

KIC 006551106

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})
006551106-01	OBS	6731.01	3.846168	133.393920	109.6	3.196	8.3	8.5	0.97	6106	1.14	488.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006551106-01	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.

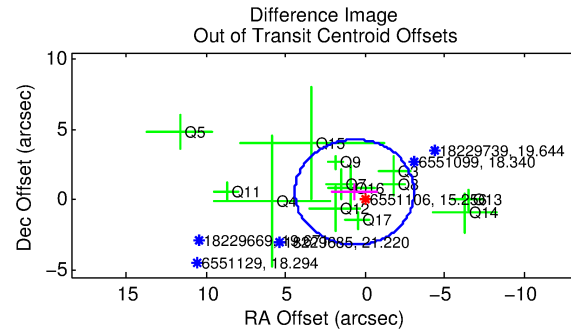
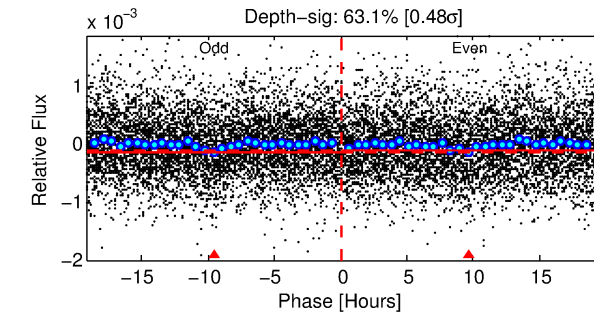
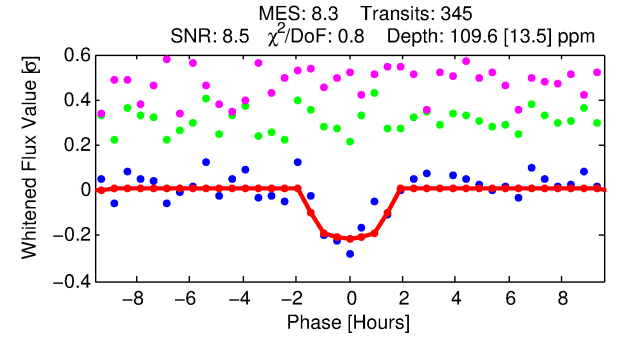
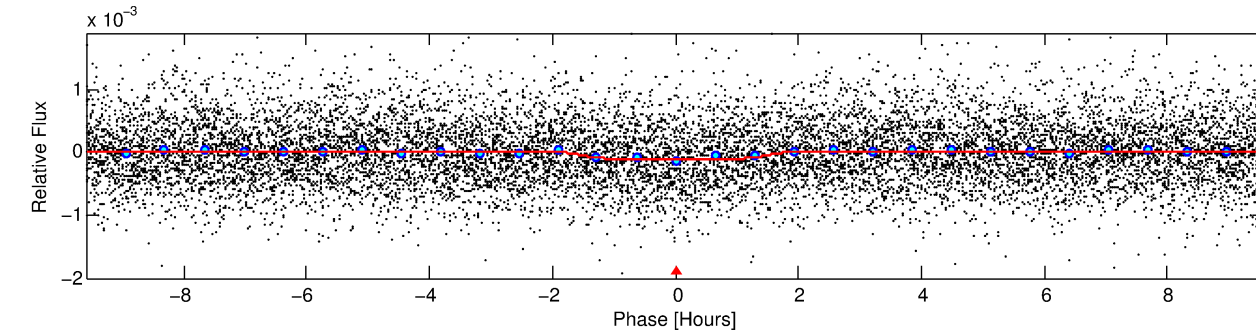
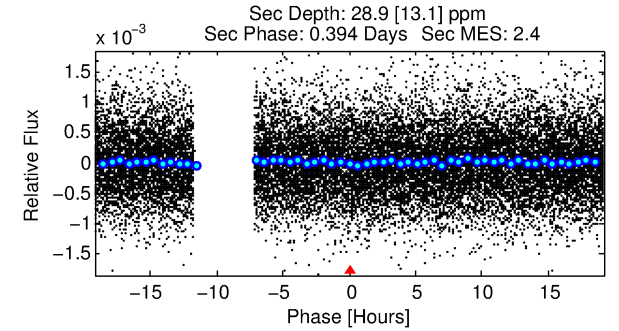
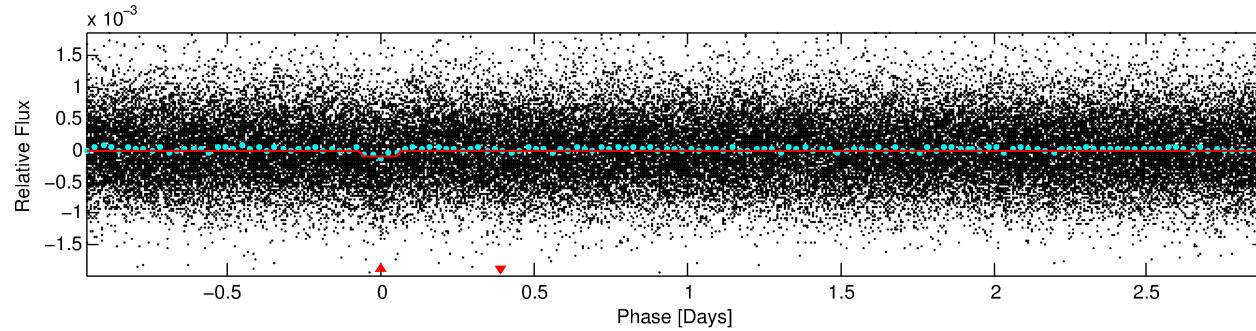
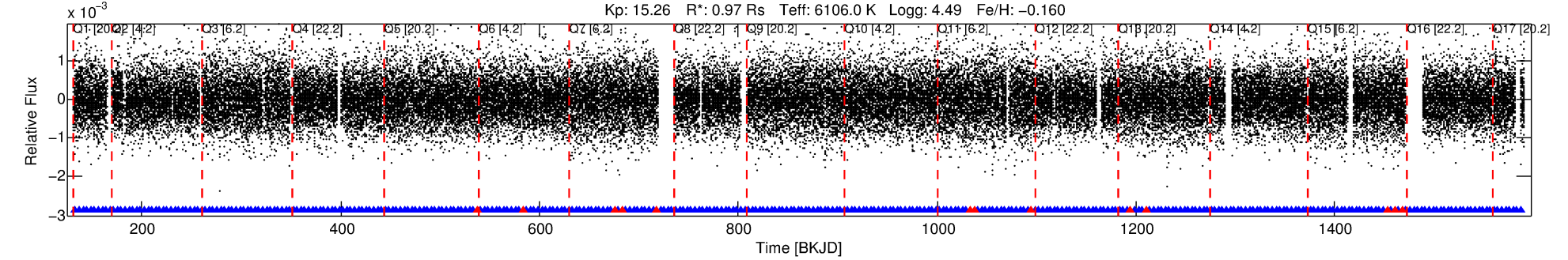
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006551106-01

No Significant Match Found

DV One-Page Summary

KIC: 6551106 Candidate: 1 of 1 Period: 3.846 d
KOI: K06731.01 Corr: 0.895



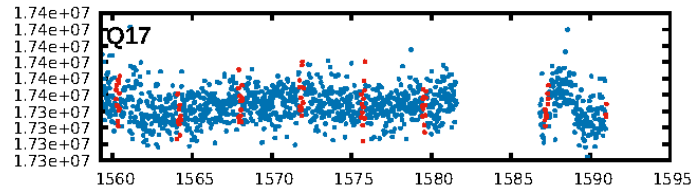
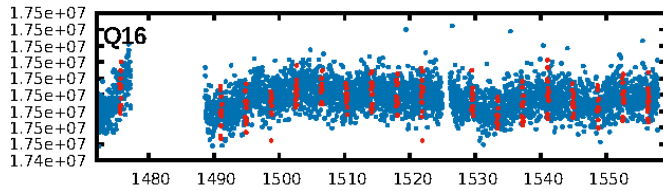
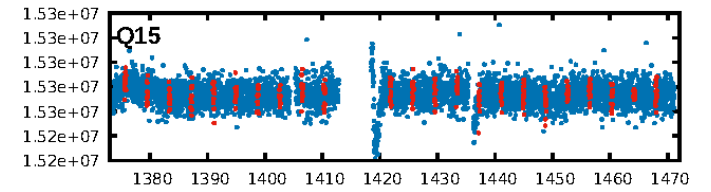
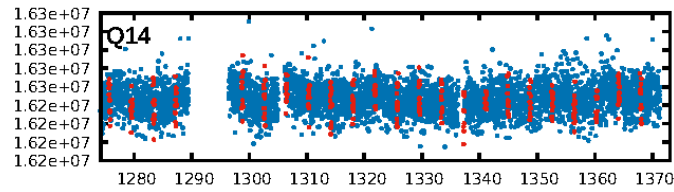
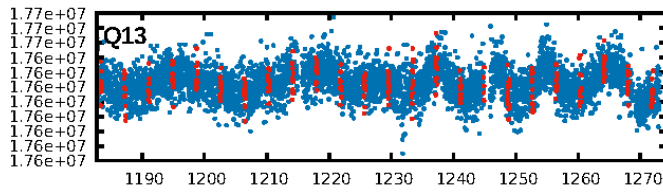
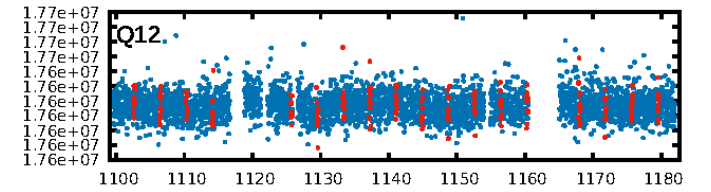
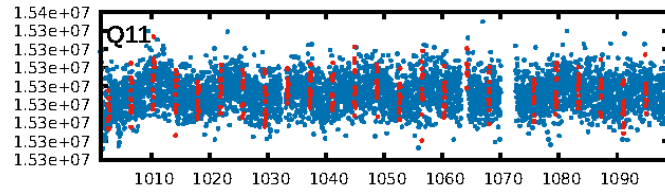
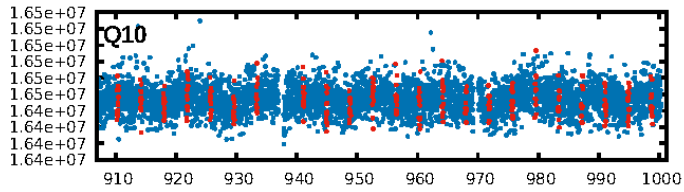
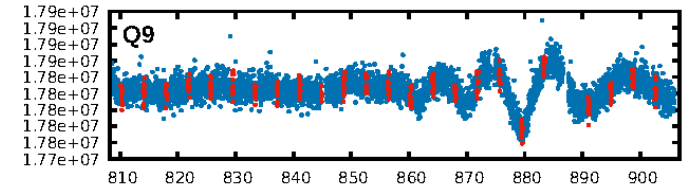
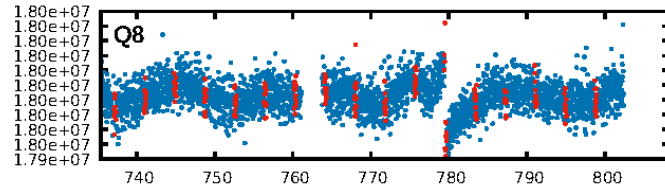
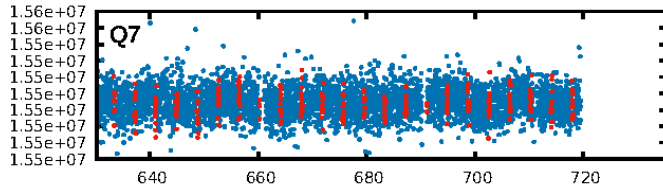
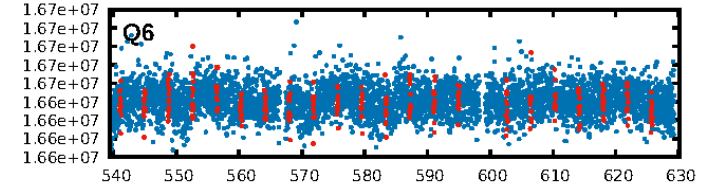
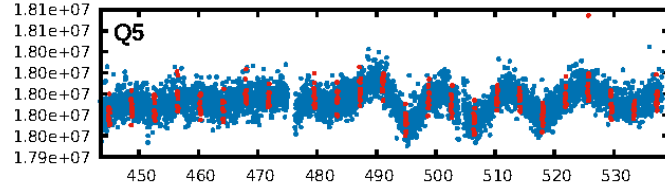
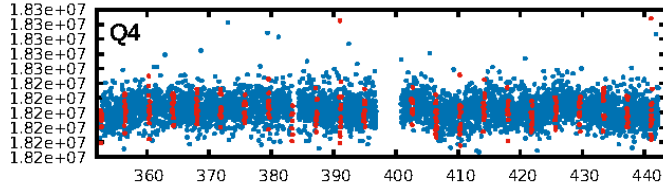
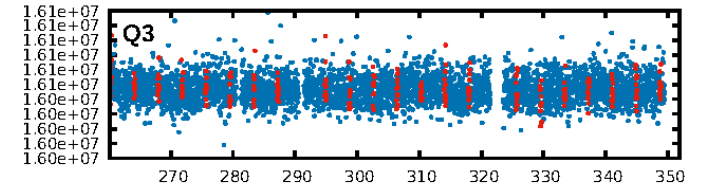
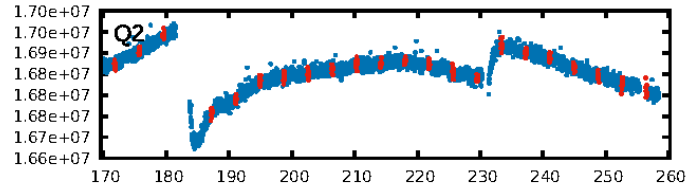
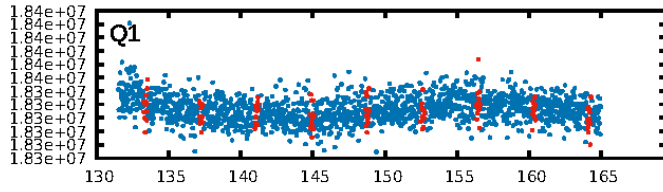
DV Fit Results:

Period = 3.84617 [0.00003] d
Epoch = 133.3939 [0.0060] BKJD
Rp/R* = 0.0108 [0.0089]
a/R* = 5.24 [21.34]
b = 0.84 [1.49]
Seff = 488.88 [191.66]
Teq = 1199 [118] K
Rp = 1.14 [1.00] Re
a = 0.0488 [0.0123] AU
Ag = 28.98 [50.48] [0.55 σ]
Teff = 4301 [1837] K [1.68 σ]

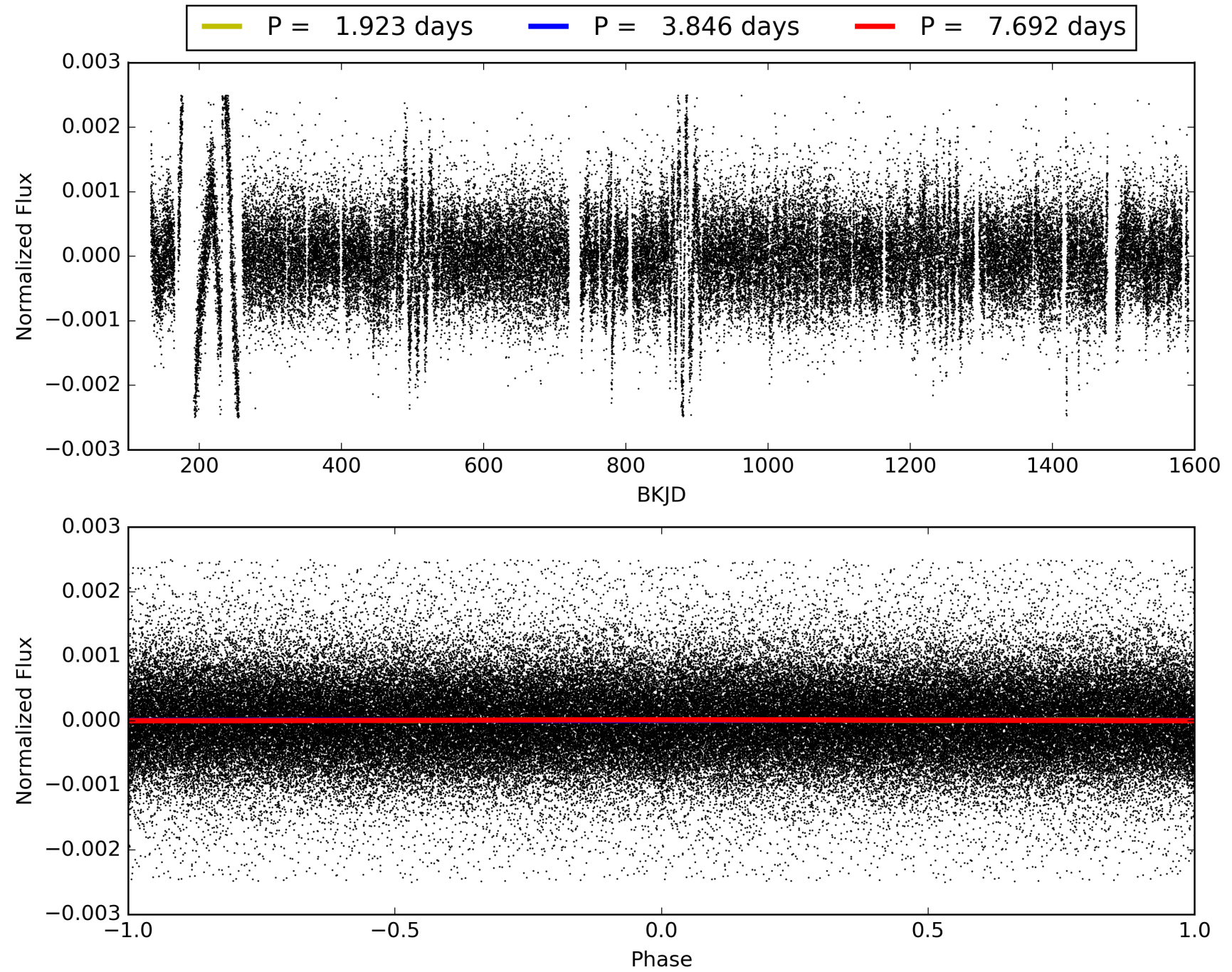
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.40e-16
RollingBand-fgt: 0.96 [316/329]
GhostDiagnostic-chr: 1.977
Centroid-sig: 80.1%
Centroid-so: 0.544 arcsec [0.33 σ]
OotOffset-rm: 0.864 arcsec [0.69 σ]
KicOffset-rm: 0.751 arcsec [0.58 σ]
OotOffset-st: 1/4/4/4 [13]
KicOffset-st: 1/4/4/4 [13]
DiffImageQuality-fgm: 0.15 [2/13]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 006551106-01, PDC Light Curves

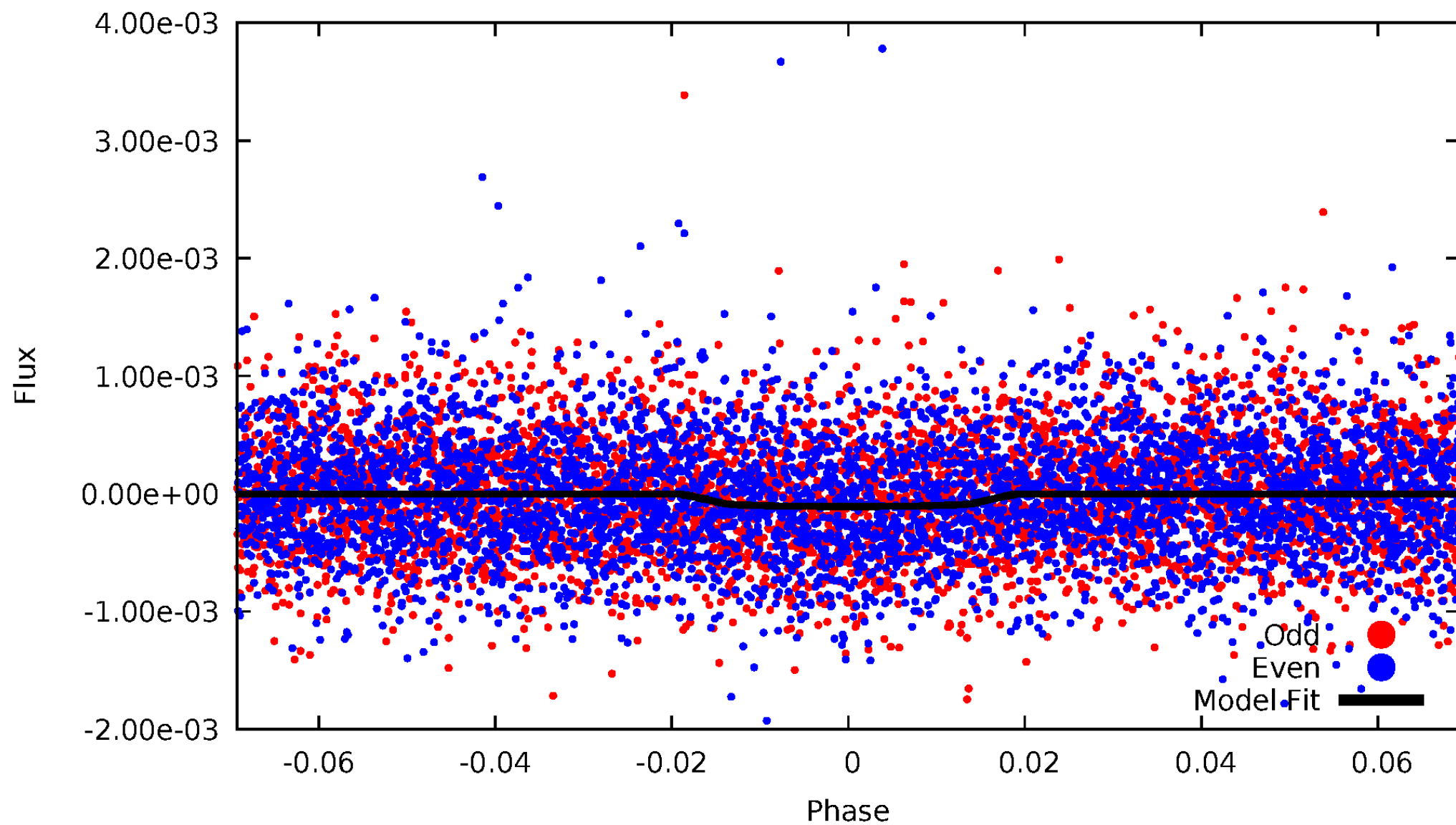


TCE 006551106-01



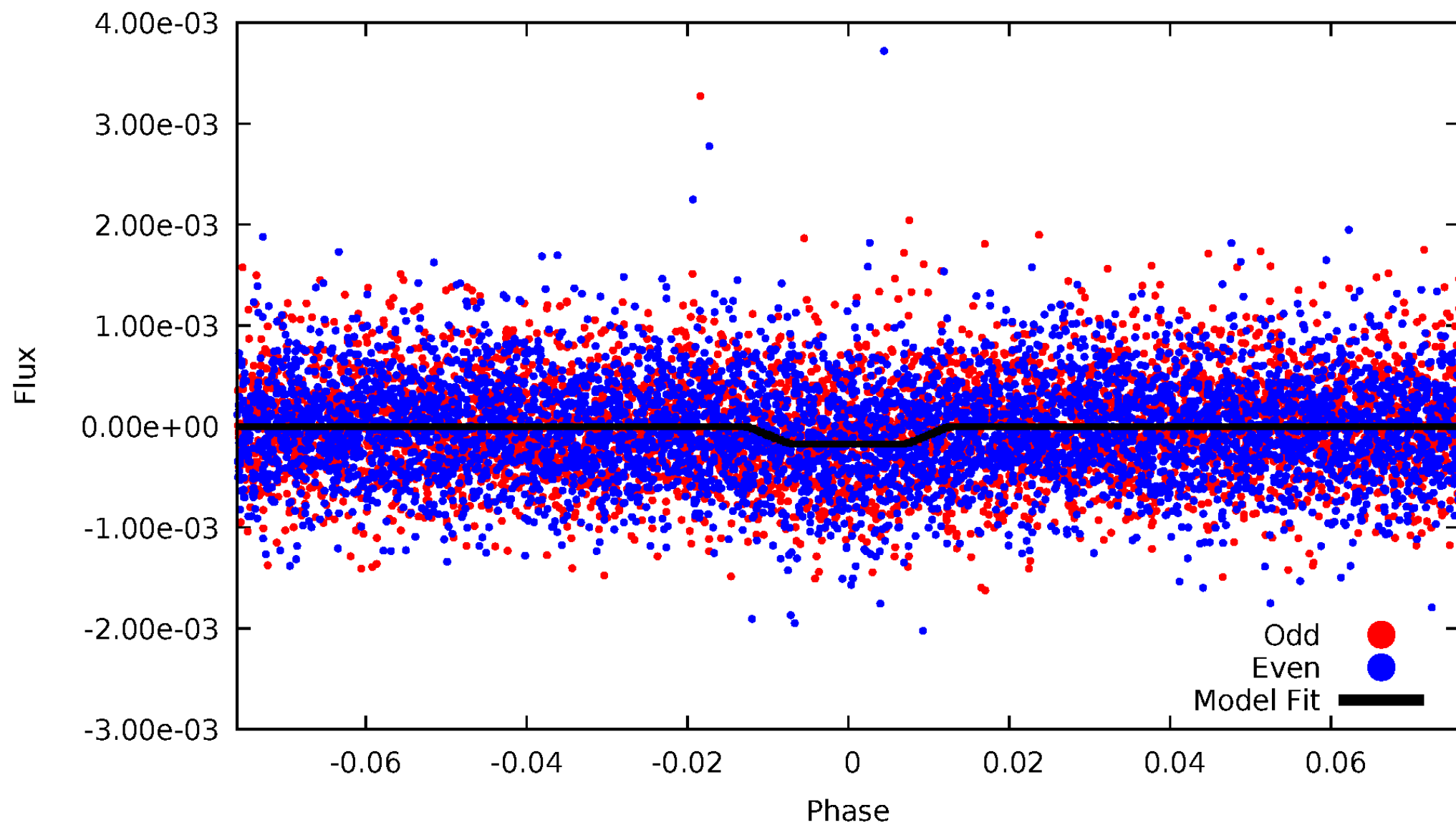
DV Odd/Even

TCE 006551106-01



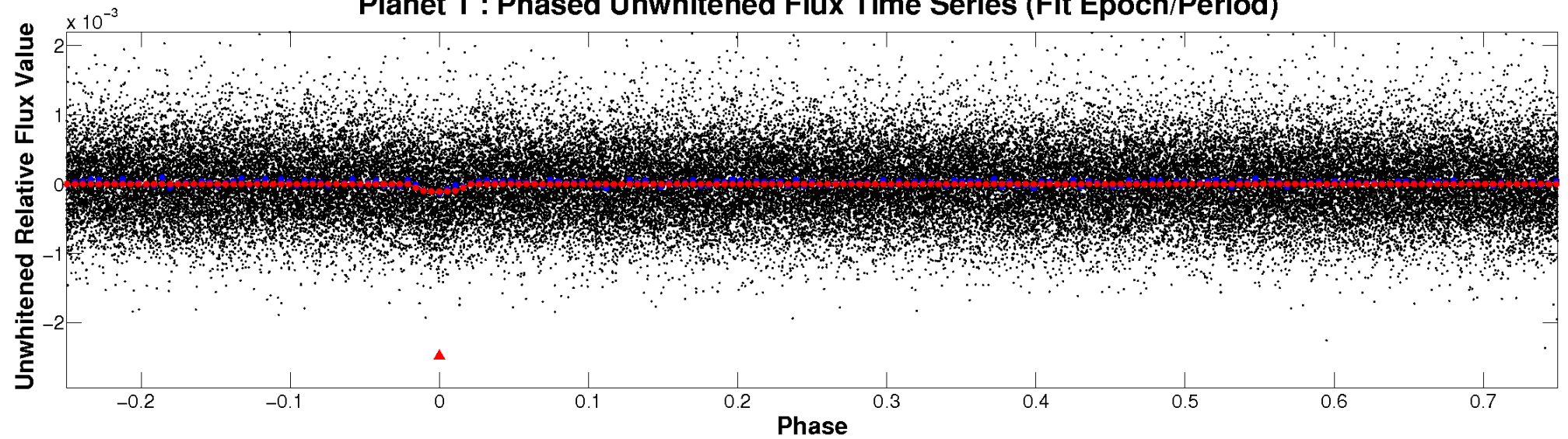
ALT Odd/Even

TCE 006551106-01

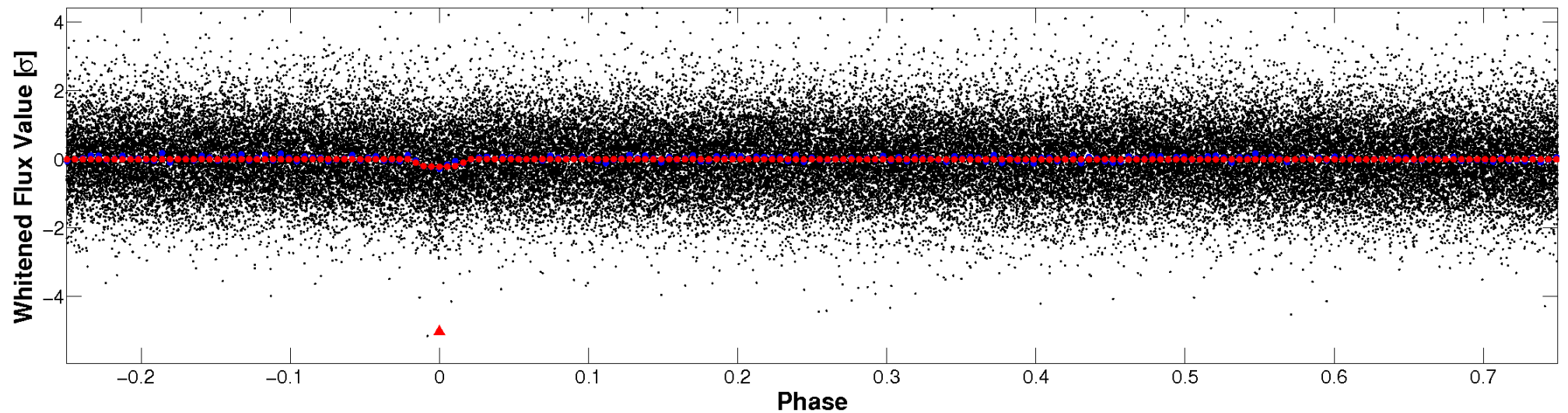


Non-Whitened Vs. Whitened Light Curve

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

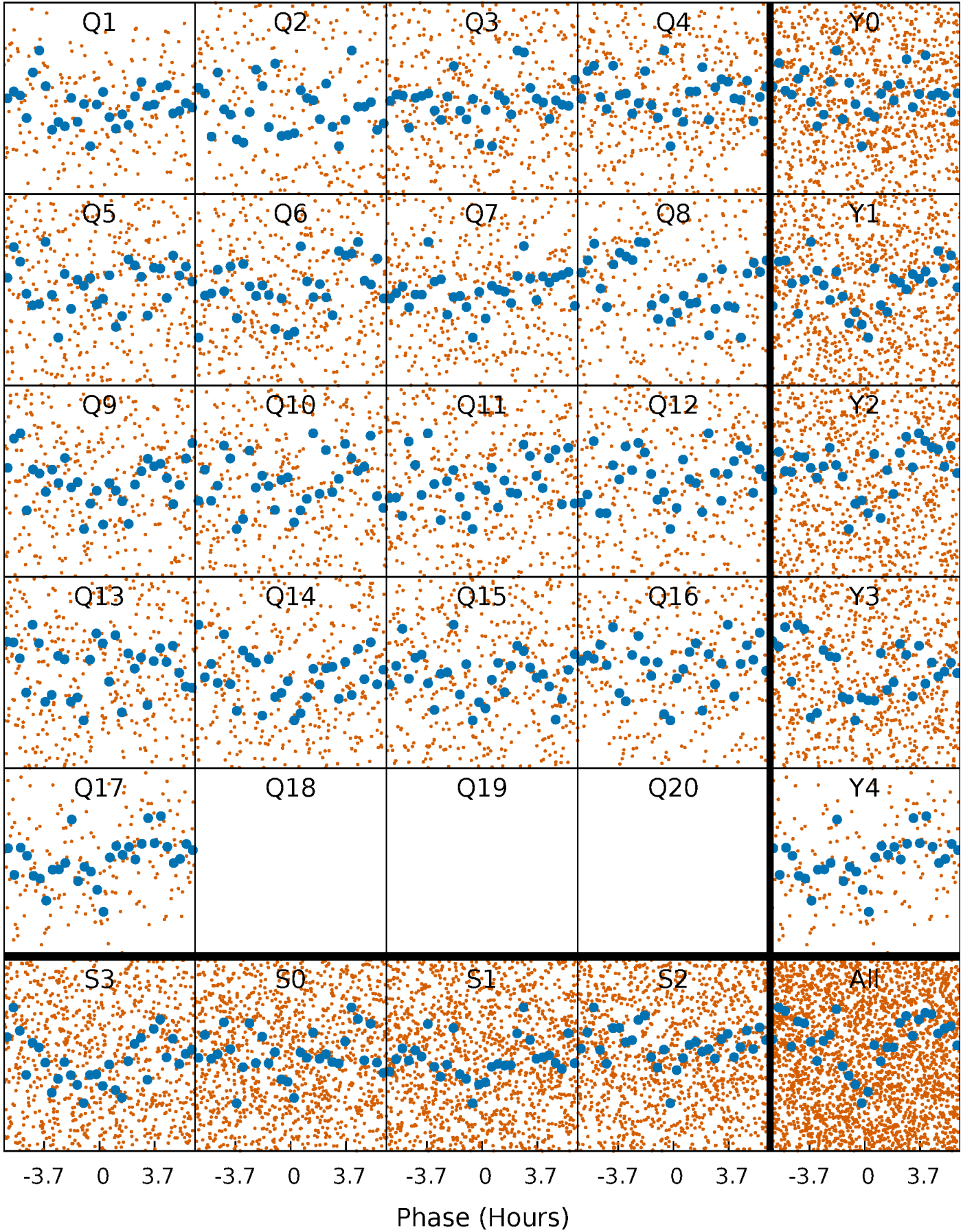


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



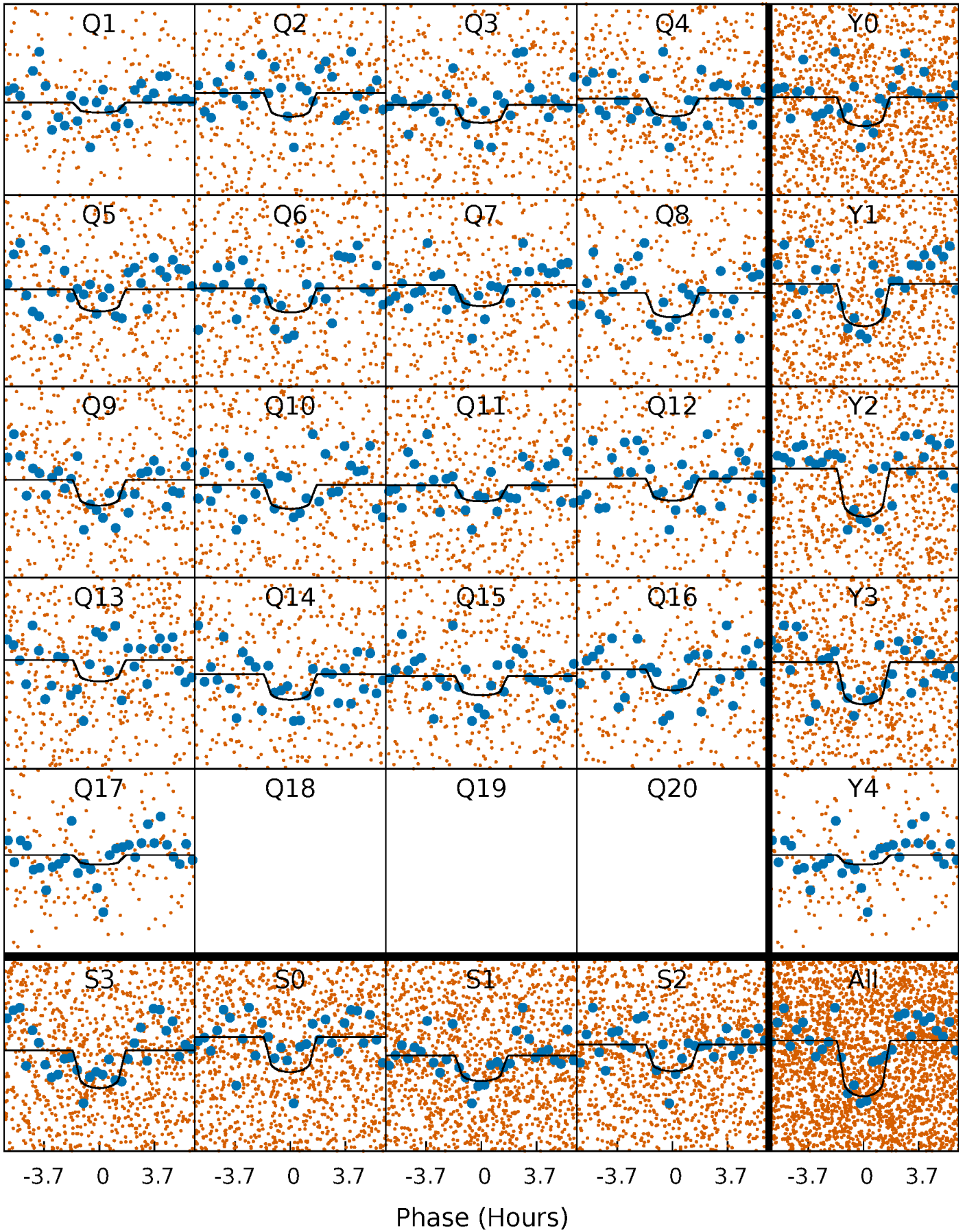
PDC Quarter-Phased Transit Curves

TCE 006551106-01 P= 3.846168 Days $T_0=133.393920$ (BKJD)



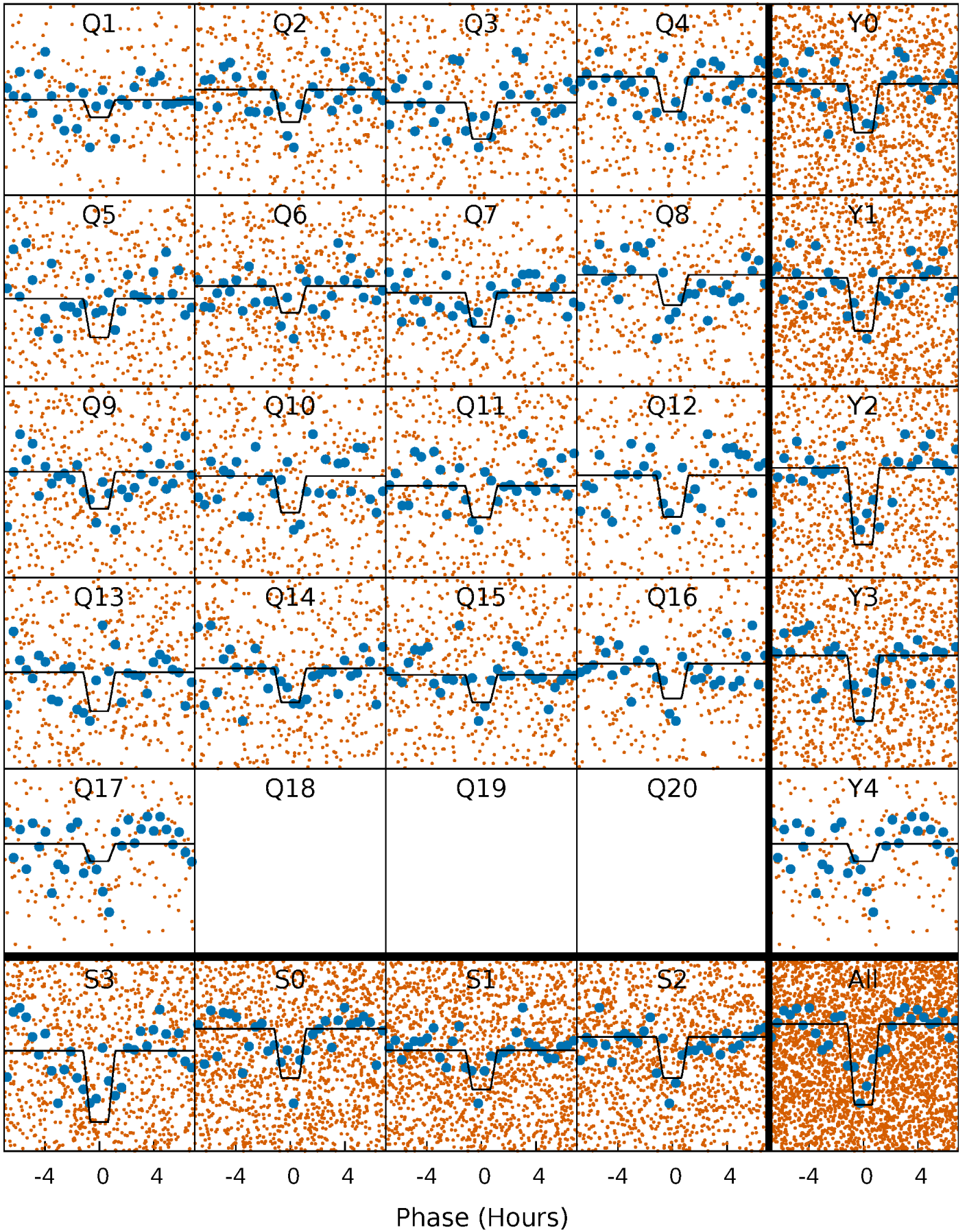
DV Quarter-Phased Transit Curves

TCE 006551106-01 P= 3.846168 Days $T_0=133.393920$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

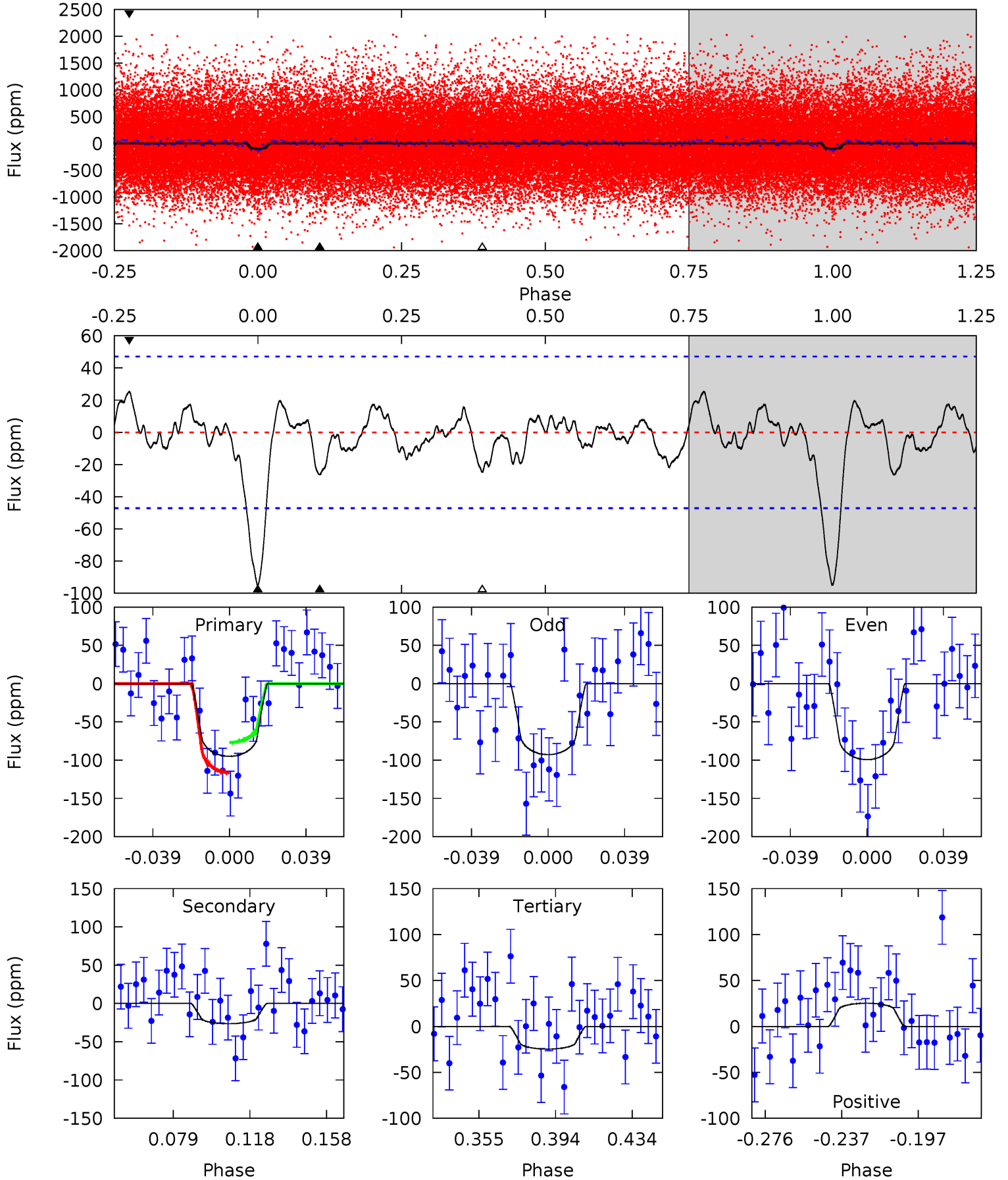
TCE 006551106-01 P= 3.846127 Days $T_0=133.395932$ (BKJD)



DV Model-Shift Uniqueness Test

006551106-01, P = 3.846168 Days, E = 129.547752 Days

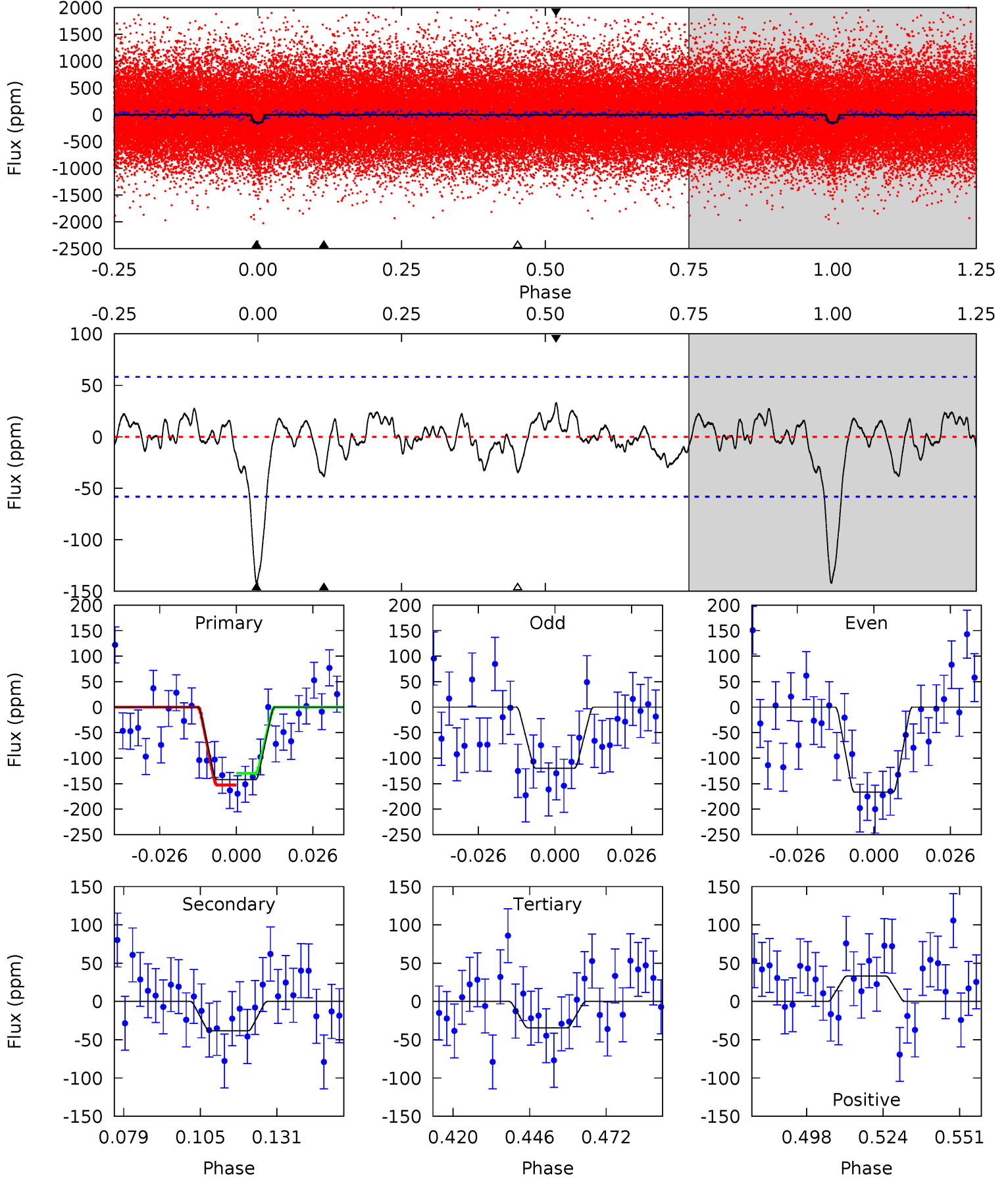
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.60	2.67	2.49	2.55	4.76	2.06	1.00	7.11	7.05	0.18	0.12	0.33	0.99	0.21	2.00



Alt Model-Shift Uniqueness Test

006551106-01, P = 3.846127 Days, E = 129.549805 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	3.18	2.88	2.76	4.84	2.22	1.11	8.95	9.07	0.31	0.42	1.95	0.88	0.19	0.95



Stellar Parameters For KIC 006551106

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6106^{+190}_{-211}	$4.487^{+0.050}_{-0.200}$	$-0.160^{+0.300}_{-0.300}$	$0.966^{+0.291}_{-0.097}$	$1.043^{+0.140}_{-0.140}$	$1.631^{+0.450}_{-0.848}$
	+3%/-3%	+1%/-4%	+188%/-188%	+30%/-10%	+13%/-13%	+28%/-52%
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 006551106-01 / KOI 6731.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-26 ± 10	$1.33^{+0.97}_{-0.82}$	1709^{+109}_{-79}	4167^{+2111}_{-724}	19^{+101}_{-13}
Alt.	-38 ± 12	$1.51^{+1.00}_{-0.82}$	1708^{+113}_{-86}	4269^{+1795}_{-753}	21^{+90}_{-14}

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 $A_{\text{obs}} \gg 1.0$

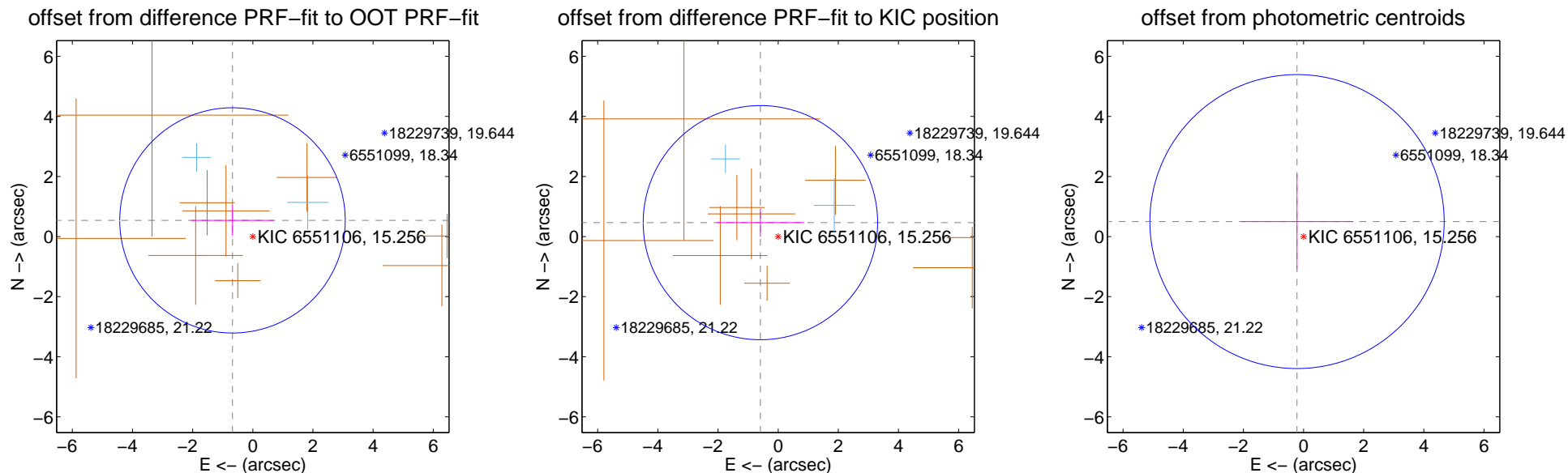
DV Centroid Data

Supplemental centroid analysis for 006551106-01. Kepler magnitude: 15.26. Transit SNR 8.51

There are 2 quarters with good PRF difference image offsets

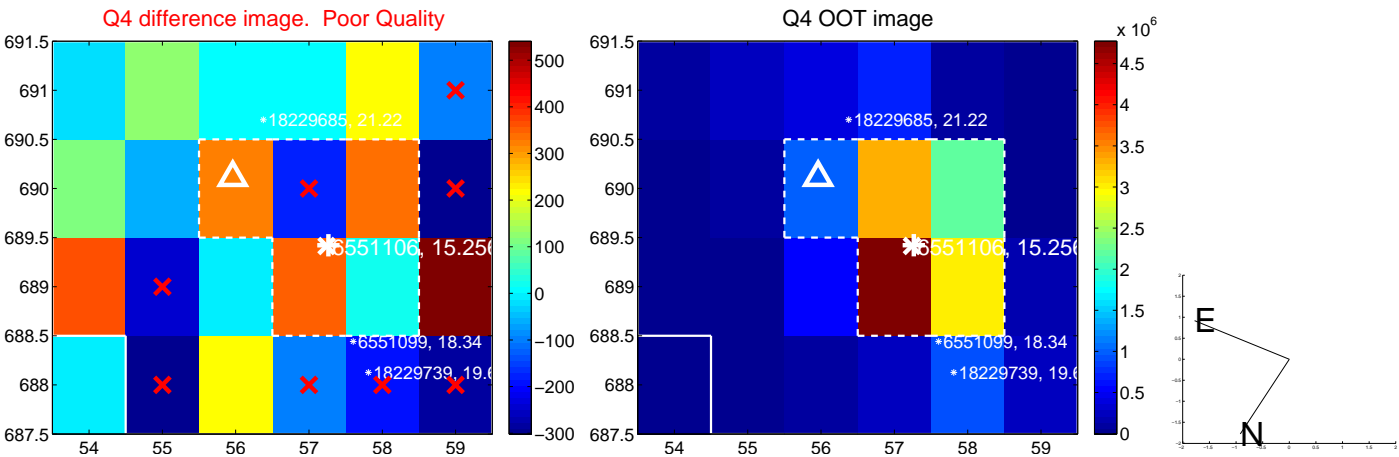
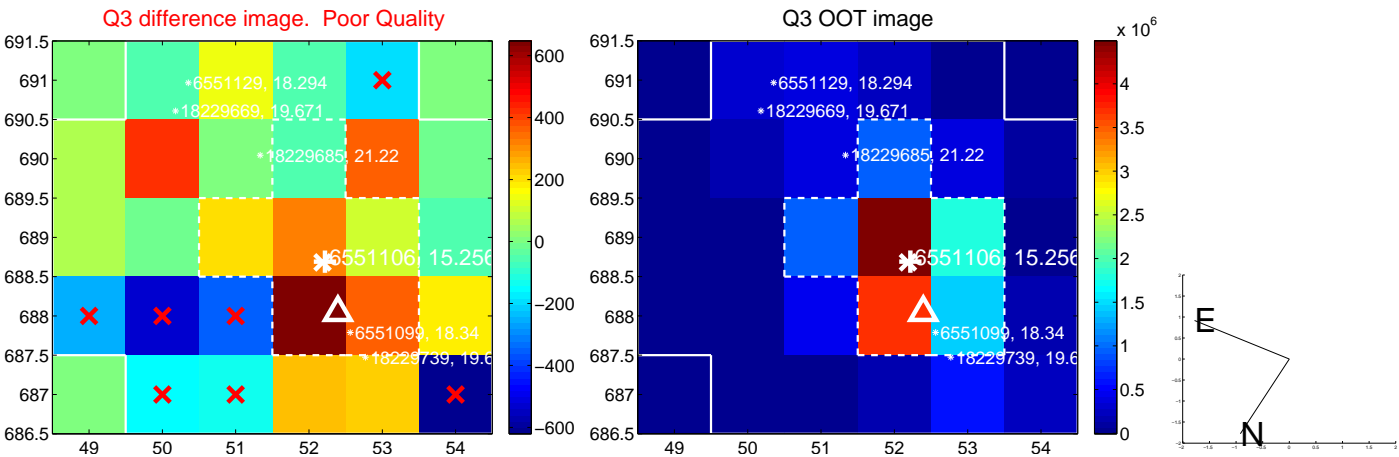
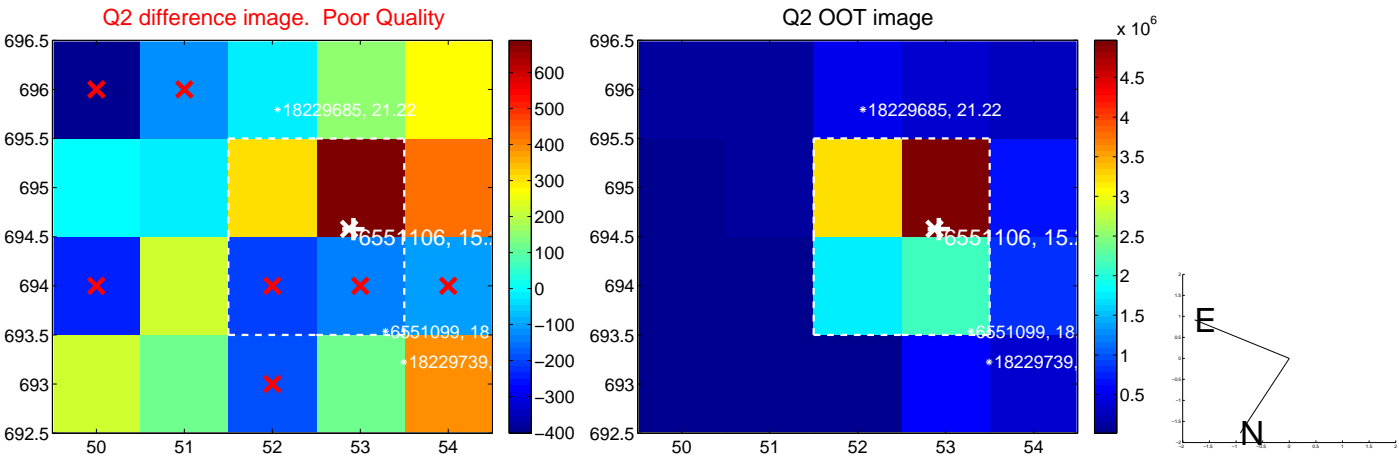
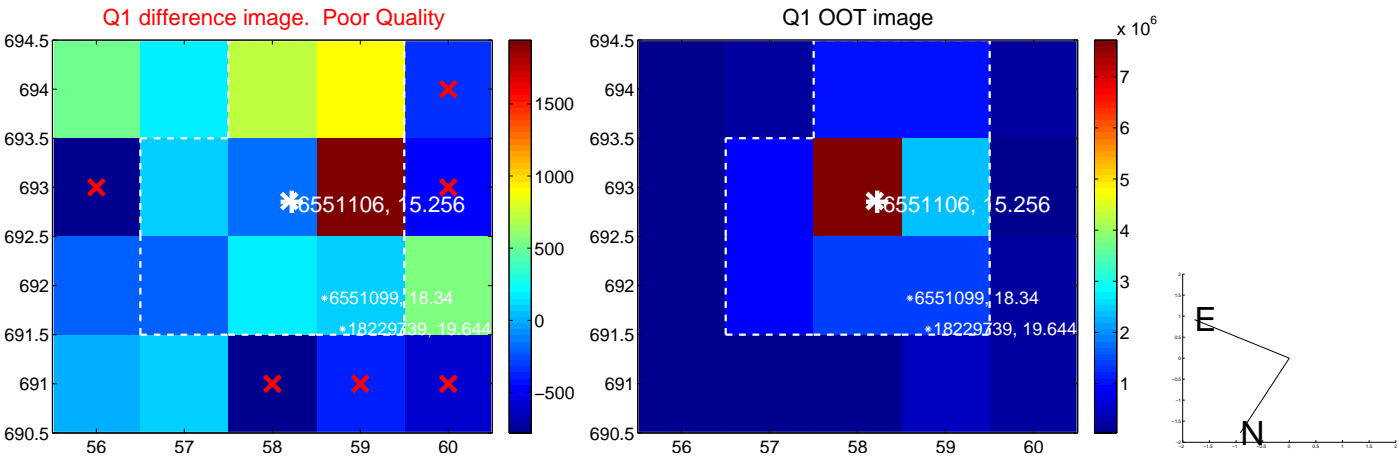
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.864 ± 1.249	0.69	0.675 ± 1.370	0.539 ± 0.508
PRF-fit source offset from KIC position	0.751 ± 1.299	0.58	0.590 ± 1.456	0.464 ± 0.472
photometric centroid source offset	0.54 ± 1.63	0.33	0.22 ± 1.87	0.50 ± 1.58

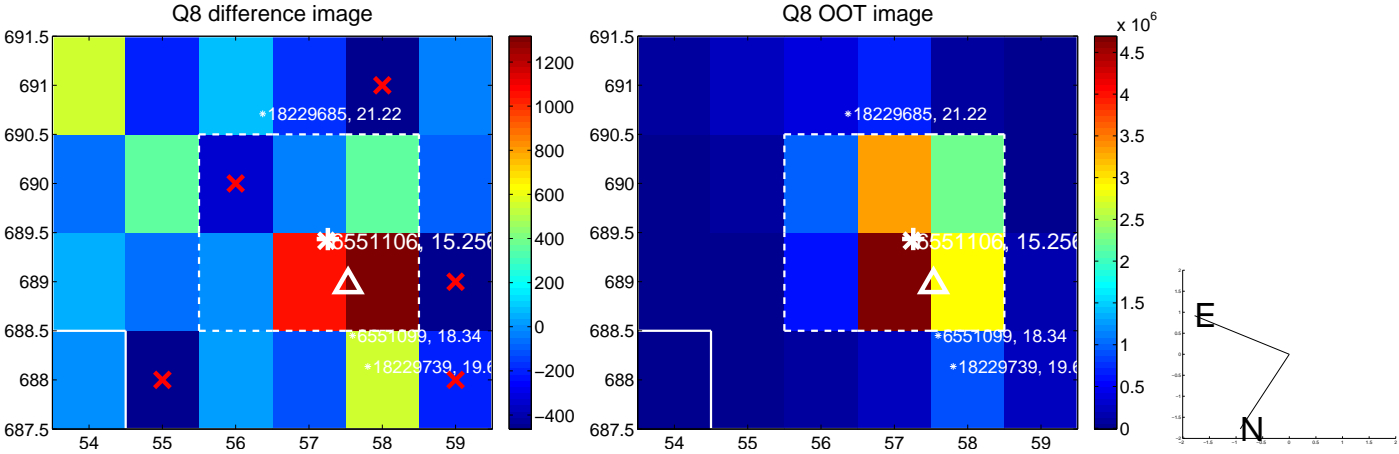
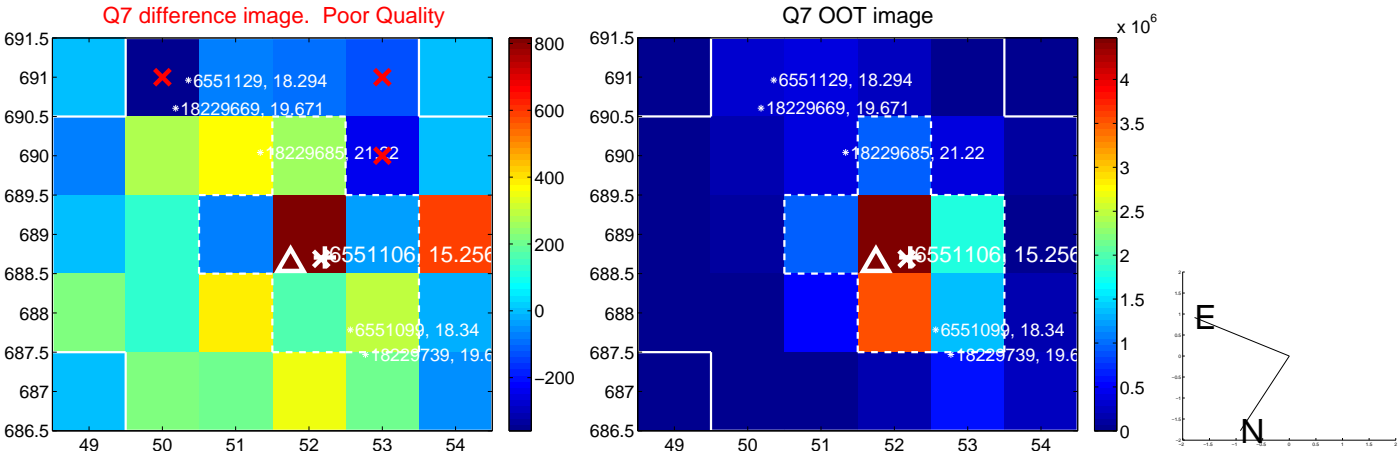
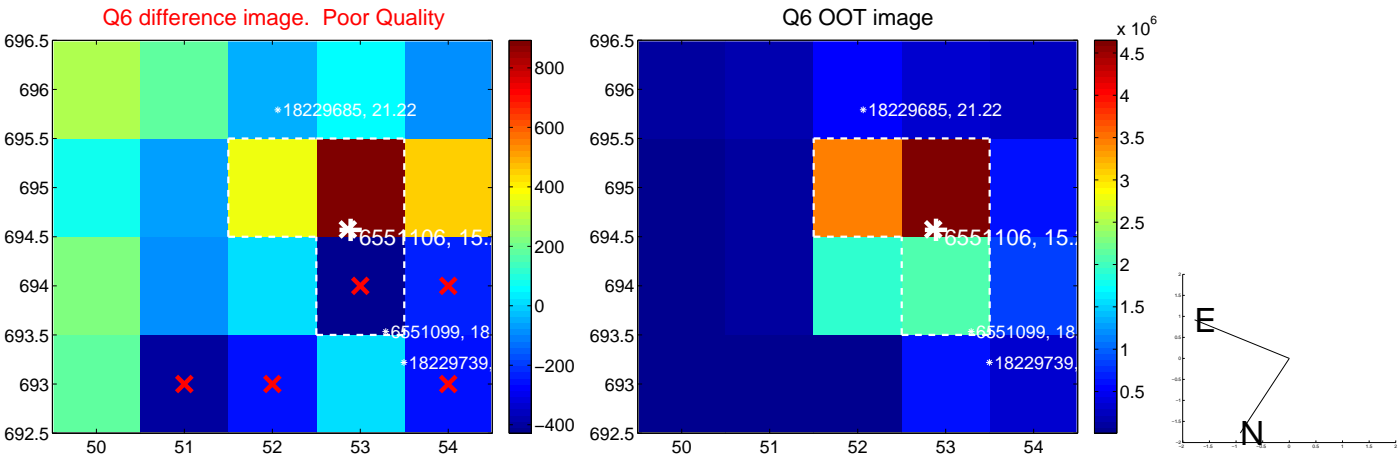
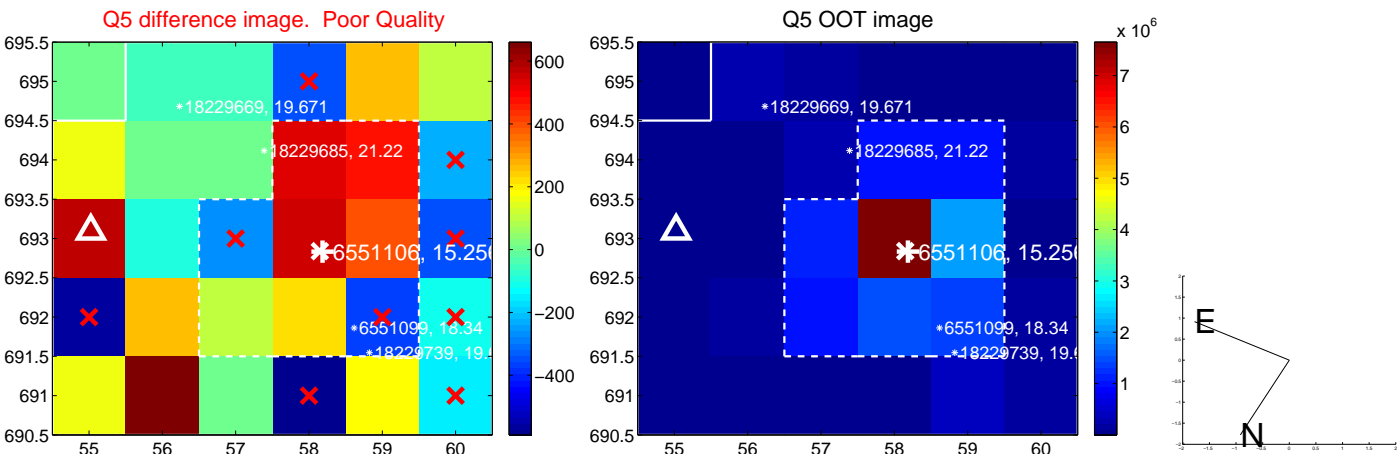


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

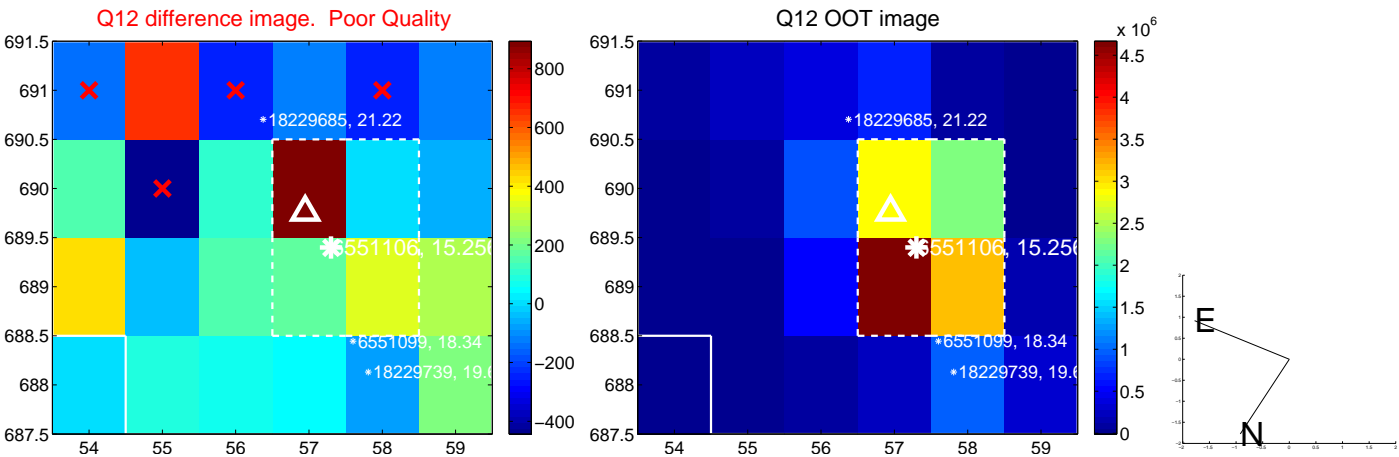
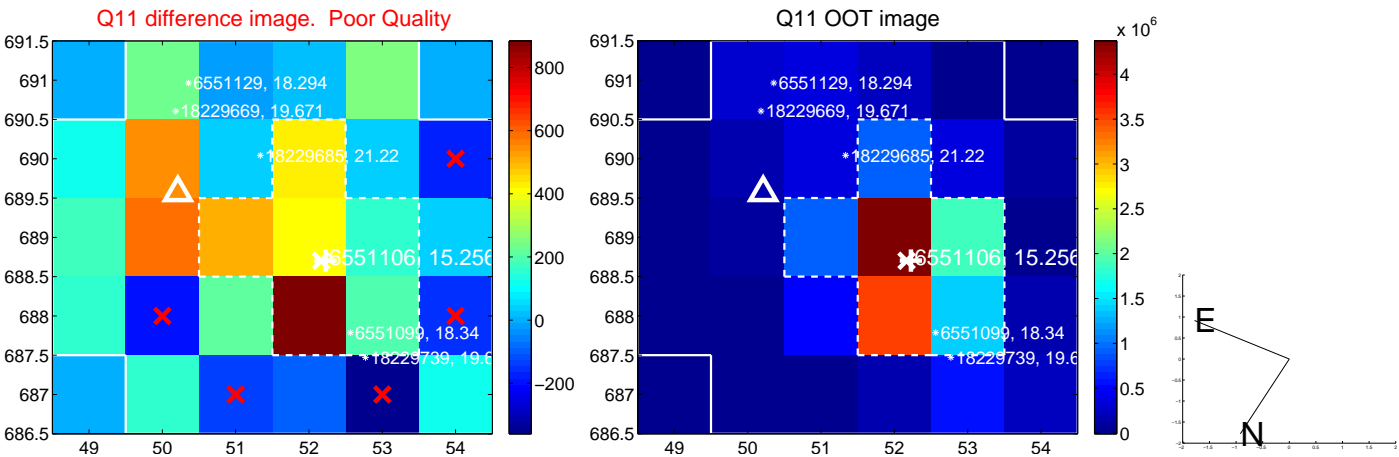
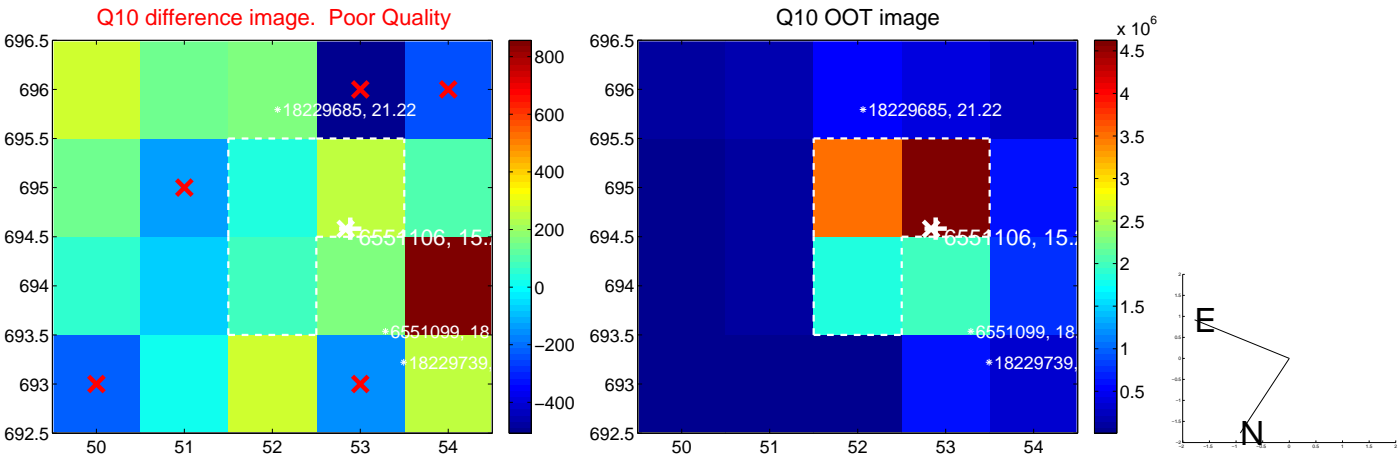
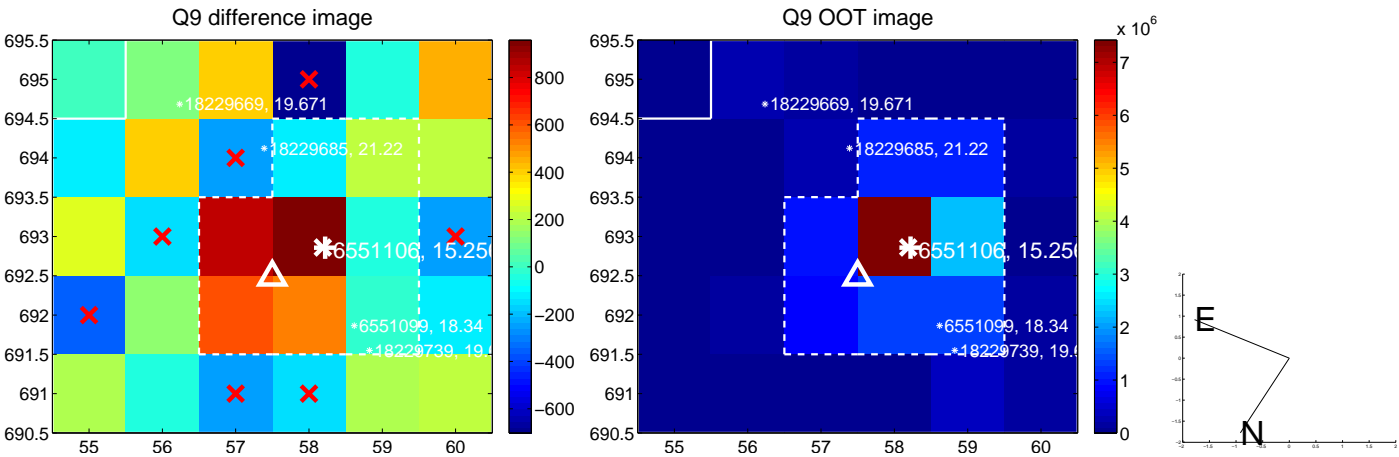
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



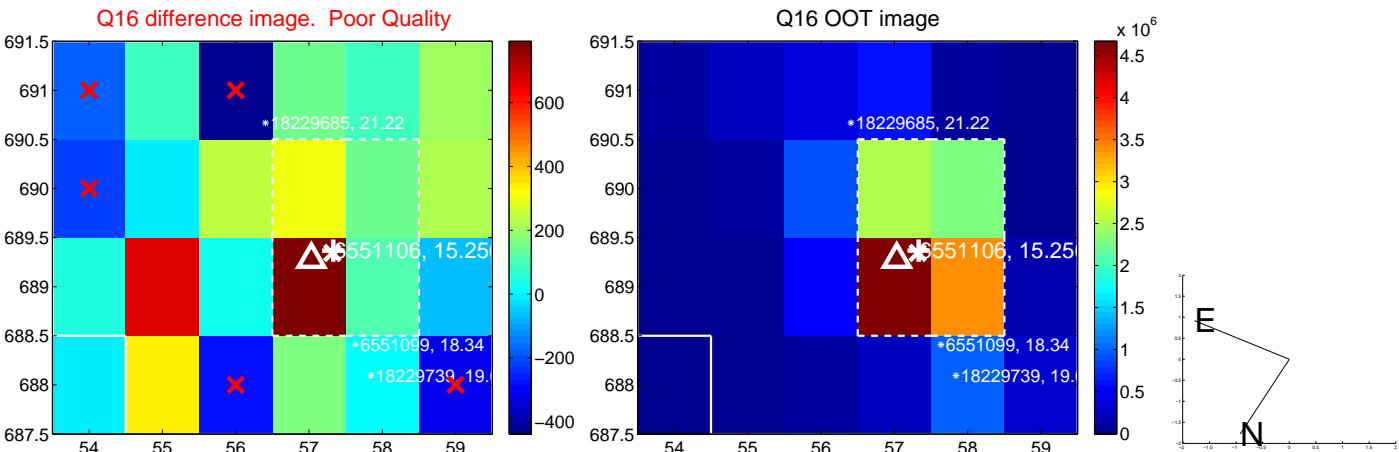
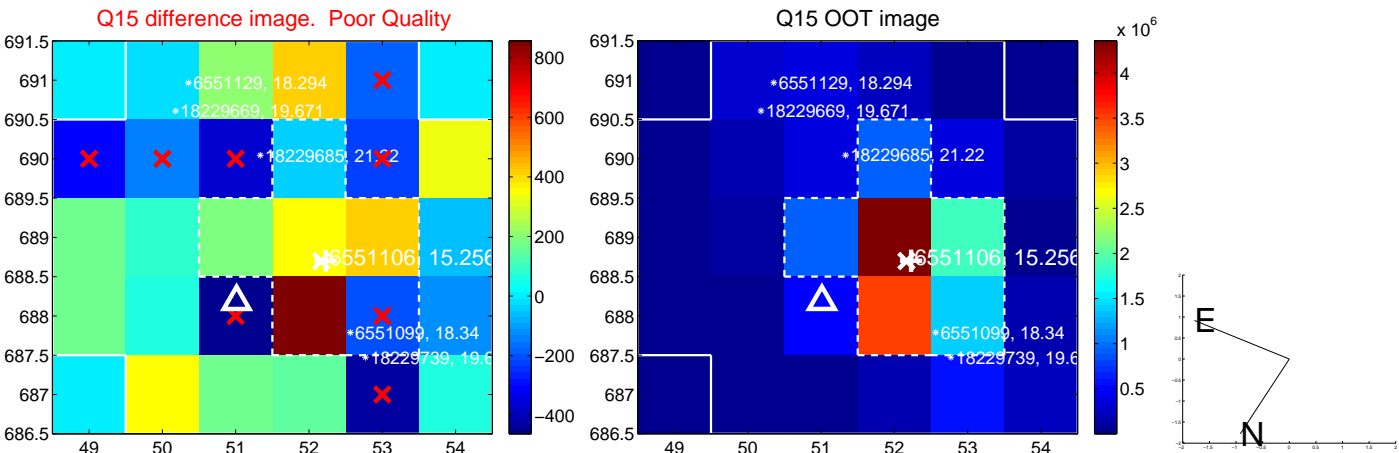
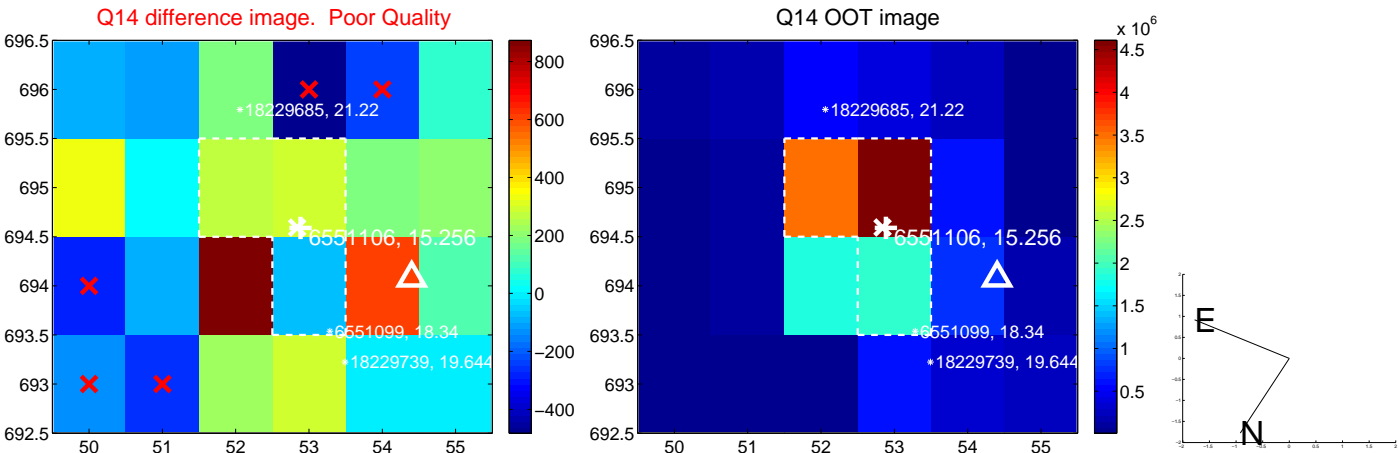
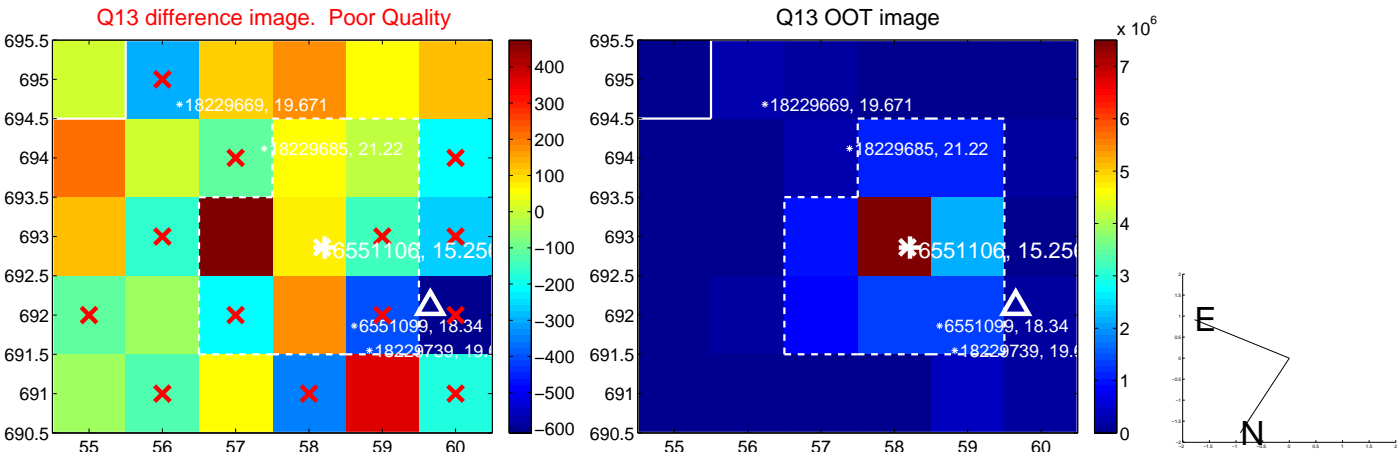
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



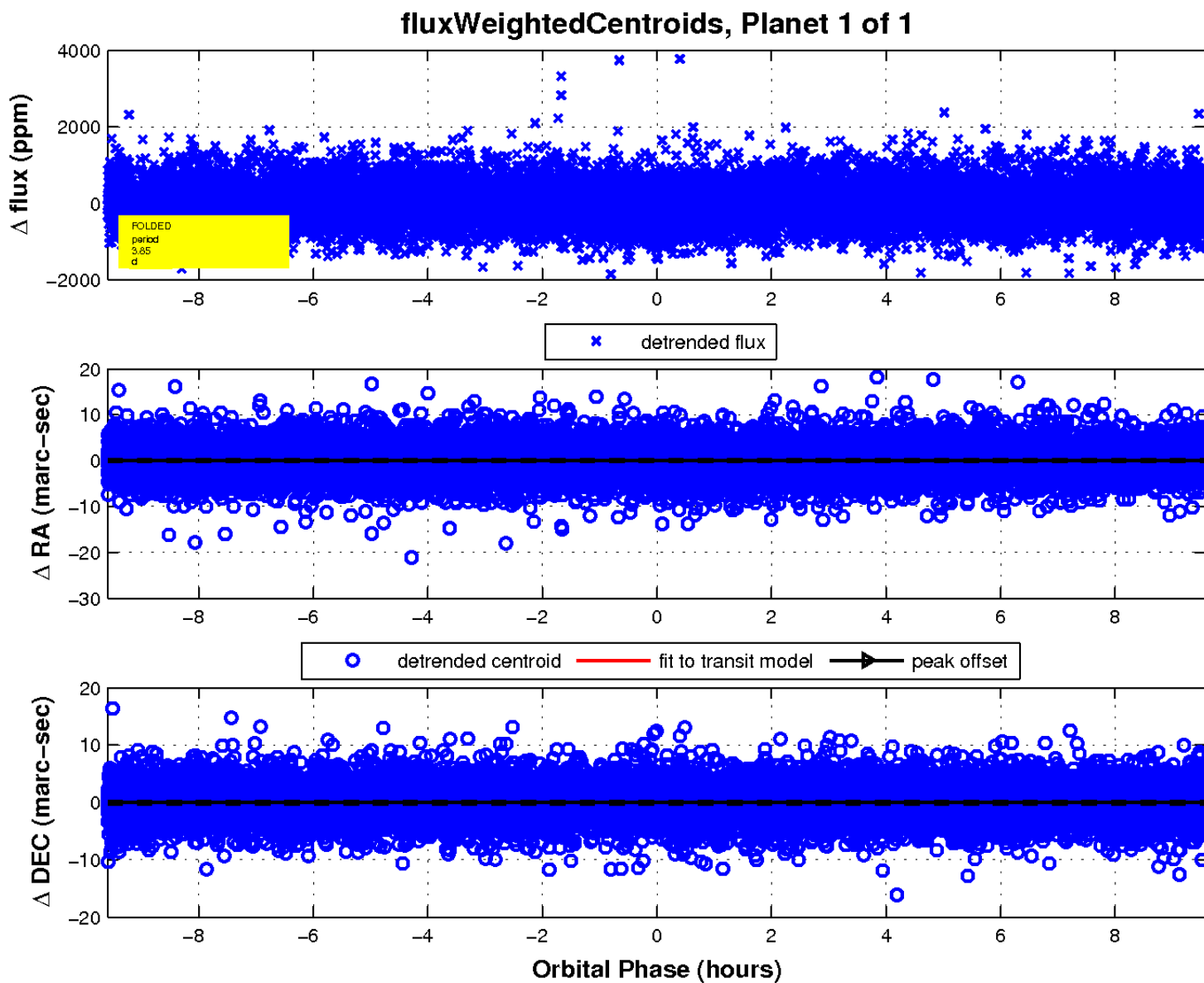
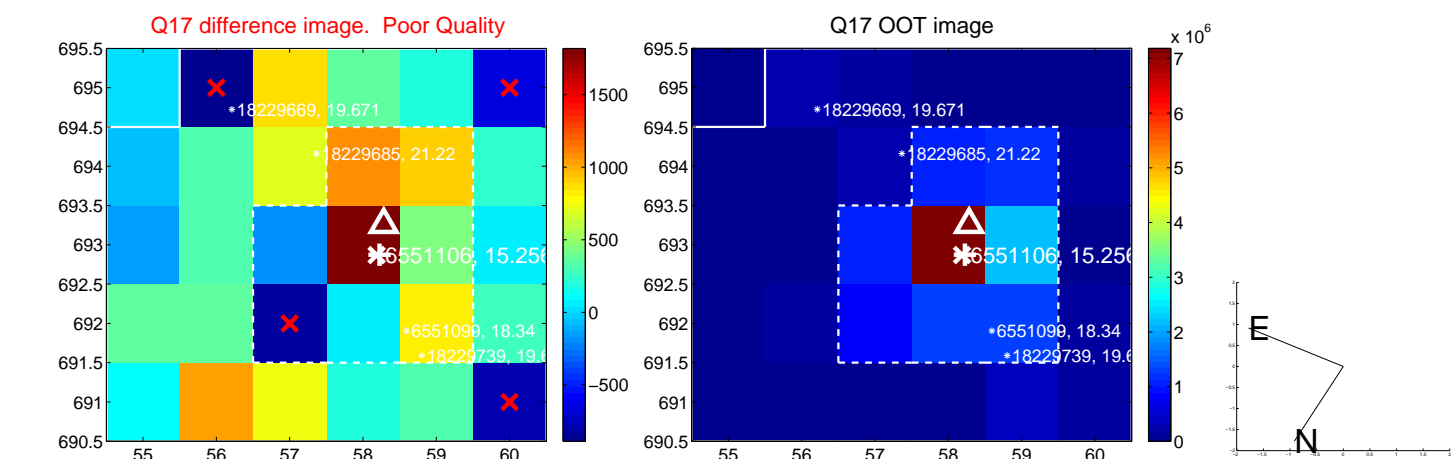
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

