

KIC 003458715

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})
003458715-01	OBS	No	287.942951	237.809165	592.5	31.197	8.8	13.8	5.58	5039	13.53	17.91

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003458715-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_ALT—MOD_NONUNIQU_ALT—CENT_FEW_MEAS

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

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

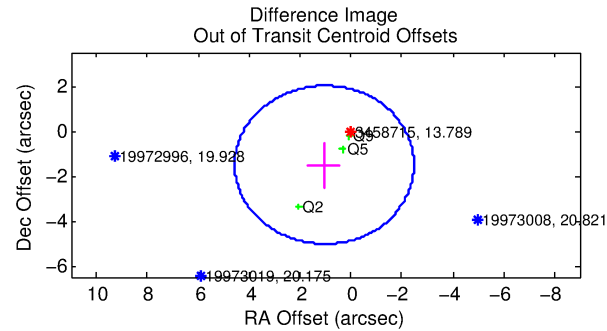
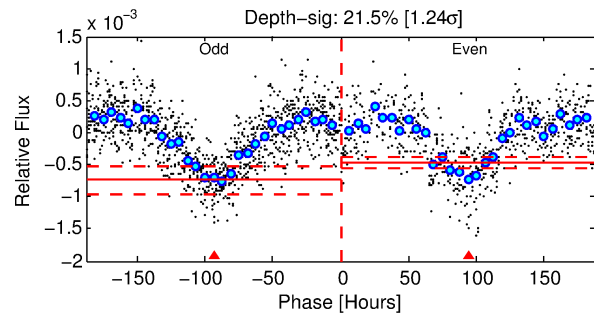
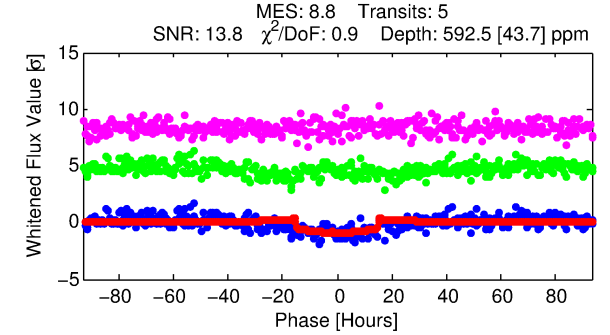
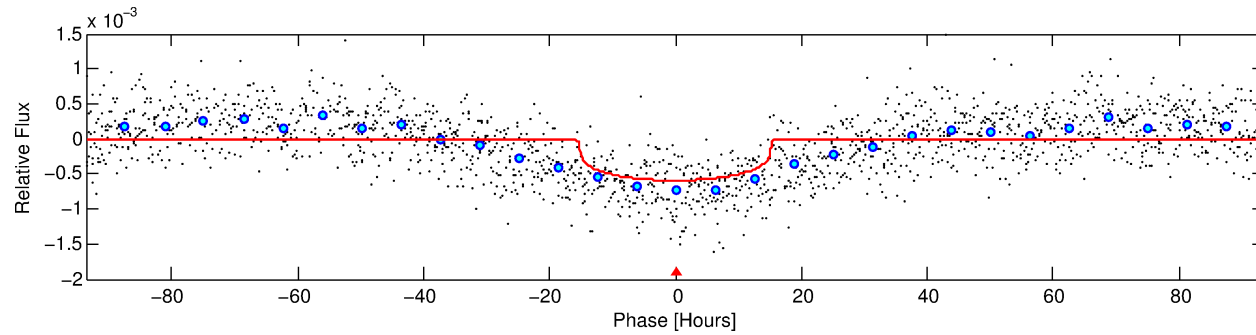
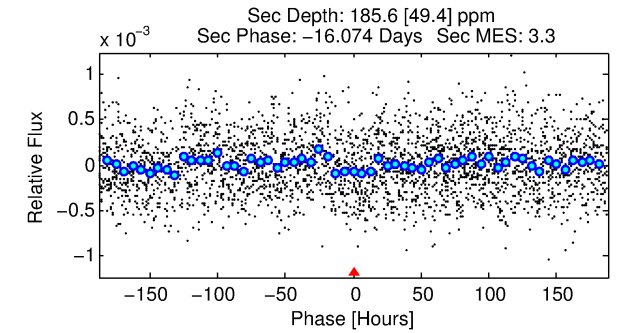
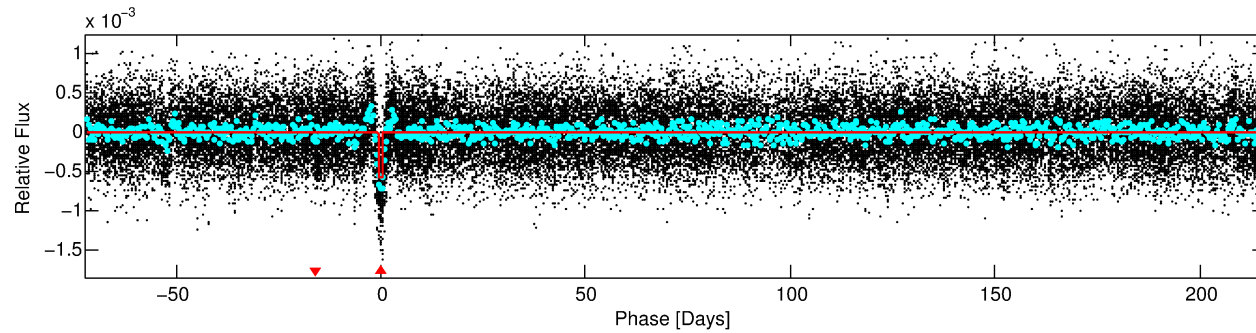
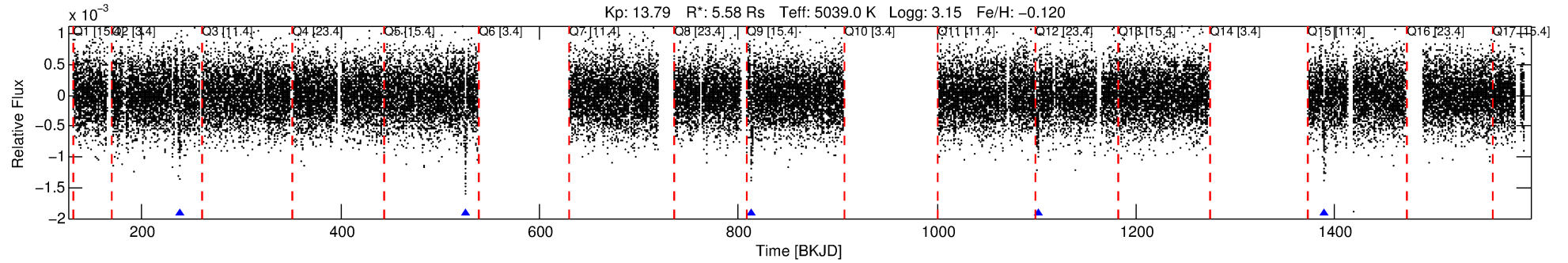
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003458715-01

No Significant Match Found

DV One-Page Summary

KIC: 3458715 Candidate: 1 of 1 Period: 287.943 d



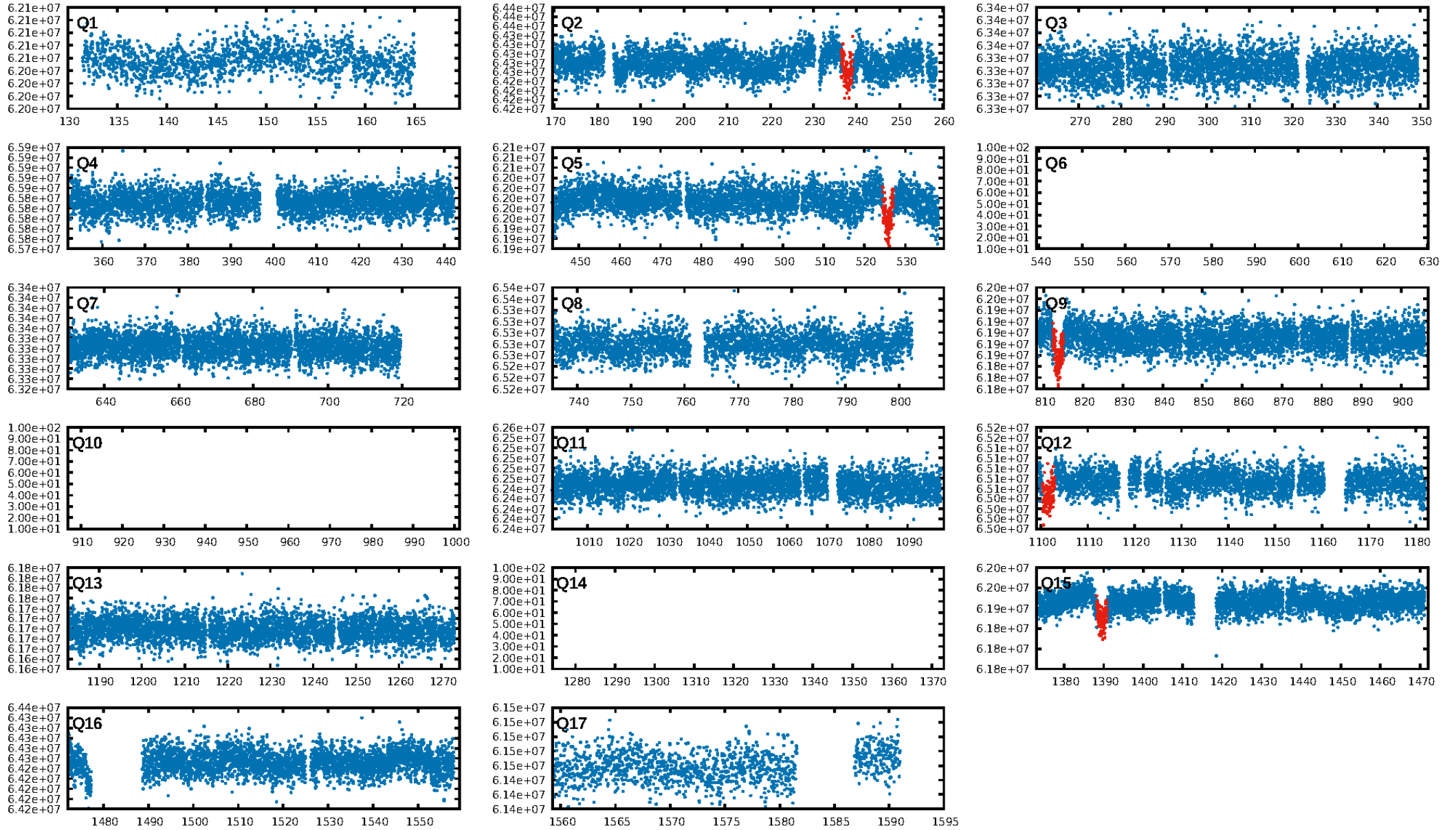
DV Fit Results:

Period = 287.94295 [0.00700] d
Epoch = 237.8092 [0.0177] BKJD
Rp/R* = 0.0222 [0.0046]
a/R* = 66.18 [48.48]
b = 0.41 [1.52]
Seff = 17.91 [3.12]
Teq = 525 [23] K
Rp = 13.53 [3.83] Re
a = 1.0028 [0.1303] AU
Ag = 561.24 [287.44] [1.95 σ]
Teffp = 3948 [499] K [6.85 σ]

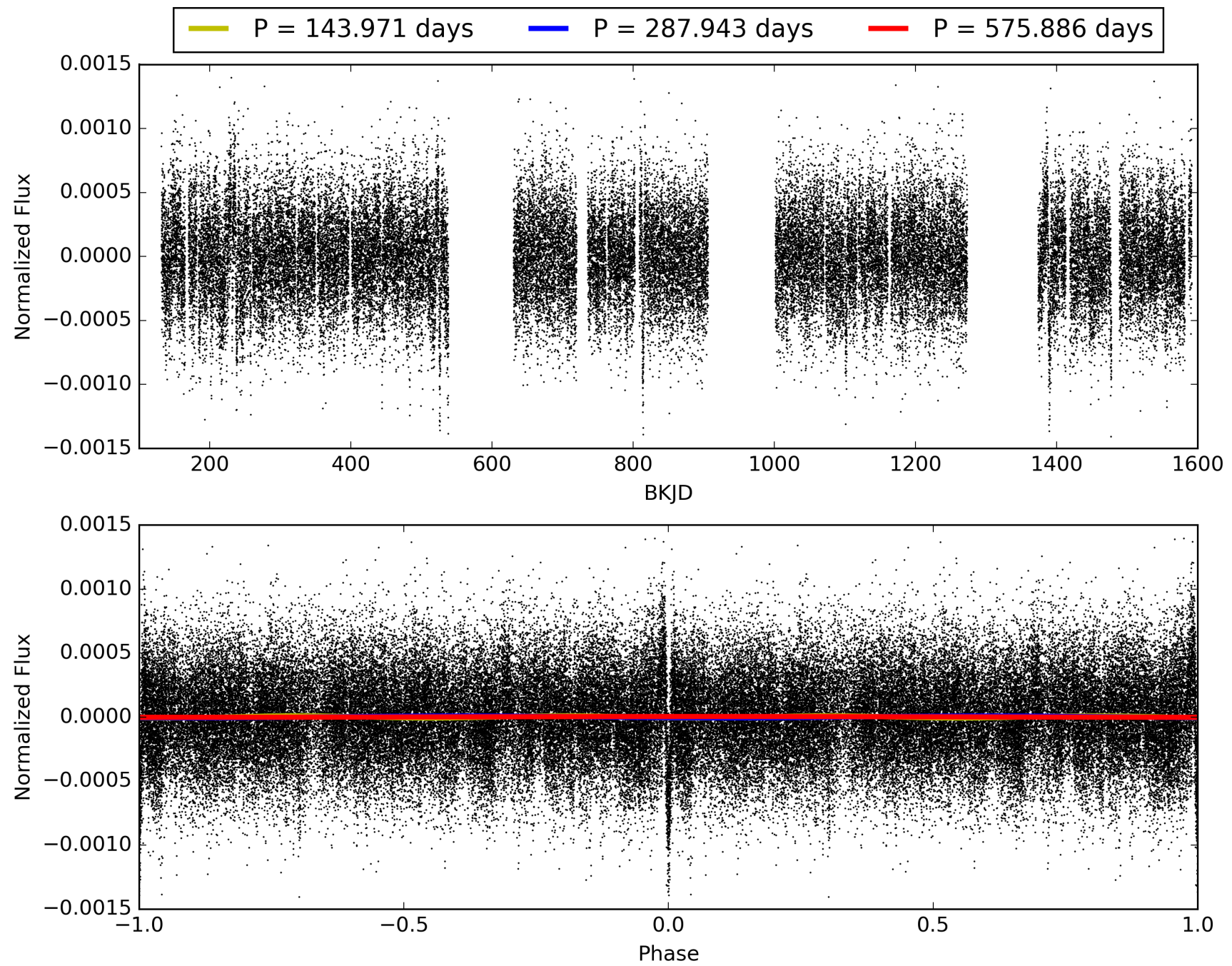
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 3.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.33e-20
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 2.663
Centroid-sig: 8.0%
Centroid-so: 1.015 arcsec [1.91 σ]
OotOffset-rm: 1.833 arcsec [1.56 σ]
KicOffset-rm: 1.890 arcsec [1.70 σ]
OotOffset-st: 1/0/0/2 [3]
KicOffset-st: 1/0/0/2 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [4/4]

TCE 003458715-01, PDC Light Curves

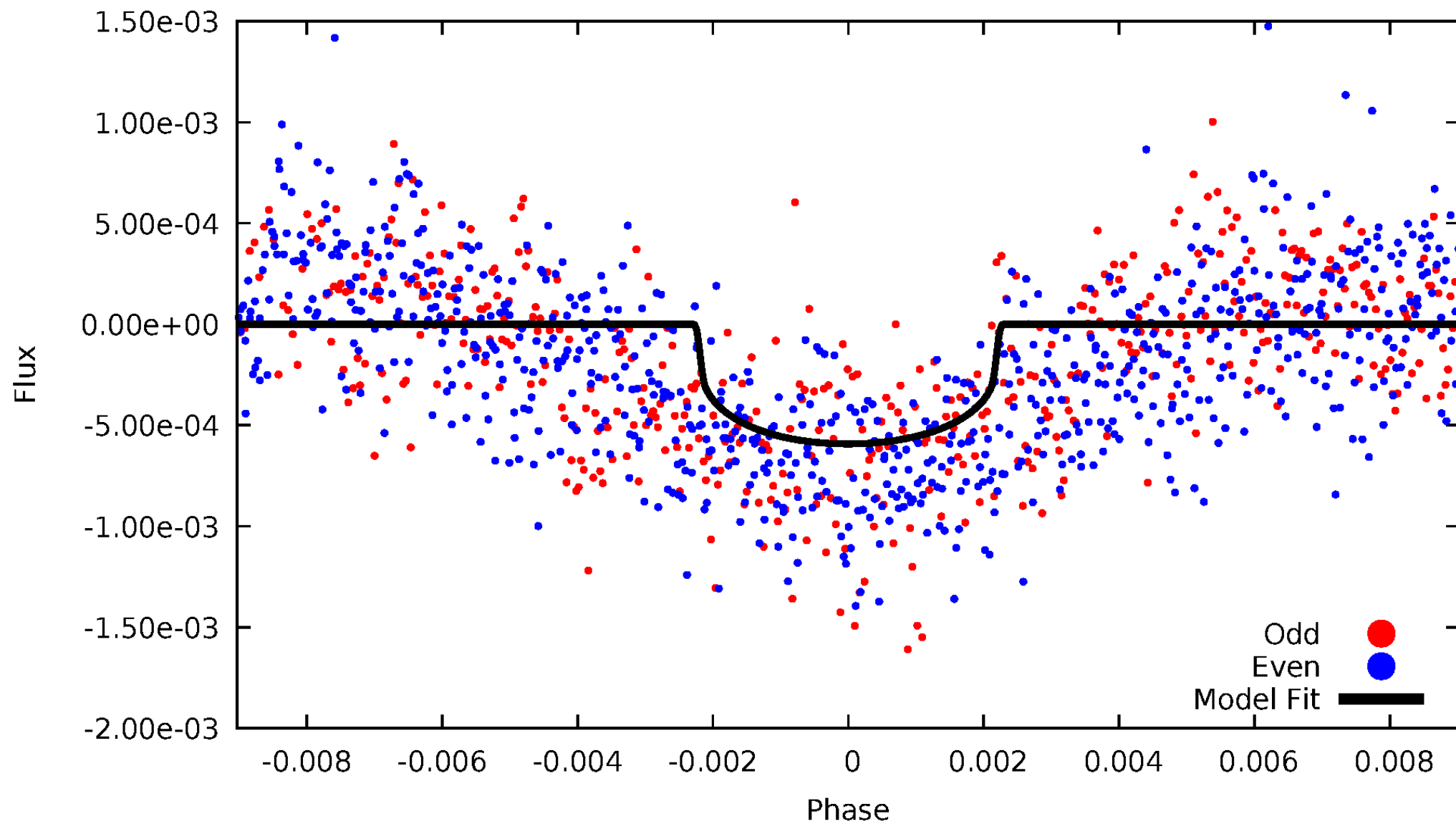


TCE 003458715-01



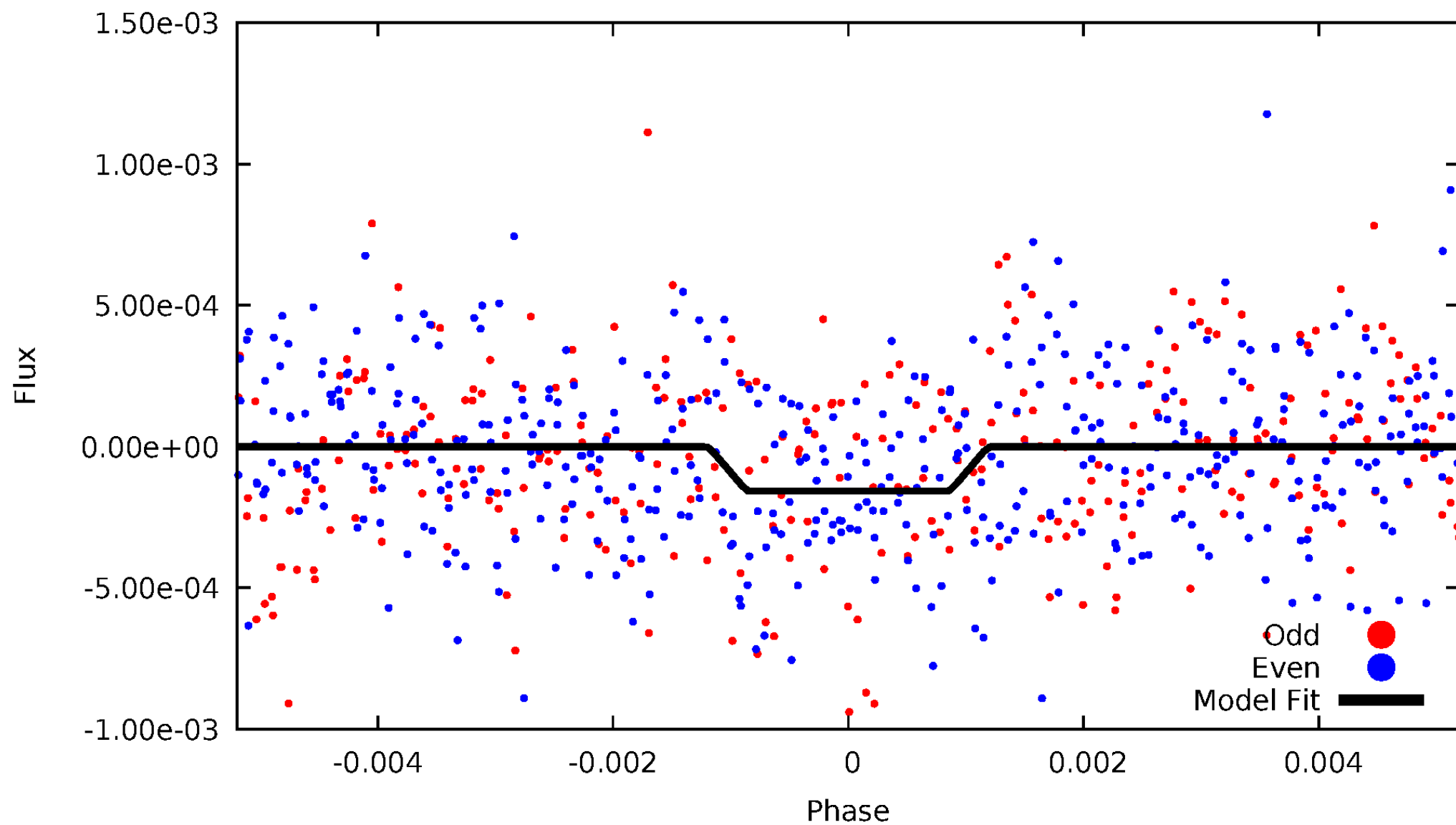
DV Odd/Even

TCE 003458715-01

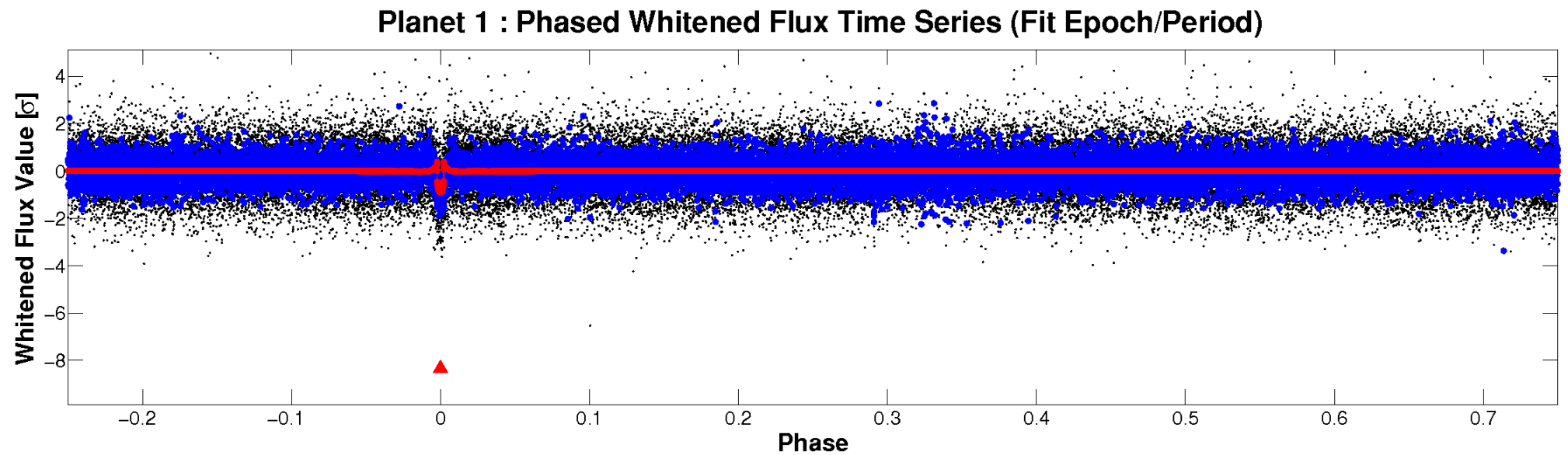
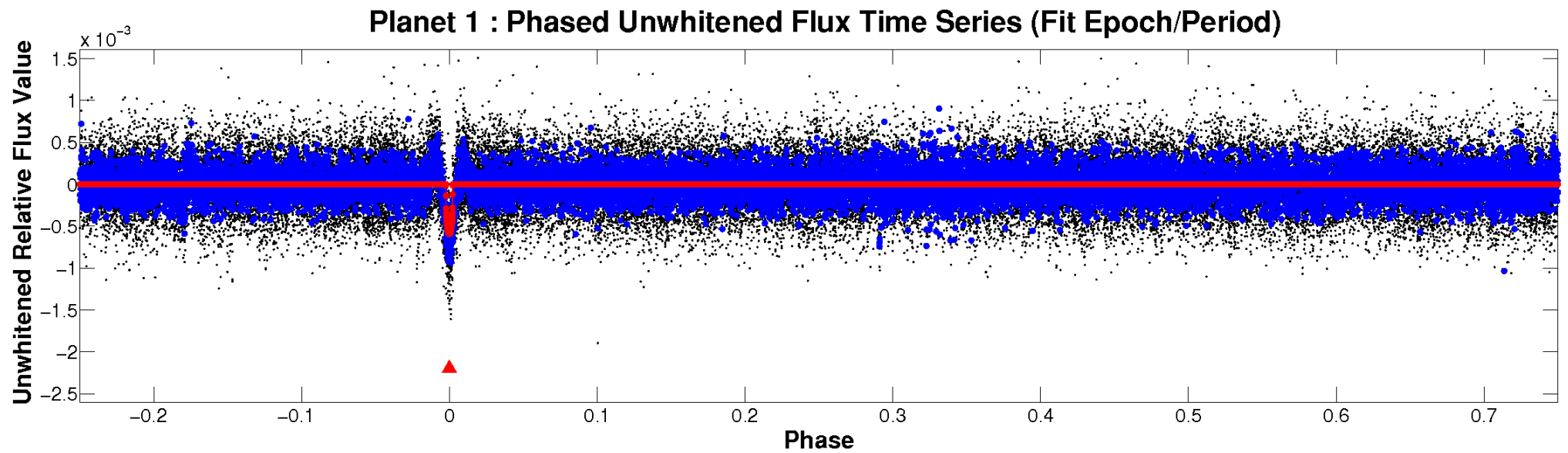


ALT Odd/Even

TCE 003458715-01



Non-Whitened Vs. Whitened Light Curve



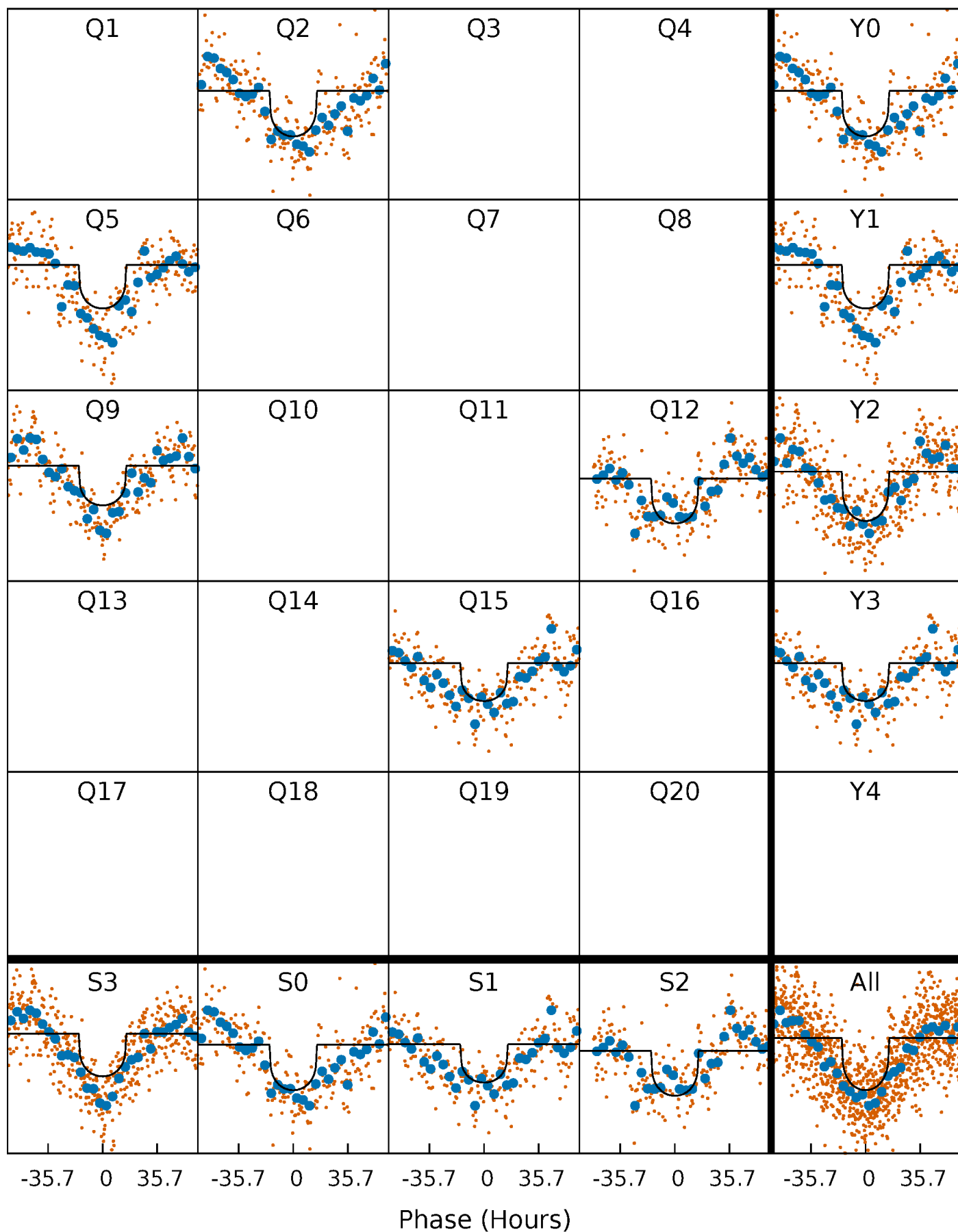
PDC Quarter-Phased Transit Curves

TCE 003458715-01 P=287.942951 Days $T_0=237.809165$ (BKJD)



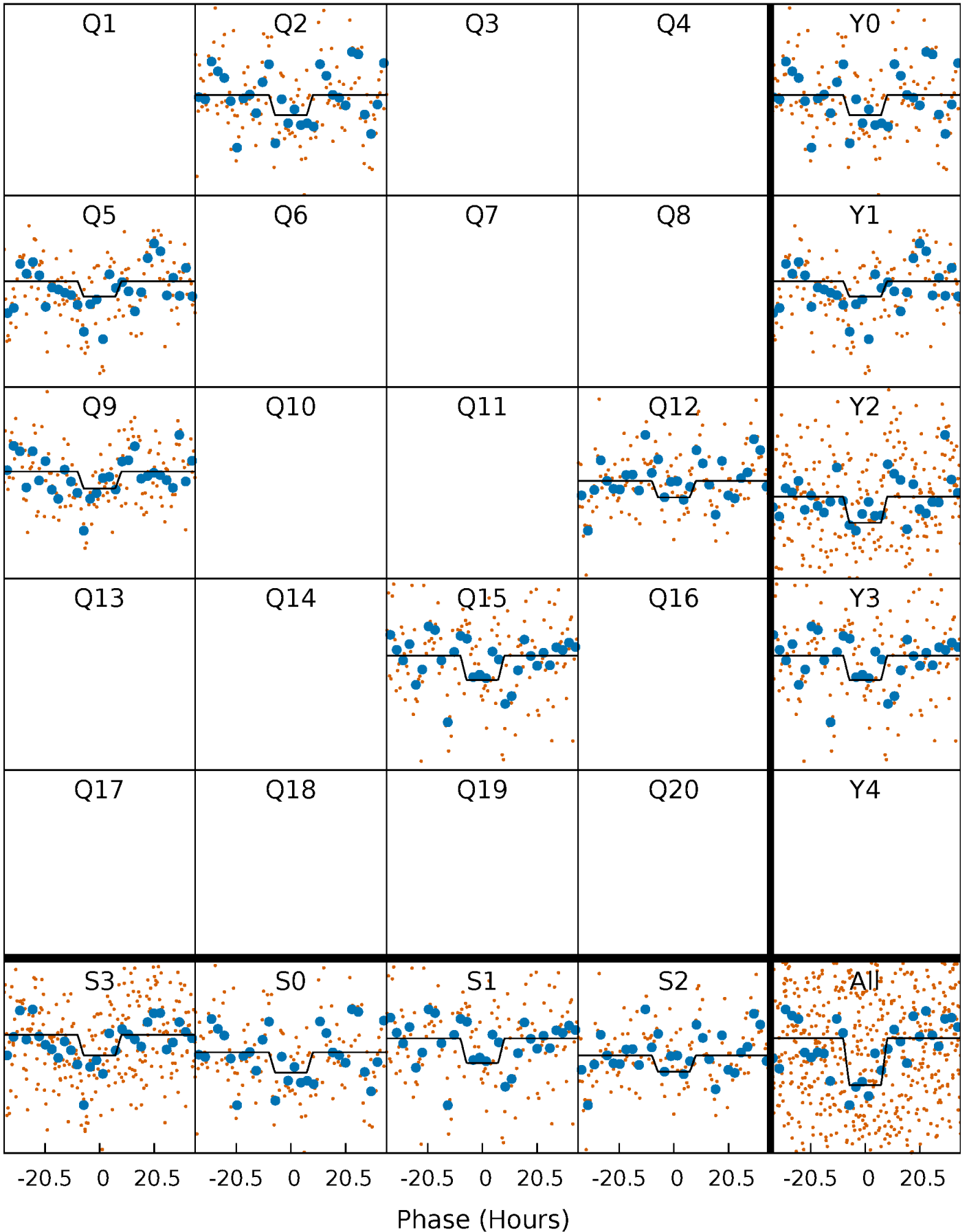
DV Quarter-Phased Transit Curves

TCE 003458715-01 P=287.942951 Days $T_0=237.809165$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

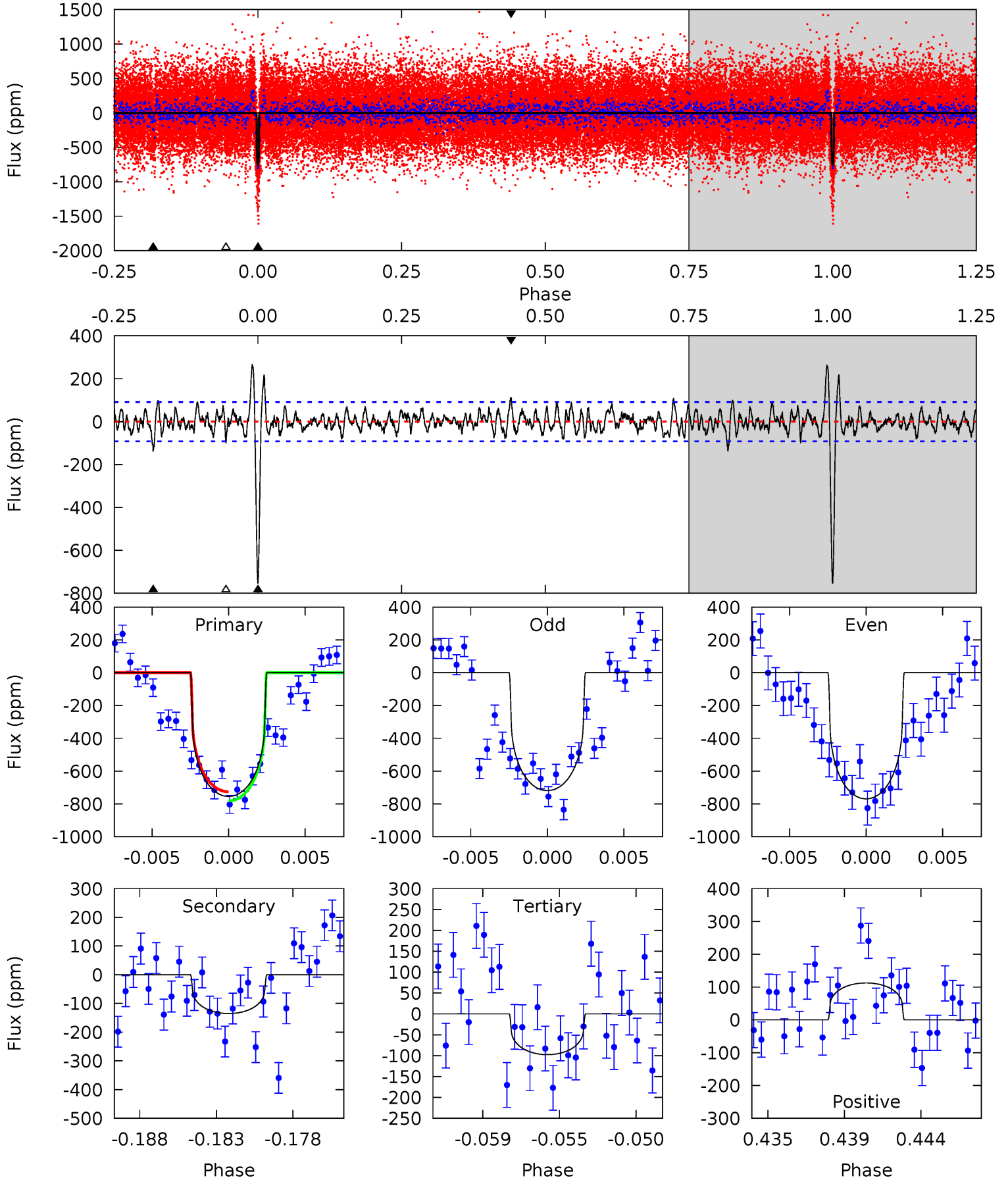
TCE 003458715-01 P=287.949727 Days $T_0=238.052474$ (BKJD)



DV Model-Shift Uniqueness Test

003458715-01, P = 287.942951 Days, E = 237.809165 Days

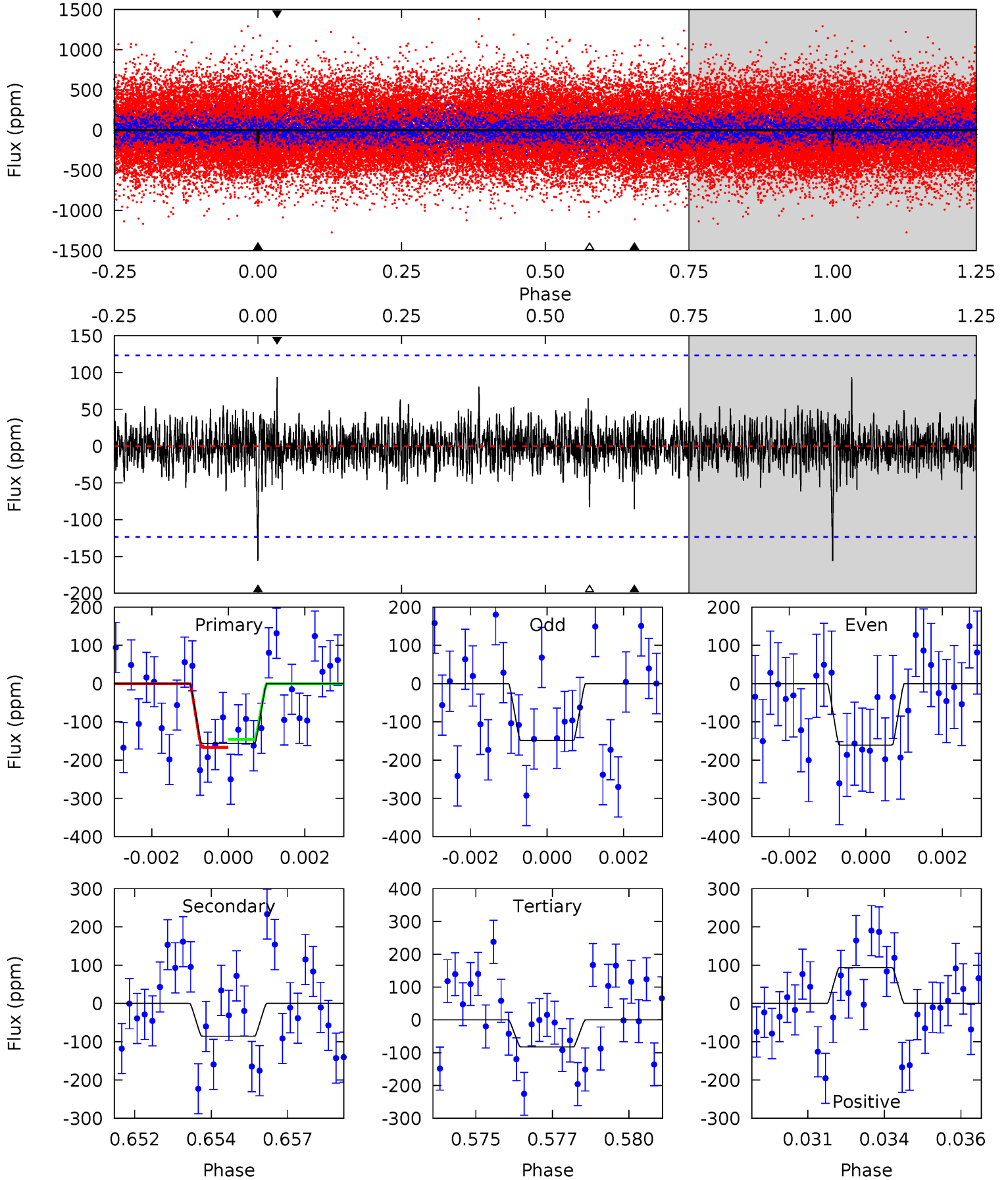
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
42.4	7.59	5.48	6.32	5.17	2.84	2.41	36.9	36.1	2.11	1.27	1.39	1.02	0.26	1.55



Alt Model-Shift Uniqueness Test

003458715-01, P = 287.949727 Days, E = 238.052474 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.69	3.67	3.54	4.02	5.29	3.03	0.86	3.15	2.67	0.13	-0.35	0.25	0.78	0.38	0.45



Stellar Parameters For KIC 003458715

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5039^{+87}_{-137}	$3.154^{+0.030}_{-0.030}$	$-0.120^{+0.200}_{-0.300}$	$5.584^{+0.428}_{-1.071}$	$1.621^{+0.237}_{-0.554}$	$0.013^{+0.004}_{-0.001}$
	+2%/-3%	+1%/-1%	+167%/-250%	+8%/-19%	+15%/-34%	+30%/-8%
Source	PHO1	AST9	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 003458715-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-135 ± 18	$13.55^{+3.15}_{-3.06}$	731^{+19}_{-21}	3918^{+352}_{-277}	405^{+258}_{-136}
Alt.	-86 ± 23	$7.56^{+3.02}_{-2.82}$	733^{+19}_{-23}	4463^{+998}_{-571}	836^{+1315}_{-444}

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

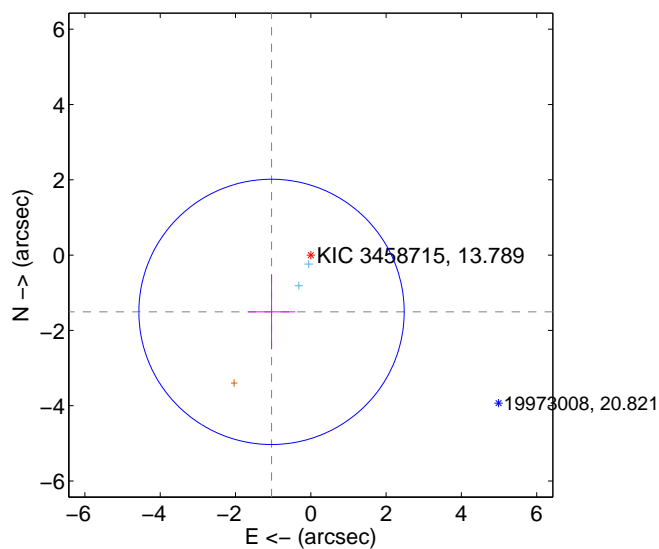
Supplemental centroid analysis for 003458715-01. Kepler magnitude: 13.79. Transit SNR 13.82

There are 2 quarters with good PRF difference image offsets

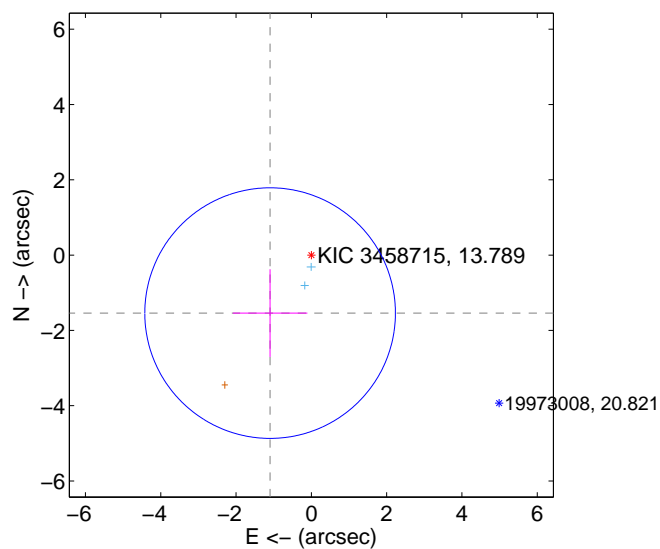
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.833 ± 1.174	1.56	1.043 ± 0.630	-1.508 ± 0.995
PRF-fit source offset from KIC position	1.890 ± 1.109	1.70	1.095 ± 0.990	-1.541 ± 1.165
photometric centroid source offset	1.02 ± 0.53	1.91	0.16 ± 0.51	-1.00 ± 0.53

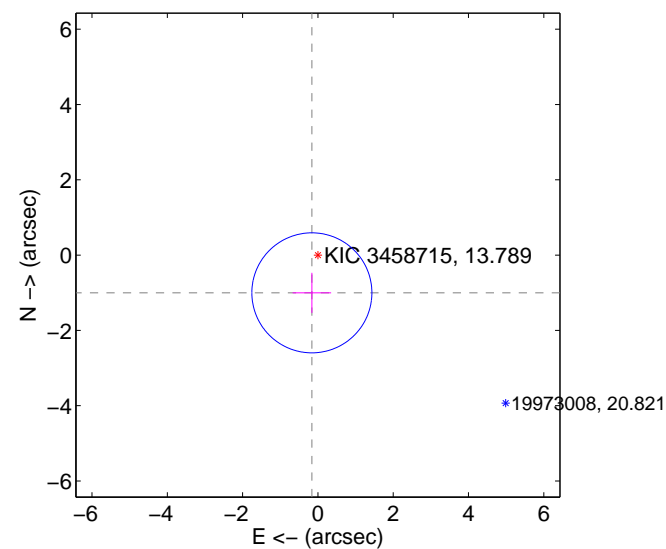
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

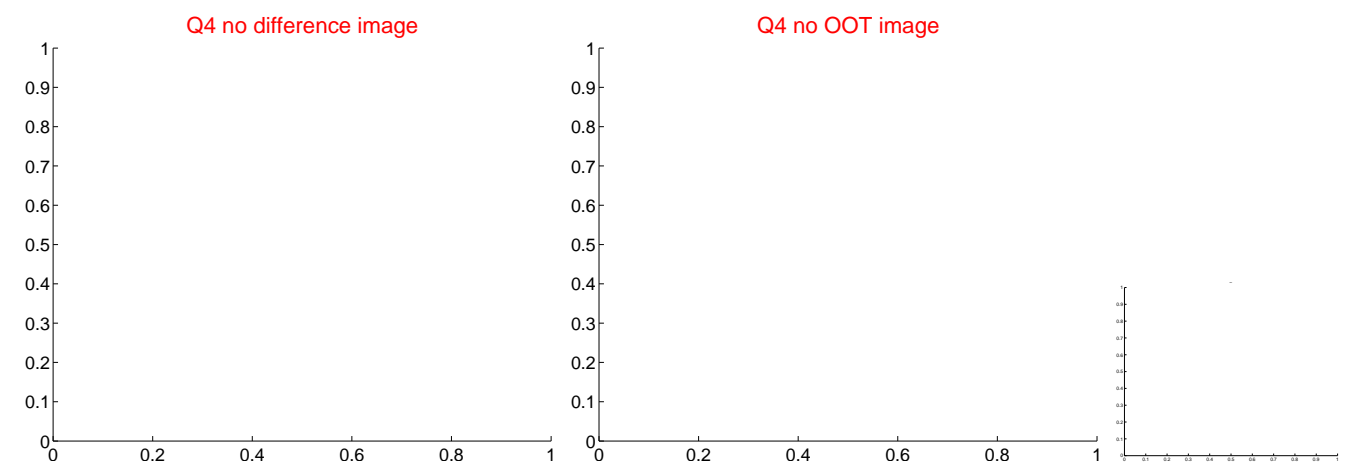
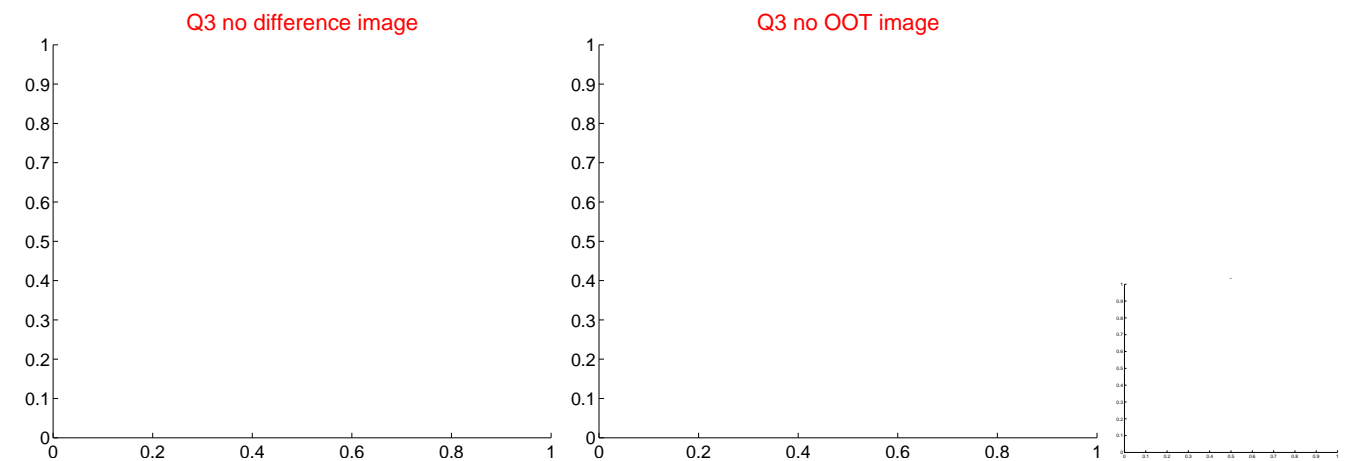
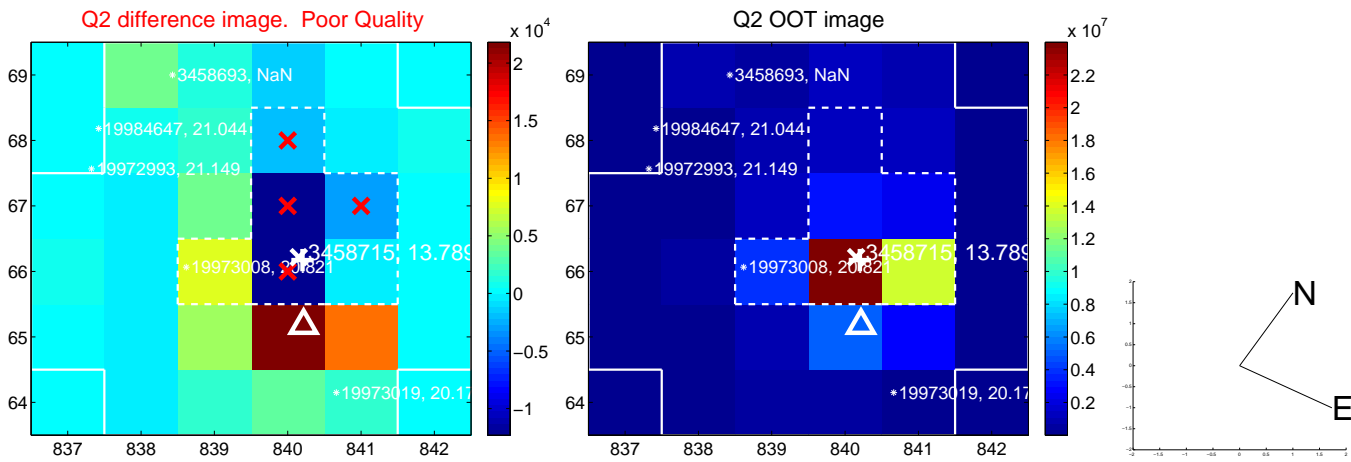
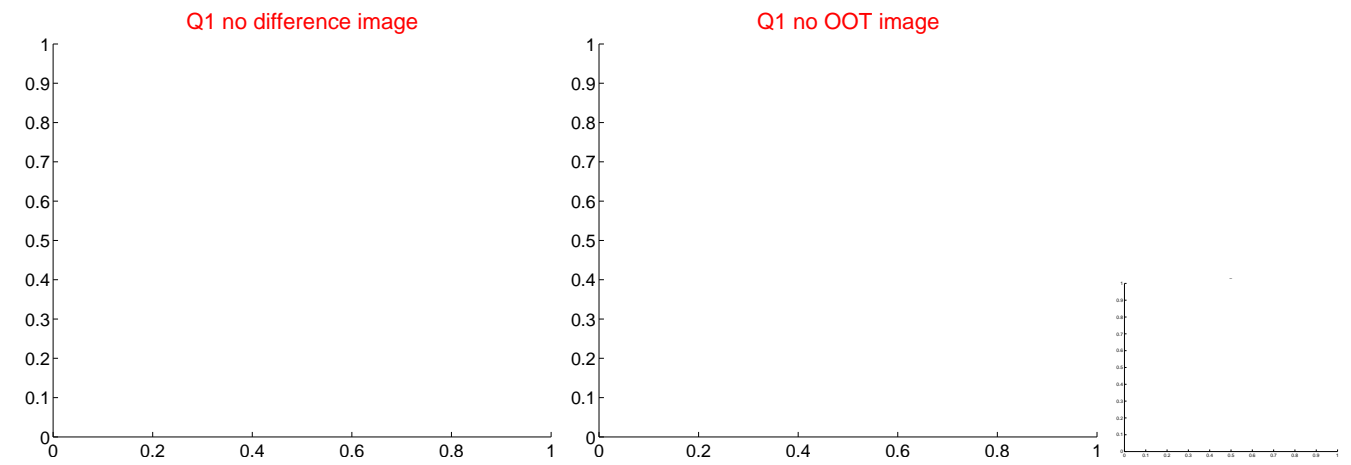


offset from photometric centroids

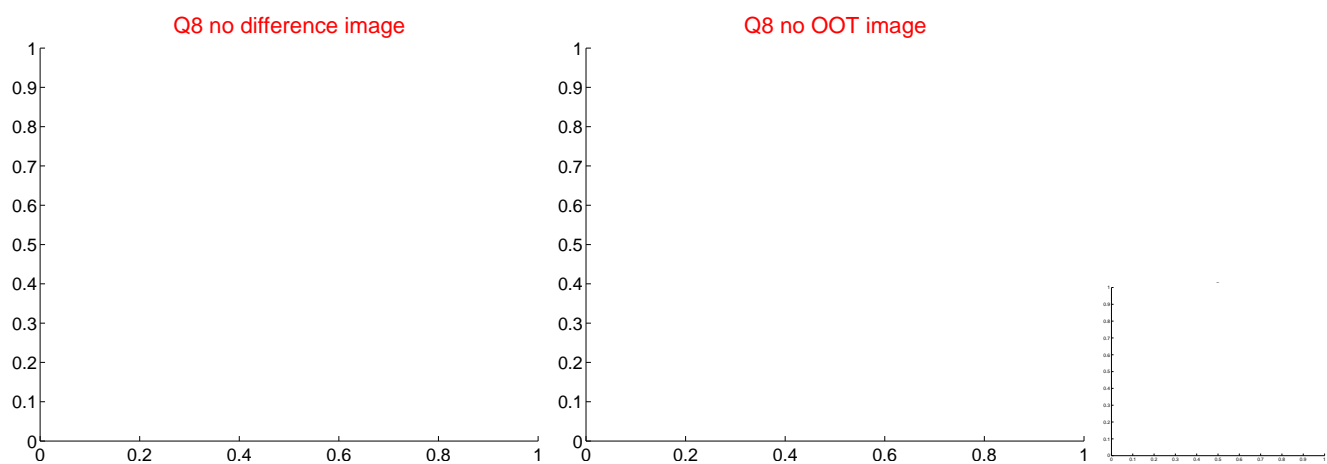
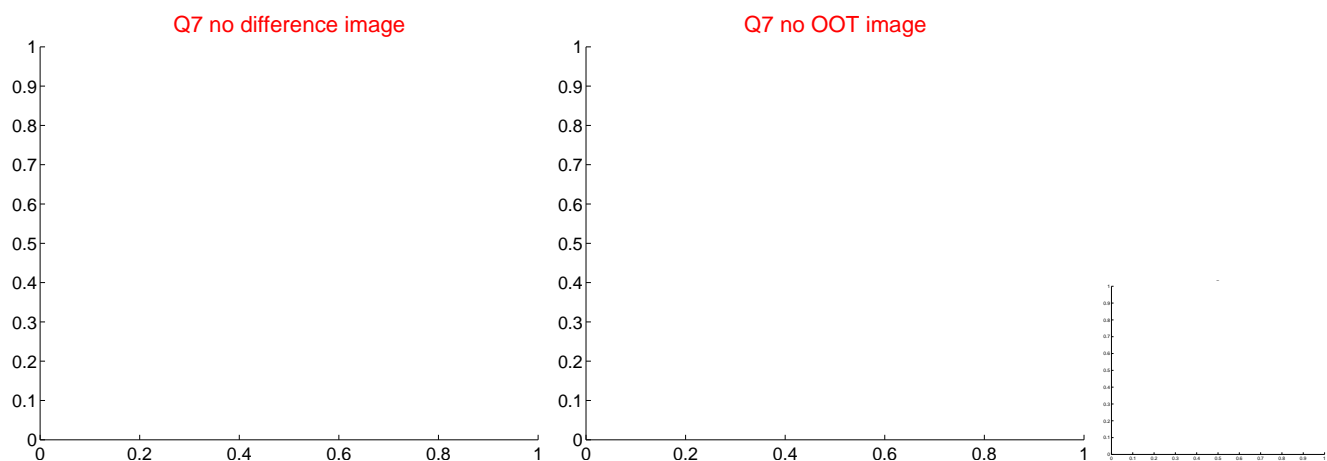
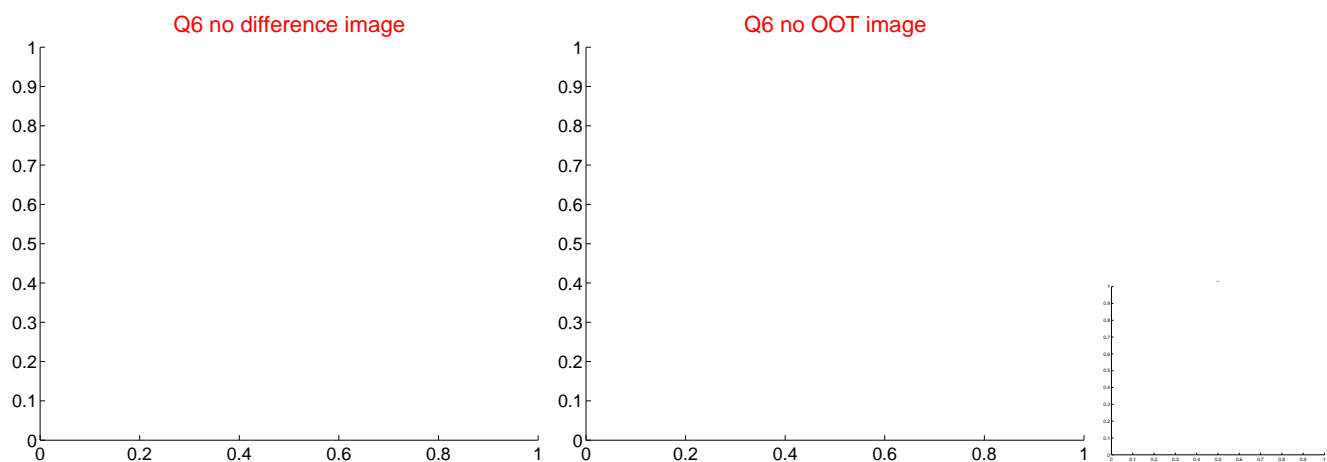
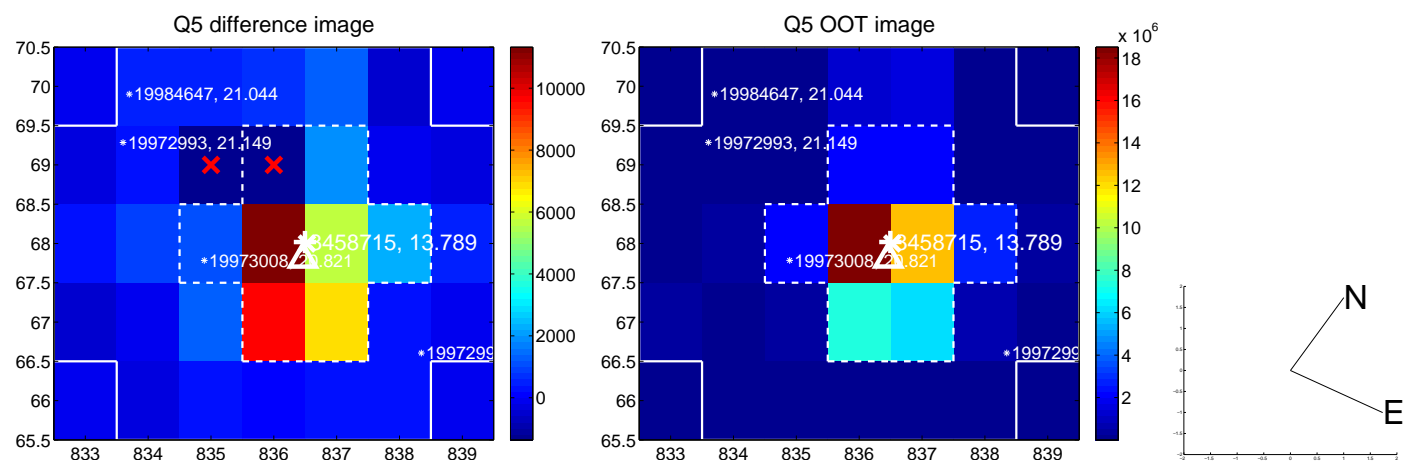


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

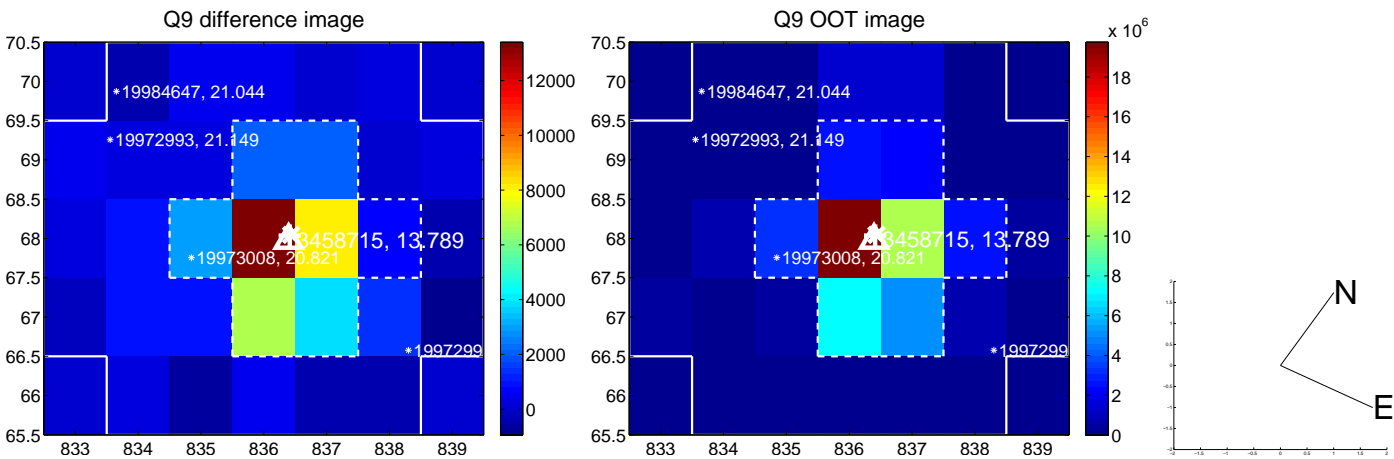
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



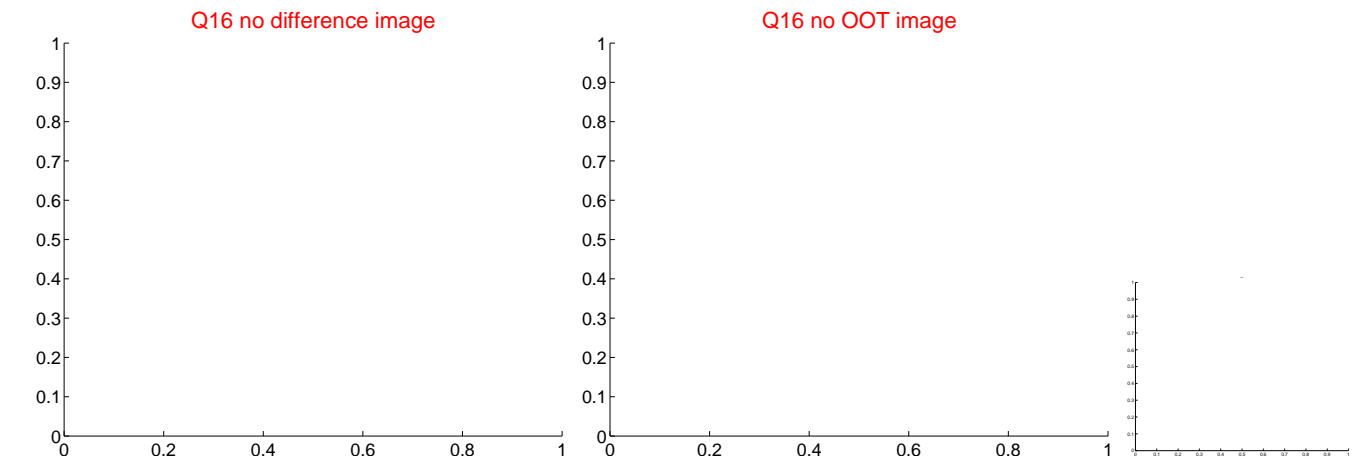
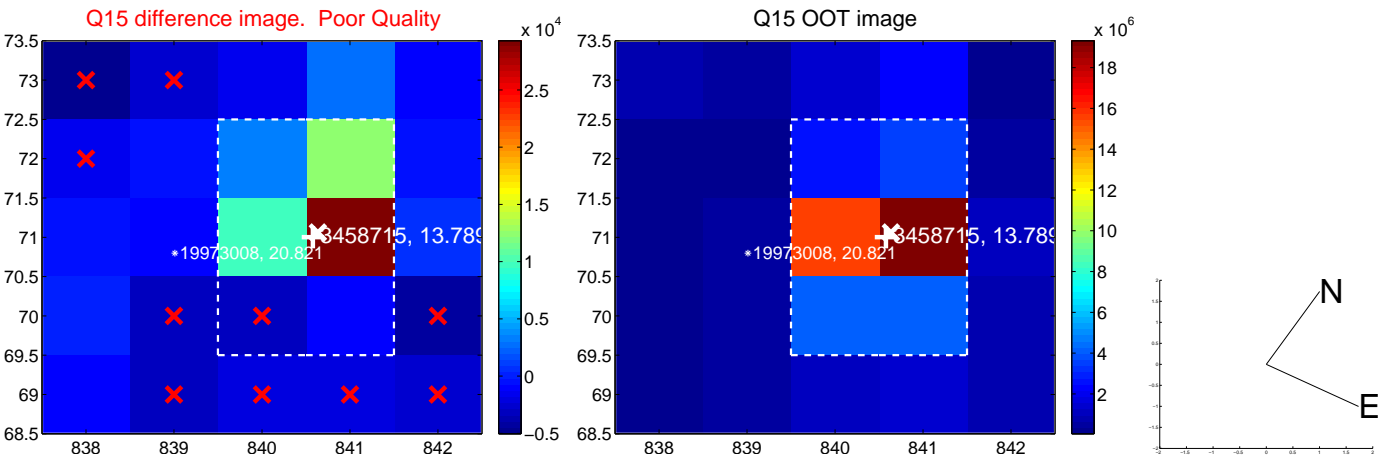
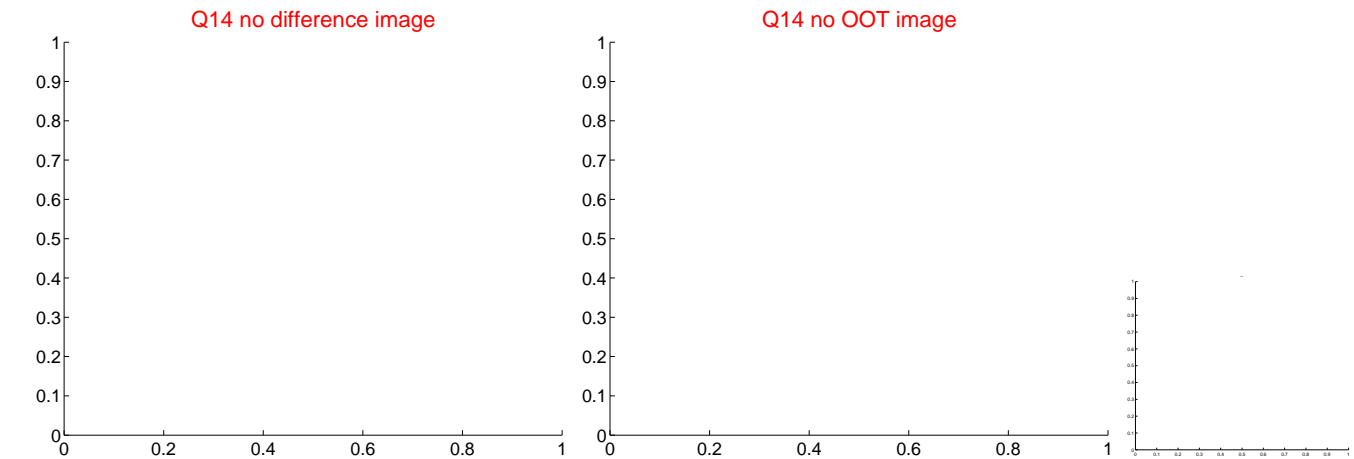
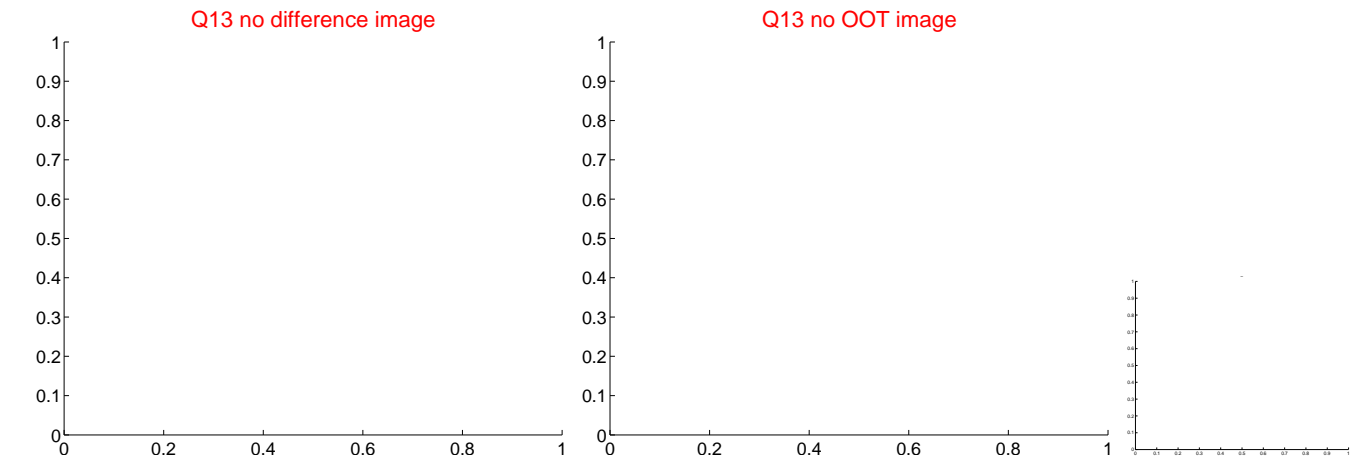
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



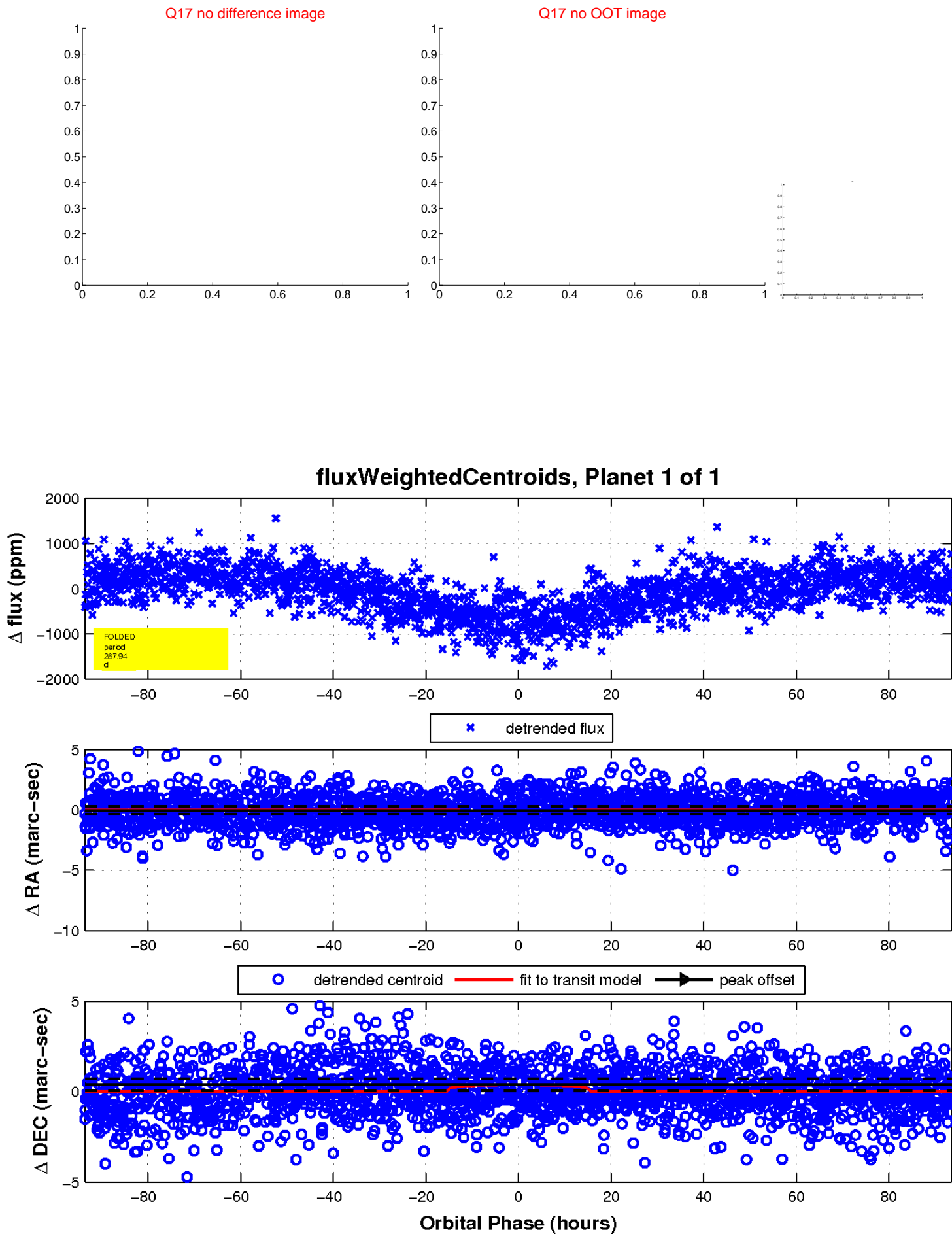
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UKIRT Image

