

KIC 002859299

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})
002859299-01	OBS	7640.01	0.643696	131.988791	73.8	0.638	8.8	15.4	1.11	6161	1.15	7320.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002859299-01	OBS	FP	0.00	1	0	1	0	MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET—HALO_GHOST

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

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

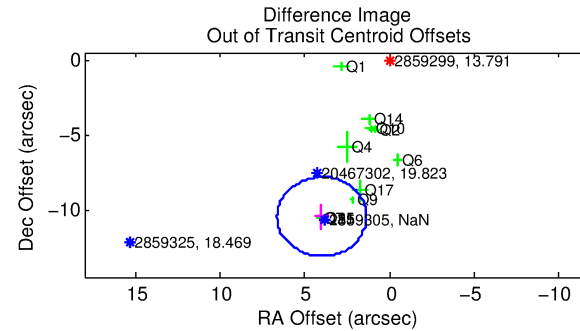
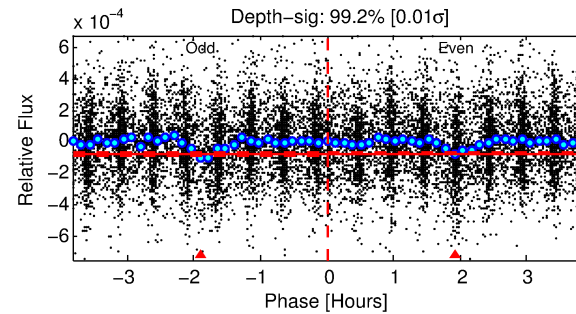
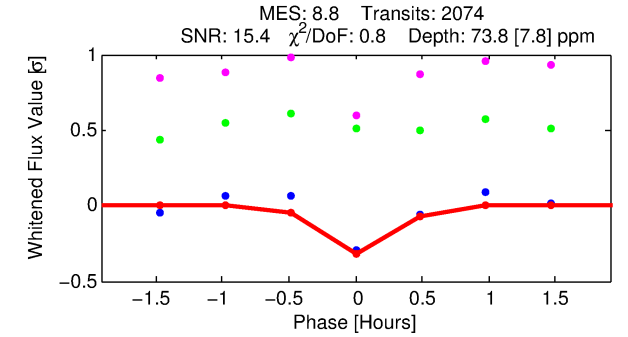
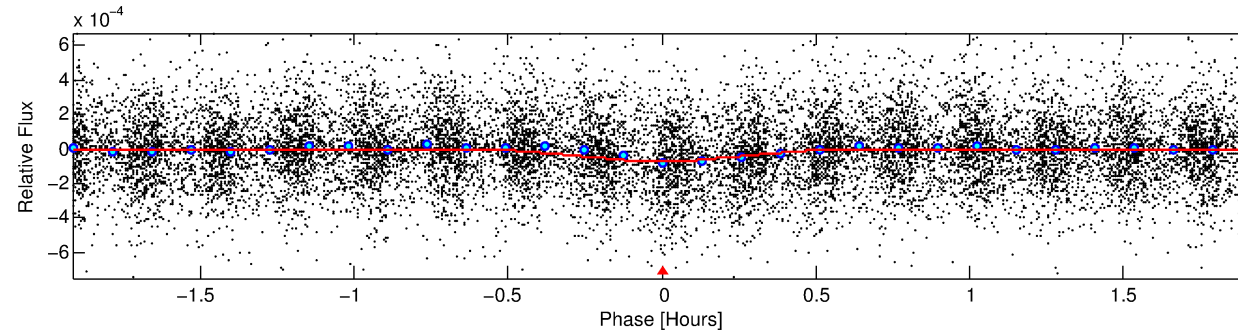
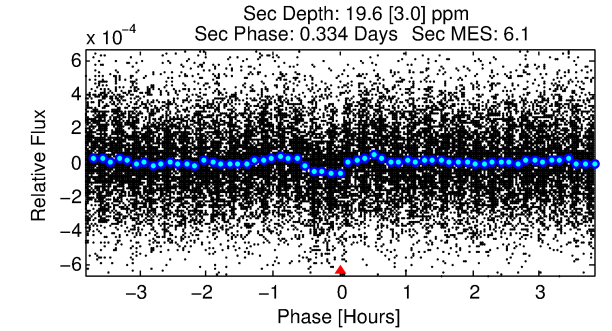
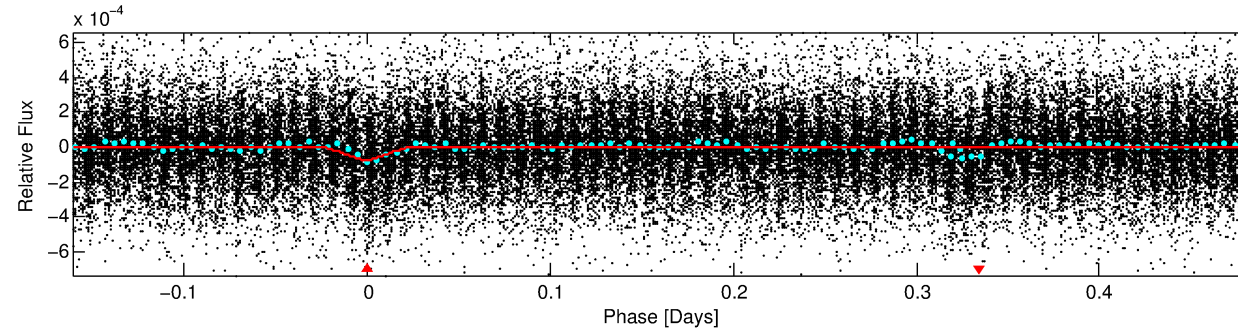
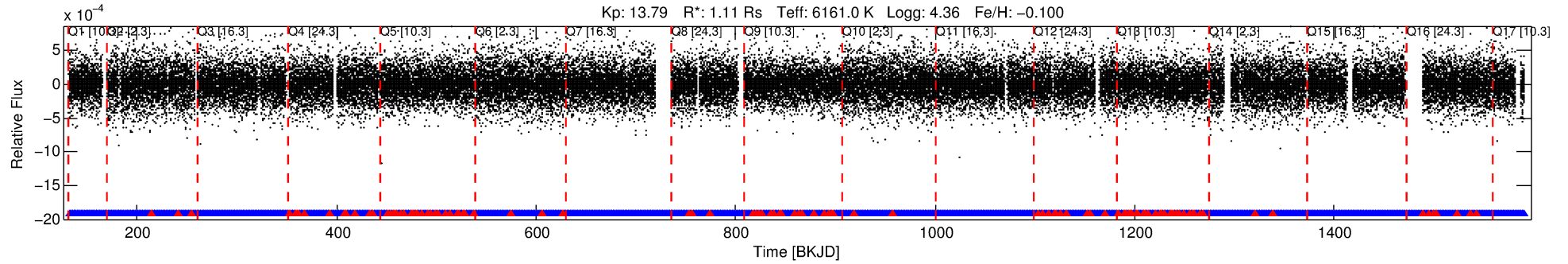
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002859299-01

No Significant Match Found

DV One-Page Summary

KIC: 2859299 Candidate: 1 of 1 Period: 0.644 d



DV Fit Results:

Period = 0.64370 [0.00001] d
Epoch = 131.9888 [0.0008] BKJD
Rp/R* = 0.0095 [0.0019]
a/R* = 3.63 [3.60]
b = 0.90 [0.23]
Teff = 7320.07 [2879.83]
Teq = 2359 [232] K
Rp = 1.15 [0.45] Re
a = 0.0148 [0.0039] AU
Ag = 1.77 [1.02] [0.76σ]
Teffp = 4207 [480] K [3.47σ]

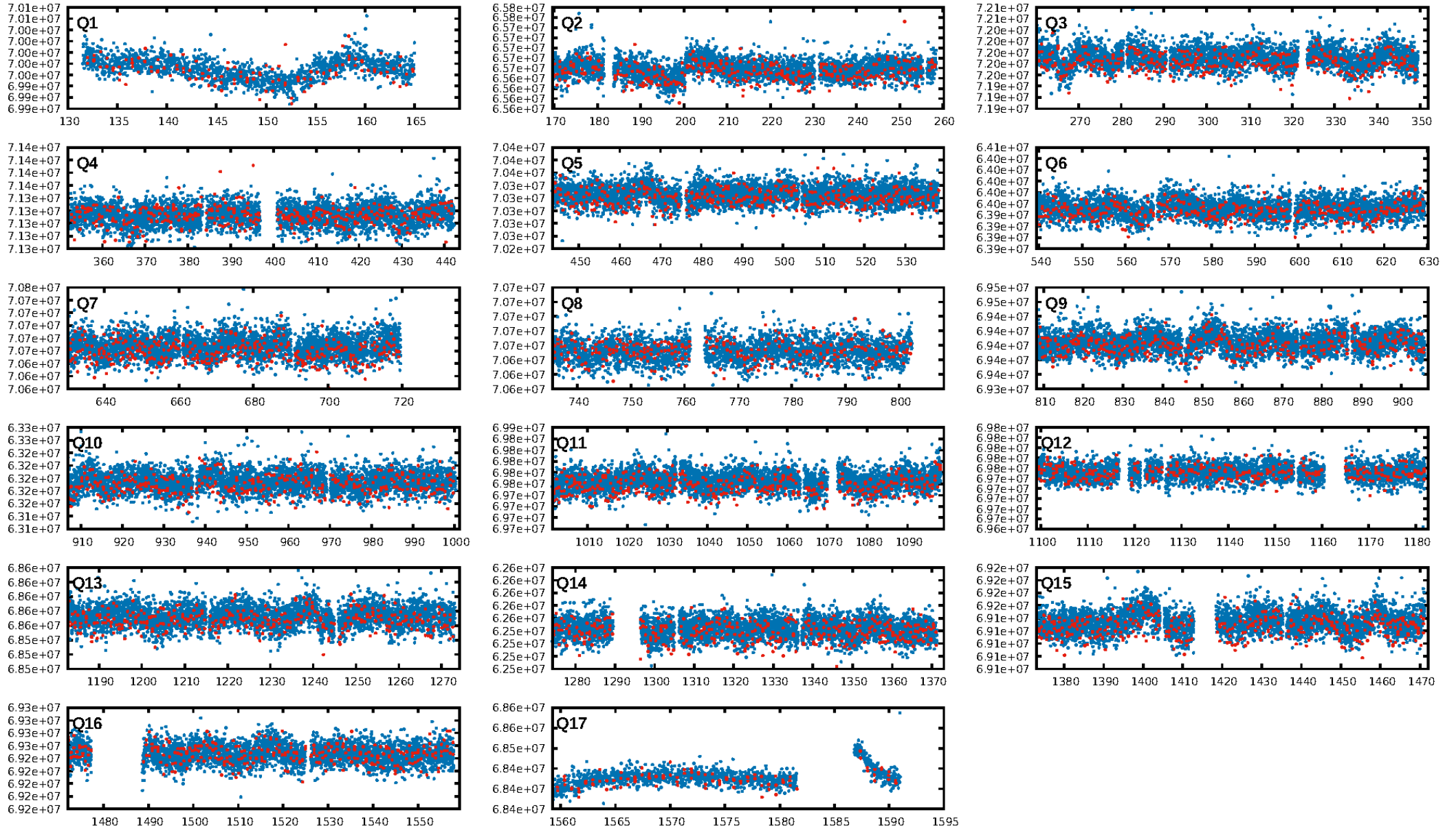
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.88e-18
RollingBand-fgt: 0.94 [1870/1981]
GhostDiagnostic-chr: -0.01734
Centroid-sig: 0.0%
Centroid-so: 10.272 arcsec [13.42σ]
OotOffset-rm: 11.213 arcsec [12.74σ]
KicOffset-rm: 11.175 arcsec [11.47σ]
OotOffset-st: 4/4/1/3 [12]
KicOffset-st: 4/4/1/3 [12]
DiffImageQuality-fgm: 0.83 [10/12]
DiffImageOverlap-fno: 1.00 [17/17]

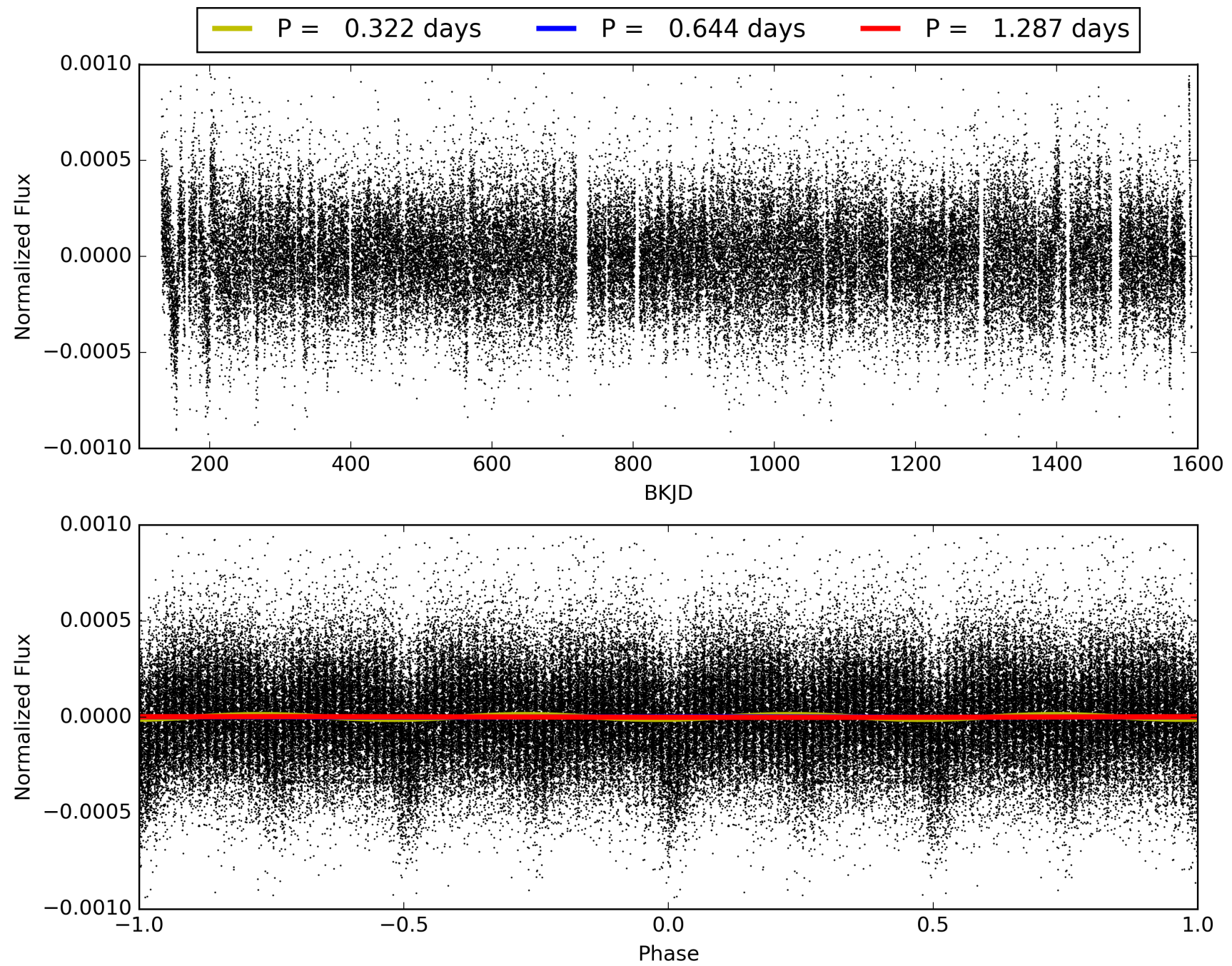
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 07:34:02 Z

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

TCE 002859299-01, PDC Light Curves

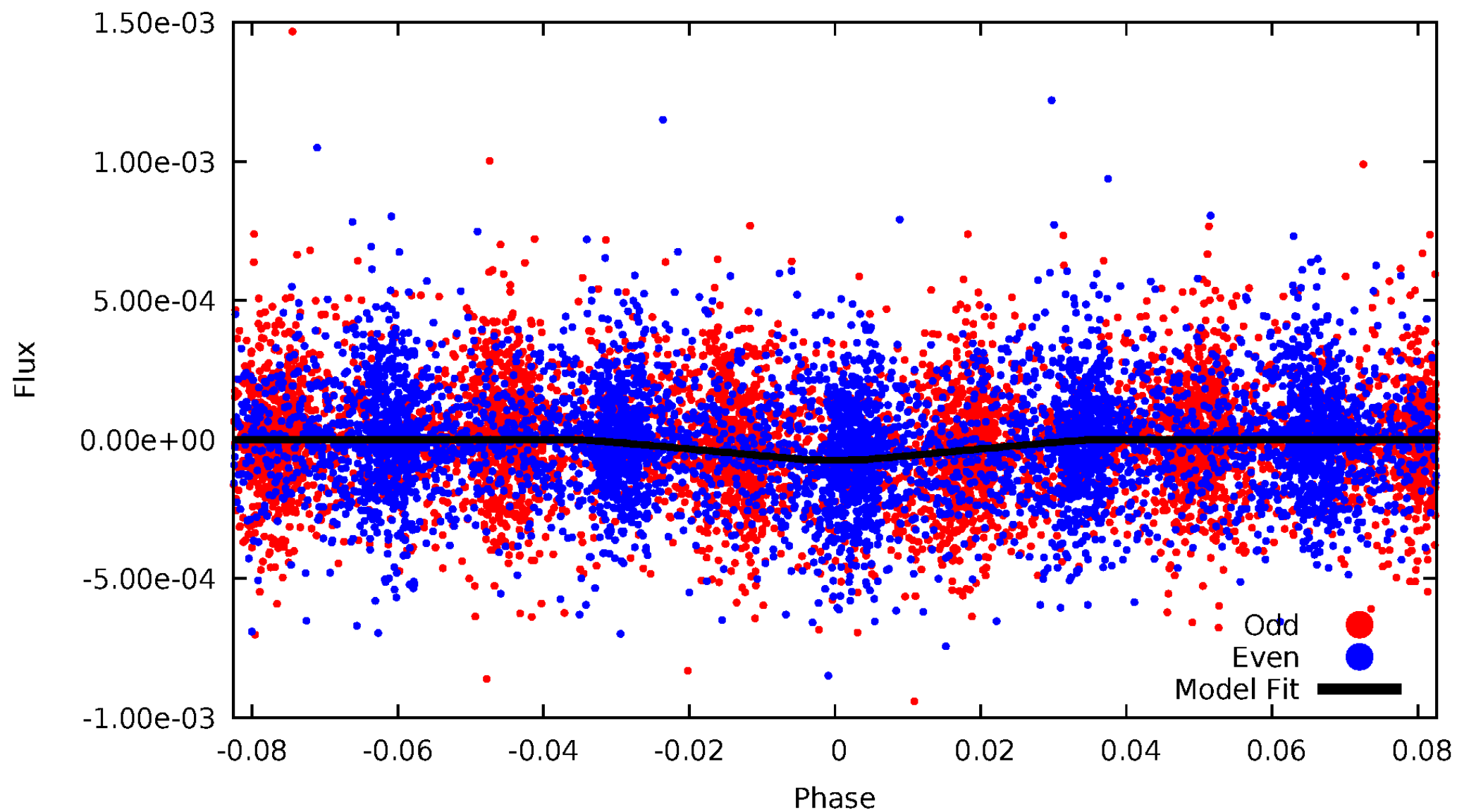


TCE 002859299-01



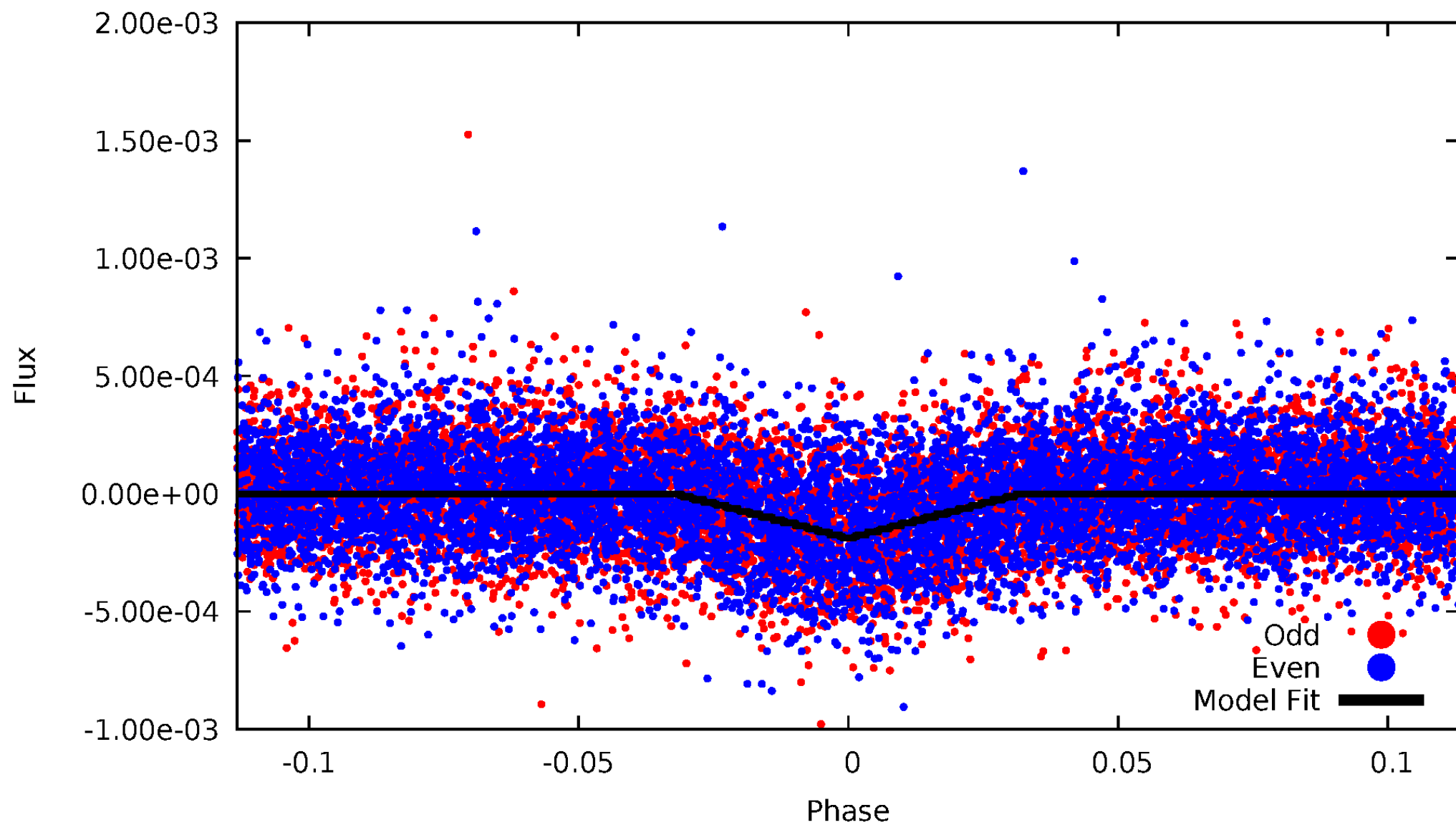
DV Odd/Even

TCE 002859299-01



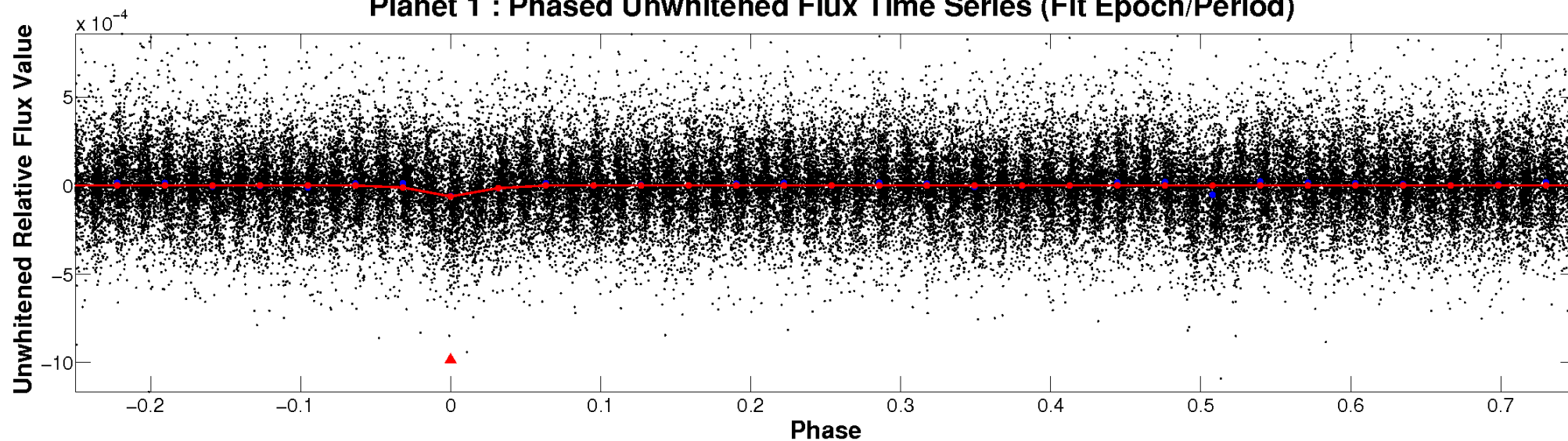
ALT Odd/Even

TCE 002859299-01

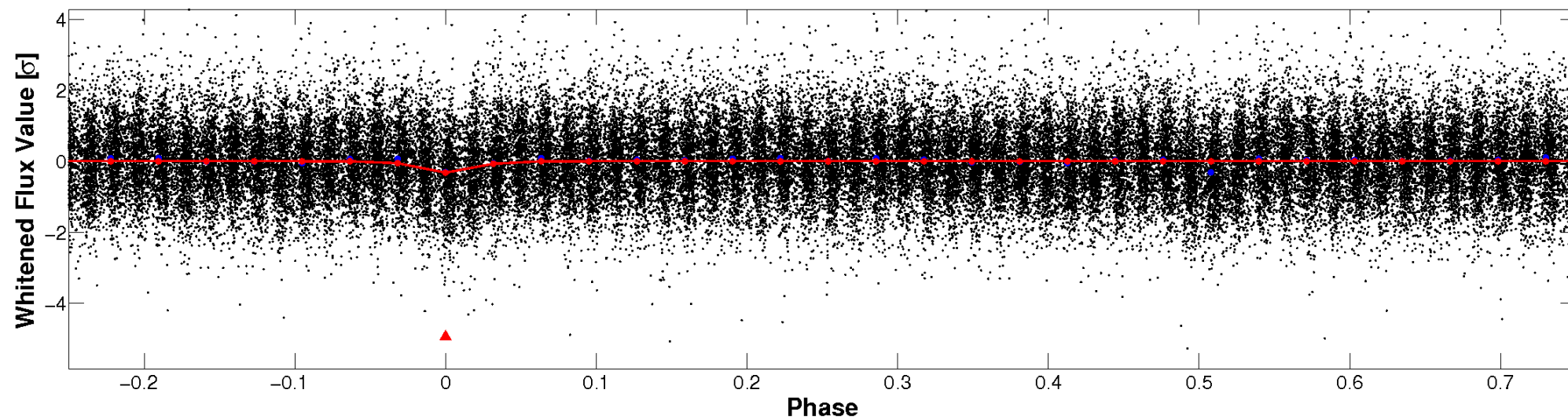


Non-Whitened Vs. Whitened Light Curve

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

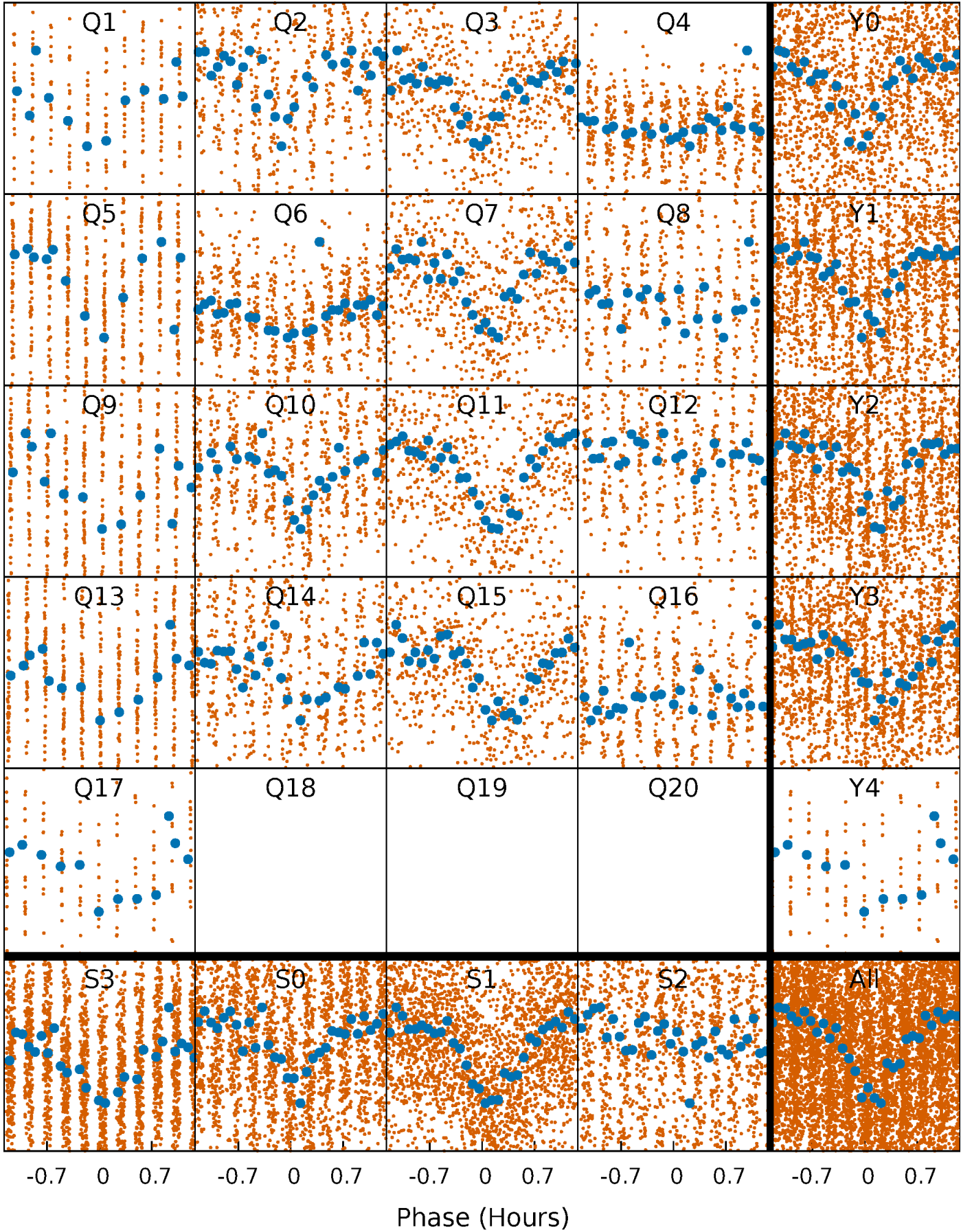


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



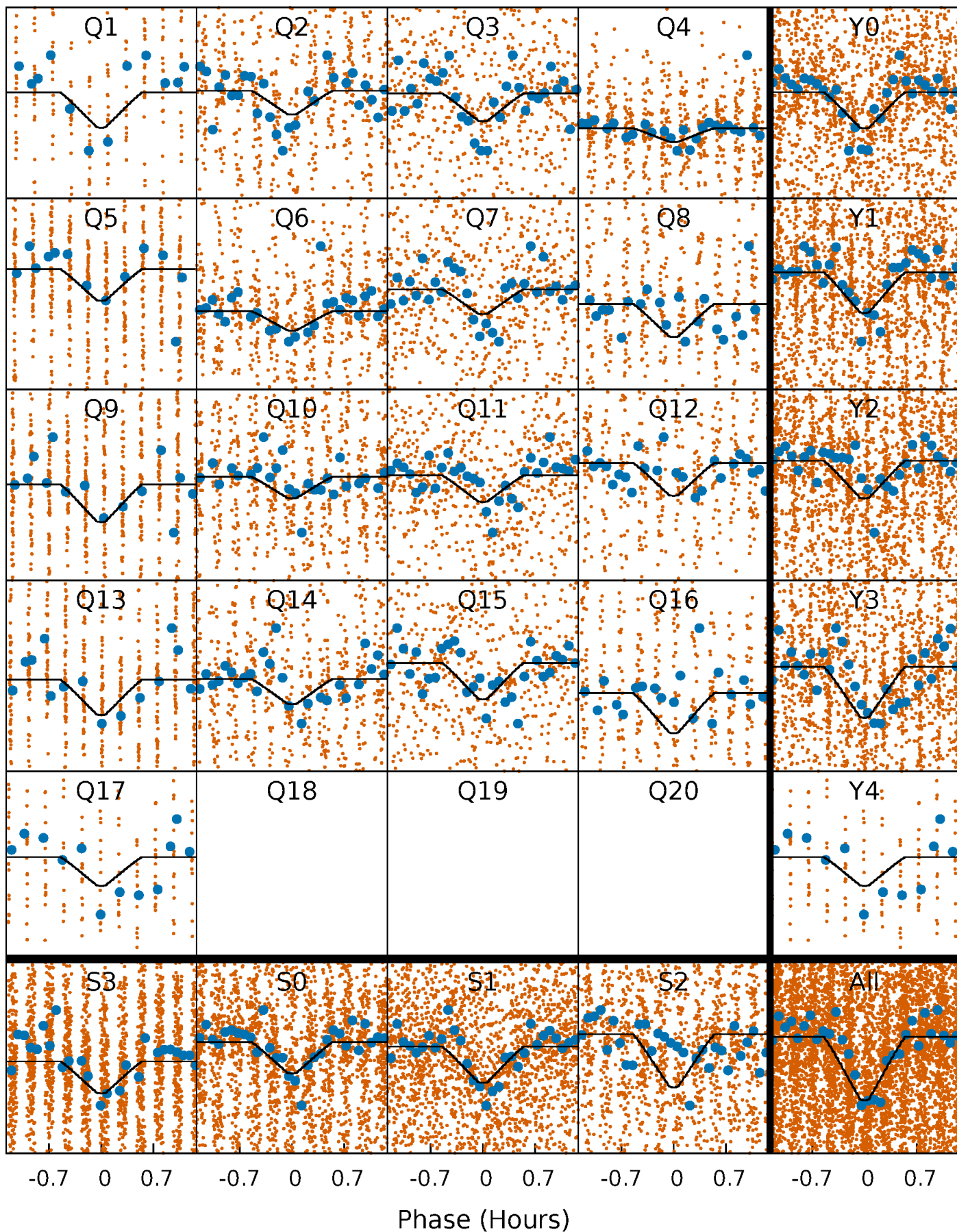
PDC Quarter-Phased Transit Curves

TCE 002859299-01 P= 0.643696 Days $T_0=131.988791$ (BKJD)



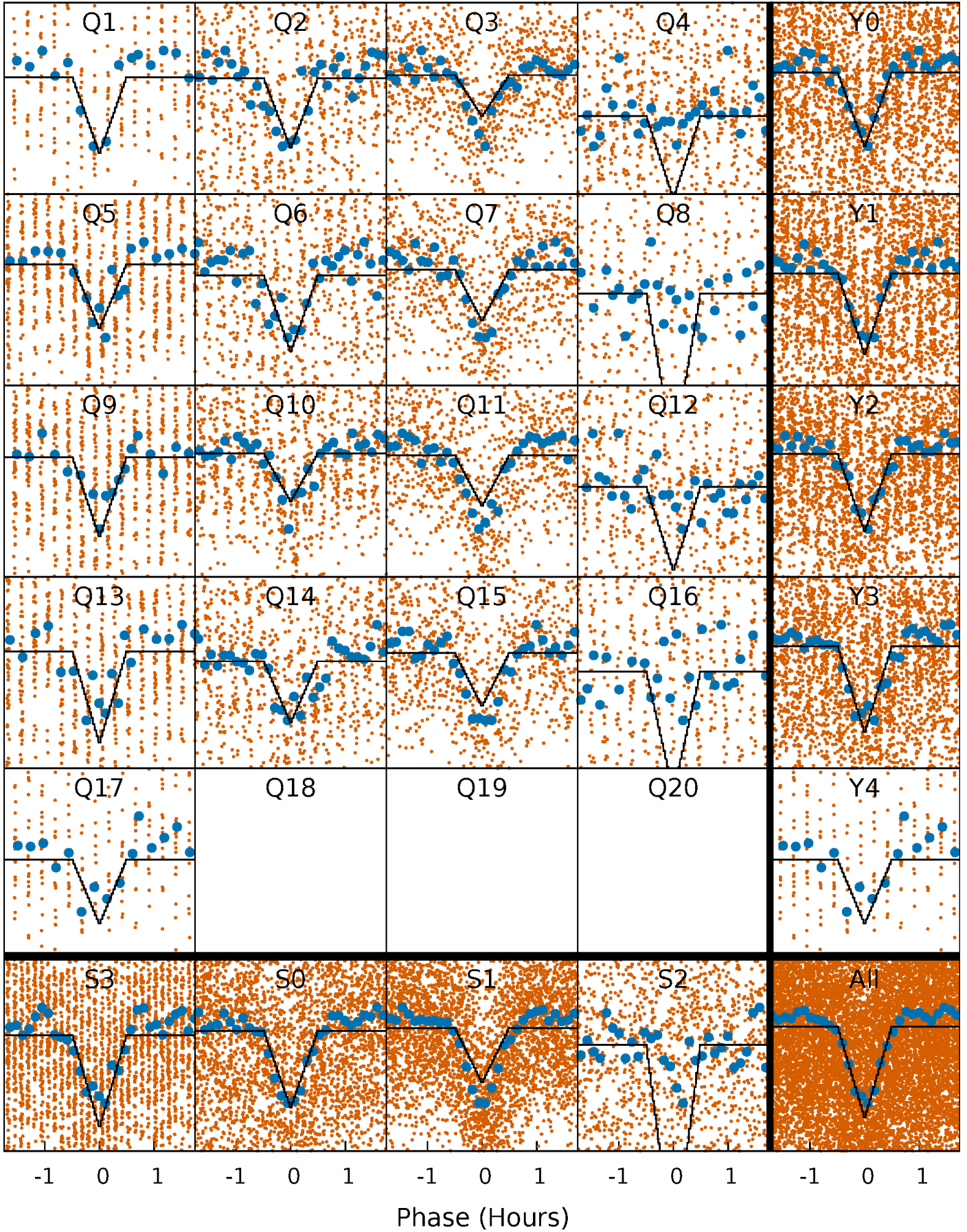
DV Quarter-Phased Transit Curves

TCE 002859299-01 P= 0.643696 Days $T_0=131.988791$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

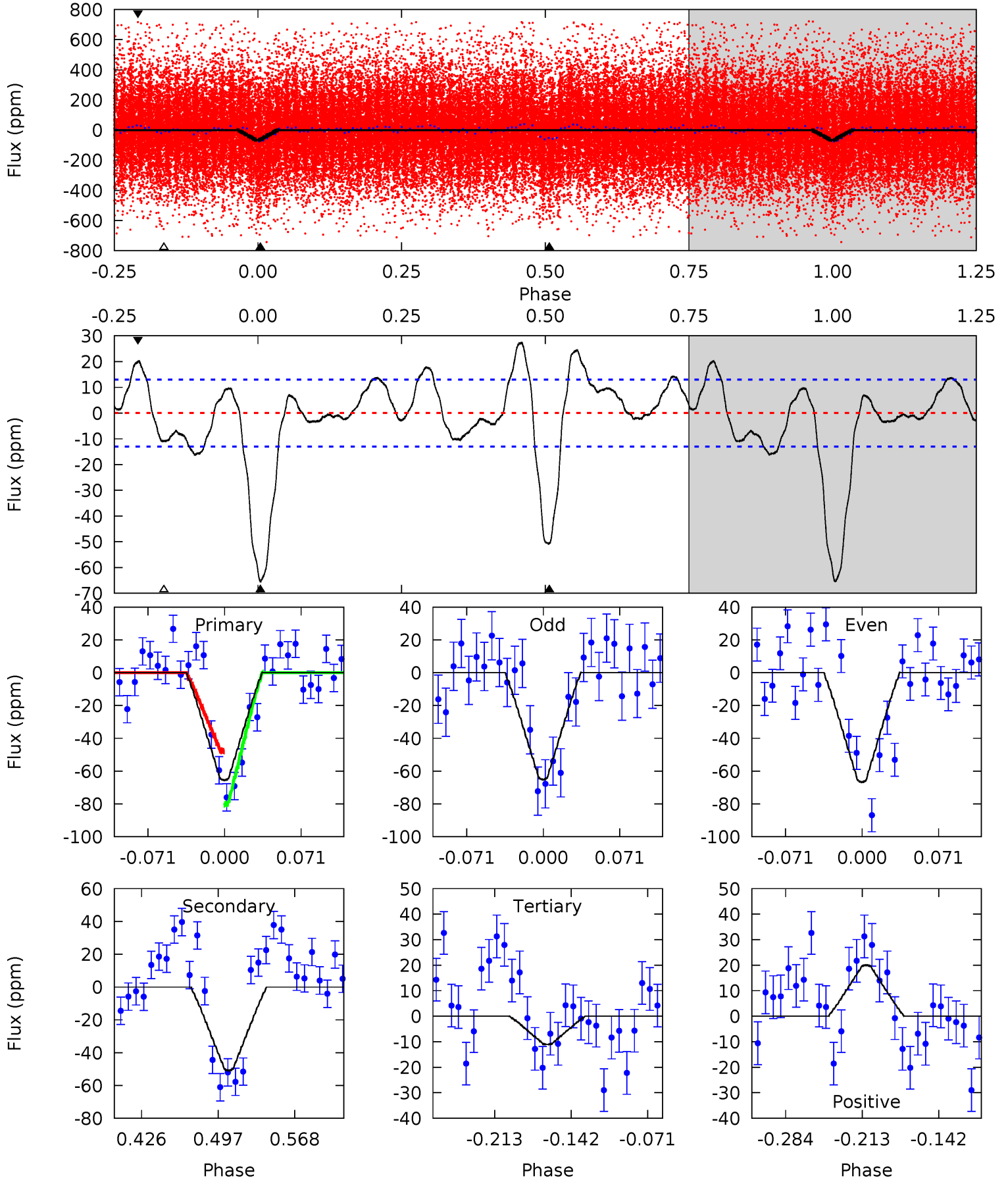
TCE 002859299-01 P= 0.643703 Days $T_0=131.985753$ (BKJD)



DV Model-Shift Uniqueness Test

002859299-01, P = 0.643696 Days, E = 131.345095 Days

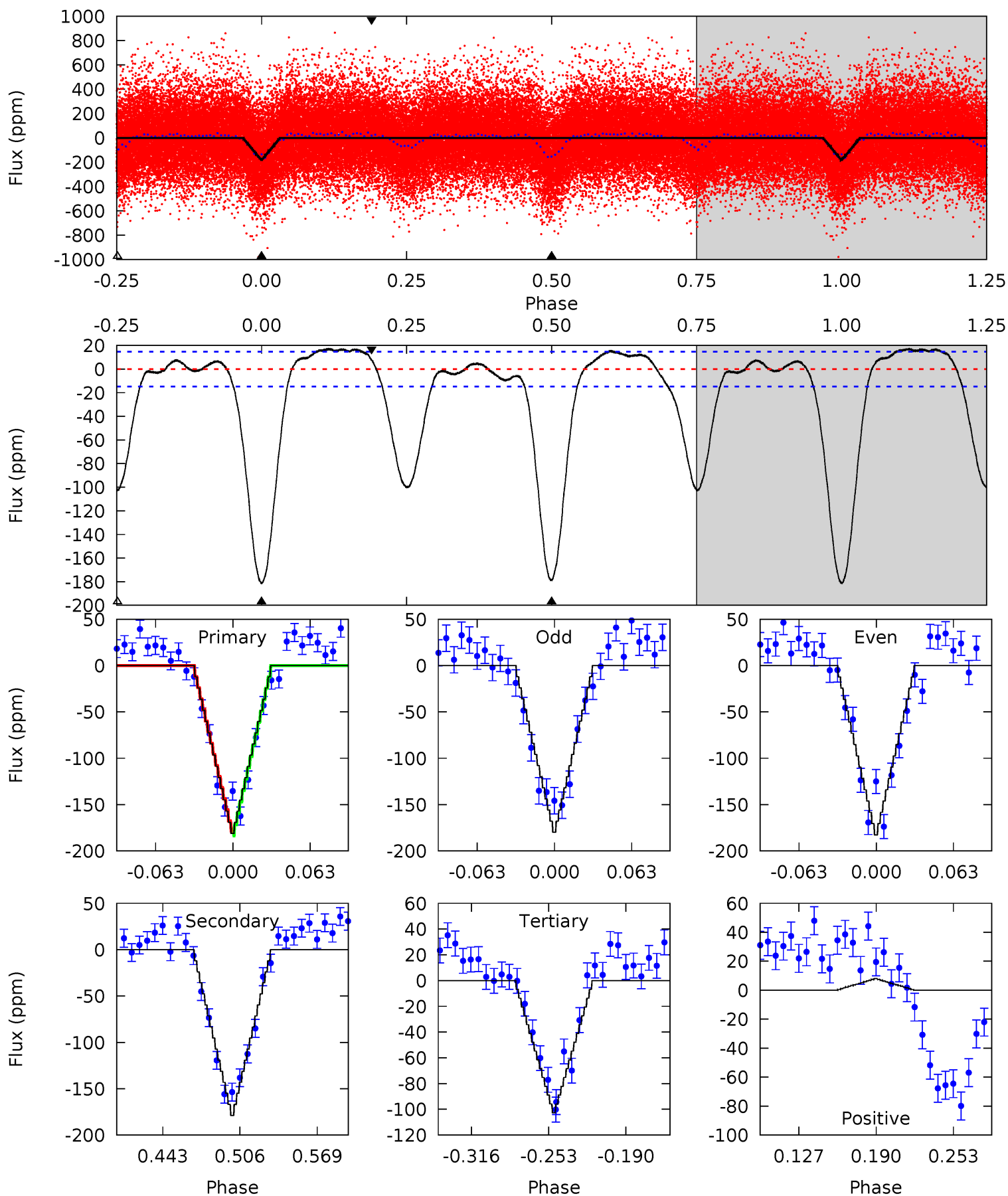
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.4	18.1	3.94	7.12	4.64	1.81	2.99	19.4	16.2	14.2	11.0	0.28	0.94	0.29	5.82



Alt Model-Shift Uniqueness Test

002859299-01, P = 0.643703 Days, E = 131.342050 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
57.1	56.4	32.4	2.51	4.66	1.86	10.2	24.8	54.6	24.0	53.9	0.46	1.00	0.09	0.72



Stellar Parameters For KIC 002859299

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6161^{+165}_{-202}	$4.362^{+0.105}_{-0.195}$	$-0.100^{+0.250}_{-0.300}$	$1.114^{+0.366}_{-0.157}$	$1.038^{+0.167}_{-0.125}$	$1.059^{+0.519}_{-0.557}$
	+3%/-3%	+2%/-4%	+250%/-300%	+33%/-14%	+16%/-12%	+49%/-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 002859299-01 / KOI 7640.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-51 ± 3	$1.18^{+0.31}_{-0.25}$	3329^{+257}_{-189}	5270^{+706}_{-453}	$4.412^{+2.913}_{-1.598}$
Alt.	-179 ± 3	$1.71^{+0.39}_{-0.29}$	3334^{+246}_{-179}	6027^{+547}_{-468}	$7.361^{+3.251}_{-2.407}$

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

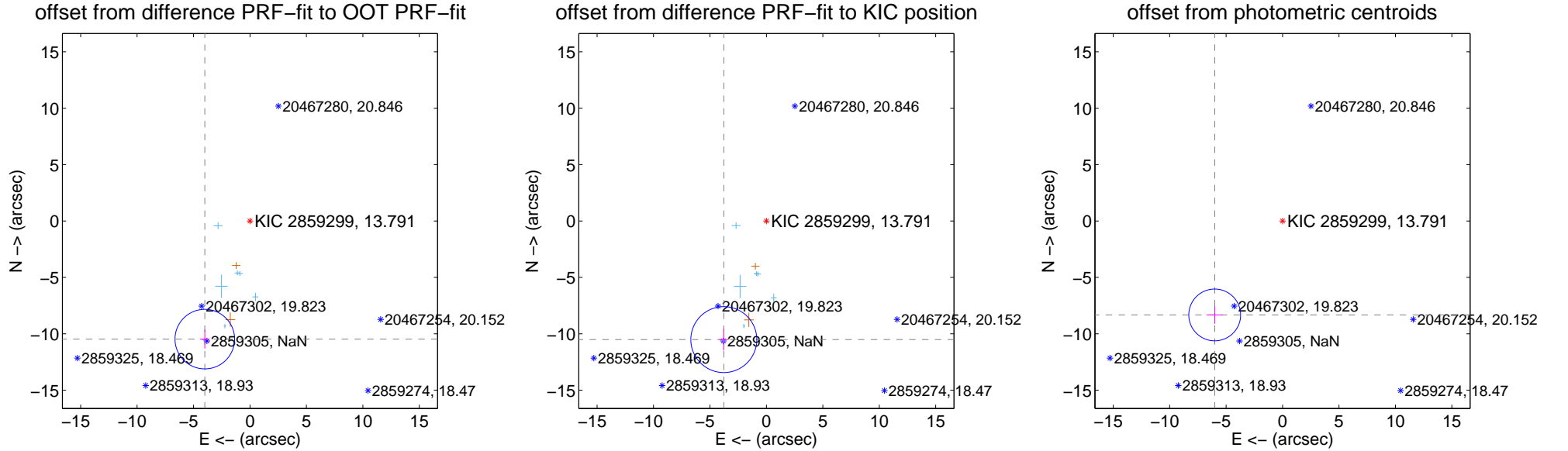
DV Centroid Data

Supplemental centroid analysis for 002859299-01. Kepler magnitude: 13.79. Transit SNR 15.41

There are 10 quarters with good PRF difference image offsets

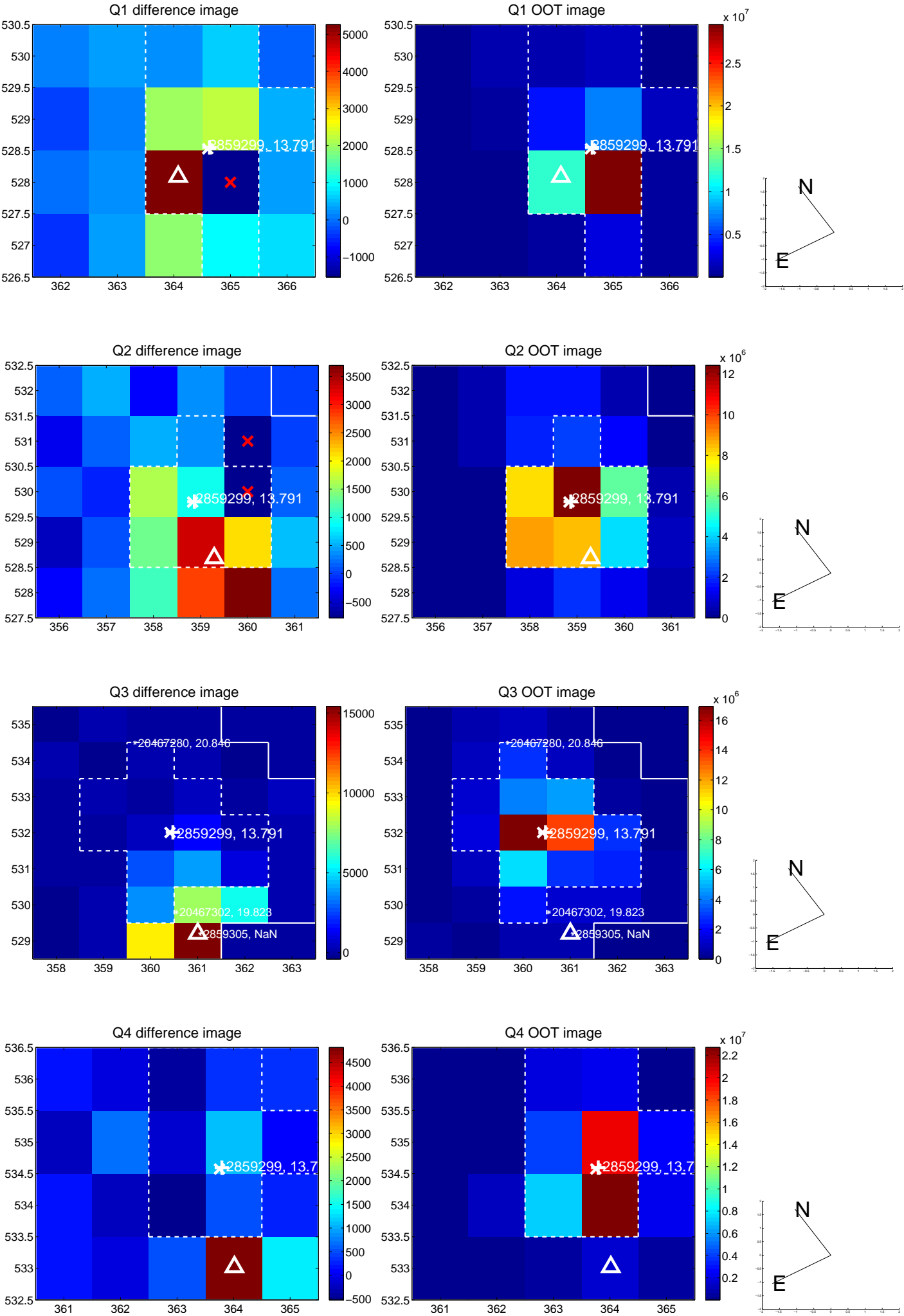
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	11.213 \pm 0.880	12.74	4.002 ± 0.430	-10.475 ± 0.844
PRF-fit source offset from KIC position	11.175 \pm 0.974	11.47	3.774 ± 0.411	-10.518 ± 0.960
photometric centroid source offset	10.27 \pm 0.77	13.42	6.01 ± 0.74	-8.33 ± 0.78

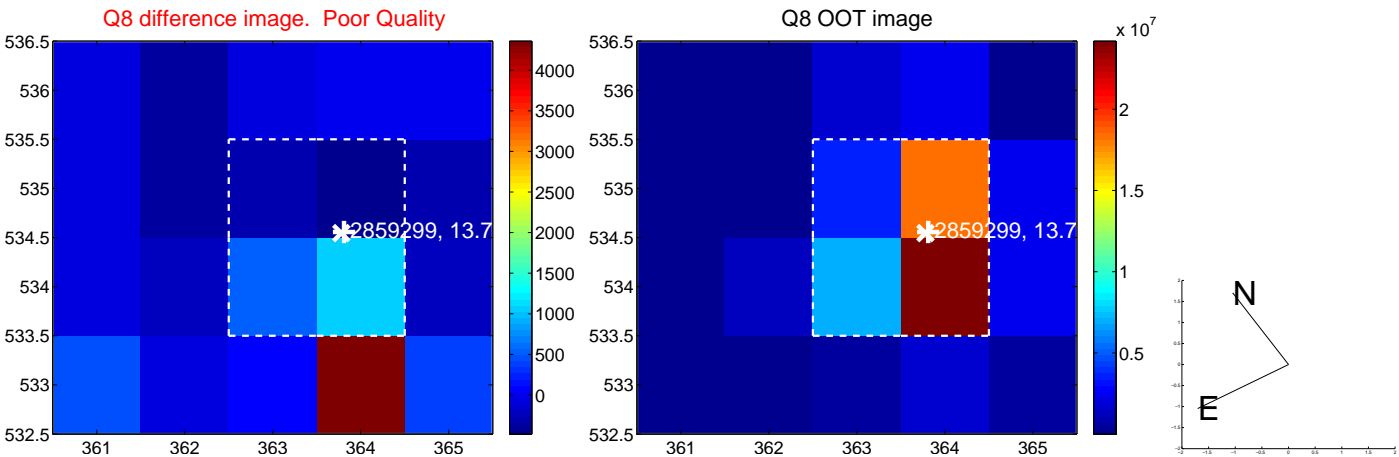
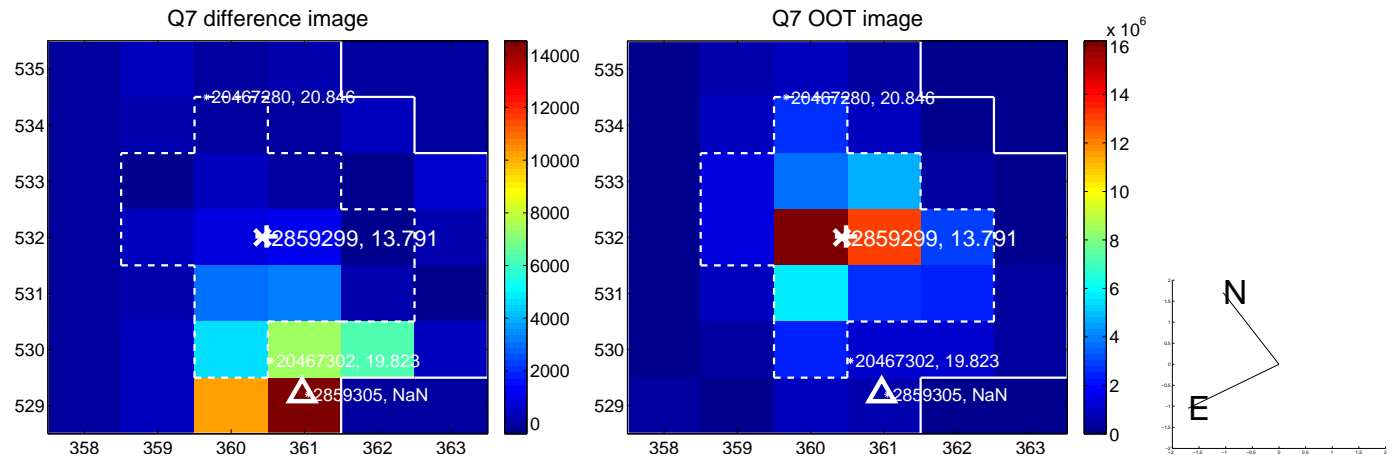
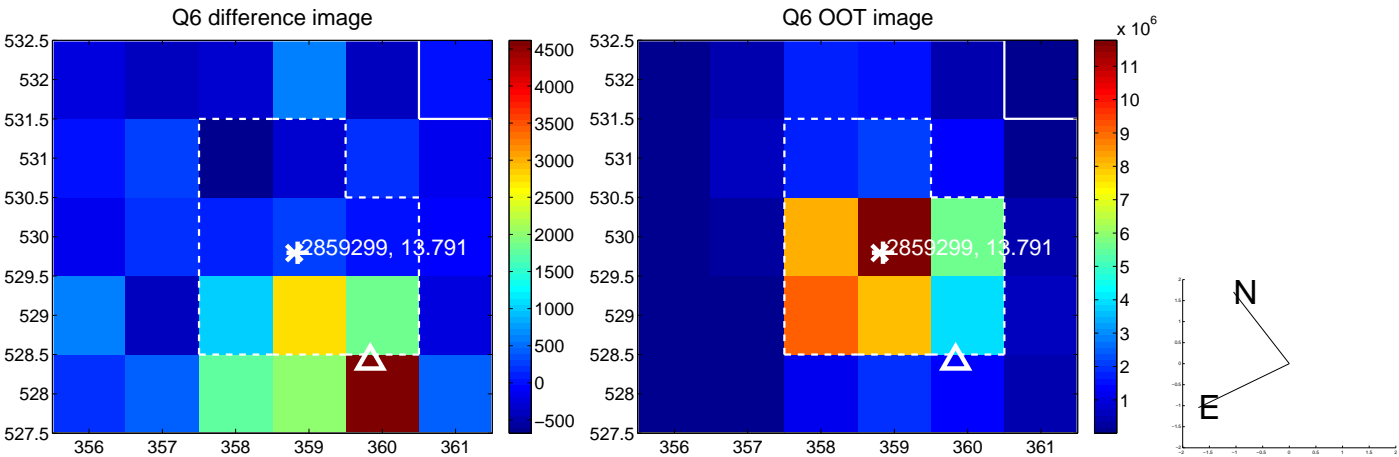
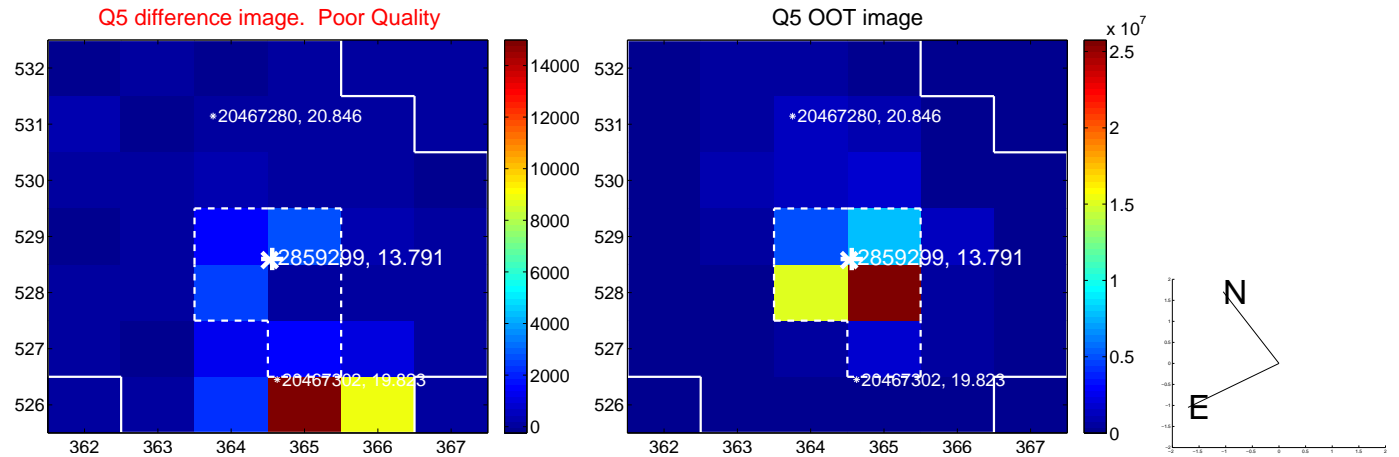


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

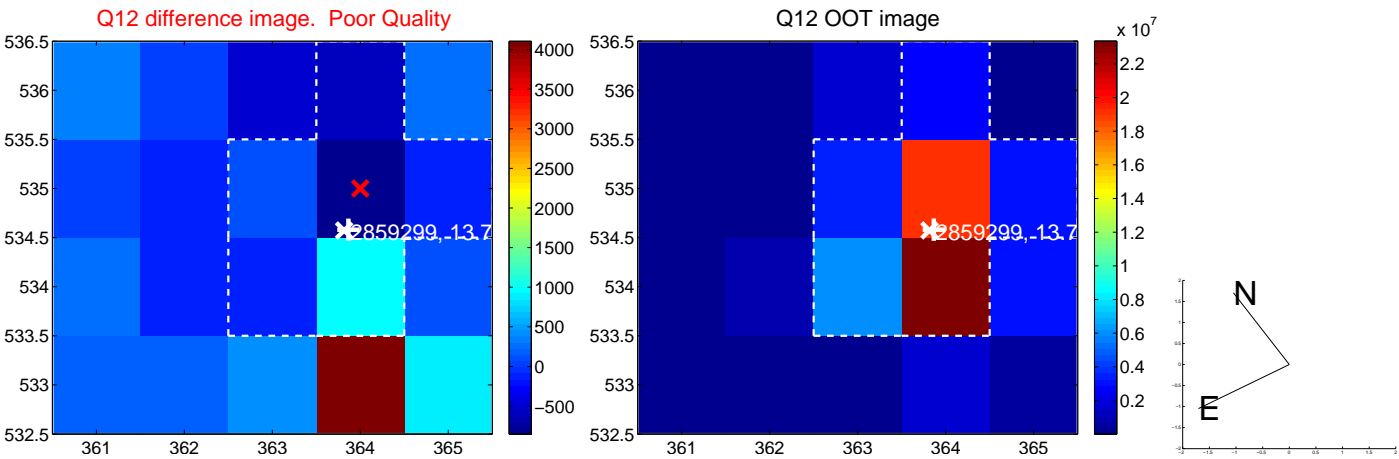
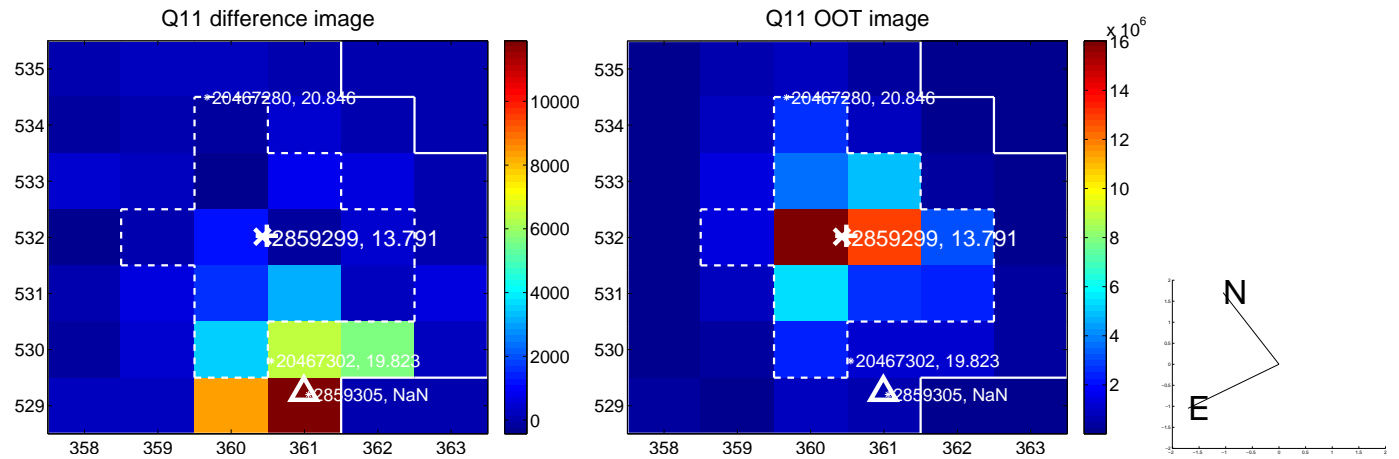
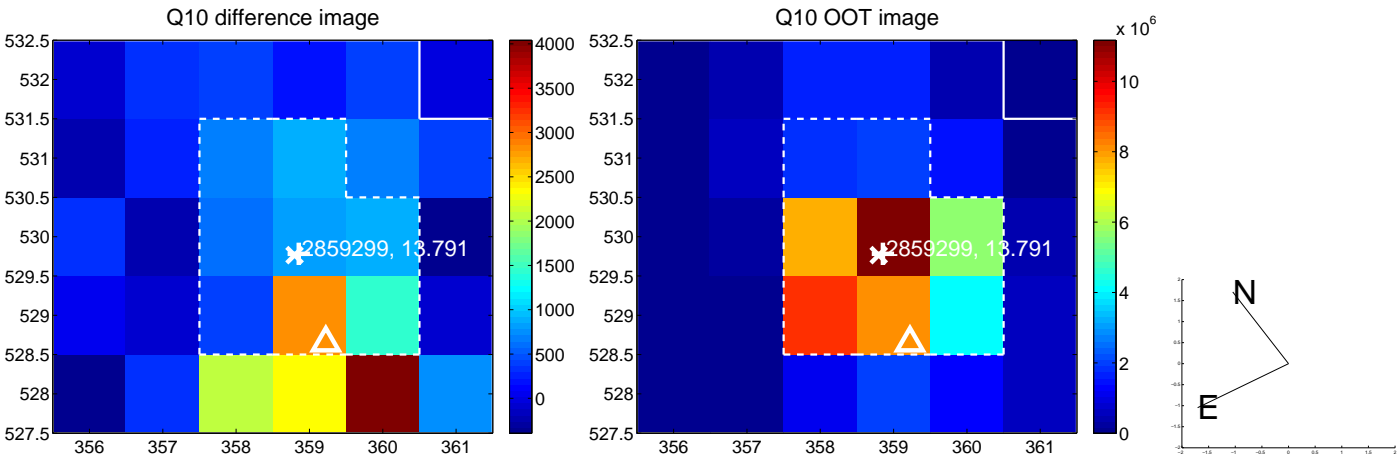
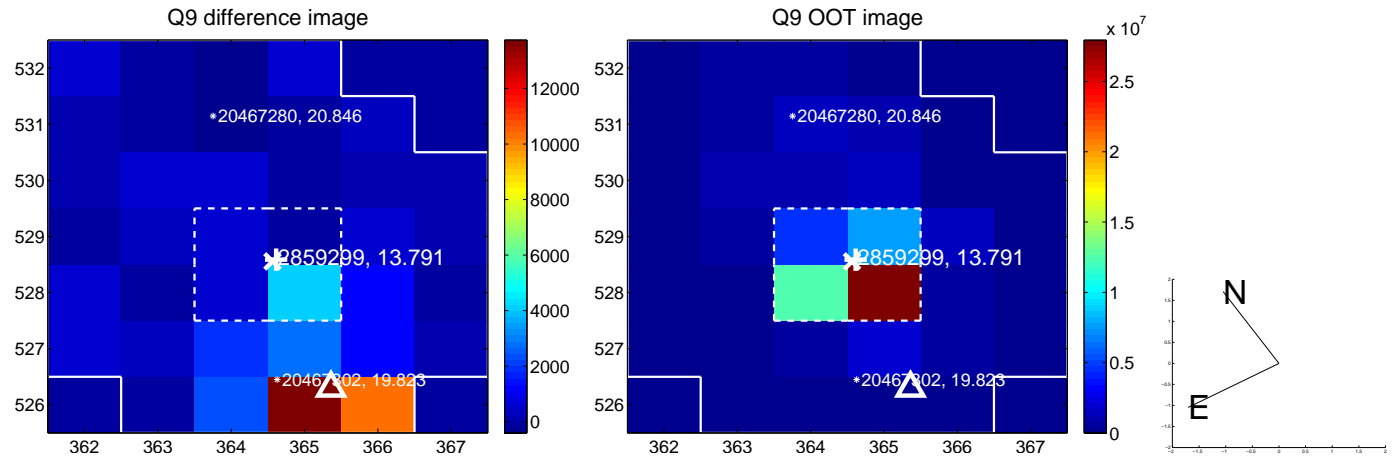
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



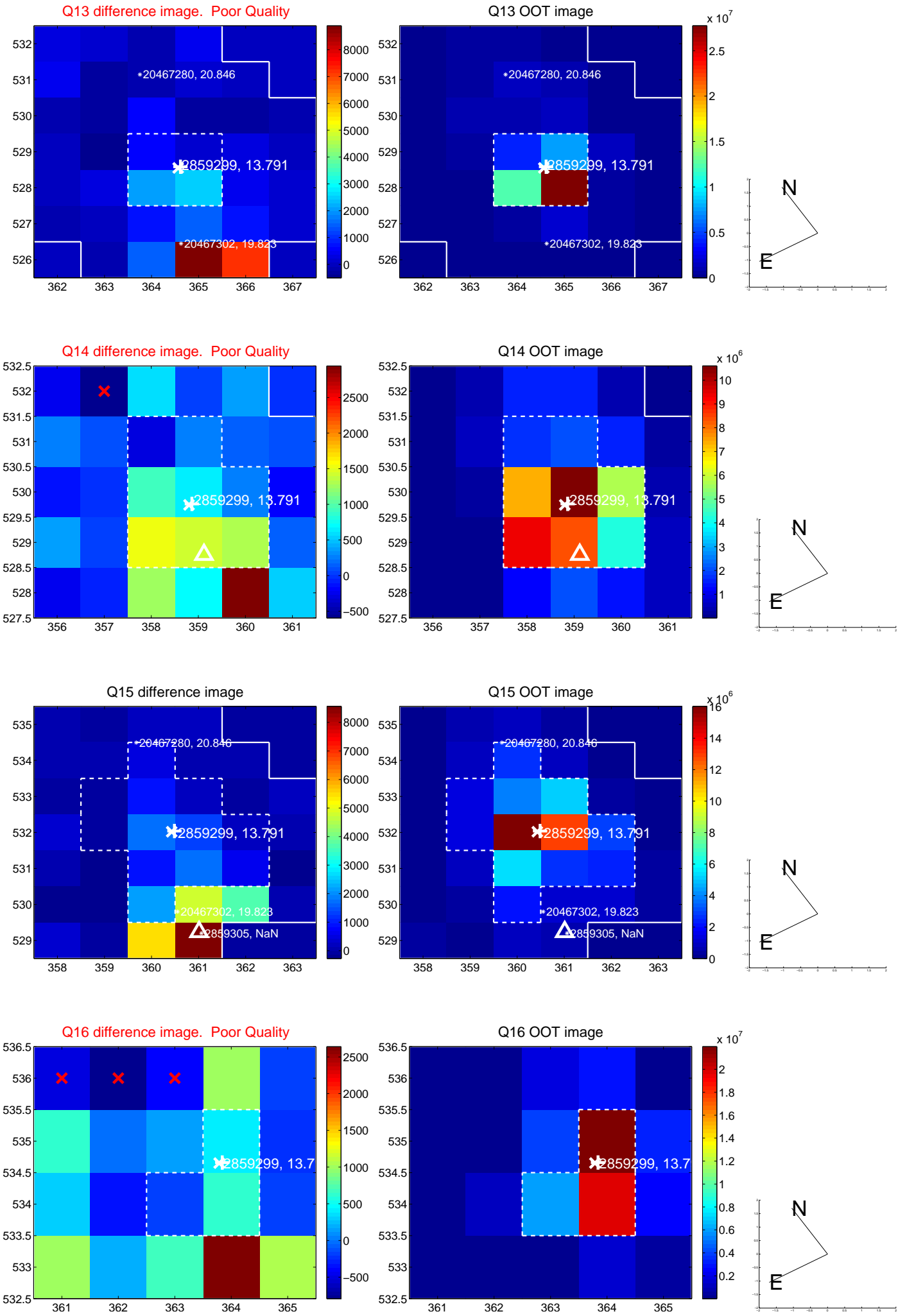
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



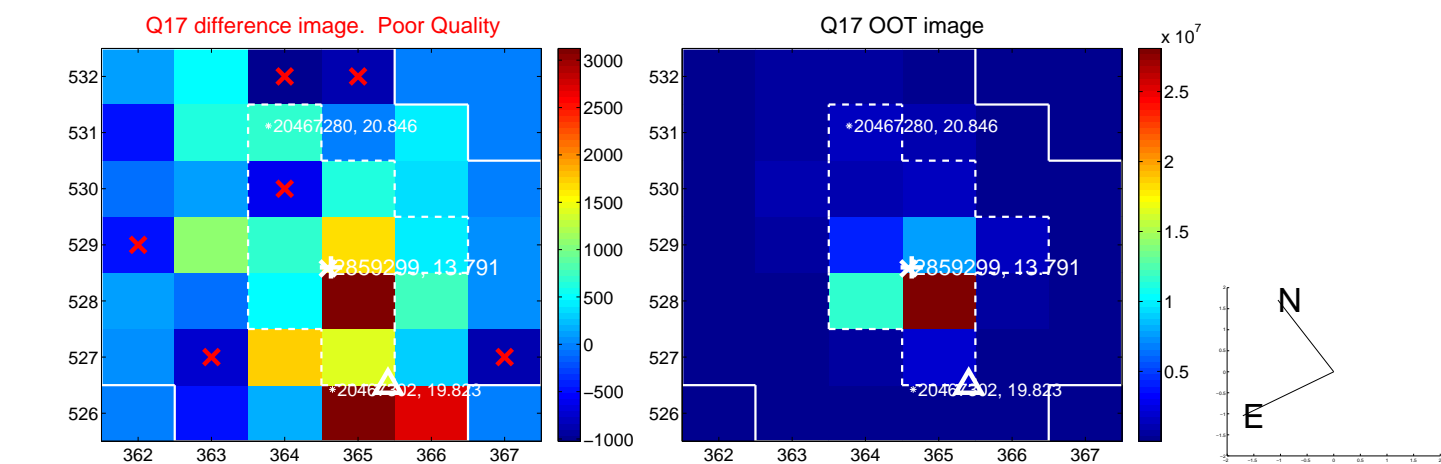
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



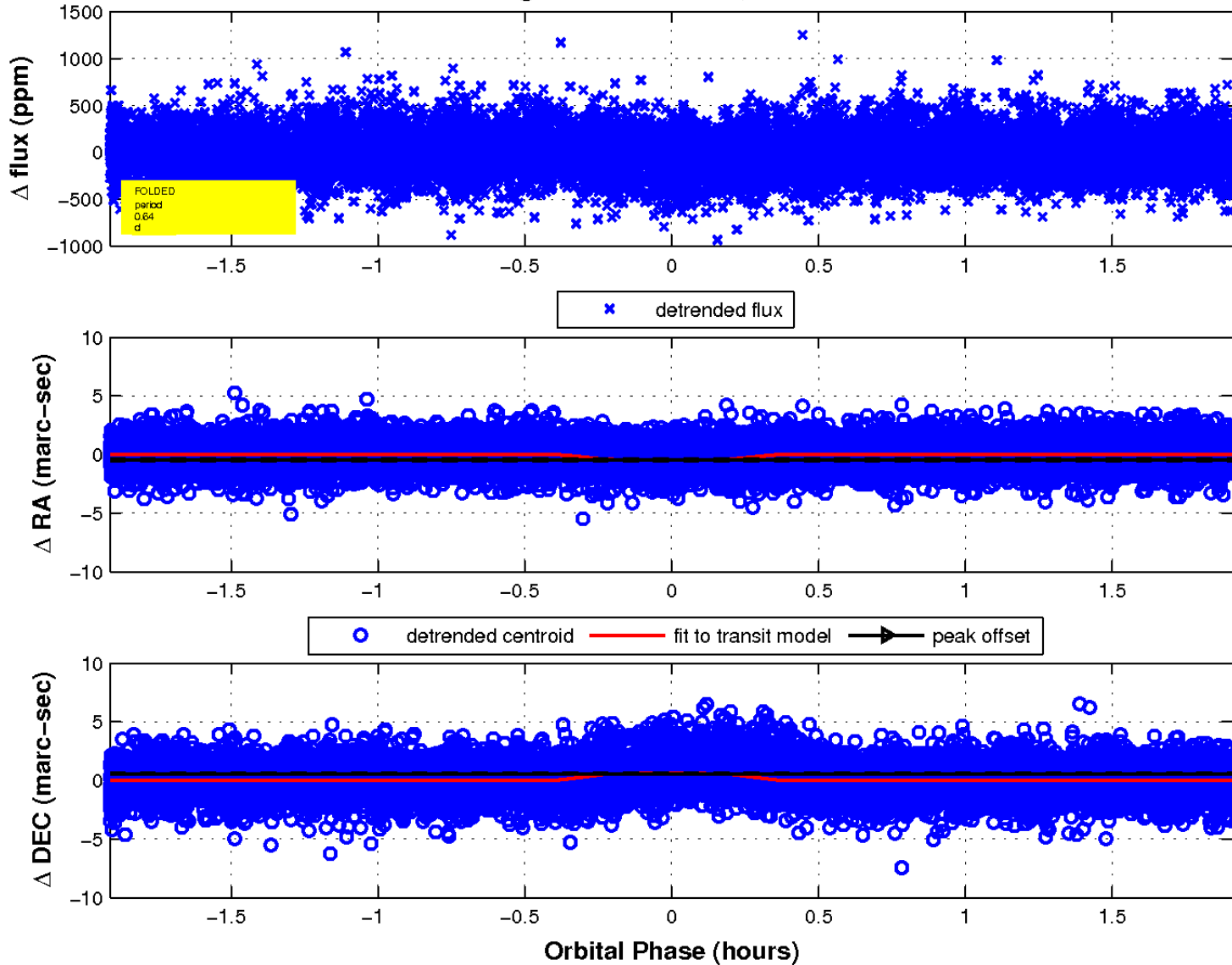
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

