

KIC 012055539

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})
012055539-01	OBS	3261.01	12.270572	137.572907	293.0	3.395	15.7	16.9	0.97	6075	1.97	102.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012055539-01	OBS	PC	1.00	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.

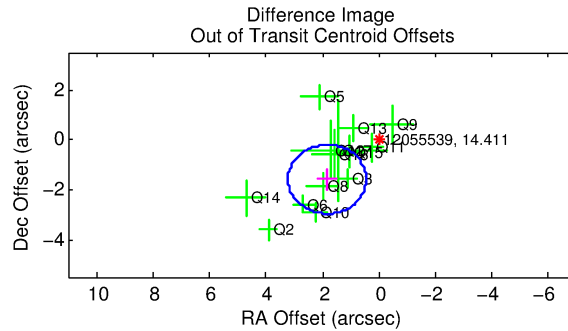
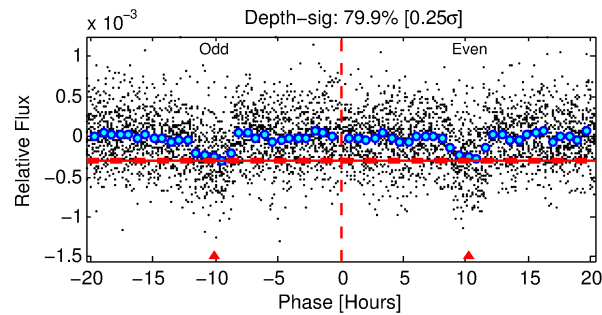
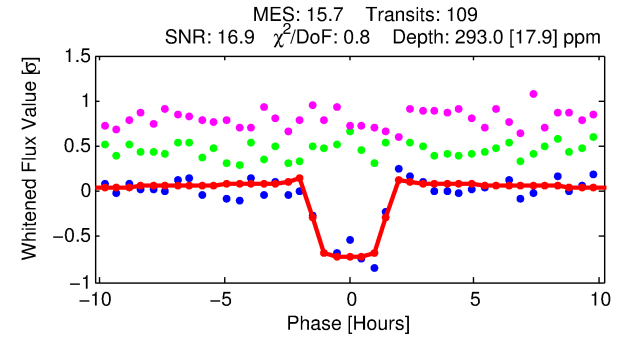
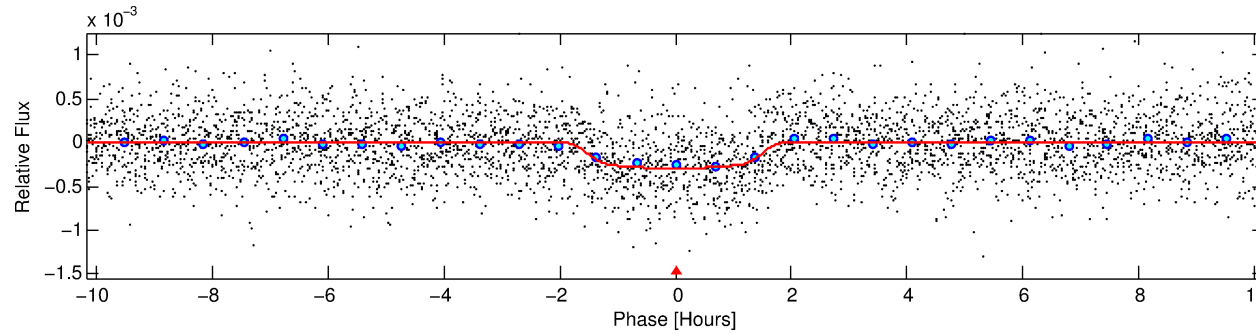
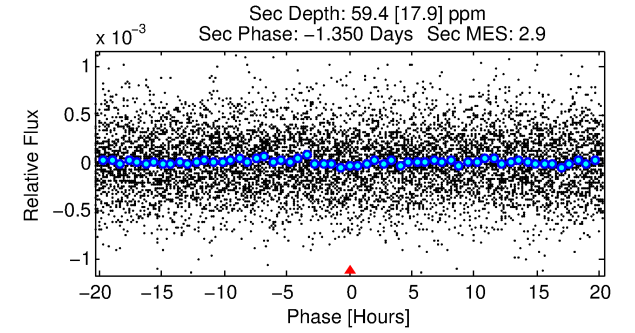
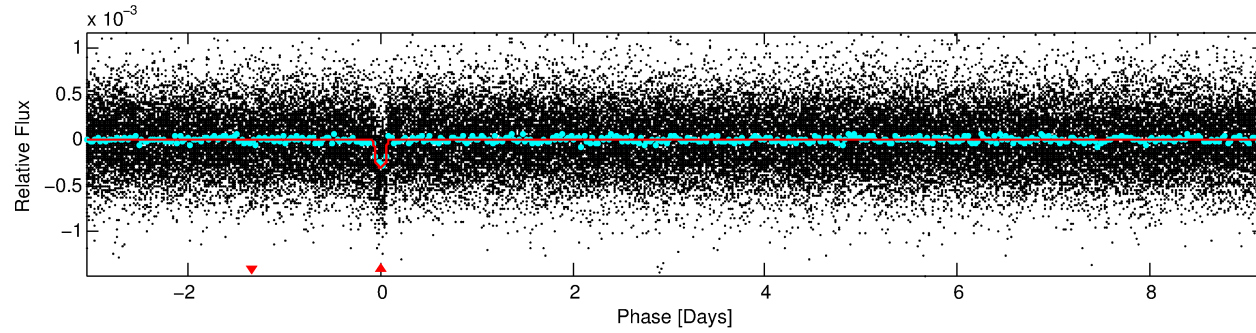
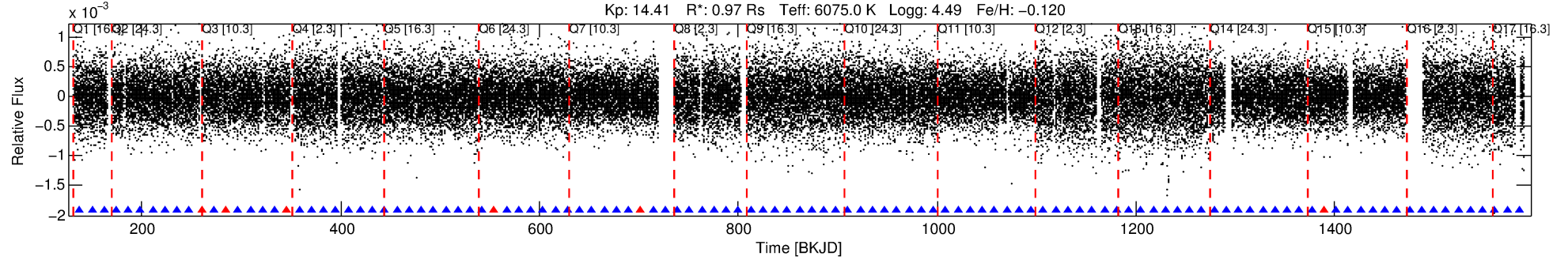
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012055539-01

No Significant Match Found

DV One-Page Summary

KIC: 12055539 Candidate: 1 of 1 Period: 12.271 d
KOI: K03261.01 Corr: 0.955



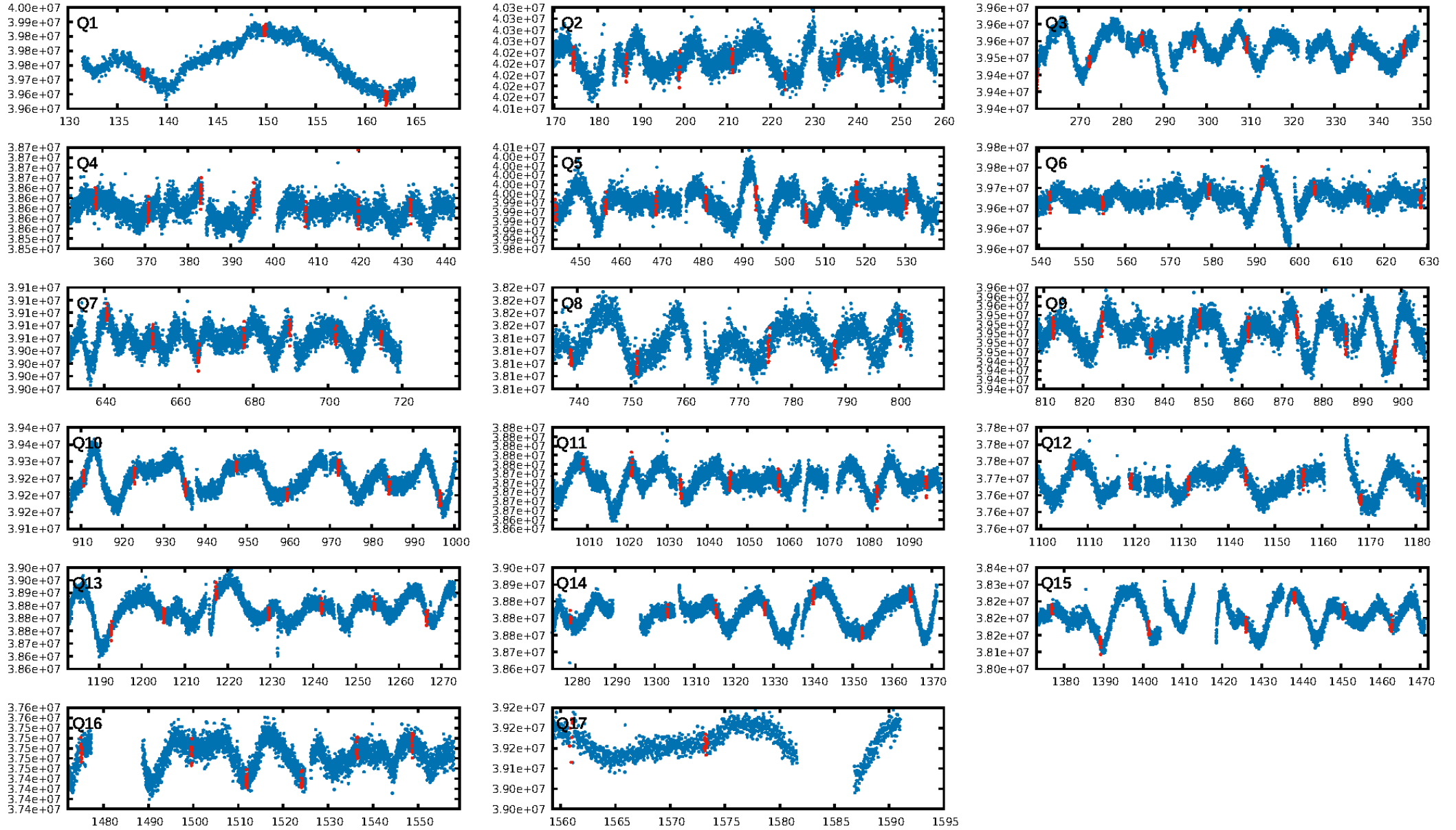
DV Fit Results:

Period = 12.27057 [0.00006] d
Epoch = 137.5729 [0.0037] BKJD
Rp/R* = 0.0186 [0.0031]
a/R* = 12.87 [10.70]
b = 0.91 [0.17]
Seff = 102.36 [42.69]
Teff = 811 [85] K
Rp = 1.97 [0.72] Re
a = 0.1058 [0.0289] AU
Ag = 94.55 [56.63] [1.65σ]
Teffp = 3910 [457] K [6.66σ]

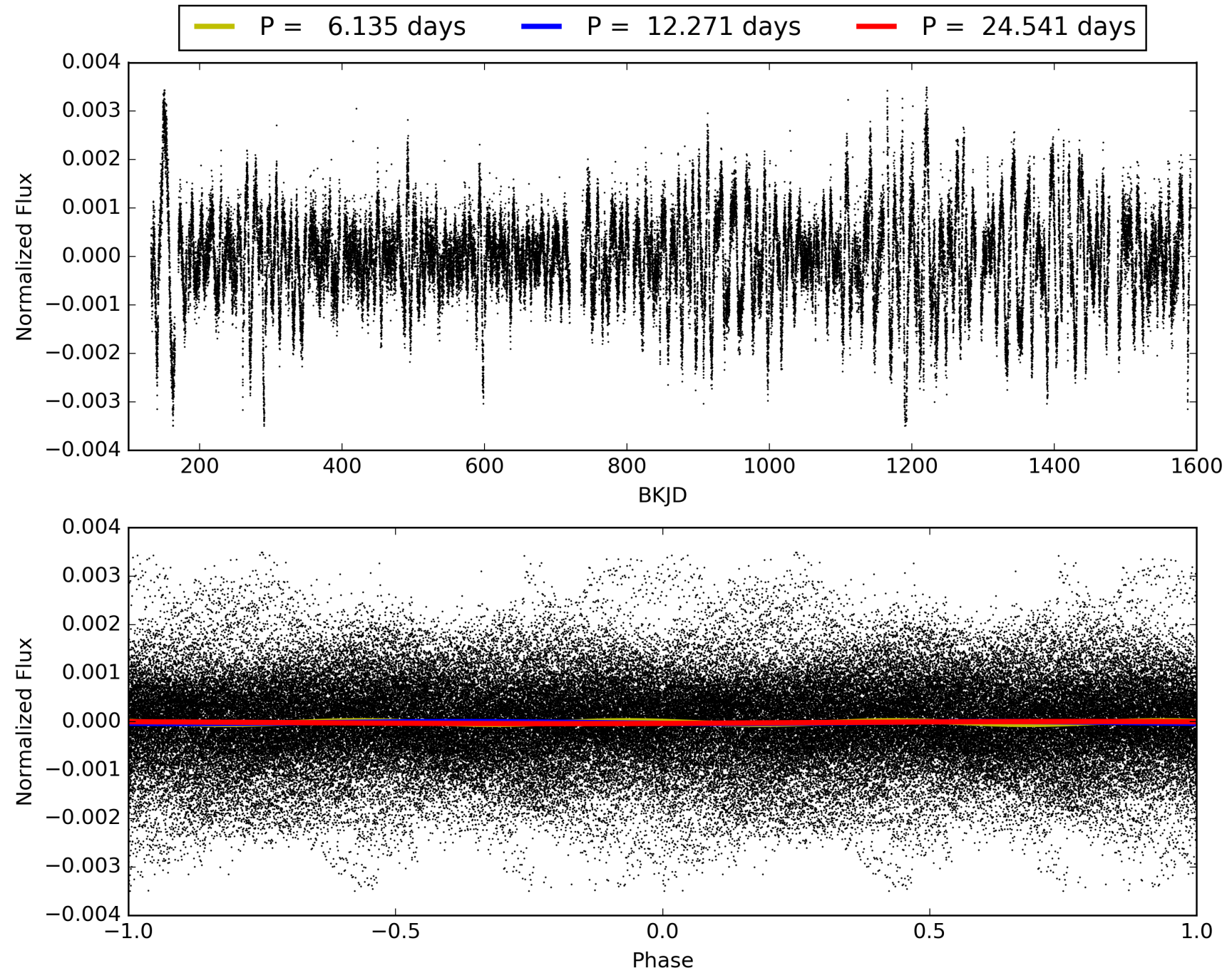
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.31e-53
RollingBand-fgt: 0.94 [98/104]
GhostDiagnostic-chr: 3.351
Centroid-sig: 18.7%
Centroid-so: 2.001 arcsec [3.83σ]
OOTOffset-rm: 2.426 arcsec [5.27σ]
KicOffset-rm: 0.496 arcsec [2.20σ]
OOTOffset-st: 4/3/3/4 [14]
KicOffset-st: 4/3/3/4 [14]
DiffImageQuality-fgm: 0.86 [12/14]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 012055539-01, PDC Light Curves

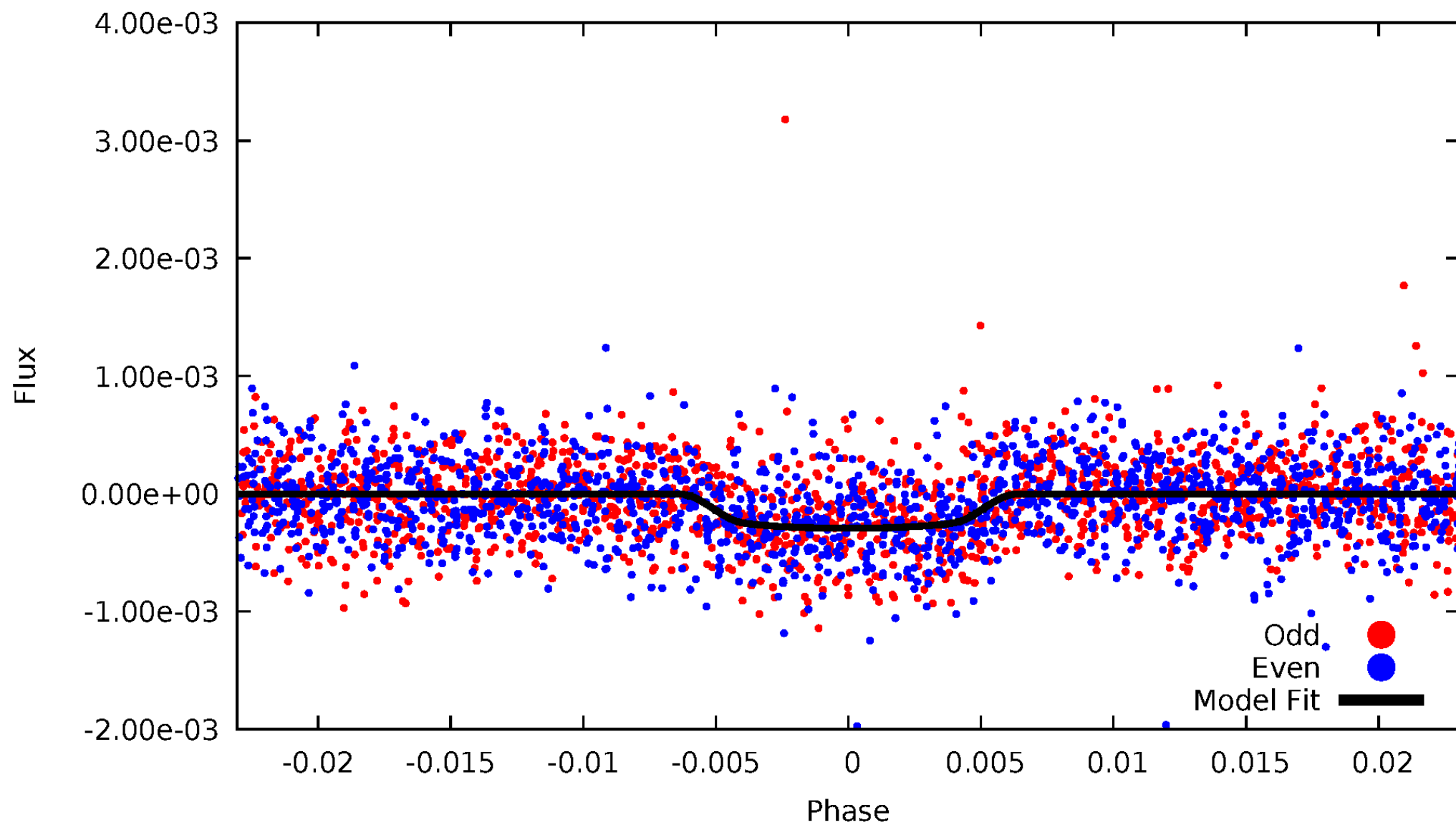


TCE 012055539-01



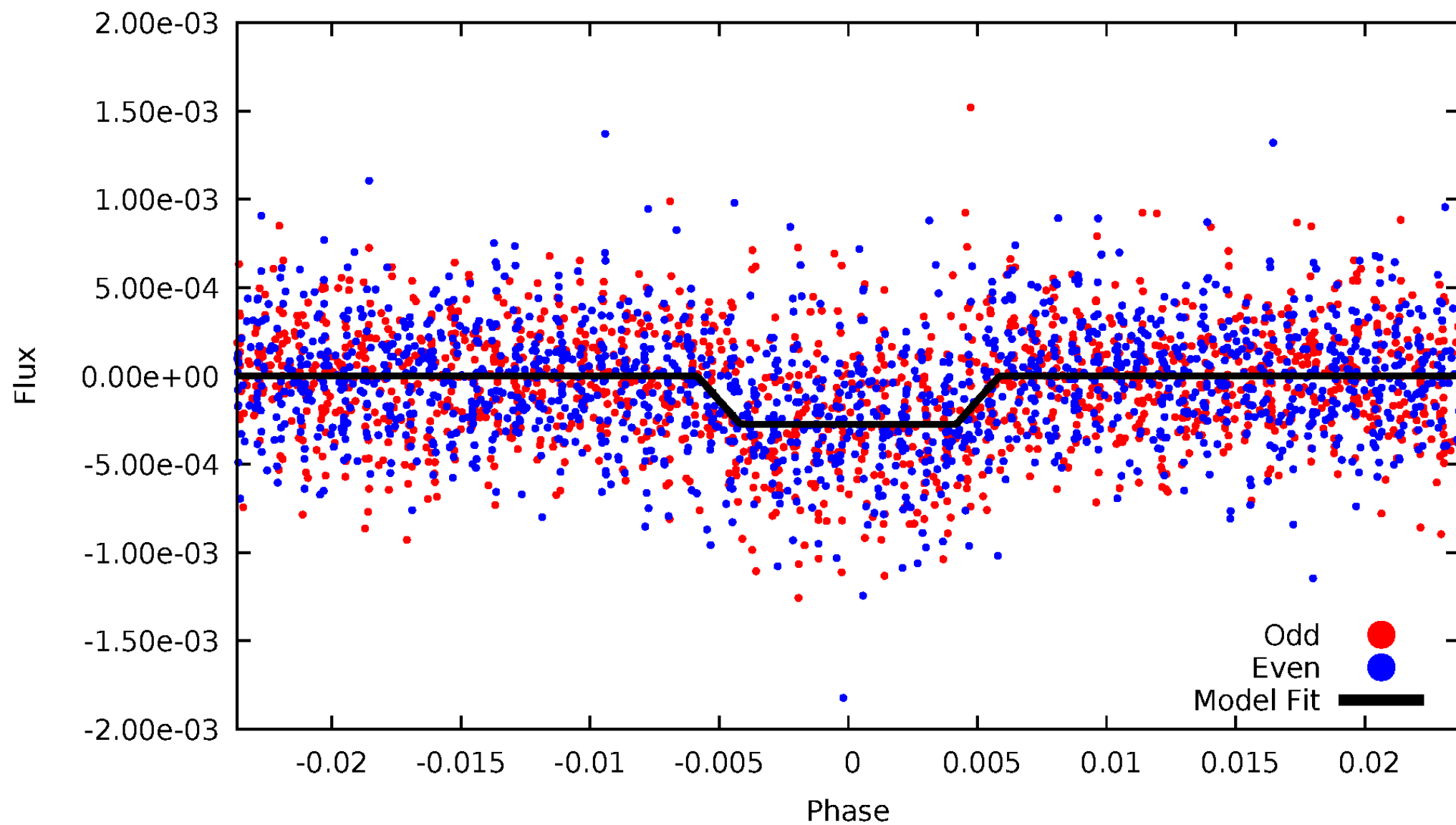
DV Odd/Even

TCE 012055539-01

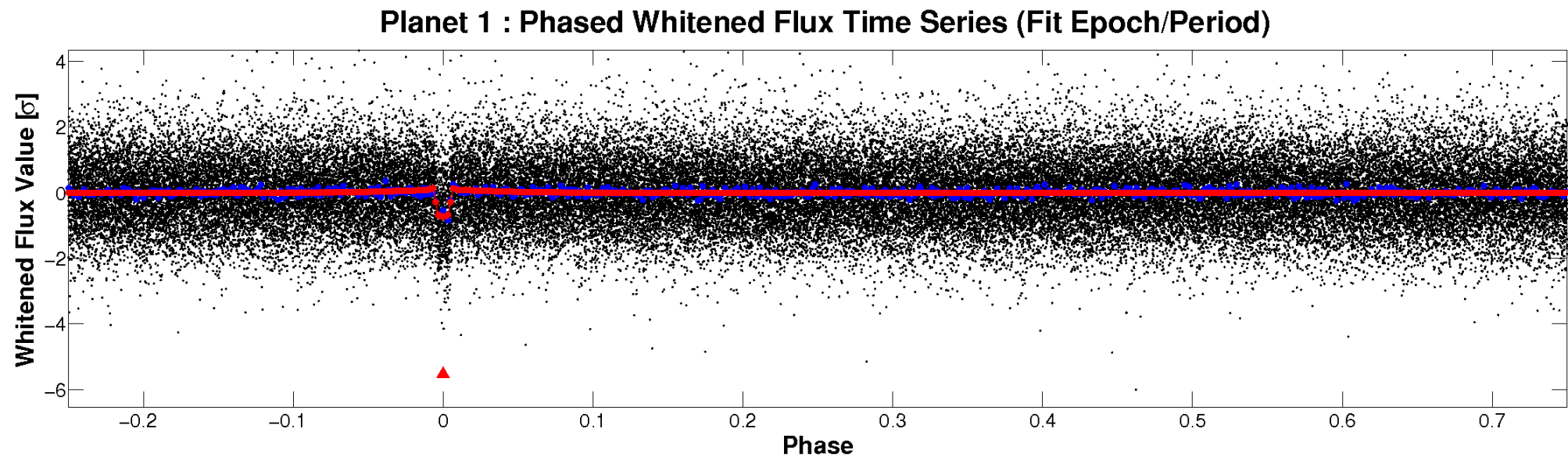
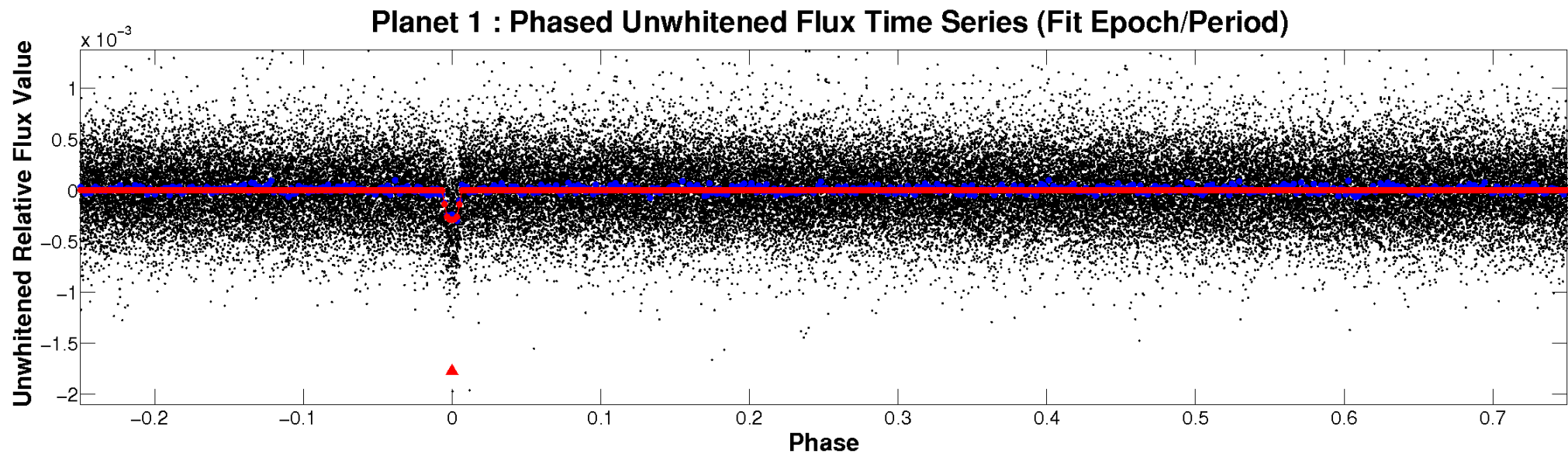


ALT Odd/Even

TCE 01205539-01

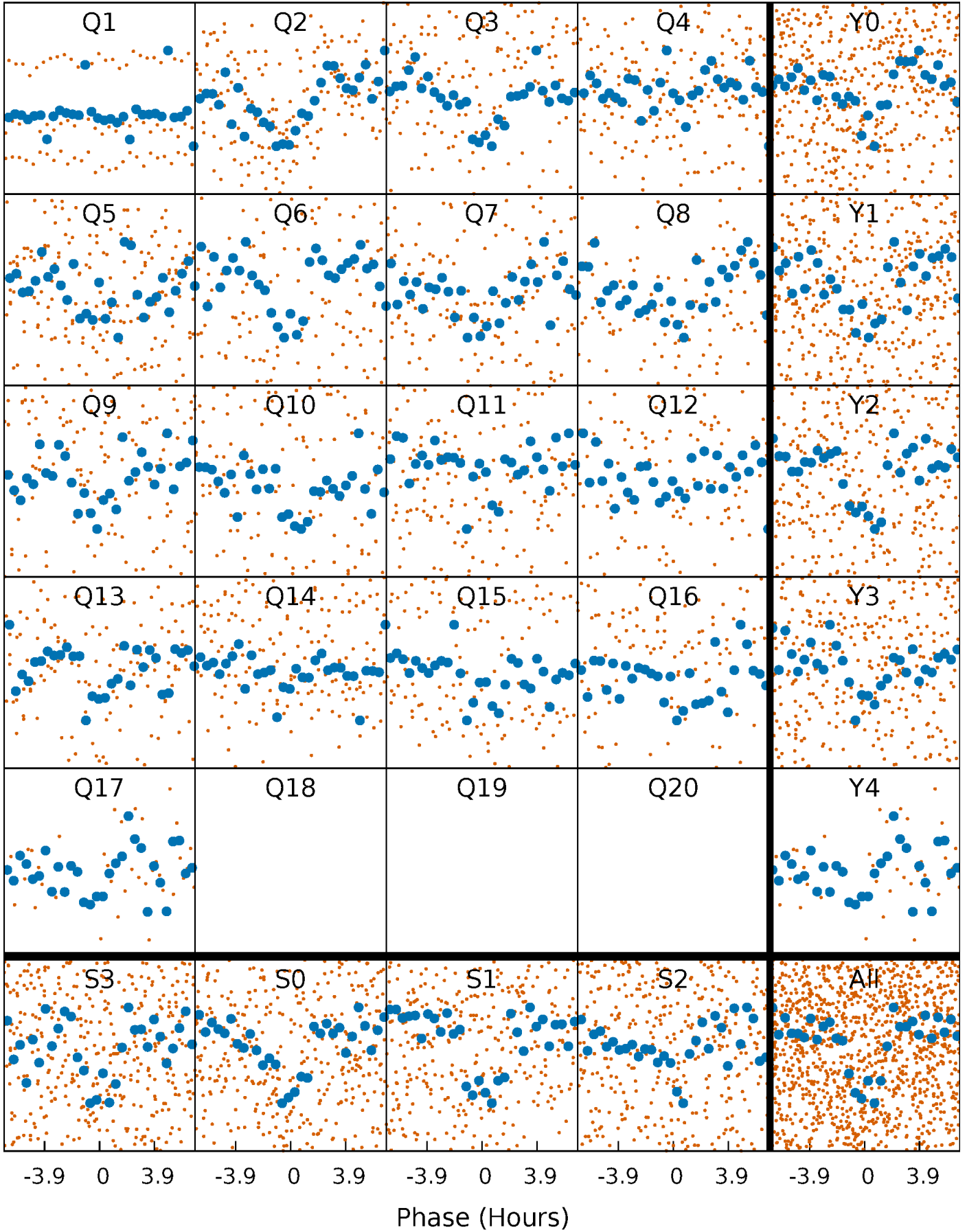


Non-Whitened Vs. Whitened Light Curve



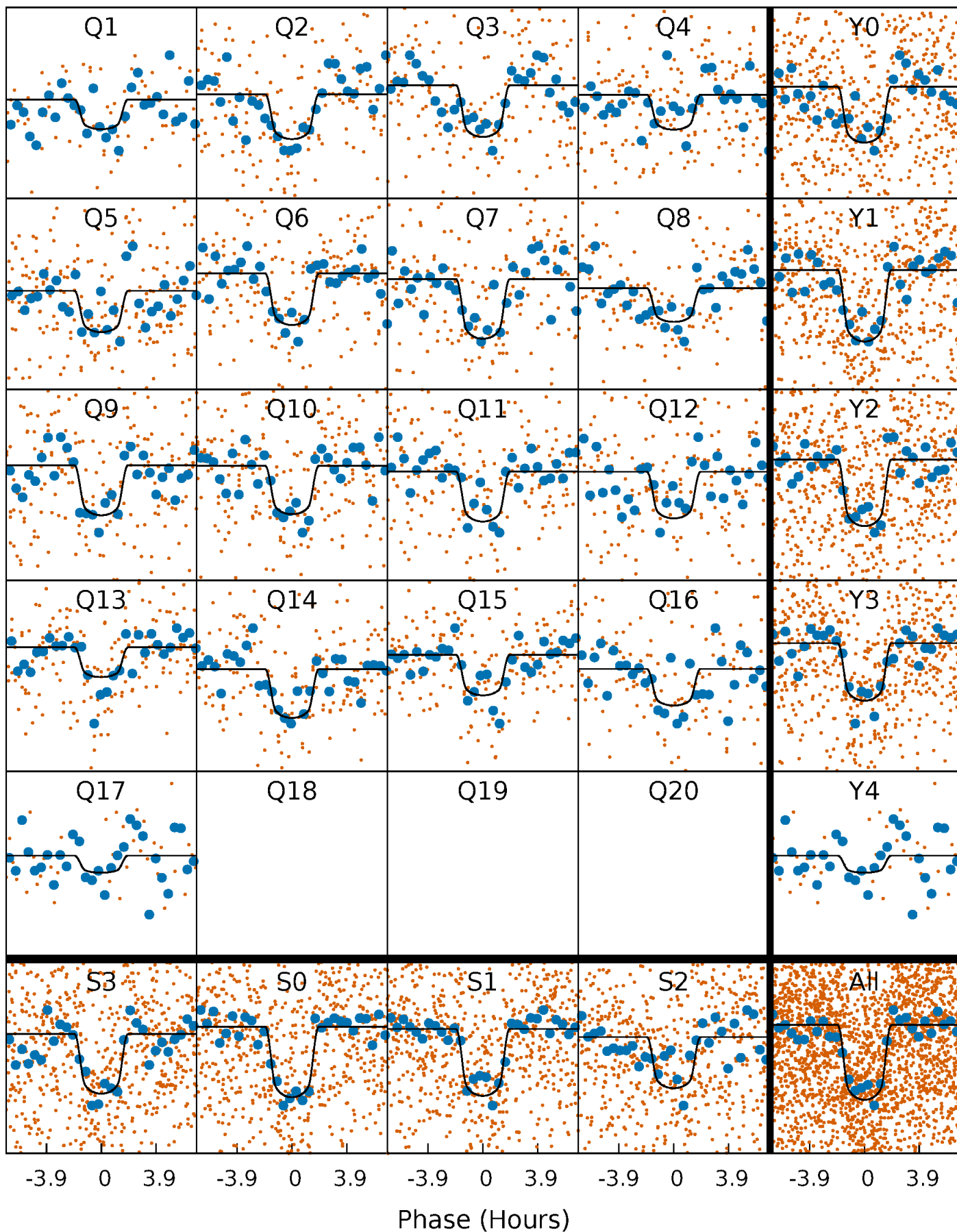
PDC Quarter-Phased Transit Curves

TCE 012055539-01 P= 12.270572 Days $T_0=137.572906$ (BKJD)



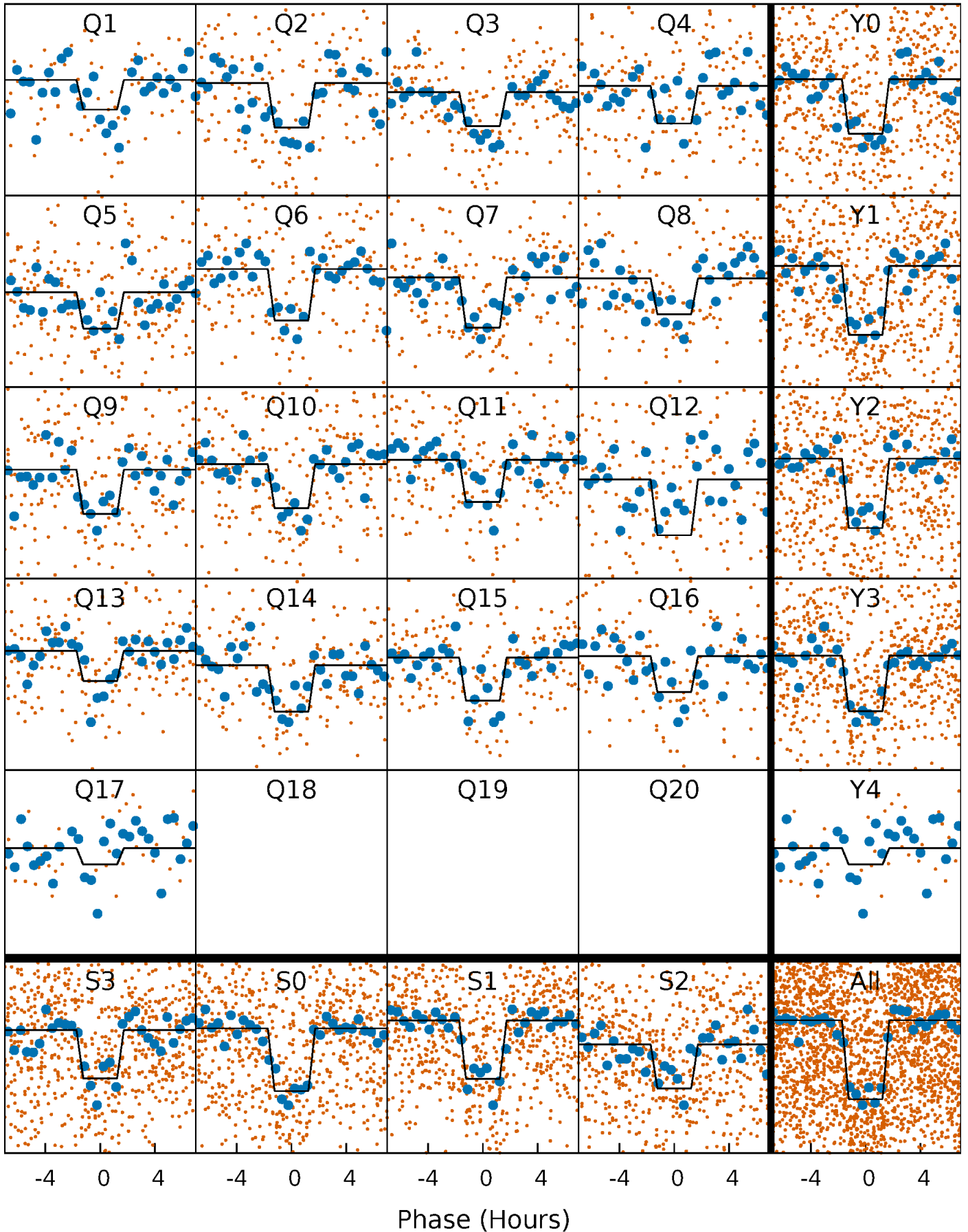
DV Quarter-Phased Transit Curves

TCE 012055539-01 P= 12.270572 Days $T_0=137.572906$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

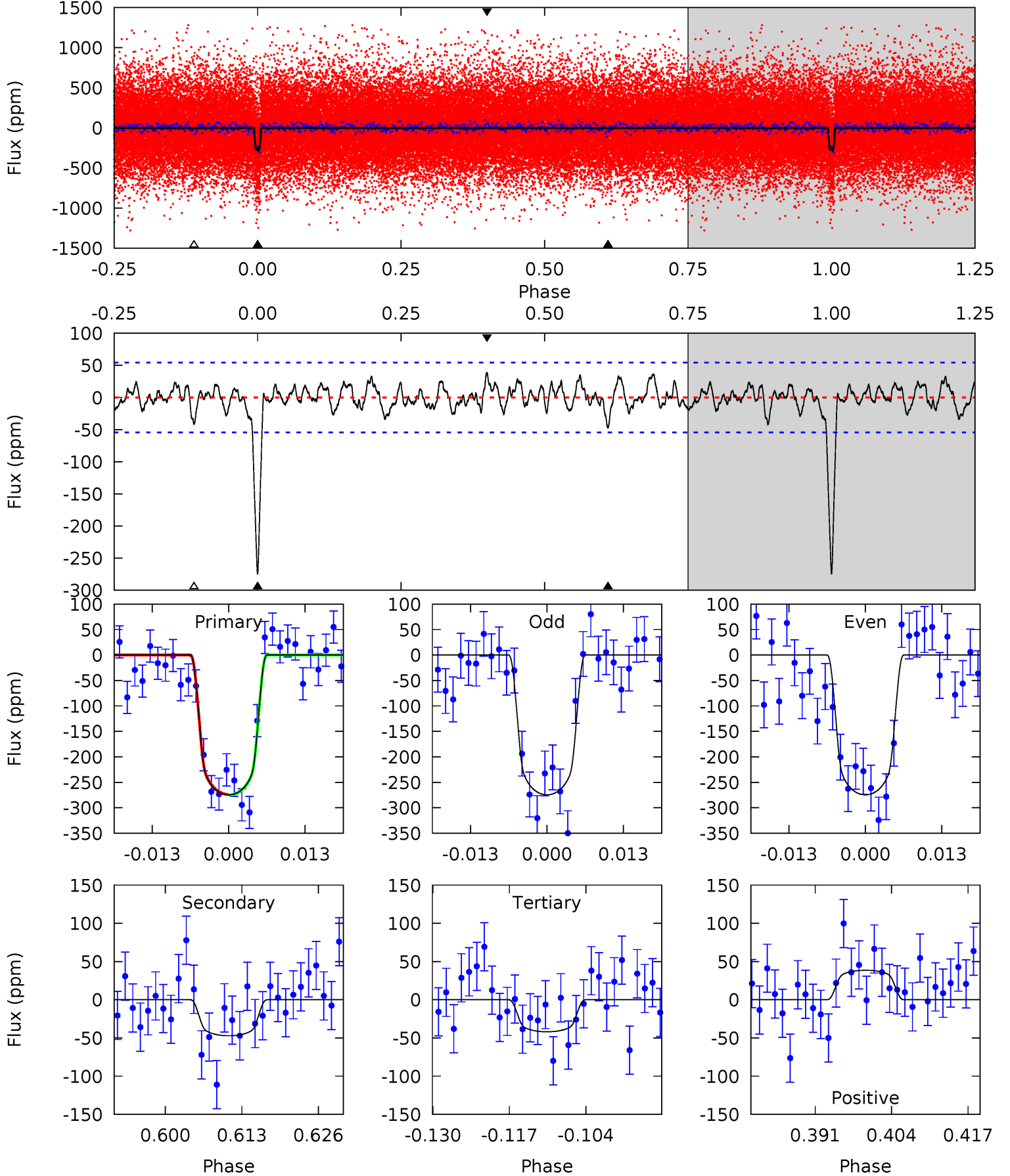
TCE 012055539-01 P= 12.270684 Days $T_0=137.566354$ (BKJD)



DV Model-Shift Uniqueness Test

012055539-01, $P = 12.270572$ Days, $E = 125.302334$ Days

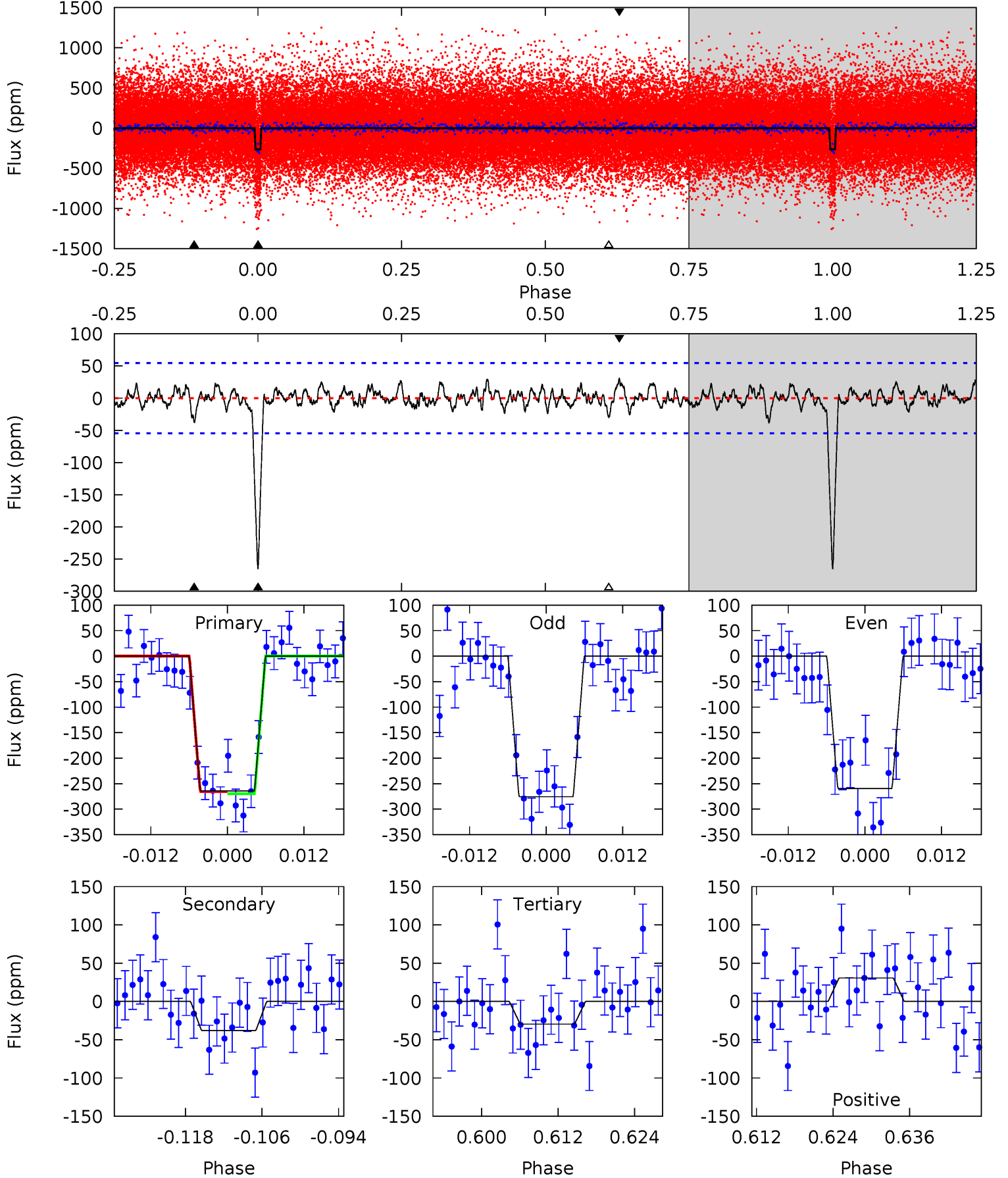
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.2	4.32	3.84	3.54	4.98	2.48	1.31	21.3	21.6	0.47	0.78	0.00	0.94	0.12	0.06



Alt Model-Shift Uniqueness Test

012055539-01, $P = 12.270684$ Days, $E = 125.295670$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.2	3.48	2.71	2.81	4.99	2.52	0.95	21.5	21.4	0.76	0.66	0.74	0.96	0.10	0.17



Stellar Parameters For KIC 012055539

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6075^{+180}_{-198}	$4.486^{+0.054}_{-0.216}$	$-0.120^{+0.300}_{-0.300}$	$0.969^{+0.315}_{-0.084}$	$1.048^{+0.139}_{-0.139}$	$1.622^{+0.361}_{-0.901}$
	+3%/-3%	+1%/-5%	+250%/-250%	+33%/-9%	+13%/-13%	+22%/-56%
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 012055539-01 / KOI 3261.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-47 ± 11	$2.02^{+0.50}_{-0.36}$	1159^{+87}_{-57}	3998^{+348}_{-285}	66^{+39}_{-26}
Alt.	-38 ± 11	$1.83^{+0.46}_{-0.39}$	1160^{+84}_{-59}	3994^{+421}_{-315}	67^{+48}_{-28}

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 $A_{obs} \gg 1.0$

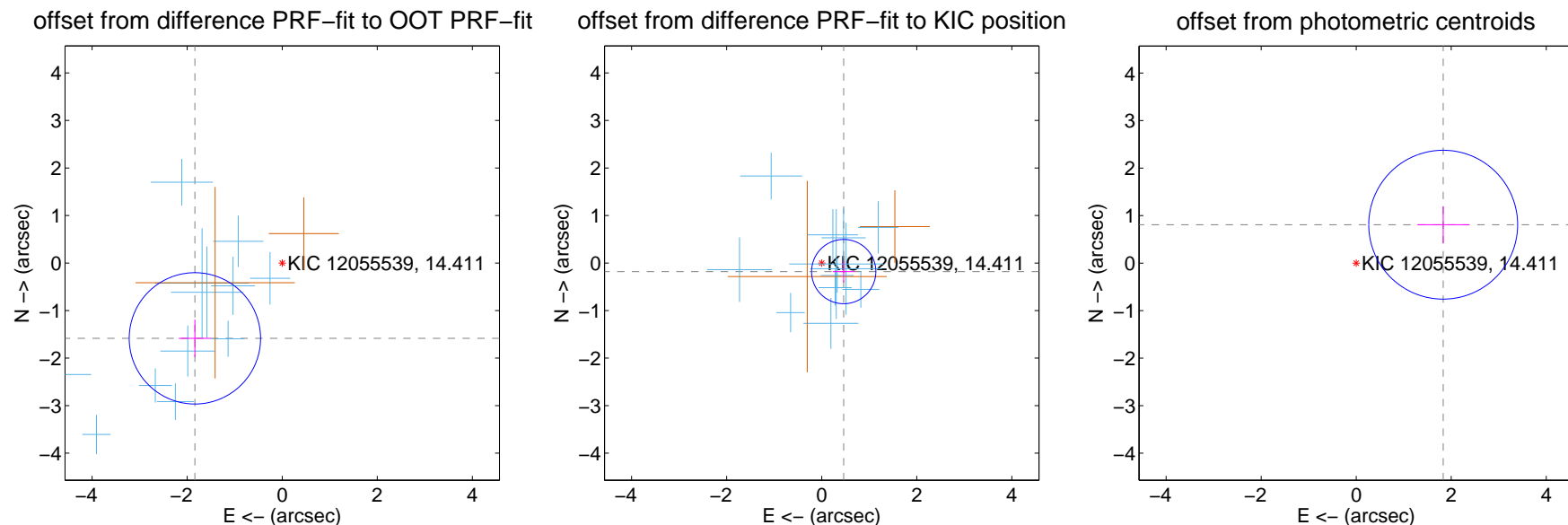
DV Centroid Data

Supplemental centroid analysis for 012055539-01. Kepler magnitude: 14.41. Transit SNR 16.85

There are 12 quarters with good PRF difference image offsets

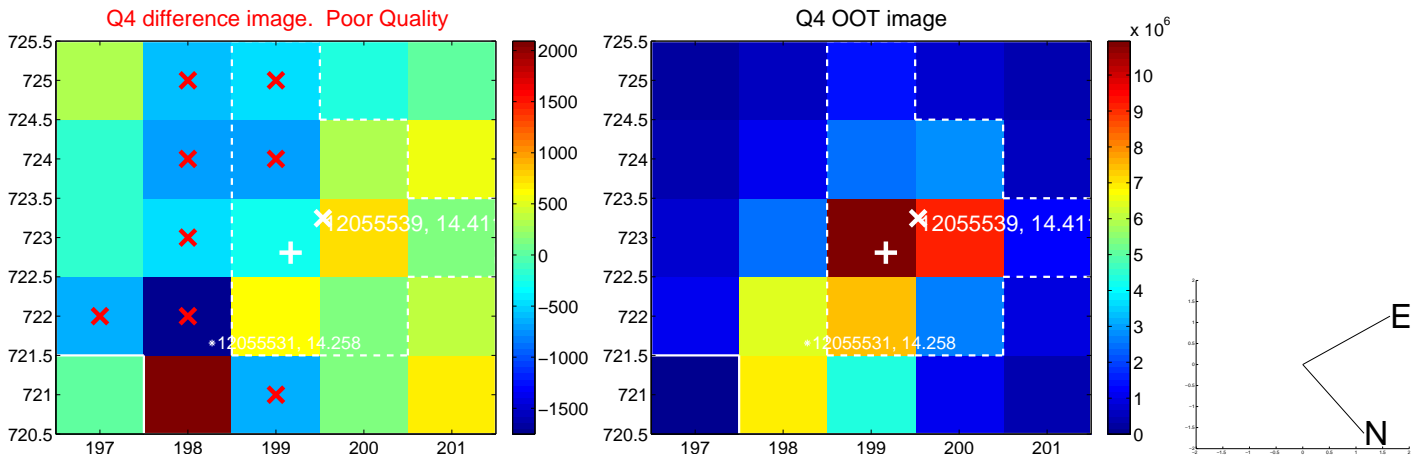
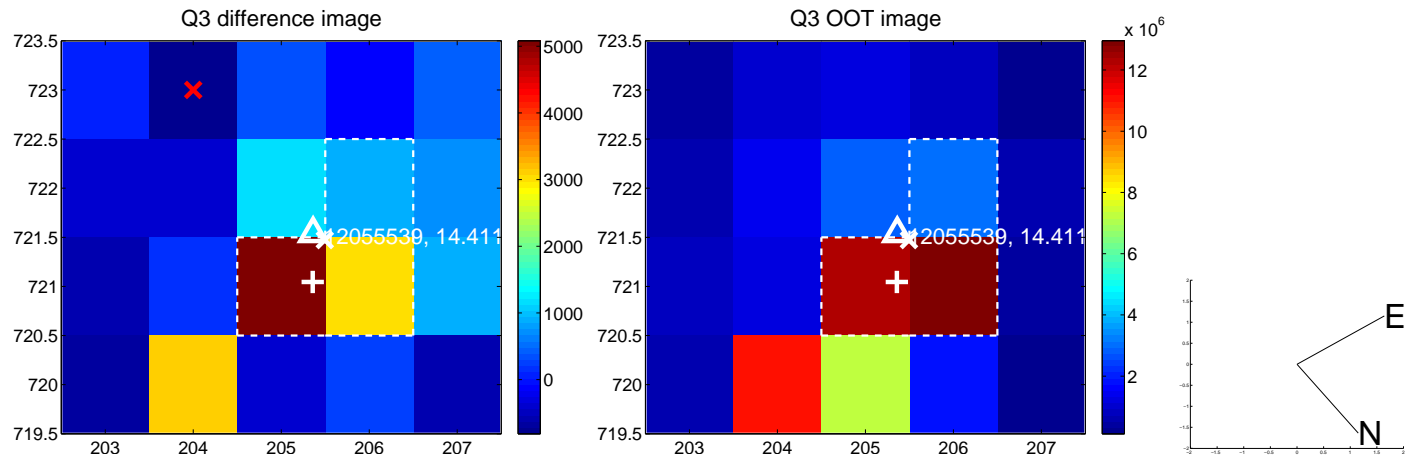
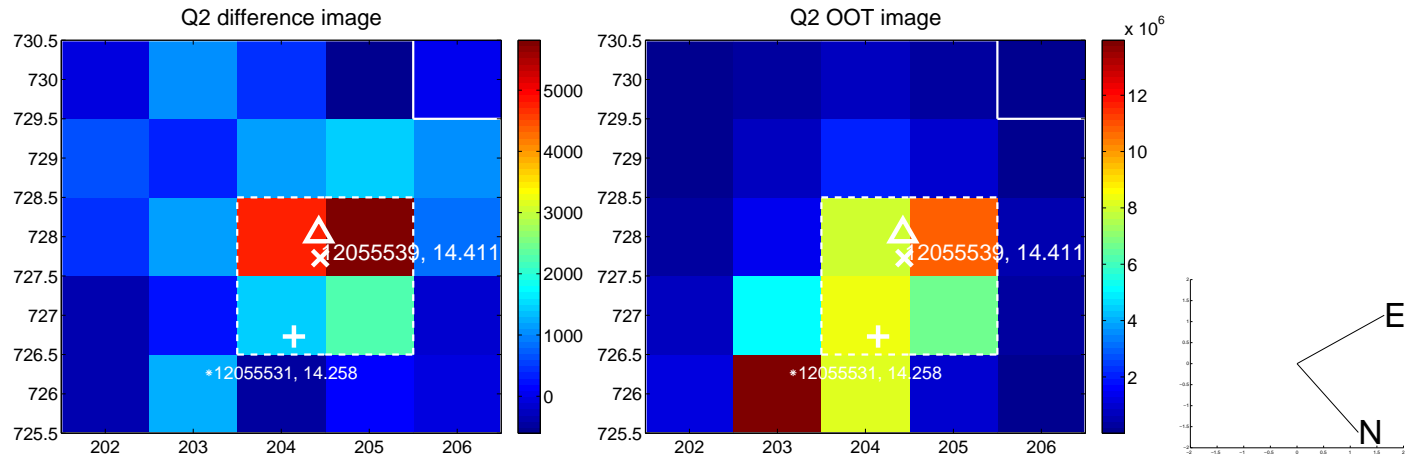
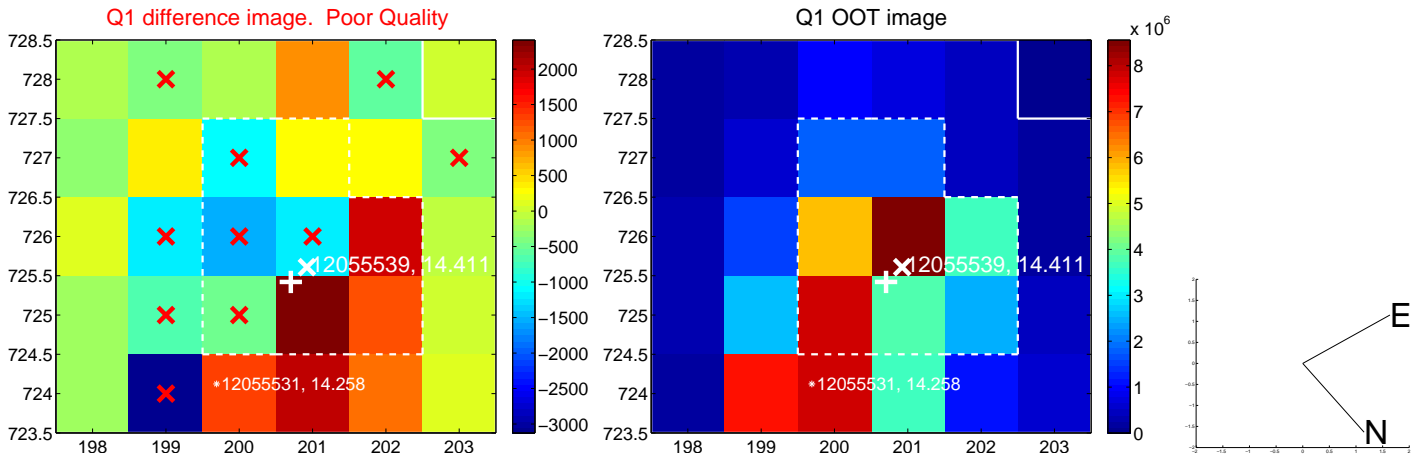
The direct PRF centroid is offset from the target star catalog position by about 1.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.426 ± 0.461	5.27	1.837 ± 0.339	-1.585 ± 0.394
PRF-fit source offset from KIC position	0.496 ± 0.225	2.20	-0.462 ± 0.232	-0.180 ± 0.232
photometric centroid source offset	2.00 ± 0.52	3.83	-1.83 ± 0.54	0.81 ± 0.39

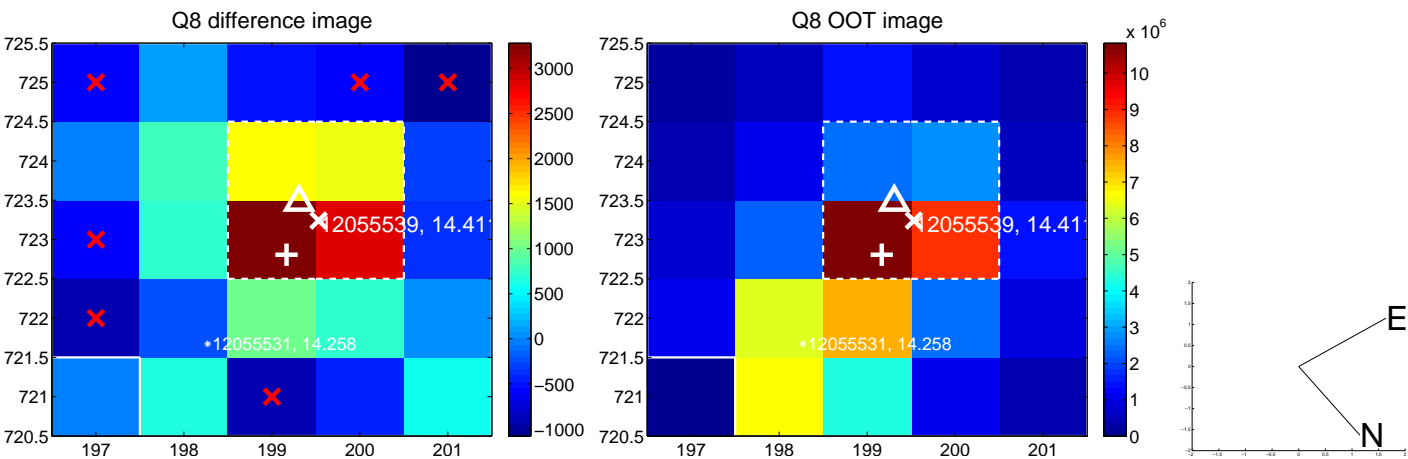
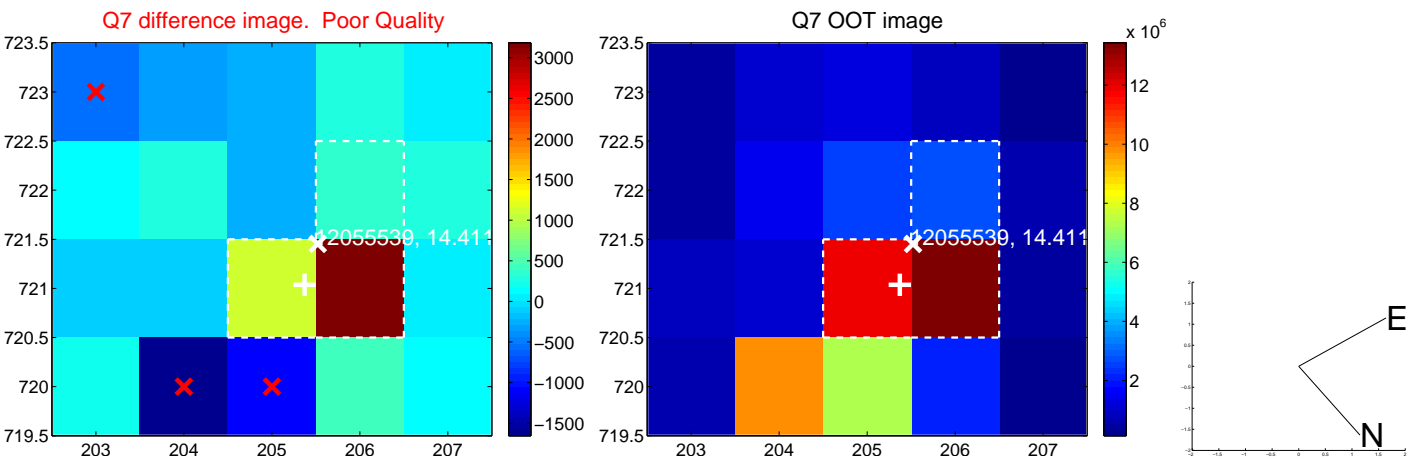
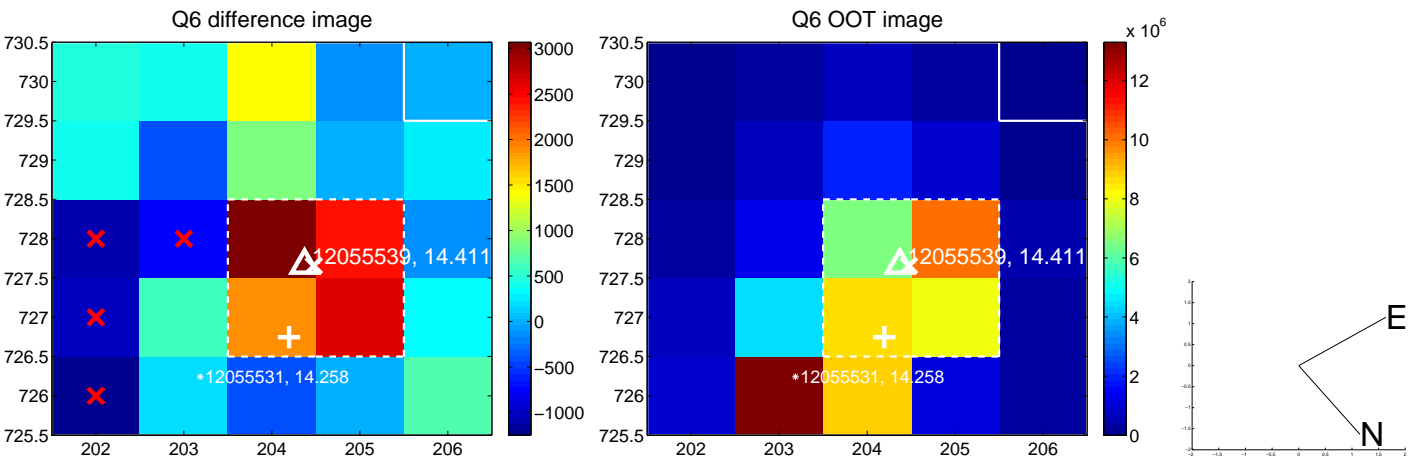
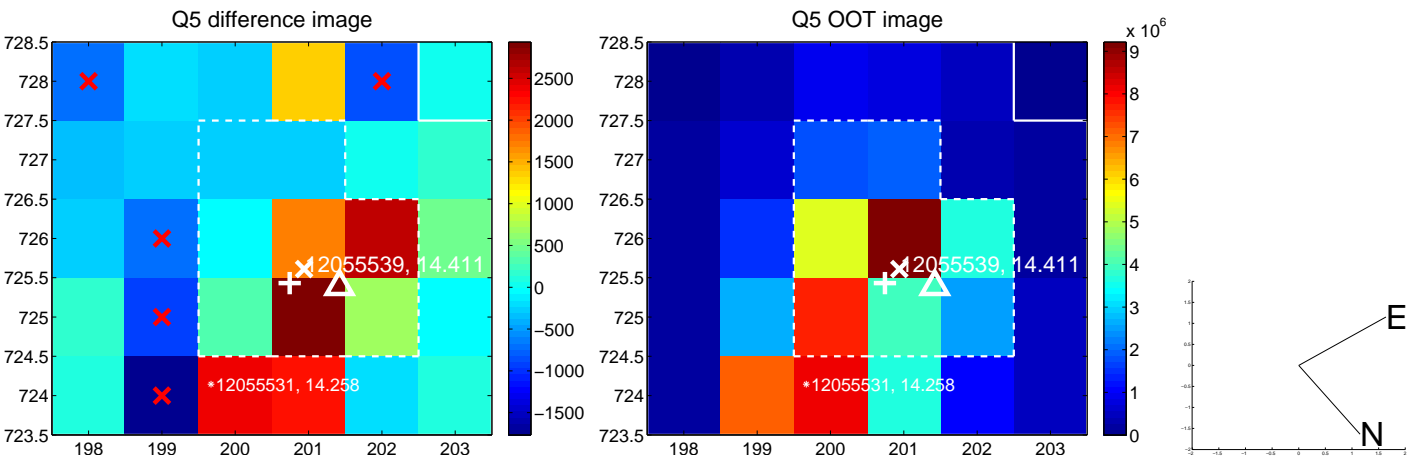


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

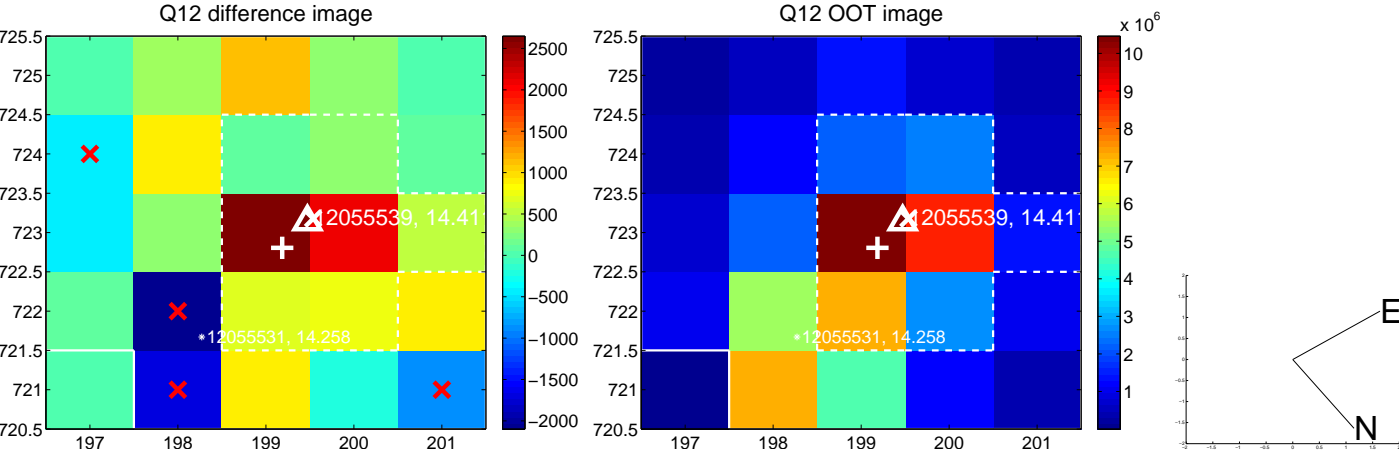
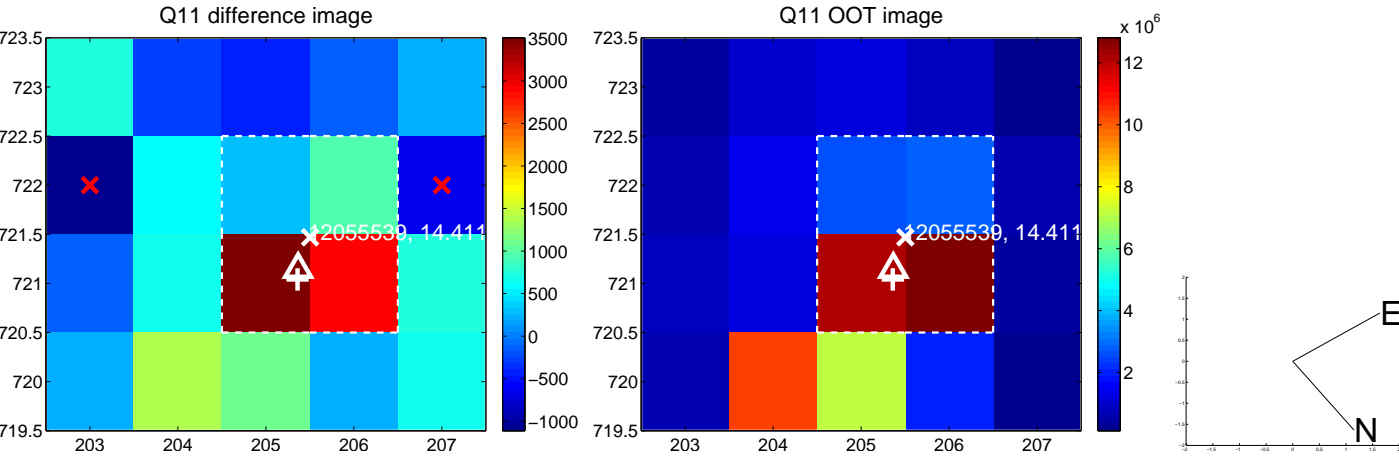
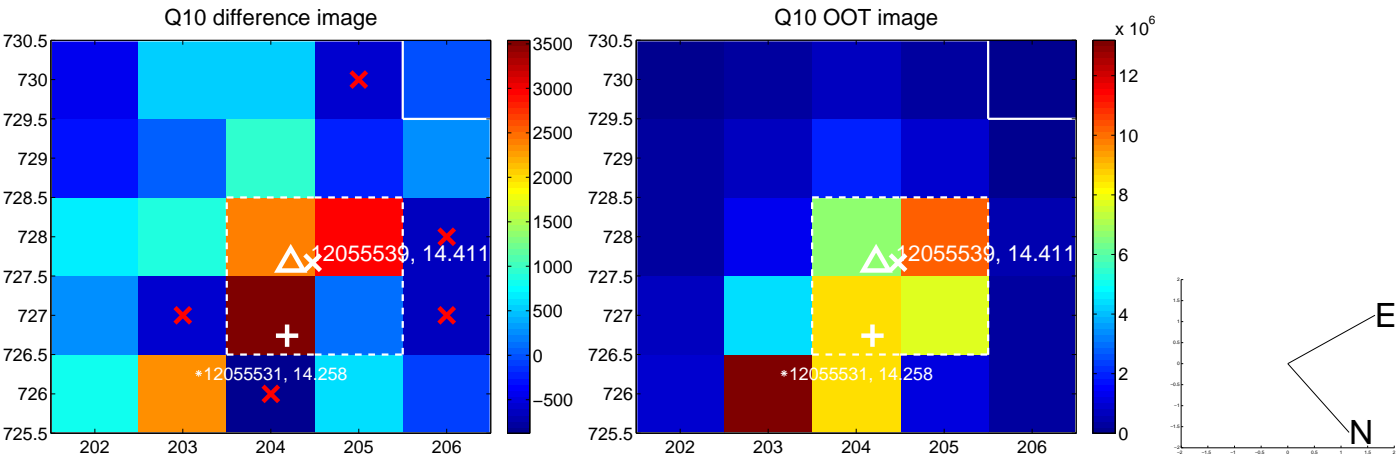
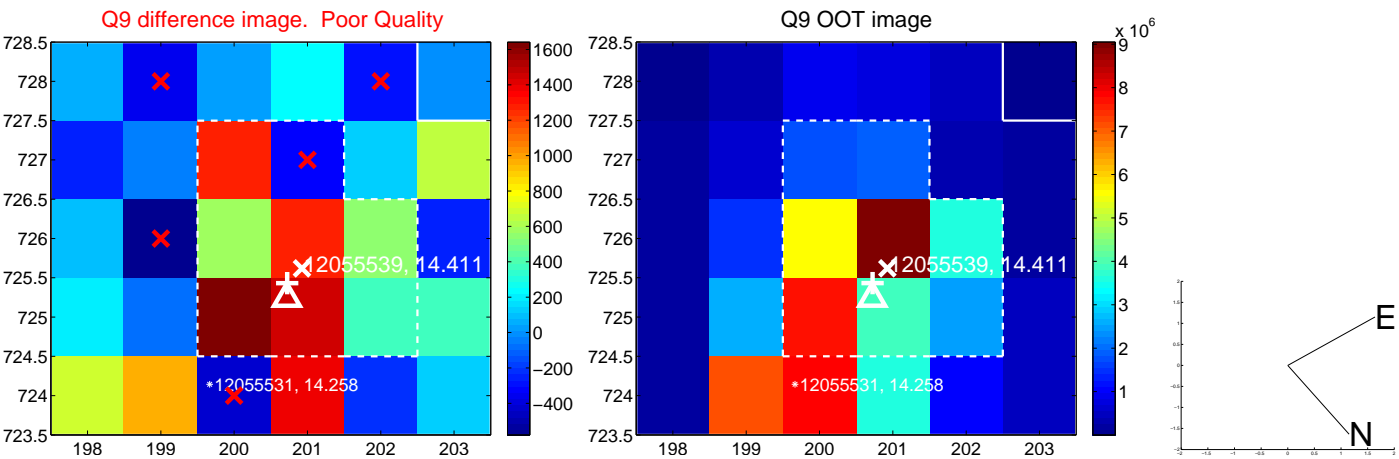
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



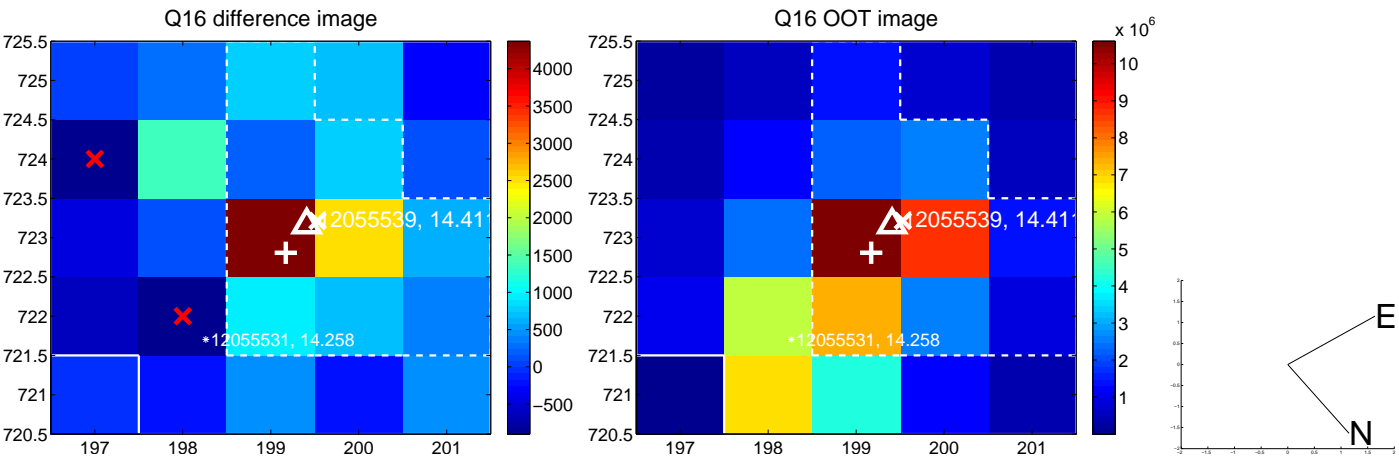
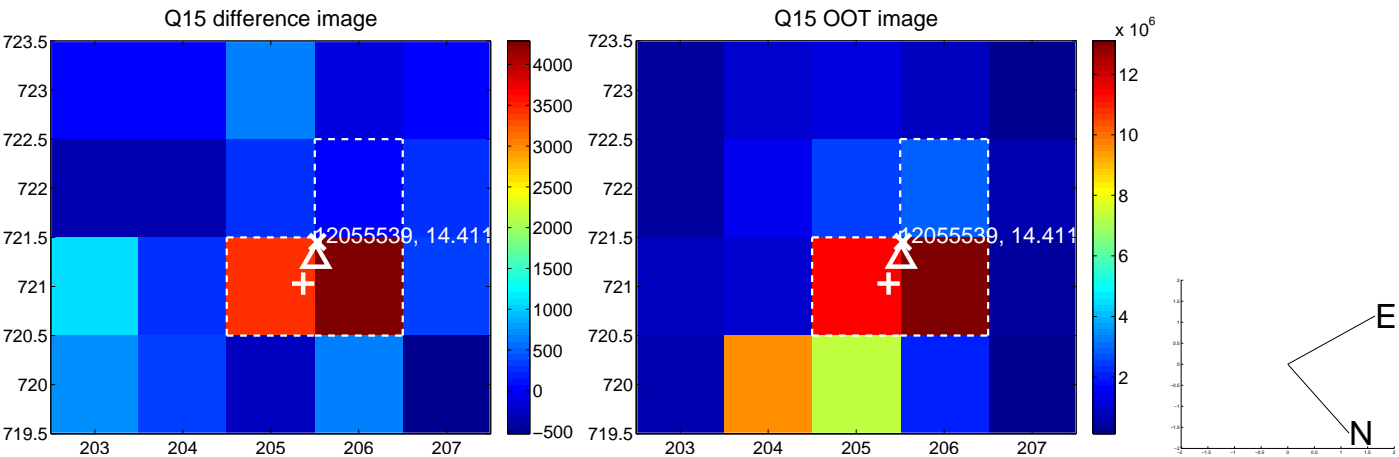
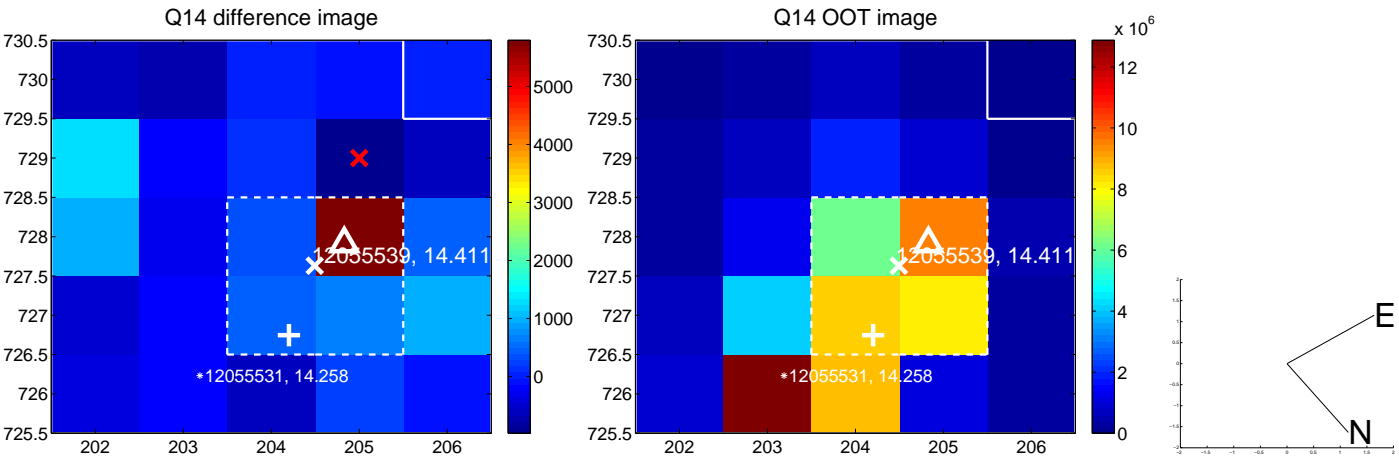
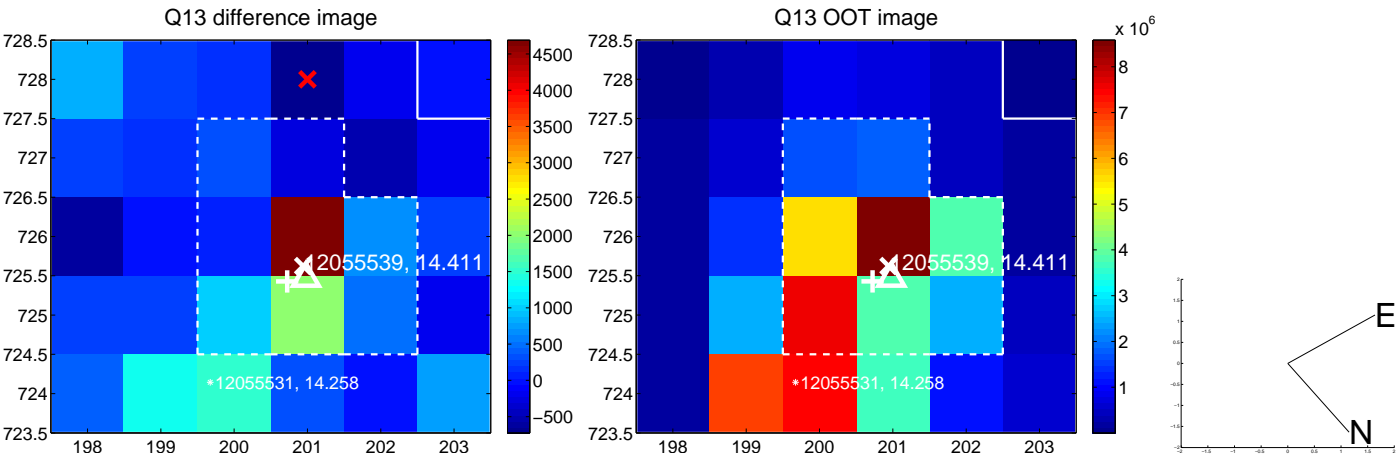
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



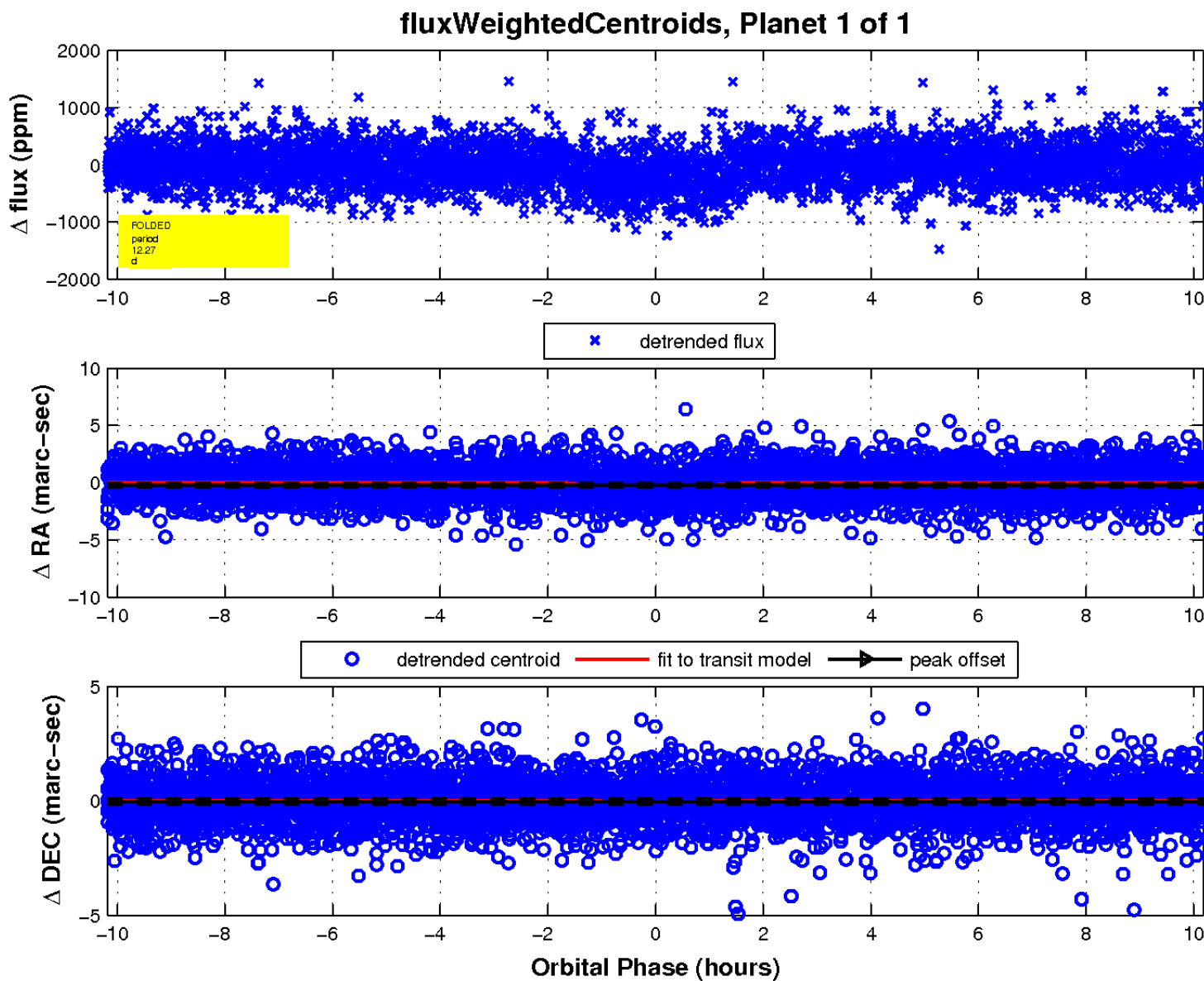
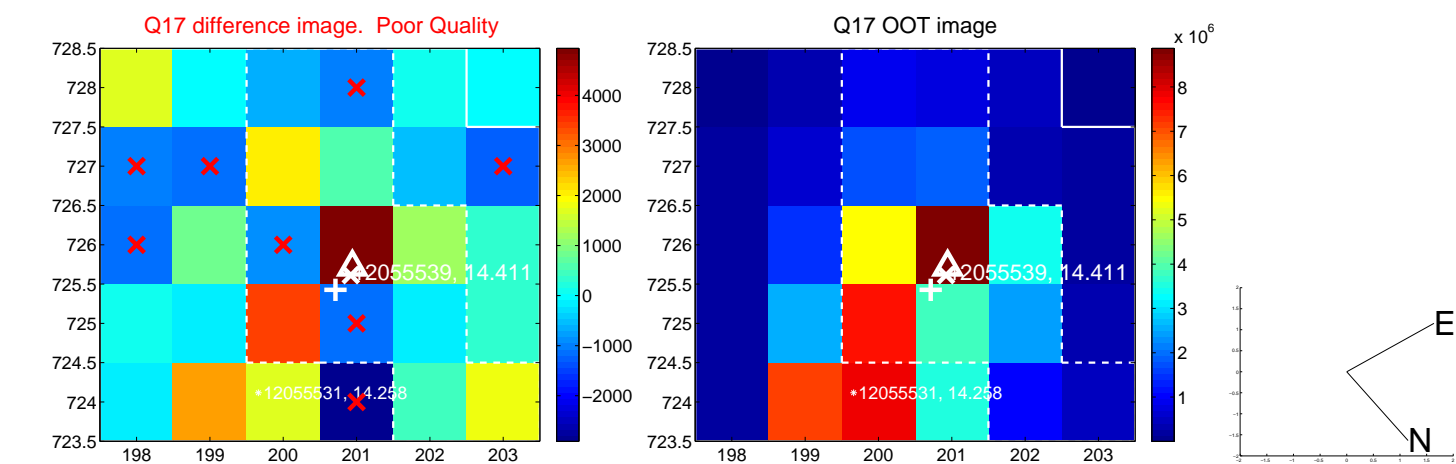
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UKIRT Image

Declination

