

KIC 007009828

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})
007009828-01	OBS	6802.01	5.321228	135.124373	75254.9	7.827	4677.6	2767.3	0.76	5787	29.65	199.44

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007009828-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—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.

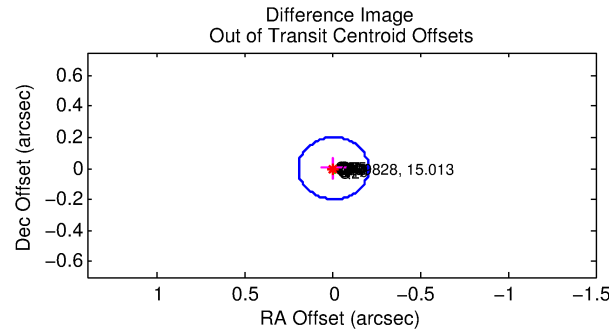
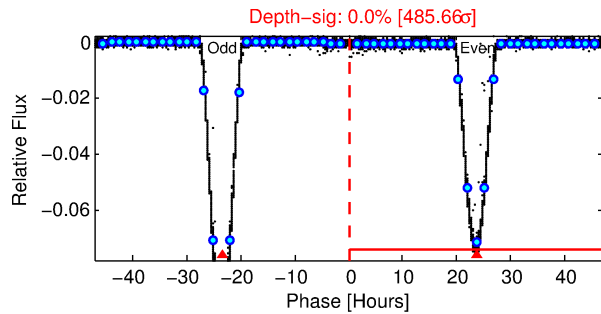
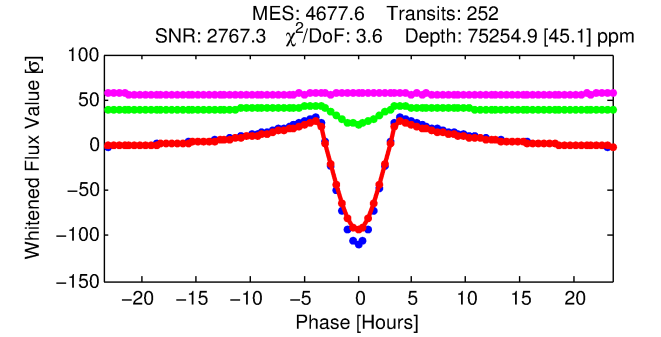
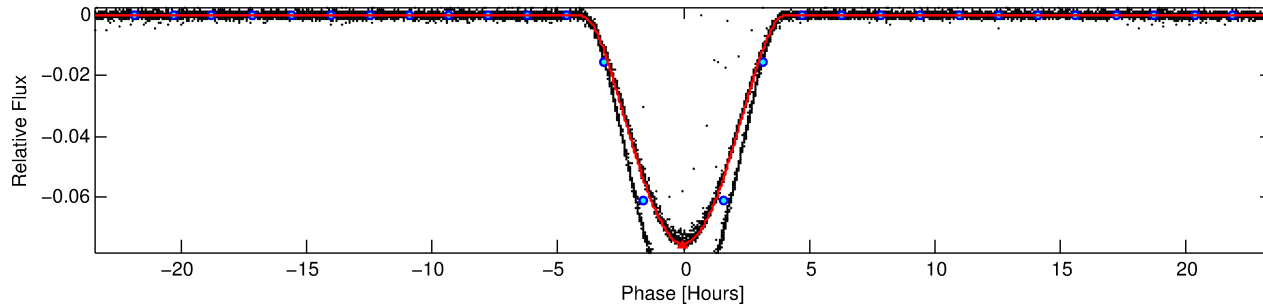
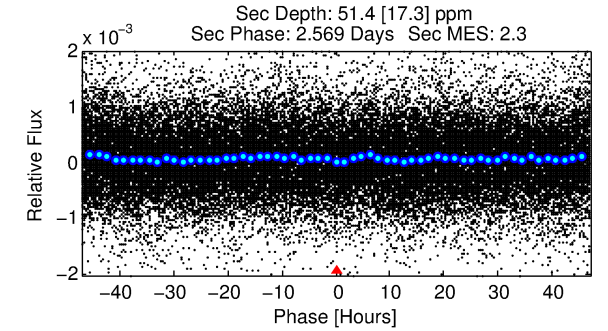
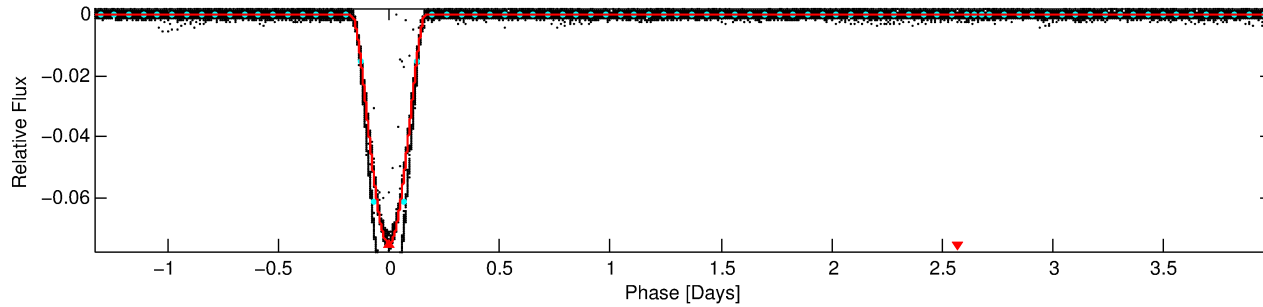
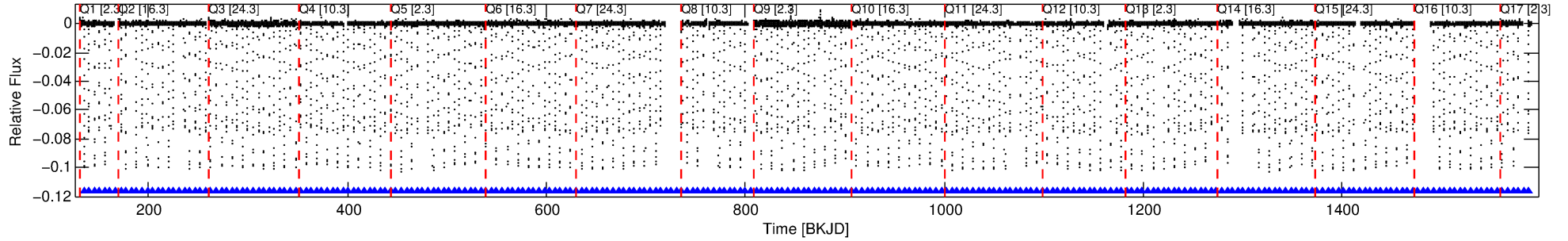
Ephemeris Match Information For 007009828-01

No Significant Match Found

DV One-Page Summary

KIC: 7009828 Candidate: 1 of 1 Period: 5.321 d
KOI: K06802.01 Corr: 0.997

Kp: 15.01 R*: 0.76 Rs Teff: 5787.0 K Logg: 4.54 Fe/H: -0.880



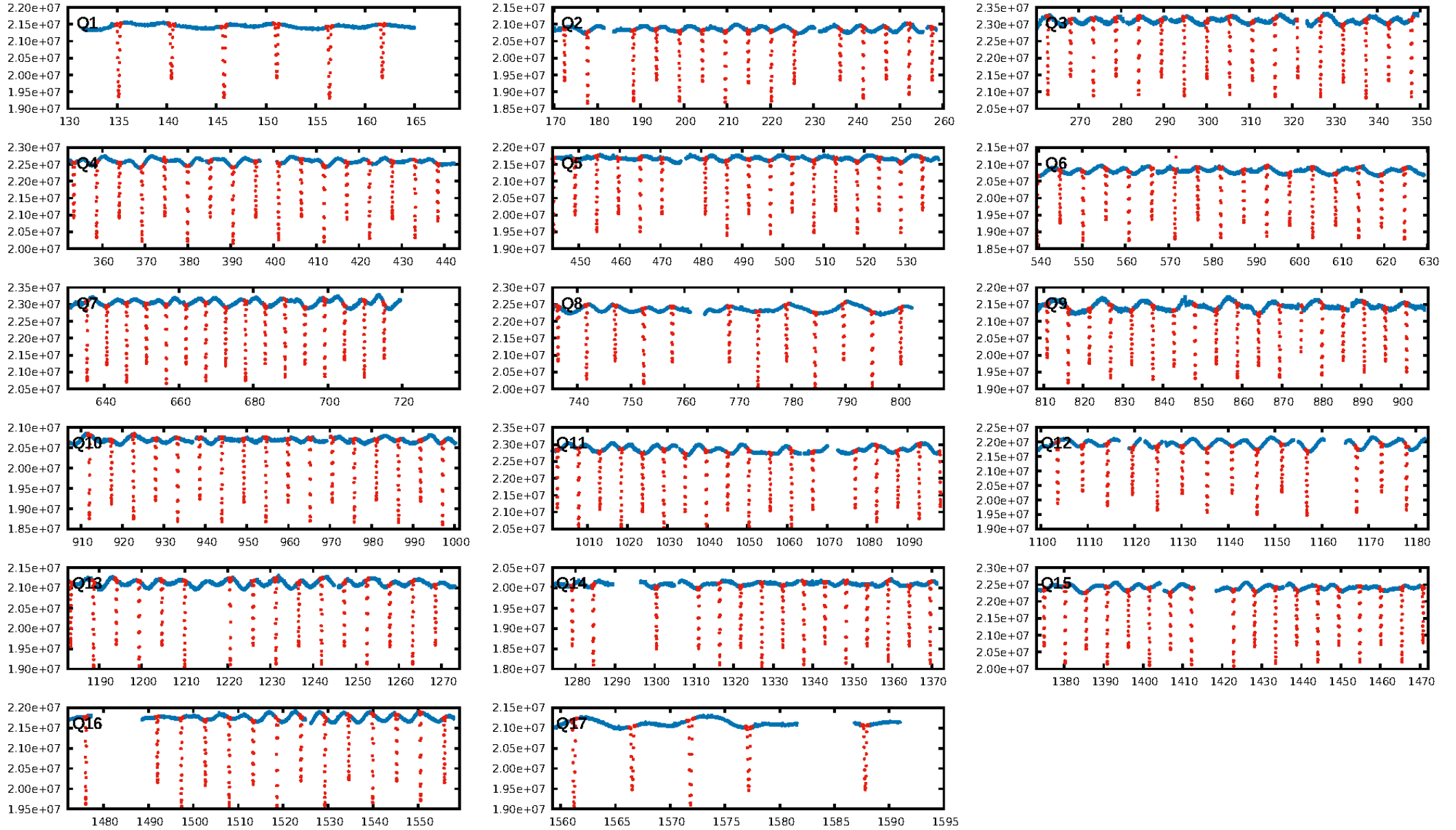
DV Fit Results:

Period = 5.32123 [0.00000] d
Epoch = 135.1244 [0.0001] BKJD
Rp/R* = 0.3584 [0.0073]
a/R* = 5.38 [0.00]
b = 0.90 [0.01]
Seff = 199.44 [48.20]
Teff = 958 [58] K
Rp = 29.65 [5.20] Re
a = 0.0538 [0.0078] AU
Ag = 0.09 [0.04] [-24.47σ]
Teffp = 818 [73] K [-1.50σ]

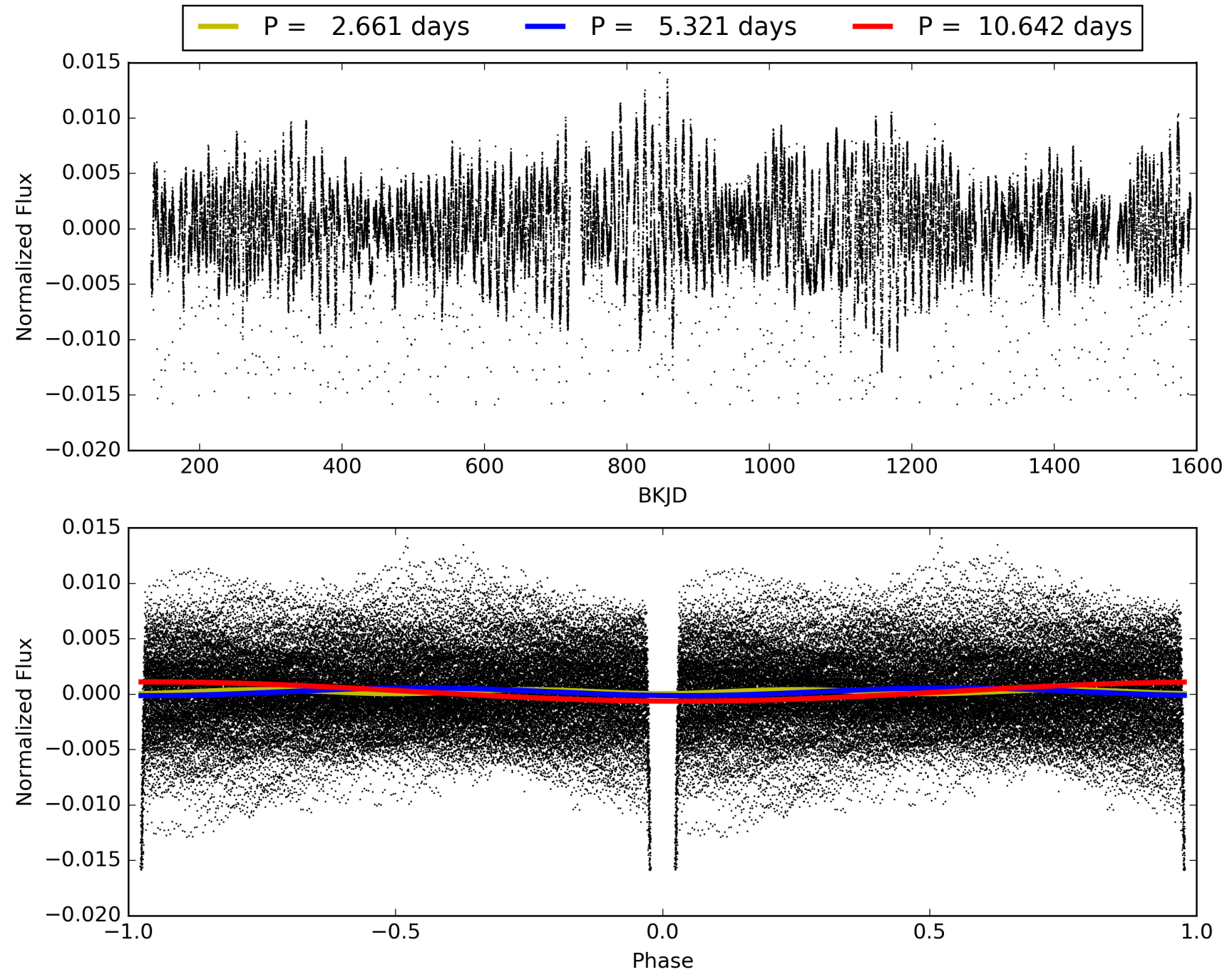
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [241/241]
GhostDiagnostic-chr: 2.038
Centroid-sig: 6.0%
Centroid-so: 0.472 arcsec [213.22σ]
OotOffset-rm: 0.005 arcsec [0.08σ]
KicOffset-rm: 0.104 arcsec [1.54σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007009828-01, PDC Light Curves

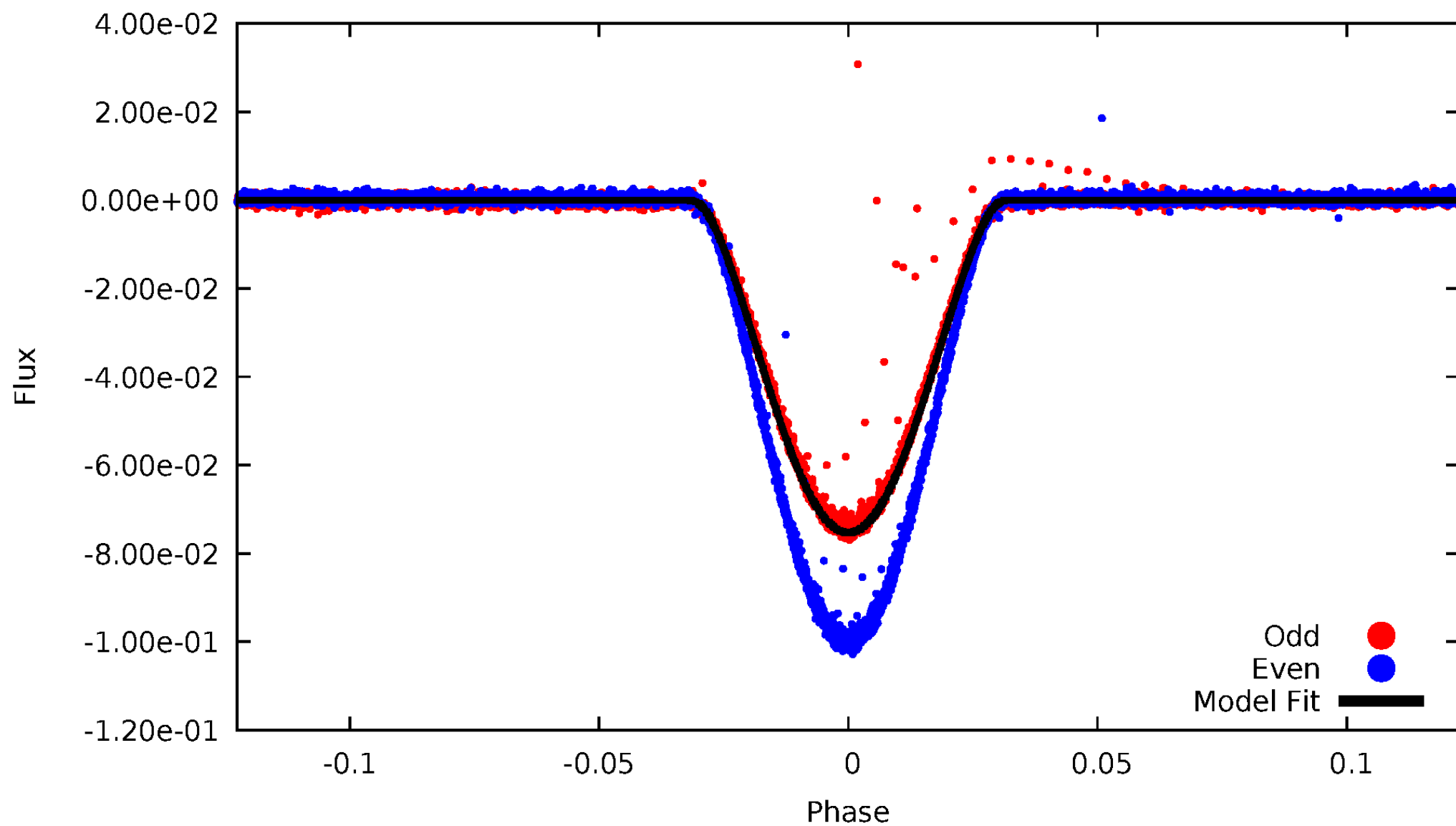


TCE 007009828-01



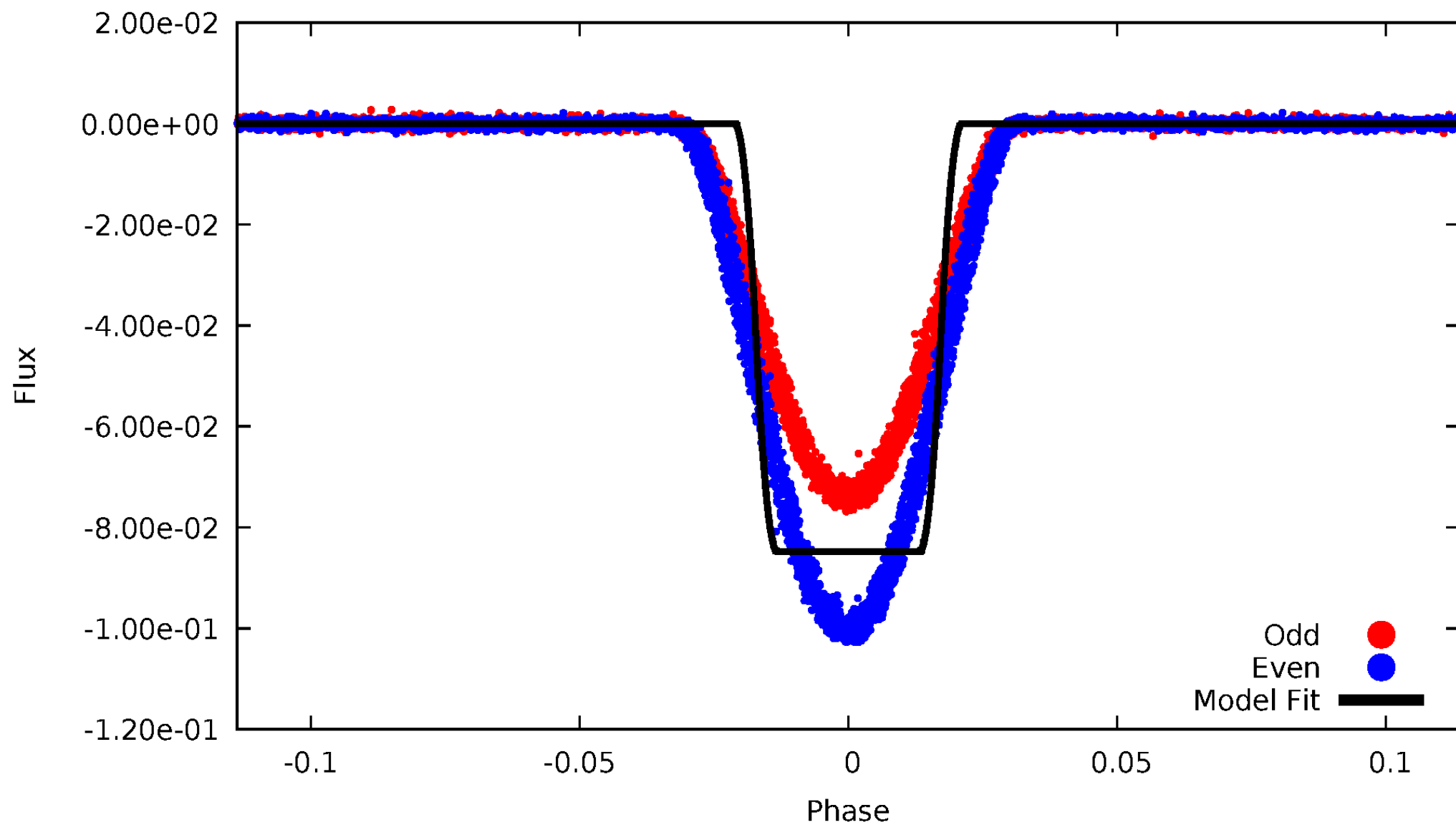
DV Odd/Even

TCE 007009828-01



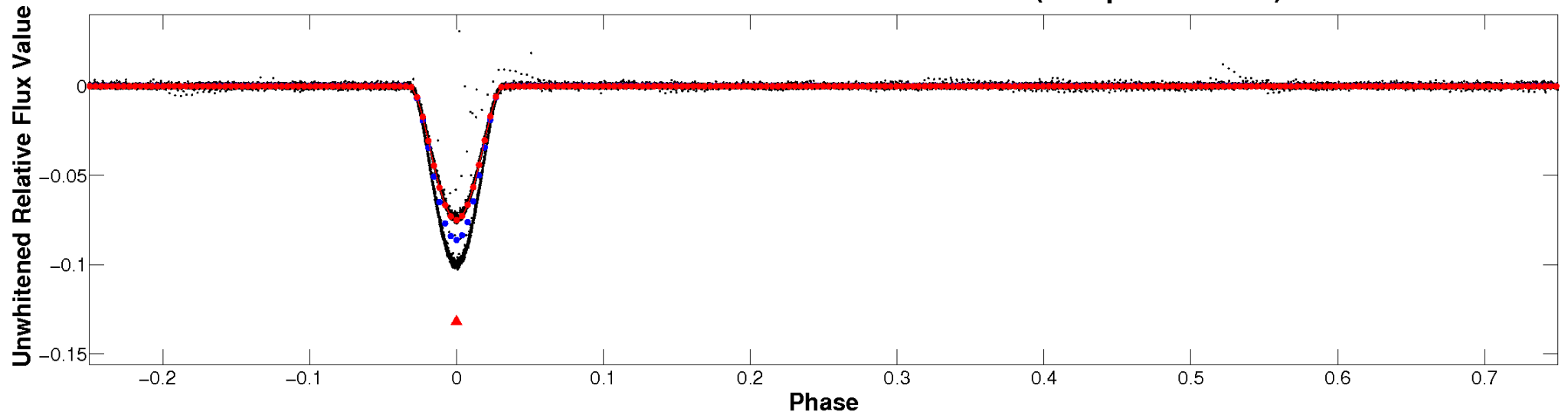
ALT Odd/Even

TCE 007009828-01

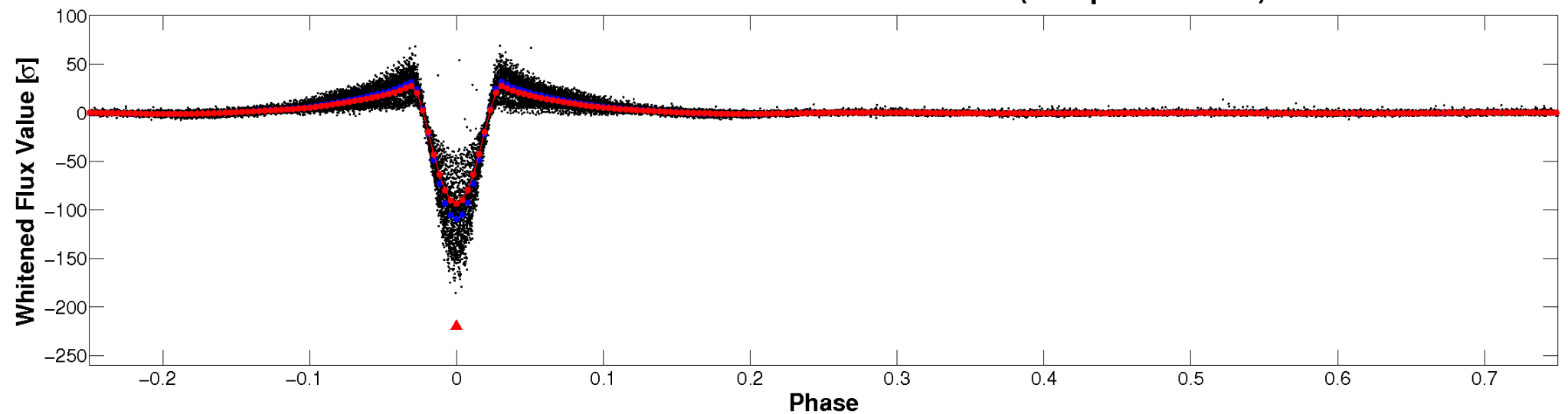


Non-Whitened Vs. Whitened Light Curve

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

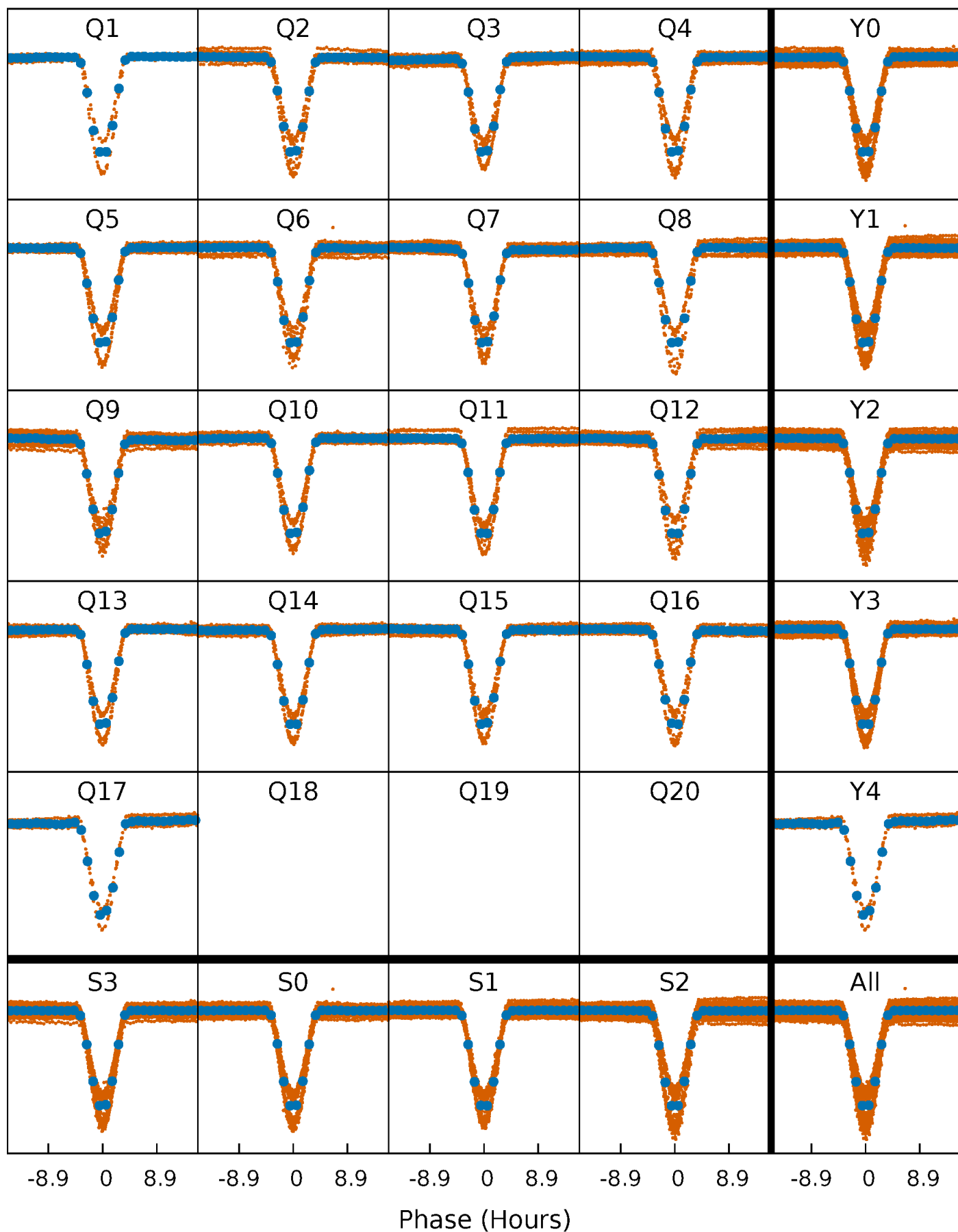


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



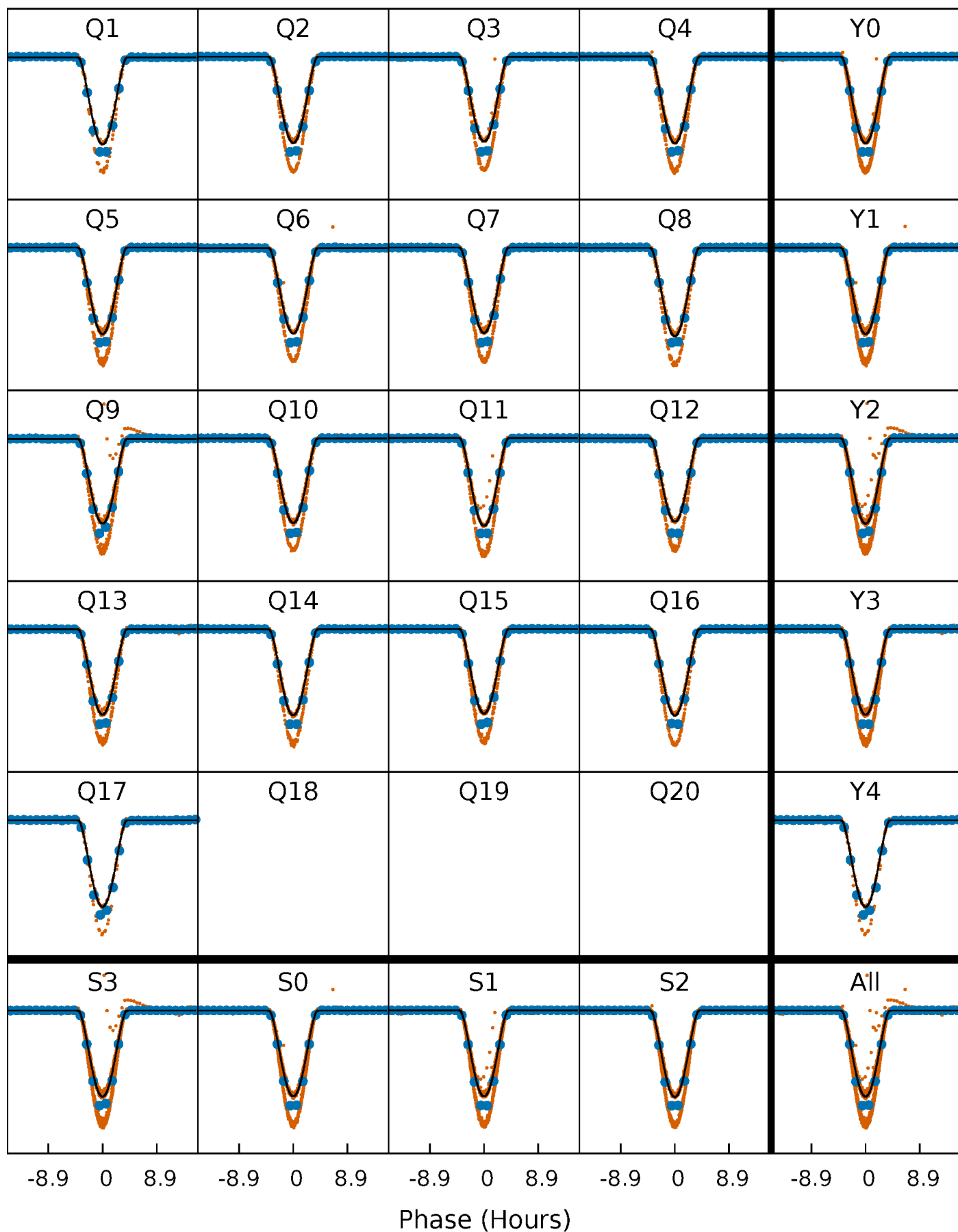
PDC Quarter-Phased Transit Curves

TCE 007009828-01 P= 5.321228 Days $T_0=135.124373$ (BKJD)



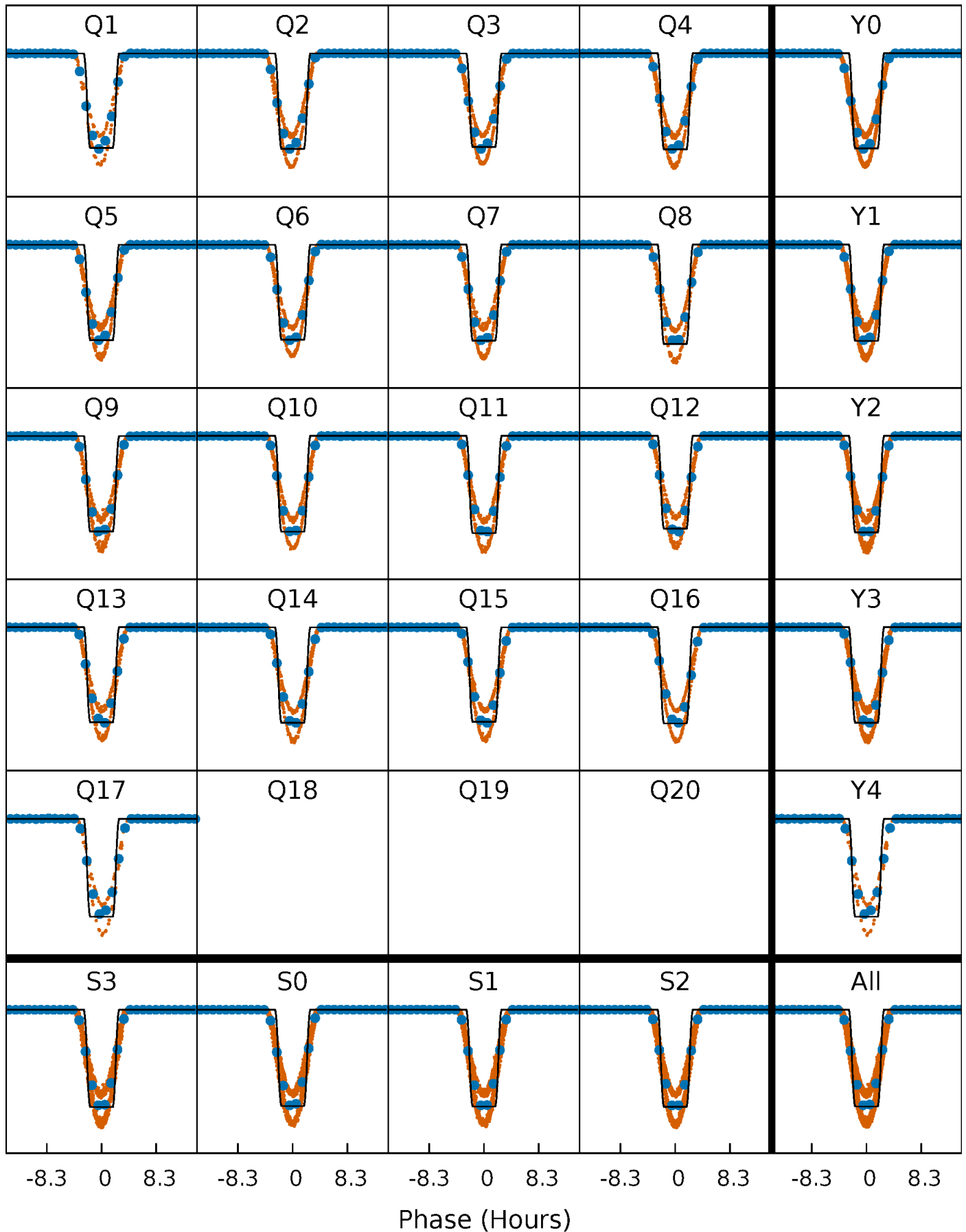
DV Quarter-Phased Transit Curves

TCE 007009828-01 P= 5.321228 Days $T_0=135.124373$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

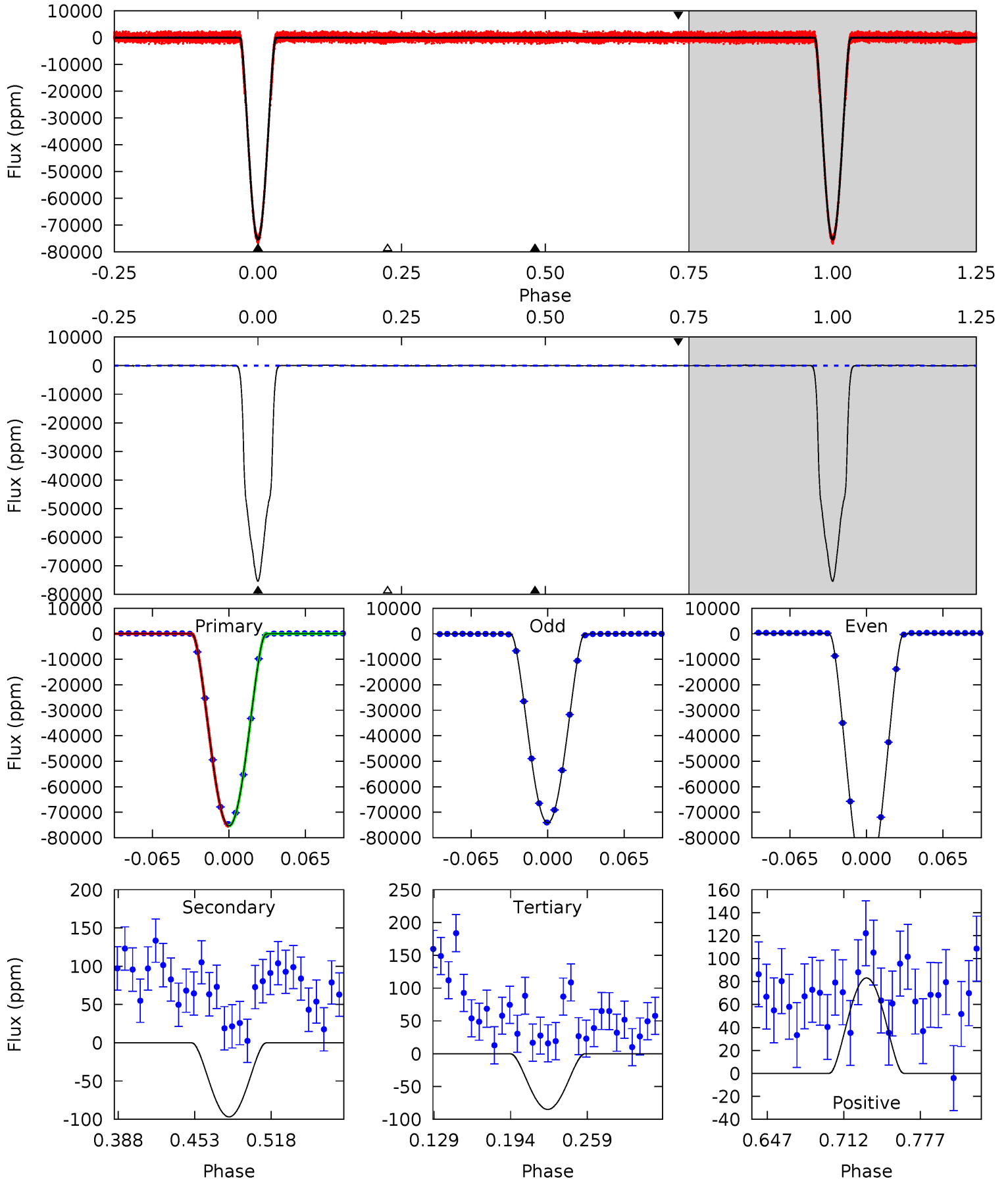
TCE 007009828-01 P= 5.321158 Days $T_0=135.134285$ (BKJD)



DV Model-Shift Uniqueness Test

007009828-01, P = 5.321228 Days, E = 129.803145 Days

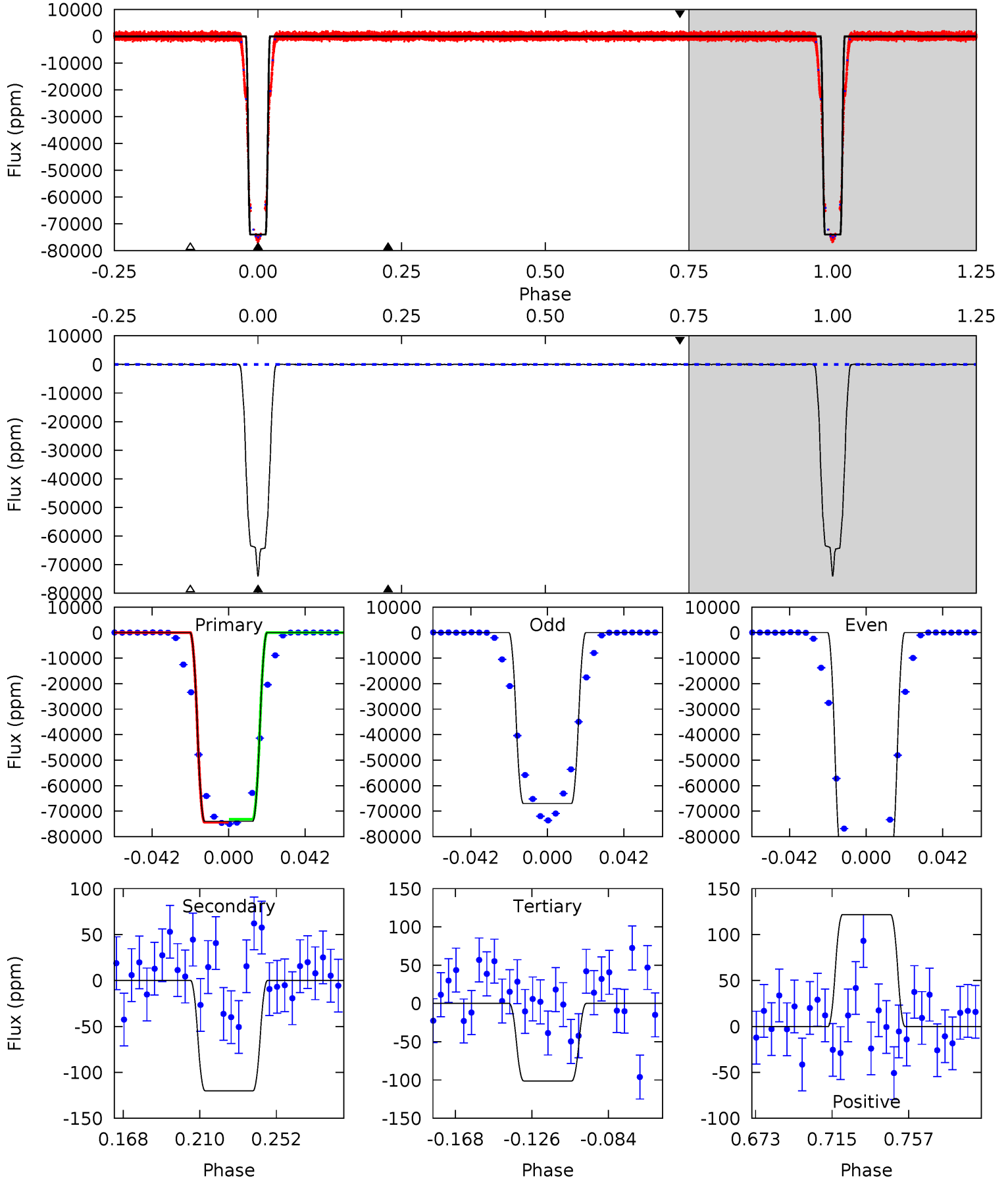
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5485	7.05	6.18	6.05	4.66	1.85	3.74	5479	5479	0.86	1.00	1406	1.13	0.00	0



Alt Model-Shift Uniqueness Test

007009828-01, P = 5.321158 Days, E = 129.813127 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2580	4.19	3.53	4.24	4.74	2.03	1.29	2577	2576	0.66	-0.06	860.9	1.13	0.00	0



Stellar Parameters For KIC 007009828

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5787^{+173}_{-173}	$4.544^{+0.085}_{-0.114}$	$-0.880^{+0.350}_{-0.300}$	$0.758^{+0.132}_{-0.071}$	$0.734^{+0.080}_{-0.037}$	$2.370^{+0.767}_{-0.817}$
	+3%/-3%	+2%/-3%	+40%/-34%	+17%/-9%	+11%/-5%	+32%/-34%
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 007009828-01 / KOI 6802.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-97 ± 14	$29.87^{+2.98}_{-2.01}$	1342^{+74}_{-55}	-1905^{+84}_{-80}	$0.174^{+0.038}_{-0.036}$
Alt.	-120 ± 29	$24.24^{+2.25}_{-1.62}$	1344^{+64}_{-59}	1632^{+266}_{-3430}	$0.324^{+0.103}_{-0.086}$

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

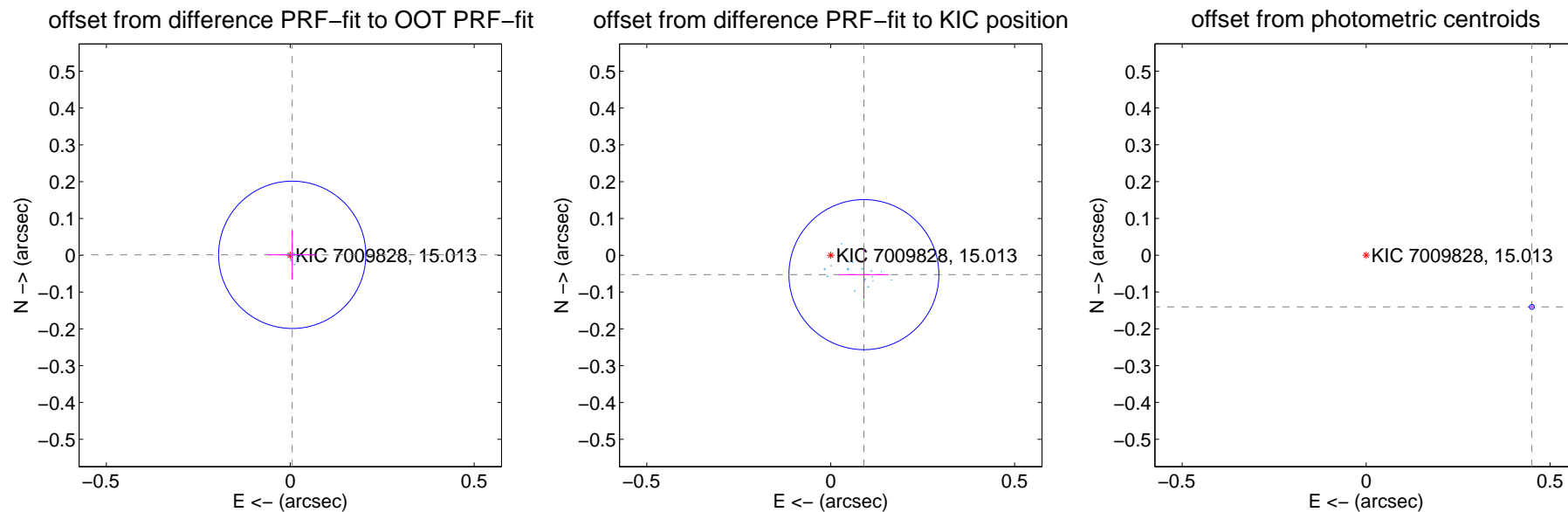
DV Centroid Data

Supplemental centroid analysis for 007009828-01. Kepler magnitude: 15.01. Transit SNR 2767.26

There are 17 quarters with good PRF difference image offsets

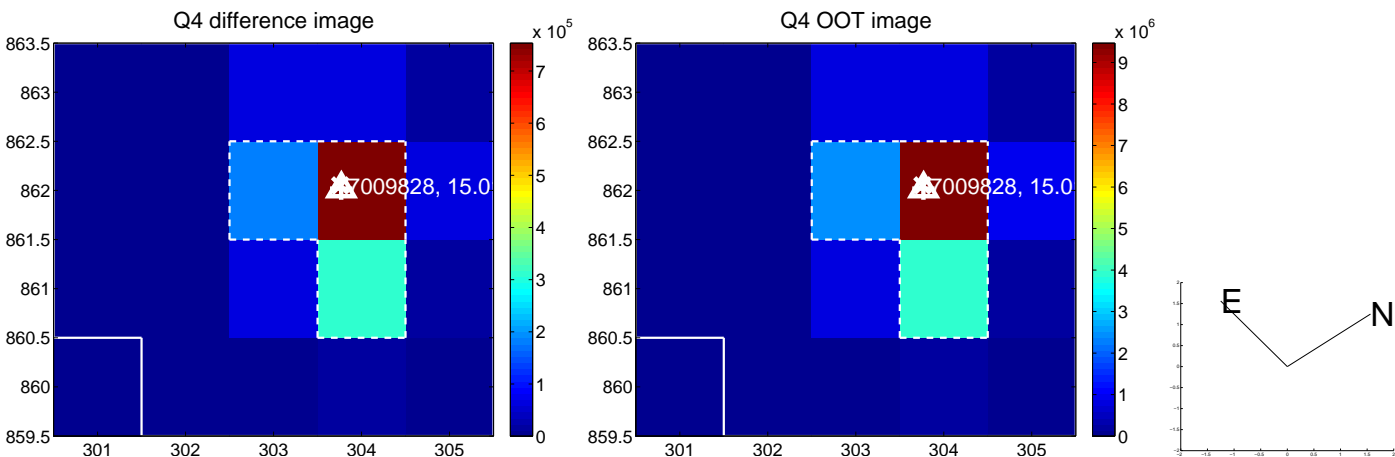
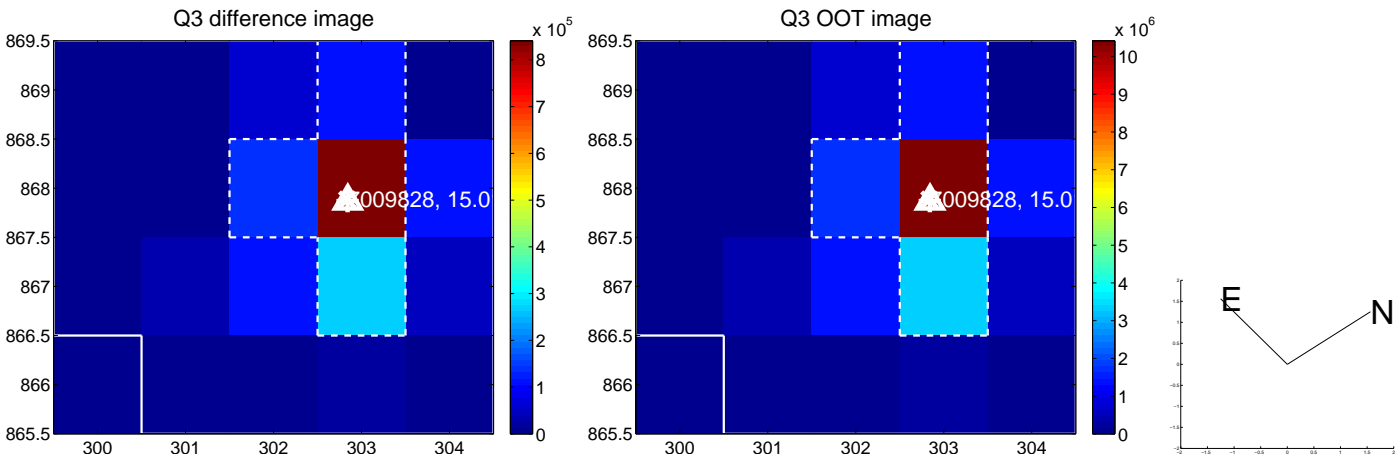
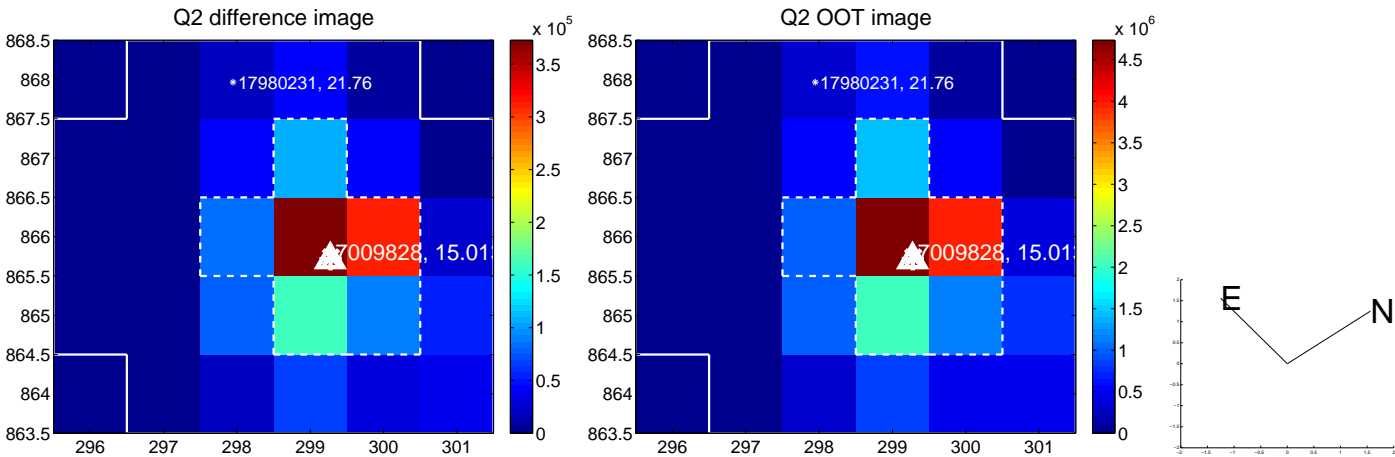
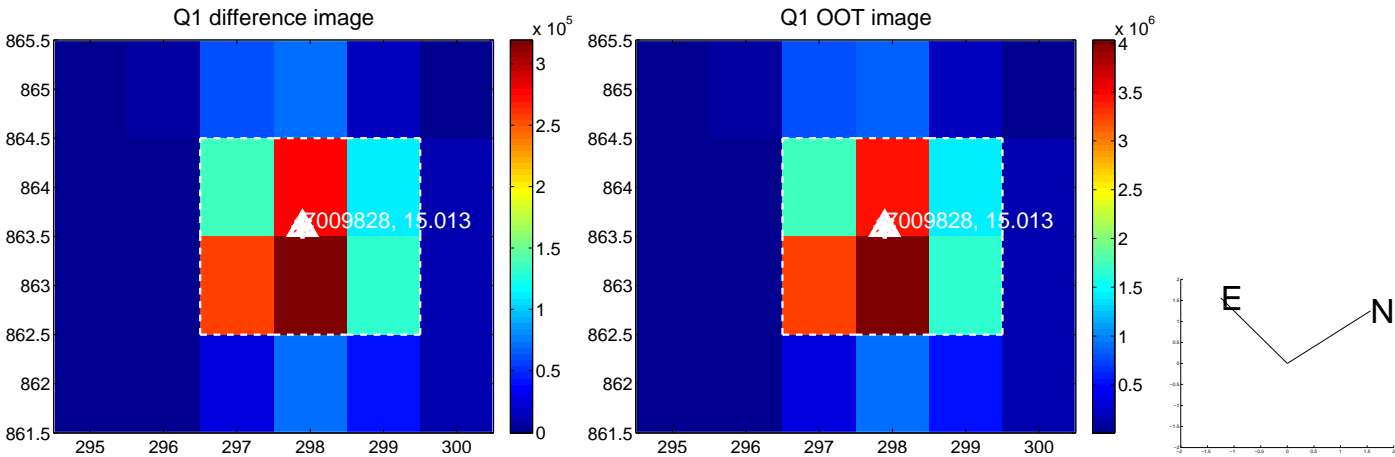
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.005 ± 0.067	0.08	-0.005 ± 0.067	0.001 ± 0.067
PRF-fit source offset from KIC position	0.104 ± 0.068	1.54	-0.090 ± 0.068	-0.053 ± 0.067
photometric centroid source offset	0.47 ± 0.00	213.22	-0.45 ± 0.00	-0.14 ± 0.00

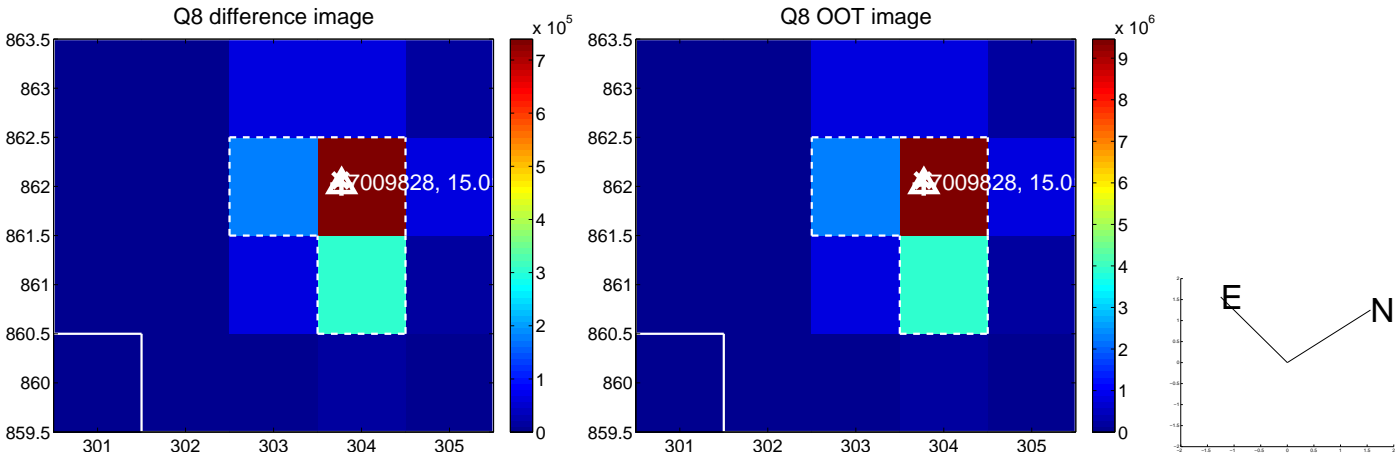
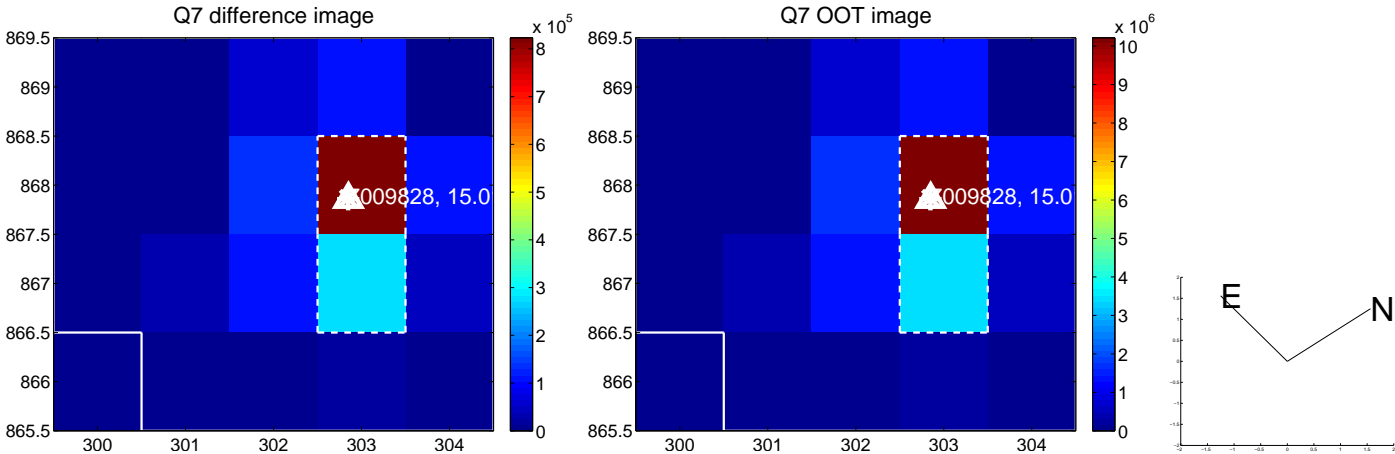
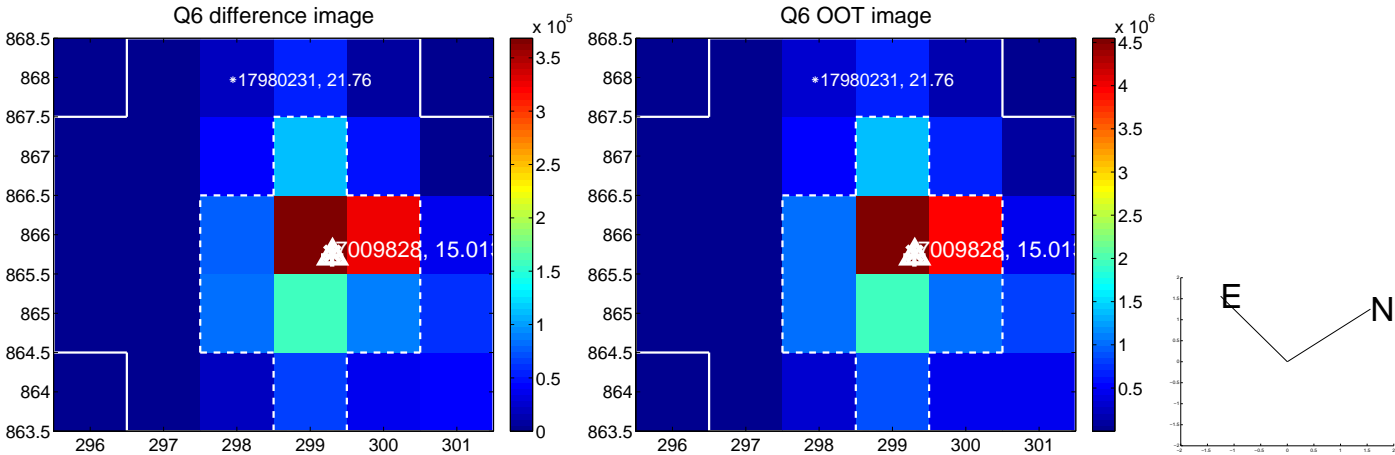
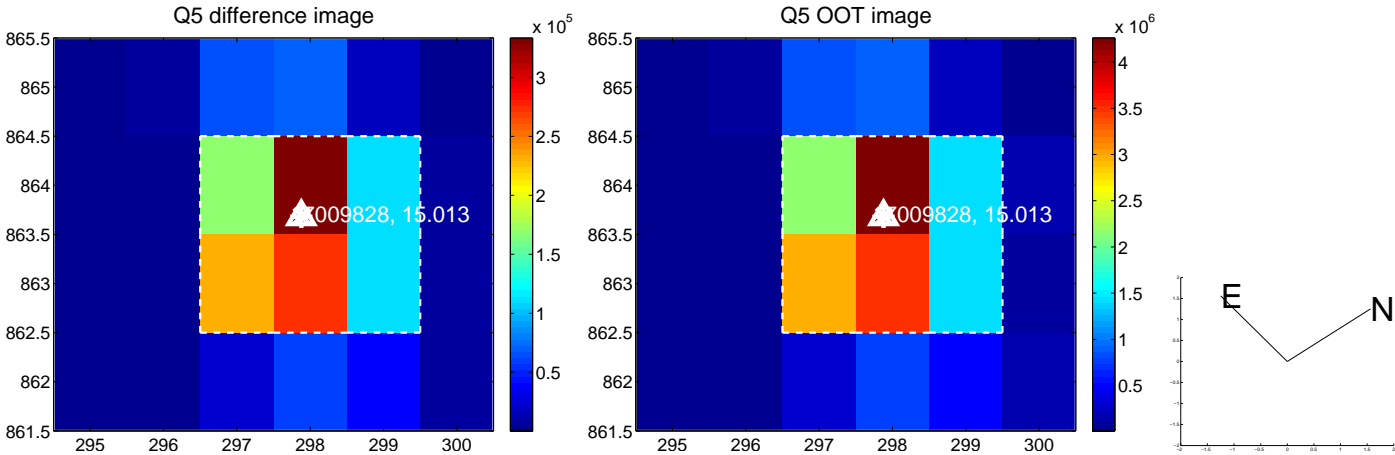


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

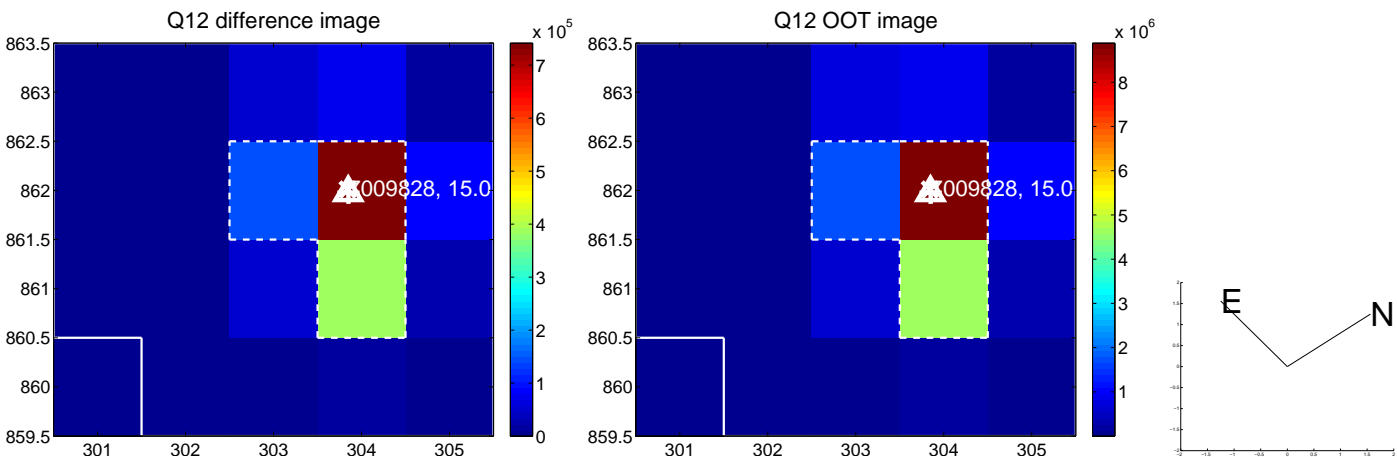
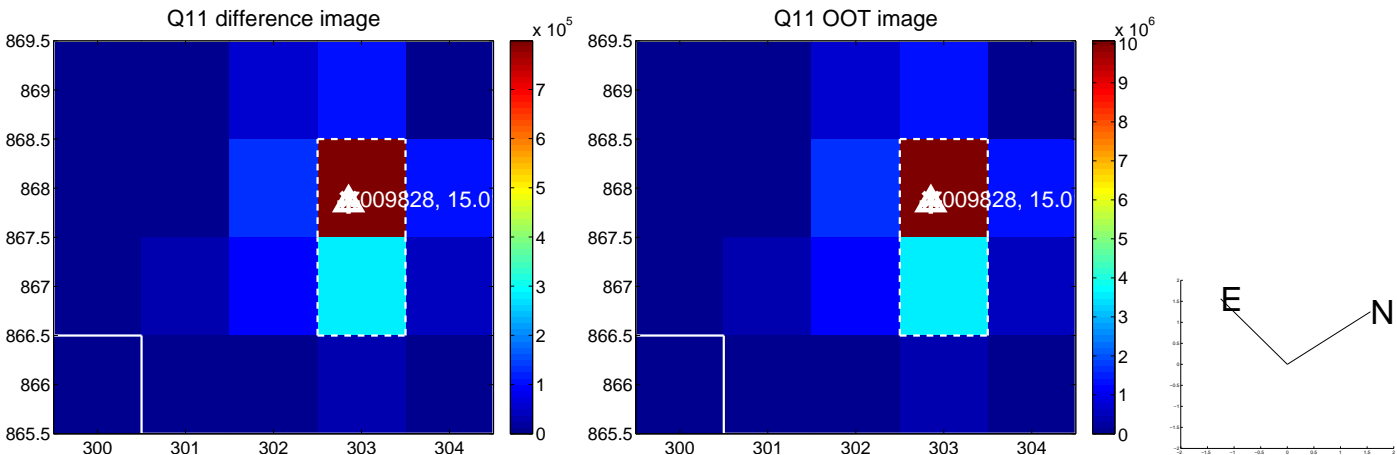
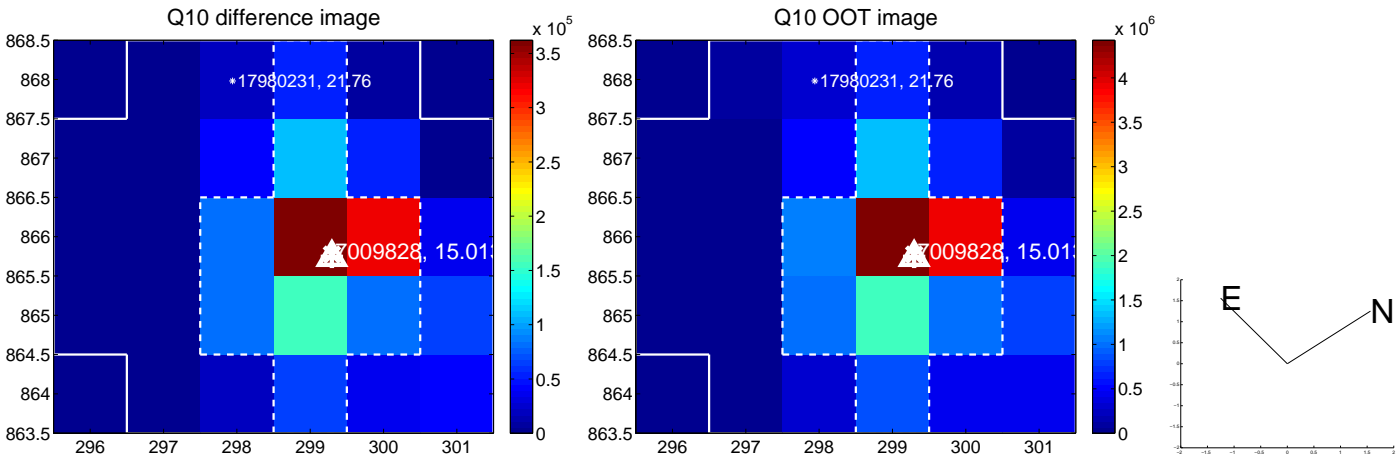
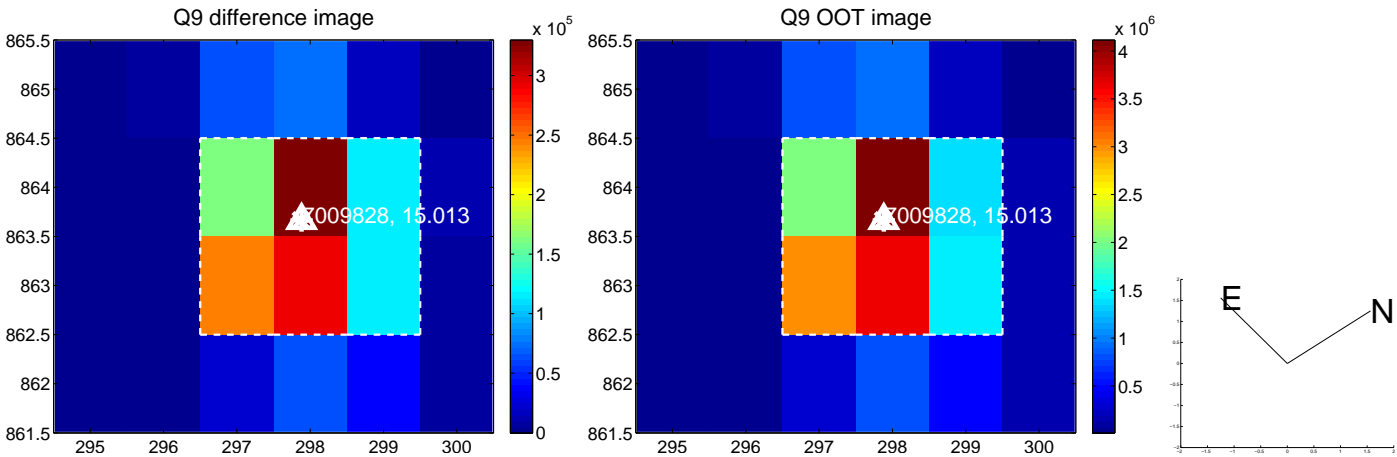
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



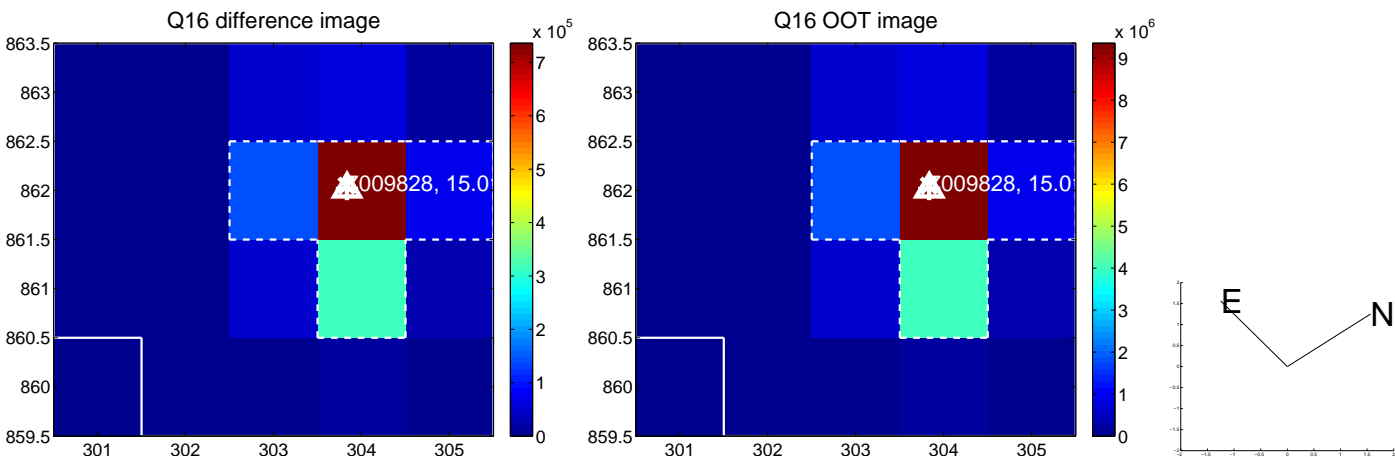
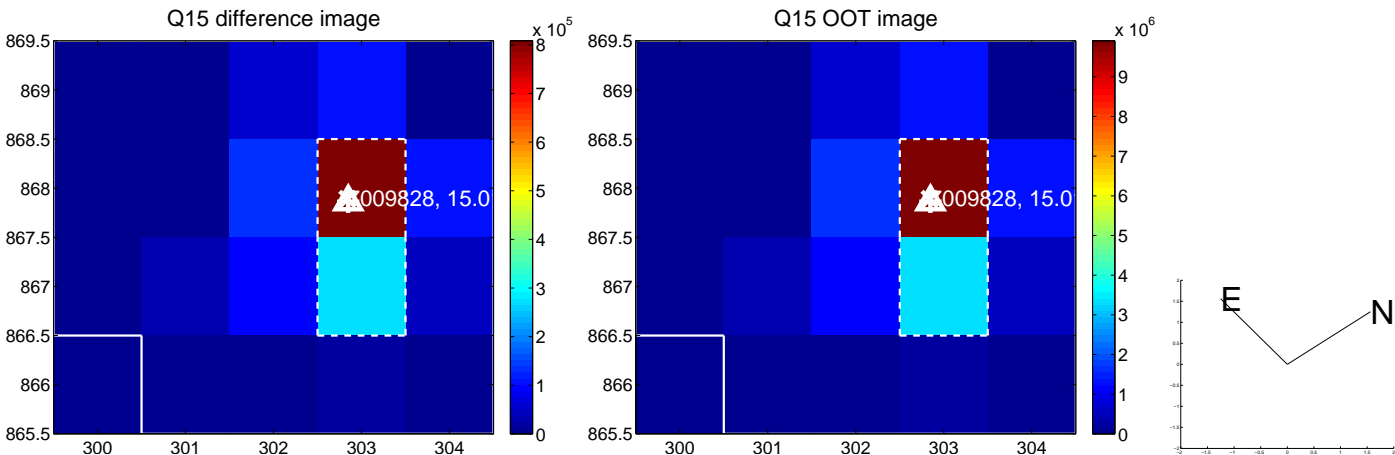
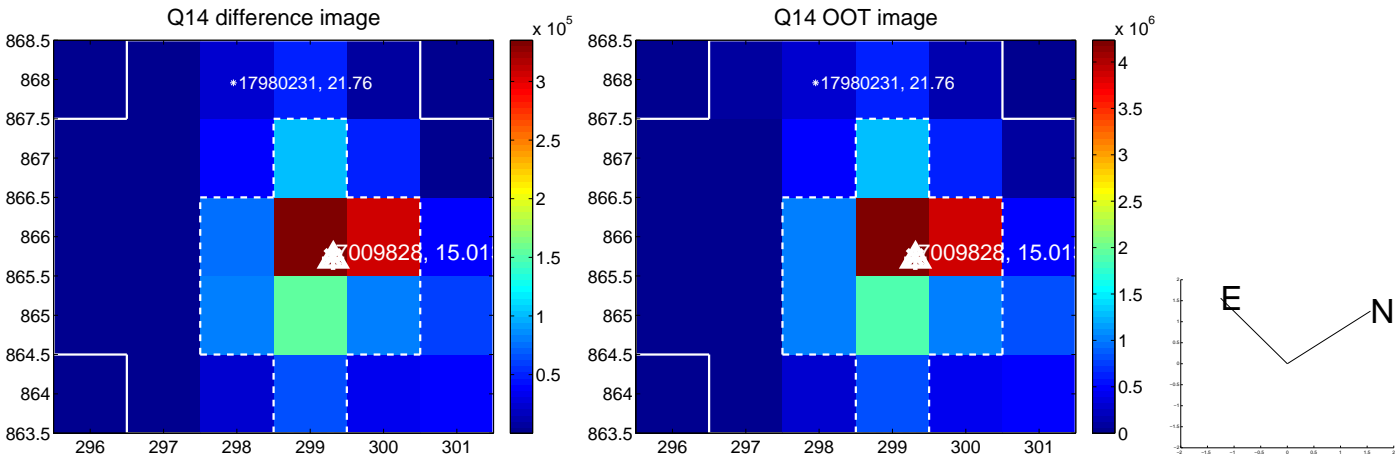
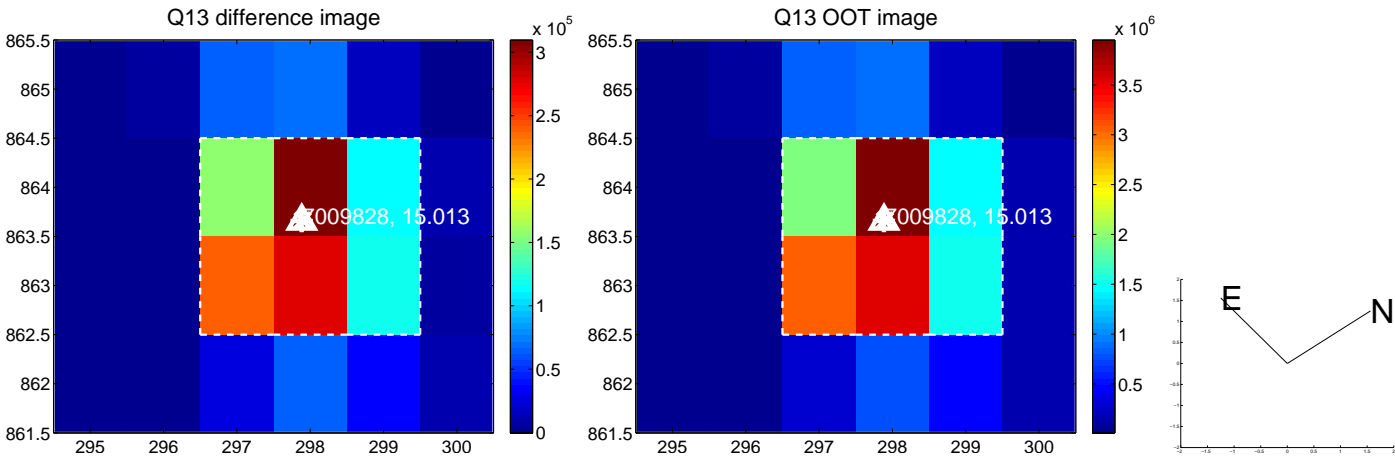
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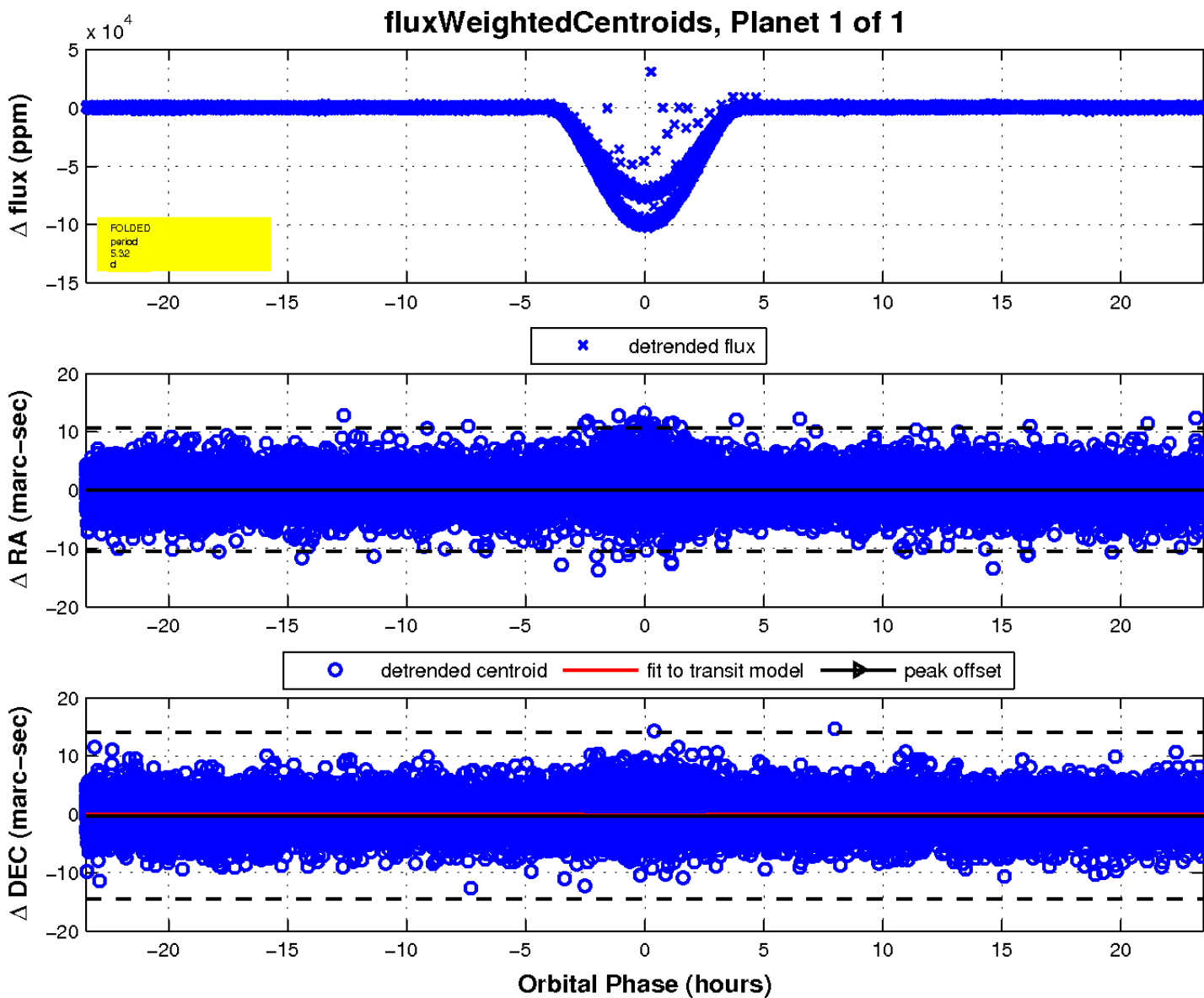
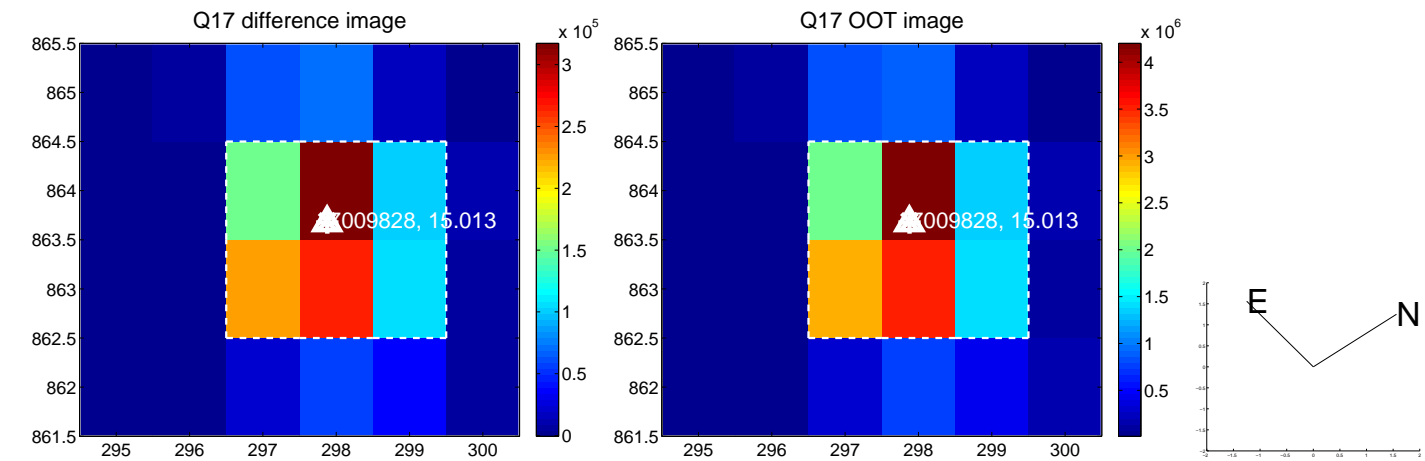
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UKIRT Image

Declination

