

KIC 010535897

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
010535897-01	OBS	8022.01	0.933712	131.546955	13.1	2.634	7.3	5.9	0.98	6221	0.42	3713.24

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010535897-01	OBS	FP	0.00	0	0	0	1	EPHEM_MATCH

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.

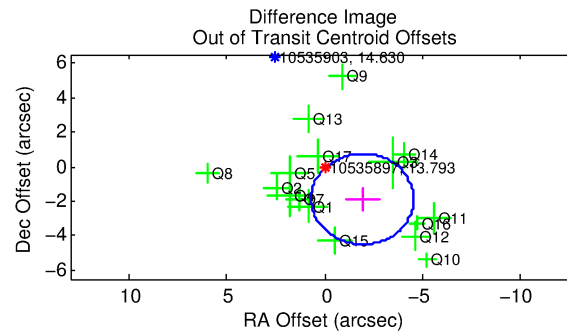
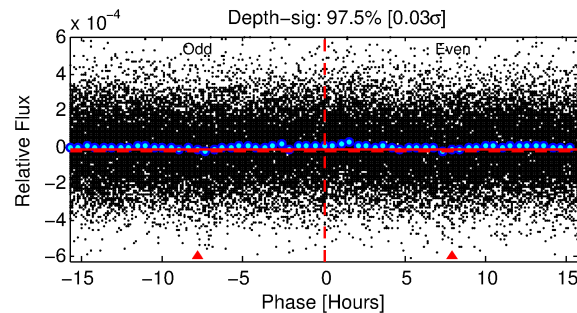
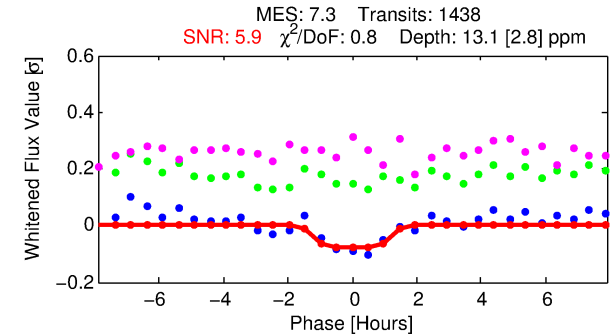
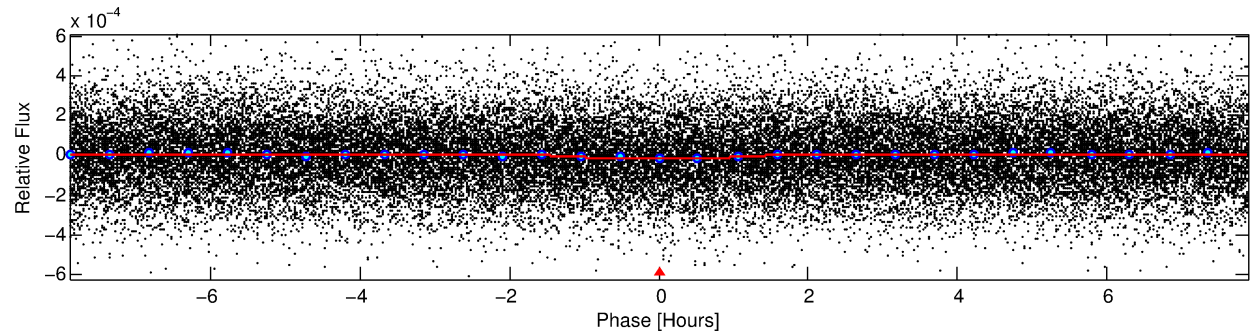
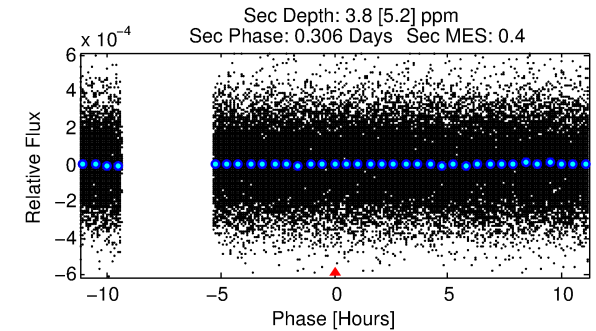
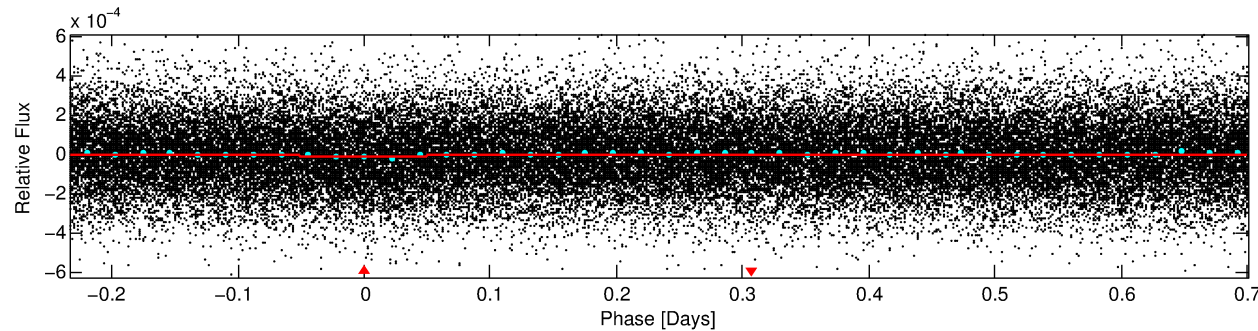
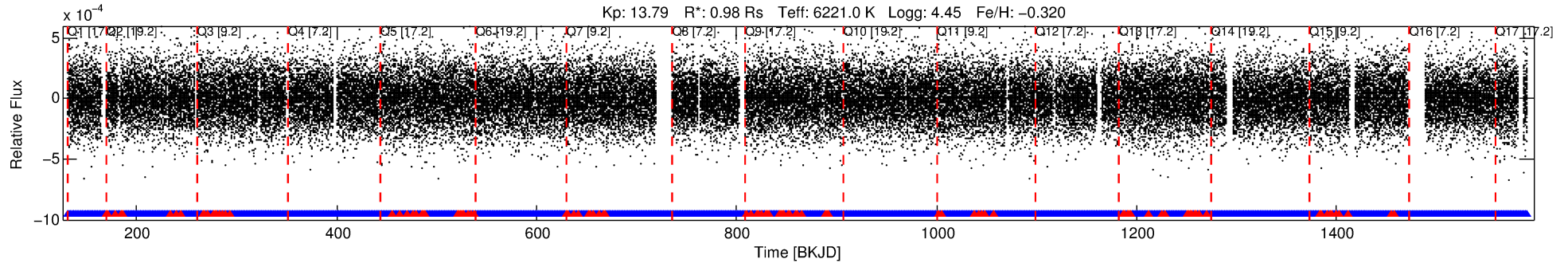
Ephemeris Match Information For 010535897-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
010535897-01	10535897	7612.01	10471167	1:1	119.5	28	11	13.01	13.80	12.38	Direct-PRF	1	1.85	0.44

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant σ_P < 5.0 and σ_T < 5.0. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 10535897 Candidate: 1 of 1 Period: 0.934 d



DV Fit Results:

Period = 0.93371 [0.00002] d
Epoch = 131.5470 [0.0059] BKJD
Rp/R* = 0.0039 [0.0023]
a/R* = 1.50 [2.74]
b = 0.91 [0.66]
Seff = 3713.24 [1524.71]
Teff = 1991 [204] K
Rp = 0.42 [0.28] Re
a = 0.0187 [0.0049] AU
Ag = 4.11 [7.66] [0.41σ]
Teffp = 4383 [2001] K [1.19σ]

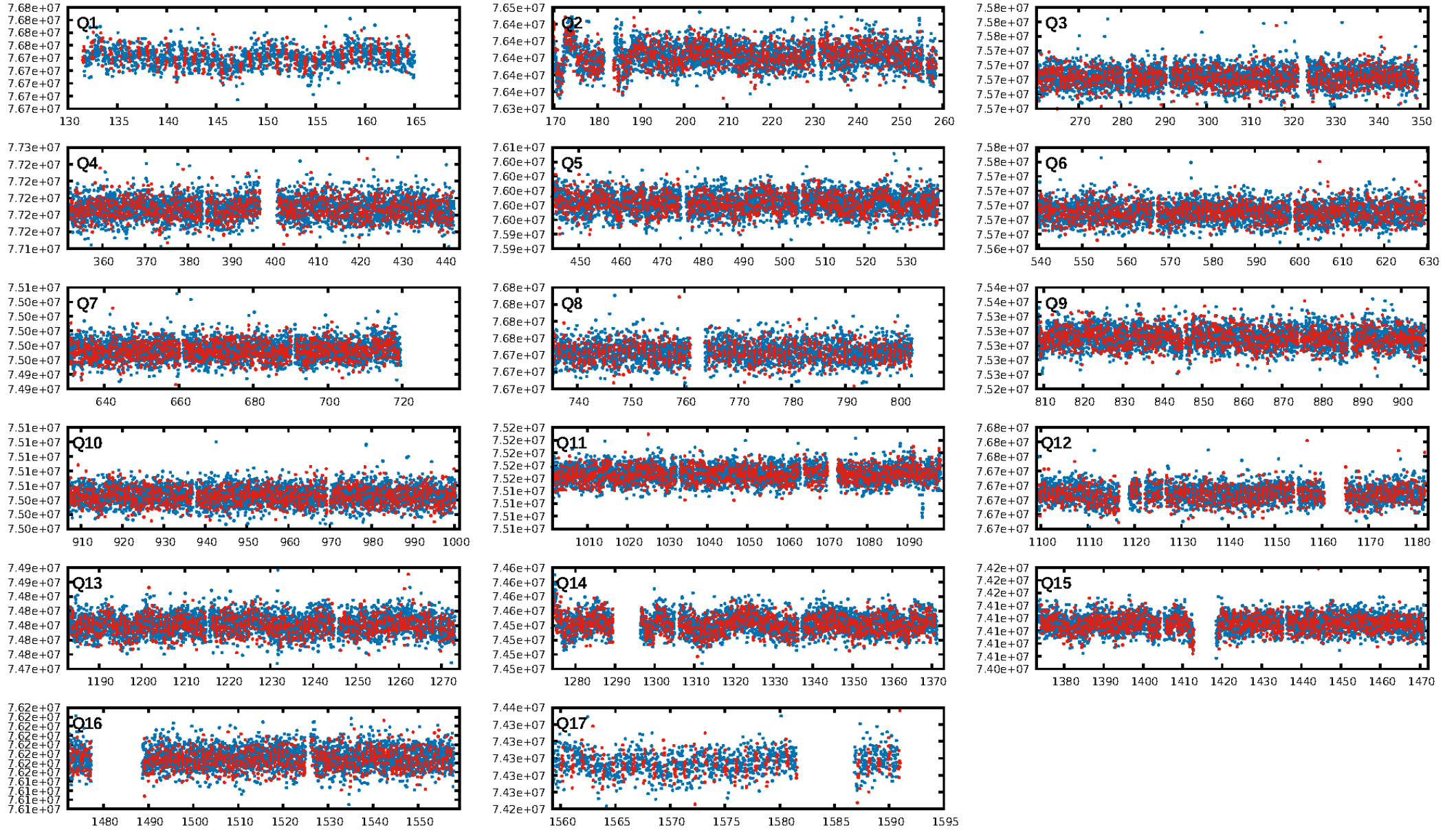
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.21e-13
RollingBand-fgt: 0.92 [1268/1372]
GhostDiagnostic-chr: 0.2643
Centroid-sig: 92.1%
Centroid-so: 0.126 arcsec [0.06σ]
OotOffset-rm: 2.690 arcsec [3.08σ]
KicOffset-rm: 2.811 arcsec [3.24σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.06 [1/16]
DiffImageOverlap-fno: 1.00 [17/17]

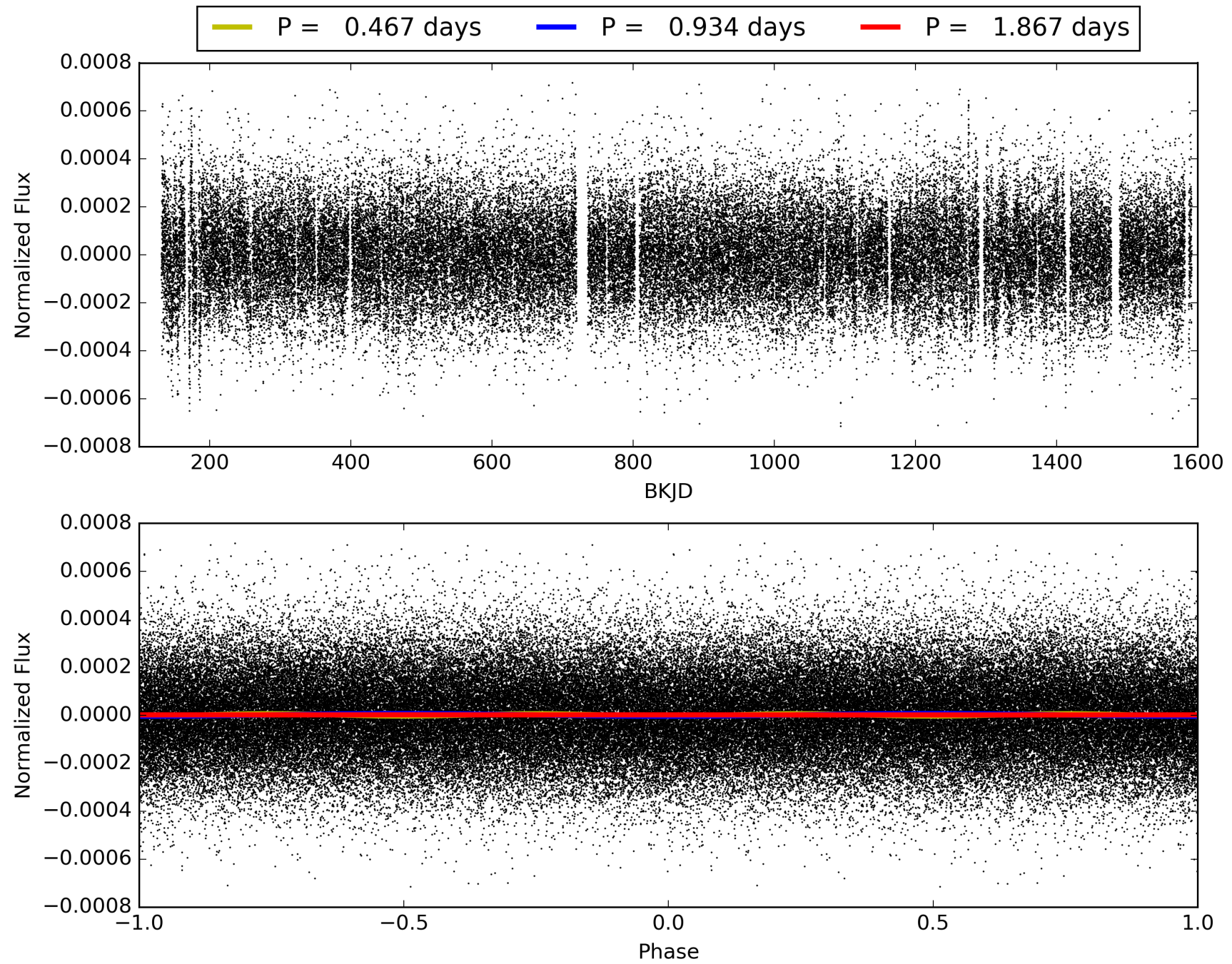
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 23:30:03 Z

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

TCE 010535897-01, PDC Light Curves

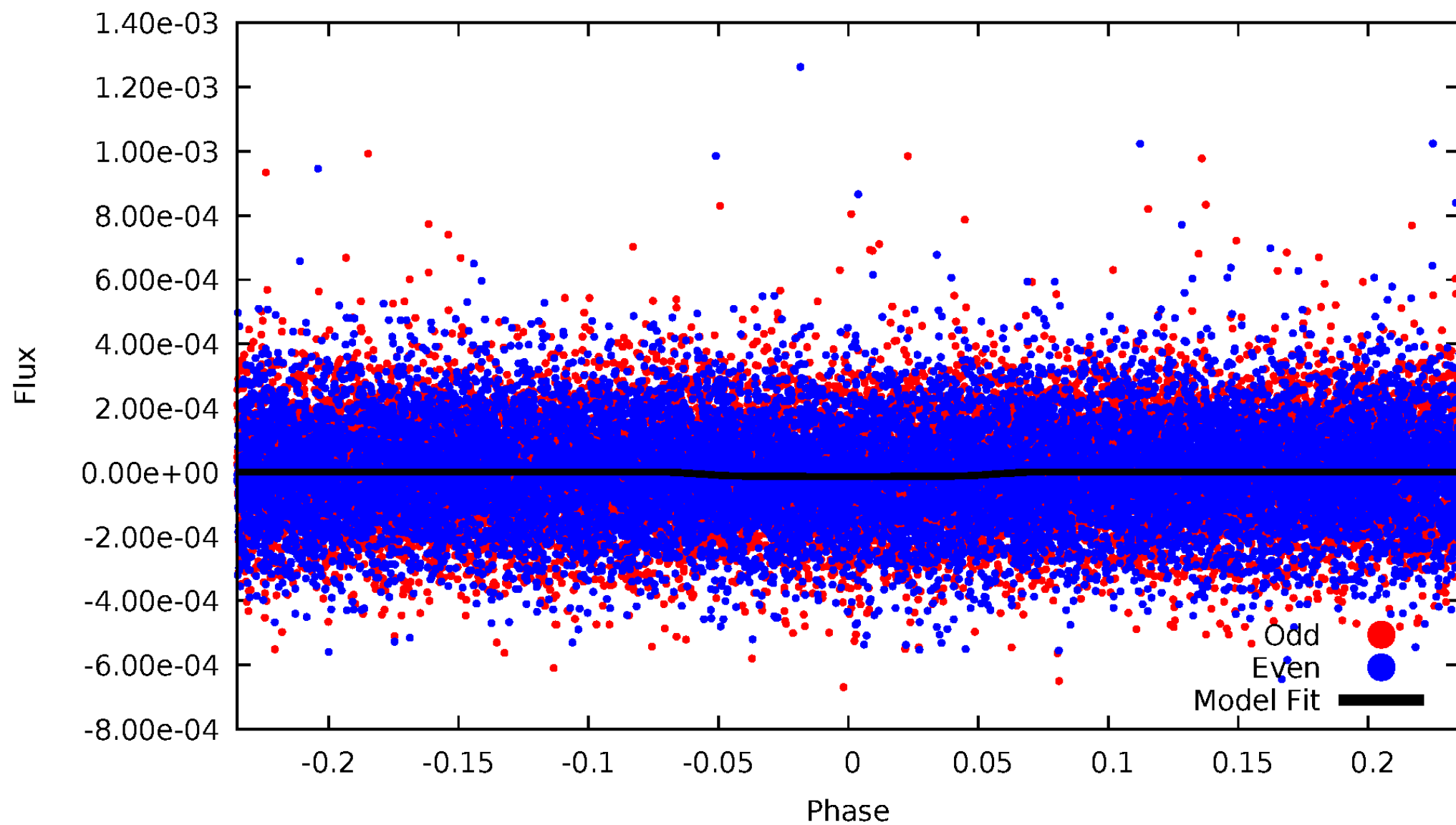


TCE 010535897-01



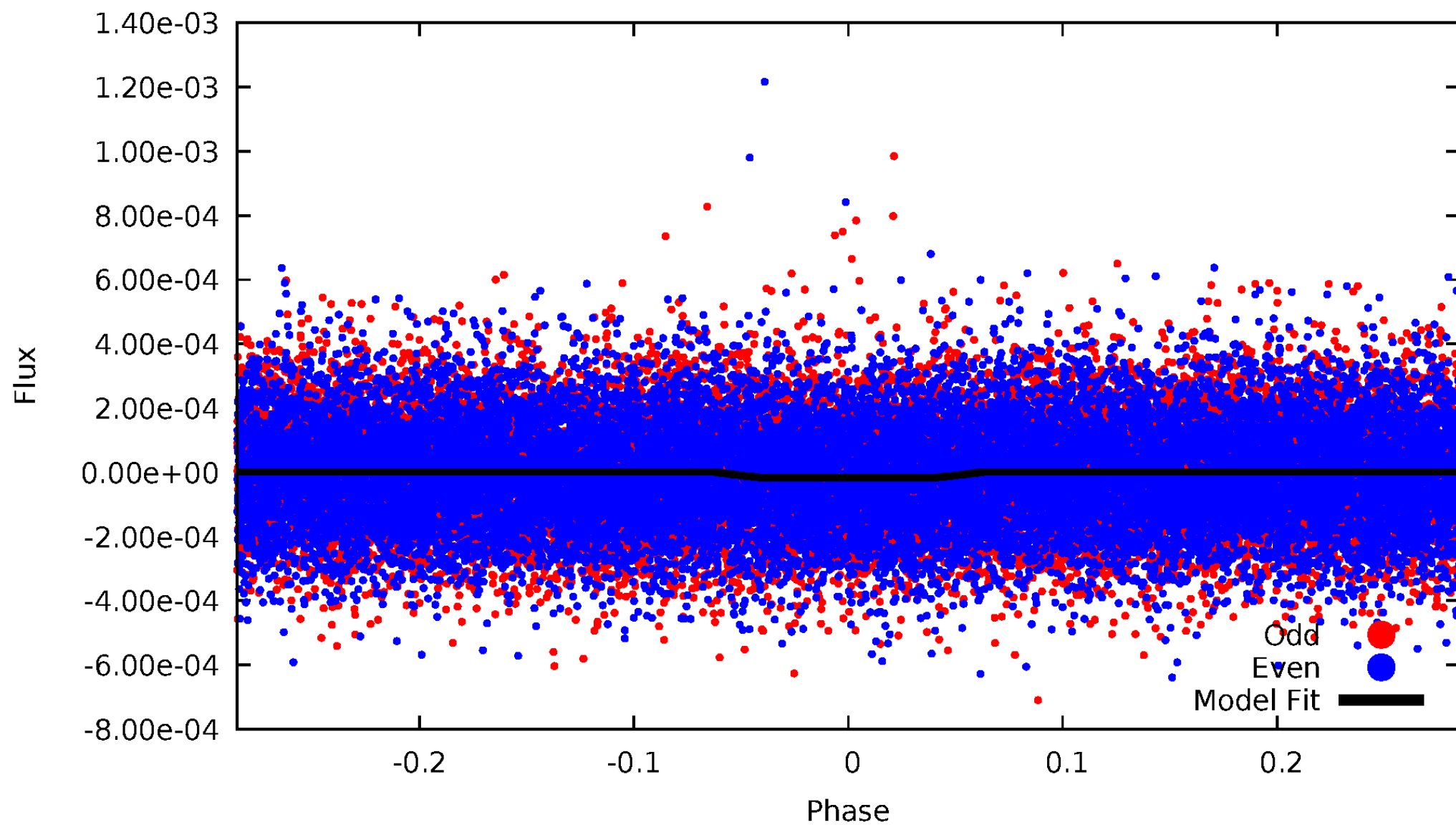
DV Odd/Even

TCE 010535897-01



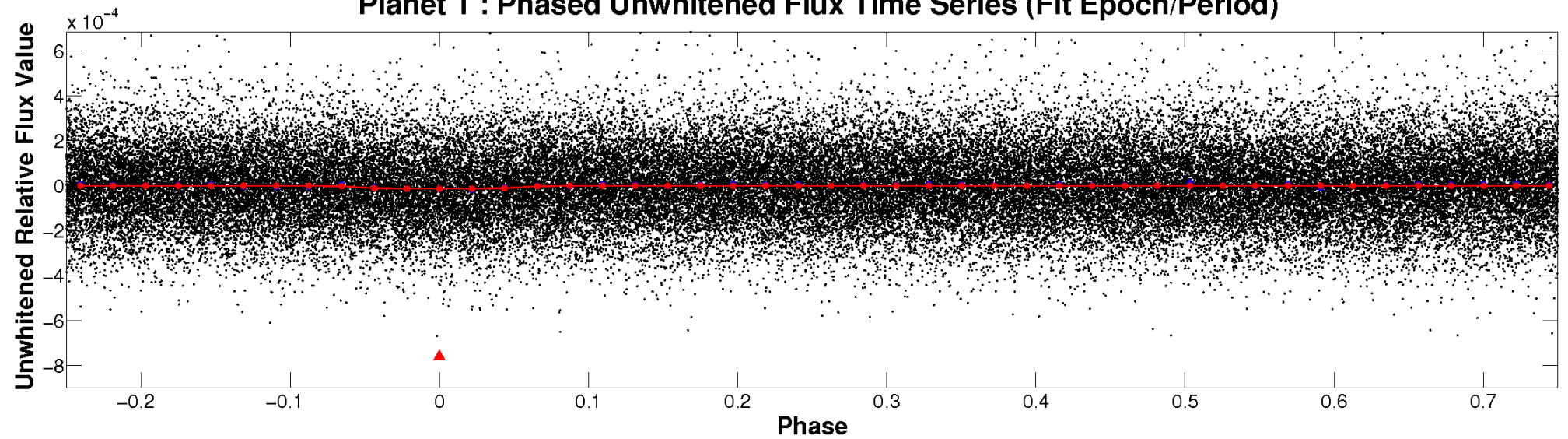
ALT Odd/Even

TCE 010535897-01

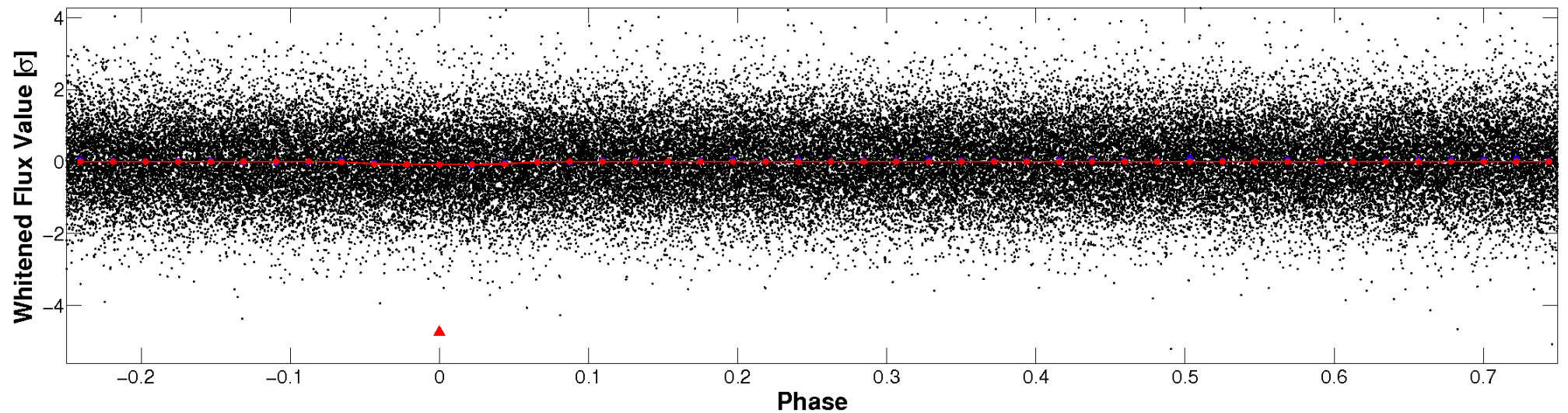


Non-Whitened Vs. Whitened Light Curve

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

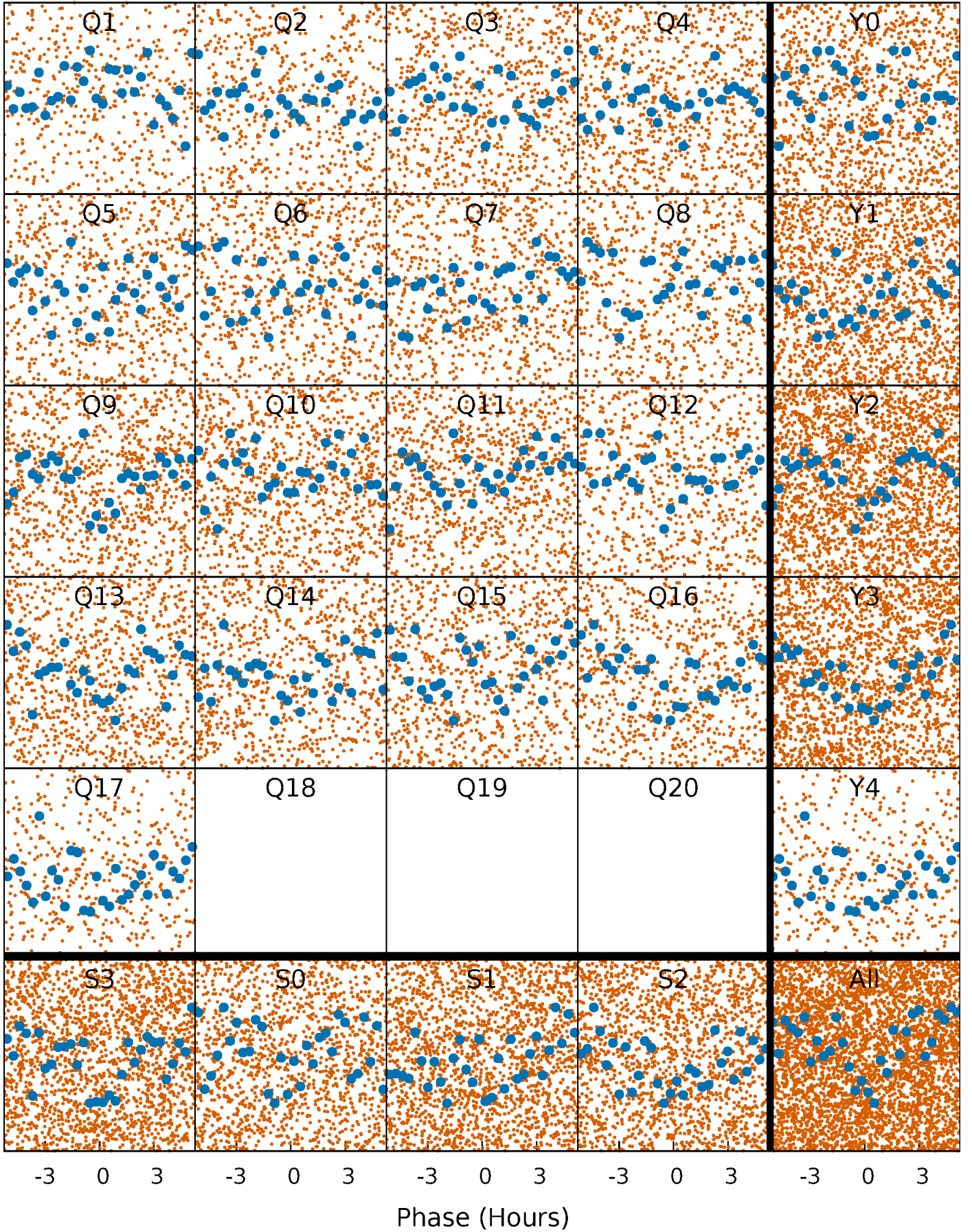


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



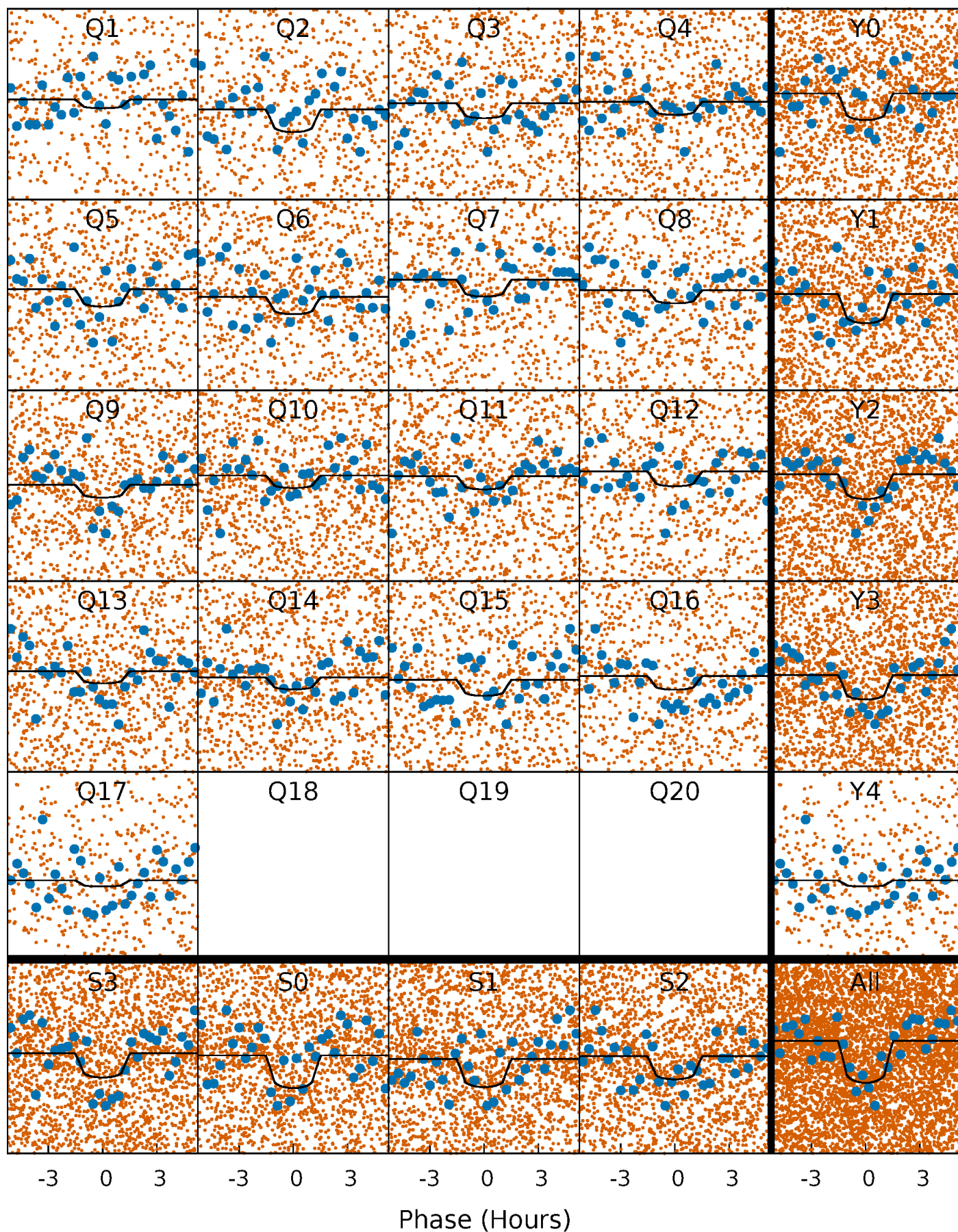
PDC Quarter-Phased Transit Curves

TCE 010535897-01 P= 0.933712 Days $T_0=131.546955$ (BKJD)



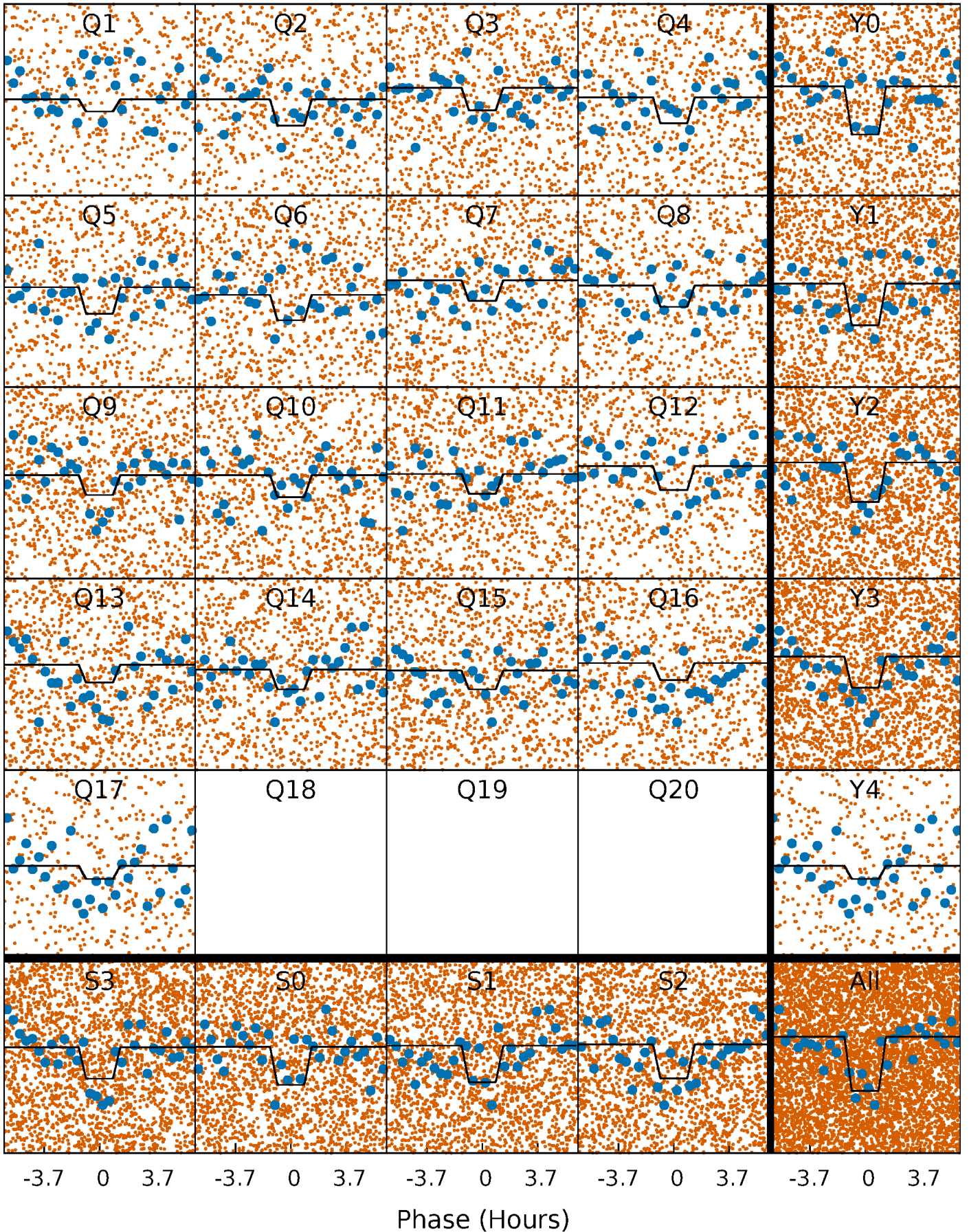
DV Quarter-Phased Transit Curves

TCE 010535897-01 P= 0.933712 Days $T_0=131.546955$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

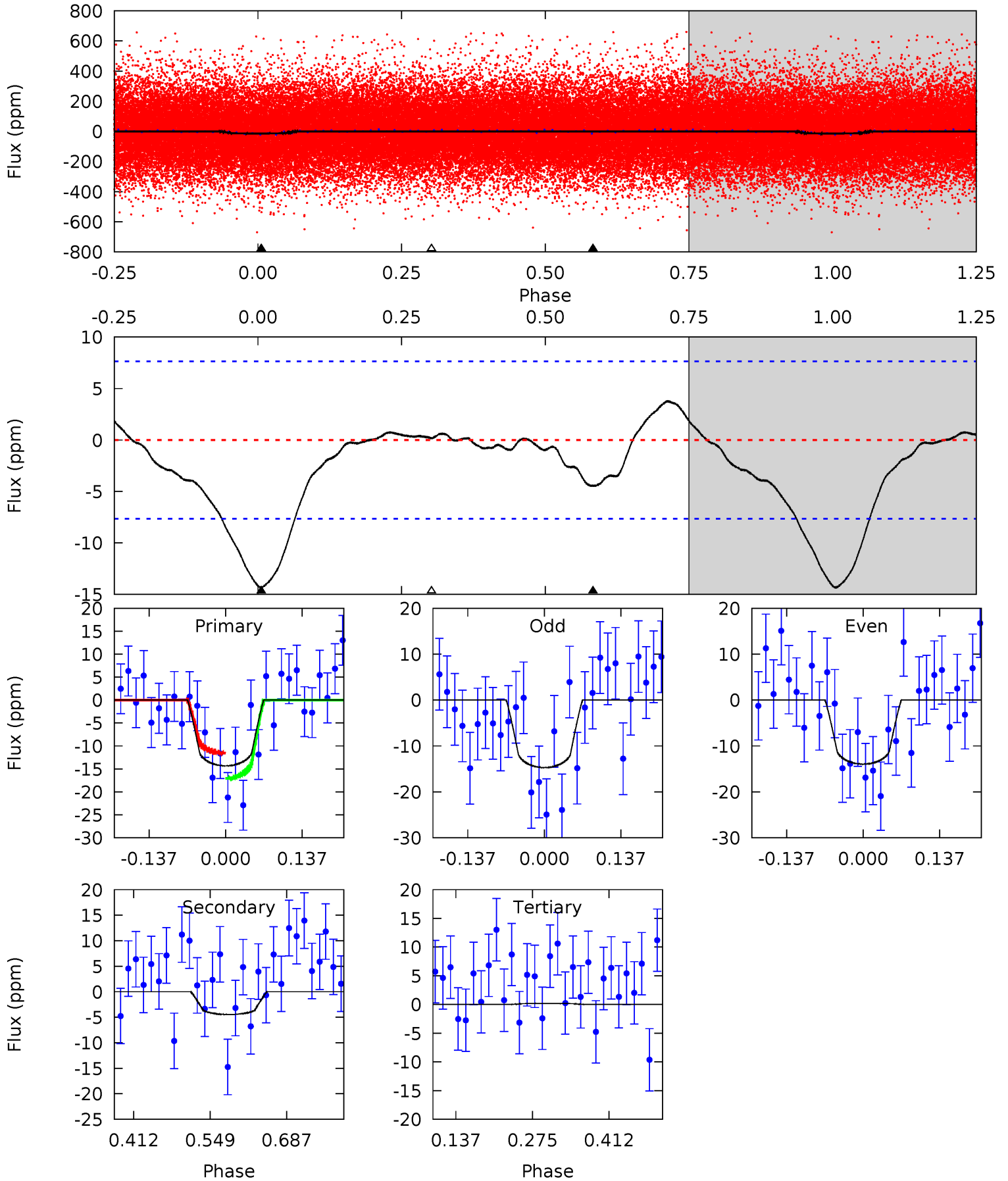
TCE 010535897-01 P= 0.933732 Days $T_0=131.538414$ (BKJD)



DV Model-Shift Uniqueness Test

010535897-01, P = 0.933712 Days, E = 130.613243 Days

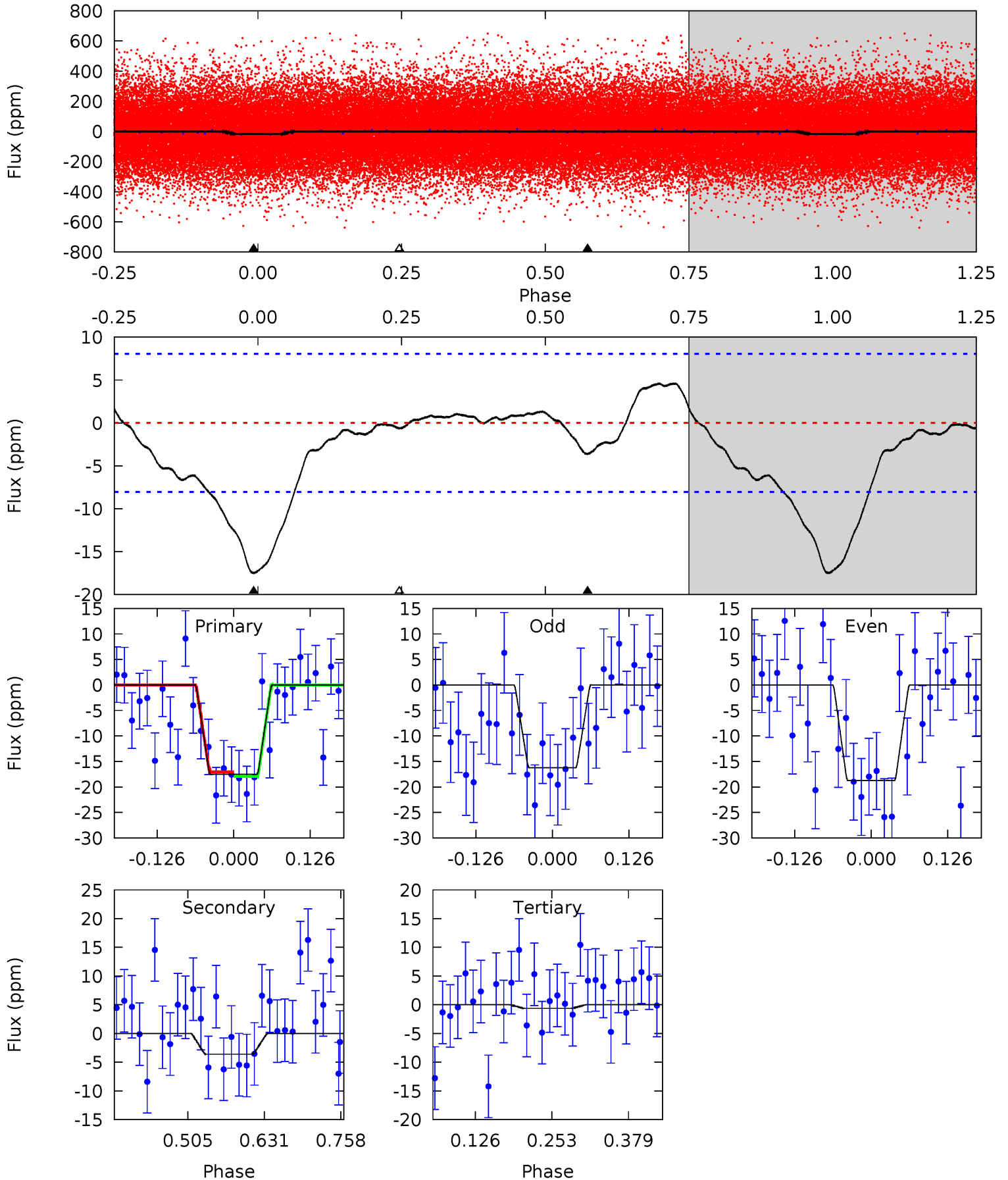
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.43	2.62	-0.10	0	4.50	1.49	0.80	8.53	8.43	2.72	2.62	0.22	0.91	0.21	1.63



Alt Model-Shift Uniqueness Test

010535897-01, P = 0.933732 Days, E = 130.604682 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.81	2.03	0.35	0	4.52	1.53	1.30	9.46	9.81	1.67	2.03	0.71	0.90	0.21	0.25



Stellar Parameters For KIC 010535897

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6221^{+169}_{-206}	$4.452^{+0.067}_{-0.216}$	$-0.320^{+0.300}_{-0.350}$	$0.983^{+0.299}_{-0.107}$	$0.995^{+0.147}_{-0.120}$	$1.475^{+0.427}_{-0.788}$
	+3%/-3%	+2%/-5%	+94%/-109%	+30%/-11%	+15%/-12%	+29%/-53%
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 010535897-01 / KOI 8022.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-4 ± 2	$0.46^{+0.26}_{-0.24}$	2824^{+213}_{-147}	4510^{+2005}_{-884}	$3.886^{+15.133}_{-2.597}$
Alt.	-4 ± 2	$0.48^{+0.26}_{-0.25}$	2837^{+214}_{-144}	4239^{+1581}_{-831}	$2.841^{+8.989}_{-1.908}$

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

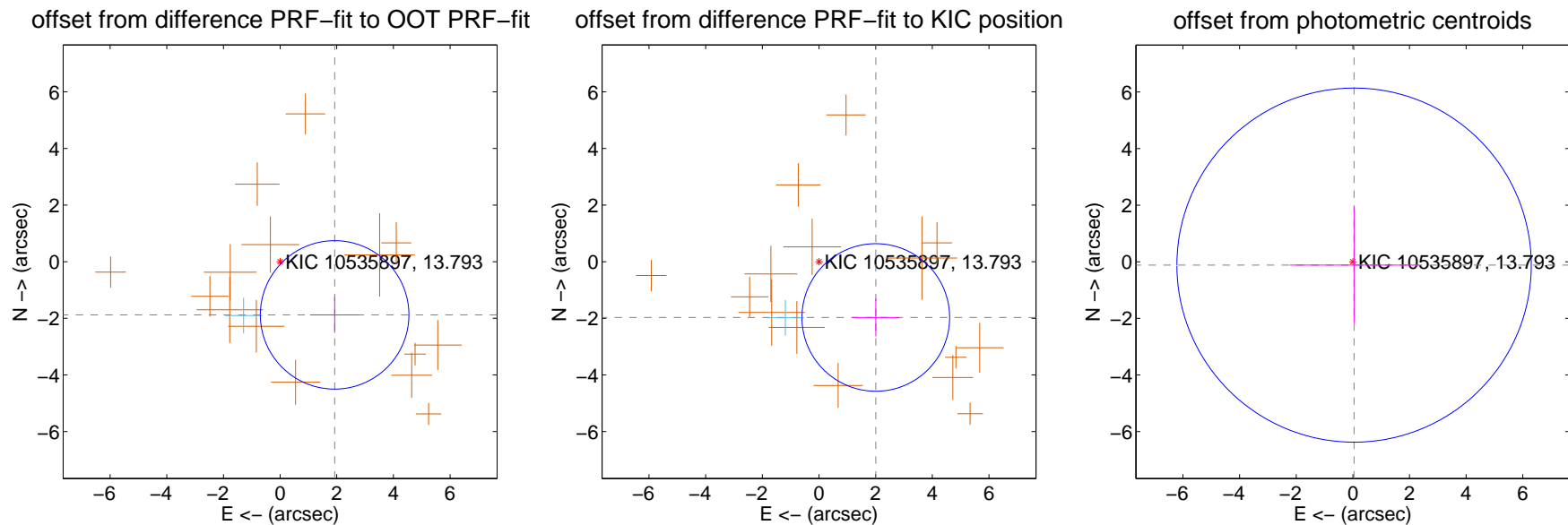
DV Centroid Data

Supplemental centroid analysis for 010535897-01. Kepler magnitude: 13.79. Transit SNR 5.90

There are 1 quarters with good PRF difference image offsets

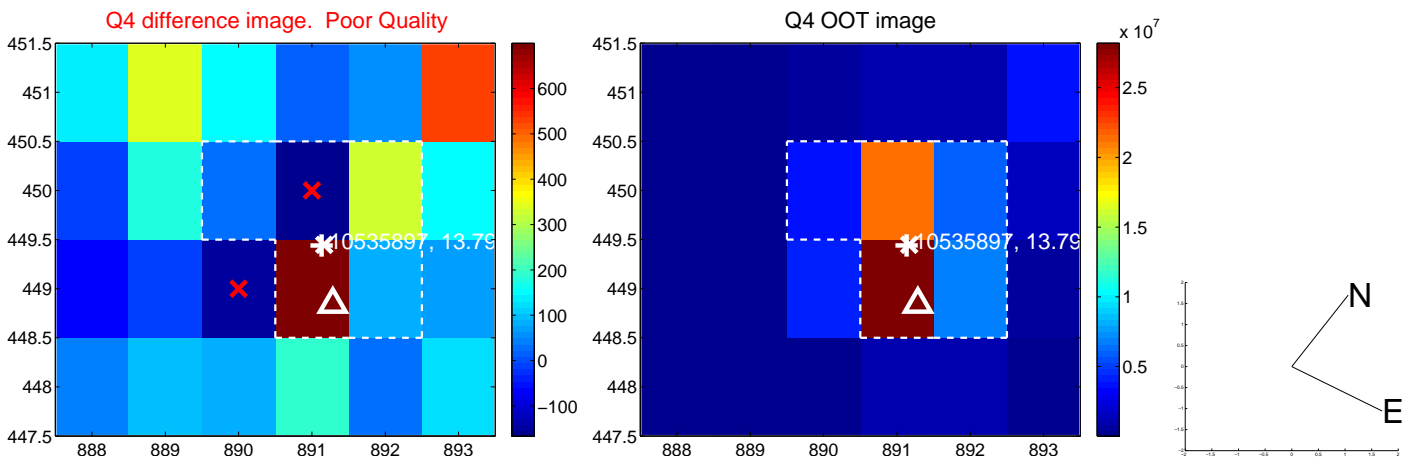
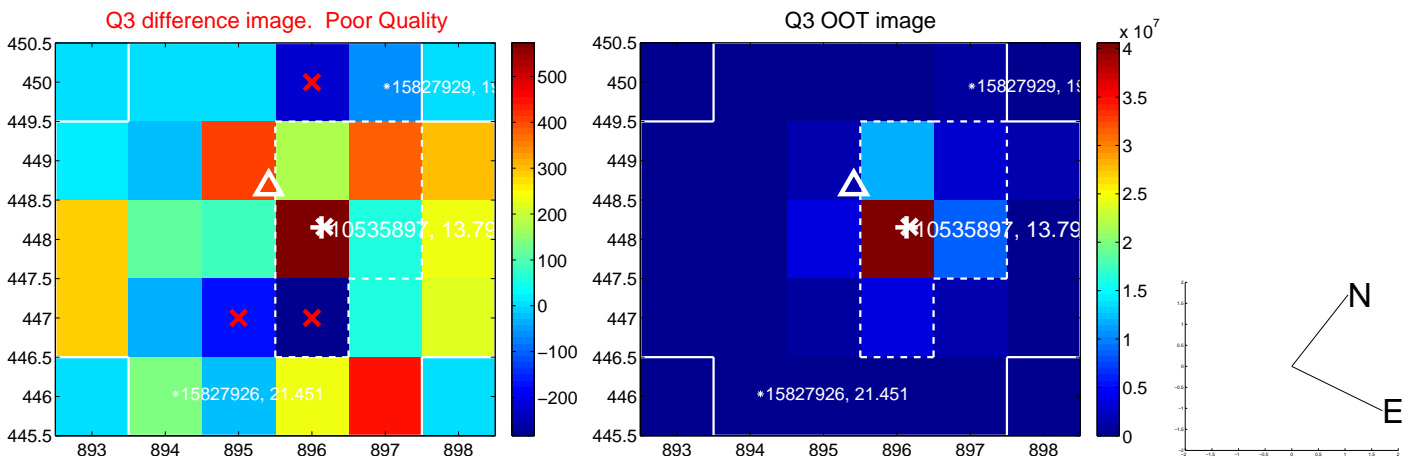
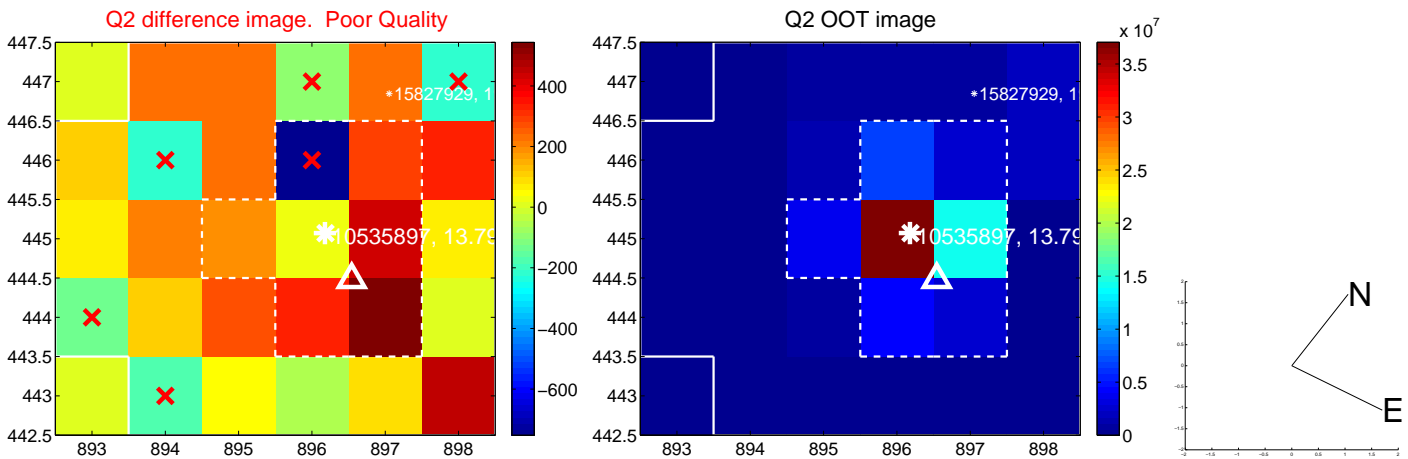
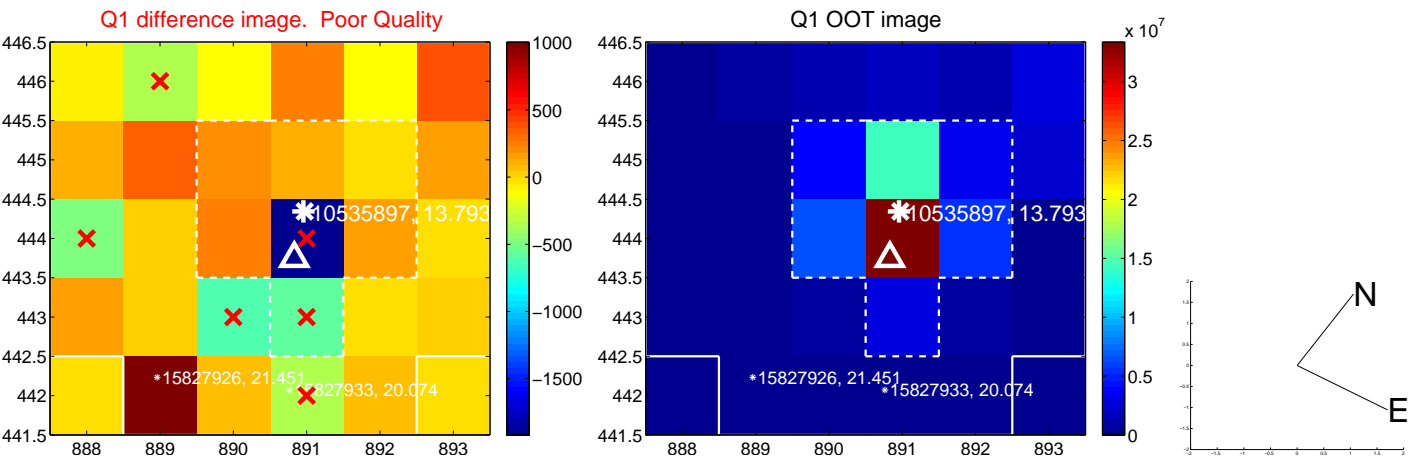
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.690 ± 0.874	3.08	-1.925 ± 0.866	-1.879 ± 0.634
PRF-fit source offset from KIC position	2.811 ± 0.869	3.24	-2.005 ± 0.833	-1.971 ± 0.669
photometric centroid source offset	0.13 ± 2.09	0.06	-0.04 ± 2.27	-0.12 ± 2.06

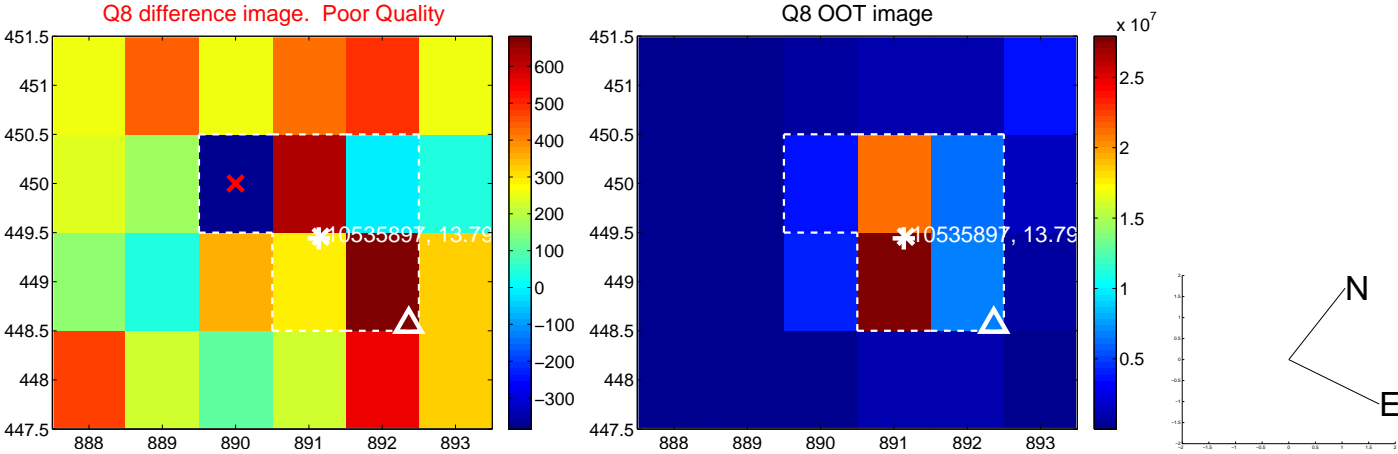
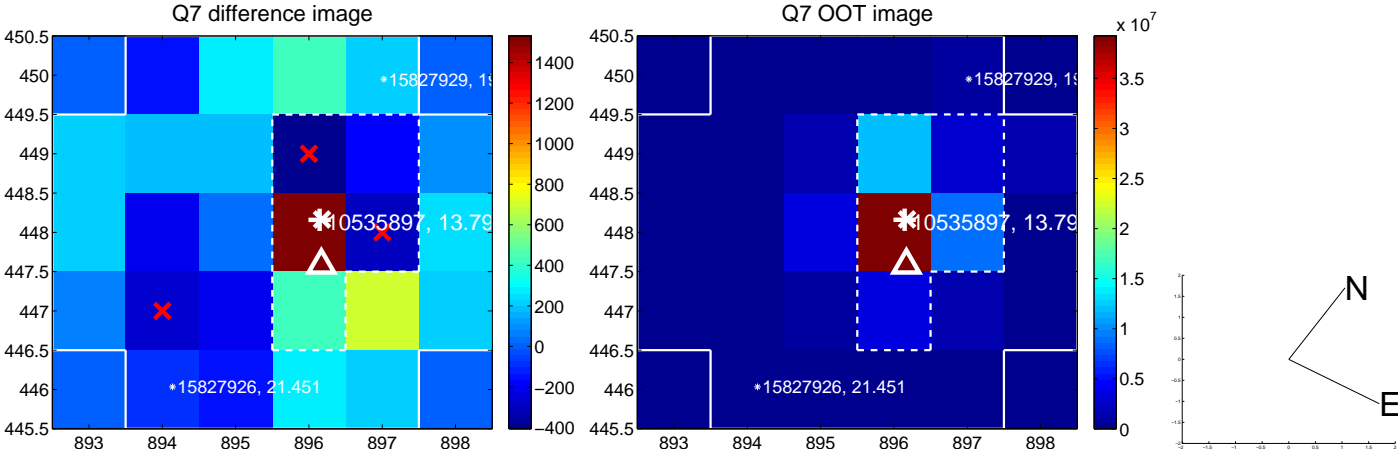
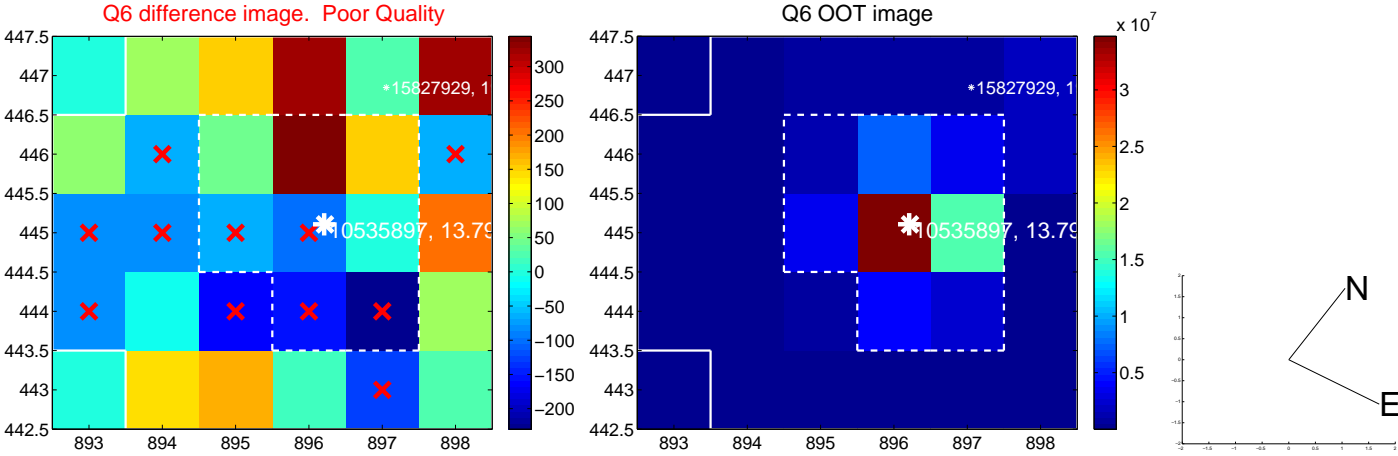
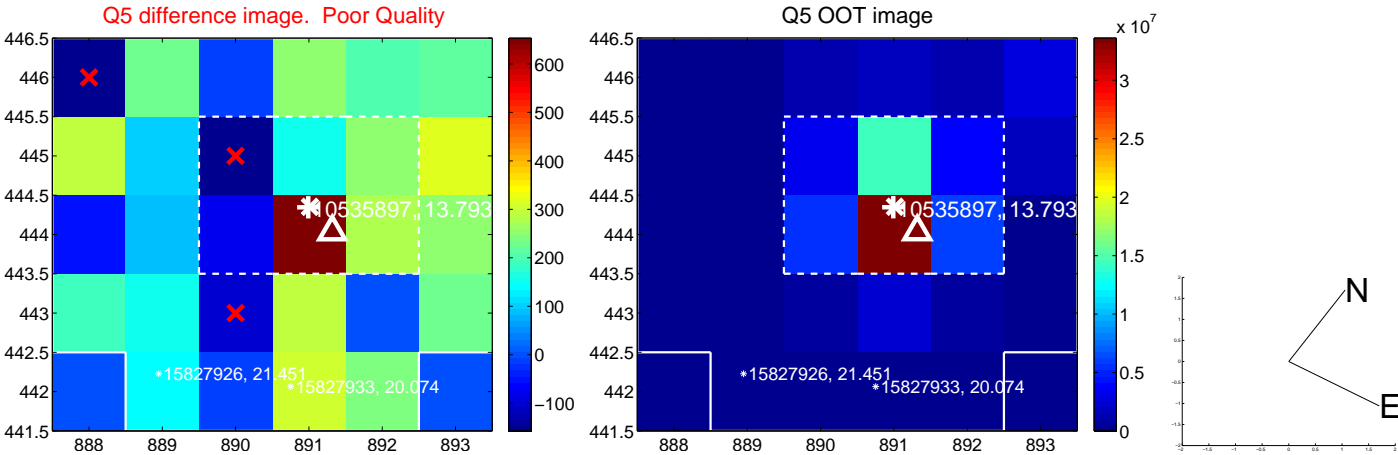


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

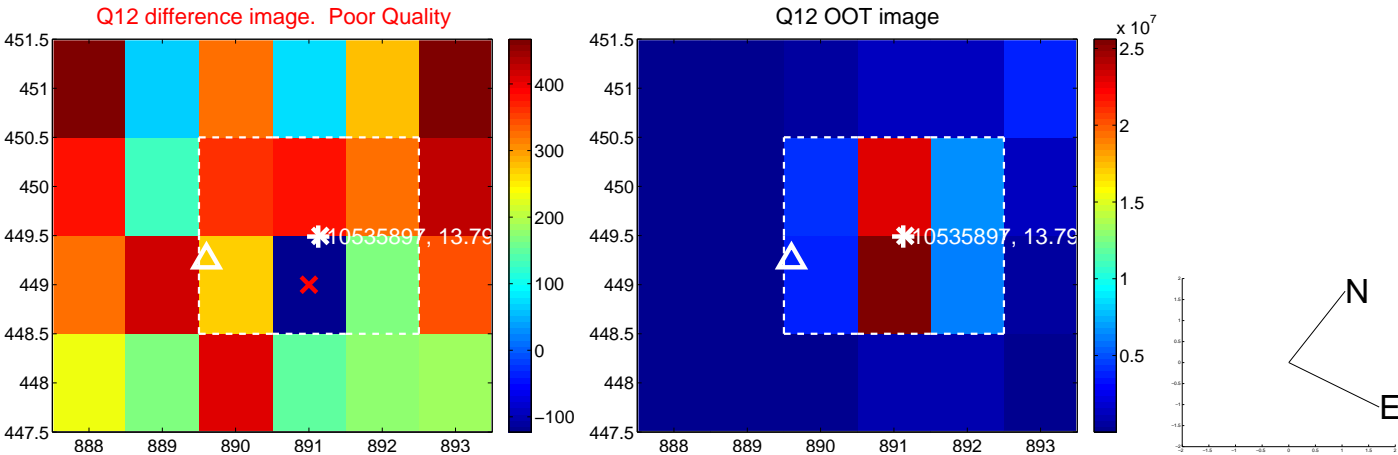
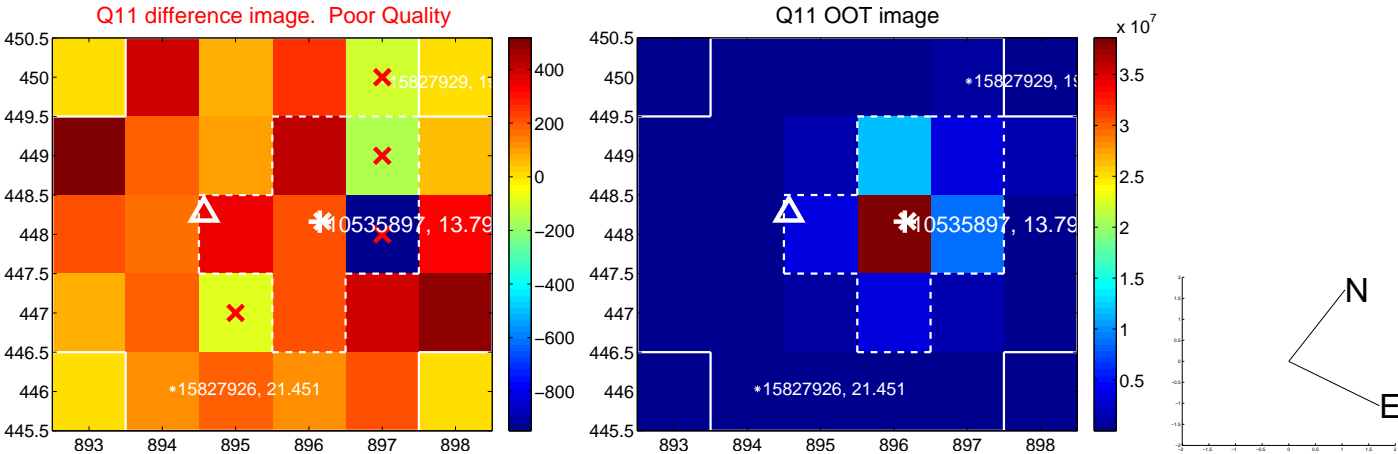
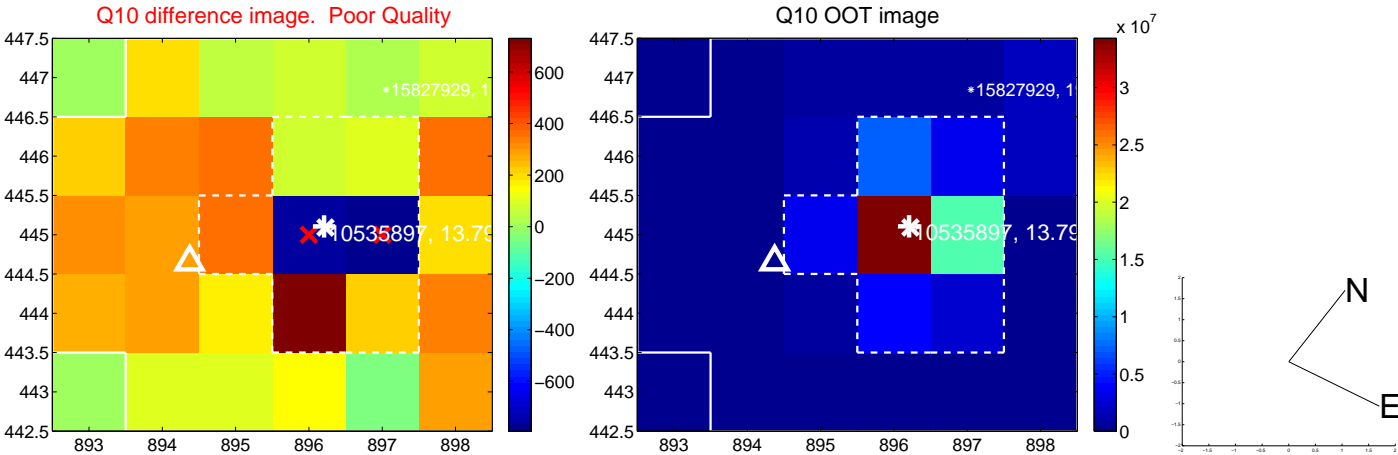
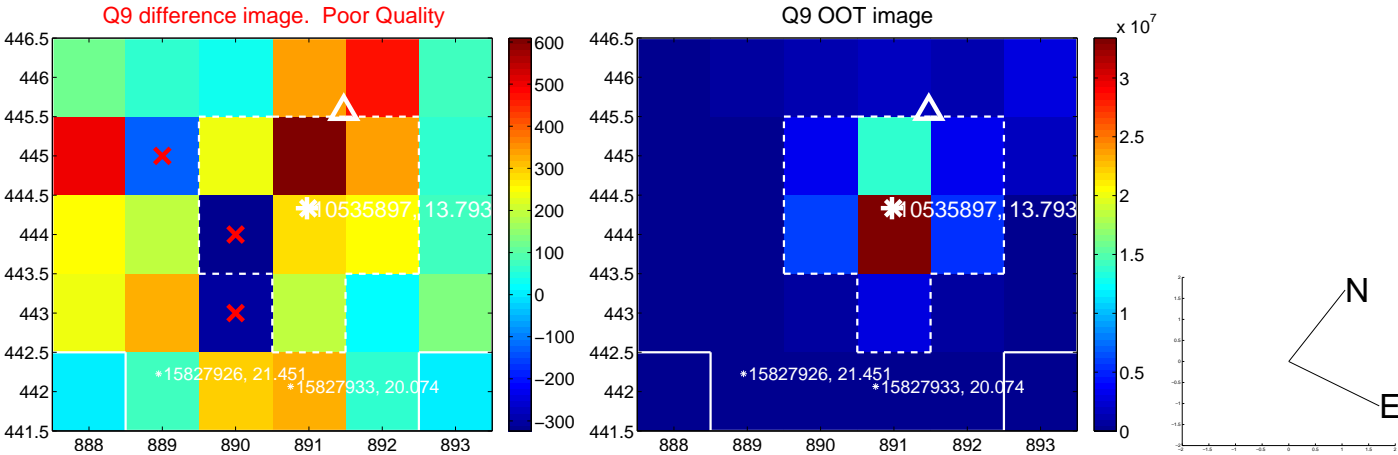
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



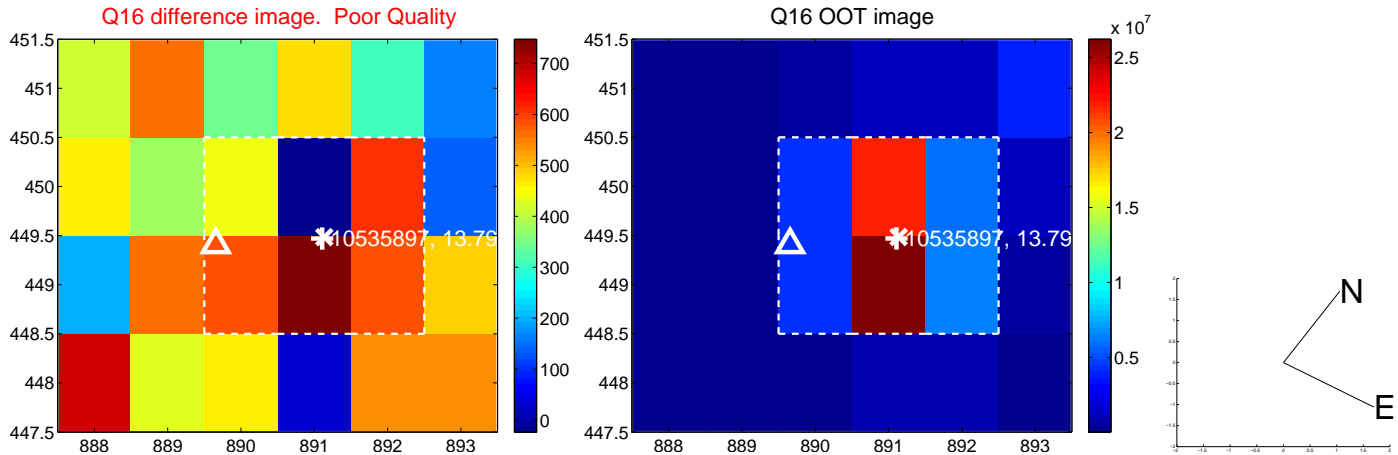
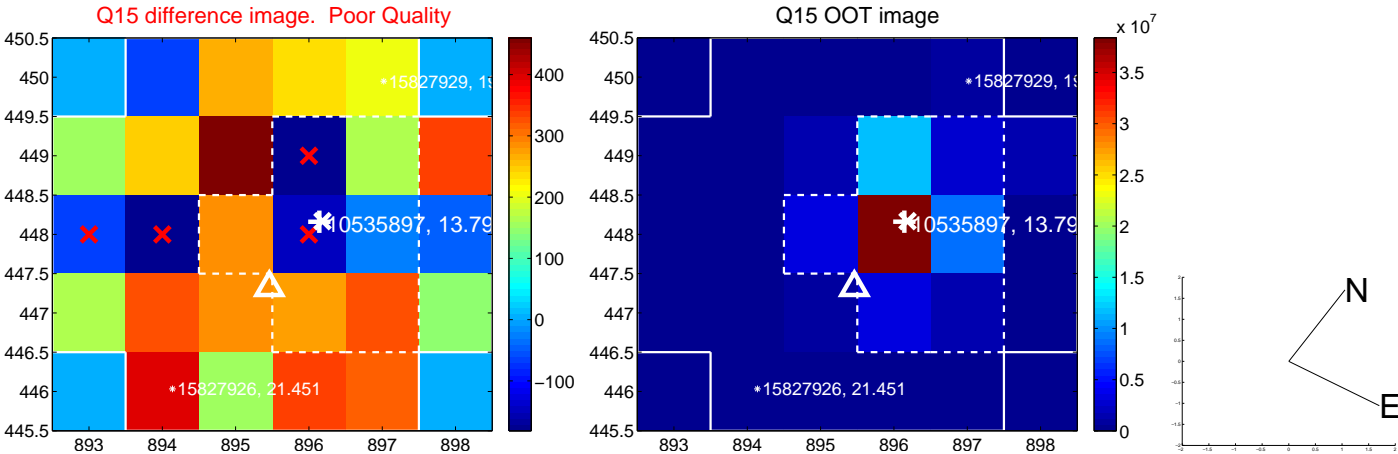
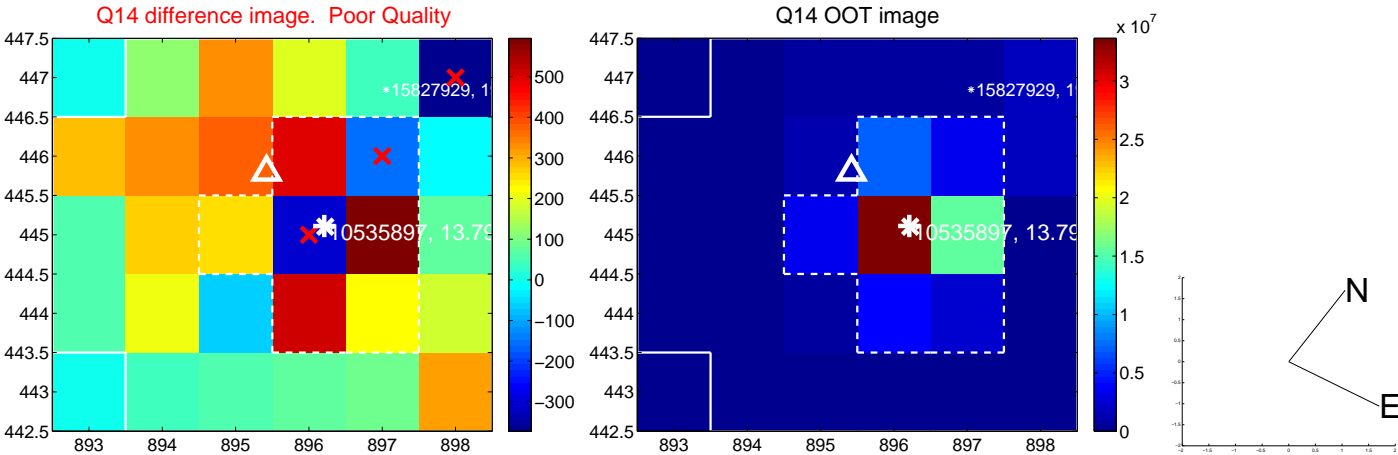
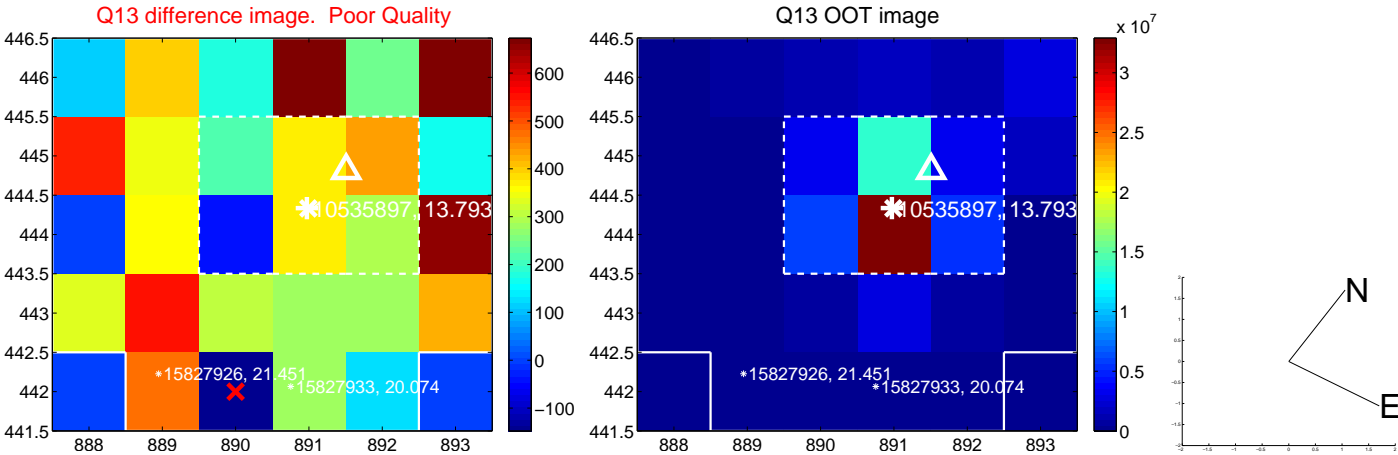
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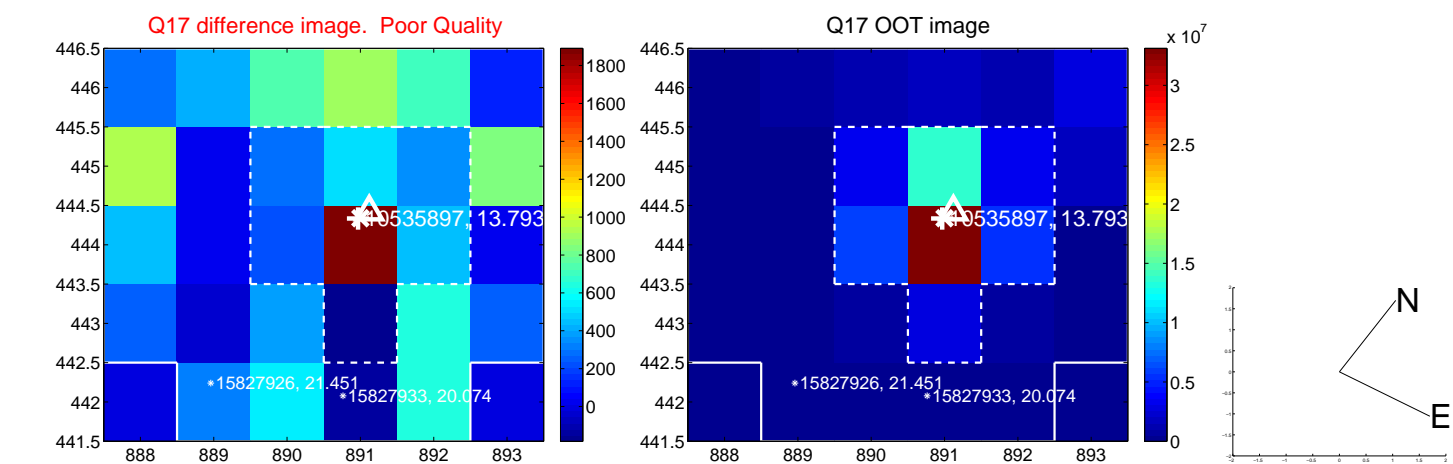
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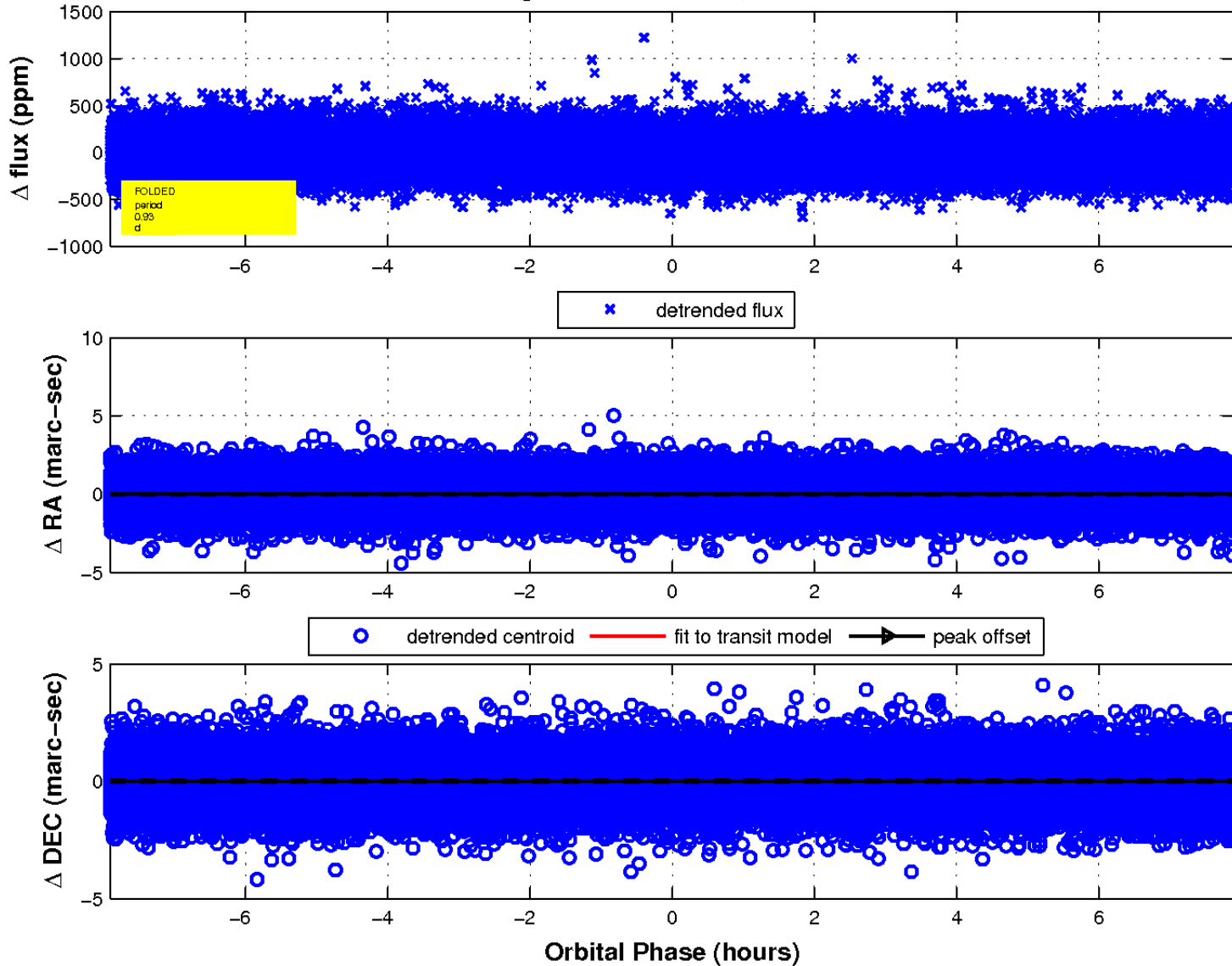
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

