

KIC 002449639

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})
002449639-01	OBS	No	1.069350	131.671011	12.0	3.616	7.2	2.7	0.99	6345	0.36	3326.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002449639-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—CENT_RESOLVED_OFFSET

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

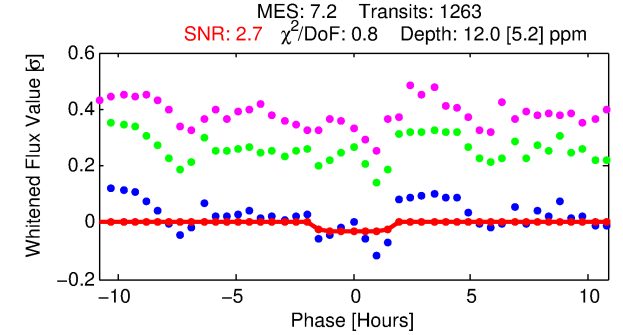
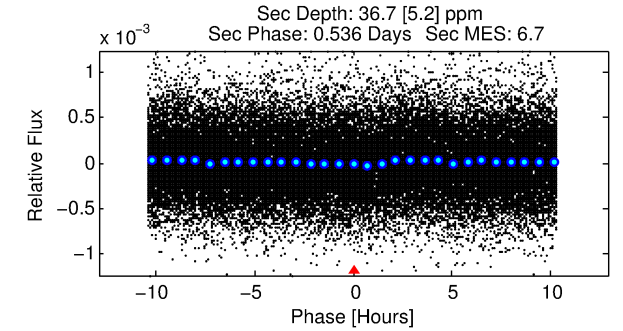
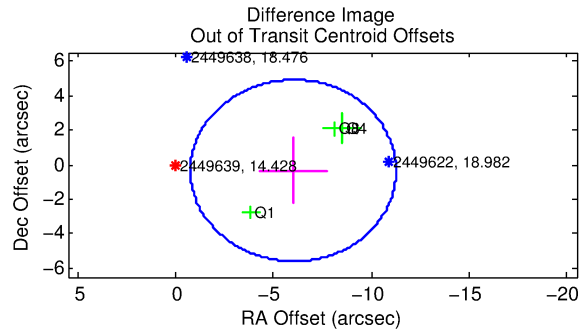
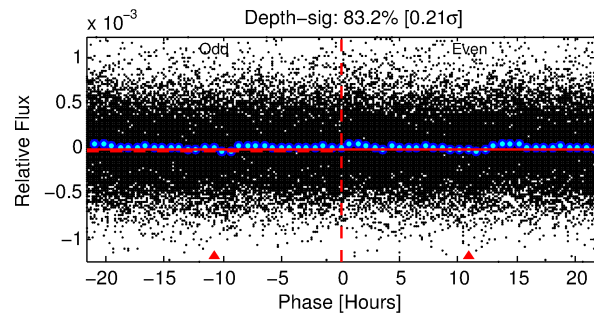
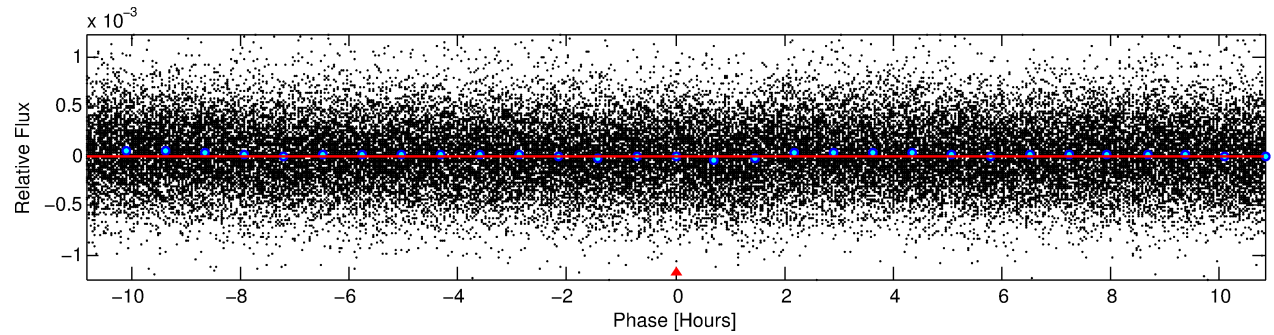
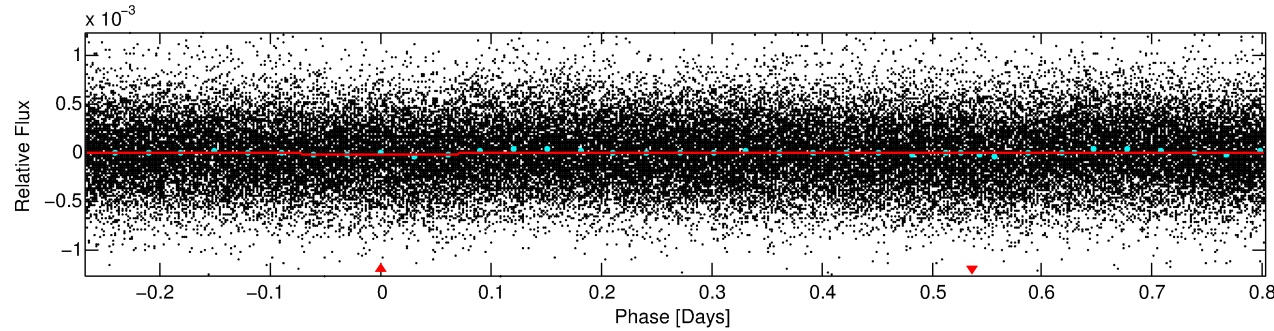
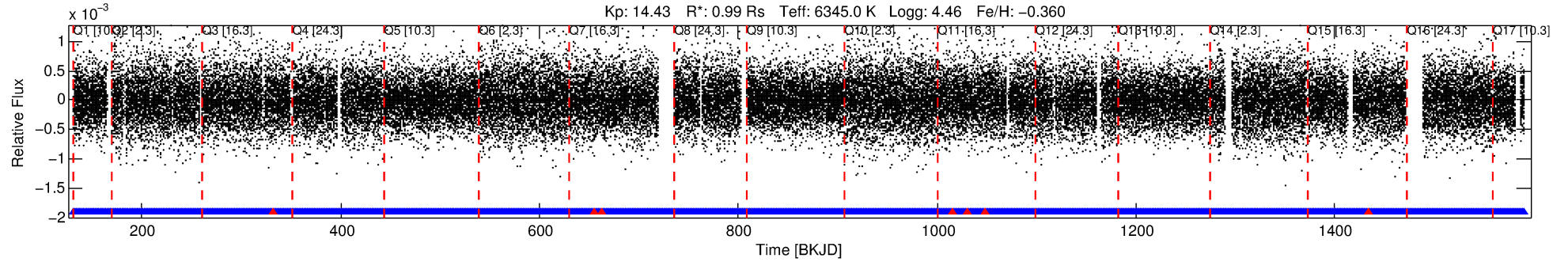
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002449639-01

No Significant Match Found

DV One-Page Summary

KIC: 2449639 Candidate: 1 of 1 Period: 1.069 d



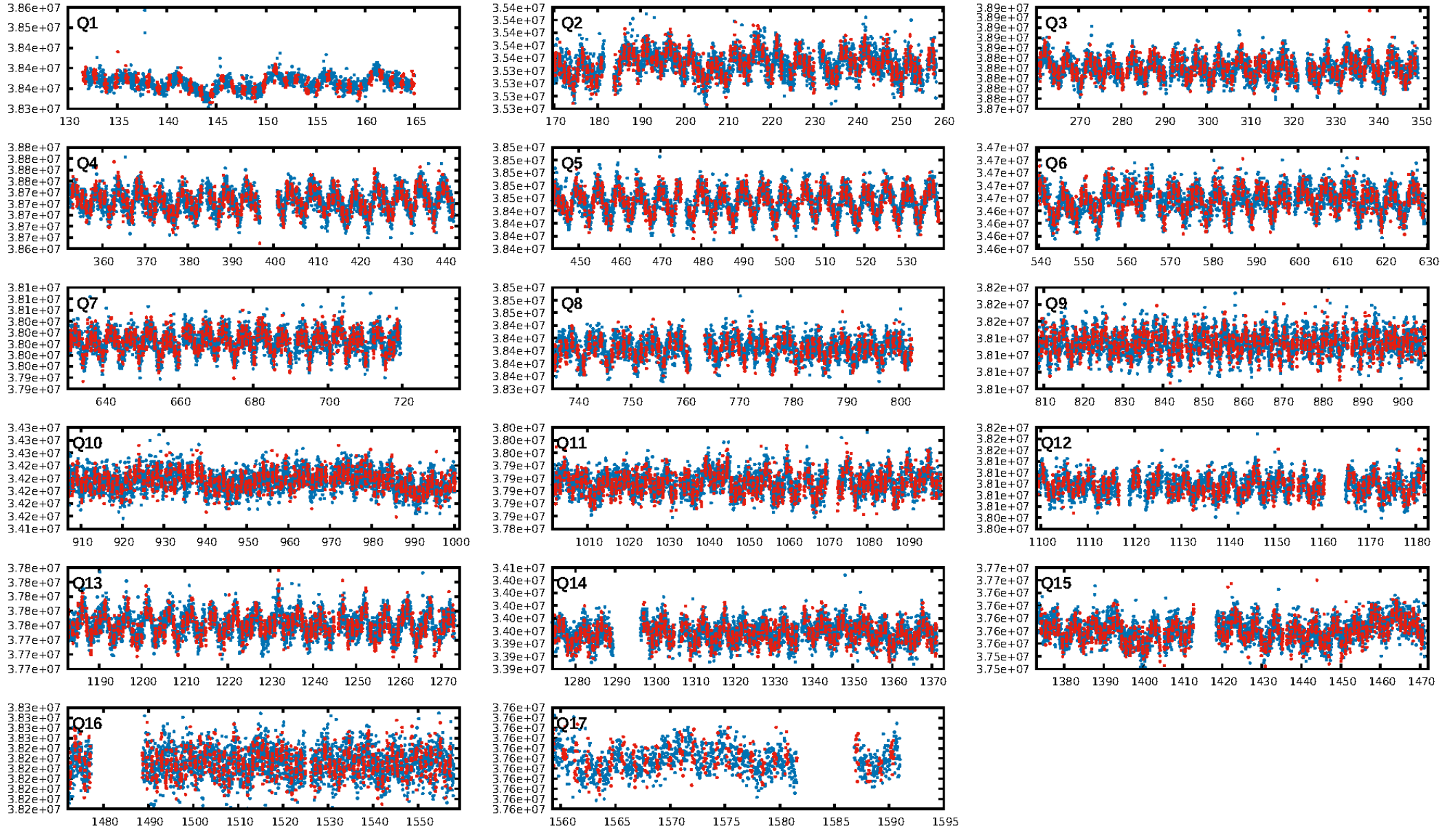
DV Fit Results:

Period = 1.06935 [0.00004] d
Epoch = 131.6710 [0.0149] BKJD
Rp/R* = 0.0033 [0.0021]
a/R* = 1.94 [4.54]
b = 0.62 [3.15]
Seff = 3327.00 [1391.58]
Teff = 1937 [203] K
Rp = 0.36 [0.26] Re
a = 0.0208 [0.0056] AU
Ag = 66.16 [88.02] [0.74 σ]
Teffp = 8539 [2729] K [2.41 σ]

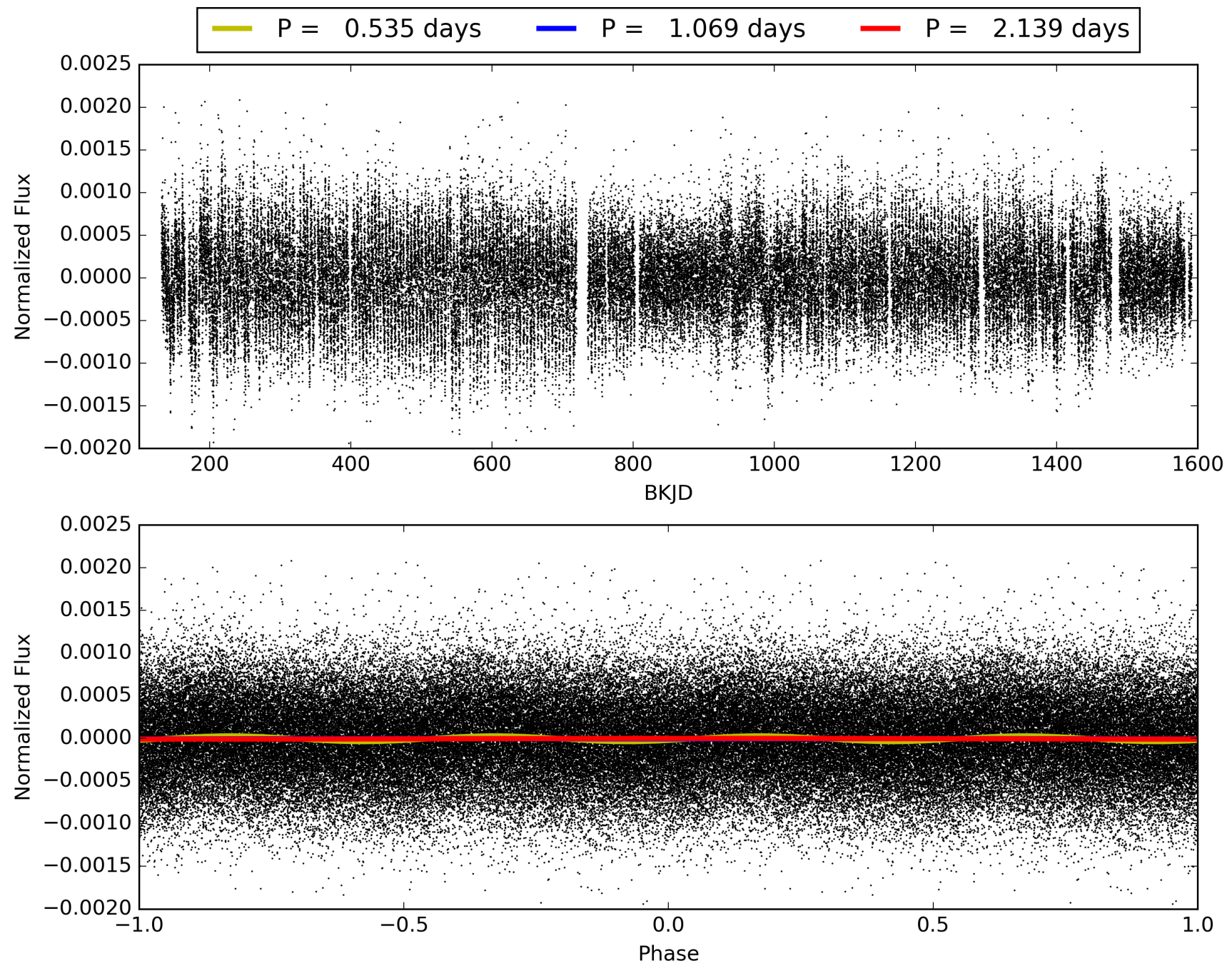
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.74e-11
RollingBand-fgt: 0.99 [1199/1206]
GhostDiagnostic-chr: -2.748
Centroid-sig: N/A
Centroid-so: 1.656 arcsec [0.30 σ]
OotOffset-rm: 6.023 arcsec [3.44 σ]
KicOffset-rm: 6.093 arcsec [3.45 σ]
OotOffset-st: 0/0/2/1 [3]
KicOffset-st: 0/0/2/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 002449639-01, PDC Light Curves

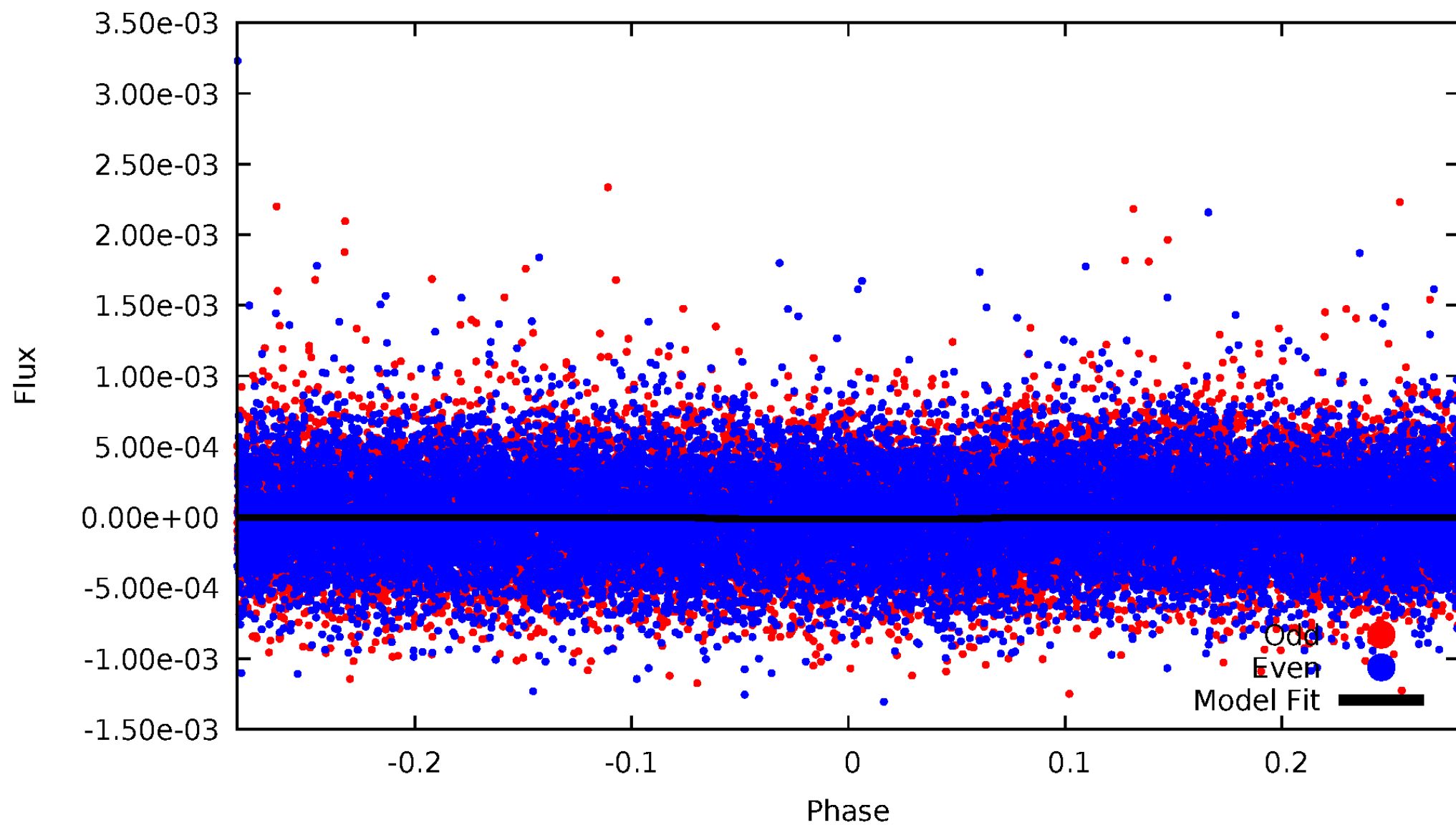


TCE 002449639-01



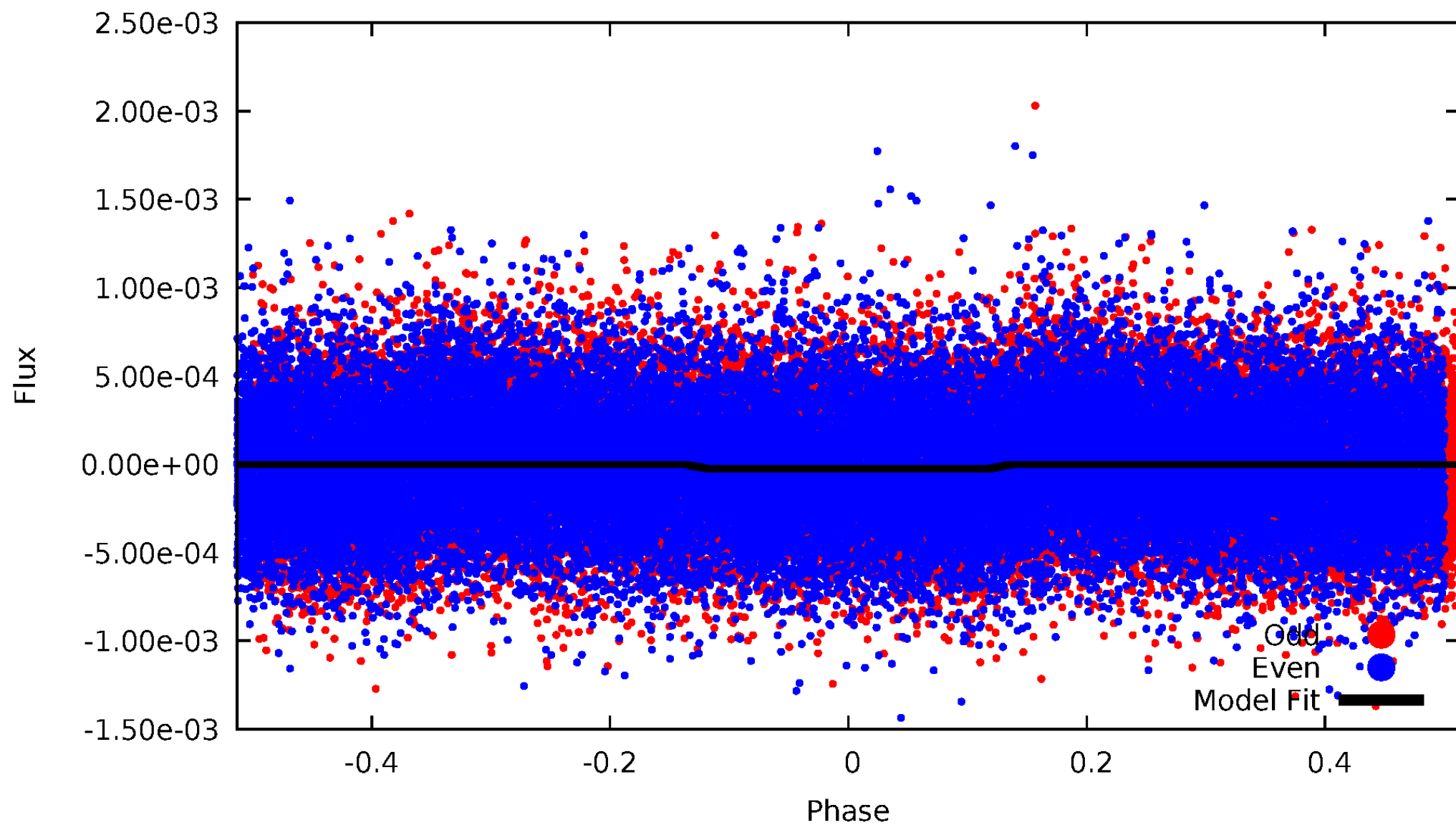
DV Odd/Even

TCE 002449639-01

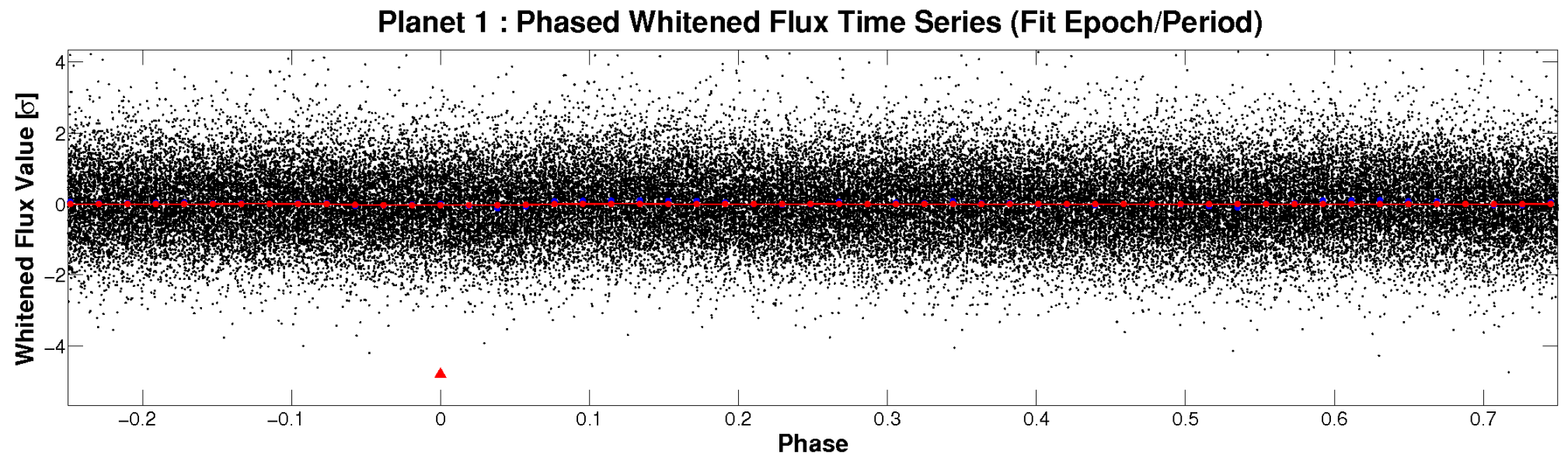
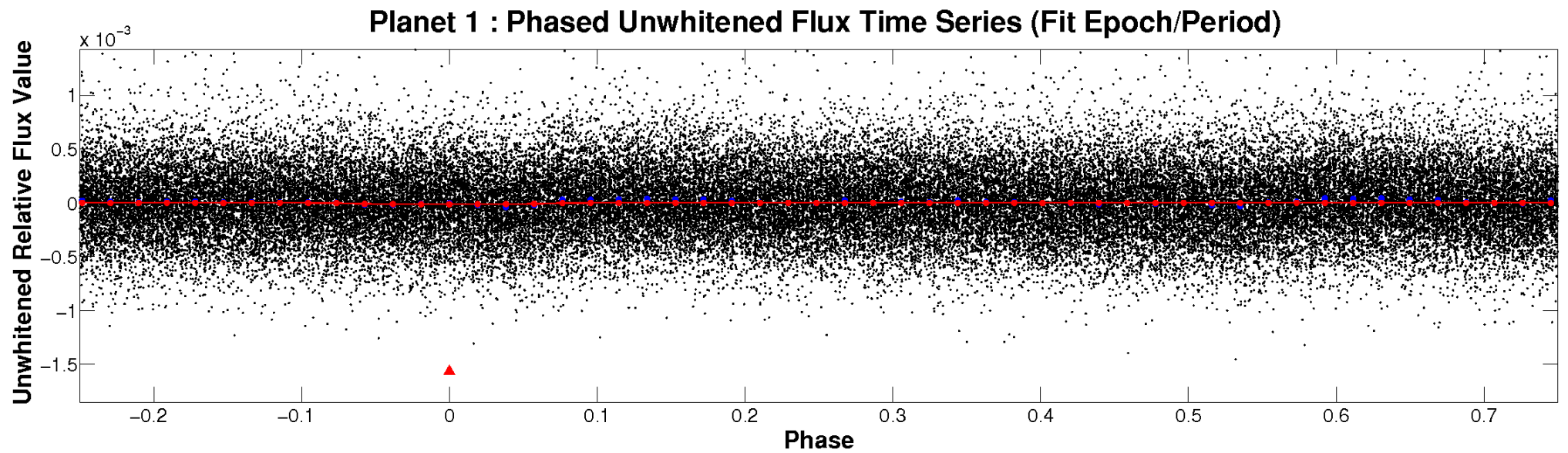


ALT Odd/Even

TCE 002449639-01

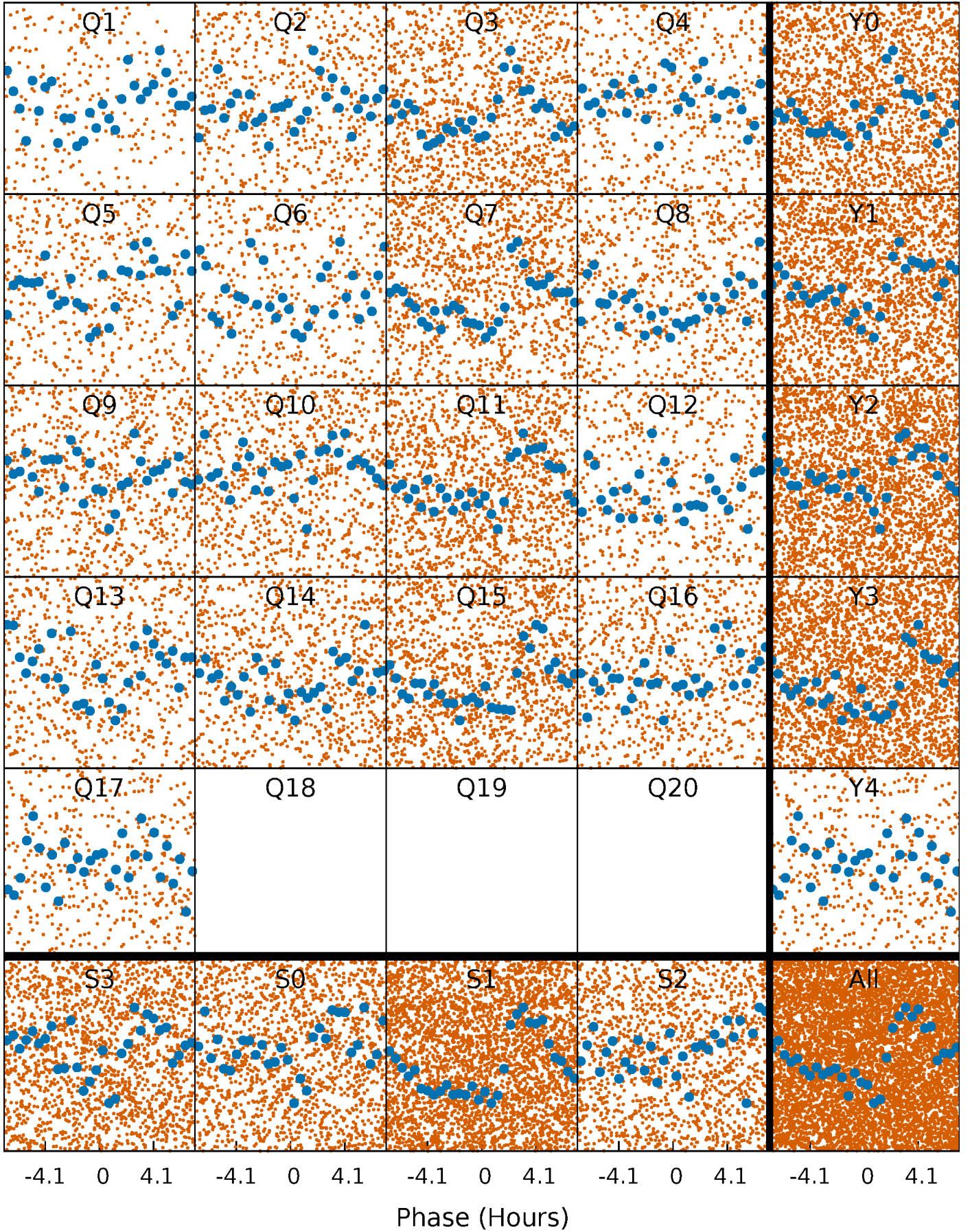


Non-Whitened Vs. Whitened Light Curve



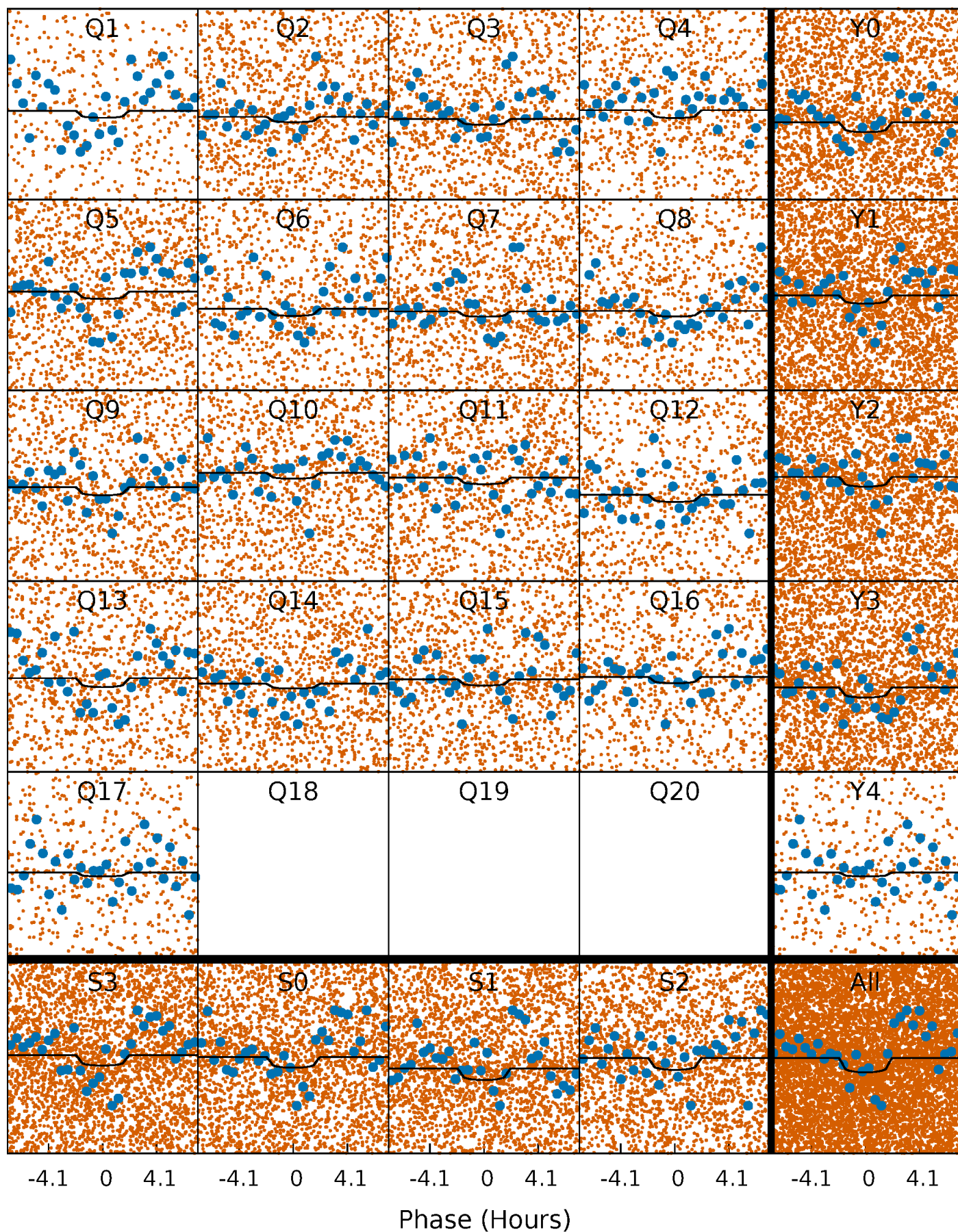
PDC Quarter-Phased Transit Curves

TCE 002449639-01 P= 1.069350 Days $T_0=131.671011$ (BKJD)



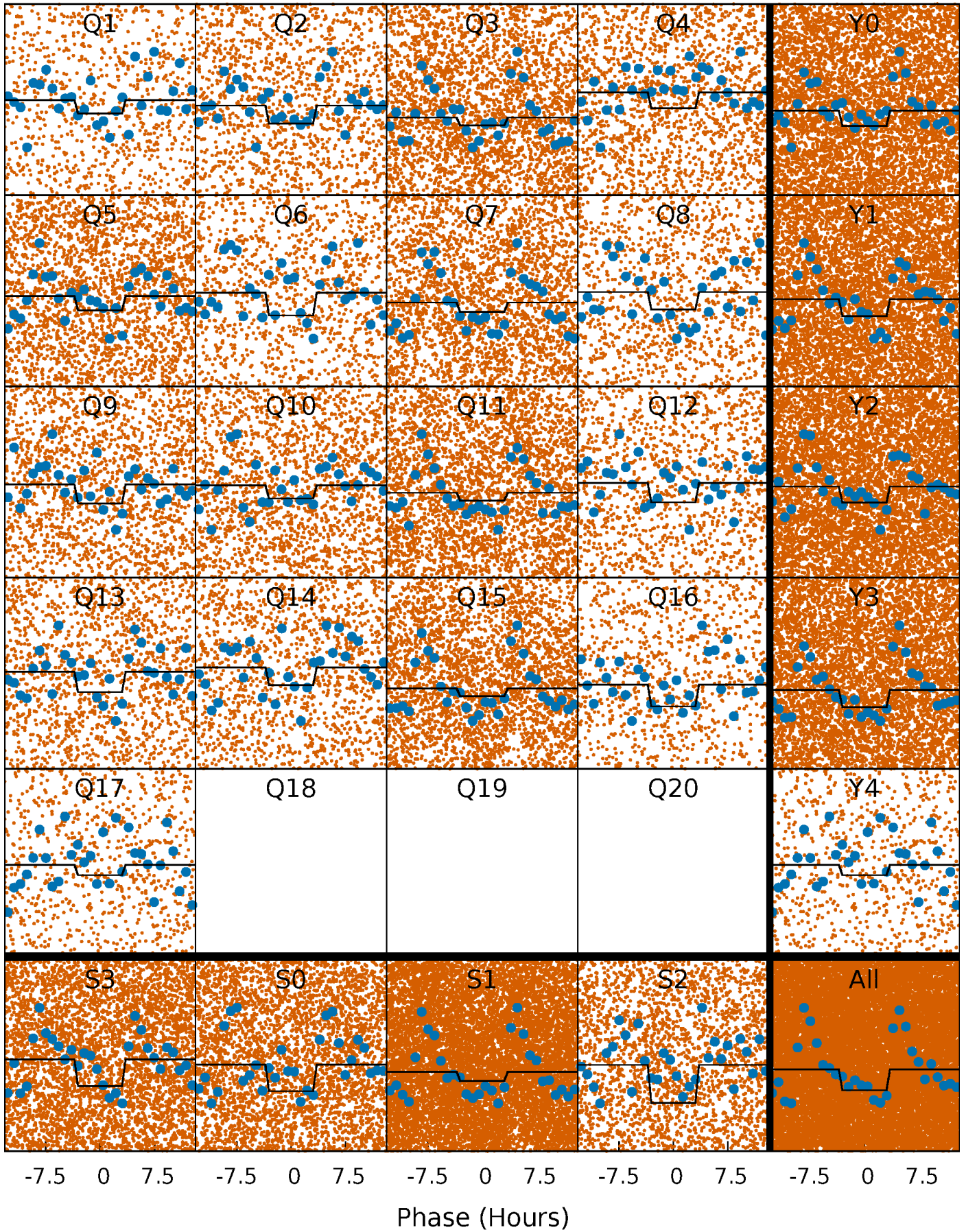
DV Quarter-Phased Transit Curves

TCE 002449639-01 P= 1.069350 Days $T_0=131.671011$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

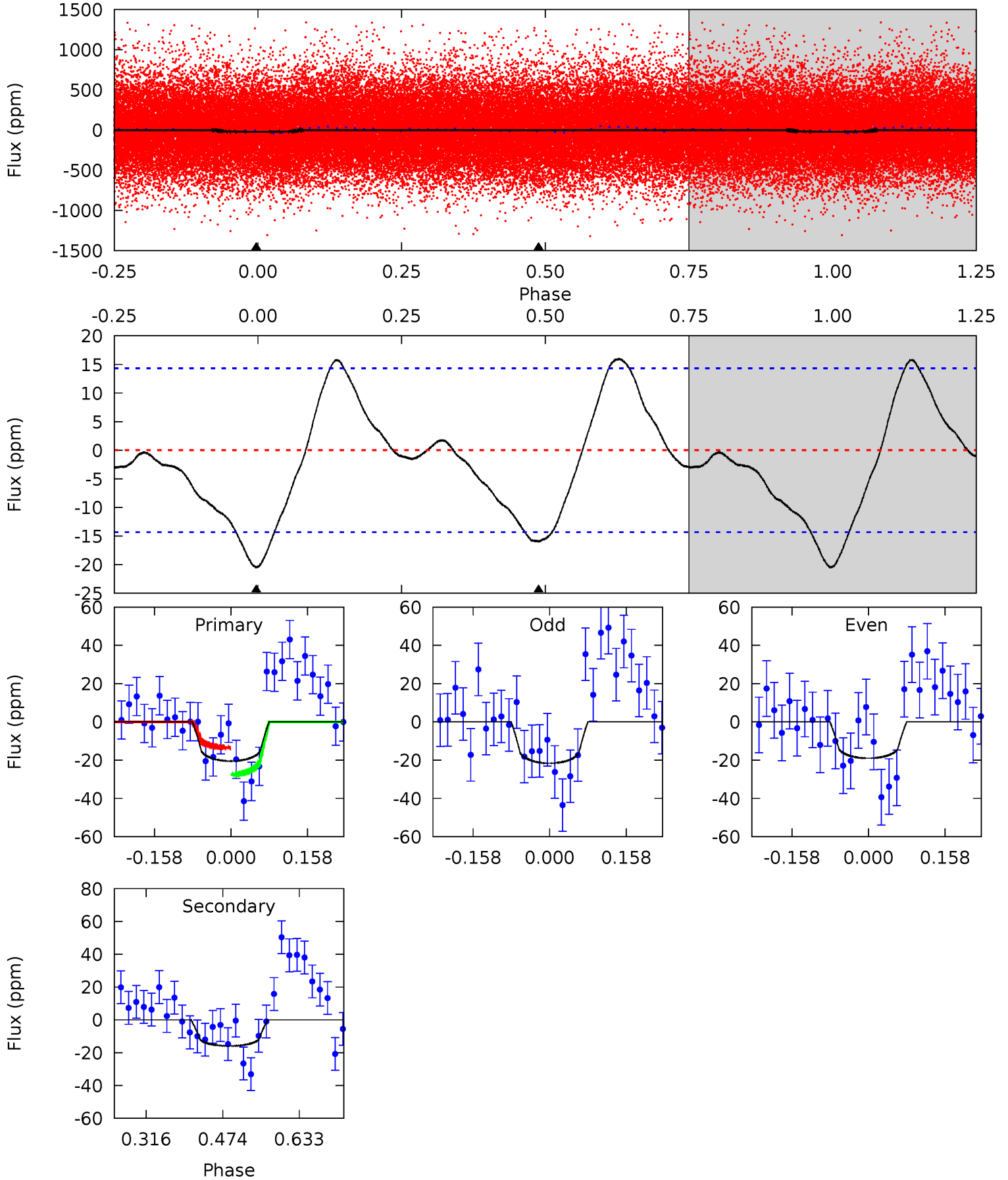
TCE 002449639-01 P= 1.069418 Days $T_0=131.555618$ (BKJD)



DV Model-Shift Uniqueness Test

002449639-01, P = 1.069350 Days, E = 130.601661 Days

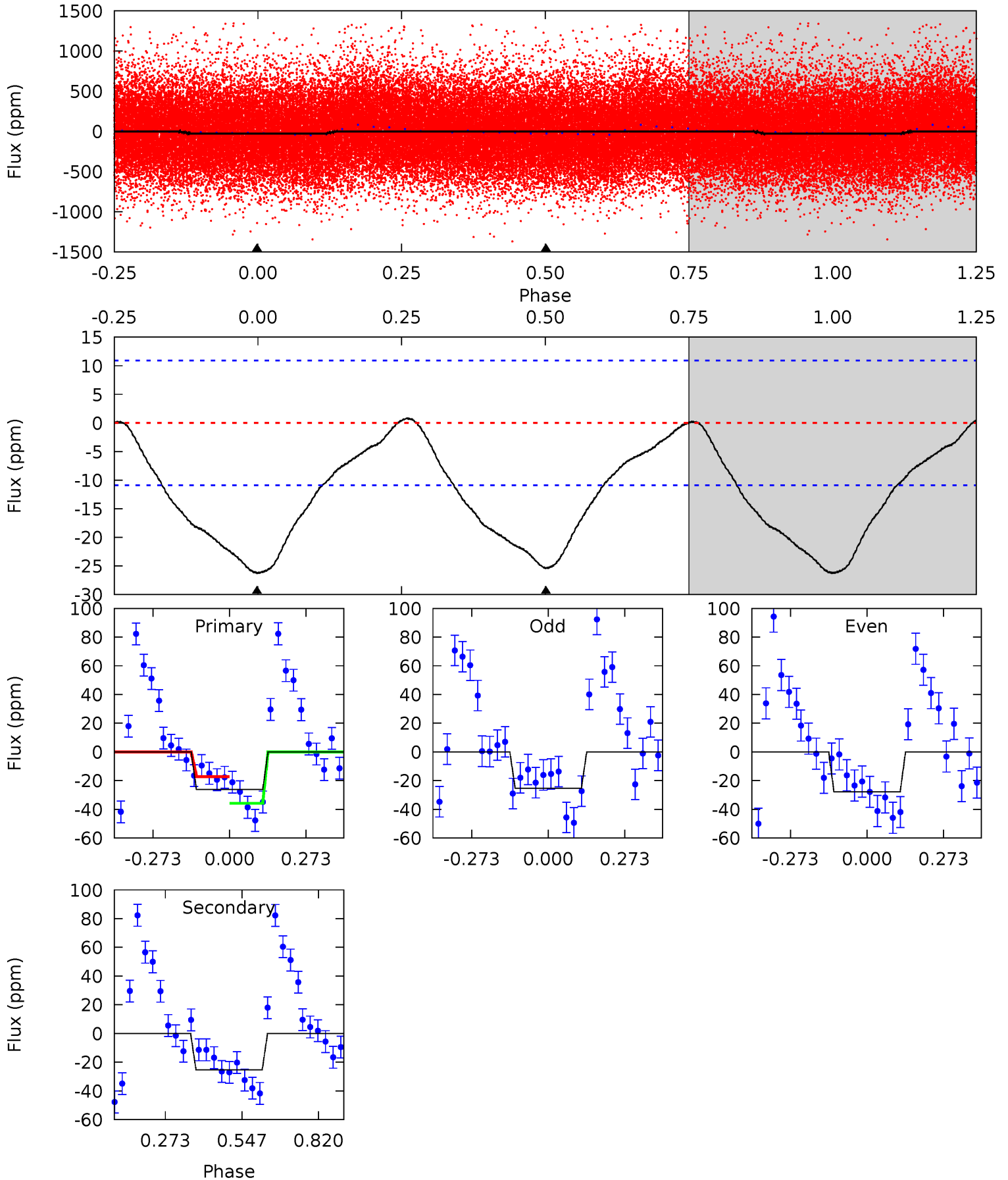
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.39	4.98	0	0	4.47	1.41	1.43	6.39	6.39	4.98	4.98	0.41	0.86	0.44	2.20



Alt Model-Shift Uniqueness Test

002449639-01, P = 1.069418 Days, E = 130.486200 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	10.1	0	0	4.35	1.10	0.28	10.5	10.5	10.1	10.1	0.50	1.04	0.03	3.73



Stellar Parameters For KIC 002449639

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6345^{+176}_{-220}	$4.462^{+0.054}_{-0.216}$	$-0.360^{+0.300}_{-0.300}$	$0.994^{+0.319}_{-0.106}$	$1.042^{+0.143}_{-0.143}$	$1.497^{+0.427}_{-0.788}$
	+3%/-3%	+1%/-5%	+83%/-83%	+32%/-11%	+14%/-14%	+29%/-53%
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 002449639-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-16 ± 3	$0.41^{+0.26}_{-0.21}$	2764^{+208}_{-126}	6661^{+4113}_{-1425}	22^{+69}_{-13}
Alt.	-25 ± 3	$0.58^{+0.26}_{-0.23}$	2755^{+198}_{-124}	6254^{+2160}_{-1047}	17^{+31}_{-9}

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

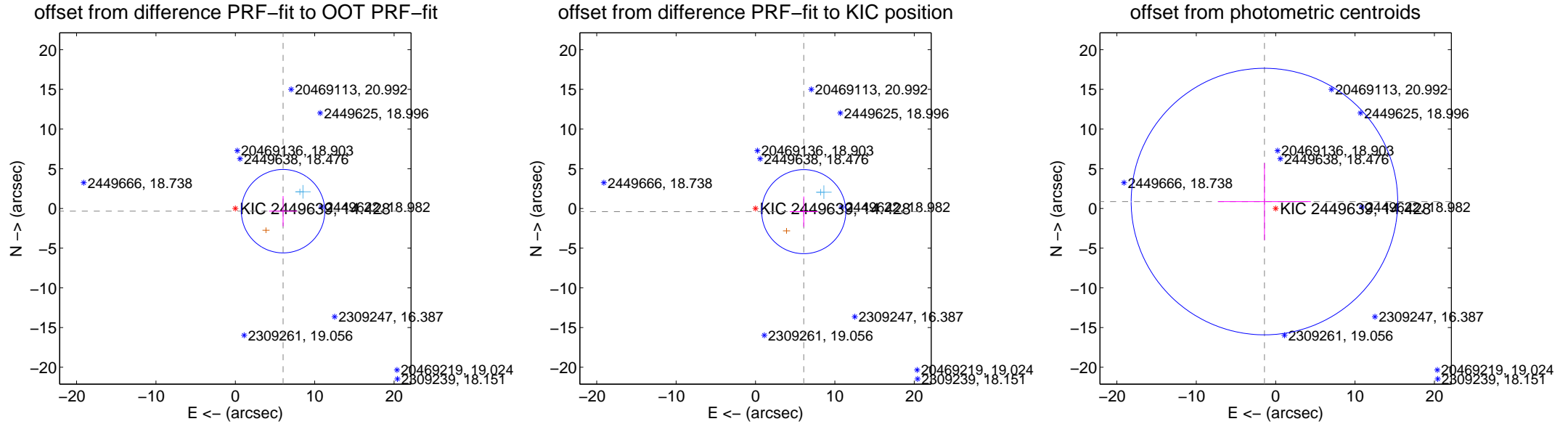
DV Centroid Data

Supplemental centroid analysis for 002449639-01. Kepler magnitude: 14.43. Transit SNR 2.68

There are 2 quarters with good PRF difference image offsets

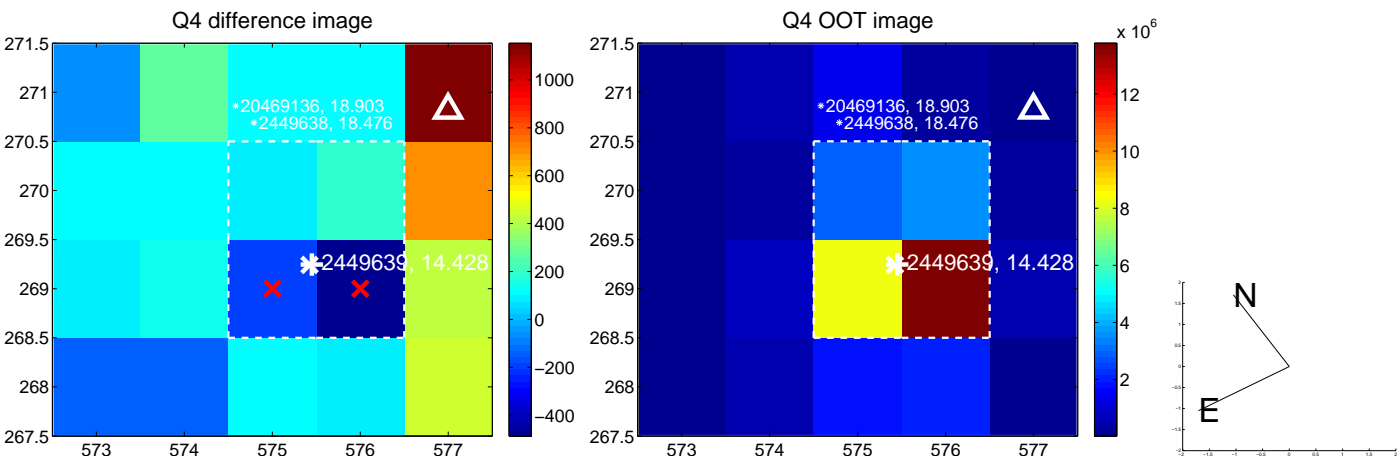
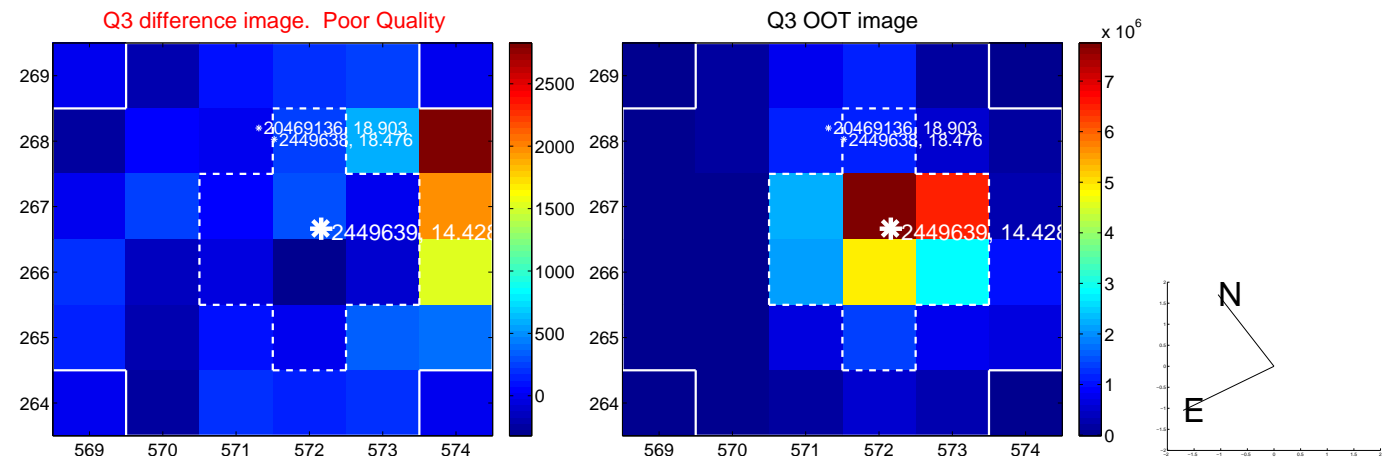
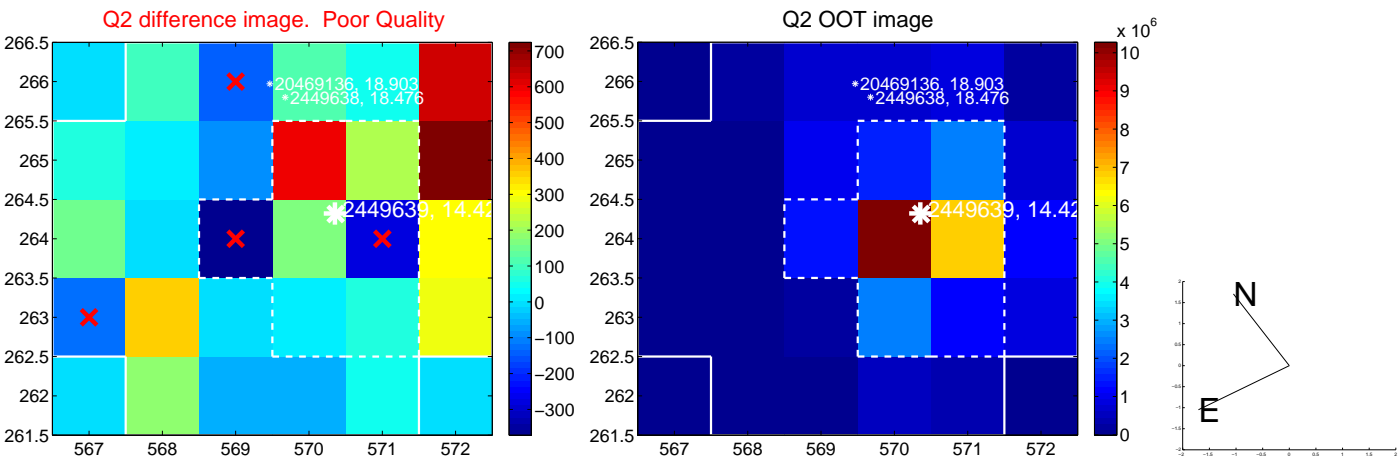
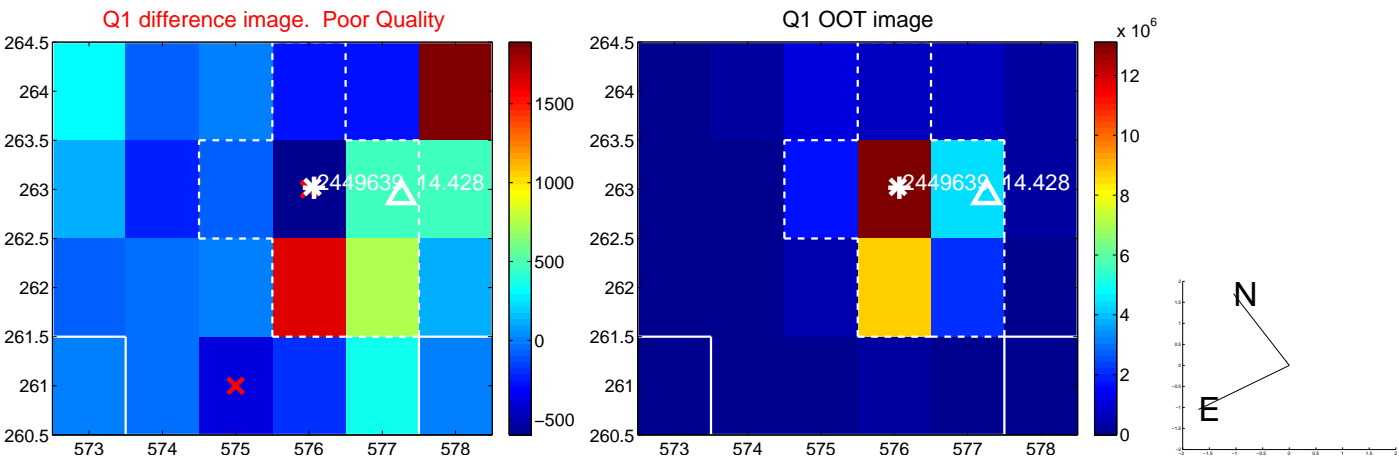
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.023 ± 1.751	3.44	-6.013 ± 1.751	-0.345 ± 1.898
PRF-fit source offset from KIC position	6.093 ± 1.765	3.45	-6.080 ± 1.764	-0.403 ± 1.911
photometric centroid source offset	1.66 ± 5.60	0.30	1.41 ± 5.85	0.87 ± 4.85

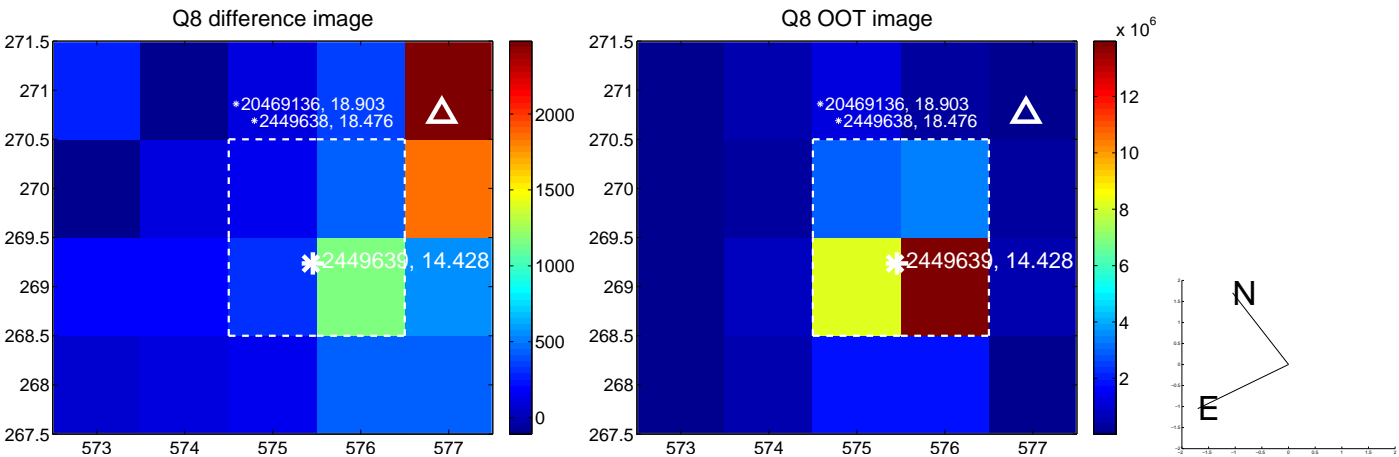
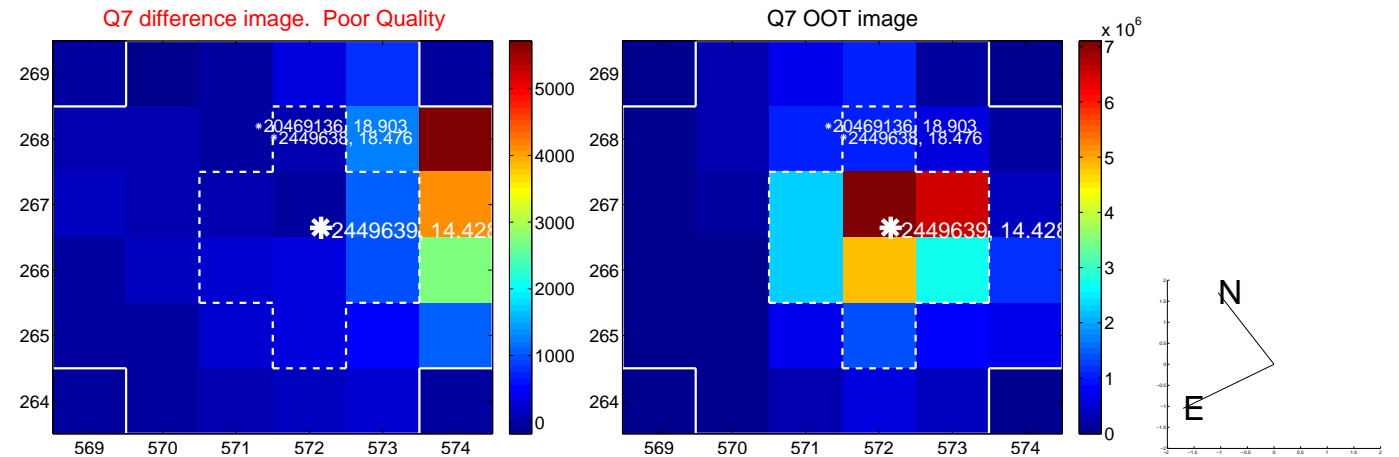
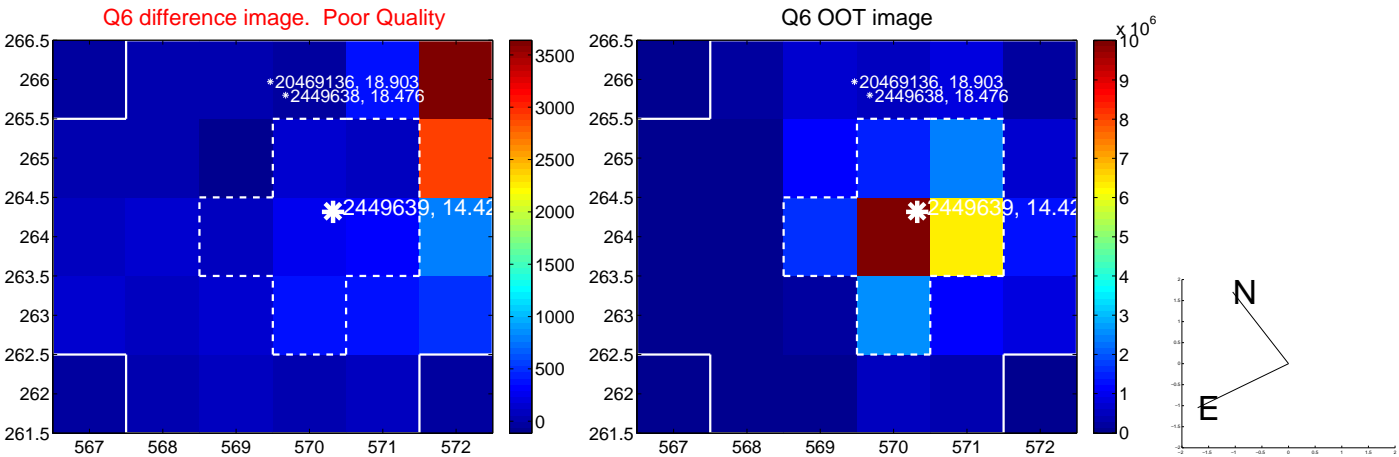
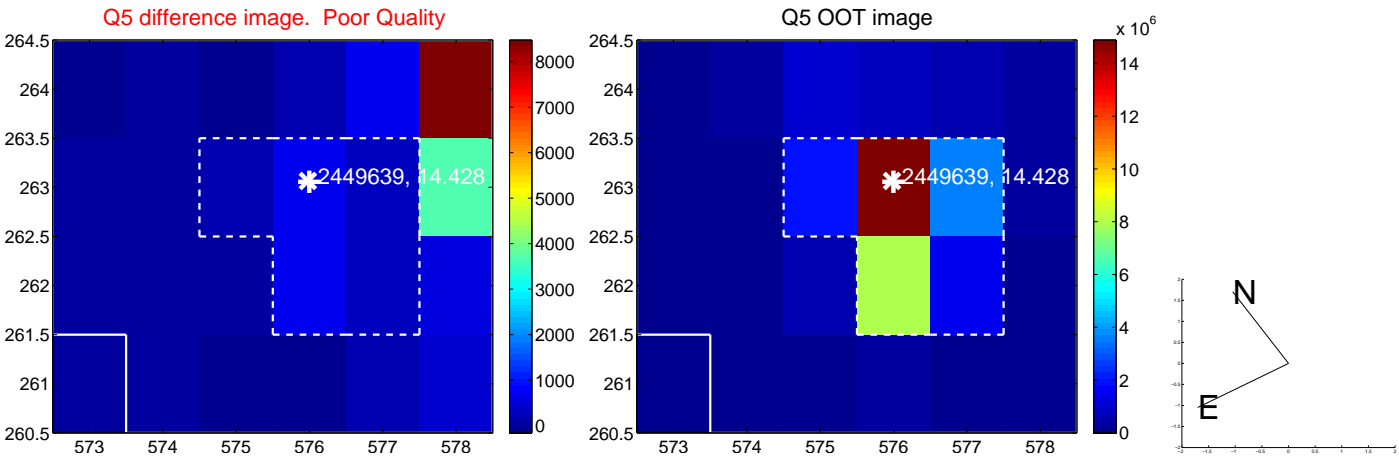


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

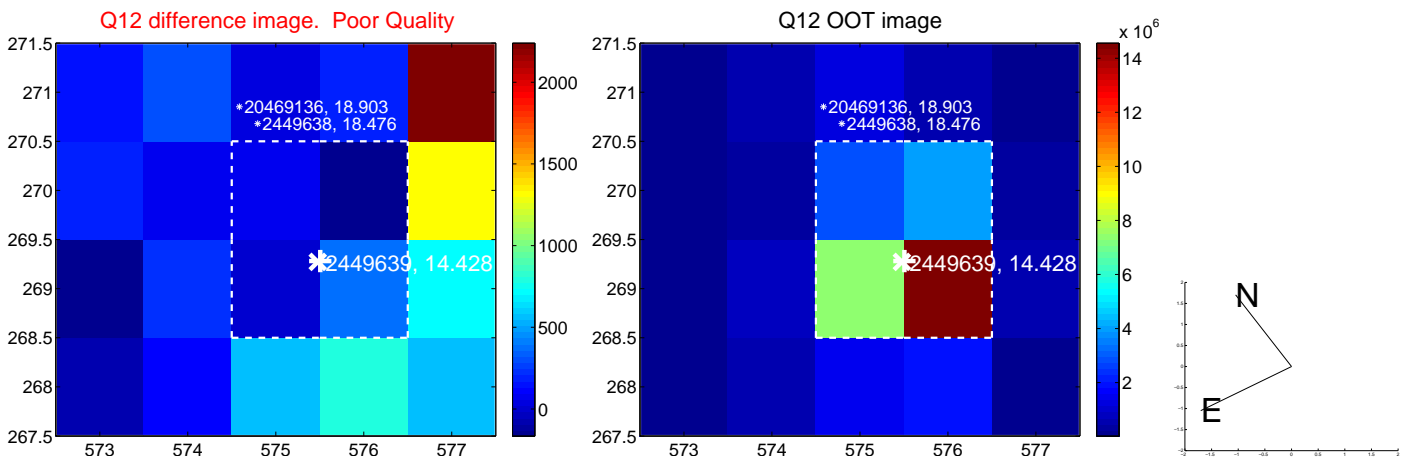
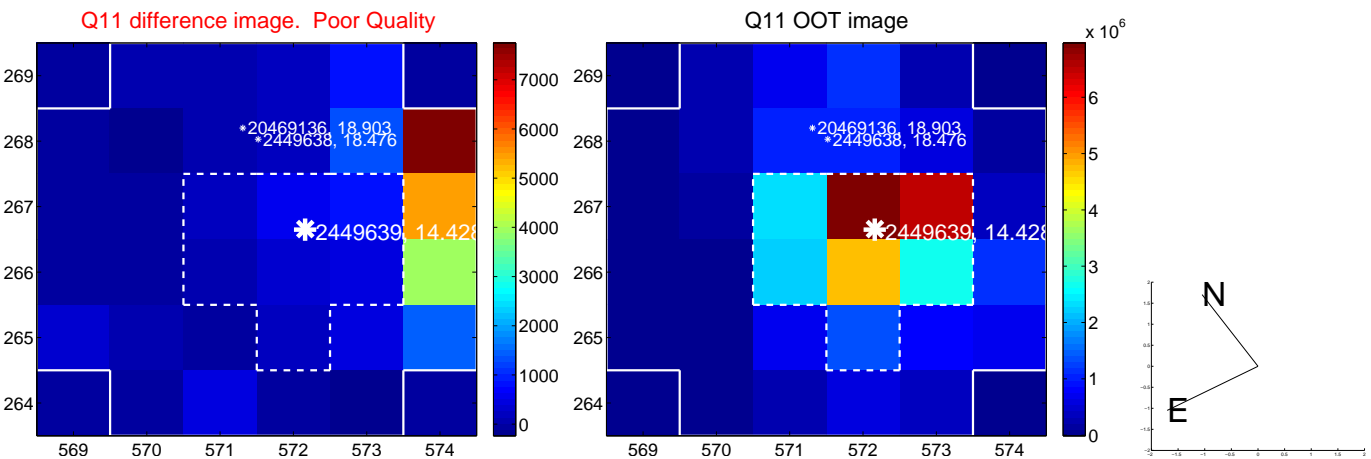
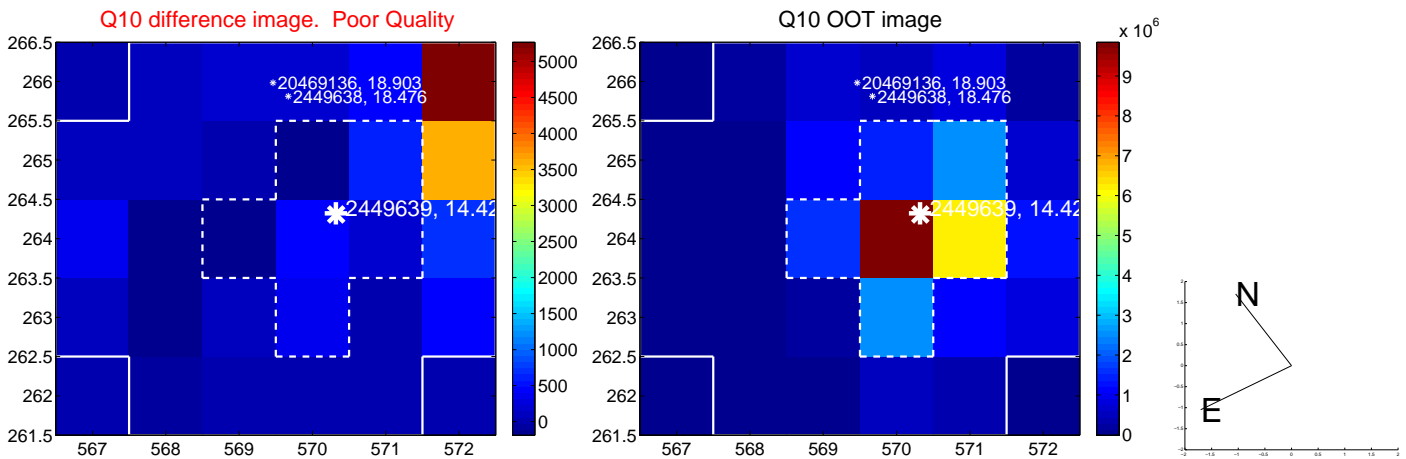
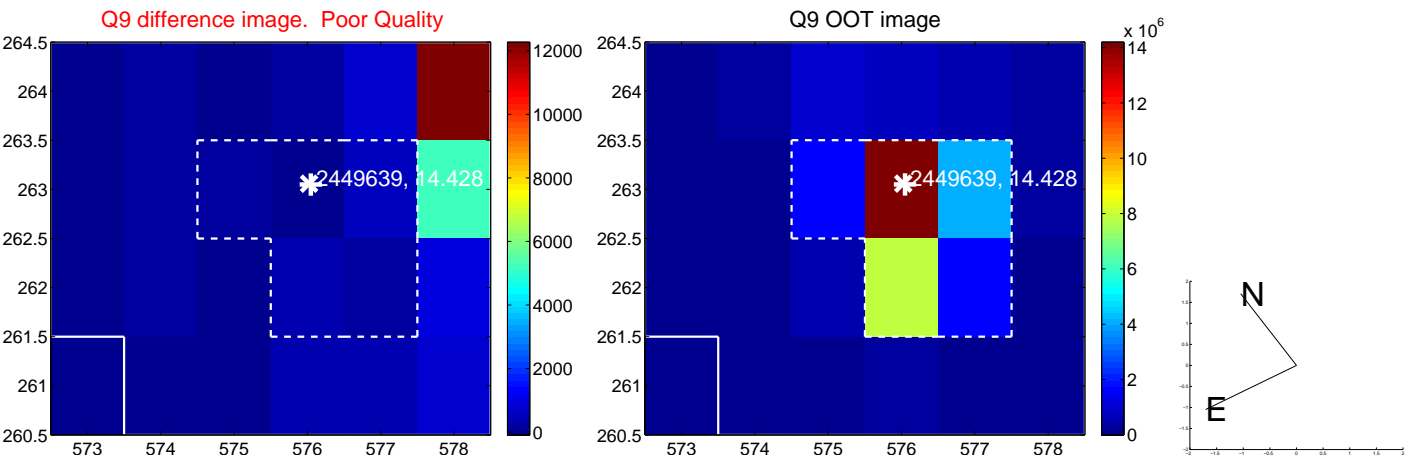
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



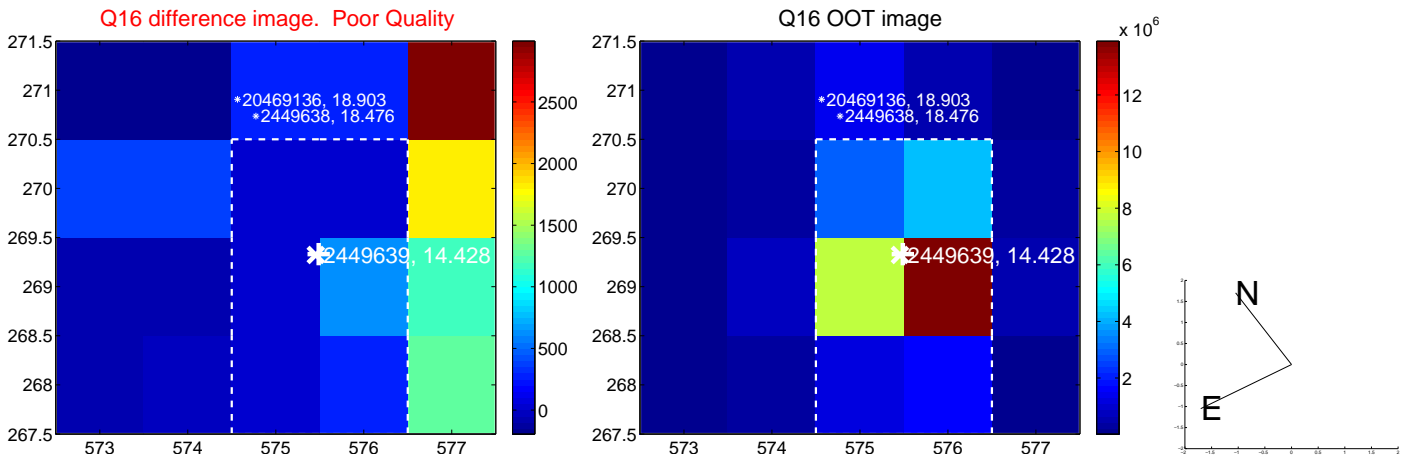
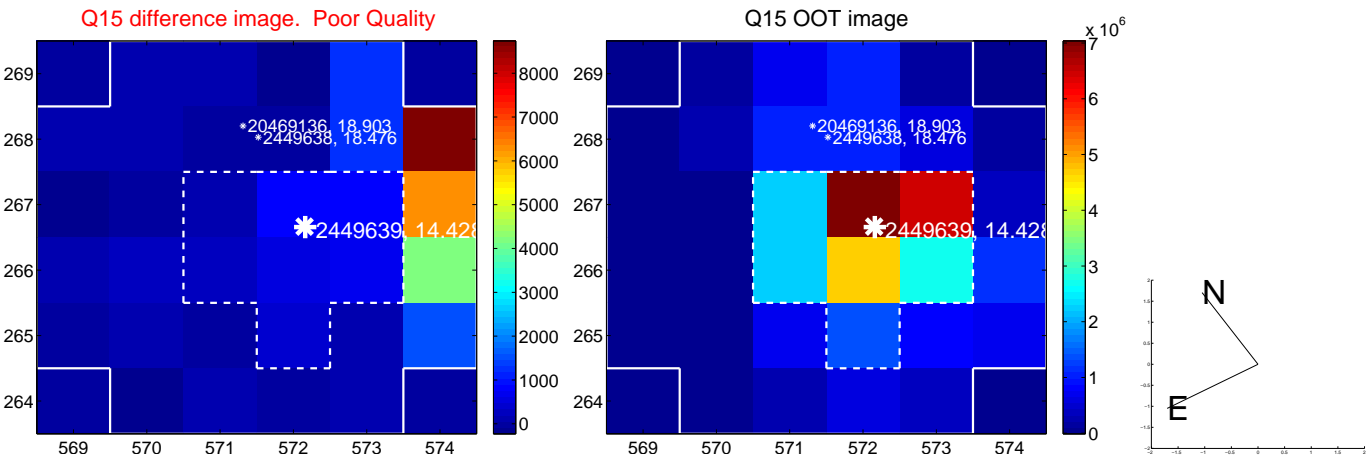
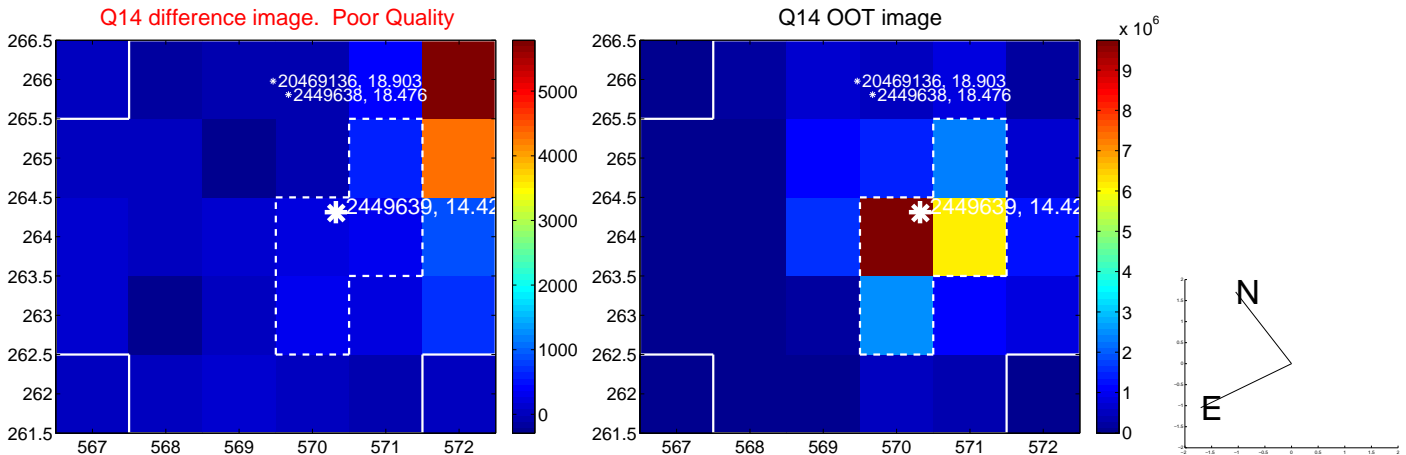
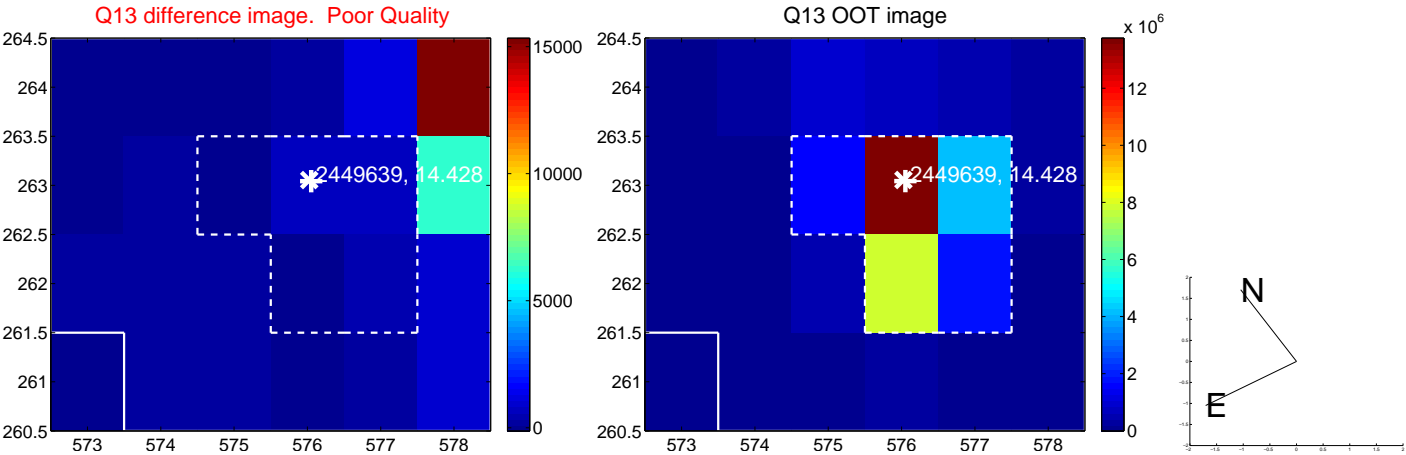
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



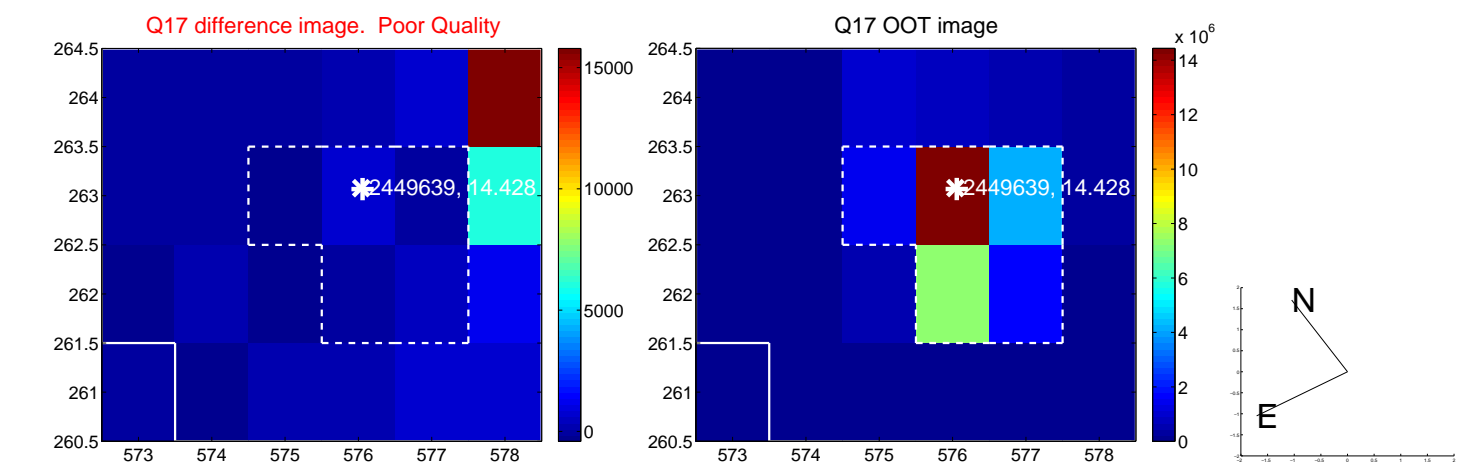
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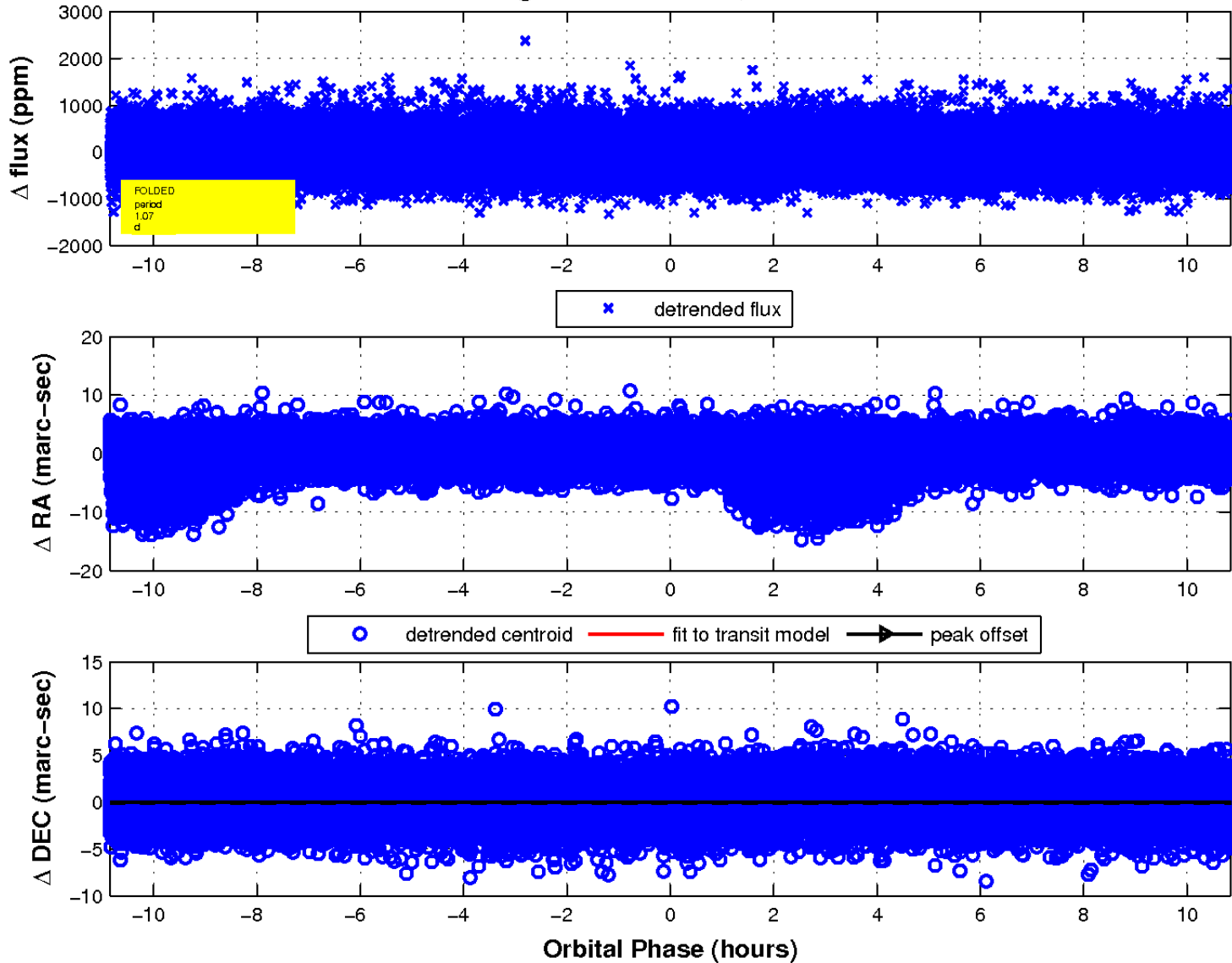
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

