

KIC 010609641

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})
010609641-01	OBS	No	0.676085	132.144349	273.4	7.399	14.2	20.4	2.13	7423	3.65	39457.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010609641-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT

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

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

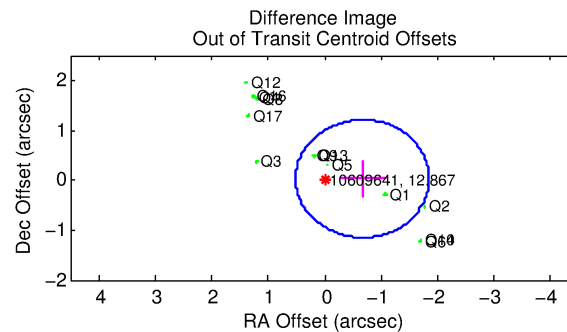
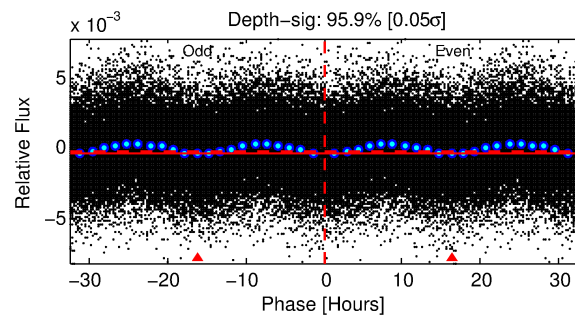
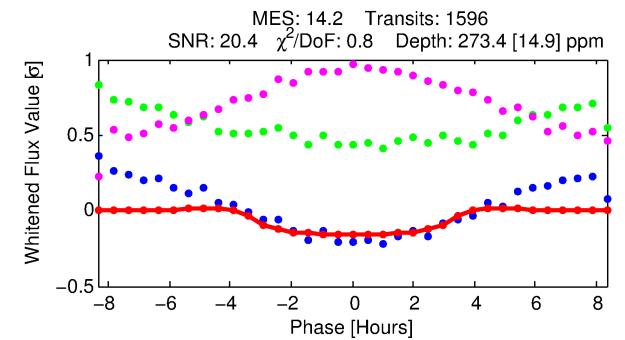
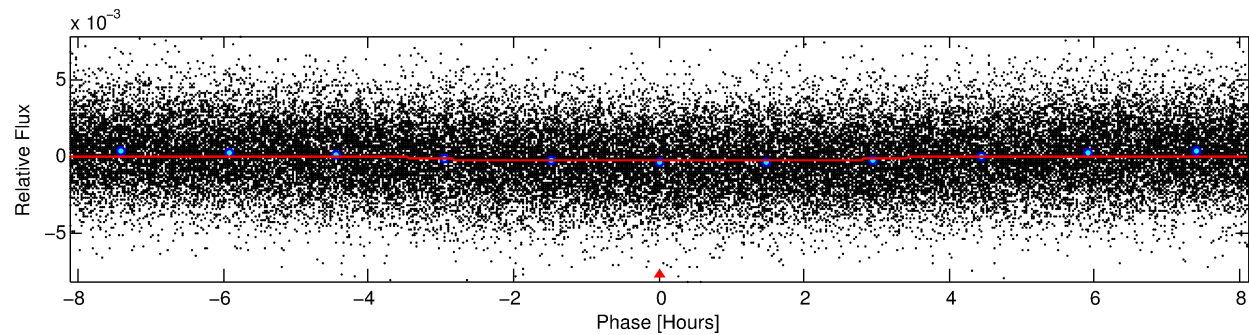
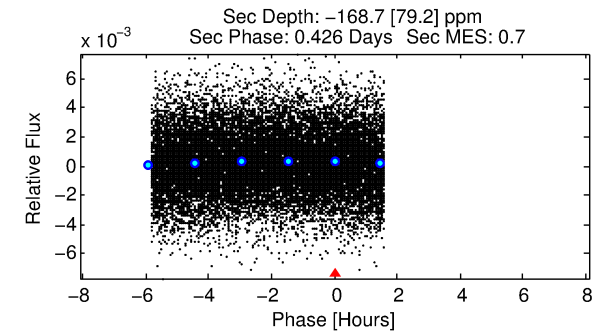
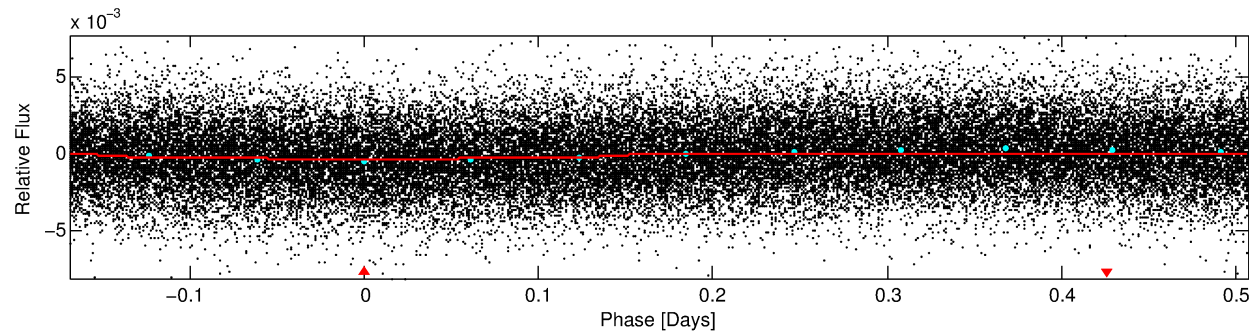
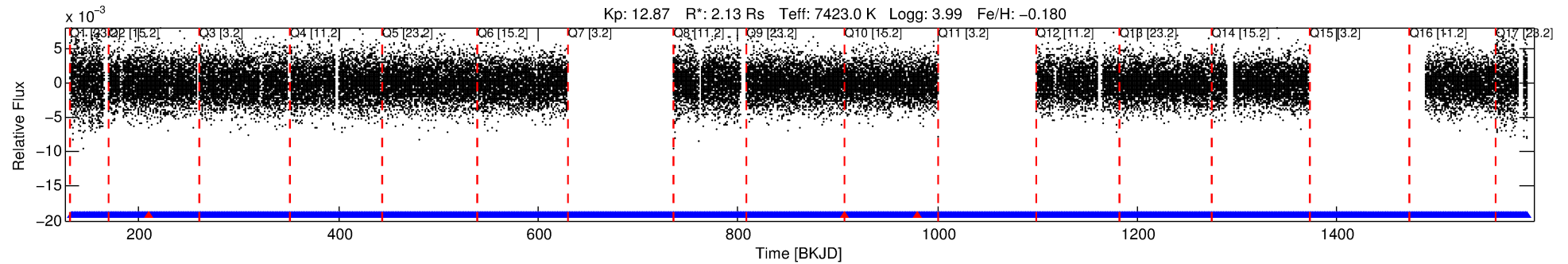
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010609641-01

No Significant Match Found

DV One-Page Summary

KIC: 10609641 Candidate: 1 of 1 Period: 0.676 d



DV Fit Results:

Period = 0.67608 [0.00001] d
Epoch = 132.1443 [0.0043] BKJD
Rp/R* = 0.0157 [0.0042]
a/R* = 1.02 [0.06]
b = 0.53 [1.94]
Seff = 39457.58 [10179.64]
Teq = 3594 [232] K
Rp = 3.65 [1.21] Re
a = 0.0177 [0.0030] AU
Ag = N/A
Teffp = N/A

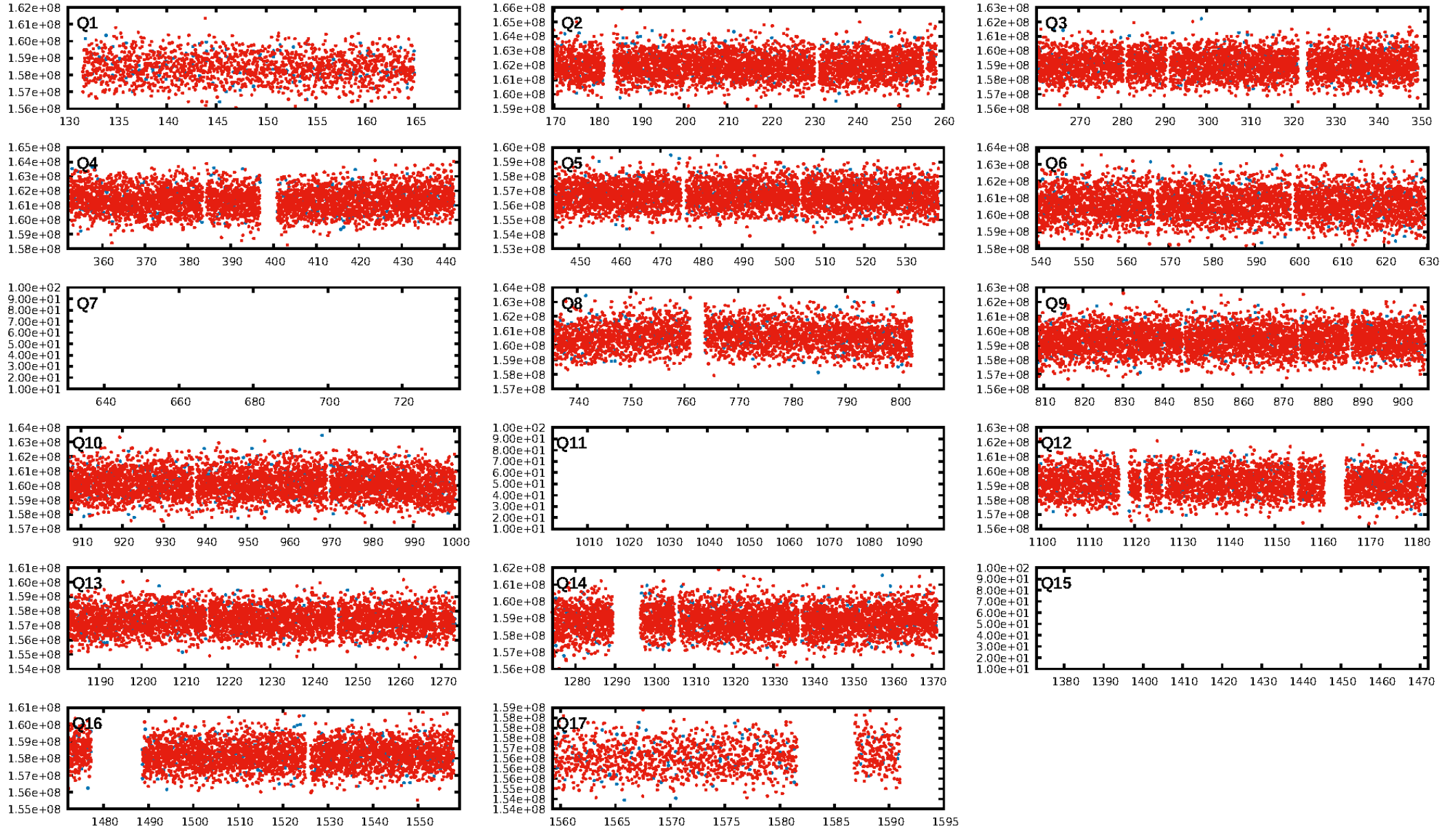
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1502/1505]
GhostDiagnostic-chr: 1.268
Centroid-sig: 29.5%
Centroid-so: 0.251 arcsec [6.19σ]
OotOffset-rm: 0.667 arcsec [1.70σ]
KicOffset-rm: 0.873 arcsec [2.23σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

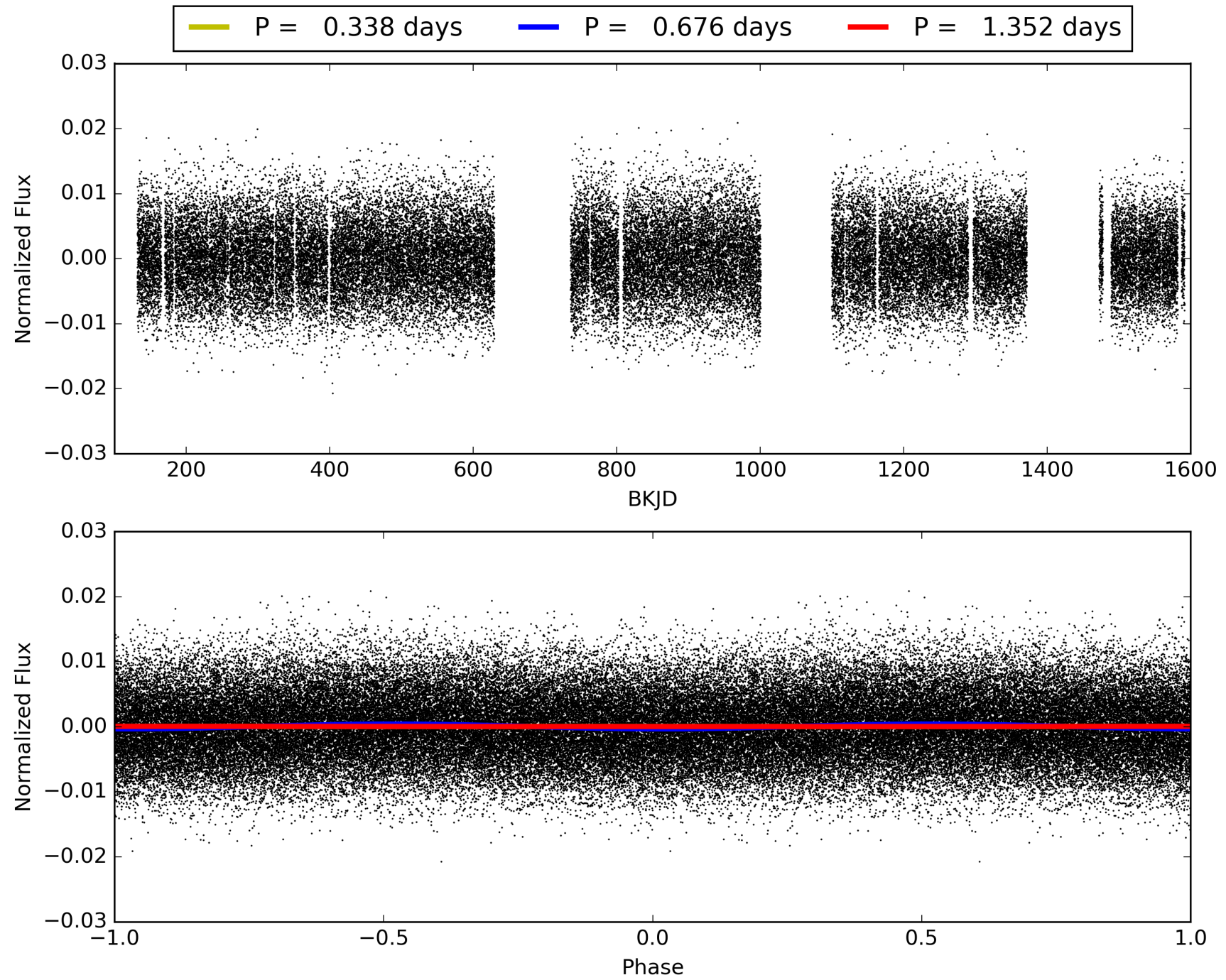
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 01:01:58 Z

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

TCE 010609641-01, PDC Light Curves

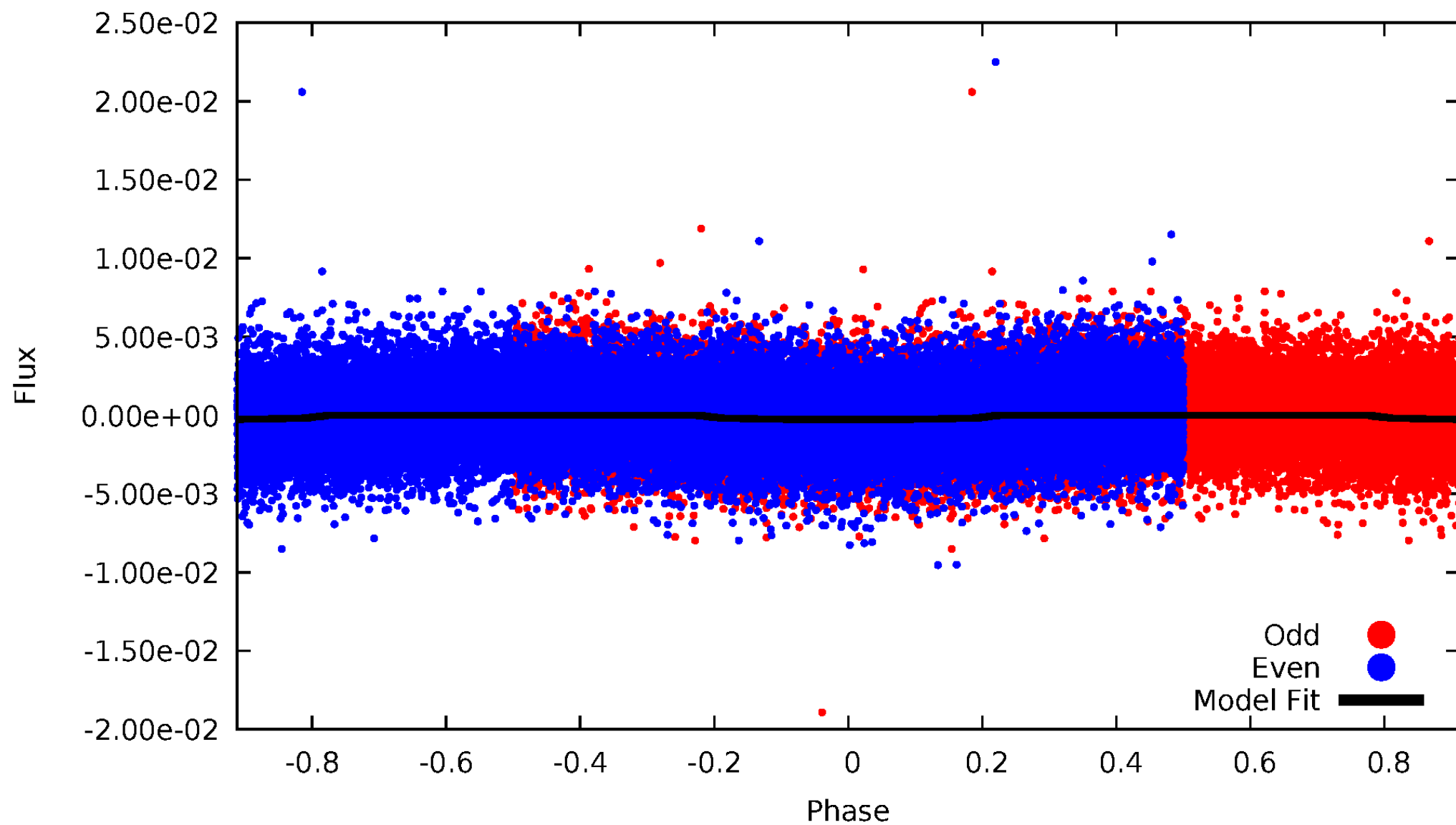


TCE 010609641-01



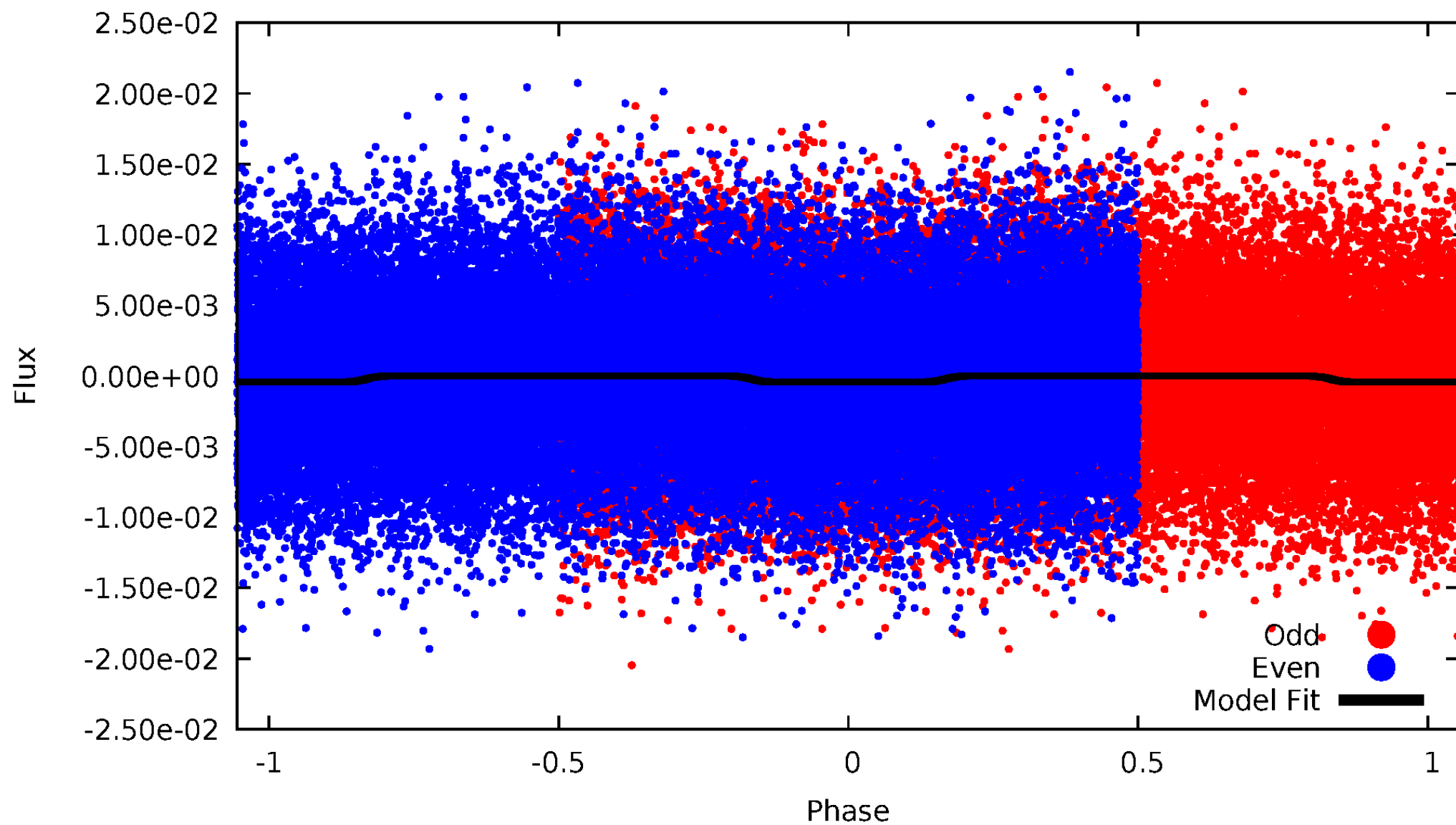
DV Odd/Even

TCE 010609641-01

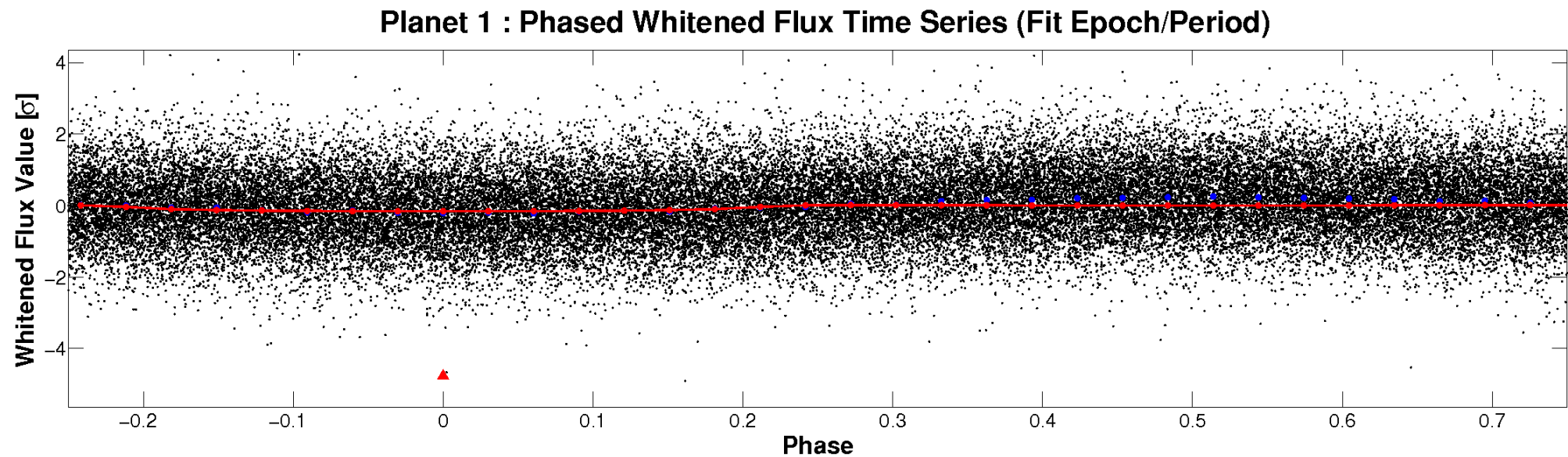
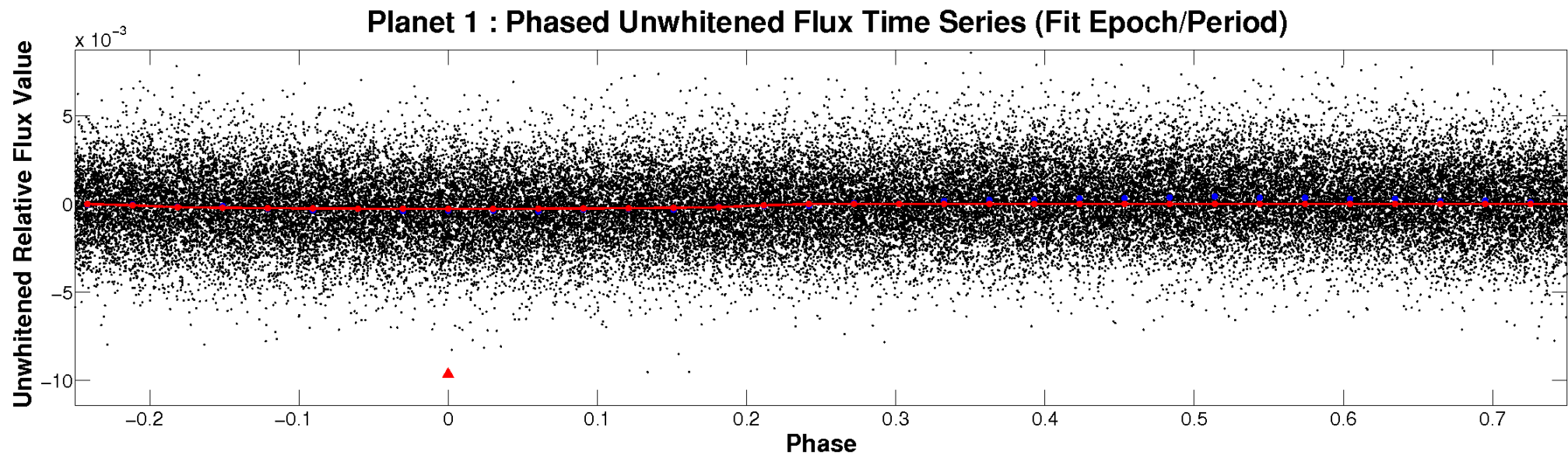


ALT Odd/Even

TCE 010609641-01

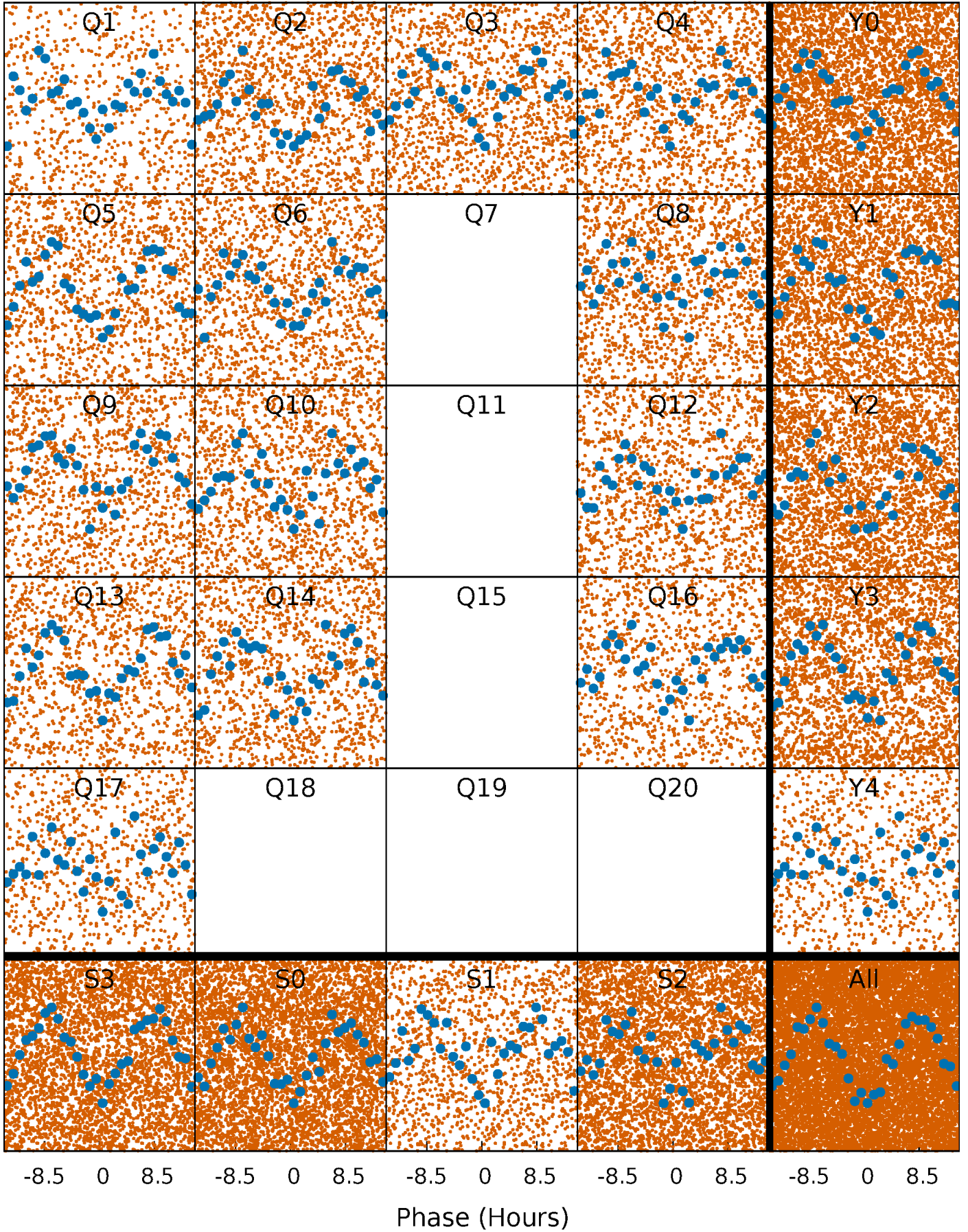


Non-Whitened Vs. Whitened Light Curve



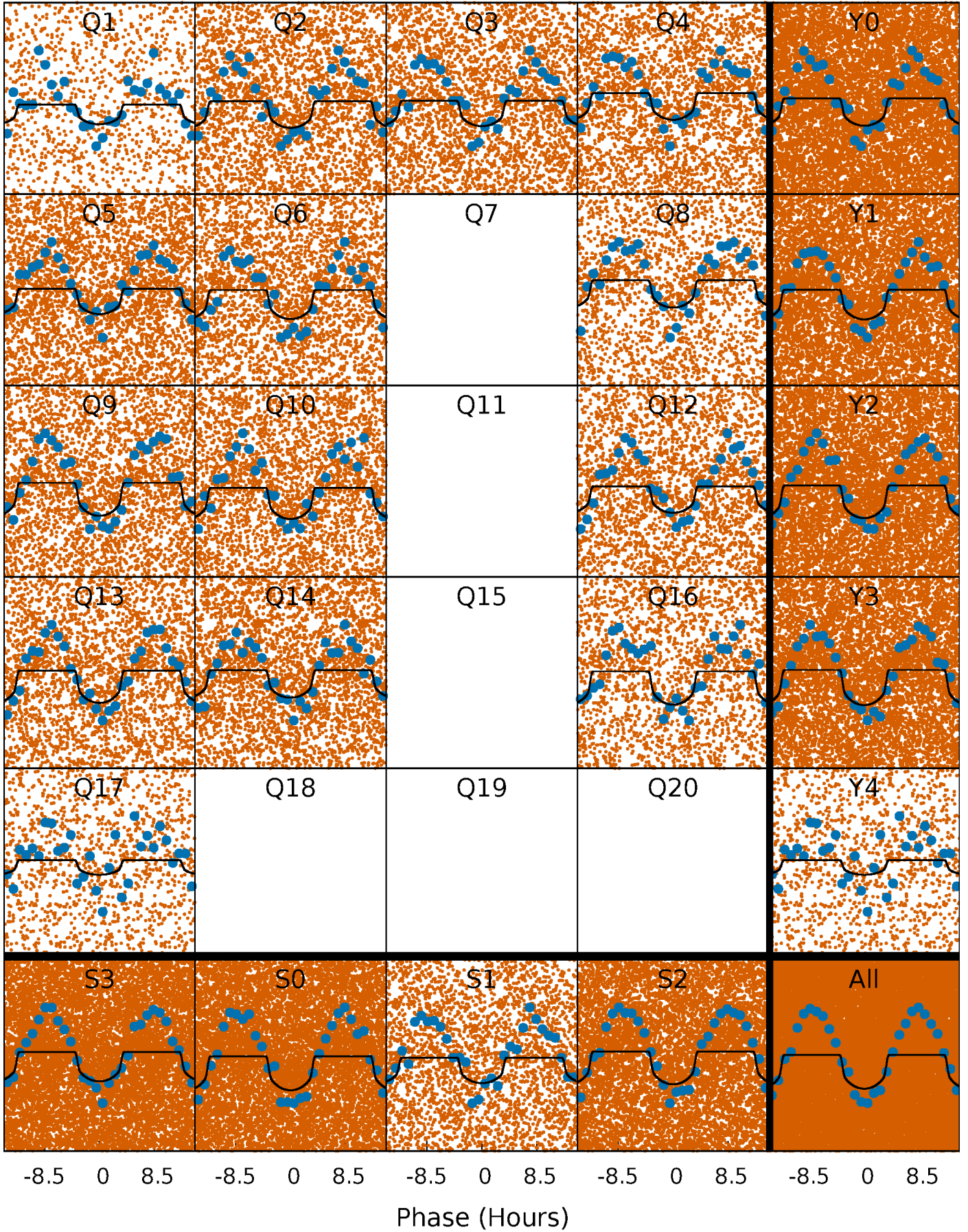
PDC Quarter-Phased Transit Curves

TCE 010609641-01 P= 0.676085 Days $T_0=132.144349$ (BKJD)



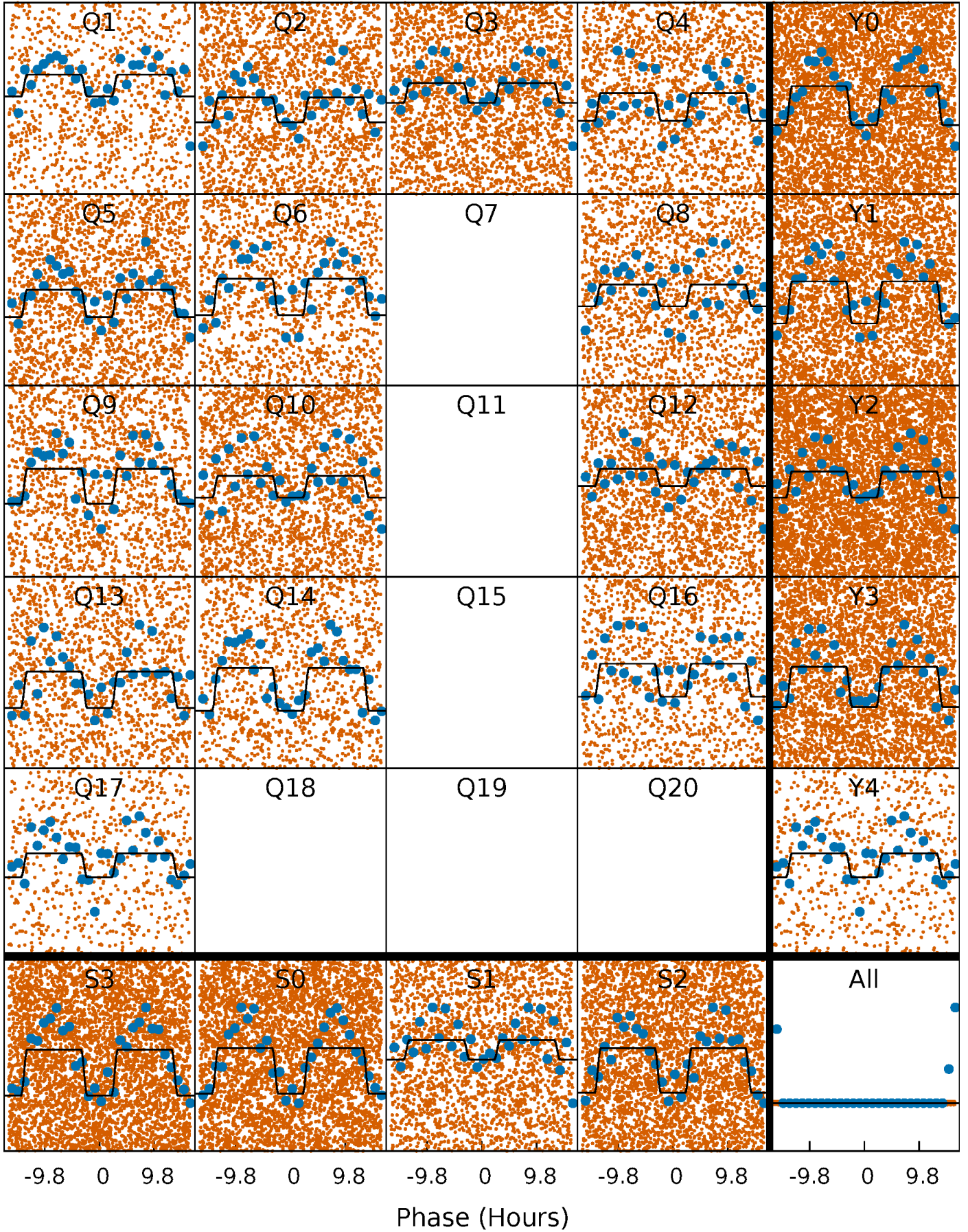
DV Quarter-Phased Transit Curves

TCE 010609641-01 P= 0.676085 Days $T_0=132.144349$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

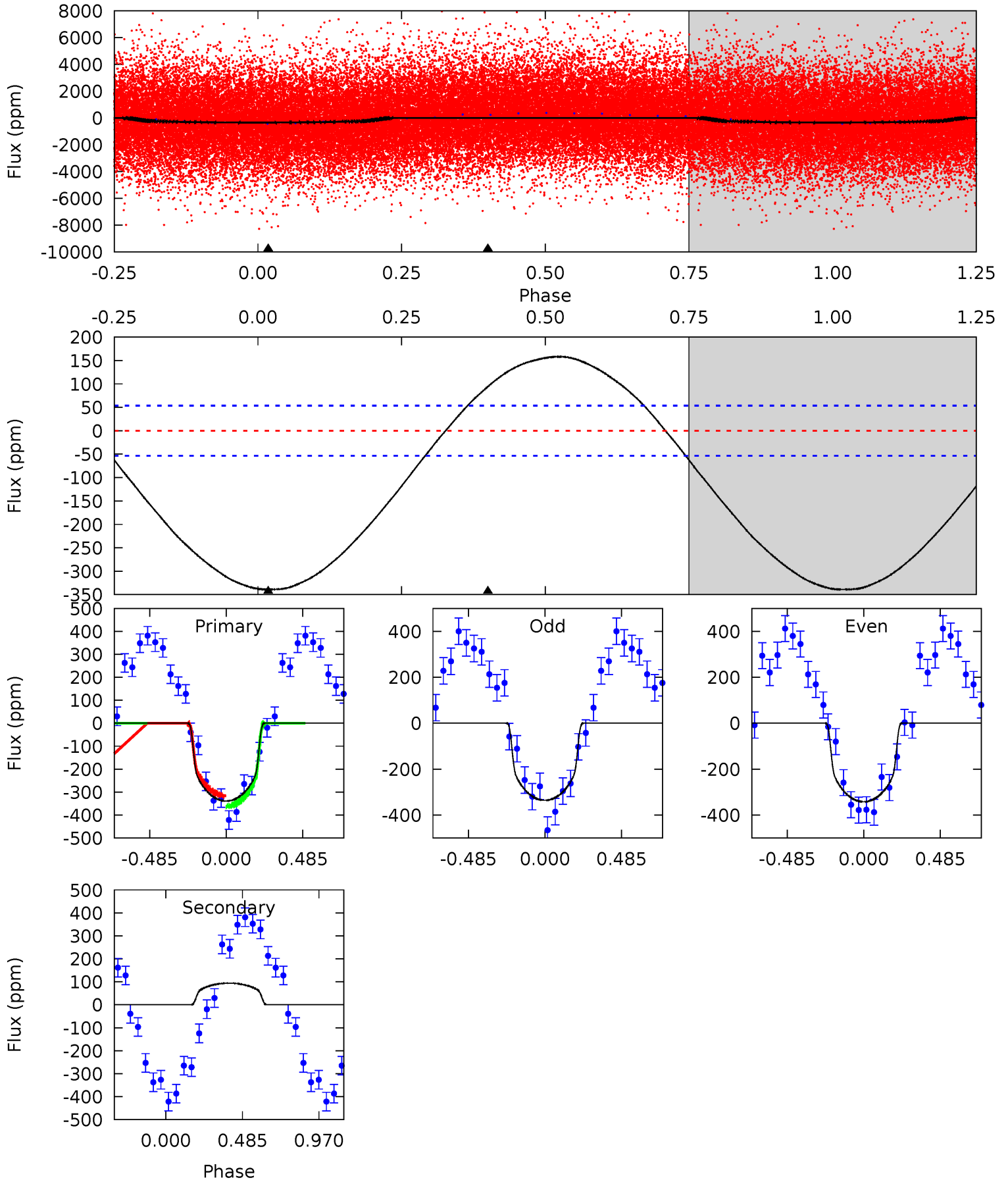
TCE 010609641-01 P= 0.676124 Days $T_0=132.115343$ (BKJD)



DV Model-Shift Uniqueness Test

010609641-01, P = 0.676085 Days, E = 131.468264 Days

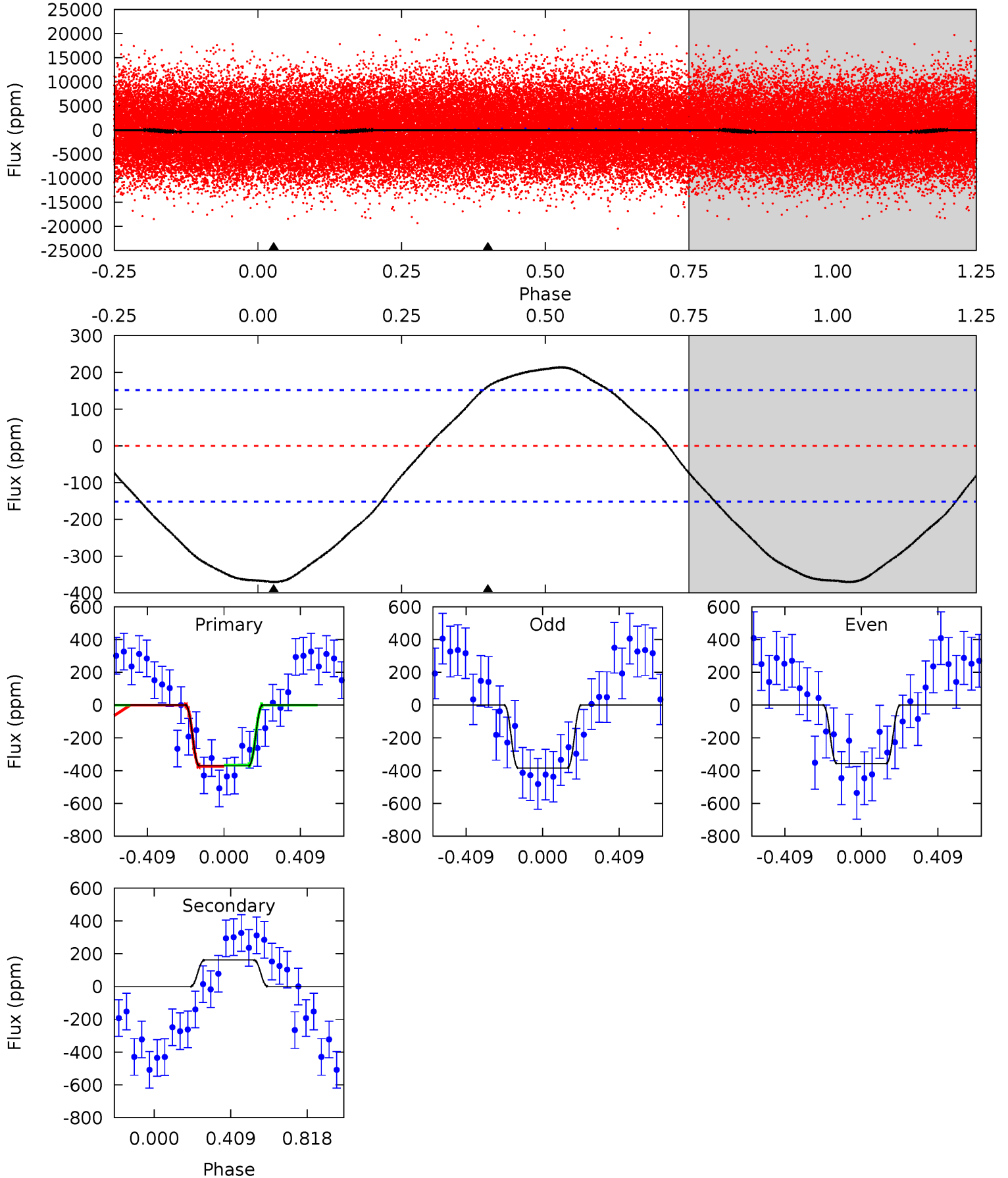
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.7	-7.41	0	0	4.22	0.70	3.48	26.7	26.7	-7.41	-7.41	0.25	1.02	0.32	1.82



Alt Model-Shift Uniqueness Test

010609641-01, P = 0.676124 Days, E = 131.439219 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	-4.54	0	0	4.26	0.83	1.58	10.4	10.4	-4.54	-4.54	0.40	1.02	0.37	0.09



Stellar Parameters For KIC 010609641

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7423^{+81}_{-81}	$3.989^{+0.143}_{-0.117}$	$-0.180^{+0.200}_{-0.100}$	$2.130^{+0.372}_{-0.410}$	$1.614^{+0.154}_{-0.126}$	$0.235^{+0.165}_{-0.083}$
	+1%/-1%	+4%/-3%	+111%/-56%	+17%/-19%	+10%/-8%	+70%/-35%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 010609641-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	94 ± 13	$3.69^{+1.08}_{-1.09}$	5026^{+233}_{-252}	-6063^{+531}_{-954}	$-1.195^{+0.483}_{-1.202}$
Alt.	161 ± 36	$4.79^{+1.06}_{-1.12}$	5006^{+239}_{-231}	-6099^{+497}_{-681}	$-1.237^{+0.495}_{-0.946}$

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 $A_{obs} \gg 1.0$

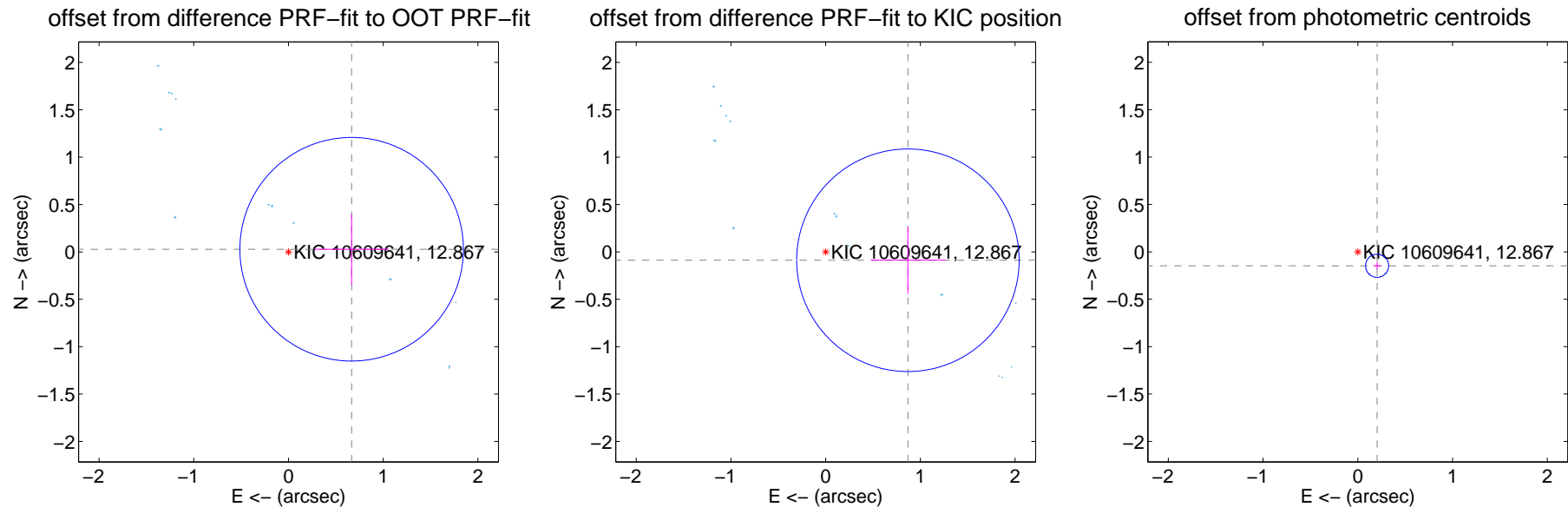
DV Centroid Data

Supplemental centroid analysis for 010609641-01. Kepler magnitude: 12.87. Transit SNR 20.40

There are 14 quarters with good PRF difference image offsets

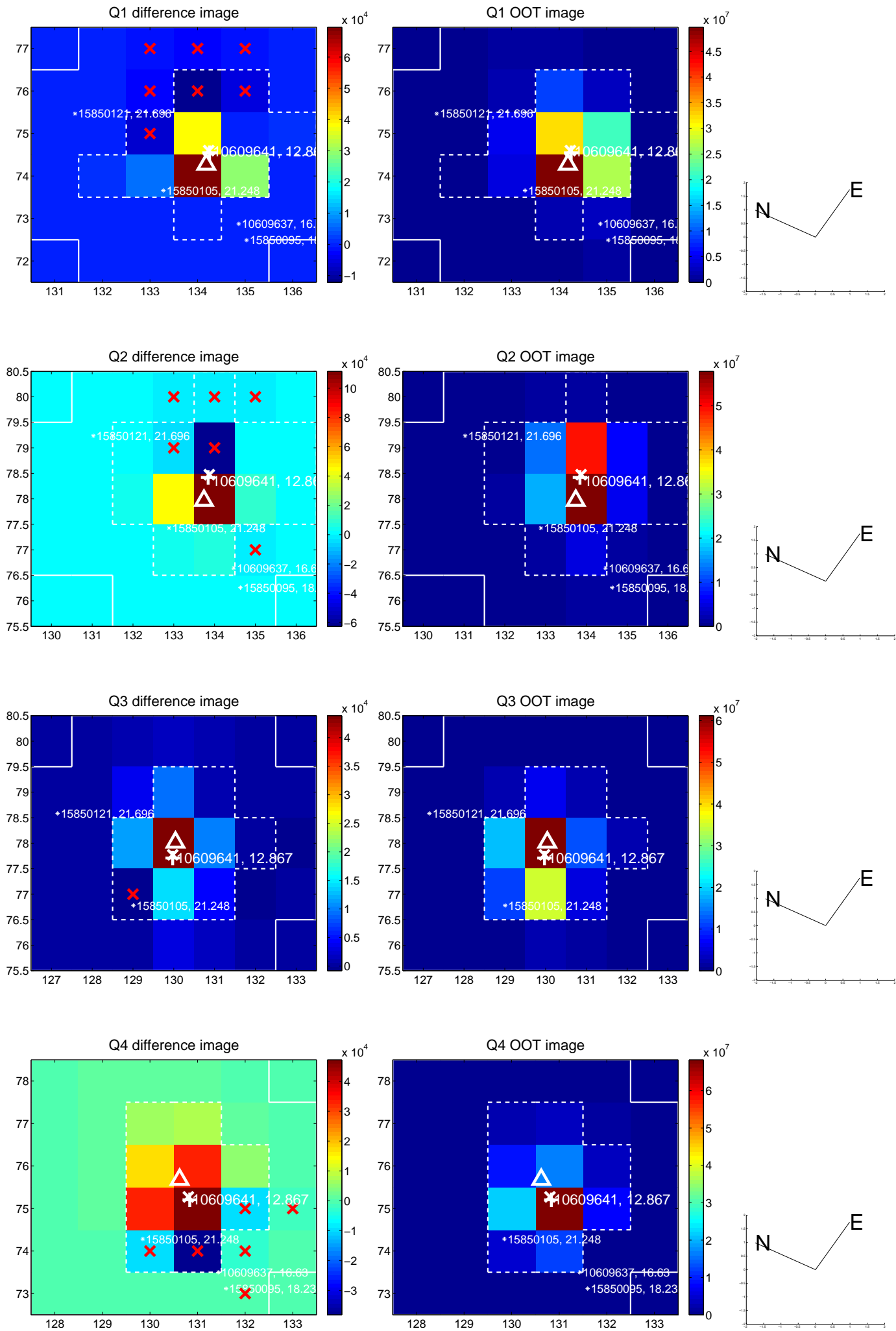
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.667 ± 0.393	1.70	-0.667 ± 0.393	0.028 ± 0.371
PRF-fit source offset from KIC position	0.873 ± 0.391	2.23	-0.868 ± 0.392	-0.088 ± 0.353
photometric centroid source offset	0.25 ± 0.04	6.19	-0.20 ± 0.04	-0.15 ± 0.04

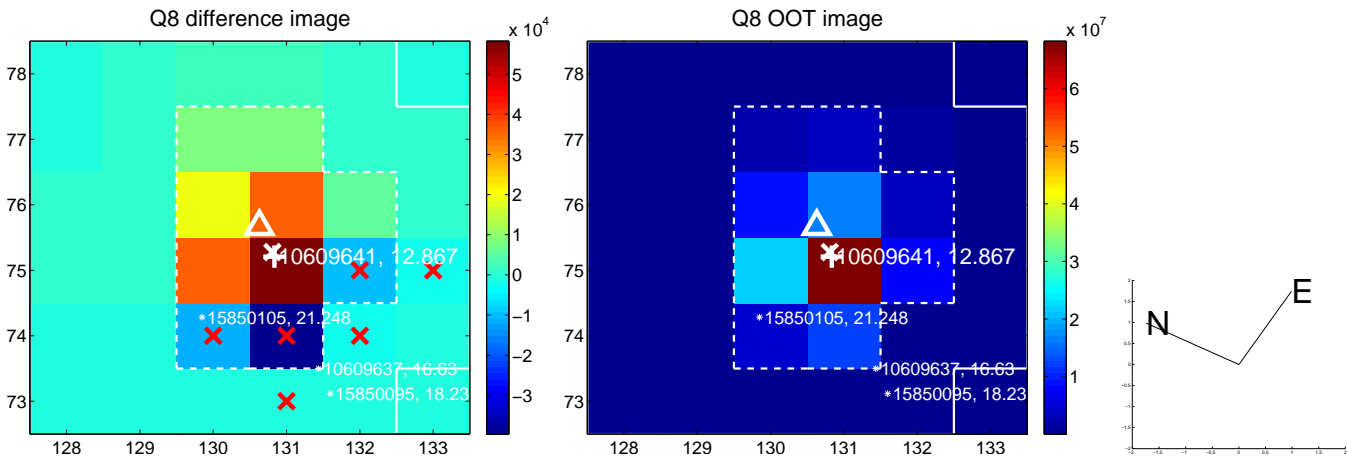
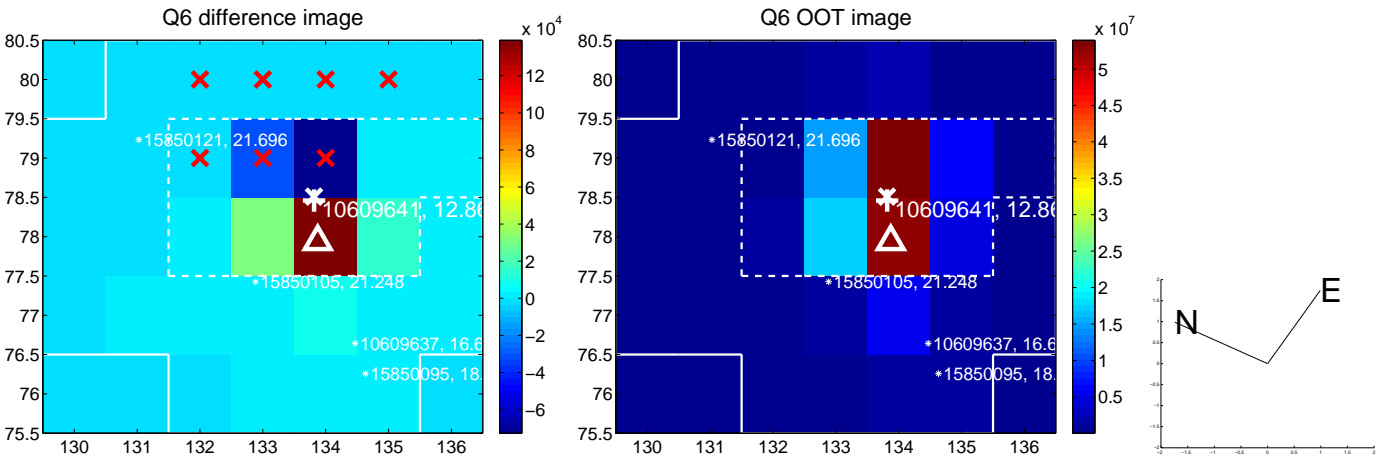
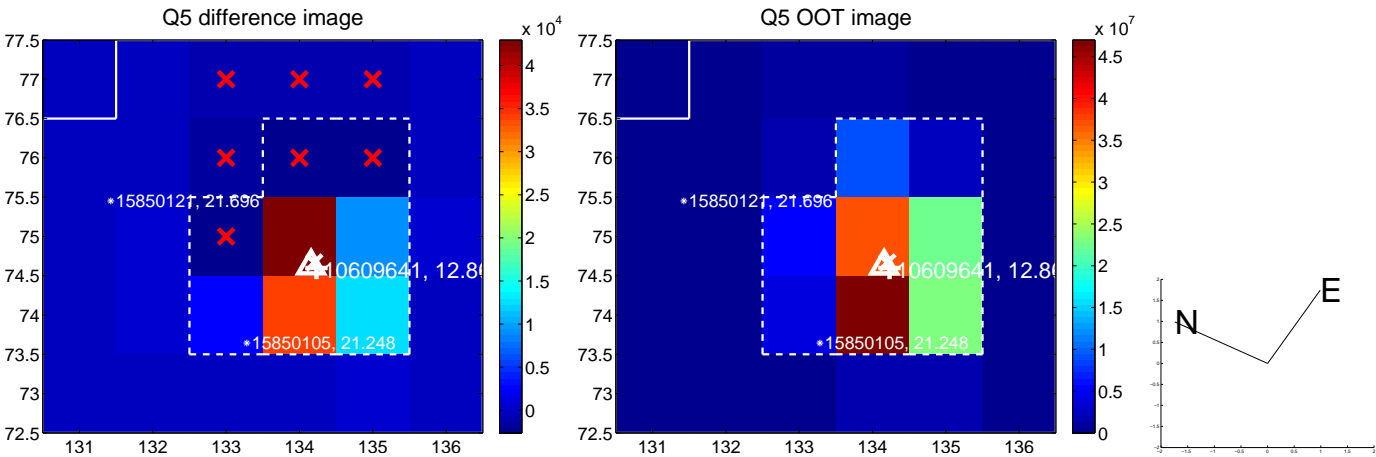


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

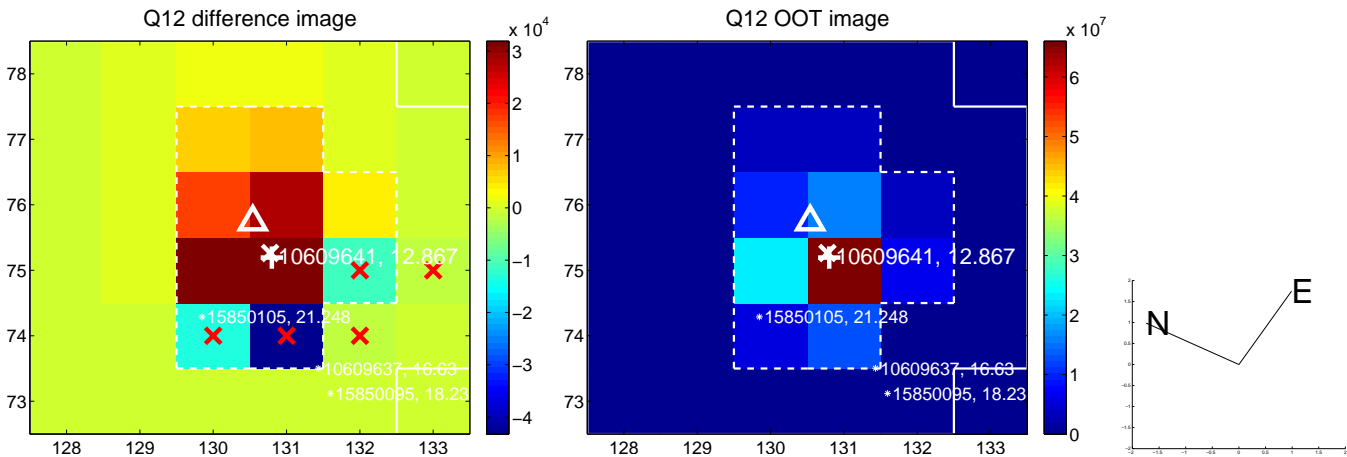
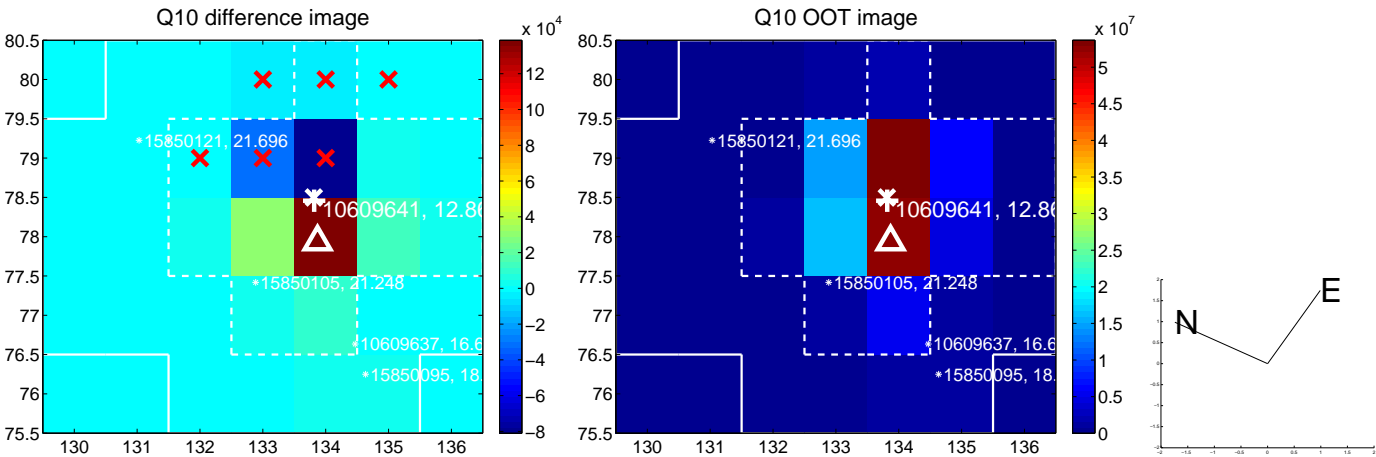
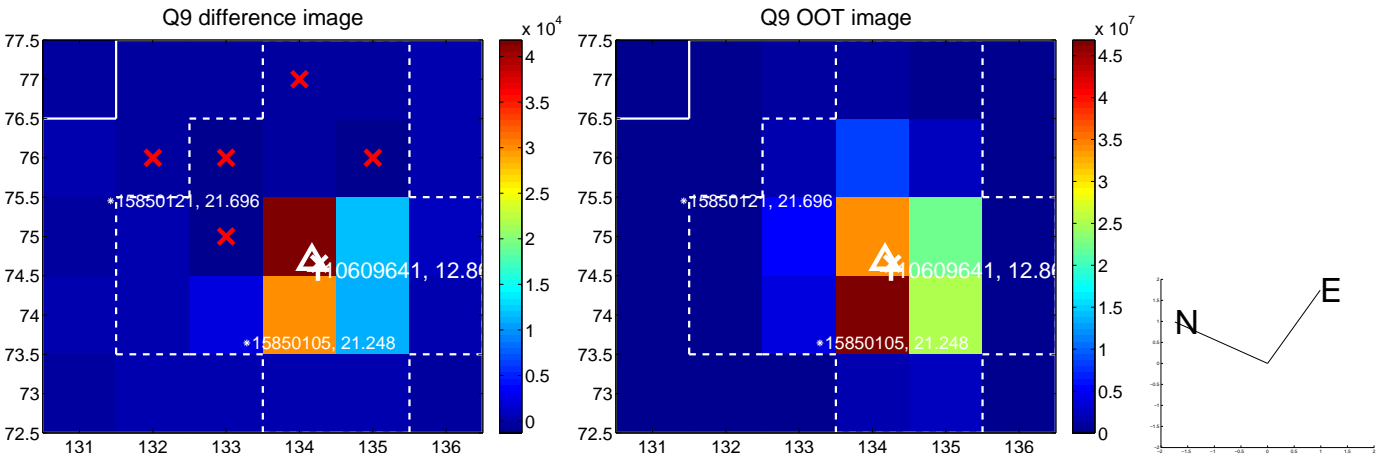
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



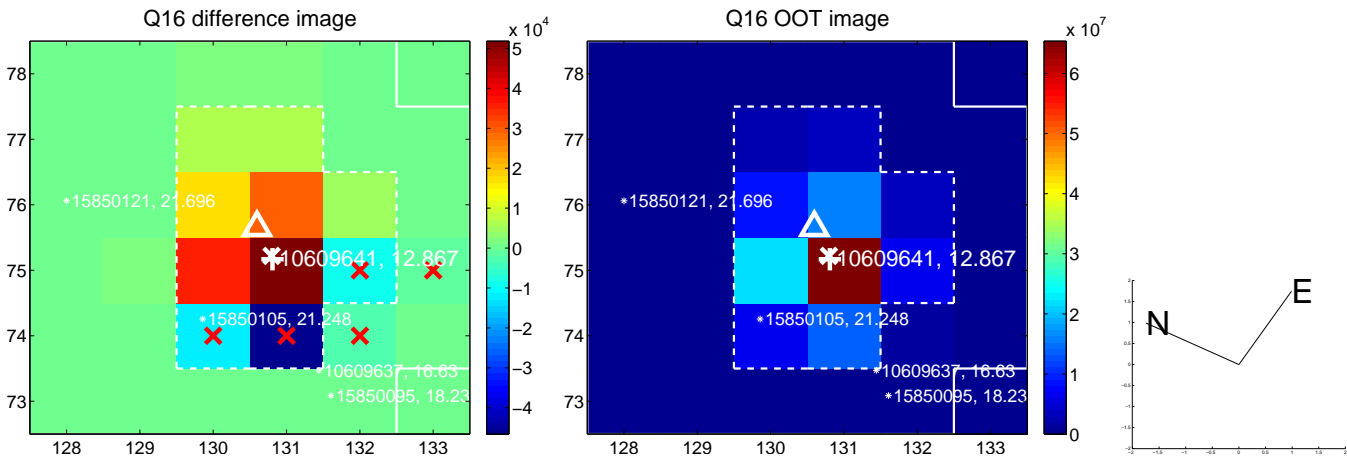
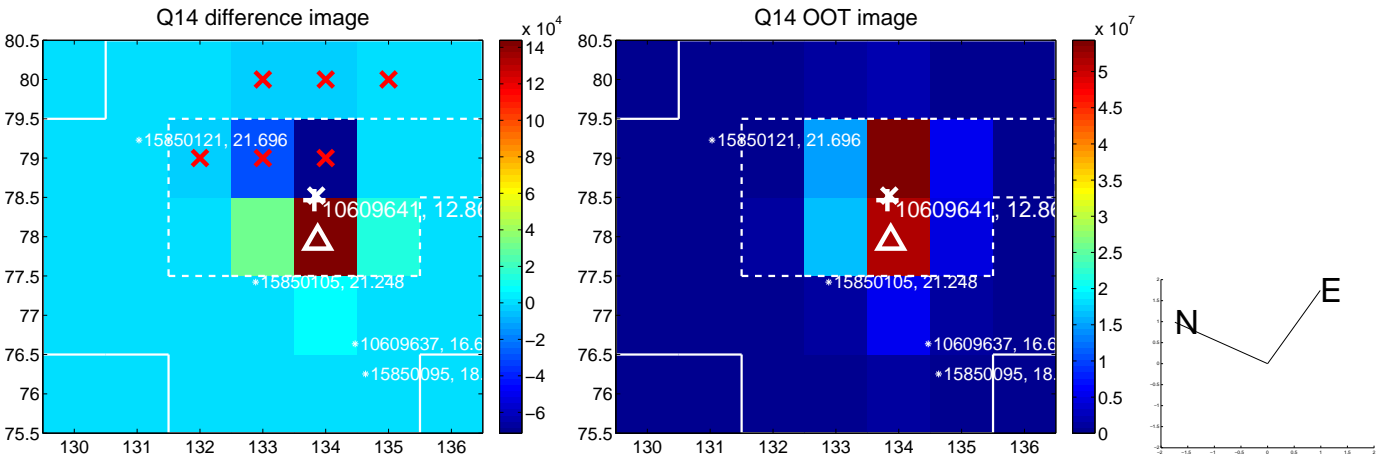
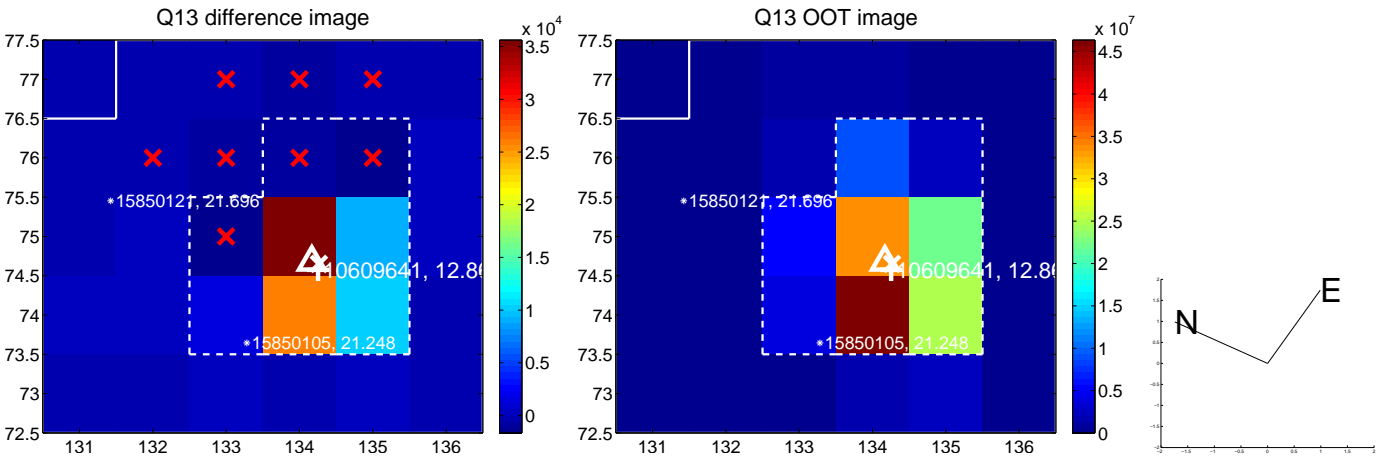
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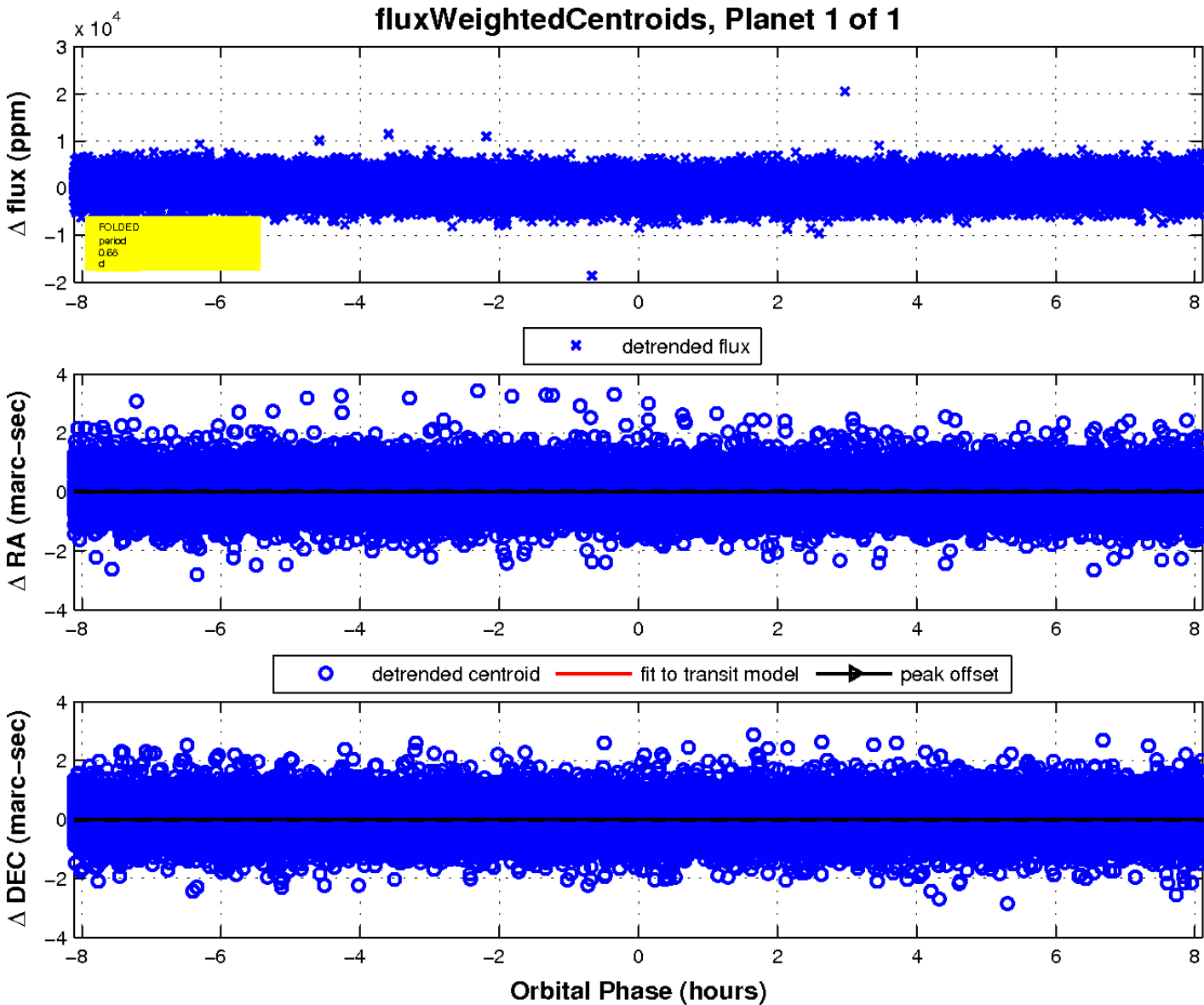
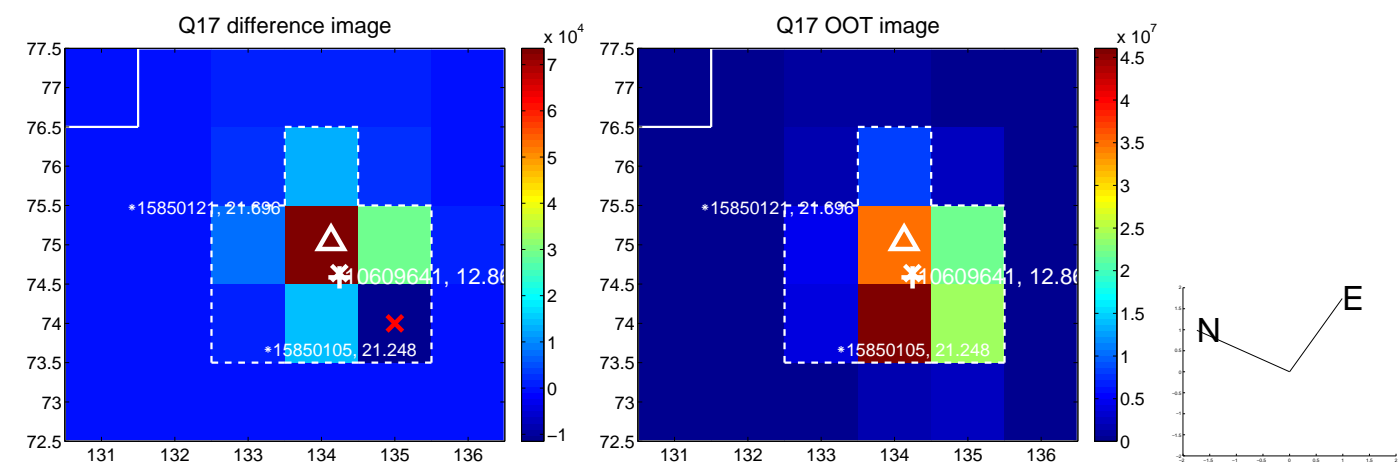
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white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



UKIRT Image

