

KIC 007837526

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})
007837526-01	OBS	5436.01	28.297208	137.234712	23070.8	3.922	2201.7	2140.0	1.15	6327	30.31	61.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007837526-01	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED

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.

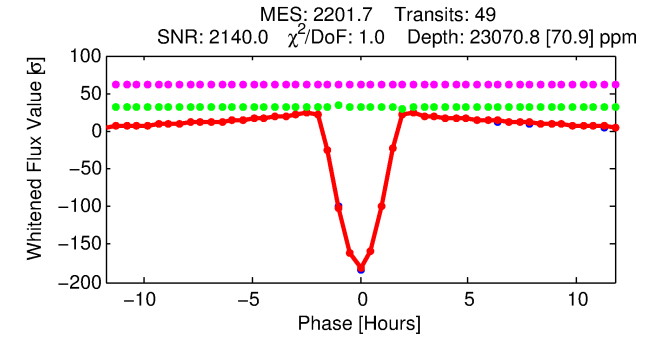
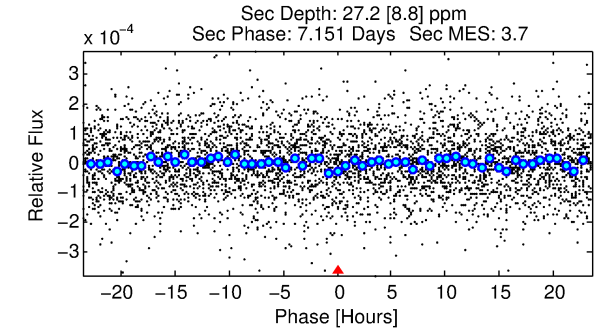
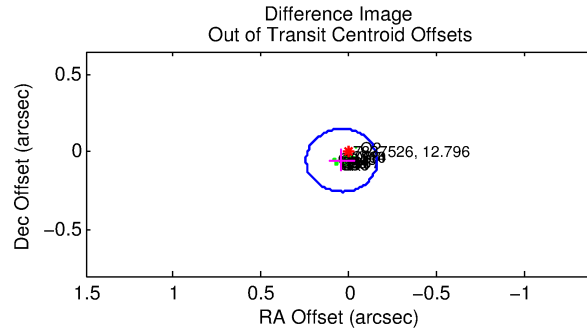
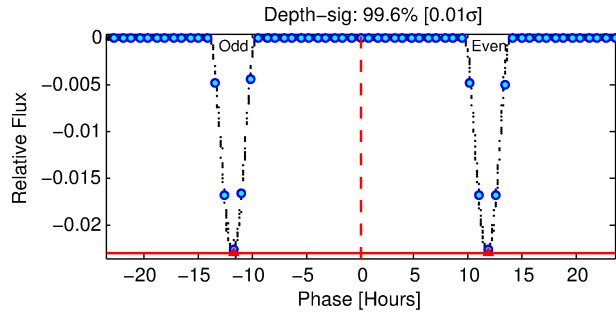
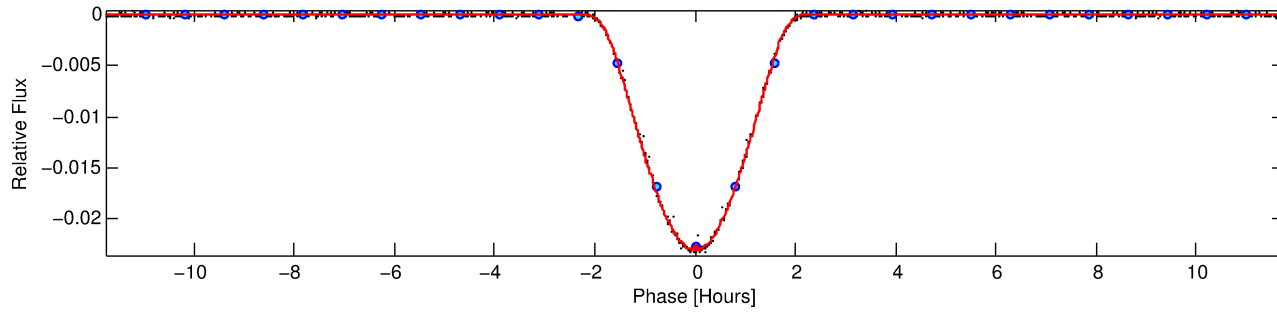
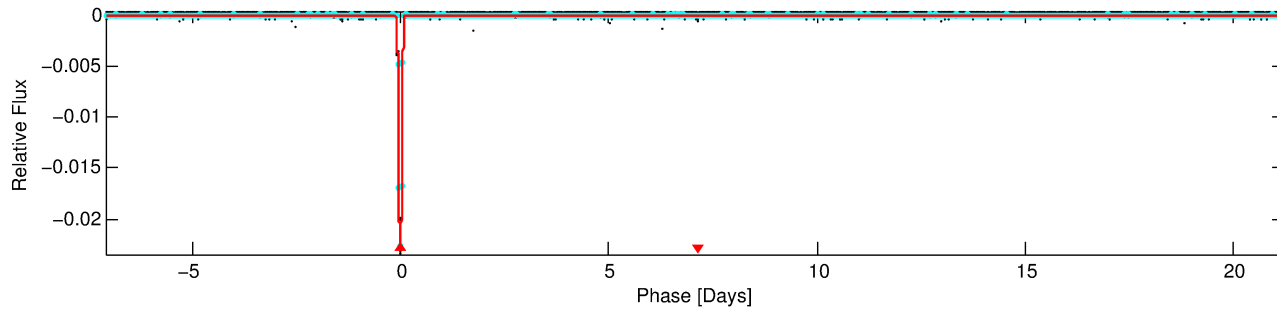
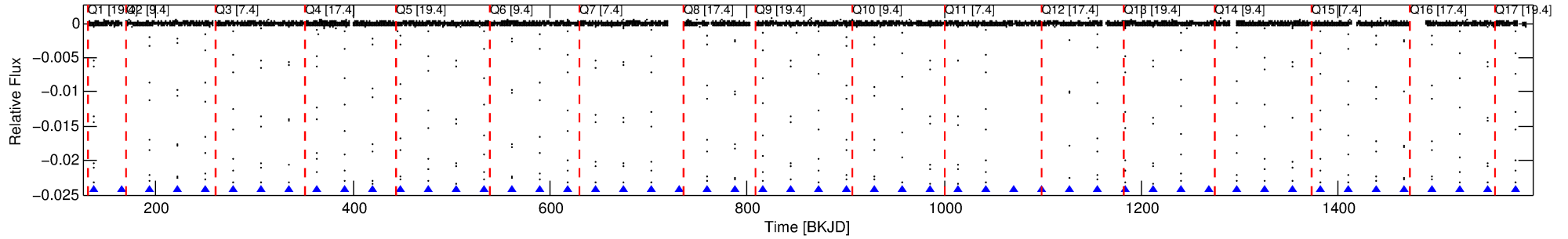
Ephemeris Match Information For 007837526-01

No Significant Match Found

DV One-Page Summary

KIC: 7837526 Candidate: 1 of 1 Period: 28.297 d
KOI: K05436.01 Corr: 0.997

Kp: 12.80 R*: 1.15 Rs Teff: 6327.0 K Logg: 4.28 Fe/H: -0.640



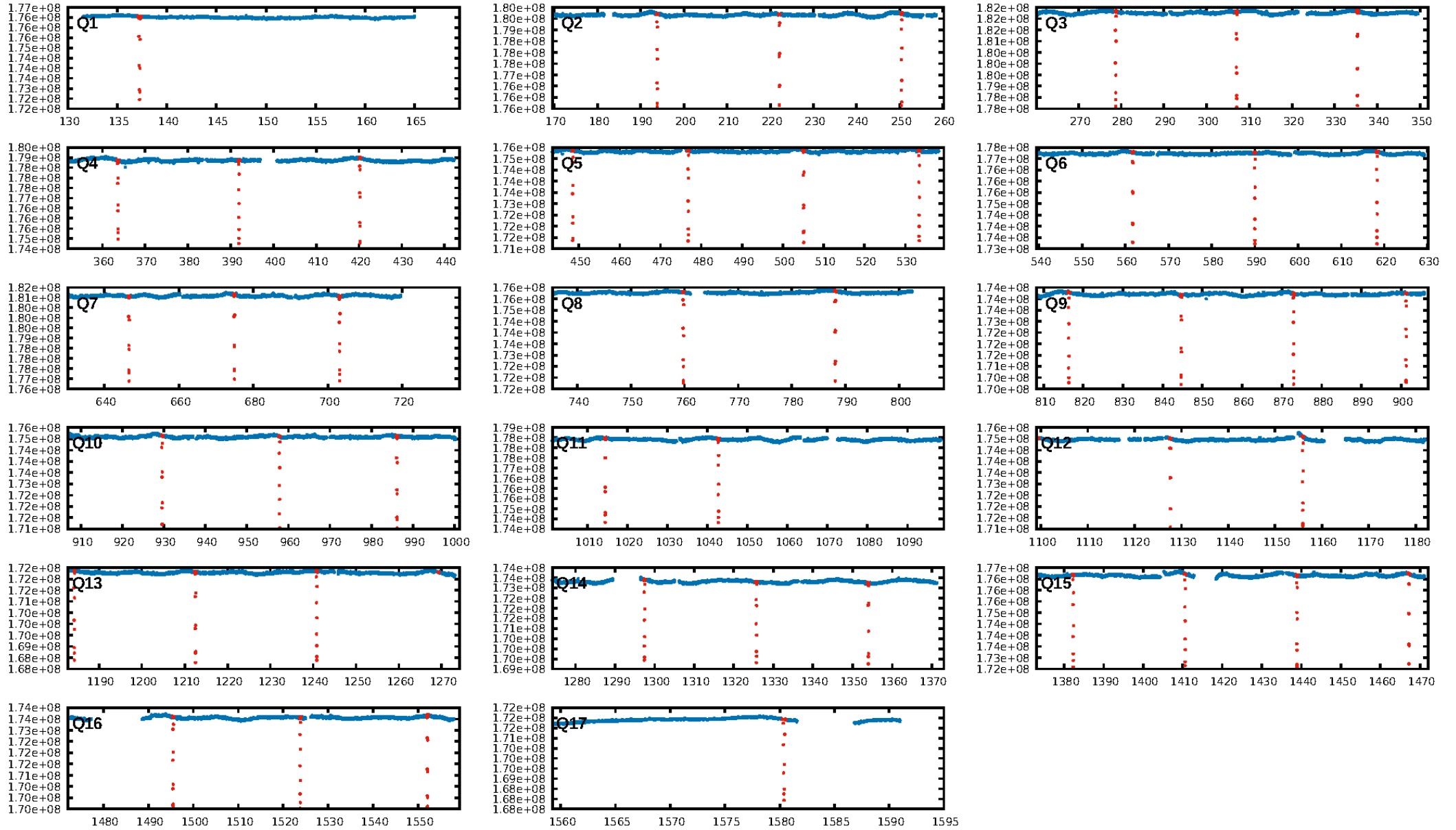
DV Fit Results:

Period = 28.29721 [0.00000] d
Epoch = 137.2347 [0.0000] BKJD
Rp/R* = 0.2413 [0.0074]
a/R* = 40.57 [0.12]
b = 1.00 [0.01]
Seff = 61.11 [19.32]
Teq = 713 [56] K
Rp = 30.31 [5.95] Re
a = 0.1764 [0.0325] AU
Ag = 0.51 [0.22] [-2.21σ]
Teff = 930 [81] K [2.19σ]

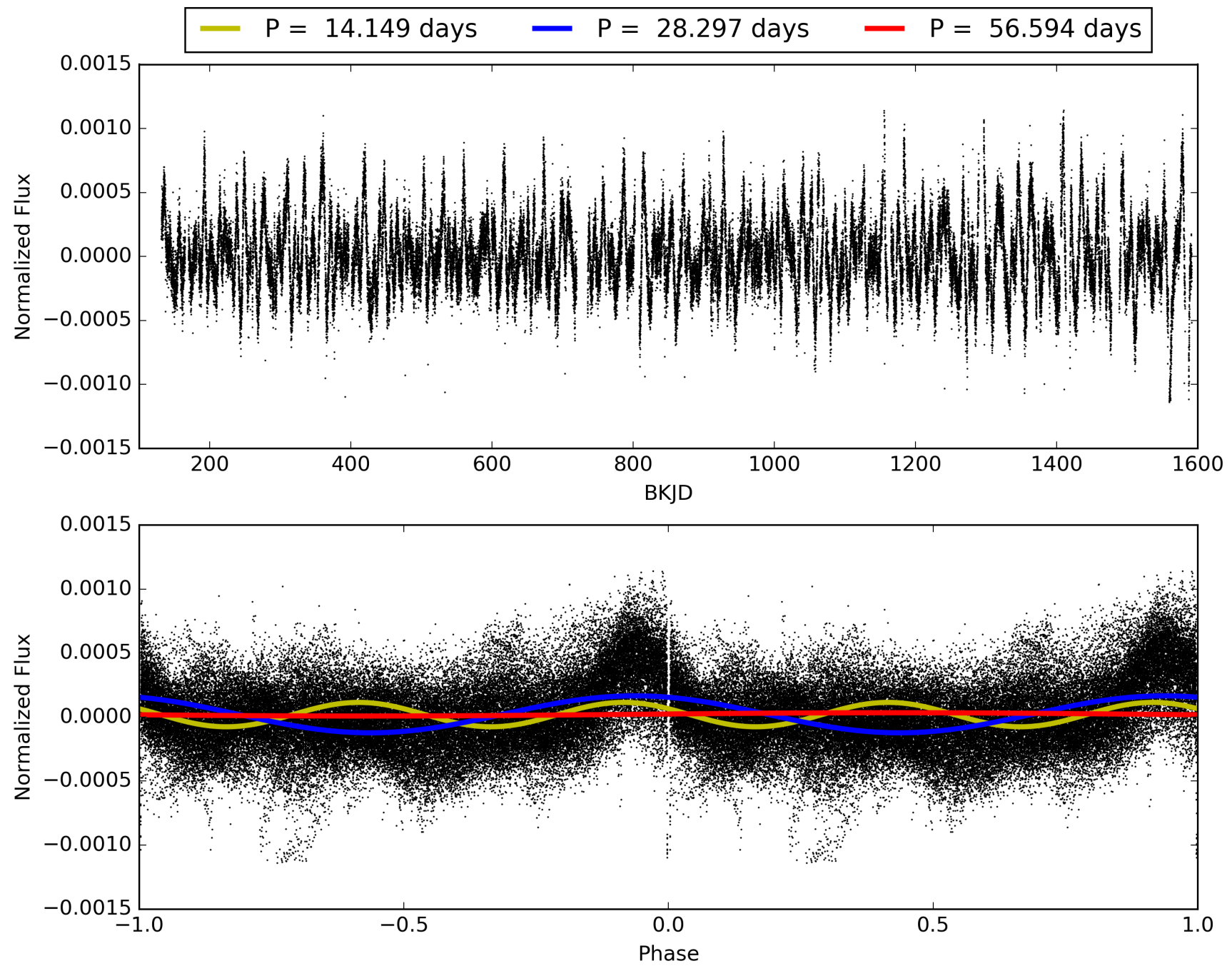
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.9%
ModelChiSquareGof-sig: 99.4%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [47/47]
GhostDiagnostic-chr: 10.92
Centroid-sig: 0.0%
Centroid-so: 0.159 arcsec [40.70σ]
OotOffset-rm: 0.068 arcsec [1.00σ]
KicOffset-rm: 0.044 arcsec [0.64σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [16/16]

TCE 007837526-01, PDC Light Curves

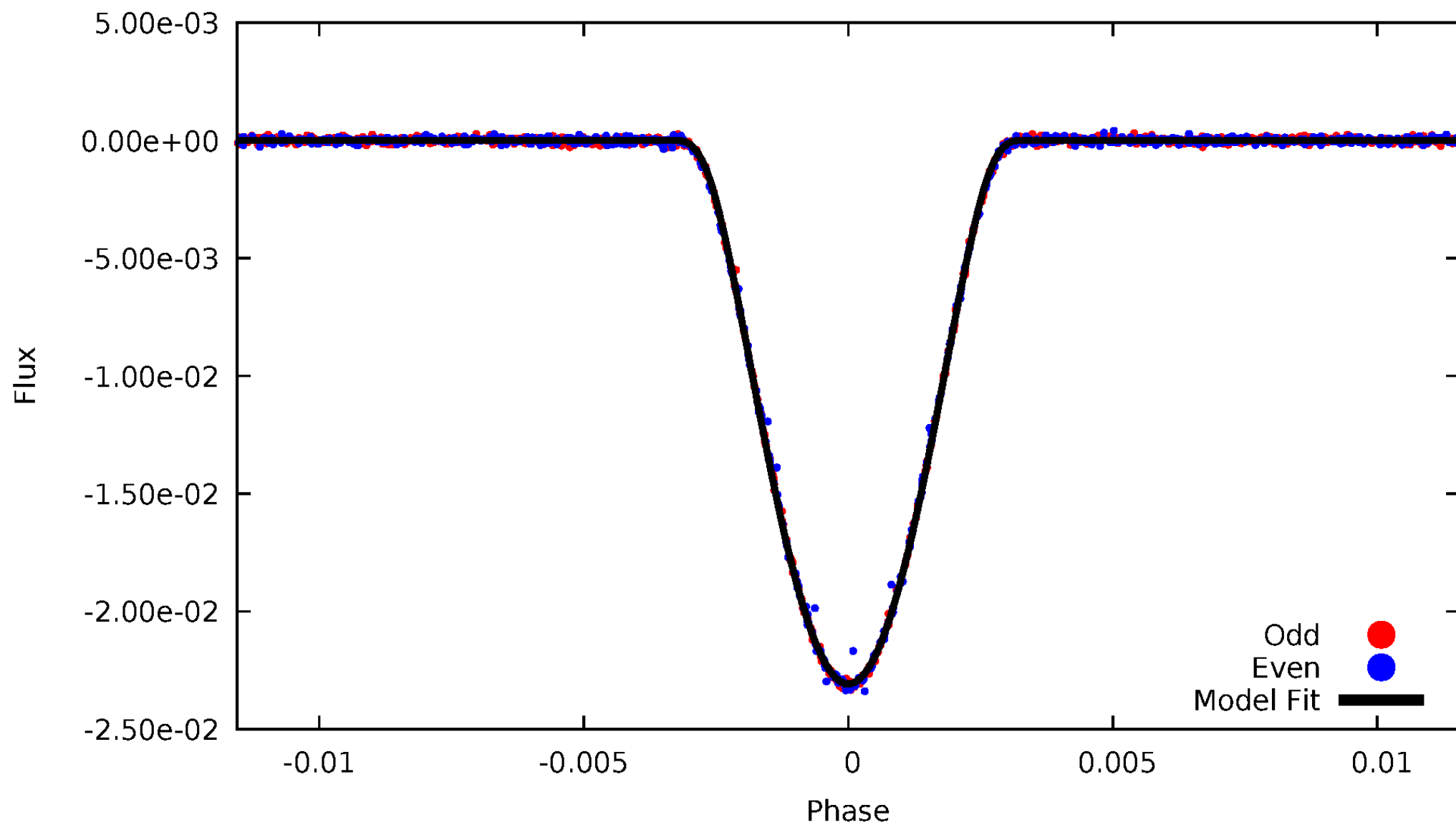


TCE 007837526-01



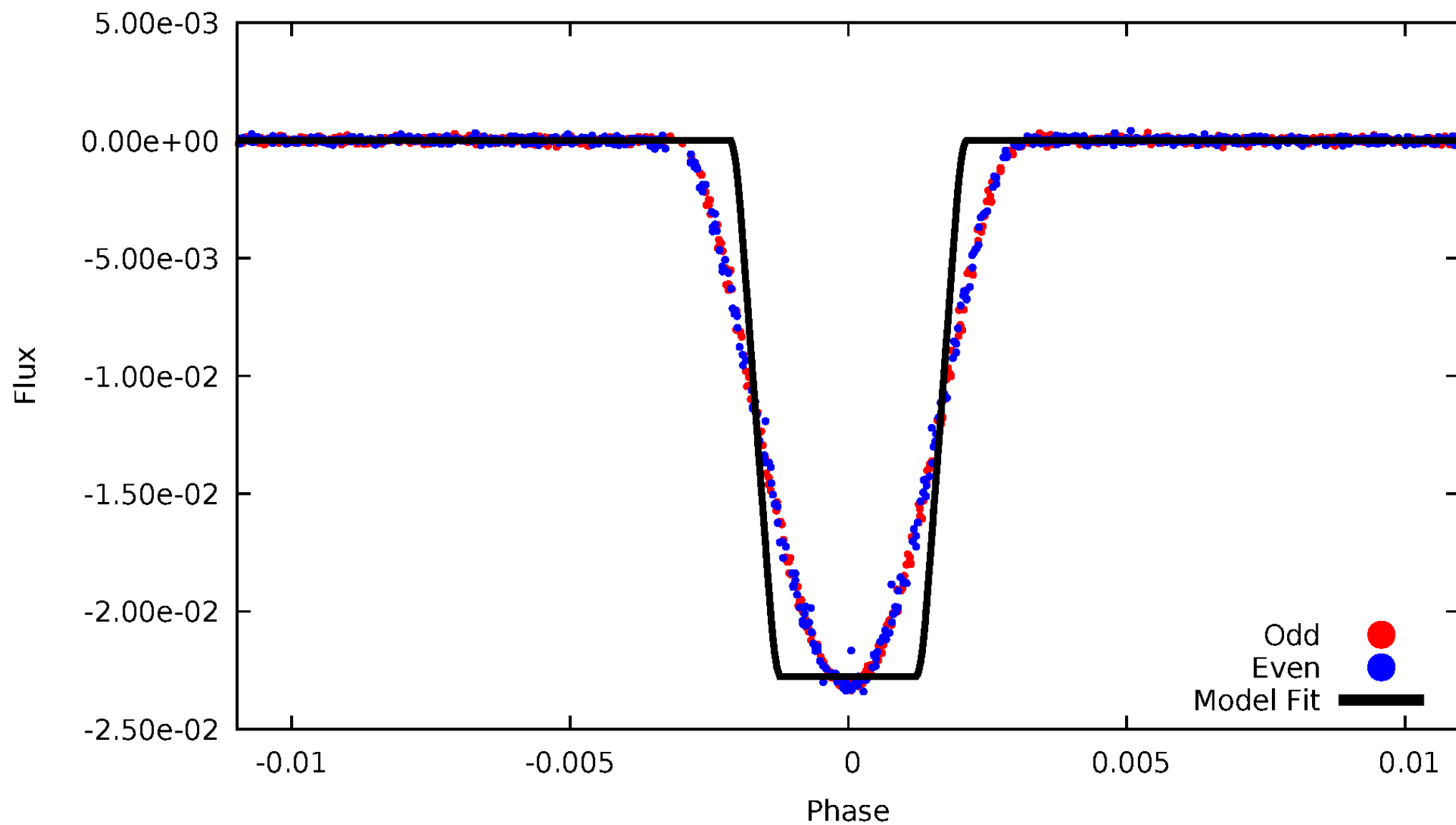
DV Odd/Even

TCE 007837526-01



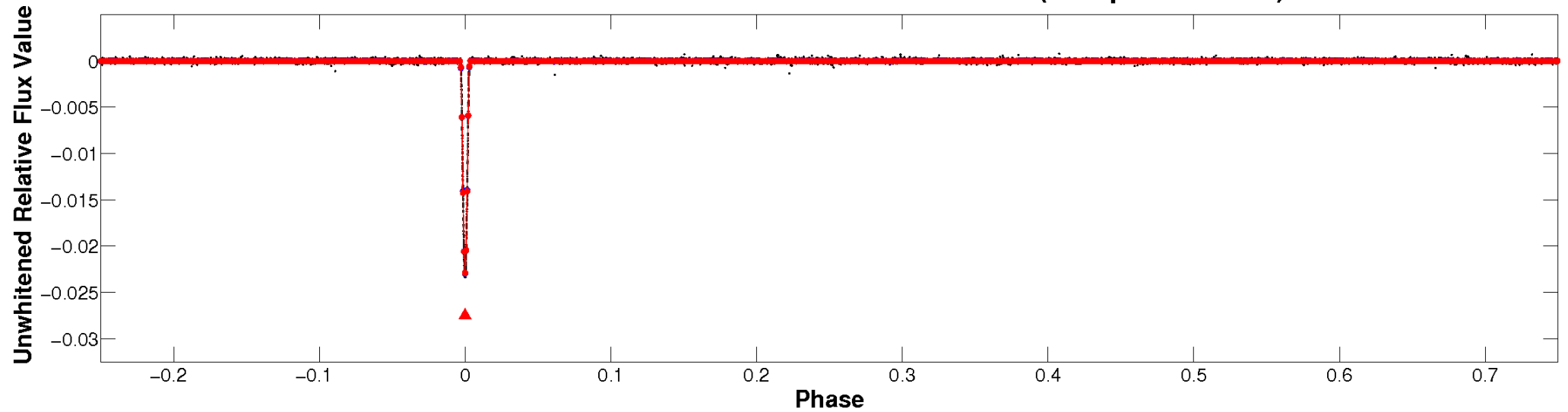
ALT Odd/Even

TCE 007837526-01

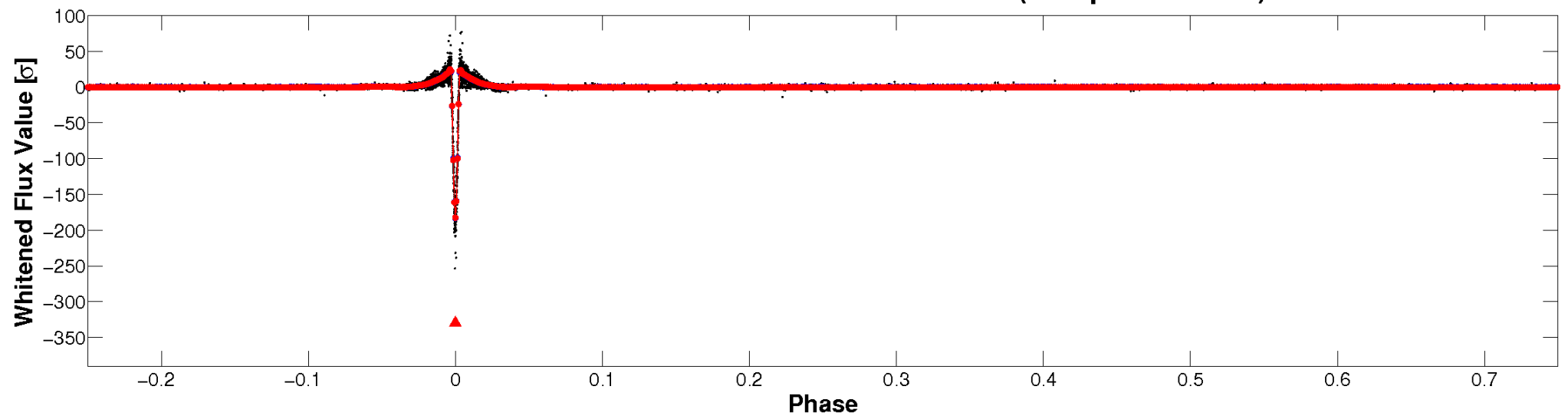


Non-Whitened Vs. Whitened Light Curve

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

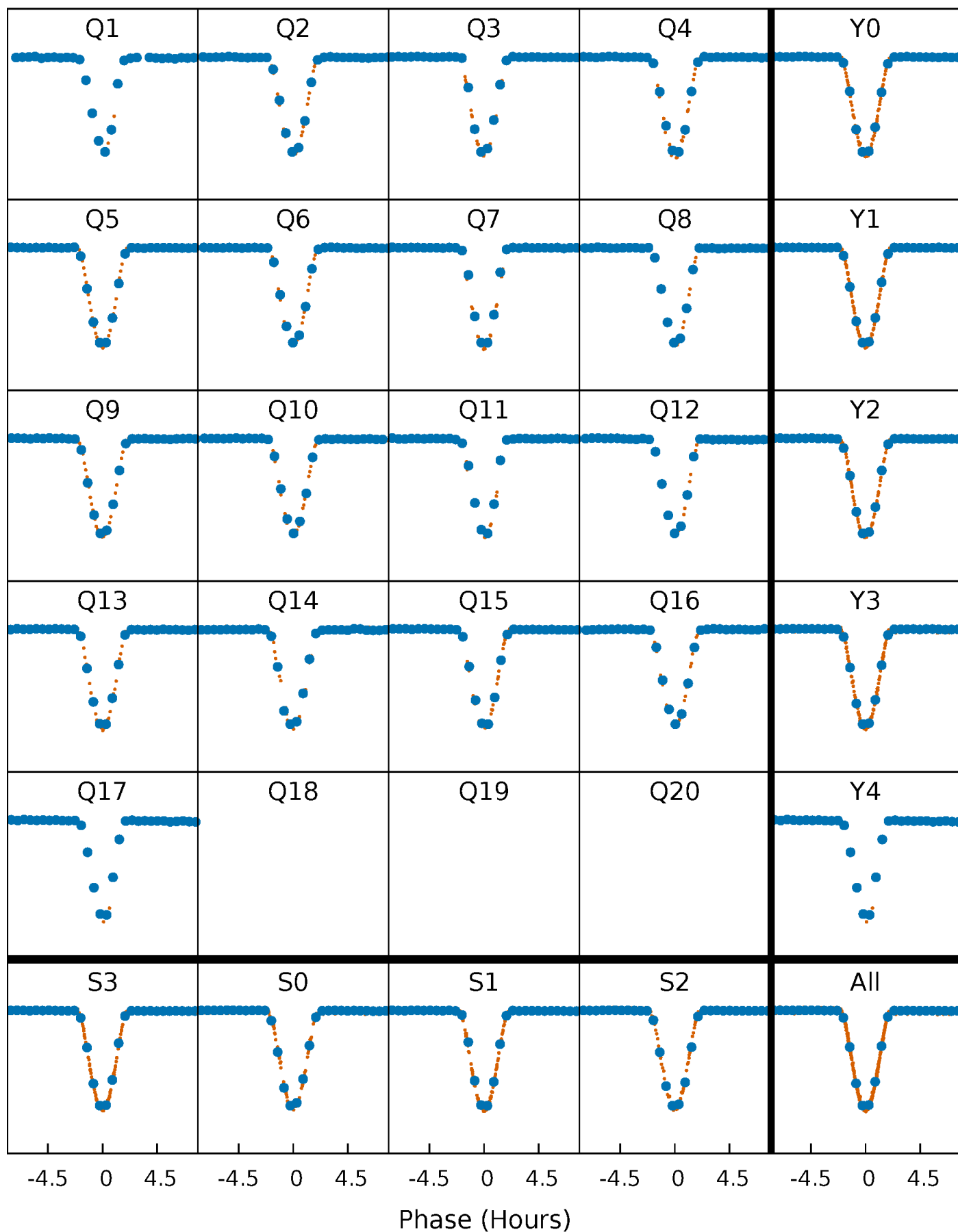


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



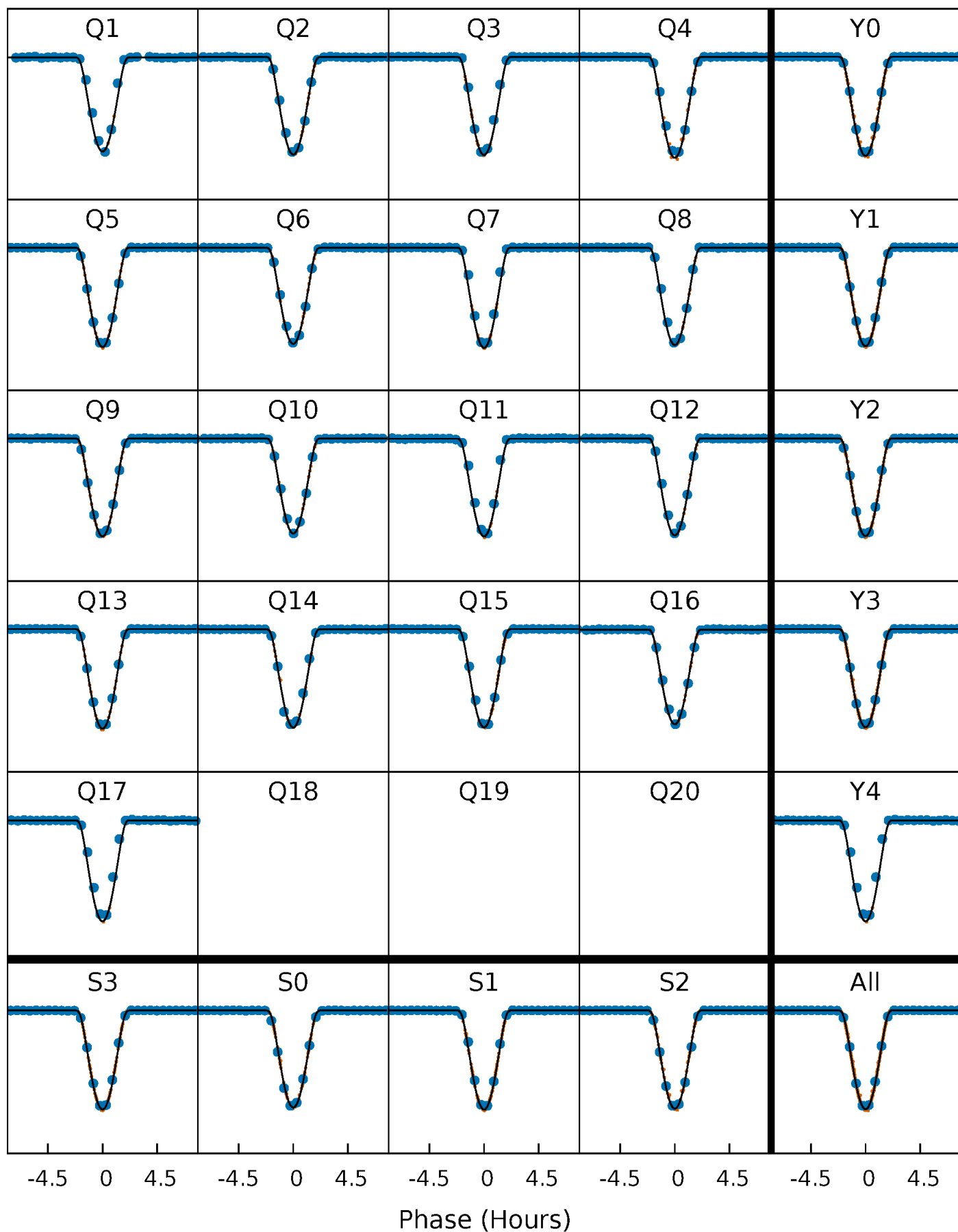
PDC Quarter-Phased Transit Curves

TCE 007837526-01 P= 28.297208 Days $T_0=137.234712$ (BKJD)



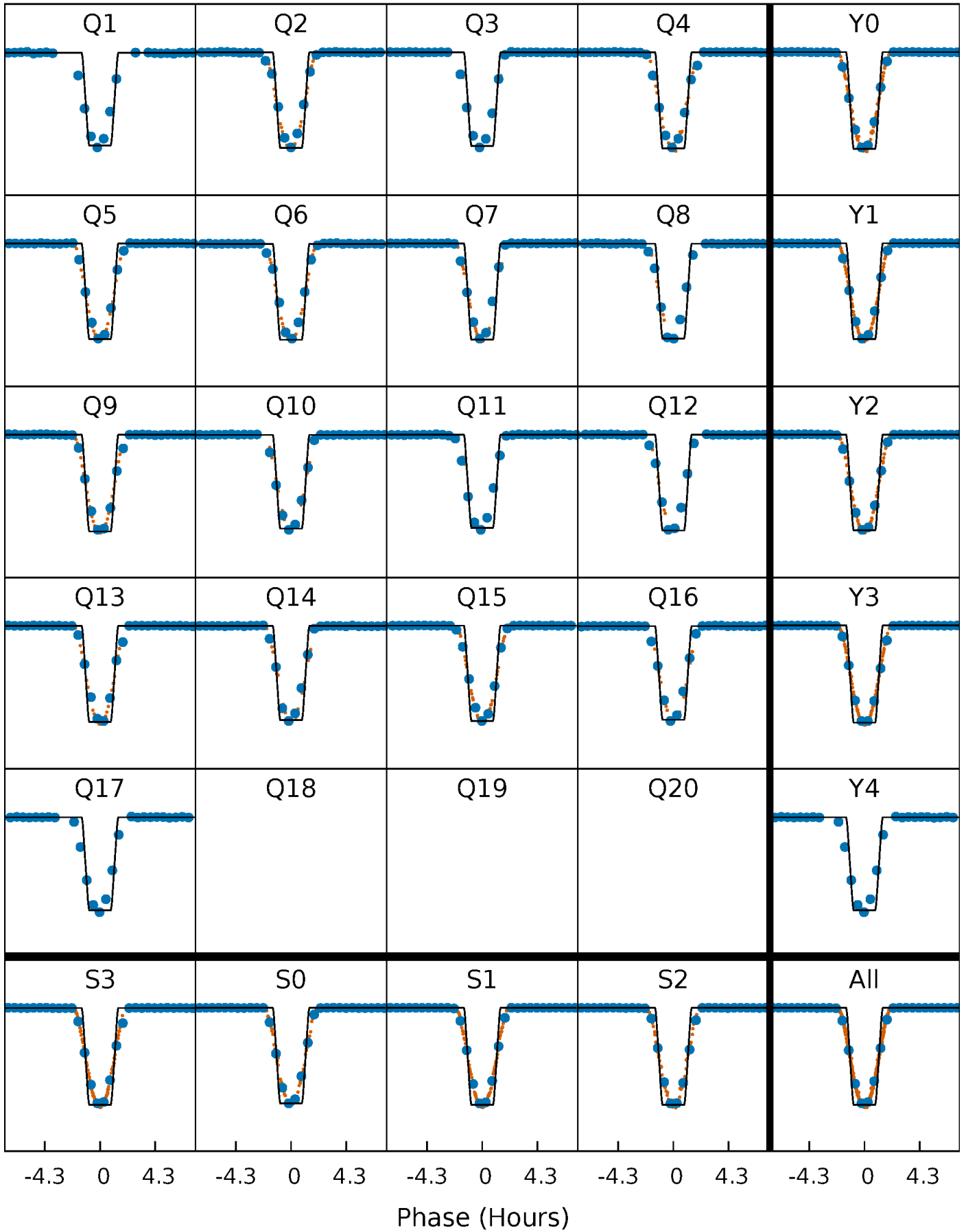
DV Quarter-Phased Transit Curves

TCE 007837526-01 P= 28.297208 Days $T_0=137.234712$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

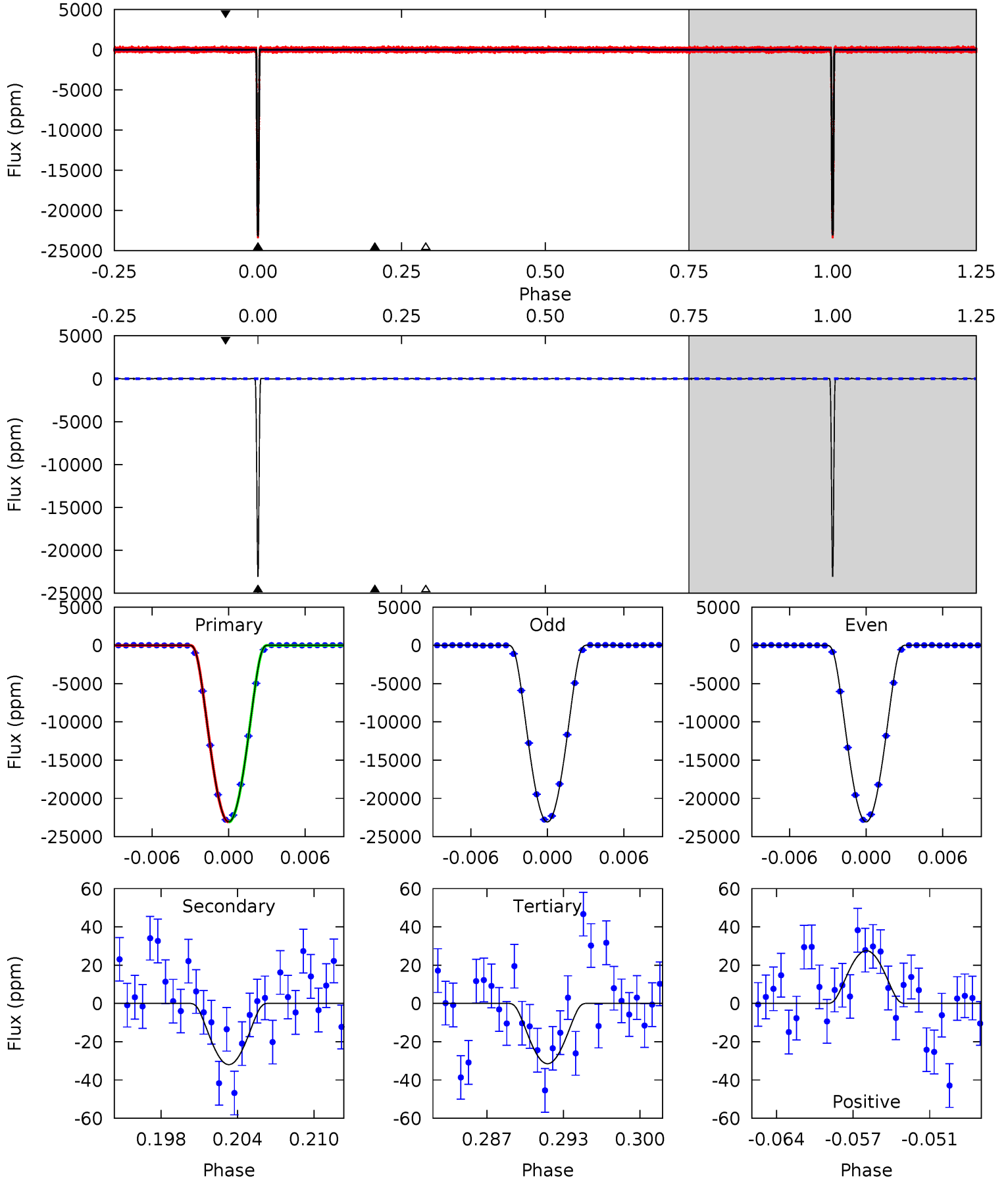
TCE 007837526-01 P= 28.297149 Days $T_0=137.236275$ (BKJD)



DV Model-Shift Uniqueness Test

007837526-01, P = 28.297208 Days, E = 108.937504 Days

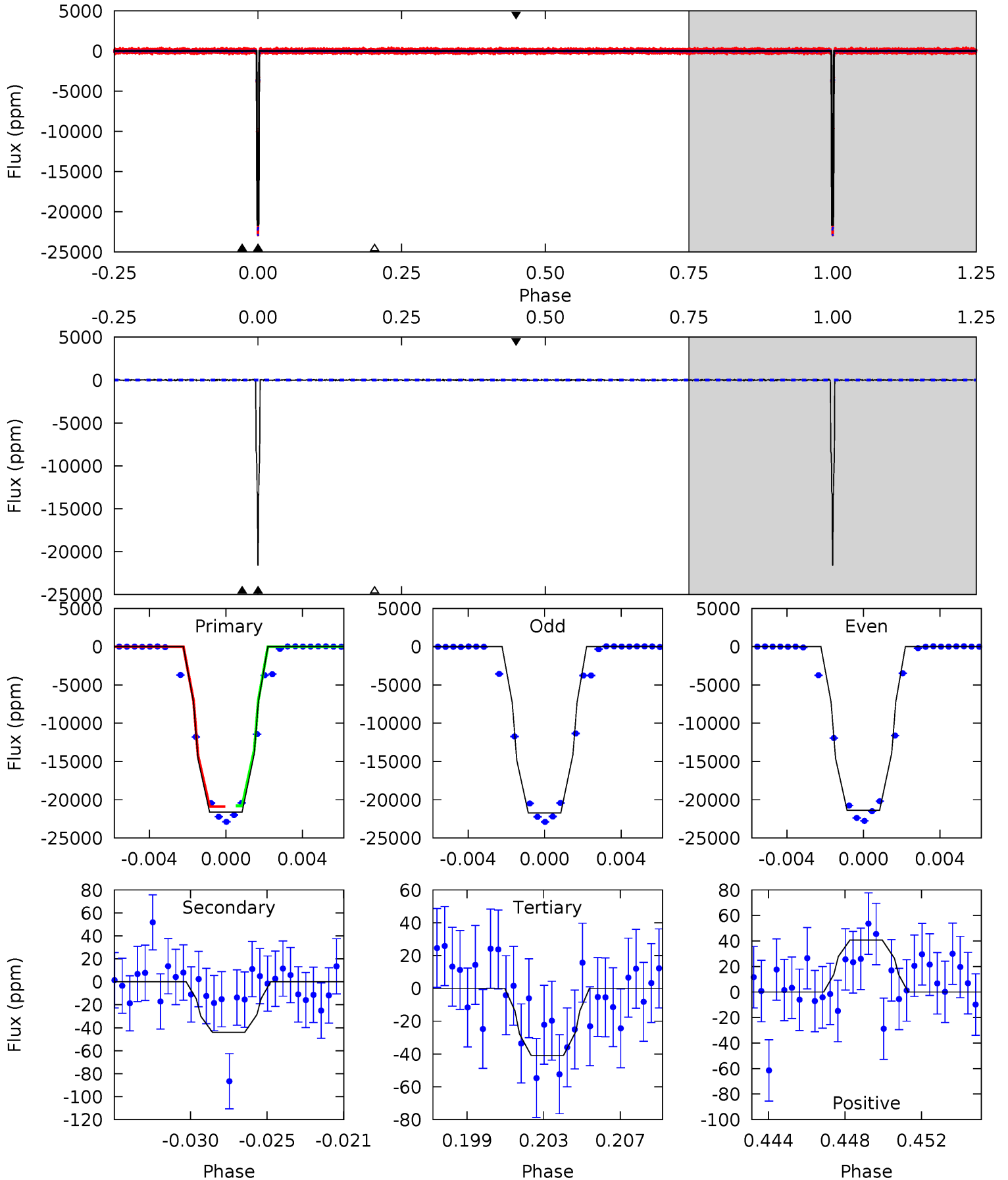
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4644	6.43	6.34	5.55	5.11	2.73	1.92	4638	4639	0.09	0.88	1.72	1.00	0.00	2.73



Alt Model-Shift Uniqueness Test

007837526-01, P = 28.297149 Days, E = 108.939126 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2259	4.59	4.27	4.25	5.19	2.86	1.22	2255	2255	0.32	0.34	16.8	1.00	0.00	0



Stellar Parameters For KIC 007837526

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6327^{+171}_{-190}	$4.277^{+0.171}_{-0.124}$	$-0.640^{+0.300}_{-0.300}$	$1.151^{+0.223}_{-0.223}$	$0.914^{+0.119}_{-0.087}$	$0.844^{+0.674}_{-0.323}$
	+3%/-3%	+4%/-3%	+47%/-47%	+19%/-19%	+13%/-10%	+80%/-38%
Source	PHO1	FLK73	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 007837526-01 / KOI 5436.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-32 ± 5	$30.24^{+3.45}_{-3.59}$	991^{+56}_{-63}	1845^{+69}_{-84}	$0.602^{+0.198}_{-0.135}$
Alt.	-44 ± 10	$19.08^{+2.21}_{-2.44}$	997^{+58}_{-64}	2217^{+67}_{-74}	$2.073^{+0.753}_{-0.595}$

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

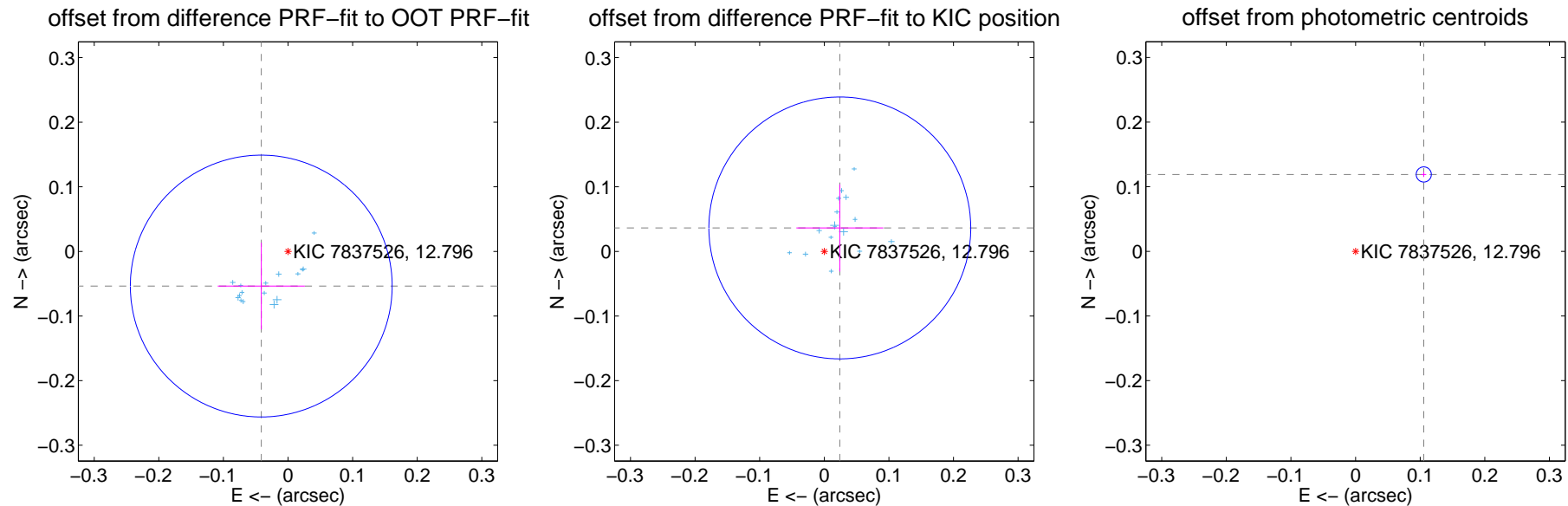
DV Centroid Data

Supplemental centroid analysis for 007837526-01. Kepler magnitude: 12.80. Transit SNR 2139.98

There are 16 quarters with good PRF difference image offsets

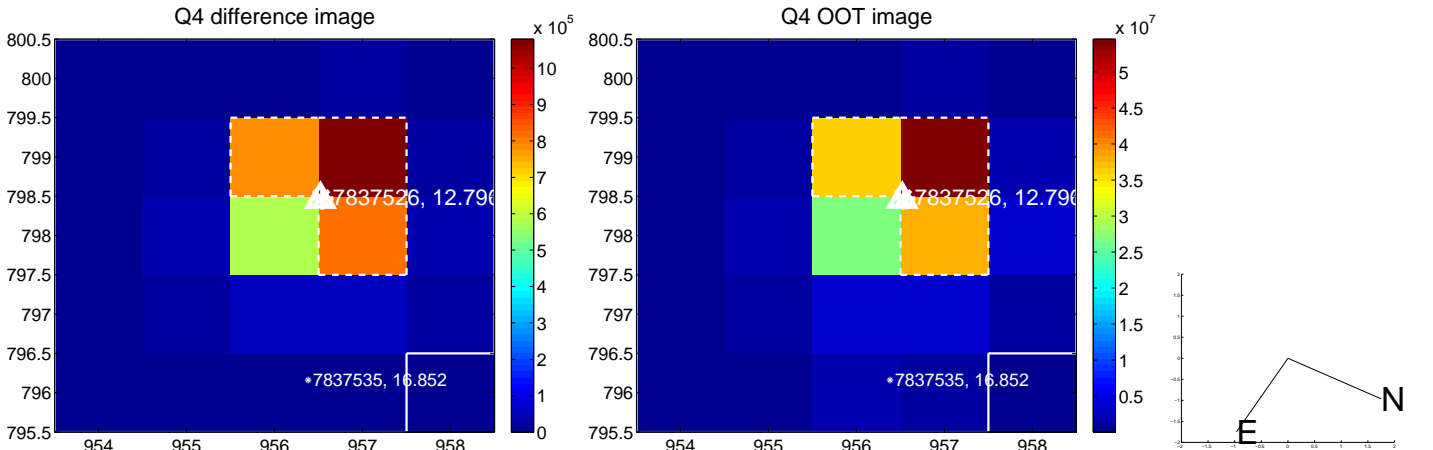
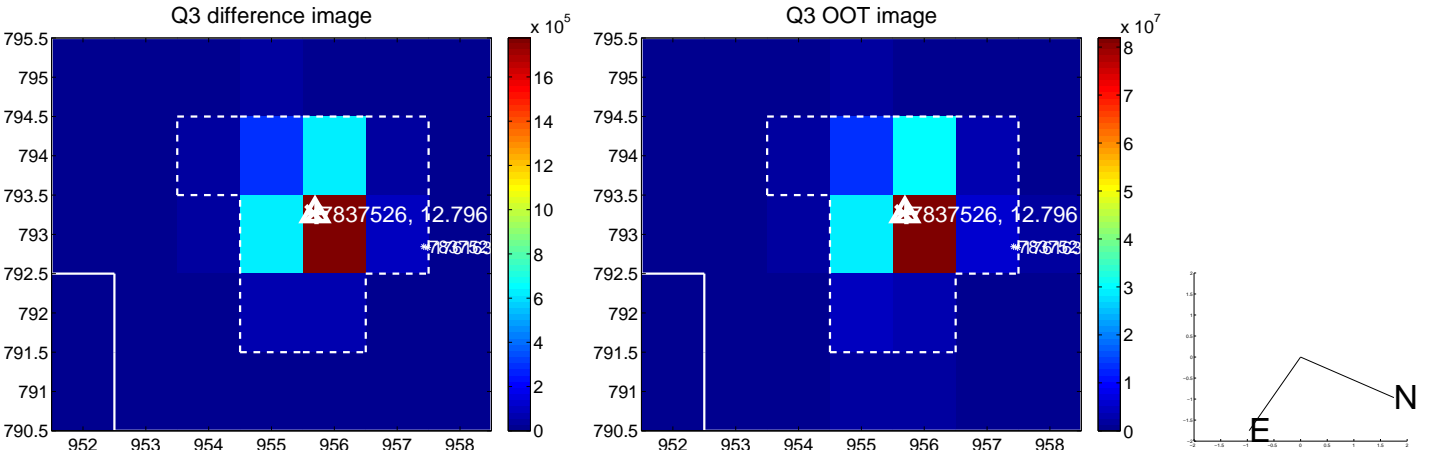
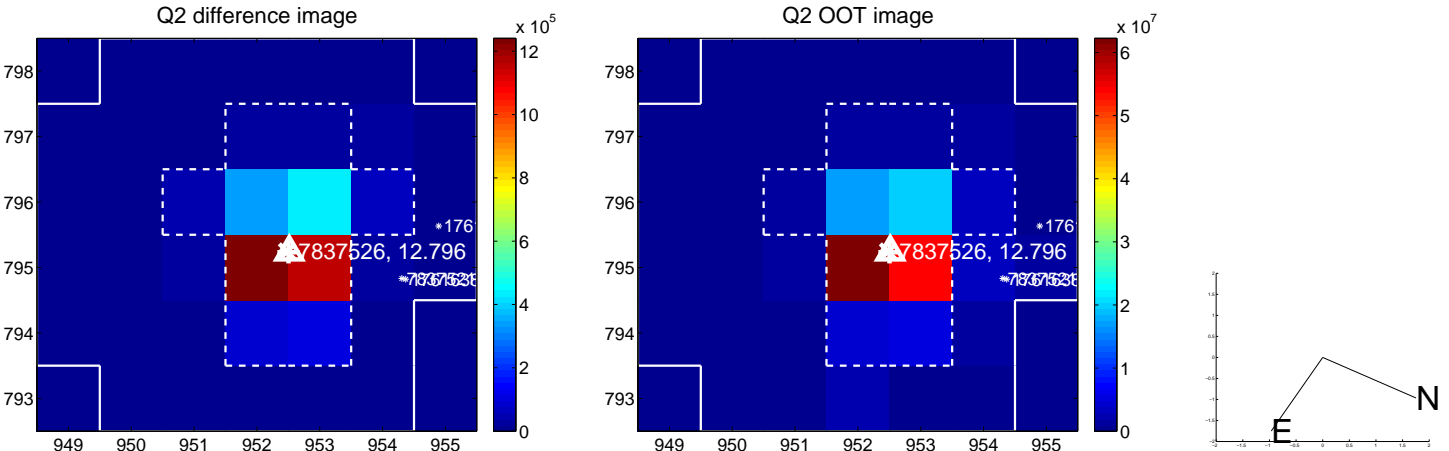
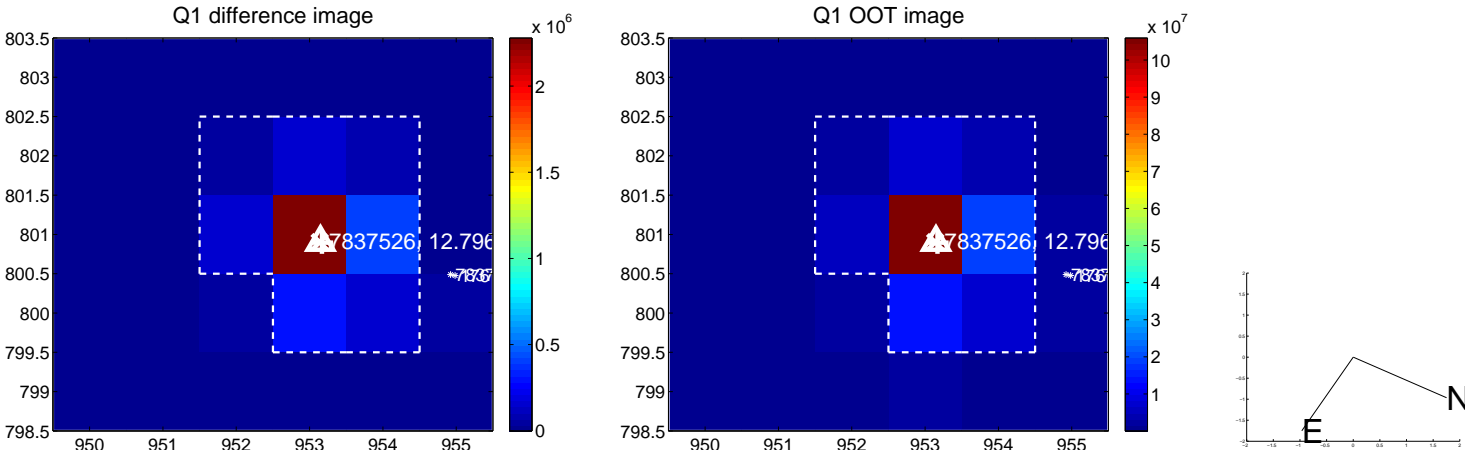
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.068 ± 0.068	1.00	0.041 ± 0.067	-0.054 ± 0.067
PRF-fit source offset from KIC position	0.044 ± 0.068	0.64	-0.024 ± 0.067	0.036 ± 0.067
photometric centroid source offset	0.16 ± 0.00	40.70	-0.11 ± 0.00	0.12 ± 0.00

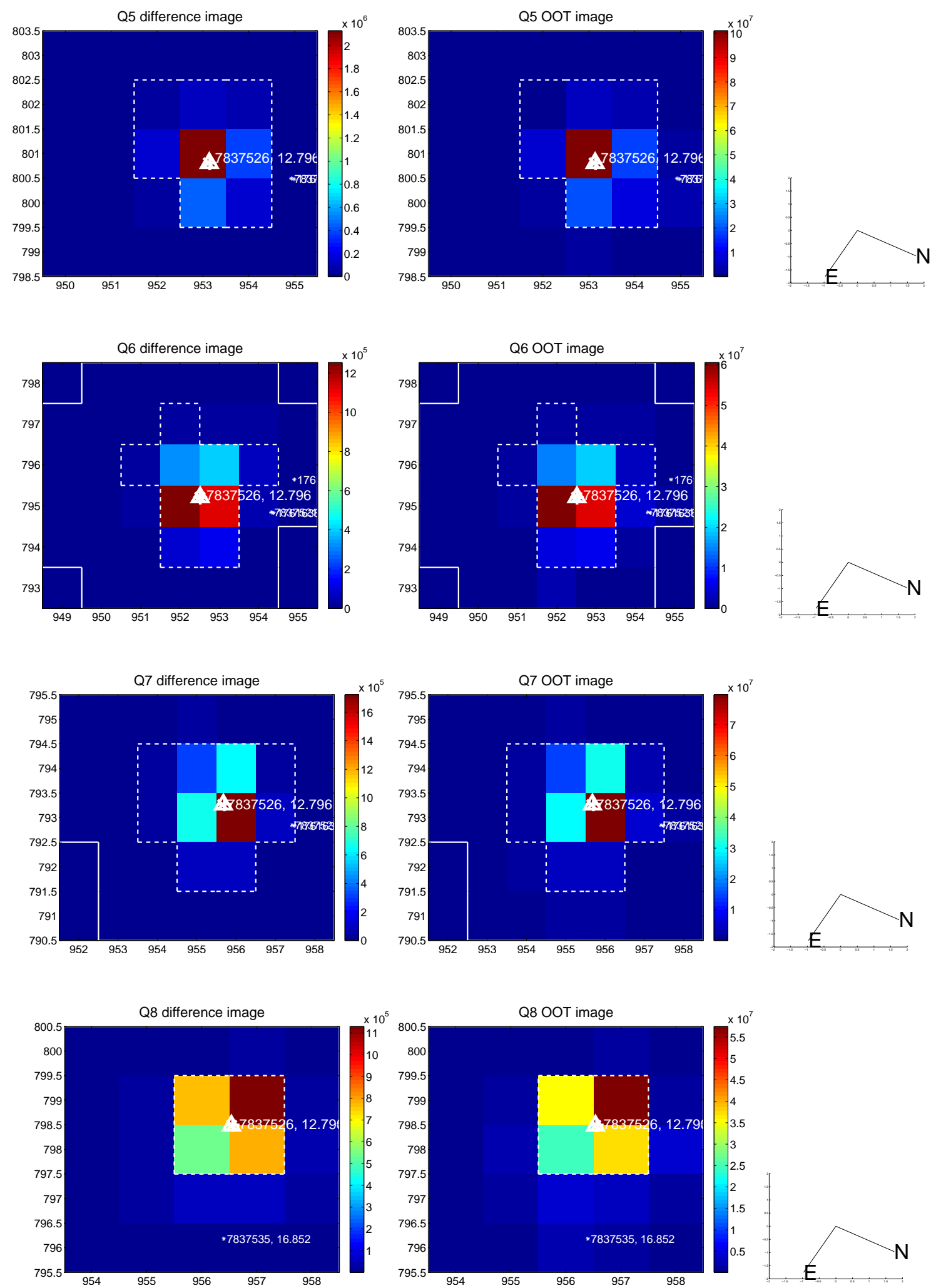


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

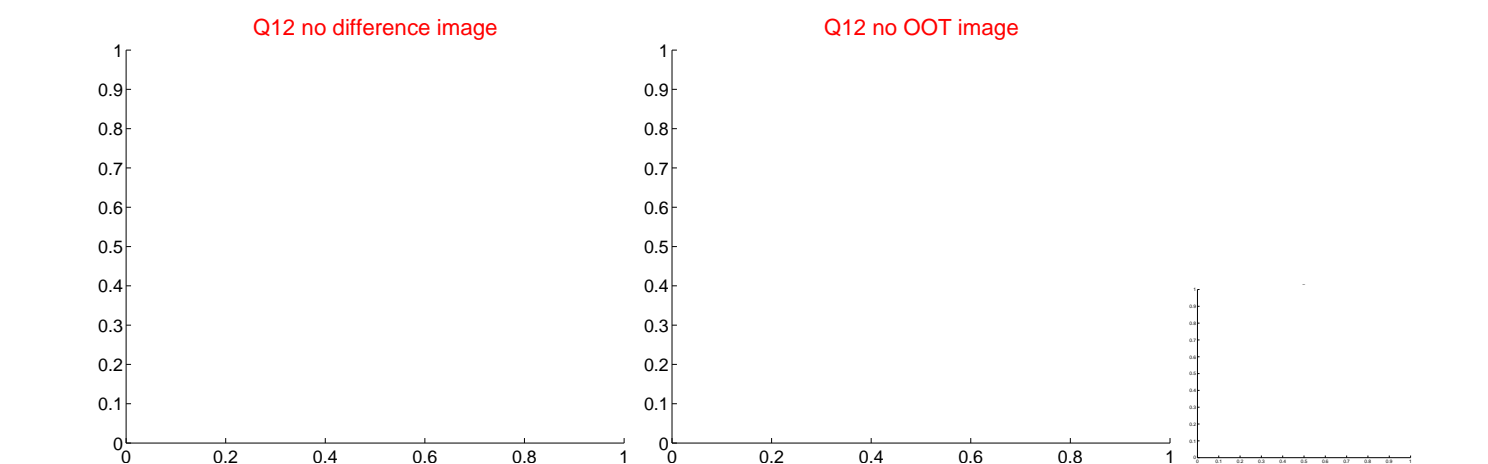
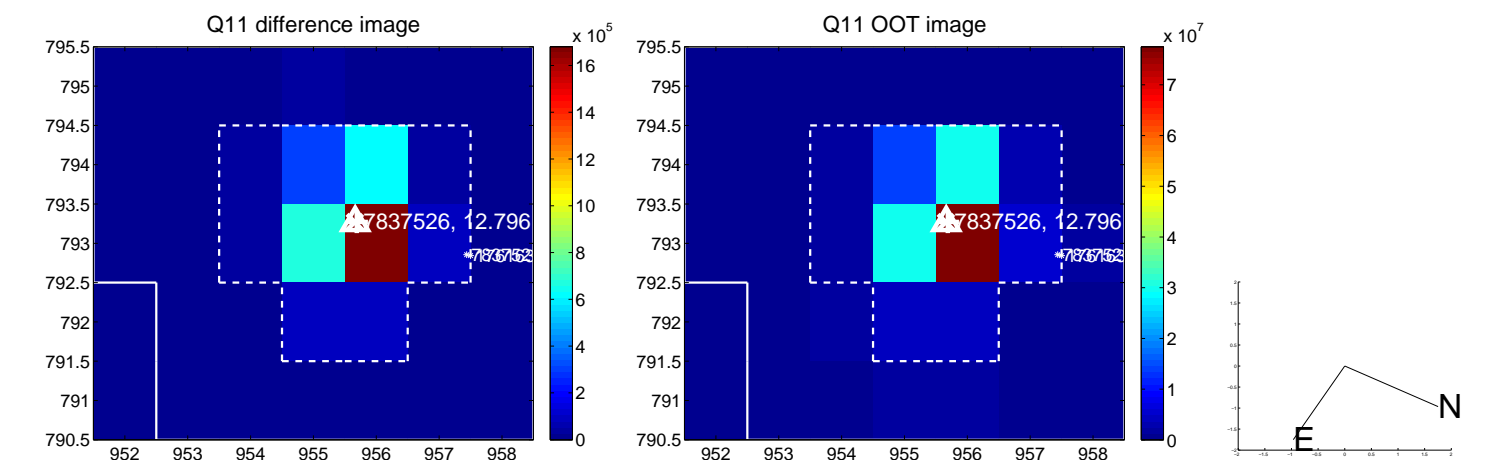
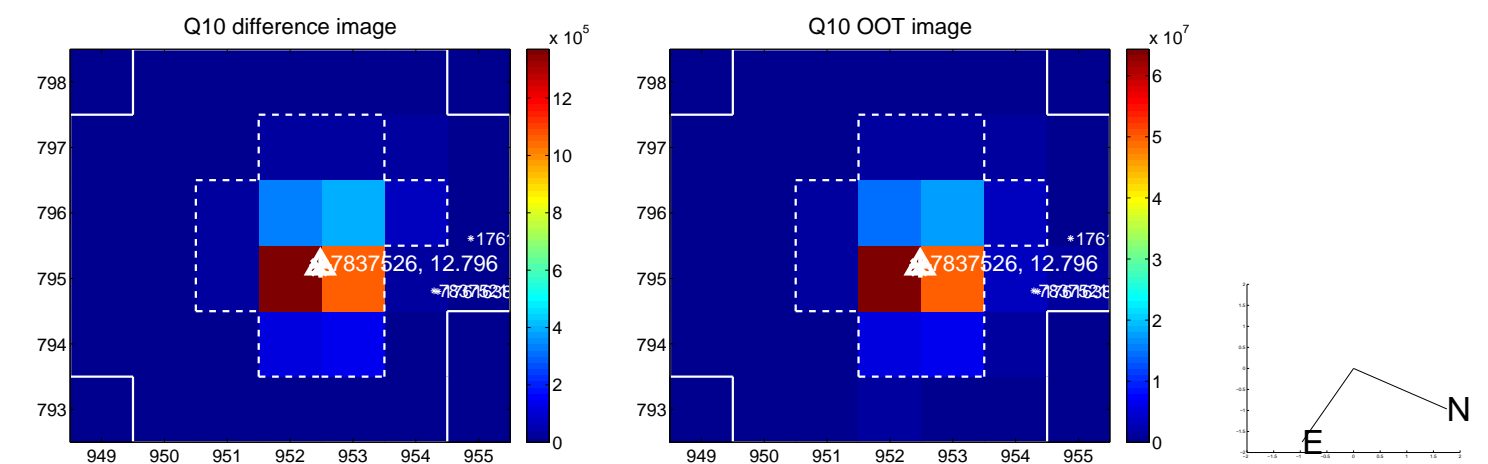
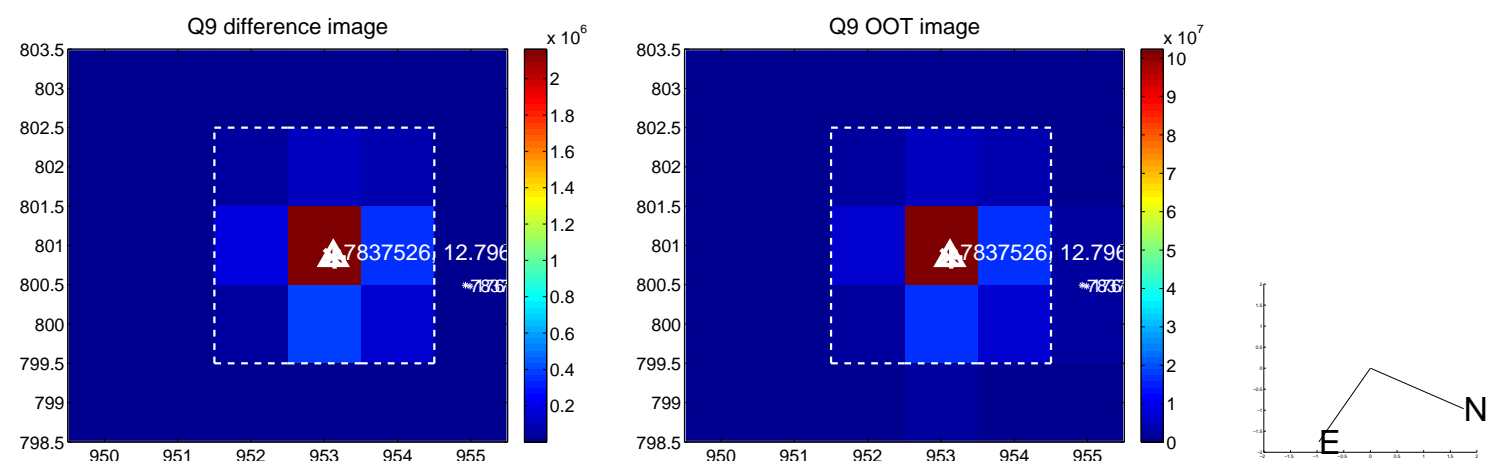
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



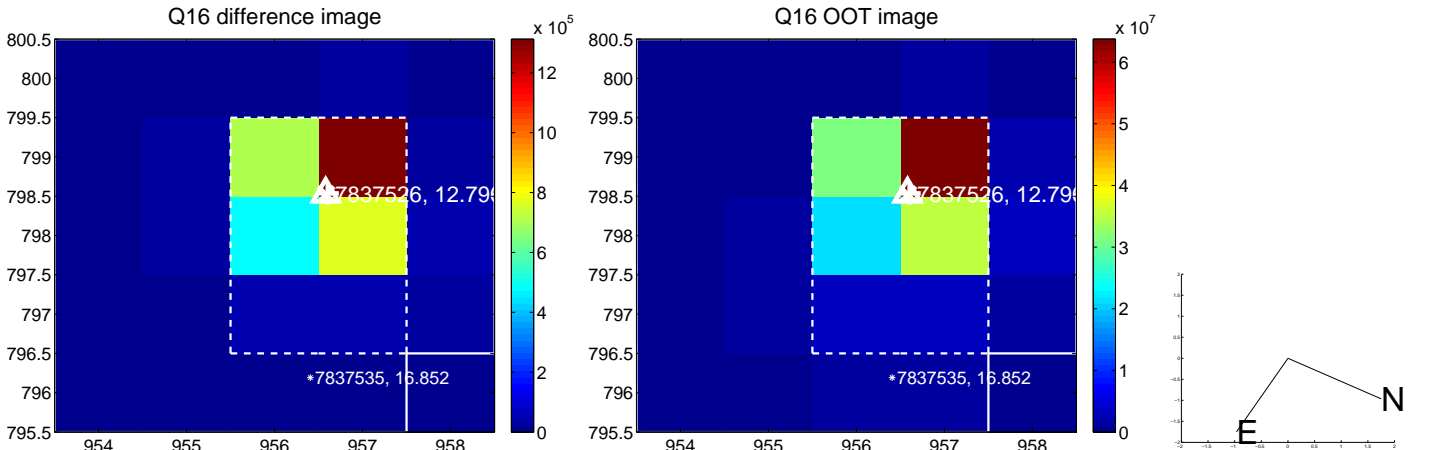
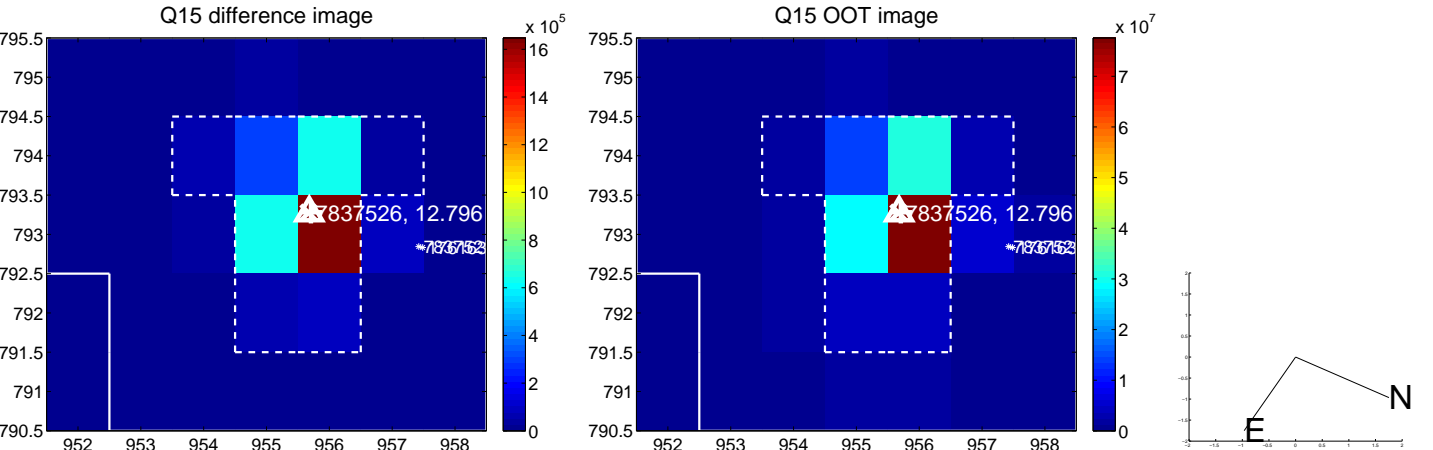
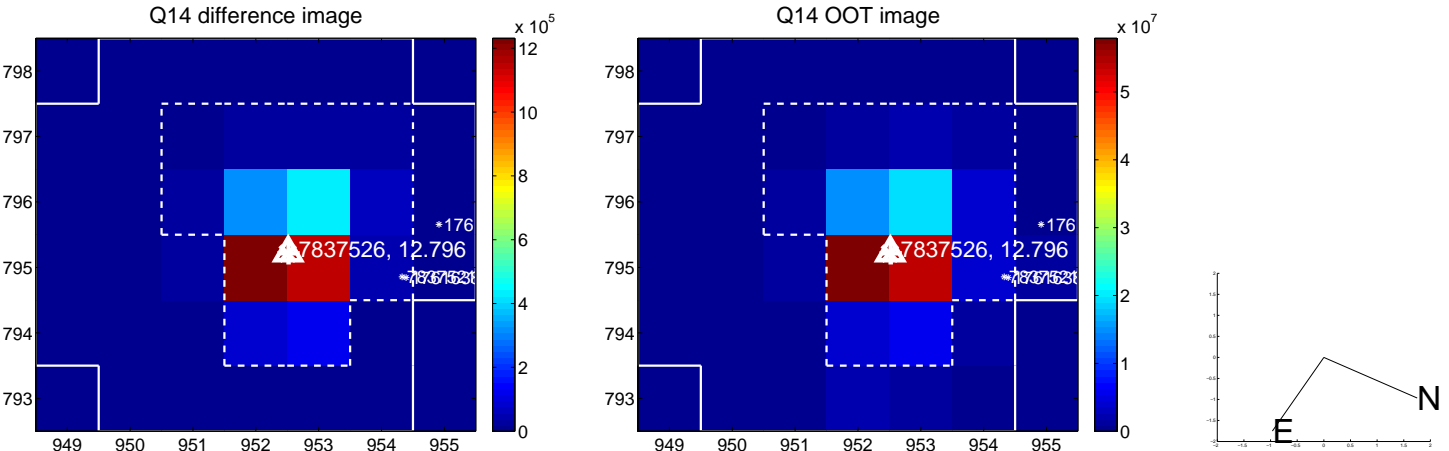
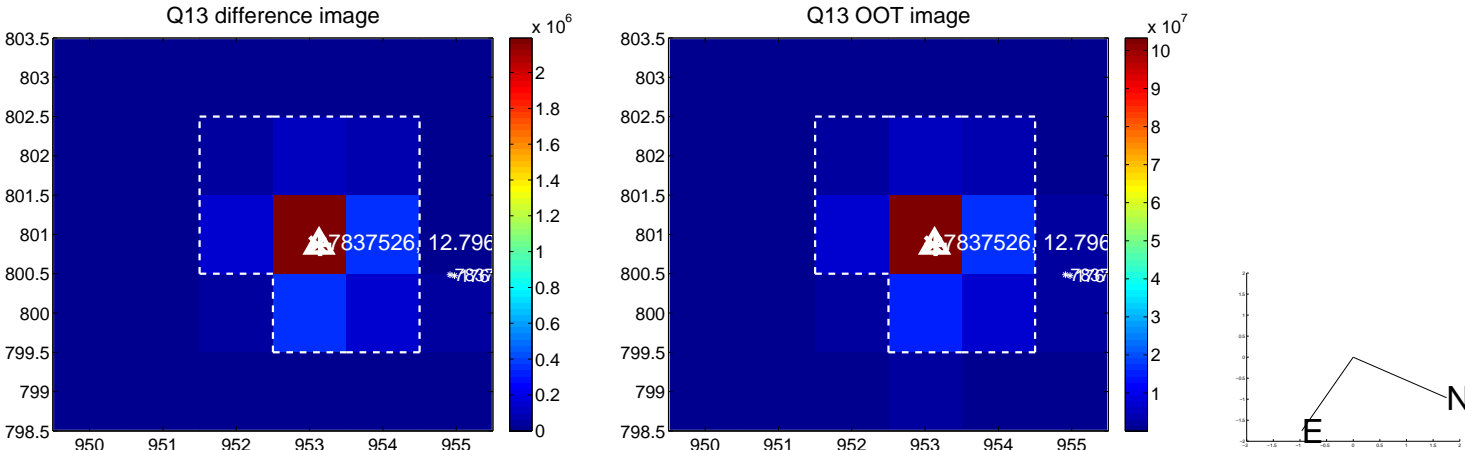
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



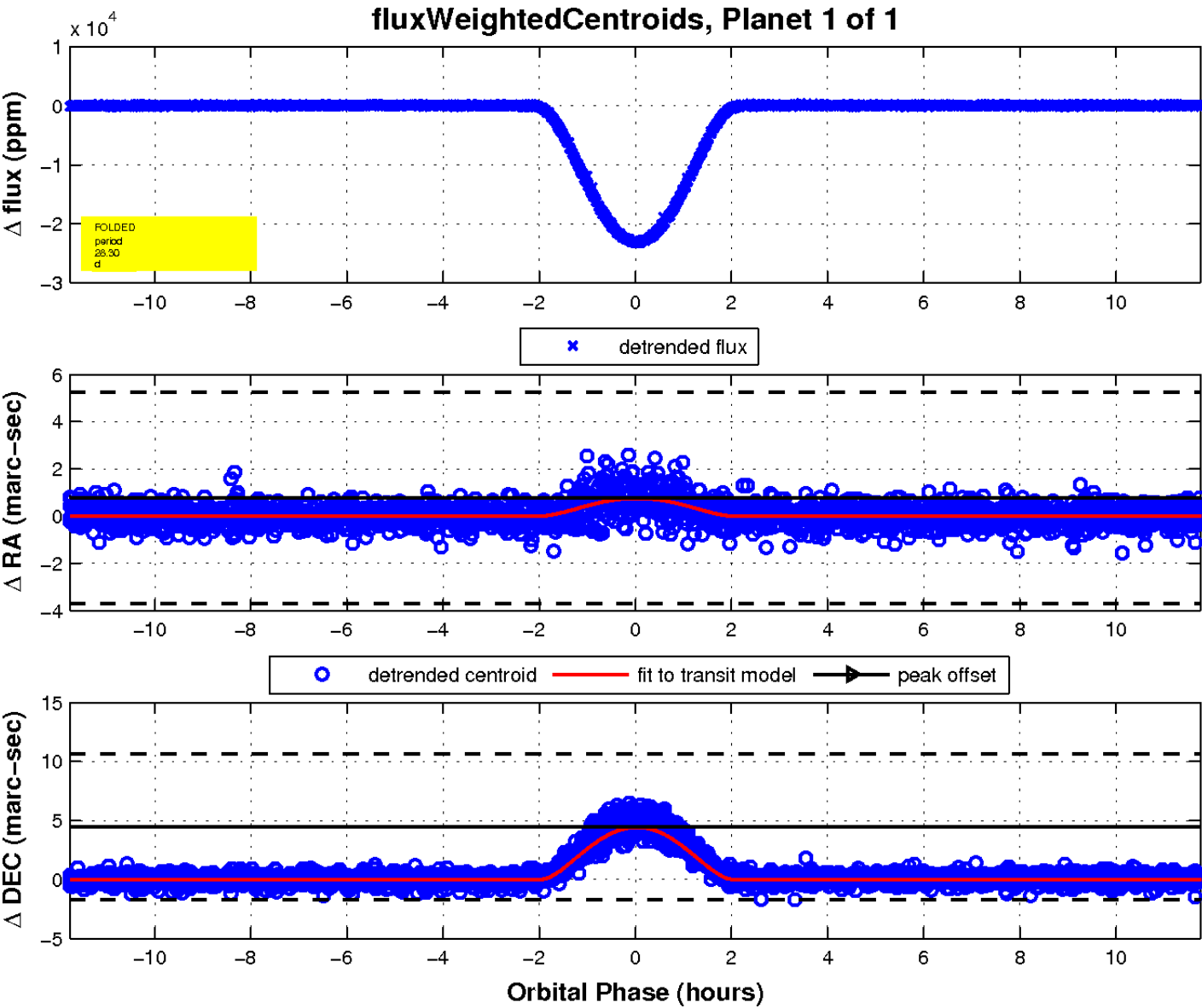
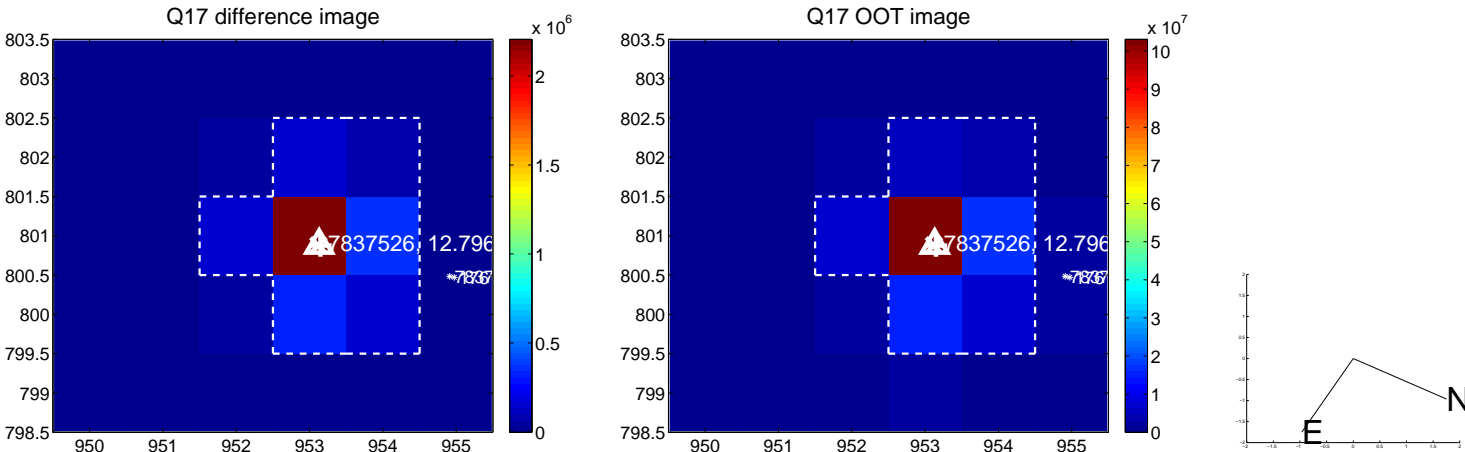
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

