

KIC 008885643

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})
008885643-01	OBS	2789.01	3.401698	132.054836	161.2	2.138	17.6	20.3	0.91	6177	1.40	552.71

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008885643-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

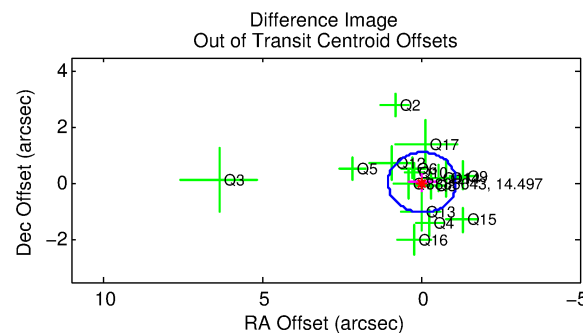
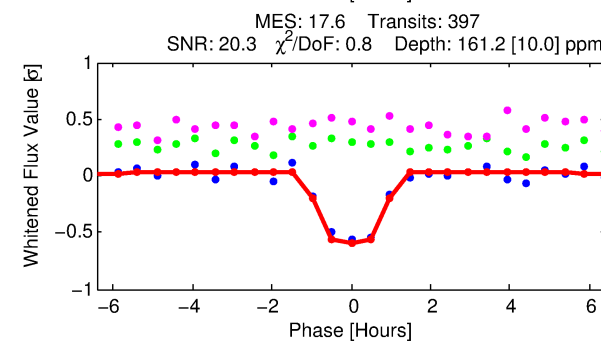
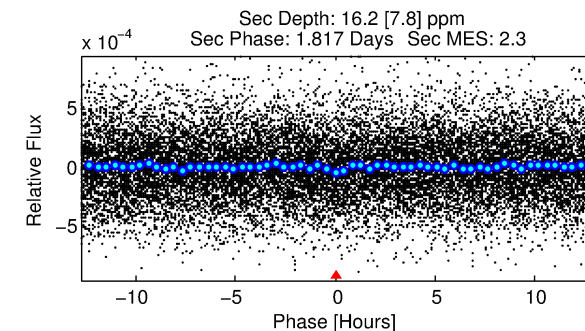
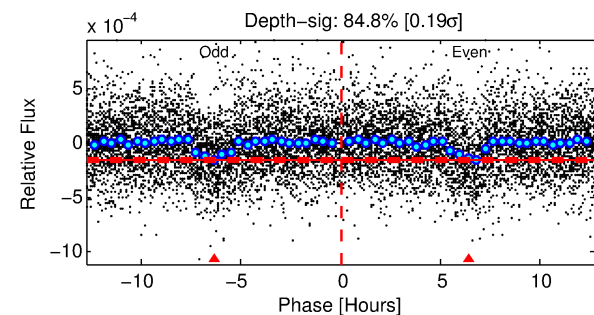
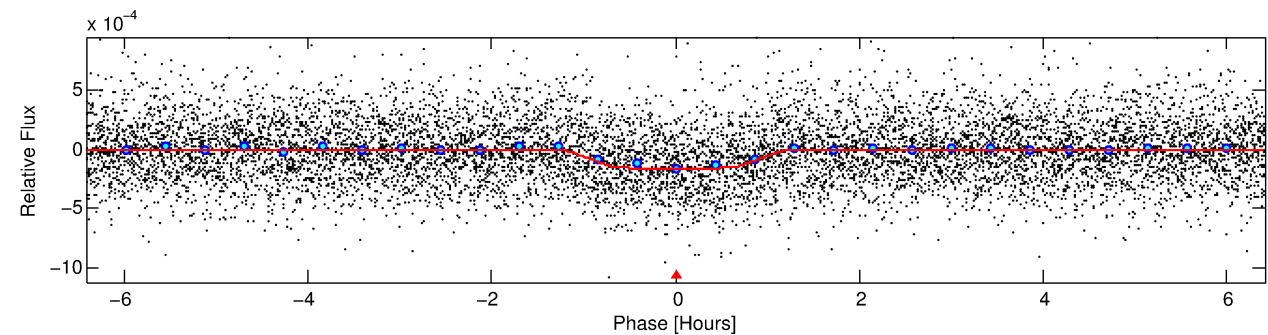
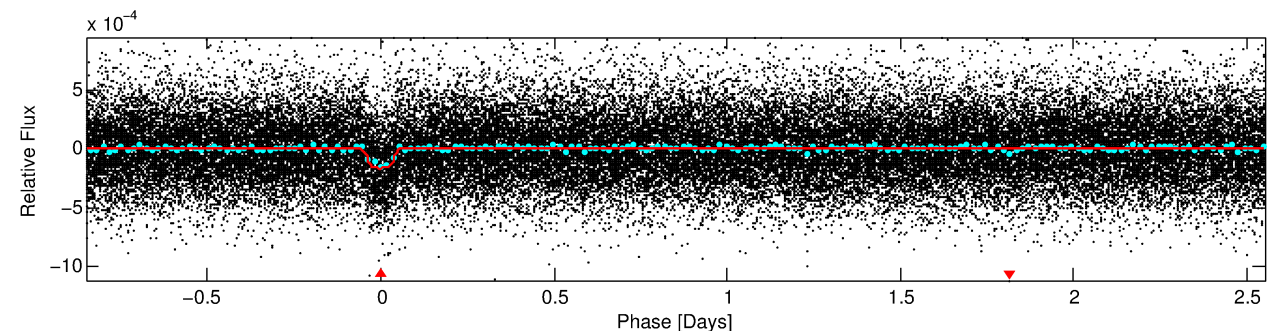
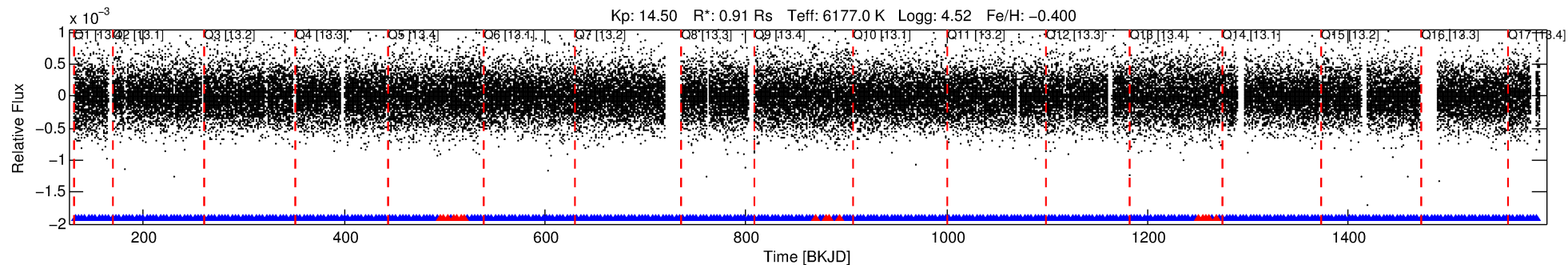
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008885643-01

No Significant Match Found

DV One-Page Summary

KIC: 8885643 Candidate: 1 of 1 Period: 3.402 d
KOI: K02789.01 Corr: 0.910



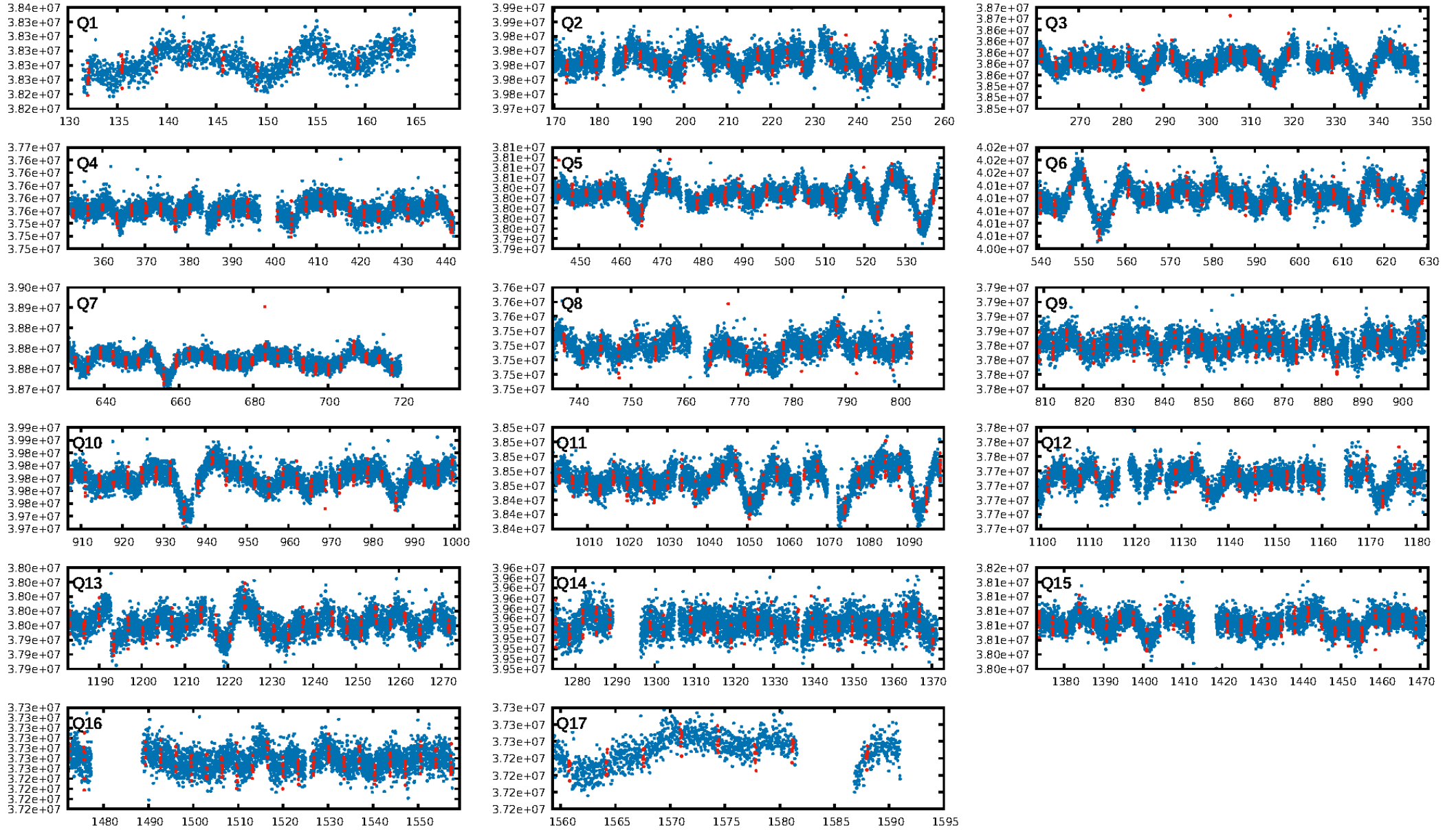
DV Fit Results:

Period = 3.40170 [0.00001] d
Epoch = 132.0548 [0.0018] BKJD
Rp/R* = 0.0142 [0.0026]
a/R* = 4.80 [4.59]
b = 0.94 [0.13]
Seff = 552.71 [225.20]
Teq = 1236 [126] K
Rp = 1.40 [0.50] Re
a = 0.0440 [0.0115] AU
Ag = 8.75 [6.27] [1.24 σ]
Teffp = 3288 [505] K [3.94 σ]

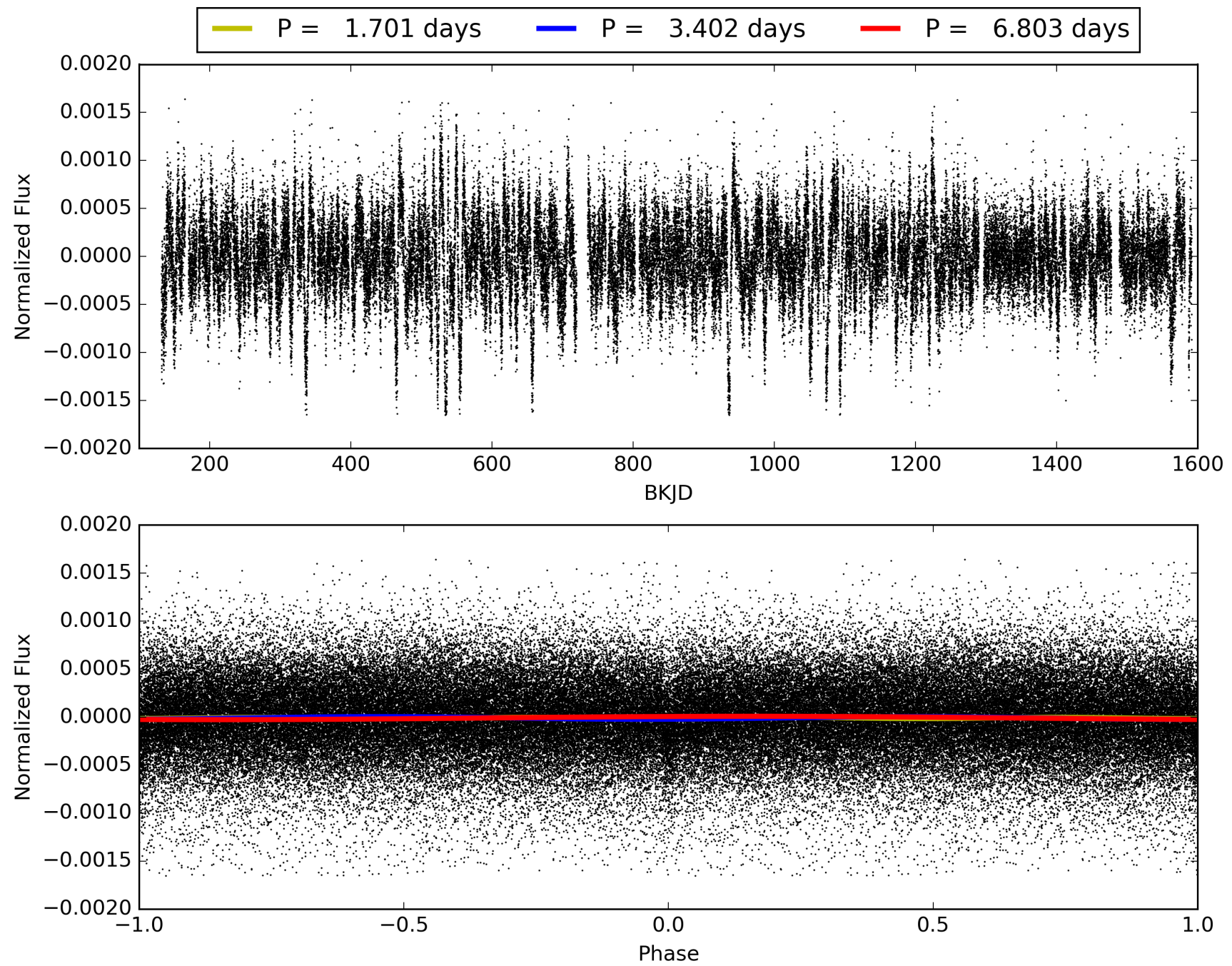
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.36e-66
RollingBand-fgt: 0.96 [363/379]
GhostDiagnostic-chr: 8.258
Centroid-sig: 3.0%
Centroid-so: 0.816 arcsec [1.23 σ]
OotOffset-rm: 0.060 arcsec [0.17 σ]
KicOffset-rm: 0.142 arcsec [0.48 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.88 [14/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008885643-01, PDC Light Curves

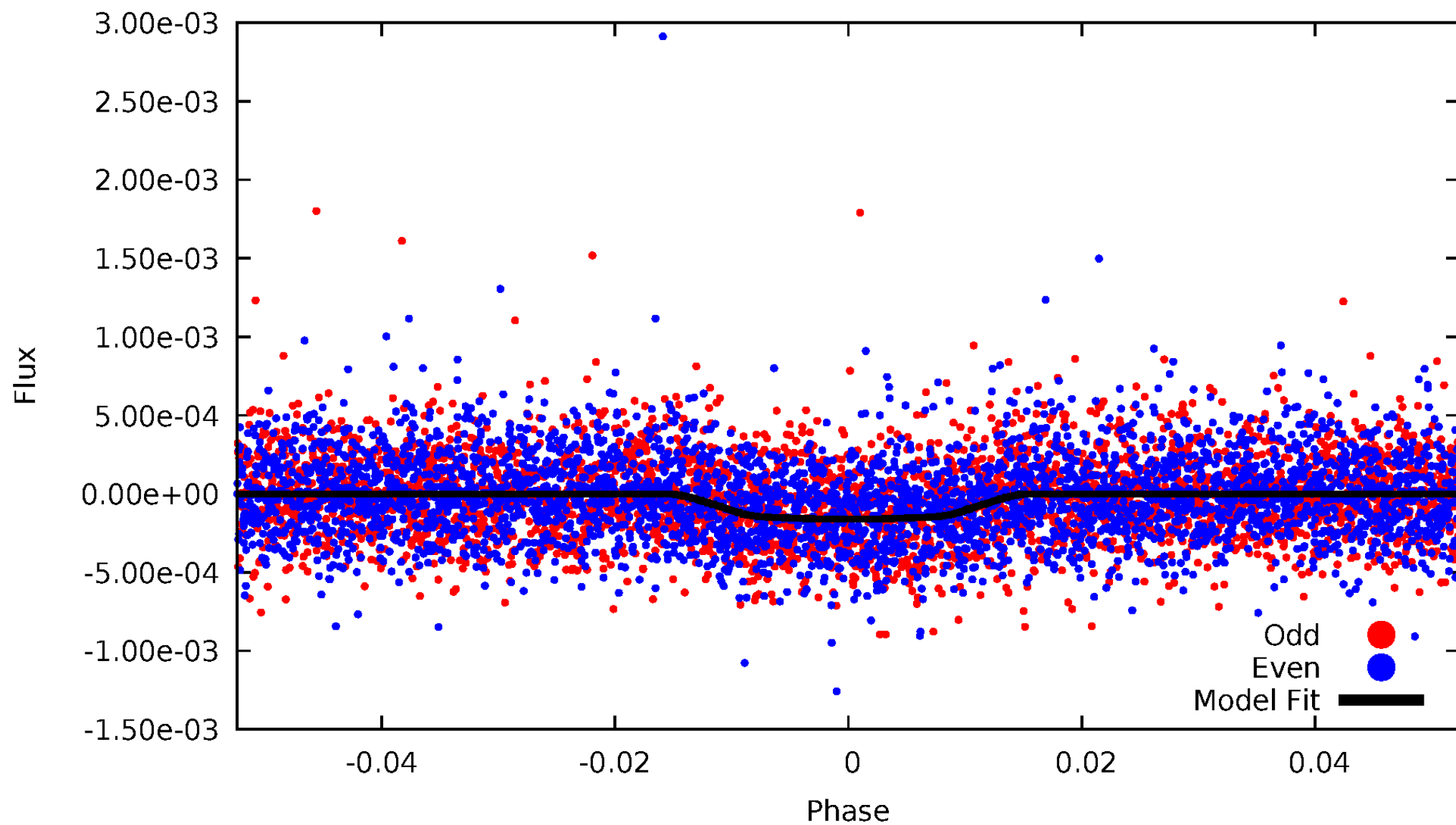


TCE 008885643-01



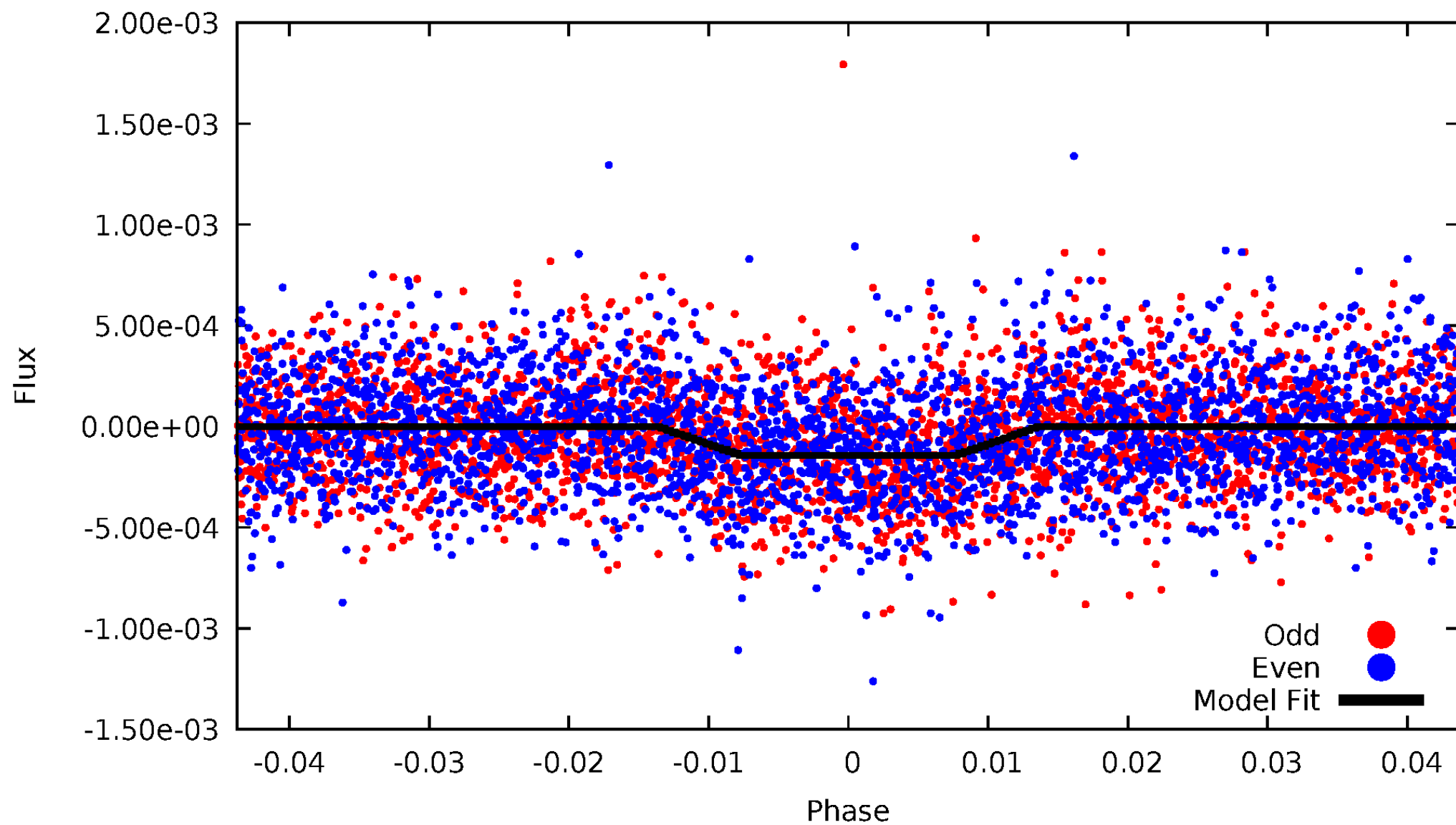
DV Odd/Even

TCE 008885643-01

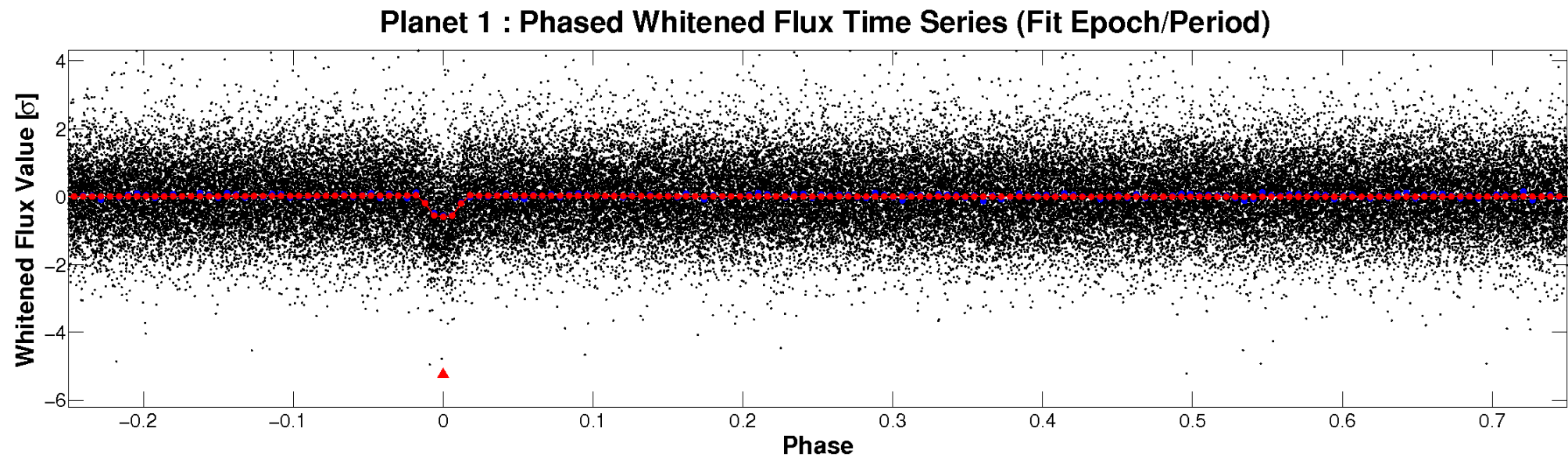
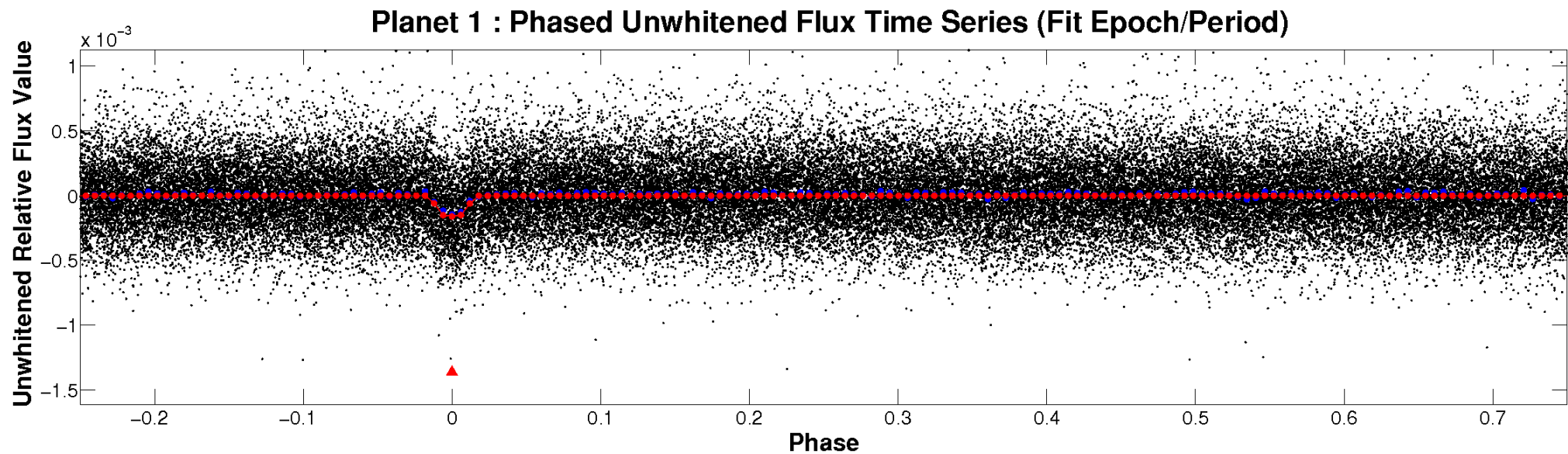


ALT Odd/Even

TCE 008885643-01

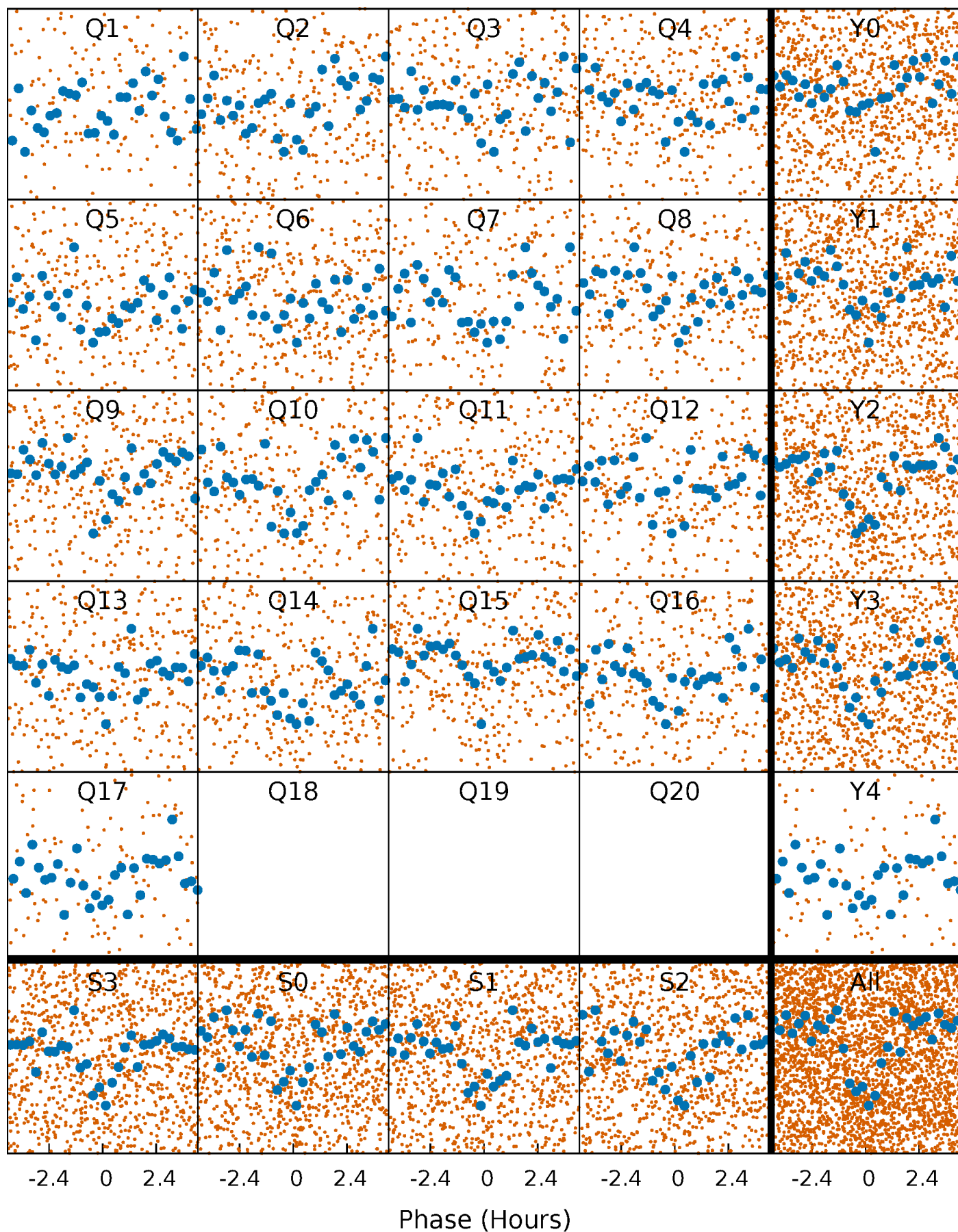


Non-Whitened Vs. Whitened Light Curve



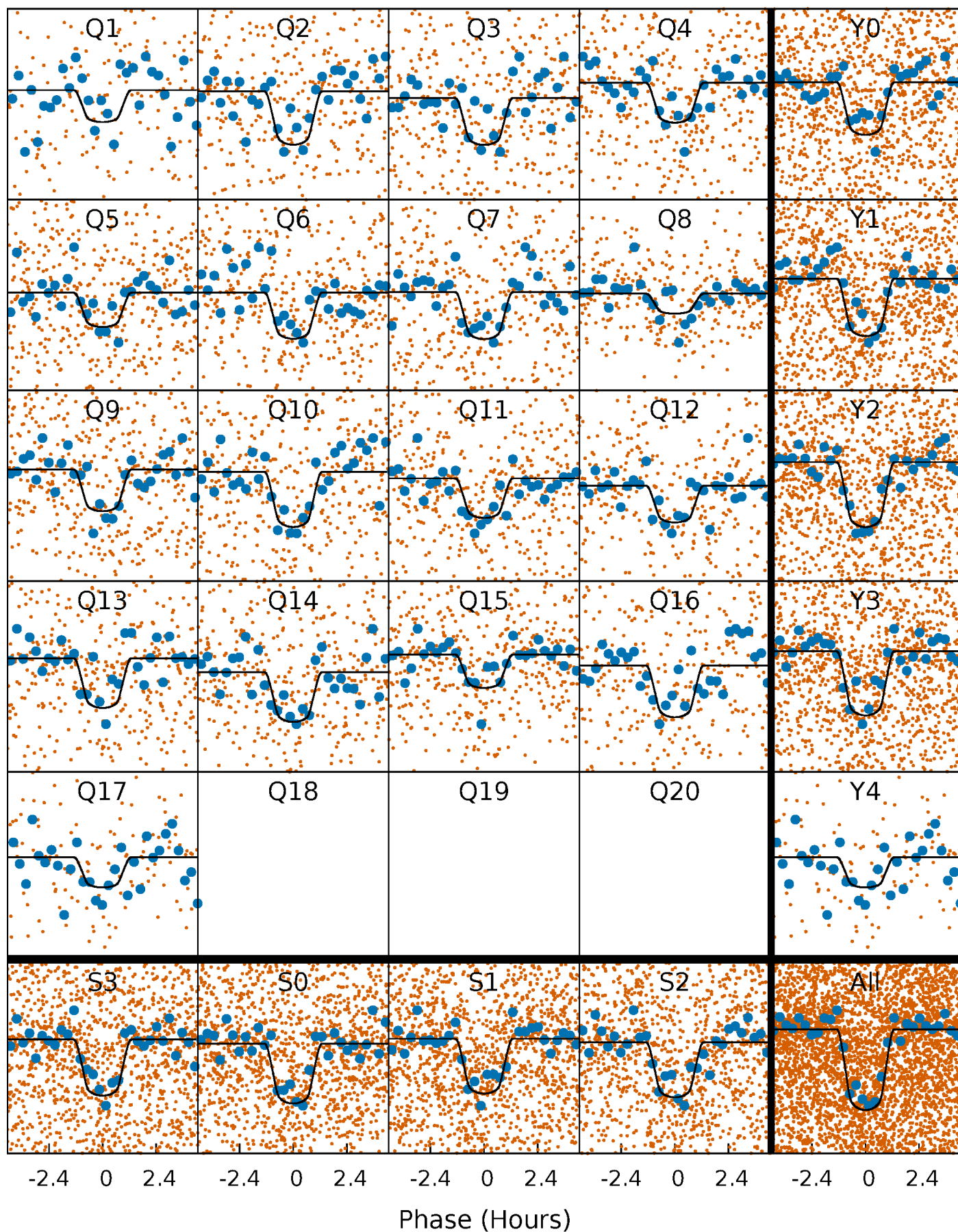
PDC Quarter-Phased Transit Curves

TCE 008885643-01 P= 3.401698 Days $T_0=132.054836$ (BKJD)



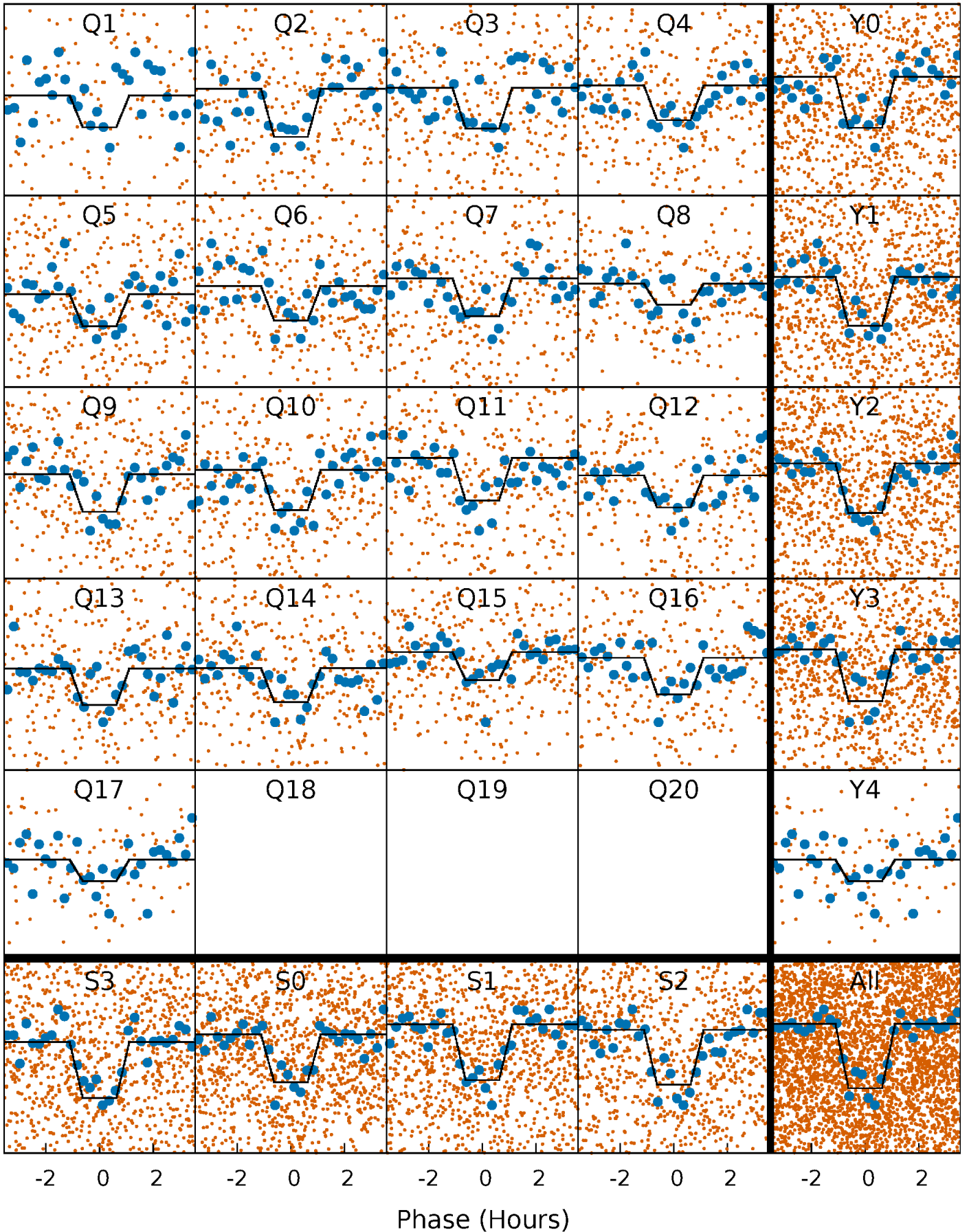
DV Quarter-Phased Transit Curves

TCE 008885643-01 P= 3.401698 Days $T_0=132.054836$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

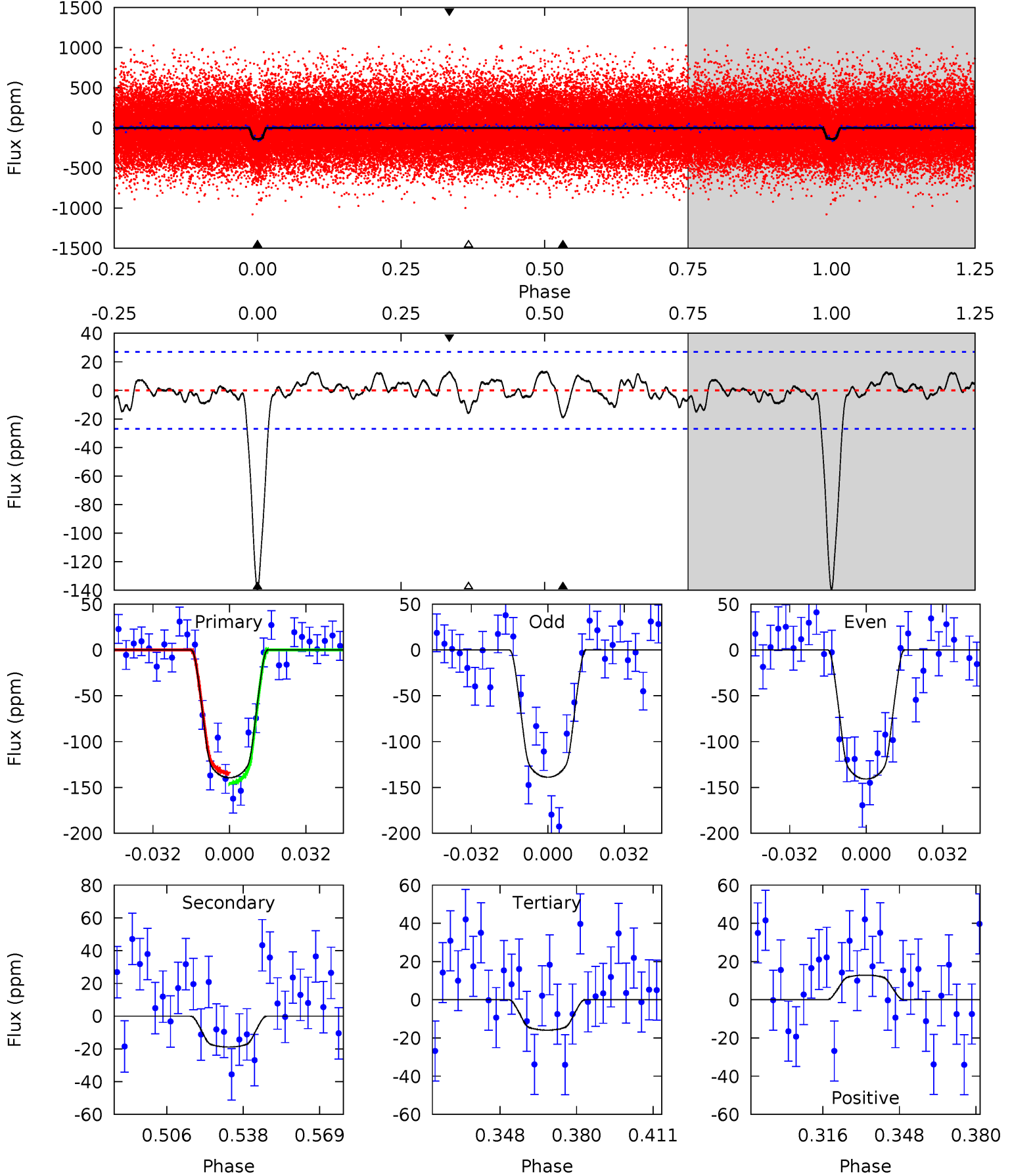
TCE 008885643-01 P= 3.401656 Days $T_0=132.061644$ (BKJD)



DV Model-Shift Uniqueness Test

008885643-01, P = 3.401698 Days, E = 128.653138 Days

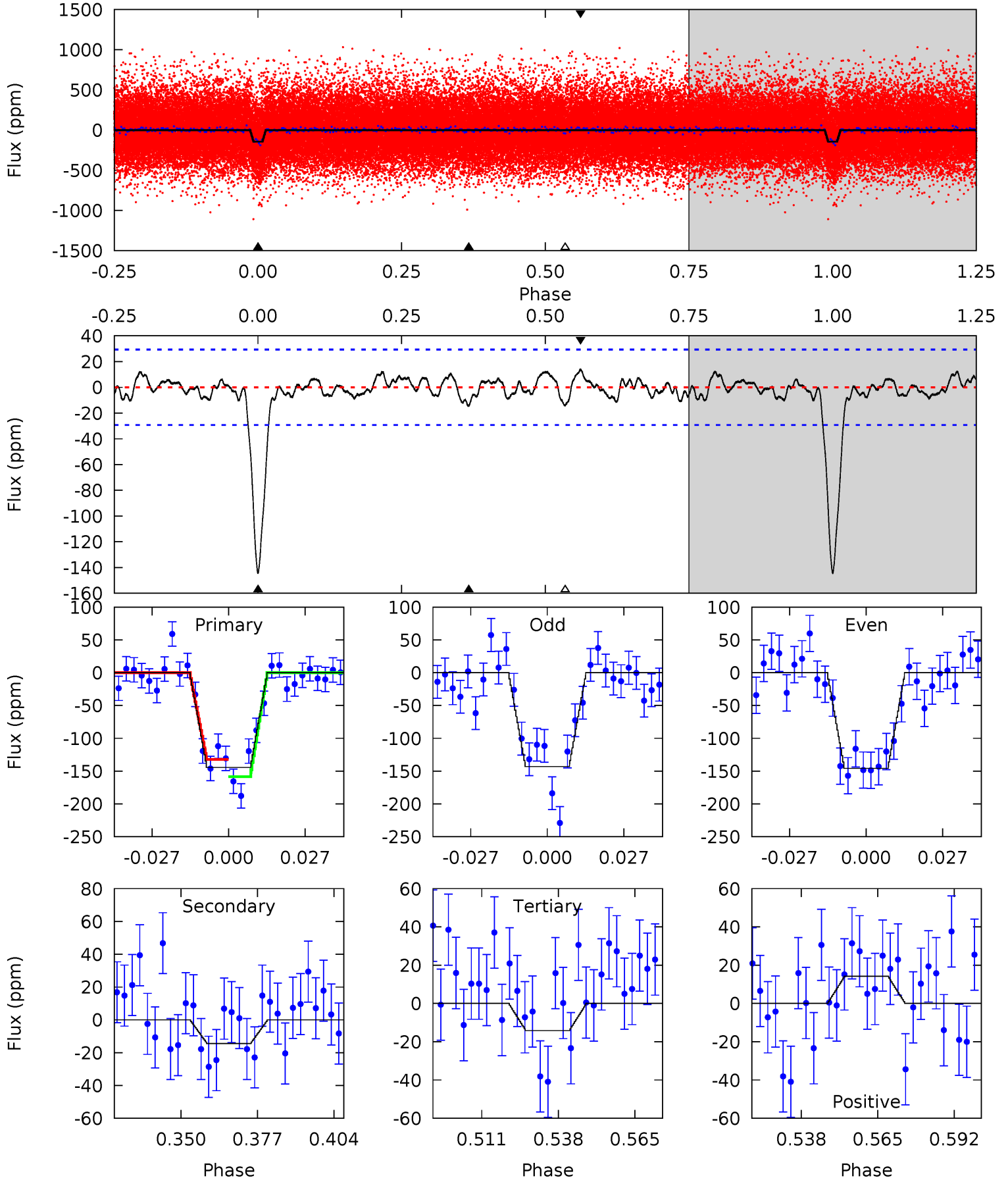
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.9	3.36	2.83	2.30	4.80	2.15	1.08	22.0	22.6	0.53	1.07	0.18	0.98	0.09	1.00



Alt Model-Shift Uniqueness Test

008885643-01, P = 3.401656 Days, E = 128.659988 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.9	2.38	2.34	2.34	4.83	2.21	0.96	21.5	21.5	0.04	0.04	0.22	1.08	0.09	2.18



Stellar Parameters For KIC 008885643

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6177^{+169}_{-188}	$4.516^{+0.040}_{-0.216}$	$-0.400^{+0.300}_{-0.300}$	$0.906^{+0.276}_{-0.092}$	$0.982^{+0.123}_{-0.123}$	$1.861^{+0.388}_{-0.979}$
	+3%/-3%	+1%/-5%	+75%/-75%	+30%/-10%	+13%/-13%	+21%/-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 008885643-01 / KOI 2789.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-19 ± 6	$1.49^{+0.32}_{-0.28}$	1775^{+124}_{-86}	3760^{+348}_{-312}	$8.790^{+5.334}_{-3.766}$
Alt.	-14 ± 6	$1.27^{+0.32}_{-0.31}$	1785^{+126}_{-88}	3810^{+456}_{-422}	$9.257^{+7.892}_{-4.725}$

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

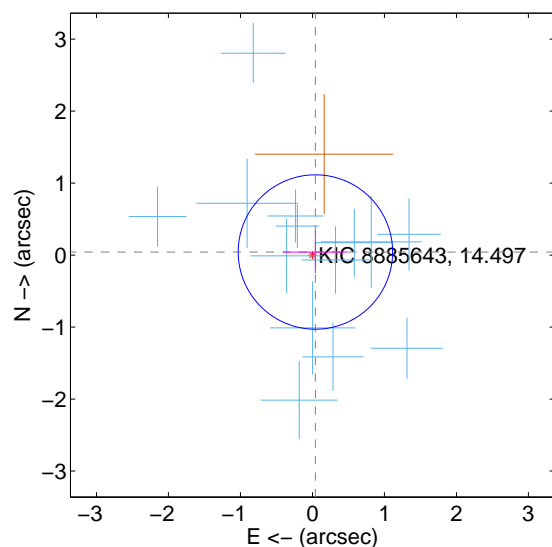
Supplemental centroid analysis for 008885643-01. Kepler magnitude: 14.50. Transit SNR 20.27

There are 14 quarters with good PRF difference image offsets

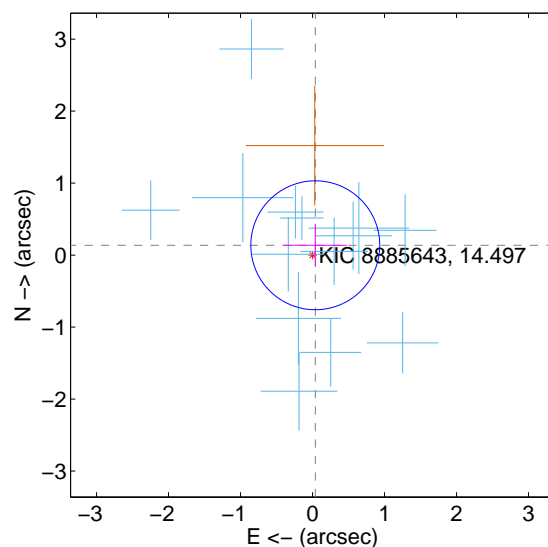
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.060 ± 0.357	0.17	-0.041 ± 0.450	0.043 ± 0.292
PRF-fit source offset from KIC position	0.142 ± 0.298	0.48	-0.039 ± 0.438	0.136 ± 0.299
photometric centroid source offset	0.82 ± 0.66	1.23	-0.00 ± 0.72	-0.82 ± 0.66

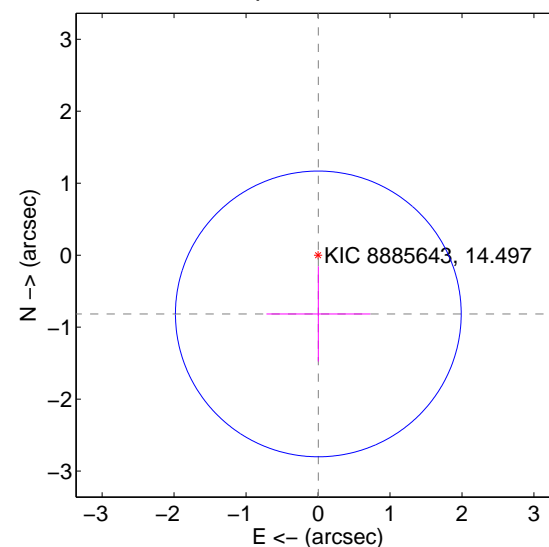
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

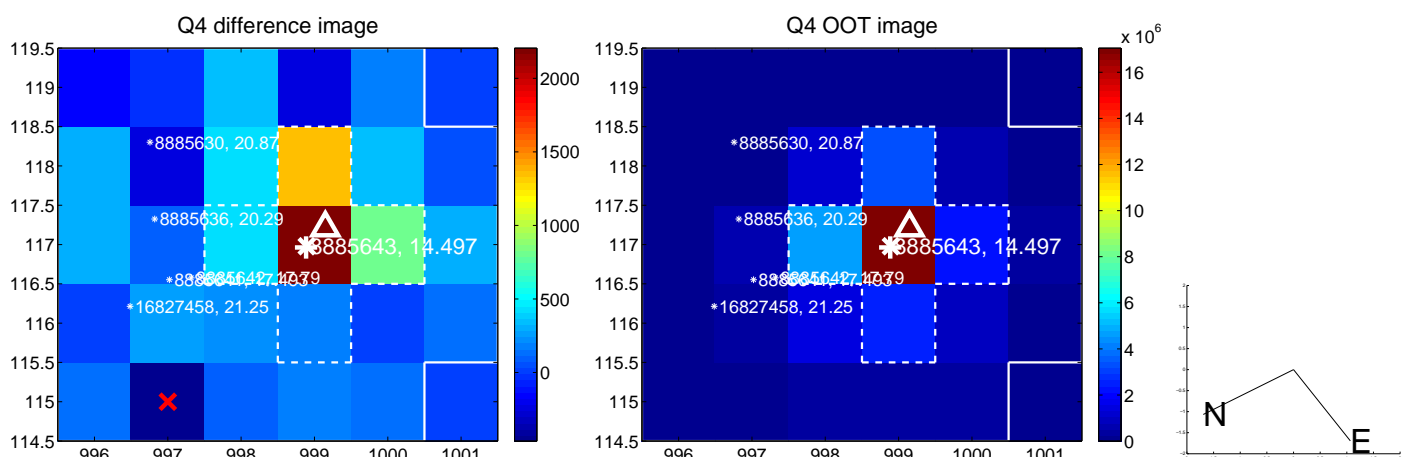
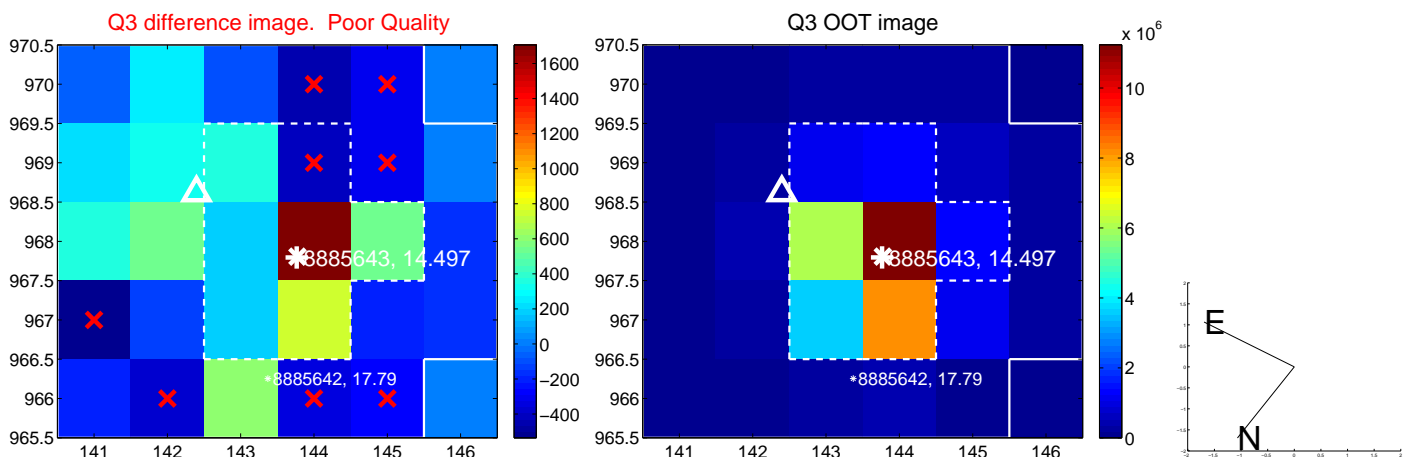
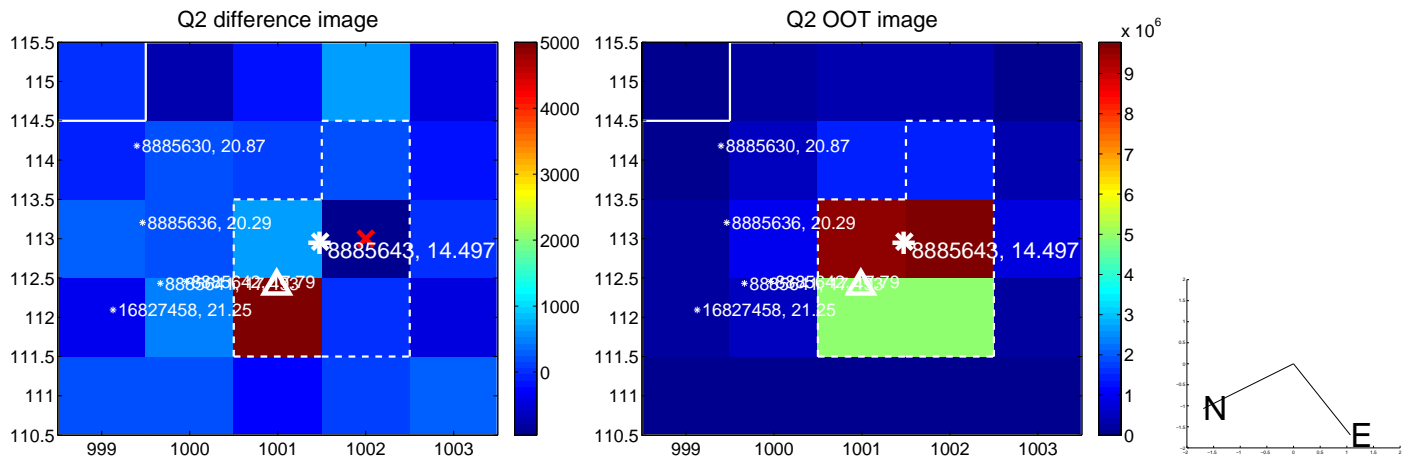
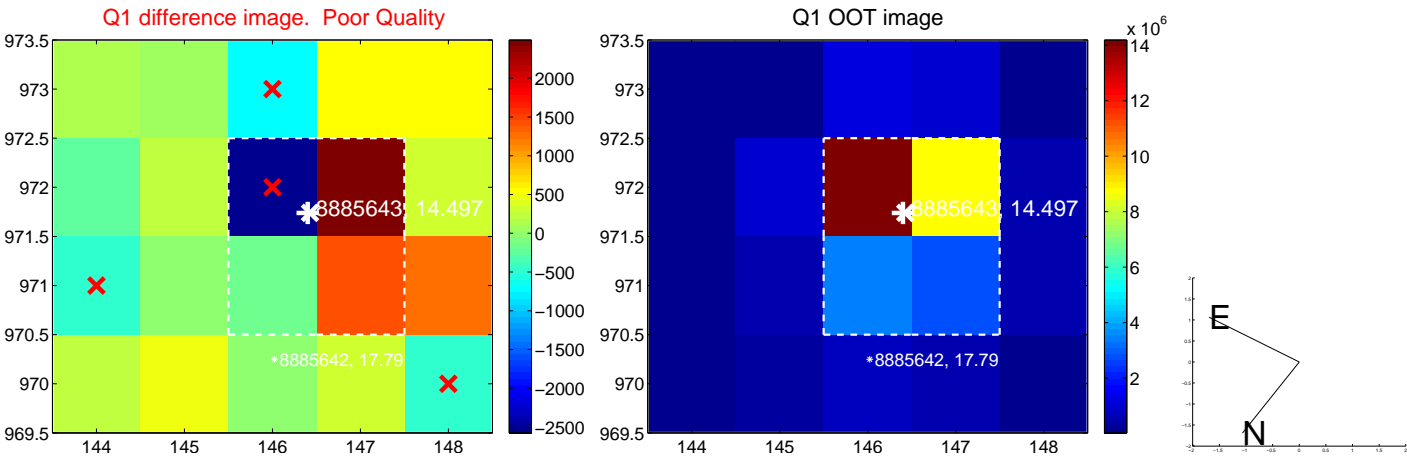


offset from photometric centroids

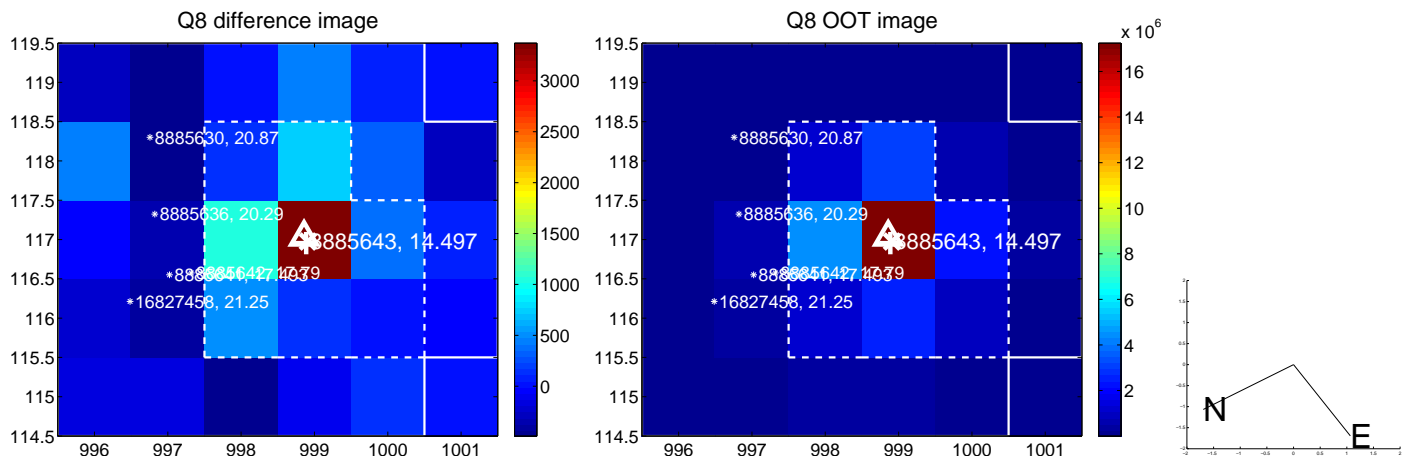
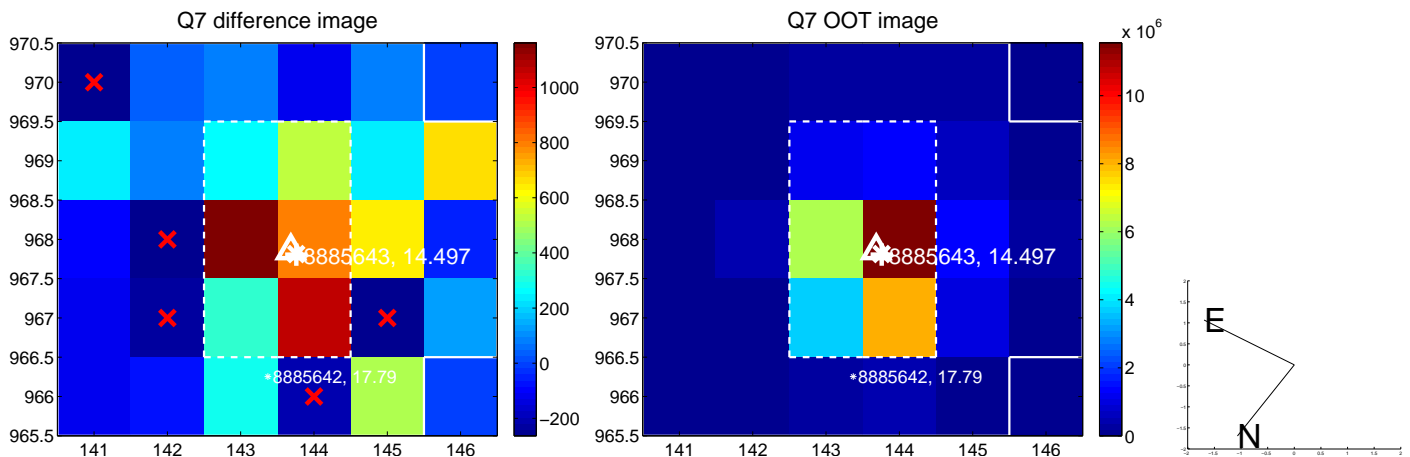
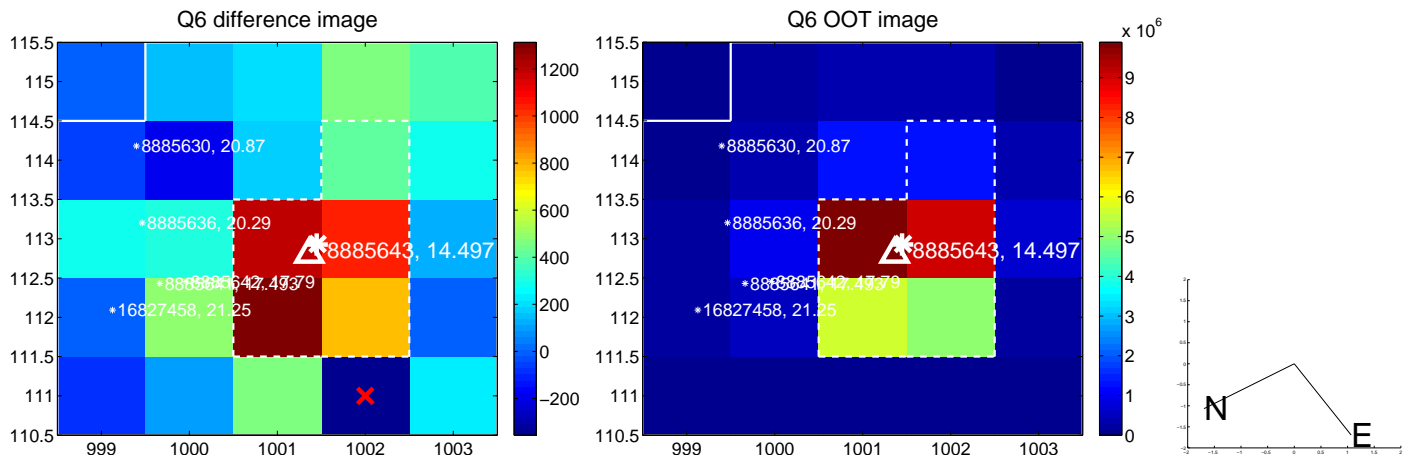
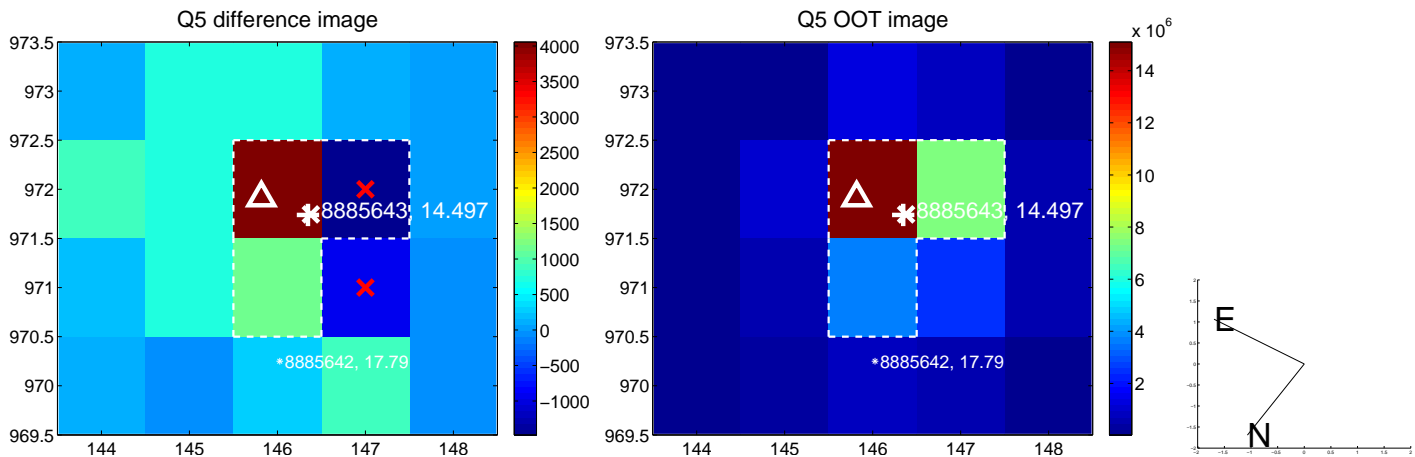


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

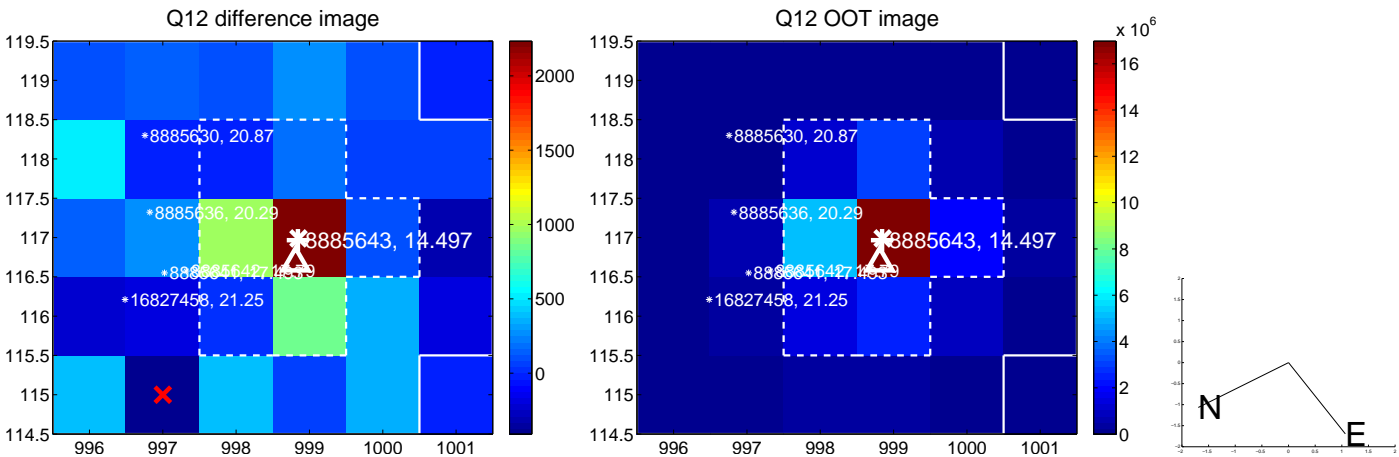
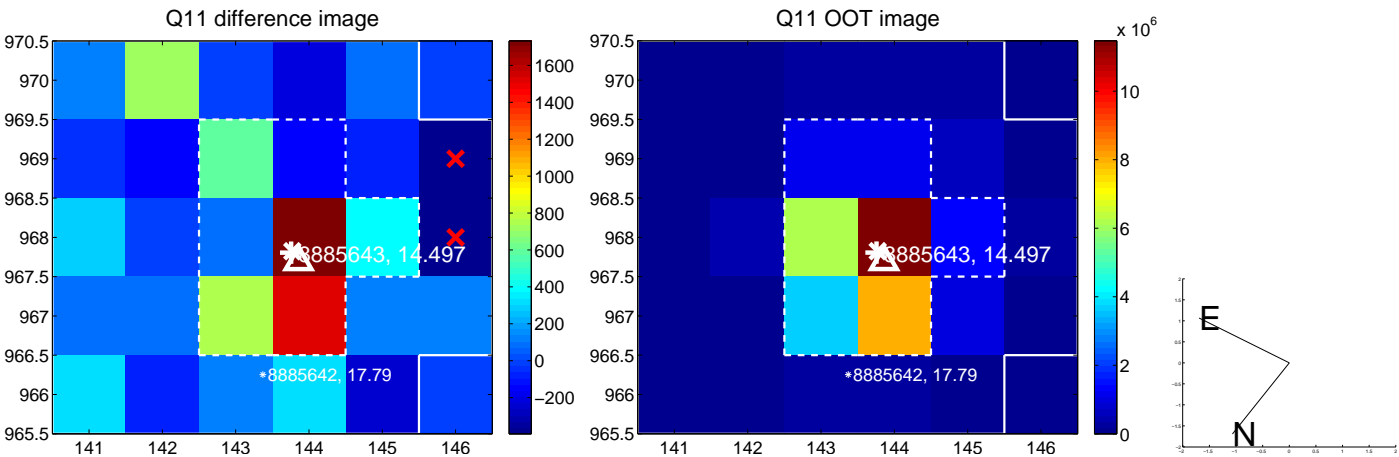
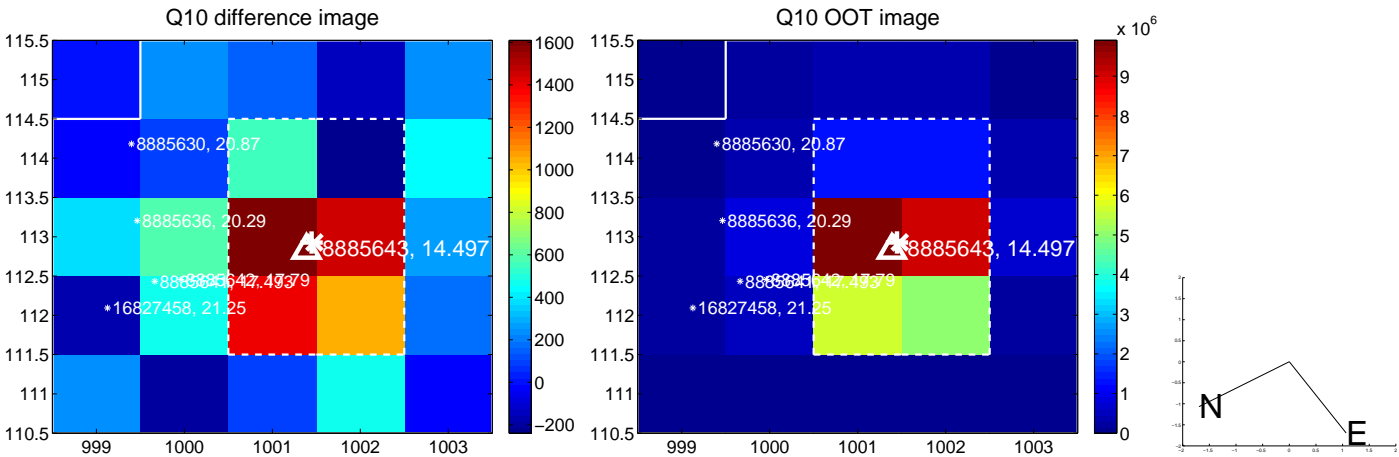
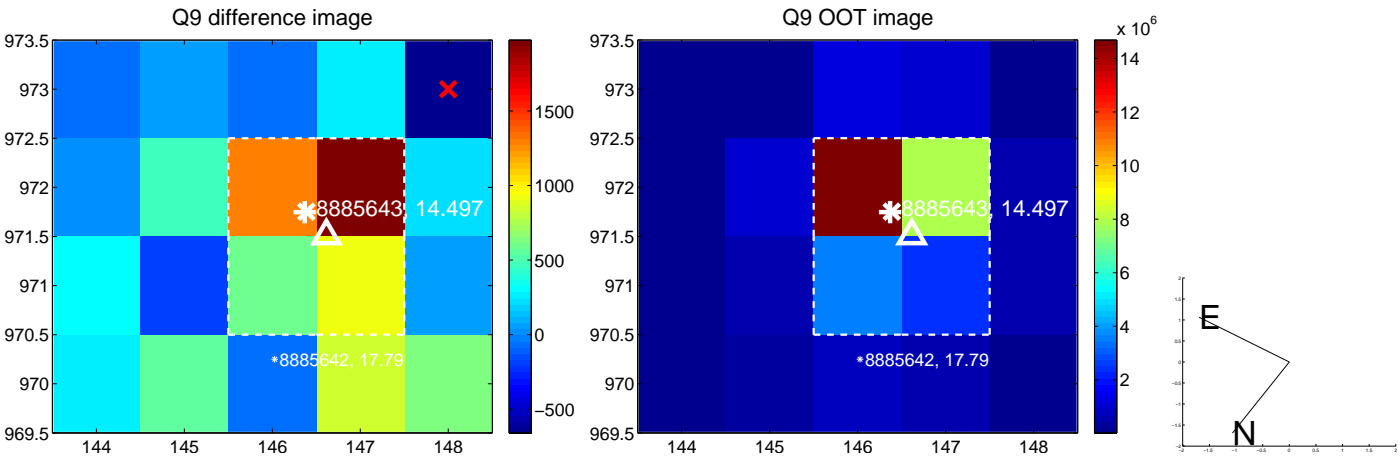
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



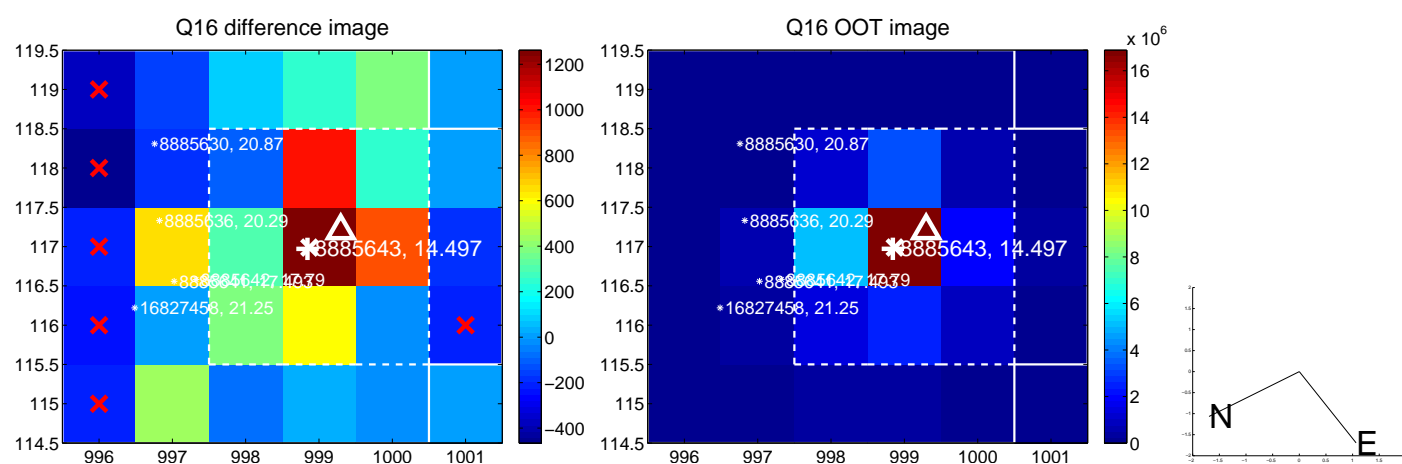
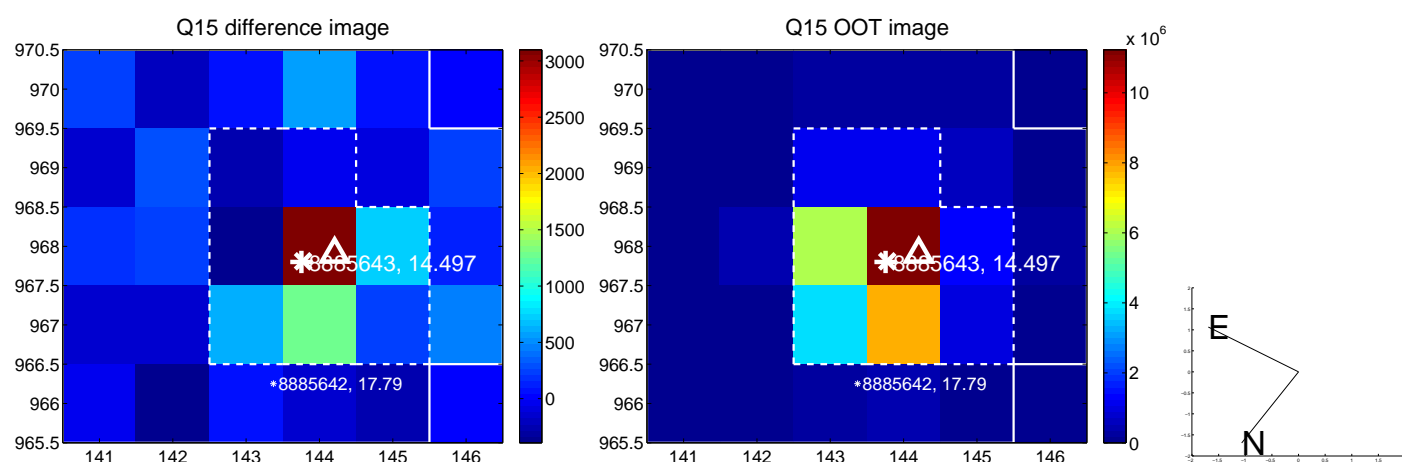
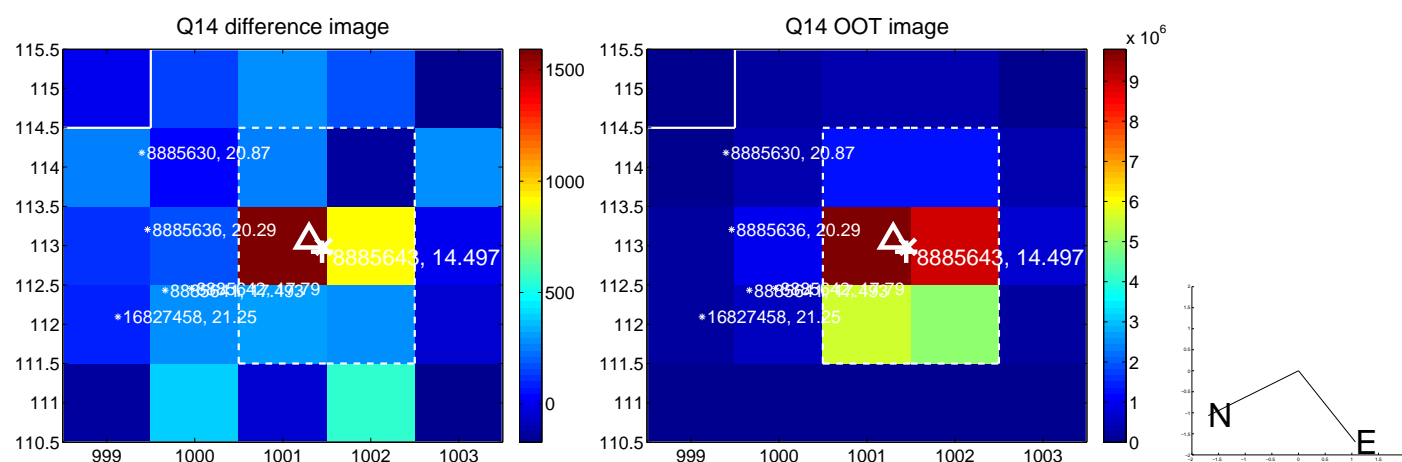
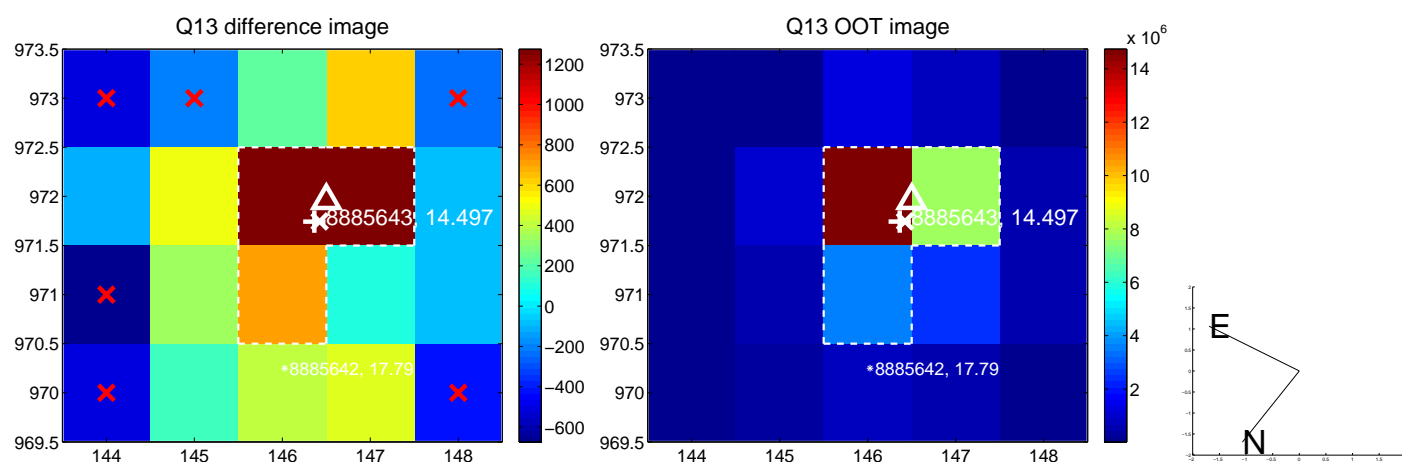
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



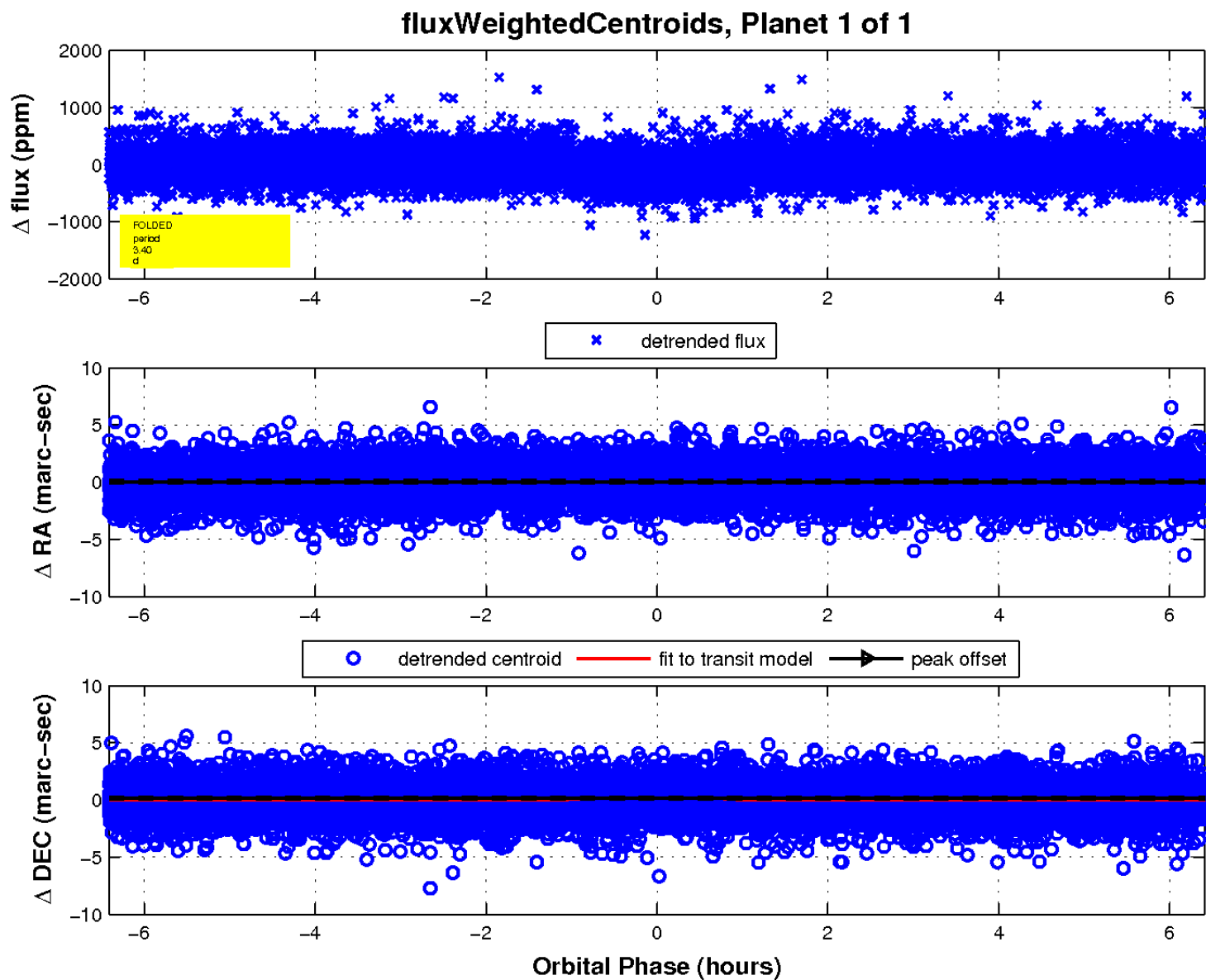
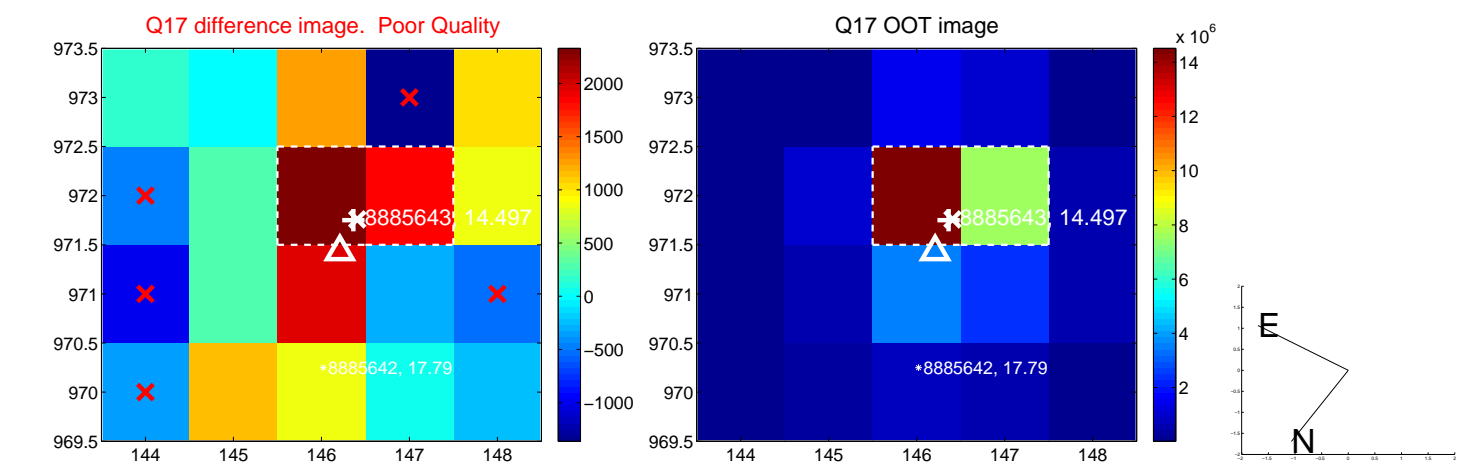
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

