

KIC 006607644

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})
006607644-01	OBS	4159.01	0.971910	132.168496	73.5	1.611	15.0	16.5	0.89	5196	0.80	1587.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006607644-01	OBS	PC	0.99	0	0	0	0	CENT_KIC_POS

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

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

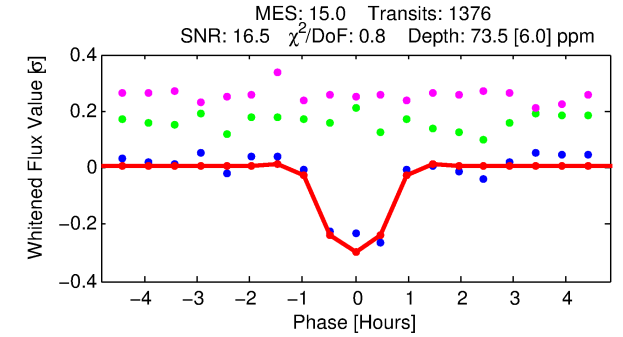
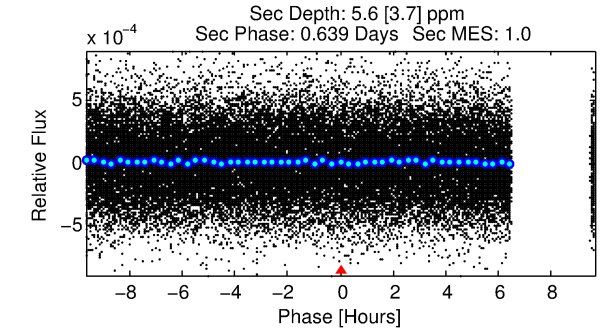
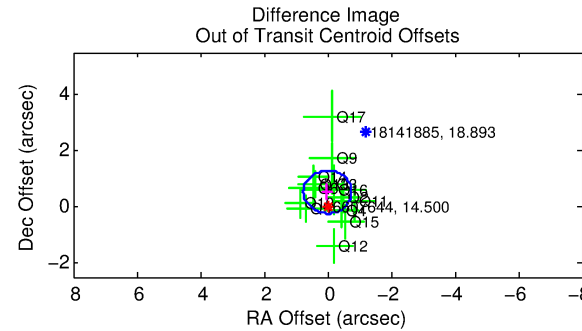
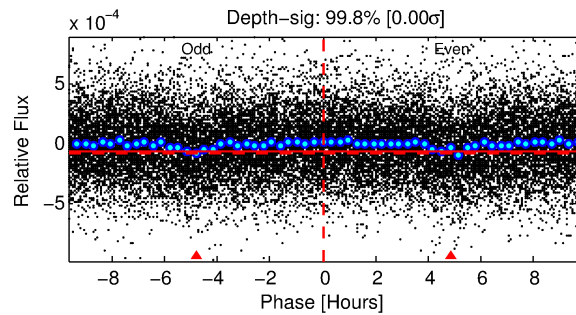
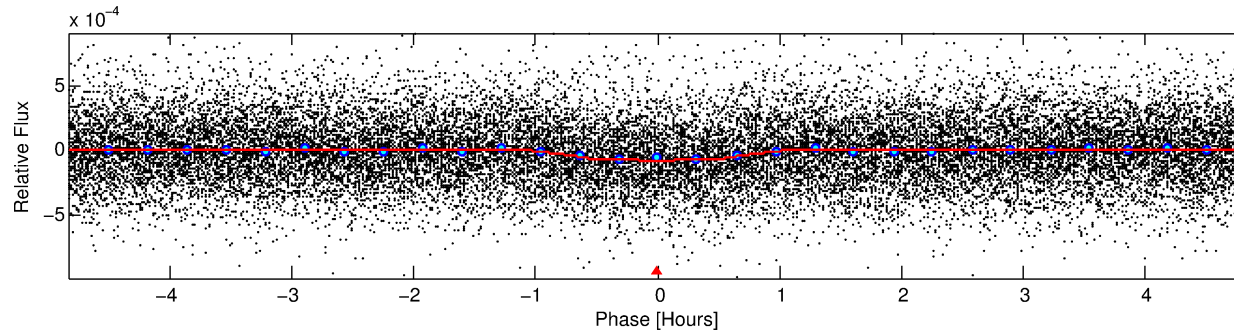
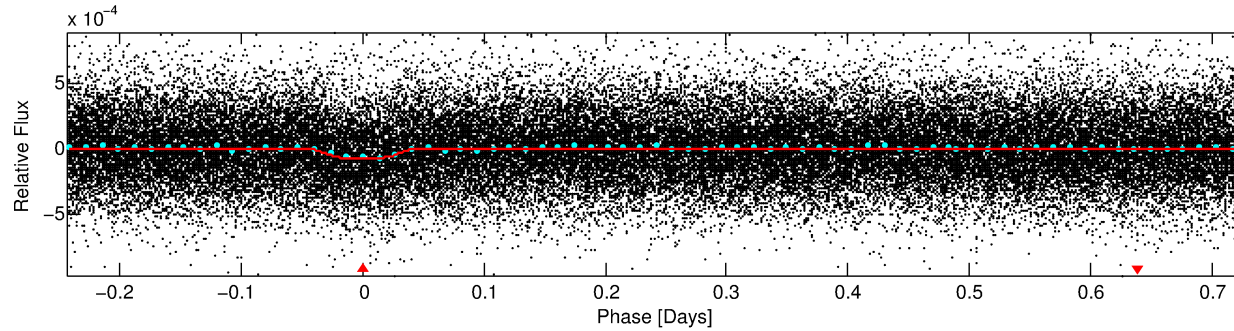
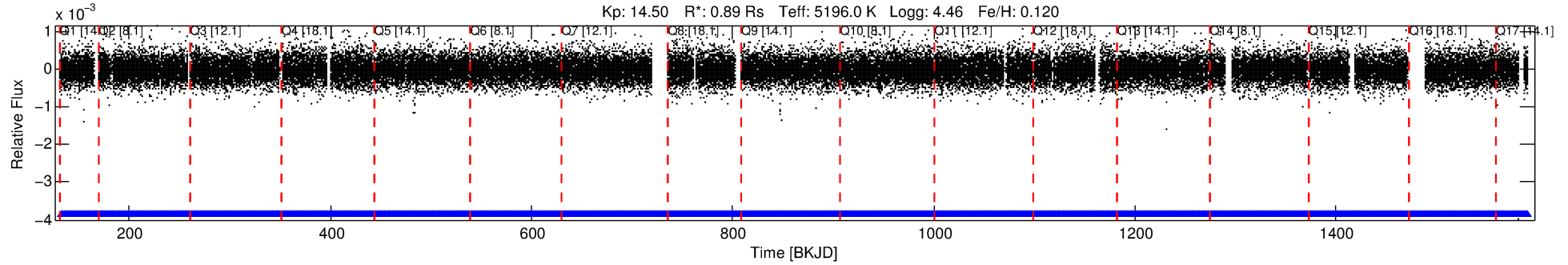
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006607644-01

No Significant Match Found

DV One-Page Summary

KIC: 6607644 Candidate: 1 of 1 Period: 0.972 d
KOI: K04159.01 Corr: 0.967



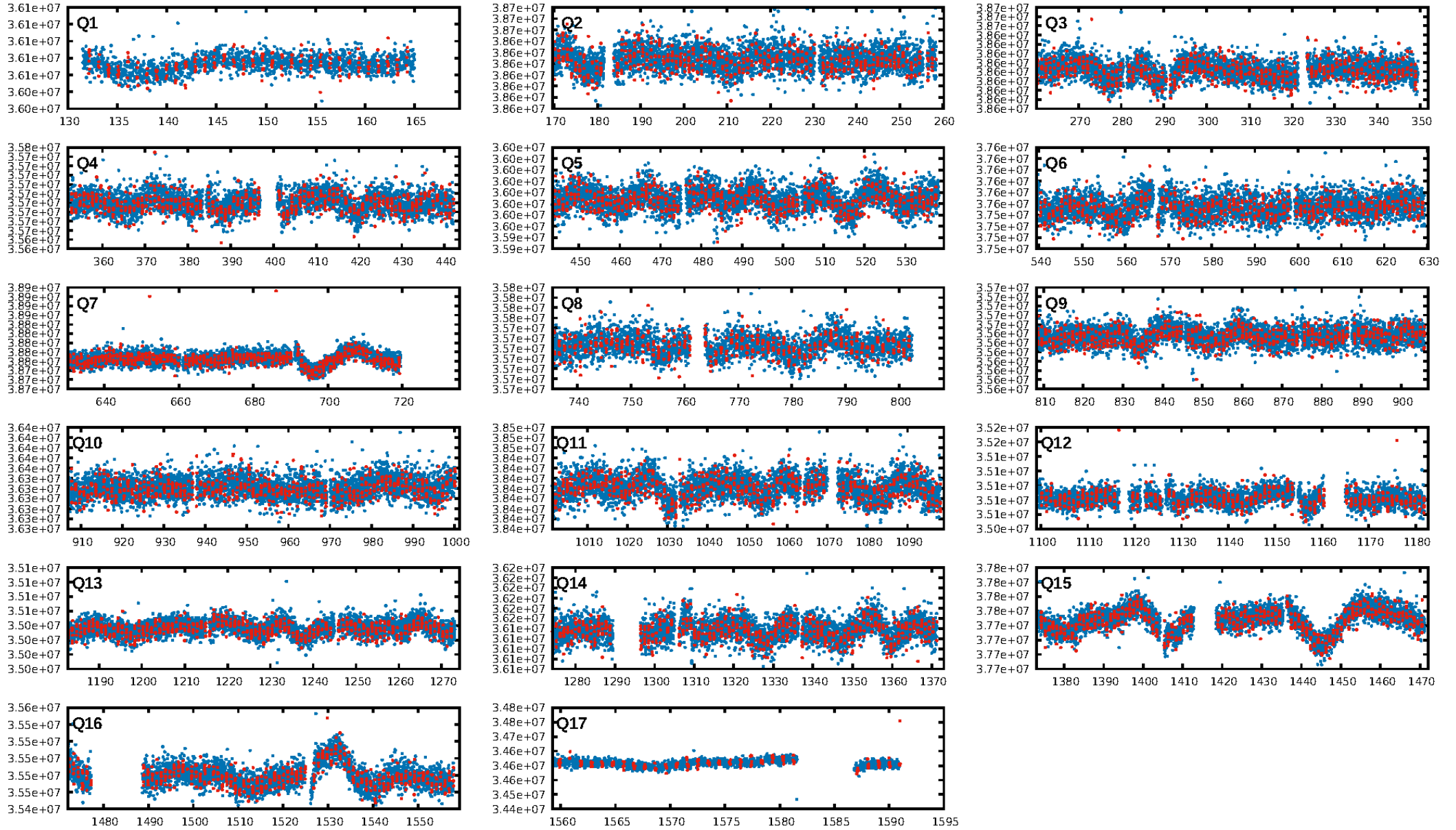
DV Fit Results:

Period = 0.97191 [0.00001] d
Epoch = 132.1685 [0.0015] BKJD
Rp/R* = 0.0082 [0.0031]
a/R* = 3.75 [4.80]
b = 0.62 [1.41]
Seff = 1587.34 [260.07]
Teq = 1610 [66] K
Rp = 0.79 [0.31] Re
a = 0.0180 [0.0016] AU
Ag = 1.59 [1.63] [0.36σ]
Teffp = 2795 [711] K [1.66σ]

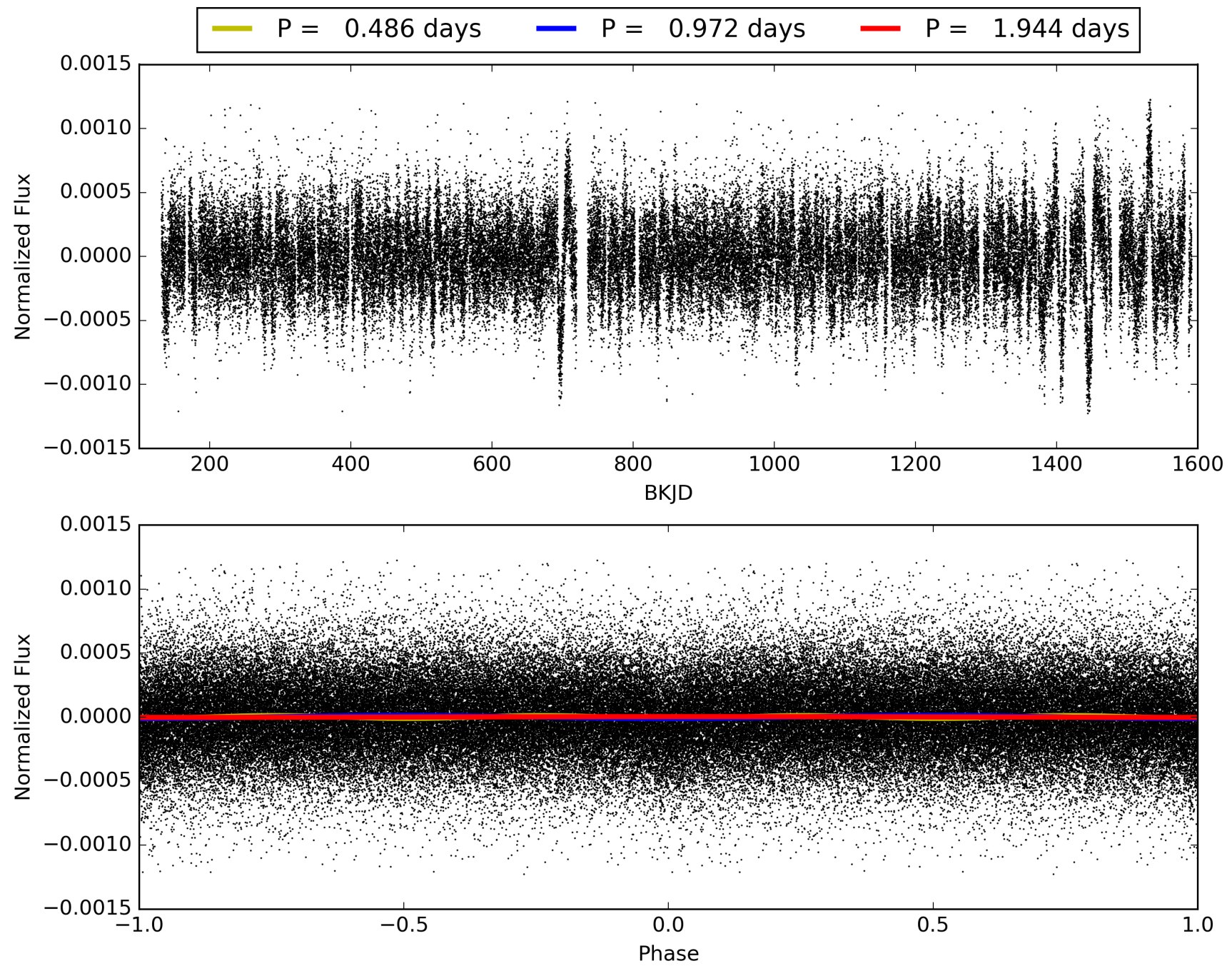
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.98e-50
RollingBand-fgt: 1.00 [1314/1314]
GhostDiagnostic-chr: -80.77
Centroid-sig: 35.0%
Centroid-so: 0.950 arcsec [1.29σ]
OotOffset-rm: 0.525 arcsec [2.06σ]
OotOffset-st: 4/3/3/4 [14]
KicOffset-rm: 0.931 arcsec [3.41σ]
KicOffset-st: 4/3/3/4 [14]
DiffImageQuality-fgm: 0.93 [13/14]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 006607644-01, PDC Light Curves

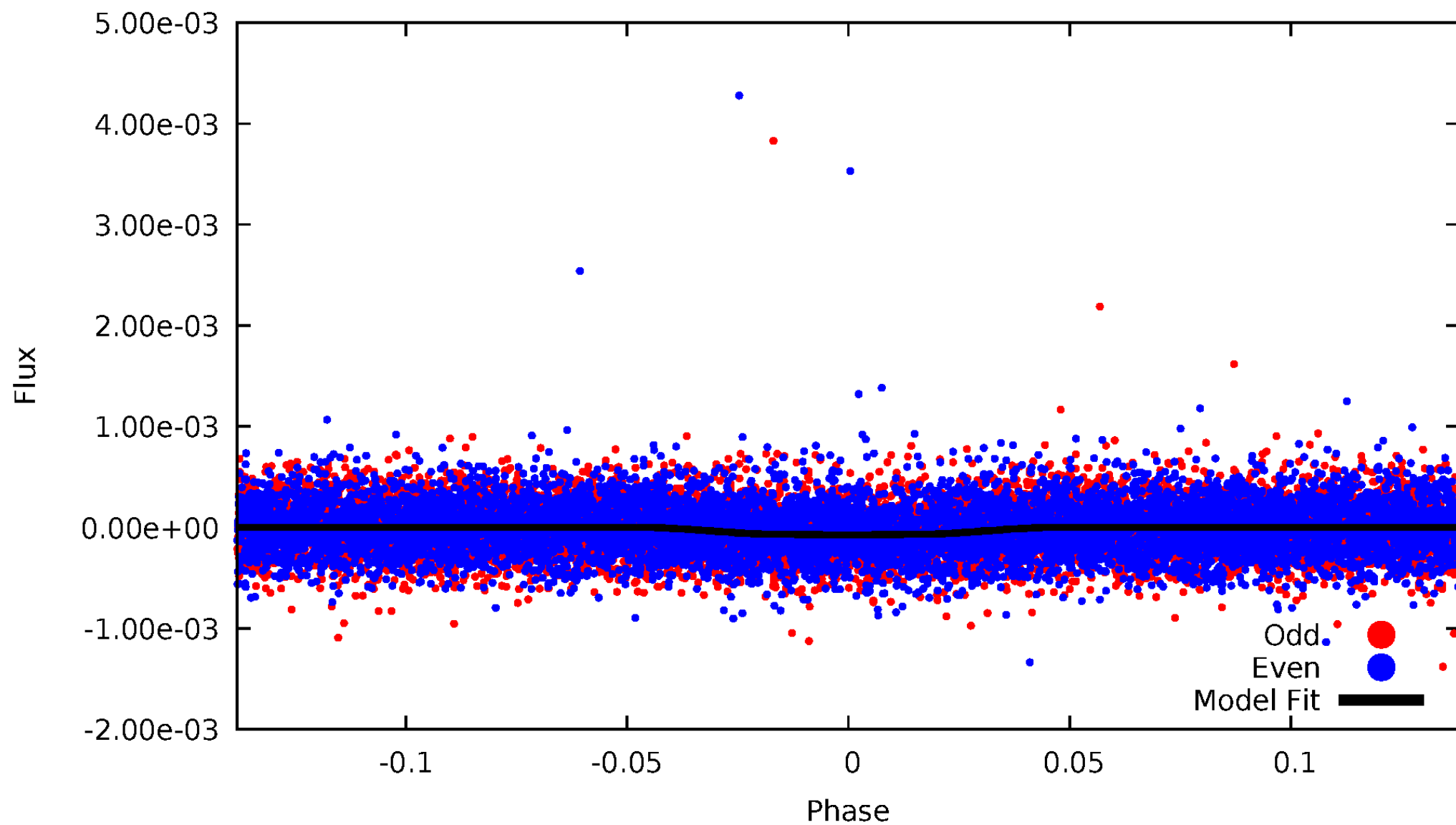


TCE 006607644-01



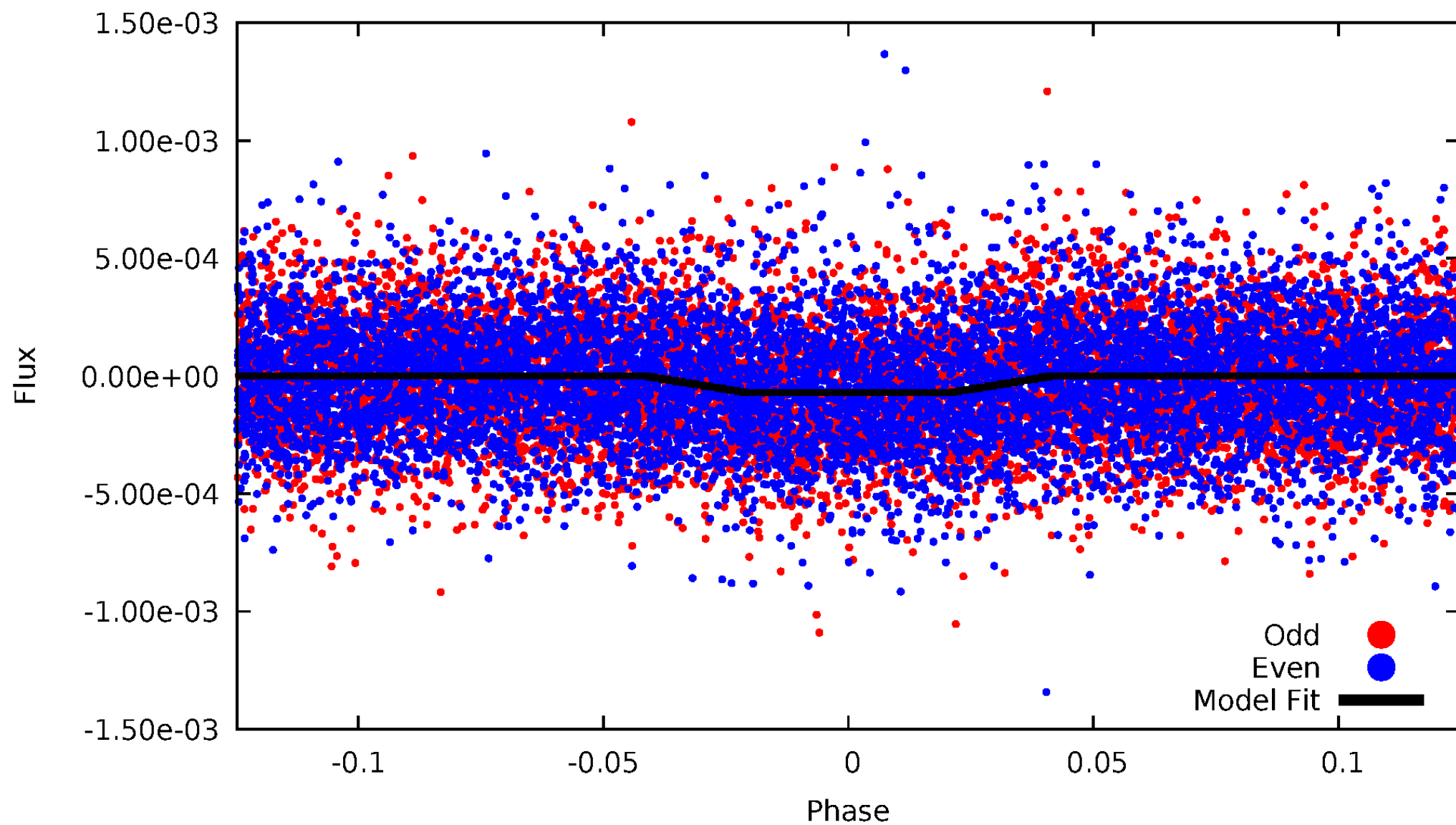
DV Odd/Even

TCE 006607644-01

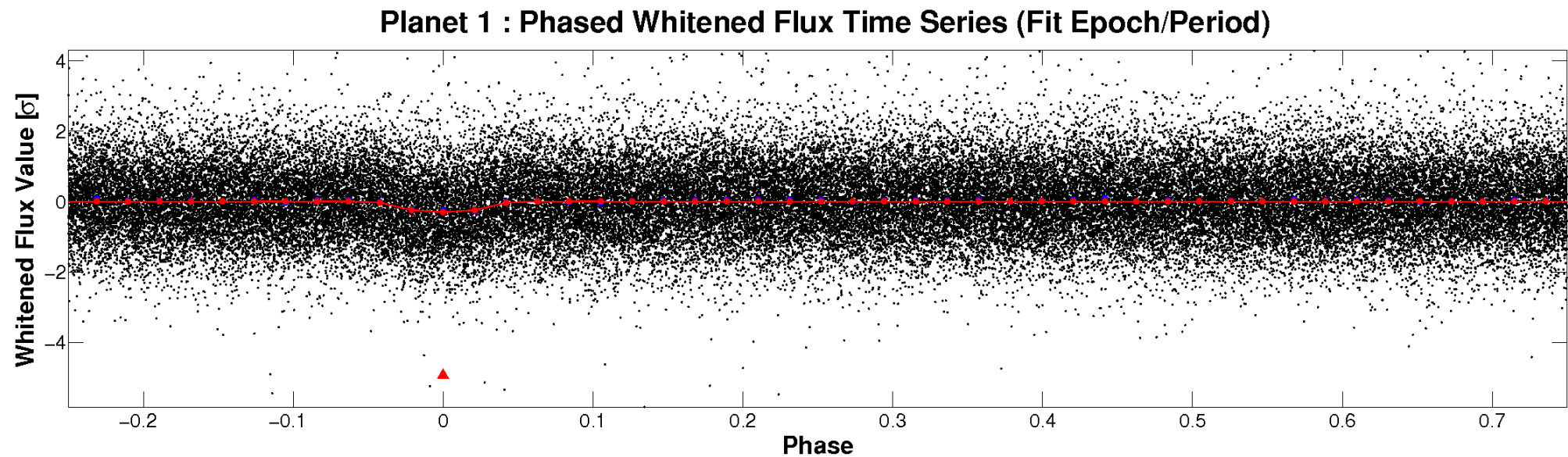
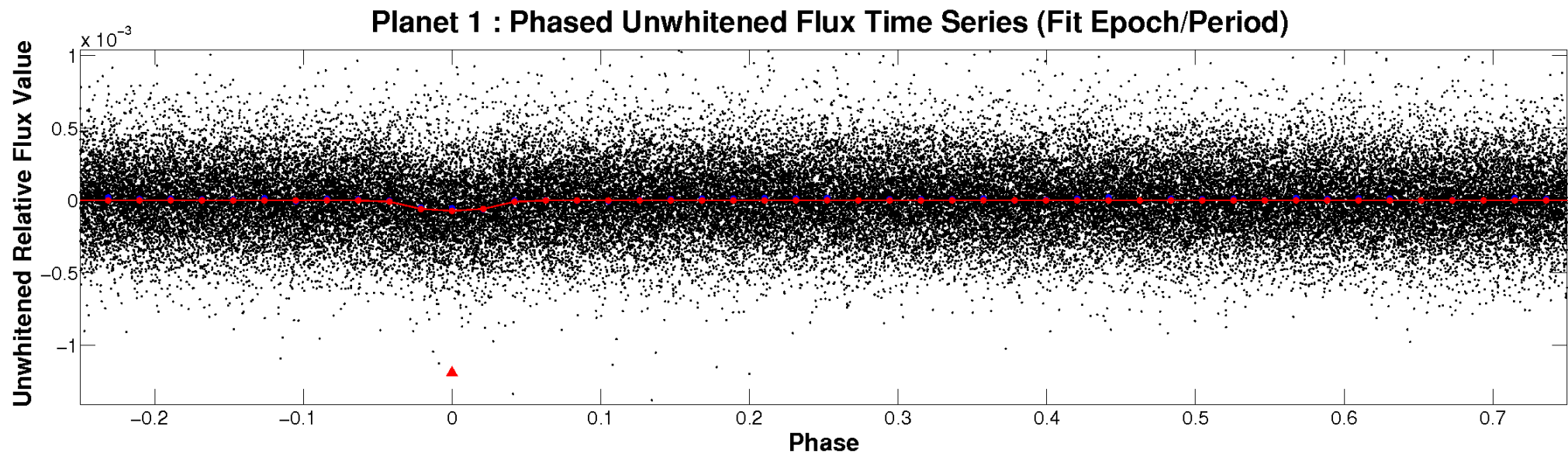


ALT Odd/Even

TCE 006607644-01

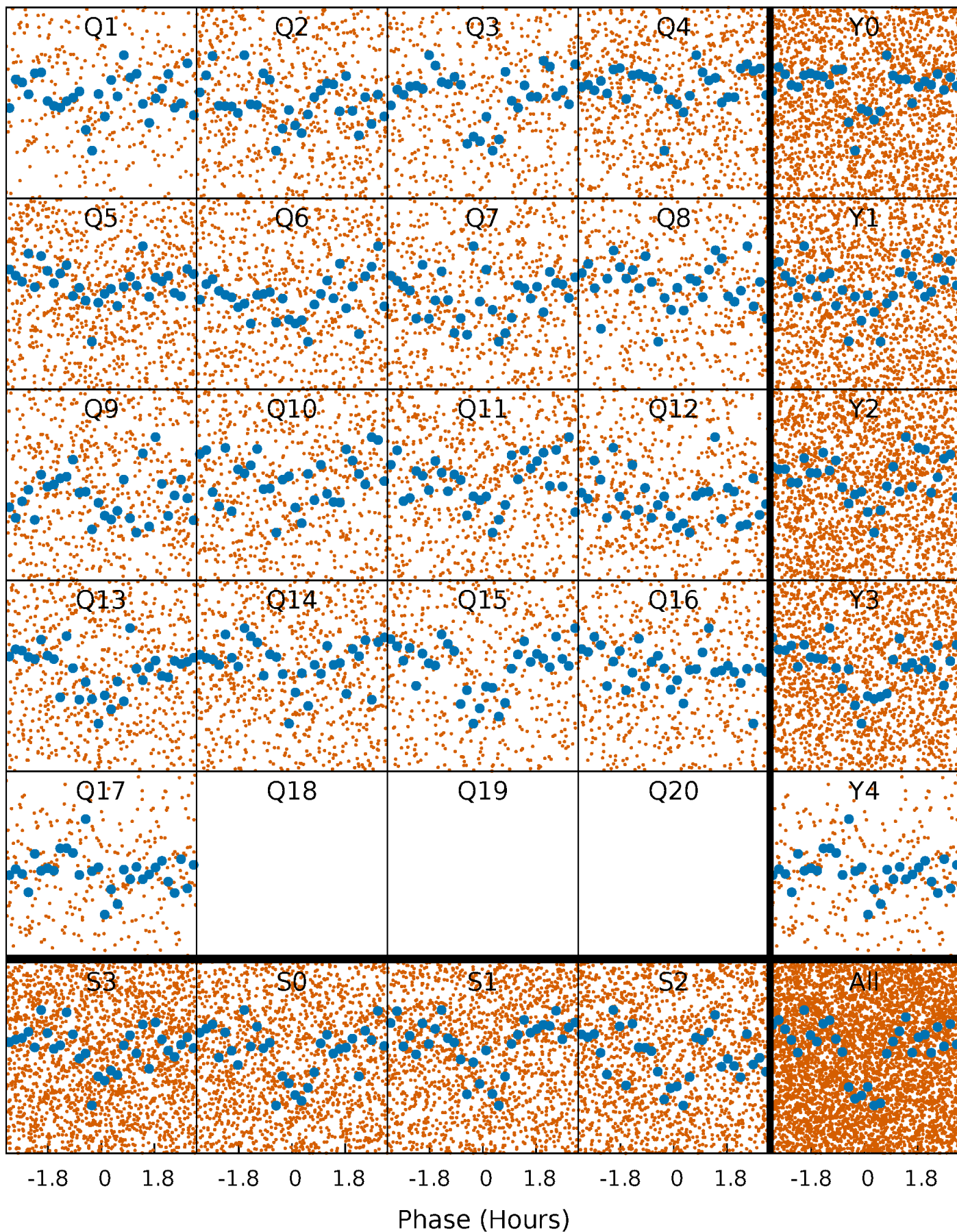


Non-Whitened Vs. Whitened Light Curve



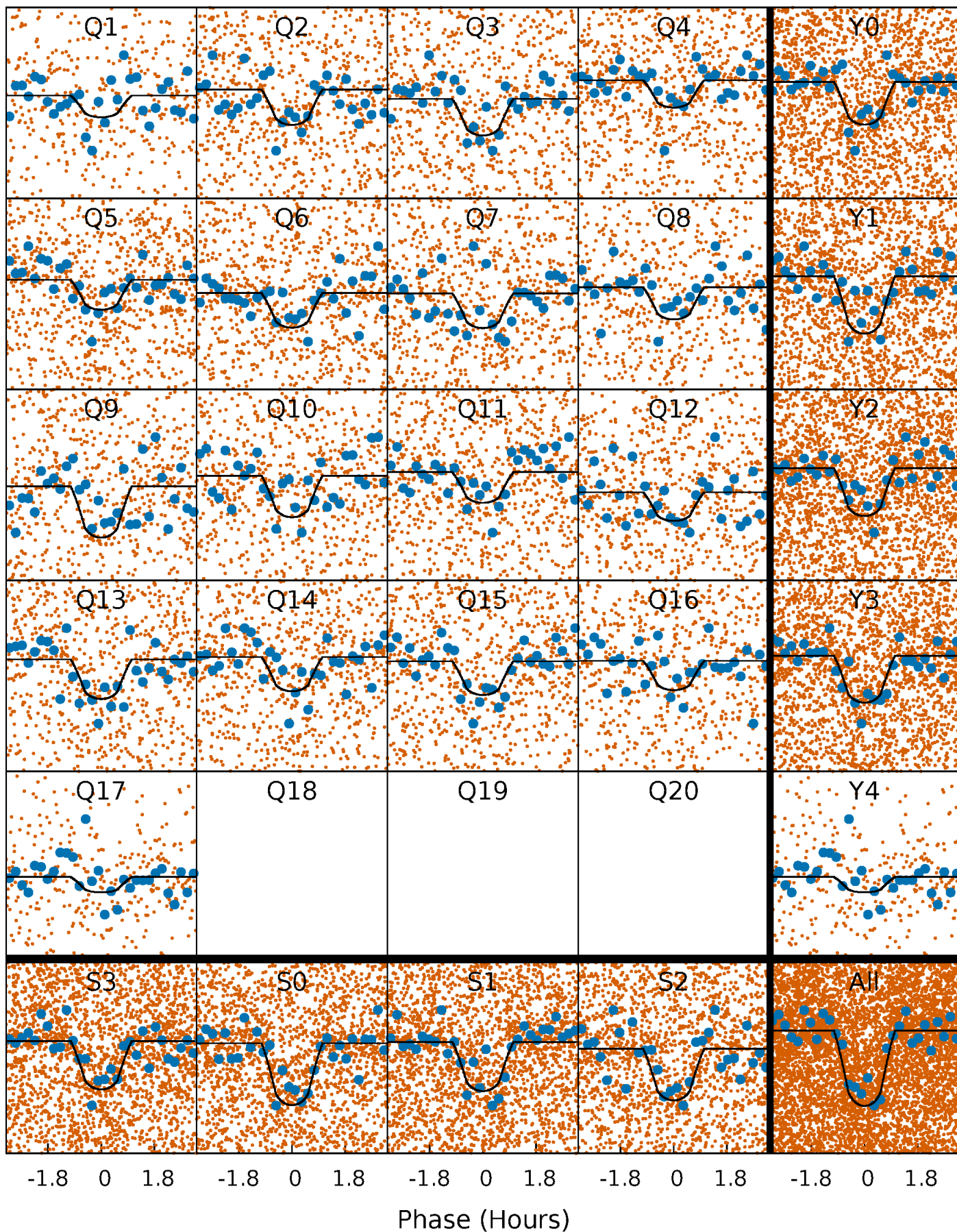
PDC Quarter-Phased Transit Curves

TCE 006607644-01 P= 0.971910 Days $T_0=132.168496$ (BKJD)



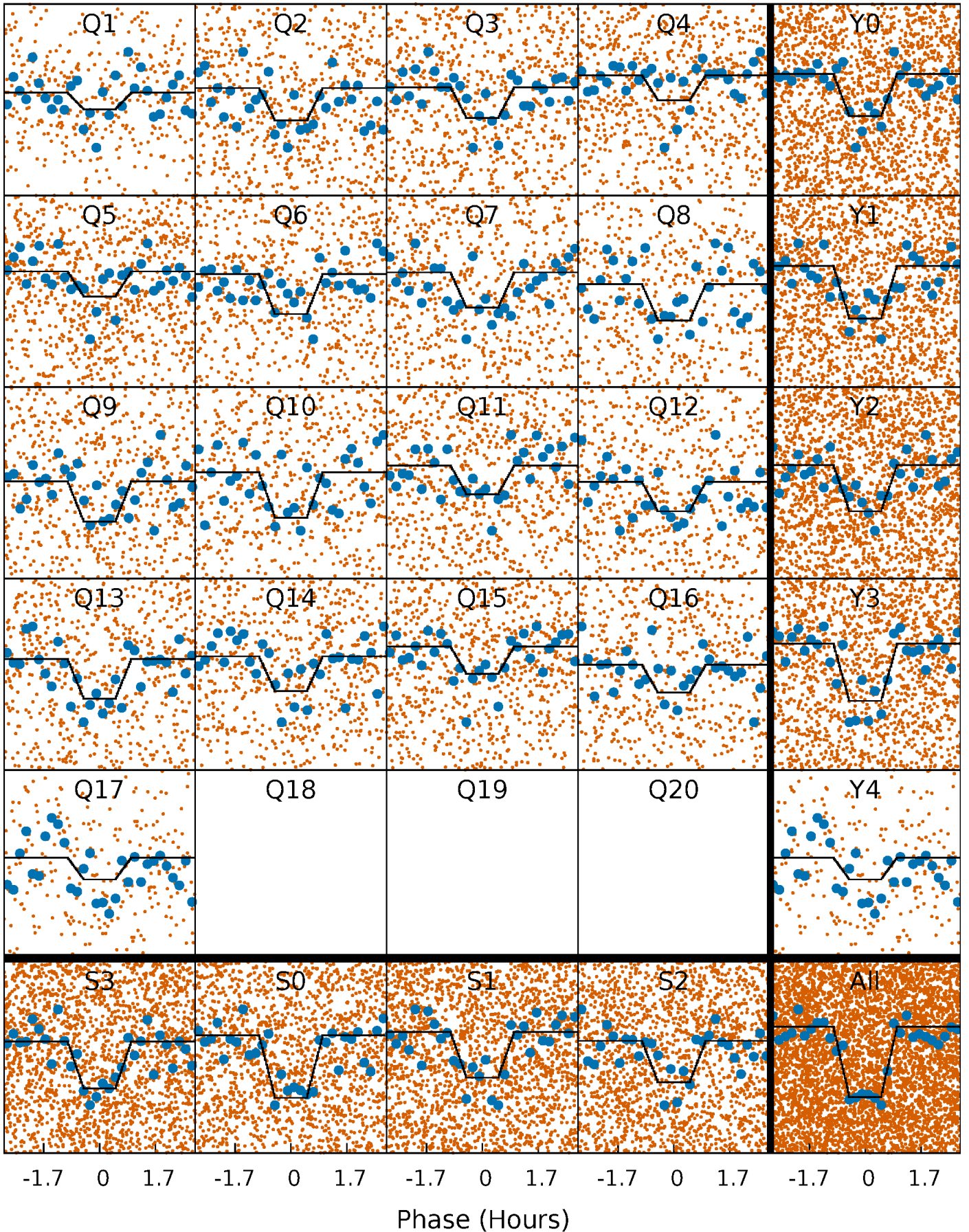
DV Quarter-Phased Transit Curves

TCE 006607644-01 P= 0.971910 Days $T_0=132.168496$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

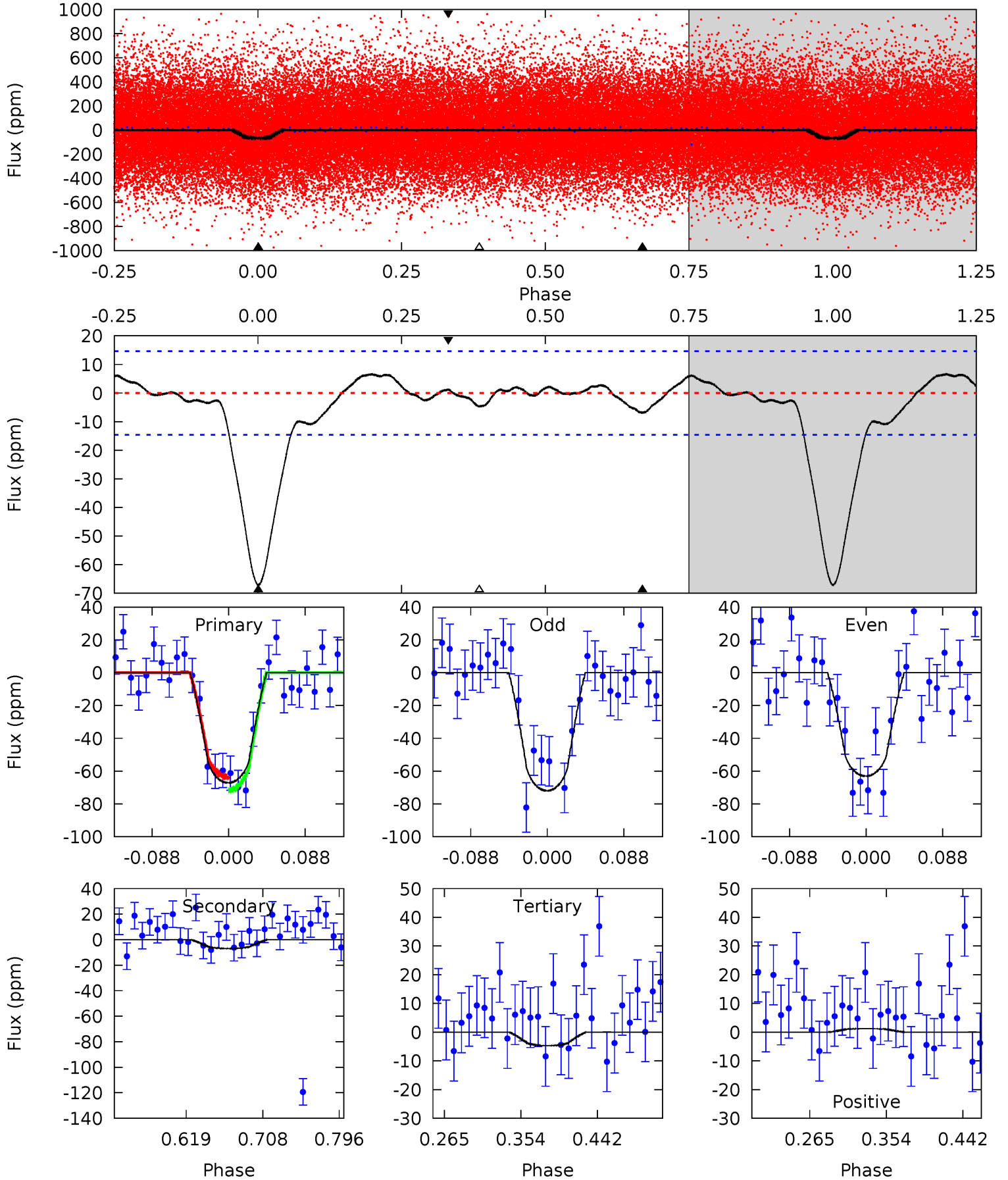
TCE 006607644-01 P= 0.971919 Days $T_0=132.162206$ (BKJD)



DV Model-Shift Uniqueness Test

006607644-01, P = 0.971910 Days, E = 131.196586 Days

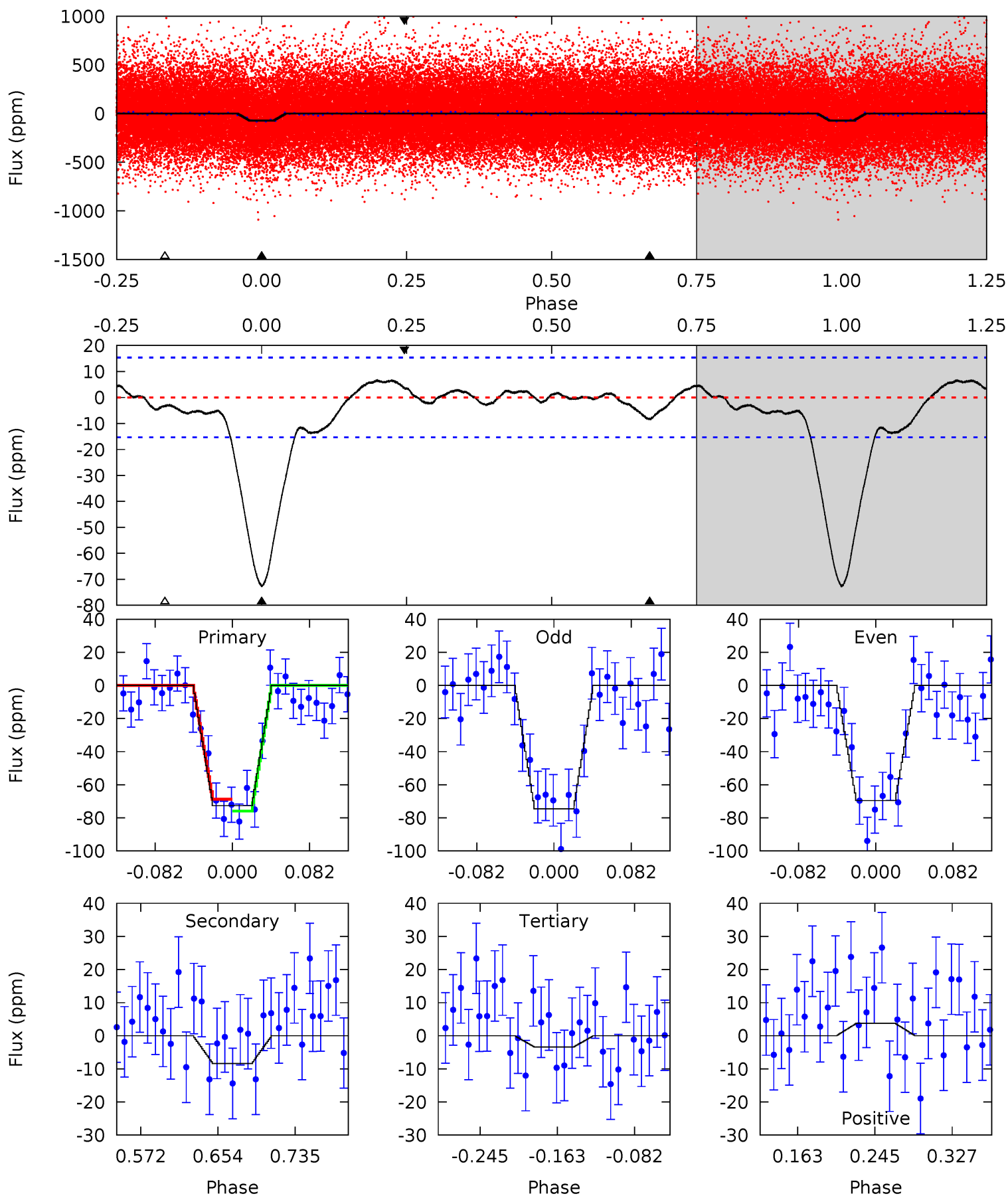
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.1	2.18	1.47	0.39	4.59	1.70	1.08	19.6	20.7	0.71	1.80	1.40	0.98	0.09	1.27



Alt Model-Shift Uniqueness Test

006607644-01, P = 0.971919 Days, E = 131.190287 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.8	2.52	1.03	1.12	4.61	1.74	1.31	20.8	20.7	1.49	1.40	0.75	0.97	0.08	1.07



Stellar Parameters For KIC 006607644

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5196^{+83}_{-72}	$4.458^{+0.091}_{-0.039}$	$0.120^{+0.150}_{-0.150}$	$0.889^{+0.051}_{-0.076}$	$0.828^{+0.058}_{-0.032}$	$1.657^{+0.574}_{-0.245}$
	+2%/-1%	+2%/-1%	+125%/-125%	+6%/-9%	+7%/-4%	+35%/-15%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 006607644-01 / KOI 4159.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-7 ± 3	$0.77^{+0.30}_{-0.31}$	2237^{+56}_{-66}	3363^{+703}_{-517}	$2.094^{+3.924}_{-1.231}$
Alt.	-8 ± 3	$0.82^{+0.29}_{-0.31}$	2237^{+60}_{-59}	3387^{+671}_{-431}	$2.215^{+3.825}_{-1.181}$

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

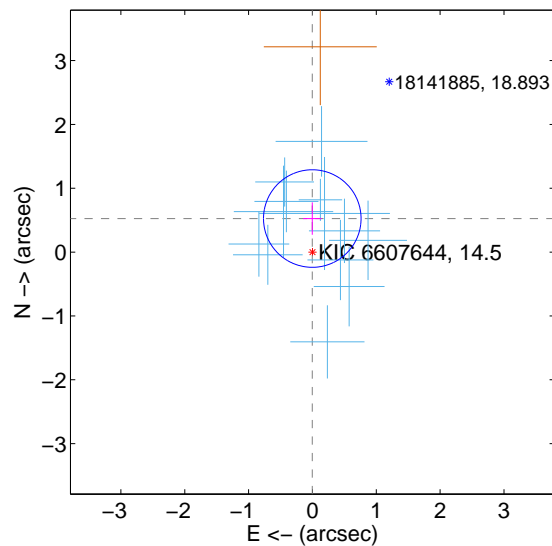
Supplemental centroid analysis for 006607644-01. Kepler magnitude: 14.50. Transit SNR 16.48

There are 13 quarters with good PRF difference image offsets

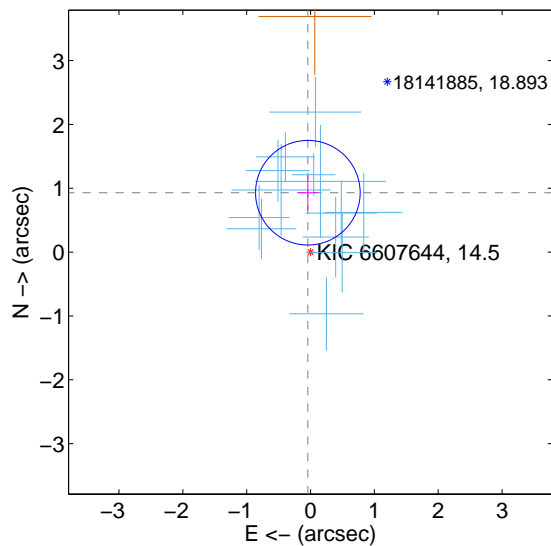
The direct PRF centroid is offset from the target star catalog position by about 0.48 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.525 ± 0.255	2.06	0.002 ± 0.145	0.525 ± 0.255
PRF-fit source offset from KIC position	0.931 ± 0.273	3.41	0.042 ± 0.153	0.930 ± 0.272
photometric centroid source offset	0.95 ± 0.74	1.29	0.40 ± 0.79	0.86 ± 0.72

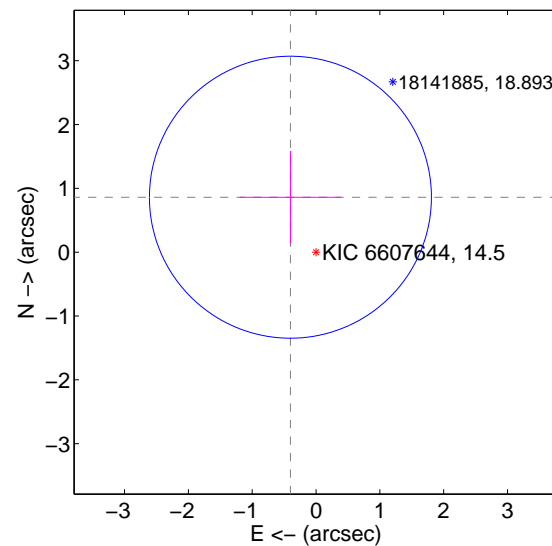
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

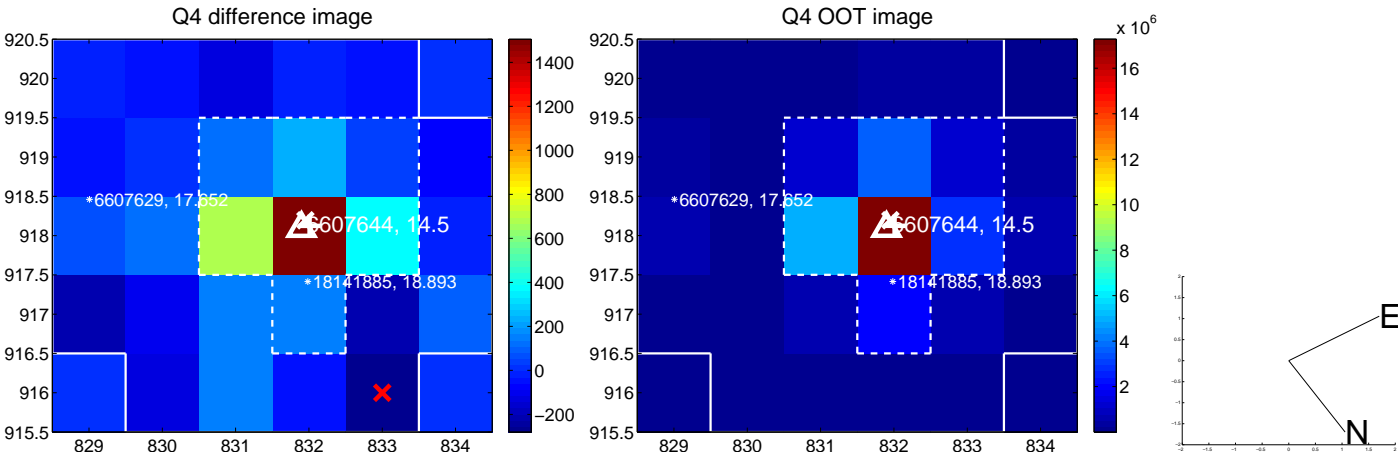
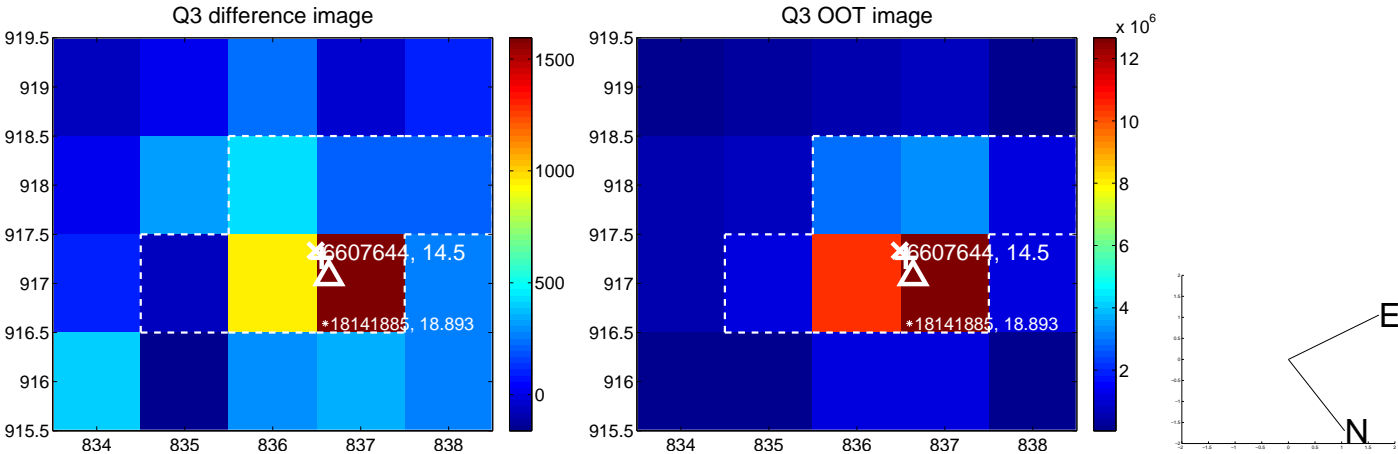
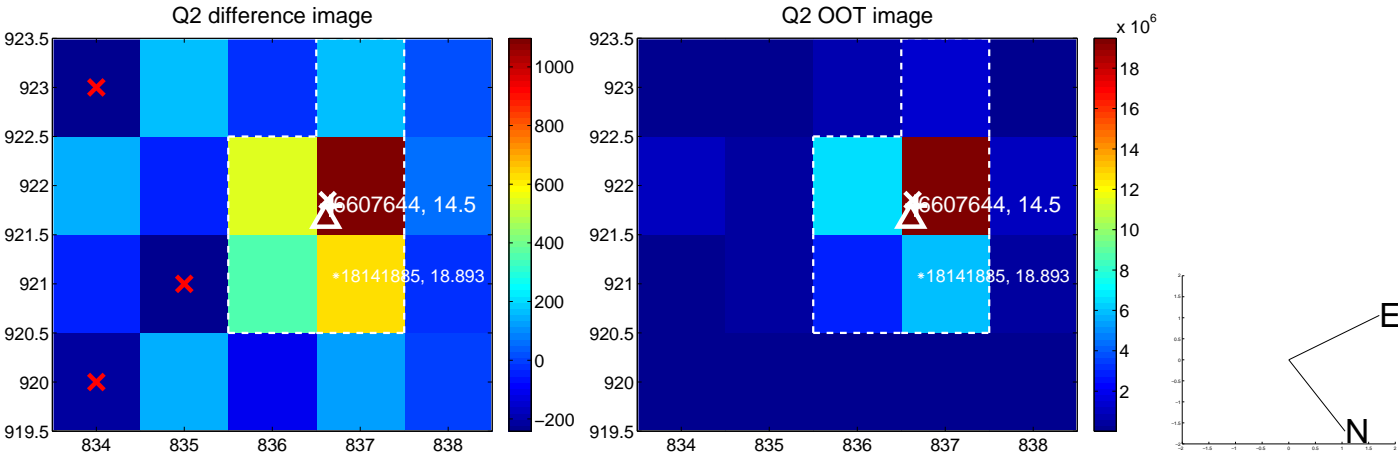
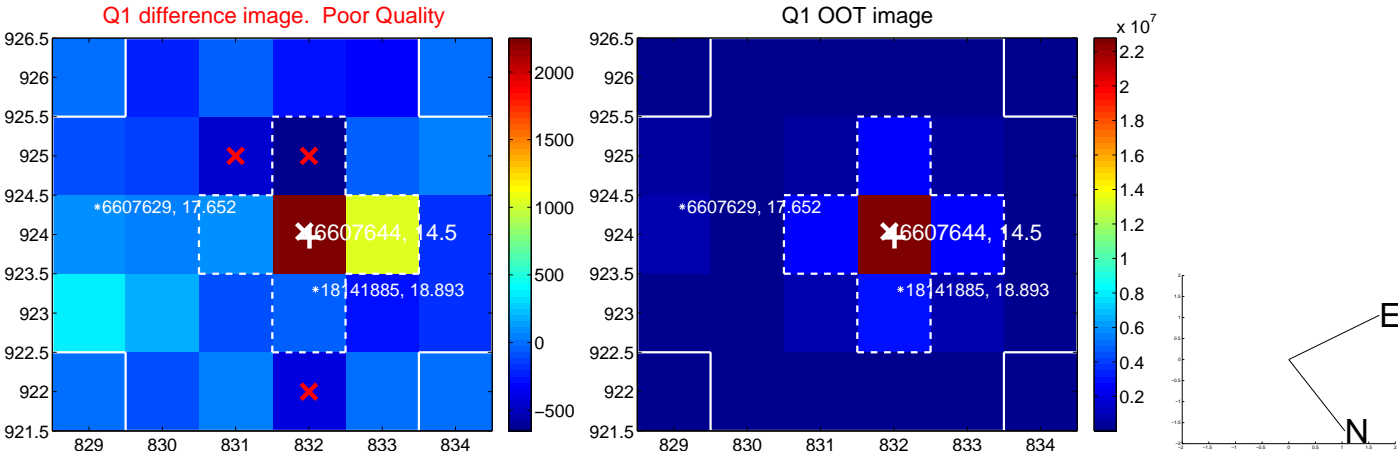


offset from photometric centroids

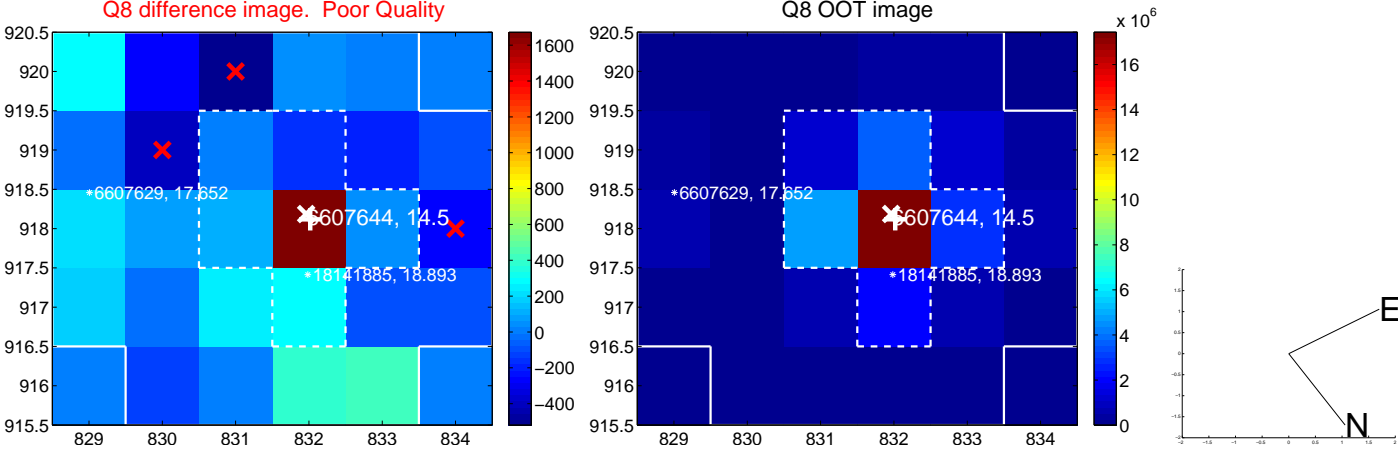
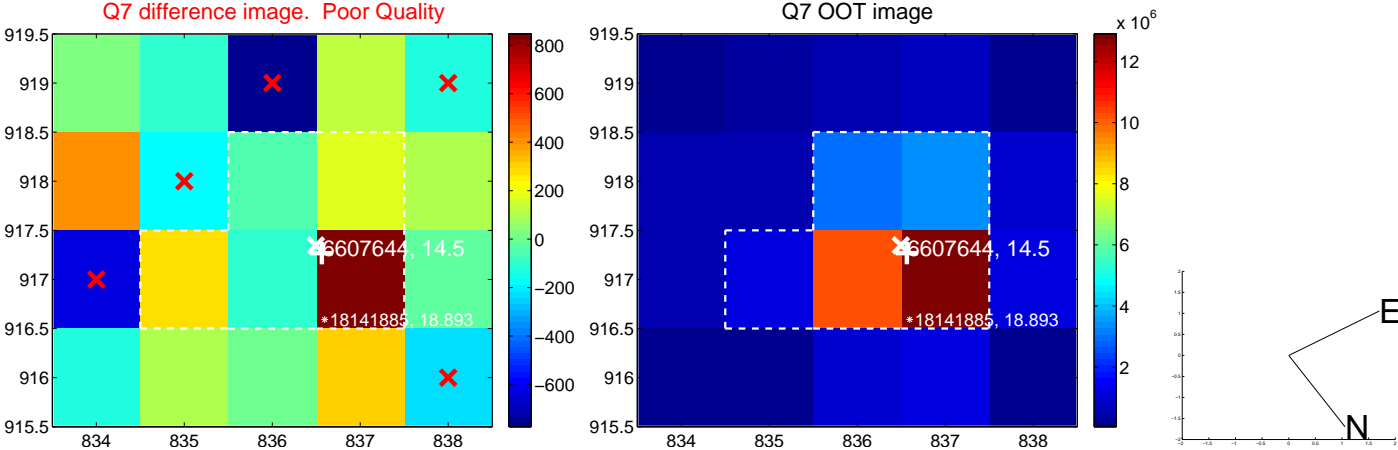
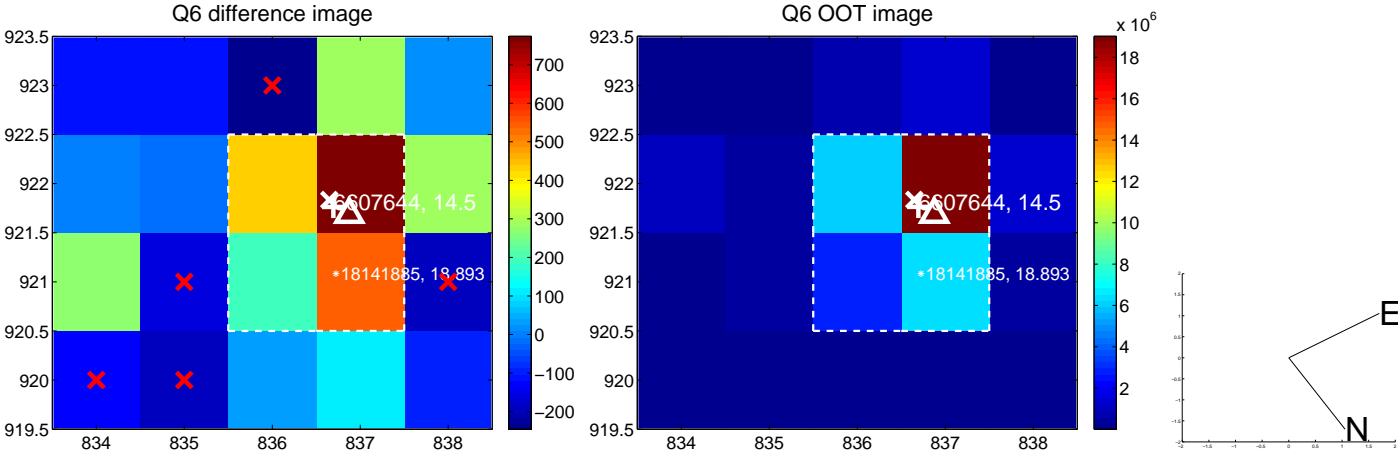
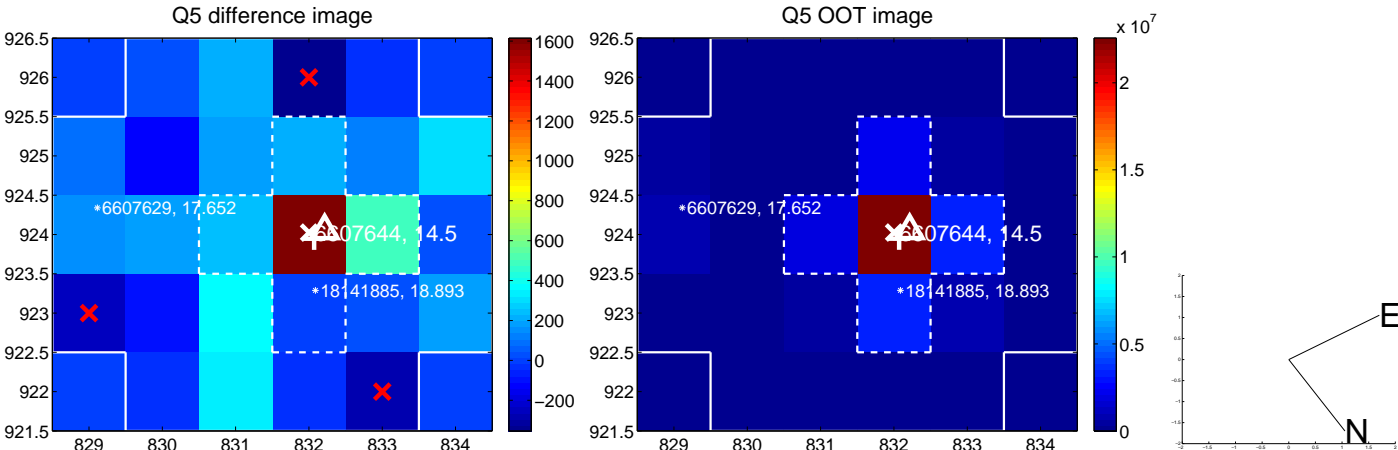


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

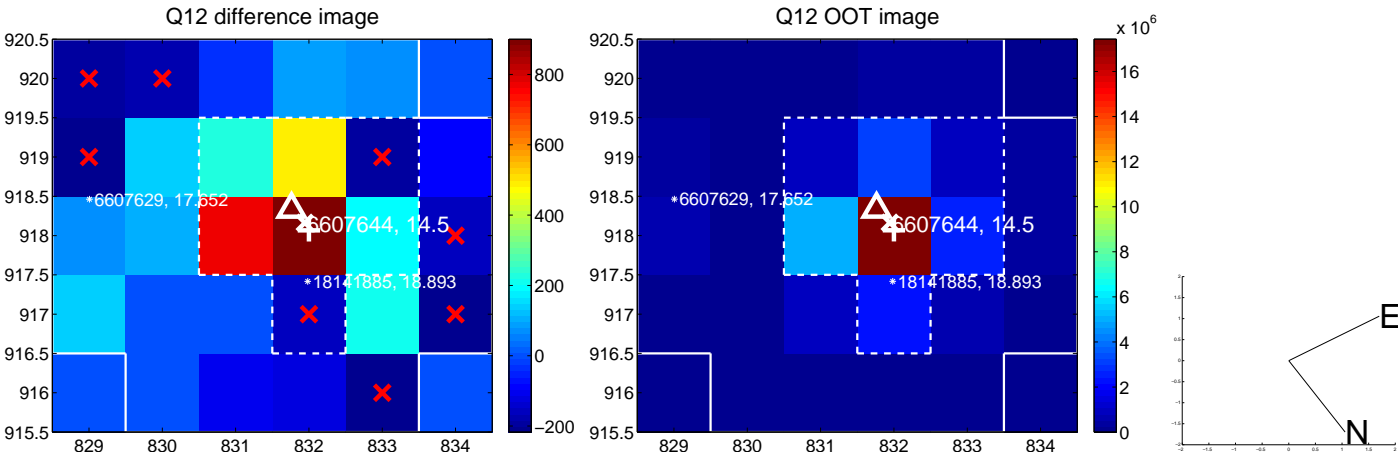
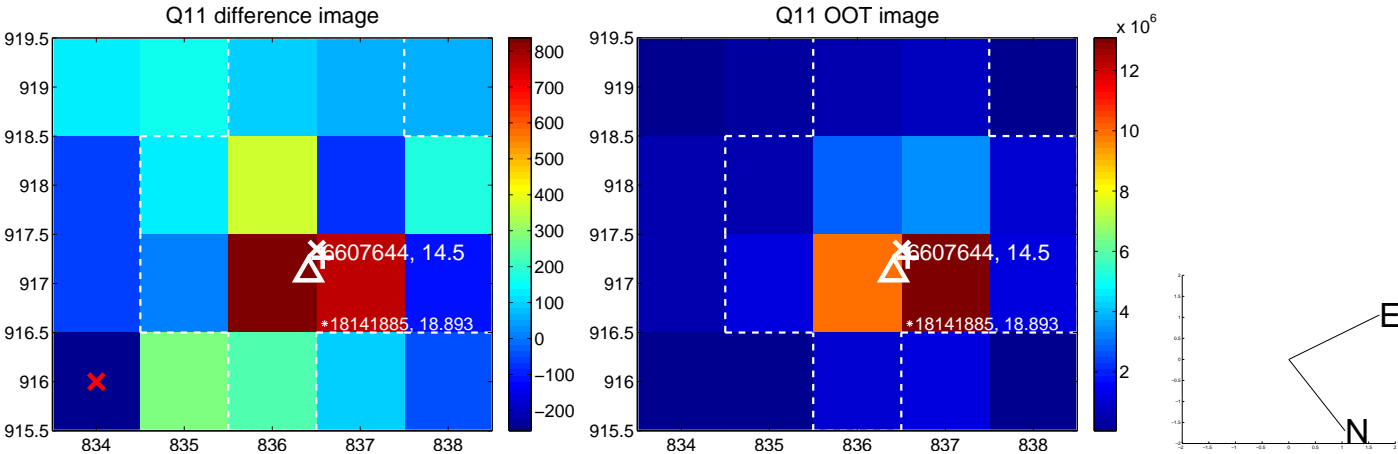
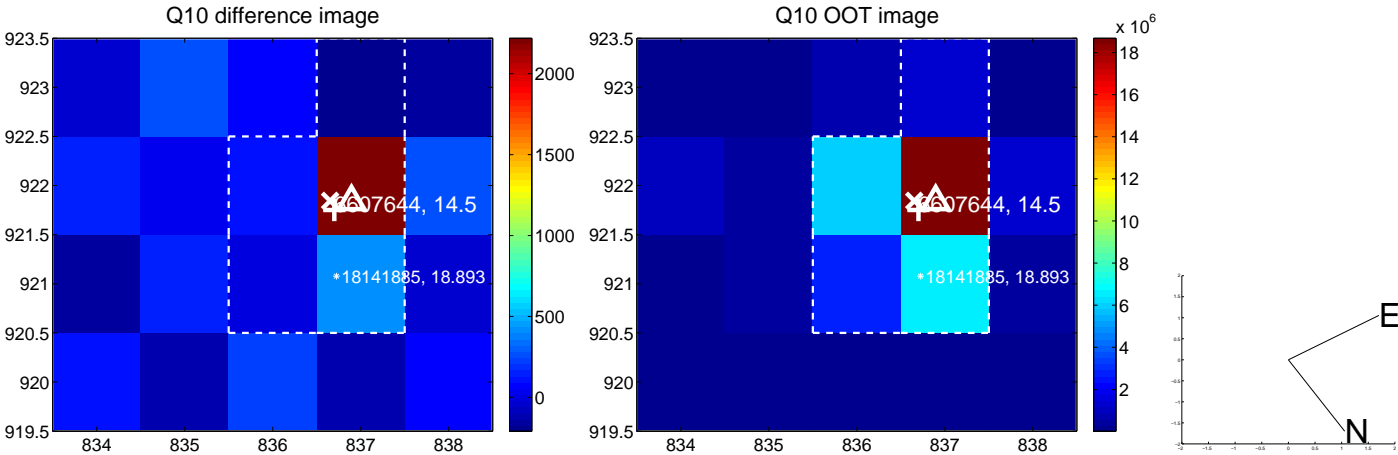
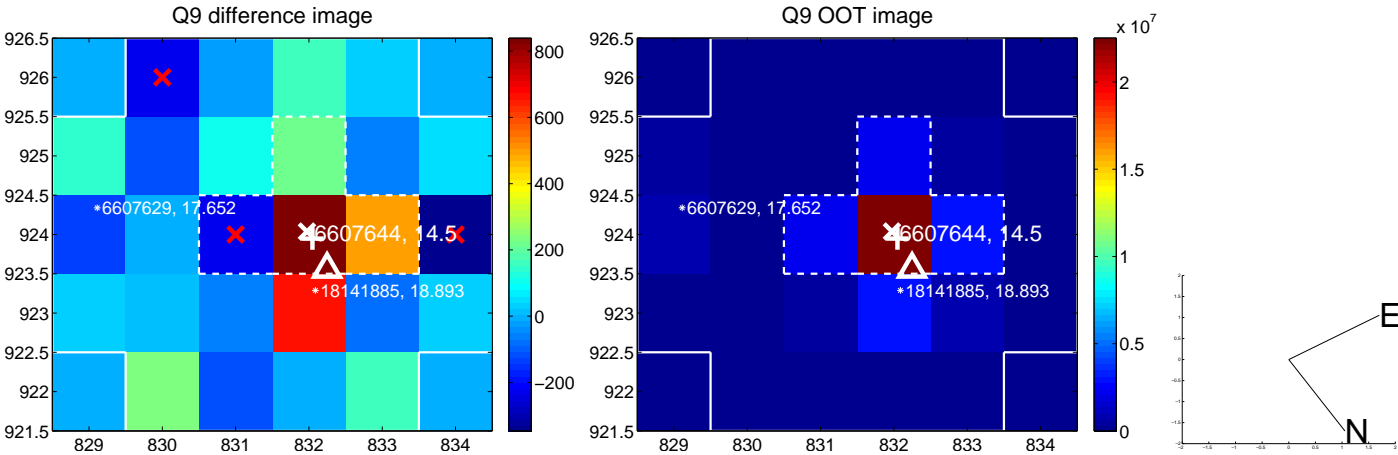
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



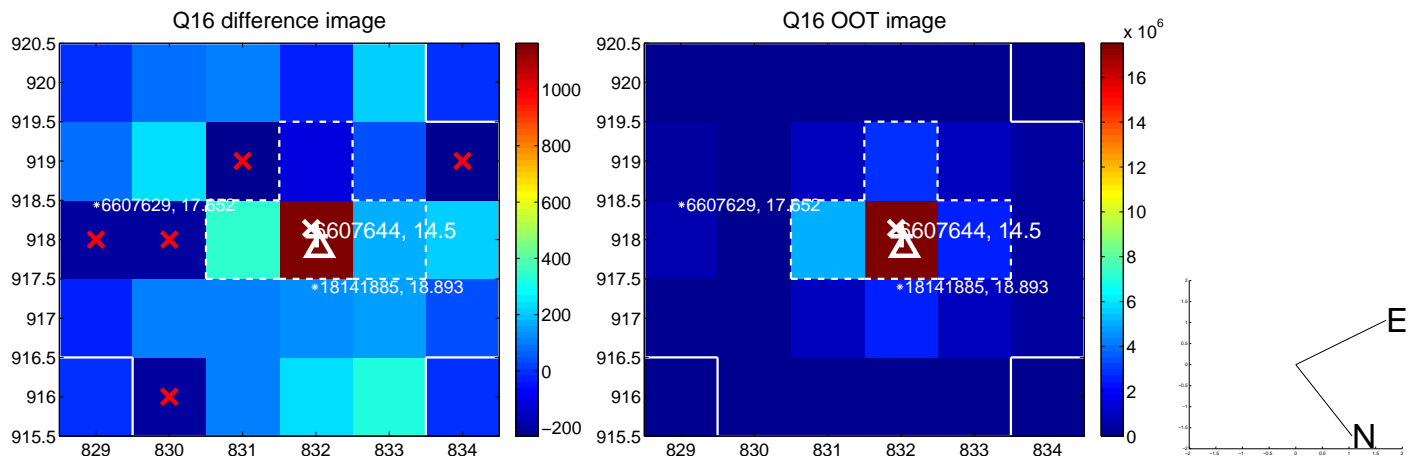
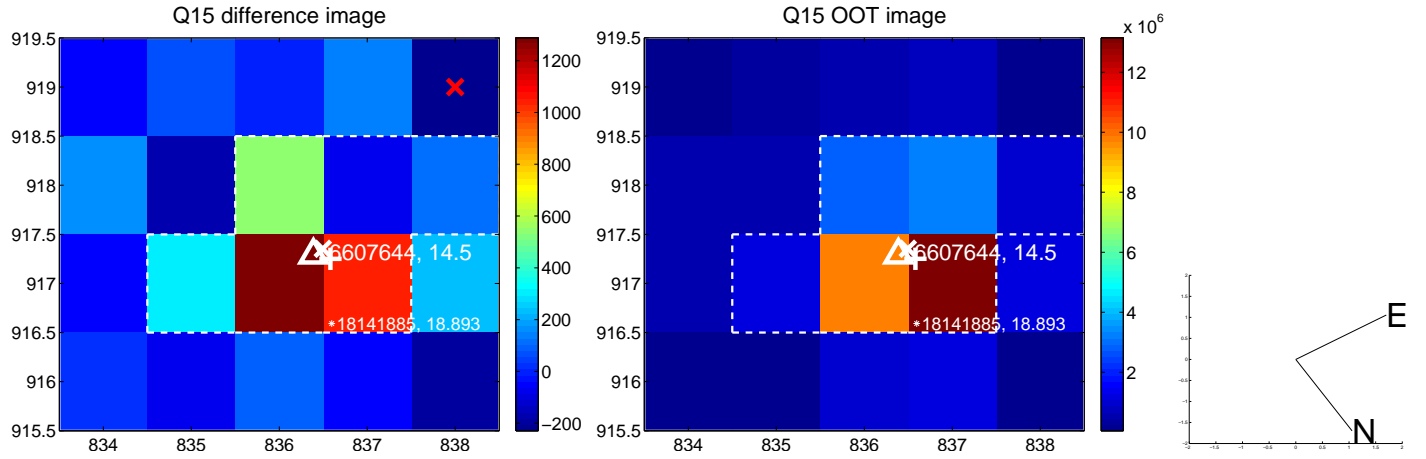
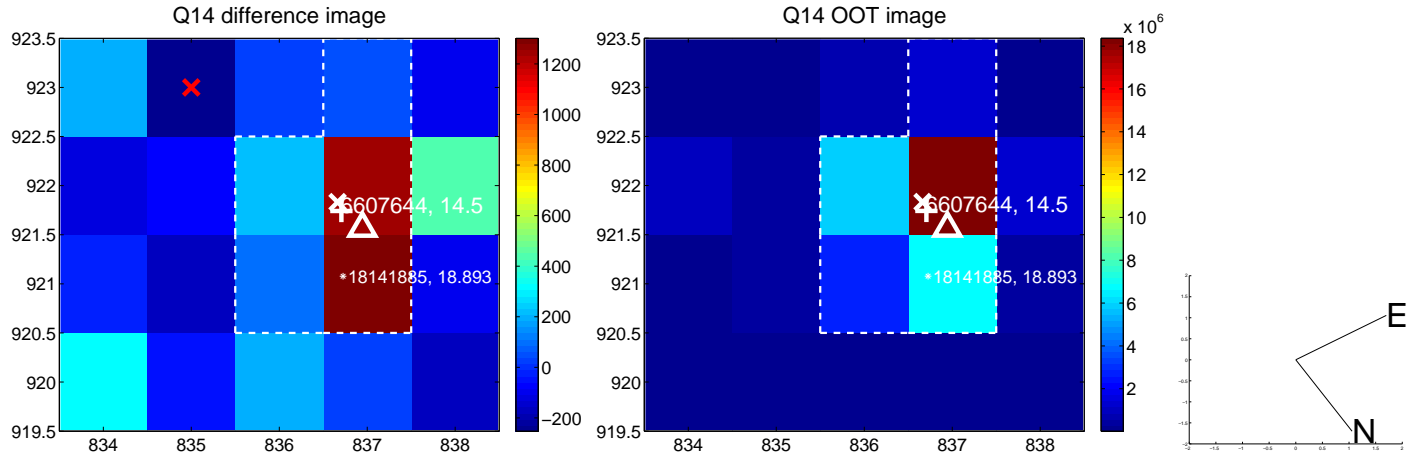
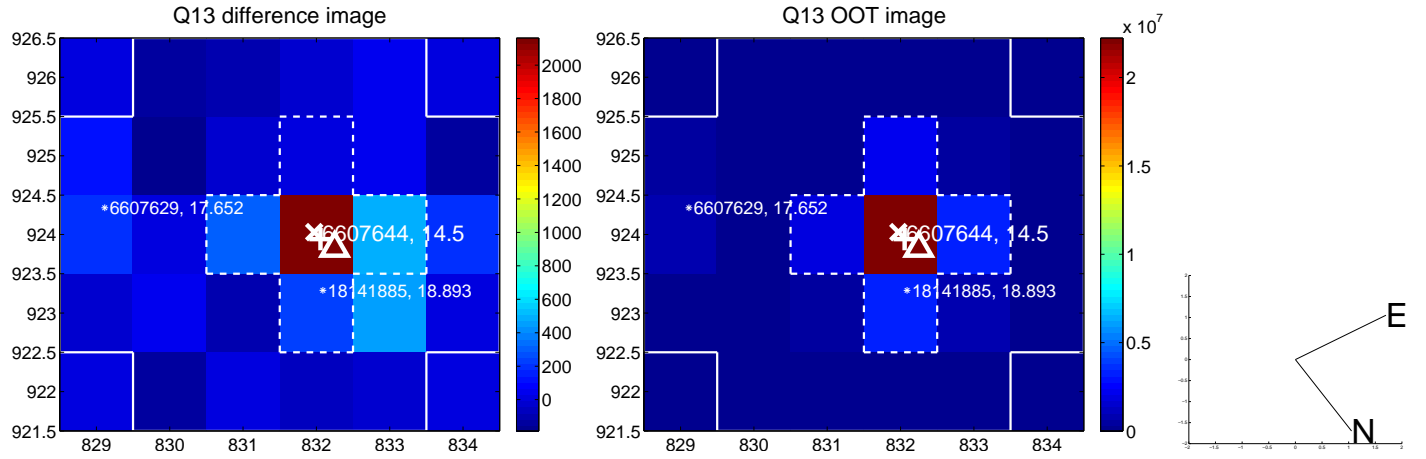
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



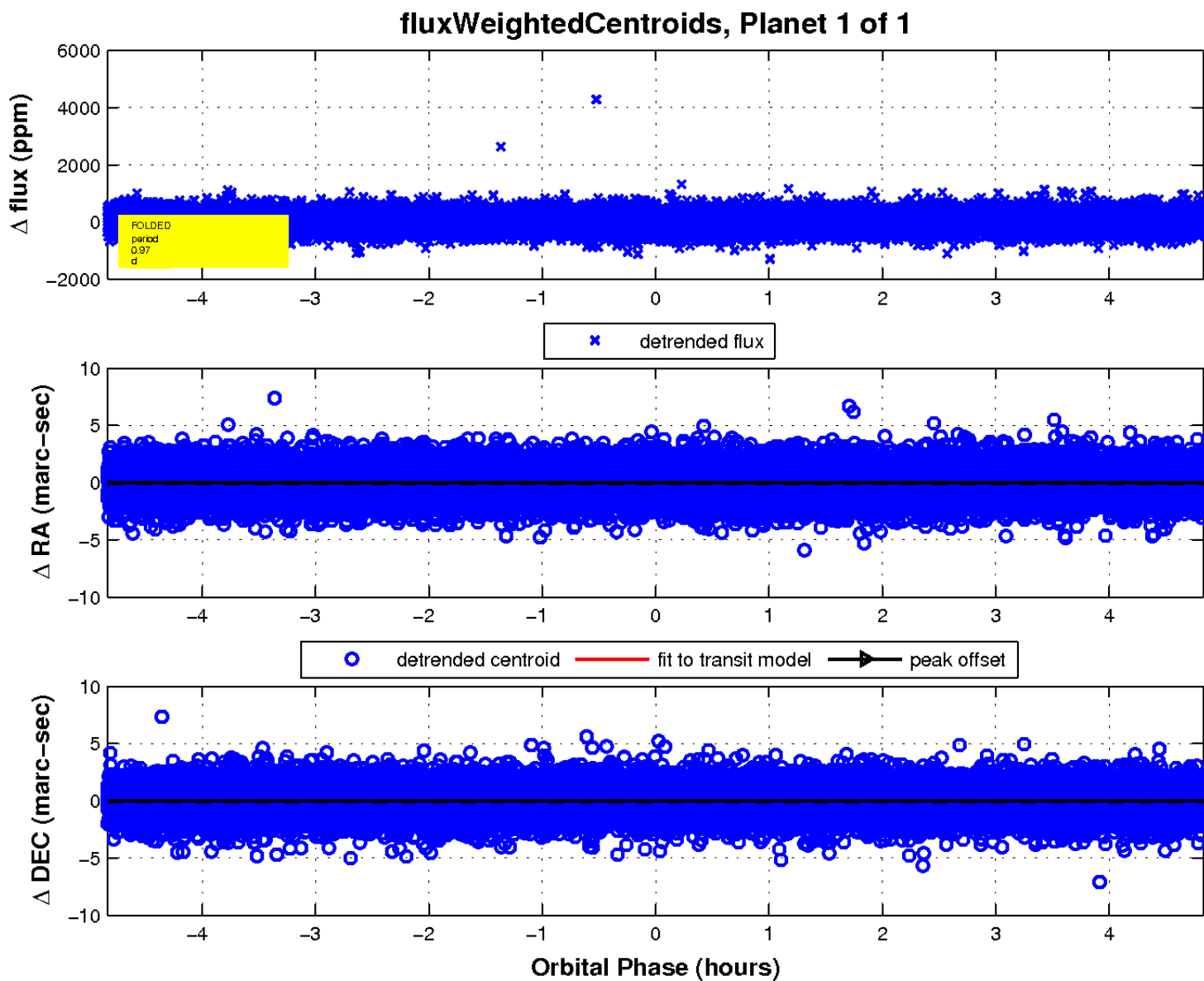
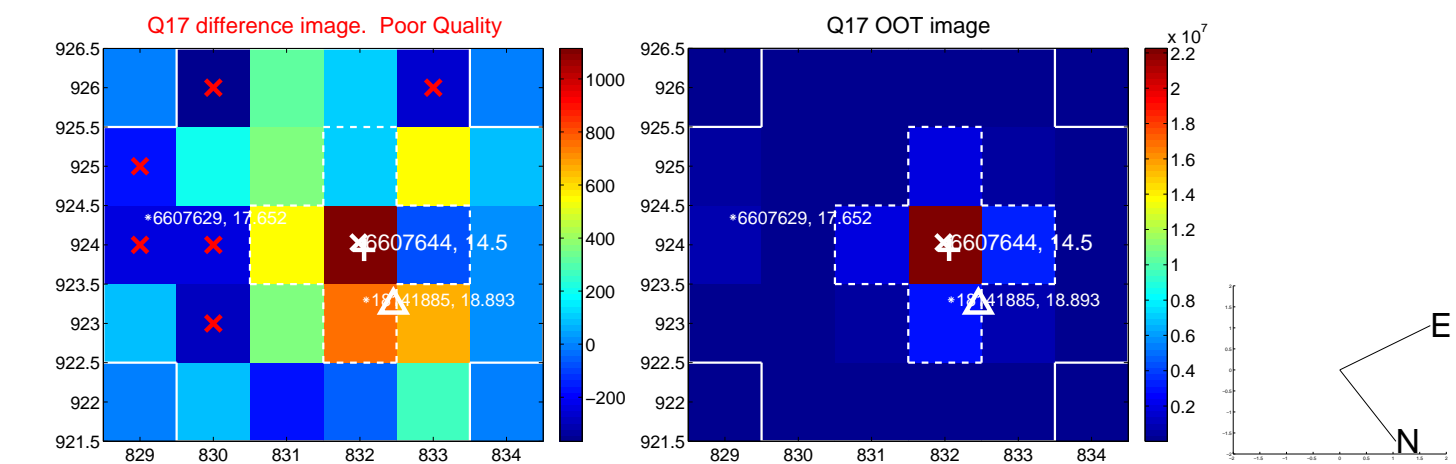
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

