

KIC 008524110

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 _⊕)
008524110-01	OBS	7891.01	0.797084	131.850184	20.0	3.553	8.8	9.9	1.20	6056	0.65	6196.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008524110-01	OBS	FP	0.00	0	0	1	1	CENT_UNRESOLVED_OFFSET—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.

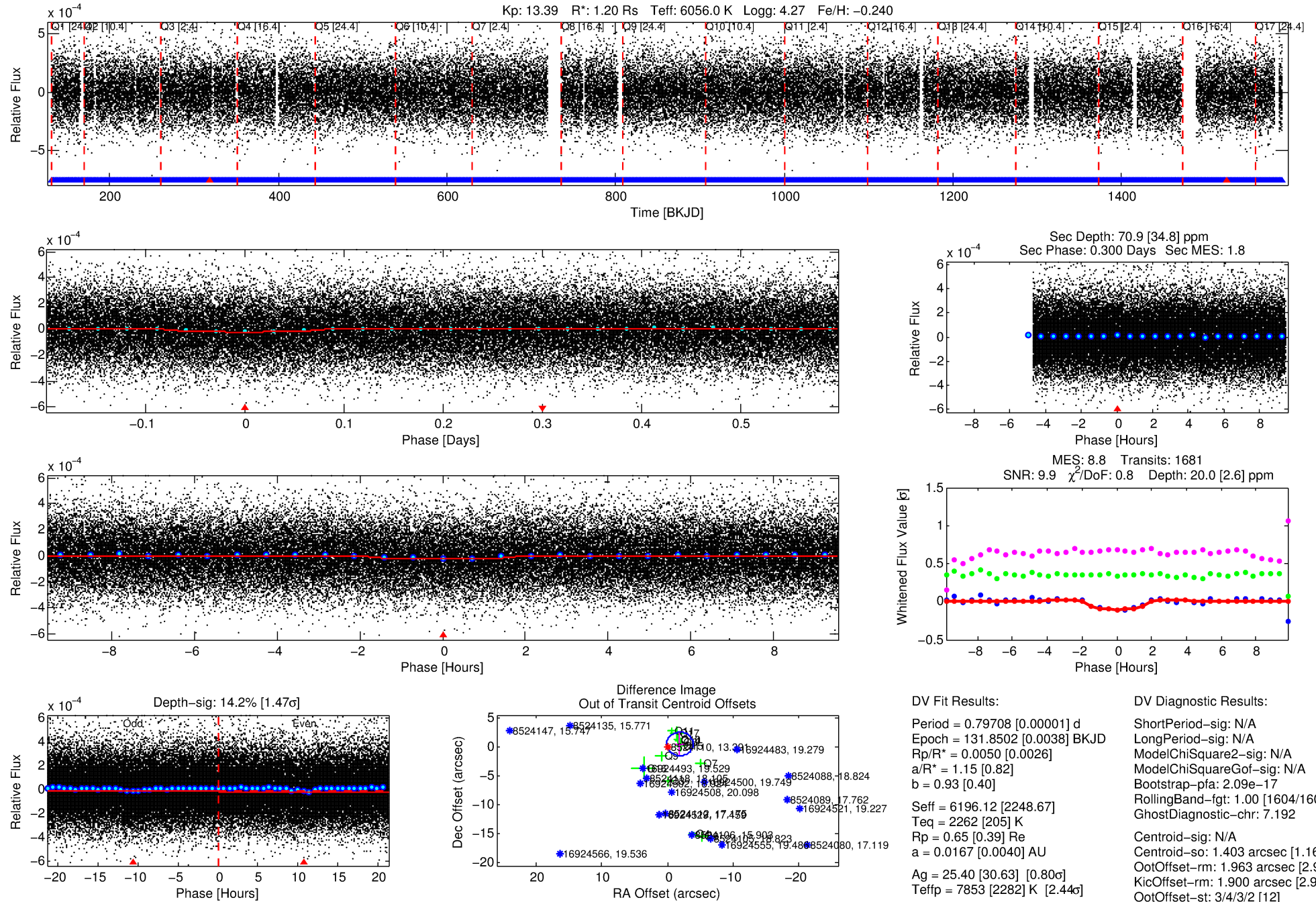
Ephemeris Match Information For 008524110-01

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
008524110-01	8524110	6060.01	8655458	1:2	1544.2	389	-4	14.59	13.40	561.30	Col-Anomaly	0	0.83	0.99

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

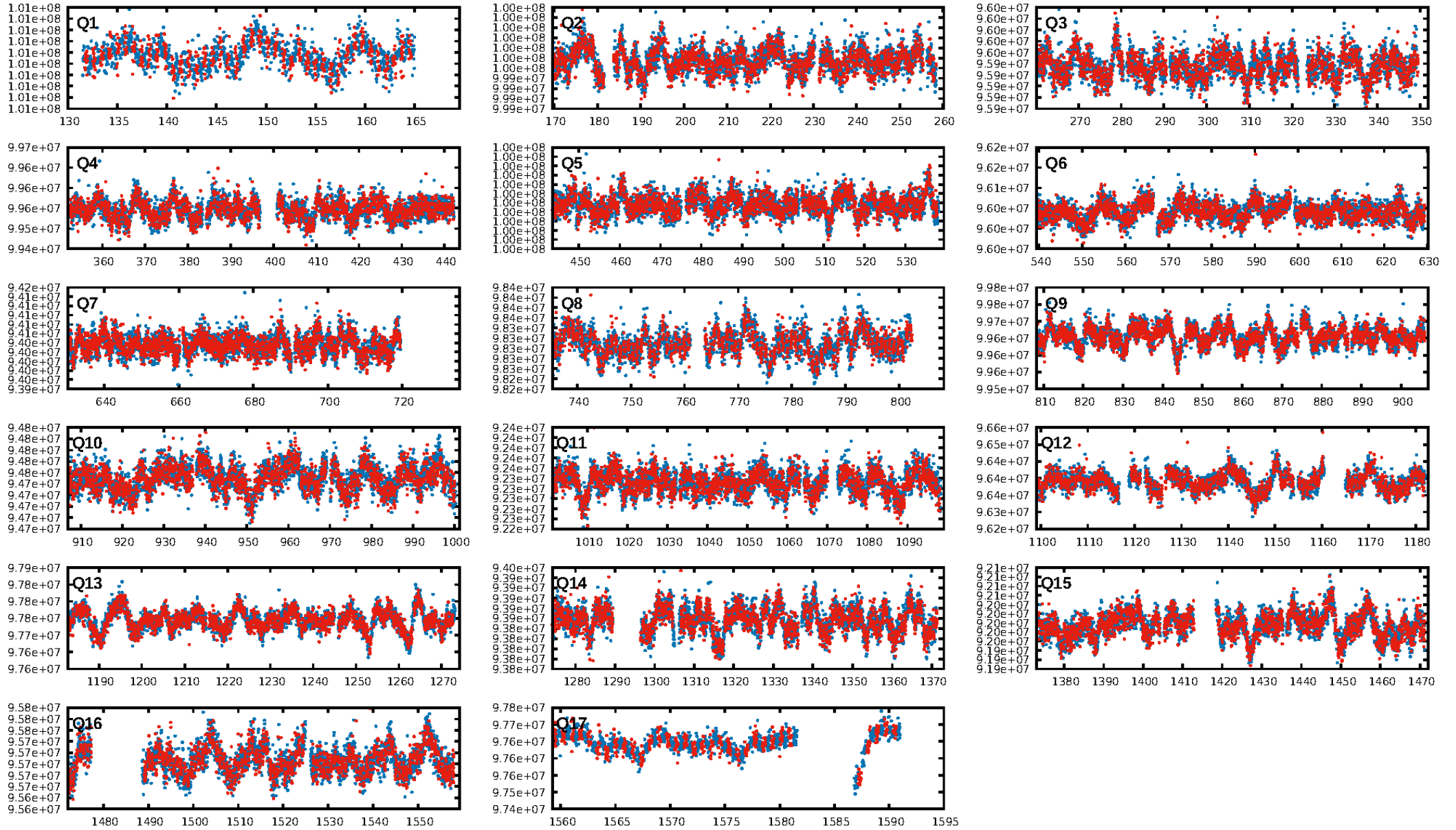
KIC: 8524110 Candidate: 1 of 1 Period: 0.797 d



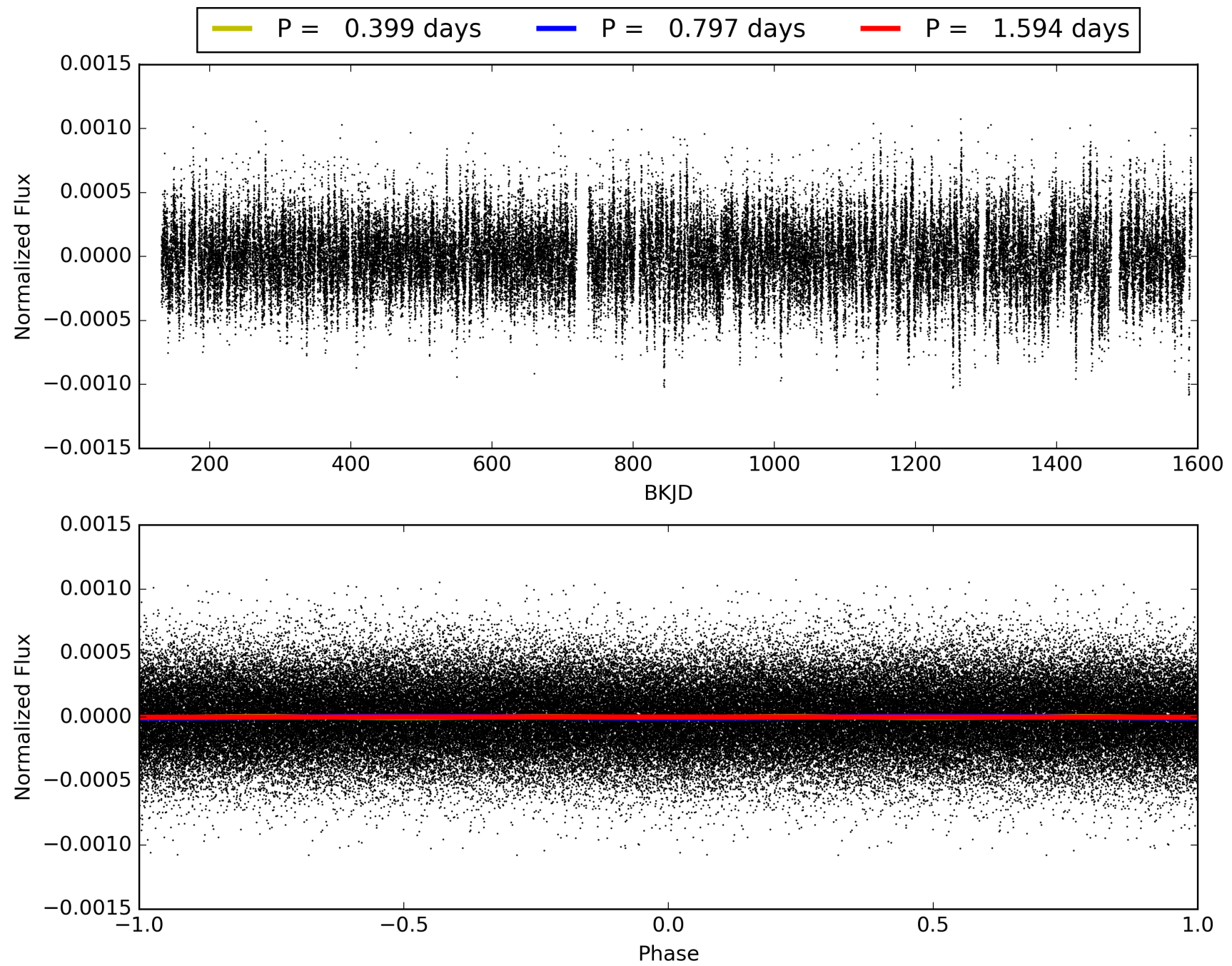
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 02:12:25 Z

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

TCE 008524110-01, PDC Light Curves

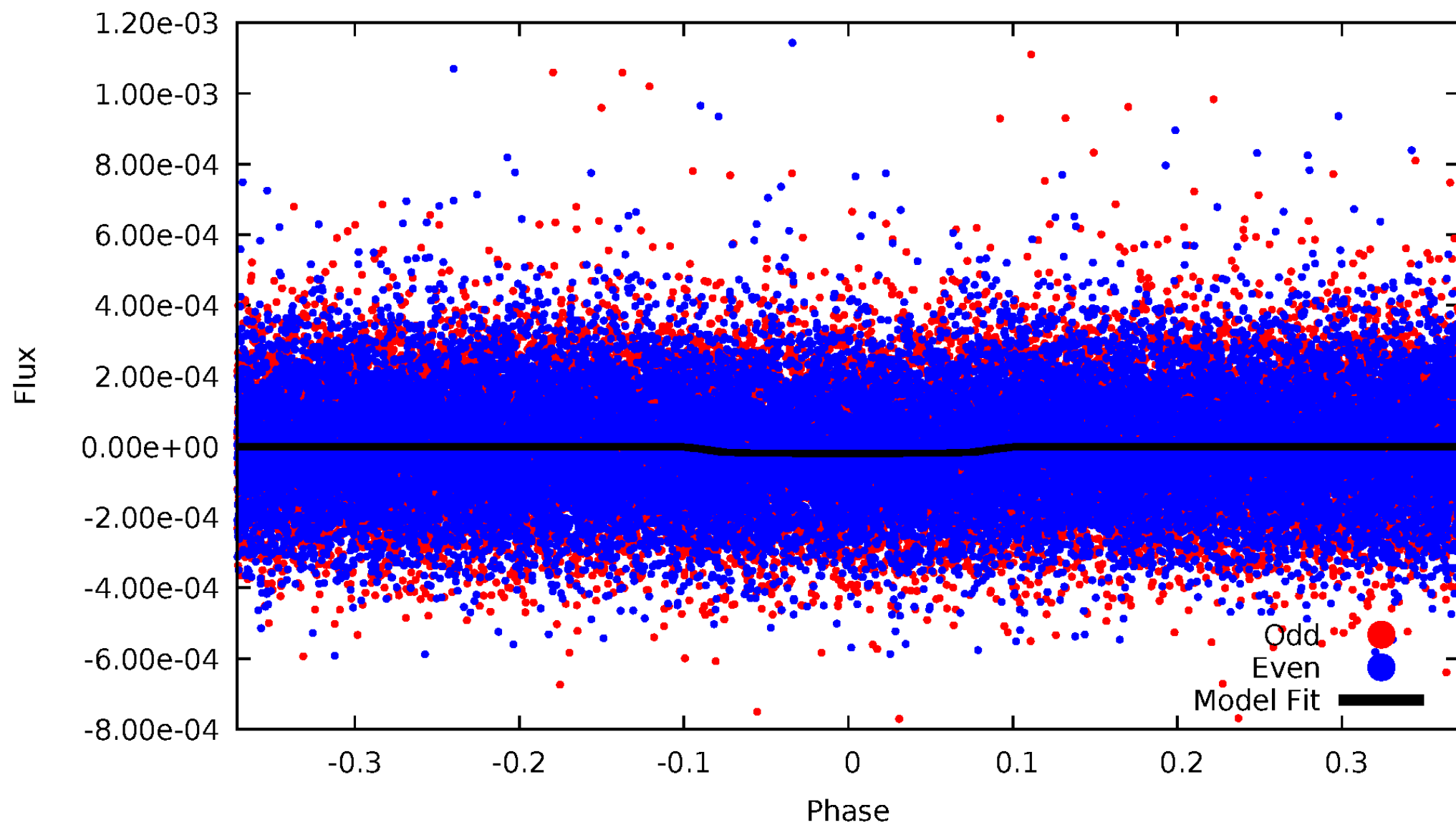


TCE 008524110-01



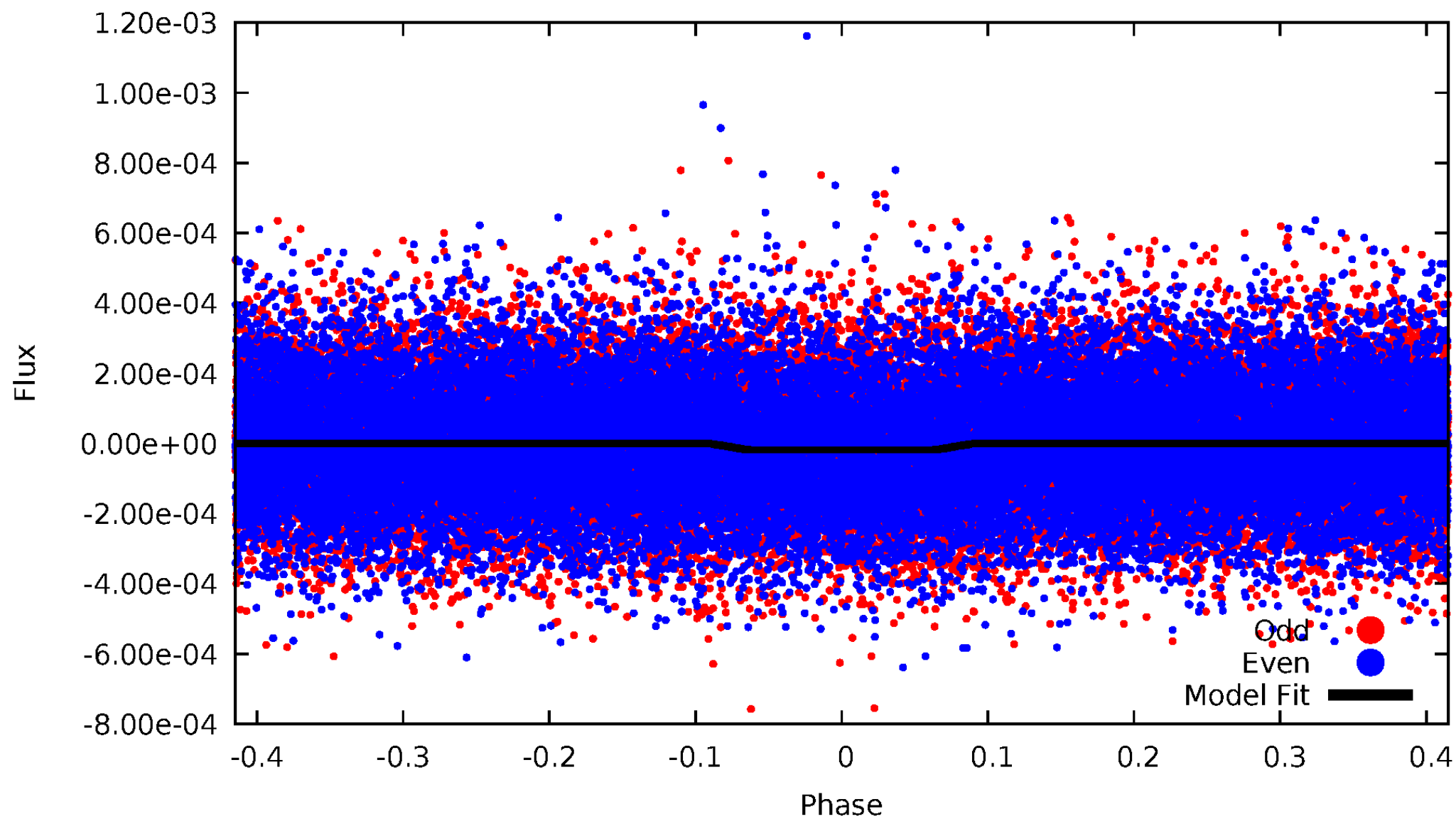
DV Odd/Even

TCE 008524110-01



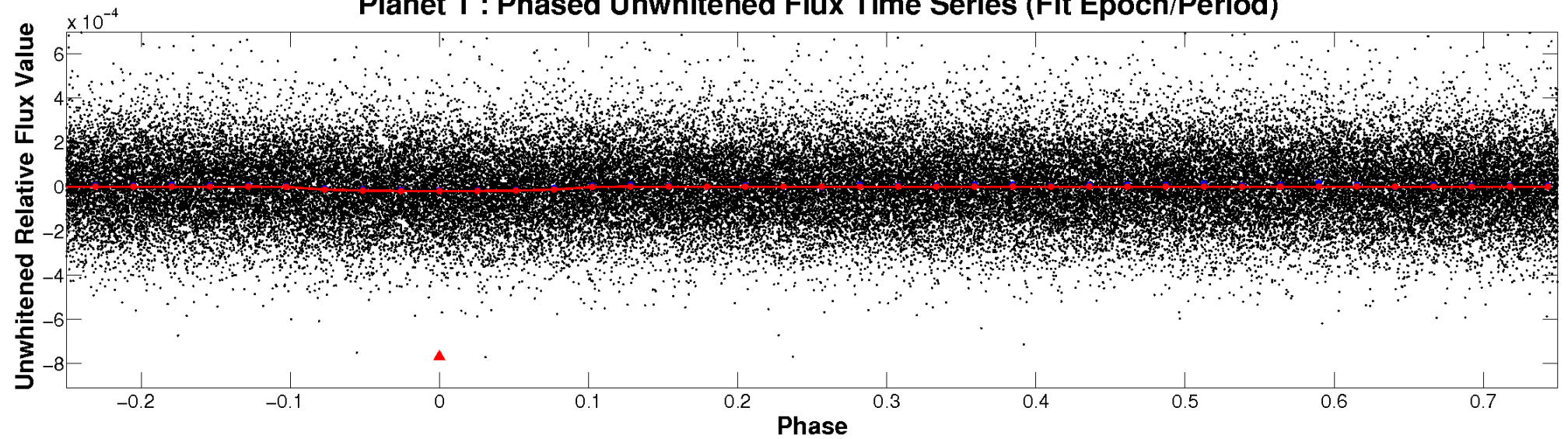
ALT Odd/Even

TCE 008524110-01

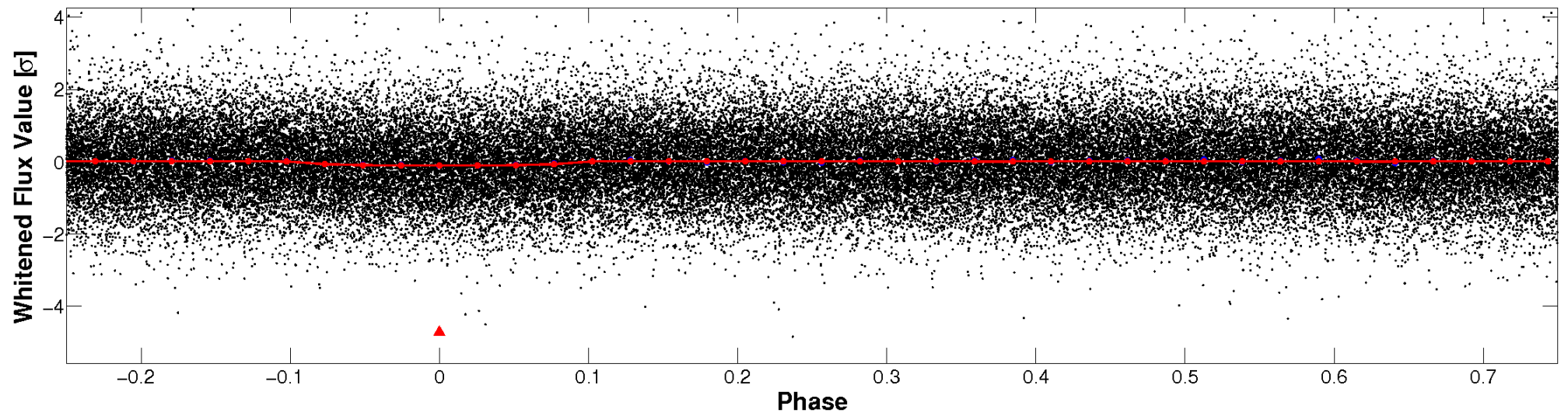


Non-Whitened Vs. Whitened Light Curve

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

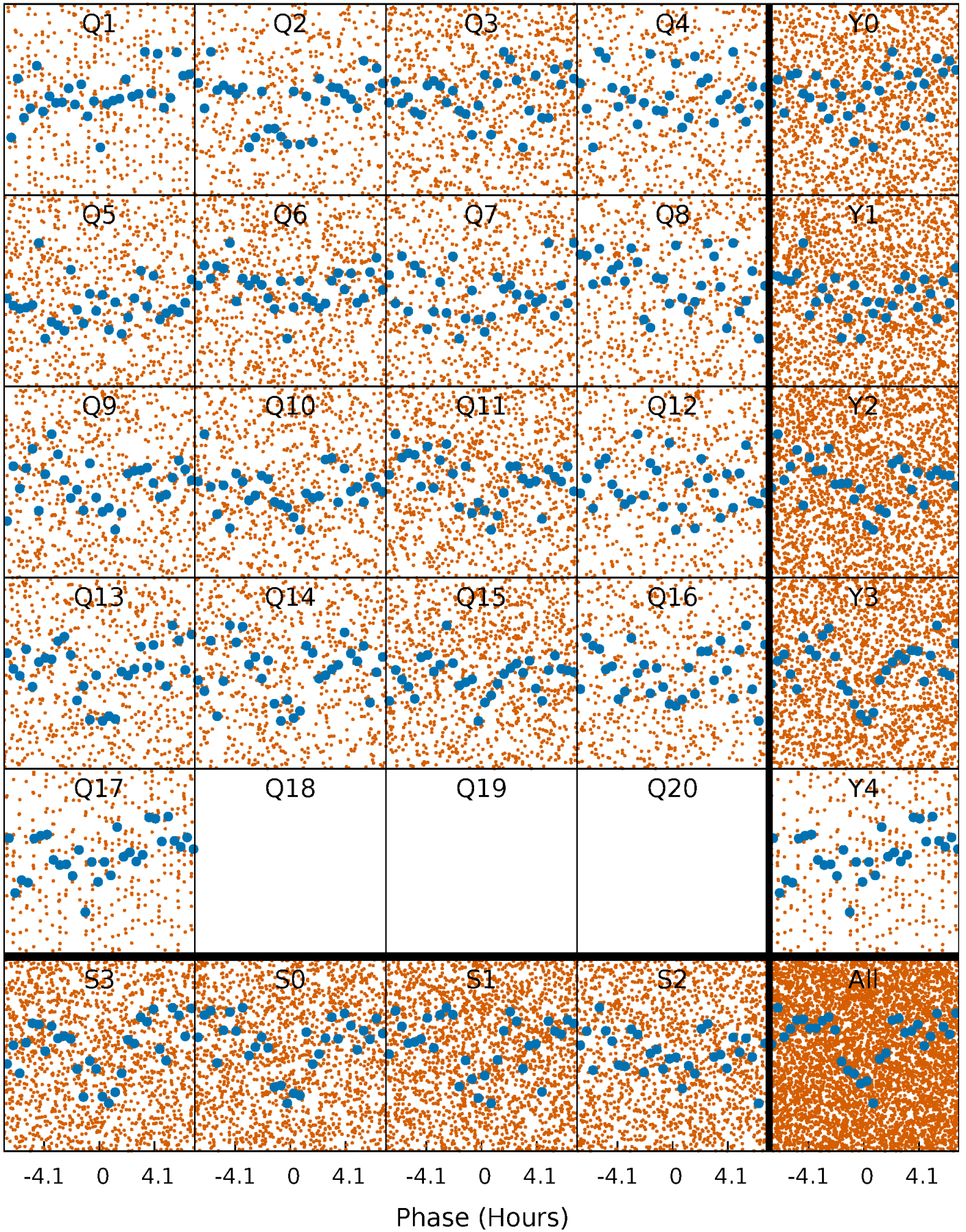


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



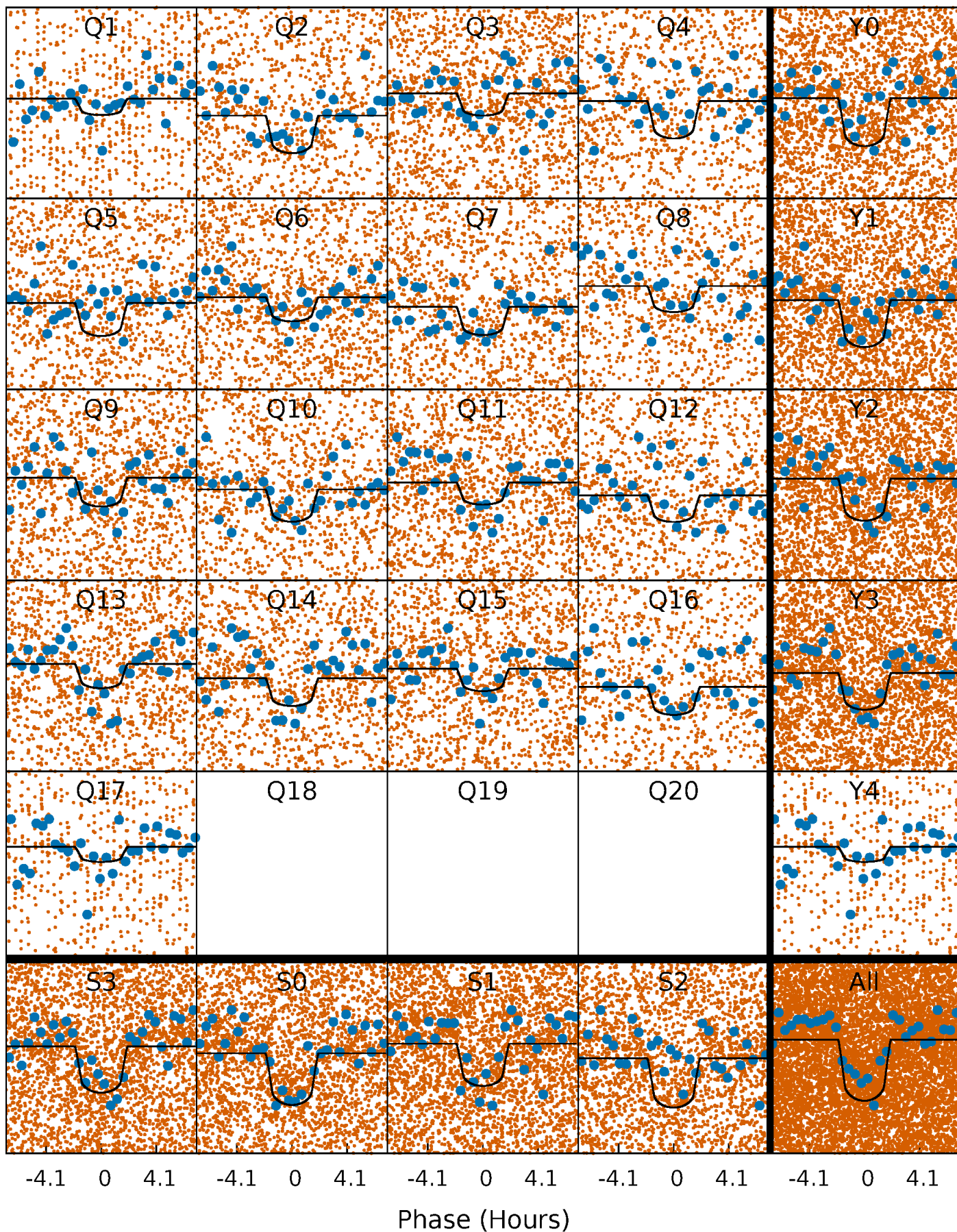
PDC Quarter-Phased Transit Curves

TCE 008524110-01 P= 0.797084 Days $T_0=131.850184$ (BKJD)



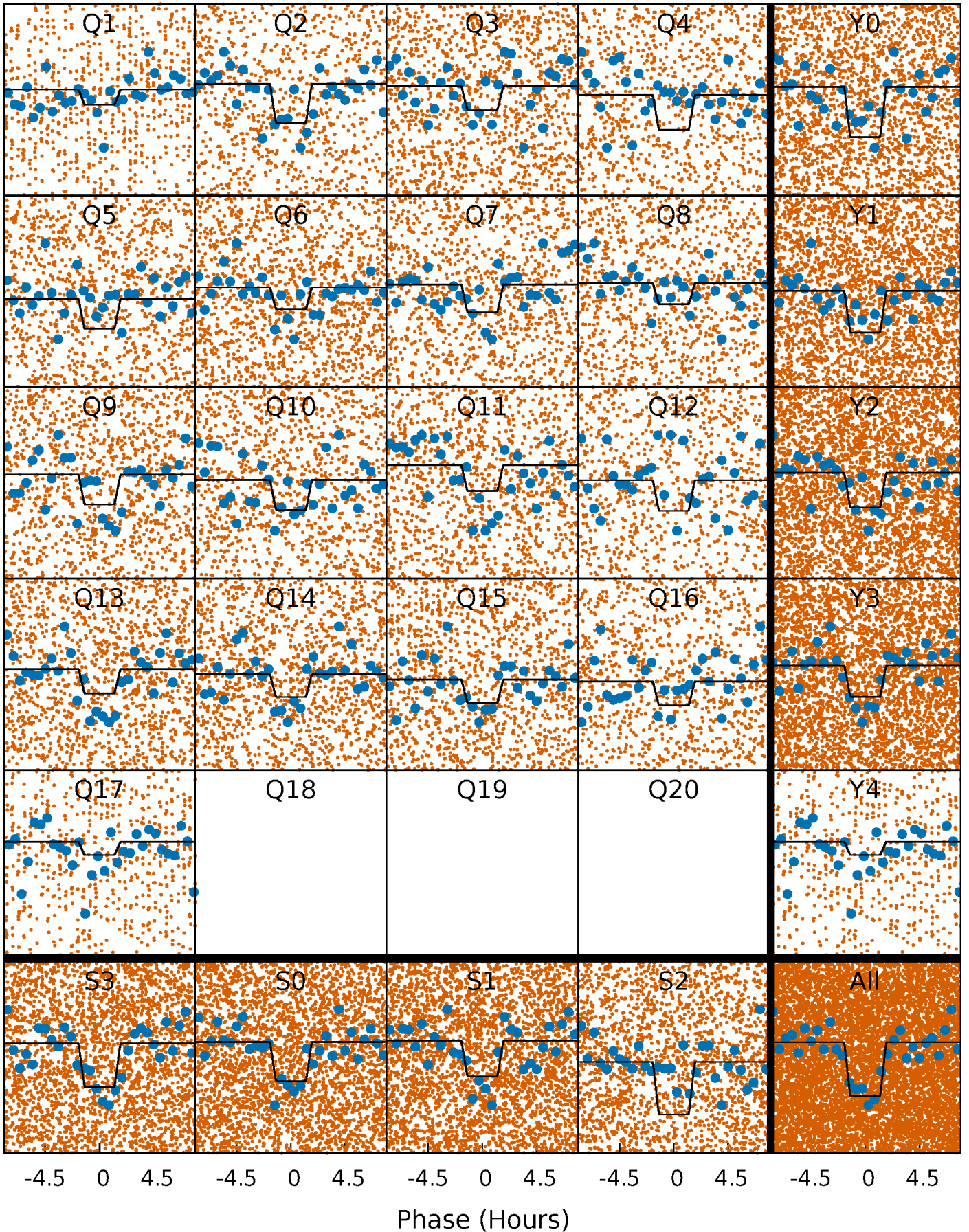
DV Quarter-Phased Transit Curves

TCE 008524110-01 P= 0.797084 Days $T_0=131.850184$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

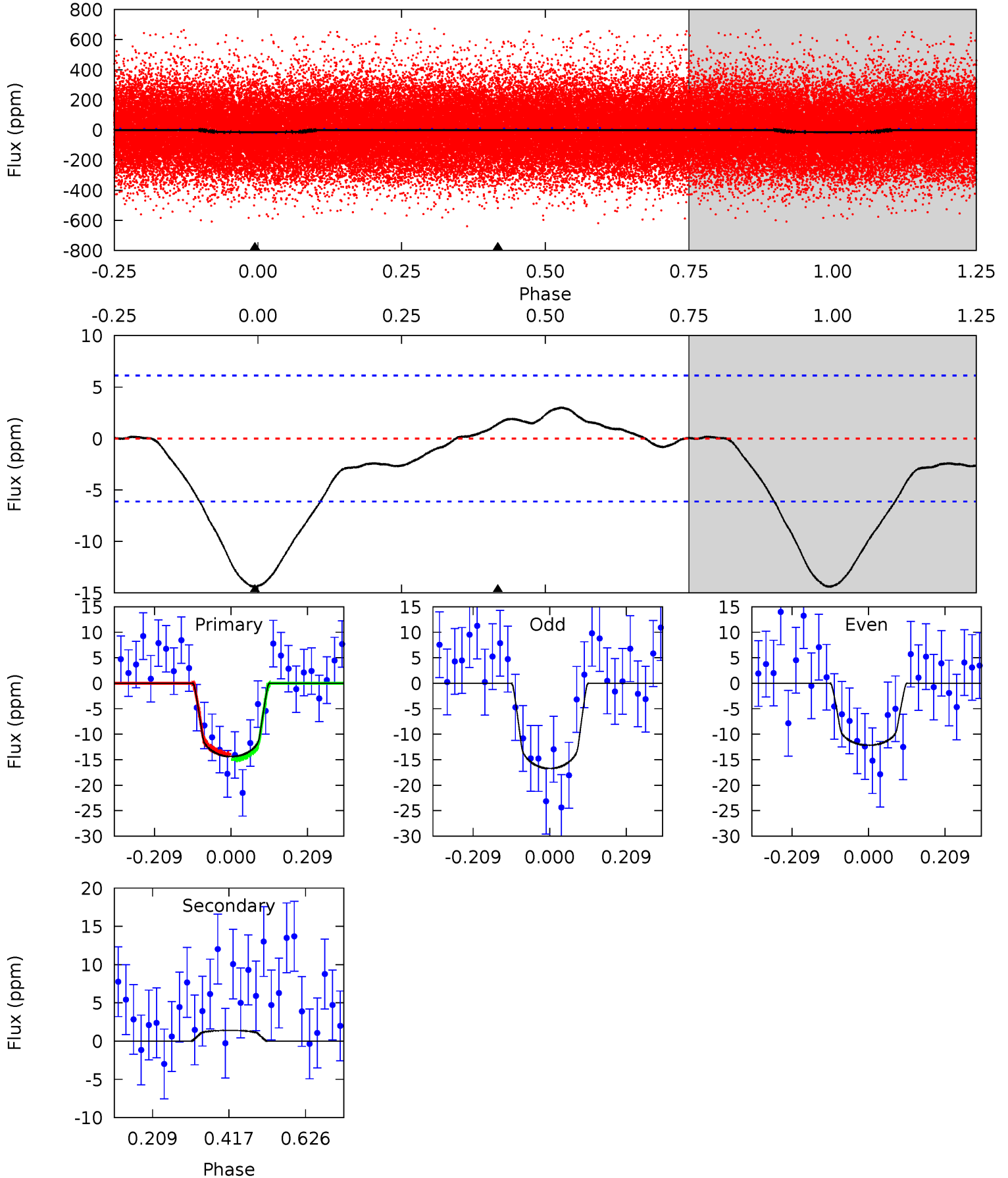
TCE 008524110-01 P= 0.797101 Days $T_0=131.832184$ (BKJD)



DV Model-Shift Uniqueness Test

008524110-01, $P = 0.797084$ Days, $E = 131.053100$ Days

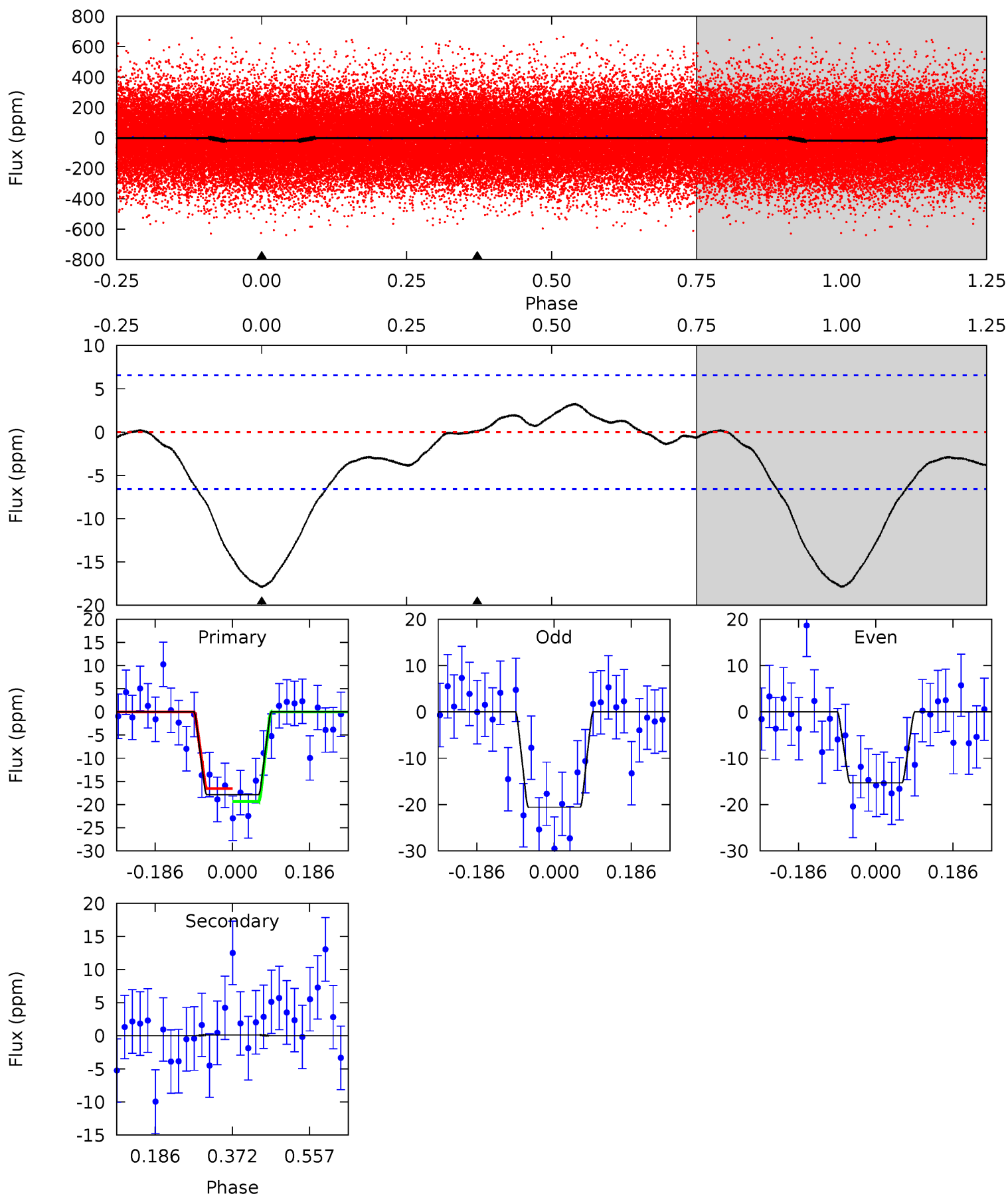
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.4	-1.01	0	0	4.41	1.26	0.45	10.4	10.4	-1.01	-1.01	1.65	0.99	0.17	0.37



Alt Model-Shift Uniqueness Test

008524110-01, P = 0.797101 Days, E = 131.035083 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	-0.07	0	0	4.43	1.32	0.65	12.0	12.0	-0.07	-0.07	1.77	0.88	0.15	0.94



Stellar Parameters For KIC 008524110

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6056^{+163}_{-181}	$4.271^{+0.185}_{-0.185}$	$-0.240^{+0.300}_{-0.300}$	$1.196^{+0.344}_{-0.282}$	$0.975^{+0.156}_{-0.117}$	$0.803^{+0.770}_{-0.391}$
	+3%/-3%	+4%/-4%	+125%/-125%	+29%/-24%	+16%/-12%	+96%/-49%
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 008524110-01 / KOI 7891.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	1 ± 1	$0.68^{+0.36}_{-0.33}$	3164^{+231}_{-234}	-3671^{+471}_{-729}	$-0.401^{+0.391}_{-1.494}$
Alt.	0 ± 1	$0.58^{+0.35}_{-0.30}$	3170^{+234}_{-224}	-3283^{+6743}_{-810}	$-0.047^{+0.841}_{-0.996}$

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 $A_{obs} \gg 1.0$

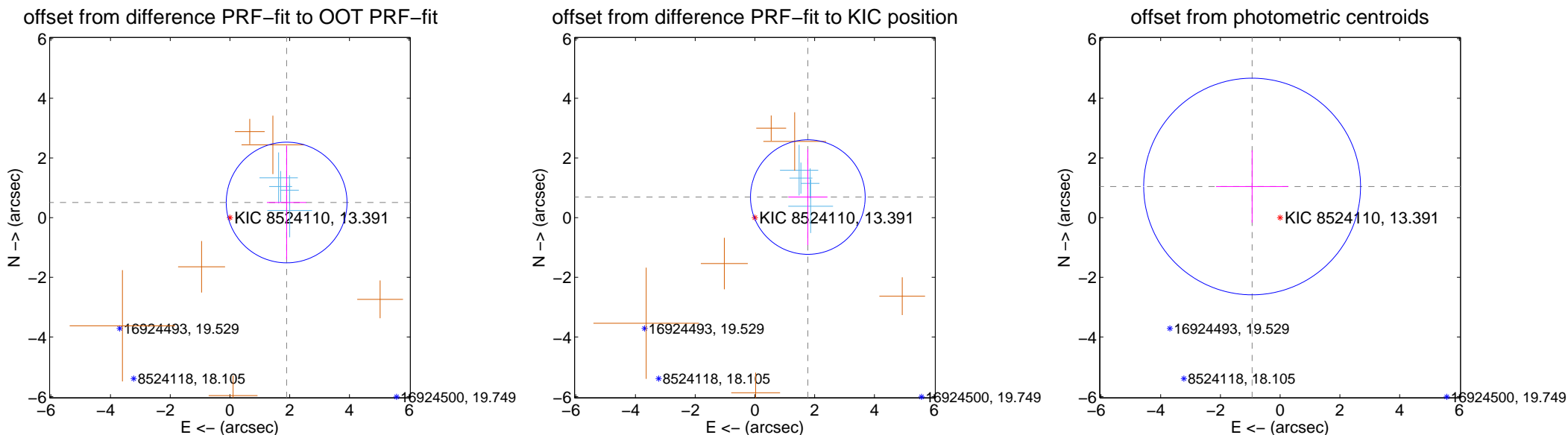
DV Centroid Data

Supplemental centroid analysis for 008524110-01. Kepler magnitude: 13.39. Transit SNR 9.92

There are 4 quarters with good PRF difference image offsets

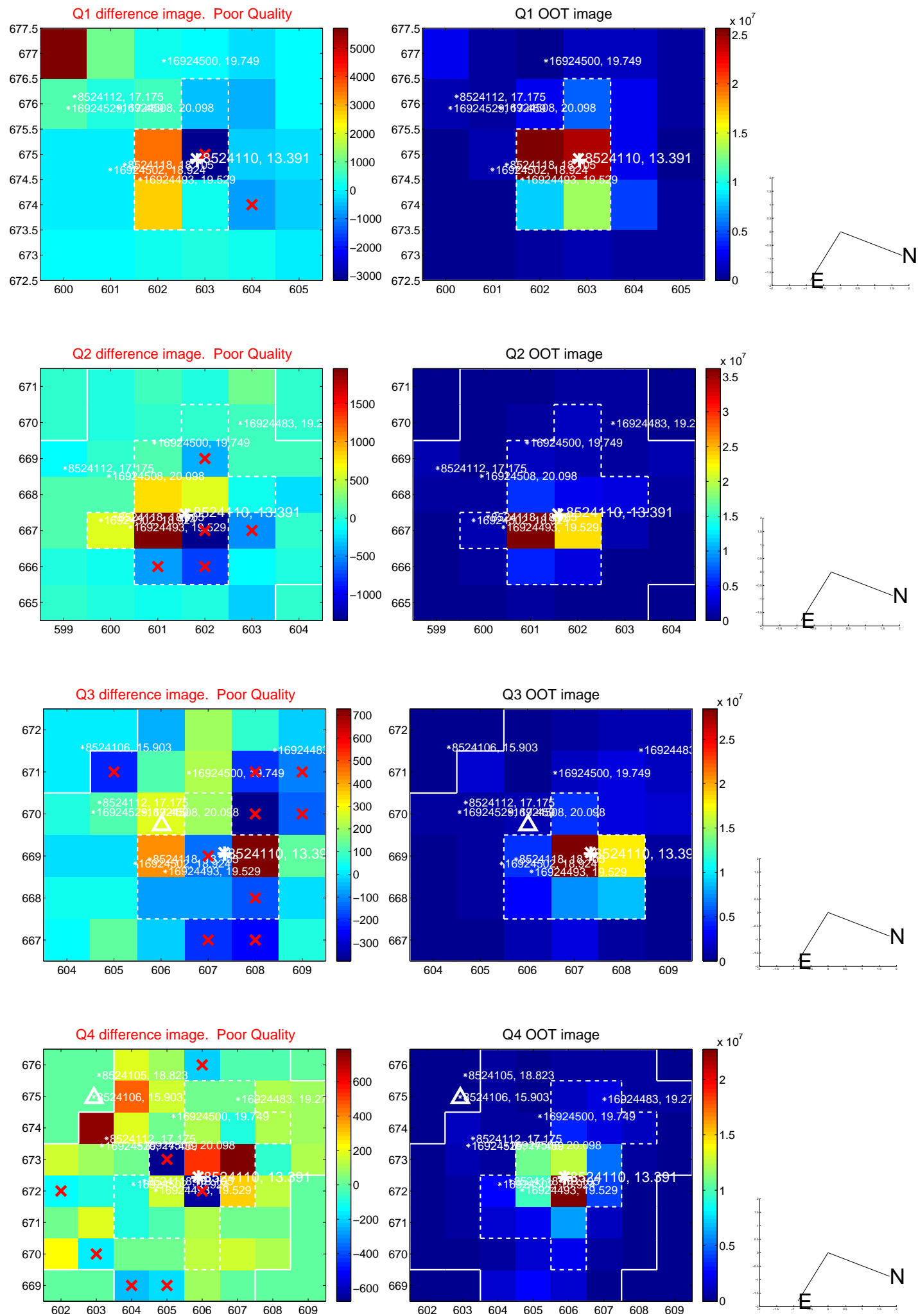
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.963 ± 0.674	2.91	-1.897 ± 0.660	0.507 ± 1.907
PRF-fit source offset from KIC position	1.900 ± 0.640	2.97	-1.771 ± 0.656	0.689 ± 1.608
photometric centroid source offset	1.40 ± 1.21	1.16	0.94 ± 1.21	1.04 ± 1.21

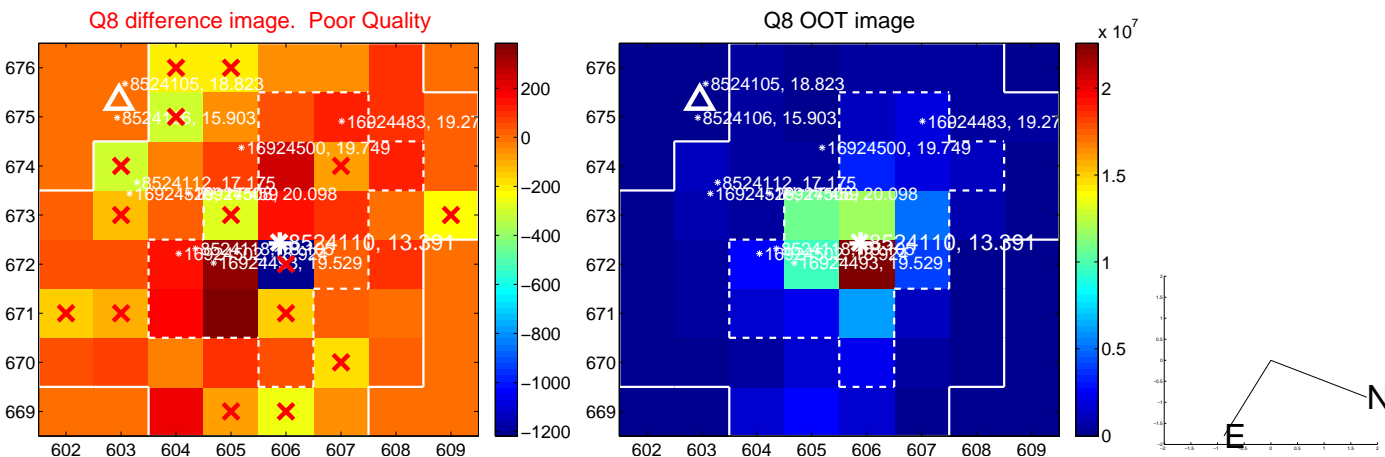
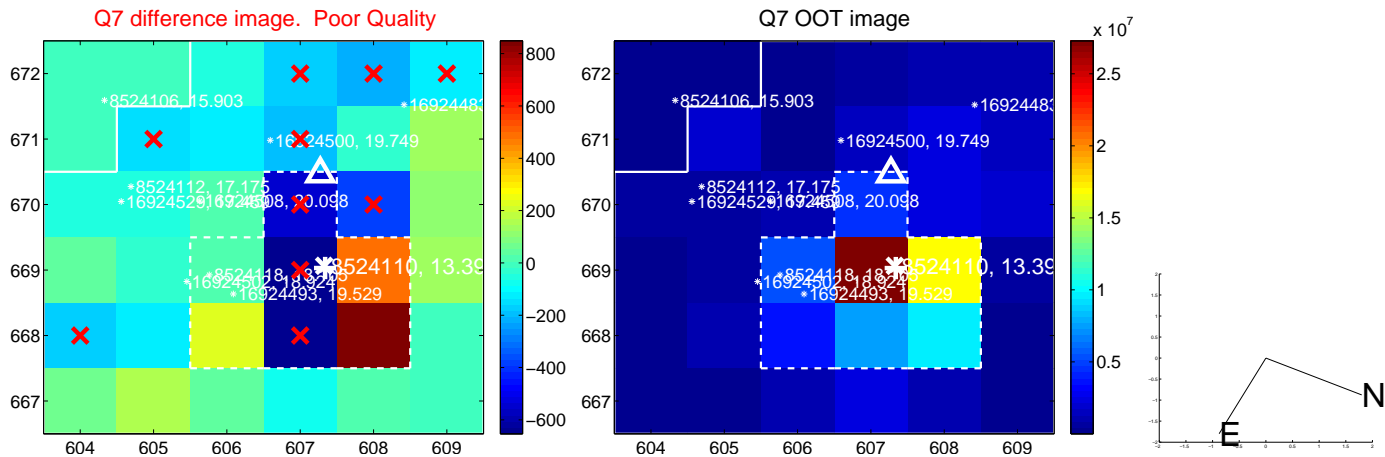
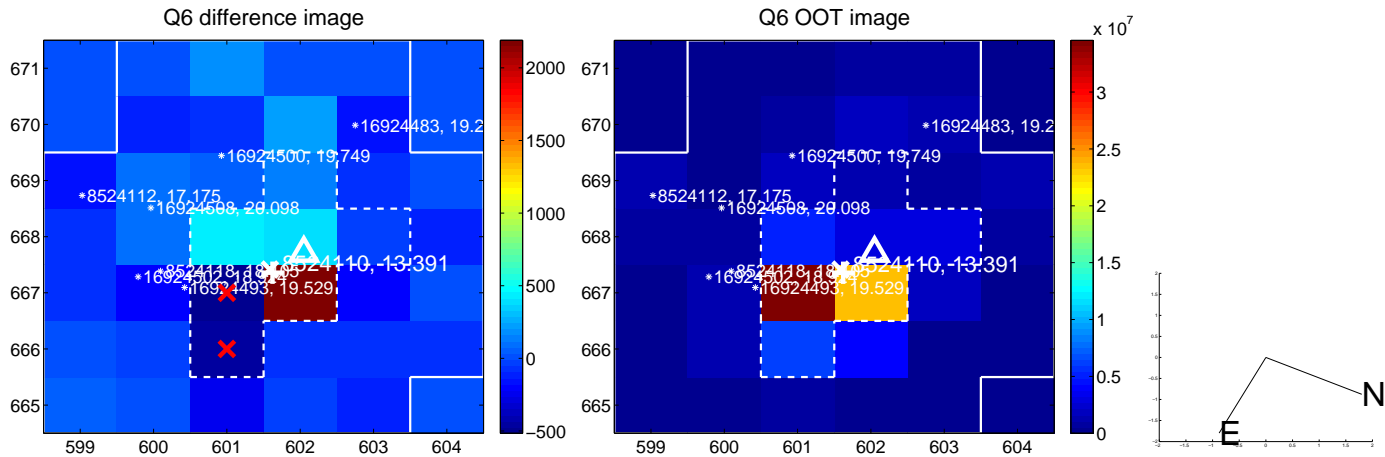
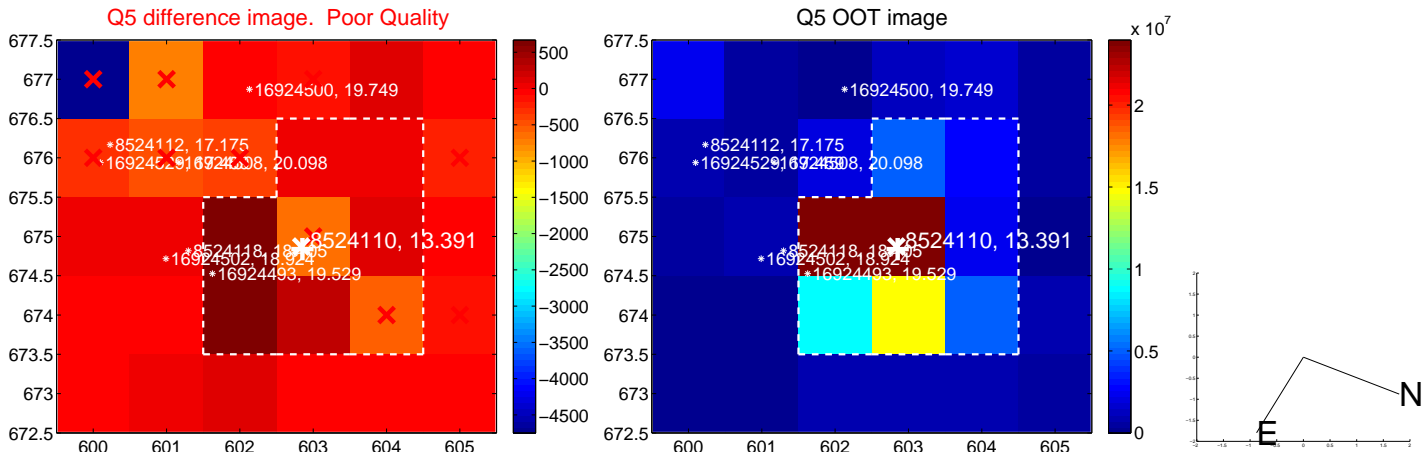


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

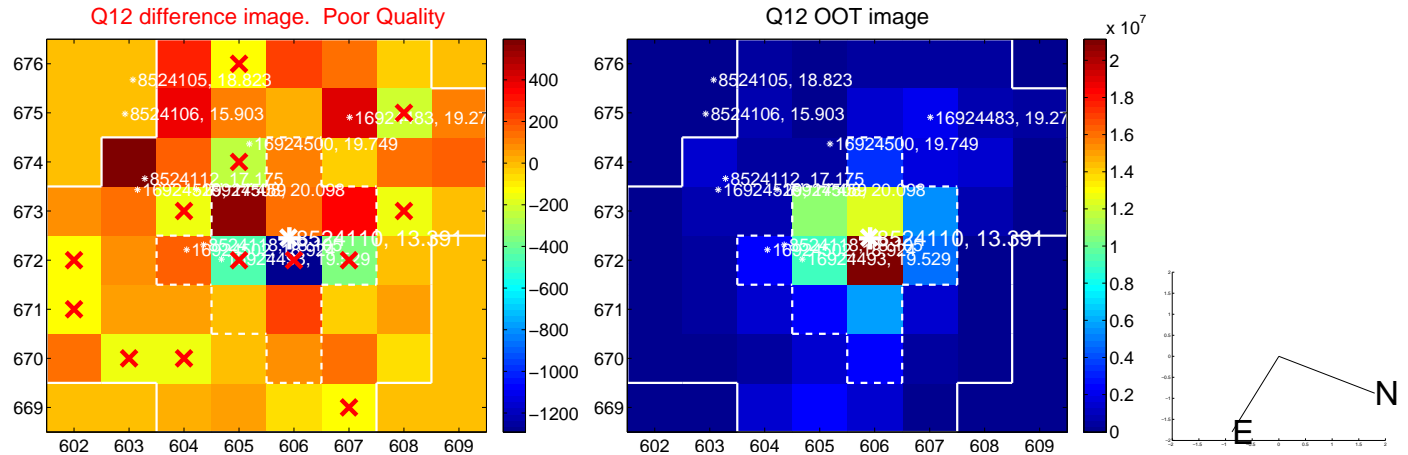
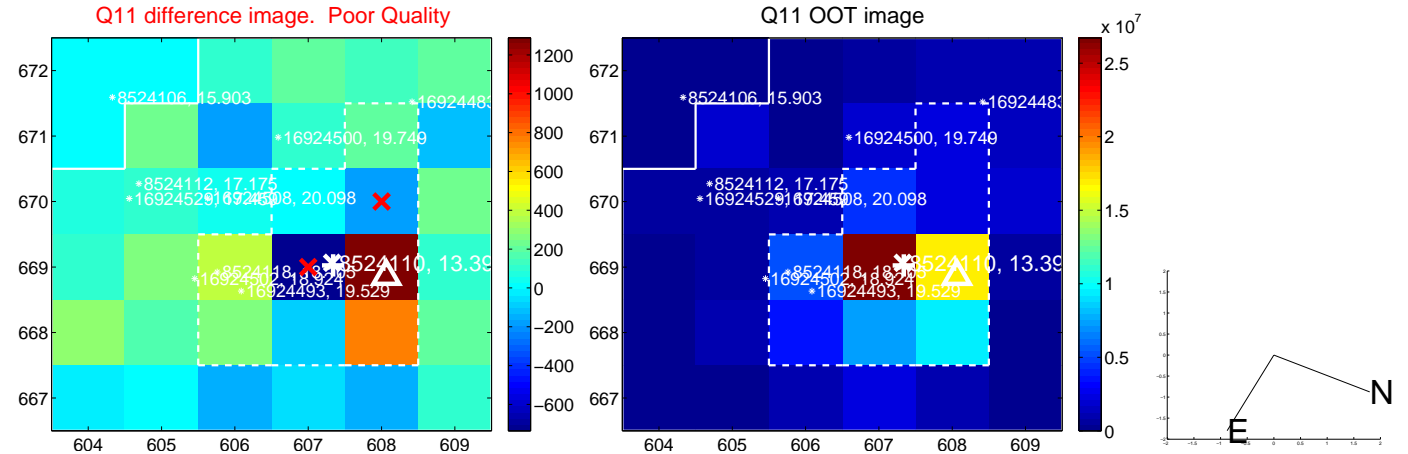
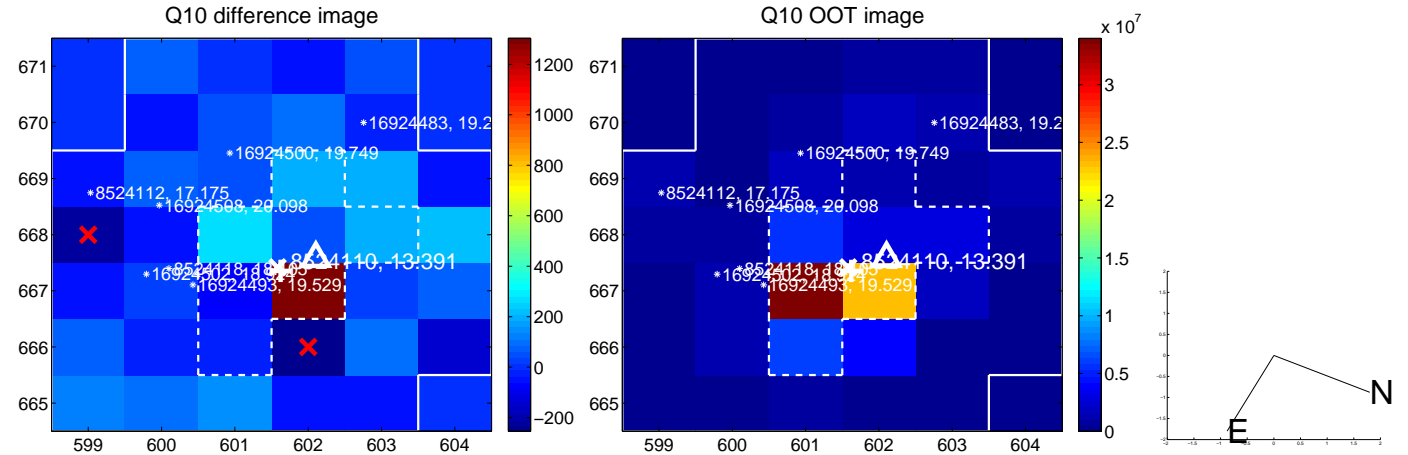
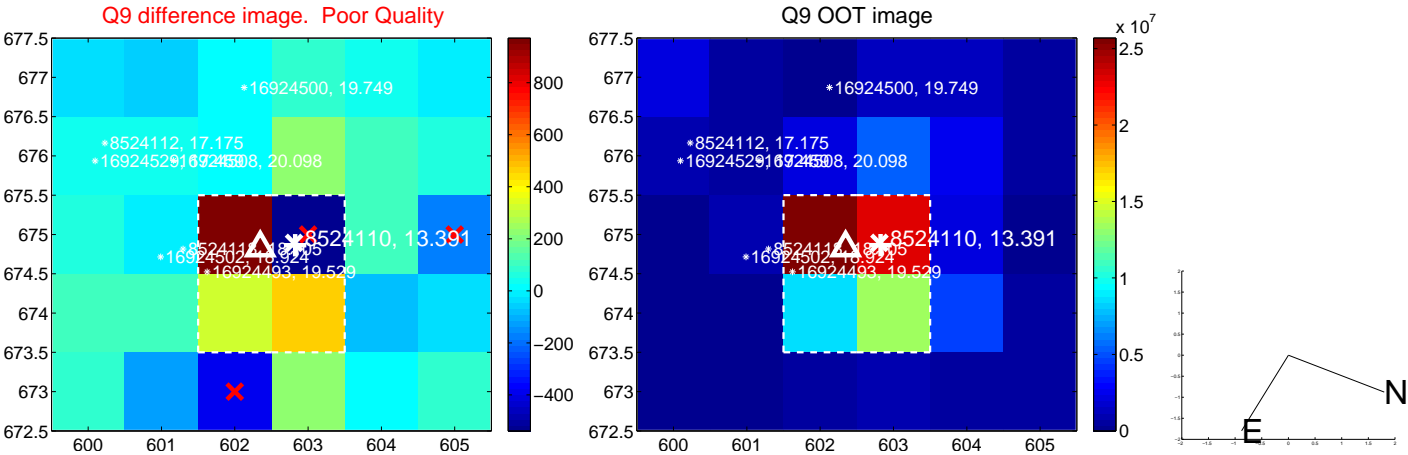
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



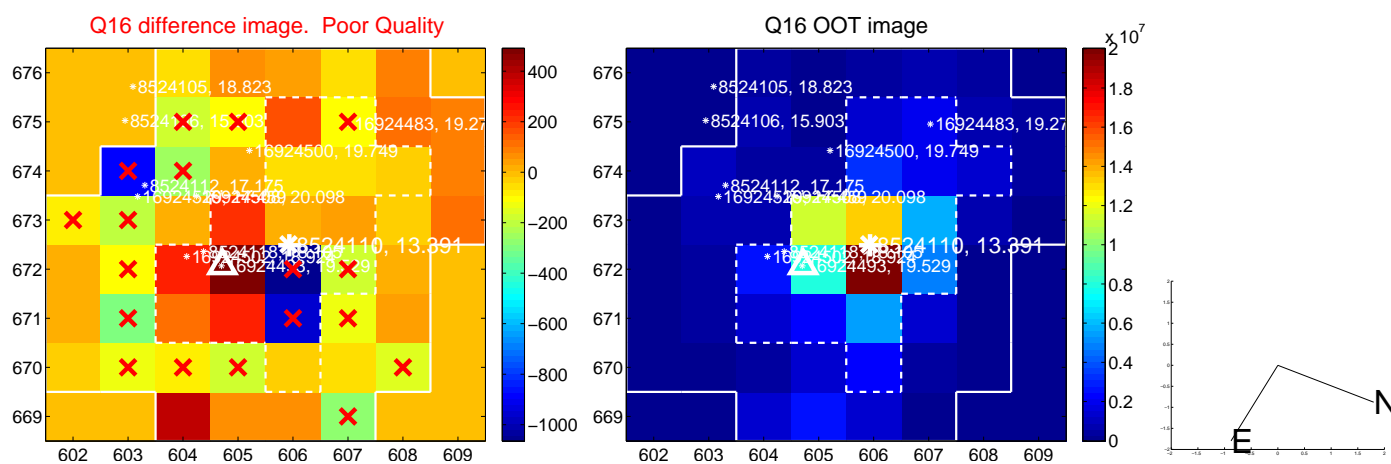
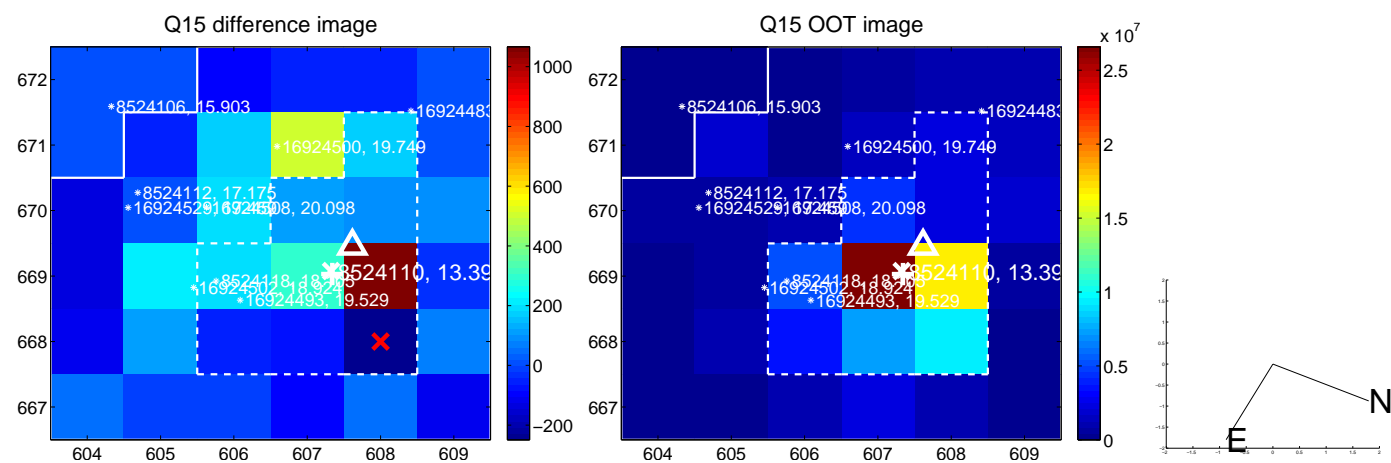
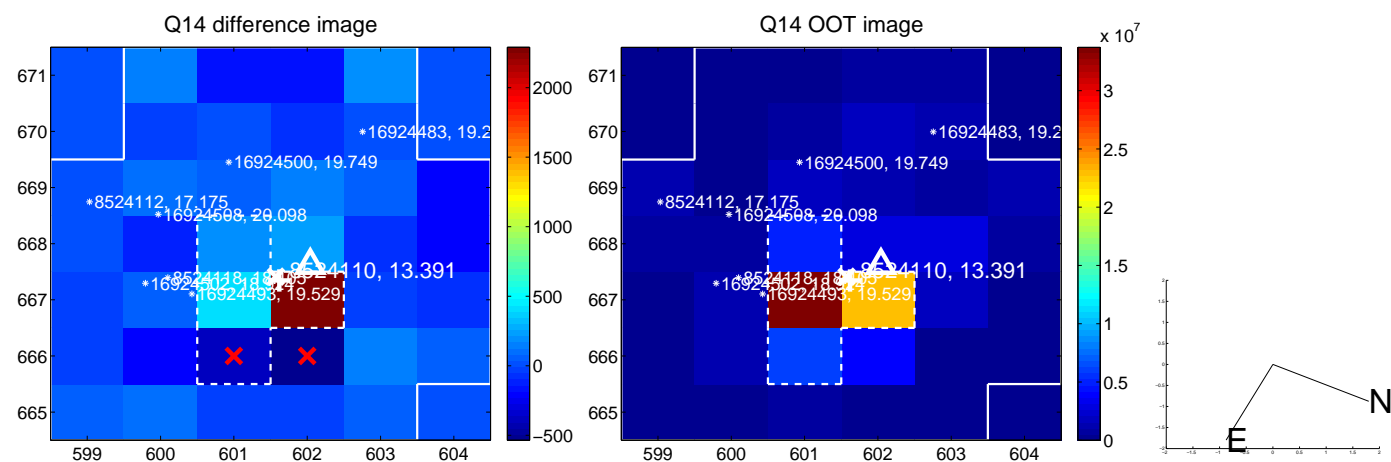
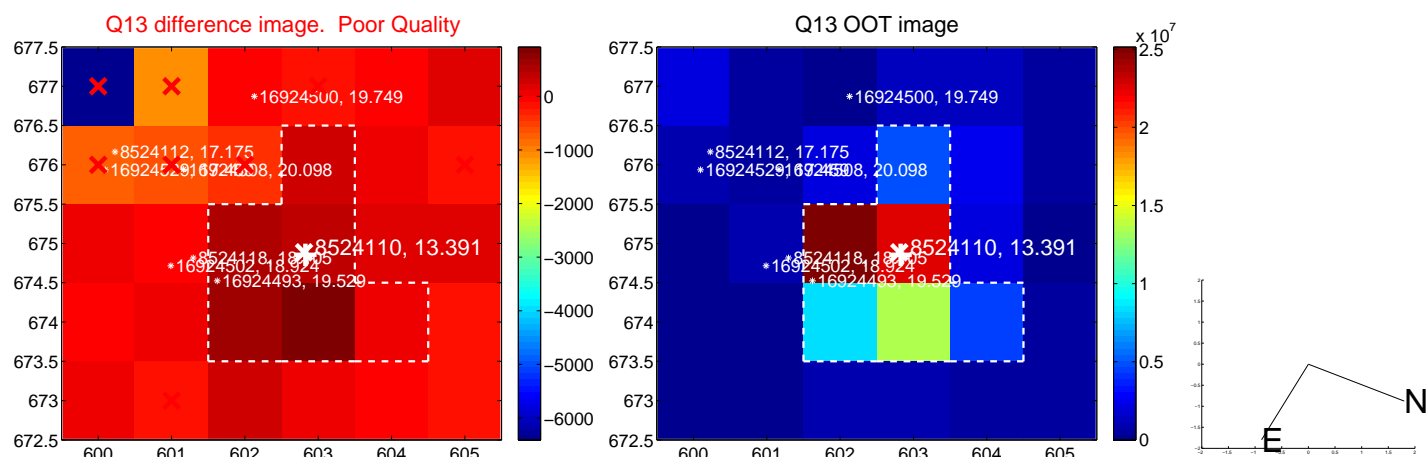
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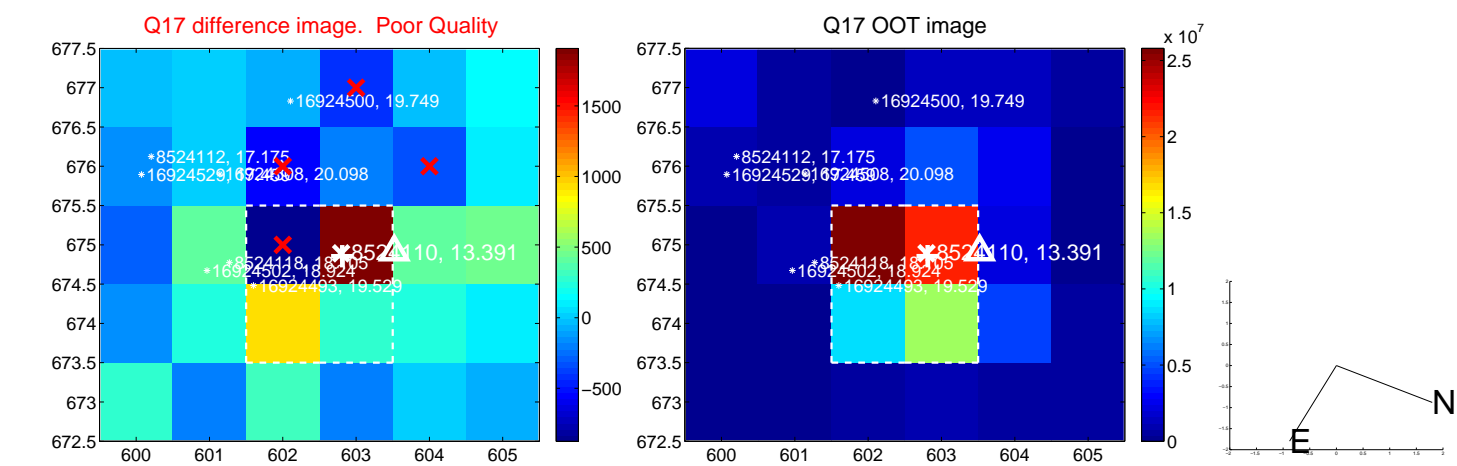
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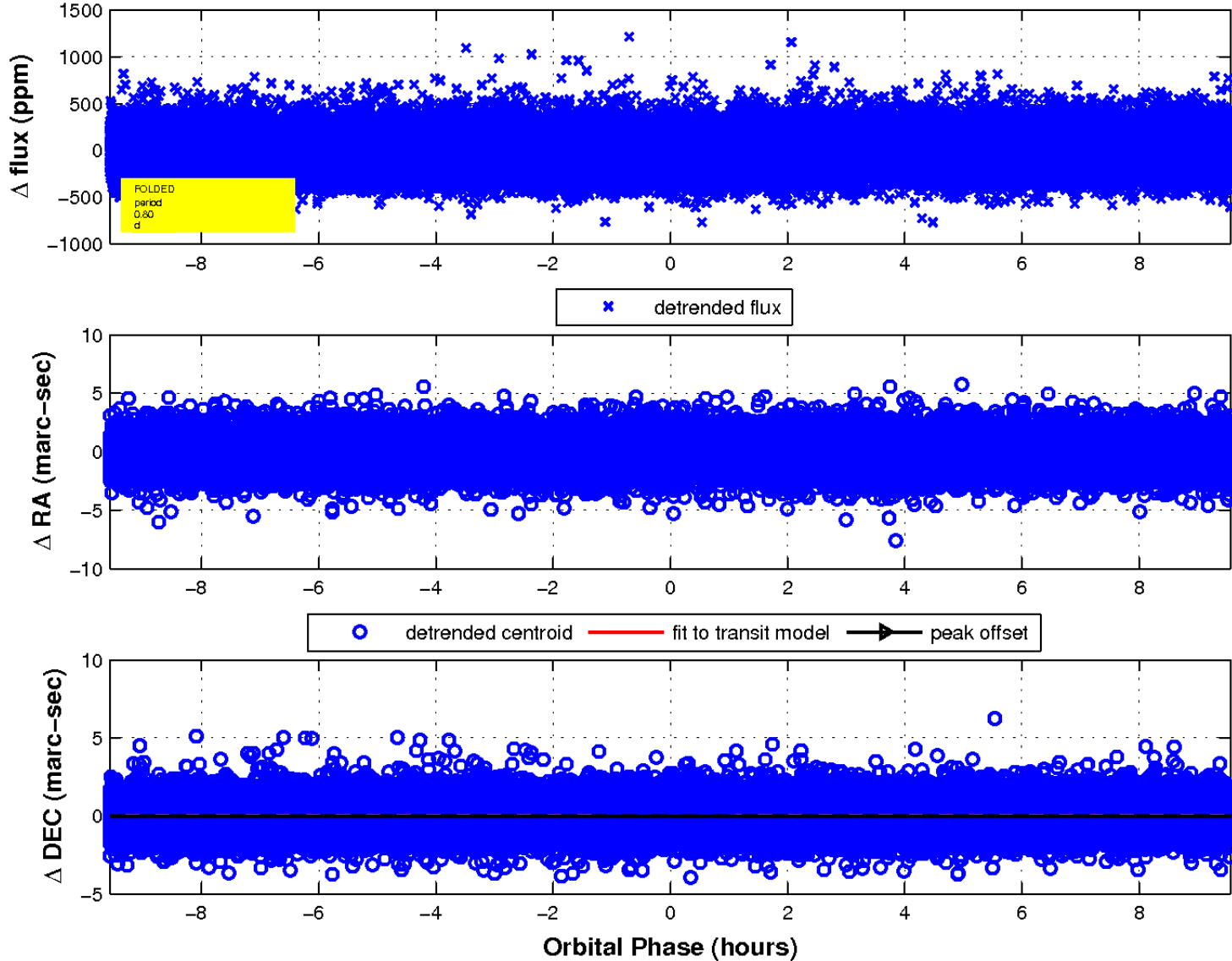
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

