

KIC 004282872

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})
004282872-01	OBS	1325.01	10.035370	137.472192	2850.7	3.534	139.0	136.7	0.83	5813	4.74	90.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004282872-01	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.

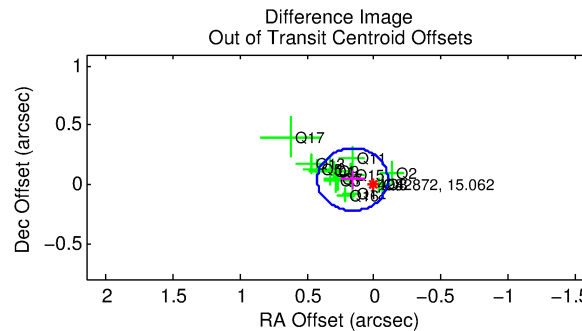
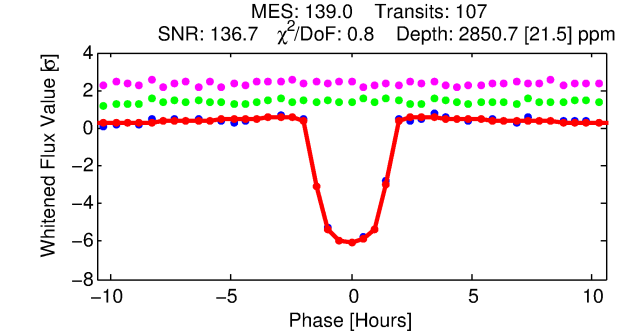
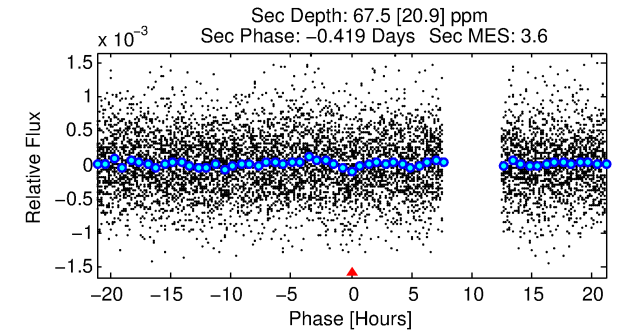
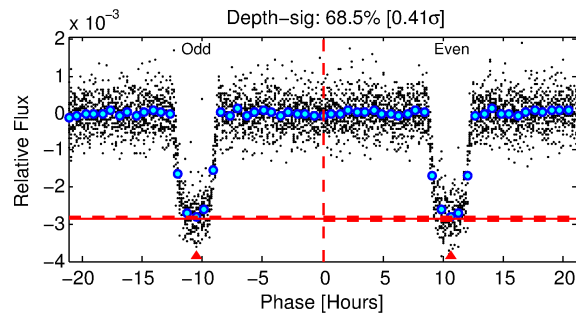
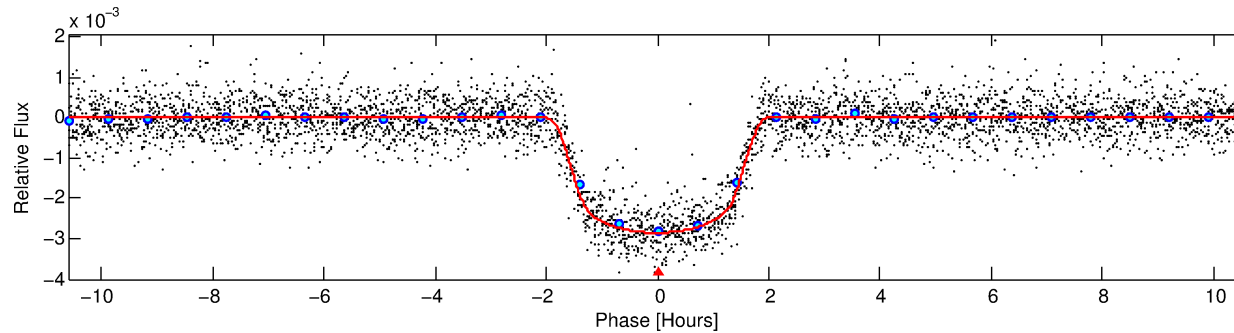
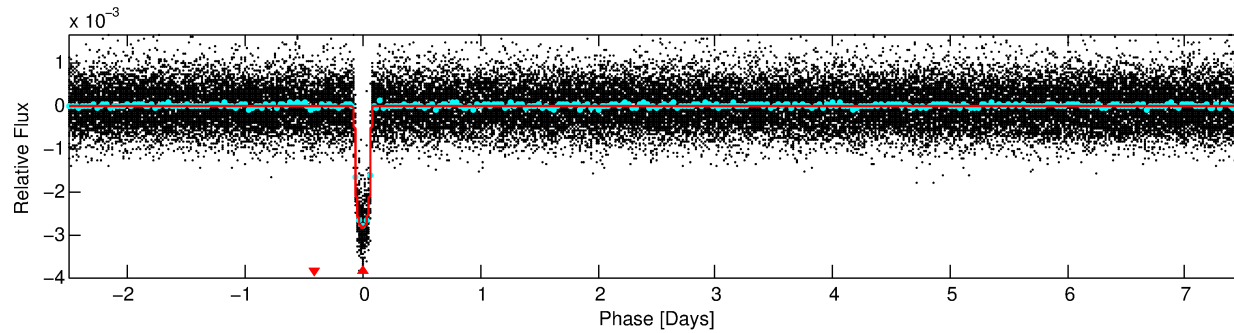
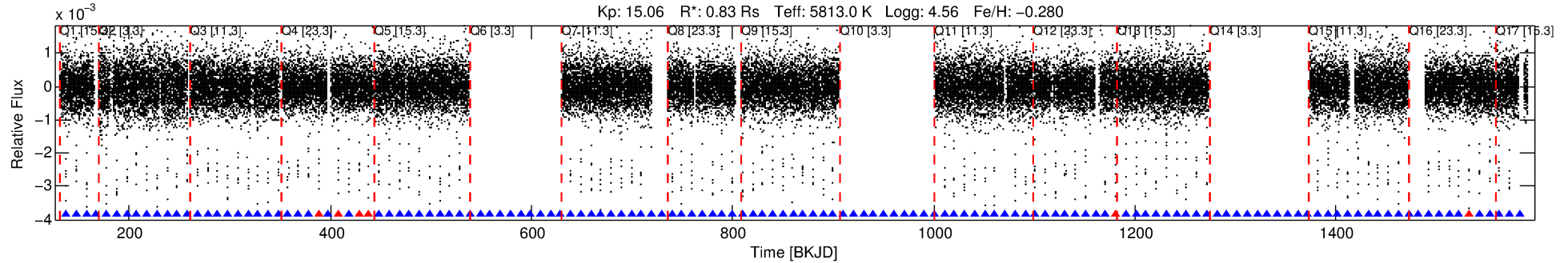
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004282872-01

No Significant Match Found

DV One-Page Summary

KIC: 4282872 Candidate: 1 of 1 Period: 10.035 d
KOI: K01325.01 Corr: 0.984



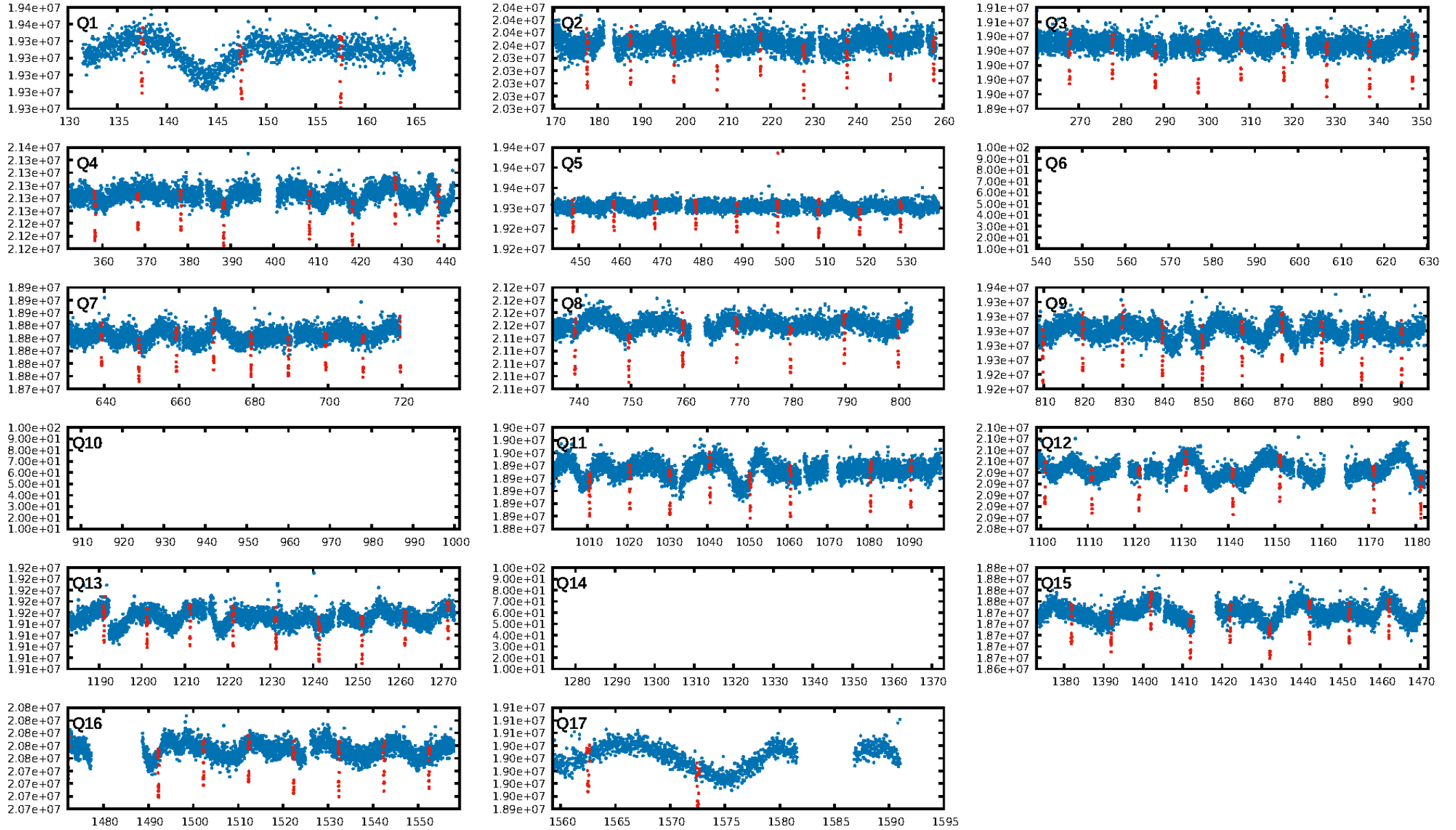
DV Fit Results:

Period = 10.03537 [0.00001] d
Epoch = 137.4722 [0.0005] BKJD
Rp/R* = 0.0521 [0.0017]
a/R* = 17.34 [2.52]
b = 0.69 [0.11]
Seff = 90.41 [29.97]
Teq = 786 [65] K
Rp = 4.73 [1.22] Re
a = 0.0886 [0.0189] AU
Ag = 13.01 [5.76] [2.09 σ]
Teffp = 2309 [195] K [7.39 σ]

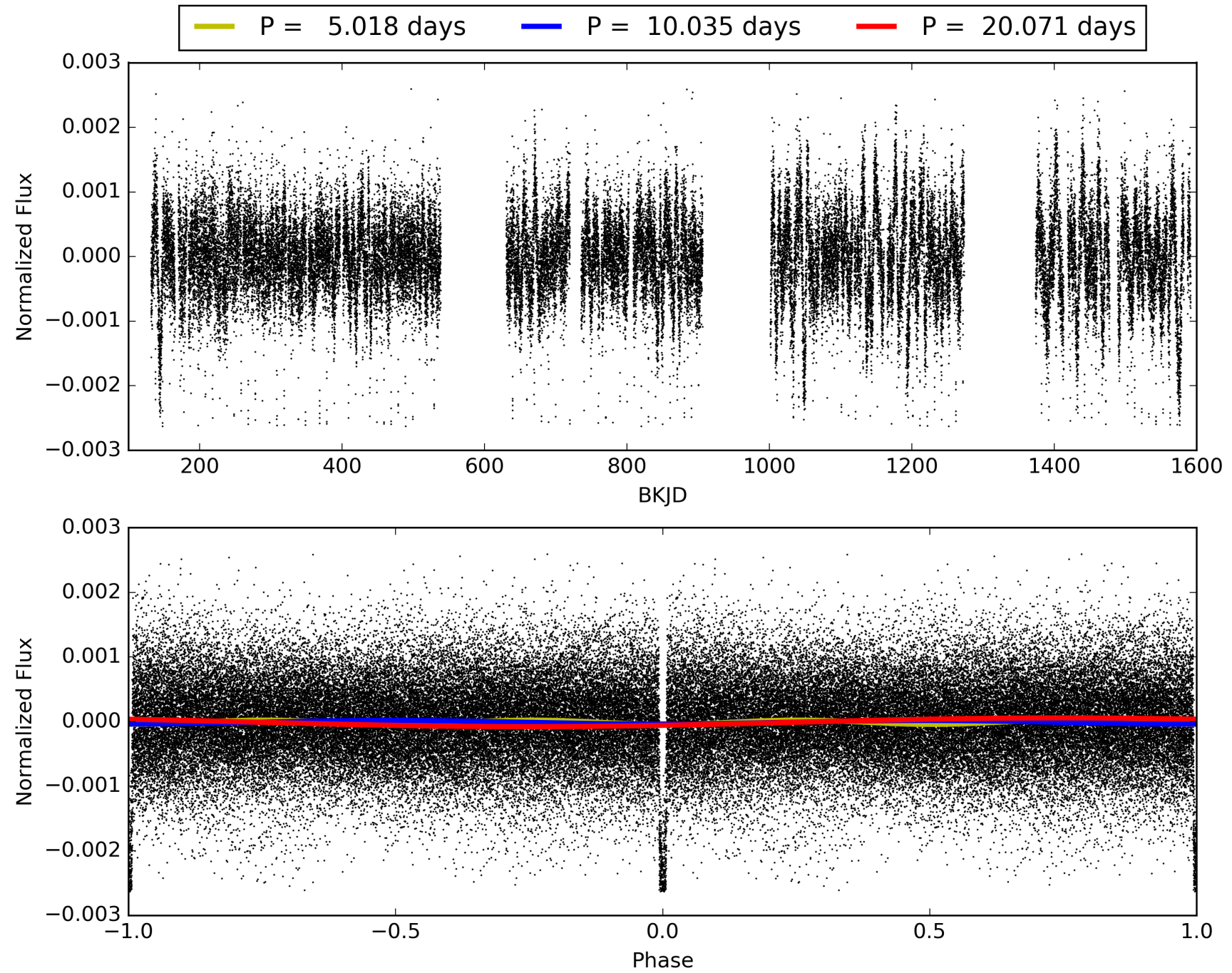
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.94 [96/102]
GhostDiagnostic-chr: 6.527
Centroid-sig: 0.0%
Centroid-so: 0.344 arcsec [3.43 σ]
OotOffset-rm: 0.165 arcsec [1.89 σ]
KicOffset-rm: 0.130 arcsec [1.70 σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 004282872-01, PDC Light Curves

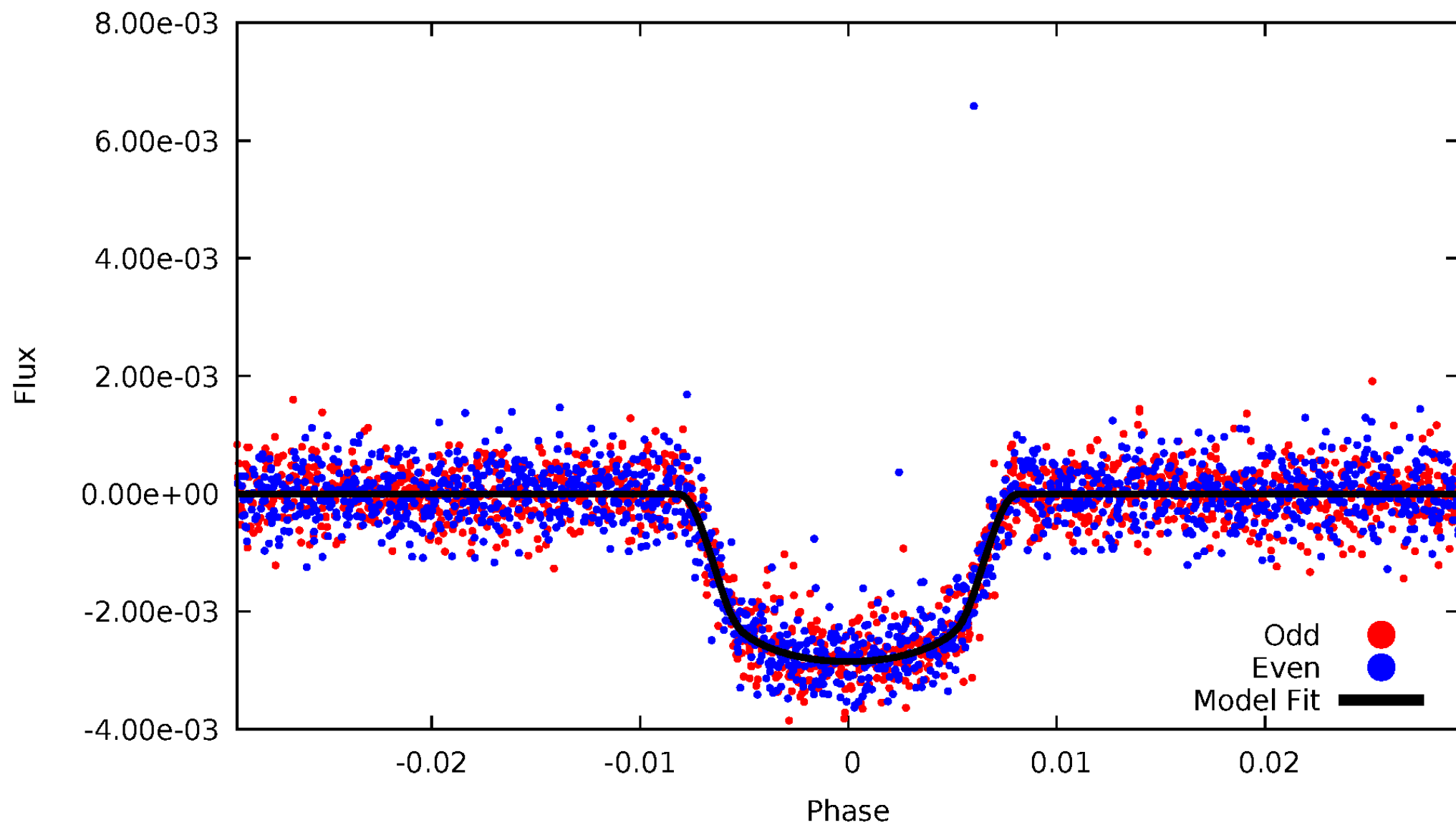


TCE 004282872-01



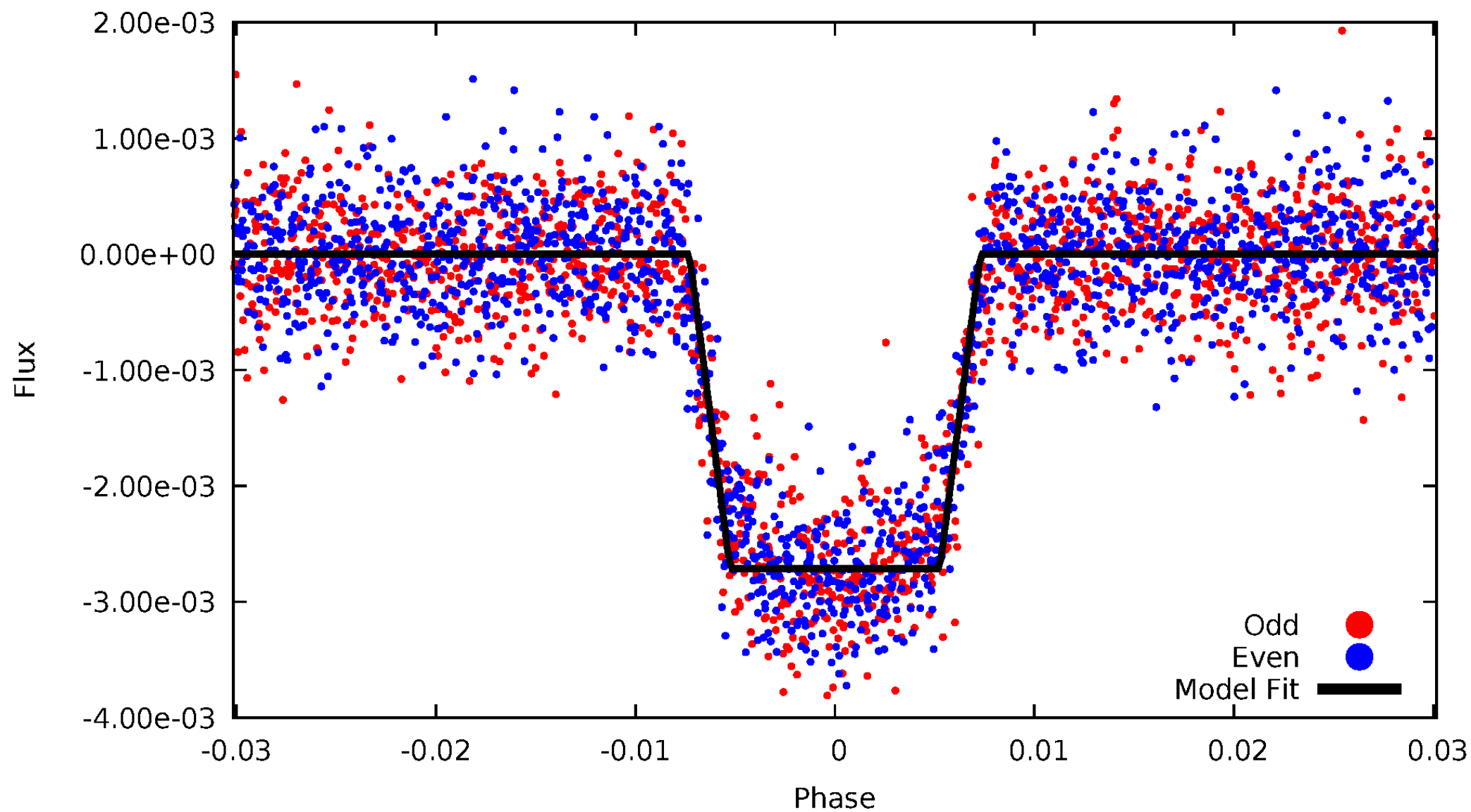
DV Odd/Even

TCE 004282872-01



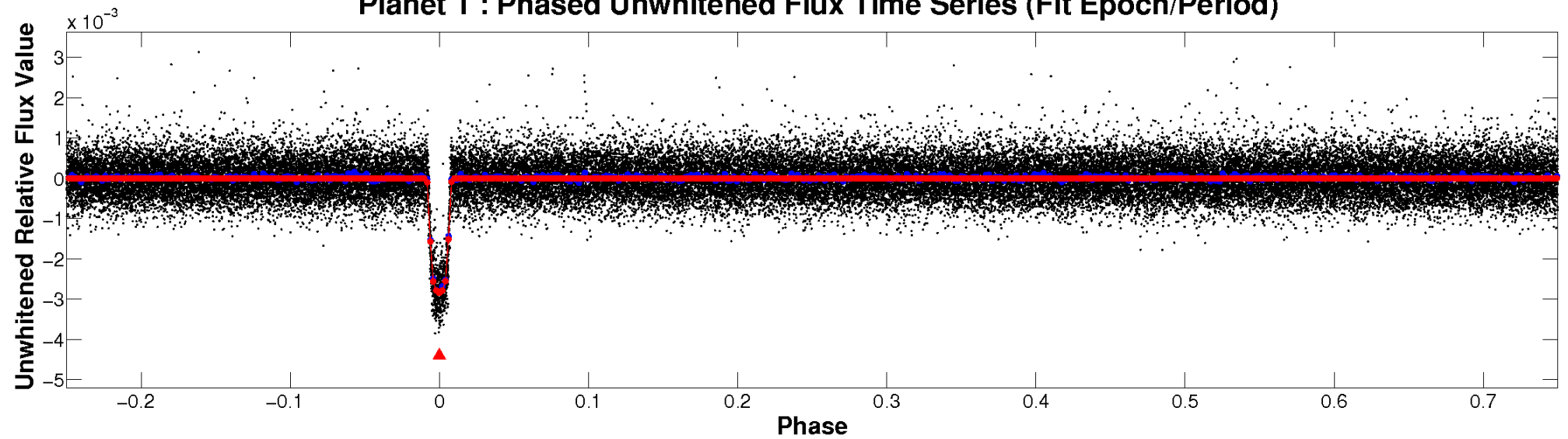
ALT Odd/Even

TCE 004282872-01

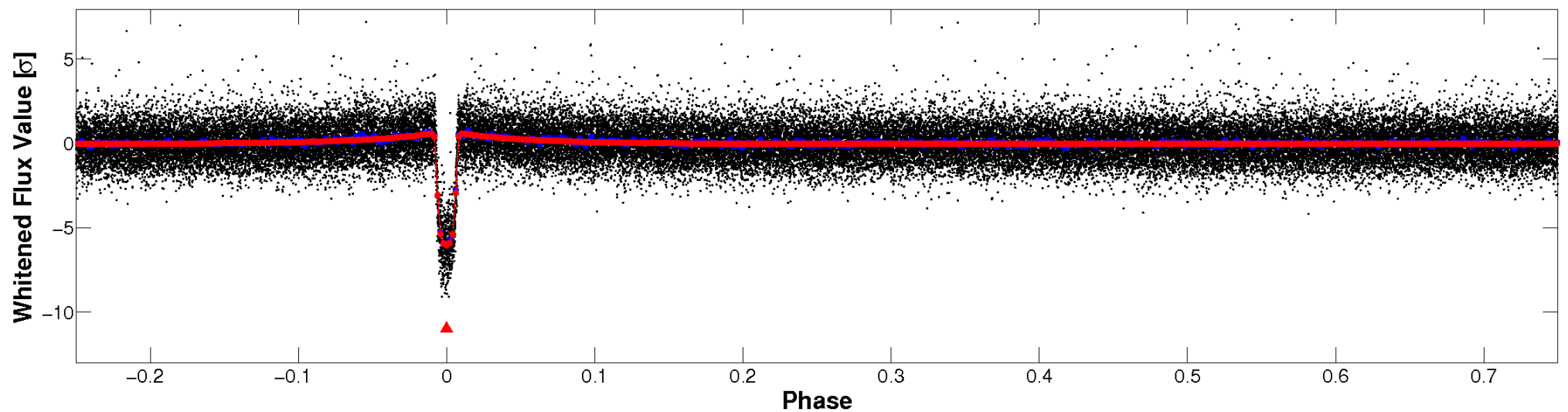


Non-Whitened Vs. Whitened Light Curve

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

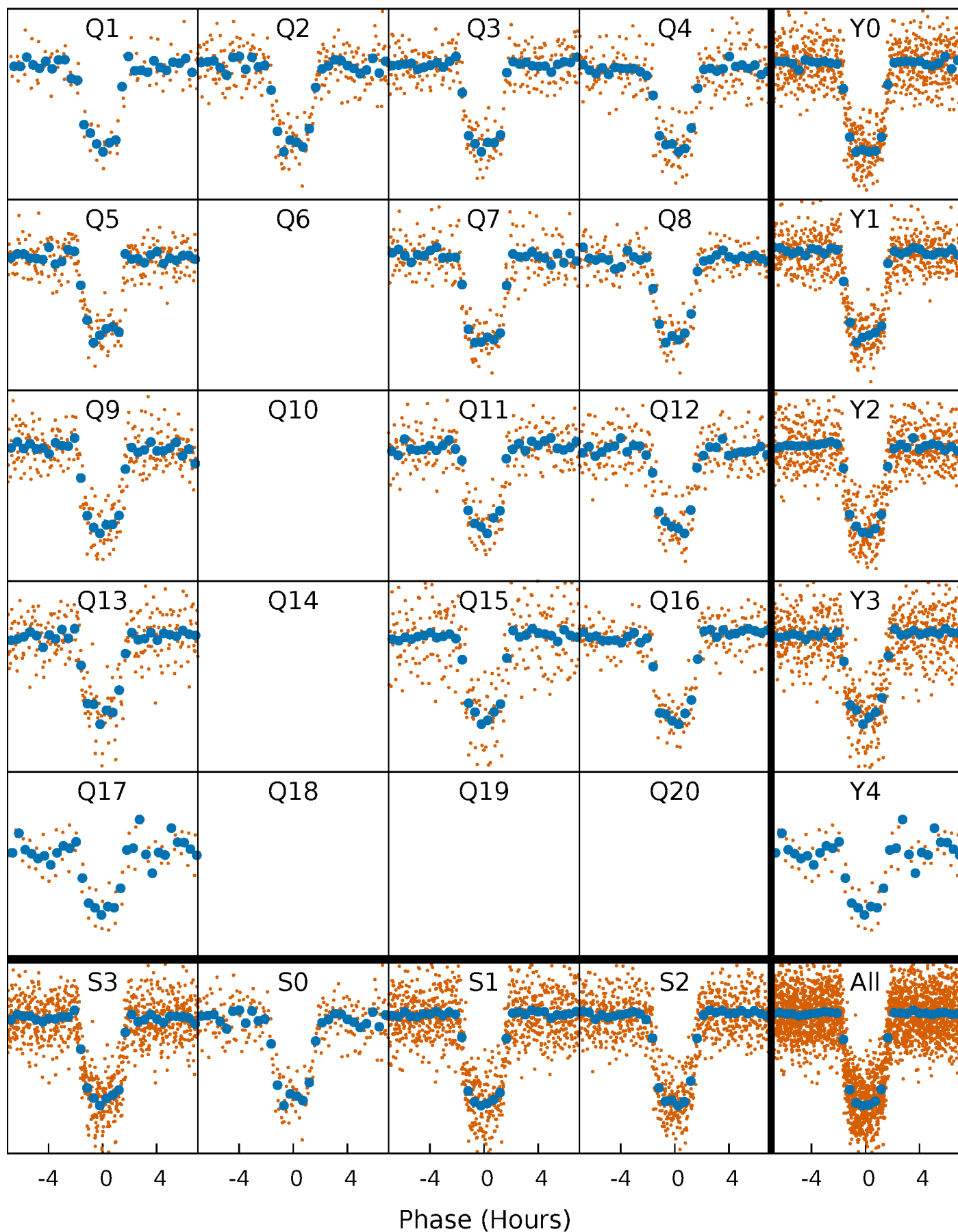


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



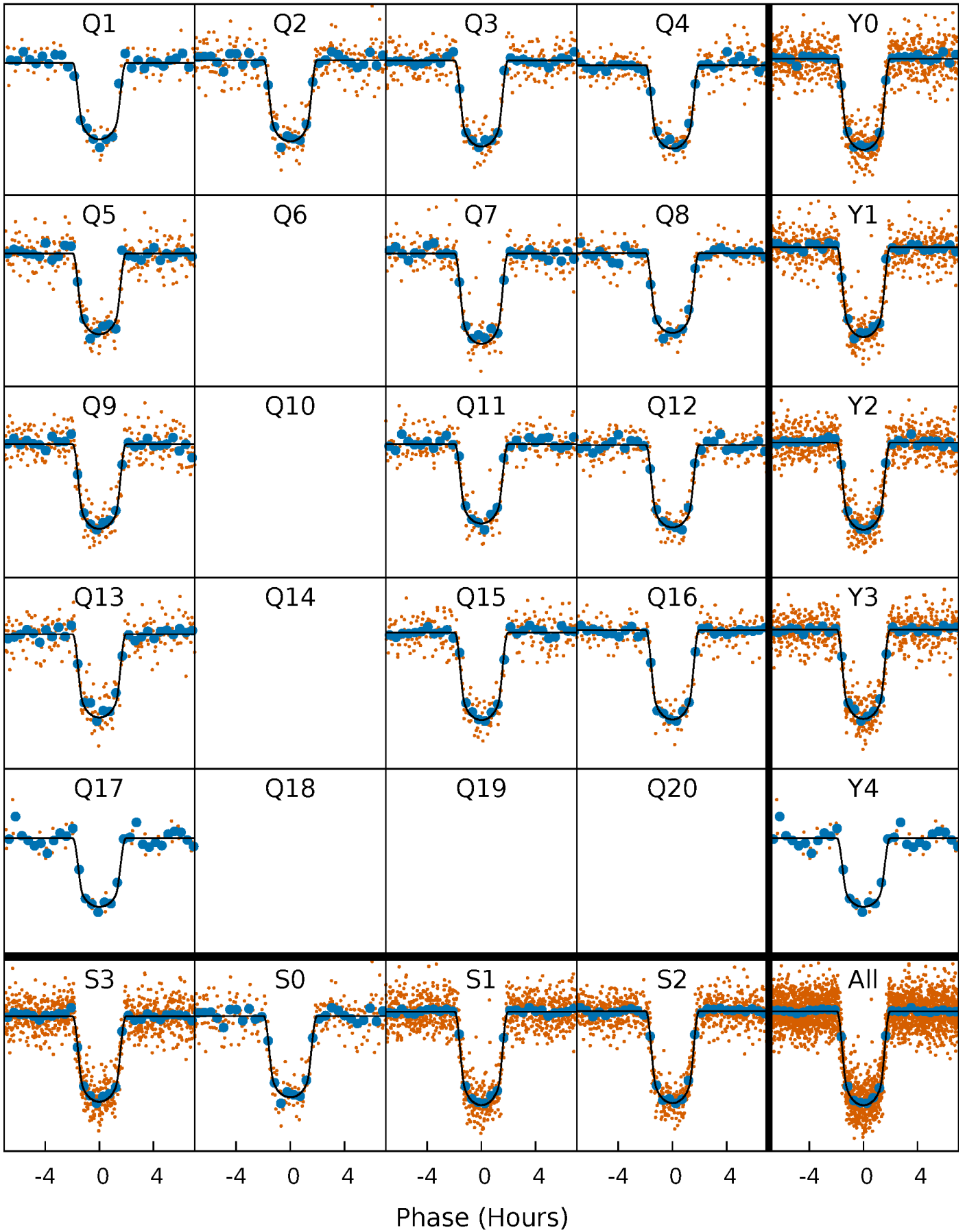
PDC Quarter-Phased Transit Curves

TCE 004282872-01 P= 10.035370 Days $T_0=137.472192$ (BKJD)



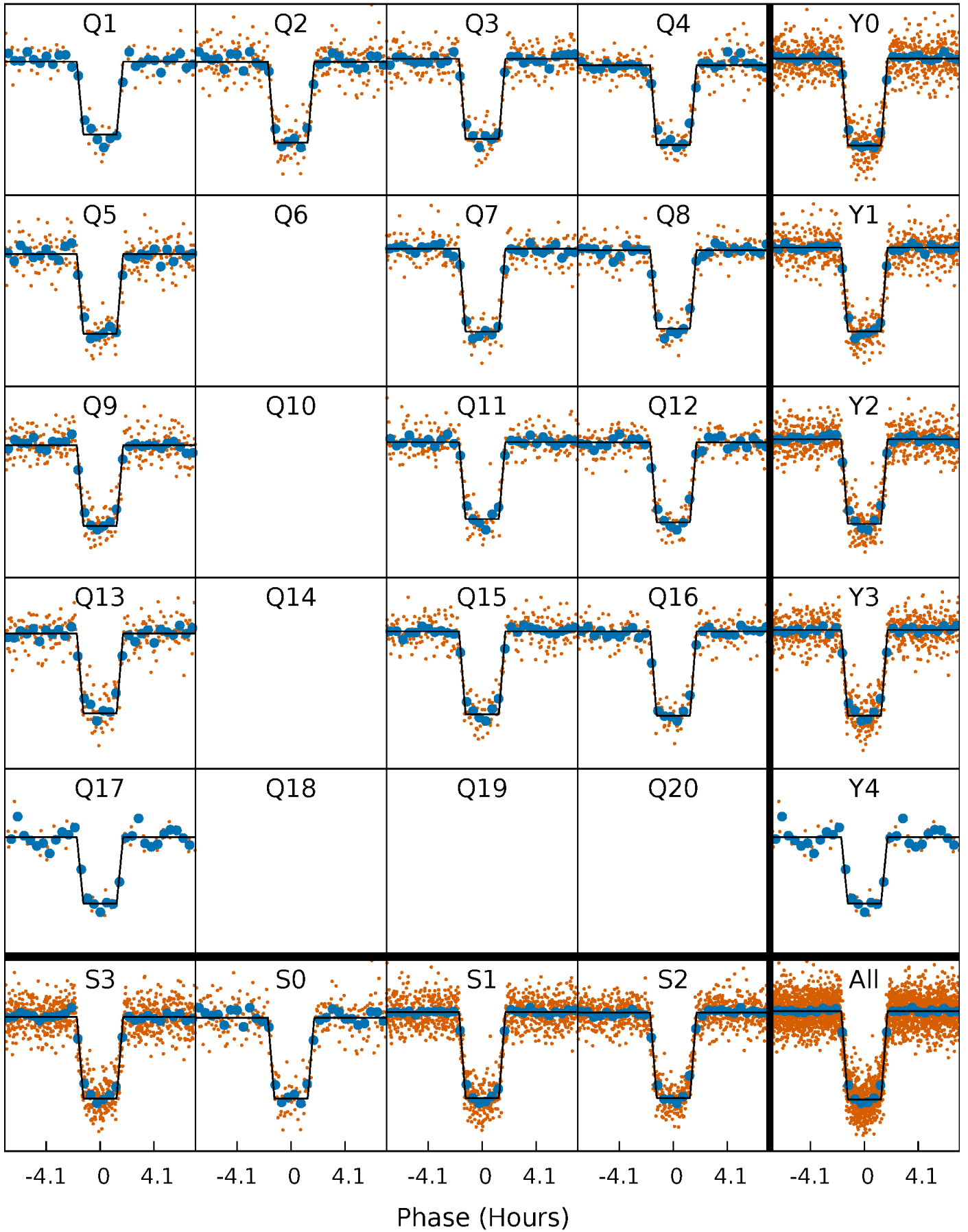
DV Quarter-Phased Transit Curves

TCE 004282872-01 P= 10.035370 Days $T_0=137.472192$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

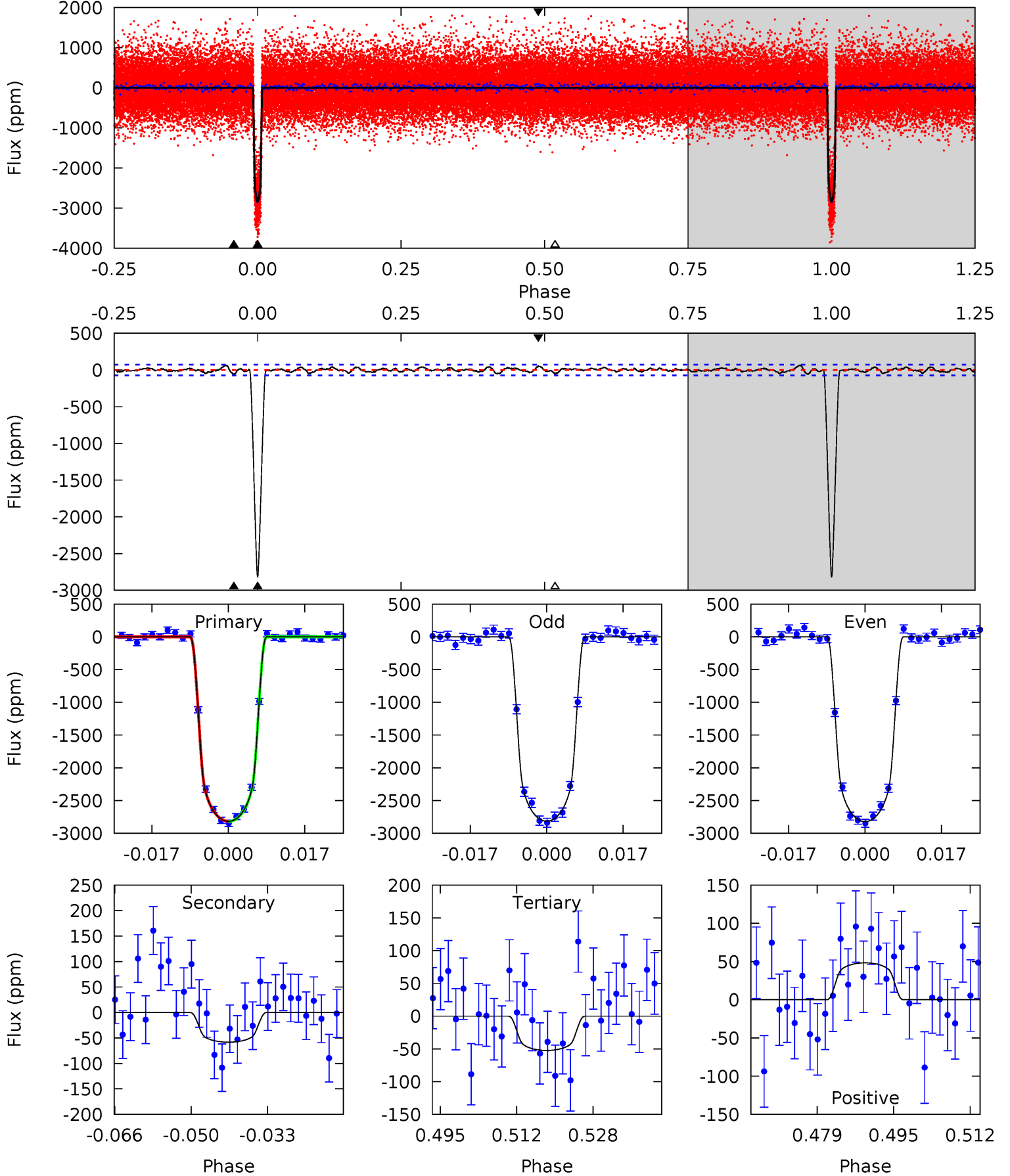
TCE 004282872-01 P= 10.035414 Days $T_0=137.469172$ (BKJD)



DV Model-Shift Uniqueness Test

004282872-01, P = 10.035370 Days, E = 127.436822 Days

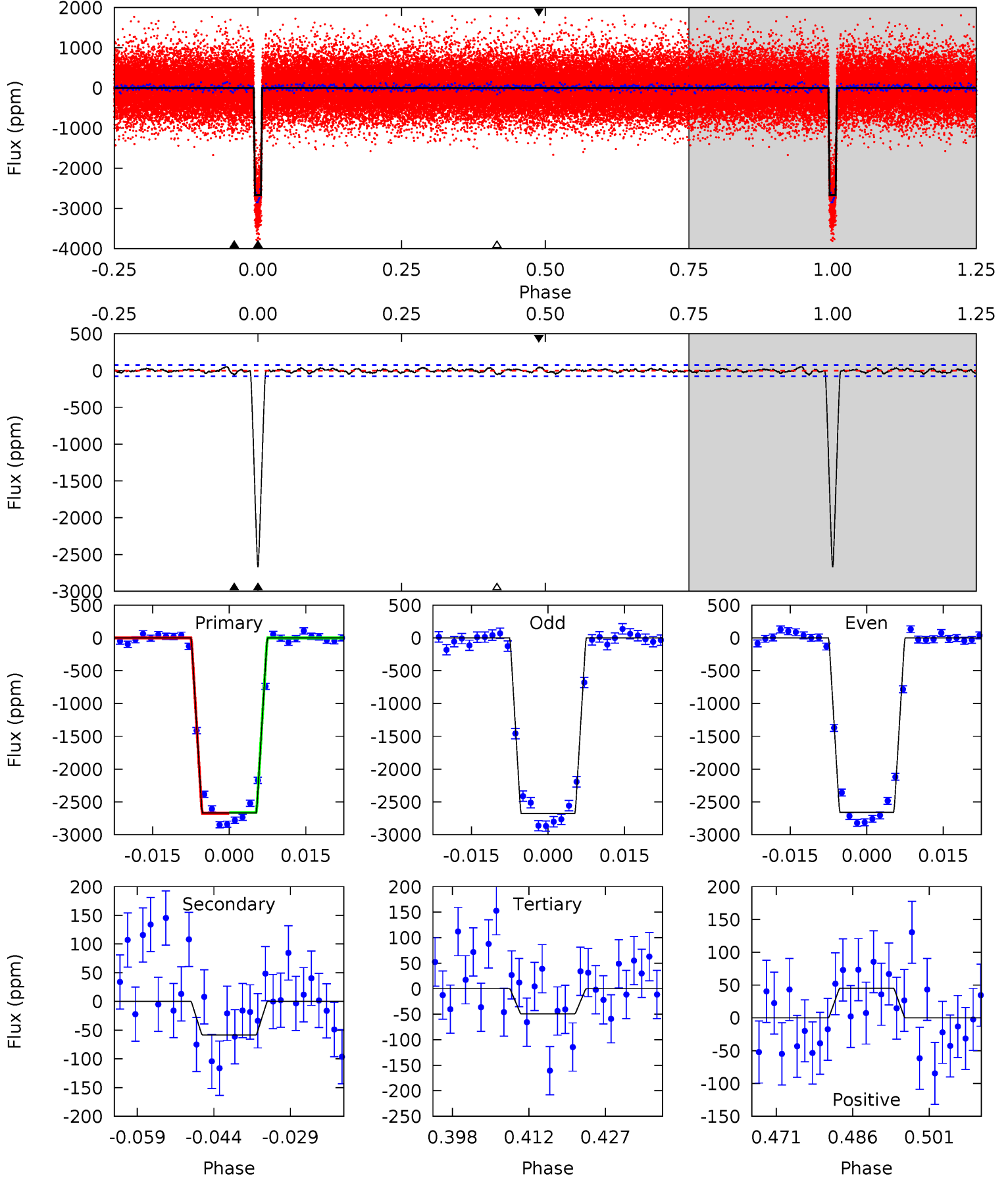
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
189.3	3.91	3.52	3.24	4.93	2.40	1.28	185.8	186.1	0.40	0.67	0.24	0.99	0.02	0.14



Alt Model-Shift Uniqueness Test

004282872-01, P = 10.035414 Days, E = 127.433758 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
170.8	3.73	3.15	2.89	4.95	2.44	1.10	167.6	167.9	0.58	0.84	0.59	1.01	0.02	0.41



Stellar Parameters For KIC 004282872

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5813^{+157}_{-174}	$4.561^{+0.042}_{-0.168}$	$-0.280^{+0.300}_{-0.300}$	$0.833^{+0.213}_{-0.071}$	$0.925^{+0.101}_{-0.111}$	$2.256^{+0.400}_{-1.038}$
	+3%/-3%	+1%/-4%	+107%/-107%	+26%/-9%	+11%/-12%	+18%/-46%
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 004282872-01 / KOI 1325.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-58 ± 15	$4.87^{+0.60}_{-0.38}$	1121^{+63}_{-47}	2900^{+114}_{-130}	10^{+3}_{-3}
Alt.	-58 ± 16	$4.83^{+0.70}_{-0.37}$	1118^{+66}_{-49}	2916^{+117}_{-143}	10^{+4}_{-3}

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

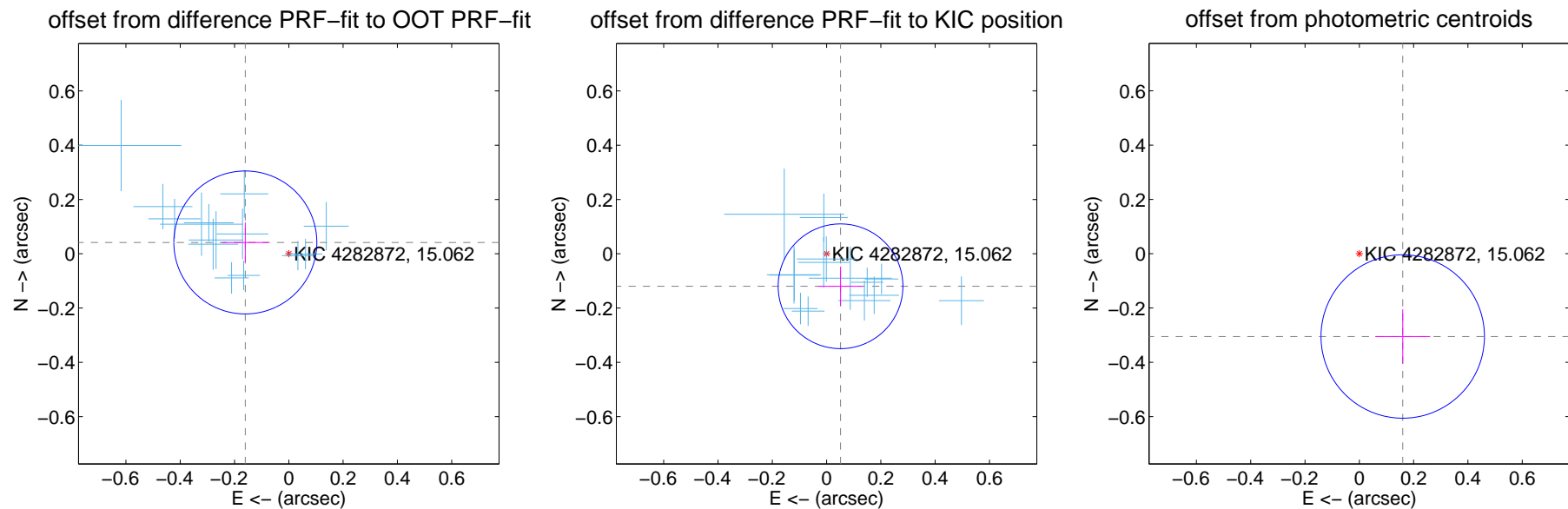
DV Centroid Data

Supplemental centroid analysis for 004282872-01. Kepler magnitude: 15.06. Transit SNR 136.69

There are 14 quarters with good PRF difference image offsets

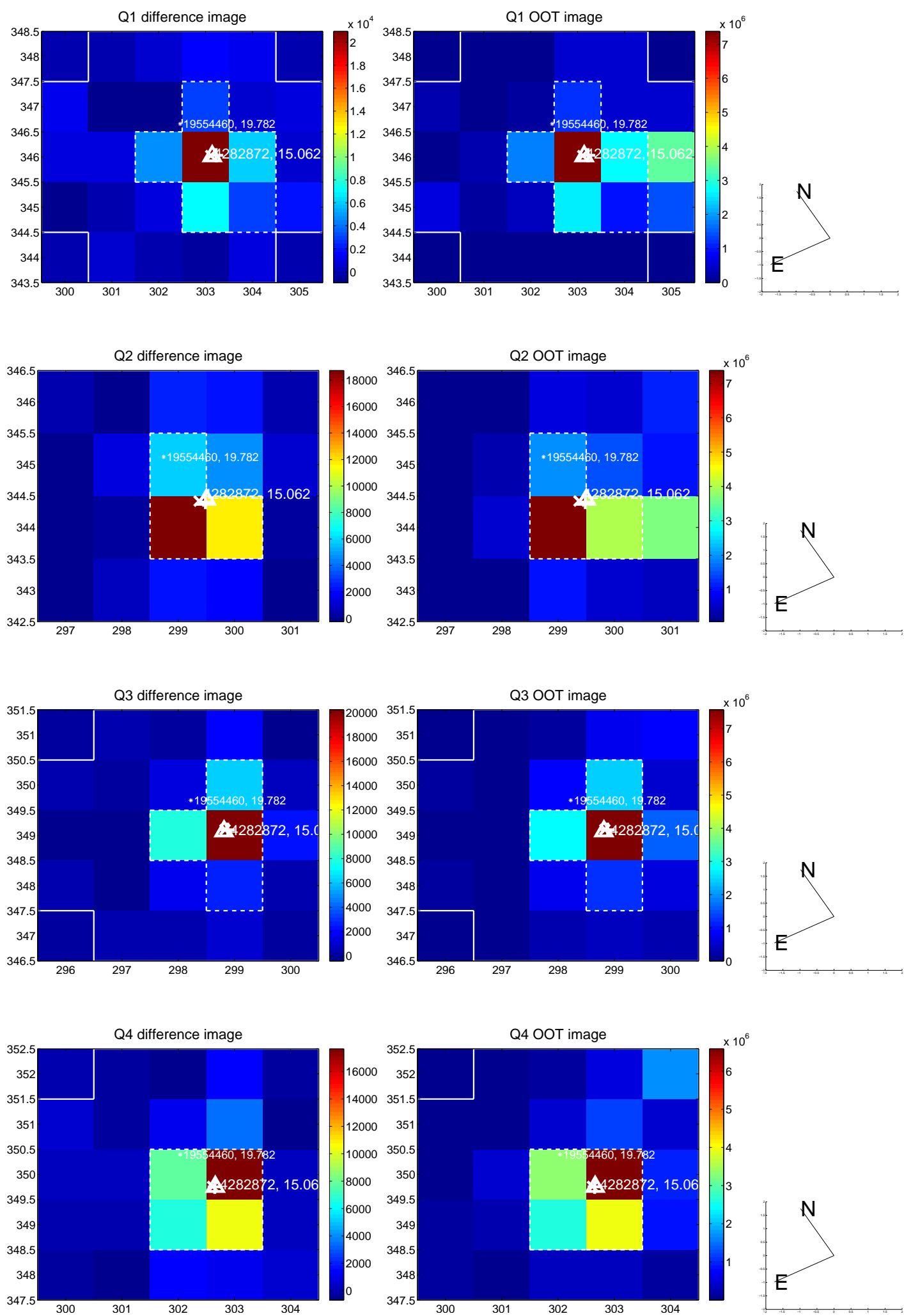
The direct PRF centroid is offset from the target star catalog position by about 0.53 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.165 ± 0.088	1.89	0.160 ± 0.086	0.042 ± 0.074
PRF-fit source offset from KIC position	0.130 ± 0.077	1.70	-0.051 ± 0.083	-0.120 ± 0.072
photometric centroid source offset	0.34 ± 0.10	3.43	-0.16 ± 0.10	-0.30 ± 0.10

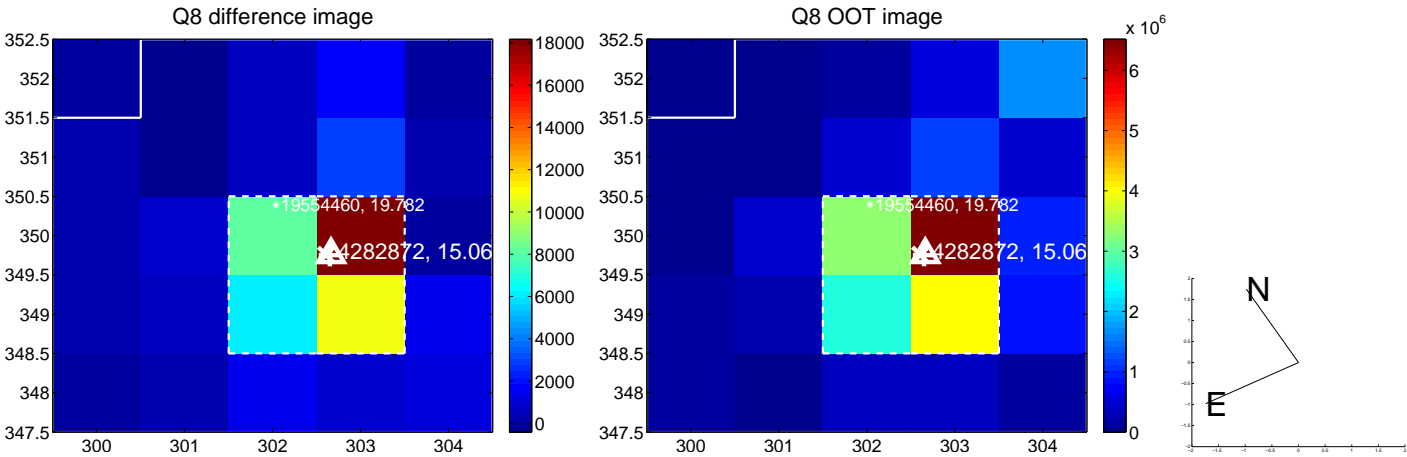
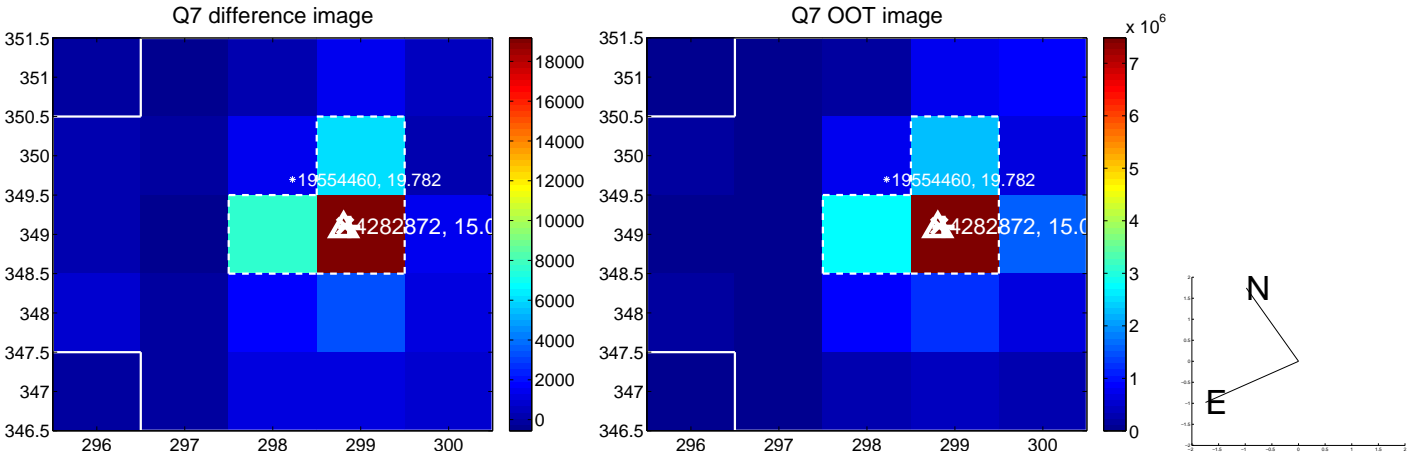
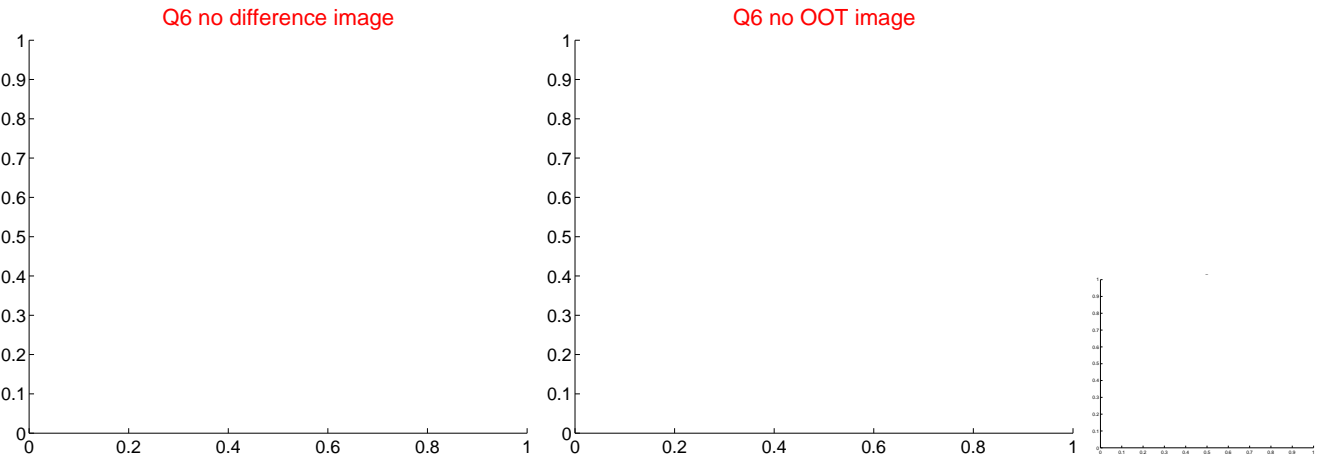
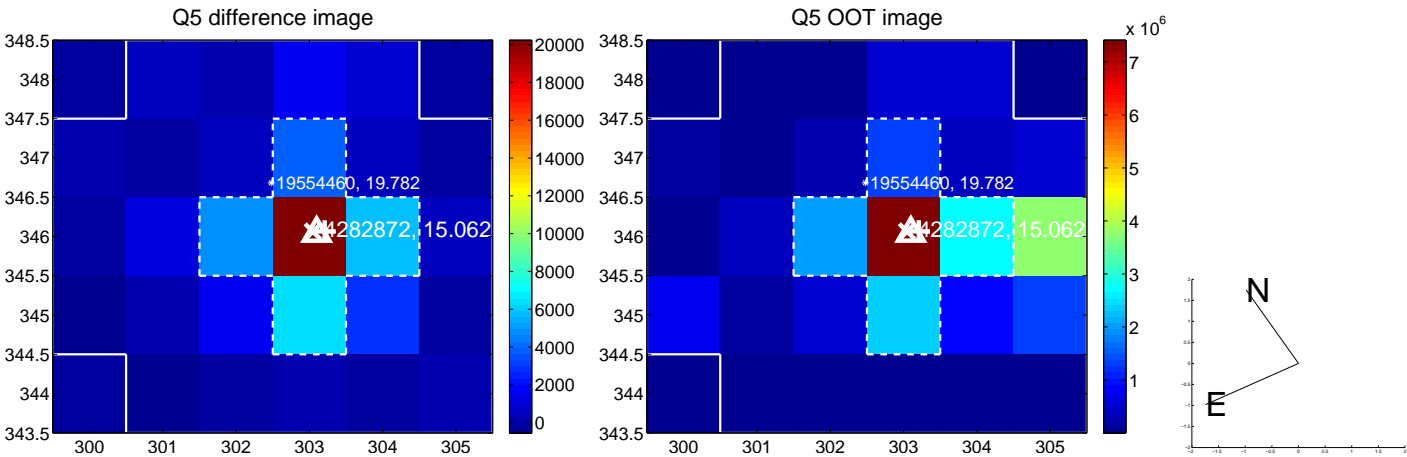


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

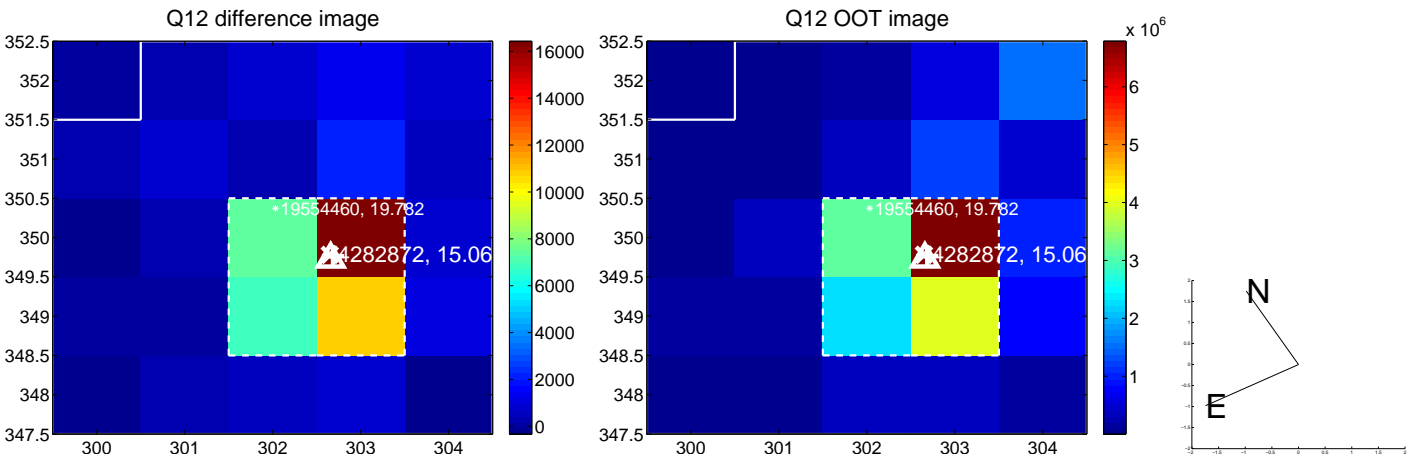
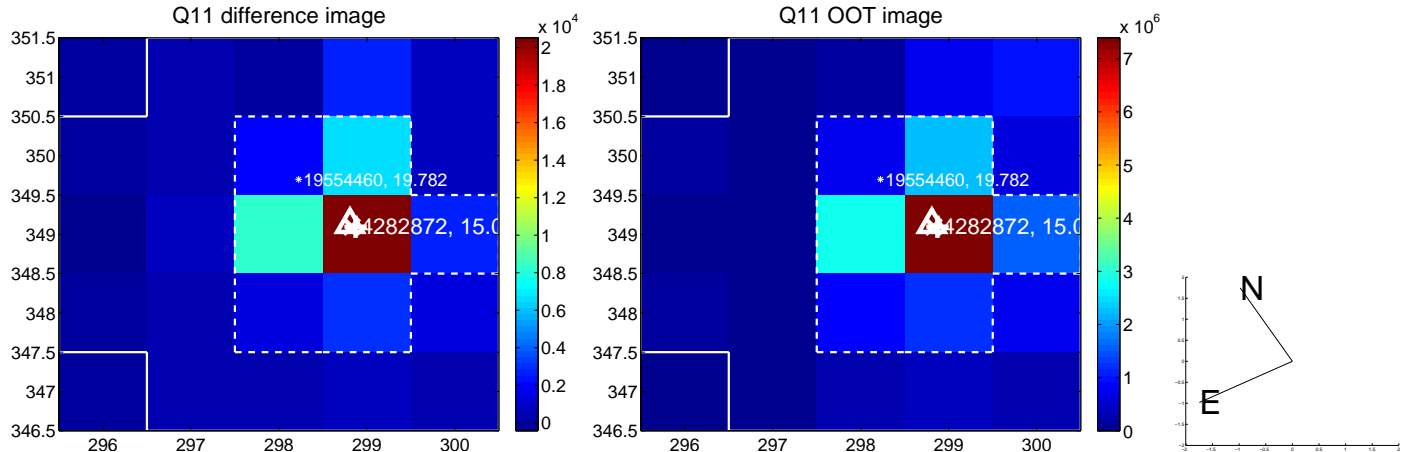
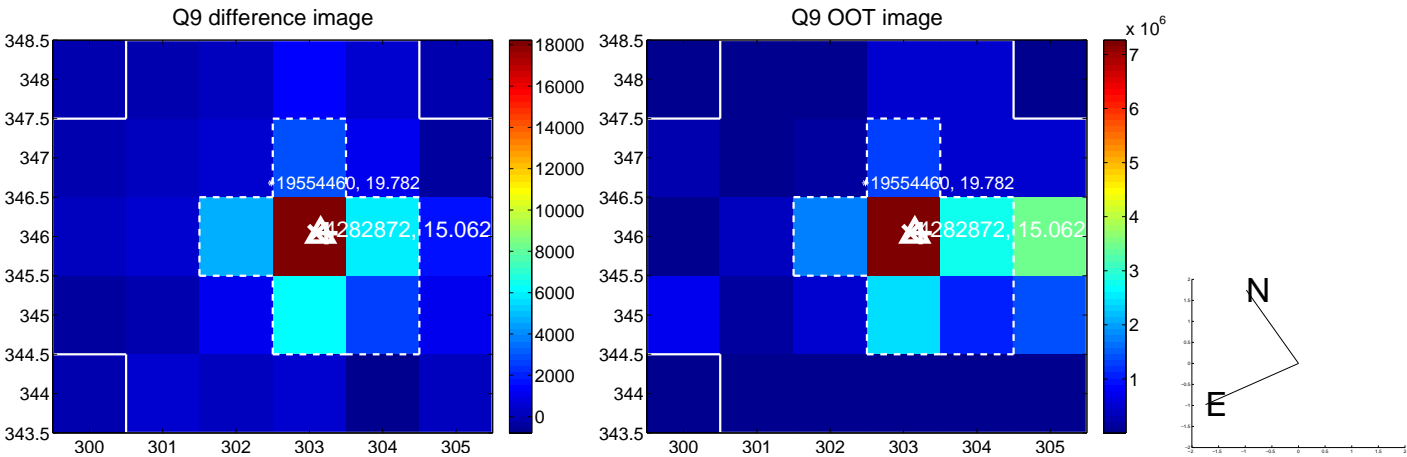
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



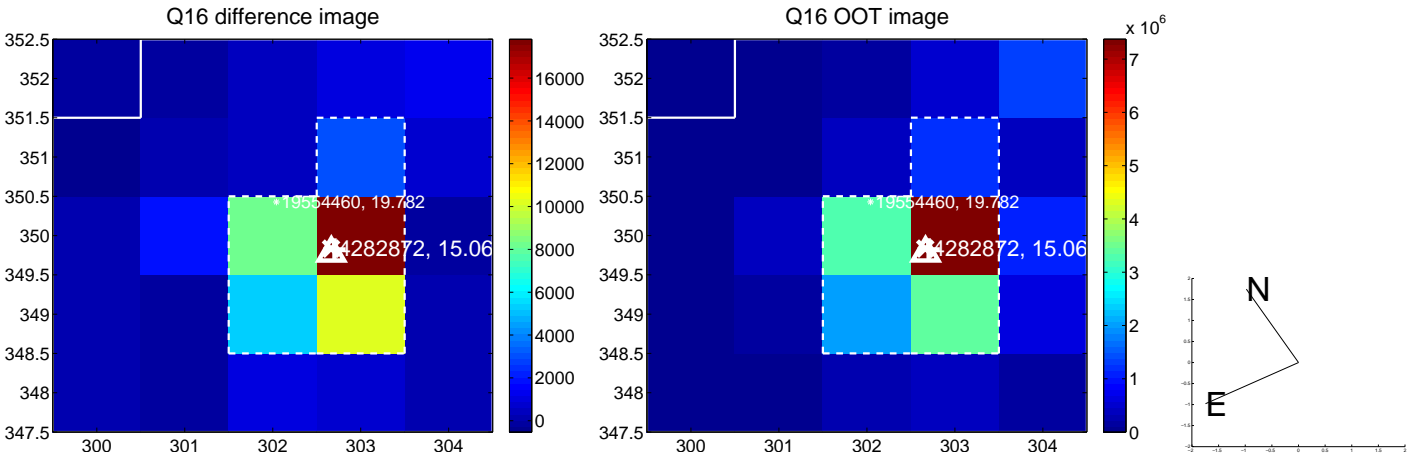
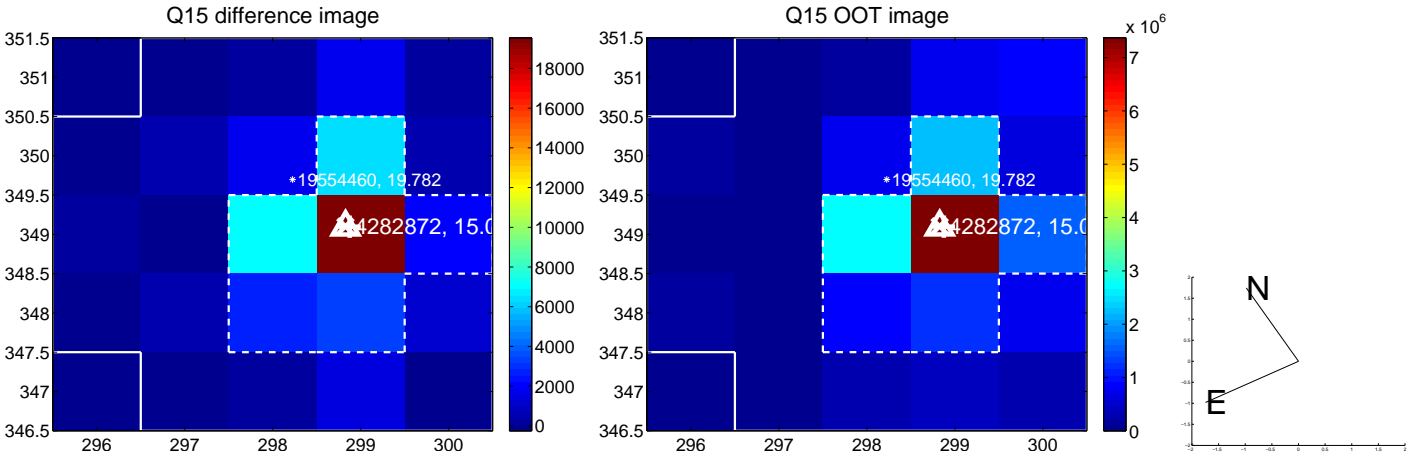
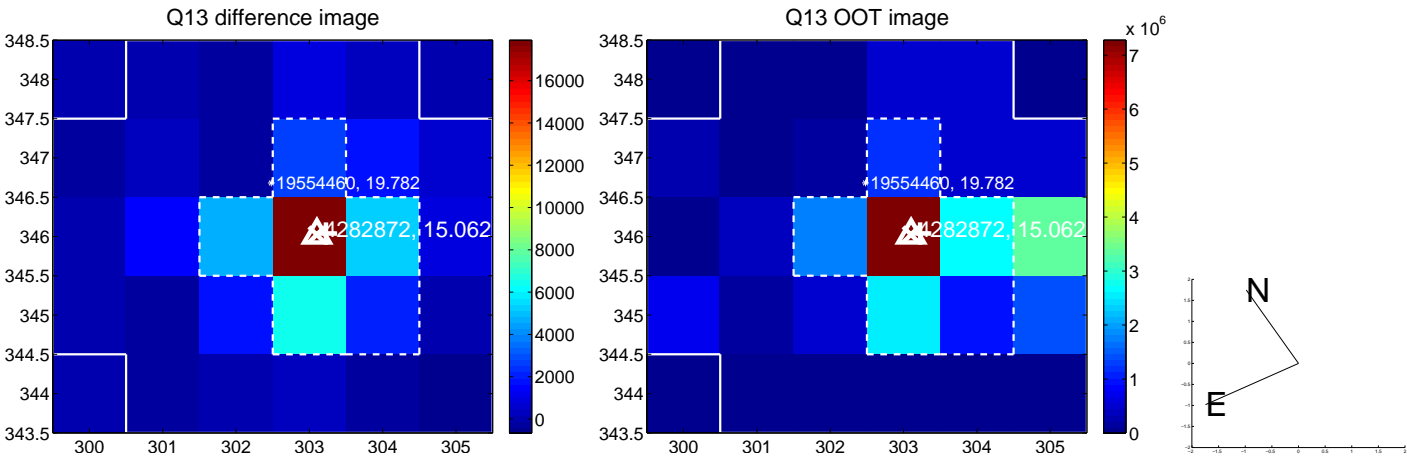
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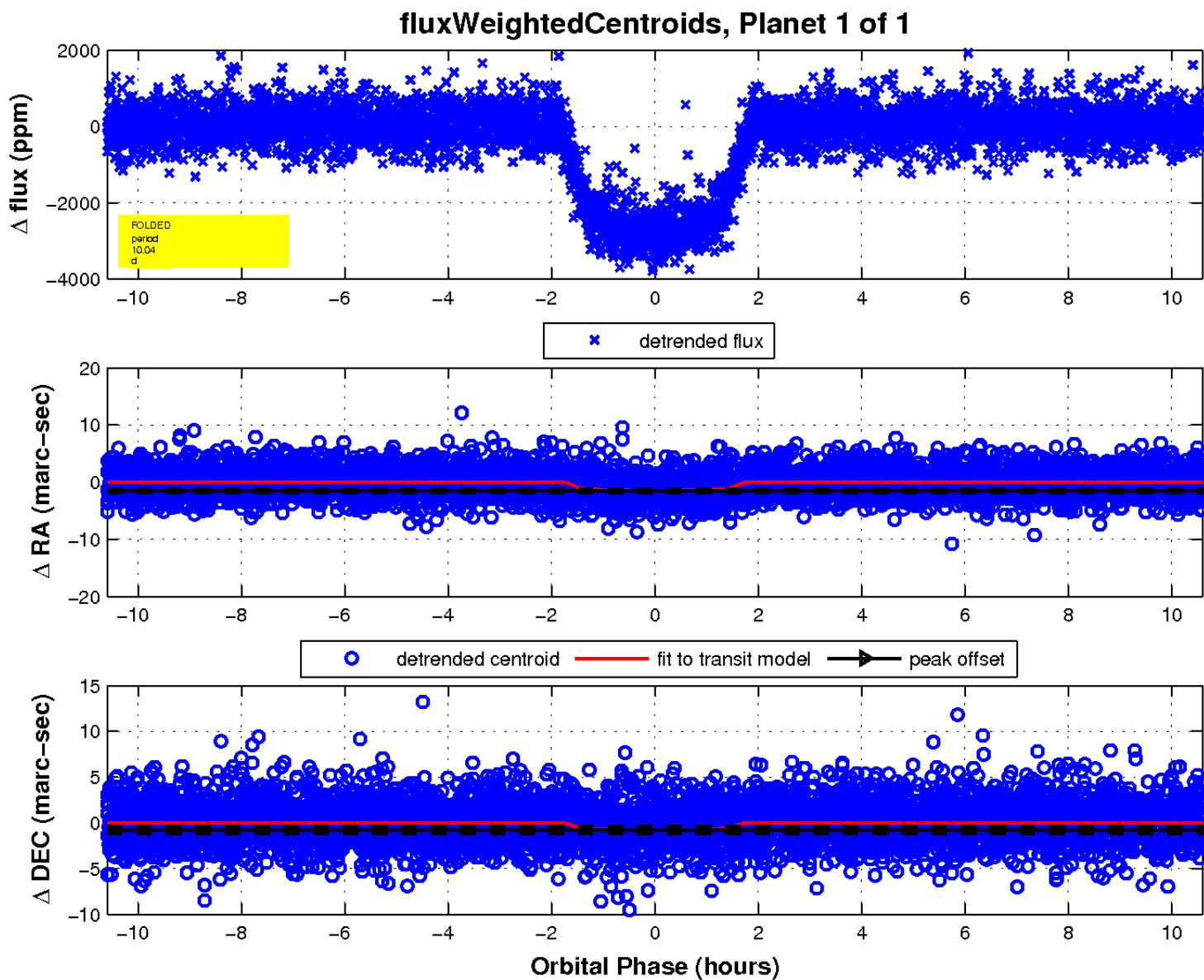
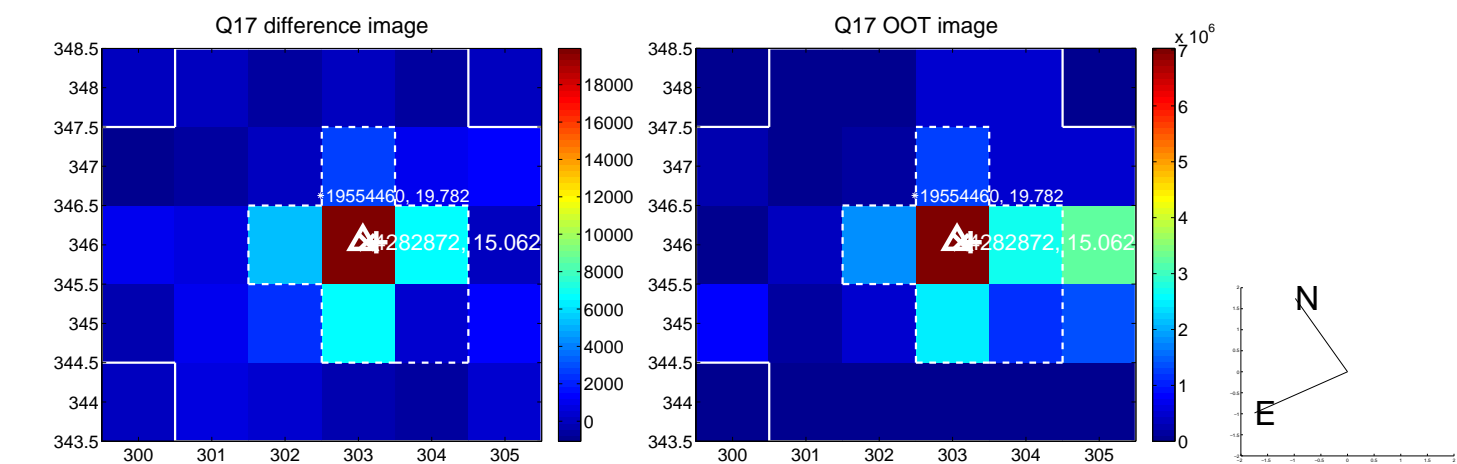
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UKIRT Image

