

KIC 003553900

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})
003553900-01	OBS	4992.01	12.574643	142.350910	320.0	2.906	9.4	9.5	0.77	5654	1.52	54.55

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003553900-01	OBS	PC	0.97	0	0	0	0	CENT_KIC_POS

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 003553900-01

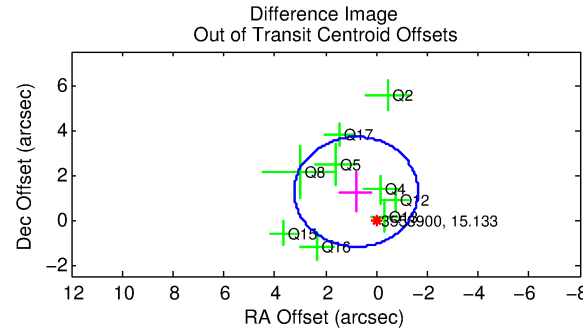
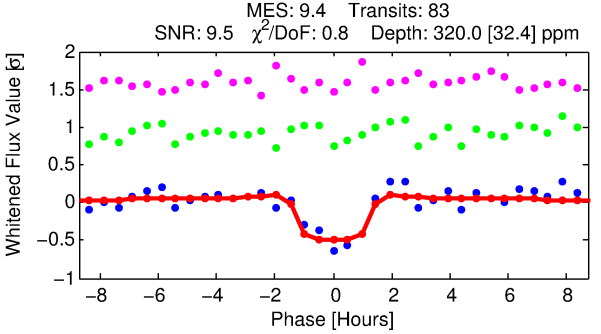
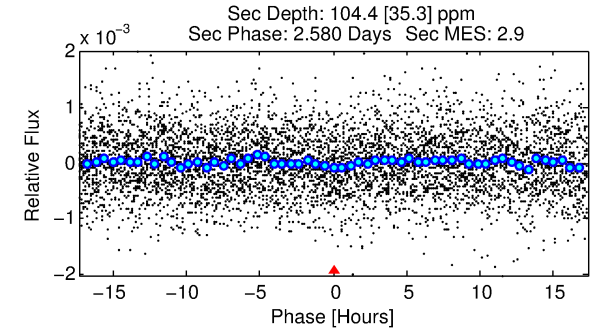
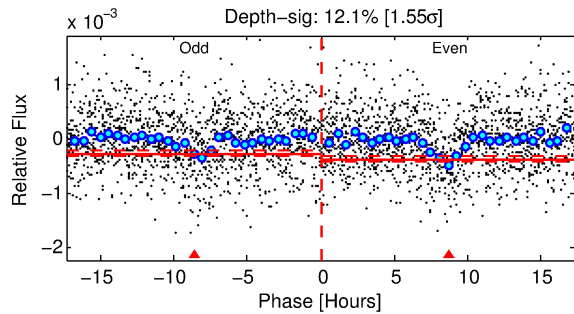
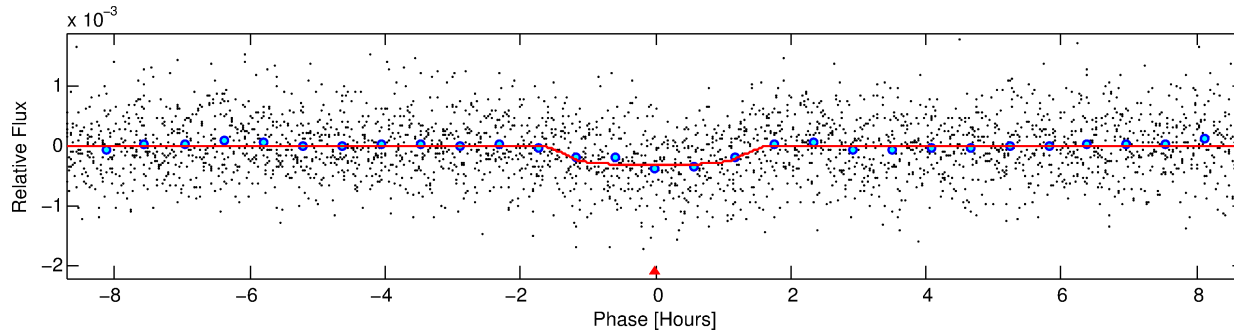
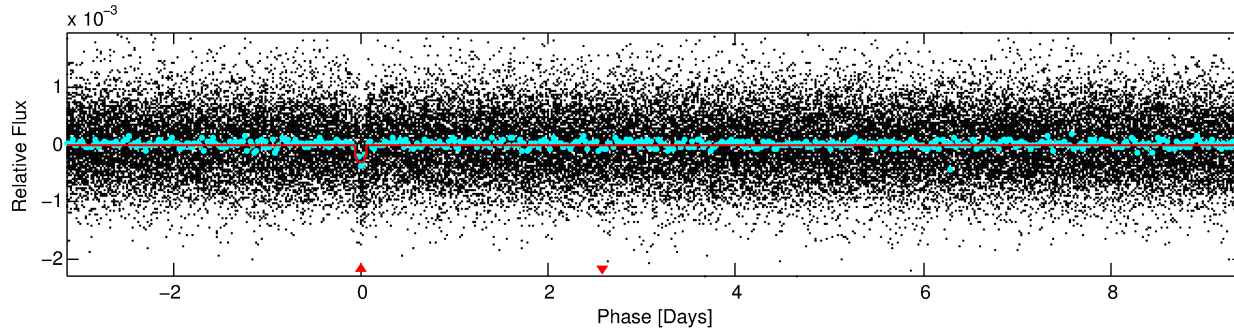
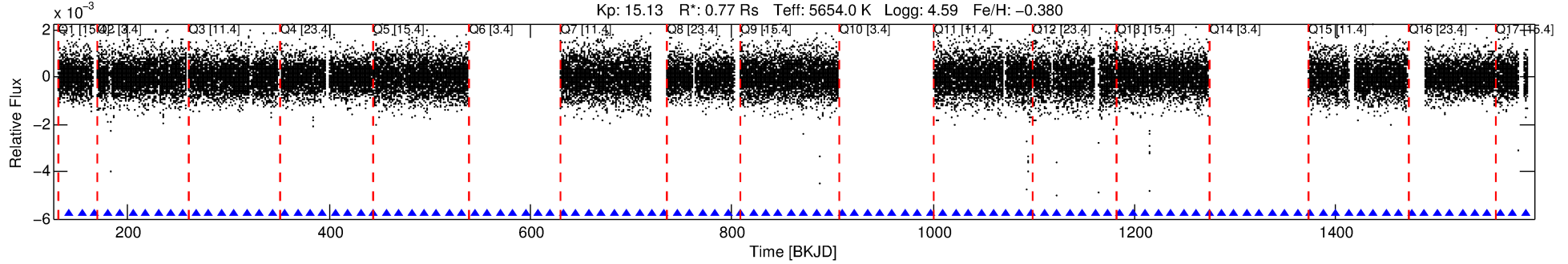
No Significant Match Found

DV One-Page Summary

KIC: 3553900 Candidate: 1 of 1 Period: 12.575 d

KOI: K04992.01 Corr: 0.905

Kp: 15.13 R*: 0.77 Rs Teff: 5654.0 K Logg: 4.59 Fe/H: -0.380



DV Fit Results:

Period = 12.57464 [0.00009] d
Epoch = 142.3509 [0.0055] BKJD
Rp/R* = 0.0180 [0.0152]
a/R* = 21.61 [82.76]
b = 0.78 [1.95]
Seff = 54.55 [15.02]
Teq = 693 [48] K
Rp = 1.52 [1.32] Re
a = 0.1003 [0.0172] AU
Ag = 248.70 [431.11] [0.57σ]
Teffp = 4255 [1829] K [1.95σ]

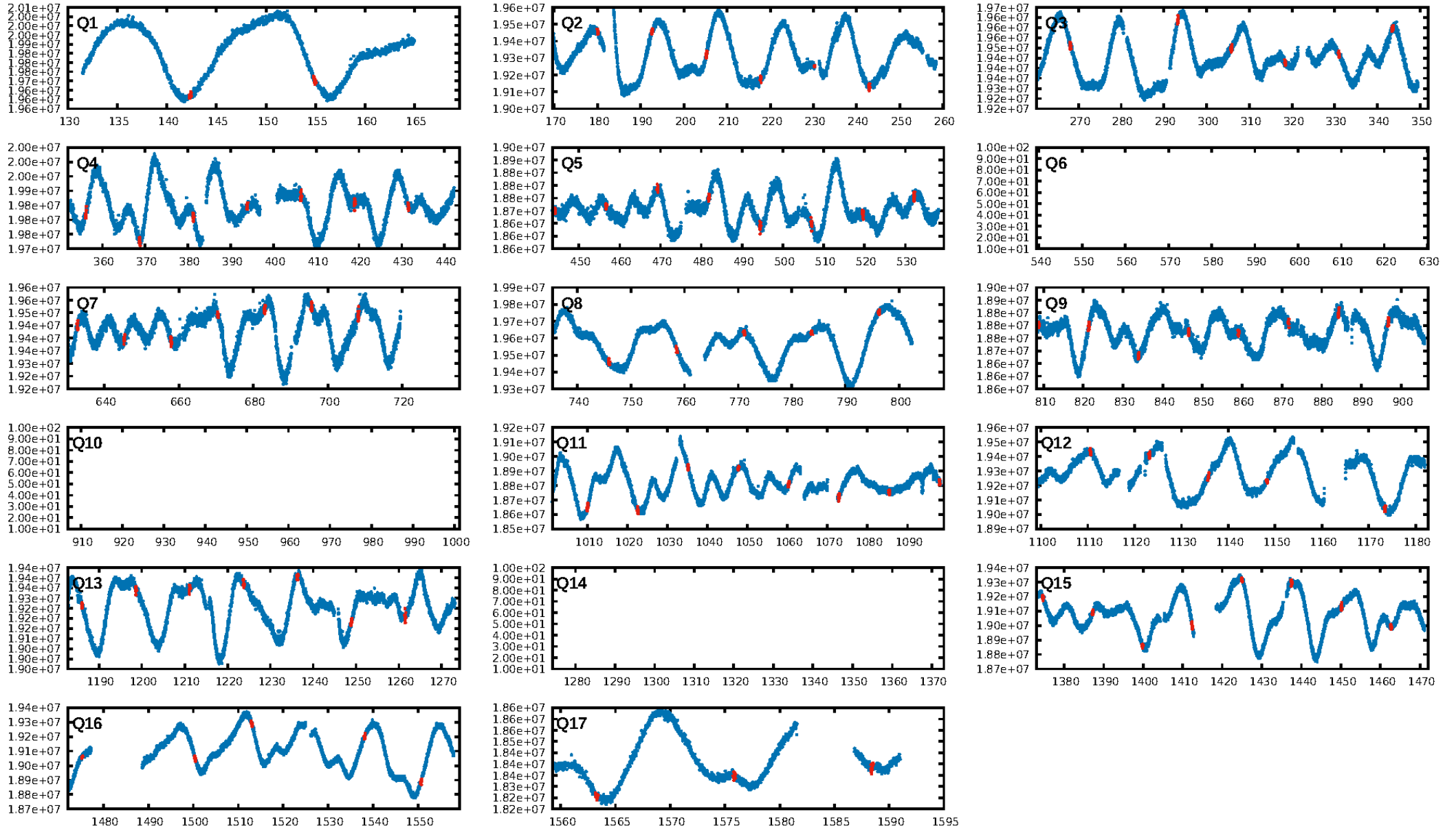
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.27e-20
RollingBand-fgt: 1.00 [78/78]
GhostDiagnostic-chr: 1.855
Centroid-sig: 47.6%
Centroid-so: 0.918 arcsec [0.88σ]
OotOffset-rm: 1.483 arcsec [1.82σ]
KicOffset-rm: 0.566 arcsec [0.75σ]
OotOffset-st: 1/1/4/3 [9]
KicOffset-st: 1/1/4/3 [9]
DiffImageQuality-fgm: 0.78 [7/9]
DiffImageOverlap-fno: 1.00 [14/14]

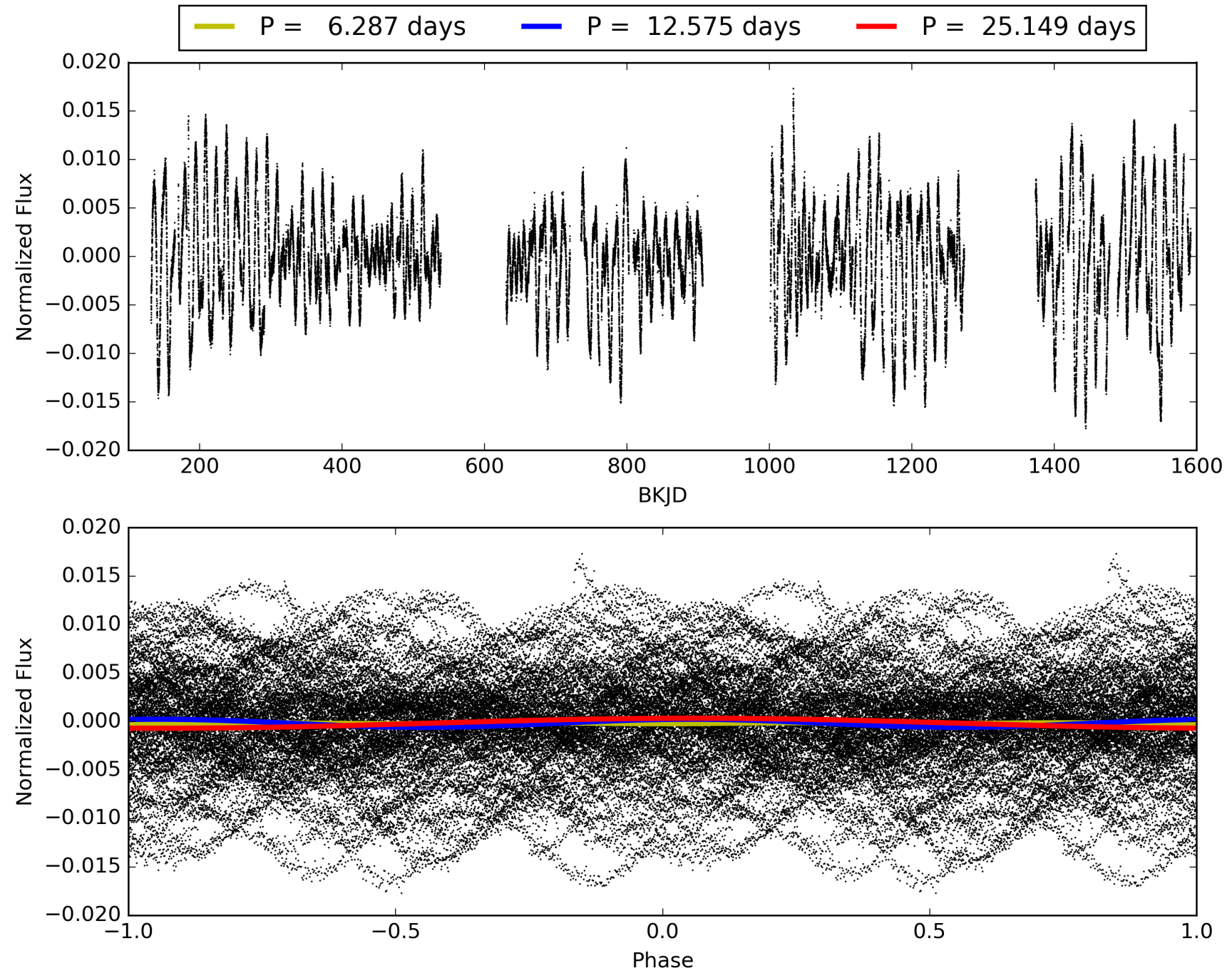
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:48:01 Z

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

TCE 003553900-01, PDC Light Curves

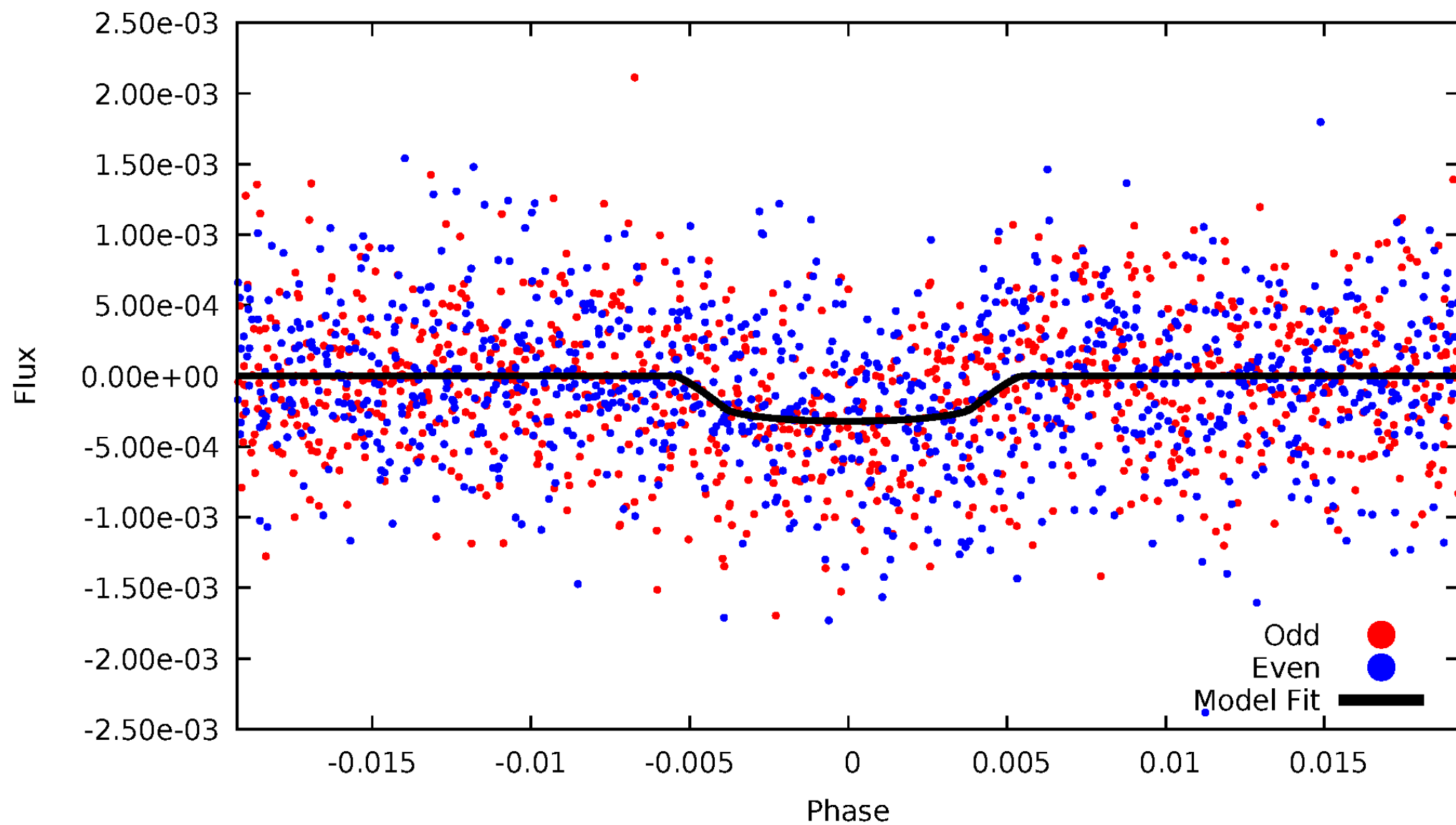


TCE 003553900-01



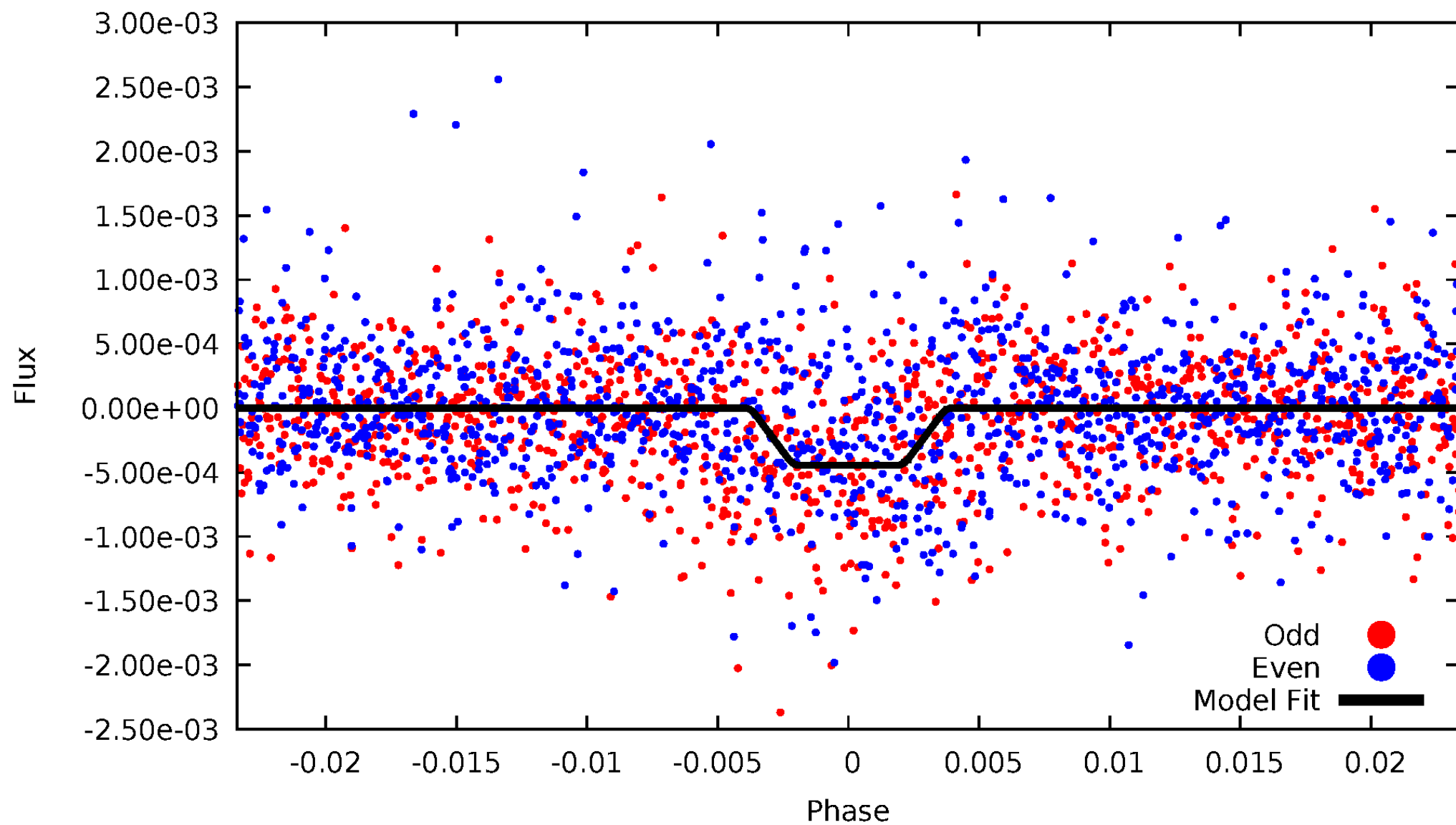
DV Odd/Even

TCE 003553900-01



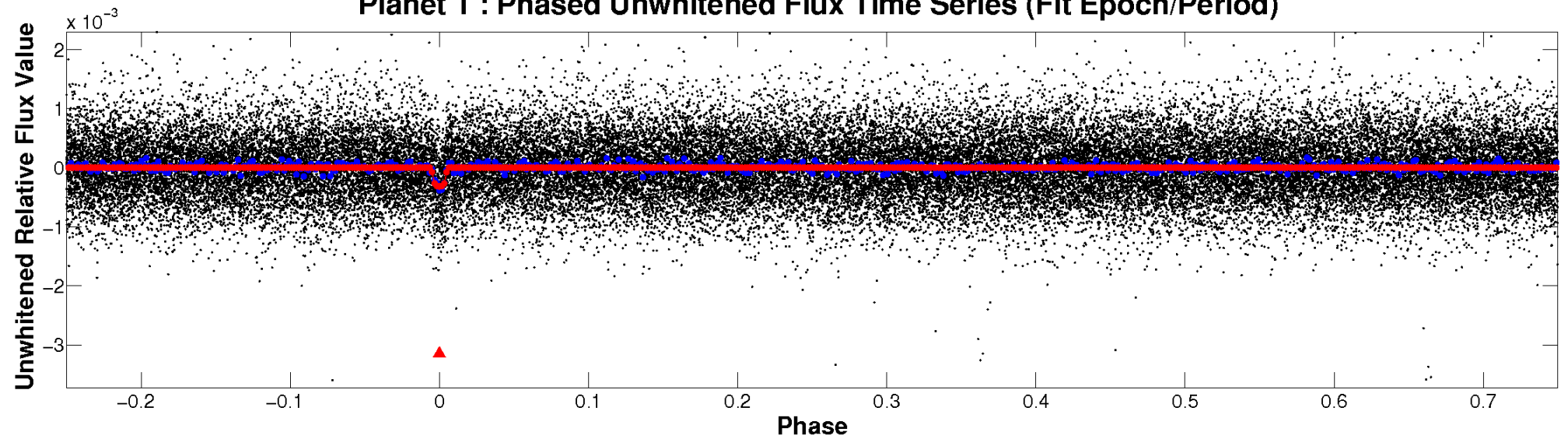
ALT Odd/Even

TCE 003553900-01

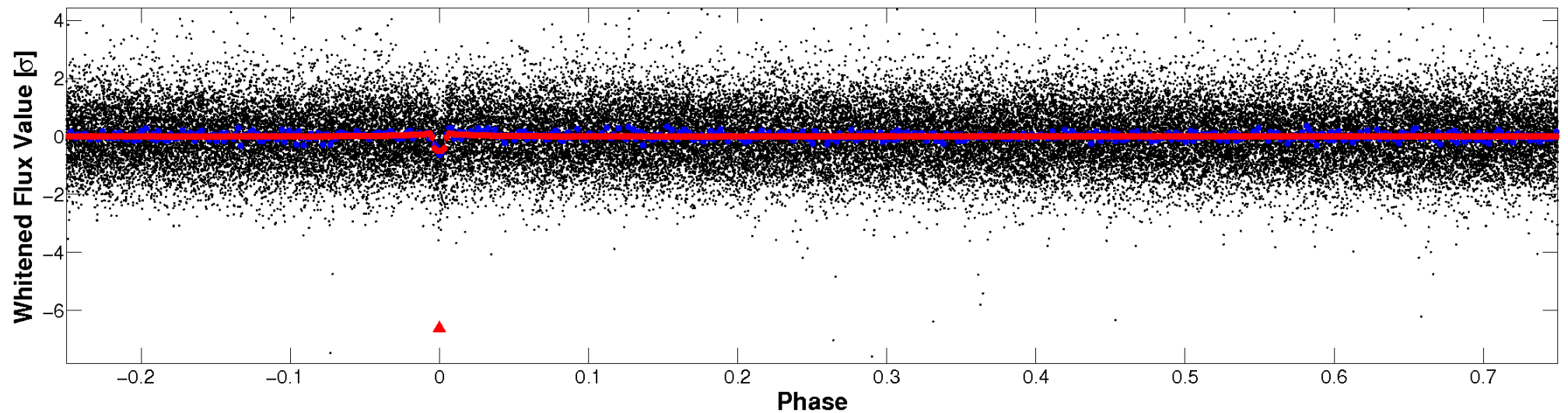


Non-Whitened Vs. Whitened Light Curve

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

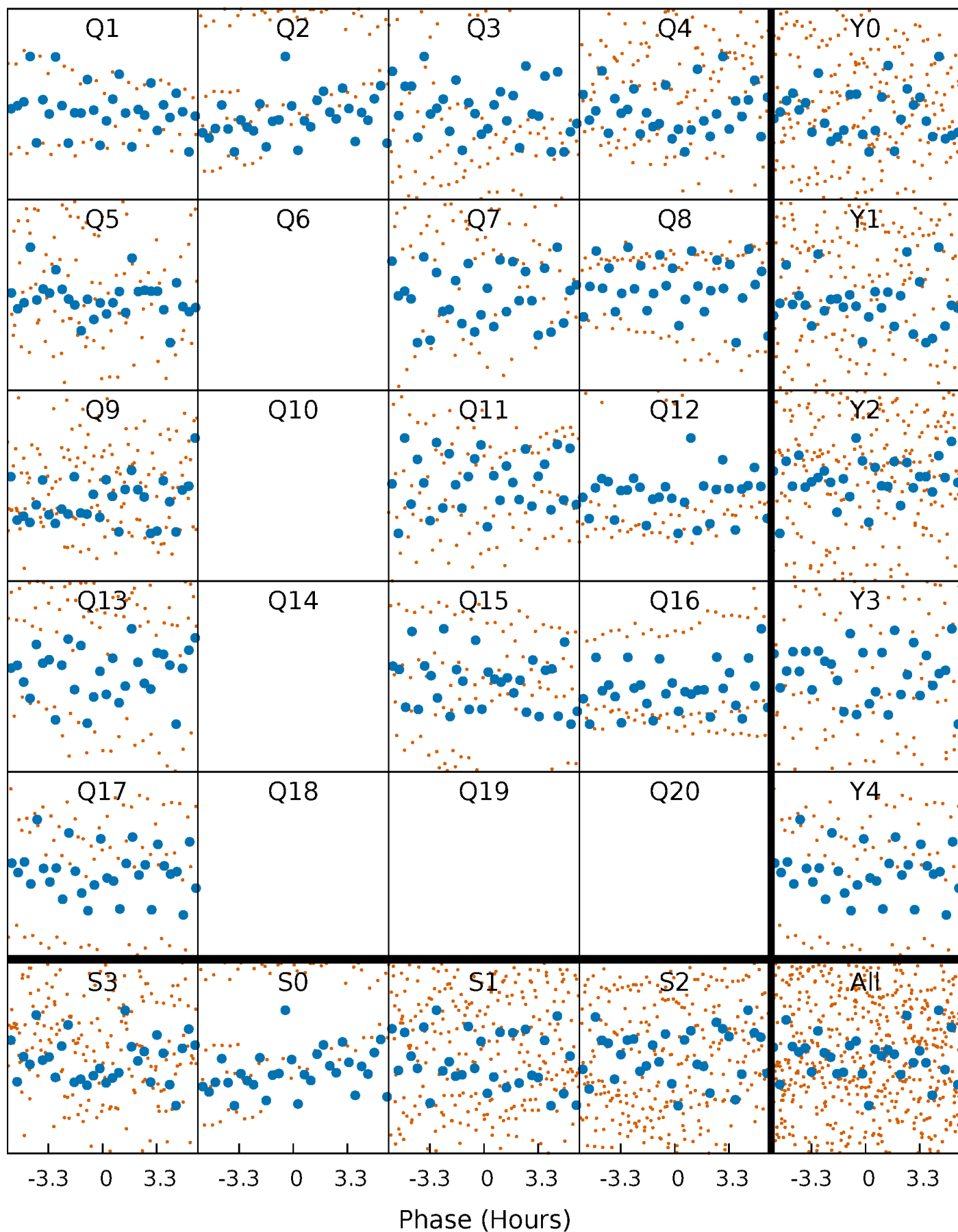


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



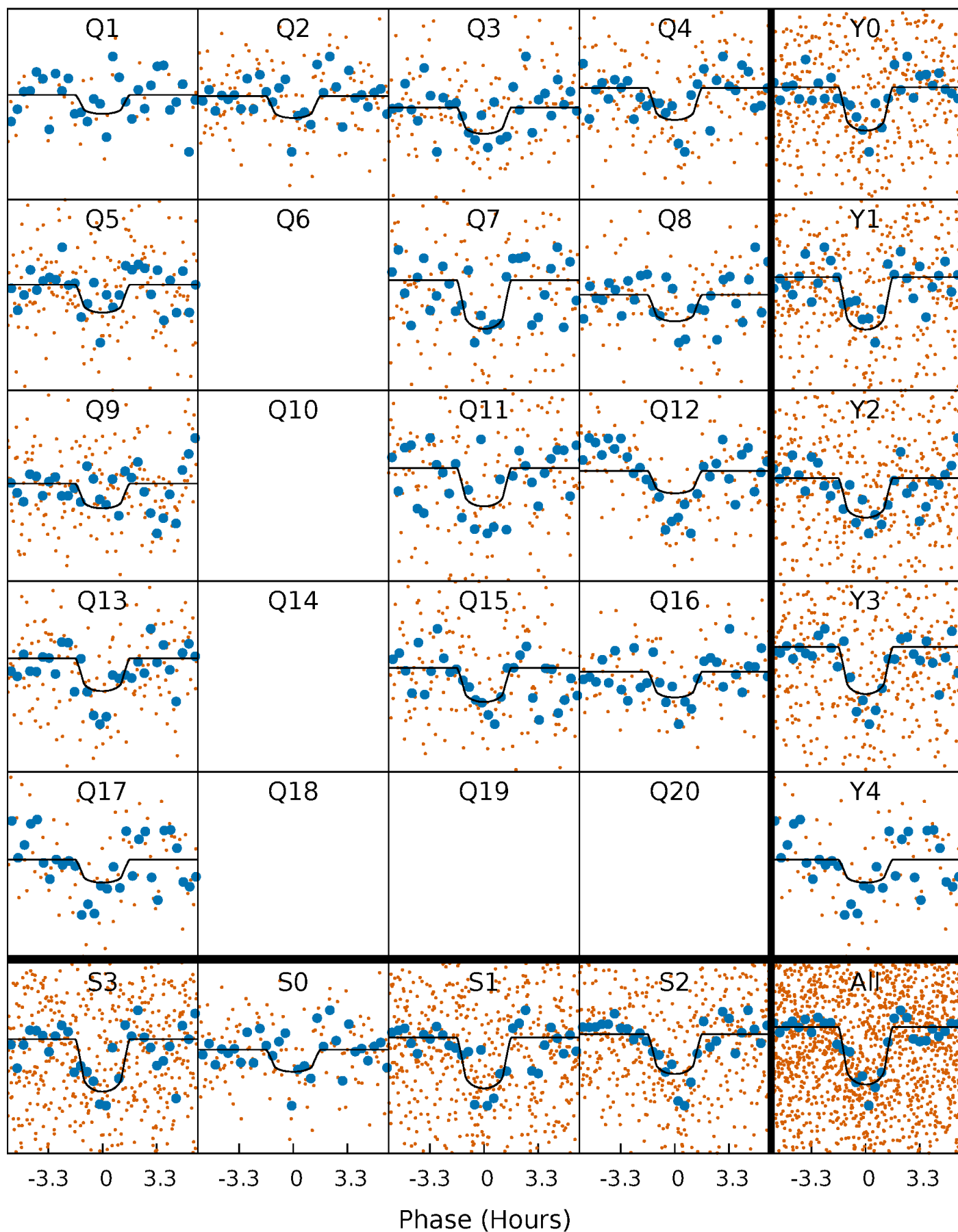
PDC Quarter-Phased Transit Curves

TCE 003553900-01 P= 12.574643 Days $T_0=142.350910$ (BKJD)



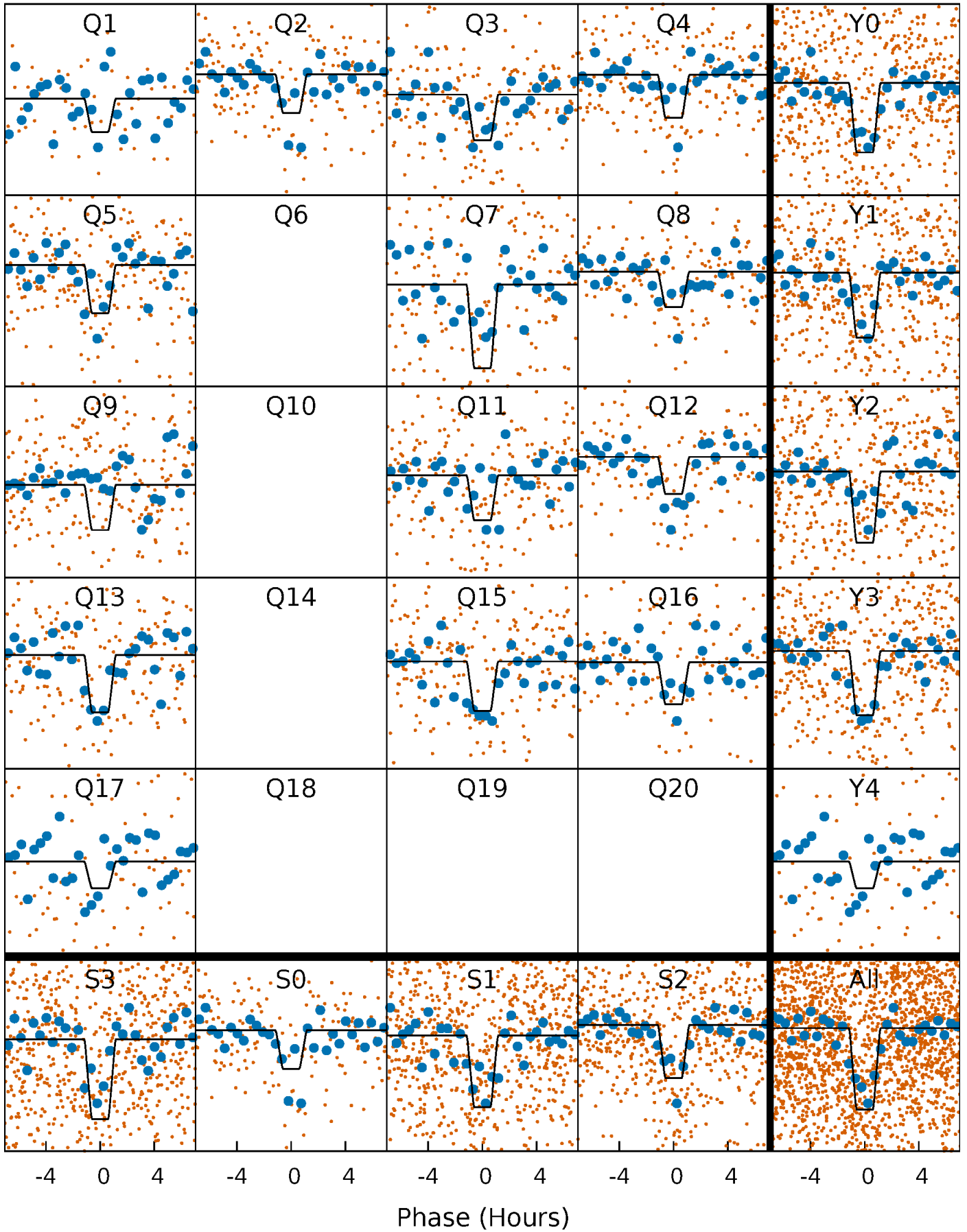
DV Quarter-Phased Transit Curves

TCE 003553900-01 P= 12.574643 Days $T_0=142.350910$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

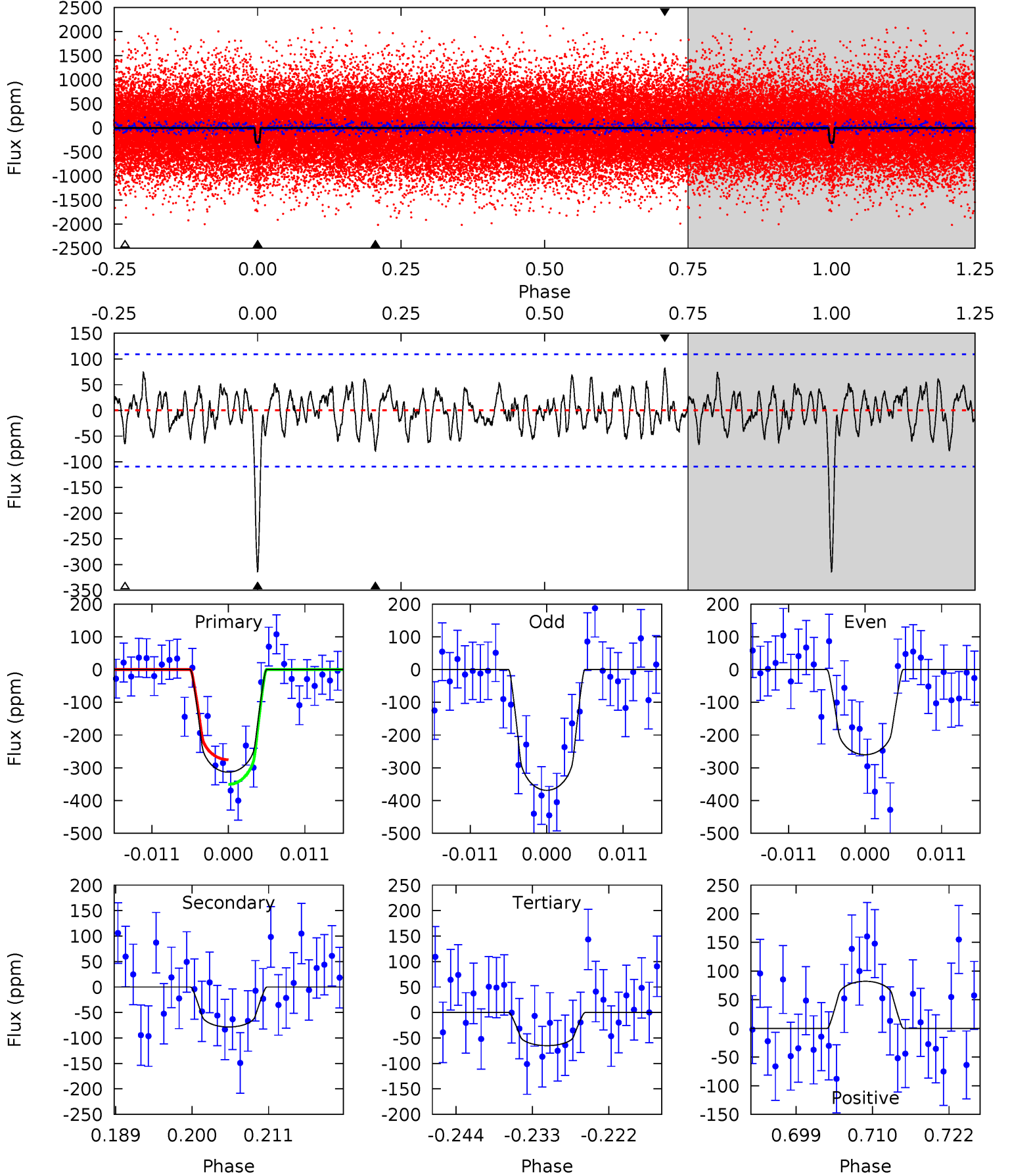
TCE 003553900-01 P= 12.574596 Days $T_0=142.360207$ (BKJD)



DV Model-Shift Uniqueness Test

003553900-01, P = 12.574643 Days, E = 129.776267 Days

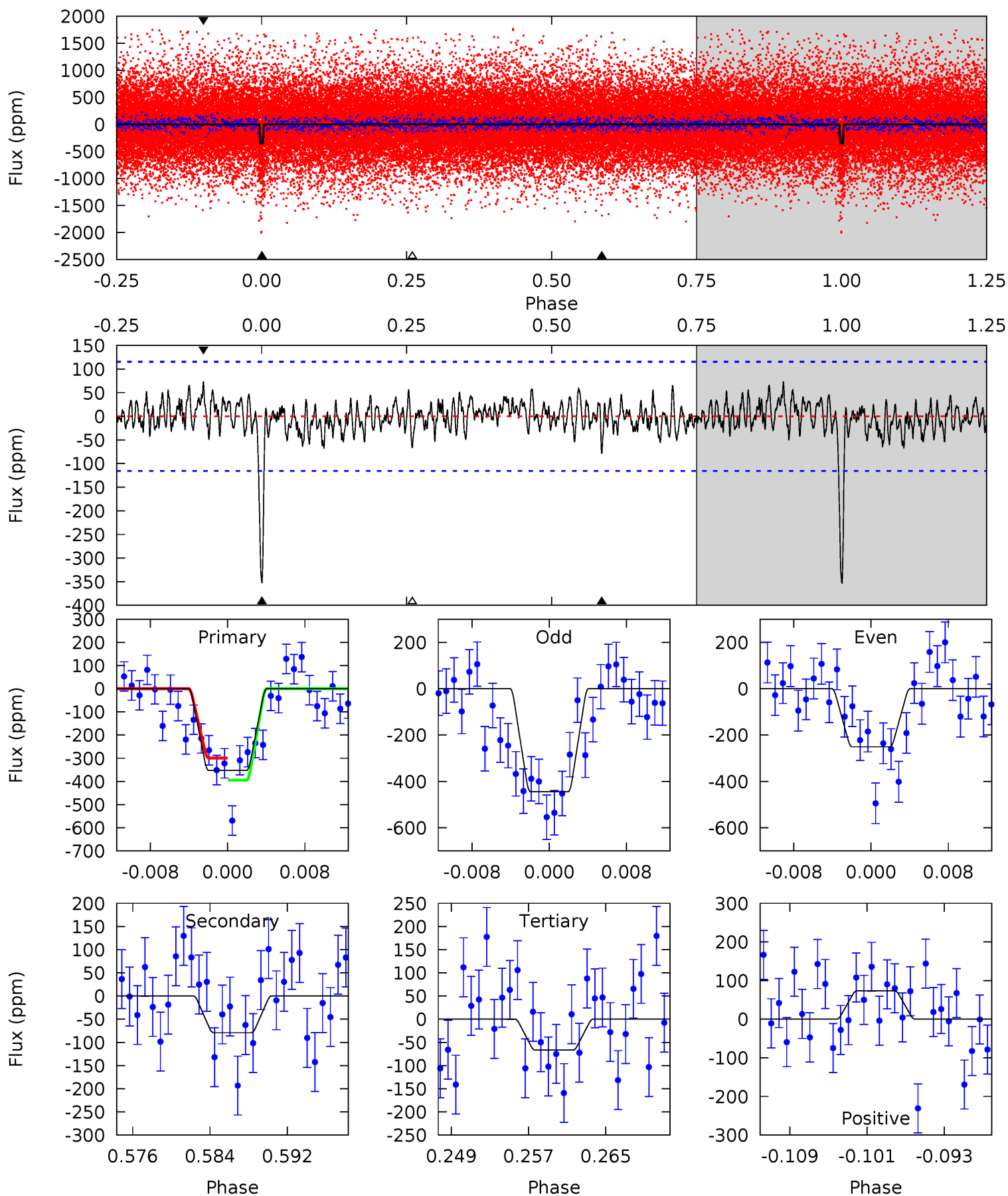
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	3.60	2.98	3.77	5.01	2.54	1.31	11.4	10.6	0.61	-0.17	2.50	0.98	0.21	1.73



Alt Model-Shift Uniqueness Test

003553900-01, $P = 12.574596$ Days, $E = 129.785611$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.5	3.47	2.93	3.22	5.07	2.66	1.07	12.6	12.3	0.55	0.25	4.26	1.09	0.17	2.10



Stellar Parameters For KIC 003553900

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5654^{+152}_{-169}	$4.590^{+0.036}_{-0.135}$	$-0.380^{+0.300}_{-0.300}$	$0.774^{+0.158}_{-0.068}$	$0.865^{+0.078}_{-0.097}$	$2.625^{+0.476}_{-1.033}$
	+3%/-3%	+1%/-3%	+79%/-79%	+20%/-9%	+9%/-11%	+18%/-39%
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 003553900-01 / KOI 4992.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-78 ± 22	$1.73^{+1.25}_{-1.05}$	984^{+48}_{-40}	4065^{+2025}_{-692}	139^{+778}_{-91}
Alt.	-79 ± 23	$1.90^{+1.30}_{-1.12}$	985^{+54}_{-39}	3911^{+1703}_{-605}	116^{+518}_{-77}

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 $A_{obs} \gg 1.0$

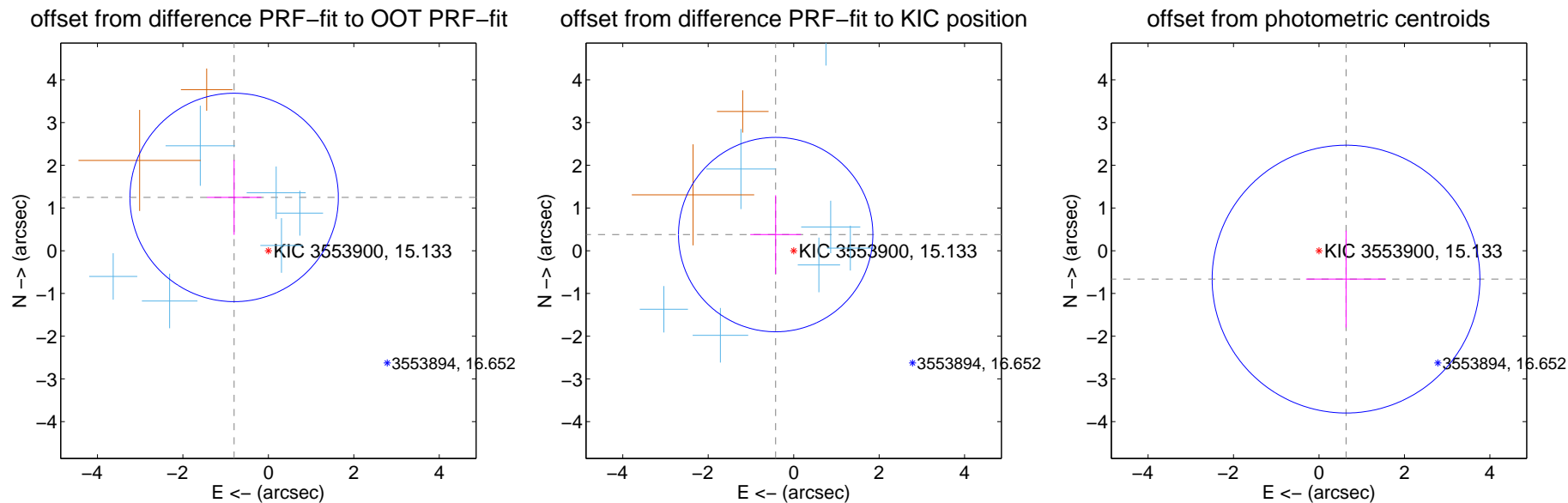
DV Centroid Data

Supplemental centroid analysis for 003553900-01. Kepler magnitude: 15.13. Transit SNR 9.53

There are 7 quarters with good PRF difference image offsets

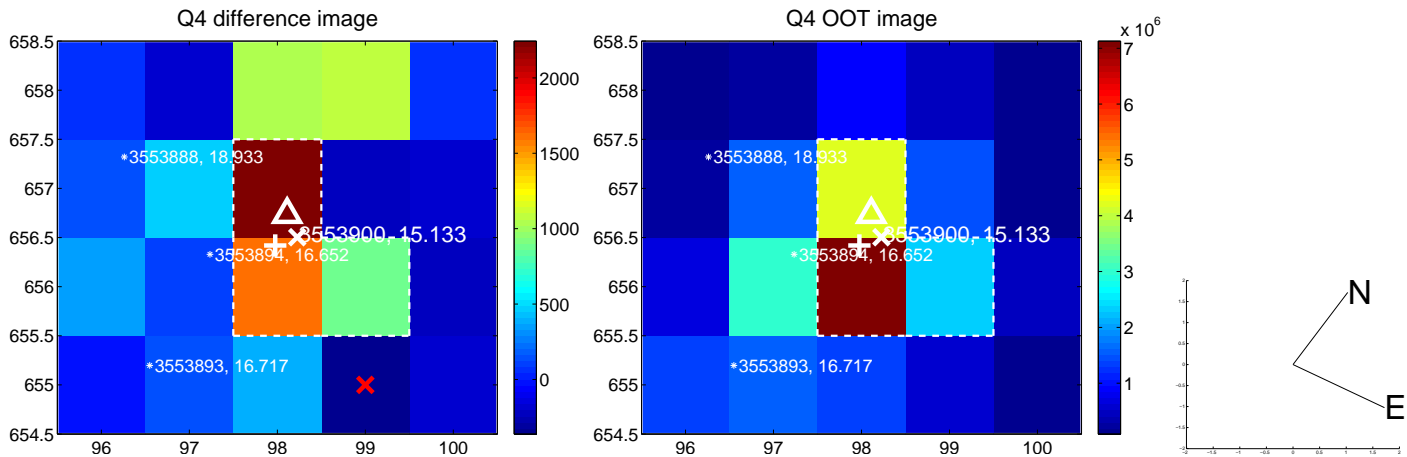
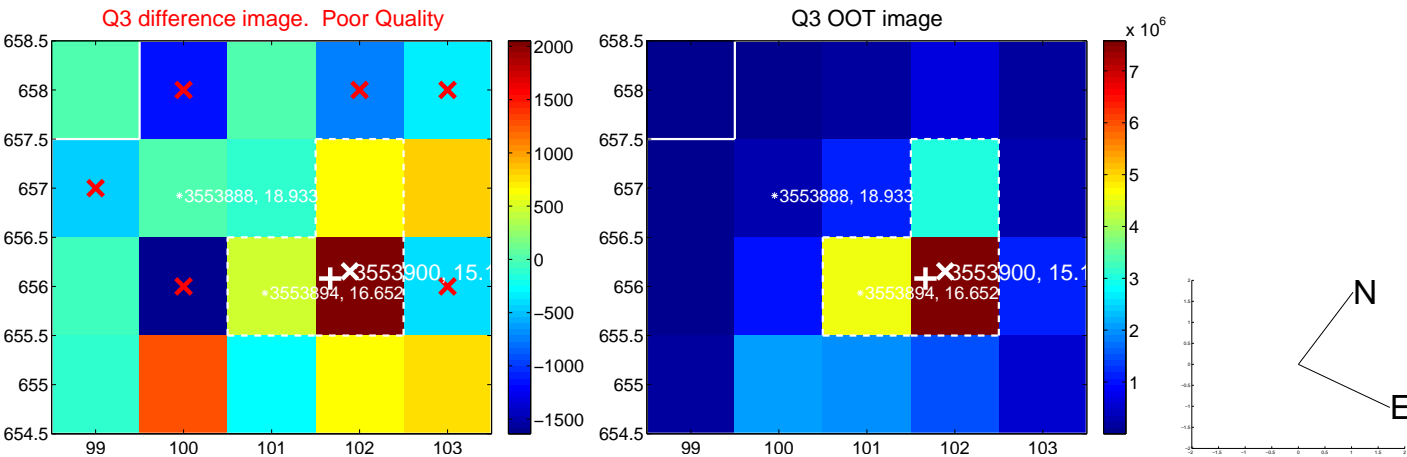
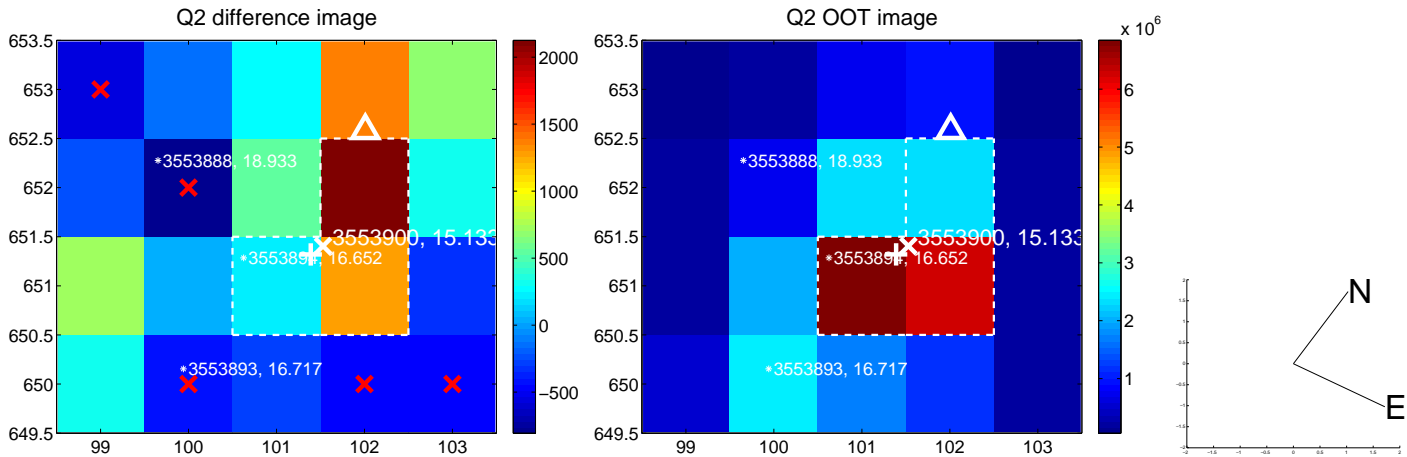
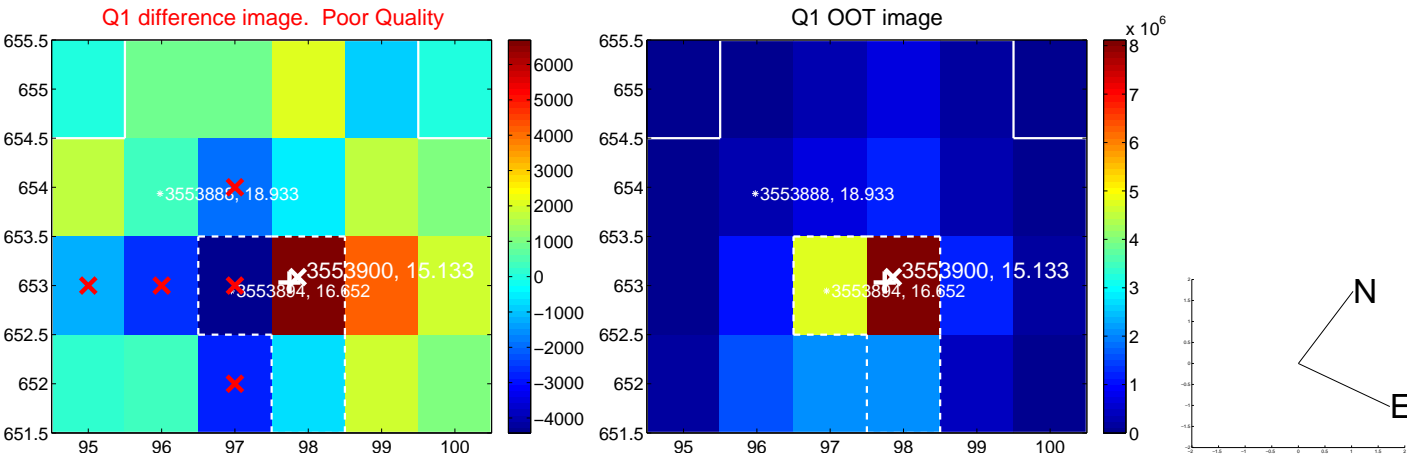
The direct PRF centroid is offset from the target star catalog position by about 0.57 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.483 ± 0.813	1.82	0.801 ± 0.636	1.248 ± 0.876
PRF-fit source offset from KIC position	0.566 ± 0.758	0.75	0.421 ± 0.595	0.378 ± 0.922
photometric centroid source offset	0.92 ± 1.04	0.88	-0.63 ± 0.94	-0.66 ± 1.13

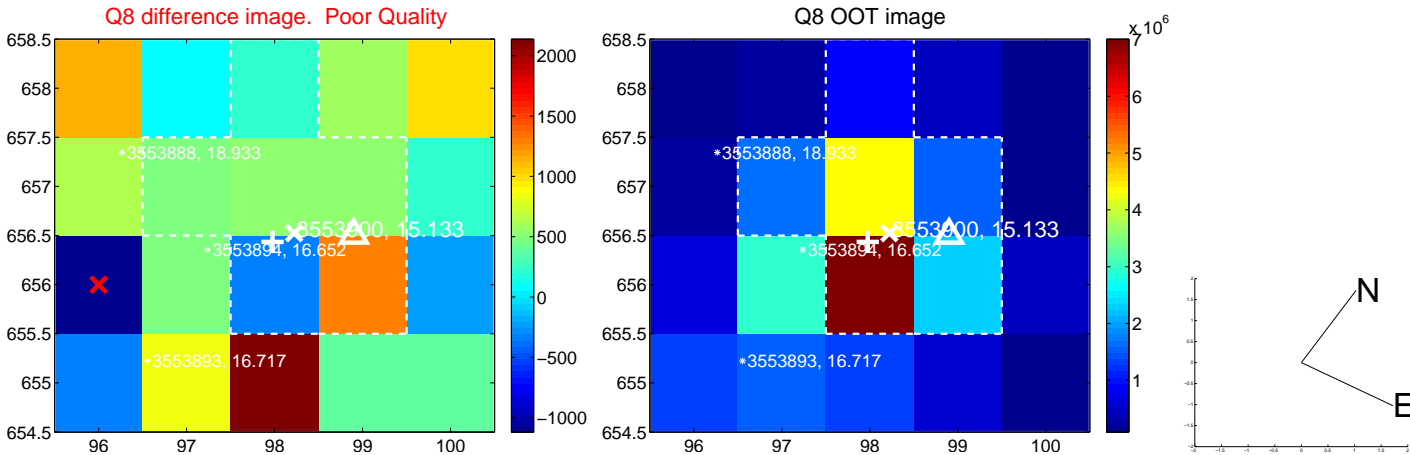
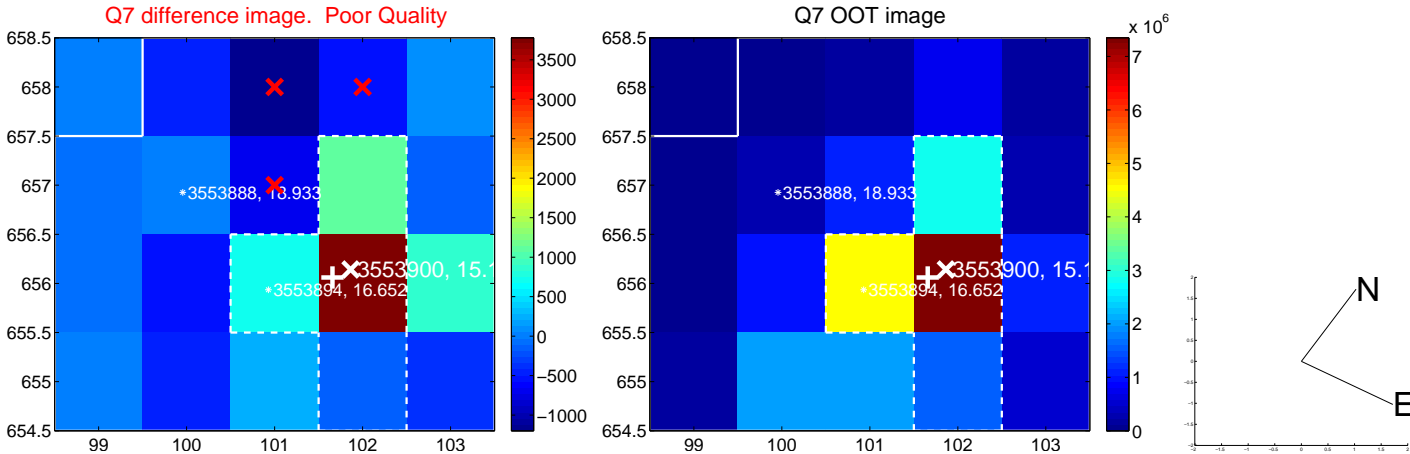
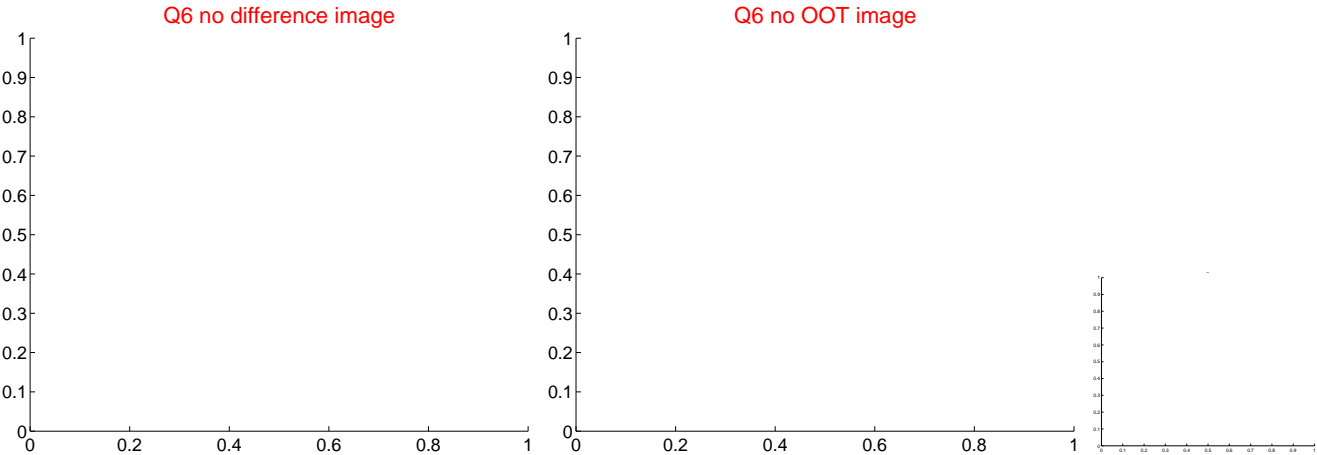
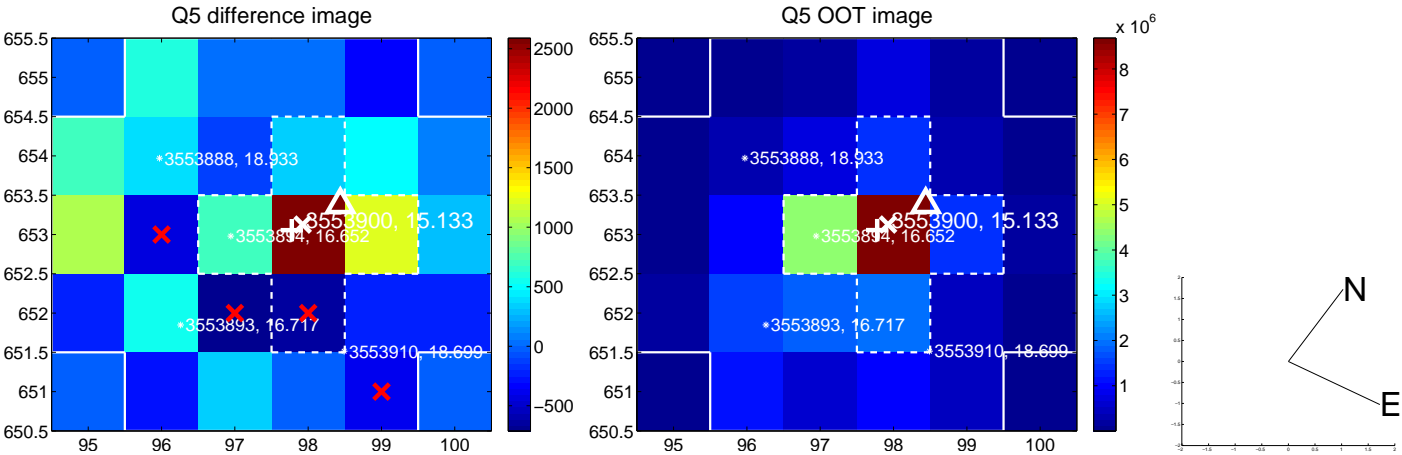


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

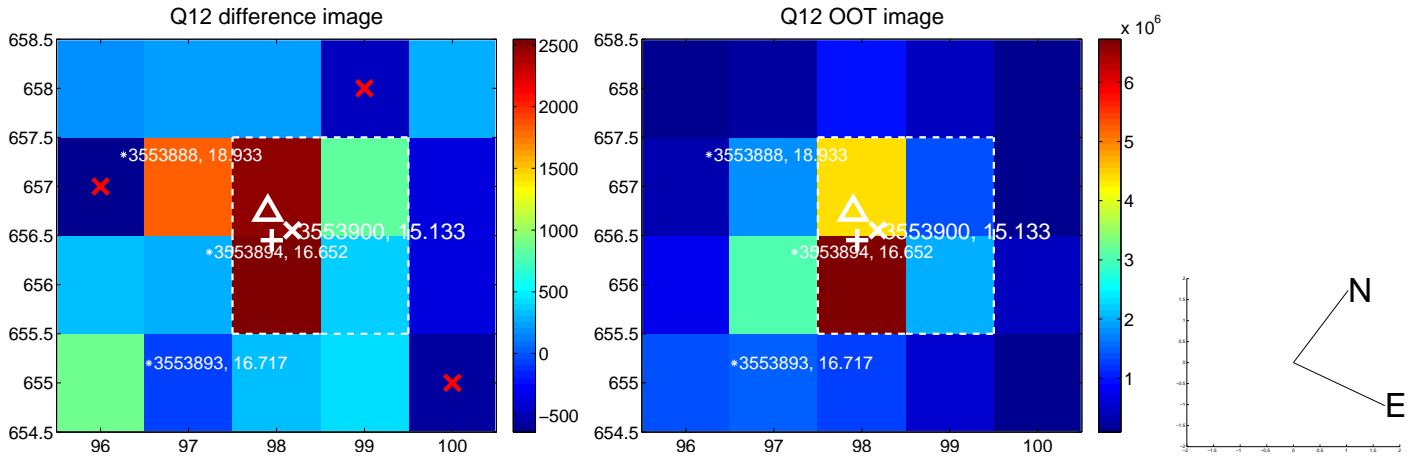
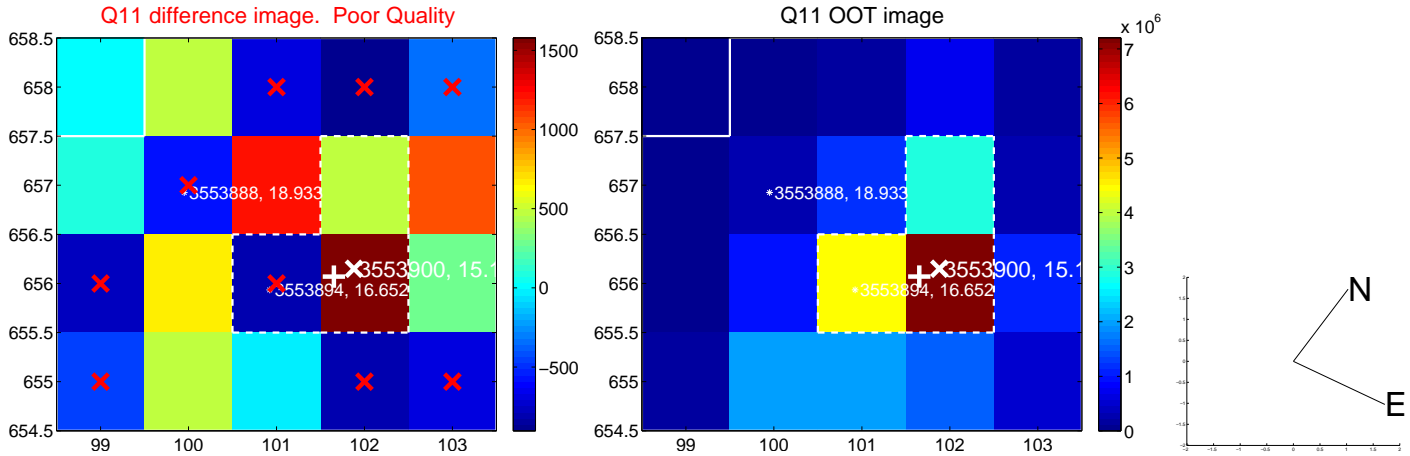
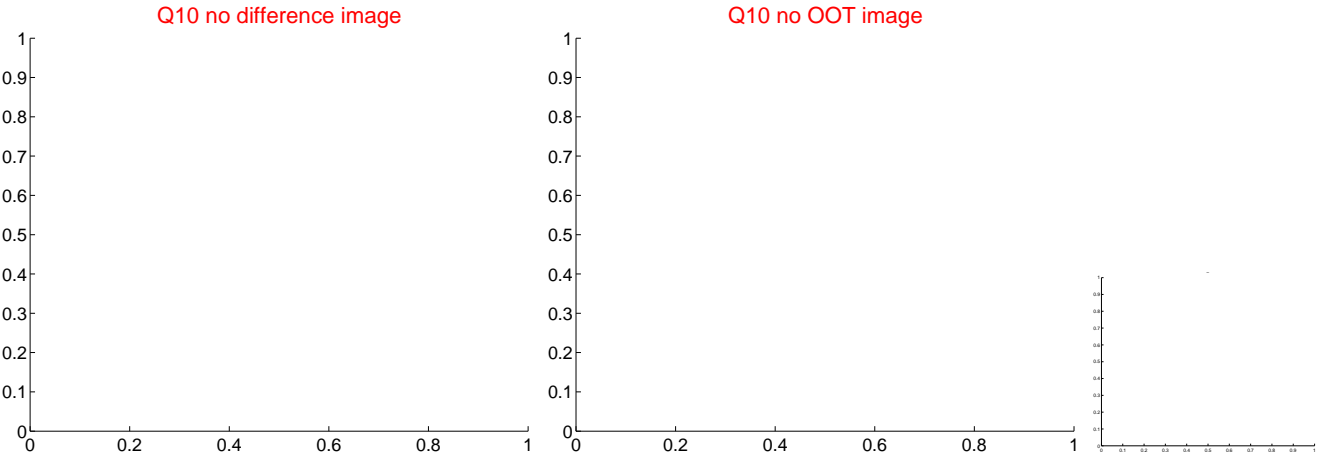
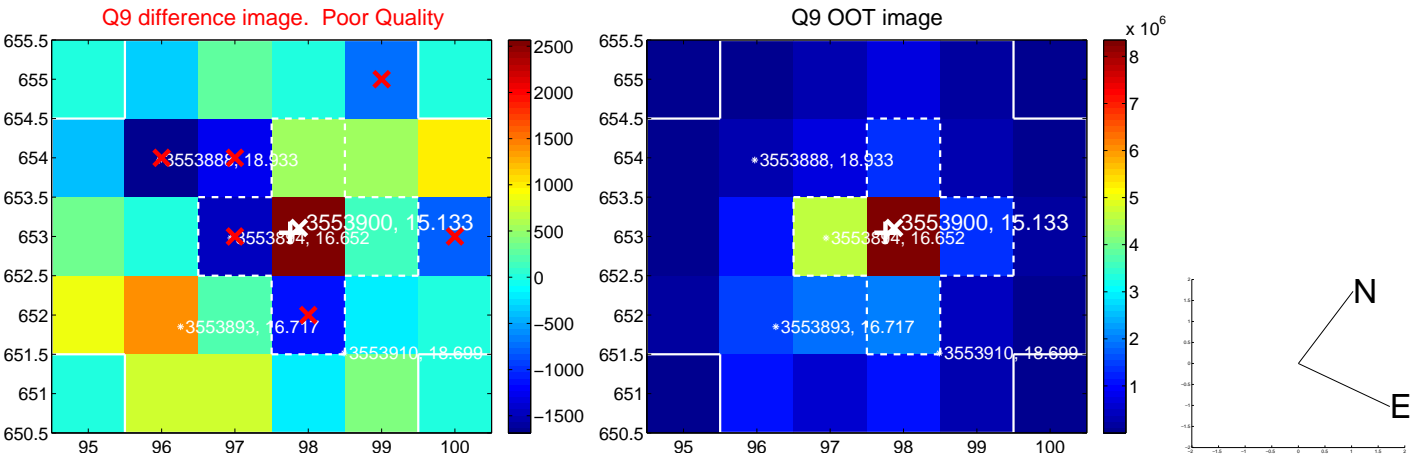
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



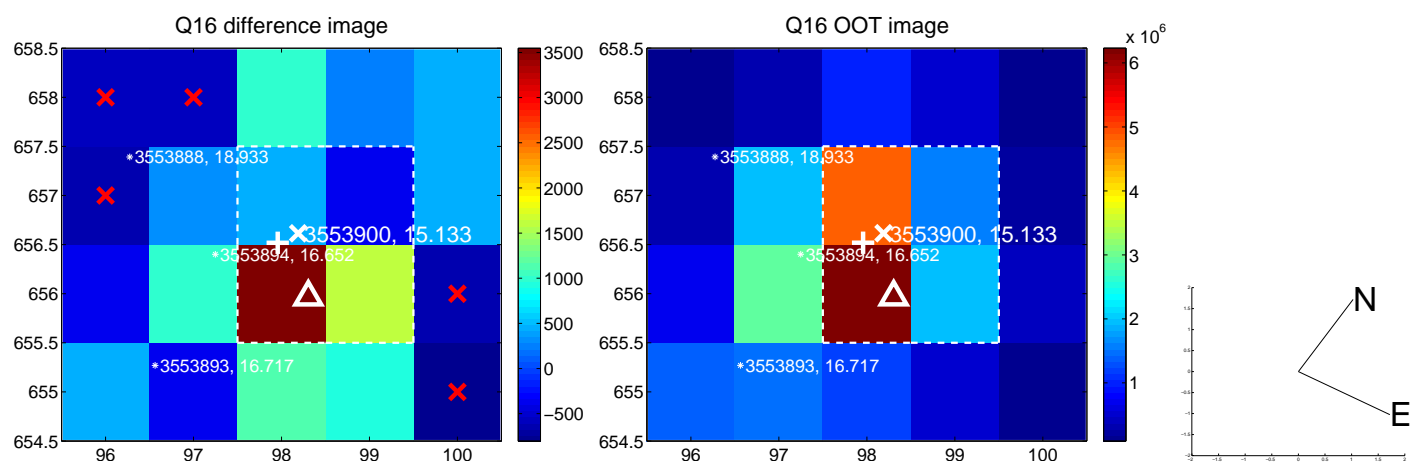
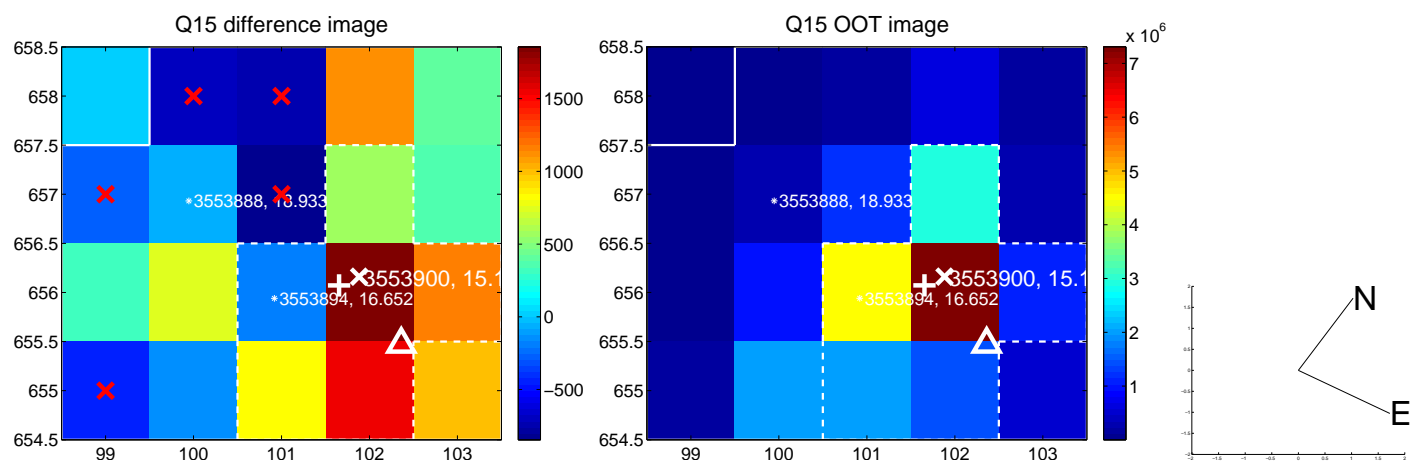
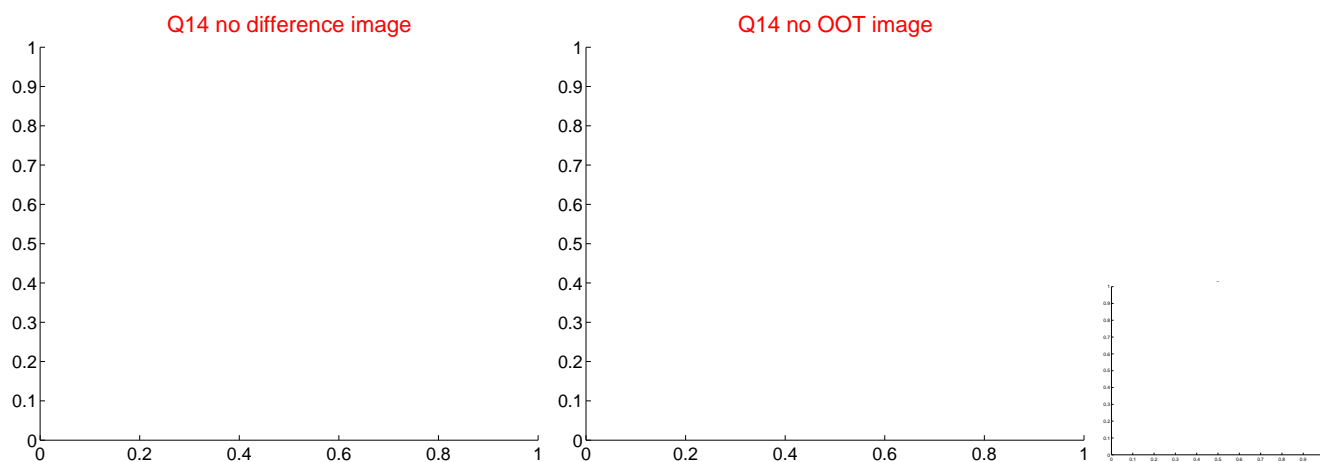
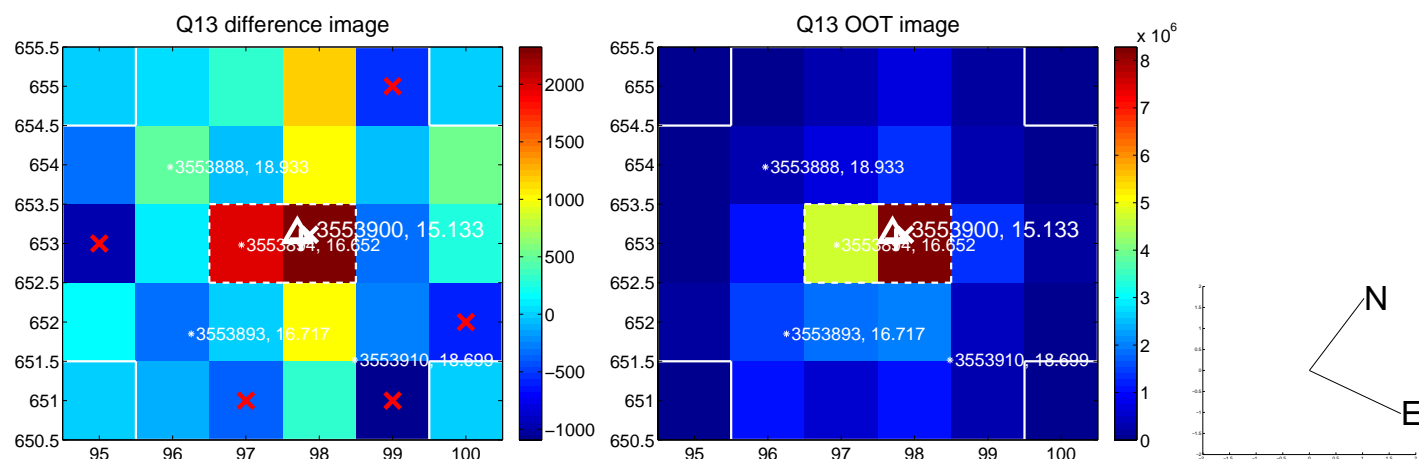
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



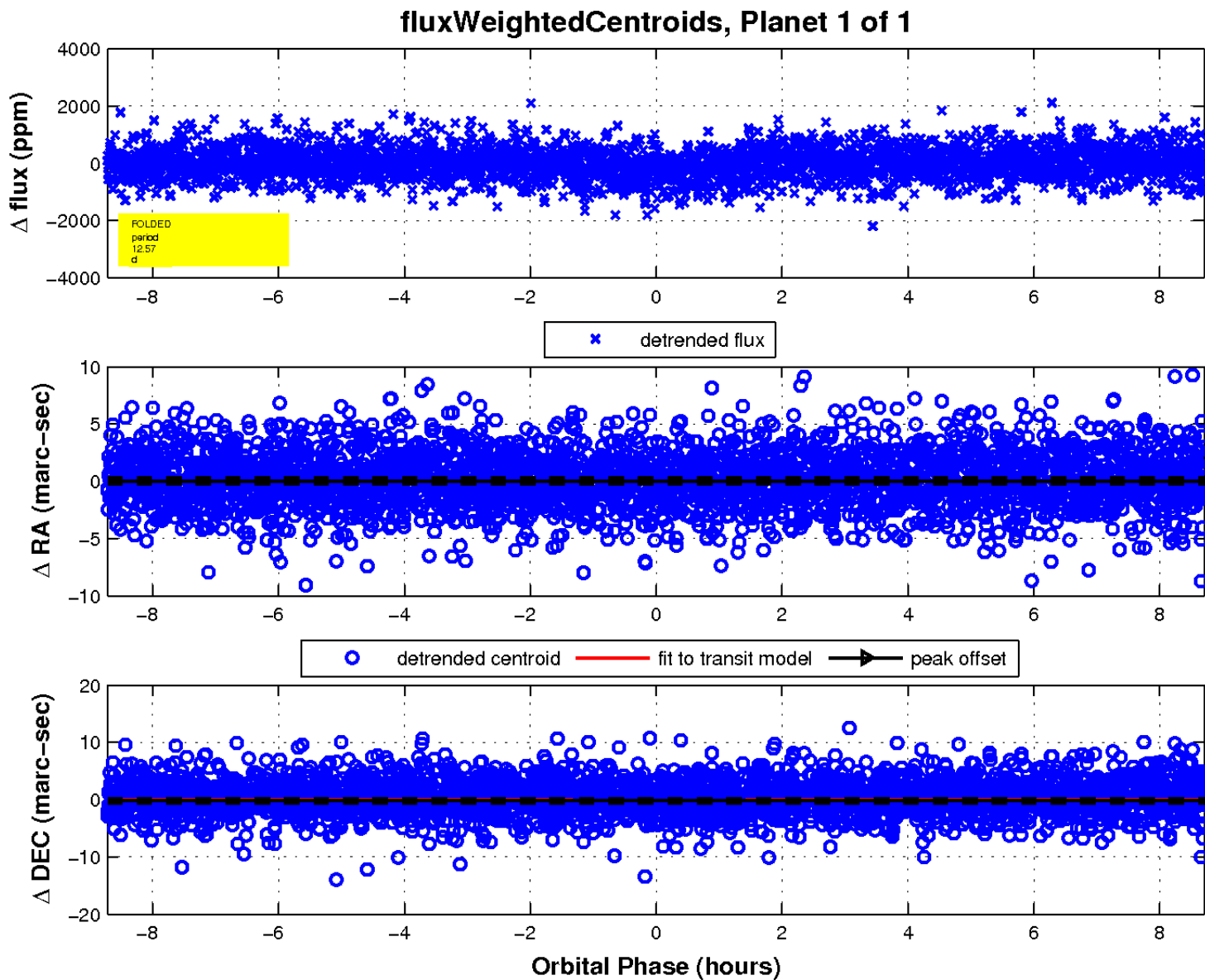
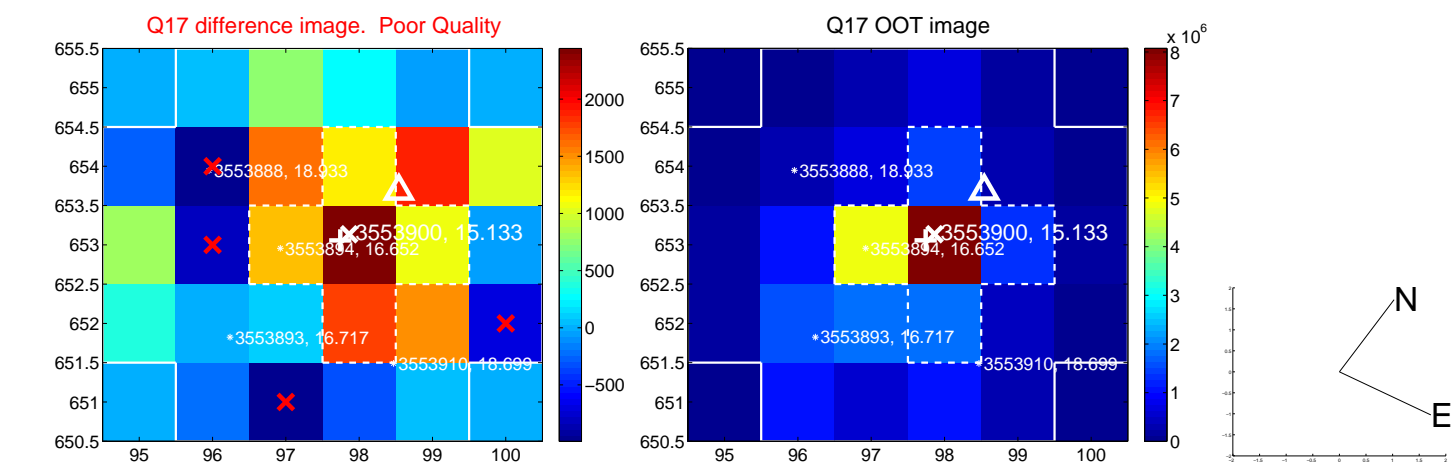
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

