

KIC 005887316

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})
005887316-01	OBS	7747.01	0.603068	131.665260	42.6	2.283	28.6	14.5	1.13	6353	0.87	8657.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005887316-01	OBS	FP	0.36	0	0	1	0	HALO_GHOST

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

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

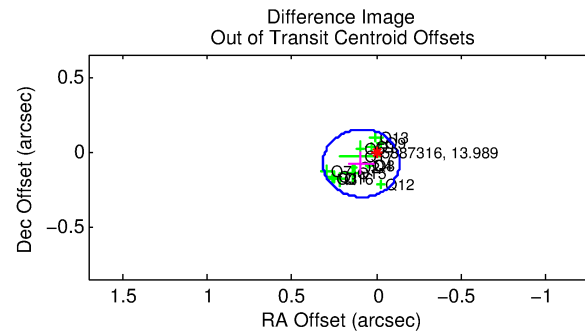
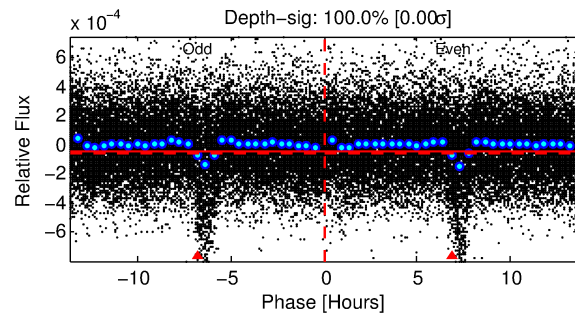
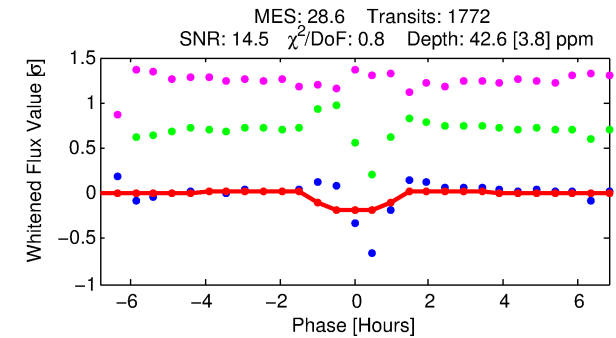
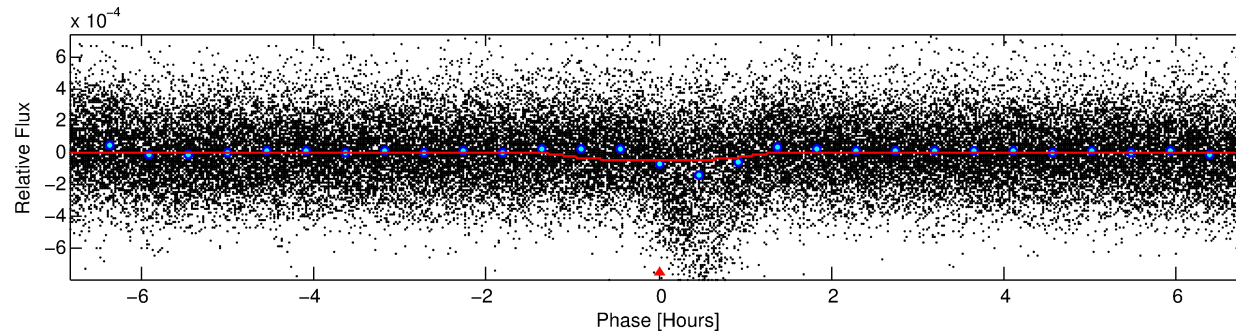
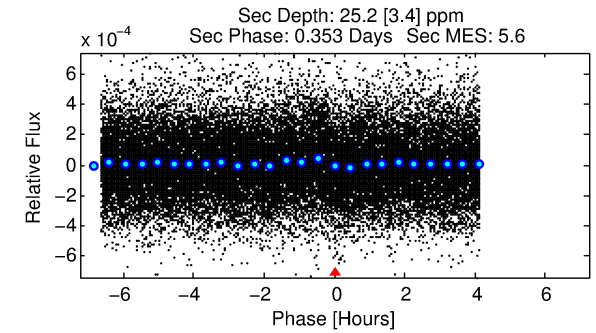
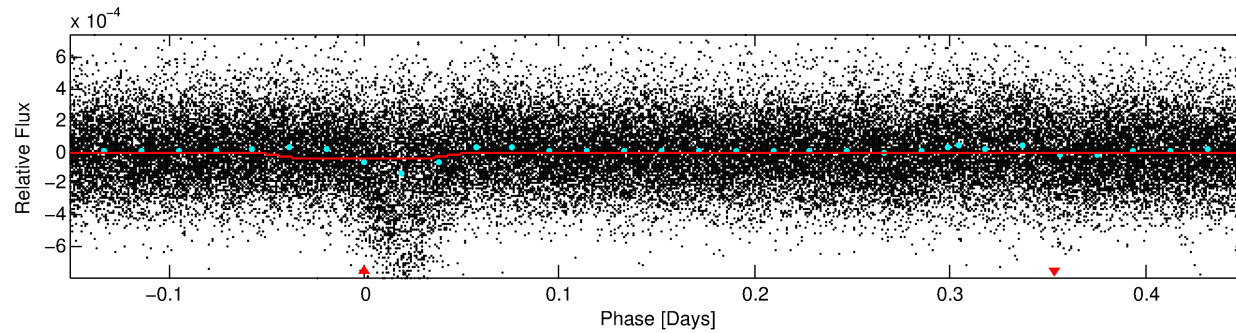
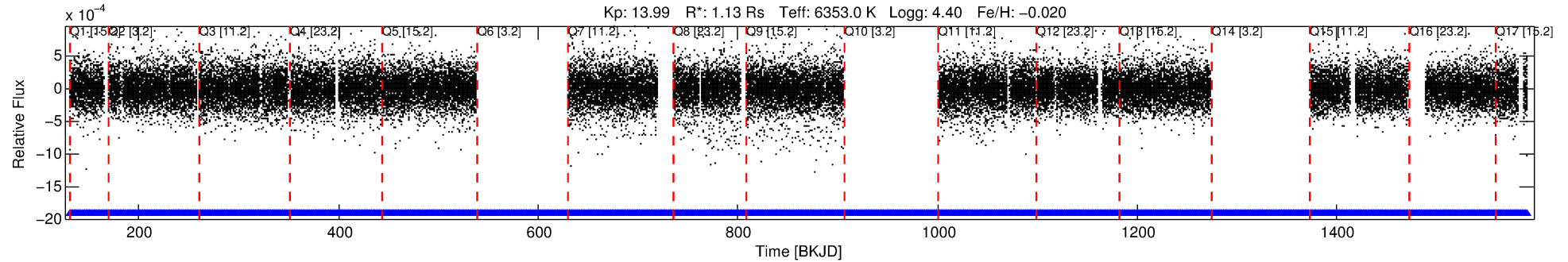
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005887316-01

No Significant Match Found

DV One-Page Summary

KIC: 5887316 Candidate: 1 of 1 Period: 0.603 d



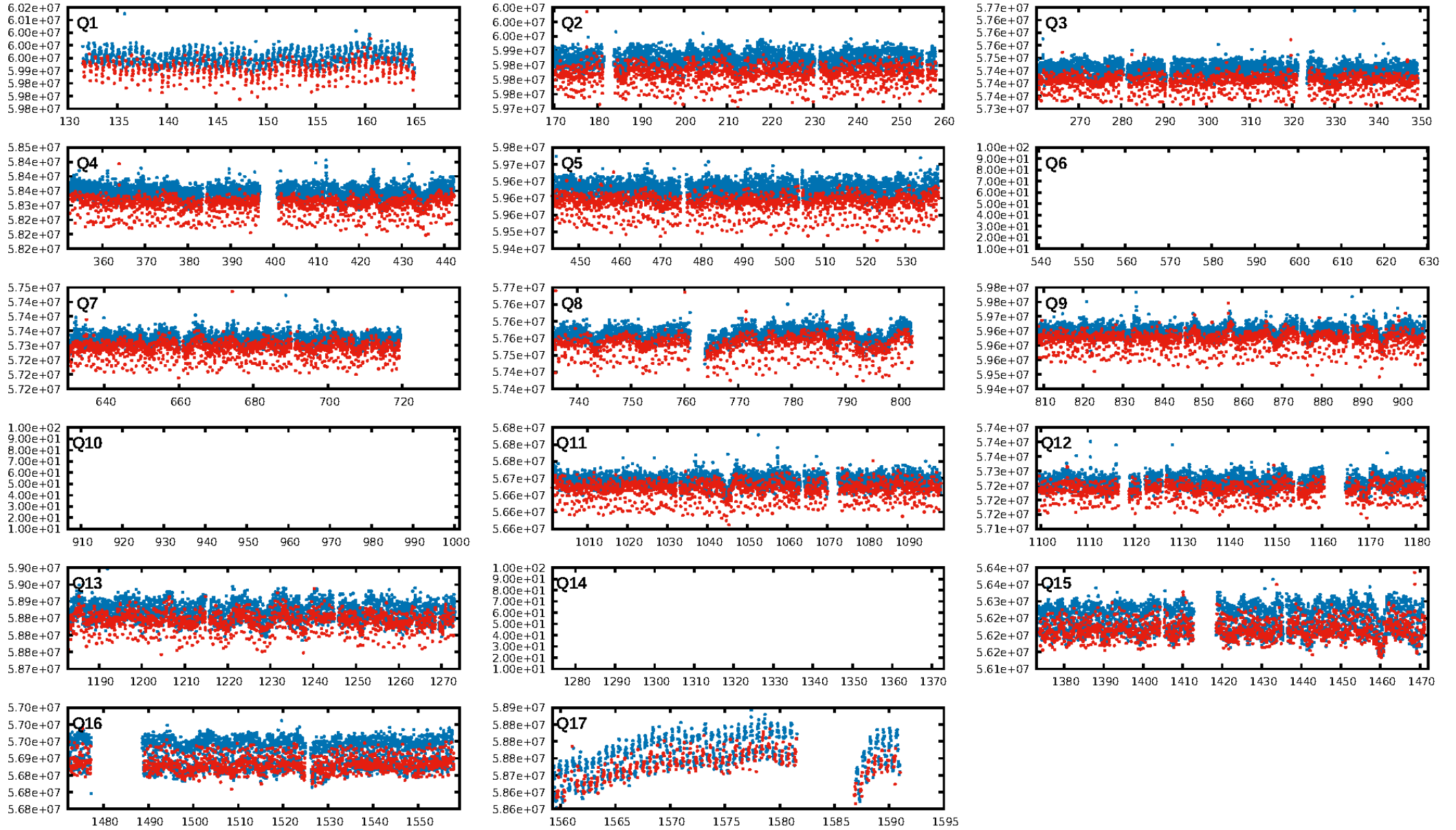
DV Fit Results:

Period = 0.60307 [0.00001] d
Epoch = 131.6653 [0.0019] BKJD
Rp/R* = 0.0070 [0.0023]
a/R* = 1.31 [1.00]
b = 0.90 [0.39]
Seff = 8657.59 [1575.63]
Teq = 2460 [112] K
Rp = 0.87 [0.31] Re
a = 0.0147 [0.0017] AU
Ag = 3.98 [2.77] [1.07σ]
Teffp = 5371 [910] K [3.18σ]

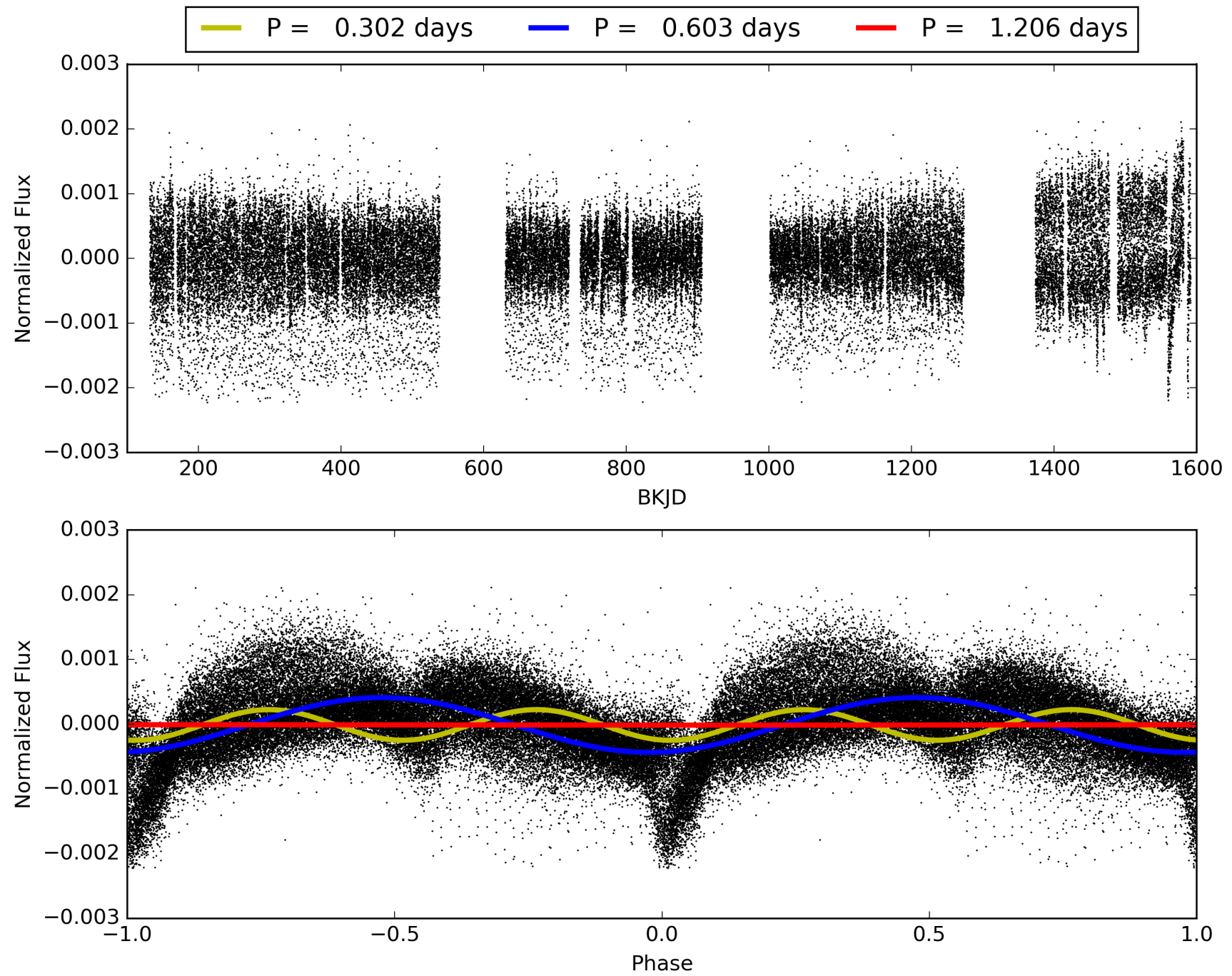
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.68e-141
RollingBand-fgt: 1.00 [1672/1672]
GhostDiagnostic-chr: 0.2471
Centroid-sig: 0.0%
Centroid-so: 3.928 arcsec [5.07σ]
OotOffset-rm: 0.119 arcsec [1.58σ]
KicOffset-rm: 0.213 arcsec [2.65σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 005887316-01, PDC Light Curves

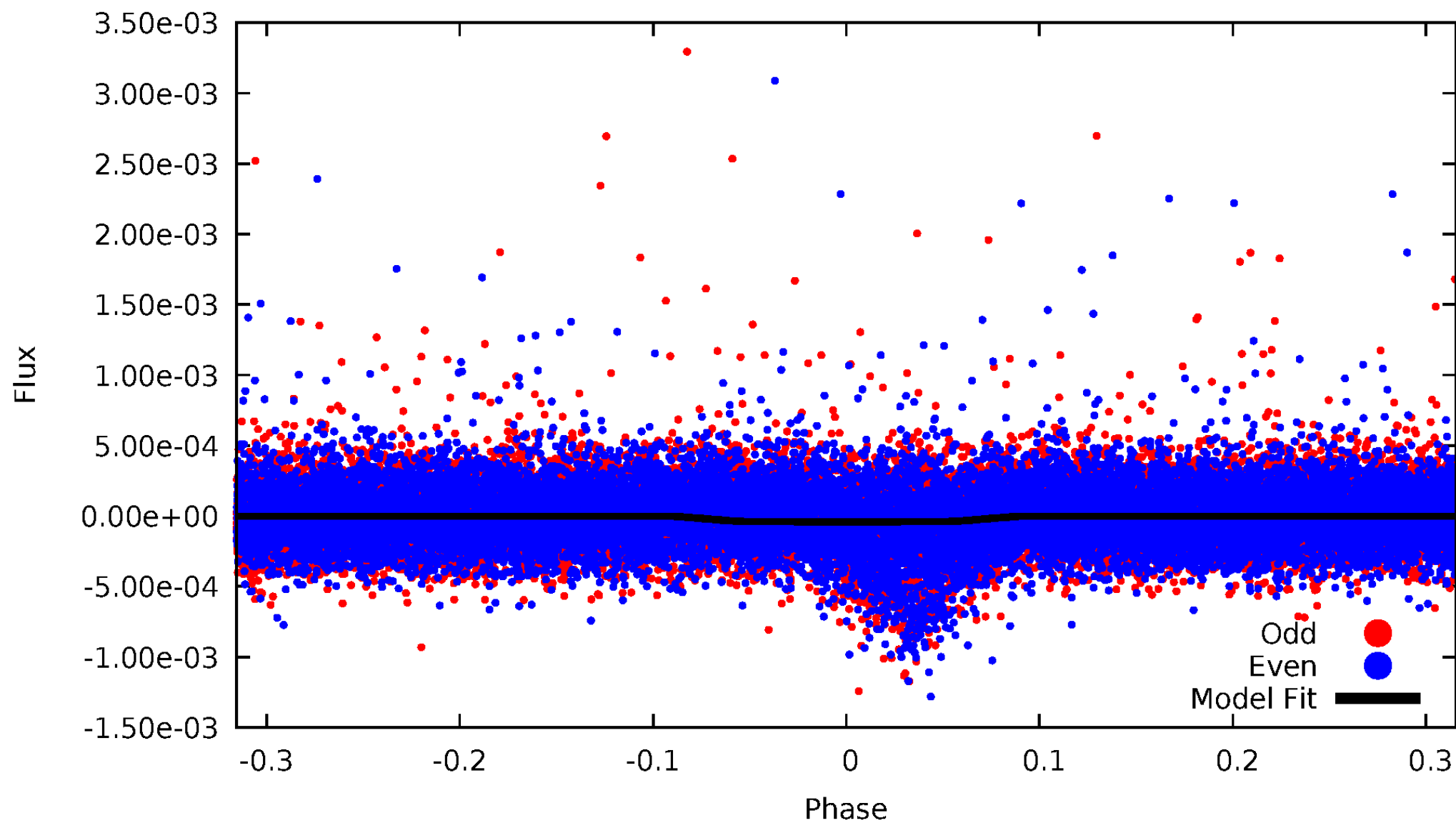


TCE 005887316-01



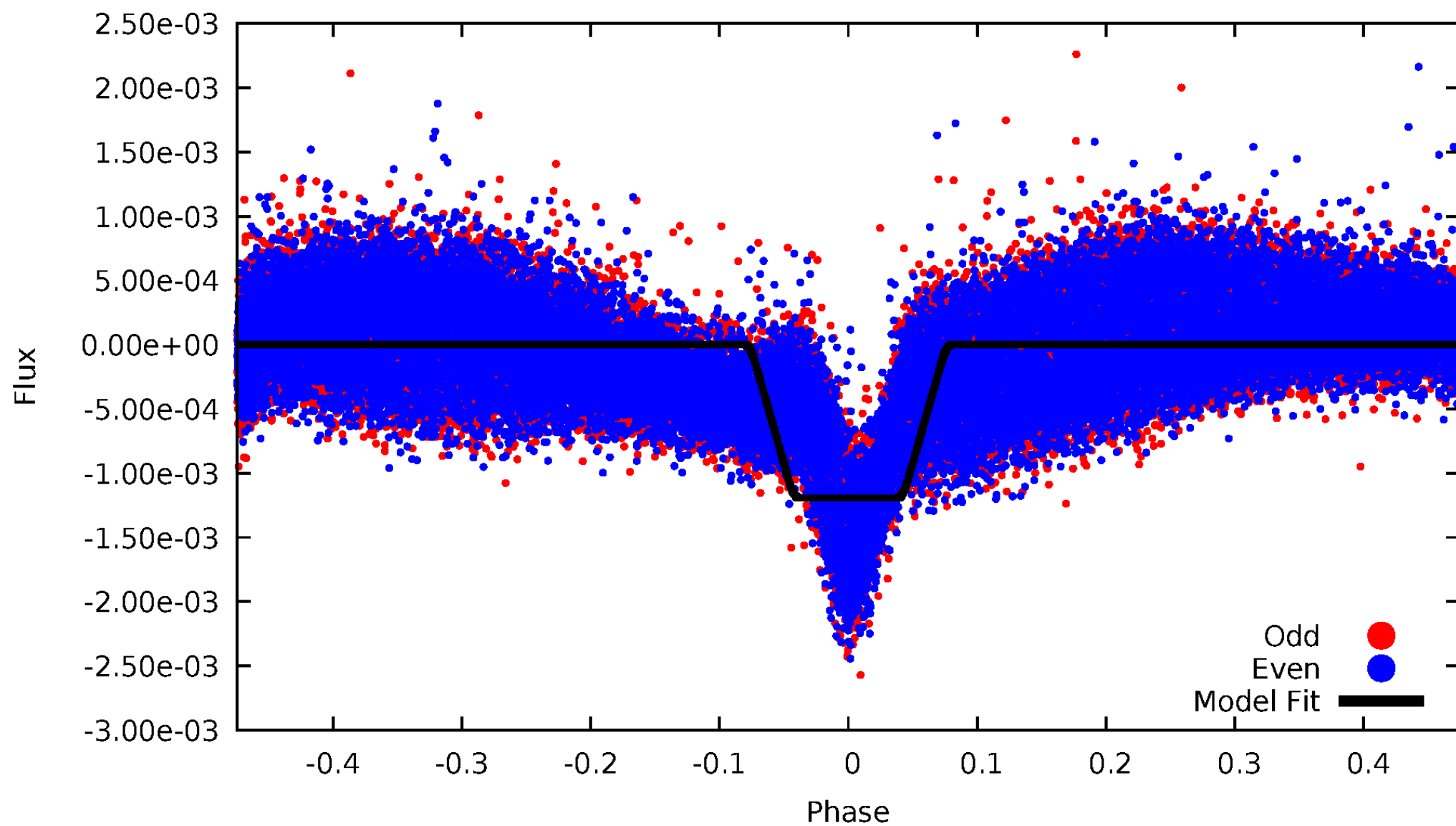
DV Odd/Even

TCE 005887316-01



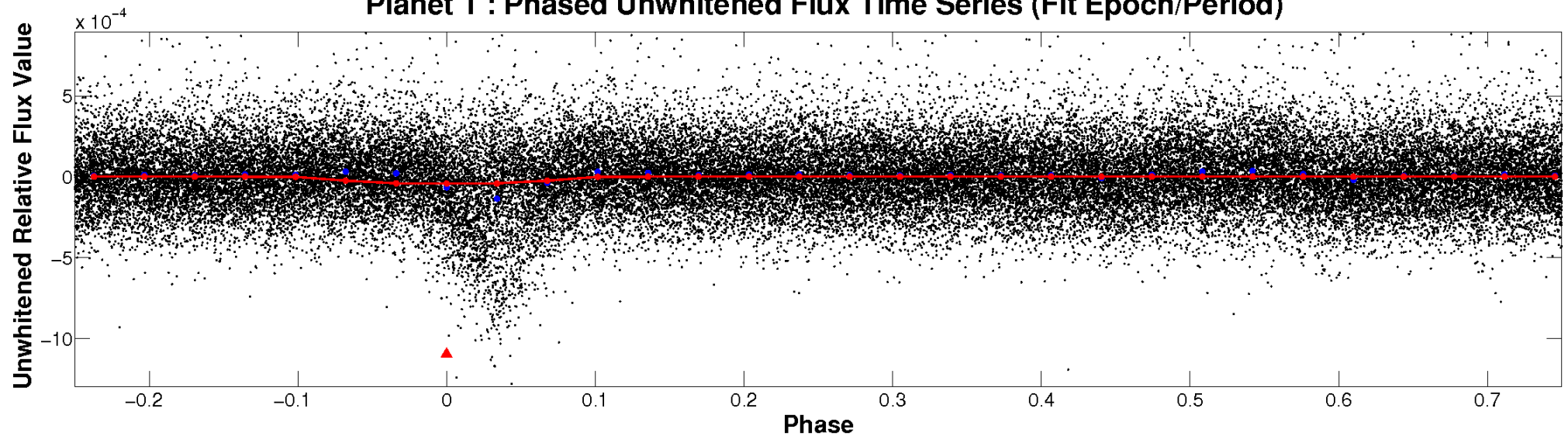
ALT Odd/Even

TCE 005887316-01

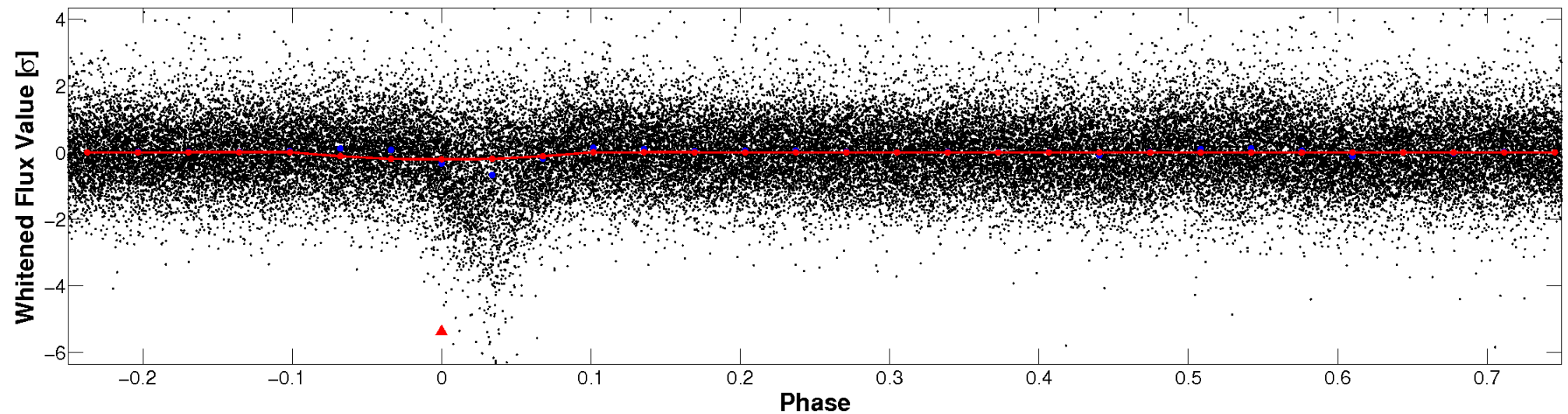


Non-Whitened Vs. Whitened Light Curve

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

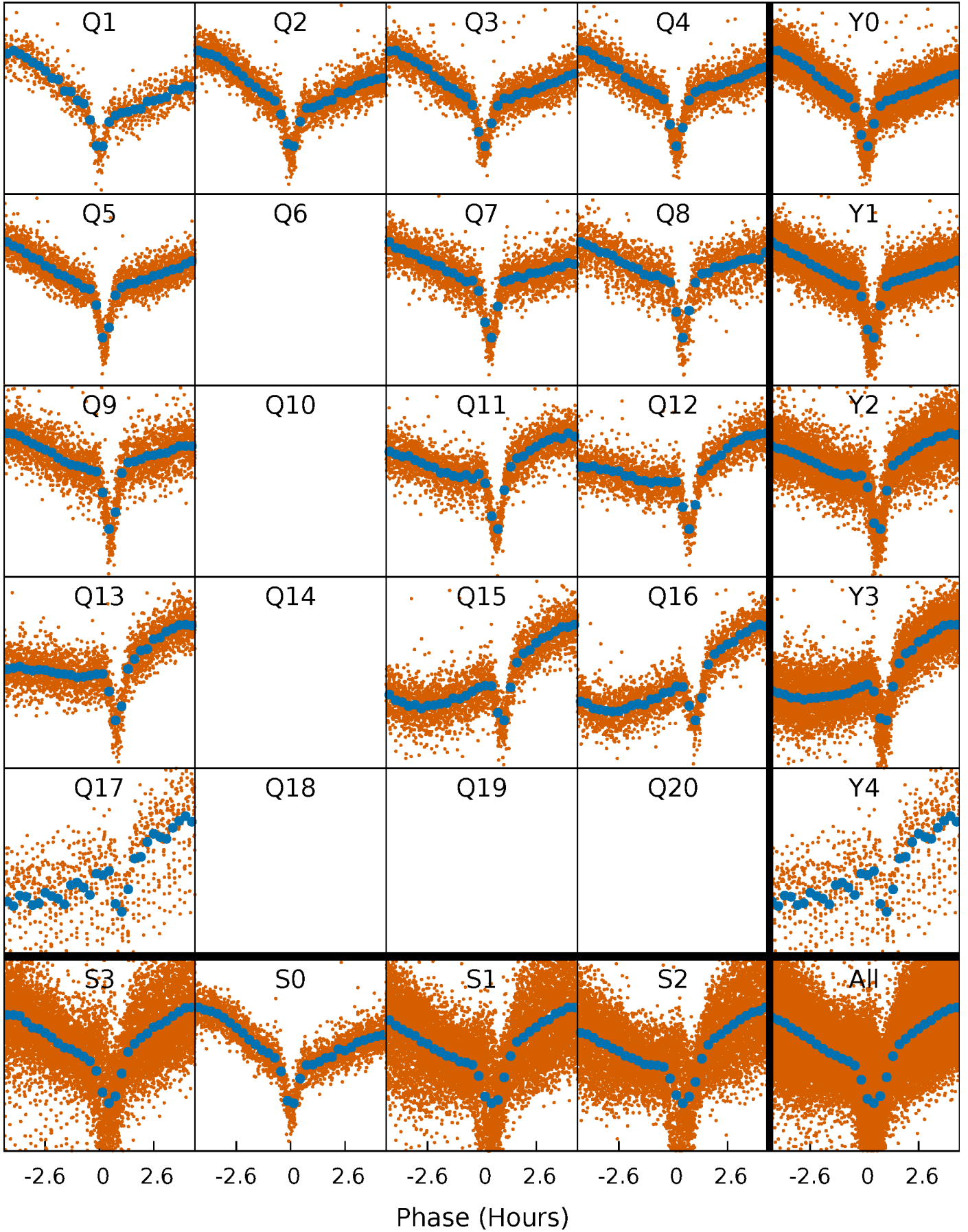


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



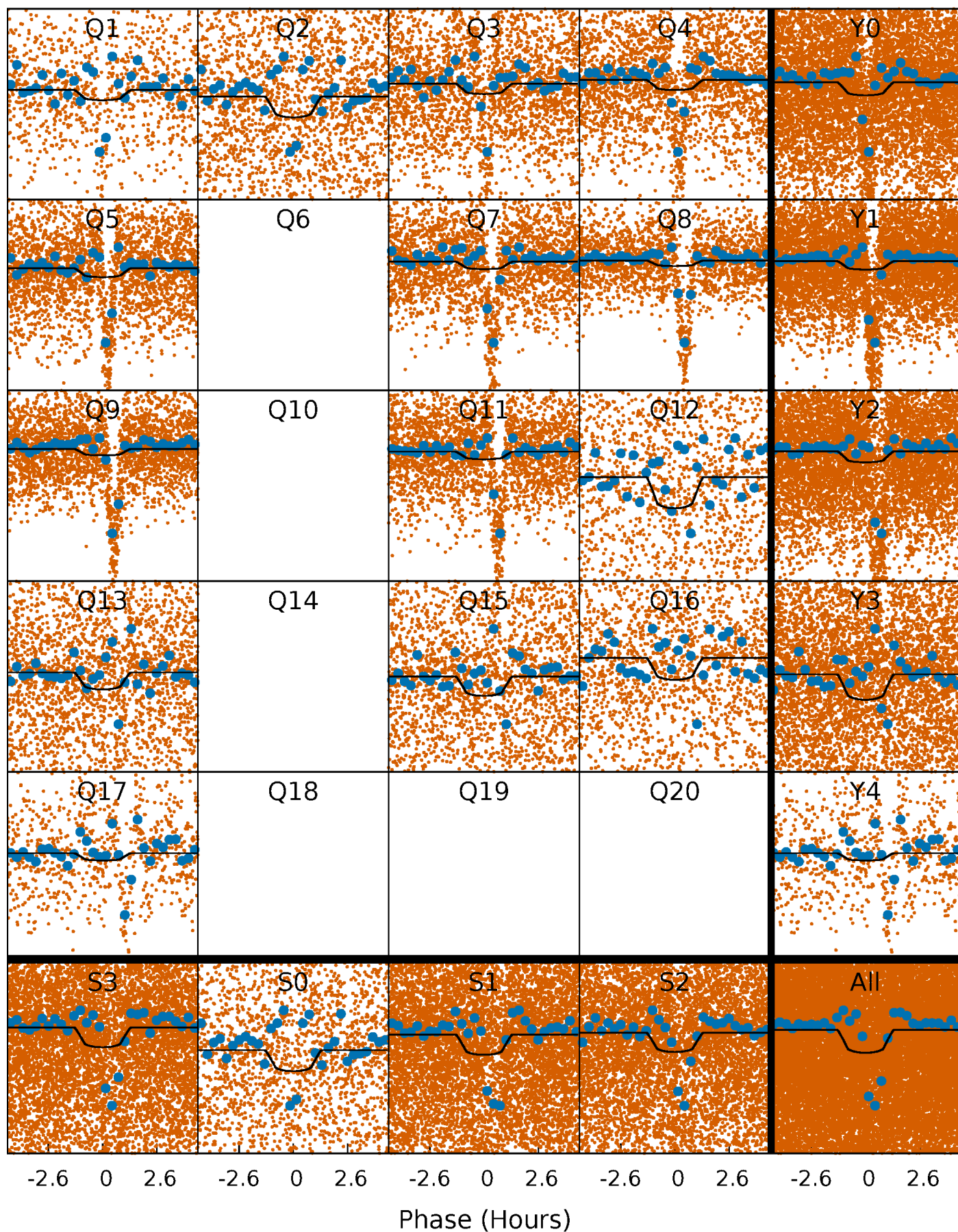
PDC Quarter-Phased Transit Curves

TCE 005887316-01 P= 0.603068 Days $T_0=131.665260$ (BKJD)



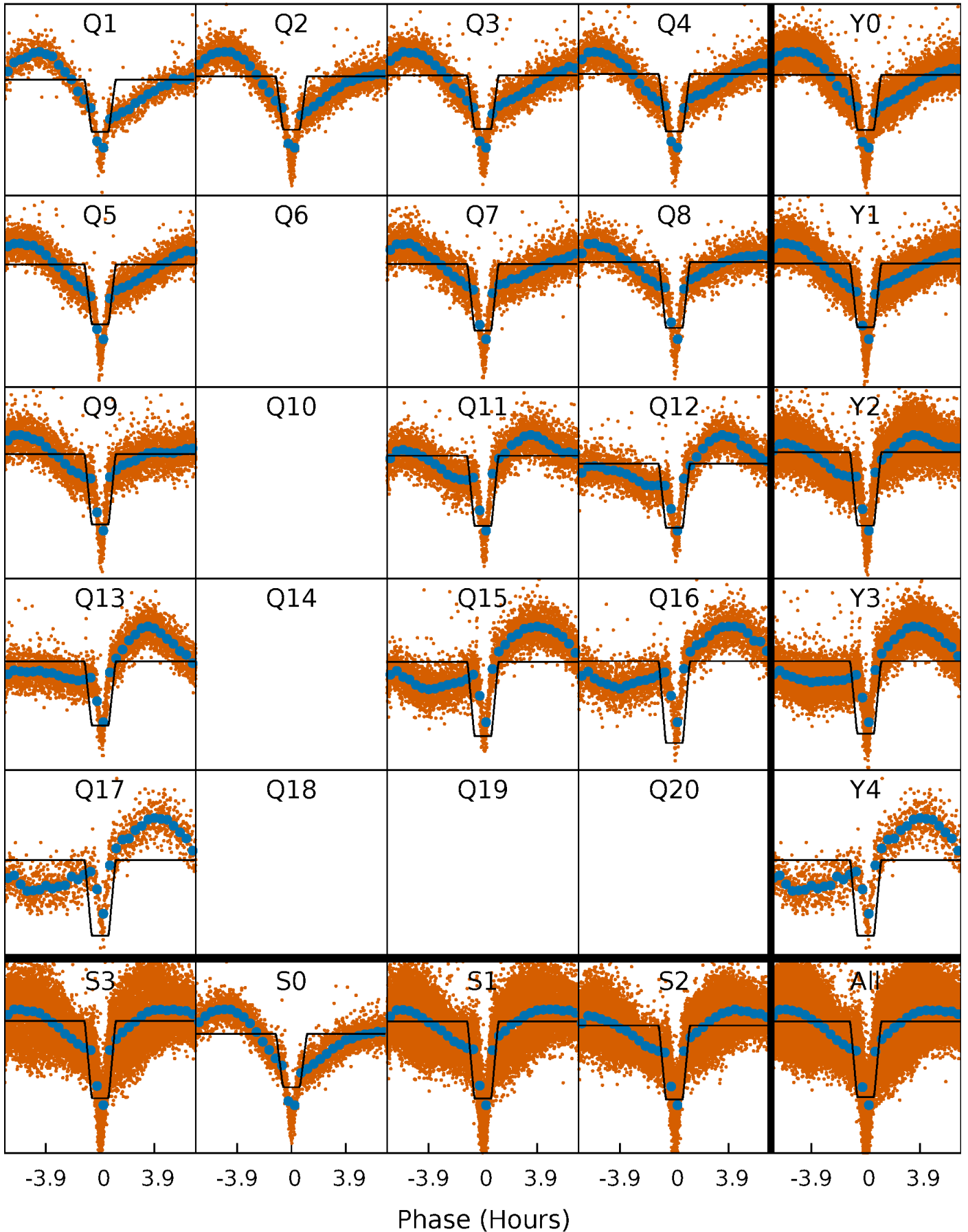
DV Quarter-Phased Transit Curves

TCE 005887316-01 P= 0.603068 Days $T_0=131.665260$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

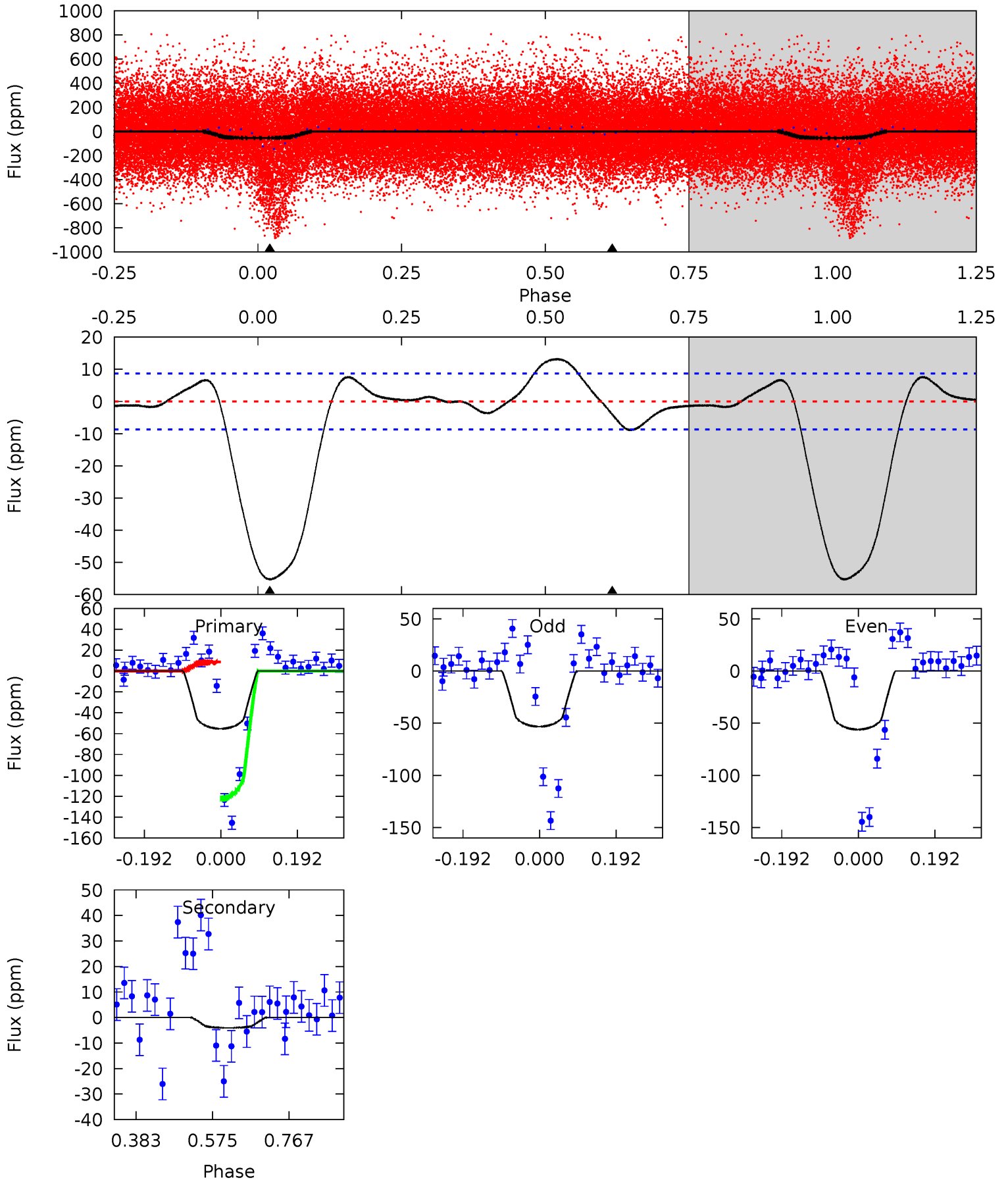
TCE 005887316-01 P= 0.603085 Days $T_0=131.663029$ (BKJD)



DV Model-Shift Uniqueness Test

005887316-01, P = 0.603068 Days, E = 131.062192 Days

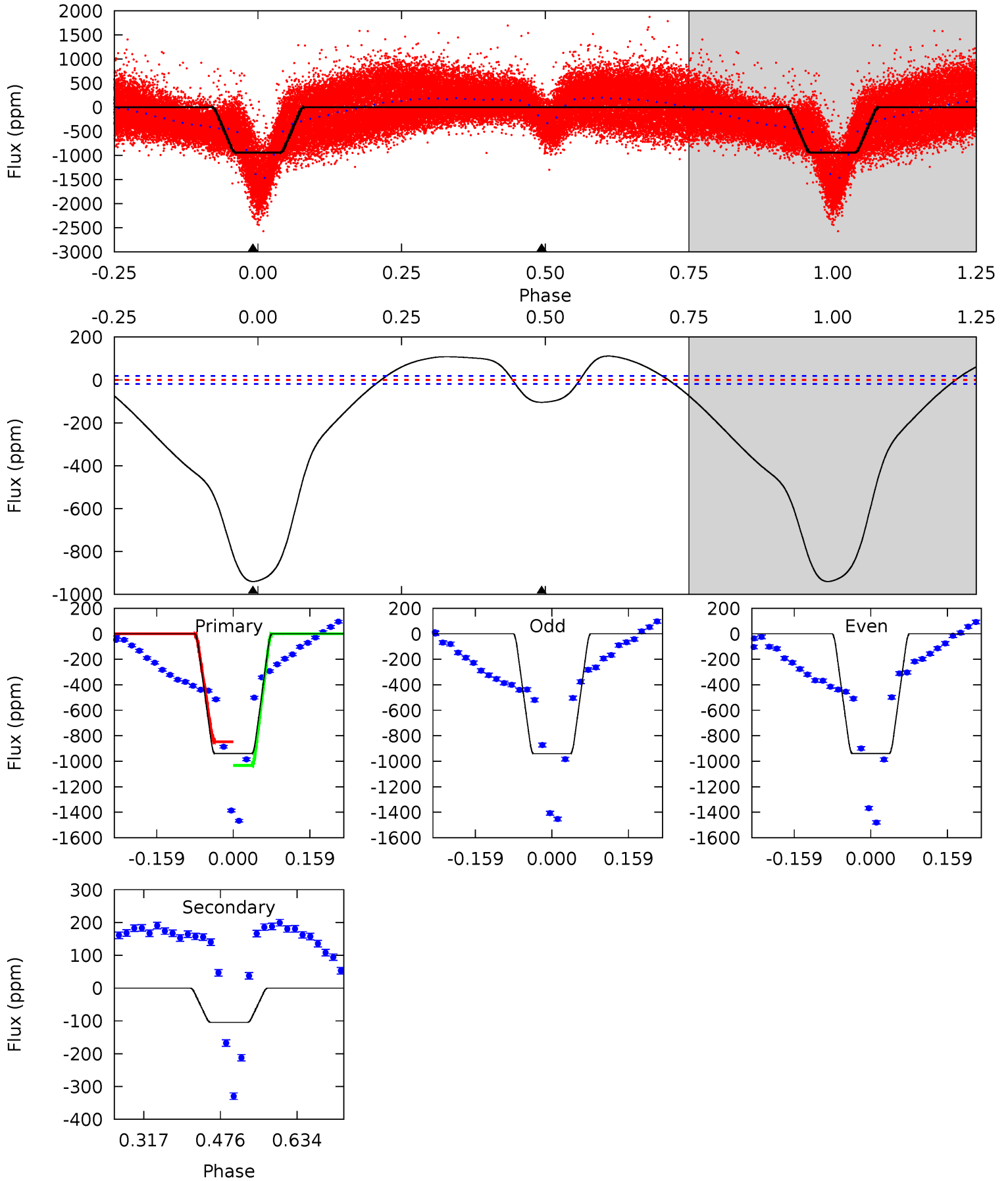
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.1	2.06	0	0	4.43	1.31	0.77	28.1	28.1	2.06	2.06	0.72	0.94	0.19	29.1



Alt Model-Shift Uniqueness Test

005887316-01, P = 0.603085 Days, E = 131.059944 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
223.3	24.8	0	0	4.47	1.41	25.8	223.3	223.3	24.8	24.8	0.27	1.00	0.11	22.3



Stellar Parameters For KIC 005887316

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6353^{+69}_{-88}	$4.397^{+0.032}_{-0.097}$	$-0.020^{+0.150}_{-0.150}$	$1.134^{+0.151}_{-0.070}$	$1.174^{+0.066}_{-0.091}$	$1.133^{+0.145}_{-0.323}$
	+1%/-1%	+1%/-2%	+750%/-750%	+13%/-6%	+6%/-8%	+13%/-29%
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 005887316-01 / KOI 7747.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-4 ± 2	$0.88^{+0.30}_{-0.31}$	3462^{+108}_{-84}	3406^{+876}_{-5952}	$0.619^{+0.893}_{-0.359}$
Alt.	-104 ± 4	$4.33^{+0.41}_{-0.36}$	3465^{+108}_{-79}	3459^{+148}_{-151}	$0.653^{+0.122}_{-0.104}$

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 $A_{obs} \gg 1.0$

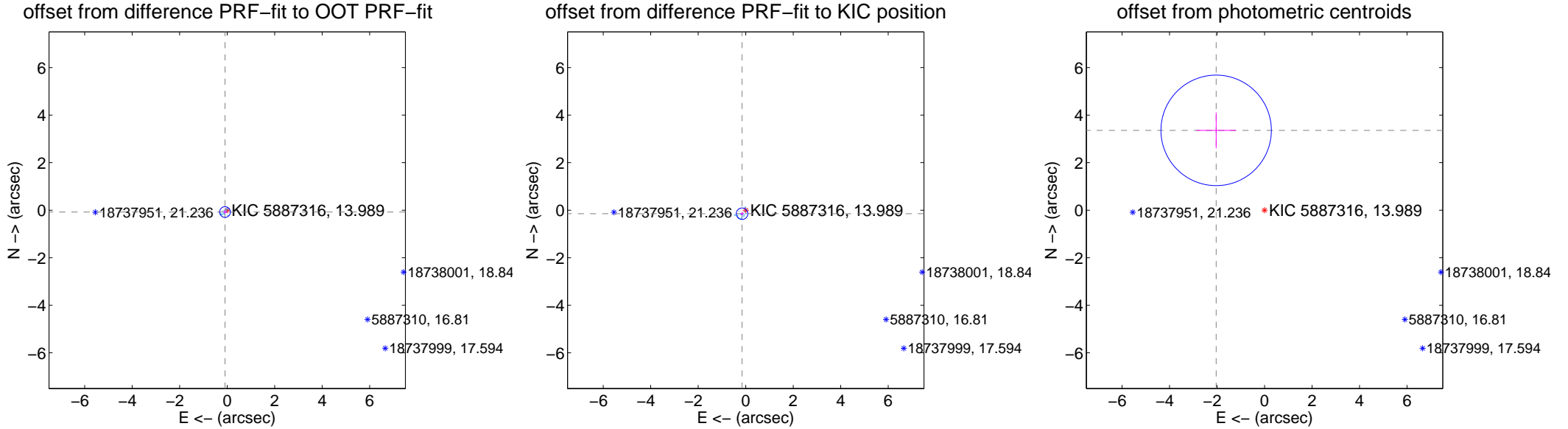
DV Centroid Data

Supplemental centroid analysis for 005887316-01. Kepler magnitude: 13.99. Transit SNR 14.47

There are 14 quarters with good PRF difference image offsets

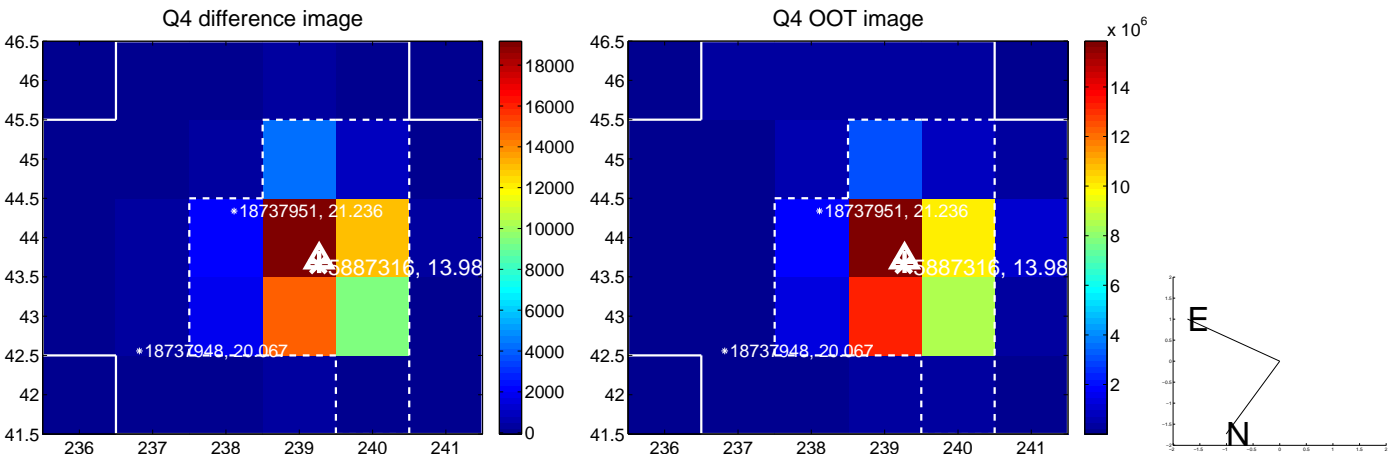
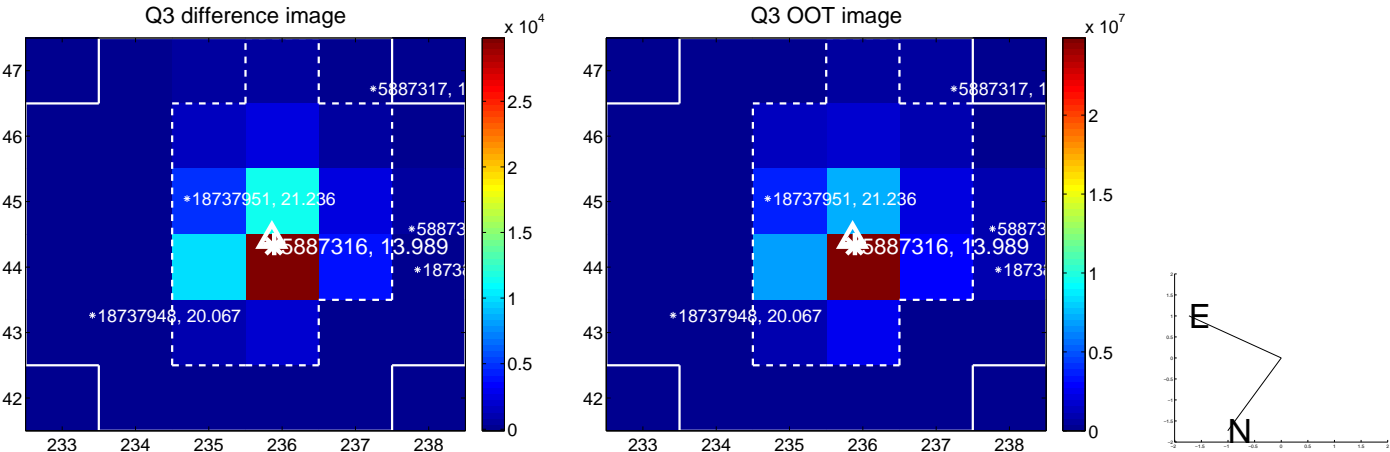
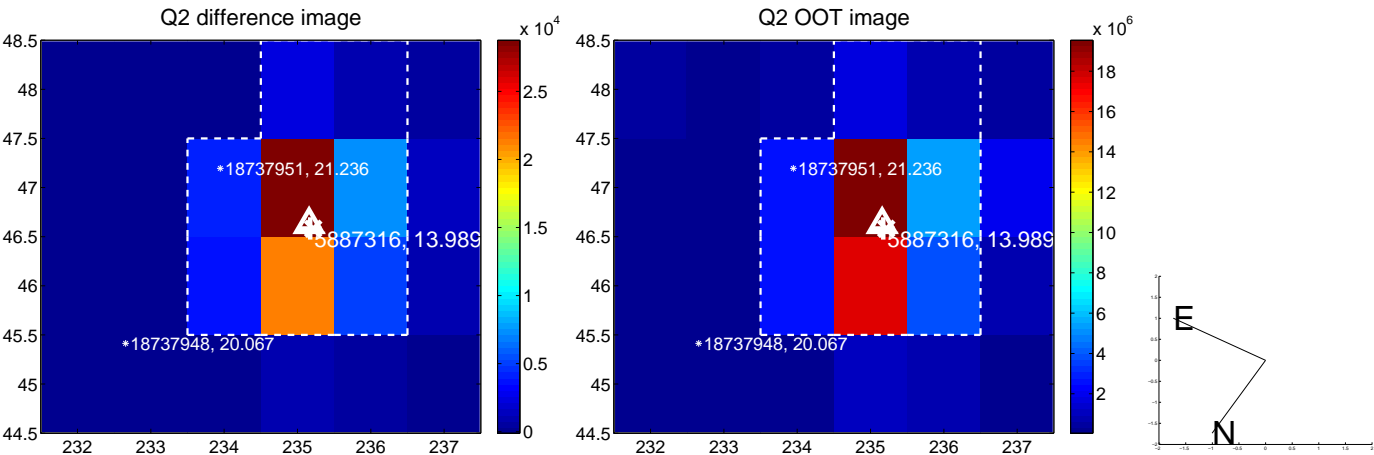
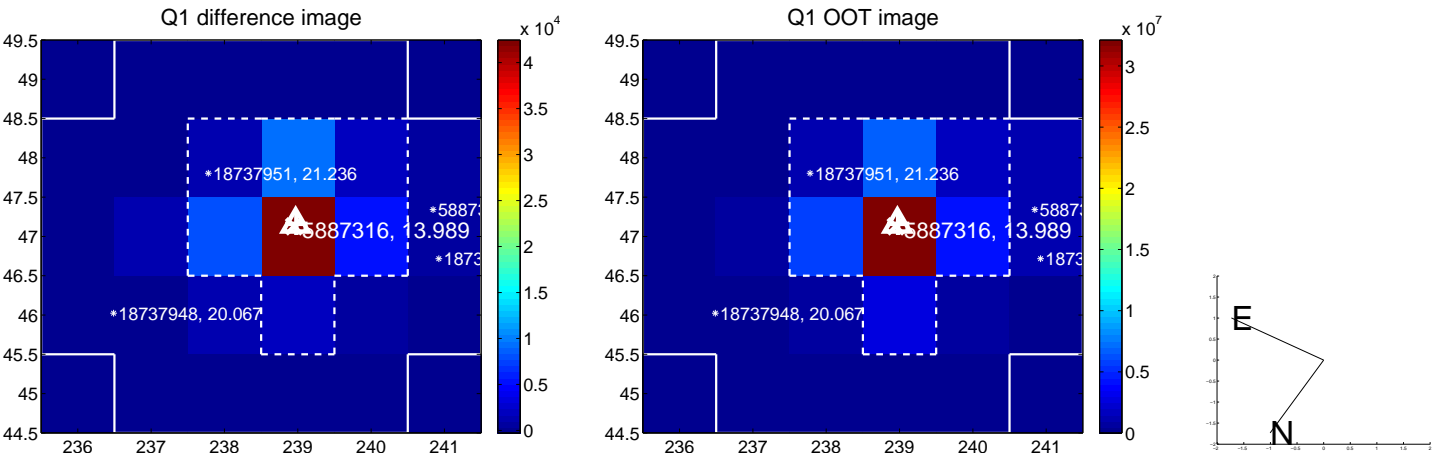
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.119 ± 0.075	1.58	0.090 ± 0.072	-0.077 ± 0.072
PRF-fit source offset from KIC position	0.213 ± 0.081	2.65	0.154 ± 0.078	-0.148 ± 0.074
photometric centroid source offset	3.93 ± 0.77	5.07	2.04 ± 0.83	3.36 ± 0.75

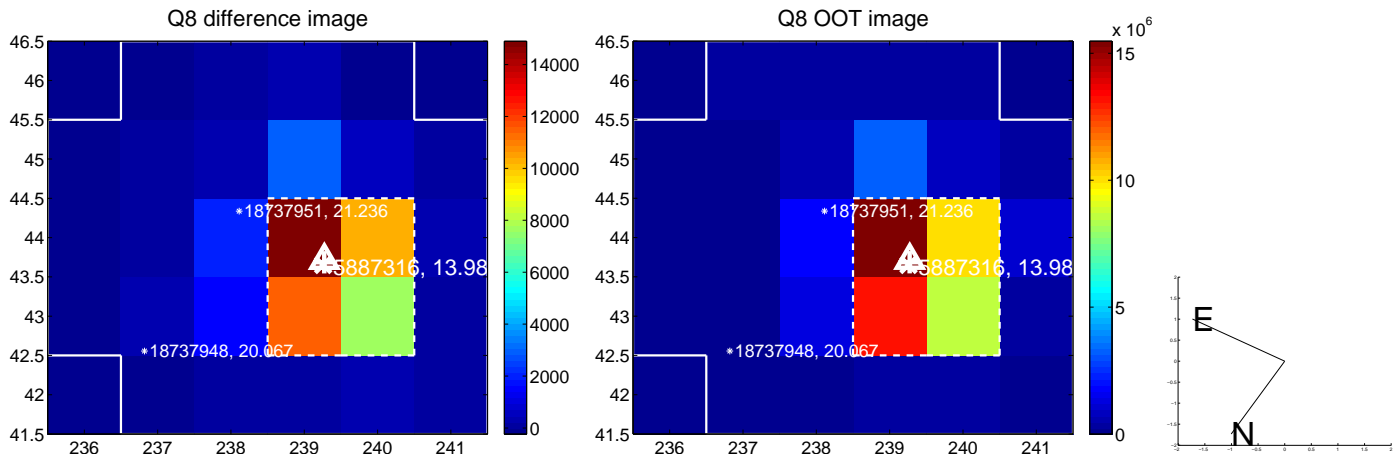
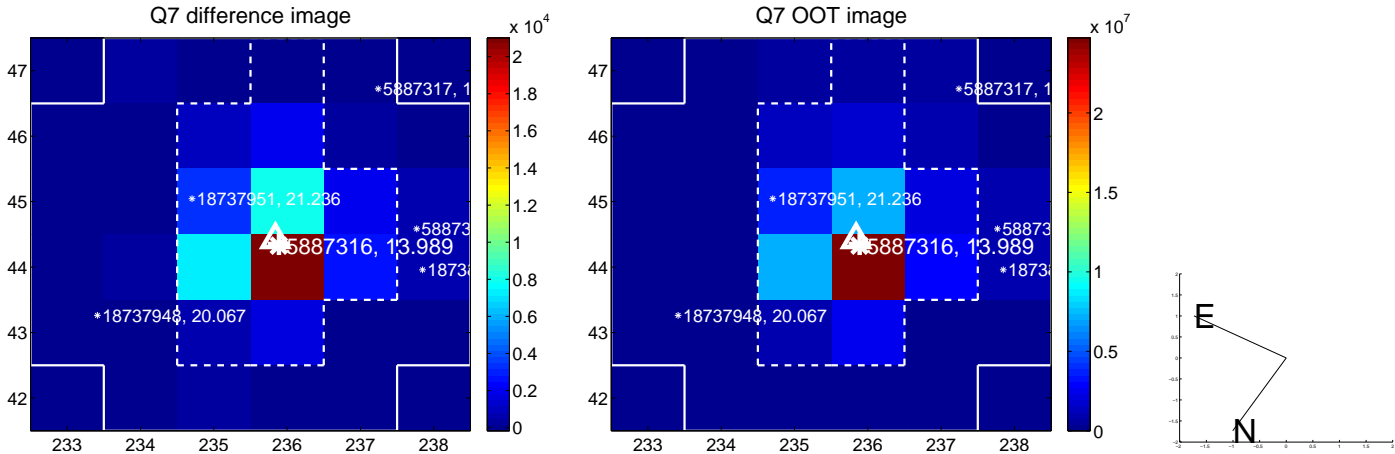
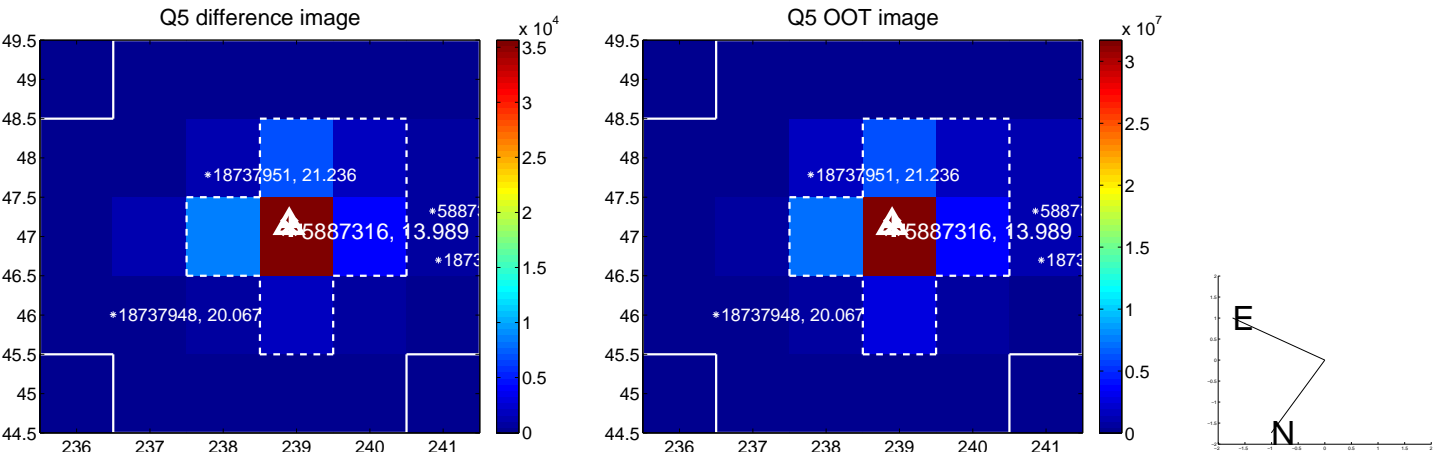


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

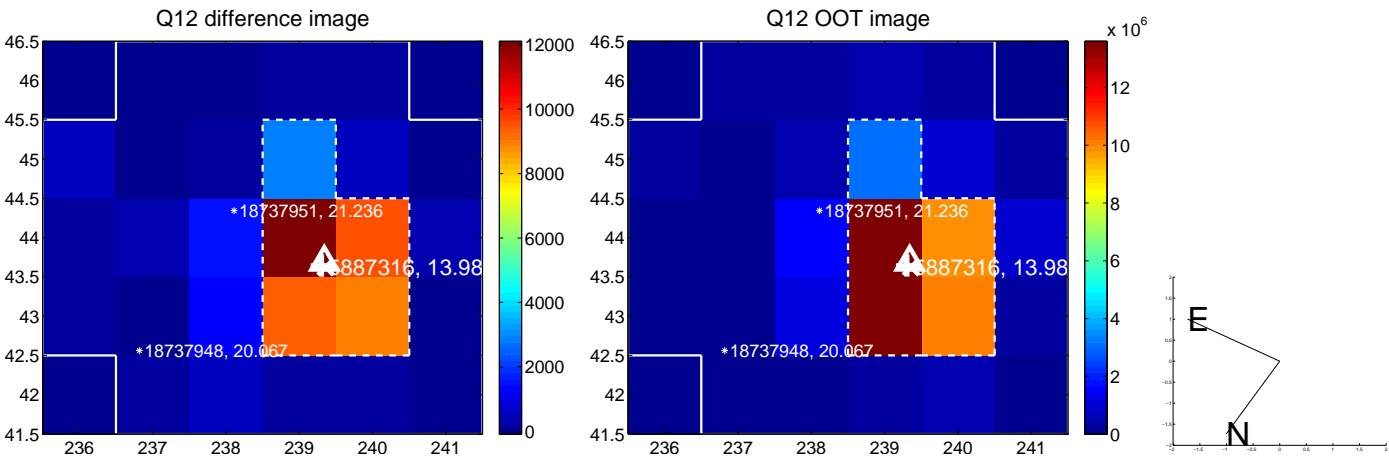
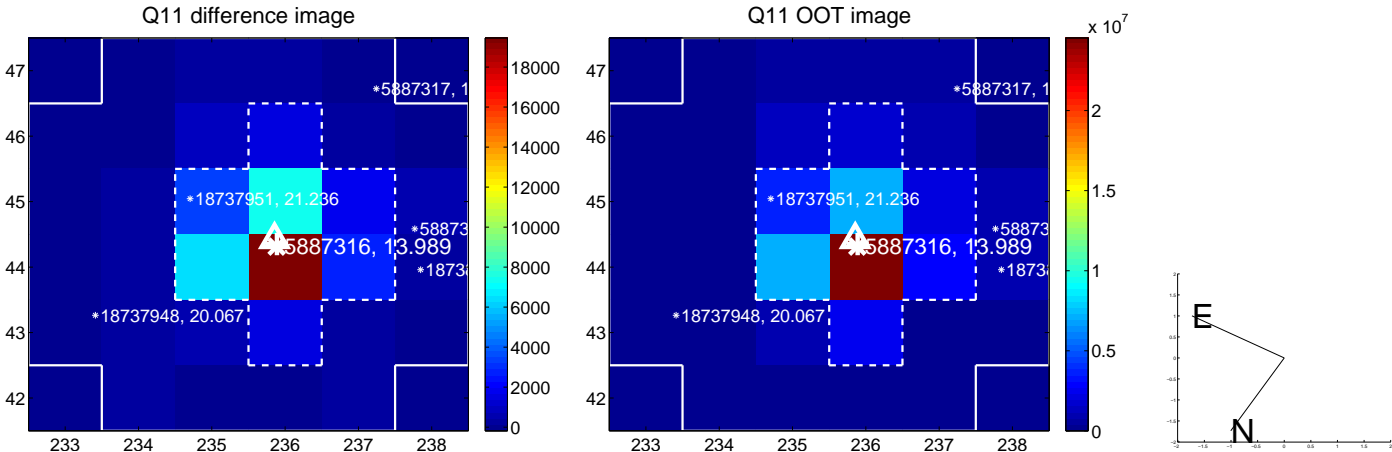
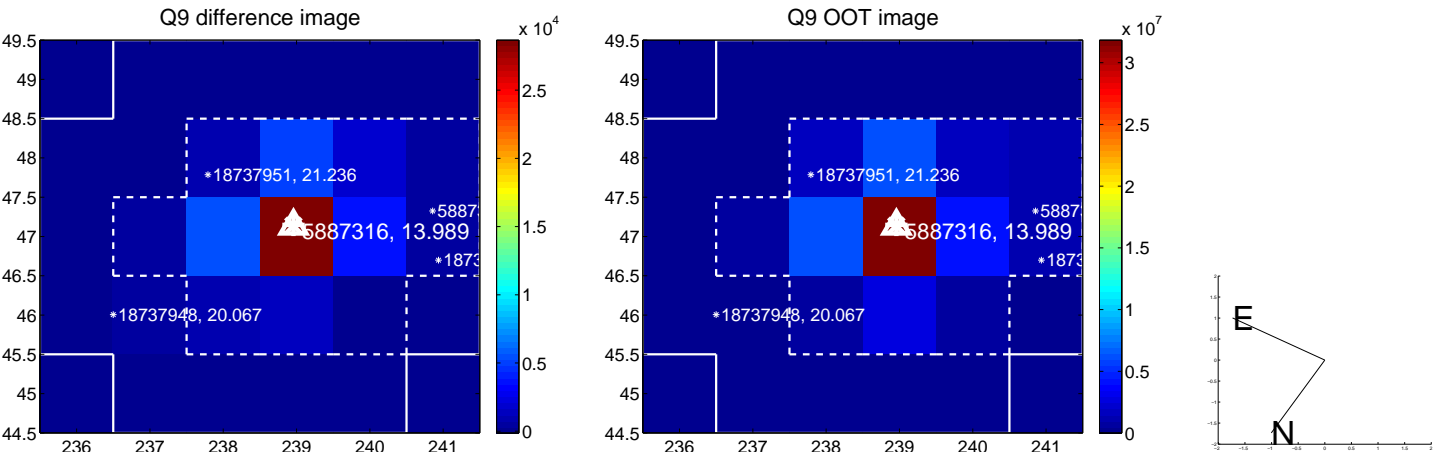
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



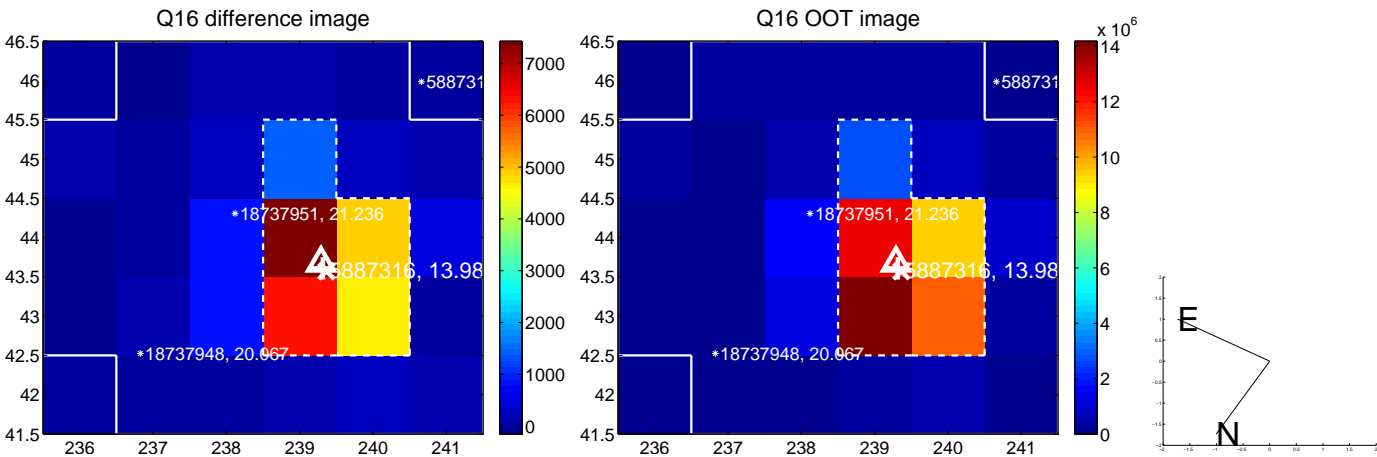
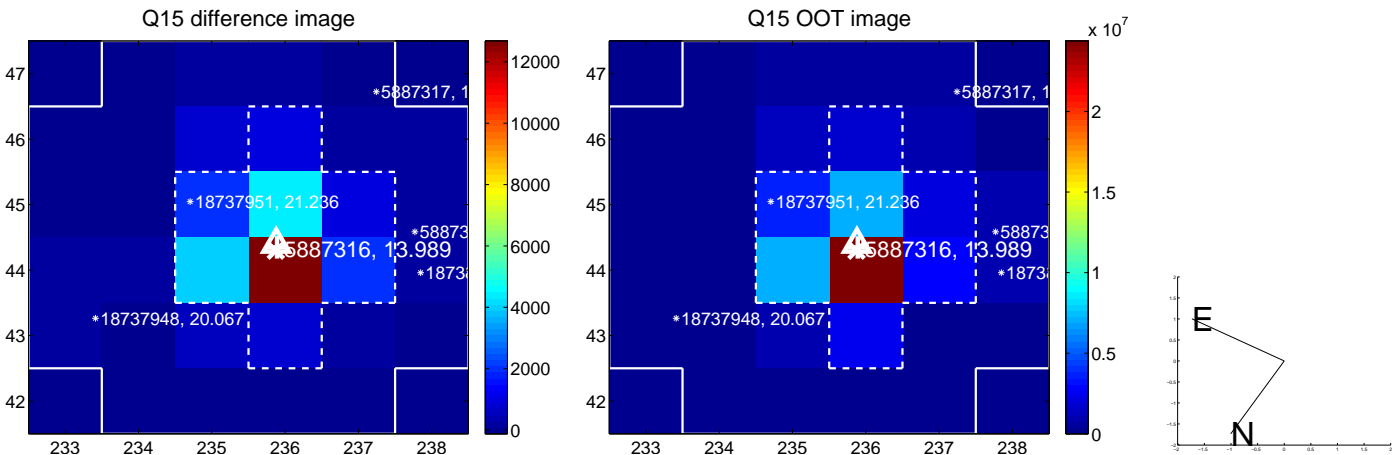
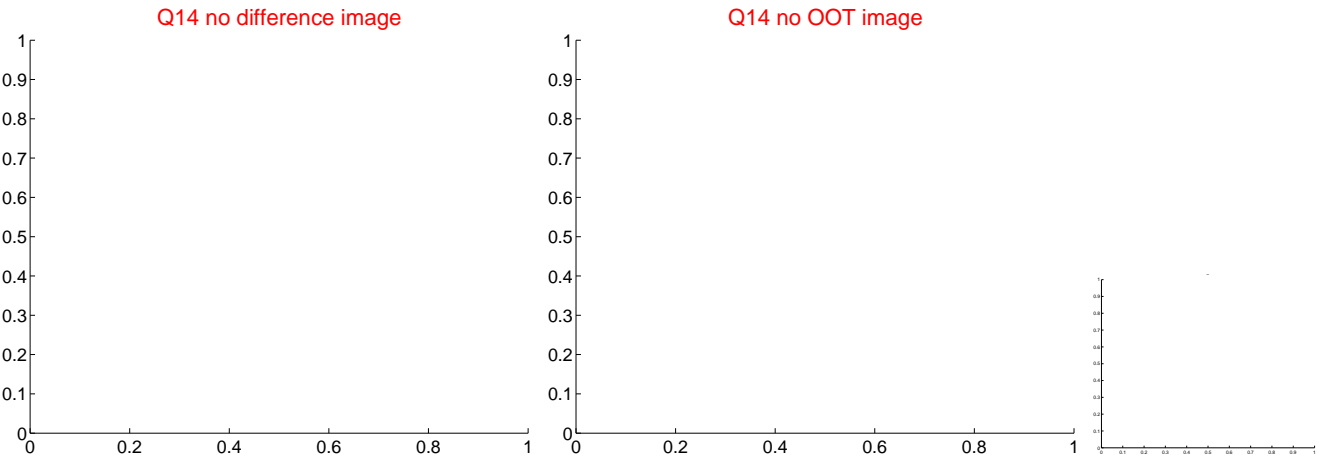
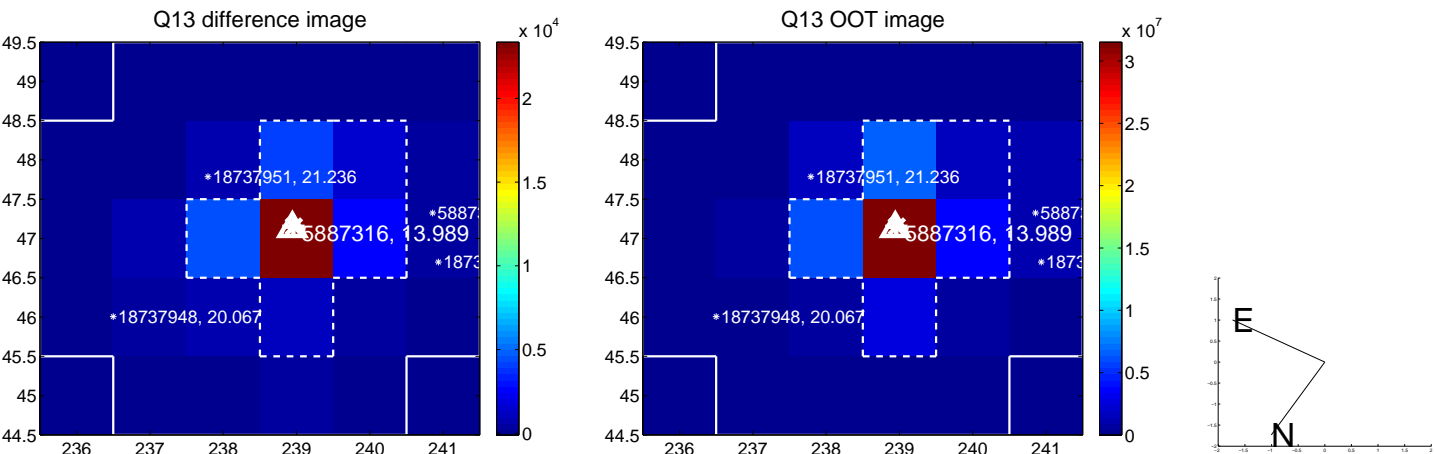
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



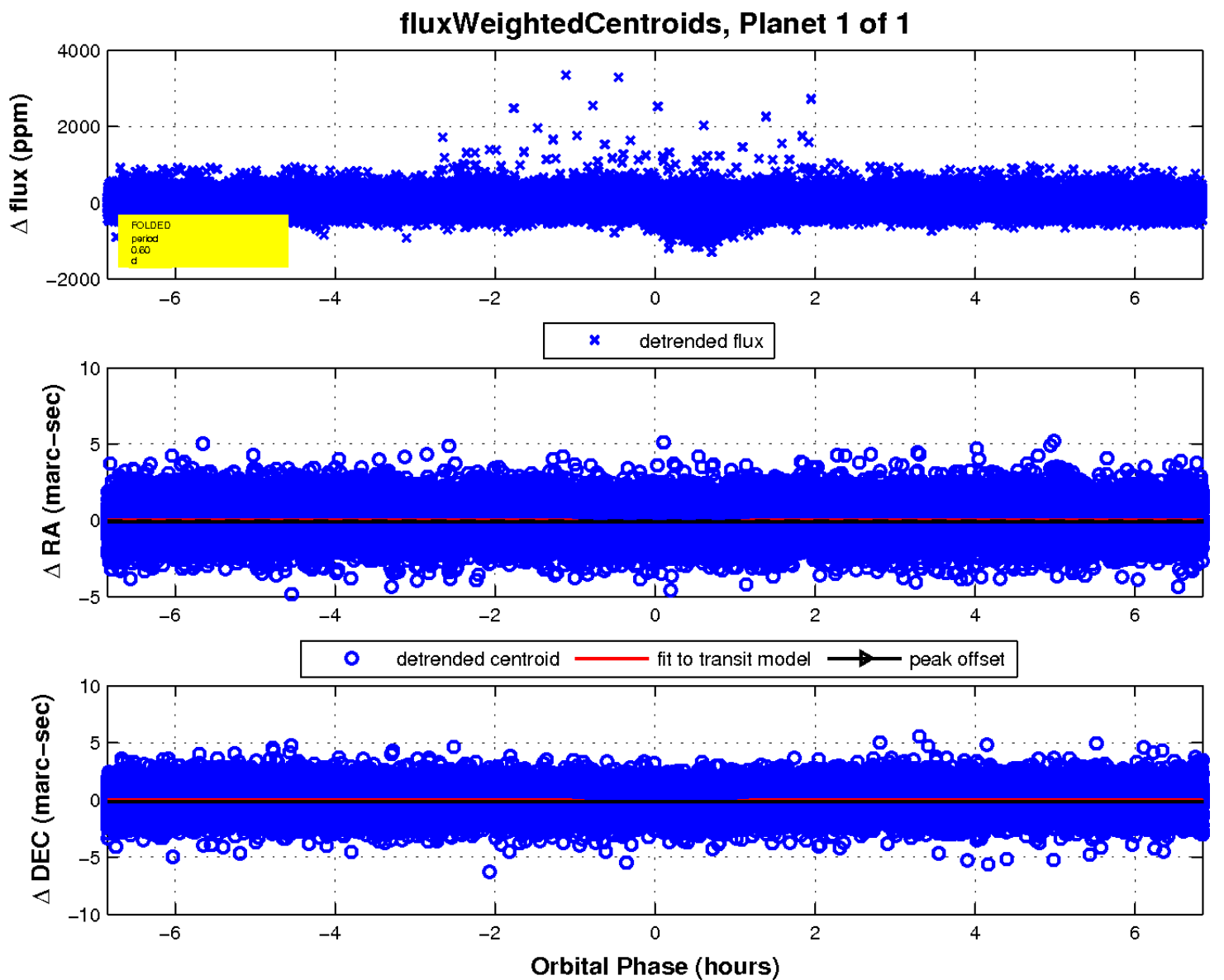
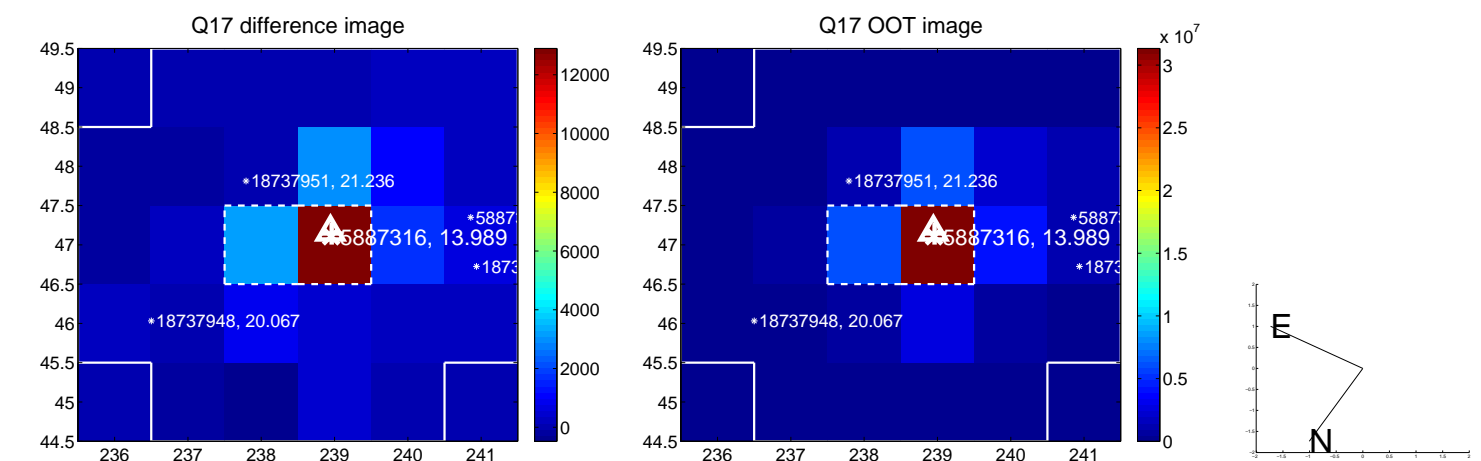
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UKIRT Image

Declination

