

KIC 010533491

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})
010533491-01	OBS	No	8.594264	136.837698	49.0	13.707	7.2	6.7	0.72	5651	0.58	82.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010533491-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV

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

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

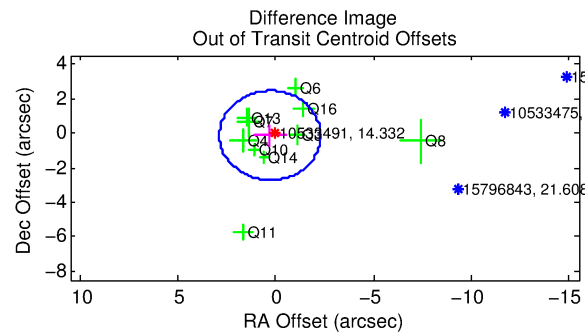
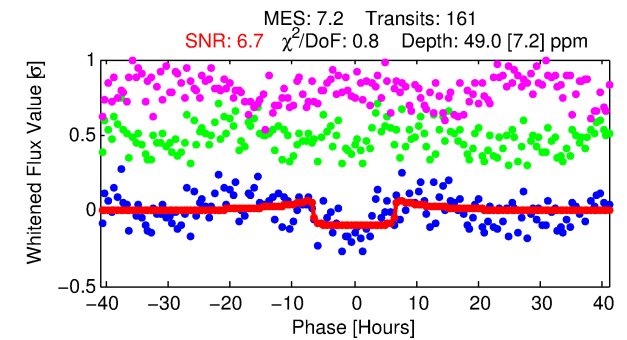
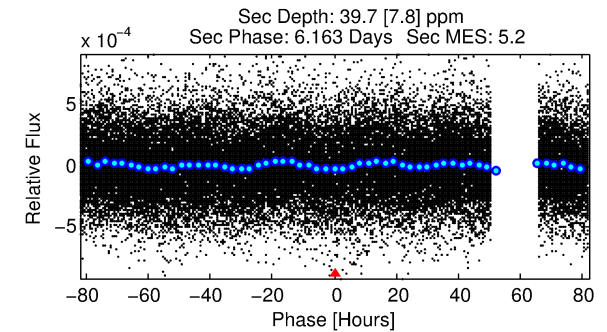
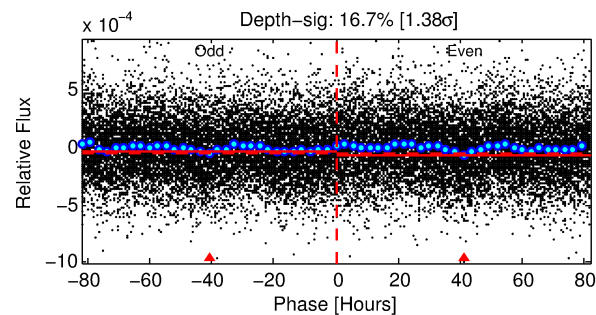
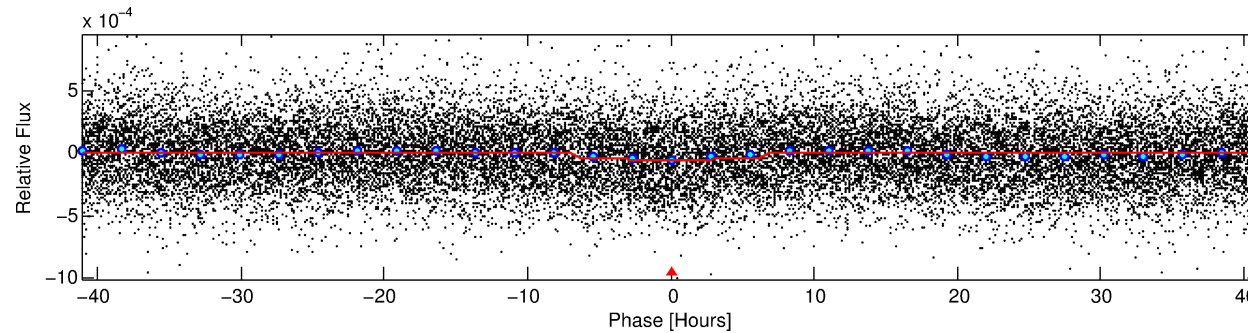
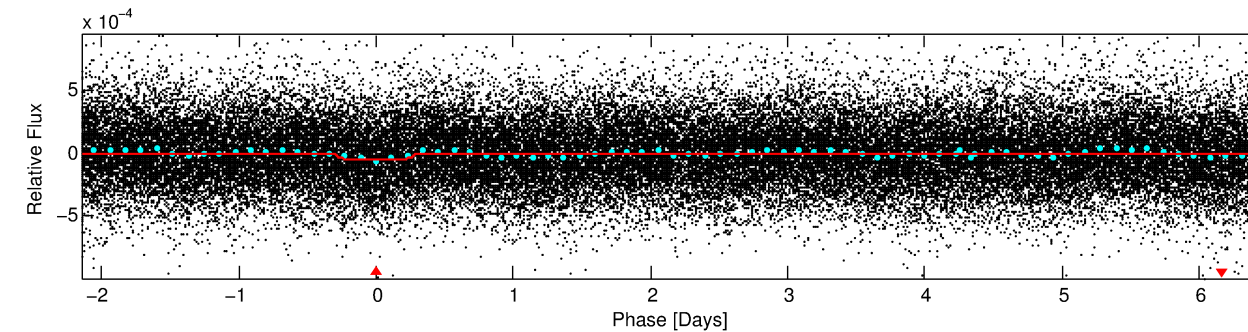
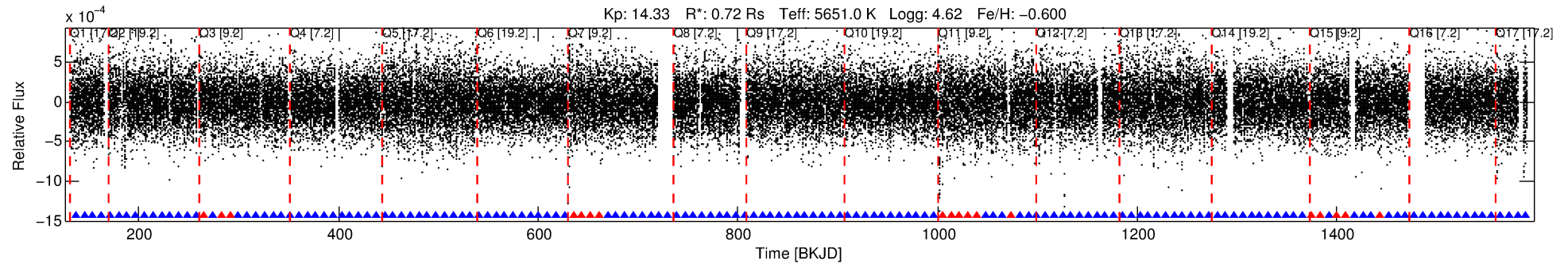
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010533491-01

No Significant Match Found

DV One-Page Summary

KIC: 10533491 Candidate: 1 of 1 Period: 8.594 d



DV Fit Results:

Period = 8.59426 [0.00019] d
Epoch = 136.8377 [0.0167] BKJD
Rp/R* = 0.0073 [0.0020]
a/R* = 2.74 [3.04]
b = 0.85 [0.42]
Seff = 82.72 [21.16]
Teq = 769 [49] K
Rp = 0.58 [0.19] Re
a = 0.0761 [0.0120] AU
Ag = 379.99 [236.96] [1.60 σ]
Teffp = 5249 [773] K [5.79 σ]

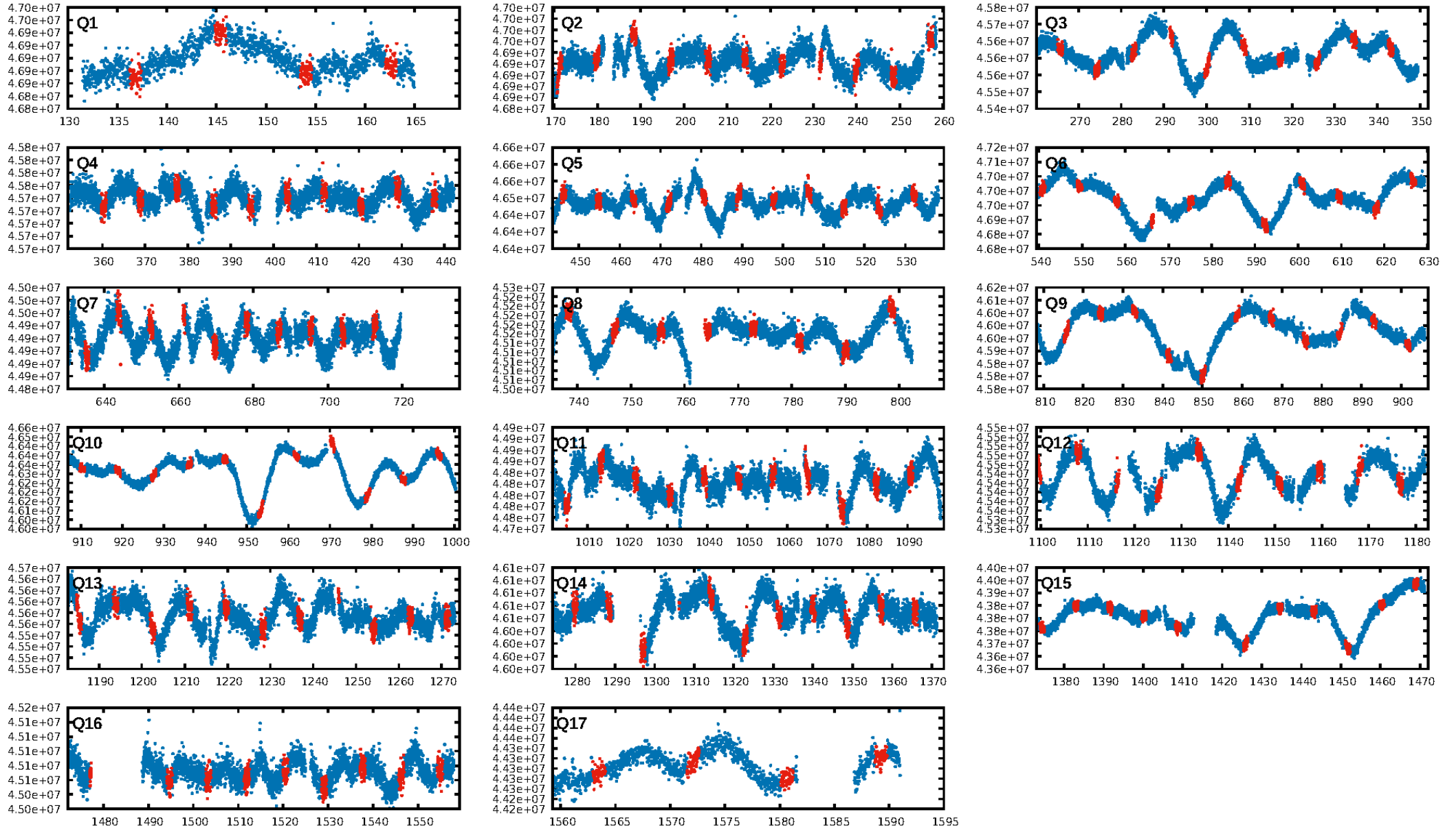
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.95e-12
RollingBand-fgt: 0.88 [135/153]
GhostDiagnostic-chr: 0.9861
Centroid-sig: 8.4%
Centroid-so: 1.721 arcsec [1.24 σ]
OotOffset-rm: 0.321 arcsec [0.37 σ]
KicOffset-rm: 0.304 arcsec [0.40 σ]
OotOffset-st: 3/3/3/1 [10]
KicOffset-st: 3/3/3/1 [10]
DiffImageQuality-fgm: 0.60 [6/10]
DiffImageOverlap-fno: 1.00 [17/17]

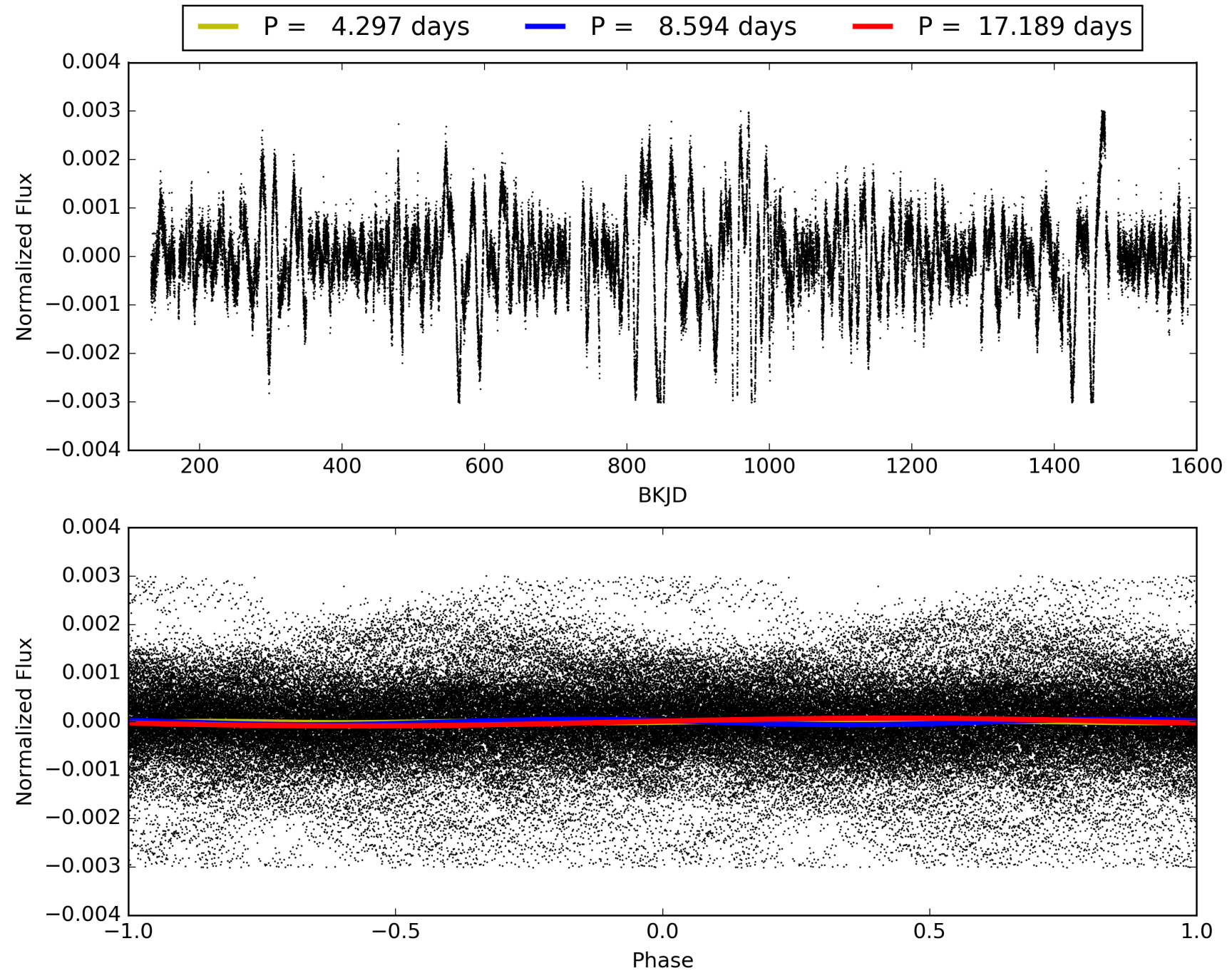
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:24:06 Z

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

TCE 010533491-01, PDC Light Curves

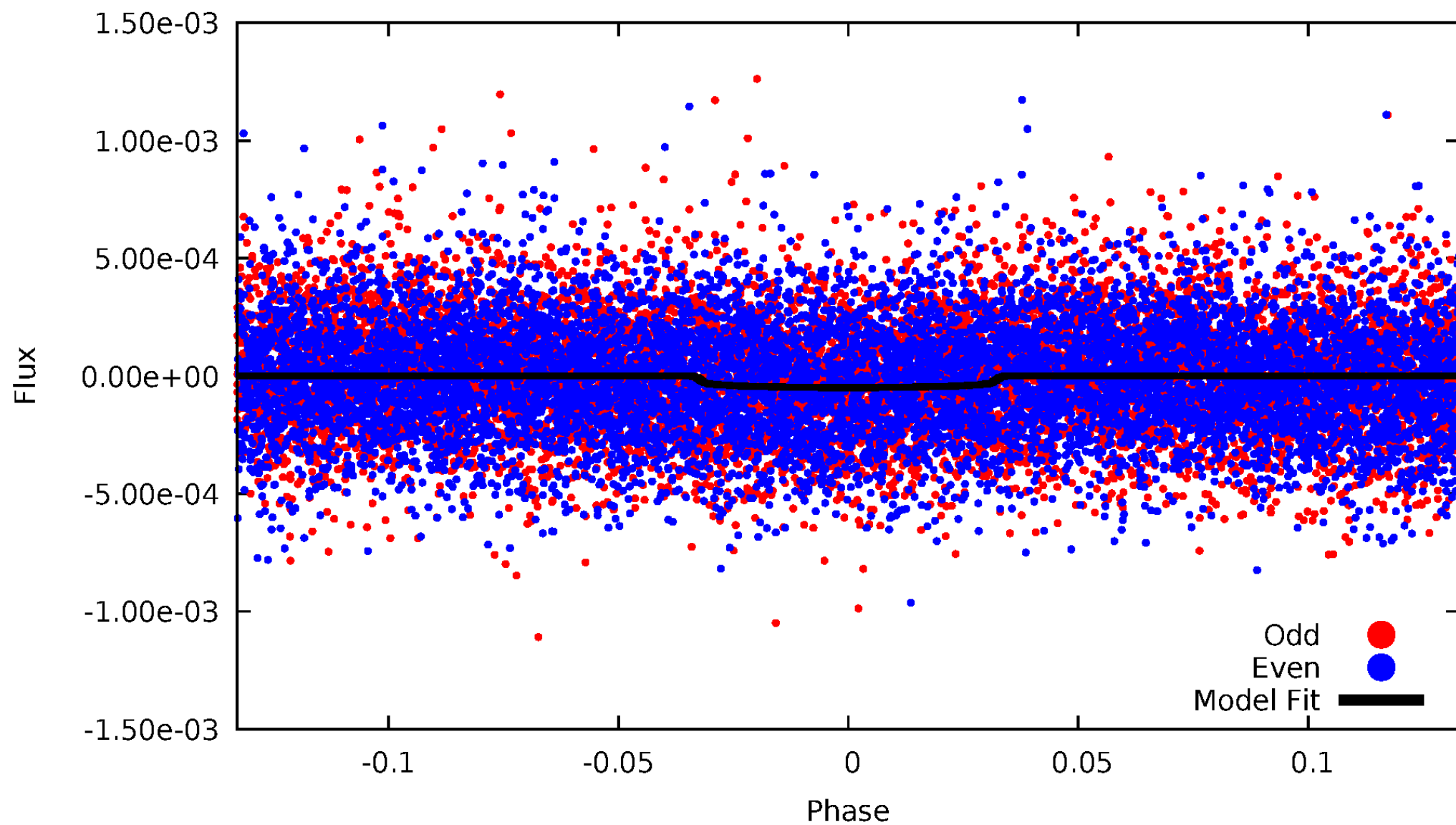


TCE 010533491-01



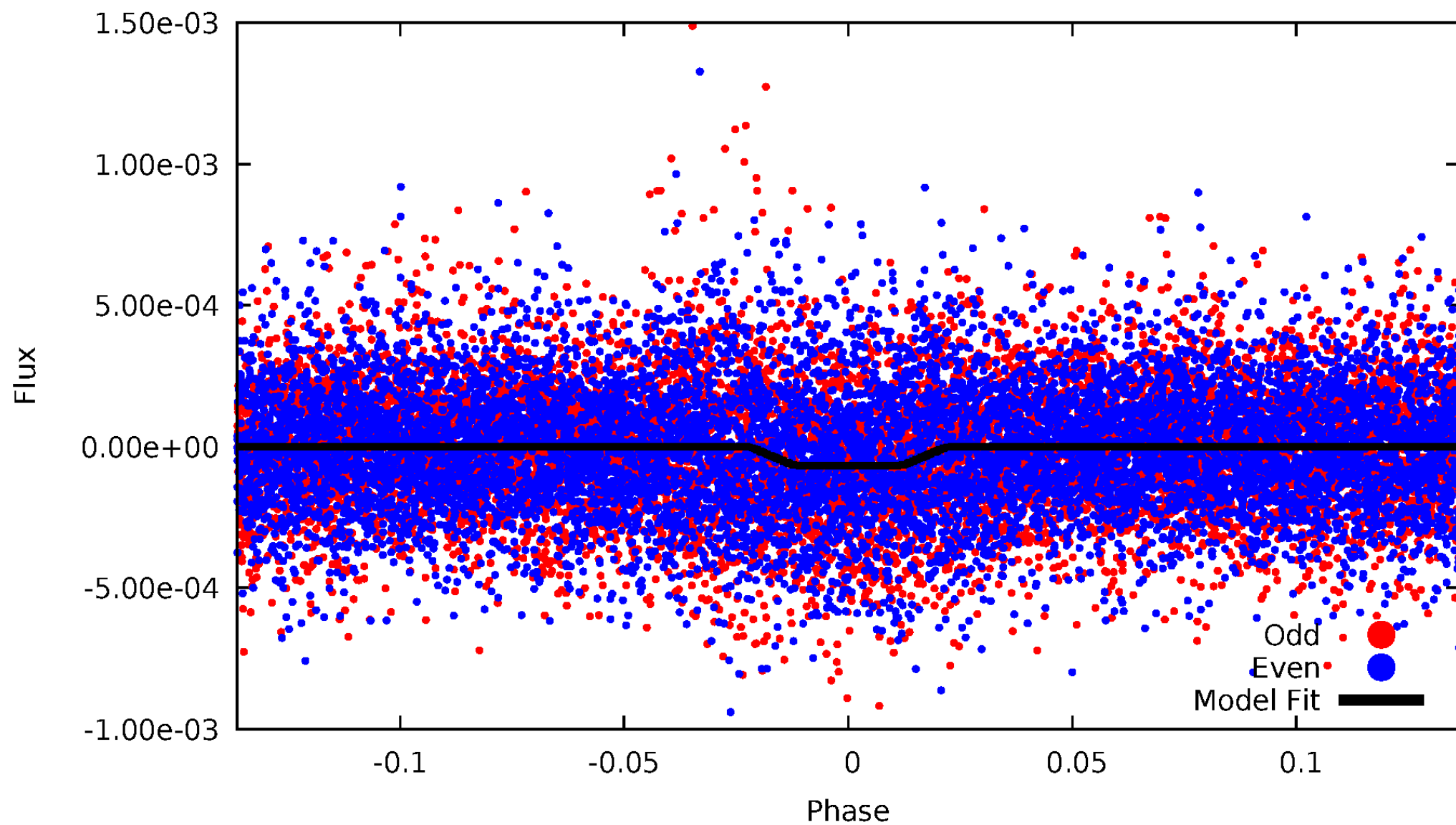
DV Odd/Even

TCE 010533491-01

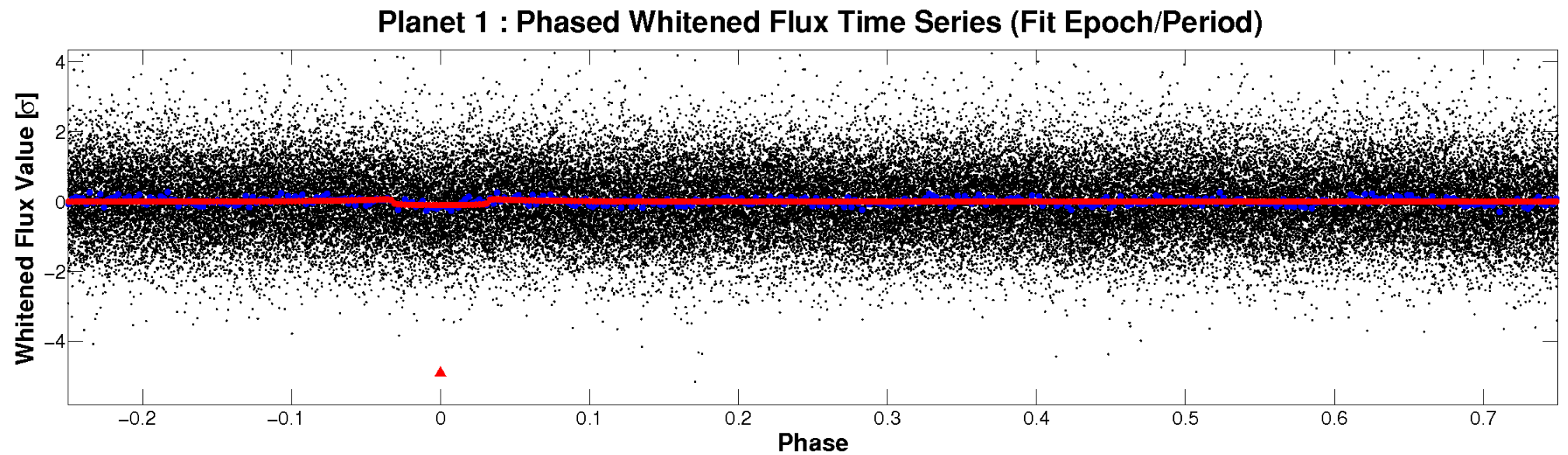
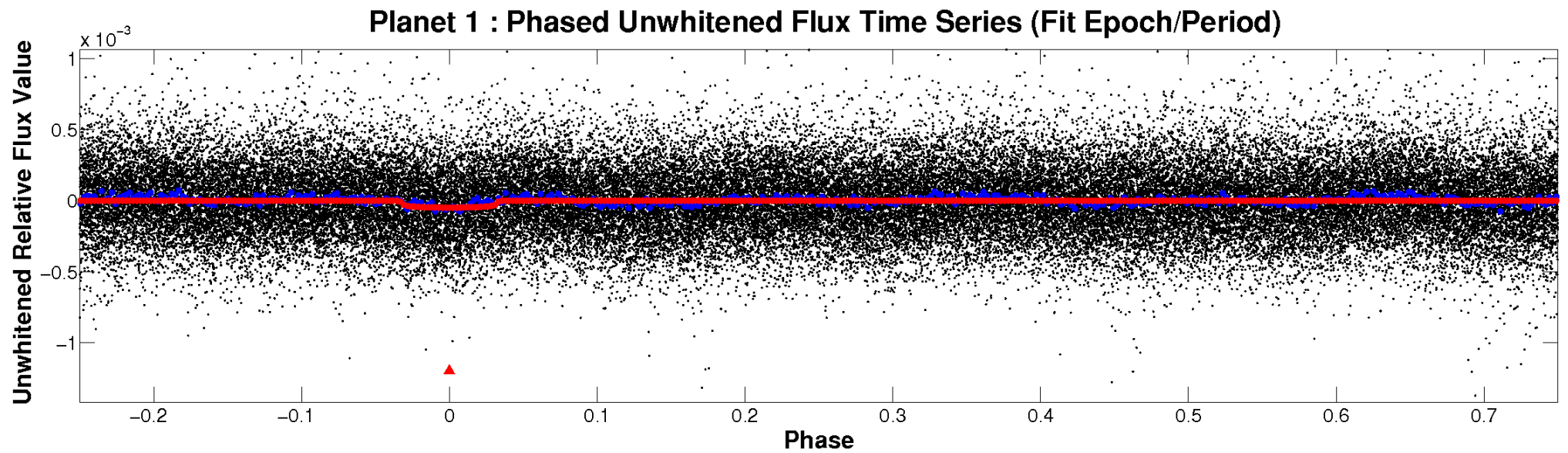


ALT Odd/Even

TCE 010533491-01

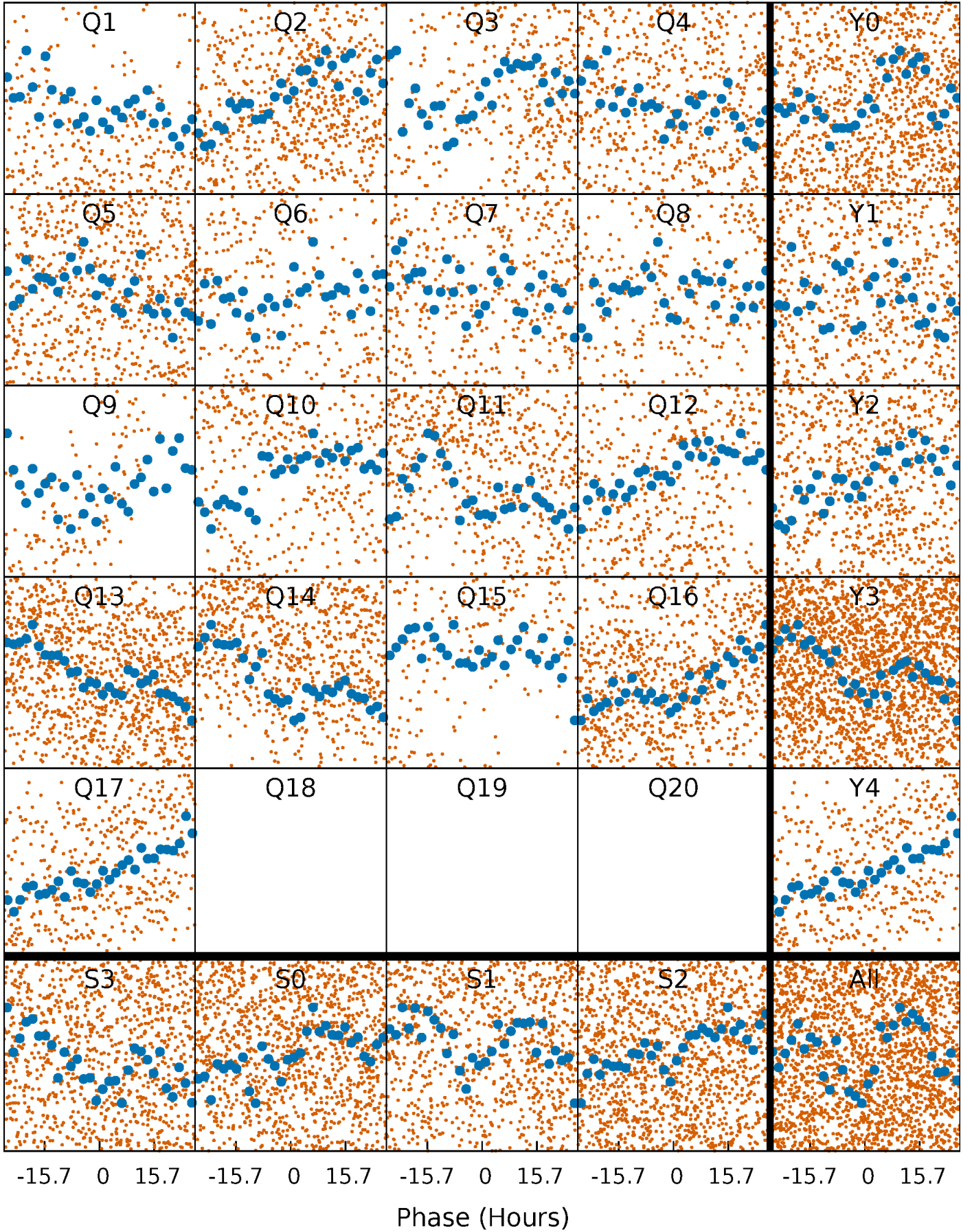


Non-Whitened Vs. Whitened Light Curve



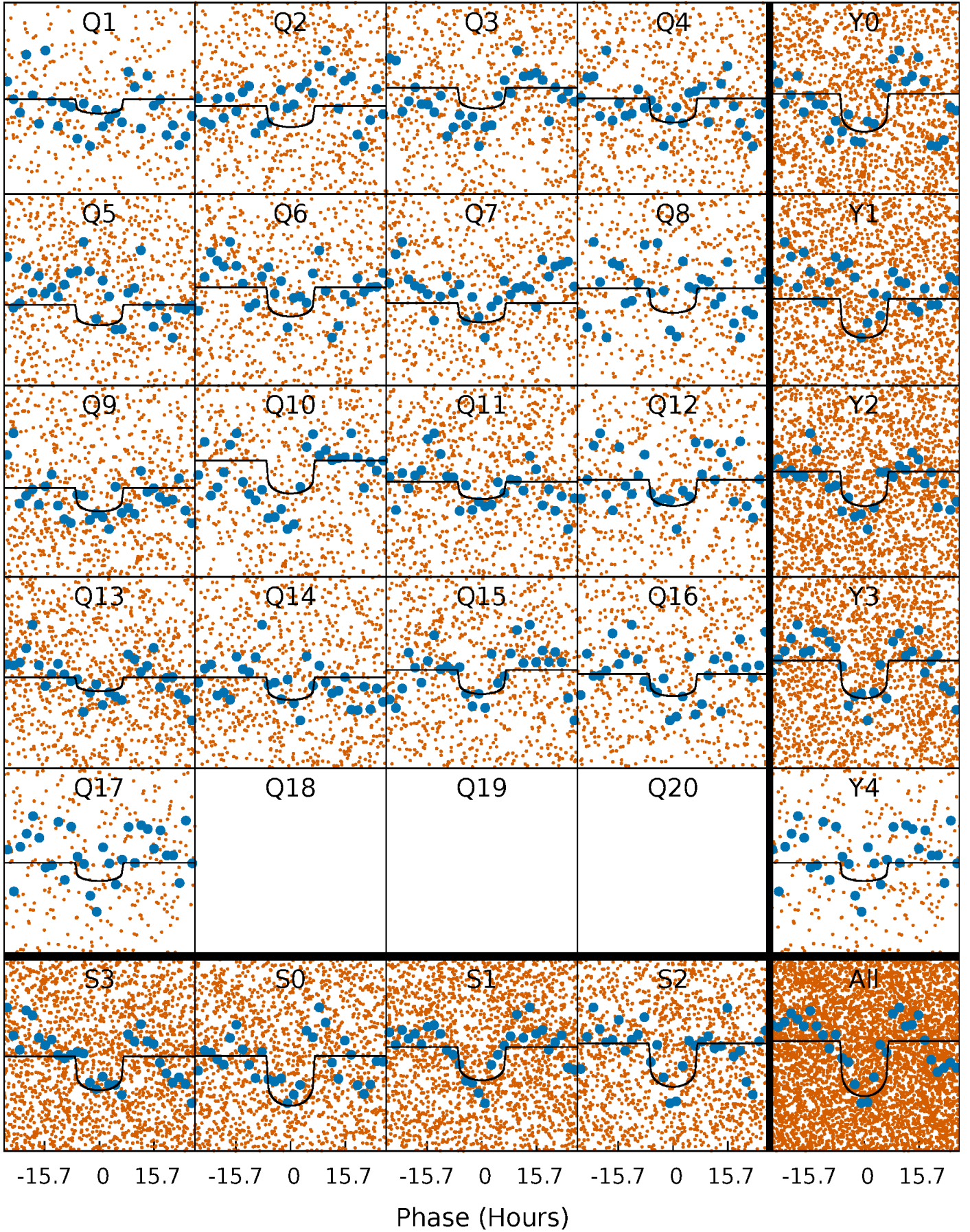
PDC Quarter-Phased Transit Curves

TCE 010533491-01 P= 8.594264 Days $T_0=136.837698$ (BKJD)



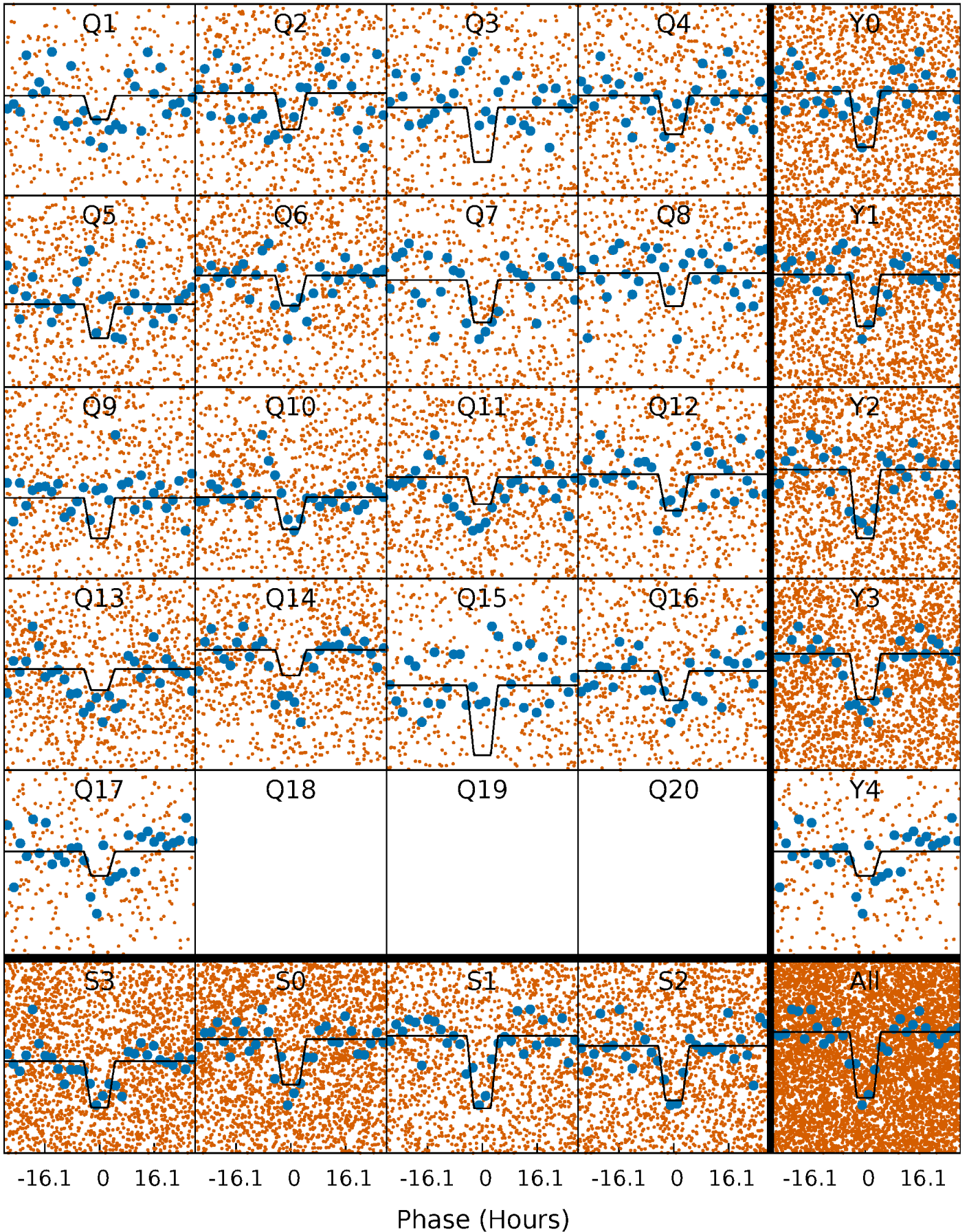
DV Quarter-Phased Transit Curves

TCE 010533491-01 P= 8.594264 Days $T_0=136.837698$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

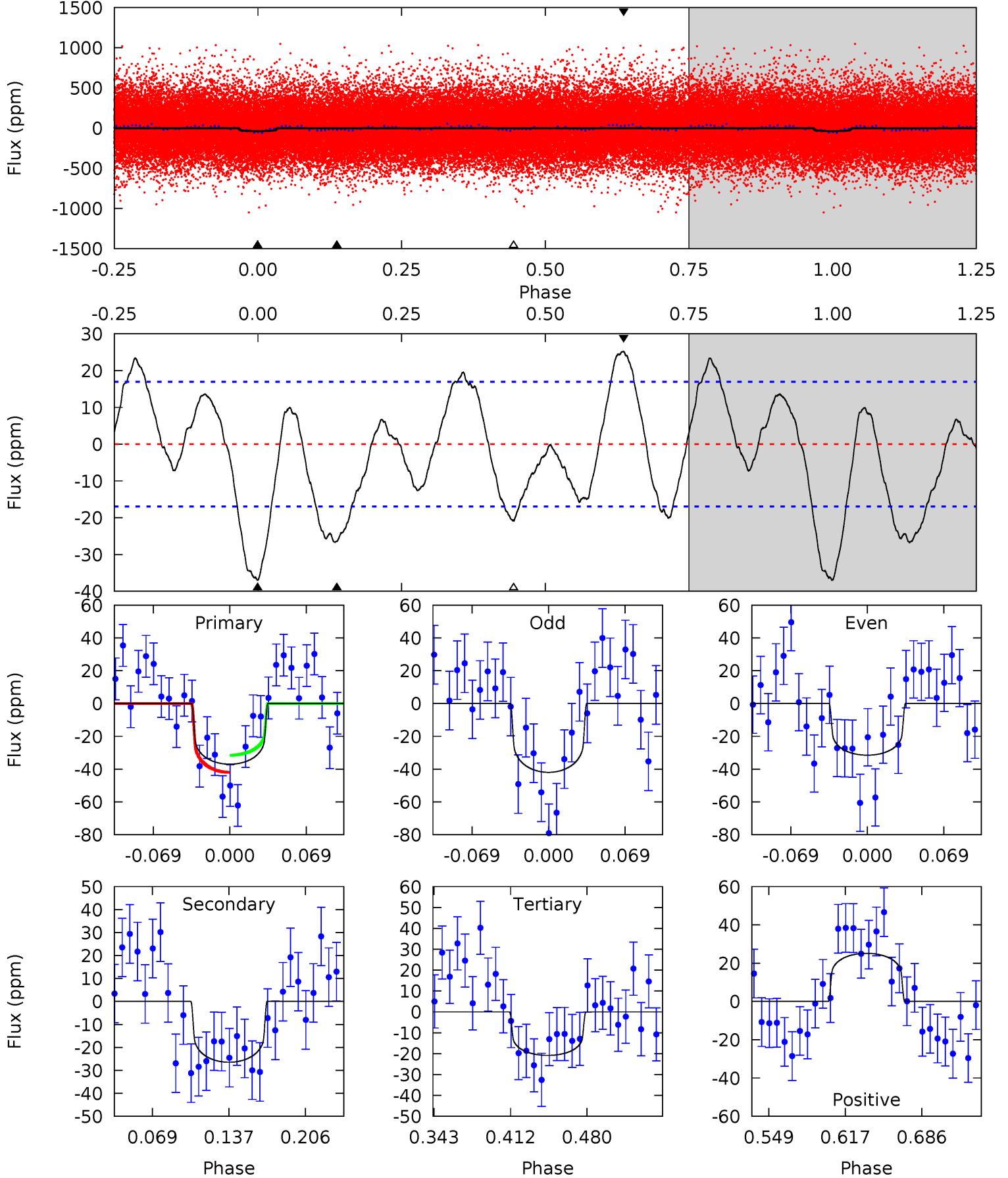
TCE 010533491-01 P= 8.594270 Days $T_0=136.824687$ (BKJD)



DV Model-Shift Uniqueness Test

010533491-01, P = 8.594264 Days, E = 128.243434 Days

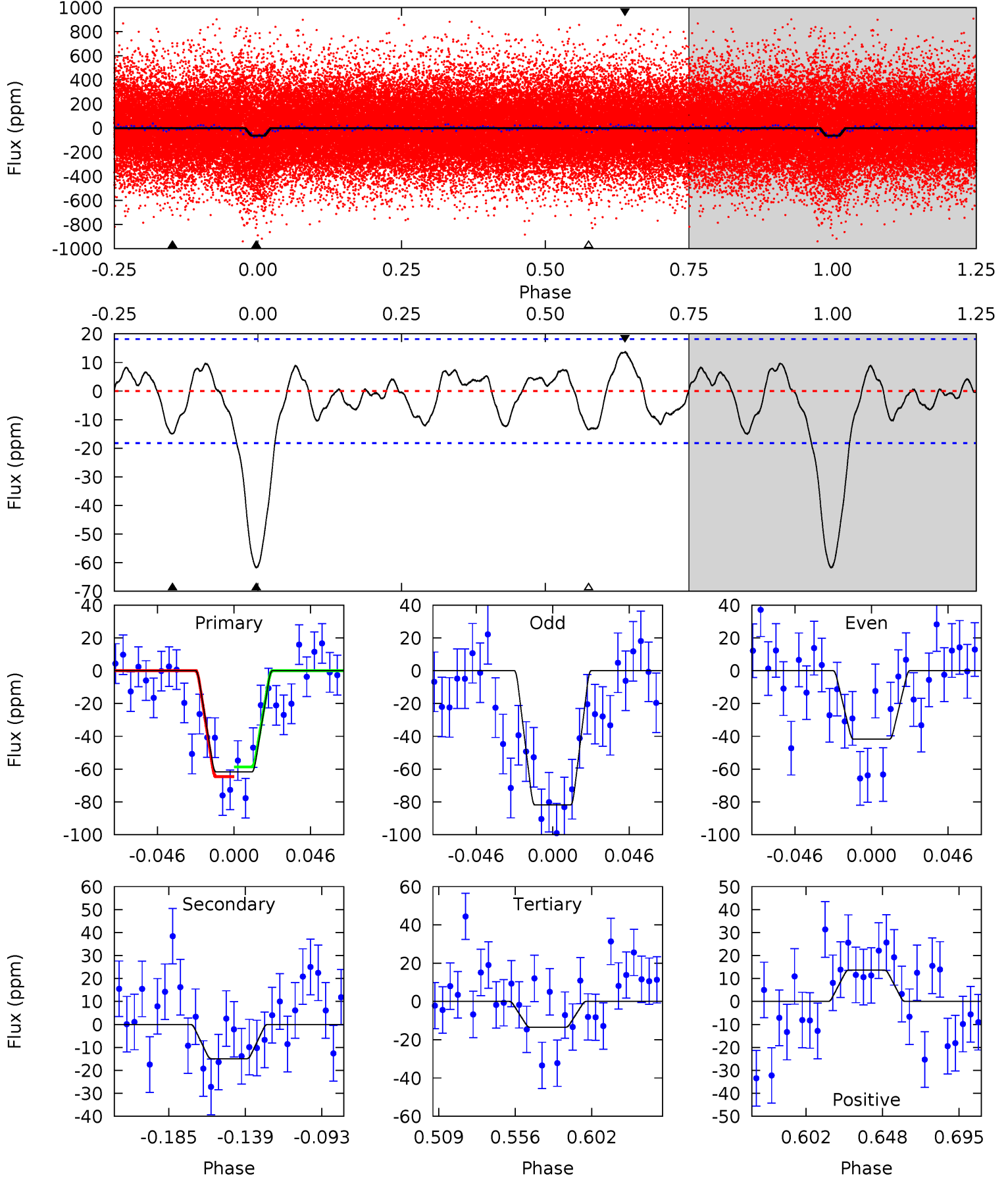
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	7.25	5.71	6.89	4.64	1.82	3.38	4.43	3.25	1.54	0.36	1.44	1.01	0.40	1.44



Alt Model-Shift Uniqueness Test

010533491-01, P = 8.594270 Days, E = 128.230417 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.0	3.87	3.50	3.54	4.72	1.99	1.68	12.5	12.5	0.37	0.33	5.21	0.80	0.18	0.76



Stellar Parameters For KIC 010533491

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5651^{+152}_{-152}	$4.619^{+0.032}_{-0.128}$	$-0.600^{+0.300}_{-0.300}$	$0.724^{+0.134}_{-0.054}$	$0.799^{+0.078}_{-0.078}$	$2.965^{+0.498}_{-1.103}$
	+3%/-3%	+1%/-3%	+50%/-50%	+19%/-7%	+10%/-10%	+17%/-37%
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 010533491-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-26 ± 4	$0.59^{+0.16}_{-0.16}$	1094^{+53}_{-42}	4886^{+733}_{-479}	239^{+234}_{-94}
Alt.	-15 ± 4	$0.68^{+0.15}_{-0.16}$	1091^{+47}_{-40}	4102^{+469}_{-341}	98^{+80}_{-38}

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 $A_{obs} \gg 1.0$

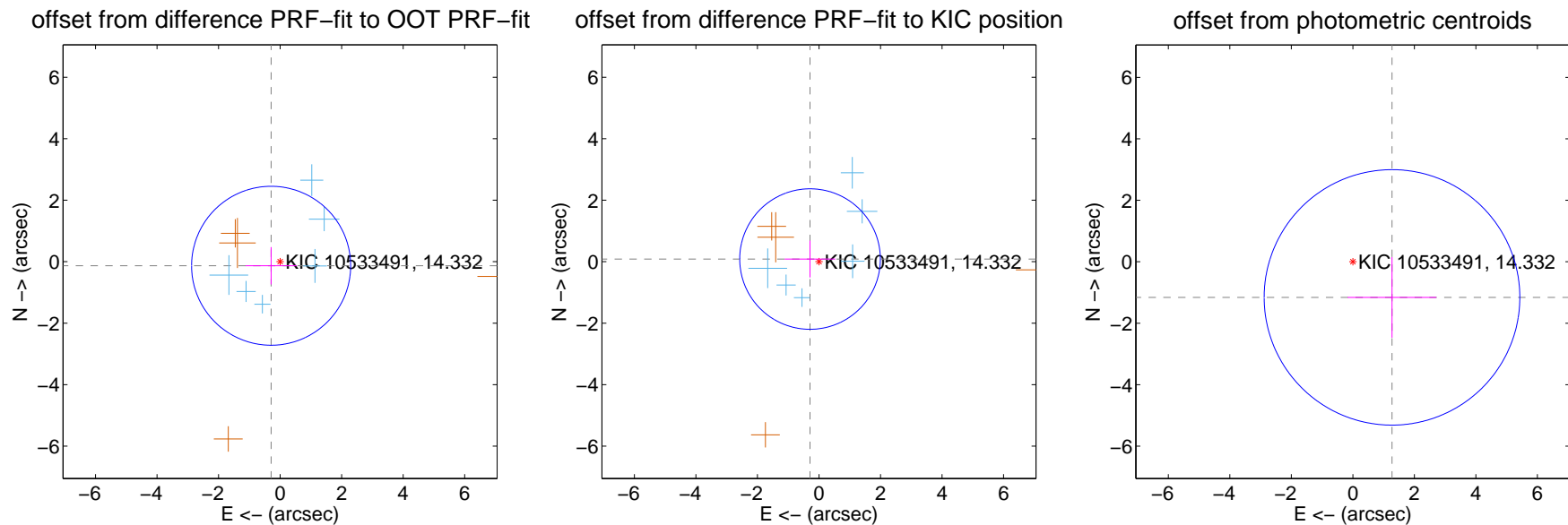
DV Centroid Data

Supplemental centroid analysis for 010533491-01. Kepler magnitude: 14.33. Transit SNR 6.71

There are 6 quarters with good PRF difference image offsets

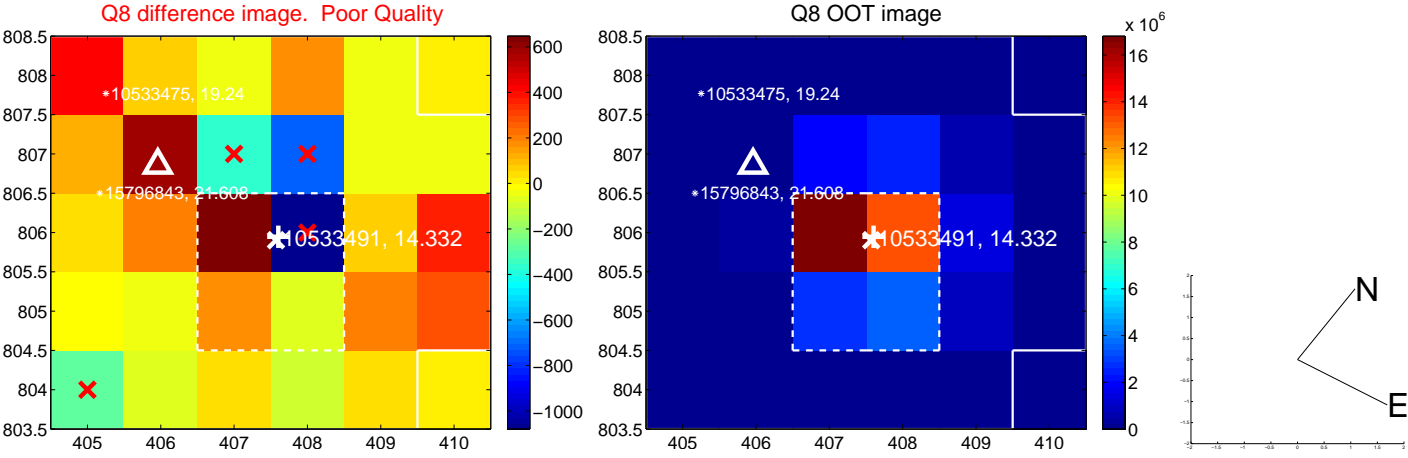
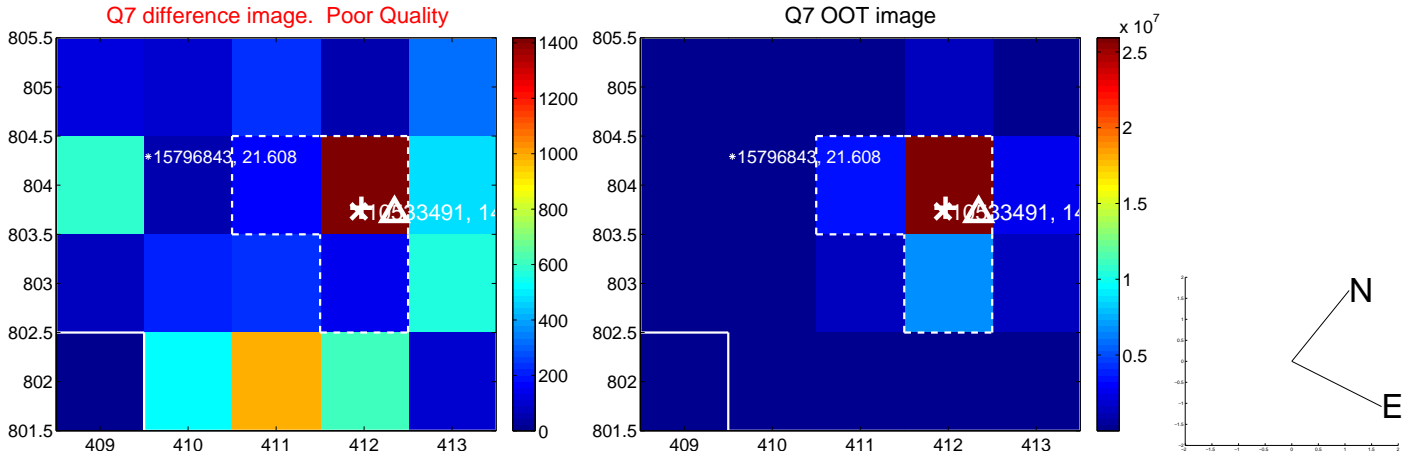
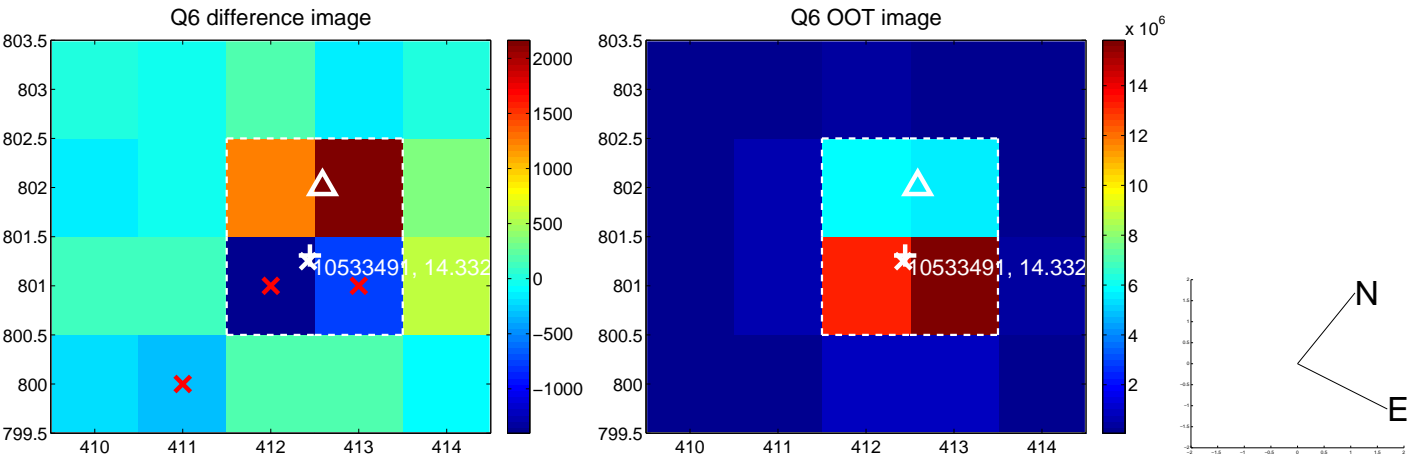
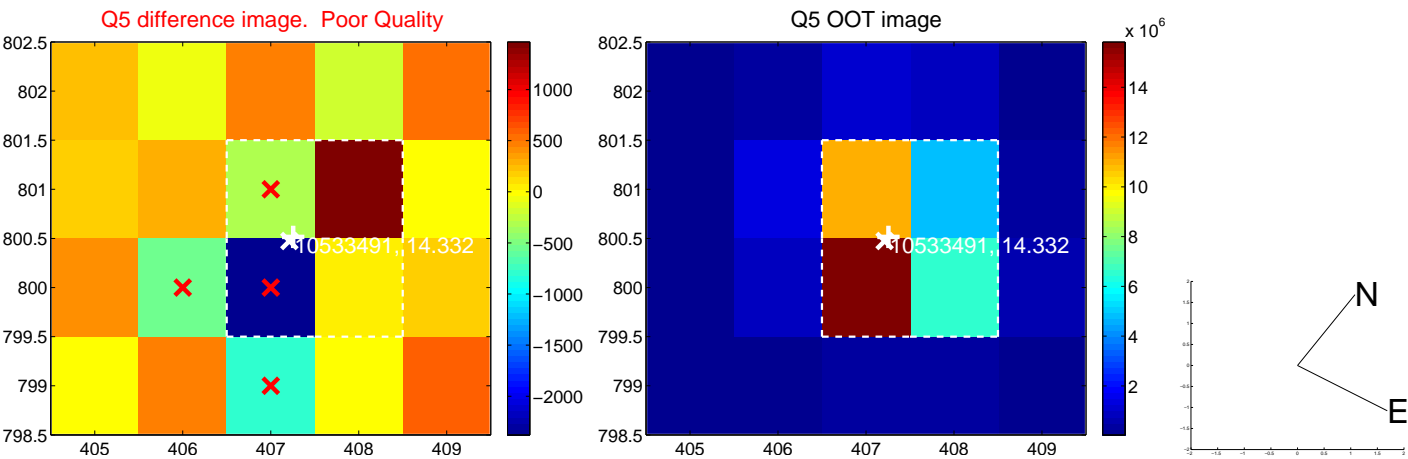
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.321 ± 0.862	0.37	0.292 ± 0.832	-0.132 ± 0.609
PRF-fit source offset from KIC position	0.304 ± 0.762	0.40	0.291 ± 0.824	0.086 ± 0.600
photometric centroid source offset	1.72 ± 1.39	1.24	-1.27 ± 1.44	-1.16 ± 1.31

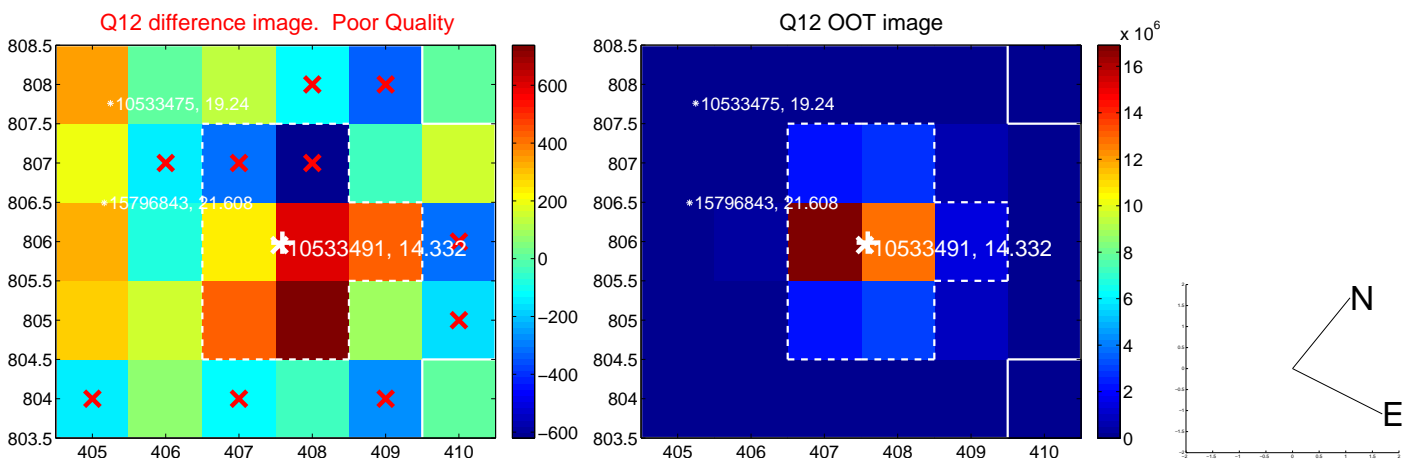
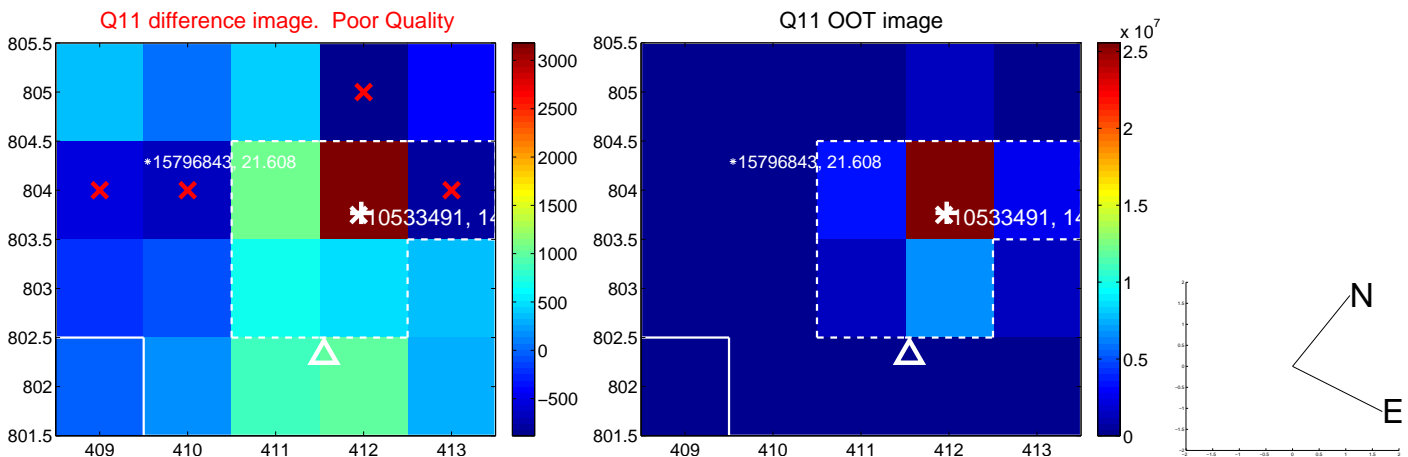
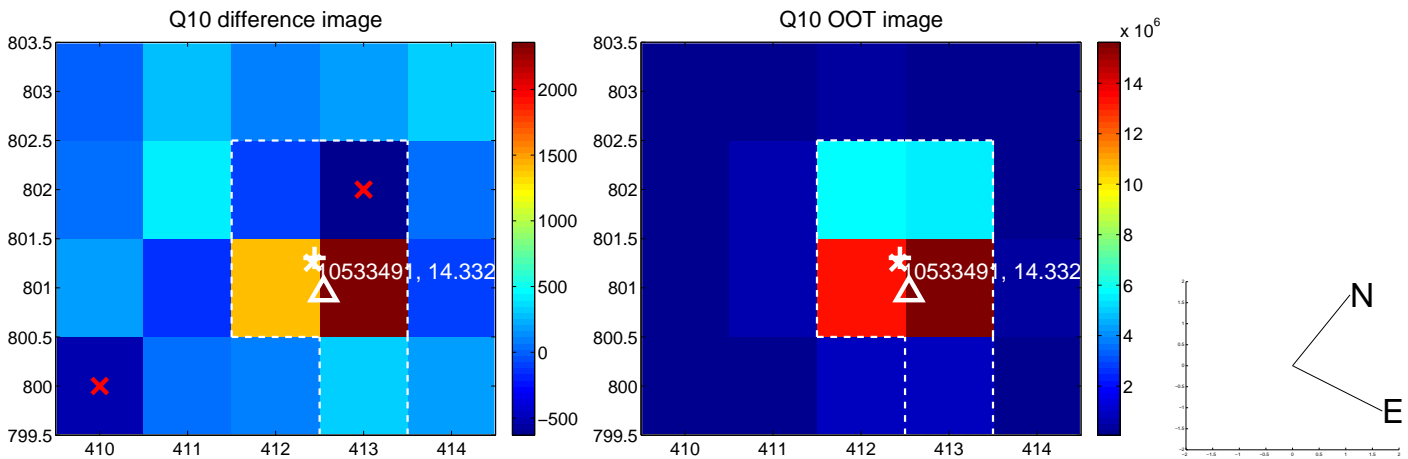
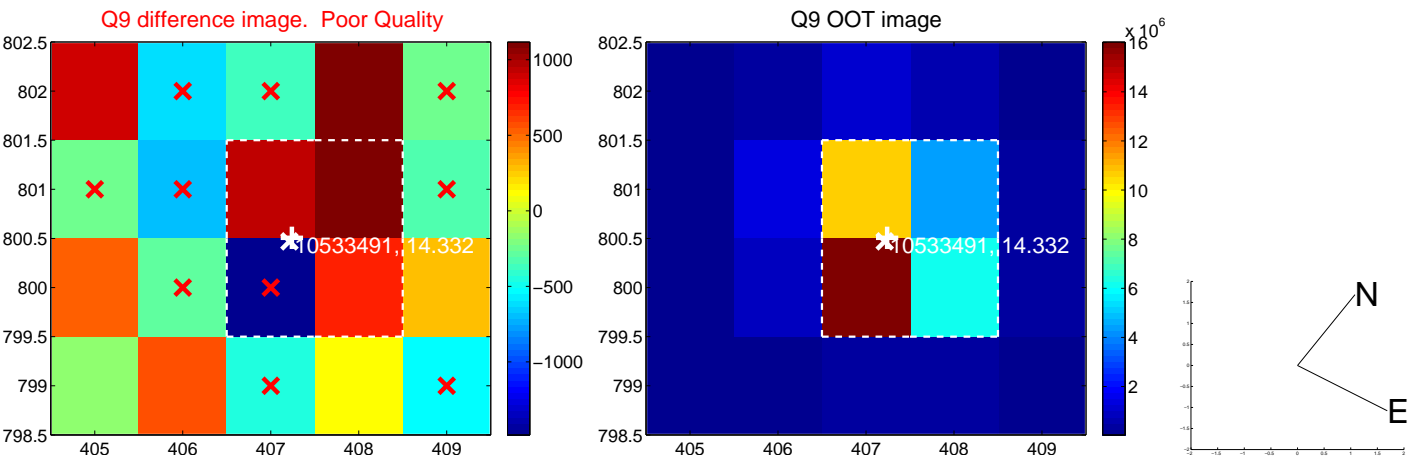


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

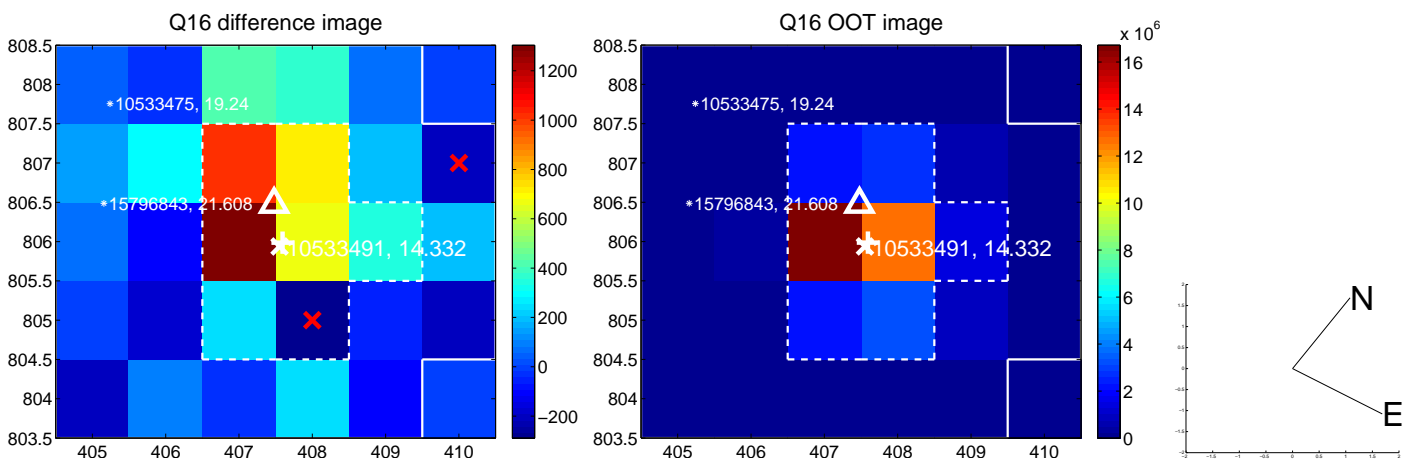
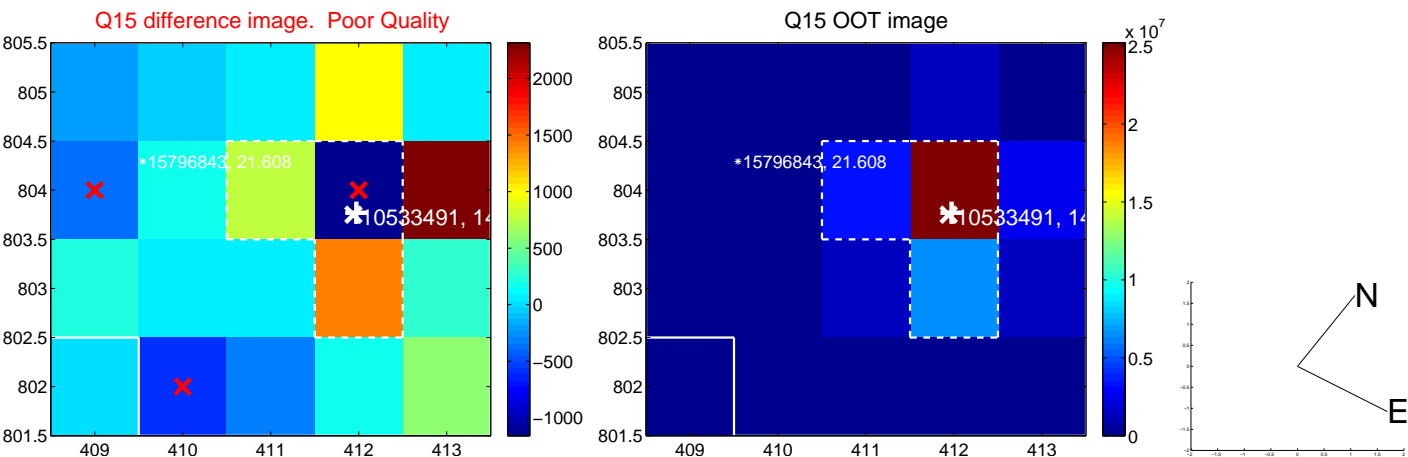
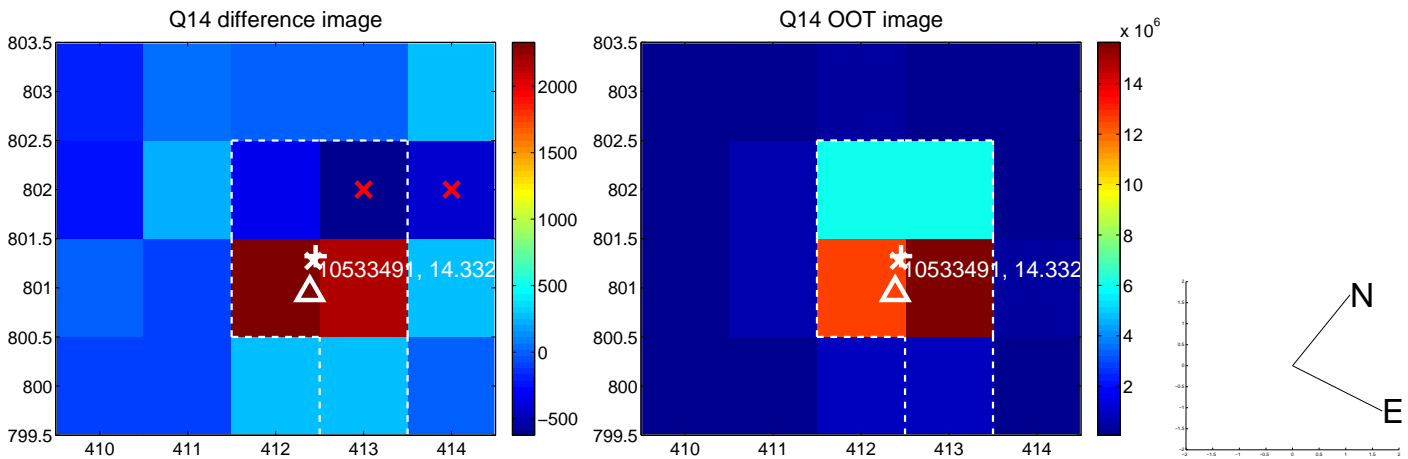
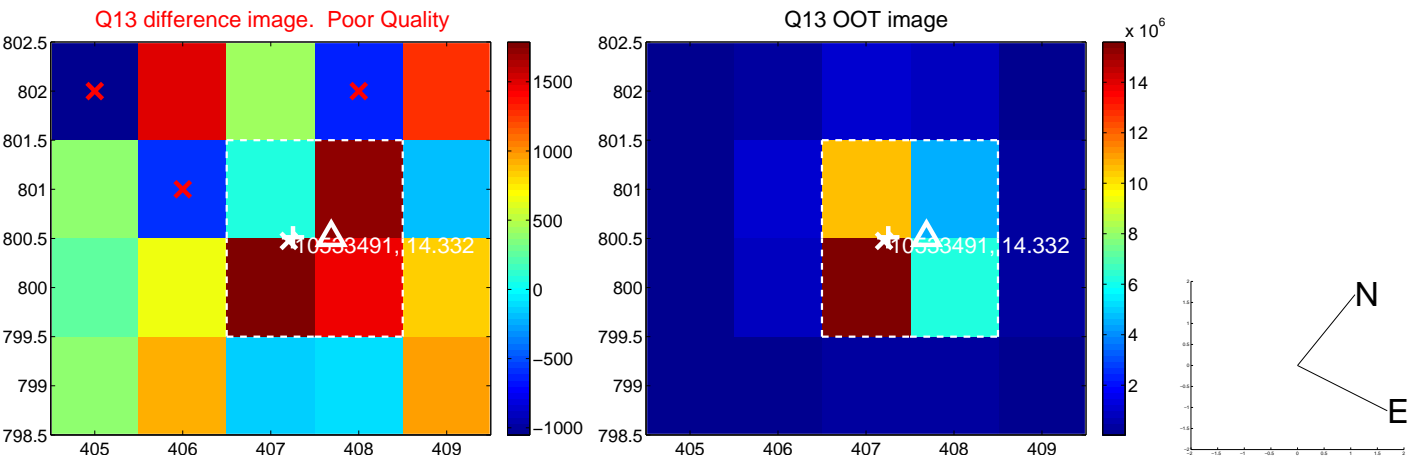
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



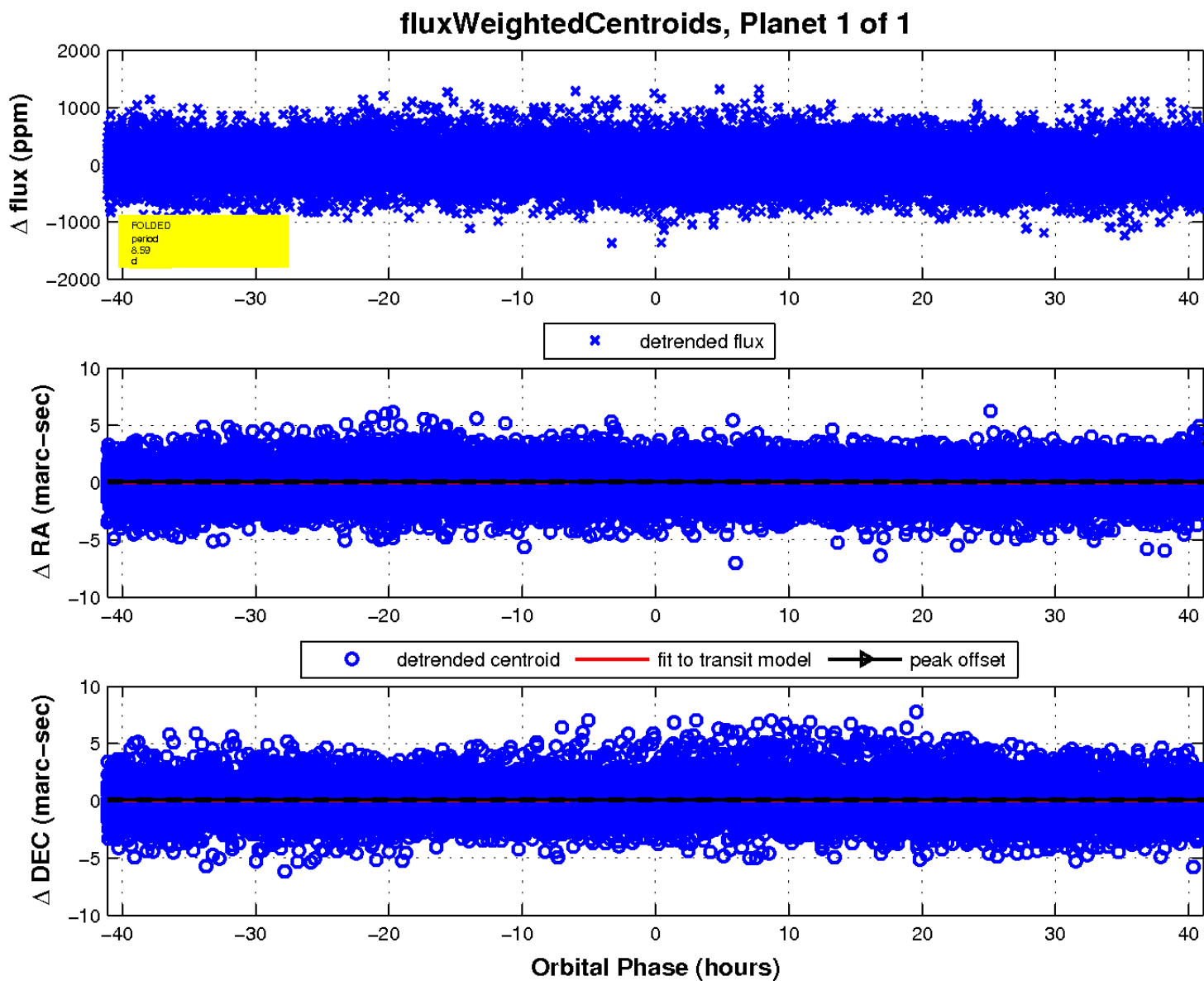
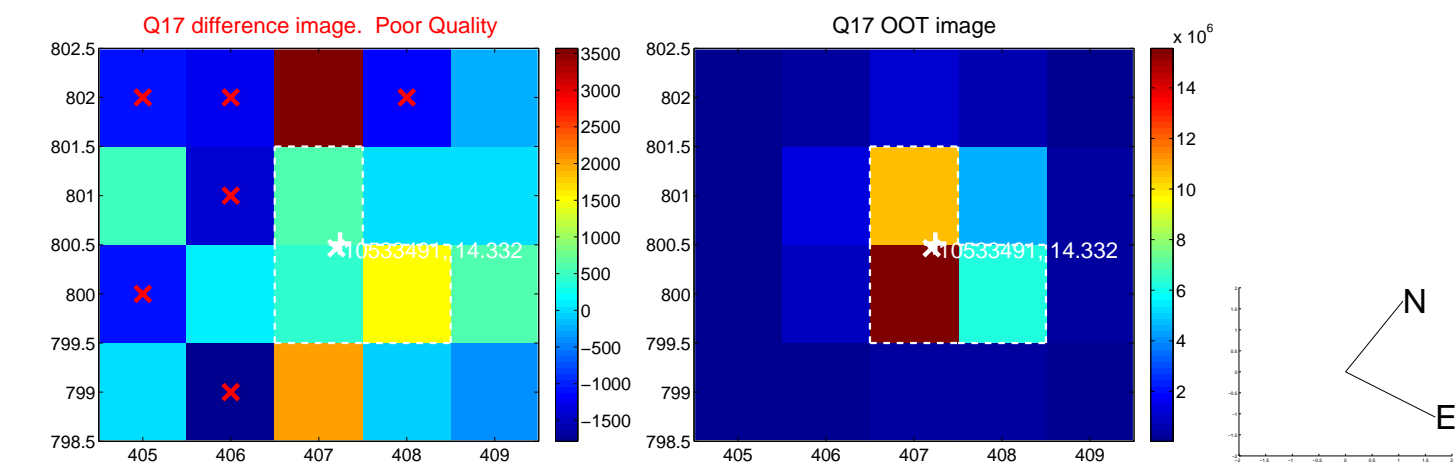
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



UKIRT Image

Declination

