

KIC 004471747

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})
004471747-01	OBS	1656.01	51.390008	145.320722	473.6	5.790	13.3	14.0	1.29	6074	3.48	25.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004471747-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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.

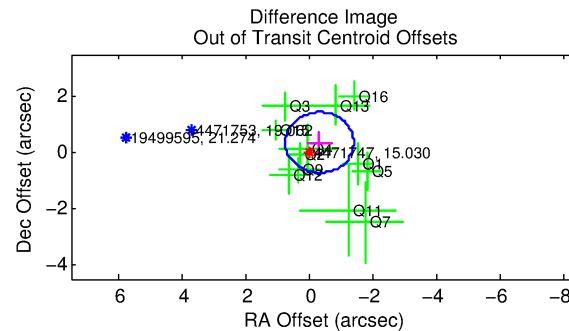
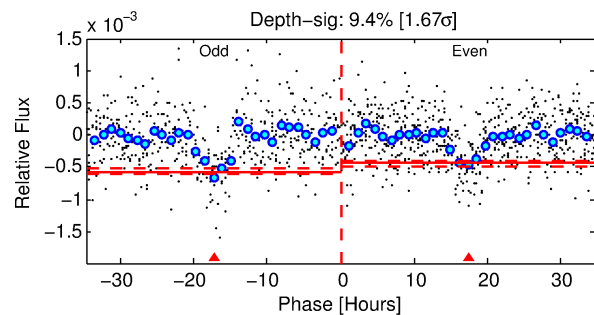
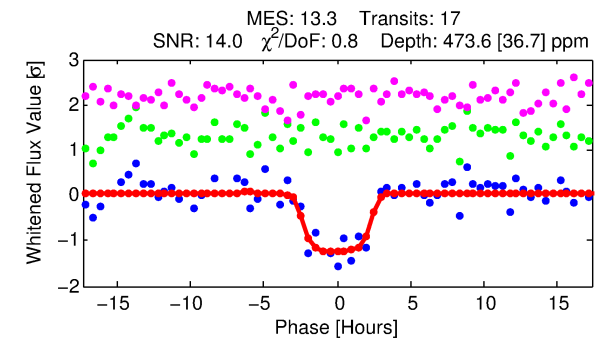
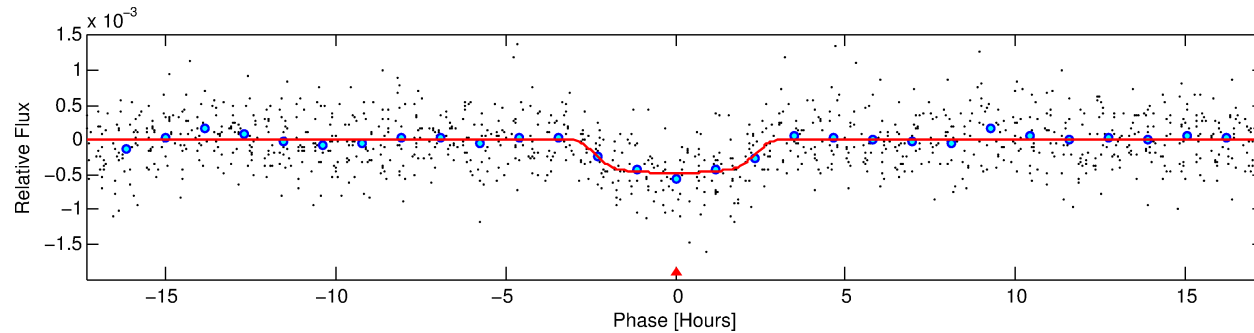
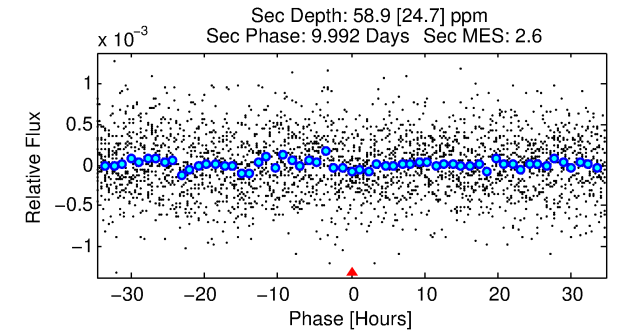
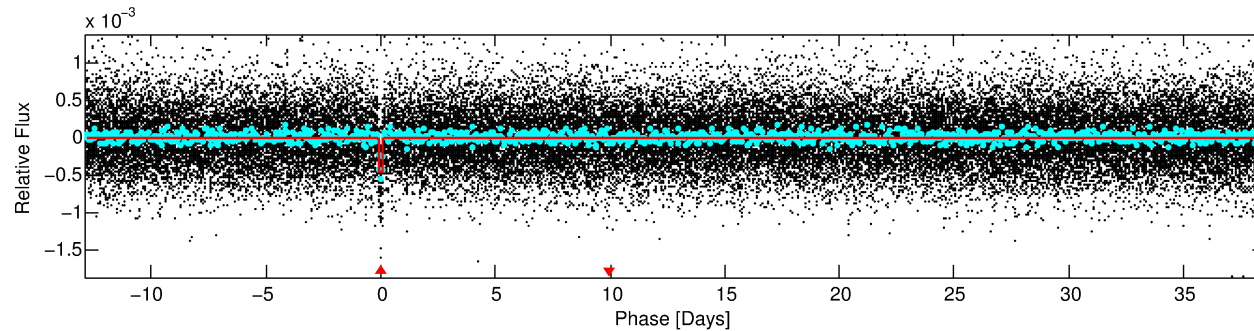
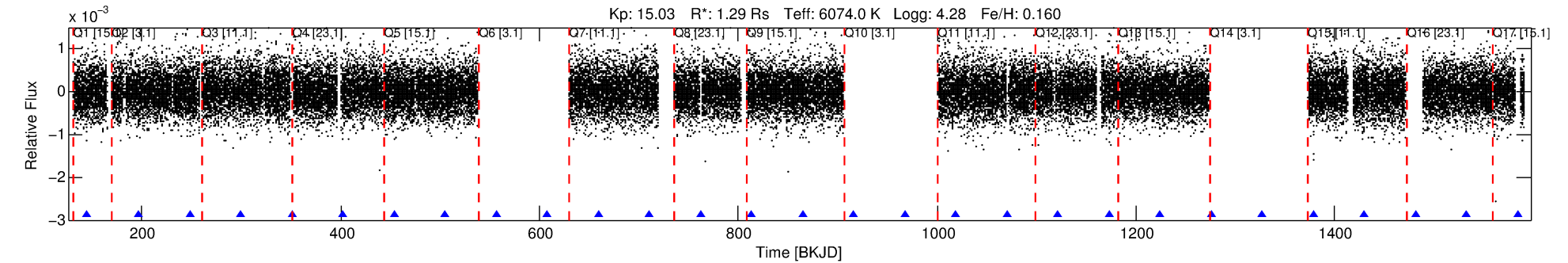
Ephemeris Match Information For 004471747-01

No Significant Match Found

DV One-Page Summary

KIC: 4471747 Candidate: 1 of 1 Period: 51.390 d

KOI: K01656.01 Corr: 0.969



DV Fit Results:

Period = 51.39001 [0.00055] d
Epoch = 145.3207 [0.0081] BKJD
Rp/R* = 0.0247 [0.0019]
a/R* = 27.61 [8.61]
b = 0.94 [0.04]
Seff = 25.03 [5.83]
Teff = 570 [33] K
Rp = 3.49 [0.66] Re
a = 0.2852 [0.0430] AU
Ag = 217.09 [108.70] [1.99σ]
Teffp = 3385 [382] K [7.35σ]

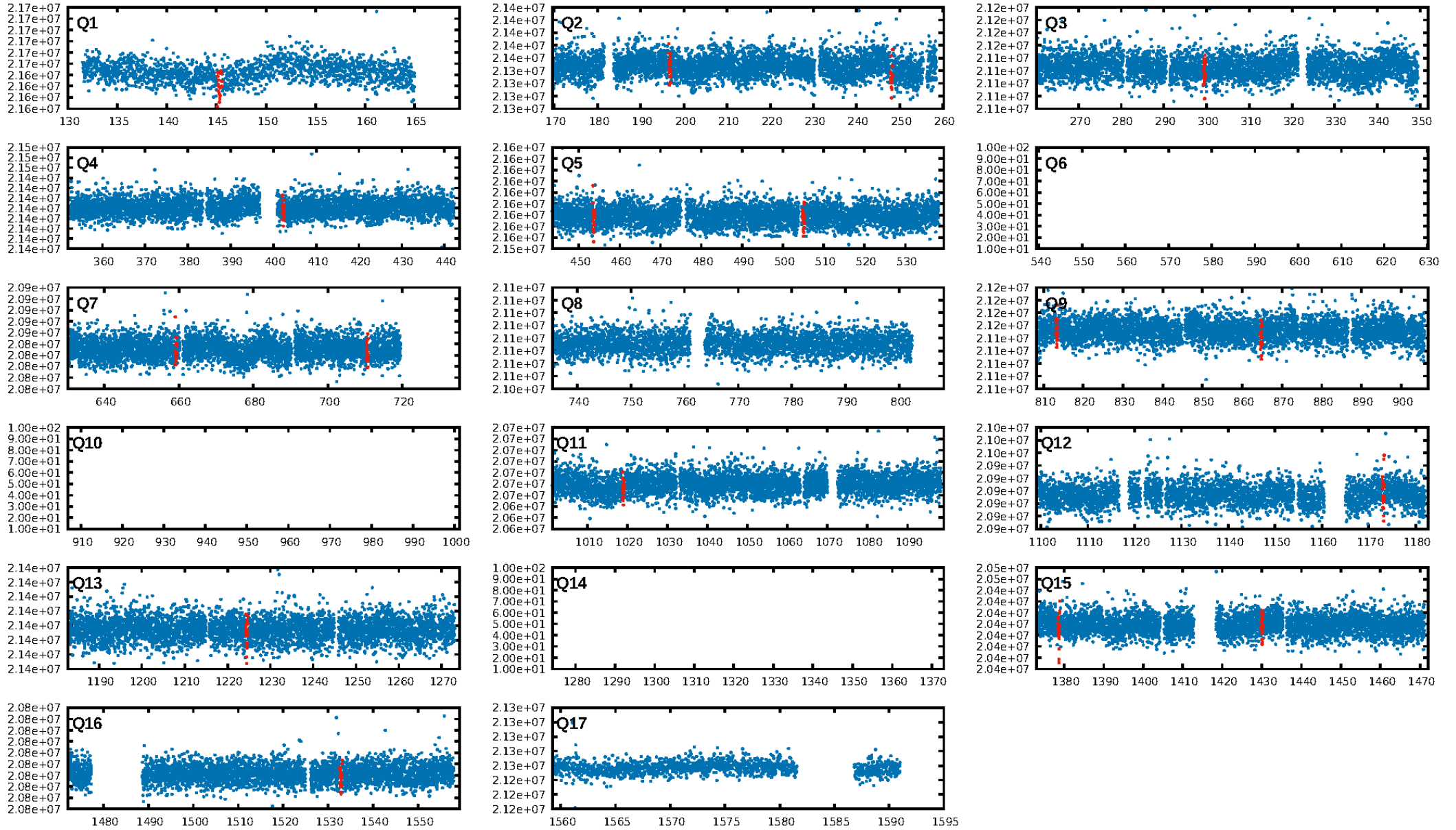
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 48.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.72e-36
RollingBand-fgt: 1.00 [16/16]
GhostDiagnostic-chr: -5.001
Centroid-sig: 95.8%
Centroid-so: 0.491 arcsec [0.48σ]
OotOffset-rm: 0.478 arcsec [1.33σ]
KicOffset-rm: 0.440 arcsec [1.26σ]
OotOffset-st: 1/4/3/4 [12]
KicOffset-st: 1/4/3/4 [12]
DiffImageQuality-fgm: 0.83 [10/12]
DiffImageOverlap-fno: 1.00 [12/12]

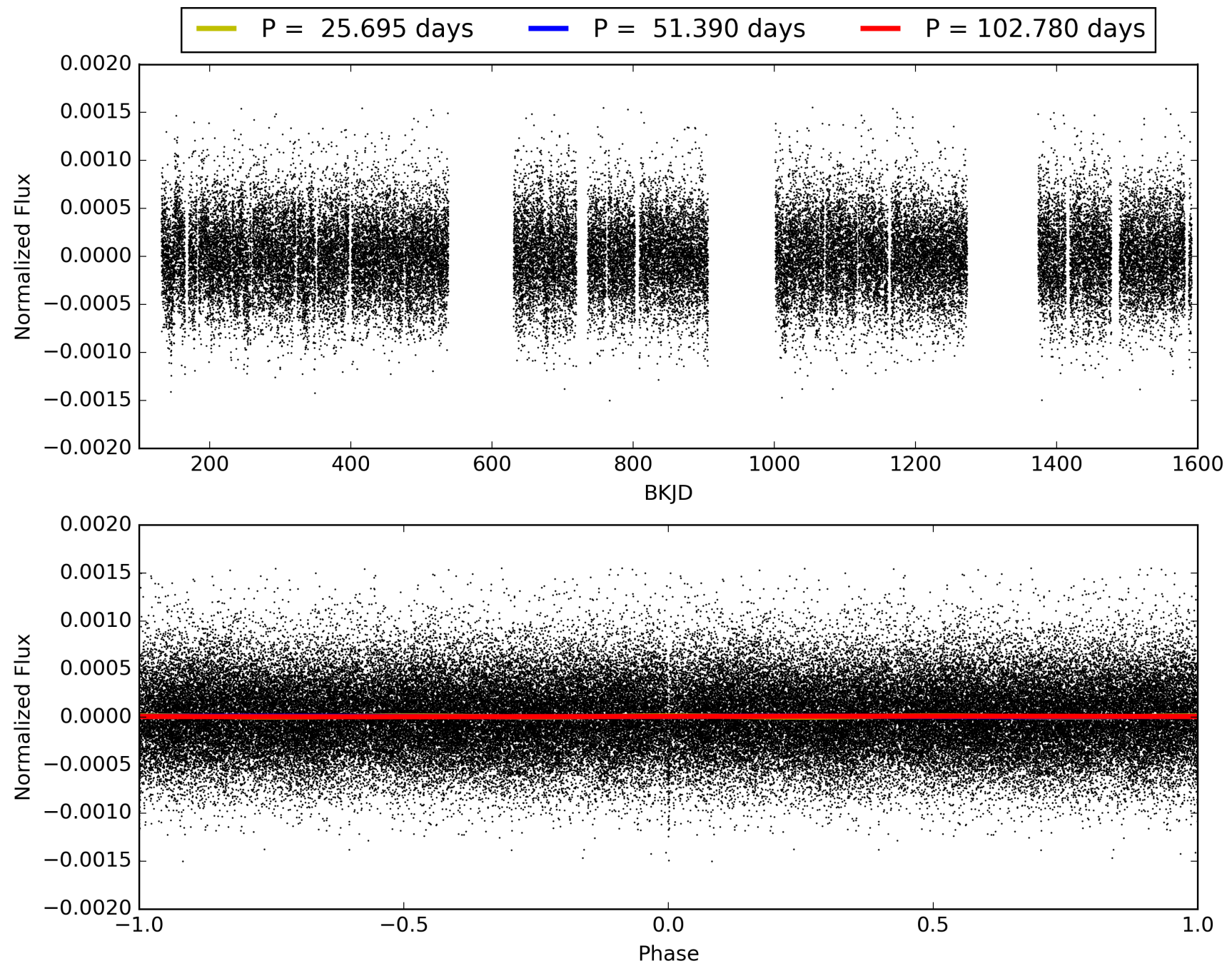
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:04:48 Z

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

TCE 004471747-01, PDC Light Curves

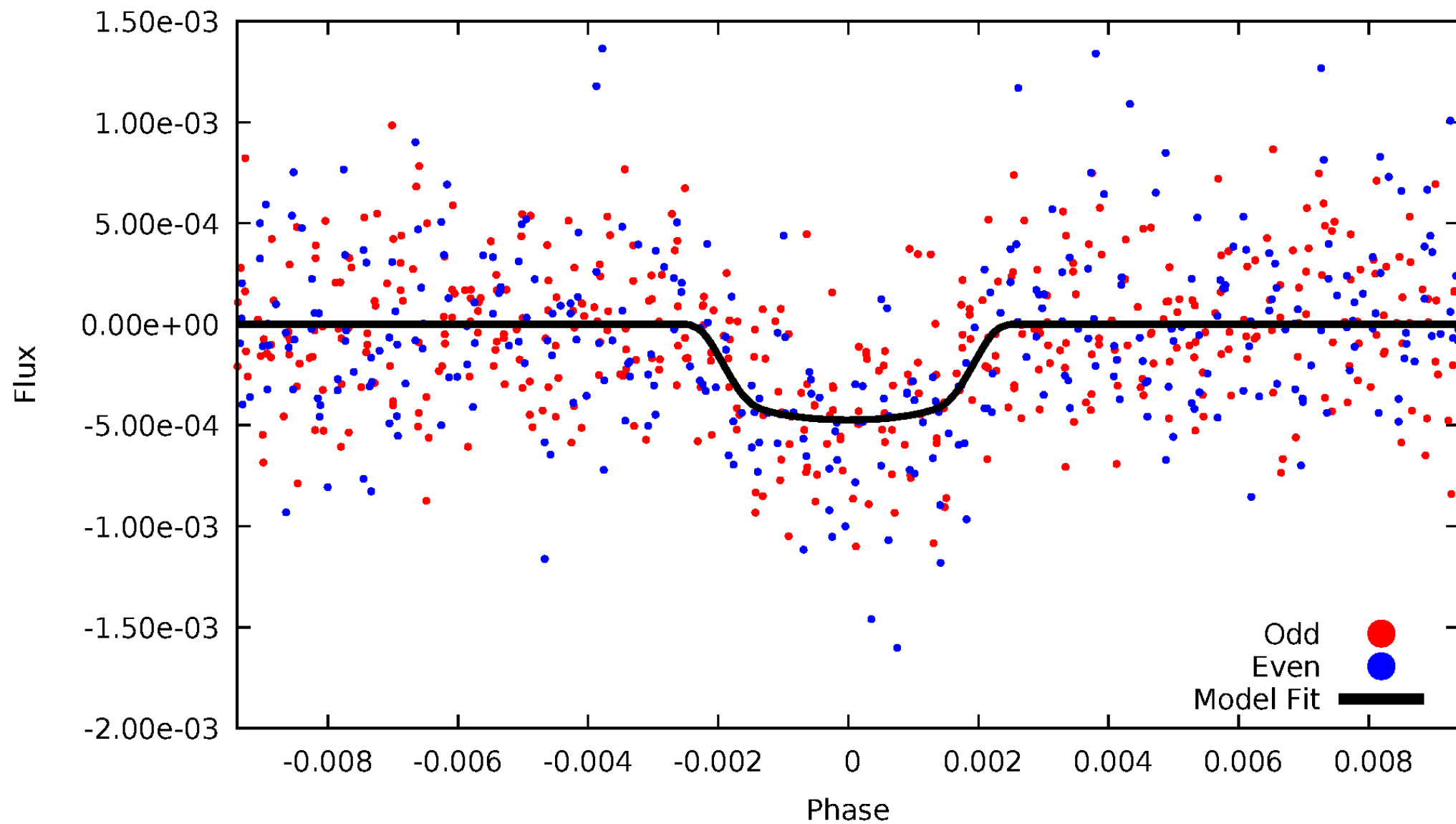


TCE 004471747-01



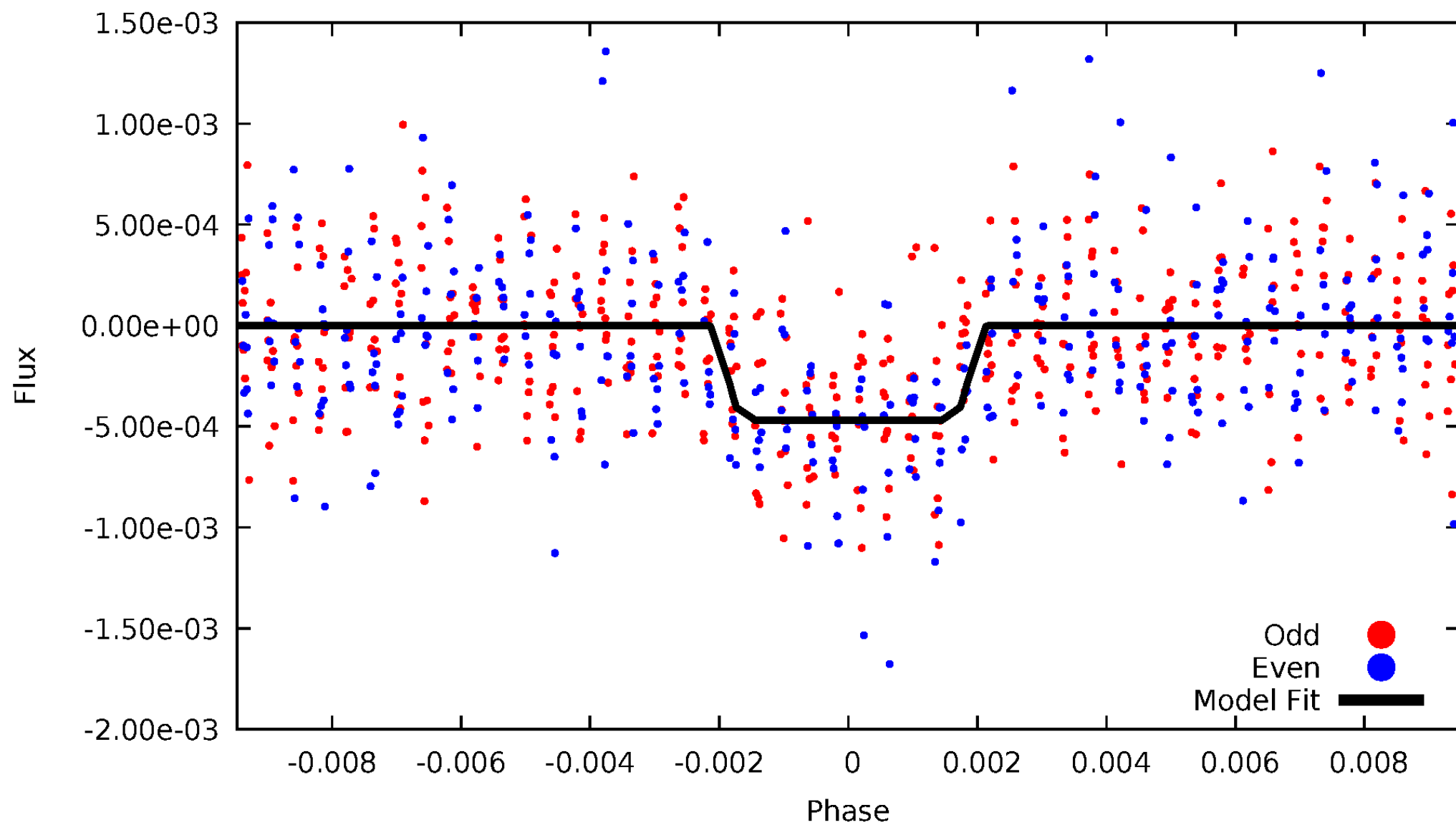
DV Odd/Even

TCE 004471747-01

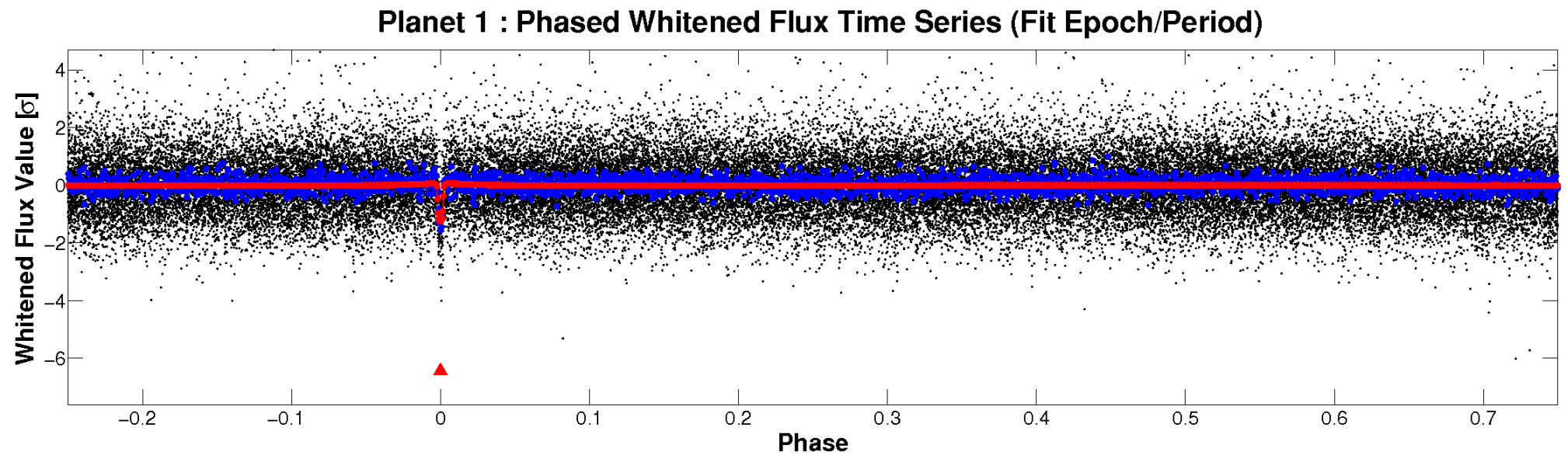
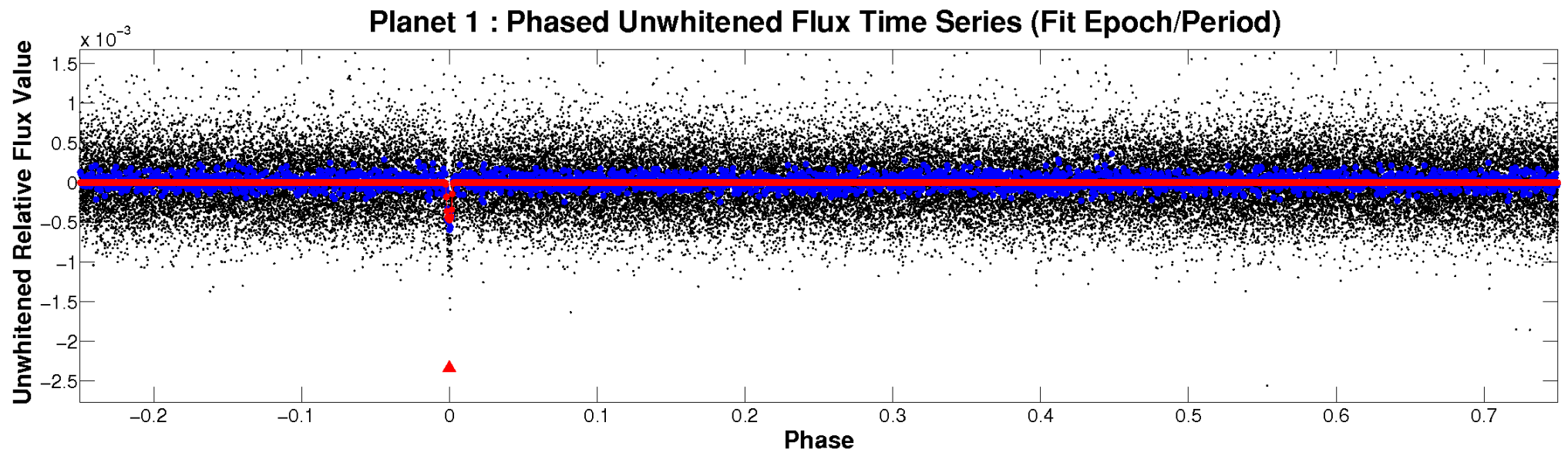


ALT Odd/Even

TCE 004471747-01

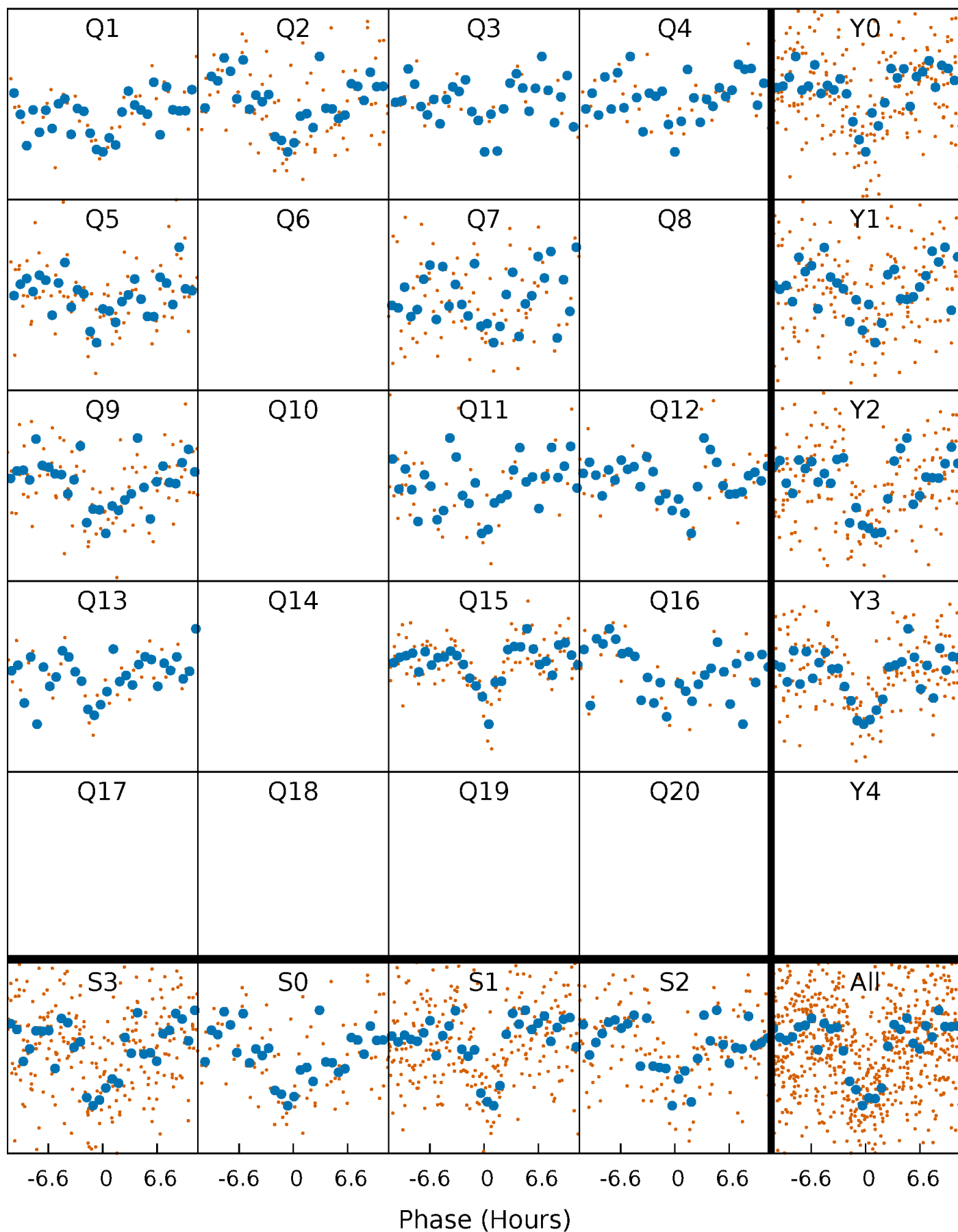


Non-Whitened Vs. Whitened Light Curve



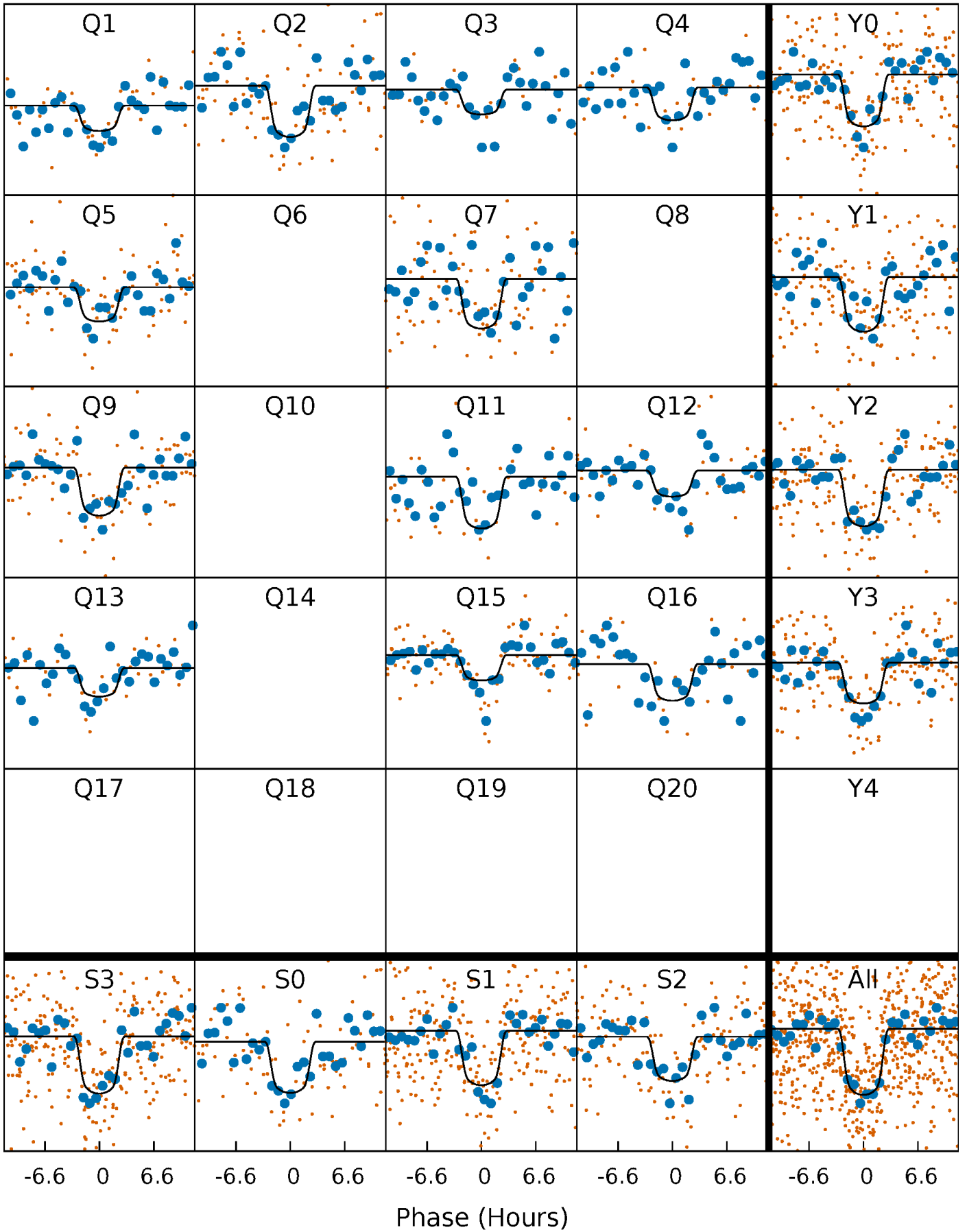
PDC Quarter-Phased Transit Curves

TCE 004471747-01 P= 51.390008 Days $T_0=145.320722$ (BKJD)



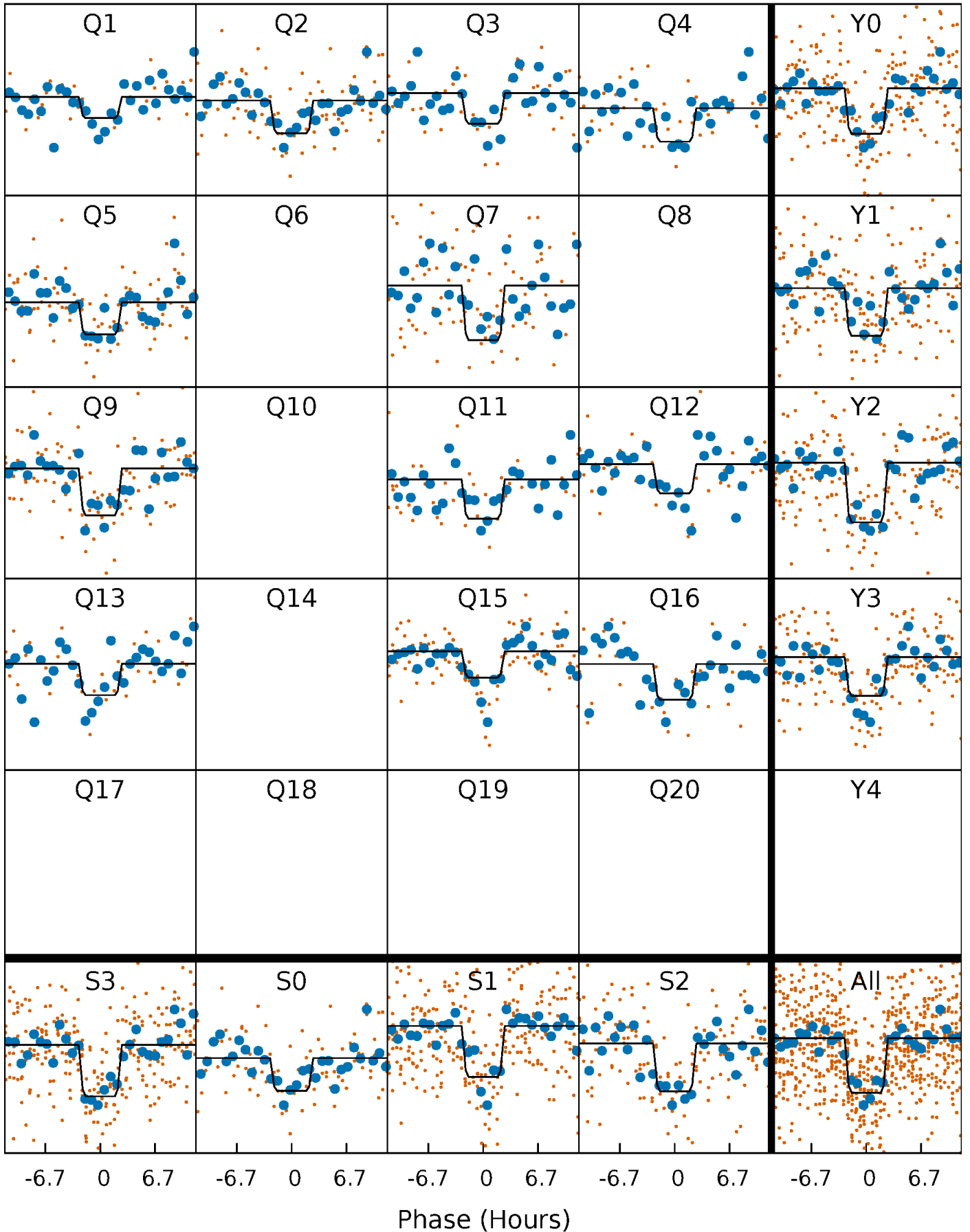
DV Quarter-Phased Transit Curves

TCE 004471747-01 P= 51.390008 Days $T_0=145.320722$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

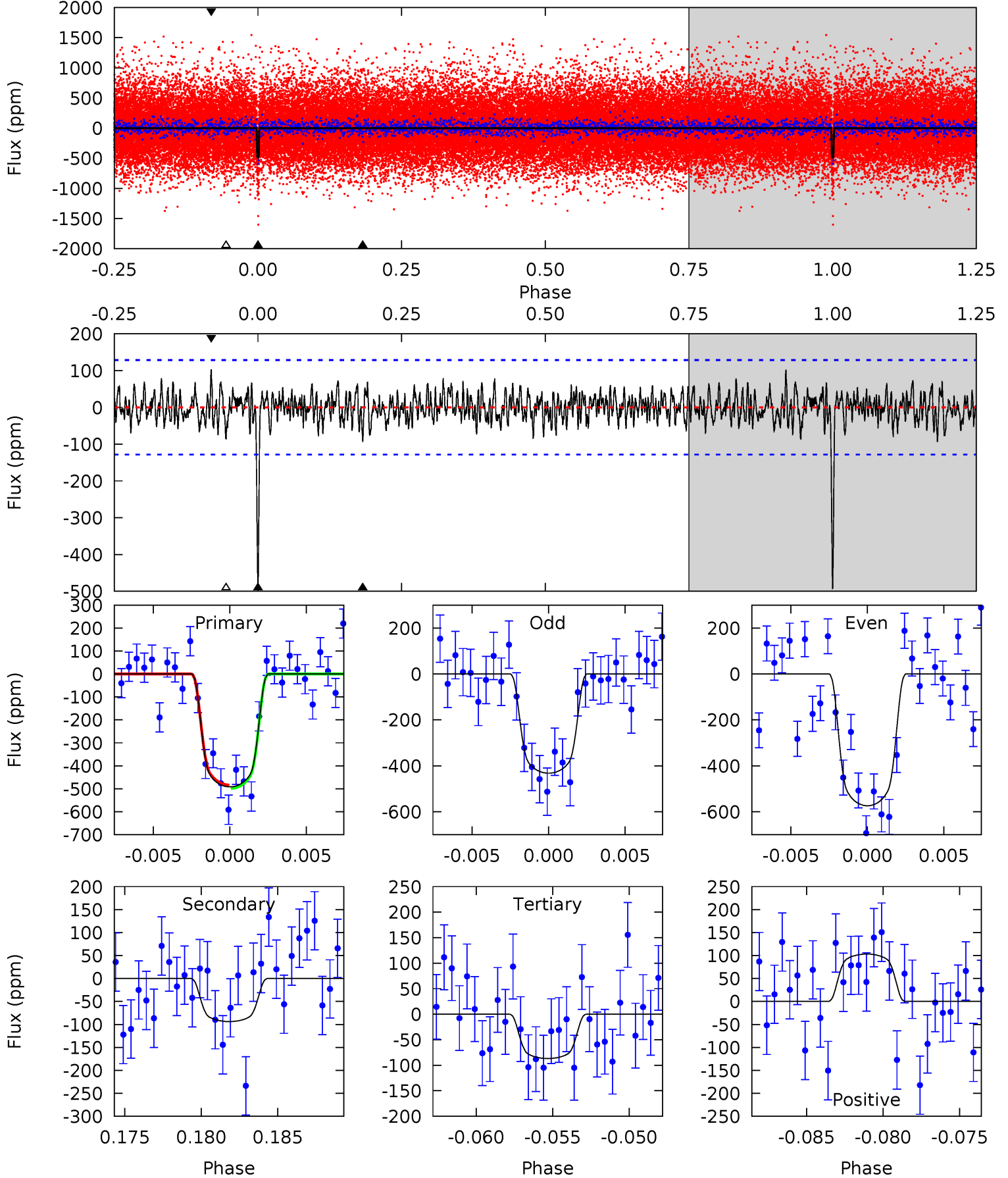
TCE 004471747-01 P= 51.390502 Days $T_0=145.314570$ (BKJD)



DV Model-Shift Uniqueness Test

004471747-01, P = 51.390008 Days, E = 93.930714 Days

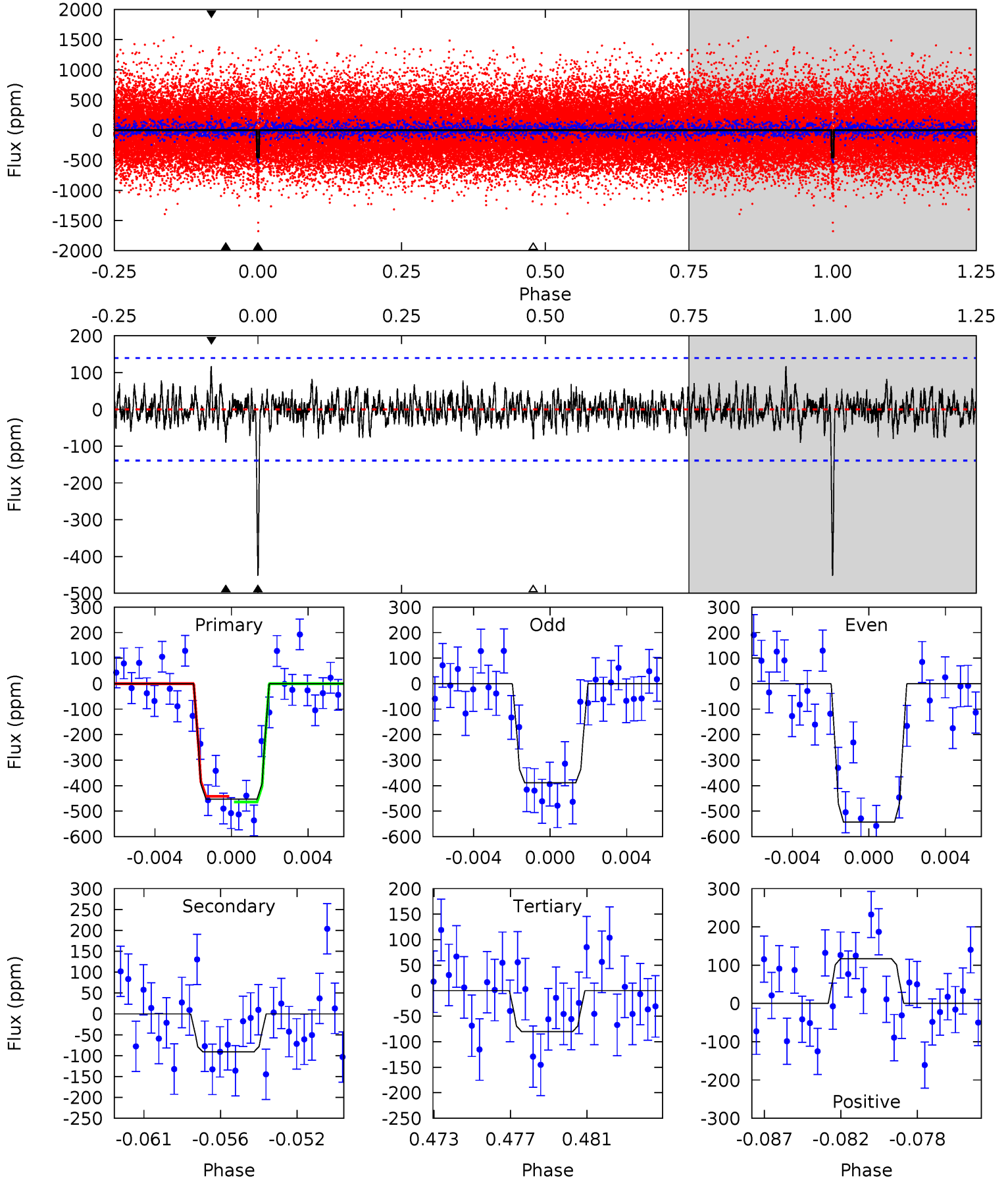
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.7	3.76	3.48	4.14	5.16	2.81	1.22	16.2	15.6	0.28	-0.38	2.82	1.00	0.17	0.30



Alt Model-Shift Uniqueness Test

004471747-01, P = 51.390502 Days, E = 93.924068 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.8	3.37	2.98	4.35	5.18	2.85	1.02	13.9	12.5	0.40	-0.97	2.83	1.04	0.21	0.41



Stellar Parameters For KIC 004471747

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6074^{+81}_{-90}	$4.284^{+0.103}_{-0.126}$	$0.160^{+0.150}_{-0.150}$	$1.292^{+0.224}_{-0.163}$	$1.173^{+0.073}_{-0.097}$	$0.766^{+0.340}_{-0.275}$
	+1%/-1%	+2%/-3%	+94%/-94%	+17%/-13%	+6%/-8%	+44%/-36%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 004471747-01 / KOI 1656.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-94 ± 25	$3.50^{+0.43}_{-0.39}$	800^{+39}_{-35}	4106^{+200}_{-237}	338^{+134}_{-102}
Alt.	-91 ± 27	$3.07^{+0.43}_{-0.38}$	799^{+39}_{-33}	4266^{+271}_{-308}	419^{+186}_{-144}

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 $A_{obs} \gg 1.0$

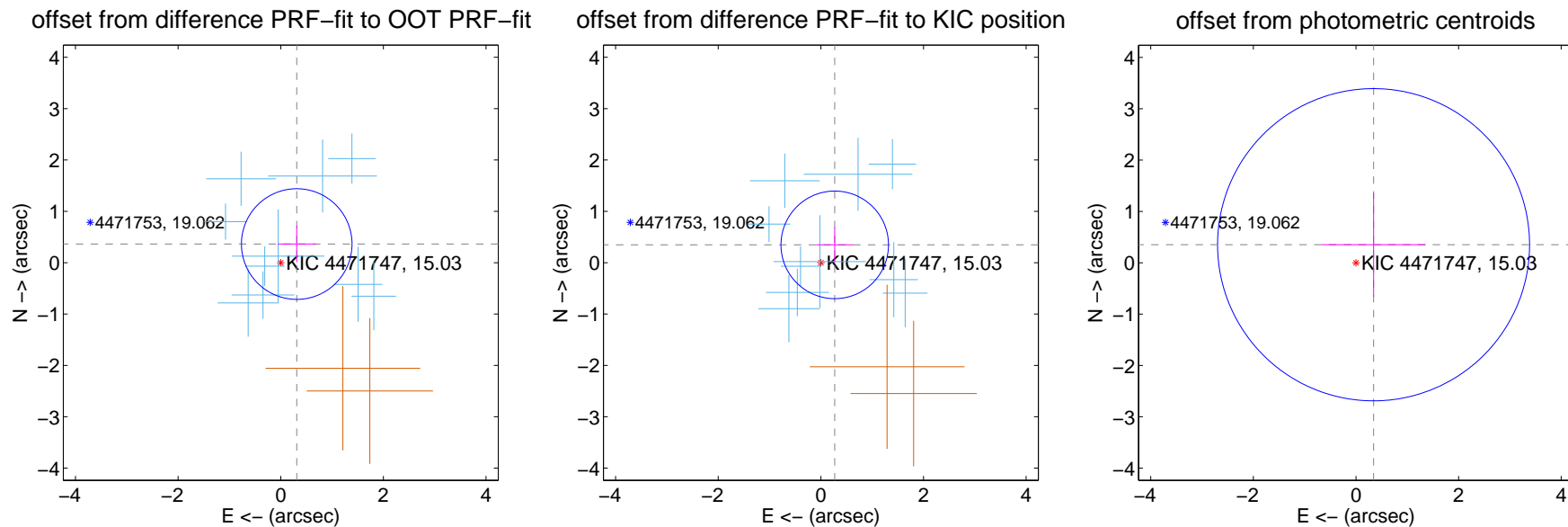
DV Centroid Data

Supplemental centroid analysis for 004471747-01. Kepler magnitude: 15.03. Transit SNR 13.98

There are 10 quarters with good PRF difference image offsets

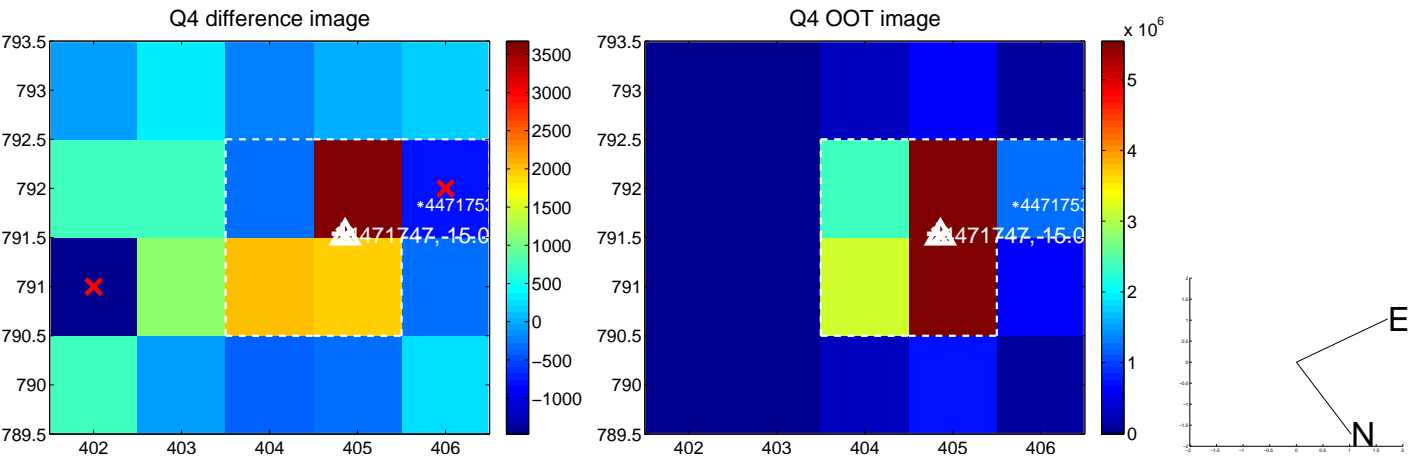
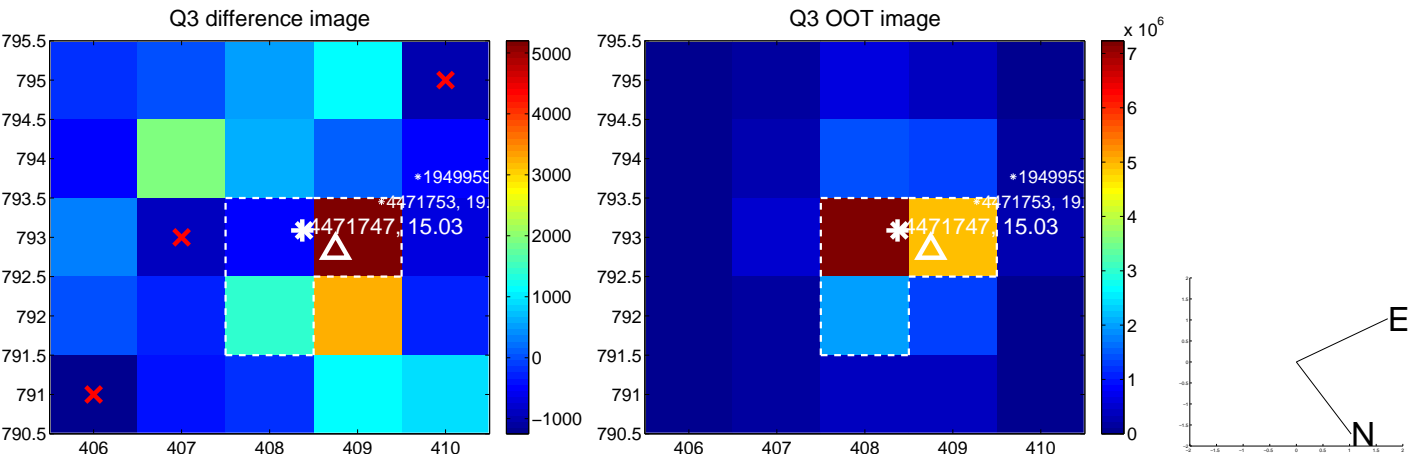
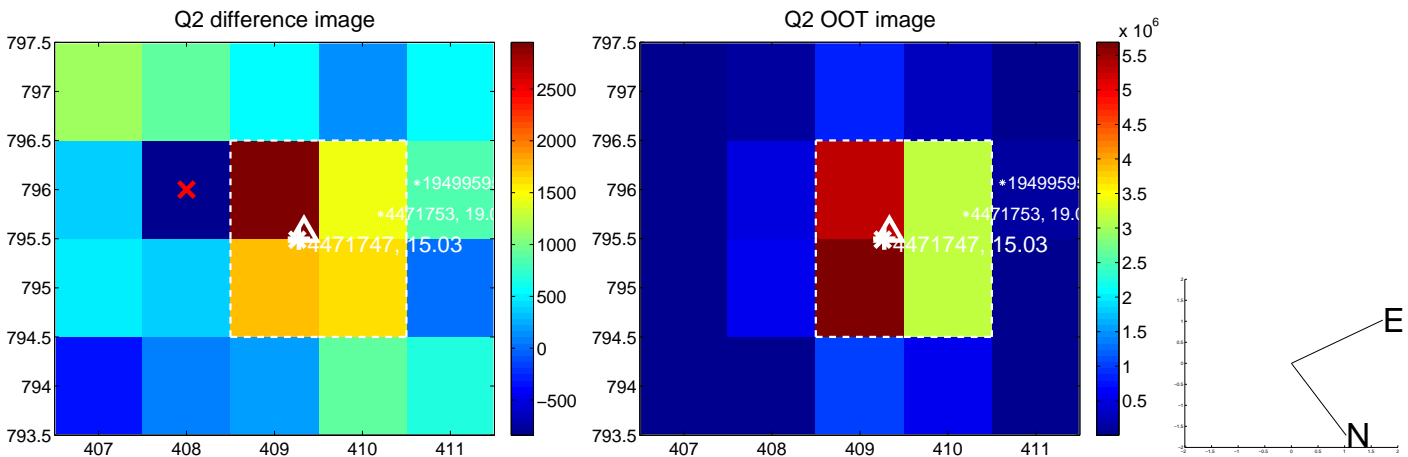
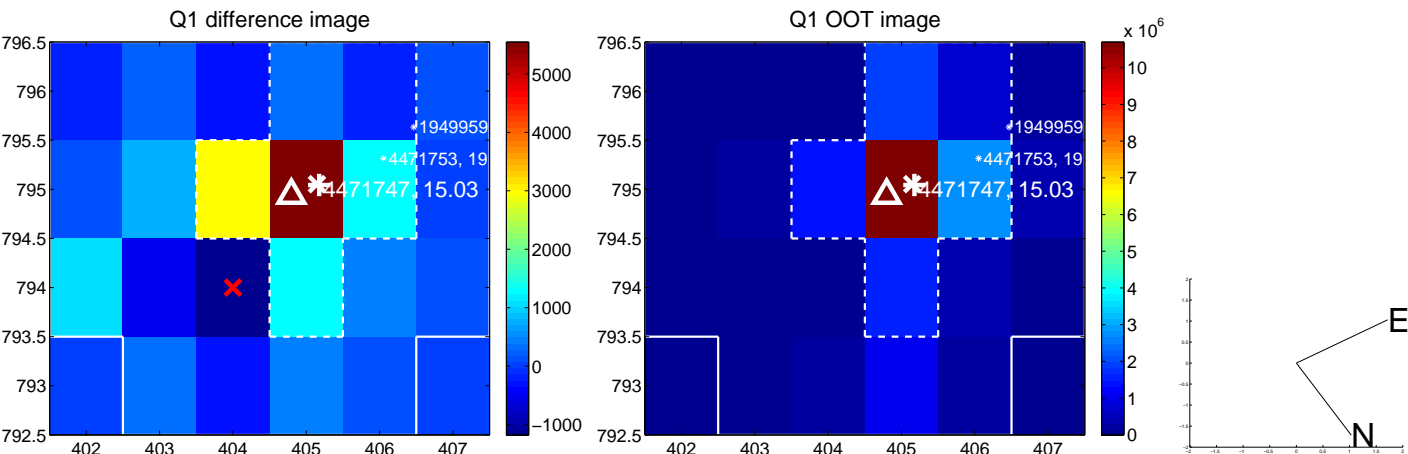
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.478 ± 0.359	1.33	-0.311 ± 0.369	0.363 ± 0.352
PRF-fit source offset from KIC position	0.440 ± 0.349	1.26	-0.270 ± 0.362	0.347 ± 0.341
photometric centroid source offset	0.49 ± 1.01	0.48	-0.34 ± 1.02	0.35 ± 1.01

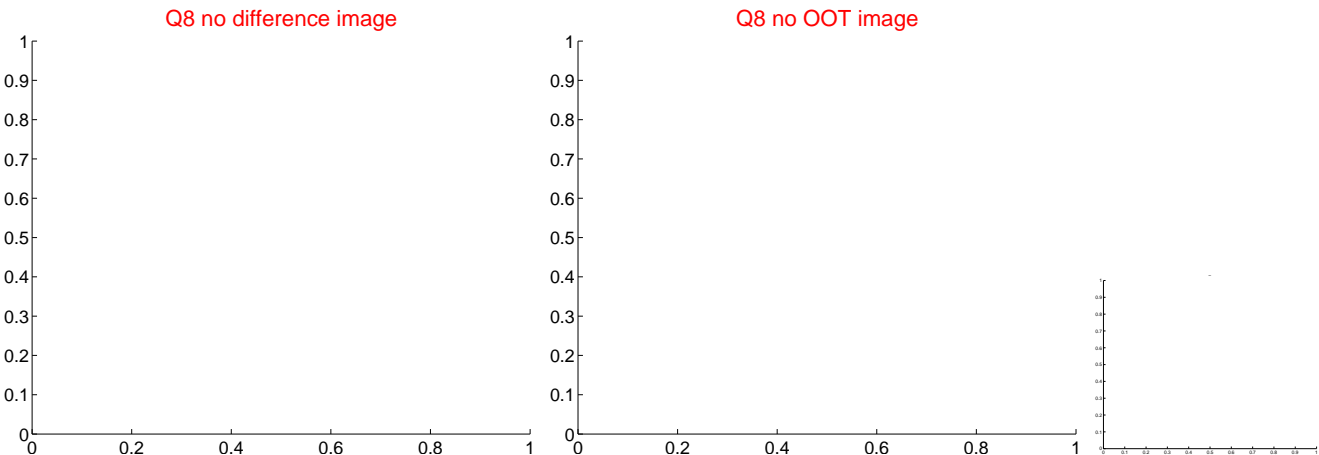
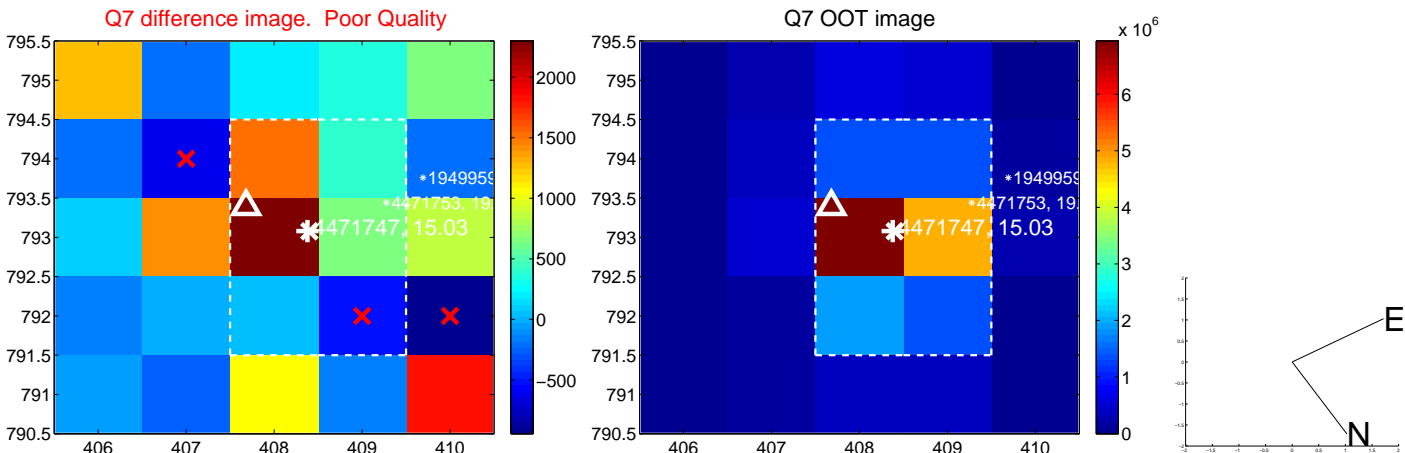
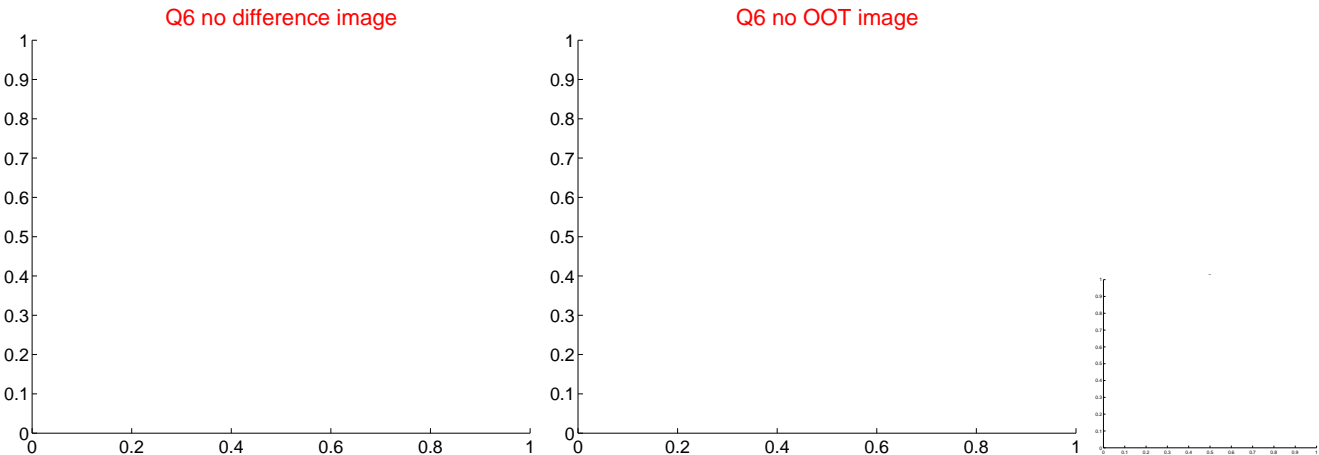
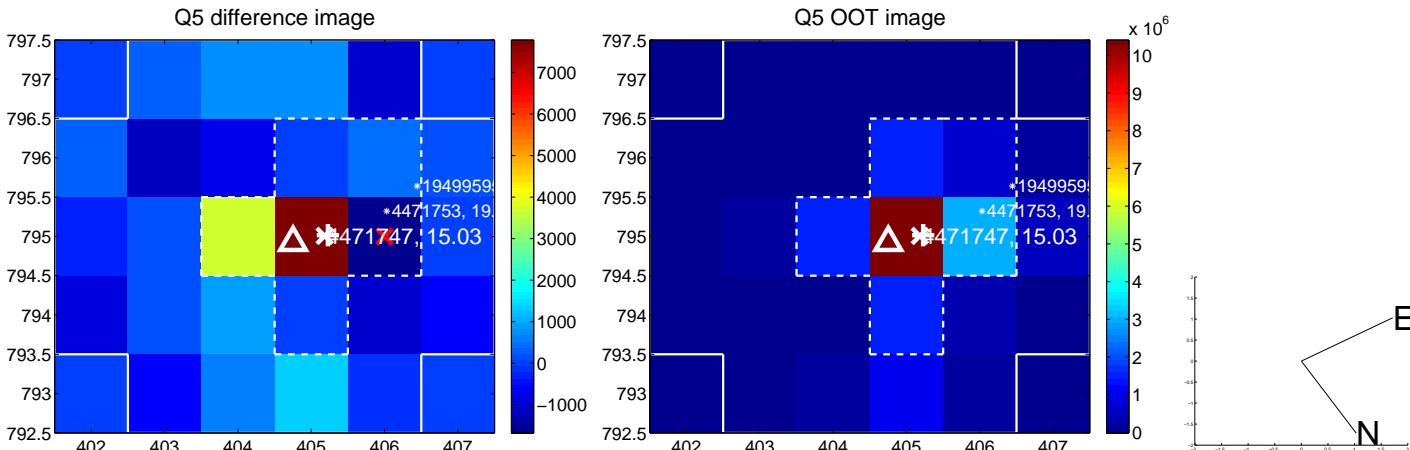


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

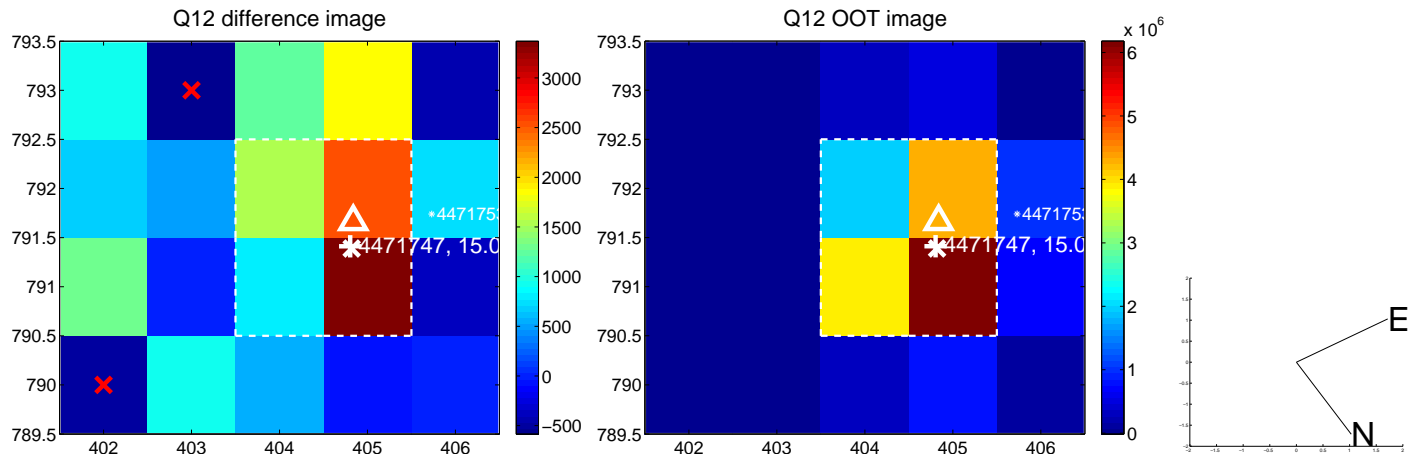
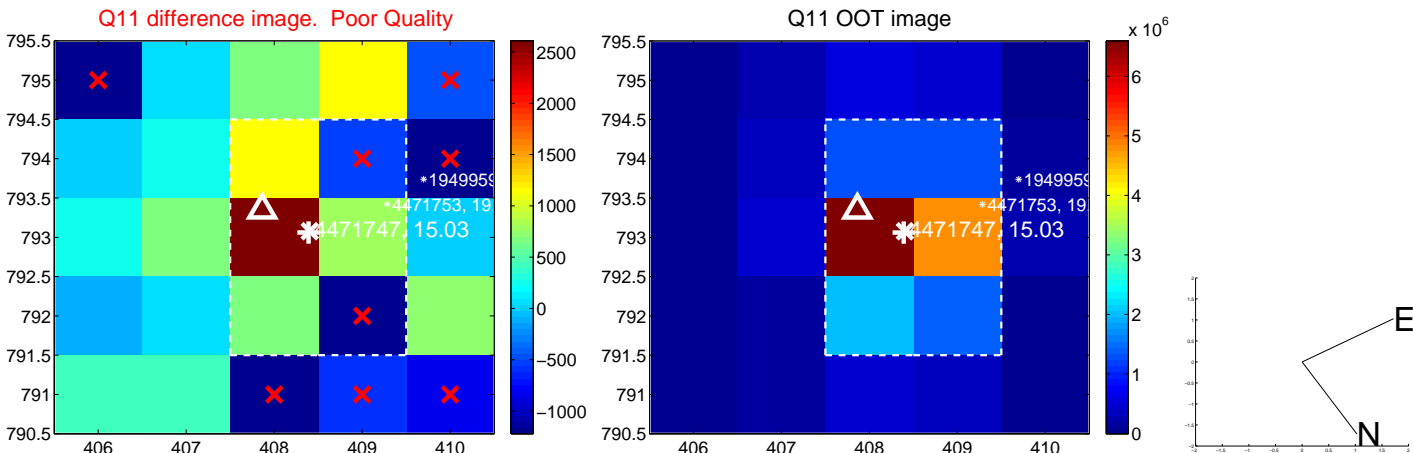
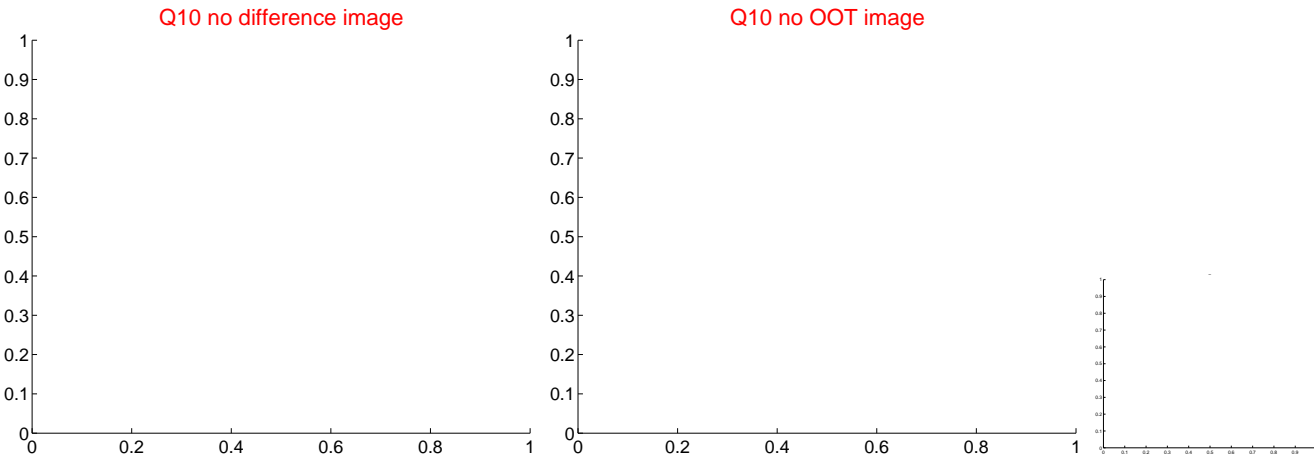
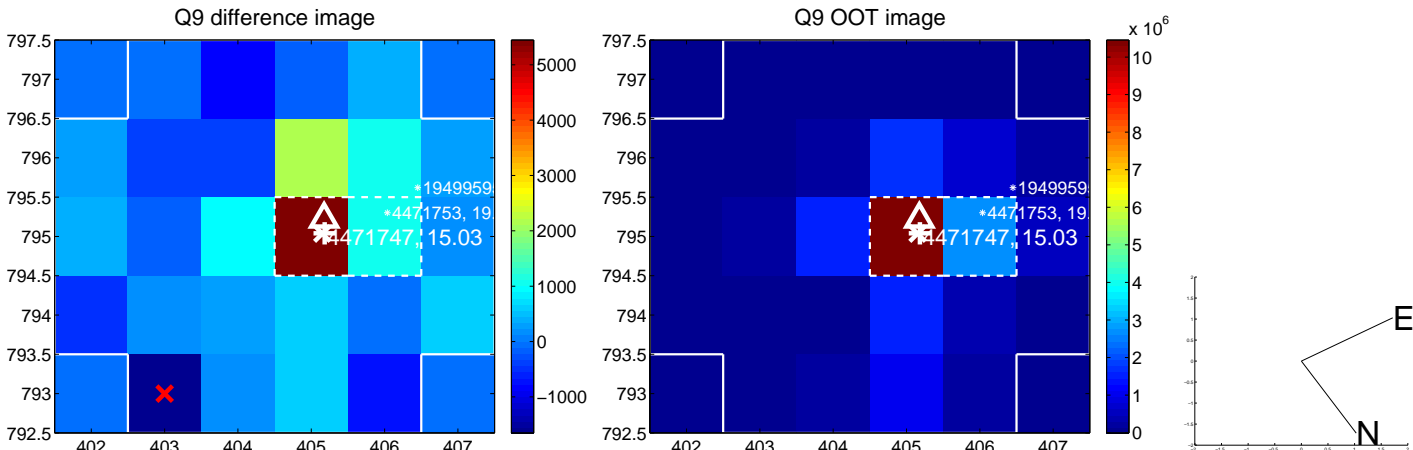
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



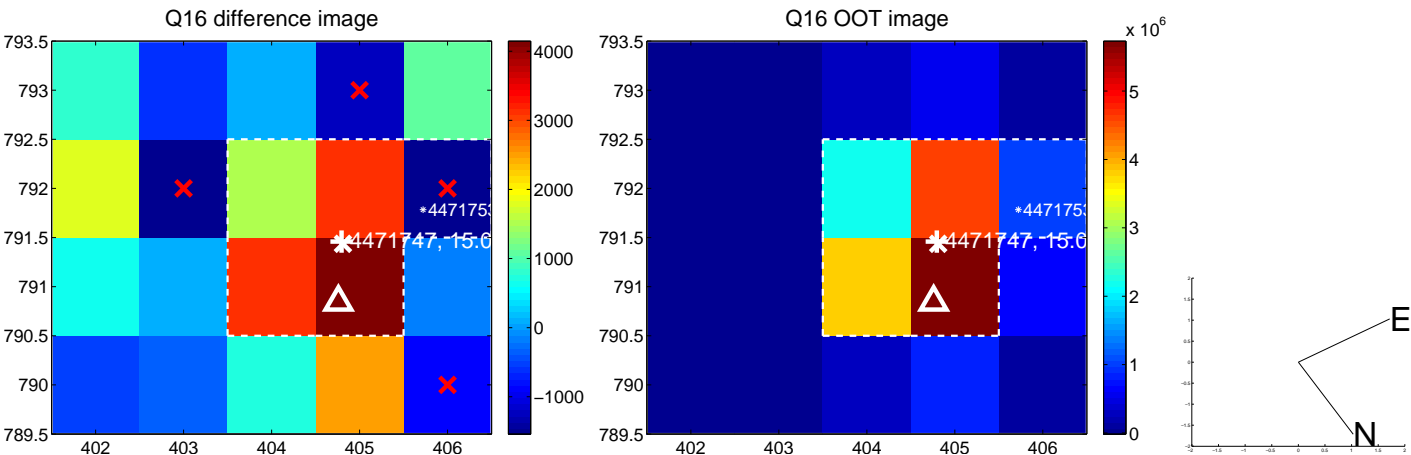
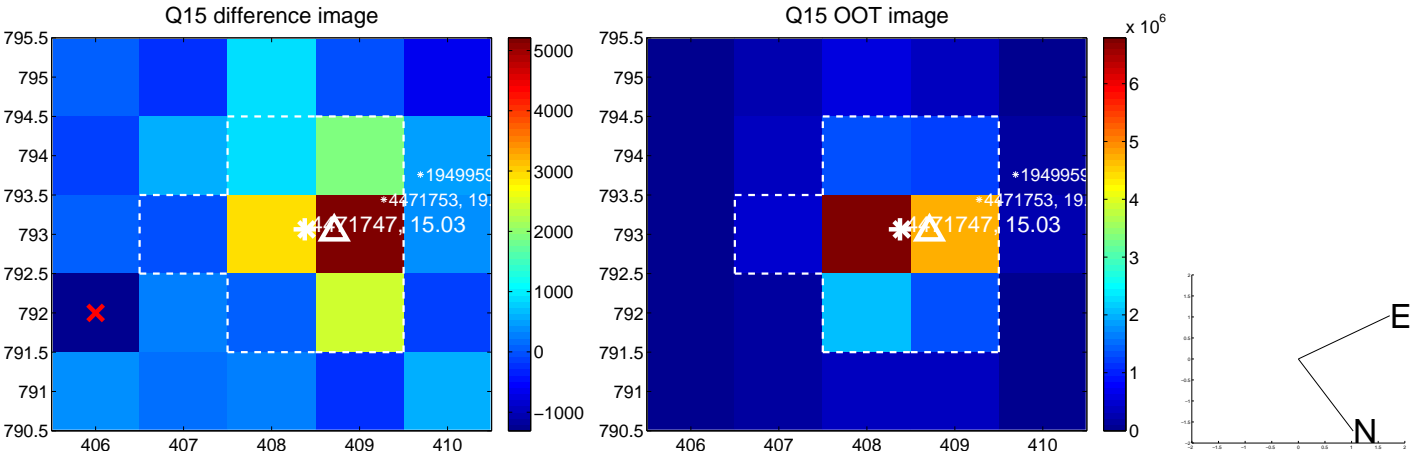
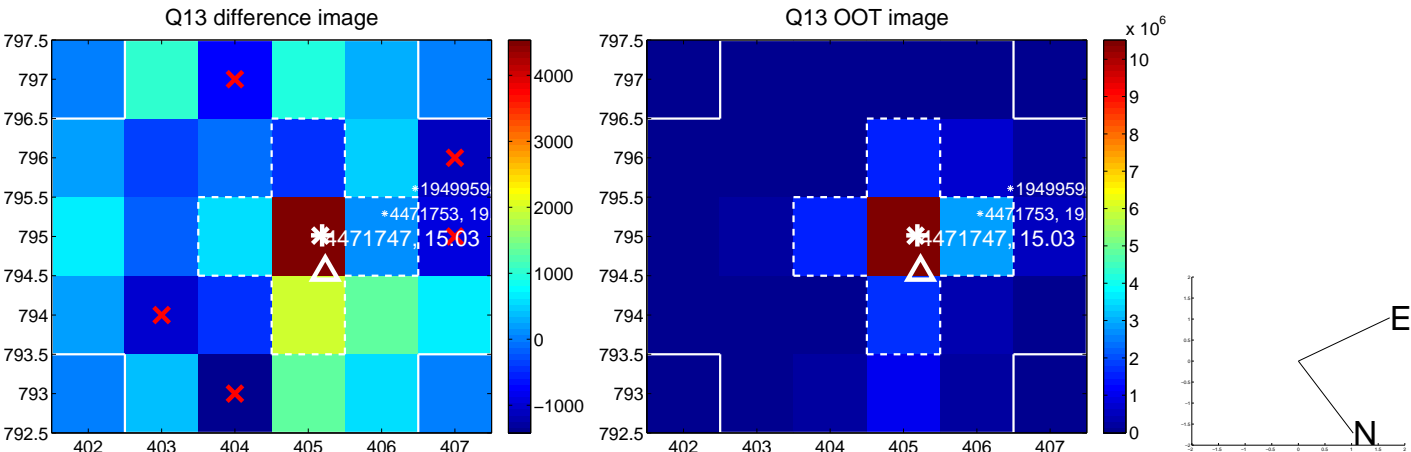
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



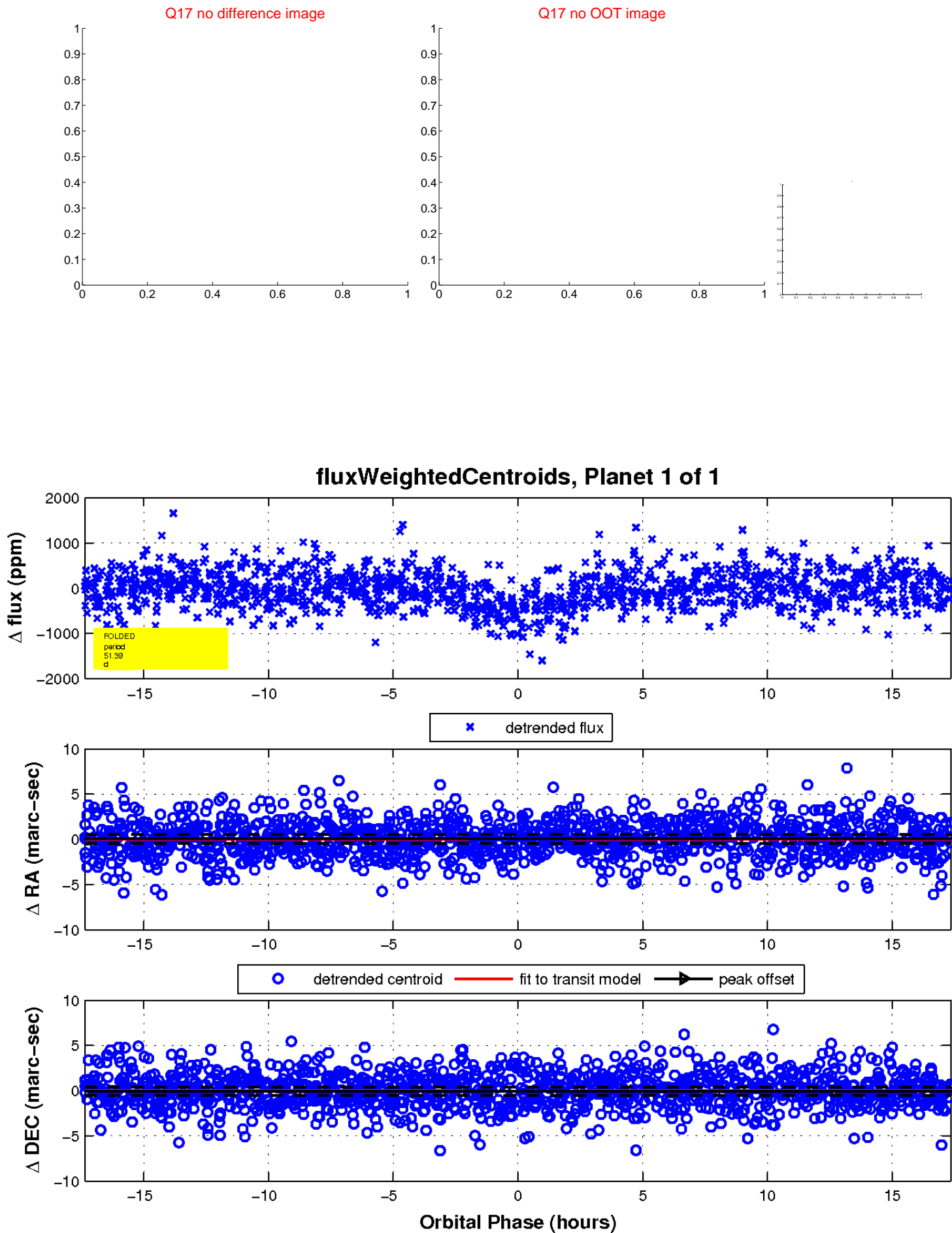
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UKIRT Image

Declination

