

KIC 004048898

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})
004048898-01	OBS	7678.01	13.091529	143.750755	39.2	2.002	7.6	8.8	1.29	5919	0.95	149.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004048898-01	OBS	PC	0.97	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.

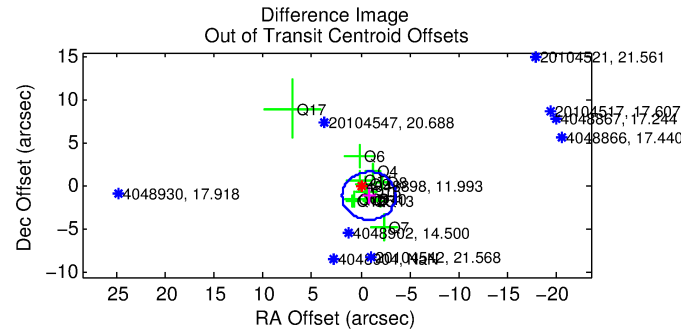
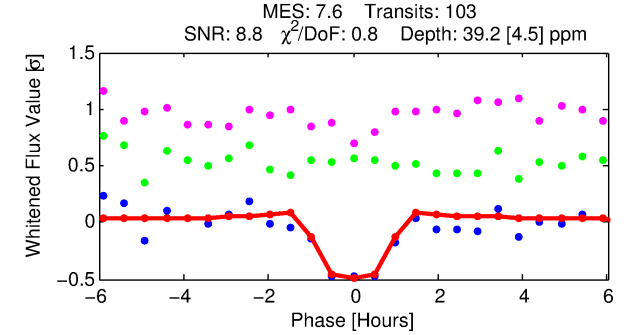
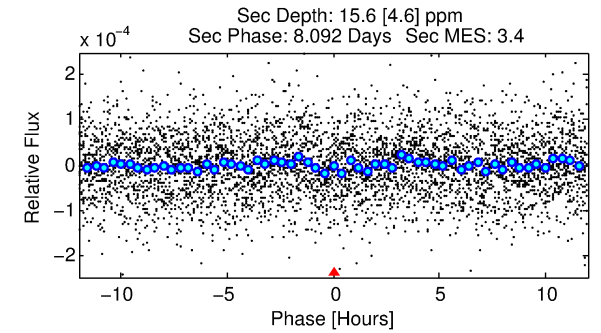
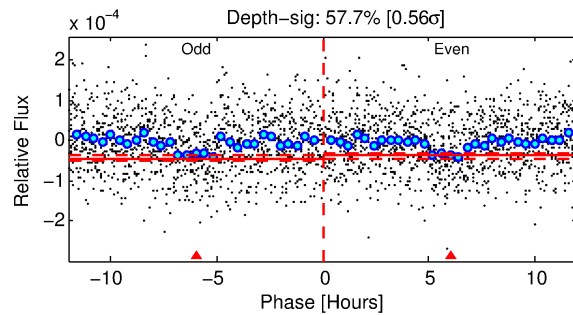
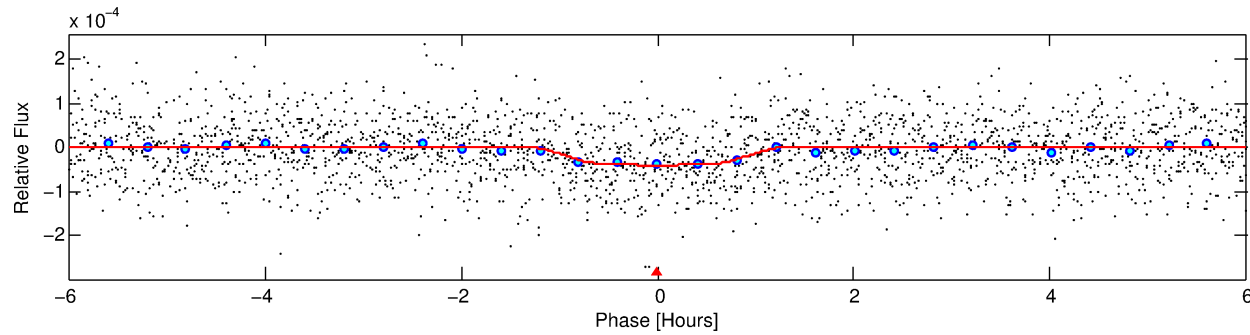
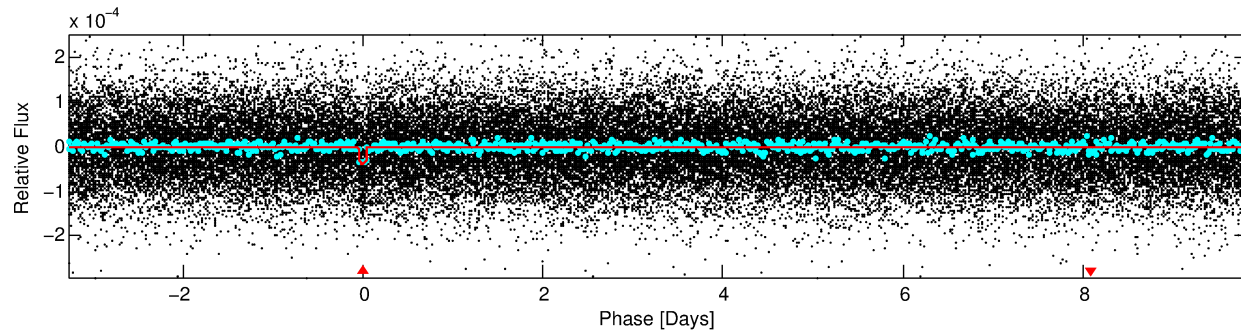
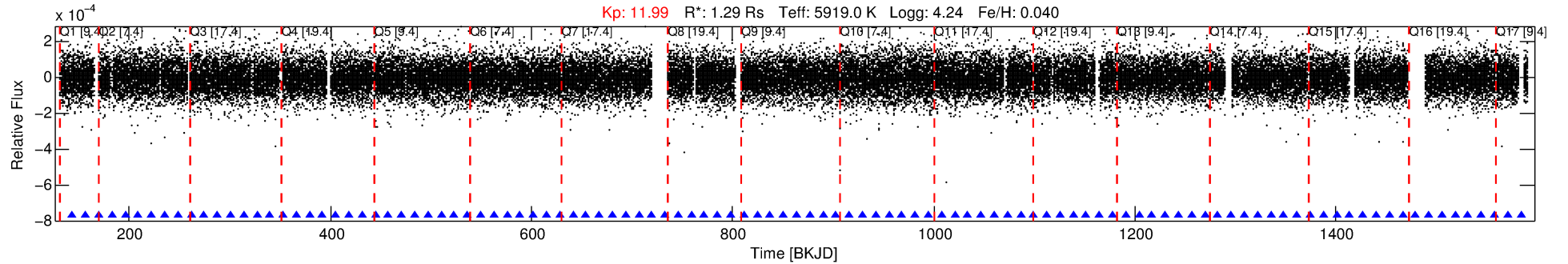
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004048898-01

No Significant Match Found

DV One-Page Summary

KIC: 4048898 Candidate: 1 of 1 Period: 13.092 d



DV Fit Results:

Period = 13.09153 [0.00009] d
Epoch = 143.7508 [0.0052] BKJD
Rp/R* = 0.0068 [0.0035]
a/R* = 22.67 [58.03]
b = 0.90 [0.56]
Seff = 149.68 [40.82]
Teq = 892 [61] K
Rp = 0.96 [0.52] Re
a = 0.1104 [0.0186] AU
Ag = 114.78 [127.35] [0.89 σ]
Teffp = 4514 [1217] K [2.97 σ]

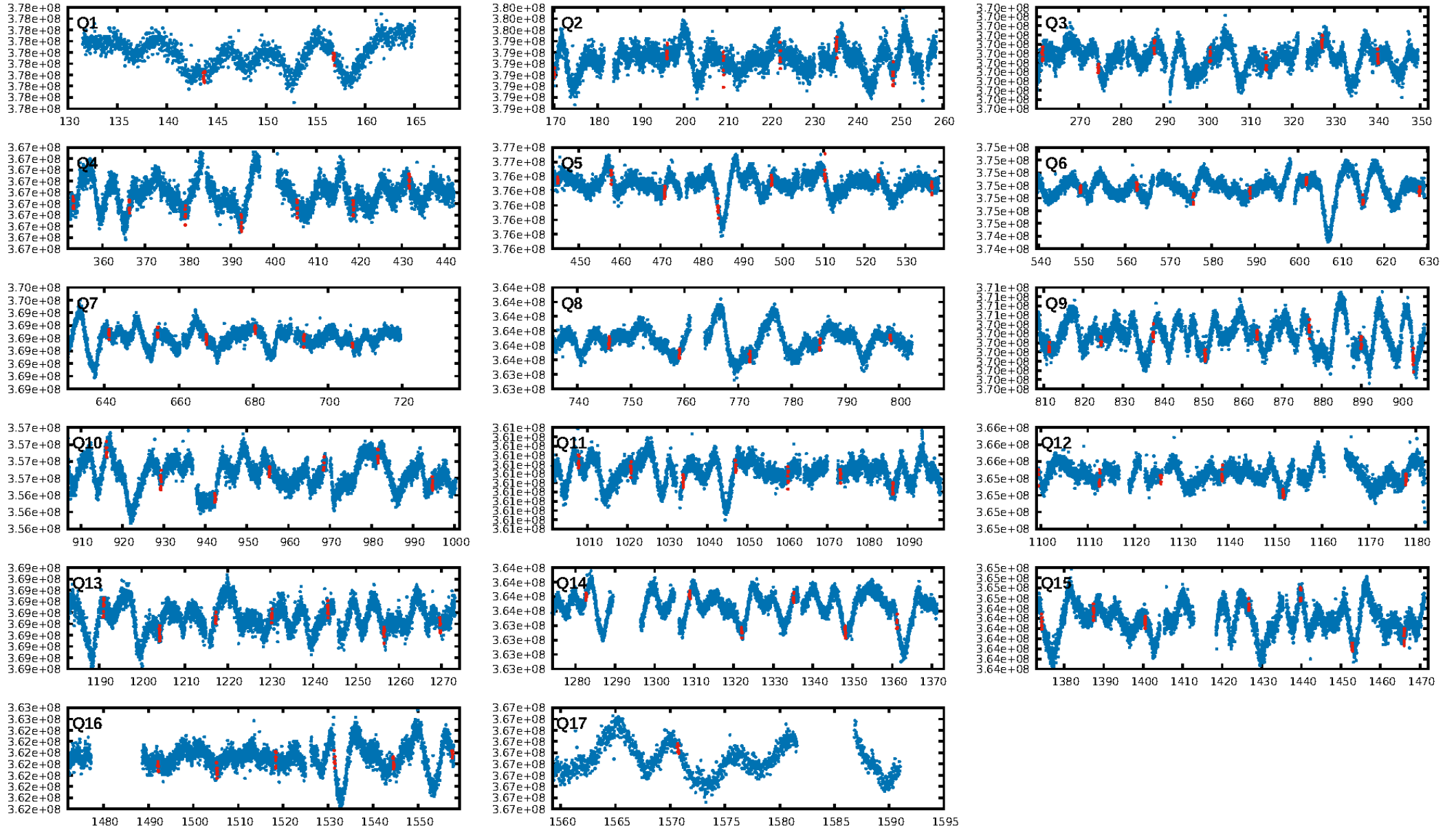
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.81e-14
RollingBand-fgt: 1.00 [100/100]
GhostDiagnostic-chr: 3.359
Centroid-sig: 48.5%
Centroid-so: 0.350 arcsec [0.27 σ]
OotOffset-rm: 1.375 arcsec [1.50 σ]
KicOffset-rm: 1.205 arcsec [1.21 σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 0.64 [9/14]
DiffImageOverlap-fno: 1.00 [17/17]

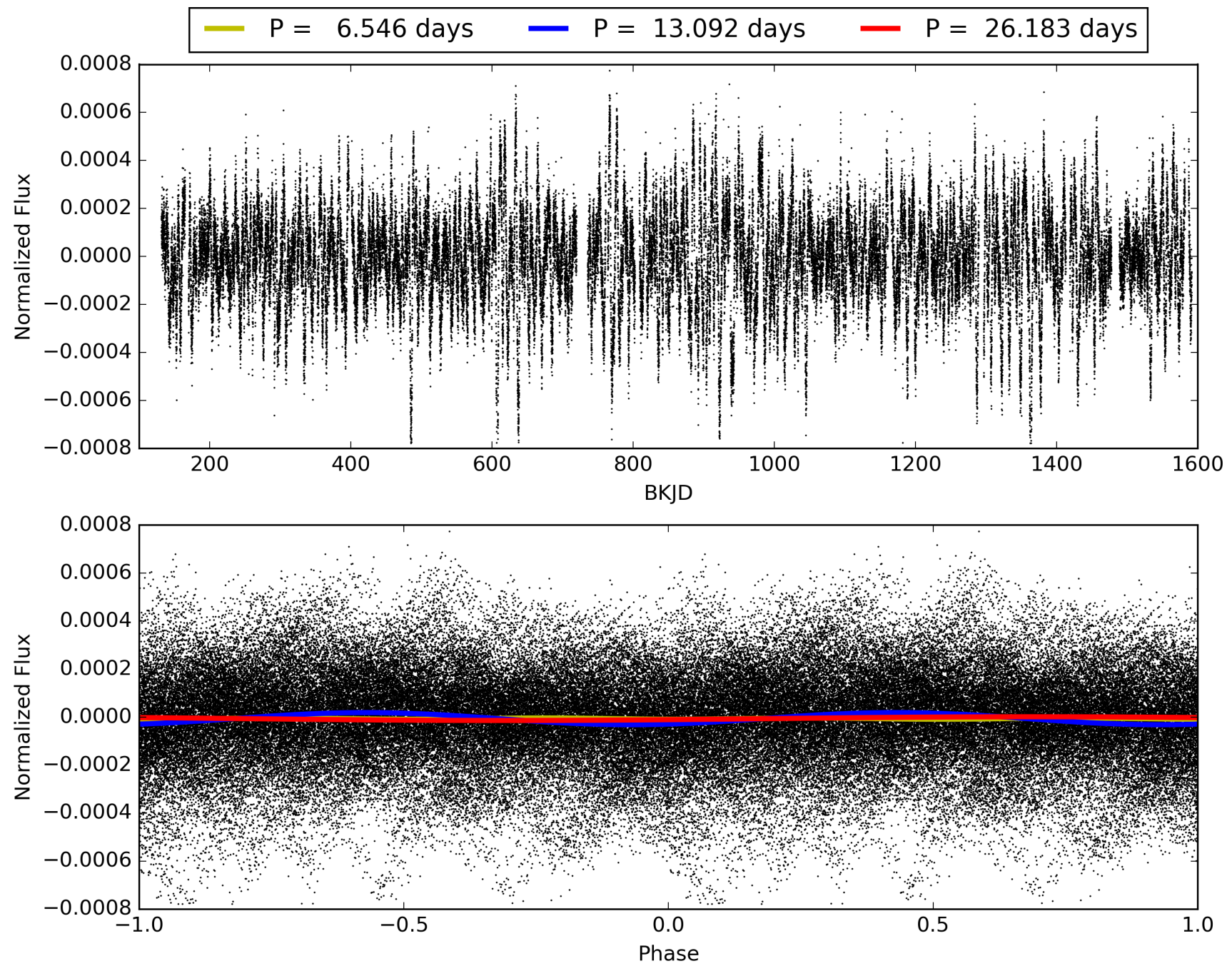
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:14:07 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 004048898-01, PDC Light Curves

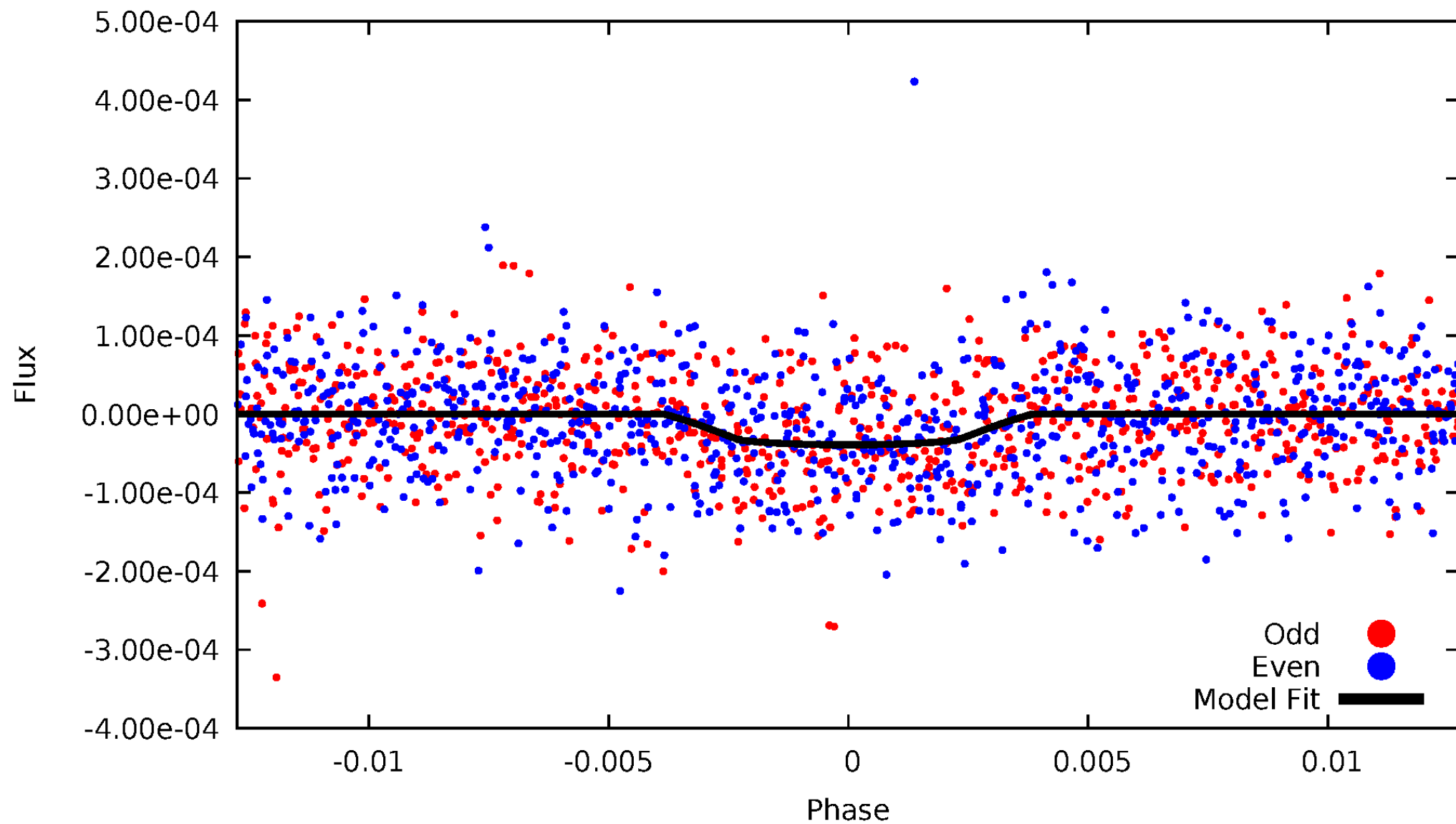


TCE 004048898-01



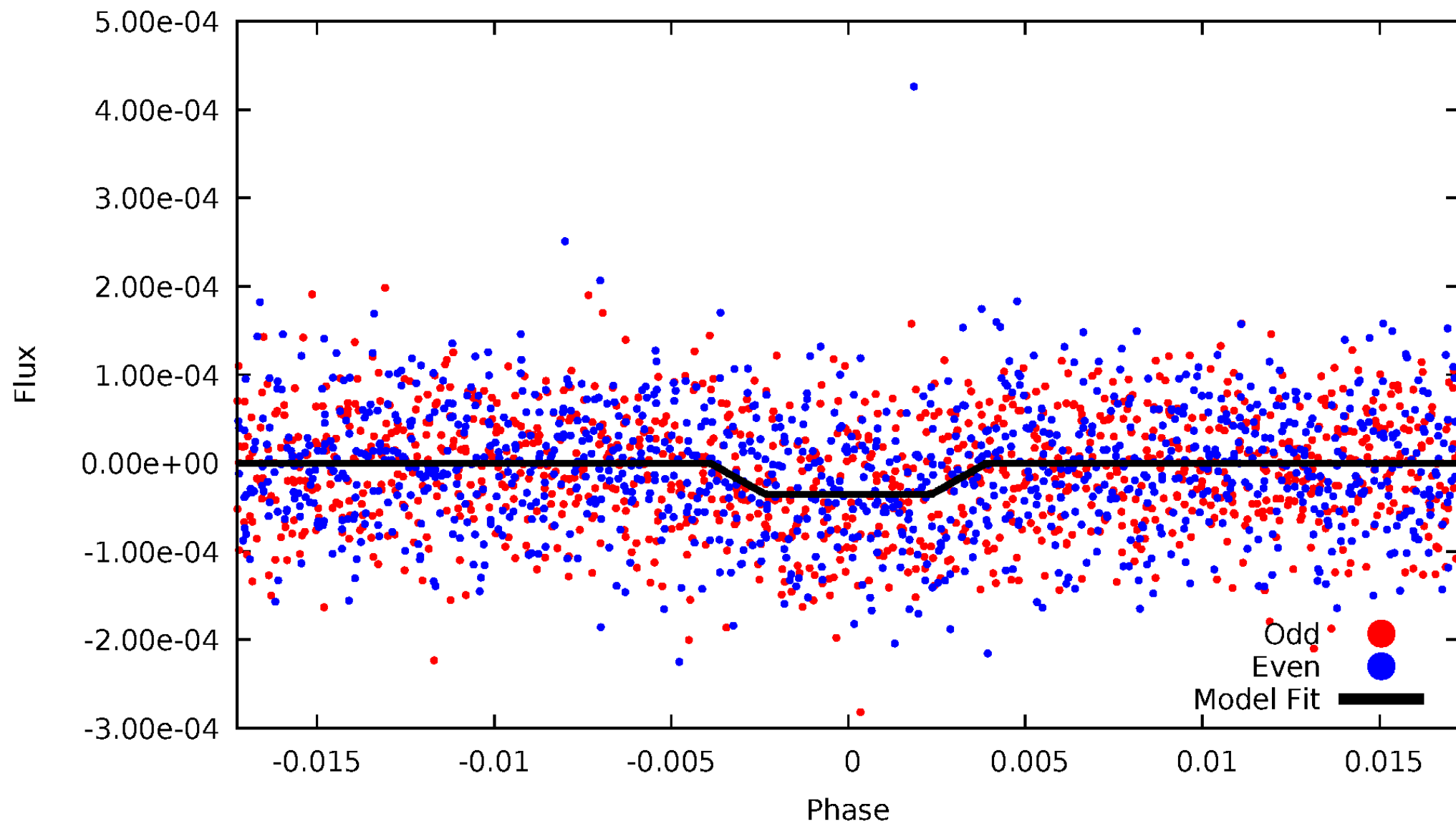
DV Odd/Even

TCE 004048898-01



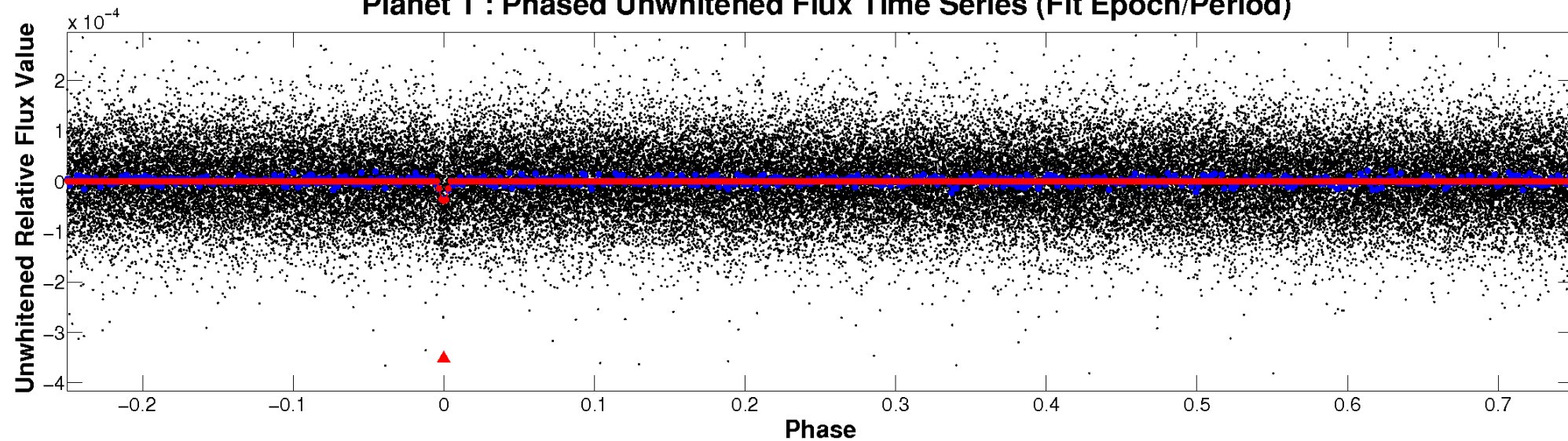
ALT Odd/Even

TCE 004048898-01

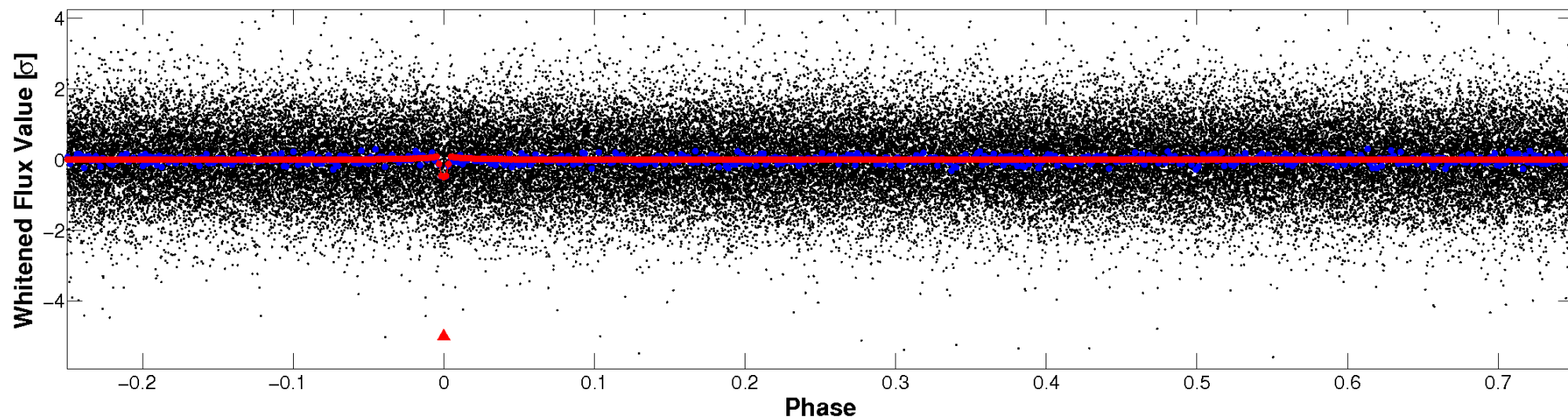


Non-Whitened Vs. Whitened Light Curve

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

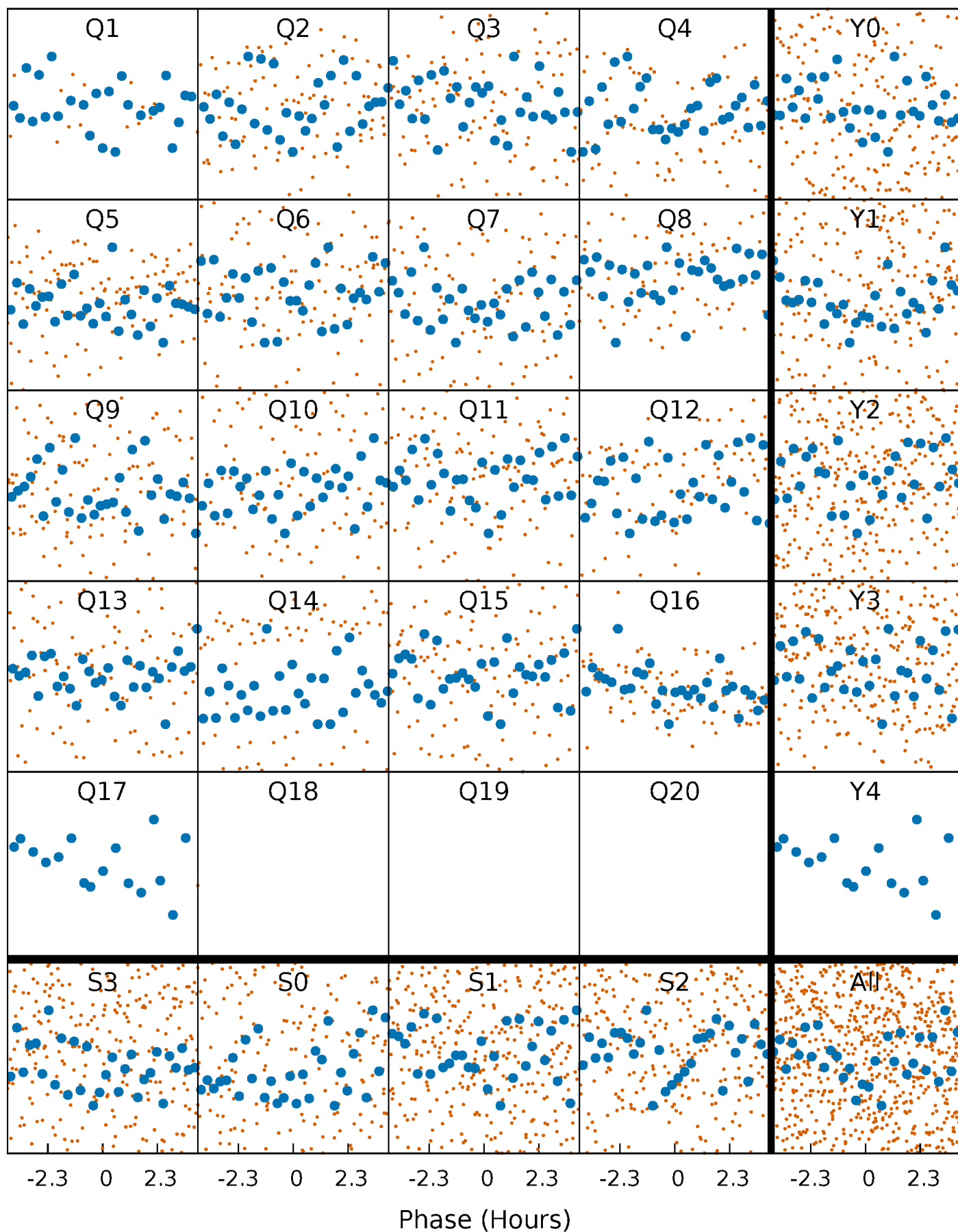


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



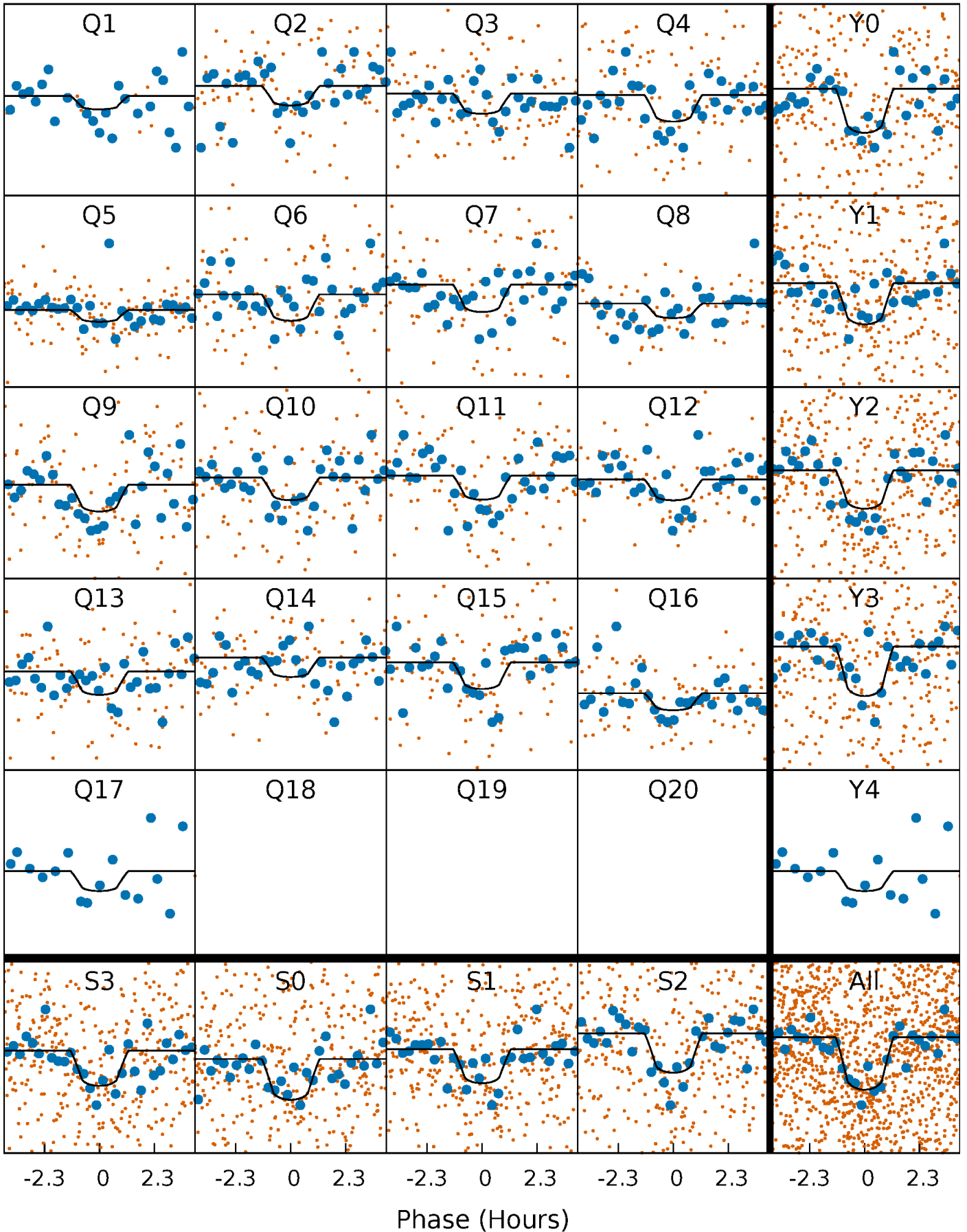
PDC Quarter-Phased Transit Curves

TCE 004048898-01 P= 13.091529 Days $T_0=143.750755$ (BKJD)



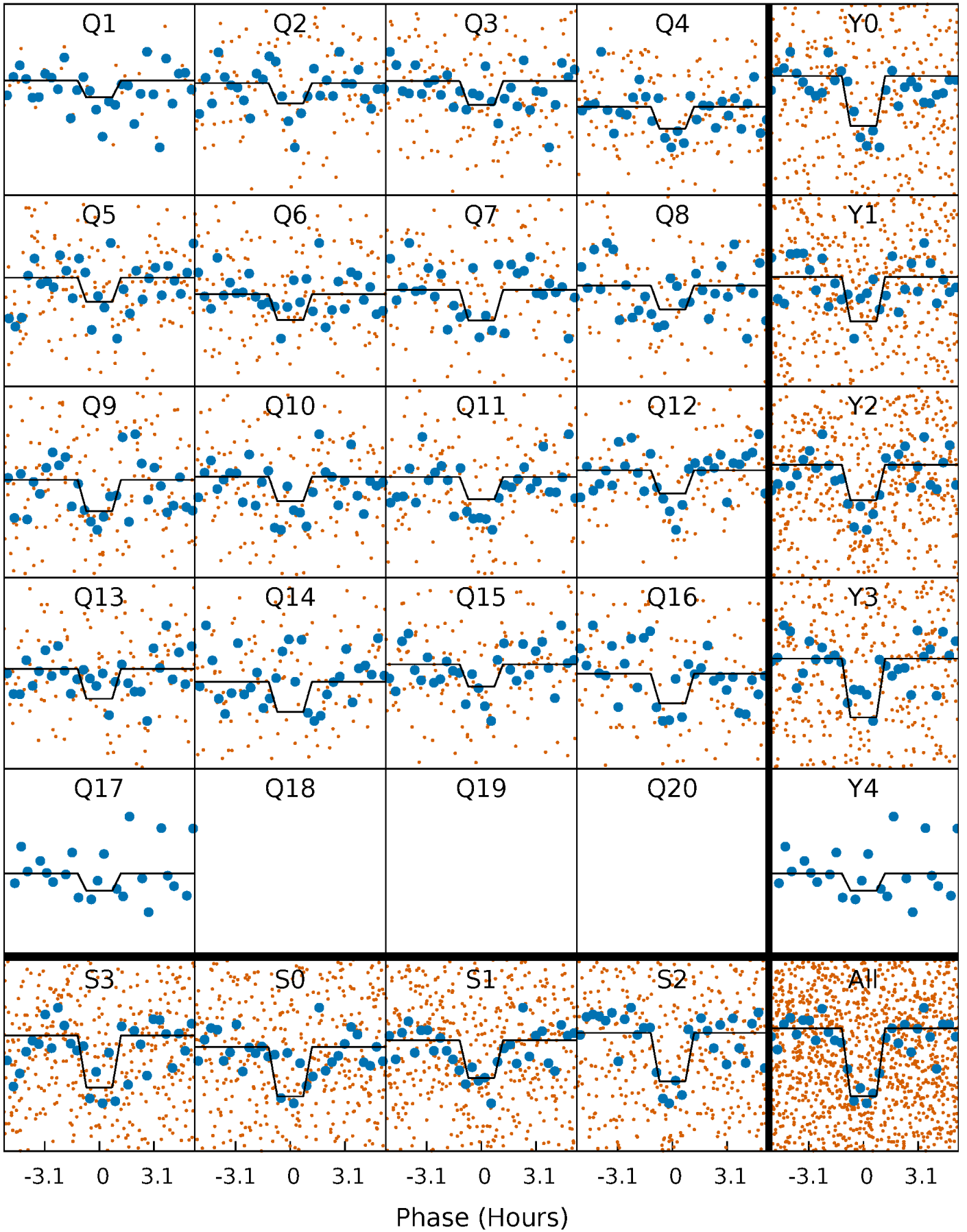
DV Quarter-Phased Transit Curves

TCE 004048898-01 P= 13.091529 Days $T_0=143.750755$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

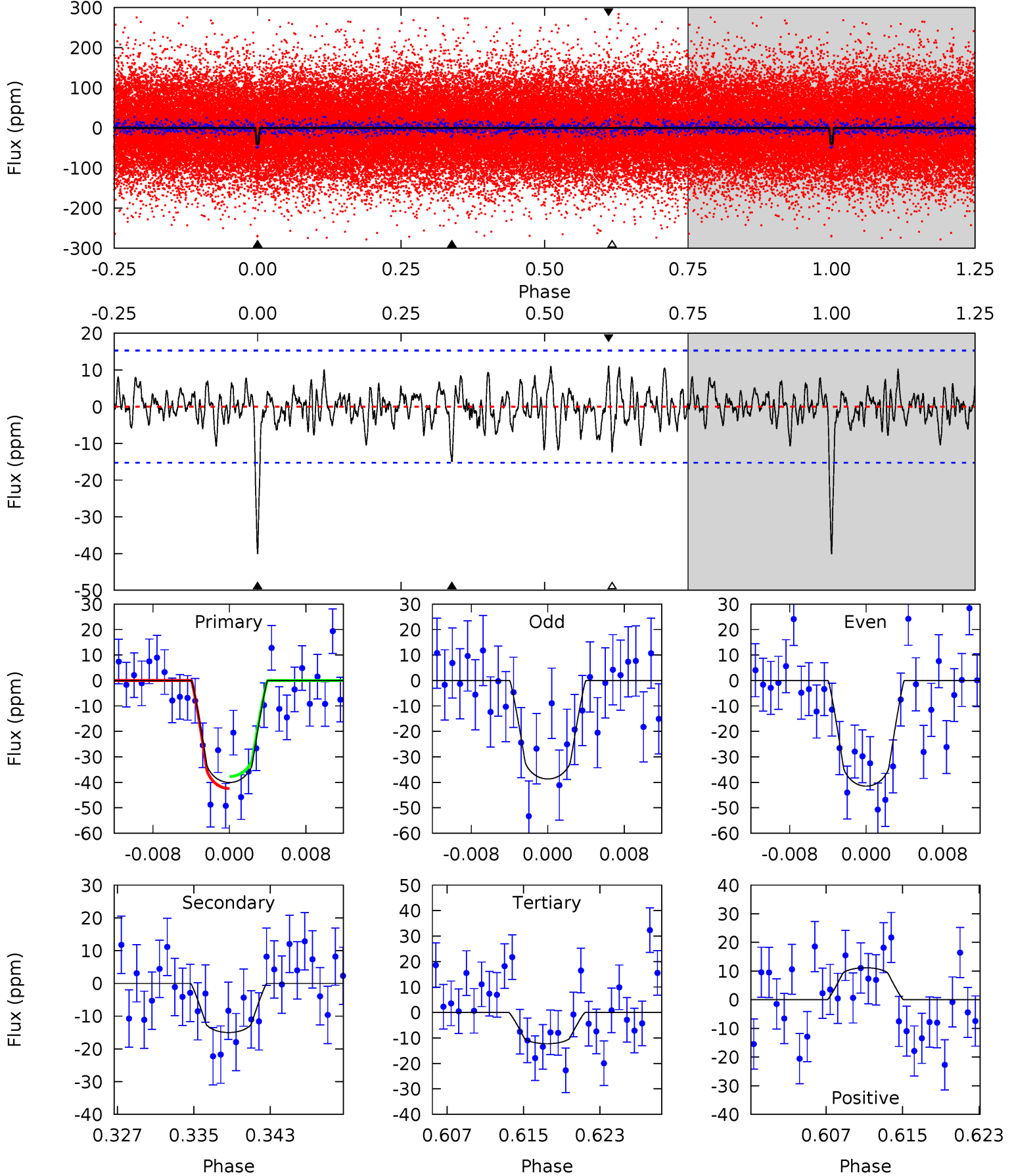
TCE 004048898-01 P= 13.091680 Days $T_0=143.740345$ (BKJD)



DV Model-Shift Uniqueness Test

004048898-01, P = 13.091529 Days, E = 130.659226 Days

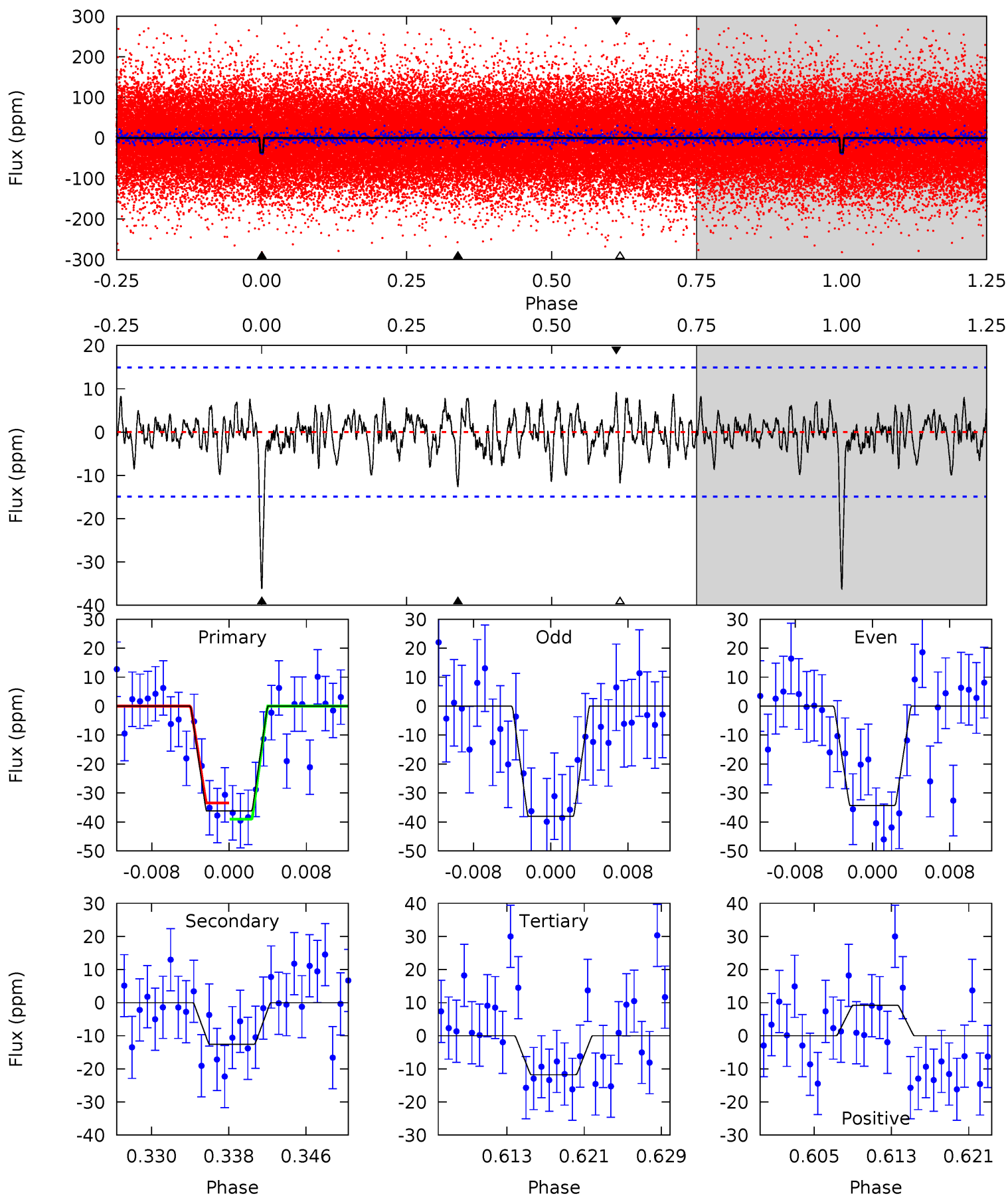
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.3	4.98	4.07	3.71	5.07	2.66	1.30	9.23	9.60	0.91	1.27	0.47	0.96	0.22	0.79



Alt Model-Shift Uniqueness Test

004048898-01, P = 13.091680 Days, E = 130.648665 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.3	4.28	4.01	3.13	5.07	2.66	1.20	8.31	9.19	0.27	1.15	0.64	0.98	0.20	0.95



Stellar Parameters For KIC 004048898

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5919^{+71}_{-79}	$4.238^{+0.156}_{-0.104}$	$0.040^{+0.150}_{-0.150}$	$1.288^{+0.209}_{-0.230}$	$1.048^{+0.085}_{-0.077}$	$0.690^{+0.509}_{-0.234}$
	+1%/-1%	+4%/-2%	+375%/-375%	+16%/-18%	+8%/-7%	+74%/-34%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 004048898-01 / KOI 7678.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-15 ± 3	$0.95^{+0.51}_{-0.46}$	1239^{+50}_{-64}	4607^{+1548}_{-700}	113^{+322}_{-68}
Alt.	-13 ± 3	$0.86^{+0.47}_{-0.44}$	1244^{+53}_{-62}	4609^{+1694}_{-714}	108^{+364}_{-63}

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 $A_{obs} \gg 1.0$

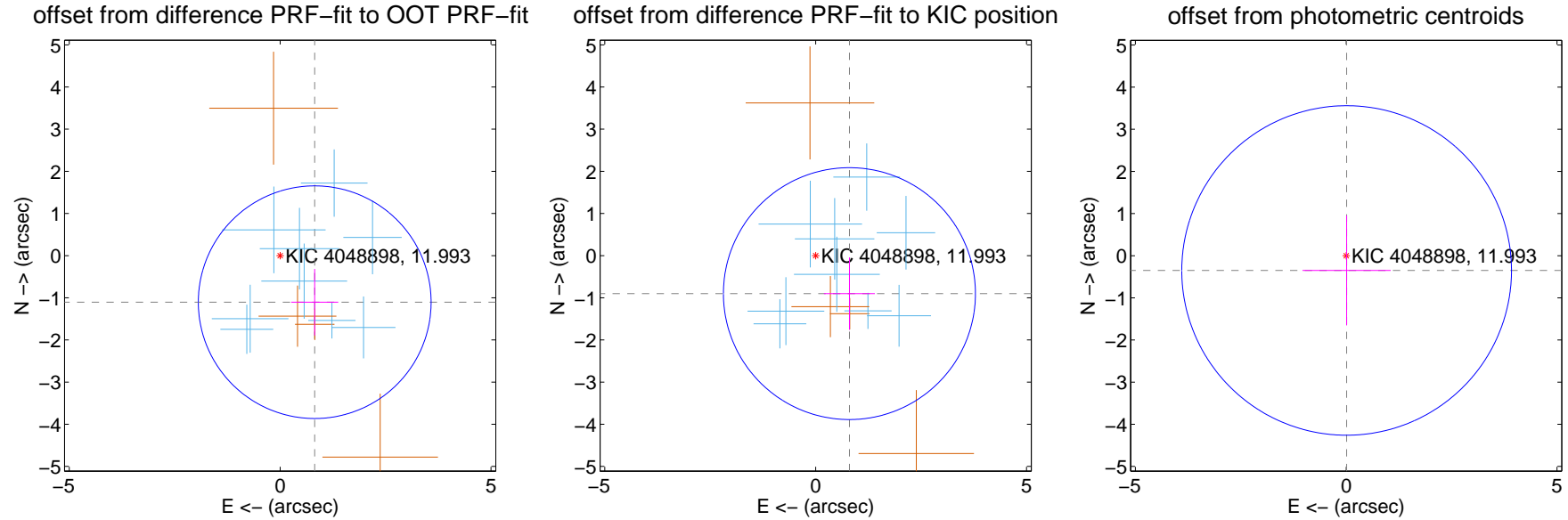
DV Centroid Data

Supplemental centroid analysis for 004048898-01. **Kepler magnitude: 11.99.** Transit SNR 8.77

There are 9 quarters with good PRF difference image offsets

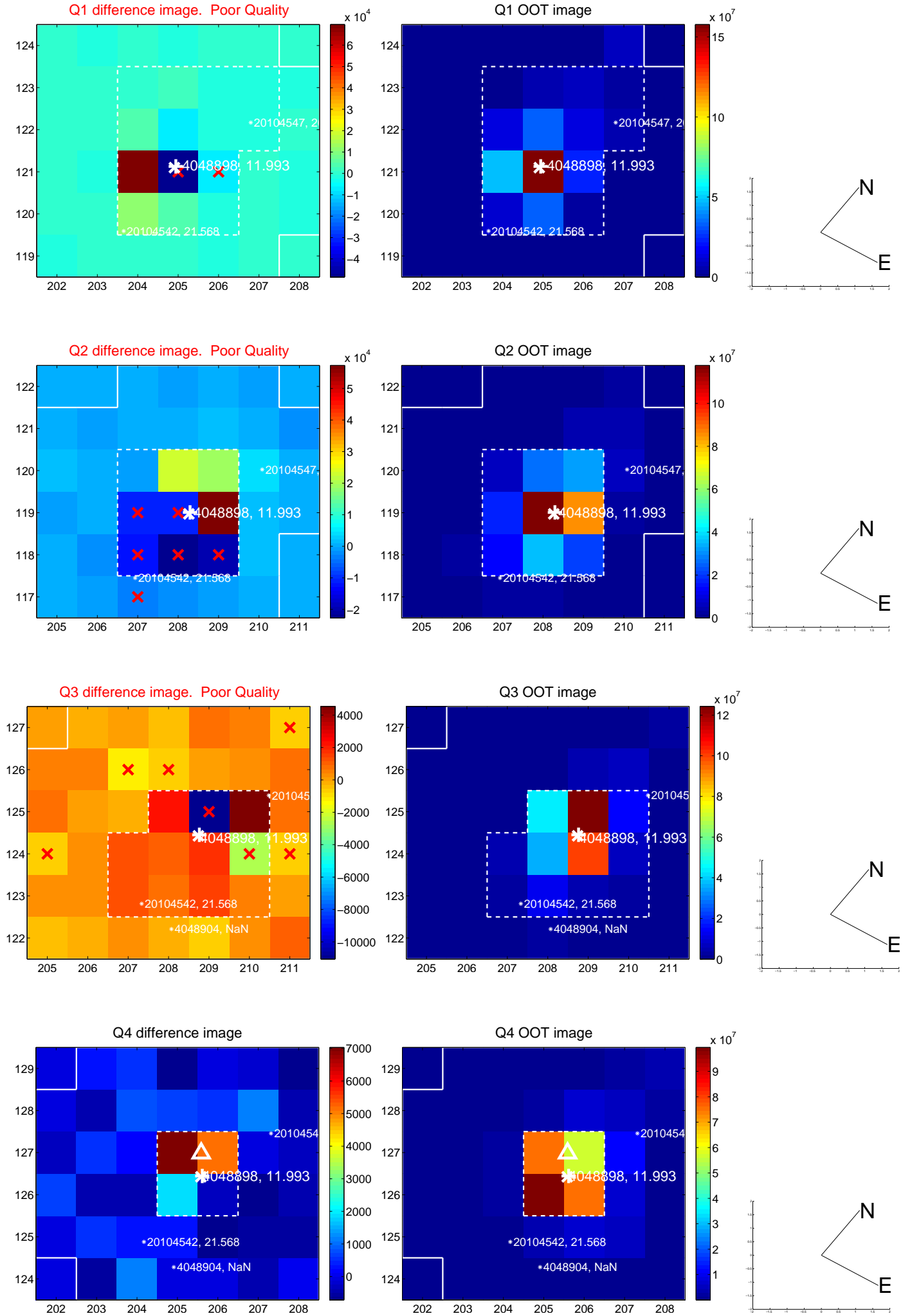
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.375 ± 0.920	1.50	-0.820 ± 0.558	-1.104 ± 0.790
PRF-fit source offset from KIC position	1.205 ± 0.996	1.21	-0.801 ± 0.604	-0.901 ± 0.858
photometric centroid source offset	0.35 ± 1.30	0.27	-0.01 ± 1.05	-0.35 ± 1.30

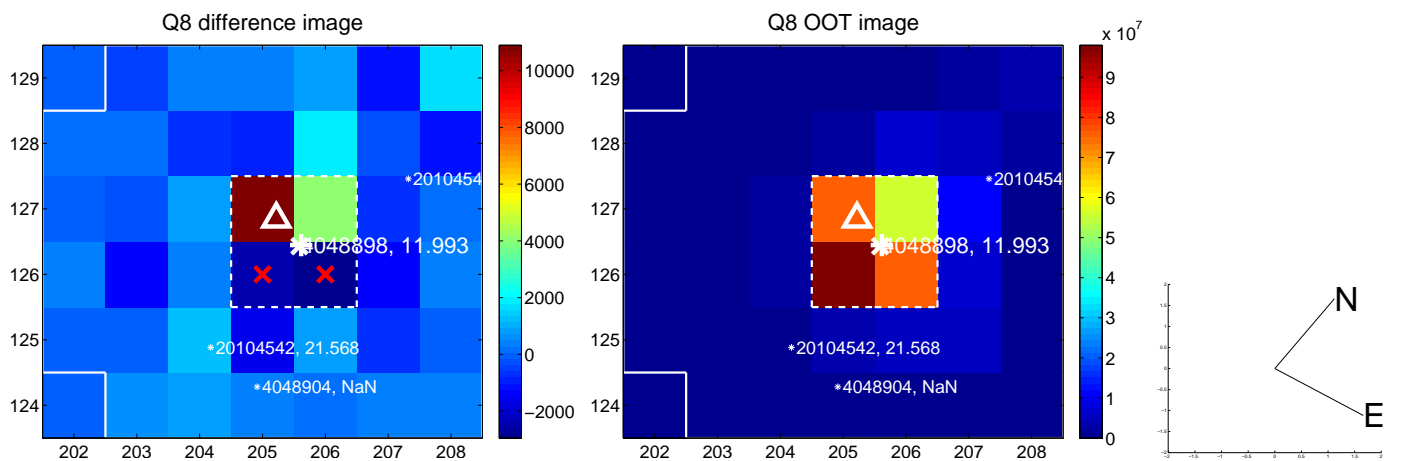
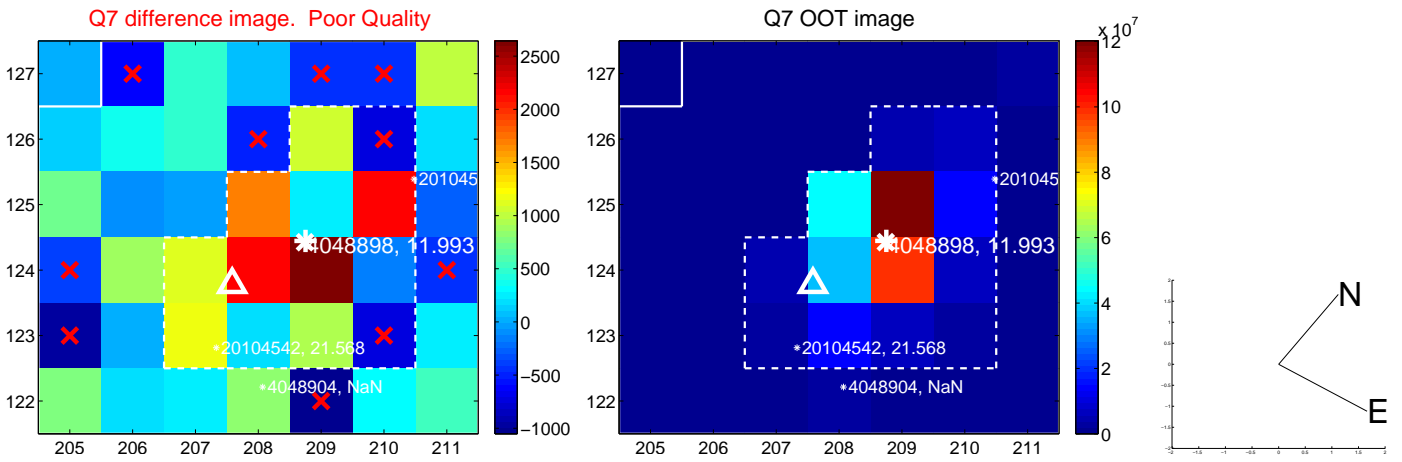
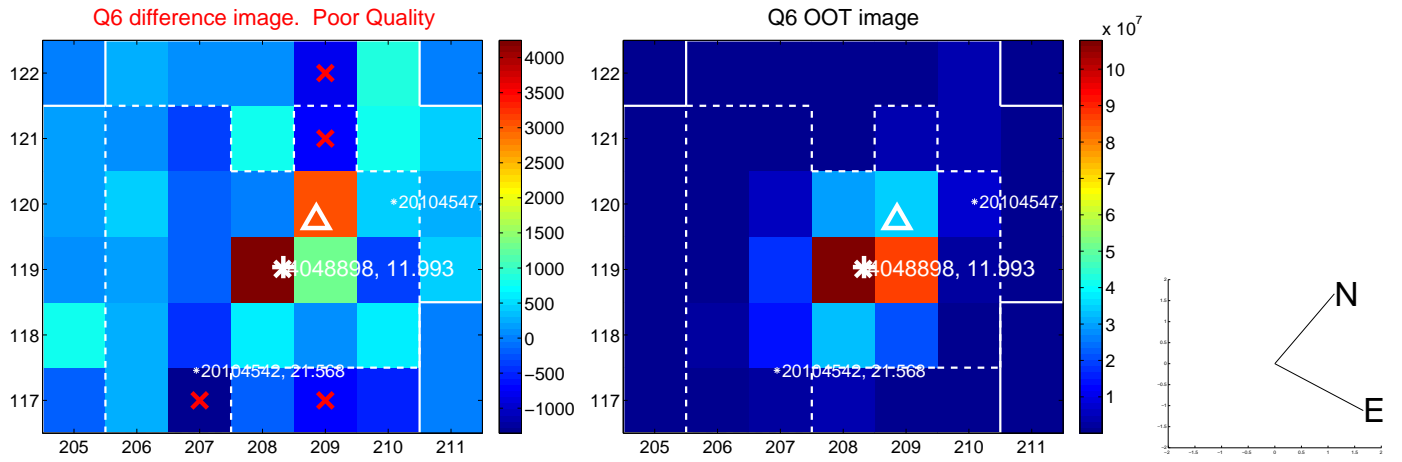
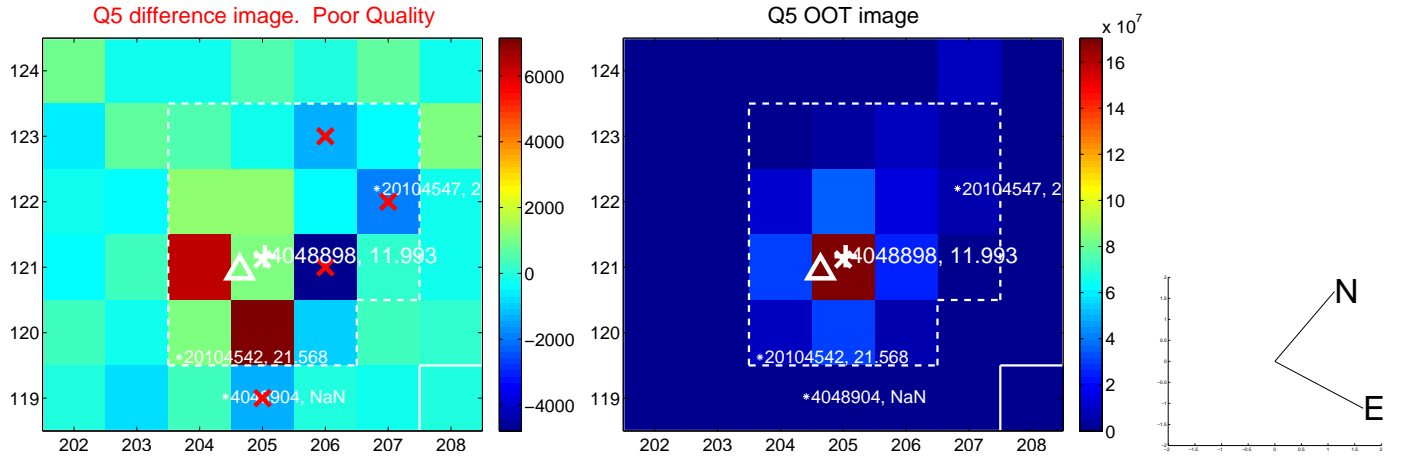


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

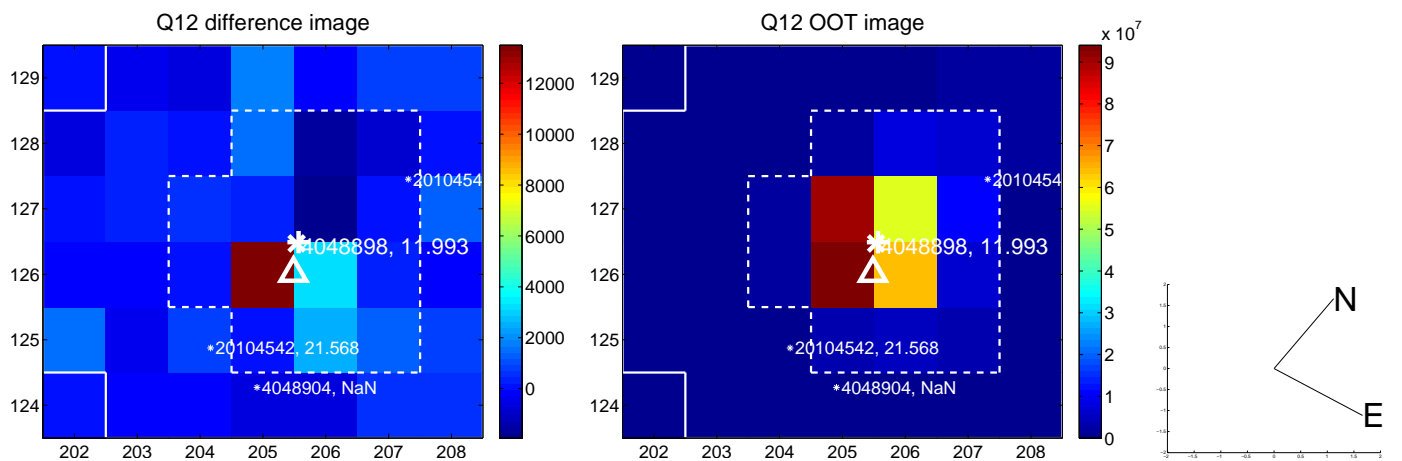
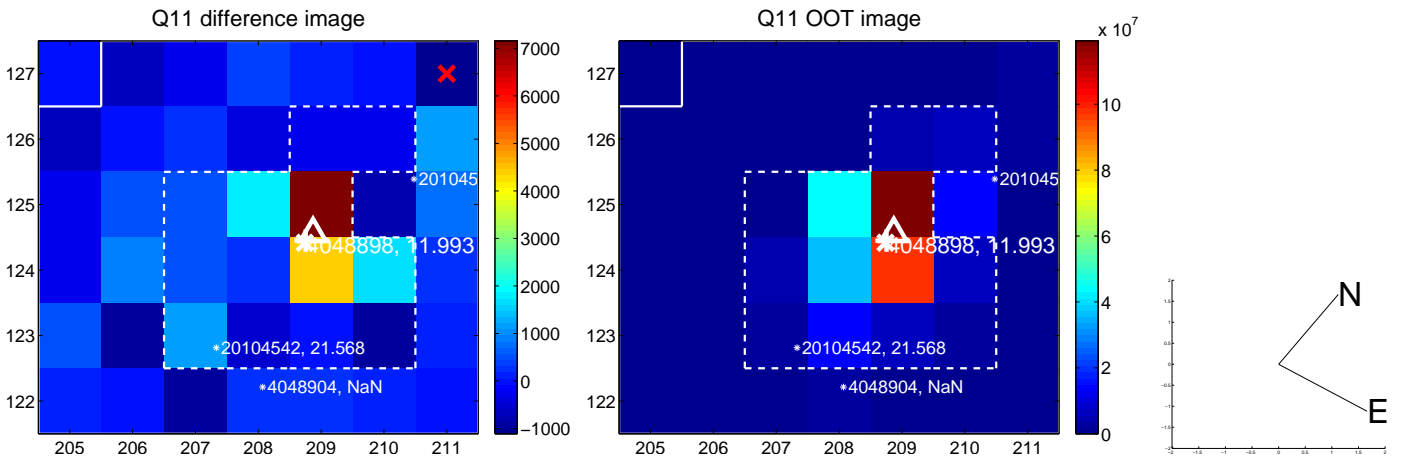
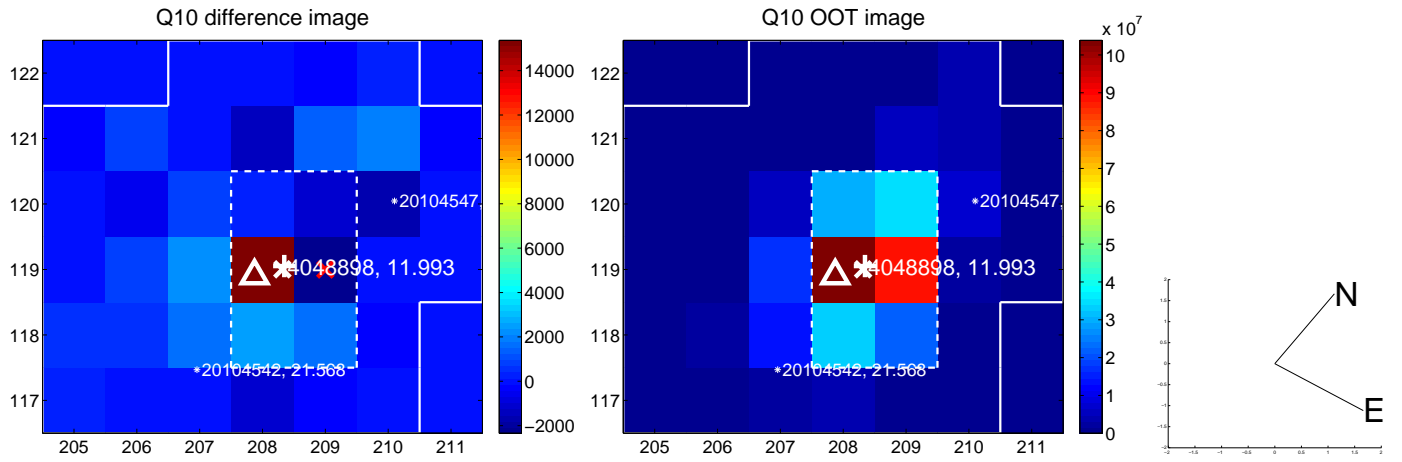
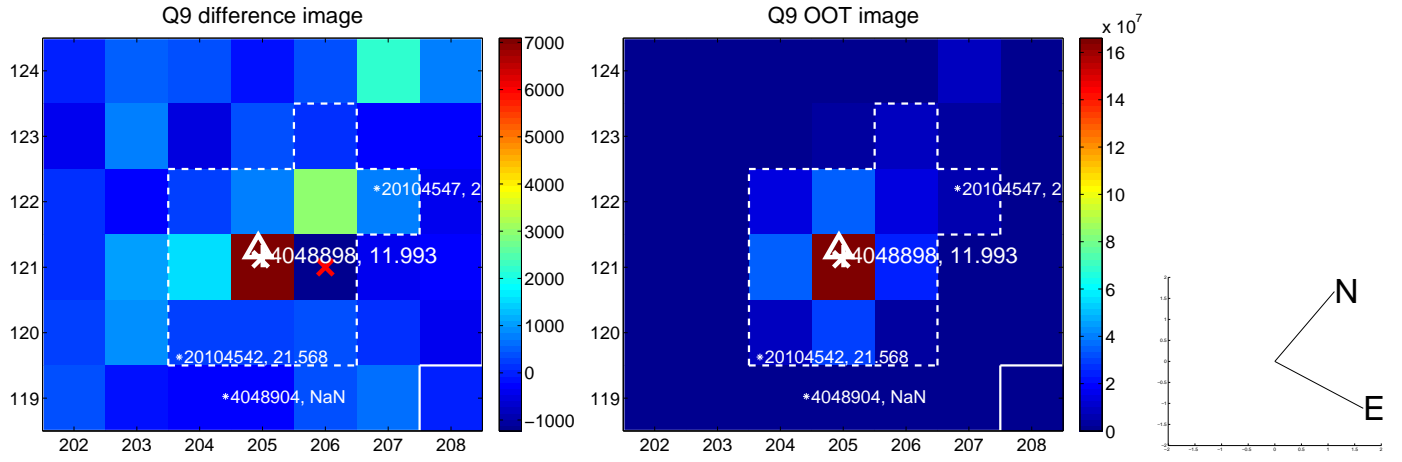
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



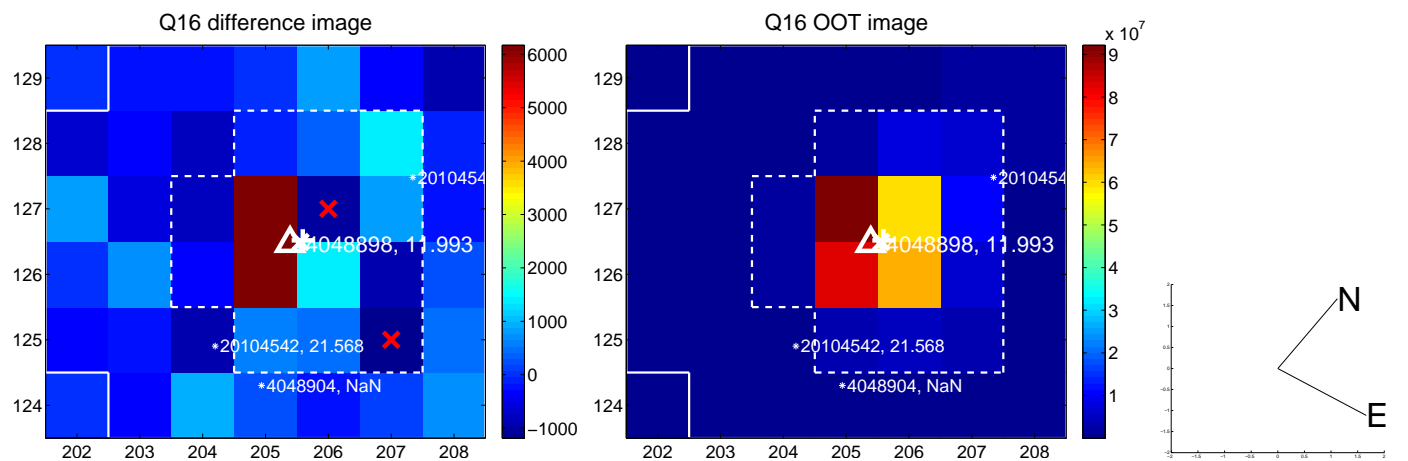
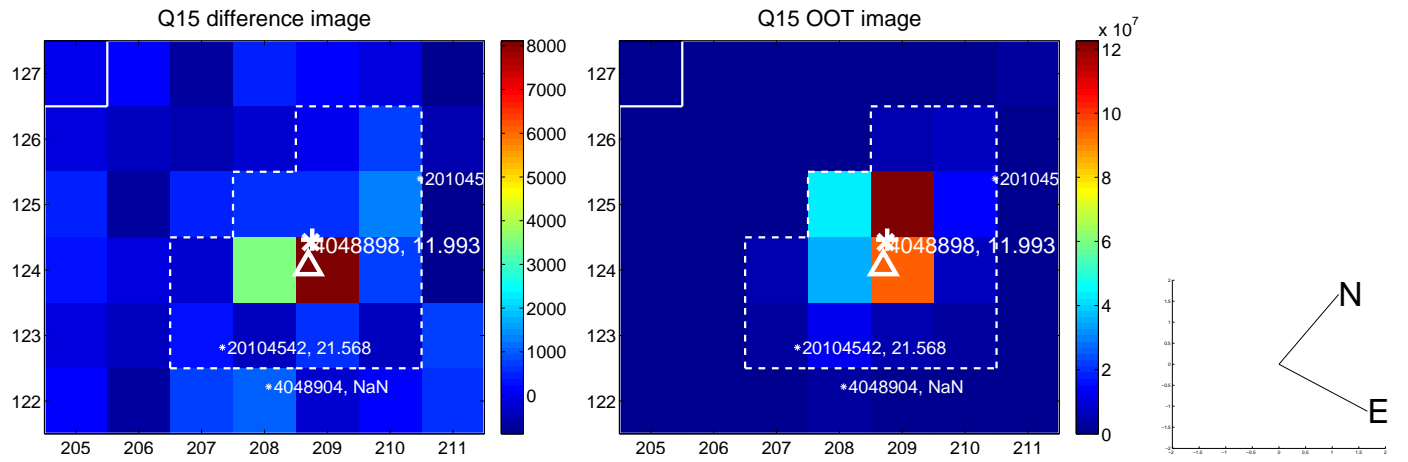
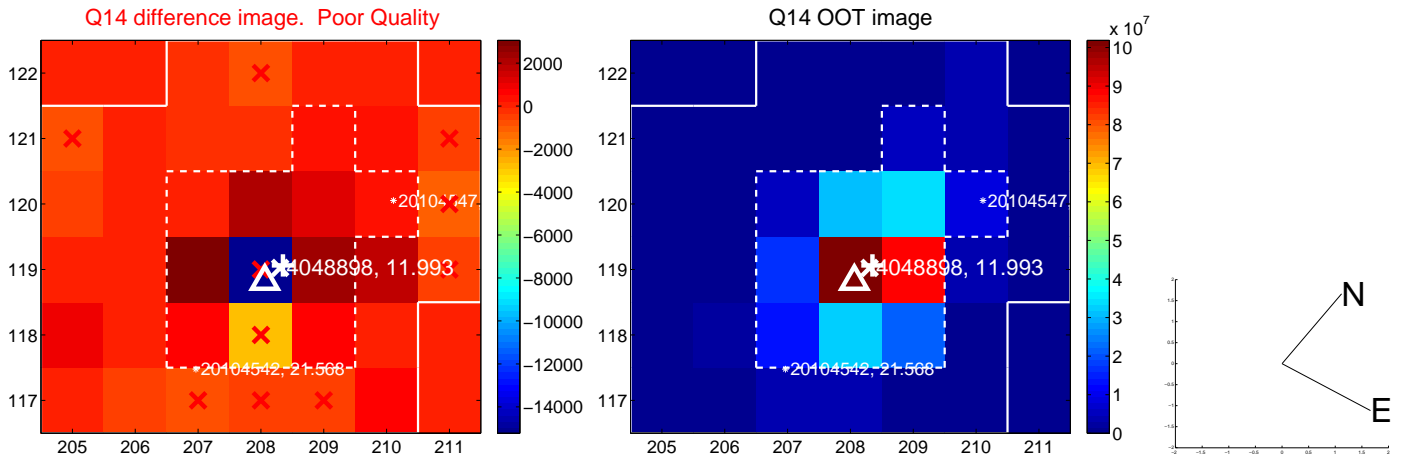
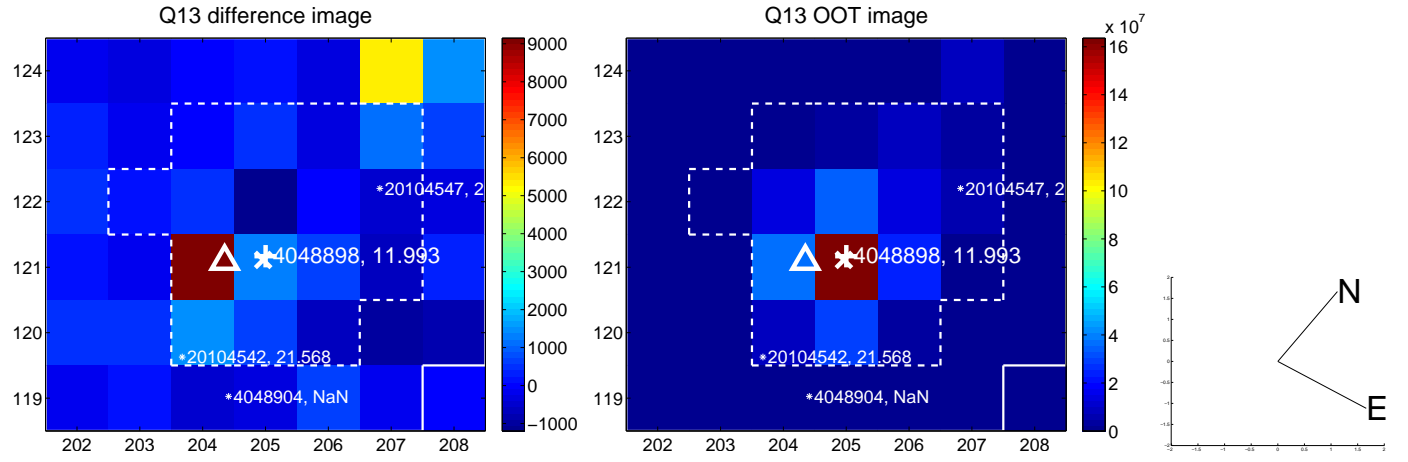
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

