

KIC 011509728

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})
011509728-01	OBS	No	0.508767	131.858205	3.0	6.105	8.3	4.8	3.35	8016	0.70	163171.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011509728-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_SATURATED

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

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

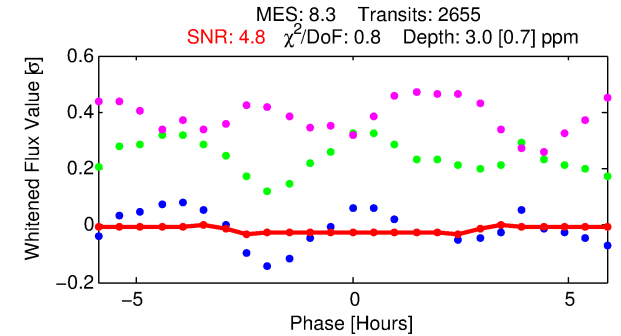
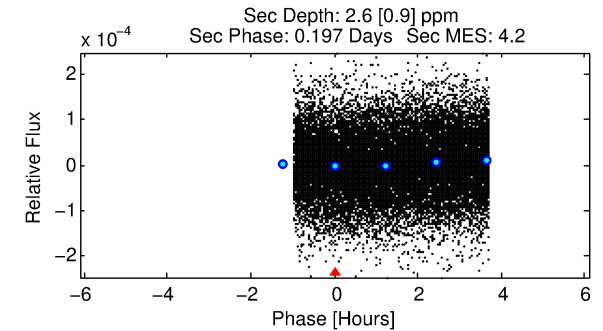
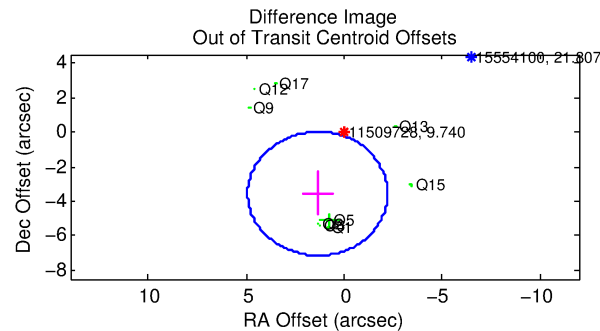
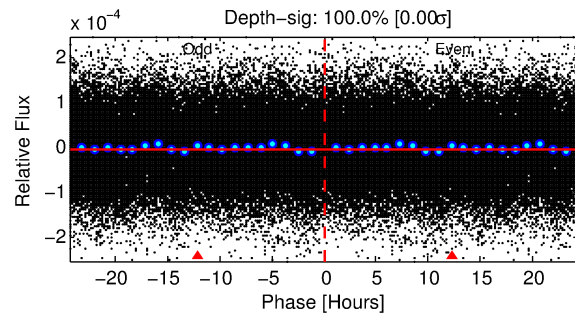
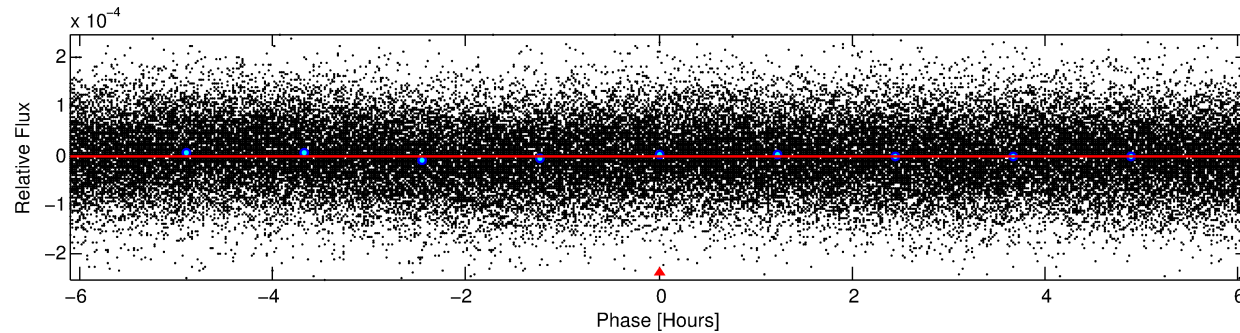
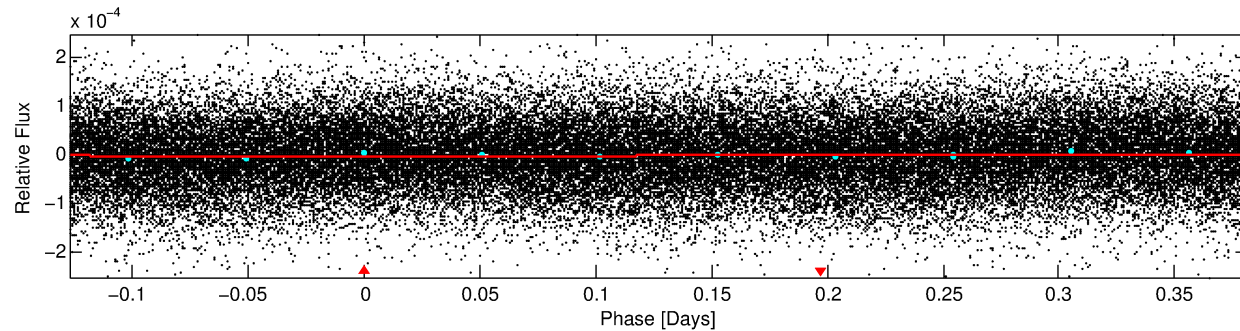
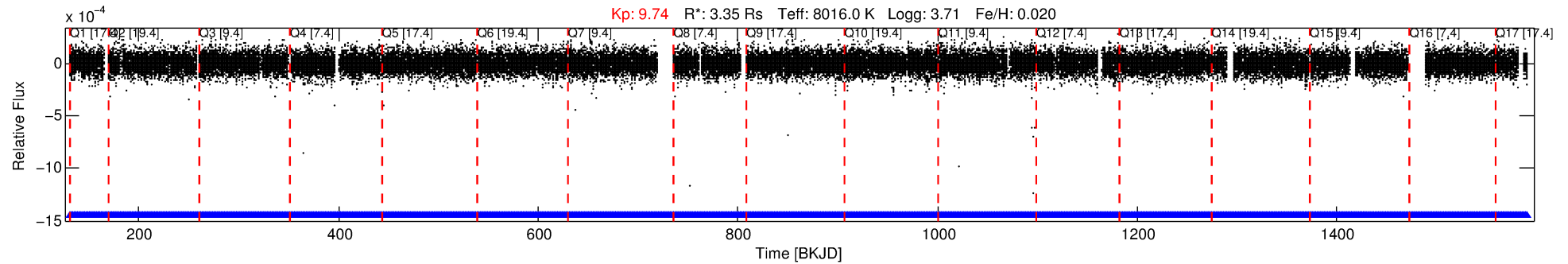
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011509728-01

No Significant Match Found

DV One-Page Summary

KIC: 11509728 Candidate: 1 of 1 Period: 0.509 d



DV Fit Results:

Period = 0.50877 [0.00003] d
 Epoch = 131.8582 [0.0080] BKJD
 $R_p/R^* = 0.0019$ [0.0009]
 $a/R^* = 1.00$ [0.00]
 $b = 0.94$ [0.41]
 $S_{\text{eff}} = 163171.05$ [121629.86]
 $T_{\text{eq}} = 5125$ [955] K
 $R_p = 0.70$ [0.45] R_{e}
 $a = 0.0159$ [0.0070] AU
 $A_g = 0.74$ [0.92] [-0.29 σ]
 $T_{\text{eff}} = 7346$ [1879] K [1.05 σ]

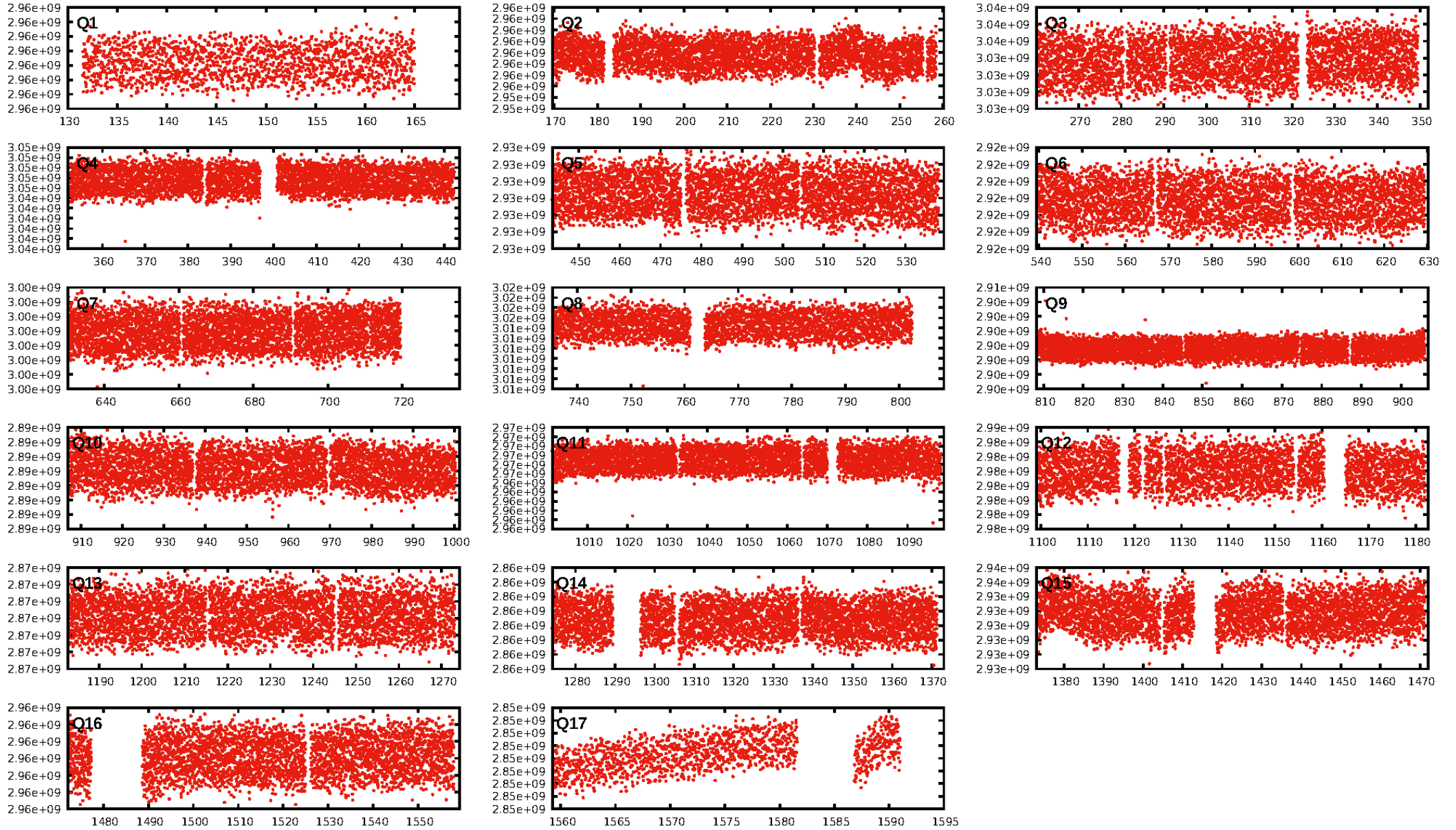
DV Diagnostic Results:

ShortPeriod-sig: N/A
 LongPeriod-sig: N/A
 ModelChiSquare2-sig: N/A
 ModelChiSquareGof-sig: N/A
 Bootstrap-pfa: N/A
 RollingBand-fgt: 1.00 [2536/2536]
 GhostDiagnostic-chr: N/A
 Centroid-sig: N/A
 Centroid-so: N/A
 OotOffset-rm: 3.814 arcsec [3.20 σ]
 KicOffset-rm: 3.078 arcsec [2.04 σ]
 OotOffset-st: 2/1/1/5 [9]
 KicOffset-st: 2/1/1/5 [9]
 DiffImageQuality-fgm: 0.11 [1/9]
 DiffImageOverlap-fno: 1.00 [17/17]

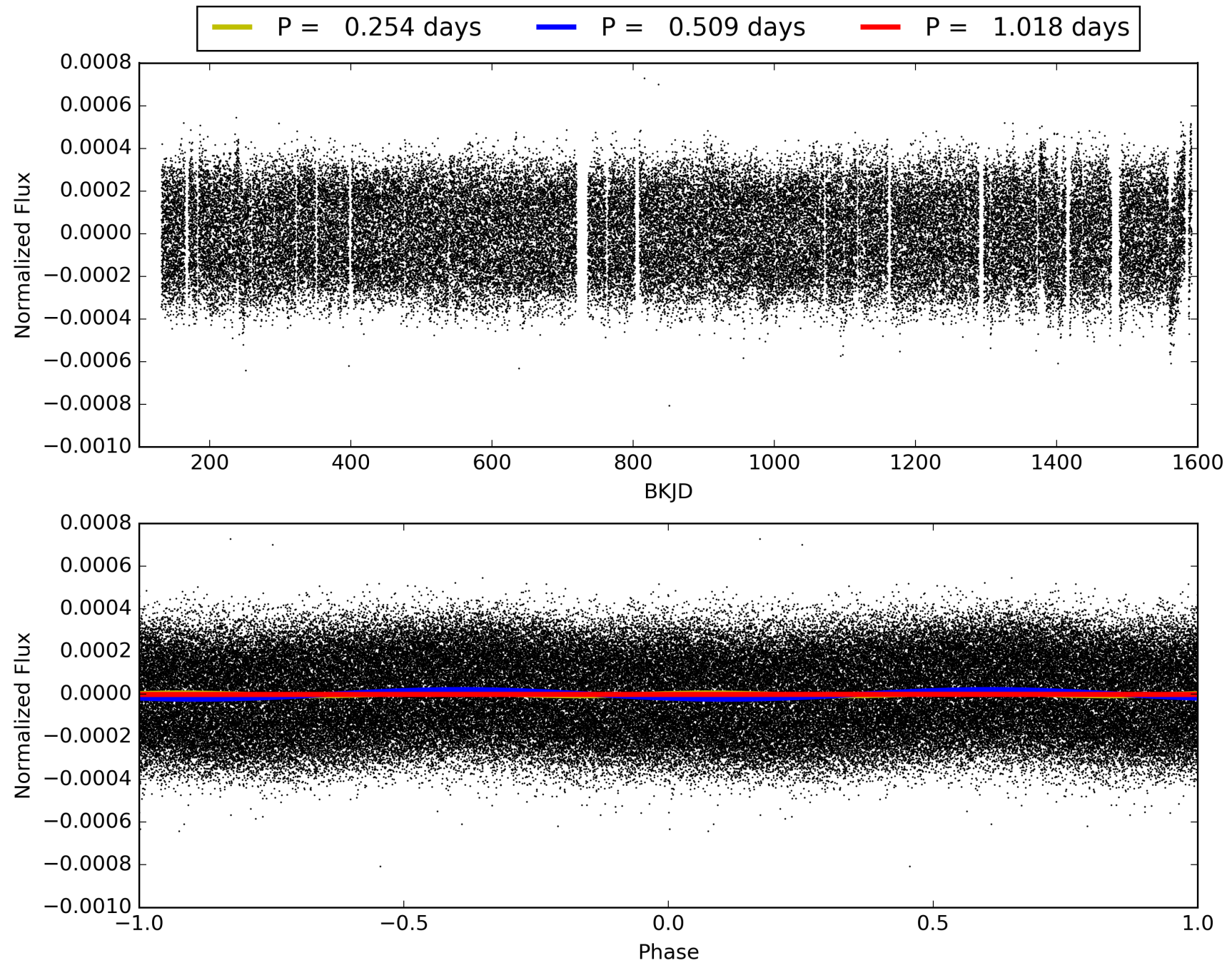
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 04:00:35 Z

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

TCE 011509728-01, PDC Light Curves

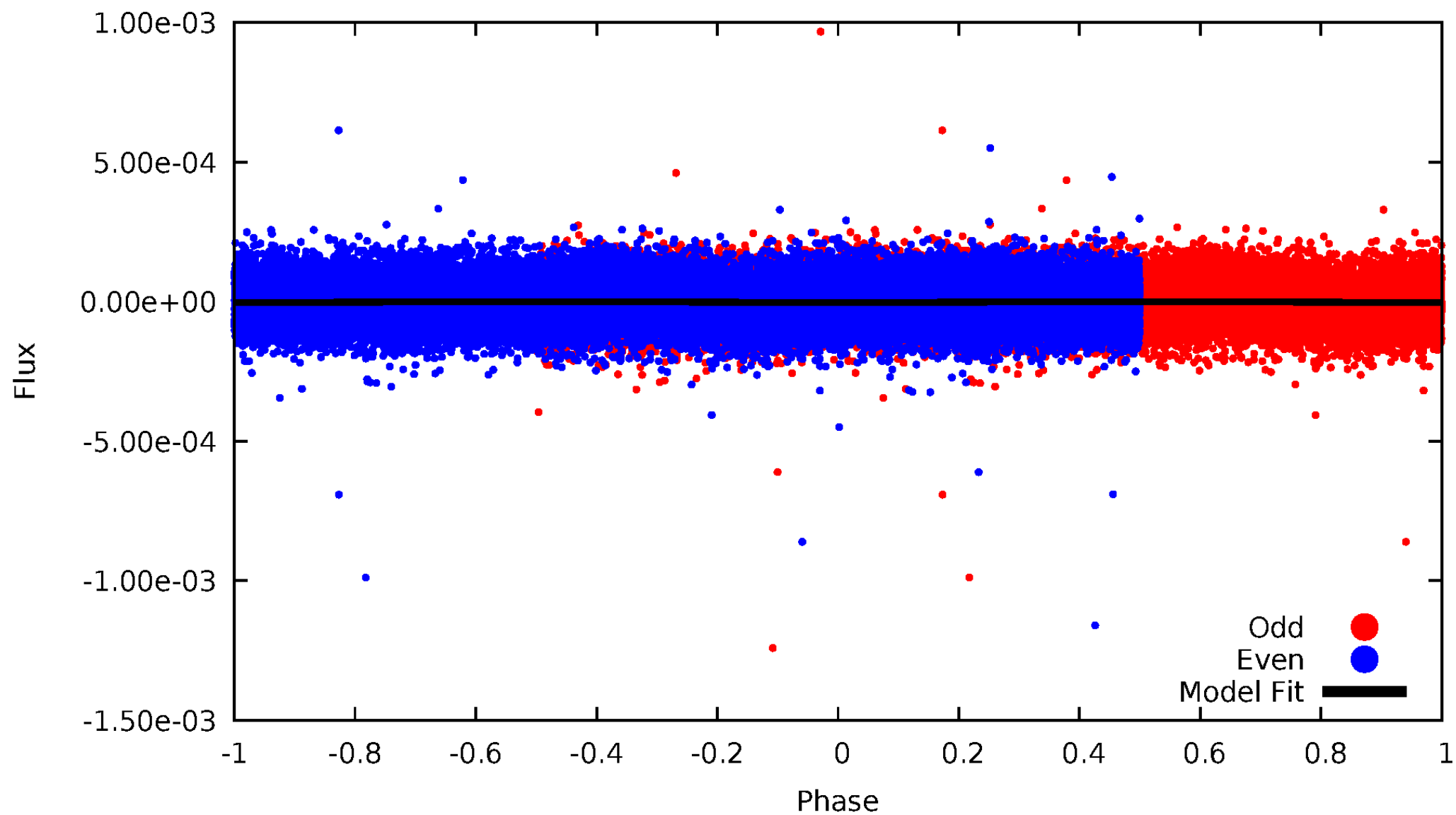


TCE 011509728-01



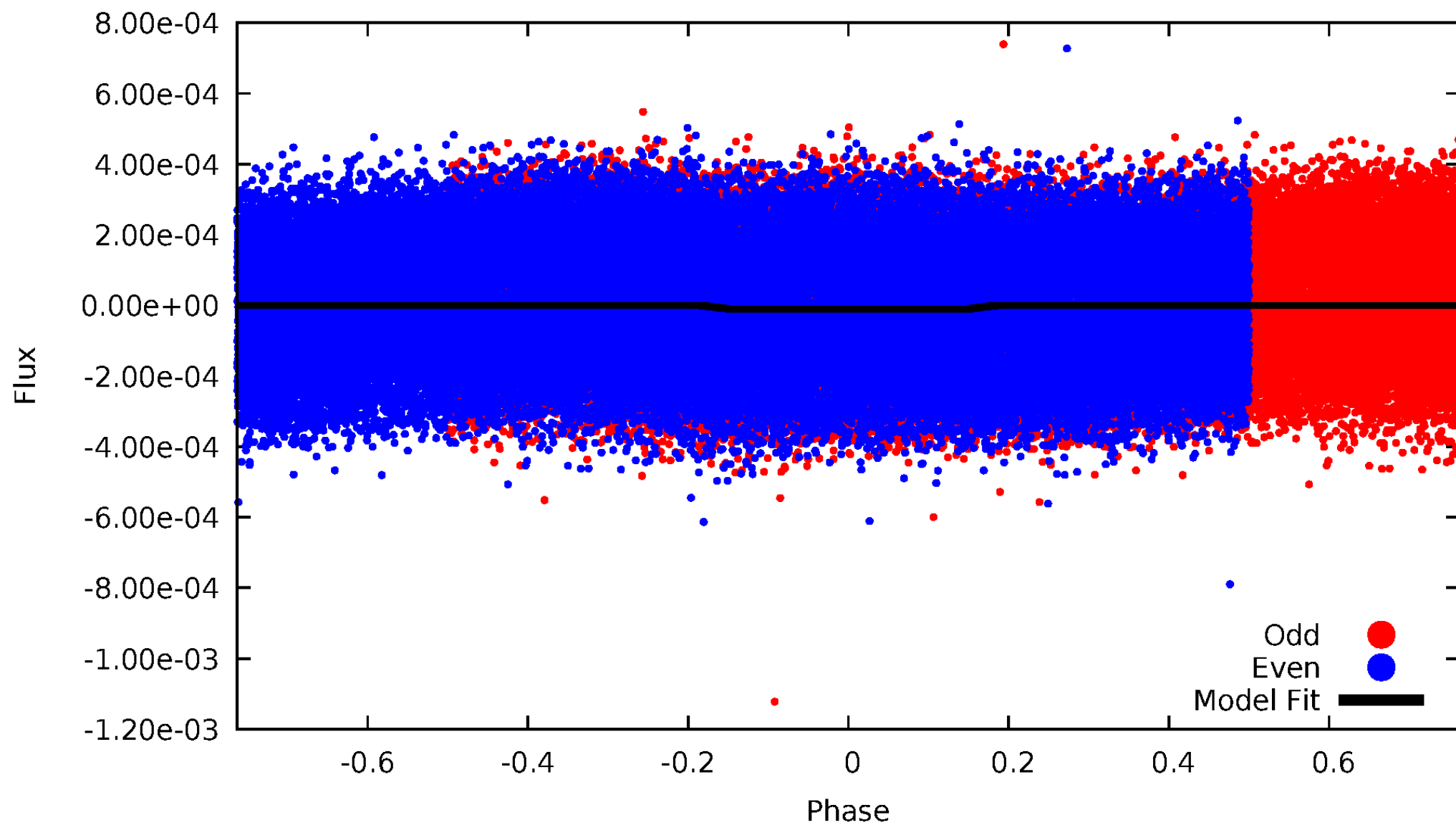
DV Odd/Even

TCE 011509728-01

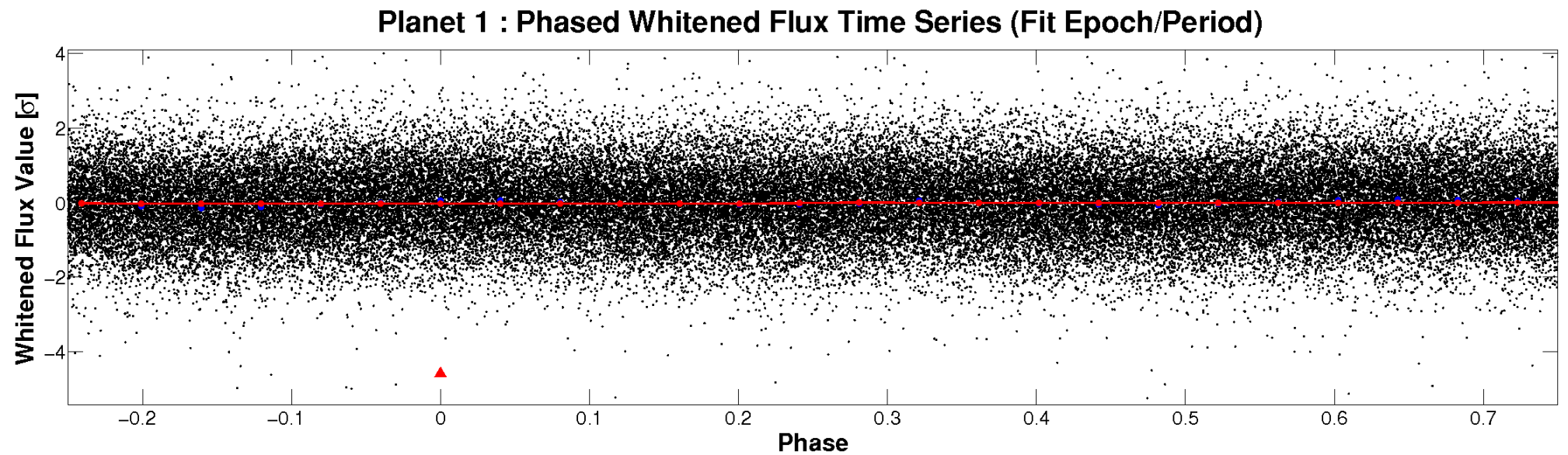
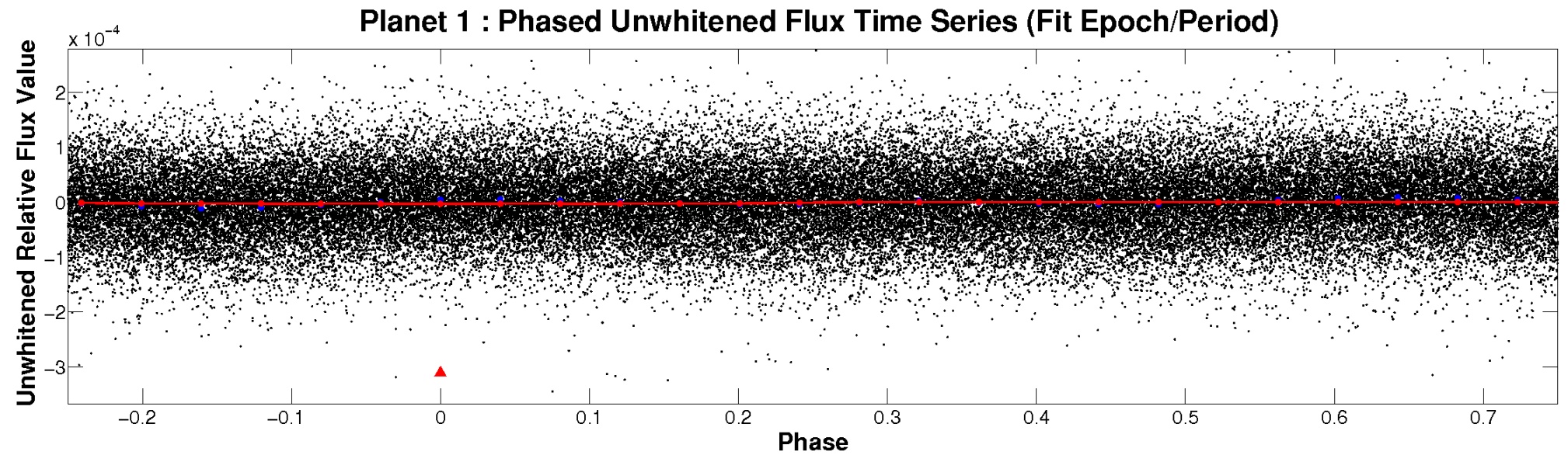


ALT Odd/Even

TCE 011509728-01

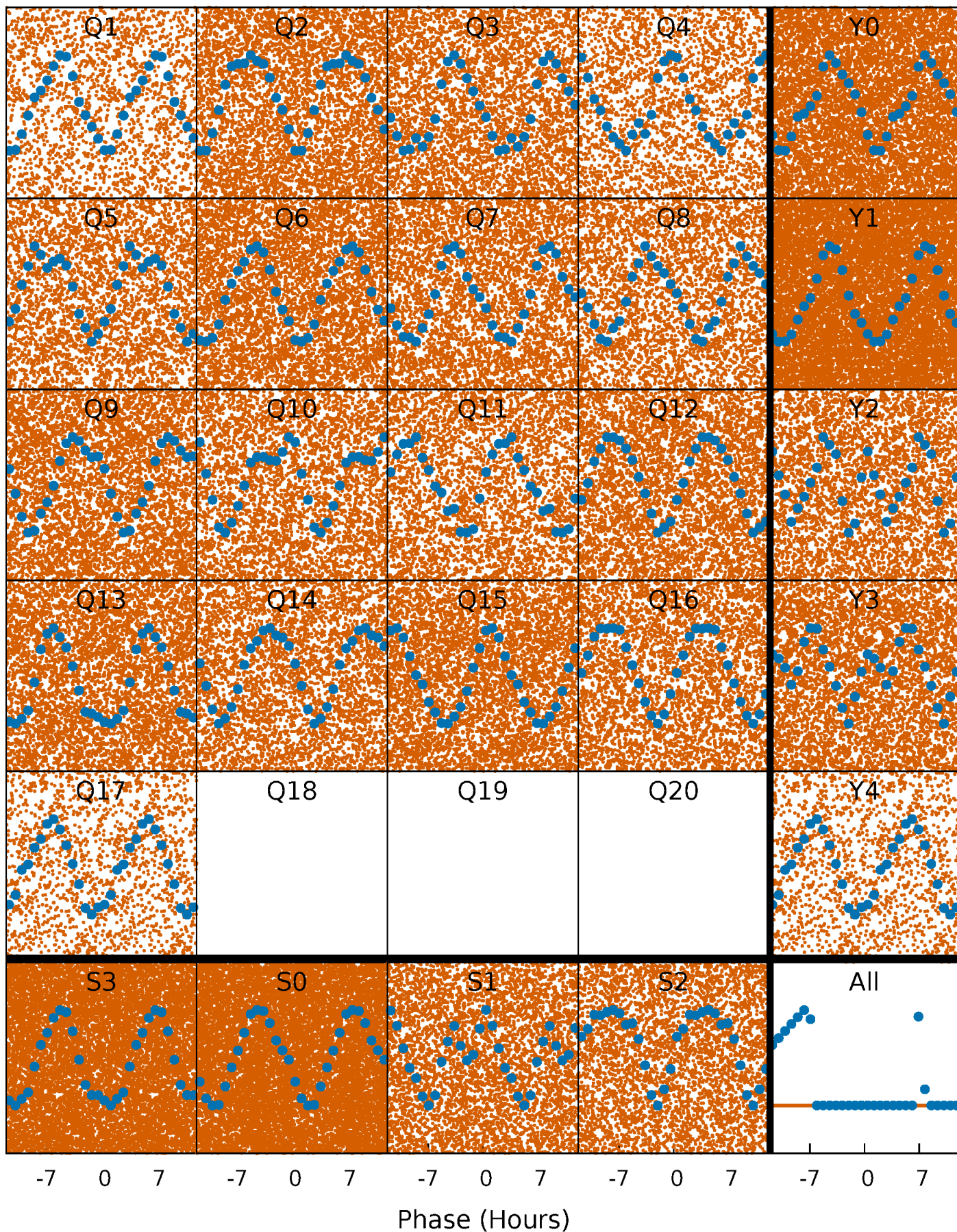


Non-Whitened Vs. Whitened Light Curve



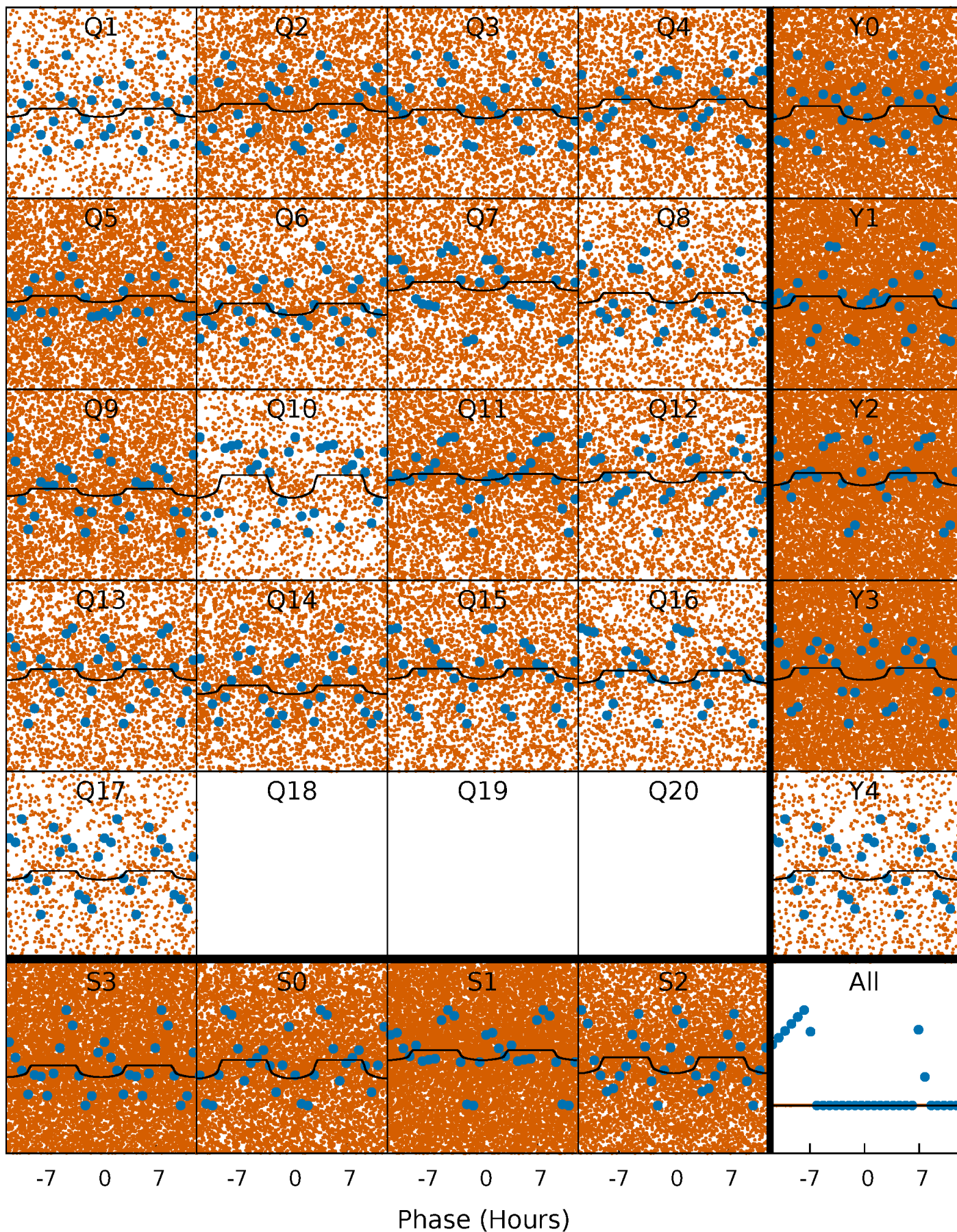
PDC Quarter-Phased Transit Curves

TCE 011509728-01 P= 0.508767 Days $T_0=131.858205$ (BKJD)



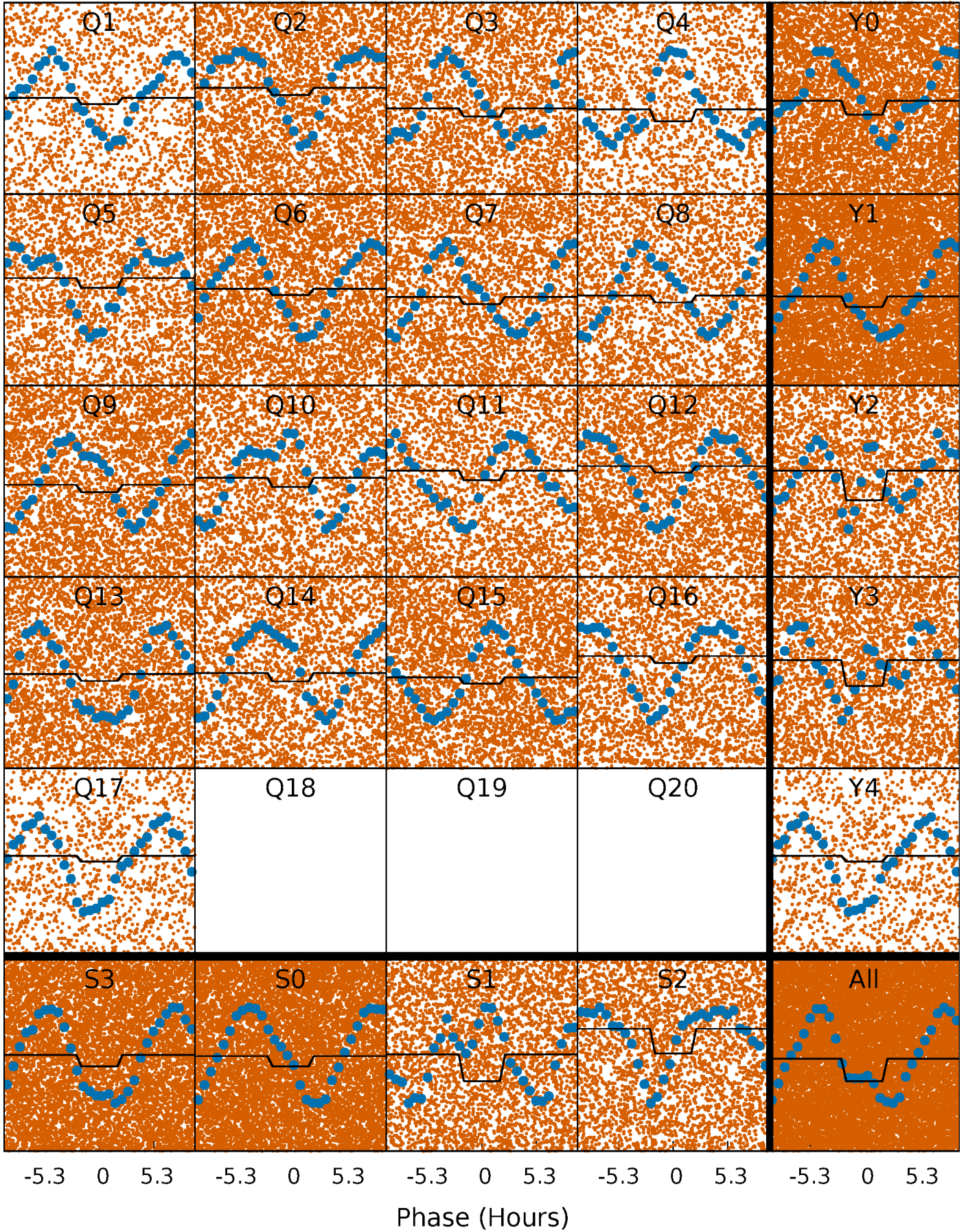
DV Quarter-Phased Transit Curves

TCE 011509728-01 P= 0.508767 Days $T_0=131.858205$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

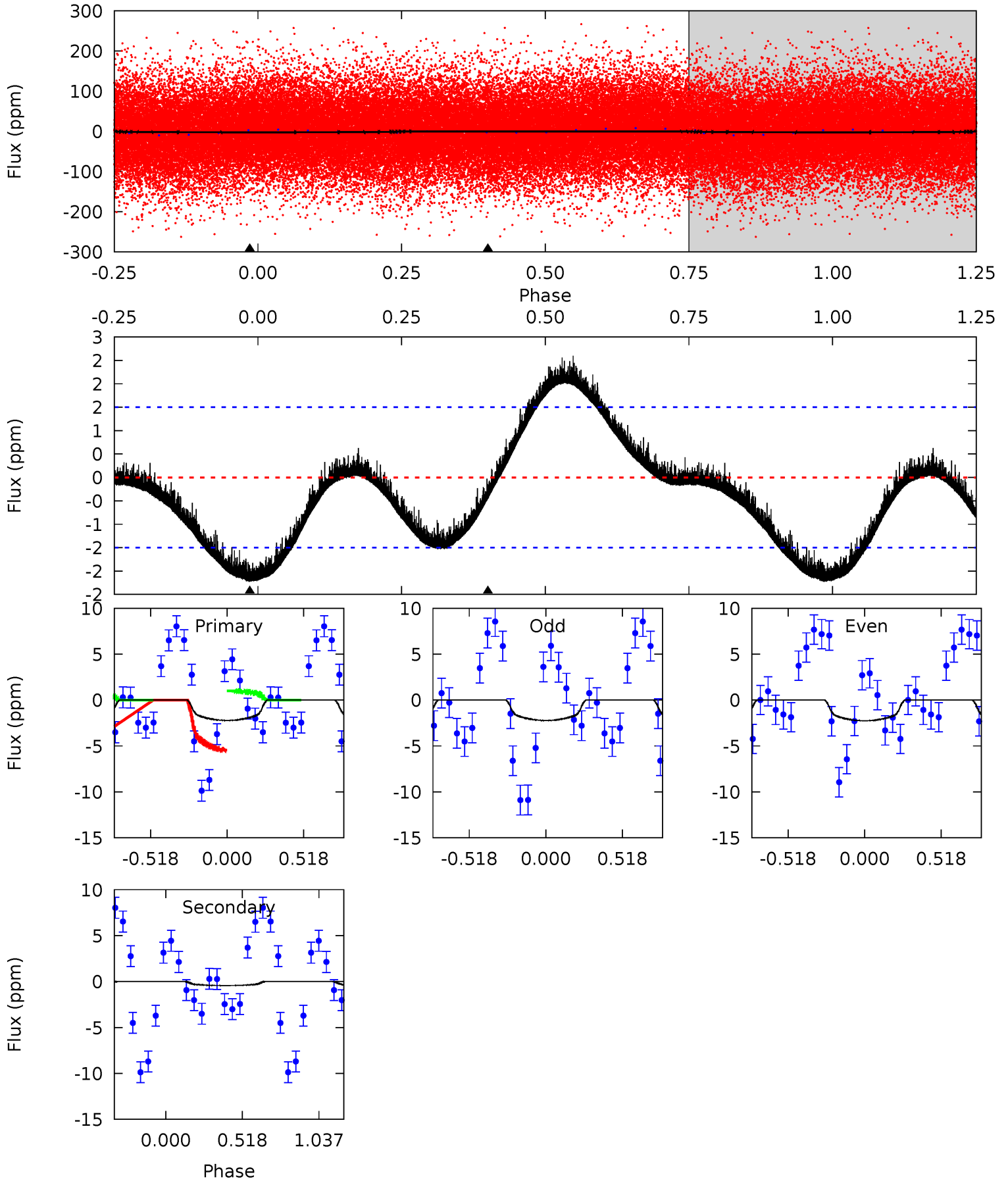
TCE 011509728-01 P= 0.508772 Days $T_0=131.841254$ (BKJD)



DV Model-Shift Uniqueness Test

011509728-01, P = 0.508767 Days, E = 131.349438 Days

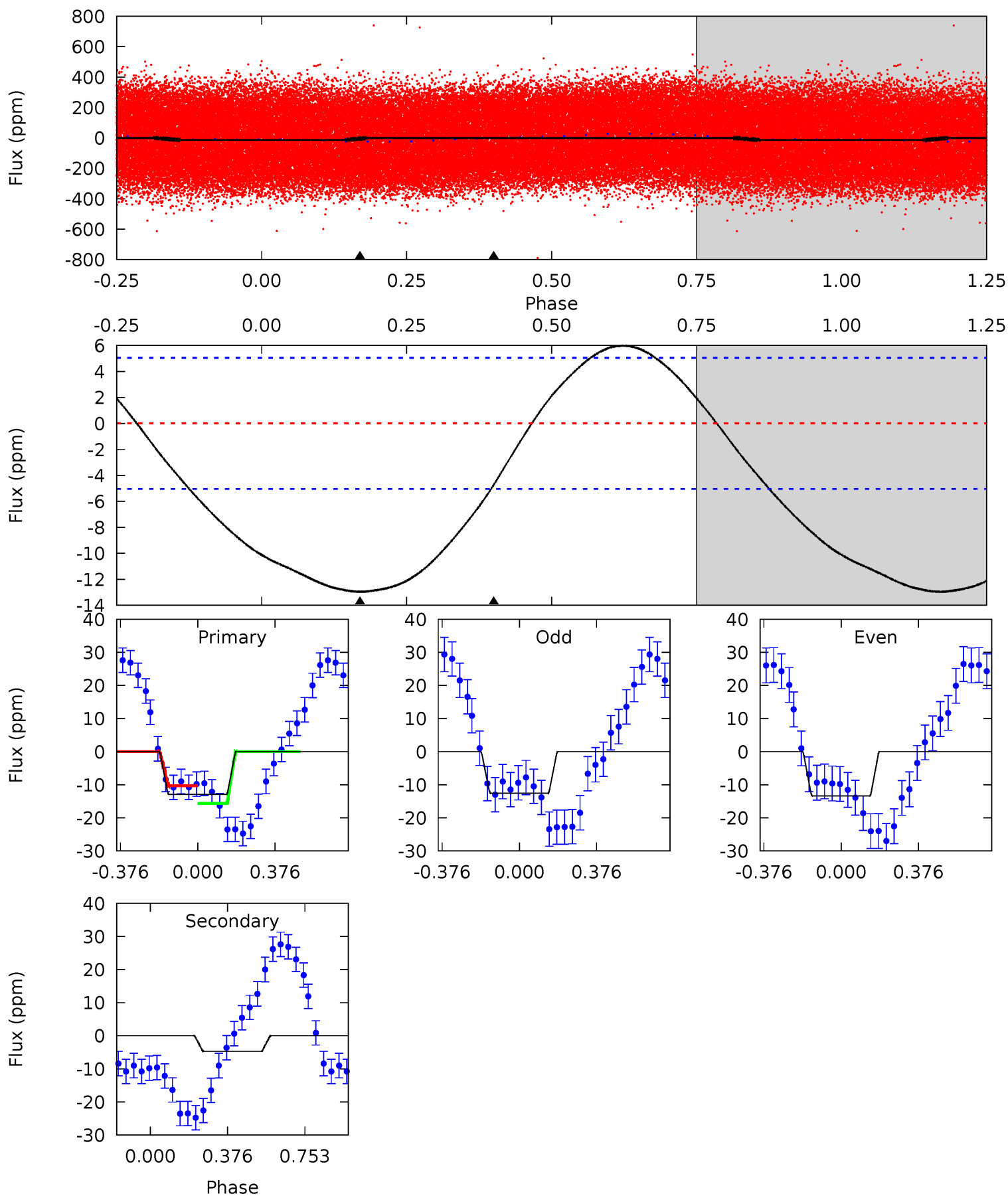
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.22	1.23	0	0	4.21	0.65	0.59	6.22	6.22	1.23	1.23	0.05	0.91	0.54	6.30



Alt Model-Shift Uniqueness Test

011509728-01, P = 0.508772 Days, E = 131.332482 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	4.02	0	0	4.28	0.88	1.45	11.0	11.0	4.02	4.02	0.34	1.05	0.32	2.31



Stellar Parameters For KIC 011509728

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8016^{+194}_{-361}	$3.708^{+0.432}_{-0.108}$	$0.020^{+0.200}_{-0.400}$	$3.349^{+0.846}_{-1.451}$	$2.086^{+0.337}_{-0.506}$	$0.078^{+0.313}_{-0.033}$
	+2%/-5%	+12%/-3%	+1000%/-2000%	+25%/-43%	+16%/-24%	+400%/-42%
Source	KIC0	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 011509728-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-0±0	$0.66^{+0.35}_{-0.32}$	6869^{+565}_{-851}	-4786^{+9852}_{-831}	$0.129^{+0.441}_{-0.112}$
Alt.	-5±1	$1.14^{+0.39}_{-0.38}$	6920^{+555}_{-868}	4898^{+1697}_{-8506}	$0.484^{+0.632}_{-0.214}$

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 $A_{obs} \gg 1.0$

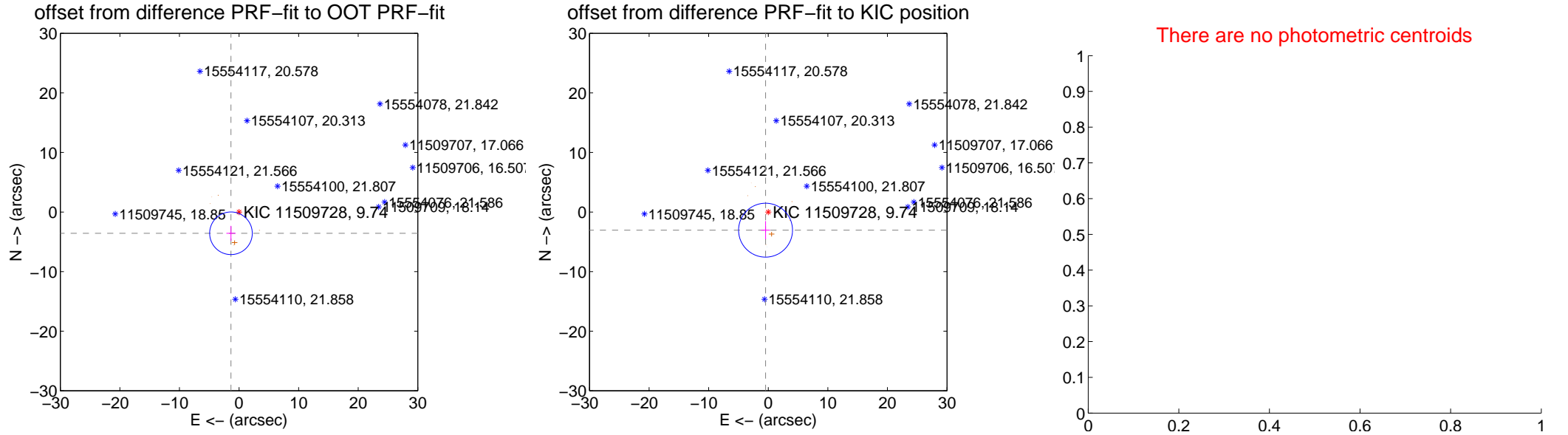
DV Centroid Data

Supplemental centroid analysis for 011509728-01. **Kepler magnitude: 9.74.** Transit SNR 4.80

There are 1 quarters with good PRF difference image offsets

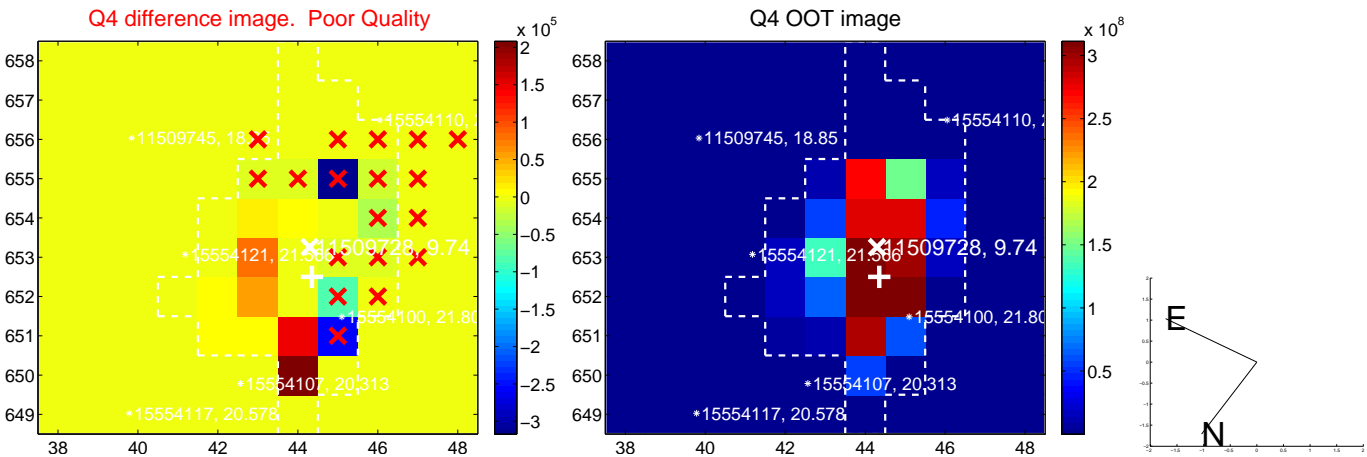
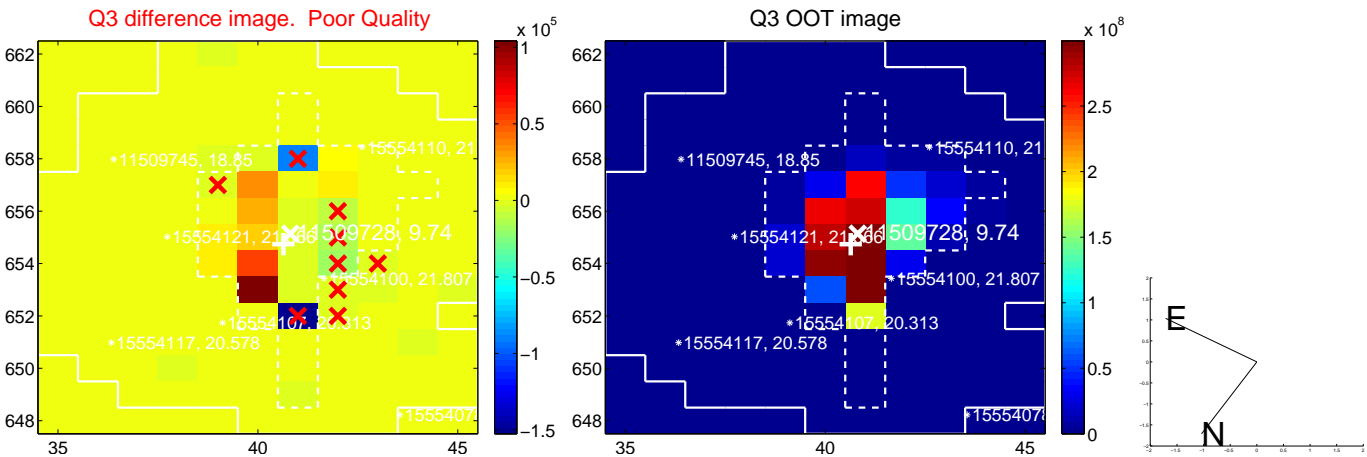
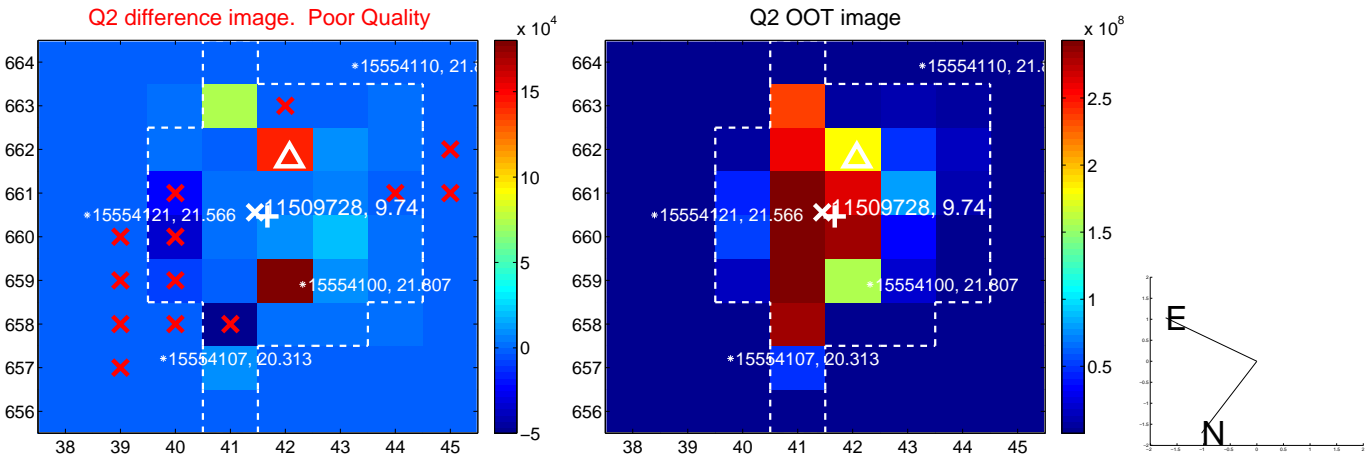
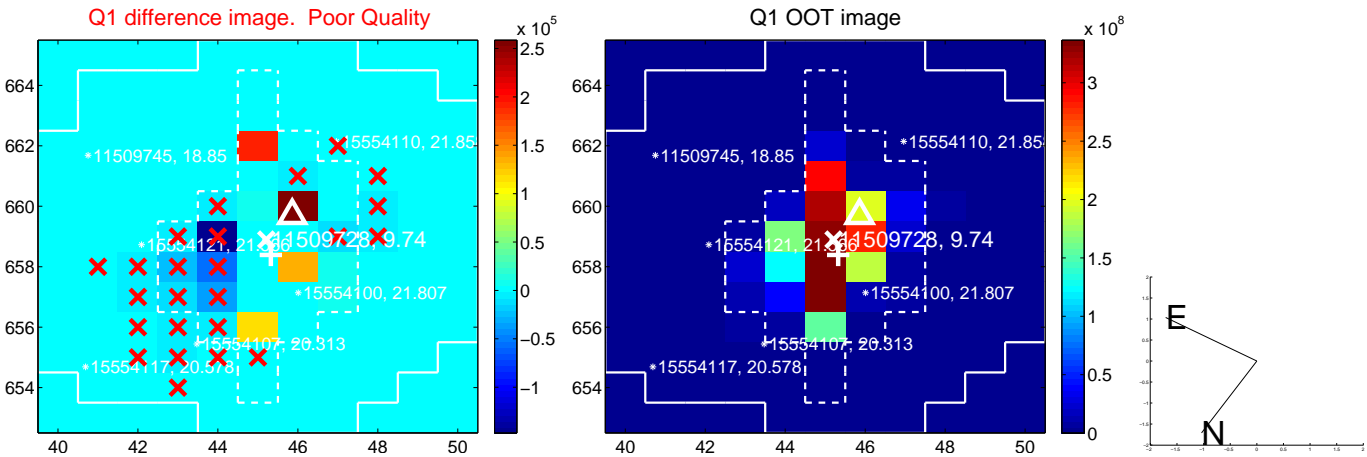
The direct PRF centroid is offset from the target star catalog position by about 1.97 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.814 \pm 1.192	3.20	1.354 \pm 0.774	-3.565 \pm 1.241
PRF-fit source offset from KIC position	3.078 \pm 1.508	2.04	0.454 \pm 0.751	-3.044 \pm 1.521
photometric centroid source offset	—	—	—	—

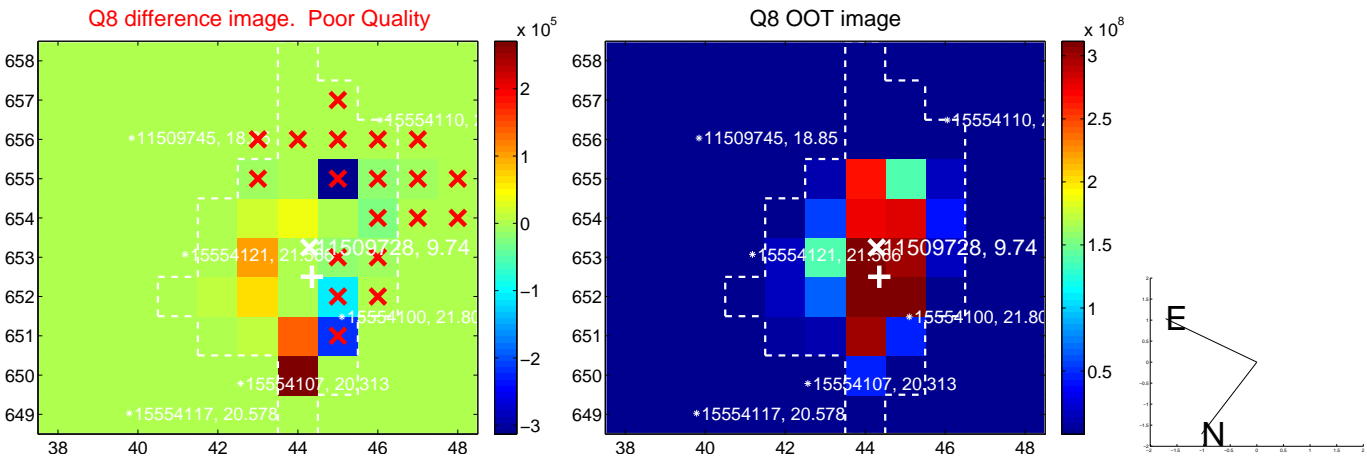
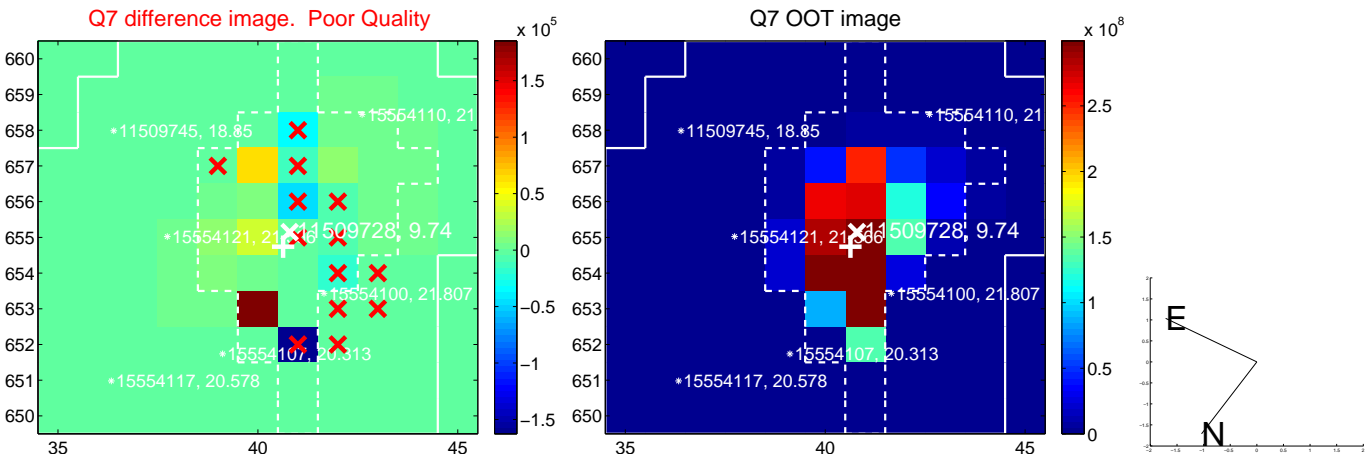
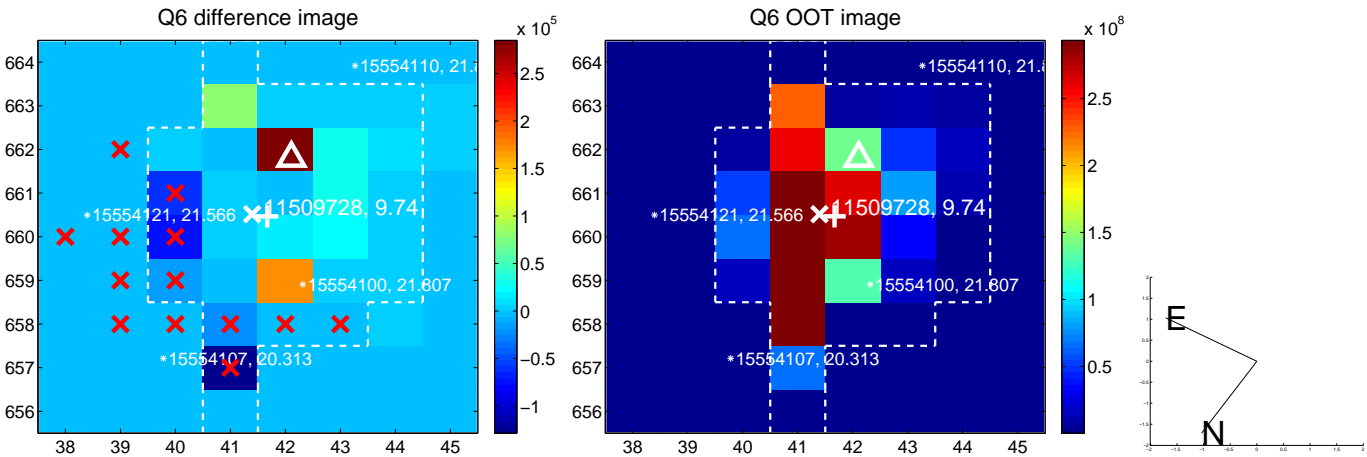
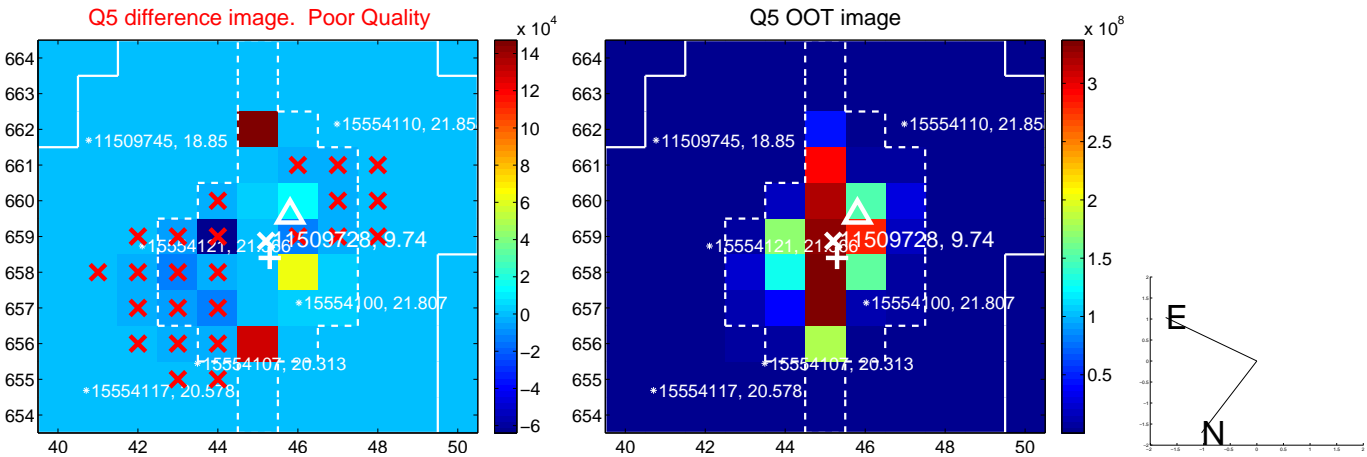


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

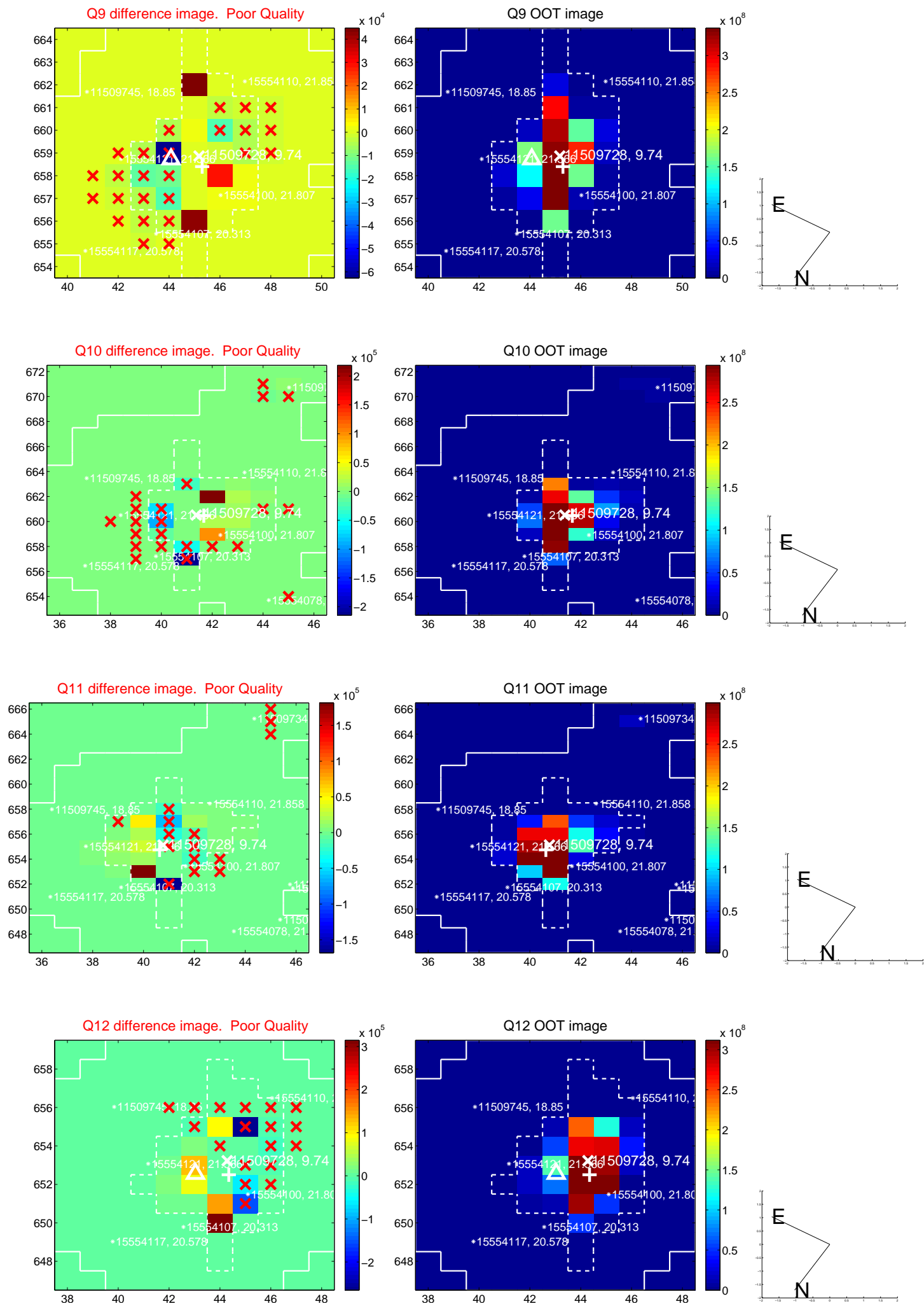
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



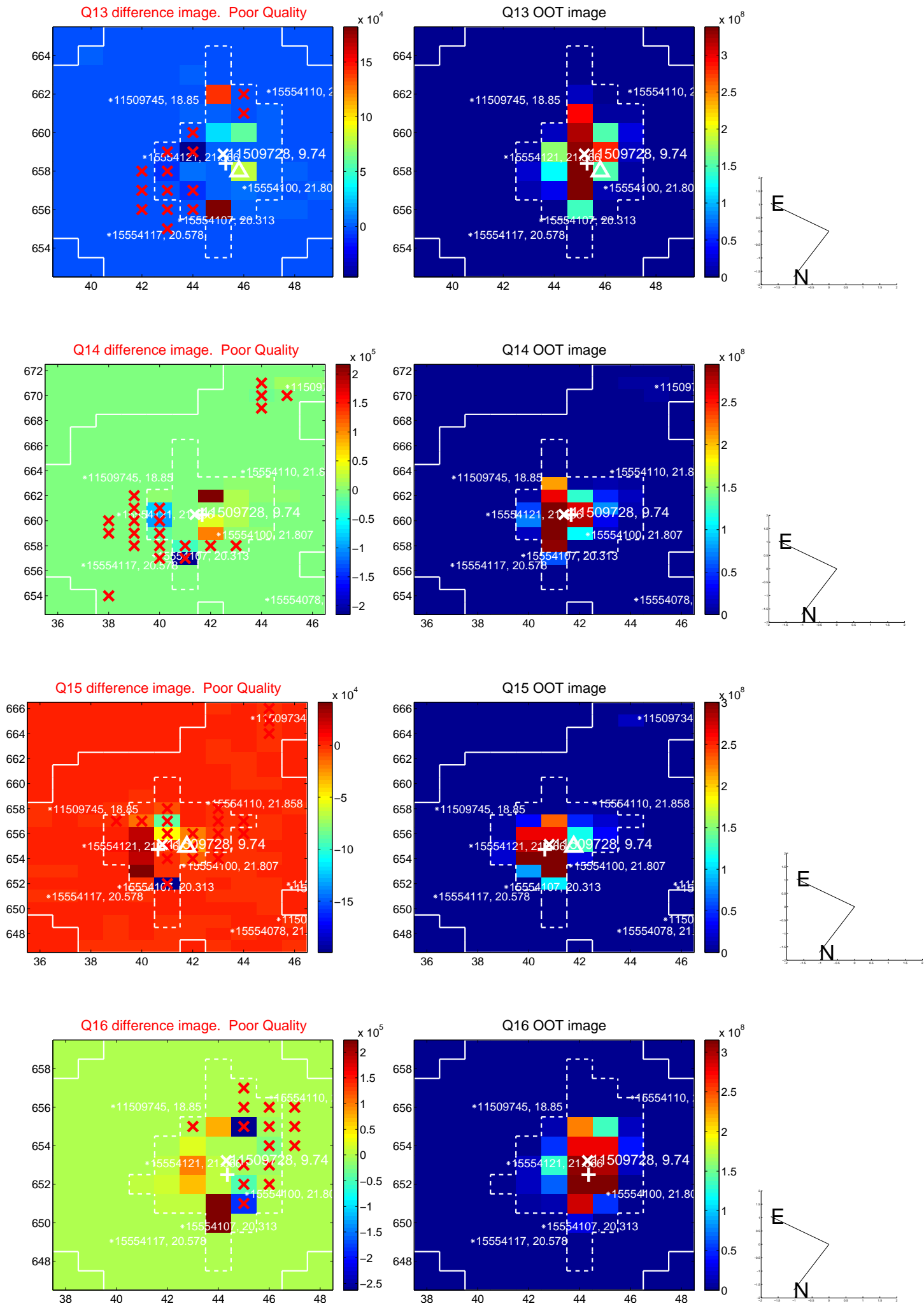
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



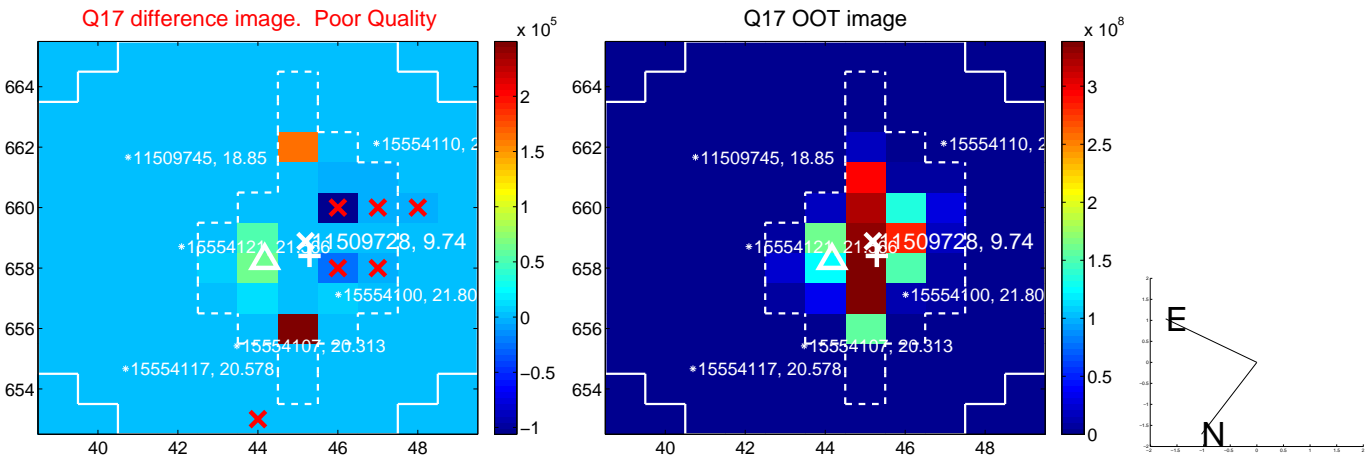
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



folded centroid time series figure for this object.

UKIRT Image

Declination

