

KIC 004587135

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})
004587135-01	OBS	4680.01	54.081134	145.269931	435.3	6.409	10.3	11.0	0.76	5757	1.71	8.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004587135-01	OBS	PC	0.77	0	0	0	0	NO_COMMENT

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

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

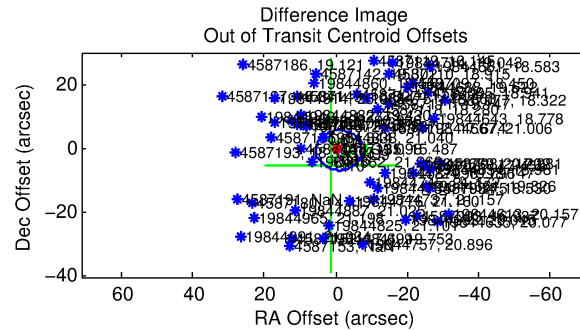
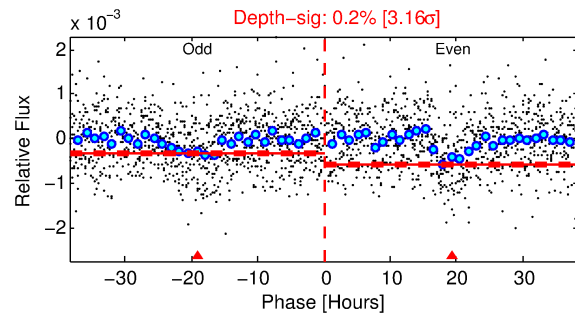
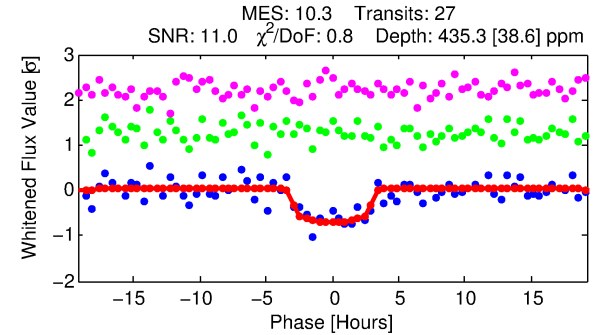
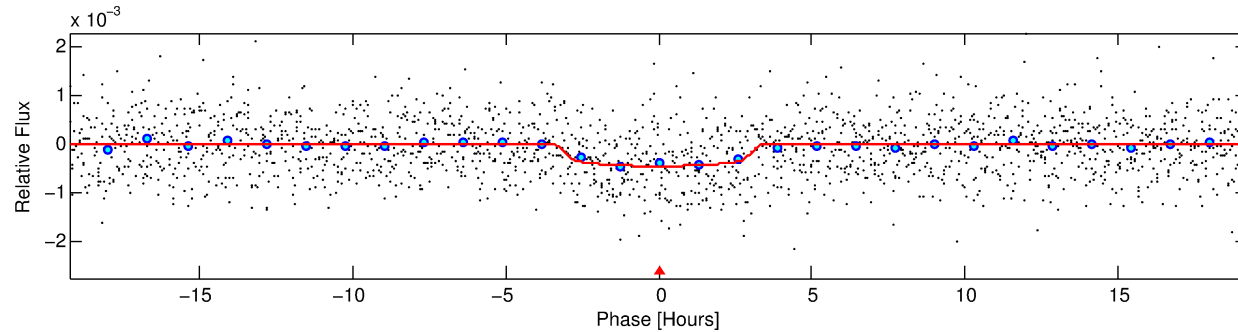
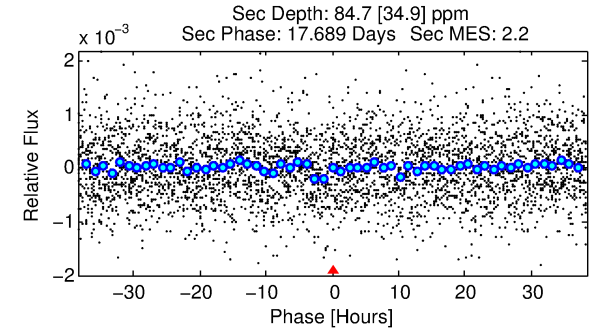
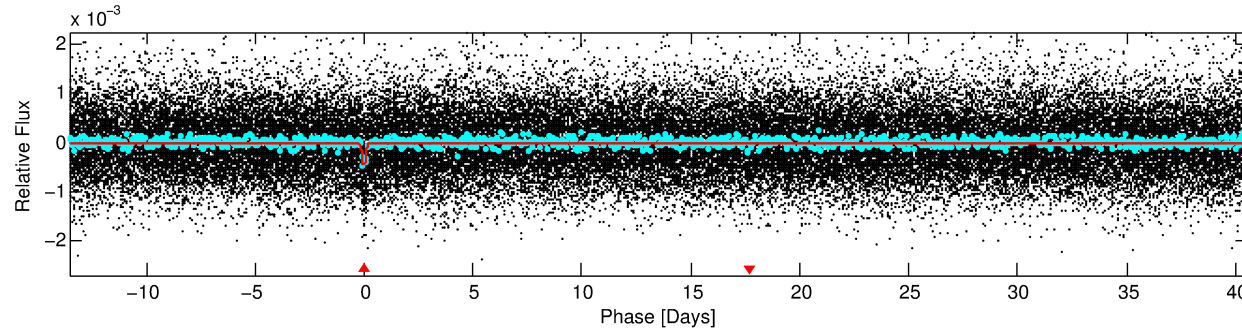
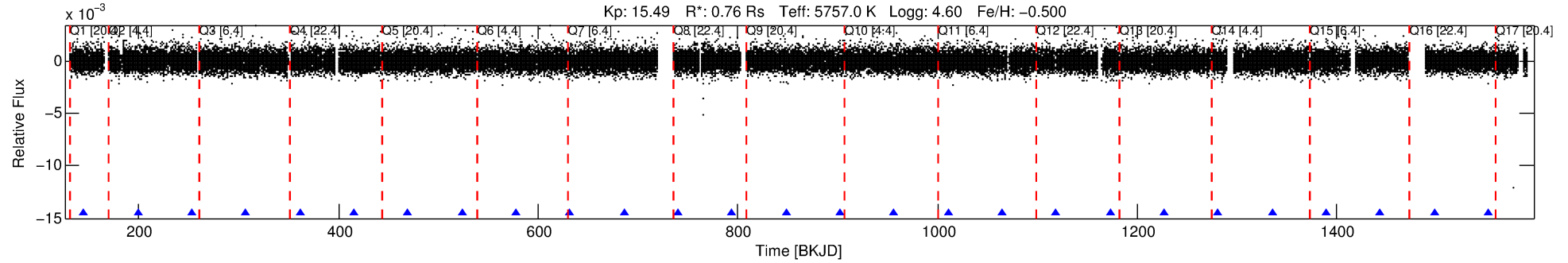
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004587135-01

No Significant Match Found

DV One-Page Summary

KIC: 4587135 Candidate: 1 of 1 Period: 54.081 d
KOI: K04680.01 Corr: 0.994



DV Fit Results:

Period = 54.08113 [0.00071] d
Epoch = 145.2699 [0.0109] BKJD
Rp/R* = 0.0206 [0.0134]
a/R* = 46.09 [142.74]
b = 0.73 [2.02]
Seff = 8.21 [2.53]
Teq = 432 [33] K
Rp = 1.71 [1.18] Re
a = 0.2639 [0.0520] AU
Ag = 1105.92 [1537.70] [0.72σ]
Teffp = 3848 [1315] K [2.60σ]

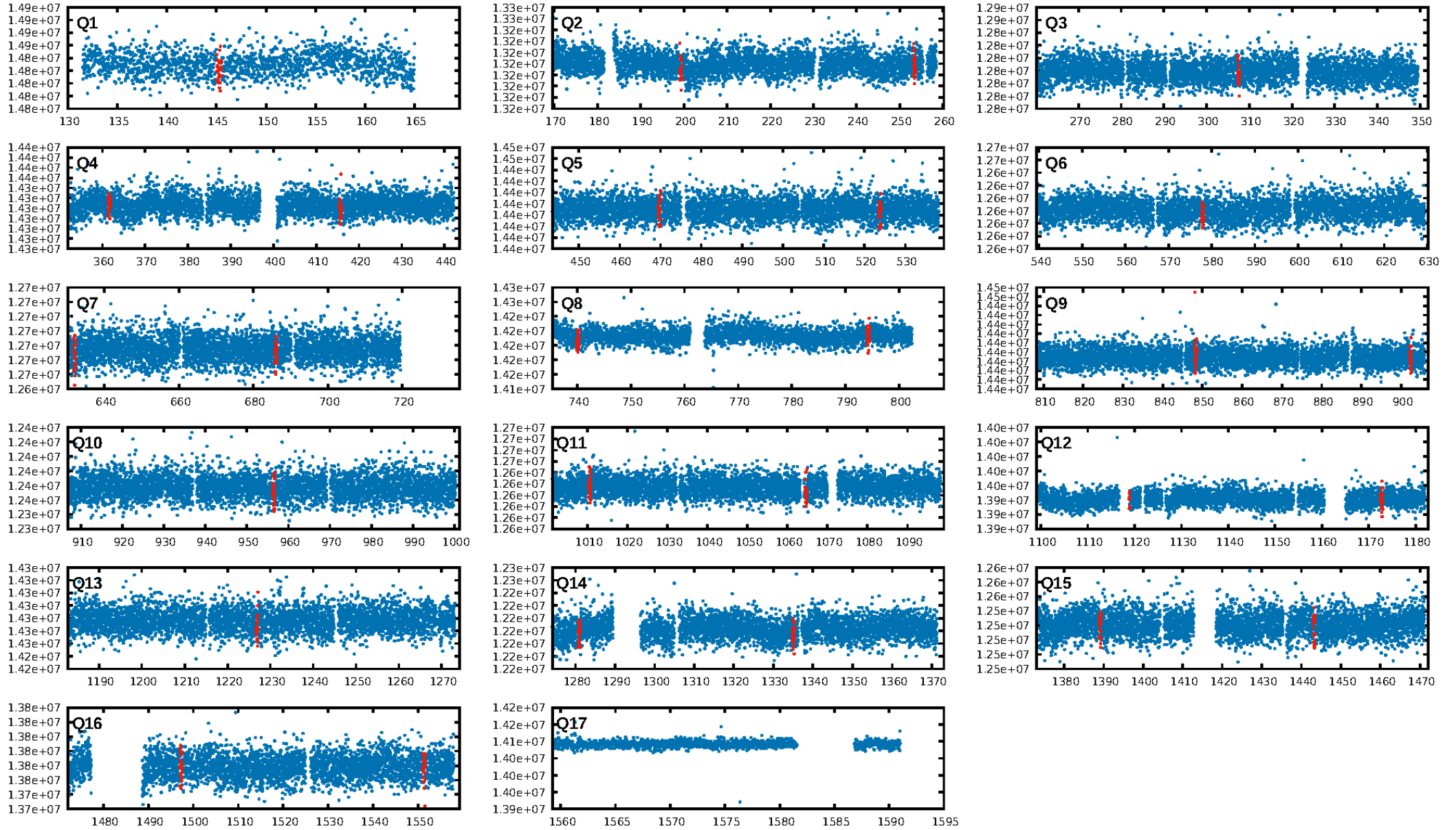
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 80.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.56e-23
RollingBand-fgt: 1.00 [26/26]
GhostDiagnostic-chr: 6.023
Centroid-sig: 24.9%
Centroid-so: 0.394 arcsec [0.36σ]
OotOffset-rm: 0.977 arcsec [0.46σ]
KicOffset-rm: 0.849 arcsec [0.42σ]
OotOffset-st: 3/2/3/3 [11]
KicOffset-st: 3/2/3/3 [11]
DiffImageQuality-fgm: 0.27 [3/11]
DiffImageOverlap-fno: 1.00 [15/15]

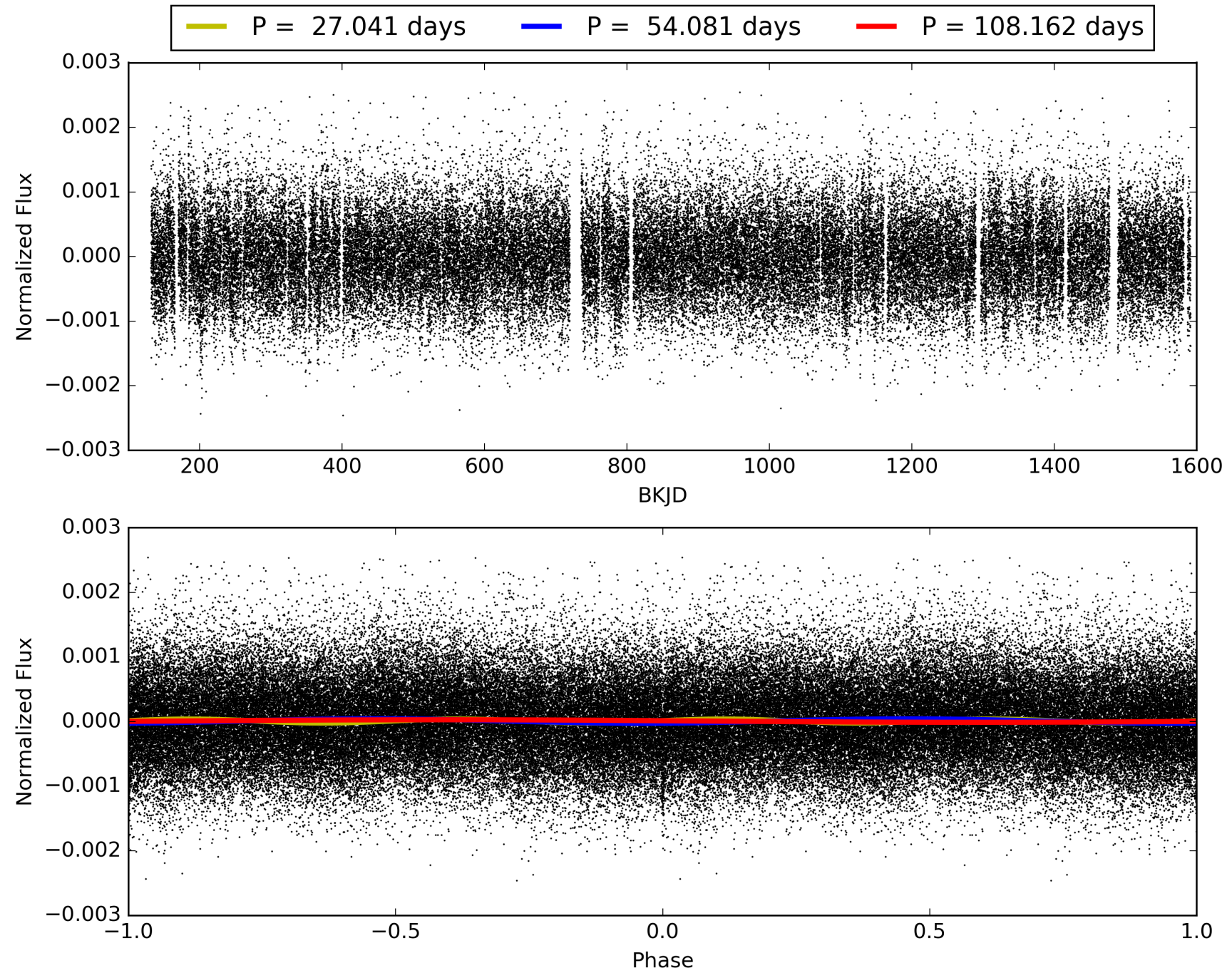
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 07:04:16 Z

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

TCE 004587135-01, PDC Light Curves

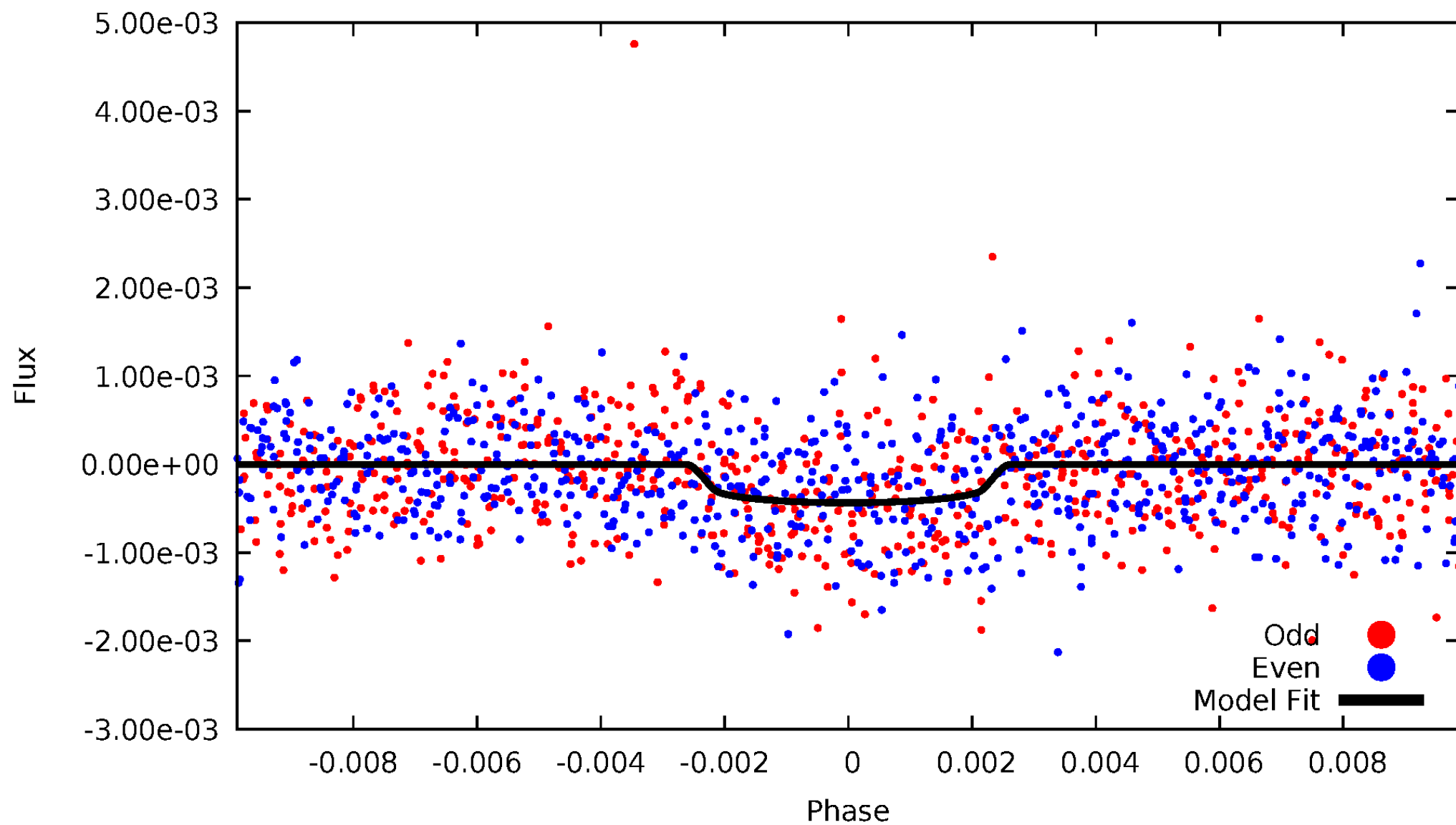


TCE 004587135-01



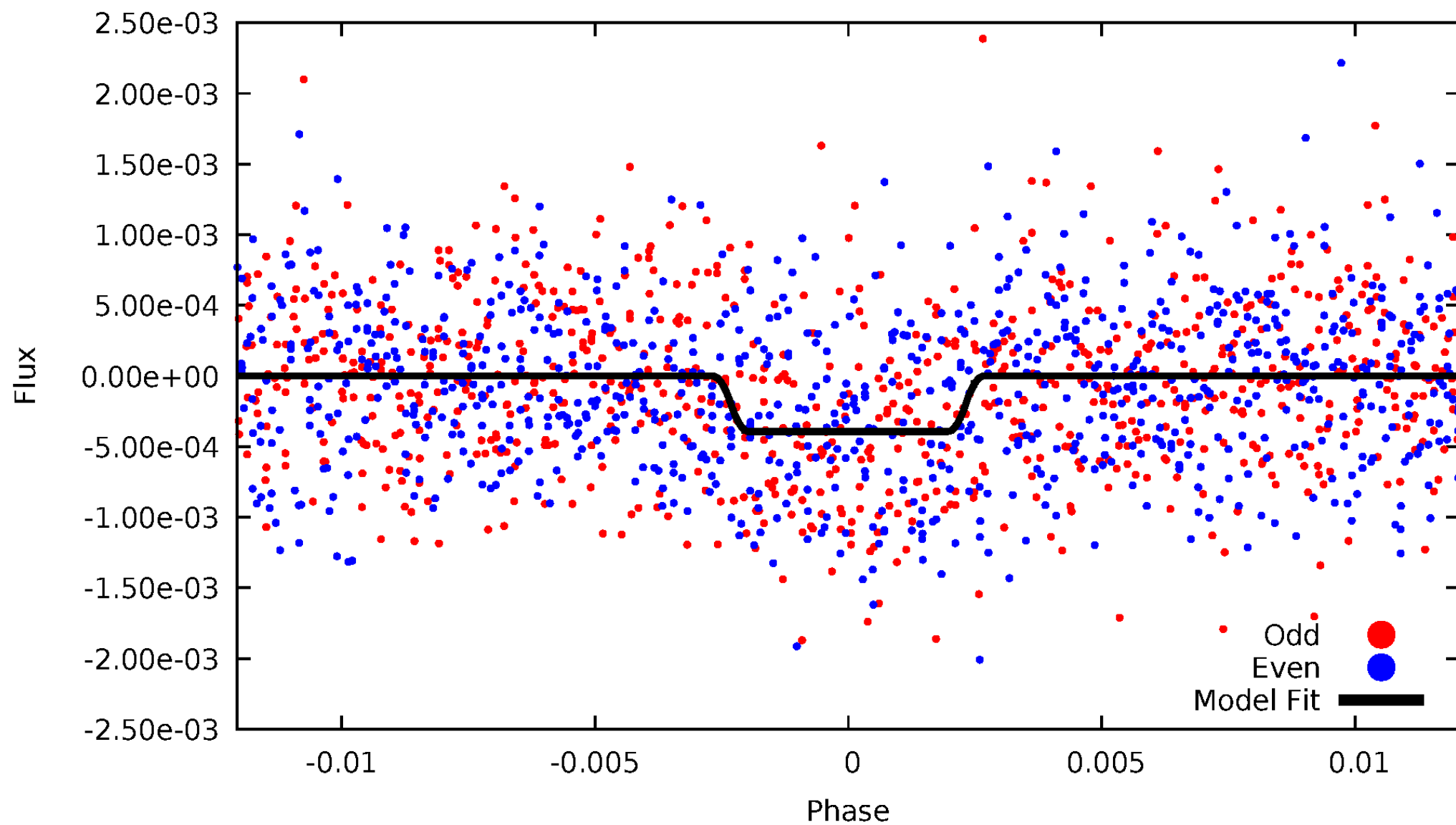
DV Odd/Even

TCE 004587135-01



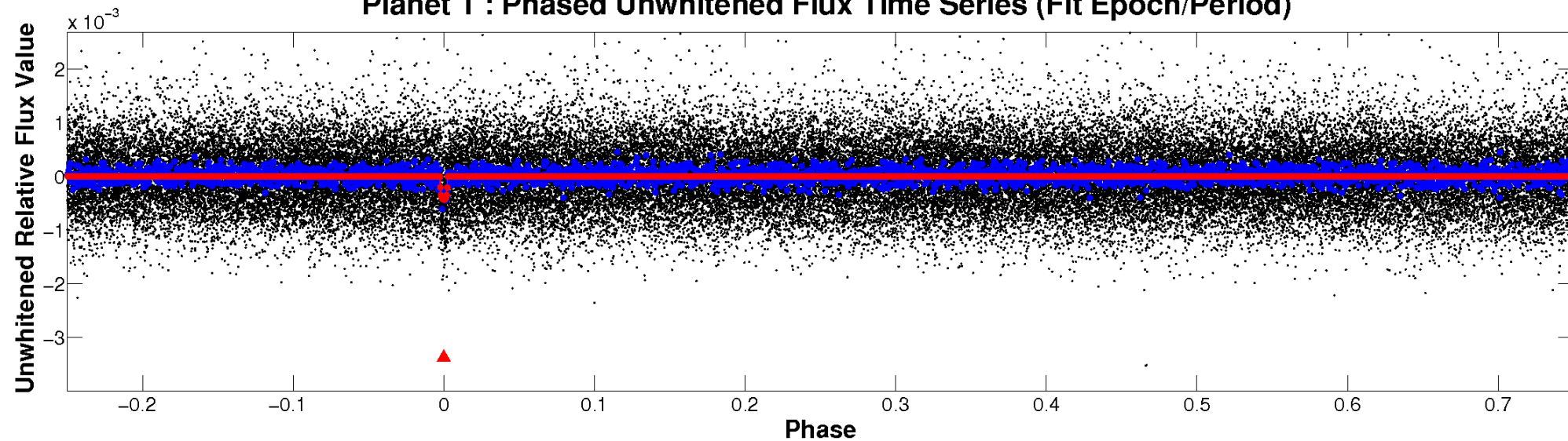
ALT Odd/Even

TCE 004587135-01

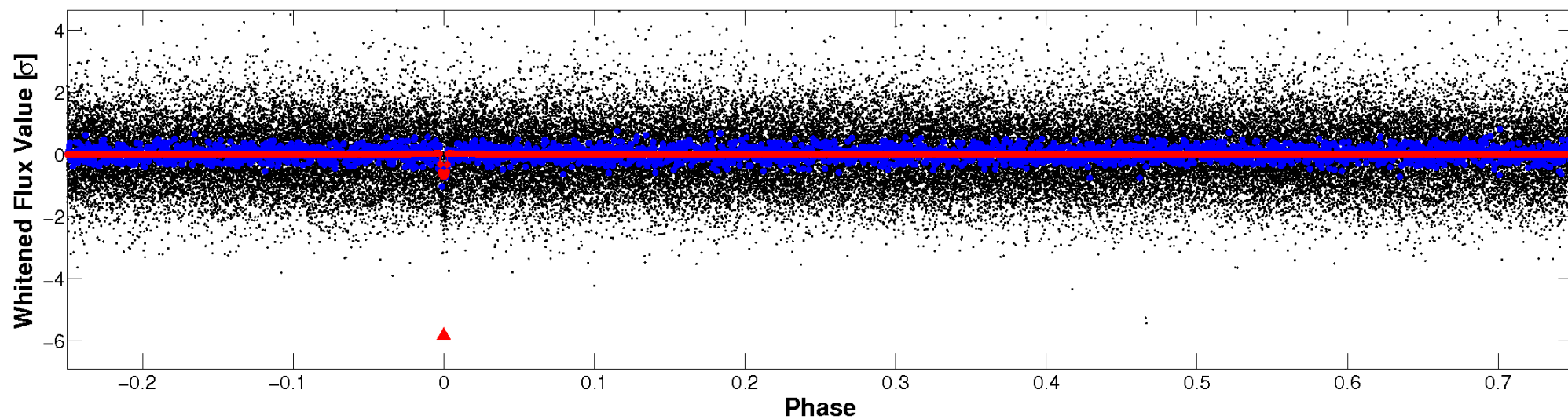


Non-Whitened Vs. Whitened Light Curve

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

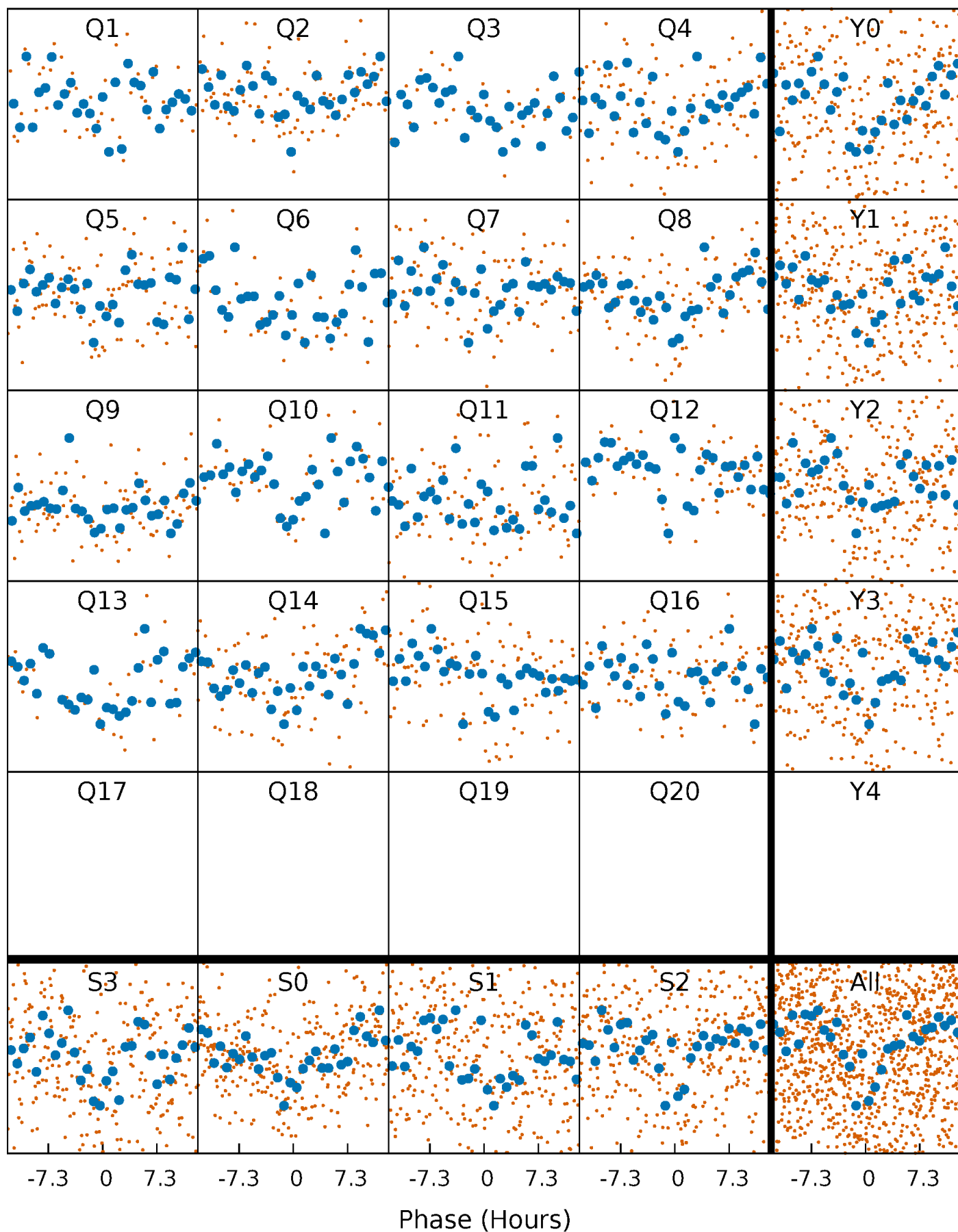


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



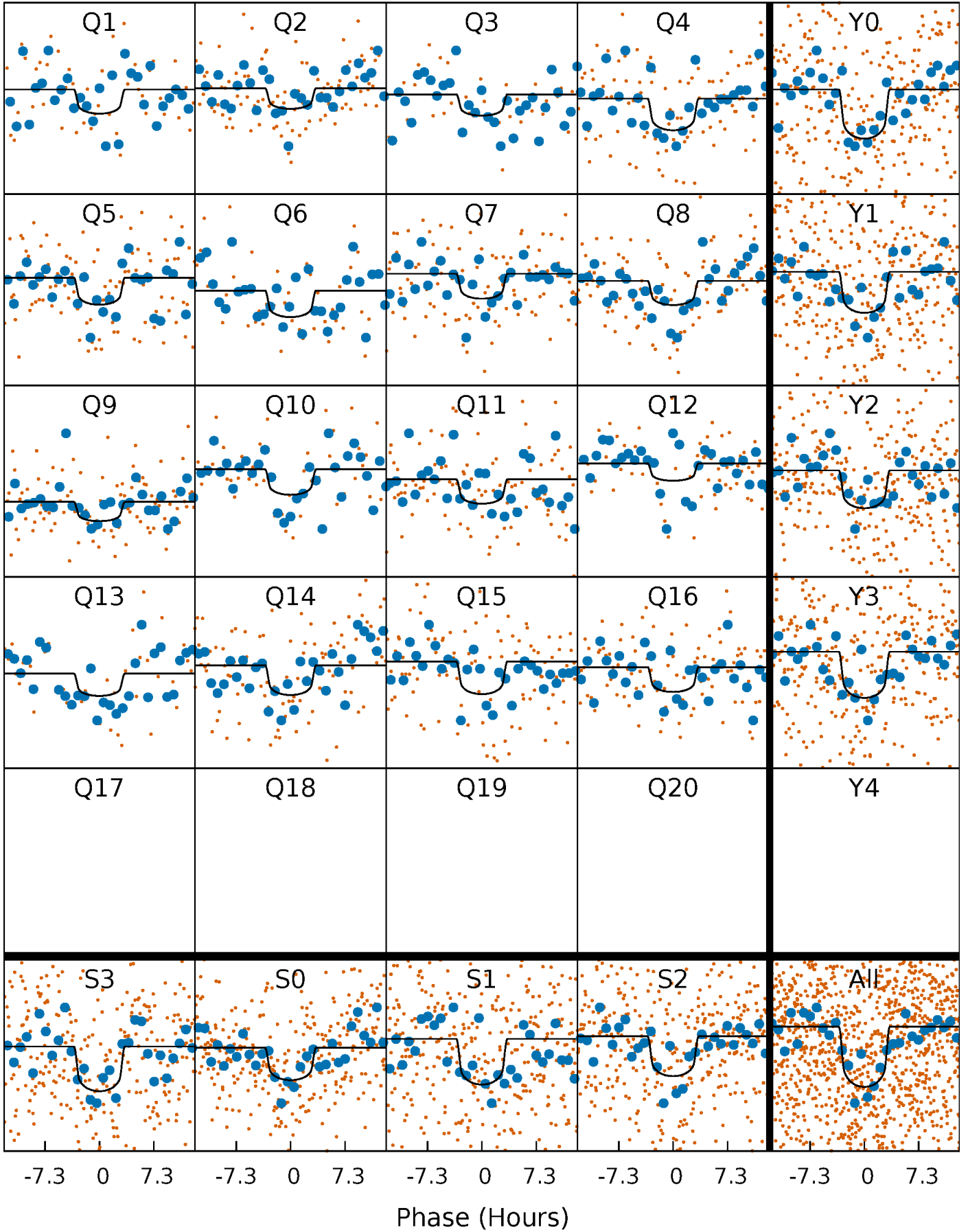
PDC Quarter-Phased Transit Curves

TCE 004587135-01 P= 54.081134 Days $T_0=145.269931$ (BKJD)



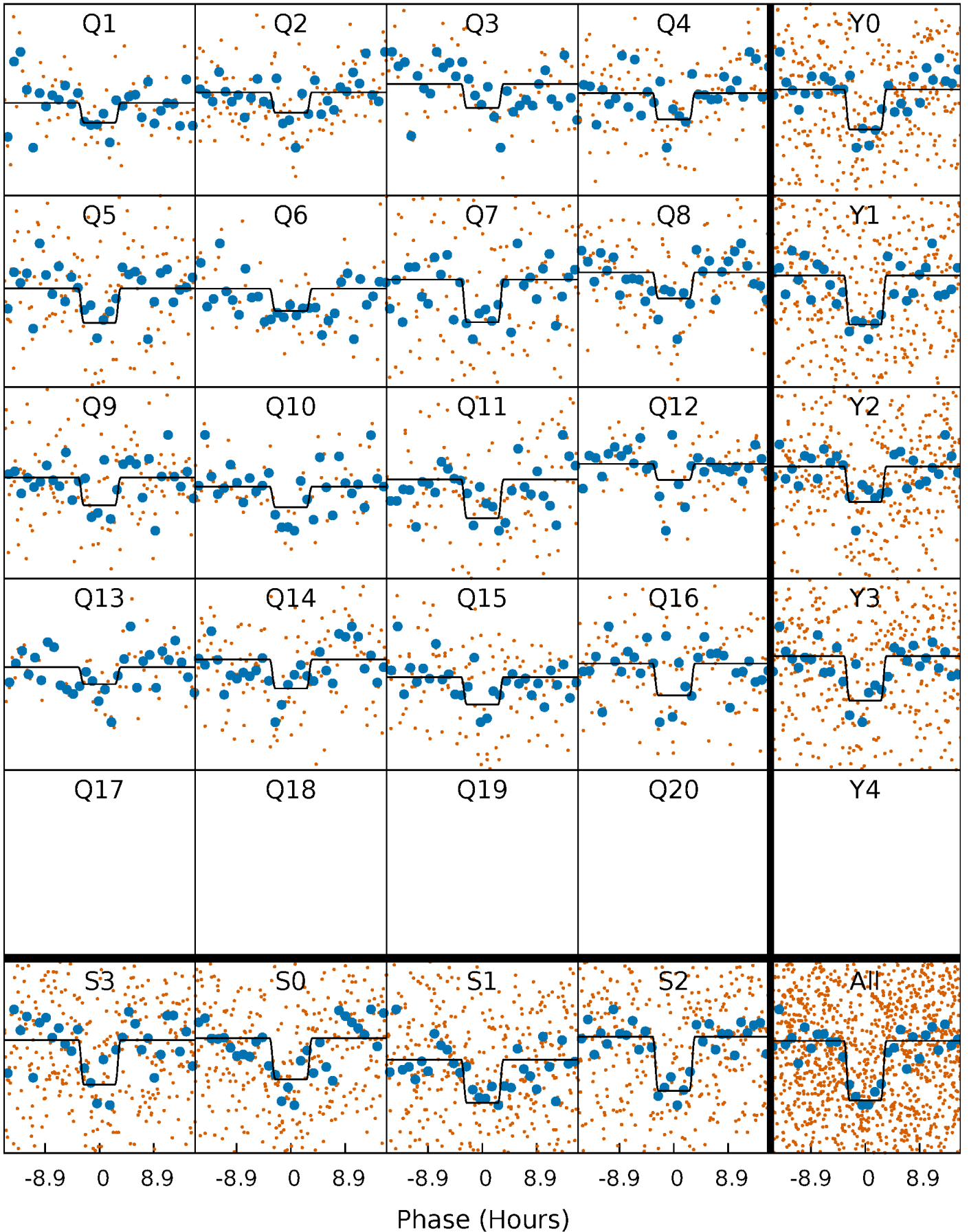
DV Quarter-Phased Transit Curves

TCE 004587135-01 P= 54.081134 Days $T_0=145.269931$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

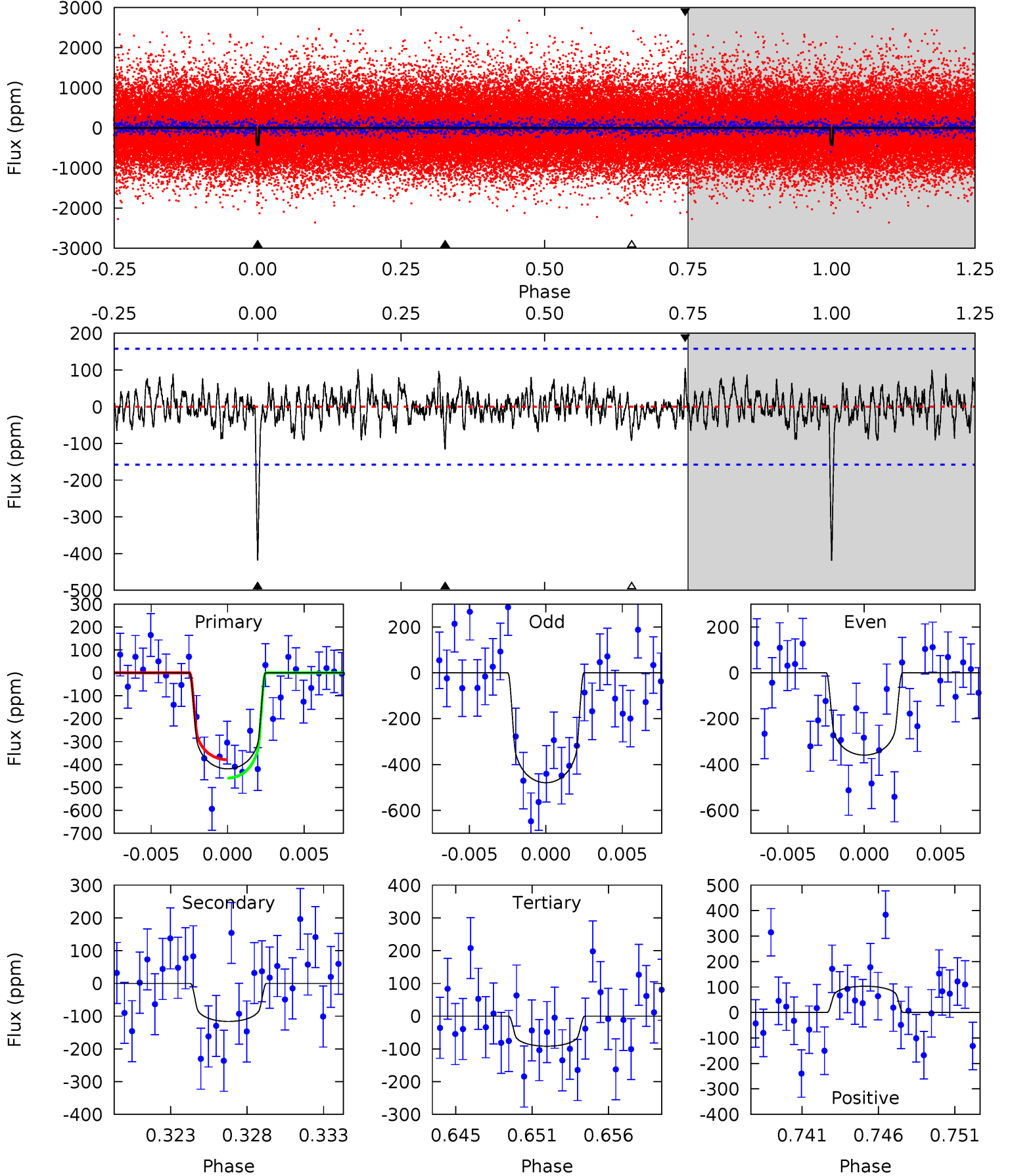
TCE 004587135-01 P= 54.084025 Days $T_0=145.237677$ (BKJD)



DV Model-Shift Uniqueness Test

004587135-01, P = 54.081134 Days, E = 91.188797 Days

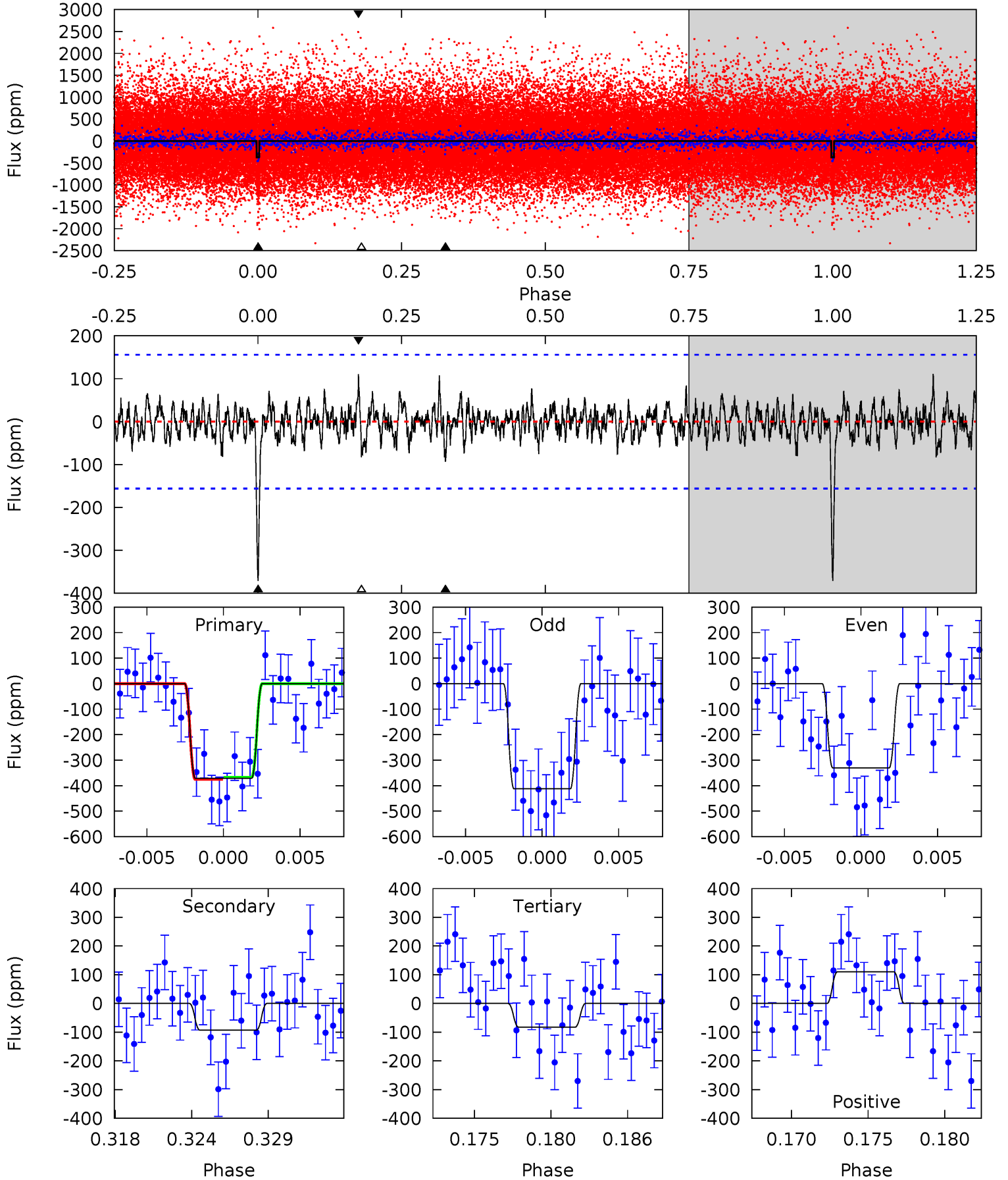
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	3.79	2.99	3.36	5.15	2.79	1.05	10.7	10.3	0.80	0.43	1.97	1.11	0.20	1.31



Alt Model-Shift Uniqueness Test

004587135-01, P = 54.084025 Days, E = 91.153652 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.2	3.08	2.73	3.64	5.15	2.79	0.93	9.51	8.61	0.35	-0.56	1.35	1.06	0.23	0.13



Stellar Parameters For KIC 004587135

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5757^{+155}_{-173}	$4.597^{+0.036}_{-0.153}$	$-0.500^{+0.300}_{-0.300}$	$0.762^{+0.181}_{-0.060}$	$0.865^{+0.077}_{-0.096}$	$2.751^{+0.420}_{-1.190}$
	+3%/-3%	+1%/-3%	+60%/-60%	+24%/-8%	+9%/-11%	+15%/-43%
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 004587135-01 / KOI 4680.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-116 ± 31	$1.83^{+1.24}_{-1.01}$	613^{+35}_{-24}	4338^{+1690}_{-740}	1338^{+5164}_{-889}
Alt.	-93 ± 30	$1.77^{+1.22}_{-0.96}$	616^{+33}_{-26}	4226^{+1656}_{-744}	1105^{+4304}_{-751}

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

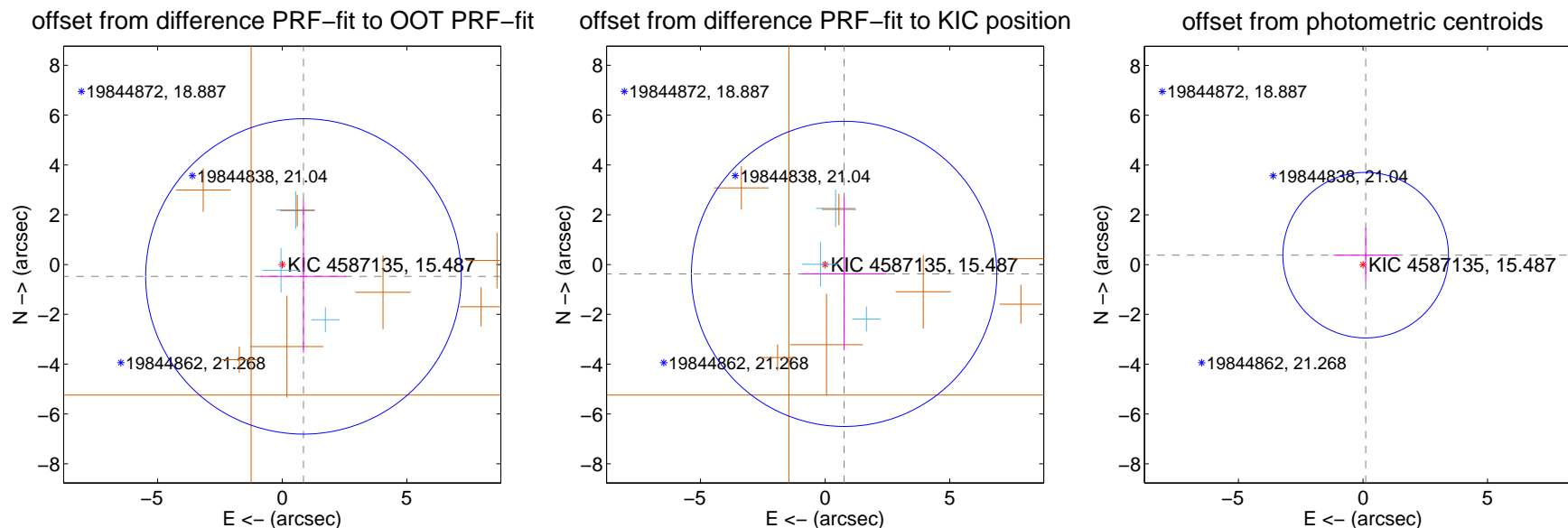
DV Centroid Data

Supplemental centroid analysis for 004587135-01. Kepler magnitude: 15.49. Transit SNR 10.99

There are 3 quarters with good PRF difference image offsets

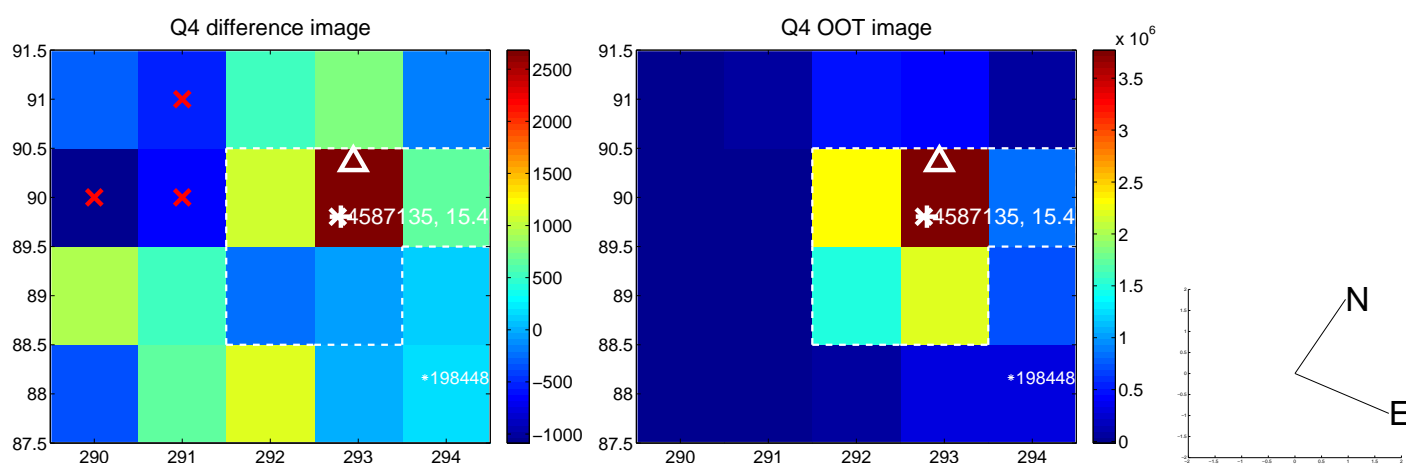
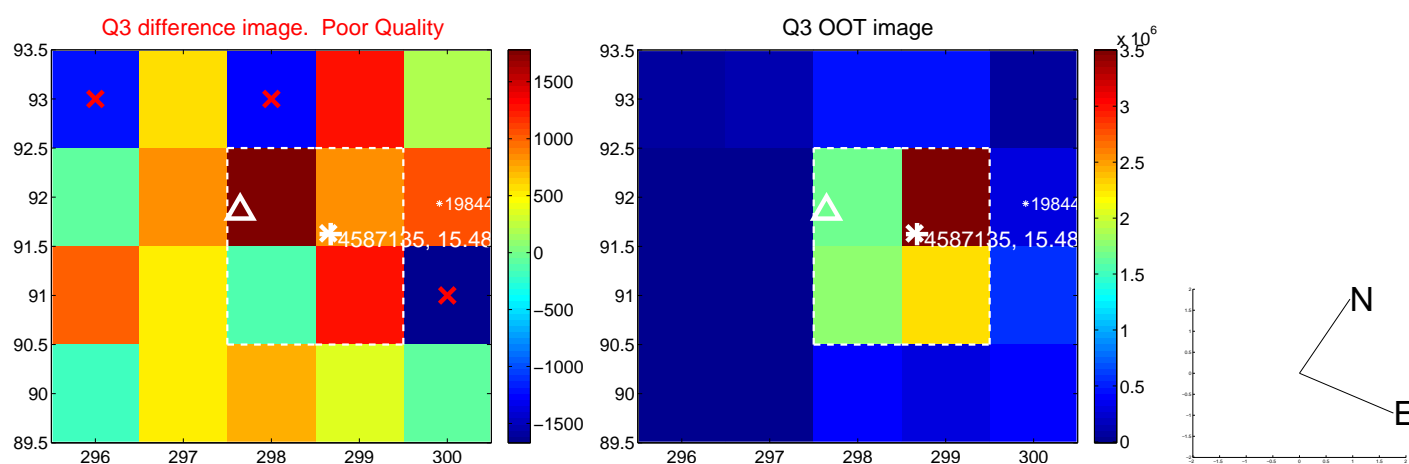
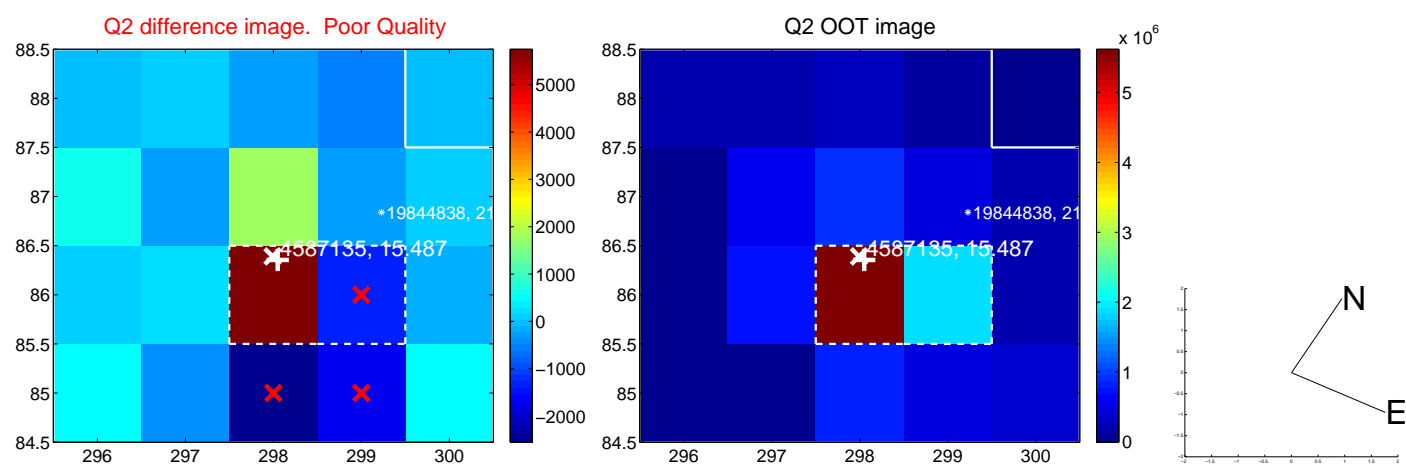
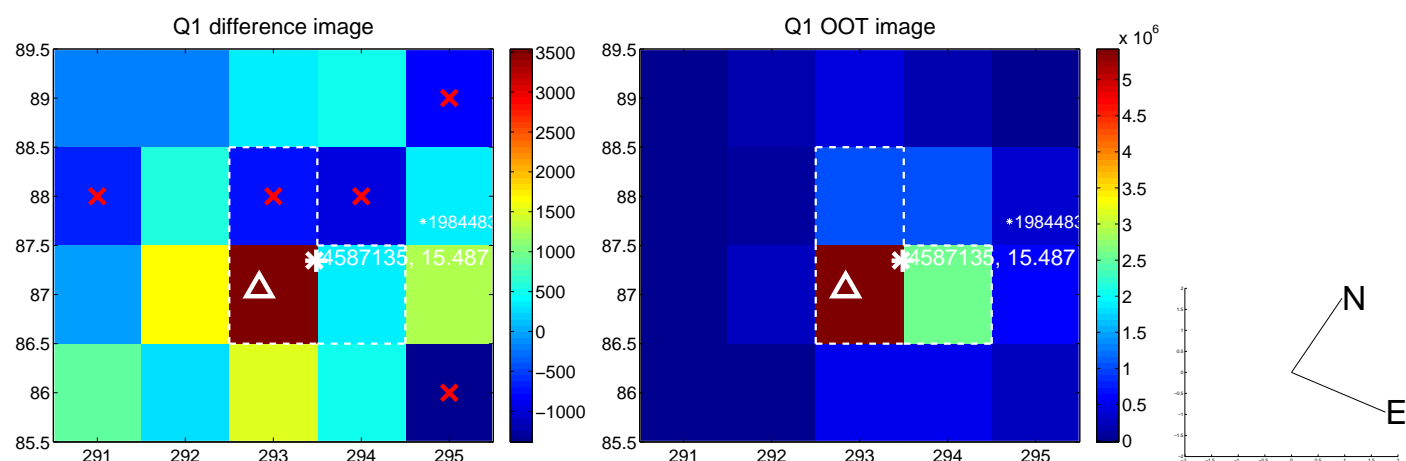
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.977 ± 2.111	0.46	-0.853 ± 1.705	-0.477 ± 3.068
PRF-fit source offset from KIC position	0.849 ± 2.043	0.42	-0.762 ± 1.705	-0.374 ± 3.068
photometric centroid source offset	0.39 ± 1.11	0.36	-0.11 ± 1.29	0.38 ± 1.09

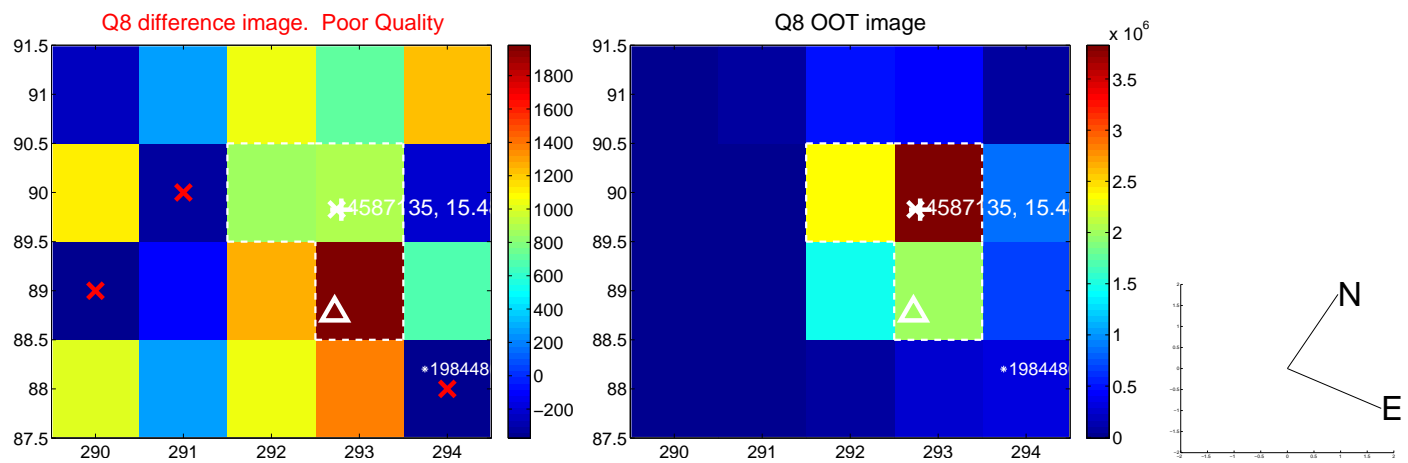
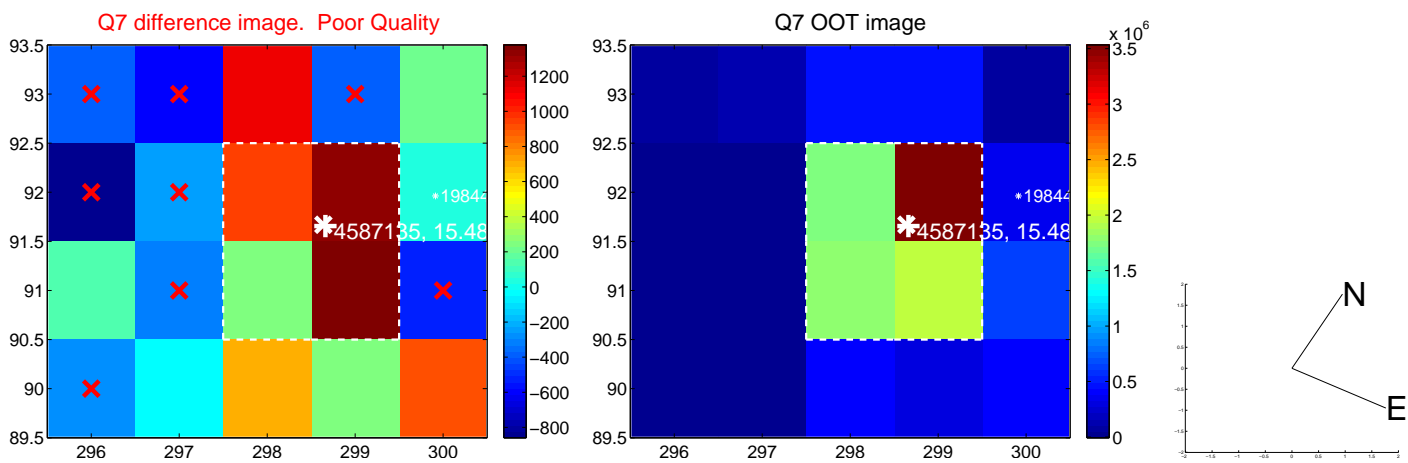
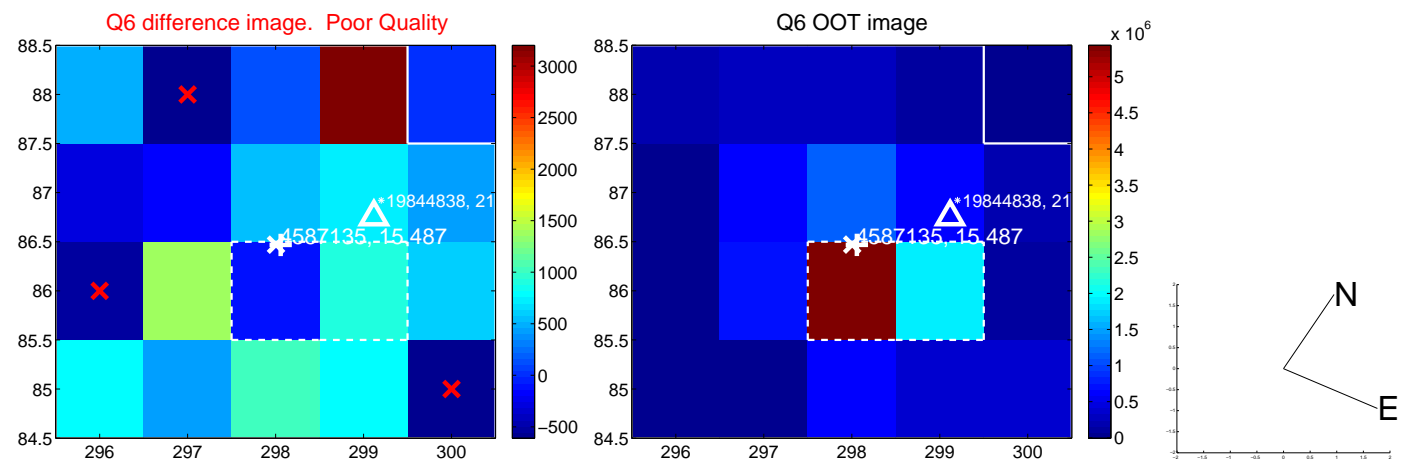
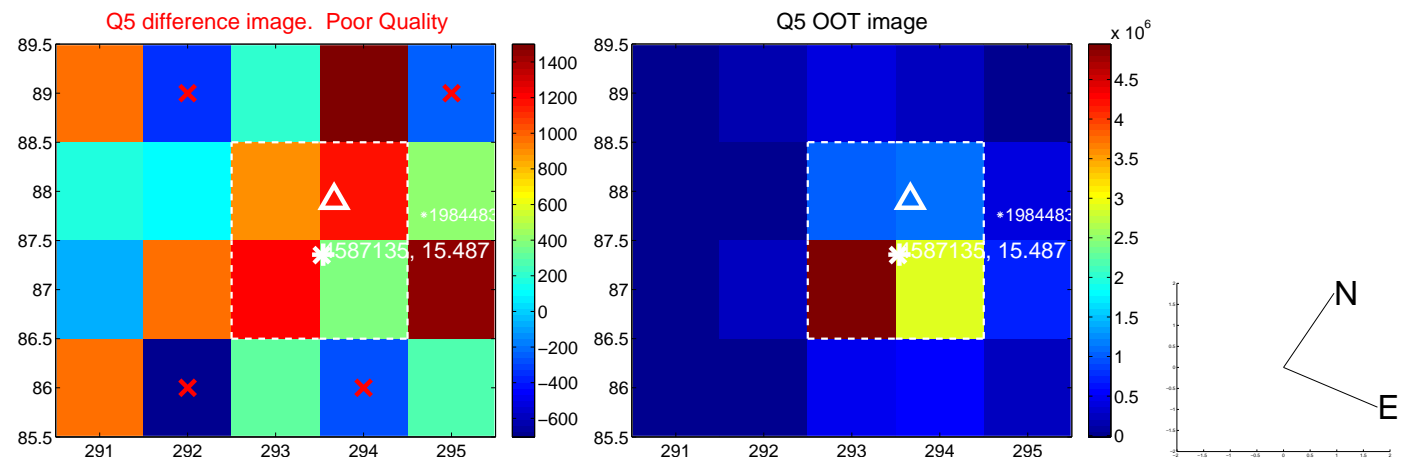


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

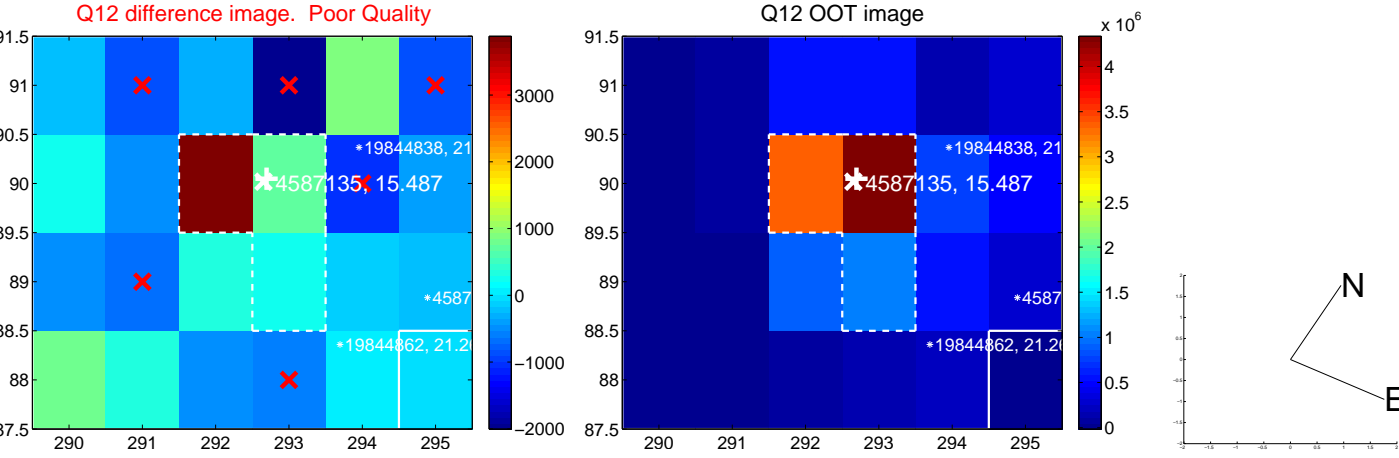
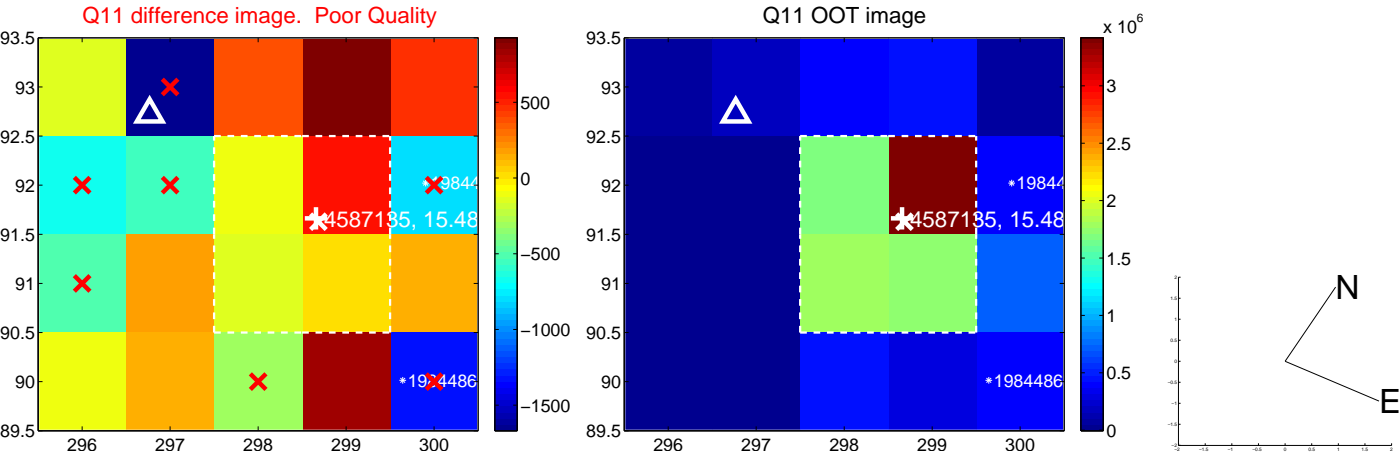
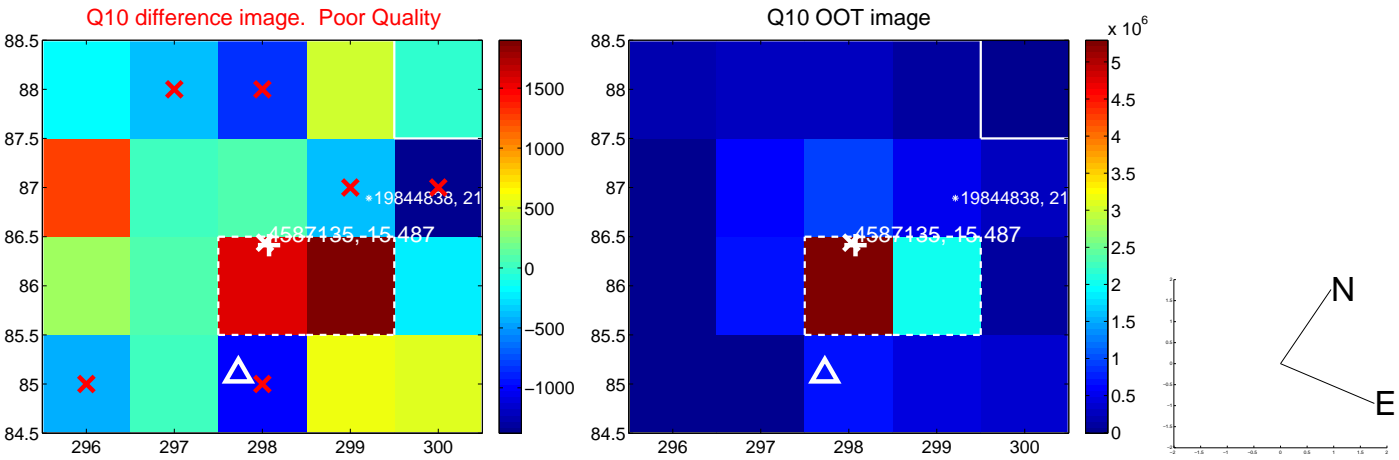
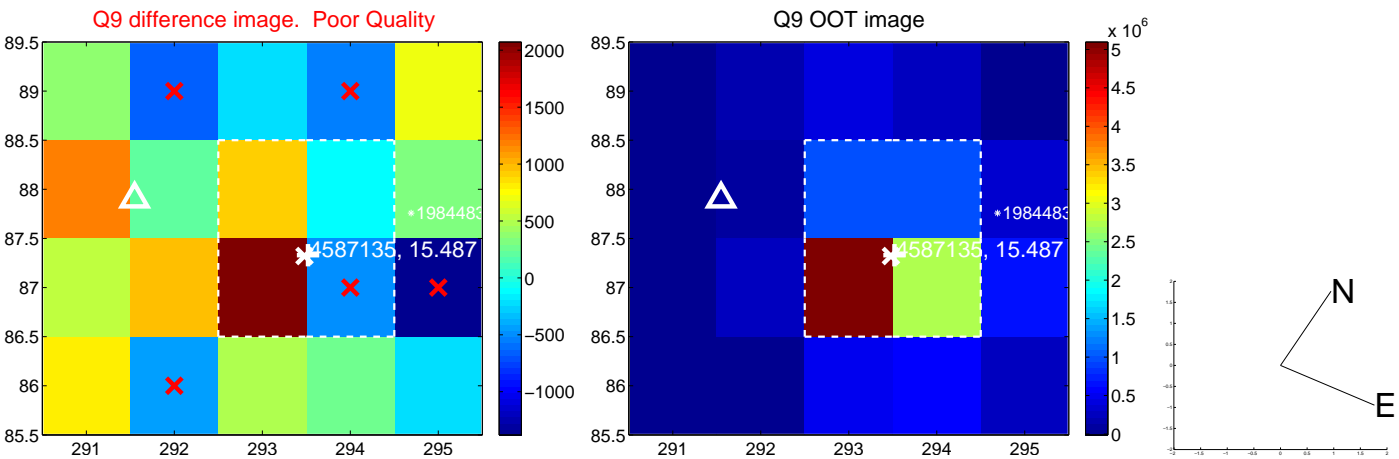
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



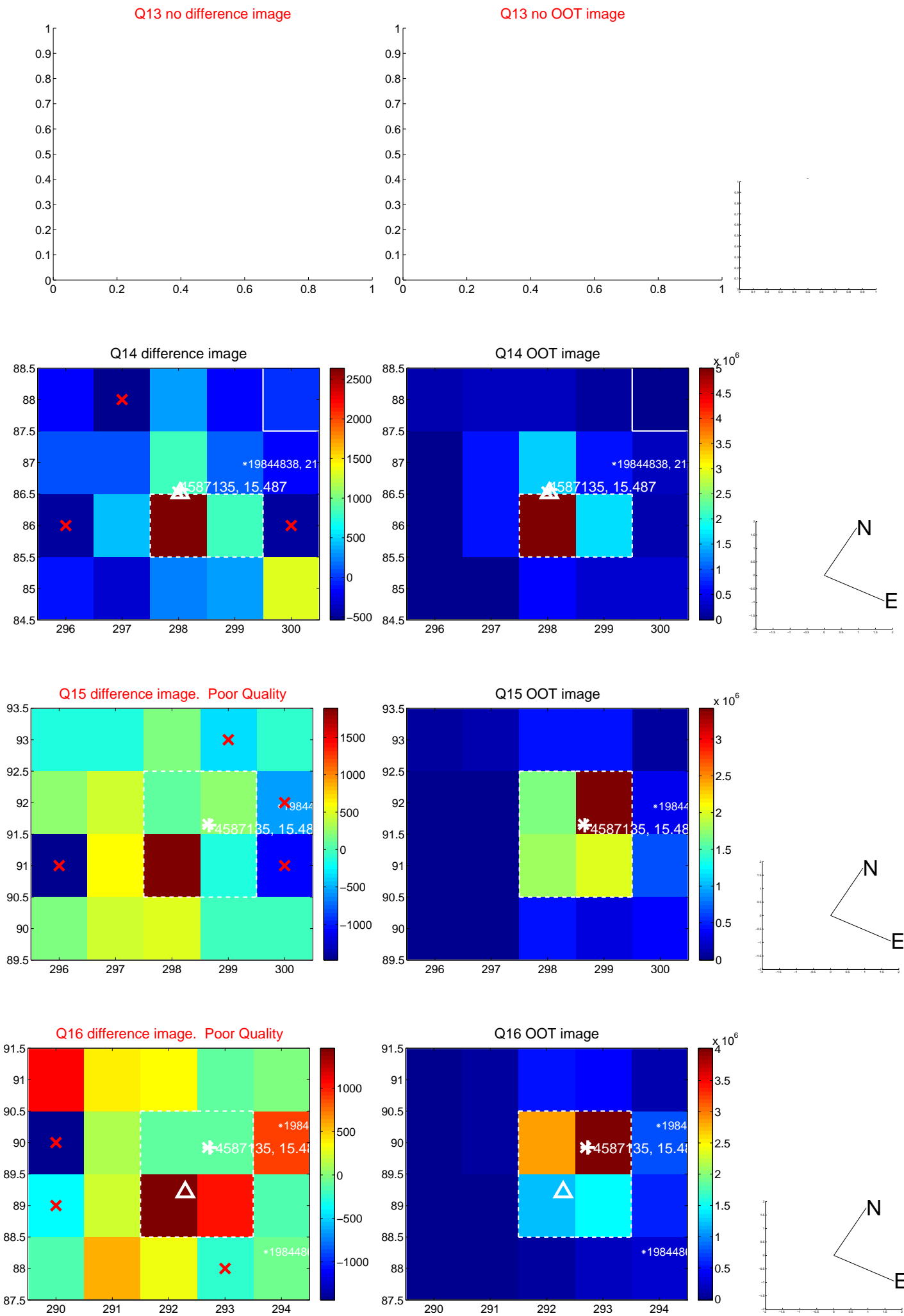
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



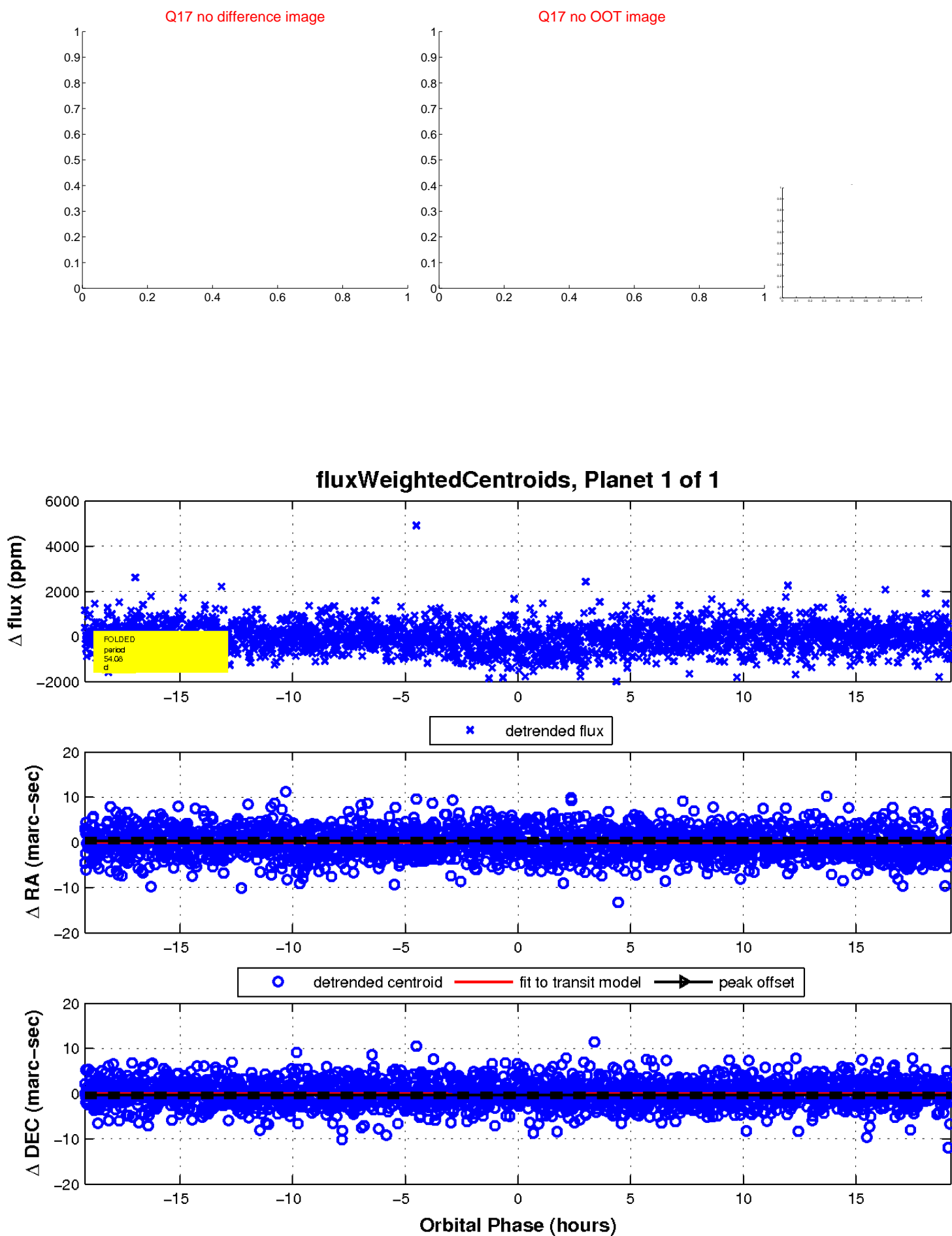
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

