

KIC 010226498

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})
010226498-01	OBS	No	0.660621	131.704812	19.6	3.520	10.0	3.8	0.59	4240	0.29	659.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010226498-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_RESOLVED_OFFSET—HALO_GHOST—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.

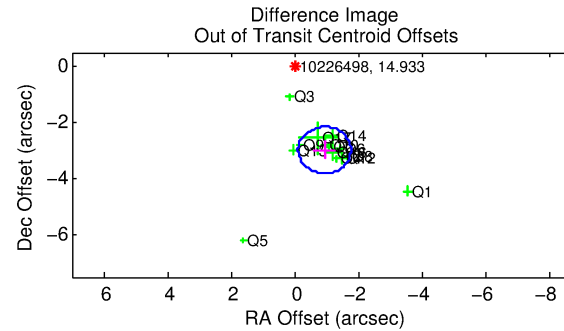
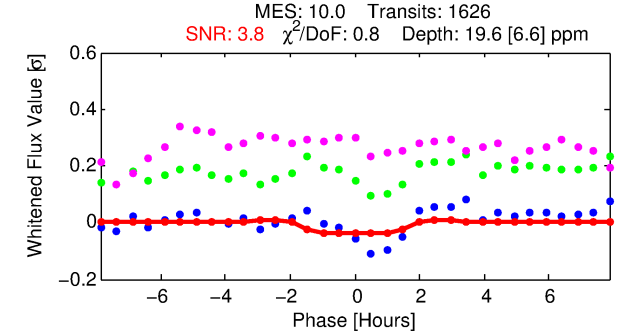
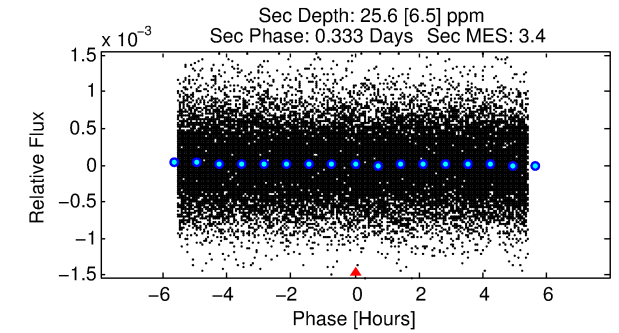
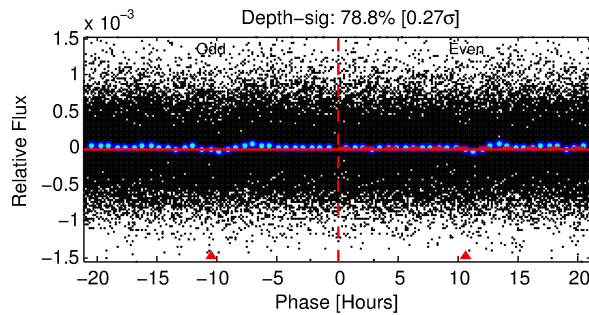
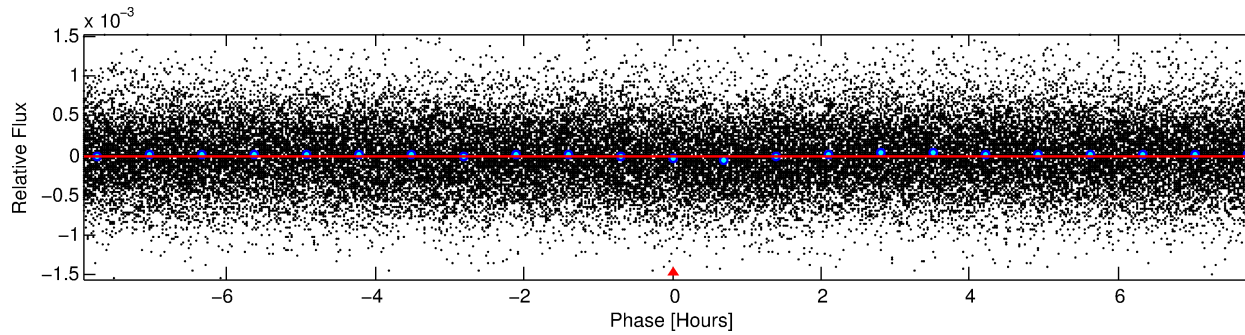
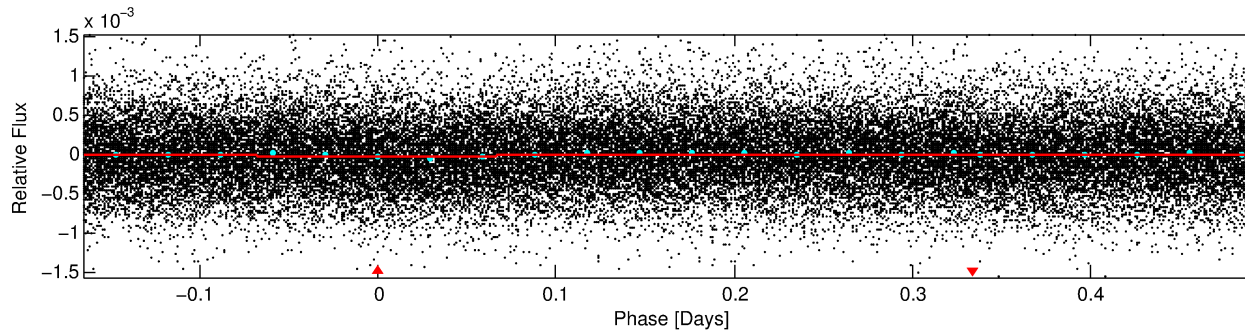
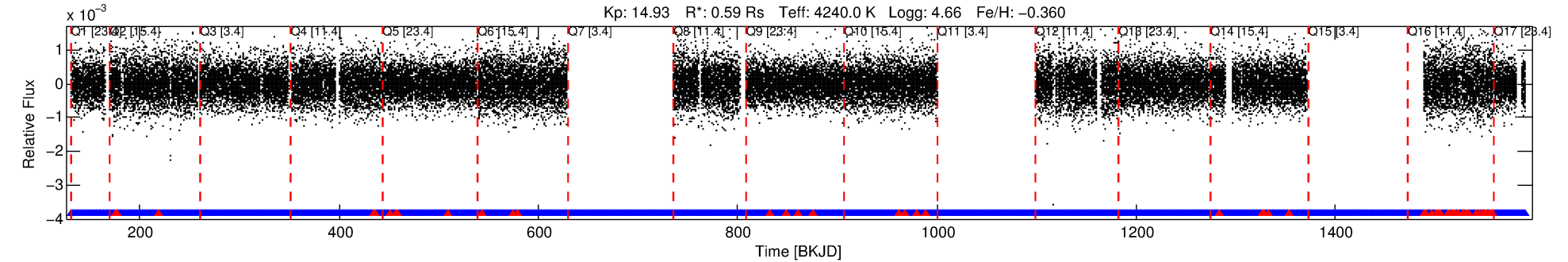
Ephemeris Match Information For 010226498-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
010226498-01	10226498	010226451-01	10226451	1:1	34.5	-6	-7	14.95	14.94	1.75	Direct-PRF	1	1.39	1.51

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 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 $\sigma_P < 5.0$ and $\sigma_T < 5.0$. 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: 10226498 Candidate: 1 of 1 Period: 0.661 d



DV Fit Results:

Period = 0.66062 [0.00003] d
Epoch = 131.7048 [0.0102] BKJD
Rp/R* = 0.0045 [0.0061]
a/R* = 1.26 [2.42]
b = 0.77 [2.77]
Seff = 659.42 [114.71]
Teq = 1292 [56] K
Rp = 0.29 [0.39] Re
a = 0.0123 [0.0010] AU
Ag = 25.87 [70.55] [0.35 σ]
Teffp = 4506 [3073] K [1.05 σ]

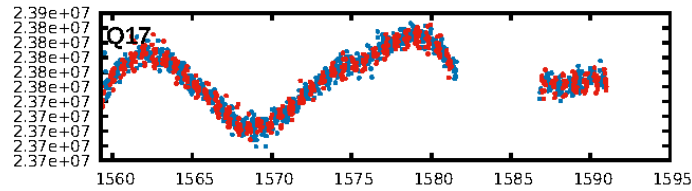
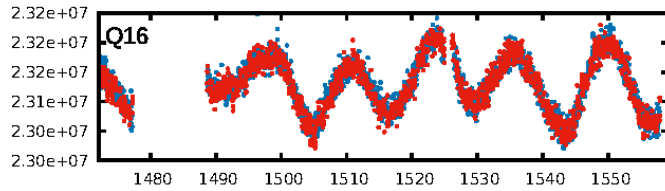
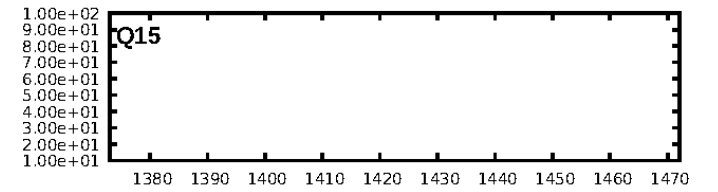
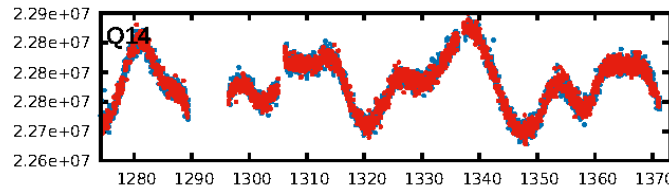
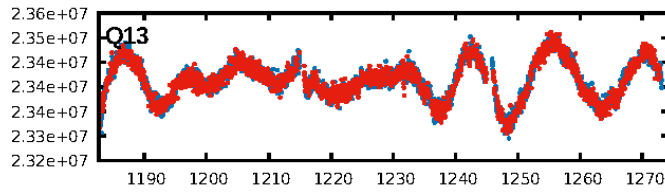
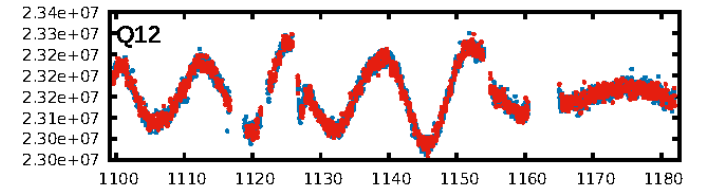
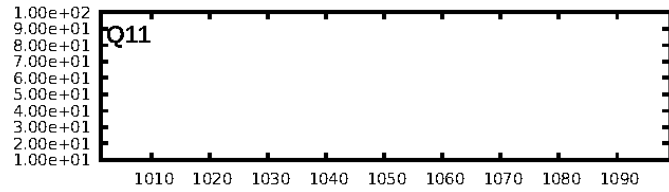
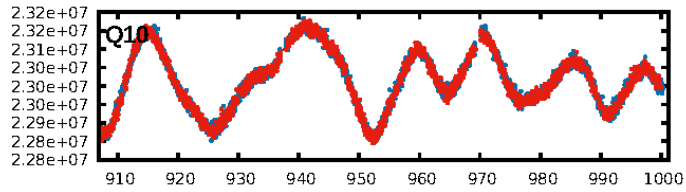
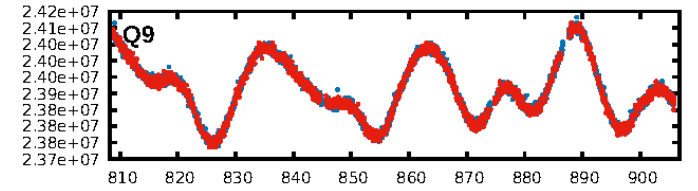
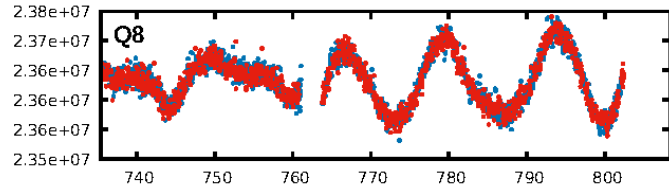
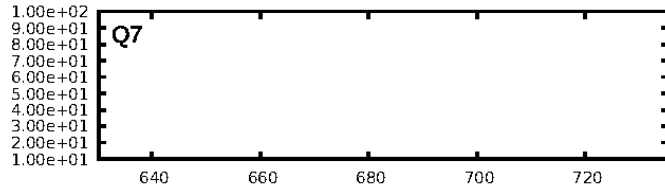
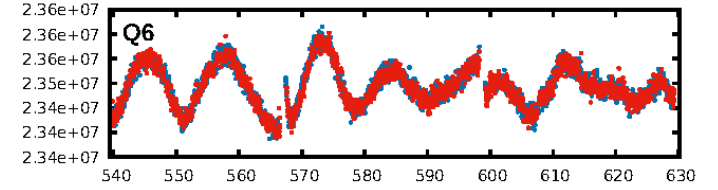
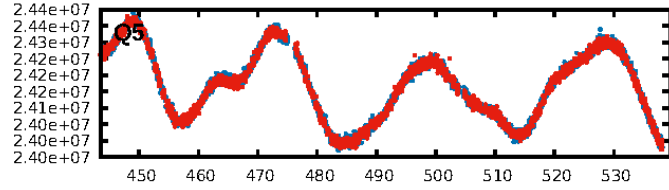
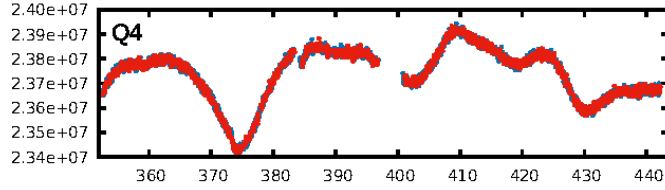
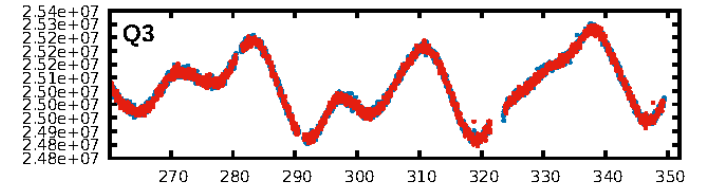
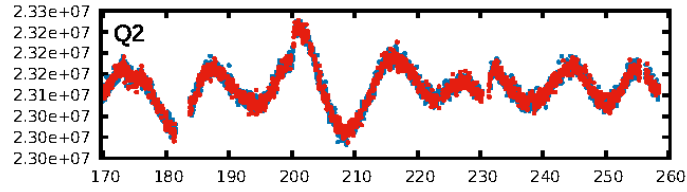
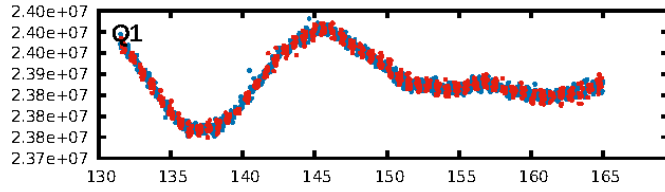
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.18e-18
RollingBand-fgt: 0.96 [1476/1534]
GhostDiagnostic-chr: 0.2384
Centroid-sig: 5.3%
Centroid-so: 6.230 arcsec [1.90 σ]
OotOffset-rm: 3.131 arcsec [11.33 σ]
KicOffset-rm: 3.212 arcsec [10.24 σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 0.00 [0/14]
DiffImageOverlap-fno: 1.00 [14/14]

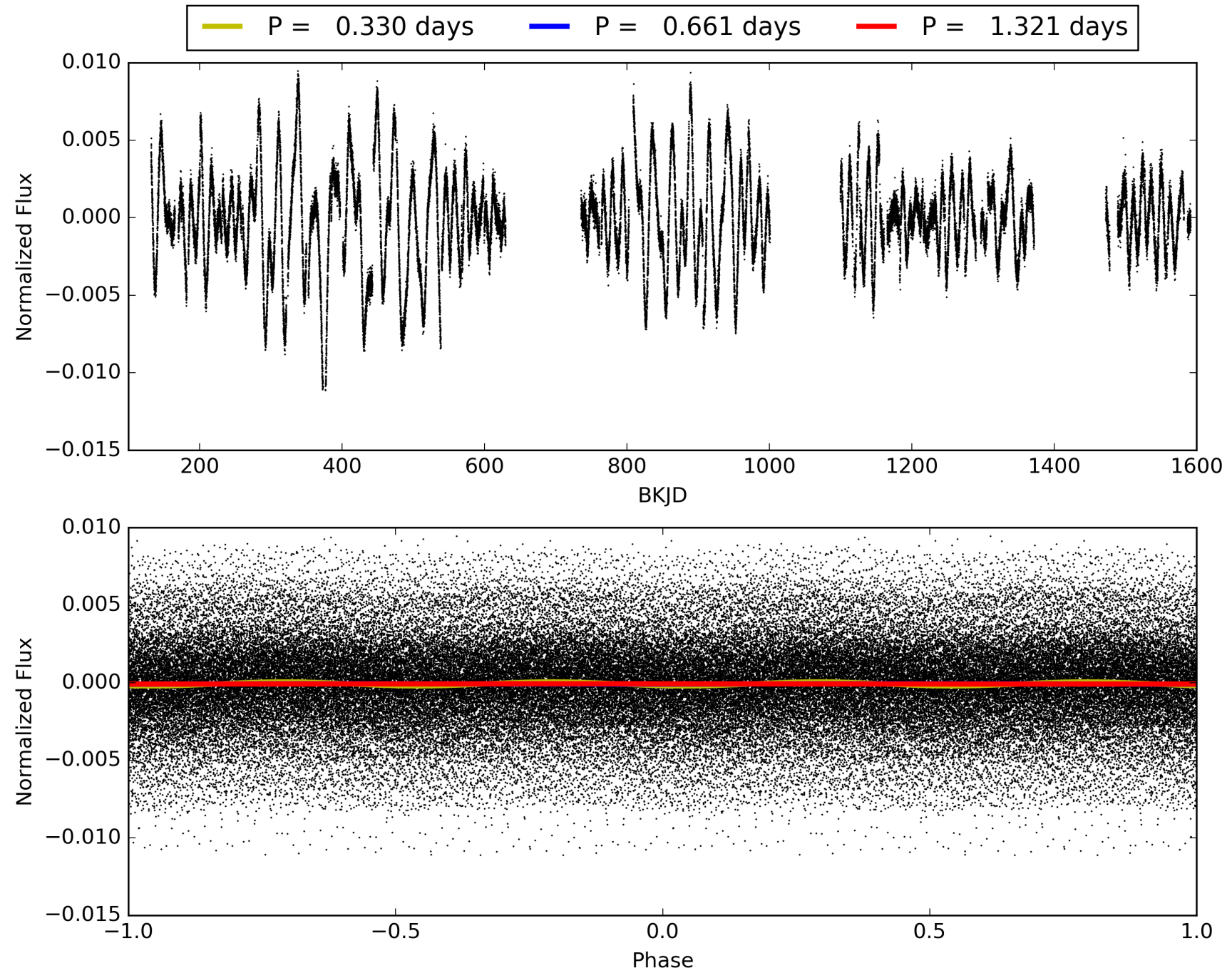
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 010226498-01, PDC Light Curves

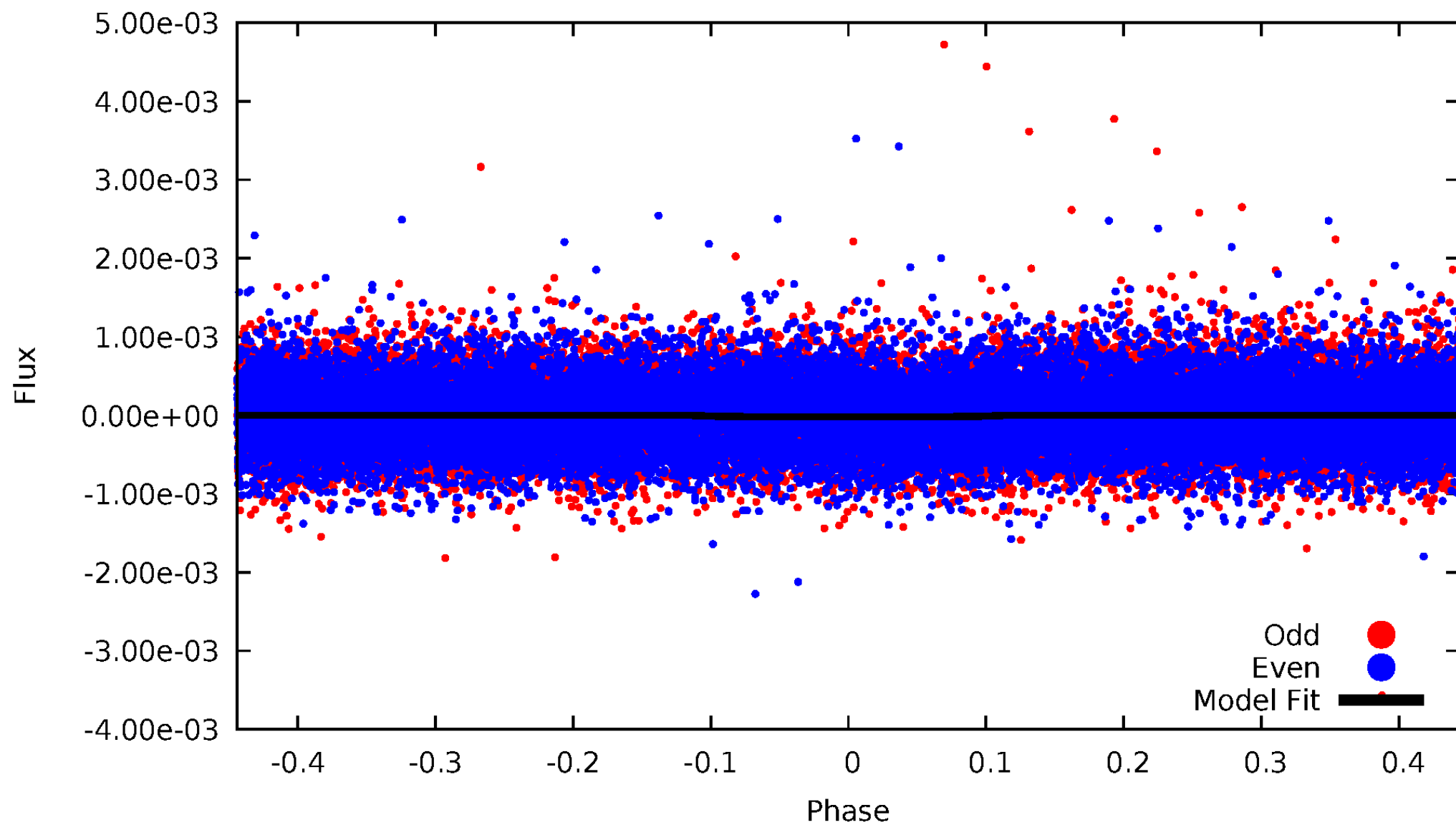


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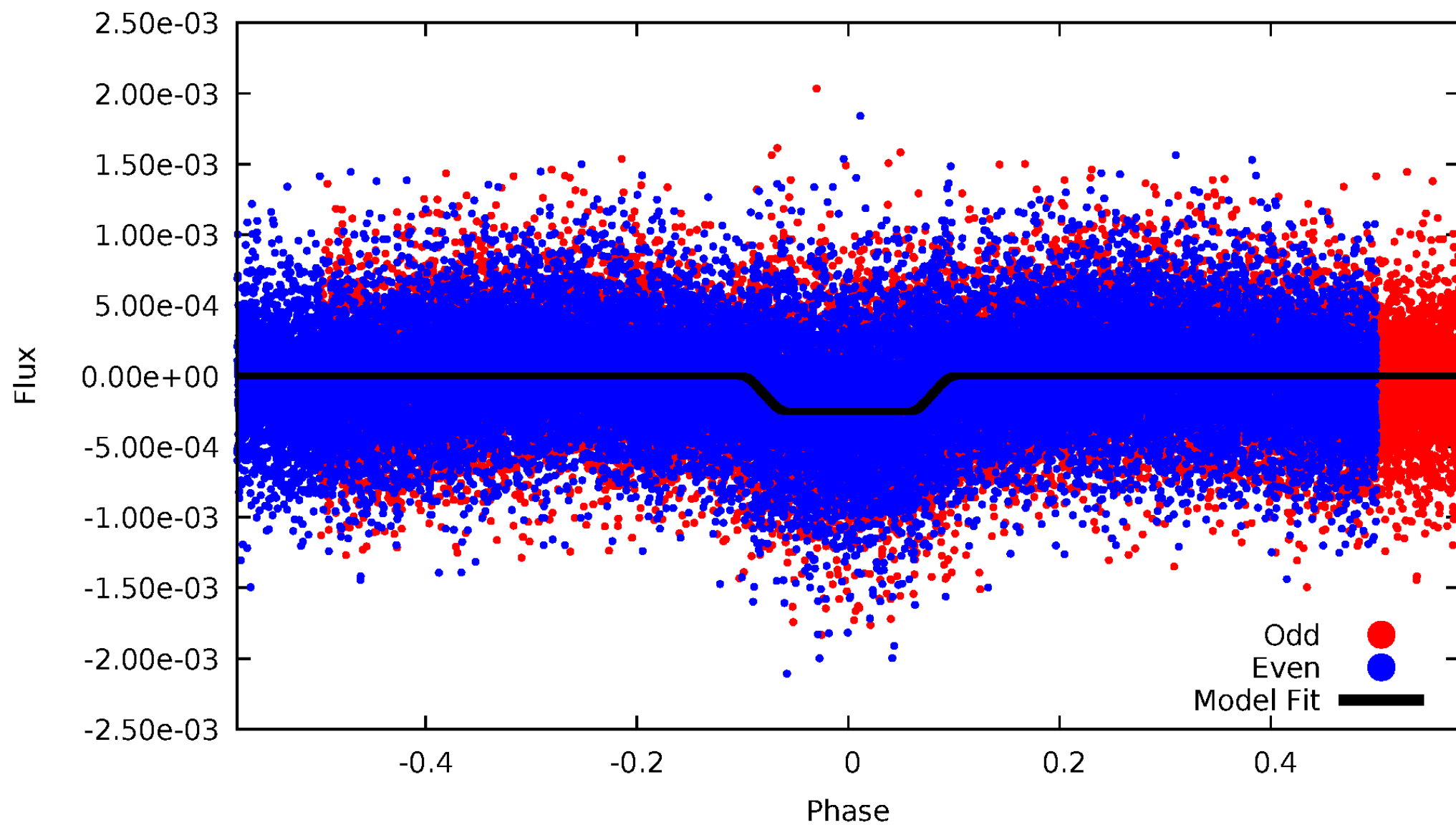
DV Odd/Even

TCE 010226498-01

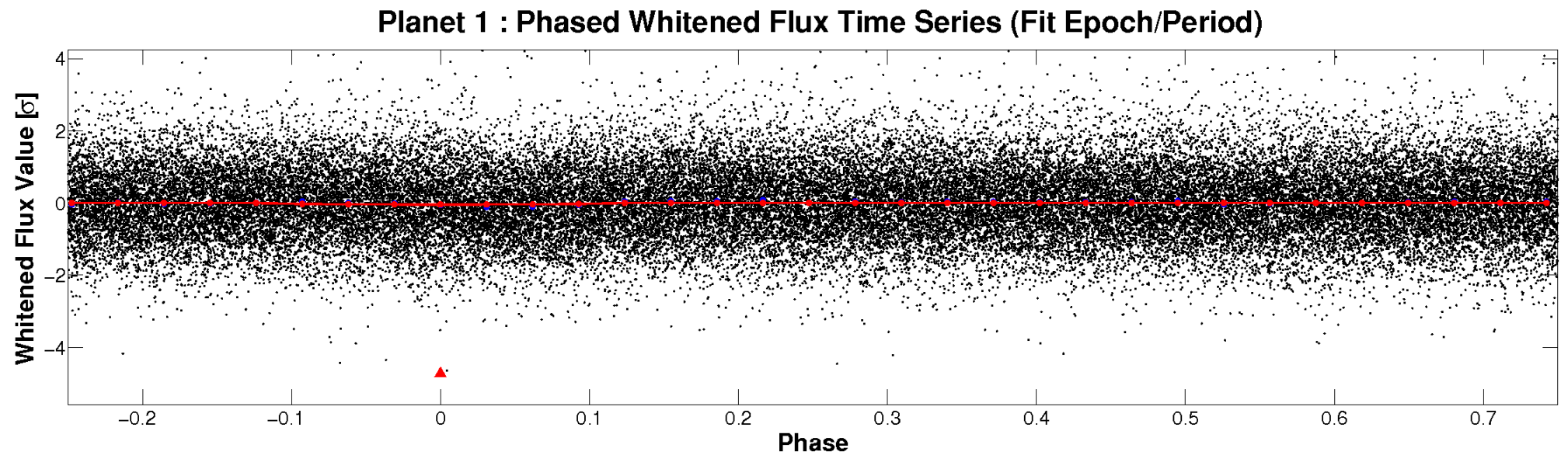
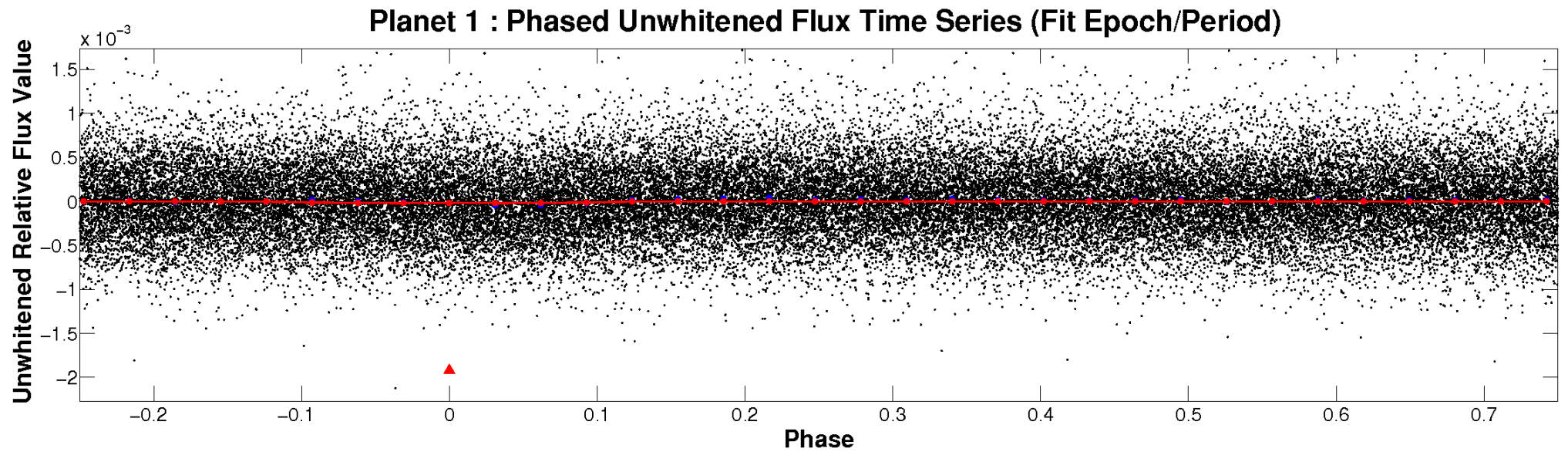


ALT Odd/Even

TCE 010226498-01

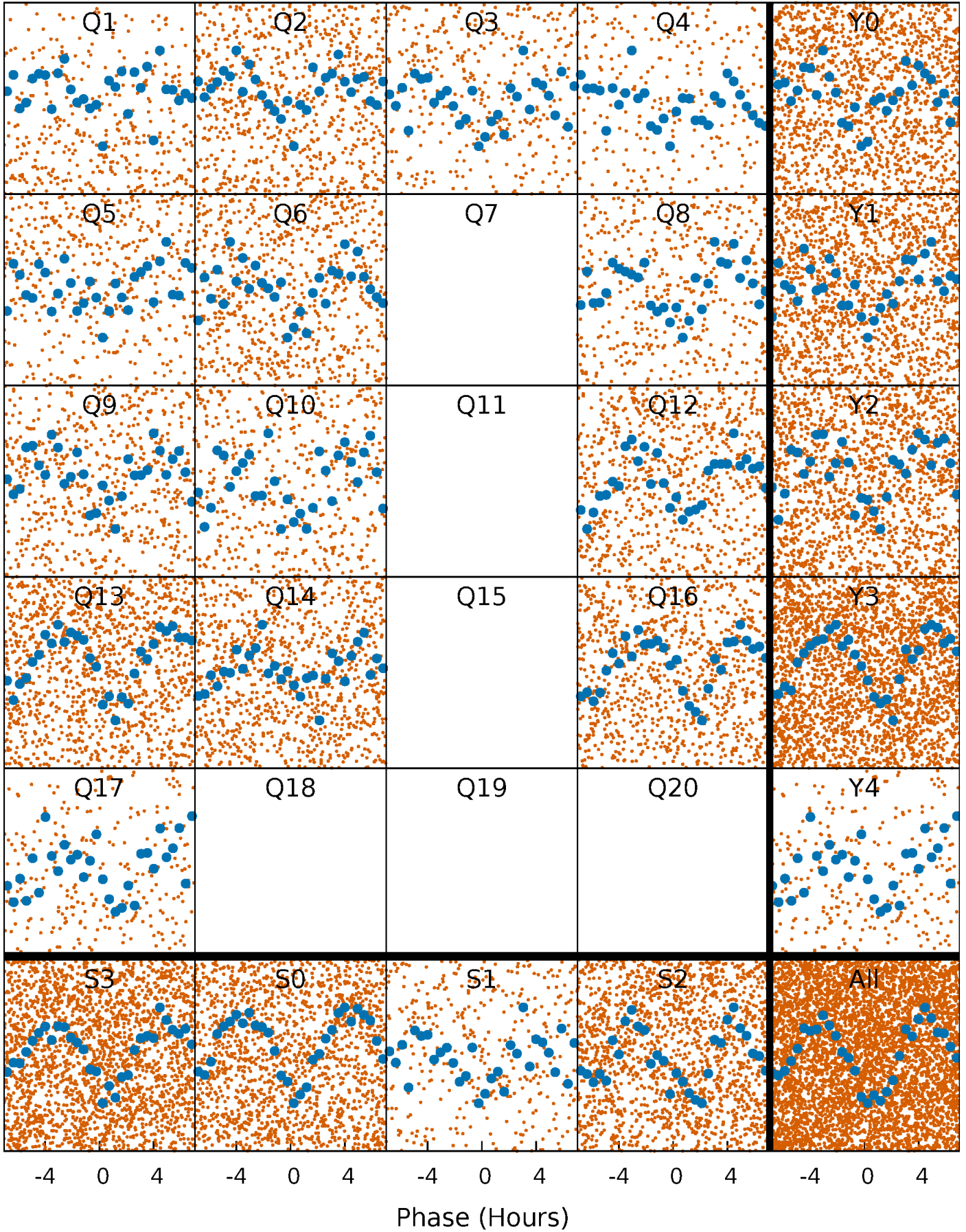


Non-Whitened Vs. Whitened Light Curve



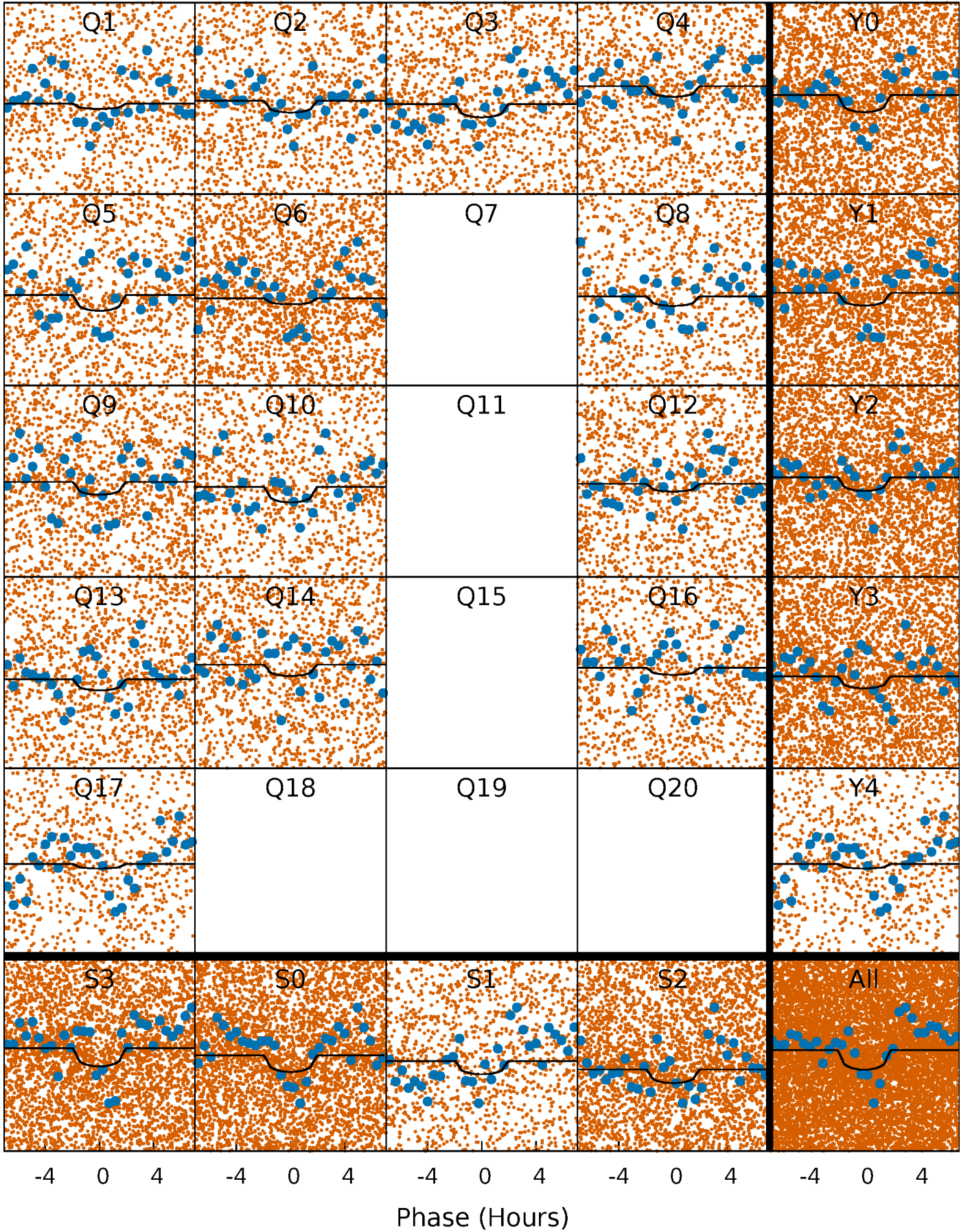
PDC Quarter-Phased Transit Curves

TCE 010226498-01 P= 0.660621 Days $T_0=131.704812$ (BKJD)



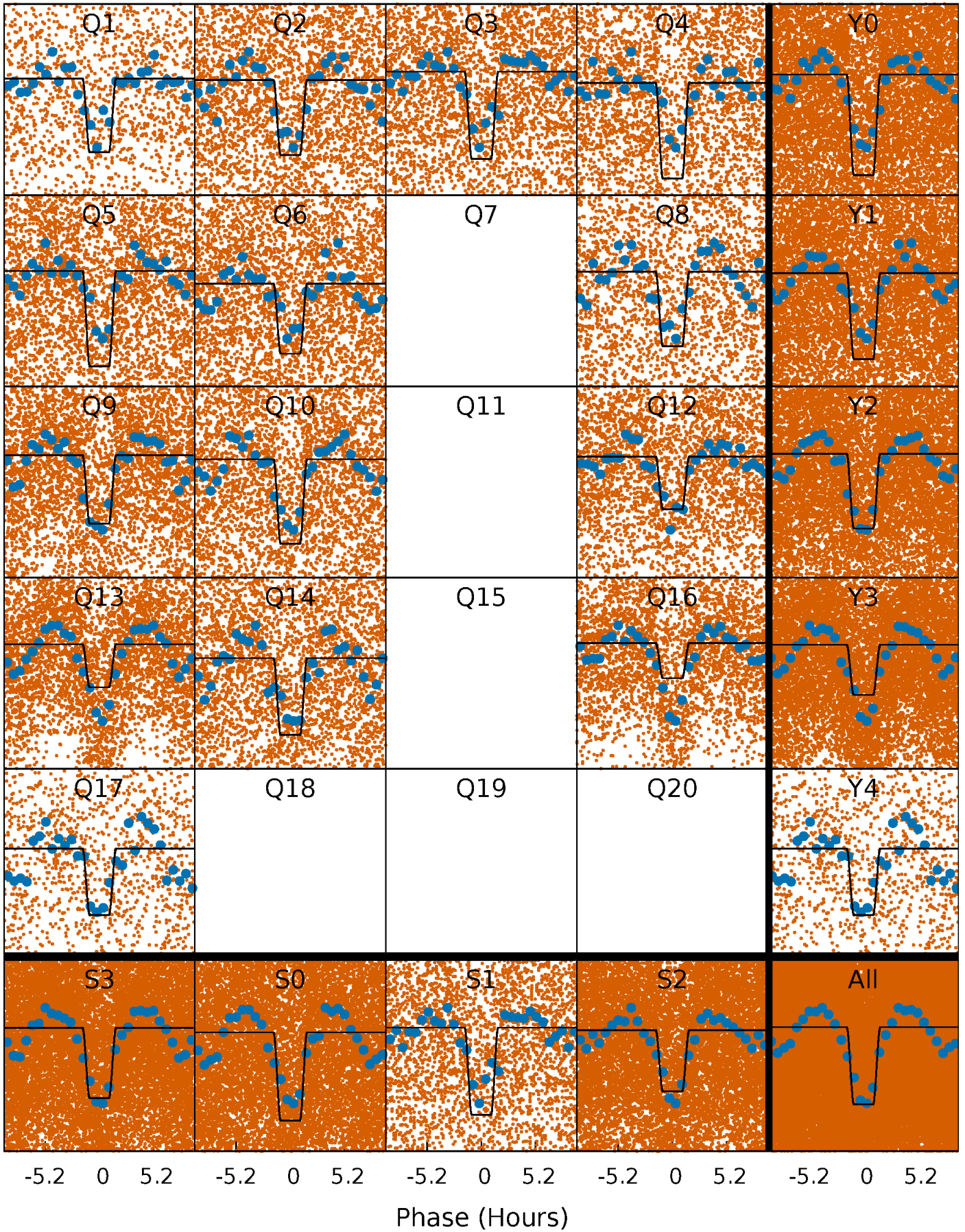
DV Quarter-Phased Transit Curves

TCE 010226498-01 P= 0.660621 Days $T_0=131.704812$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

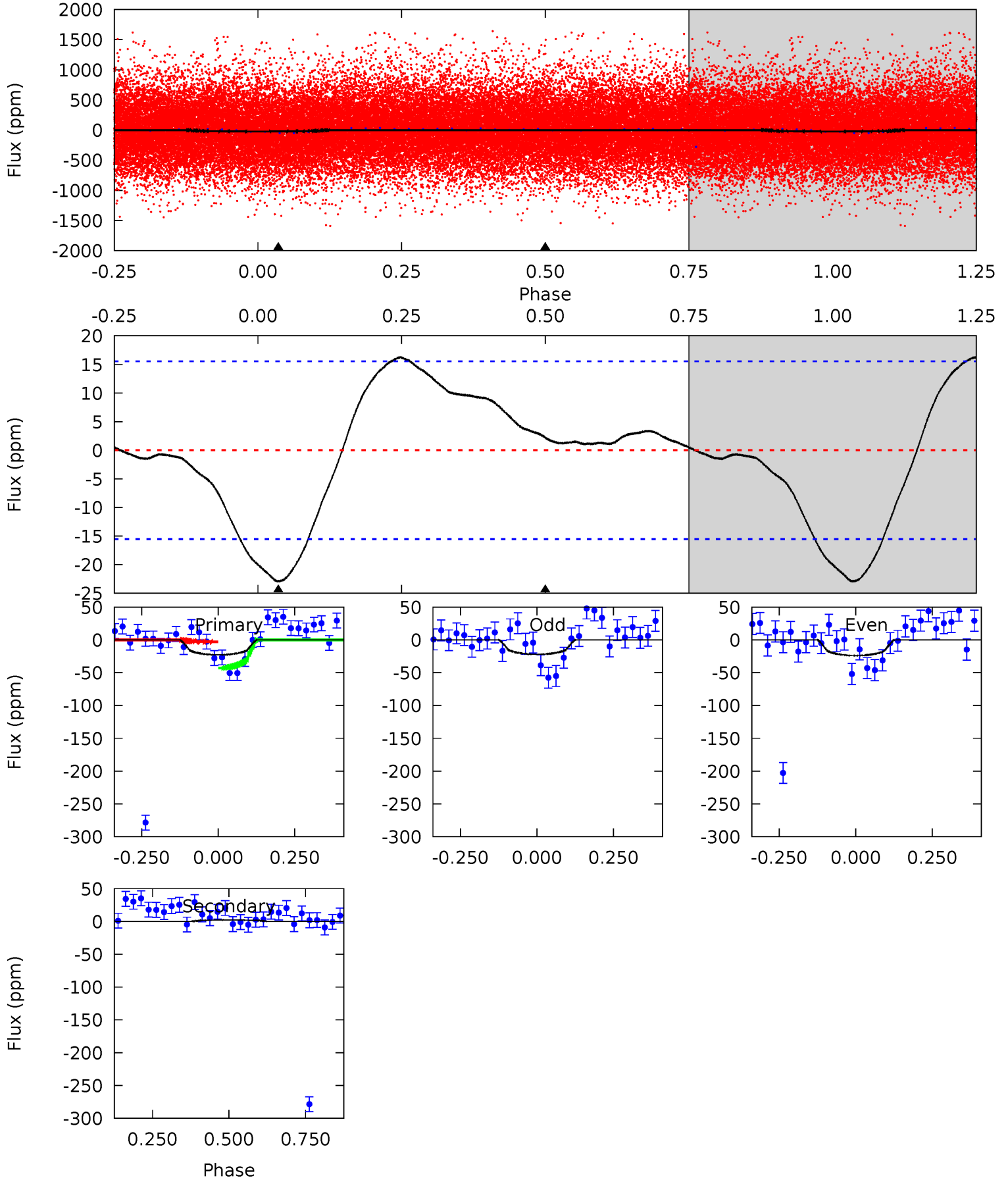
TCE 010226498-01 P= 0.660657 Days $T_0=131.693206$ (BKJD)



DV Model-Shift Uniqueness Test

010226498-01, P = 0.660621 Days, E = 131.044191 Days

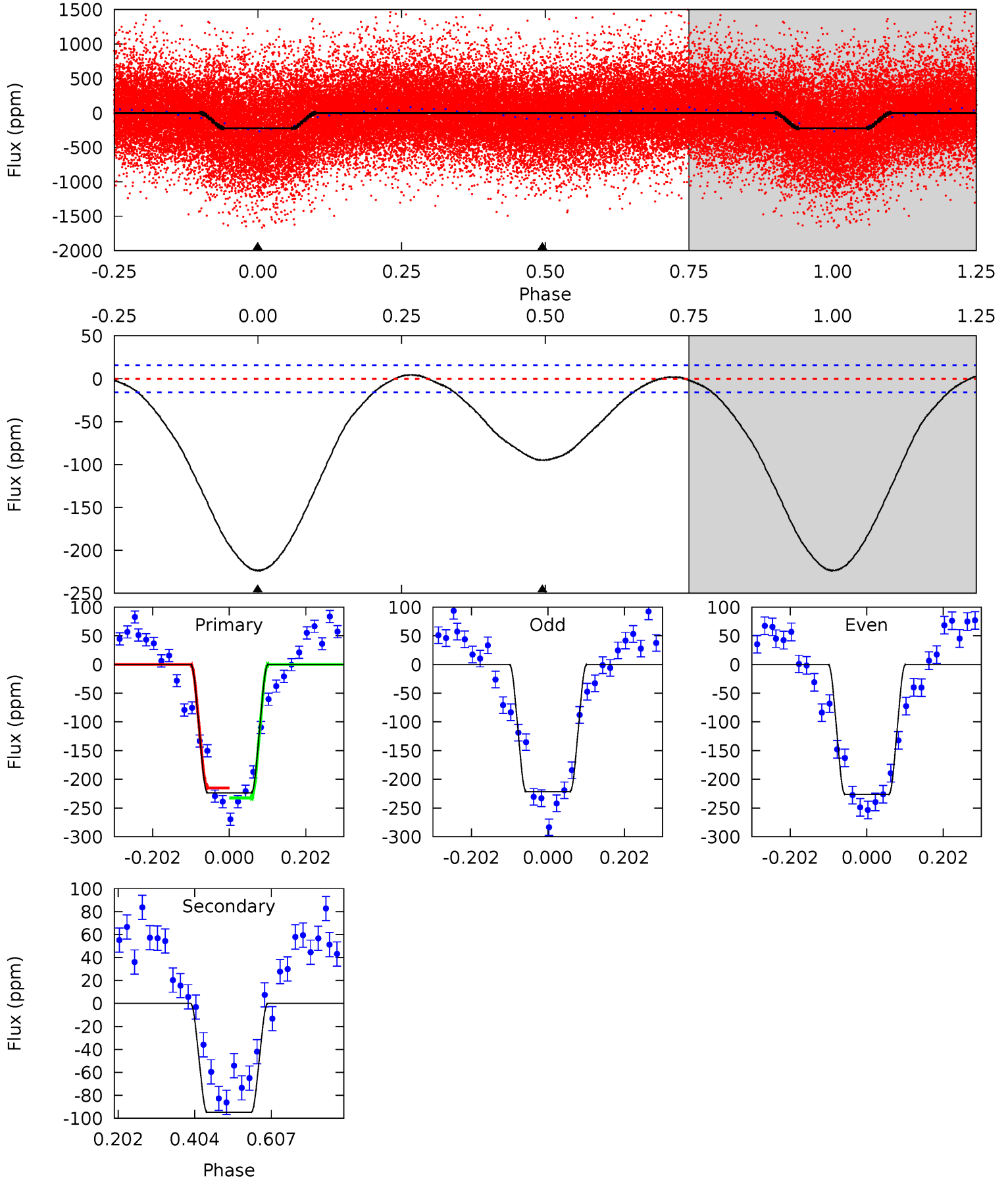
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.43	-0.62	0	0	4.37	1.15	1.56	6.43	6.43	-0.62	-0.62	0.27	0.65	0.41	5.60



Alt Model-Shift Uniqueness Test

010226498-01, P = 0.660657 Days, E = 131.032549 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
62.9	26.7	0	0	4.41	1.28	1.74	62.9	62.9	26.7	26.7	0.65	1.02	0.02	2.49



Stellar Parameters For KIC 010226498

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4240^{+115}_{-140}	$4.657^{+0.059}_{-0.023}$	$-0.360^{+0.300}_{-0.300}$	$0.589^{+0.044}_{-0.060}$	$0.575^{+0.062}_{-0.051}$	$3.957^{+1.076}_{-0.481}$
	+3%/-3%	+1%/-0%	+83%/-83%	+7%/-10%	+11%/-9%	+27%/-12%
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 010226498-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	2 ± 4	$0.39^{+0.33}_{-0.25}$	1791^{+59}_{-65}	-2687^{+5084}_{-877}	$-0.776^{+1.493}_{-6.719}$
Alt.	-95 ± 4	$0.99^{+0.43}_{-0.38}$	1790^{+55}_{-68}	3554^{+670}_{-357}	$8.138^{+12.217}_{-4.075}$

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 $A_{obs} \gg 1.0$

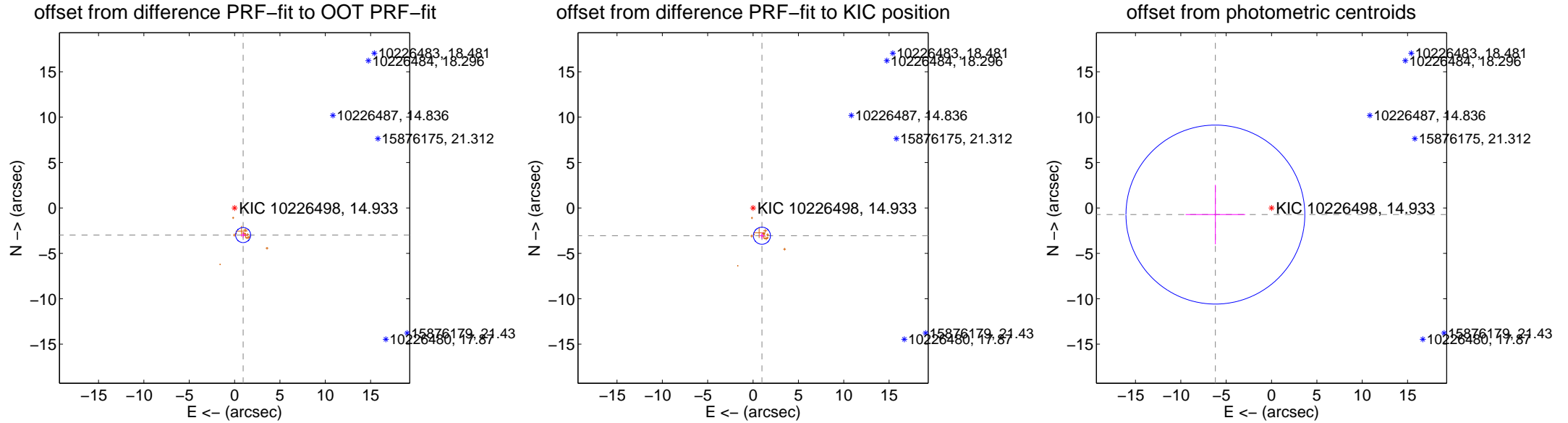
DV Centroid Data

Supplemental centroid analysis for 010226498-01. Kepler magnitude: 14.93. Transit SNR 3.80

There are 0 quarters with good PRF difference image offsets

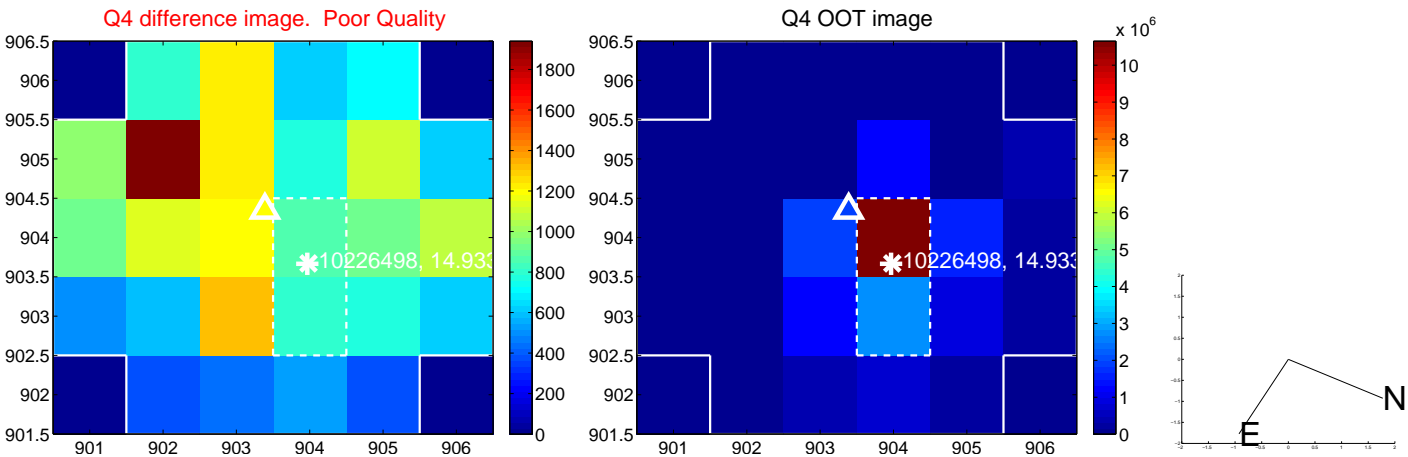
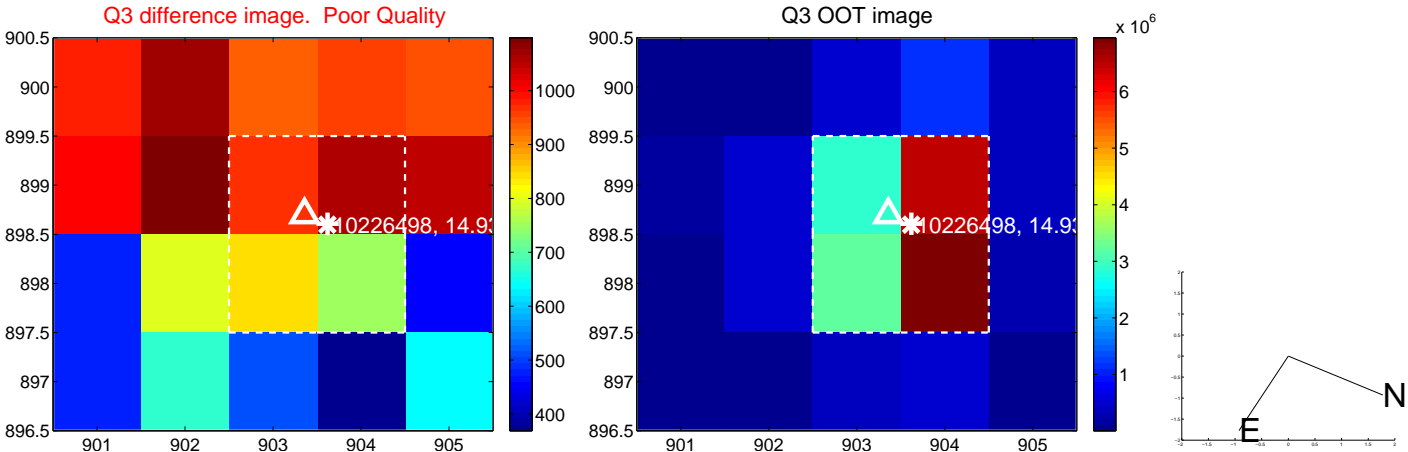
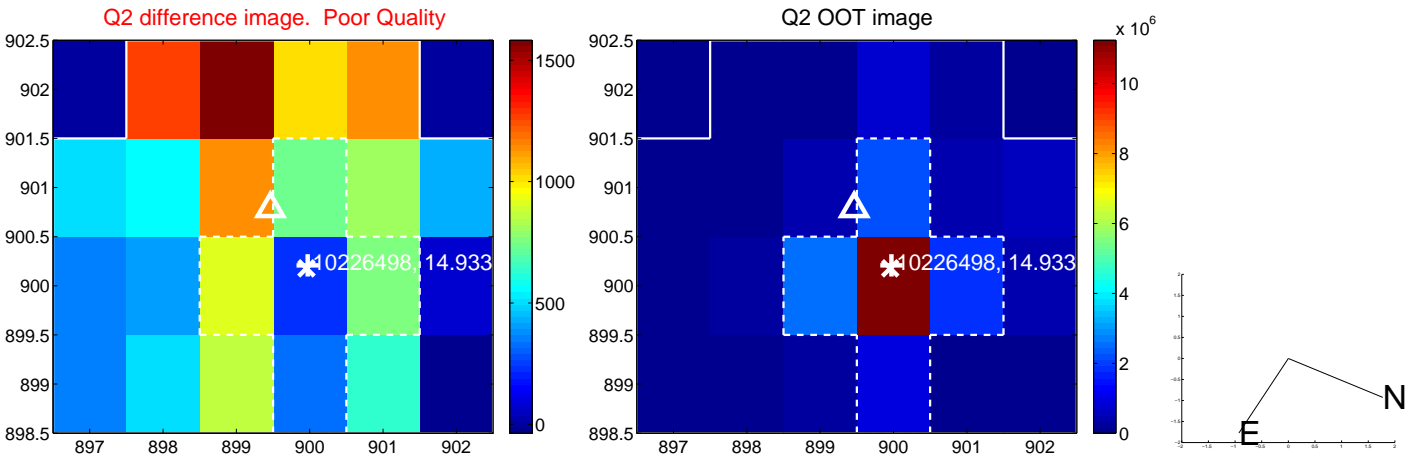
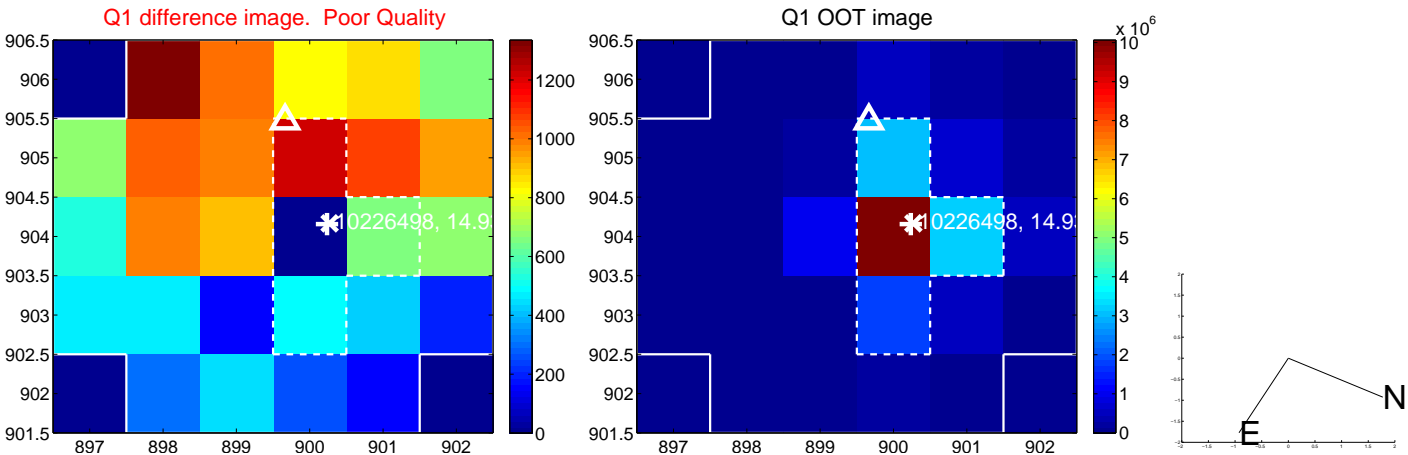
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.131 ± 0.276	11.33	-0.944 ± 0.335	-2.985 ± 0.295
PRF-fit source offset from KIC position	3.212 ± 0.314	10.24	-0.979 ± 0.294	-3.059 ± 0.328
photometric centroid source offset	6.23 ± 3.29	1.90	6.19 ± 3.29	-0.73 ± 3.28

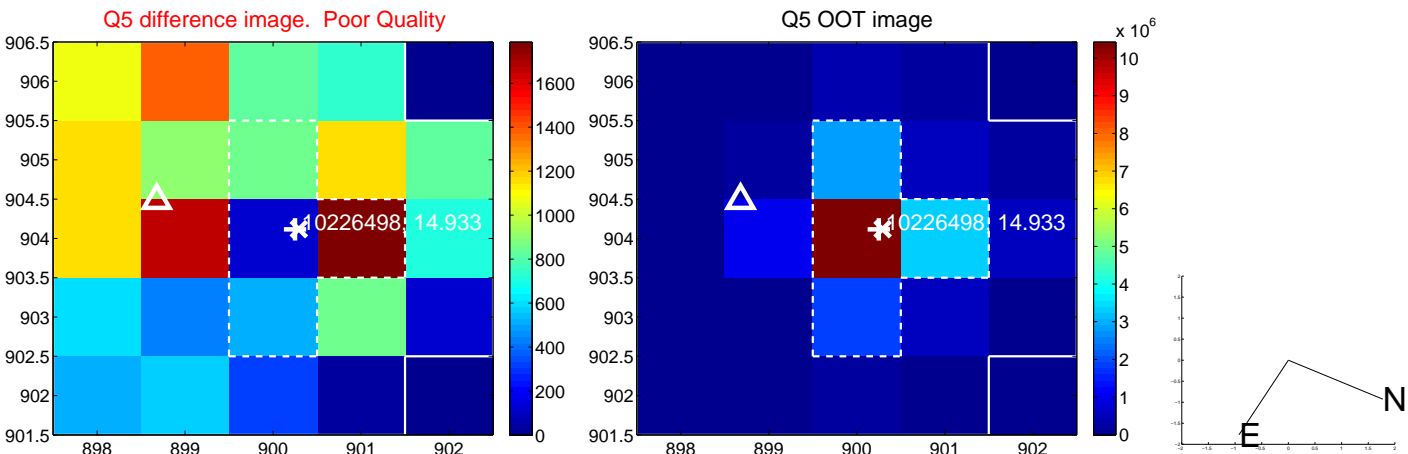


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

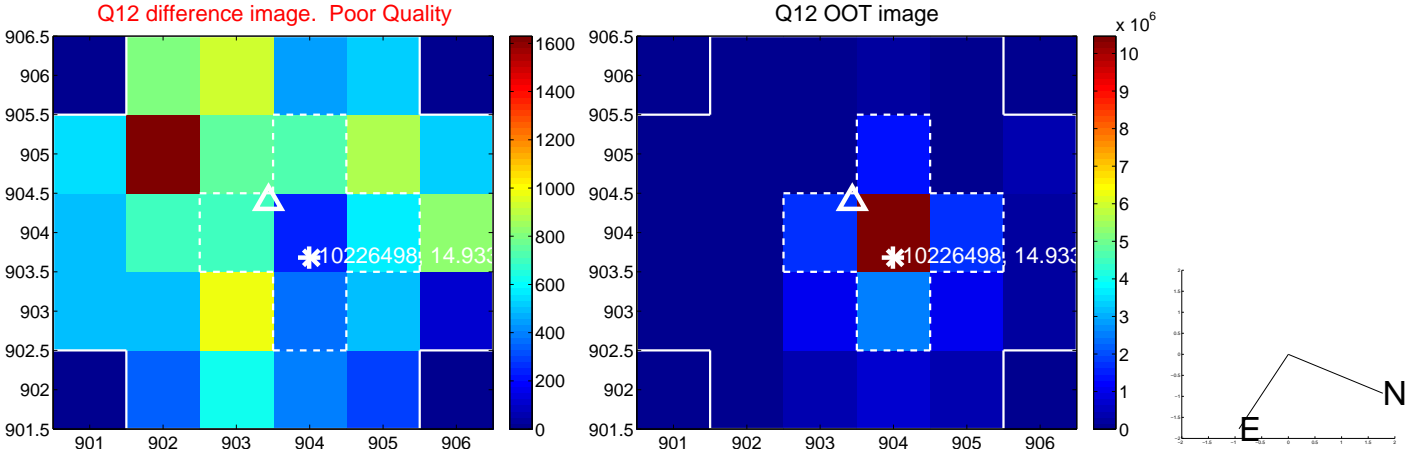
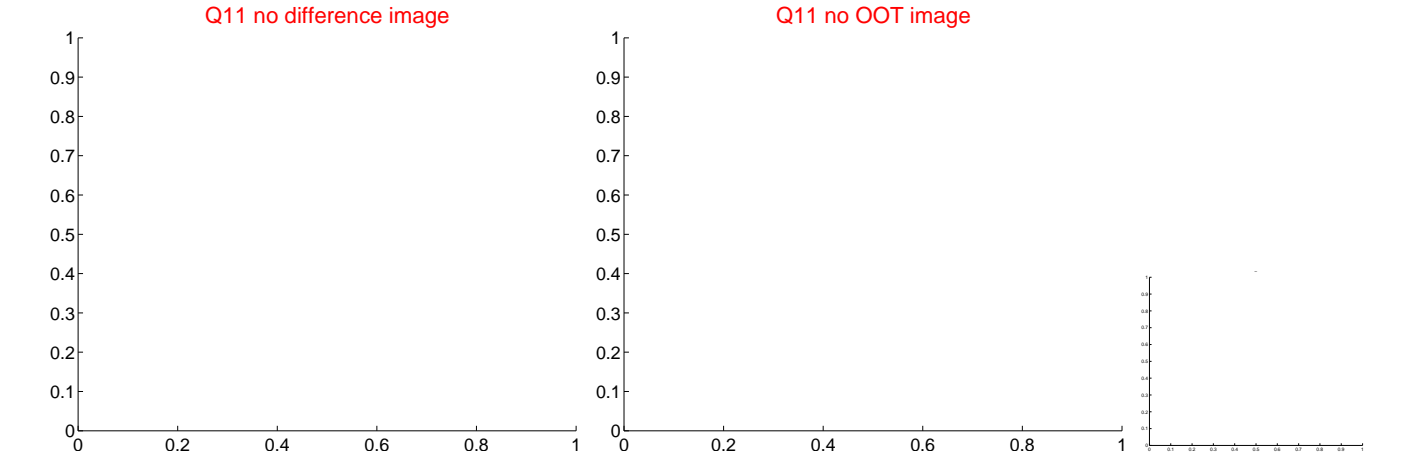
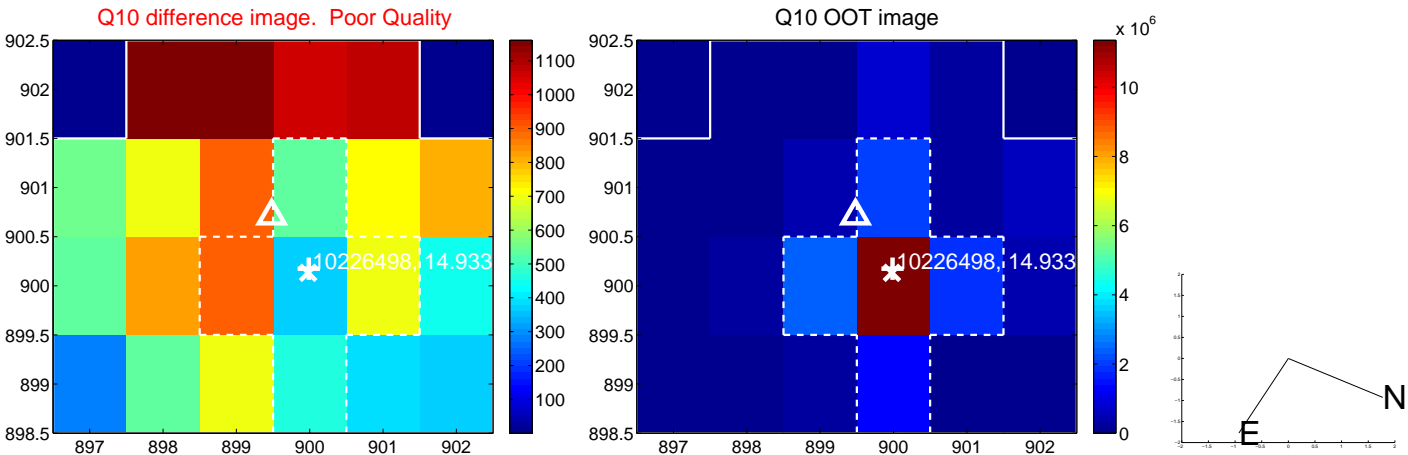
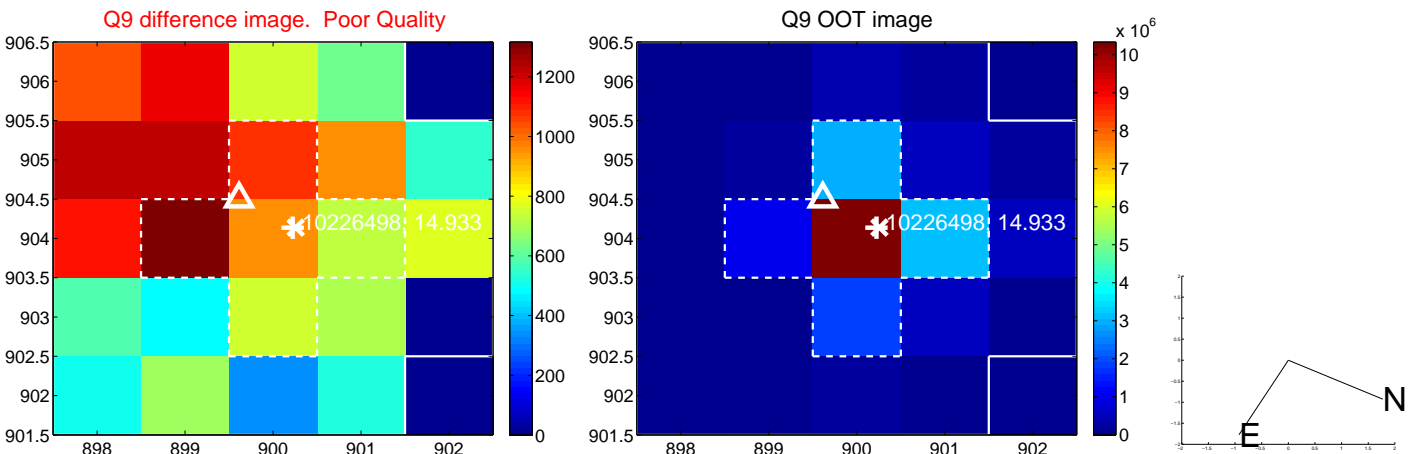
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



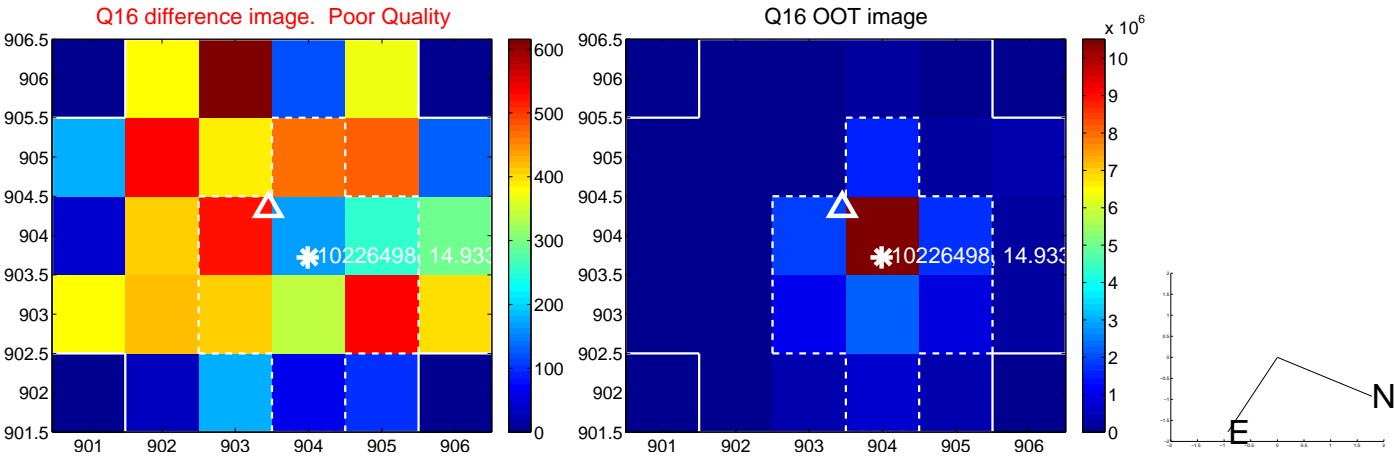
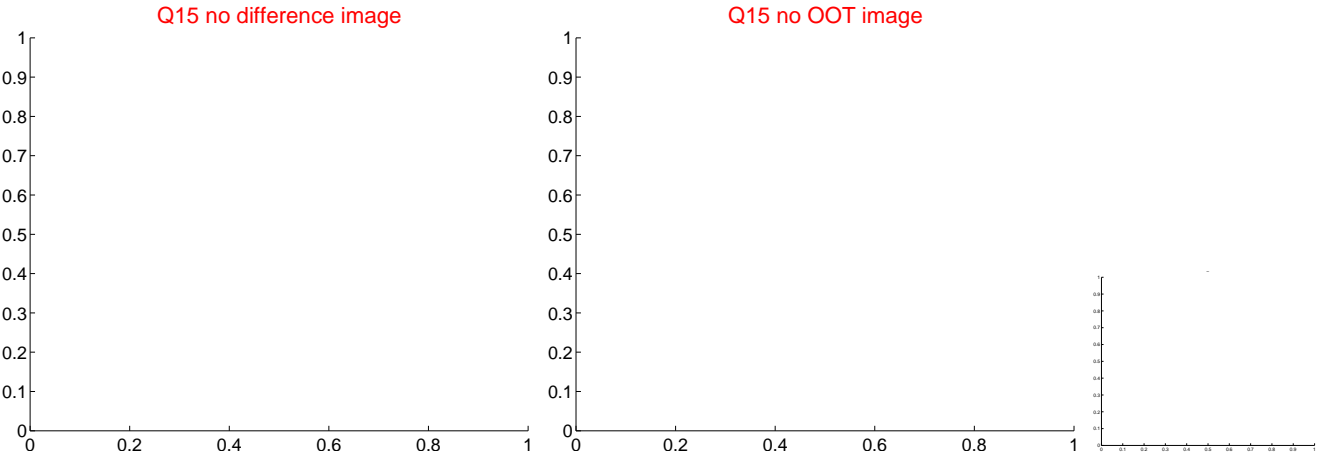
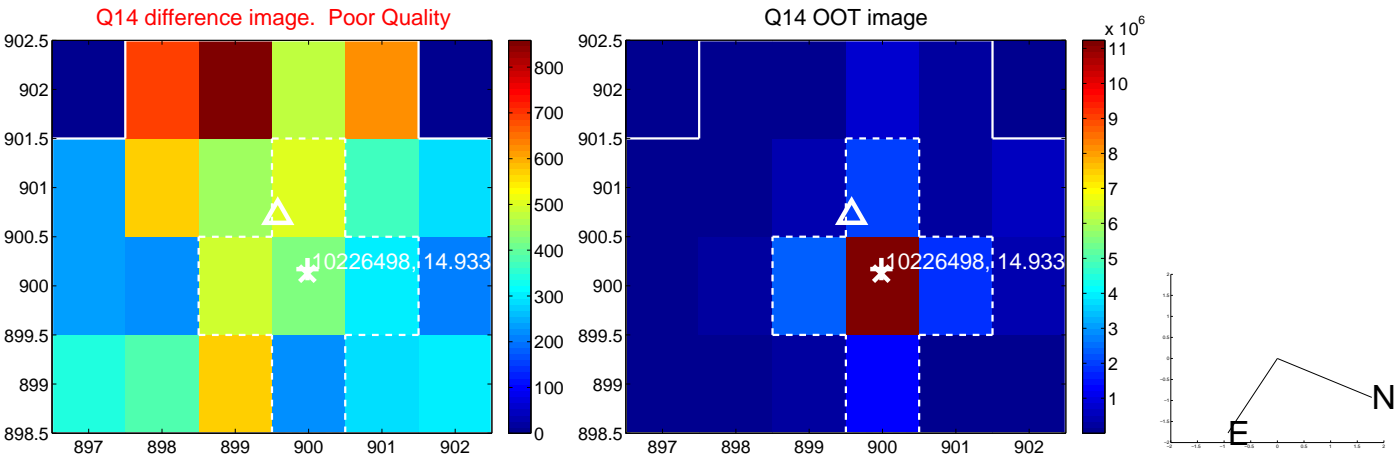
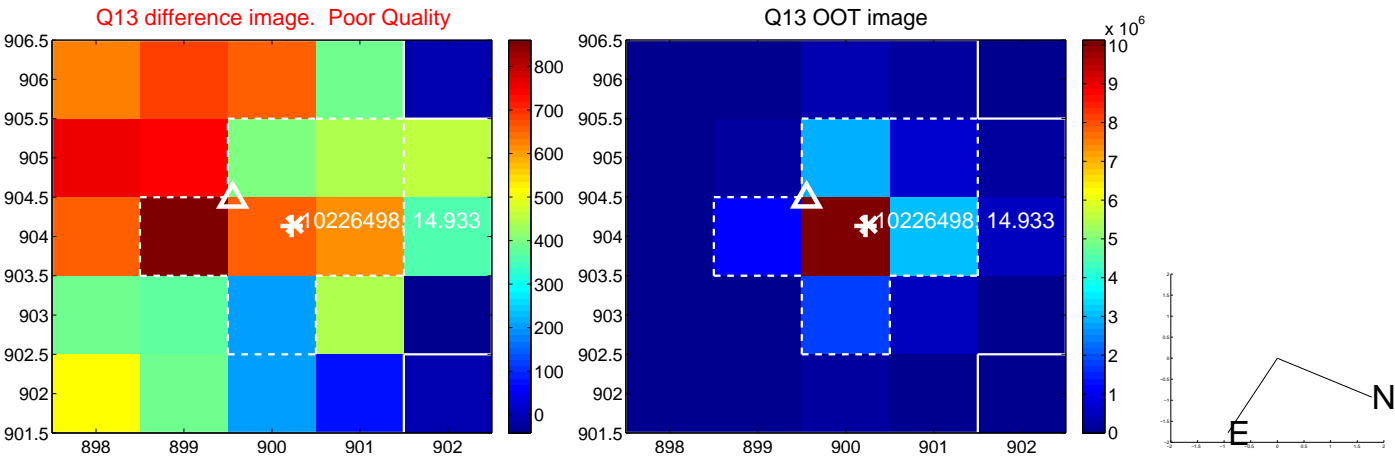
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



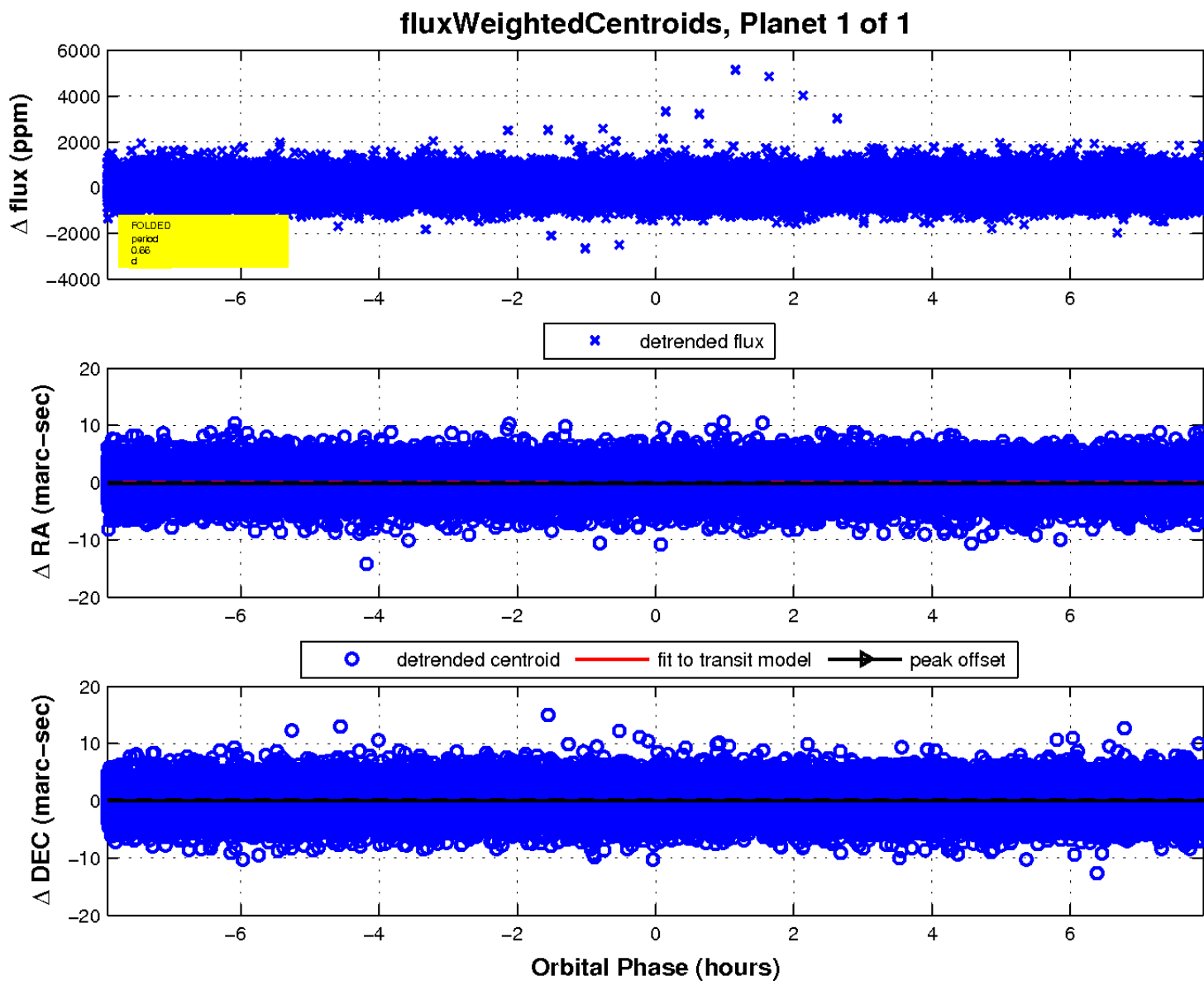
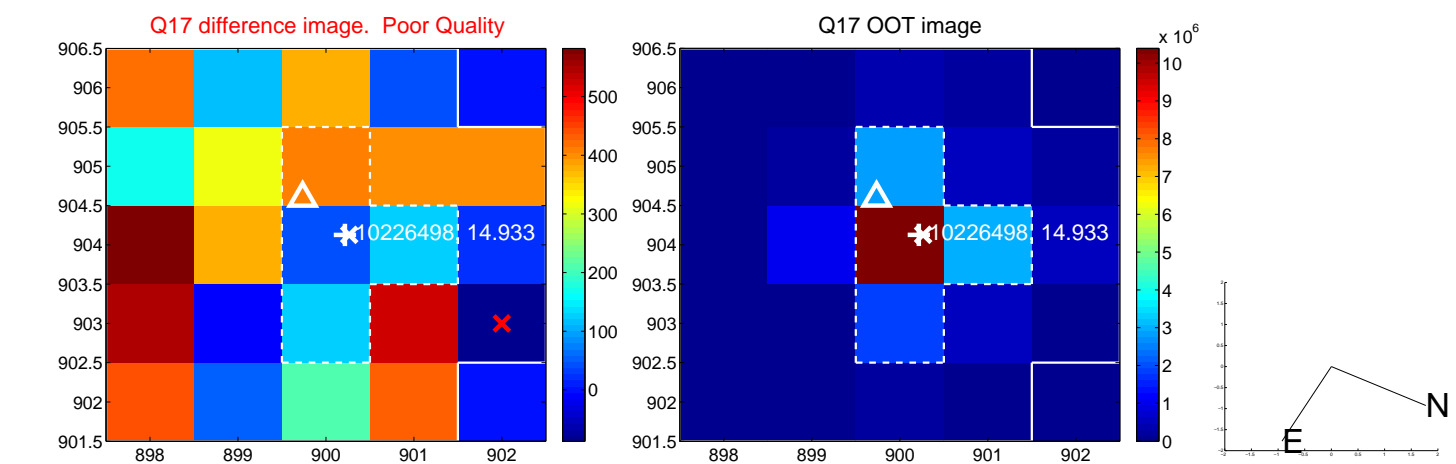
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

