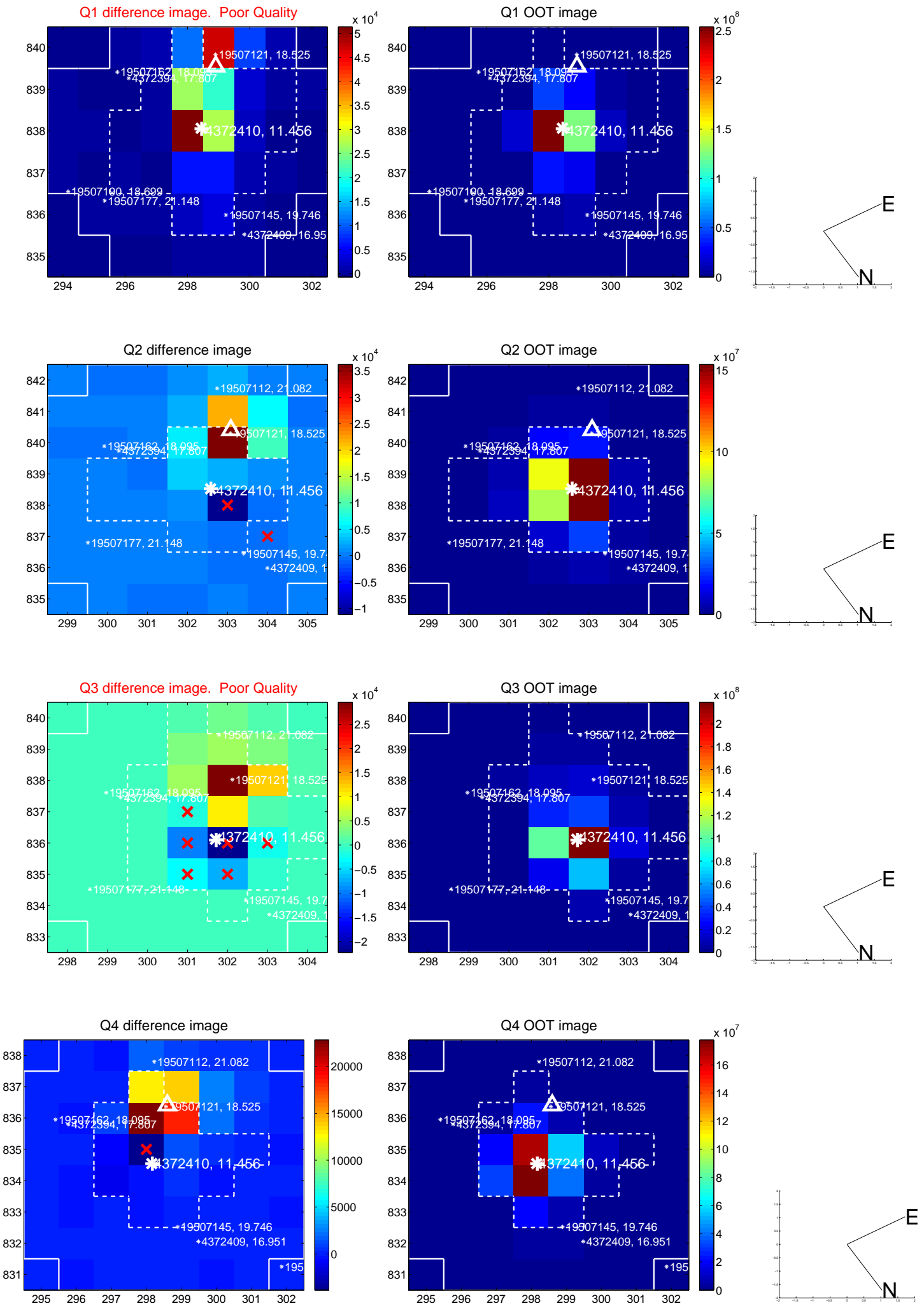
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.575 ± 0.209	36.20	5.291 ± 0.122	-5.421 ± 0.195
PRF-fit source offset from KIC position	7.572 ± 0.167	45.31	5.330 ± 0.111	-5.379 ± 0.153
photometric centroid source offset	1.19 ± 0.19	6.31	0.94 ± 0.19	-0.74 ± 0.19

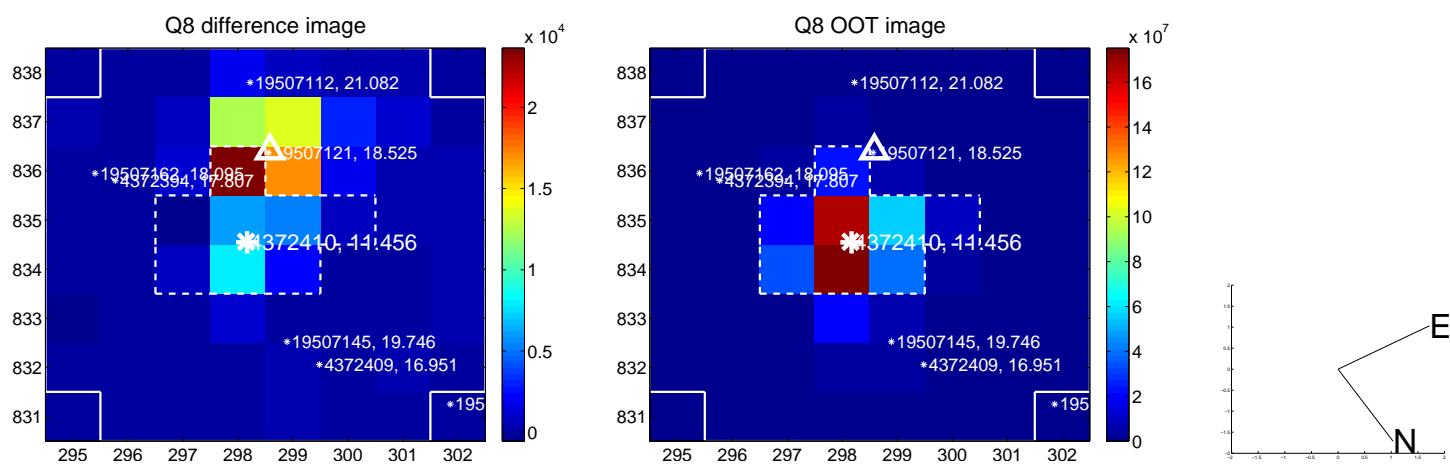
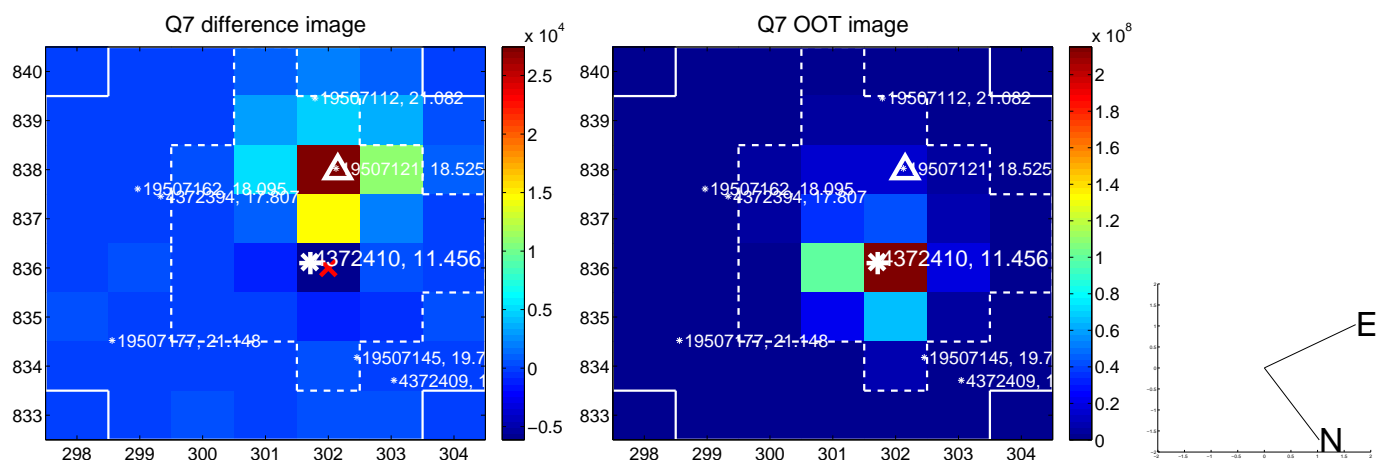
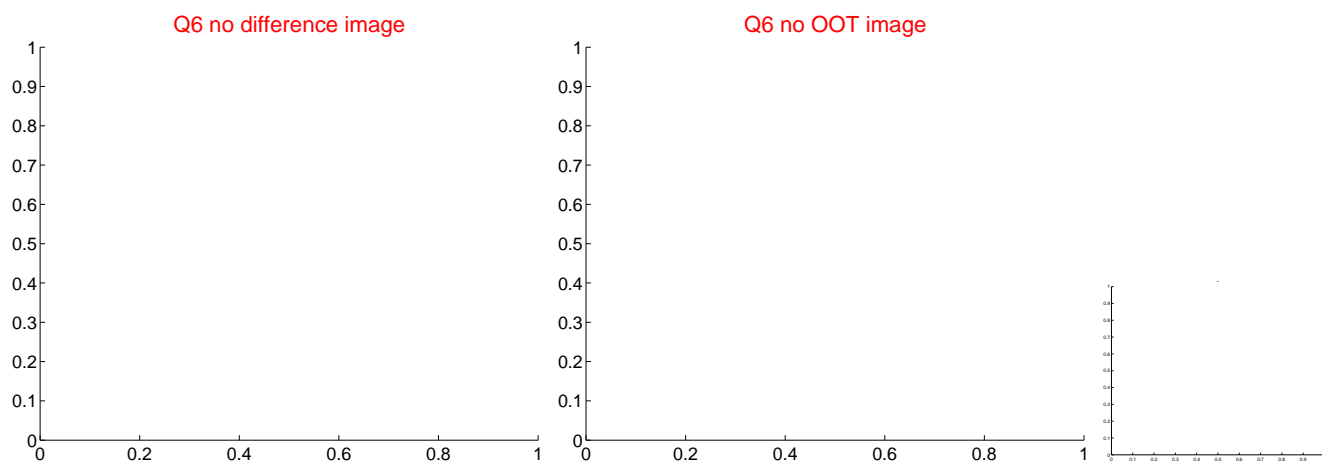
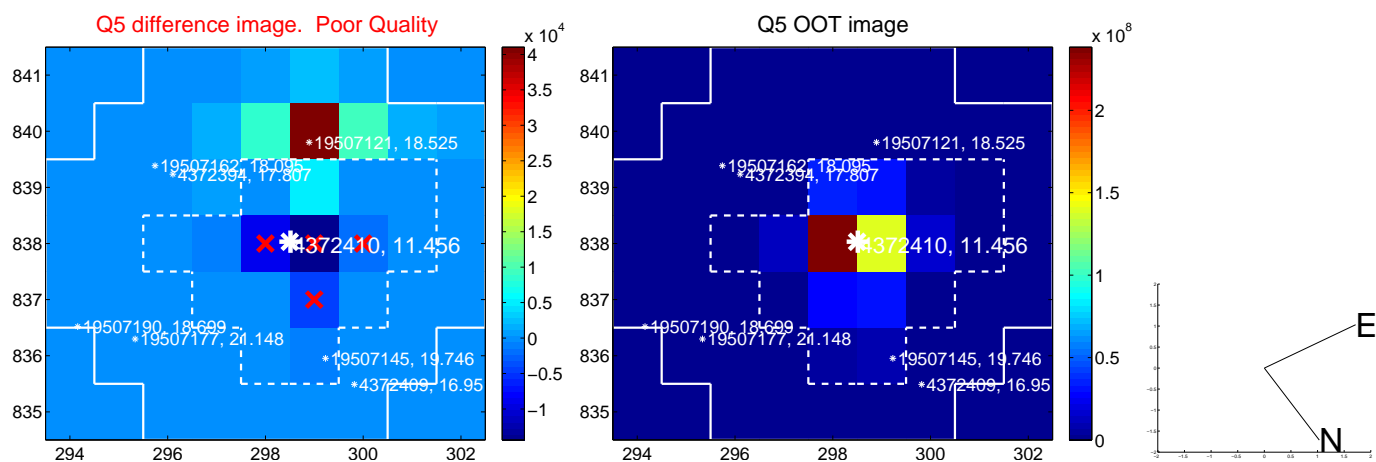


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

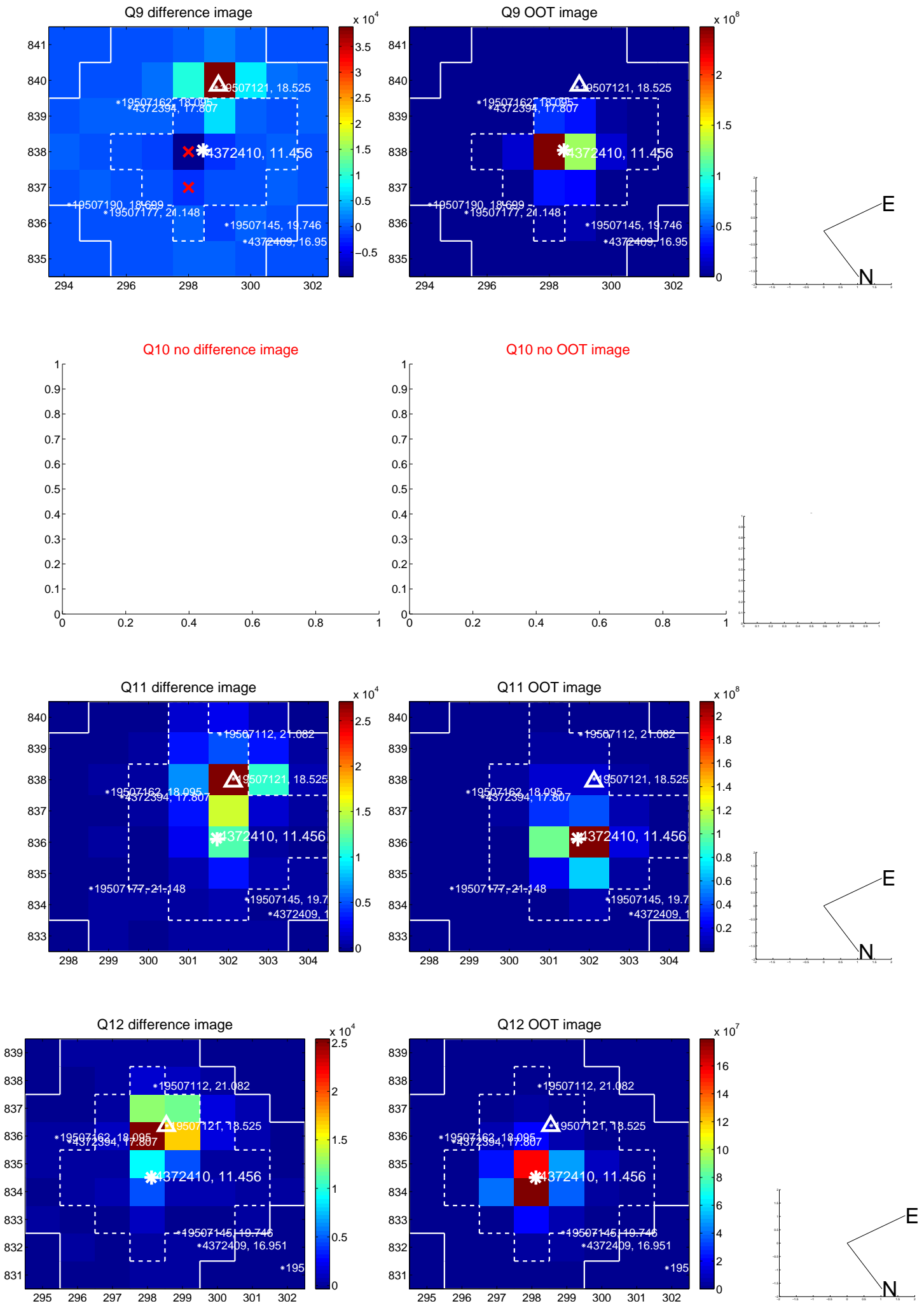
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



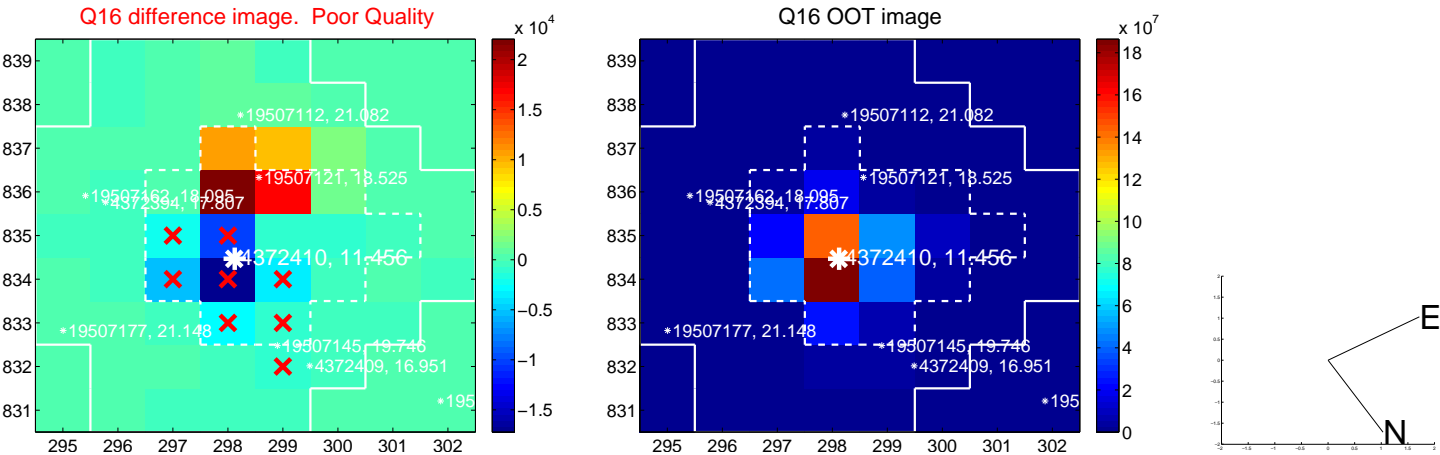
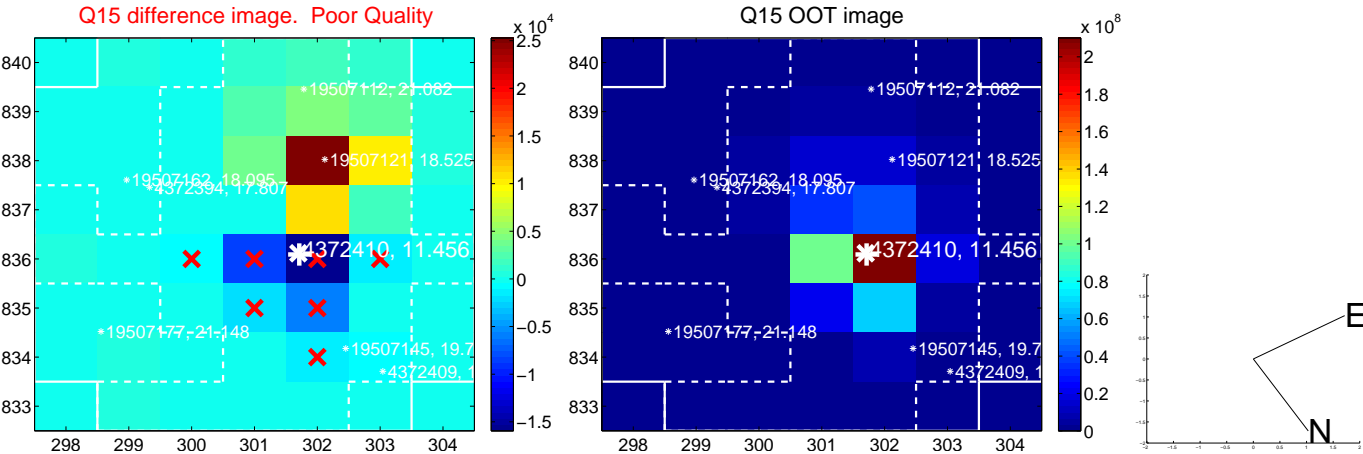
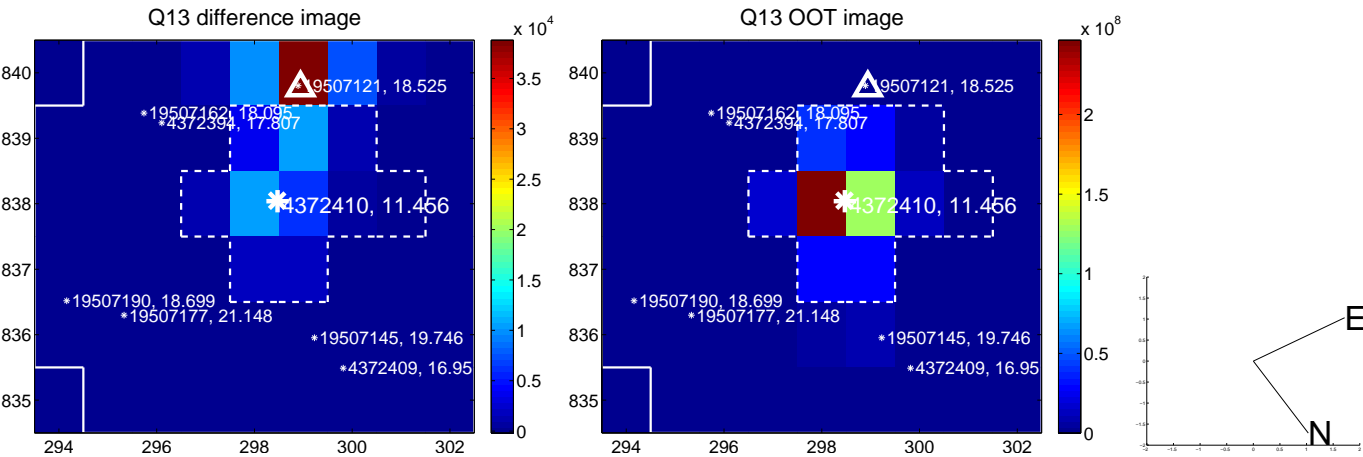
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

