

KIC 009540688

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})
009540688-01	OBS	No	0.751046	132.123939	28.3	5.984	7.6	8.3	1.06	6151	0.58	5389.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009540688-01	OBS	FP	0.00	1	0	0	0	LPP_DV

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

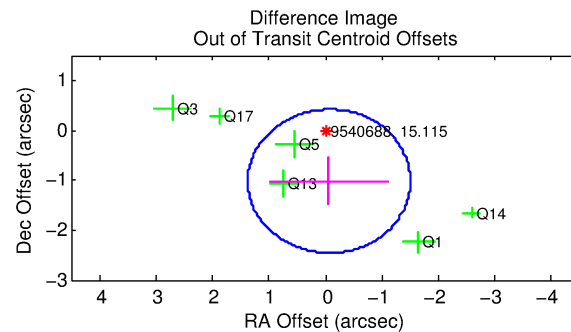
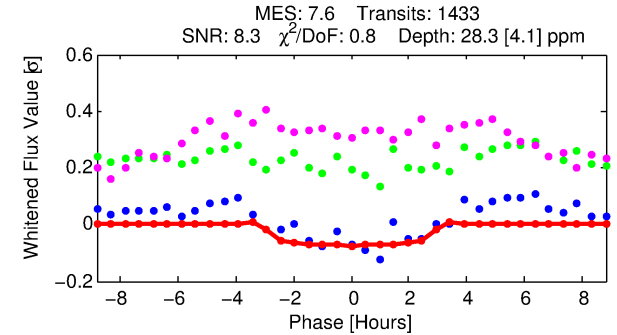
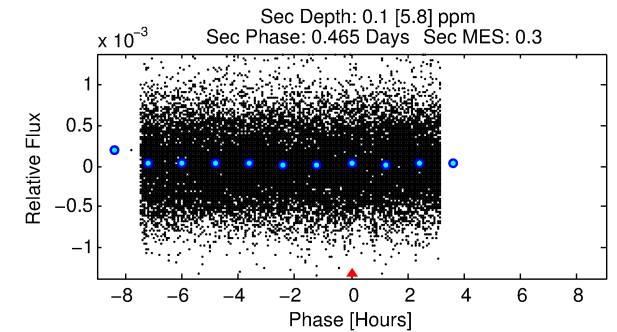
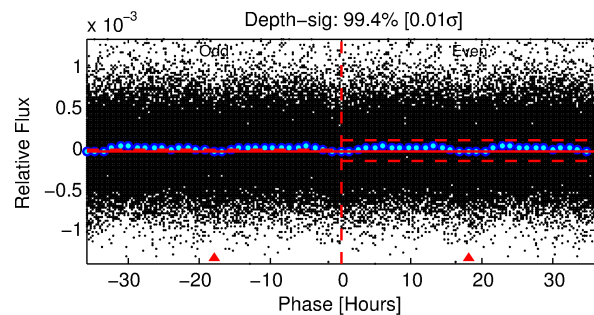
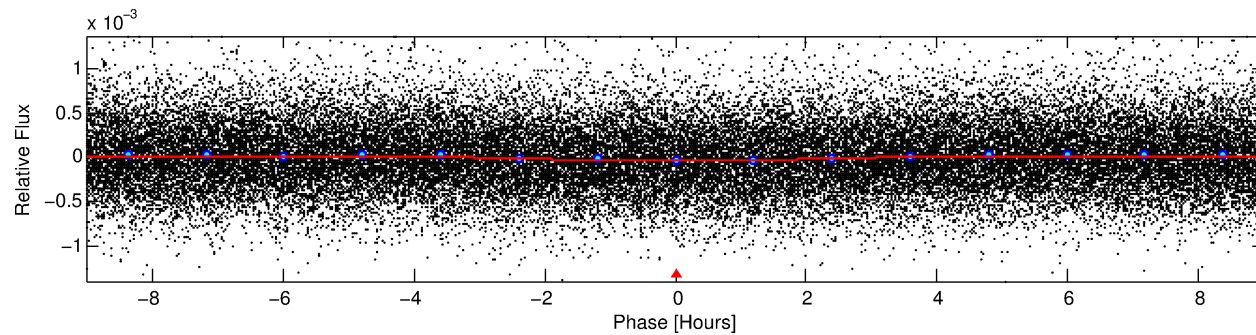
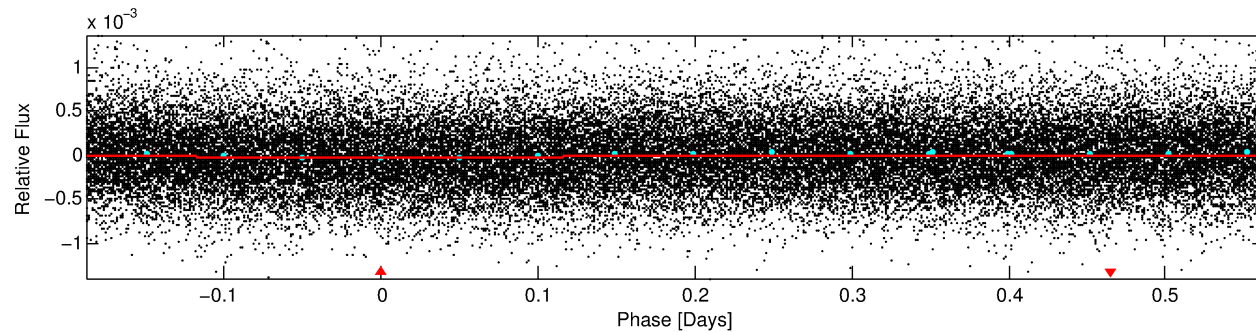
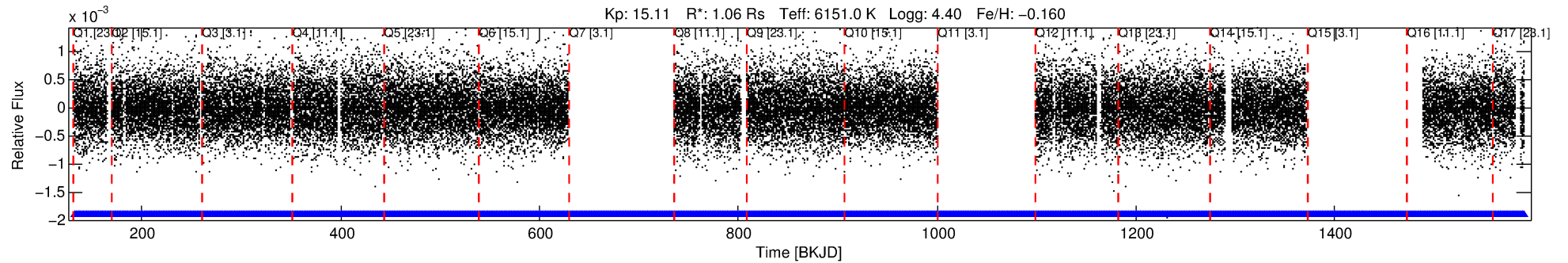
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009540688-01

No Significant Match Found

DV One-Page Summary

KIC: 9540688 Candidate: 1 of 1 Period: 0.751 d



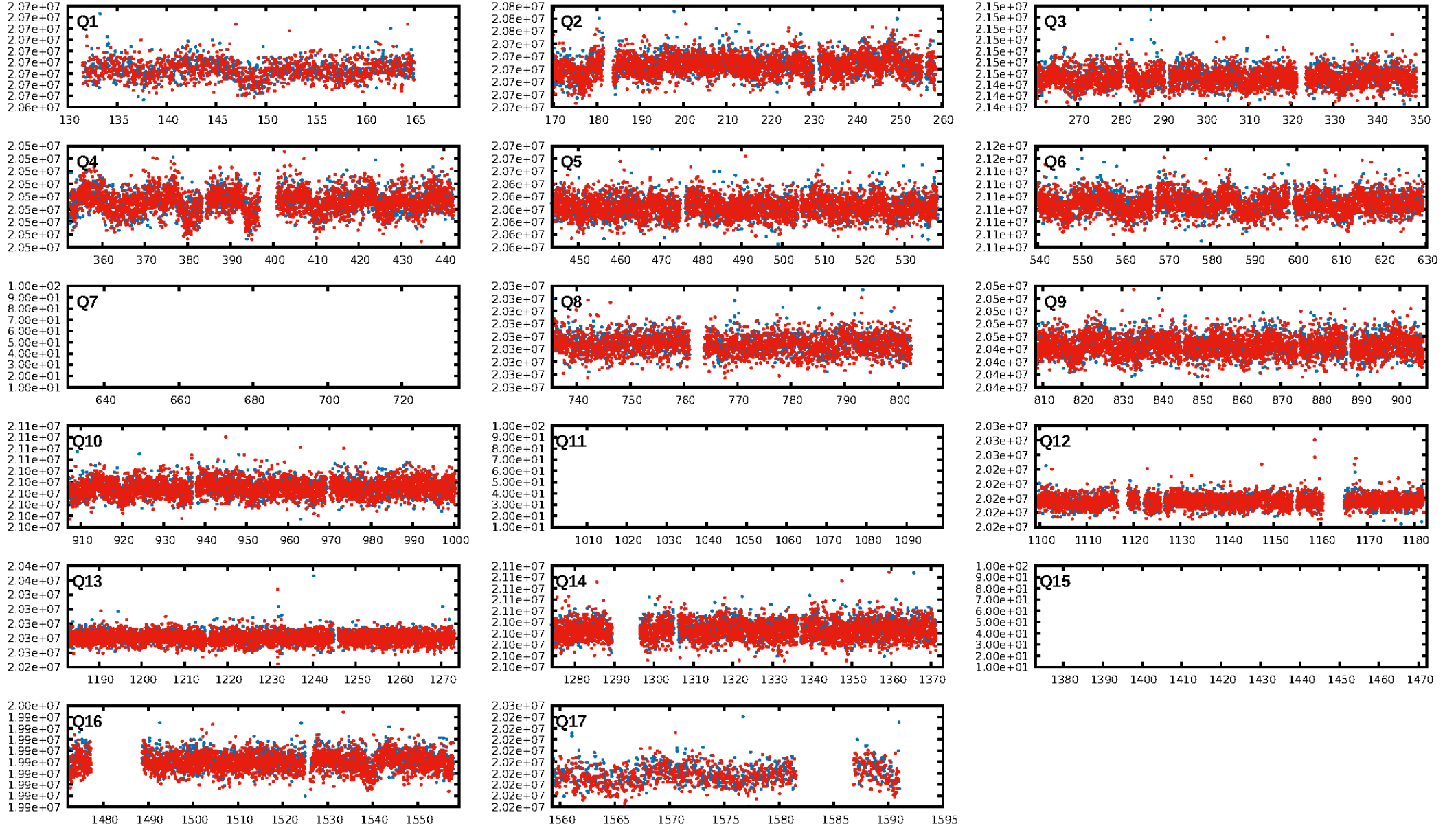
DV Fit Results:

Period = 0.75105 [0.00002] d
Epoch = 132.1239 [0.0077] BKJD
Rp/R* = 0.0051 [0.0075]
a/R* = 1.11 [1.59]
b = 0.58 [8.60]
Seff = 5389.70 [2223.37]
Teq = 2185 [225] K
Rp = 0.58 [0.89] Re
a = 0.0163 [0.0044] AU
Ag = 0.05 [2.49] [-0.38 σ]
Teffp = 1593 [20005] K [-0.03 σ]

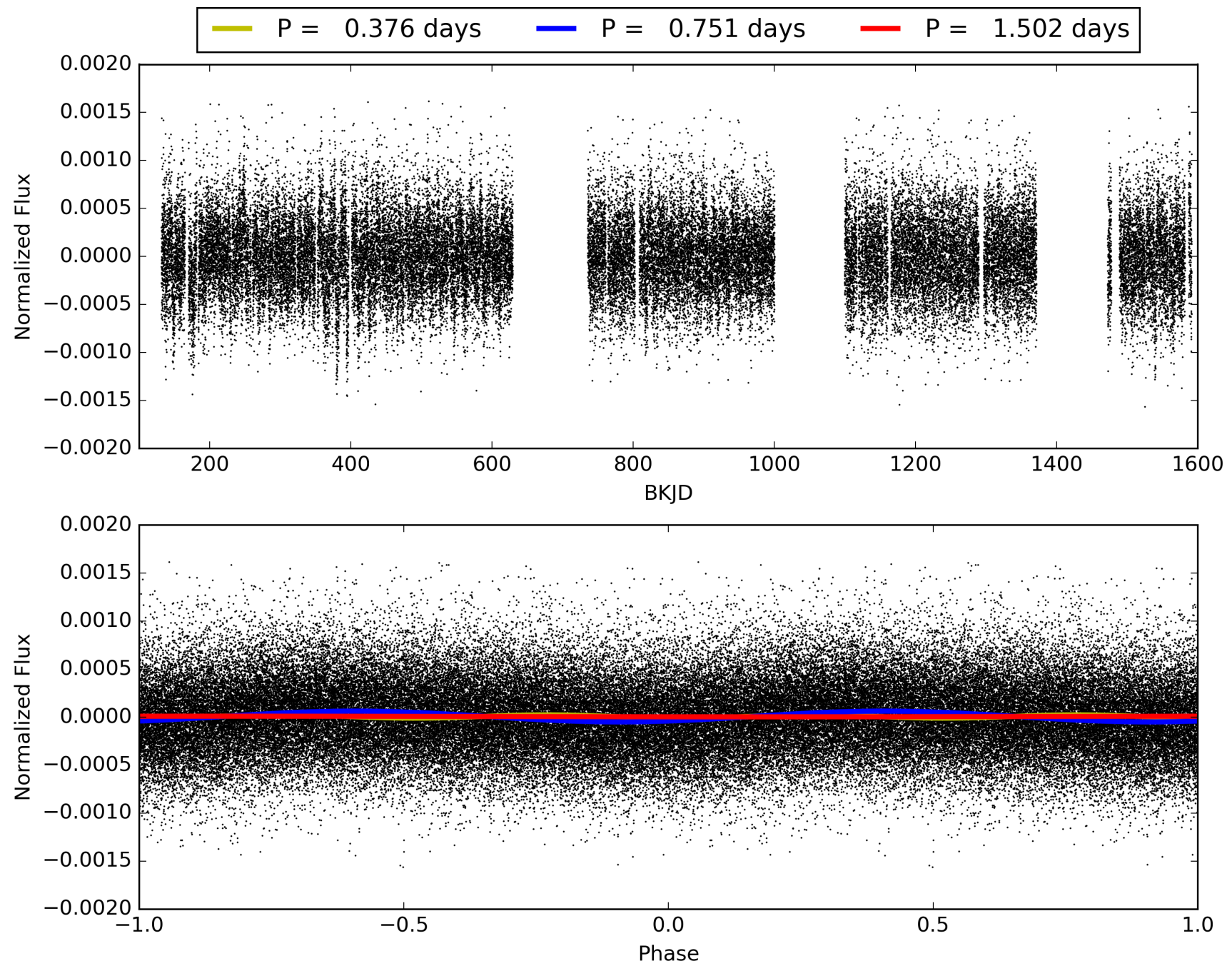
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1352/1352]
GhostDiagnostic-chr: 2.557
Centroid-sig: 17.1%
Centroid-so: 2.536 arcsec [1.48 σ]
OotOffset-rm: 1.023 arcsec [2.13 σ]
KicOffset-rm: 0.969 arcsec [2.06 σ]
OotOffset-st: 1/1/0/4 [6]
KicOffset-st: 1/1/0/4 [6]
DiffImageQuality-fgm: 0.83 [5/6]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 009540688-01, PDC Light Curves

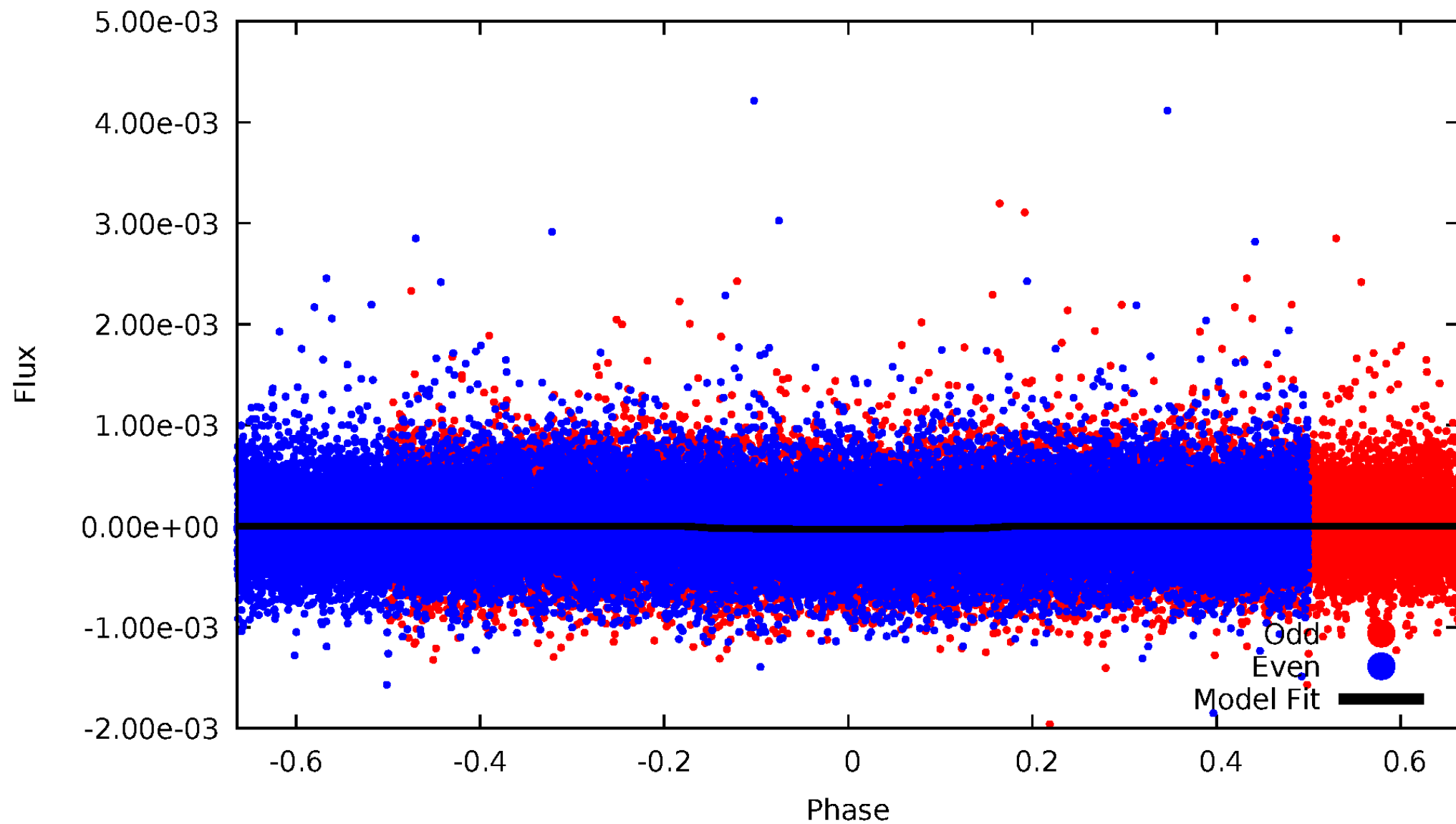


TCE 009540688-01



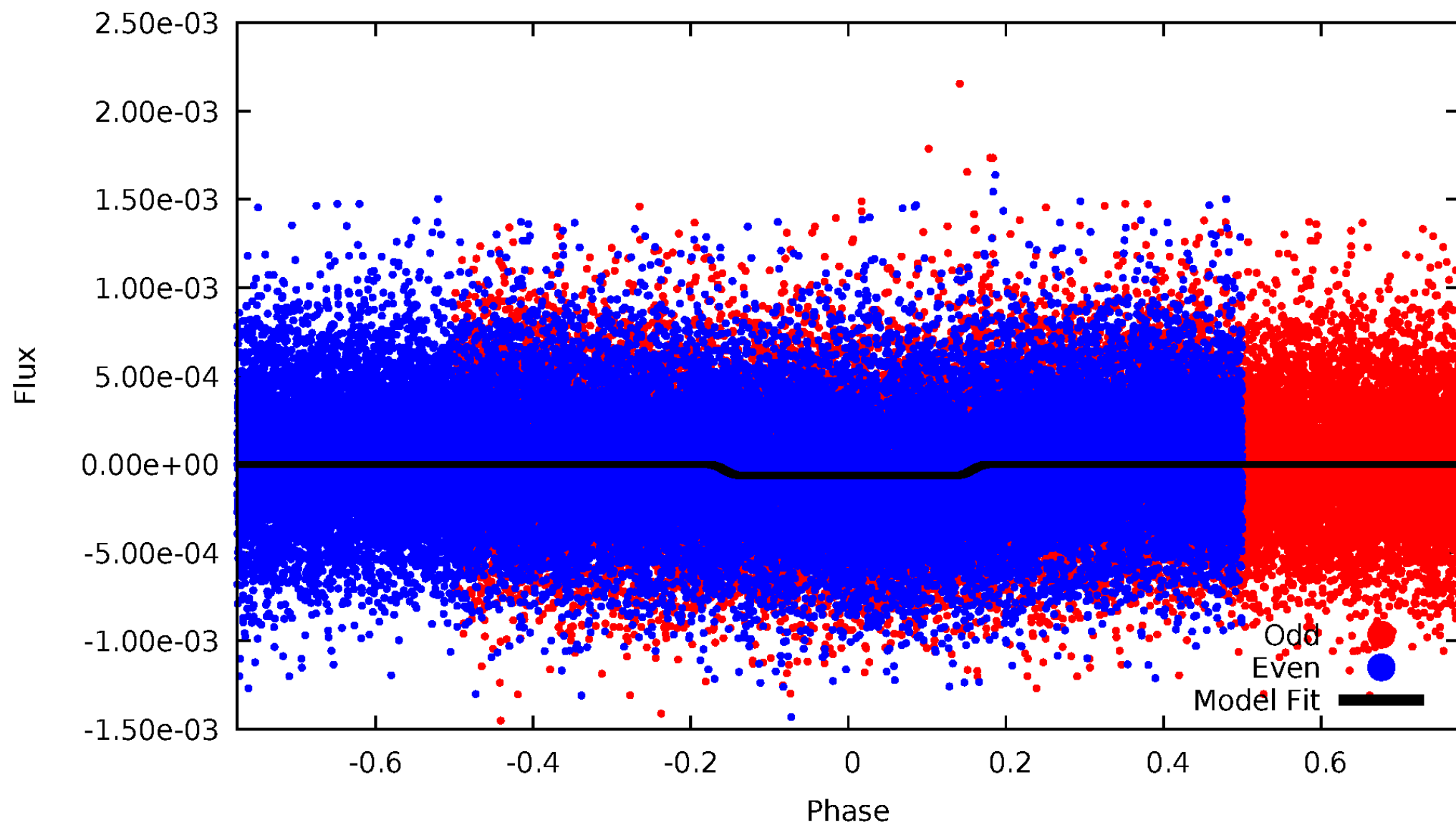
DV Odd/Even

TCE 009540688-01



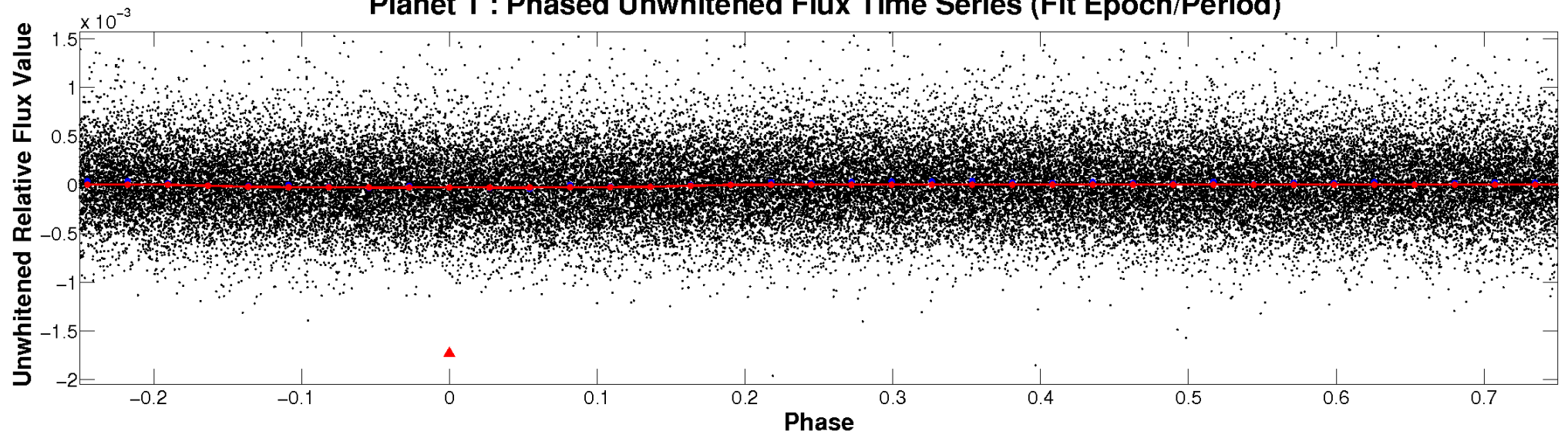
ALT Odd/Even

TCE 009540688-01

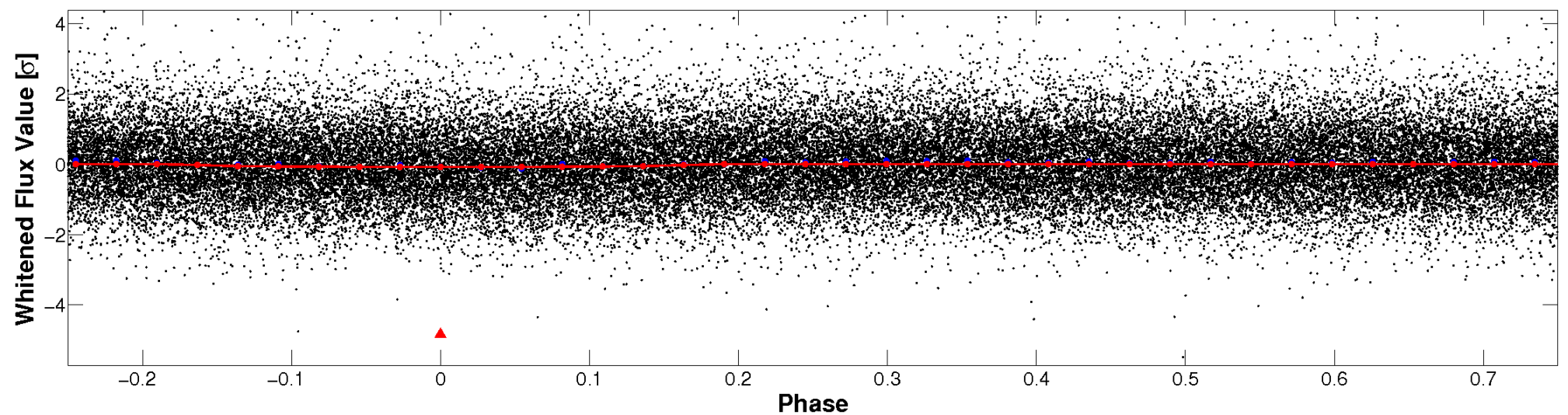


Non-Whitened Vs. Whitened Light Curve

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

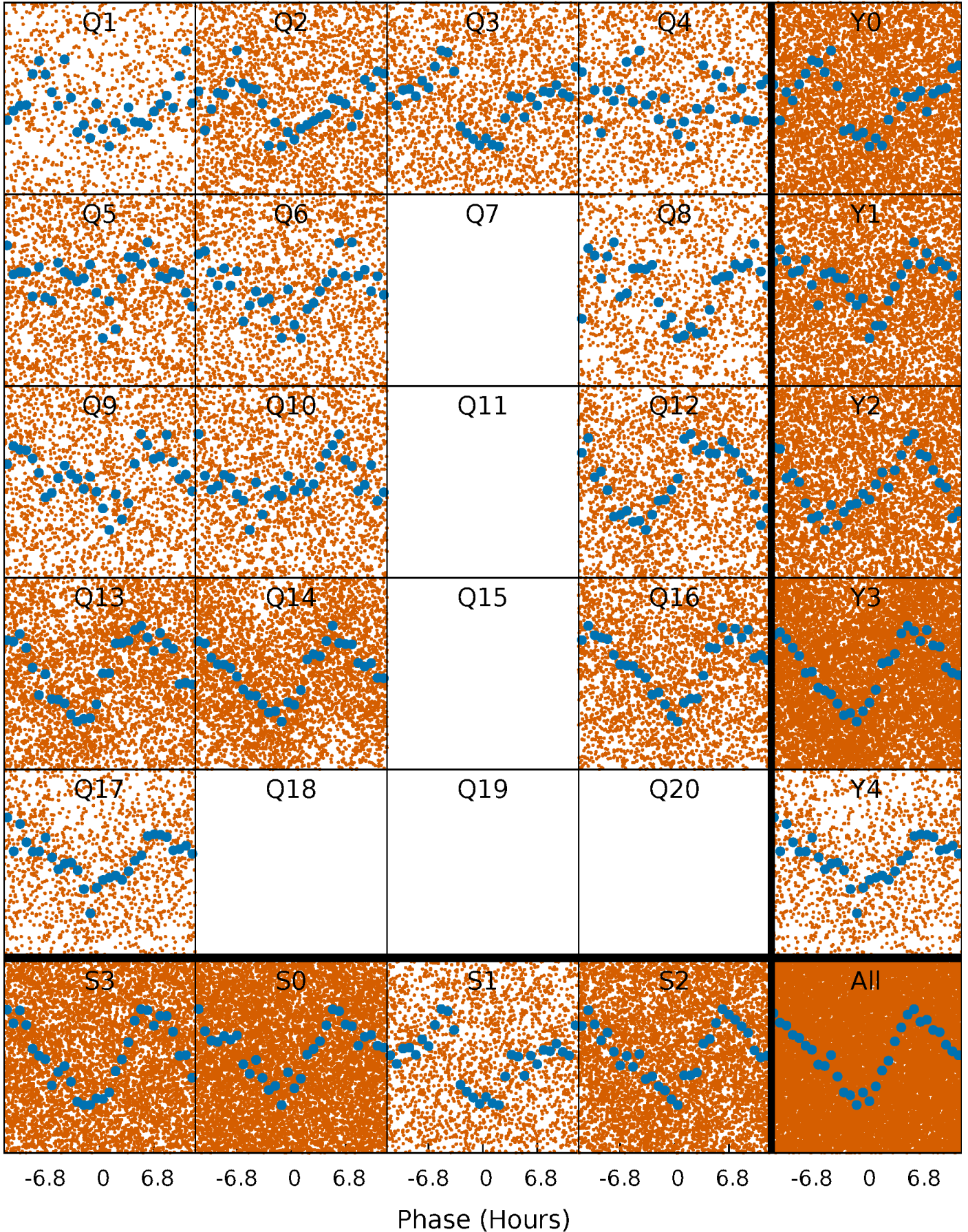


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



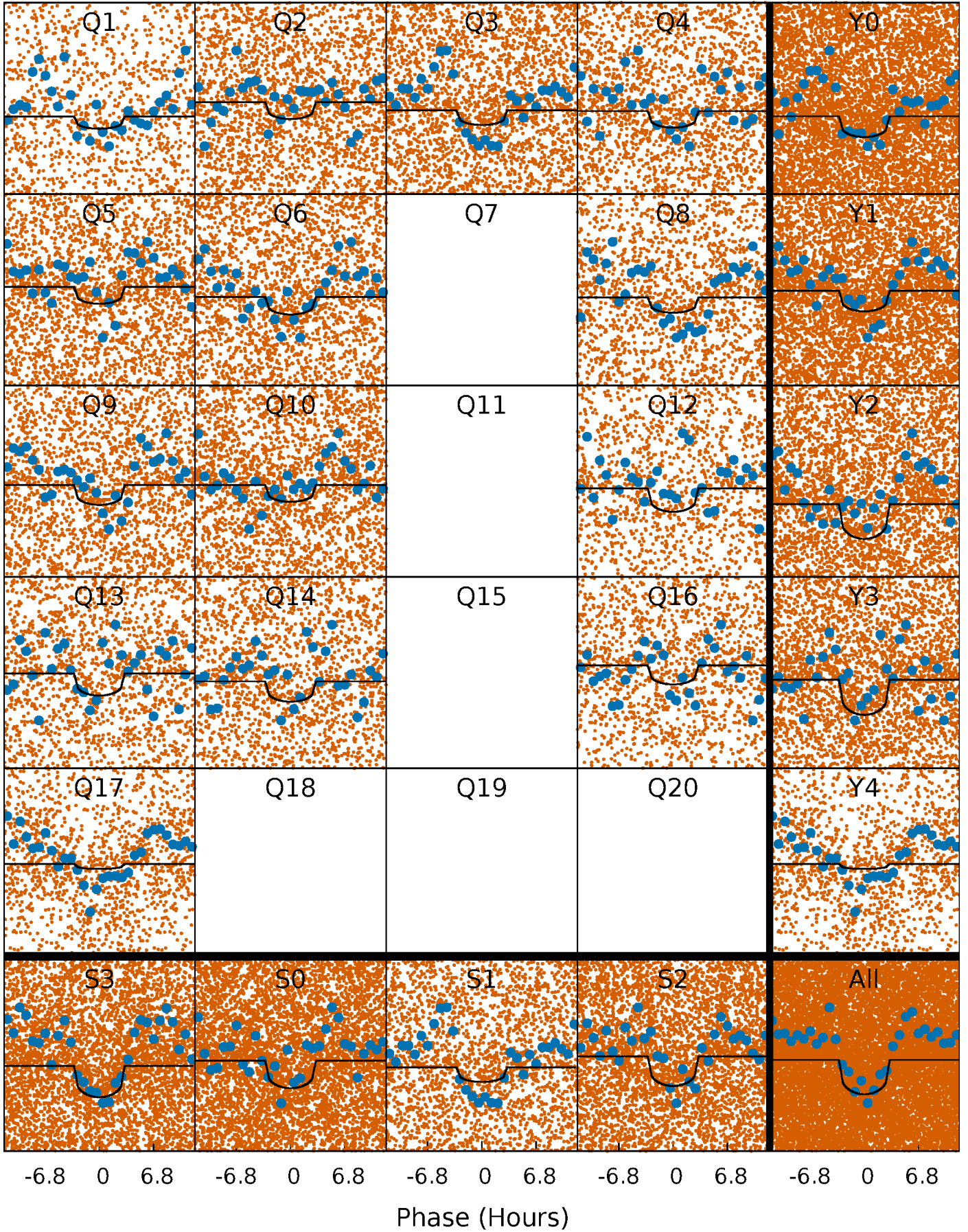
PDC Quarter-Phased Transit Curves

TCE 009540688-01 P= 0.751046 Days $T_0=132.123939$ (BKJD)



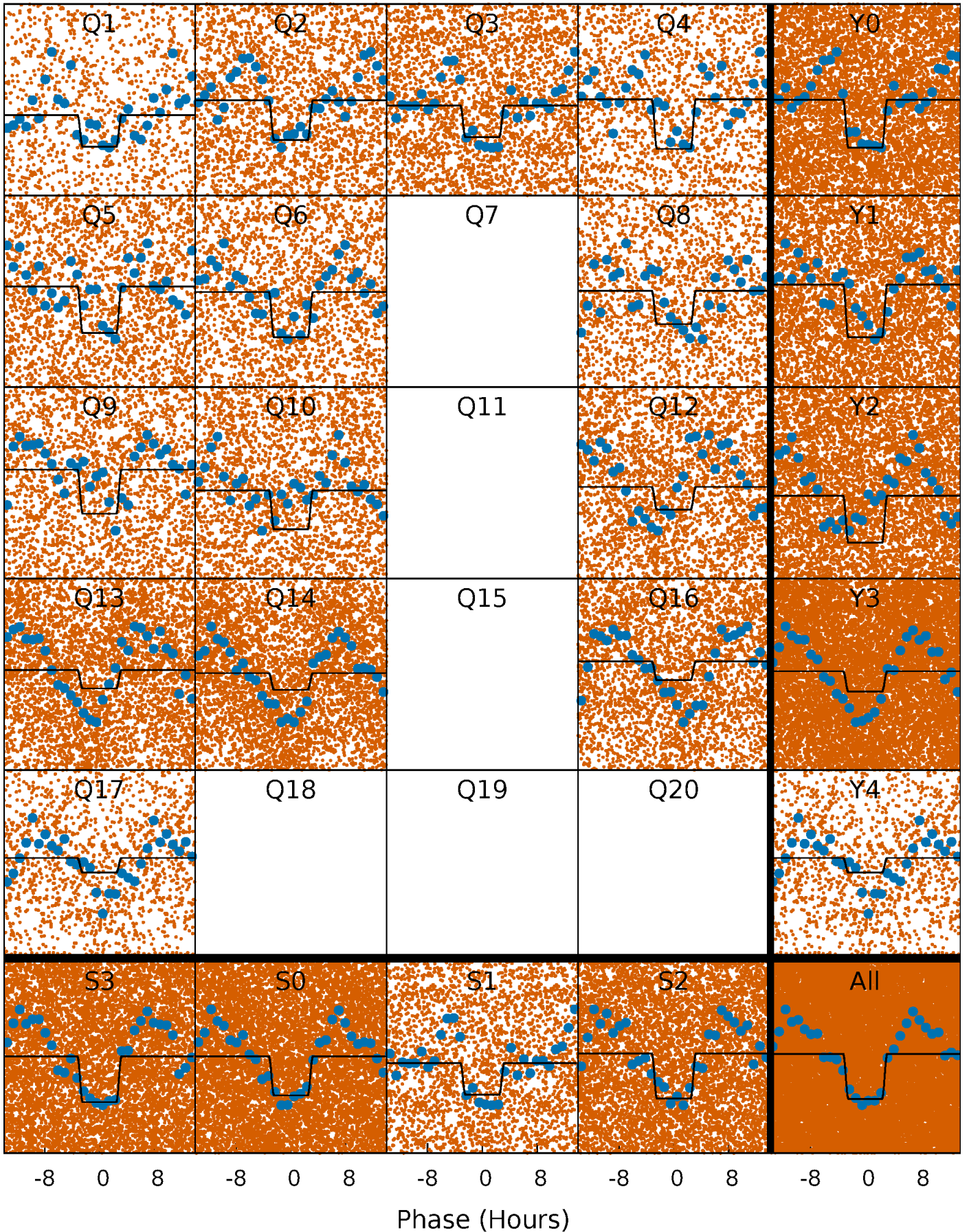
DV Quarter-Phased Transit Curves

TCE 009540688-01 P= 0.751046 Days $T_0=132.123939$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

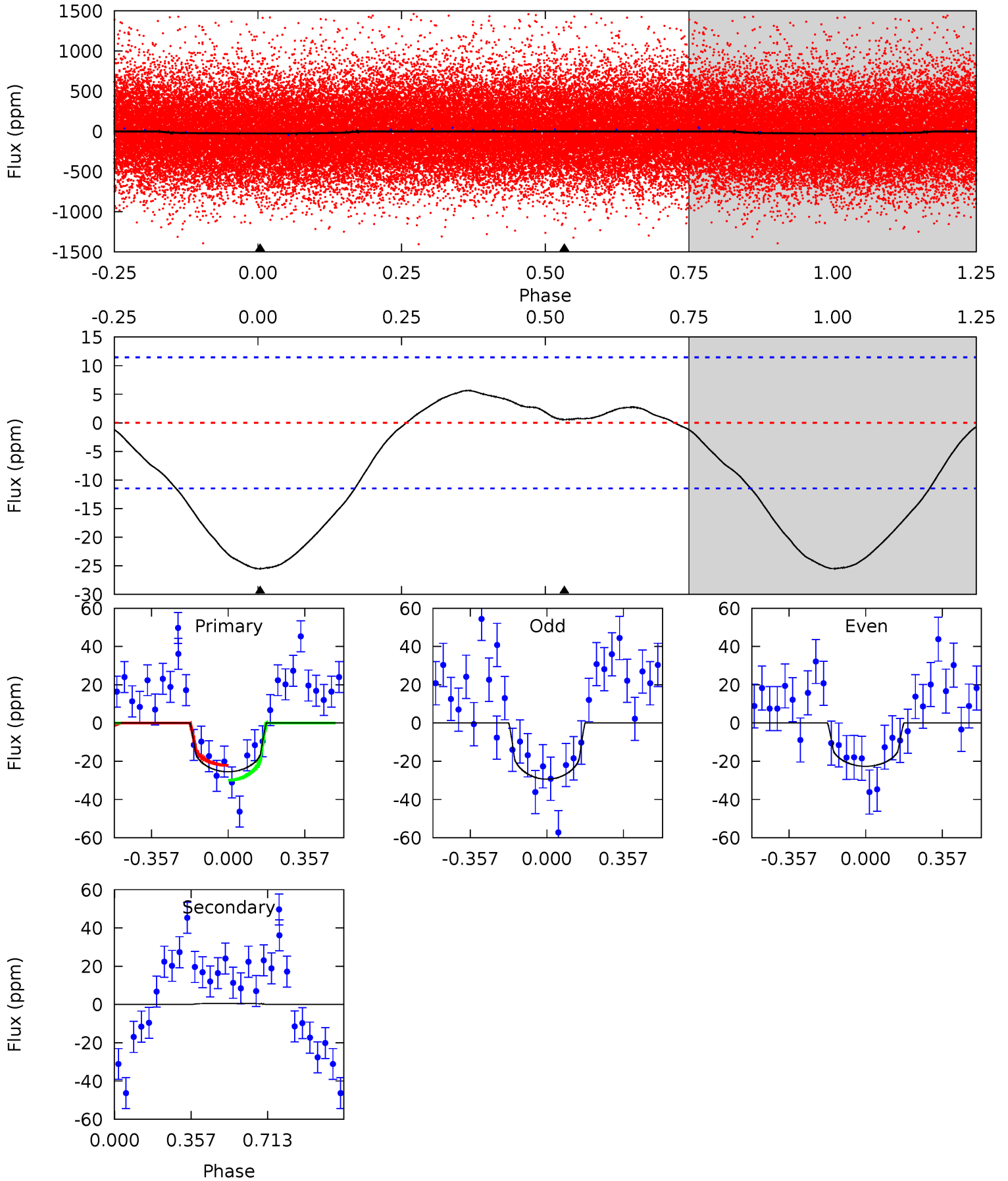
TCE 009540688-01 P= 0.751013 Days $T_0=132.119646$ (BKJD)



DV Model-Shift Uniqueness Test

009540688-01, P = 0.751046 Days, E = 131.372893 Days

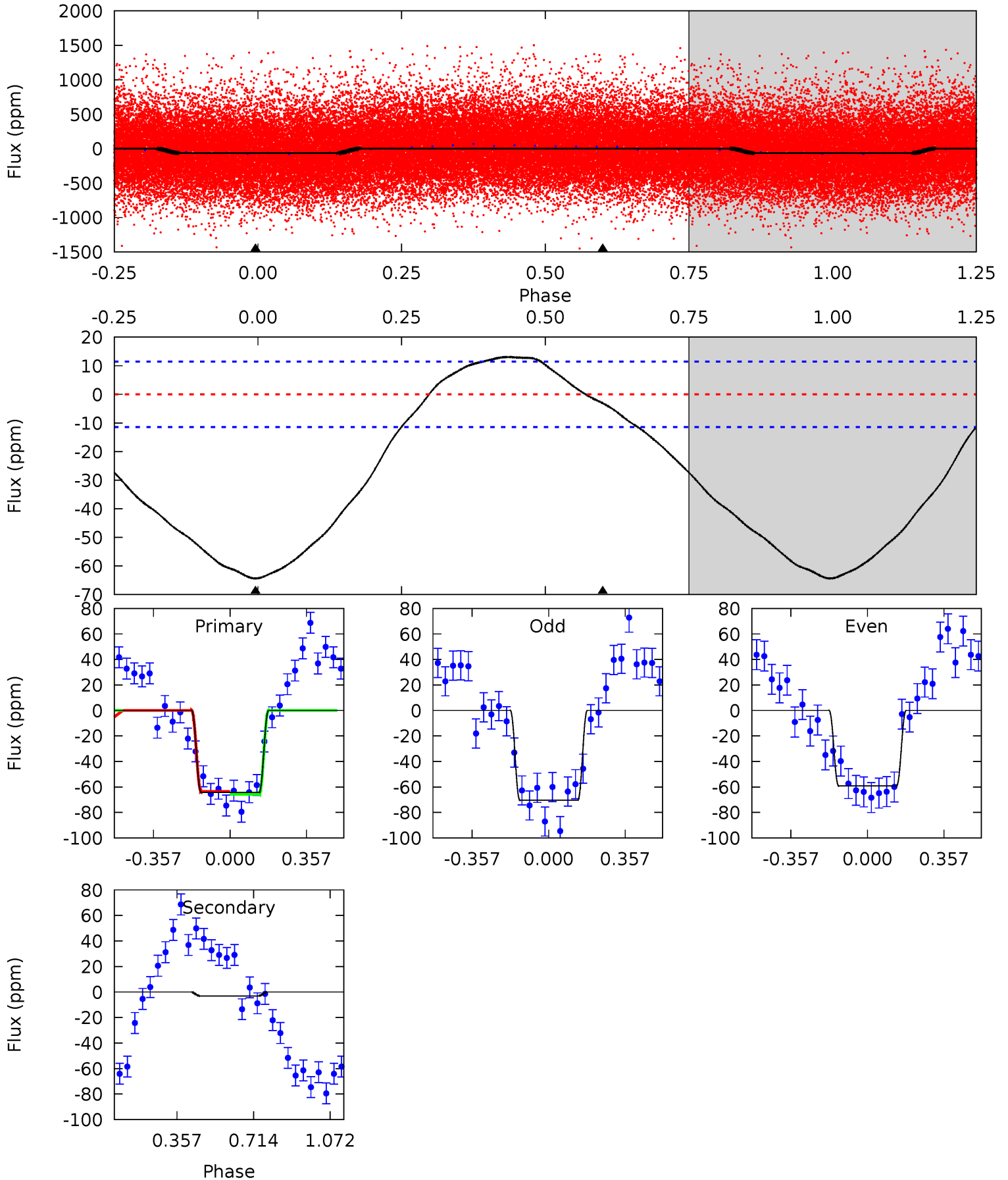
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.54	-0.21	0	0	4.29	0.92	0.81	9.54	9.54	-0.21	-0.21	1.27	0.99	0.18	1.47



Alt Model-Shift Uniqueness Test

009540688-01, P = 0.751013 Days, E = 131.368633 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	1.16	0	0	4.29	0.92	2.30	24.1	24.1	1.16	1.16	2.11	1.11	0.17	0.45



Stellar Parameters For KIC 009540688

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6151^{+196}_{-217}	$4.400^{+0.090}_{-0.210}$	$-0.160^{+0.250}_{-0.300}$	$1.056^{+0.341}_{-0.146}$	$1.019^{+0.159}_{-0.116}$	$1.219^{+0.472}_{-0.653}$
	+3%/-4%	+2%/-5%	+156%/-188%	+32%/-14%	+16%/-11%	+39%/-54%
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 009540688-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	1 ± 3	$0.93^{+0.77}_{-0.61}$	3090^{+236}_{-178}	-3240^{+5908}_{-838}	$-0.050^{+0.441}_{-1.077}$
Alt.	-3 ± 3	$1.10^{+0.86}_{-0.68}$	3088^{+233}_{-182}	1957^{+2376}_{-5084}	$0.307^{+1.976}_{-0.276}$

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 $A_{obs} \gg 1.0$

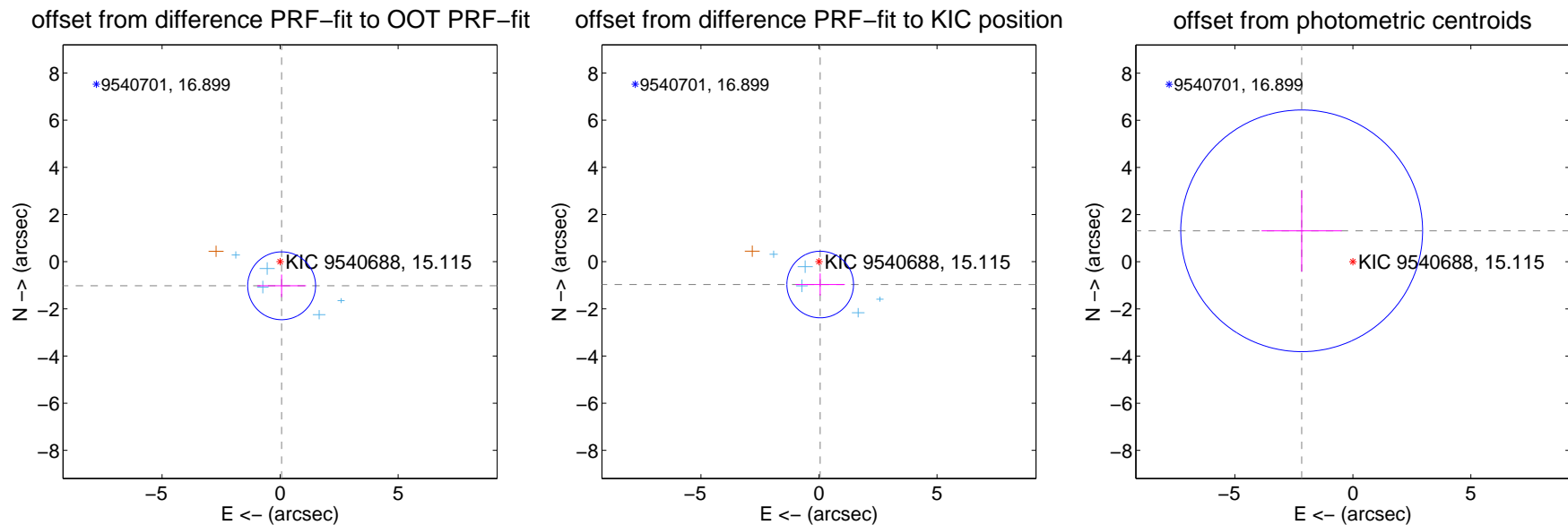
DV Centroid Data

Supplemental centroid analysis for 009540688-01. Kepler magnitude: 15.12. Transit SNR 8.34

There are 5 quarters with good PRF difference image offsets

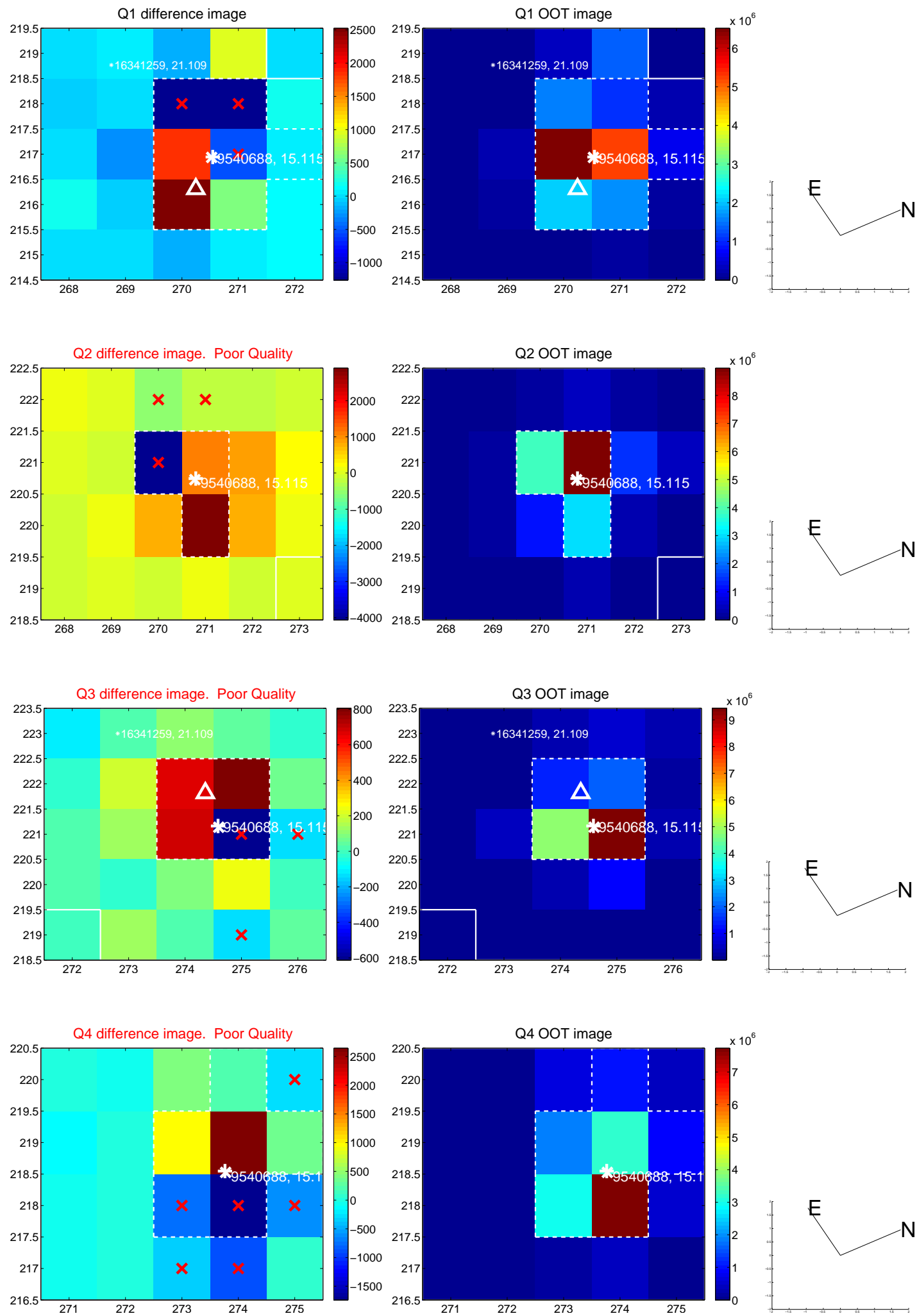
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.023 ± 0.479	2.13	-0.065 ± 1.033	-1.021 ± 0.476
PRF-fit source offset from KIC position	0.969 ± 0.471	2.06	-0.051 ± 1.043	-0.968 ± 0.468
photometric centroid source offset	2.54 ± 1.71	1.48	2.17 ± 1.70	1.31 ± 1.73

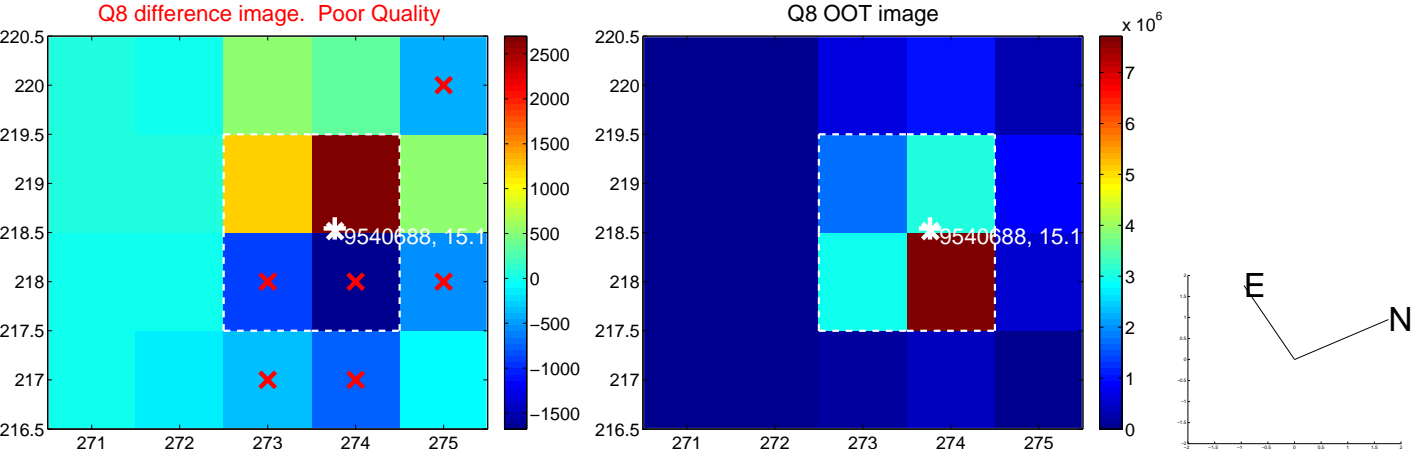
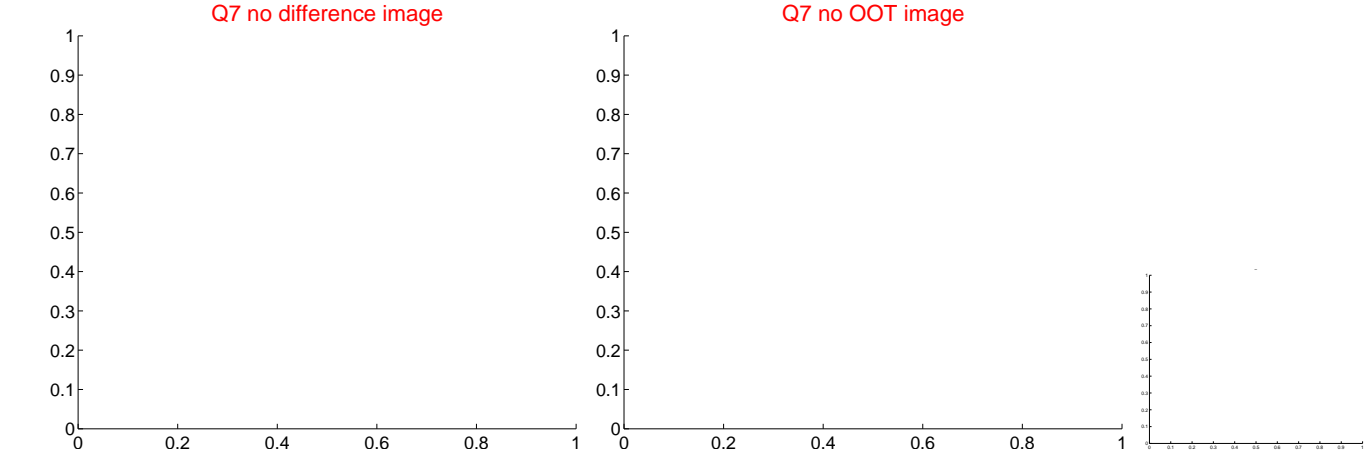
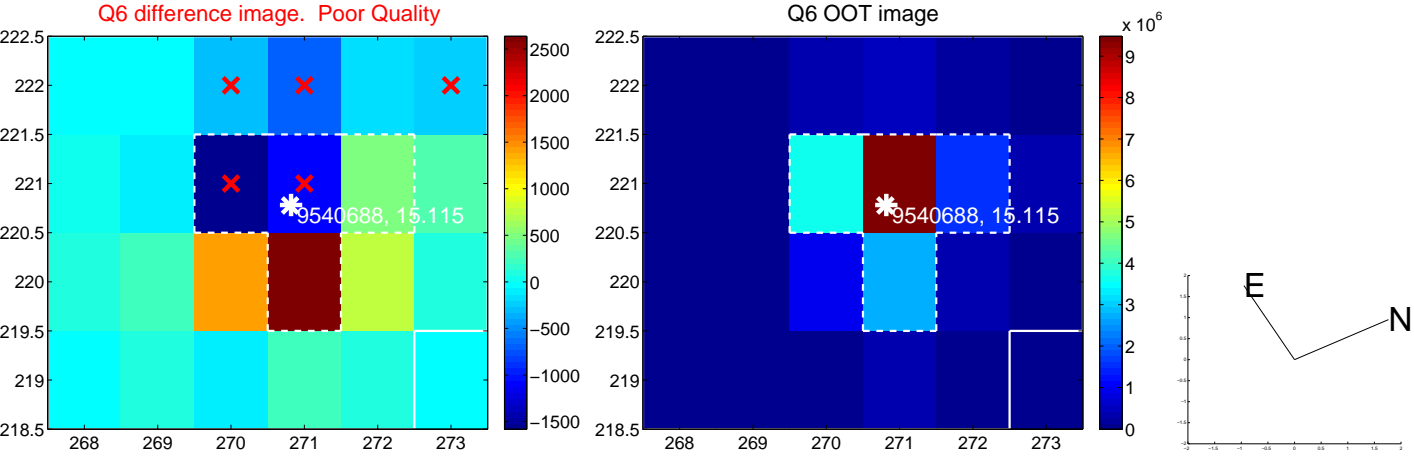
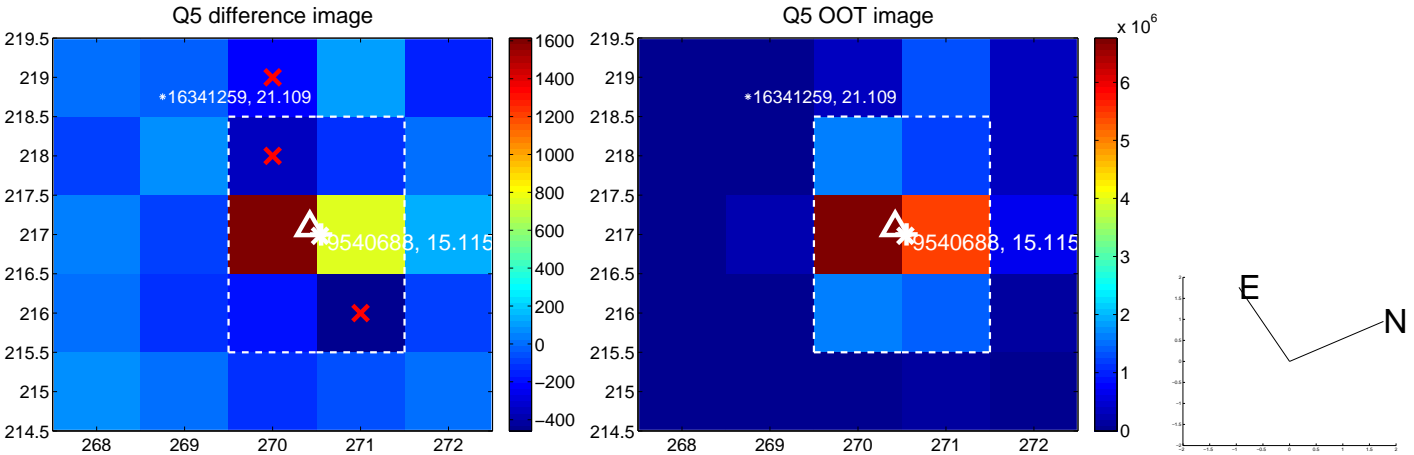


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

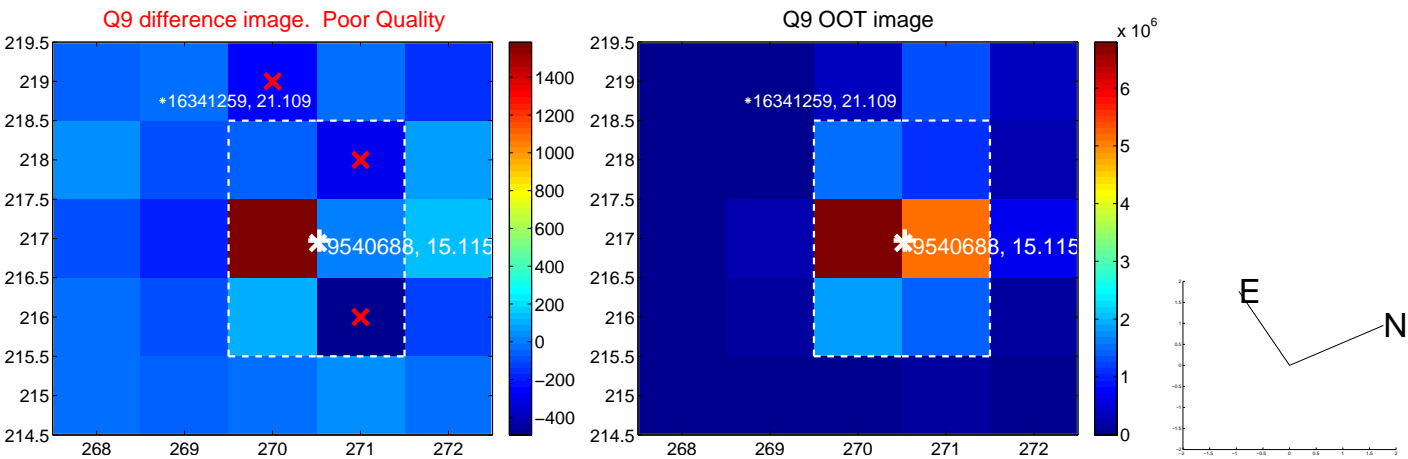
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



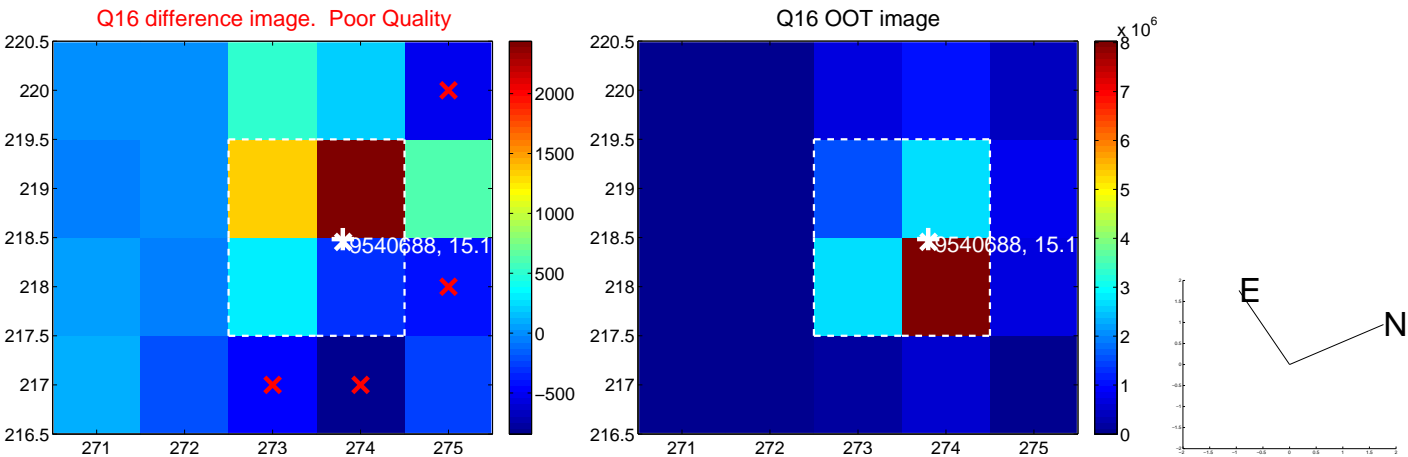
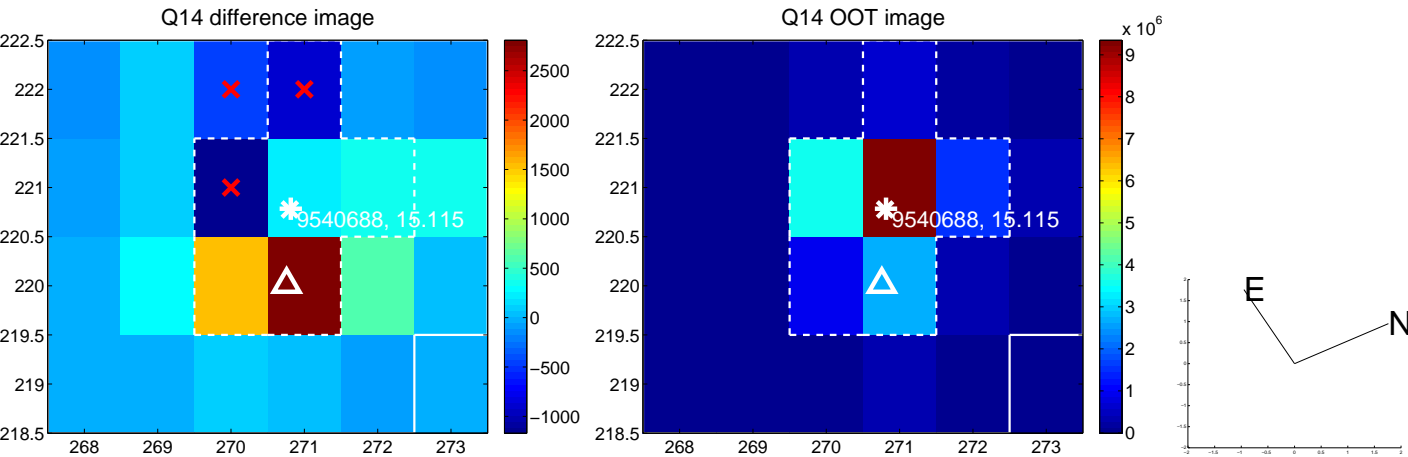
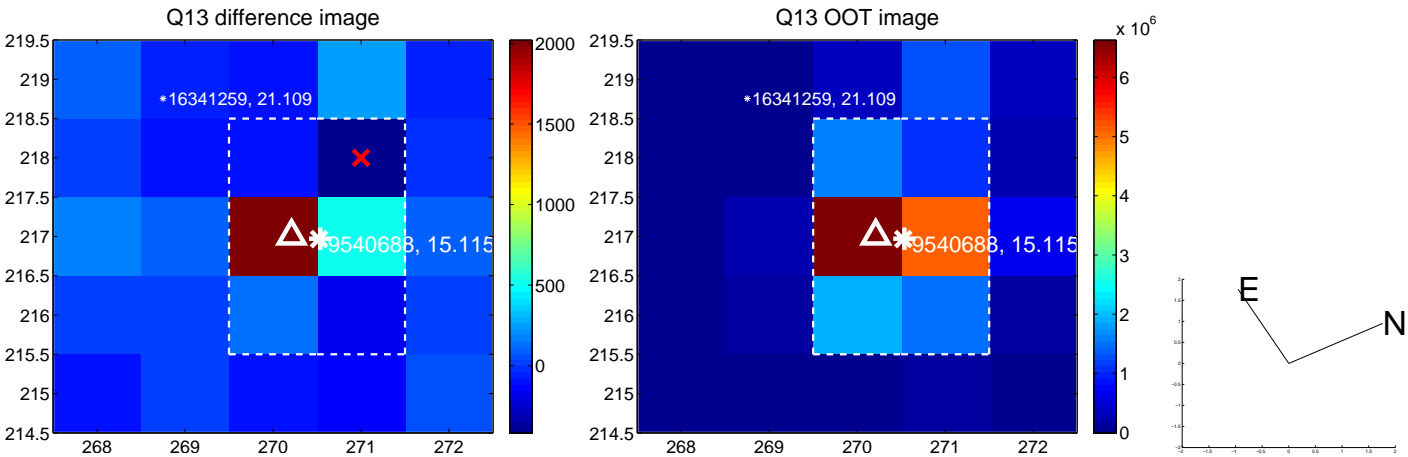
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

