

KIC 008230025

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})
008230025-01	OBS	No	525.548671	137.942191	3425.5	8.341	38.3	28.1	2.19	7192	19.85	5.07
008230025-02	OBS	No	229.370227	135.638646	1666.2	8.204	21.8	18.0	2.19	7192	10.63	15.32
008230025-03	OBS	No	441.212689	138.557579	1975.0	11.148	21.9	18.9	2.19	7192	11.10	6.40
008230025-05	OBS	No	314.996950	136.353748	111.1	15.000	17.5	-1.0	2.19	7192	2.33	10.04
008230025-06	OBS	No	326.487900	133.403047	971.9	6.405	11.6	9.9	2.19	7192	8.39	9.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008230025-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008230025-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_SATURATED
008230025-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008230025-05	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
008230025-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

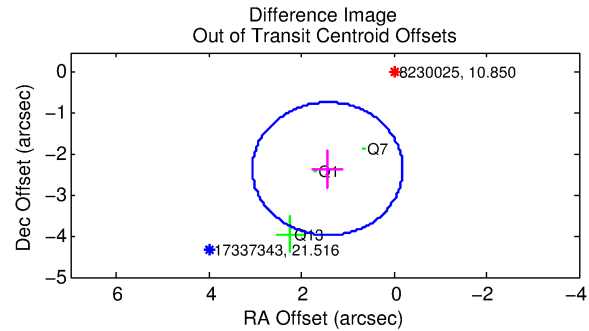
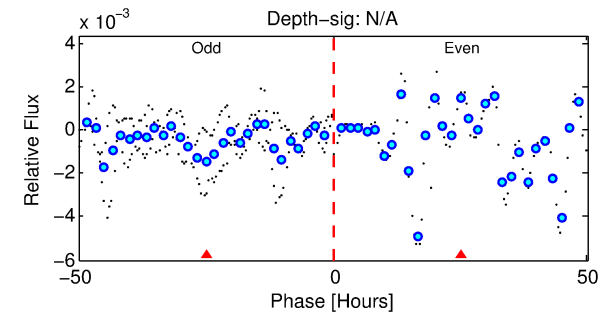
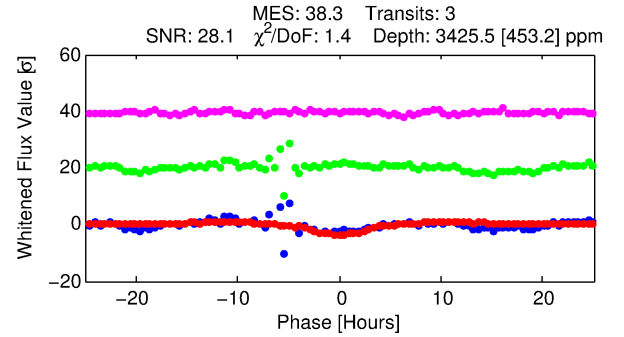
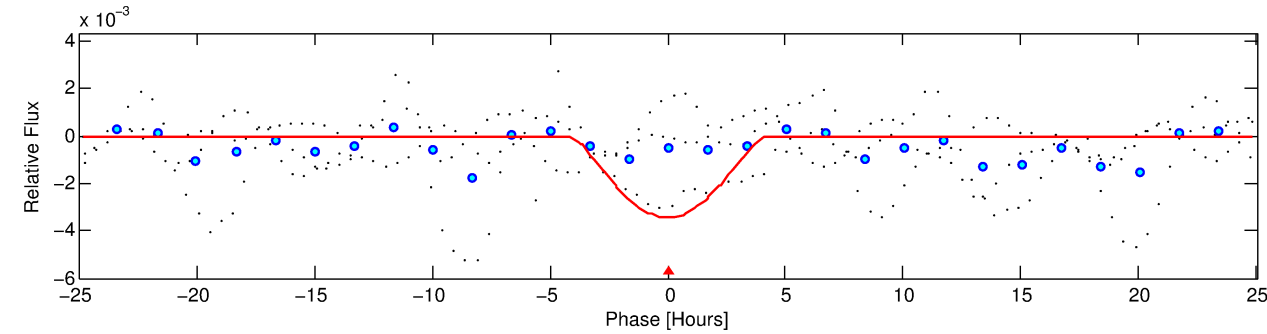
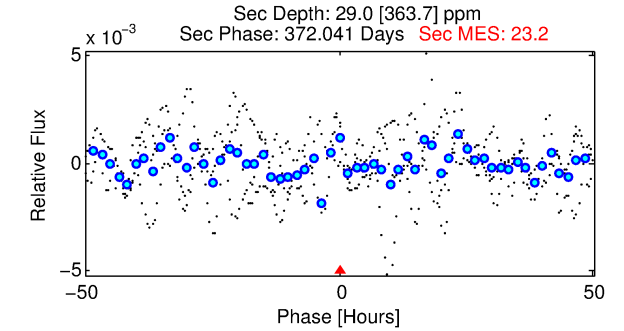
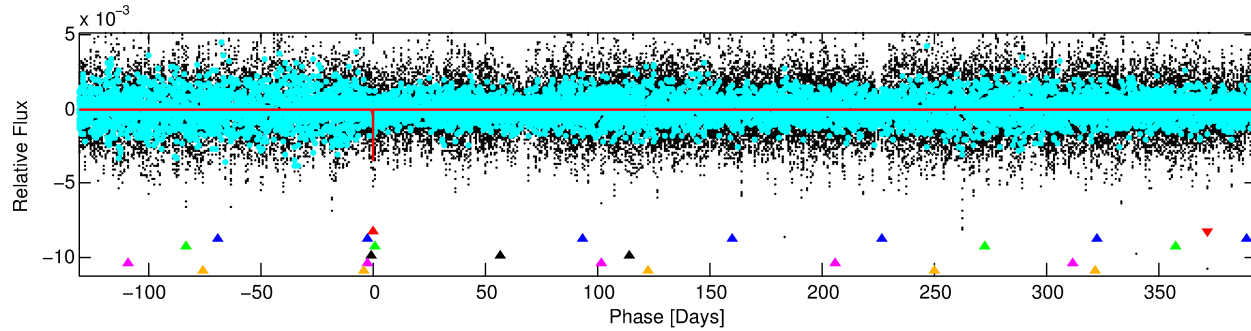
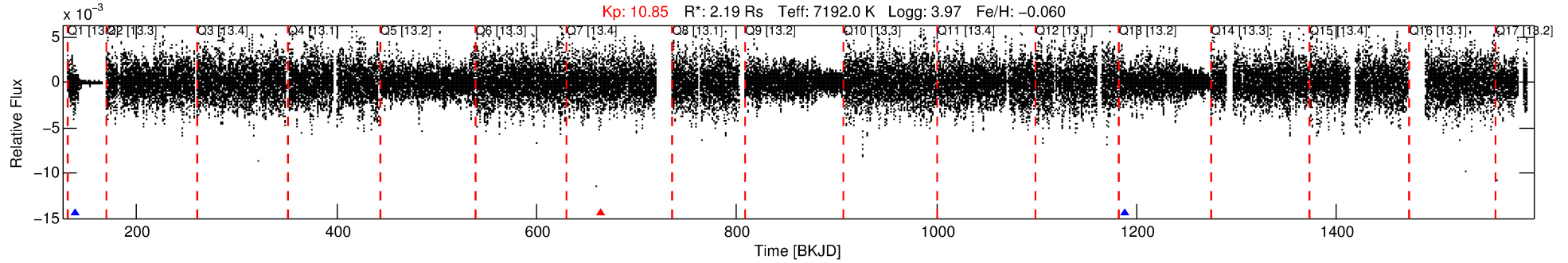
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008230025-01

No Significant Match Found

DV One-Page Summary

KIC: 8230025 Candidate: 1 of 6 Period: 525.549 d



DV Fit Results:

Period = 525.54867 [0.01089] d
Epoch = 137.9422 [0.0084] BKJD
Rp/R* = 0.0832 [0.1555]
a/R* = 222.95 [95.64]
b = 0.98 [0.26]
Seff = 5.07 [1.45]
Teq = 383 [27] K
Rp = 19.85 [37.29] Re
a = 1.5022 [0.2739] AU
Ag = 91.52 [1196.67] [0.08]
Teffp = 1830 [5981] K [0.24 σ]

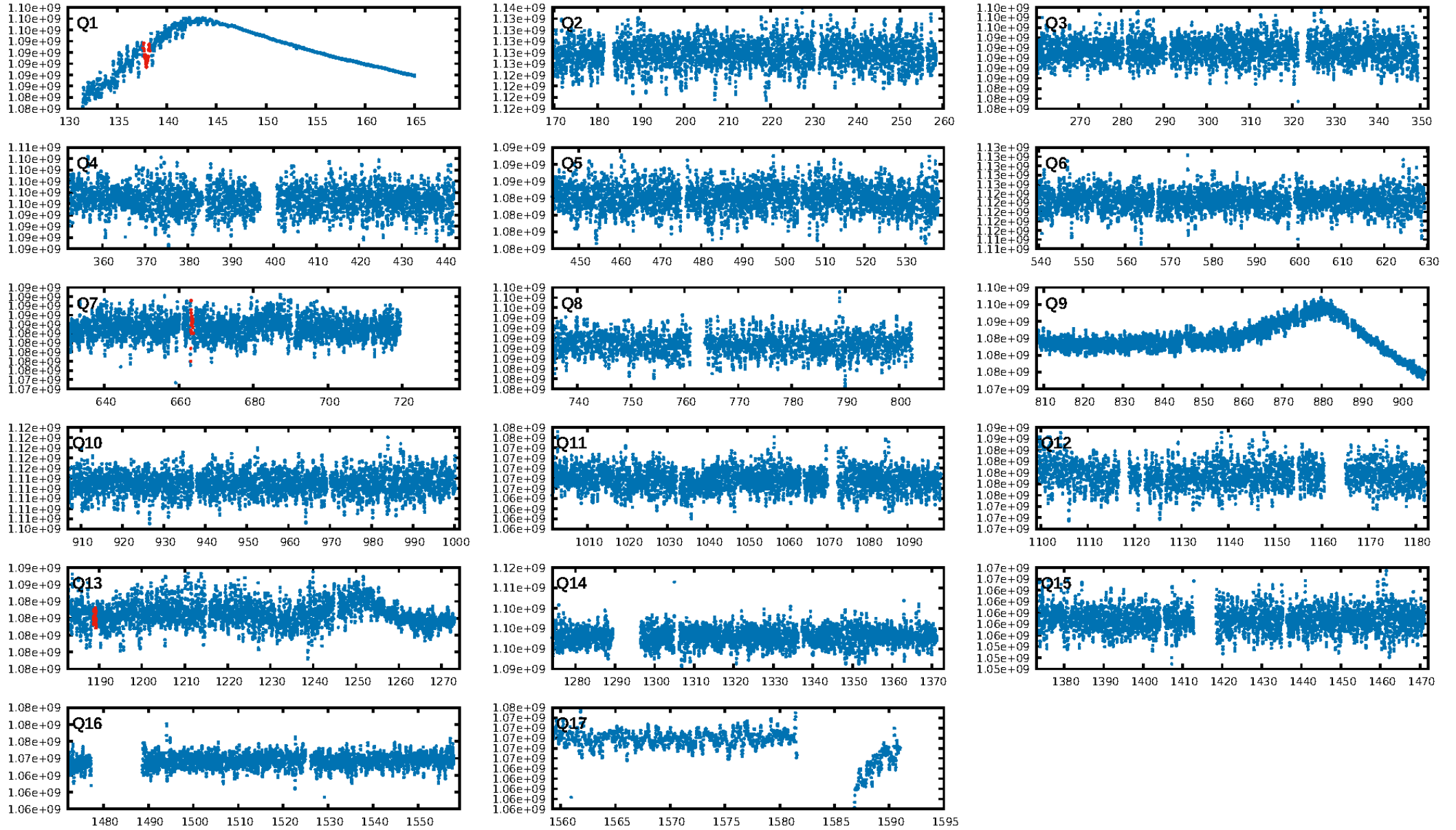
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [145.37 σ]
LongPeriod-sig: 100.0% [144.28 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 68.3%
Bootstrap-pfa: 4.91e-27
RollingBand-fgt: 0.50 [1/2]
GhostDiagnostic-chr: -1.069
Centroid-sig: N/A
Centroid-so: 0.481 arcsec [1.61 σ]
OotOffset-rm: 2.757 arcsec [5.09 σ]
KicOffset-rm: 2.935 arcsec [7.80 σ]
OotOffset-st: 0/1/0/2 [3]
KicOffset-st: 0/1/0/2 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.67 [2/3]

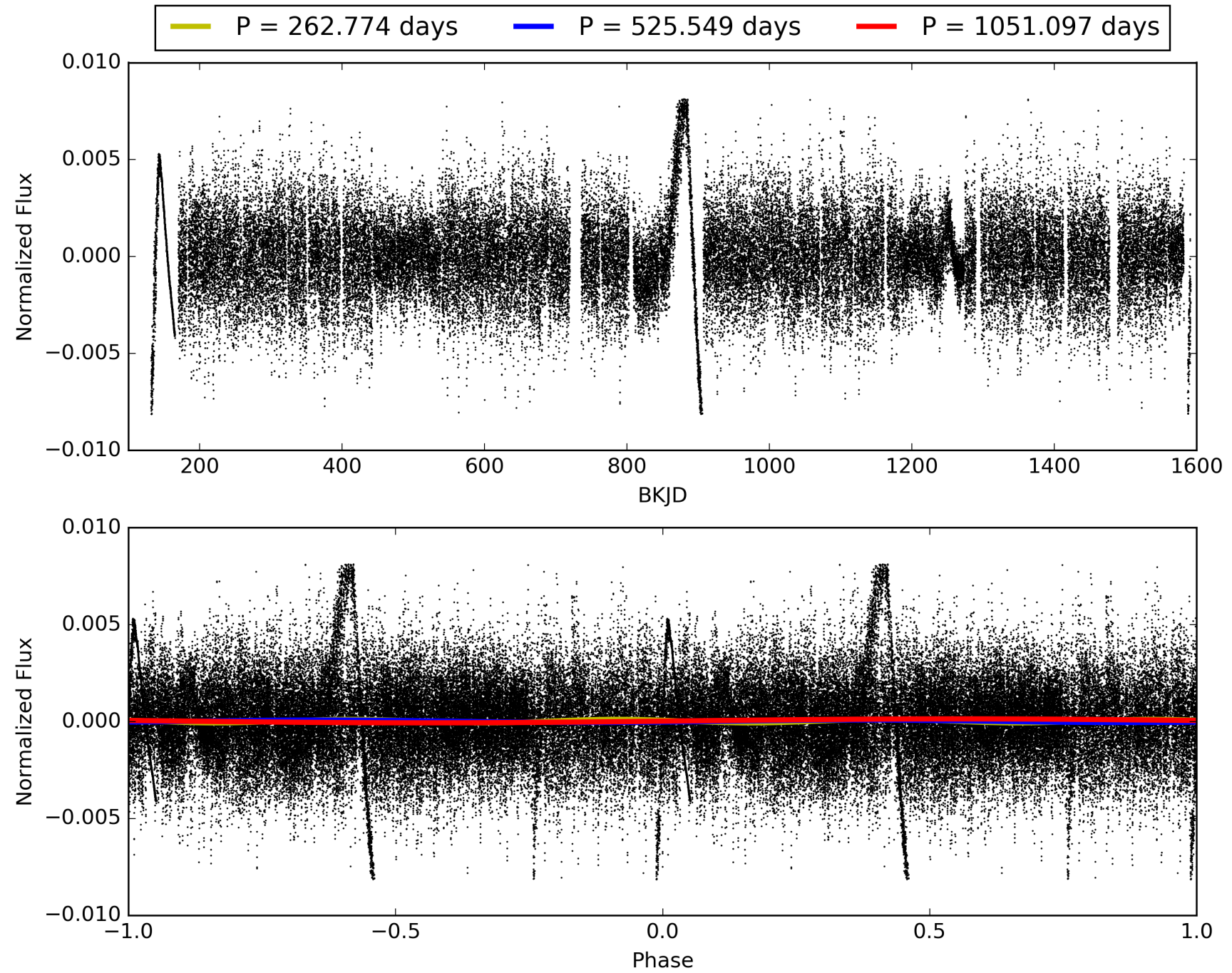
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:53:18 Z

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

TCE 008230025-01, PDC Light Curves

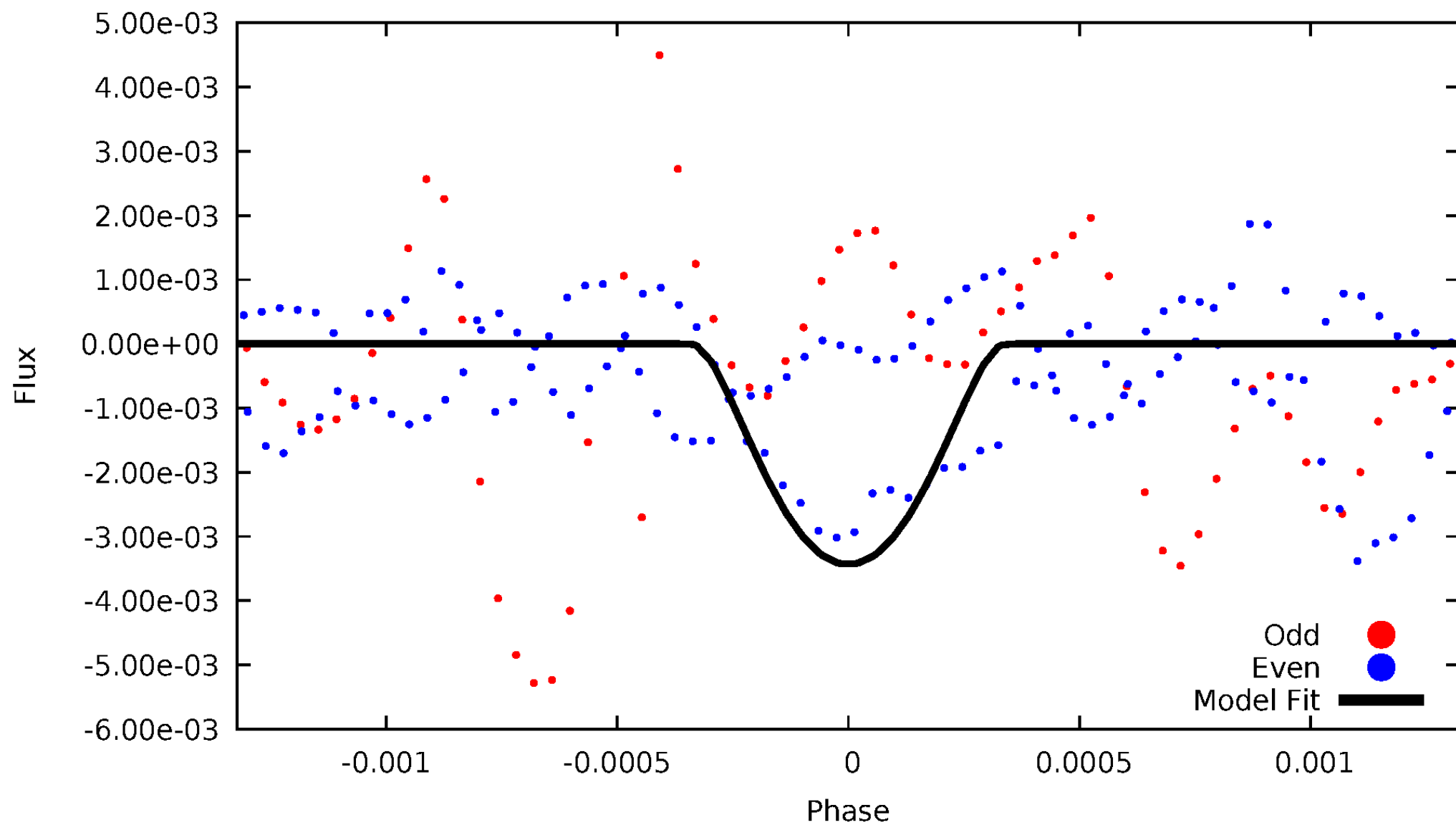


TCE 008230025-01



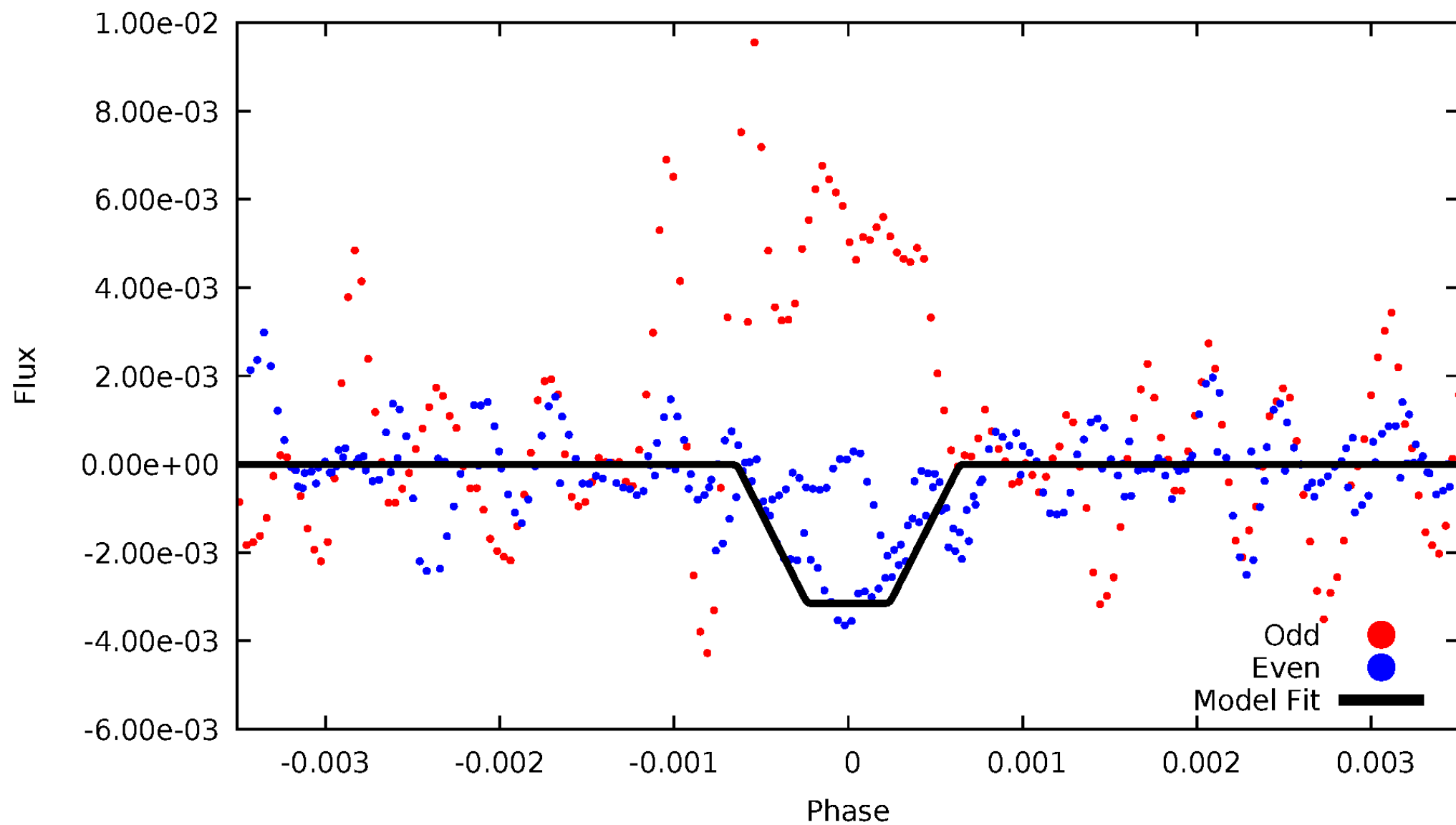
DV Odd/Even

TCE 008230025-01

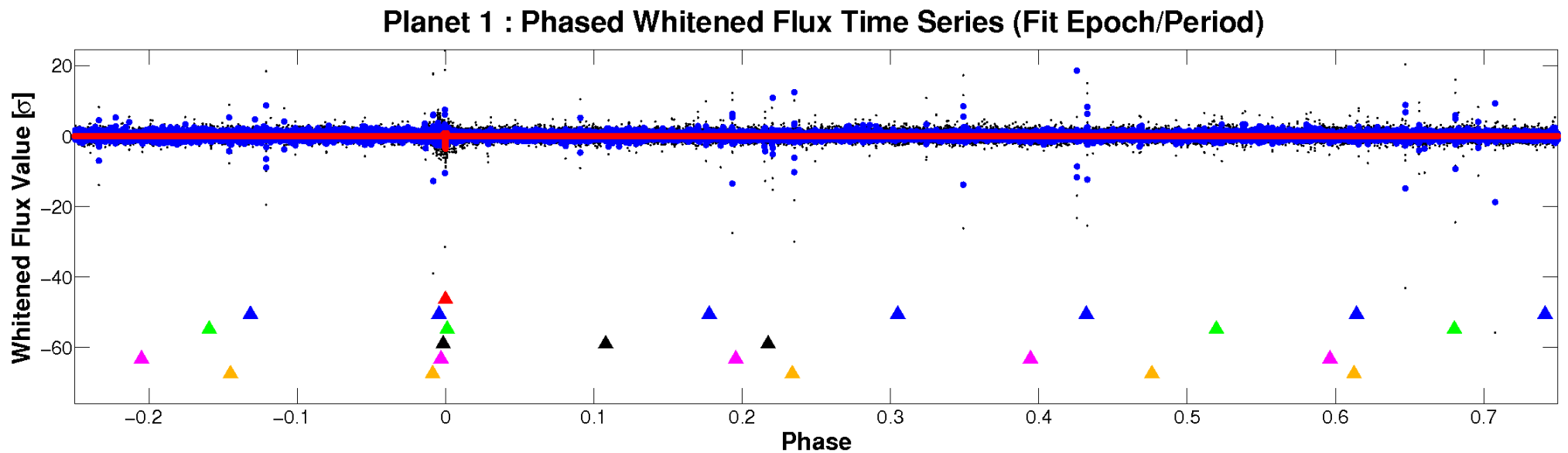
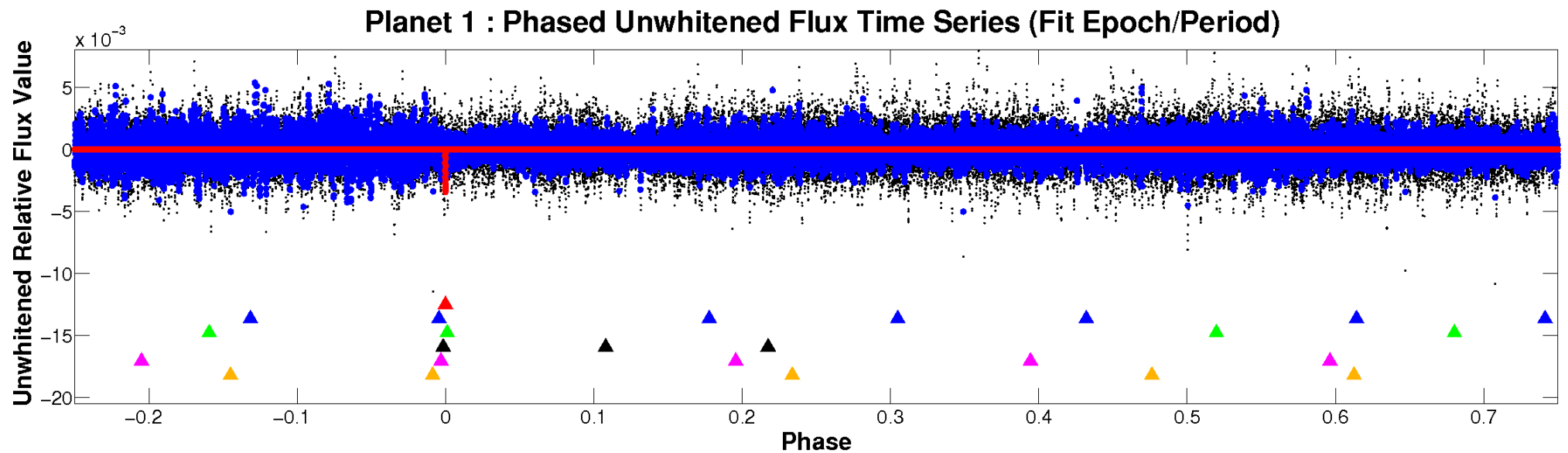


ALT Odd/Even

TCE 008230025-01

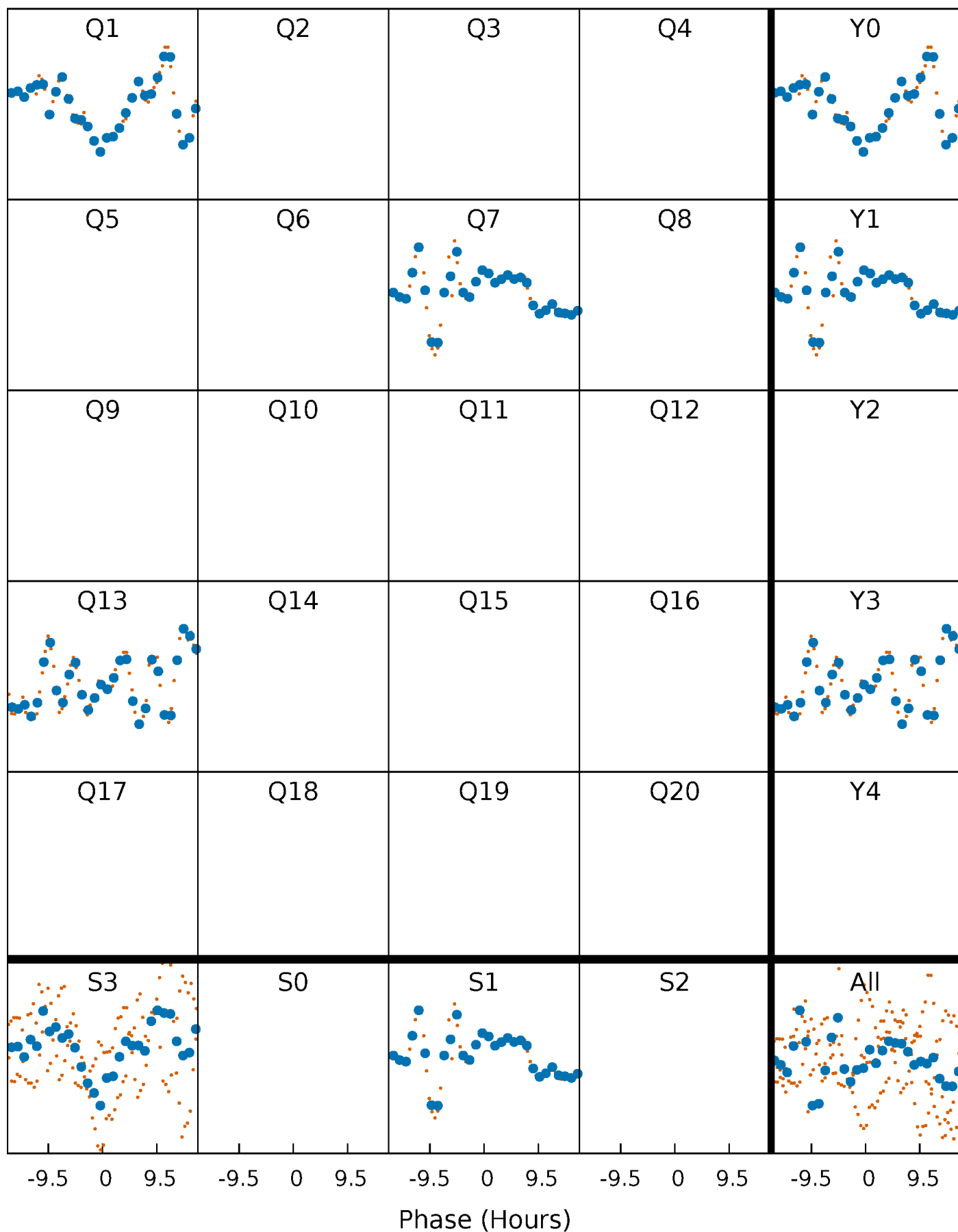


Non-Whitened Vs. Whitened Light Curve



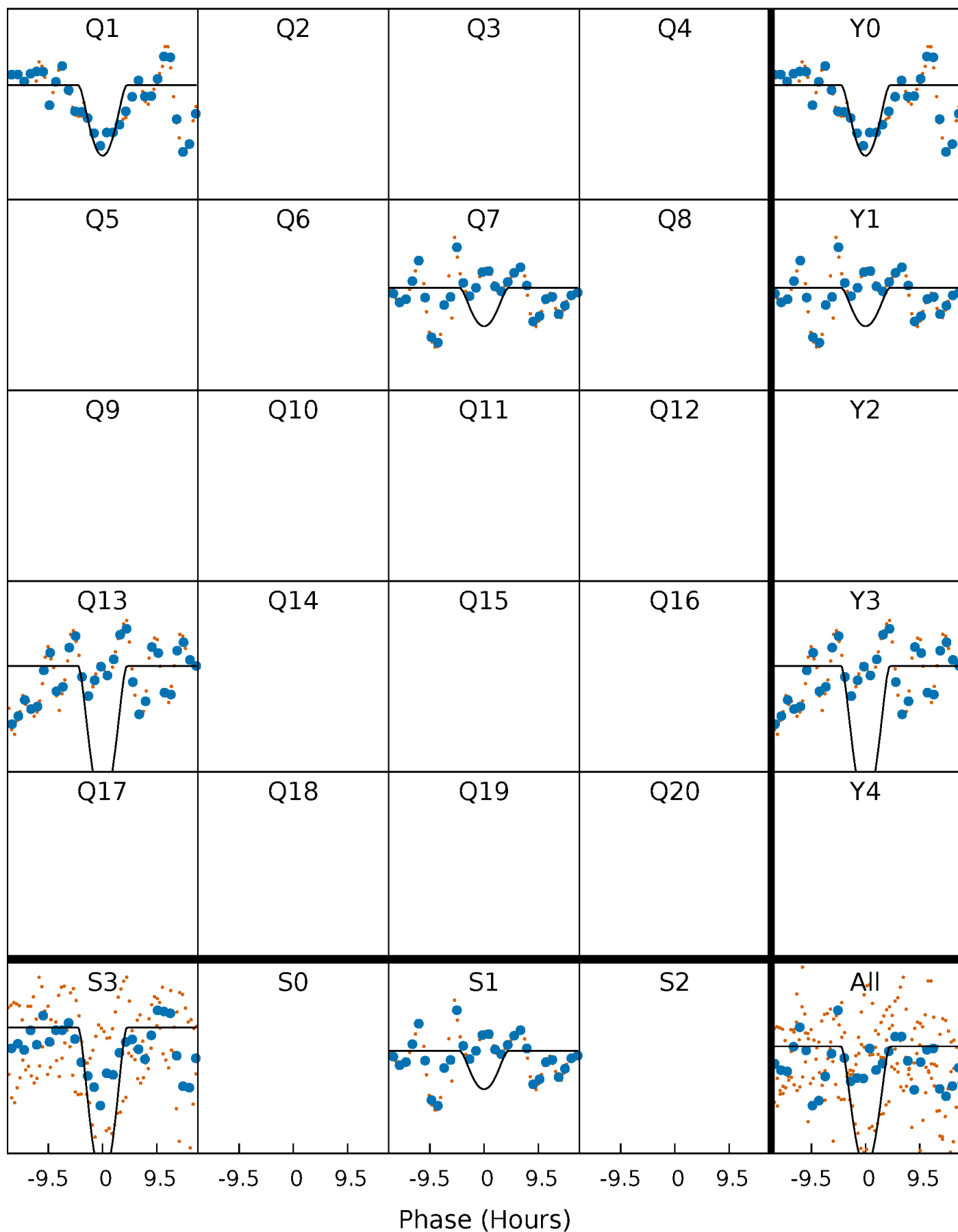
PDC Quarter-Phased Transit Curves

TCE 008230025-01 P=525.548671 Days $T_0=137.942191$ (BKJD)



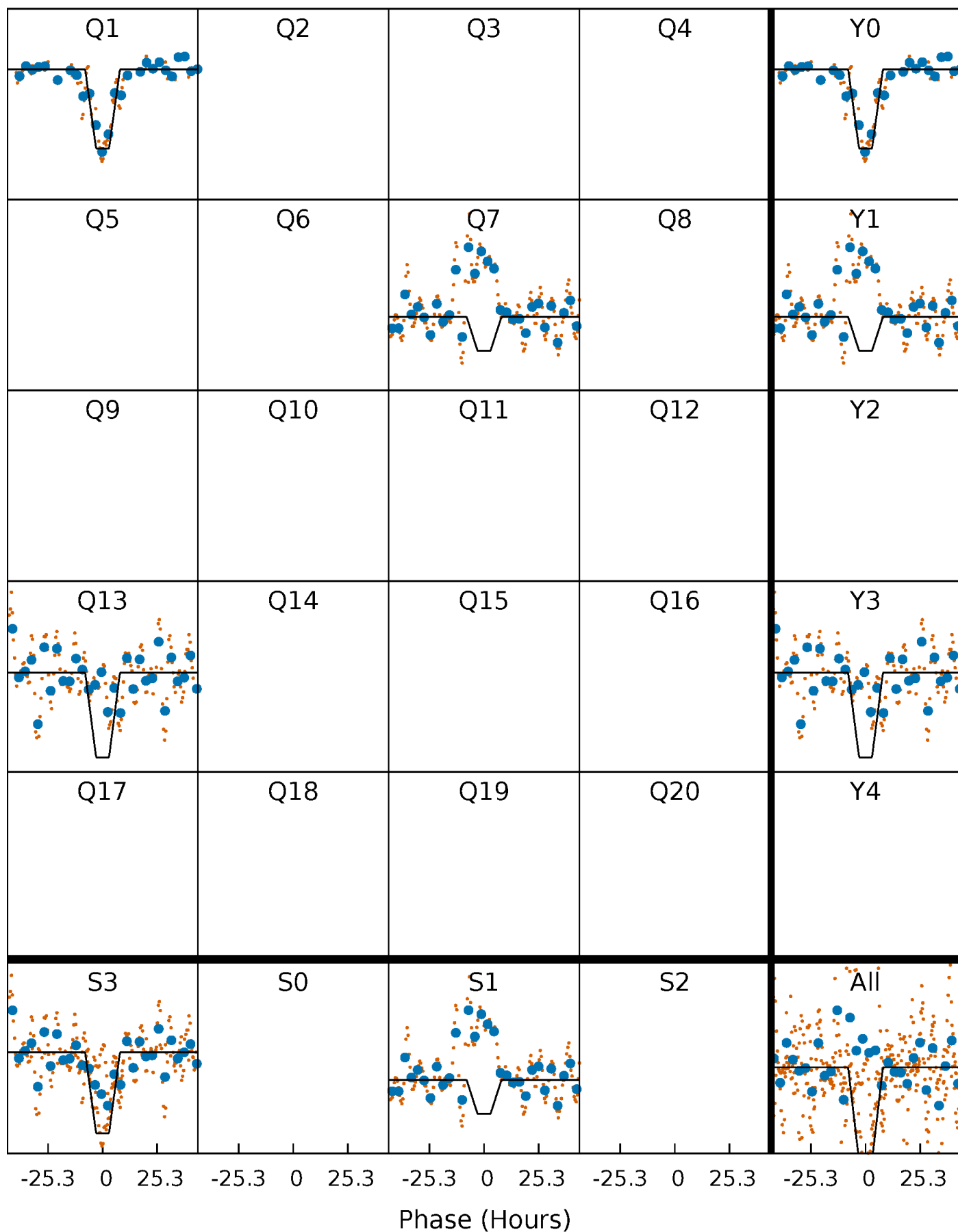
DV Quarter-Phased Transit Curves

TCE 008230025-01 P=525.548671 Days $T_0=137.942191$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

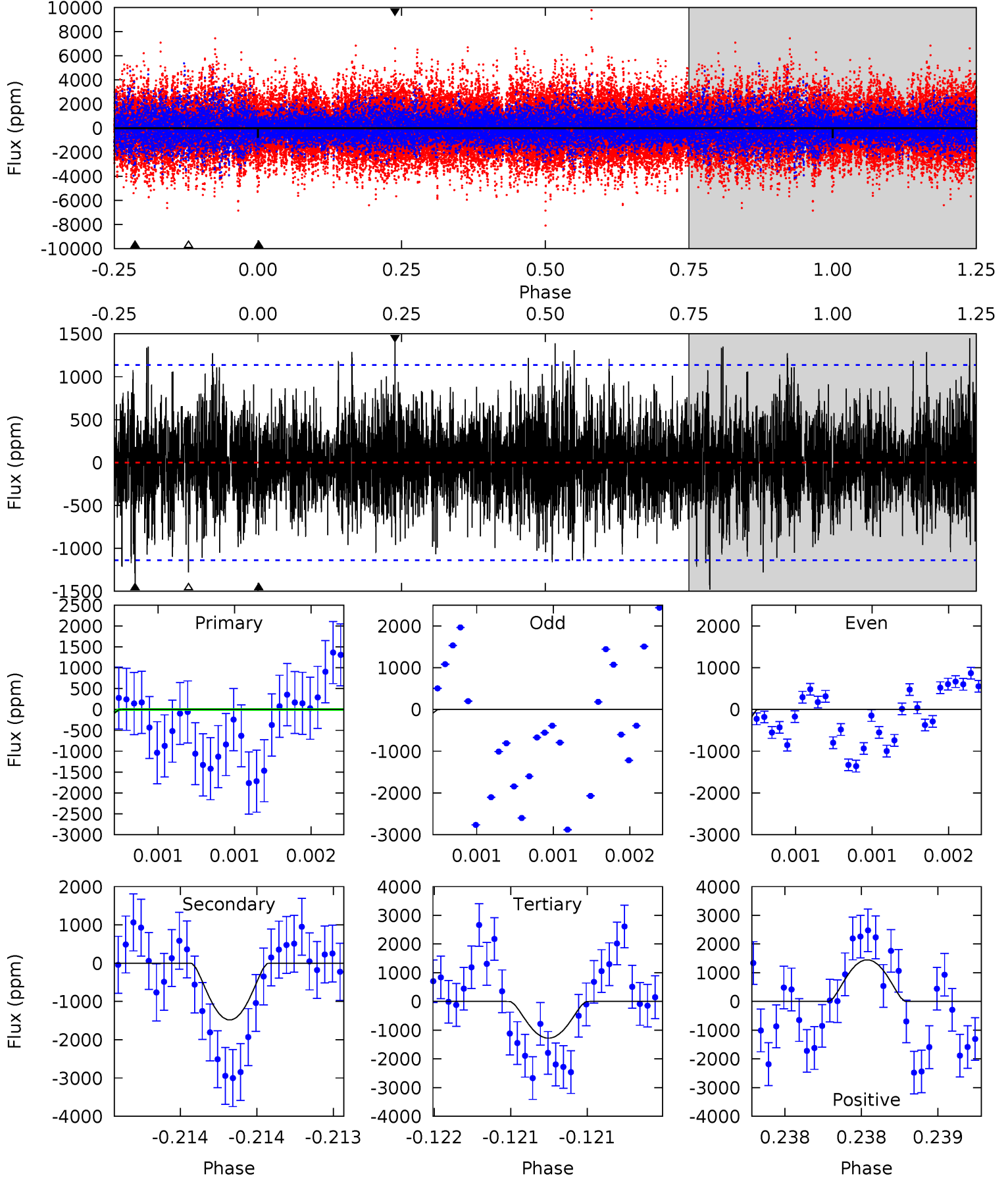
TCE 008230025-01 P=525.619275 Days $T_0=137.939811$ (BKJD)



DV Model-Shift Uniqueness Test

008230025-01, P = 525.548671 Days, E = 137.942191 Days

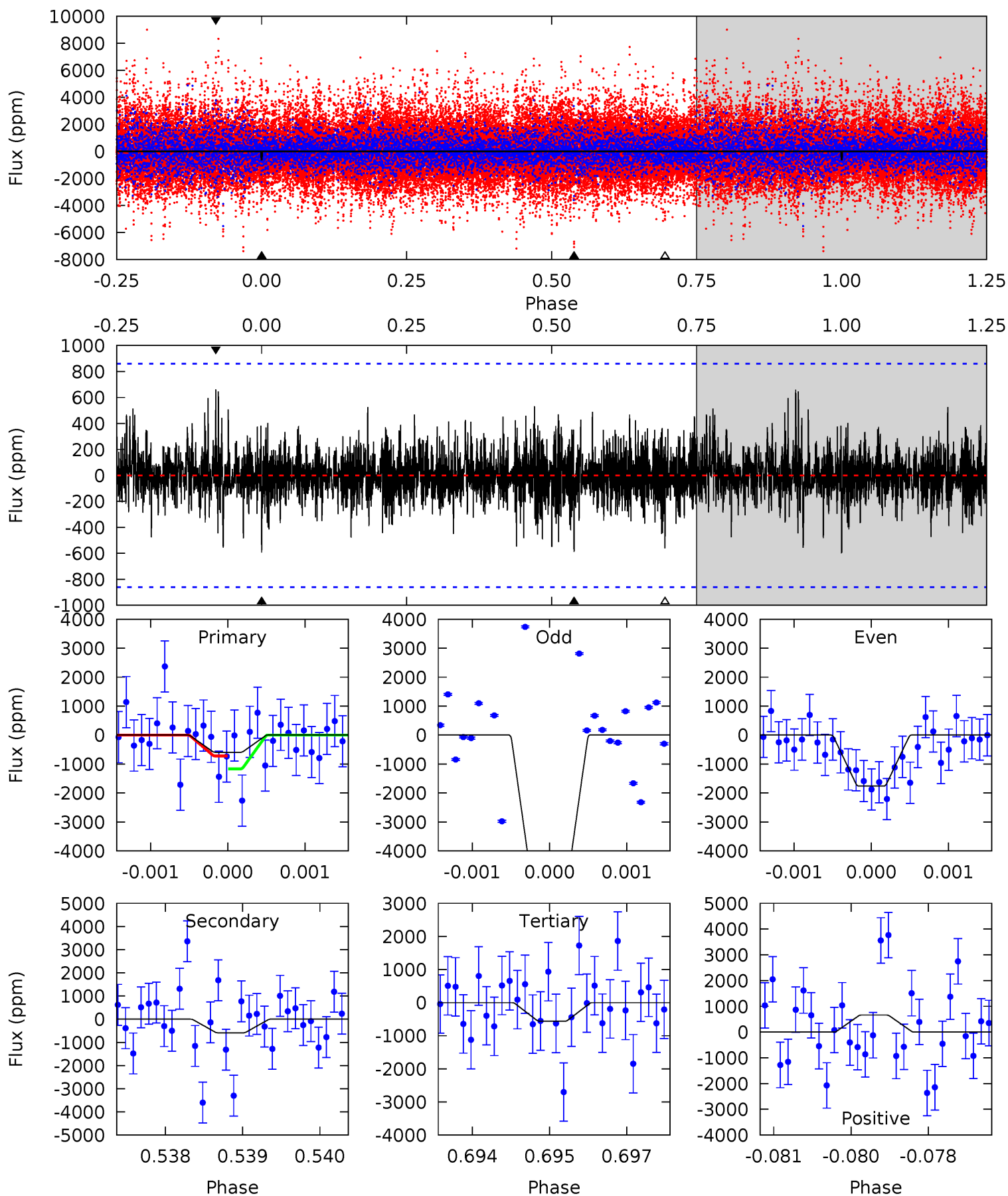
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.90	7.19	6.20	7.03	5.52	3.40	1.77	-2.30	-3.12	0.99	0.16	1.90	4.78	0.49	0.86



Alt Model-Shift Uniqueness Test

008230025-01, P = 525.619275 Days, E = 137.939811 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.73	3.69	3.52	4.16	5.41	3.22	0.90	0.21	-0.43	0.17	-0.46	13.8	-1.07	0.53	1.37



Stellar Parameters For KIC 008230025

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7192^{+71}_{-86}	$3.973^{+0.162}_{-0.108}$	$-0.060^{+0.150}_{-0.150}$	$2.185^{+0.397}_{-0.437}$	$1.633^{+0.147}_{-0.147}$	$0.220^{+0.175}_{-0.071}$
	+1%/-1%	+4%/-3%	+250%/-250%	+18%/-20%	+9%/-9%	+79%/-32%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 008230025-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1481 ± 206	$34.08^{+31.31}_{-22.57}$	533^{+26}_{-26}	3974^{+2492}_{-728}	1575^{+13534}_{-1146}
Alt.	-587 ± 159	$28.93^{+31.79}_{-18.90}$	531^{+27}_{-27}	3590^{+1790}_{-744}	855^{+6166}_{-677}

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 $A_{obs} \gg 1.0$

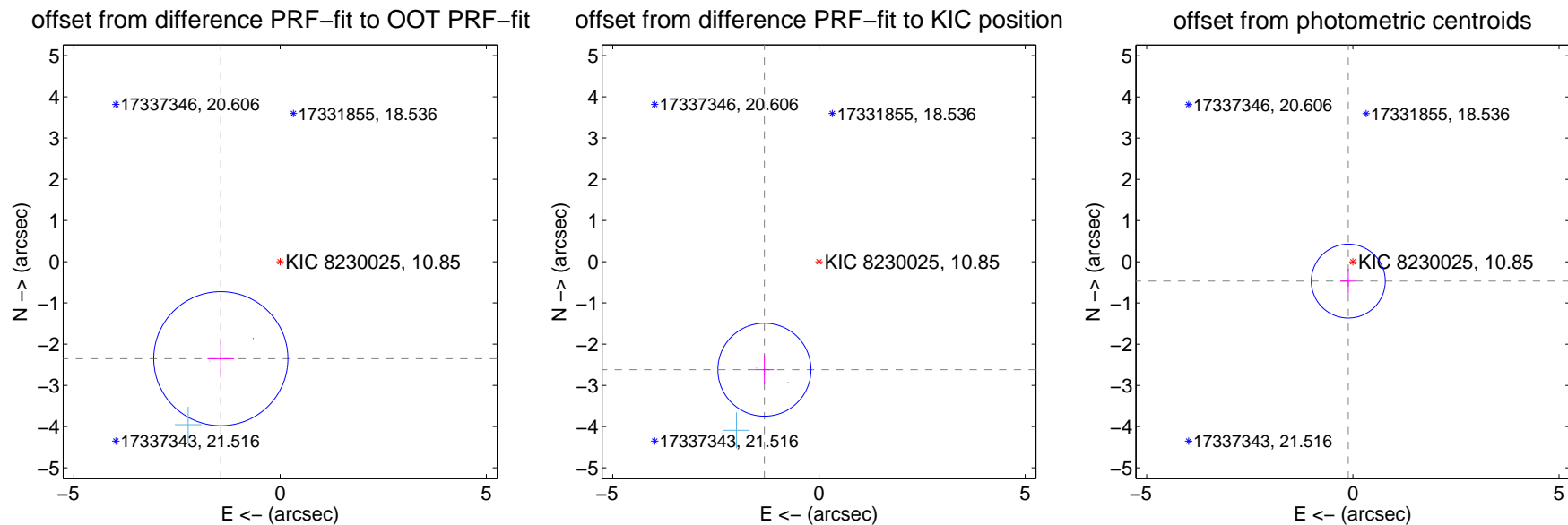
DV Centroid Data

Supplemental centroid analysis for 008230025-01. **Kepler magnitude: 10.85.** Transit SNR 28.11

There are 2 quarters with good PRF difference image offsets

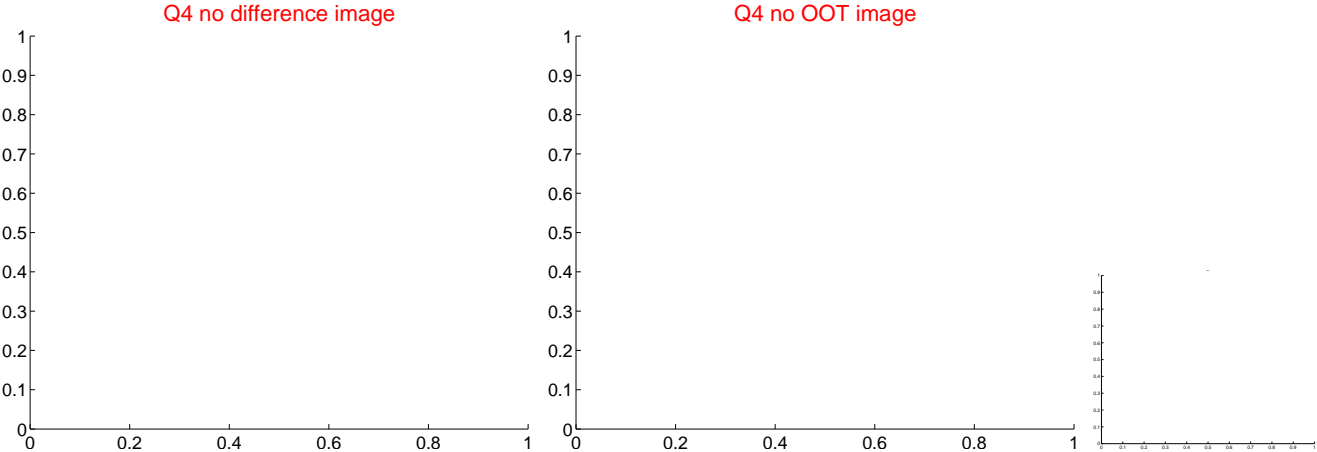
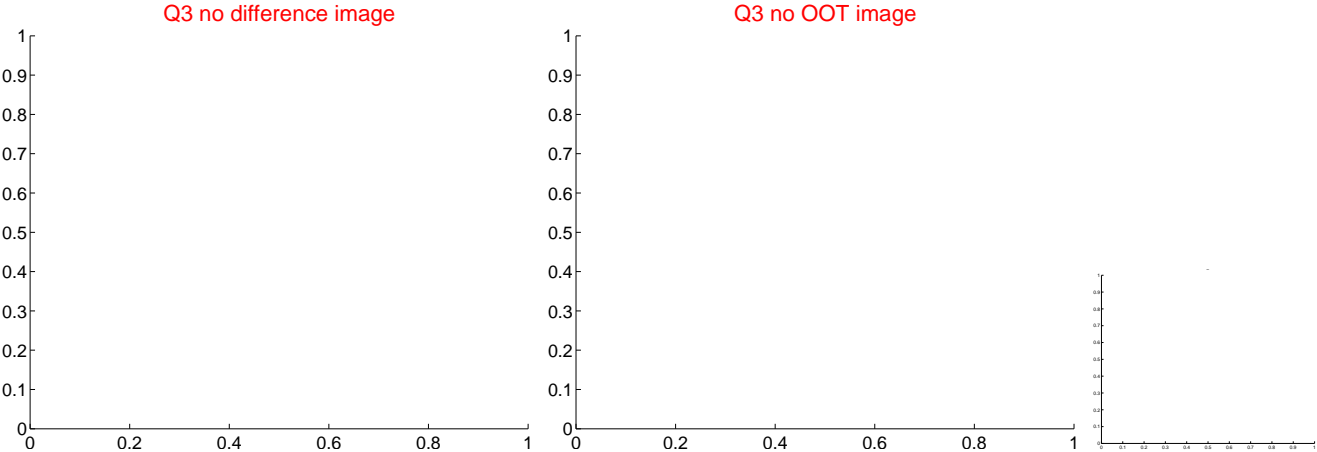
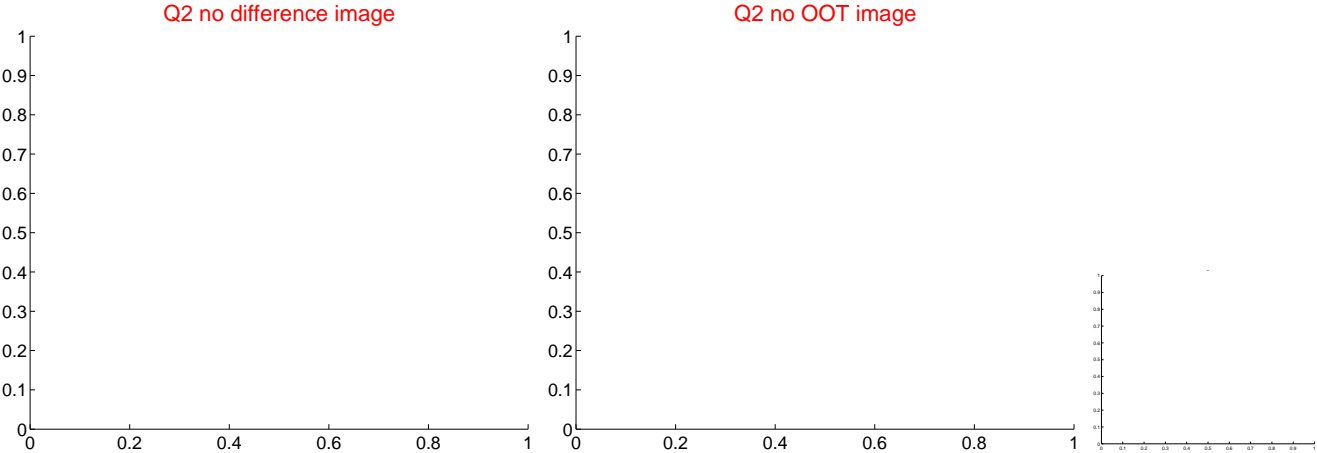
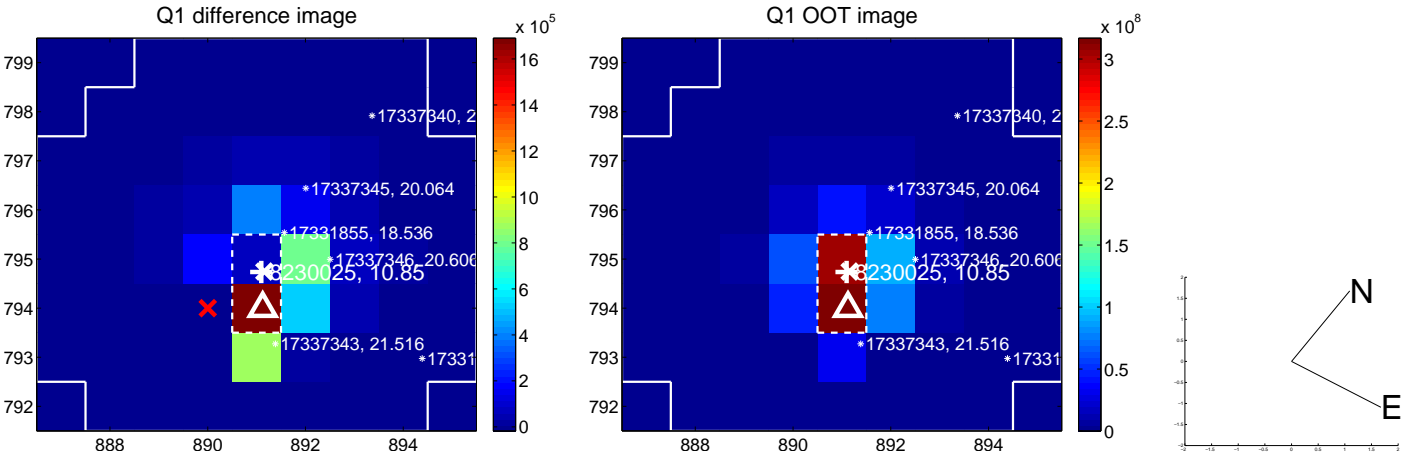
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.757 \pm 0.542	5.09	1.437 \pm 0.324	-2.353 \pm 0.463
PRF-fit source offset from KIC position	2.935 \pm 0.376	7.80	1.323 \pm 0.230	-2.620 \pm 0.357
photometric centroid source offset	0.48 \pm 0.30	1.61	0.11 \pm 0.19	-0.47 \pm 0.30



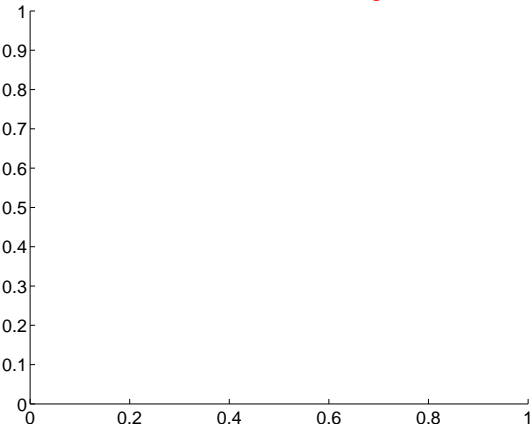
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

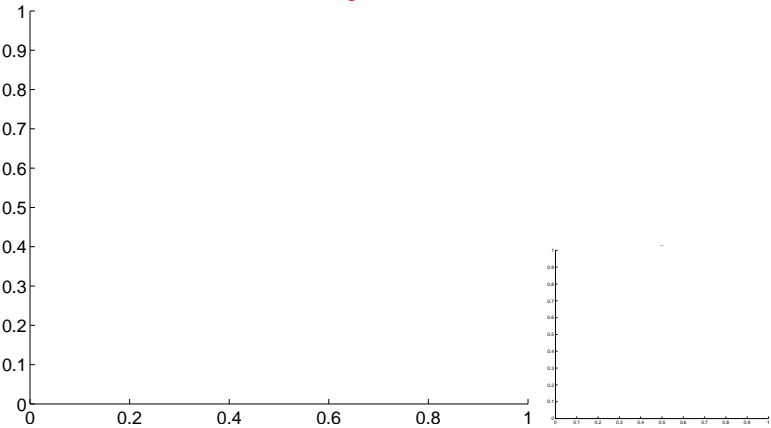


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

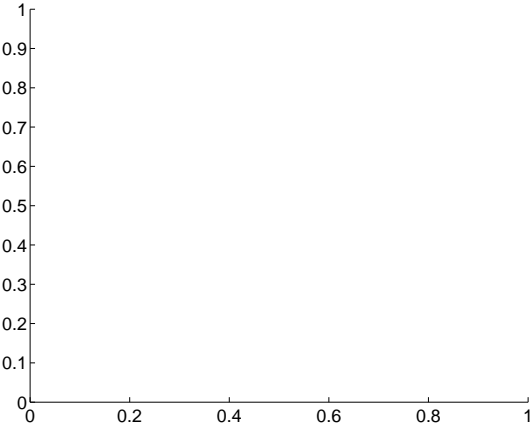
Q5 no difference image



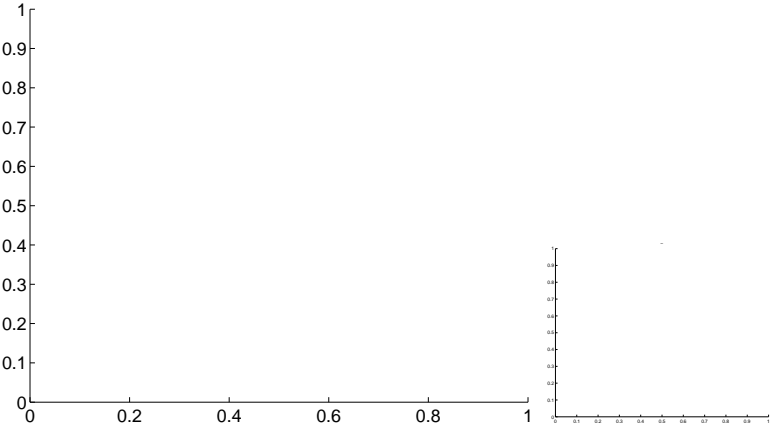
Q5 no OOT image



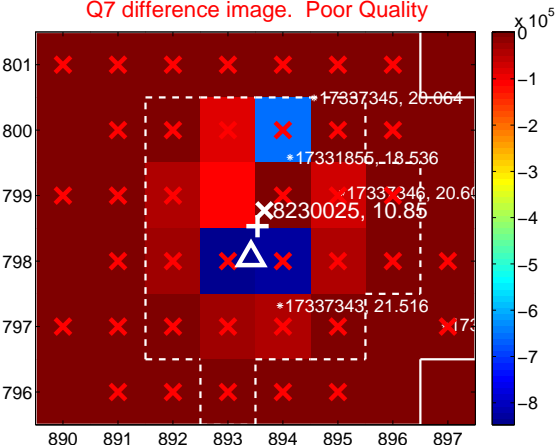
Q6 no difference image



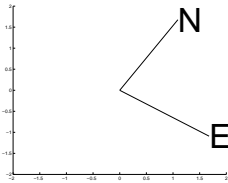
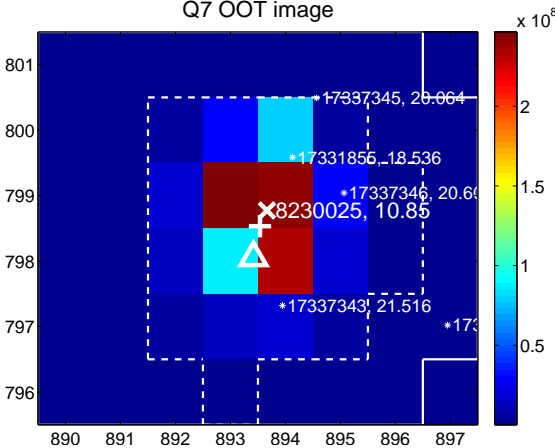
Q6 no OOT image



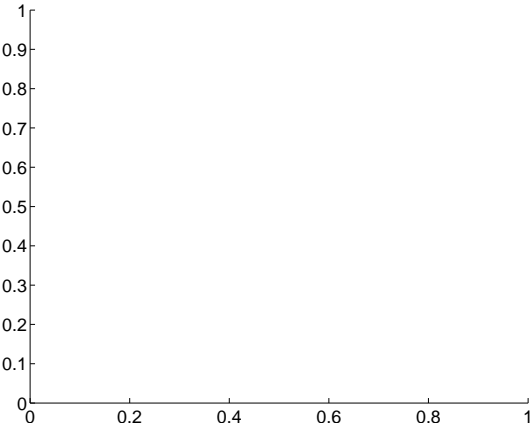
Q7 difference image. Poor Quality



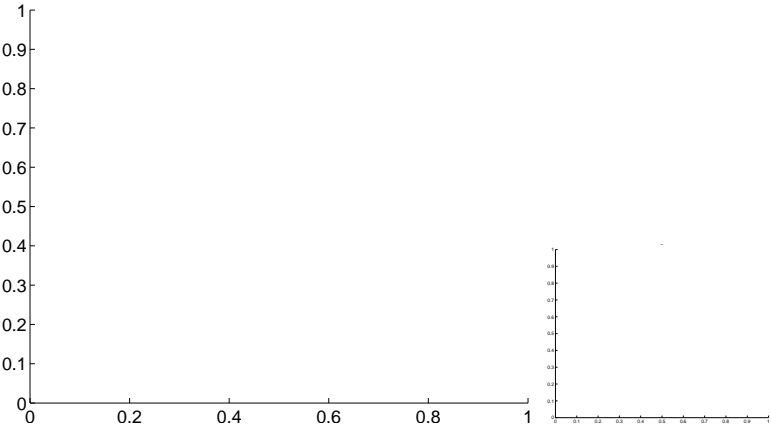
Q7 OOT image



Q8 no difference image



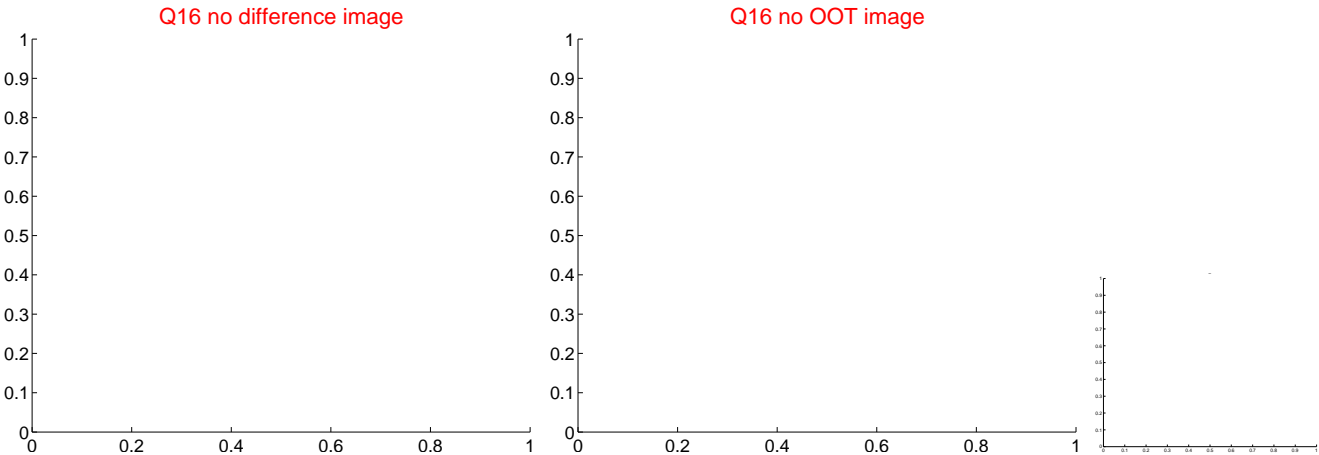
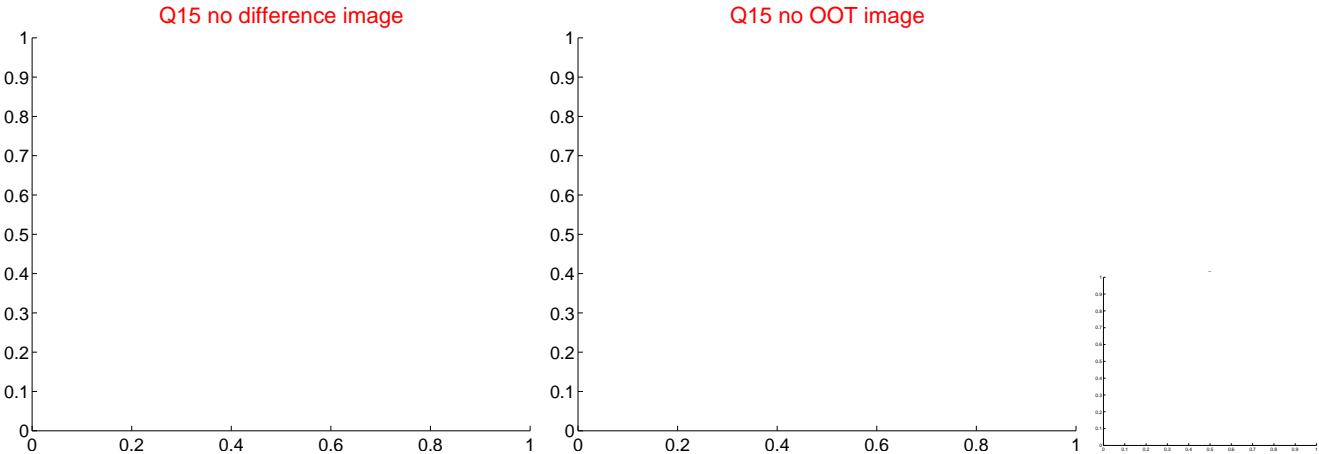
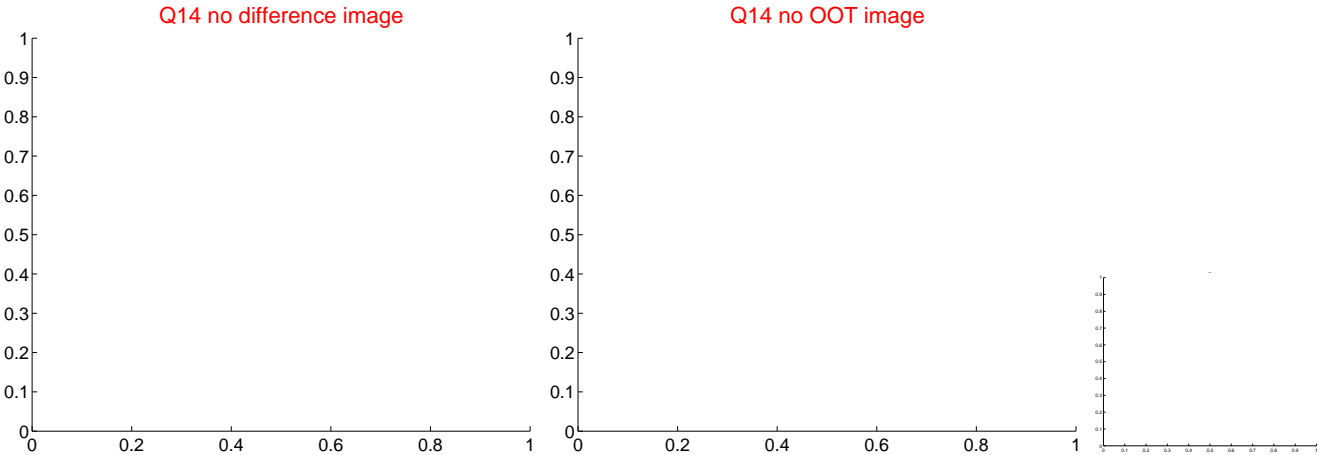
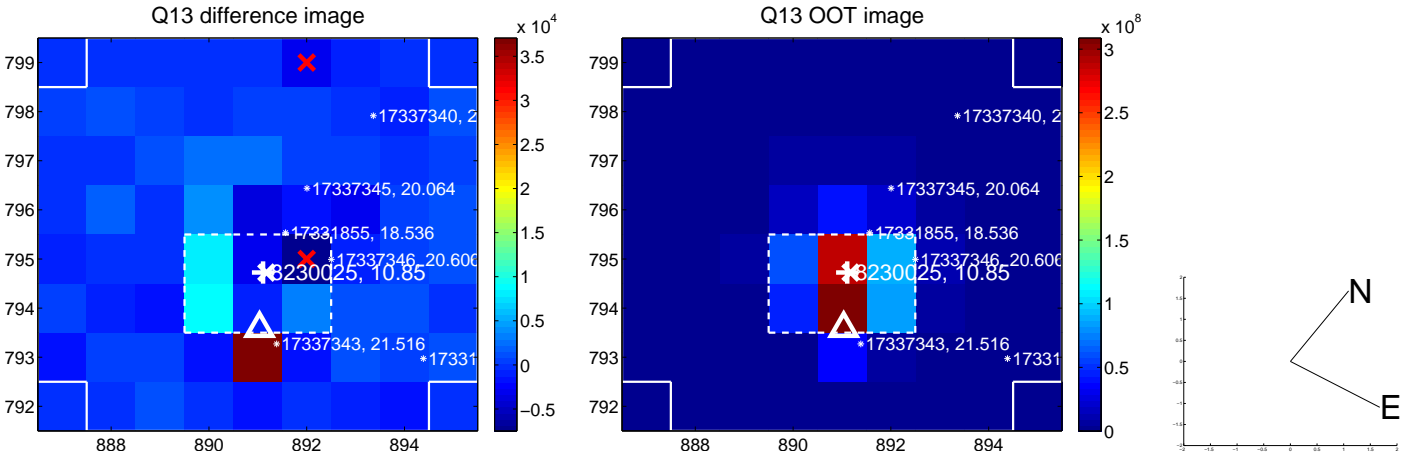
Q8 no OOT image



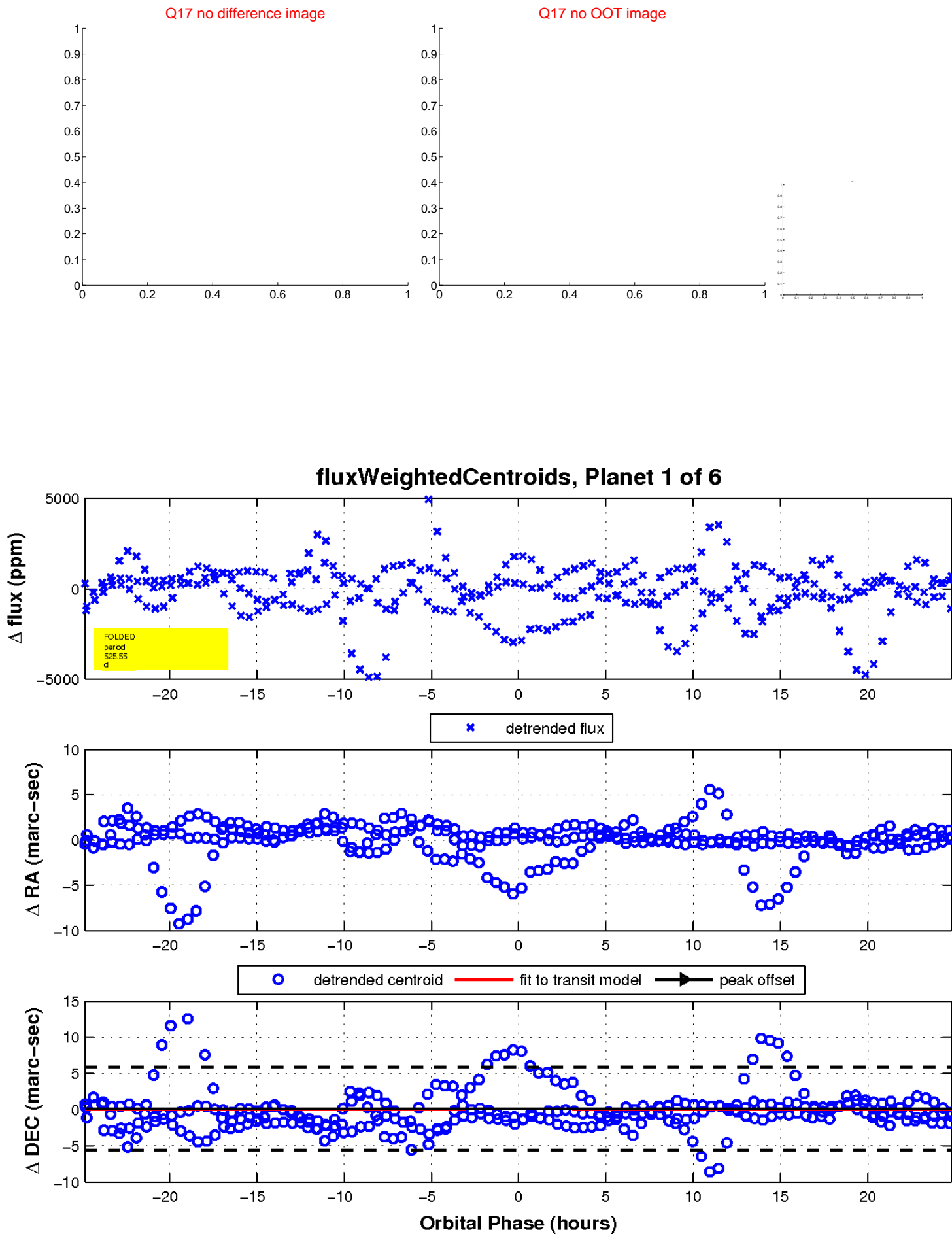
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

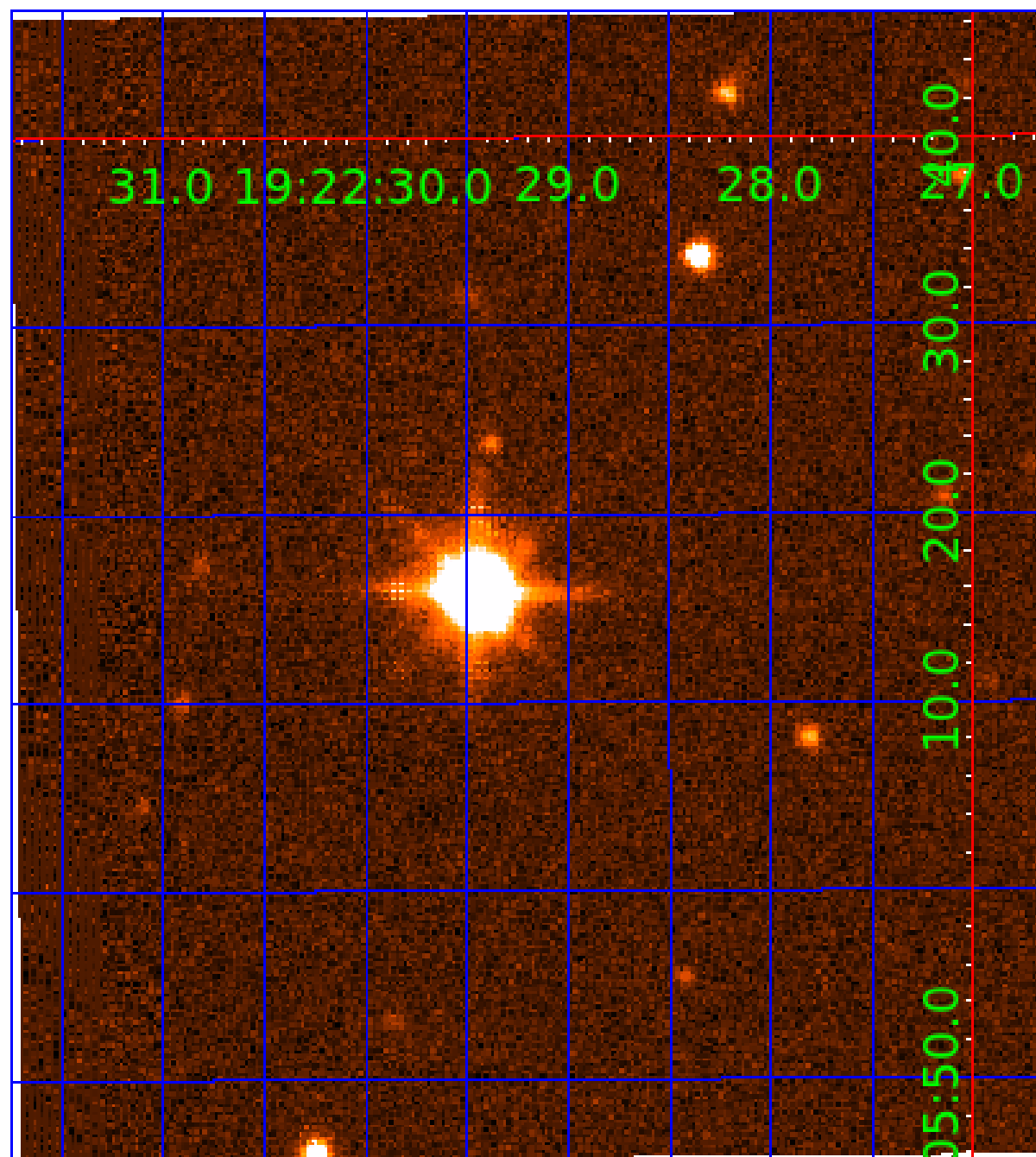


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008230025

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})
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Robovetter Results

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008230025-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_SATURATED
008230025-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008230025-05	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
008230025-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

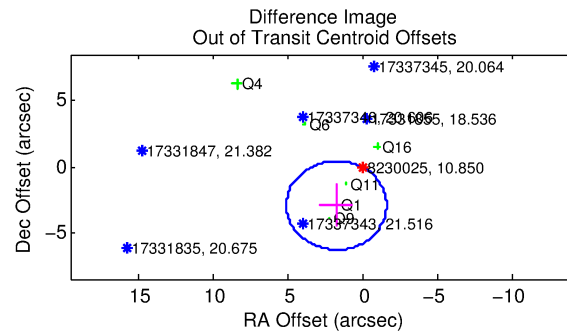
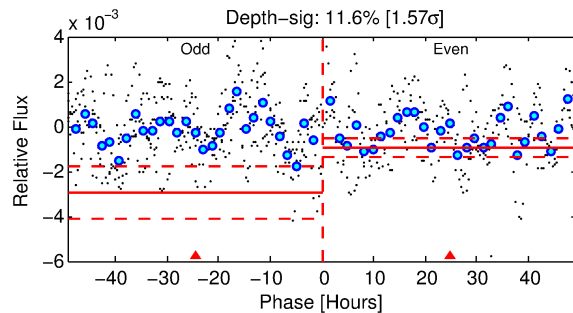
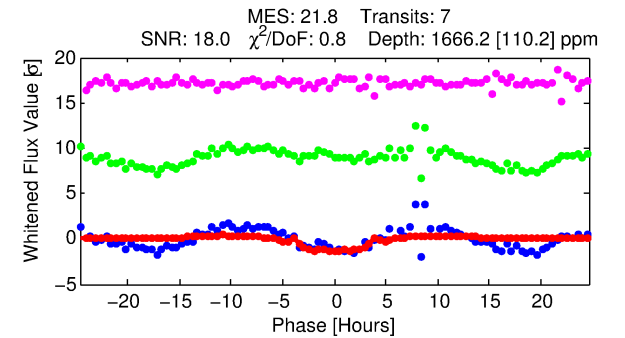
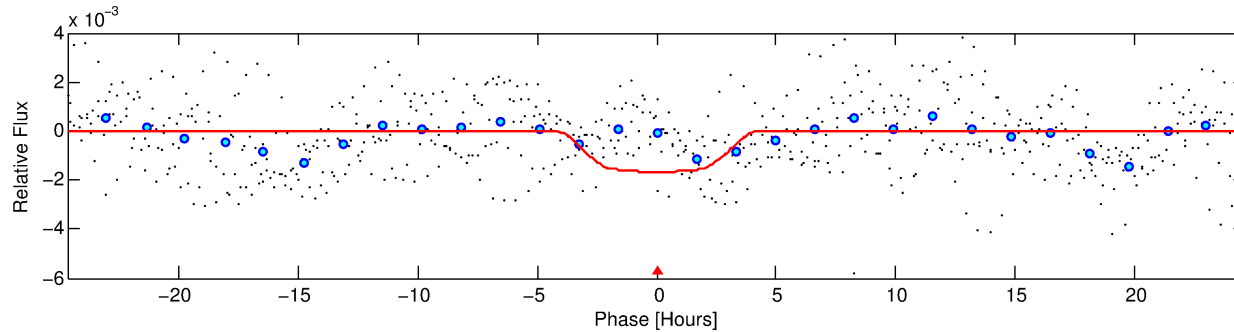
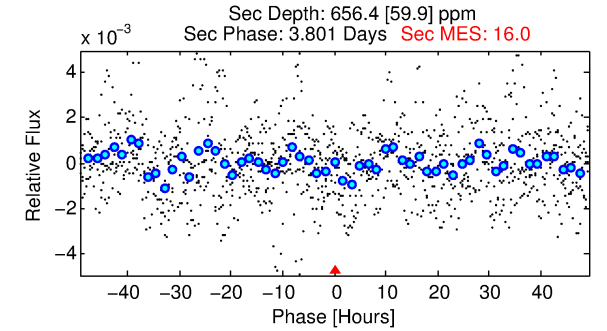
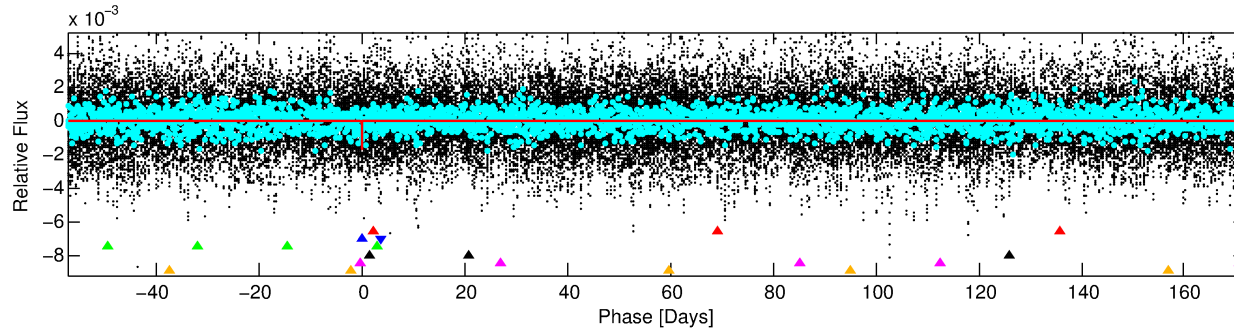
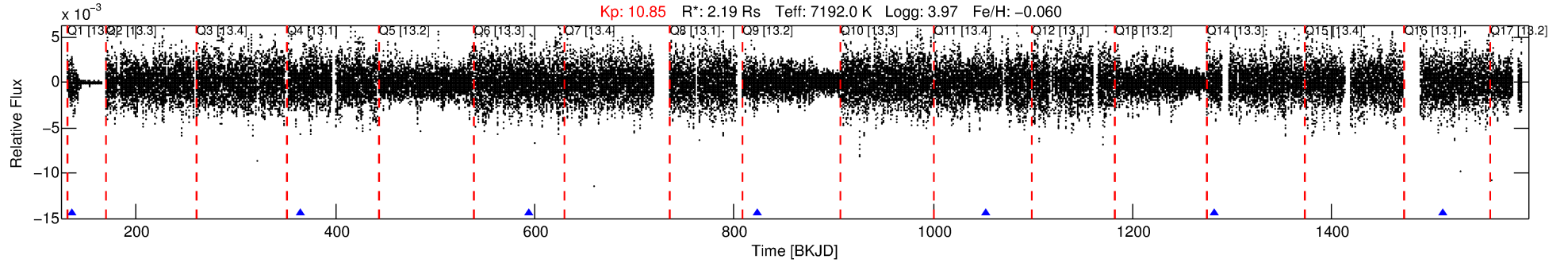
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008230025-02

No Significant Match Found

DV One-Page Summary

KIC: 8230025 Candidate: 2 of 6 Period: 229.370 d



DV Fit Results:

Period = 229.37023 [0.00249] d
Epoch = 135.6386 [0.0065] BKJD
Rp/R* = 0.0446 [0.0018]
a/R* = 102.41 [7.07]
b = 0.93 [0.01]
Seff = 15.32 [4.38]
Teq = 504 [36] K
Rp = 10.63 [2.17] Re
a = 0.8643 [0.1576] AU
Ag = 2388.32 [735.25] [3.25σ]
Teffp = 5452 [180] K [26.95σ]

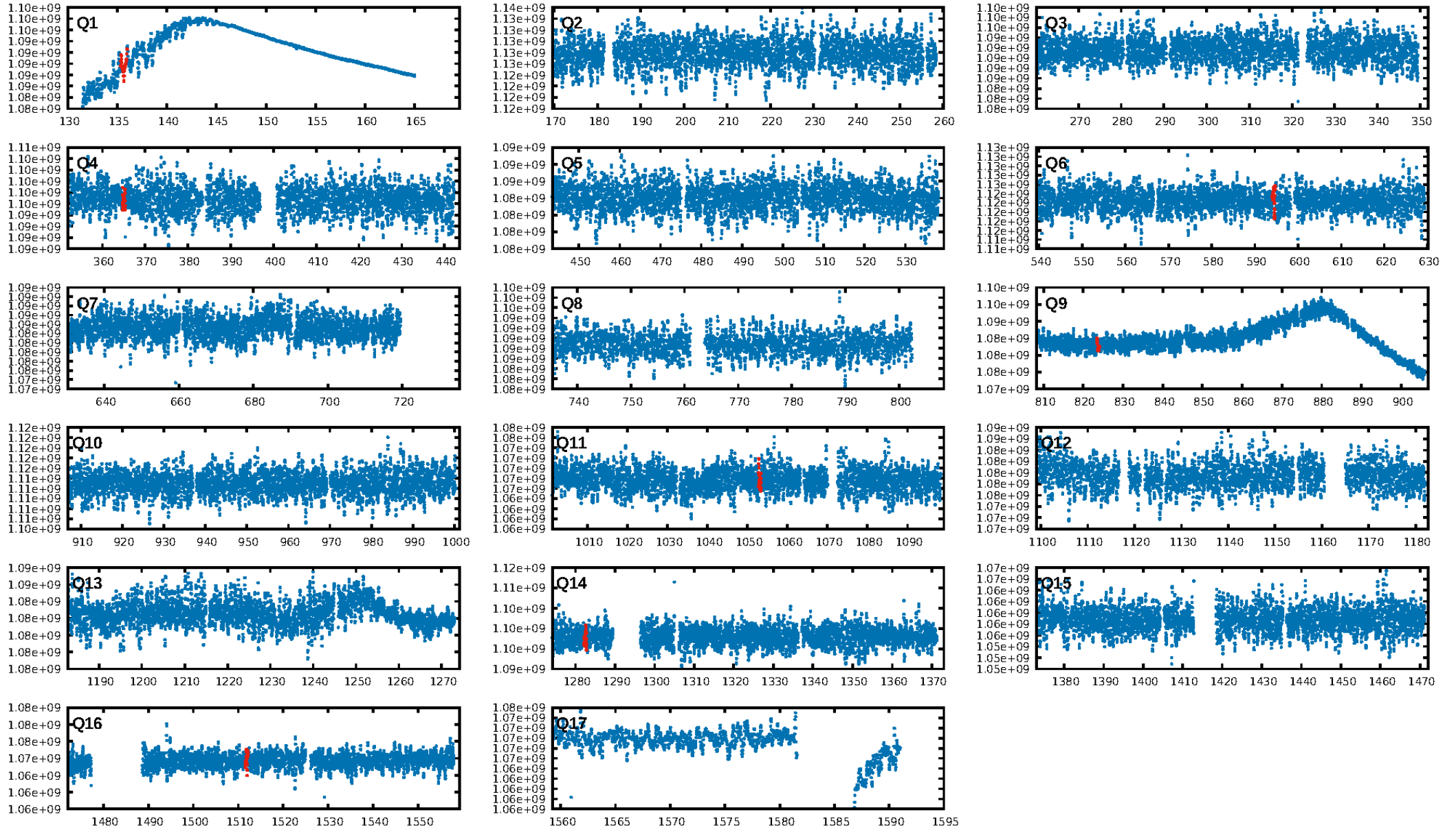
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [120.20σ]
ModelChiSquare2-sig: 10.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.08e-22
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 5.331
Centroid-sig: N/A
Centroid-so: 0.566 arcsec [1.77σ]
OotOffset-rm: 3.401 arcsec [3.05σ]
KicOffset-rm: 3.485 arcsec [2.63σ]
OotOffset-st: 1/1/2/2 [6]
KicOffset-st: 1/1/2/2 [6]
DiffImageQuality-fgm: 0.50 [3/6]
DiffImageOverlap-fno: 0.83 [5/6]

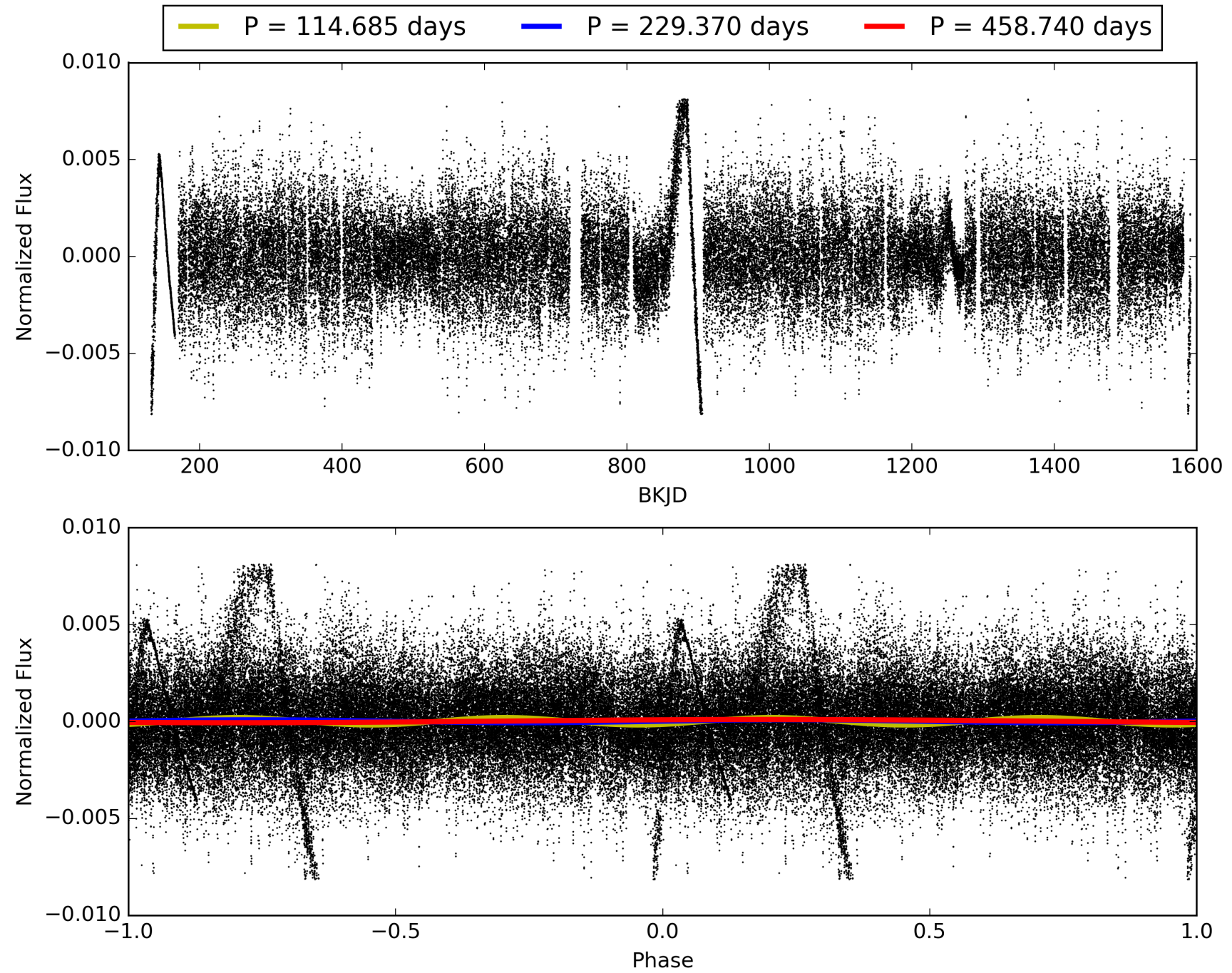
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:53:27 Z

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

TCE 008230025-02, PDC Light Curves

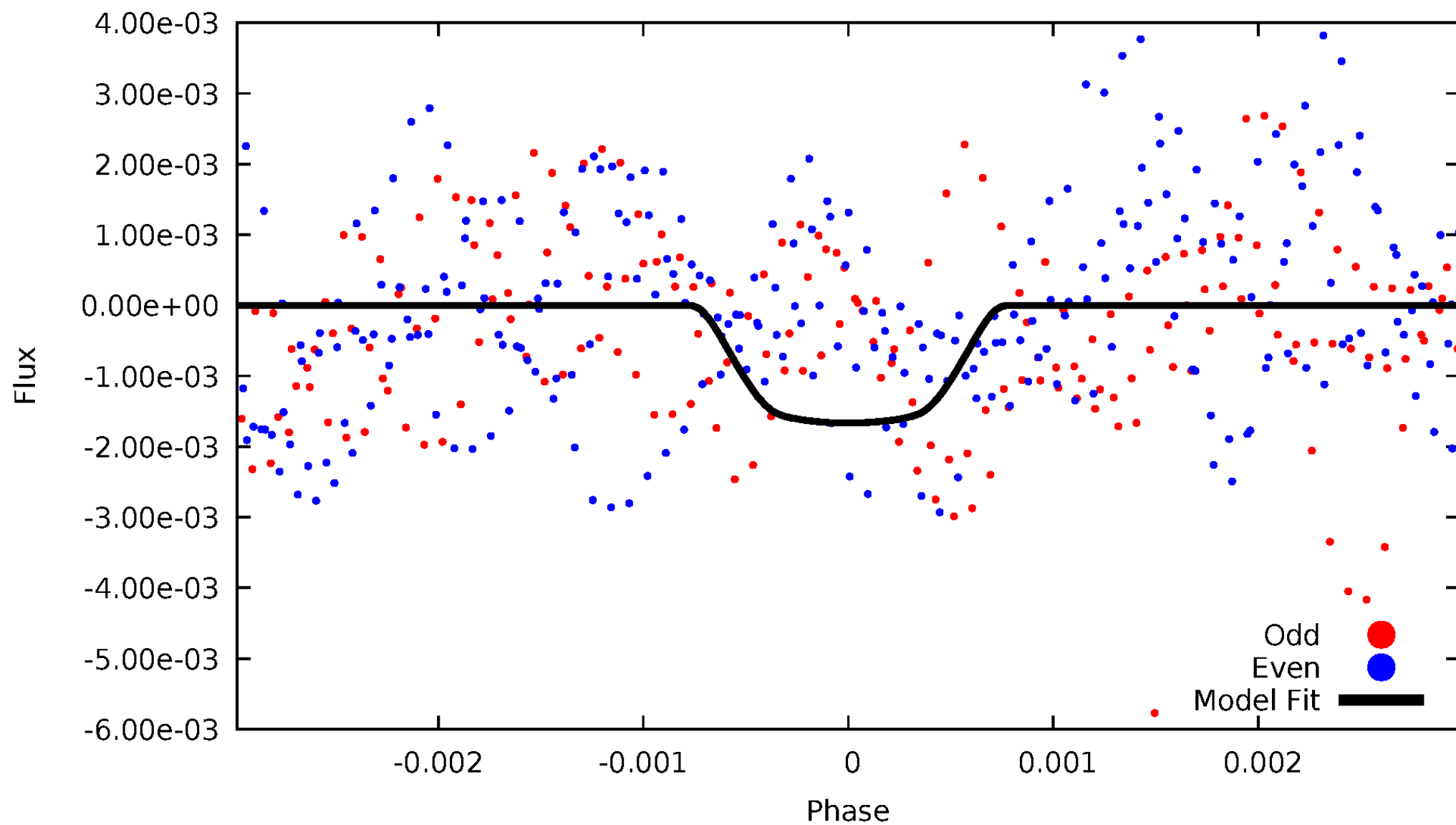


TCE 008230025-02



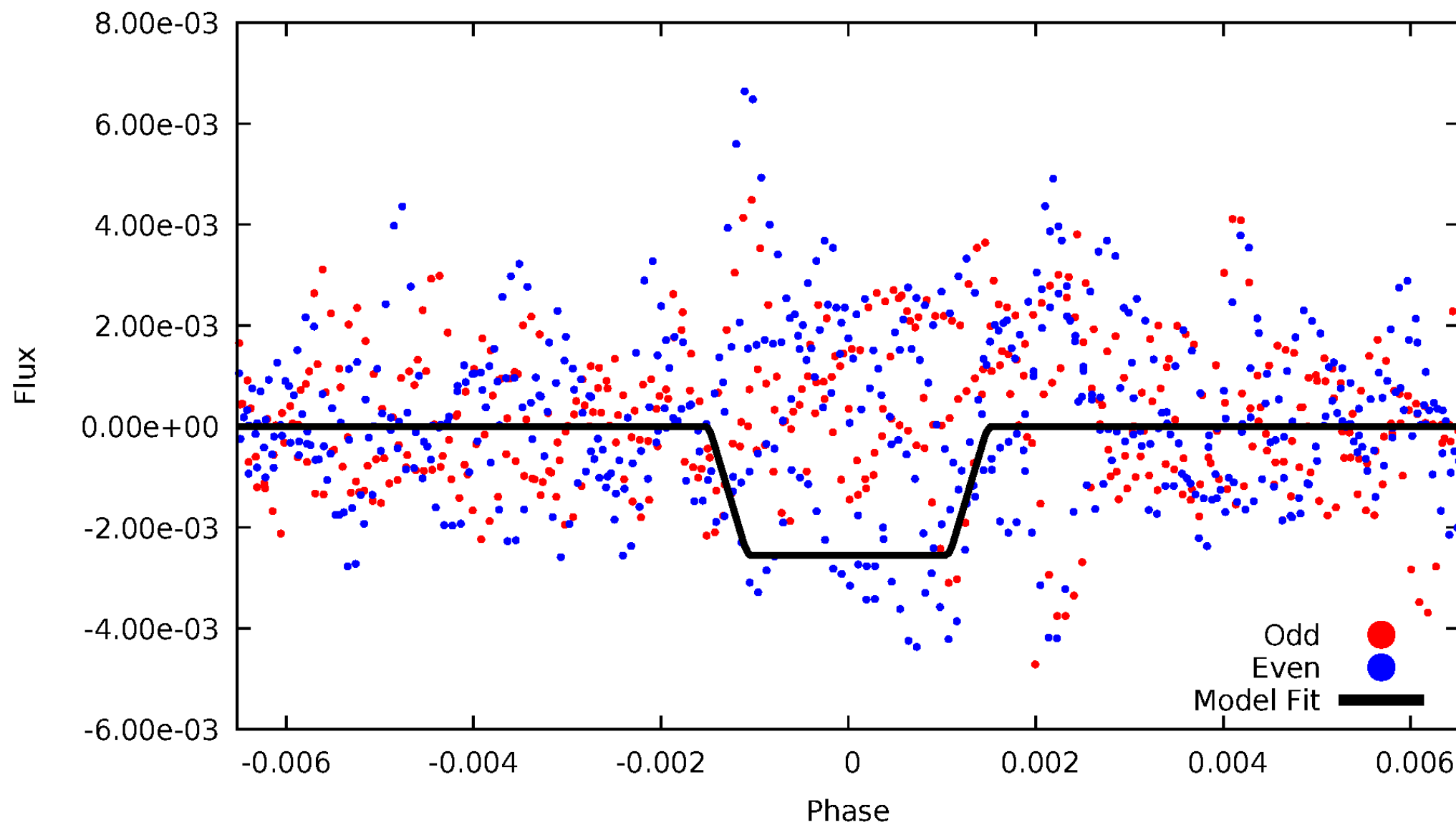
DV Odd/Even

TCE 008230025-02



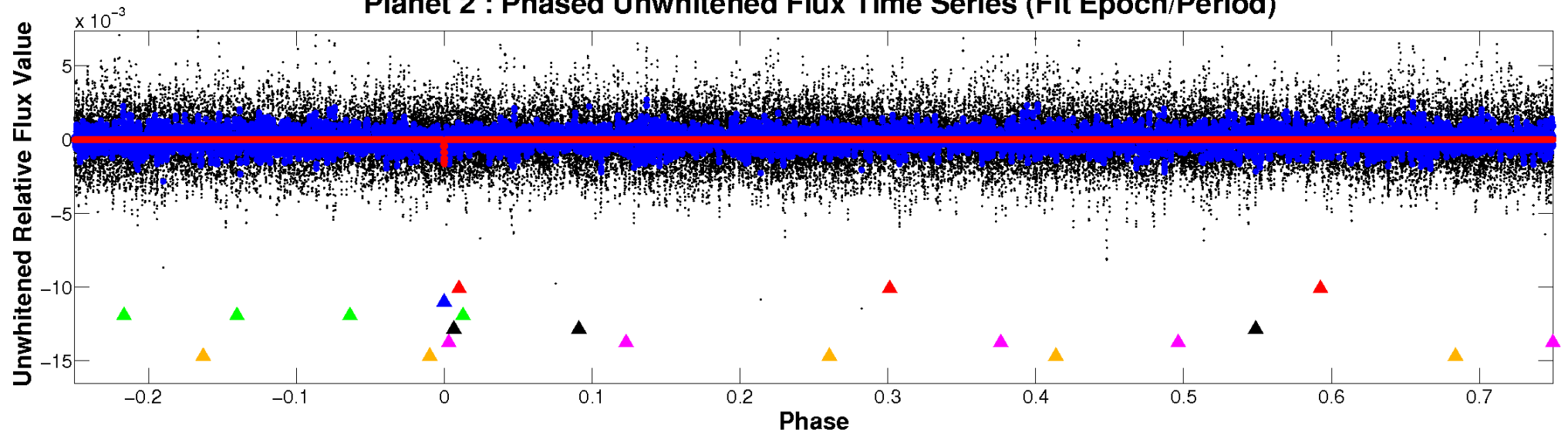
ALT Odd/Even

TCE 008230025-02

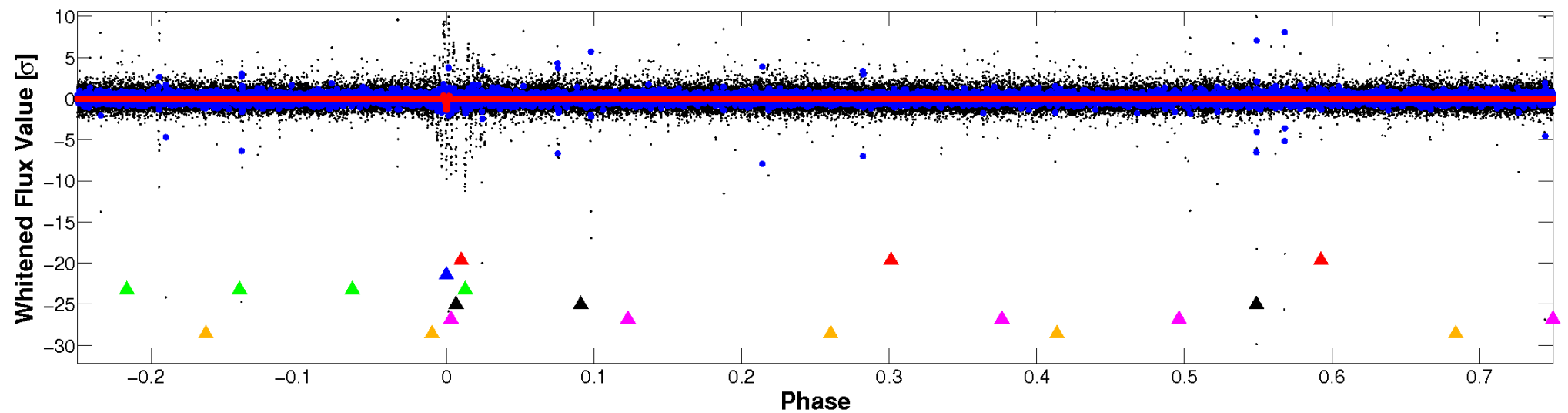


Non-Whitened Vs. Whitened Light Curve

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

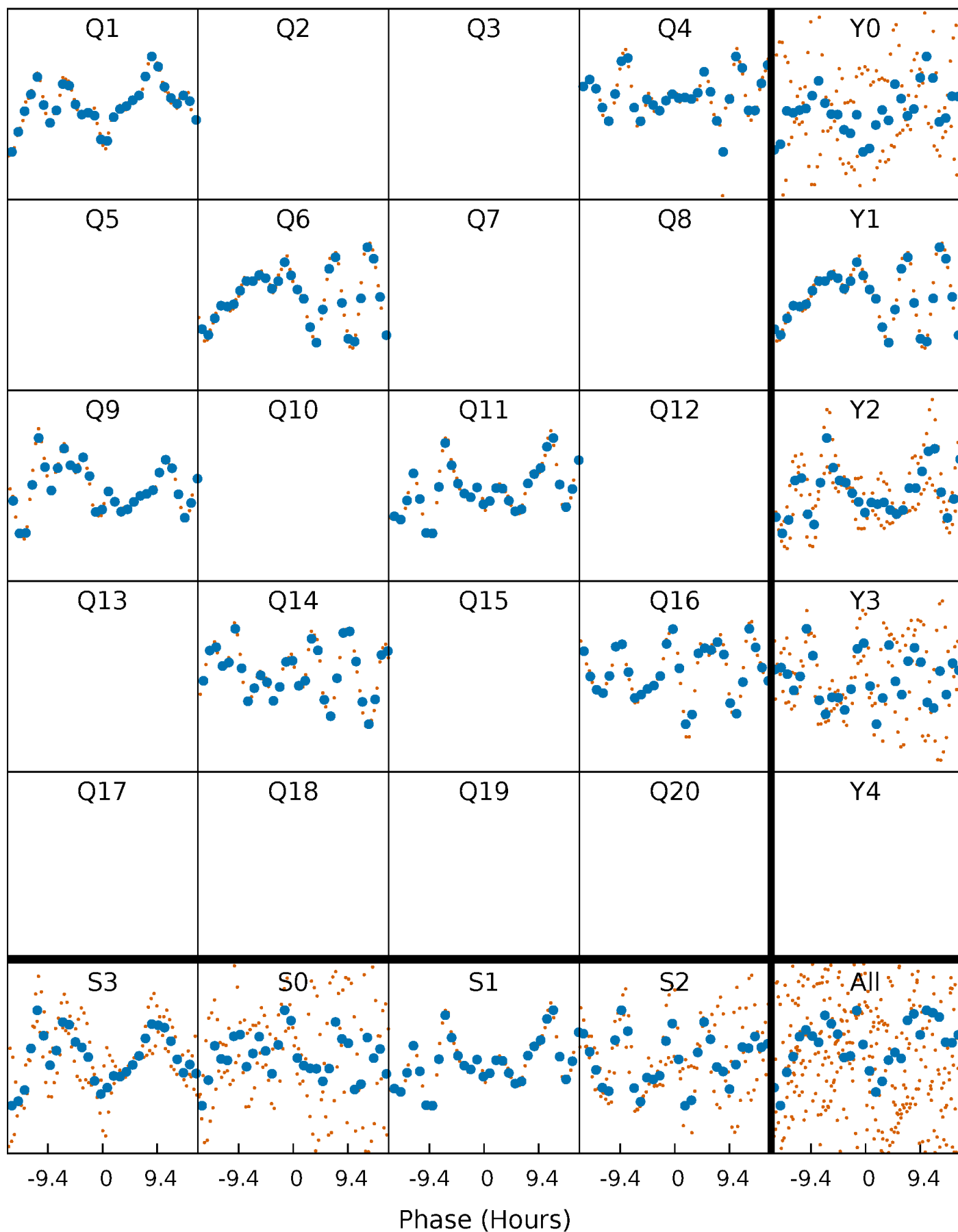


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



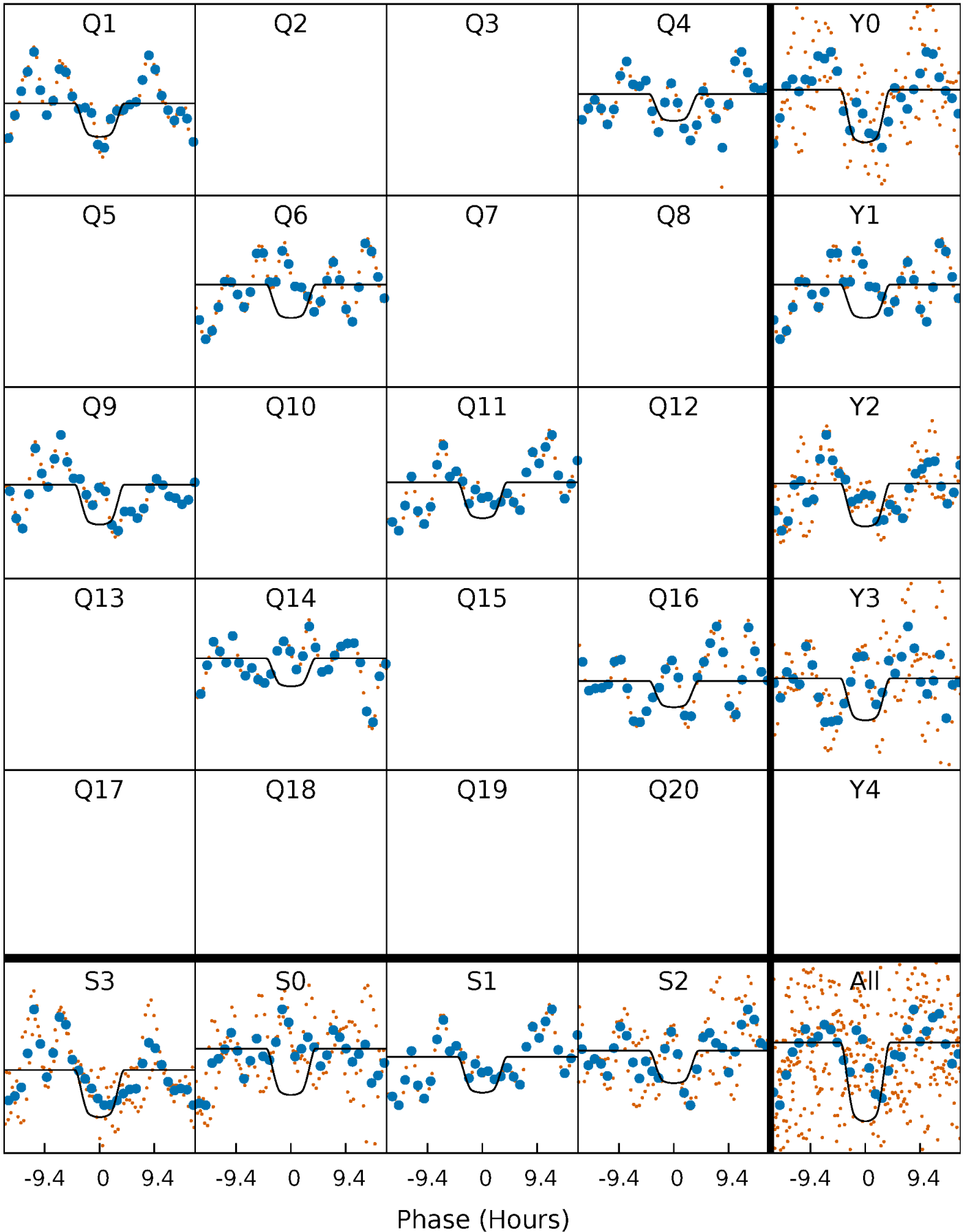
PDC Quarter-Phased Transit Curves

TCE 008230025-02 P=229.370227 Days $T_0=135.638646$ (BKJD)



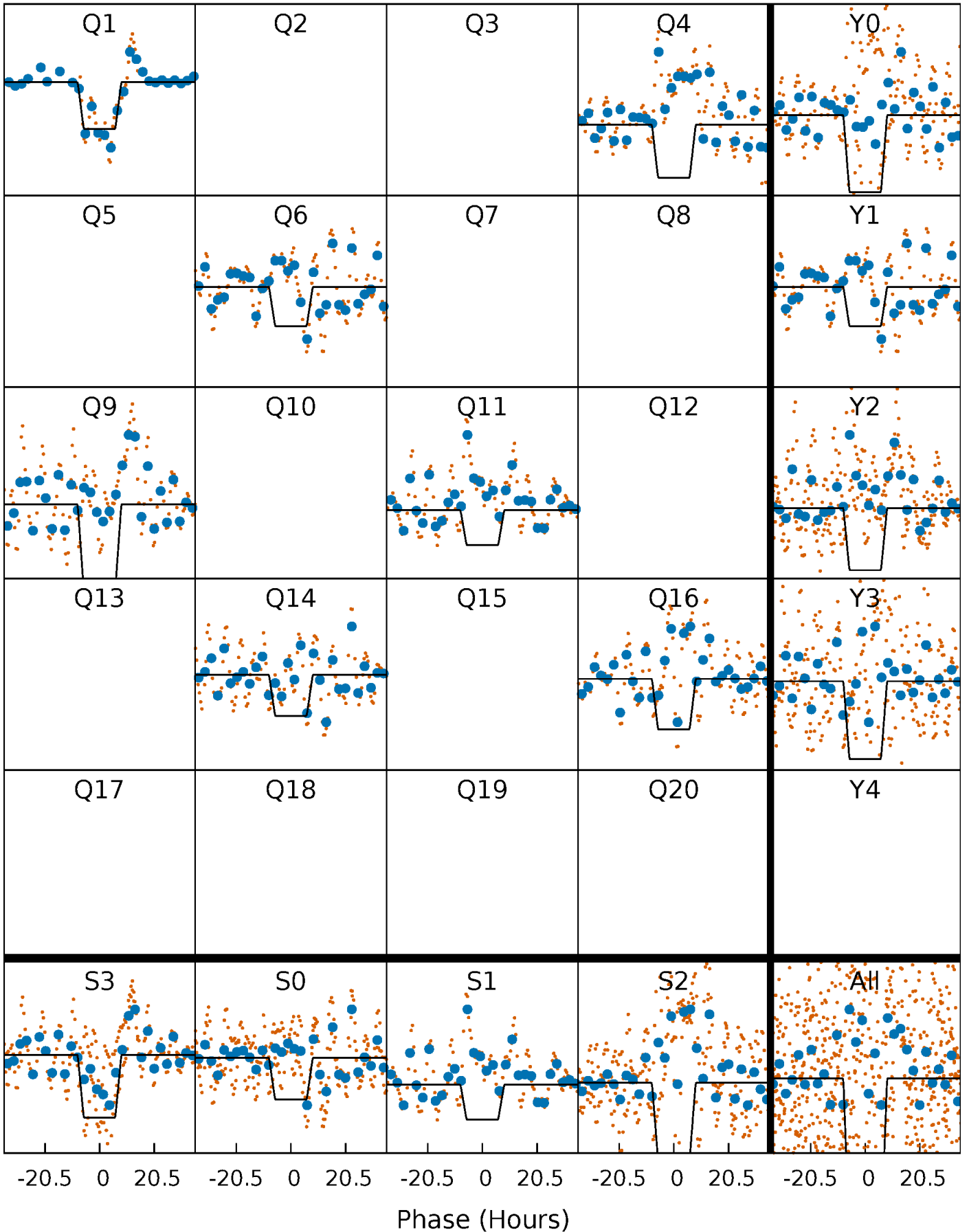
DV Quarter-Phased Transit Curves

TCE 008230025-02 P=229.370227 Days $T_0=135.638646$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

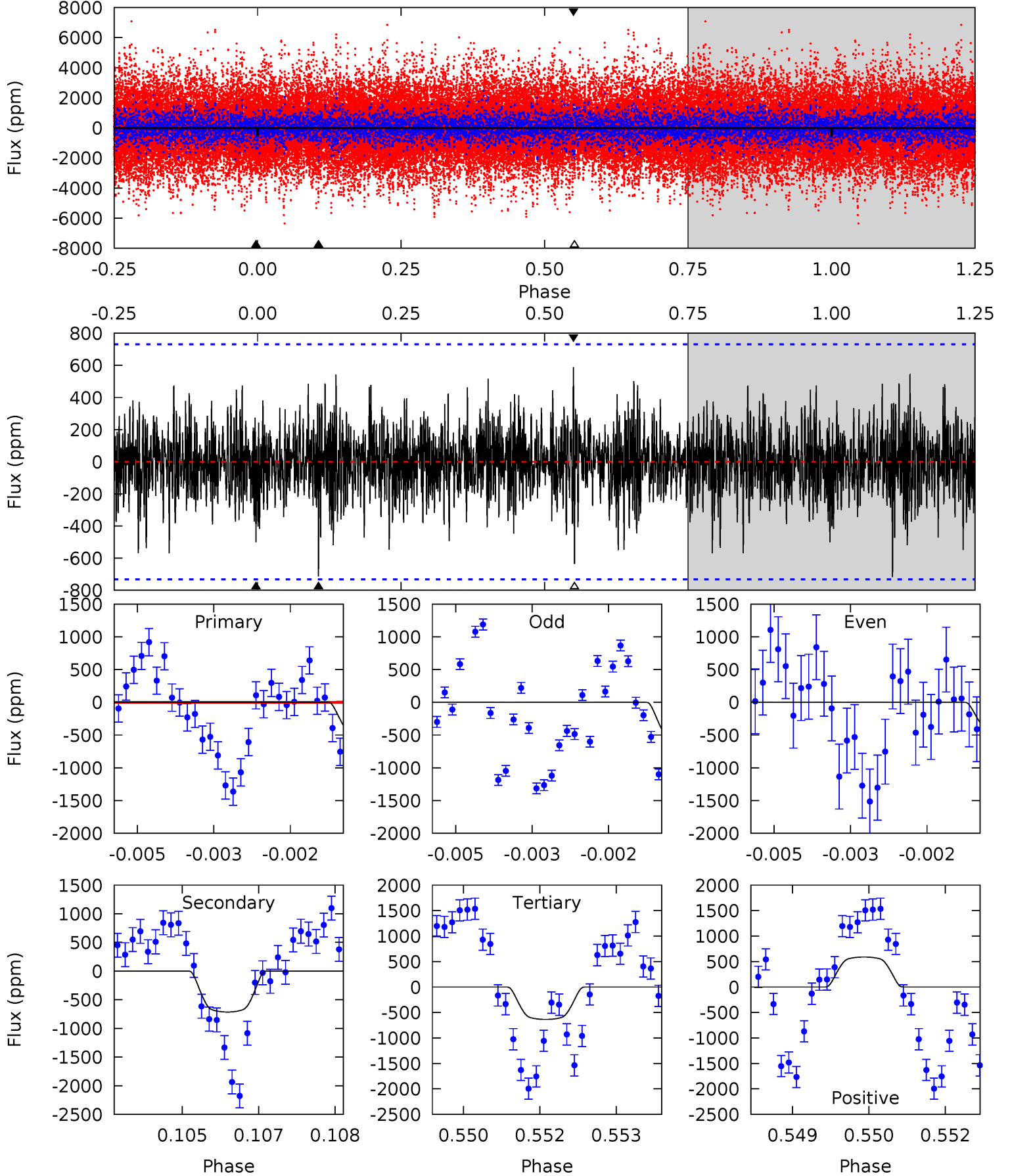
TCE 008230025-02 P=229.400767 Days $T_0=135.493099$ (BKJD)



DV Model-Shift Uniqueness Test

008230025-02, P = 229.370227 Days, E = 135.638646 Days

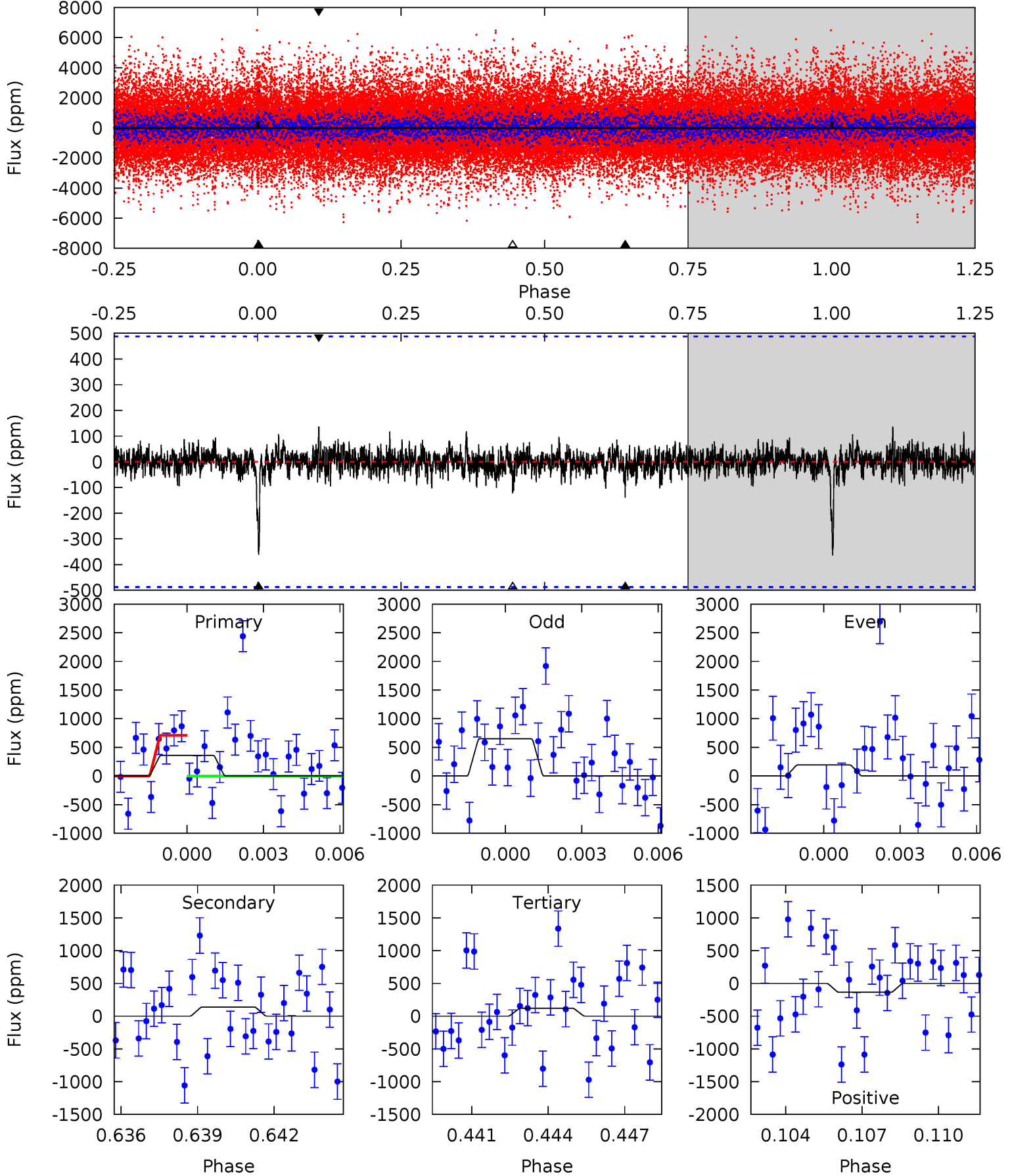
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.68	5.25	4.67	4.33	5.37	3.17	1.25	-1.00	-0.65	0.58	0.92	0.52	0.63	0.45	3.66



Alt Model-Shift Uniqueness Test

008230025-02, P = 229.400767 Days, E = 135.493099 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.89	1.50	1.29	1.47	5.25	2.96	0.35	2.60	2.42	0.21	0.03	2.46	1.17	0.27	3.81



Stellar Parameters For KIC 008230025

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7192^{+71}_{-86}	$3.973^{+0.162}_{-0.108}$	$-0.060^{+0.150}_{-0.150}$	$2.185^{+0.397}_{-0.437}$	$1.633^{+0.147}_{-0.147}$	$0.220^{+0.175}_{-0.071}$
	+1%/-1%	+4%/-3%	+250%/-250%	+18%/-20%	+9%/-9%	+79%/-32%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 008230025-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-714 ± 136	$10.48^{+1.22}_{-1.10}$	701^{+33}_{-32}	5532^{+263}_{-288}	2608^{+891}_{-626}
Alt.	-139 ± 93	$11.96^{+1.29}_{-1.33}$	701^{+33}_{-37}	3845^{+307}_{-588}	415^{+291}_{-271}

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

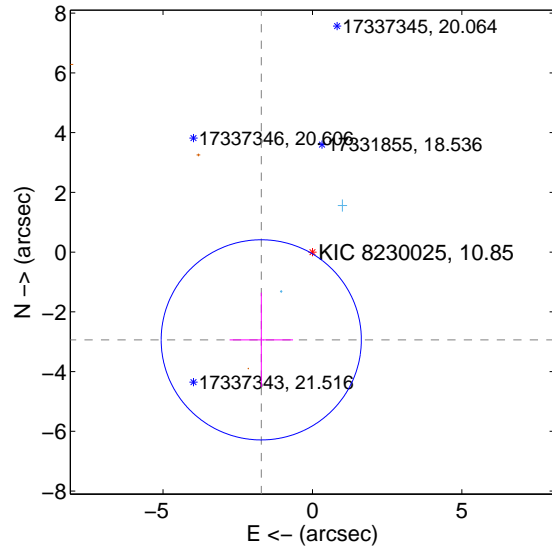
Supplemental centroid analysis for 008230025-02. **Kepler magnitude: 10.85.** Transit SNR 18.04

There are 3 quarters with good PRF difference image offsets

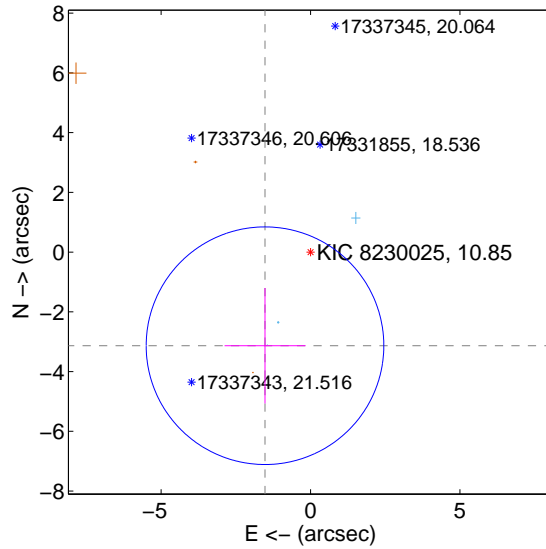
The direct PRF centroid is offset from the target star catalog position by about 0.66 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.401 ± 1.117	3.05	1.713 ± 1.062	-2.938 ± 1.577
PRF-fit source offset from KIC position	3.485 ± 1.326	2.63	1.524 ± 1.355	-3.134 ± 1.932
photometric centroid source offset	0.57 ± 0.32	1.77	0.01 ± 0.32	-0.57 ± 0.32

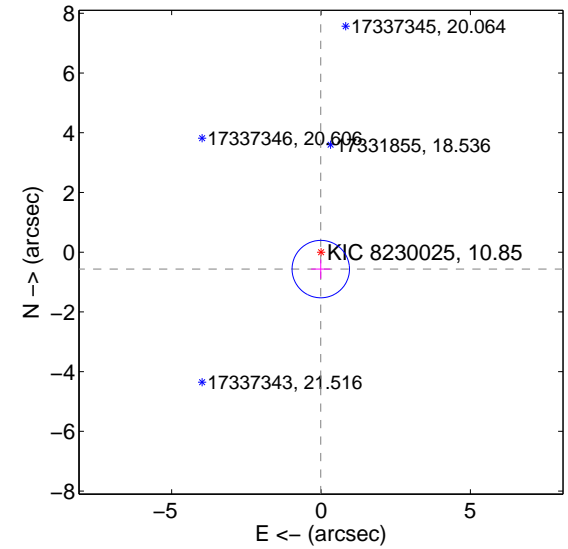
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

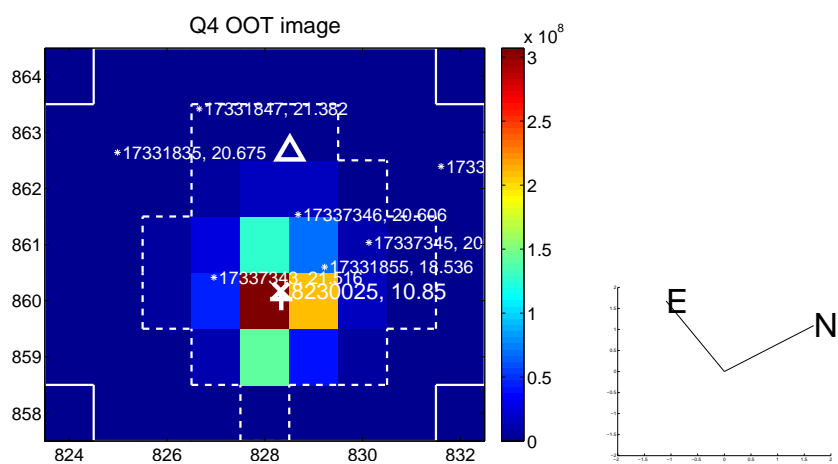
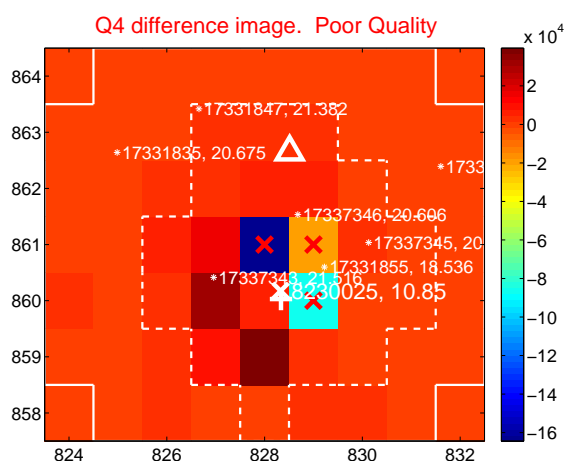
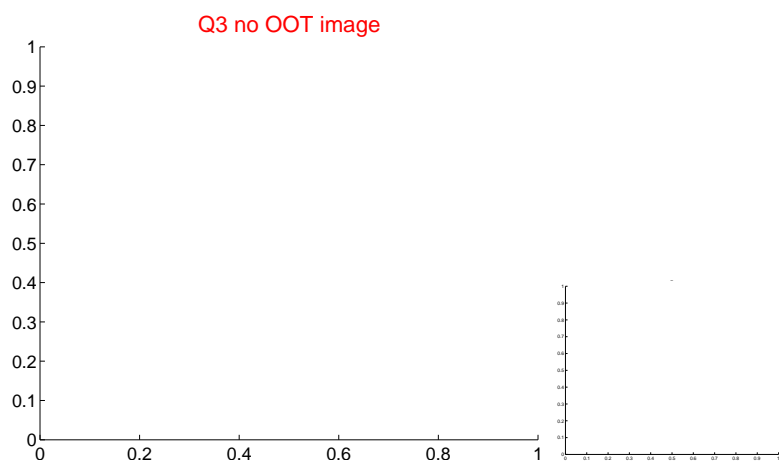
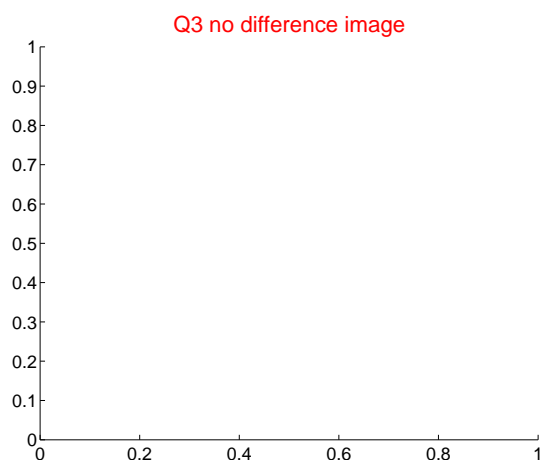
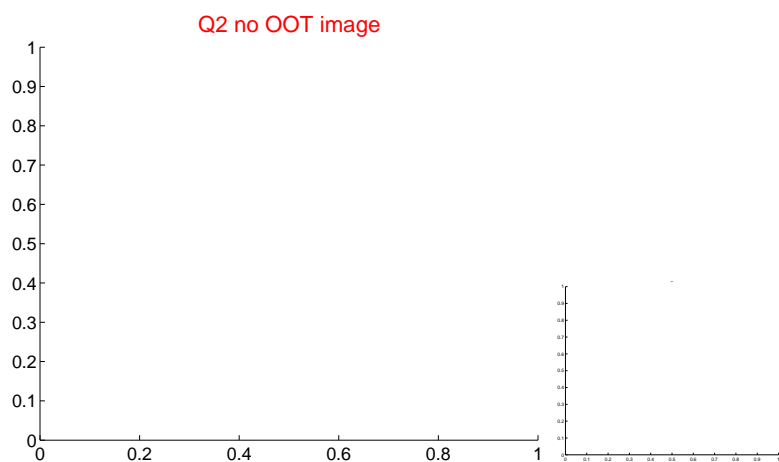
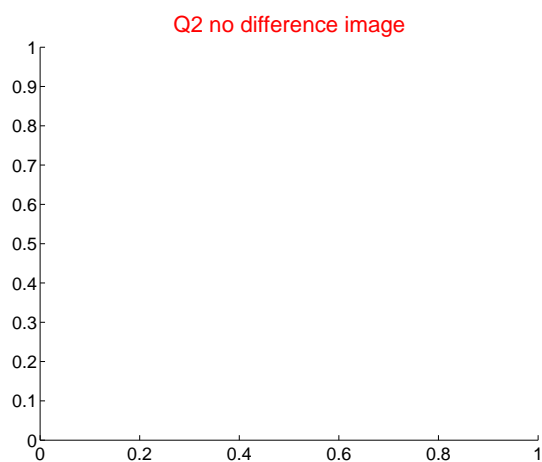
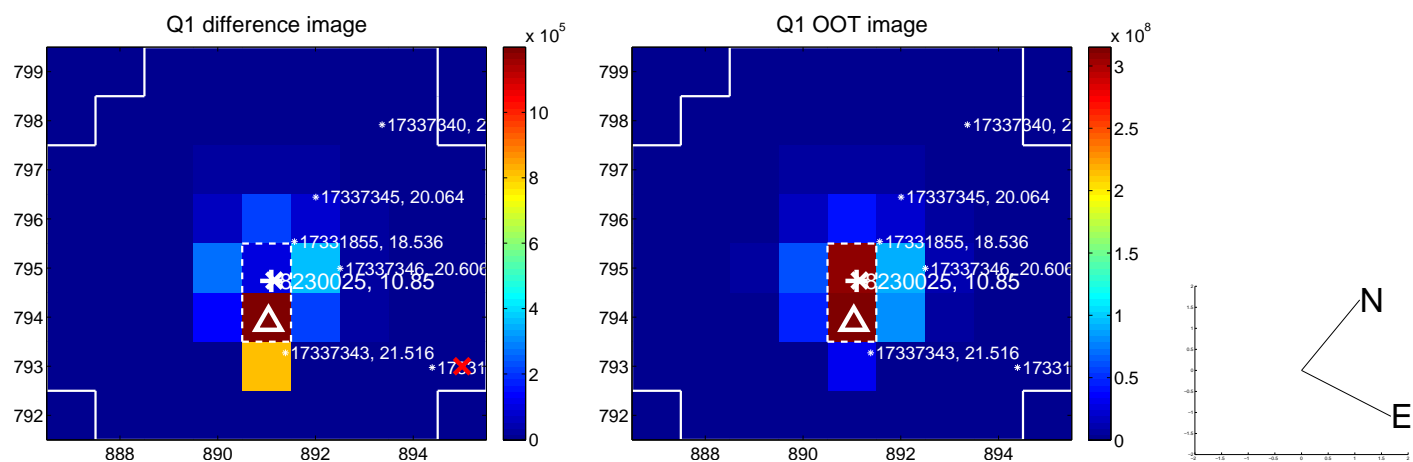


offset from photometric centroids

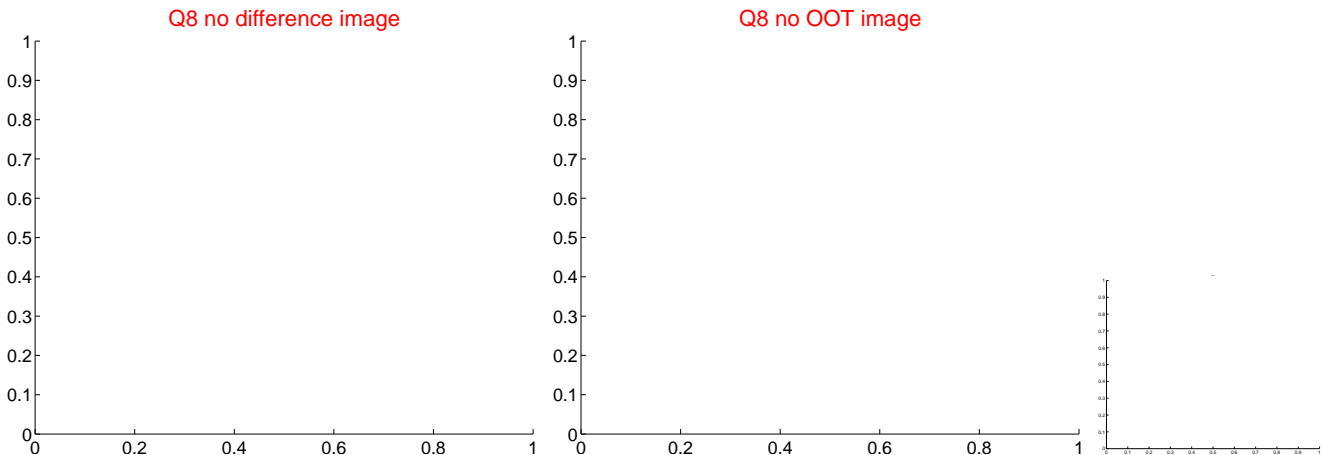
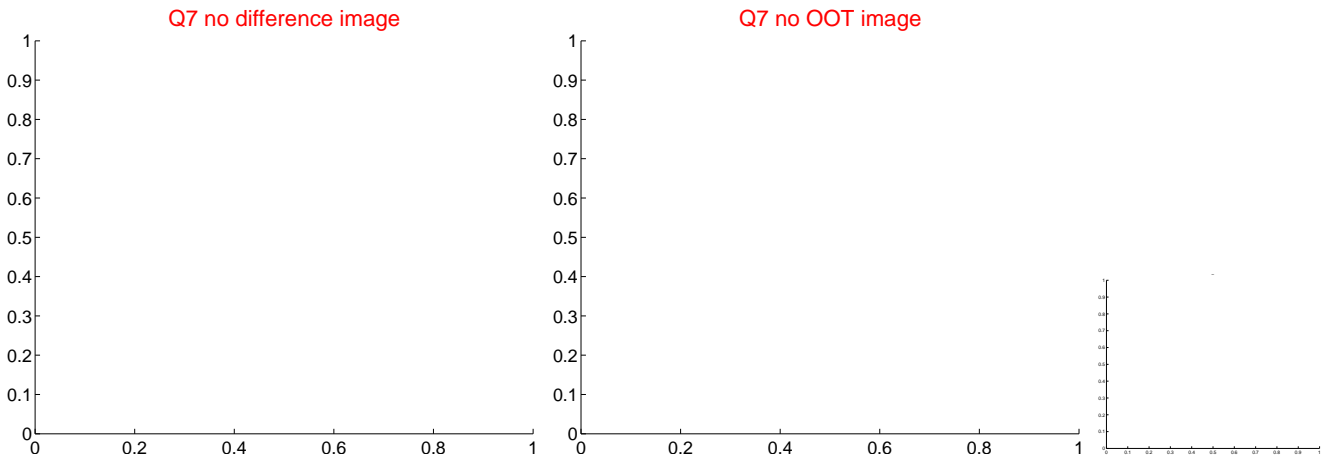
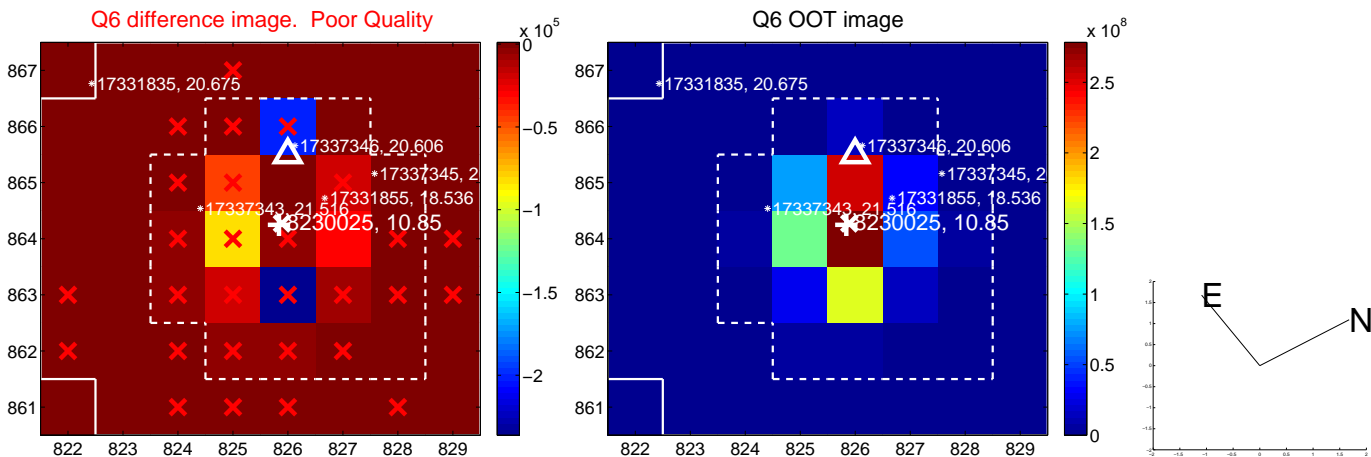
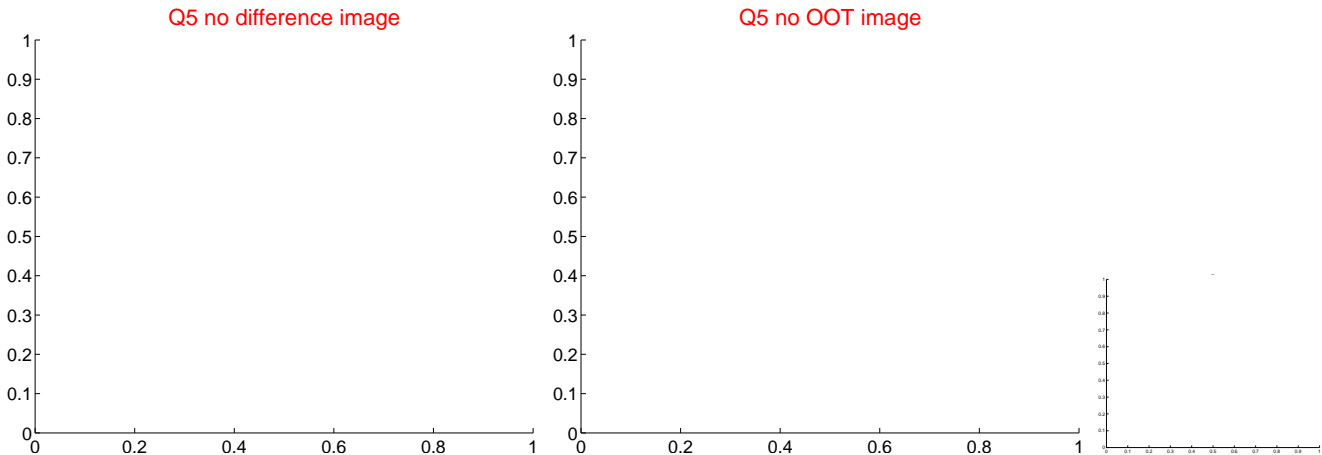


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

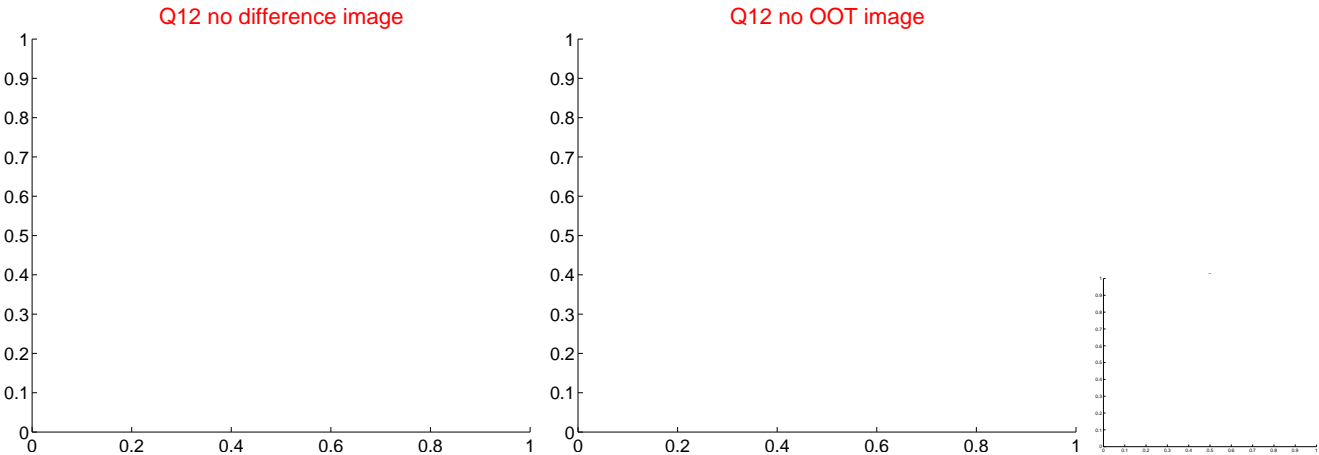
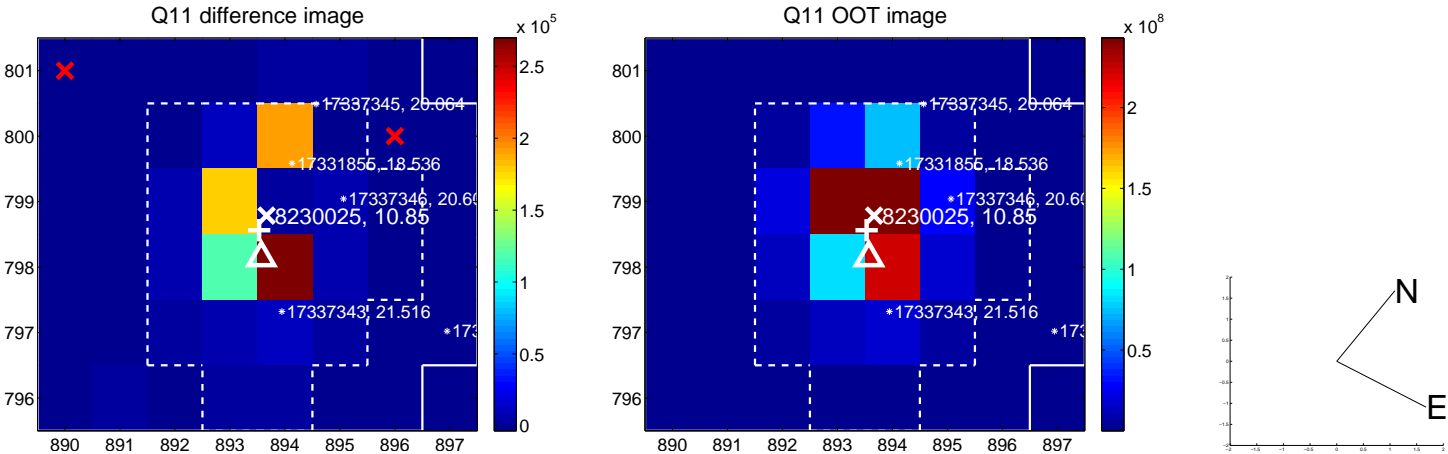
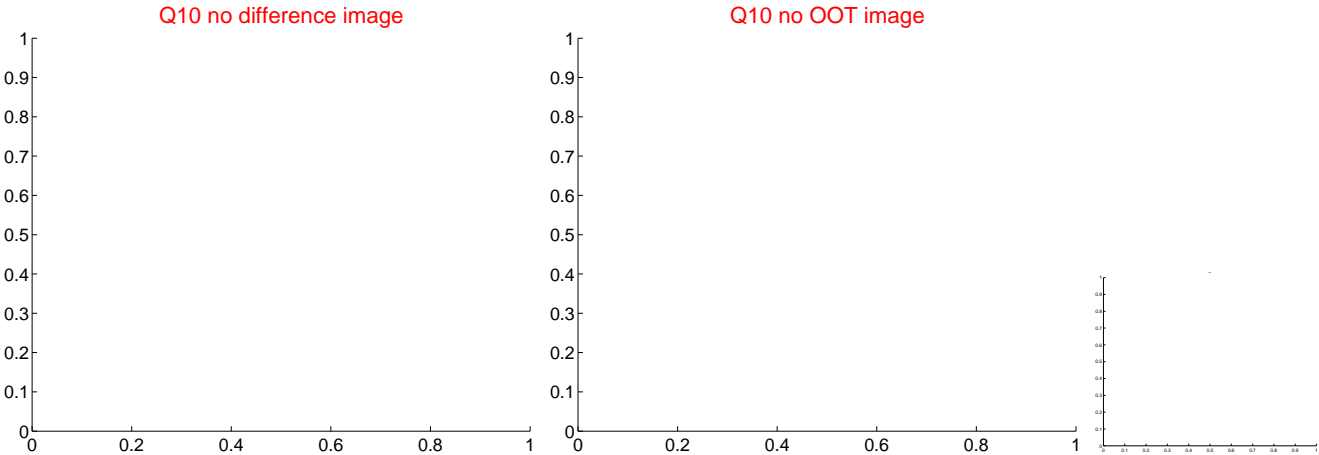
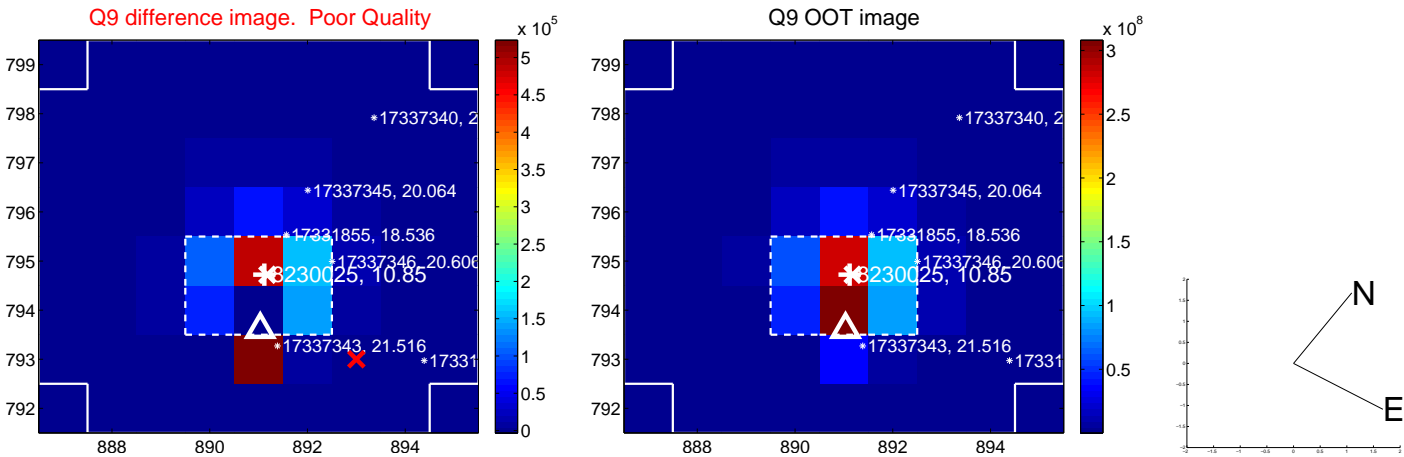
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

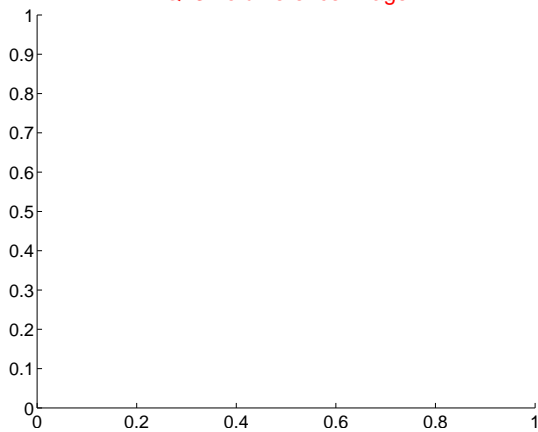


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

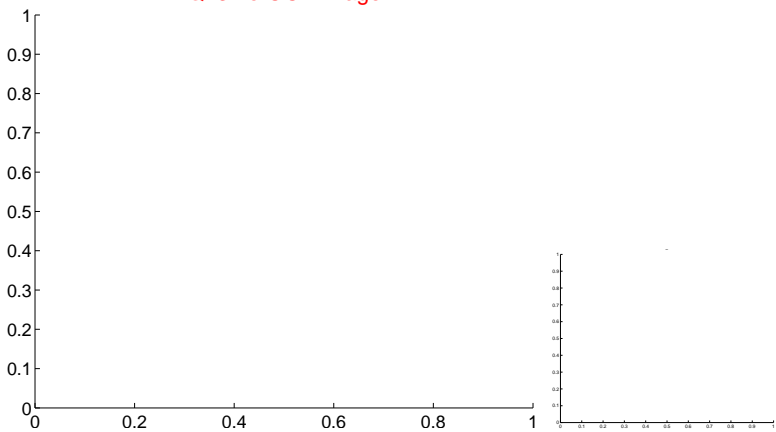


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

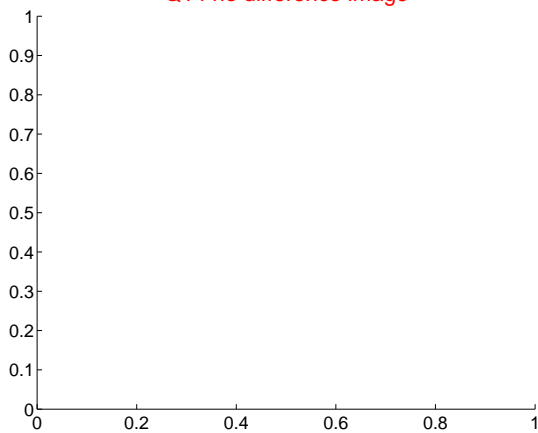
Q13 no difference image



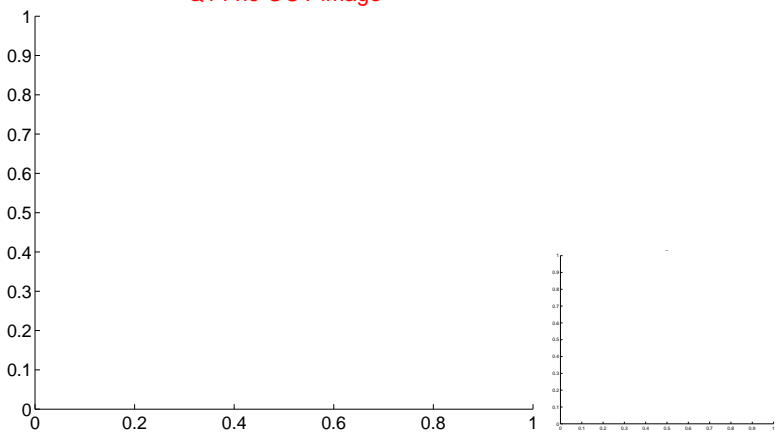
Q13 no OOT image



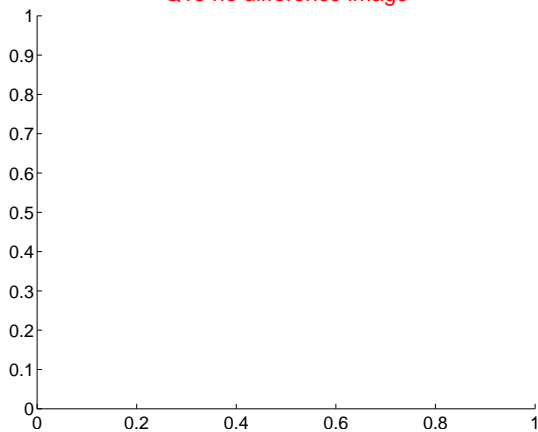
Q14 no difference image



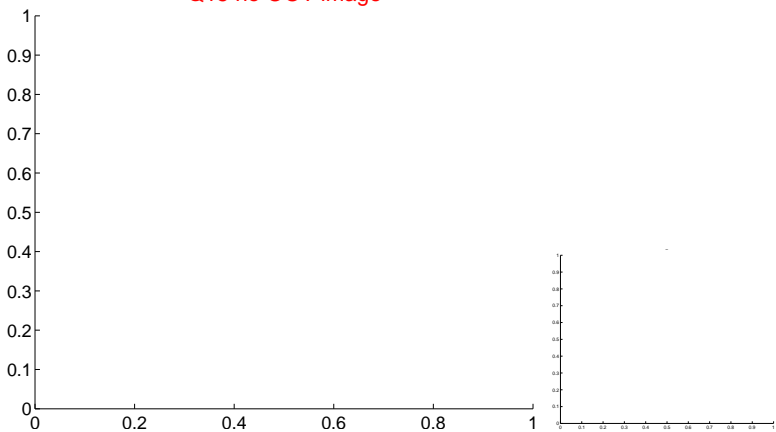
Q14 no OOT image



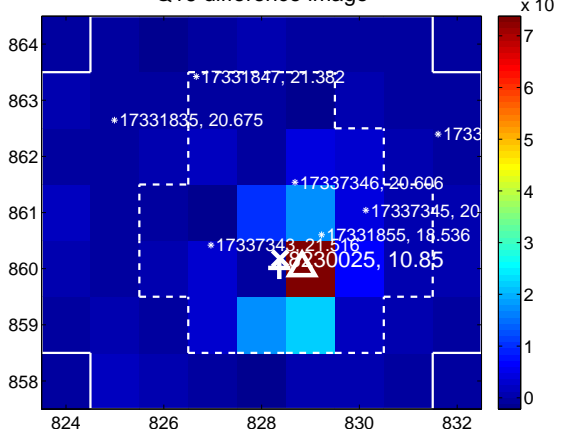
Q15 no difference image



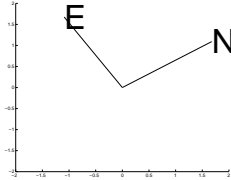
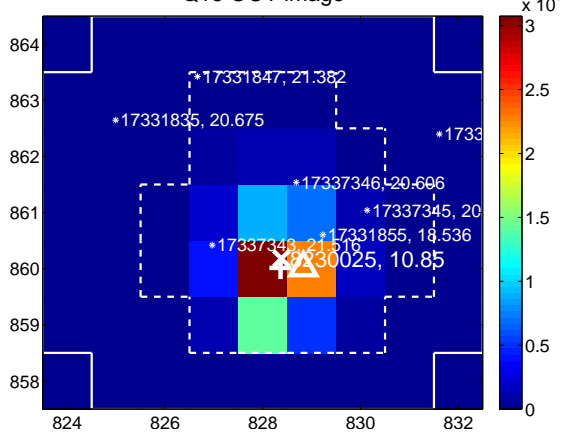
Q15 no OOT image



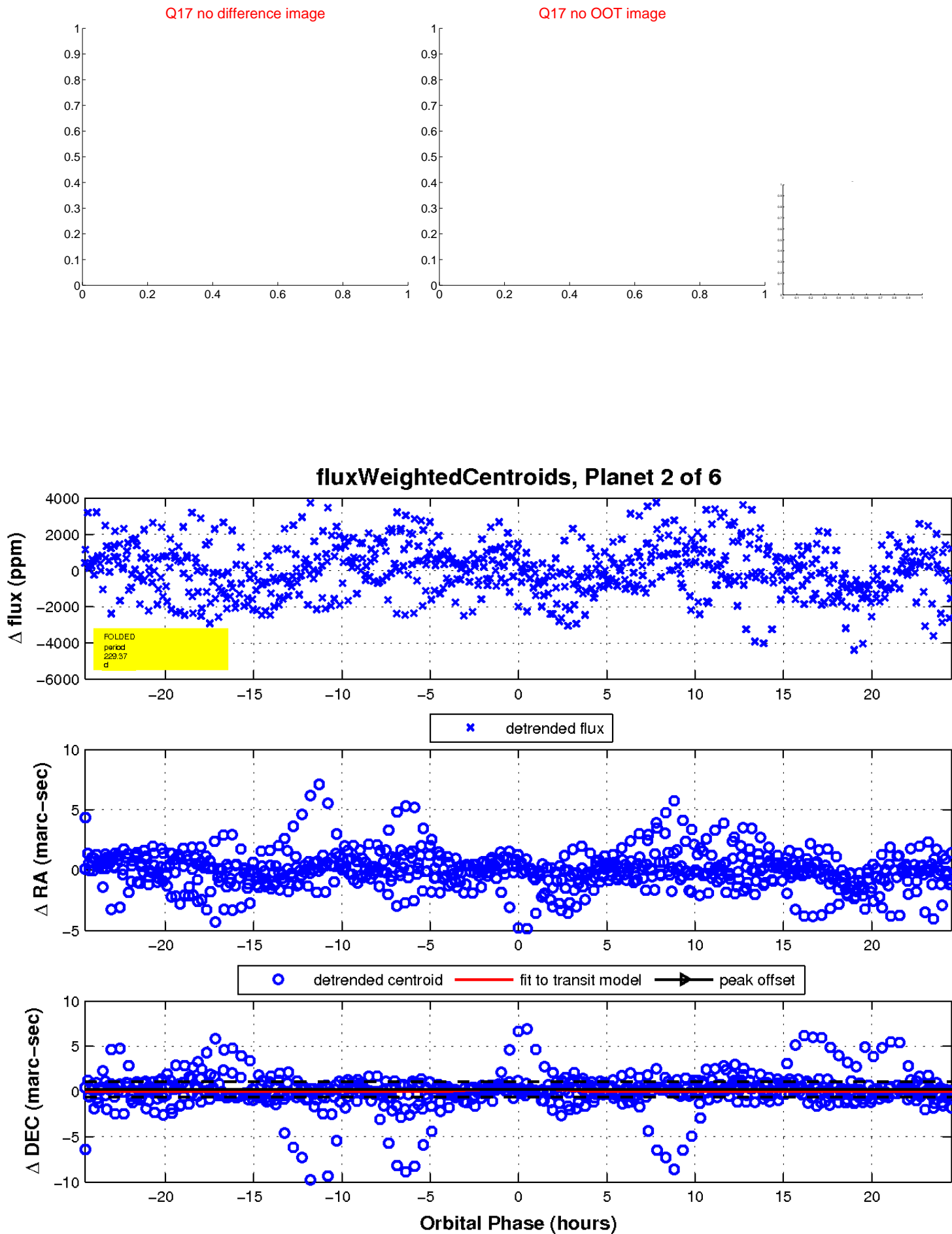
Q16 difference image



Q16 OOT image

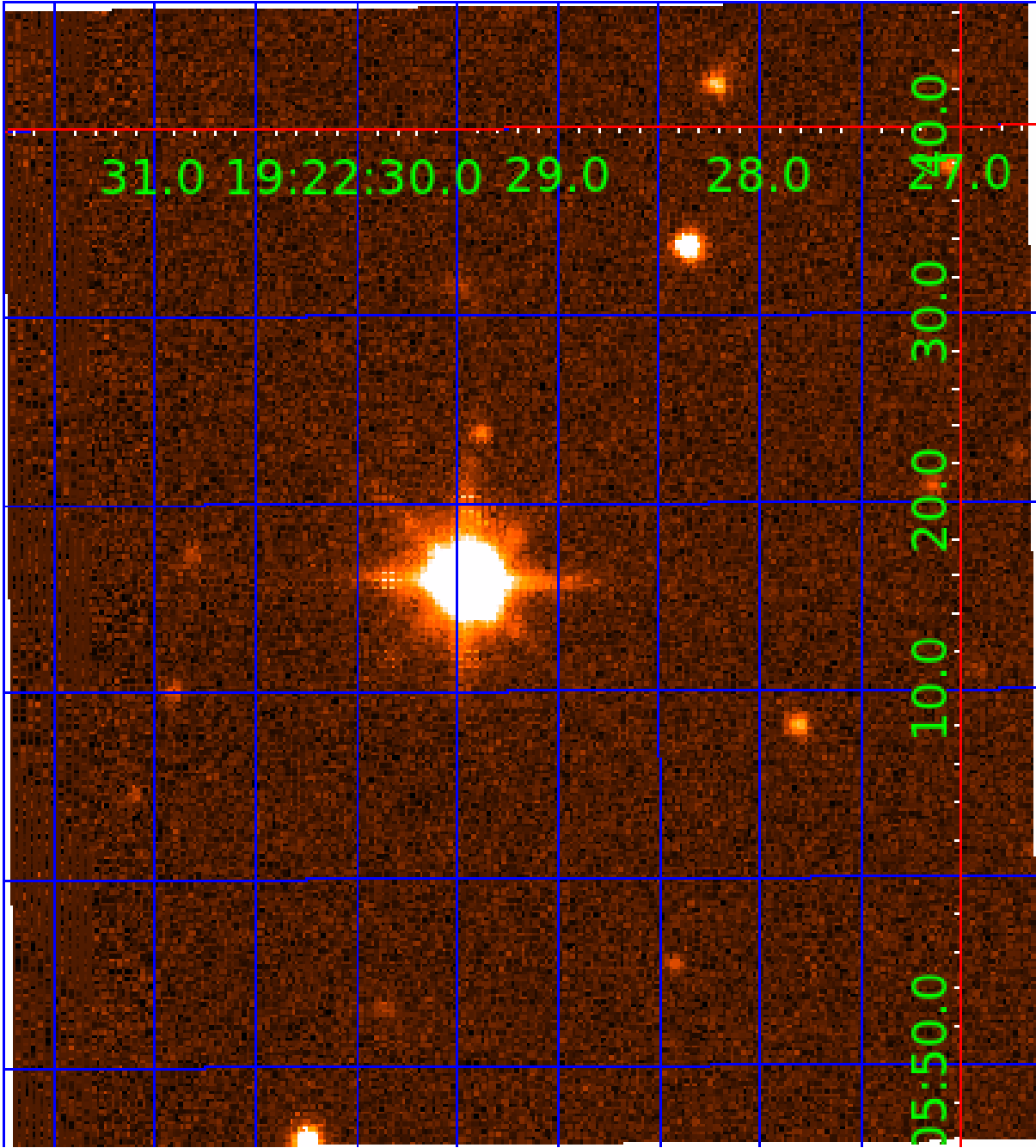


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008230025

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})
008230025-01	OBS	No	525.548671	137.942191	3425.5	8.341	38.3	28.1	2.19	7192	19.85	5.07
008230025-02	OBS	No	229.370227	135.638646	1666.2	8.204	21.8	18.0	2.19	7192	10.63	15.32
008230025-03	OBS	No	441.212689	138.557579	1975.0	11.148	21.9	18.9	2.19	7192	11.10	6.40
008230025-05	OBS	No	314.996950	136.353748	111.1	15.000	17.5	-1.0	2.19	7192	2.33	10.04
008230025-06	OBS	No	326.487900	133.403047	971.9	6.405	11.6	9.9	2.19	7192	8.39	9.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008230025-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008230025-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_SATURATED
008230025-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008230025-05	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
008230025-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

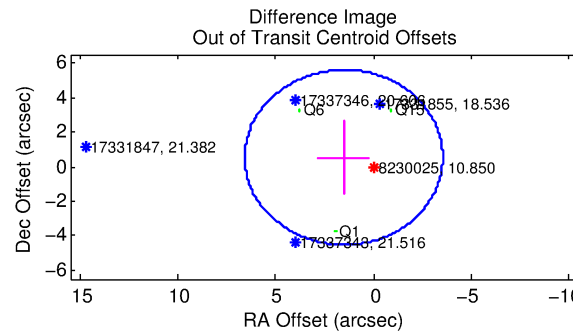
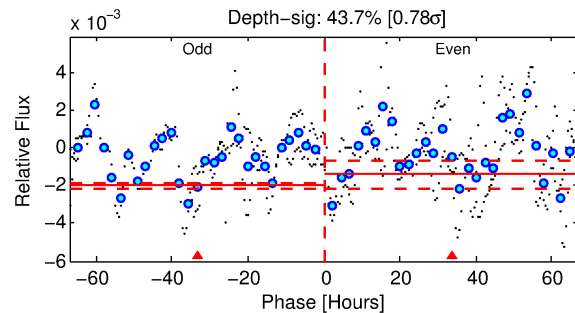
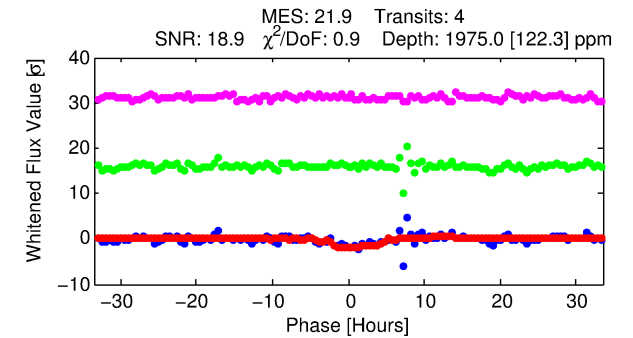
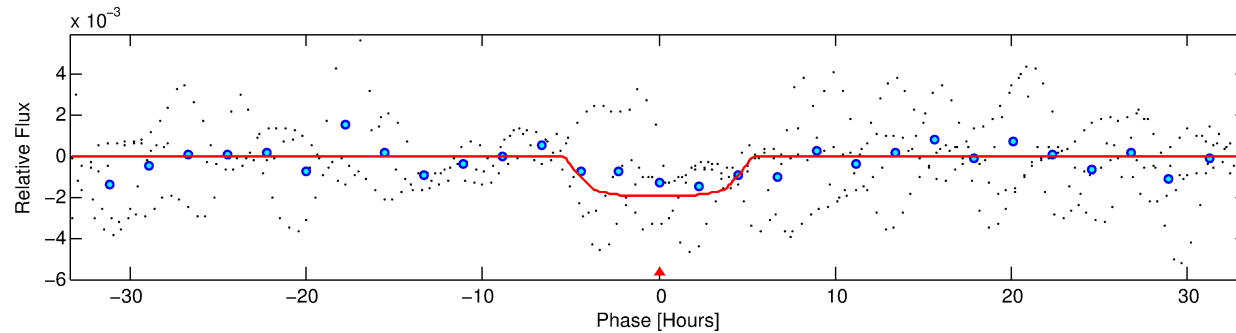
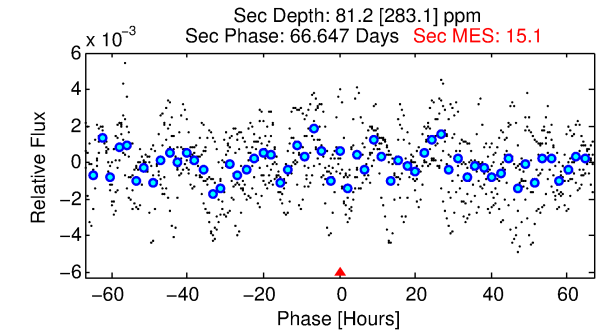
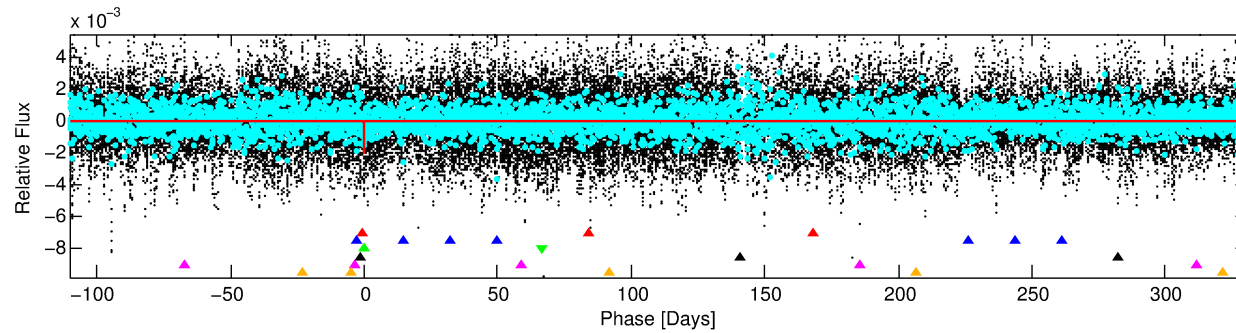
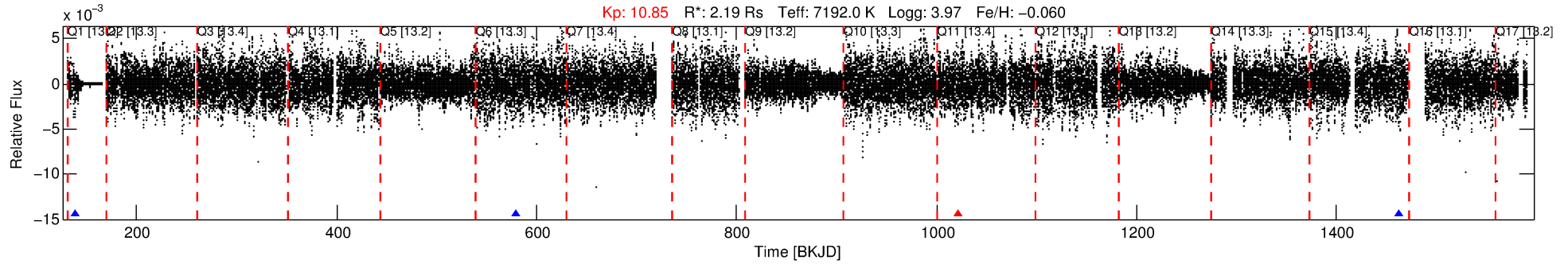
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008230025-03

No Significant Match Found

DV One-Page Summary

KIC: 8230025 Candidate: 3 of 6 Period: 441.213 d



DV Fit Results:

Period = 441.21269 [0.00660] d
Epoch = 138.5576 [0.0110] BKJD
Rp/R* = 0.0465 [0.0017]
a/R* = 172.93 [15.97]
b = 0.88 [0.03]
Seff = 6.40 [1.83]
Teq = 406 [29] K
Rp = 11.10 [2.26] Re
a = 1.3369 [0.2437] AU
Ag = 647.96 [2268.49] [0.29σ]
Teffp = 3164 [2761] K [1.00σ]

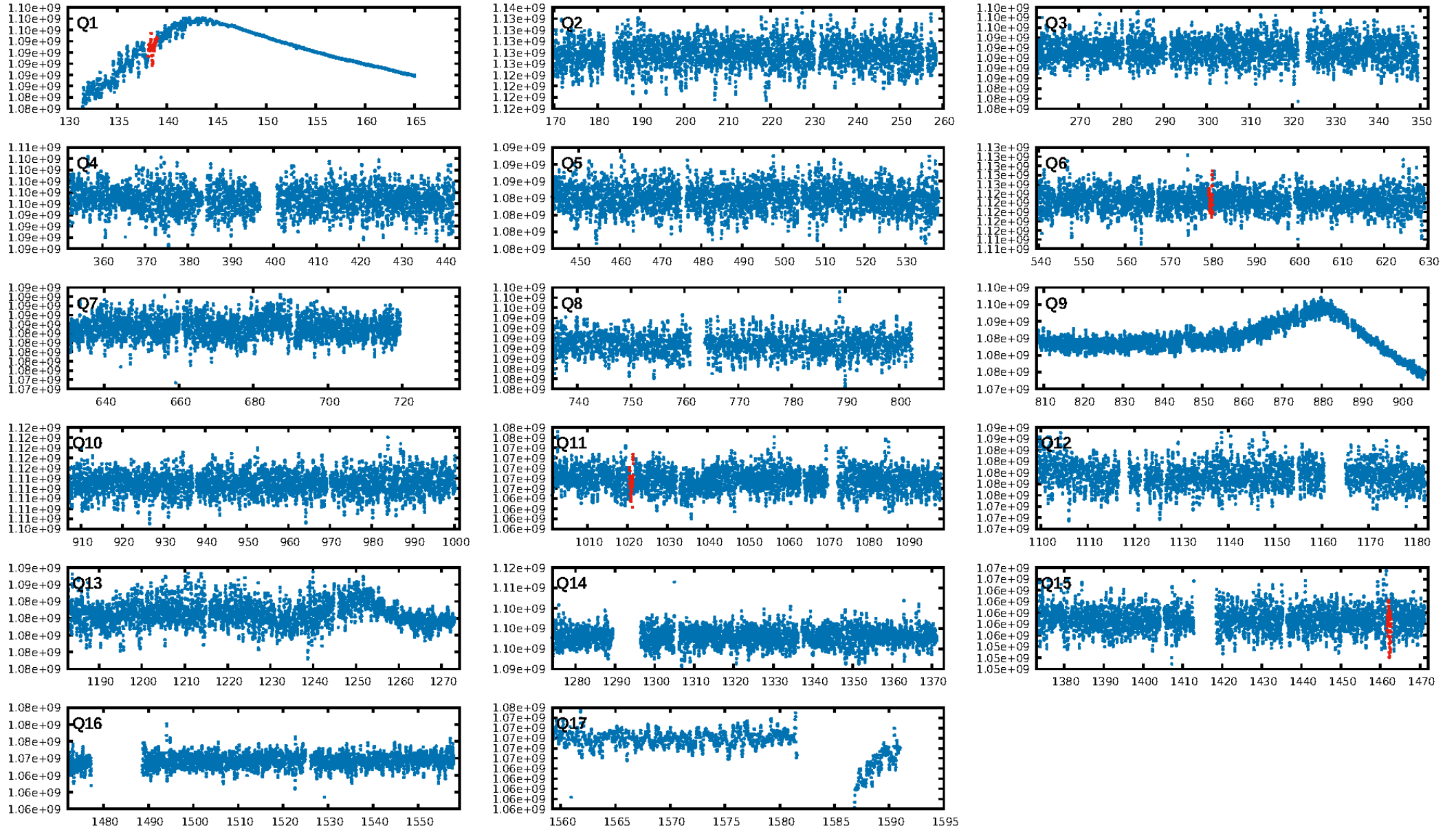
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [214.15σ]
LongPeriod-sig: 100.0% [145.37σ]
ModelChiSquare2-sig: 18.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.82e-16
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: -89.3
Centroid-sig: N/A
Centroid-so: 0.800 arcsec [3.50σ]
OotOffset-rm: 1.613 arcsec [0.96σ]
KicOffset-rm: 1.396 arcsec [1.09σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.67 [2/3]

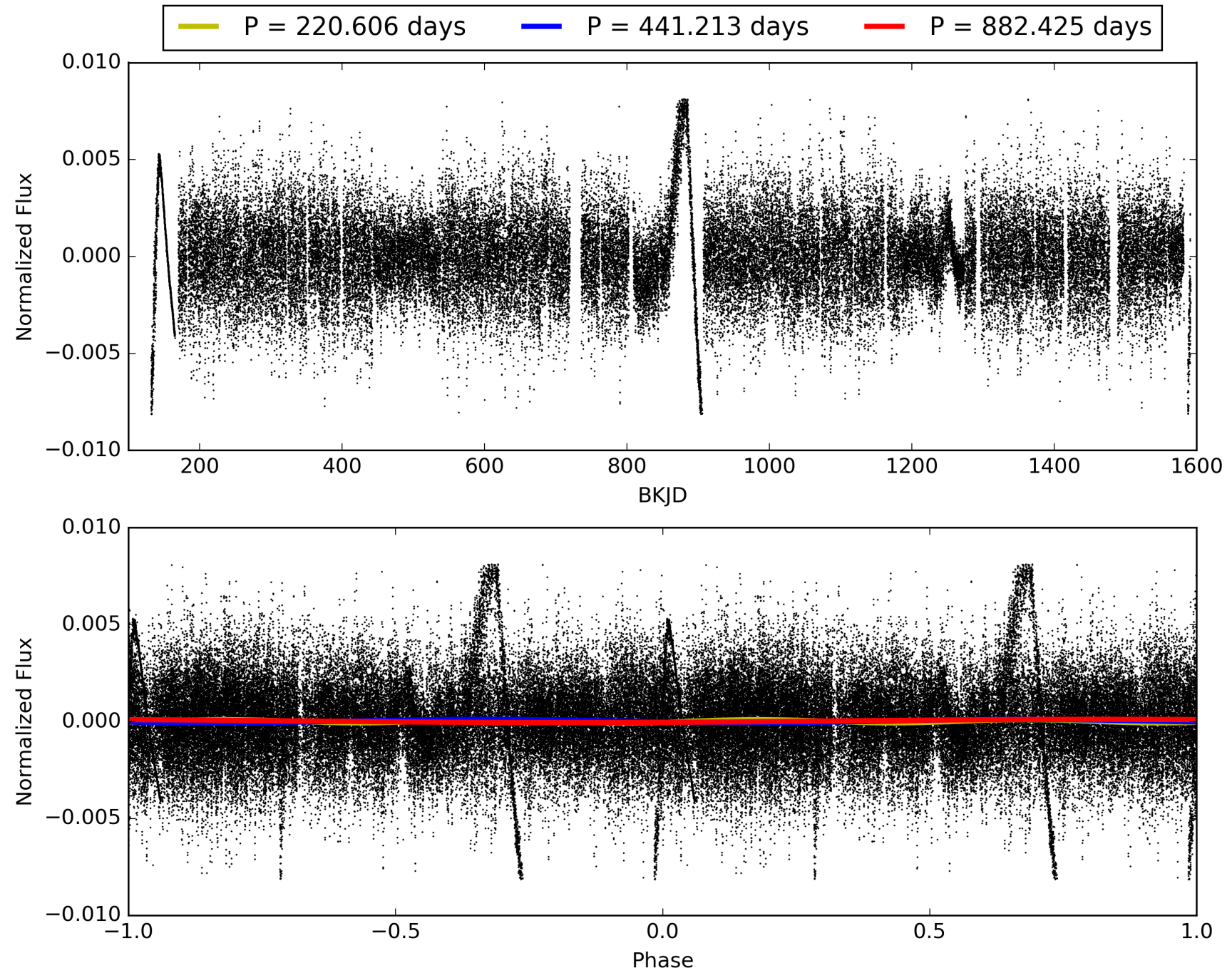
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:53:37 Z

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

TCE 008230025-03, PDC Light Curves

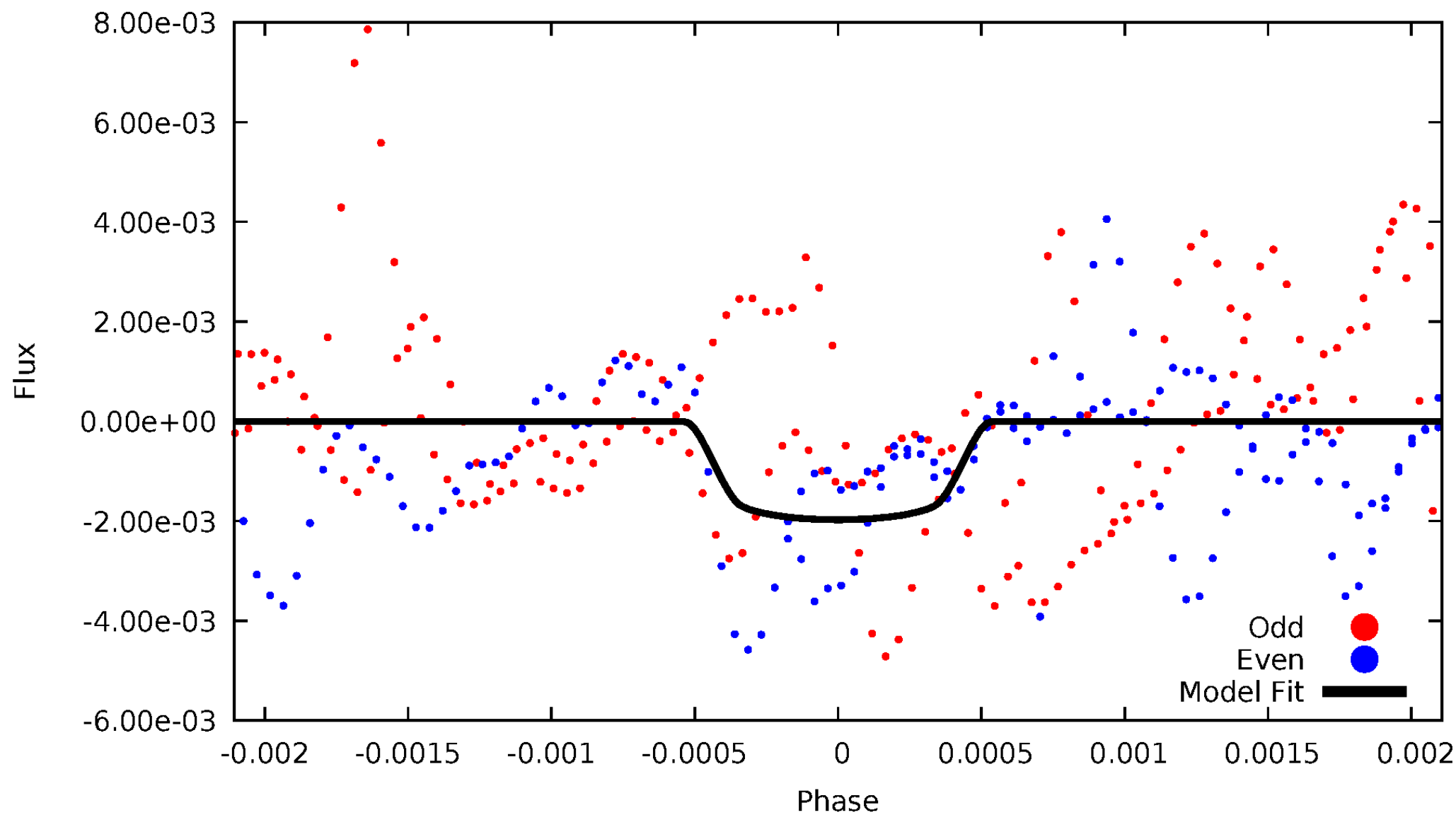


TCE 008230025-03



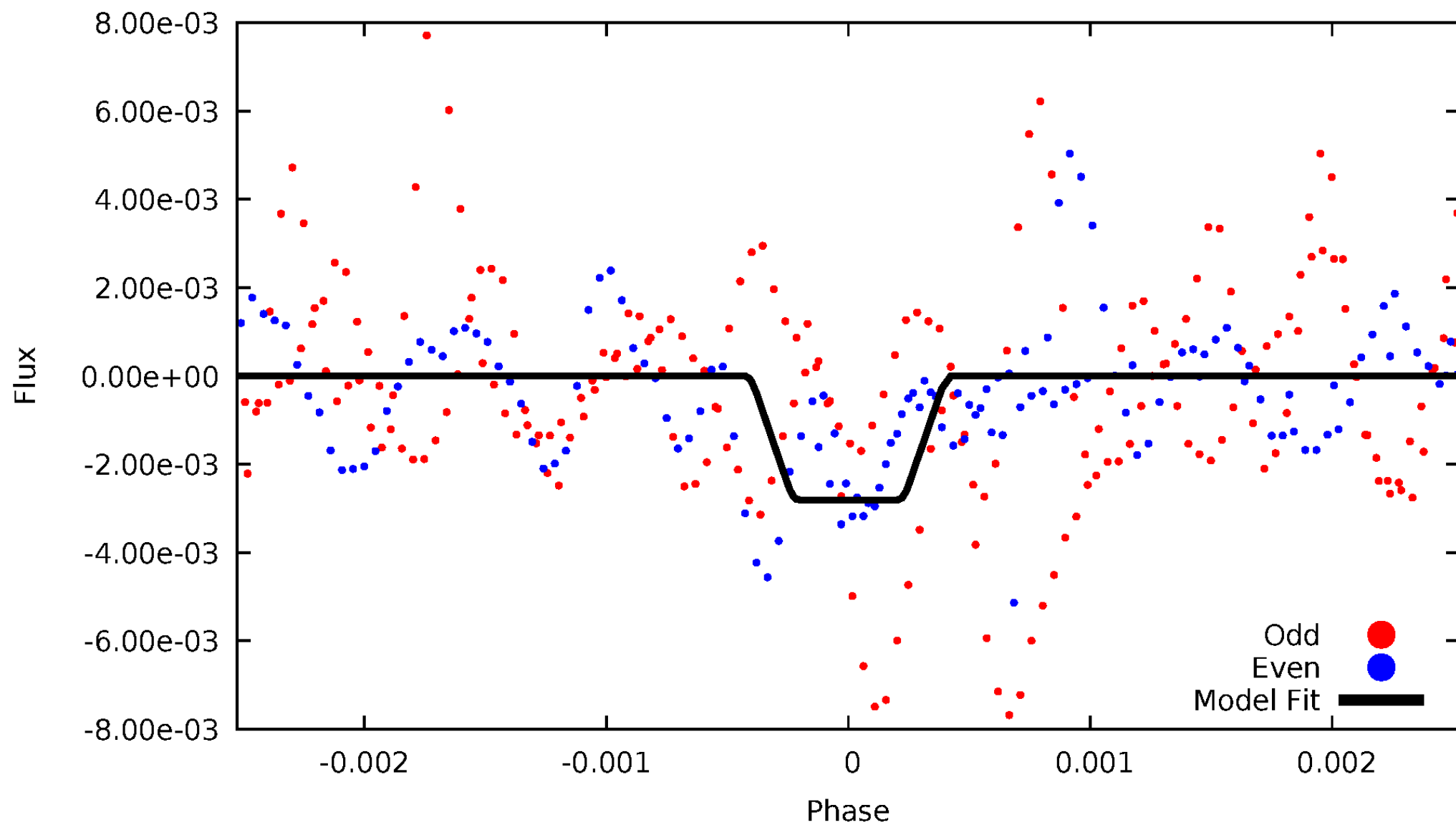
DV Odd/Even

TCE 008230025-03



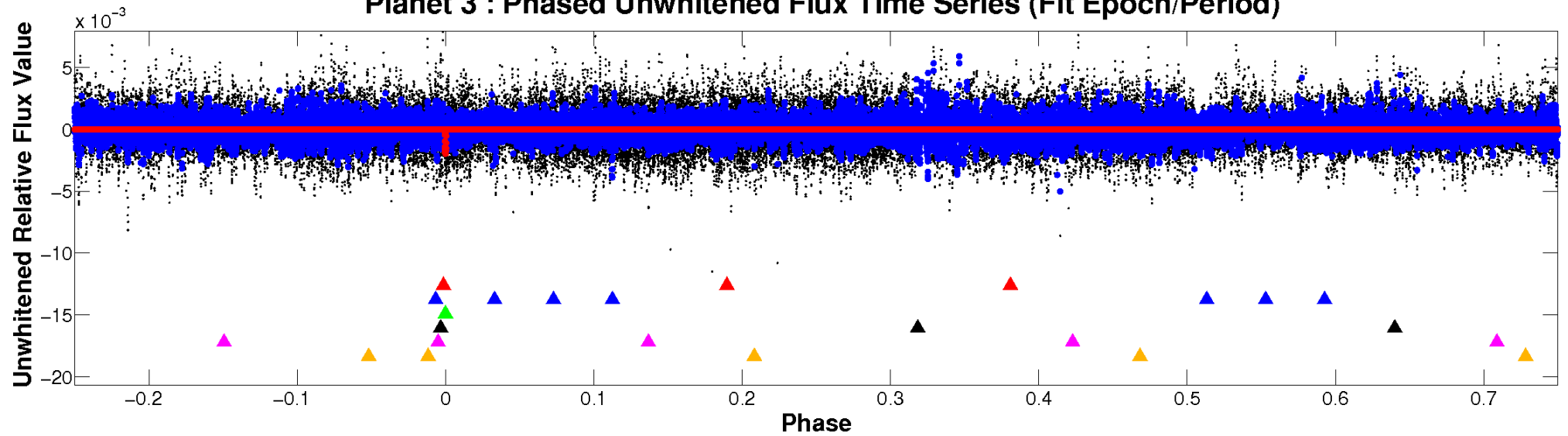
ALT Odd/Even

TCE 008230025-03

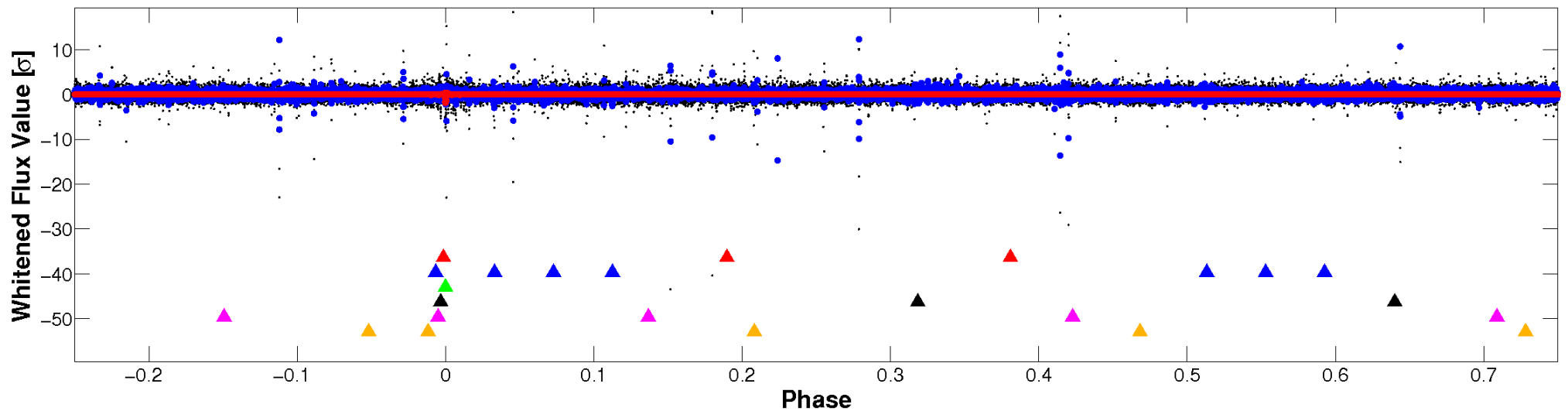


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

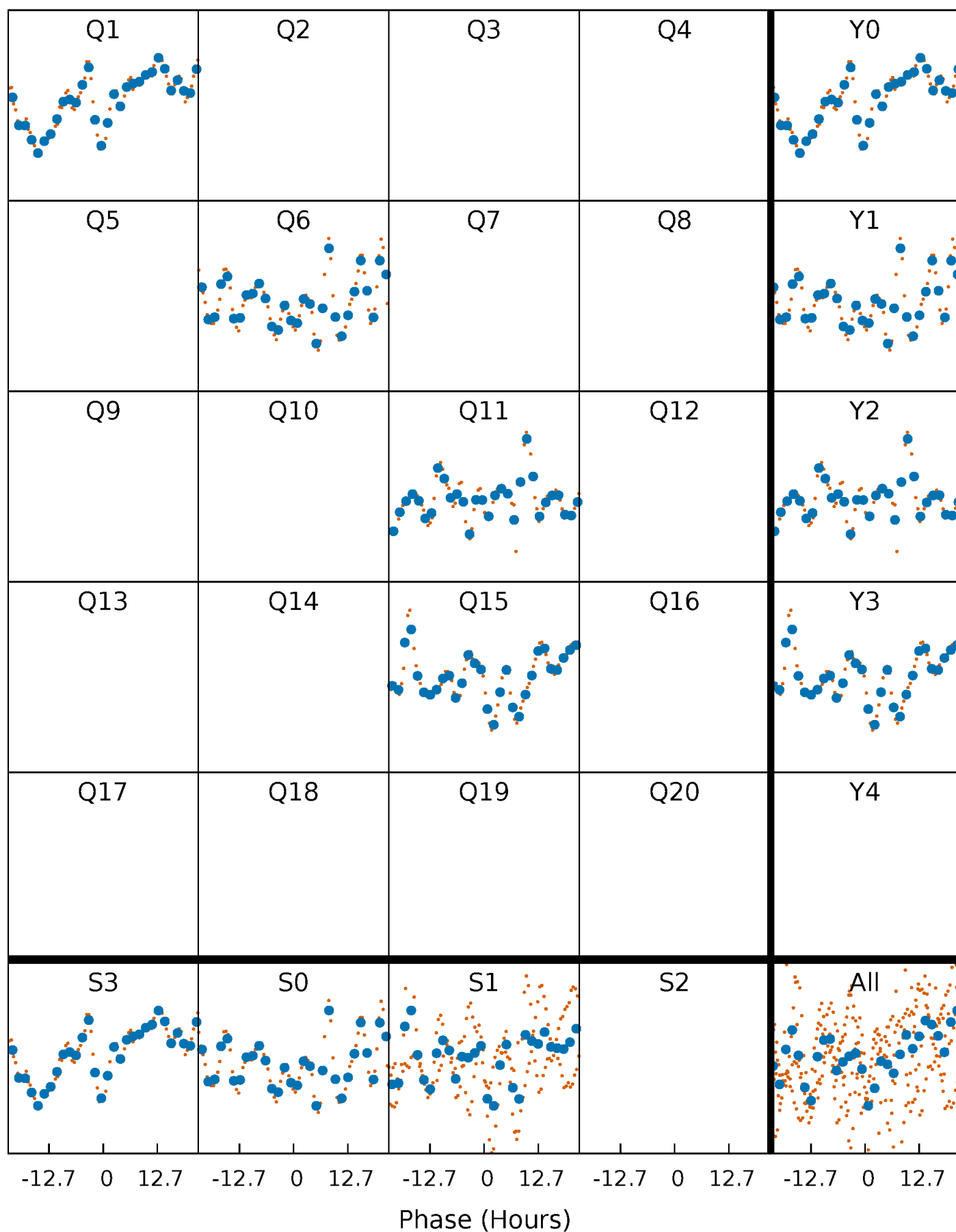


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



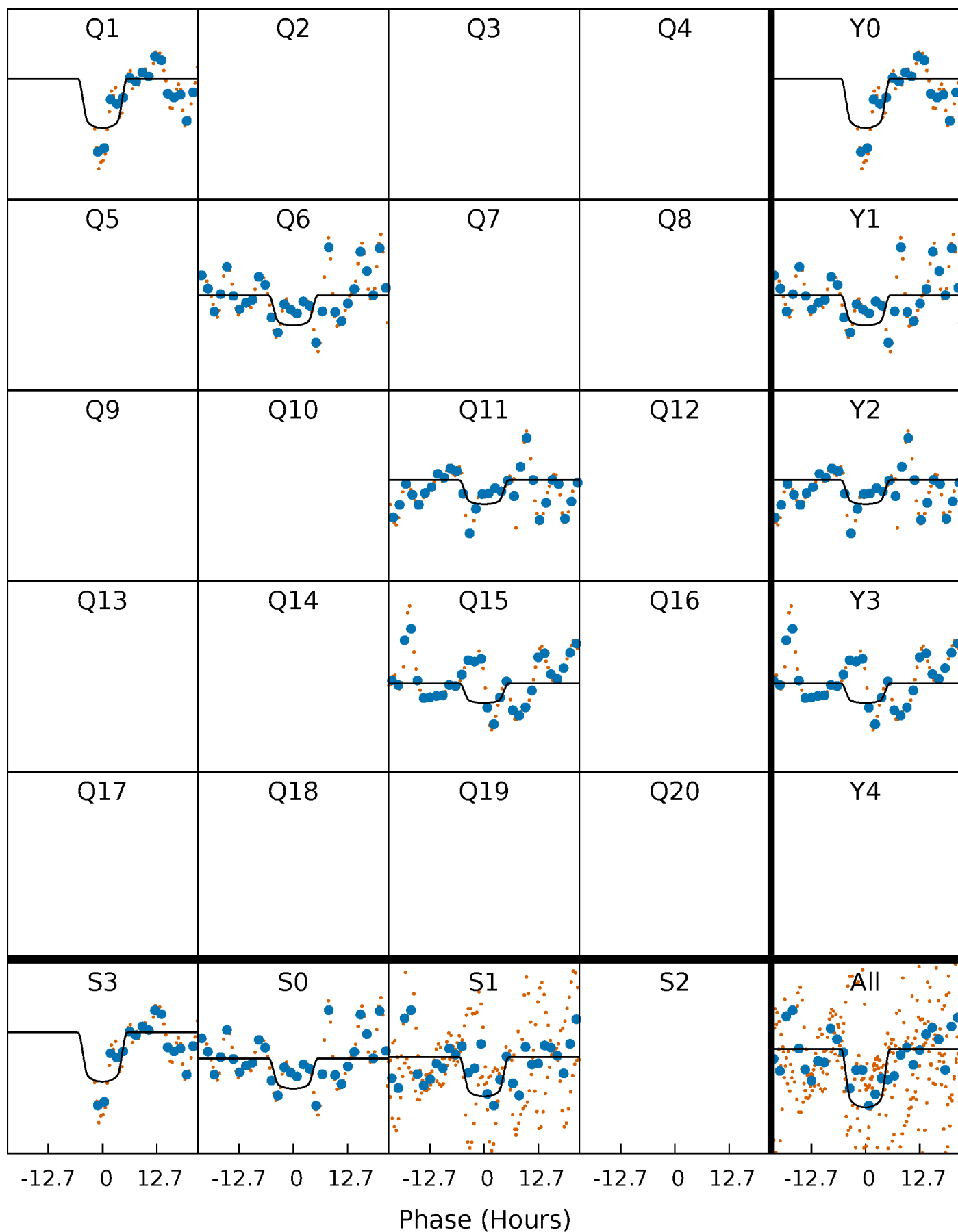
PDC Quarter-Phased Transit Curves

TCE 008230025-03 P=441.212689 Days $T_0=138.557579$ (BKJD)



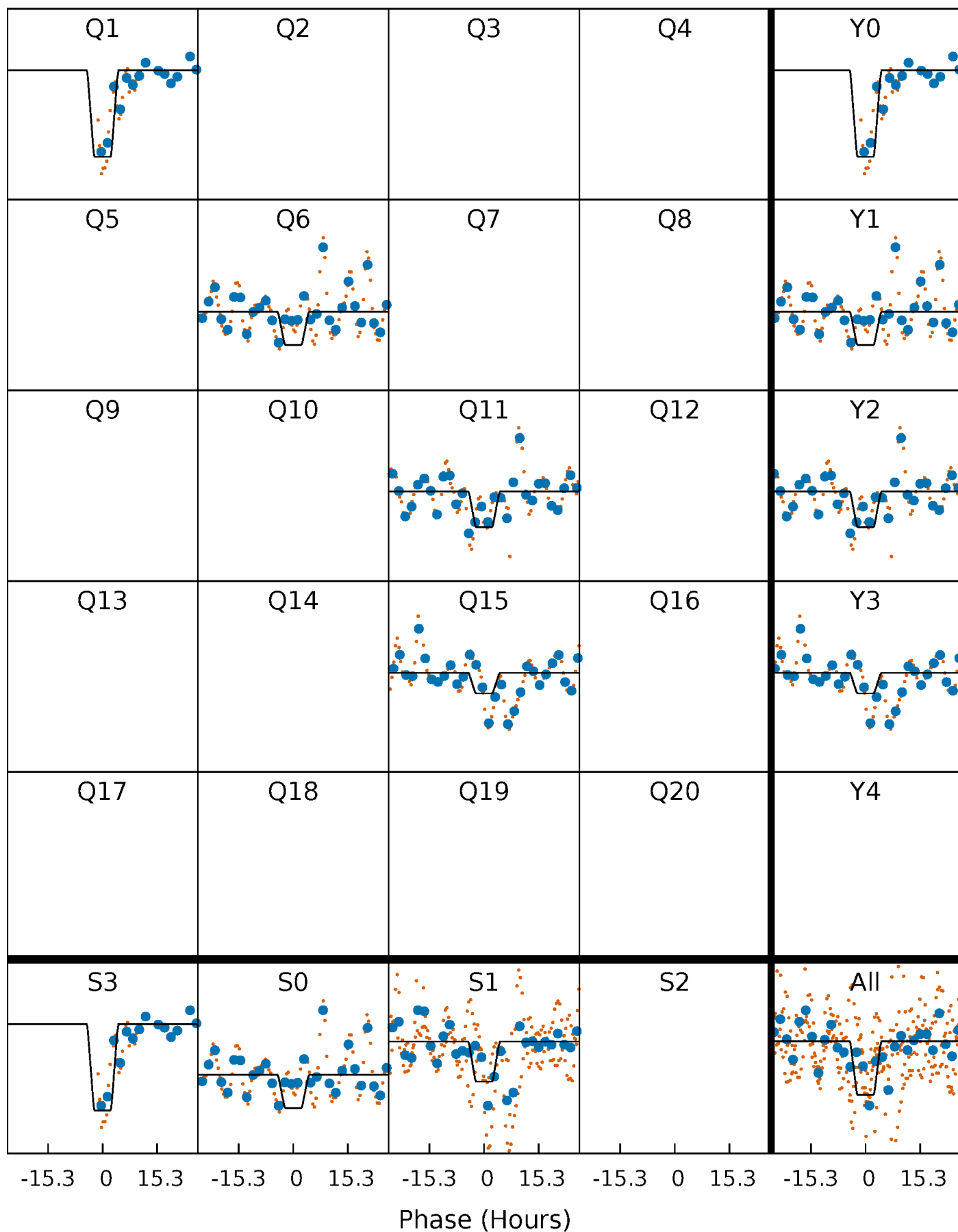
DV Quarter-Phased Transit Curves

TCE 008230025-03 $P=441.212689$ Days $T_0=138.557579$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

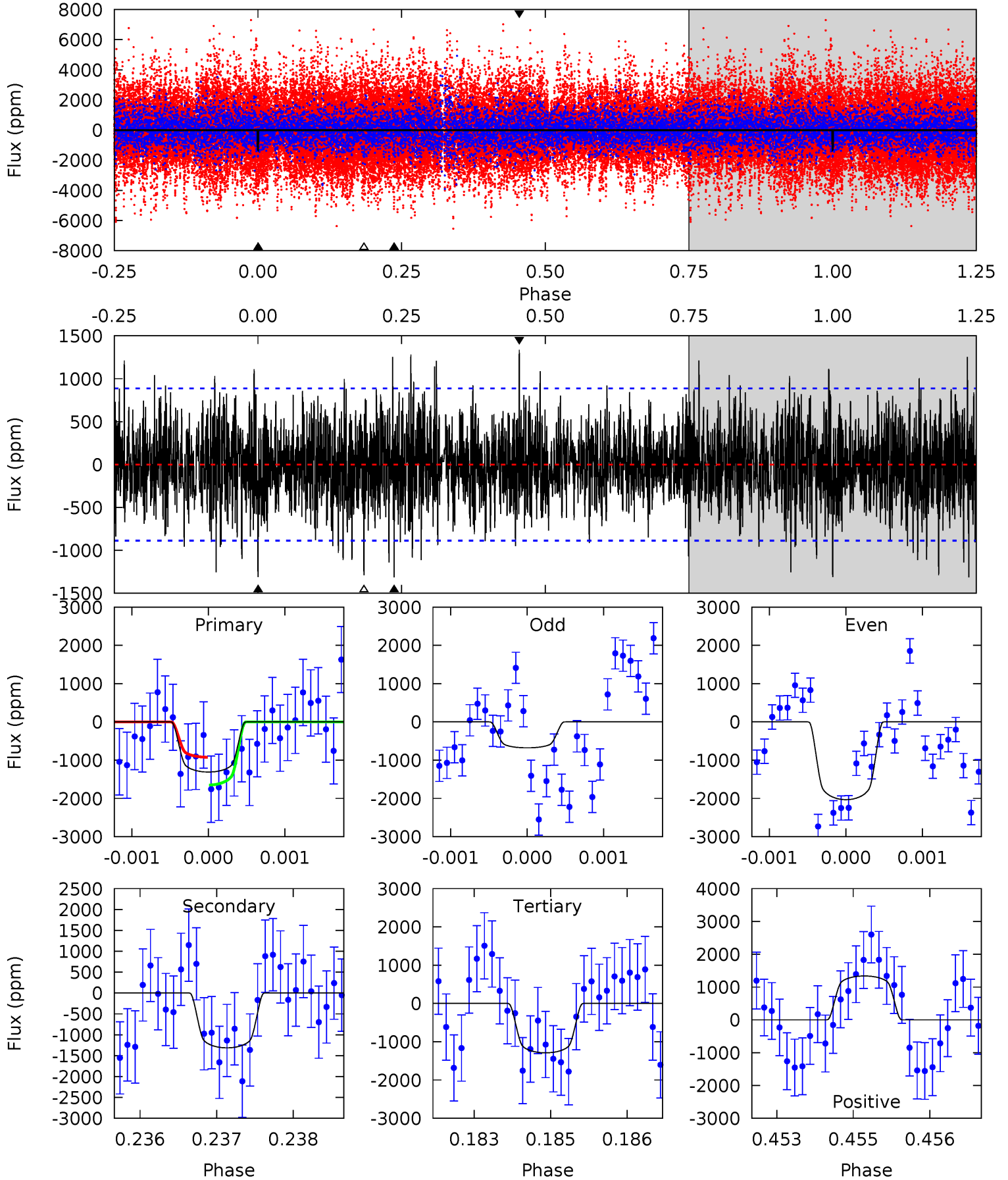
TCE 008230025-03 P=441.228672 Days $T_0=138.534487$ (BKJD)



DV Model-Shift Uniqueness Test

008230025-03, P = 441.212689 Days, E = 138.557579 Days

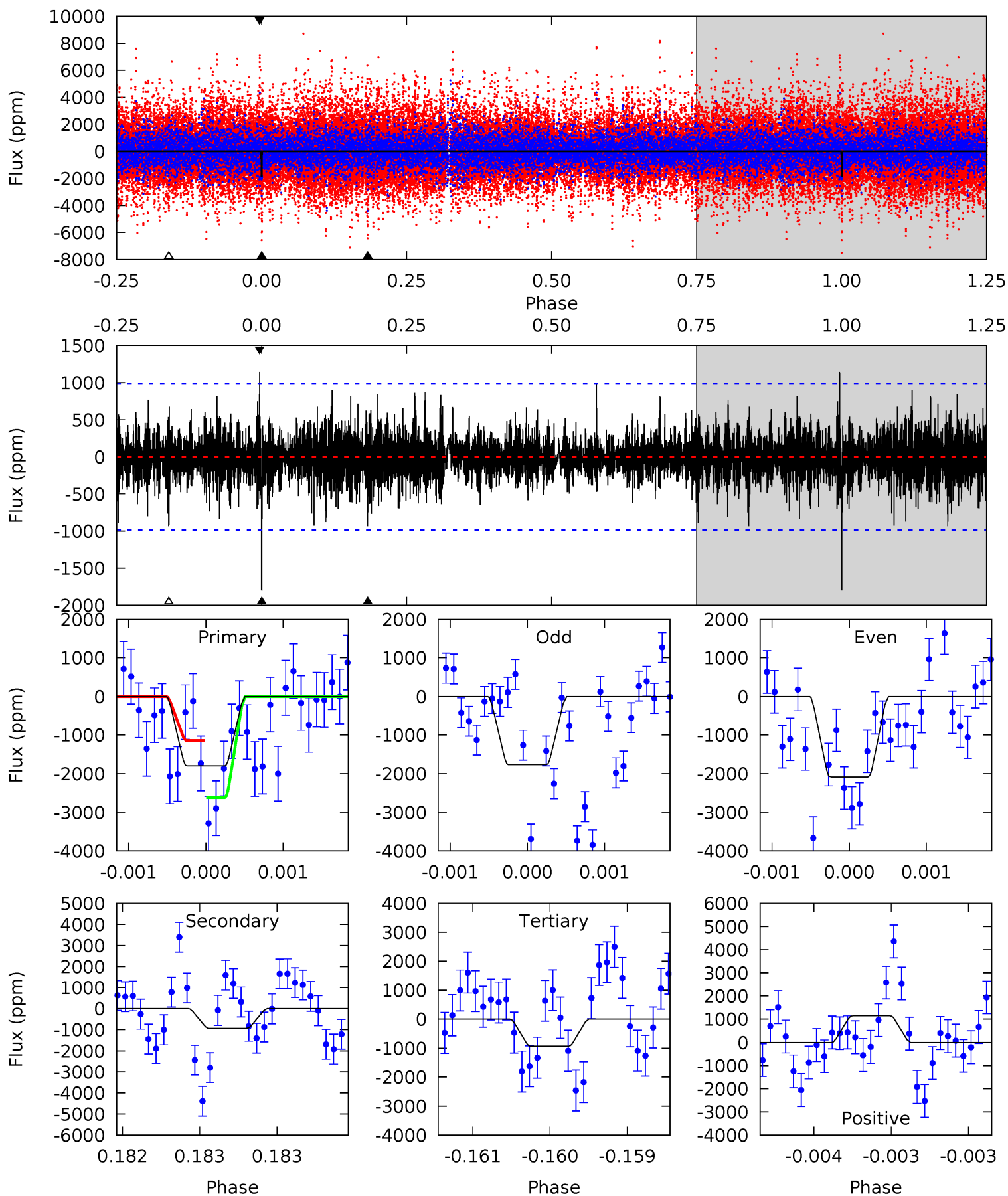
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.03	8.05	7.90	8.19	5.43	3.26	2.15	0.13	-0.16	0.15	-0.15	4.11	0.86	0.50	2.23



Alt Model-Shift Uniqueness Test

008230025-03, P = 441.228672 Days, E = 138.534487 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.0	5.19	5.19	6.36	5.48	3.34	1.23	4.83	3.65	0.00	-1.18	0.86	0.92	0.39	4.10



Stellar Parameters For KIC 008230025

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7192^{+71}_{-86}	$3.973^{+0.162}_{-0.108}$	$-0.060^{+0.150}_{-0.150}$	$2.185^{+0.397}_{-0.437}$	$1.633^{+0.147}_{-0.147}$	$0.220^{+0.175}_{-0.071}$
	+1%/-1%	+4%/-3%	+250%/-250%	+18%/-20%	+9%/-9%	+79%/-32%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 008230025-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1313±163	$10.96^{+1.39}_{-1.13}$	564^{+27}_{-30}	6273^{+240}_{-232}	10713^{+3020}_{-2438}
Alt.	-932±180	$12.48^{+1.37}_{-1.28}$	564^{+27}_{-29}	5420^{+251}_{-242}	5741^{+2006}_{-1333}

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

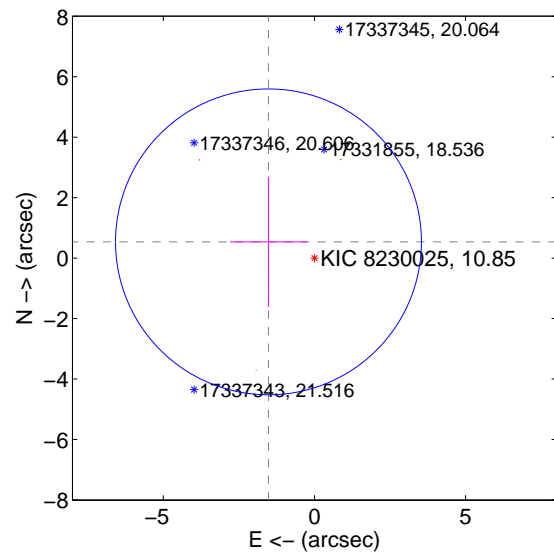
Supplemental centroid analysis for 008230025-03. **Kepler magnitude: 10.85.** Transit SNR 18.87

There are 1 quarters with good PRF difference image offsets

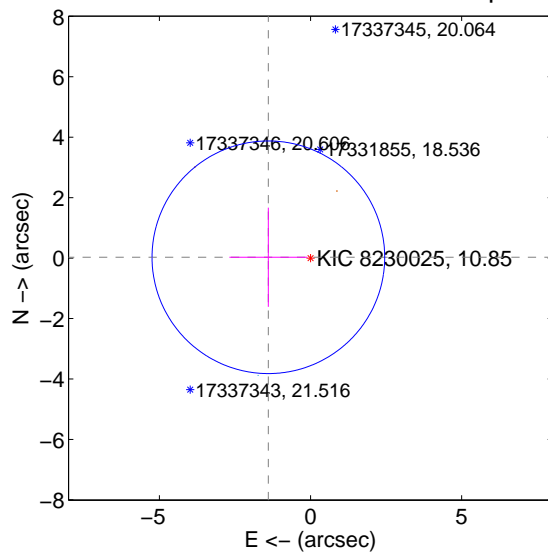
The direct PRF centroid is offset from the target star catalog position by about 1.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.613 ± 1.687	0.96	1.521 ± 1.279	0.537 ± 2.152
PRF-fit source offset from KIC position	1.396 ± 1.283	1.09	1.395 ± 1.291	0.027 ± 1.641
photometric centroid source offset	0.80 ± 0.23	3.50	0.29 ± 0.19	-0.75 ± 0.23

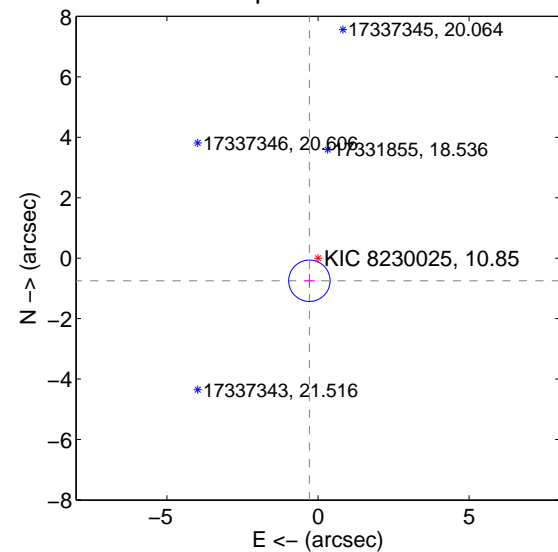
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

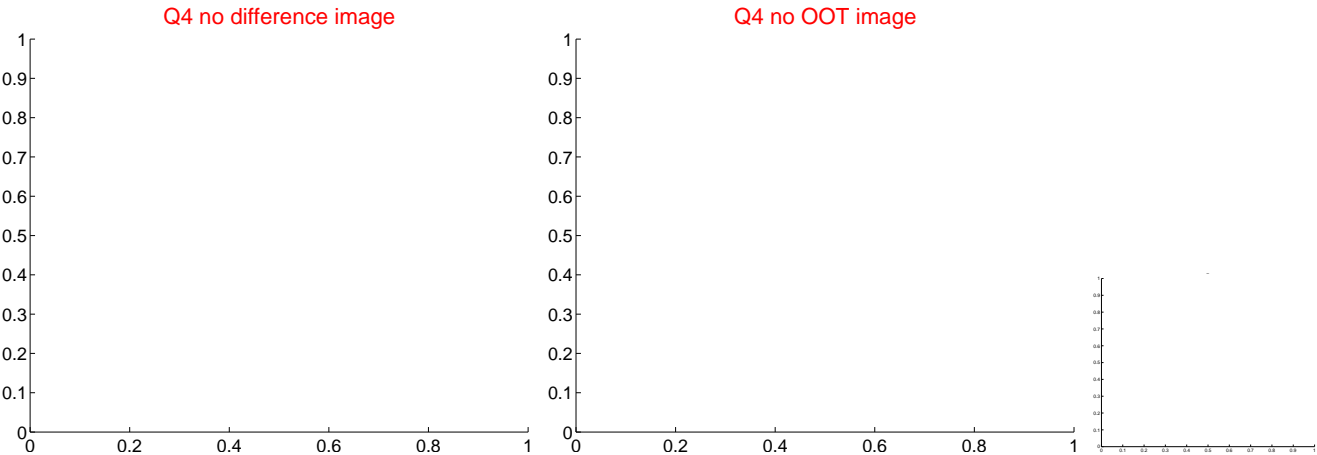
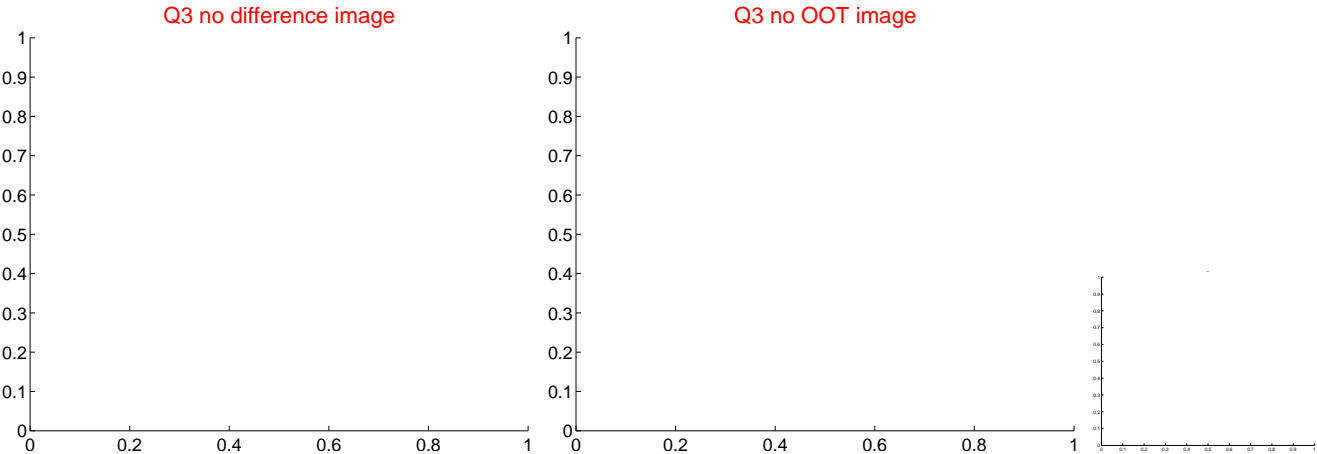
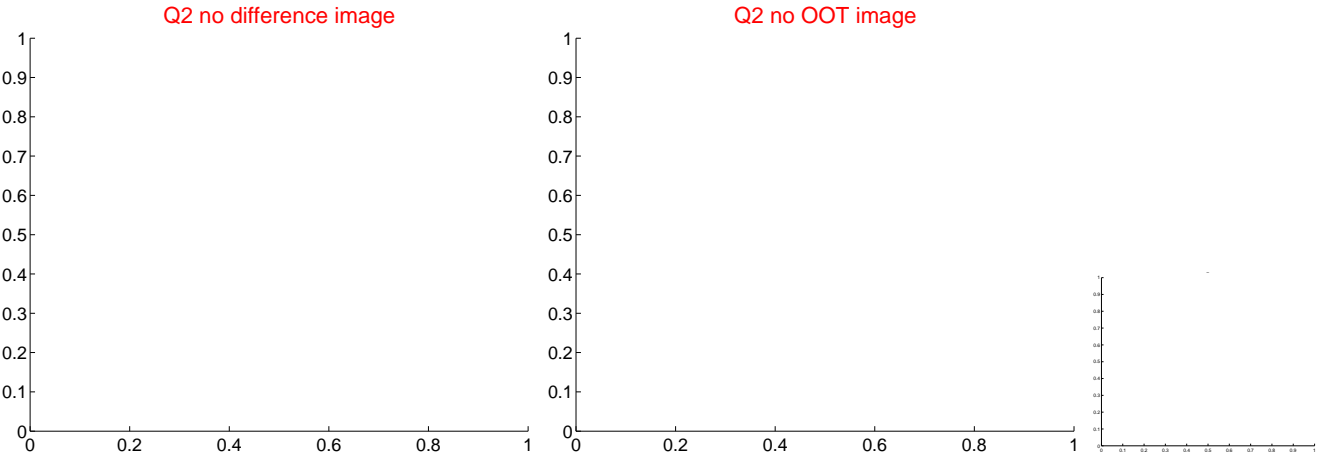
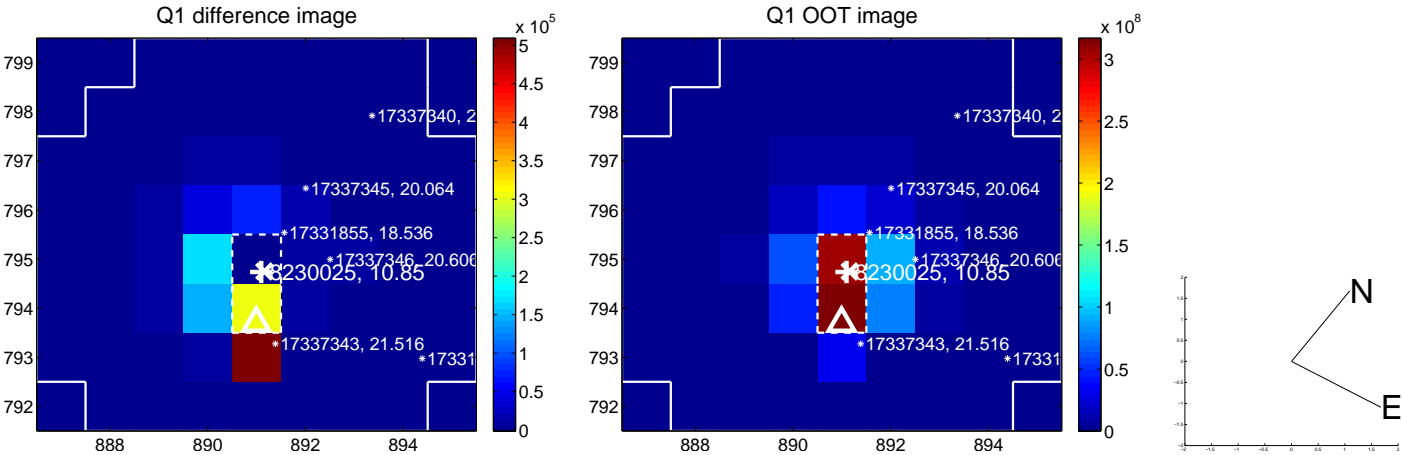


offset from photometric centroids

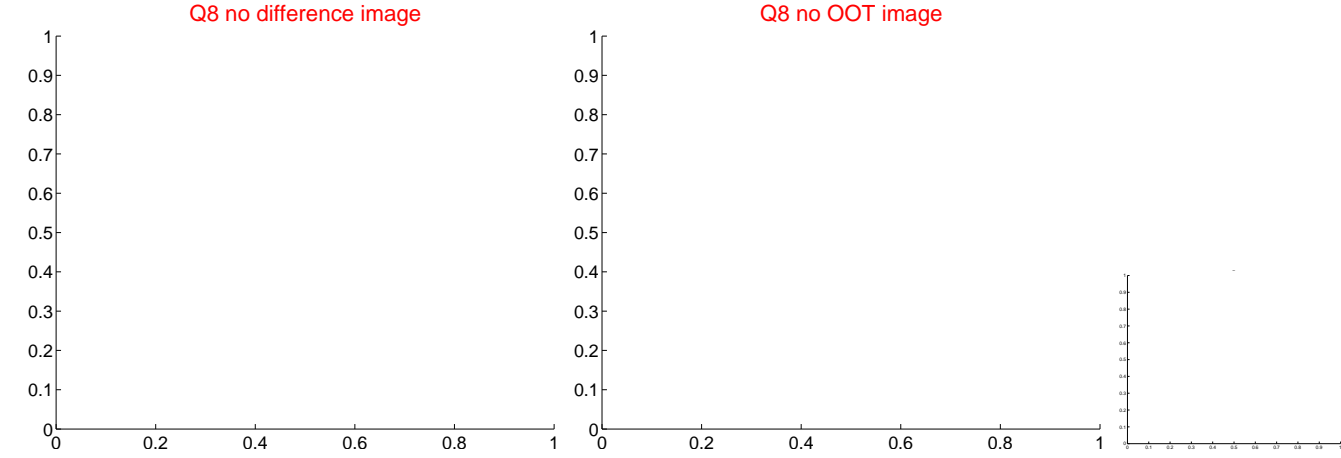
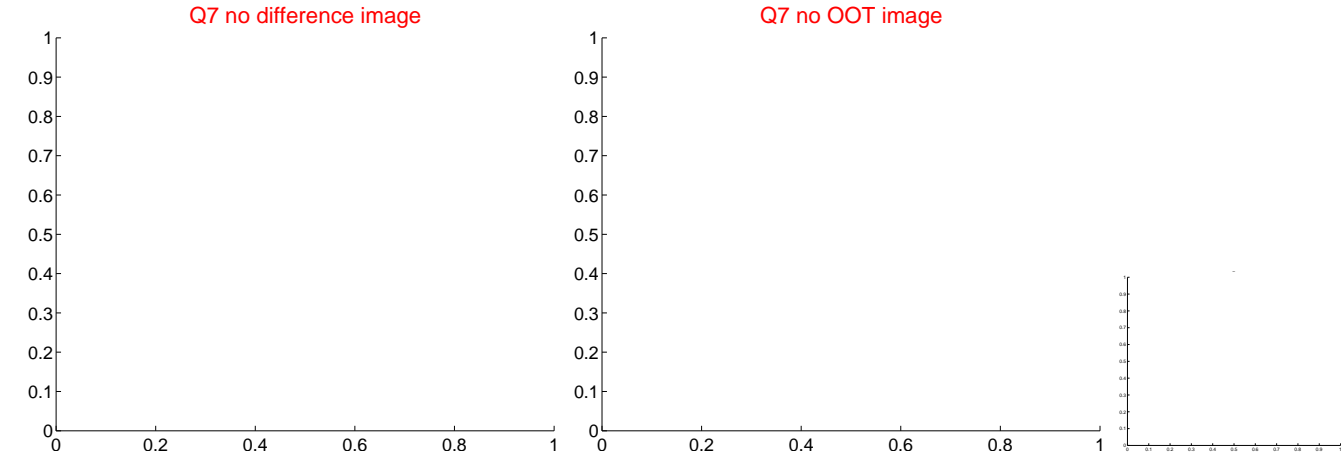
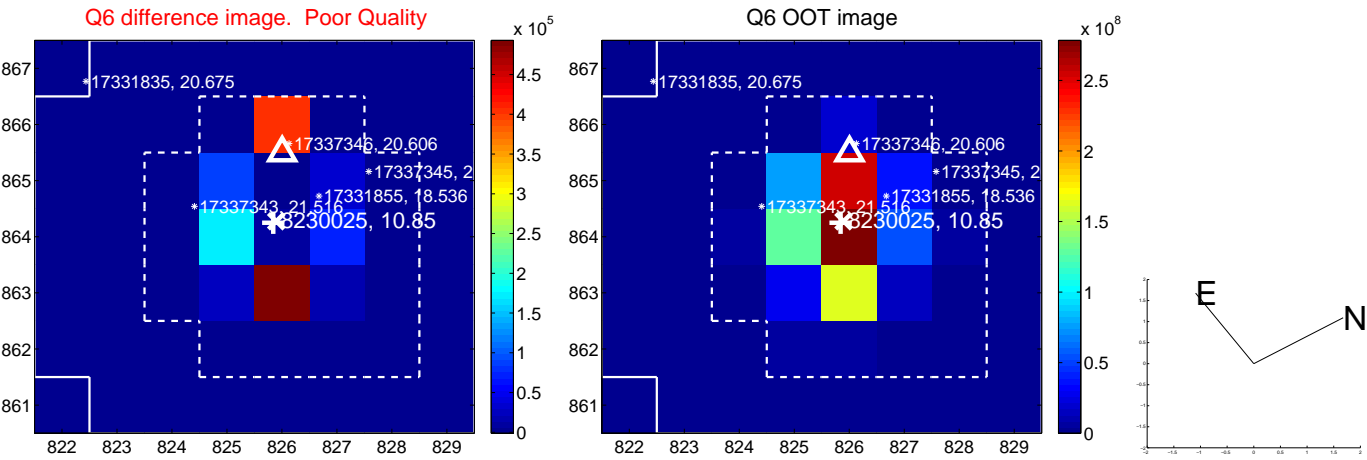
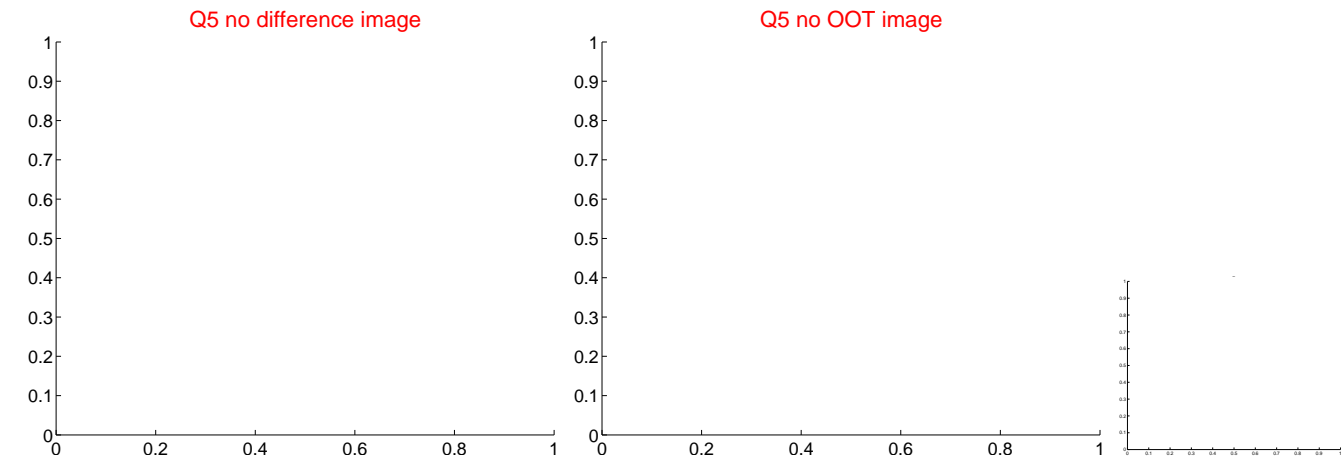


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

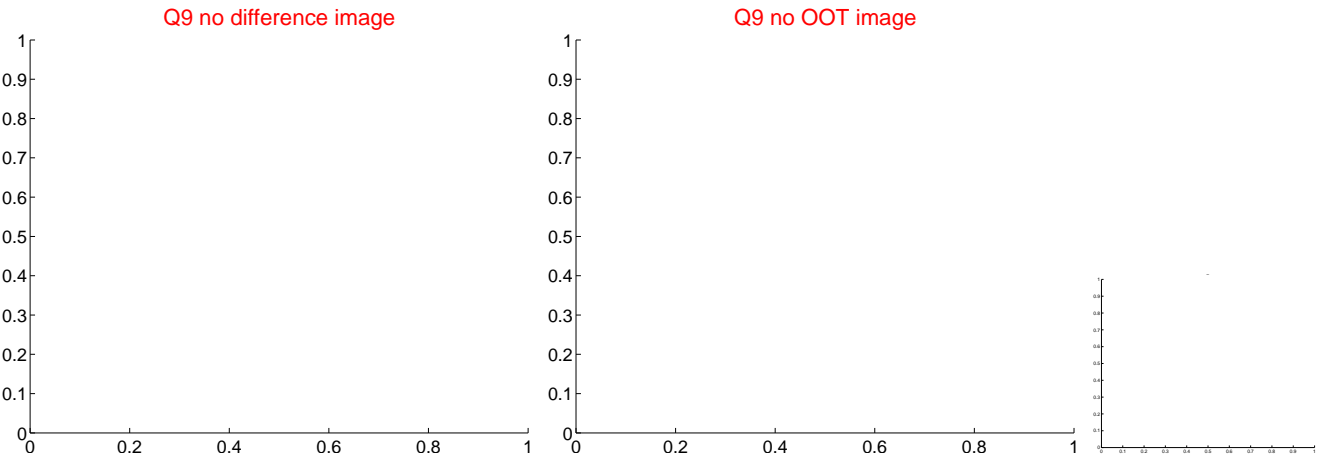
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

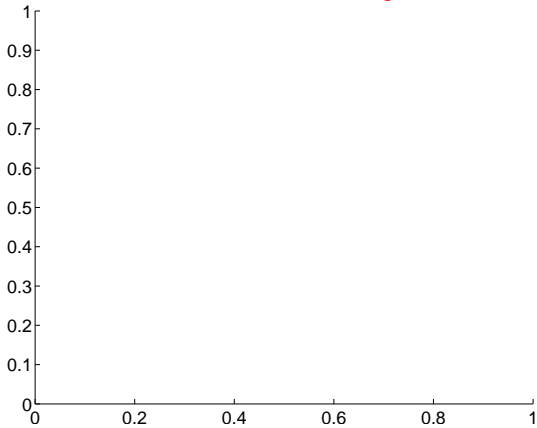


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

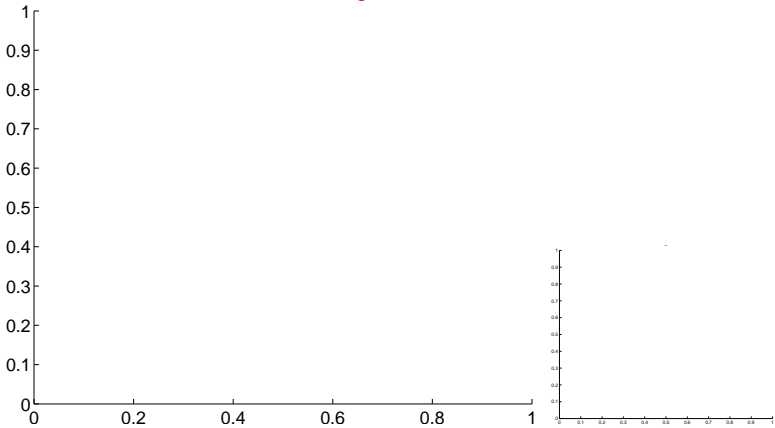


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

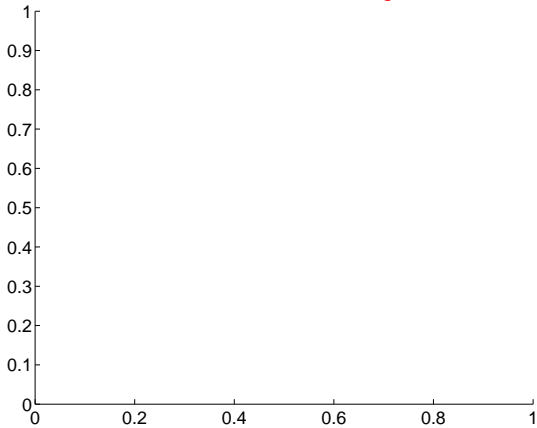
Q13 no difference image



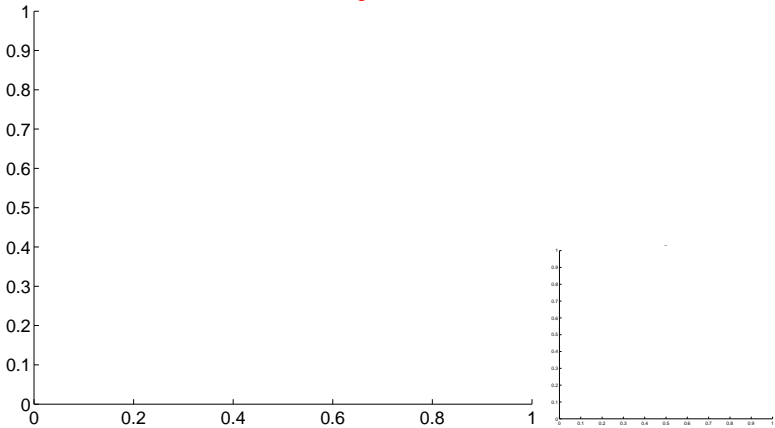
Q13 no OOT image



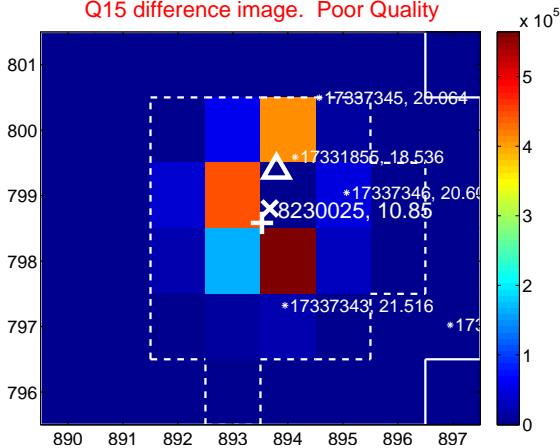
Q14 no difference image



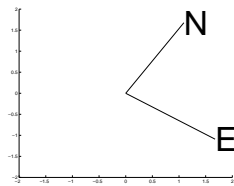
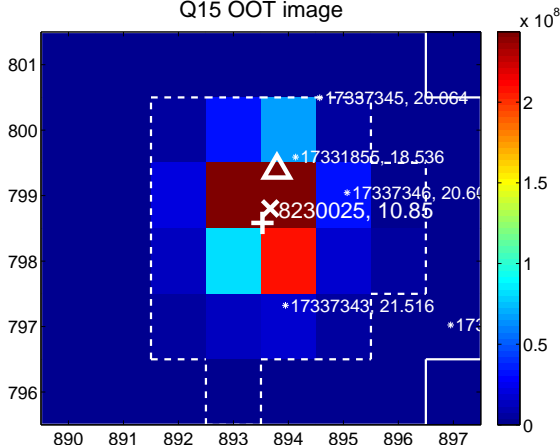
Q14 no OOT image



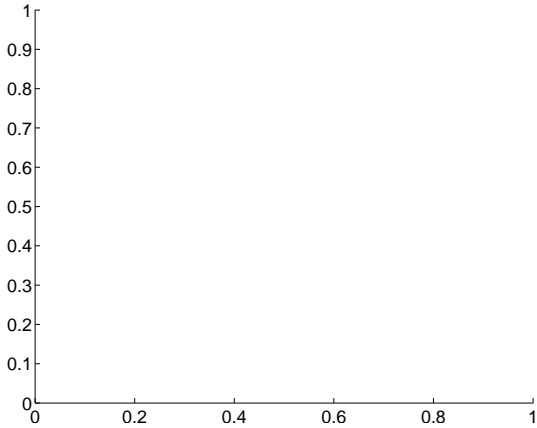
Q15 difference image. Poor Quality



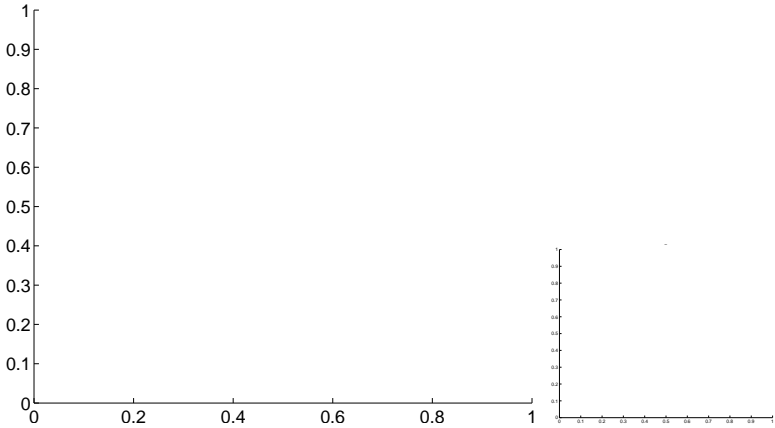
Q15 OOT image



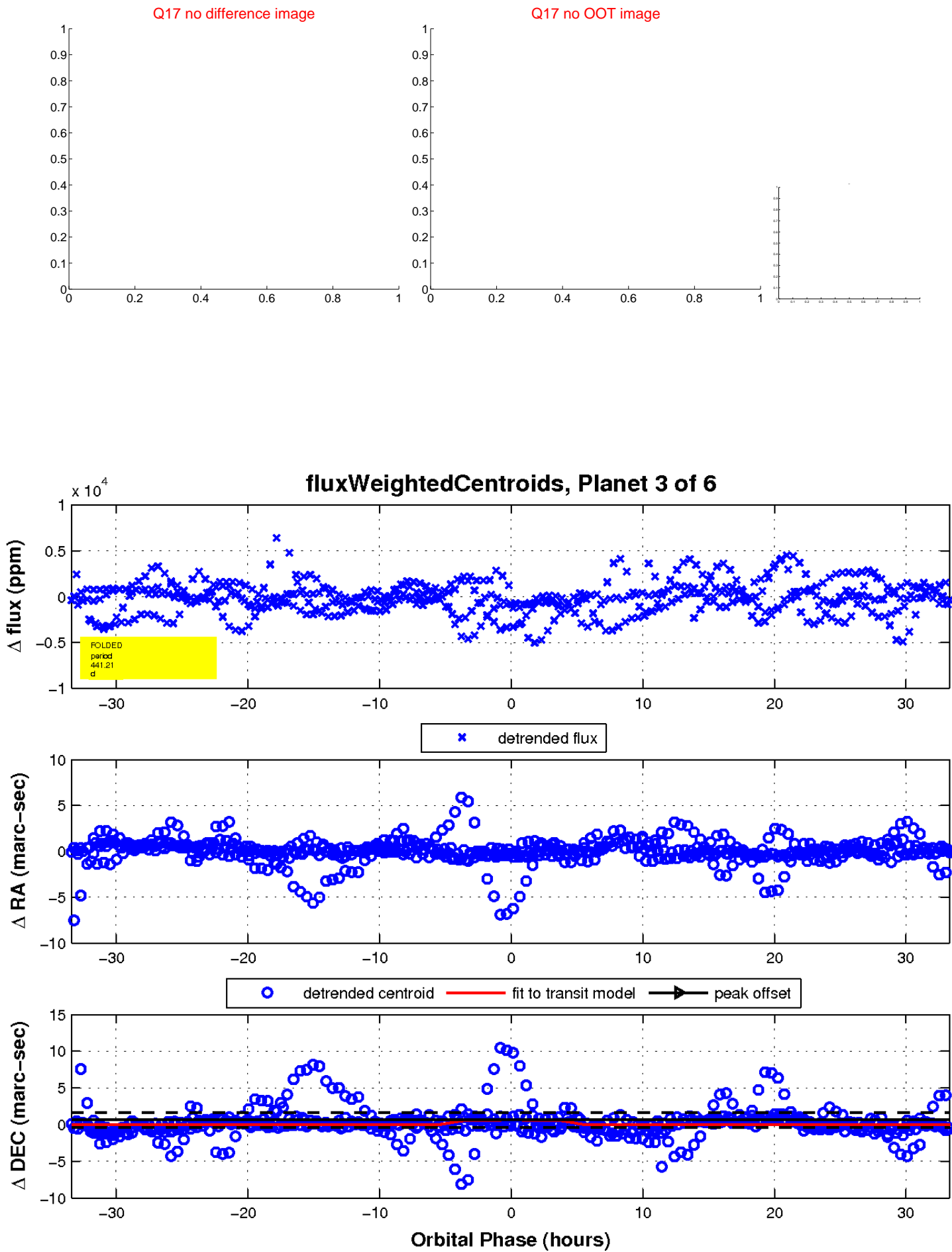
Q16 no difference image



Q16 no OOT image

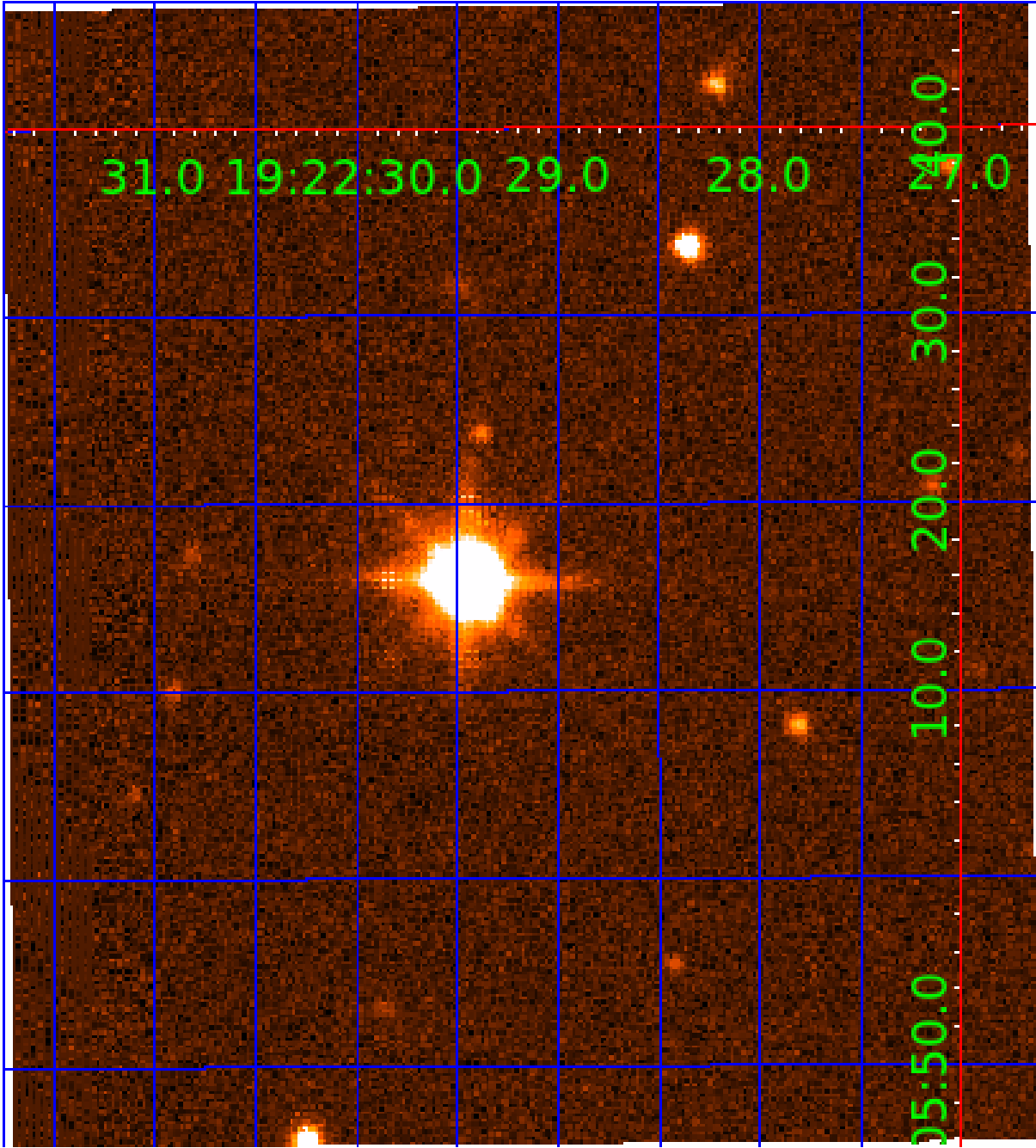


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008230025

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})
008230025-01	OBS	No	525.548671	137.942191	3425.5	8.341	38.3	28.1	2.19	7192	19.85	5.07
008230025-02	OBS	No	229.370227	135.638646	1666.2	8.204	21.8	18.0	2.19	7192	10.63	15.32
008230025-03	OBS	No	441.212689	138.557579	1975.0	11.148	21.9	18.9	2.19	7192	11.10	6.40
008230025-05	OBS	No	314.996950	136.353748	111.1	15.000	17.5	-1.0	2.19	7192	2.33	10.04
008230025-06	OBS	No	326.487900	133.403047	971.9	6.405	11.6	9.9	2.19	7192	8.39	9.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008230025-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008230025-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_SATURATED
008230025-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008230025-05	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
008230025-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

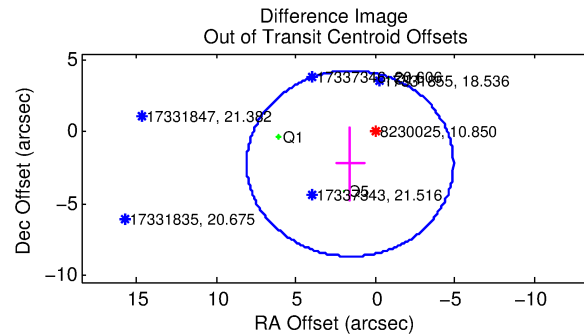
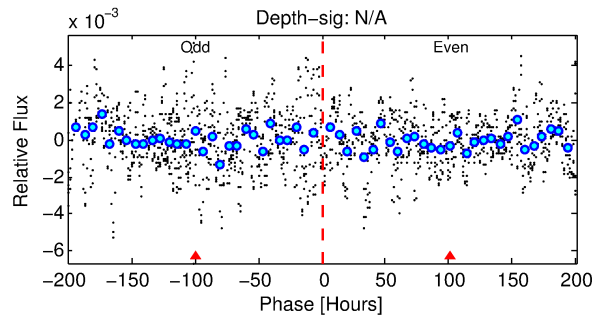
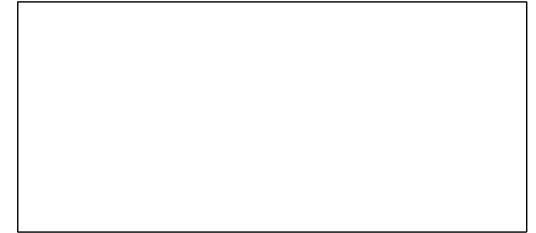
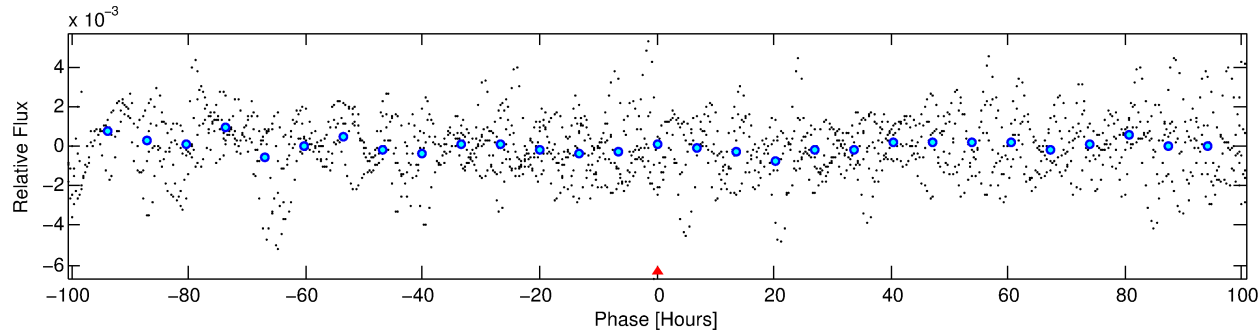
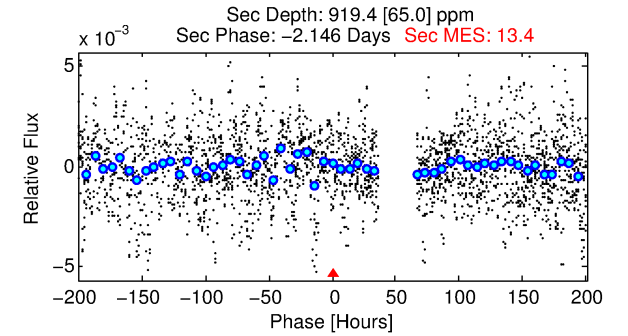
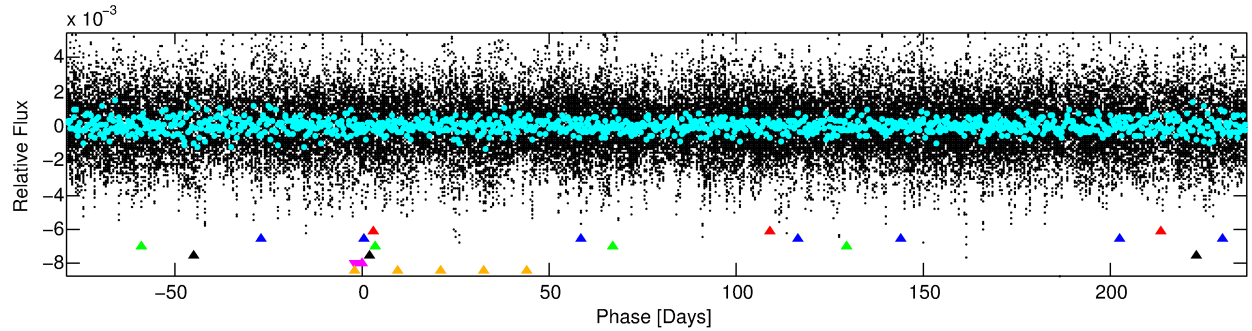
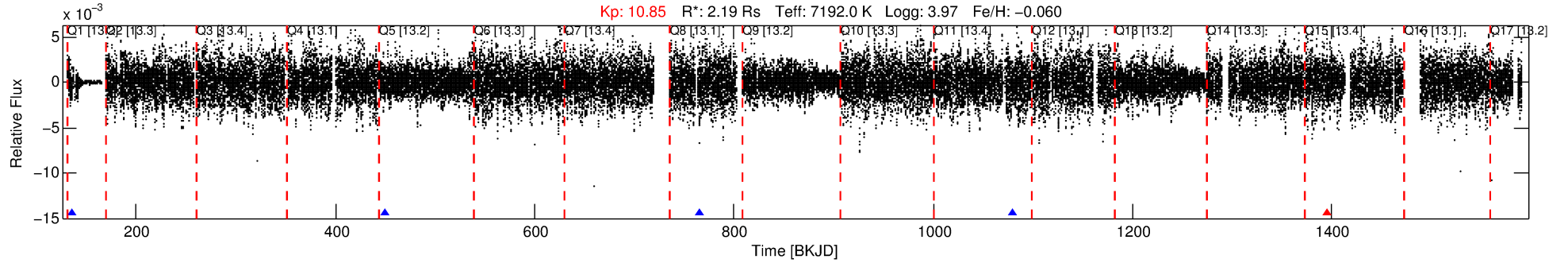
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008230025-05

No Significant Match Found

DV One-Page Summary

KIC: 8230025 Candidate: 5 of 6 Period: 314.997 d



TPS TCE Results:

Period = 314.99695 d
Epoch = 136.3537 BKJD

DV fit results are unavailable

DV Diagnostic Results:

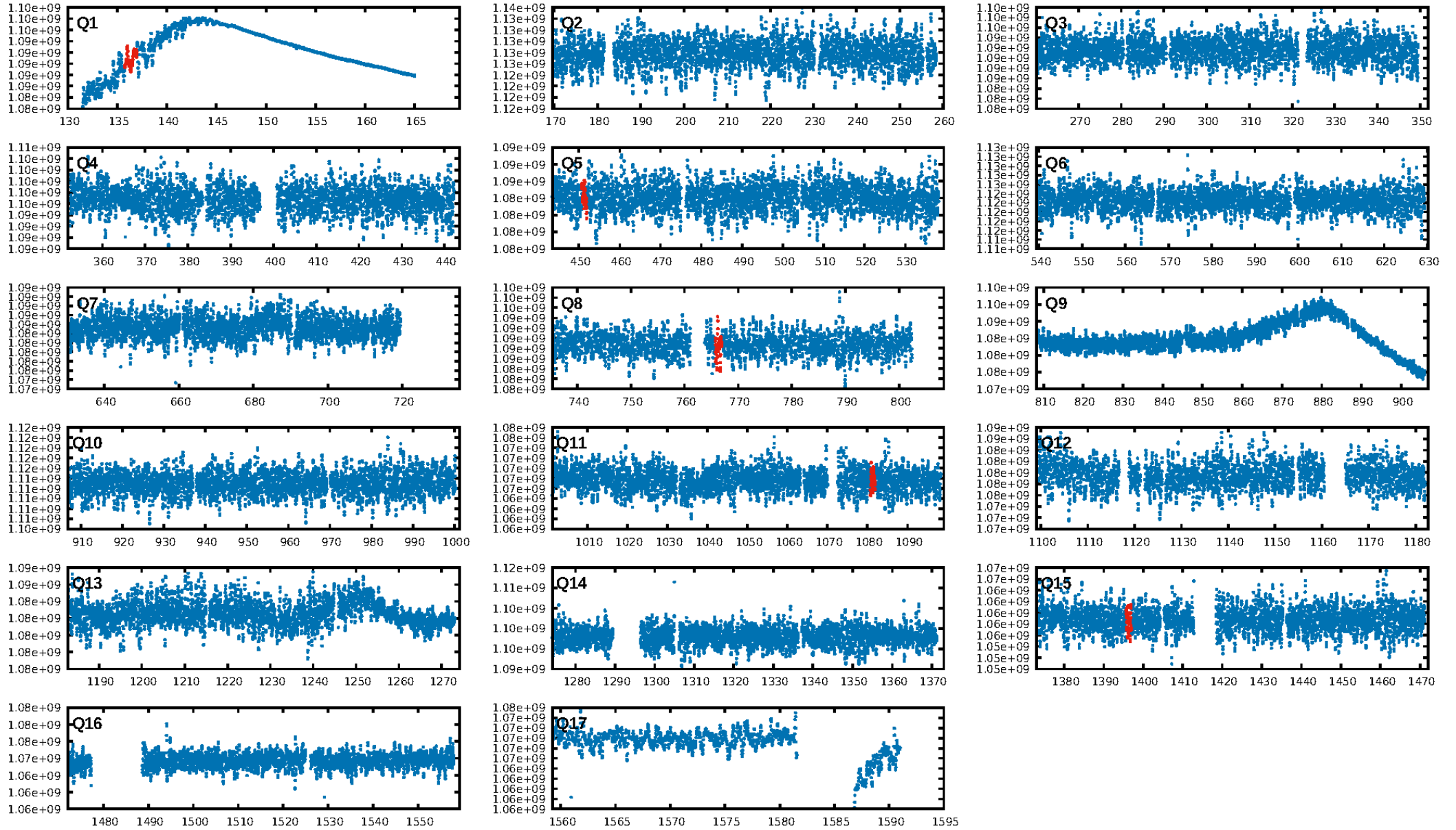
ShortPeriod-sig: 100.0% [120.20 σ]
LongPeriod-sig: 100.0% [16.91 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.58e-14
RollingBand-fgt: 0.75 [3/4]
GhostDiagnostic-chr: -0.04629

Centroid-sig: N/A
Centroid-so: 1.198 arcsec [2.52 σ]
OotOffset-rm: 2.711 arcsec [1.25 σ]
KicOffset-rm: 2.938 arcsec [1.44 σ]
OotOffset-st: 0/1/0/2 [3]
KicOffset-st: 0/1/0/2 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 0.67 [2/3]

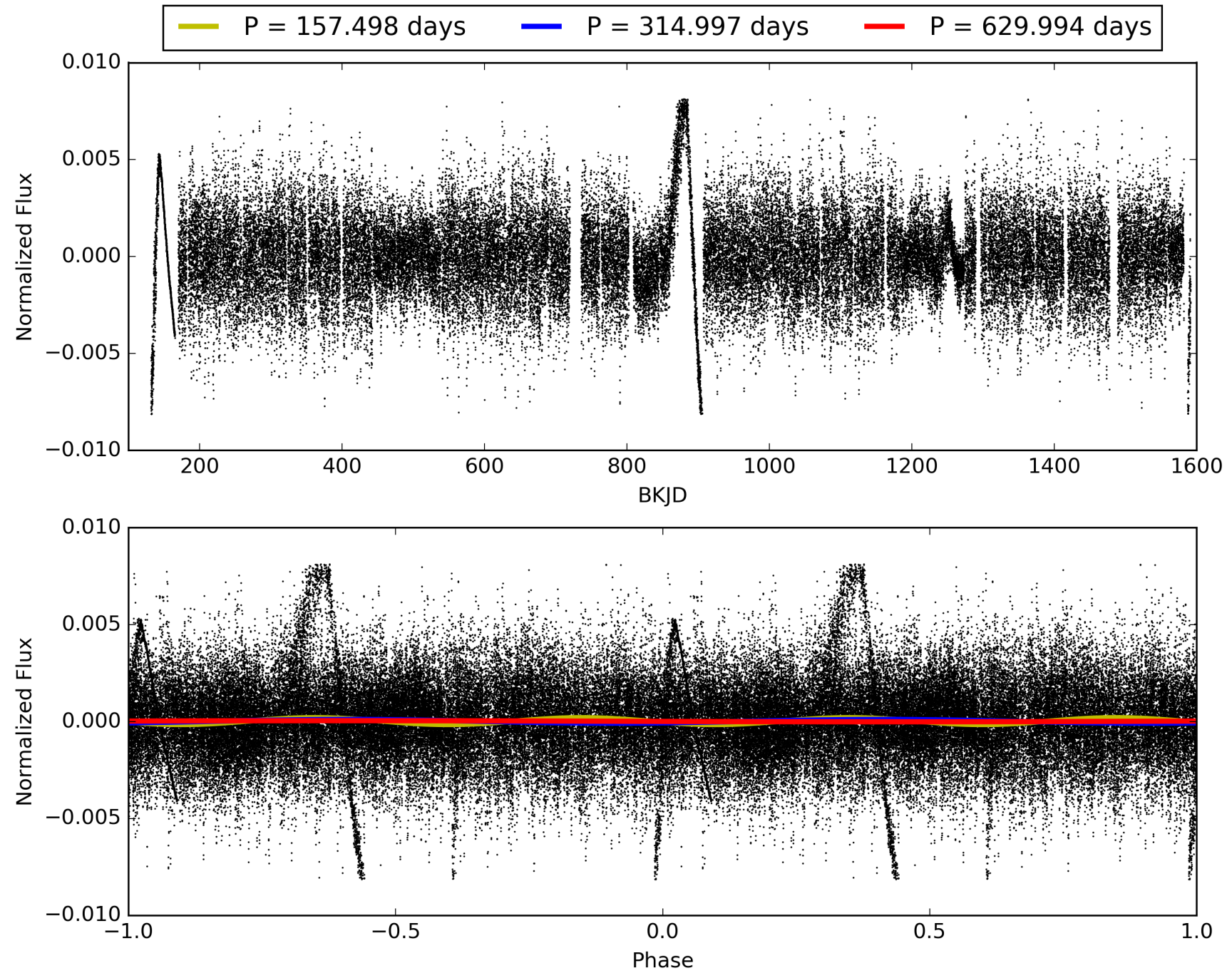
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:54:02 Z

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

TCE 008230025-05, PDC Light Curves

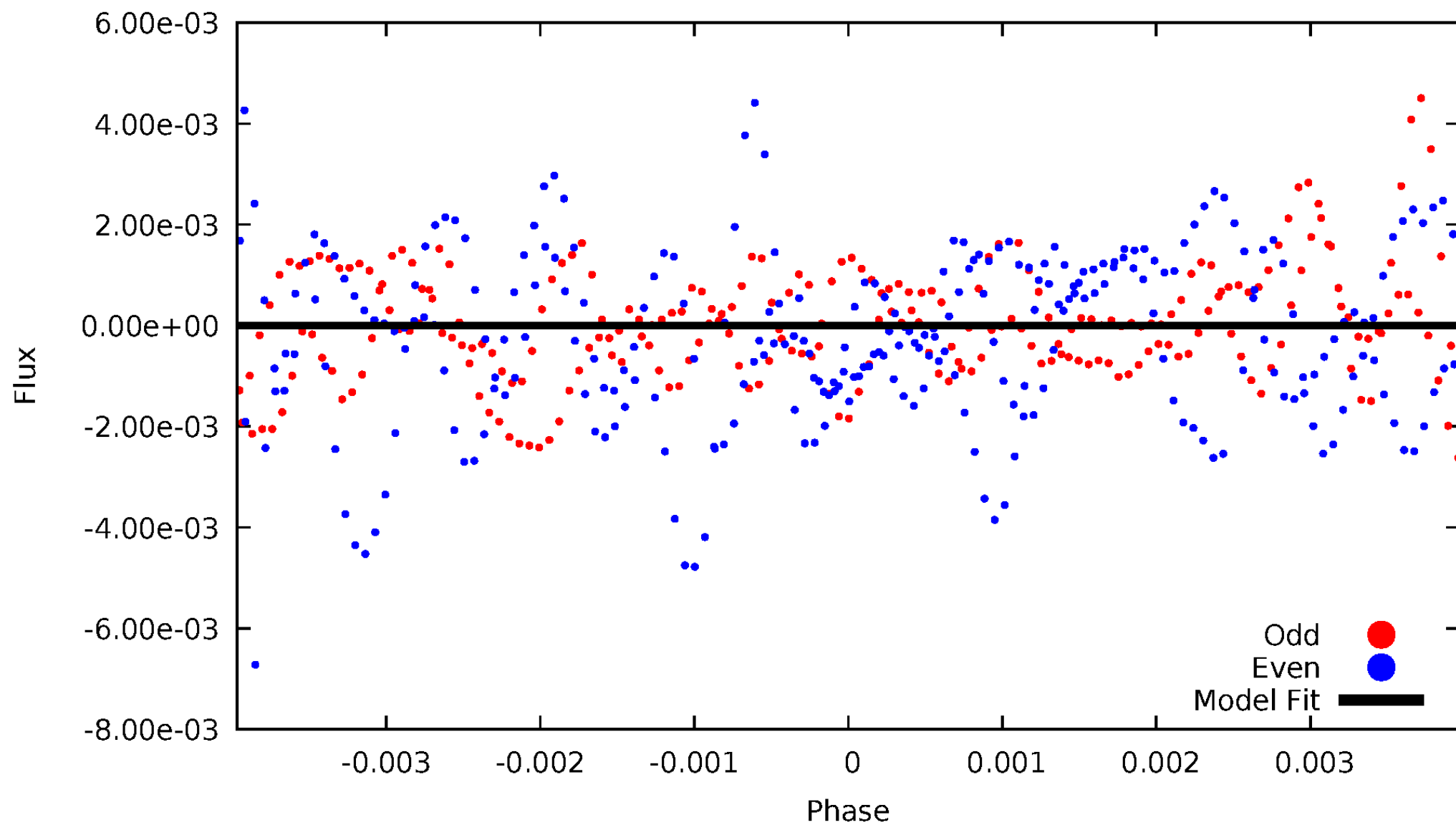


TCE 008230025-05



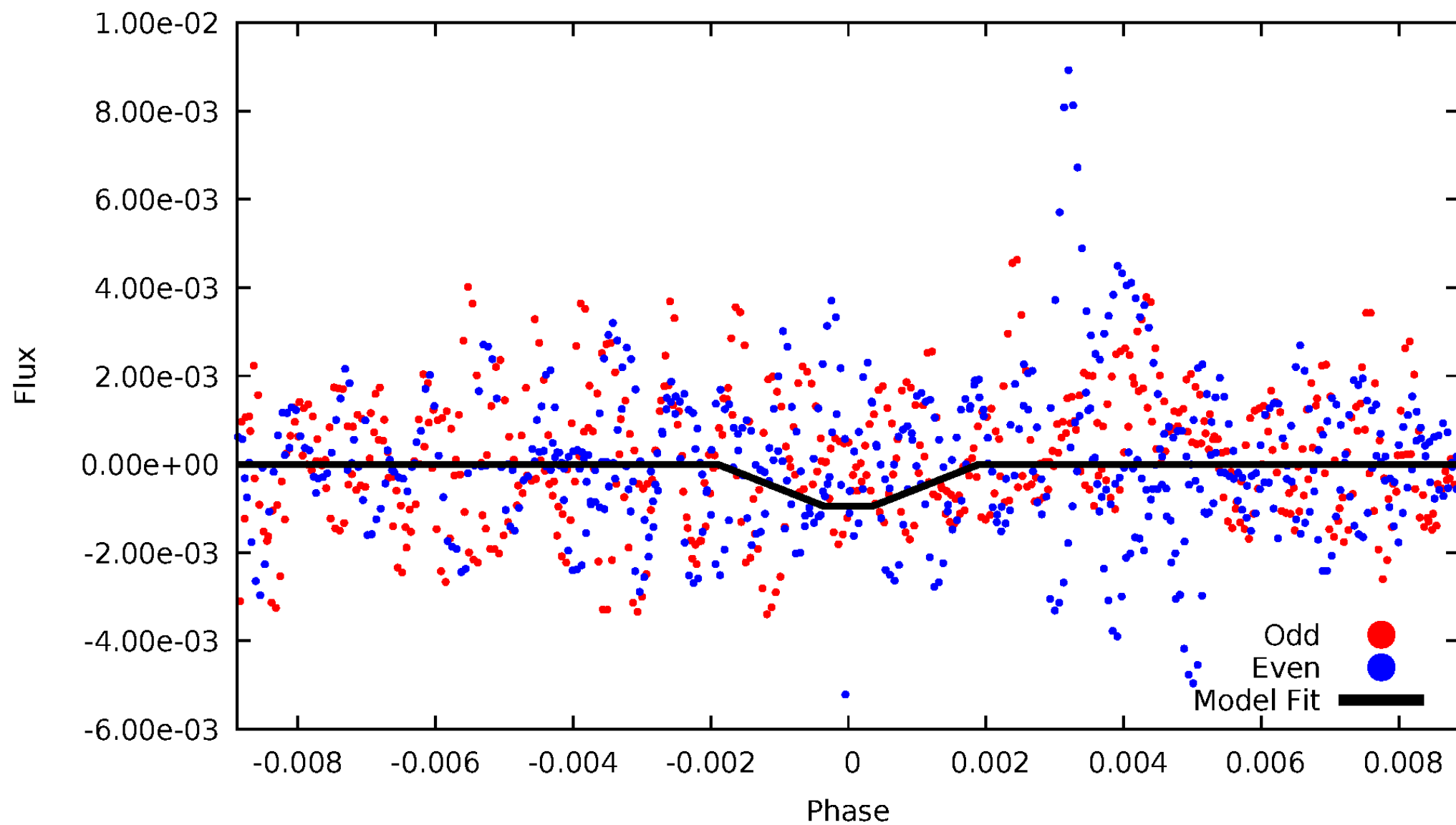
DV Odd/Even

TCE 008230025-05

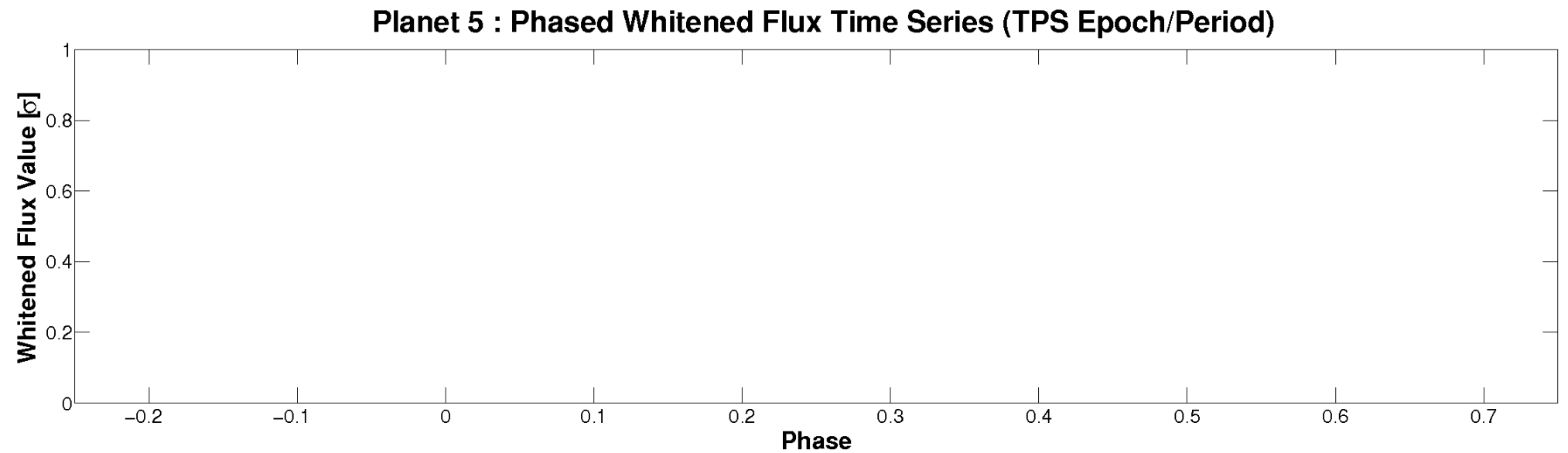
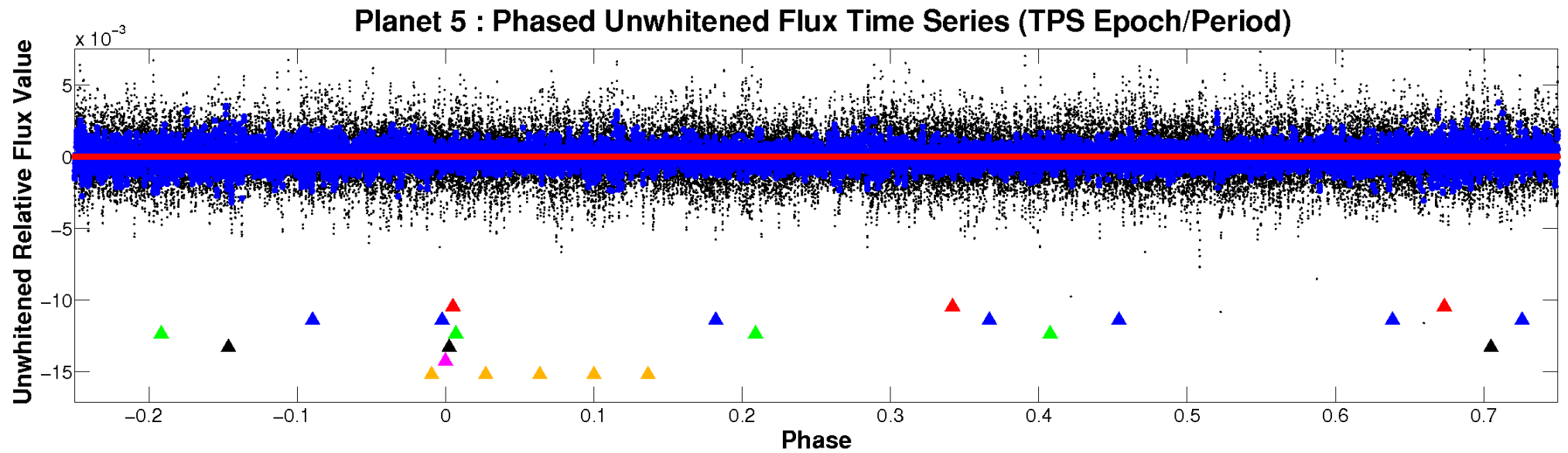


ALT Odd/Even

TCE 008230025-05

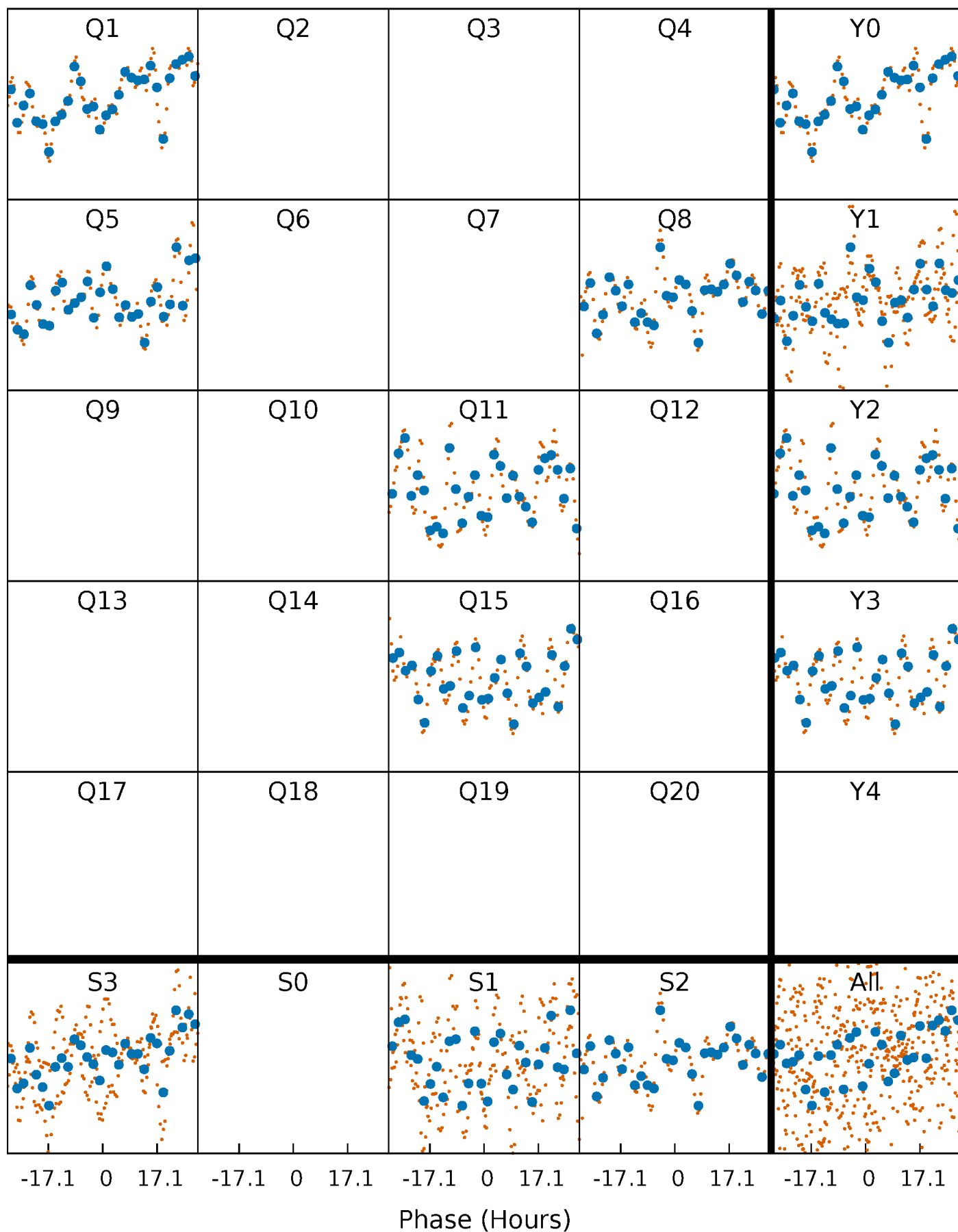


Non-Whitened Vs. Whitened Light Curve



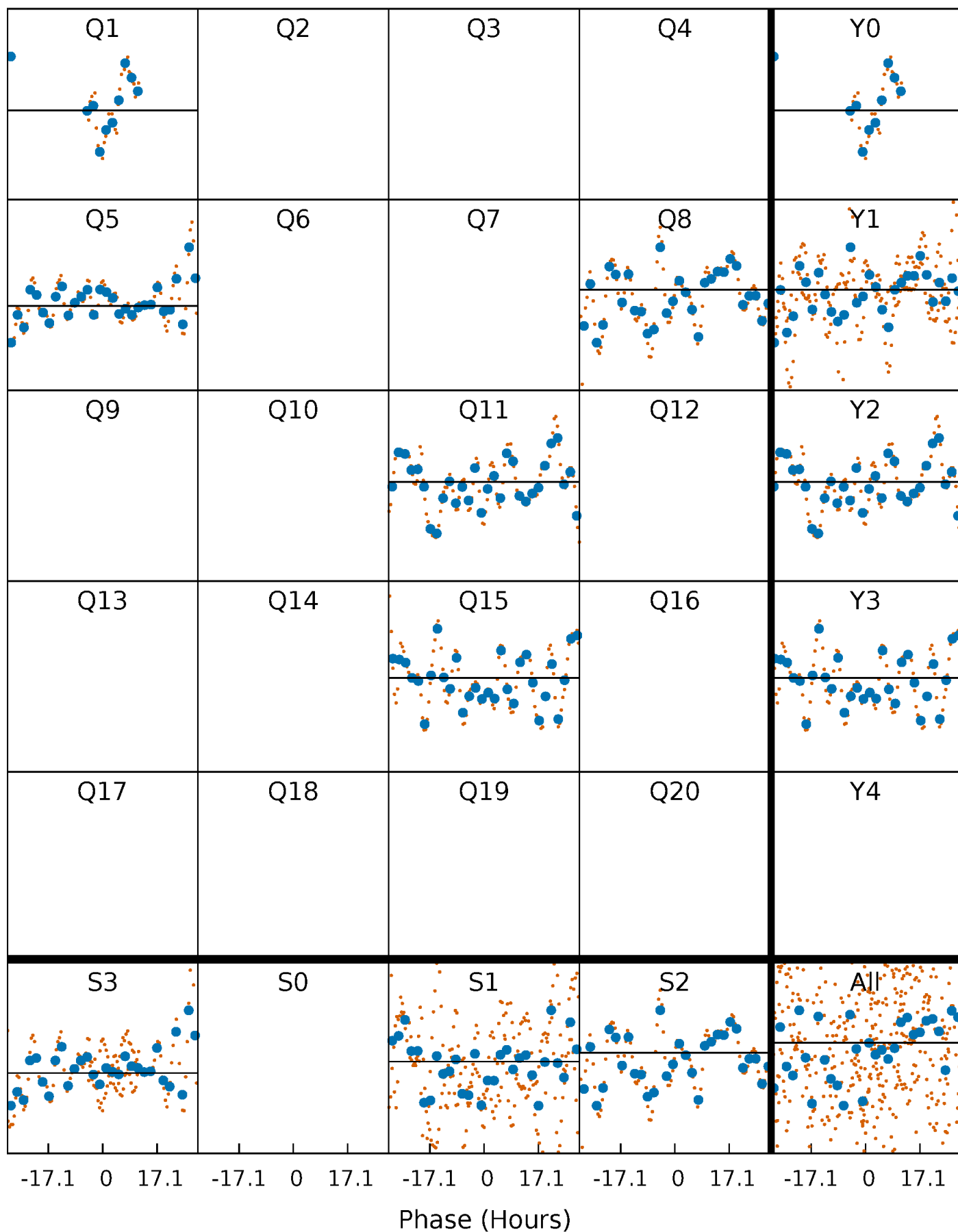
PDC Quarter-Phased Transit Curves

TCE 008230025-05 $P=314.996950$ Days $T_0=136.353747$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008230025-05 $P=314.996950$ Days $T_0=136.353747$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

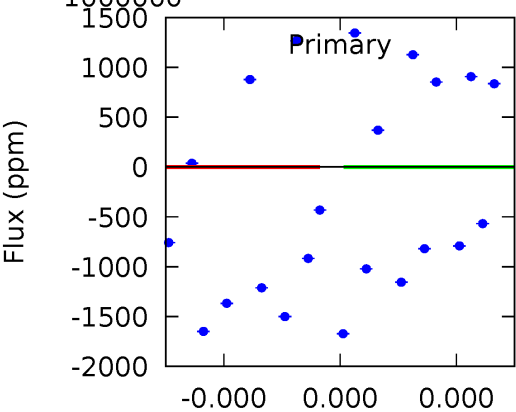
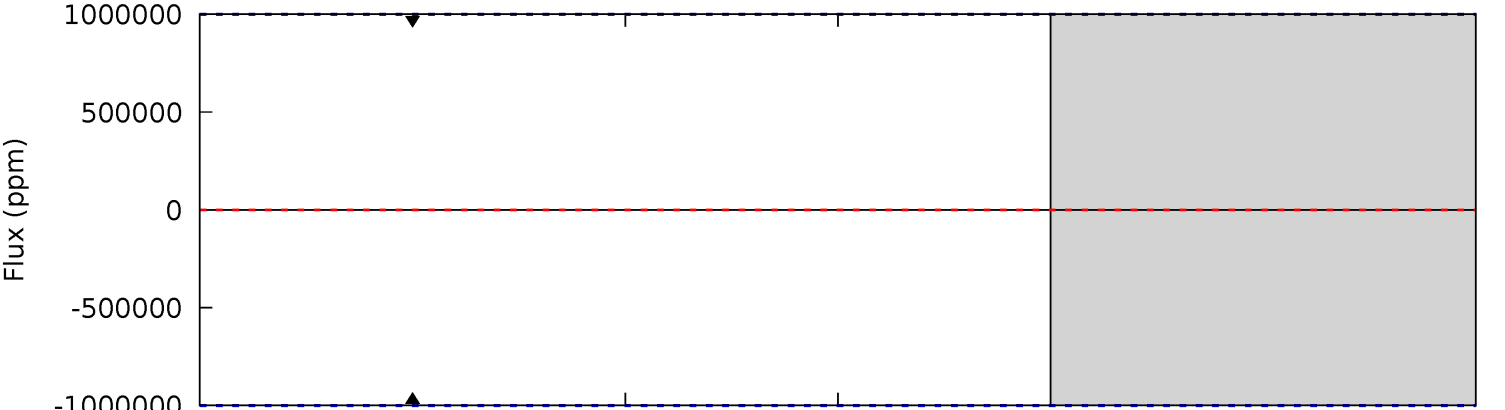
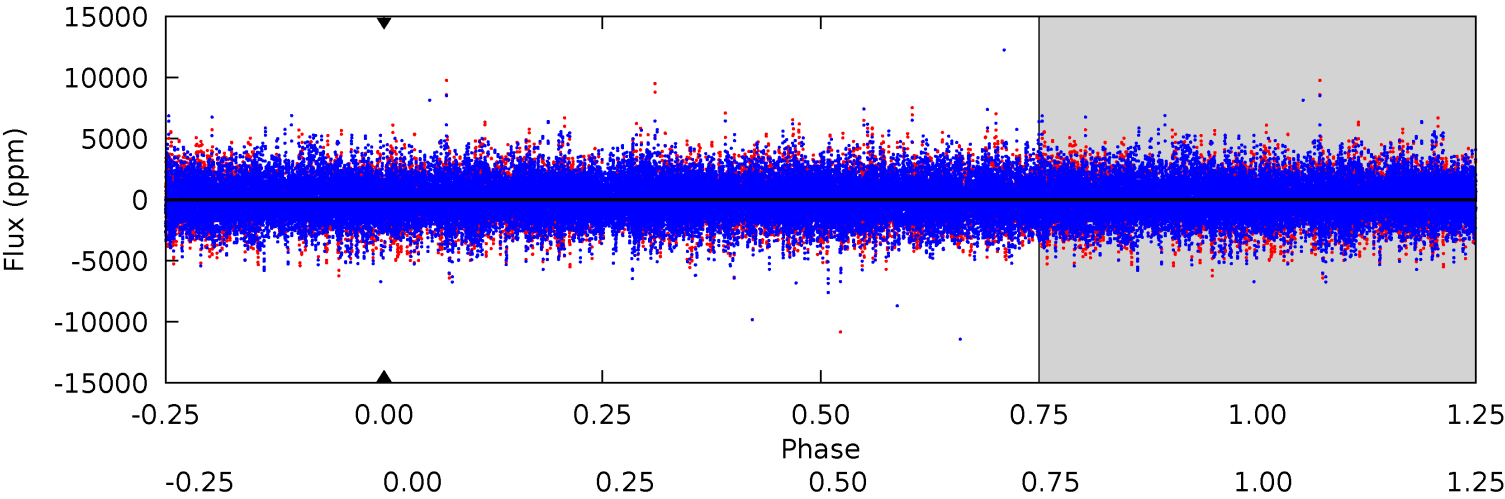
TCE 008230025-05 $P=314.996950$ Days $T_0=135.154286$ (BKJD)



DV Model-Shift Uniqueness Test

008230025-05, P = 314.996950 Days, E = 136.353747 Days

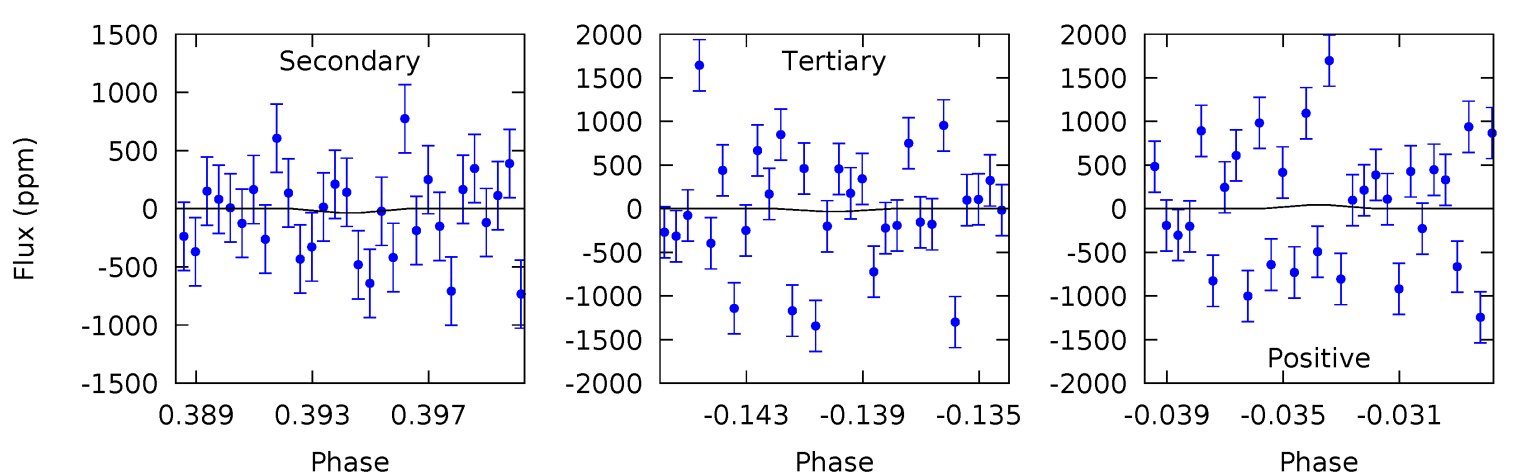
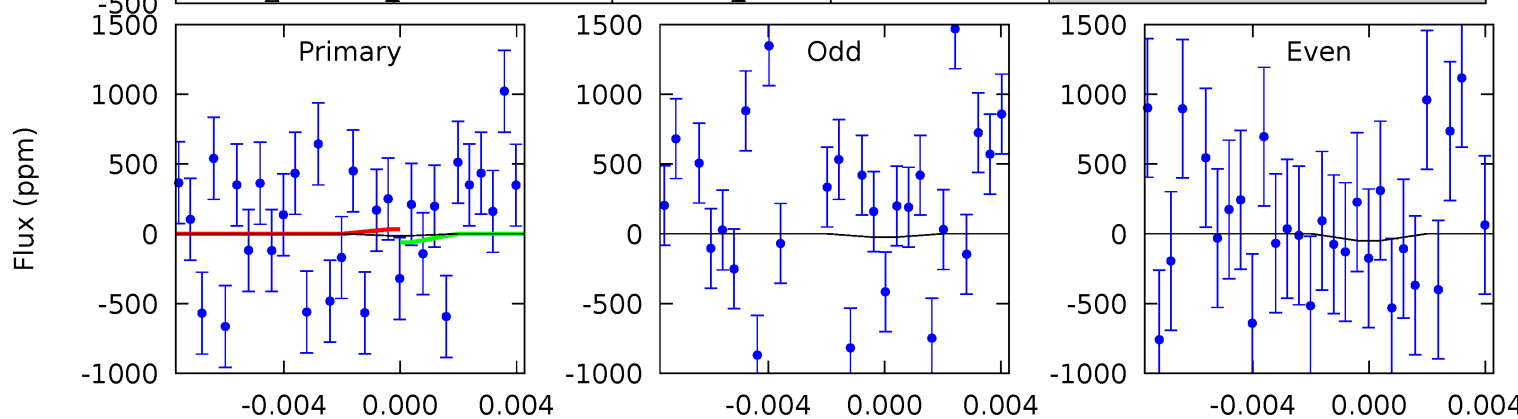
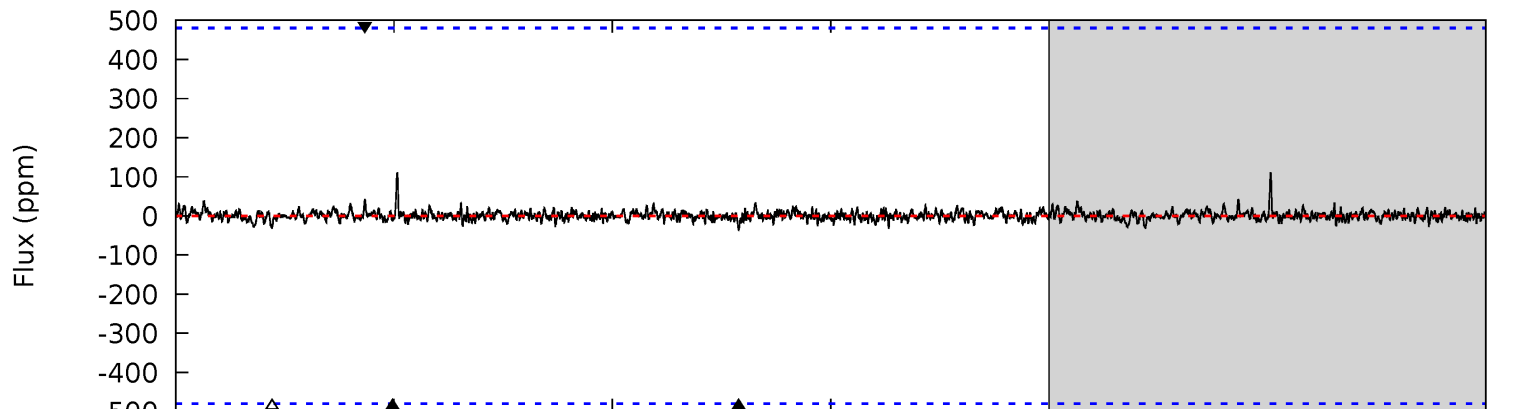
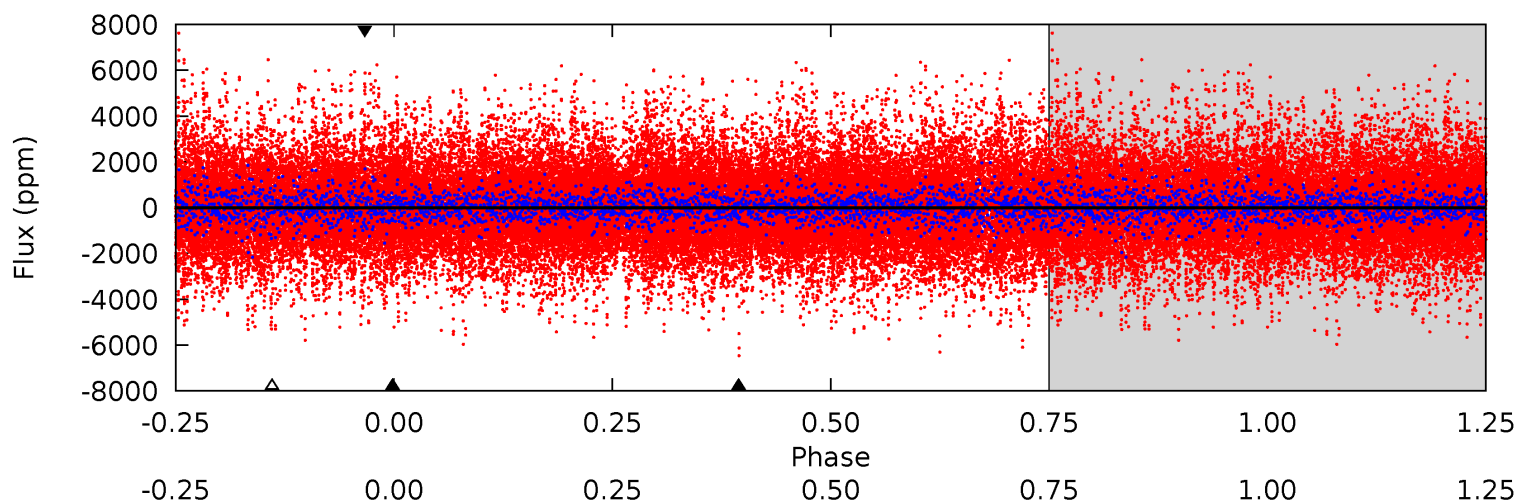
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008230025-05, P = 314.996950 Days, E = 135.154286 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.15	0.38	0.35	0.46	5.21	2.89	0.11	-0.20	-0.31	0.04	-0.07	0.14	-7.84	0.76	0.16



Stellar Parameters For KIC 008230025

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7192^{+71}_{-86}	$3.973^{+0.162}_{-0.108}$	$-0.060^{+0.150}_{-0.150}$	$2.185^{+0.397}_{-0.437}$	$1.633^{+0.147}_{-0.147}$	$0.220^{+0.175}_{-0.071}$
	+1%/-1%	+4%/-3%	+250%/-250%	+18%/-20%	+9%/-9%	+79%/-32%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 008230025-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$16.77^{+17.60}_{-11.98}$	632^{+30}_{-31}	-3082^{+36778}_{-33792}	$-167.402^{+378016.545}_{-367557.252}$
Alt.	-35 ± 92	$18.14^{+18.54}_{-12.39}$	631^{+29}_{-30}	2534^{+1314}_{-5414}	36^{+621}_{-128}

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

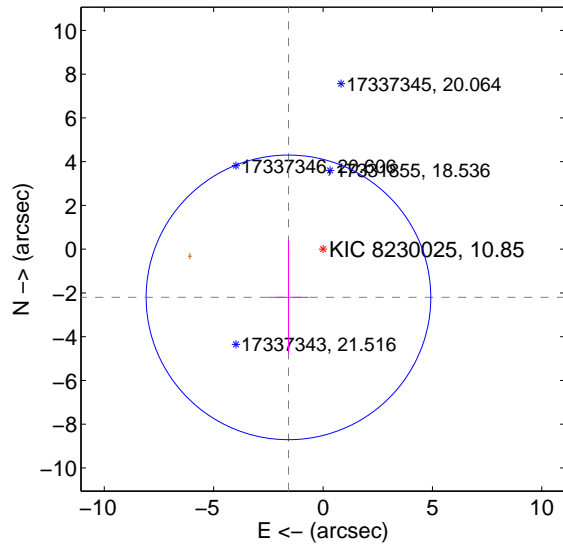
Supplemental centroid analysis for 008230025-05. **Kepler magnitude: 10.85.** Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

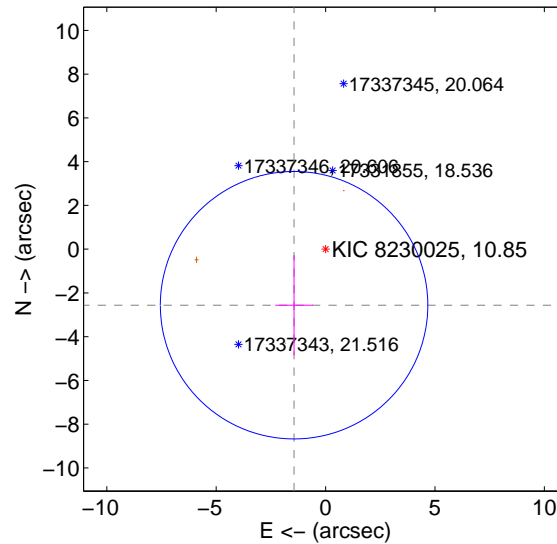
The direct PRF centroid is offset from the target star catalog position by about 1.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.711 ± 2.168	1.25	1.580 ± 0.917	-2.203 ± 2.586
PRF-fit source offset from KIC position	2.938 ± 2.038	1.44	1.440 ± 0.862	-2.561 ± 2.287
photometric centroid source offset	1.20 ± 0.48	2.52	0.23 ± 0.35	-1.18 ± 0.48

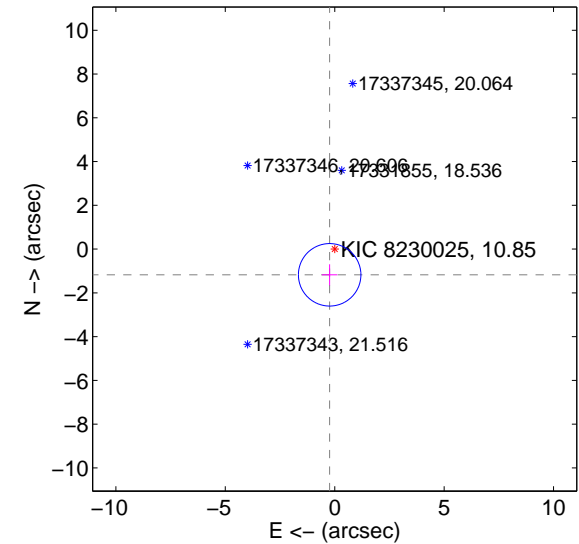
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

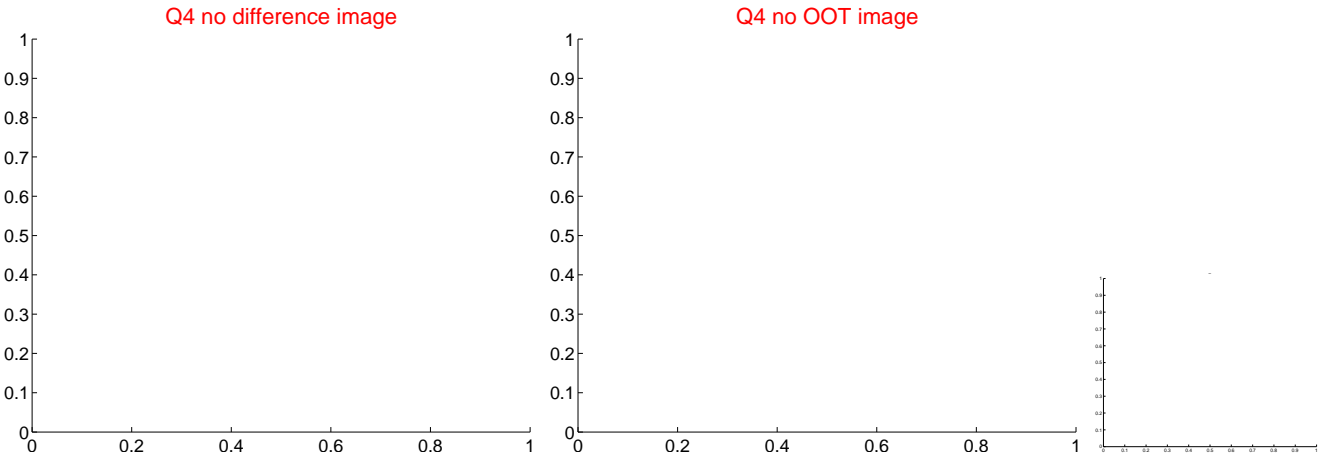
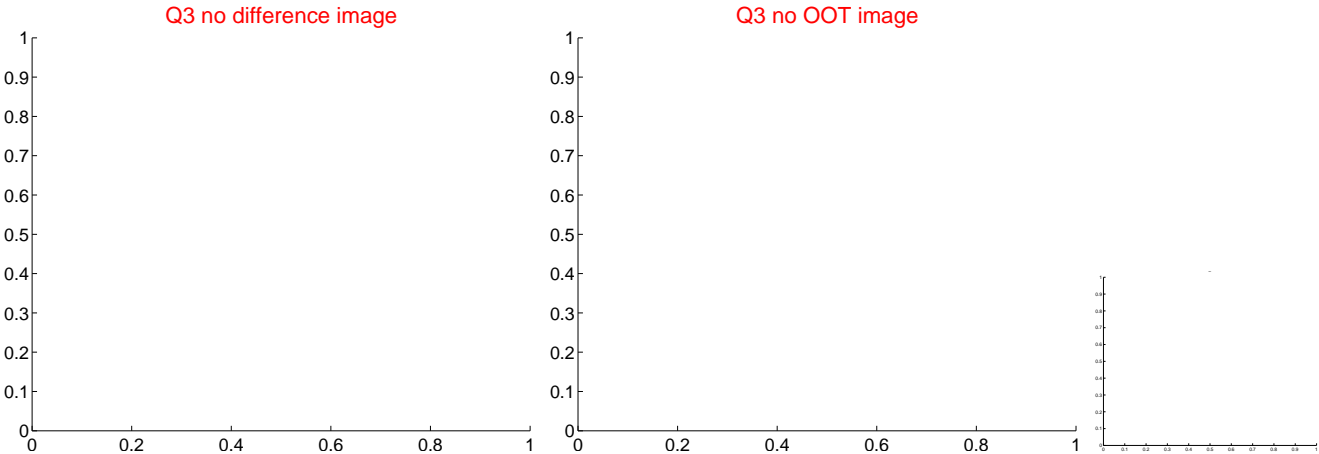
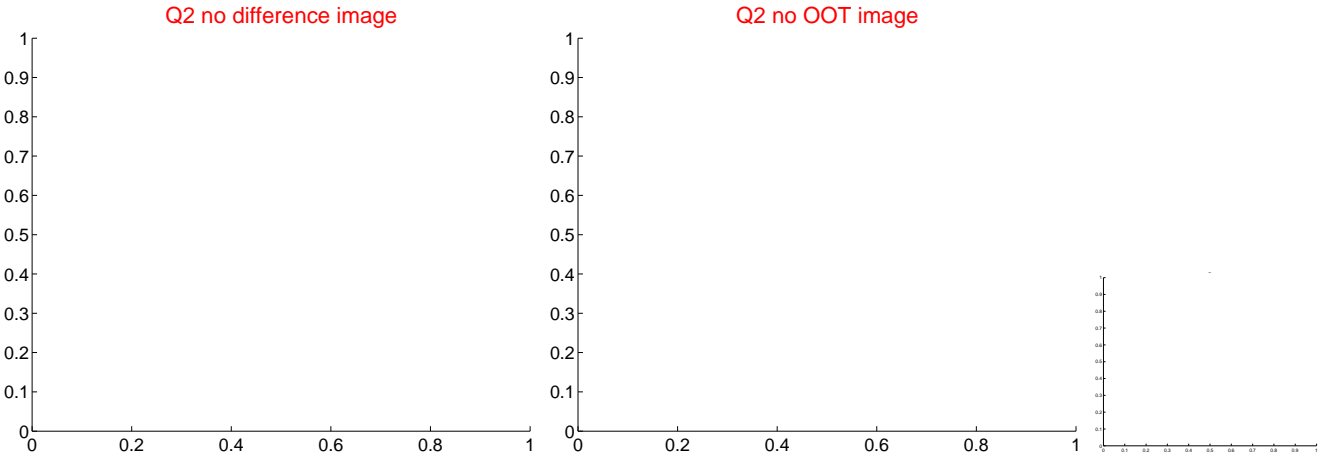
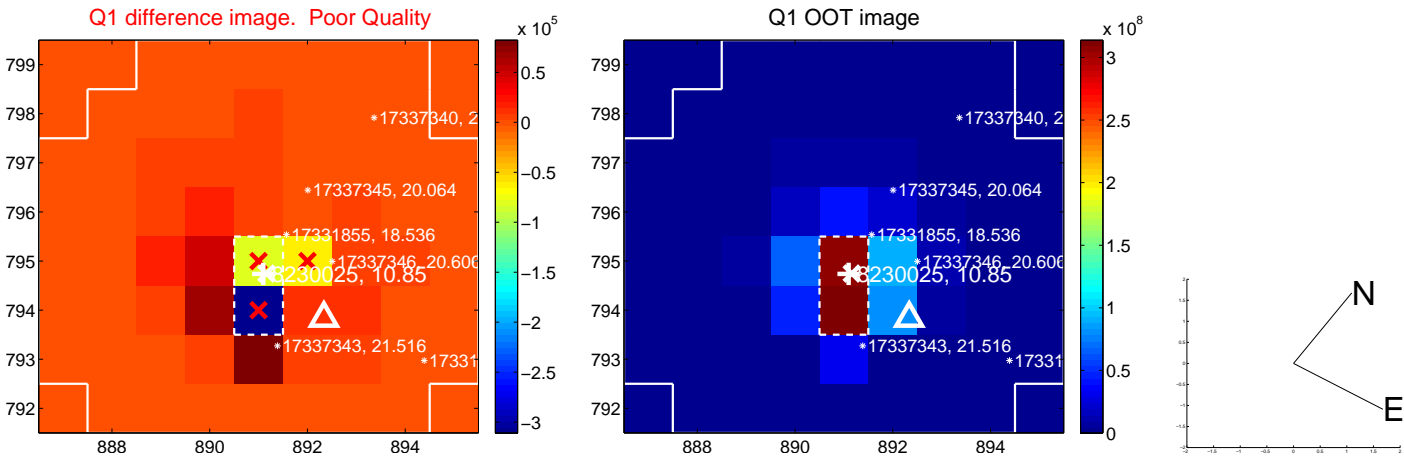


offset from photometric centroids

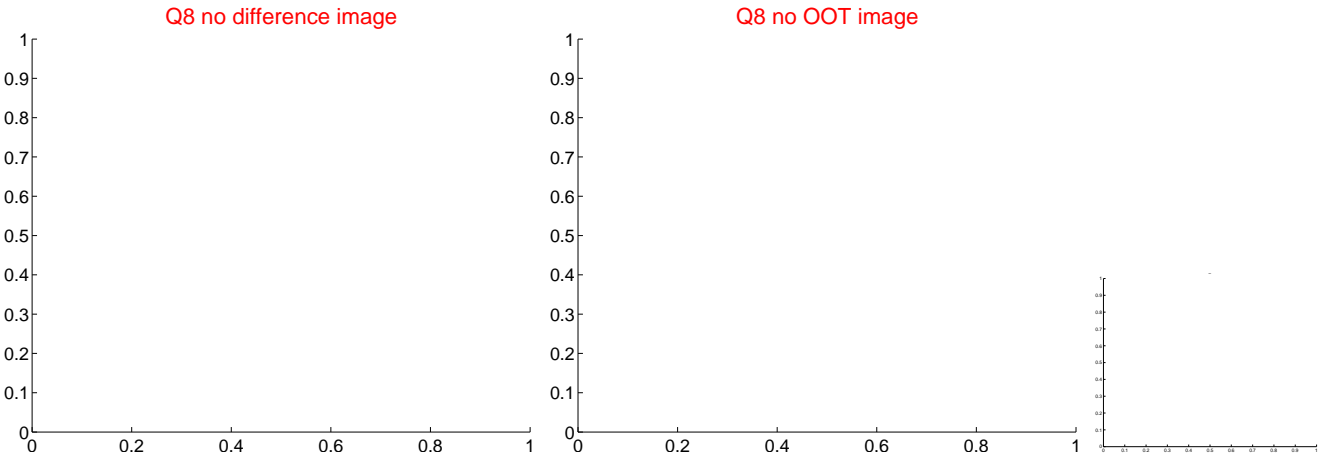
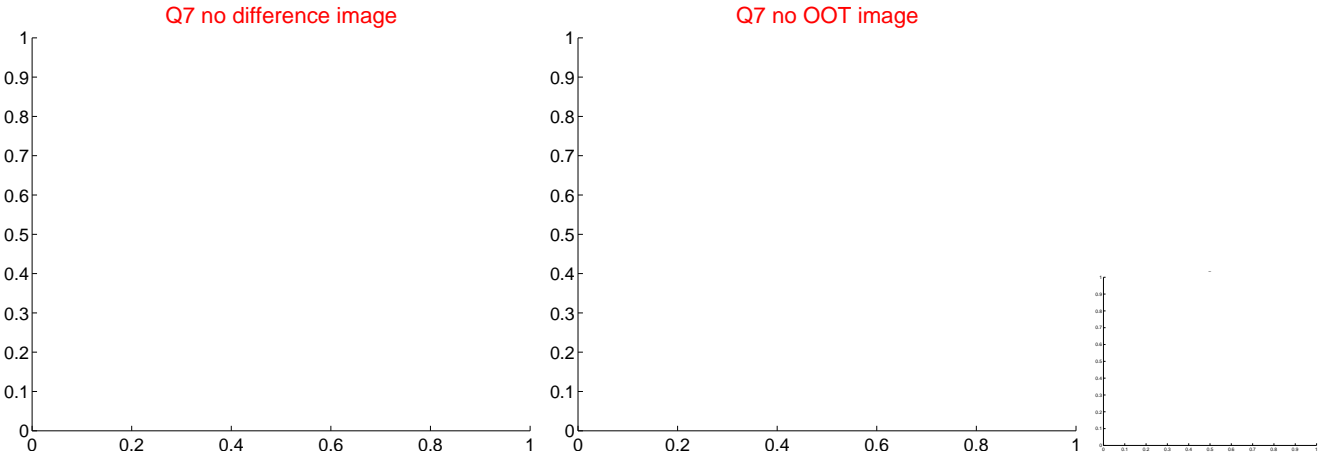
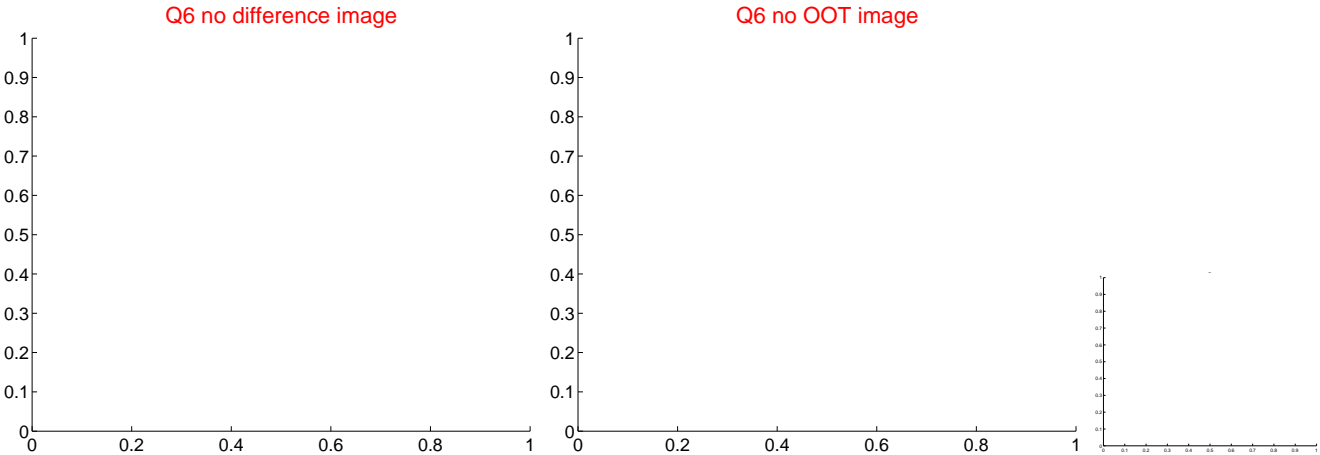
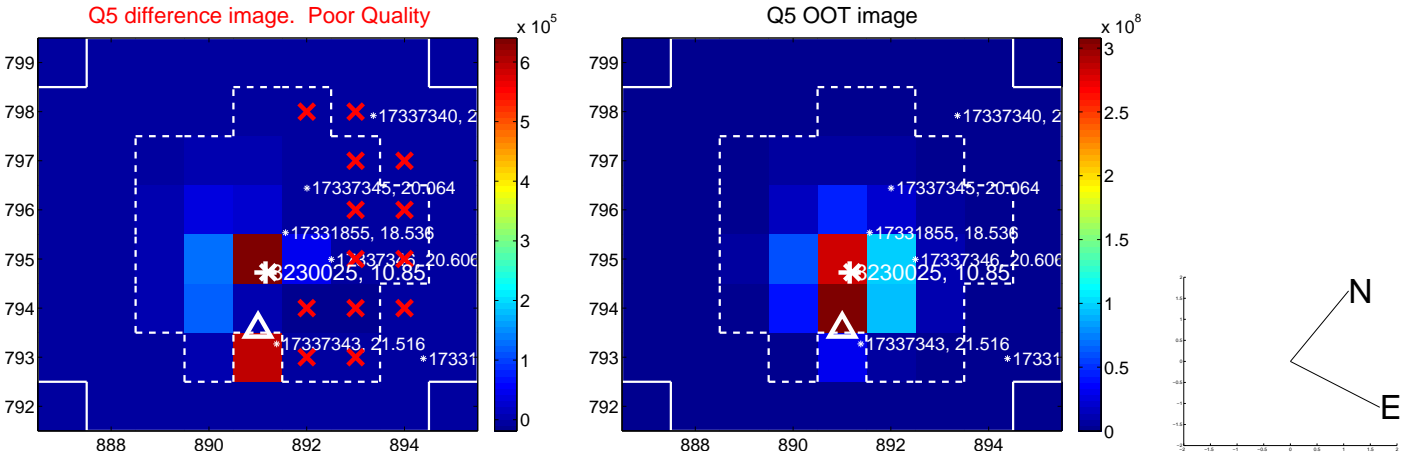


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

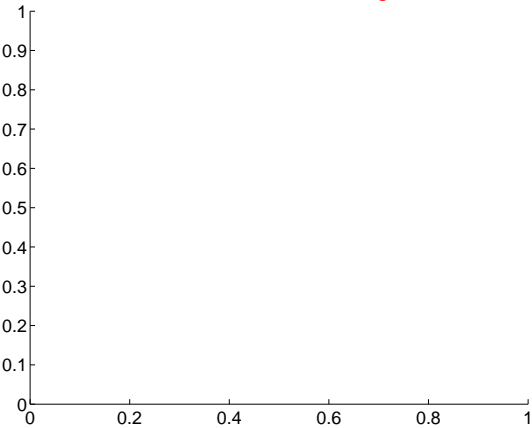
Q9 no difference image



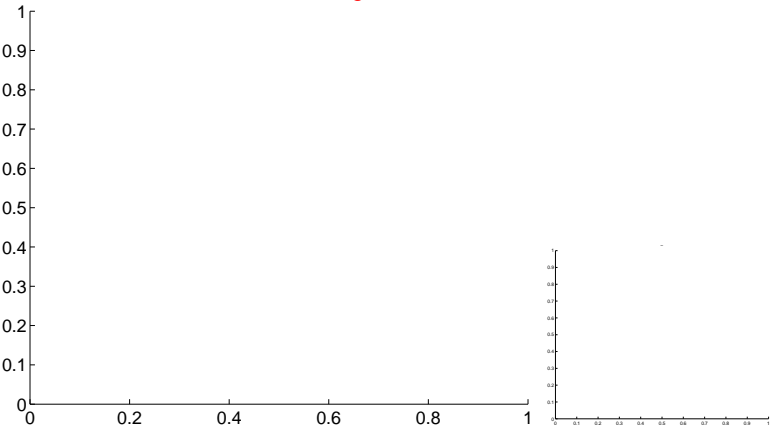
Q9 no OOT image



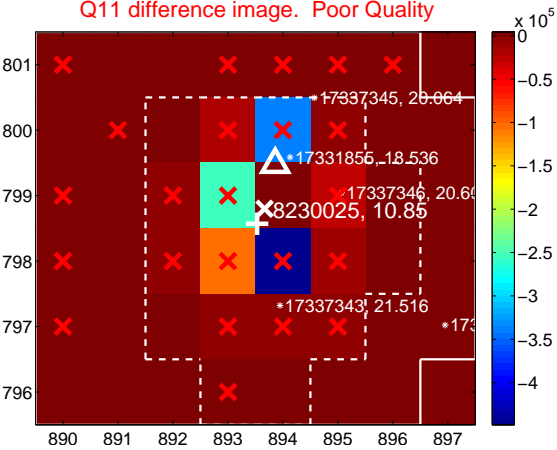
Q10 no difference image



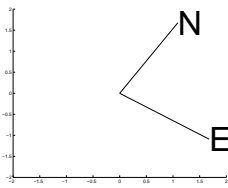
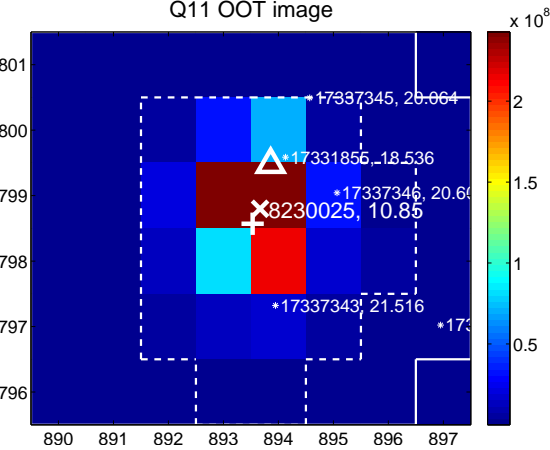
Q10 no OOT image



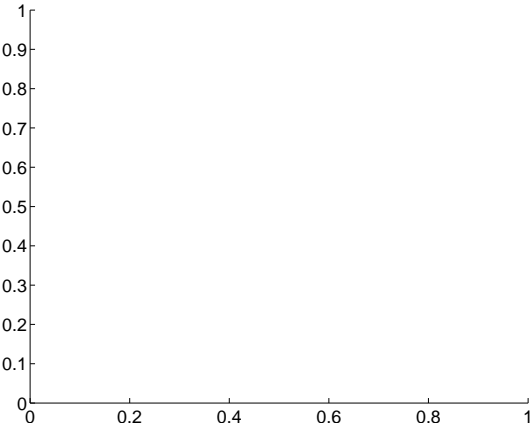
Q11 difference image. Poor Quality



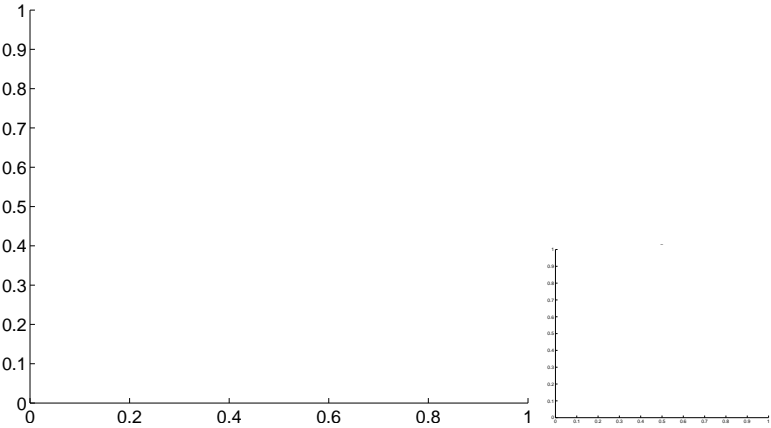
Q11 OOT image



Q12 no difference image



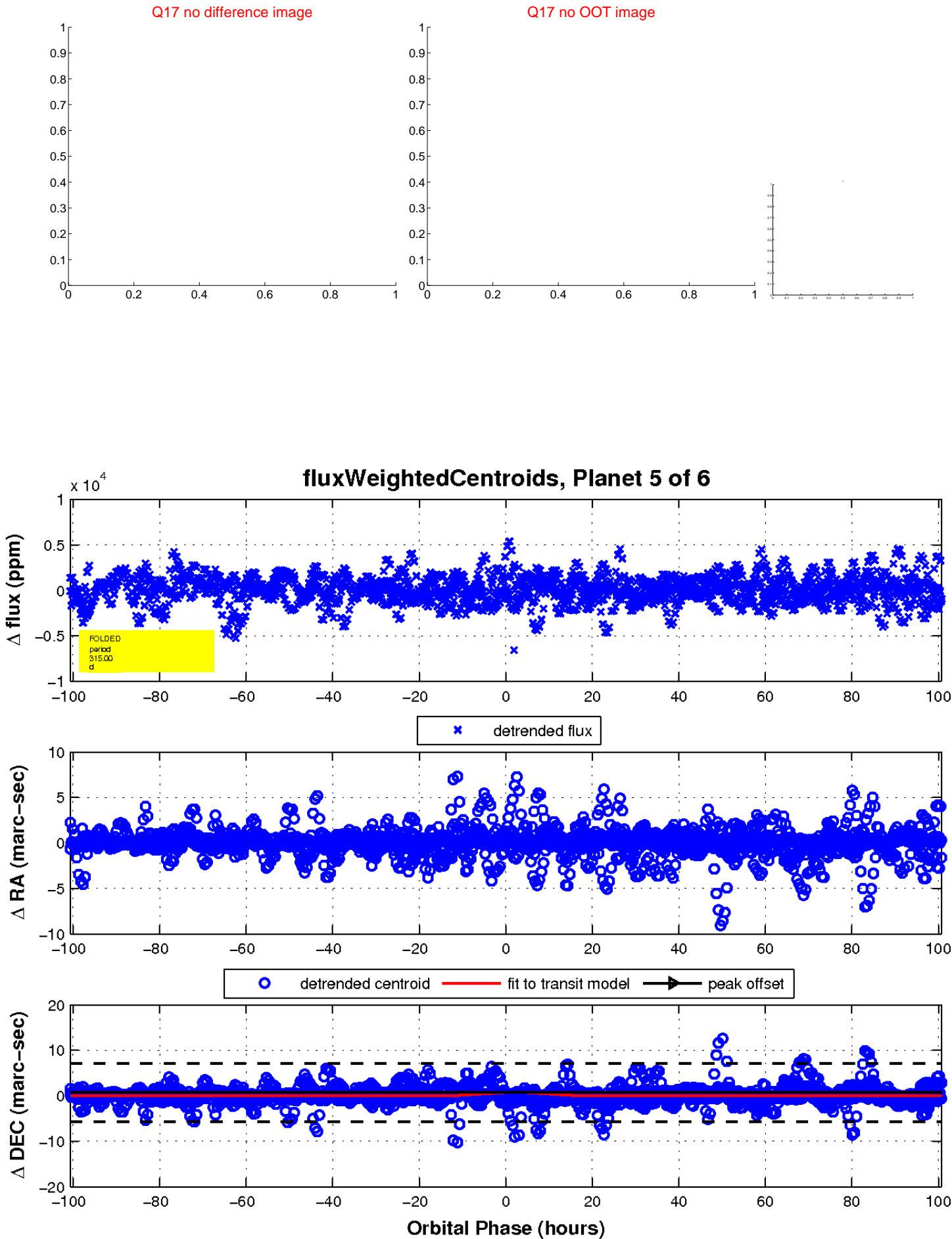
Q12 no OOT image



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

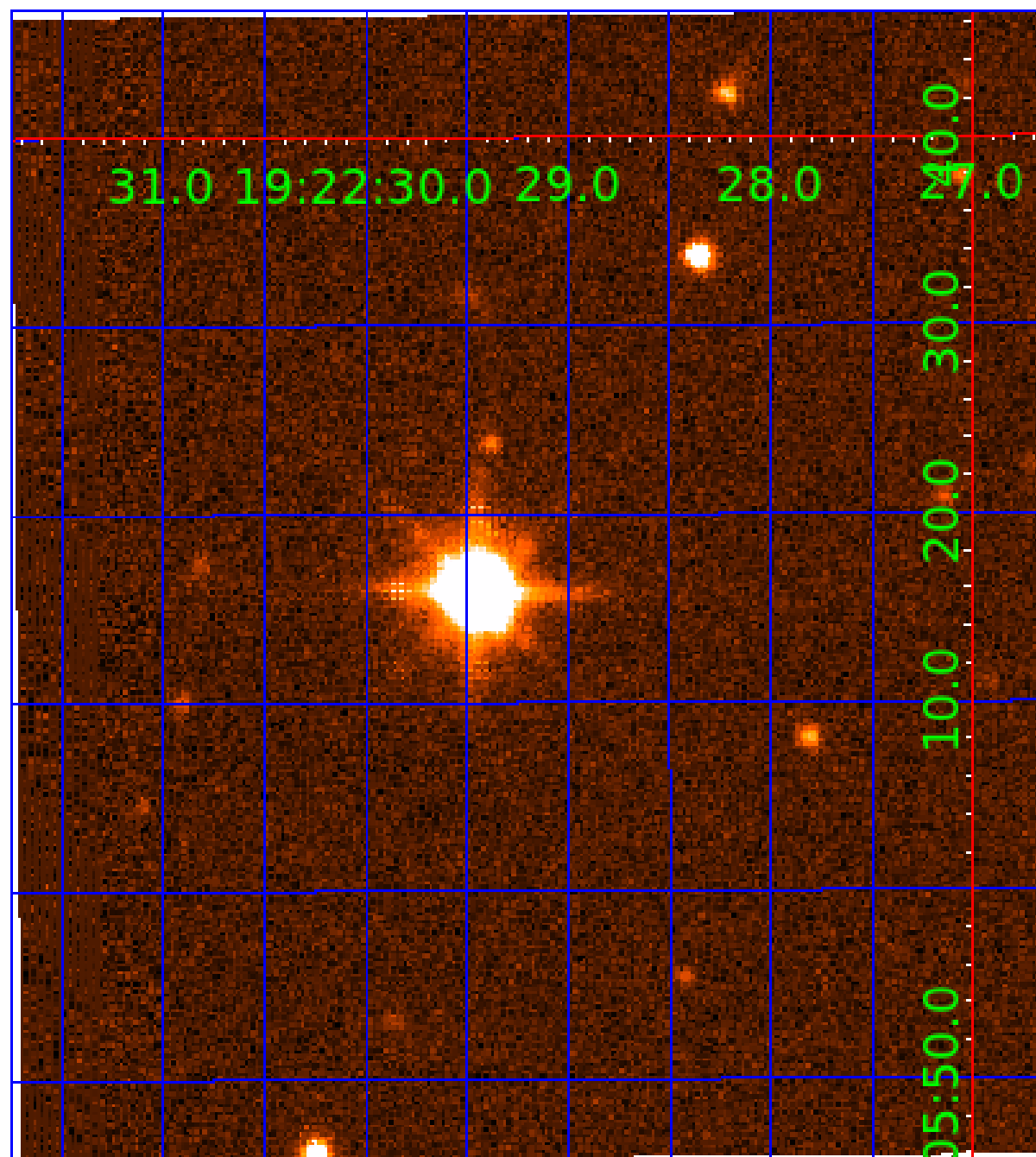


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008230025

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})
008230025-01	OBS	No	525.548671	137.942191	3425.5	8.341	38.3	28.1	2.19	7192	19.85	5.07
008230025-02	OBS	No	229.370227	135.638646	1666.2	8.204	21.8	18.0	2.19	7192	10.63	15.32
008230025-03	OBS	No	441.212689	138.557579	1975.0	11.148	21.9	18.9	2.19	7192	11.10	6.40
008230025-05	OBS	No	314.996950	136.353748	111.1	15.000	17.5	-1.0	2.19	7192	2.33	10.04
008230025-06	OBS	No	326.487900	133.403047	971.9	6.405	11.6	9.9	2.19	7192	8.39	9.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008230025-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008230025-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_SATURATED
008230025-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED
008230025-05	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED—HALO_GHOST
008230025-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

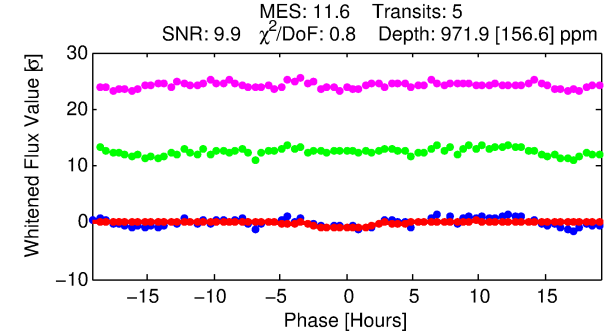
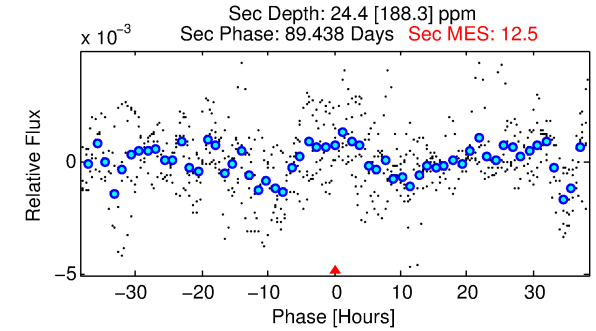
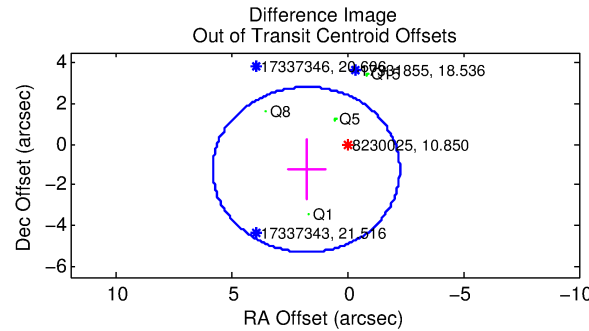
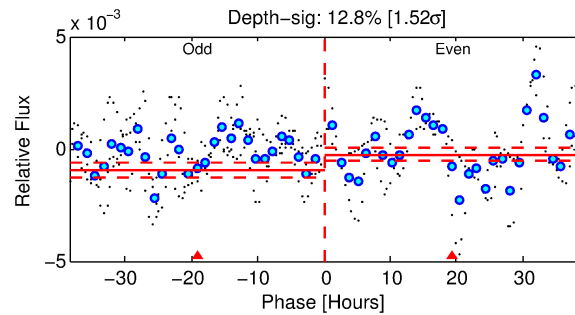
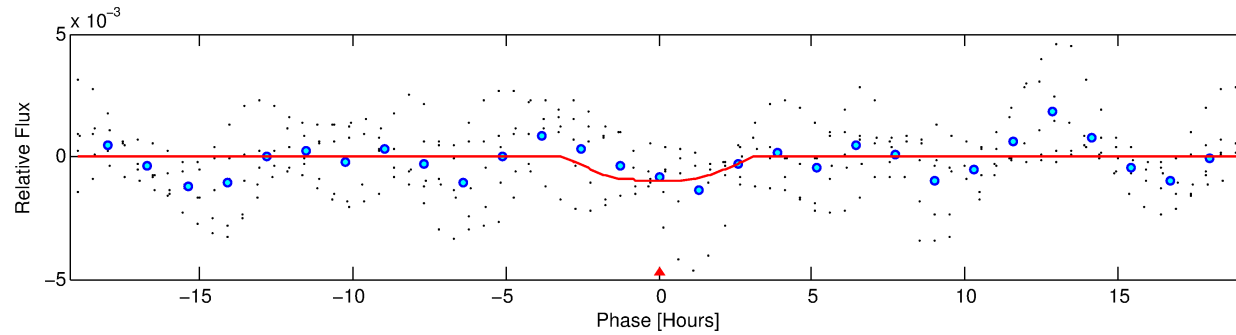
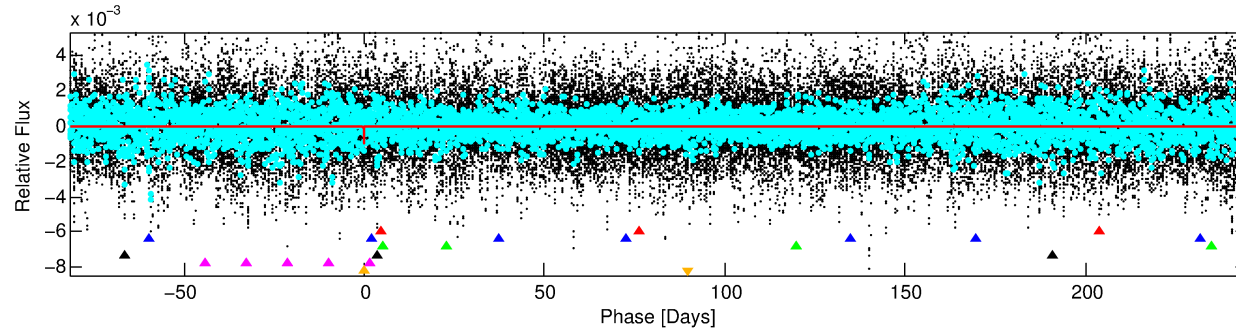
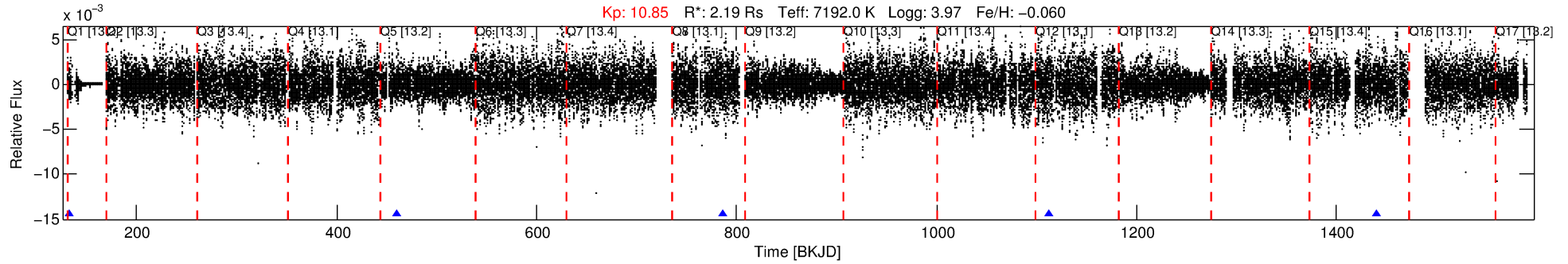
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008230025-06

No Significant Match Found

DV One-Page Summary

KIC: 8230025 Candidate: 6 of 6 Period: 326.488 d



DV Fit Results:

Period = 326.48790 [0.00574] d
Epoch = 133.4030 [0.0108] BKJD
 $R_p/R^* = 0.0352$ [0.0036]
 $a/R^* = 157.25$ [21.64]
 $b = 0.95$ [0.02]
 $S_{\text{eff}} = 9.57$ [2.74]
 $T_{\text{eq}} = 448$ [32] K
 $R_p = 8.39$ [1.89] R_e
 $a = 1.0937$ [0.1994] AU
 $A_g = 227.88$ [1761.71] [0.13 σ]
 $T_{\text{eff}} = 2694$ [5203] K [0.43 σ]

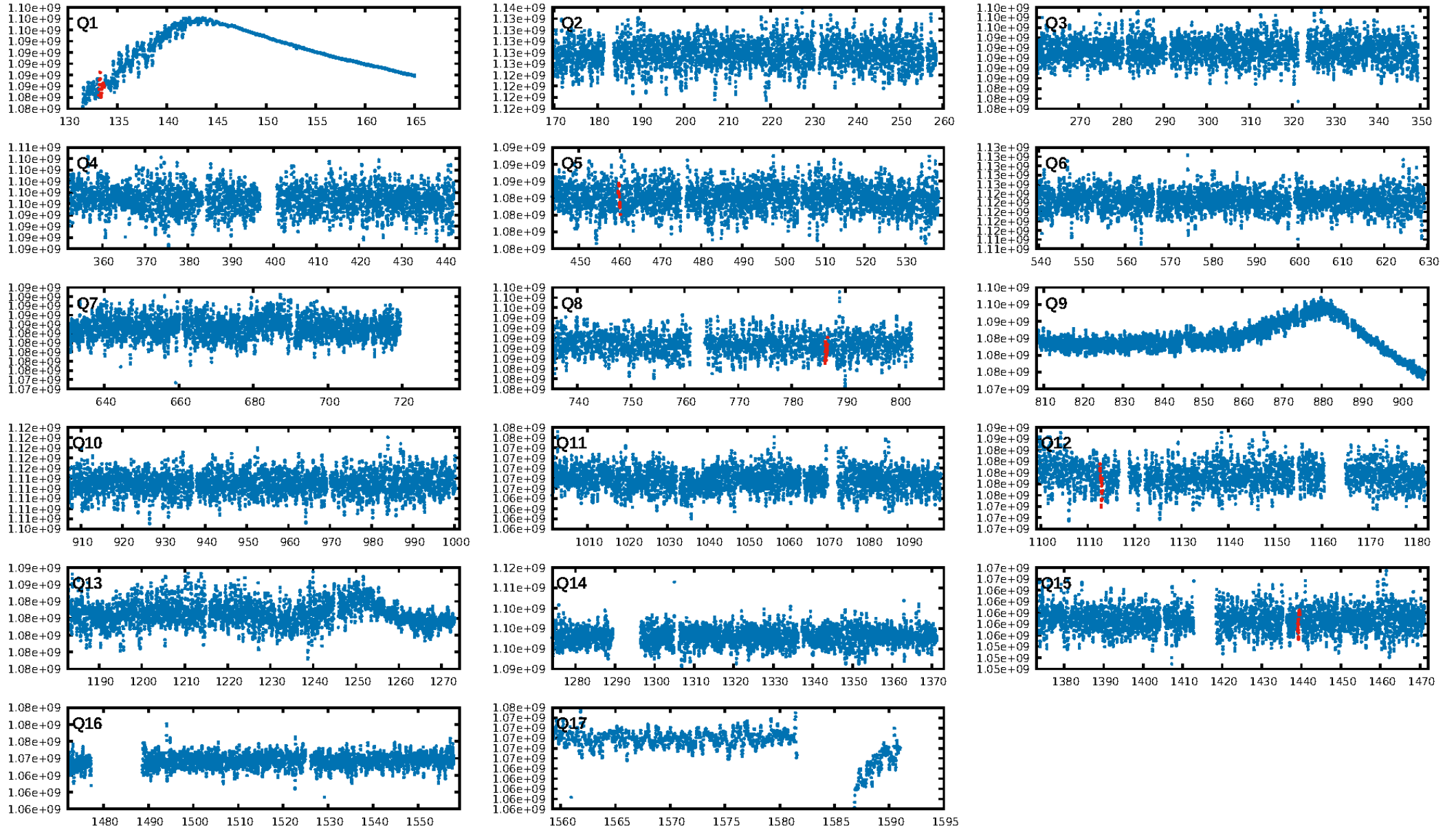
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [16.91 σ]
LongPeriod-sig: 100.0% [214.15 σ]
ModelChiSquare2-sig: 45.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.10e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 6.949
Centroid-sig: N/A
Centroid-so: 0.382 arcsec [0.67 σ]
OotOffset-rm: 2.181 arcsec [1.62 σ]
KicOffset-rm: 2.139 arcsec [1.74 σ]
OotOffset-st: 0/1/1/2 [4]
KicOffset-st: 0/1/1/2 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 1.00 [4/4]

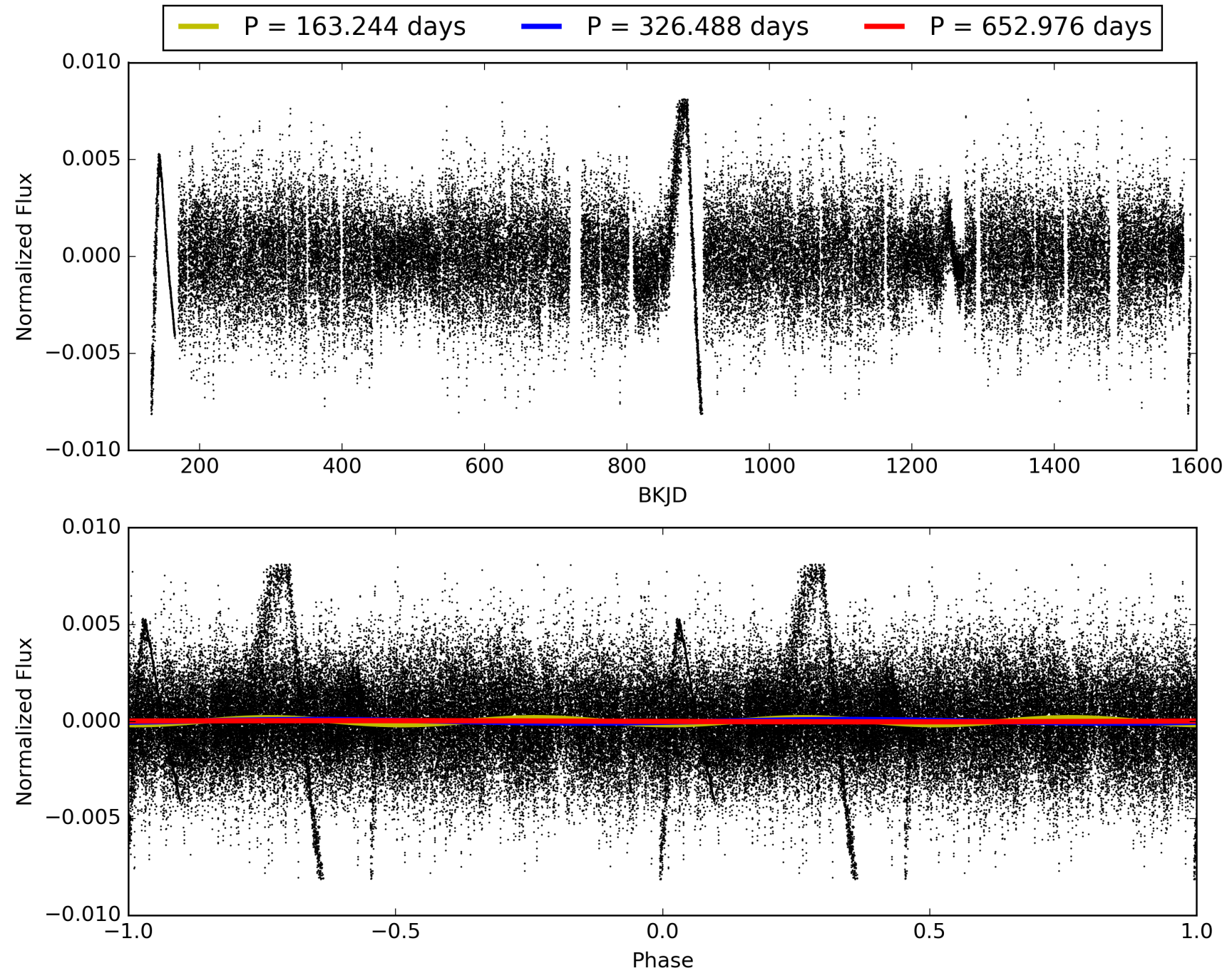
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:54:13 Z

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

TCE 008230025-06, PDC Light Curves

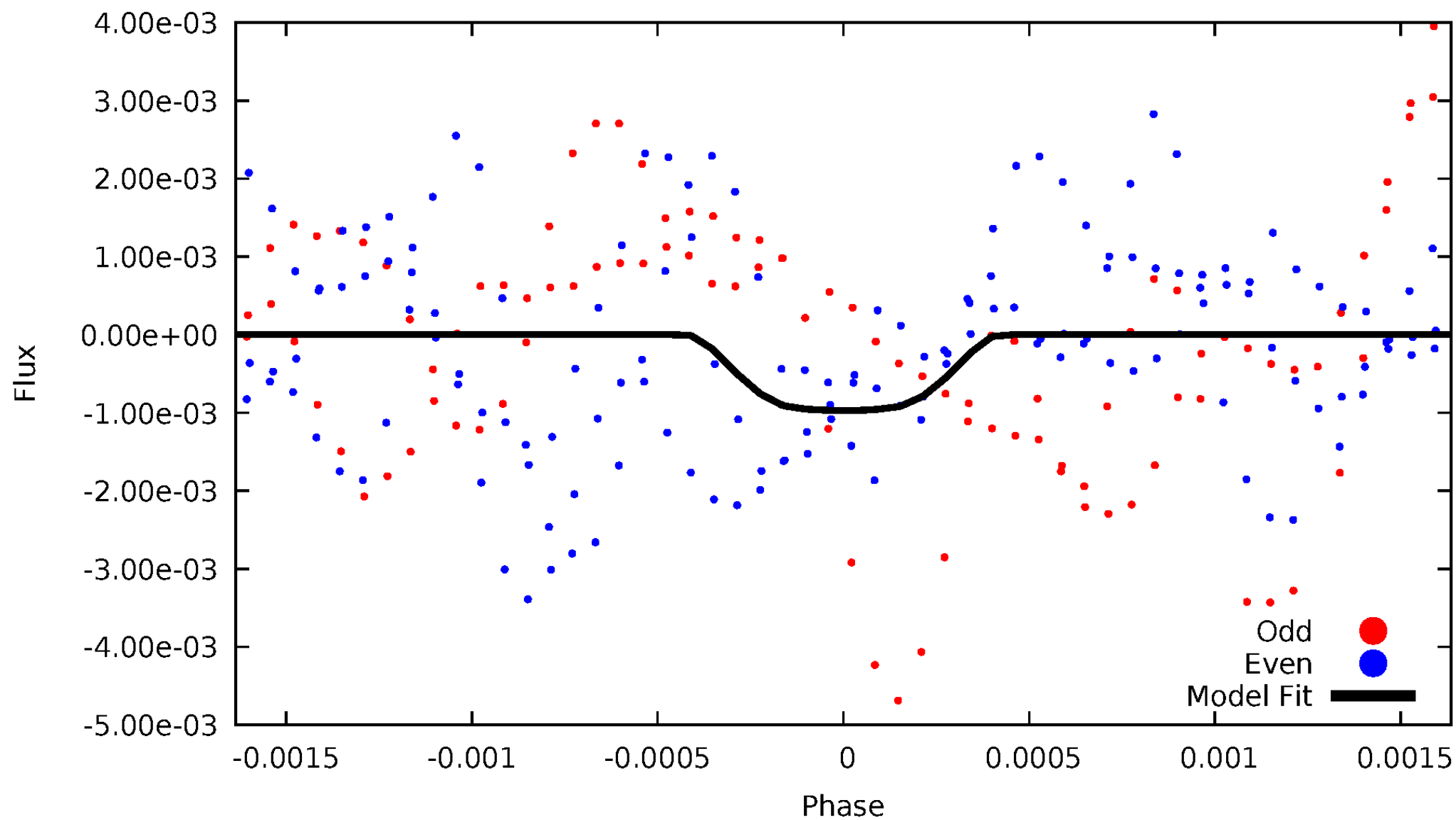


TCE 008230025-06



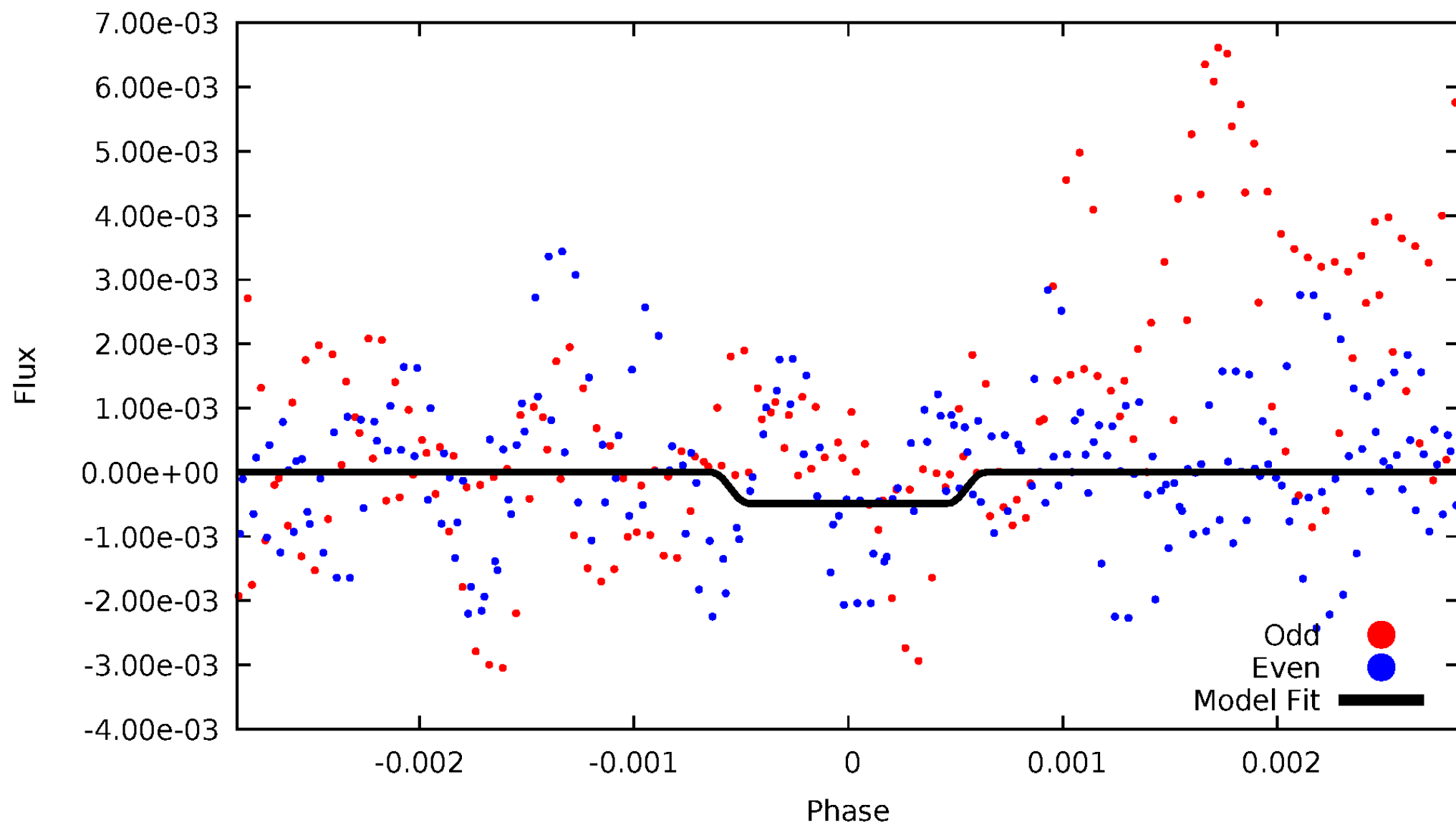
DV Odd/Even

TCE 008230025-06



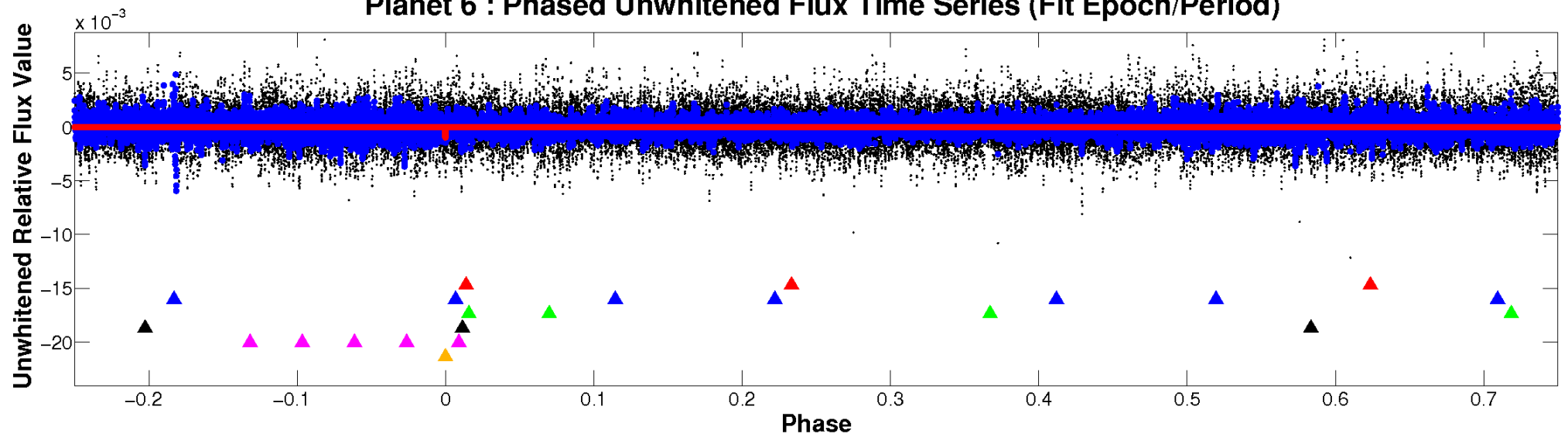
ALT Odd/Even

TCE 008230025-06

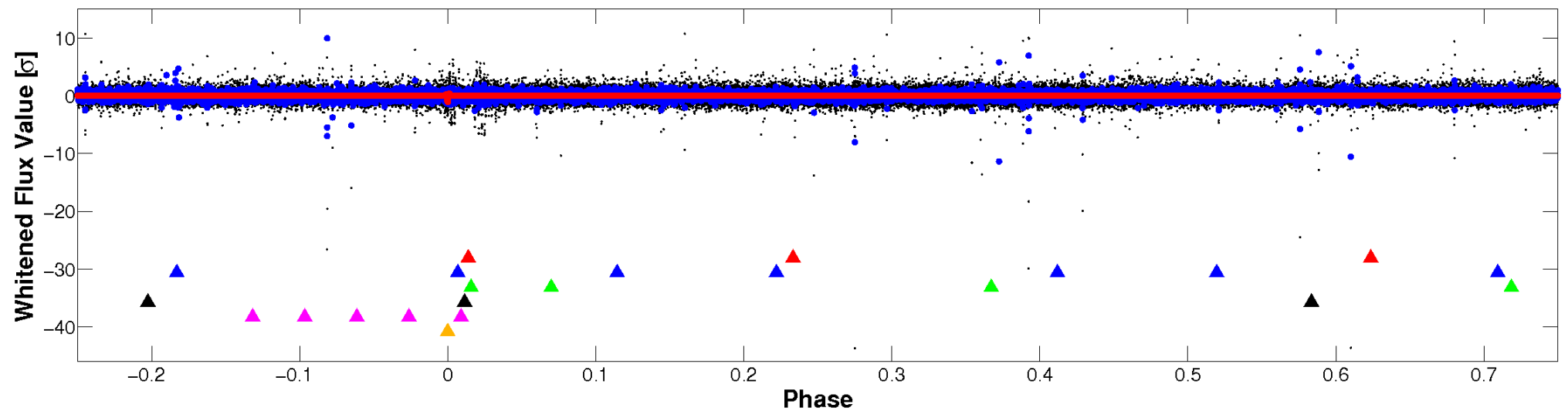


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)



Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



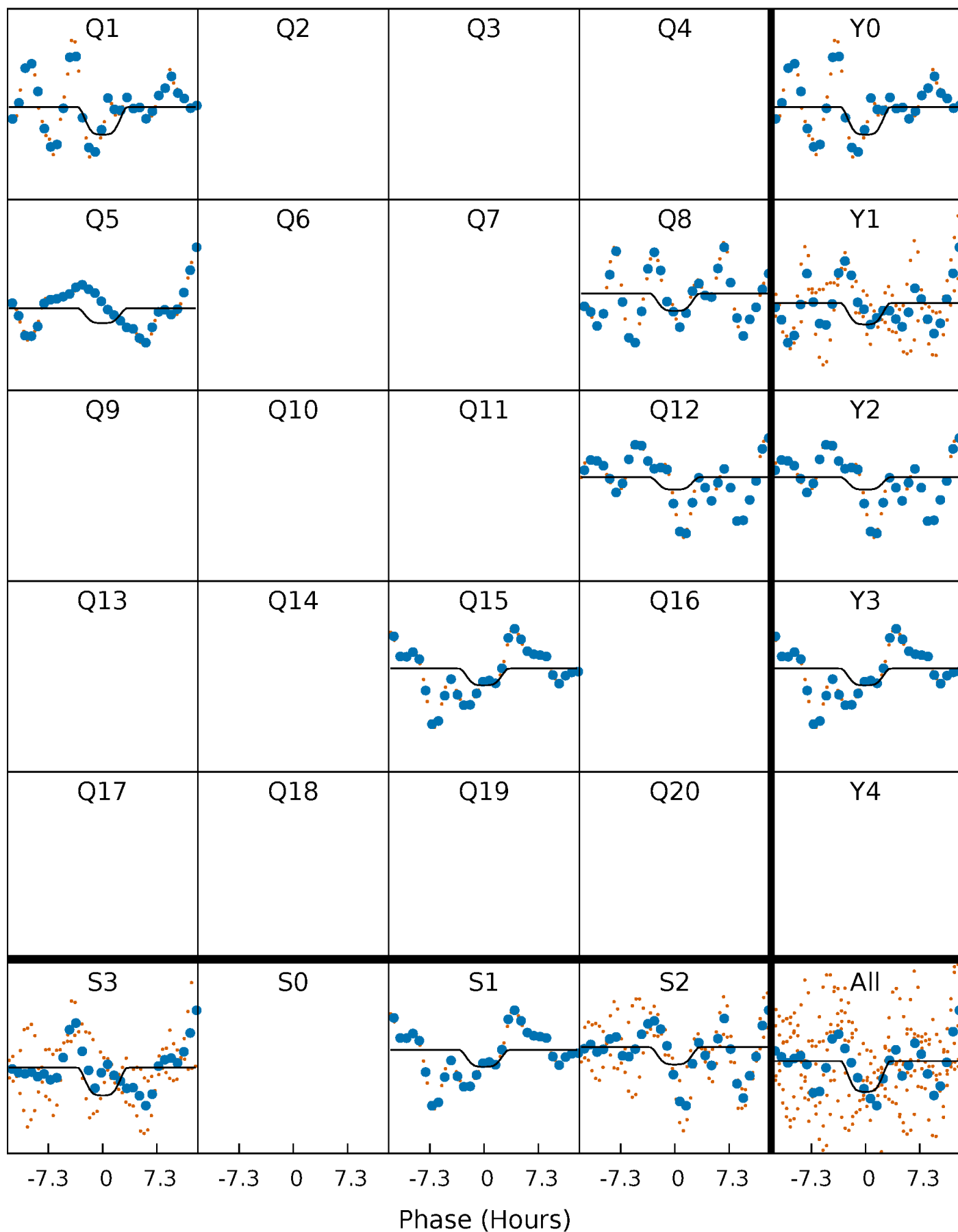
PDC Quarter-Phased Transit Curves

TCE 008230025-06 $P=326.487900$ Days $T_0=133.403047$ (BKJD)



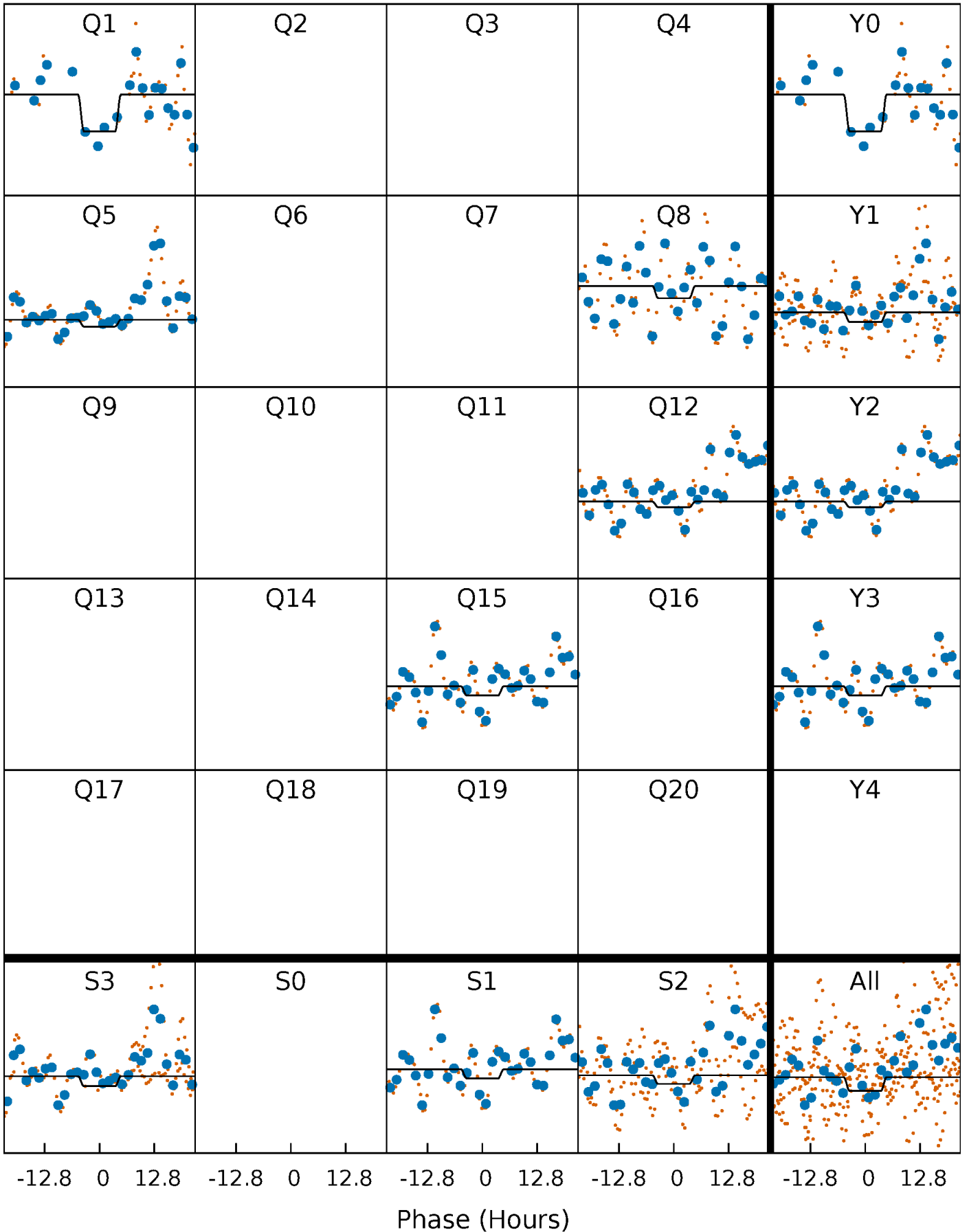
DV Quarter-Phased Transit Curves

TCE 008230025-06 $P=326.487900$ Days $T_0=133.403047$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

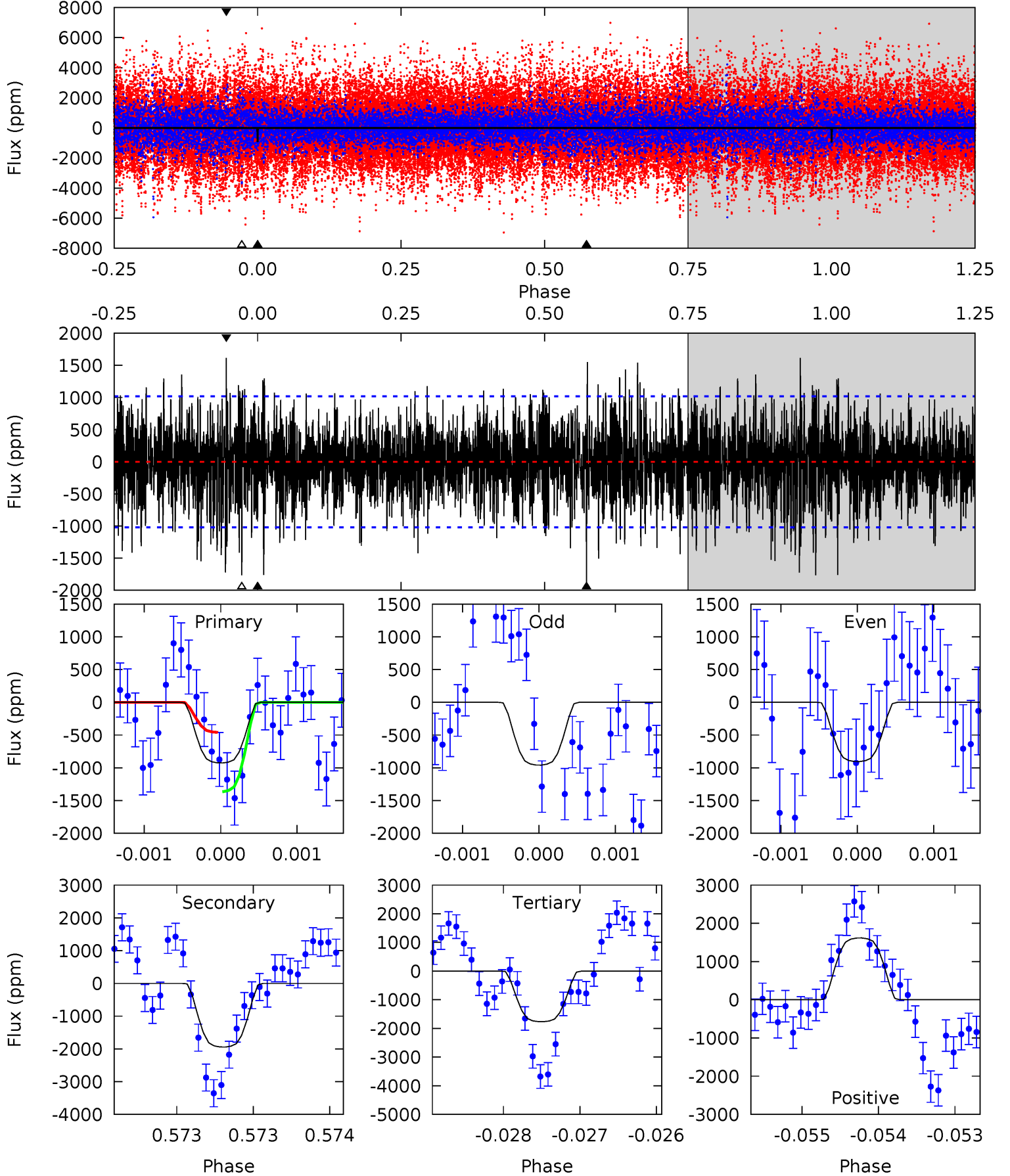
TCE 008230025-06 $P=326.460177$ Days $T_0=133.427251$ (BKJD)



DV Model-Shift Uniqueness Test

008230025-06, P = 326.487900 Days, E = 133.403047 Days

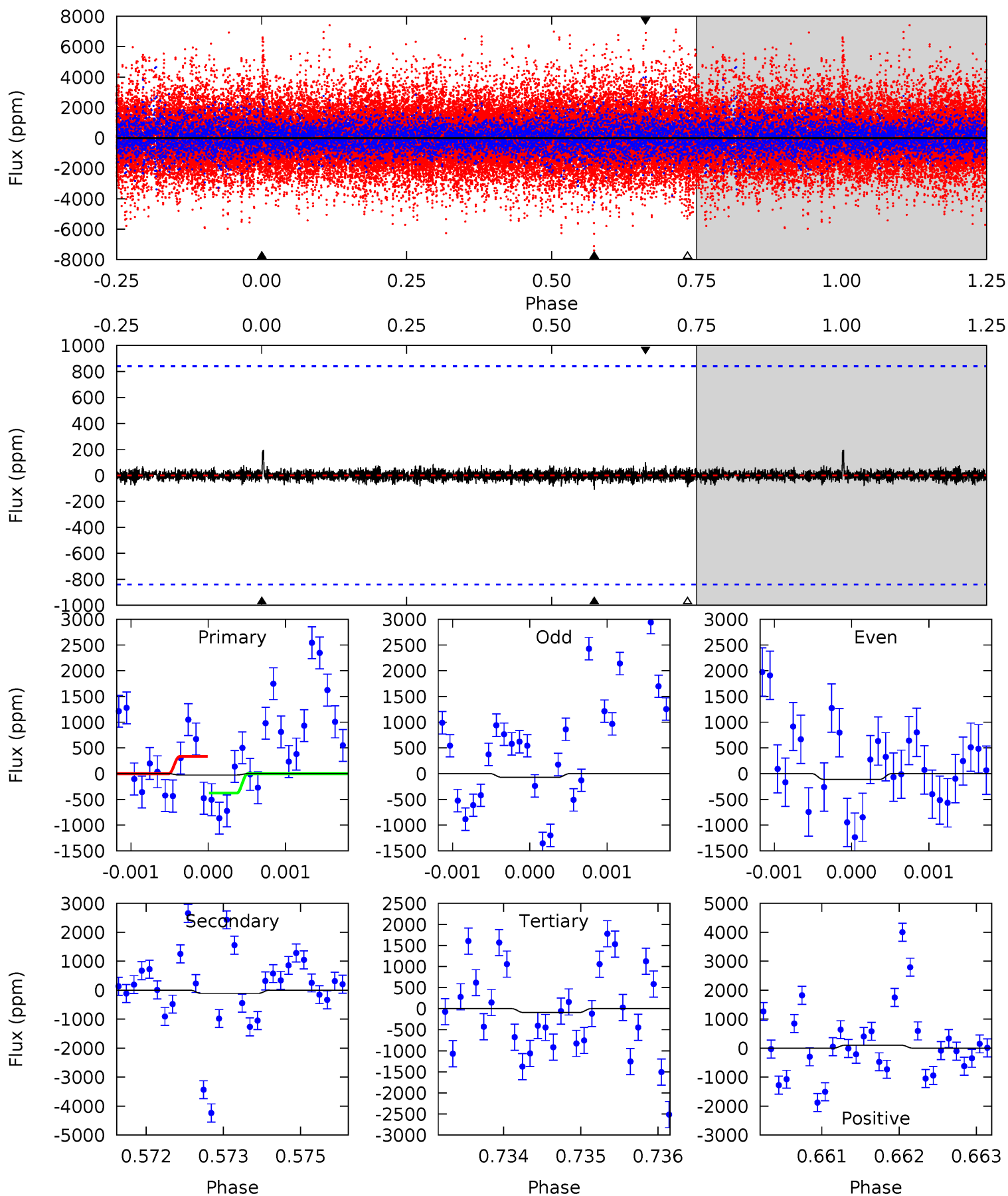
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.97	10.4	9.48	8.68	5.47	3.33	2.43	-4.51	-3.71	0.96	1.76	0.14	1.03	0.45	2.41



Alt Model-Shift Uniqueness Test

008230025-06, P = 326.460177 Days, E = 133.427251 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.17	0.71	0.57	0.65	5.41	3.23	0.17	-0.40	-0.48	0.14	0.06	0.12	0.85	0.64	0.14



Stellar Parameters For KIC 008230025

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7192^{+71}_{-86}	$3.973^{+0.162}_{-0.108}$	$-0.060^{+0.150}_{-0.150}$	$2.185^{+0.397}_{-0.437}$	$1.633^{+0.147}_{-0.147}$	$0.220^{+0.175}_{-0.071}$
	+1%/-1%	+4%/-3%	+250%/-250%	+18%/-20%	+9%/-9%	+79%/-32%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 008230025-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1944 ± 186	$8.27^{+1.22}_{-1.18}$	622^{+30}_{-32}	8224^{+703}_{-548}	18751^{+7200}_{-4613}
Alt.	-110 ± 155	$5.22^{+1.03}_{-0.97}$	624^{+29}_{-33}	4798^{+1350}_{-9238}	2214^{+4405}_{-3670}

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

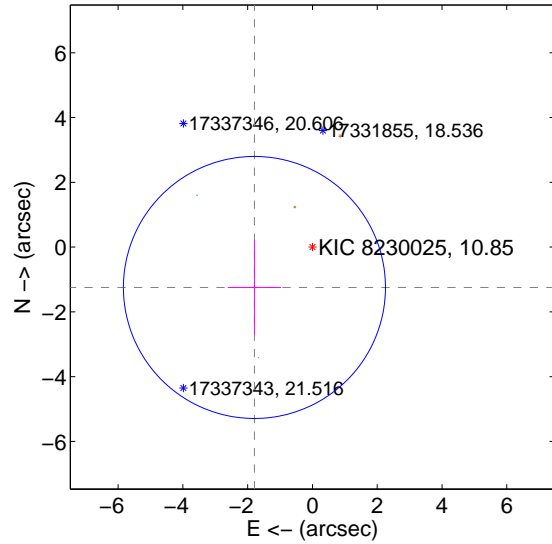
Supplemental centroid analysis for 008230025-06. **Kepler magnitude: 10.85.** Transit SNR 9.94

There are 2 quarters with good PRF difference image offsets

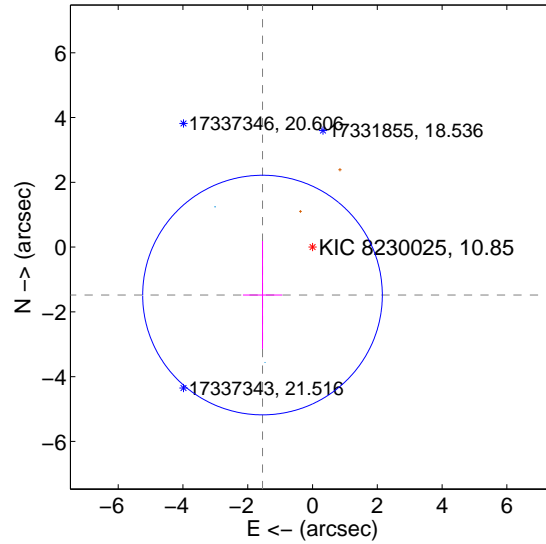
The direct PRF centroid is offset from the target star catalog position by about 1.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.181 ± 1.348	1.62	1.791 ± 0.824	-1.246 ± 1.445
PRF-fit source offset from KIC position	2.139 ± 1.233	1.74	1.544 ± 0.604	-1.480 ± 1.666
photometric centroid source offset	0.38 ± 0.57	0.67	0.37 ± 0.56	-0.09 ± 0.74

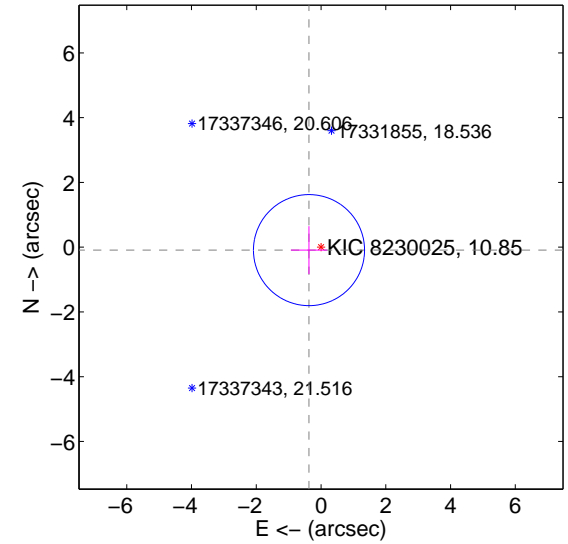
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

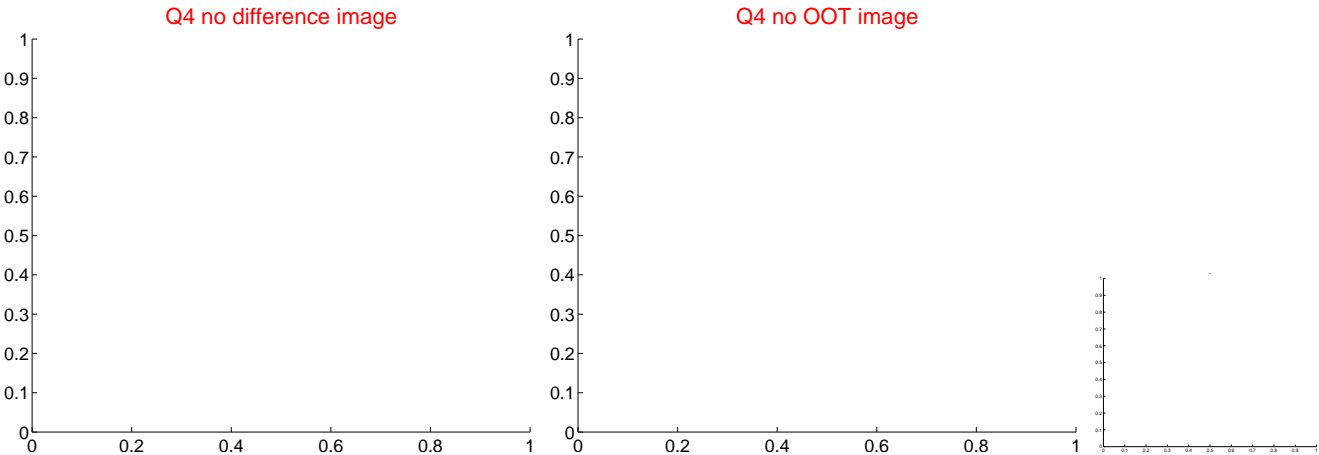
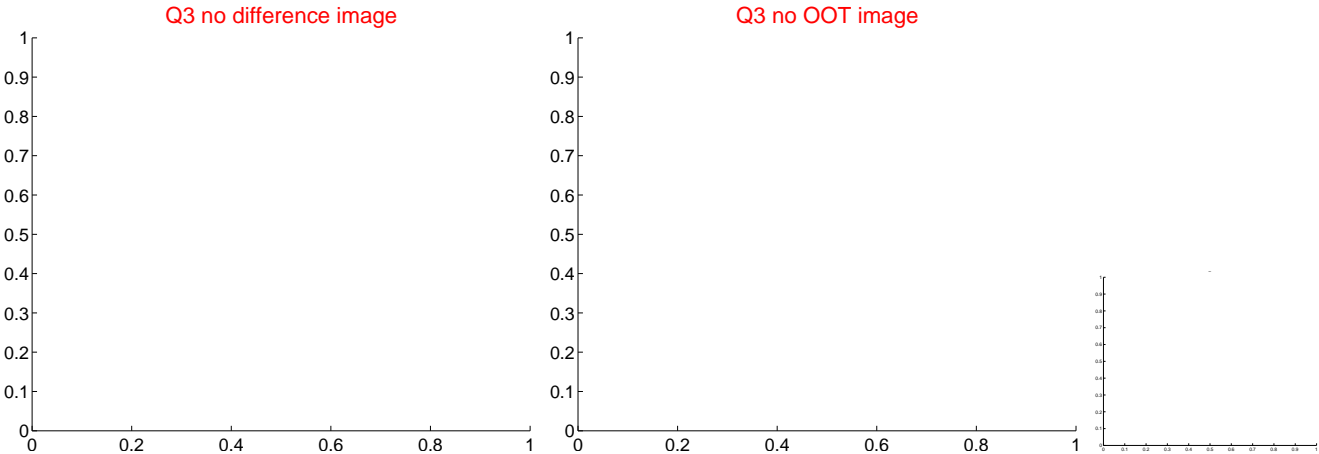
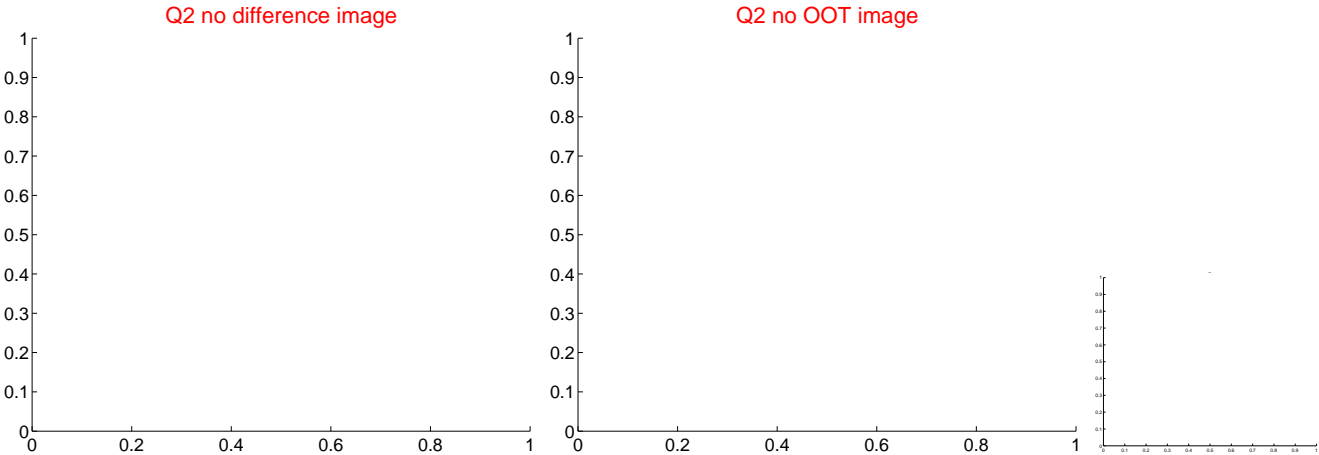
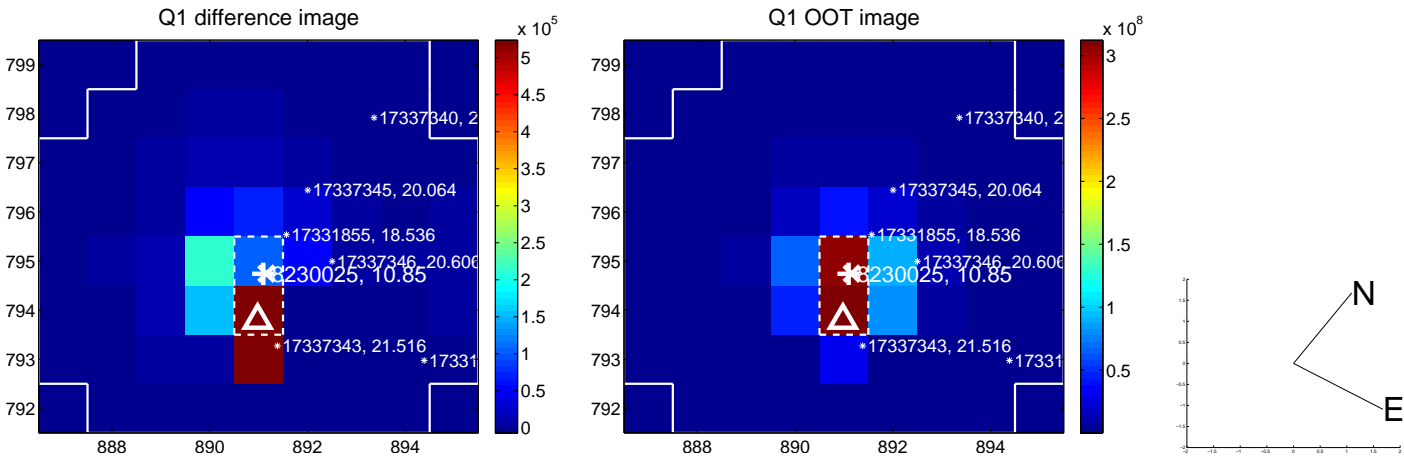


offset from photometric centroids

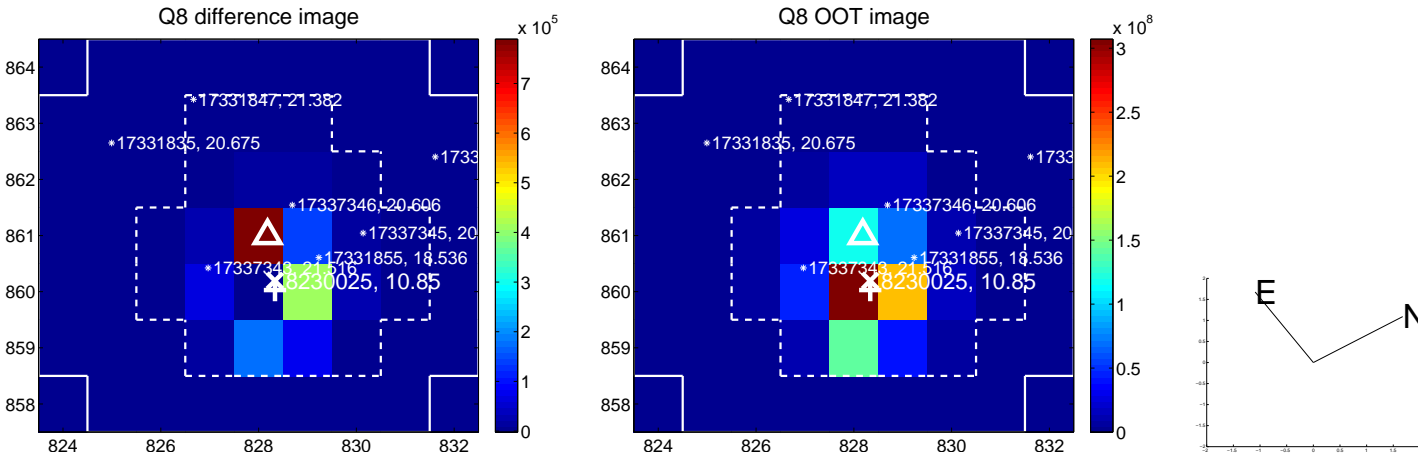
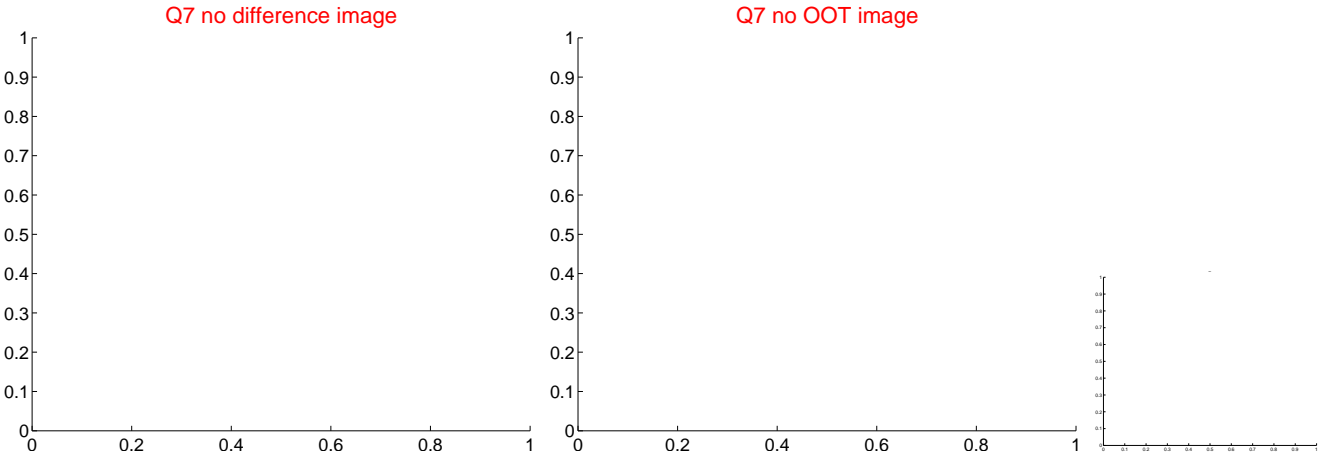
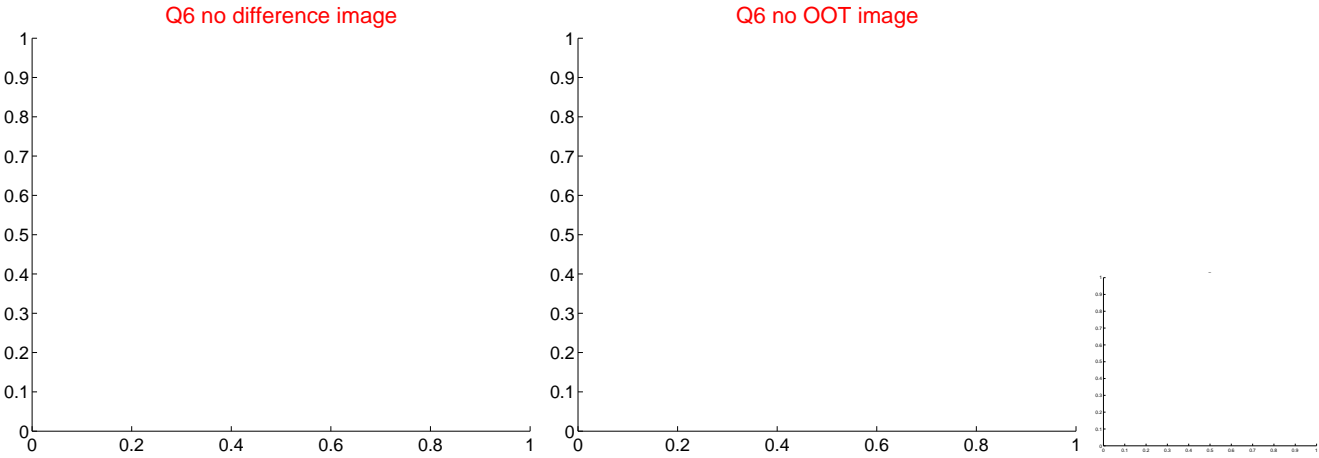
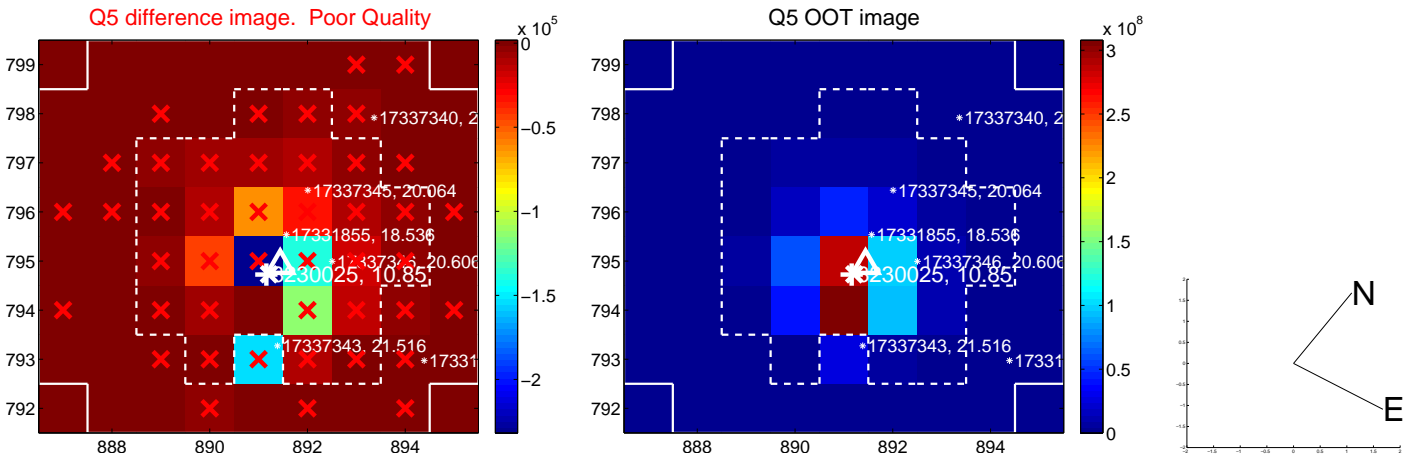


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

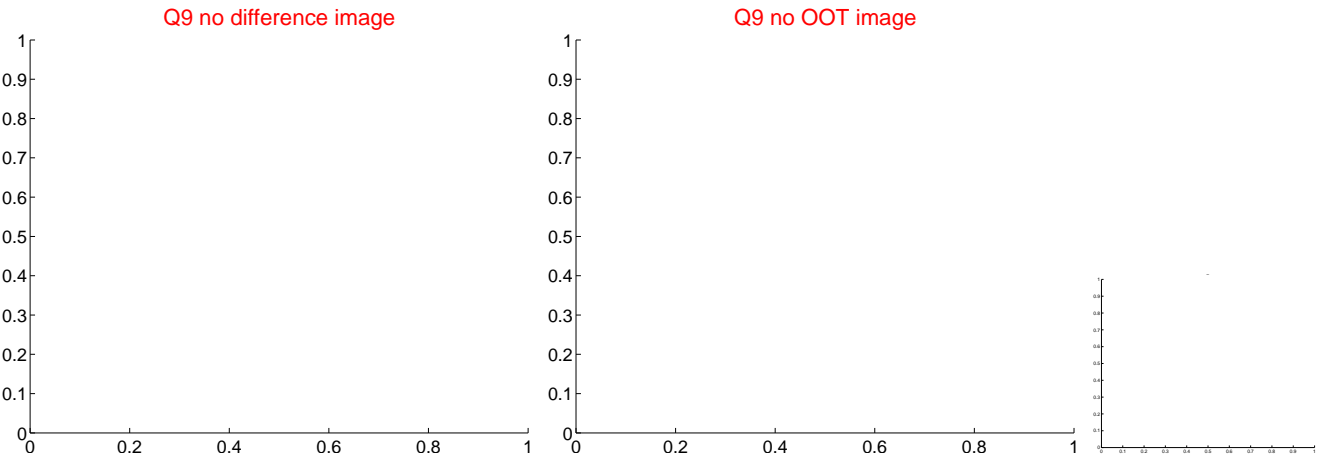
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

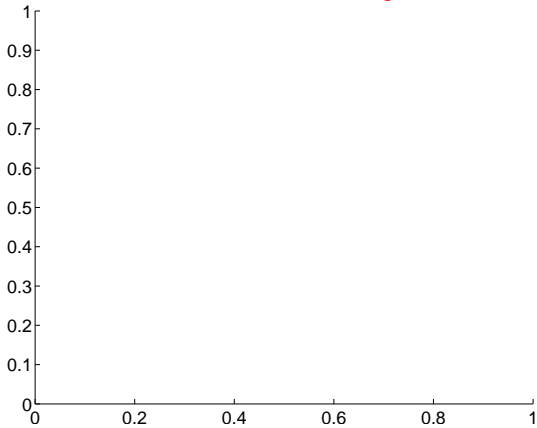


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

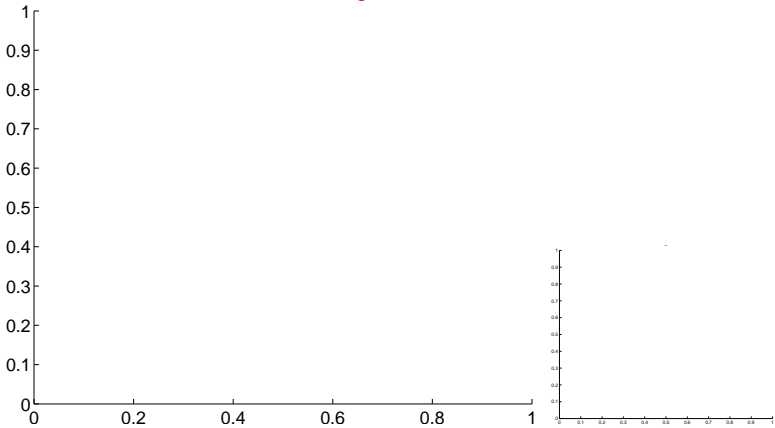


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

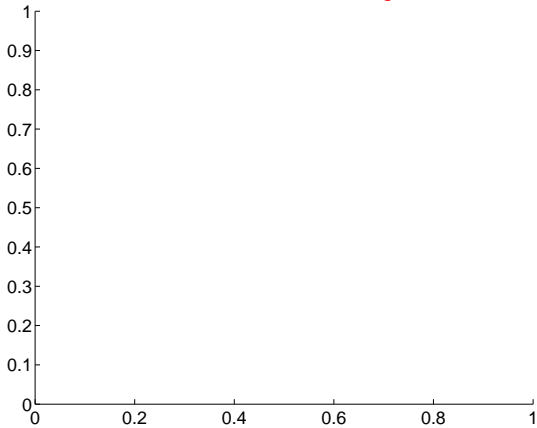
Q13 no difference image



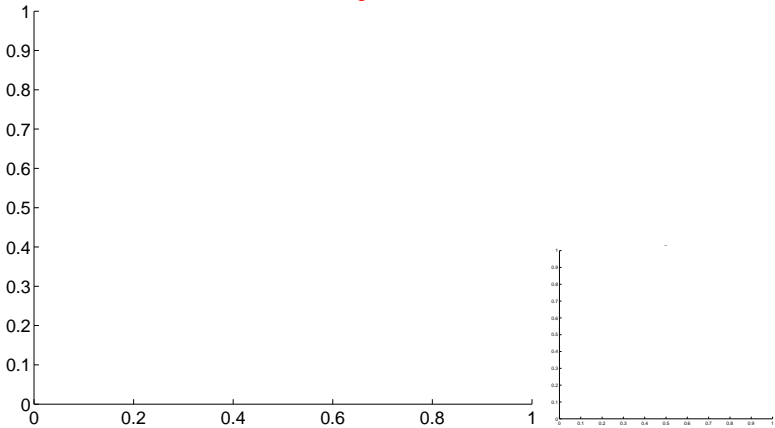
Q13 no OOT image



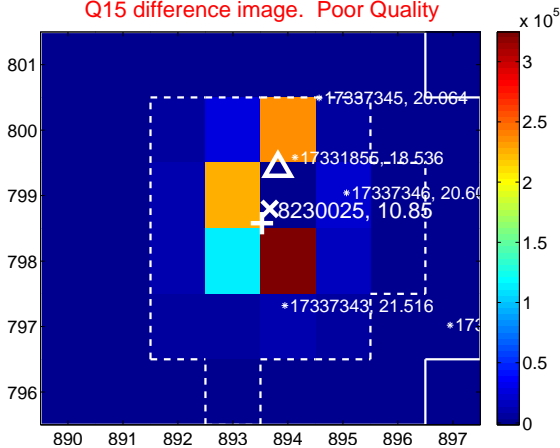
Q14 no difference image



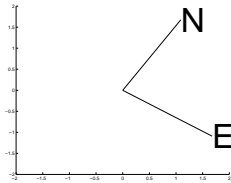
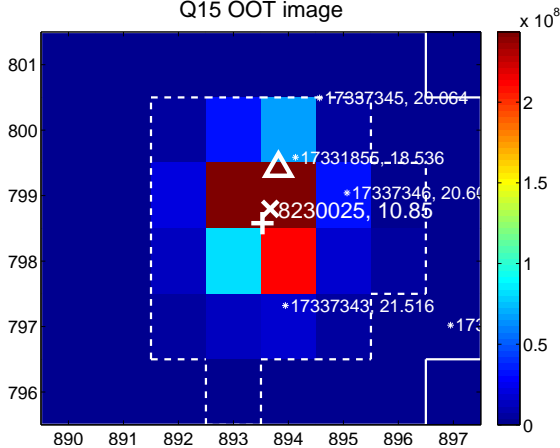
Q14 no OOT image



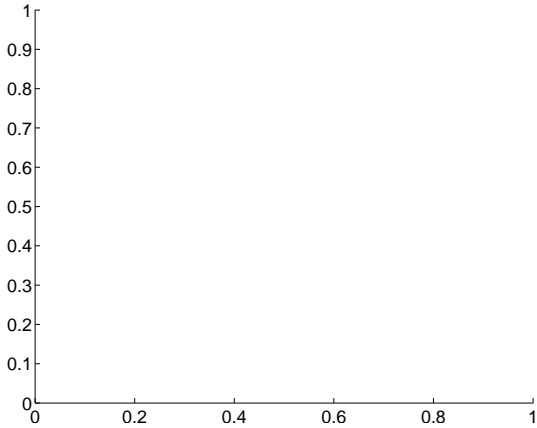
Q15 difference image. Poor Quality



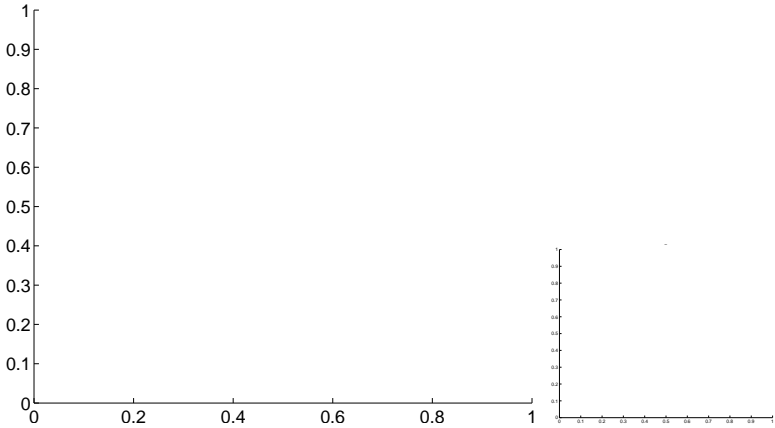
Q15 OOT image



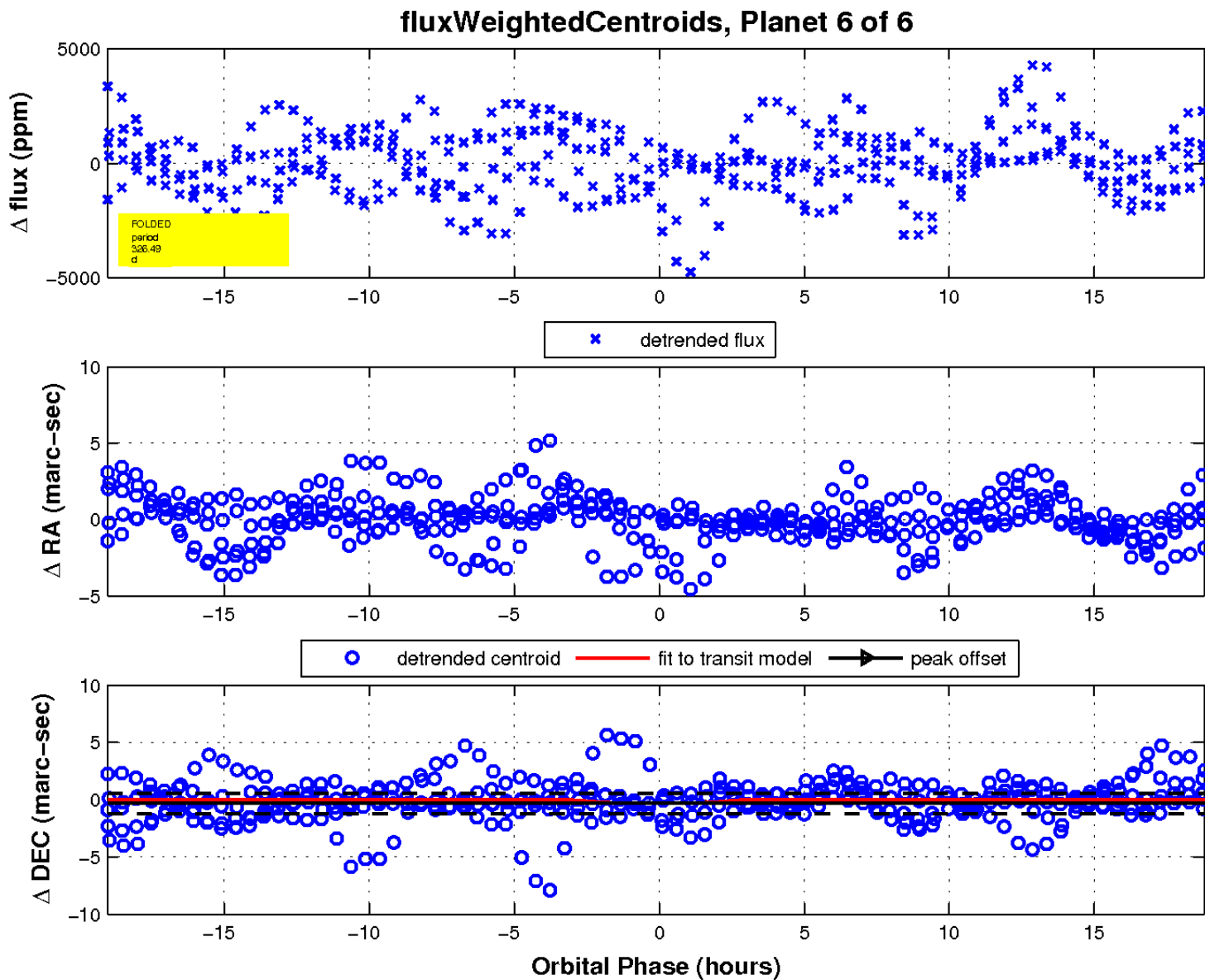
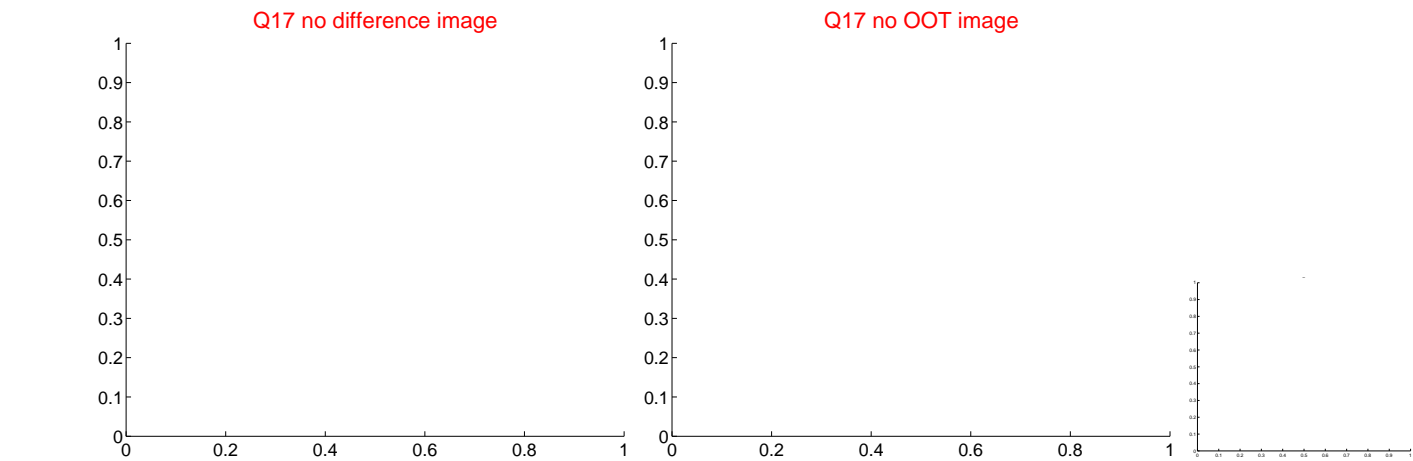
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

