

KIC 003758499

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})
003758499-01	OBS	5007.01	14.516870	137.552663	80.8	6.108	8.5	9.3	1.89	5934	2.00	266.27
003758499-02	OBS	5007.02	80.887514	136.680786	126.7	11.929	8.2	7.9	1.89	5934	2.35	26.96

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003758499-01	OBS	PC	0.97	0	0	0	0	NO_COMMENT
003758499-02	OBS	PC	0.55	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.

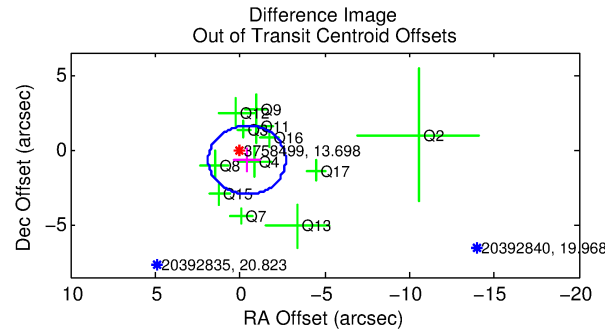
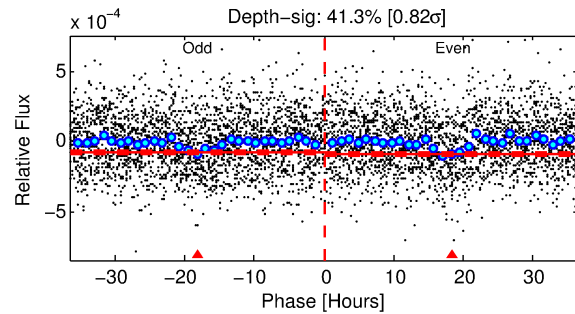
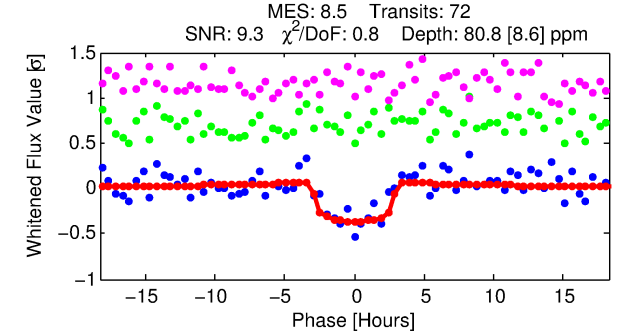
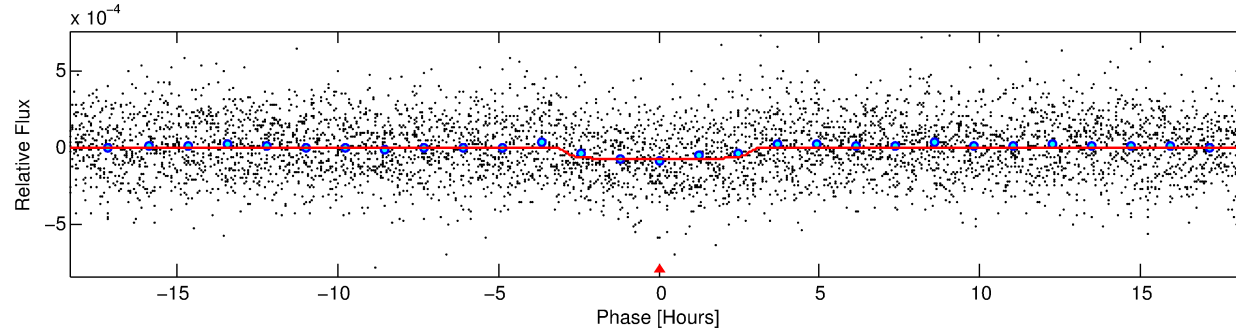
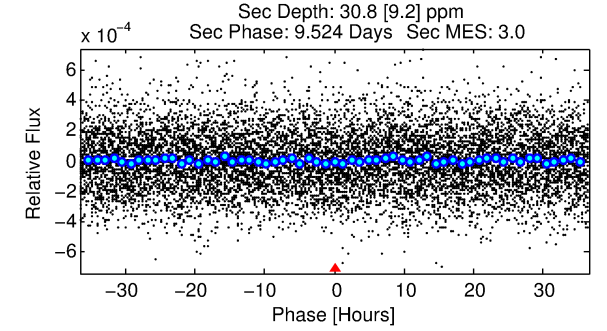
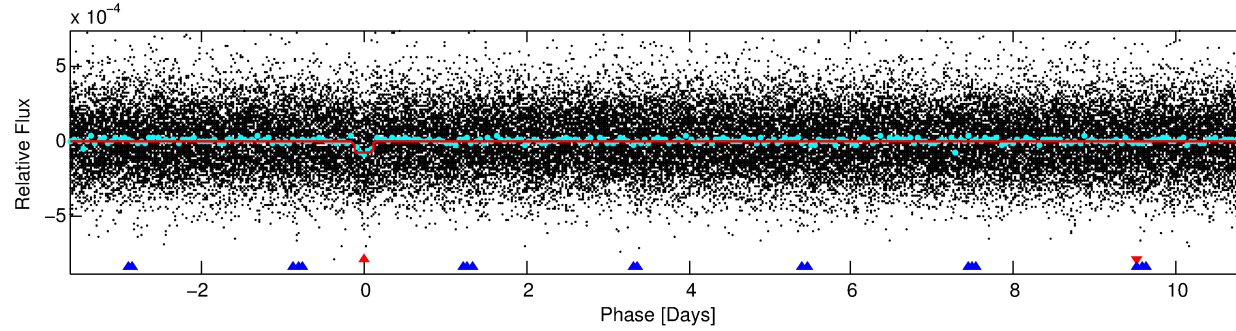
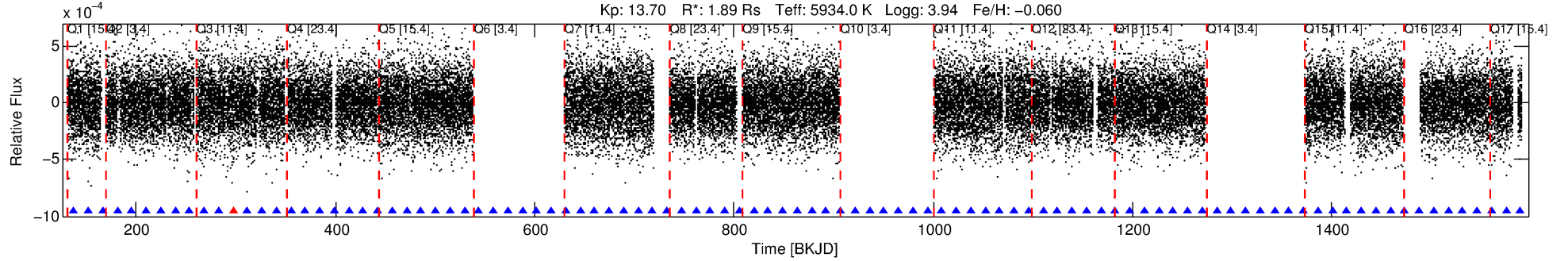
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003758499-01

No Significant Match Found

DV One-Page Summary

KIC: 3758499 Candidate: 1 of 2 Period: 14.517 d
KOI: K05007.01 Corr: 0.896



DV Fit Results:

Period = 14.51687 [0.00019] d
Epoch = 137.5527 [0.0108] BKJD
Rp/R* = 0.0097 [0.0036]
a/R* = 8.41 [15.60]
b = 0.90 [0.41]
Seff = 266.27 [197.99]
Teq = 1030 [191] K
Rp = 2.00 [1.14] Re
a = 0.1218 [0.0539] AU
Ag = 62.87 [68.35] [0.91σ]
Teffp = 4484 [909] K [3.72σ]

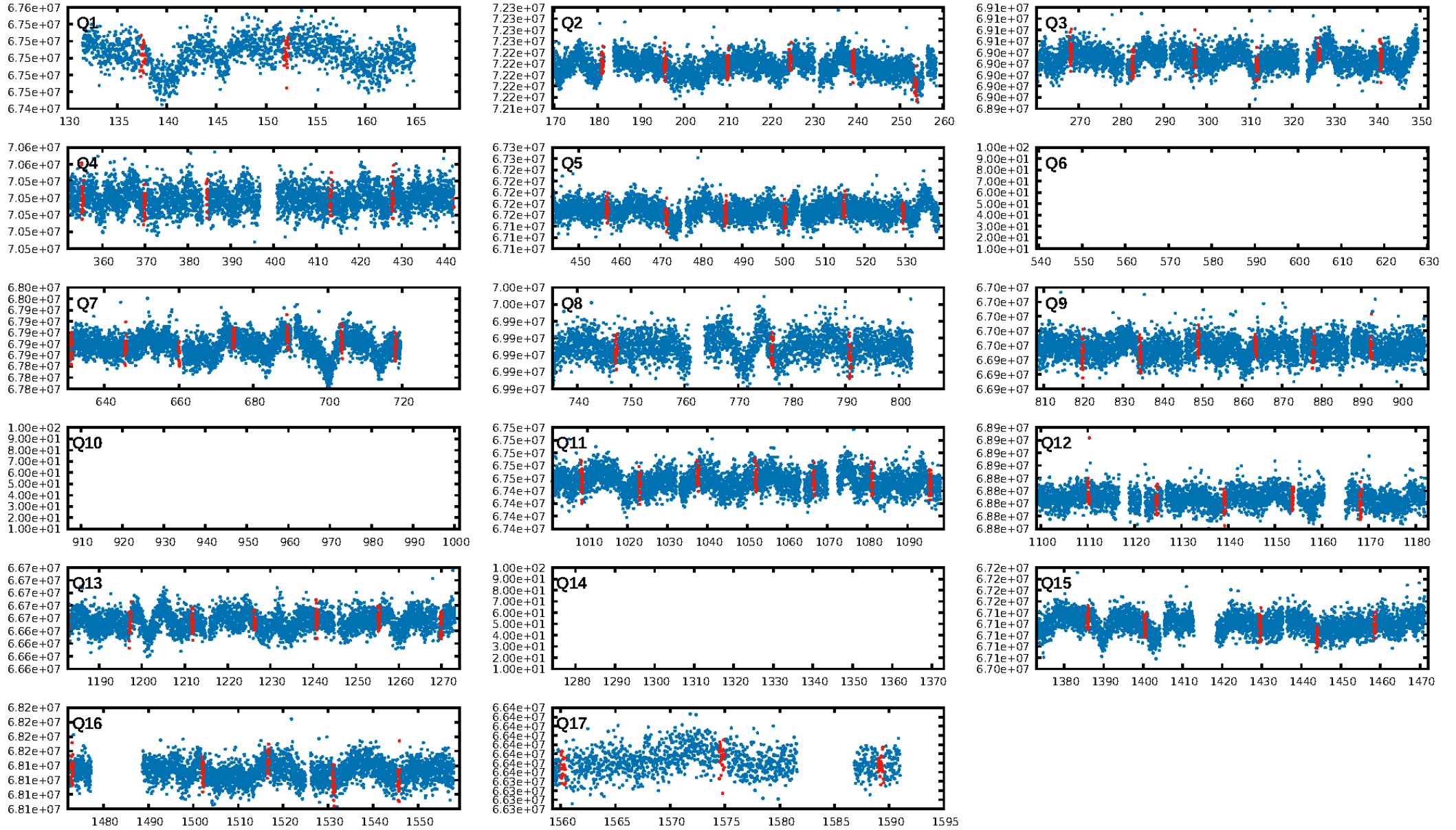
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [118.85σ]
ModelChiSquare2-sig: 98.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.62e-17
RollingBand-fgt: 0.99 [66/67]
GhostDiagnostic-chr: 25.92
Centroid-sig: 38.3%
Centroid-so: 1.176 arcsec [0.73σ]
OotOffset-rm: 0.805 arcsec [1.06σ]
KicOffset-rm: 0.879 arcsec [1.11σ]
OotOffset-st: 1/4/4/3 [12]
KicOffset-st: 1/4/4/3 [12]
DiffImageQuality-fgm: 0.58 [7/12]
DiffImageOverlap-fno: 1.00 [14/14]

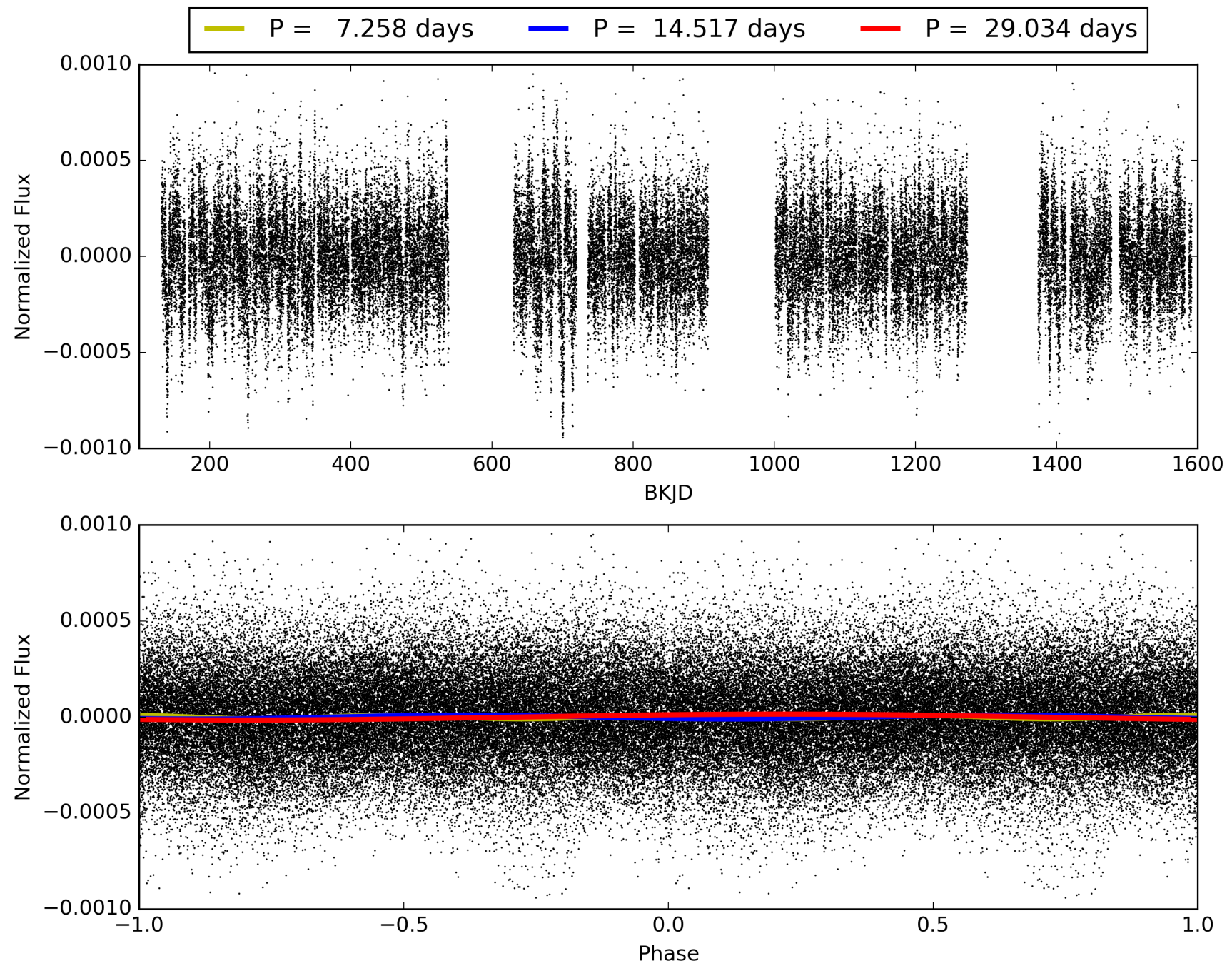
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 003758499-01, PDC Light Curves

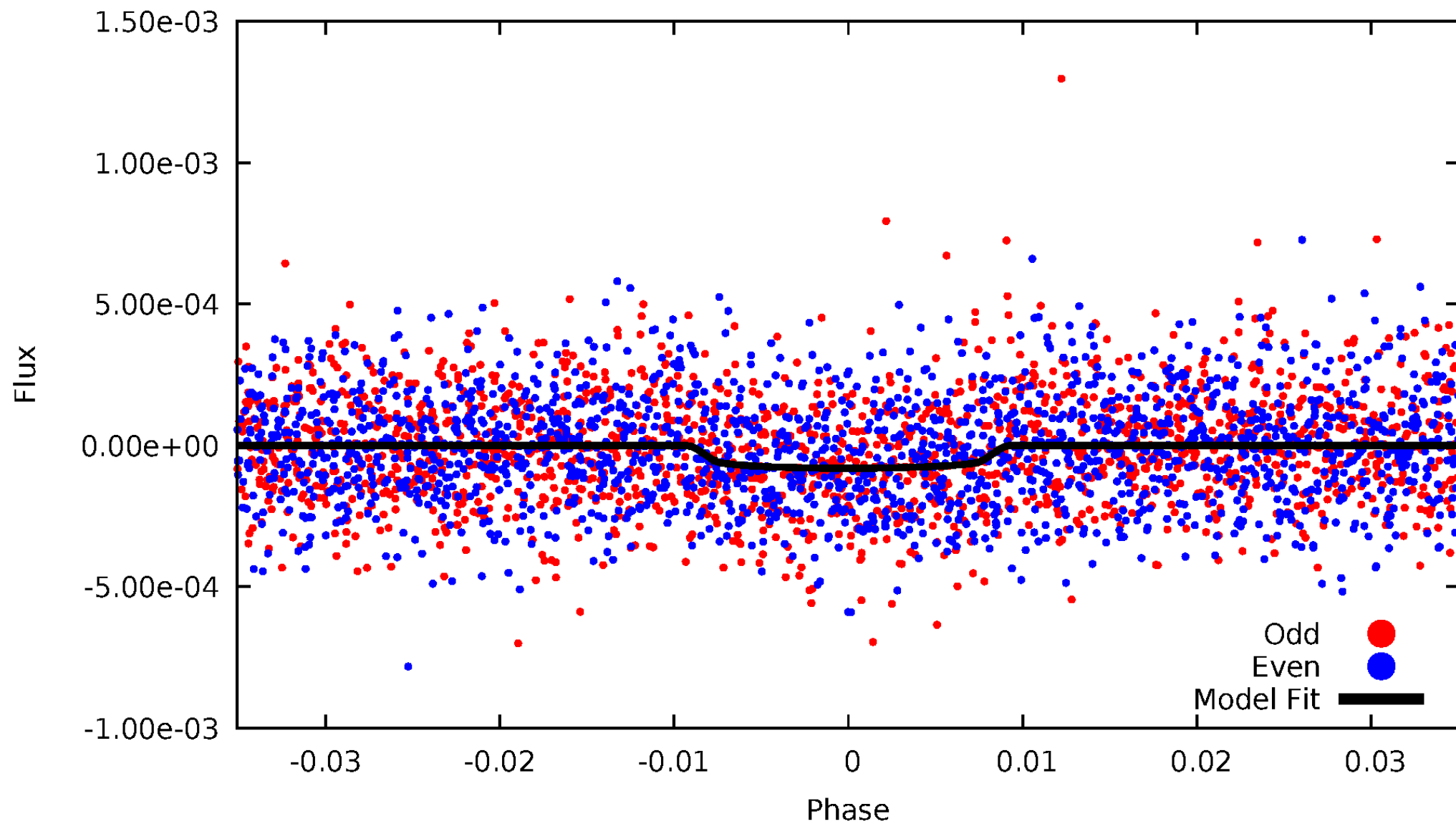


TCE 003758499-01



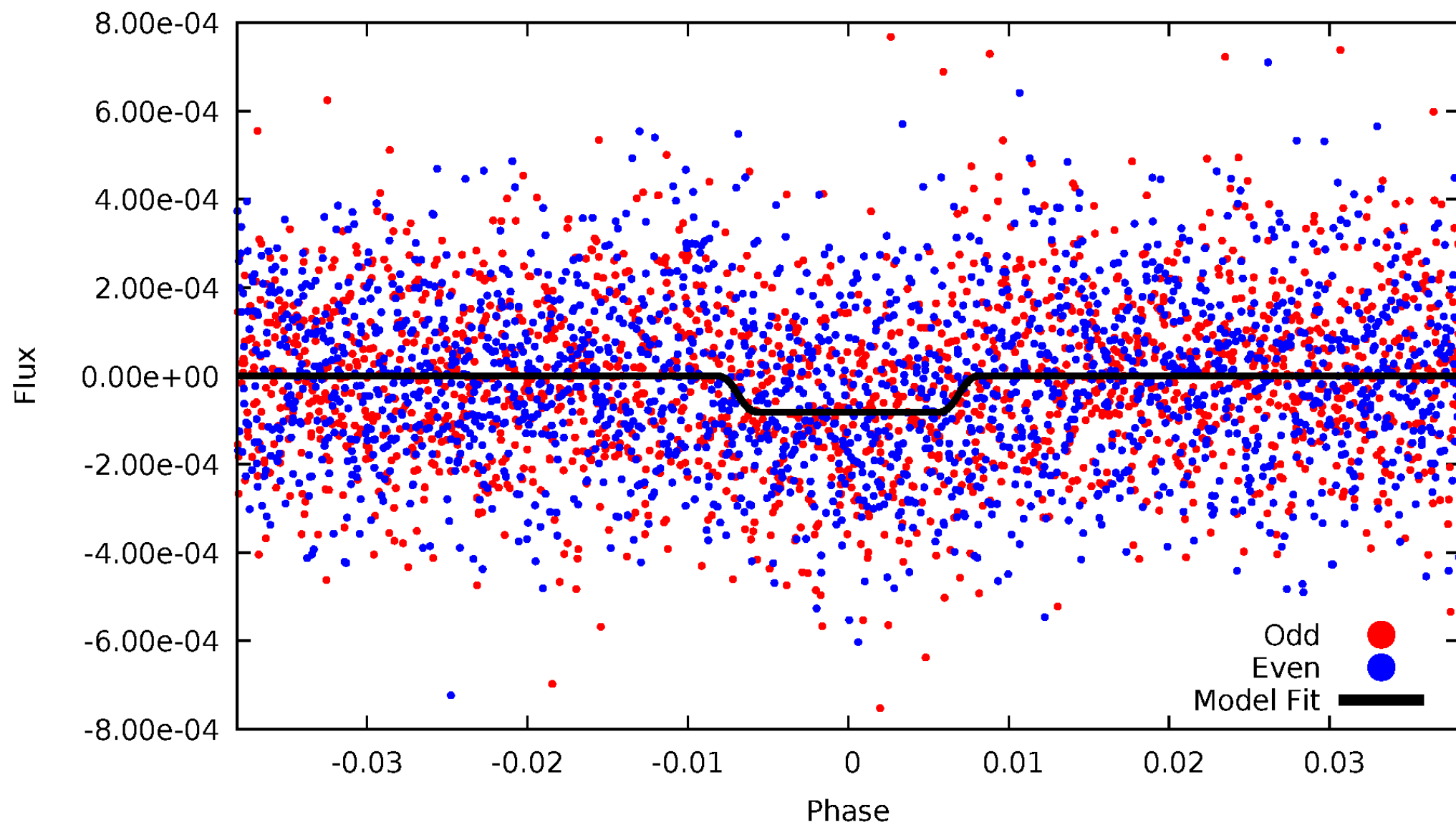
DV Odd/Even

TCE 003758499-01

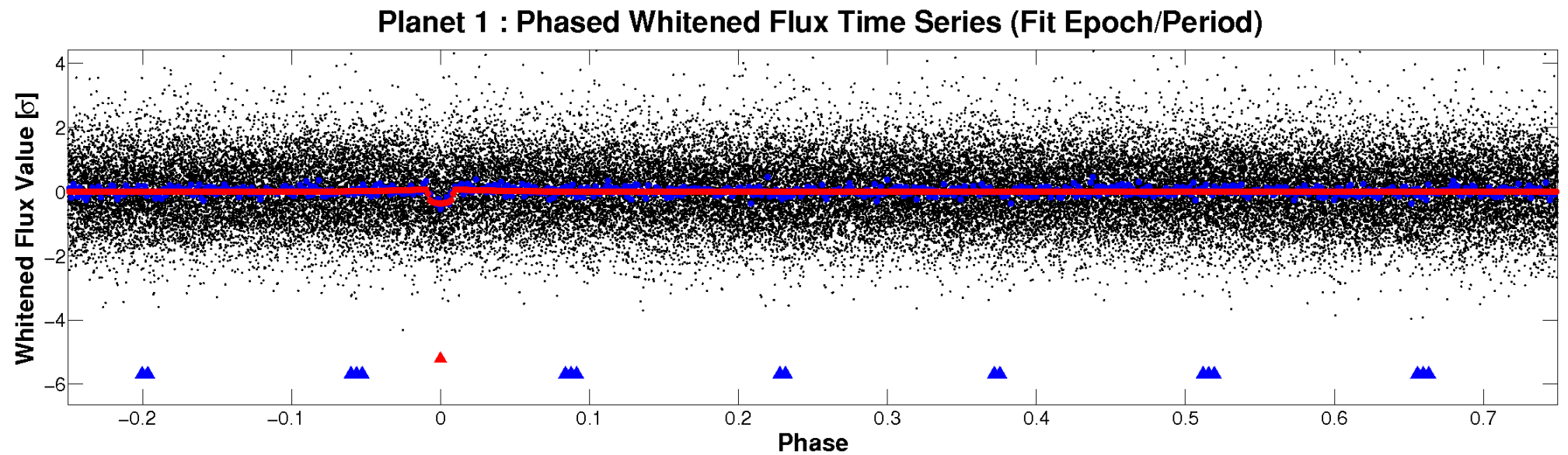
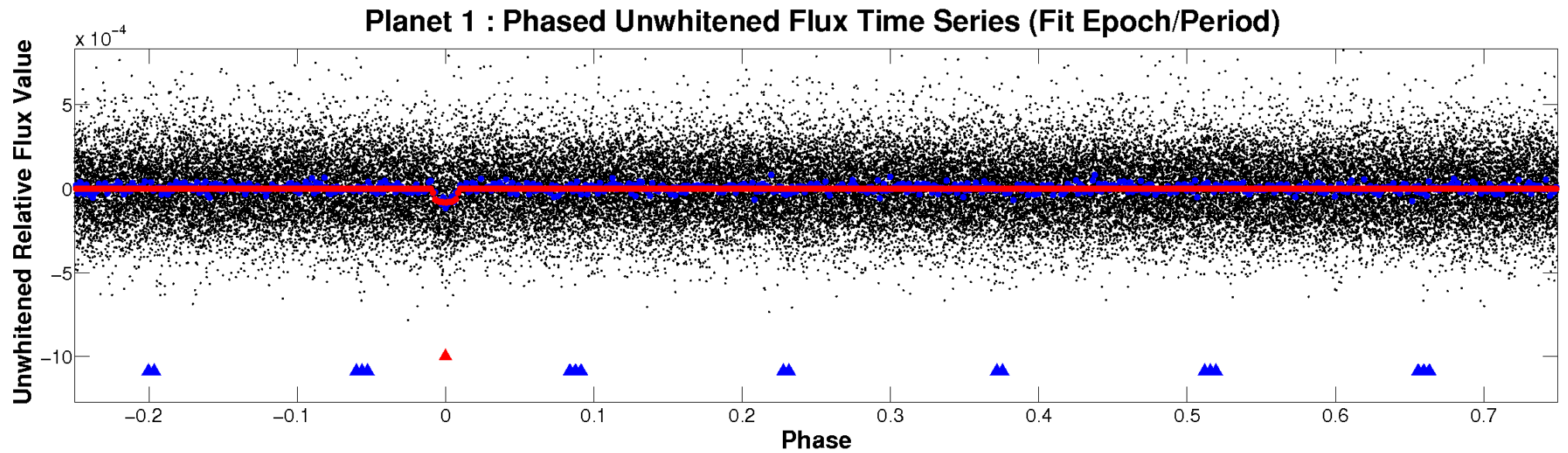


ALT Odd/Even

TCE 003758499-01

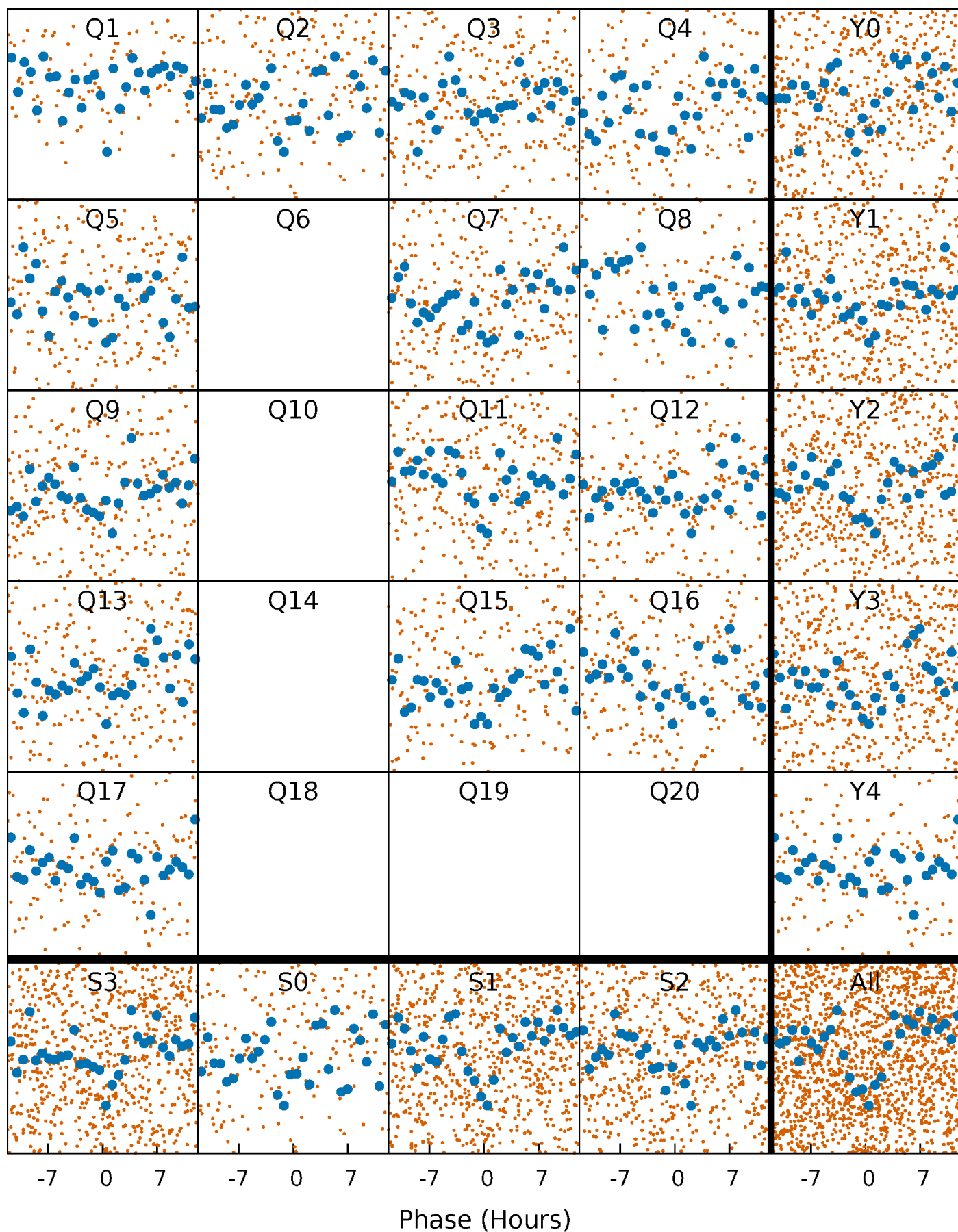


Non-Whitened Vs. Whitened Light Curve



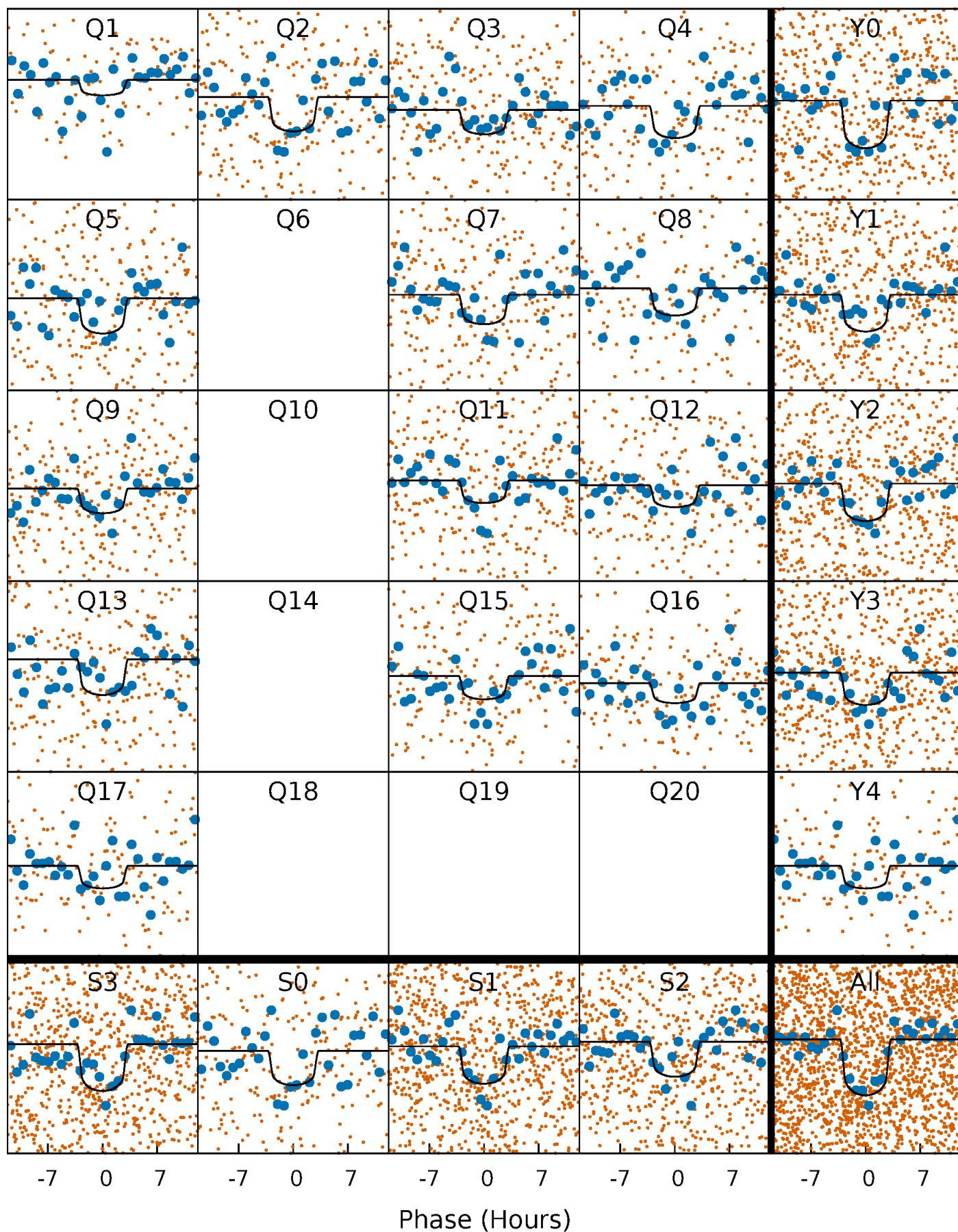
PDC Quarter-Phased Transit Curves

TCE 003758499-01 P= 14.516870 Days $T_0=137.552663$ (BKJD)



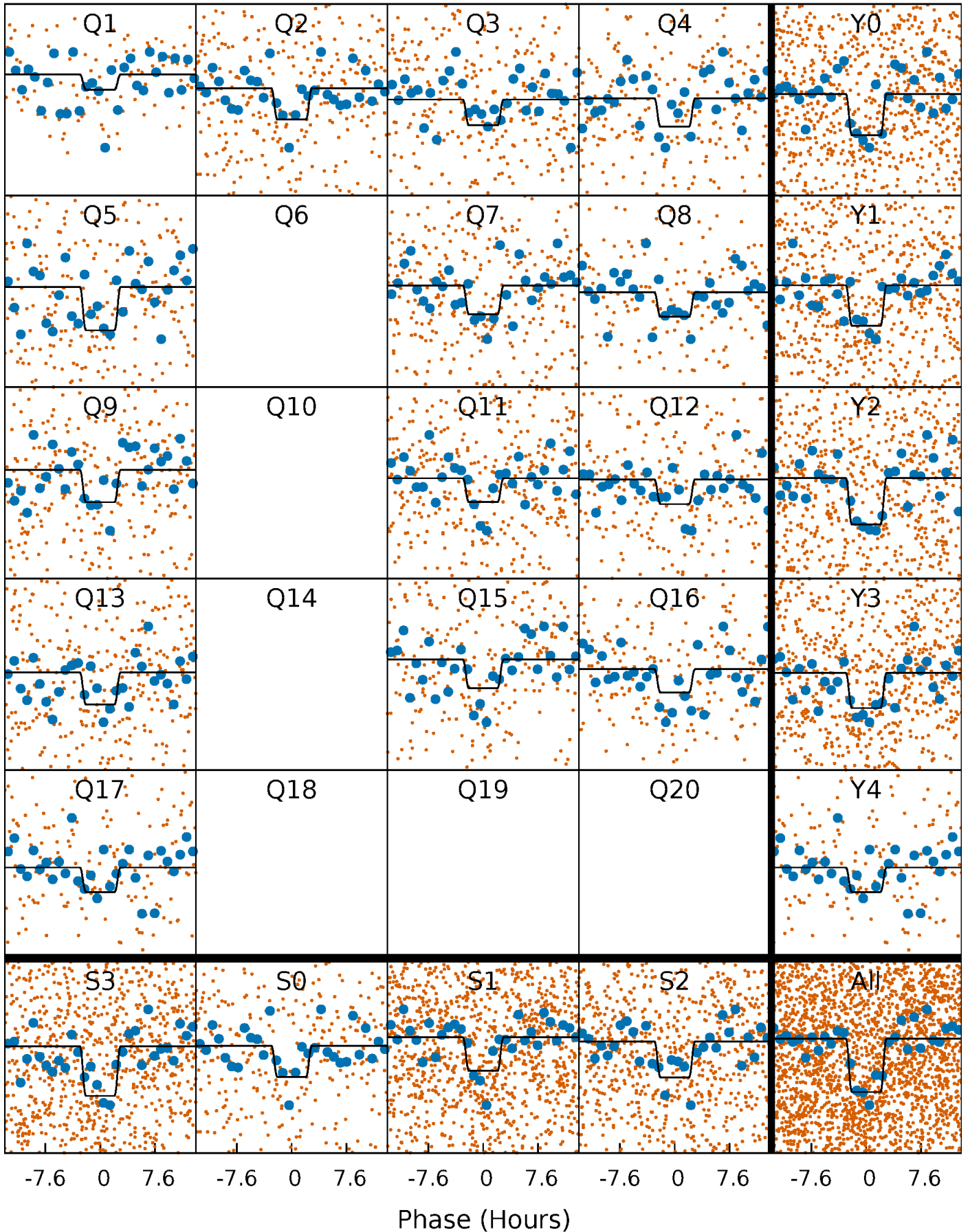
DV Quarter-Phased Transit Curves

TCE 003758499-01 P= 14.516870 Days $T_0=137.552663$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

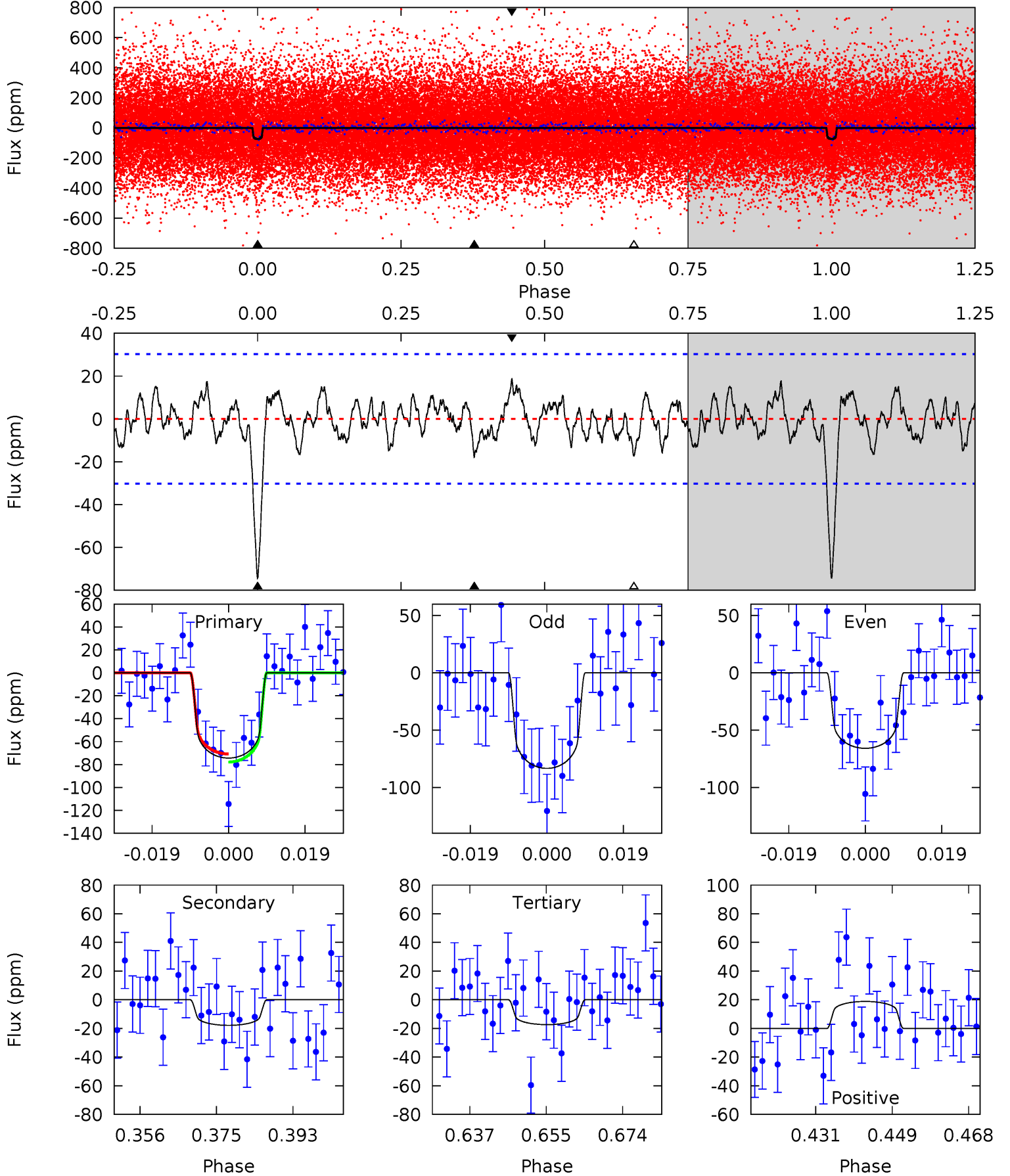
TCE 003758499-01 P= 14.516994 Days $T_0=137.544297$ (BKJD)



DV Model-Shift Uniqueness Test

003758499-01, P = 14.516870 Days, E = 123.035793 Days

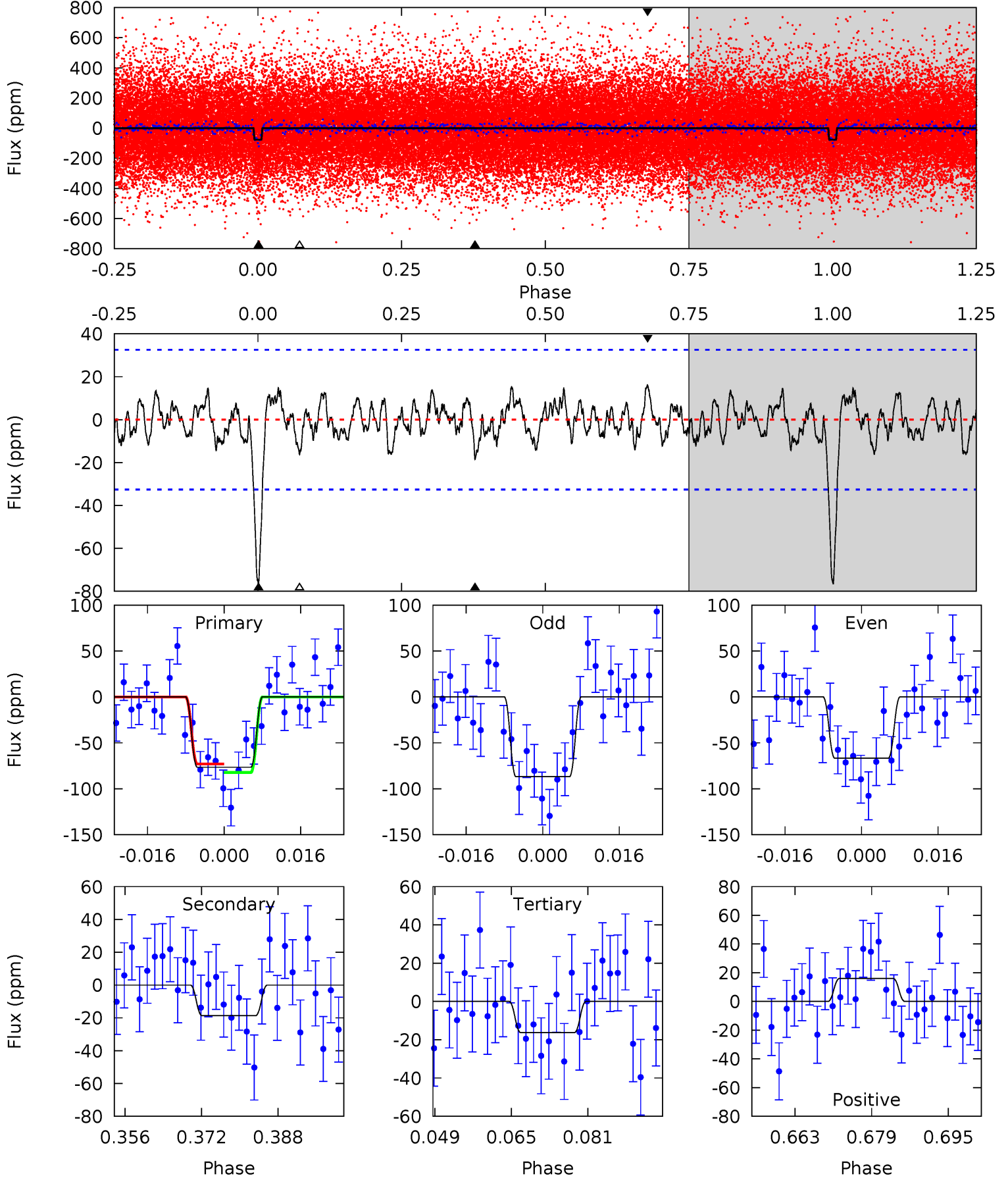
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	2.89	2.81	3.05	4.90	2.35	1.15	9.24	9.00	0.08	-0.16	1.42	1.13	0.20	0.57



Alt Model-Shift Uniqueness Test

003758499-01, $P = 14.516994$ Days, $E = 123.027303$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	2.82	2.47	2.43	4.93	2.41	1.00	9.13	9.16	0.36	0.39	1.52	1.04	0.17	0.70



Stellar Parameters For KIC 003758499

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5934^{+178}_{-178}	$3.945^{+0.440}_{-0.110}$	$-0.060^{+0.300}_{-0.300}$	$1.885^{+0.437}_{-0.811}$	$1.141^{+0.155}_{-0.207}$	$0.240^{+0.966}_{-0.095}$
	+3%/-3%	+11%/-3%	+500%/-500%	+23%/-43%	+14%/-18%	+402%/-39%
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 003758499-01 / KOI 5007.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-18 ± 6	$1.75^{+0.89}_{-0.76}$	1399^{+111}_{-165}	4179^{+995}_{-522}	46^{+100}_{-28}
Alt.	-19 ± 7	$1.68^{+0.81}_{-0.65}$	1399^{+99}_{-161}	4280^{+959}_{-578}	52^{+88}_{-31}

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 $A_{obs} \gg 1.0$

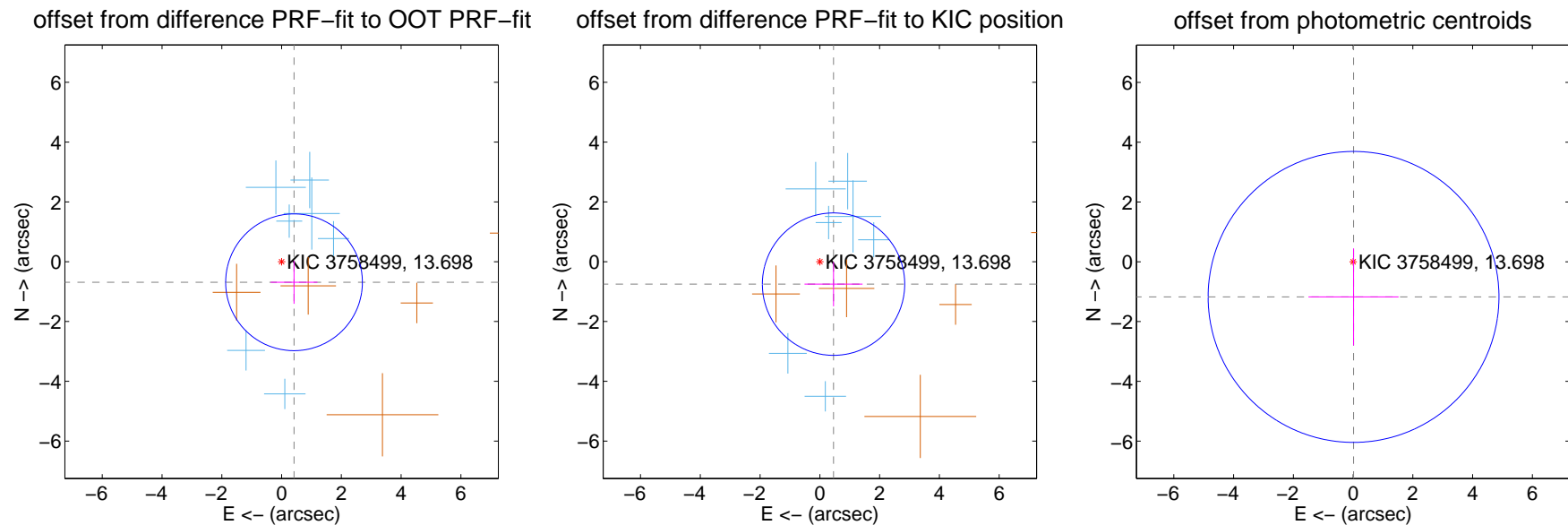
DV Centroid Data

Supplemental centroid analysis for 003758499-01. Kepler magnitude: 13.70. Transit SNR 9.34

There are 7 quarters with good PRF difference image offsets

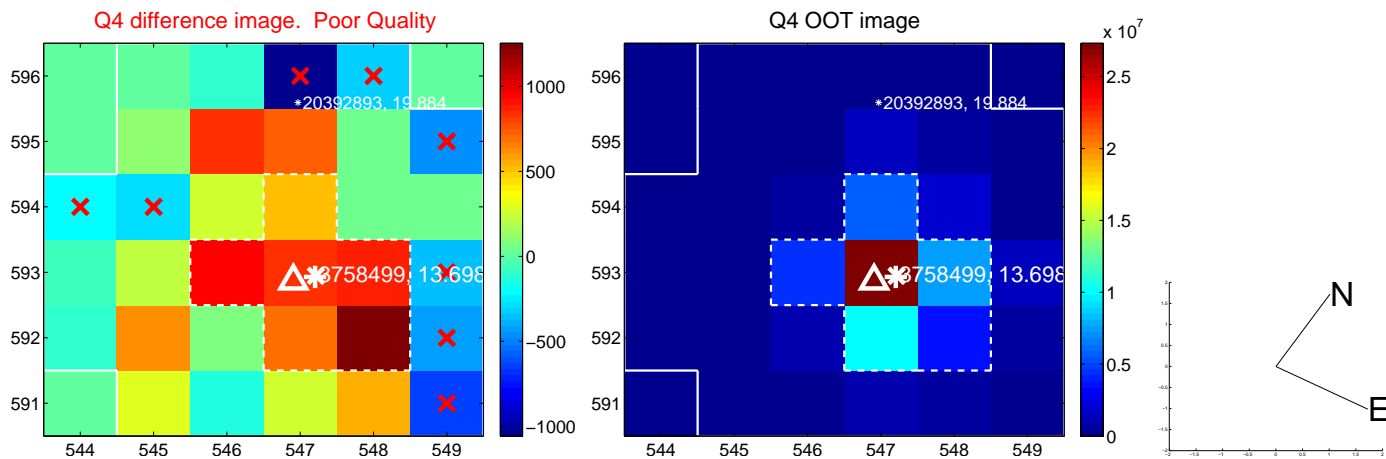
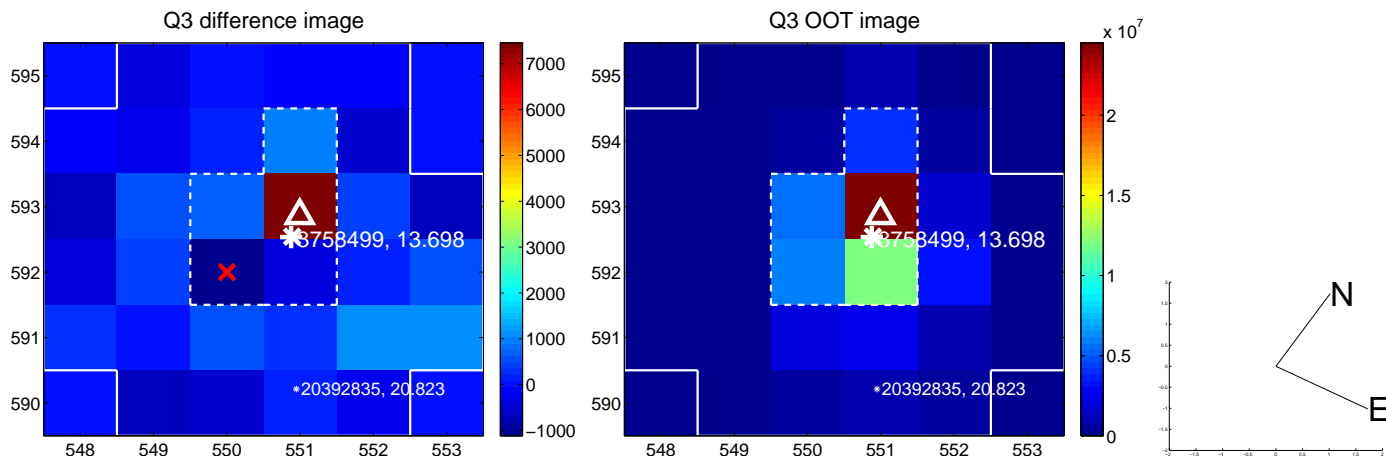
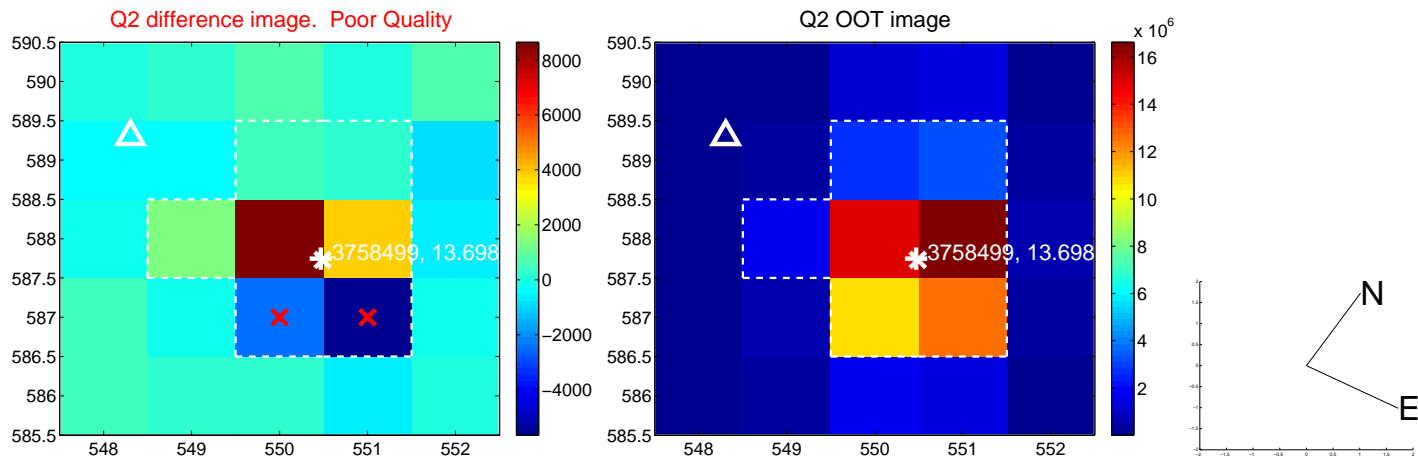
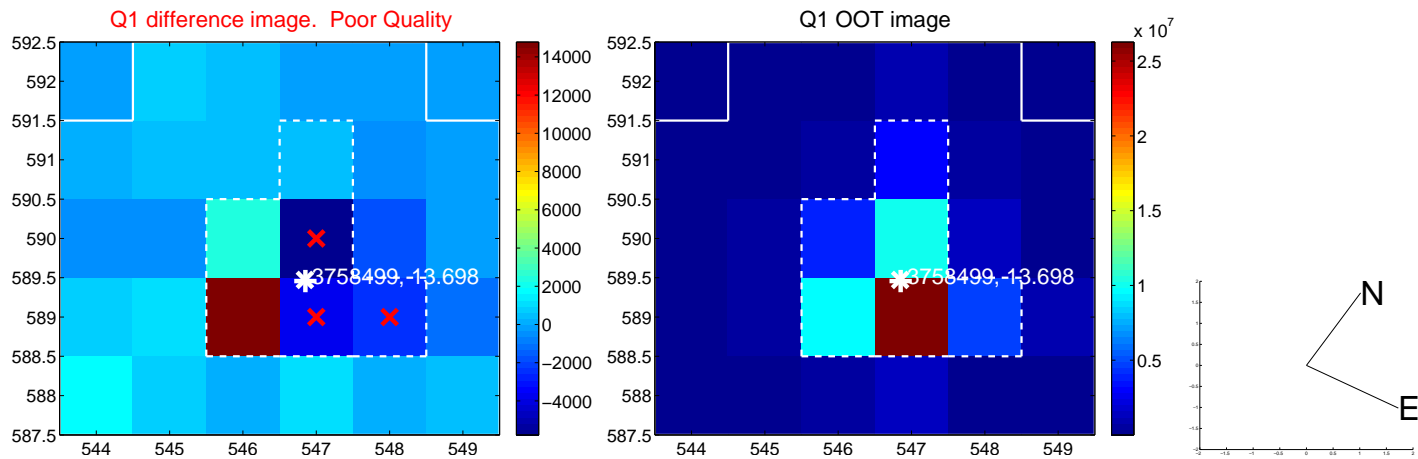
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.805 ± 0.762	1.06	-0.416 ± 0.782	-0.689 ± 0.719
PRF-fit source offset from KIC position	0.879 ± 0.794	1.11	-0.458 ± 0.970	-0.751 ± 0.740
photometric centroid source offset	1.18 ± 1.62	0.73	-0.01 ± 1.51	-1.18 ± 1.62

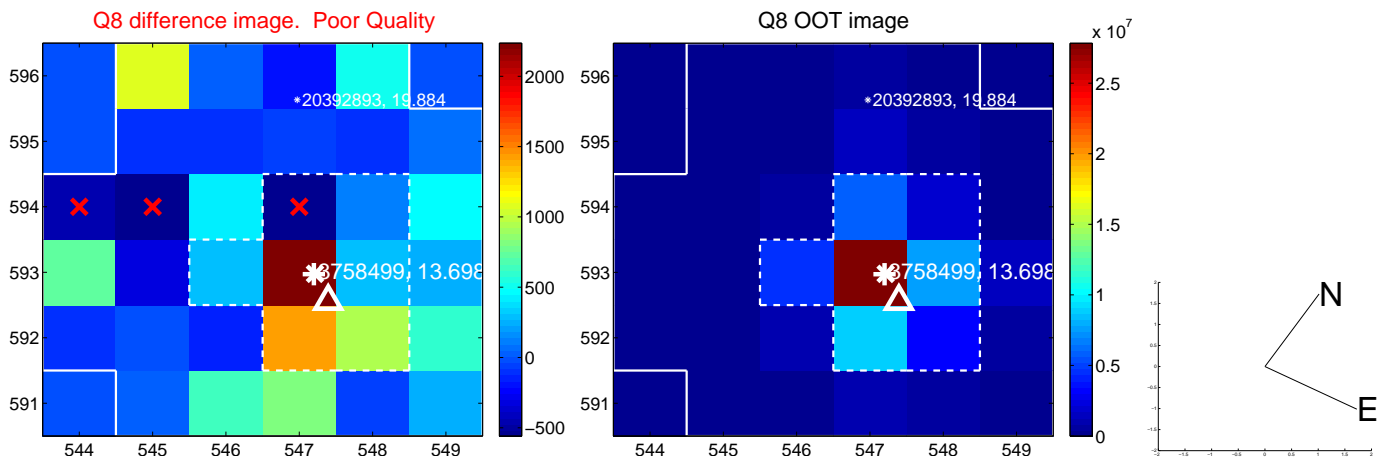
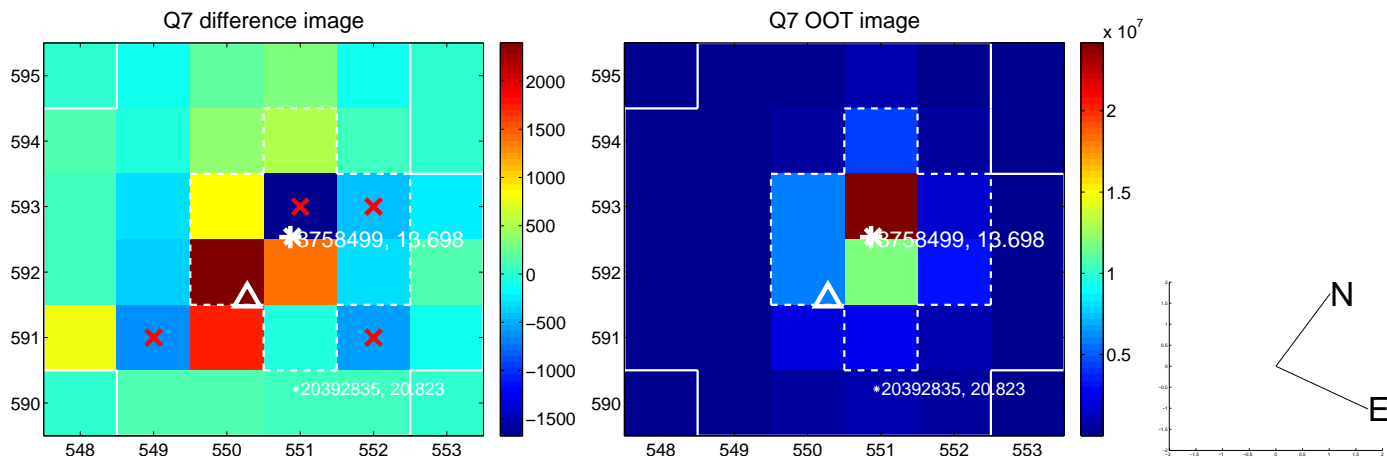
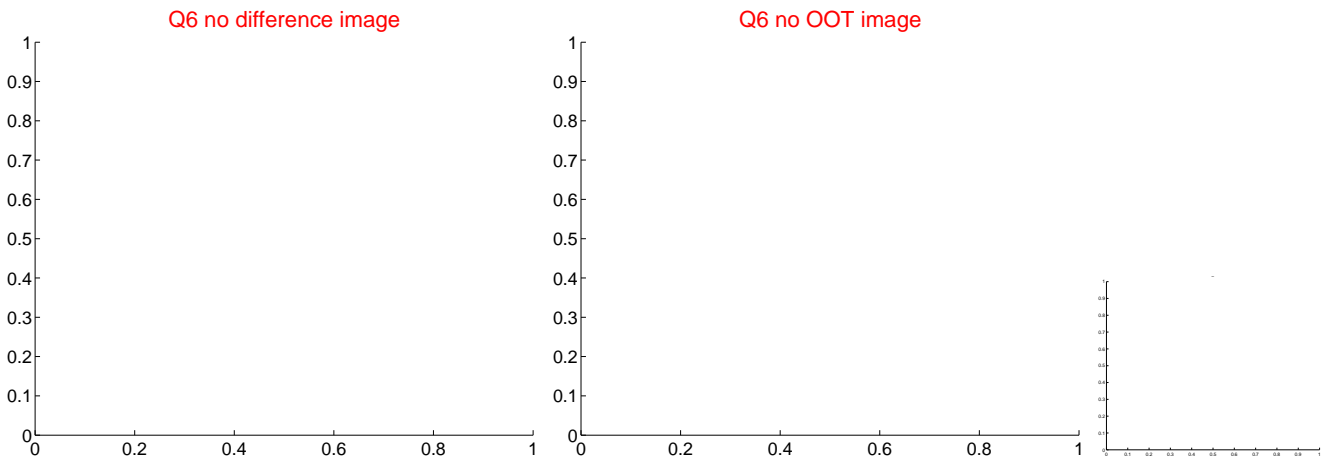
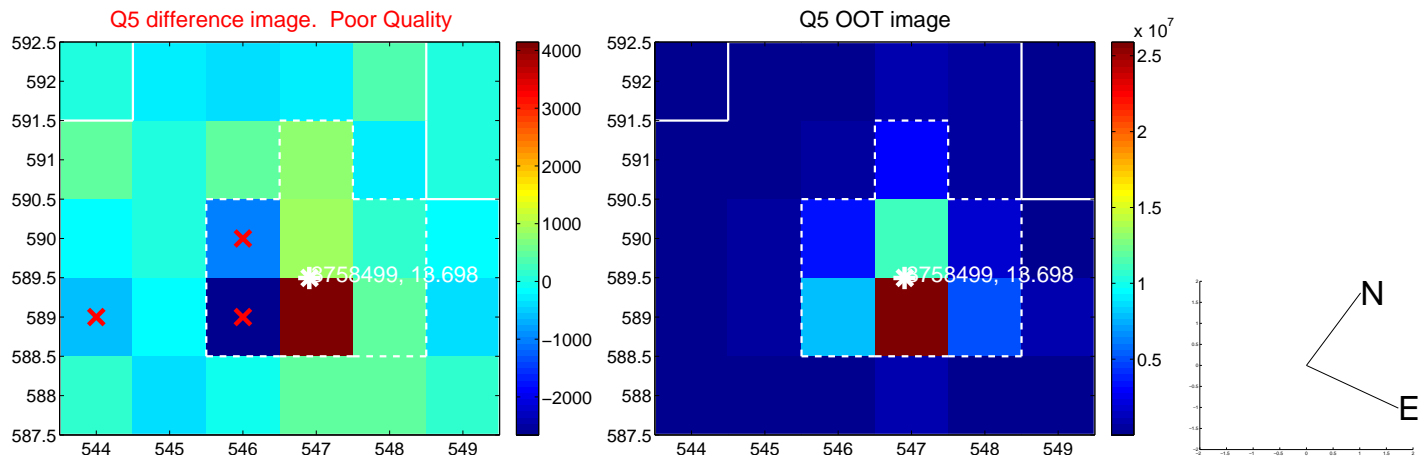


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

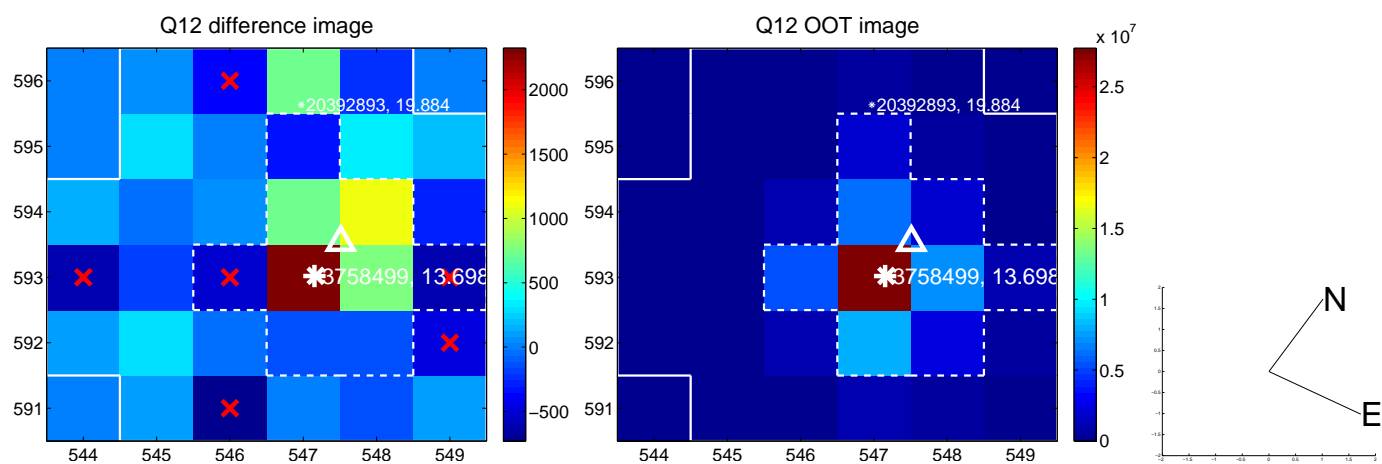
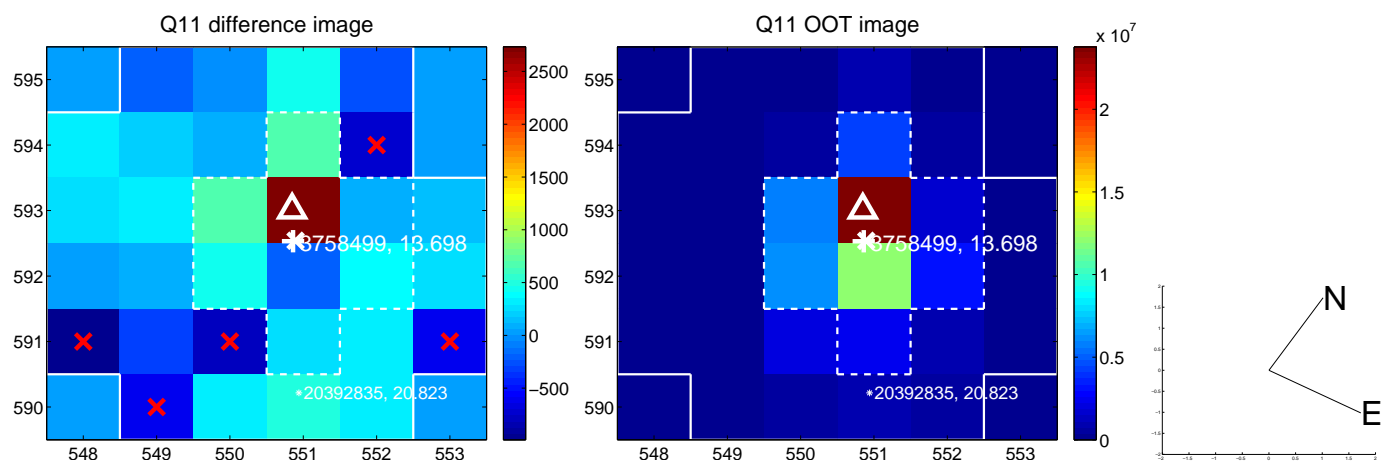
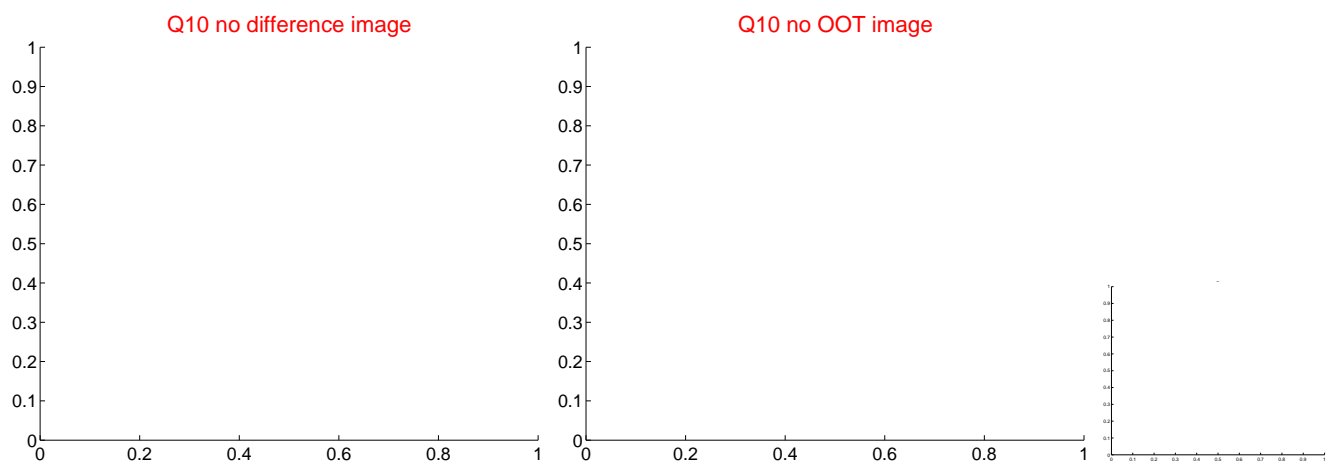
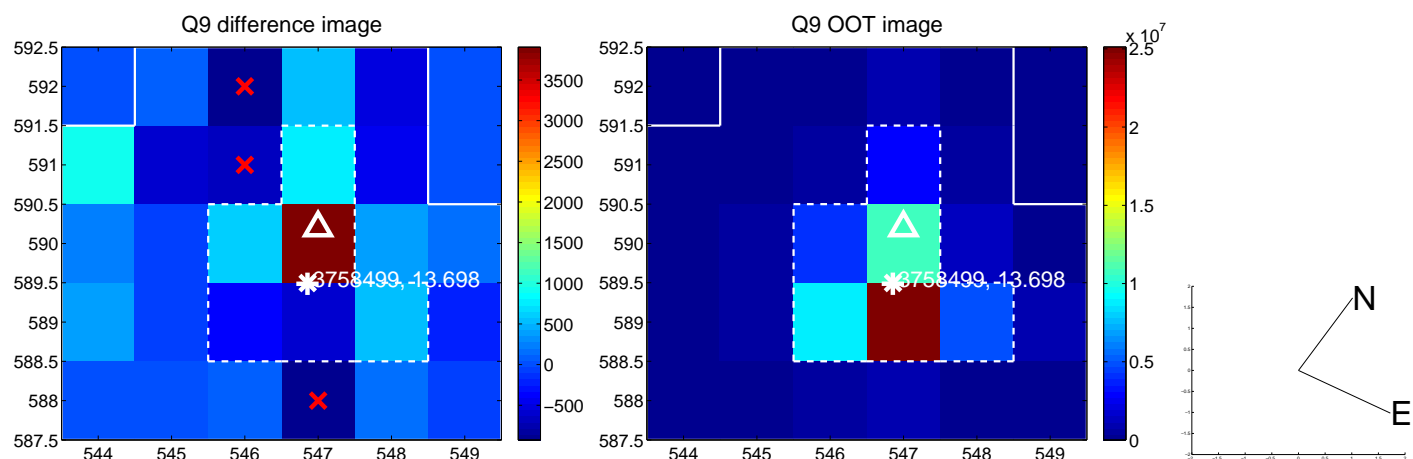
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



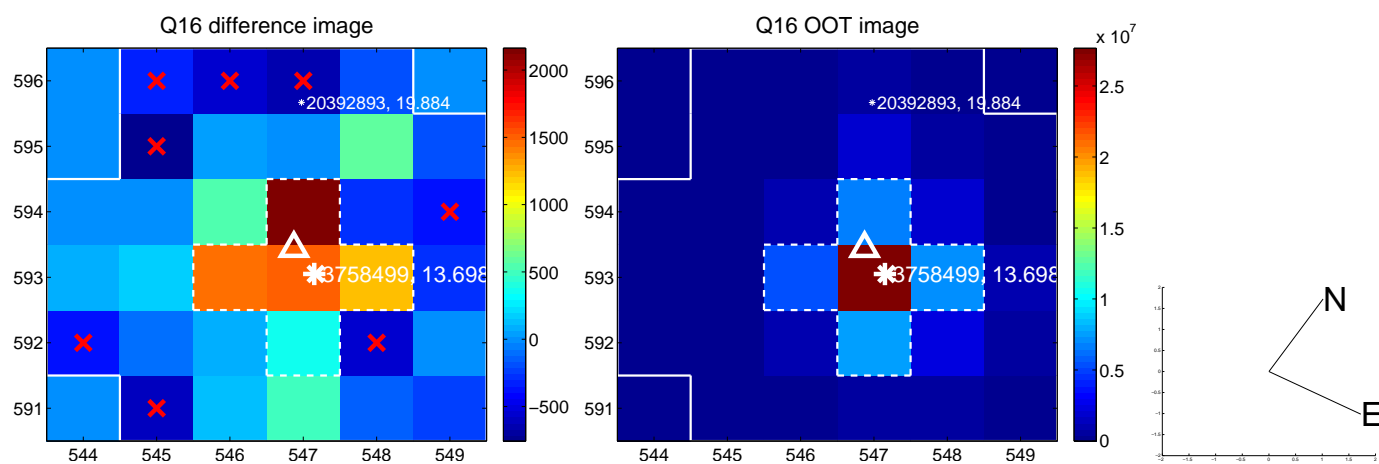
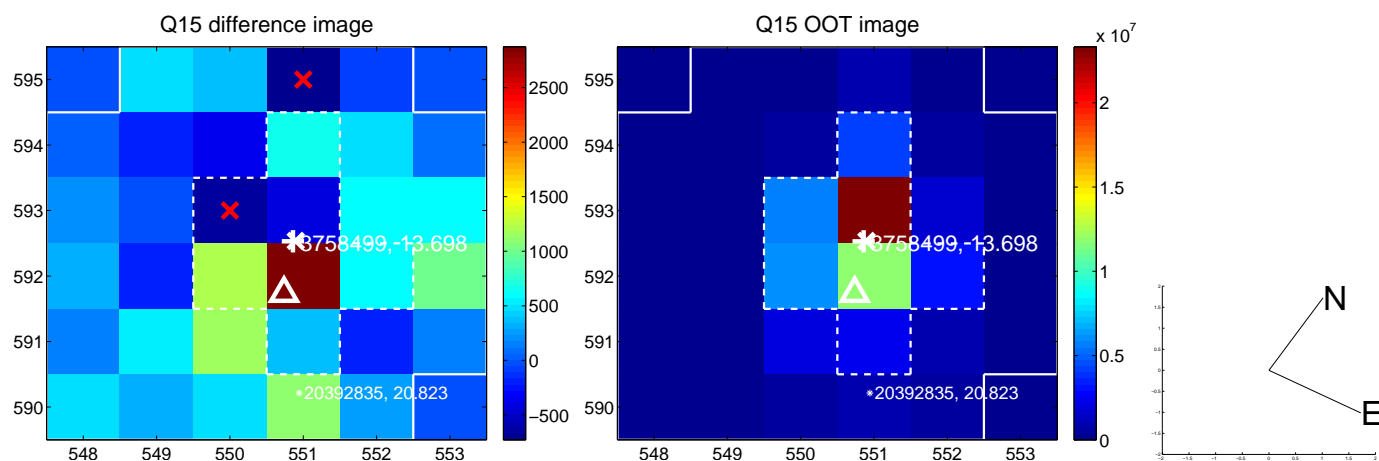
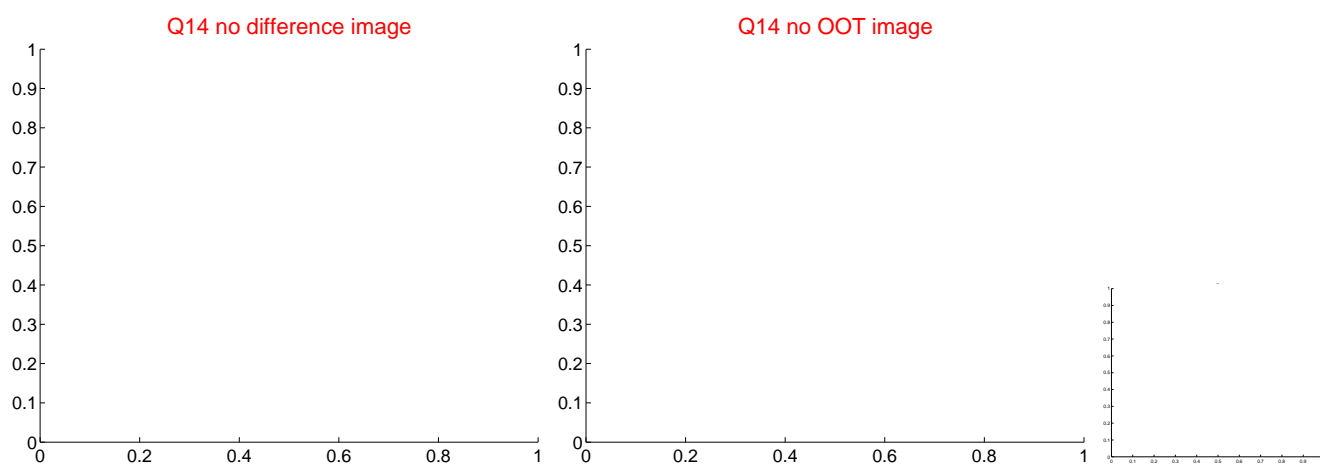
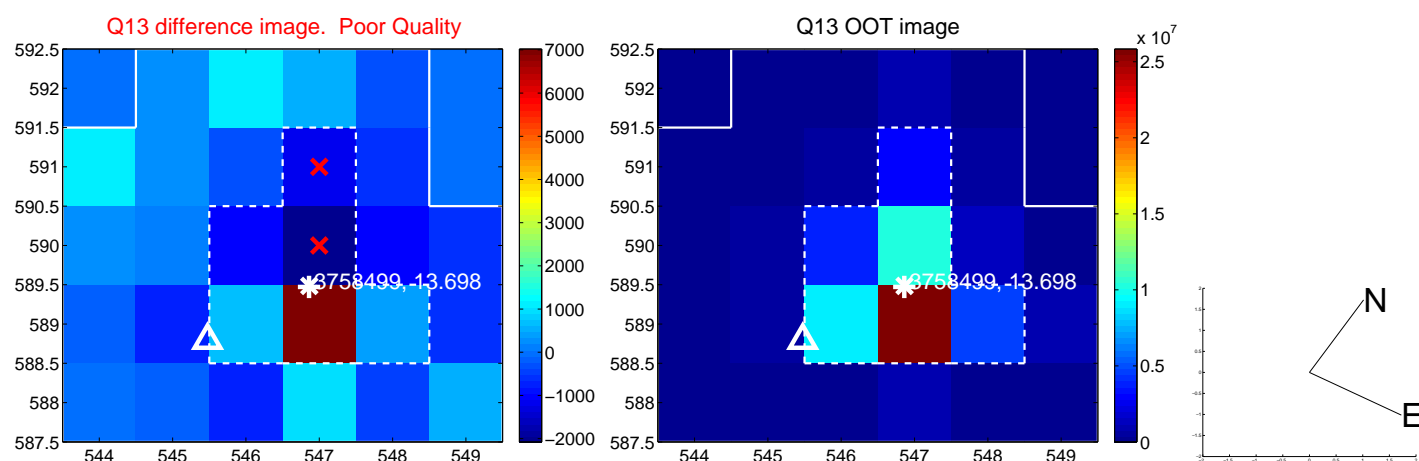
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



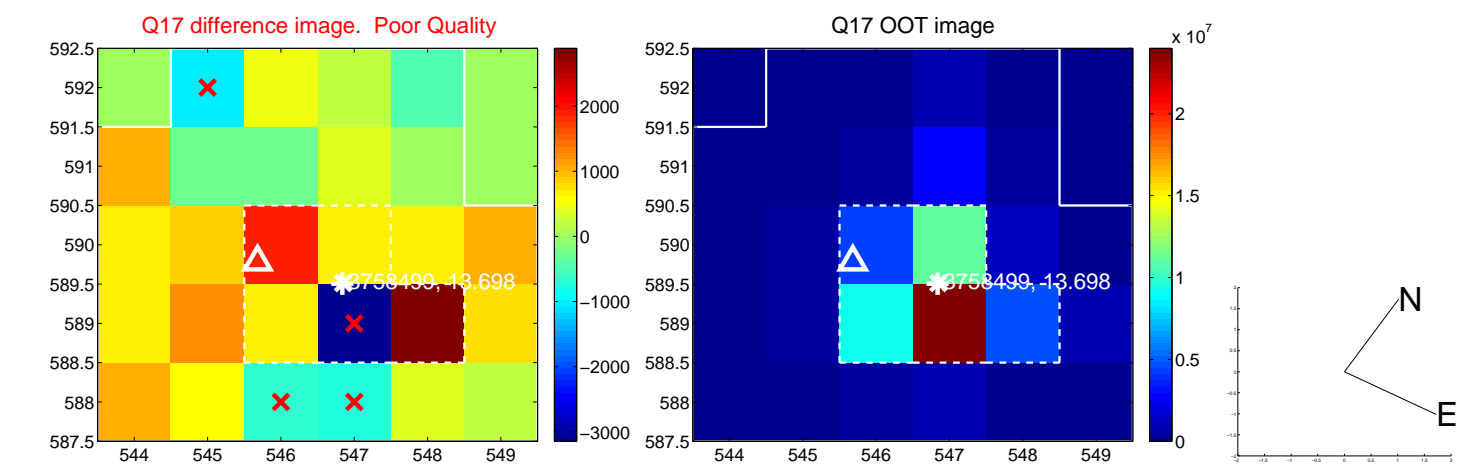
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



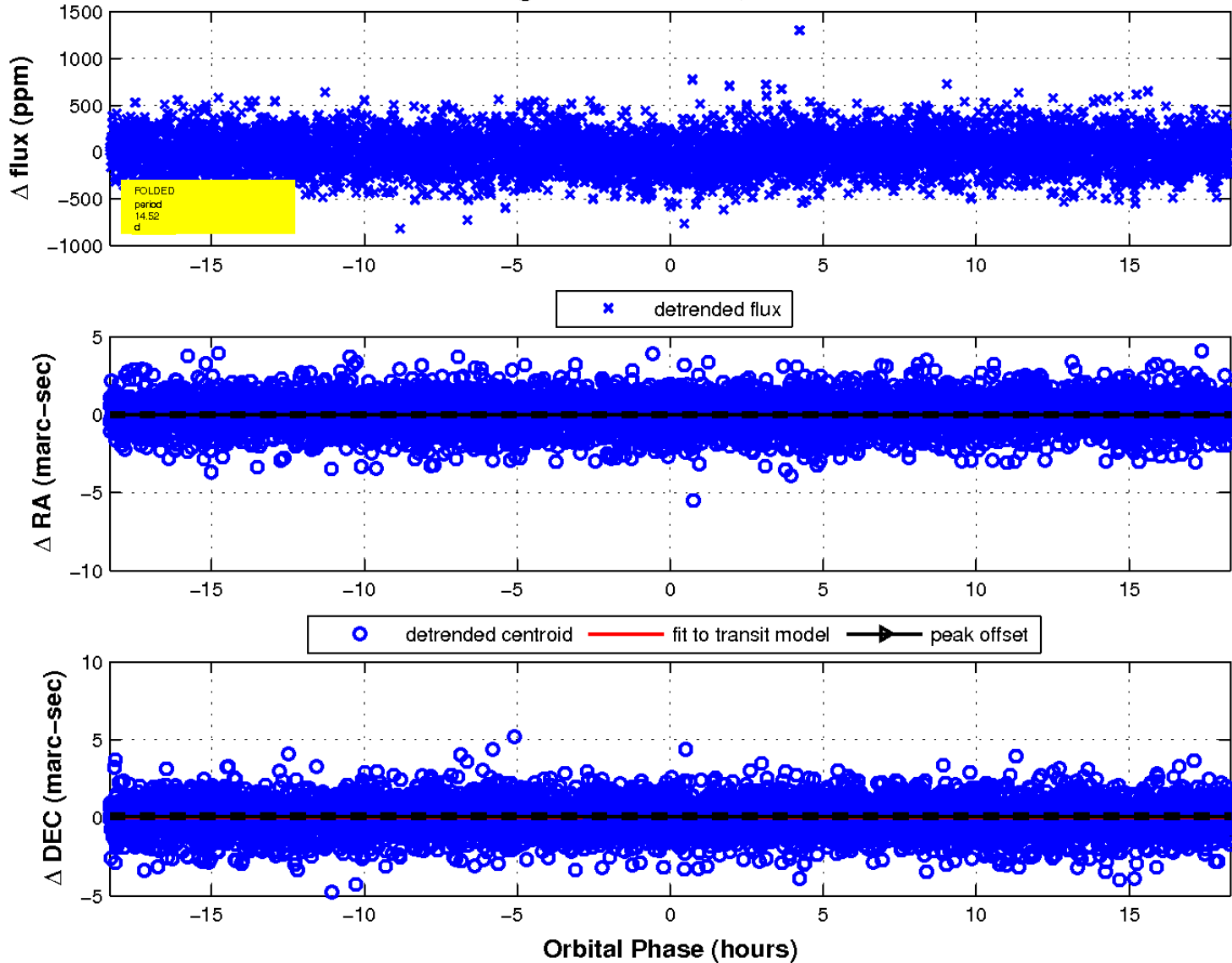
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

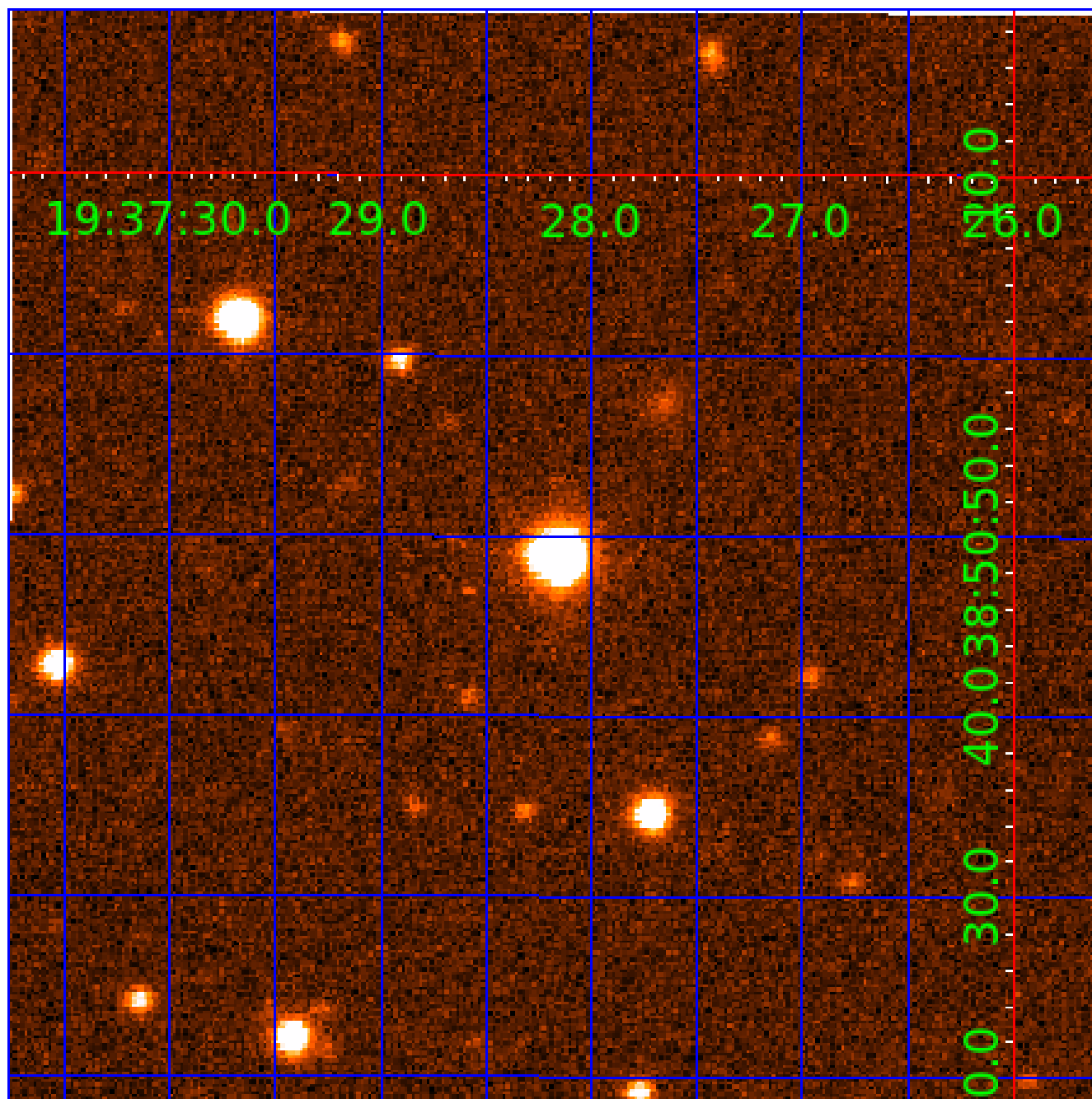


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 003758499

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})
003758499-01	OBS	5007.01	14.516870	137.552663	80.8	6.108	8.5	9.3	1.89	5934	2.00	266.27
003758499-02	OBS	5007.02	80.887514	136.680786	126.7	11.929	8.2	7.9	1.89	5934	2.35	26.96

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003758499-01	OBS	PC	0.97	0	0	0	0	NO_COMMENT
003758499-02	OBS	PC	0.55	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 003758499-02

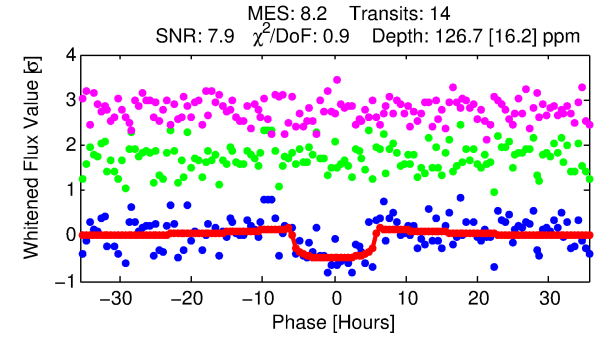
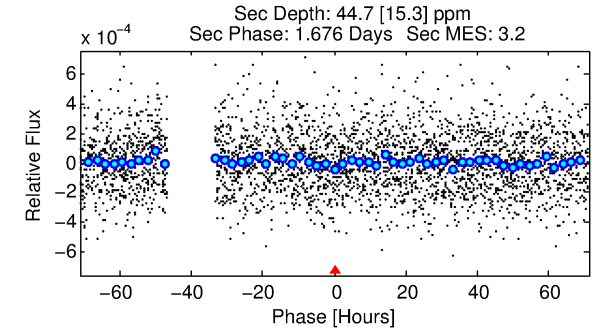
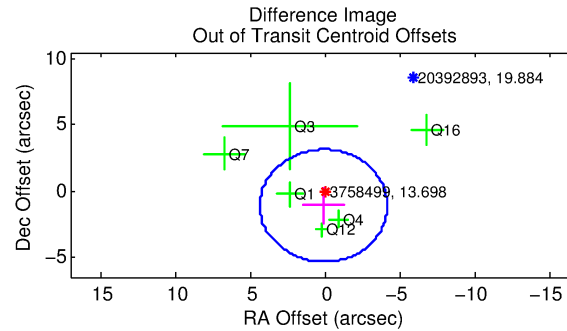
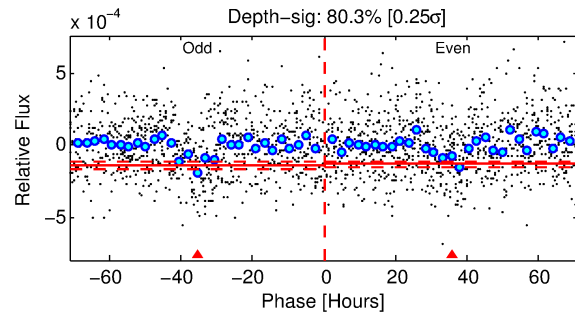
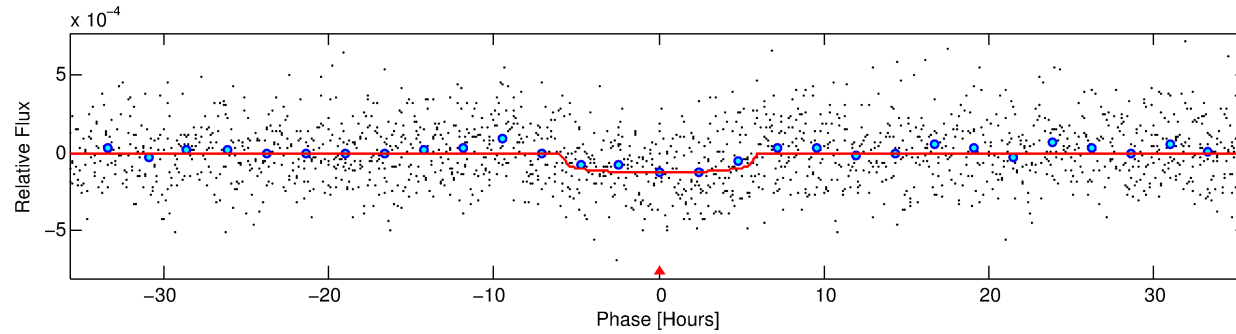
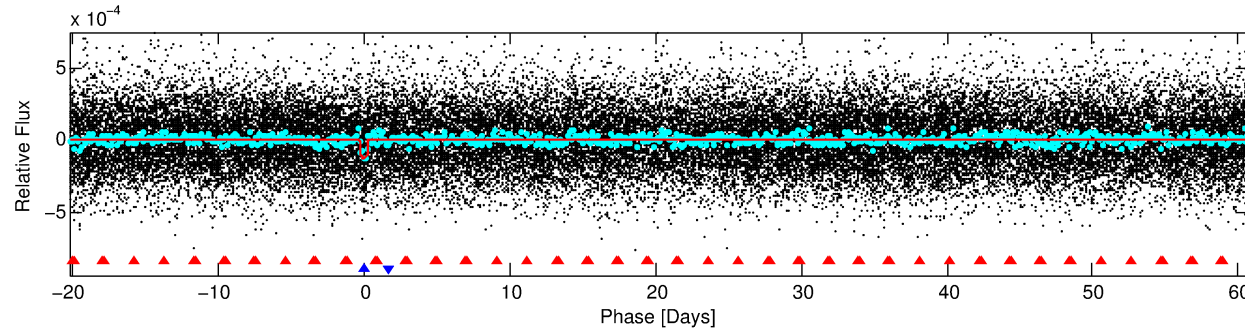
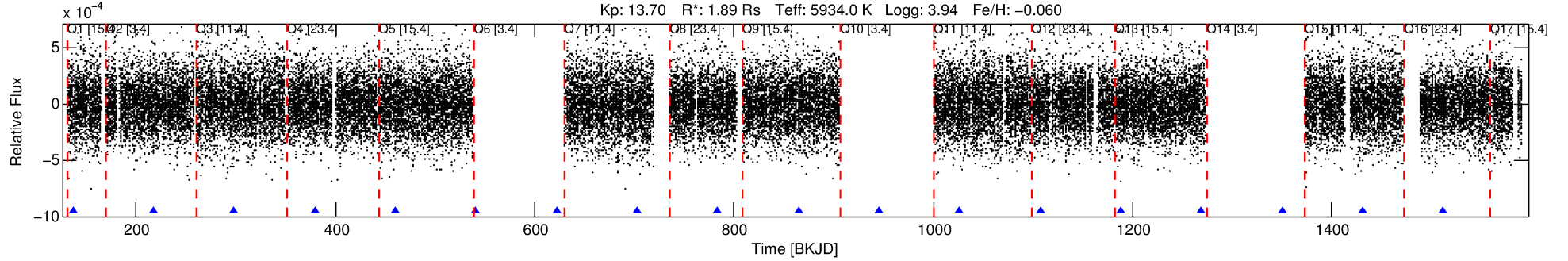
No Significant Match Found

DV One-Page Summary

KIC: 3758499 Candidate: 2 of 2 Period: 80.888 d

KOI: K05007 Corr: No Ephemeris Match

Kp: 13.70 R*: 1.89 Rs Teff: 5934.0 K Logg: 3.94 Fe/H: -0.060



DV Fit Results:

Period = 80.88751 [0.00187] d
Epoch = 136.6808 [0.0186] BKJD
Rp/R* = 0.0114 [0.0053]
a/R* = 32.19 [71.22]
b = 0.80 [1.02]
Seff = 26.96 [20.04]
Teq = 581 [108] K
Rp = 2.35 [1.48] Re
a = 0.3827 [0.1696] AU
Ag = 652.29 [799.95] [0.81σ]
Teffp = 4540 [1124] K [3.51σ]

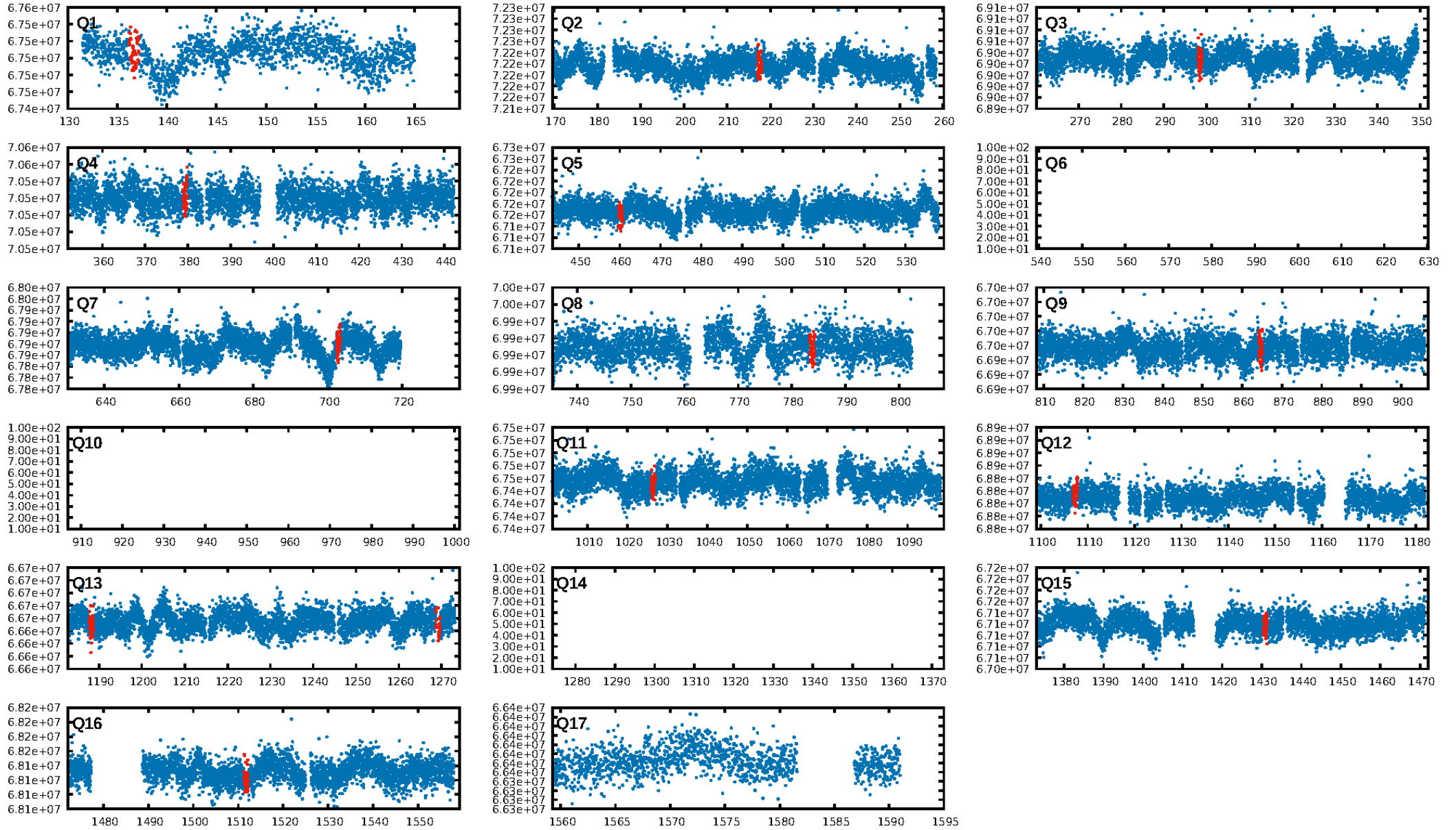
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [118.85σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 91.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.09e-15
RollingBand-fgt: 1.00 [13/13]
GhostDiagnostic-chr: -1.071
Centroid-sig: 21.2%
Centroid-so: 1.705 arcsec [1.02σ]
OotOffset-rm: 1.107 arcsec [0.78σ]
KicOffset-rm: 1.134 arcsec [0.84σ]
OotOffset-st: 0/2/3/1 [6]
KicOffset-st: 0/2/3/1 [6]
DiffImageQuality-fgm: 0.17 [1/6]
DiffImageOverlap-fno: 0.82 [9/11]

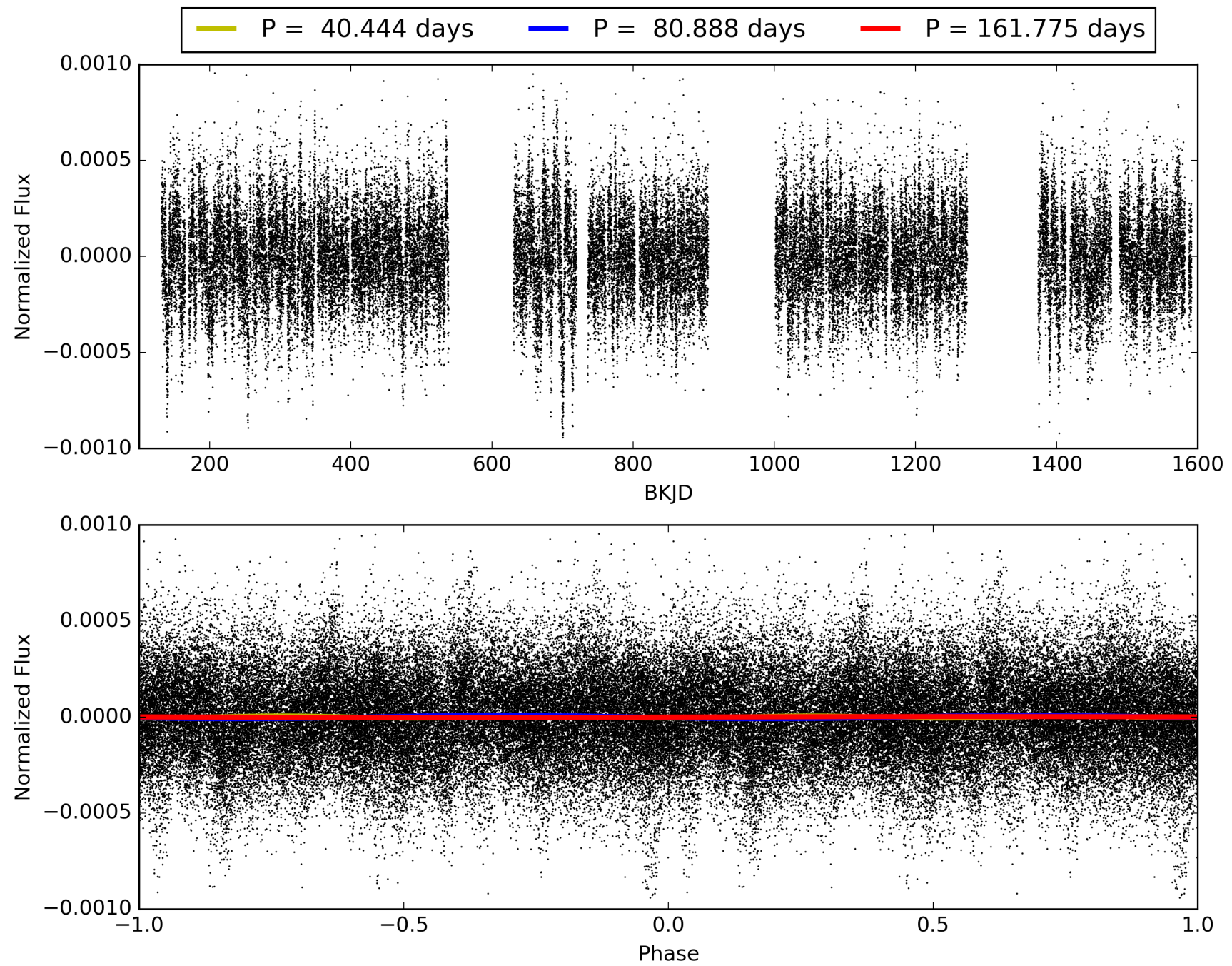
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:37:45 Z

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

TCE 003758499-02, PDC Light Curves

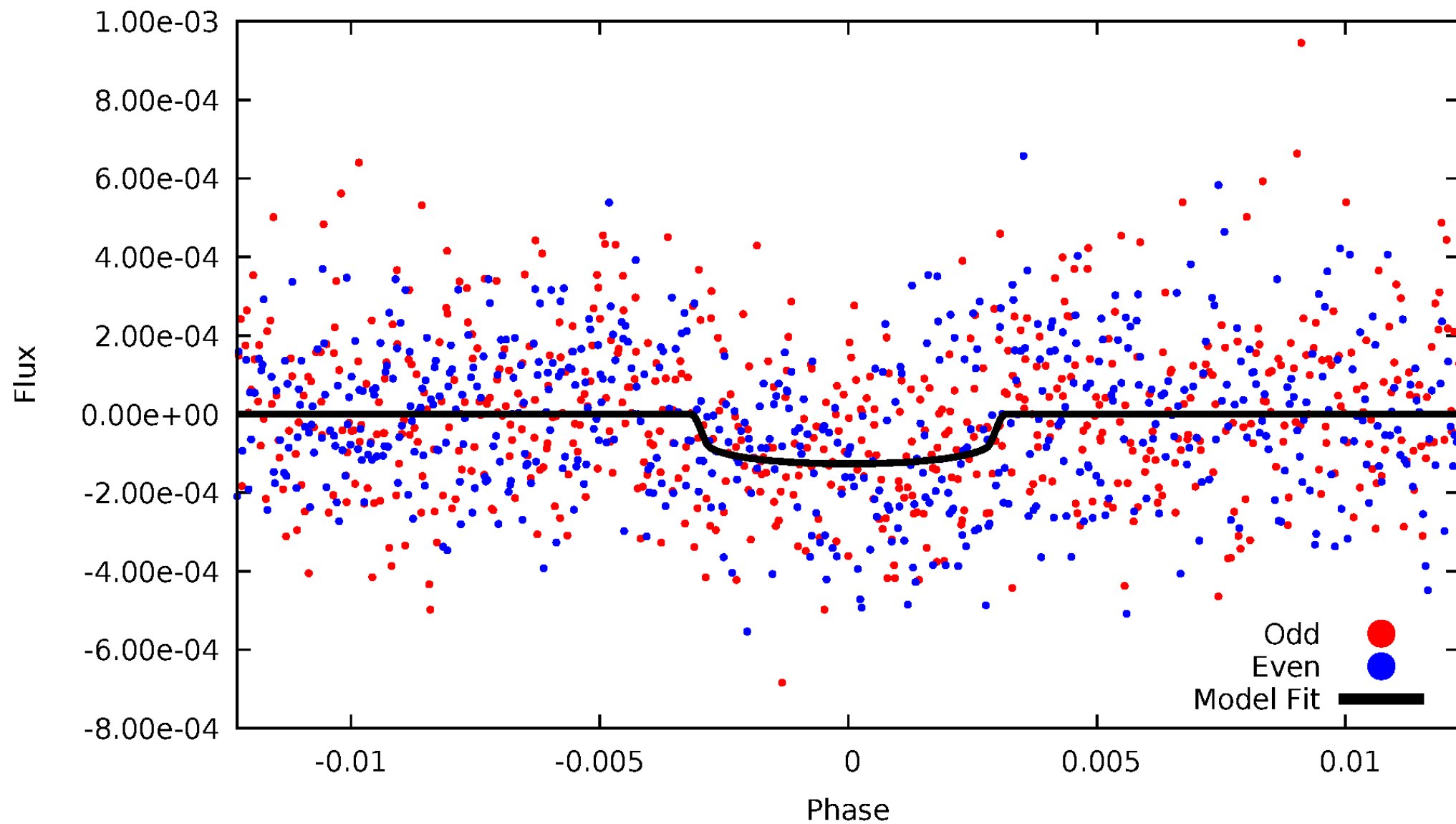


TCE 003758499-02



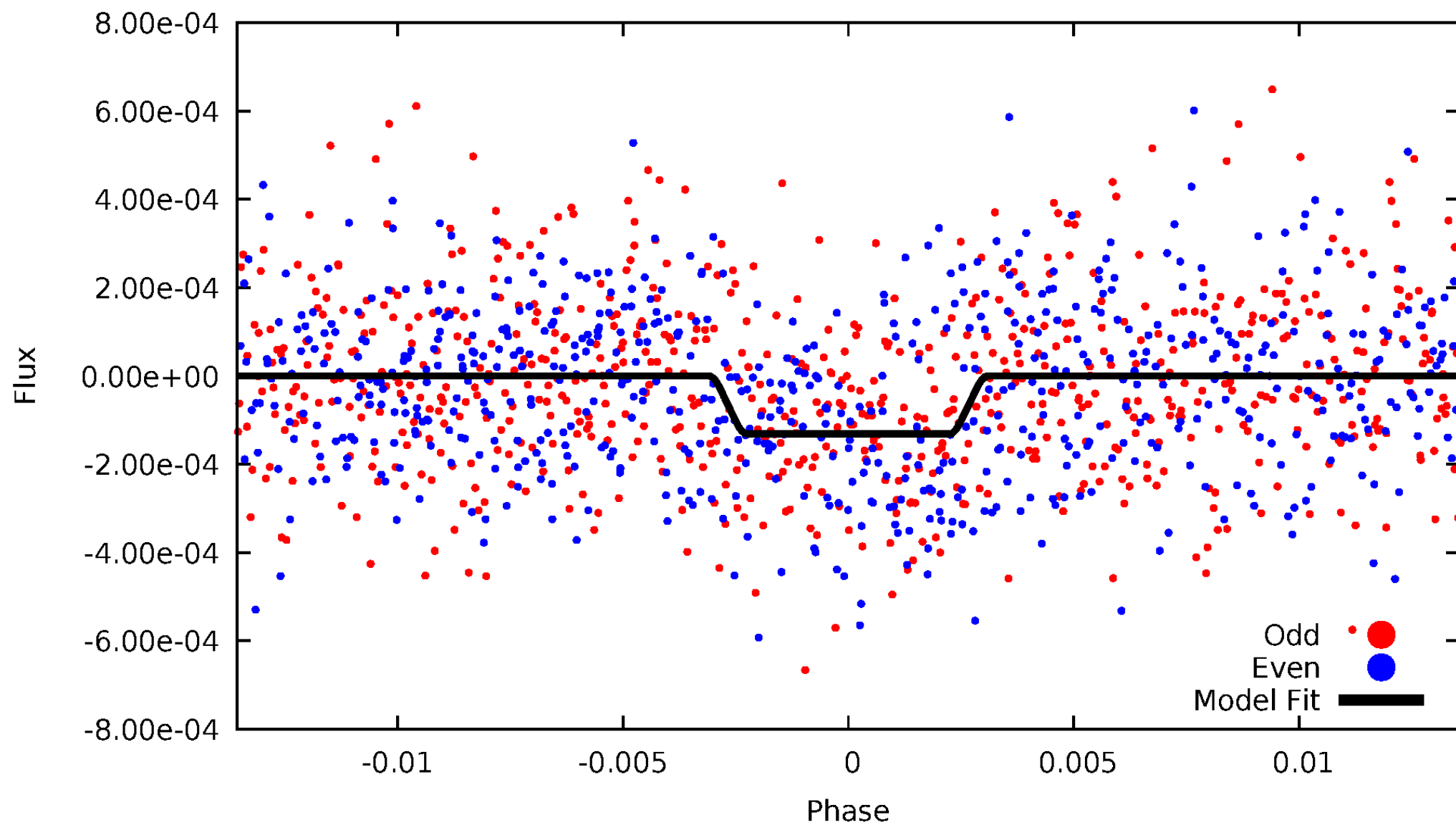
DV Odd/Even

TCE 003758499-02



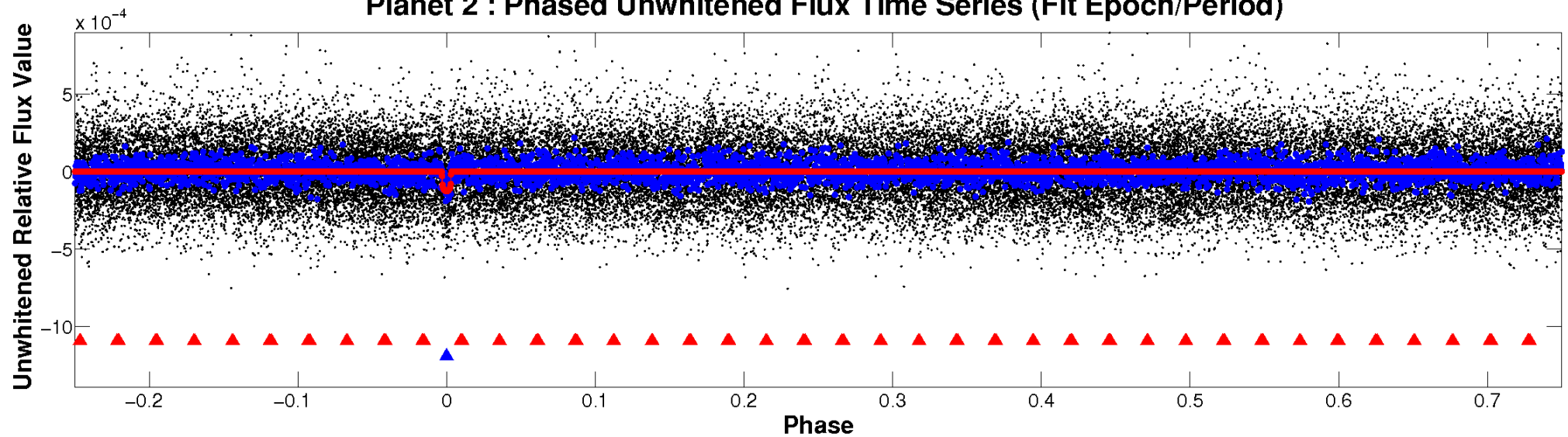
ALT Odd/Even

TCE 003758499-02

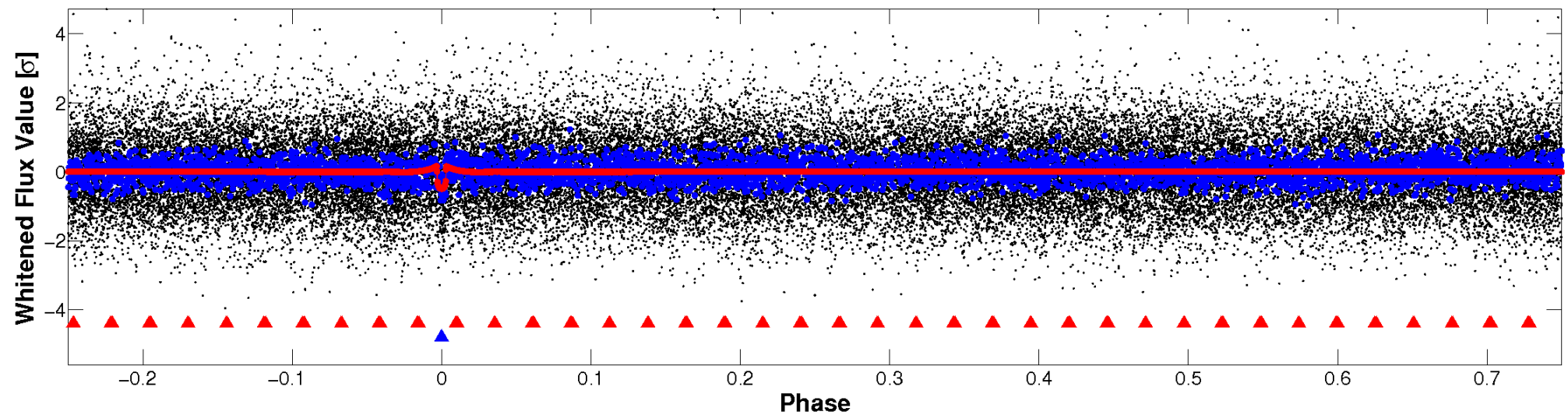


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

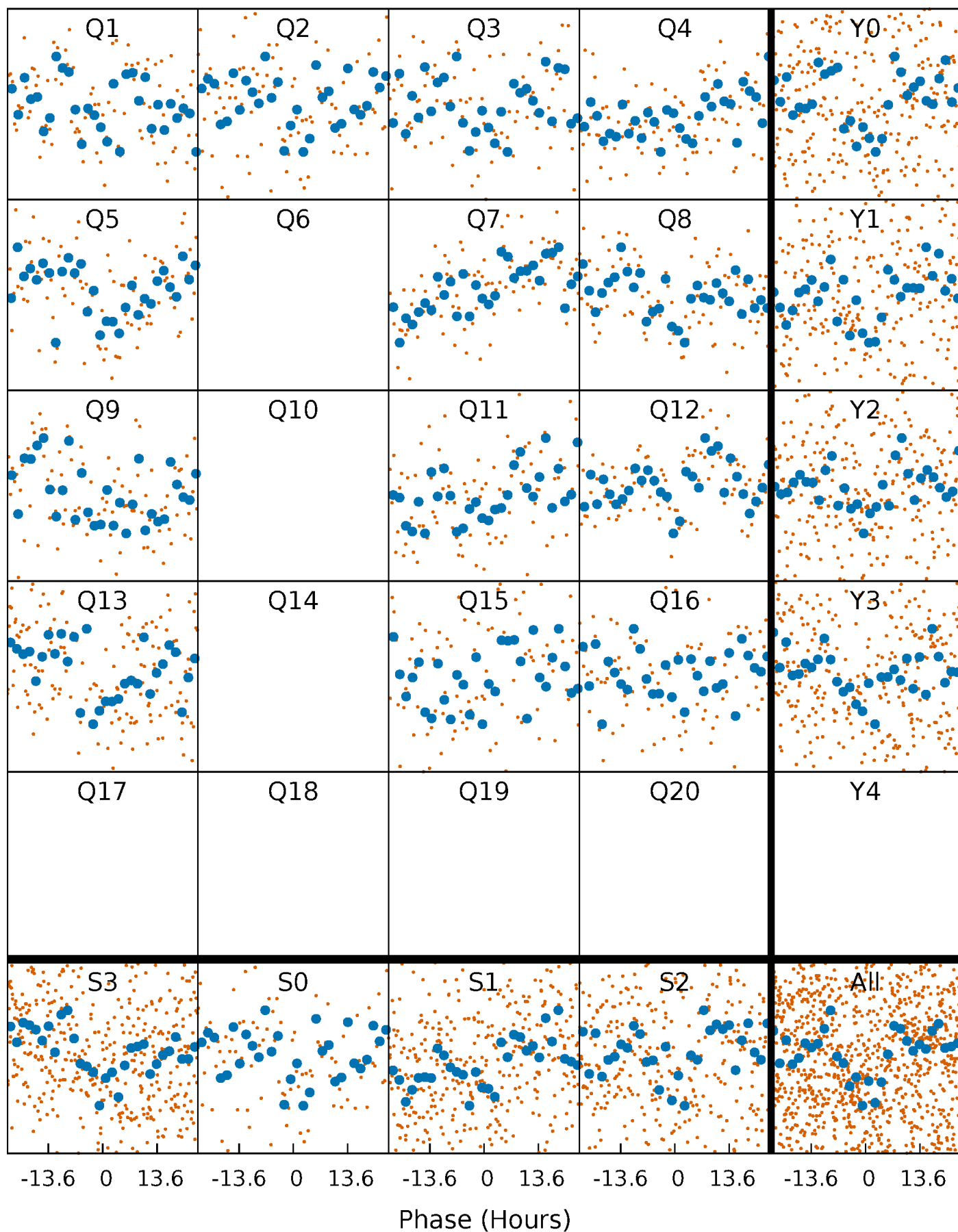


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



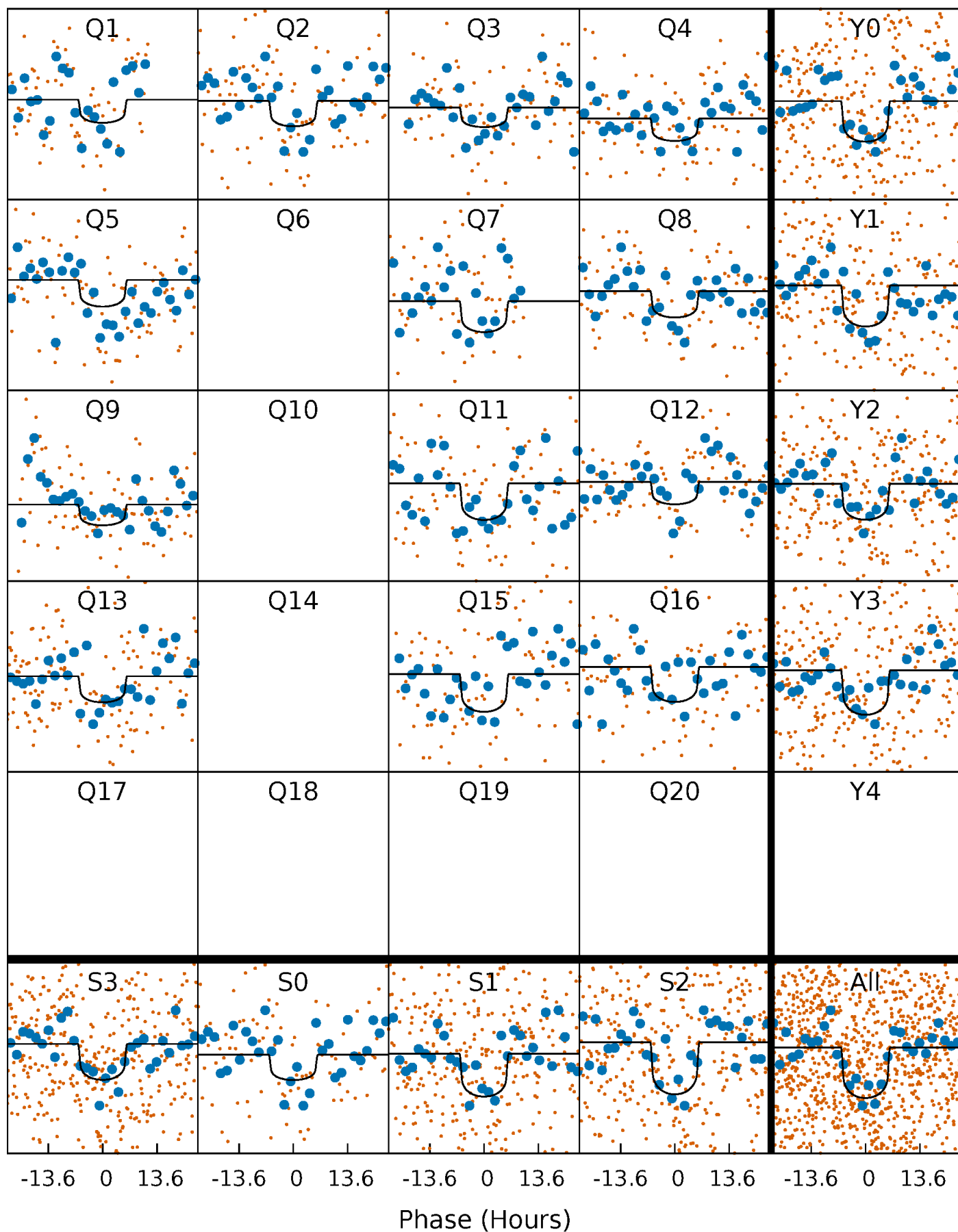
PDC Quarter-Phased Transit Curves

TCE 003758499-02 P= 80.887514 Days $T_0=136.680786$ (BKJD)



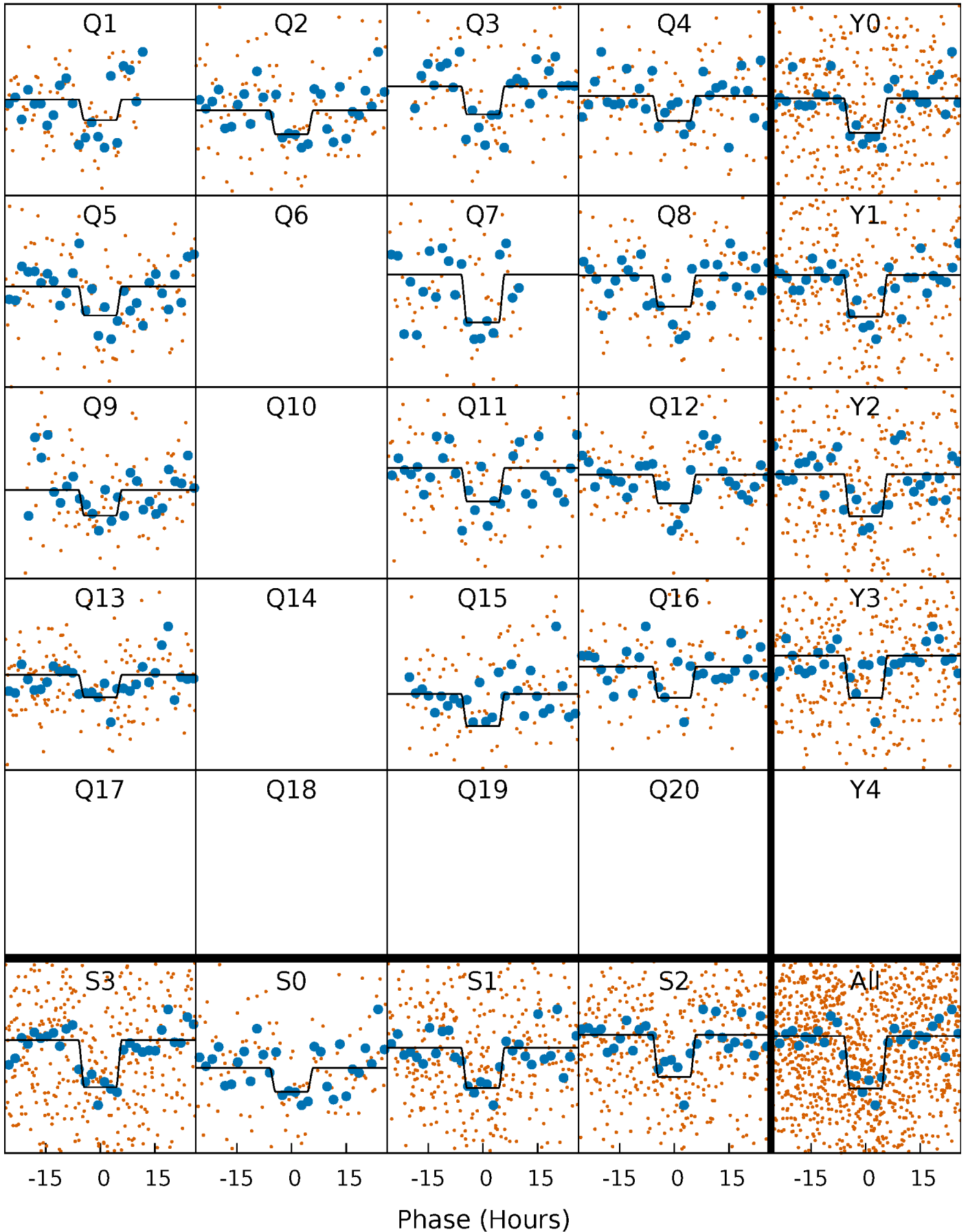
DV Quarter-Phased Transit Curves

TCE 003758499-02 $P = 80.887514$ Days $T_0 = 136.680786$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

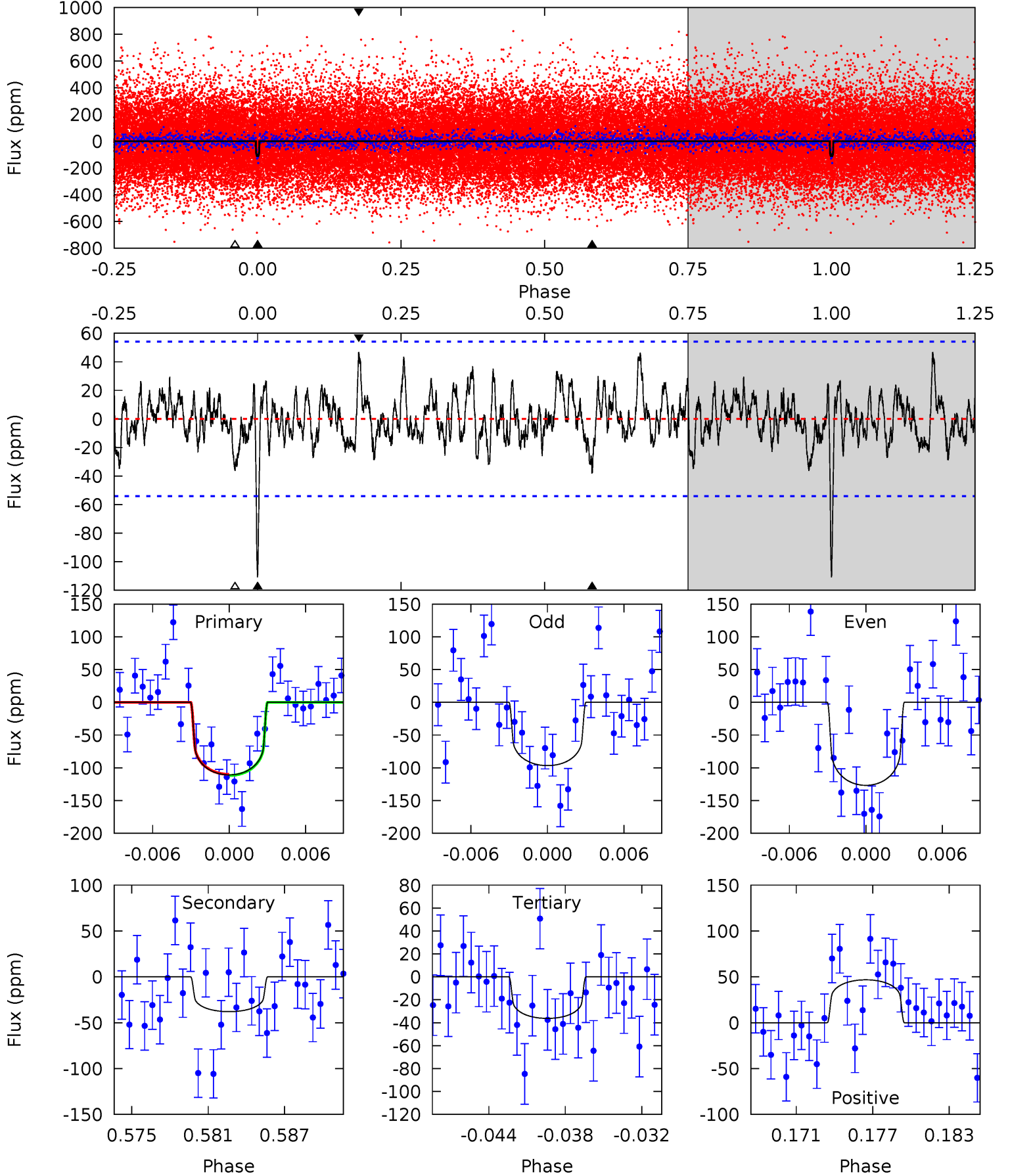
TCE 003758499-02 $P = 80.885074$ Days $T_0 = 136.682114$ (BKJD)



DV Model-Shift Uniqueness Test

003758499-02, P = 80.887514 Days, E = 55.793272 Days

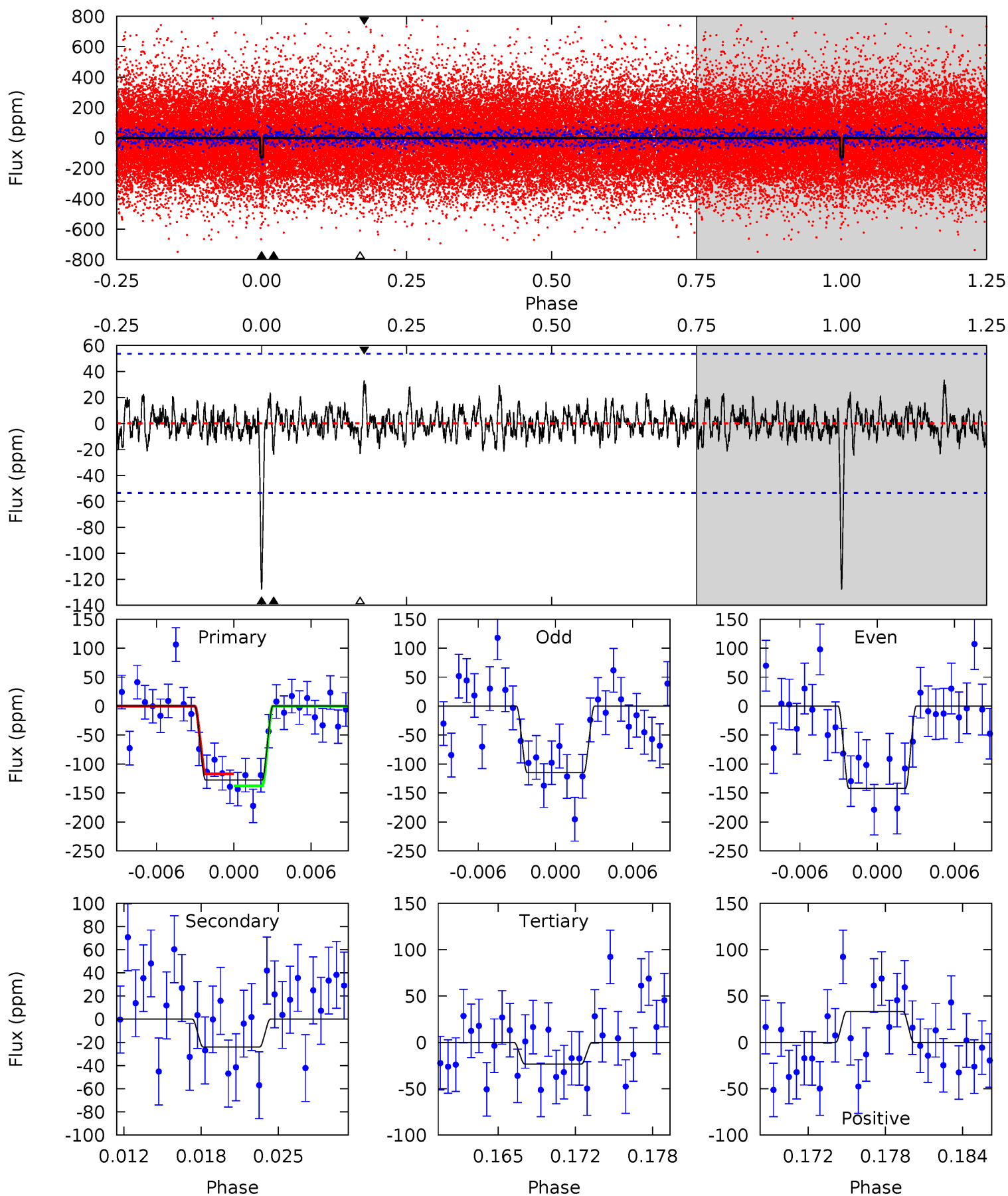
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	3.59	3.43	4.42	5.11	2.73	1.34	7.05	6.06	0.16	-0.83	1.42	1.03	0.30	0.08



Alt Model-Shift Uniqueness Test

003758499-02, P = 80.885074 Days, E = 55.797040 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	2.29	2.24	3.17	5.12	2.74	0.82	9.95	9.02	0.05	-0.88	1.31	0.96	0.21	0.99



Stellar Parameters For KIC 003758499

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5934^{+178}_{-178}	$3.945^{+0.440}_{-0.110}$	$-0.060^{+0.300}_{-0.300}$	$1.885^{+0.437}_{-0.811}$	$1.141^{+0.155}_{-0.207}$	$0.240^{+0.966}_{-0.095}$
	+3%/-3%	+11%/-3%	+500%/-500%	+23%/-43%	+14%/-18%	+402%/-39%
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 003758499-02 / KOI 5007.02

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-38 ± 11	$2.15^{+1.08}_{-0.98}$	785^{+57}_{-89}	4499^{+1253}_{-648}	654^{+1550}_{-381}
Alt.	-24 ± 10	$2.09^{+1.13}_{-1.02}$	789^{+57}_{-94}	4163^{+1085}_{-640}	425^{+1079}_{-273}

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

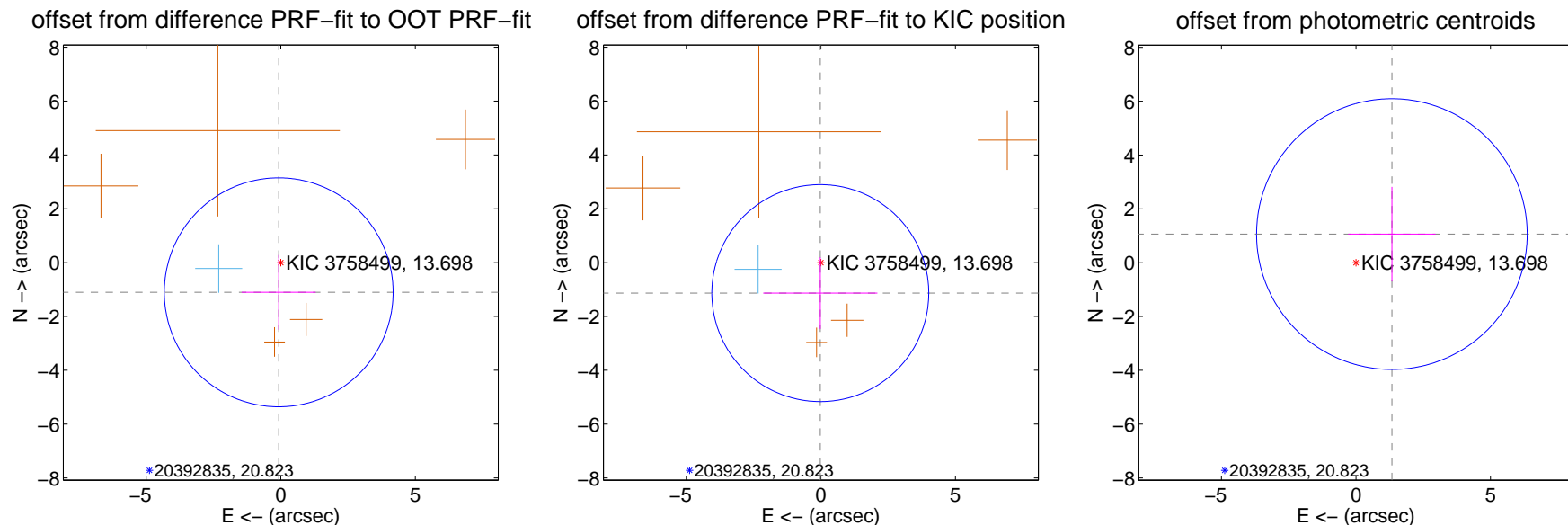
DV Centroid Data

Supplemental centroid analysis for 003758499-02. Kepler magnitude: 13.70. Transit SNR 7.90

There are 1 quarters with good PRF difference image offsets

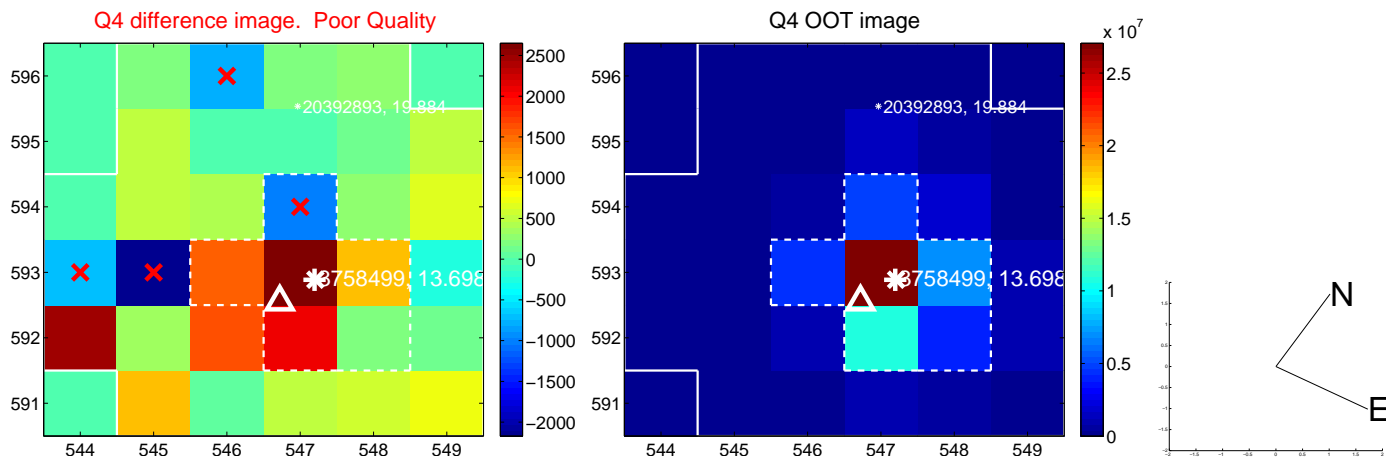
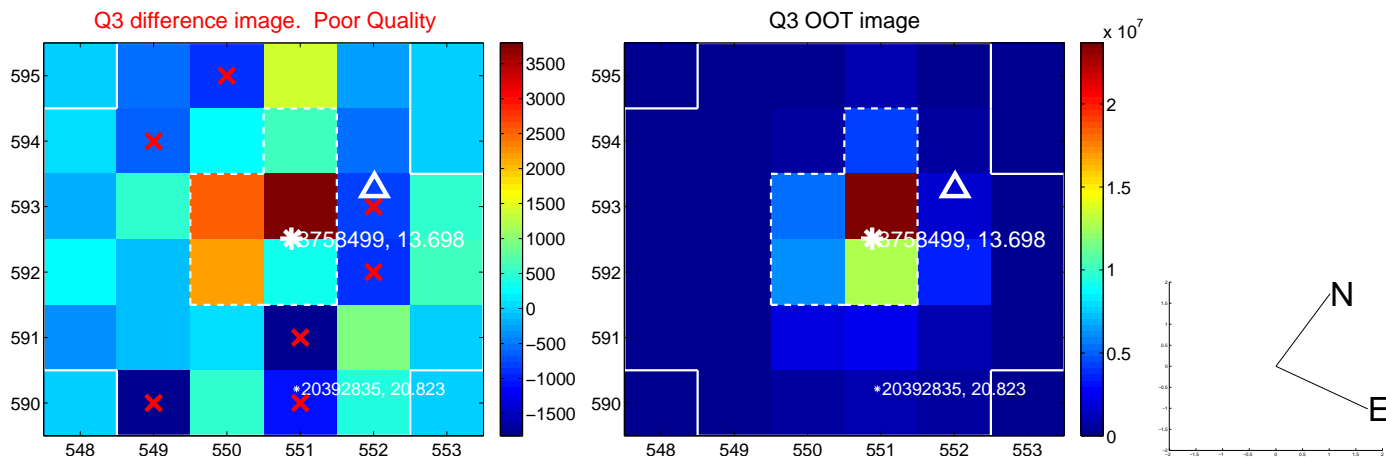
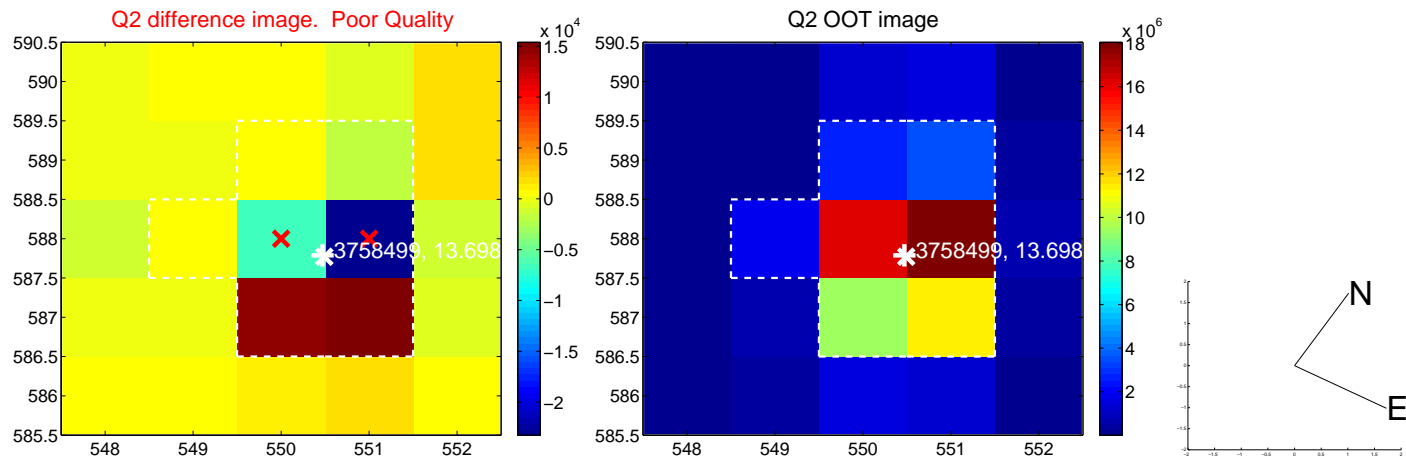
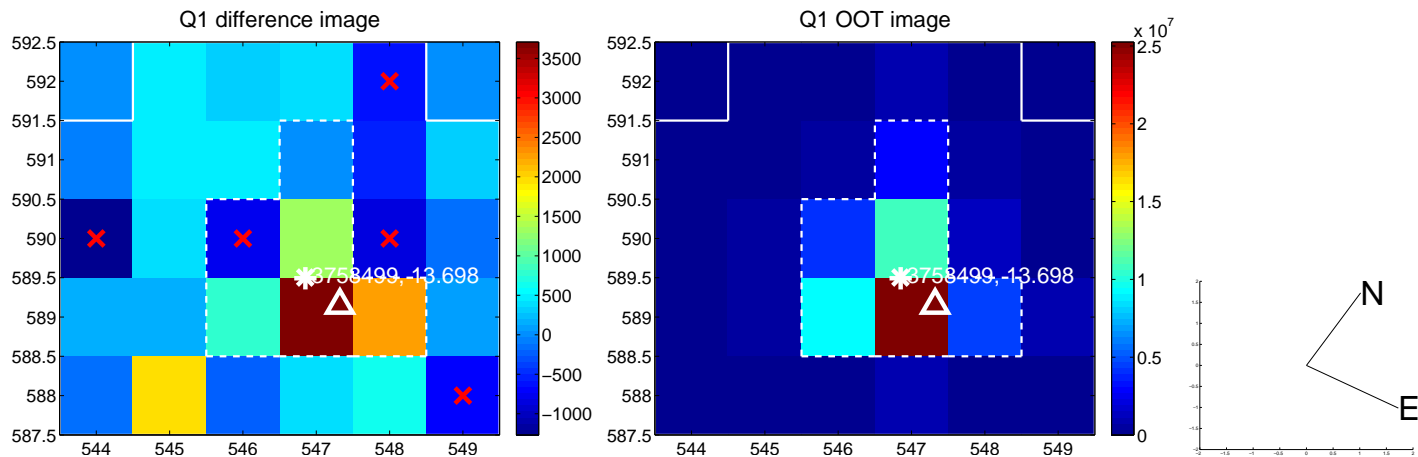
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.107 ± 1.418	0.78	0.076 ± 1.374	-1.105 ± 1.391
PRF-fit source offset from KIC position	1.134 ± 1.344	0.84	0.021 ± 2.122	-1.134 ± 1.330
photometric centroid source offset	1.71 ± 1.68	1.02	-1.34 ± 1.62	1.06 ± 1.76

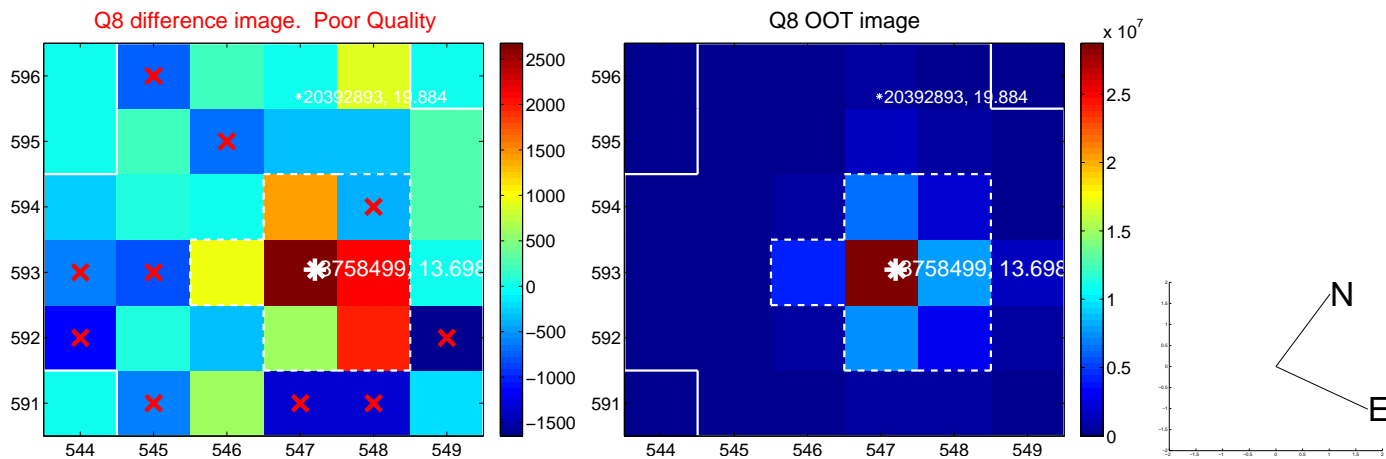
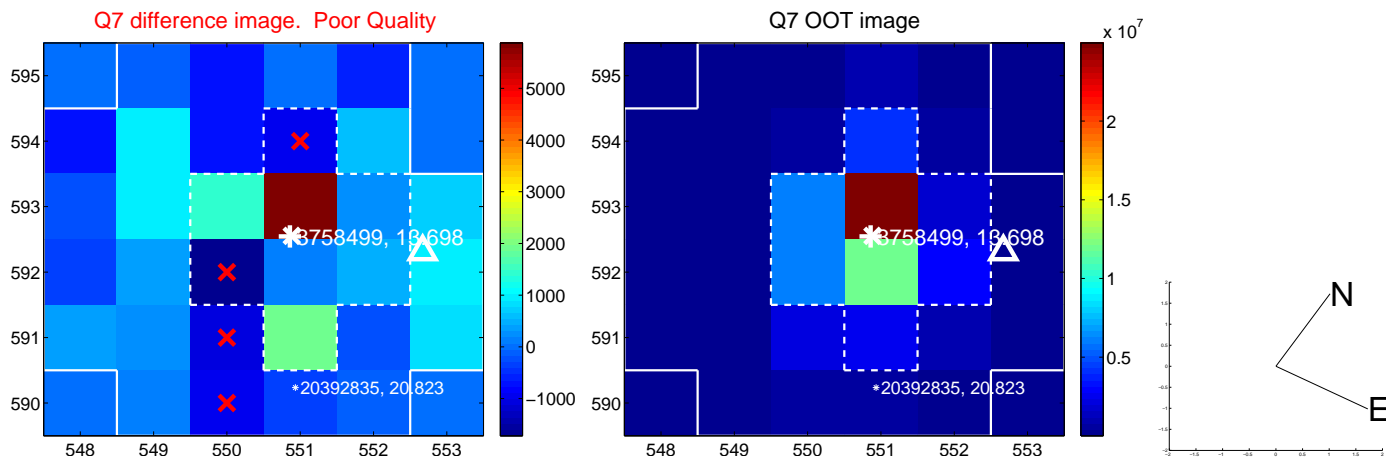
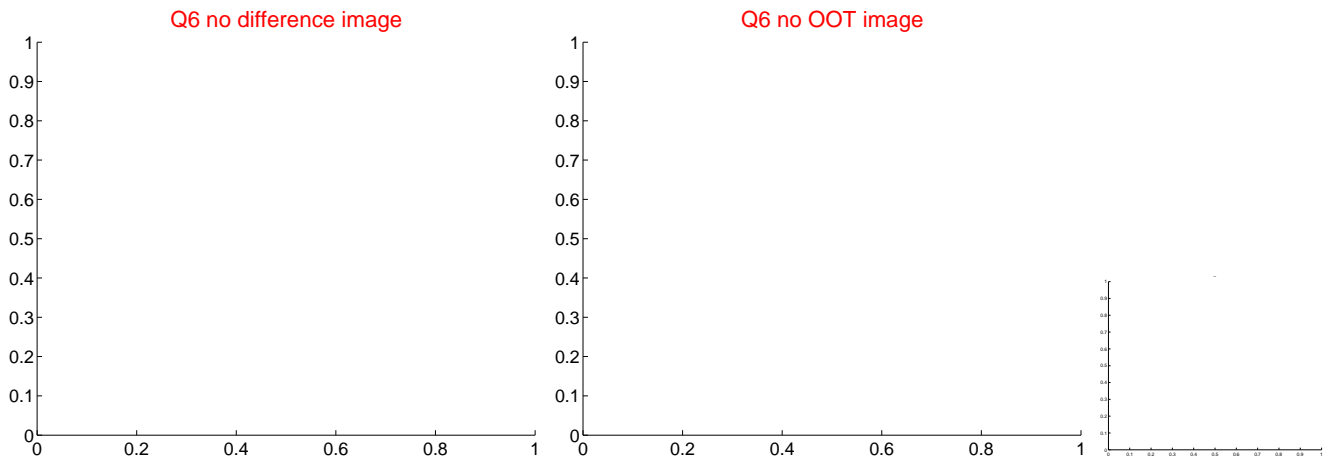
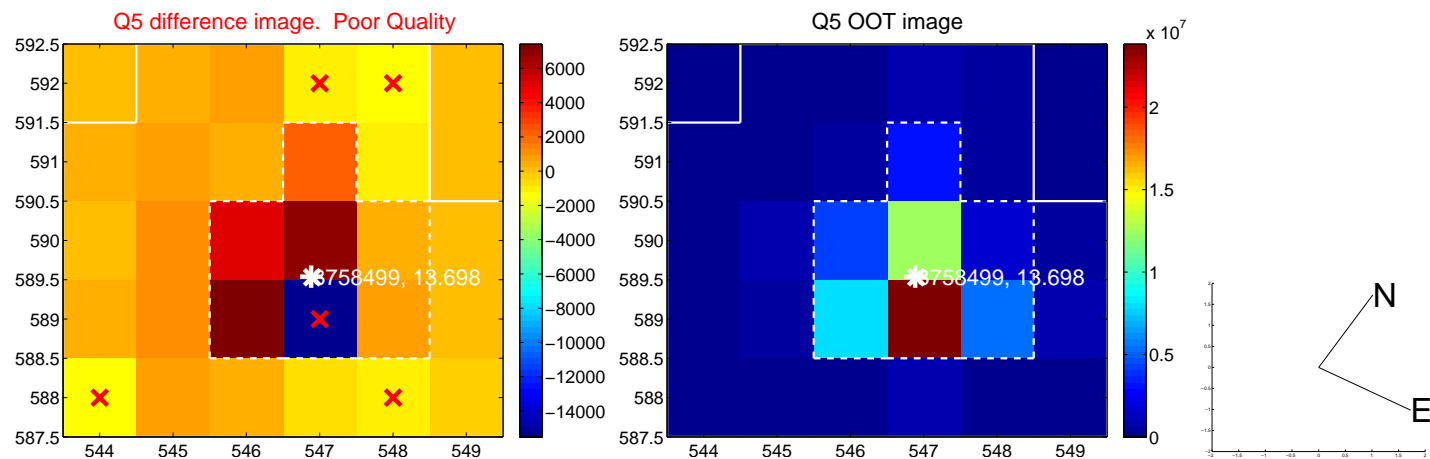


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

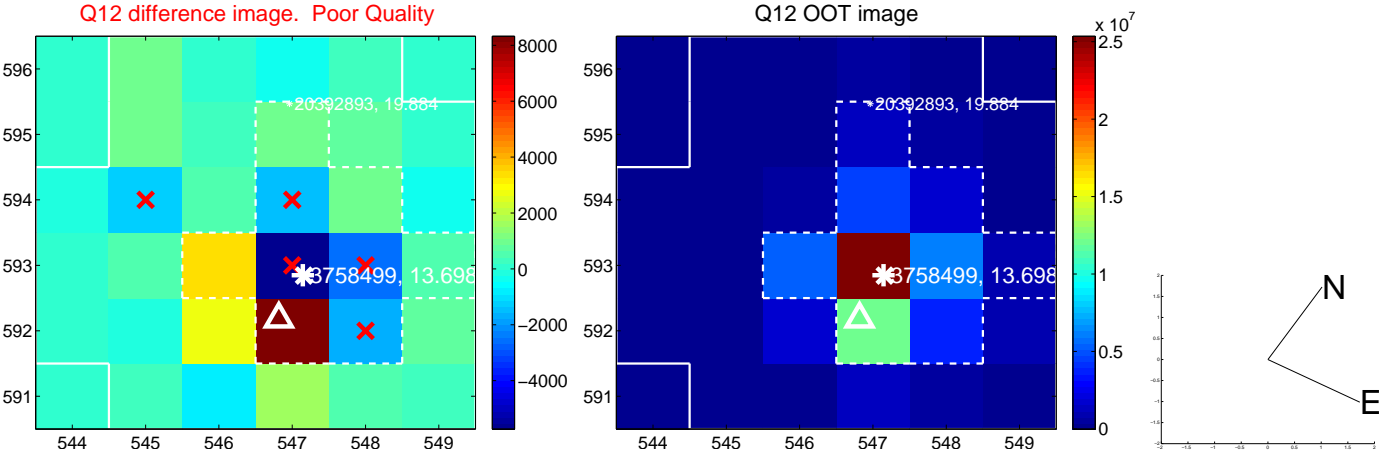
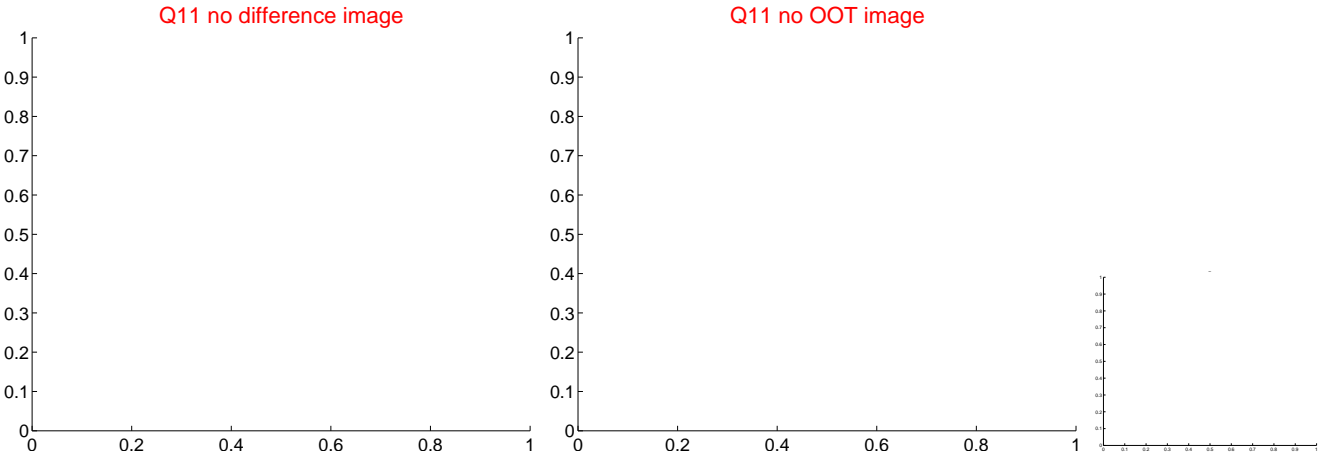
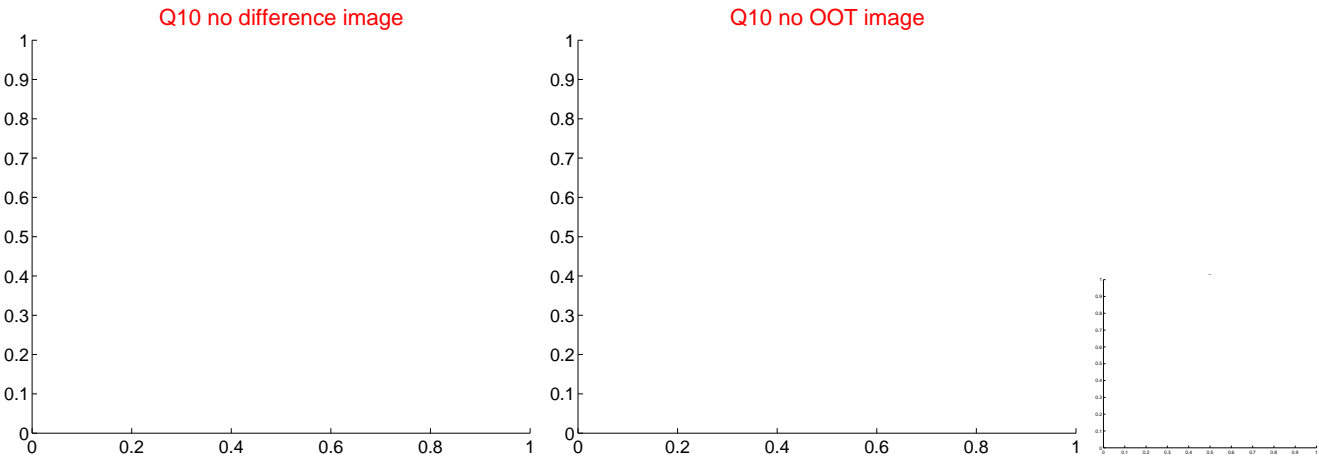
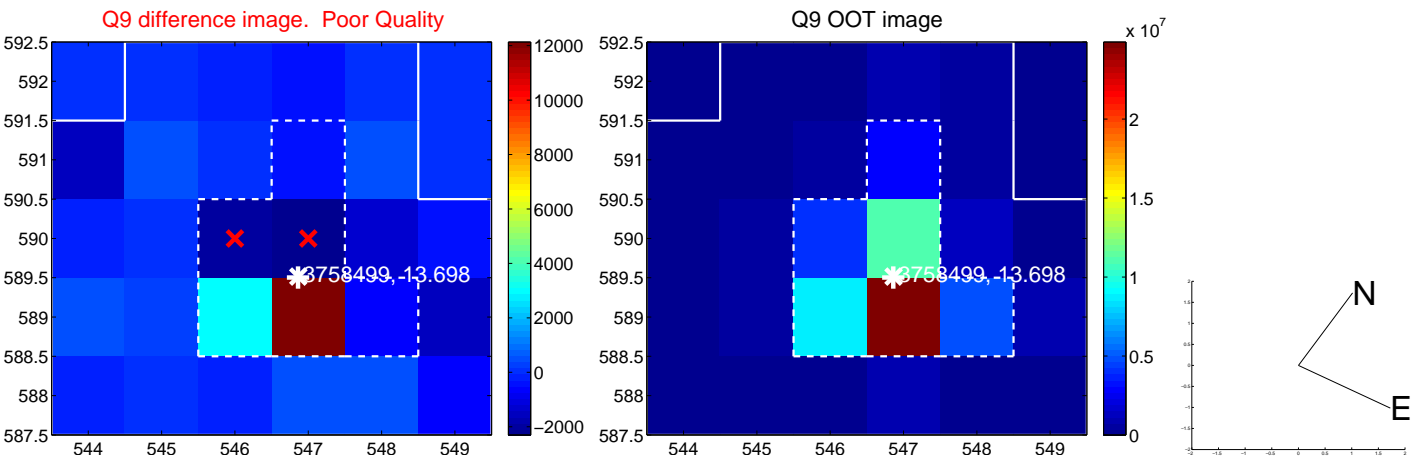
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



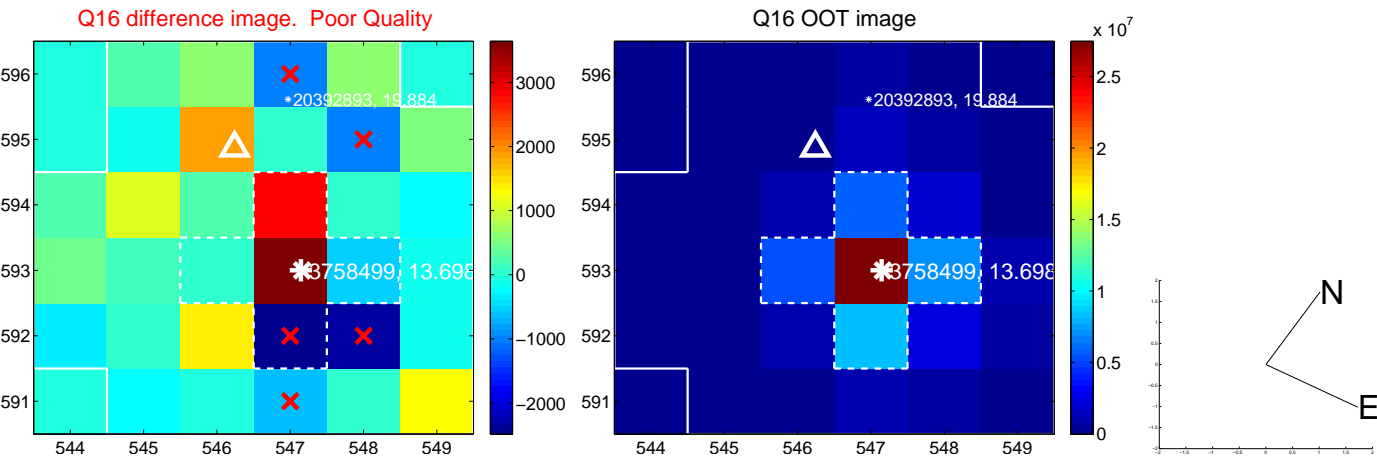
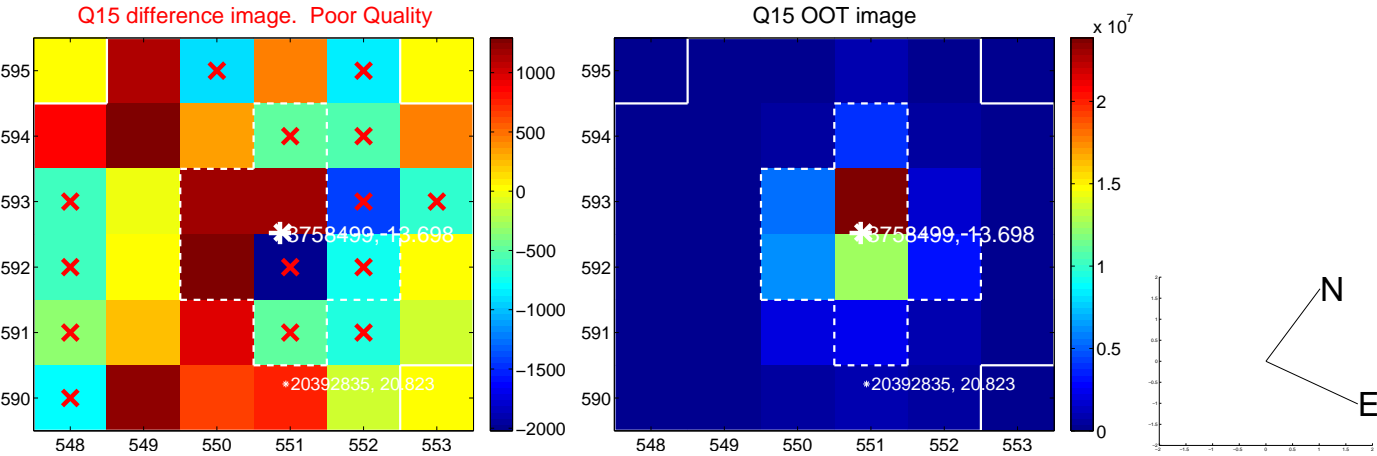
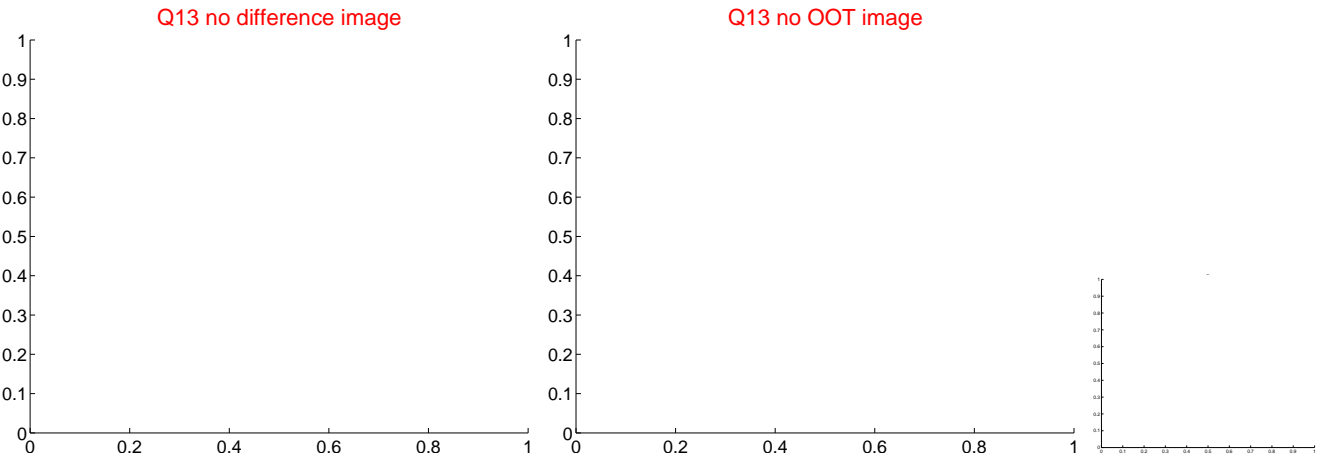
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



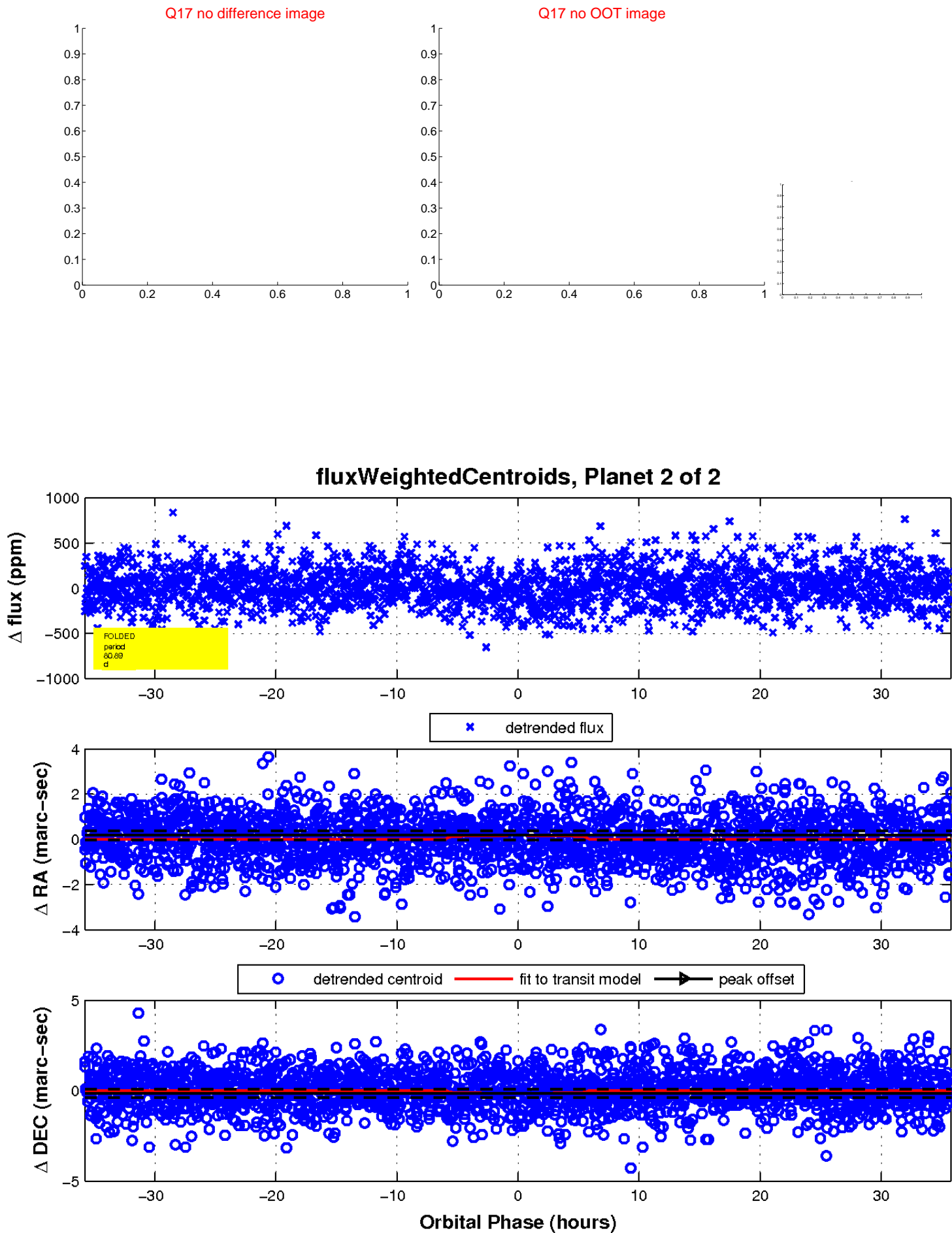
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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.



UKIRT Image

Declination

