

KIC 008707354

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})
008707354-01	OBS	No	0.822672	132.249934	1.5	9.395	8.9	1.2	1.72	6457	0.22	12727.13

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008707354-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT

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

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

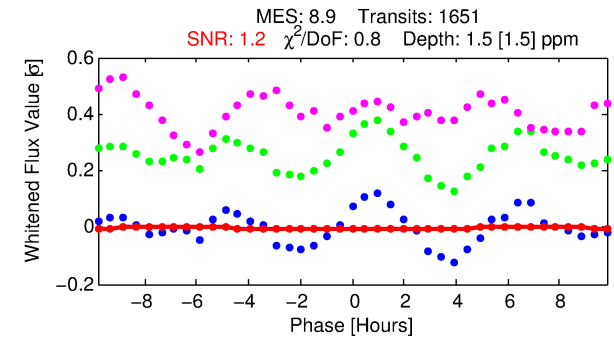
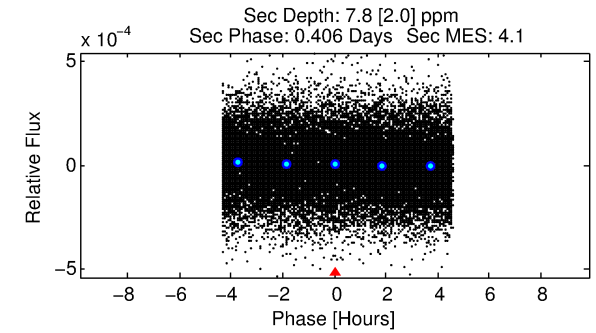
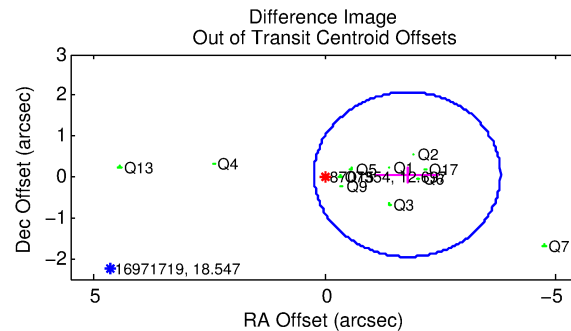
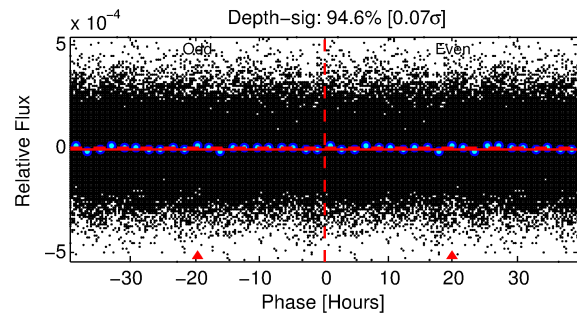
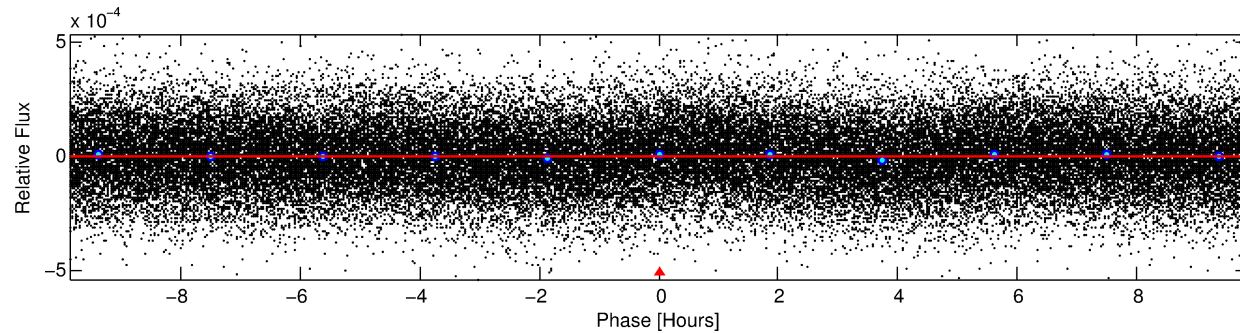
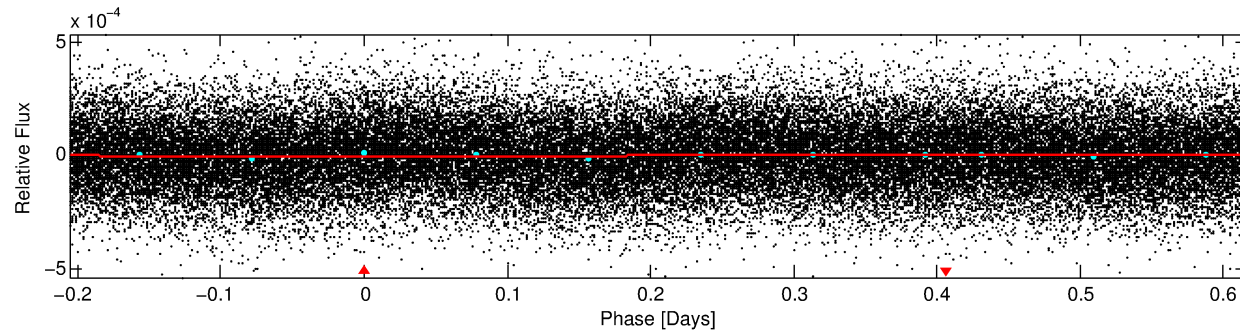
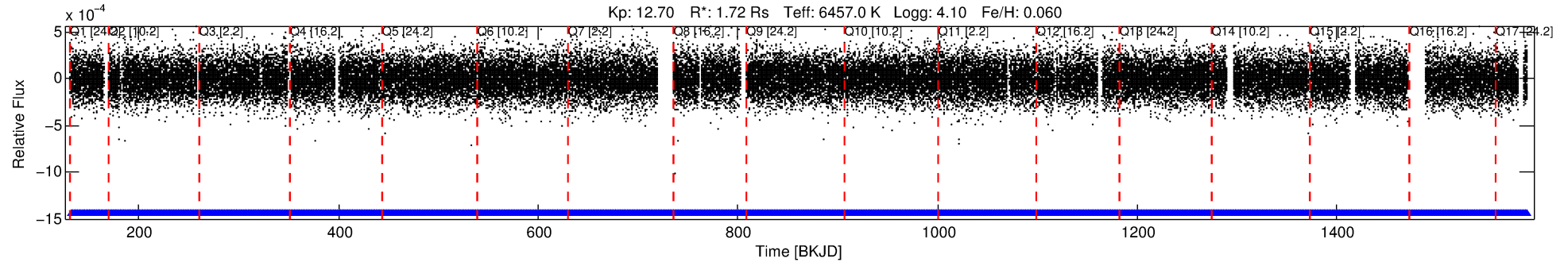
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008707354-01

No Significant Match Found

DV One-Page Summary

KIC: 8707354 Candidate: 1 of 1 Period: 0.823 d



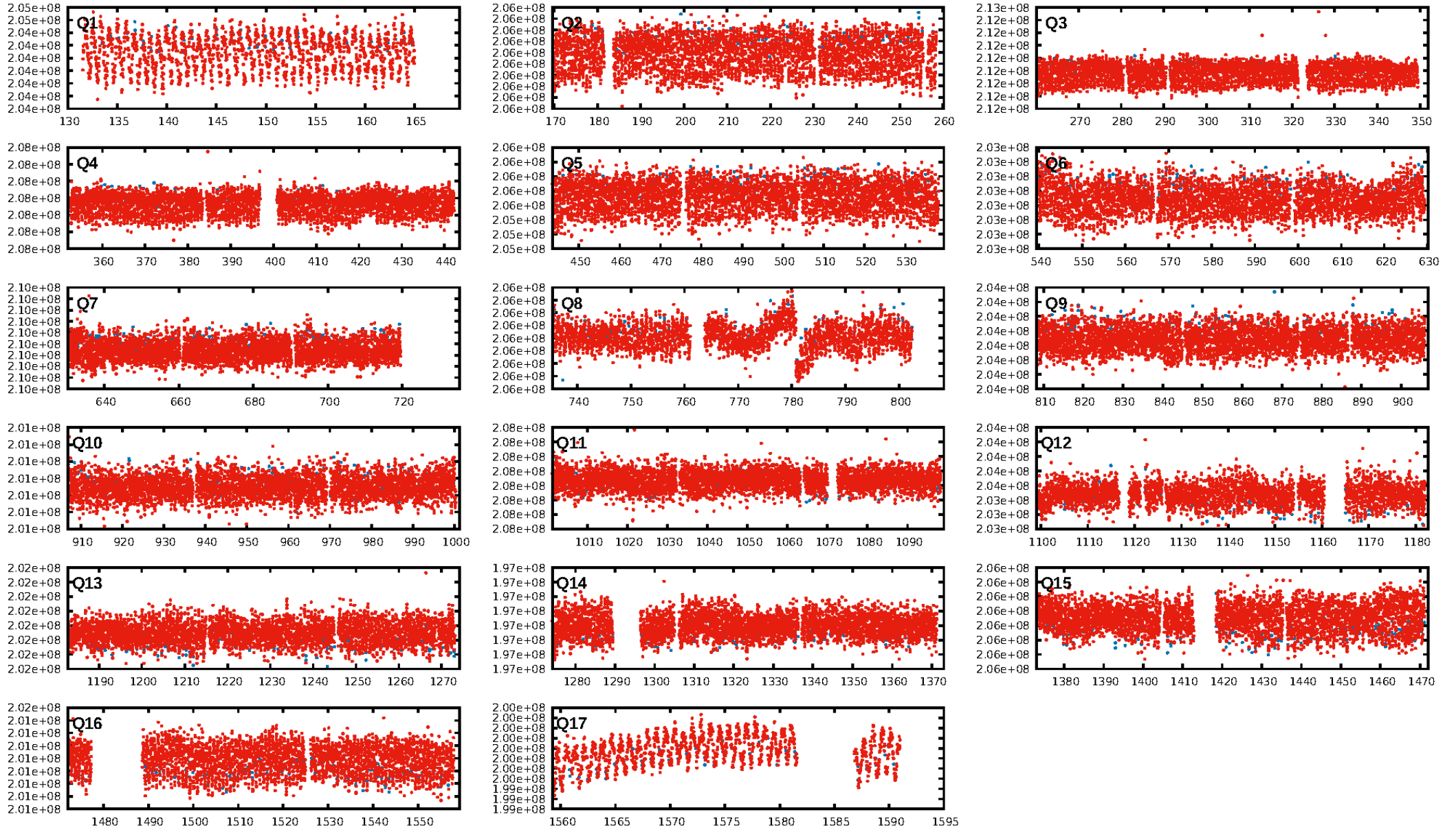
DV Fit Results:

Period = 0.82267 [0.00016] d
Epoch = 132.2499 [0.0641] BKJD
Rp/R* = 0.0012 [0.0062]
a/R* = 1.00 [0.17]
b = 0.50 [44.12]
Seff = 12727.13 [5280.84]
Teff = 2708 [281] K
Rp = 0.22 [1.16] Re
a = 0.0190 [0.0049] AU
Ag = 33.49 [361.52] [0.09 σ]
Teffp = 10073 [27172] K [0.27 σ]

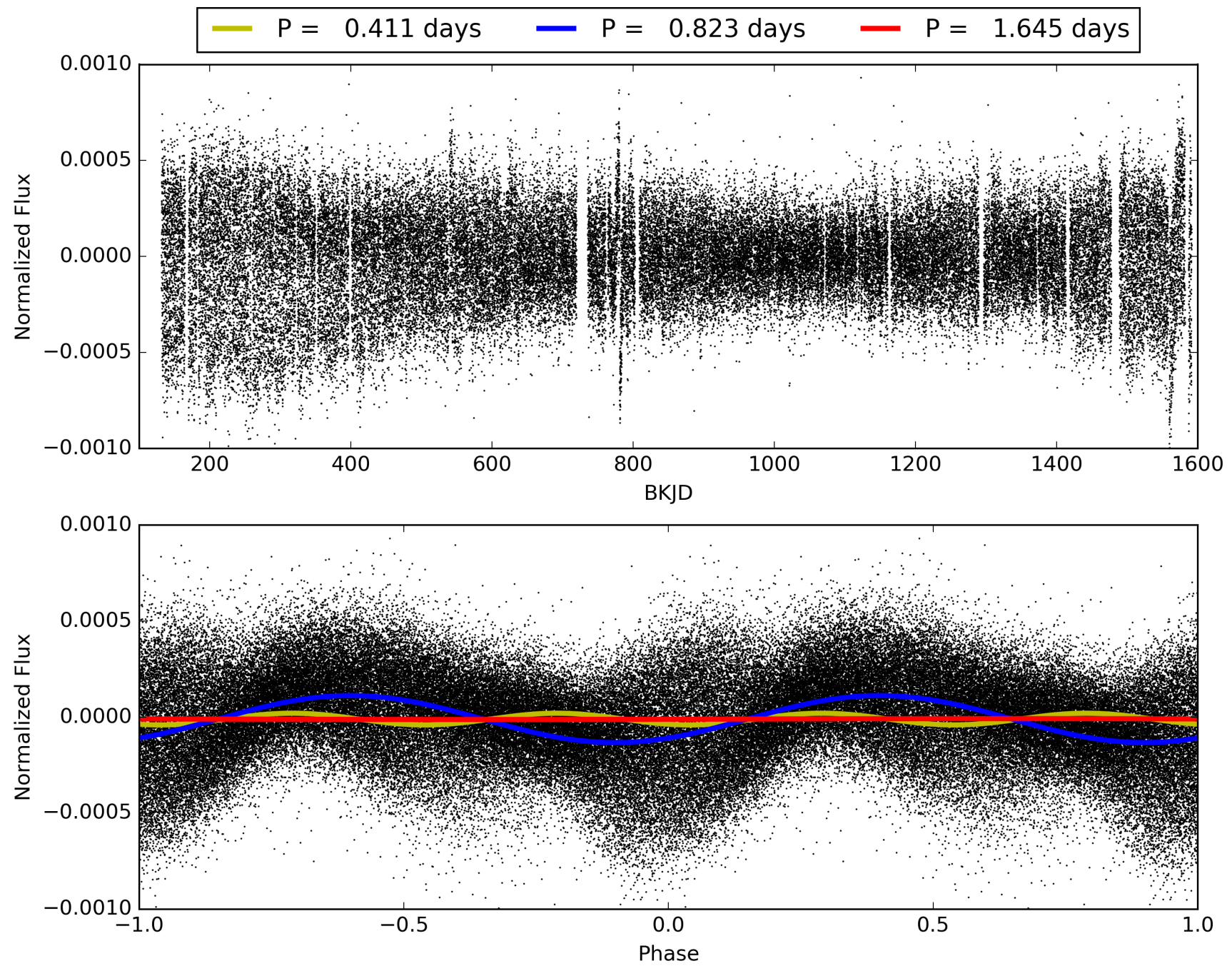
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1576/1576]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 1.789 arcsec [2.66 σ]
KicOffset-rm: 1.711 arcsec [2.76 σ]
OotOffset-st: 2/3/1/5 [11]
KicOffset-st: 2/3/1/5 [11]
DiffImageQuality-fgm: 0.55 [6/11]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008707354-01, PDC Light Curves

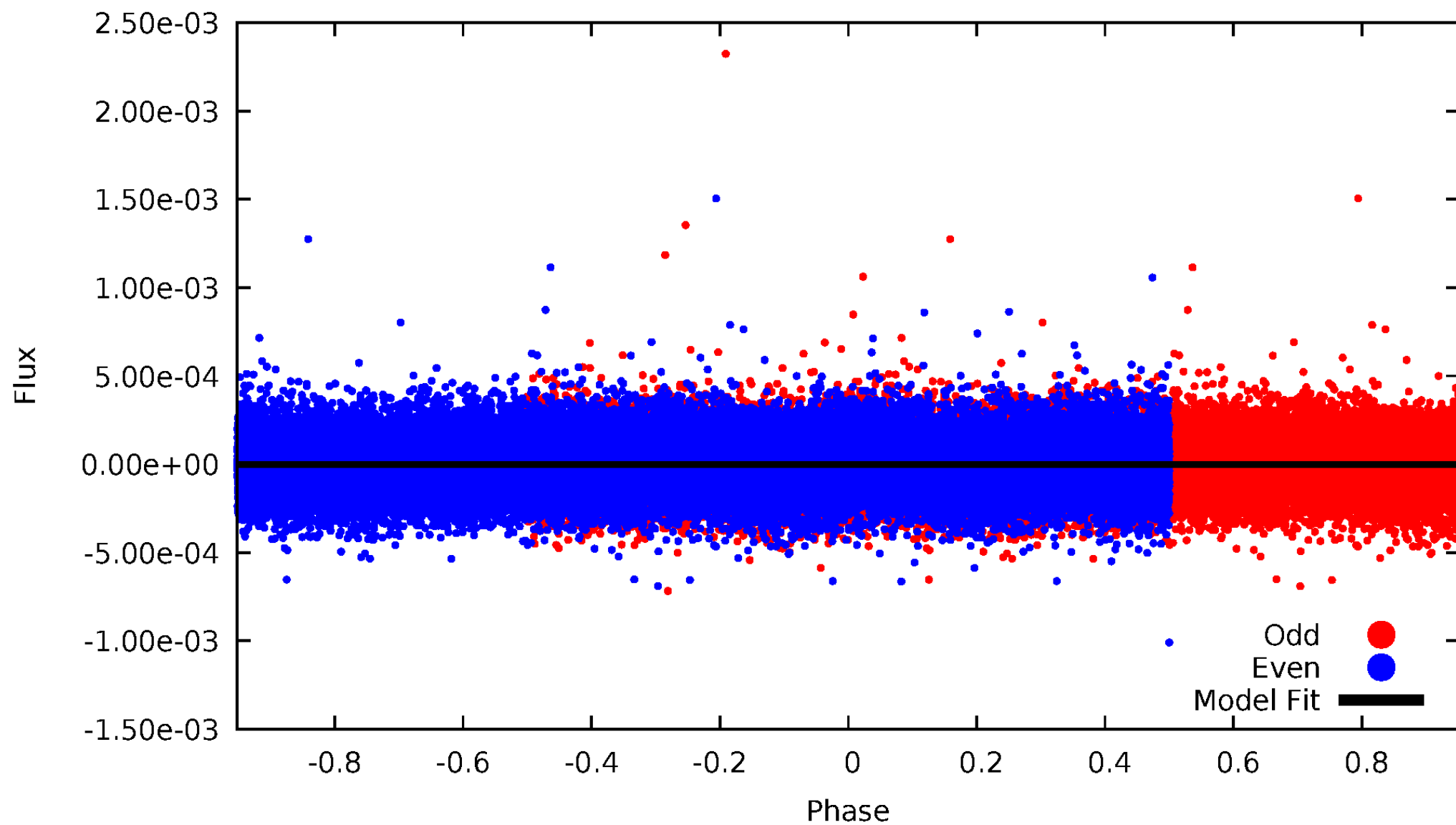


TCE 008707354-01



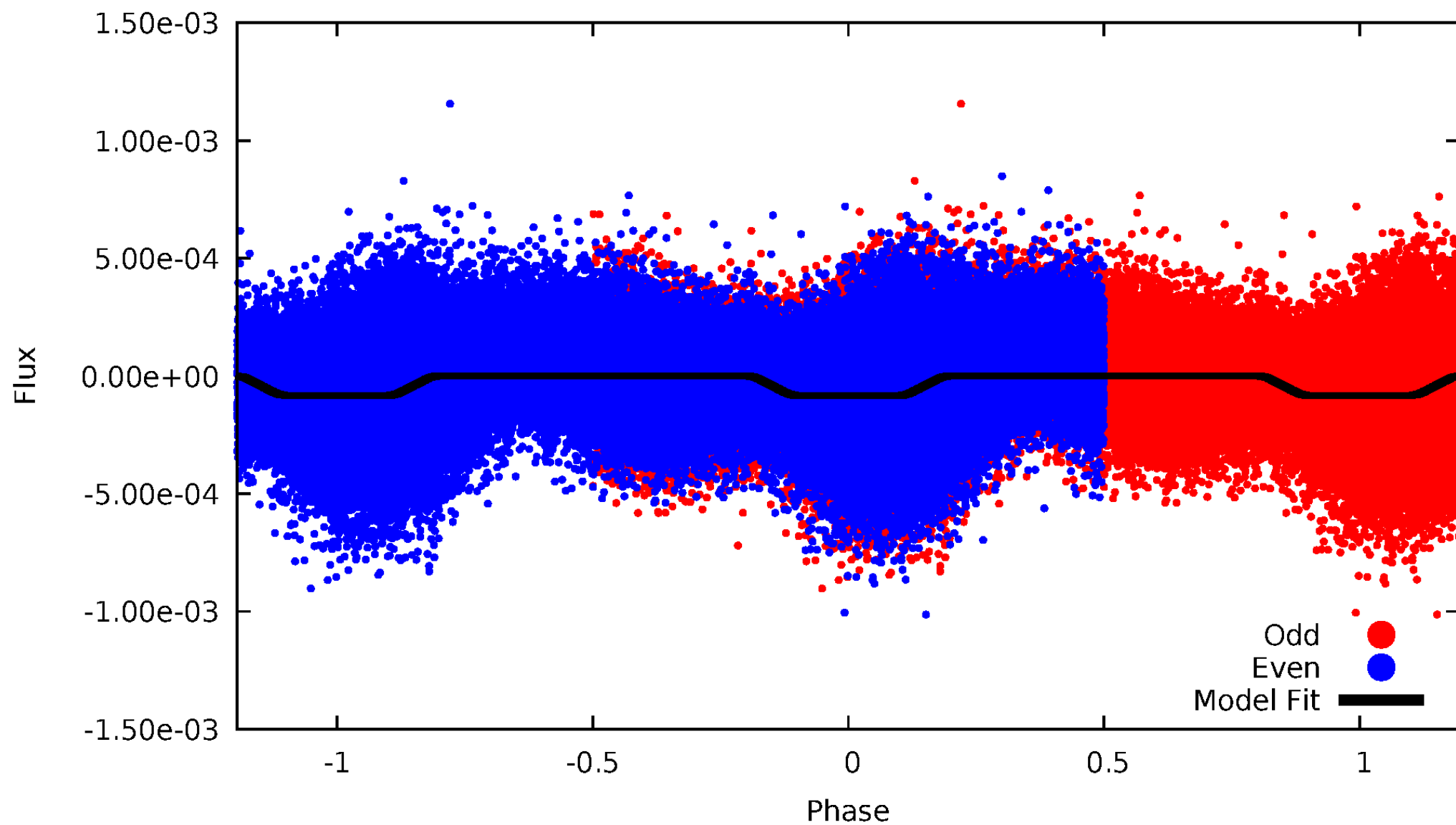
DV Odd/Even

TCE 008707354-01



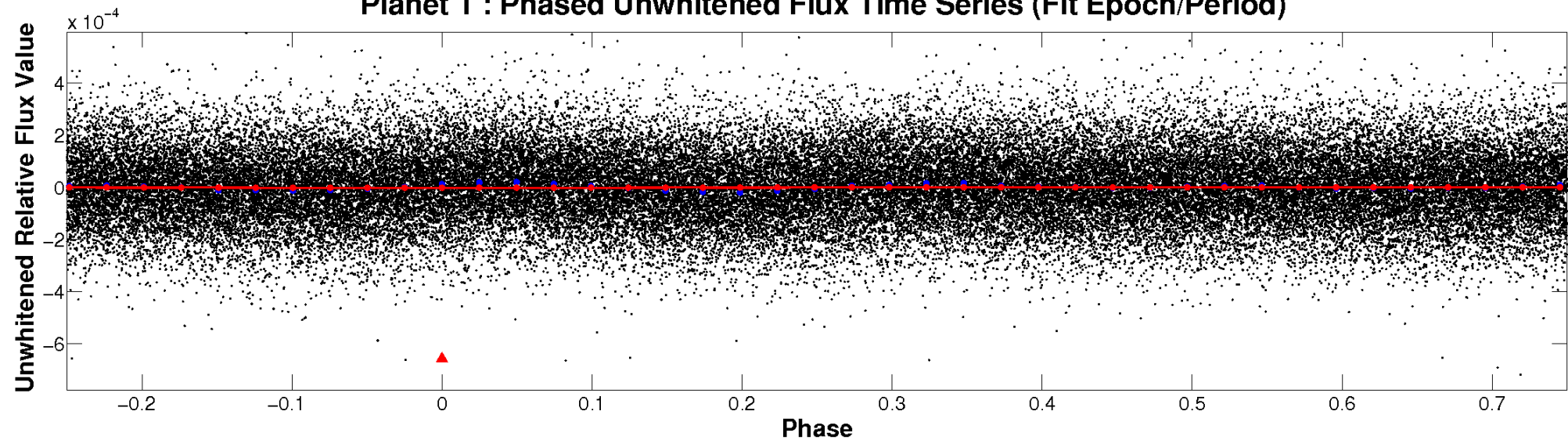
ALT Odd/Even

TCE 008707354-01

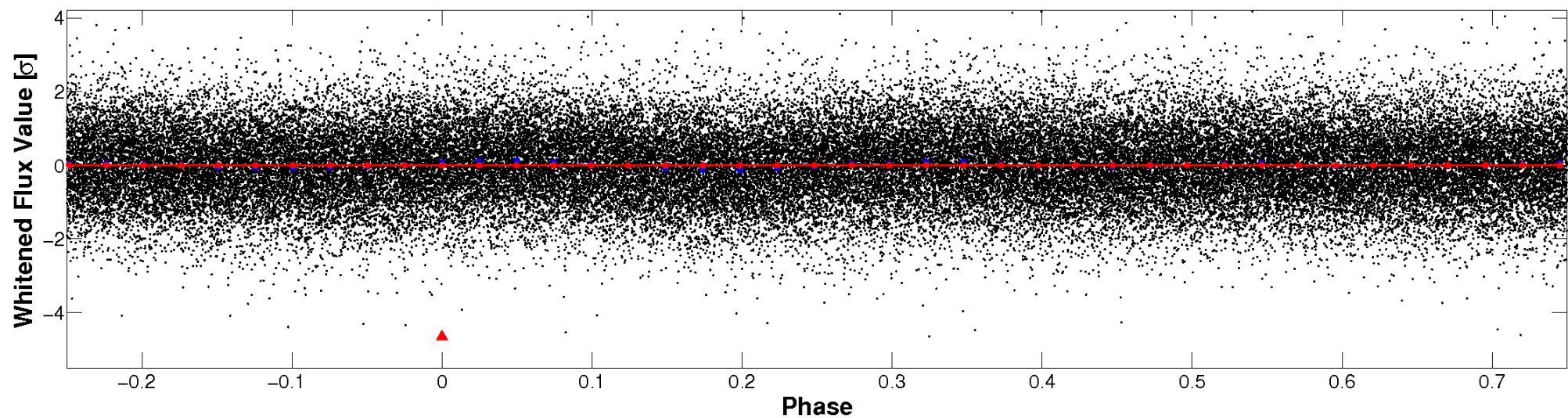


Non-Whitened Vs. Whitened Light Curve

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

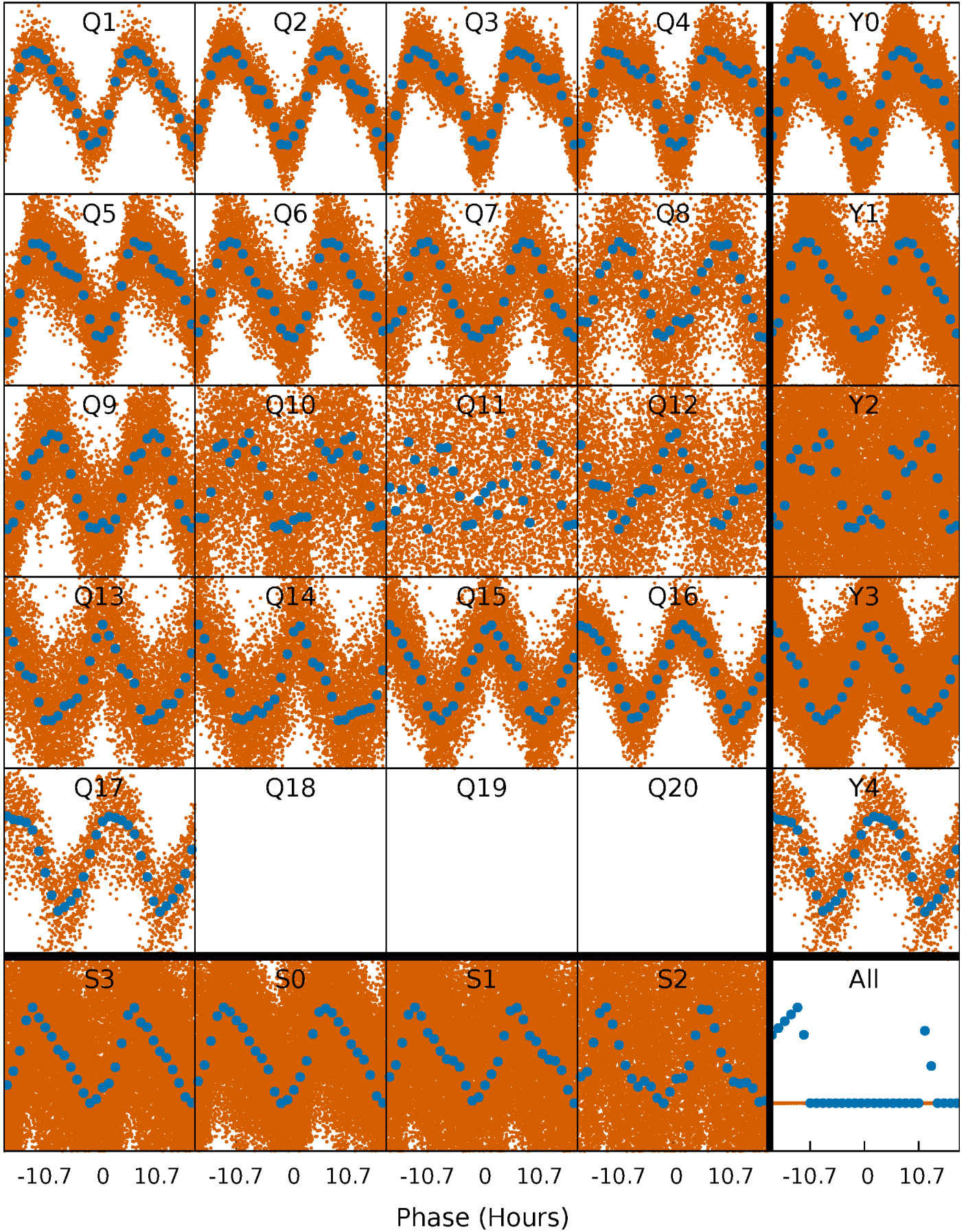


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



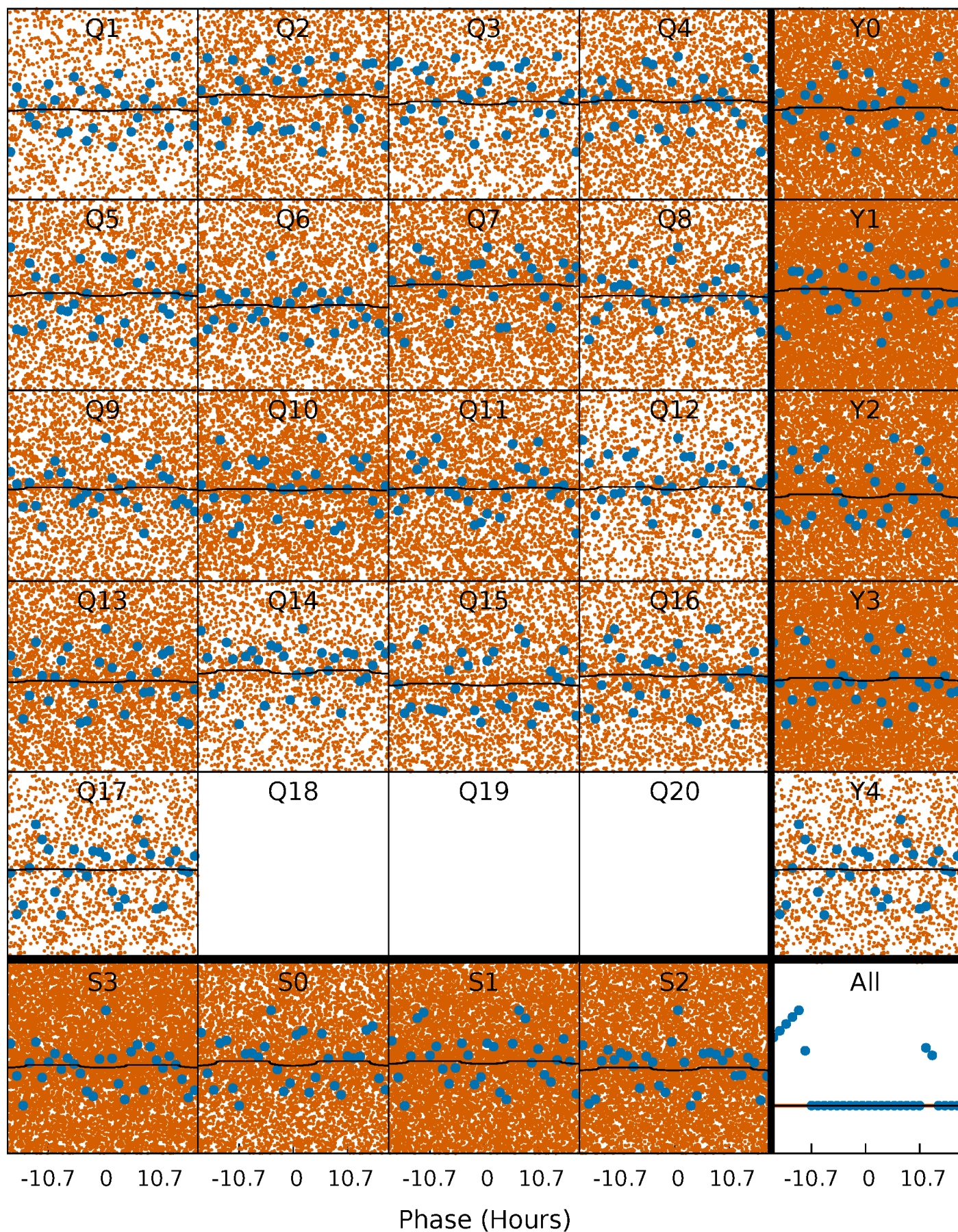
PDC Quarter-Phased Transit Curves

TCE 008707354-01 P= 0.822672 Days $T_0=132.249934$ (BKJD)



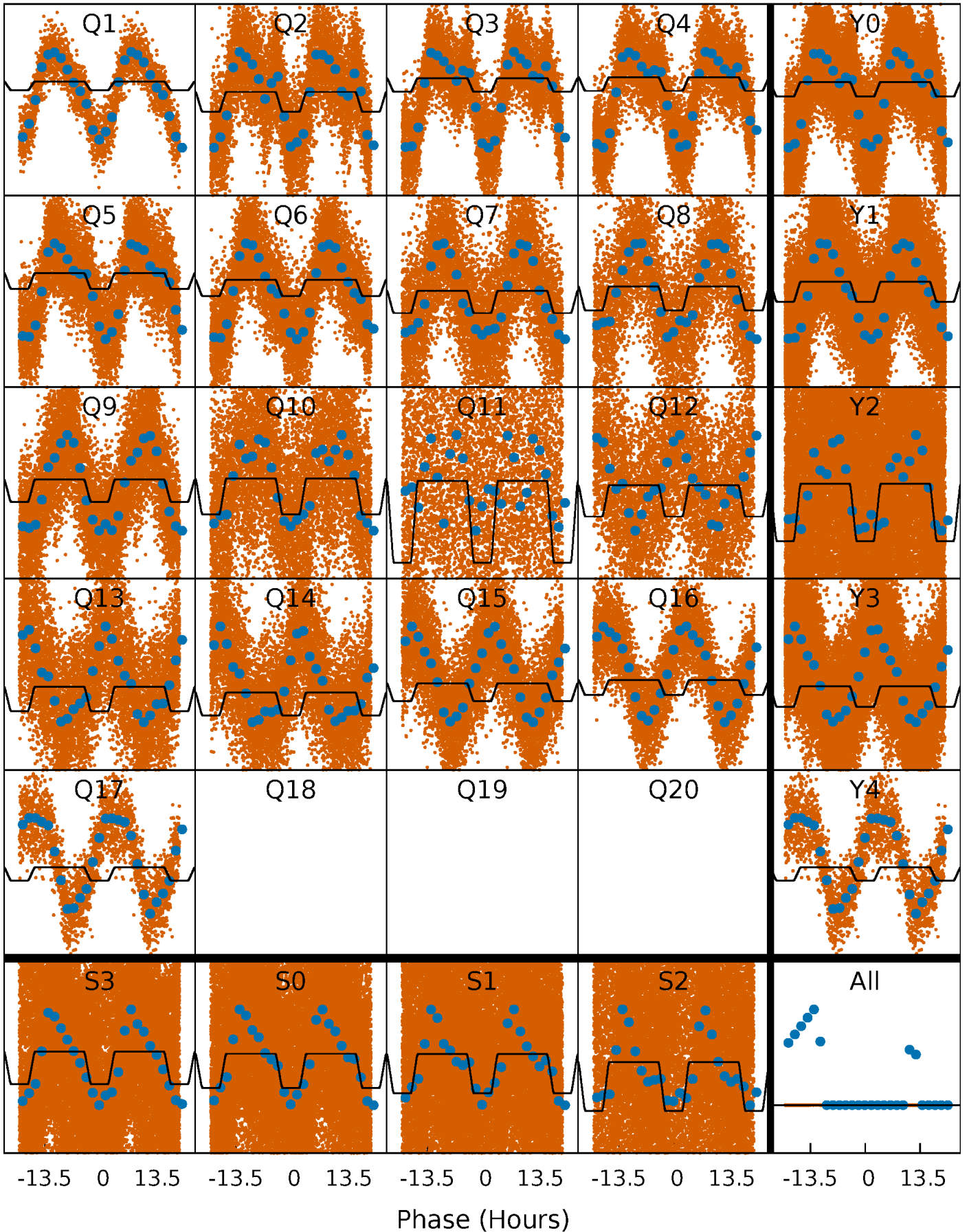
DV Quarter-Phased Transit Curves

TCE 008707354-01 P= 0.822672 Days $T_0=132.249934$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

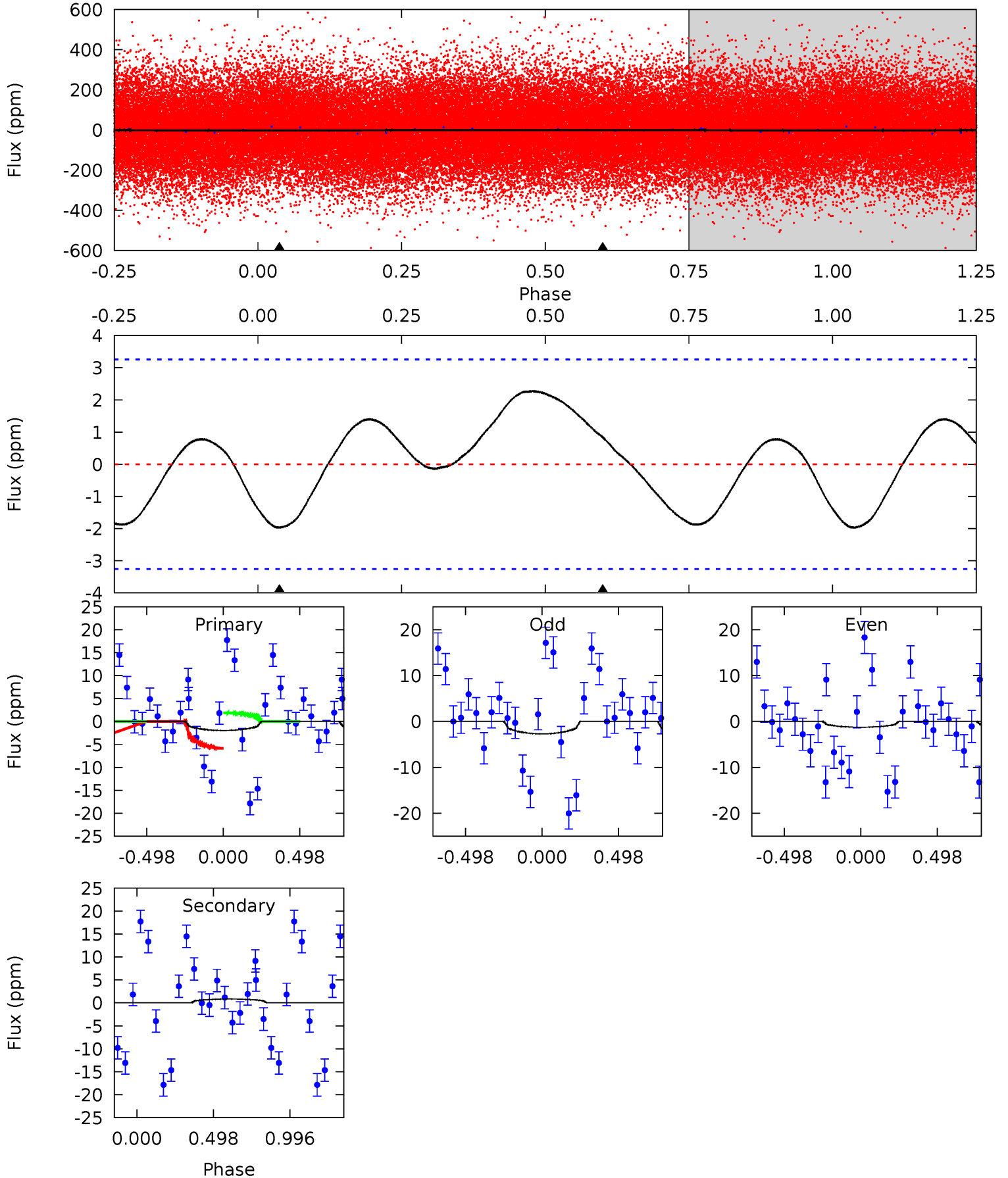
TCE 008707354-01 P= 0.822692 Days $T_0=132.186856$ (BKJD)



DV Model-Shift Uniqueness Test

008707354-01, P = 0.822672 Days, E = 131.427262 Days

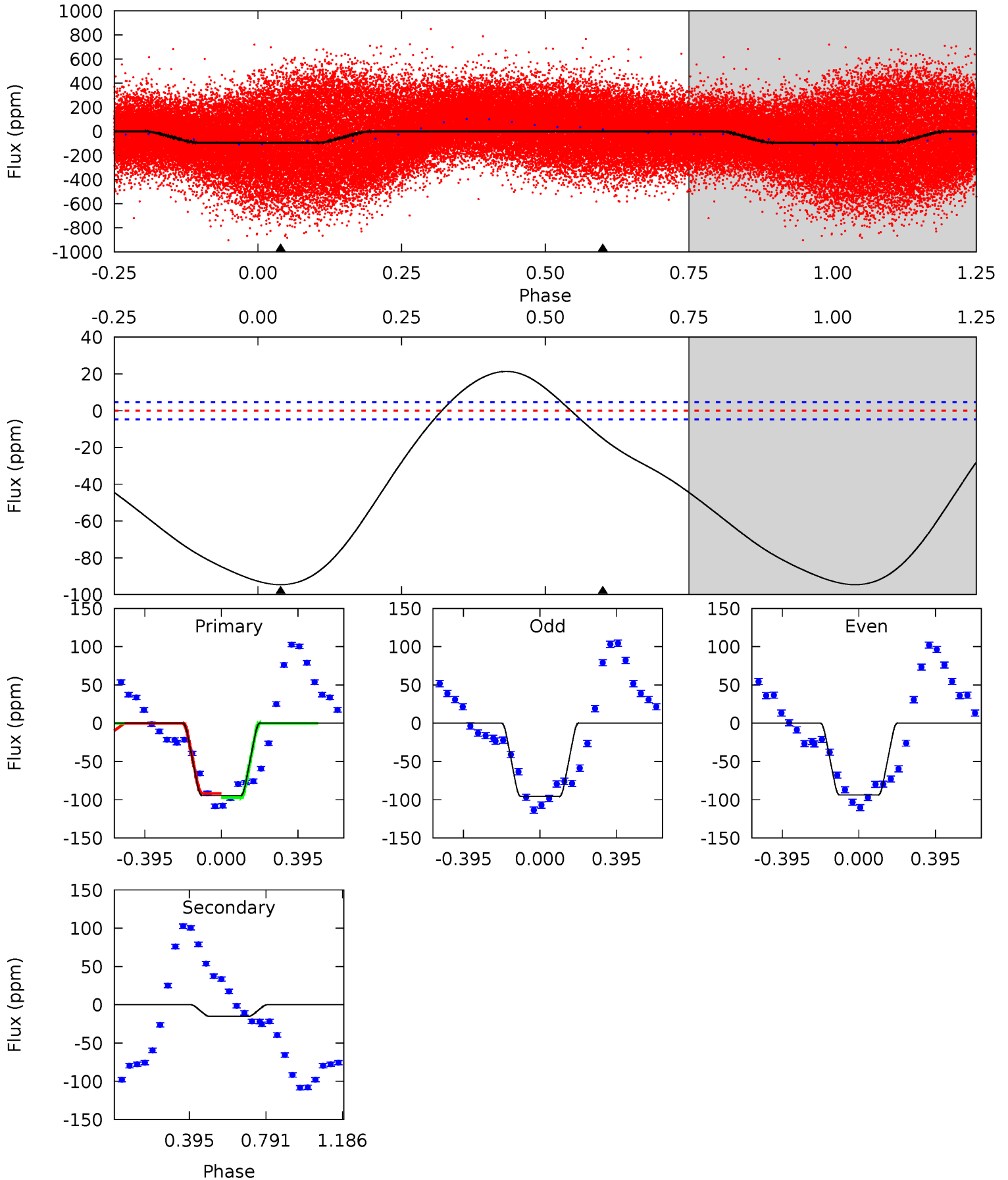
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.55	-1.08	0	0	4.22	0.68	0.22	2.55	2.55	-1.08	-1.08	0.94	0.41	0.54	2.56



Alt Model-Shift Uniqueness Test

008707354-01, P = 0.822692 Days, E = 131.364164 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
86.3	13.7	0	0	4.27	0.85	9.03	86.3	86.3	13.7	13.7	0.88	0.74	0.18	2.36



Stellar Parameters For KIC 008707354

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6457^{+179}_{-224}	$4.099^{+0.220}_{-0.180}$	$0.060^{+0.250}_{-0.300}$	$1.718^{+0.508}_{-0.457}$	$1.354^{+0.197}_{-0.241}$	$0.376^{+0.495}_{-0.185}$
	+3%/-3%	+5%/-4%	+417%/-500%	+30%/-27%	+15%/-18%	+132%/-49%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008707354-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	1 ± 1	$0.86^{+0.94}_{-0.58}$	3764^{+296}_{-291}	-3841^{+352}_{-1133}	$-0.138^{+0.136}_{-1.364}$
Alt.	-15 ± 1	$1.74^{+1.07}_{-0.95}$	3758^{+301}_{-298}	4053^{+1938}_{-1127}	$0.994^{+3.917}_{-0.609}$

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 $A_{obs} \gg 1.0$

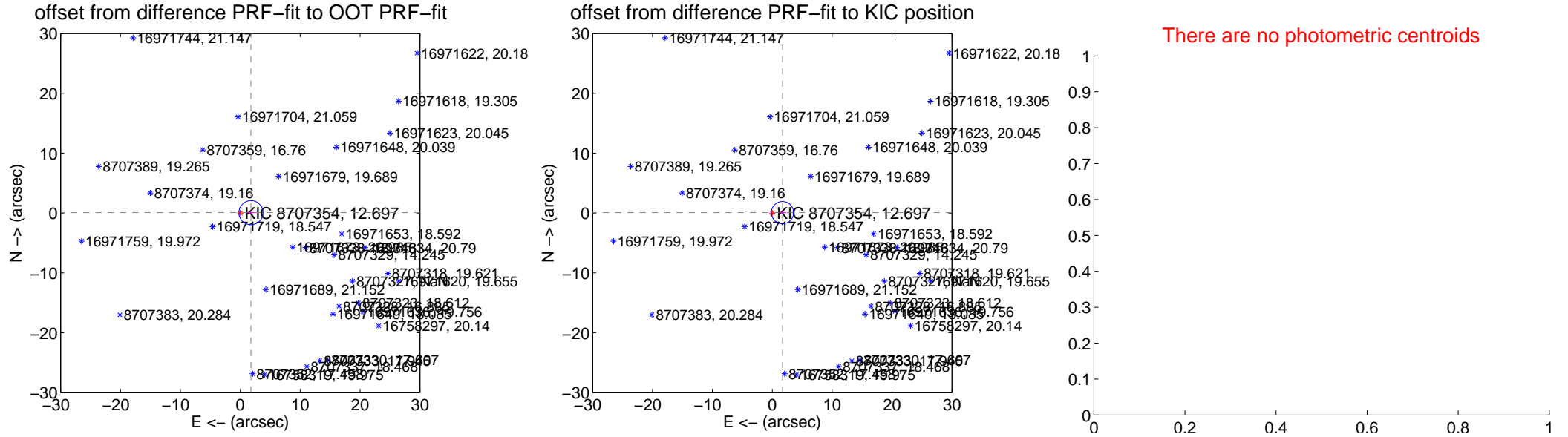
DV Centroid Data

Supplemental centroid analysis for 008707354-01. Kepler magnitude: 12.70. Transit SNR 1.18

There are 6 quarters with good PRF difference image offsets

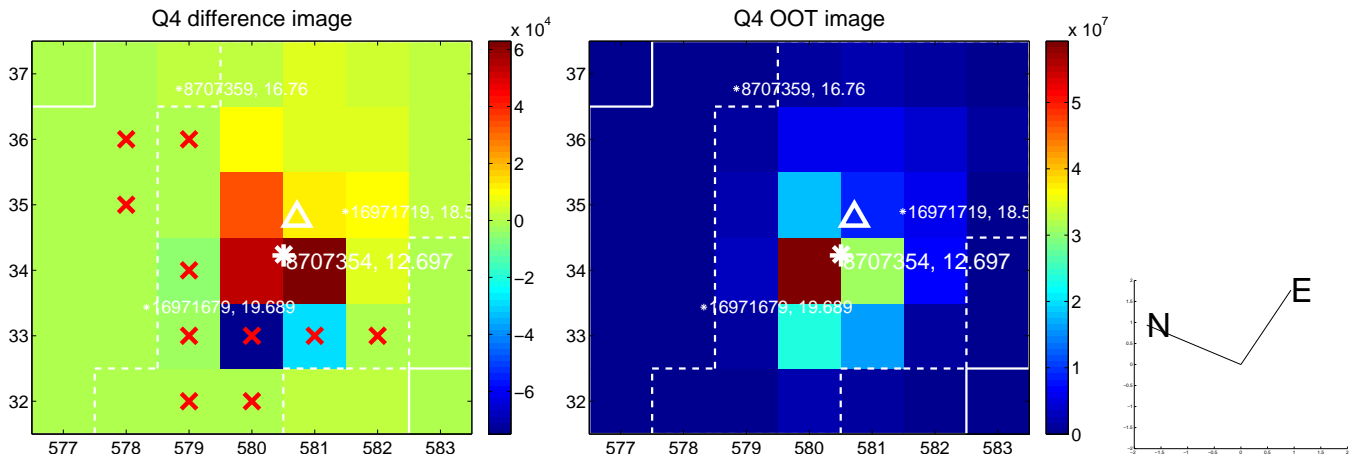
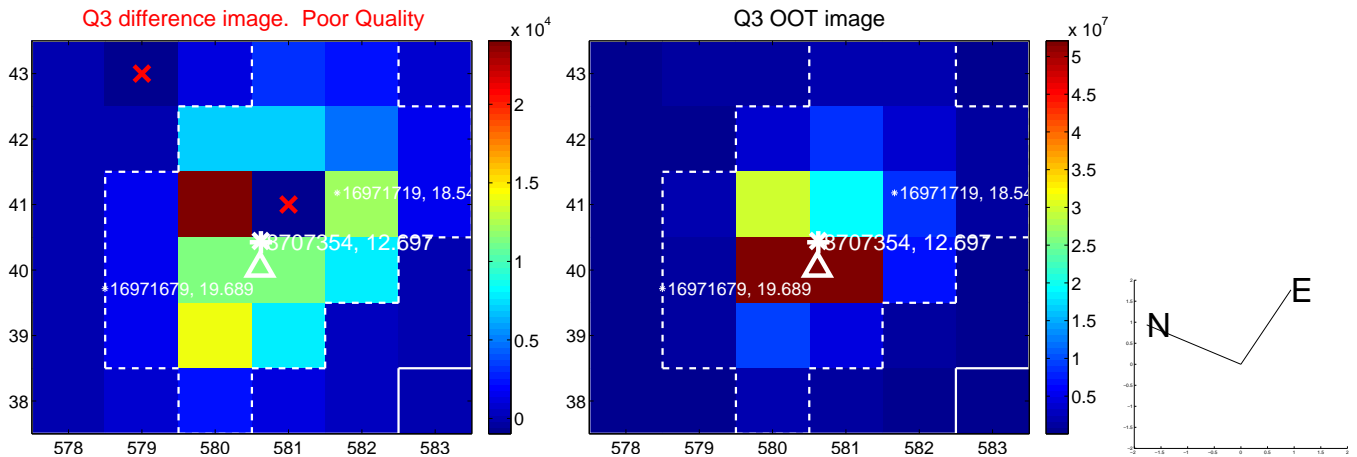
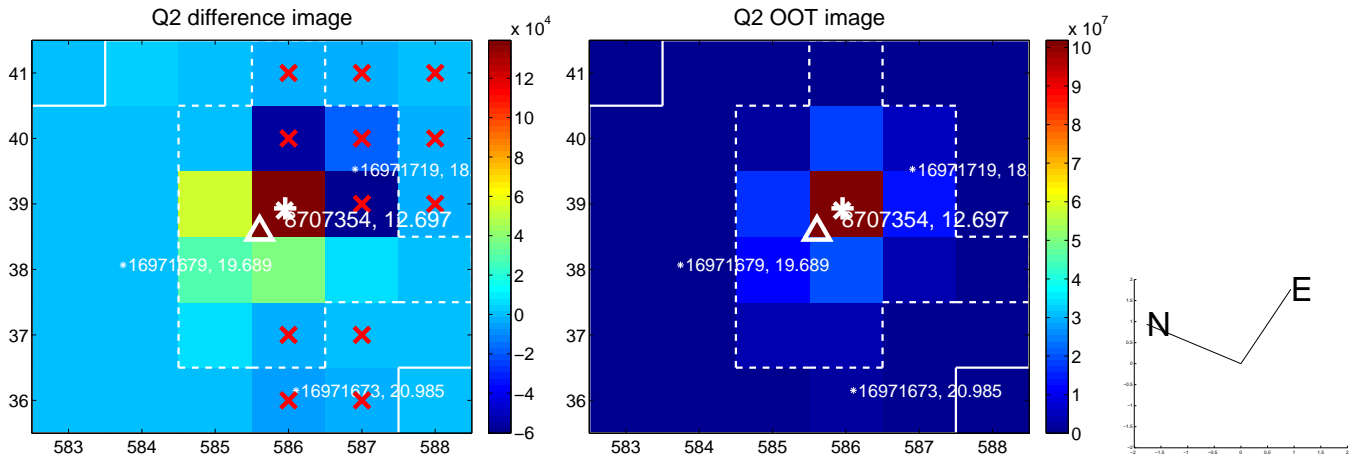
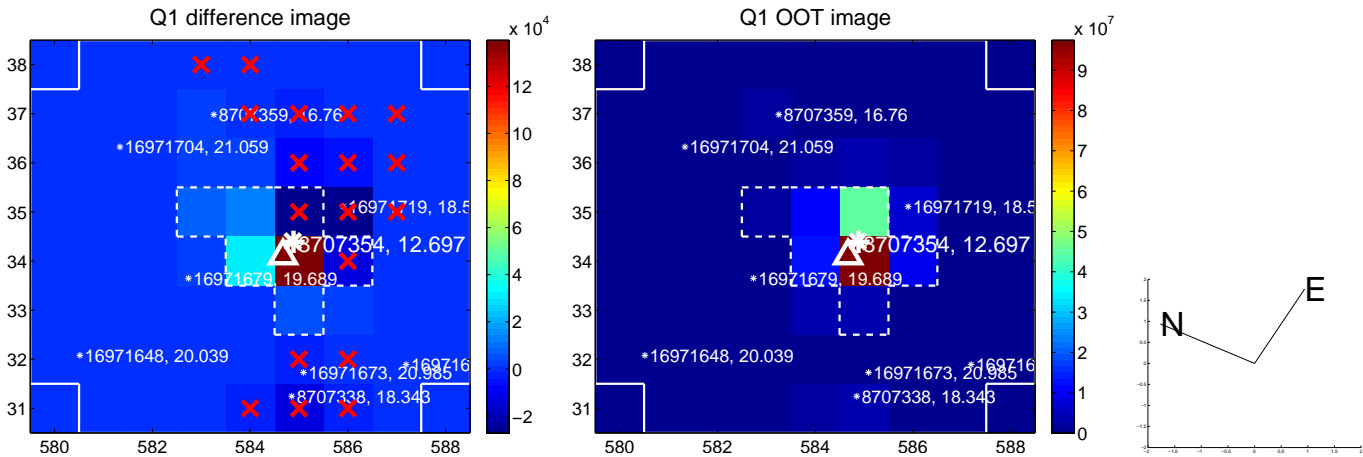
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.789 ± 0.672	2.66	-1.788 ± 0.675	0.057 ± 0.192
PRF-fit source offset from KIC position	1.711 ± 0.619	2.76	-1.709 ± 0.624	0.069 ± 0.186
photometric centroid source offset	—	—	—	—

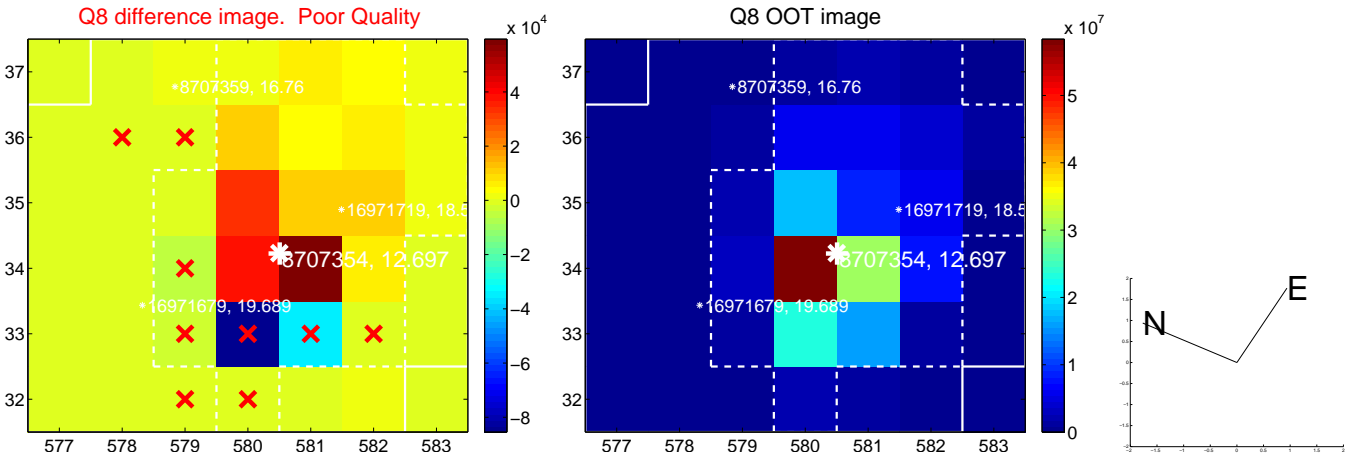
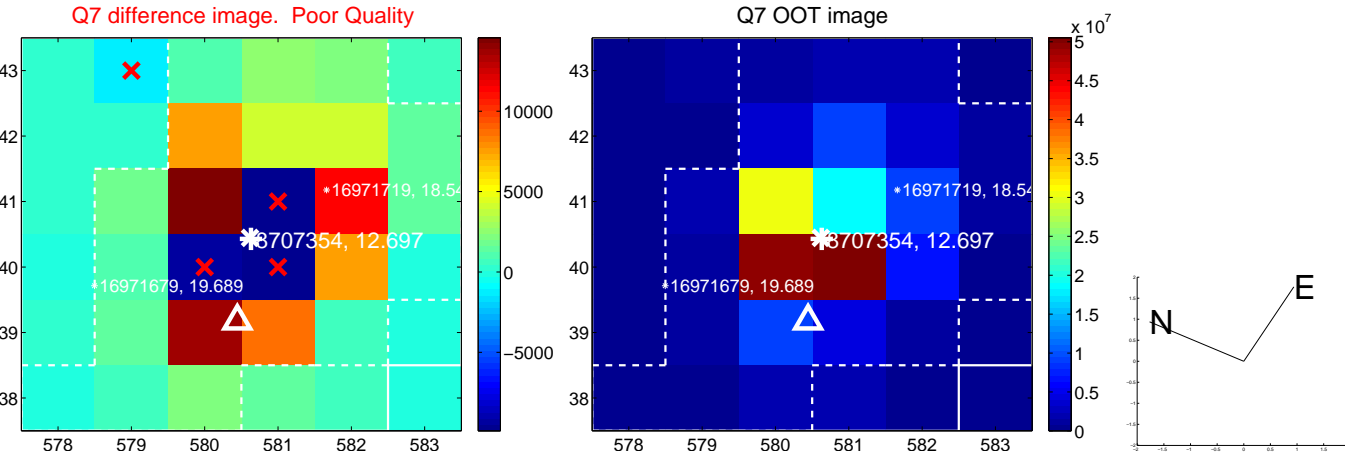
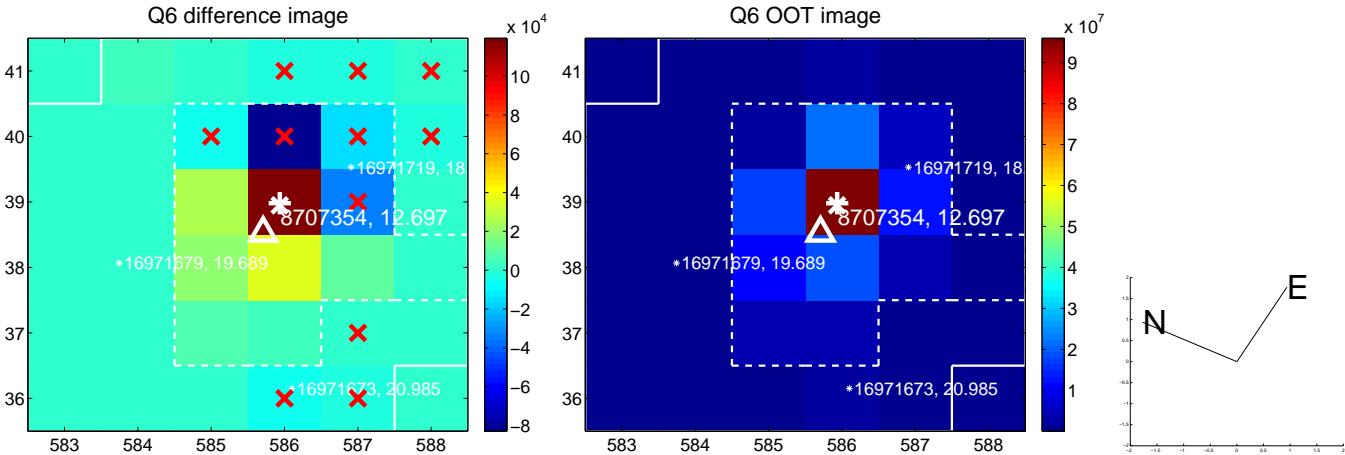
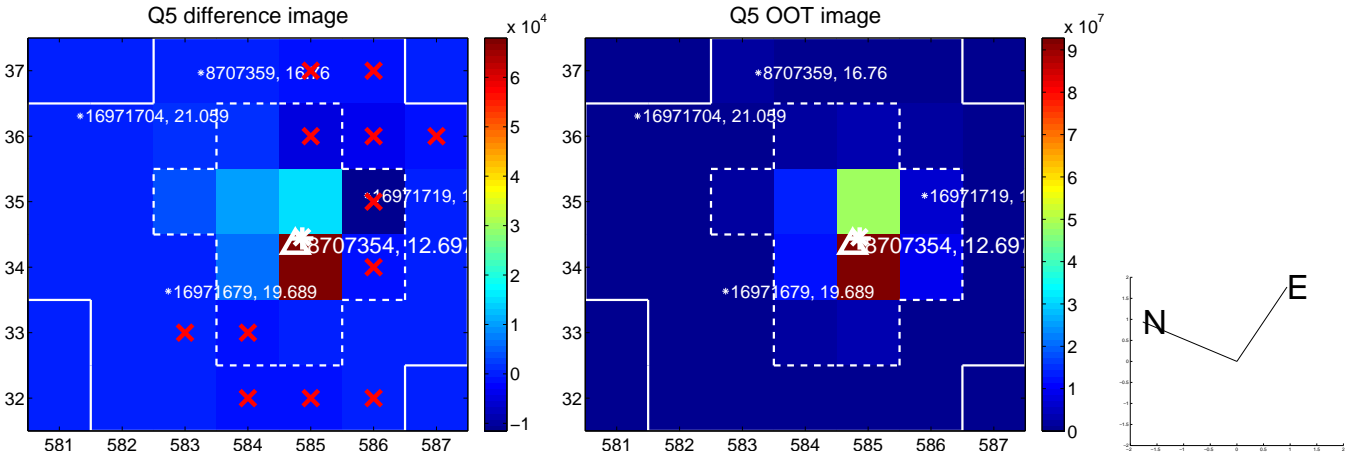


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

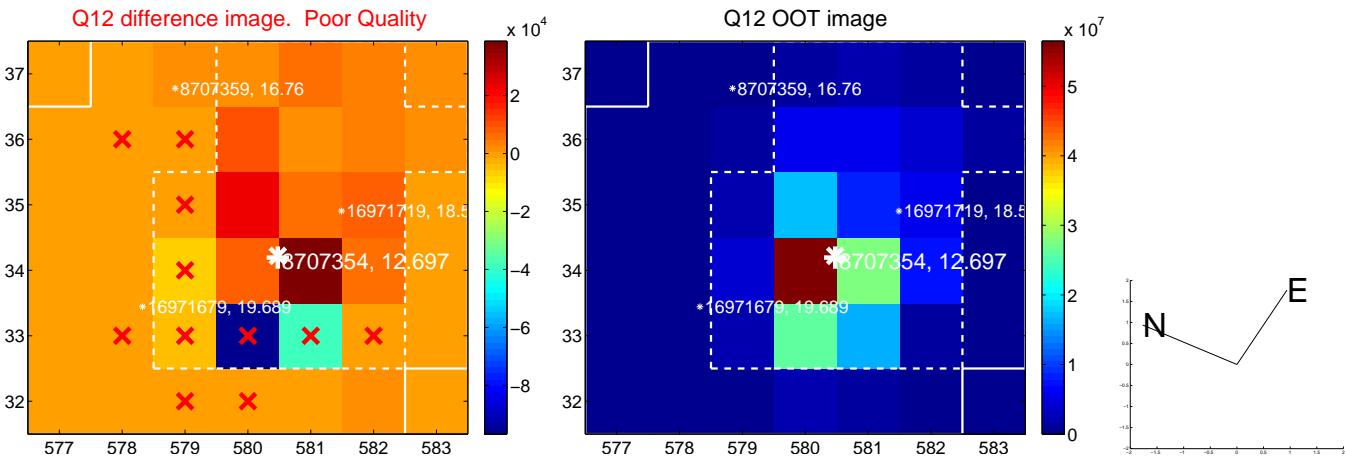
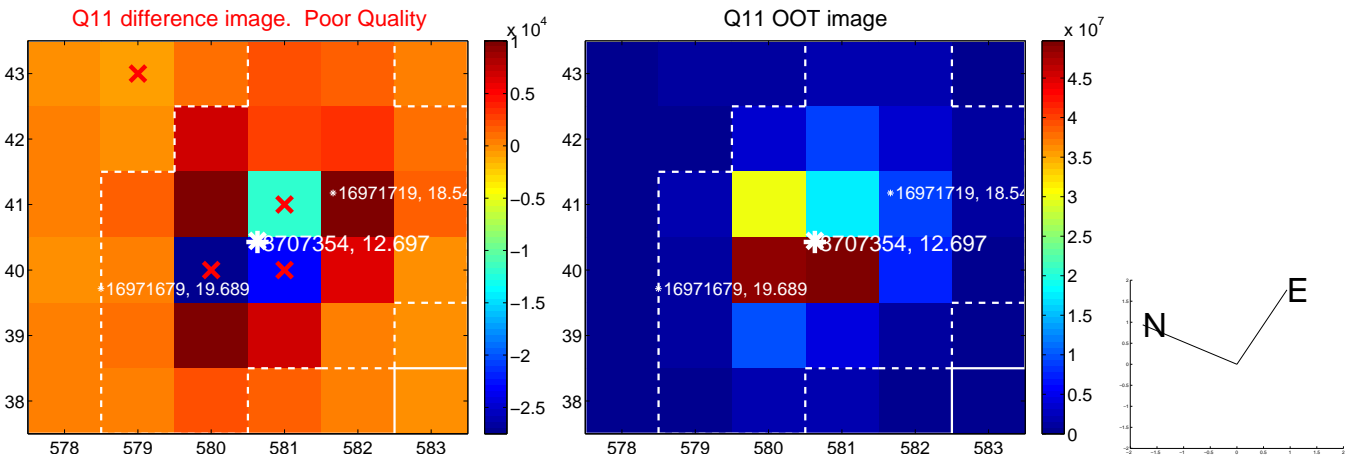
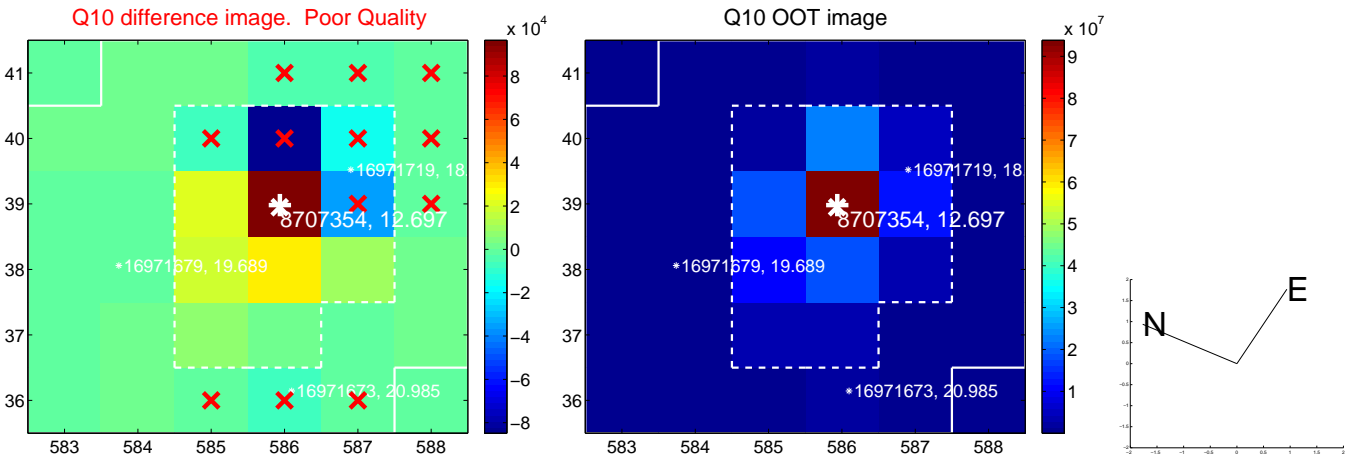
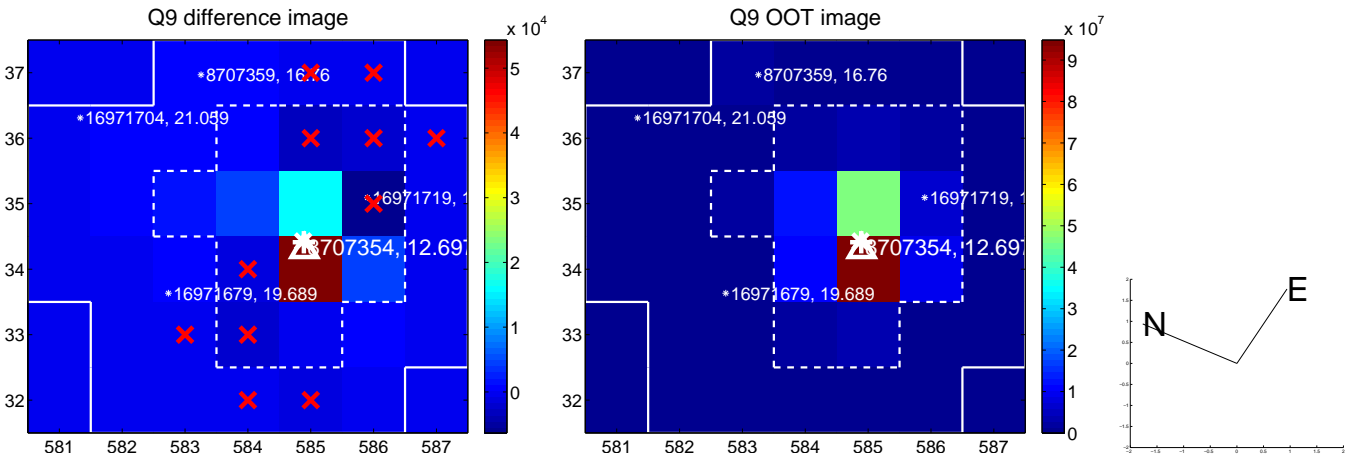
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



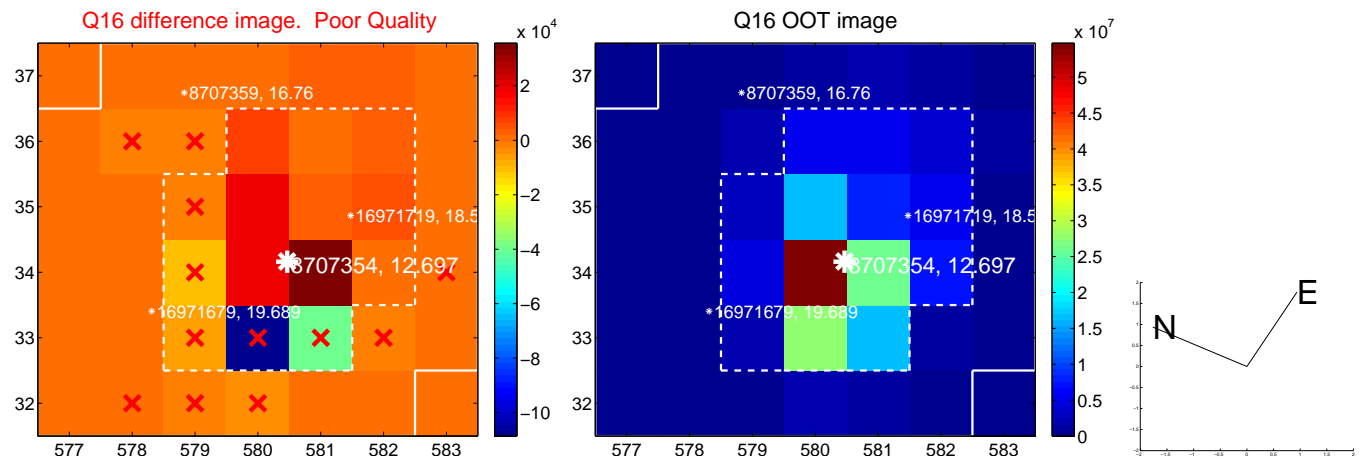
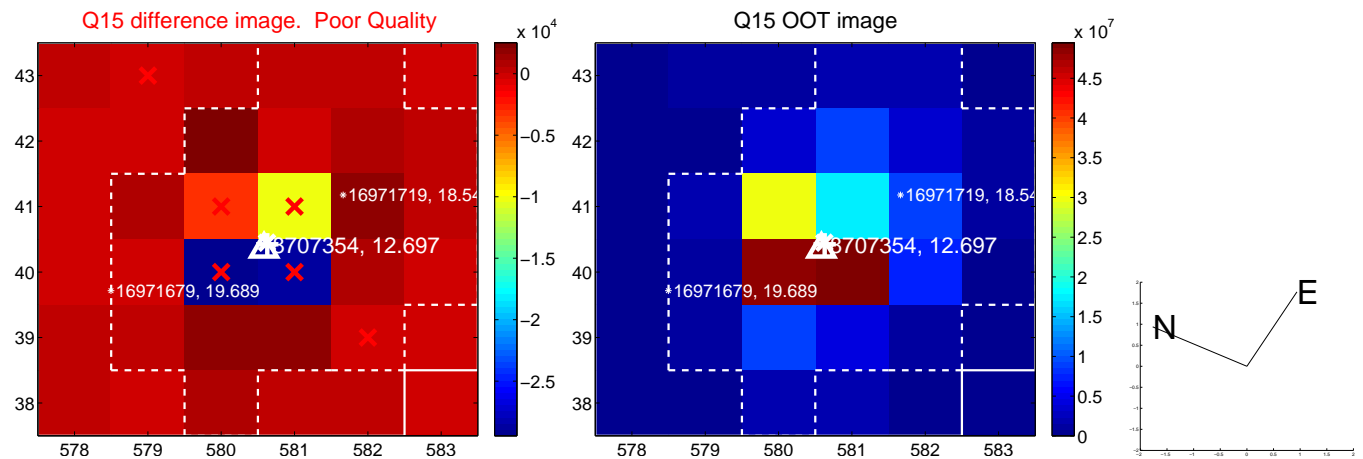
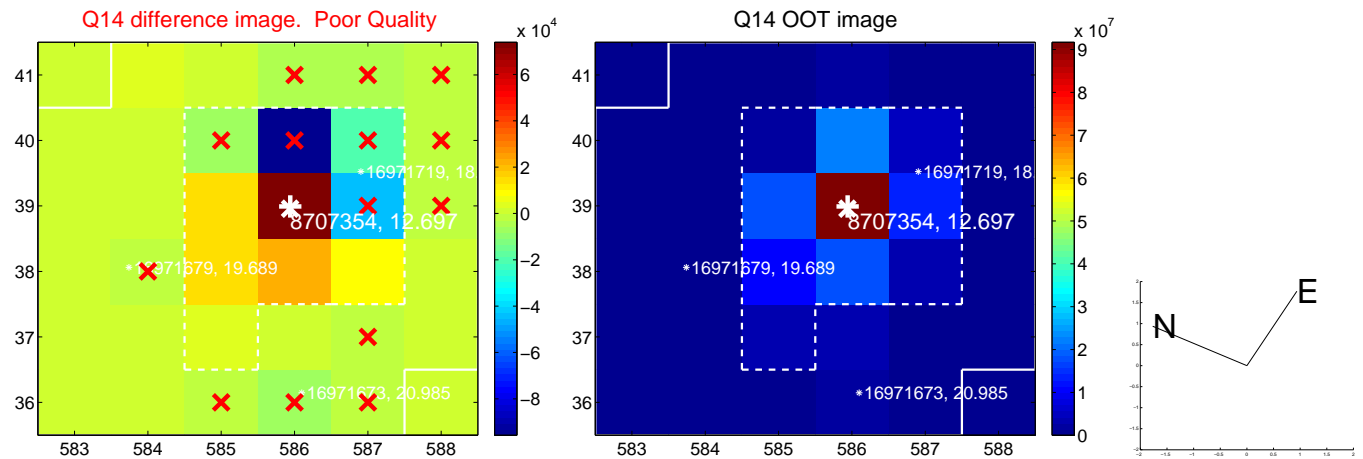
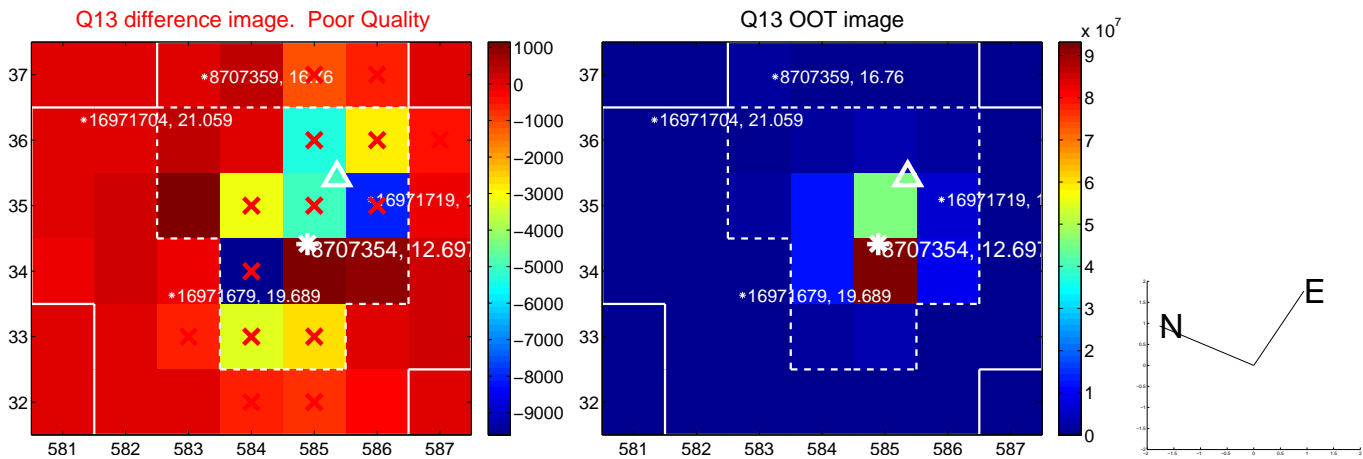
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



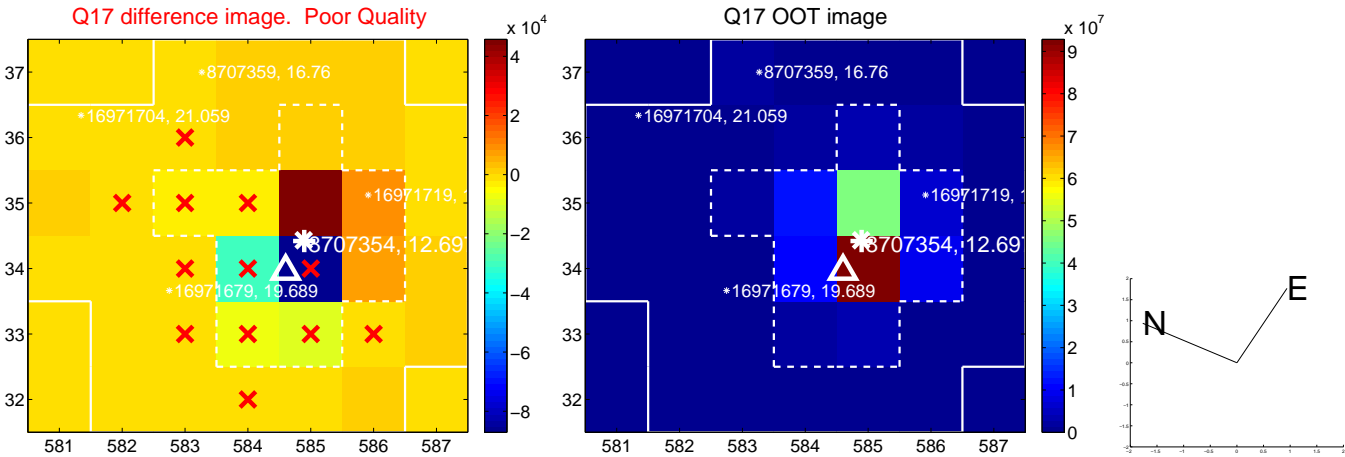
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination

