

KIC 005629538

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})
005629538-01	OBS	2345.01	15.187391	134.052683	290.9	4.428	17.6	18.6	1.00	6136	1.94	91.74

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005629538-01	OBS	PC	0.99	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.

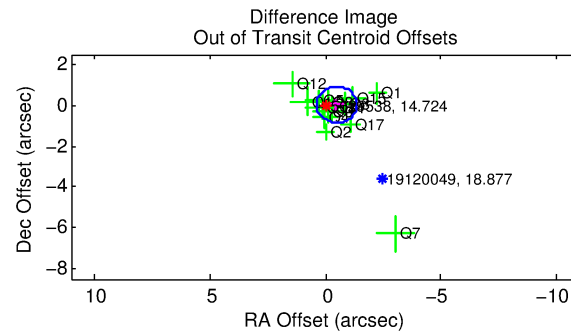
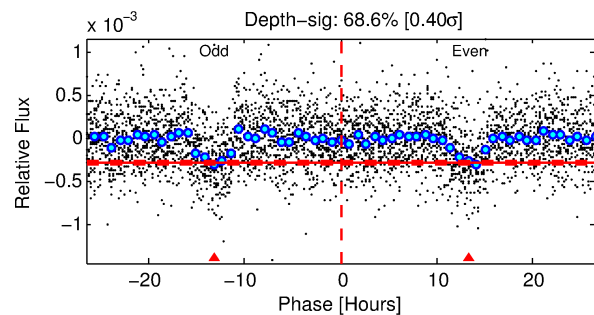
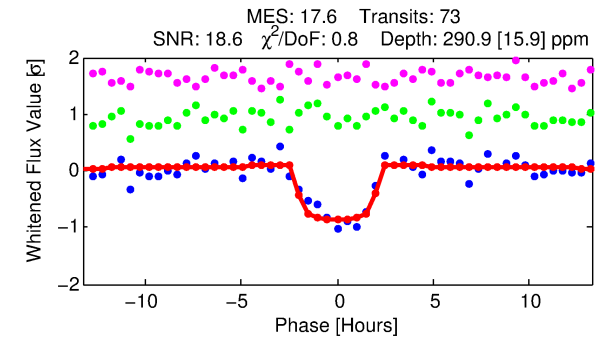
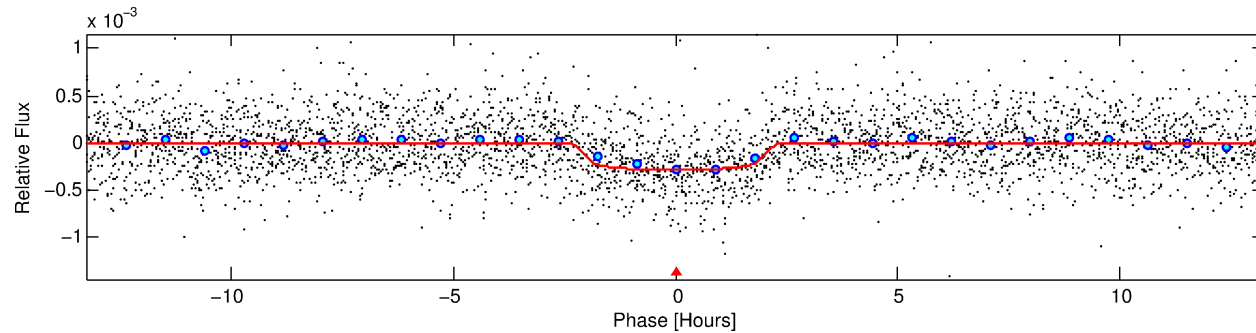
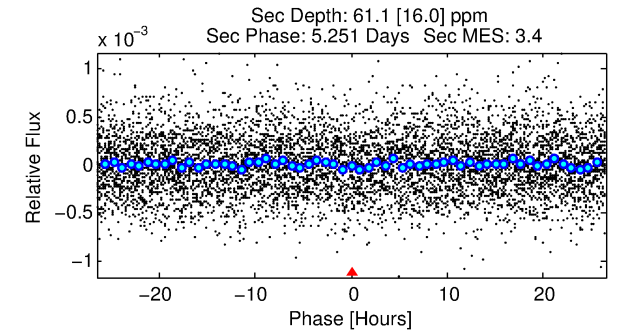
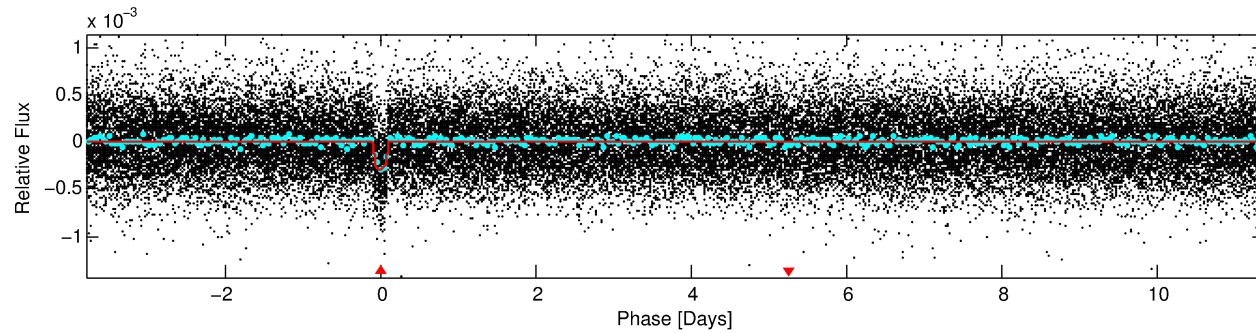
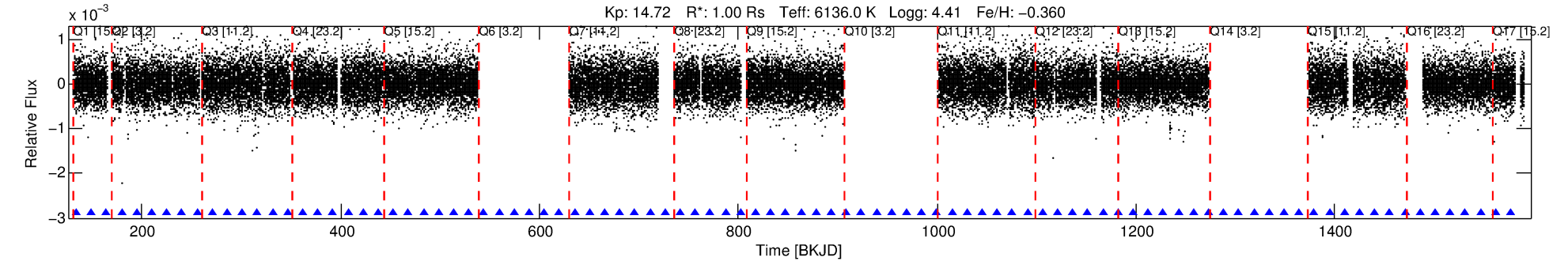
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005629538-01

No Significant Match Found

DV One-Page Summary

KIC: 5629538 Candidate: 1 of 1 Period: 15.187 d
KOI: K02345.01 Corr: 0.978



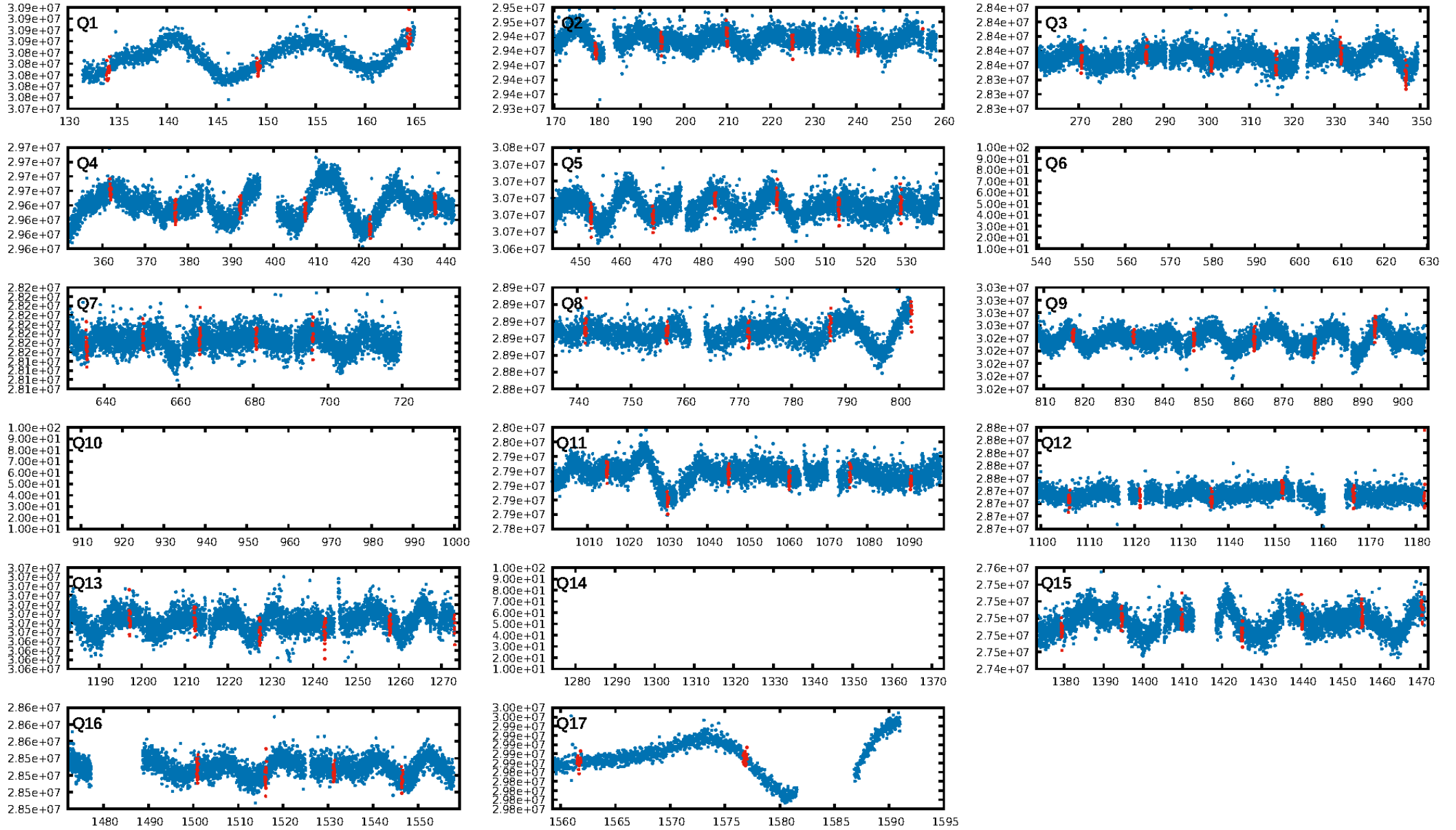
DV Fit Results:

Period = 15.18739 [0.00008] d
Epoch = 134.0527 [0.0042] BKJD
Rp/R* = 0.0177 [0.0042]
a/R* = 14.70 [18.22]
b = 0.85 [0.41]
Seff = 91.74 [35.63]
Teff = 789 [77] K
Rp = 1.94 [0.75] Re
a = 0.1182 [0.0297] AU
Ag = 124.63 [81.07] [1.53σ]
Teffp = 4077 [571] K [5.71σ]

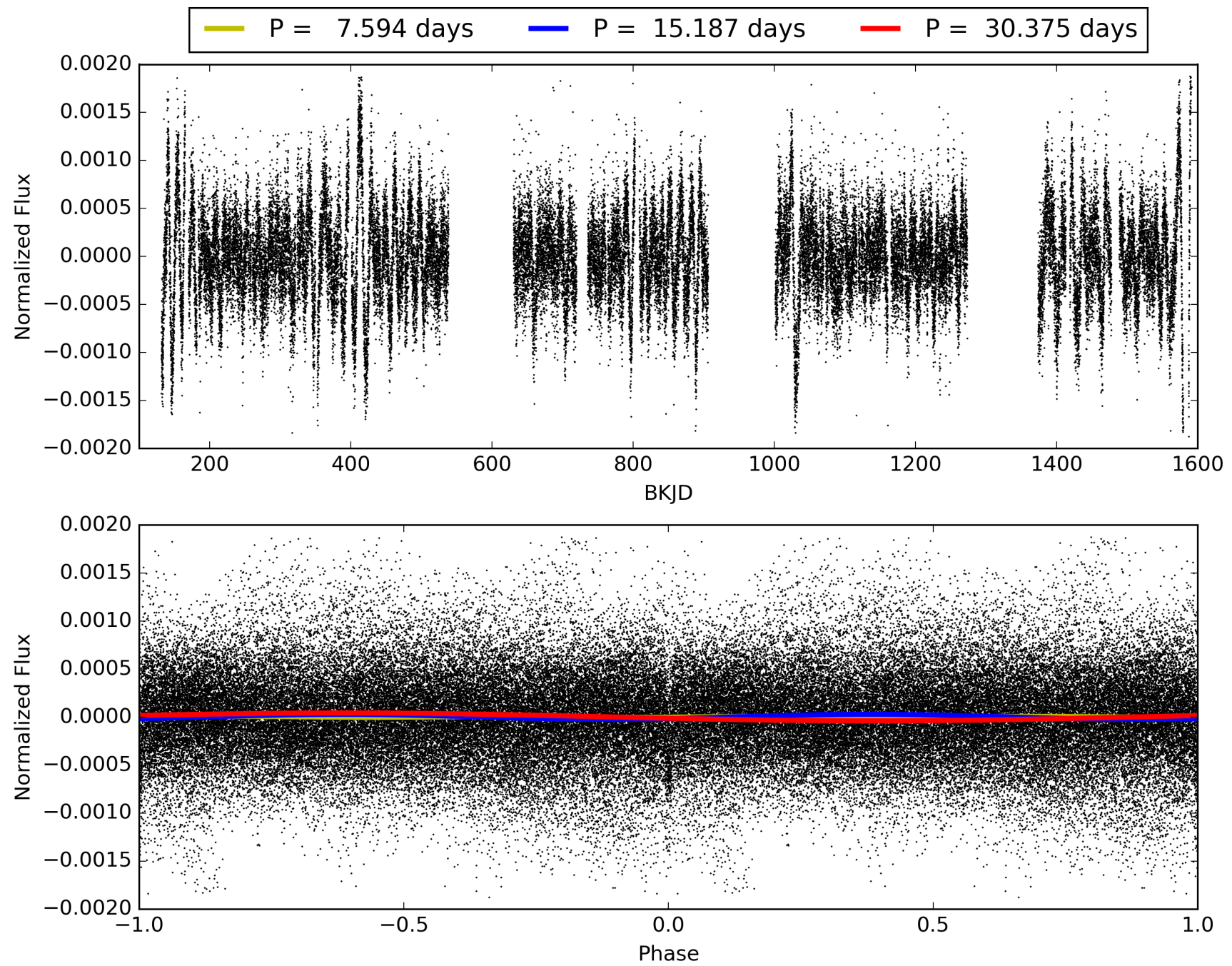
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.22e-67
RollingBand-fgt: 1.00 [68/68]
GhostDiagnostic-chr: 11.49
Centroid-sig: 12.9%
Centroid-so: 0.263 arcsec [0.45σ]
OotOffset-rm: 0.479 arcsec [1.63σ]
KicOffset-rm: 0.357 arcsec [1.27σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 0.86 [12/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 005629538-01, PDC Light Curves

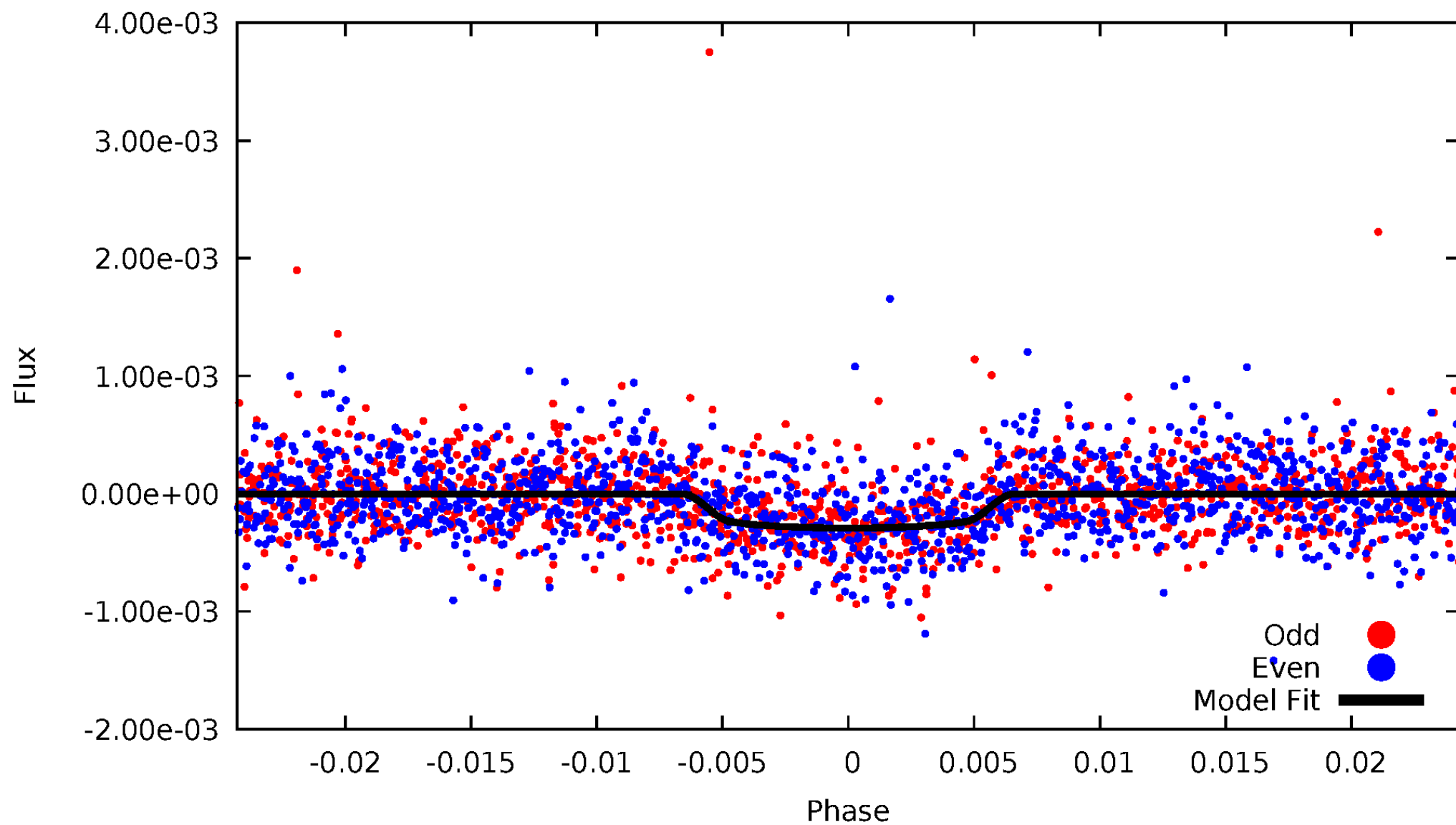


TCE 005629538-01



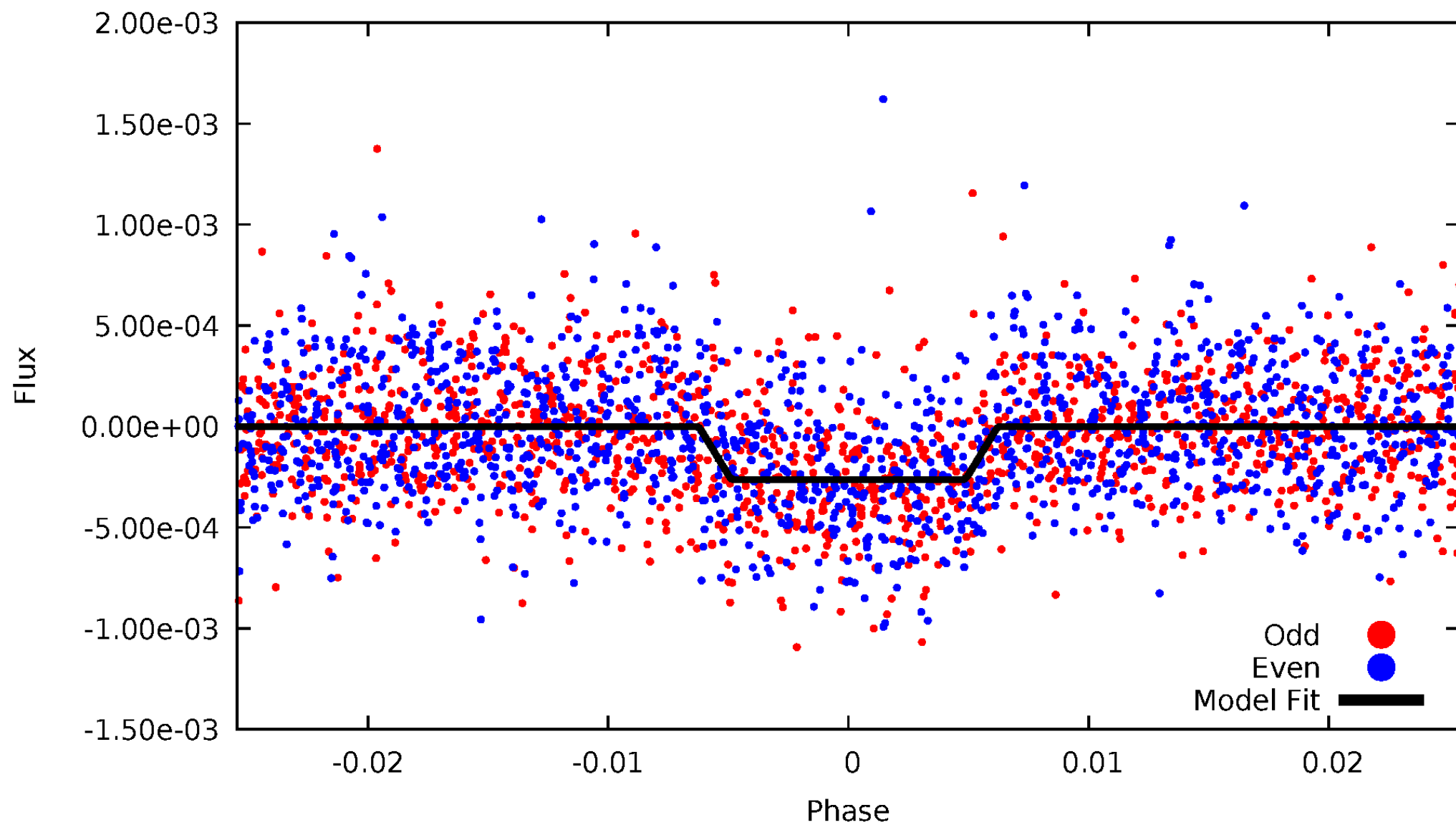
DV Odd/Even

TCE 005629538-01

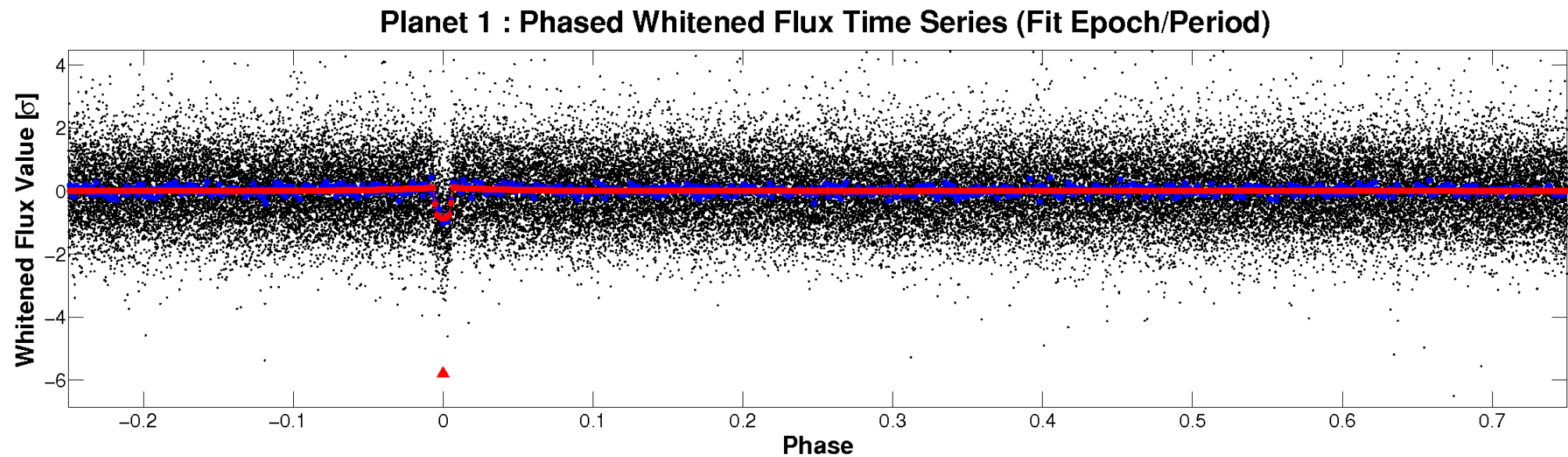
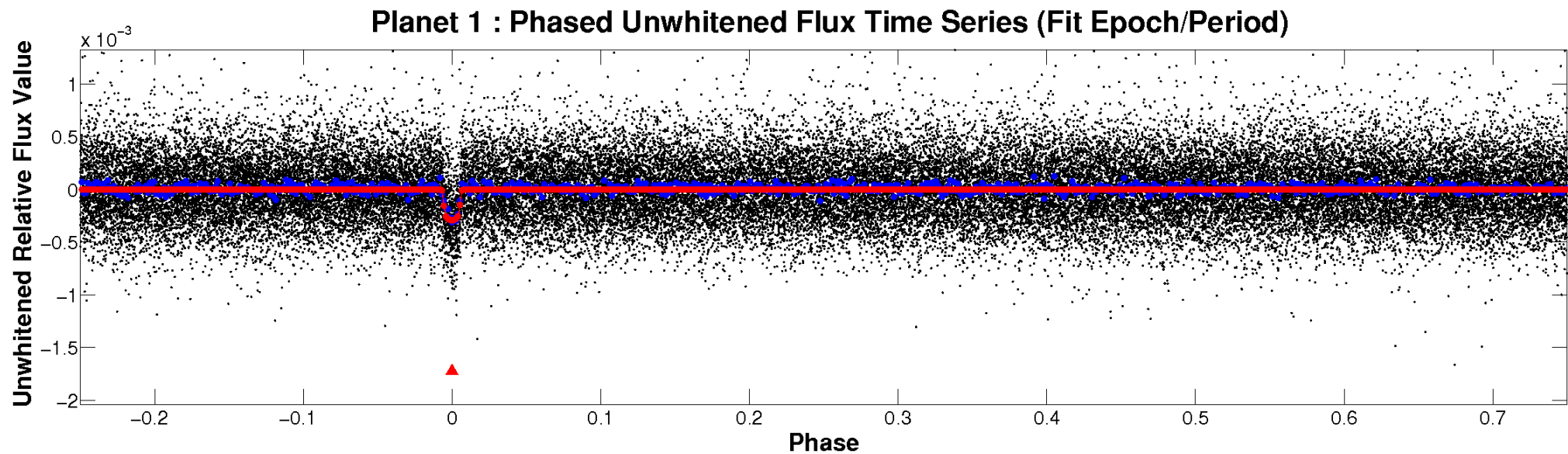


ALT Odd/Even

TCE 005629538-01

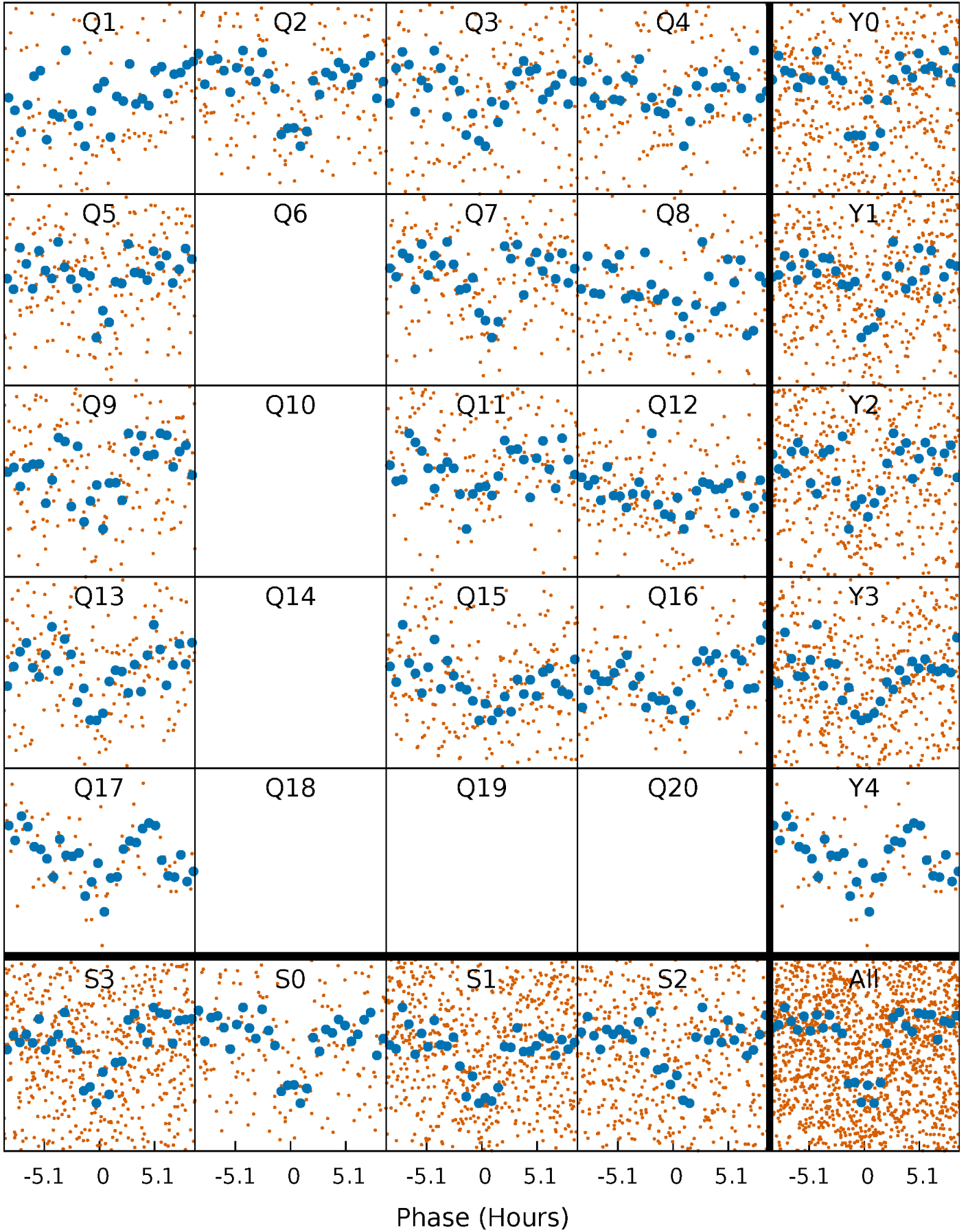


Non-Whitened Vs. Whitened Light Curve



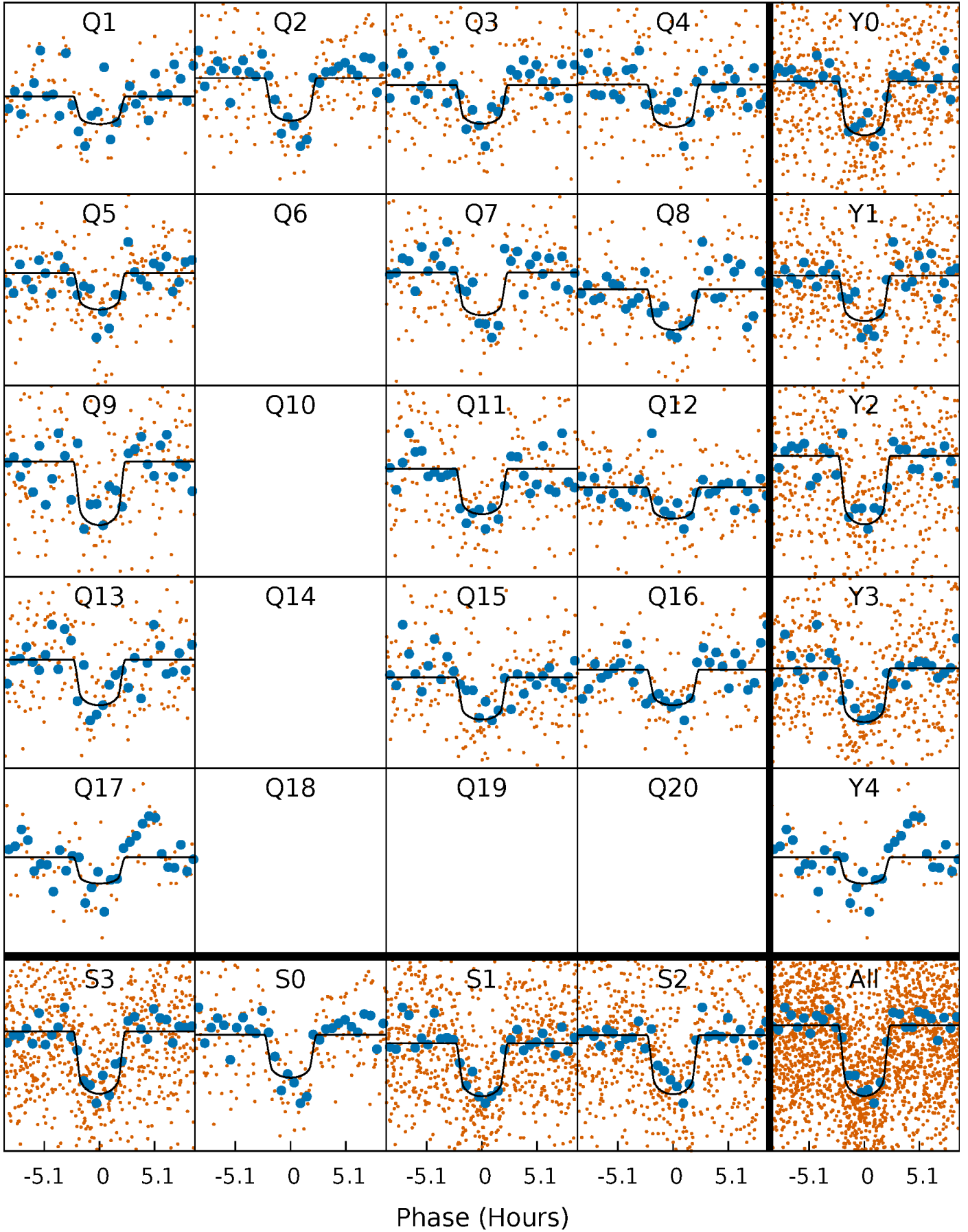
PDC Quarter-Phased Transit Curves

TCE 005629538-01 P= 15.187391 Days $T_0=134.052683$ (BKJD)



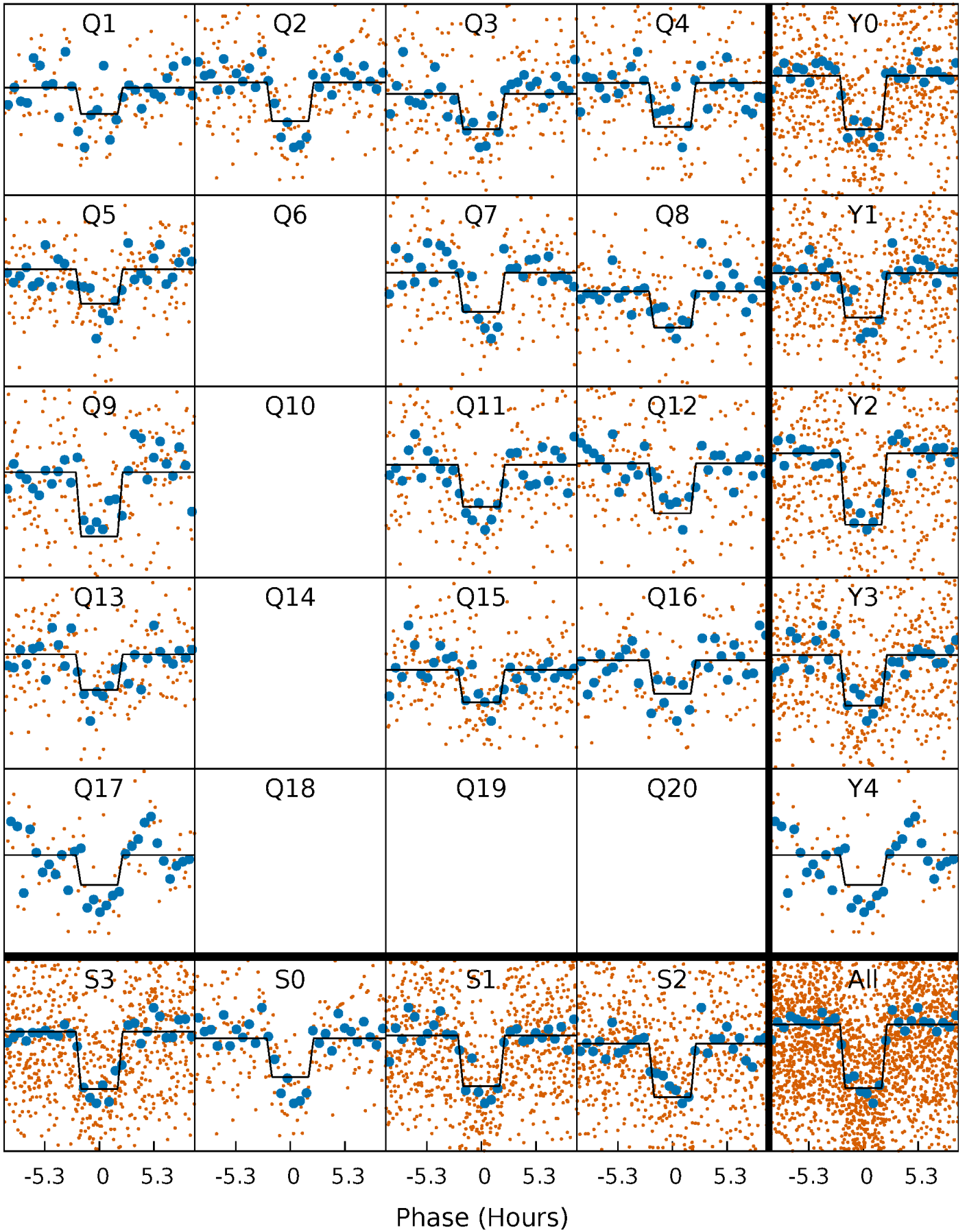
DV Quarter-Phased Transit Curves

TCE 005629538-01 P= 15.187391 Days $T_0=134.052683$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

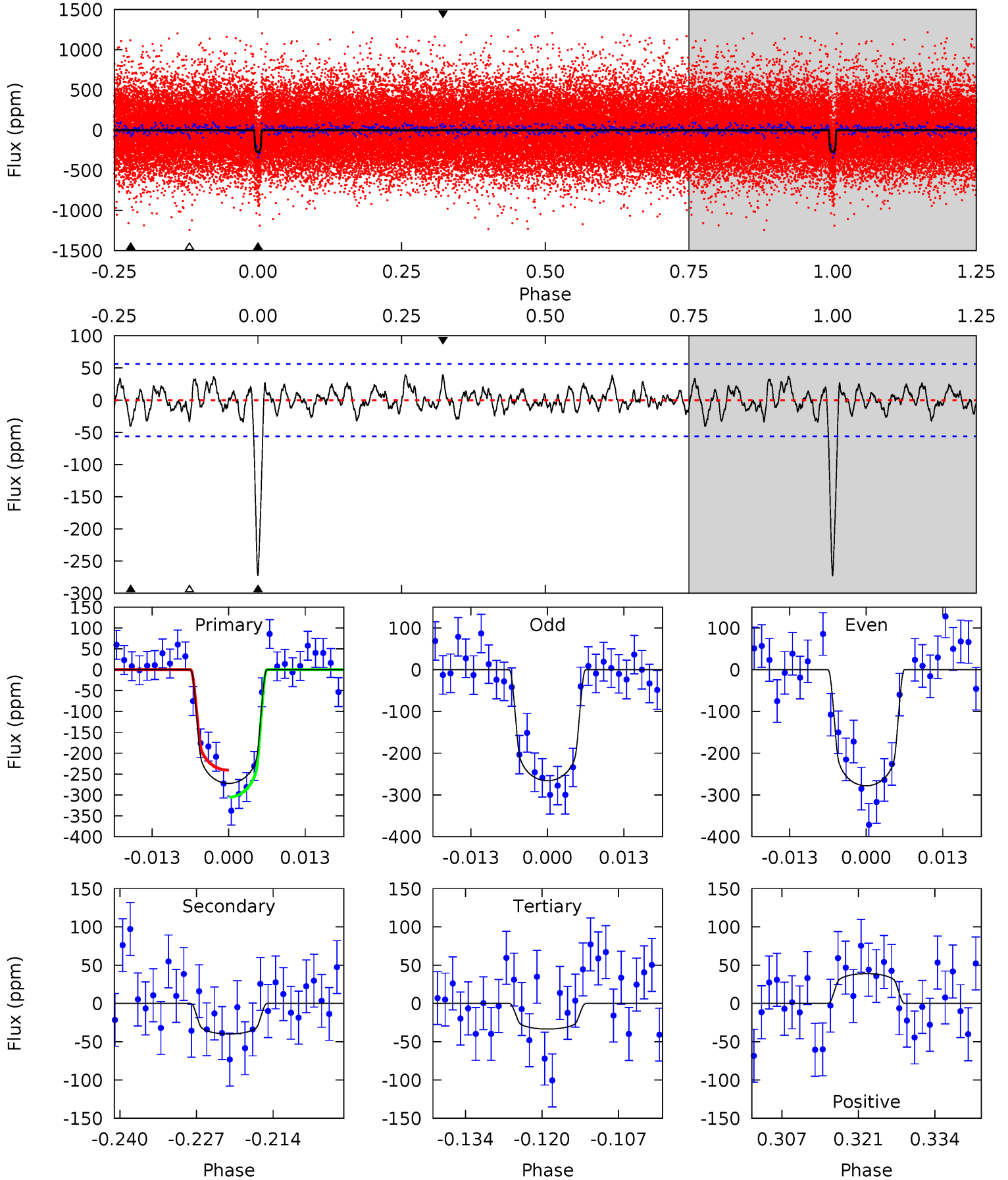
TCE 005629538-01 P= 15.187229 Days $T_0=134.056059$ (BKJD)



DV Model-Shift Uniqueness Test

005629538-01, P = 15.187391 Days, E = 118.865292 Days

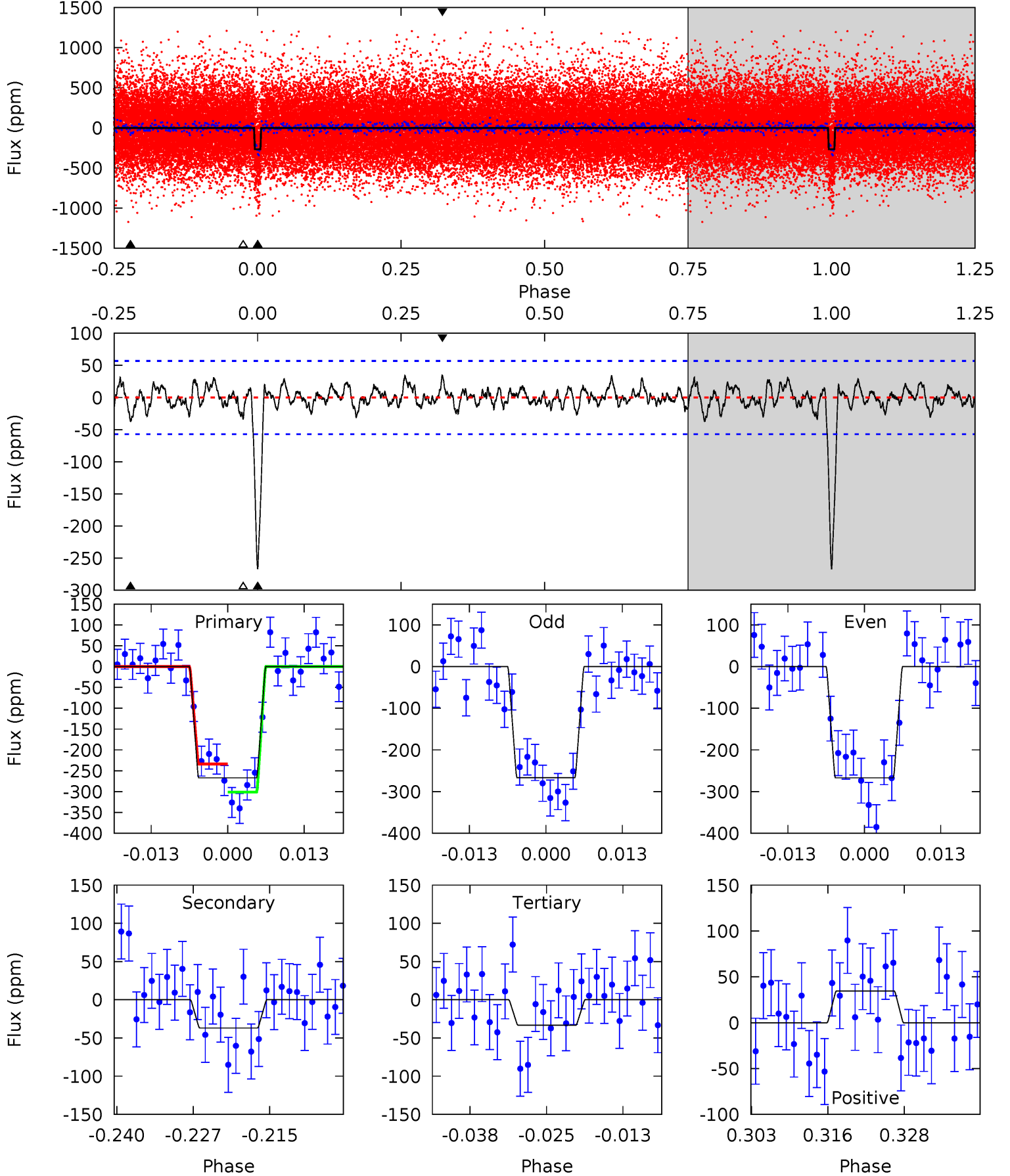
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.1	3.53	2.95	3.44	4.97	2.47	1.20	21.1	20.6	0.57	0.08	0.54	0.94	0.13	2.85



Alt Model-Shift Uniqueness Test

005629538-01, $P = 15.187229$ Days, $E = 118.868830$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.3	3.23	2.92	3.02	4.98	2.49	1.05	20.4	20.3	0.31	0.21	0.02	1.02	0.11	2.94



Stellar Parameters For KIC 005629538

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6136^{+183}_{-220}	$4.414^{+0.105}_{-0.195}$	$-0.360^{+0.300}_{-0.300}$	$1.005^{+0.304}_{-0.130}$	$0.956^{+0.140}_{-0.114}$	$1.326^{+0.598}_{-0.656}$
	+3%/-4%	+2%/-4%	+83%/-83%	+30%/-13%	+15%/-12%	+45%/-49%
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 005629538-01 / KOI 2345.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-40 ± 11	$1.99^{+0.57}_{-0.49}$	1112^{+84}_{-64}	3956^{+493}_{-355}	76^{+66}_{-34}
Alt.	-37 ± 11	$1.83^{+0.54}_{-0.55}$	1109^{+84}_{-64}	4029^{+586}_{-385}	83^{+92}_{-37}

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

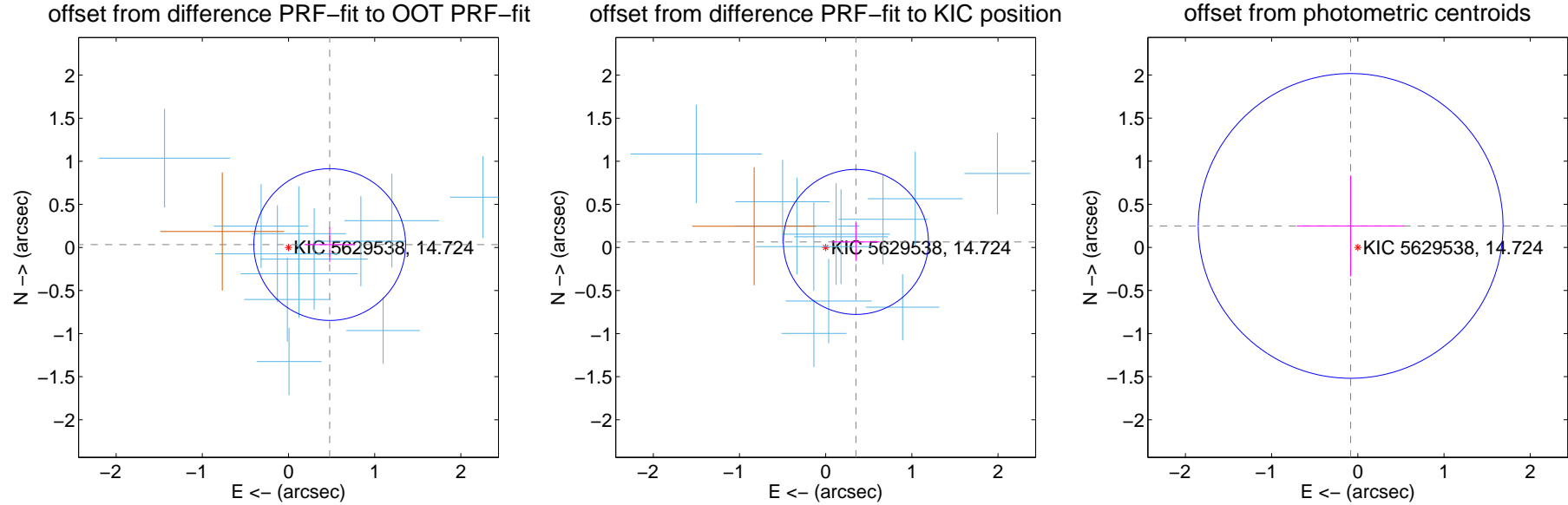
DV Centroid Data

Supplemental centroid analysis for 005629538-01. Kepler magnitude: 14.72. Transit SNR 18.55

There are 12 quarters with good PRF difference image offsets

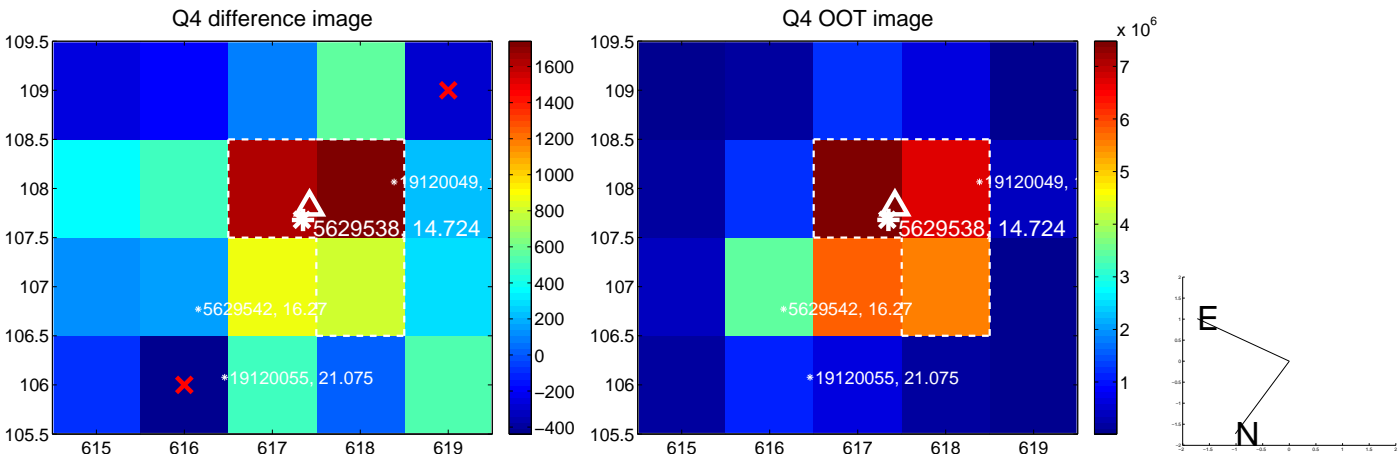
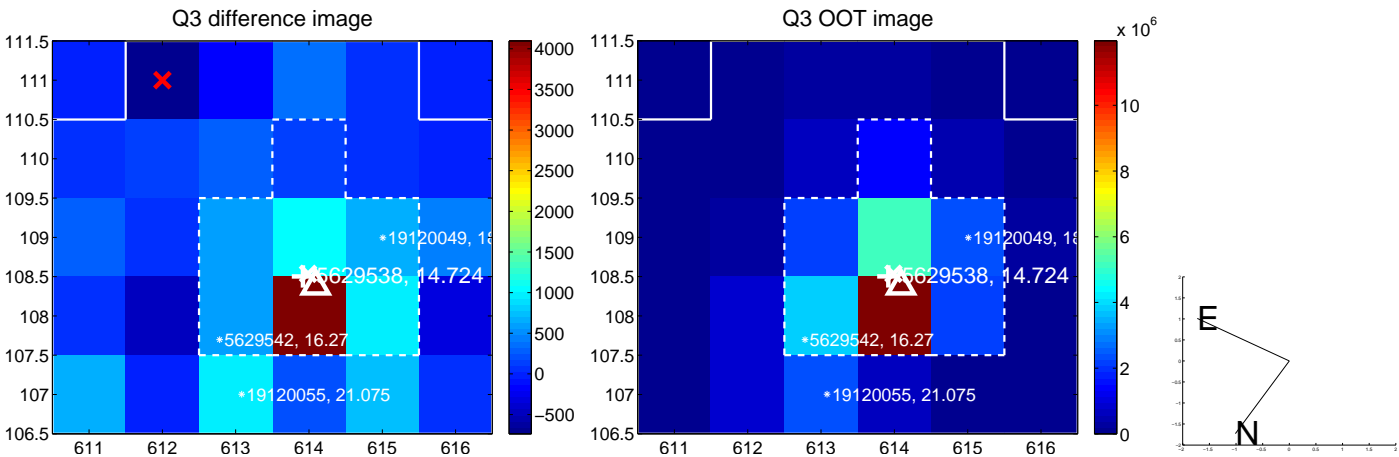
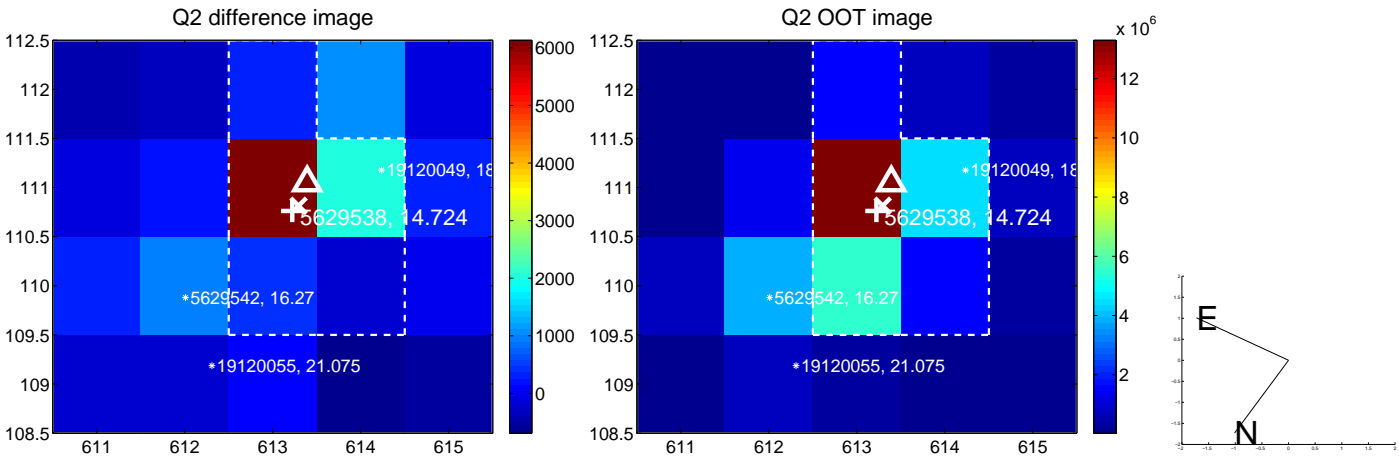
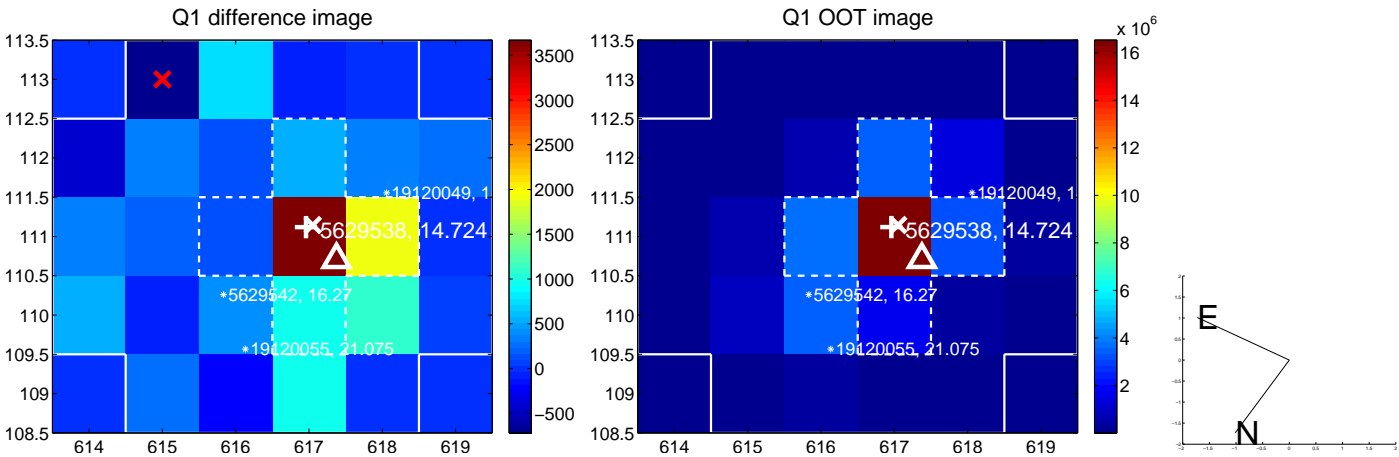
The direct PRF centroid is offset from the target star catalog position by about 0.34 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.479 ± 0.294	1.63	-0.478 ± 0.294	0.033 ± 0.202
PRF-fit source offset from KIC position	0.357 ± 0.281	1.27	-0.351 ± 0.282	0.064 ± 0.222
photometric centroid source offset	0.26 ± 0.59	0.45	0.08 ± 0.62	0.25 ± 0.59

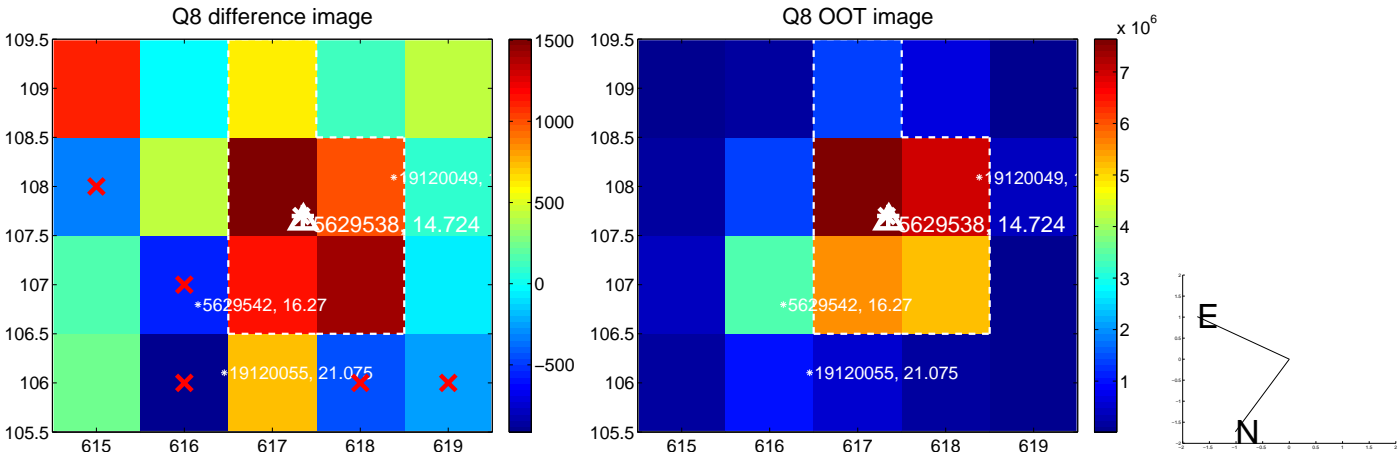
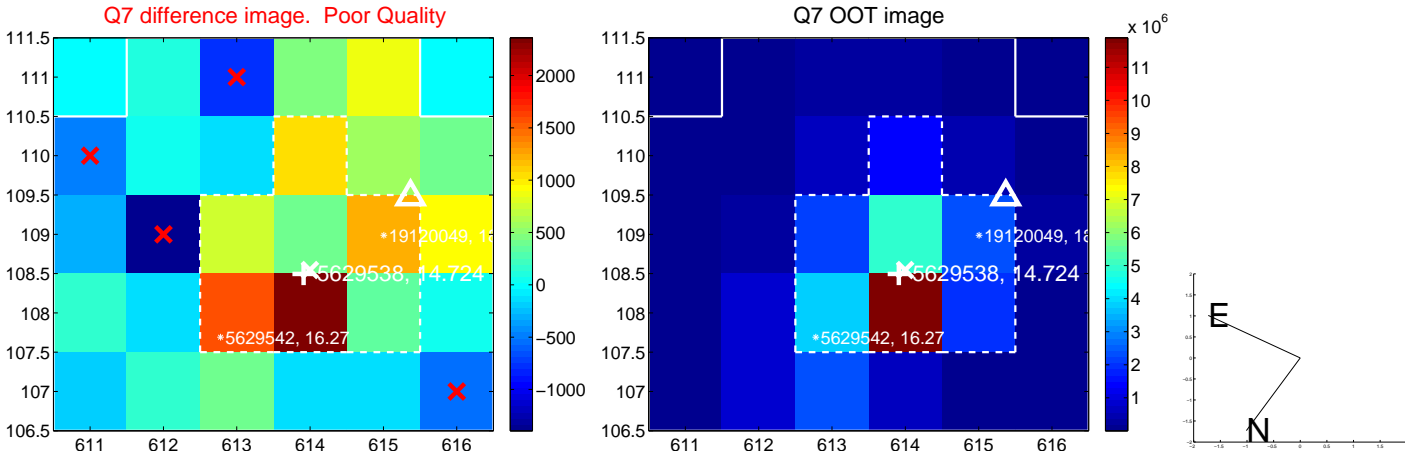
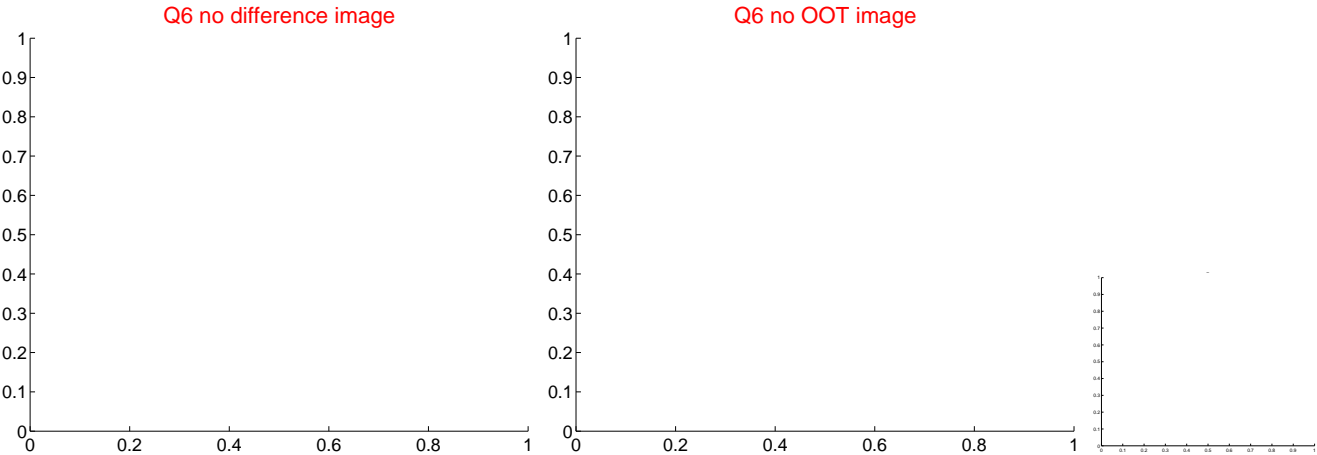
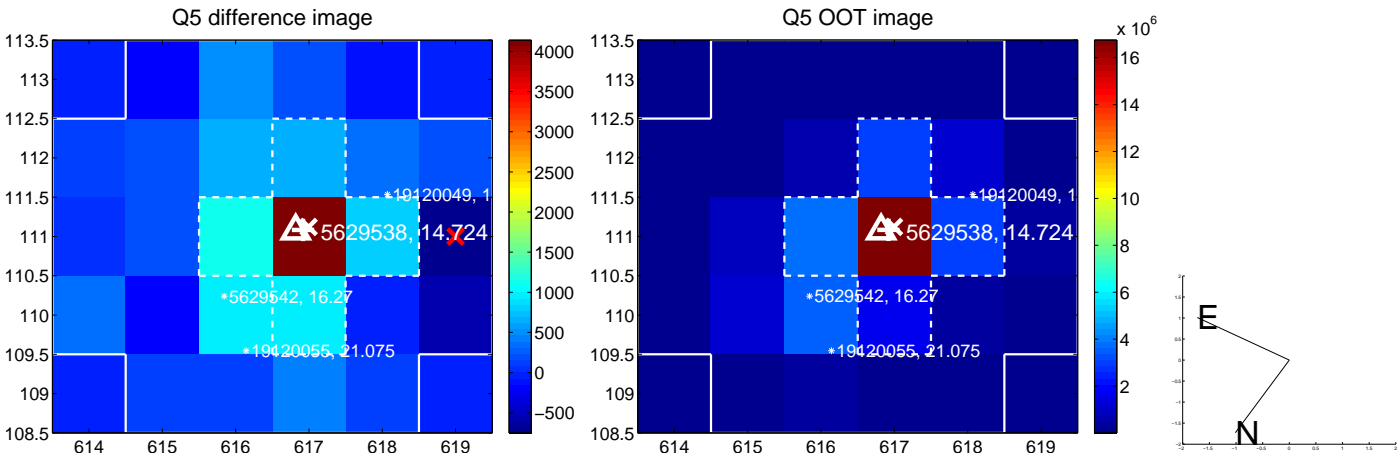


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

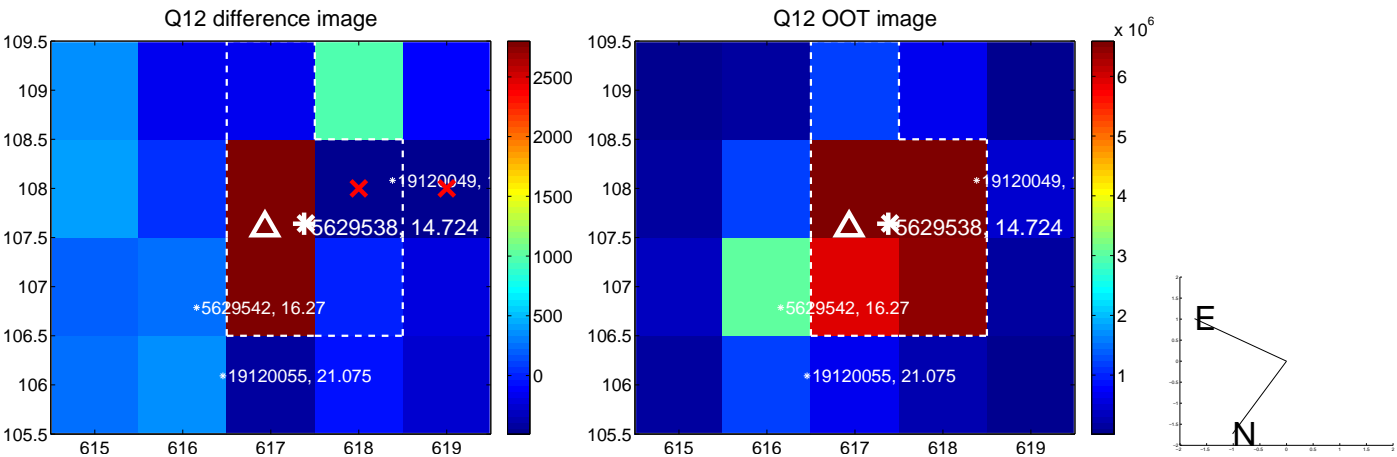
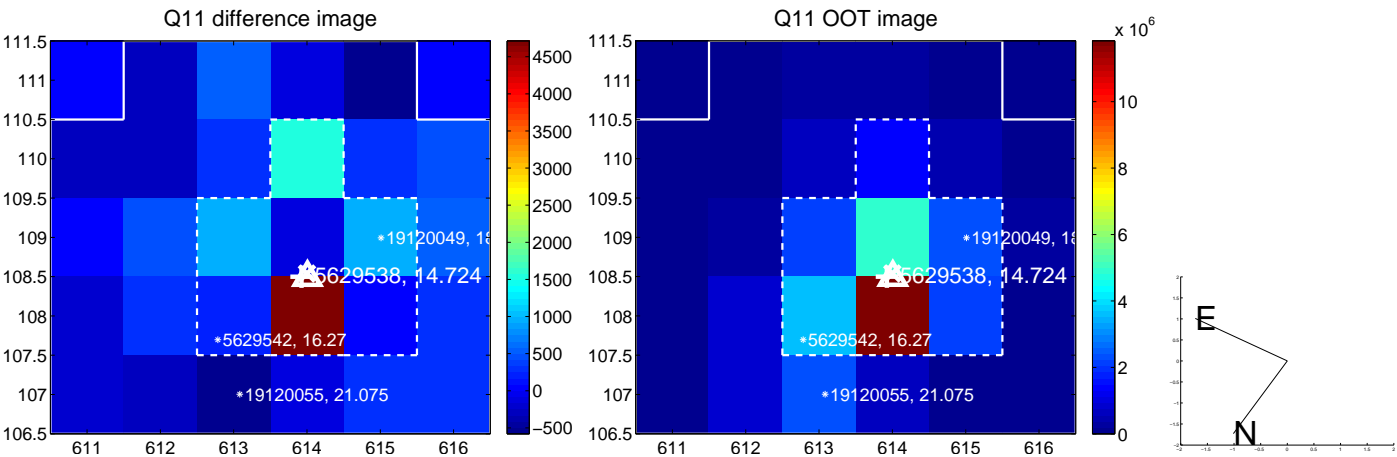
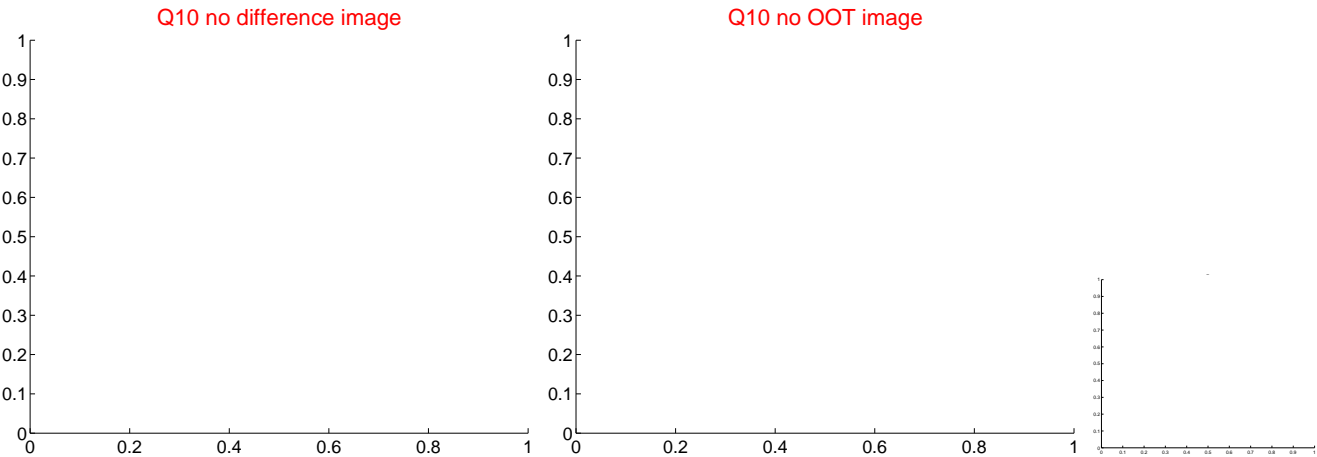
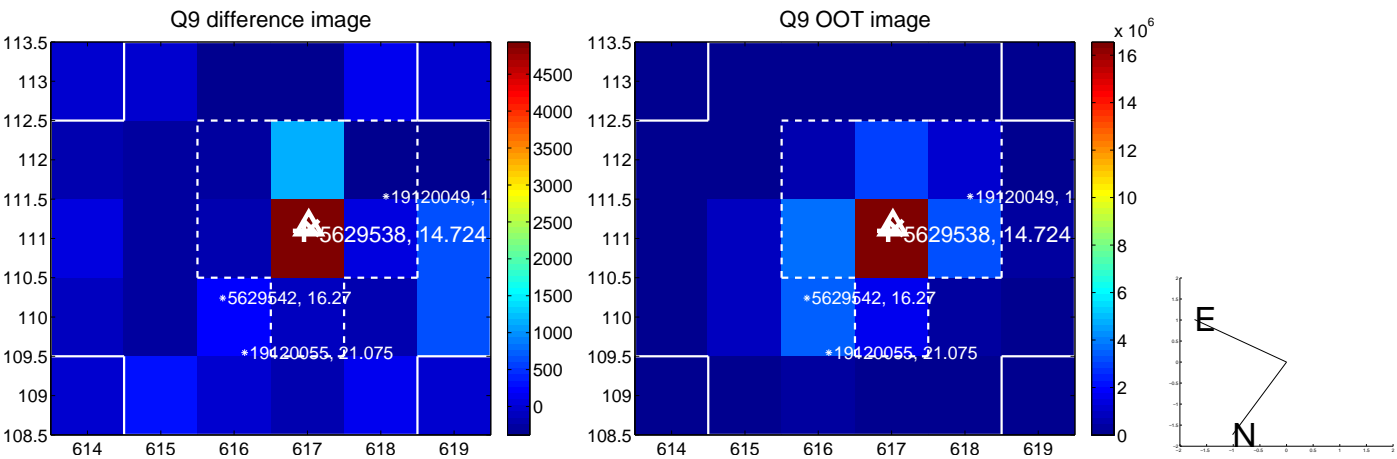
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



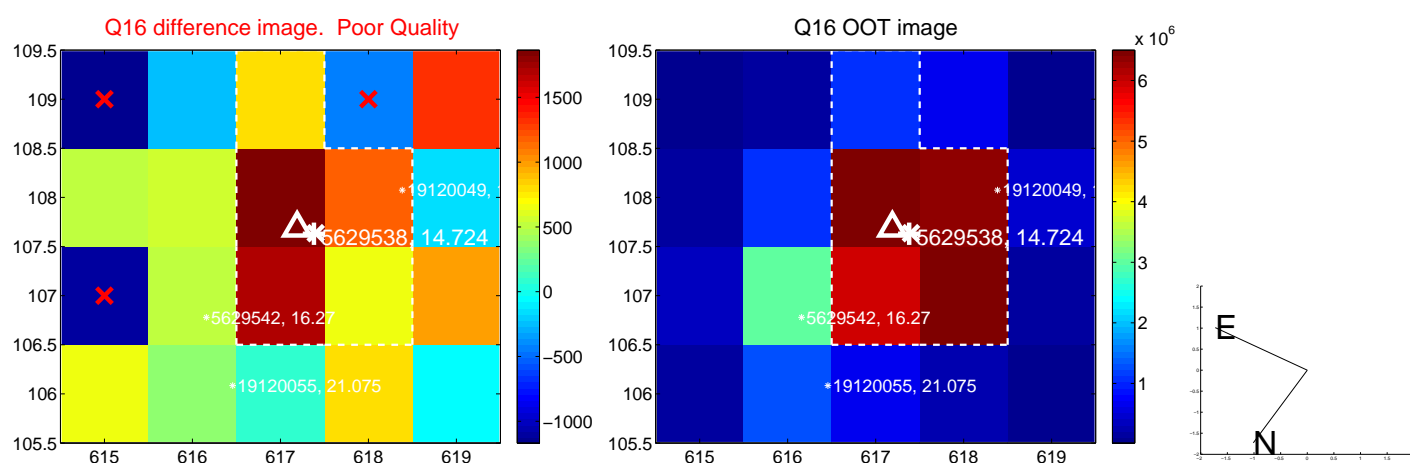
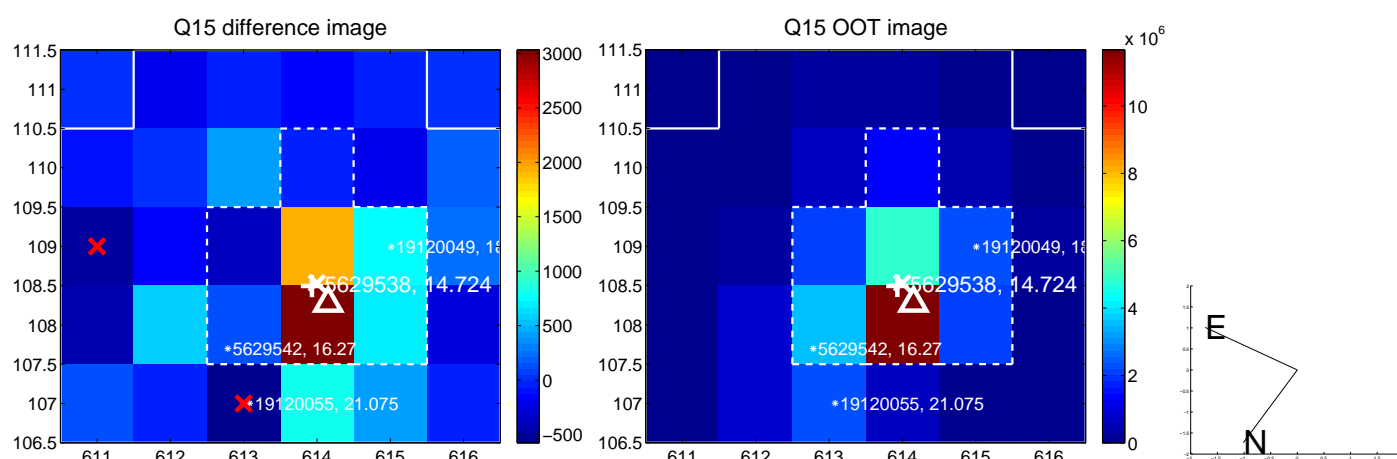
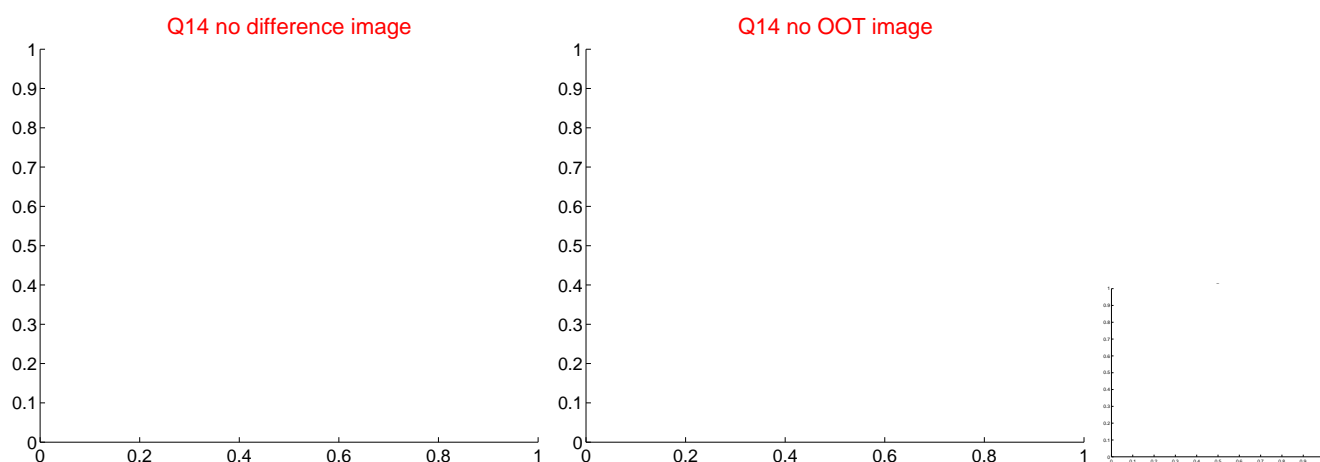
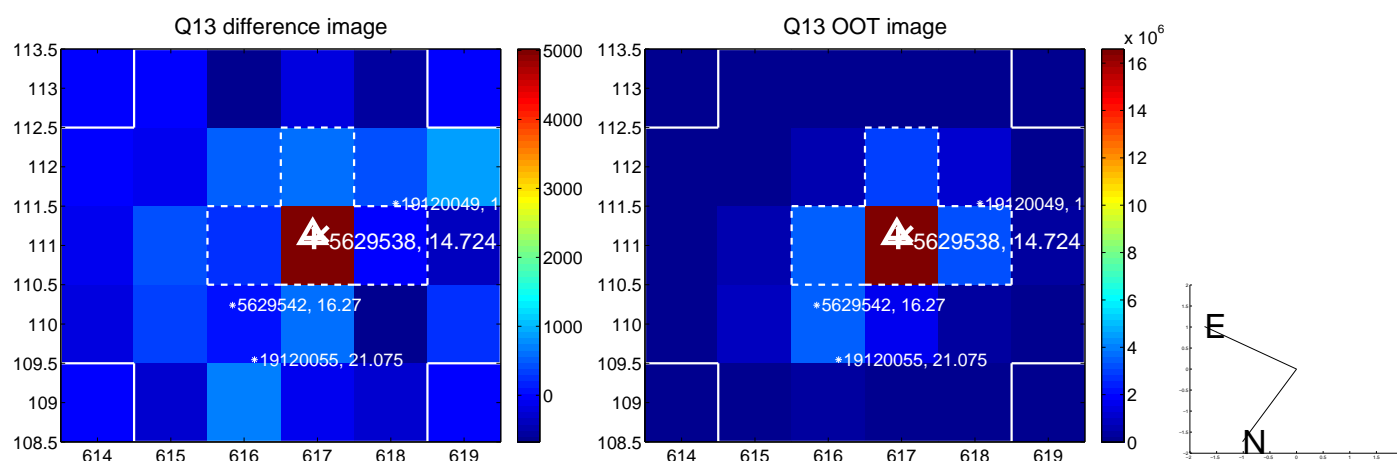
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



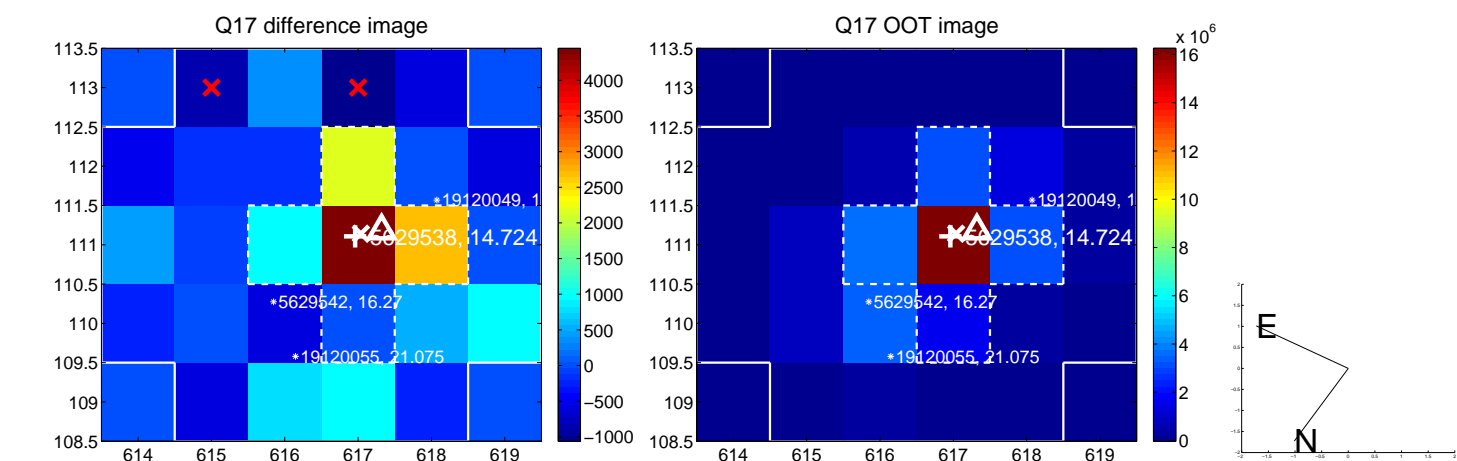
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



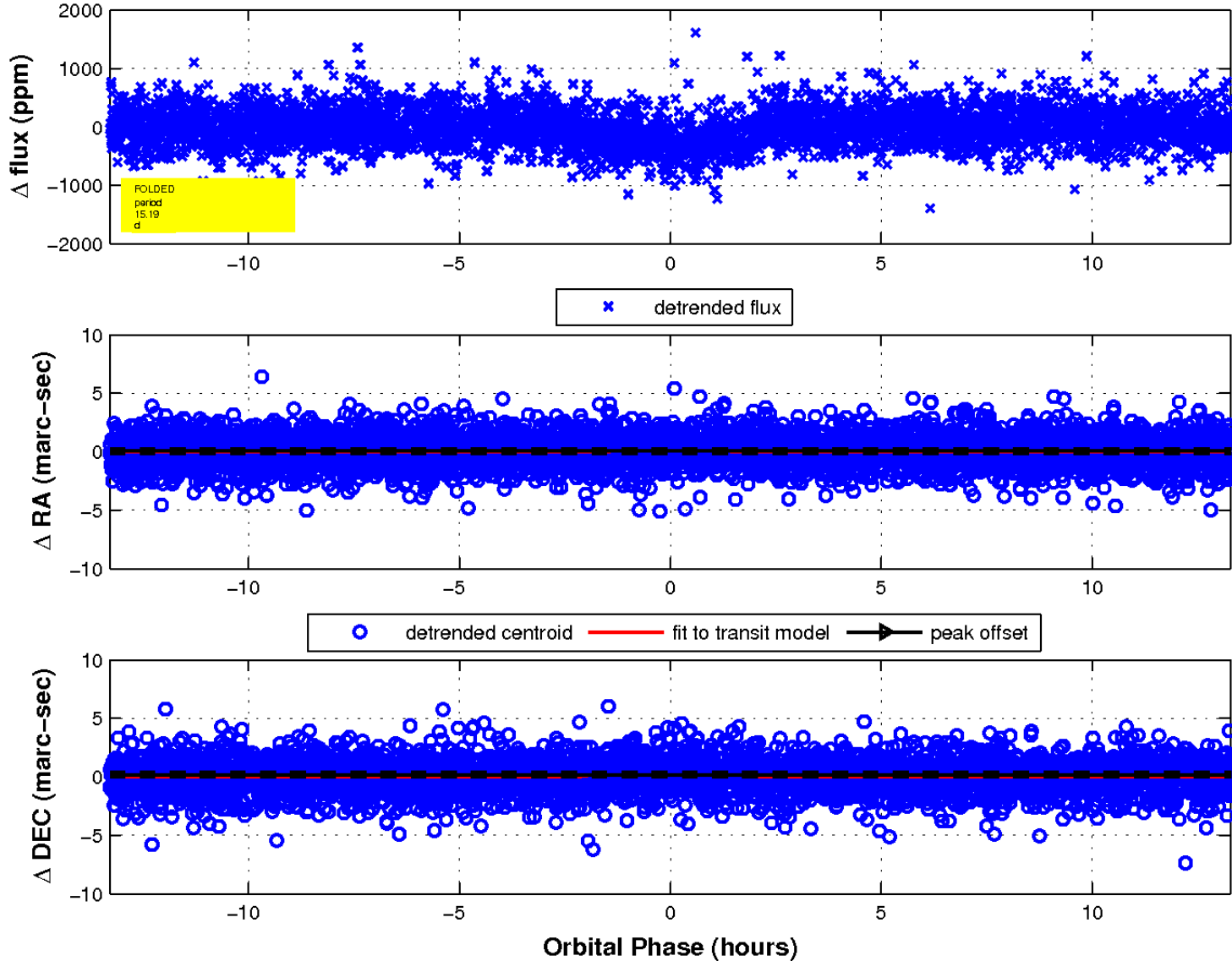
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

