

KIC 010019065

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})
010019065-01	OBS	1721.01	52.629727	155.611388	666.0	6.423	22.1	24.7	1.43	5339	4.31	20.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010019065-01	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.

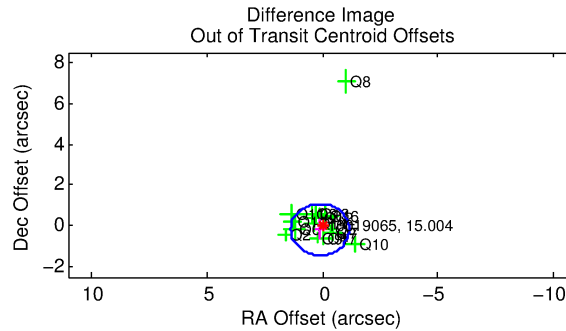
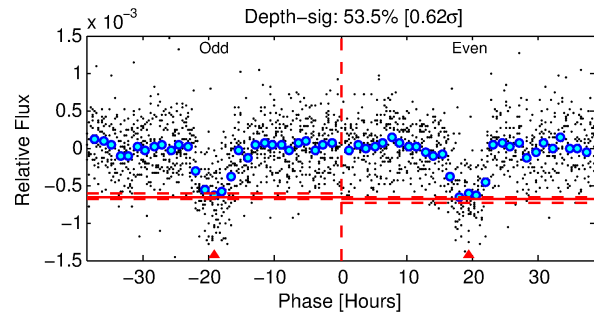
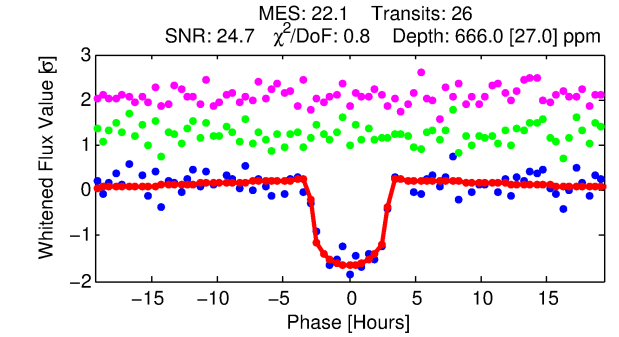
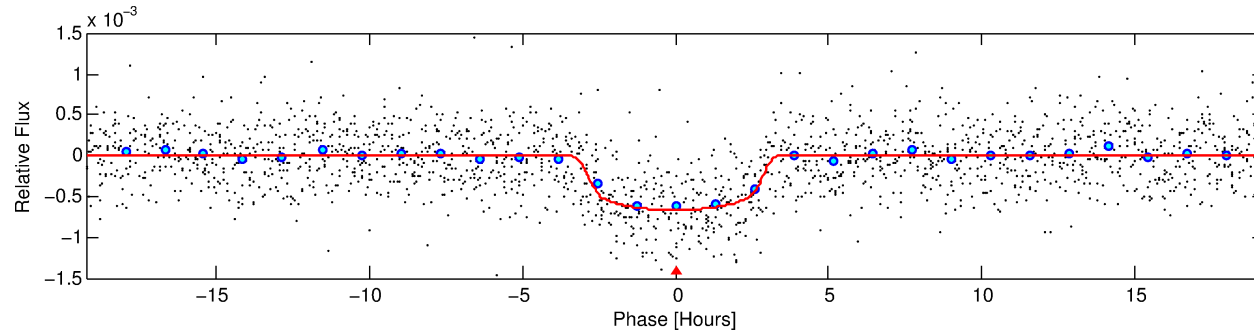
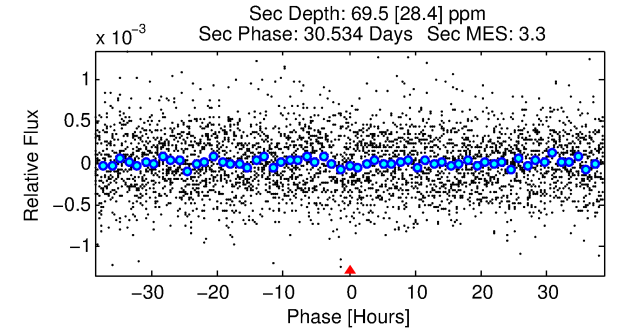
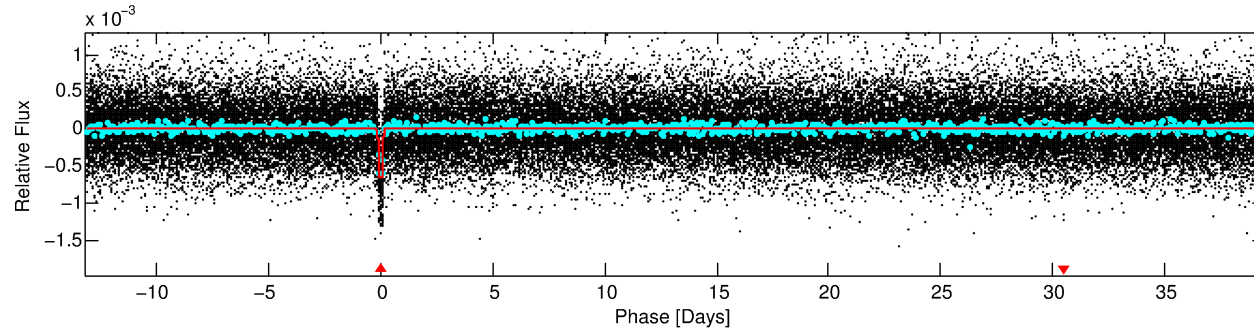
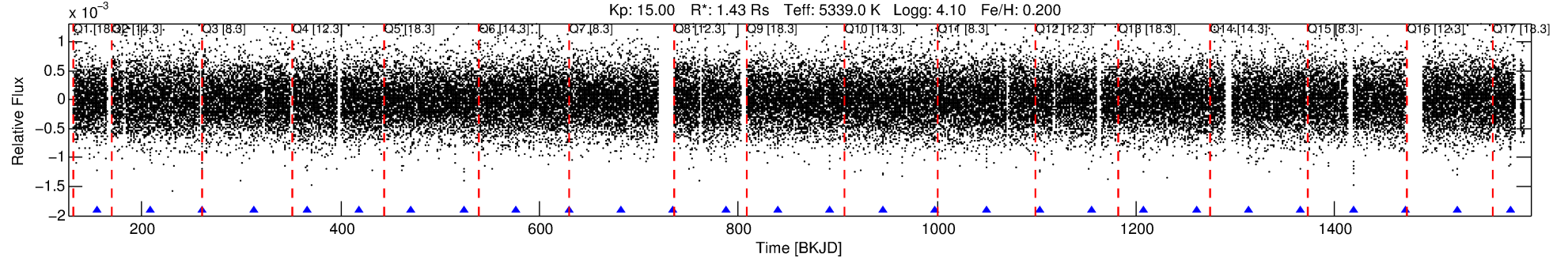
Ephemeris Match Information For 010019065-01

No Significant Match Found

DV One-Page Summary

KIC: 10019065 Candidate: 1 of 1 Period: 52.630 d

KOI: K01721.01 Corr: 0.964



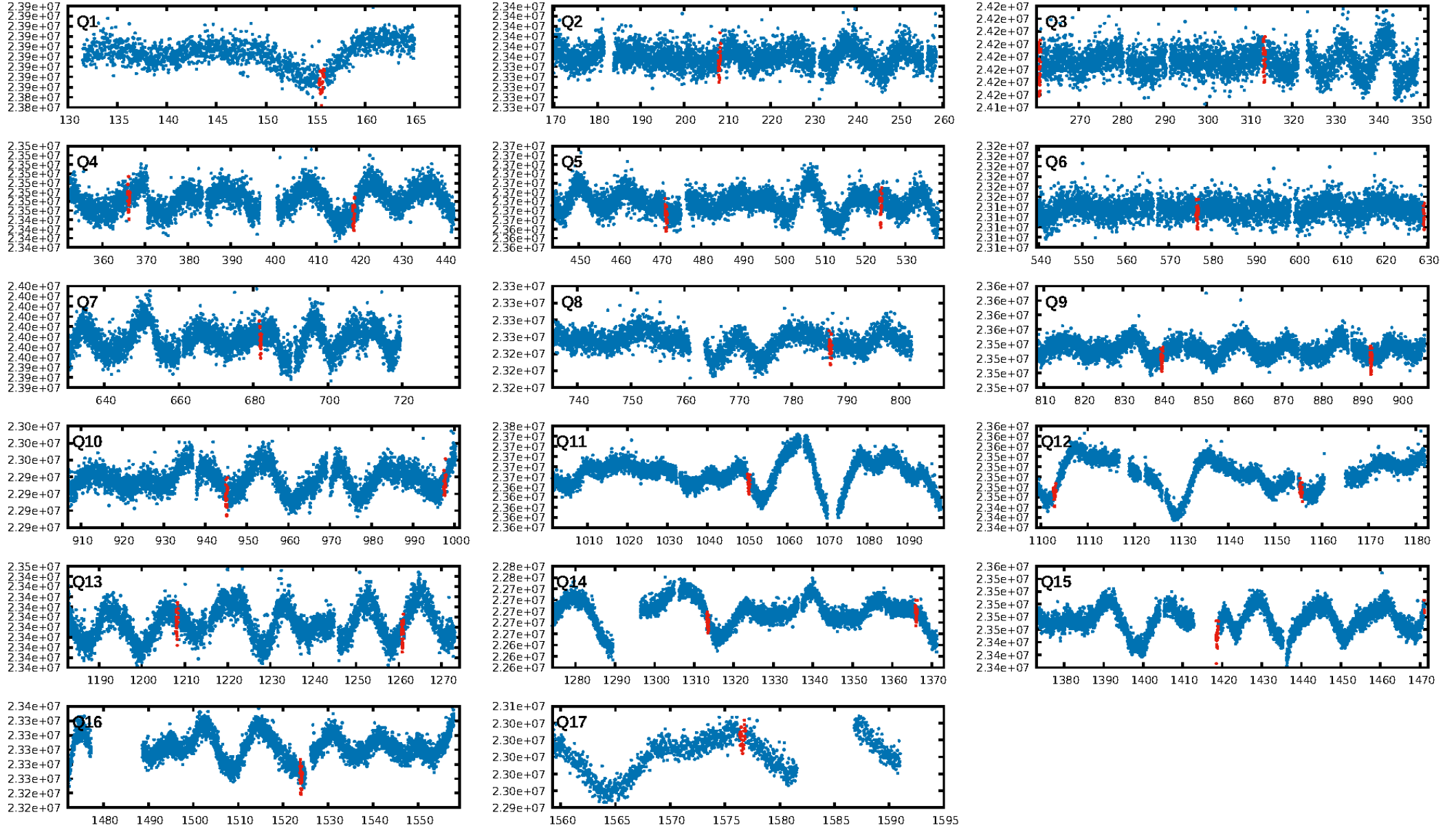
DV Fit Results:

Period = 52.62973 [0.00030] d
Epoch = 155.6114 [0.0047] BKJD
Rp/R* = 0.0276 [0.0026]
a/R* = 34.91 [12.84]
b = 0.86 [0.11]
Seff = 20.70 [12.83]
Teff = 544 [84] K
Rp = 4.31 [1.65] Re
a = 0.2688 [0.1008] AU
Ag = 148.57 [113.53] [1.30σ]
Teffp = 2936 [335] K [6.93σ]

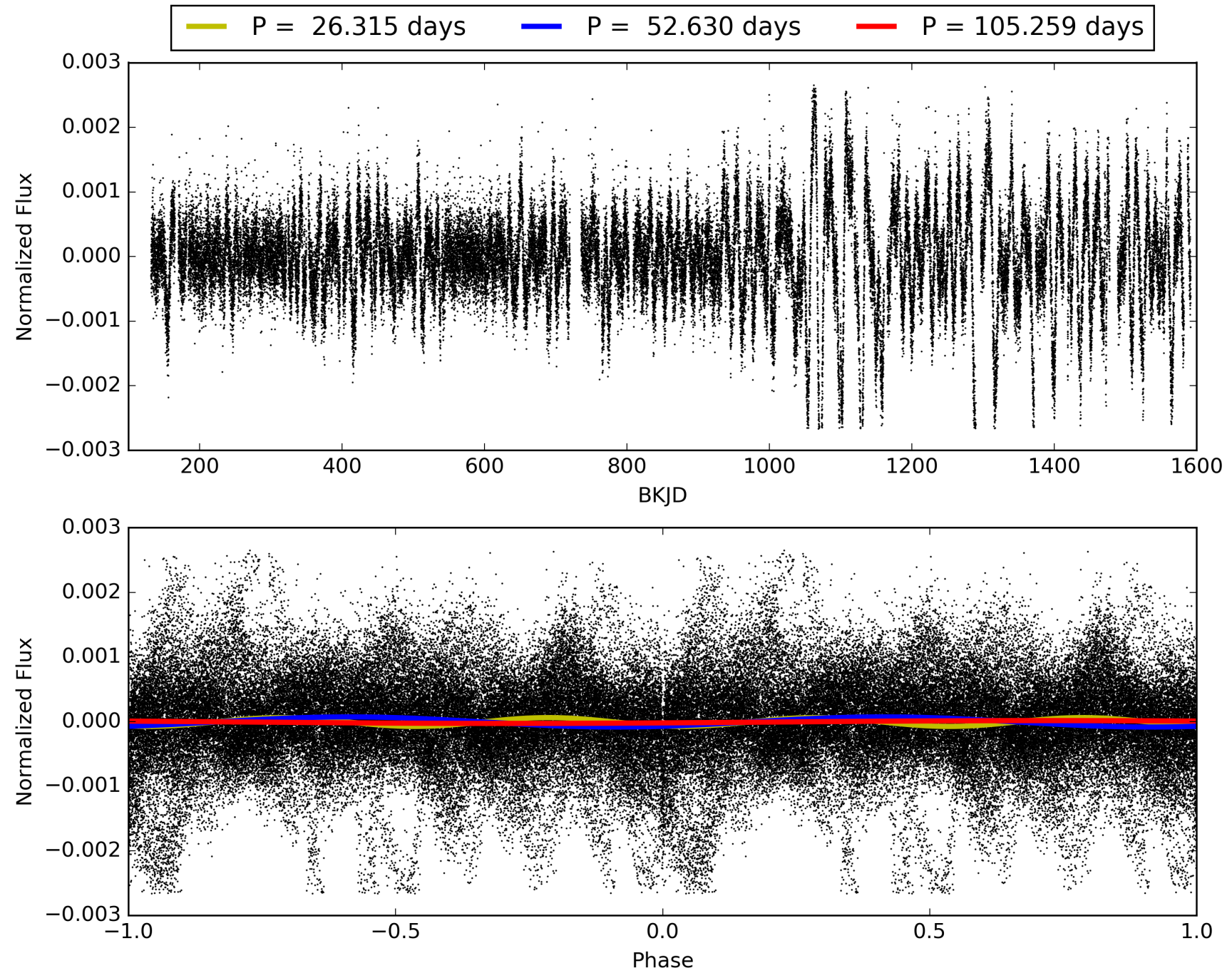
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 95.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.70e-100
RollingBand-fgt: 1.00 [24/24]
GhostDiagnostic-chr: 7.628
Centroid-sig: 31.8%
Centroid-so: 0.658 arcsec [1.49σ]
OotOffset-rm: 0.218 arcsec [0.52σ]
KicOffset-rm: 0.317 arcsec [0.69σ]
OotOffset-st: 4/3/4/5 [16]
KicOffset-st: 4/3/4/5 [16]
DiffImageQuality-fgm: 0.94 [15/16]
DiffImageOverlap-fno: 1.00 [16/16]

TCE 010019065-01, PDC Light Curves

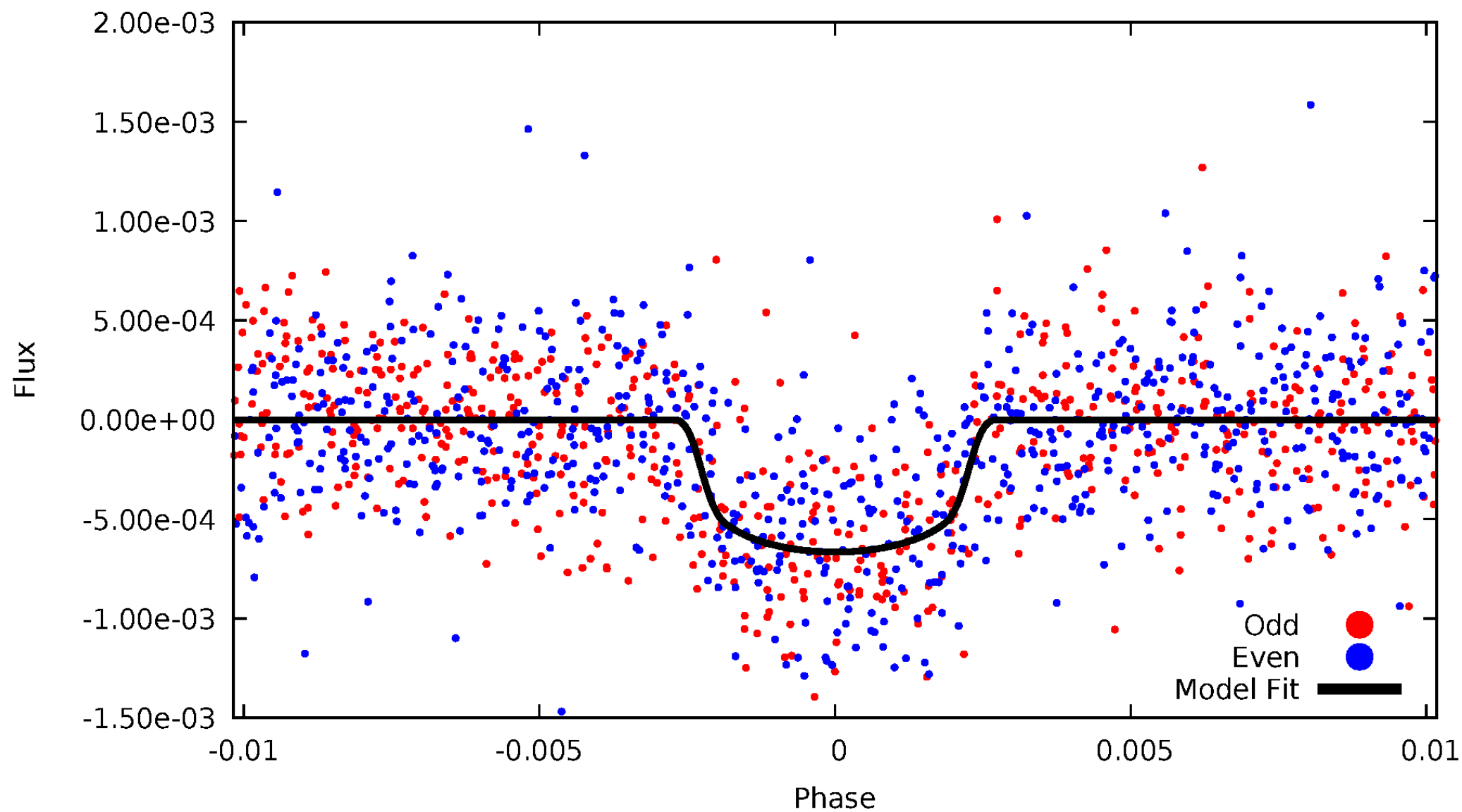


TCE 010019065-01



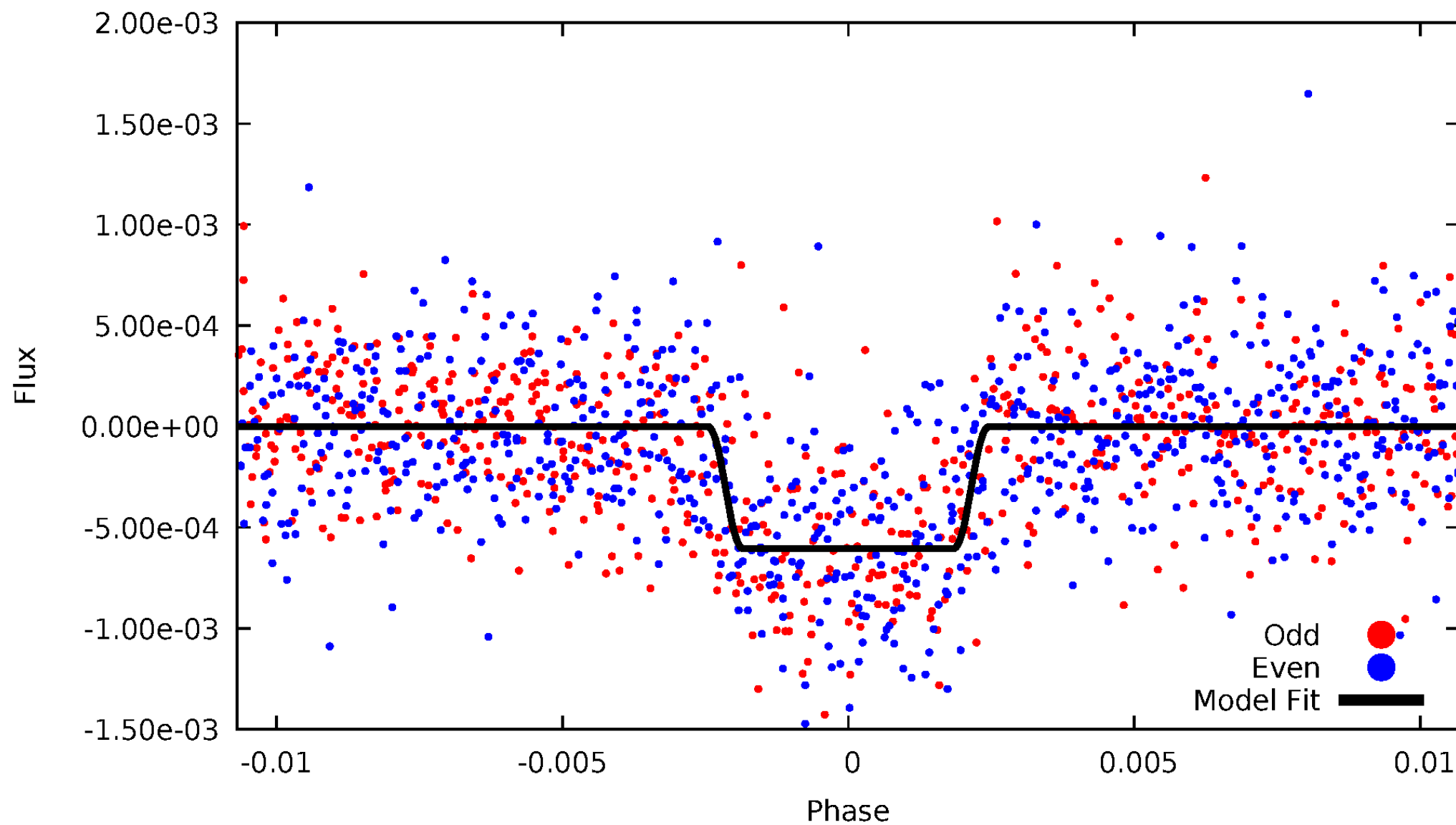
DV Odd/Even

TCE 010019065-01



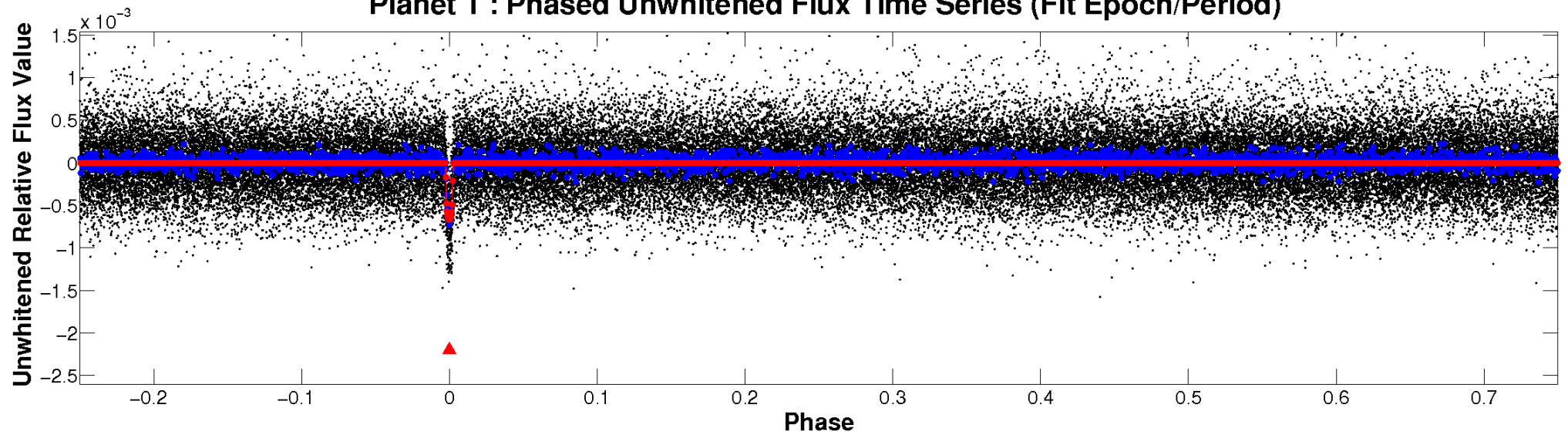
ALT Odd/Even

TCE 010019065-01

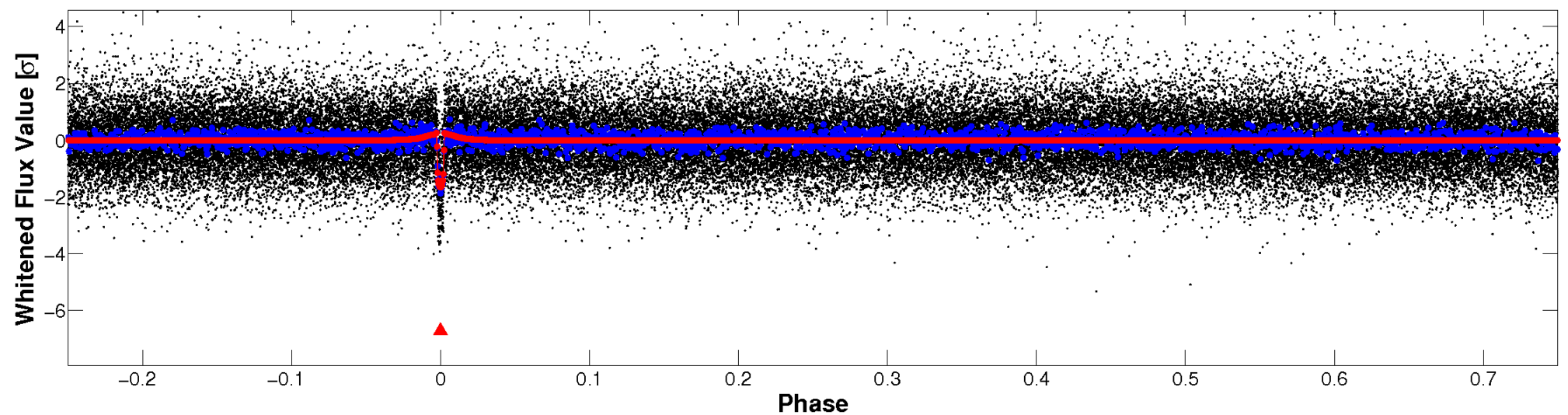


Non-Whitened Vs. Whitened Light Curve

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

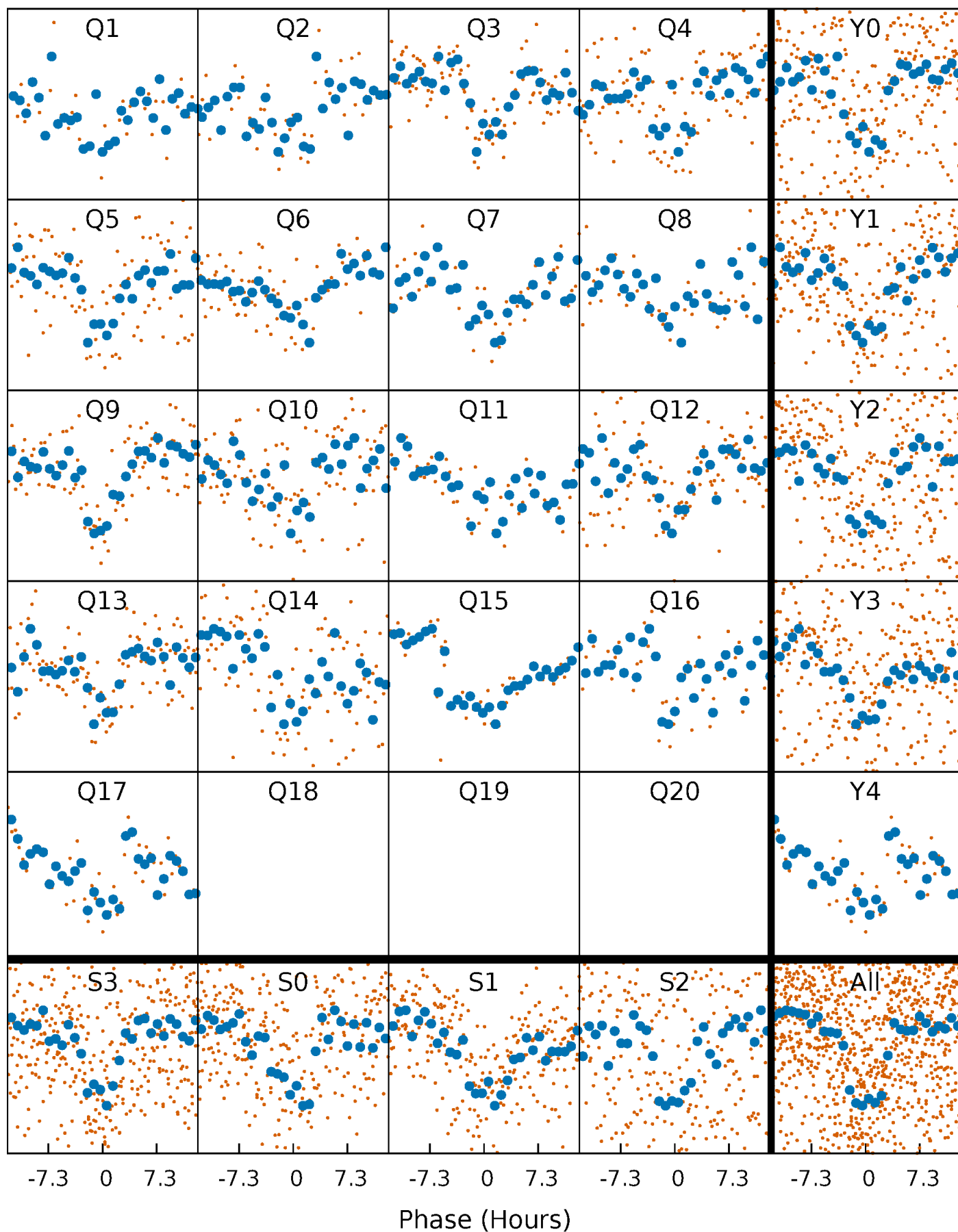


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



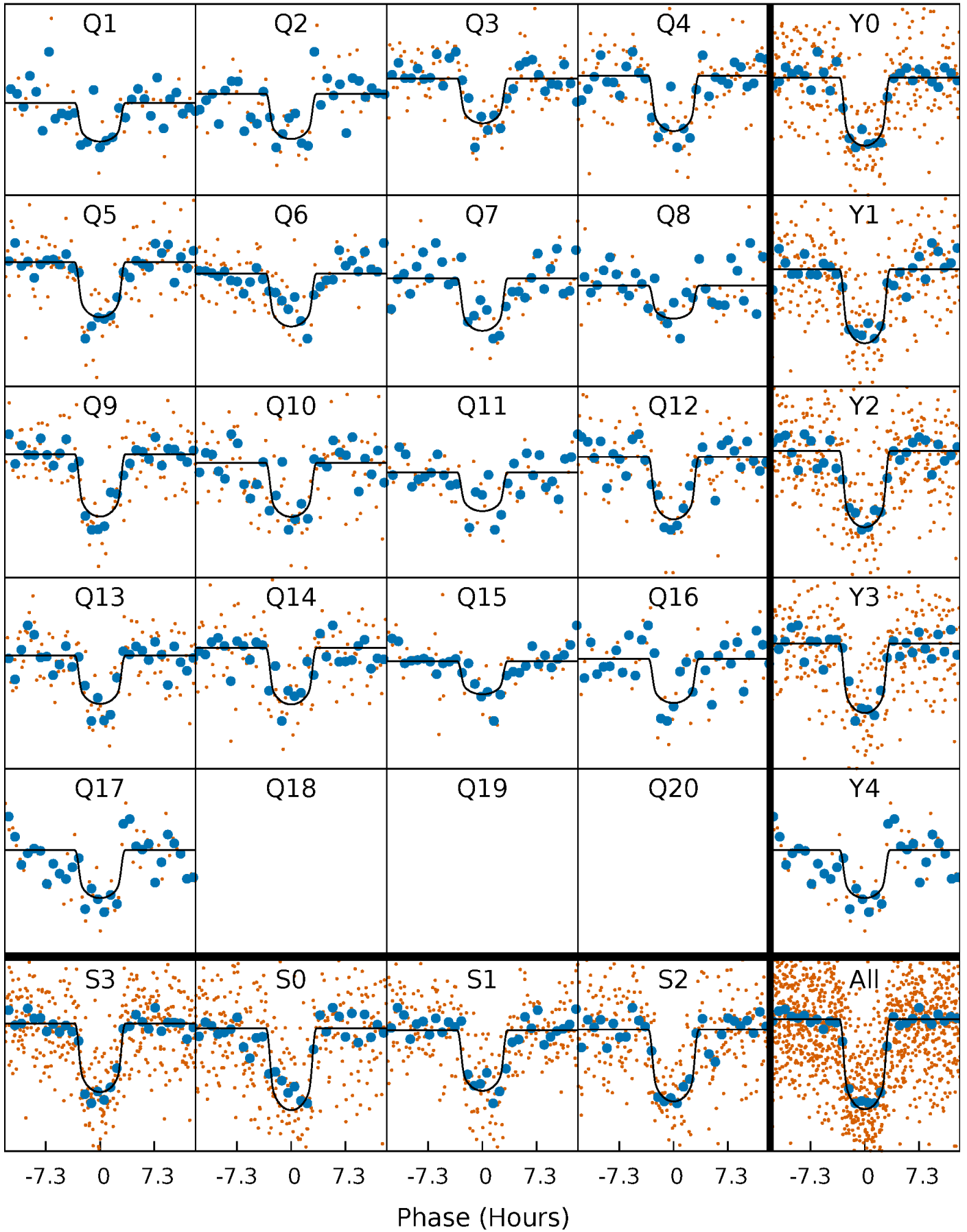
PDC Quarter-Phased Transit Curves

TCE 010019065-01 P= 52.629727 Days $T_0=155.611388$ (BKJD)



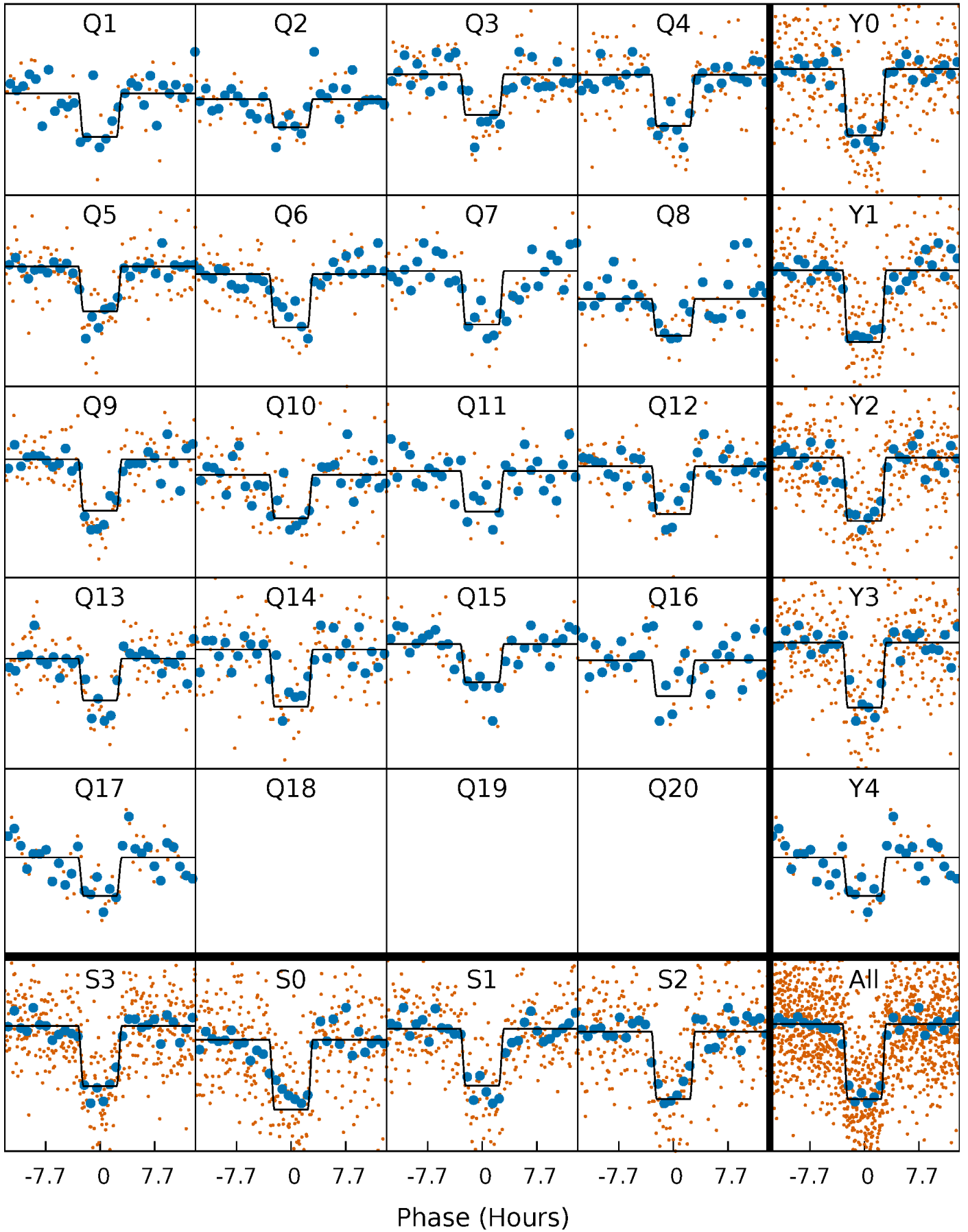
DV Quarter-Phased Transit Curves

TCE 010019065-01 P= 52.629727 Days $T_0=155.611388$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

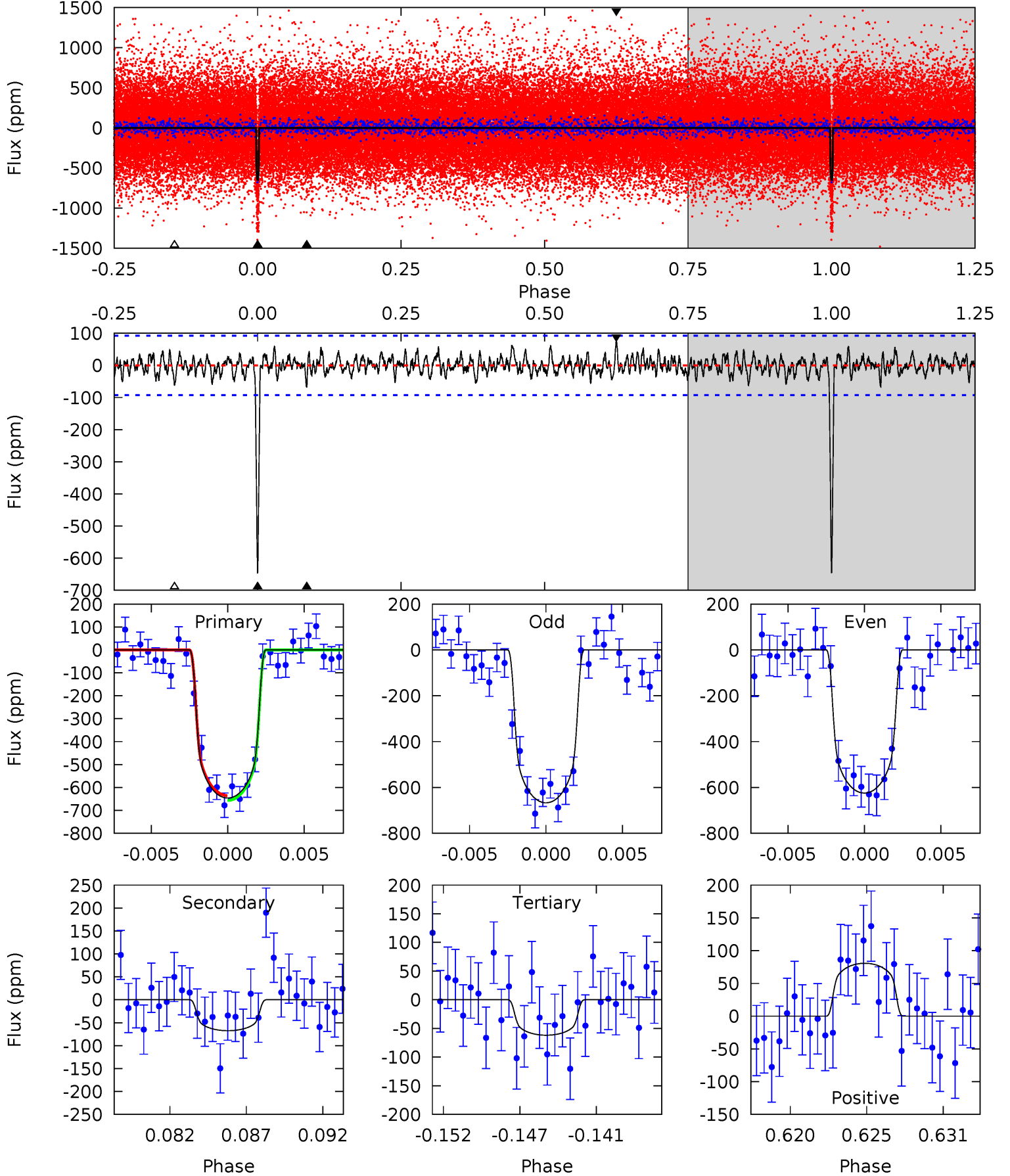
TCE 010019065-01 P= 52.629069 Days $T_0=155.619438$ (BKJD)



DV Model-Shift Uniqueness Test

010019065-01, P = 52.629727 Days, E = 102.981661 Days

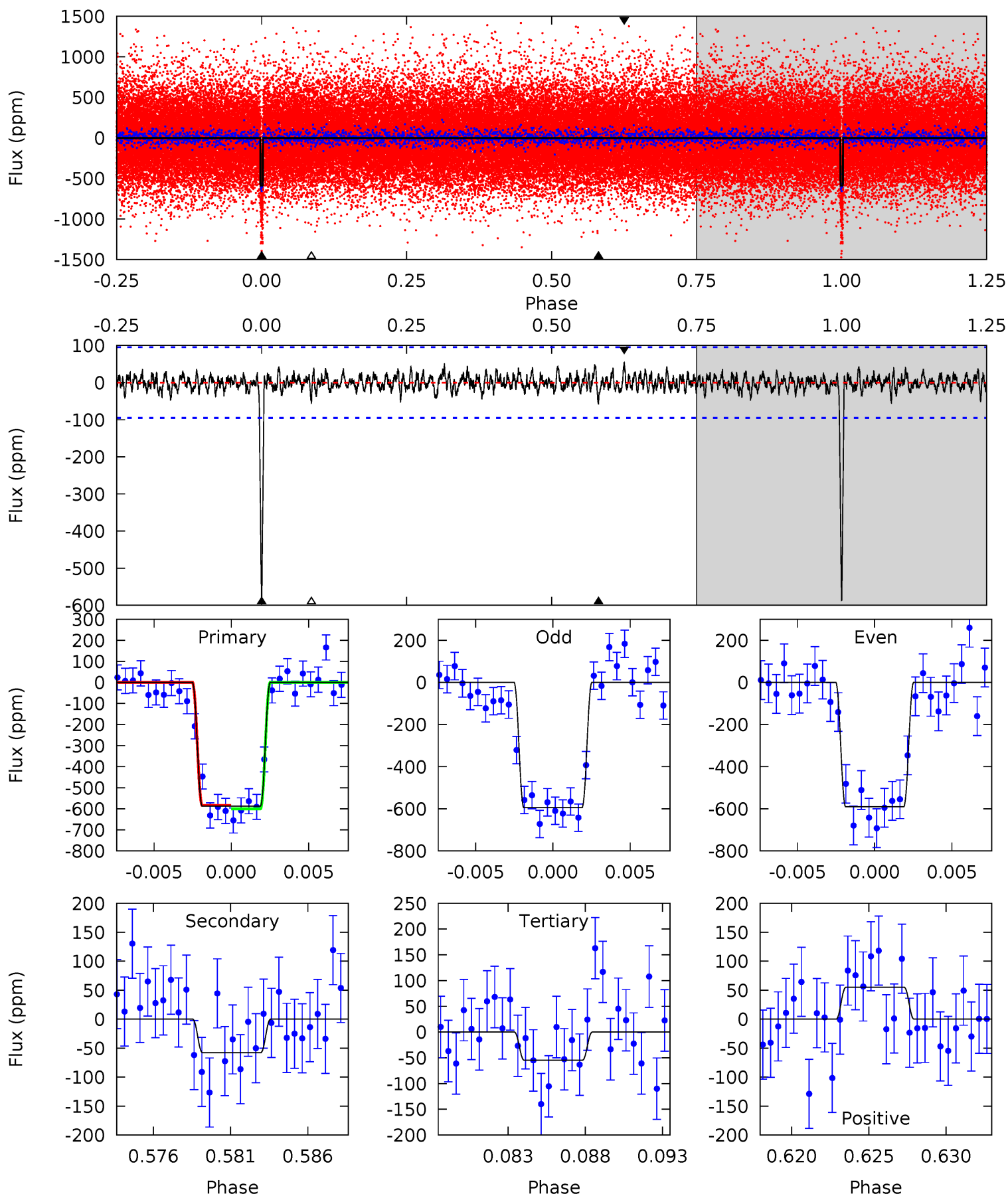
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.9	3.75	3.44	4.49	5.14	2.78	1.20	32.5	31.4	0.31	-0.74	1.18	0.99	0.11	0.59



Alt Model-Shift Uniqueness Test

010019065-01, P = 52.629069 Days, E = 102.990369 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.8	3.13	2.97	2.99	5.16	2.81	0.89	28.8	28.8	0.16	0.15	0.13	0.99	0.09	0.43



Stellar Parameters For KIC 010019065

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5339^{+88}_{-72}	$4.096^{+0.368}_{-0.092}$	$0.200^{+0.150}_{-0.150}$	$1.433^{+0.212}_{-0.531}$	$0.933^{+0.039}_{-0.061}$	$0.447^{+1.093}_{-0.152}$
	+2%/-1%	+9%/-2%	+75%/-75%	+15%/-37%	+4%/-7%	+245%/-34%
Source	SPE90	SPE90	SPE90	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 010019065-01 / KOI 1721.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-67 ± 18	$4.07^{+0.69}_{-0.83}$	751^{+37}_{-82}	3409^{+170}_{-184}	161^{+103}_{-60}
Alt.	-58 ± 18	$3.68^{+0.65}_{-0.74}$	755^{+36}_{-72}	3447^{+218}_{-232}	166^{+113}_{-66}

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 $A_{obs} \gg 1.0$

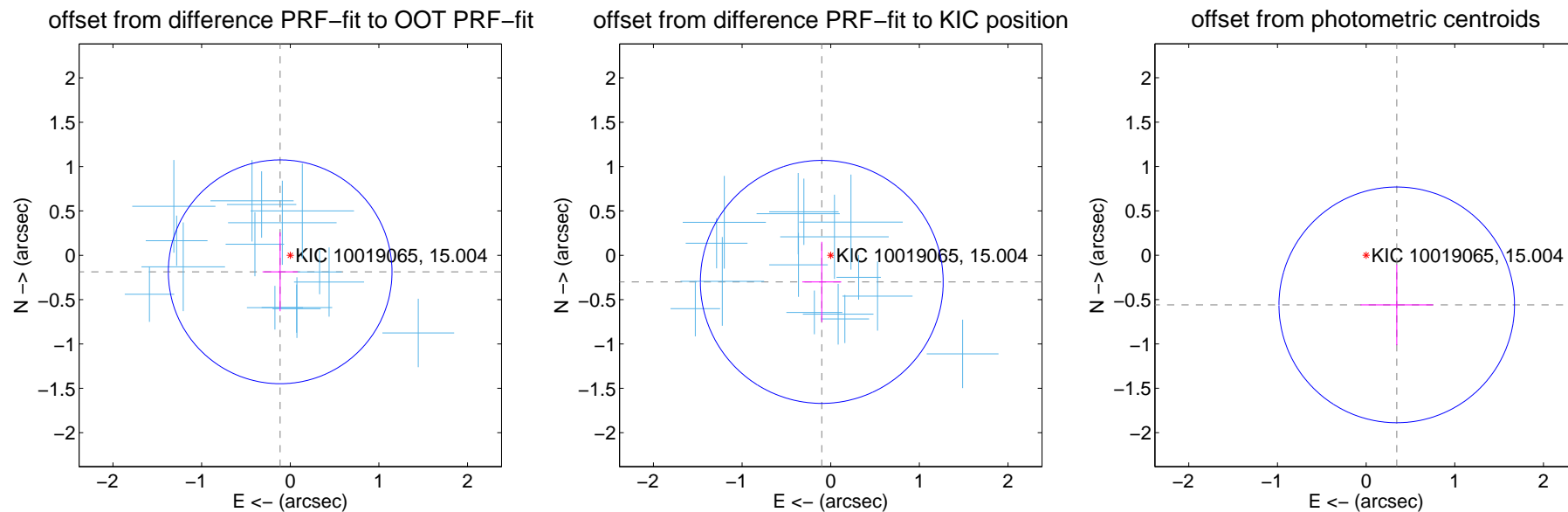
DV Centroid Data

Supplemental centroid analysis for 010019065-01. Kepler magnitude: 15.00. Transit SNR 24.75

There are 15 quarters with good PRF difference image offsets

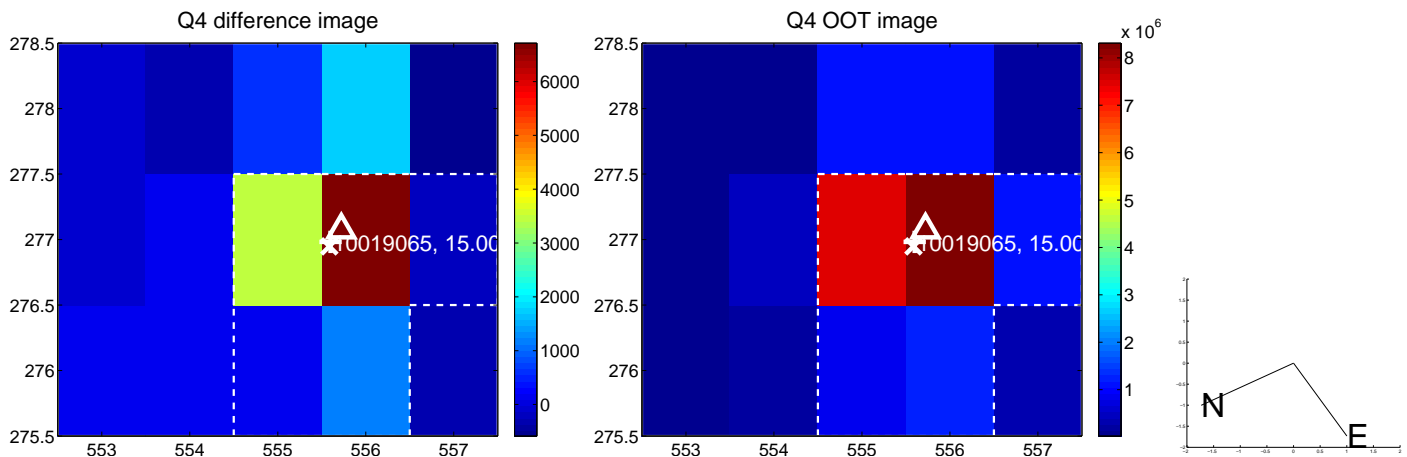
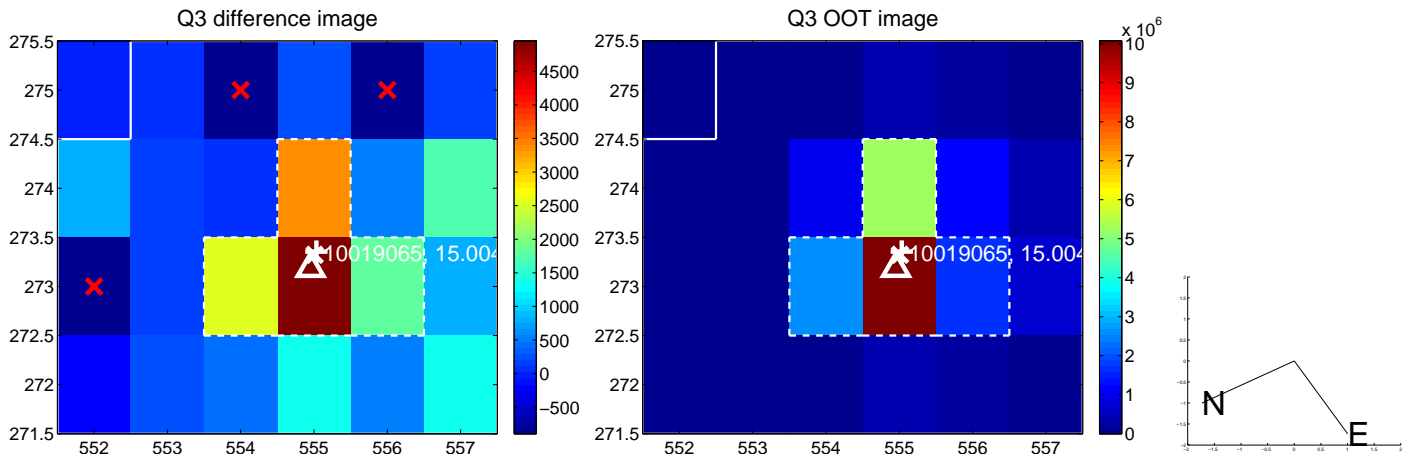
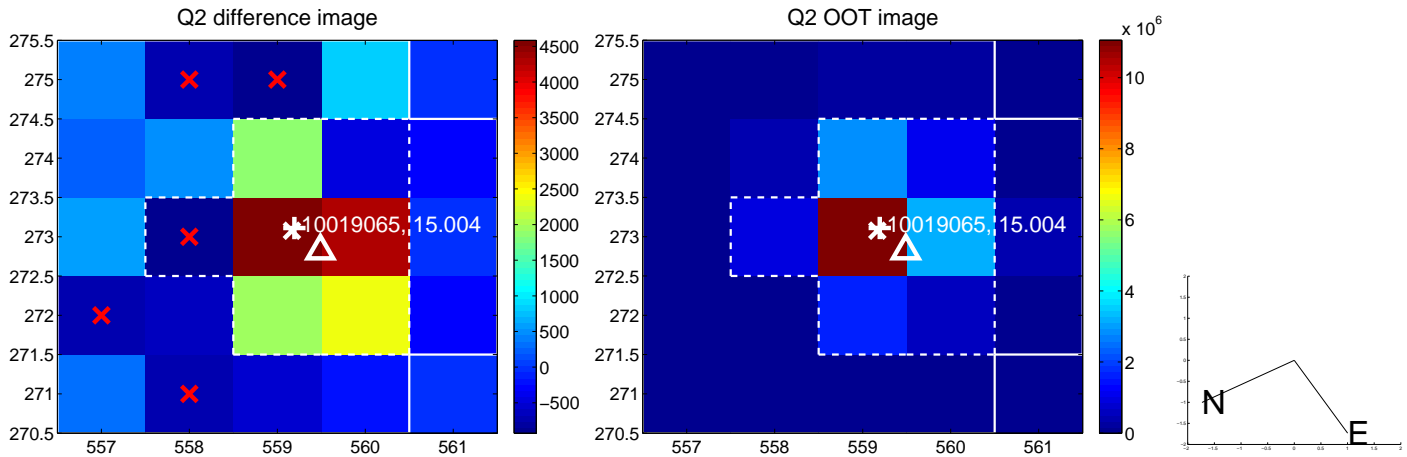
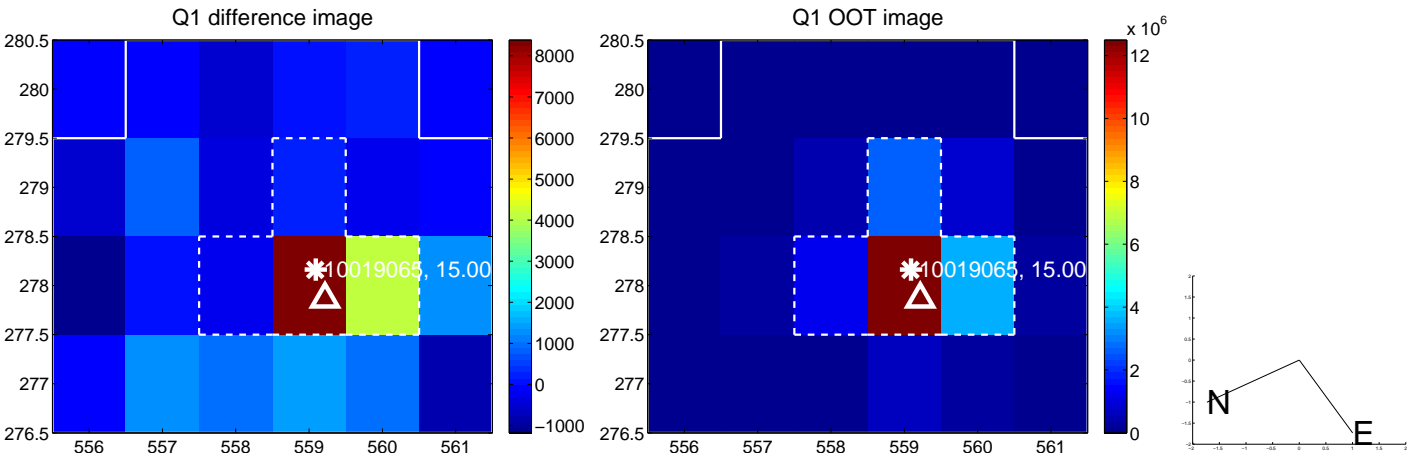
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.218 ± 0.421	0.52	0.114 ± 0.199	-0.186 ± 0.445
PRF-fit source offset from KIC position	0.317 ± 0.457	0.69	0.101 ± 0.220	-0.300 ± 0.452
photometric centroid source offset	0.66 ± 0.44	1.49	-0.35 ± 0.41	-0.56 ± 0.45

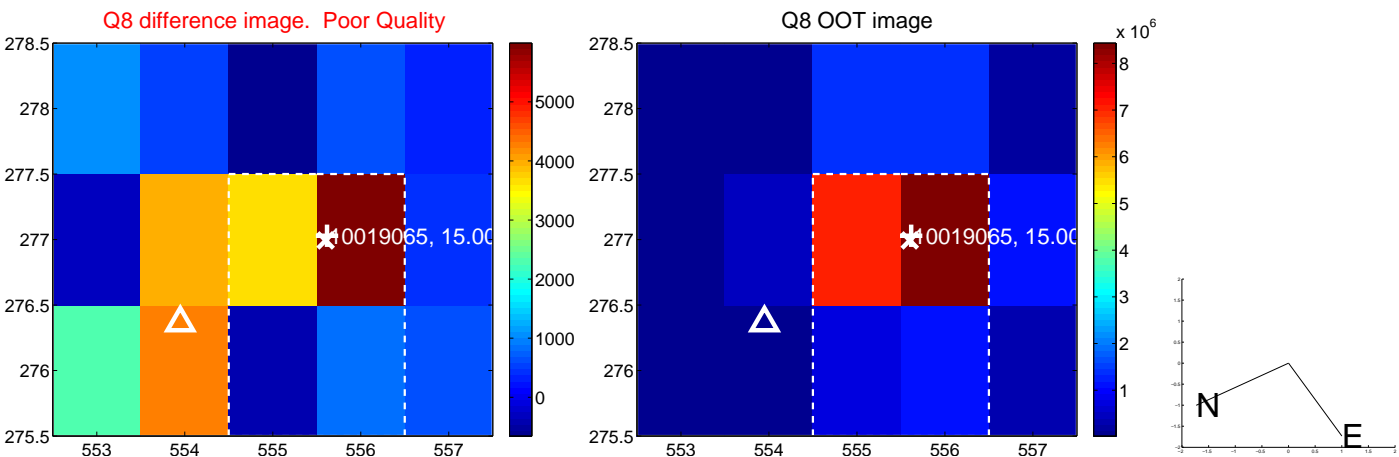
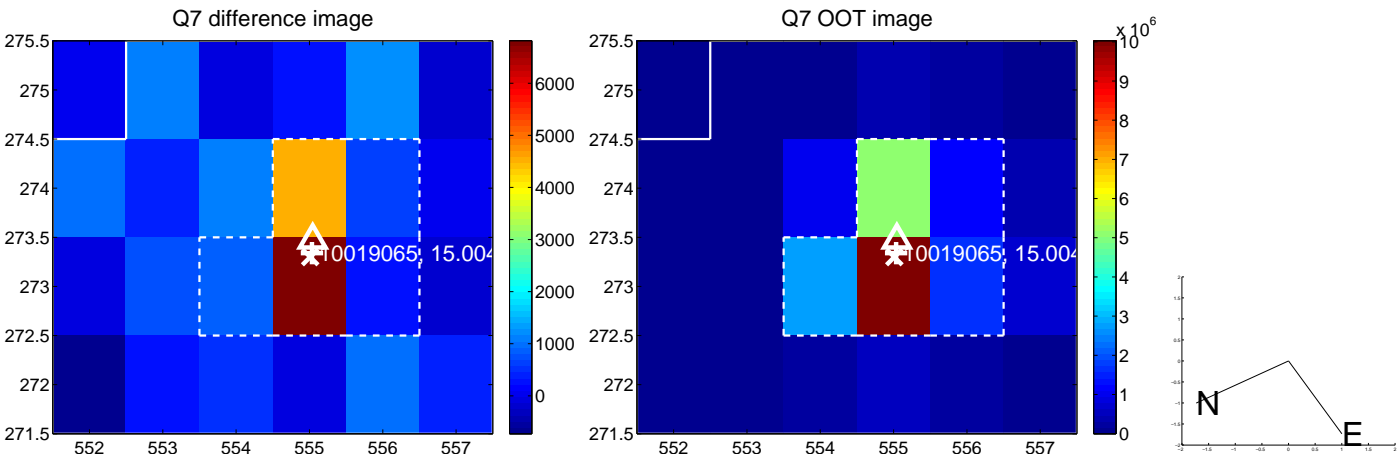
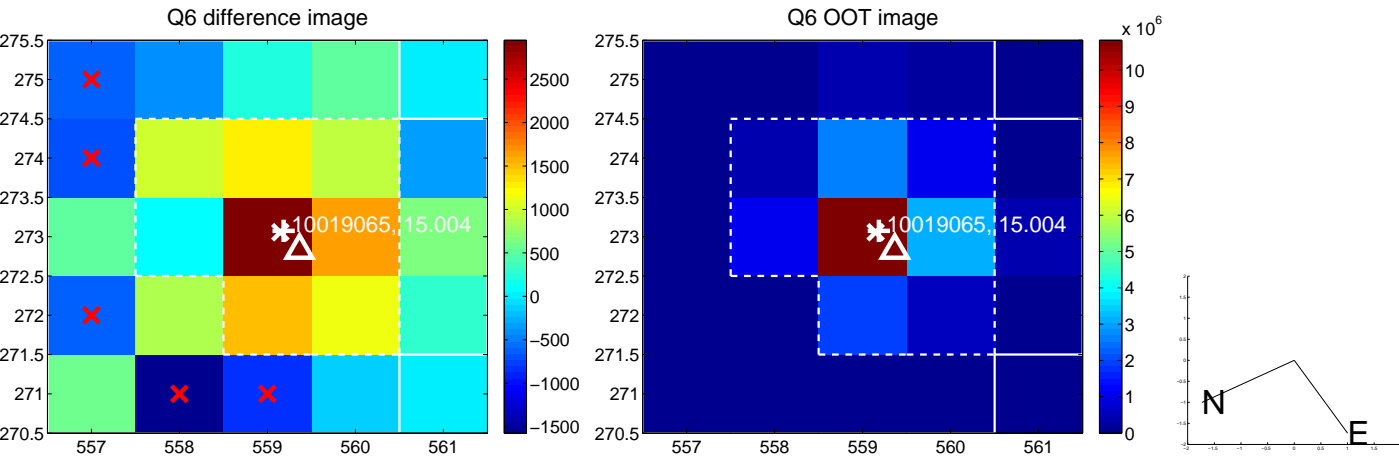
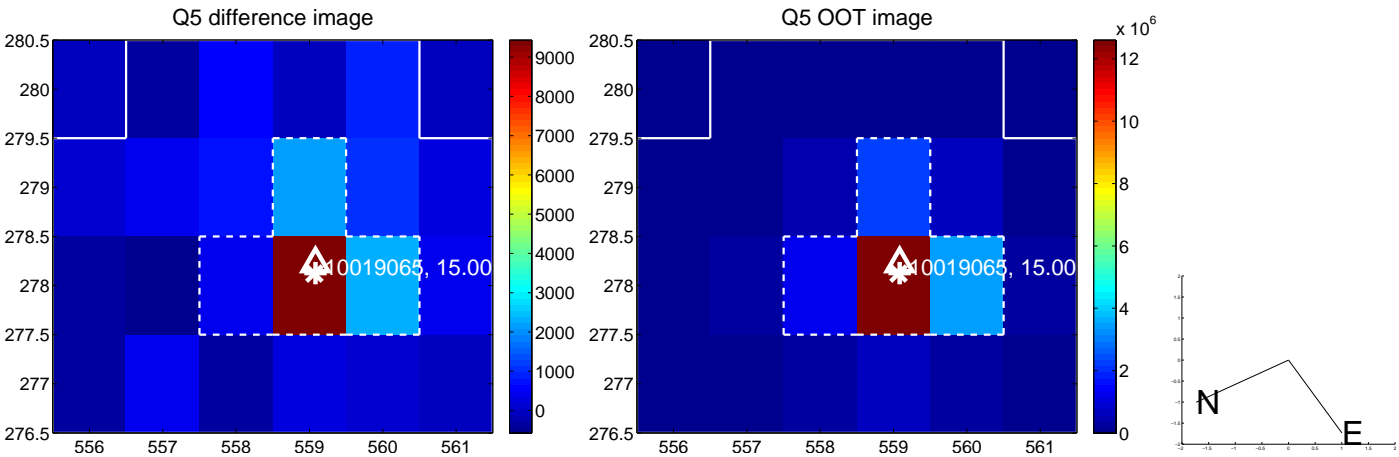


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

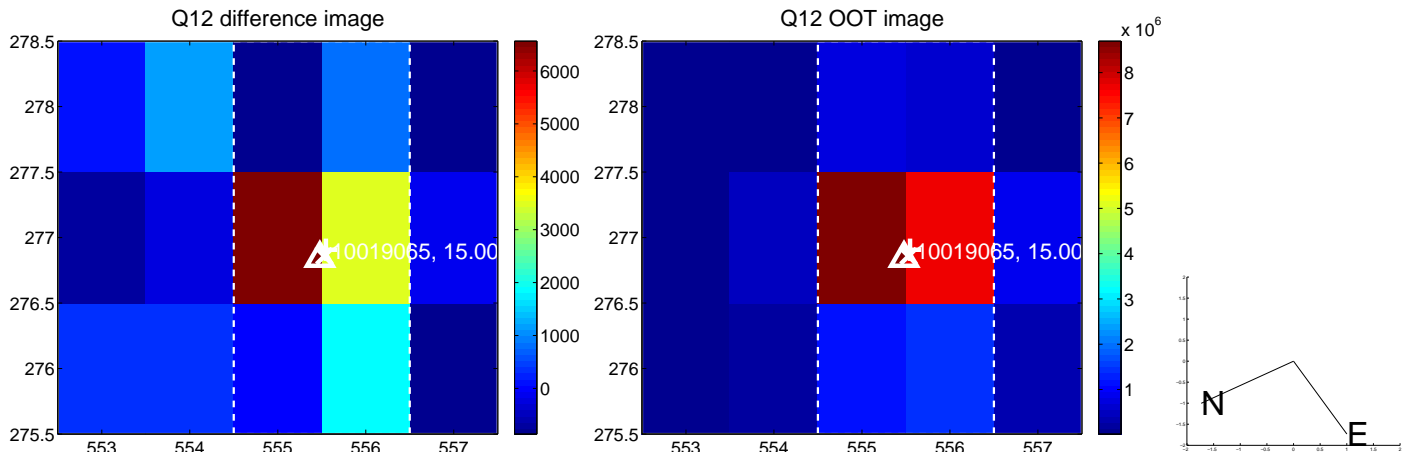
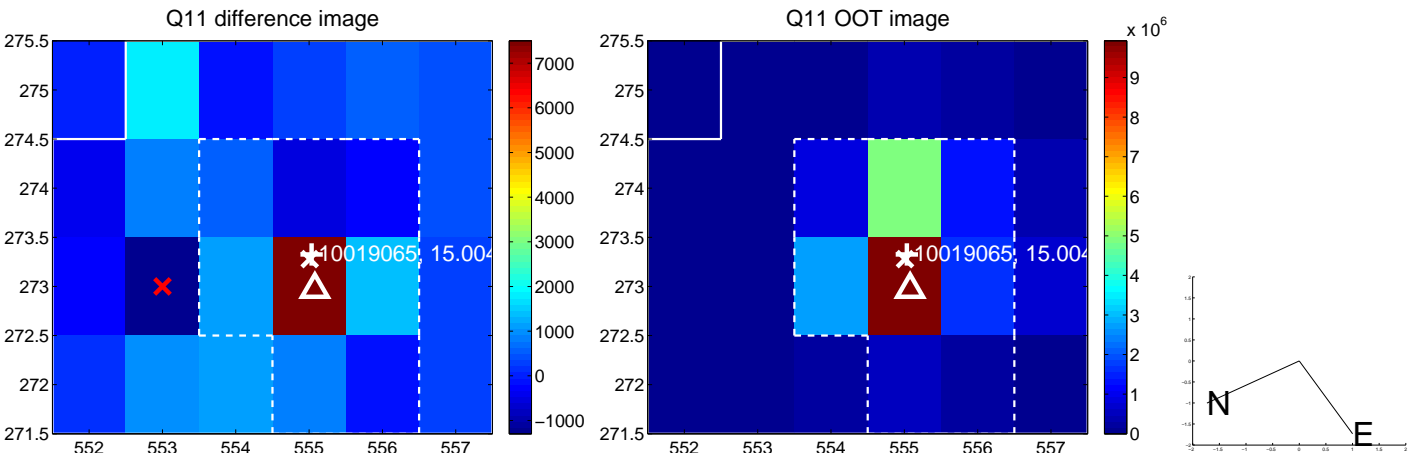
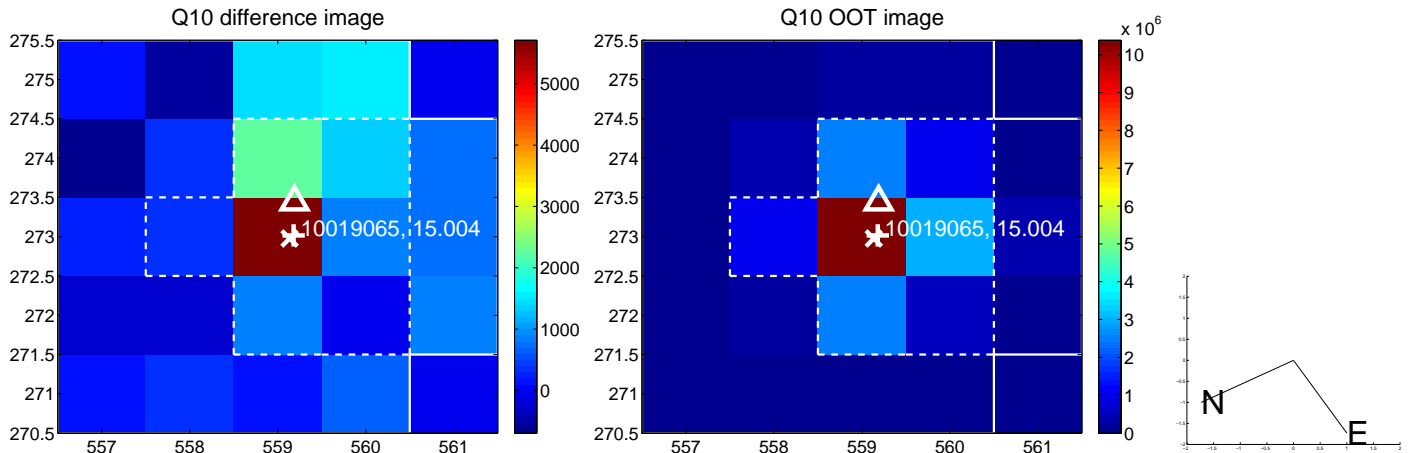
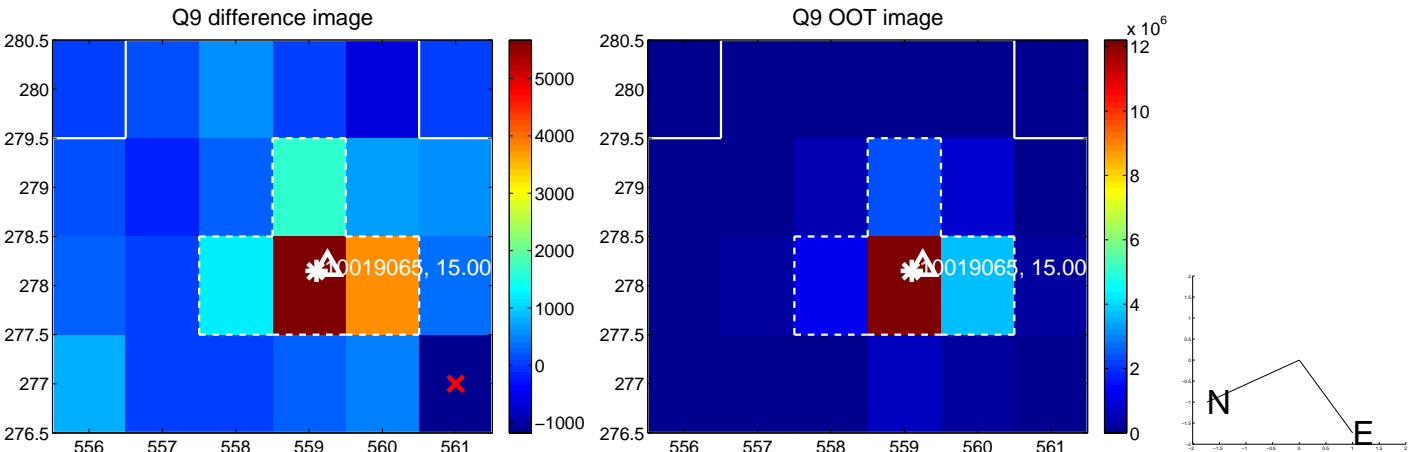
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



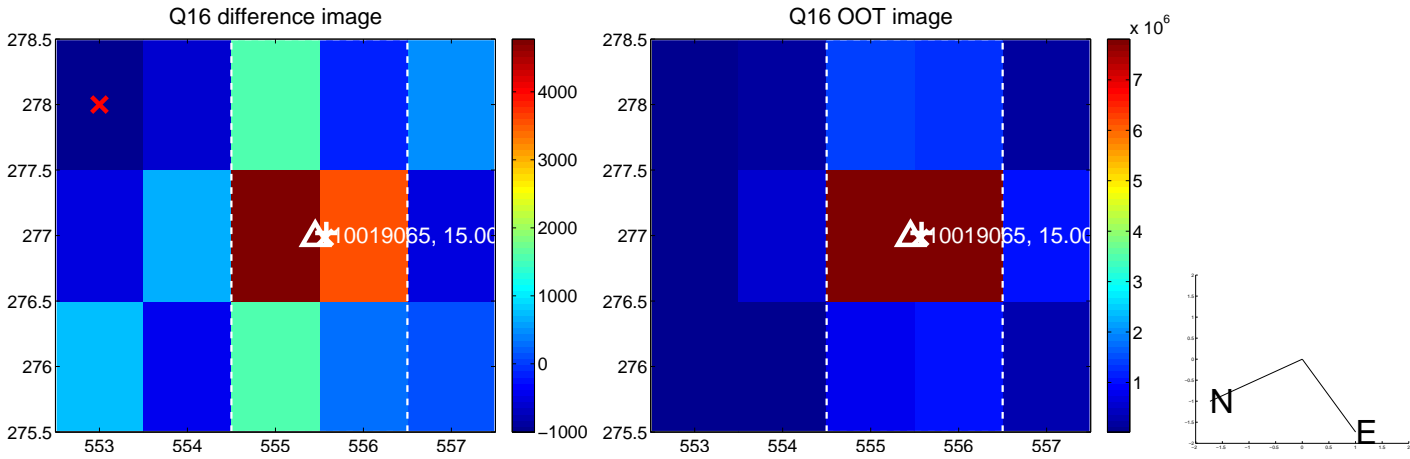
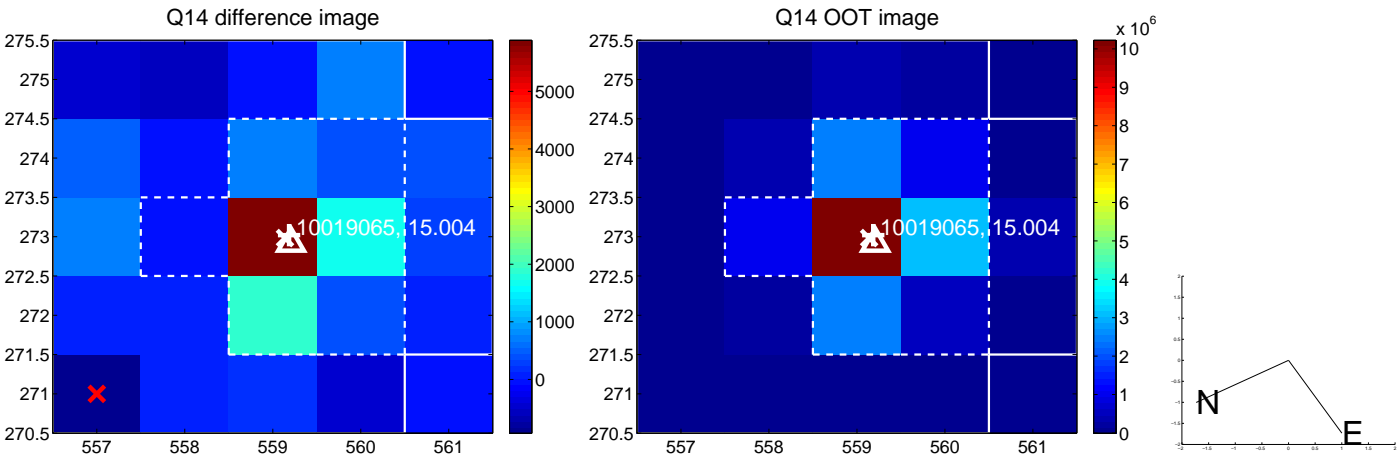
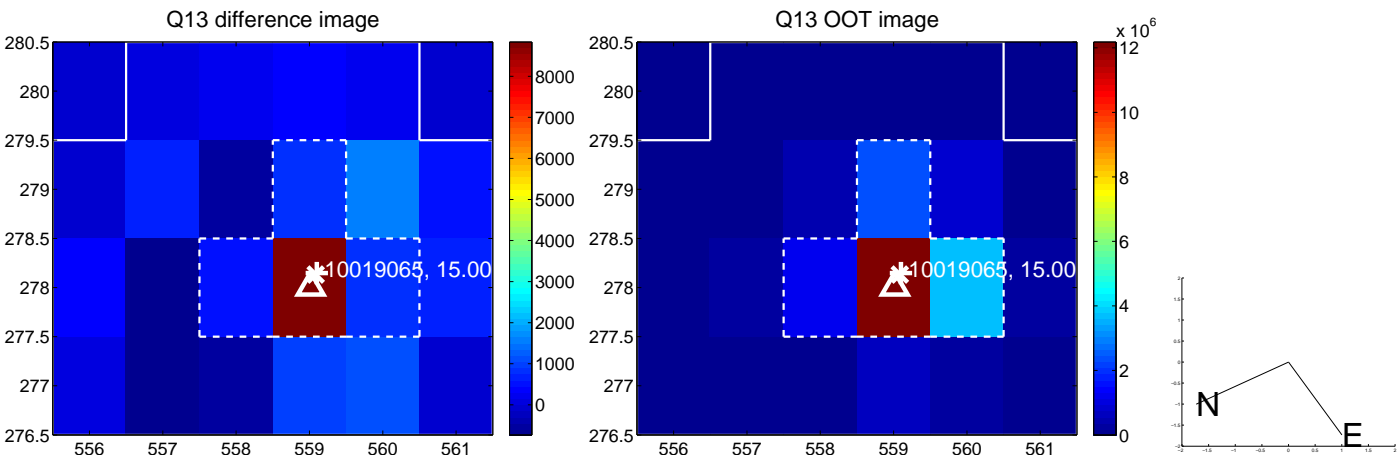
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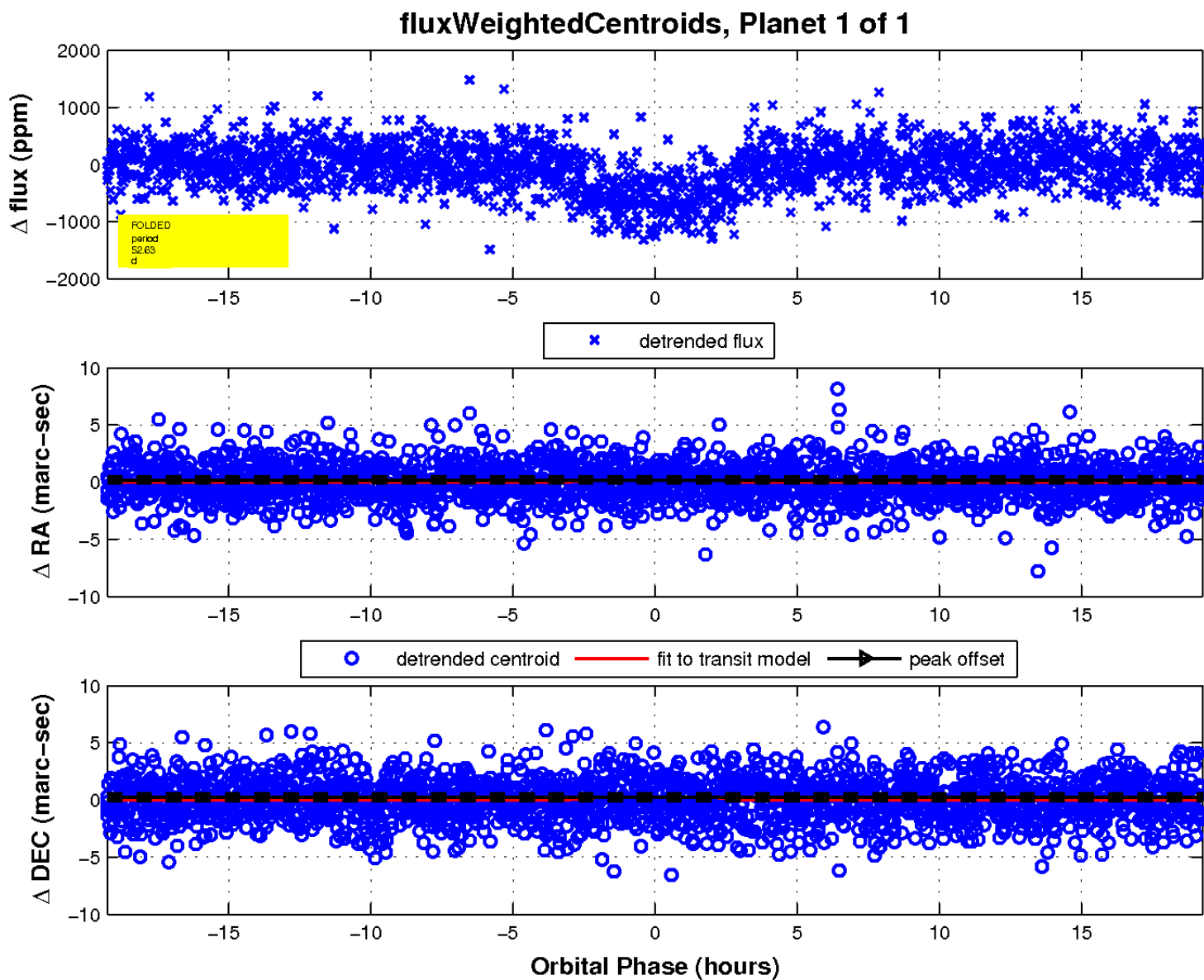
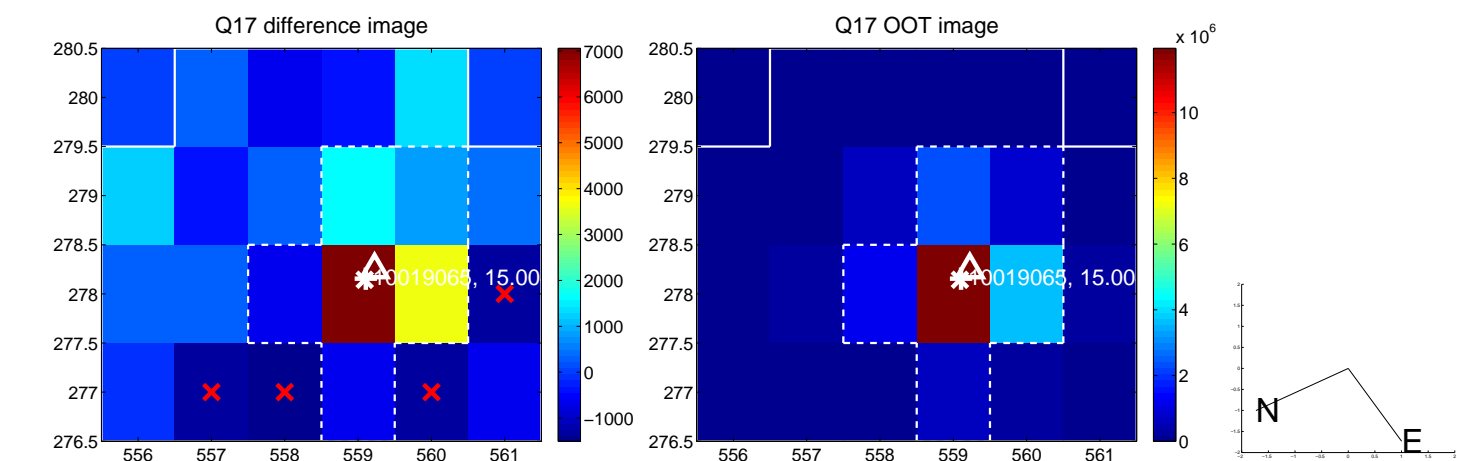
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UKIRT Image

Declination

