

KIC 005110423

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})
005110423-01	OBS	1777.01	2.685230	133.730392	5149.8	4.109	302.2	231.0	0.72	5552	9.54	361.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005110423-01	OBS	FP	0.00	0	1	0	0	MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—CENT_KIC_POS

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 005110423-01

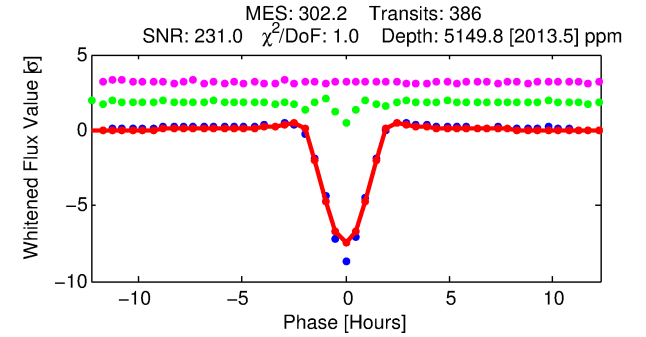
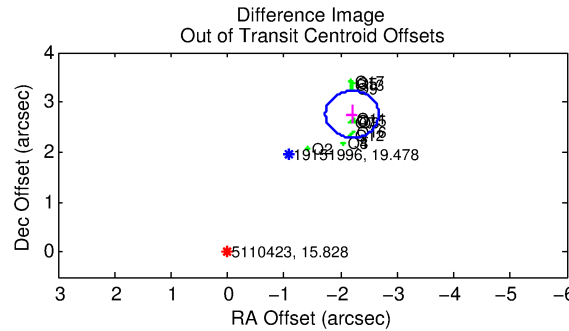
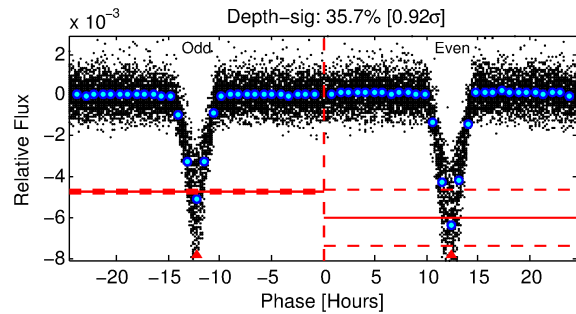
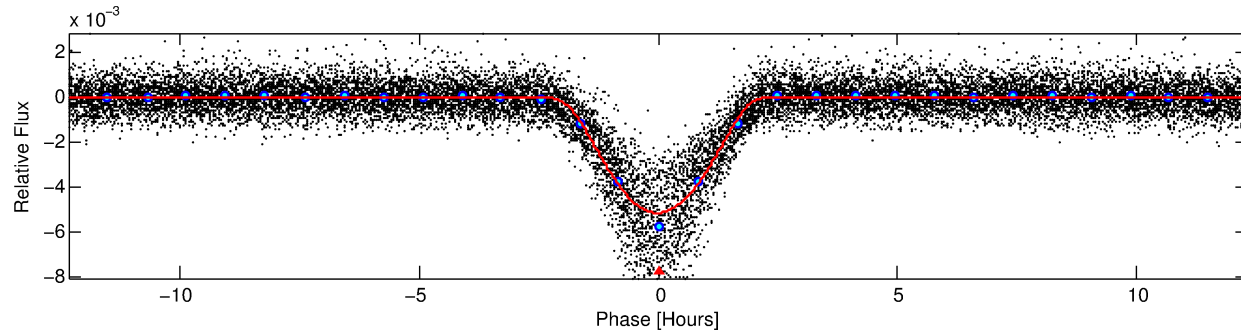
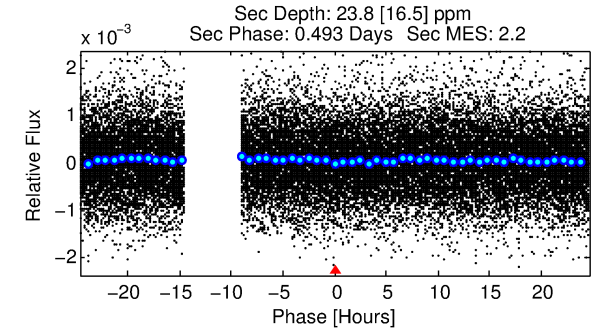
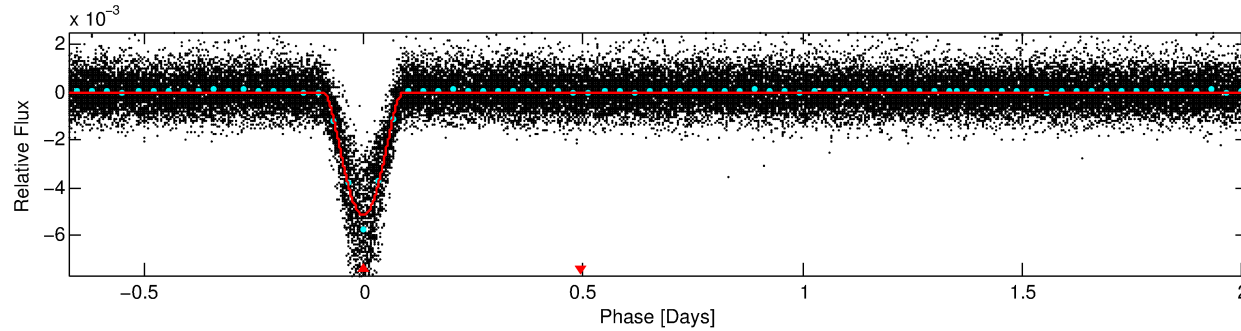
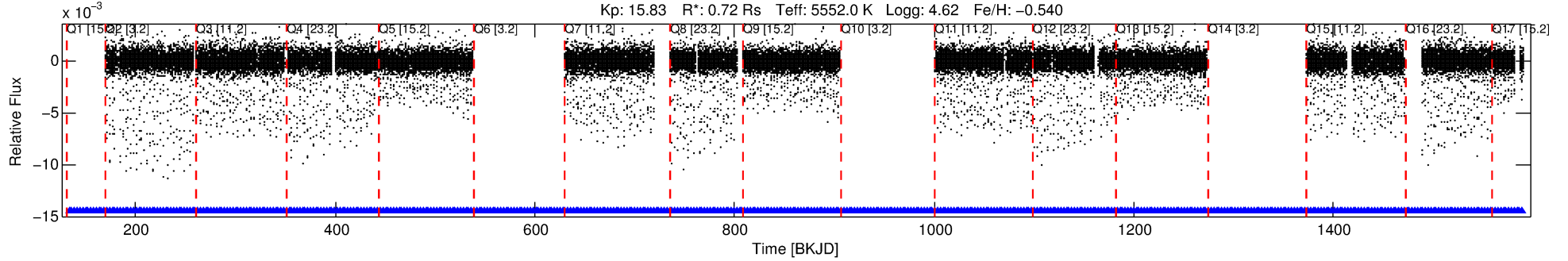
No Significant Match Found

DV One-Page Summary

KIC: 5110423 Candidate: 1 of 1 Period: 2.685 d

KOI: K01777.01 Corr: 0.992

Kp: 15.83 R*: 0.72 Rs Teff: 5552.0 K Logg: 4.62 Fe/H: -0.540



DV Fit Results:

Period = 2.68523 [0.00000] d
Epoch = 133.7304 [0.0003] BKJD
Rp/R* = 0.1215 [0.0255]
a/R* = 2.74 [0.08]
b = 1.00 [0.00]
Seff = 361.30 [93.44]
Teq = 1112 [72] K
Rp = 9.54 [2.70] Re
a = 0.0349 [0.0055] AU
Ag = 0.18 [0.15] [-5.59σ]
Teffp = 1112 [229] K [0.00σ]

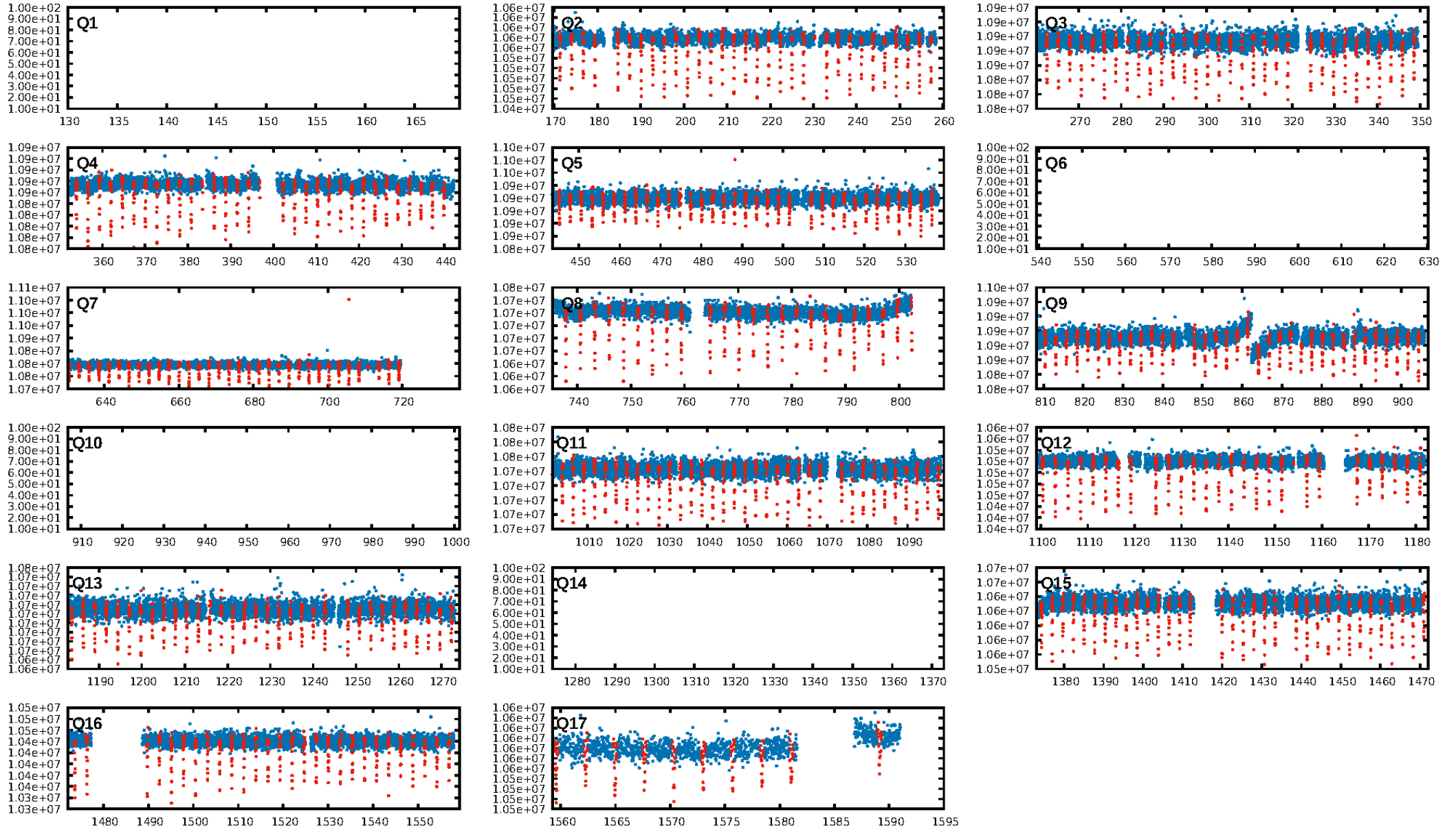
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [376/376]
GhostDiagnostic-chr: 0.5069
Centroid-sig: 0.0%
Centroid-so: 2.604 arcsec [75.64σ]
OotOffset-rm: 3.527 arcsec [22.49σ]
KicOffset-rm: 2.213 arcsec [31.92σ]
OotOffset-st: 1/4/4/4 [13]
KicOffset-st: 1/4/4/4 [13]
DiffImageQuality-fgm: 1.00 [13/13]
DiffImageOverlap-fno: 1.00 [13/13]

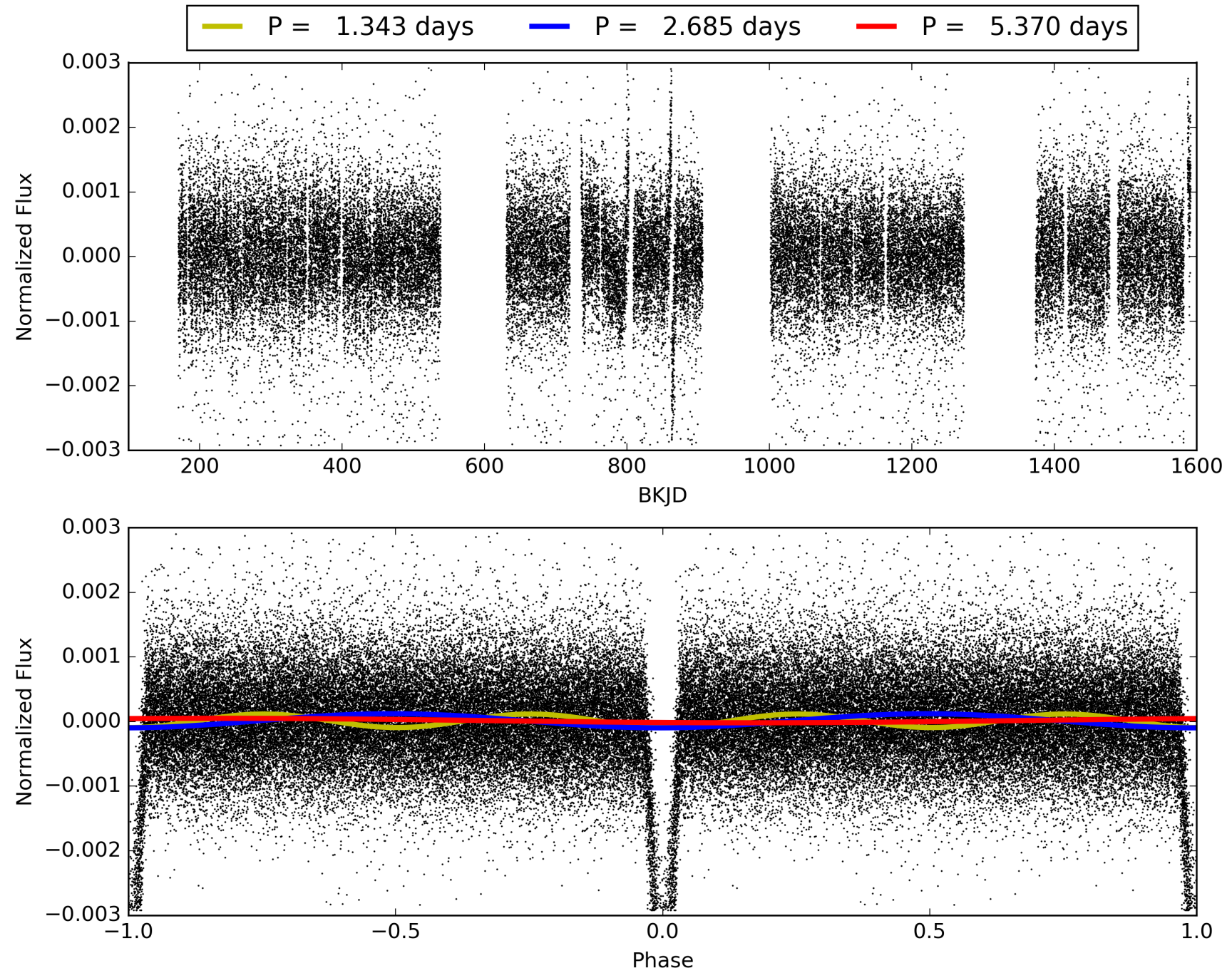
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:10:52 Z

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

TCE 005110423-01, PDC Light Curves

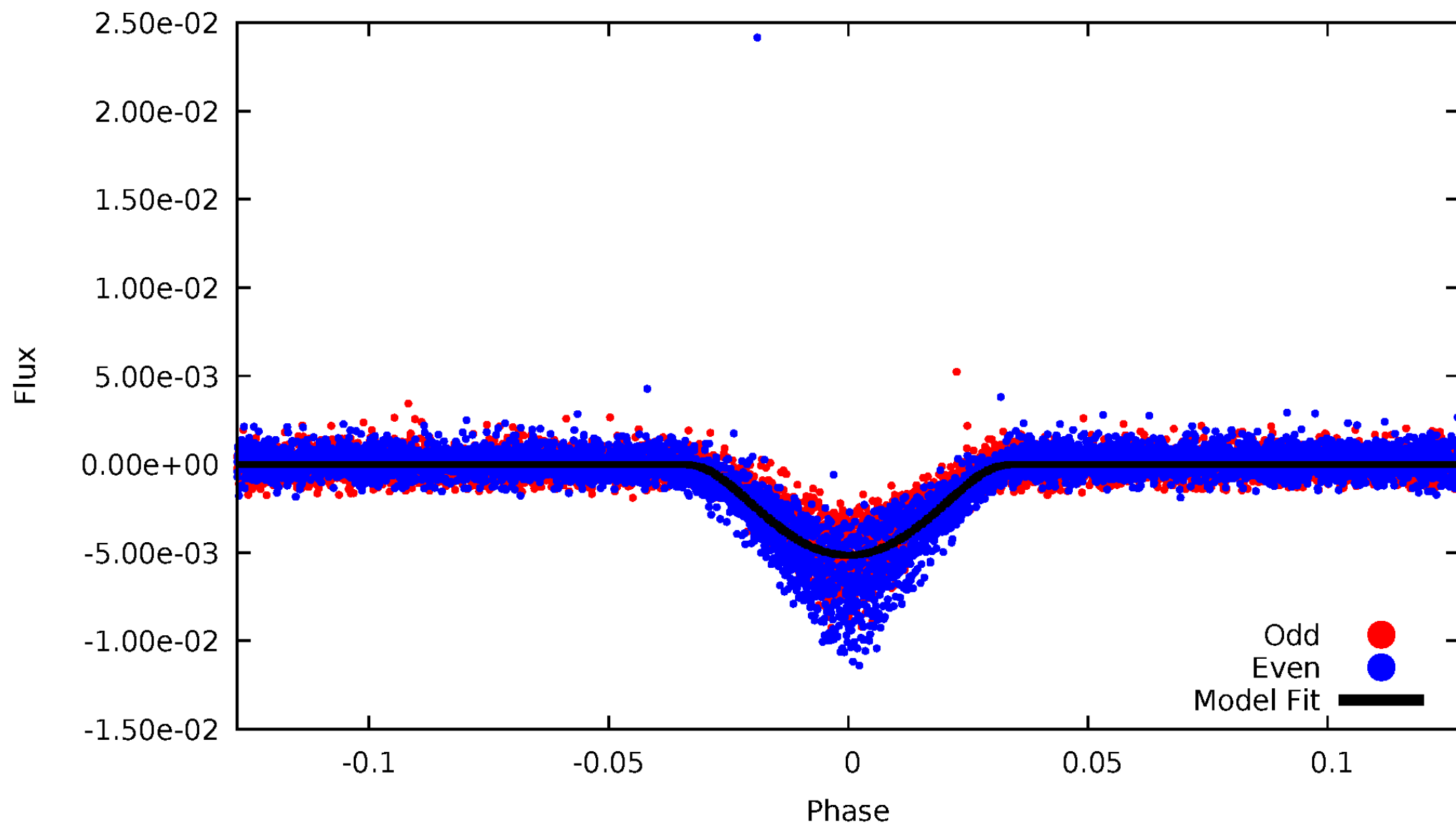


TCE 005110423-01



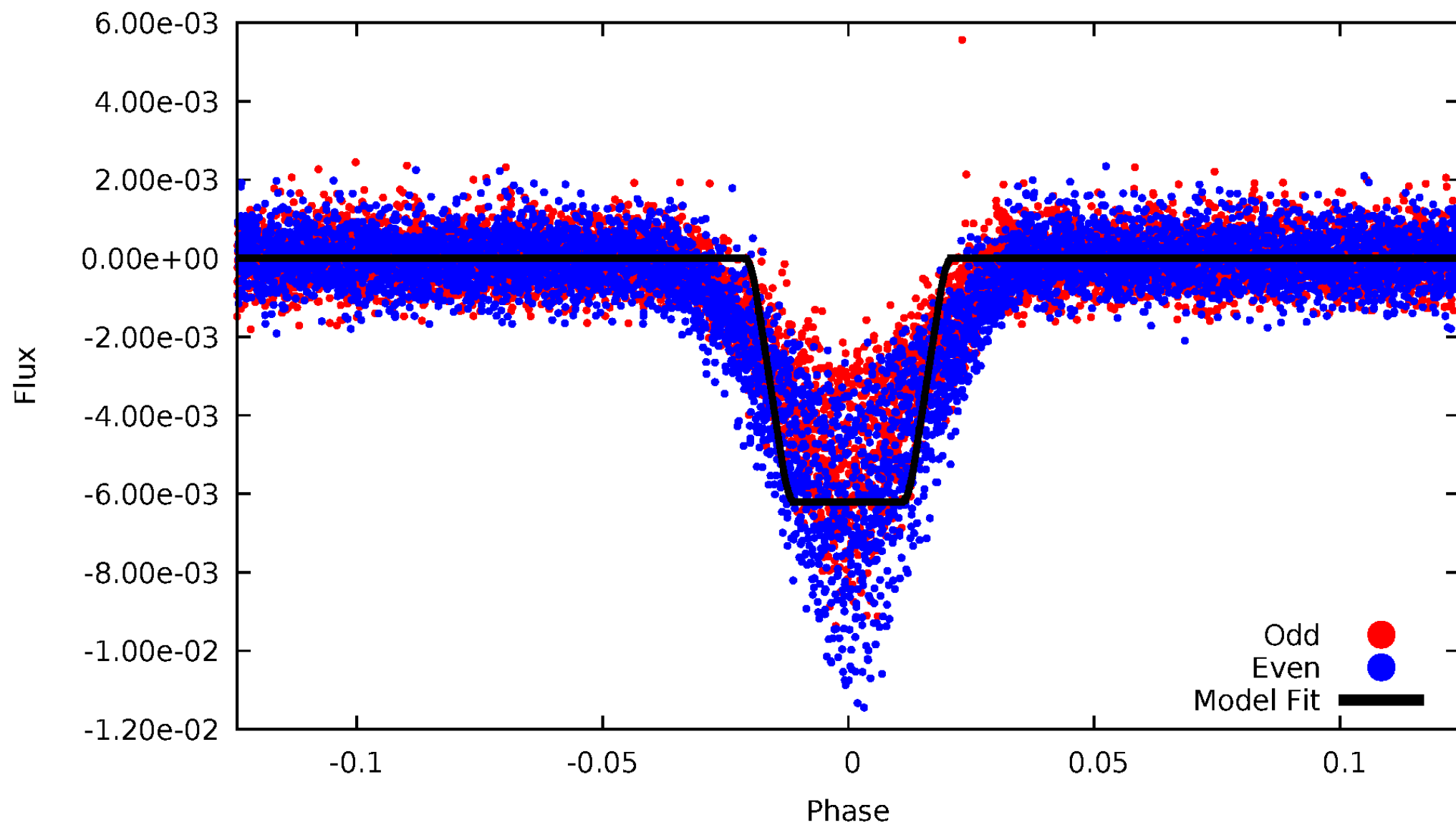
DV Odd/Even

TCE 005110423-01



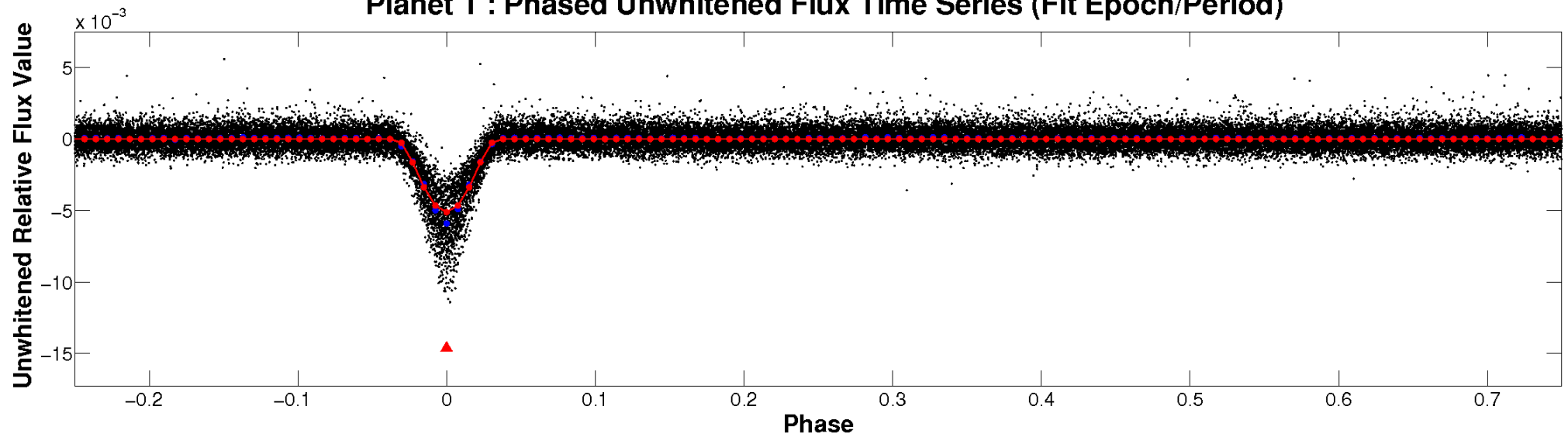
ALT Odd/Even

TCE 005110423-01

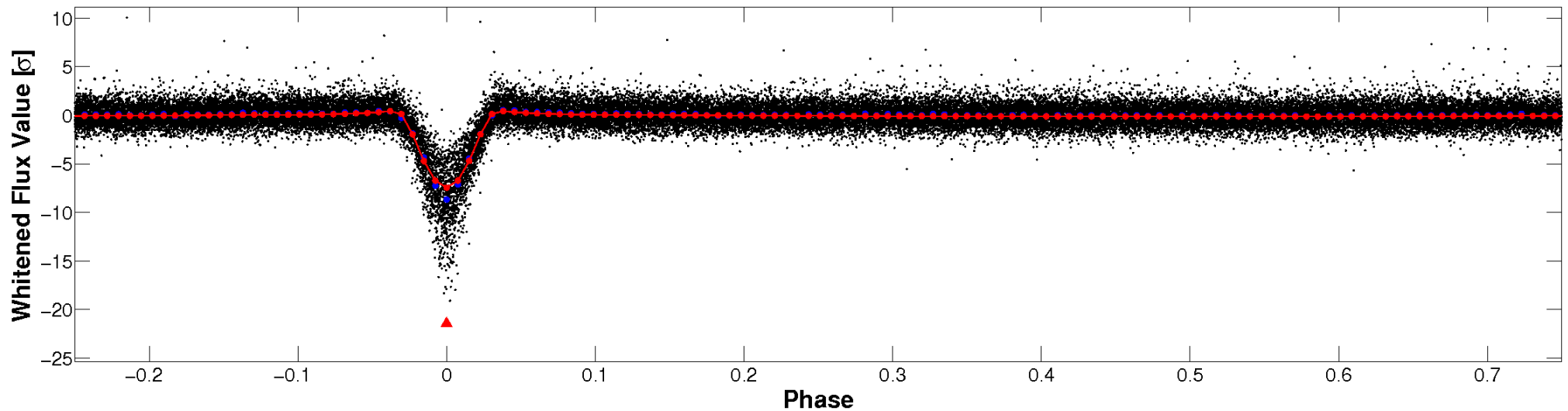


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

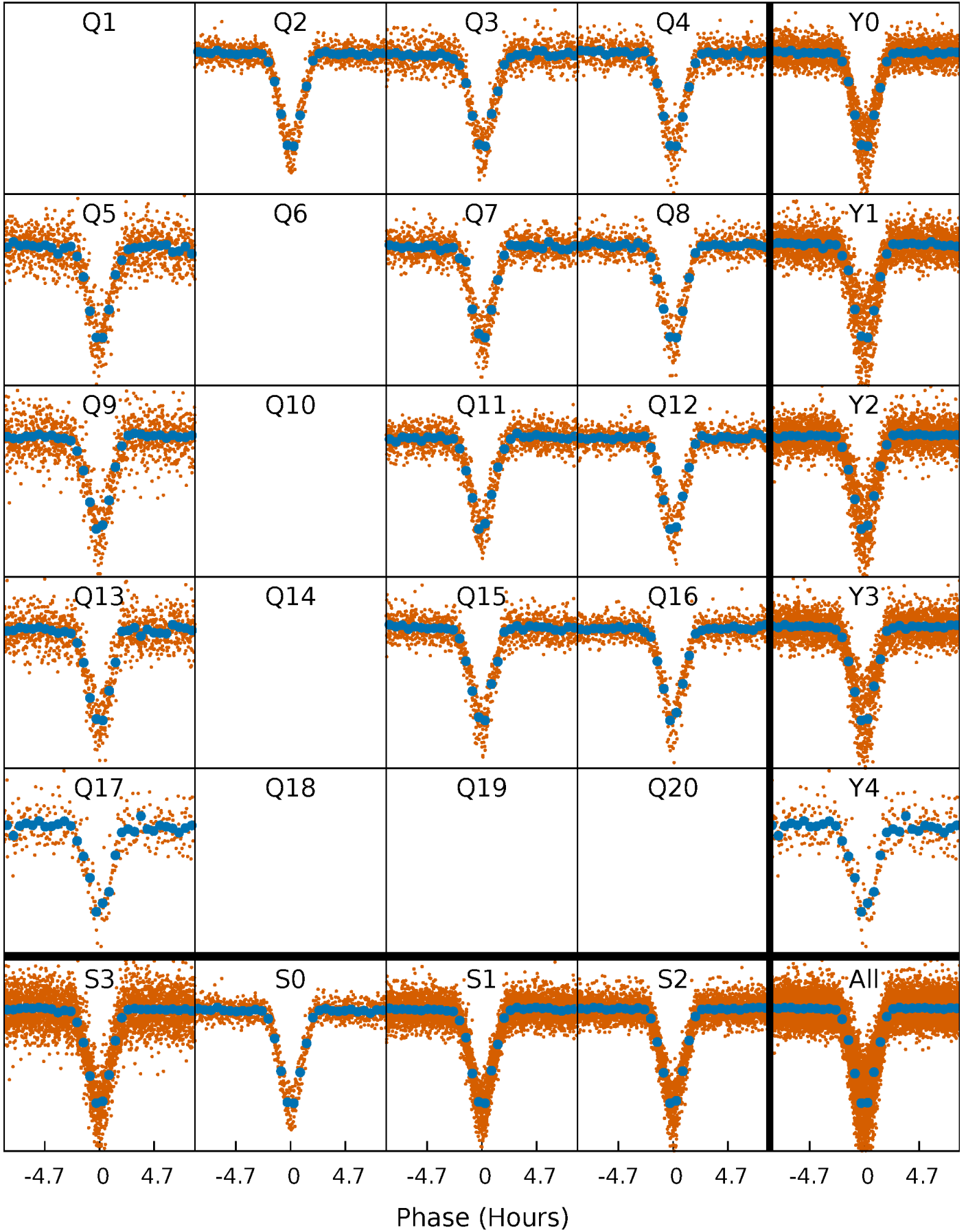


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



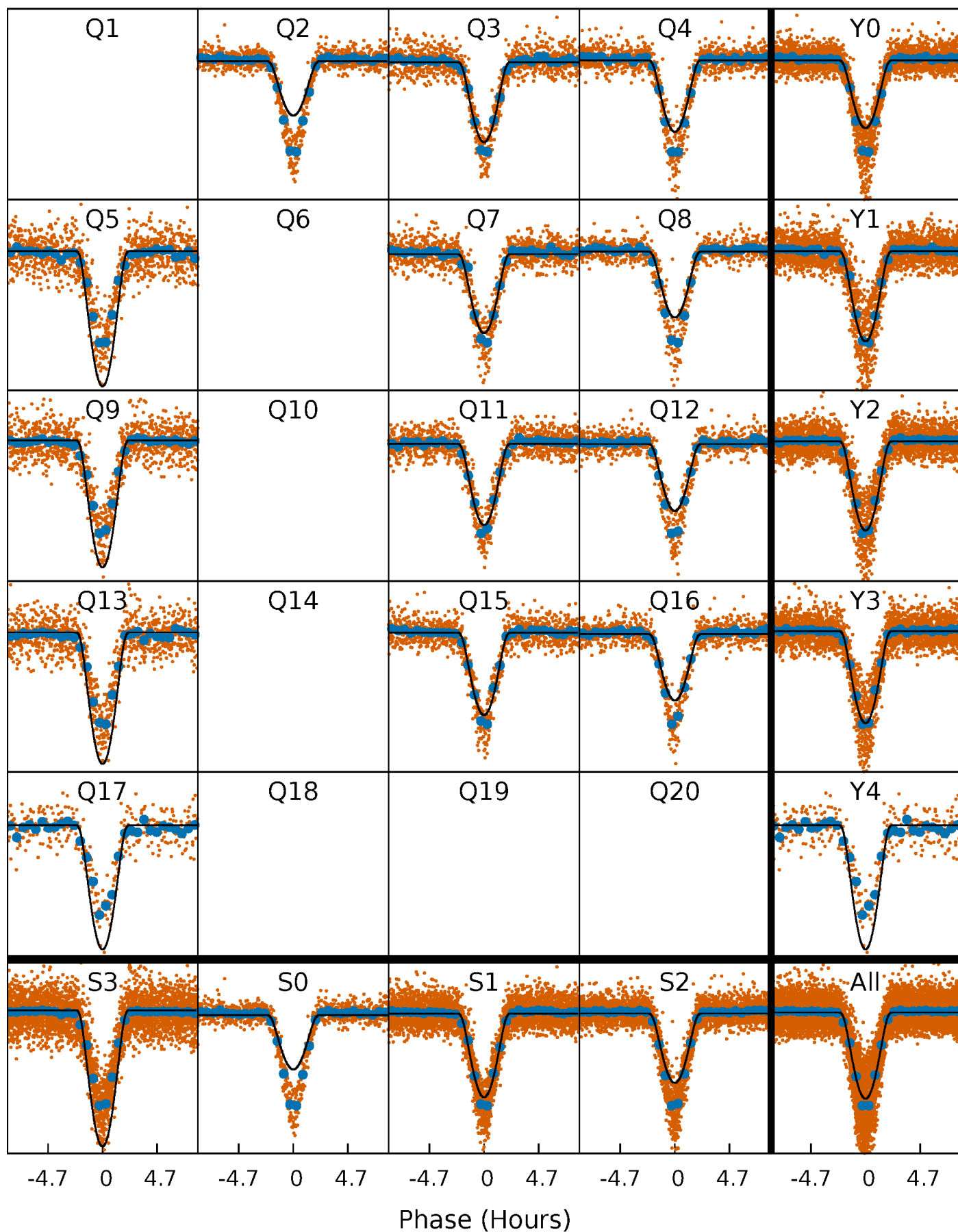
PDC Quarter-Phased Transit Curves

TCE 005110423-01 P= 2.685230 Days $T_0=133.730392$ (BKJD)



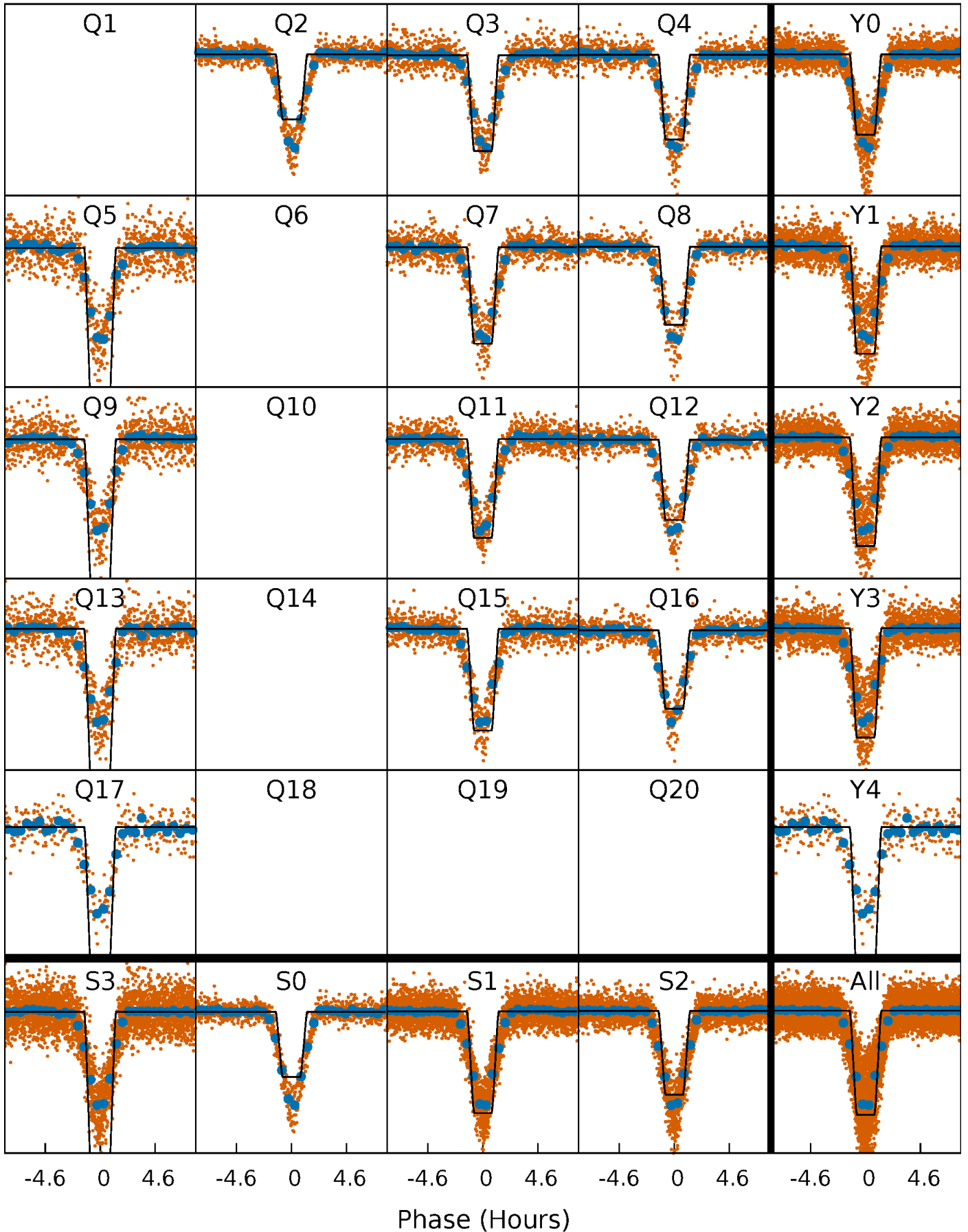
DV Quarter-Phased Transit Curves

TCE 005110423-01 P= 2.685230 Days $T_0=133.730392$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

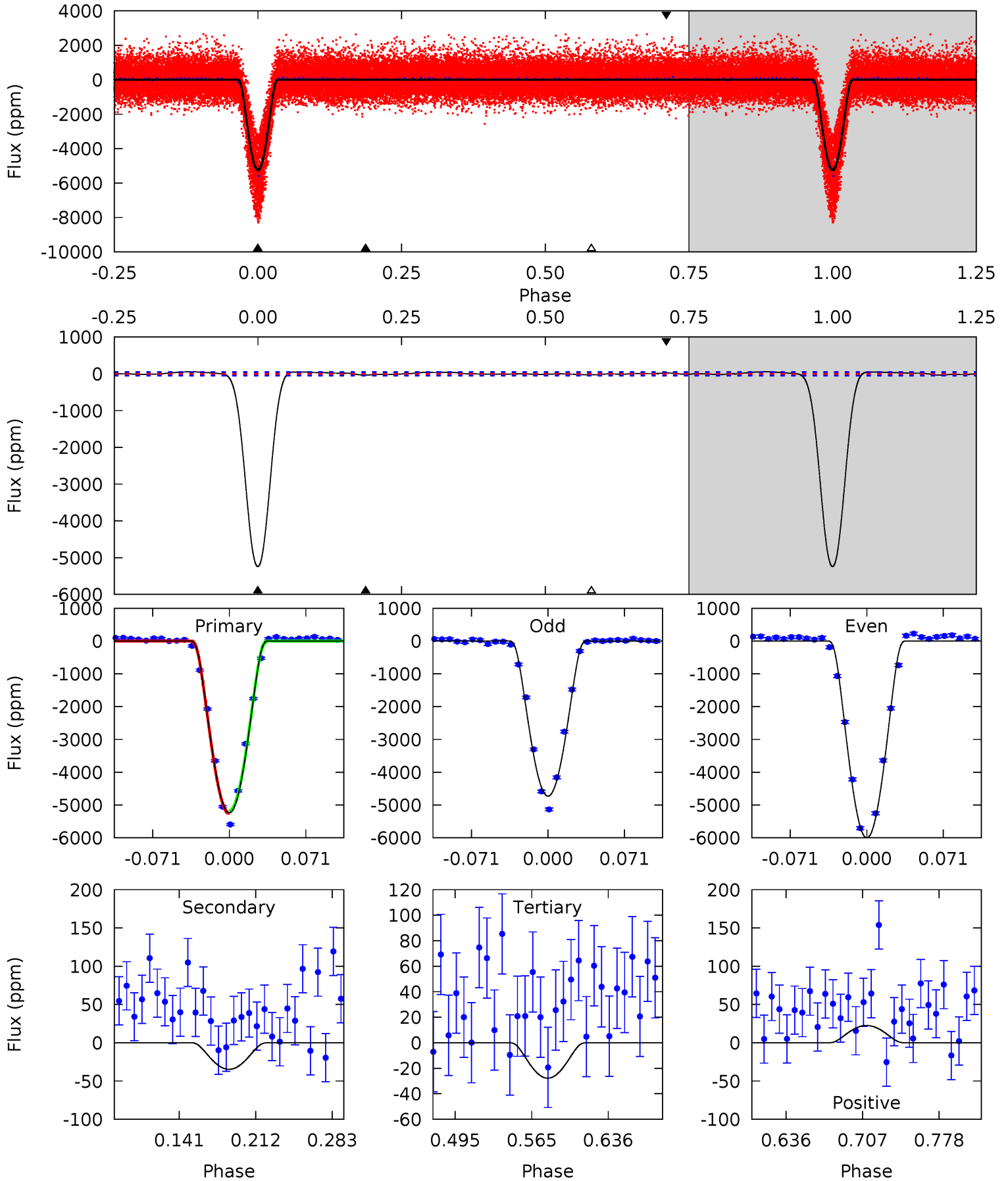
TCE 005110423-01 P= 2.685240 Days $T_0=133.727525$ (BKJD)



DV Model-Shift Uniqueness Test

005110423-01, P = 2.685230 Days, E = 133.730392 Days

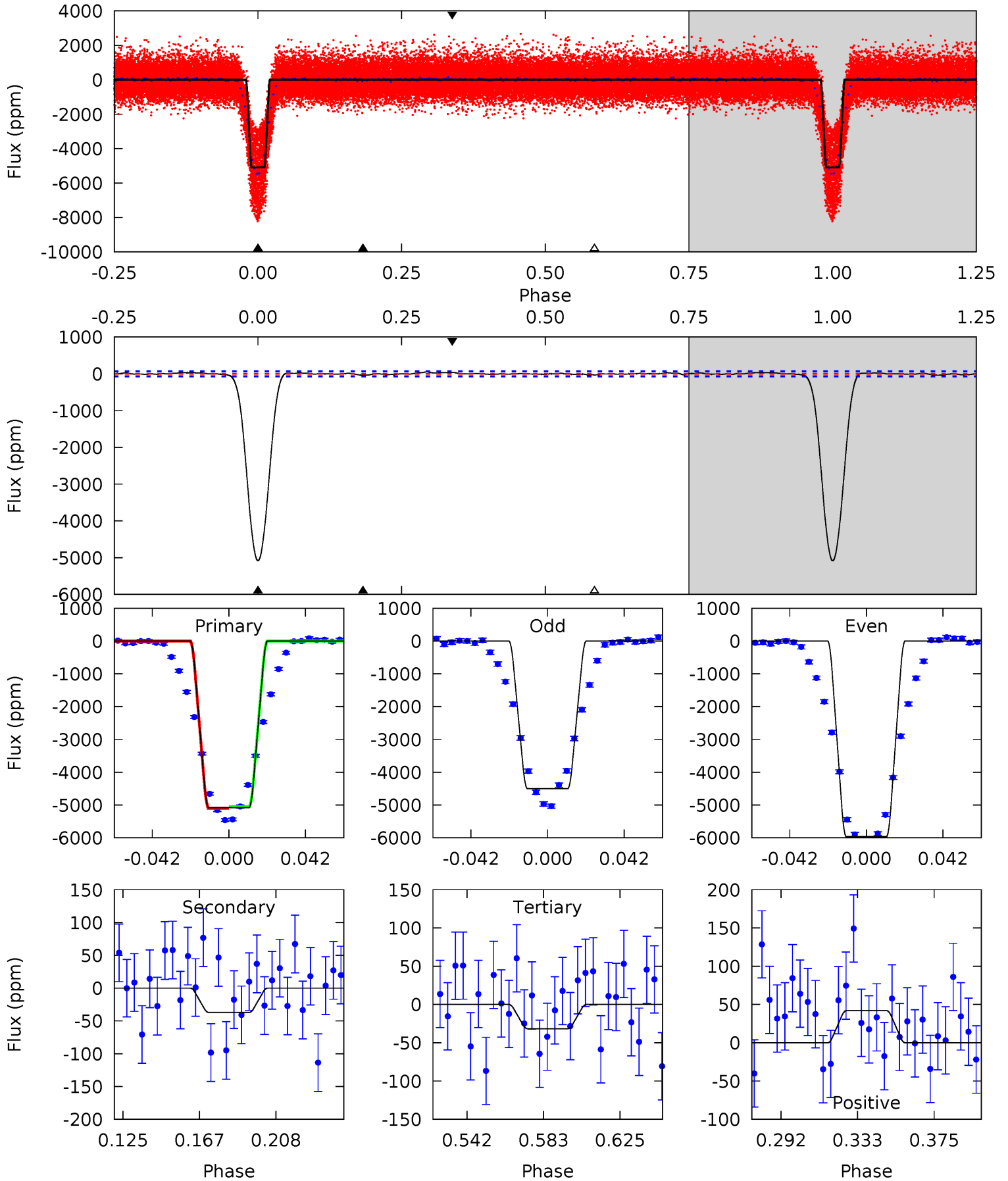
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
490.3	3.25	2.60	2.11	4.64	1.81	2.07	487.7	488.2	0.65	1.14	59.7	1.02	0.01	3.66



Alt Model-Shift Uniqueness Test

005110423-01, P = 2.685240 Days, E = 133.727525 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
356.8	2.61	2.22	2.95	4.75	2.04	1.39	354.6	353.9	0.39	-0.34	51.2	1.03	0.01	1.72



Stellar Parameters For KIC 005110423

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5552^{+180}_{-163}	$4.620^{+0.038}_{-0.120}$	$-0.540^{+0.300}_{-0.300}$	$0.719^{+0.137}_{-0.049}$	$0.786^{+0.081}_{-0.073}$	$2.976^{+0.483}_{-1.082}$
	+3%/-3%	+1%/-3%	+56%/-56%	+19%/-7%	+10%/-9%	+16%/-36%
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 005110423-01 / KOI 1777.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-35 ± 11	$9.76^{+2.14}_{-1.98}$	1574^{+79}_{-59}	-1887^{+3877}_{-212}	$0.237^{+0.165}_{-0.104}$
Alt.	-37 ± 14	$6.32^{+2.16}_{-2.15}$	1578^{+77}_{-64}	2226^{+385}_{-3916}	$0.597^{+0.829}_{-0.317}$

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 $A_{obs} \gg 1.0$

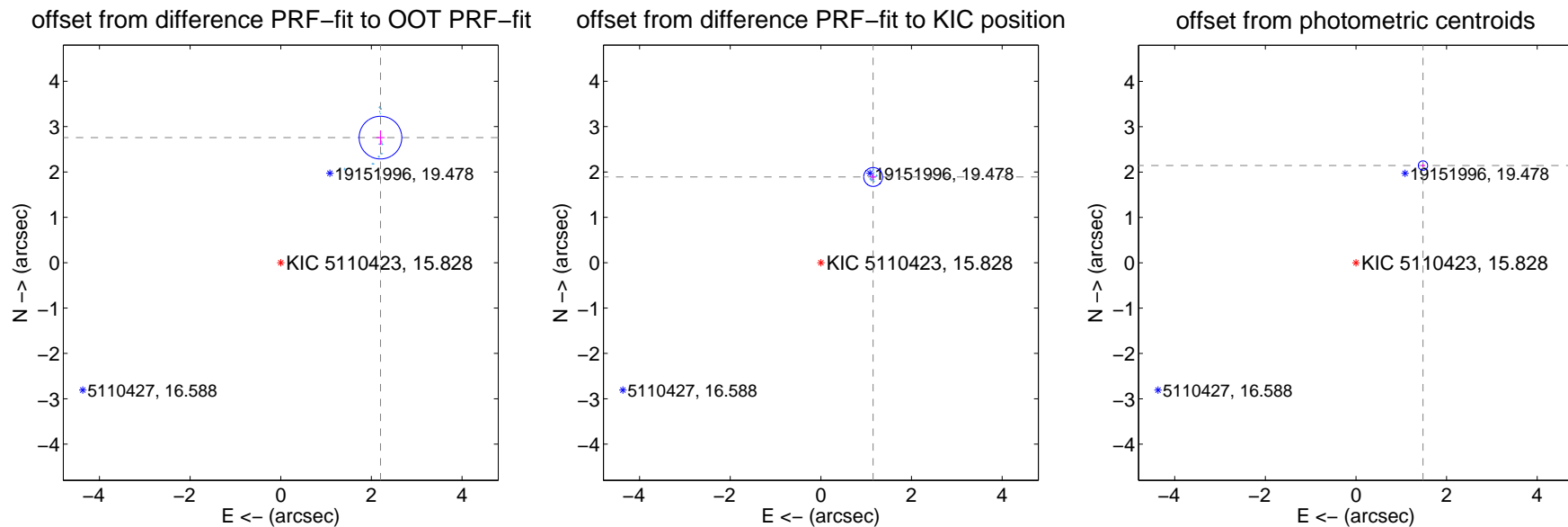
DV Centroid Data

Supplemental centroid analysis for 005110423-01. Kepler magnitude: 15.83. Transit SNR 230.97

There are 13 quarters with good PRF difference image offsets

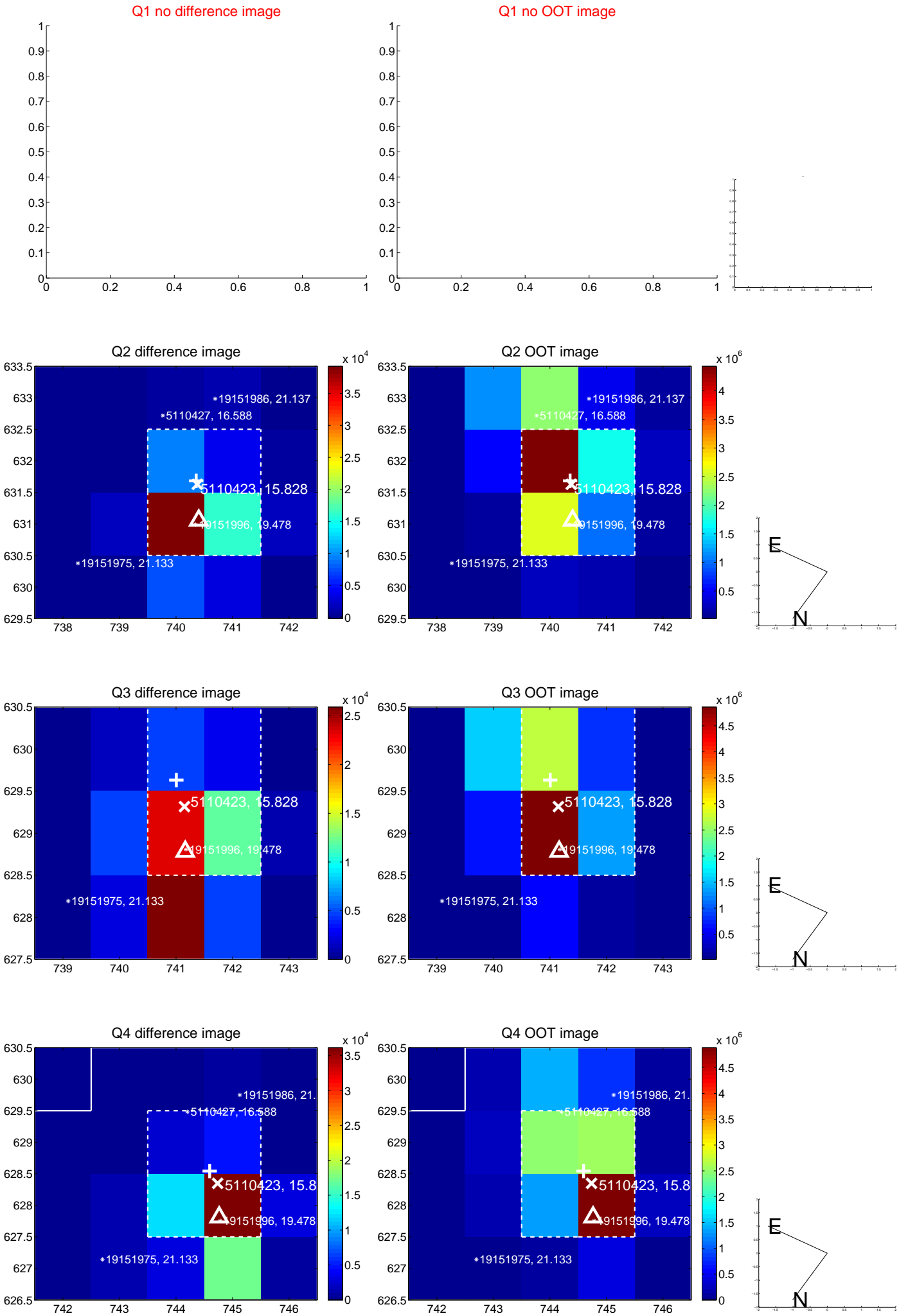
The direct PRF centroid is offset from the target star catalog position by about 1.72 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.527 ± 0.157	22.49	-2.200 ± 0.092	2.757 ± 0.160
PRF-fit source offset from KIC position	2.213 ± 0.069	31.92	-1.153 ± 0.067	1.889 ± 0.070
photometric centroid source offset	2.60 ± 0.03	75.64	-1.48 ± 0.04	2.14 ± 0.03

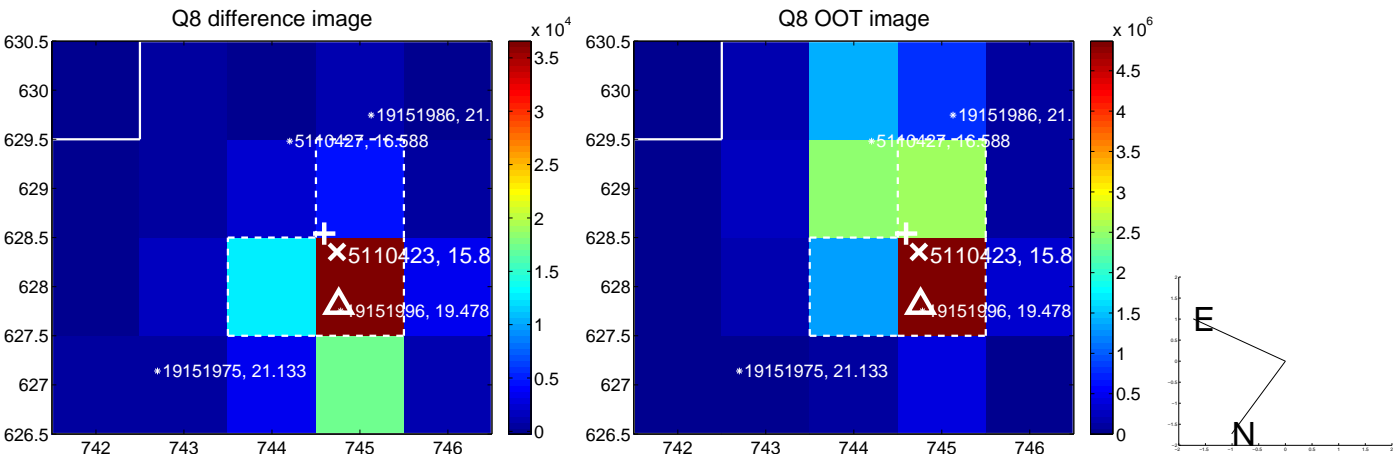
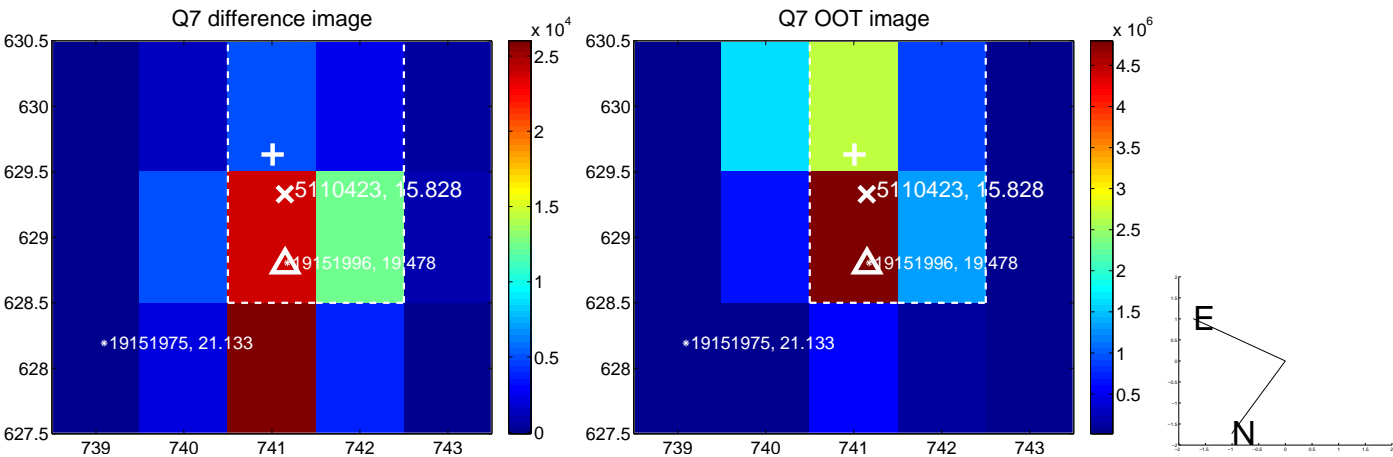
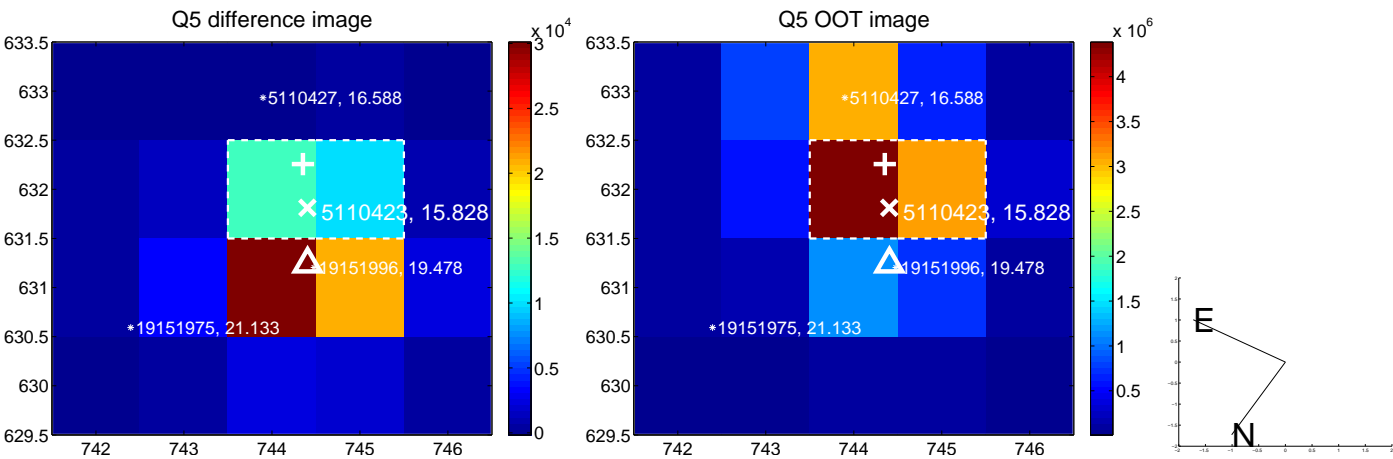


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

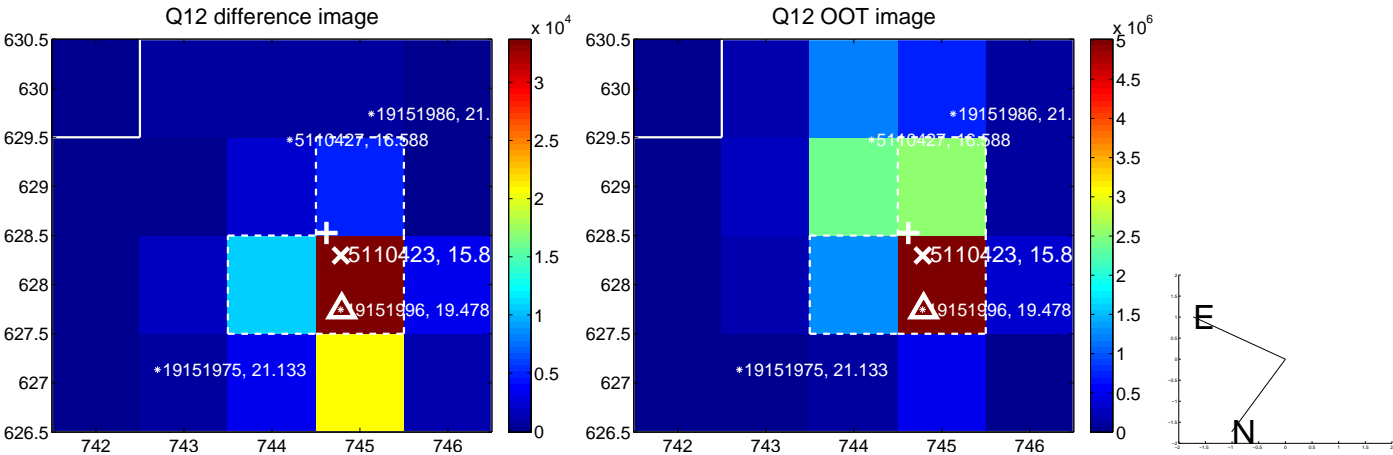
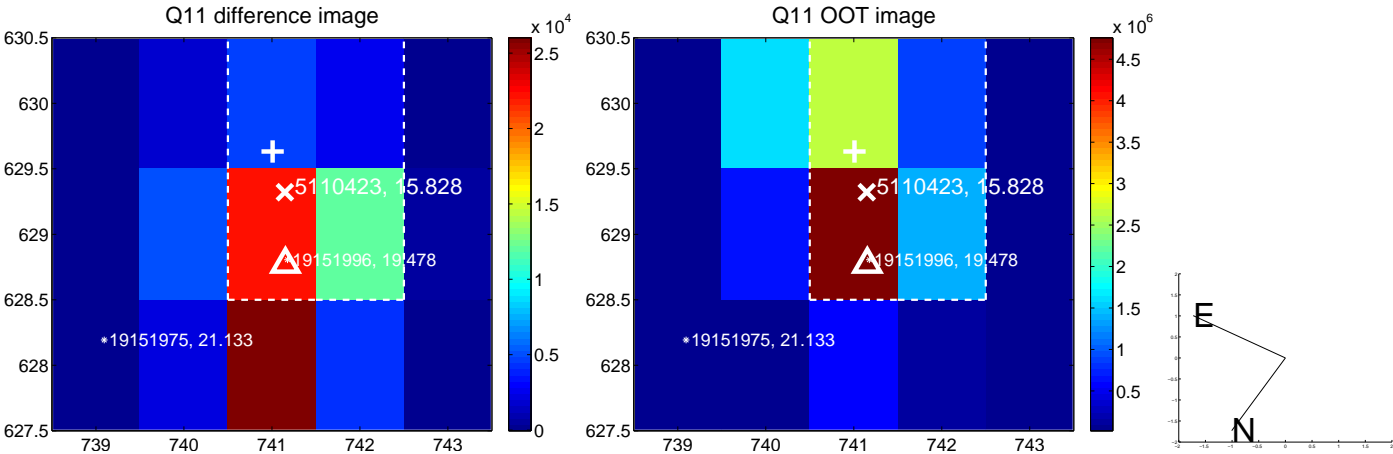
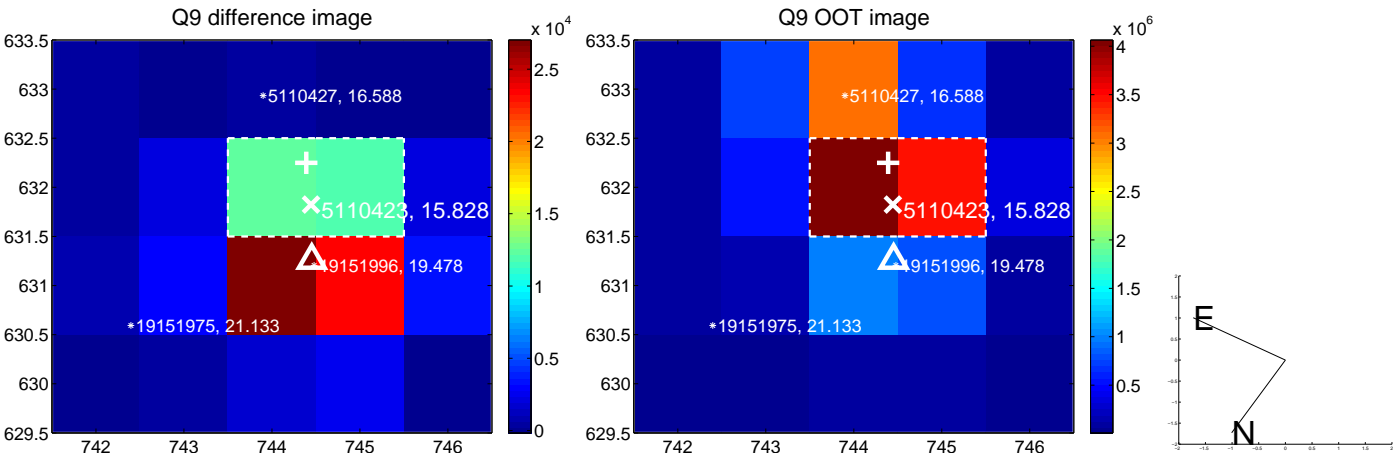
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



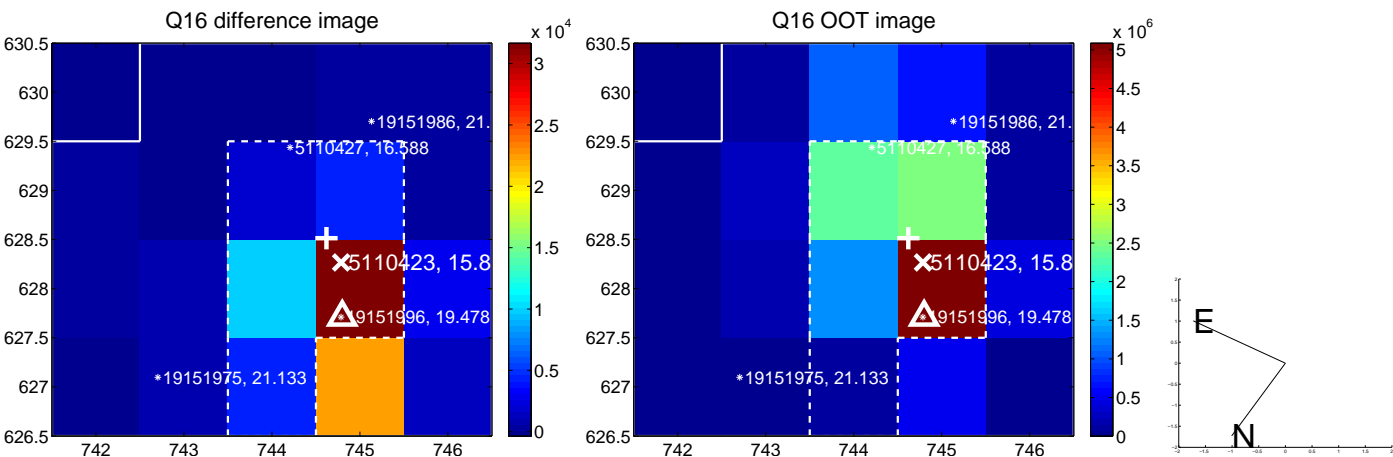
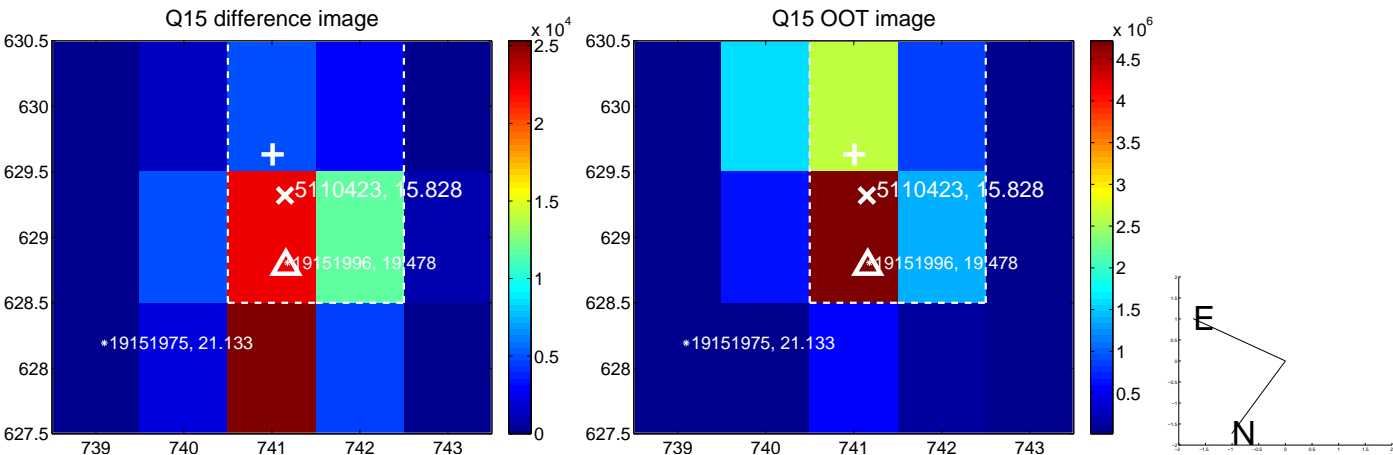
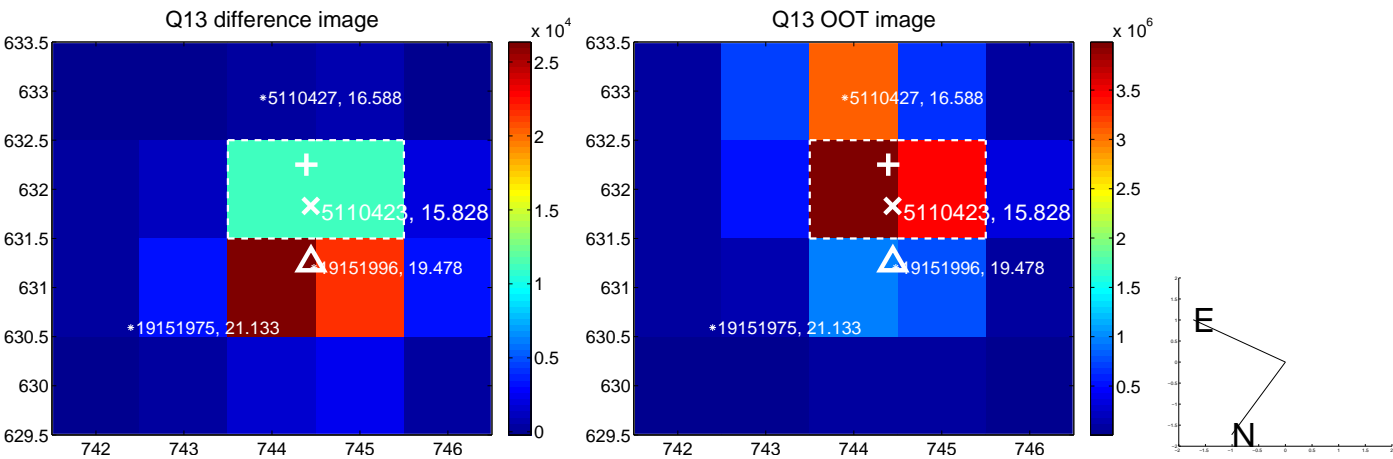
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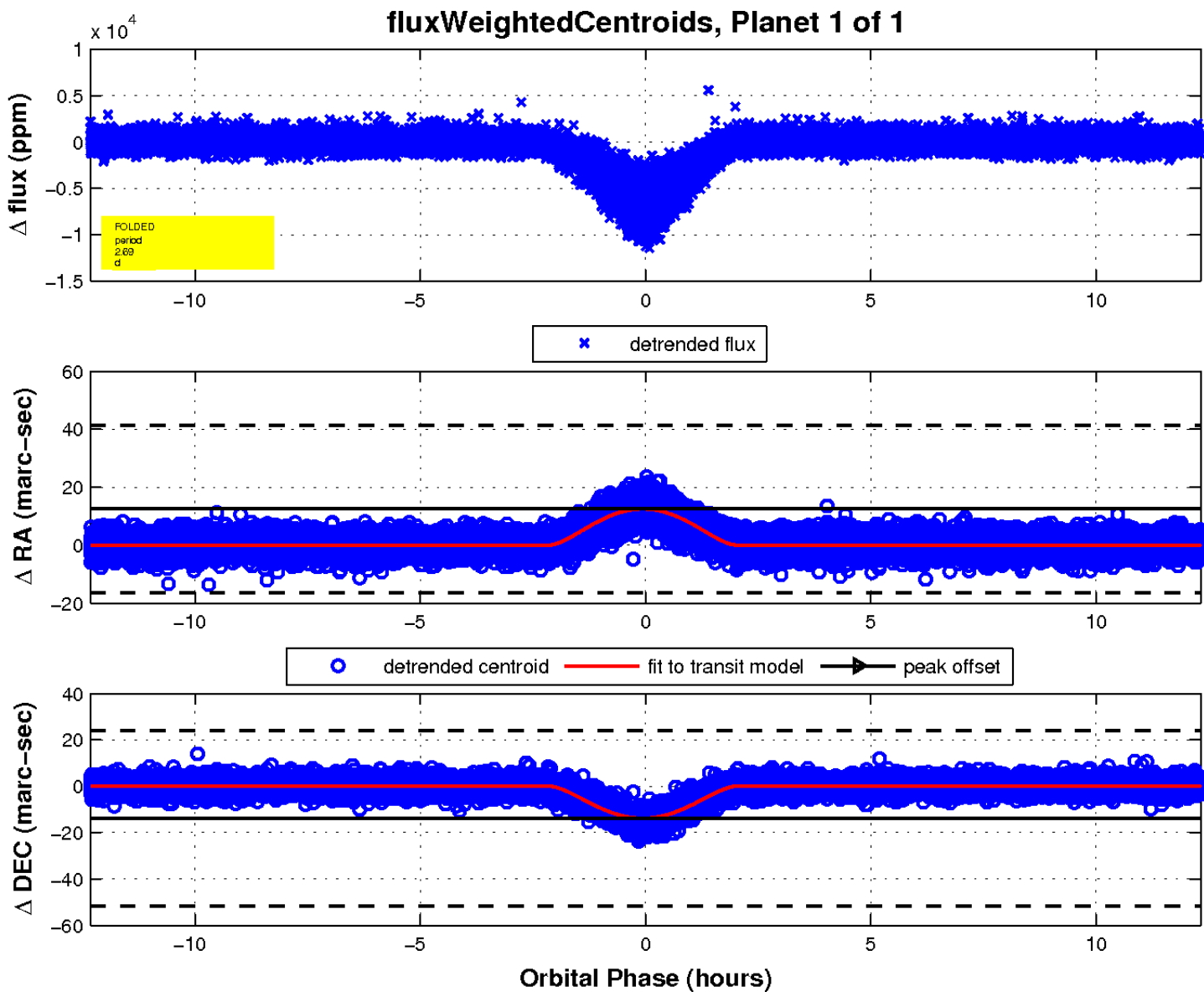
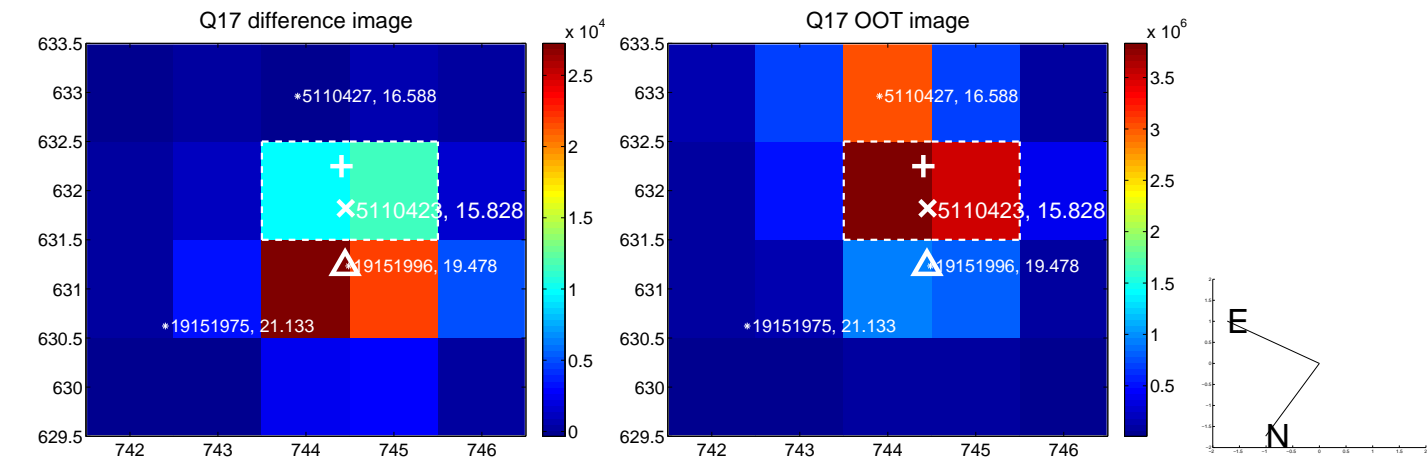
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UKIRT Image

Declination

