

KIC 004075015

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})
004075015-01	OBS	2850.01	1.114312	131.758036	151.2	2.086	13.8	14.7	0.85	5776	1.13	1690.44

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004075015-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—CENT_RESOLVED_OFFSET—HALO_GHOST

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 004075015-01

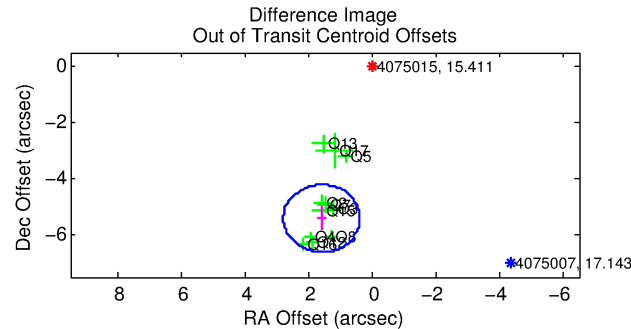
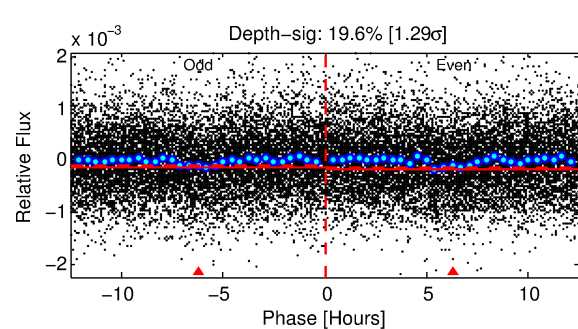
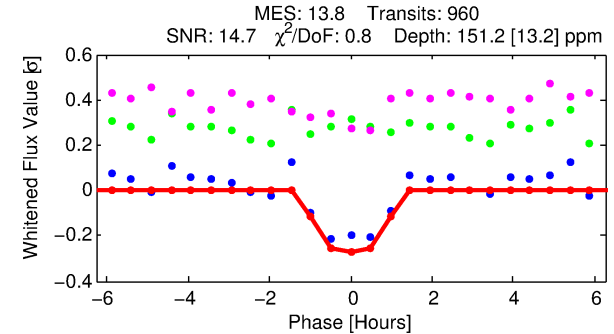
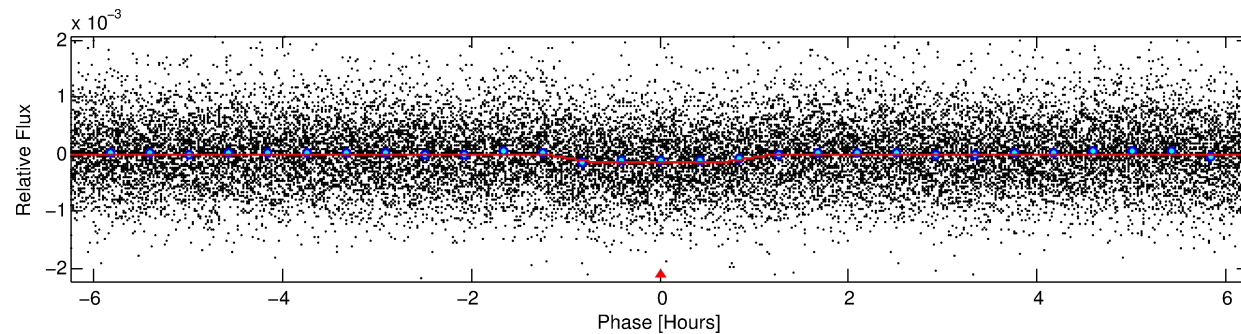
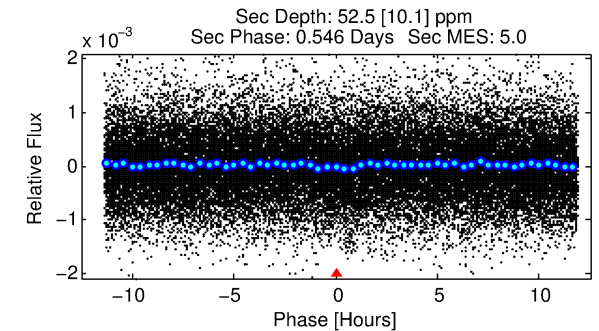
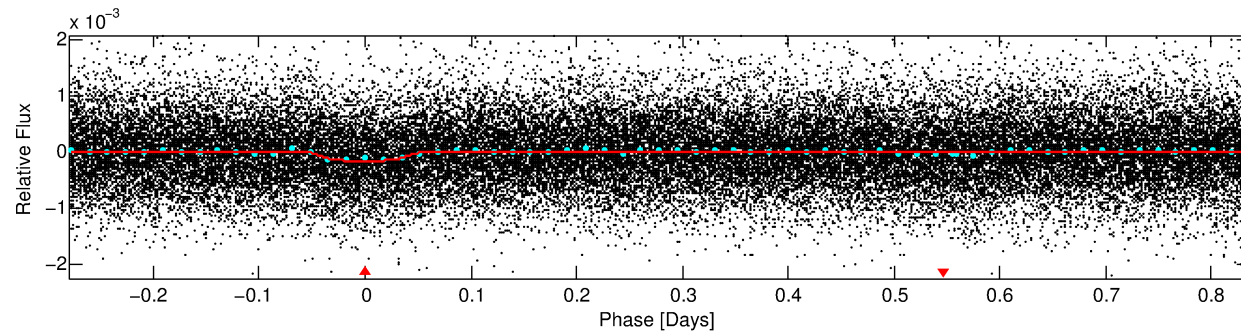
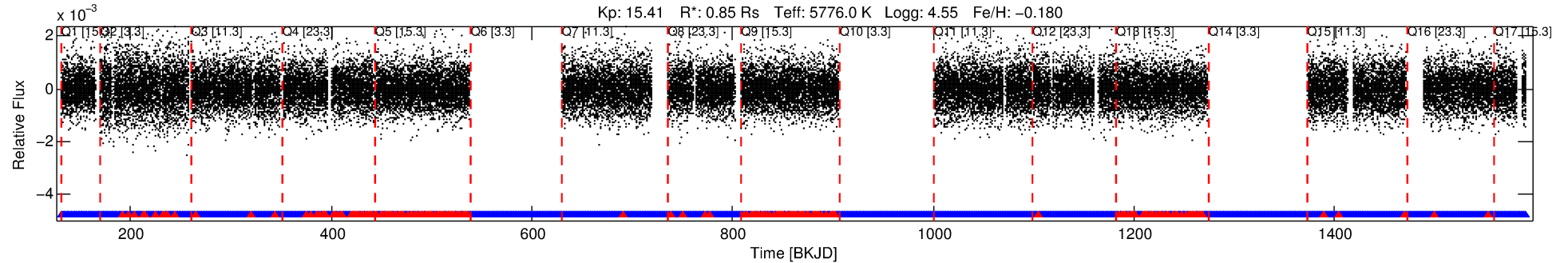
No Significant Match Found

DV One-Page Summary

KIC: 4075015 Candidate: 1 of 1 Period: 1.114 d

KOI: K02850.01 Corr: 0.984

Kp: 15.41 R*: 0.85 Rs Teff: 5776.0 K Logg: 4.55 Fe/H: -0.180



DV Fit Results:

Period = 1.11431 [0.00001] d
Epoch = 131.7580 [0.0021] BKJD
Rp/R* = 0.0122 [0.0084]
a/R* = 2.93 [8.09]
b = 0.74 [1.91]
Seff = 1690.44 [582.34]
Teq = 1635 [141] K
Rp = 1.13 [0.84] Re
a = 0.0206 [0.0046] AU
Ag = 9.56 [13.64] [0.63σ]
Teff = 4445 [1550] K [1.81σ]

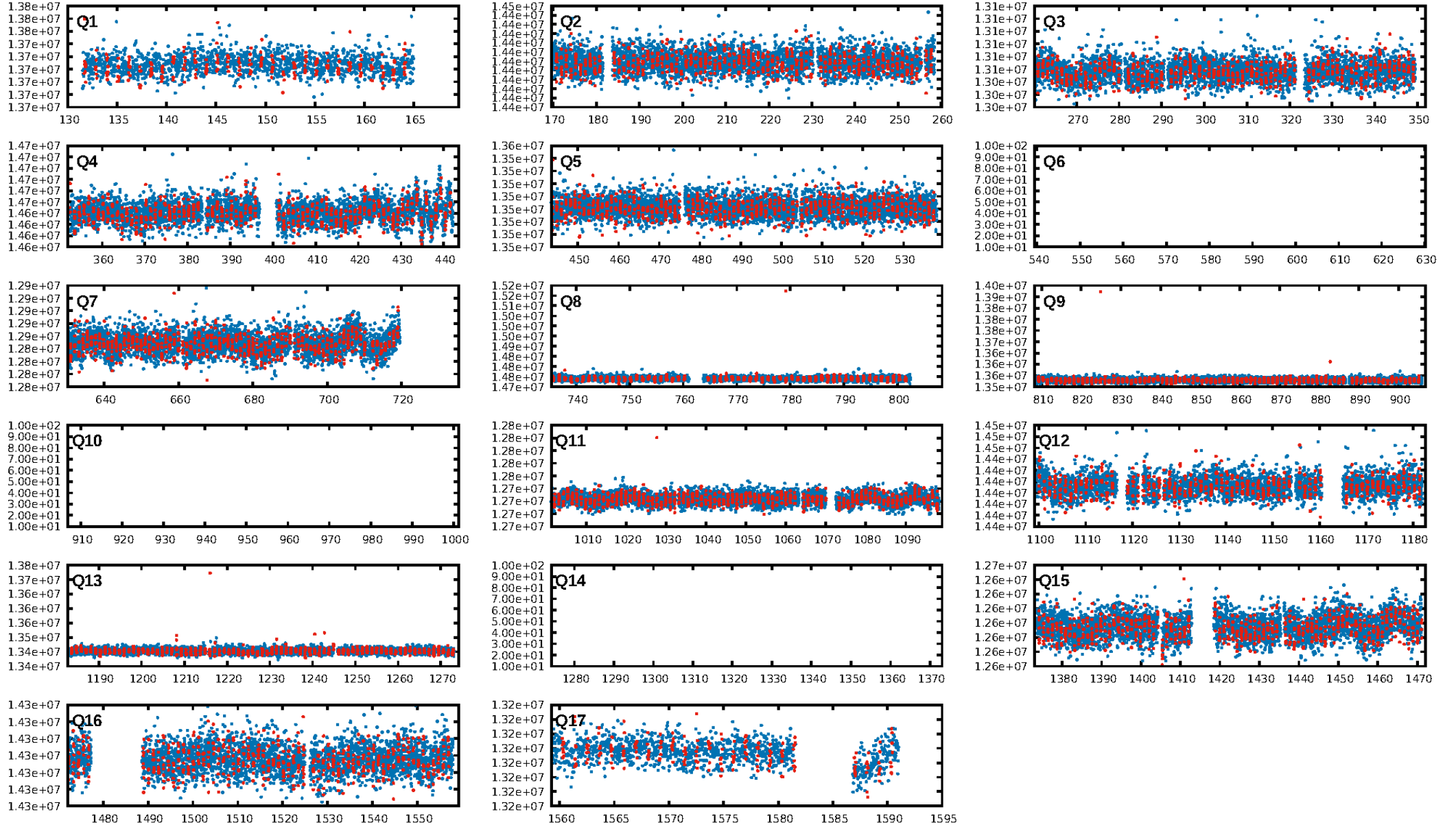
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 1.27e-44
RollingBand-fgt: 0.78 [705/906]
GhostDiagnostic-chr: -0.005869
Centroid-sig: 0.0%
Centroid-so: 10.875 arcsec [10.98σ]
OotOffset-rm: 5.646 arcsec [14.10σ]
KicOffset-rm: 5.862 arcsec [14.89σ]
OotOffset-st: 1/3/4/3 [11]
KicOffset-st: 1/3/4/3 [11]
DiffImageQuality-fgm: 1.00 [11/11]
DiffImageOverlap-fno: 1.00 [14/14]

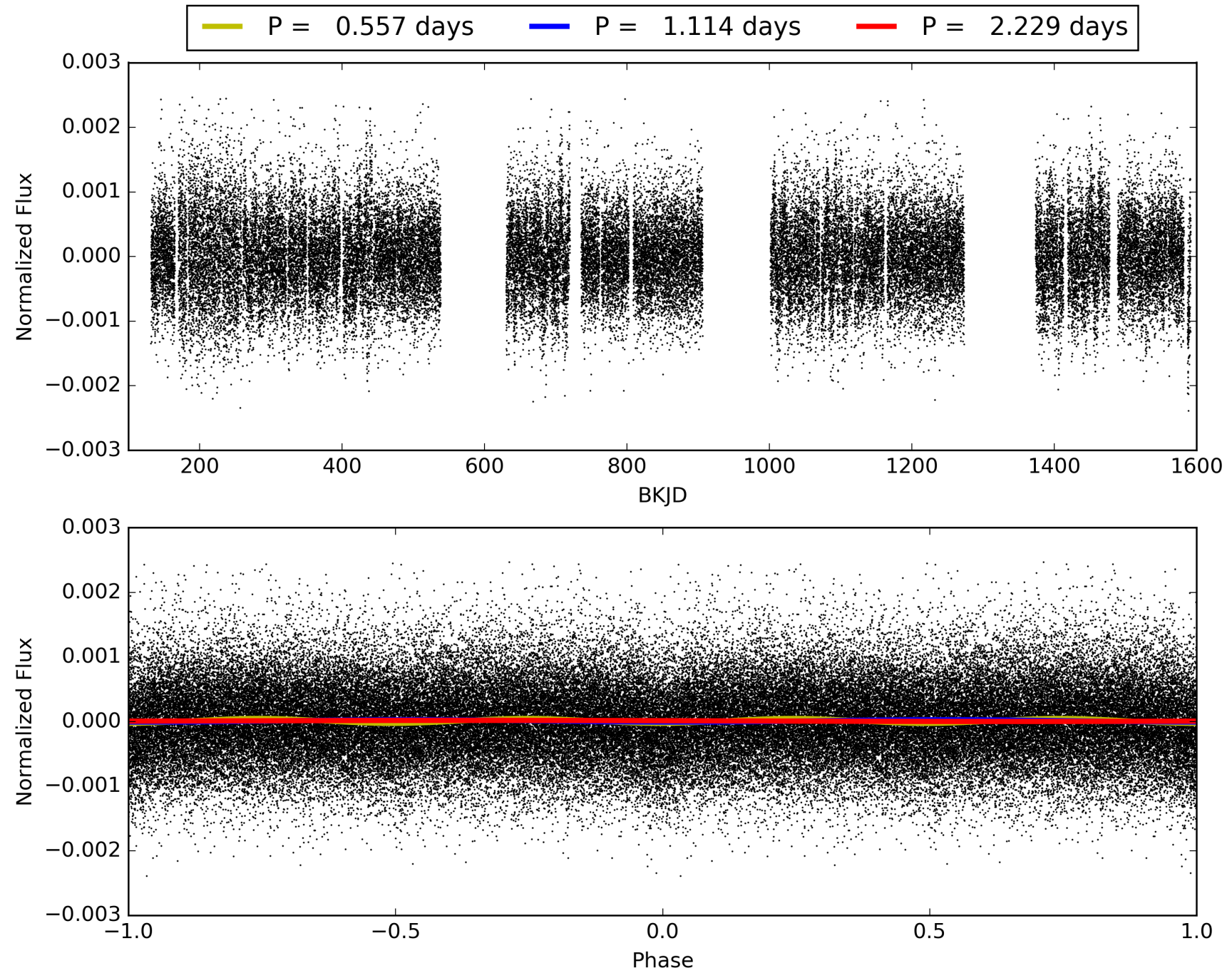
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:38:23 Z

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

TCE 004075015-01, PDC Light Curves

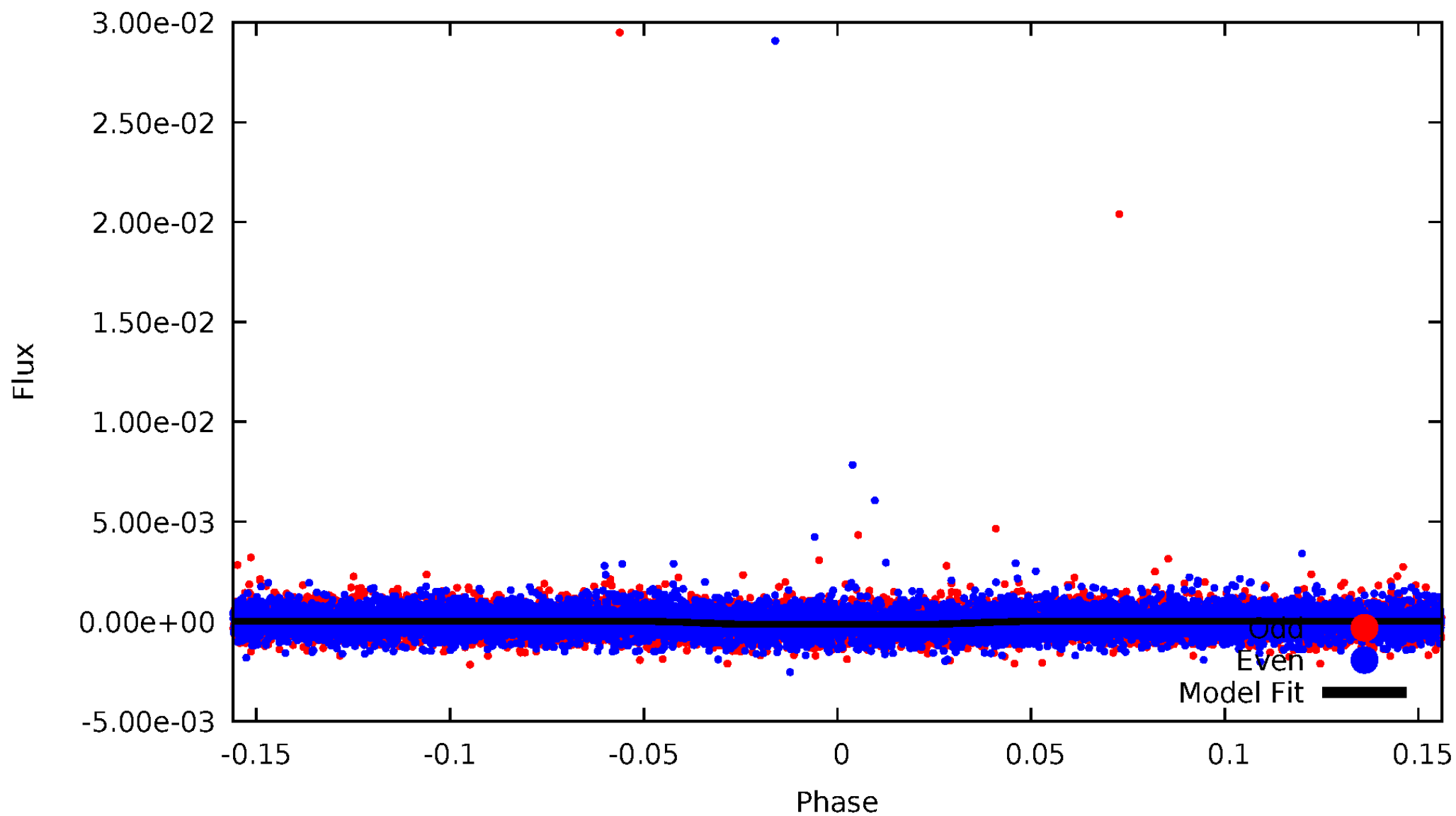


TCE 004075015-01



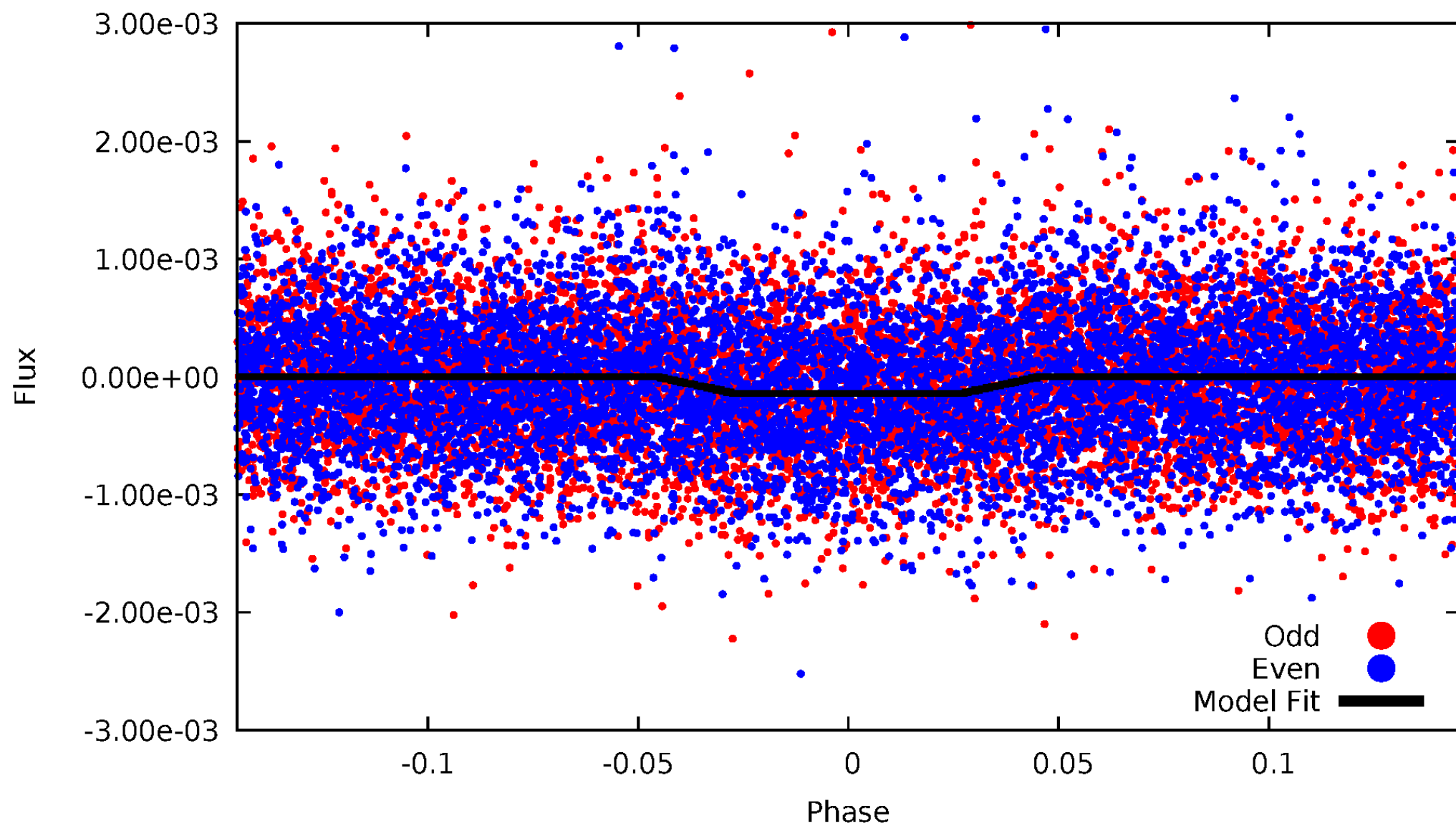
DV Odd/Even

TCE 004075015-01

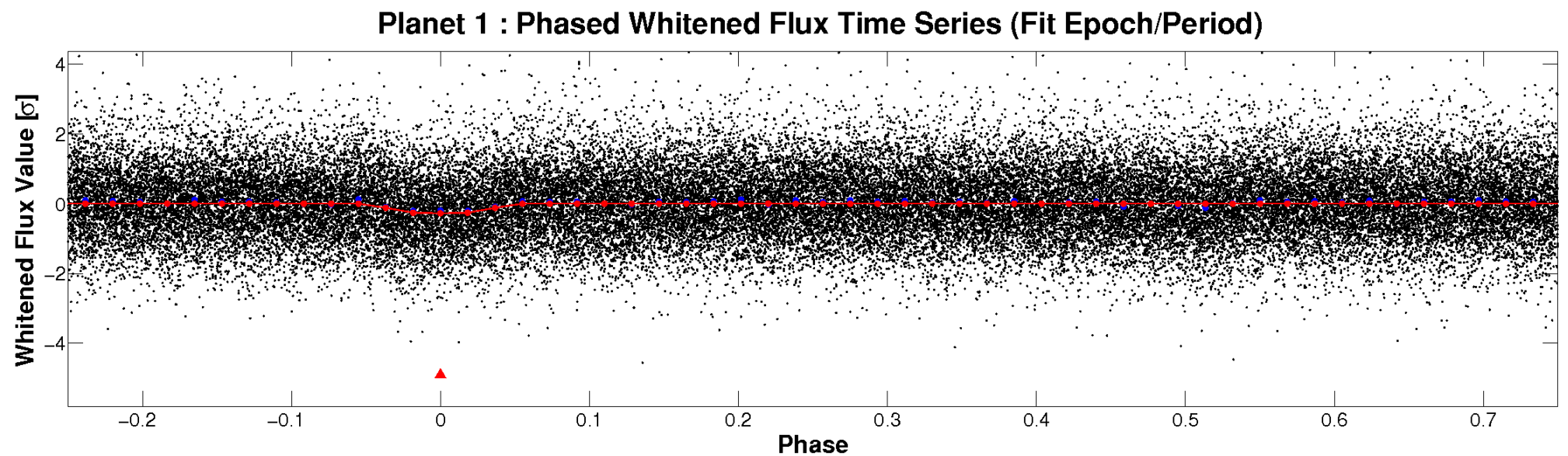
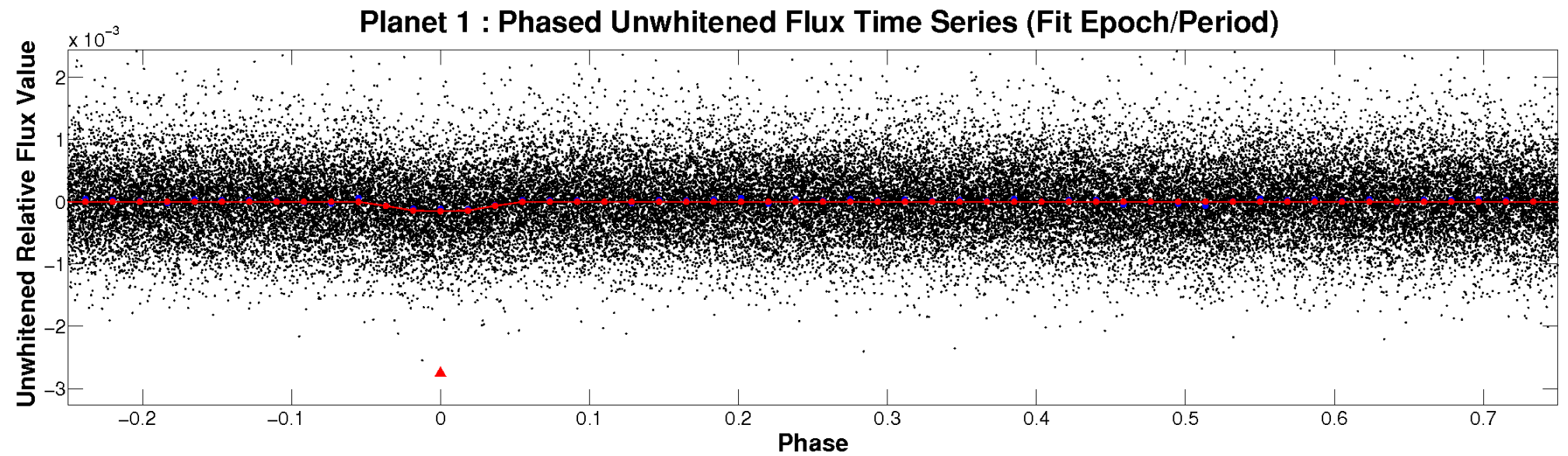


ALT Odd/Even

TCE 004075015-01

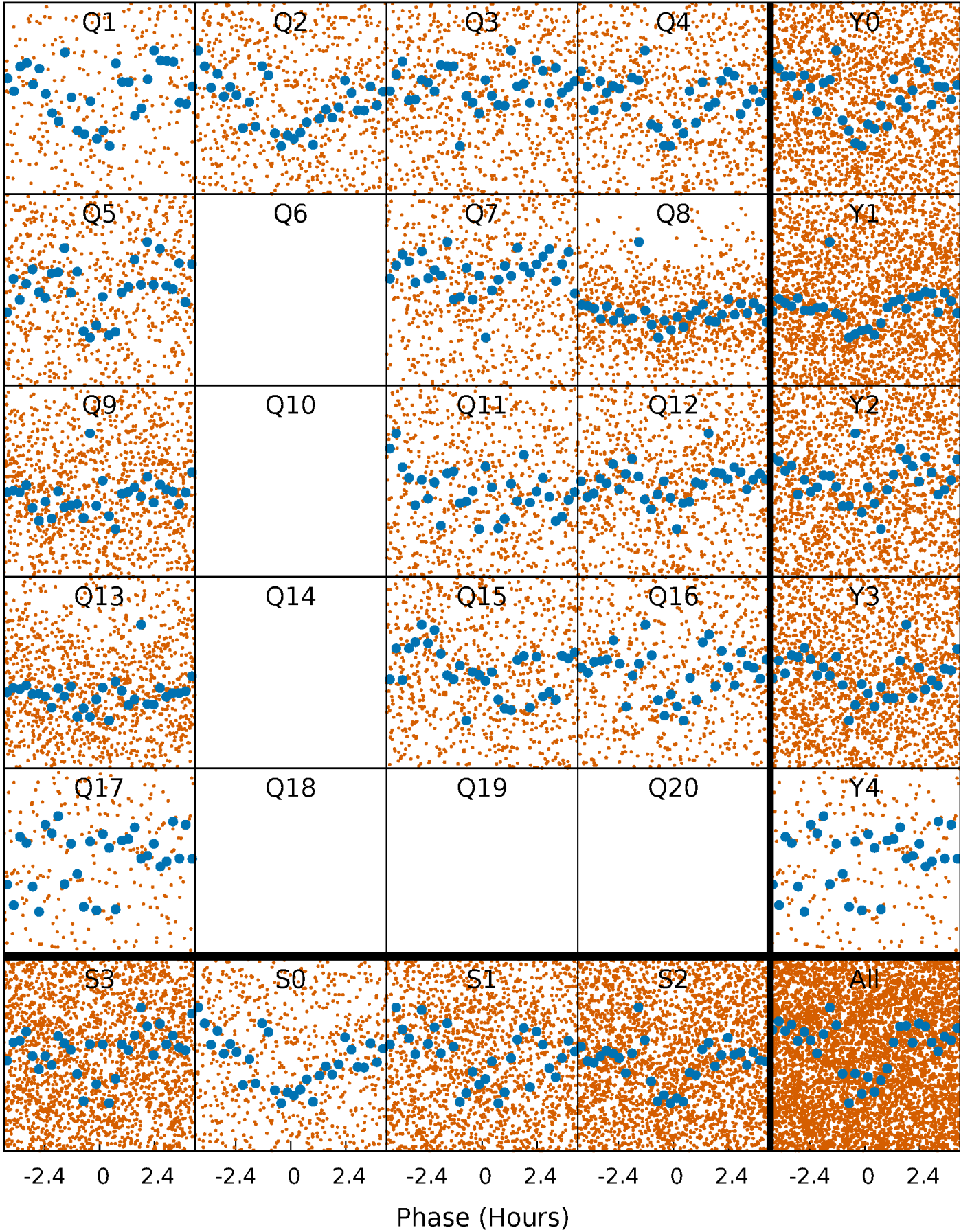


Non-Whitened Vs. Whitened Light Curve



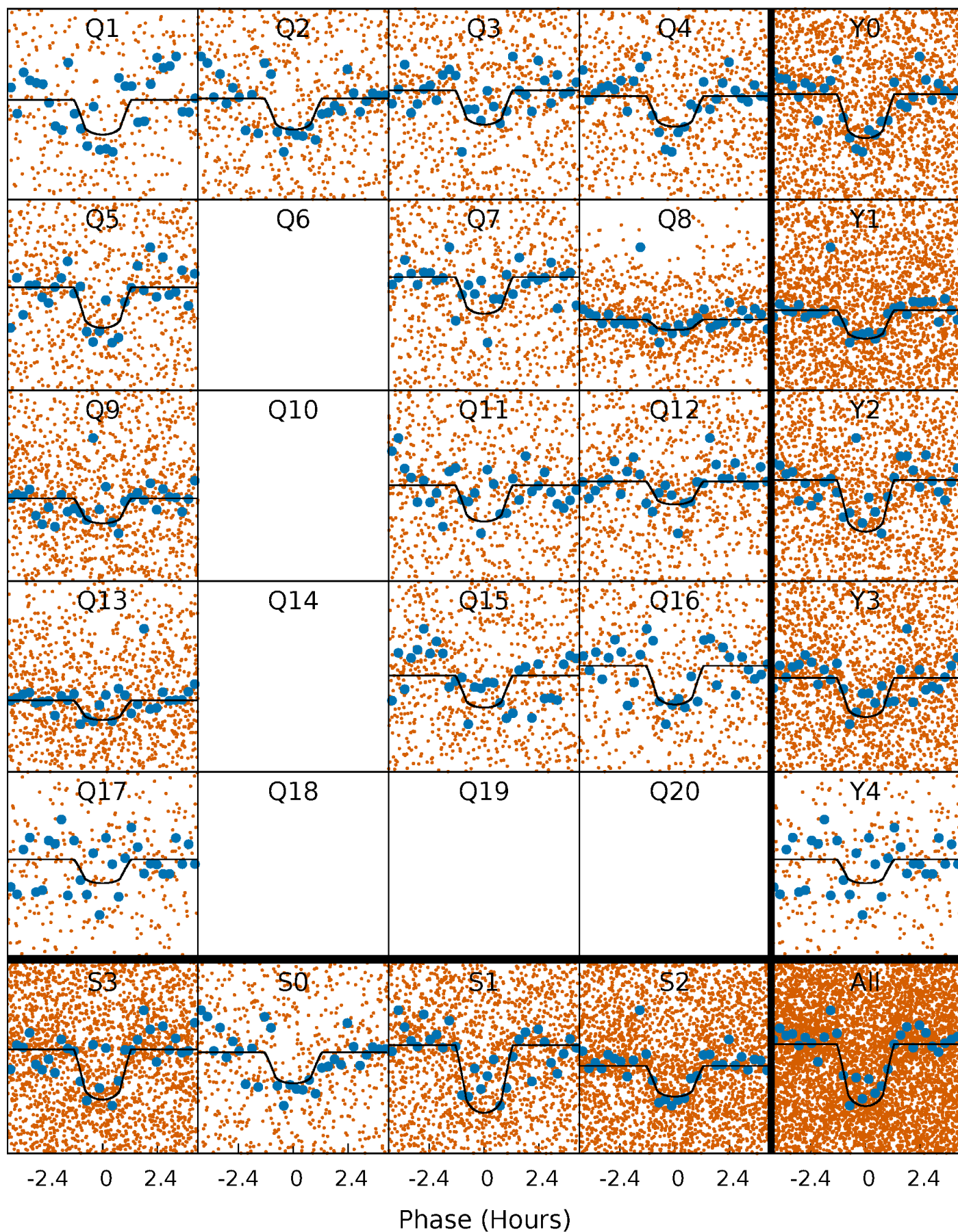
PDC Quarter-Phased Transit Curves

TCE 004075015-01 P= 1.114312 Days $T_0=131.758036$ (BKJD)



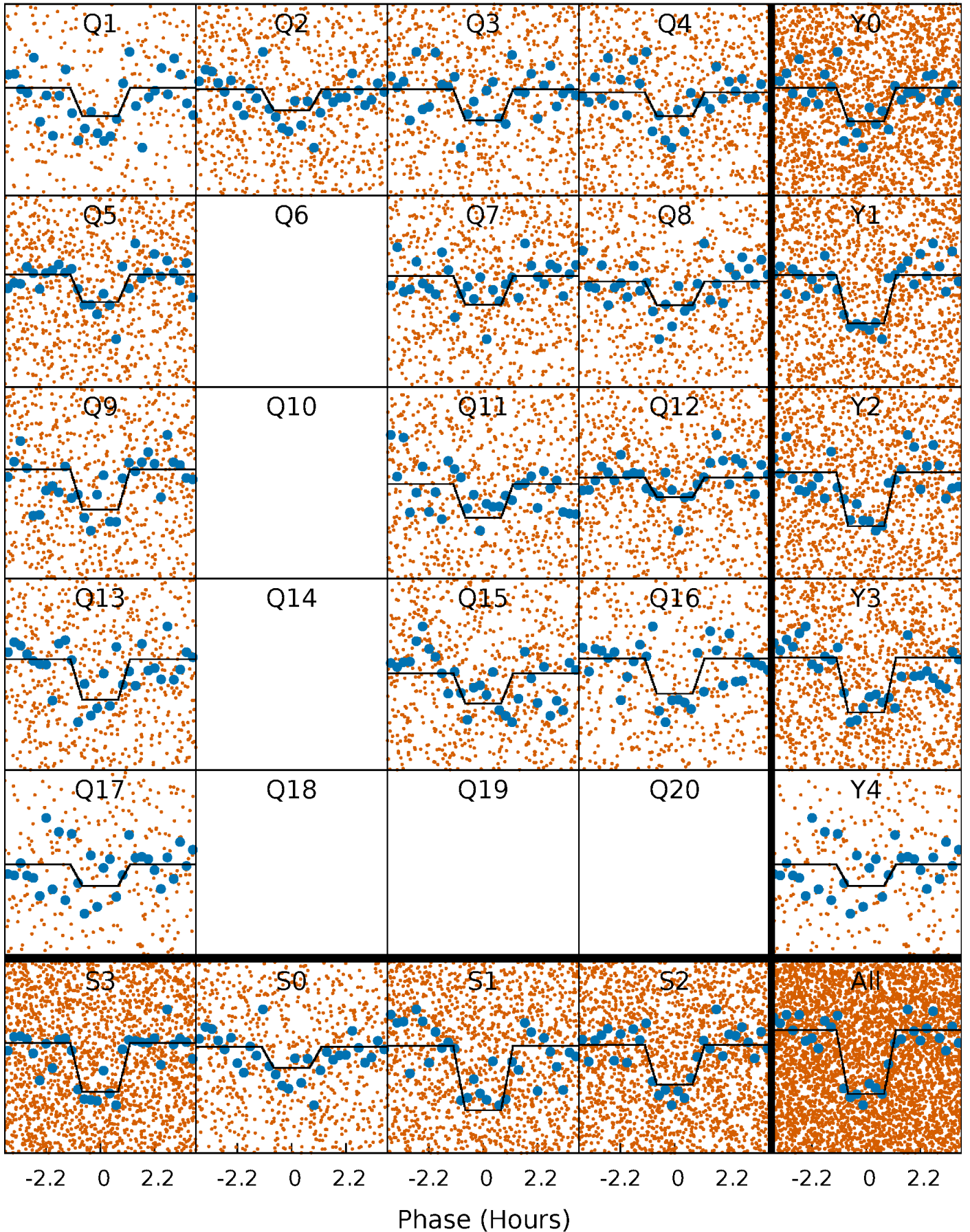
DV Quarter-Phased Transit Curves

TCE 004075015-01 P= 1.114312 Days $T_0=131.758036$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

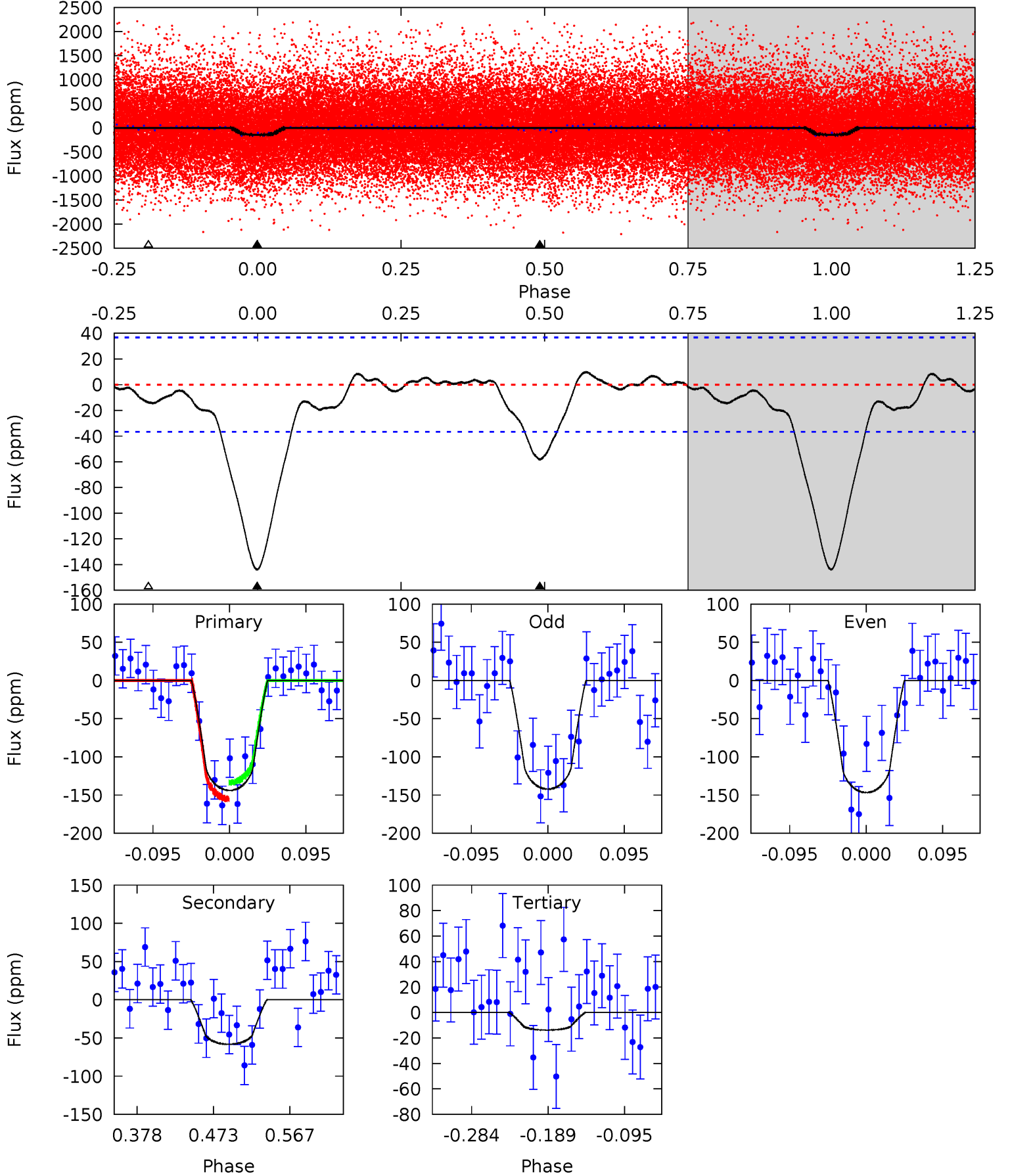
TCE 004075015-01 P= 1.114312 Days $T_0=131.756941$ (BKJD)



DV Model-Shift Uniqueness Test

004075015-01, P = 1.114312 Days, E = 130.643724 Days

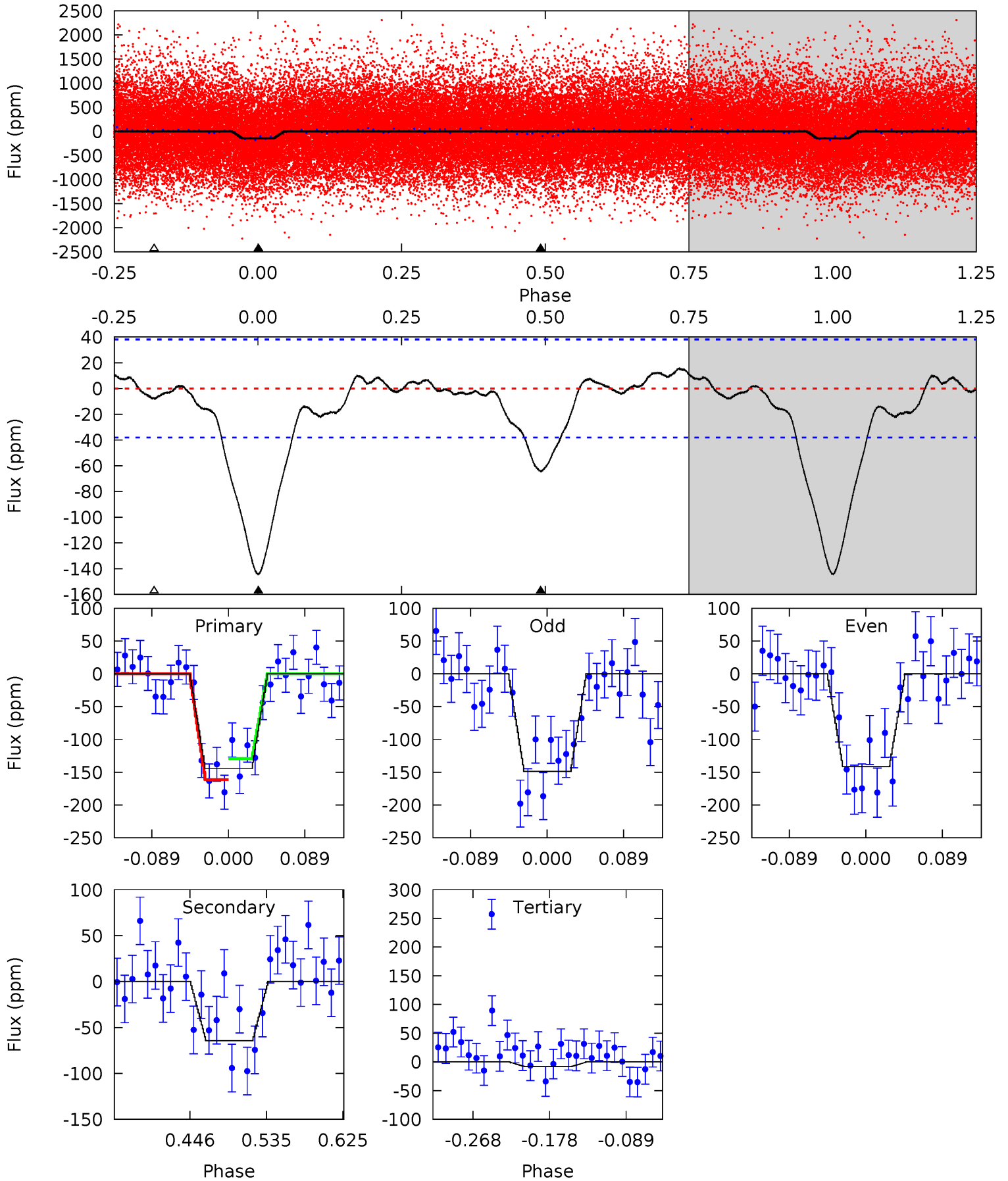
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.9	7.26	1.72	0	4.58	1.67	0.91	16.2	17.9	5.54	7.26	0.28	0.81	0.06	1.35



Alt Model-Shift Uniqueness Test

004075015-01, P = 1.114312 Days, E = 130.642629 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.4	7.75	0.98	0	4.59	1.70	1.03	16.4	17.4	6.77	7.75	0.44	0.86	0.10	1.91



Stellar Parameters For KIC 004075015

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5776^{+155}_{-172}	$4.554^{+0.033}_{-0.176}$	$-0.180^{+0.300}_{-0.300}$	$0.849^{+0.226}_{-0.085}$	$0.939^{+0.100}_{-0.110}$	$2.161^{+0.393}_{-1.009}$
	+3%/-3%	+1%/-4%	+167%/-167%	+27%/-10%	+11%/-12%	+18%/-47%
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 004075015-01 / KOI 2850.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-58 ± 8	$1.32^{+0.84}_{-0.75}$	2340^{+145}_{-105}	4499^{+2111}_{-781}	$7.676^{+31.425}_{-4.772}$
Alt.	-64 ± 8	$1.23^{+0.74}_{-0.74}$	2335^{+139}_{-99}	4729^{+2428}_{-847}	$9.617^{+50.123}_{-5.961}$

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

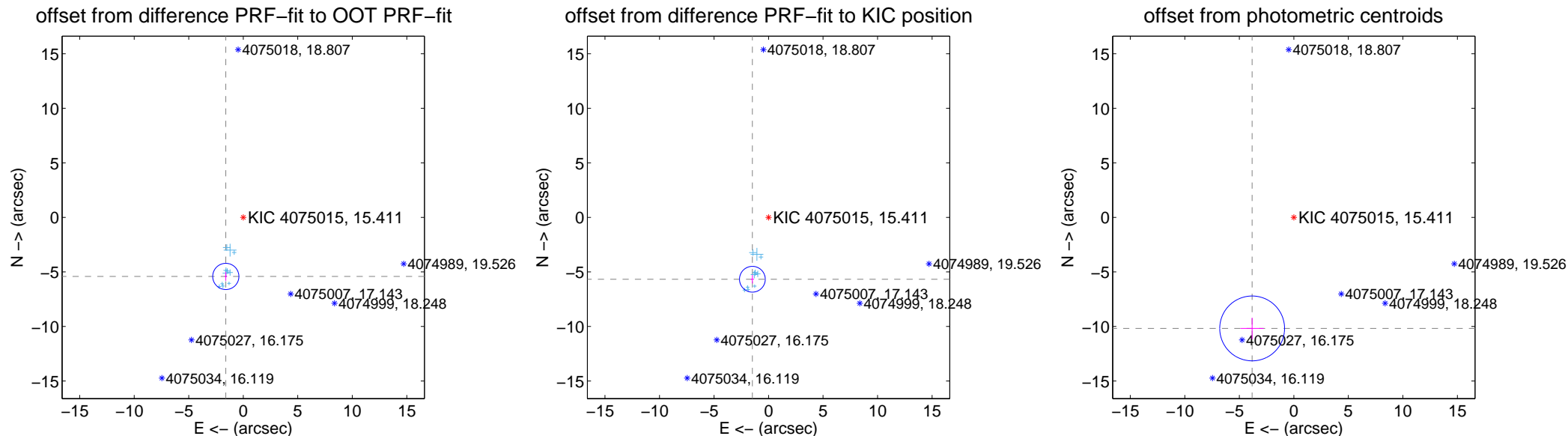
DV Centroid Data

Supplemental centroid analysis for 004075015-01. Kepler magnitude: 15.41. Transit SNR 14.66

There are 11 quarters with good PRF difference image offsets

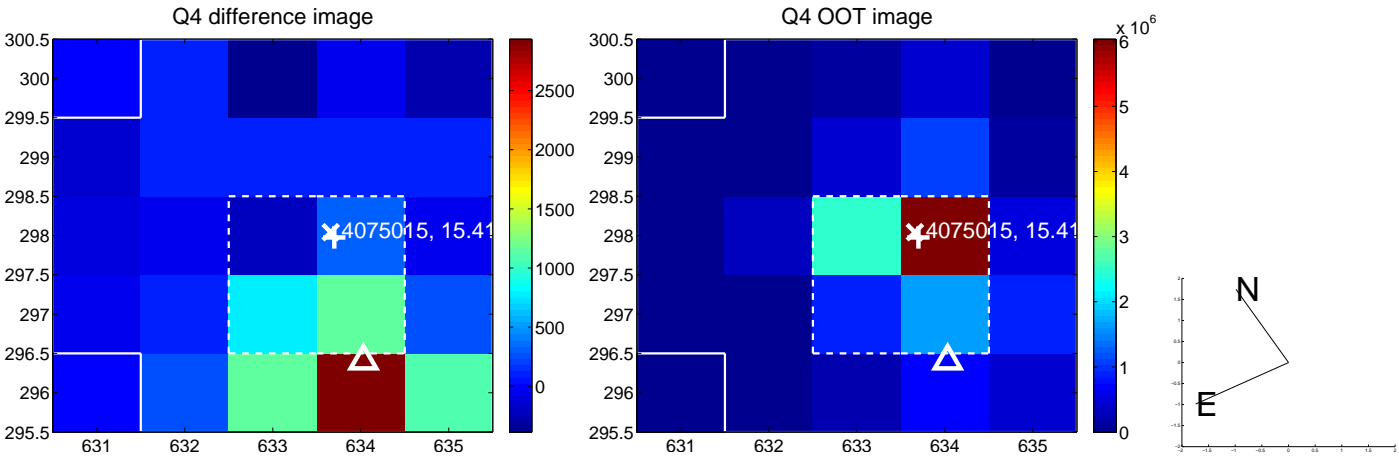
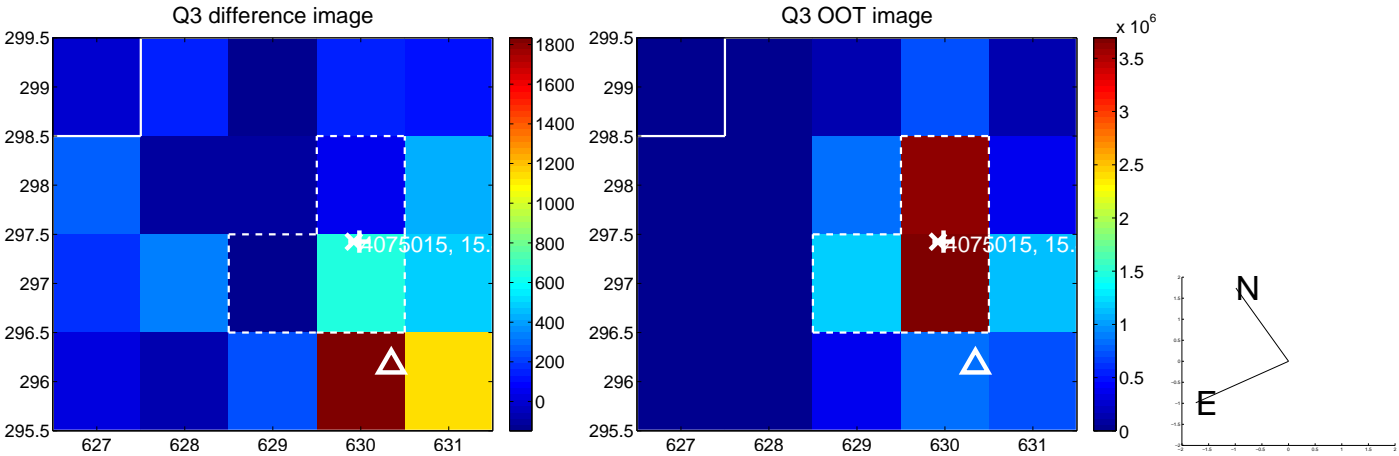
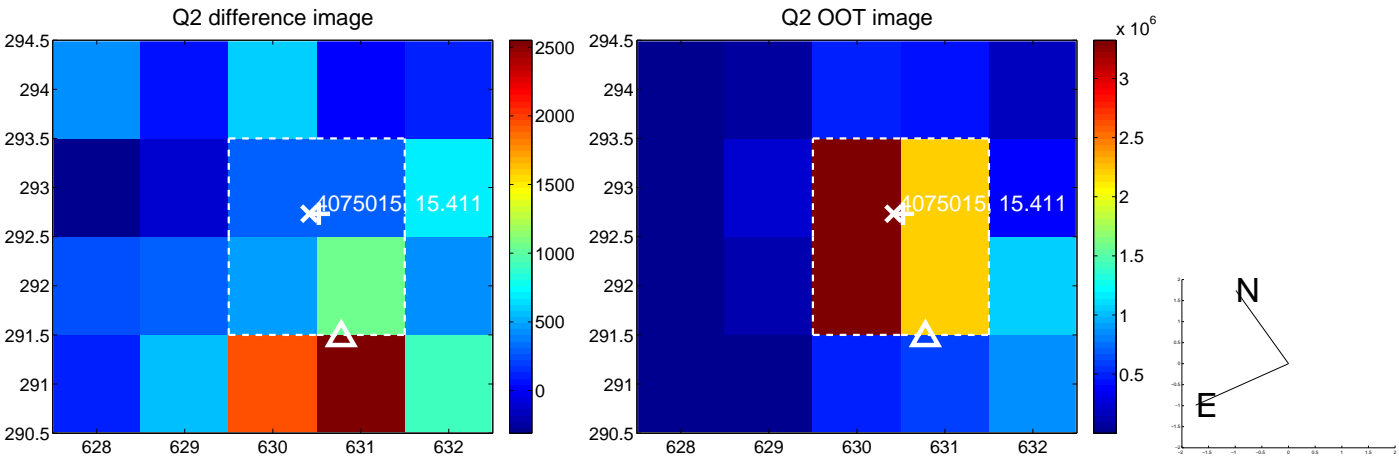
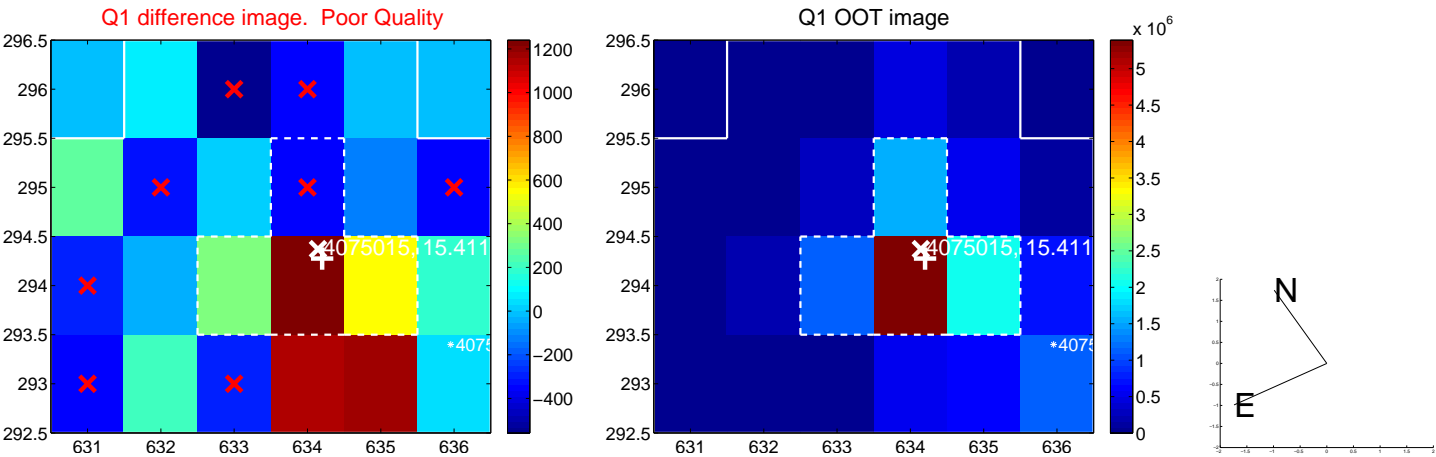
The direct PRF centroid is offset from the target star catalog position by about 0.41 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.646 ± 0.400	14.10	1.600 ± 0.121	-5.415 ± 0.399
PRF-fit source offset from KIC position	5.862 ± 0.394	14.89	1.481 ± 0.148	-5.672 ± 0.381
photometric centroid source offset	10.88 ± 0.99	10.98	3.82 ± 1.06	-10.18 ± 0.98

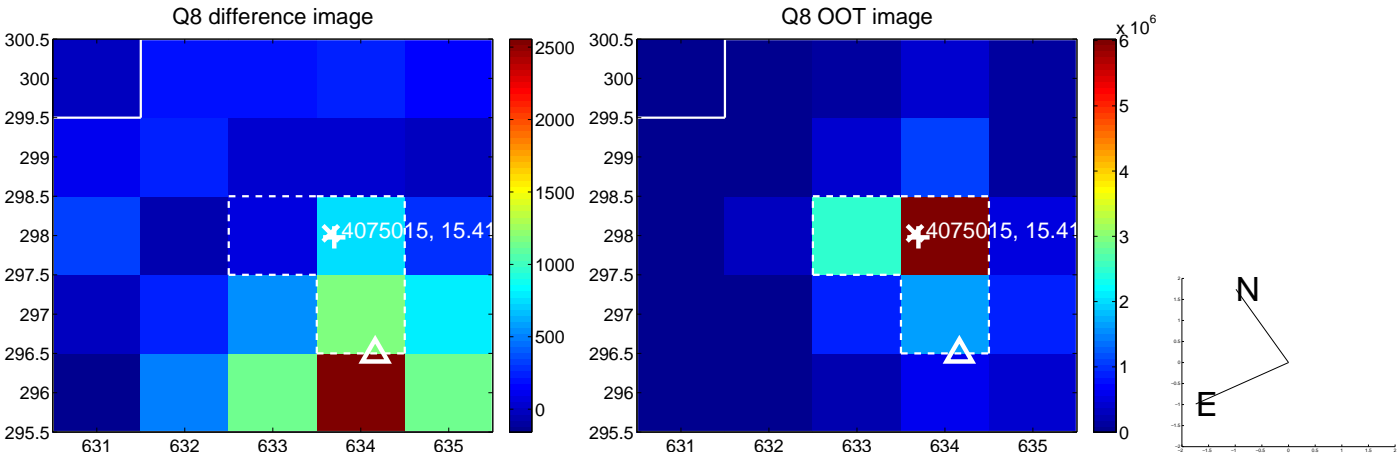
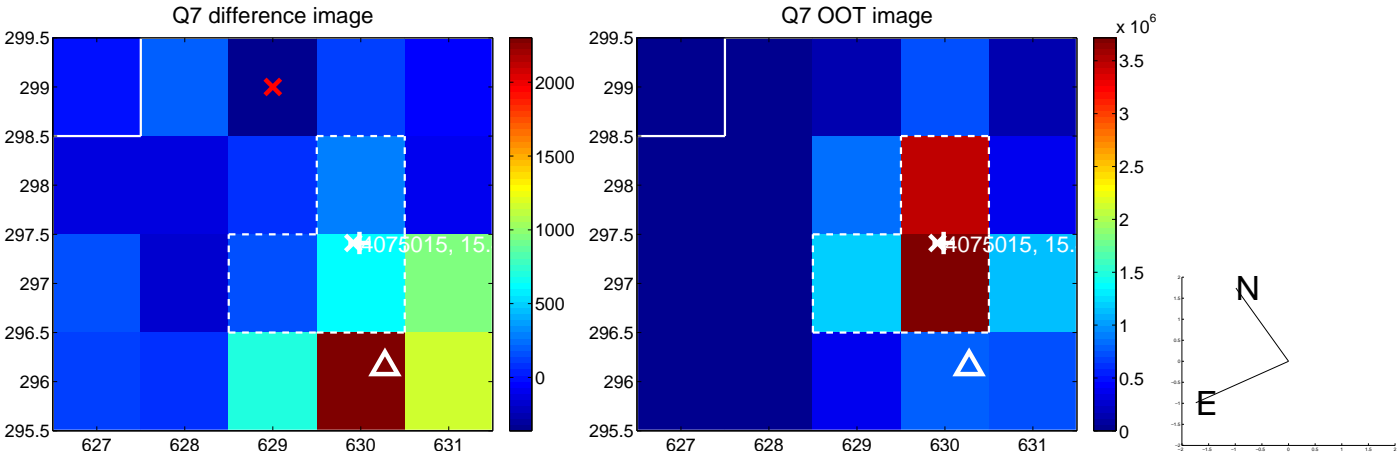
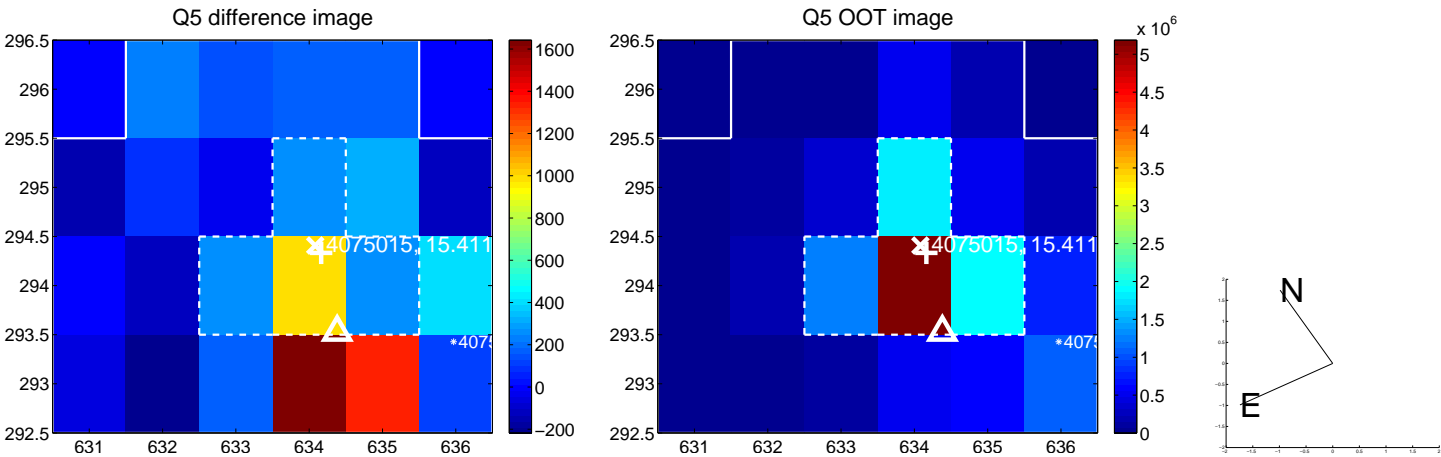


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000 are from the UKIRT catalog.

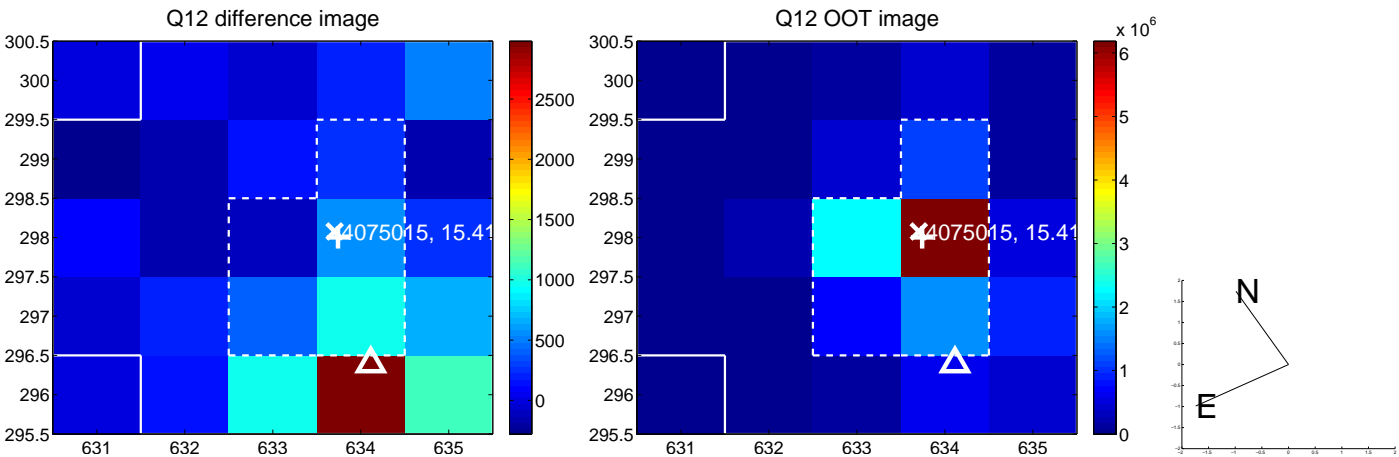
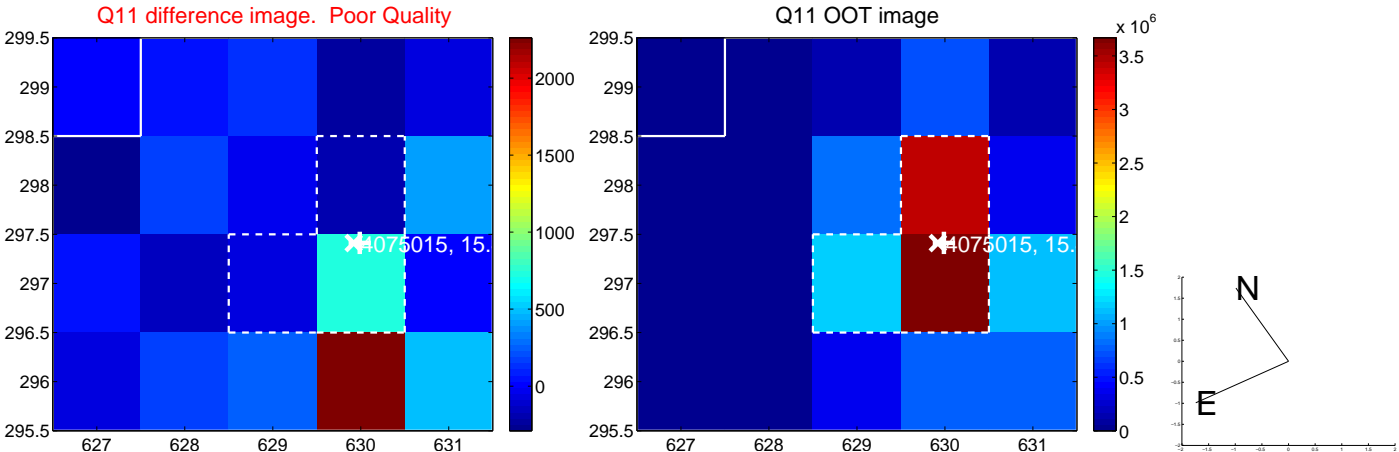
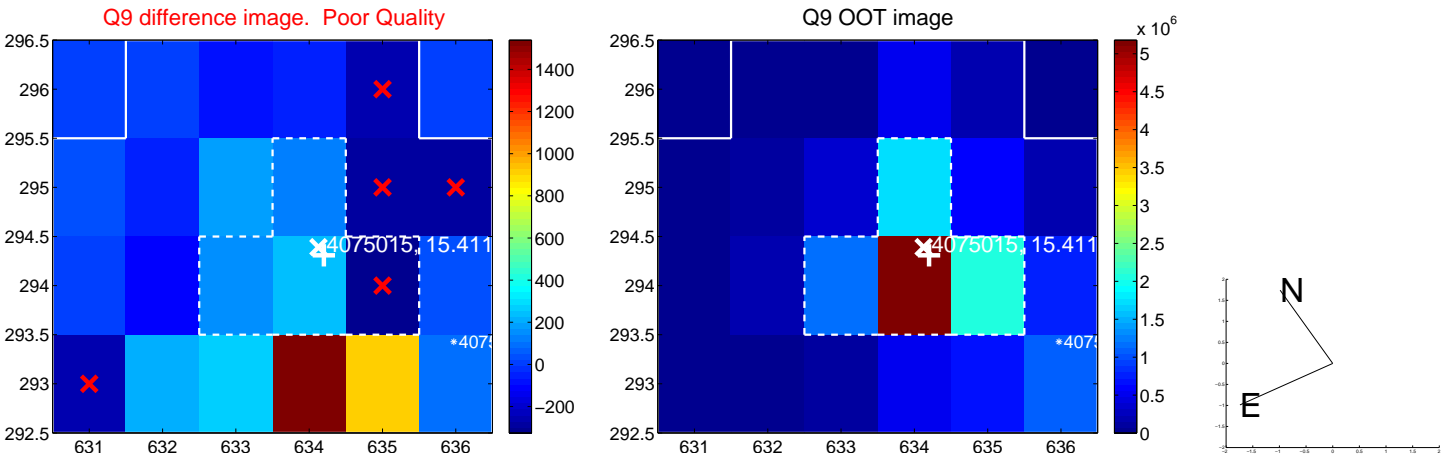
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



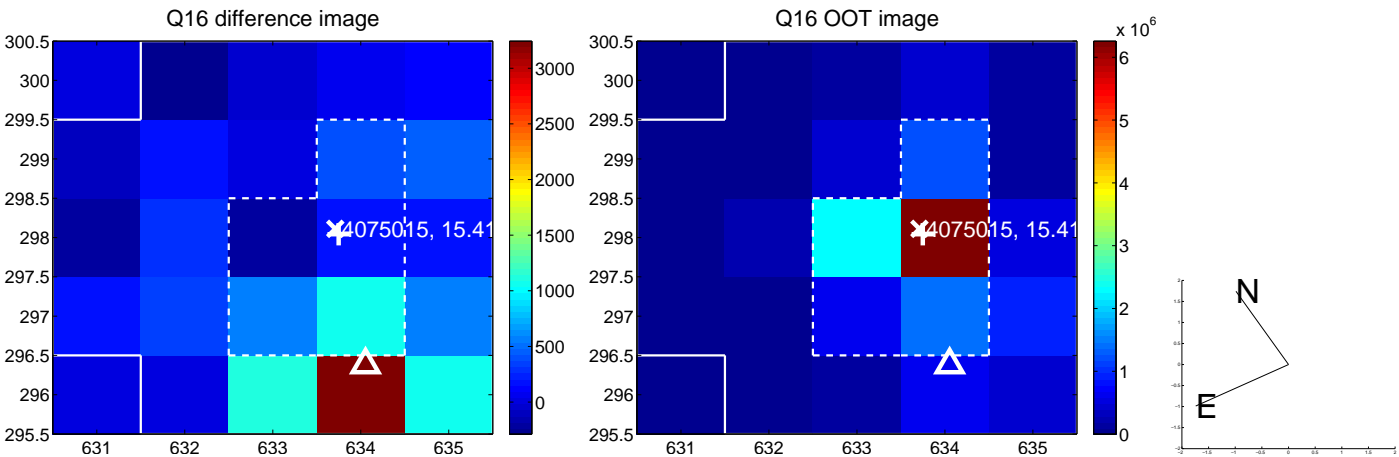
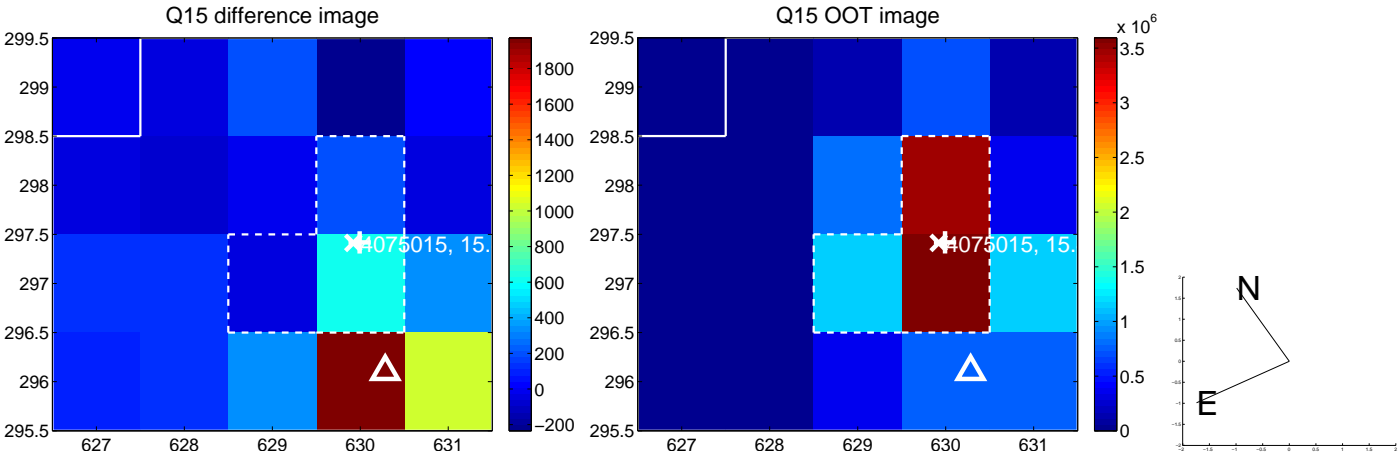
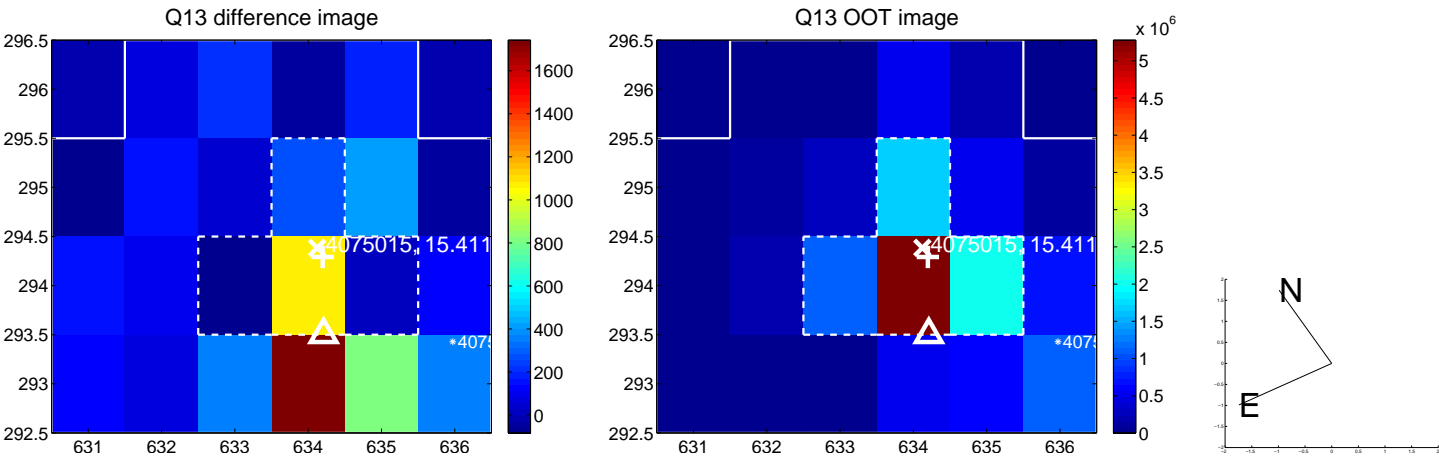
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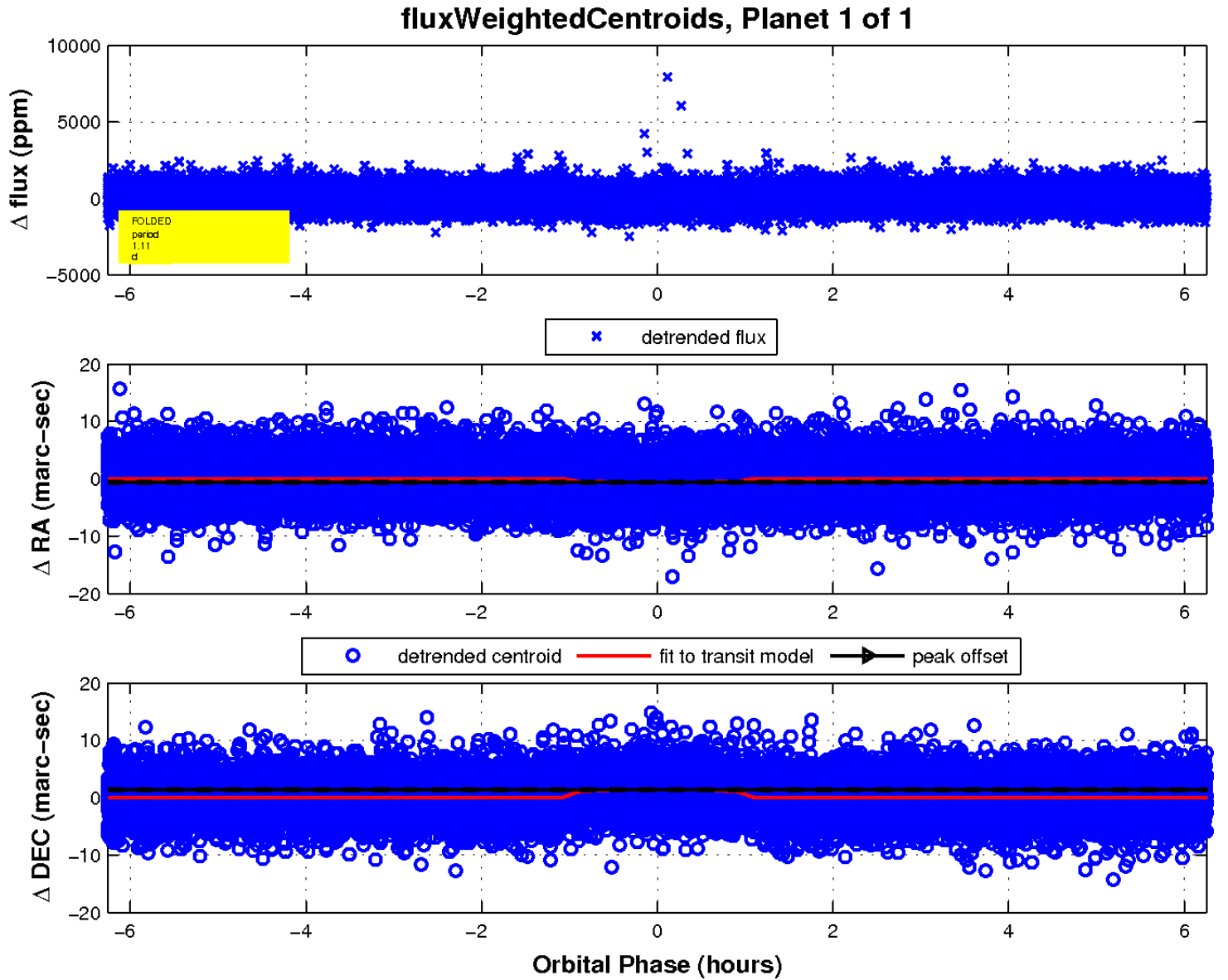
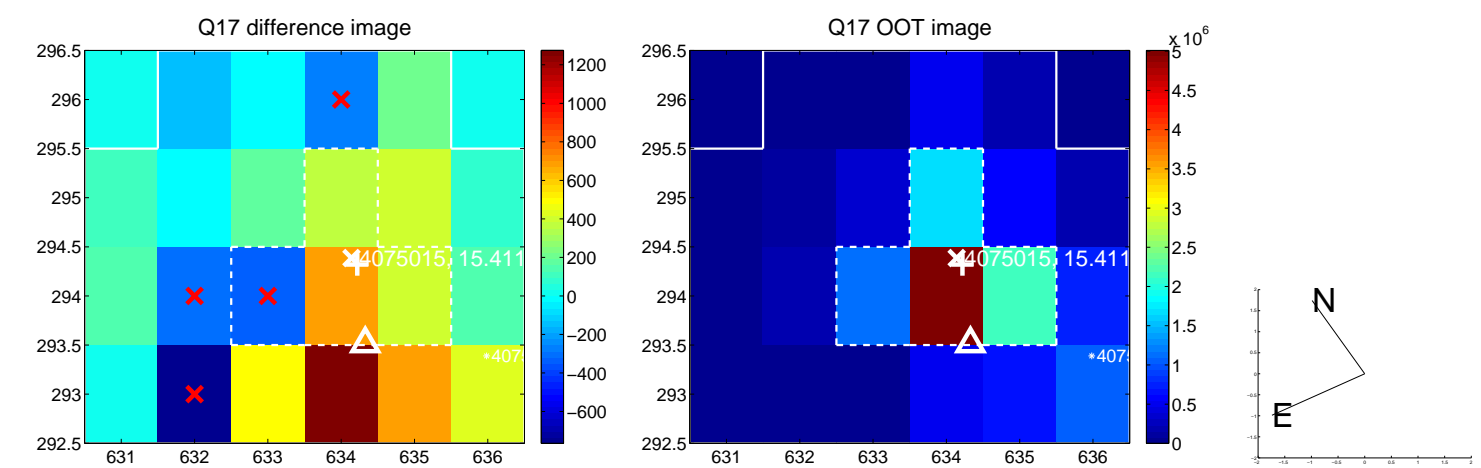
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UKIRT Image

