

KIC 012110786

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})
012110786-01	OBS	2665.01	1.112222	131.841123	57.1	1.187	10.1	12.8	0.97	6046	0.87	2471.47

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012110786-01	OBS	FP	0.00	0	0	1	0	CENT_UNRESOLVED_OFFSET

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 012110786-01

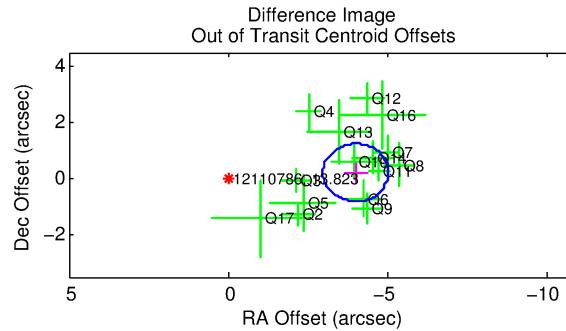
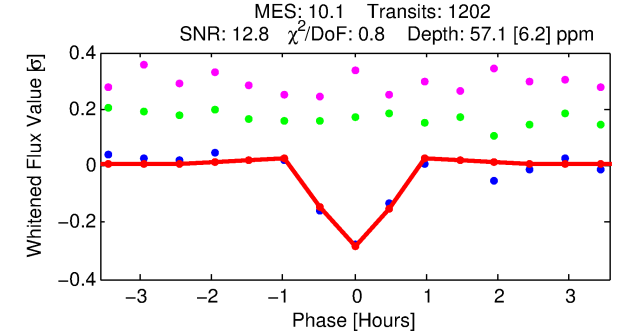
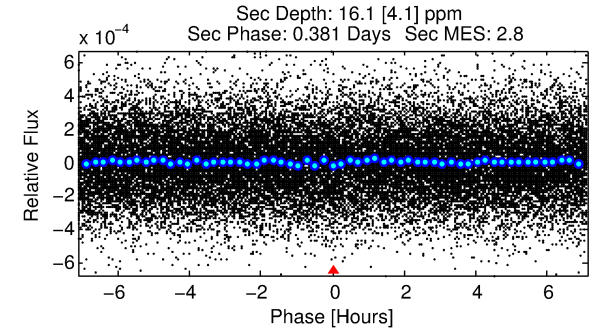
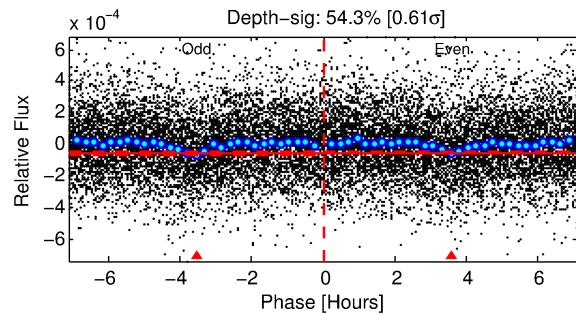
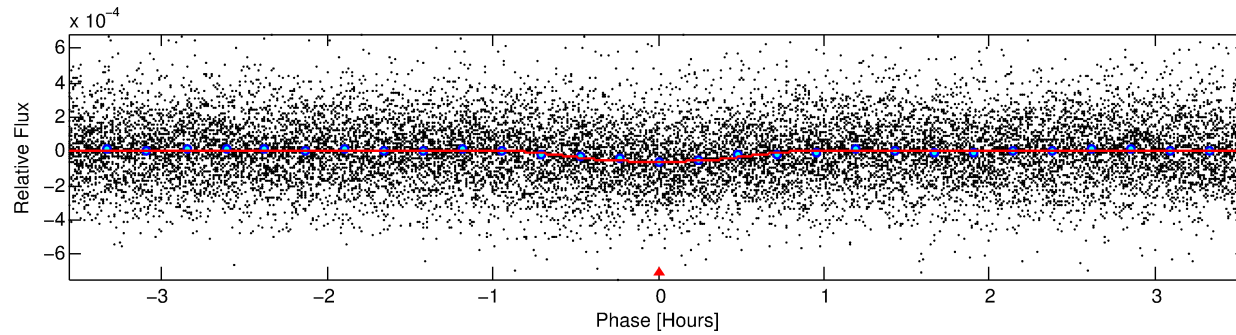
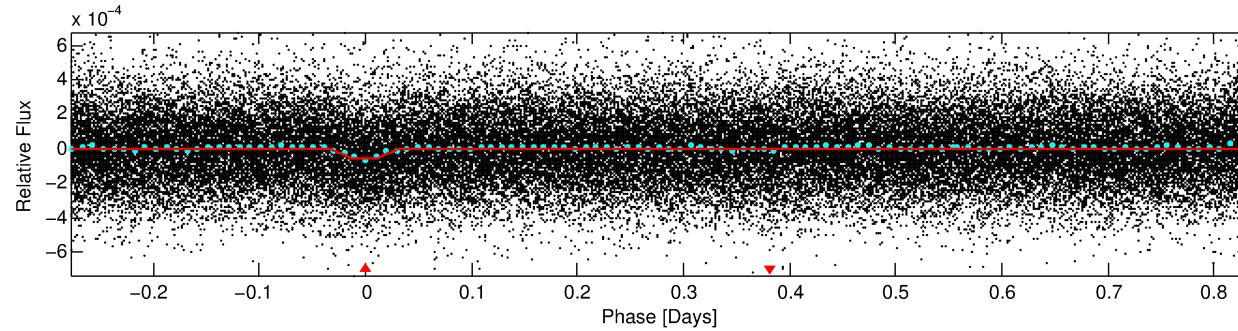
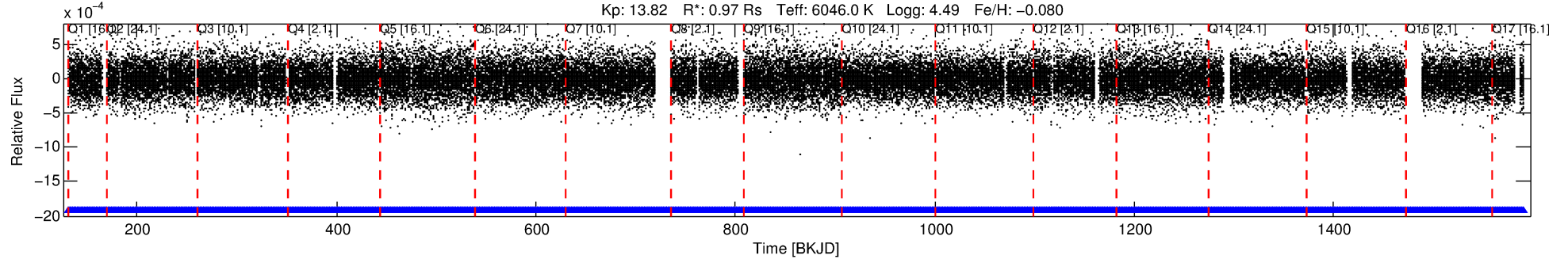
No Significant Match Found

DV One-Page Summary

KIC: 12110786 Candidate: 1 of 1 Period: 1.112 d

KOI: K02665.01 Corr: 0.914

Kp: 13.82 R*: 0.97 Rs Teff: 6046.0 K Logg: 4.49 Fe/H: -0.080



DV Fit Results:

Period = 1.11222 [0.00001] d
Epoch = 131.8411 [0.0014] BKJD
Rp/R* = 0.0082 [0.0025]
a/R* = 3.46 [4.96]
b = 0.89 [0.36]
Seff = 2471.47 [983.84]
Teq = 1798 [179] K
Rp = 0.87 [0.38] Re
a = 0.0214 [0.0056] AU
Ag = 5.41 [4.14] [1.06σ]
Teffp = 4239 [716] K [3.31σ]

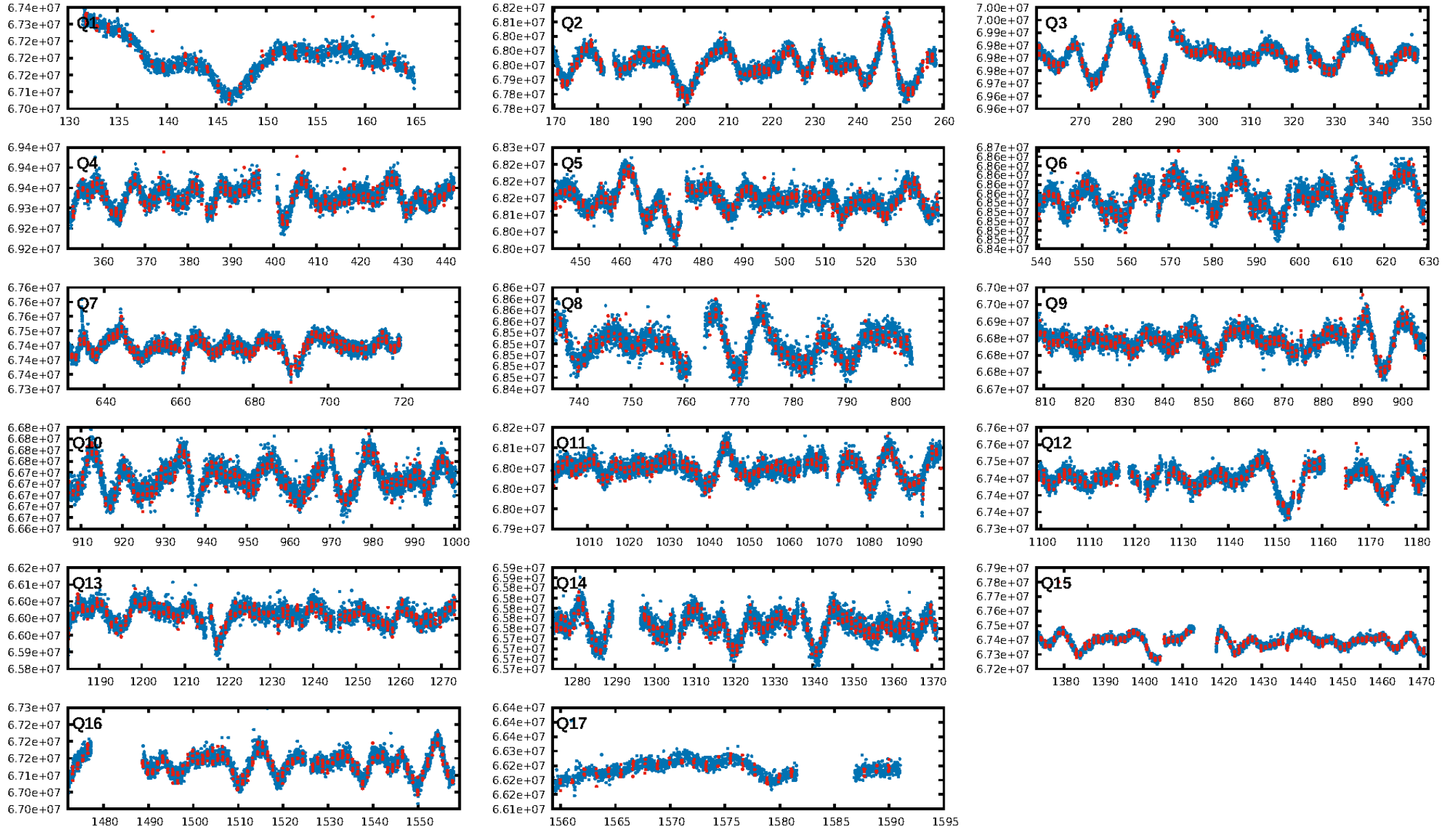
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.31e-23
RollingBand-fgt: 1.00 [1149/1149]
GhostDiagnostic-chr: 1.027
Centroid-sig: 0.0%
Centroid-so: 4.034 arcsec [4.56σ]
OotOffset-rm: 4.019 arcsec [11.72σ]
KicOffset-rm: 3.822 arcsec [11.17σ]
OotOffset-st: 4/3/4/4 [15]
KicOffset-st: 4/3/4/4 [15]
DiffImageQuality-fgm: 0.47 [7/15]
DiffImageOverlap-fno: 1.00 [17/17]

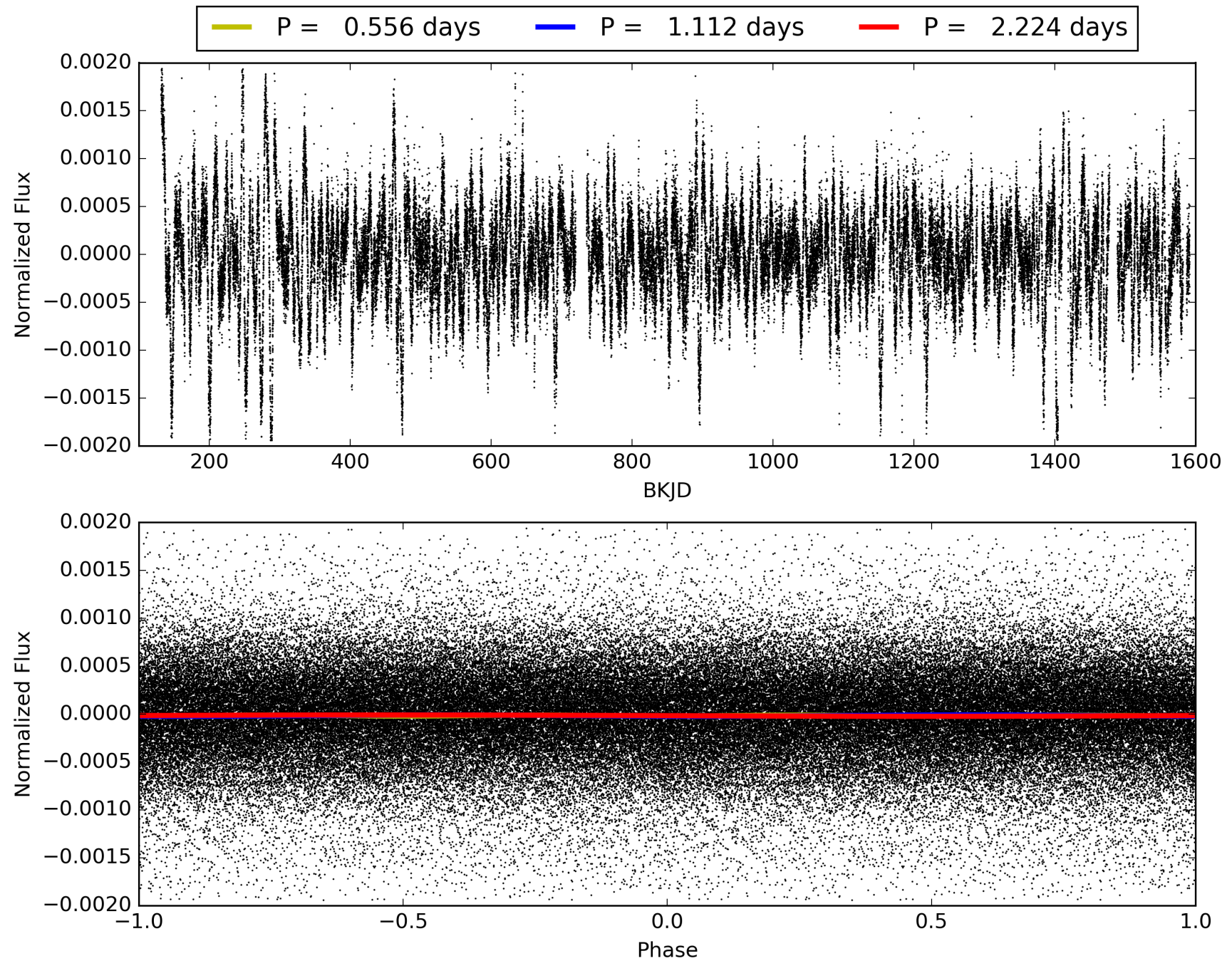
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 03:34:56 Z

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

TCE 012110786-01, PDC Light Curves

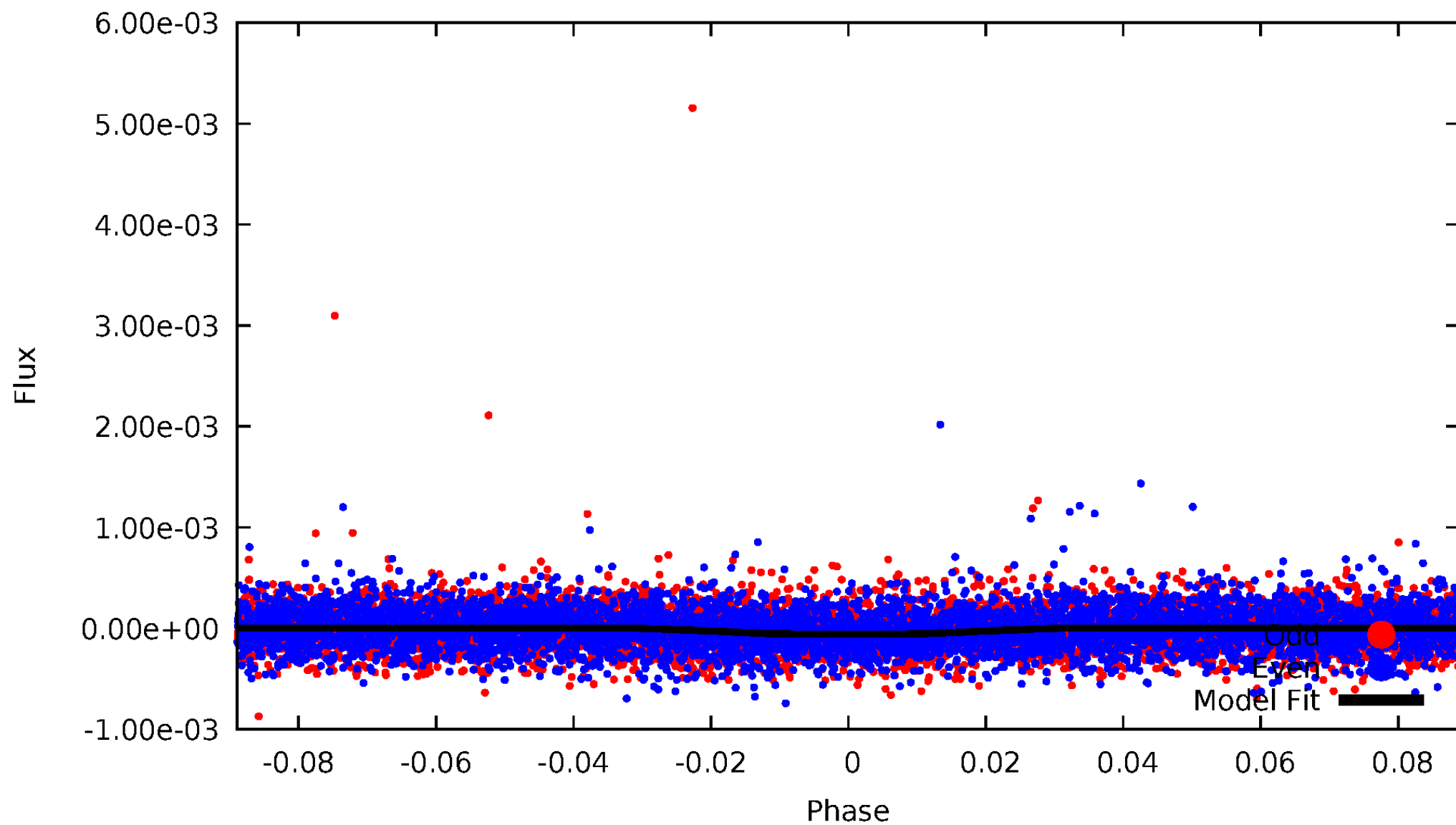


TCE 012110786-01



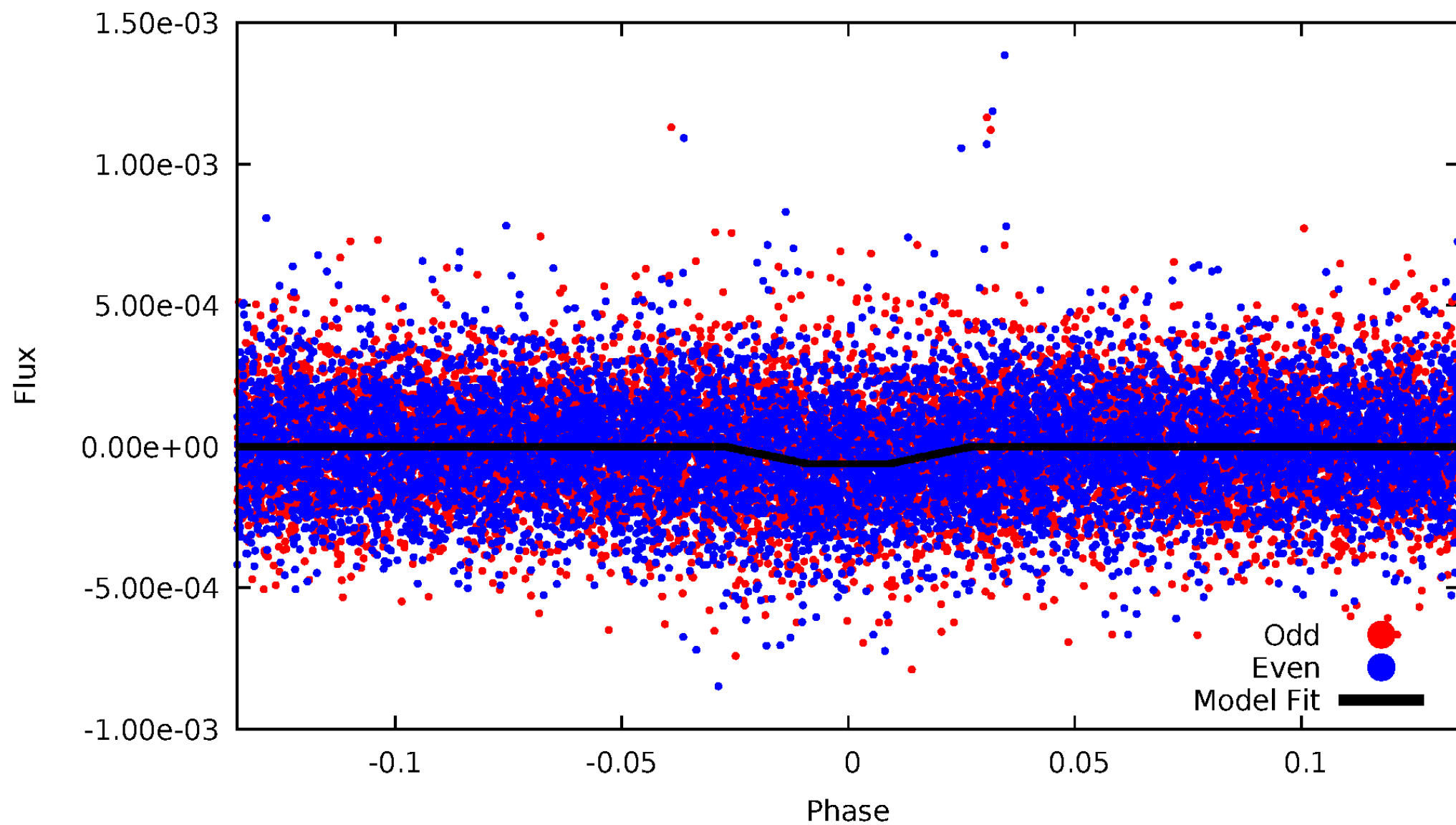
DV Odd/Even

TCE 012110786-01



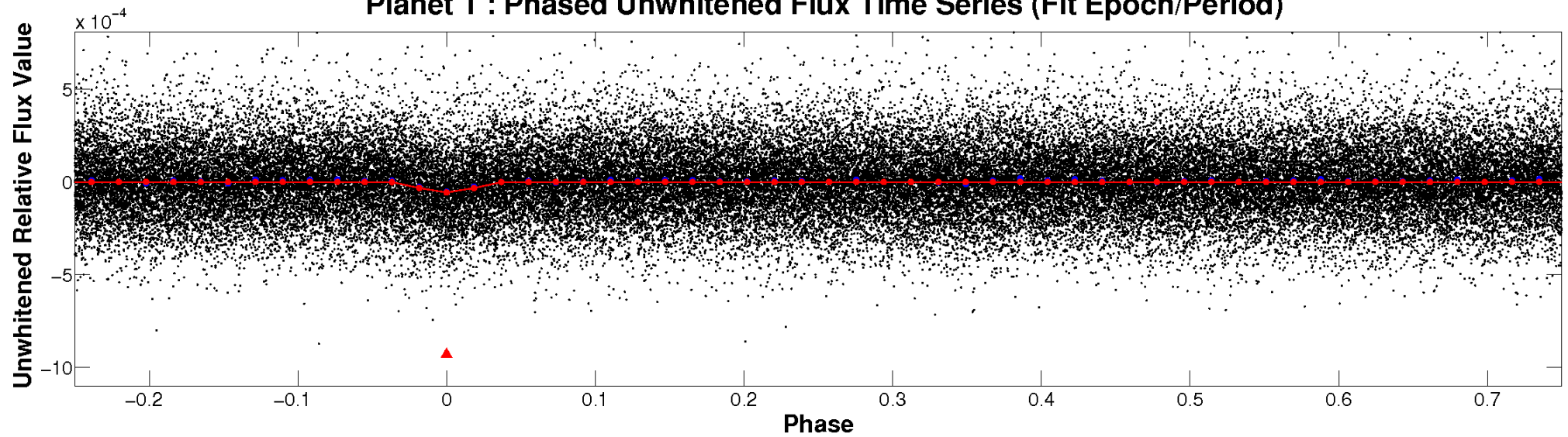
ALT Odd/Even

TCE 012110786-01

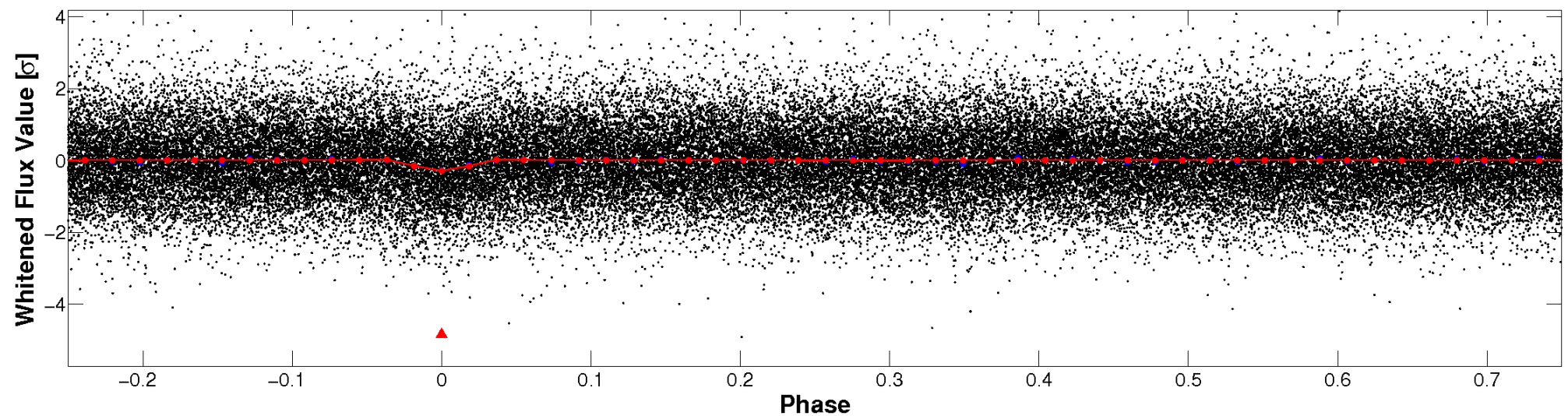


Non-Whitened Vs. Whitened Light Curve

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

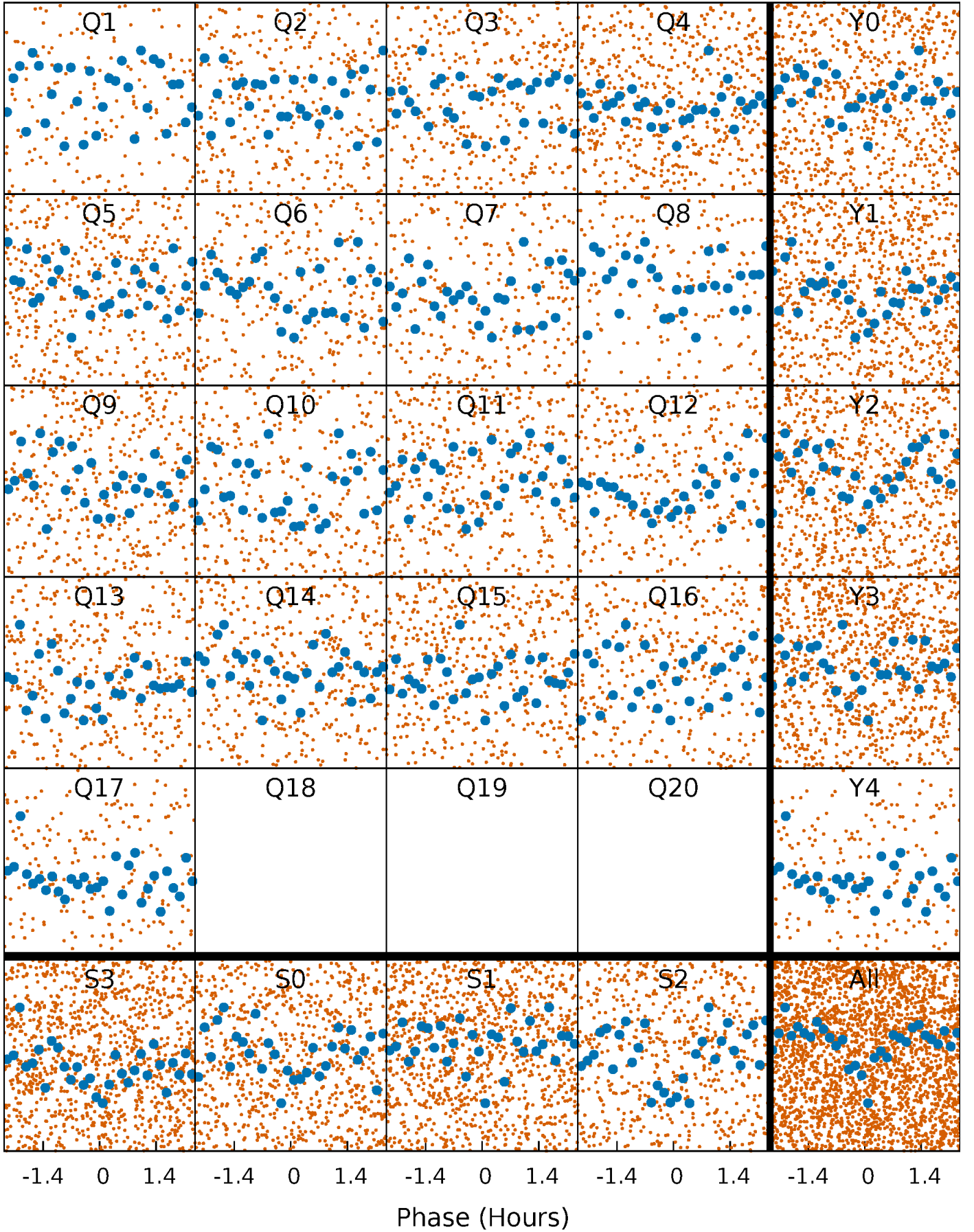


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



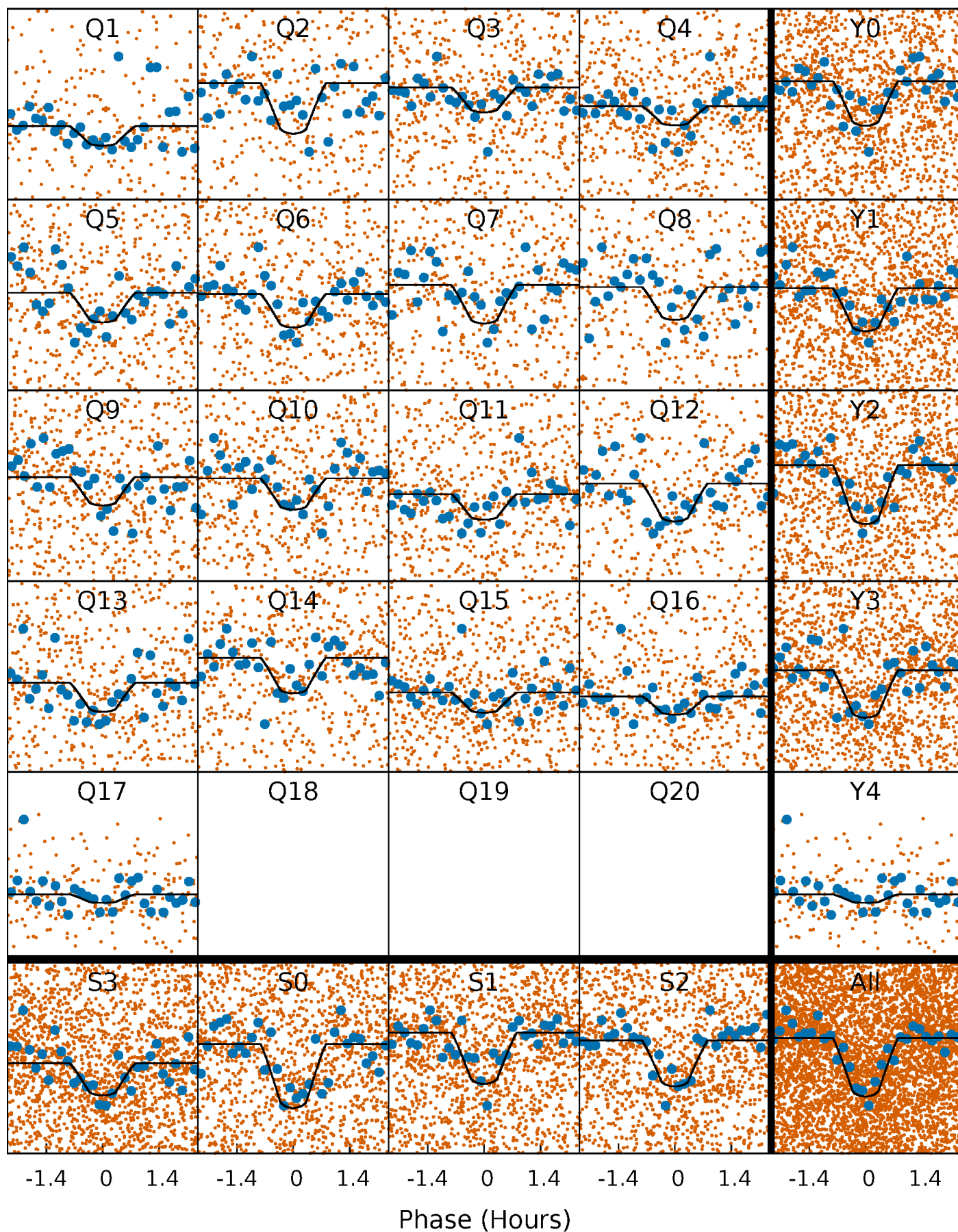
PDC Quarter-Phased Transit Curves

TCE 012110786-01 P= 1.112222 Days $T_0=131.841123$ (BKJD)



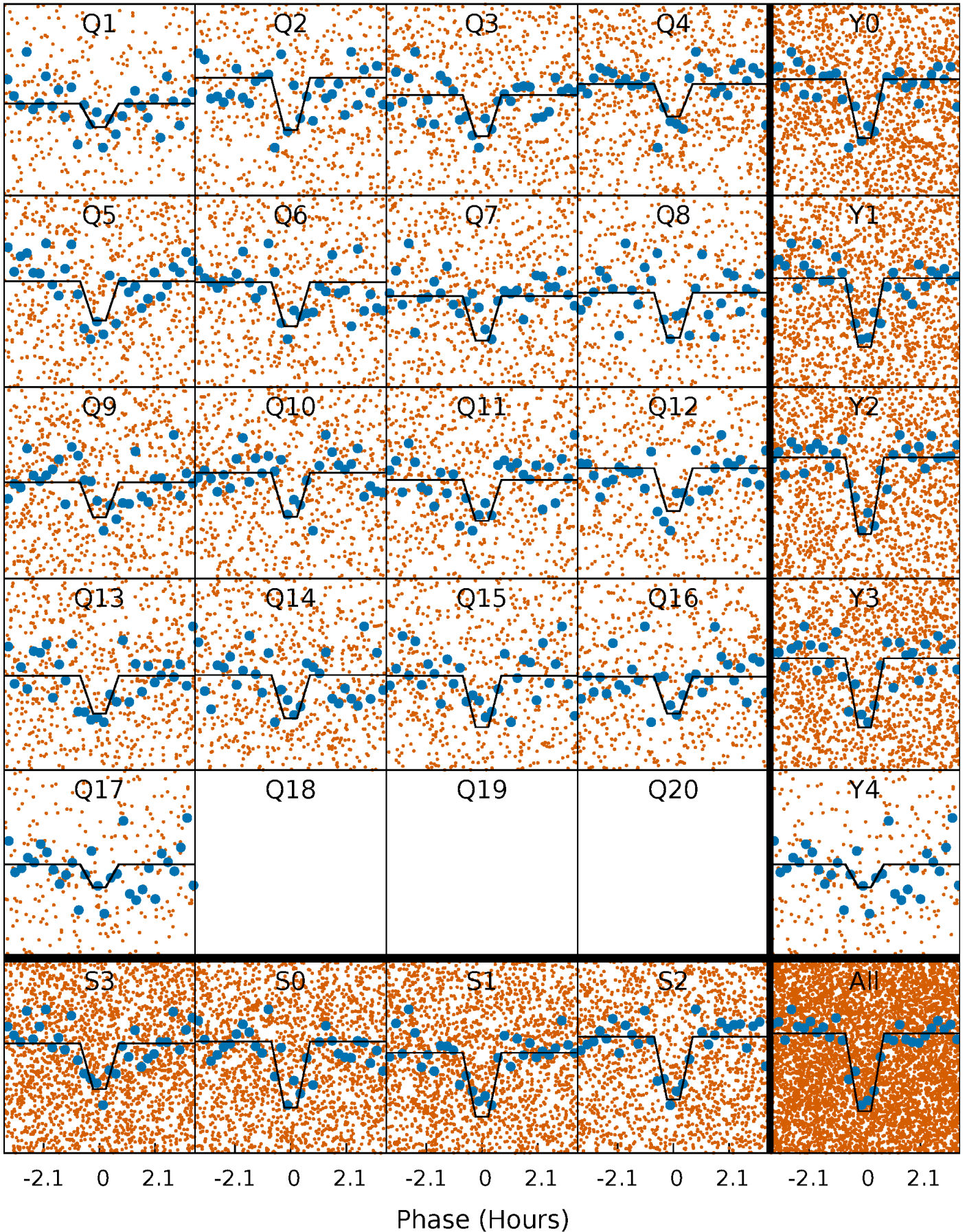
DV Quarter-Phased Transit Curves

TCE 012110786-01 P= 1.112222 Days $T_0=131.841123$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

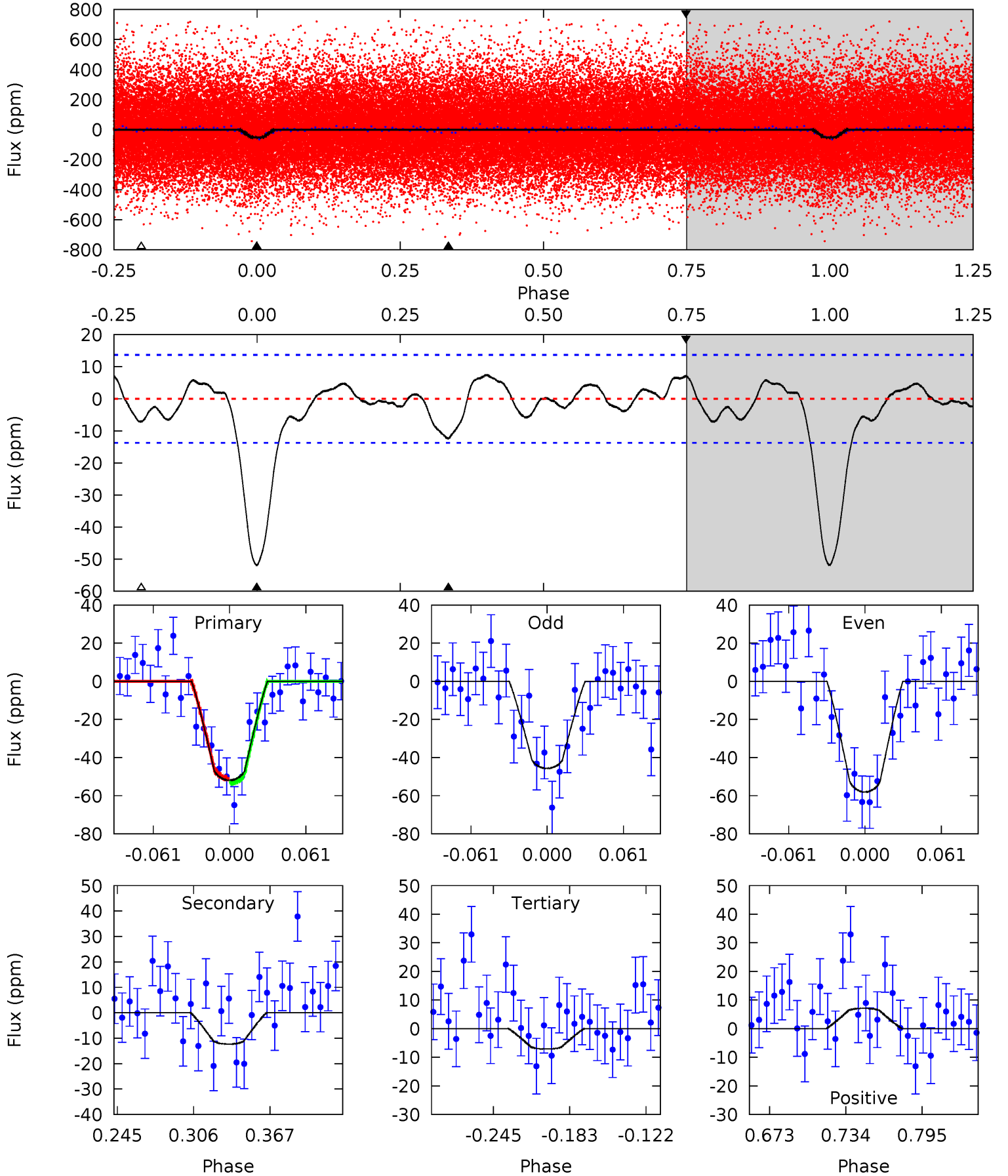
TCE 012110786-01 P= 1.112214 Days $T_0=131.844836$ (BKJD)



DV Model-Shift Uniqueness Test

012110786-01, P = 1.112222 Days, E = 130.728901 Days

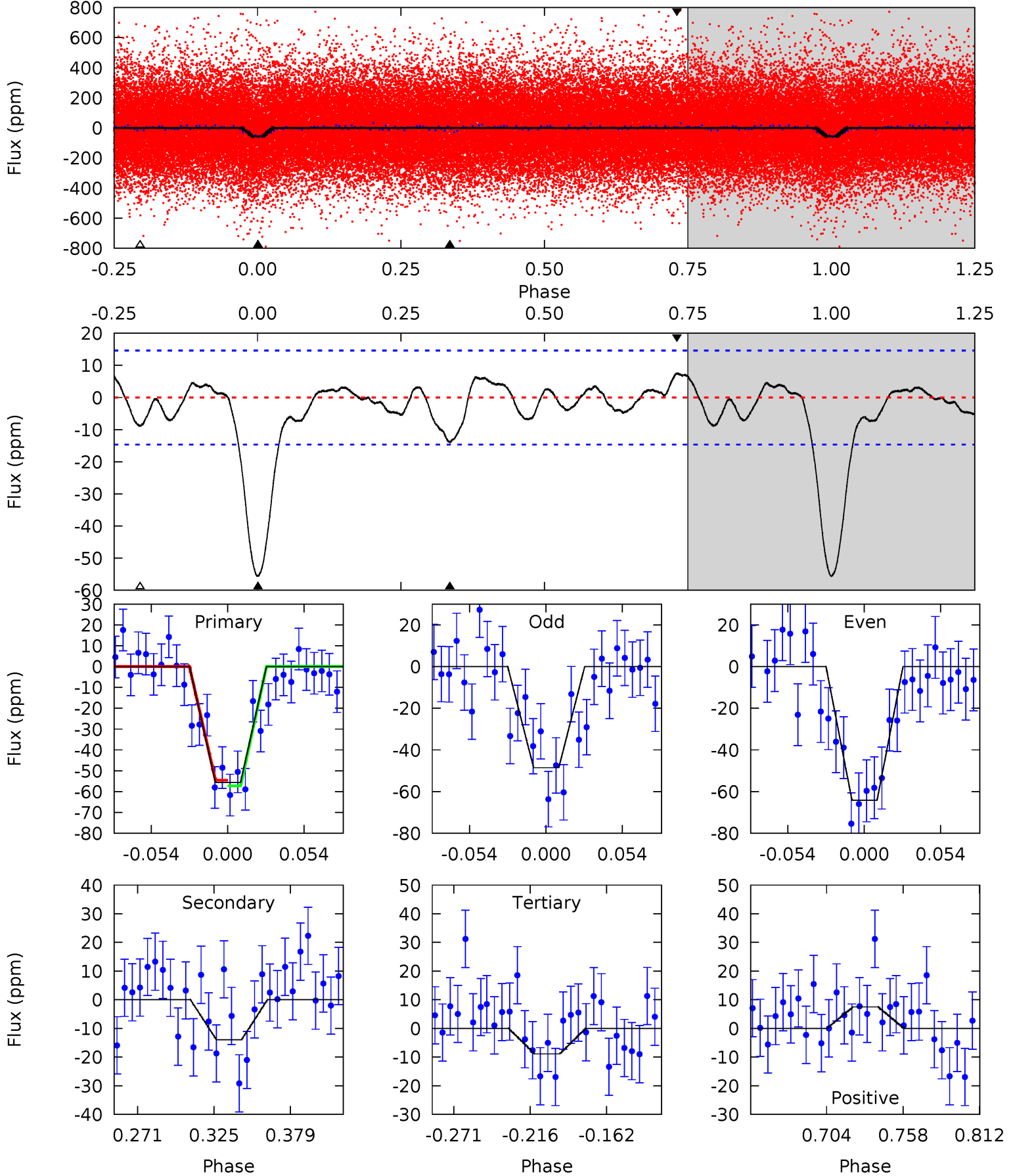
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.7	4.20	2.42	2.42	4.67	1.87	1.27	15.2	15.2	1.78	1.78	2.11	0.89	0.13	0.39



Alt Model-Shift Uniqueness Test

012110786-01, P = 1.112214 Days, E = 130.732622 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.8	4.47	2.85	2.41	4.69	1.93	1.23	15.0	15.4	1.62	2.06	2.49	0.90	0.12	0.44



Stellar Parameters For KIC 012110786

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6046^{+162}_{-180}	$4.486^{+0.052}_{-0.208}$	$-0.080^{+0.250}_{-0.300}$	$0.972^{+0.300}_{-0.100}$	$1.053^{+0.142}_{-0.129}$	$1.615^{+0.351}_{-0.886}$
	+3%/-3%	+1%/-5%	+312%/-375%	+31%/-10%	+13%/-12%	+22%/-55%
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 012110786-01 / KOI 2665.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-12 ± 3	$0.91^{+0.32}_{-0.30}$	2566^{+200}_{-120}	4141^{+746}_{-474}	$3.553^{+4.936}_{-1.694}$
Alt.	-14 ± 3	$0.87^{+0.31}_{-0.31}$	2561^{+192}_{-125}	4287^{+846}_{-434}	$4.391^{+5.959}_{-1.976}$

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

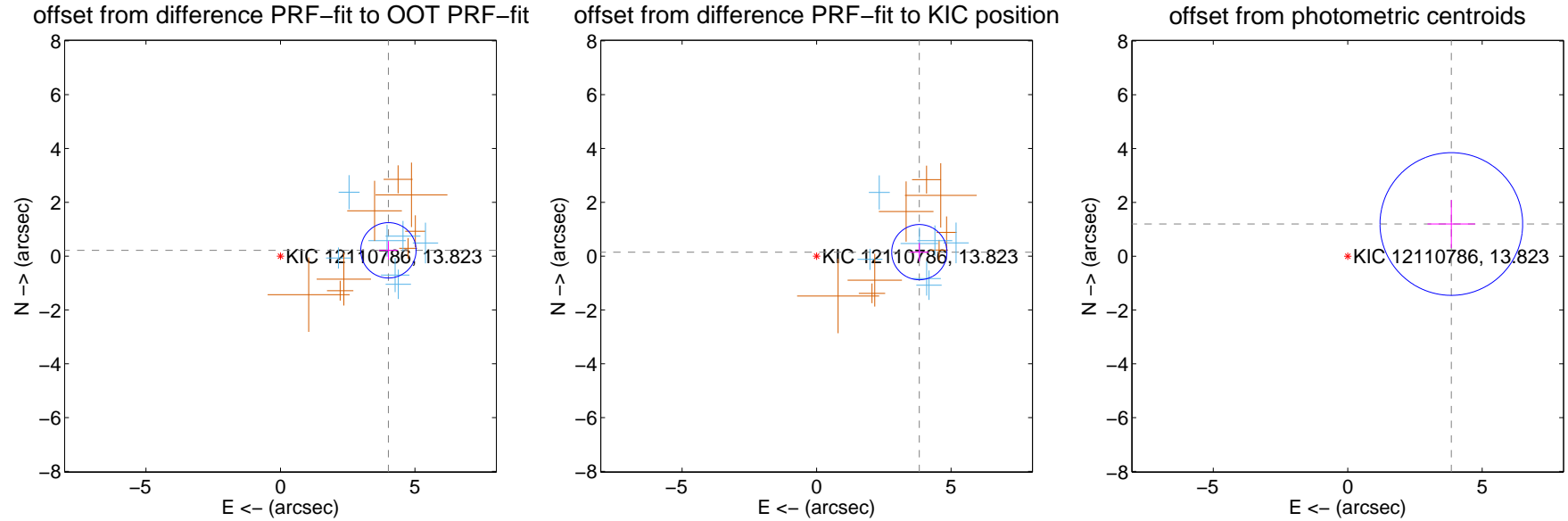
DV Centroid Data

Supplemental centroid analysis for 012110786-01. Kepler magnitude: 13.82. Transit SNR 12.79

There are 7 quarters with good PRF difference image offsets

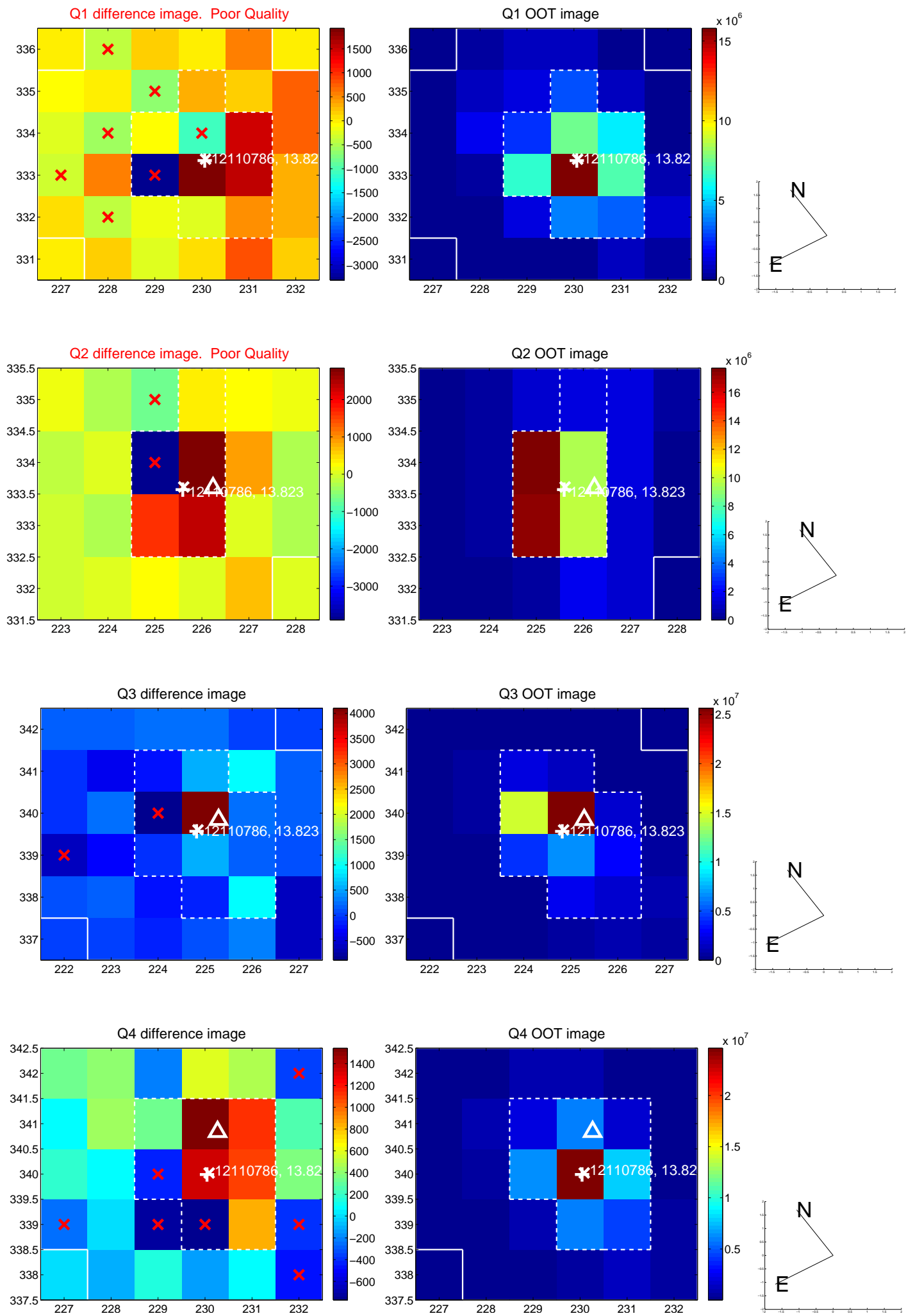
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.019 ± 0.343	11.72	-4.013 ± 0.343	0.216 ± 0.343
PRF-fit source offset from KIC position	3.822 ± 0.342	11.17	-3.819 ± 0.342	0.148 ± 0.344
photometric centroid source offset	4.03 ± 0.88	4.56	-3.85 ± 0.88	1.20 ± 0.89

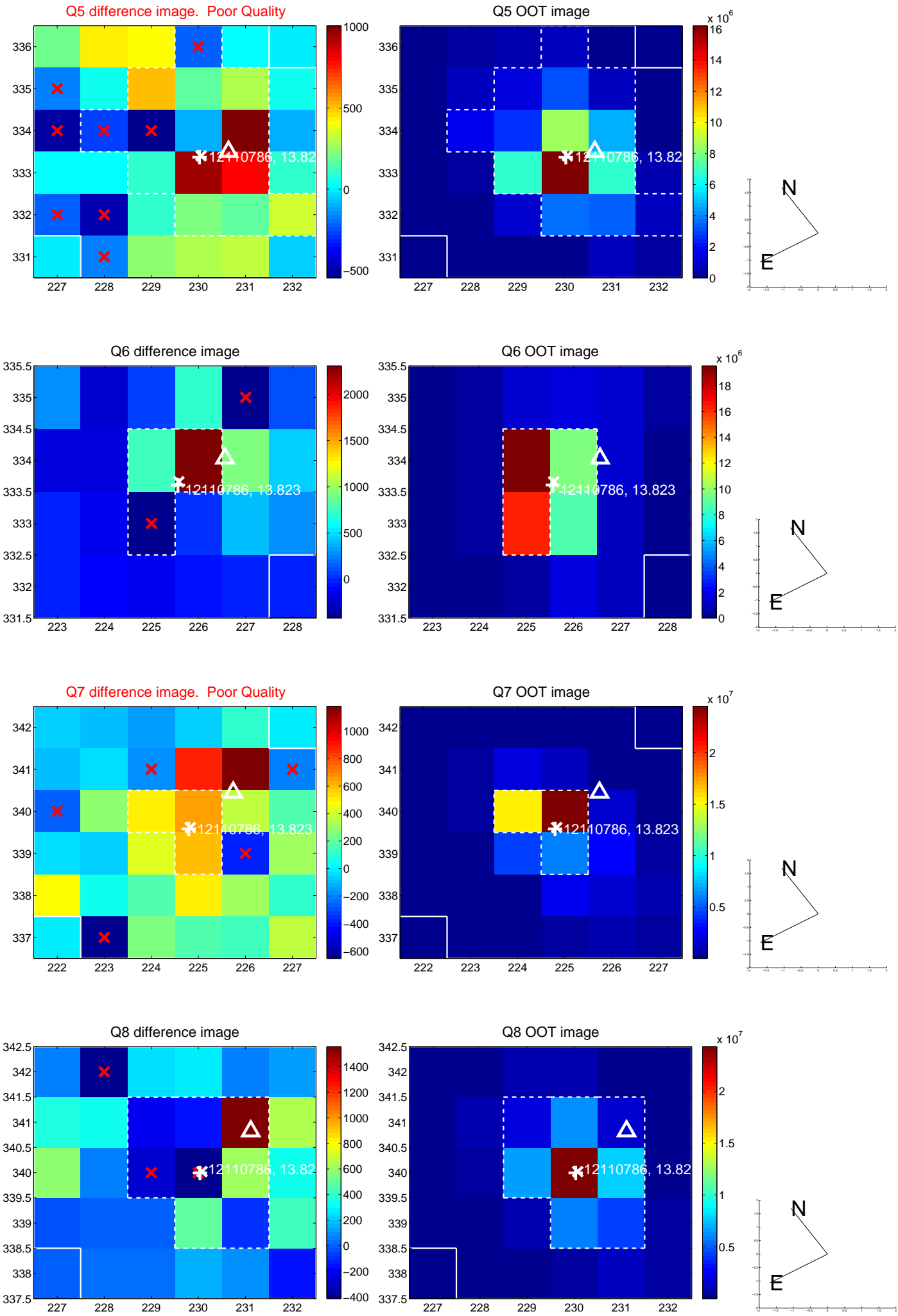


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

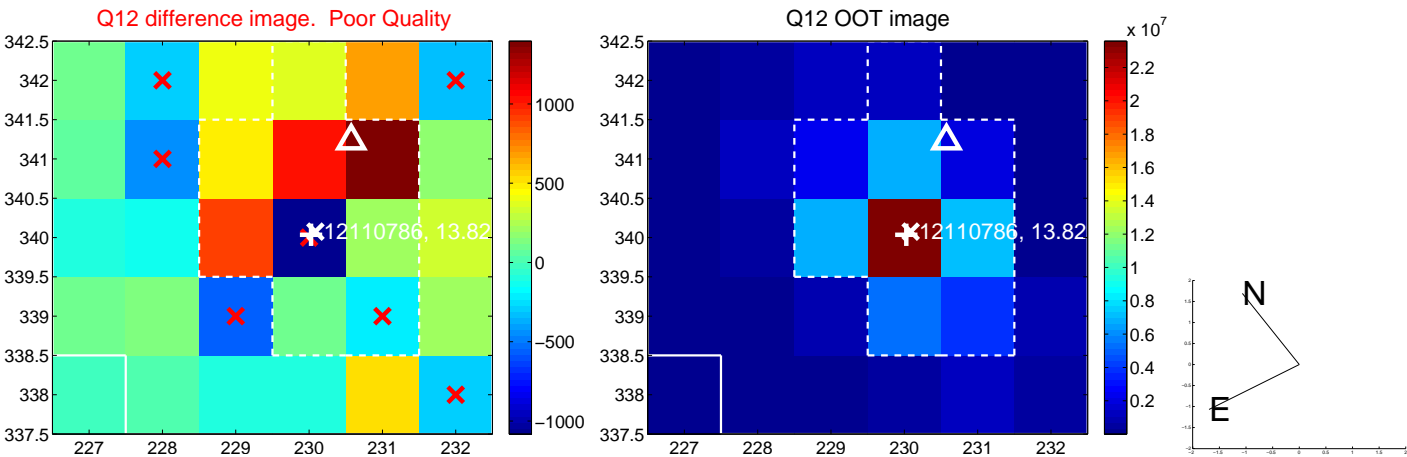
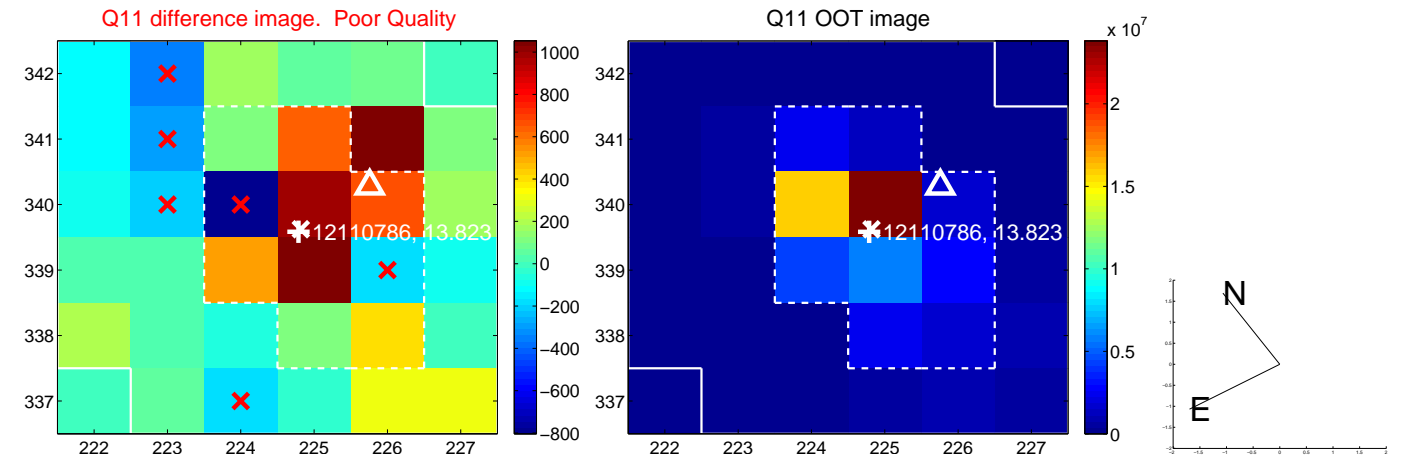
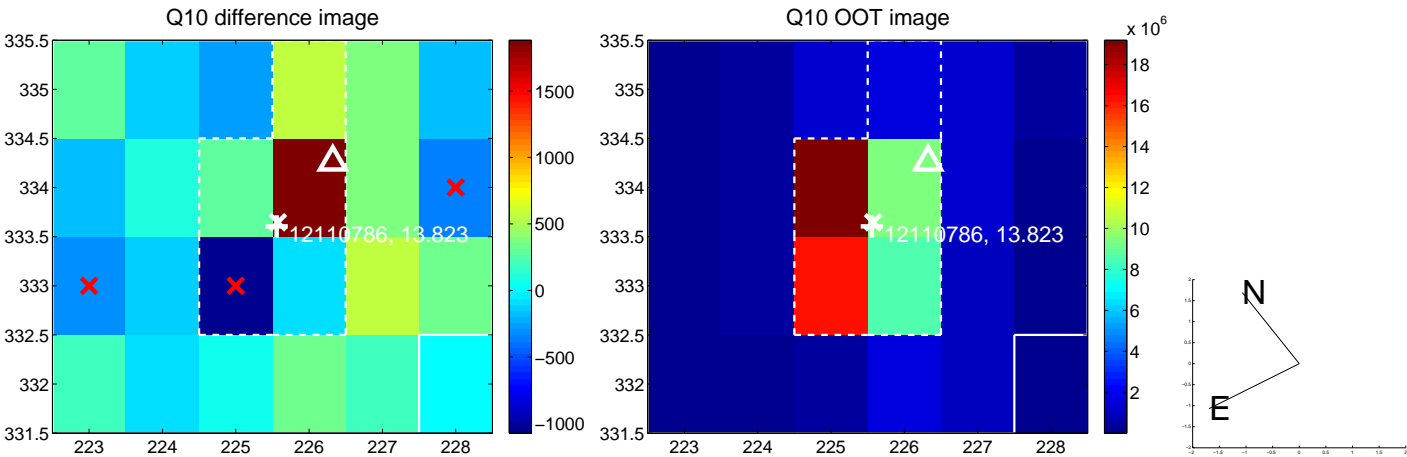
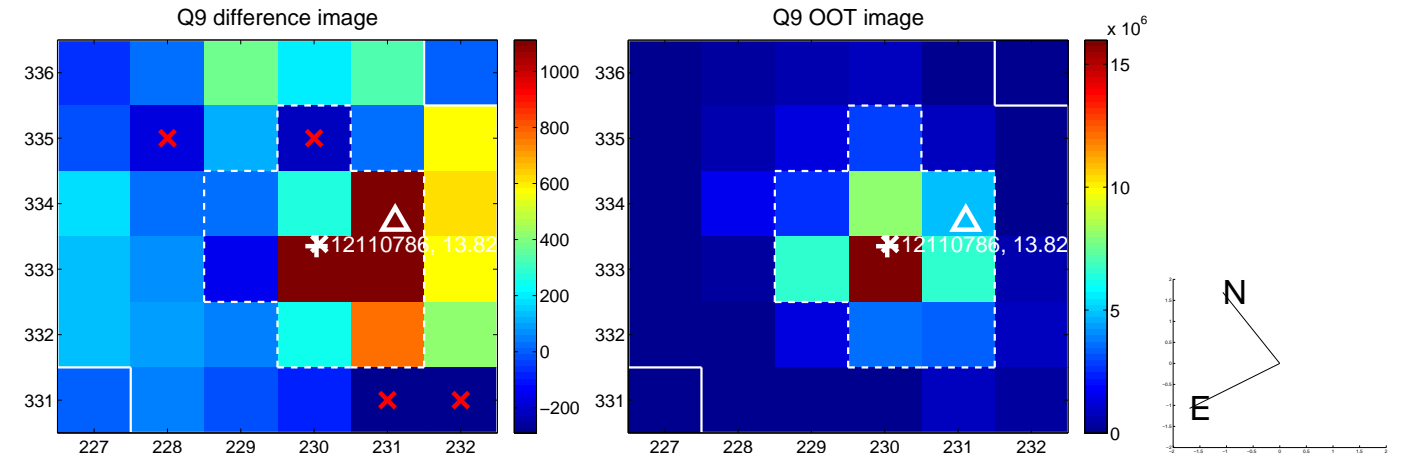
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



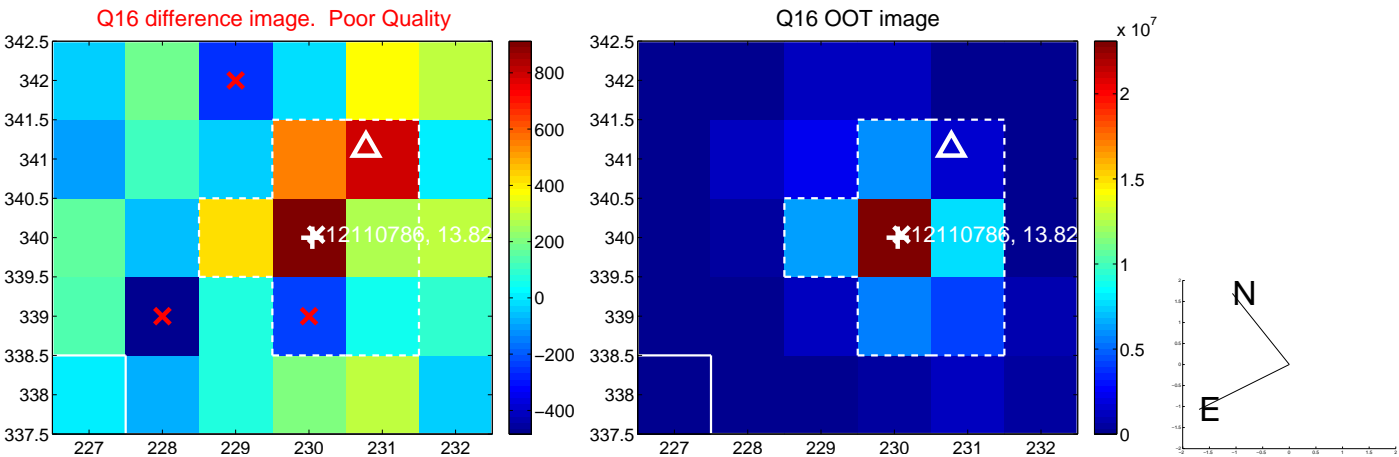
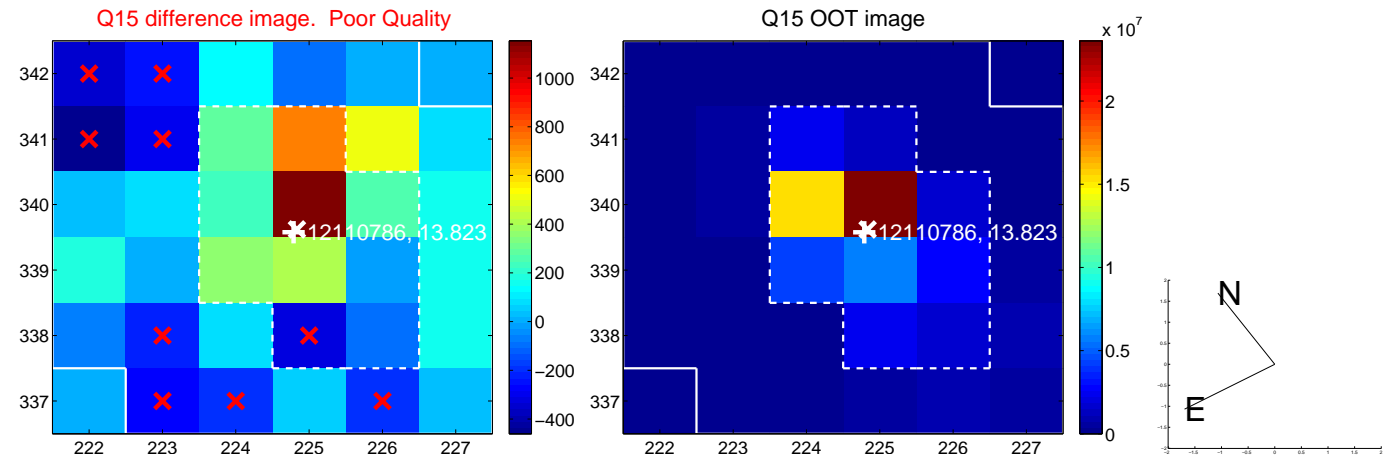
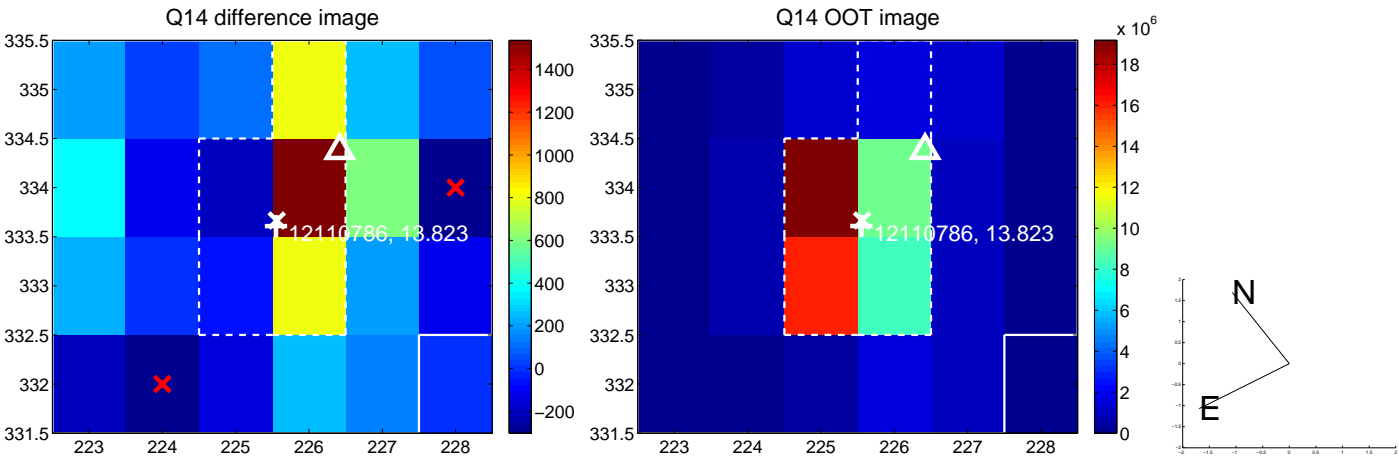
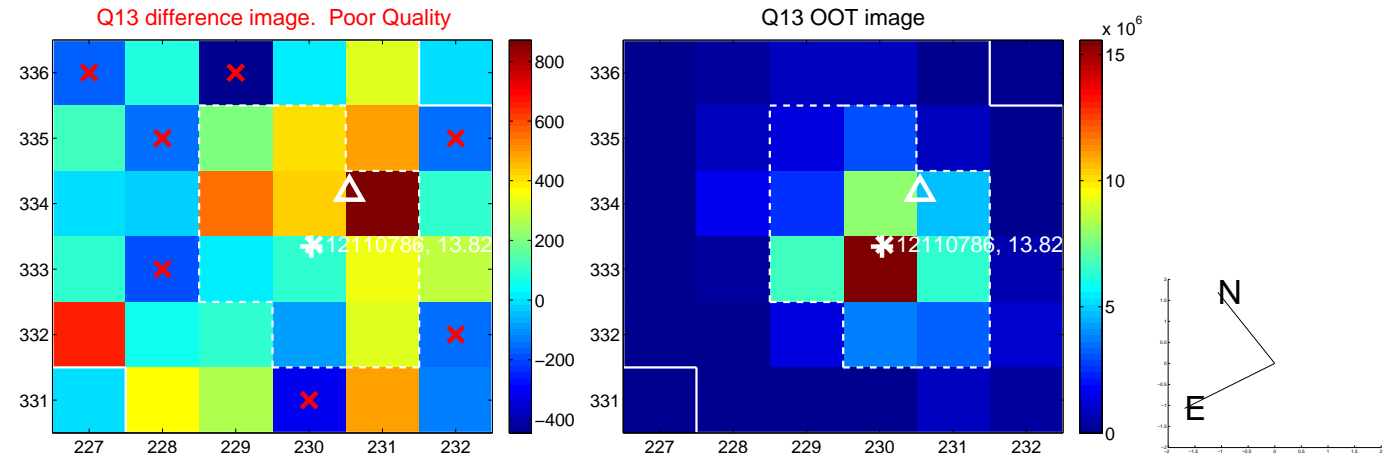
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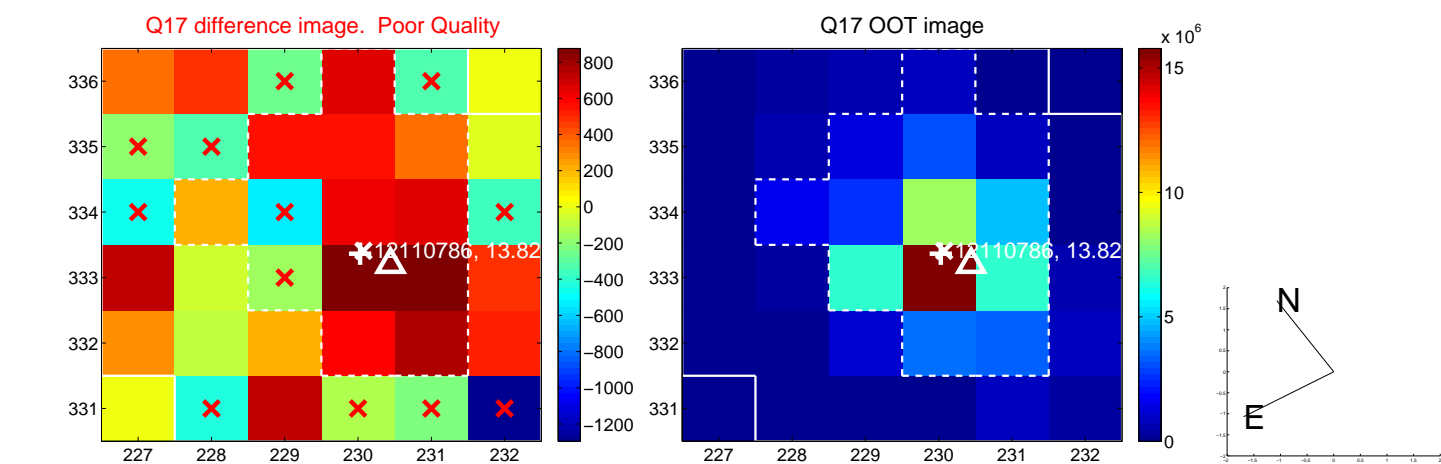
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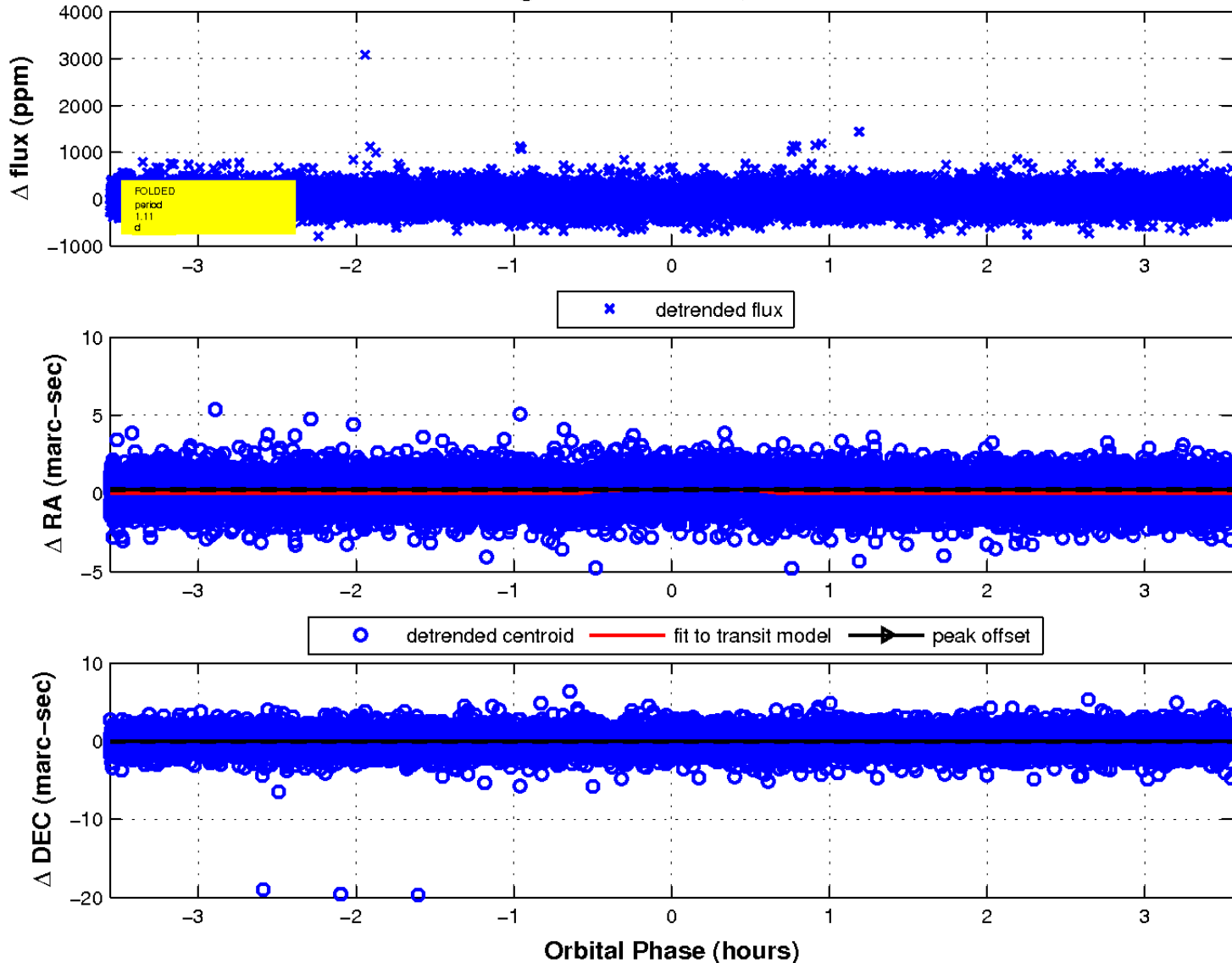
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

