

KIC 004939533

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})
004939533-01	OBS	2899.01	5.772129	134.927847	326.0	2.787	12.2	12.8	0.86	5591	1.86	165.73

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004939533-01	OBS	PC	0.98	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.

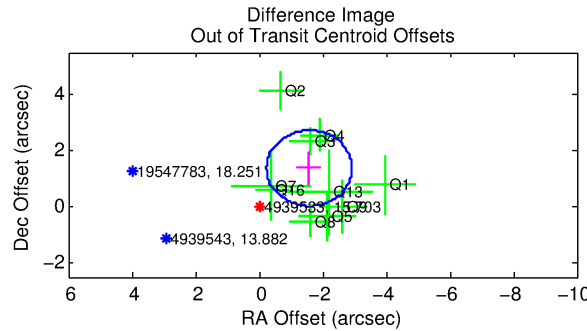
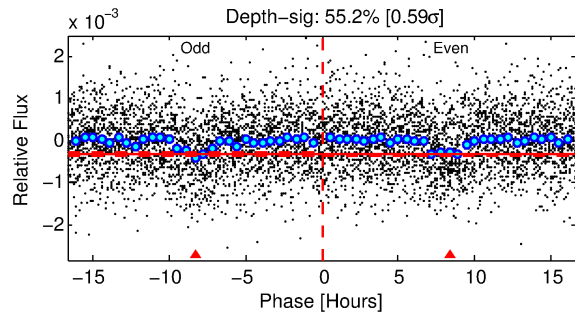
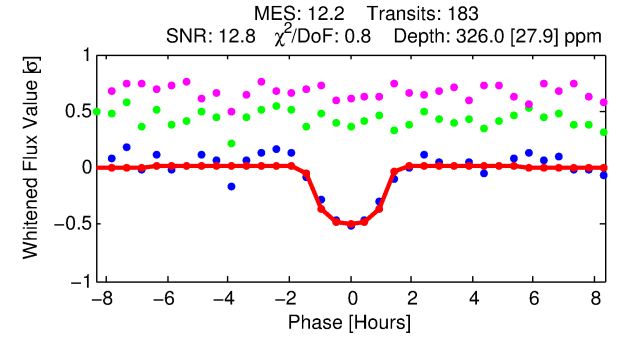
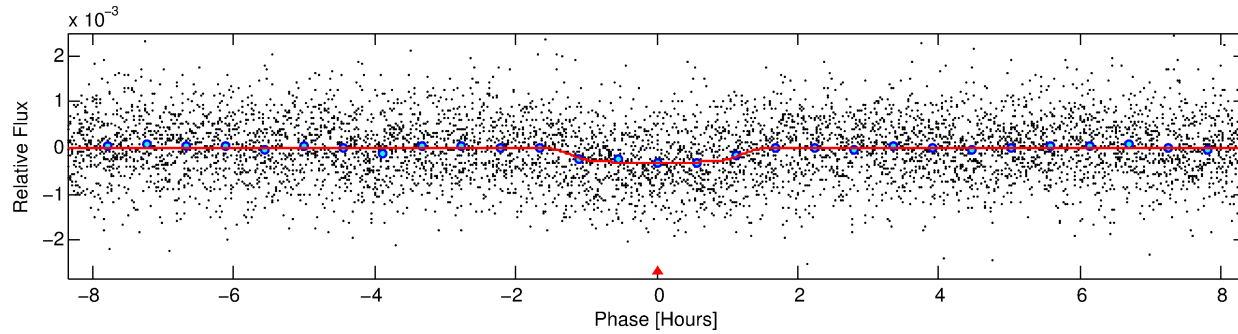
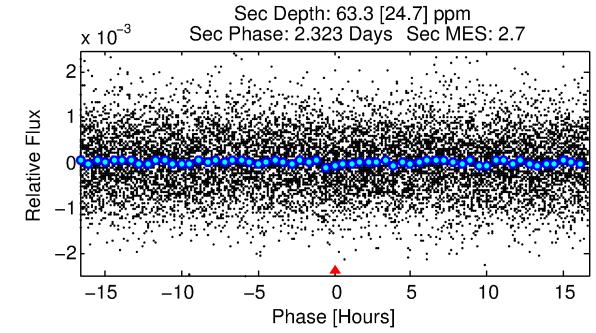
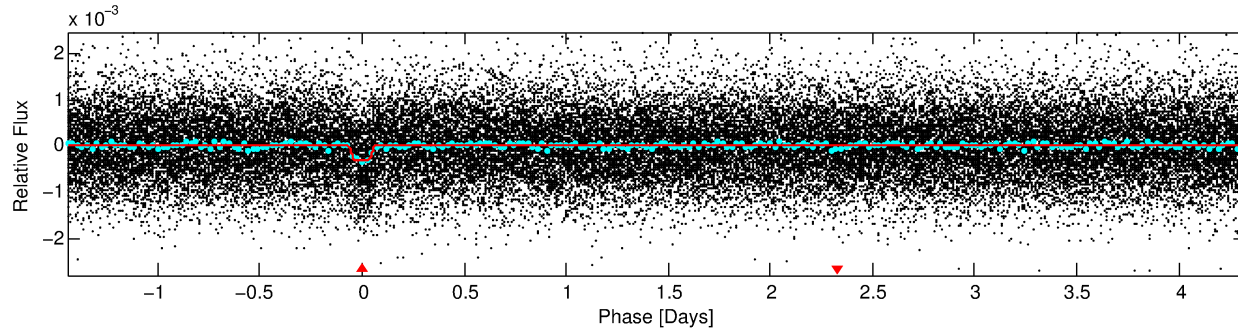
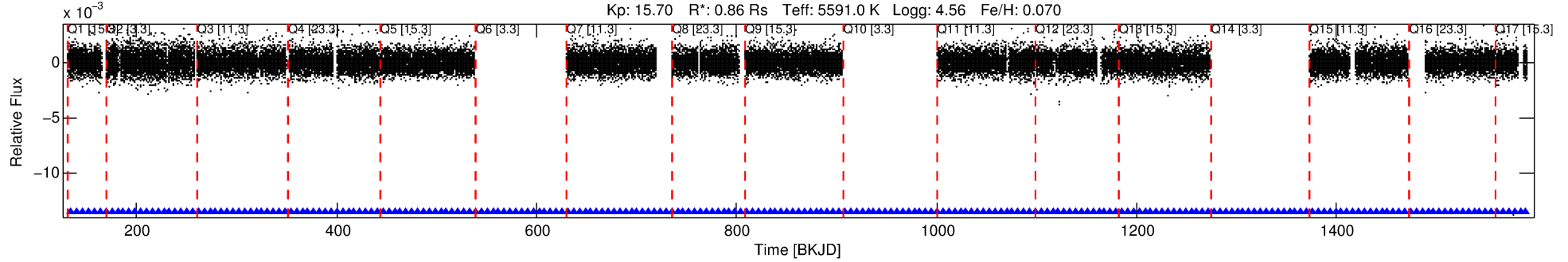
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004939533-01

No Significant Match Found

DV One-Page Summary

KIC: 4939533 Candidate: 1 of 1 Period: 5.772 d
KOI: K02899.01 Corr: 0.952



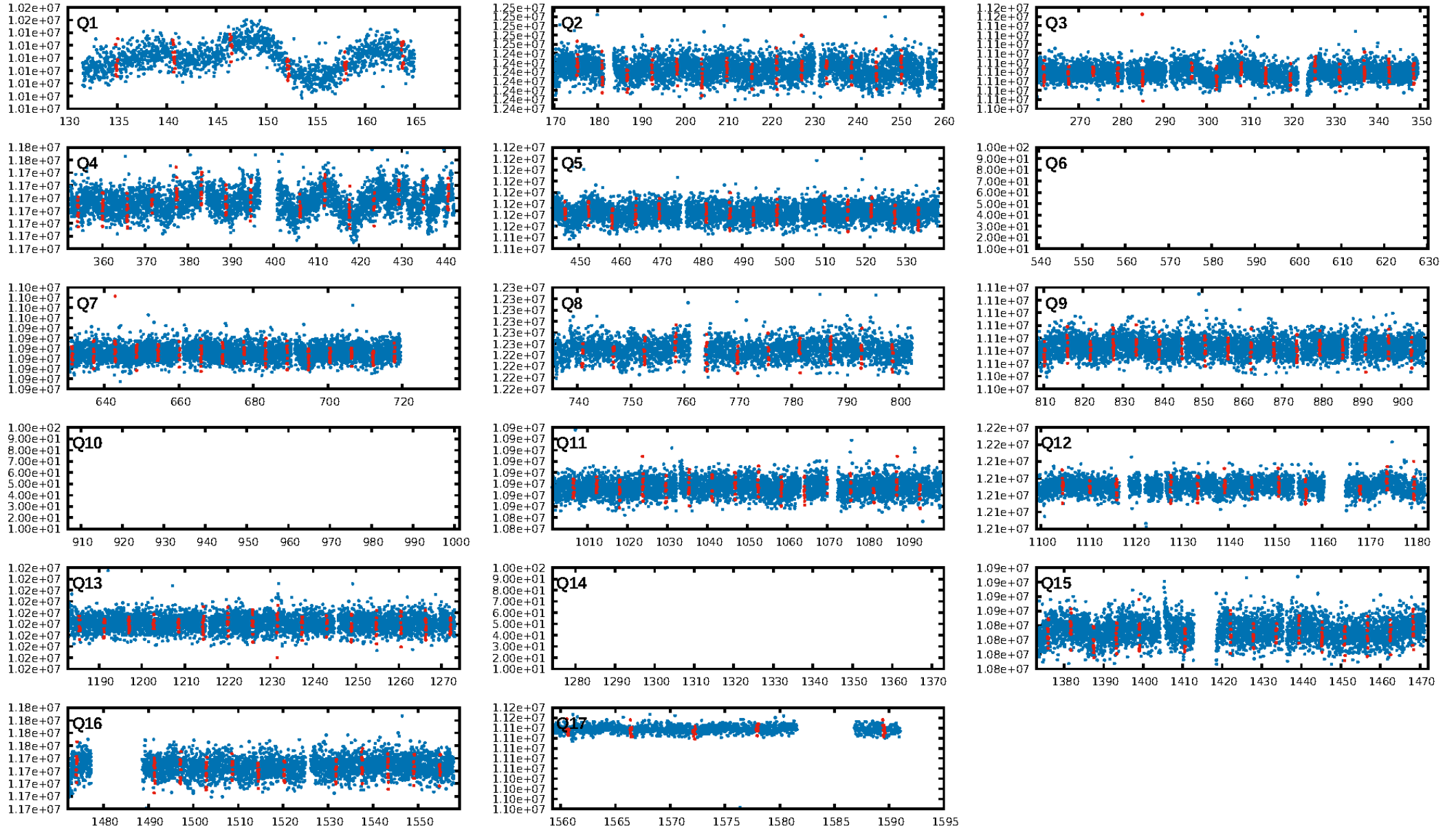
DV Fit Results:

Period = 5.77213 [0.00003] d
Epoch = 134.9278 [0.0042] BKJD
Rp/R* = 0.0198 [0.0079]
a/R* = 7.65 [13.33]
b = 0.90 [0.38]
Seff = 165.73 [49.01]
Teq = 915 [68] K
Rp = 1.86 [0.83] Re
a = 0.0625 [0.0112] AU
Ag = 39.38 [36.46] [1.05σ]
Teffp = 3543 [791] K [3.31σ]

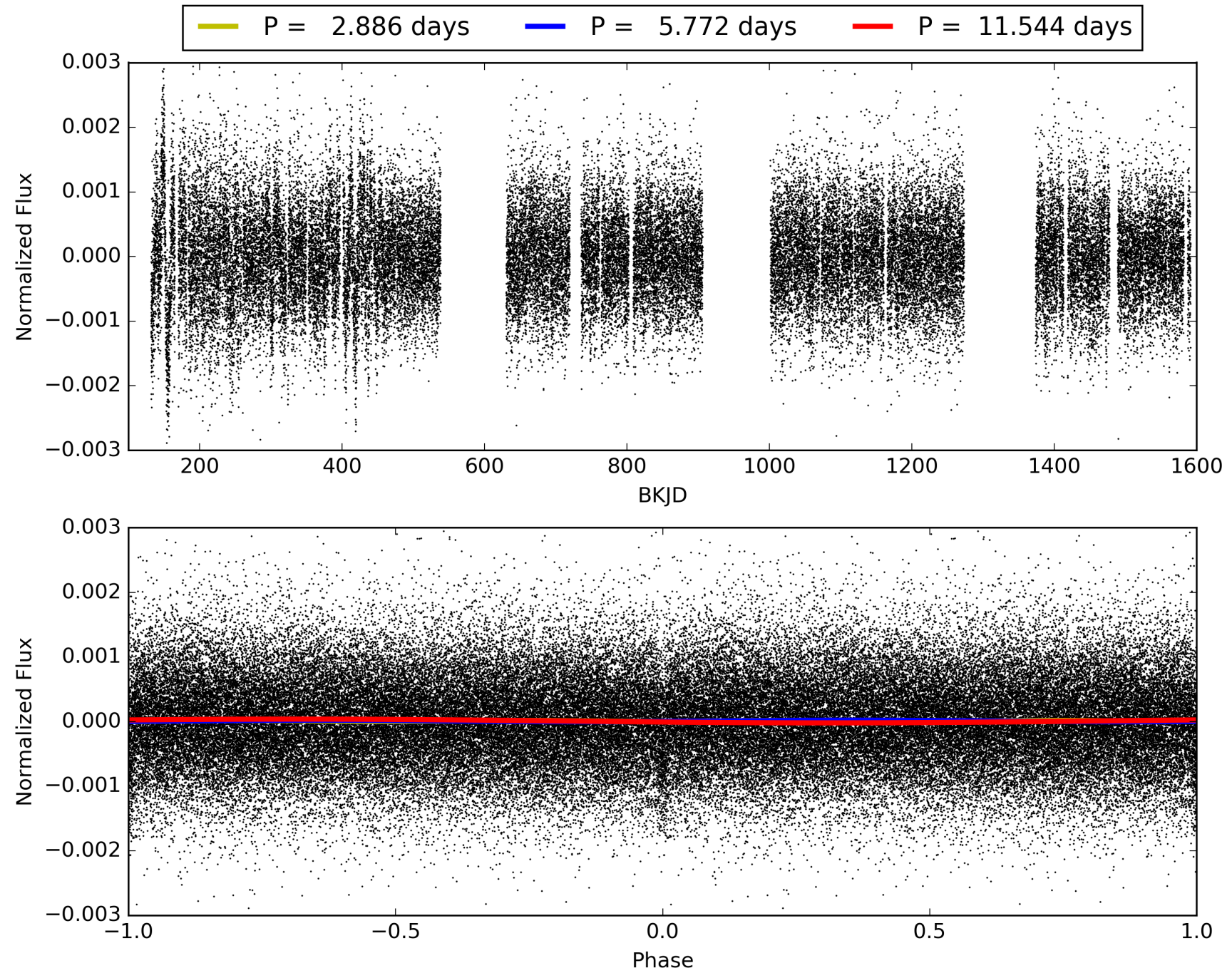
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.27e-34
RollingBand-fgt: 1.00 [172/172]
GhostDiagnostic-chr: 3.443
Centroid-sig: 0.9%
Centroid-so: 2.217 arcsec [3.08σ]
OotOffset-rm: 2.091 arcsec [4.67σ]
KicOffset-rm: 0.299 arcsec [0.57σ]
OotOffset-st: 1/2/3/4 [10]
KicOffset-st: 1/2/3/4 [10]
DiffImageQuality-fgm: 0.40 [4/10]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 004939533-01, PDC Light Curves

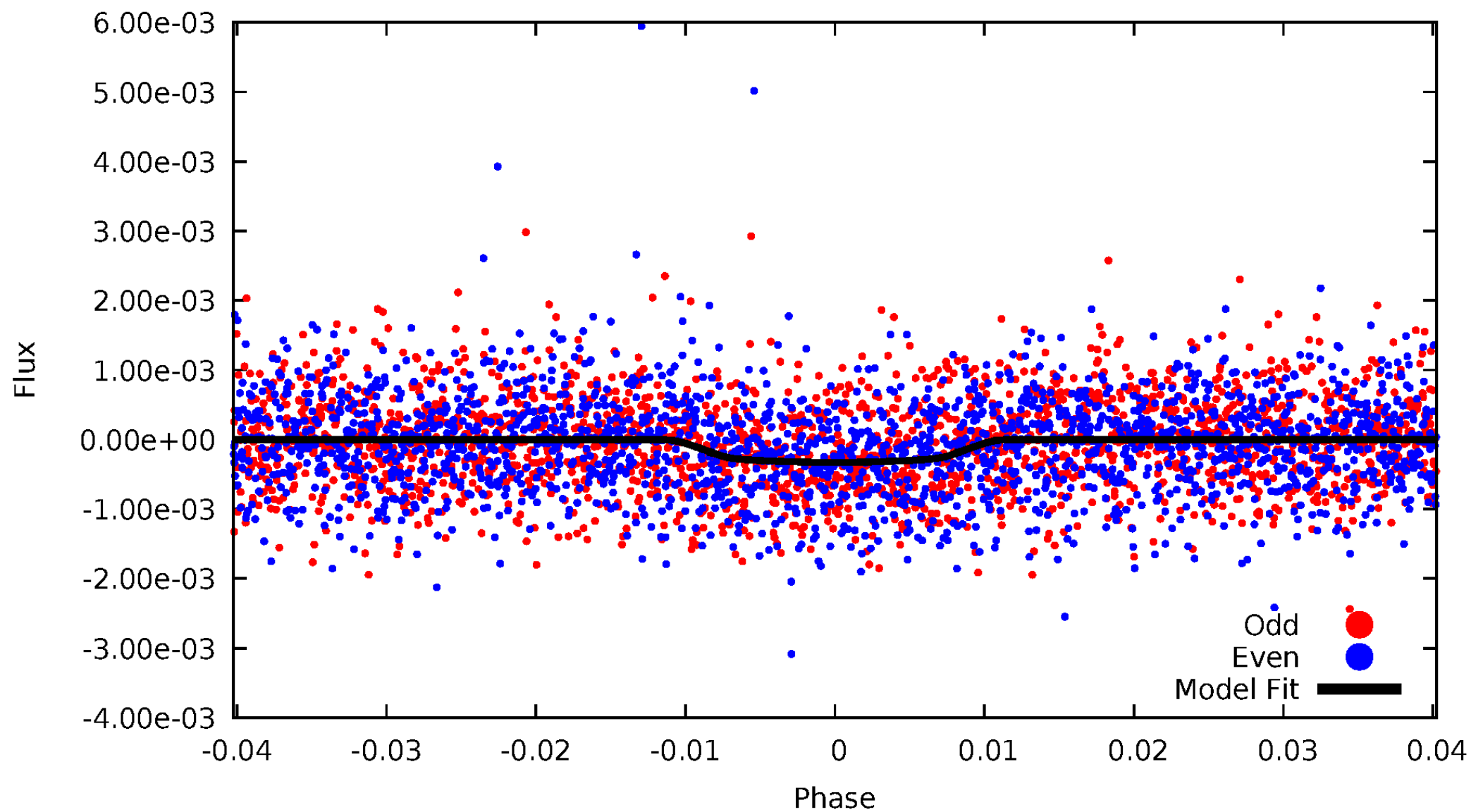


TCE 004939533-01



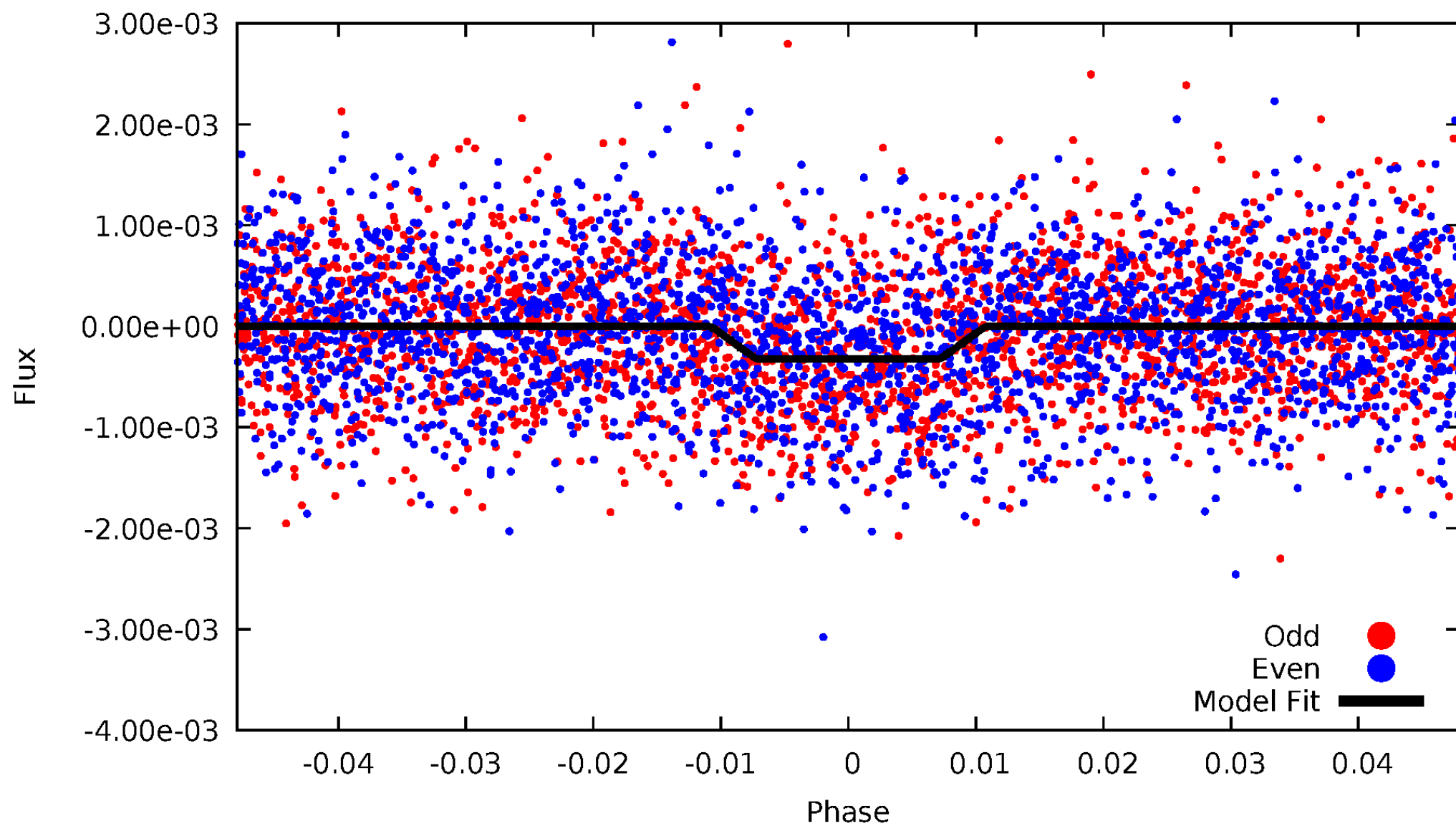
DV Odd/Even

TCE 004939533-01

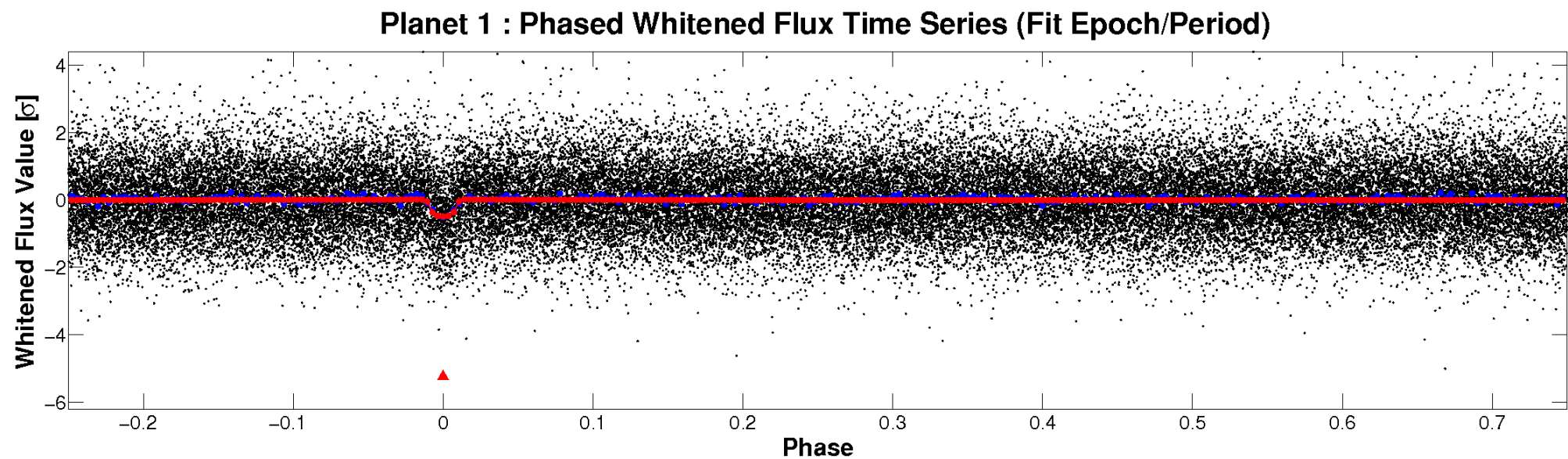
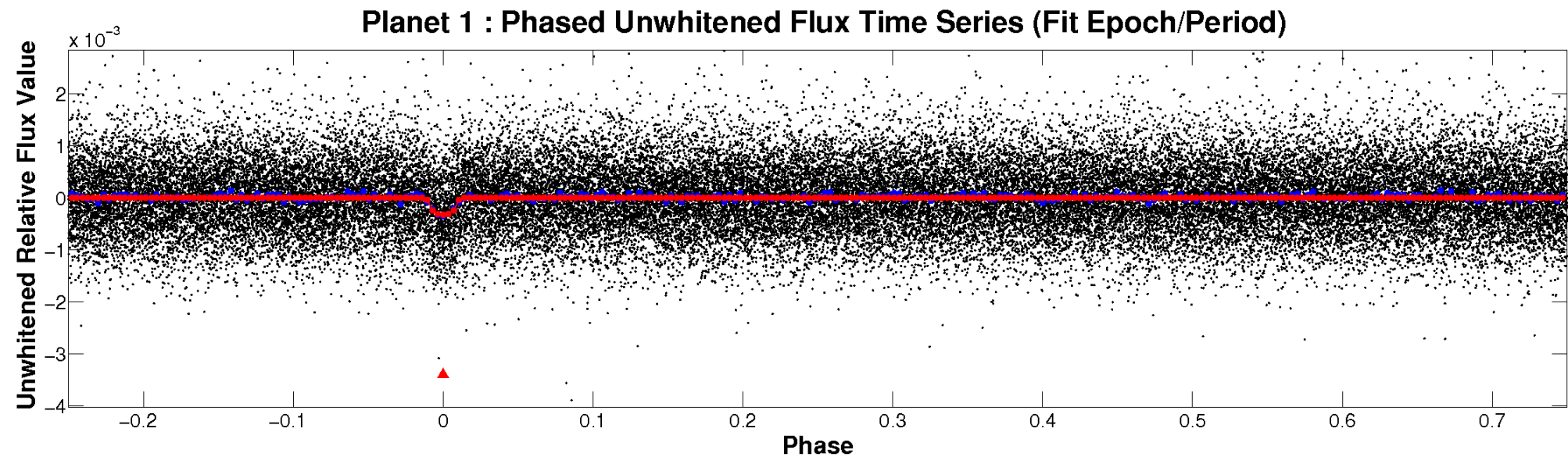


ALT Odd/Even

TCE 004939533-01

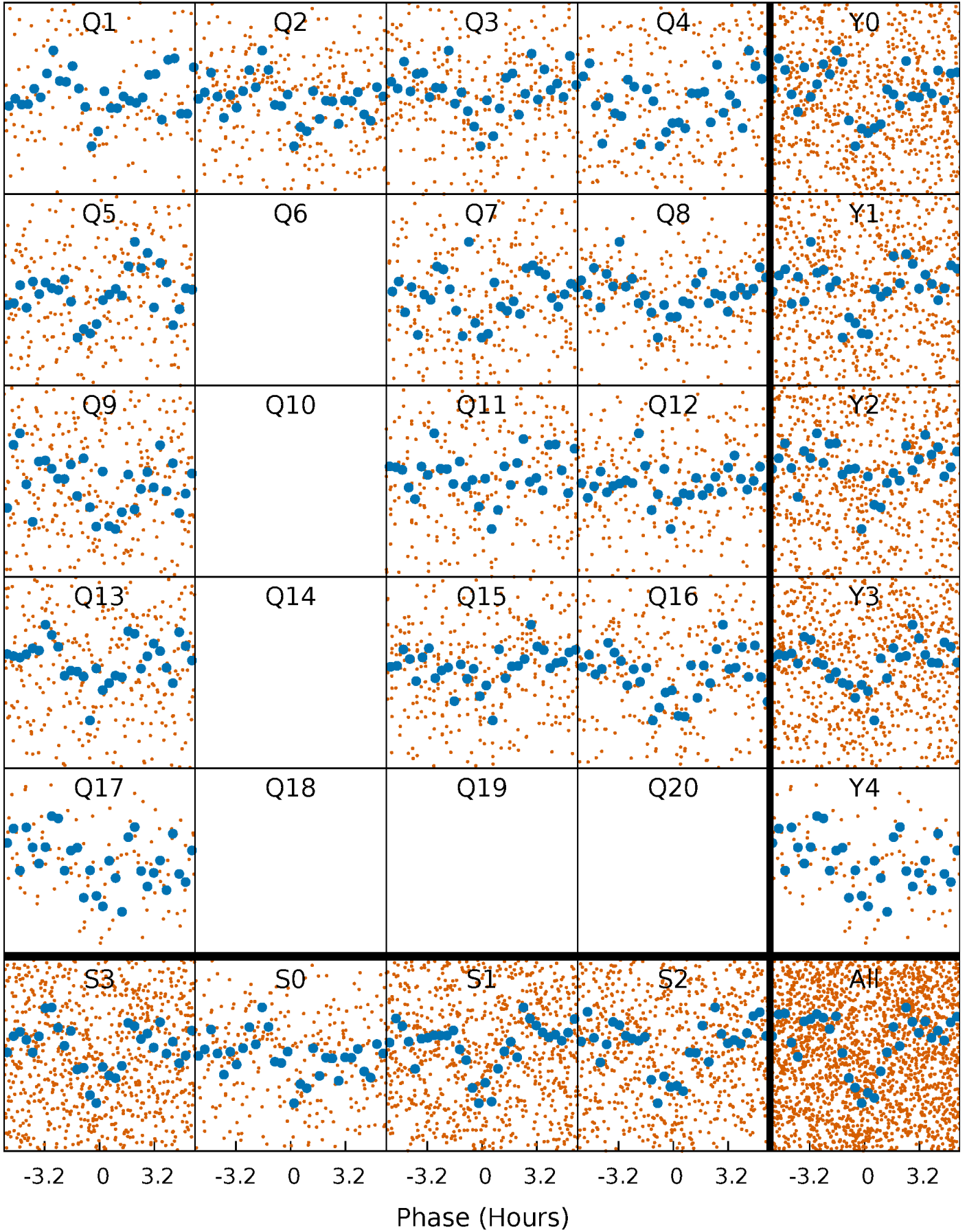


Non-Whitened Vs. Whitened Light Curve



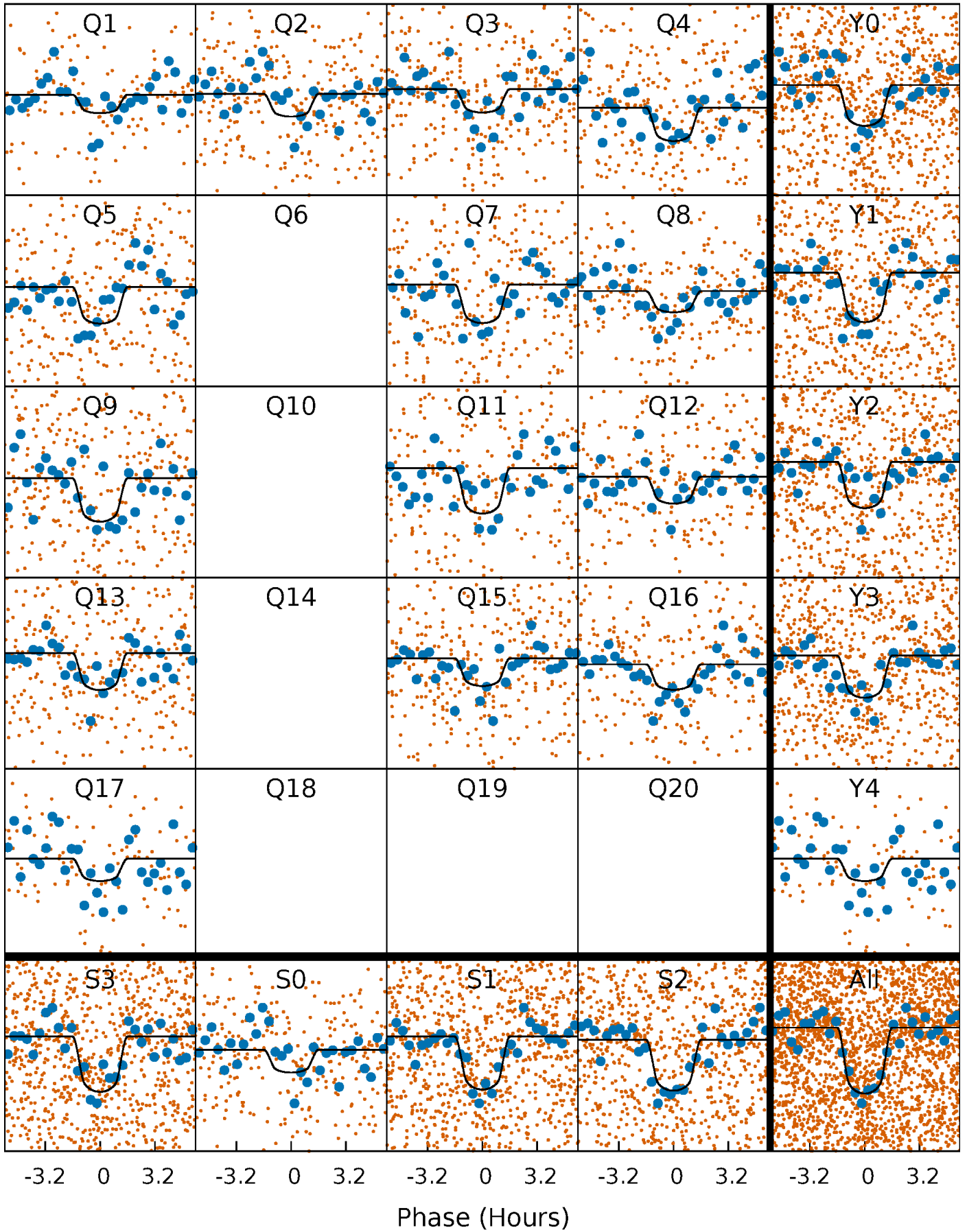
PDC Quarter-Phased Transit Curves

TCE 004939533-01 P= 5.772129 Days $T_0=134.927847$ (BKJD)



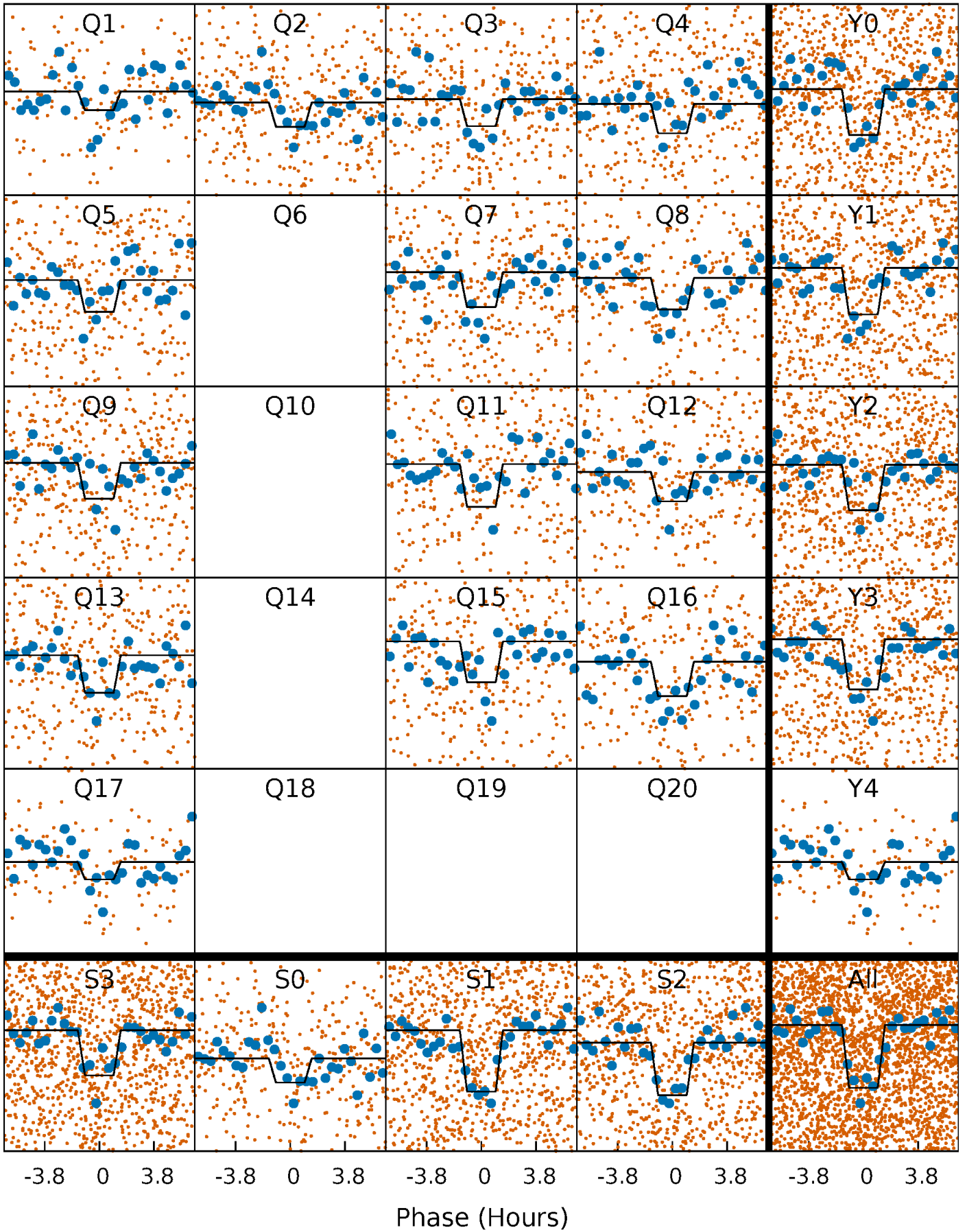
DV Quarter-Phased Transit Curves

TCE 004939533-01 P= 5.772129 Days $T_0=134.927847$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

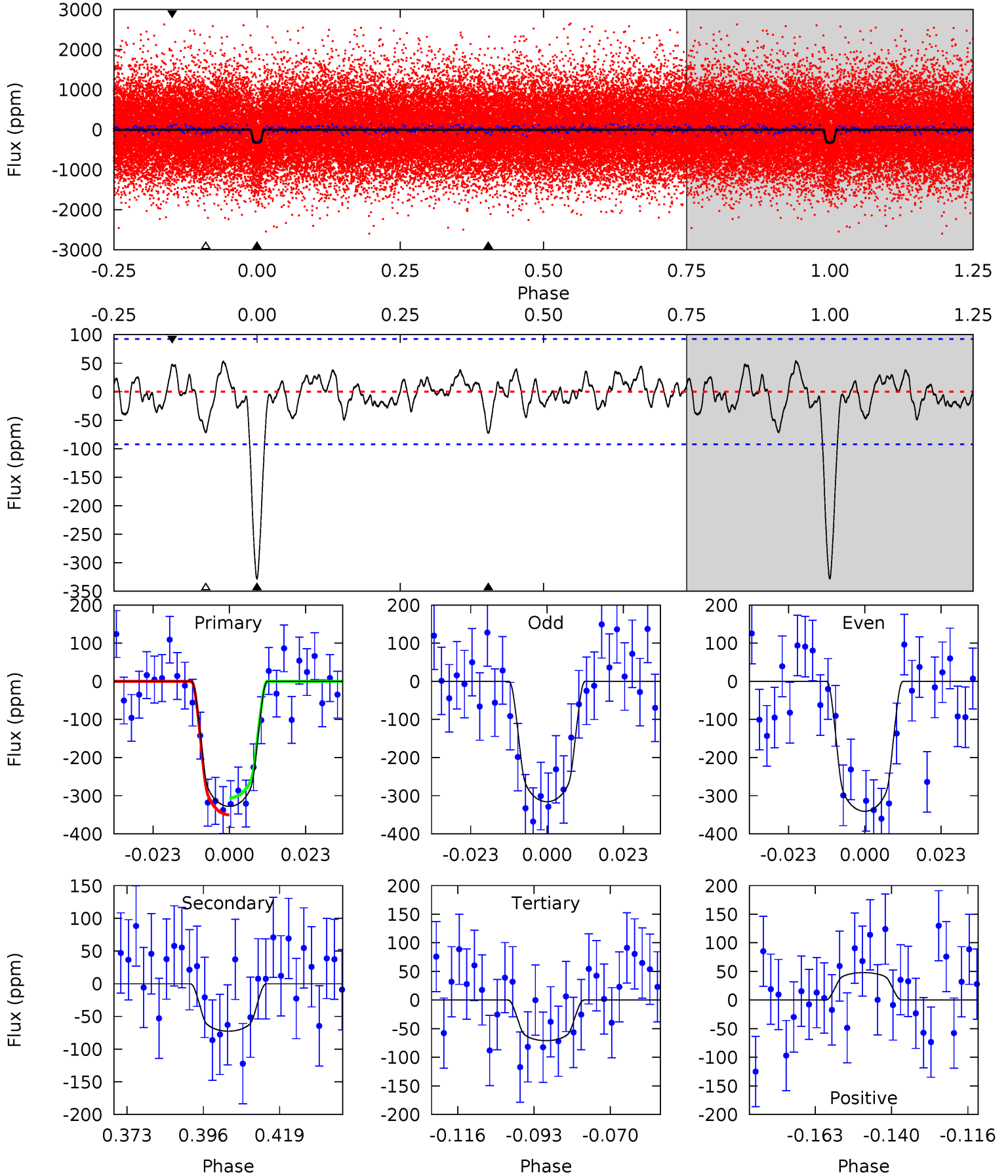
TCE 004939533-01 P= 5.772080 Days $T_0=134.931778$ (BKJD)



DV Model-Shift Uniqueness Test

004939533-01, P = 5.772129 Days, E = 129.155718 Days

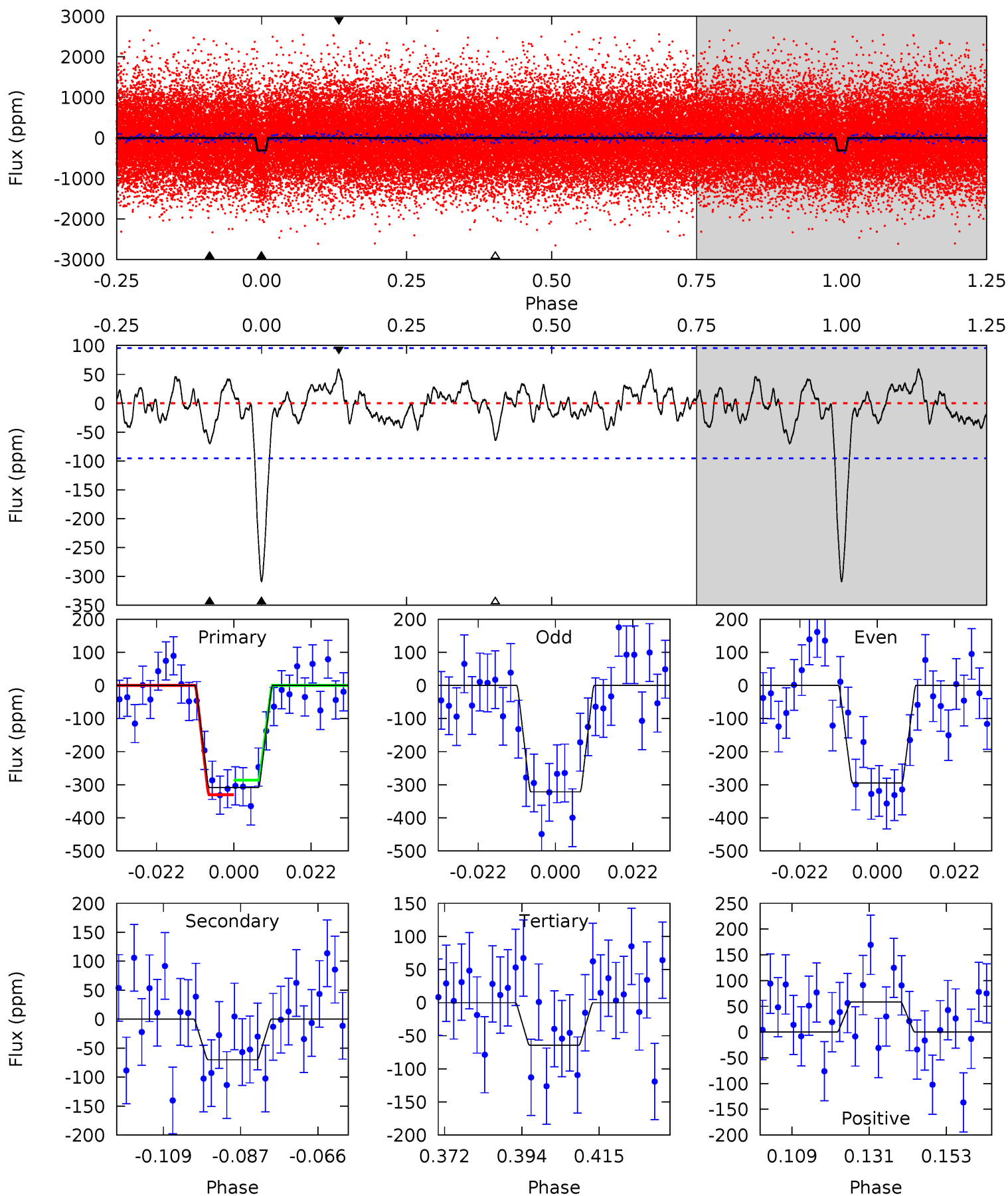
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.3	3.83	3.74	2.53	4.86	2.27	1.16	13.5	14.8	0.09	1.30	0.66	0.95	0.14	1.18



Alt Model-Shift Uniqueness Test

004939533-01, P = 5.772080 Days, E = 129.159698 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.7	3.57	3.28	2.99	4.87	2.29	1.15	12.5	12.7	0.29	0.58	0.69	0.93	0.16	1.11



Stellar Parameters For KIC 004939533

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5591^{+149}_{-166}	$4.559^{+0.036}_{-0.153}$	$0.070^{+0.200}_{-0.350}$	$0.860^{+0.174}_{-0.080}$	$0.977^{+0.071}_{-0.132}$	$2.163^{+0.403}_{-0.864}$
	+3%/-3%	+1%/-3%	+286%/-500%	+20%/-9%	+7%/-14%	+19%/-40%
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 004939533-01 / KOI 2899.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-73 ± 19	$1.92^{+0.80}_{-0.79}$	1303^{+73}_{-53}	3992^{+879}_{-490}	42^{+71}_{-23}
Alt.	-70 ± 20	$1.73^{+0.82}_{-0.75}$	1302^{+70}_{-53}	4056^{+1050}_{-490}	48^{+103}_{-27}

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

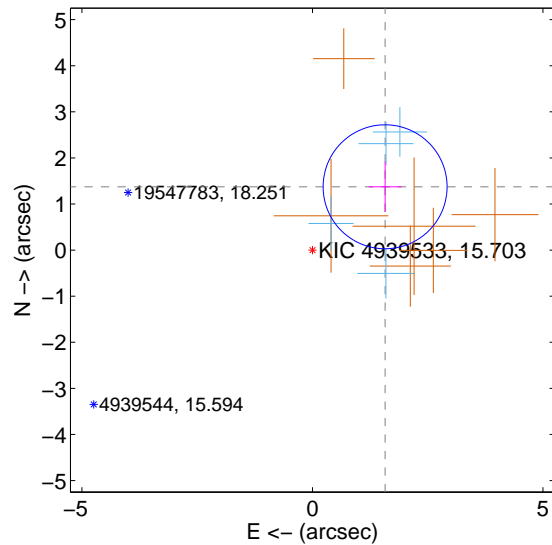
Supplemental centroid analysis for 004939533-01. Kepler magnitude: 15.70. Transit SNR 12.84

There are 4 quarters with good PRF difference image offsets

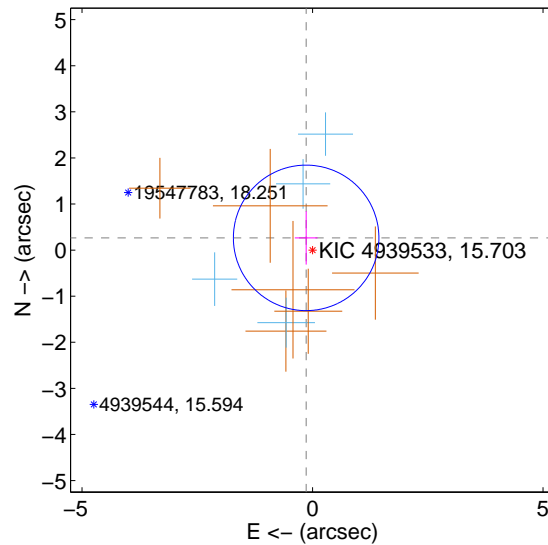
The OOT PRF centroid is offset from the target star catalog position by about 2.80 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.091 ± 0.448	4.67	-1.576 ± 0.356	1.374 ± 0.547
PRF-fit source offset from KIC position	0.299 ± 0.526	0.57	0.139 ± 0.246	0.265 ± 0.580
photometric centroid source offset	2.22 ± 0.72	3.08	2.21 ± 0.72	-0.19 ± 0.65

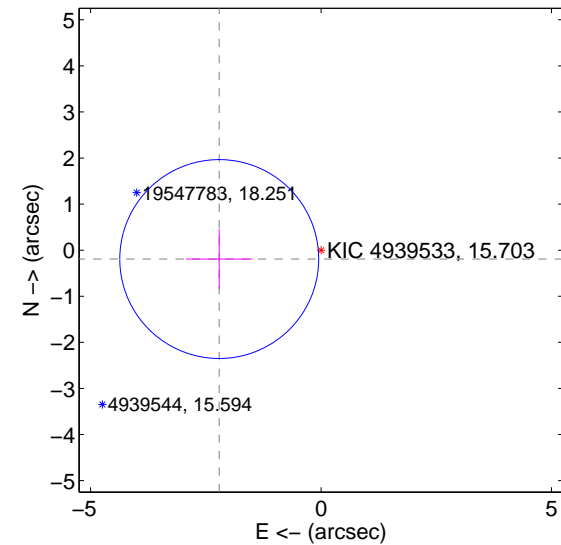
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

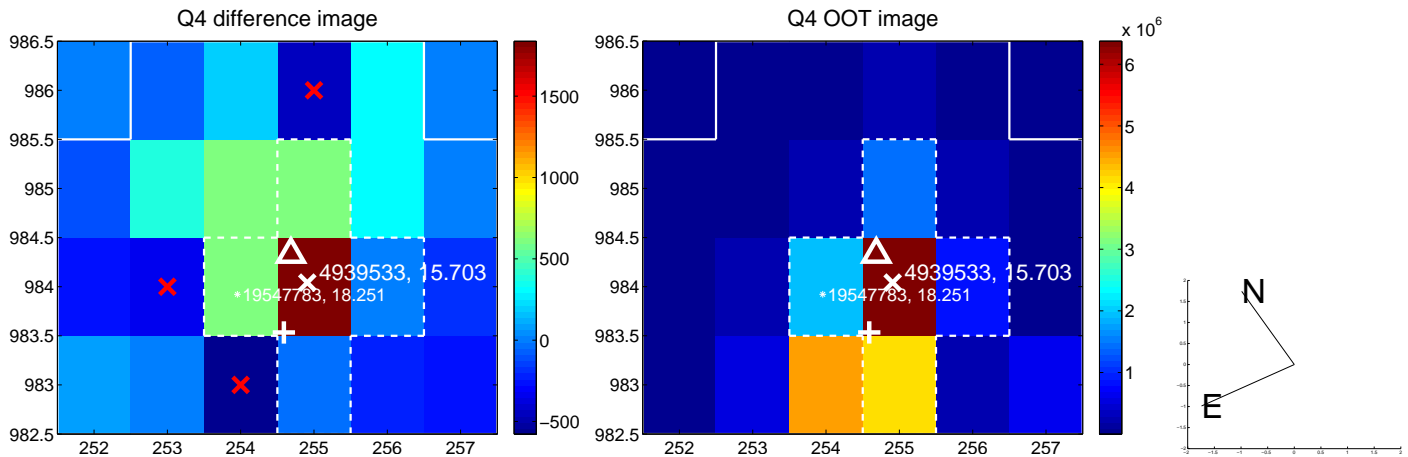
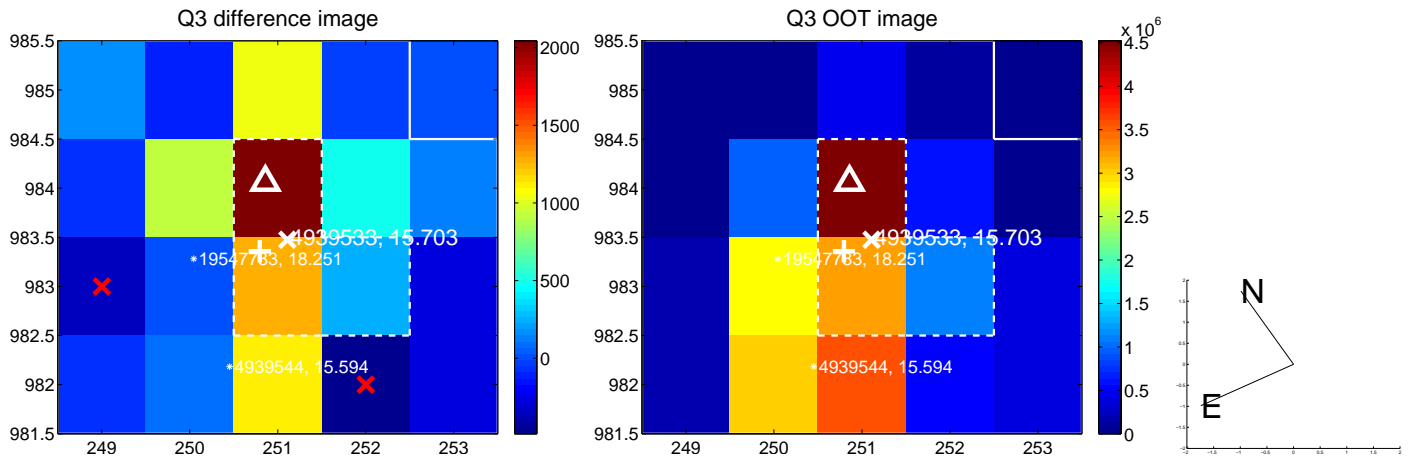
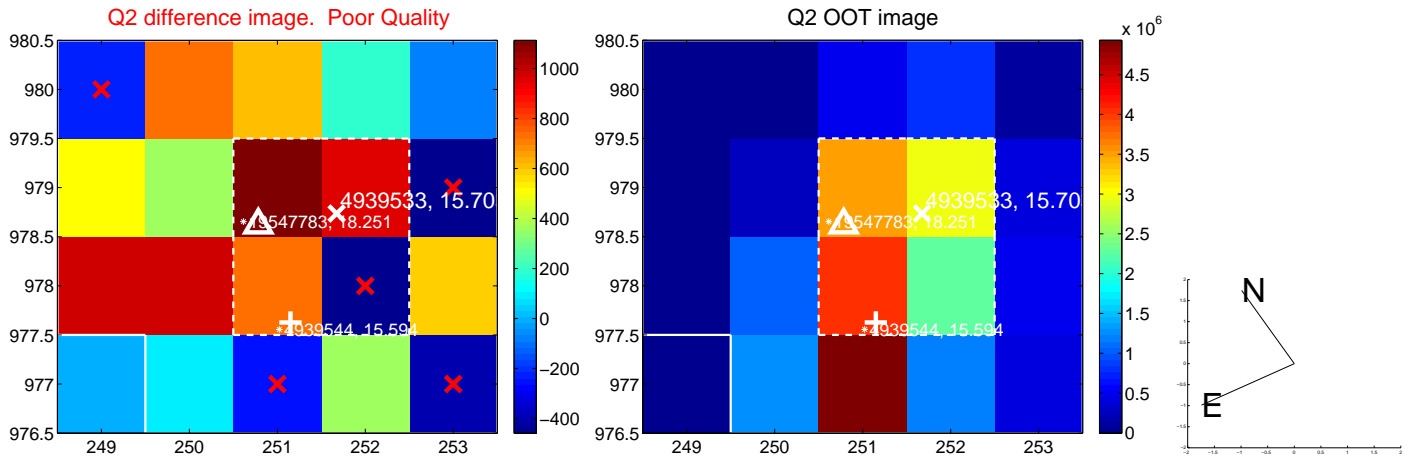
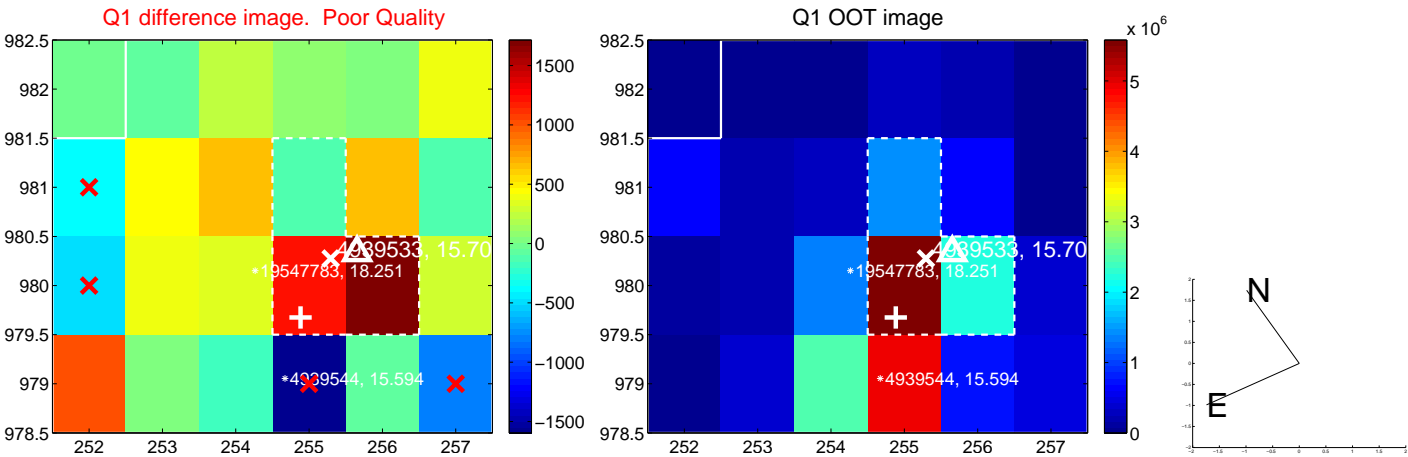


offset from photometric centroids

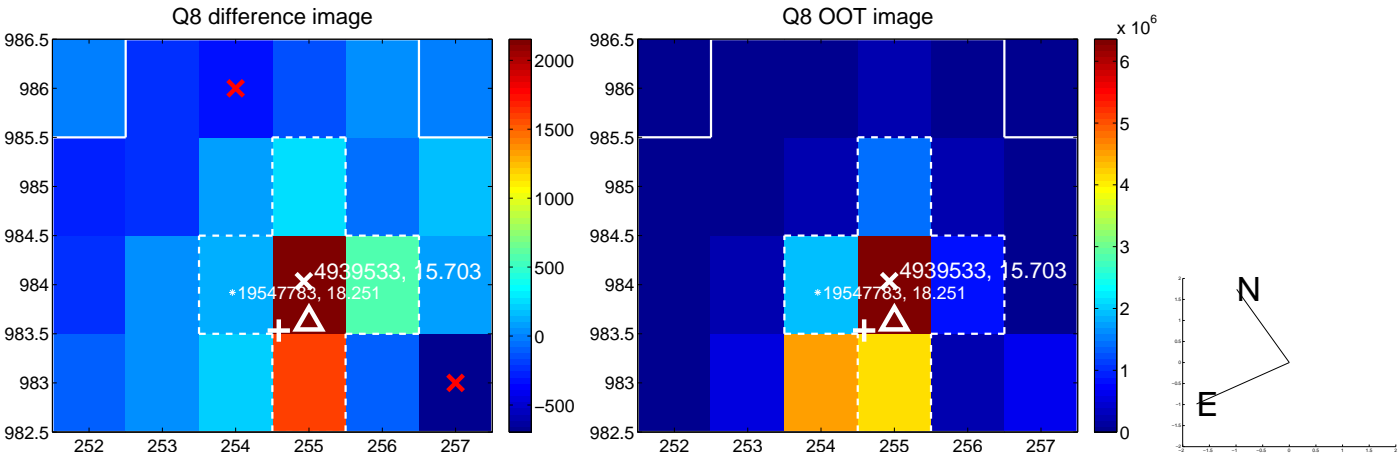
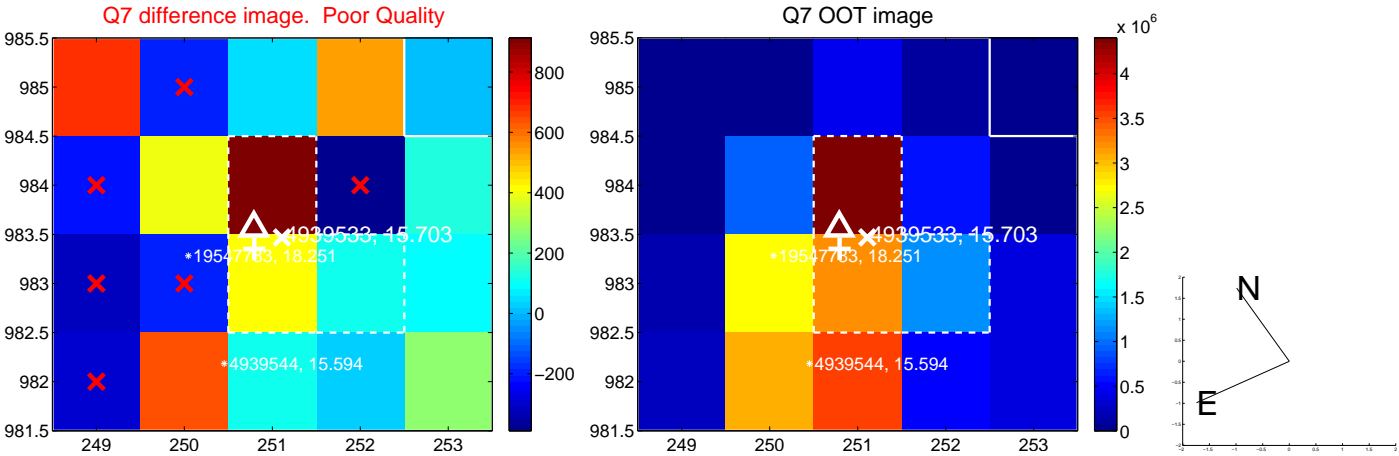
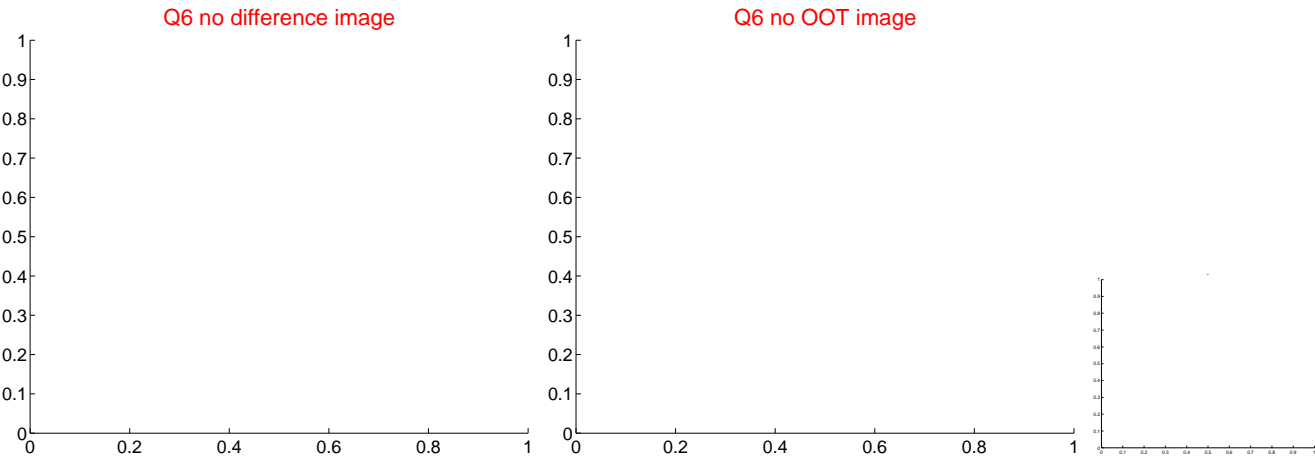
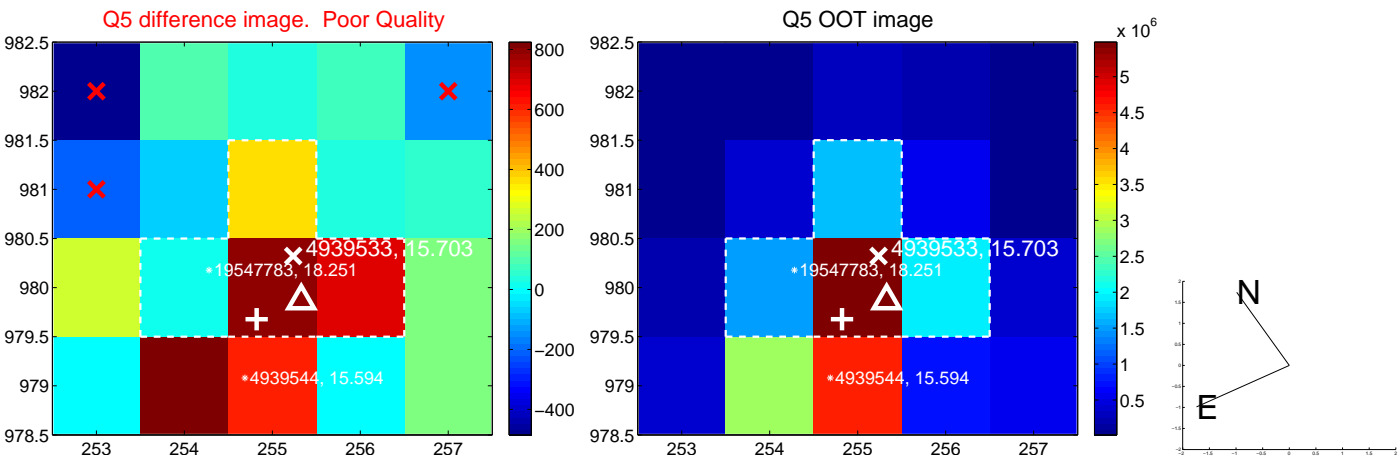


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

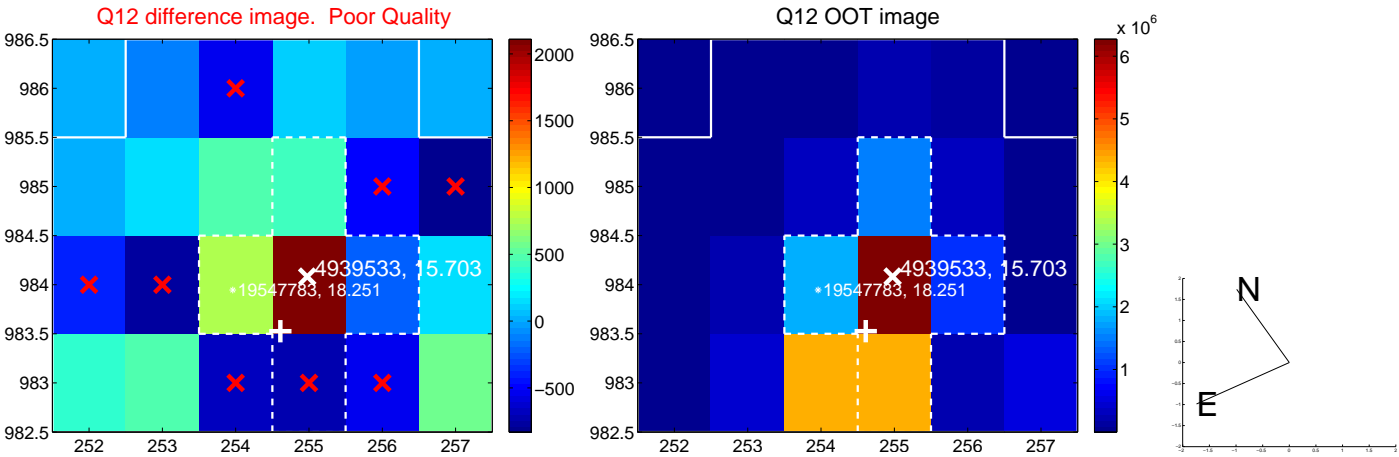
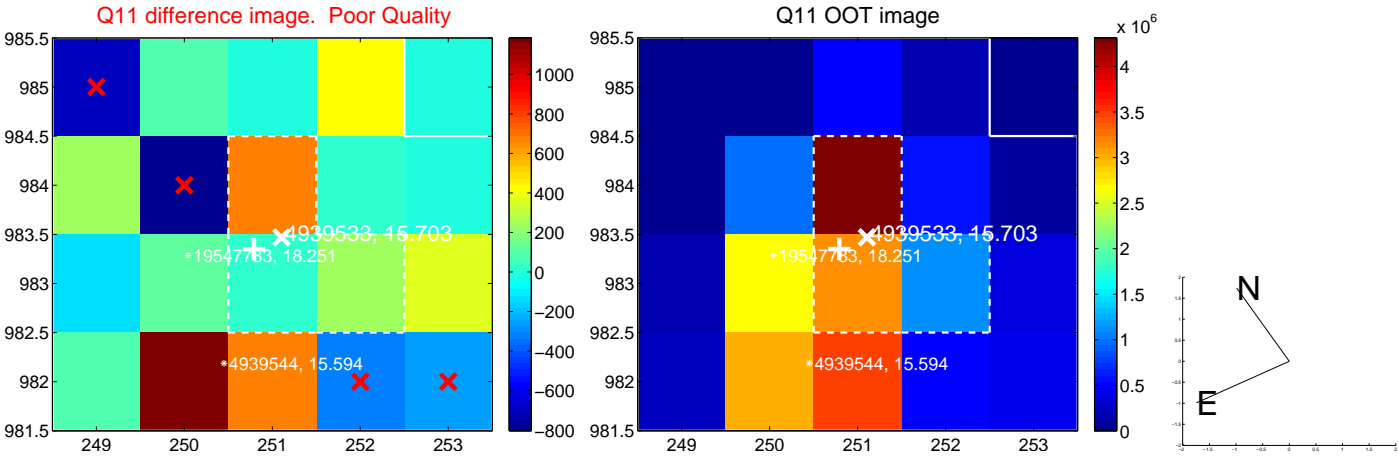
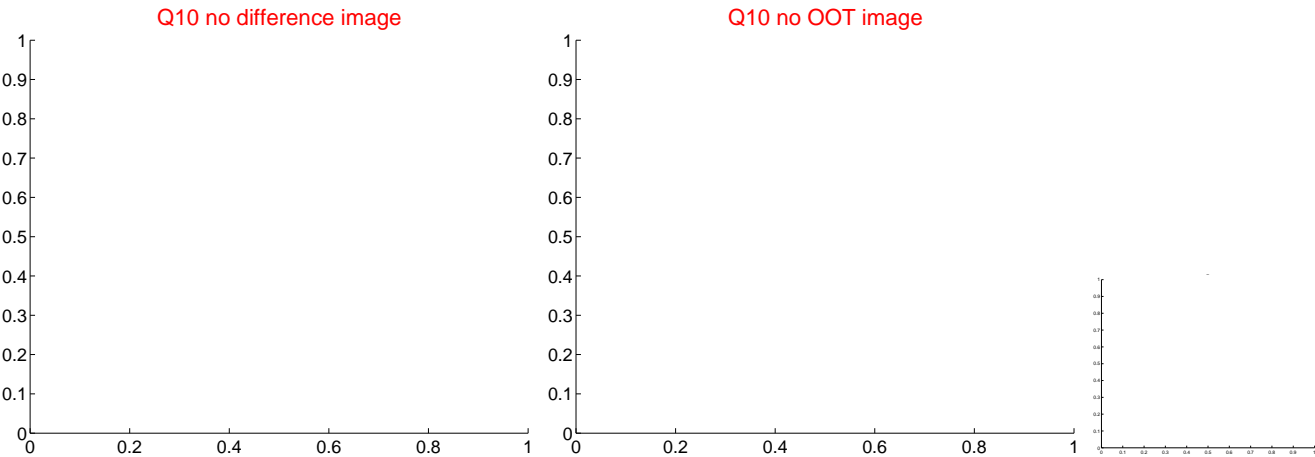
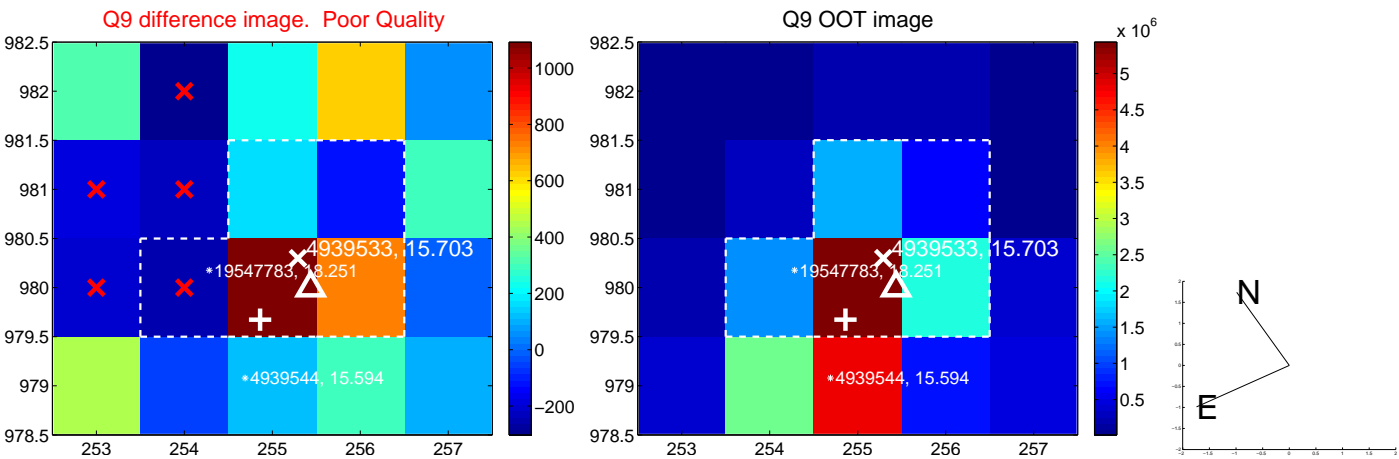
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



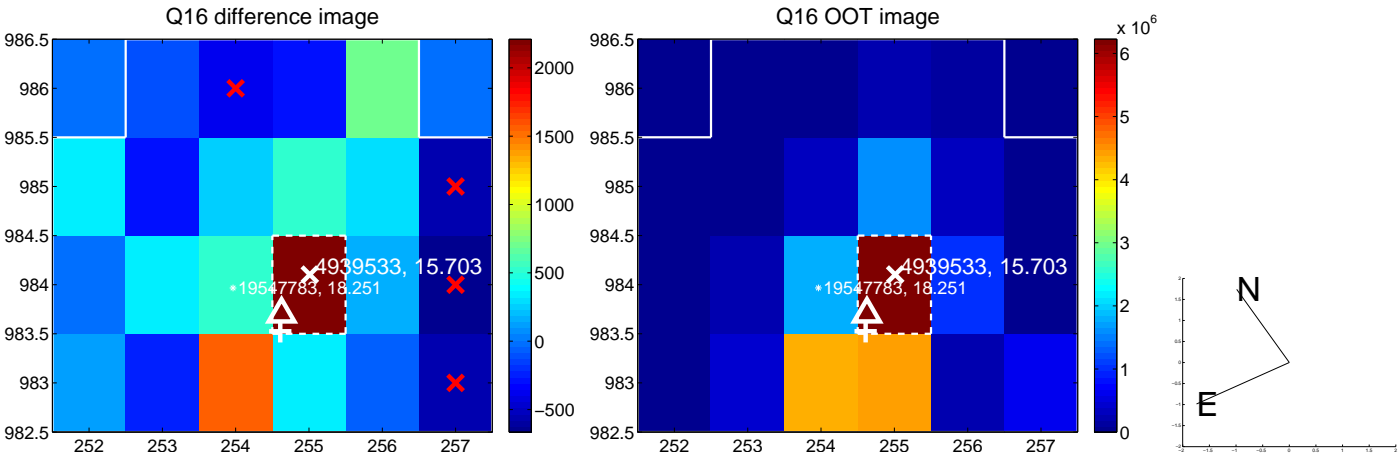
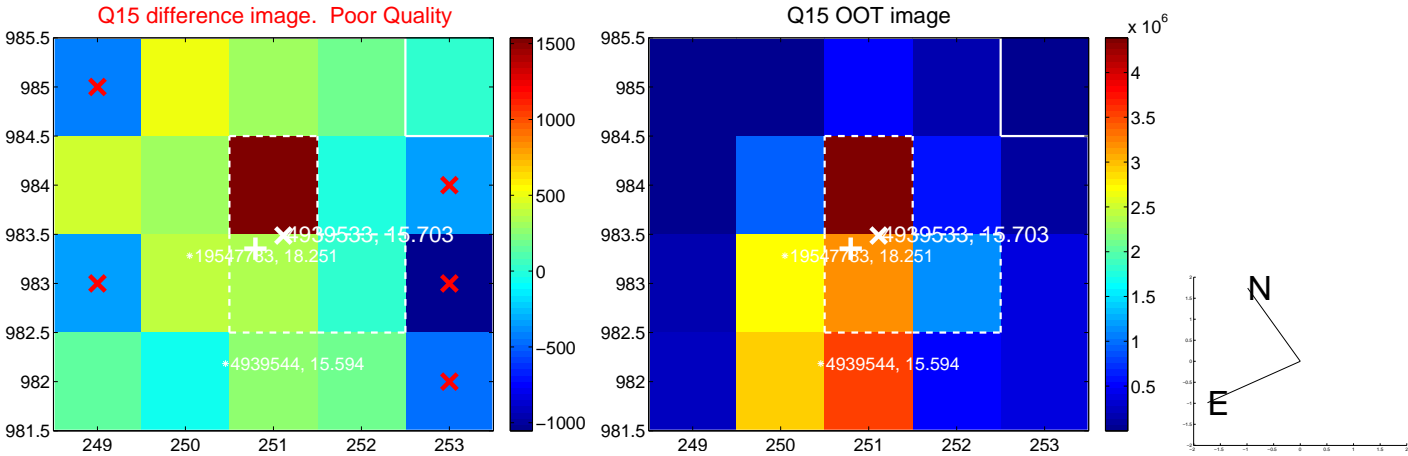
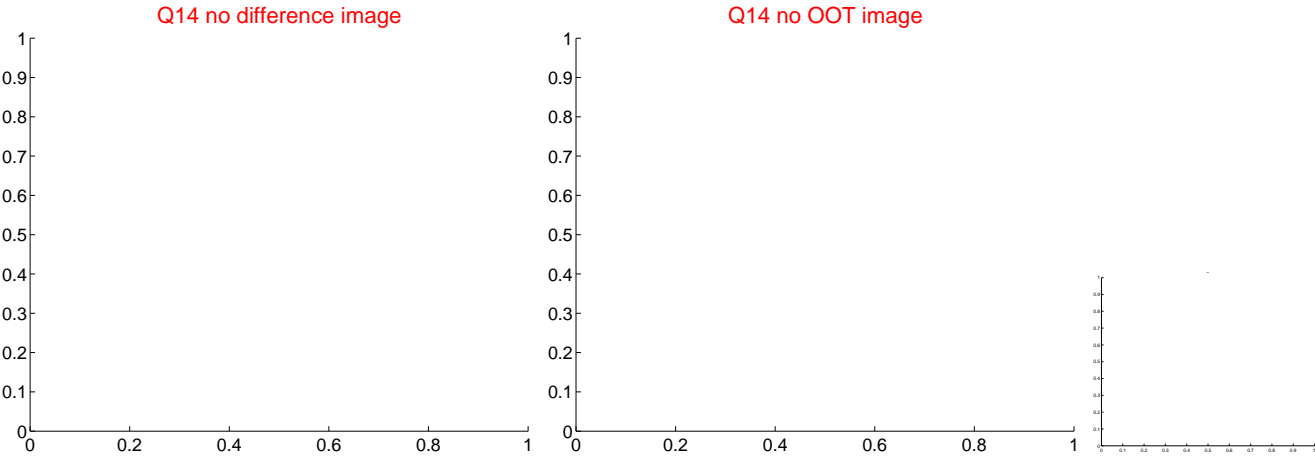
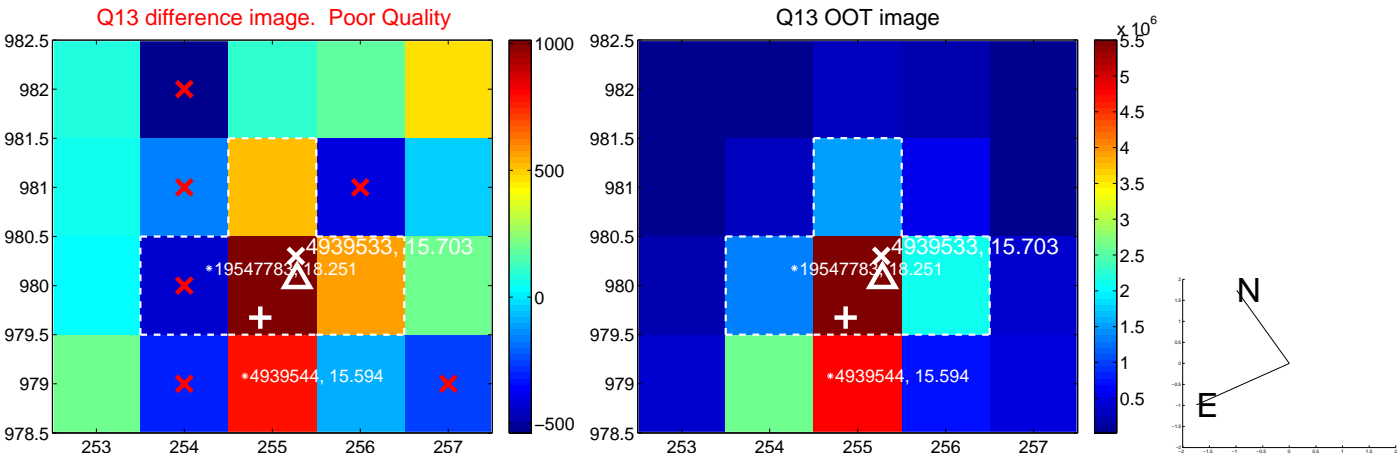
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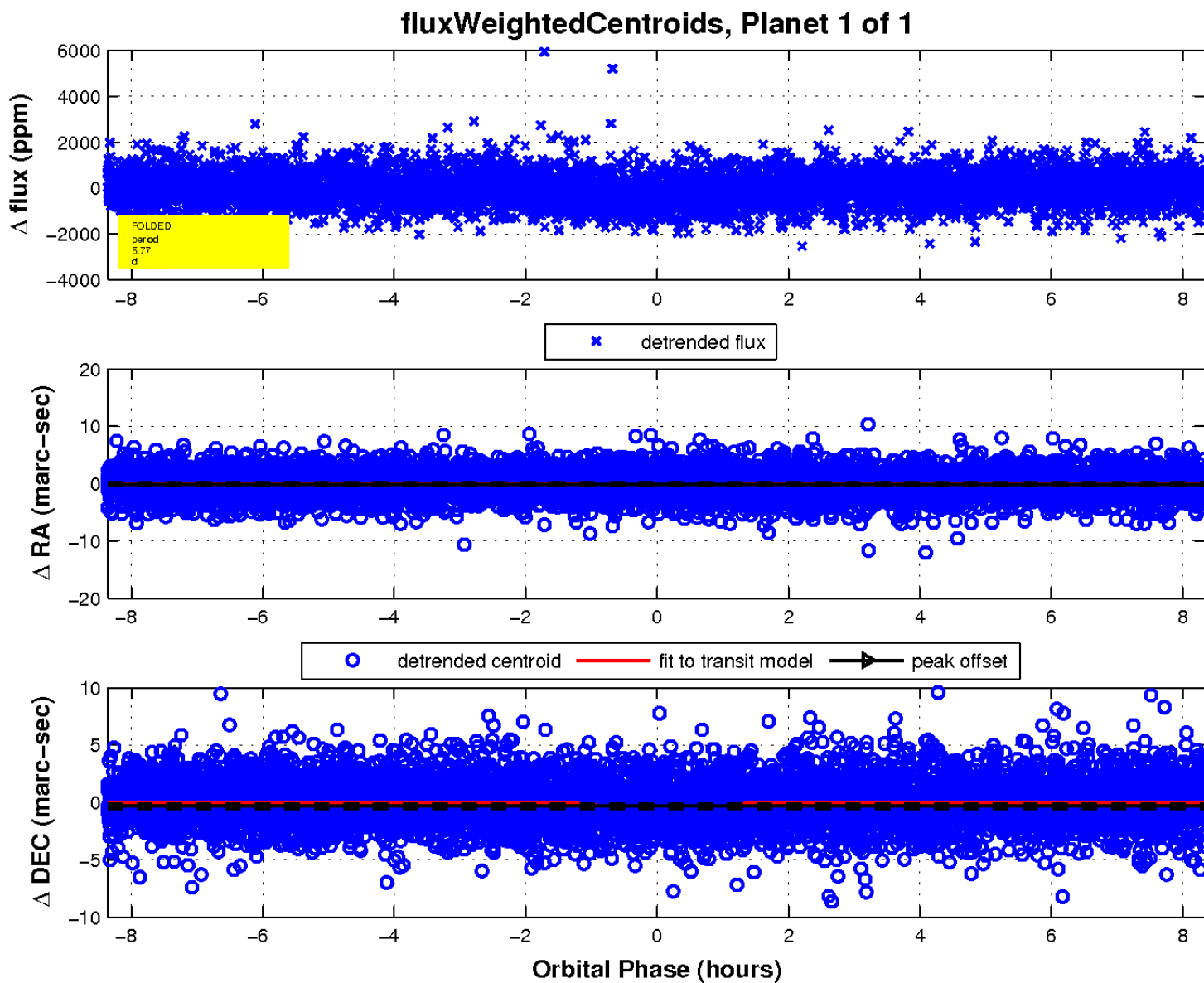
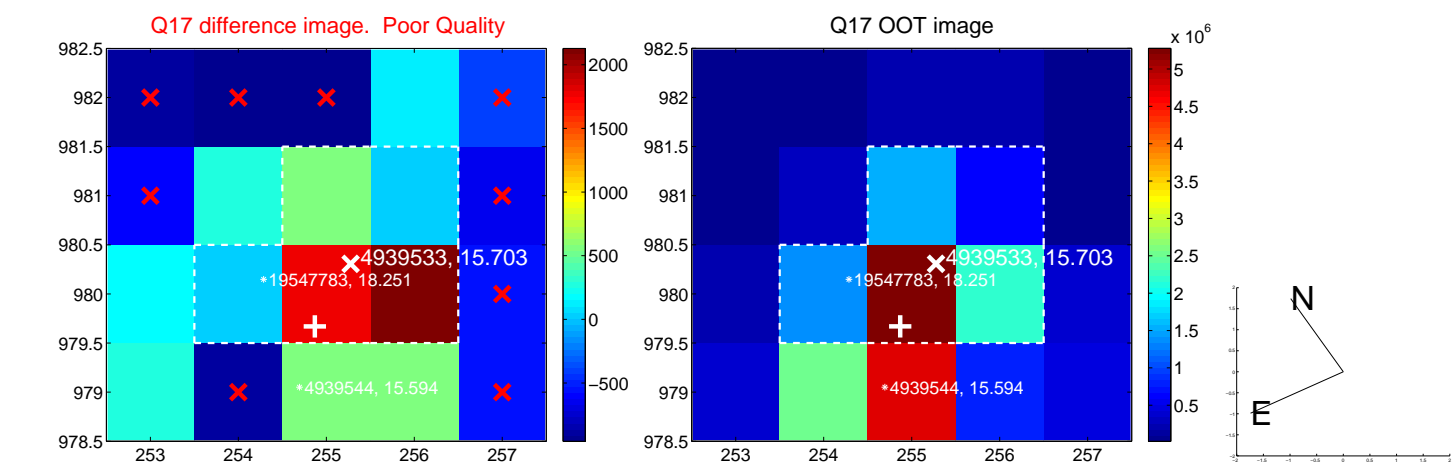
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UKIRT Image

