

KIC 004077275

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})
004077275-01	OBS	No	2.126508	132.390953	19.6	10.771	8.2	8.5	5.40	9155	2.47	90230.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004077275-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT

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

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

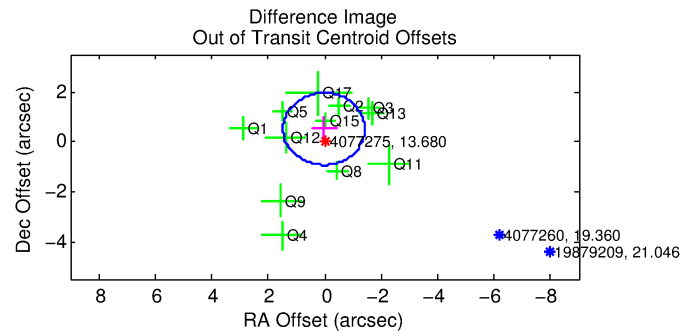
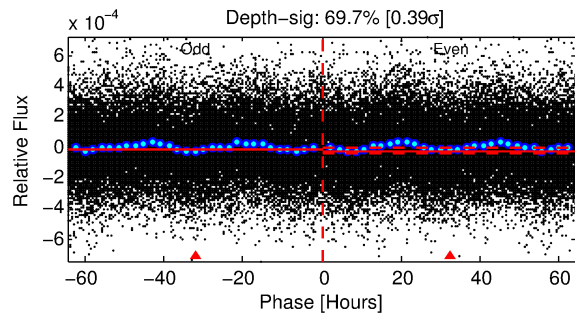
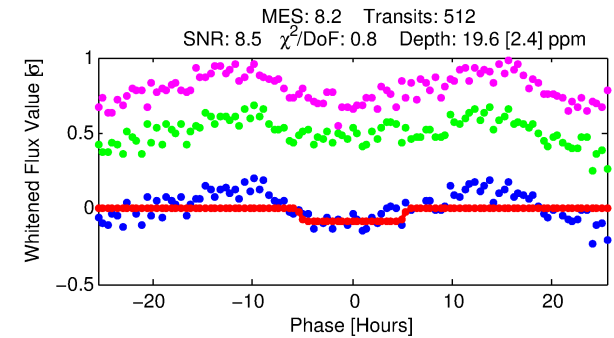
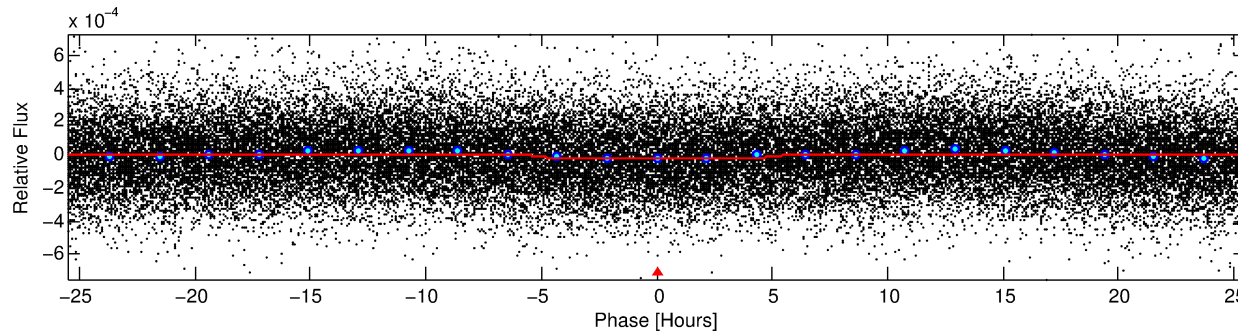
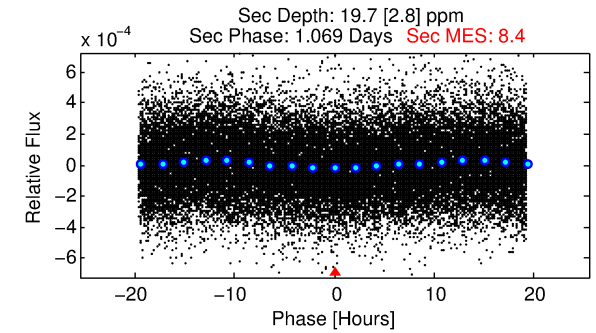
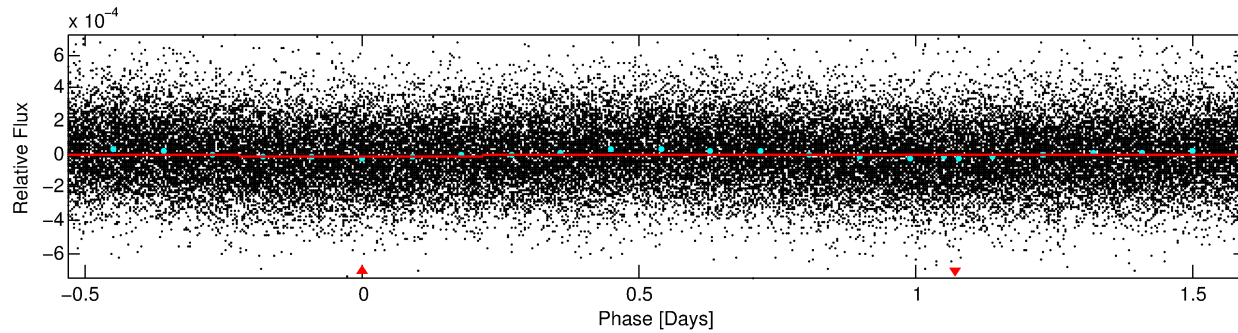
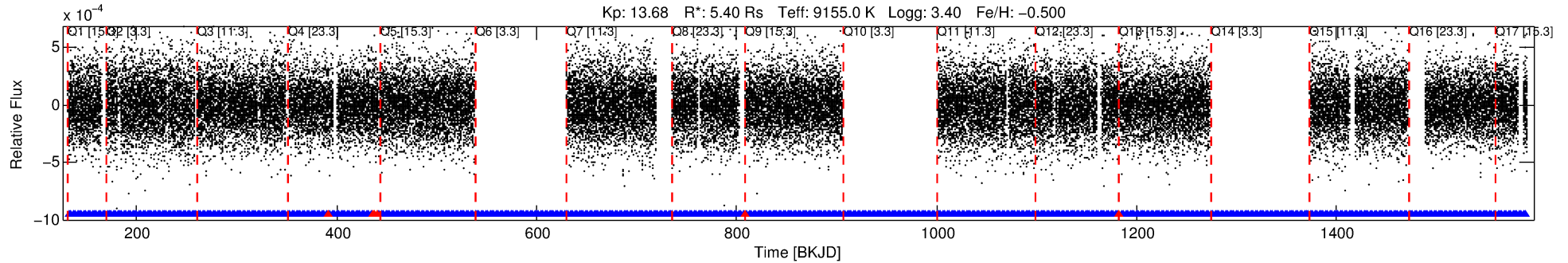
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004077275-01

No Significant Match Found

DV One-Page Summary

KIC: 4077275 Candidate: 1 of 1 Period: 2.127 d



DV Fit Results:

Period = 2.12651 [0.00004] d
Epoch = 132.3910 [0.0106] BKJD
Rp/R* = 0.0042 [0.0026]
a/R* = 1.53 [3.51]
b = 0.44 [7.35]
Seff = 90230.43 [114862.67]
Teq = 4419 [1406] K
Rp = 2.47 [2.25] Re
a = 0.0451 [0.0334] AU
Ag = 3.59 [6.31] [0.41σ]
Teffp = 9408 [2910] K [1.54σ]

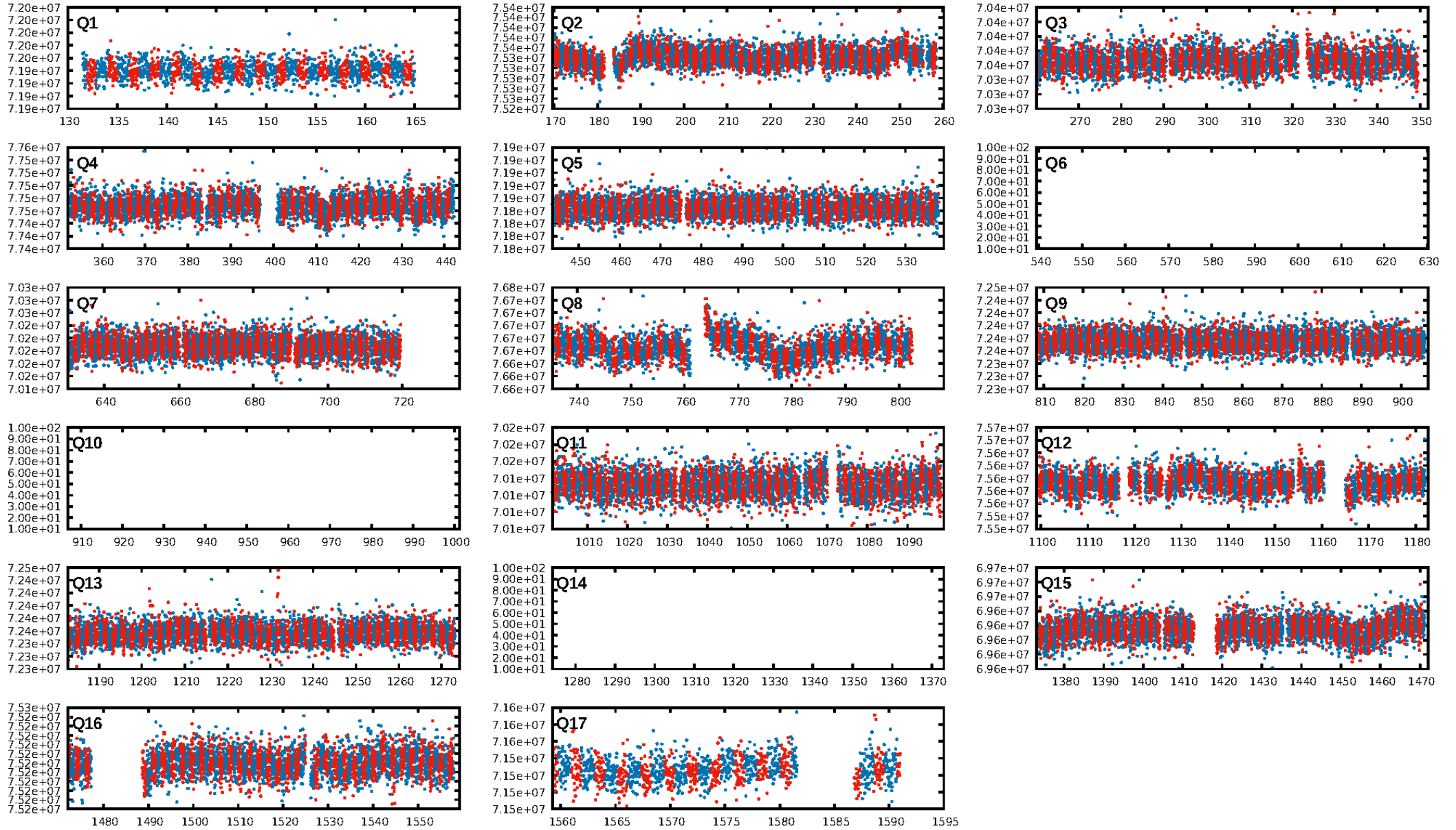
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.54e-08
RollingBand-fgt: 0.99 [476/482]
GhostDiagnostic-chr: 5.639
Centroid-sig: 0.0%
Centroid-so: 4.869 arcsec [2.84σ]
OotOffset-rm: 0.515 arcsec [1.07σ]
KicOffset-rm: 0.544 arcsec [1.04σ]
OotOffset-st: 1/3/3/5 [12]
KicOffset-st: 1/3/3/5 [12]
DiffImageQuality-fgm: 0.67 [8/12]
DiffImageOverlap-fno: 1.00 [14/14]

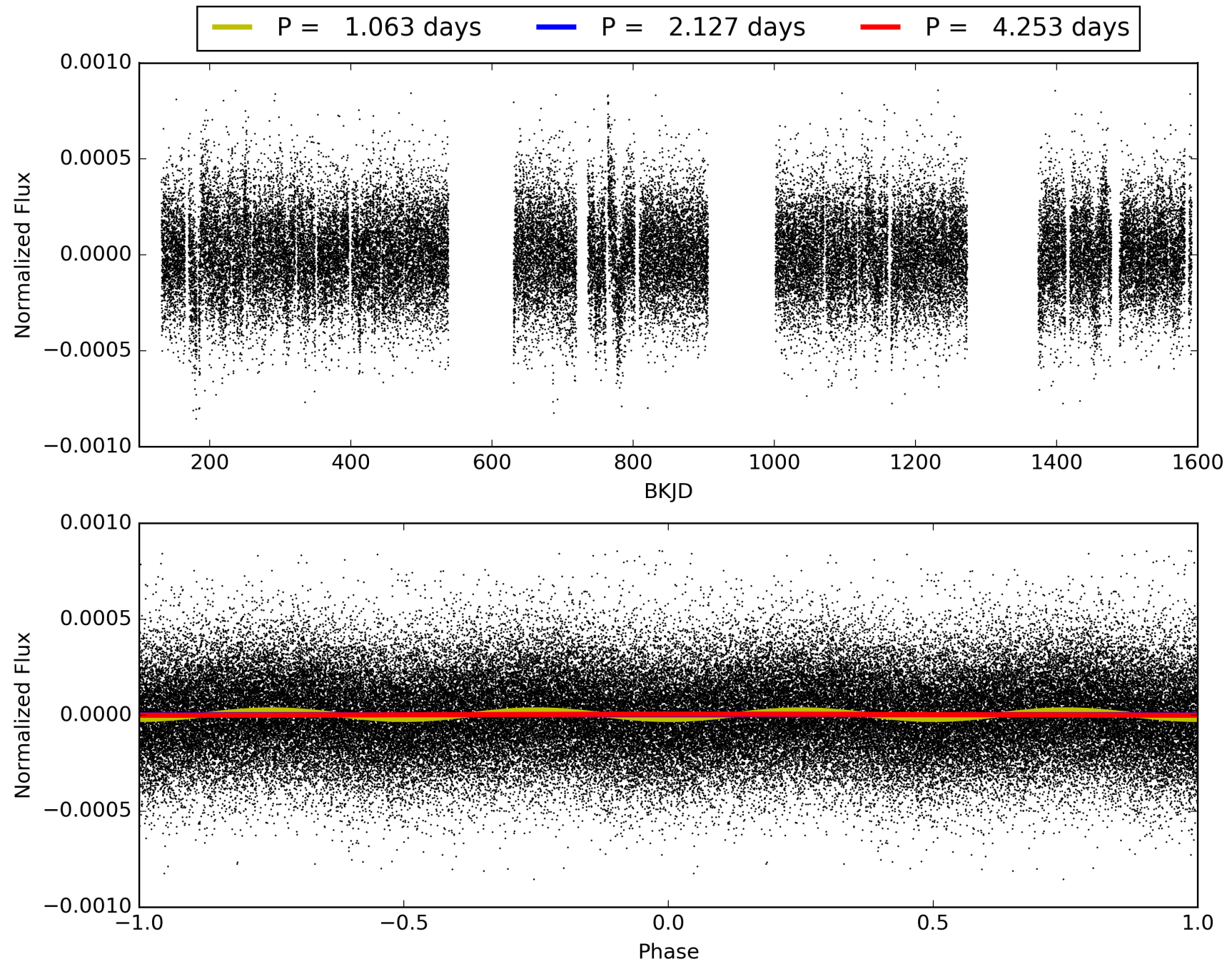
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 20:31:10 Z

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

TCE 004077275-01, PDC Light Curves

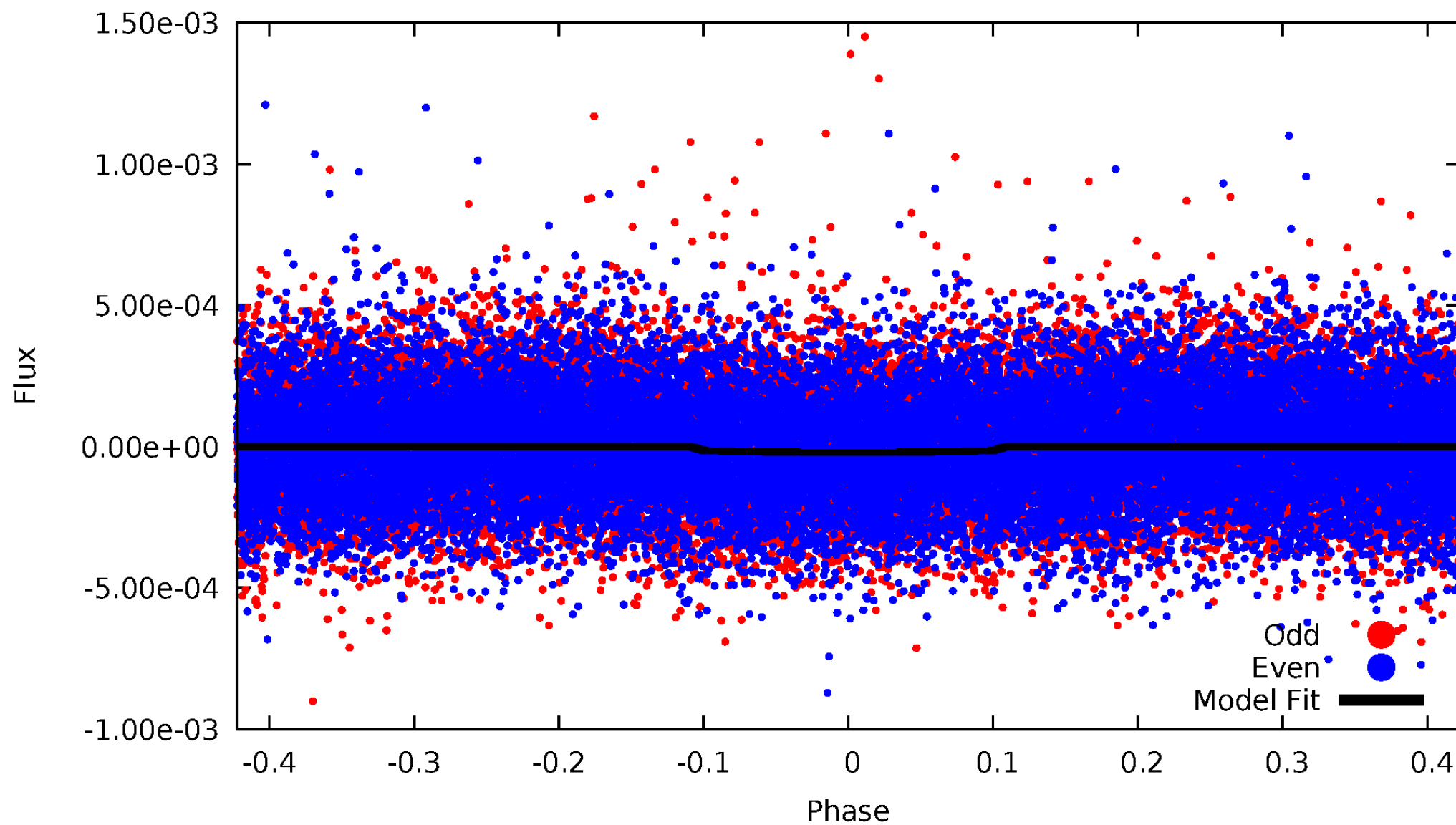


TCE 004077275-01



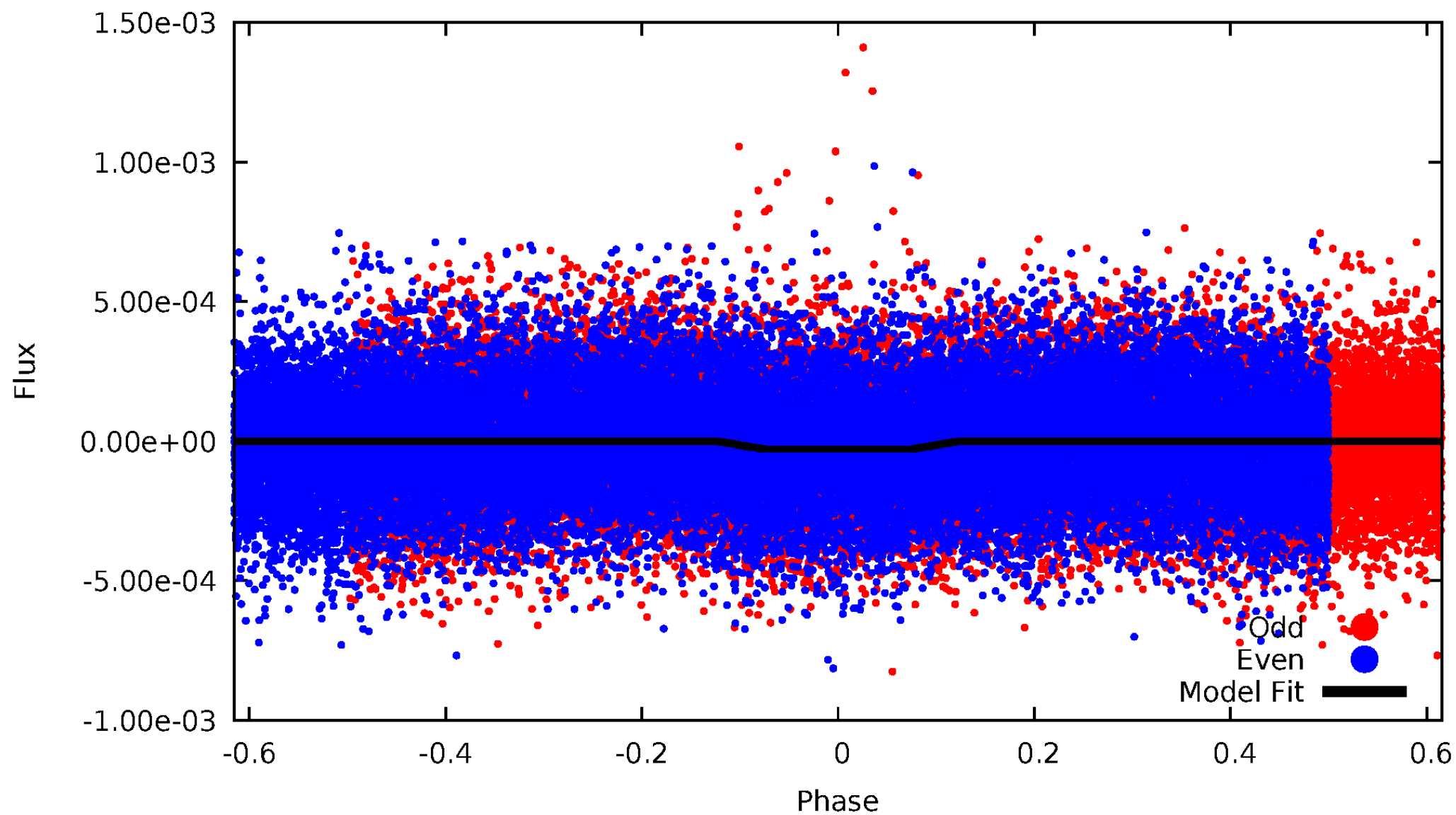
DV Odd/Even

TCE 004077275-01

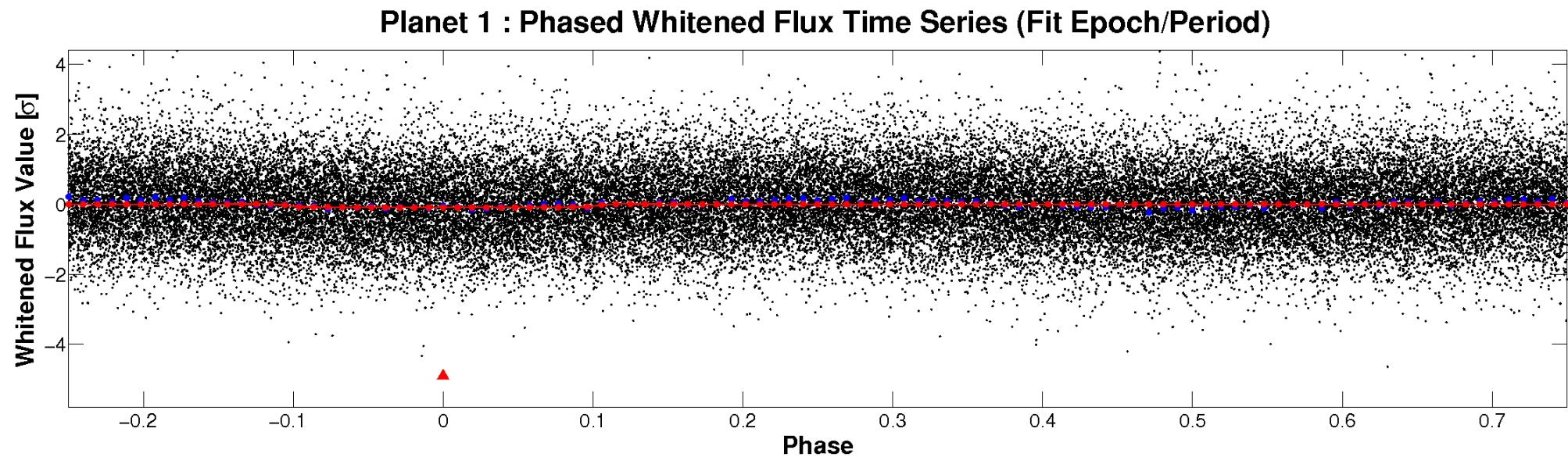
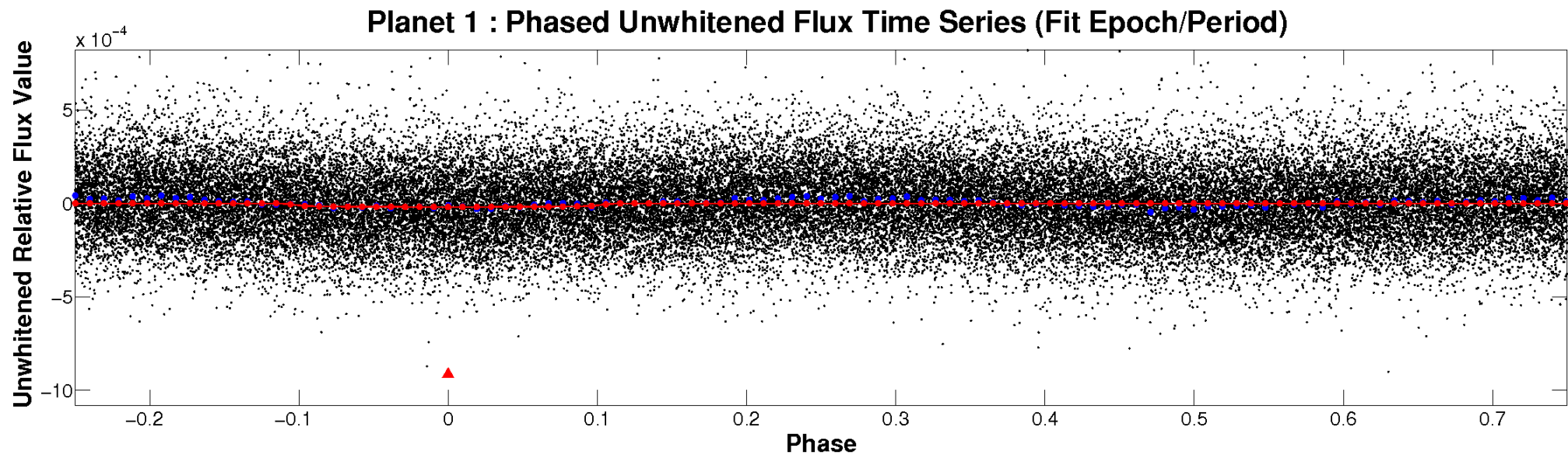


ALT Odd/Even

TCE 004077275-01

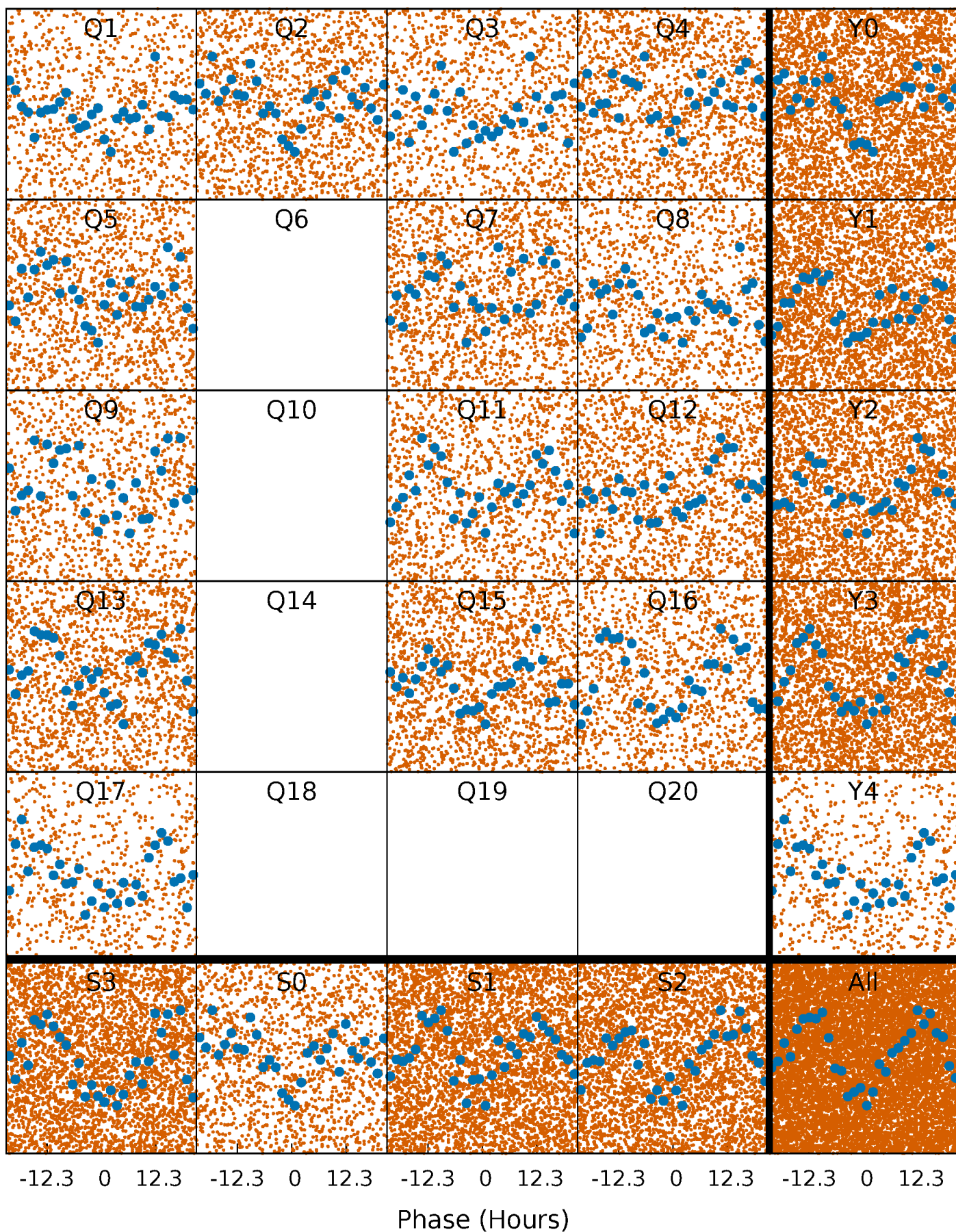


Non-Whitened Vs. Whitened Light Curve



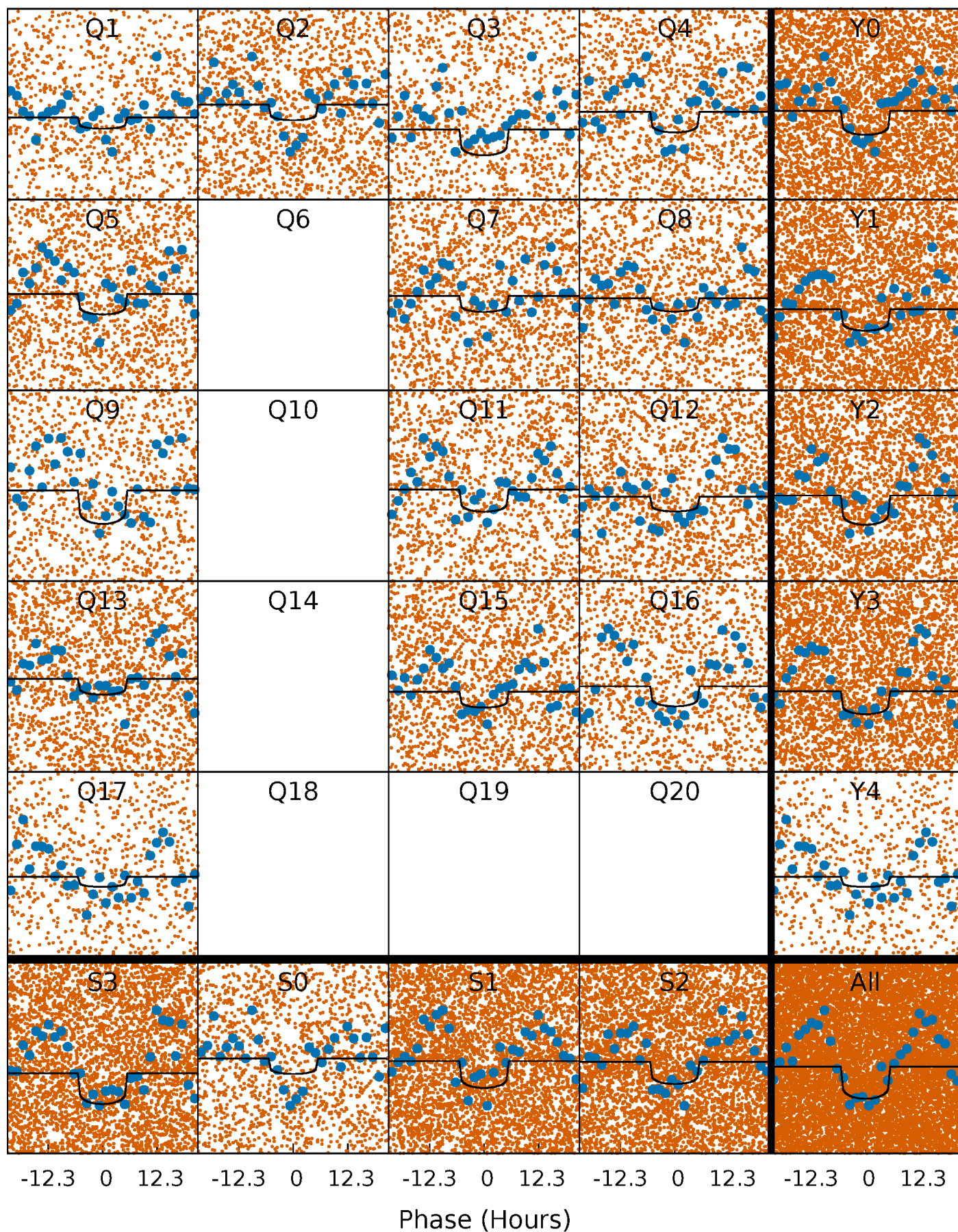
PDC Quarter-Phased Transit Curves

TCE 004077275-01 P= 2.126508 Days $T_0=132.390953$ (BKJD)



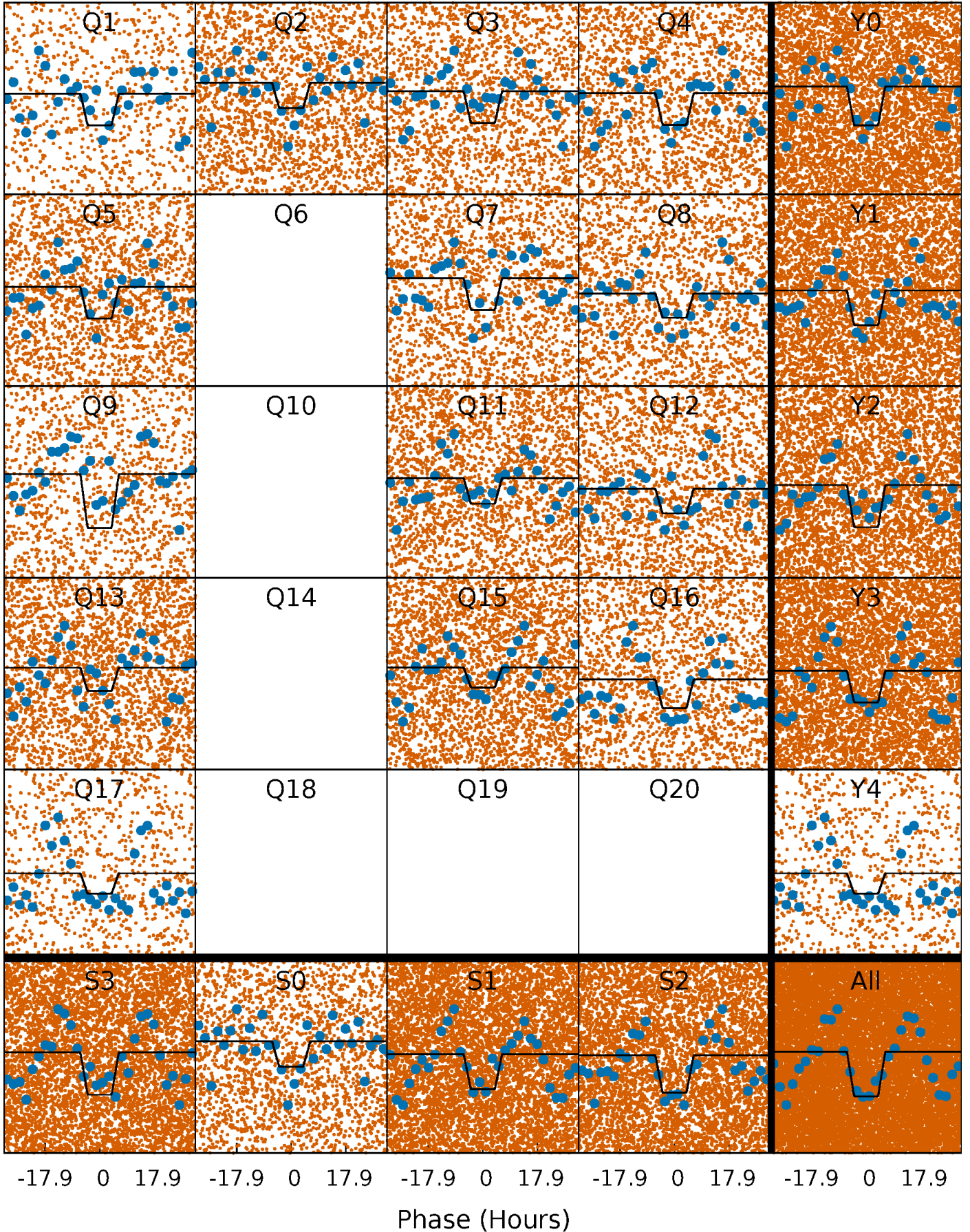
DV Quarter-Phased Transit Curves

TCE 004077275-01 P= 2.126508 Days $T_0=132.390953$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

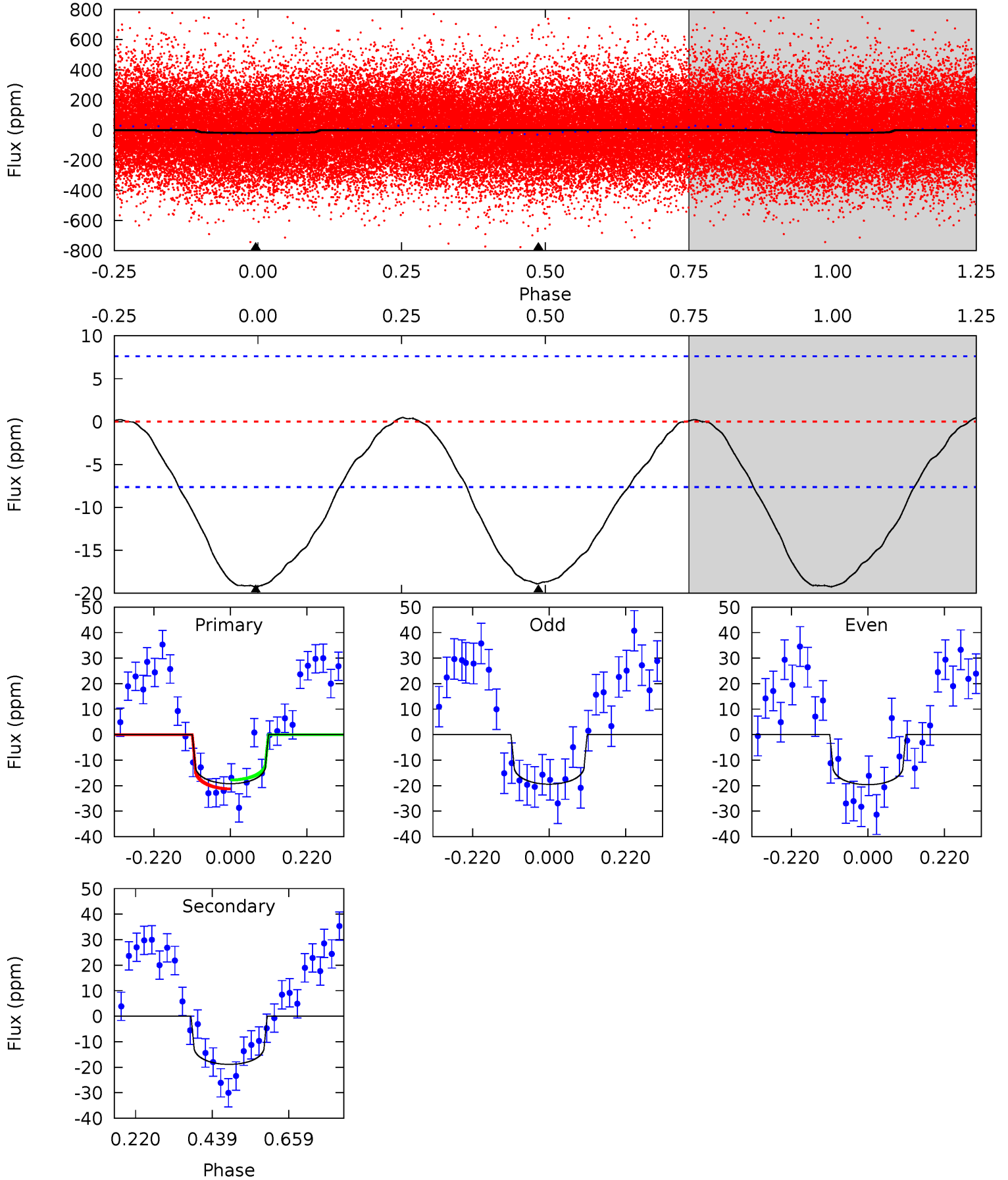
TCE 004077275-01 P= 2.126459 Days $T_0=132.386182$ (BKJD)



DV Model-Shift Uniqueness Test

004077275-01, P = 2.126508 Days, E = 130.264445 Days

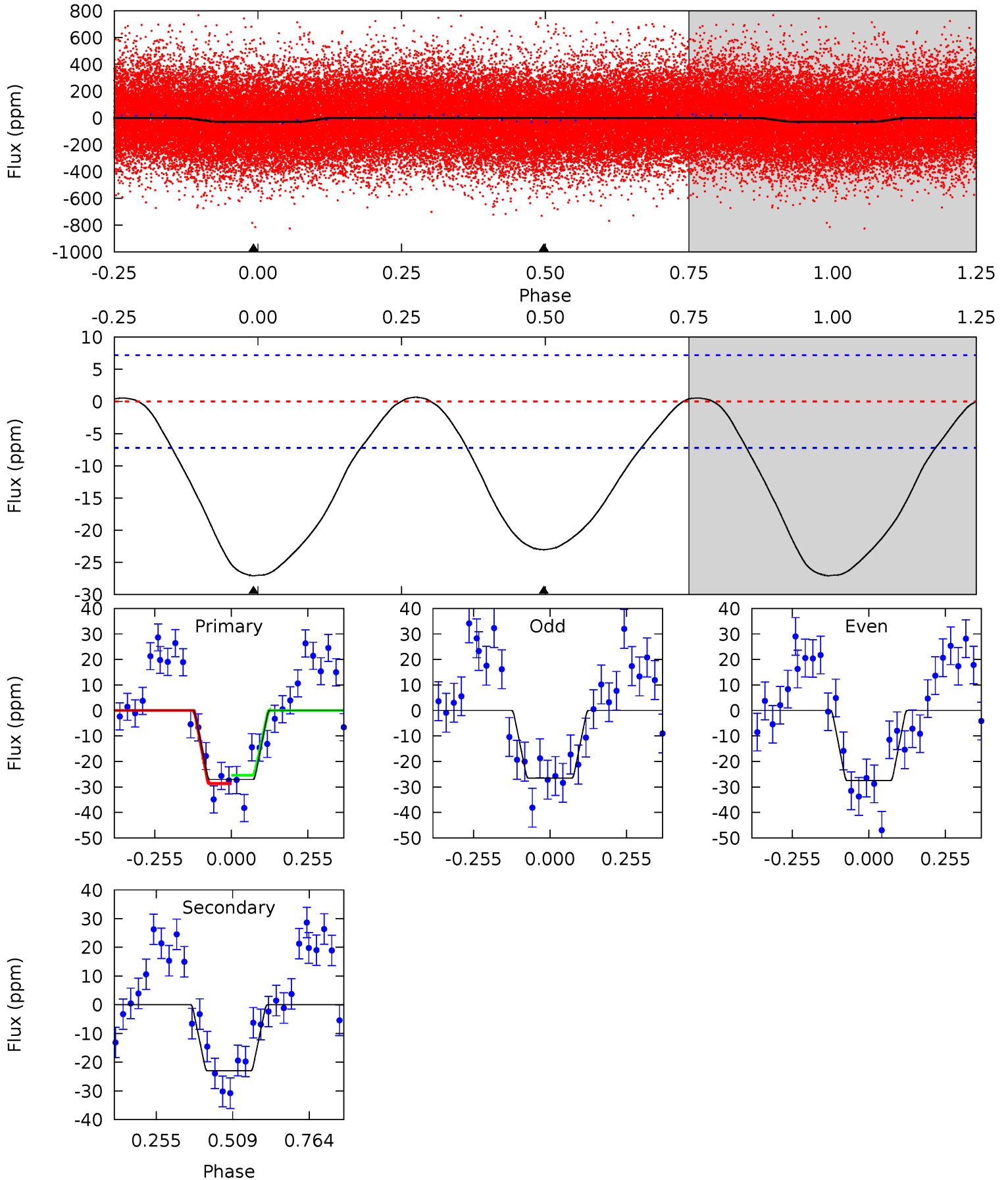
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	10.9	0	0	4.40	1.23	0.33	11.1	11.1	10.9	10.9	0.06	0.94	0.02	1.00



Alt Model-Shift Uniqueness Test

004077275-01, P = 2.126459 Days, E = 130.259723 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.4	13.9	0	0	4.36	1.14	0.54	16.4	16.4	13.9	13.9	0.30	0.96	0.02	0.96



Stellar Parameters For KIC 004077275

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	9155^{+251}_{-439}	$3.405^{+0.765}_{-0.135}$	$-0.500^{+0.550}_{-0.300}$	$5.396^{+0.915}_{-3.662}$	$2.695^{+0.286}_{-1.143}$	$0.024^{+0.414}_{-0.010}$
	+3%/-5%	+22%/-4%	+110%/-60%	+17%/-68%	+11%/-42%	+1714%/-41%
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 004077275-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-19 ± 2	$2.17^{+1.52}_{-1.27}$	5980^{+495}_{-1085}	8815^{+7730}_{-2363}	$4.385^{+19.068}_{-2.888}$
Alt.	-23 ± 2	$2.64^{+1.75}_{-1.41}$	5974^{+515}_{-1039}	8148^{+4799}_{-1894}	$3.516^{+12.159}_{-2.179}$

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

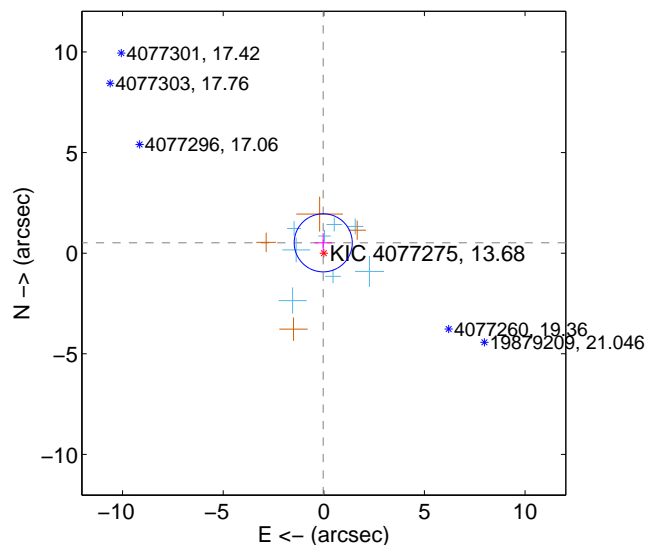
Supplemental centroid analysis for 004077275-01. Kepler magnitude: 13.68. Transit SNR 8.47

There are 8 quarters with good PRF difference image offsets

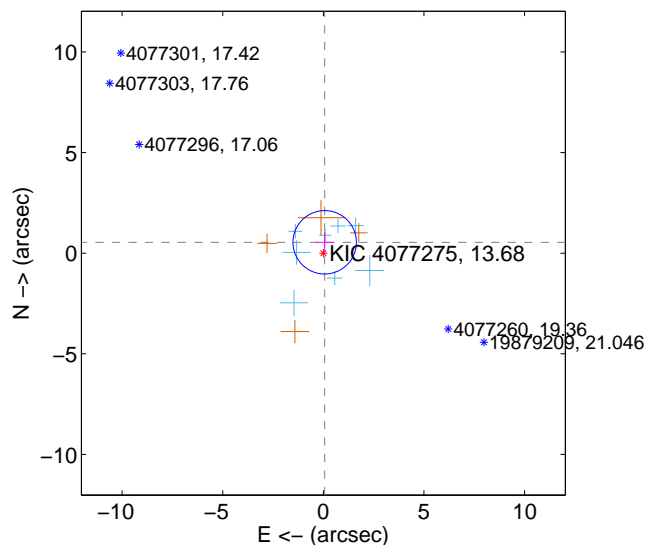
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.515 ± 0.481	1.07	0.029 ± 0.433	0.514 ± 0.487
PRF-fit source offset from KIC position	0.544 ± 0.525	1.04	-0.067 ± 0.455	0.540 ± 0.509
photometric centroid source offset	4.87 ± 1.72	2.84	-2.43 ± 1.70	-4.22 ± 1.72

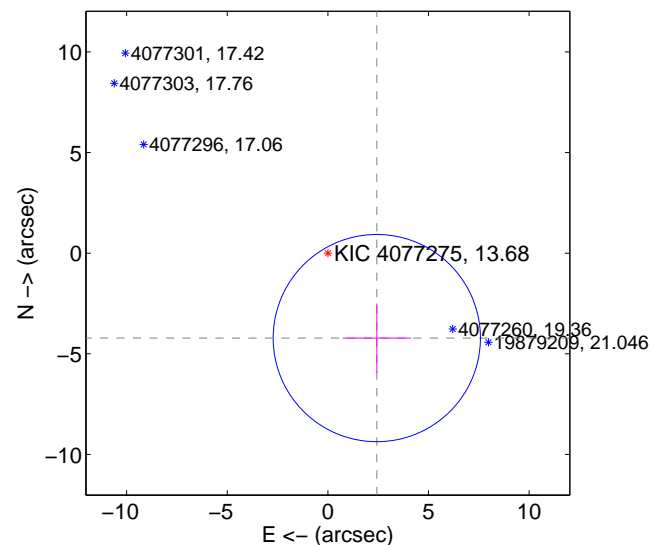
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

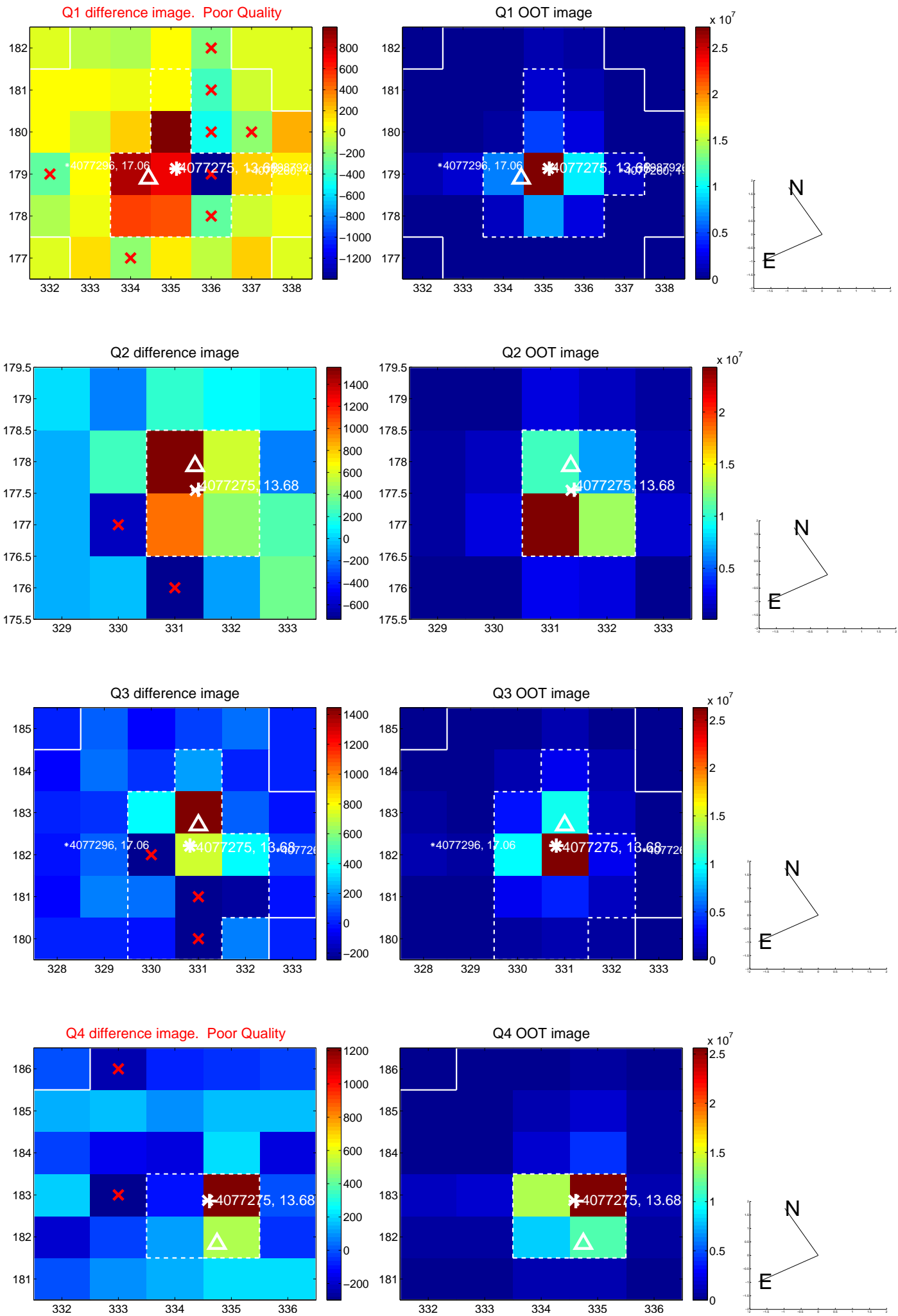


offset from photometric centroids

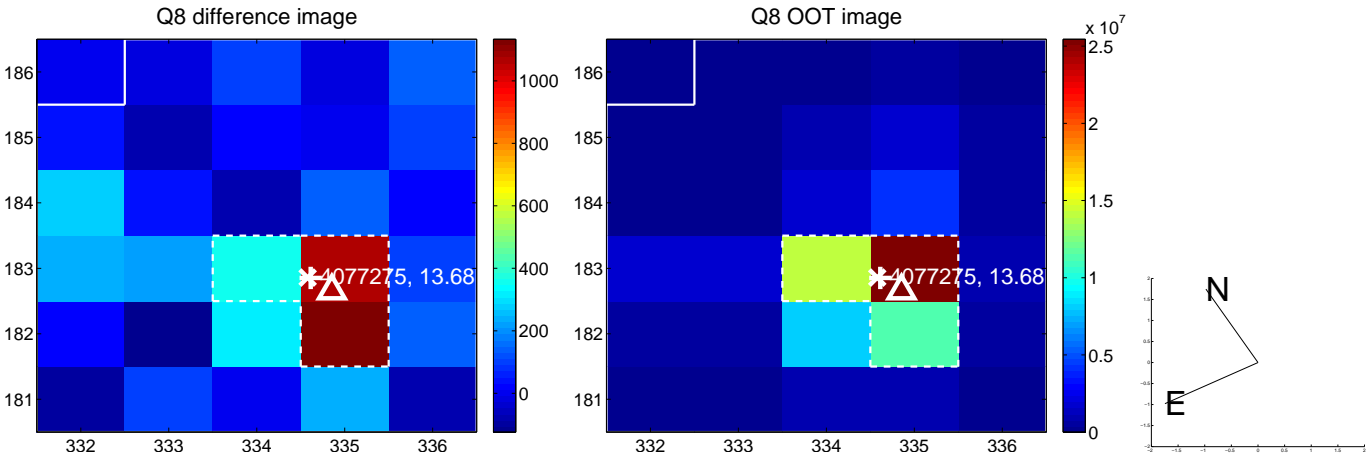
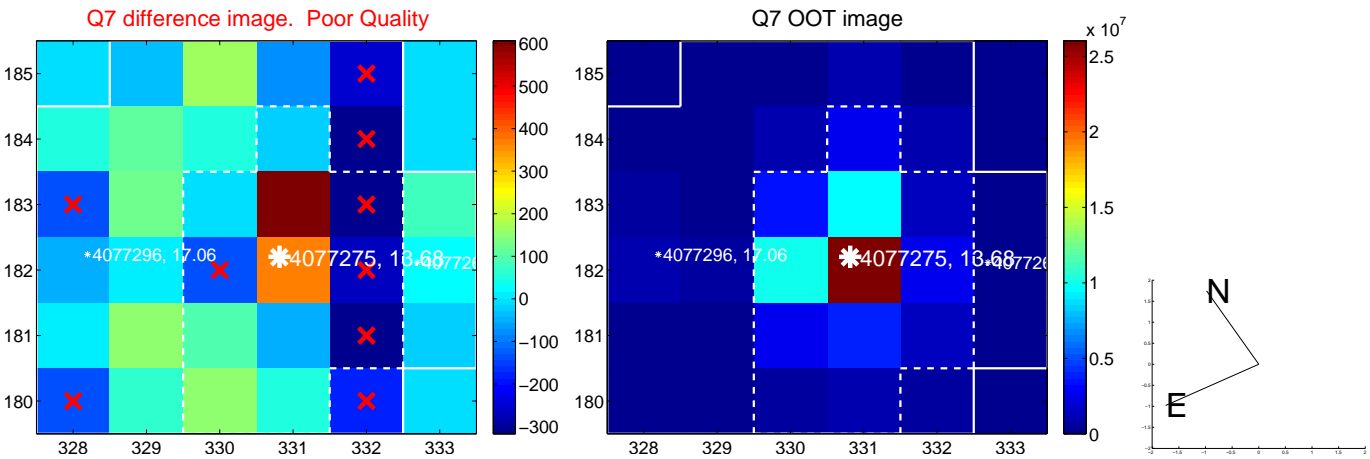
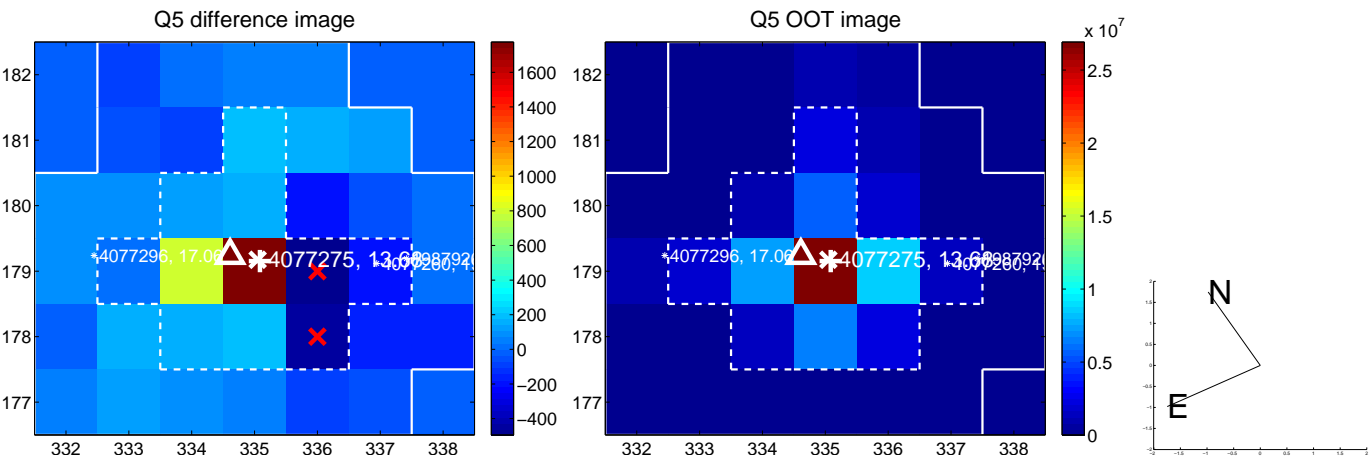


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

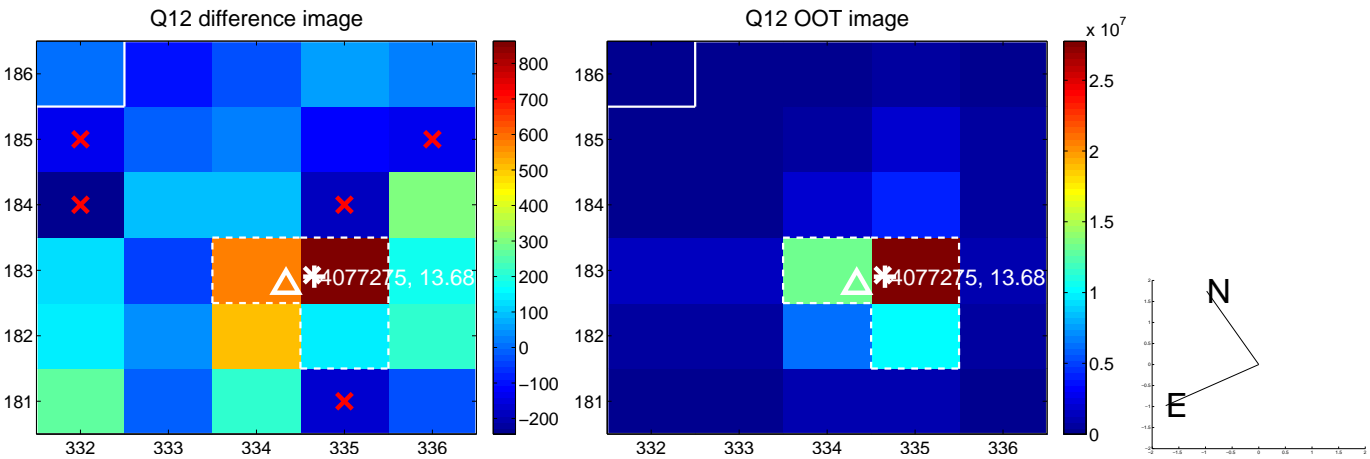
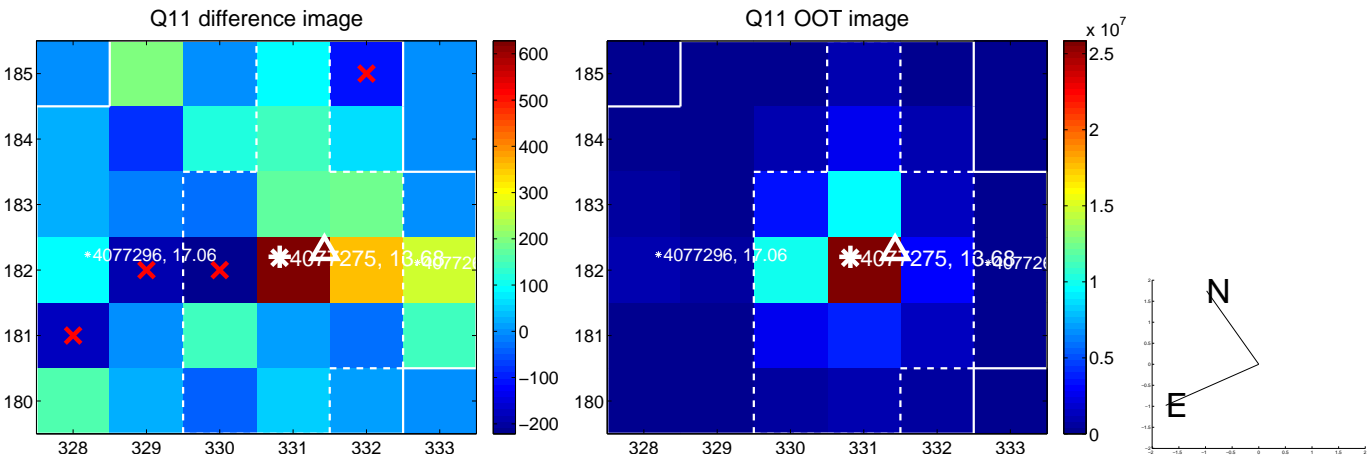
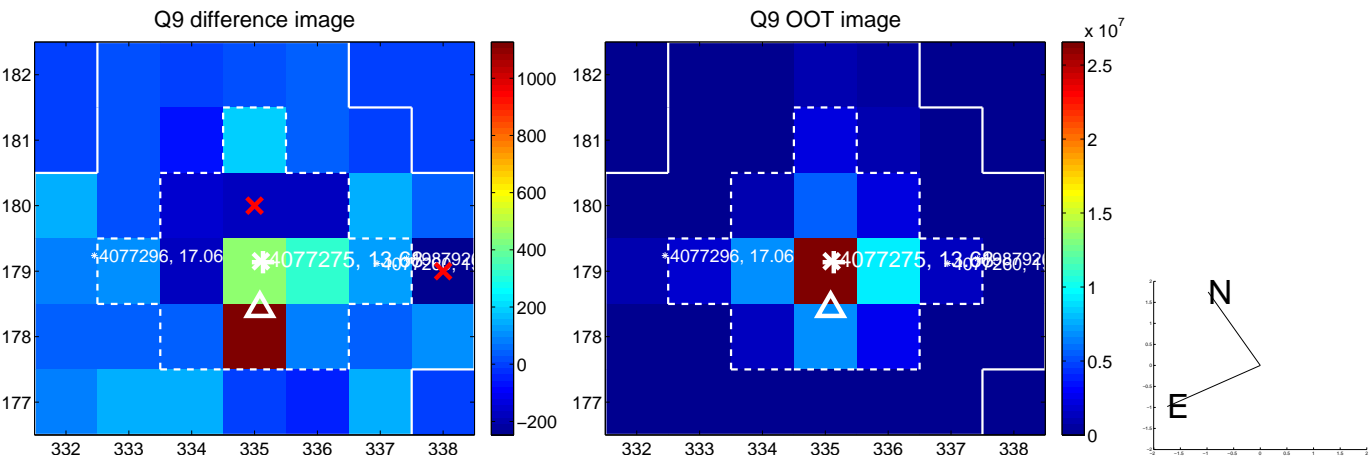
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



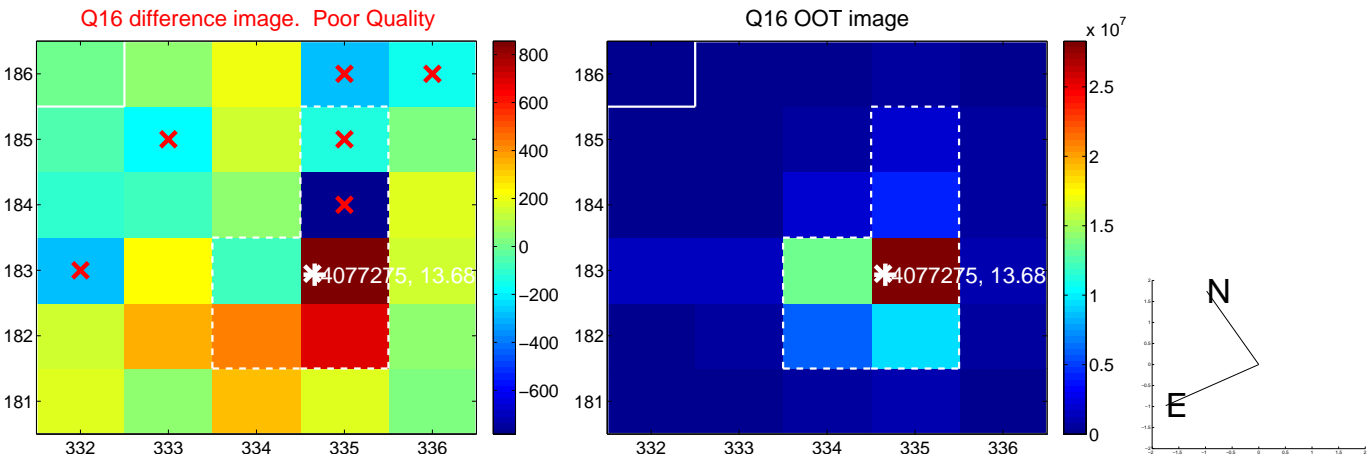
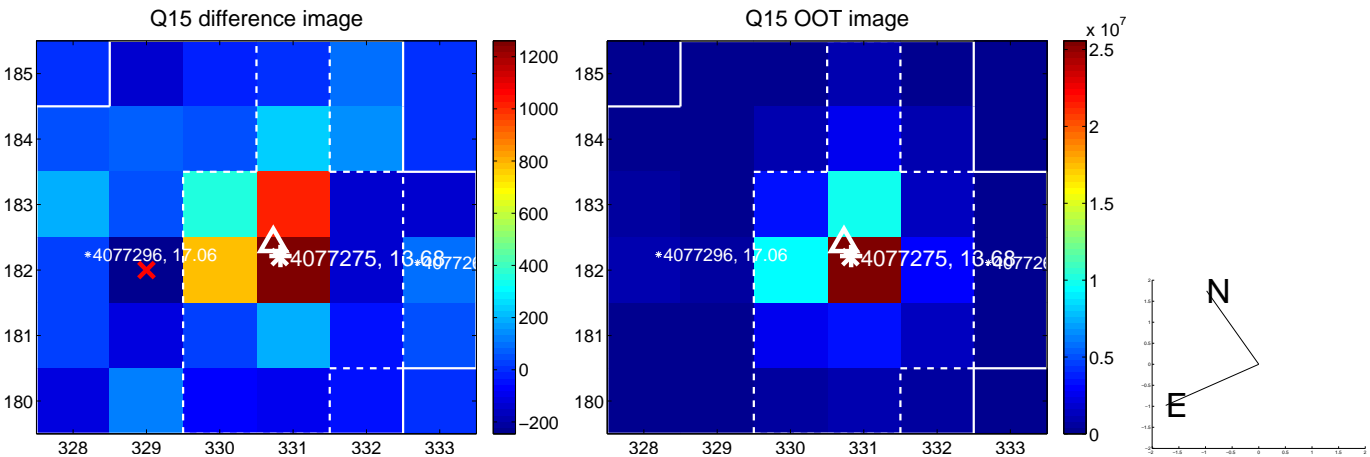
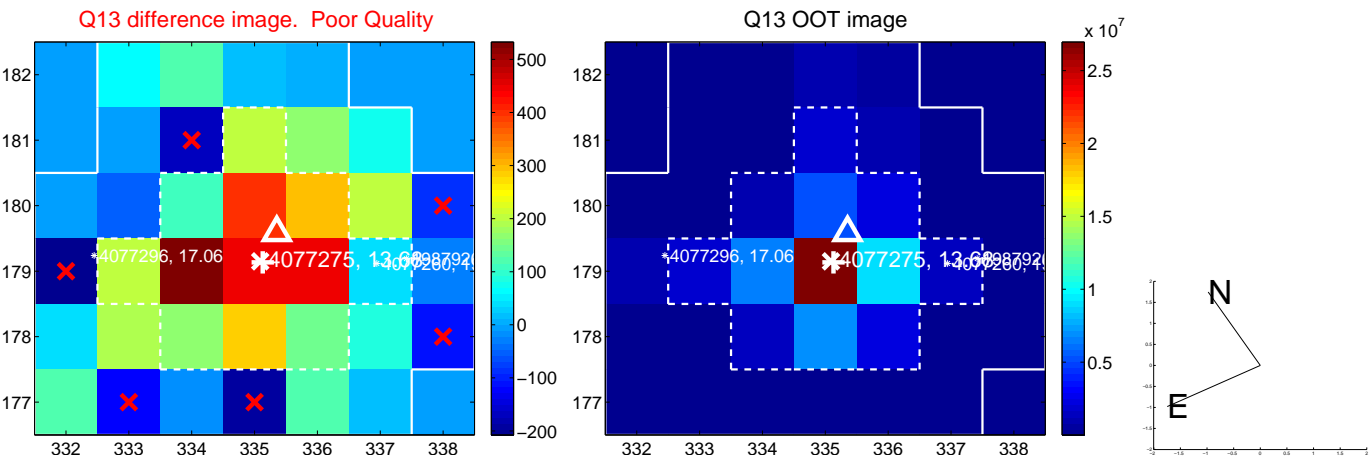
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



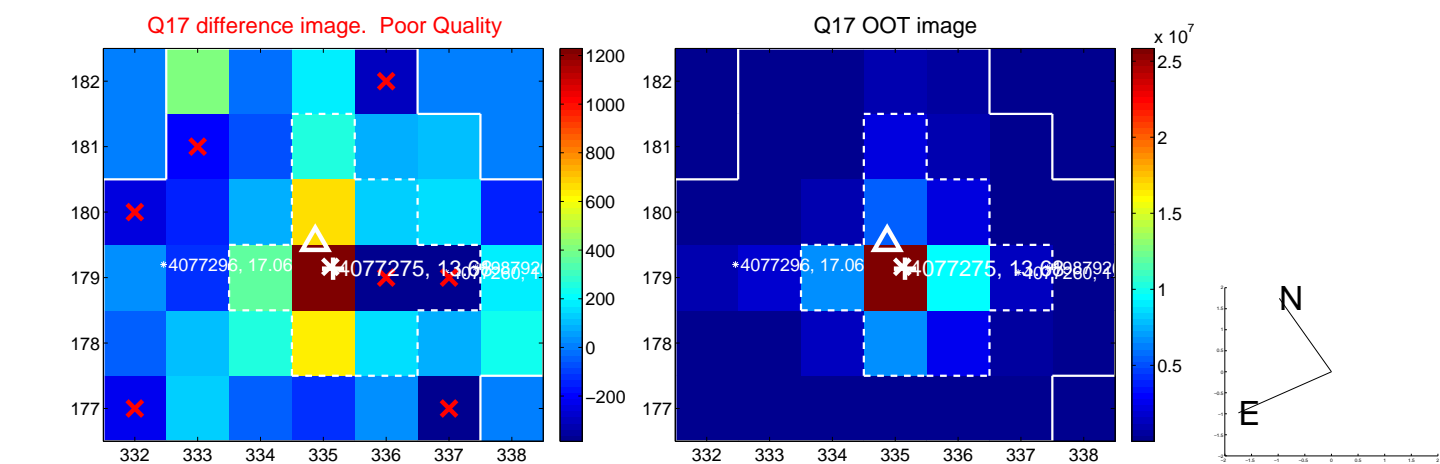
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



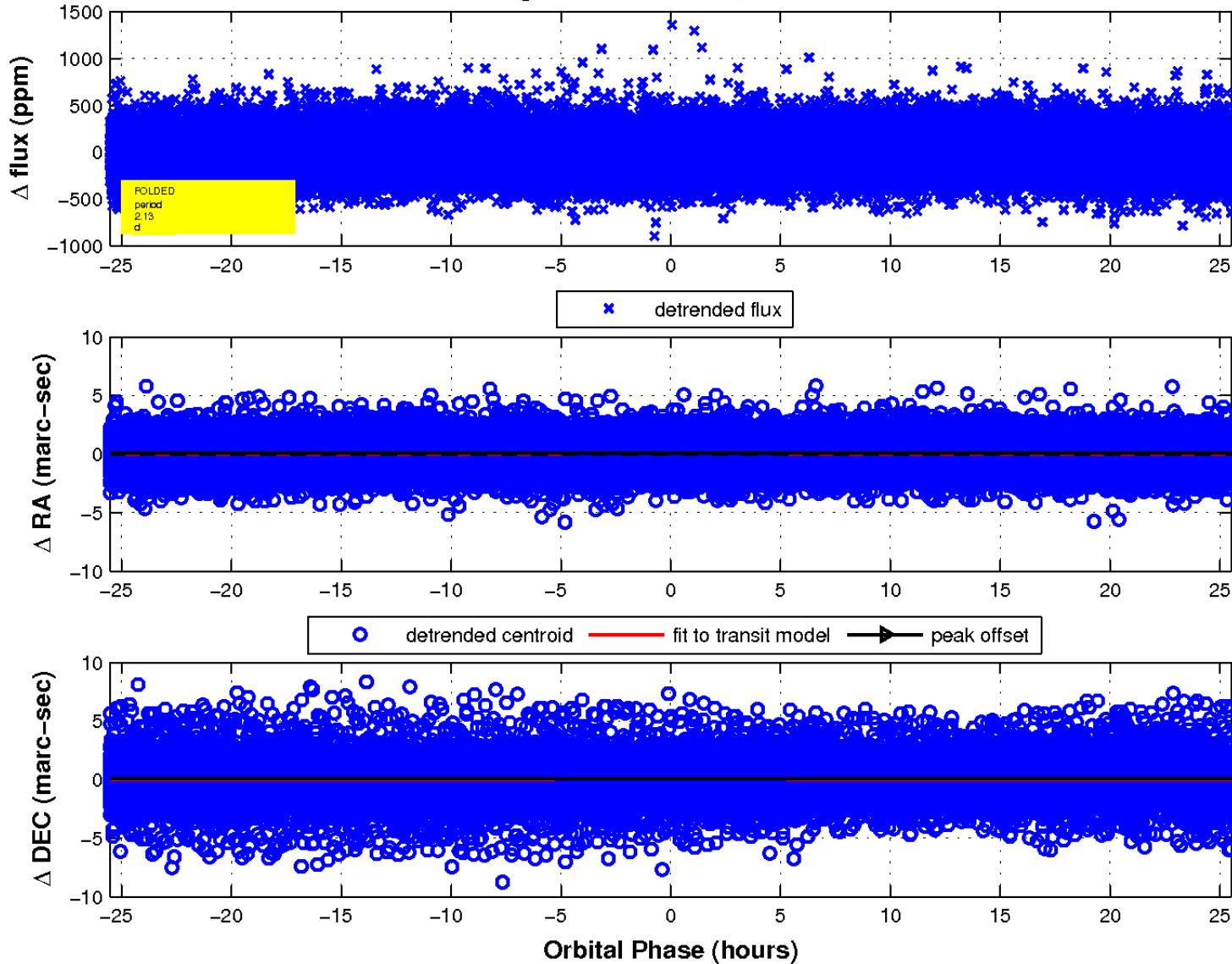
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

