

KIC 009730397

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})
009730397-01	OBS	No	0.701635	131.828978	36.6	1.330	8.3	6.6	1.77	7347	1.15	24936.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009730397-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT

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

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

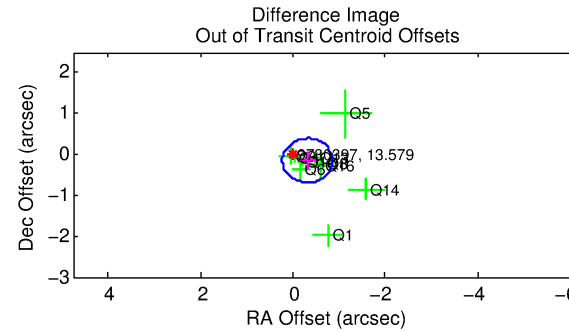
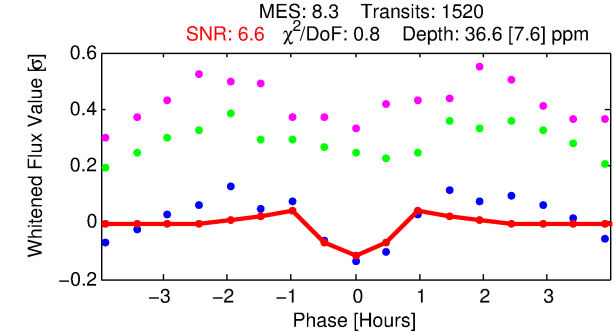
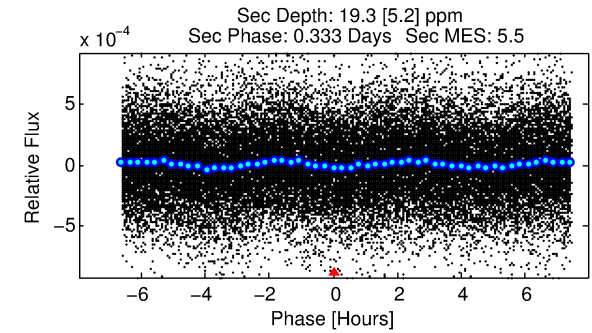
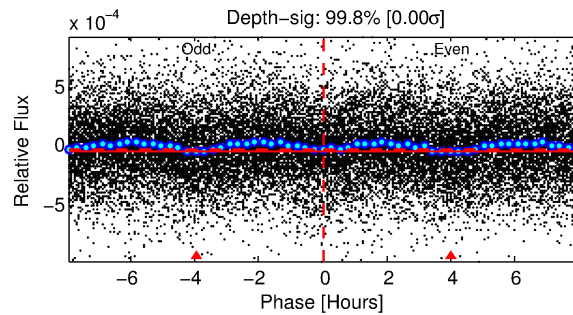
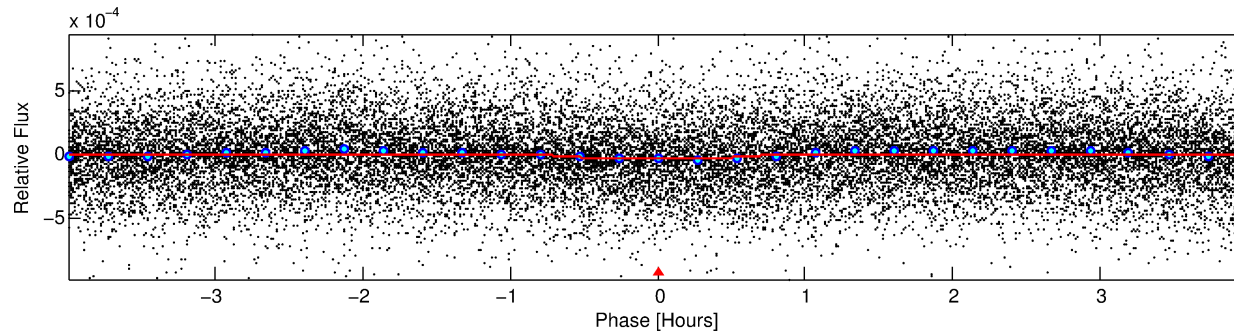
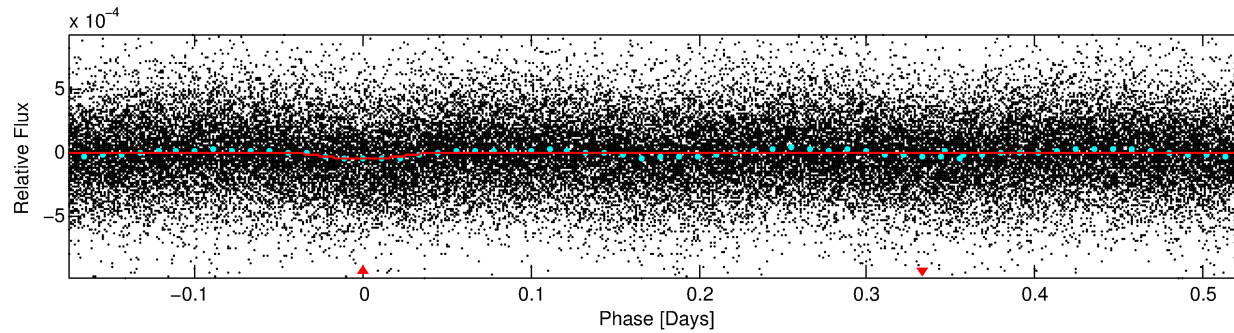
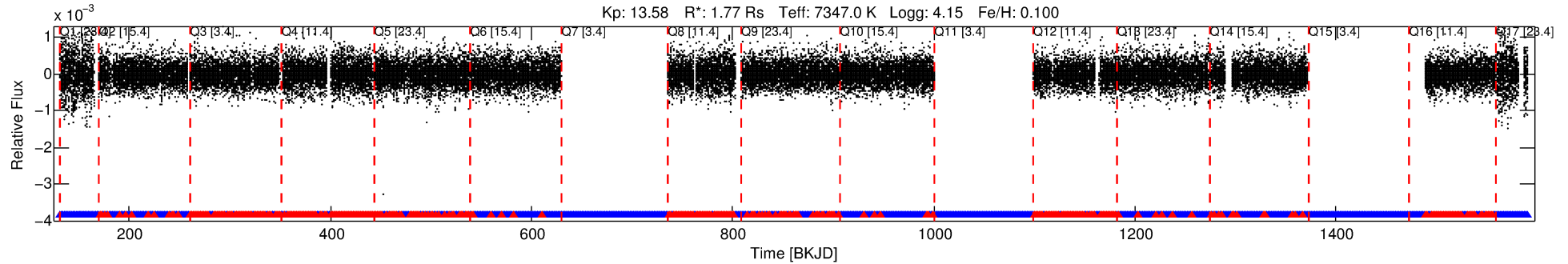
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009730397-01

No Significant Match Found

DV One-Page Summary

KIC: 9730397 Candidate: 1 of 1 Period: 0.702 d



DV Fit Results:

Period = 0.70164 [0.00002] d
Epoch = 131.8290 [0.0023] BKJD
Rp/R* = 0.0059 [0.0015]
a/R* = 3.05 [3.91]
b = 0.69 [1.09]
Seff = 24936.10 [9890.91]
Teq = 3204 [318] K
Rp = 1.15 [0.46] Re
a = 0.0181 [0.0046] AU
Ag = 2.63 [1.78] [0.92σ]
Teffp = 6312 [948] K [3.11σ]

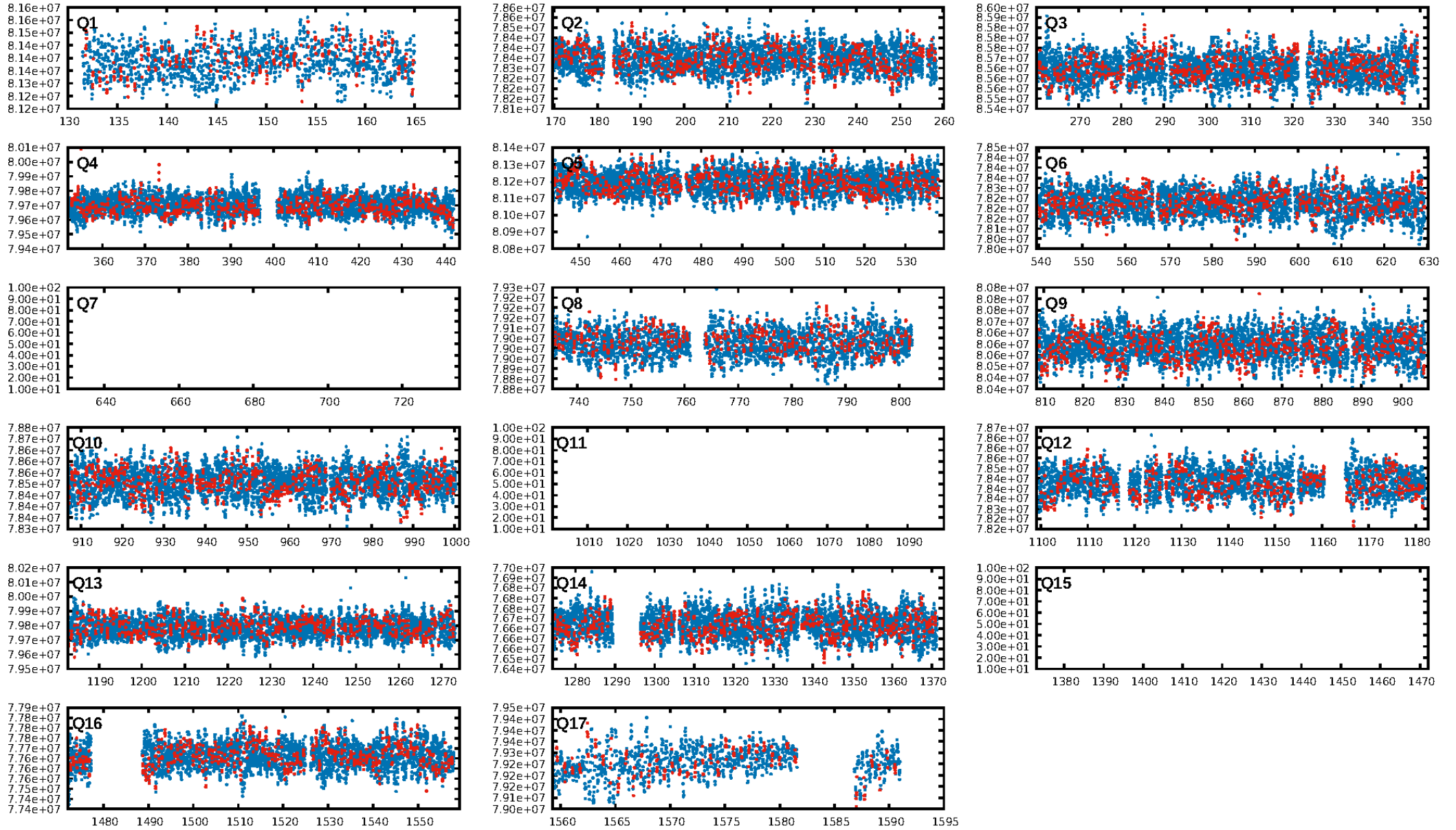
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.30e-15
RollingBand-fgt: 0.66 [949/1434]
GhostDiagnostic-chr: 0.9836
Centroid-sig: 0.0%
Centroid-so: 3.127 arcsec [2.63σ]
OotOffset-rm: 0.344 arcsec [1.91σ]
KicOffset-rm: 0.526 arcsec [2.59σ]
OotOffset-st: 2/0/4/4 [10]
KicOffset-st: 2/0/4/4 [10]
DiffImageQuality-fgm: 0.40 [4/10]
DiffImageOverlap-fno: 1.00 [14/14]

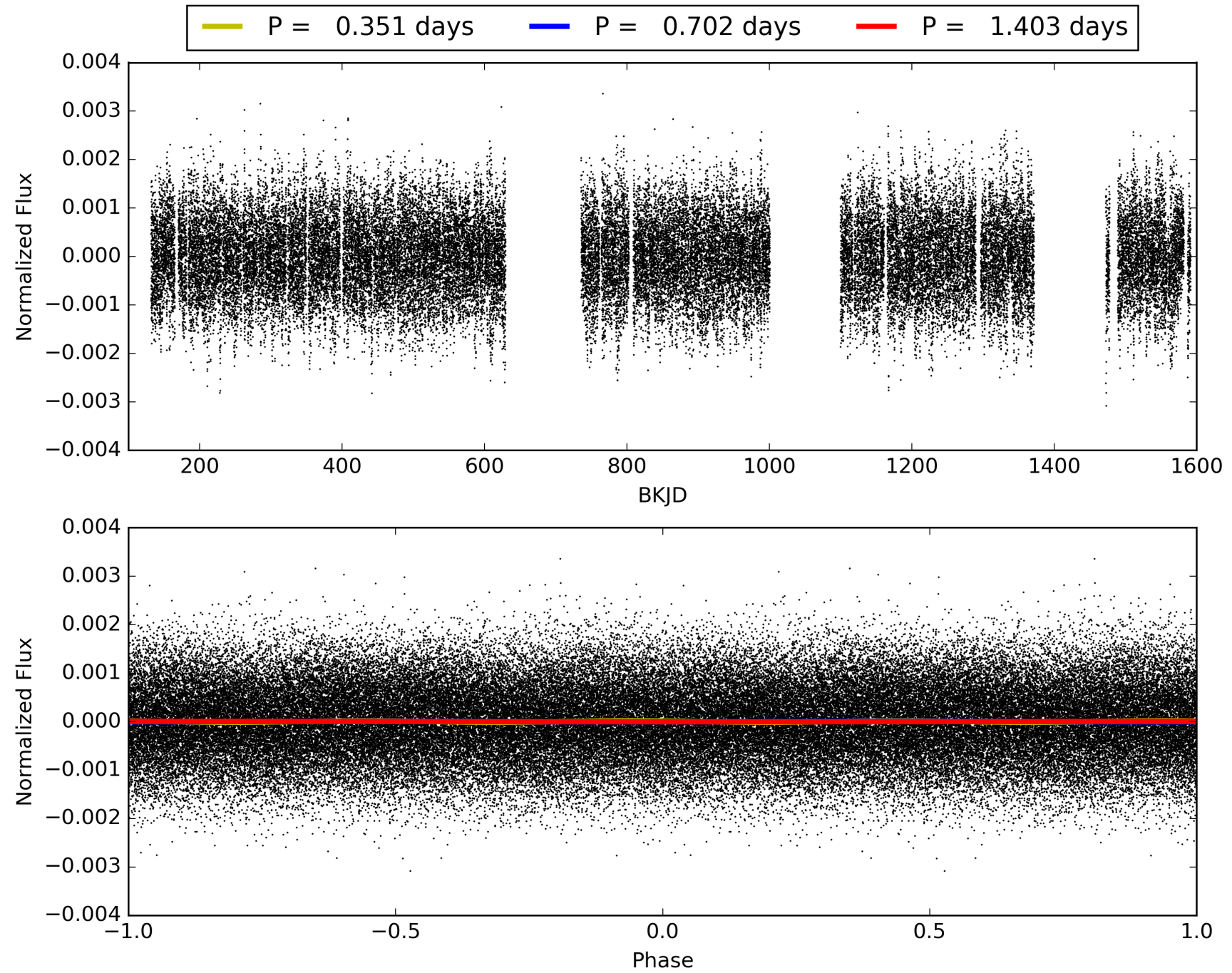
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:13:14 Z

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

TCE 009730397-01, PDC Light Curves

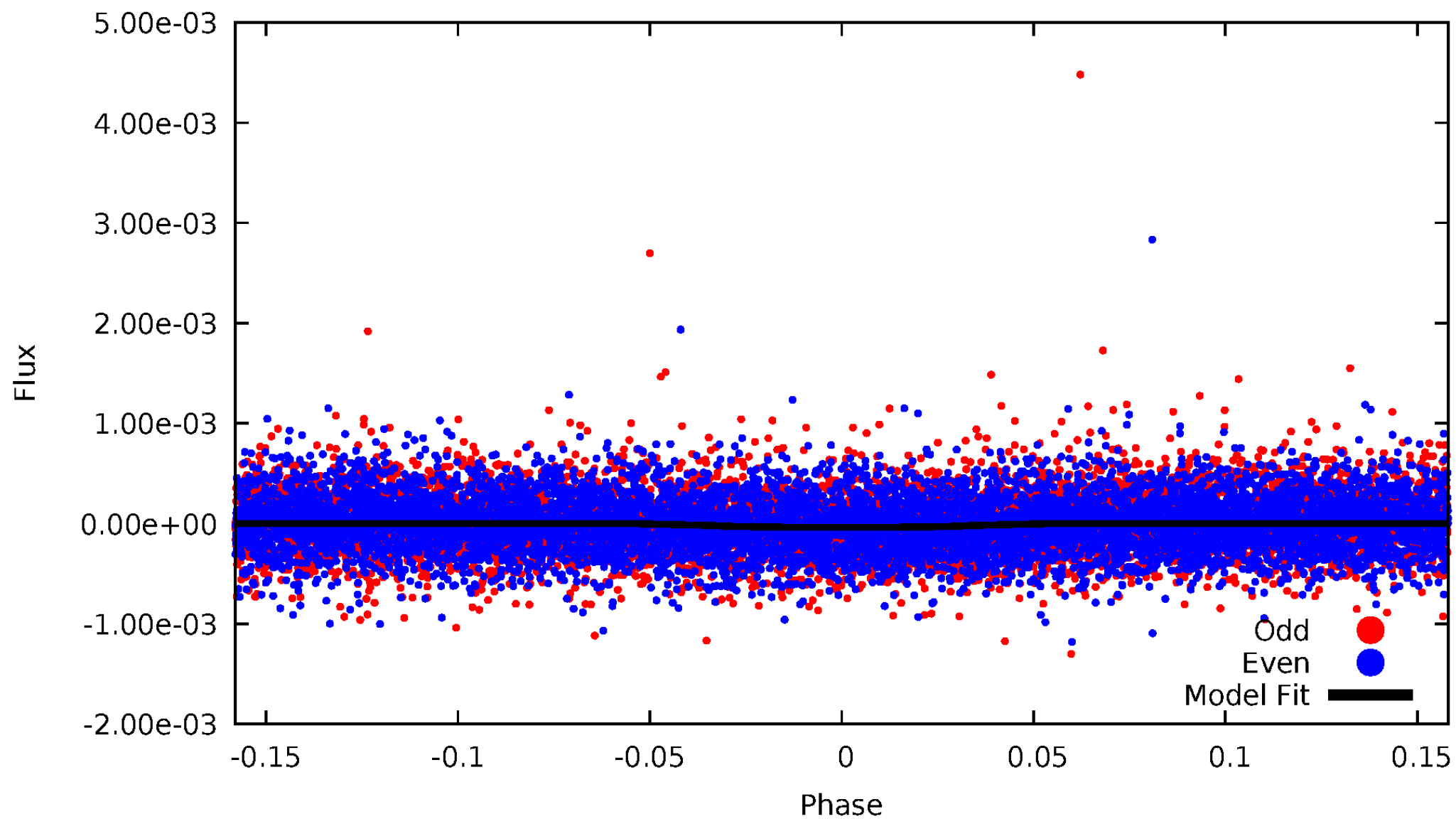


TCE 009730397-01



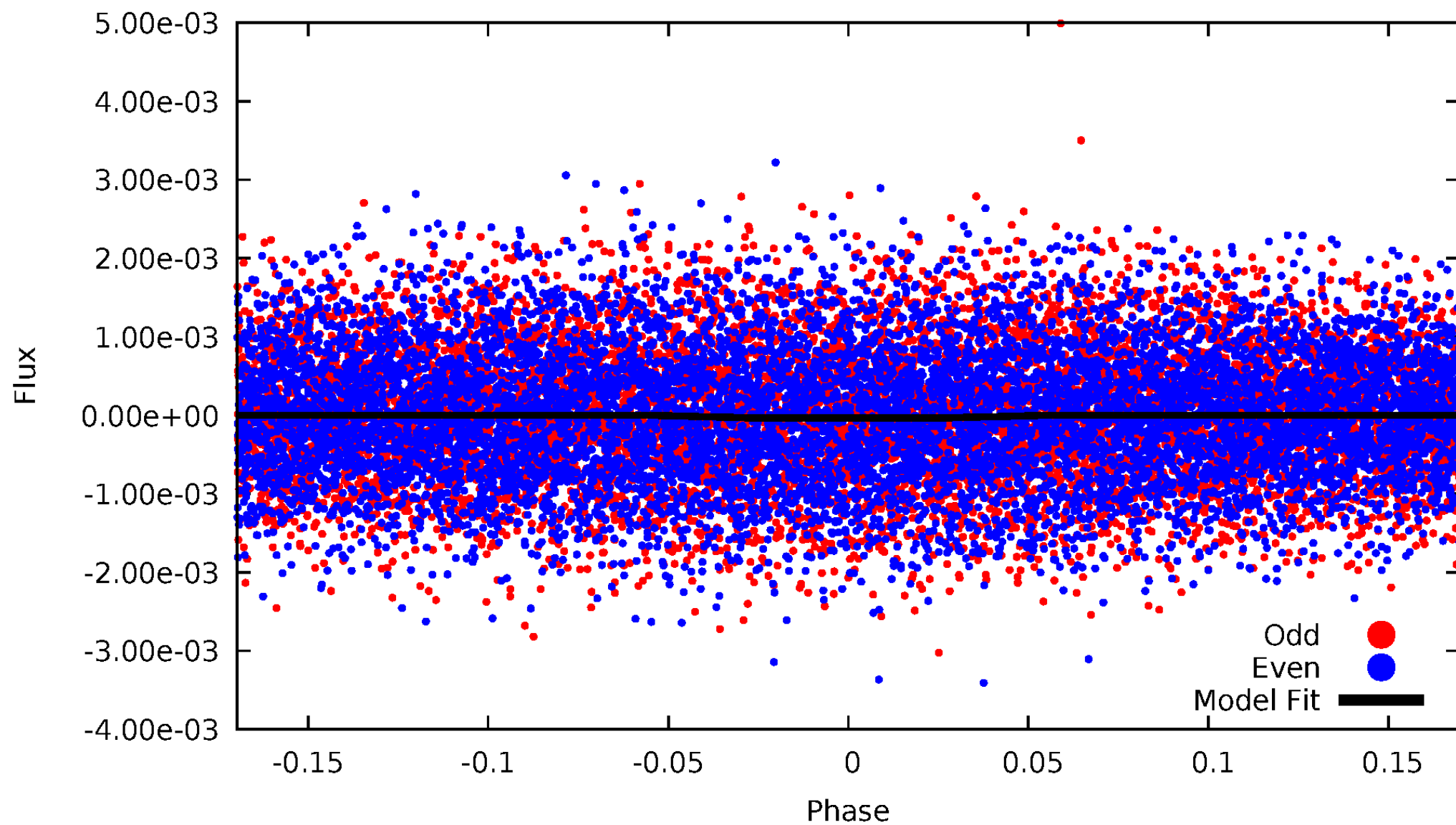
DV Odd/Even

TCE 009730397-01

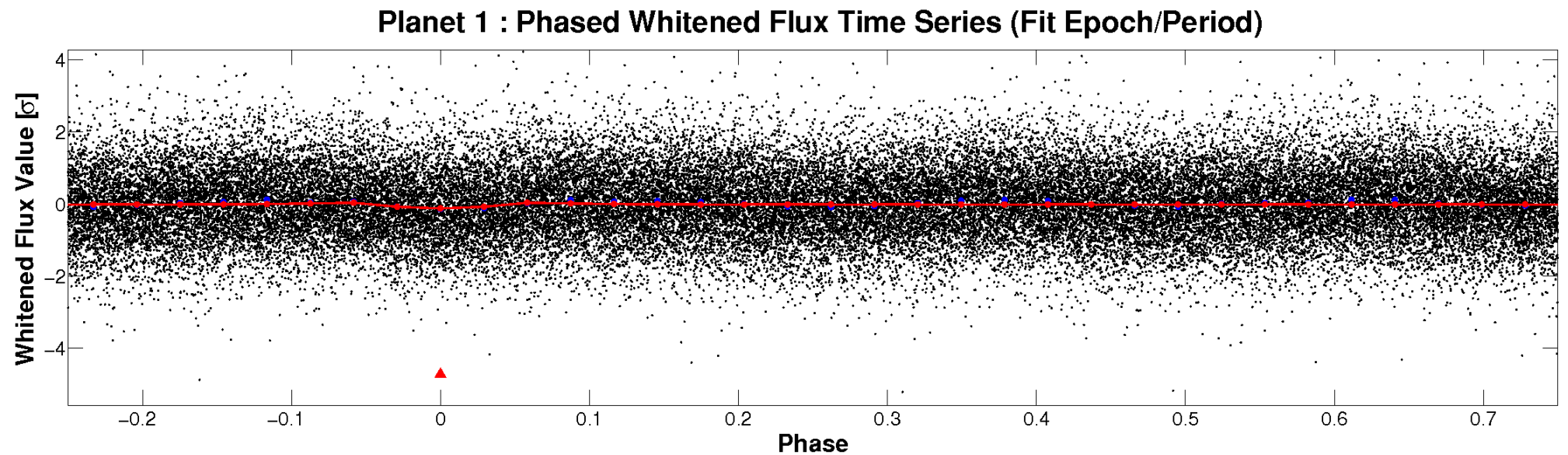
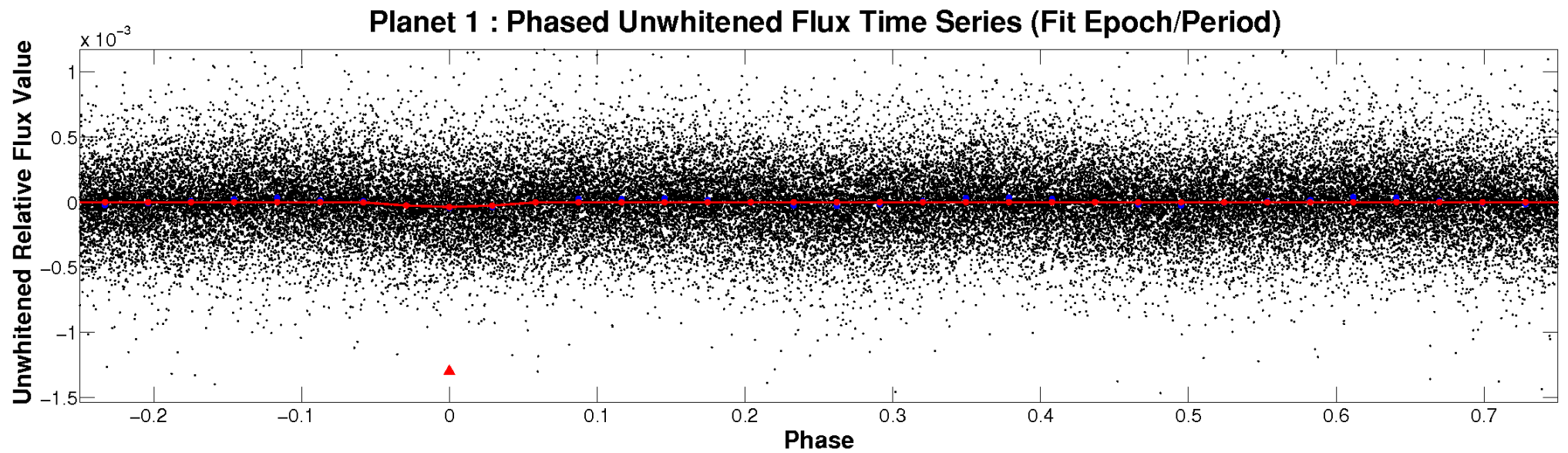


ALT Odd/Even

TCE 009730397-01

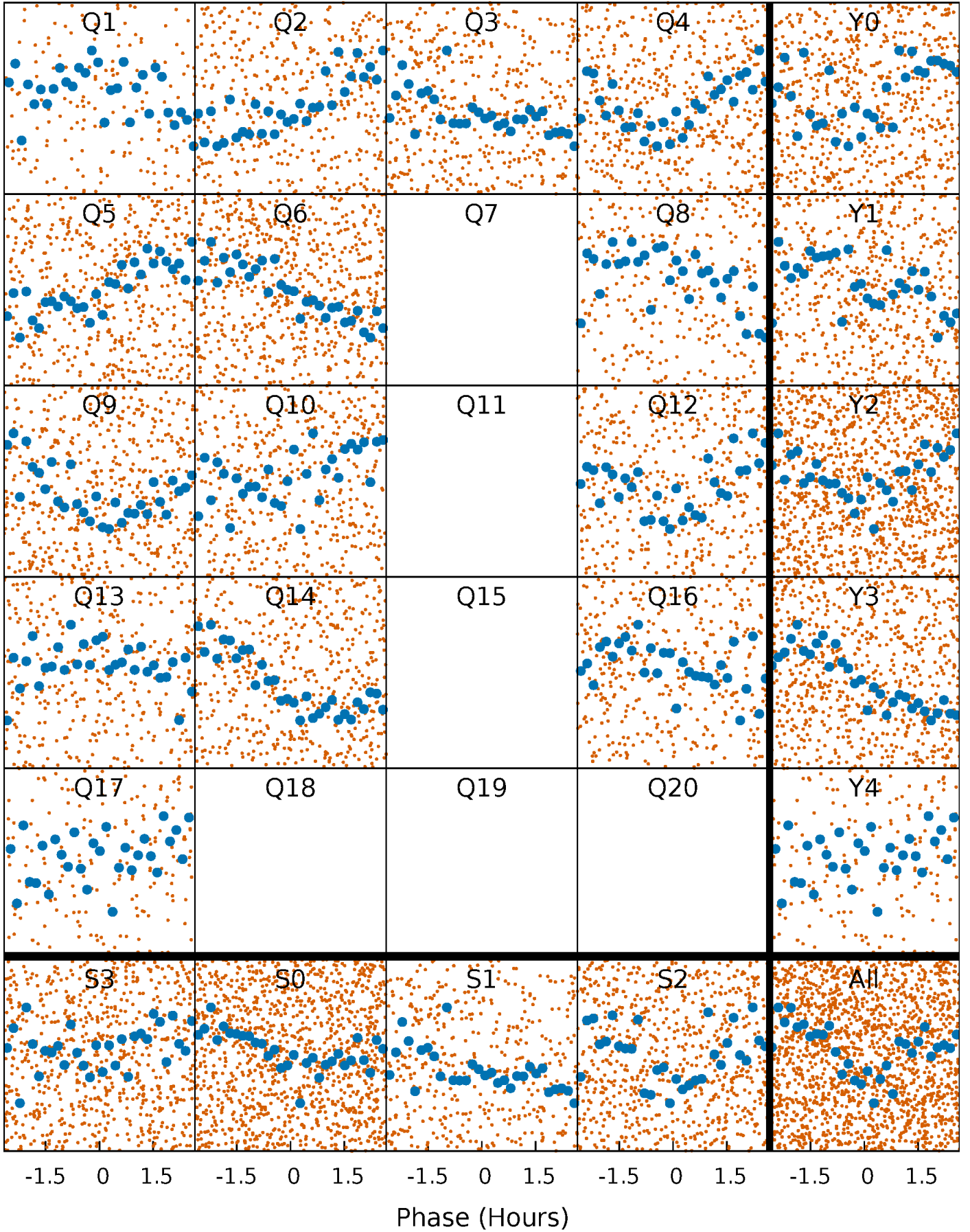


Non-Whitened Vs. Whitened Light Curve



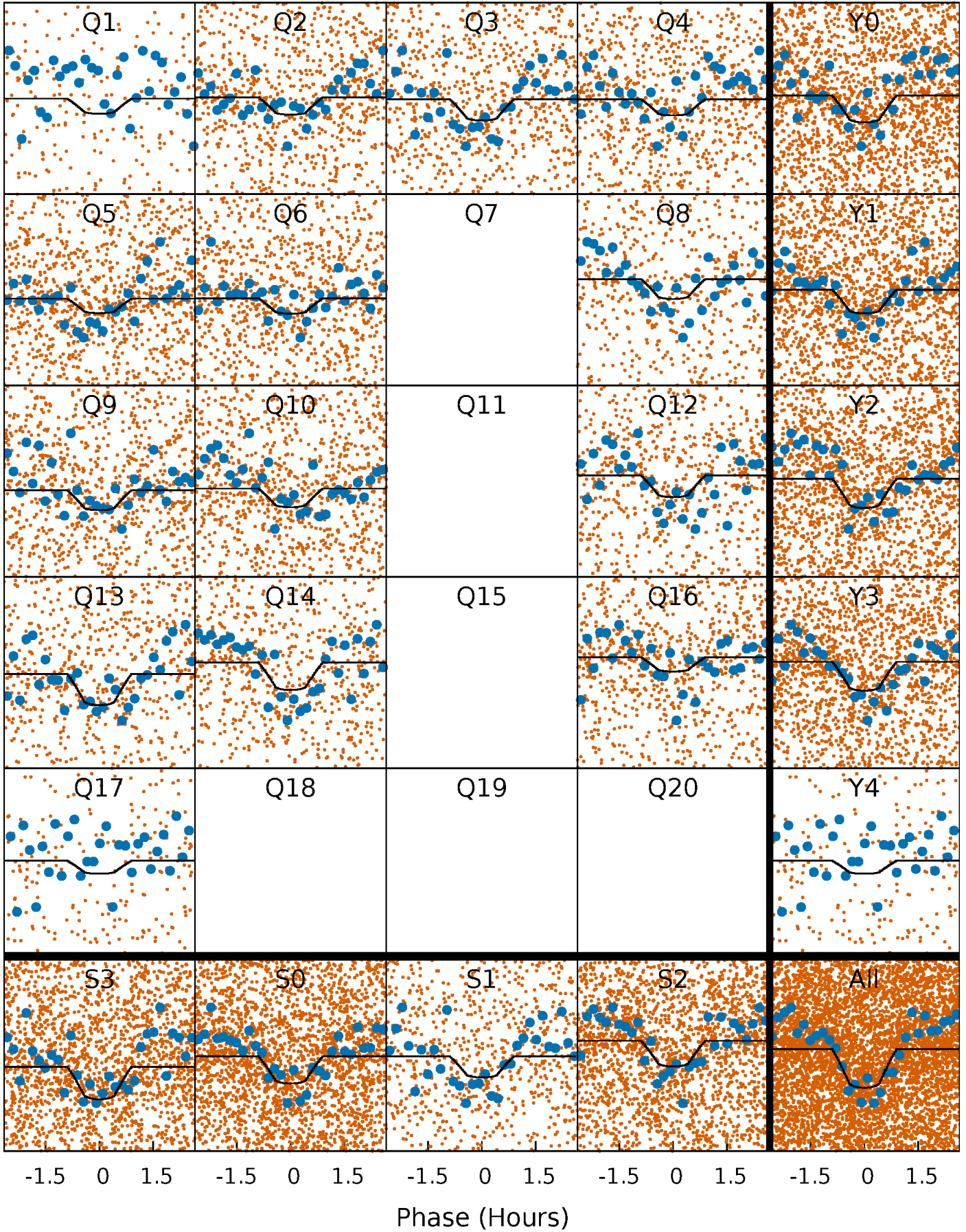
PDC Quarter-Phased Transit Curves

TCE 009730397-01 P= 0.701635 Days $T_0=131.828978$ (BKJD)



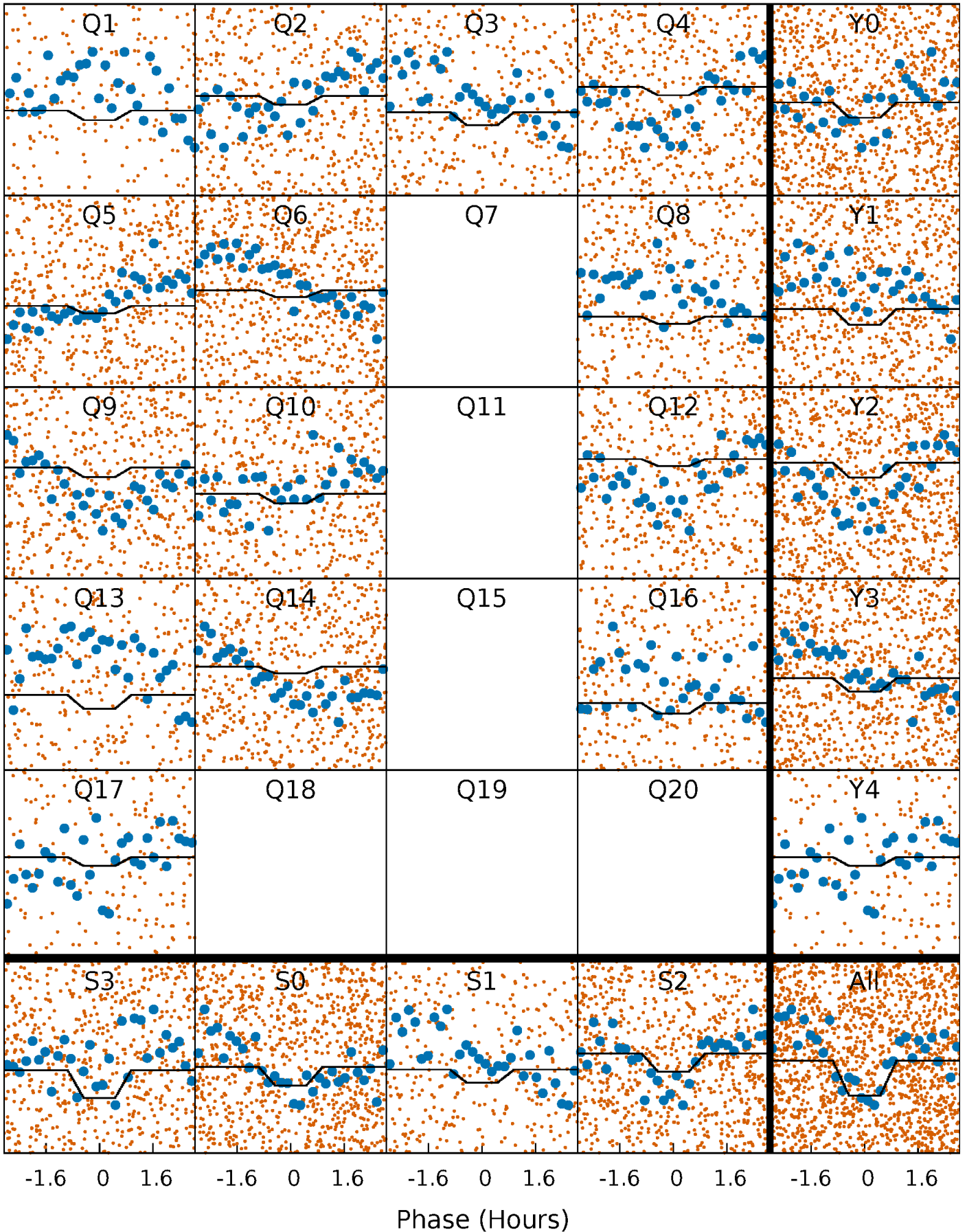
DV Quarter-Phased Transit Curves

TCE 009730397-01 P= 0.701635 Days $T_0=131.828978$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

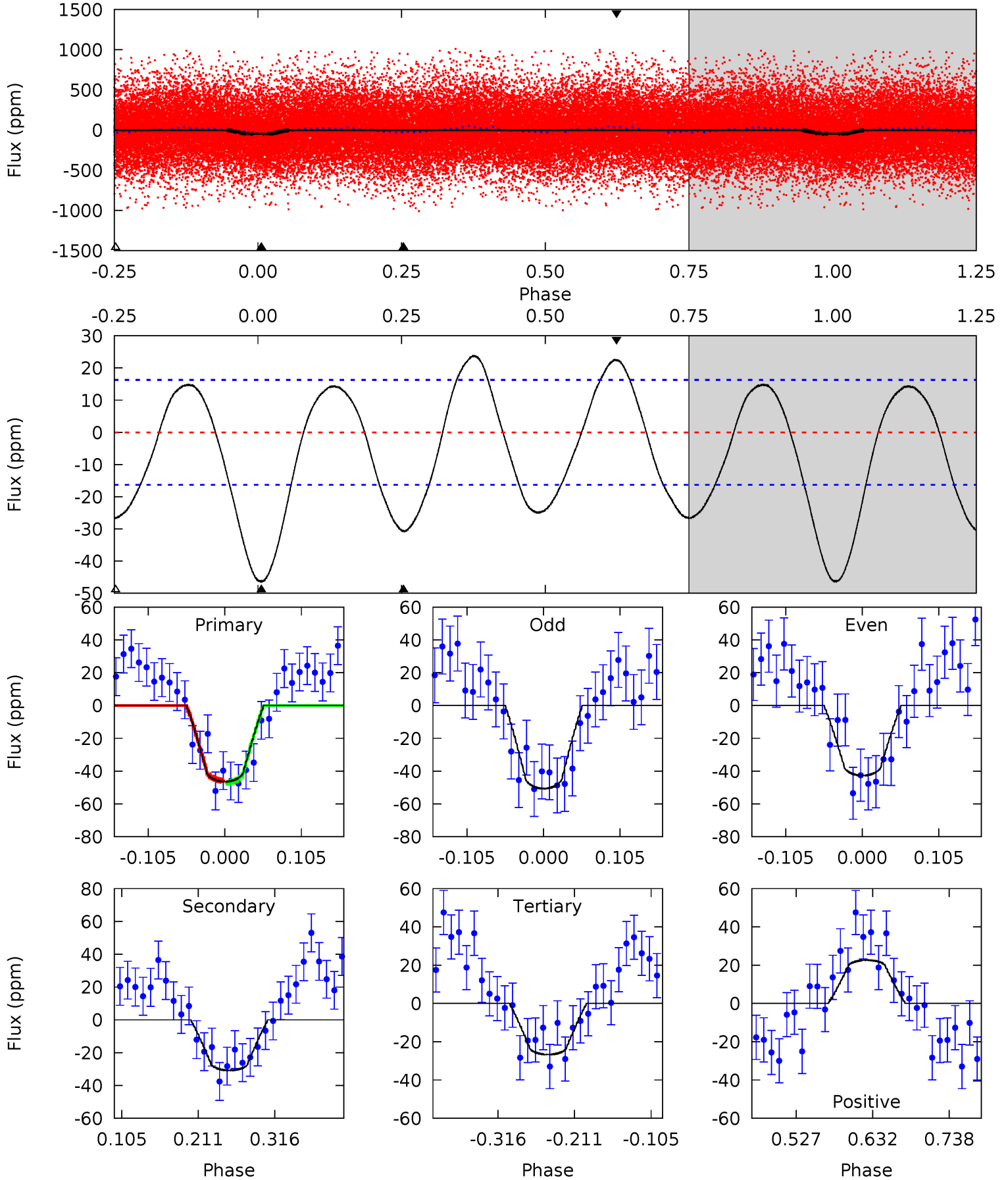
TCE 009730397-01 P= 0.701642 Days $T_0=131.828953$ (BKJD)



DV Model-Shift Uniqueness Test

009730397-01, P = 0.701635 Days, E = 131.127343 Days

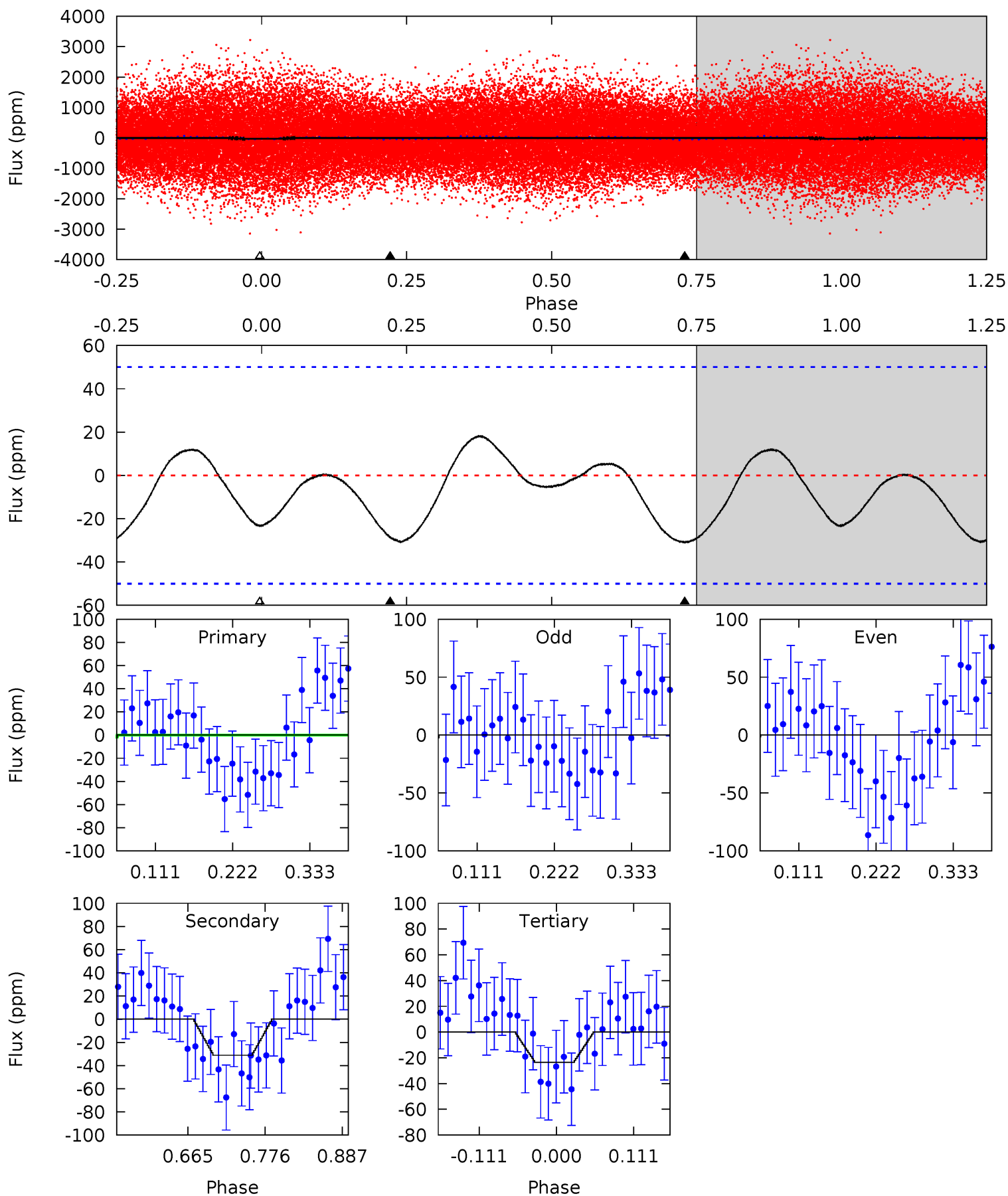
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	8.61	7.46	6.32	4.55	1.62	4.68	5.51	6.65	1.15	2.29	1.11	0.89	0.34	0.16



Alt Model-Shift Uniqueness Test

009730397-01, P = 0.701642 Days, E = 131.127311 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.60	2.82	2.14	0	4.54	1.59	0.98	0.46	2.60	0.68	2.82	0.63	0.54	0.37	0.17



Stellar Parameters For KIC 009730397

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7347^{+206}_{-324}	$4.149^{+0.102}_{-0.189}$	$0.100^{+0.200}_{-0.350}$	$1.772^{+0.545}_{-0.294}$	$1.616^{+0.214}_{-0.235}$	$0.409^{+0.200}_{-0.215}$
	+3%/-4%	+2%/-5%	+200%/-350%	+31%/-17%	+13%/-15%	+49%/-53%
Source	KIC0	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 009730397-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-31 ± 4	$1.17^{+0.37}_{-0.33}$	4504^{+324}_{-274}	6837^{+1407}_{-868}	$3.907^{+3.869}_{-1.622}$
Alt.	-31 ± 11	$1.15^{+0.36}_{-0.34}$	4513^{+356}_{-274}	6906^{+1821}_{-1171}	$4.040^{+5.092}_{-2.094}$

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 $A_{obs} \gg 1.0$

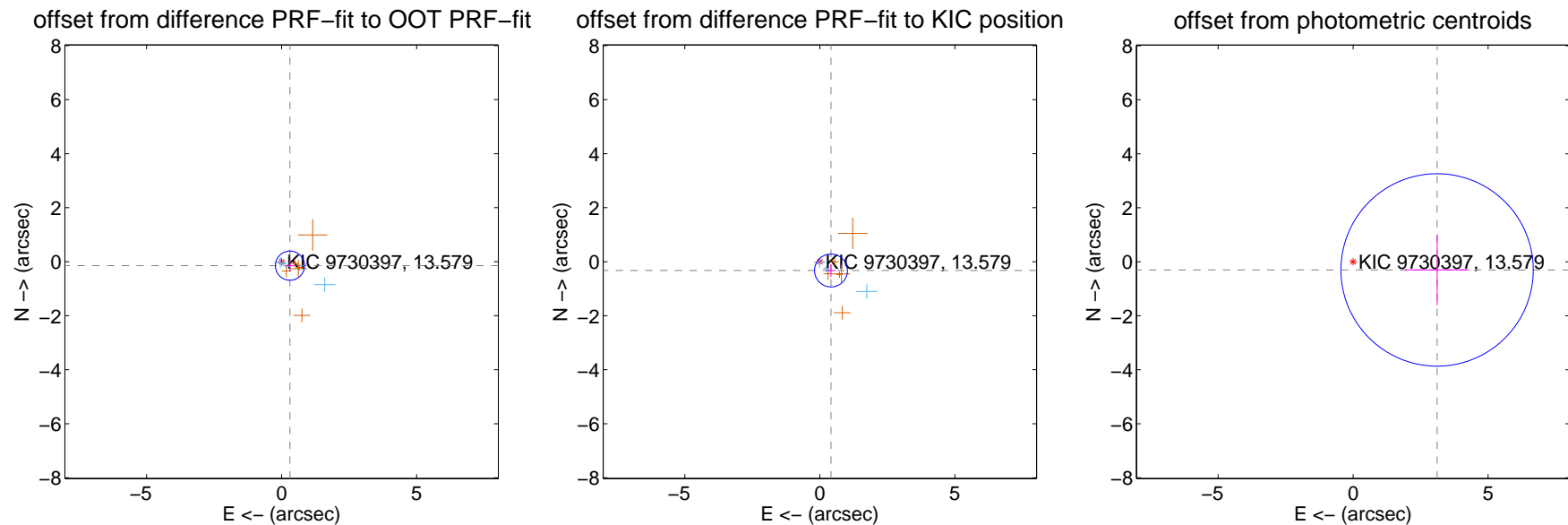
DV Centroid Data

Supplemental centroid analysis for 009730397-01. Kepler magnitude: 13.58. Transit SNR 6.65

There are 4 quarters with good PRF difference image offsets

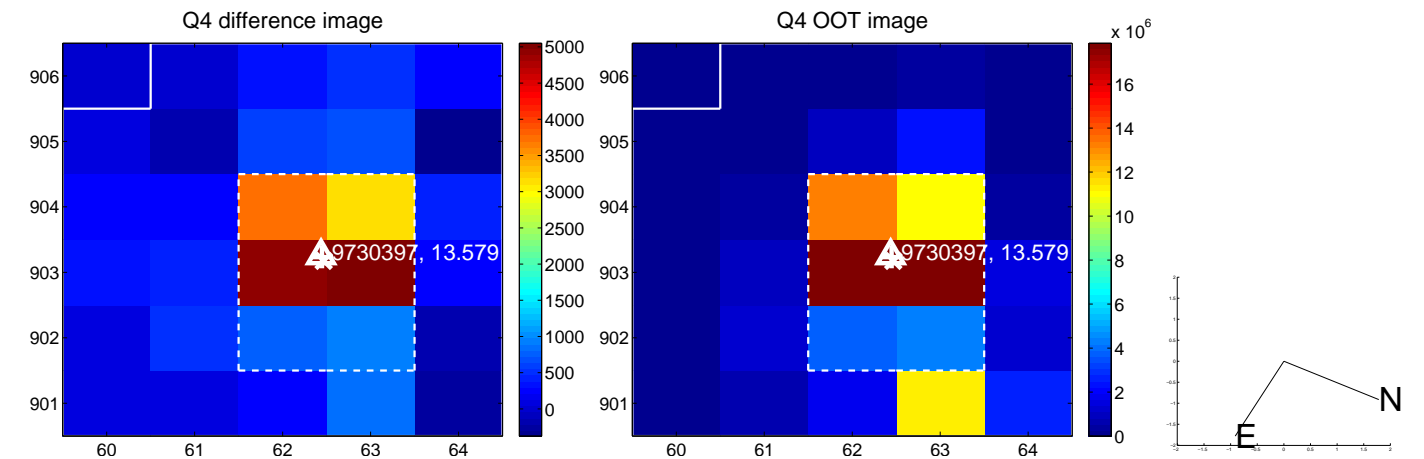
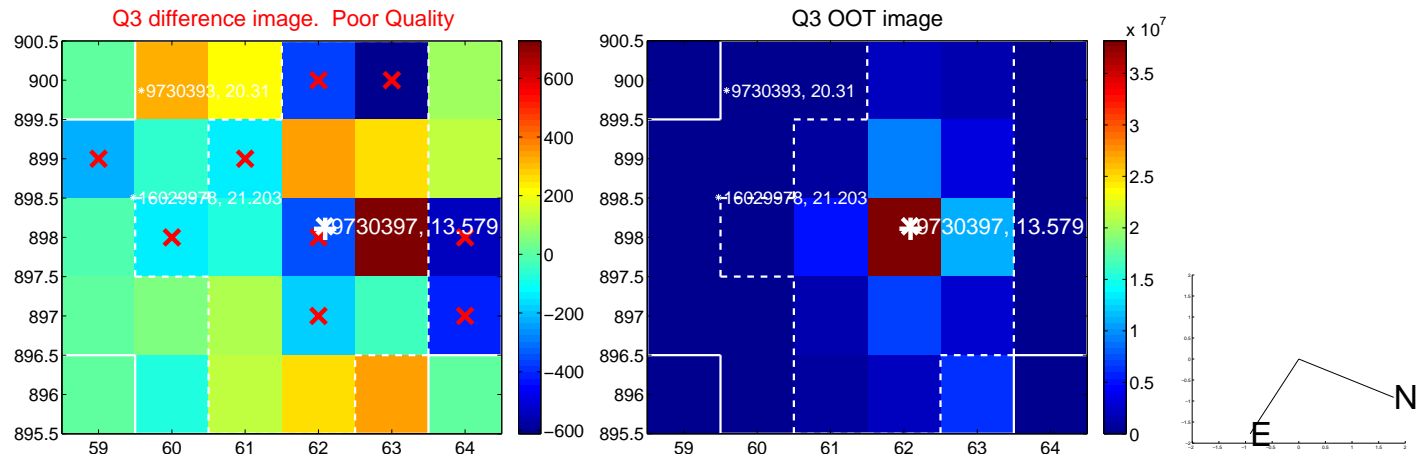
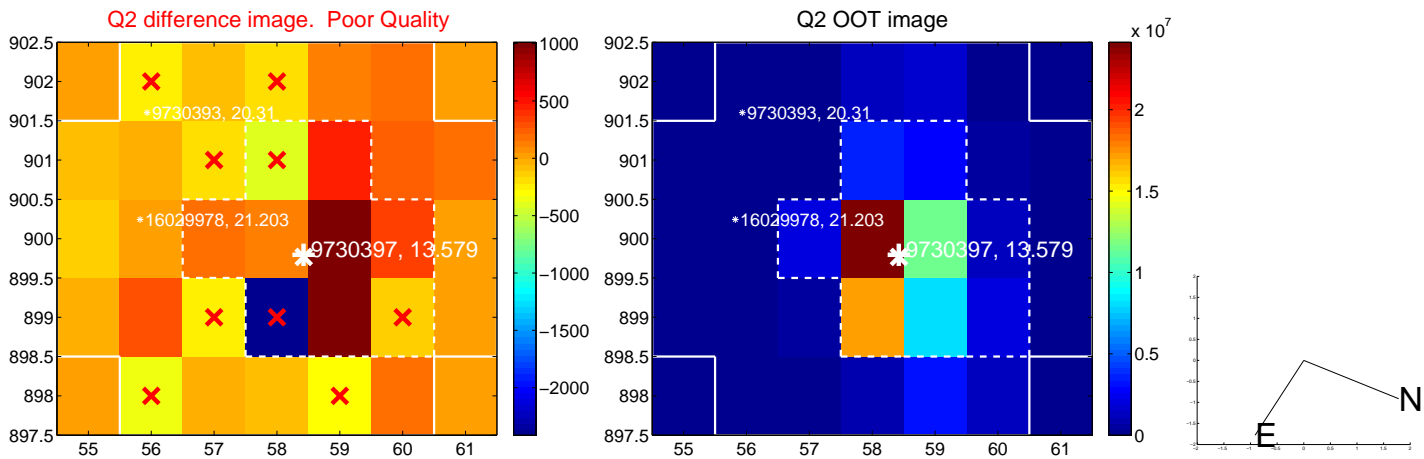
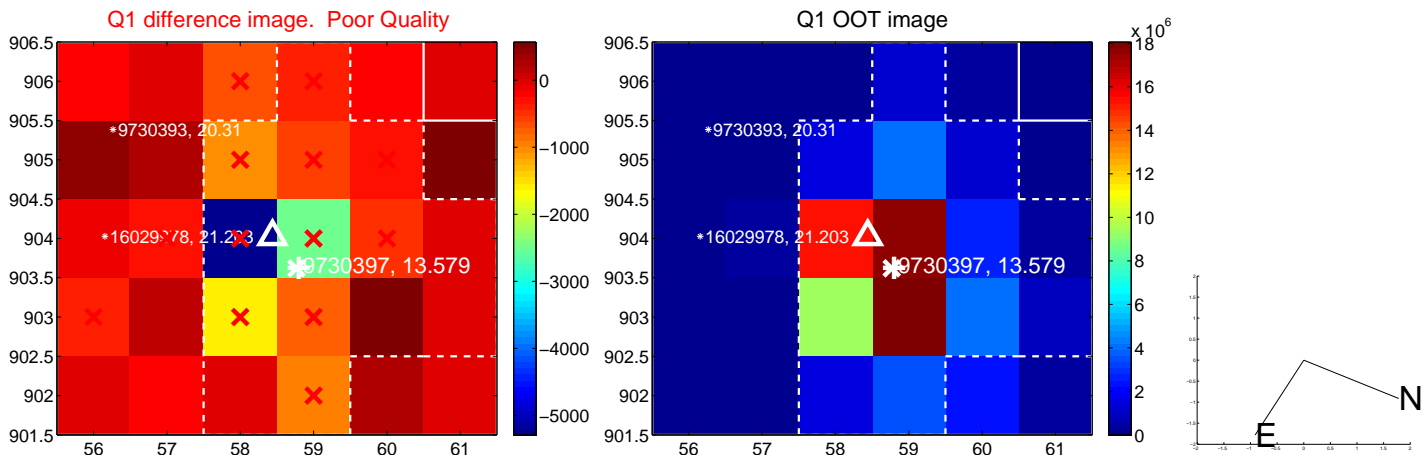
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.344 ± 0.180	1.91	-0.311 ± 0.166	-0.147 ± 0.202
PRF-fit source offset from KIC position	0.526 ± 0.203	2.59	-0.413 ± 0.175	-0.326 ± 0.229
photometric centroid source offset	3.13 ± 1.19	2.63	-3.11 ± 1.19	-0.30 ± 1.31

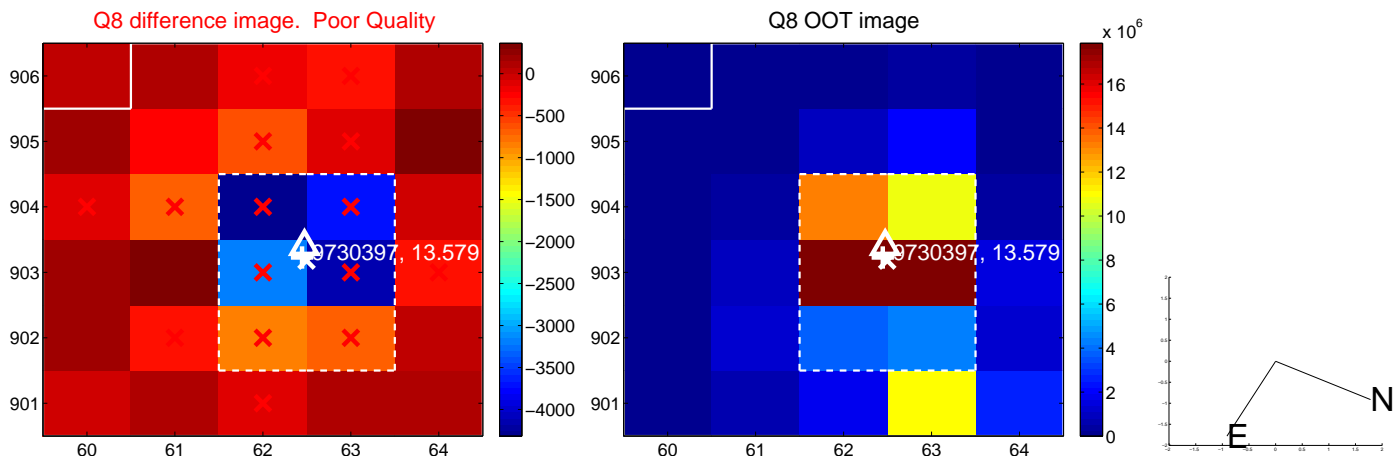
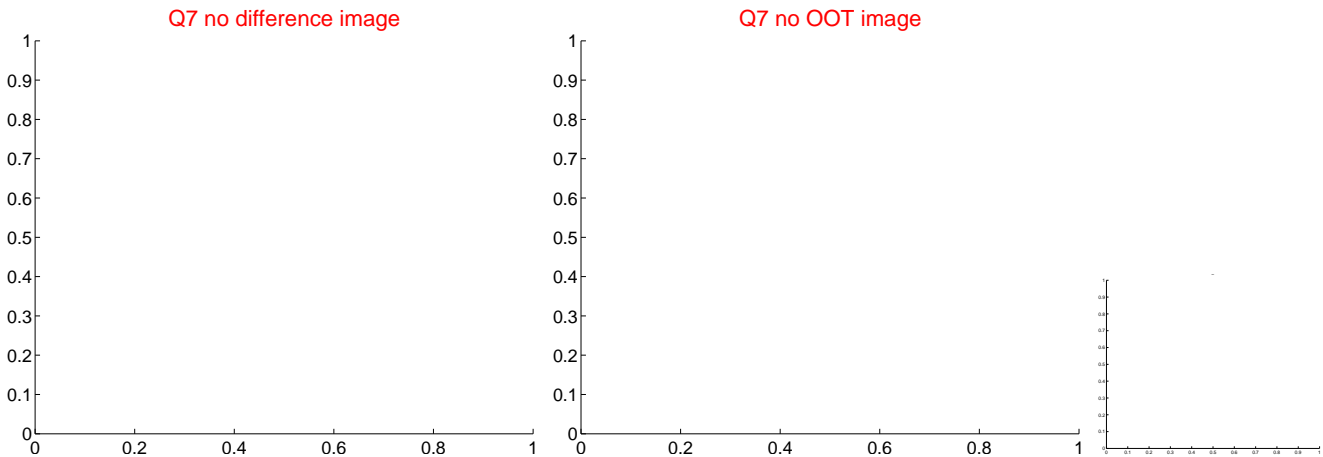
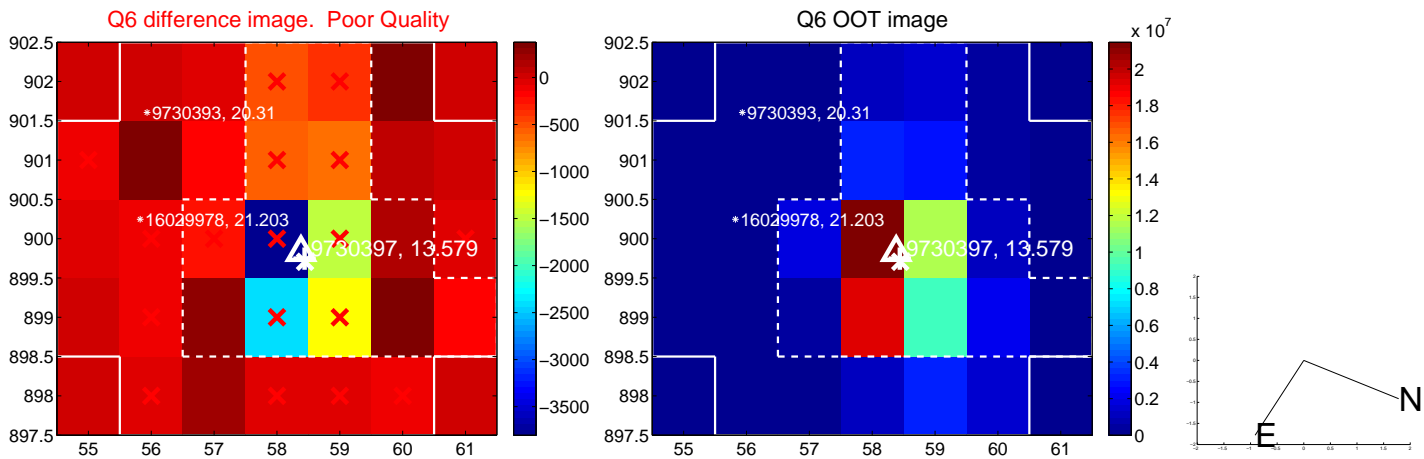
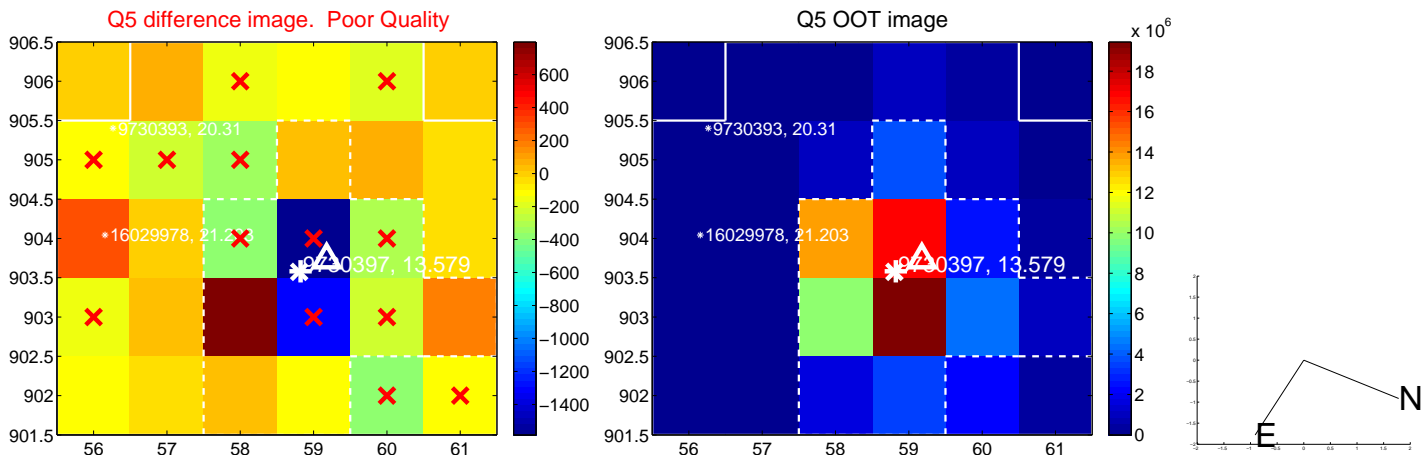


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

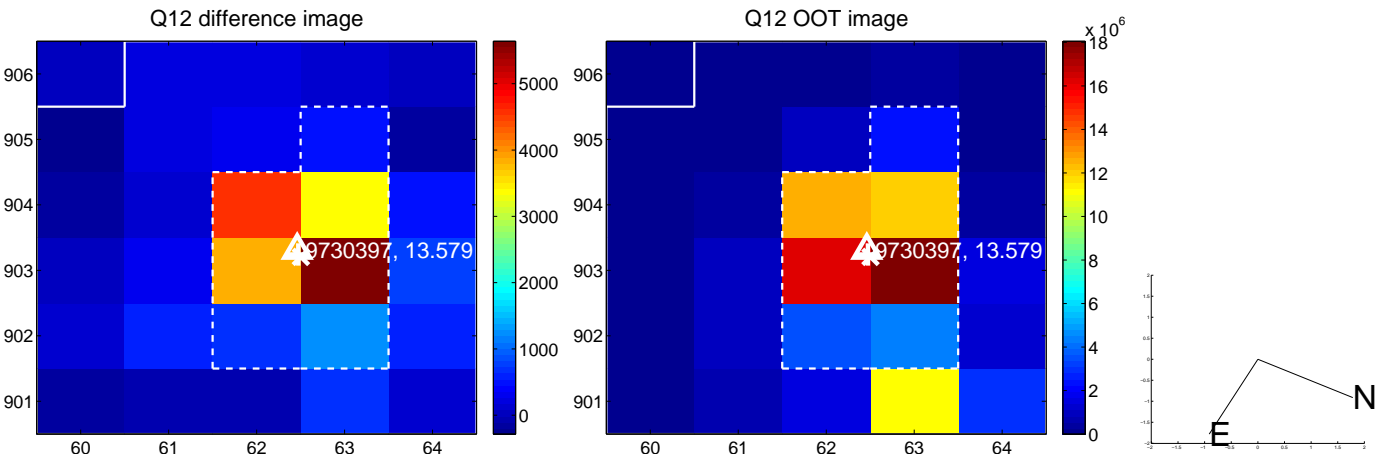
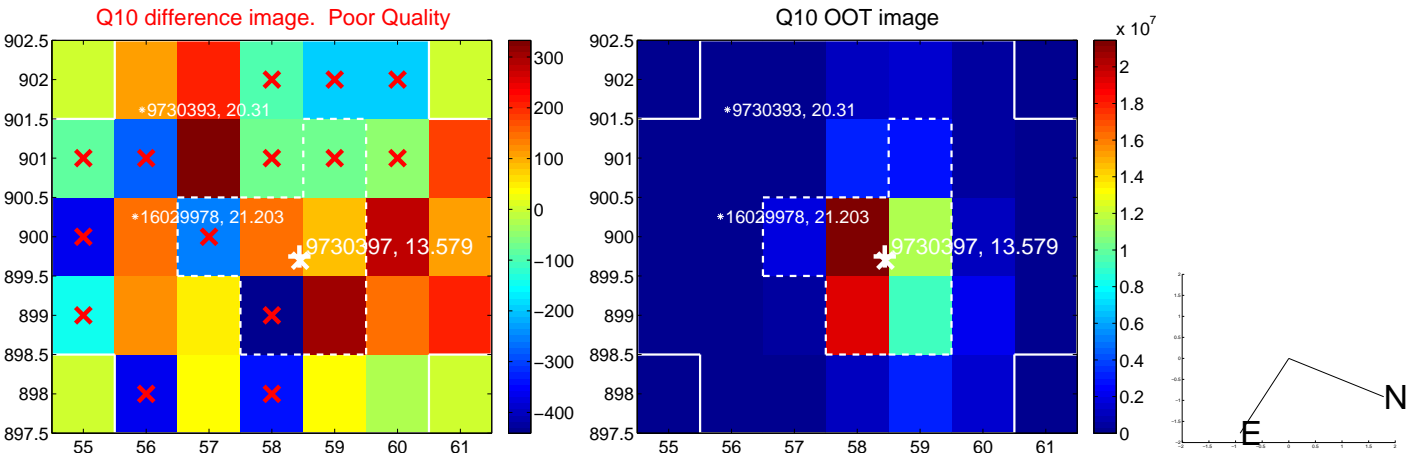
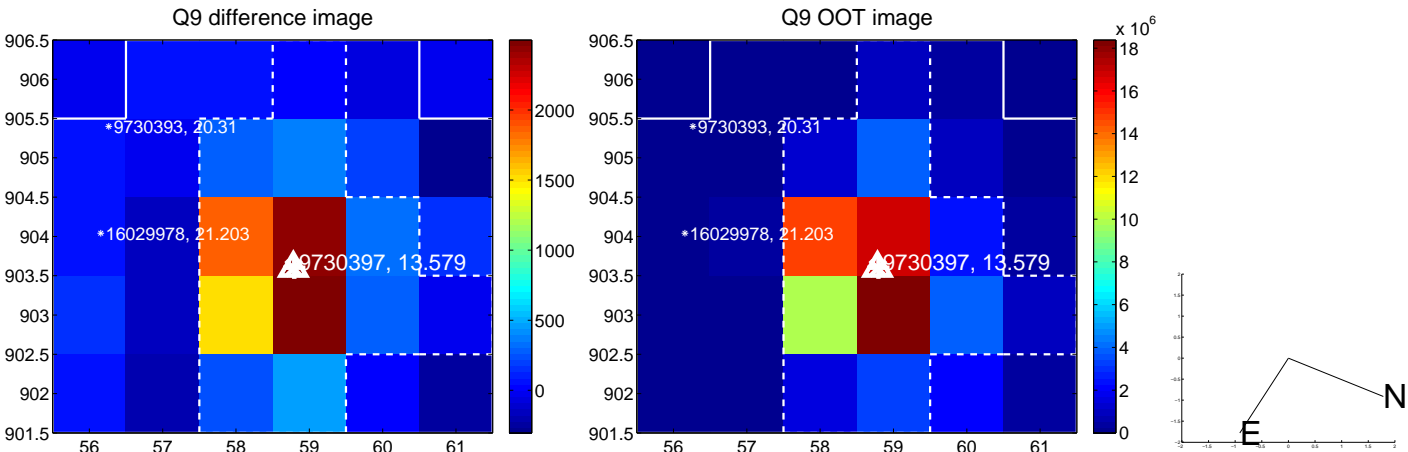
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



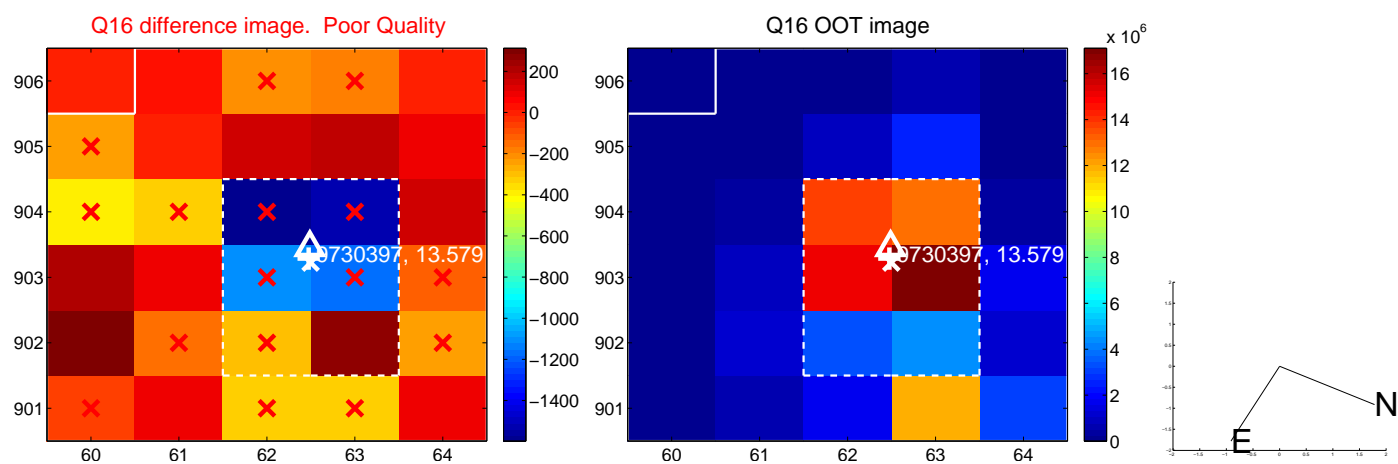
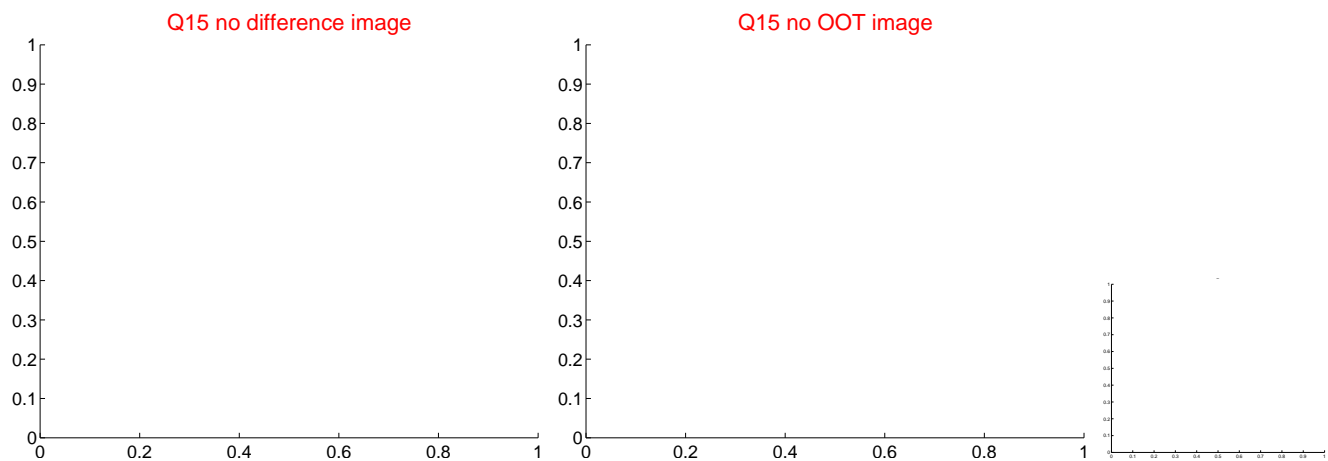
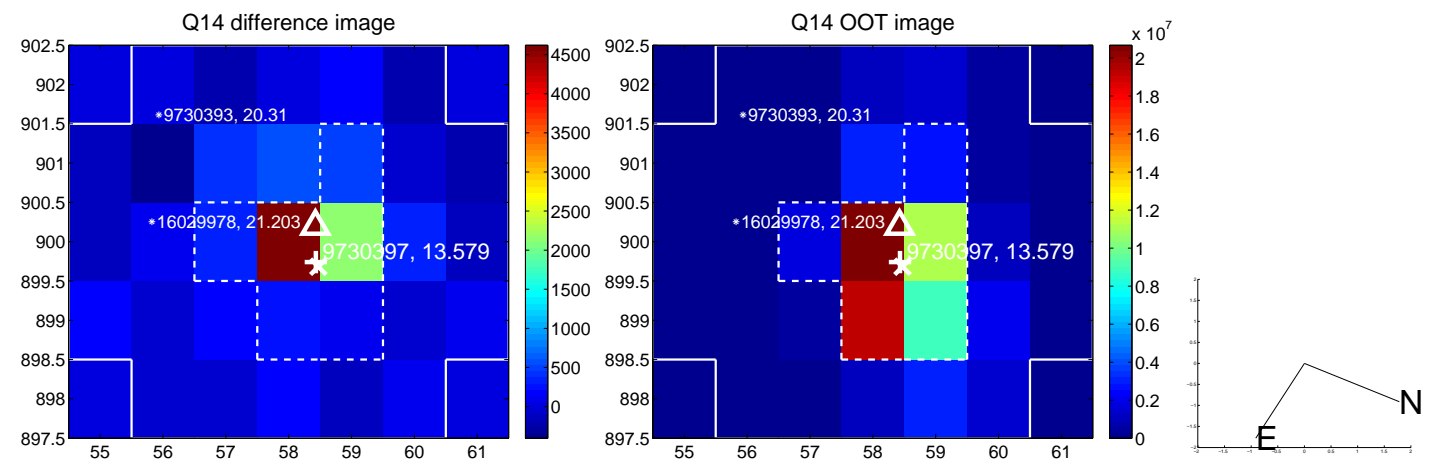
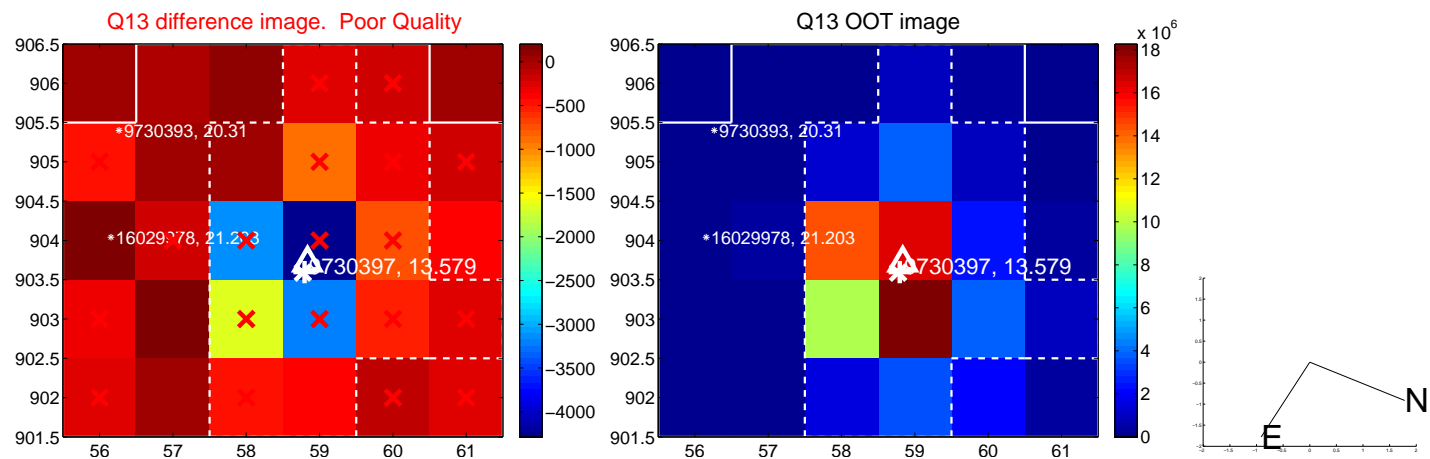
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



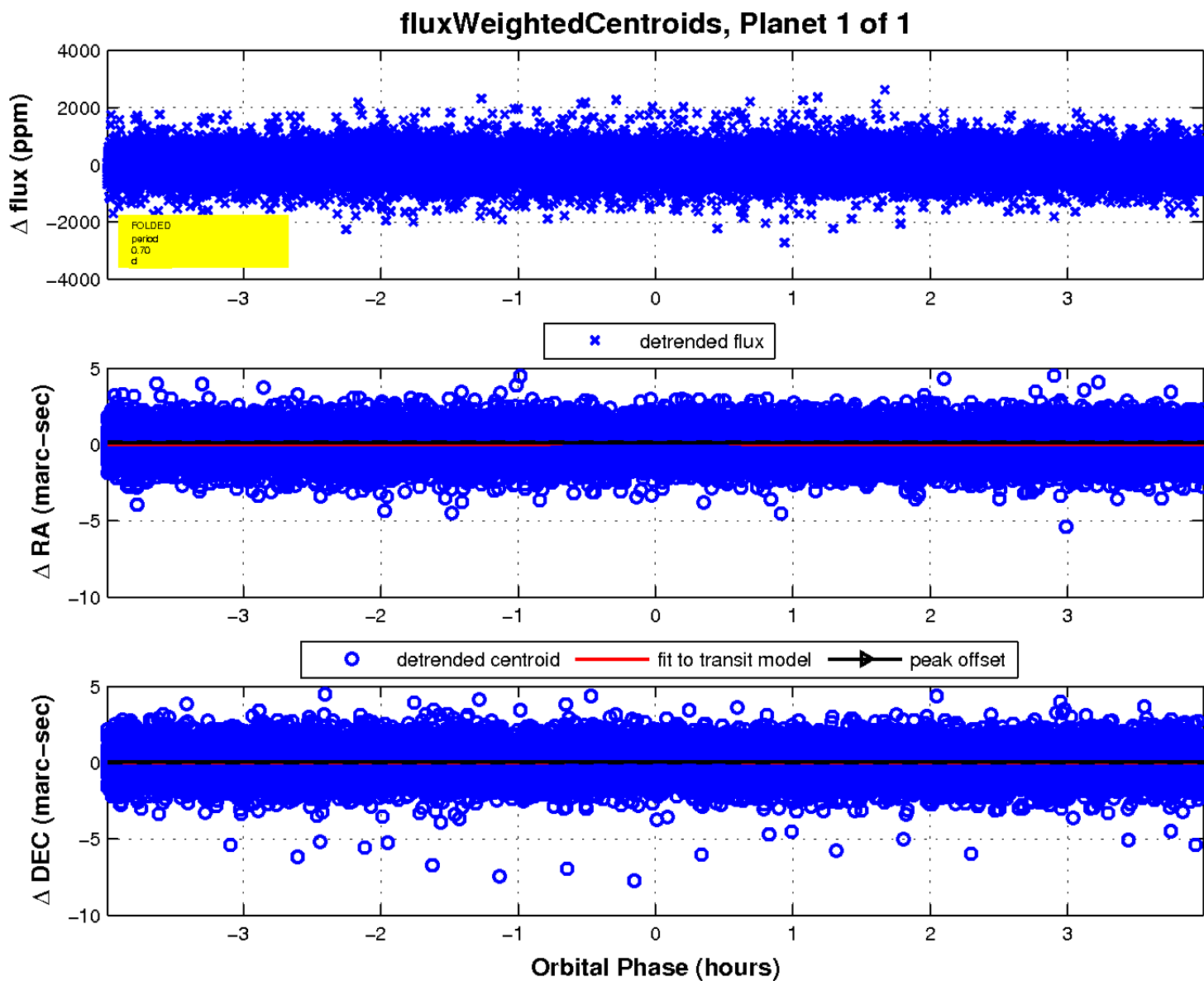
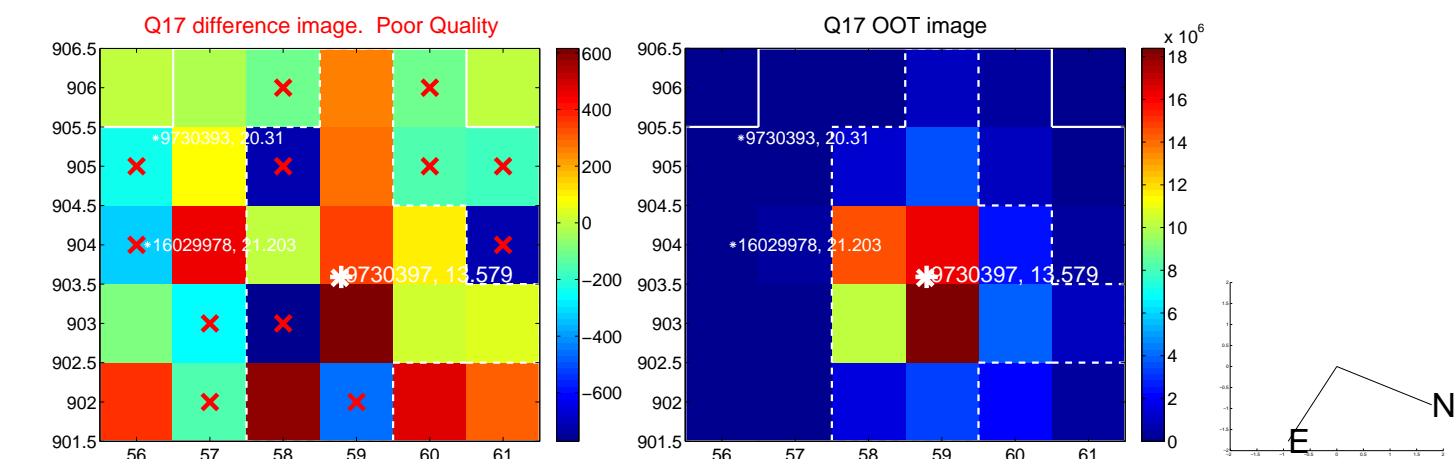
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

