

KIC 008027591

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})
008027591-01	OBS	No	24.277188	138.148045	290.0	36.154	16.4	24.7	2.28	6279	7.70	215.31

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008027591-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED

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

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

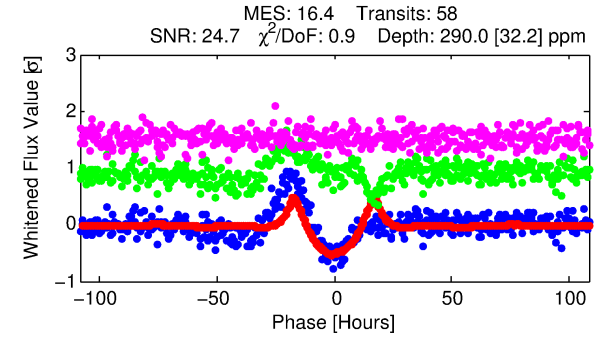
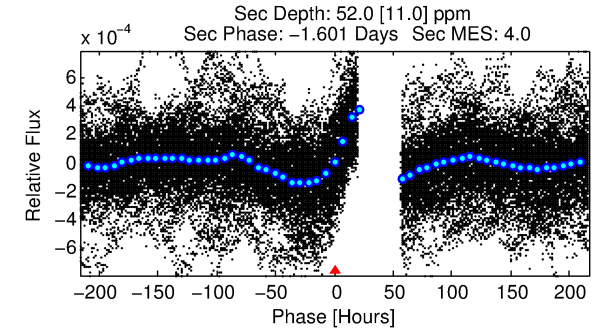
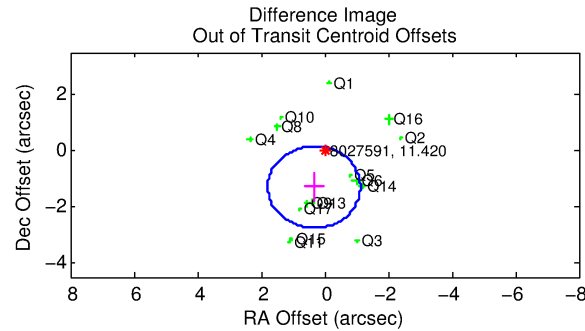
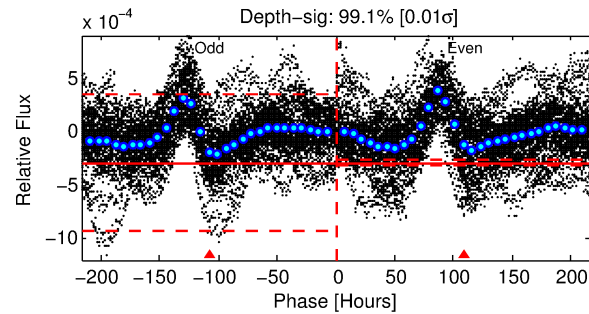
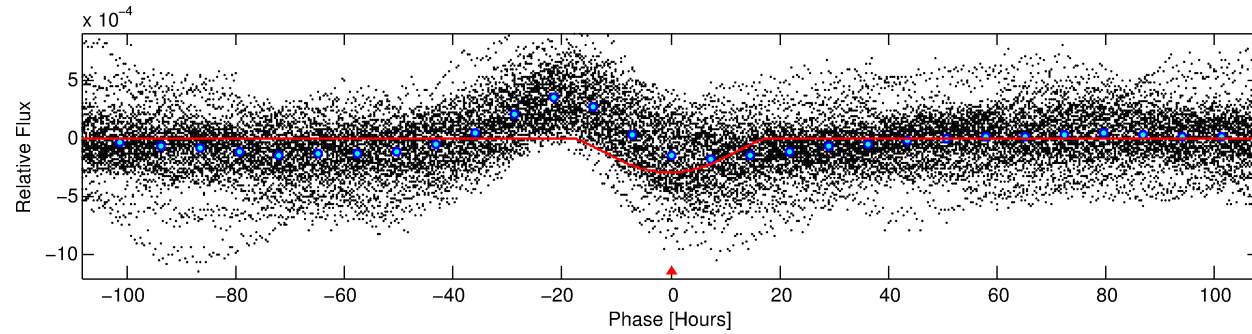
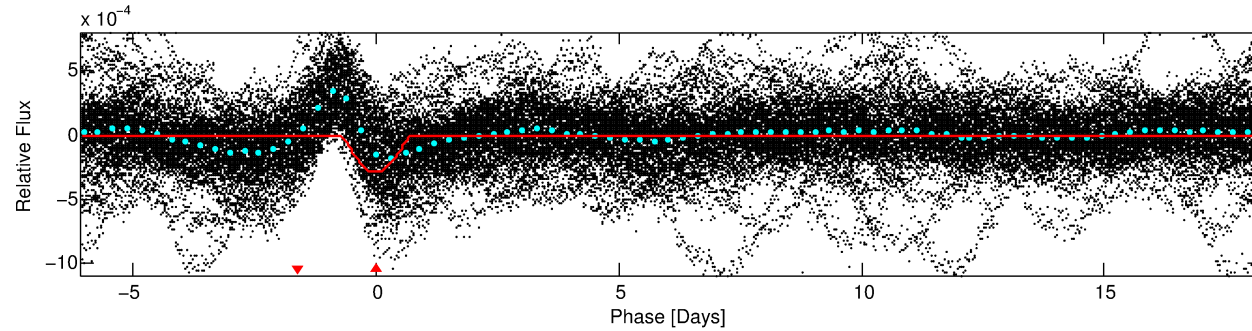
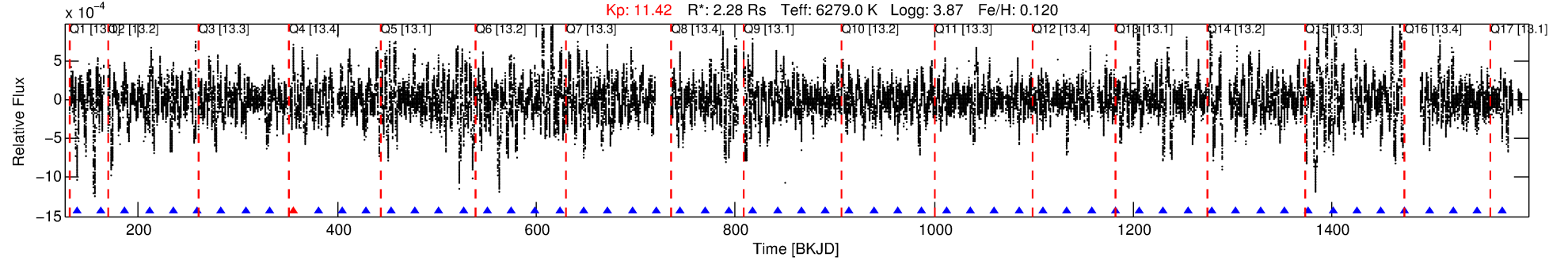
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008027591-01

No Significant Match Found

DV One-Page Summary

KIC: 8027591 Candidate: 1 of 1 Period: 24.277 d



DV Fit Results:

Period = 24.27719 [0.00050] d
Epoch = 138.1480 [0.0169] BKJD
Rp/R* = 0.0309 [0.0097]
a/R* = 1.64 [0.07]
b = 1.00 [0.02]
Seff = 215.31 [151.82]
Teq = 977 [172] K
Rp = 7.70 [3.99] Re
a = 0.1835 [0.0770] AU
Ag = 16.25 [15.54] [0.98σ]
Teffp = 3032 [513] K [3.80σ]

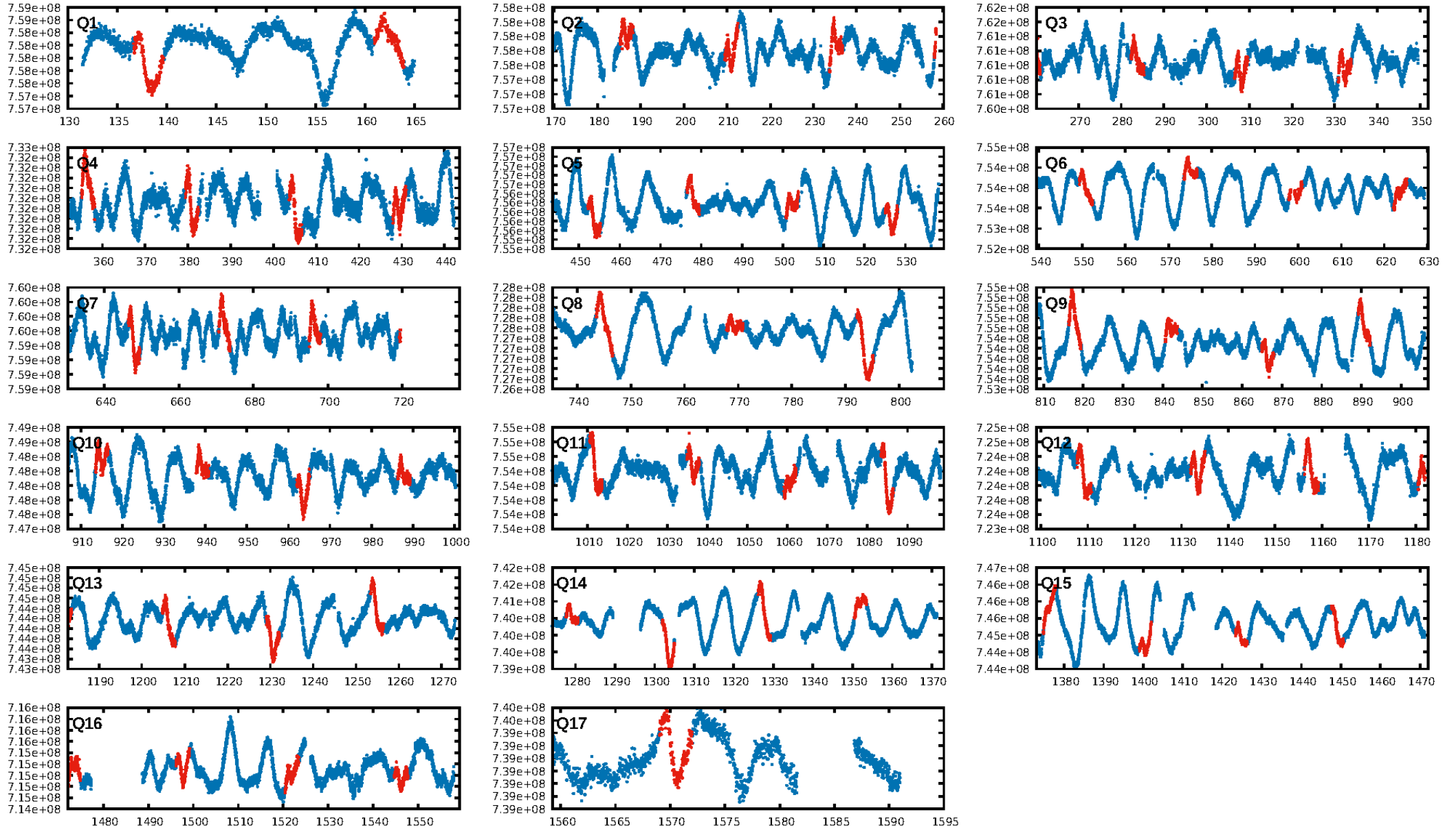
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 26.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.29e-52
RollingBand-fgt: 0.98 [54/55]
GhostDiagnostic-chr: 29.43
Centroid-sig: 37.5%
Centroid-so: 0.130 arcsec [1.14σ]
OotOffset-rm: 1.339 arcsec [2.76σ]
KicOffset-rm: 1.397 arcsec [2.92σ]
OotOffset-st: 4/3/3/5 [15]
KicOffset-st: 4/3/3/5 [15]
DiffImageQuality-fgm: 0.67 [10/15]
DiffImageOverlap-fno: 1.00 [16/16]

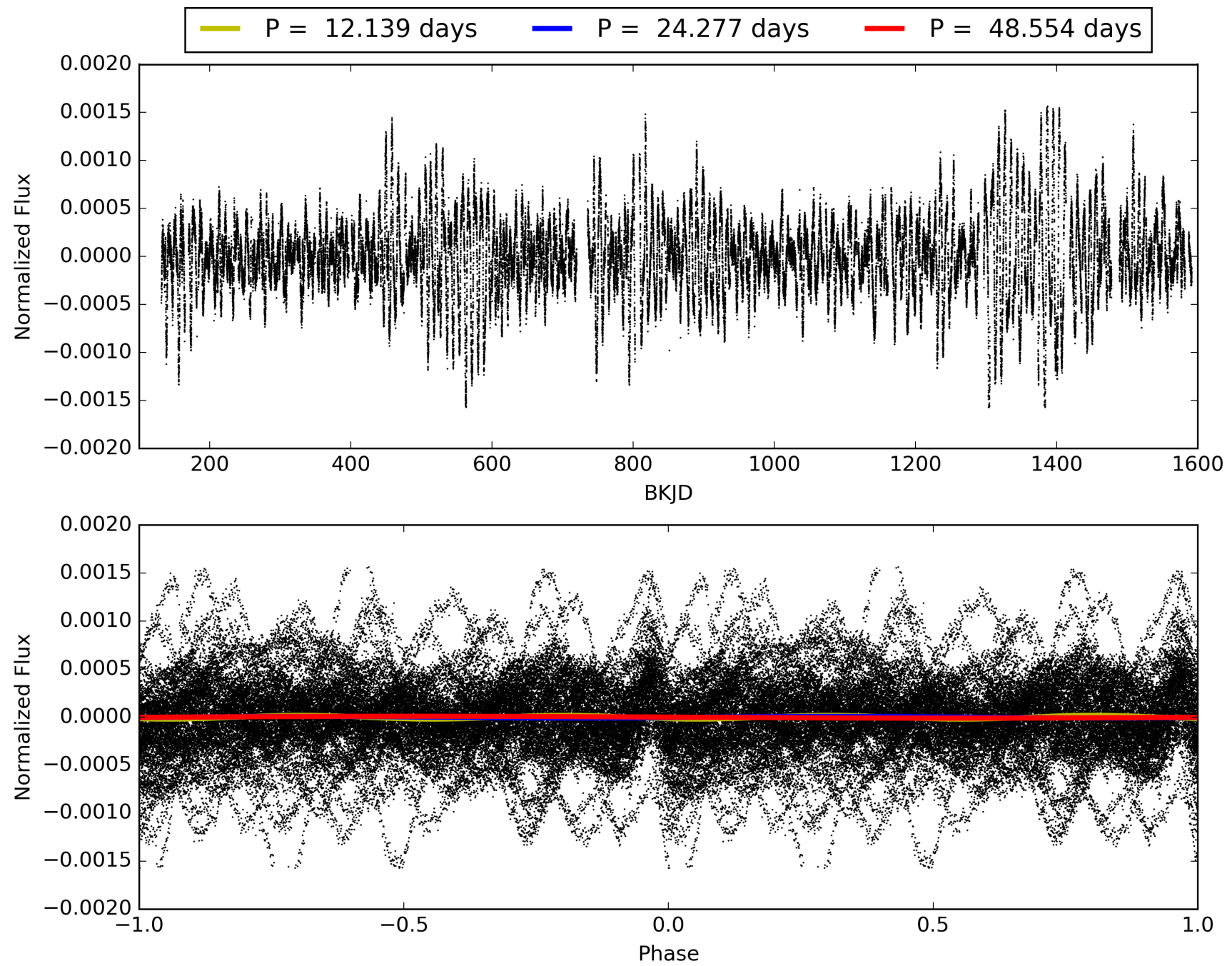
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:36:25 Z

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

TCE 008027591-01, PDC Light Curves

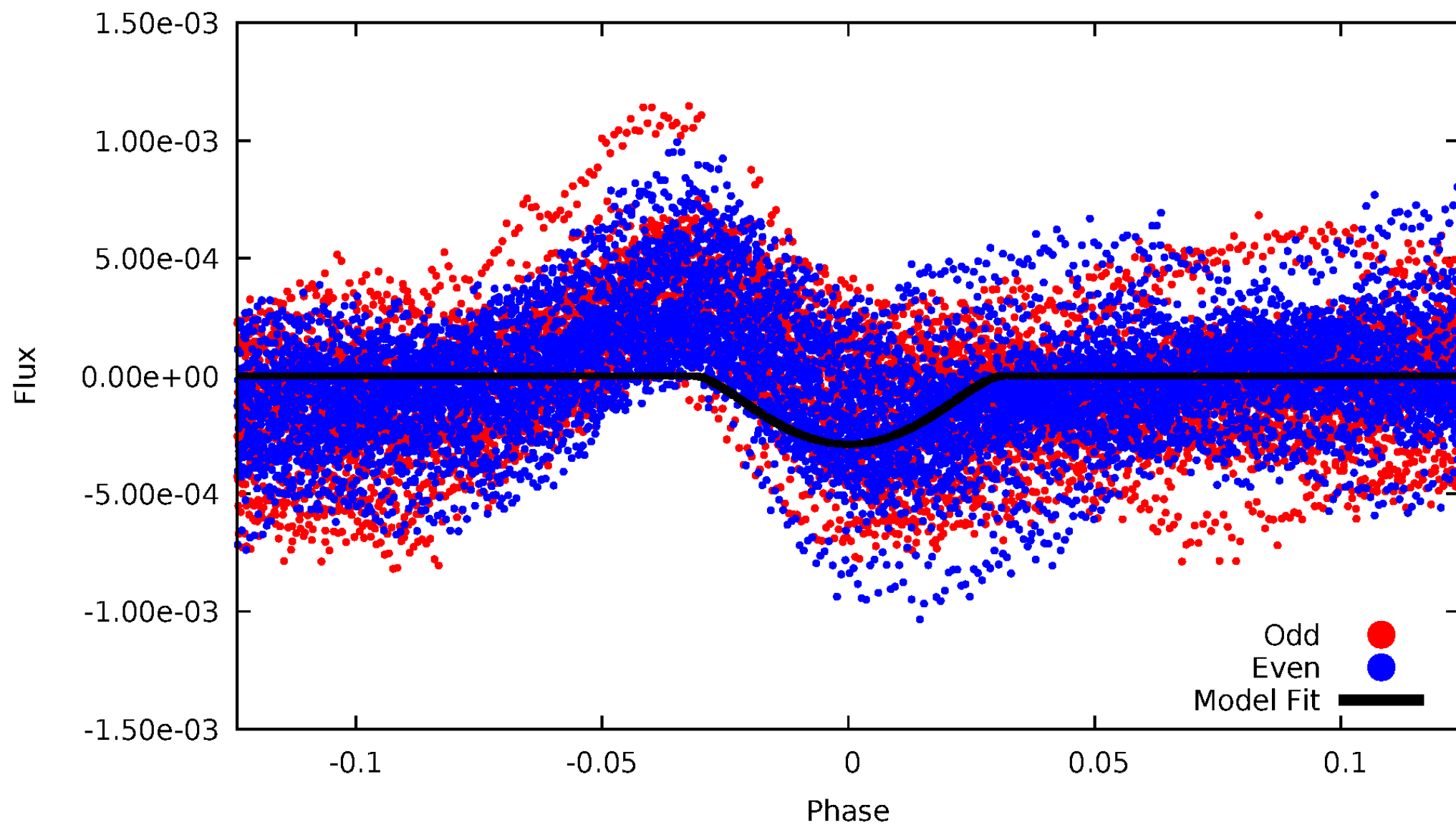


TCE 008027591-01



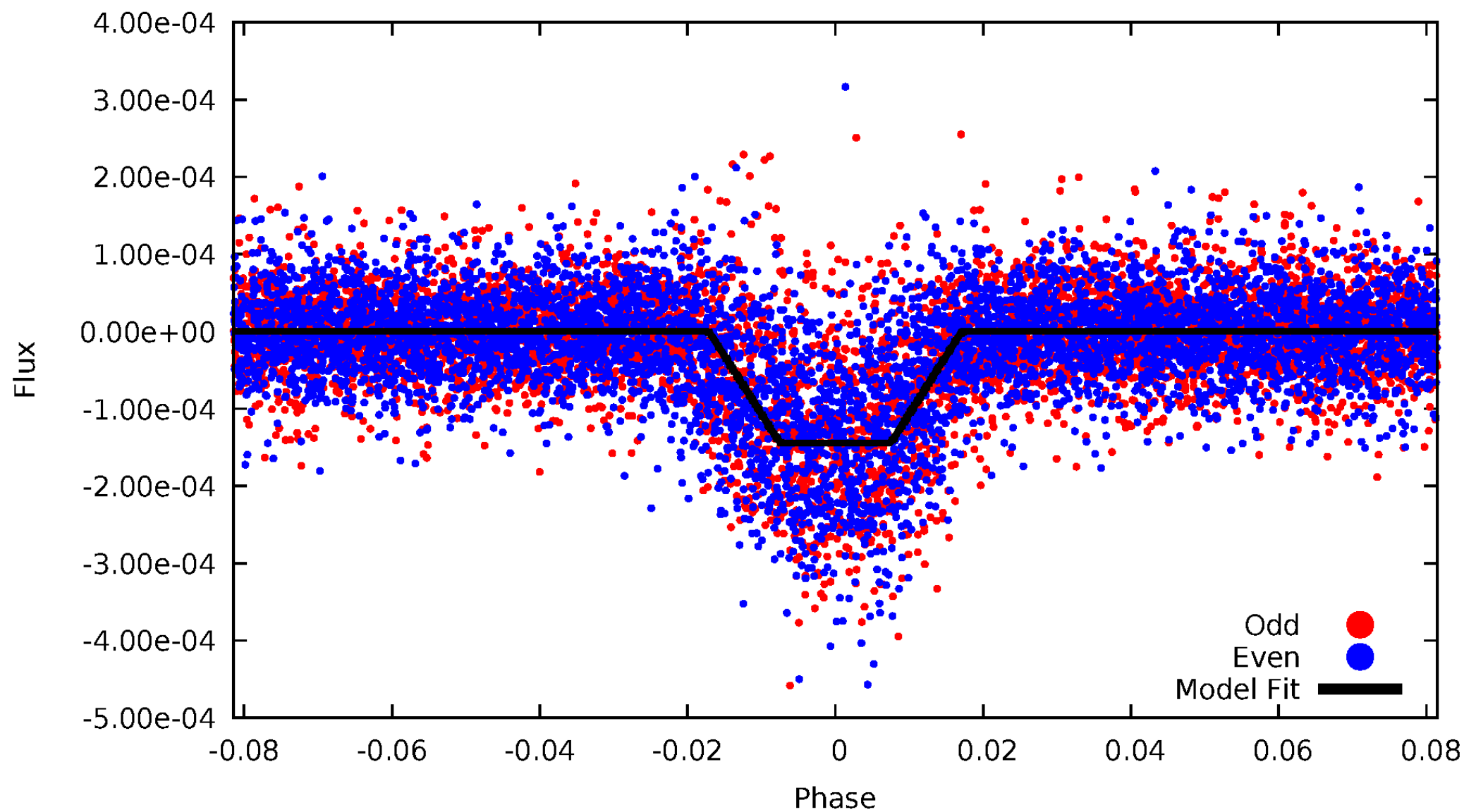
DV Odd/Even

TCE 008027591-01

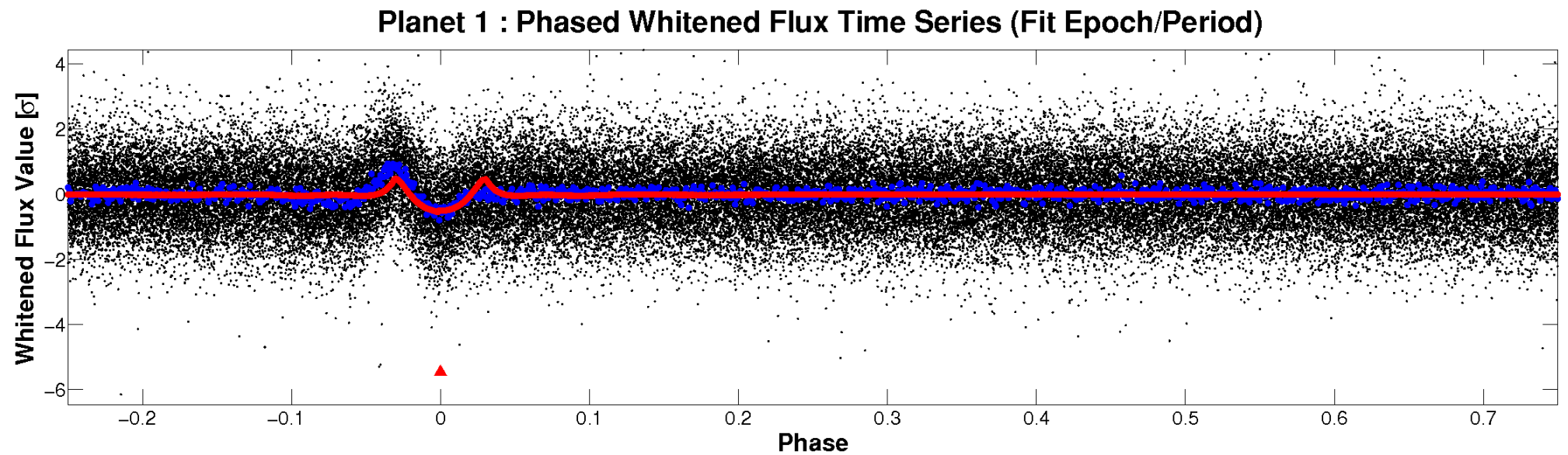
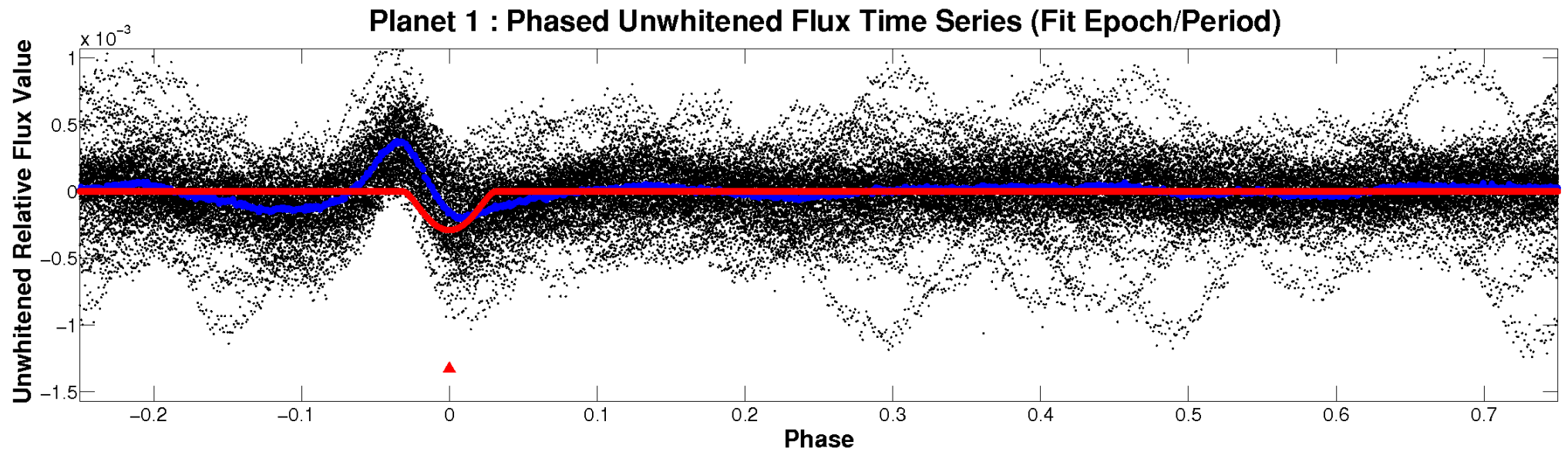


ALT Odd/Even

TCE 008027591-01

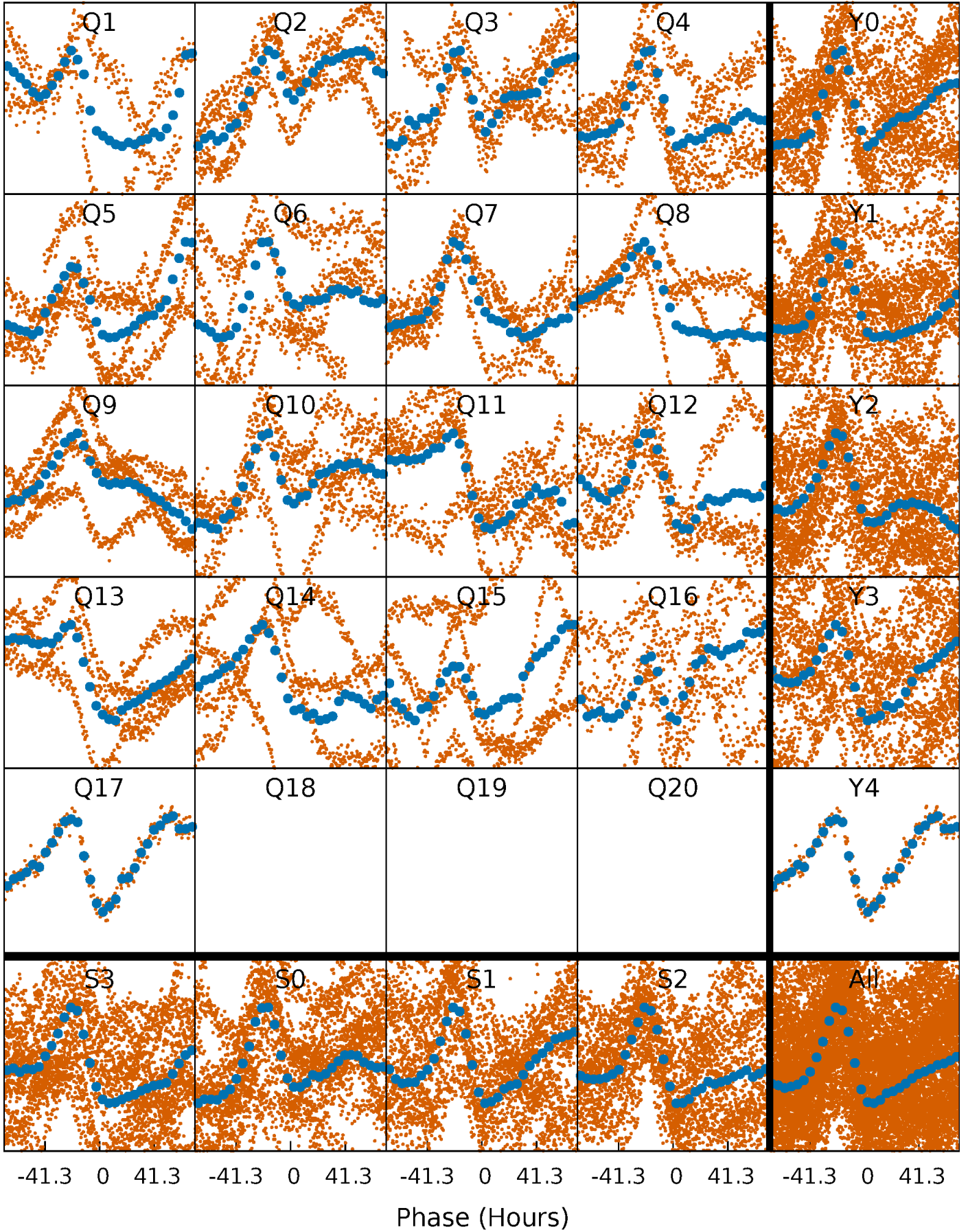


Non-Whitened Vs. Whitened Light Curve



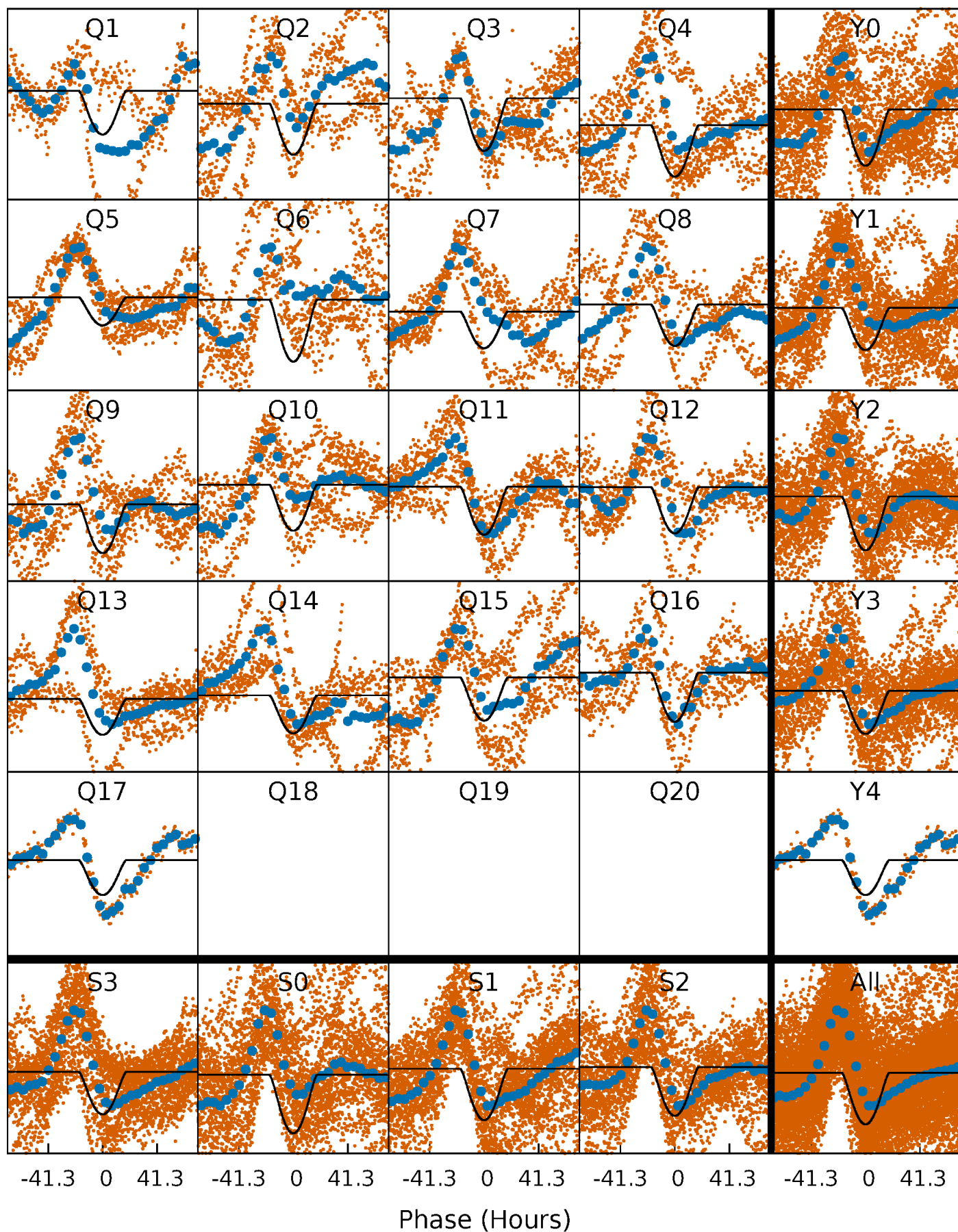
PDC Quarter-Phased Transit Curves

TCE 008027591-01 P= 24.277188 Days $T_0=138.148045$ (BKJD)



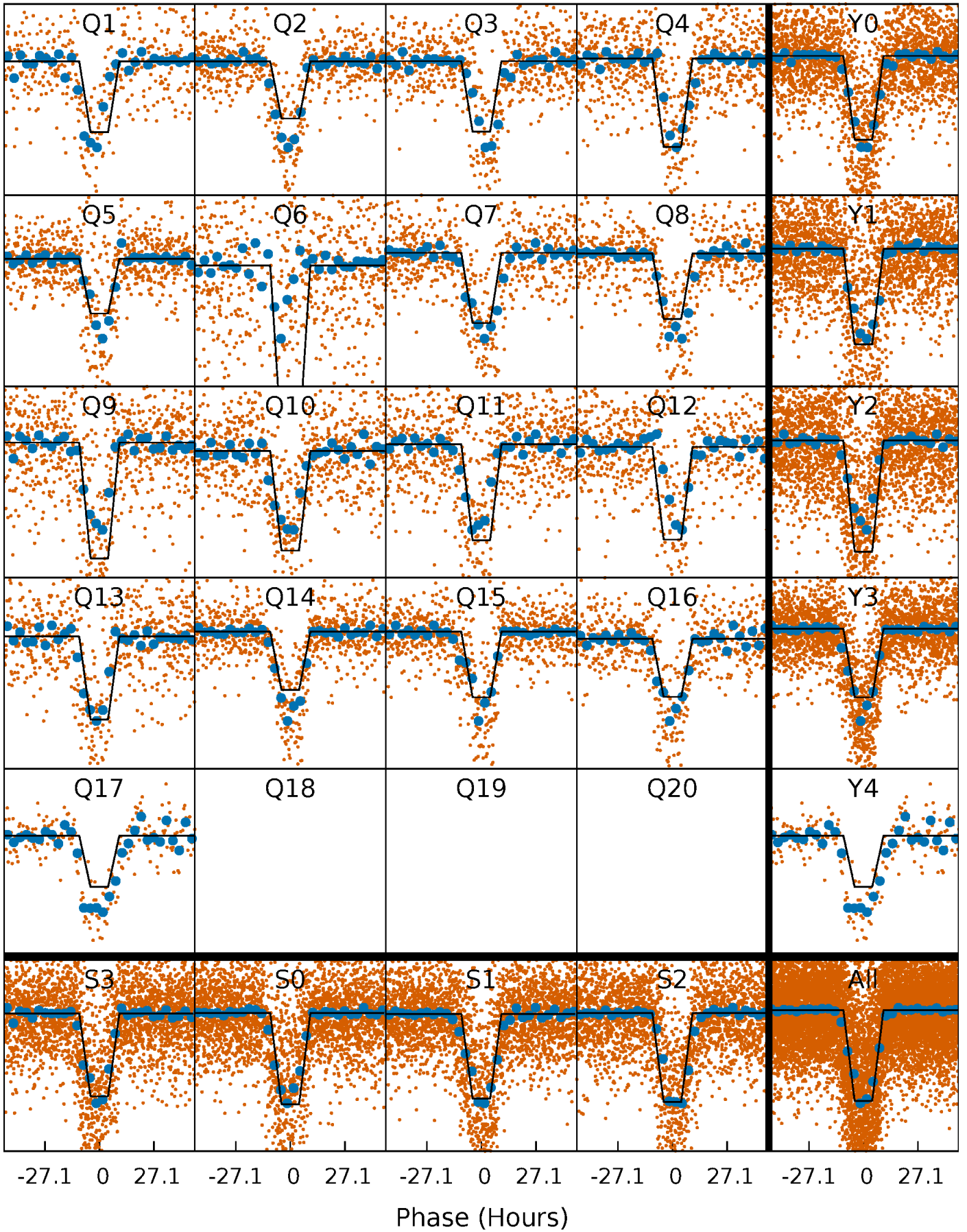
DV Quarter-Phased Transit Curves

TCE 008027591-01 P= 24.277188 Days $T_0=138.148045$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

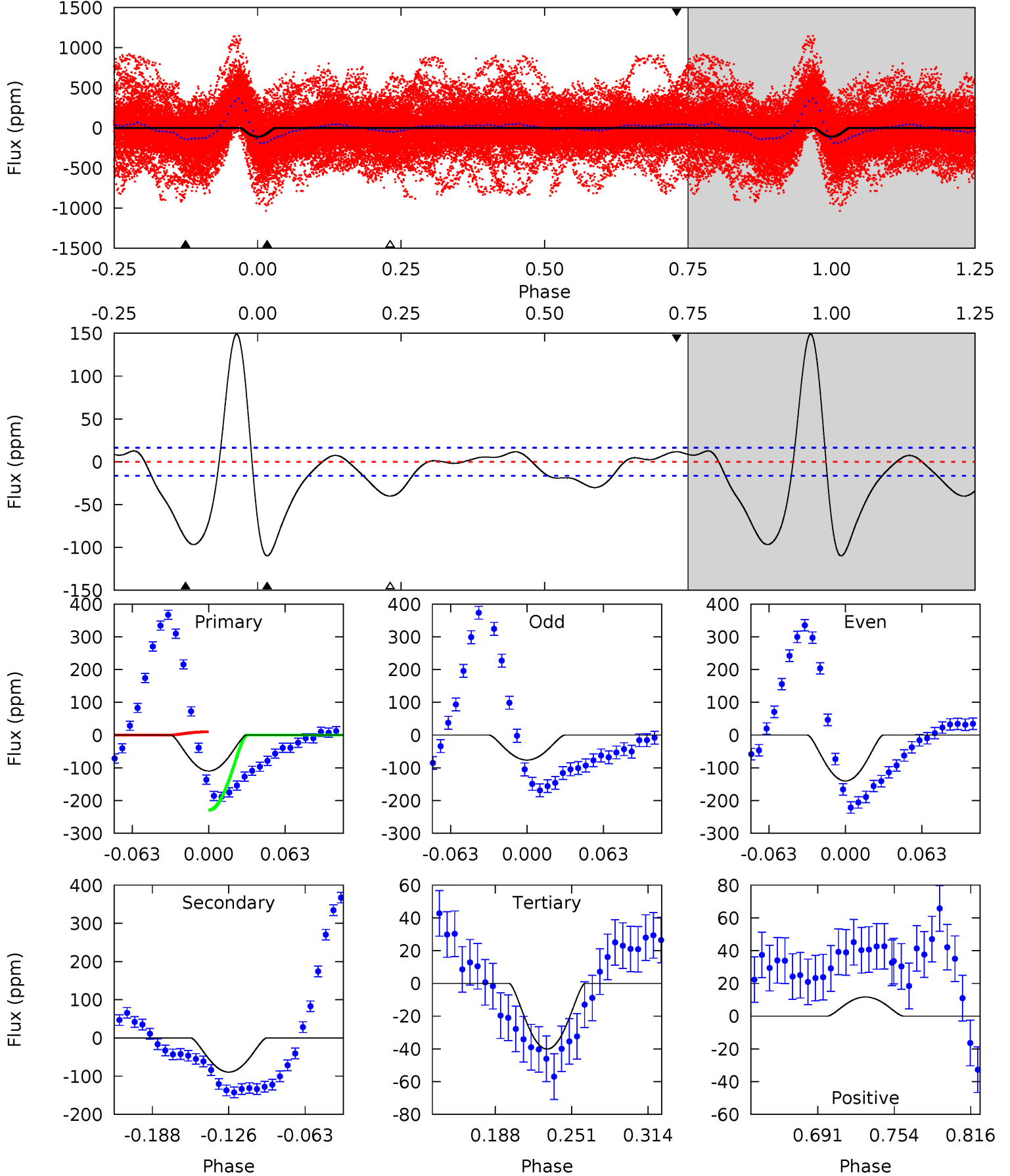
TCE 008027591-01 P= 24.274872 Days $T_0=138.151478$ (BKJD)



DV Model-Shift Uniqueness Test

008027591-01, P = 24.277188 Days, E = 113.870857 Days

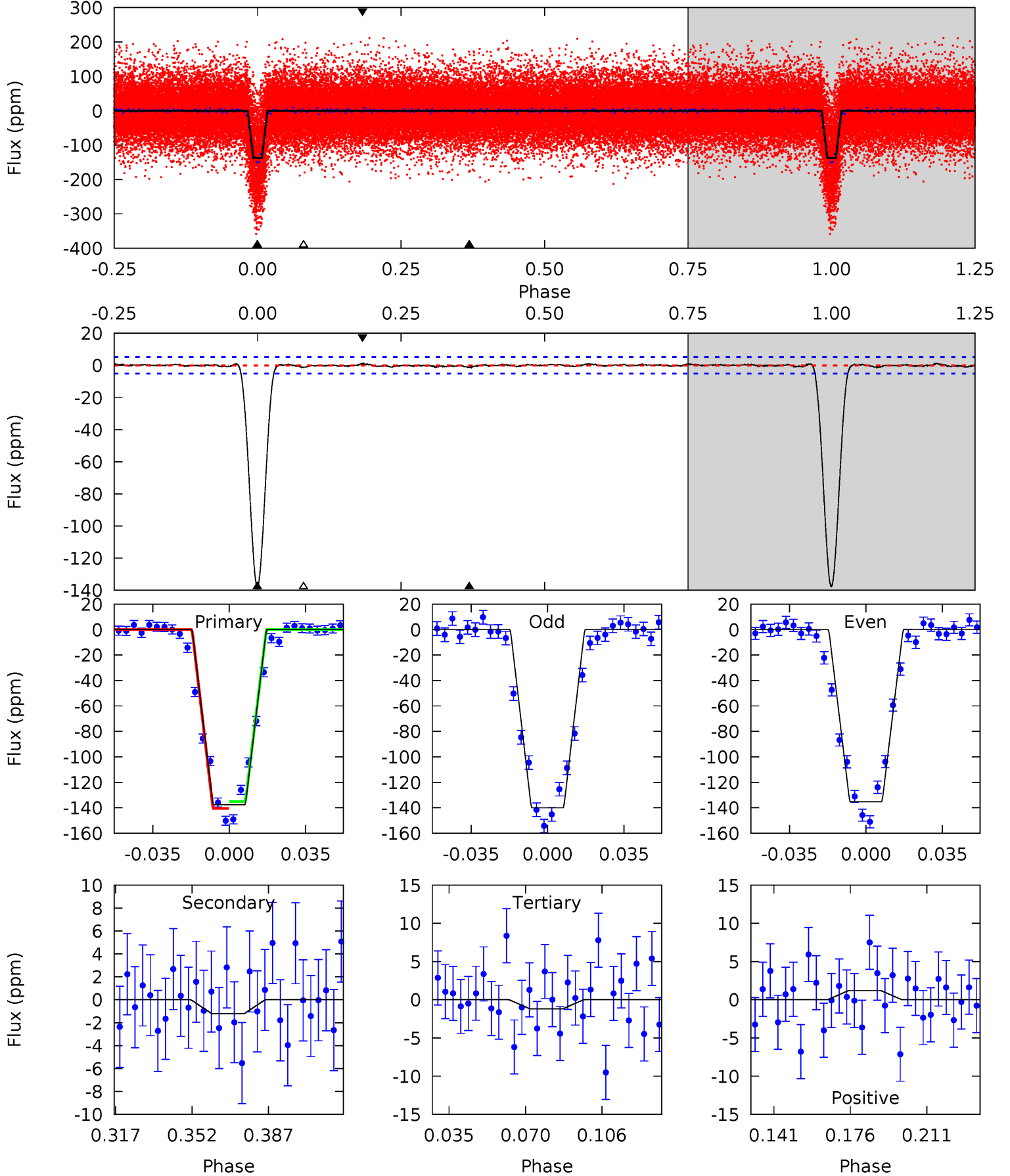
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.2	25.3	11.4	3.32	4.66	1.86	5.61	19.8	27.9	13.9	22.0	8.98	0.66	0.58	32.0



Alt Model-Shift Uniqueness Test

008027591-01, $P = 24.274872$ Days, $E = 113.876606$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
127.7	1.12	1.12	1.11	4.78	2.11	0.38	126.6	126.6	0.01	0.01	2.21	1.02	0.01	2.52



Stellar Parameters For KIC 008027591

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6279^{+199}_{-221}	$3.867^{+0.413}_{-0.138}$	$0.120^{+0.250}_{-0.300}$	$2.282^{+0.549}_{-0.940}$	$1.399^{+0.201}_{-0.277}$	$0.166^{+0.627}_{-0.069}$
	+3%/-4%	+11%/-4%	+208%/-250%	+24%/-41%	+14%/-20%	+378%/-42%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008027591-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-89 \pm 4	$7.04^{+2.80}_{-2.55}$	1332^{+113}_{-145}	3867^{+574}_{-359}	33^{+46}_{-16}
Alt.	-1 \pm 1	$3.01^{+2.34}_{-1.94}$	1338^{+100}_{-151}	2488^{+863}_{-4433}	$1.810^{+13.612}_{-1.678}$

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 $A_{\text{obs}} \gg 1.0$

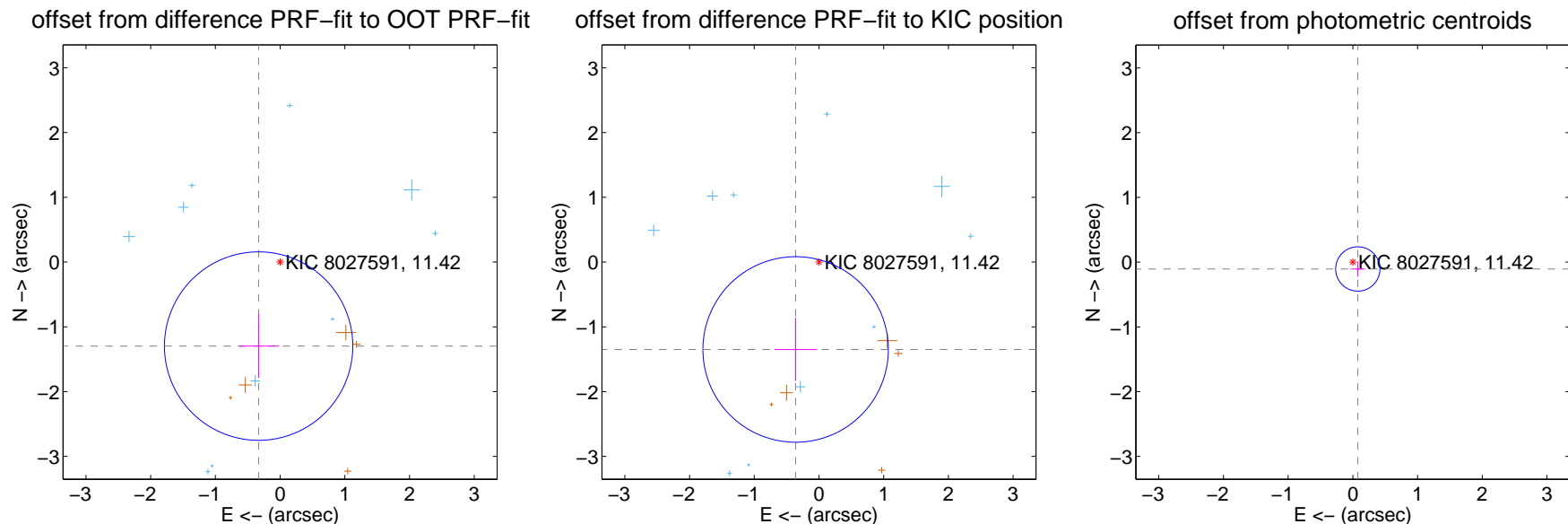
DV Centroid Data

Supplemental centroid analysis for 008027591-01. **Kepler magnitude: 11.42.** Transit SNR 24.69

There are 10 quarters with good PRF difference image offsets

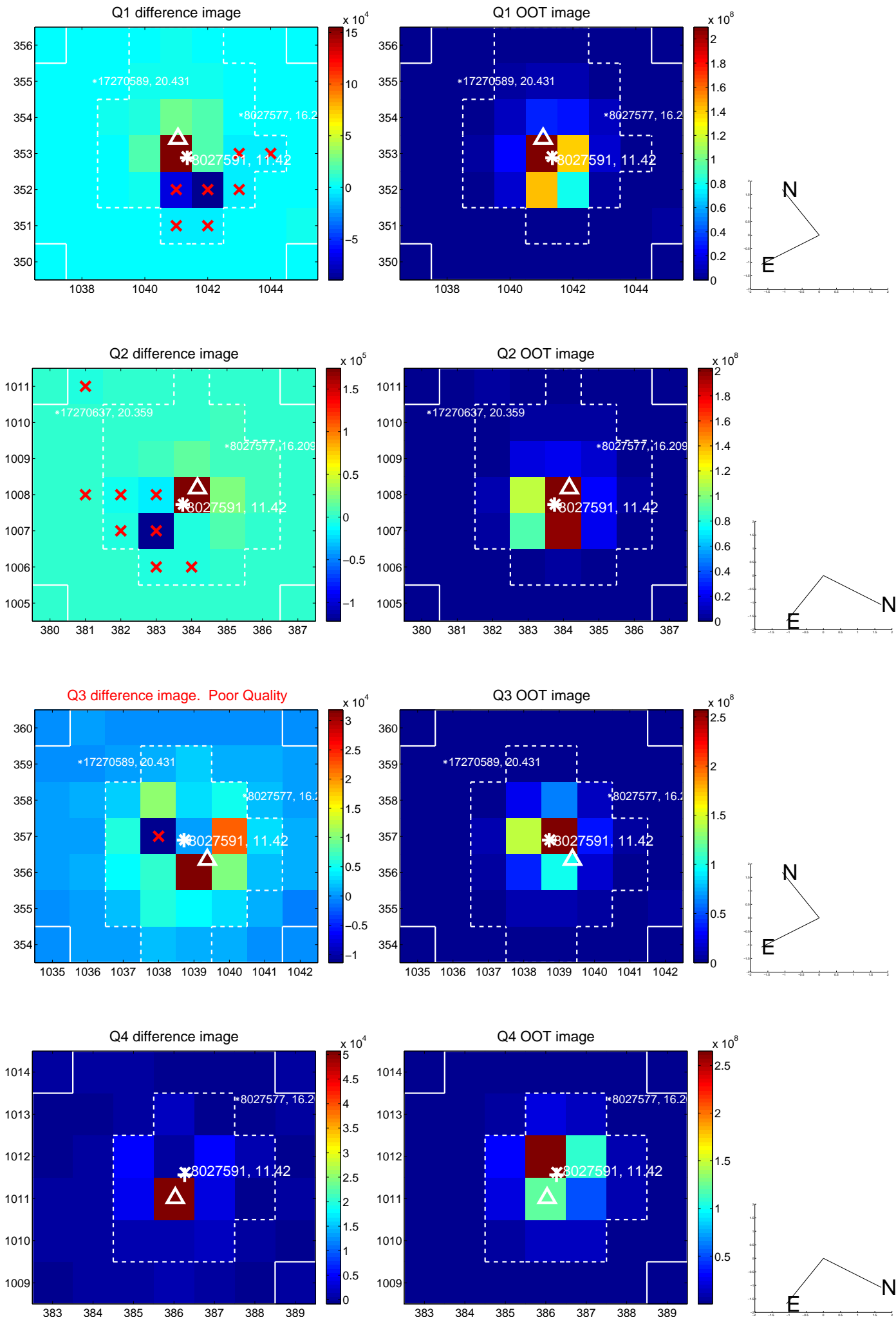
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.339 ± 0.485	2.76	0.332 ± 0.314	-1.297 ± 0.494
PRF-fit source offset from KIC position	1.397 ± 0.478	2.92	0.361 ± 0.325	-1.350 ± 0.487
photometric centroid source offset	0.13 ± 0.11	1.14	-0.08 ± 0.11	-0.11 ± 0.12

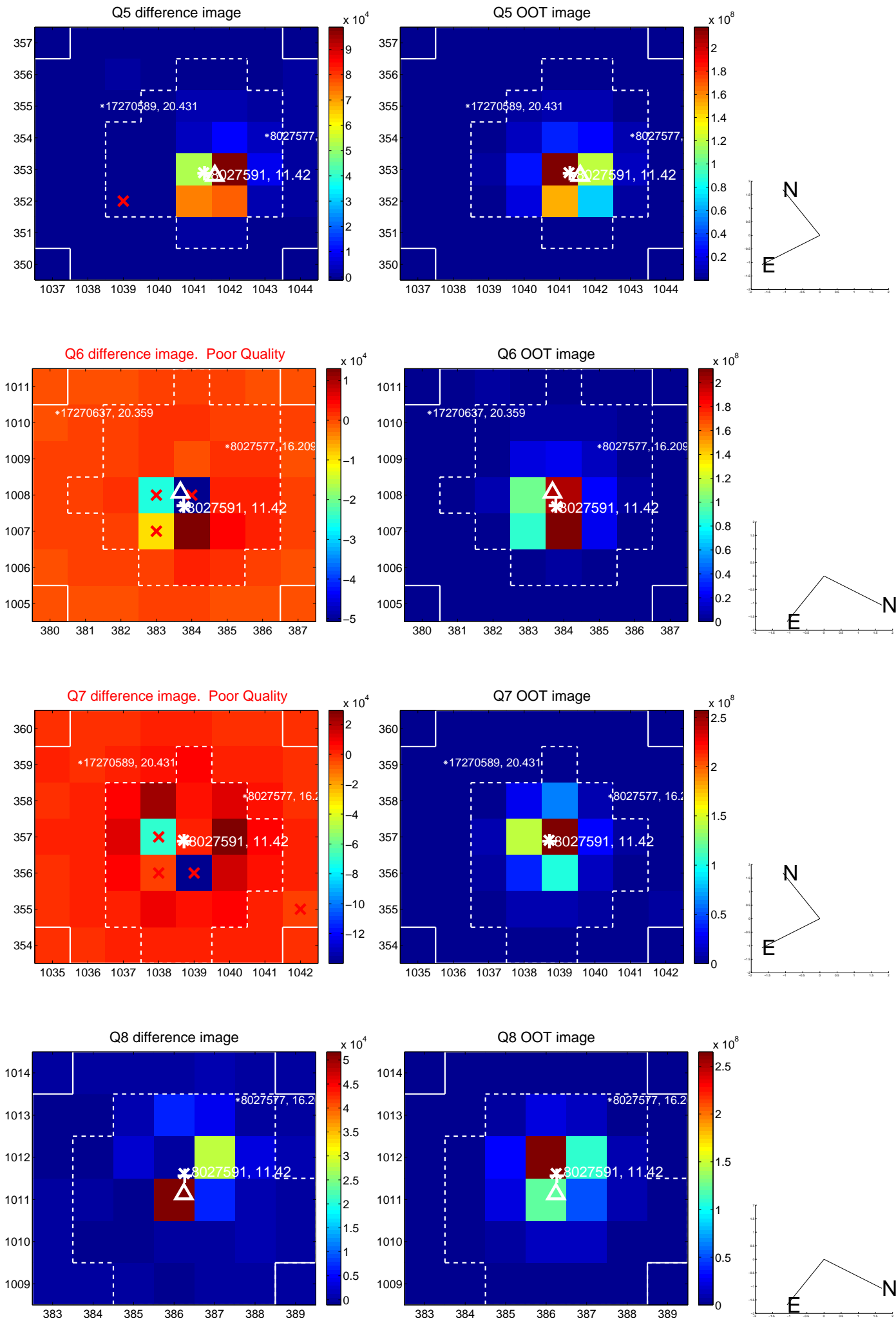


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

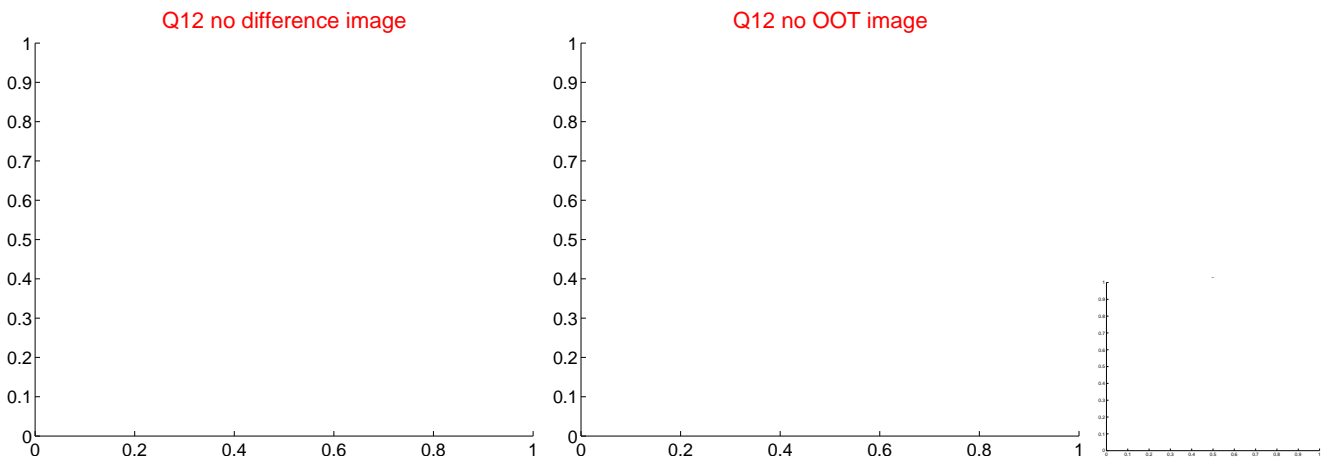
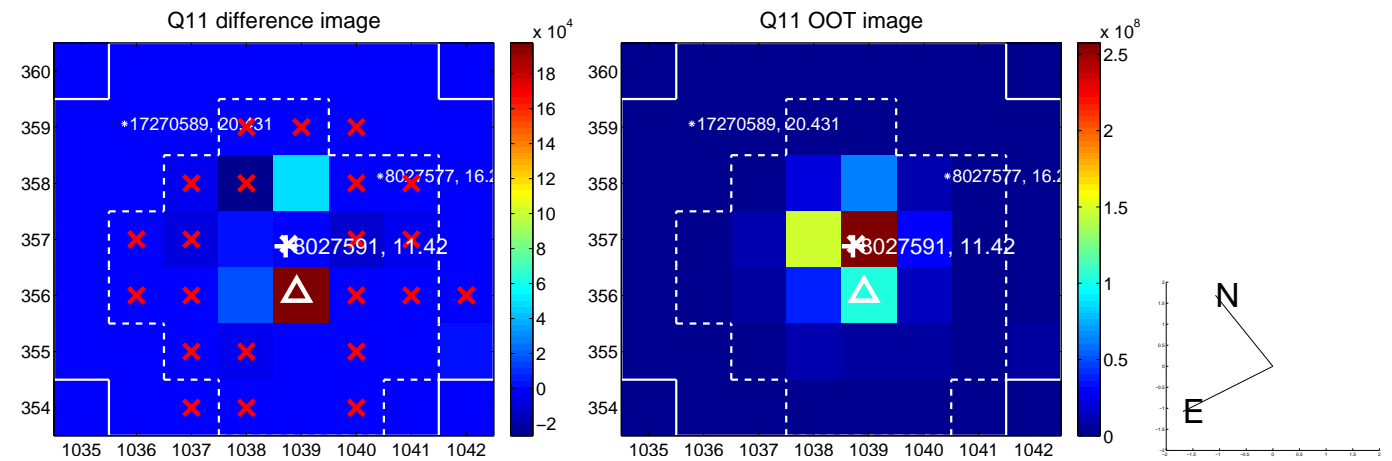
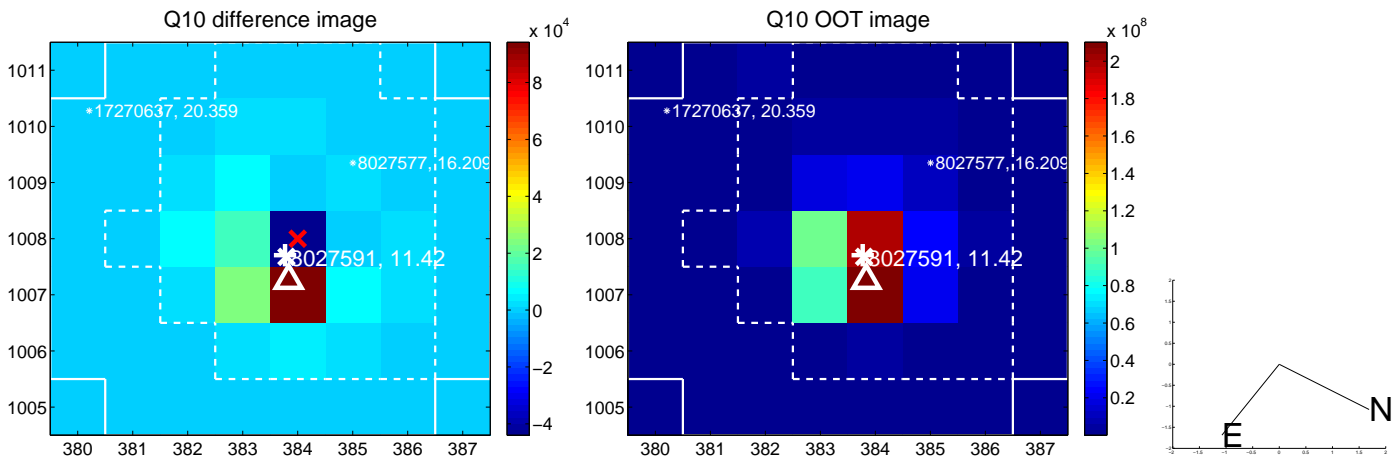
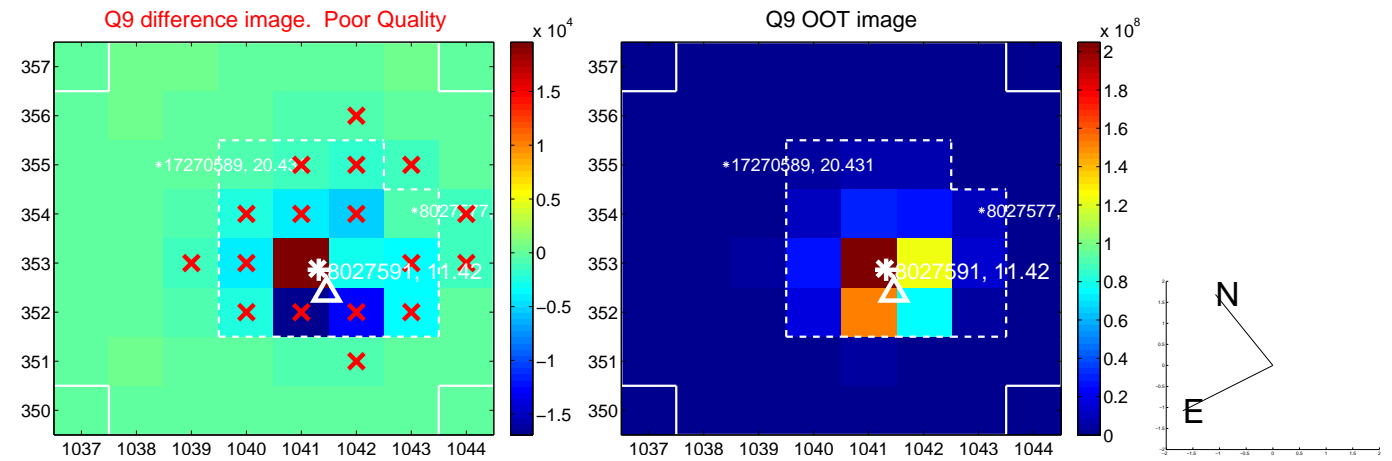
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



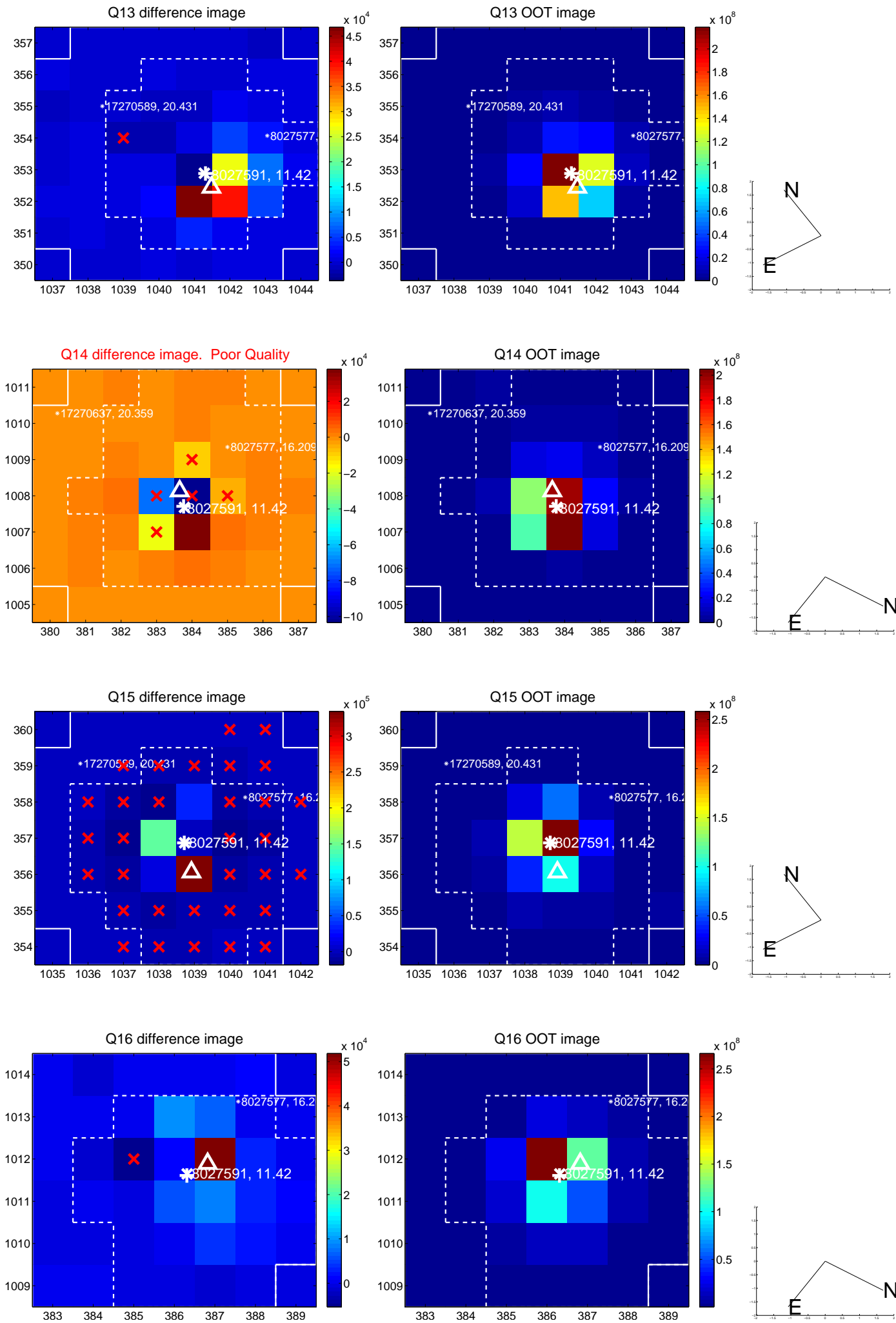
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



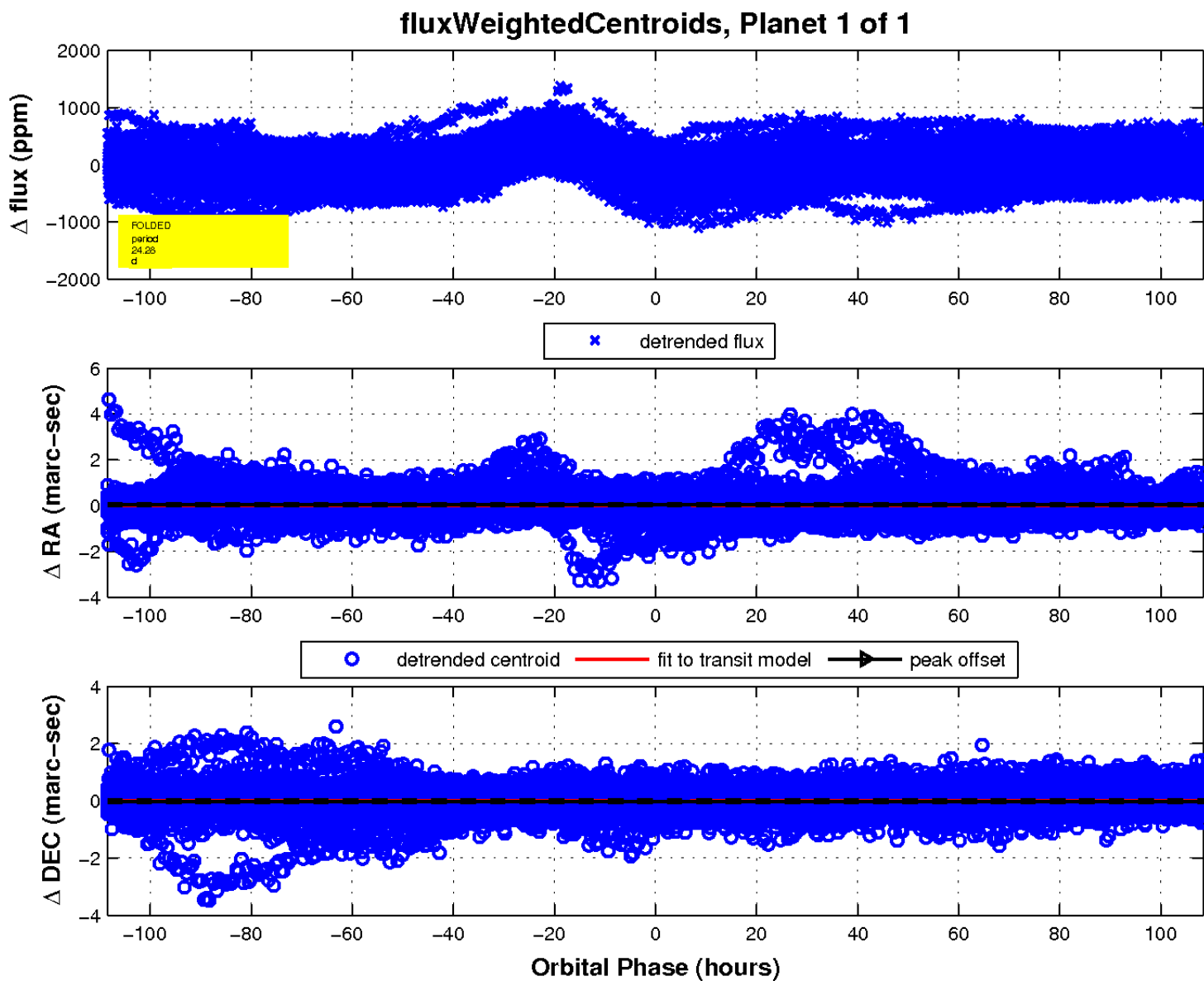
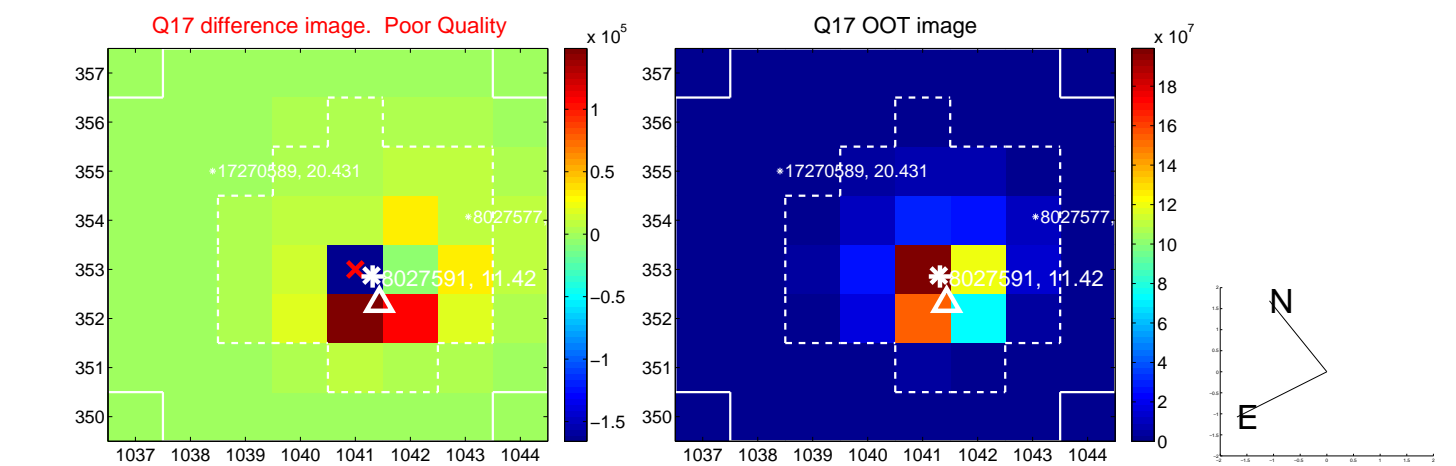
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white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

