

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})
008553907-01	OBS	7056.01	42.031158	133.595217	399533.3	7.500	40551.4	-1.0	1.12	6618	60.09	35.41
008553907-02	OBS	No	42.031672	166.918948	419889.0	5.000	40386.0	-1.0	1.12	6618	60.95	35.41
008553907-03	OBS	No	247.811404	132.529266	10565.8	12.000	559.2	-1.0	1.12	6618	11.57	3.32
008553907-04	OBS	No	714.554782	134.633923	8364.8	12.000	573.5	-1.0	1.12	6618	10.30	0.81
008553907-05	OBS	No	343.598598	320.835899	2815.8	1.408	334.0	26.4	1.12	6618	11.09	2.15
008553907-06	OBS	No	292.179474	392.975422	6658.7	12.000	339.7	-1.0	1.12	6618	9.19	2.67
008553907-07	OBS	No	171.705196	149.545205	118.0	4.450	317.5	5.8	1.12	6618	1.33	5.42
008553907-08	OBS	No	465.742133	422.069406	5702.9	15.000	316.5	-1.0	1.12	6618	8.50	1.43
008553907-09	OBS	No	419.378385	472.724201	7183.3	10.500	333.6	-1.0	1.12	6618	9.54	1.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008553907-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
008553907-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
008553907-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008553907-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS
008553907-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_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_FEW_DIFFS
008553907-06	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008553907-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—HALO_GHOST
008553907-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008553907-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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.

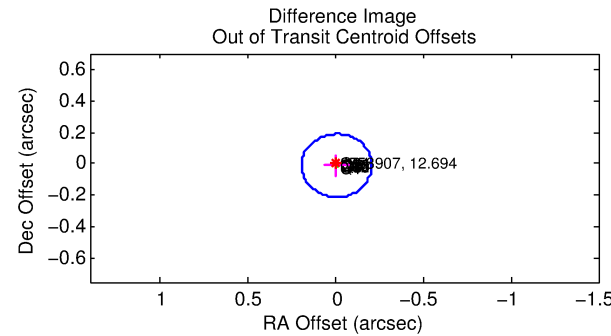
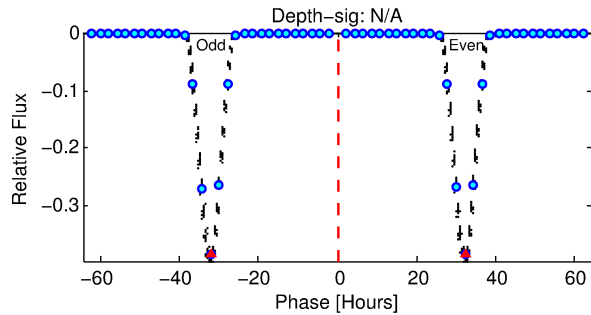
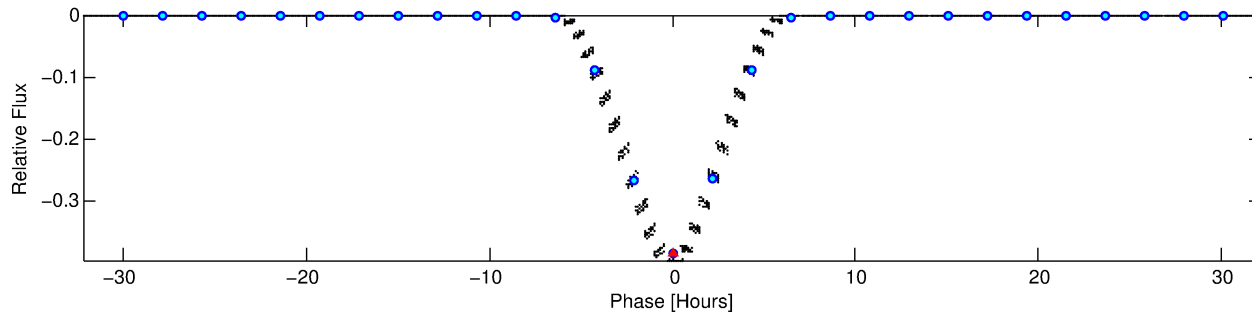
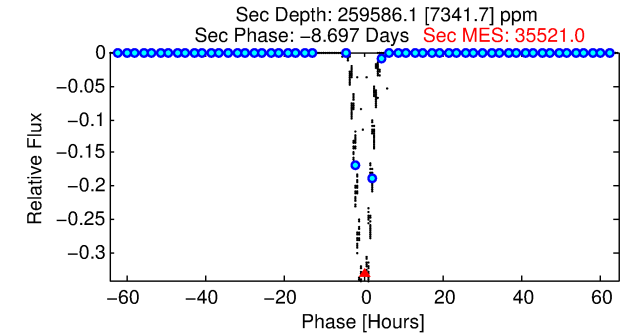
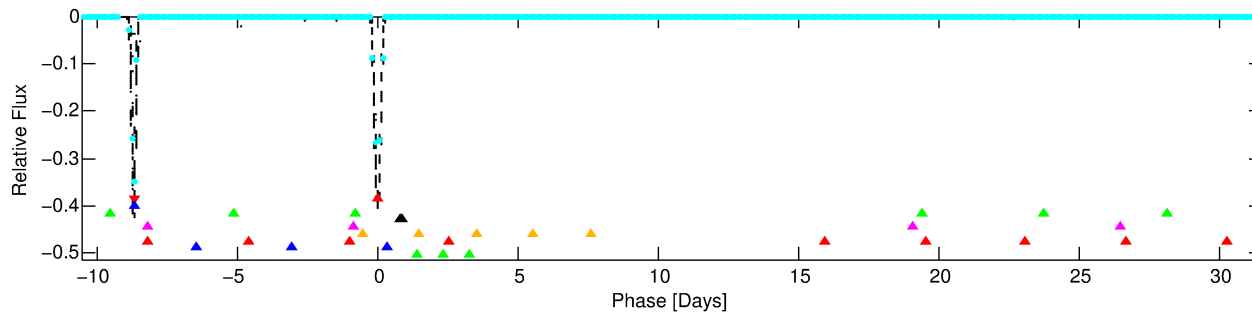
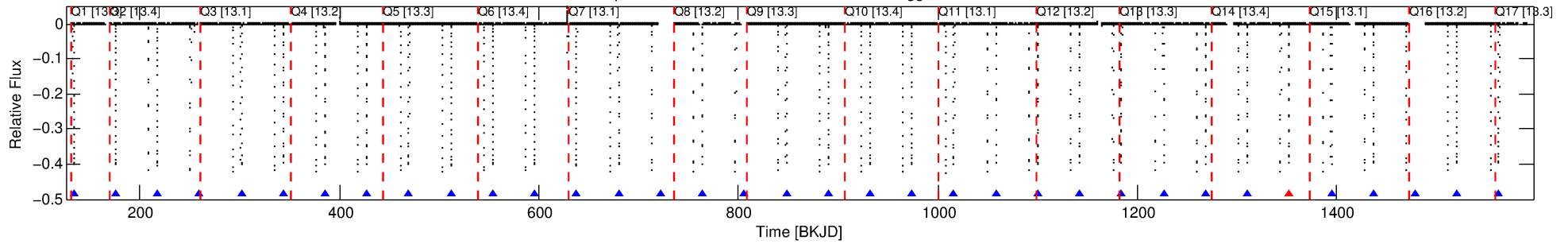
Ephemeris Match Information For 008553907-01

No Significant Match Found

DV One-Page Summary

KIC: 8553907 Candidate: 1 of 9 Period: 42.031 d
KOI: K07056.01 Corr: 0.803

Kp: 12.69 R*: 1.12 Rs Teff: 6618.0 K Logg: 4.39 Fe/H: -0.360



TPS TCE Results:

Period = 42.03116 d
Epoch = 133.5952 BKJD

DV fit results are unavailable

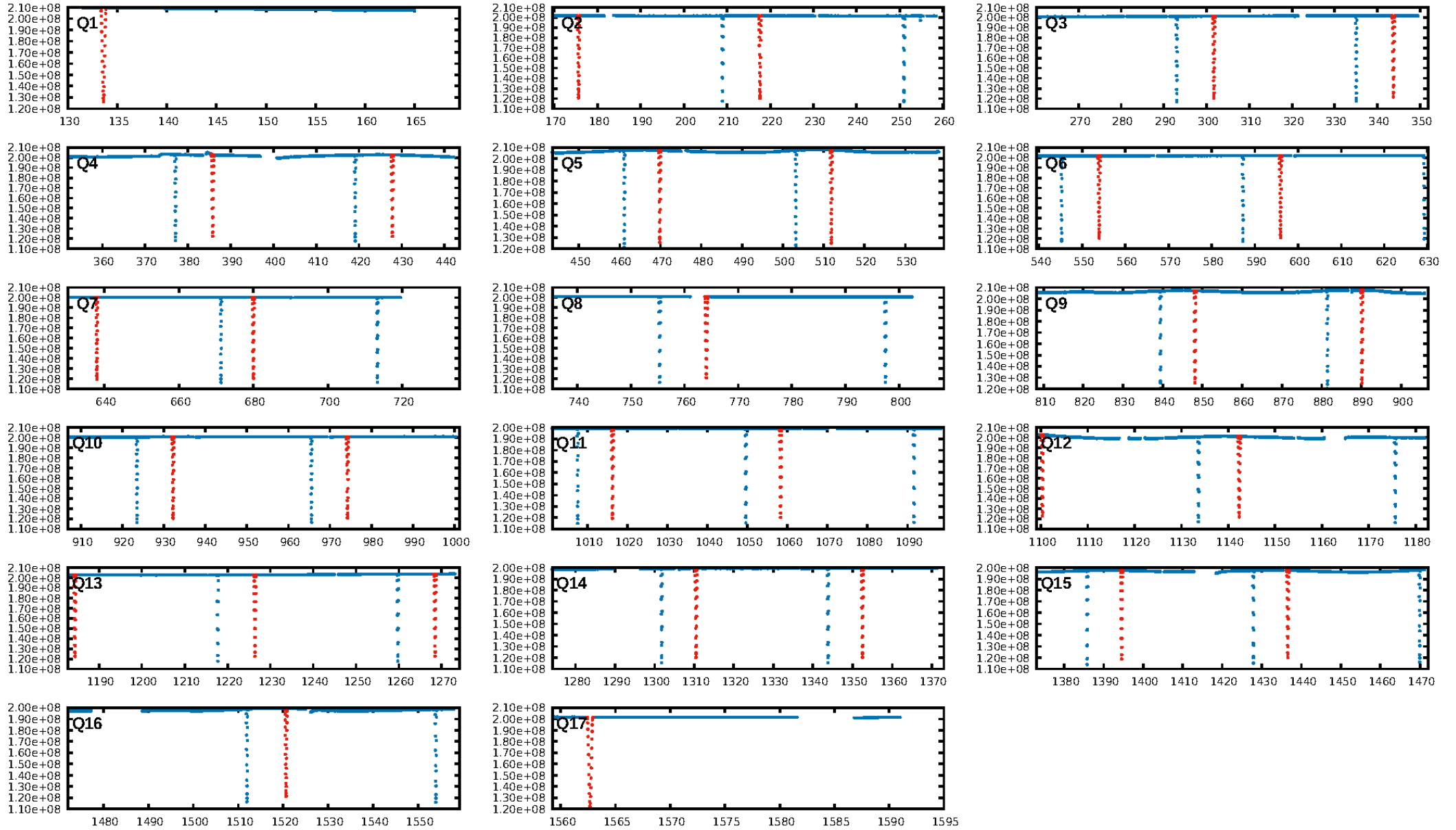
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.1% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.97 [28/29]
GhostDiagnostic-chr: 4.7
Centroid-sig: 0.0%
Centroid-so: 0.161 arcsec [576.90σ]
OotOffset-rm: 0.013 arcsec [0.19σ]
KicOffset-rm: 0.084 arcsec [1.25σ]
OotOffset-st: 4/4/3/4 [15]
KicOffset-st: 4/4/3/4 [15]
DiffImageQuality-fgm: 1.00 [15/15]
DiffImageOverlap-fno: 0.87 [13/15]

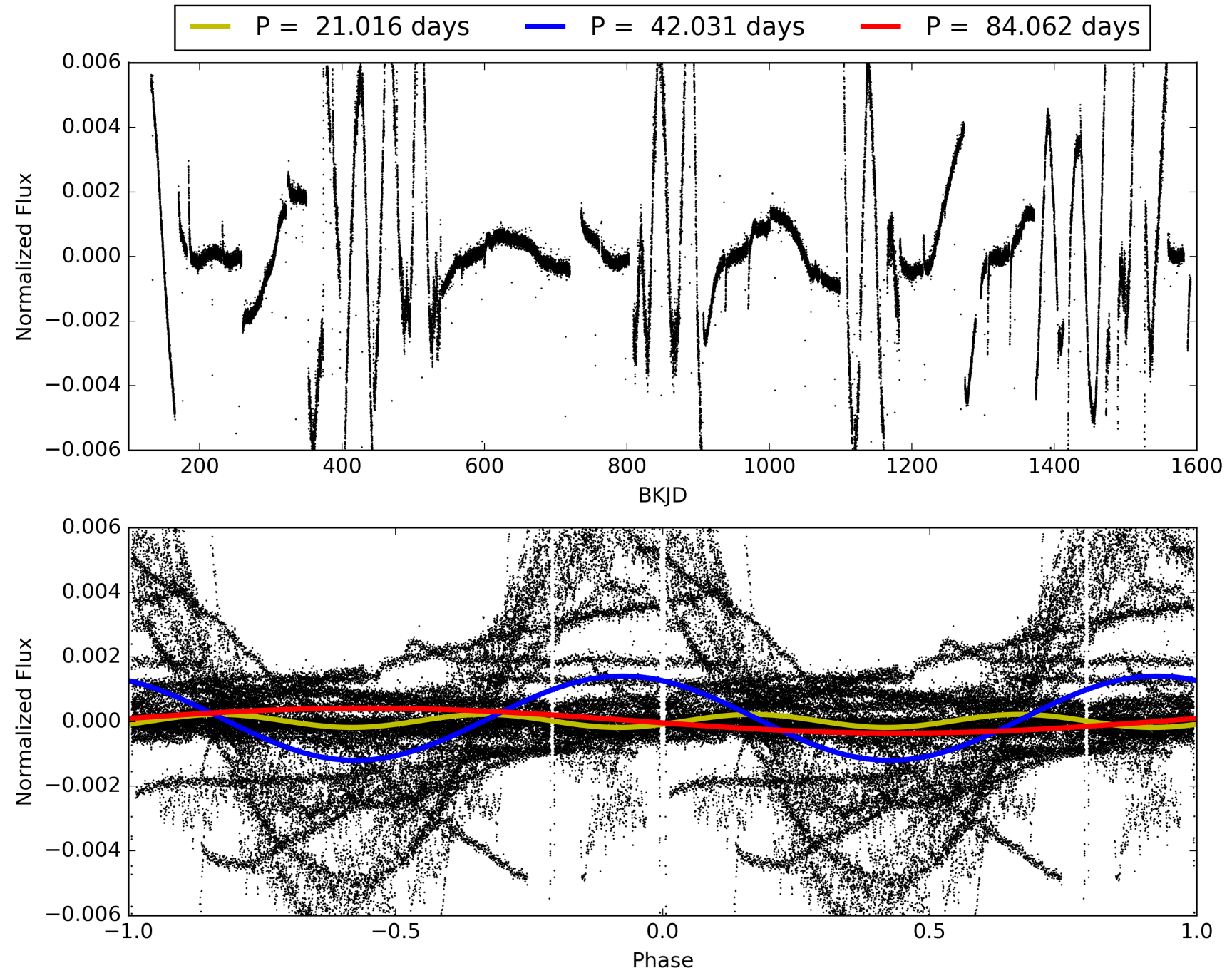
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:53:44 Z

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

TCE 008553907-01, PDC Light Curves

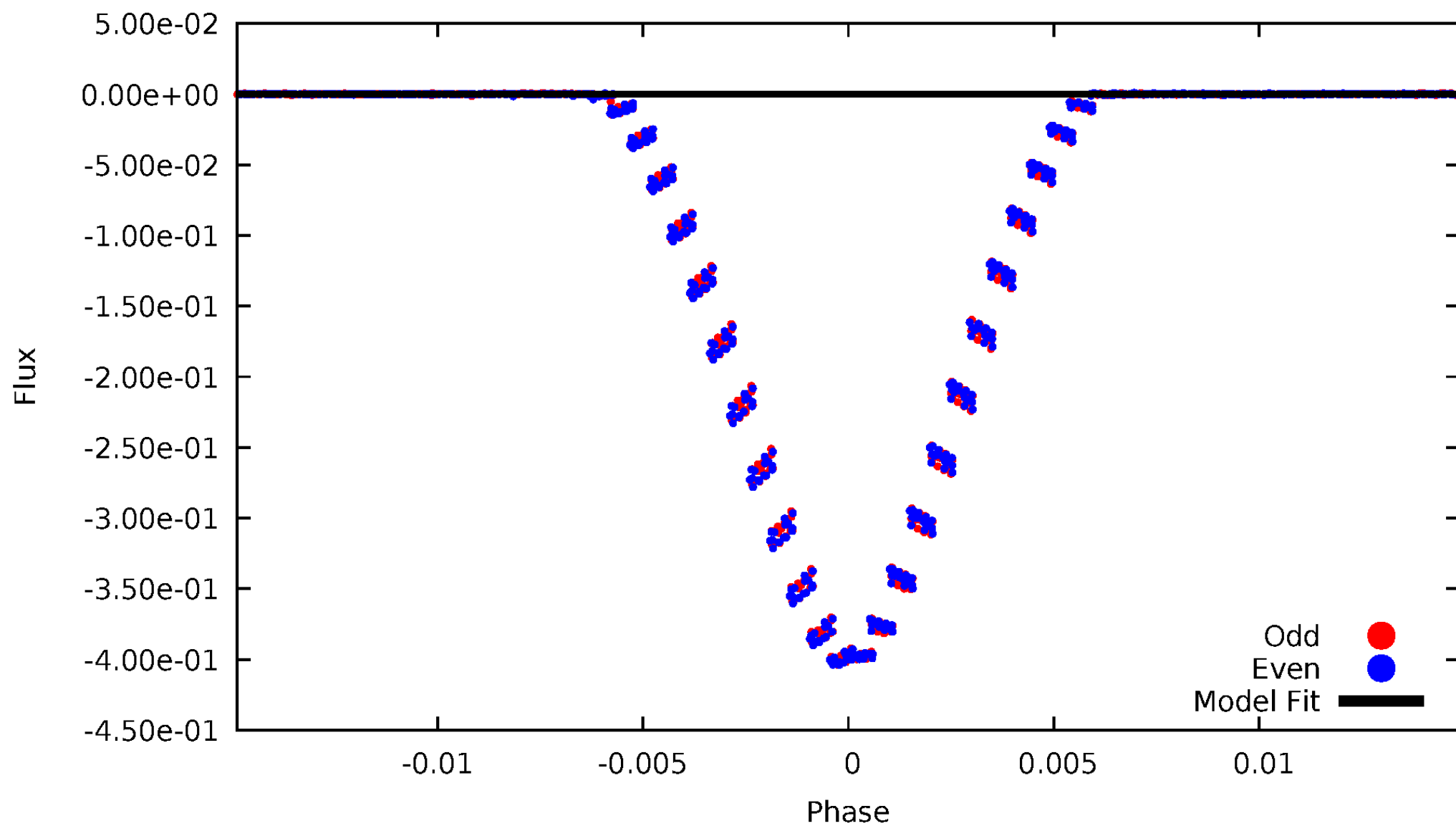


TCE 008553907-01



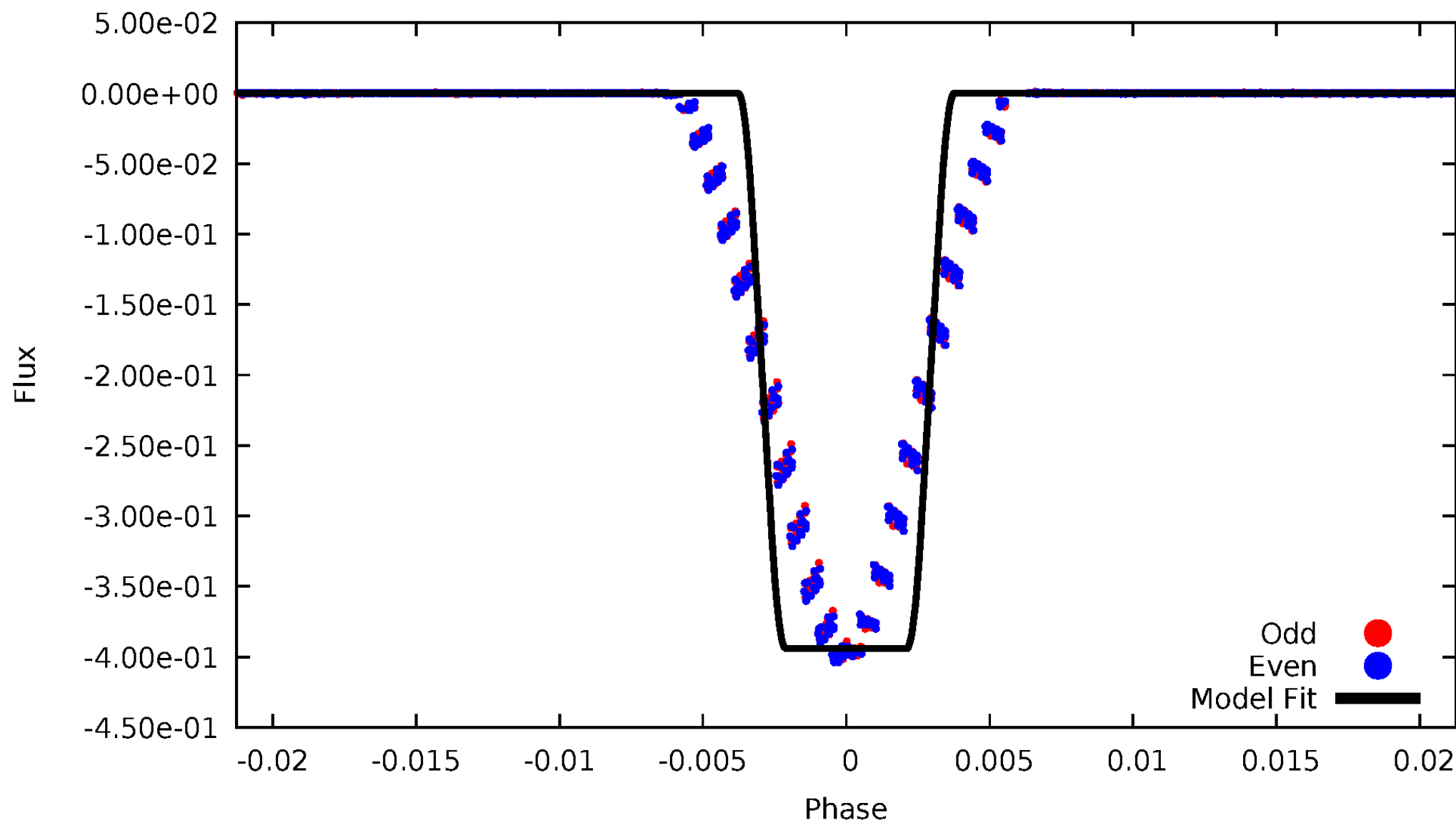
DV Odd/Even

TCE 008553907-01



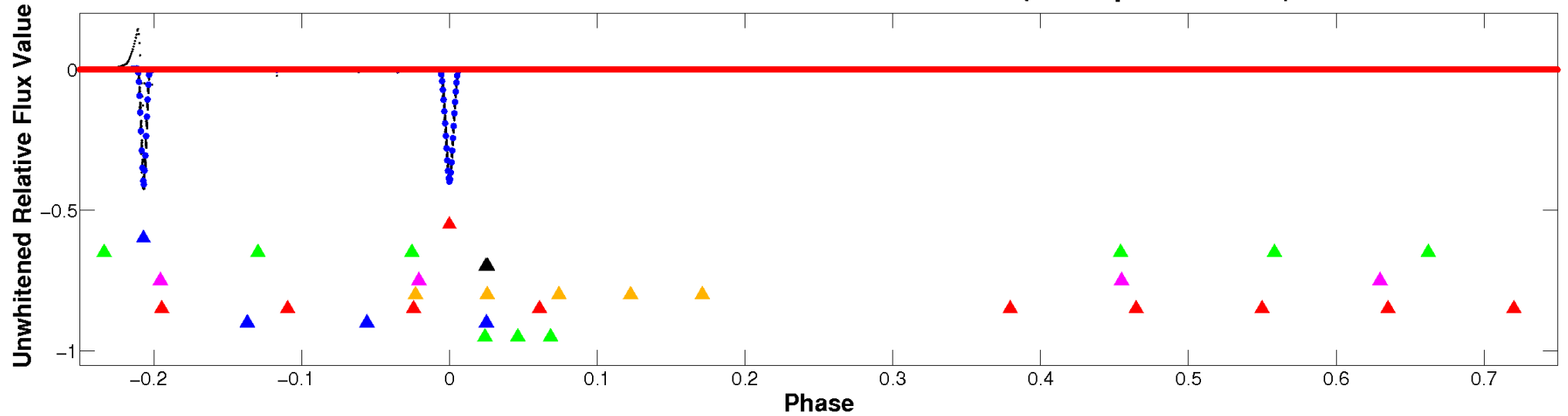
ALT Odd/Even

TCE 008553907-01



Non-Whitened Vs. Whitened Light Curve

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

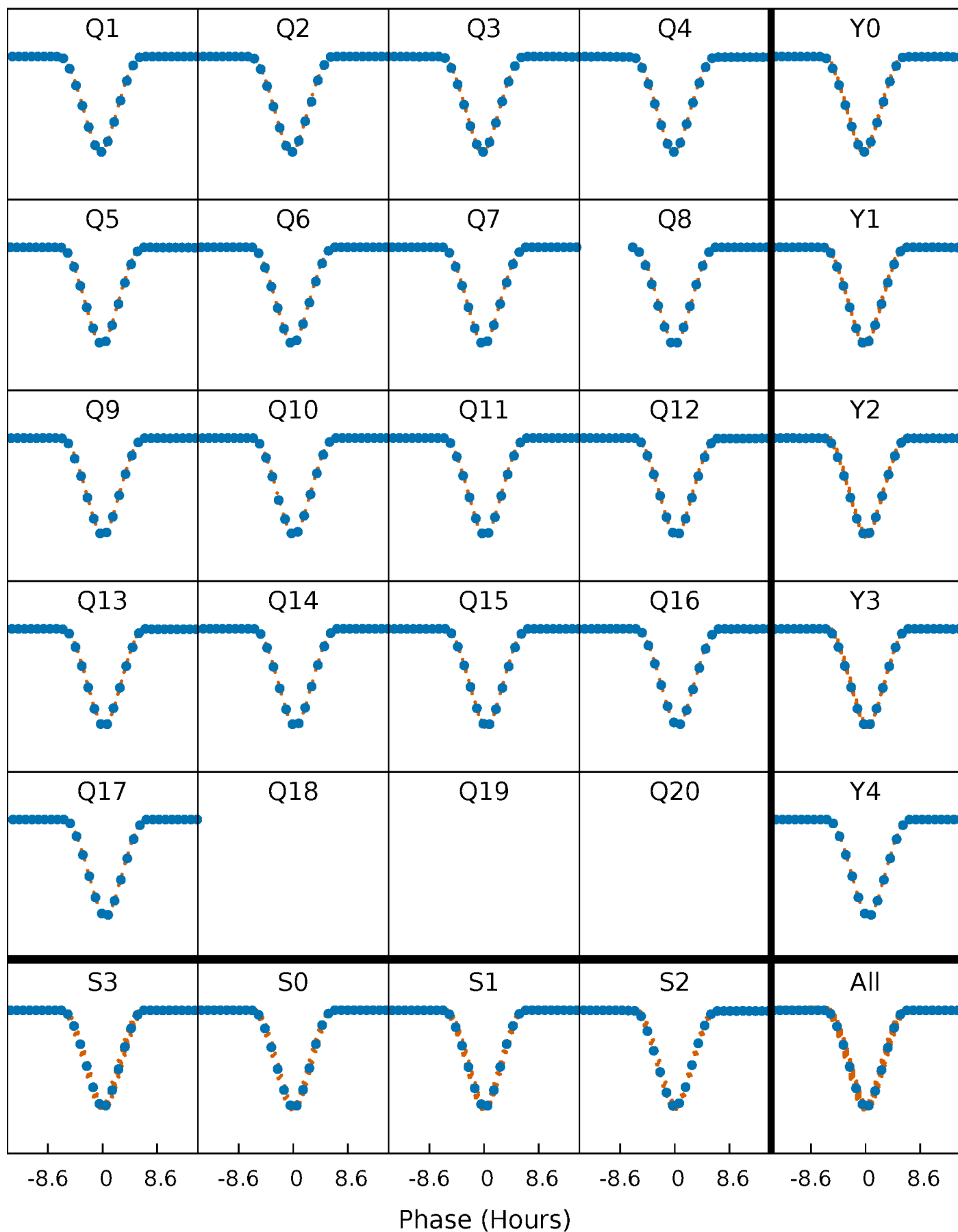


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



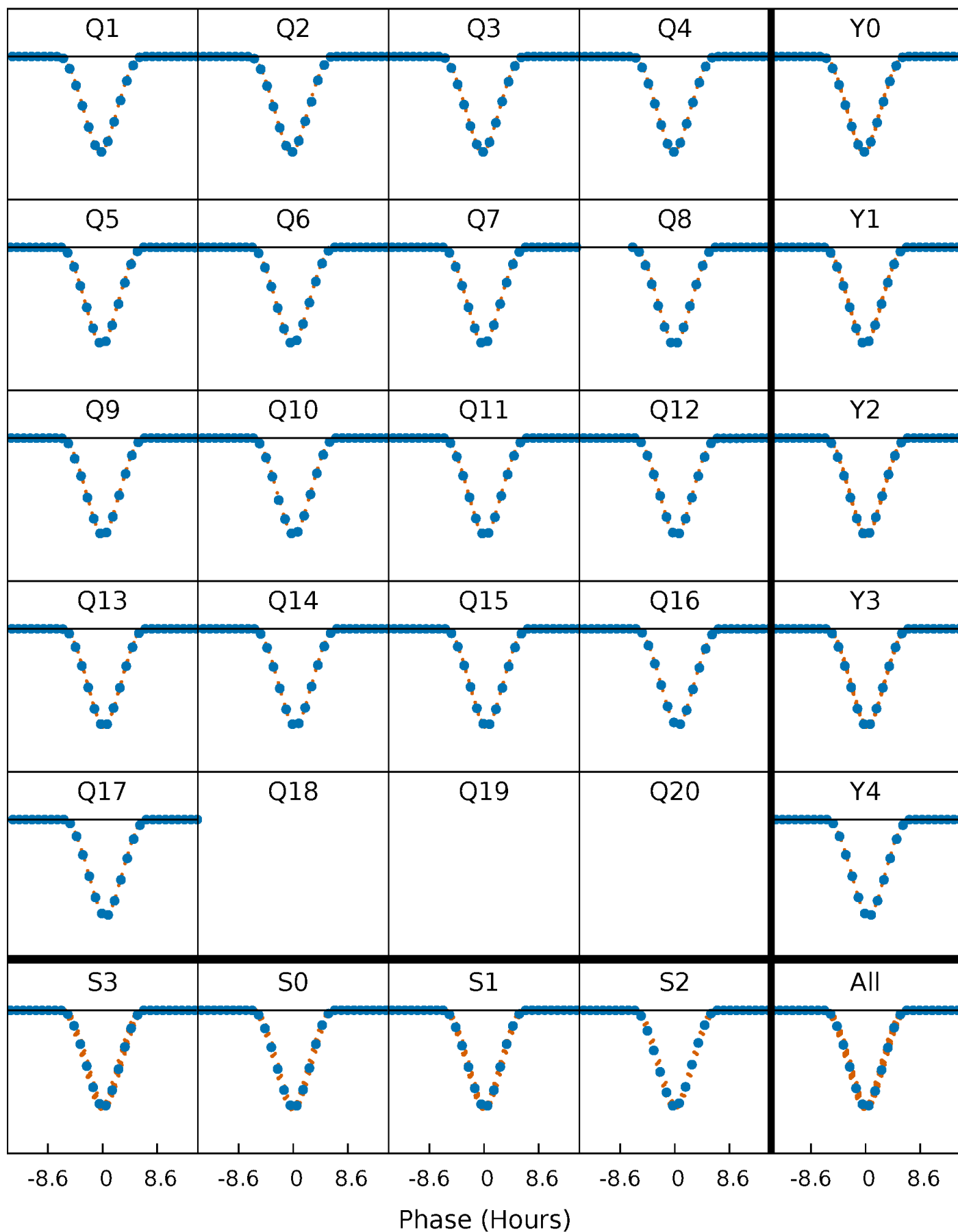
PDC Quarter-Phased Transit Curves

TCE 008553907-01 P= 42.031158 Days $T_0=133.595217$ (BKJD)



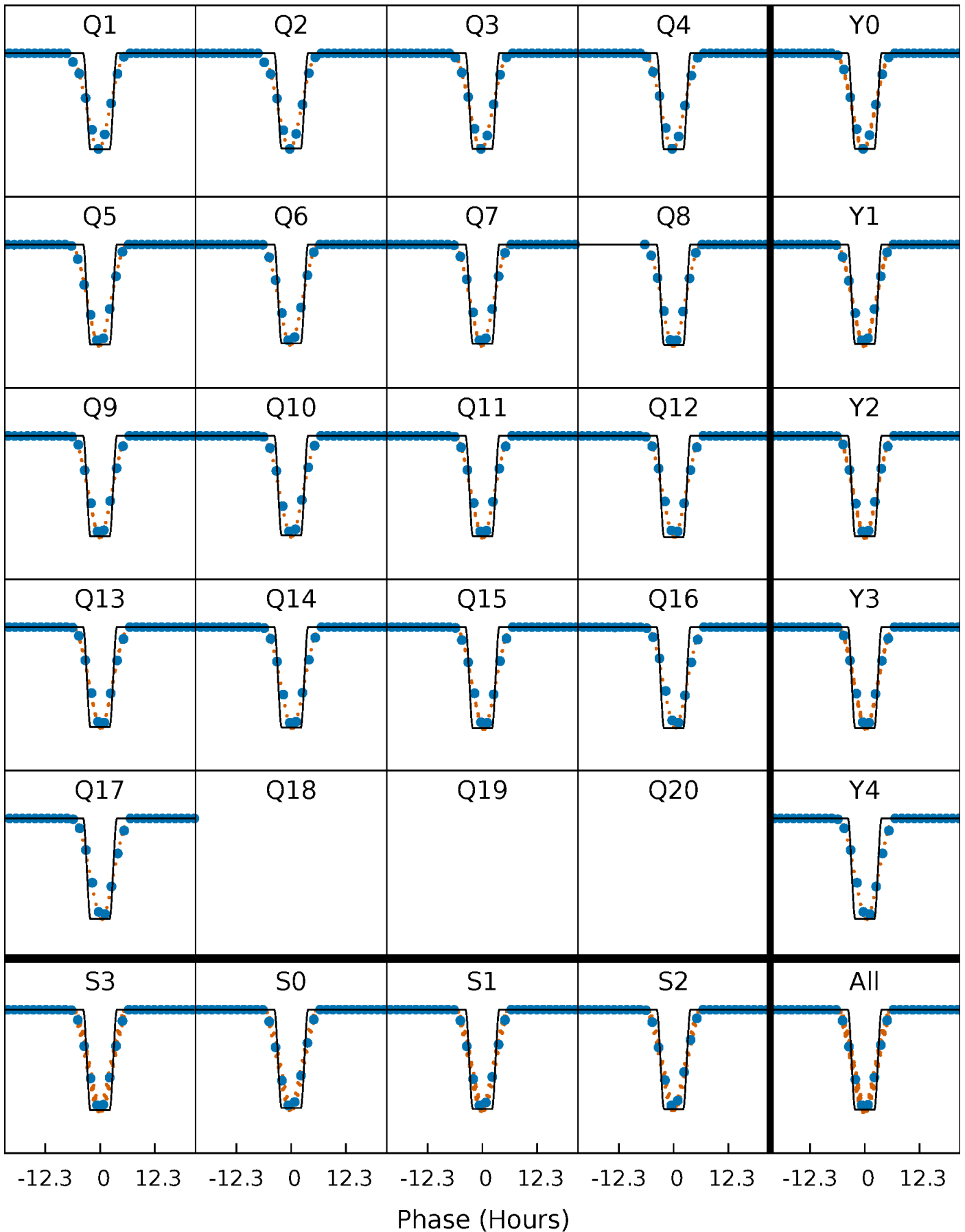
DV Quarter-Phased Transit Curves

TCE 008553907-01 P= 42.031158 Days $T_0=133.595217$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

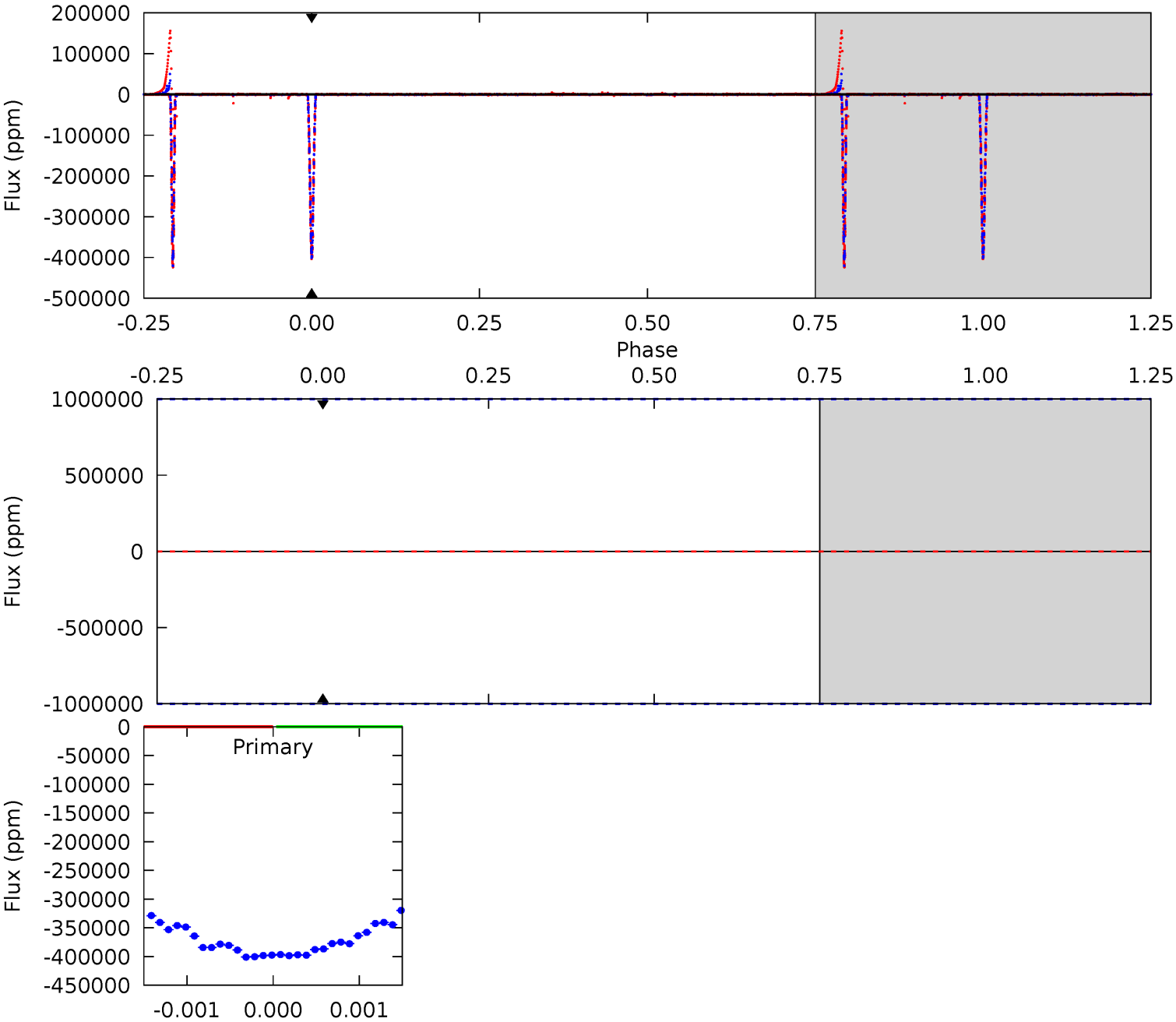
TCE 008553907-01 P= 42.031158 Days $T_0=133.597266$ (BKJD)



DV Model-Shift Uniqueness Test

008553907-01, P = 42.031158 Days, E = 91.564059 Days

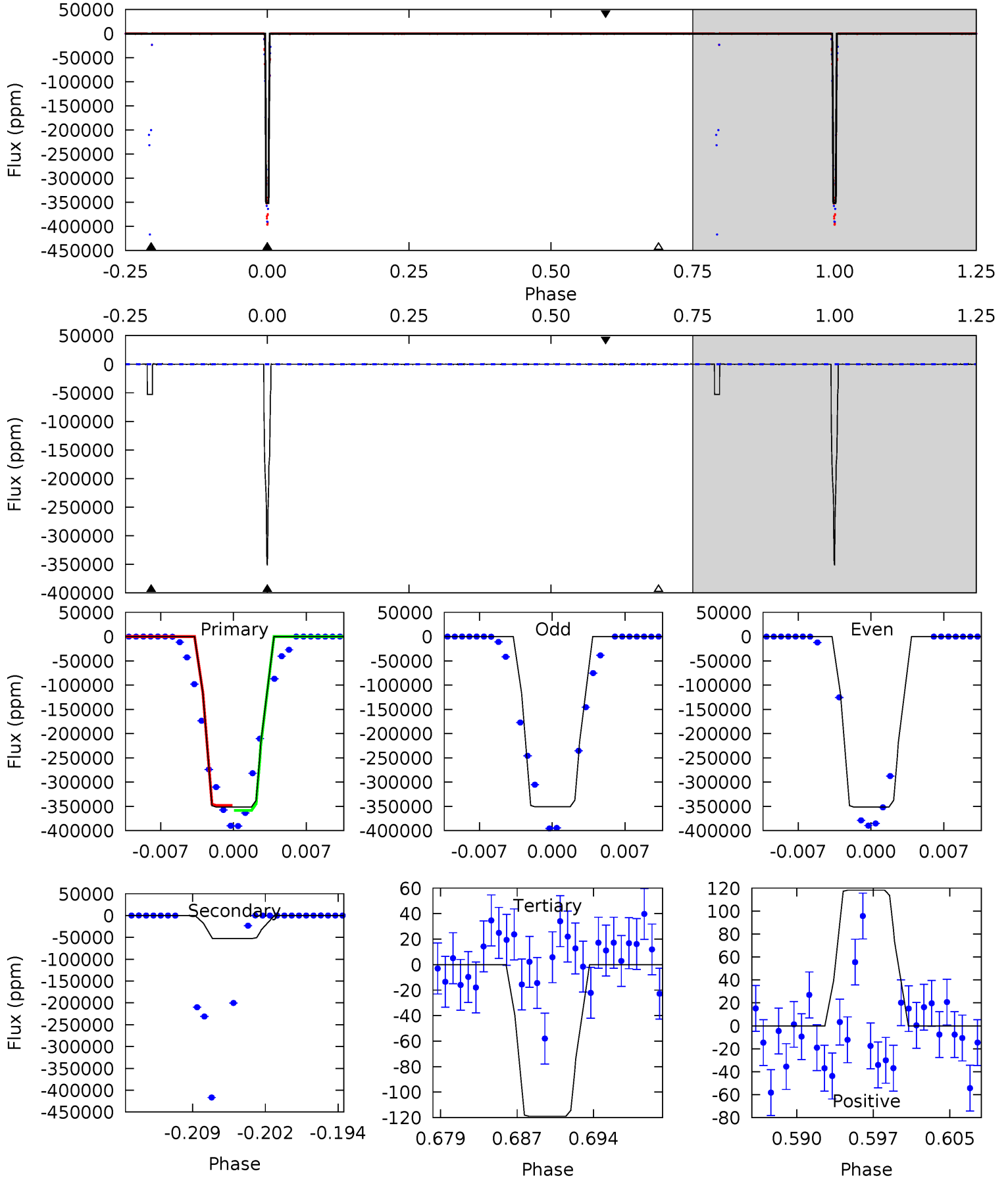
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008553907-01, P = 42.031158 Days, E = 91.566108 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11891	1786	4.02	4.00	5.08	2.68	1.11	11887	11887	1782	1782	7.47	1.00	0.00	0



Stellar Parameters For KIC 008553907

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6618^{+148}_{-198}	$4.393^{+0.063}_{-0.147}$	$-0.360^{+0.250}_{-0.300}$	$1.117^{+0.250}_{-0.125}$	$1.128^{+0.125}_{-0.139}$	$1.139^{+0.311}_{-0.464}$
	+2%/-3%	+1%/-3%	+69%/-83%	+22%/-11%	+11%/-12%	+27%/-41%
Source	PHO1	FLK73	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 008553907-01 / KOI 7056.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$61.72^{+14.26}_{-14.95}$	879^{+47}_{-39}	-2898^{+8399}_{-2440}	$-24.814^{+1063.640}_{-862.104}$
Alt.	-52775 ± 30	$78.27^{+14.73}_{-14.55}$	876^{+46}_{-35}	4283^{+290}_{-242}	302^{+140}_{-85}

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

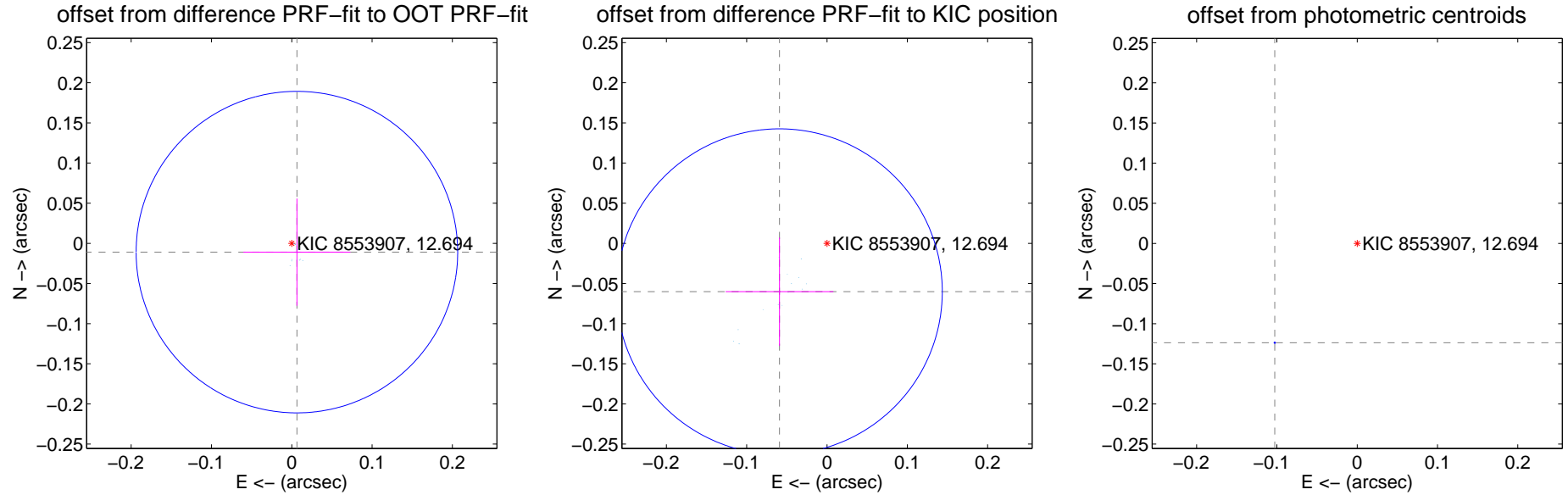
DV Centroid Data

Supplemental centroid analysis for 008553907-01. Kepler magnitude: 12.69. Transit SNR -1.00

There are 15 quarters with good PRF difference image offsets

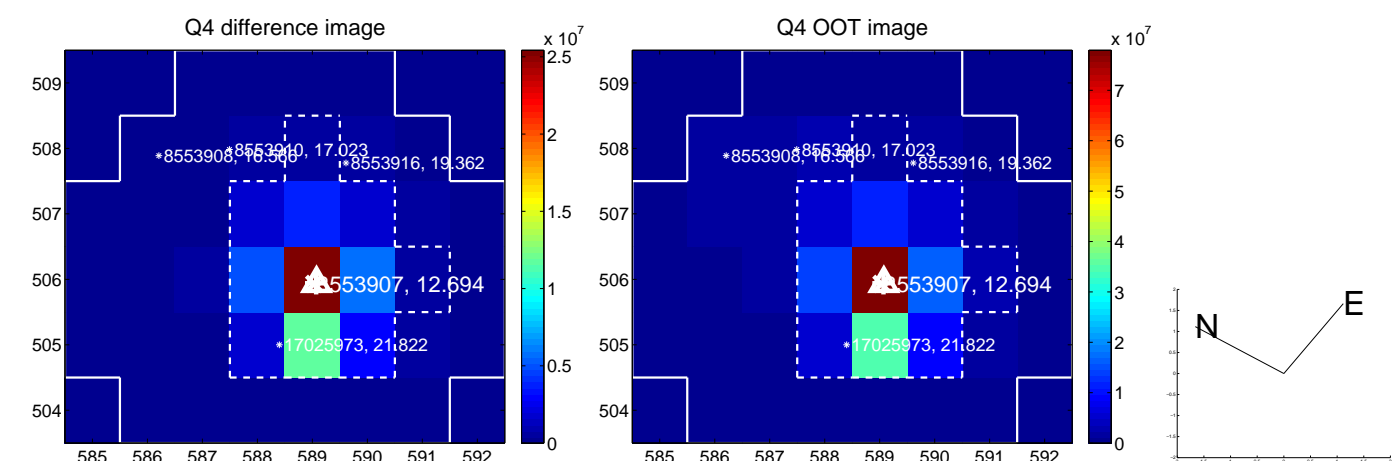
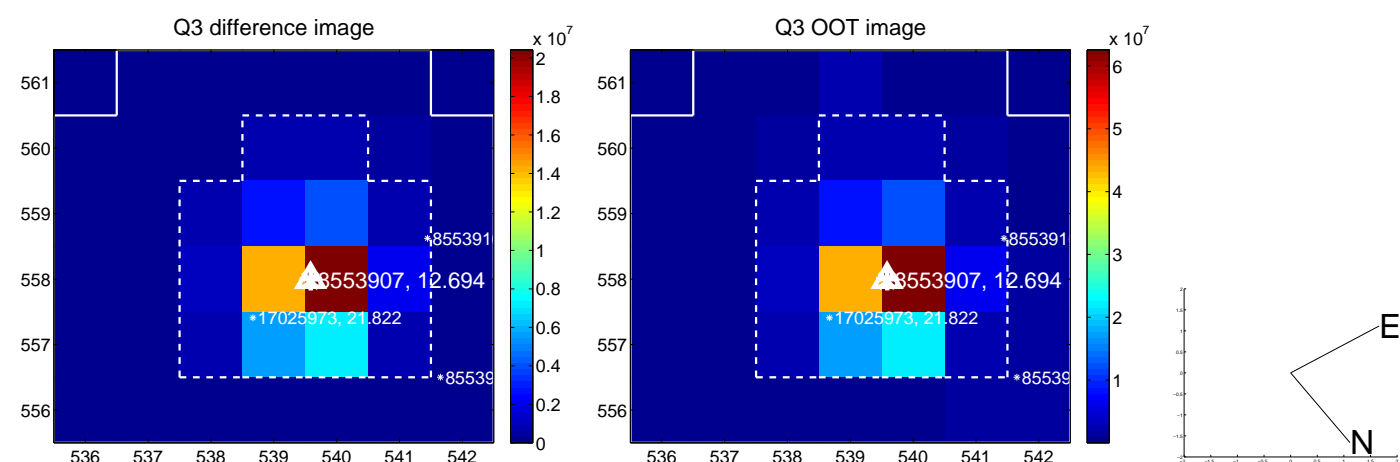
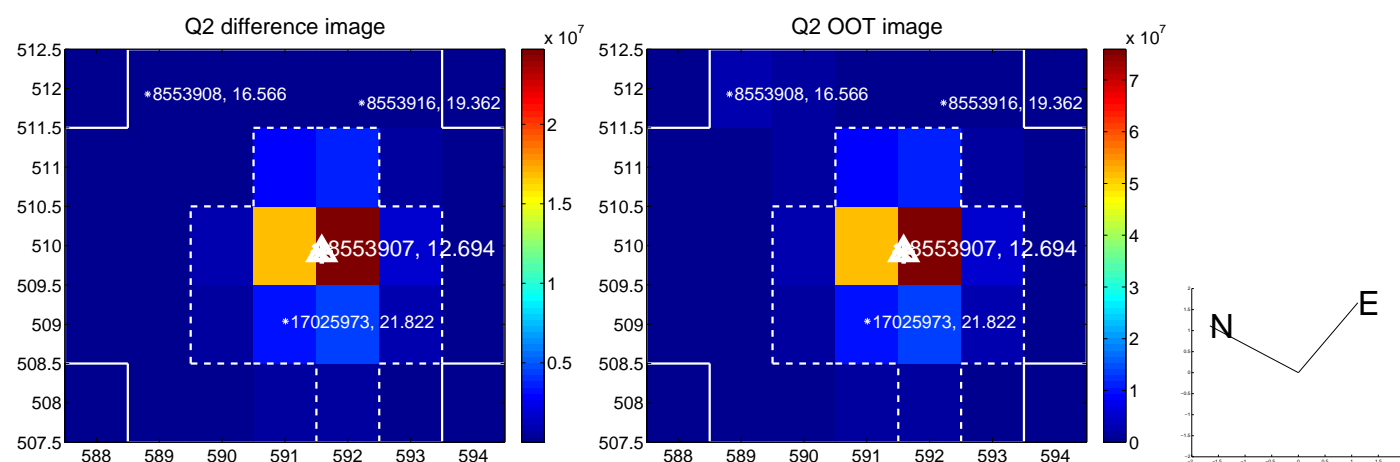
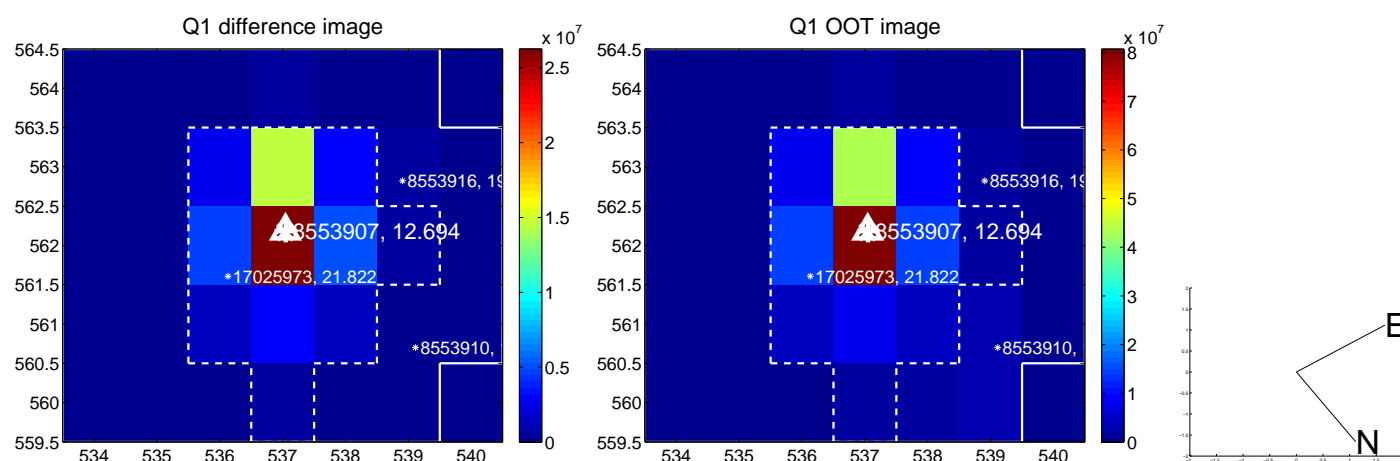
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.013 ± 0.067	0.19	-0.006 ± 0.067	-0.011 ± 0.067
PRF-fit source offset from KIC position	0.084 ± 0.068	1.25	0.059 ± 0.067	-0.060 ± 0.067
photometric centroid source offset	0.16 ± 0.00	576.90	0.10 ± 0.00	-0.12 ± 0.00

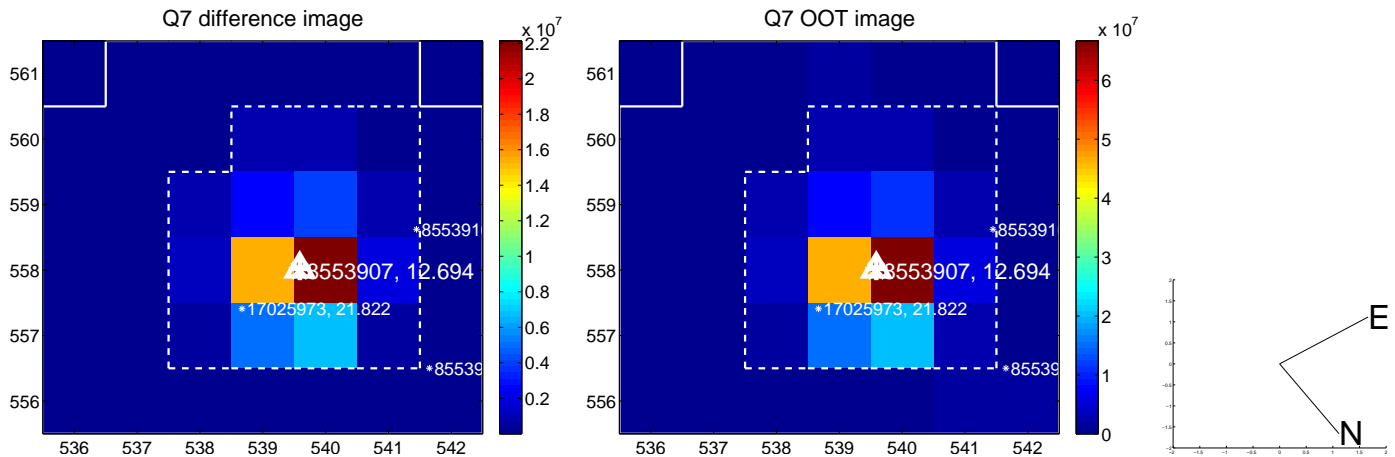
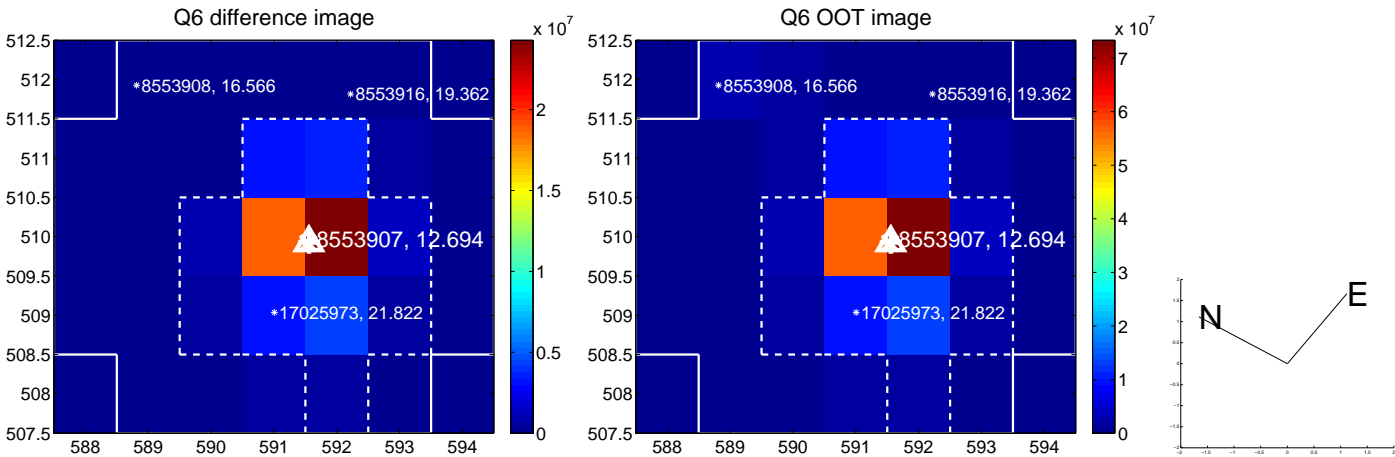
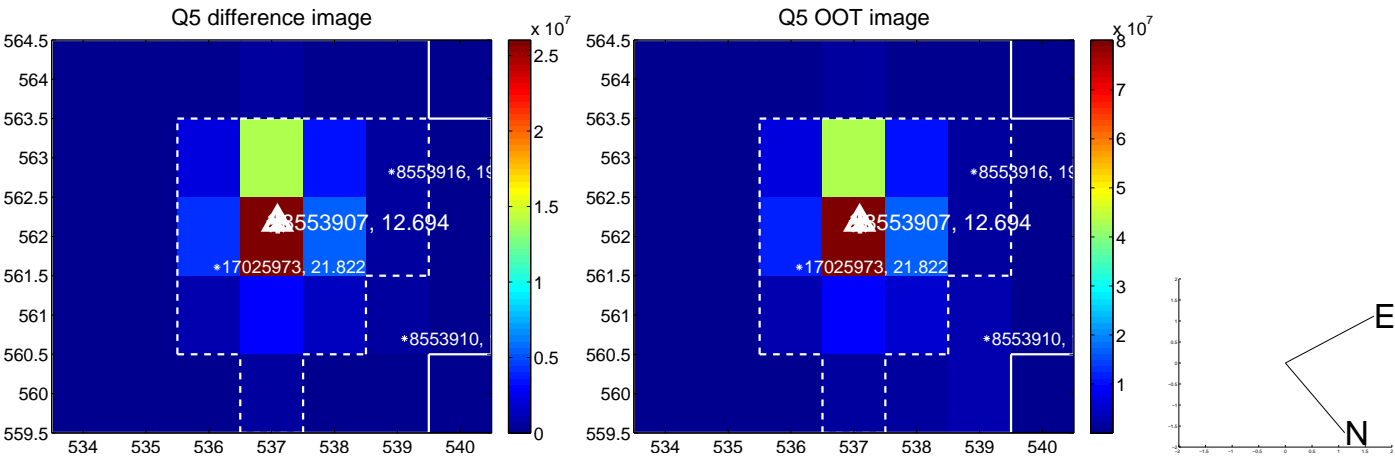


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

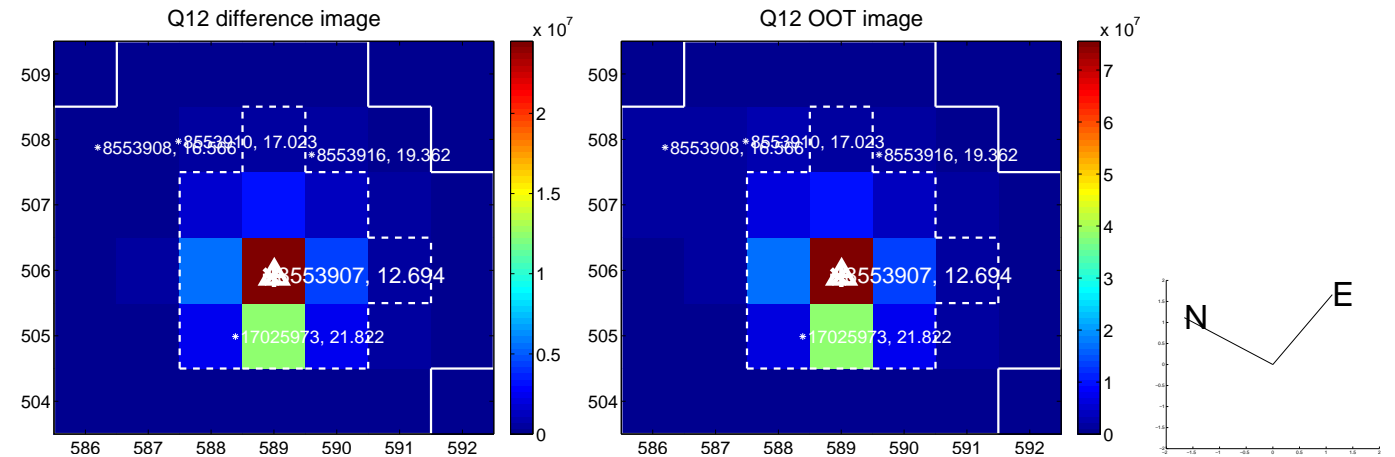
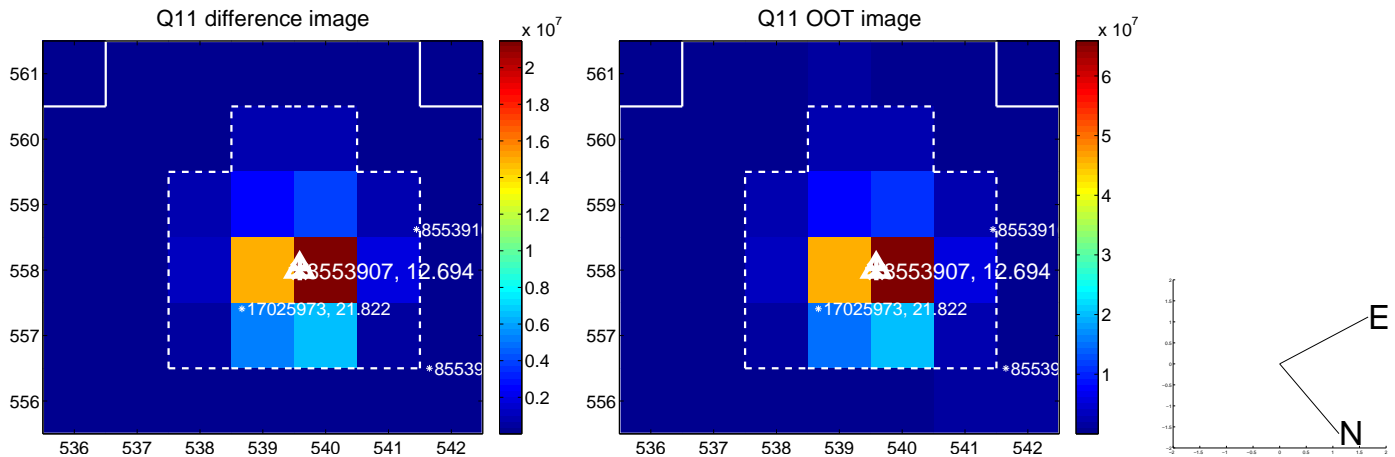
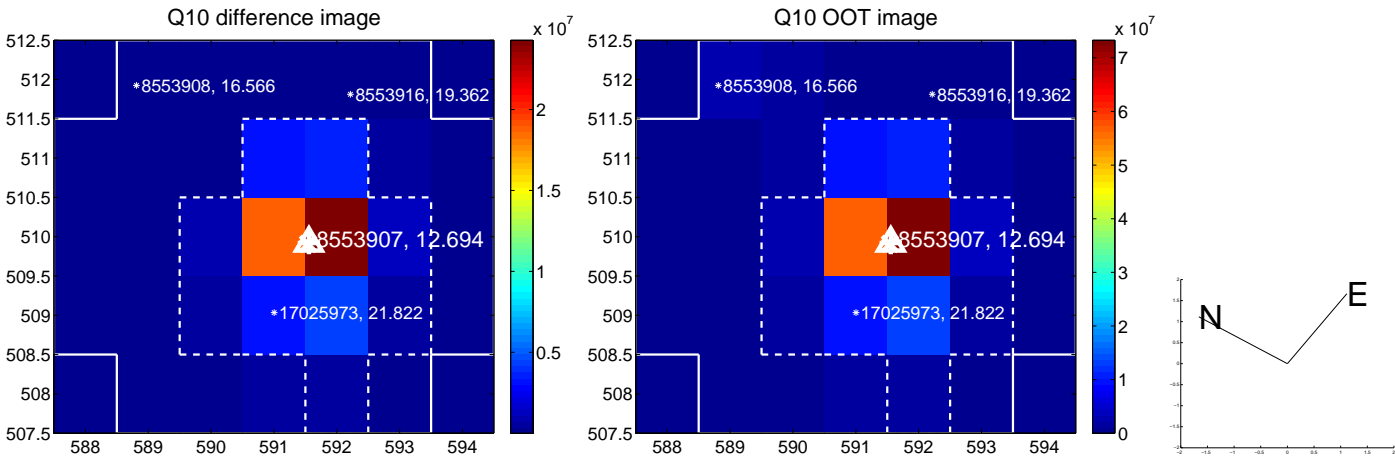
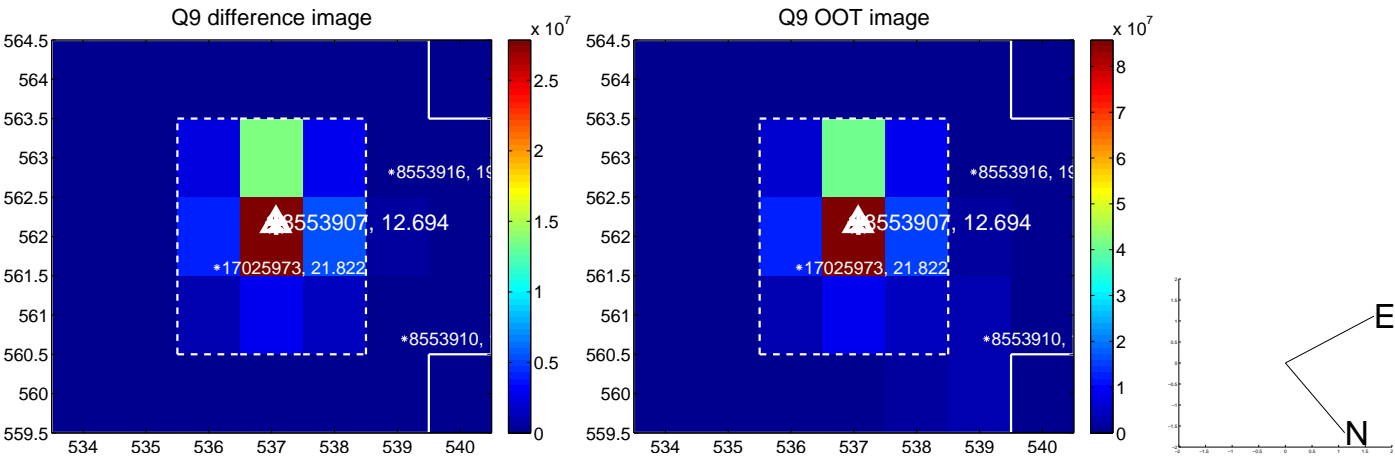
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



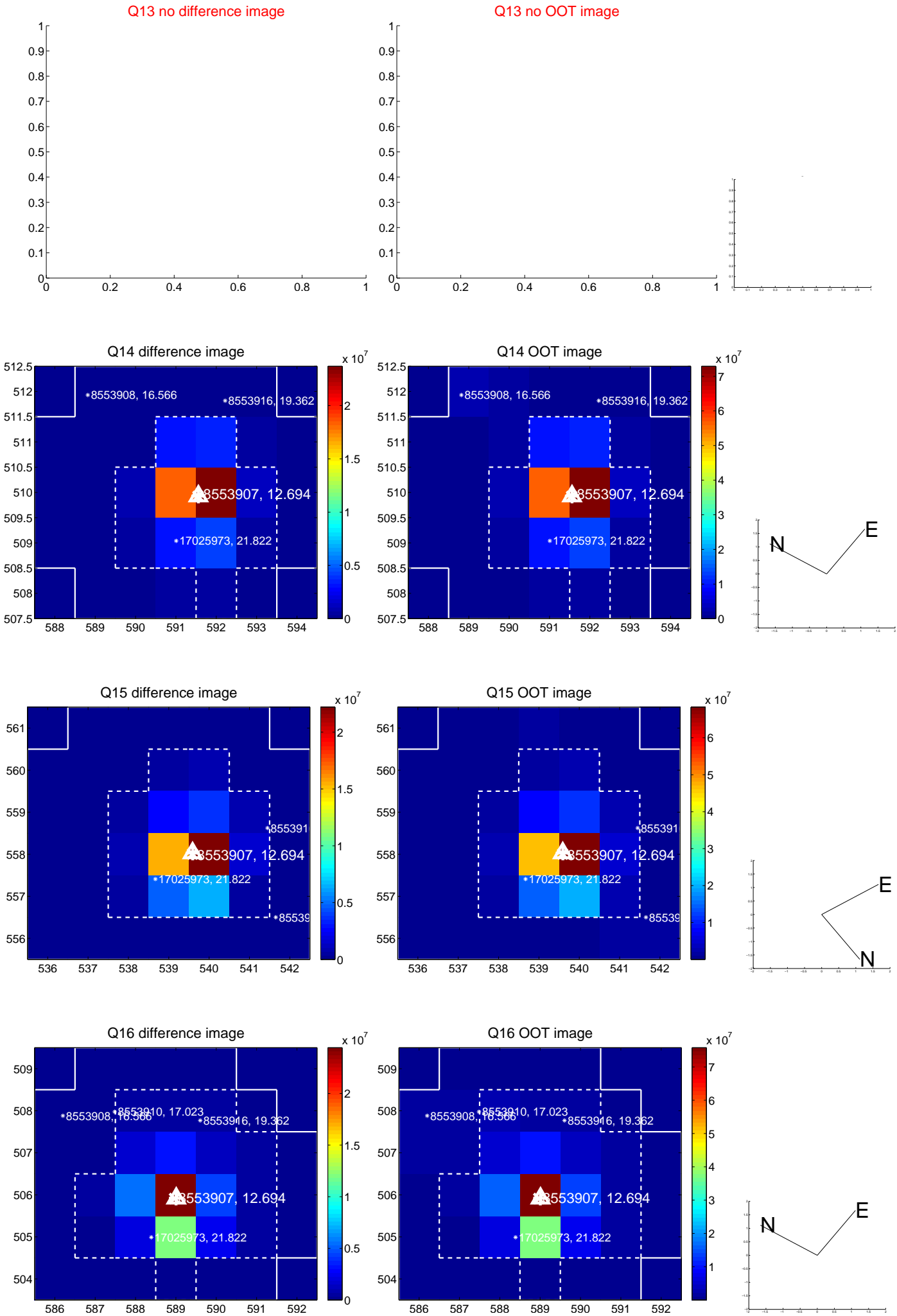
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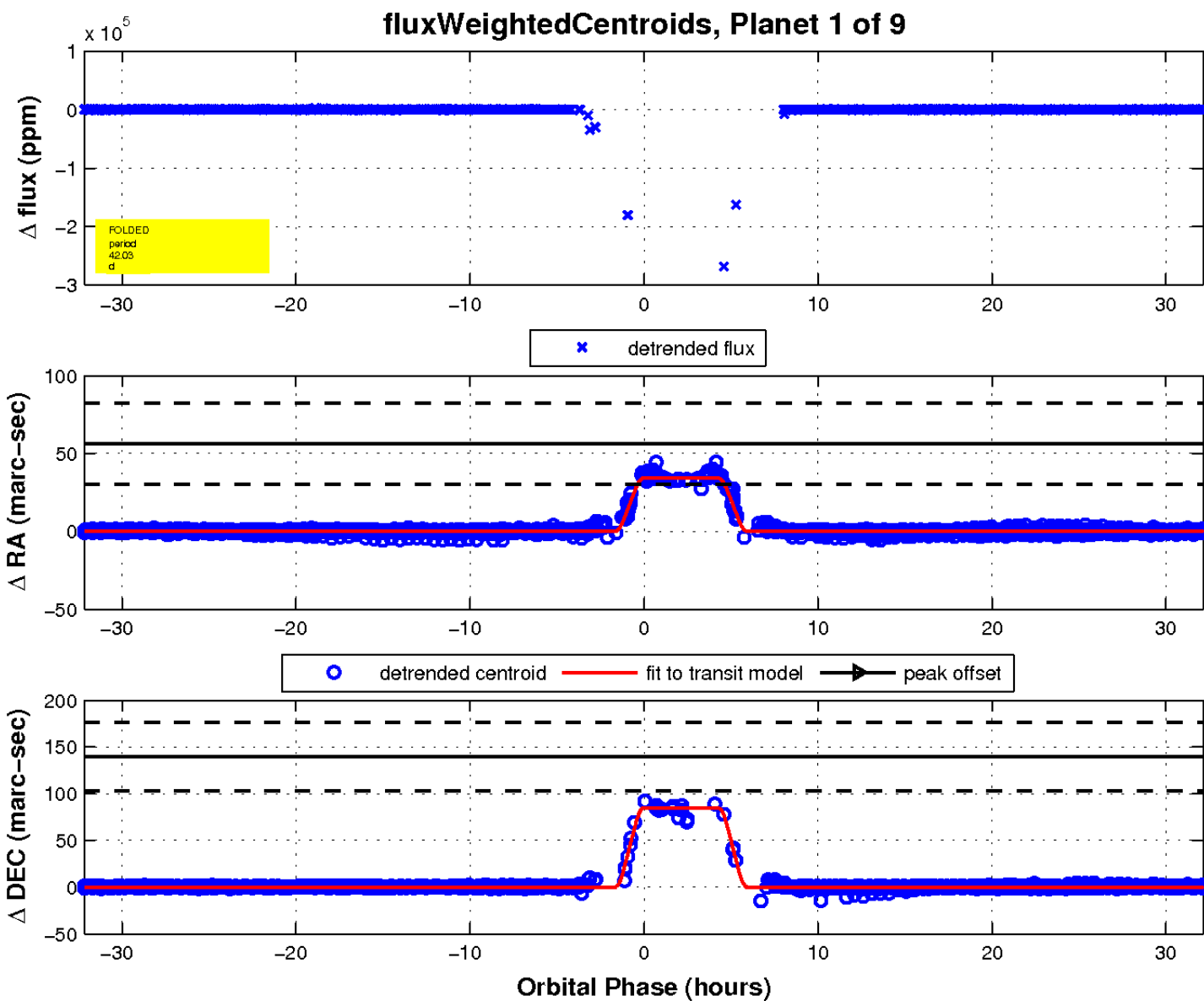
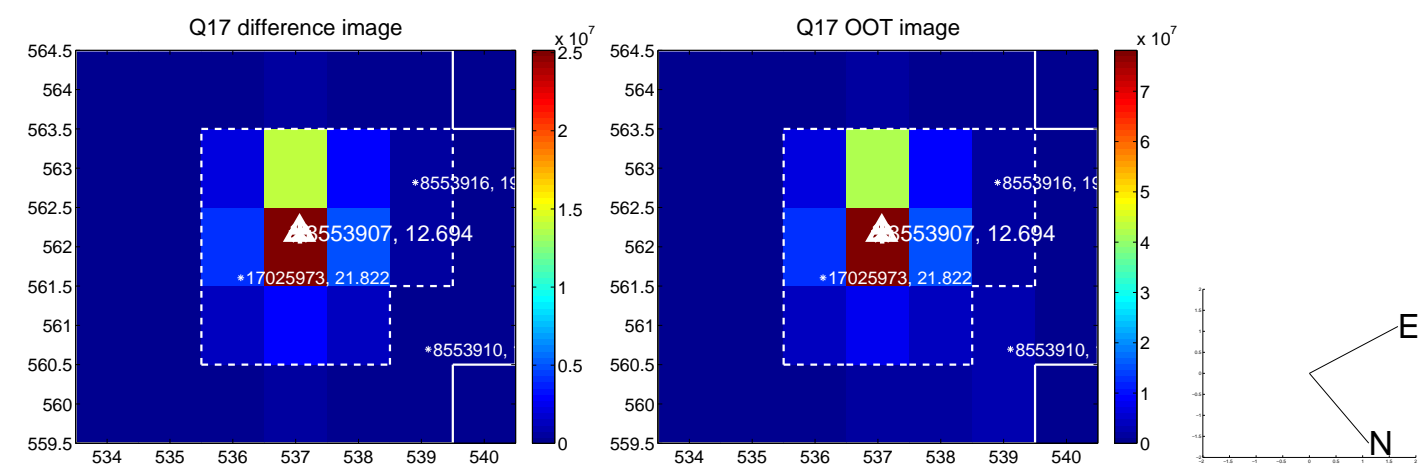
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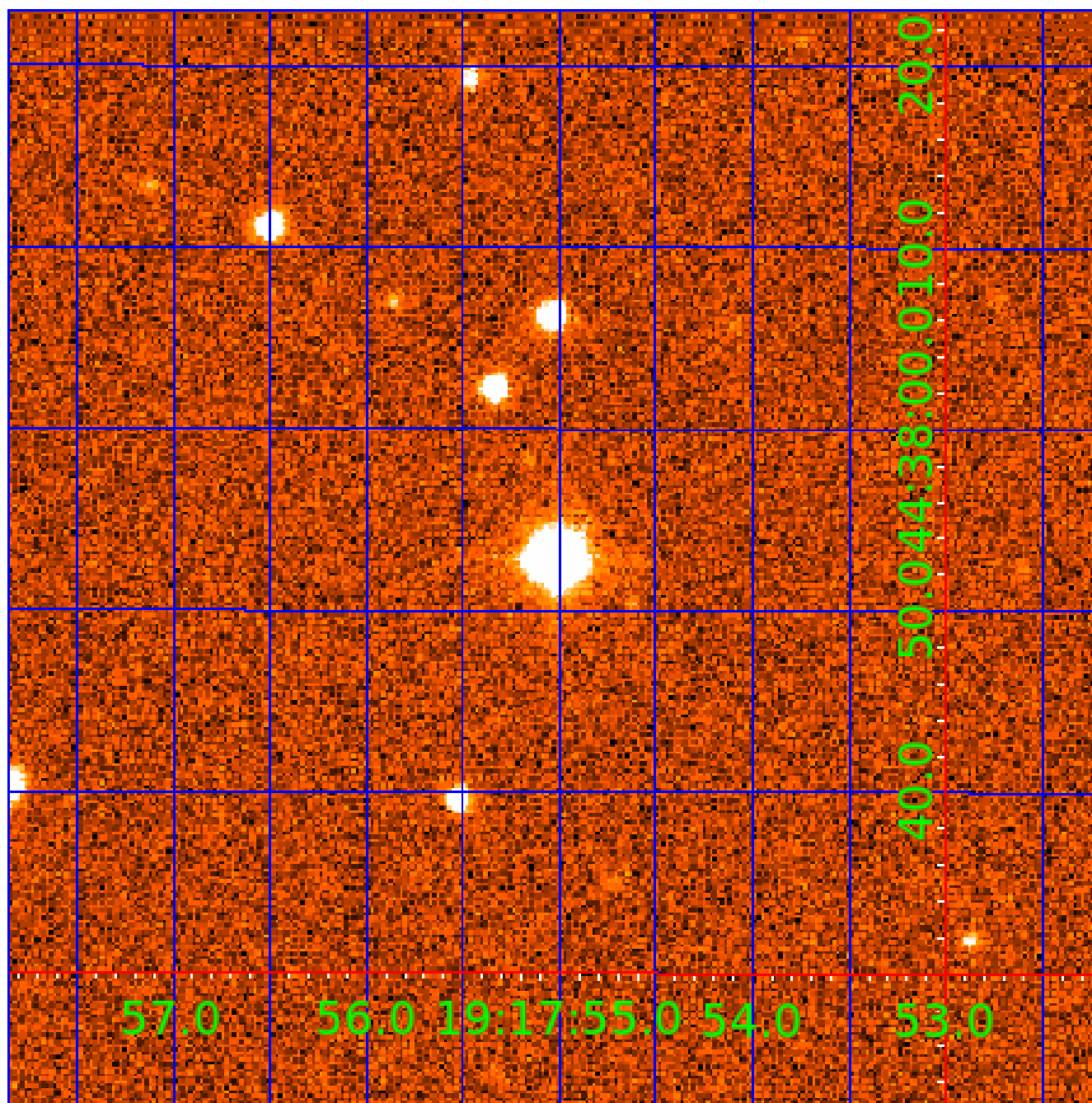


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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008553907-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008553907-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS
008553907-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_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_FEW_DIFFS
008553907-06	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008553907-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—HALO_GHOST
008553907-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008553907-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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.

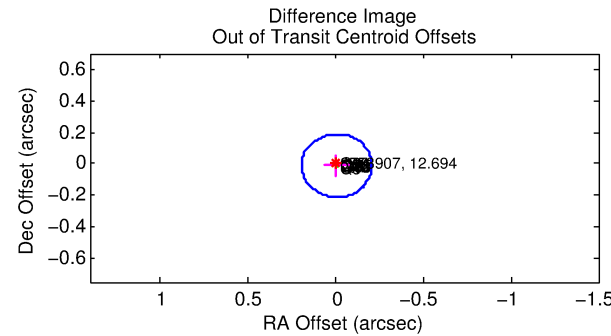
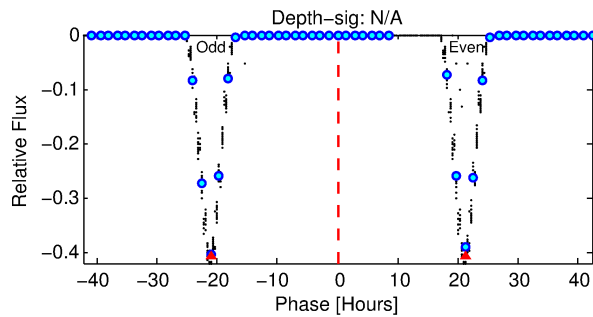
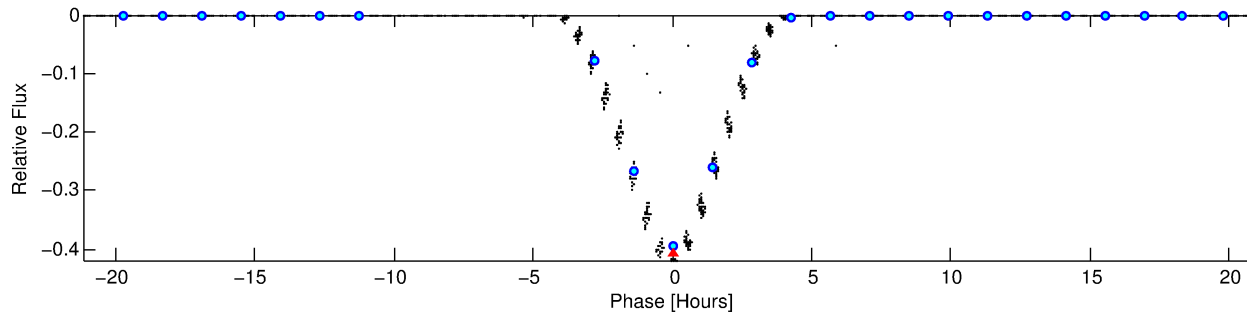
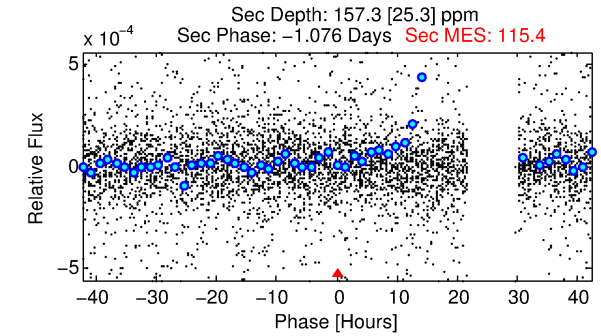
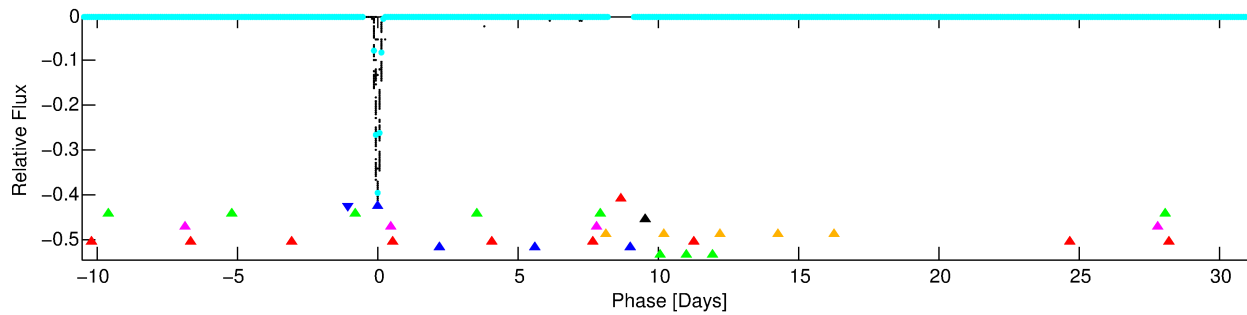
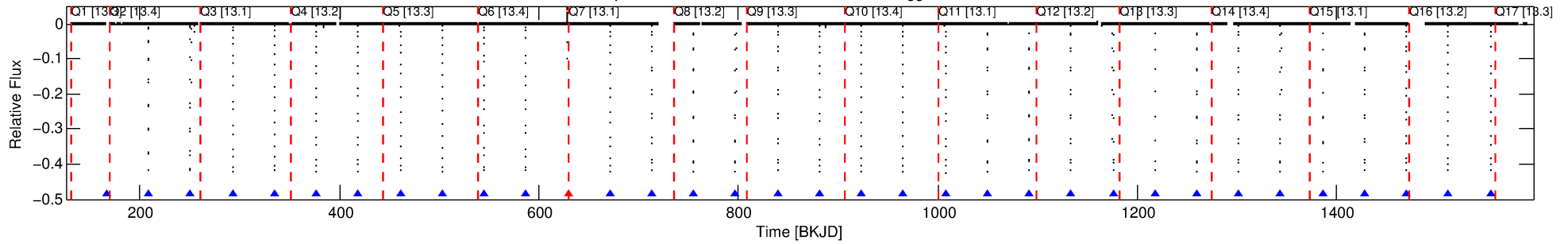
Ephemeris Match Information For 008553907-02

No Significant Match Found

DV One-Page Summary

KIC: 8553907 Candidate: 2 of 9 Period: 42.032 d
KOI: K07056 Corr: No Ephemeris Match

Kp: 12.69 R*: 1.12 Rs Teff: 6618.0 K Logg: 4.39 Fe/H: -0.360



TPS TCE Results:

Period = 42.03167 d
Epoch = 166.9189 BKJD

DV fit results are unavailable

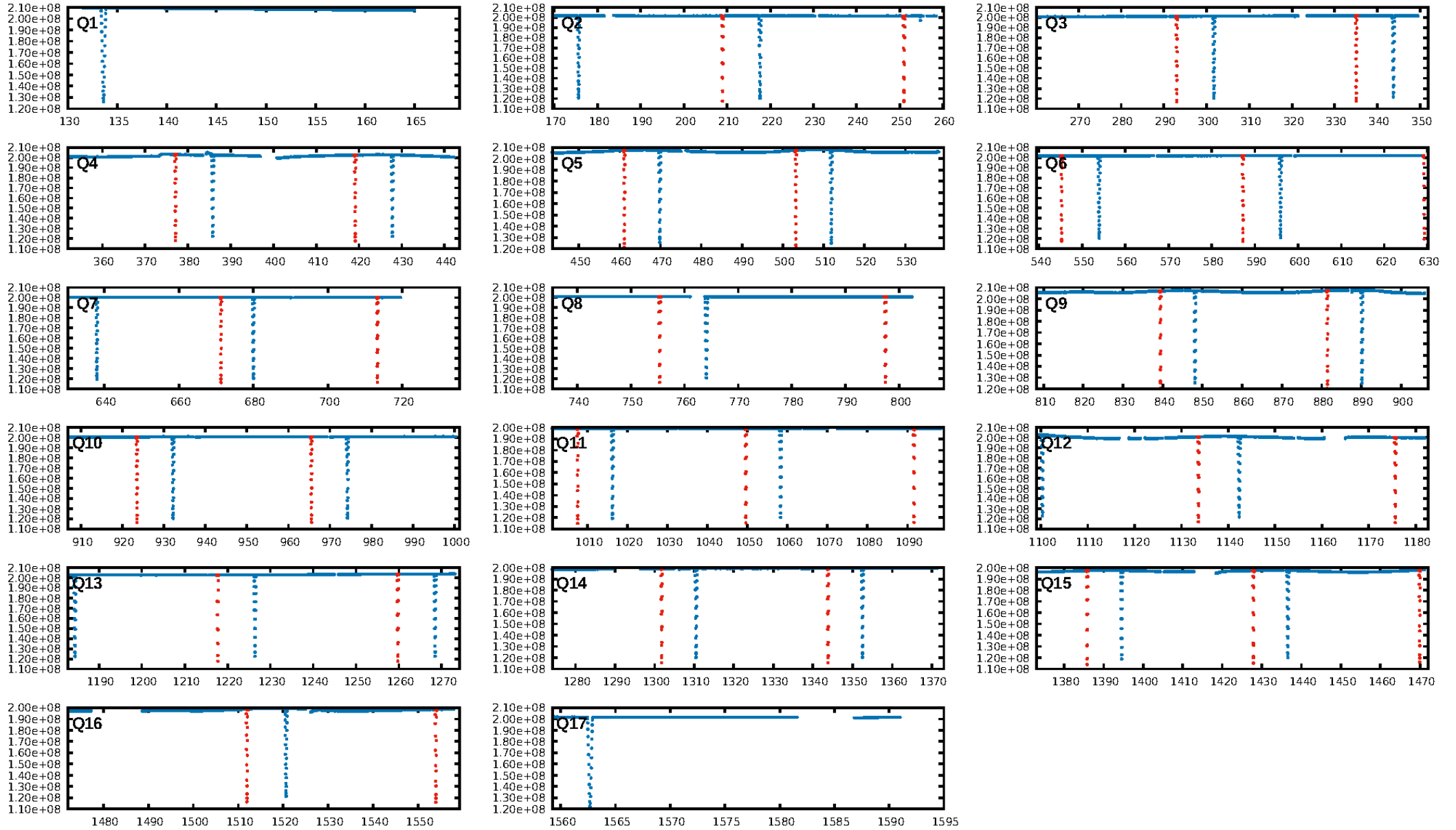
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00 σ]
LongPeriod-sig: 100.0% [464.95 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.97 [32/33]
GhostDiagnostic-chr: 11.64
Centroid-sig: 0.0%
Centroid-so: 0.155 arcsec [518.03 σ]
OotOffset-rm: 0.013 arcsec [0.20 σ]
KicOffset-rm: 0.092 arcsec [1.36 σ]
OotOffset-st: 4/4/4/3 [15]
KicOffset-st: 4/4/4/3 [15]
DiffImageQuality-fgm: 1.00 [15/15]
DiffImageOverlap-fno: 1.00 [15/15]

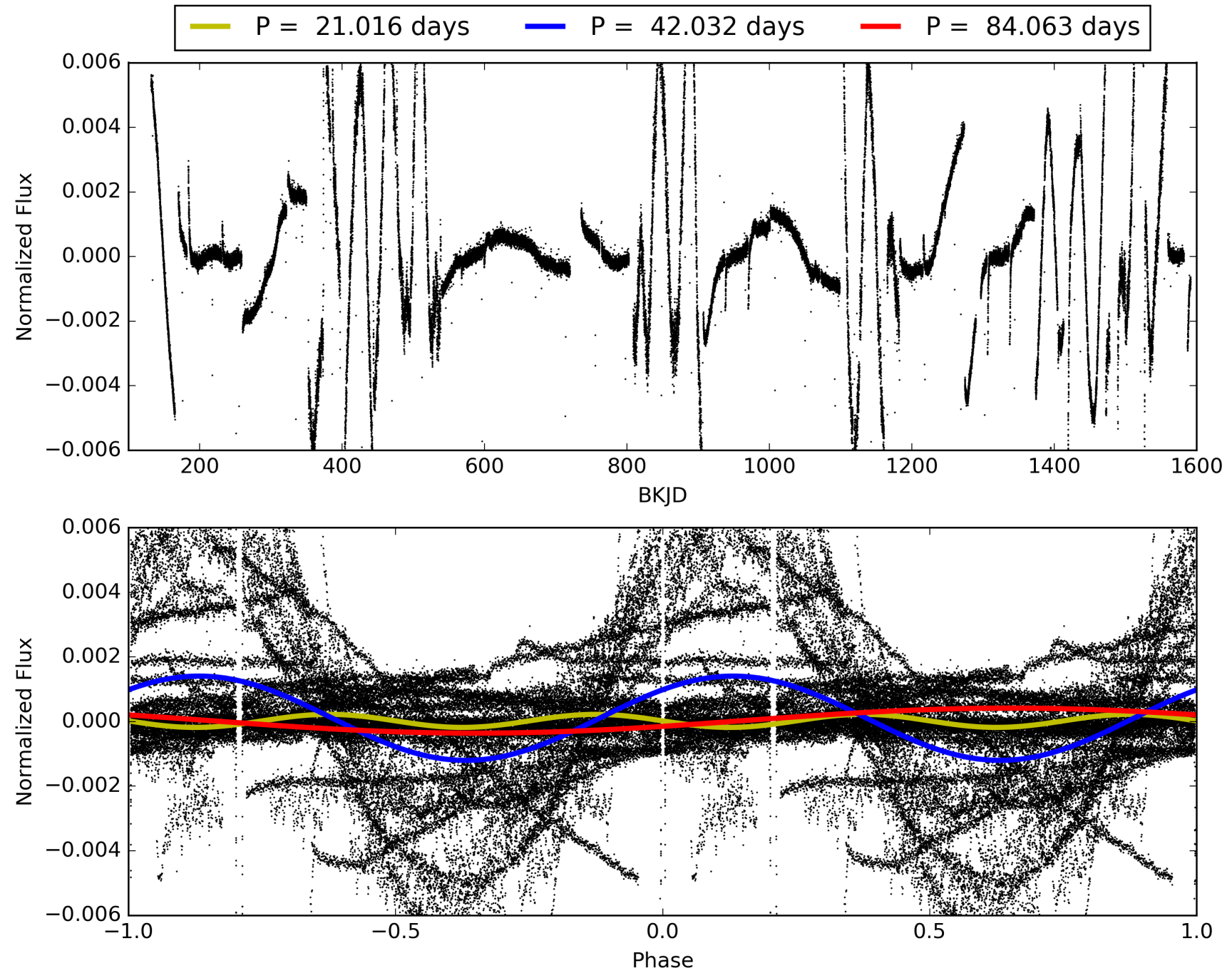
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:53:48 Z

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

TCE 008553907-02, PDC Light Curves

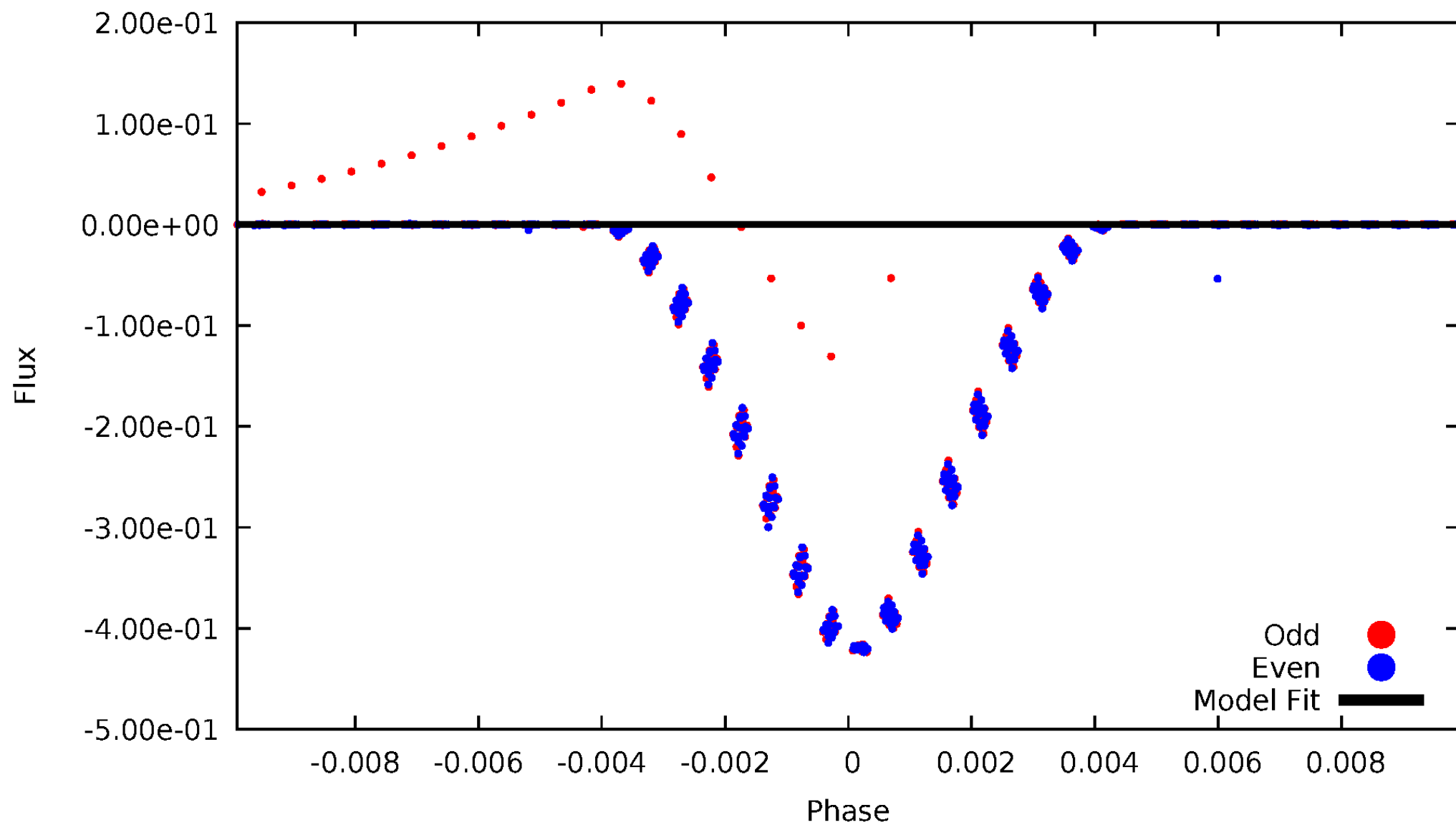


TCE 008553907-02



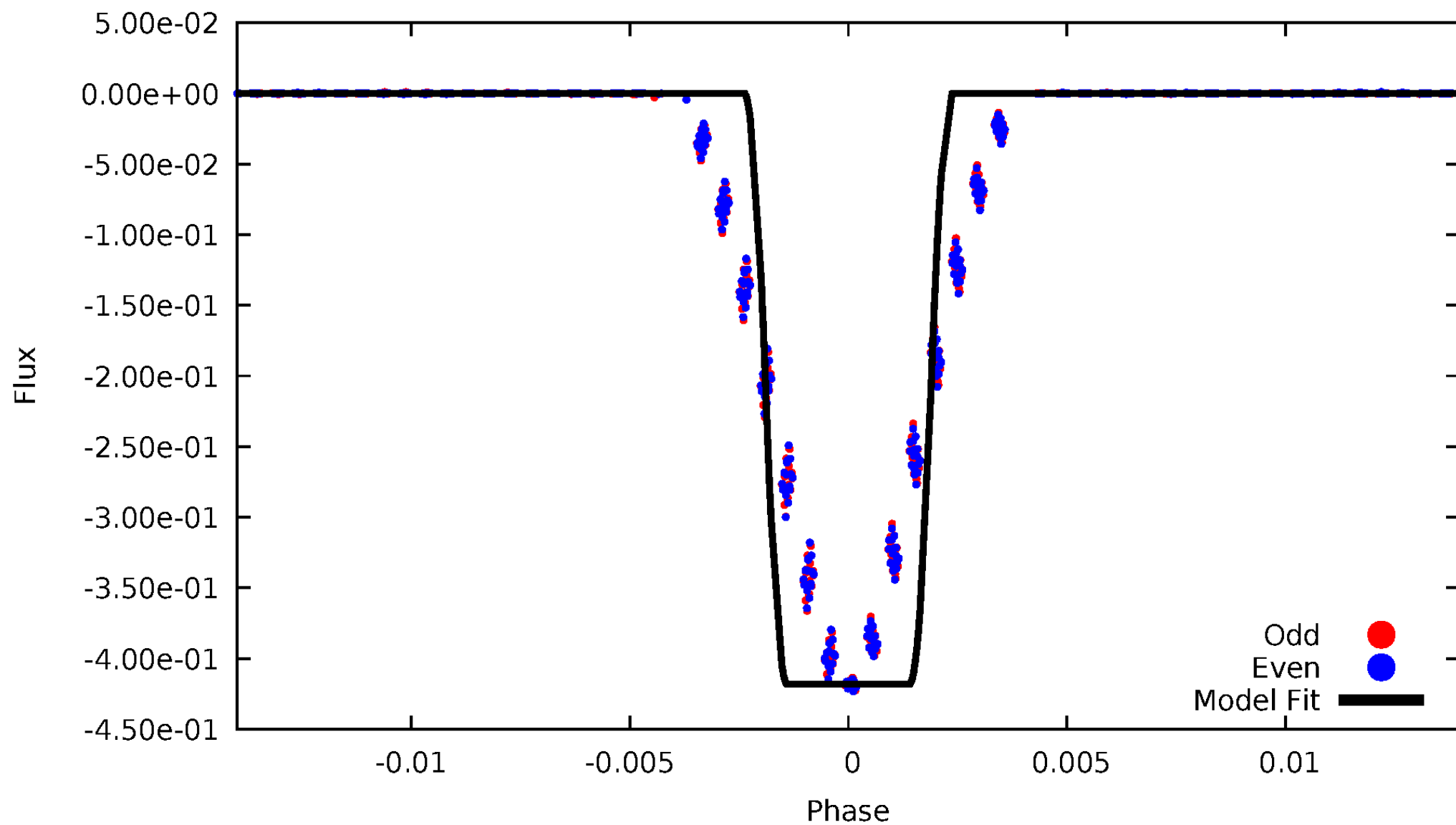
DV Odd/Even

TCE 008553907-02



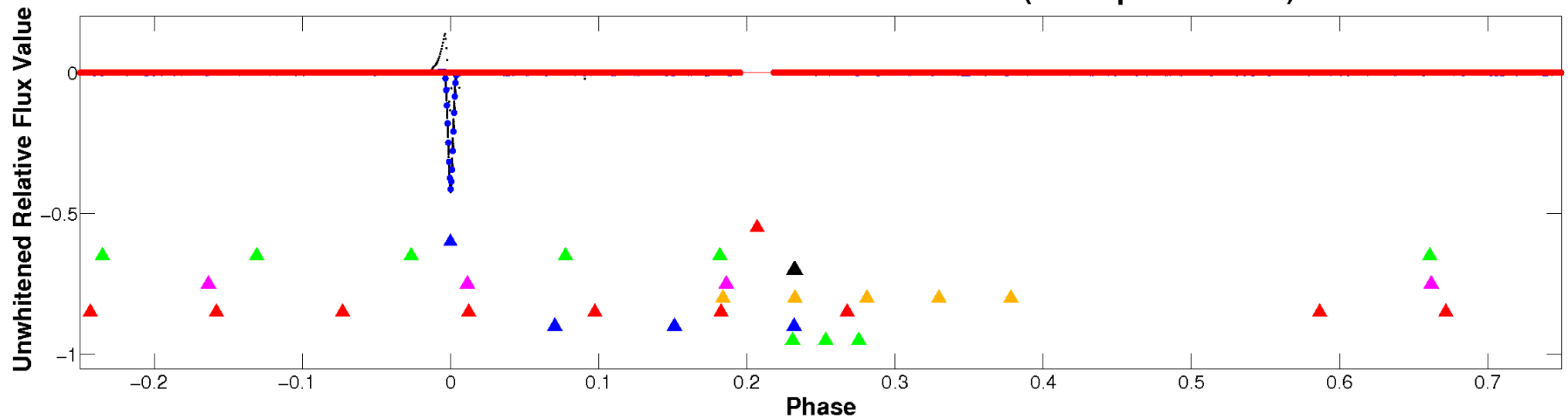
ALT Odd/Even

TCE 008553907-02

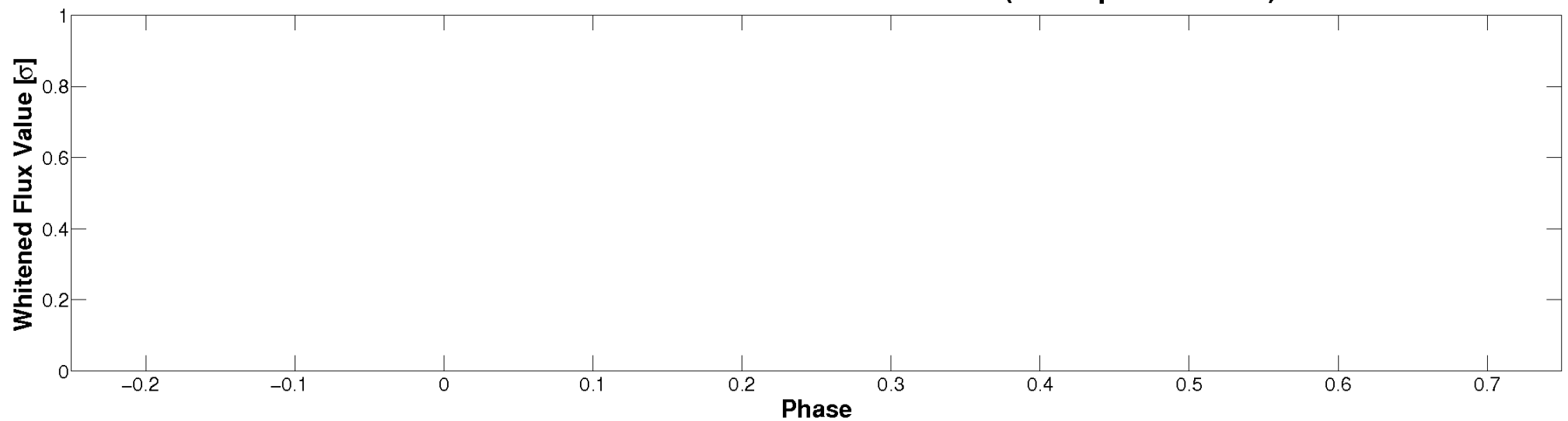


Non-Whitened Vs. Whitened Light Curve

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

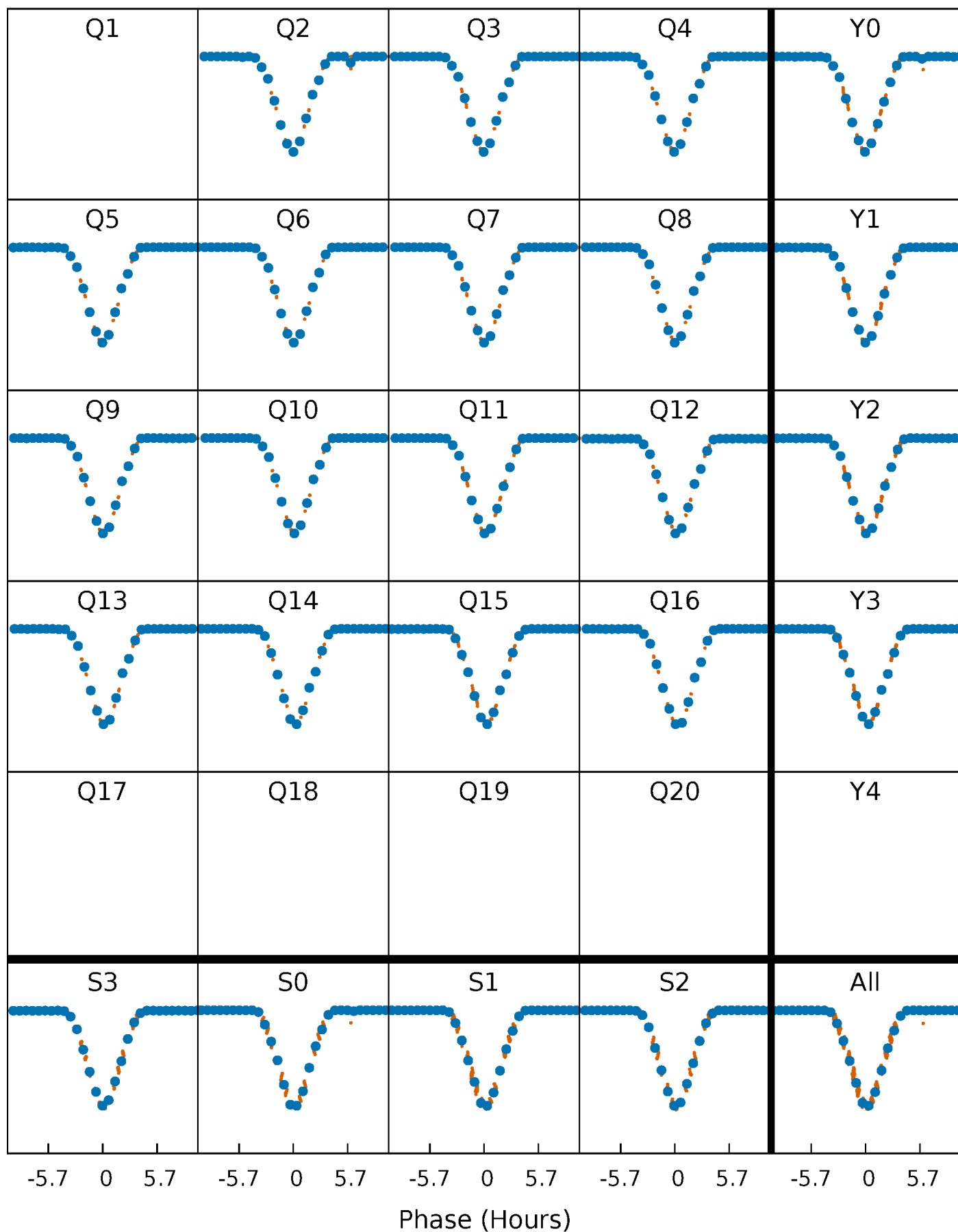


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



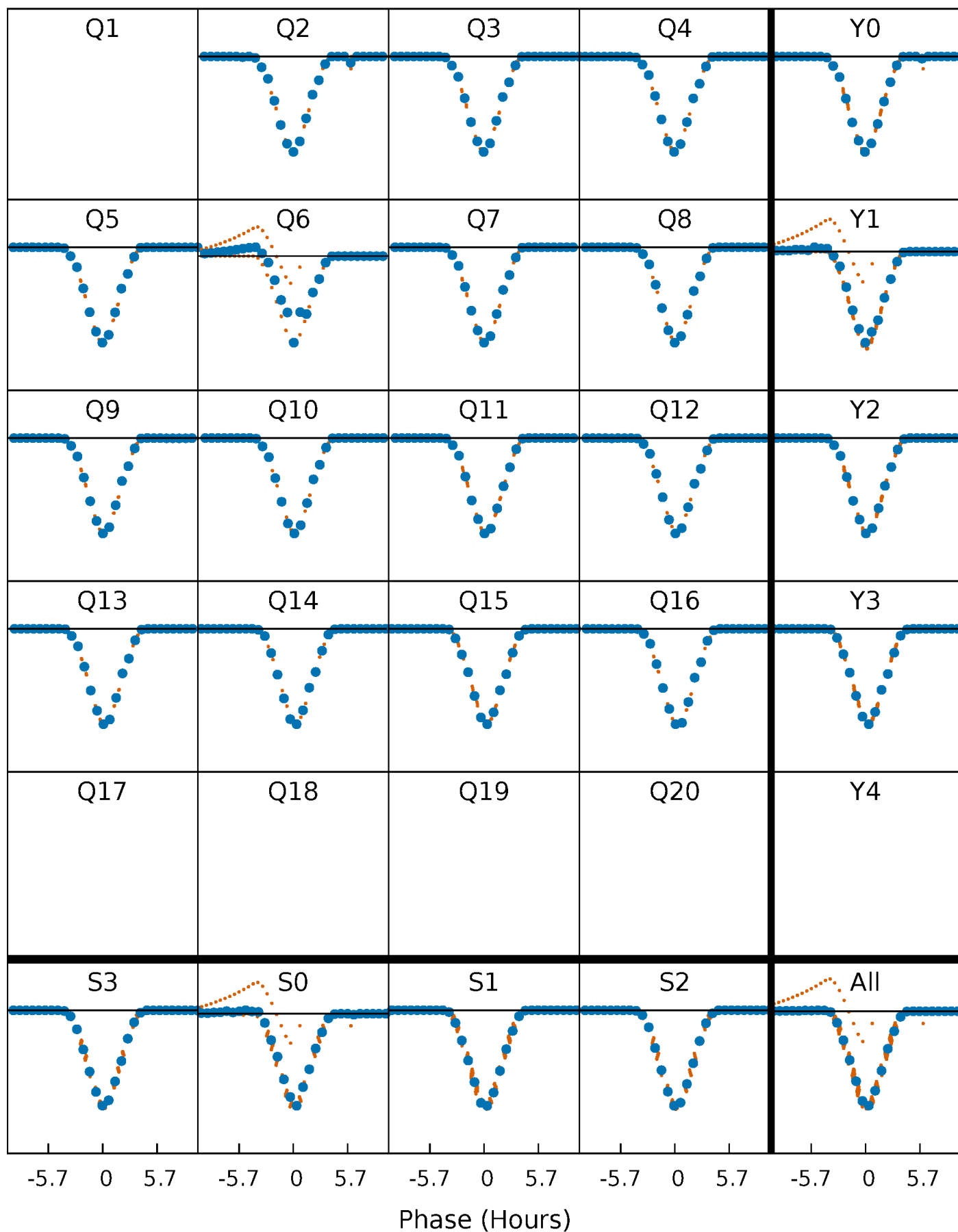
PDC Quarter-Phased Transit Curves

TCE 008553907-02 P= 42.031672 Days $T_0=166.918948$ (BKJD)



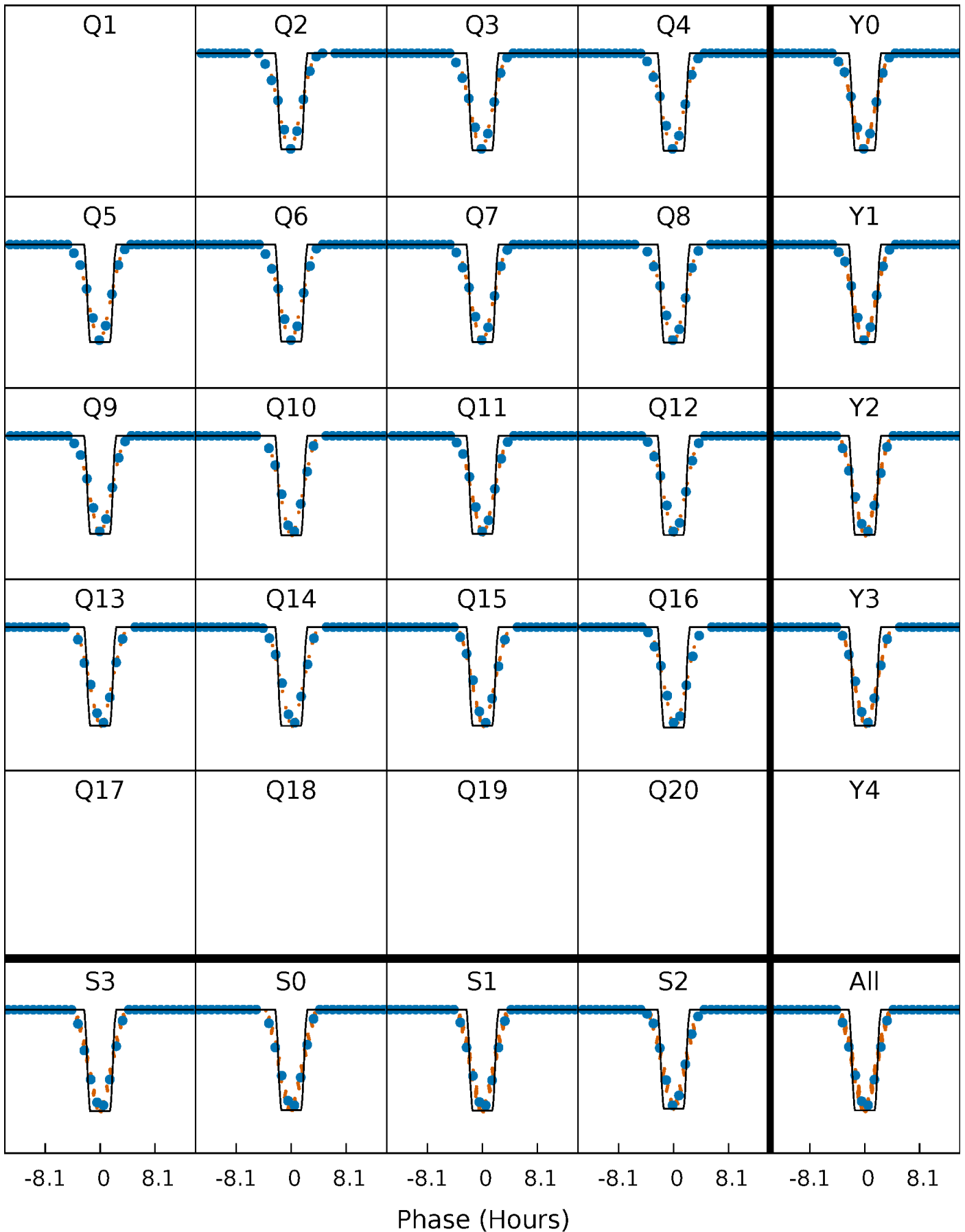
DV Quarter-Phased Transit Curves

TCE 008553907-02 P= 42.031672 Days $T_0=166.918948$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

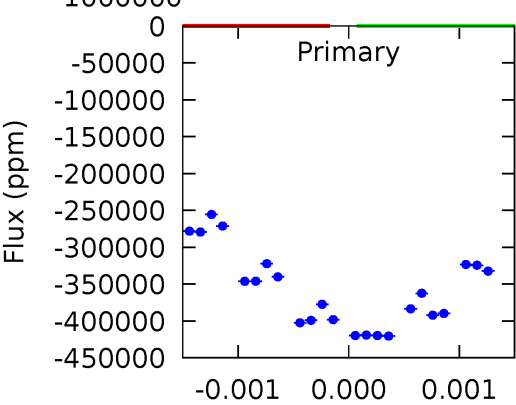
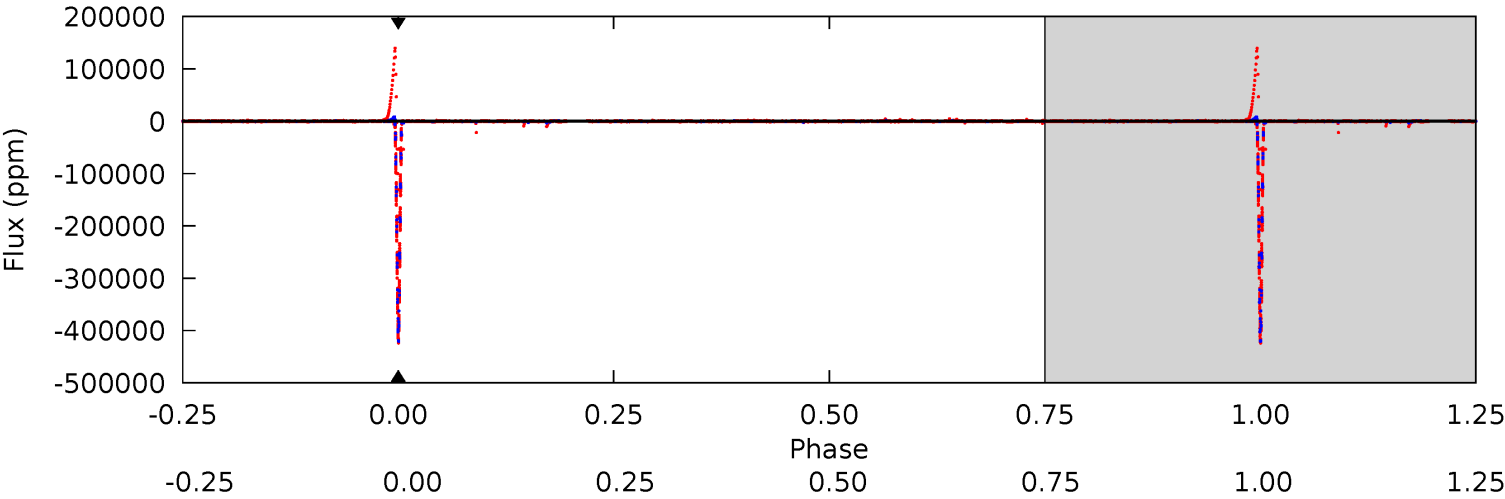
TCE 008553907-02 P= 42.031672 Days $T_0=166.924600$ (BKJD)



DV Model-Shift Uniqueness Test

008553907-02, P = 42.031672 Days, E = 124.887276 Days

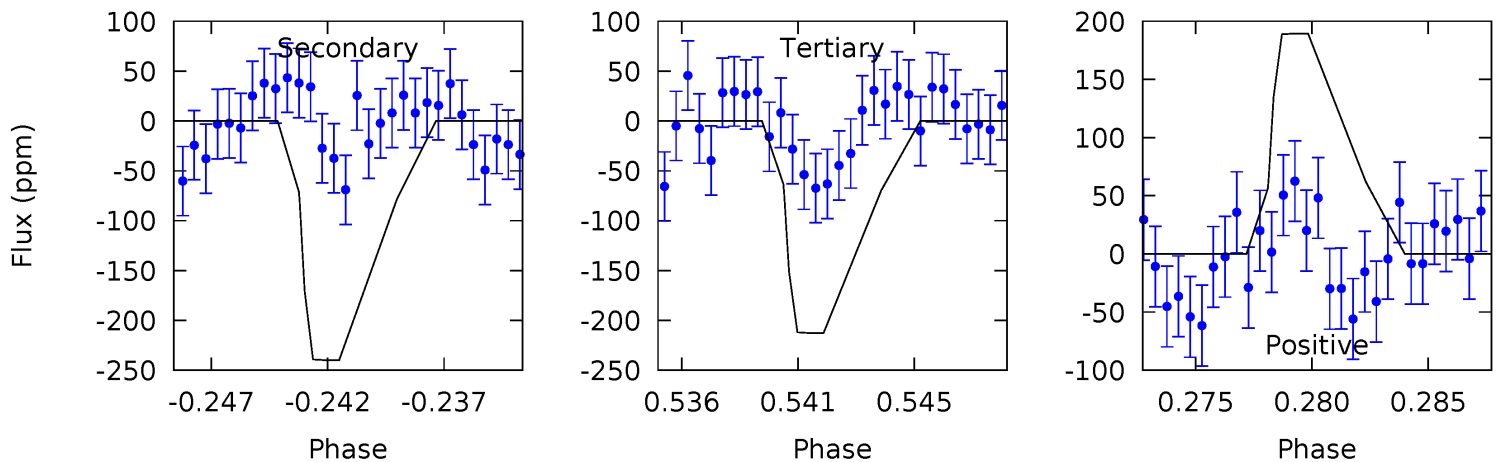
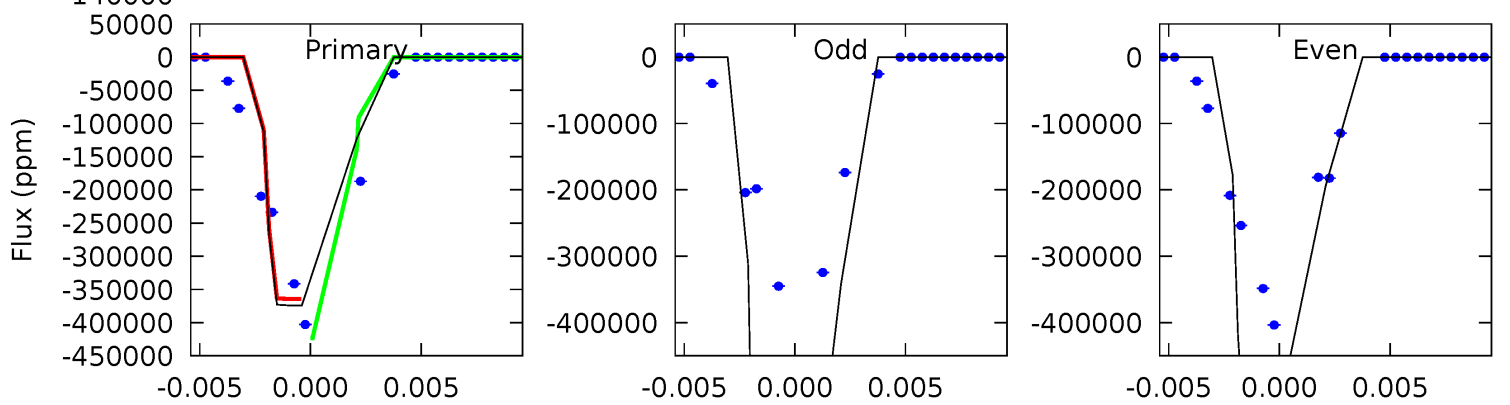
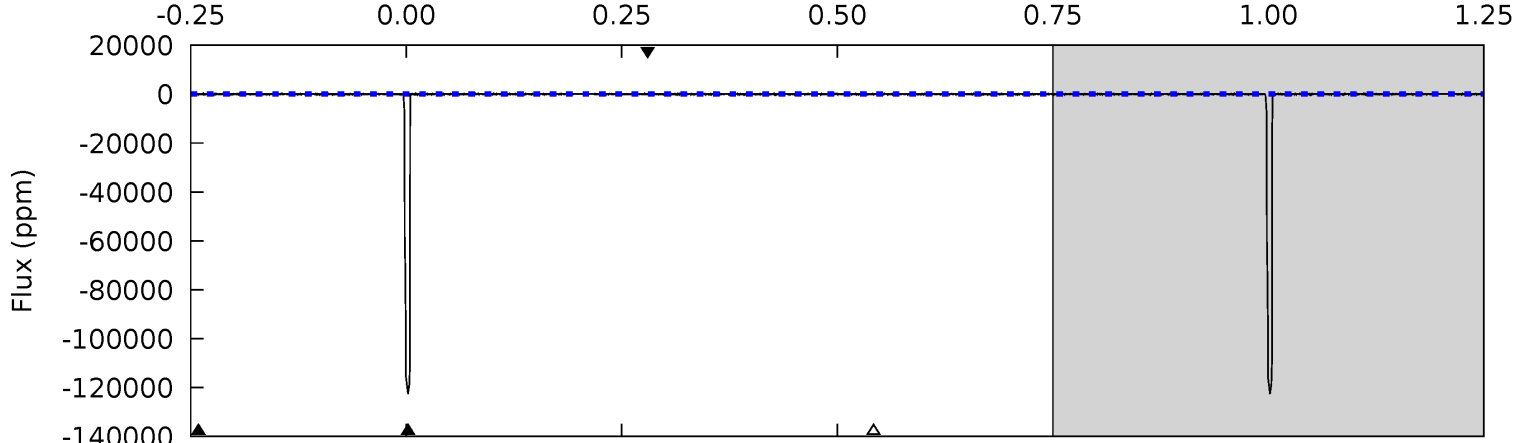
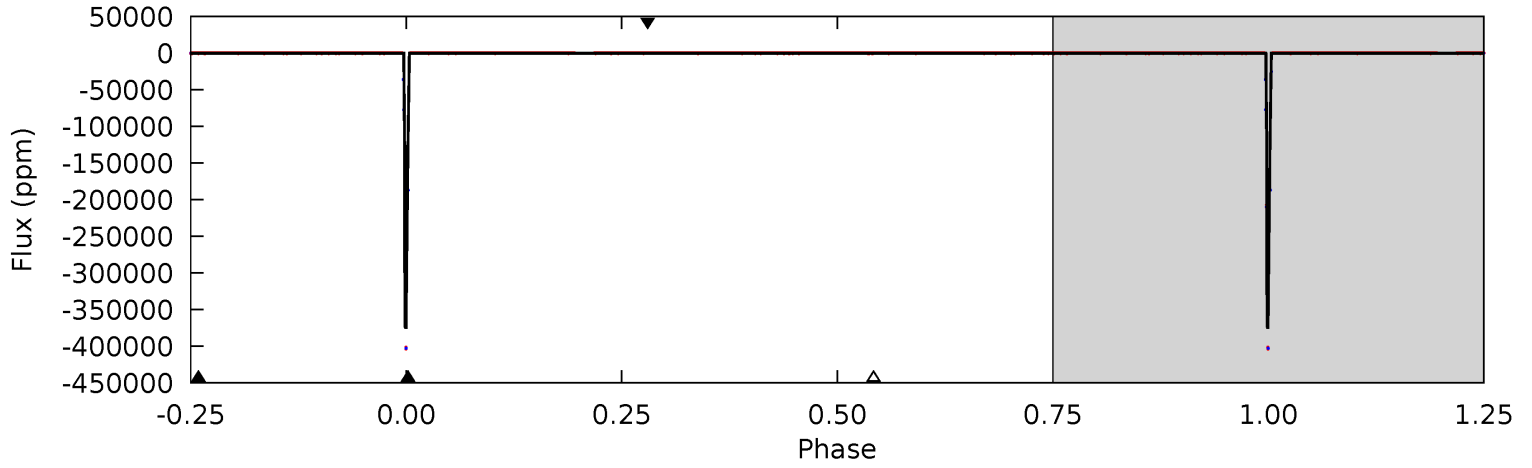
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008553907-02, P = 42.031672 Days, E = 124.892928 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1222	0.78	0.69	0.62	5.17	2.82	0.20	1221	1222	0.09	0.17	1044	1.00	0.00	0



Stellar Parameters For KIC 008553907

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6618^{+148}_{-198}	$4.393^{+0.063}_{-0.147}$	$-0.360^{+0.250}_{-0.300}$	$1.117^{+0.250}_{-0.125}$	$1.128^{+0.125}_{-0.139}$	$1.139^{+0.311}_{-0.464}$
	+2%/-3%	+1%/-3%	+69%/-83%	+22%/-11%	+11%/-12%	+27%/-41%
Source	PHO1	FLK73	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 008553907-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$62.64^{+15.52}_{-12.76}$	878^{+51}_{-38}	-3083^{+8433}_{-2137}	$-35.835^{+920.196}_{-717.873}$
Alt.	-79 ± 100	$80.92^{+14.91}_{-14.23}$	879^{+46}_{-39}	1579^{+329}_{-3399}	$0.387^{+0.637}_{-0.482}$

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

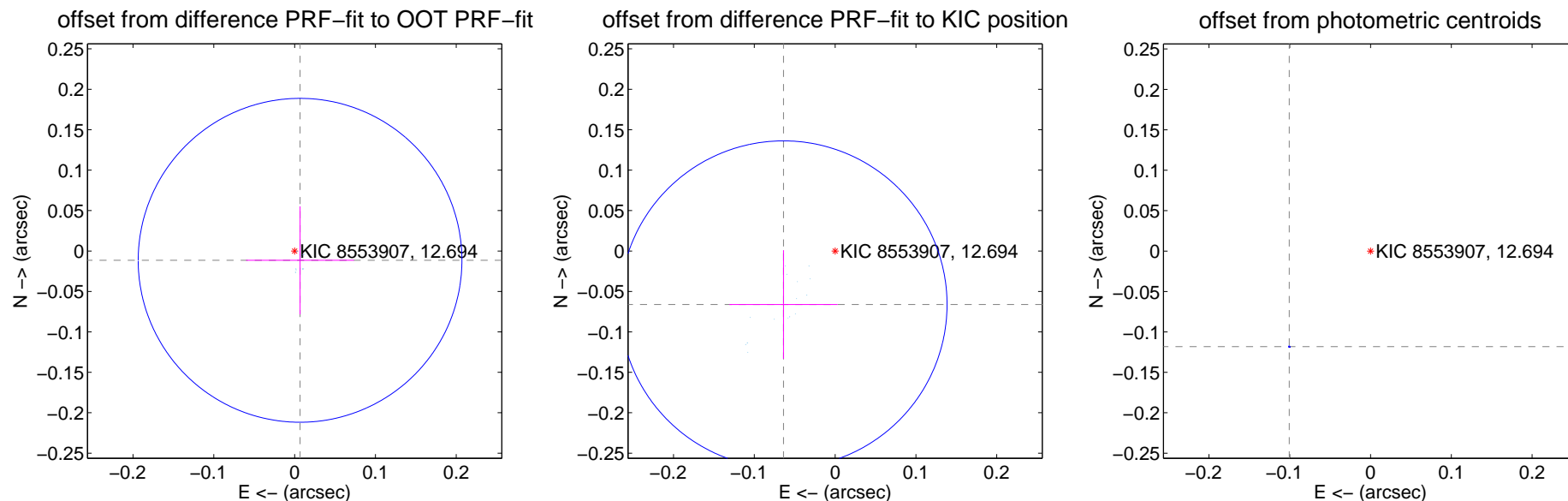
DV Centroid Data

Supplemental centroid analysis for 008553907-02. Kepler magnitude: 12.69. Transit SNR -1.00

There are 15 quarters with good PRF difference image offsets

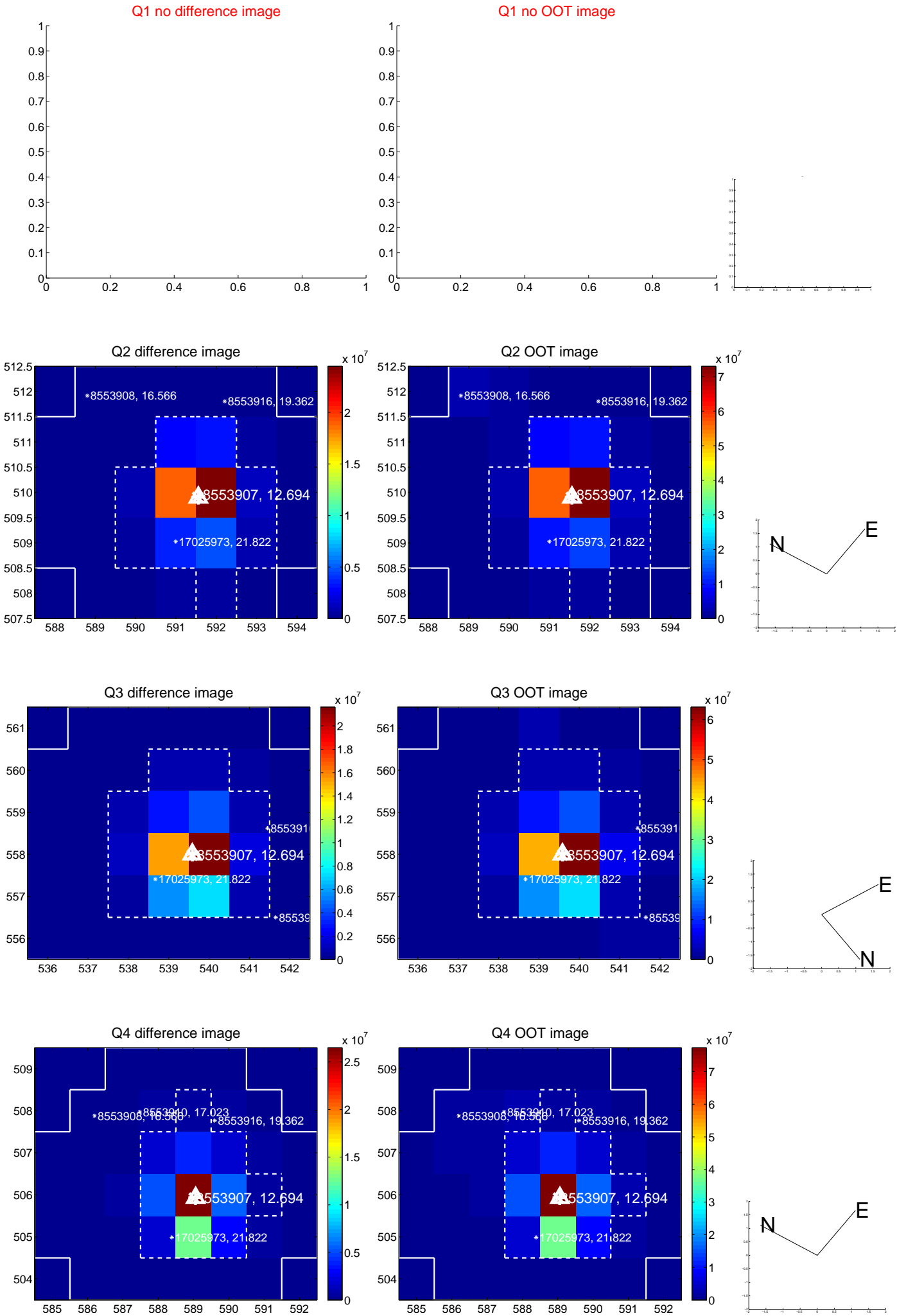
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.013 ± 0.067	0.20	-0.007 ± 0.067	-0.011 ± 0.067
PRF-fit source offset from KIC position	0.092 ± 0.067	1.36	0.064 ± 0.067	-0.066 ± 0.067
photometric centroid source offset	0.16 ± 0.00	518.03	0.10 ± 0.00	-0.12 ± 0.00

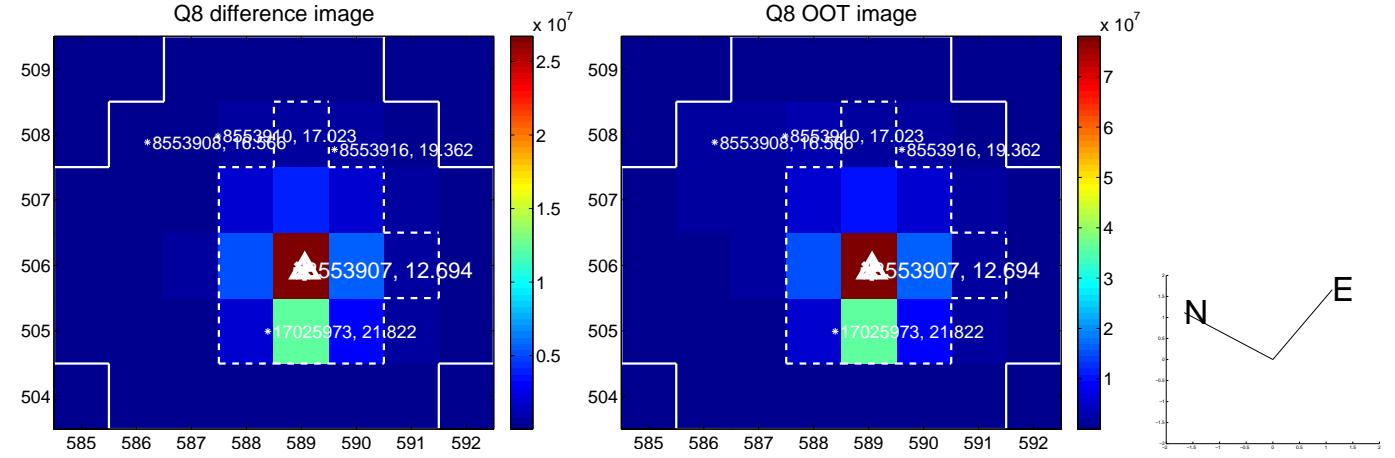
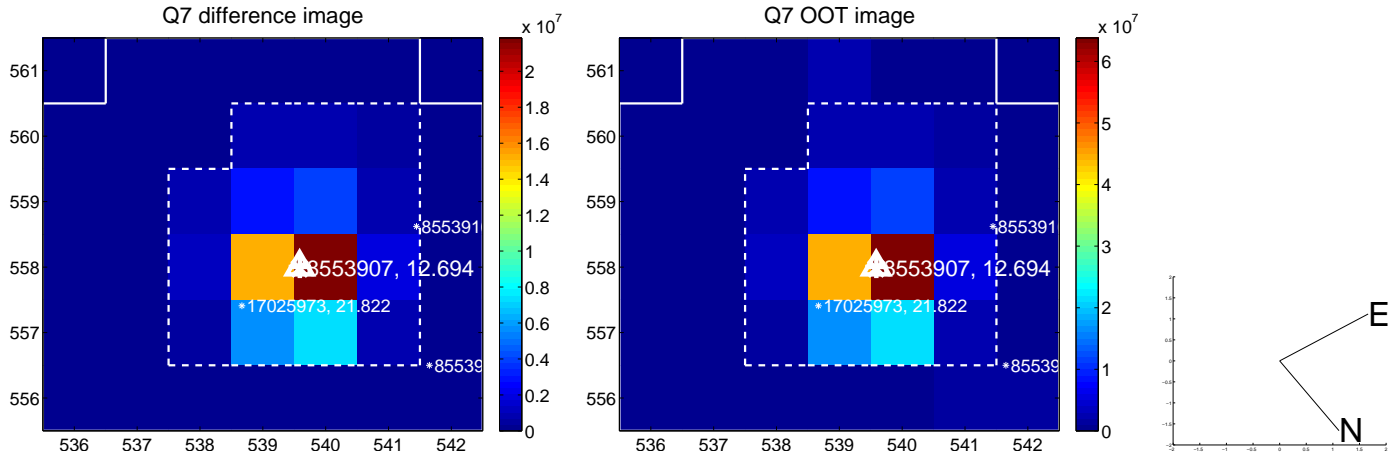
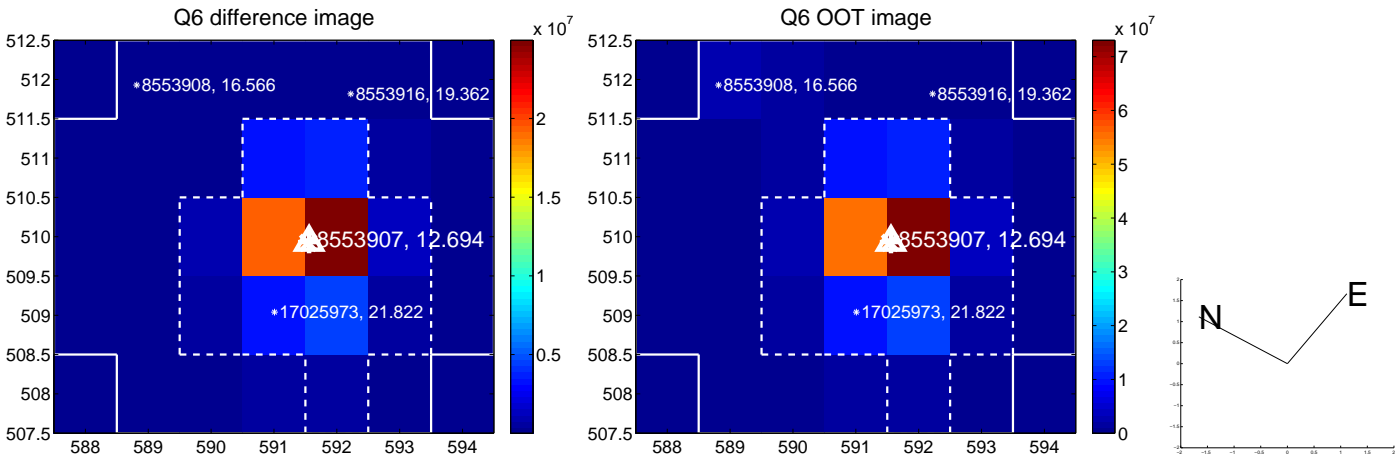
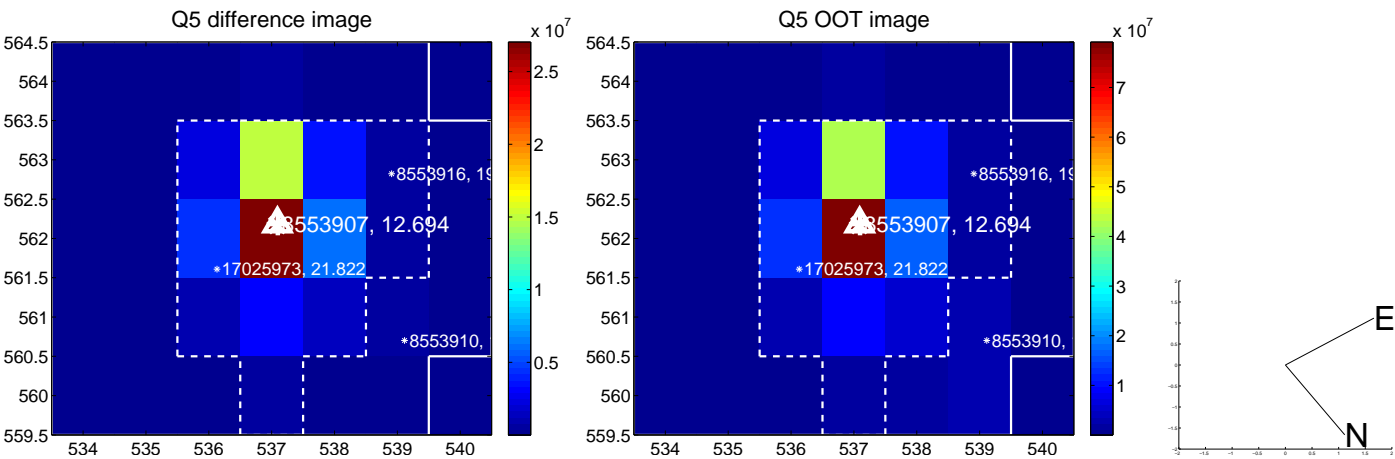


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

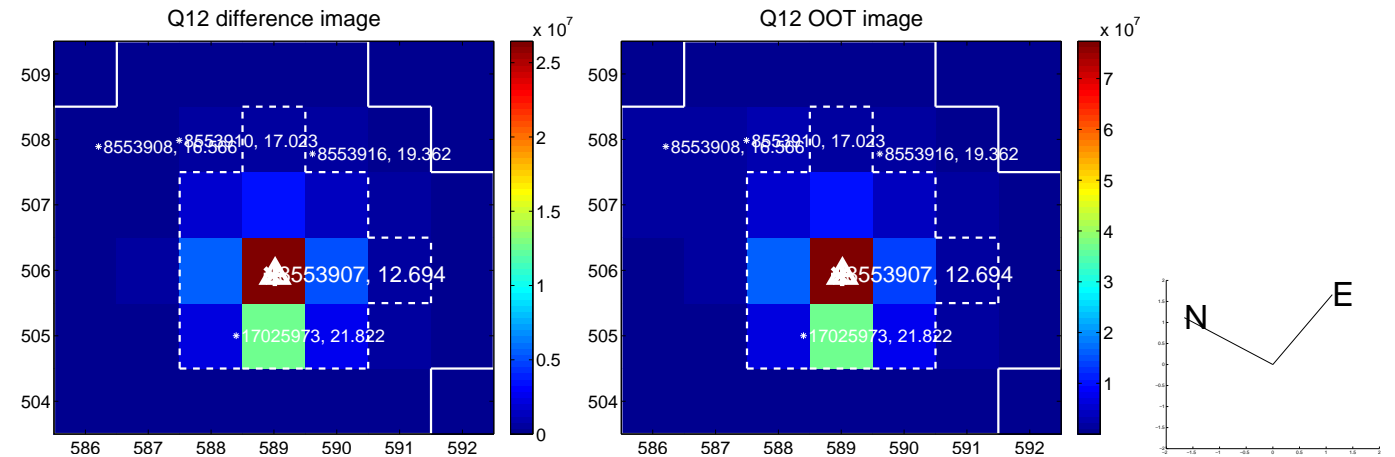
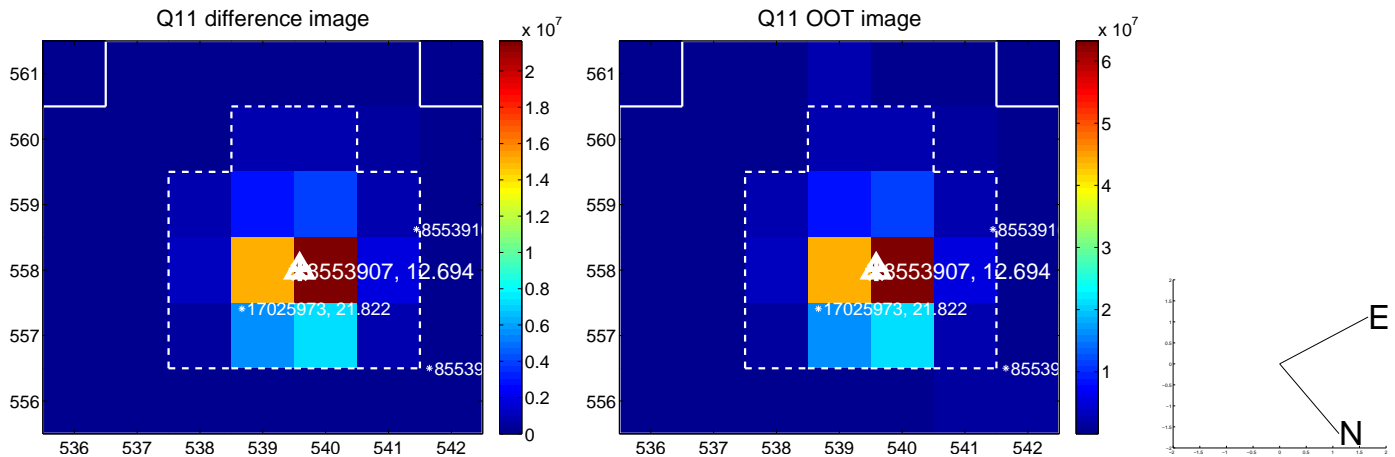
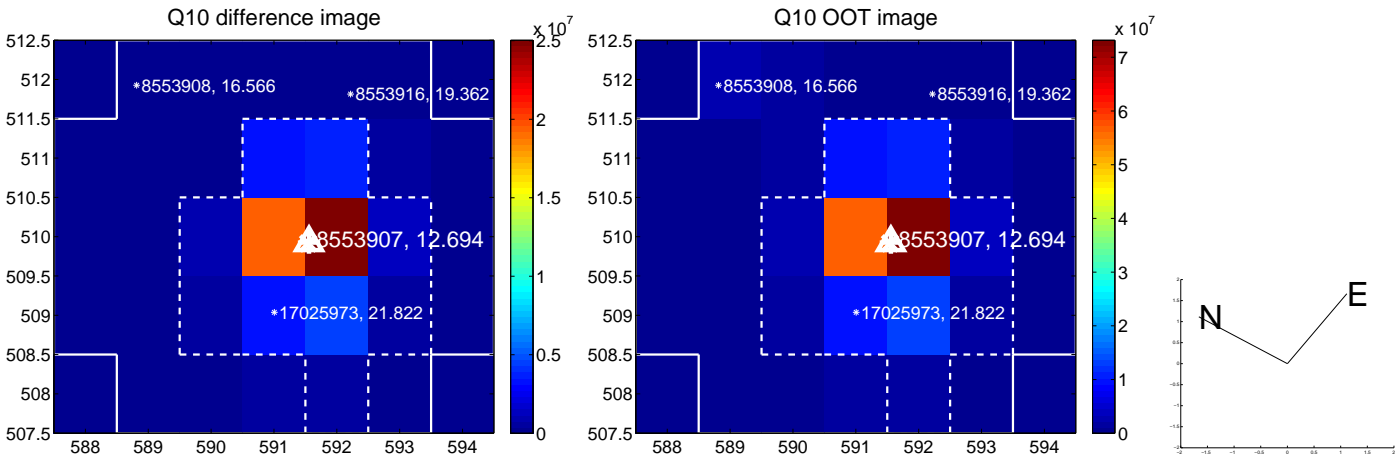
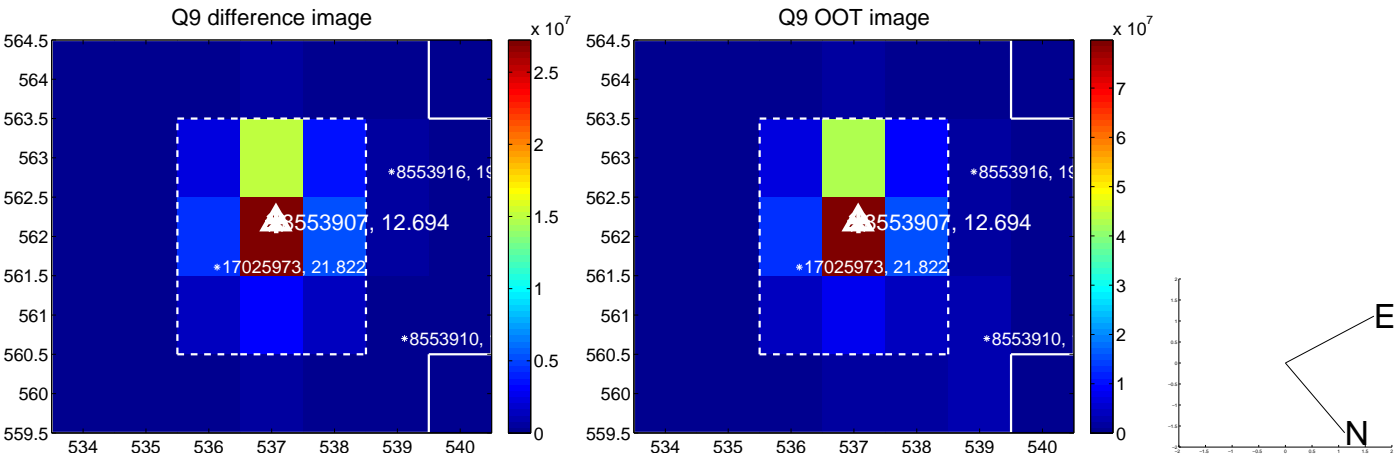
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



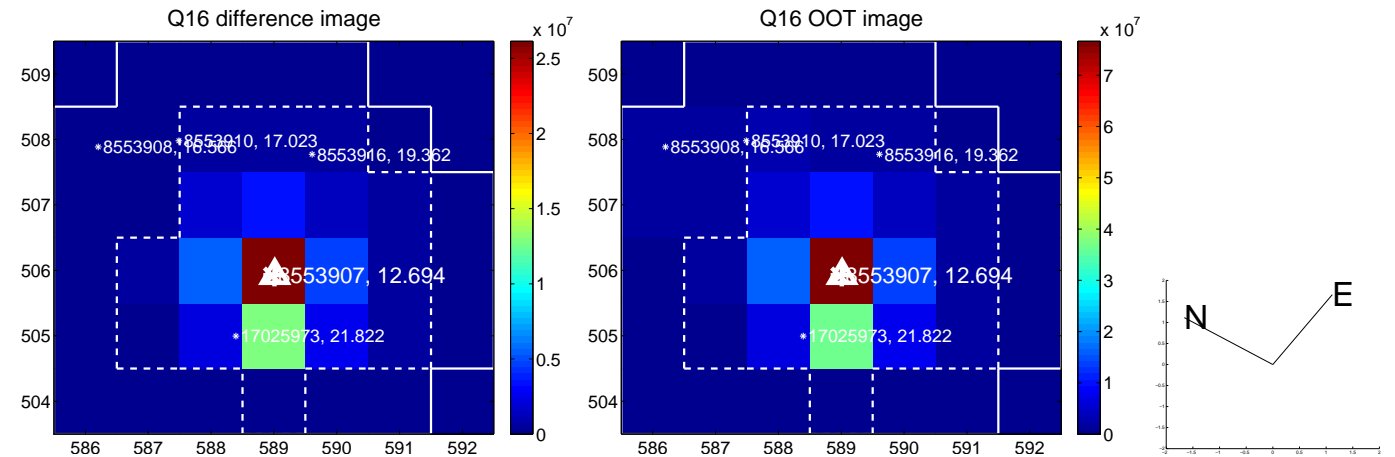
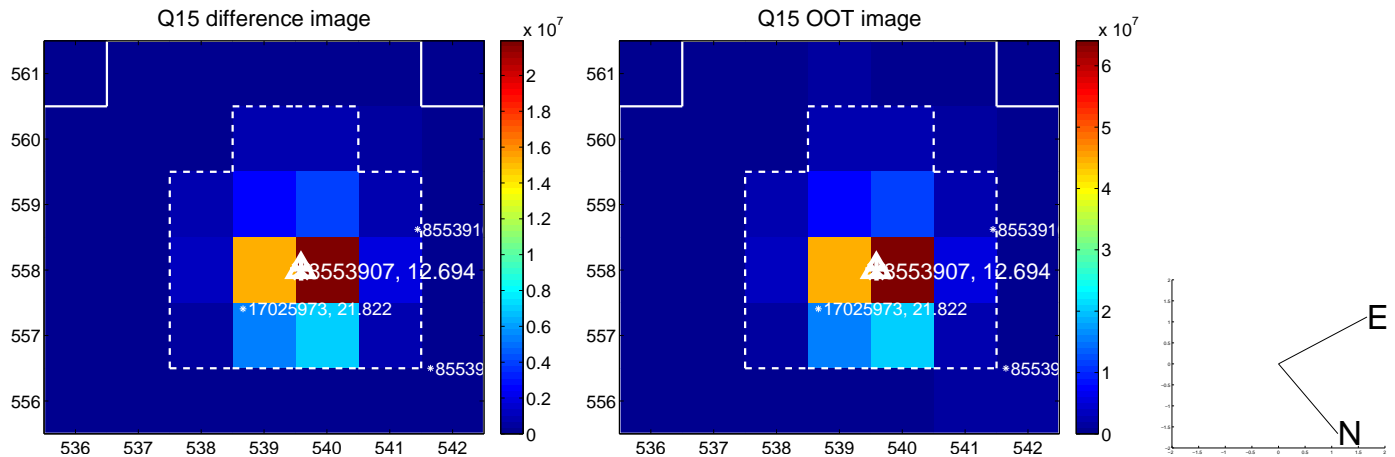
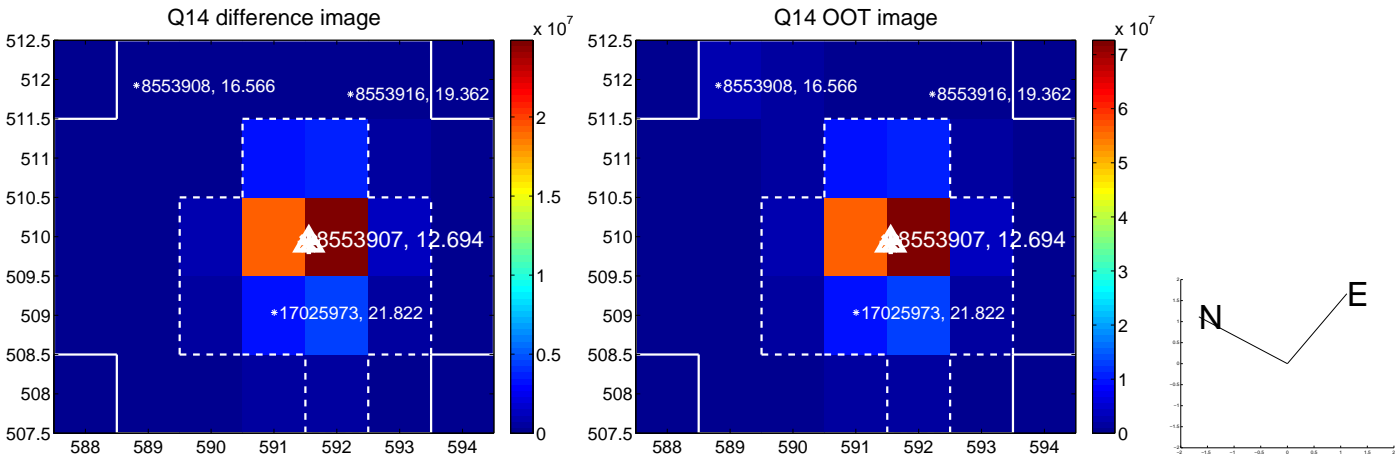
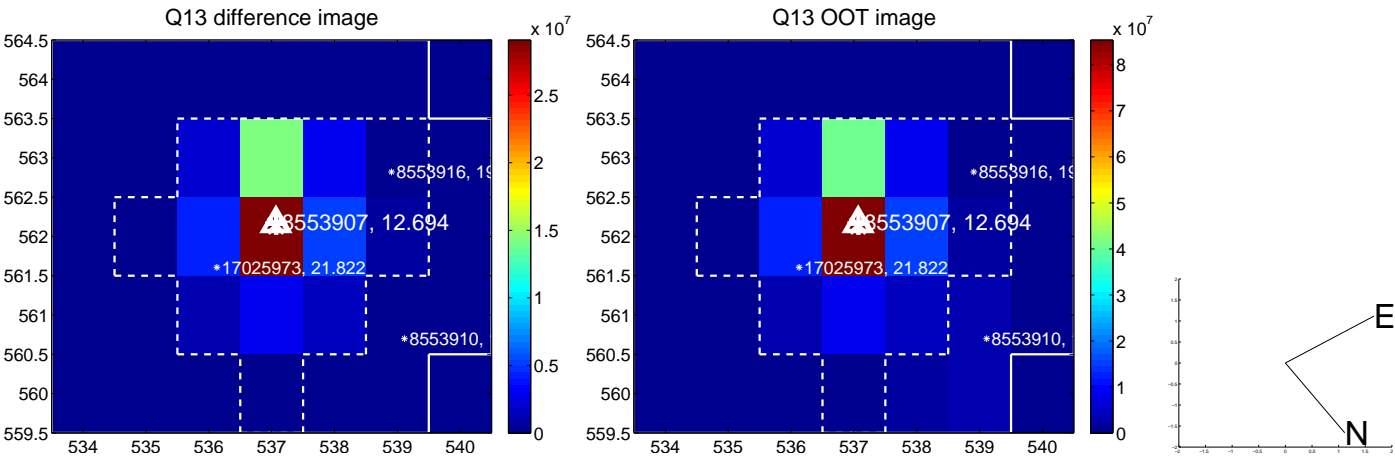
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



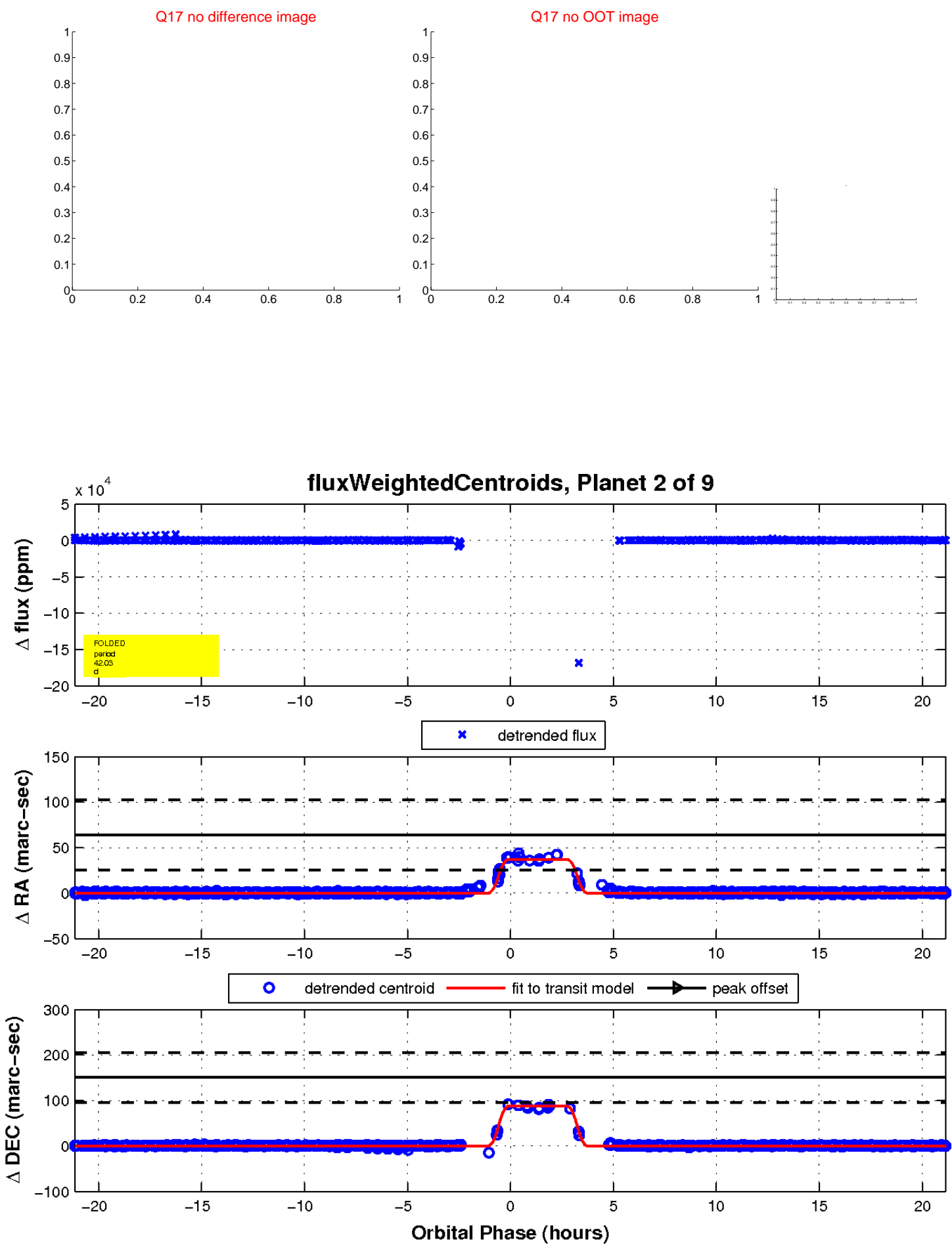
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

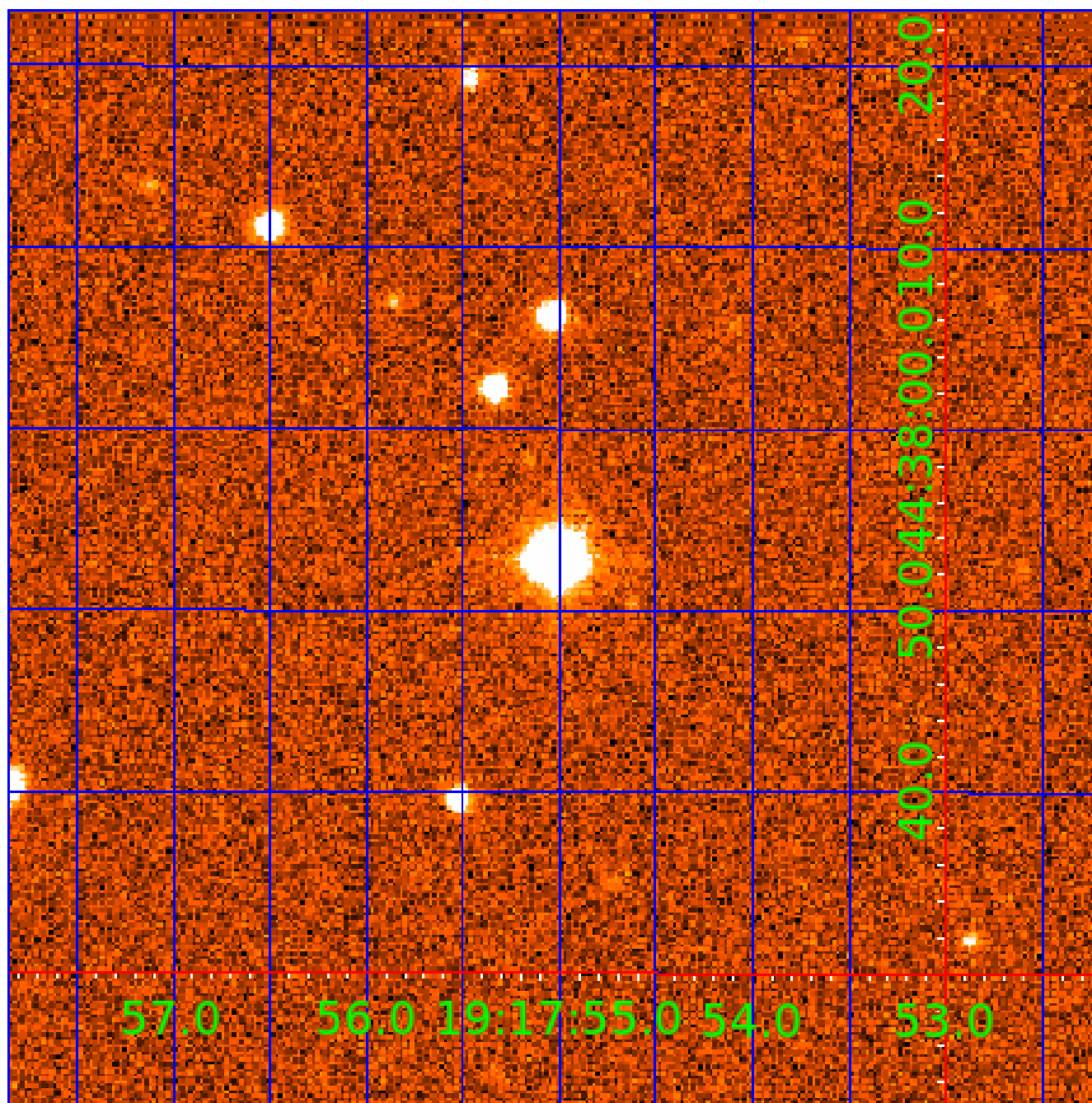


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
008553907-01	OBS	7056.01	42.031158	133.595217	399533.3	7.500	40551.4	-1.0	1.12	6618	60.09	35.41
008553907-02	OBS	No	42.031672	166.918948	419889.0	5.000	40386.0	-1.0	1.12	6618	60.95	35.41
008553907-03	OBS	No	247.811404	132.529266	10565.8	12.000	559.2	-1.0	1.12	6618	11.57	3.32
008553907-04	OBS	No	714.554782	134.633923	8364.8	12.000	573.5	-1.0	1.12	6618	10.30	0.81
008553907-05	OBS	No	343.598598	320.835899	2815.8	1.408	334.0	26.4	1.12	6618	11.09	2.15
008553907-06	OBS	No	292.179474	392.975422	6658.7	12.000	339.7	-1.0	1.12	6618	9.19	2.67
008553907-07	OBS	No	171.705196	149.545205	118.0	4.450	317.5	5.8	1.12	6618	1.33	5.42
008553907-08	OBS	No	465.742133	422.069406	5702.9	15.000	316.5	-1.0	1.12	6618	8.50	1.43
008553907-09	OBS	No	419.378385	472.724201	7183.3	10.500	333.6	-1.0	1.12	6618	9.54	1.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008553907-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
008553907-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
008553907-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008553907-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS
008553907-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_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_FEW_DIFFS
008553907-06	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008553907-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—HALO_GHOST
008553907-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008553907-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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.

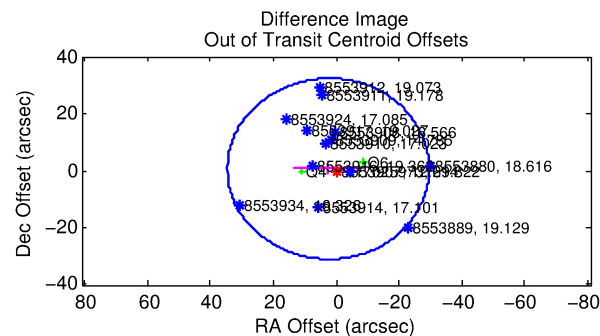
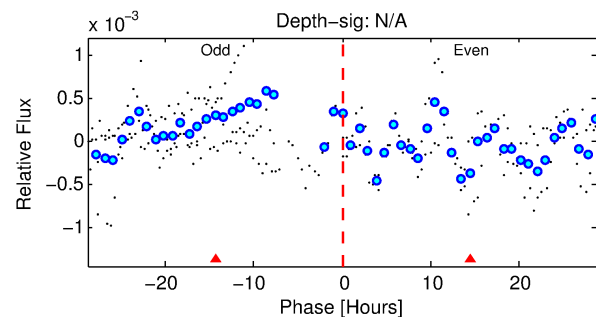
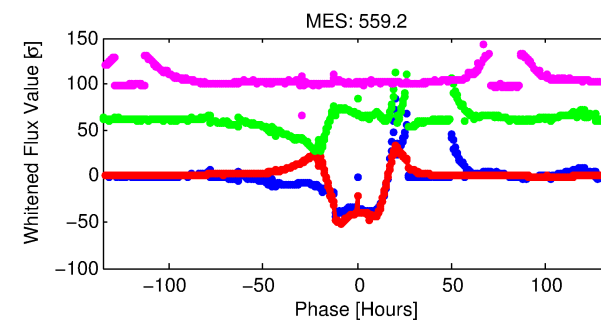
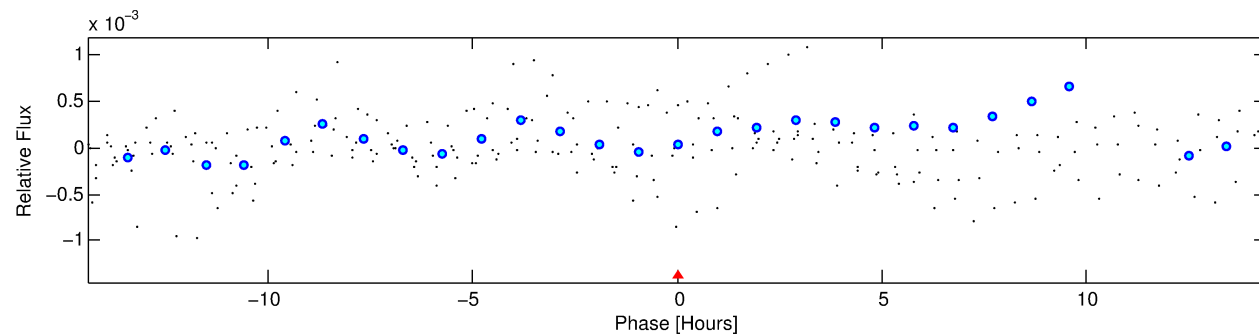
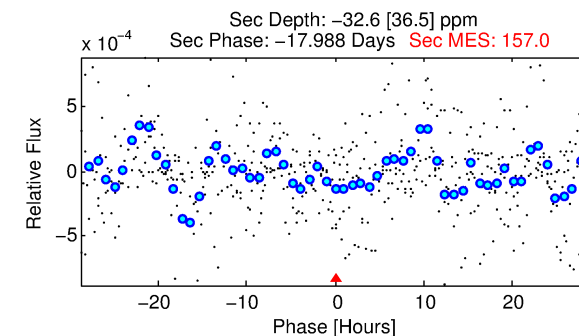
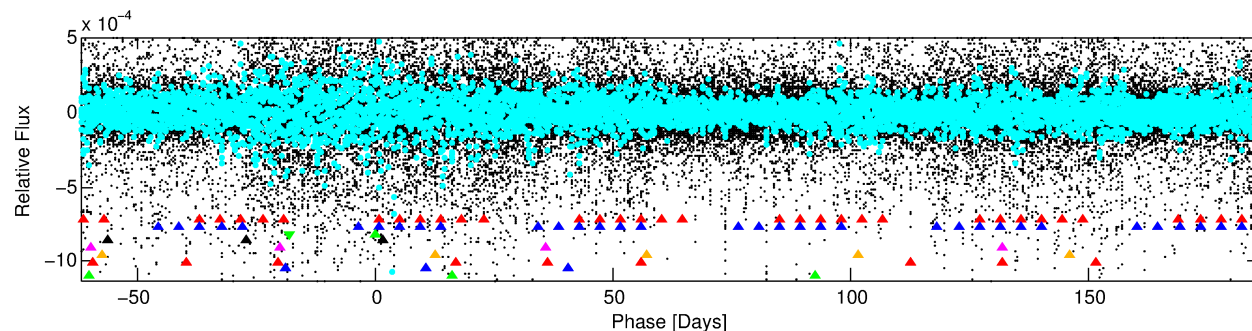
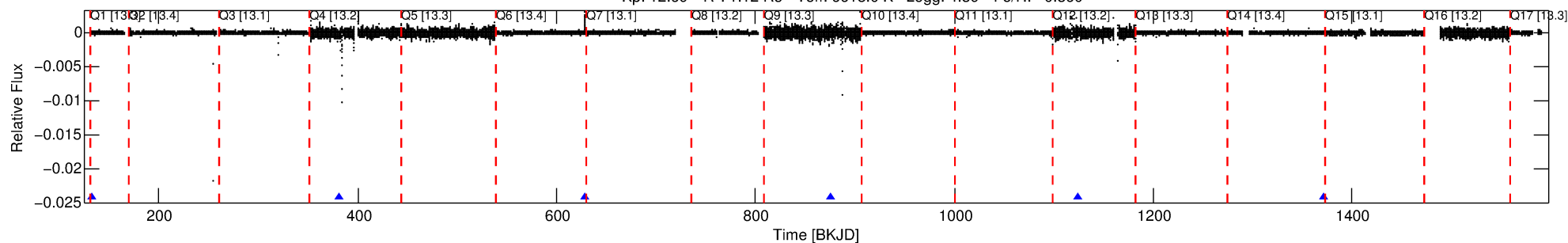
Ephemeris Match Information For 008553907-03

No Significant Match Found

DV One-Page Summary

KIC: 8553907 Candidate: 3 of 9 Period: 247.811 d
KOI: K07056 Corr: No Ephemeris Match

Kp: 12.69 R*: 1.12 Rs Teff: 6618.0 K Logg: 4.39 Fe/H: -0.360



TPS TCE Results:

Period = 247.81140 d
Epoch = 132.5293 BKJD

DV fit results are unavailable

DV Diagnostic Results:

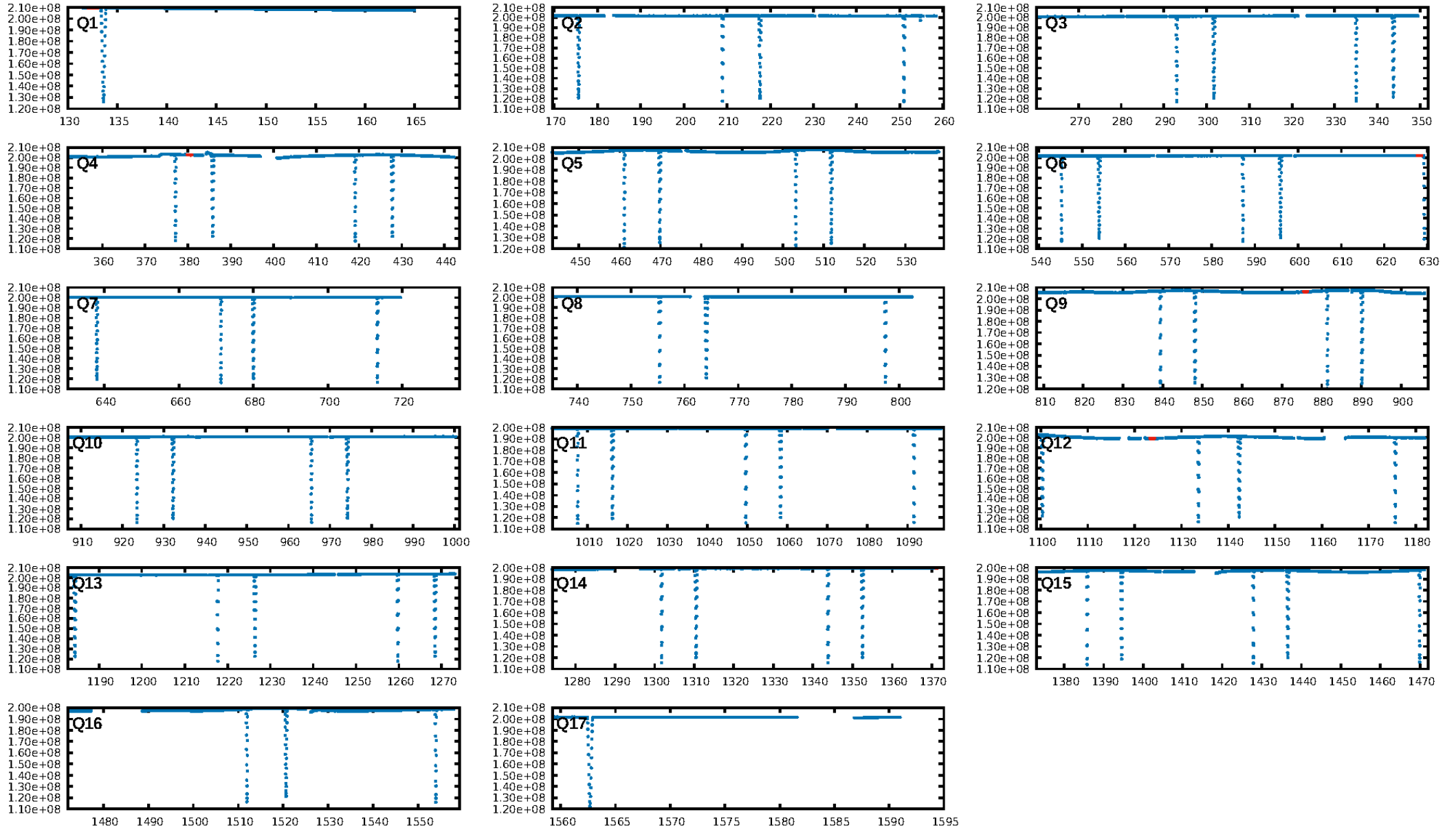
ShortPeriod-sig: 100.0% [142.71σ]
LongPeriod-sig: 100.0% [62.75σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -100.1

Centroid-sig: 0.0%
Centroid-so: 3.925 arcsec [3.26σ]
OotOffset-rm: 2.602 arcsec [0.24σ]
KicOffset-rm: 2.676 arcsec [0.25σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [5/5]

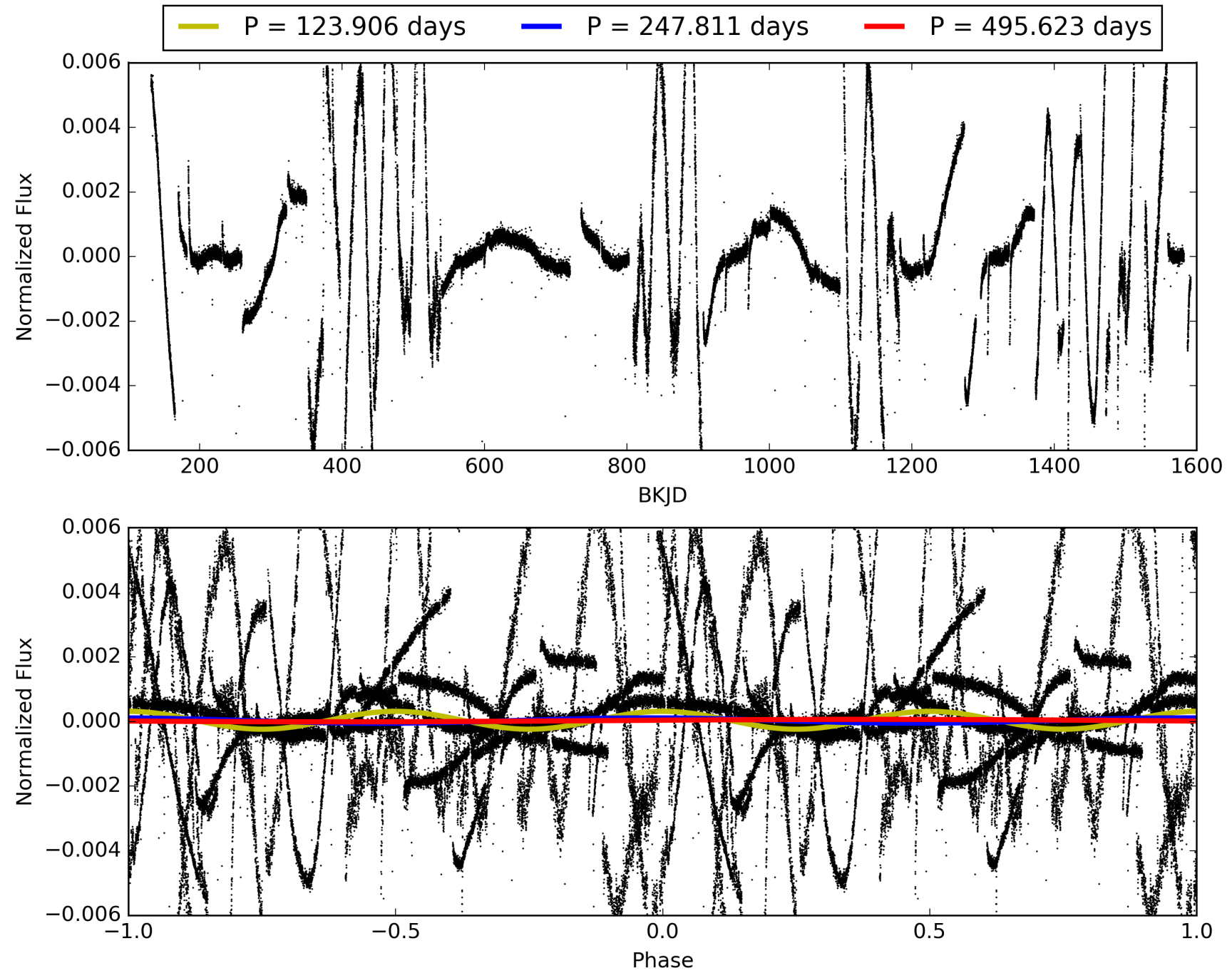
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:53:56 Z

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

TCE 008553907-03, PDC Light Curves

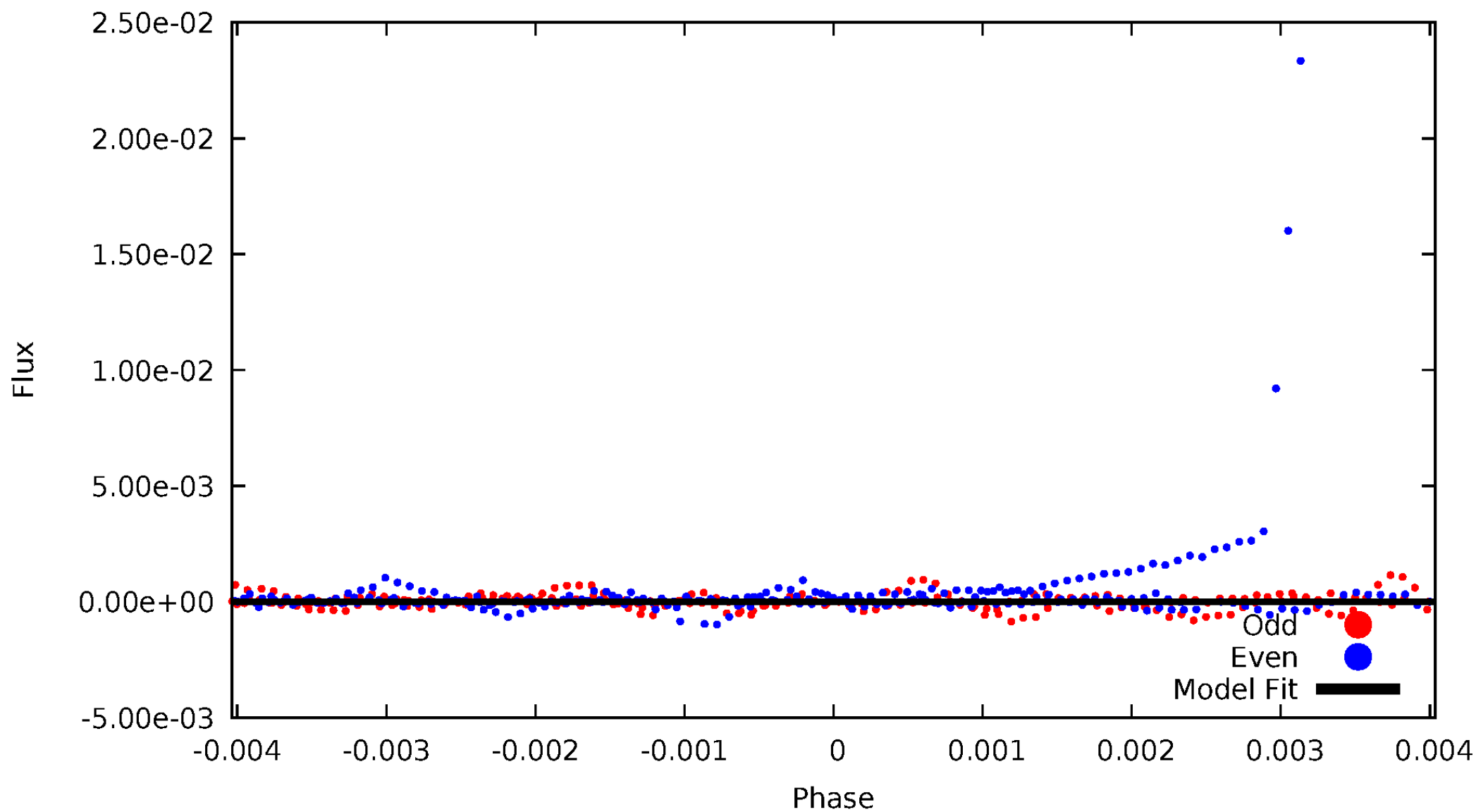


TCE 008553907-03



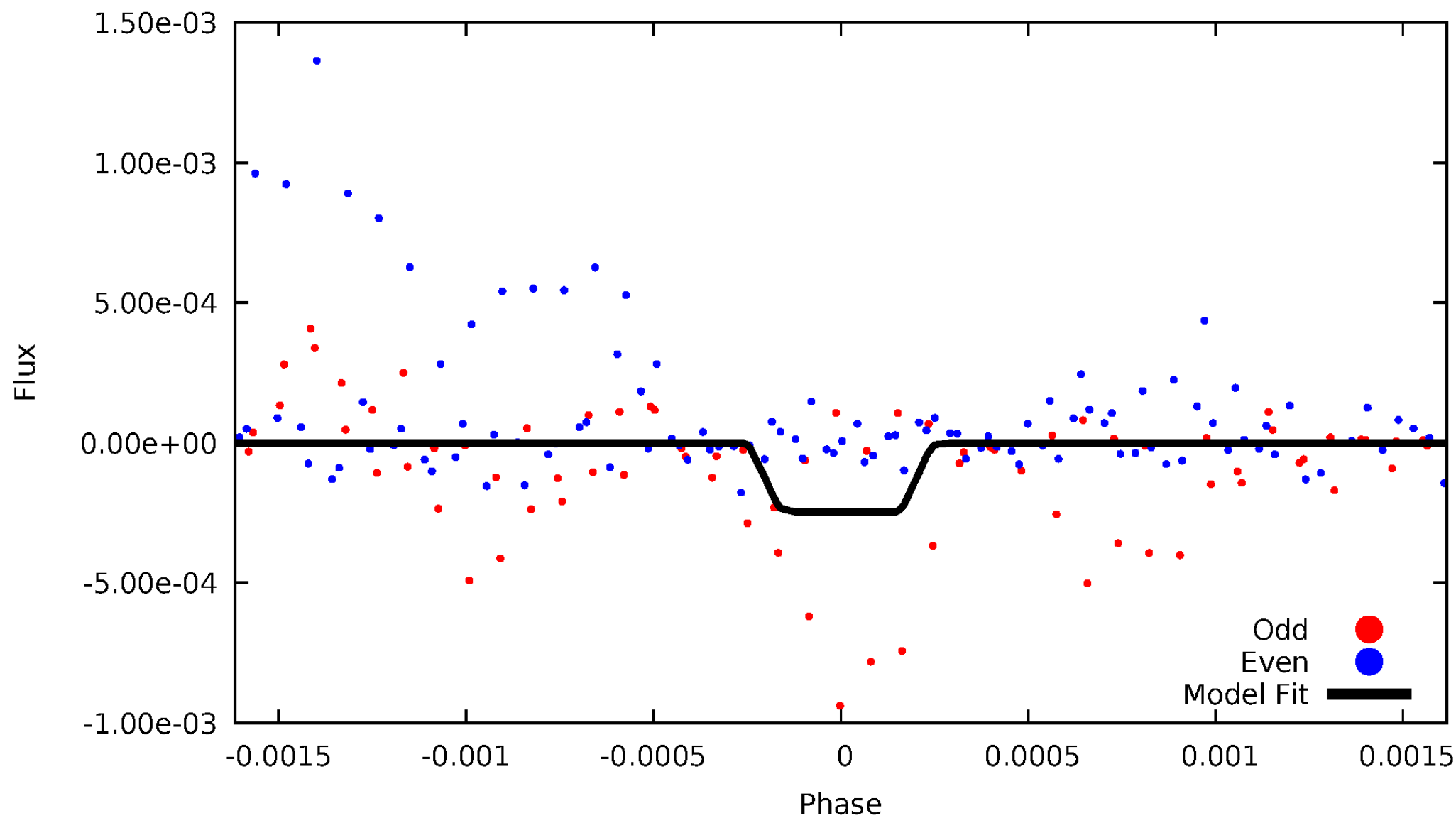
DV Odd/Even

TCE 008553907-03

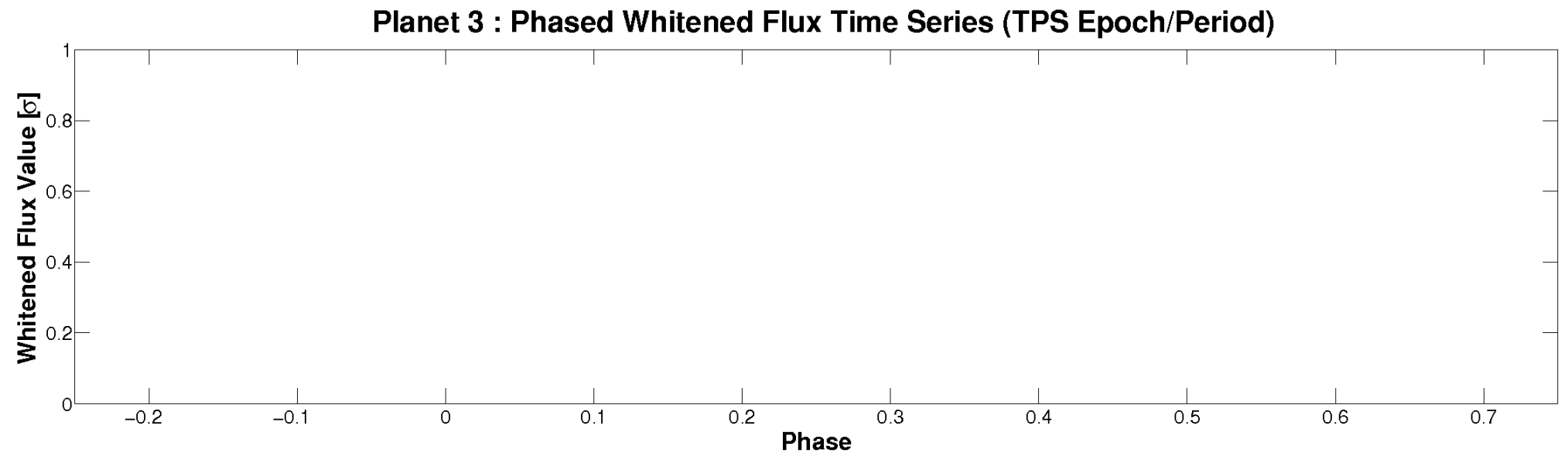
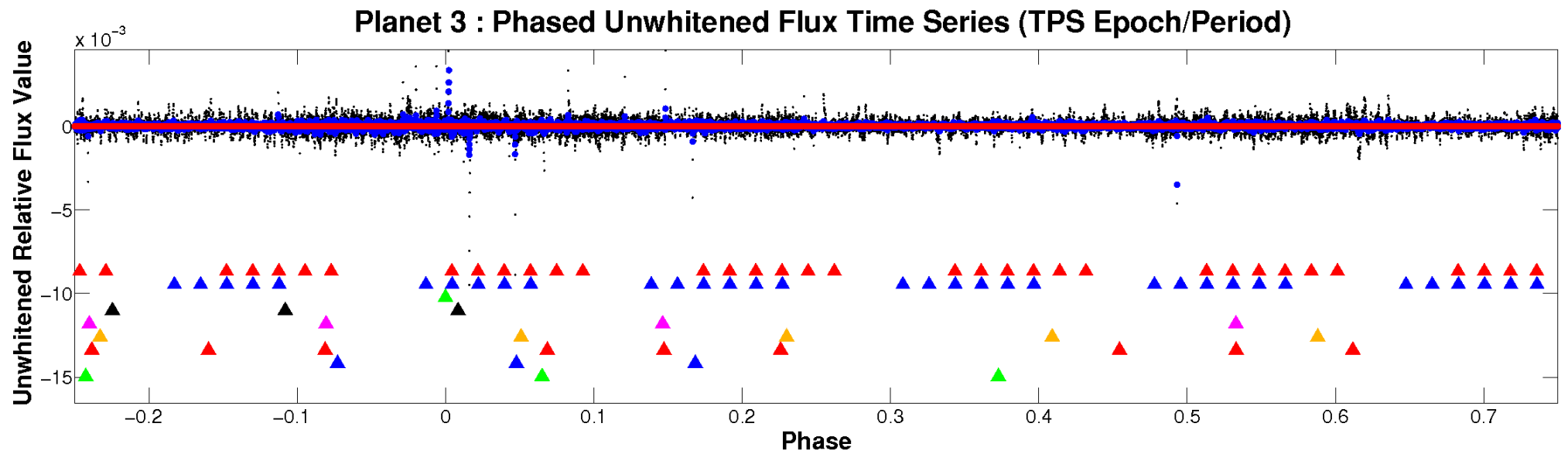


ALT Odd/Even

TCE 008553907-03

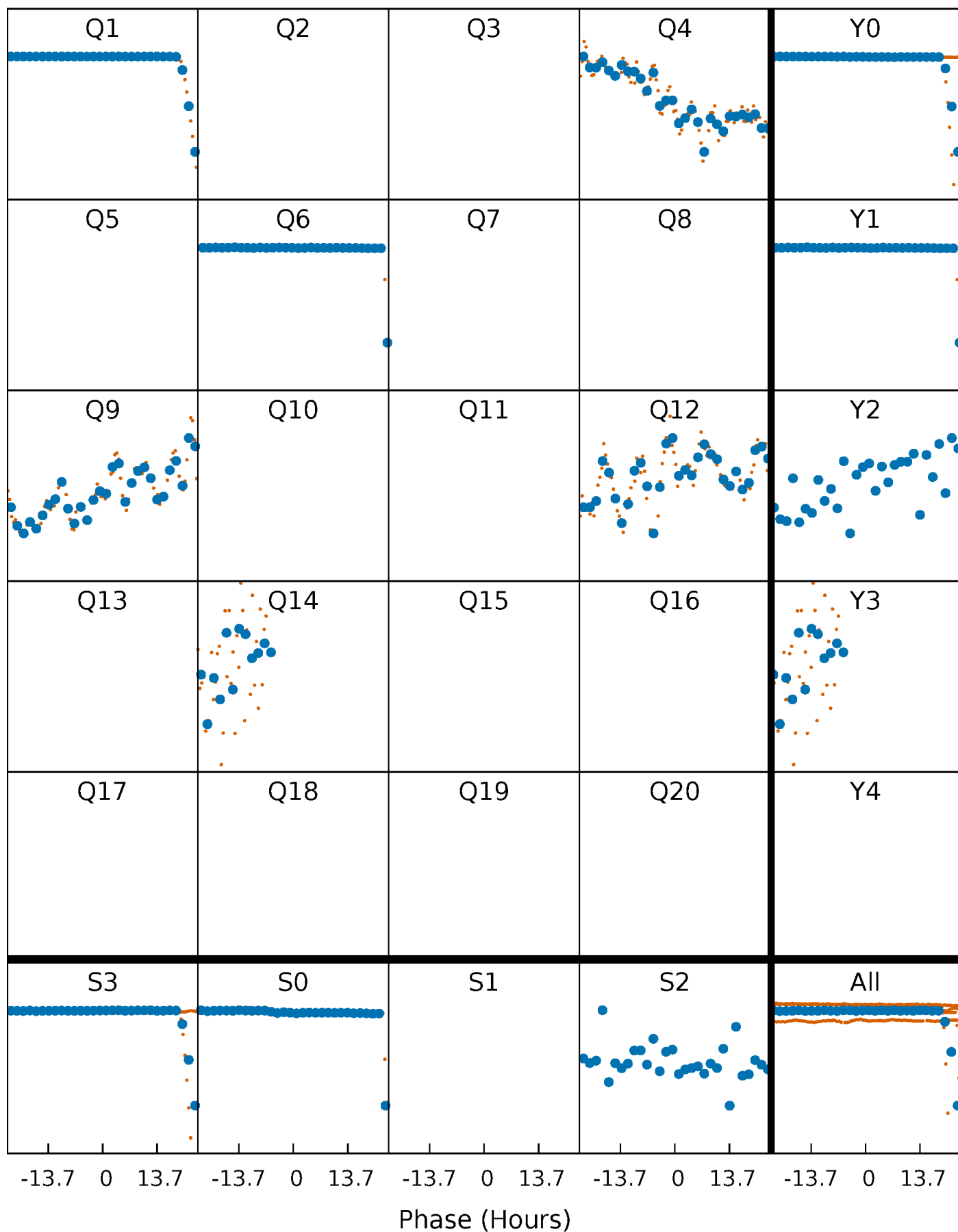


Non-Whitened Vs. Whitened Light Curve



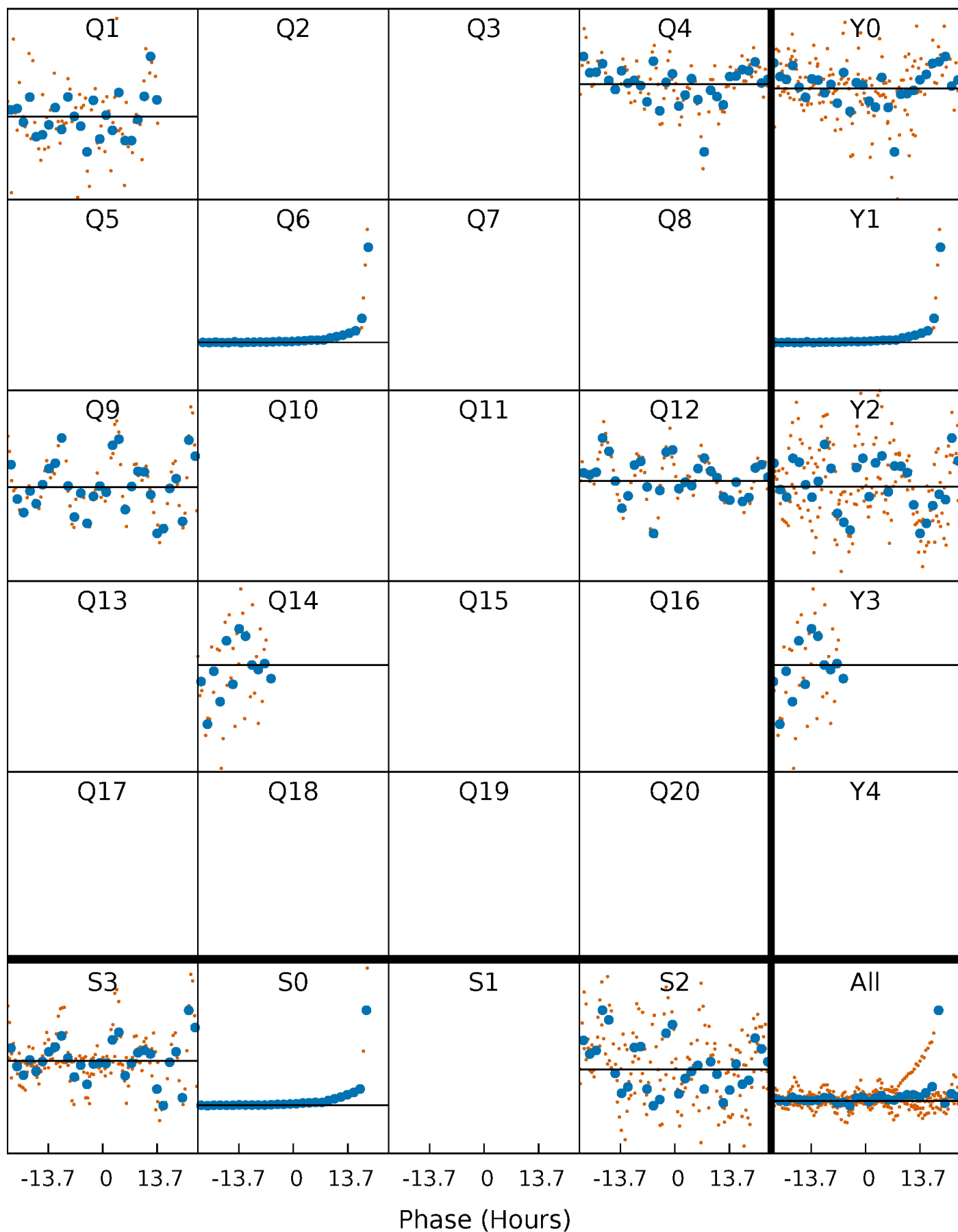
PDC Quarter-Phased Transit Curves

TCE 008553907-03 P=247.811405 Days $T_0=132.529266$ (BKJD)



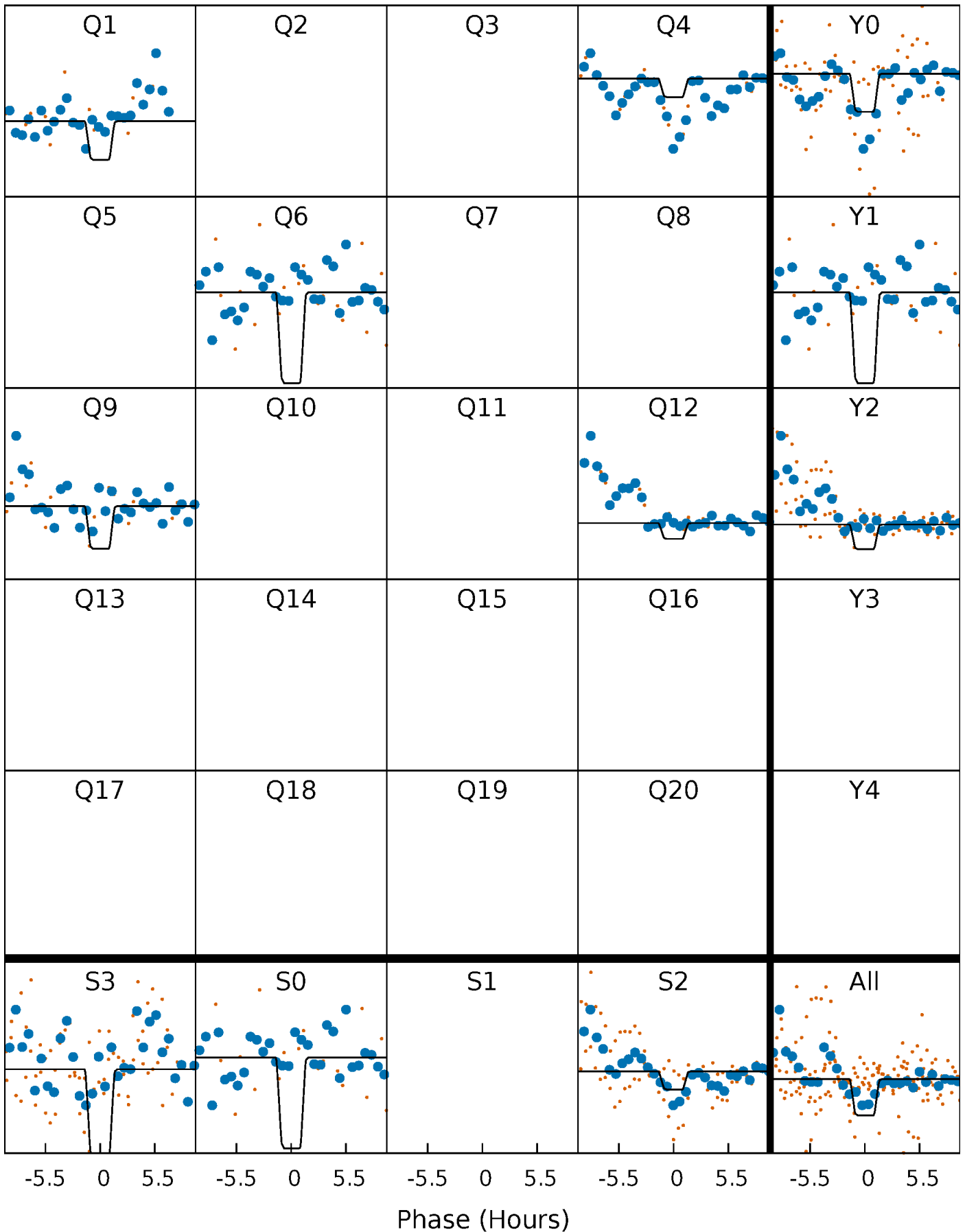
DV Quarter-Phased Transit Curves

TCE 008553907-03 $P=247.811405$ Days $T_0=132.529266$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

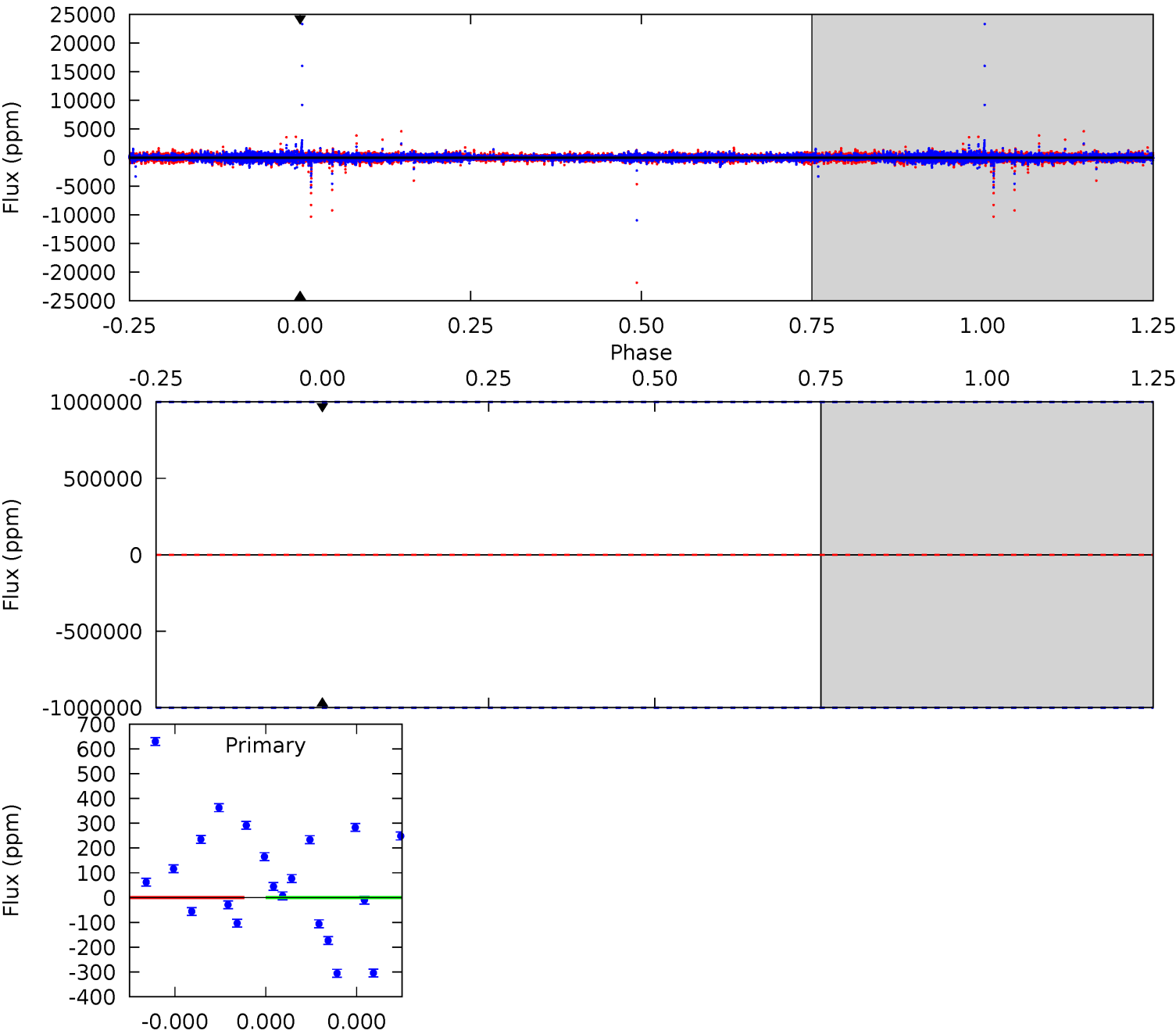
TCE 008553907-03 $P=247.811405$ Days $T_0=132.824968$ (BKJD)



DV Model-Shift Uniqueness Test

008553907-03, P = 247.811405 Days, E = 132.529266 Days

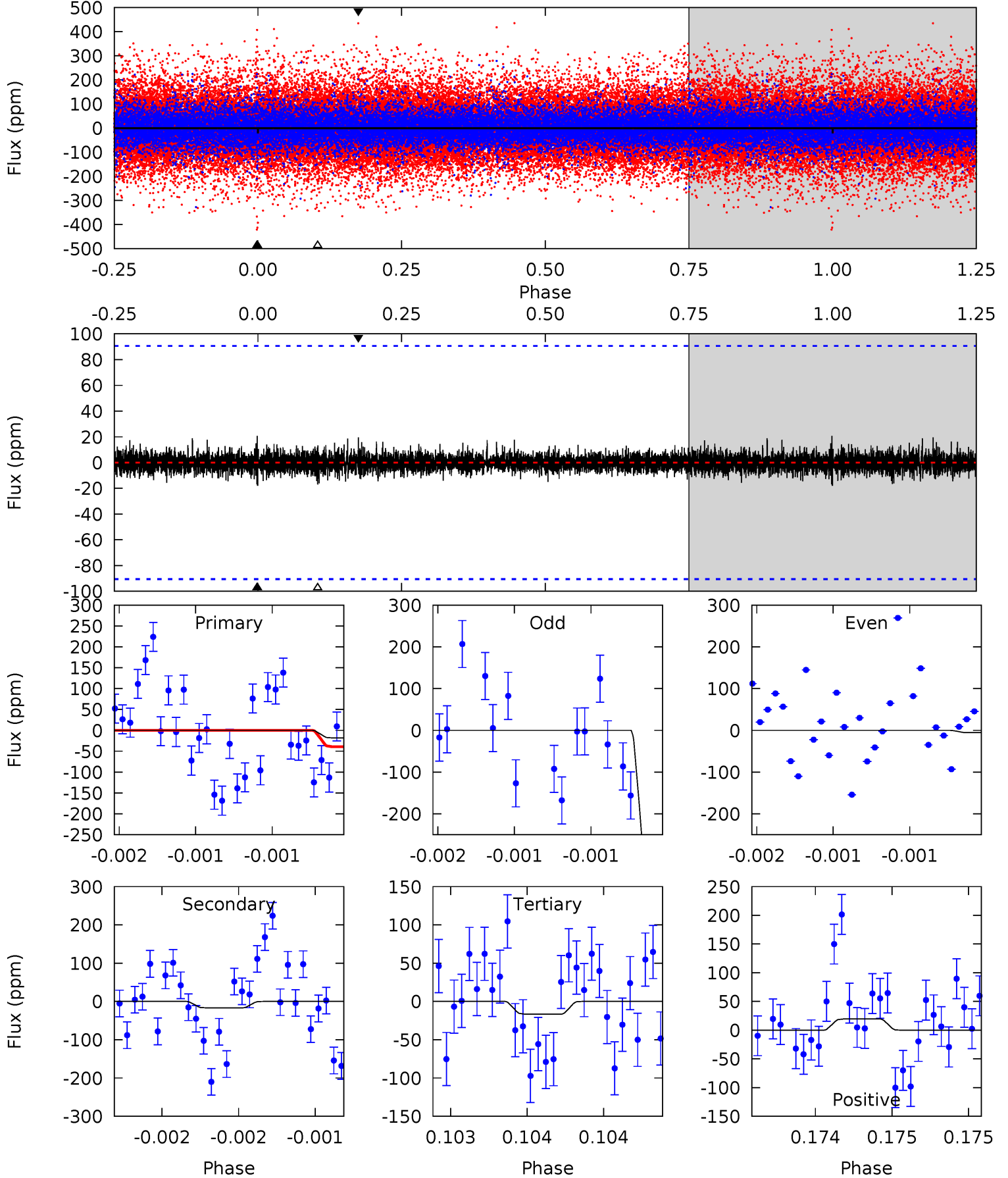
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008553907-03, P = 247.811405 Days, E = 132.824968 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.11	1.02	1.01	1.20	5.56	3.45	0.26	0.09	-0.09	0.01	-0.18	11.1	12.0	0.53	0



Stellar Parameters For KIC 008553907

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6618^{+148}_{-198}	$4.393^{+0.063}_{-0.147}$	$-0.360^{+0.250}_{-0.300}$	$1.117^{+0.250}_{-0.125}$	$1.128^{+0.125}_{-0.139}$	$1.139^{+0.311}_{-0.464}$
	+2%/-3%	+1%/-3%	+69%/-83%	+22%/-11%	+11%/-12%	+27%/-41%
Source	PHO1	FLK73	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 008553907-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$14.59^{+11.29}_{-9.08}$	487^{+26}_{-21}	3717^{+12454}_{-19241}	$1467^{+259046}_{-227342}$
Alt.	-17 ± 16	$9.08^{+9.69}_{-6.45}$	487^{+25}_{-21}	2323^{+912}_{-736}	46^{+570}_{-45}

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

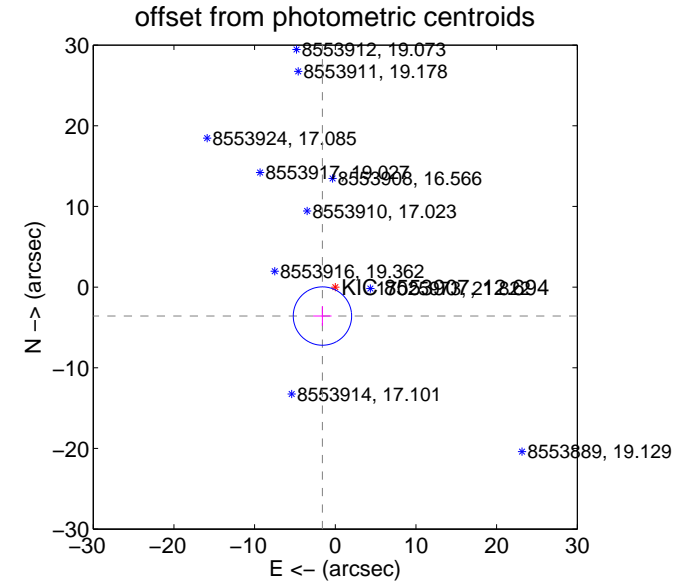
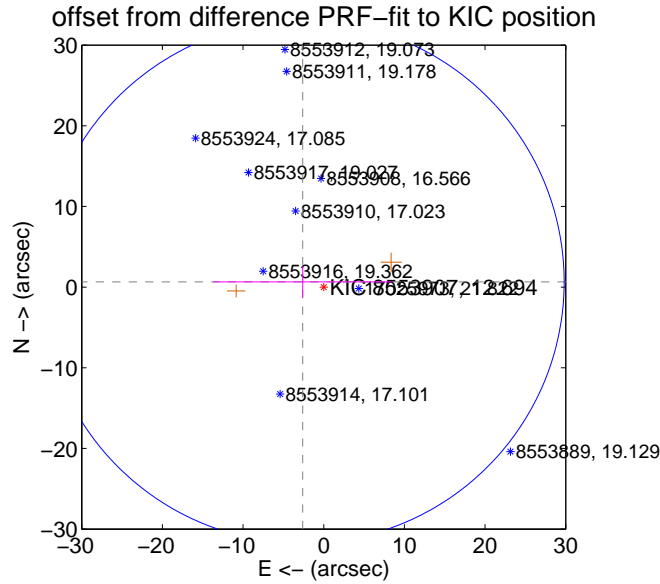
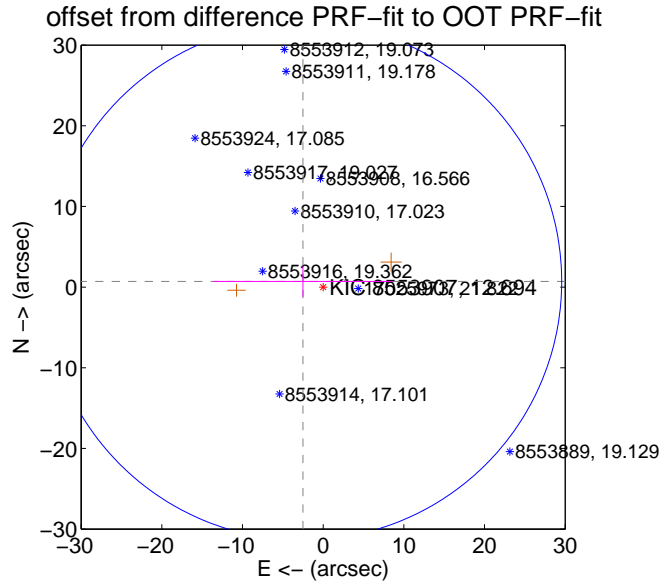
DV Centroid Data

Supplemental centroid analysis for 008553907-03. Kepler magnitude: 12.69. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

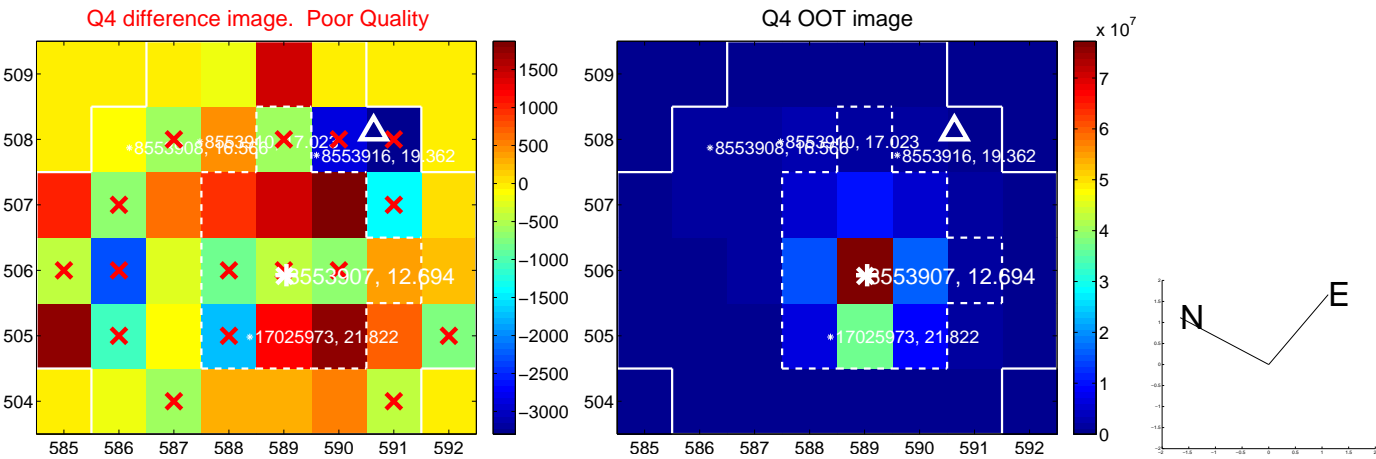
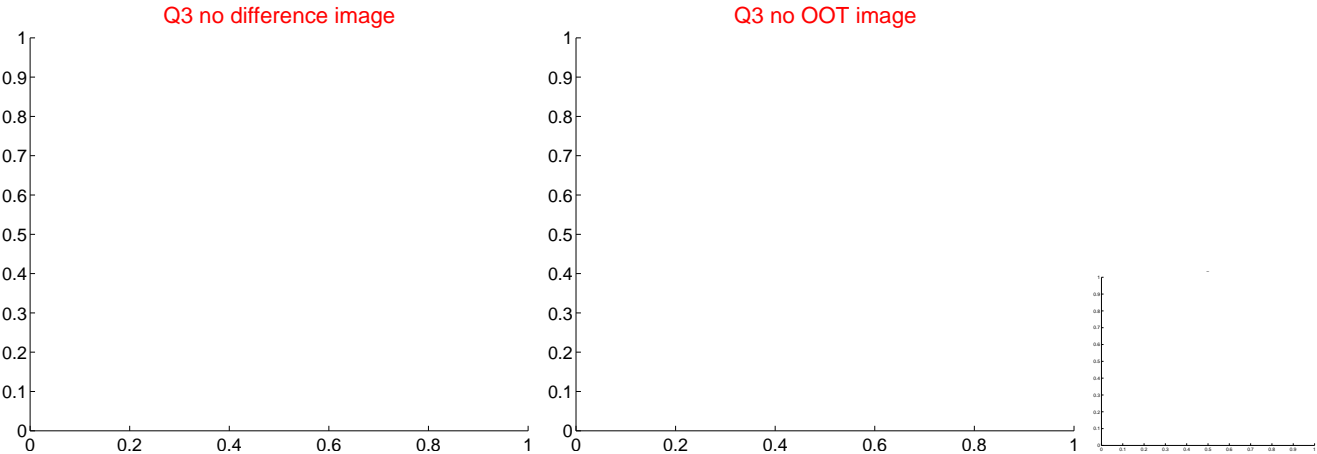
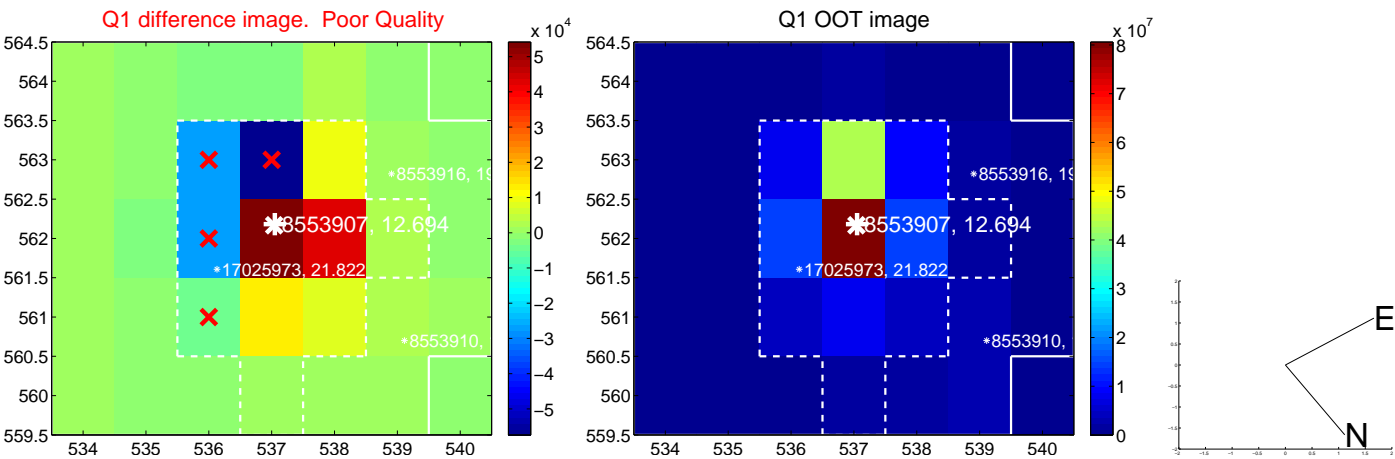
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.602 ± 10.690	0.24	2.505 ± 11.091	0.703 ± 1.893
PRF-fit source offset from KIC position	2.676 ± 10.801	0.25	2.599 ± 11.114	0.640 ± 1.930
photometric centroid source offset	3.93 ± 1.21	3.26	1.59 ± 1.14	-3.59 ± 1.22

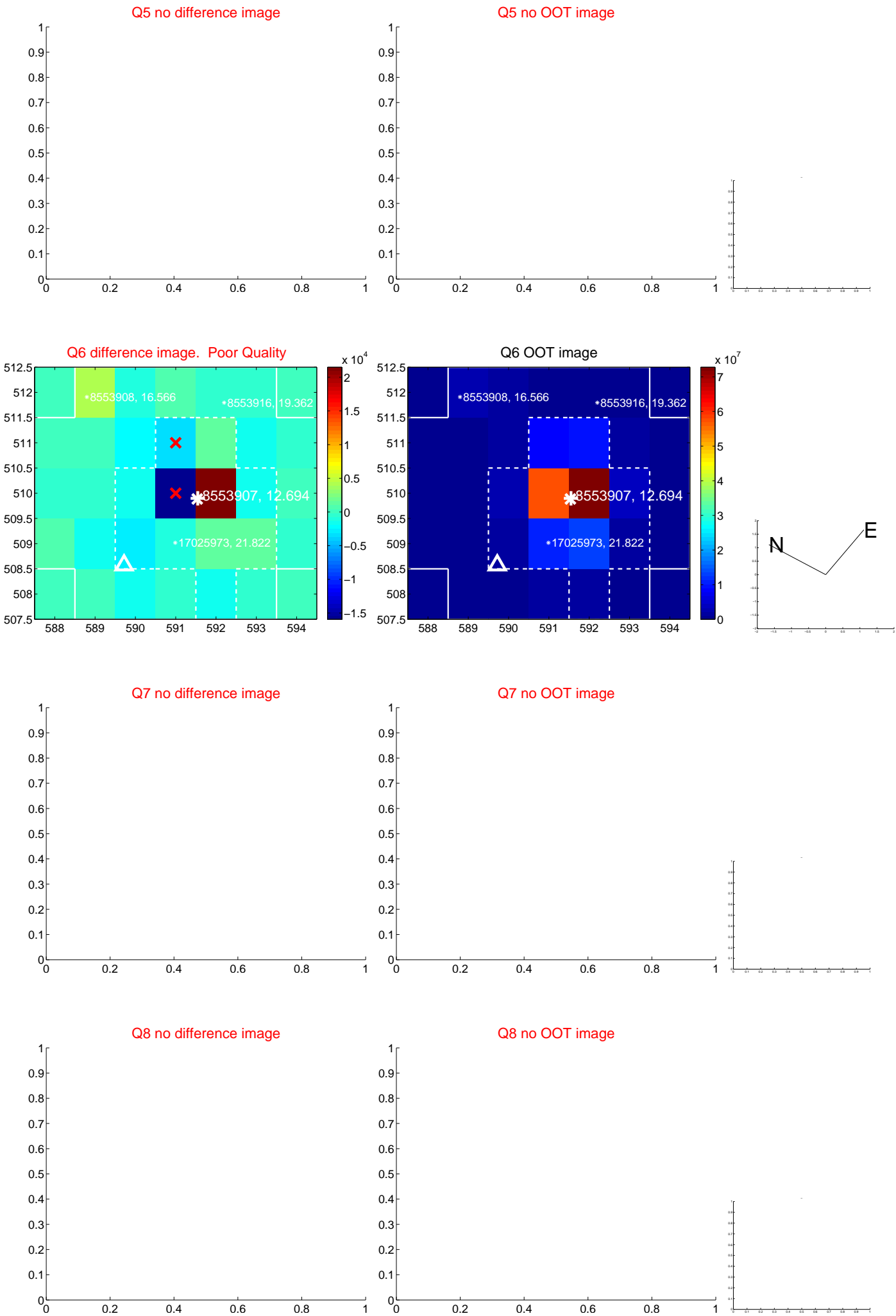


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

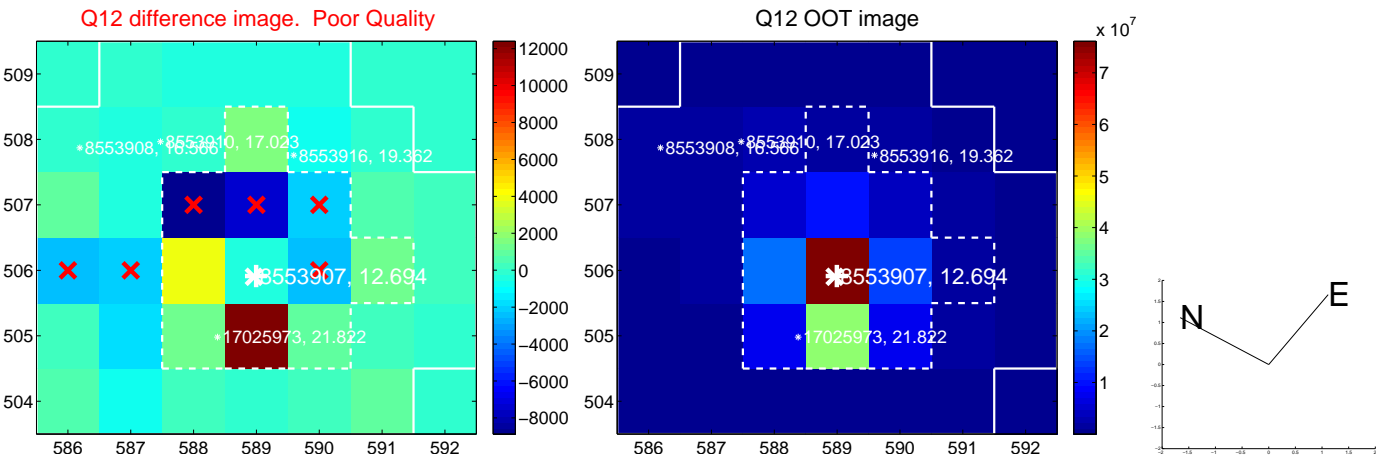
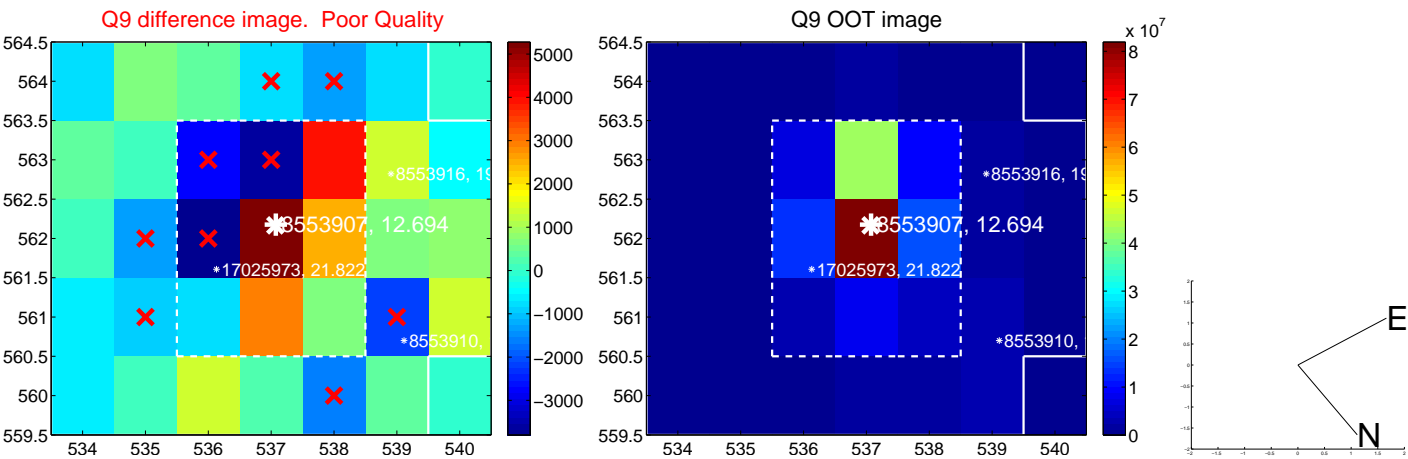
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



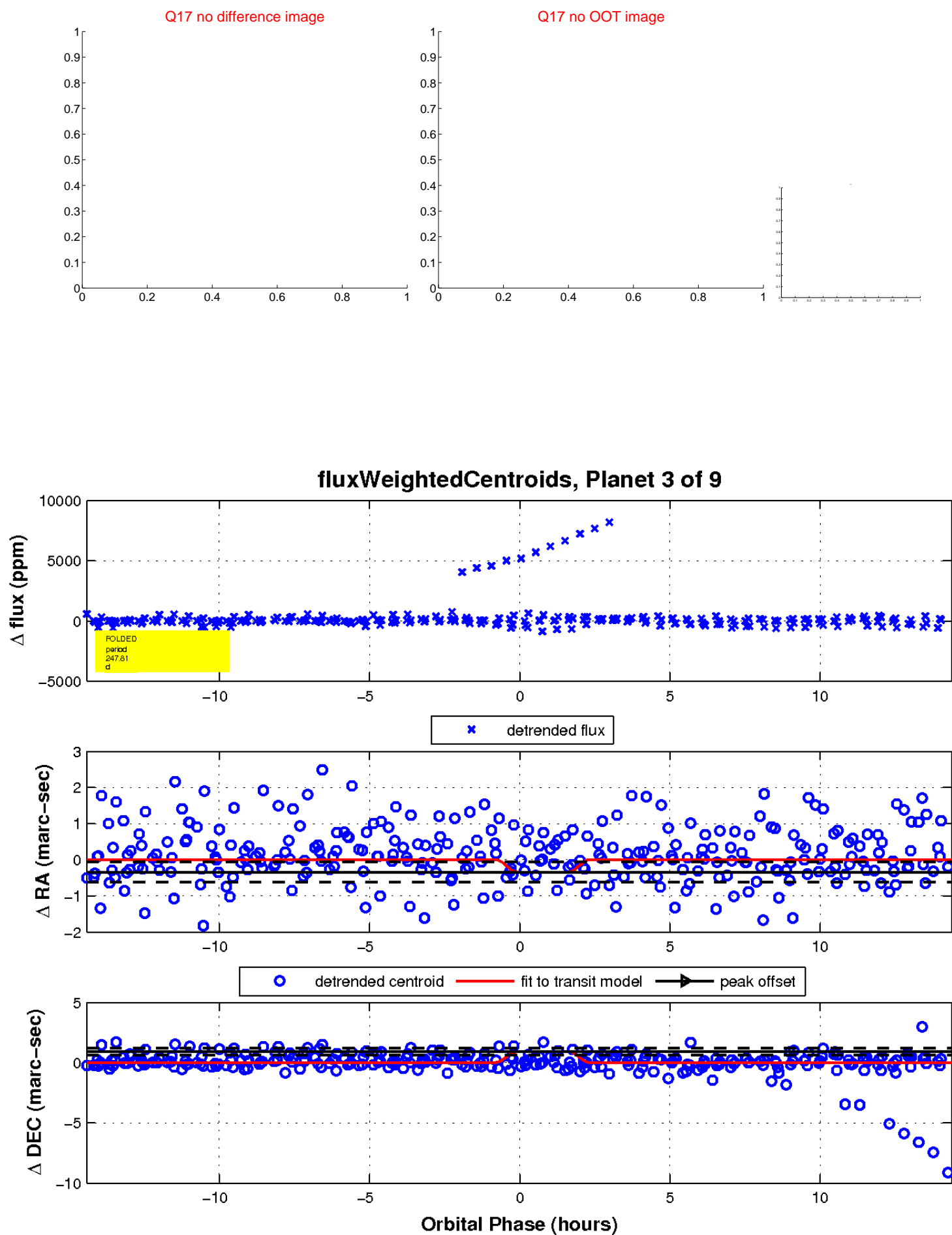
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

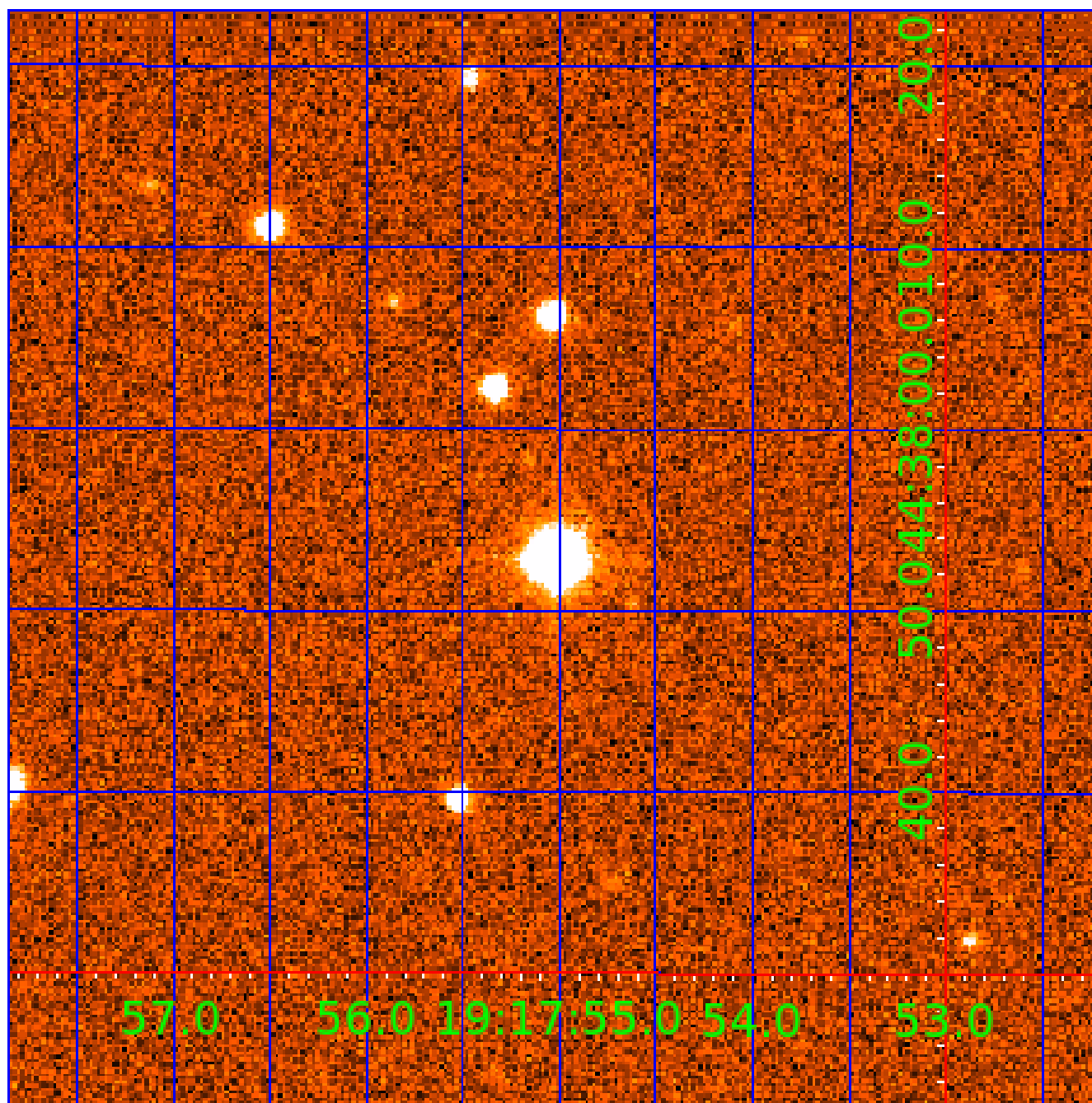


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
008553907-01	OBS	7056.01	42.031158	133.595217	399533.3	7.500	40551.4	-1.0	1.12	6618	60.09	35.41
008553907-02	OBS	No	42.031672	166.918948	419889.0	5.000	40386.0	-1.0	1.12	6618	60.95	35.41
008553907-03	OBS	No	247.811404	132.529266	10565.8	12.000	559.2	-1.0	1.12	6618	11.57	3.32
008553907-04	OBS	No	714.554782	134.633923	8364.8	12.000	573.5	-1.0	1.12	6618	10.30	0.81
008553907-05	OBS	No	343.598598	320.835899	2815.8	1.408	334.0	26.4	1.12	6618	11.09	2.15
008553907-06	OBS	No	292.179474	392.975422	6658.7	12.000	339.7	-1.0	1.12	6618	9.19	2.67
008553907-07	OBS	No	171.705196	149.545205	118.0	4.450	317.5	5.8	1.12	6618	1.33	5.42
008553907-08	OBS	No	465.742133	422.069406	5702.9	15.000	316.5	-1.0	1.12	6618	8.50	1.43
008553907-09	OBS	No	419.378385	472.724201	7183.3	10.500	333.6	-1.0	1.12	6618	9.54	1.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008553907-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
008553907-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
008553907-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008553907-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS
008553907-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_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_FEW_DIFFS
008553907-06	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008553907-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—HALO_GHOST
008553907-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008553907-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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 008553907-04

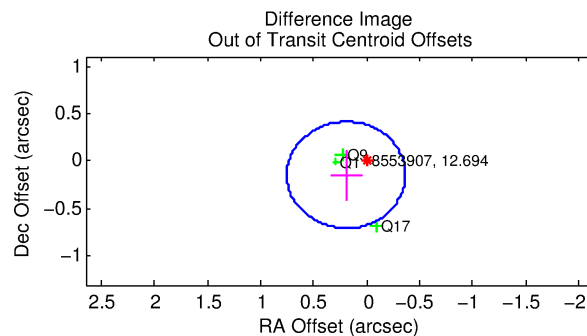
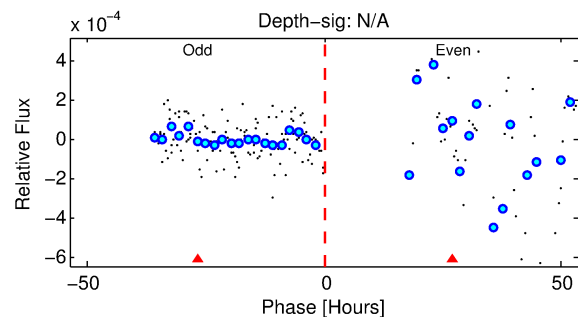
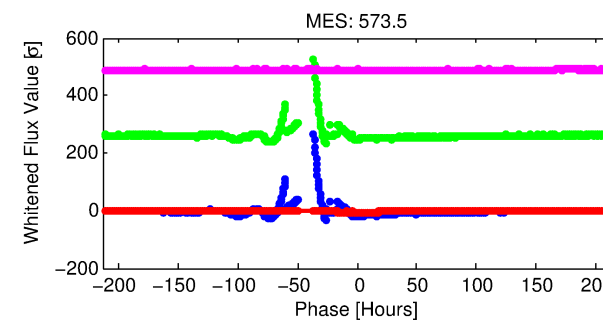
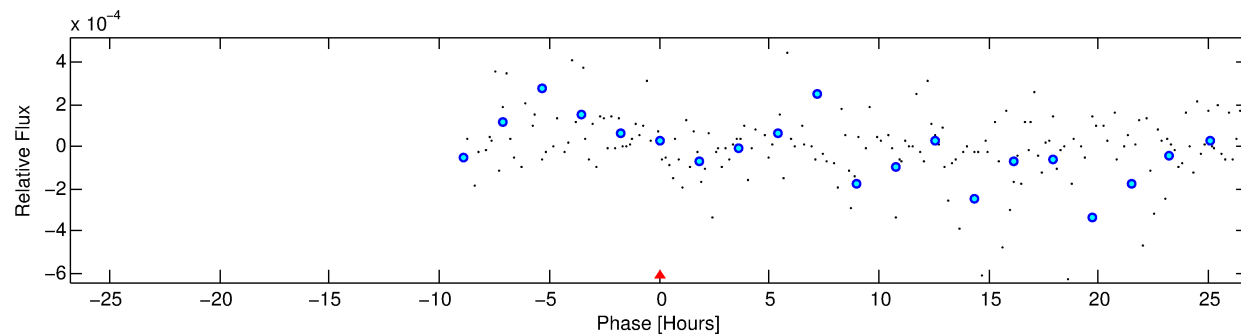
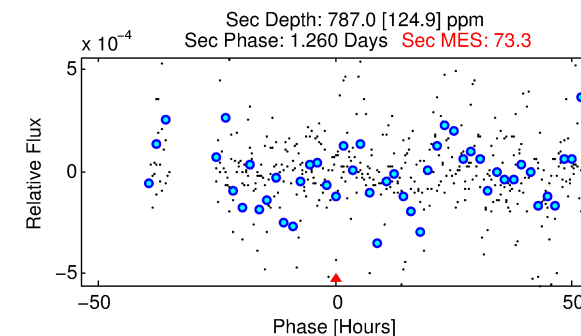
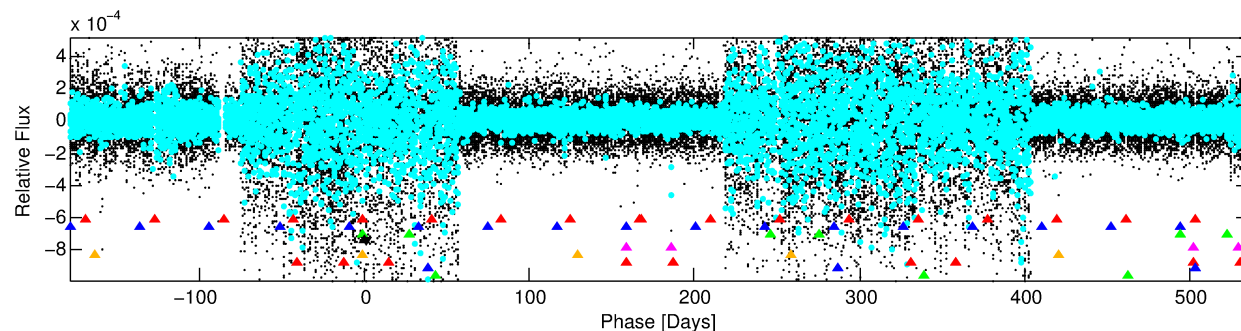
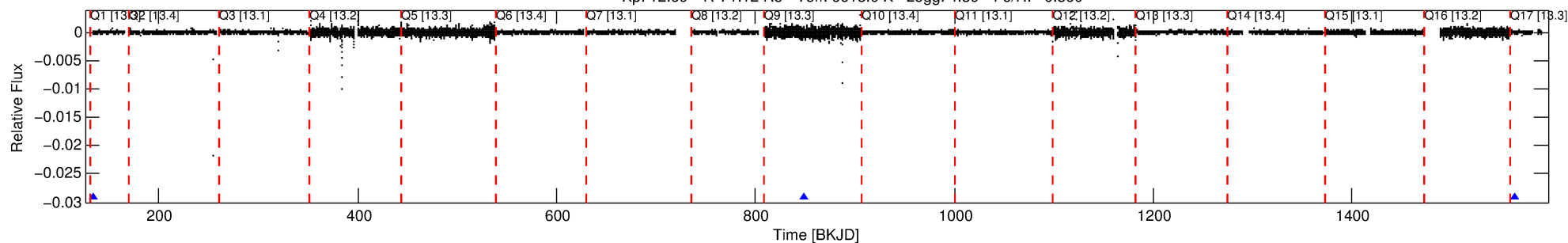
No Significant Match Found

DV One-Page Summary

KIC: 8553907 Candidate: 4 of 9 Period: 714.555 d

KOI: K07056 Corr: No Ephemeris Match

Kp: 12.69 R*: 1.12 Rs Teff: 6618.0 K Logg: 4.39 Fe/H: -0.360



TPS TCE Results:

Period = 714.55478 d
Epoch = 134.6339 BKJD

DV fit results are unavailable

DV Diagnostic Results:

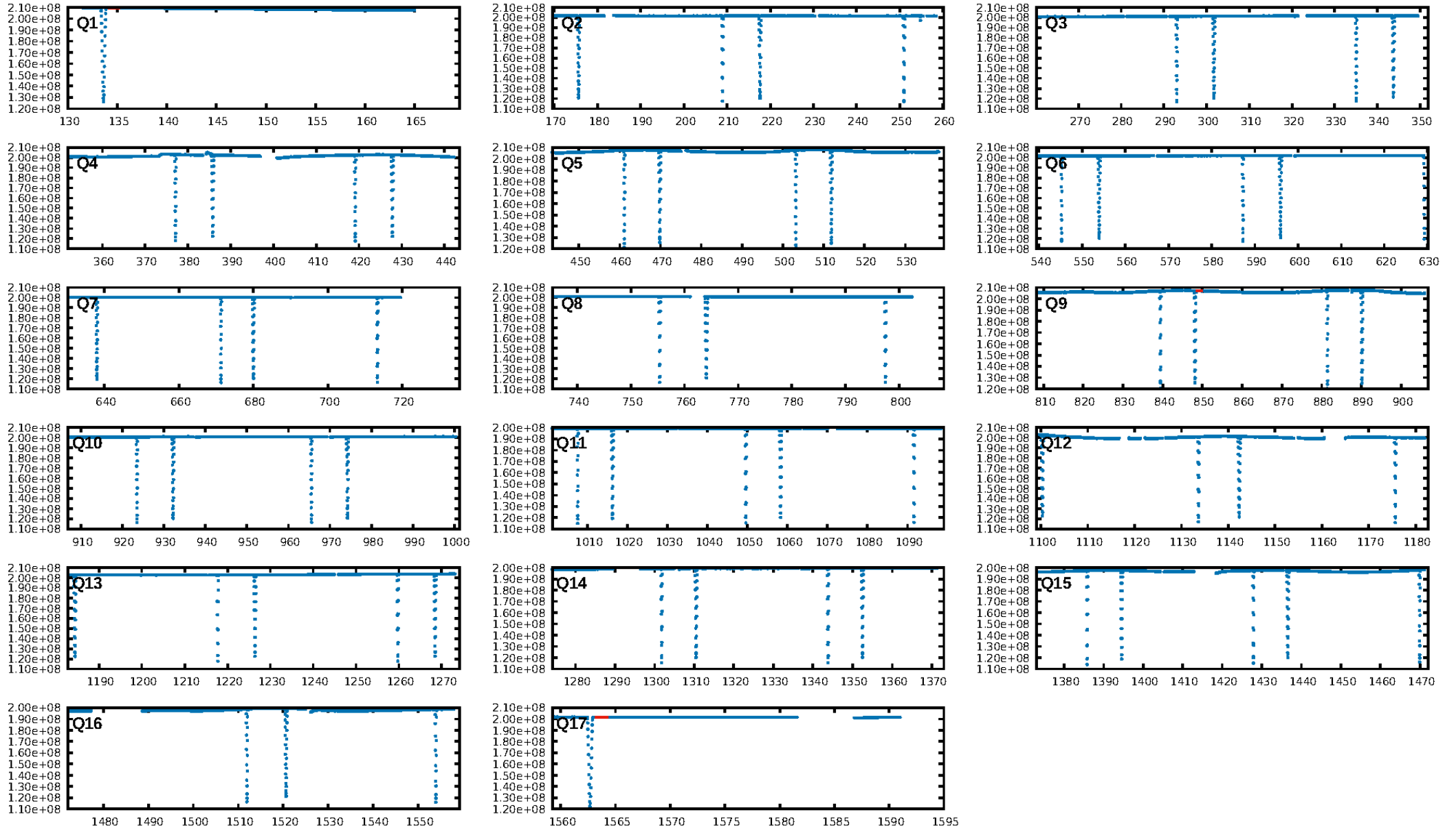
ShortPeriod-sig: 100.0% [310.86σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1/1]
GhostDiagnostic-chr: -0.6646

Centroid-sig: 0.0%
Centroid-so: 12.034 arcsec [6.93σ]
OotOffset-rm: 0.242 arcsec [1.30σ]
KicOffset-rm: 0.298 arcsec [1.59σ]
OotOffset-st: 0/0/0/3 [3]
KicOffset-st: 0/0/0/3 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 0.00 [0/3]

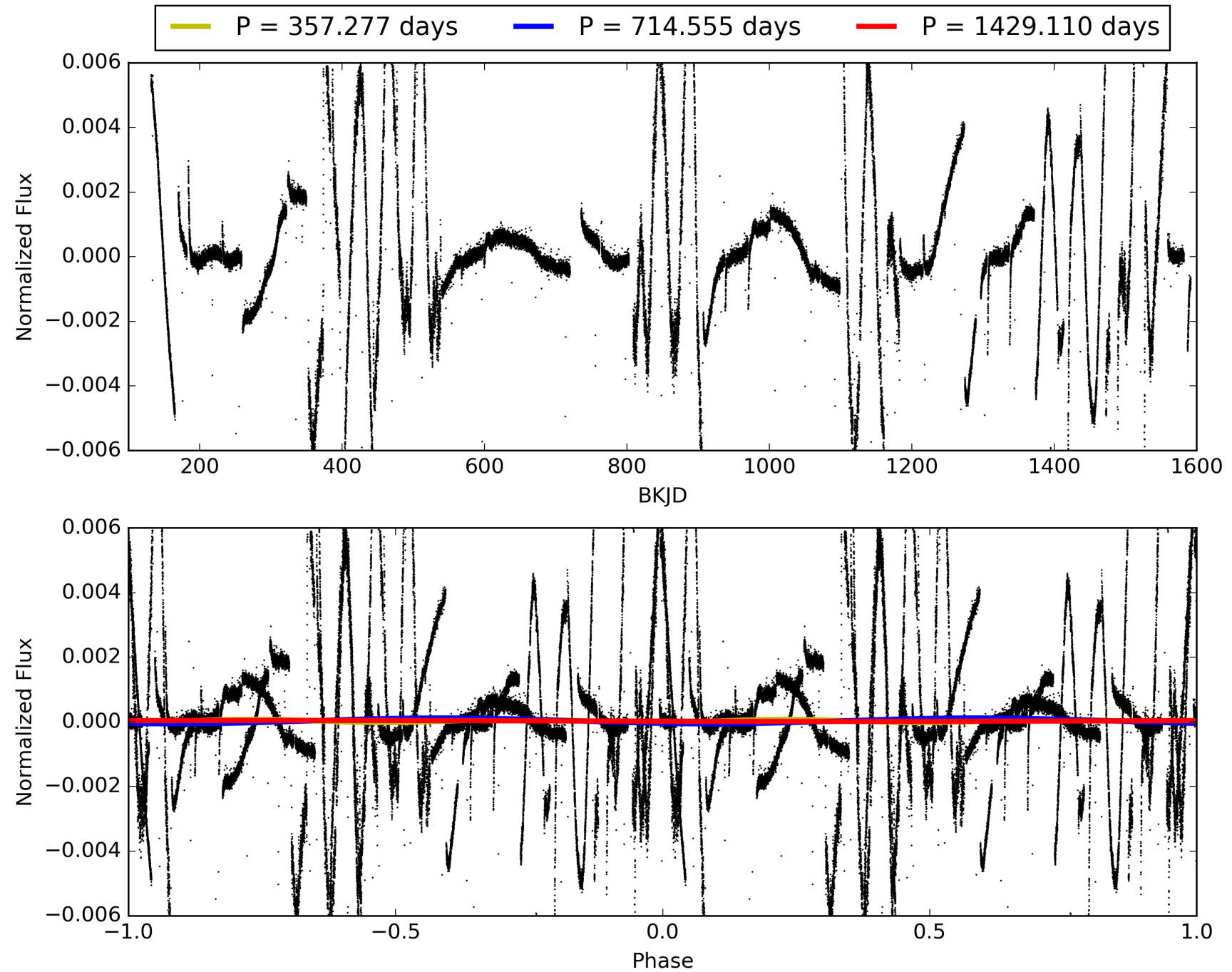
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:54:08 Z

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

TCE 008553907-04, PDC Light Curves

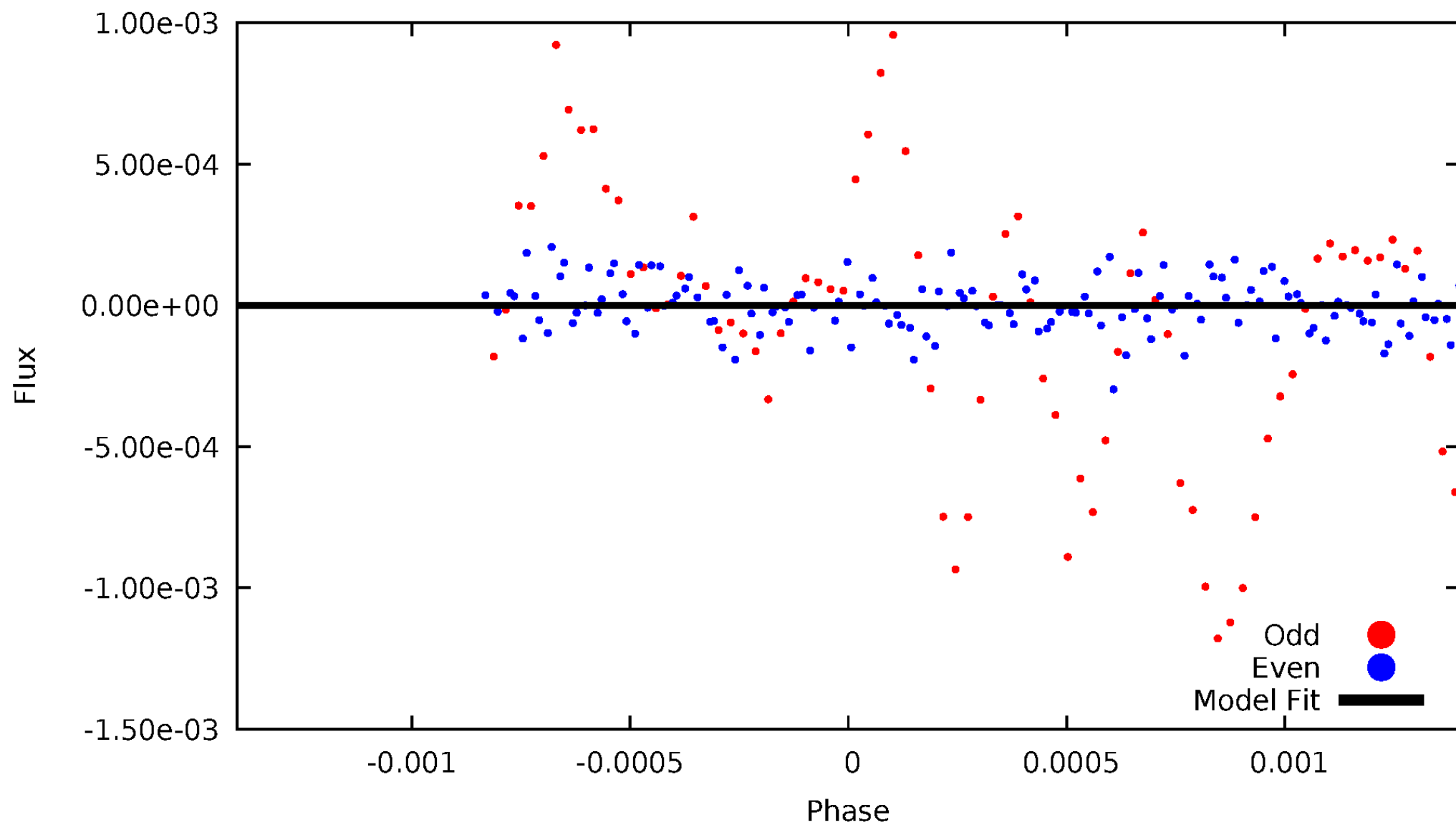


TCE 008553907-04



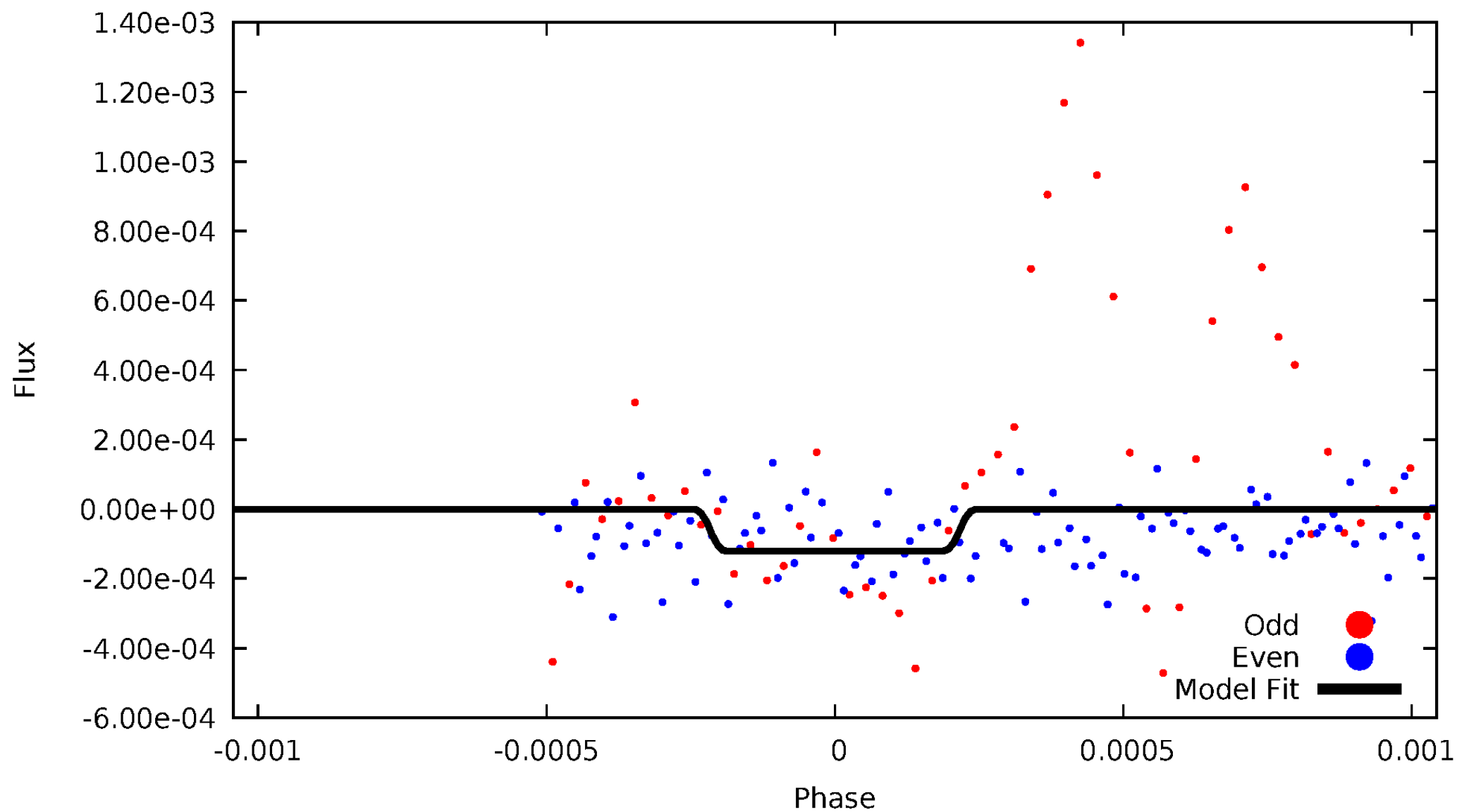
DV Odd/Even

TCE 008553907-04



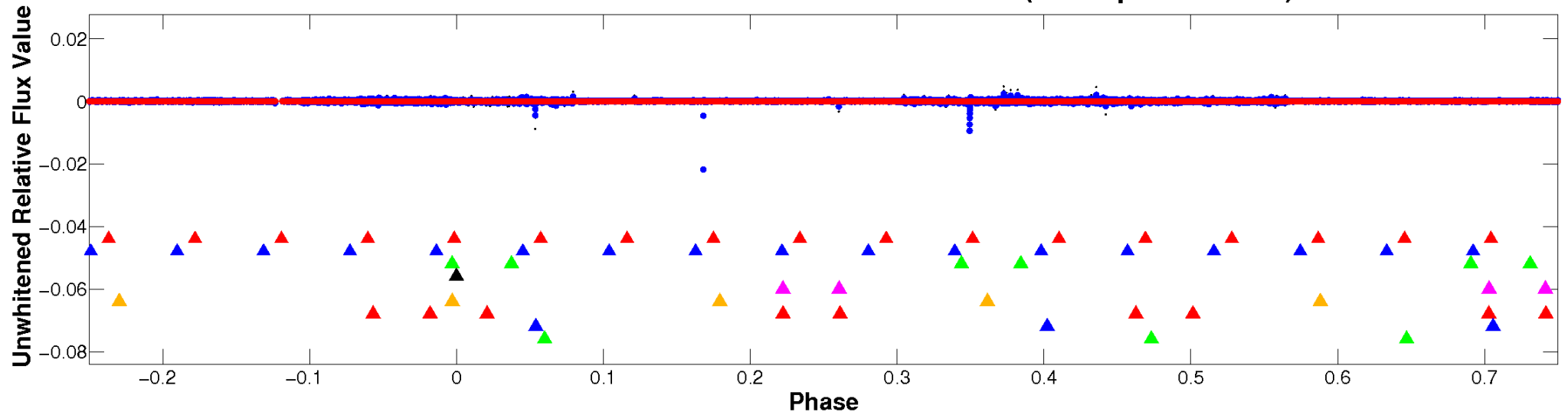
ALT Odd/Even

TCE 008553907-04

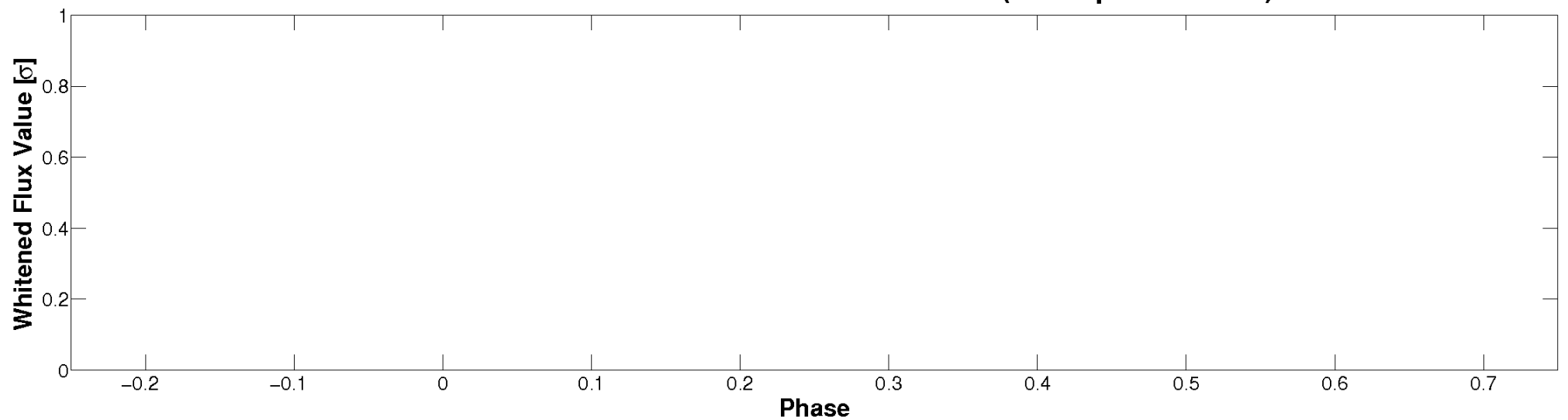


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

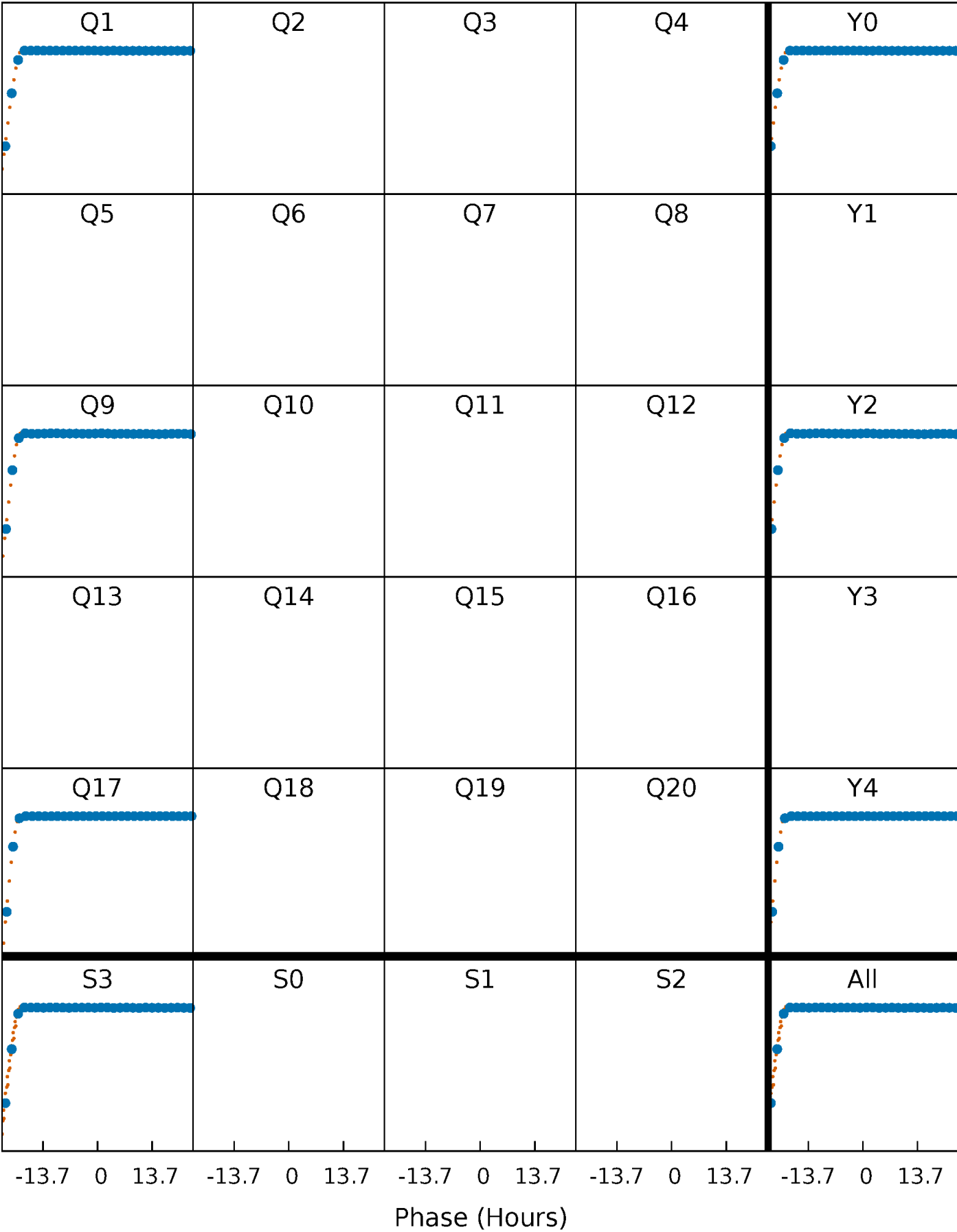


Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 008553907-04 P=714.554782 Days T₀=134.633923 (BKJD)



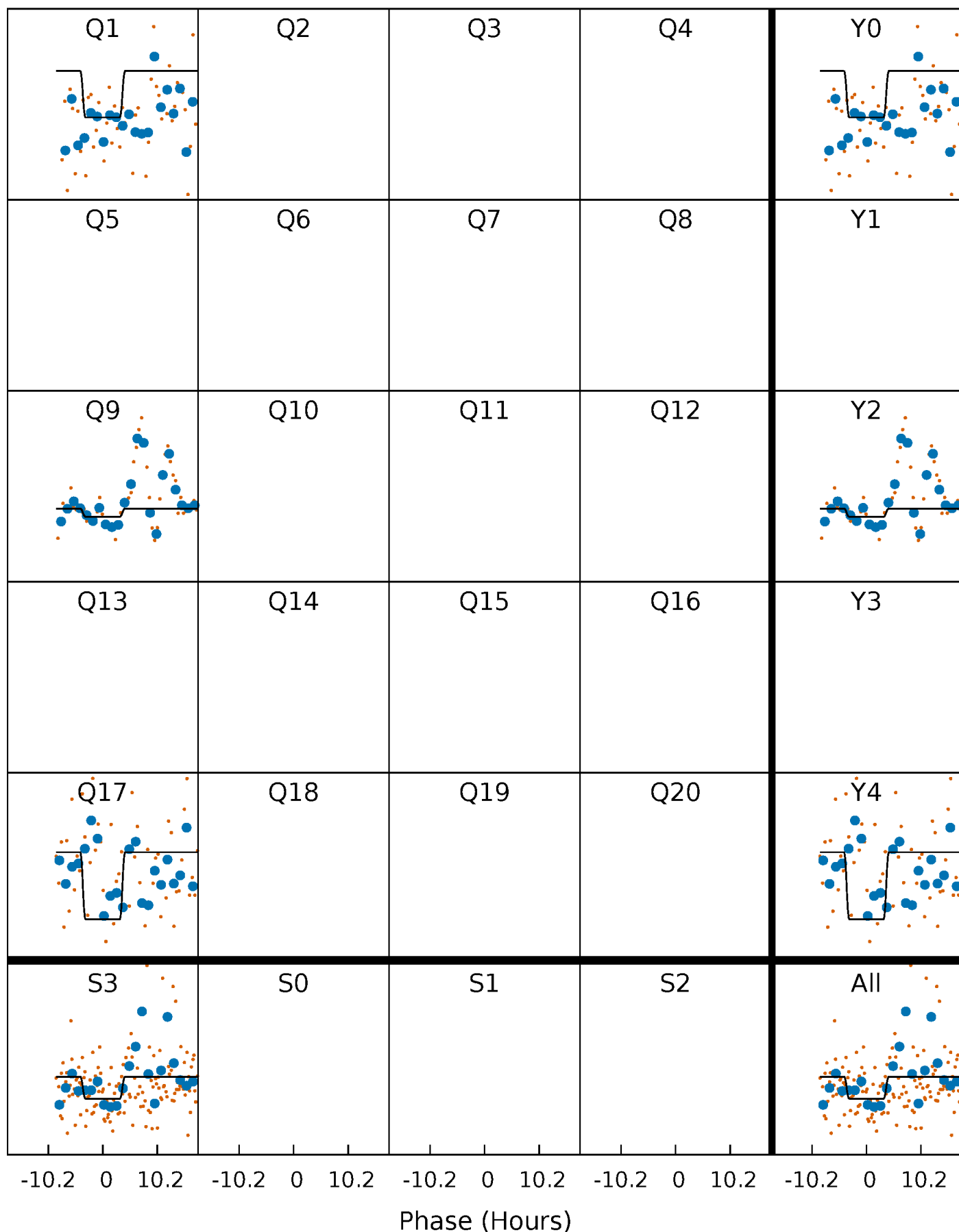
DV Quarter-Phased Transit Curves

TCE 008553907-04 $P=714.554782$ Days $T_0=134.633923$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

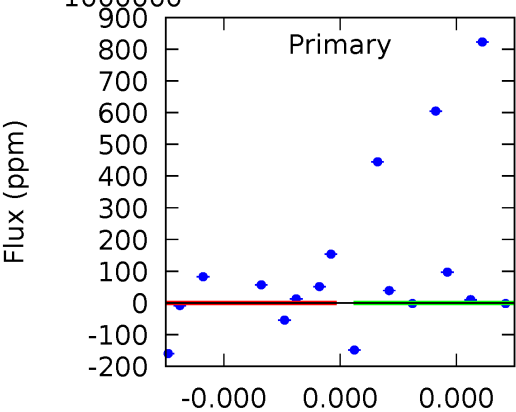
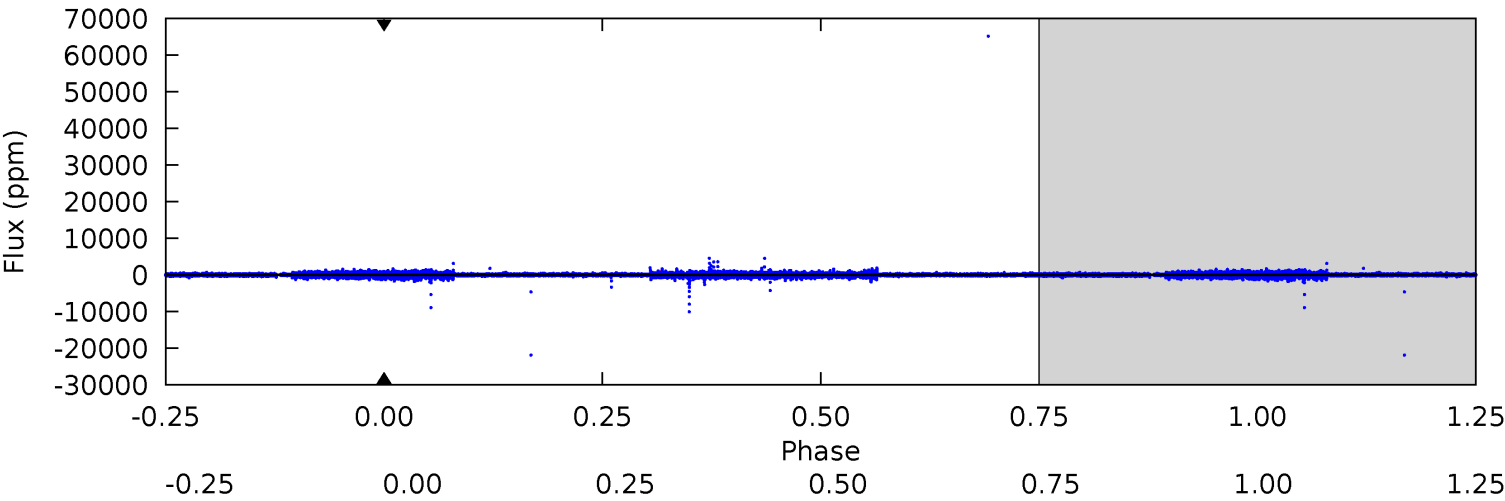
TCE 008553907-04 $P=714.554782$ Days $T_0=134.403094$ (BKJD)



DV Model-Shift Uniqueness Test

008553907-04, P = 714.554782 Days, E = 134.633923 Days

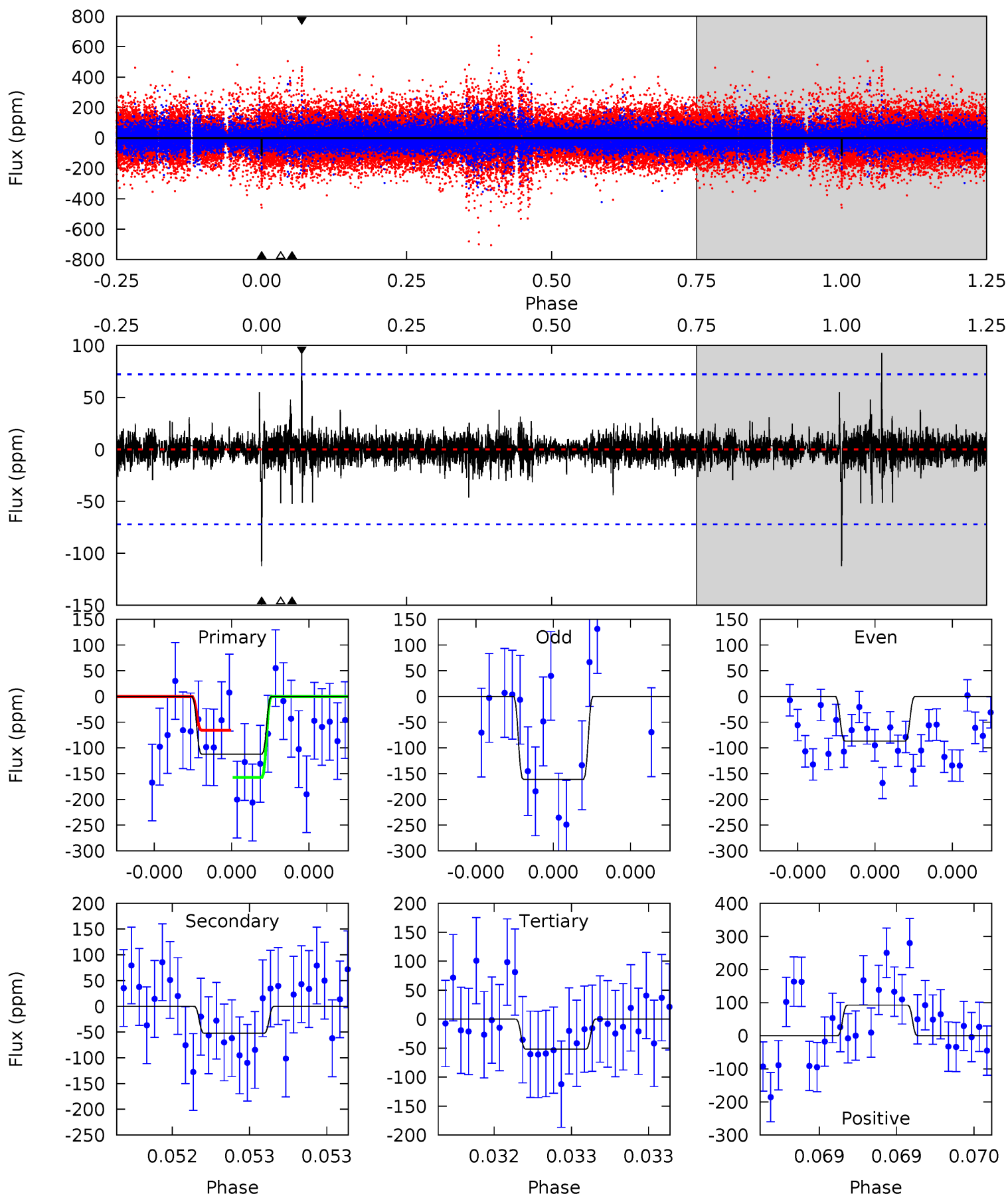
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008553907-04, P = 714.554782 Days, E = 134.403094 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.68	4.05	4.01	7.16	5.58	3.49	0.66	4.67	1.51	0.04	-3.11	2.57	0.78	0.45	3.56



Stellar Parameters For KIC 008553907

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6618^{+148}_{-198}	$4.393^{+0.063}_{-0.147}$	$-0.360^{+0.250}_{-0.300}$	$1.117^{+0.250}_{-0.125}$	$1.128^{+0.125}_{-0.139}$	$1.139^{+0.311}_{-0.464}$
	+2%/-3%	+1%/-3%	+69%/-83%	+22%/-11%	+11%/-12%	+27%/-41%
Source	PHO1	FLK73	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 008553907-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$13.93^{+11.56}_{-8.67}$	341^{+19}_{-15}	4378^{+14592}_{-18996}	$15033^{+1495223}_{-913266}$
Alt.	-52 ± 13	$8.88^{+9.73}_{-6.34}$	342^{+19}_{-15}	2838^{+1312}_{-486}	940^{+10374}_{-729}

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

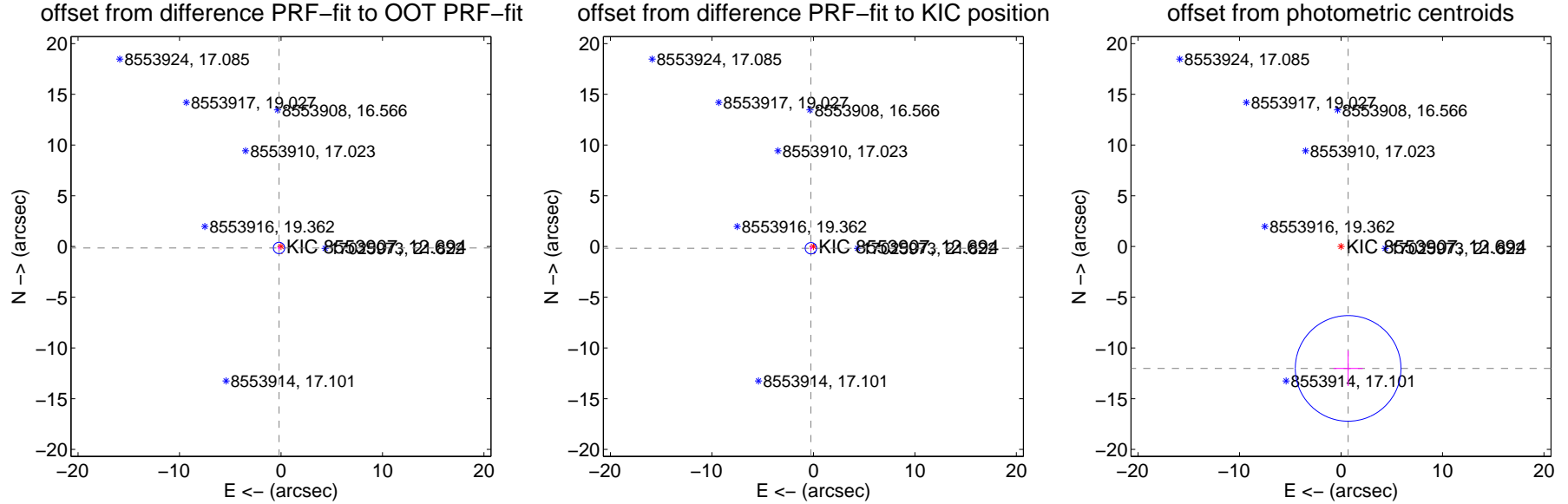
DV Centroid Data

Supplemental centroid analysis for 008553907-04. Kepler magnitude: 12.69. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

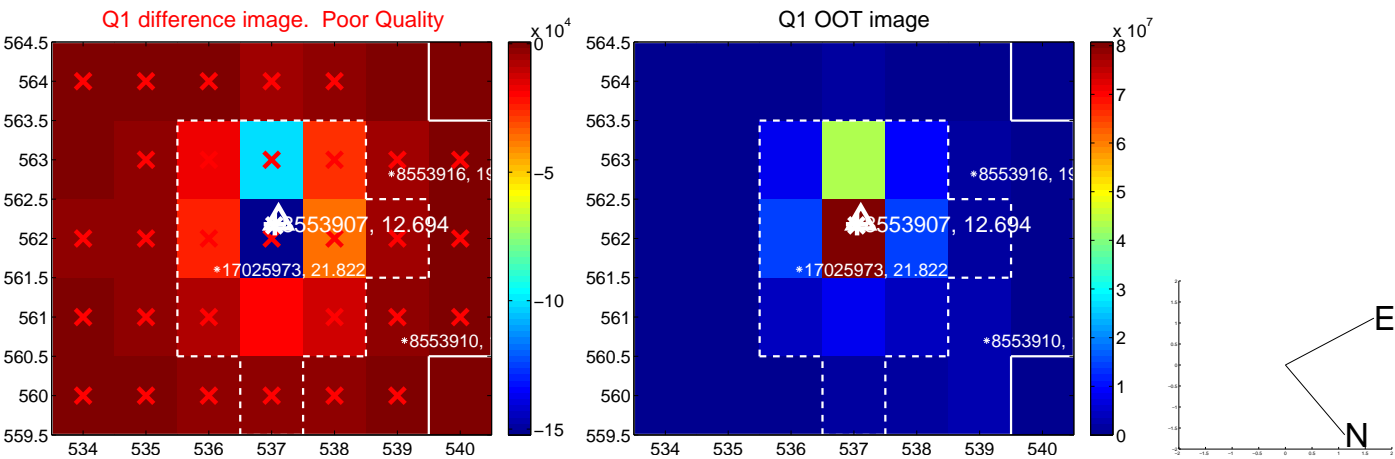
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.242 ± 0.187	1.30	0.194 ± 0.139	-0.144 ± 0.251
PRF-fit source offset from KIC position	0.298 ± 0.187	1.59	0.246 ± 0.144	-0.169 ± 0.256
photometric centroid source offset	12.03 ± 1.74	6.93	-0.70 ± 1.44	-12.01 ± 1.74



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.

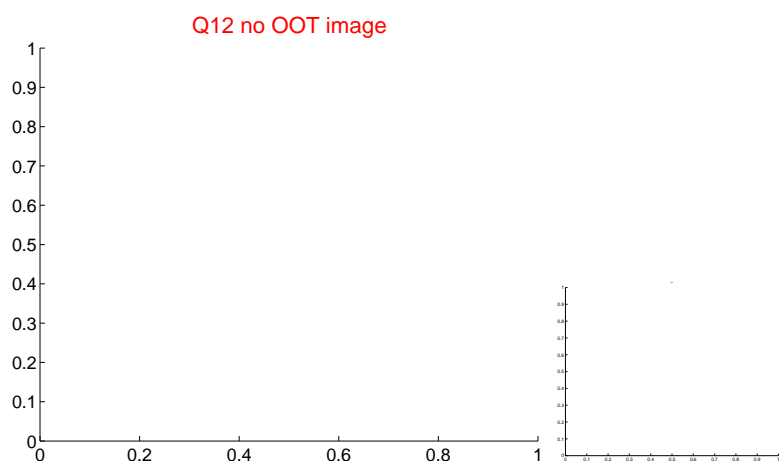
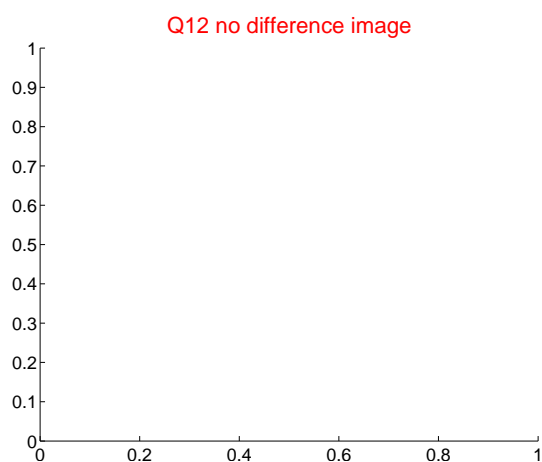
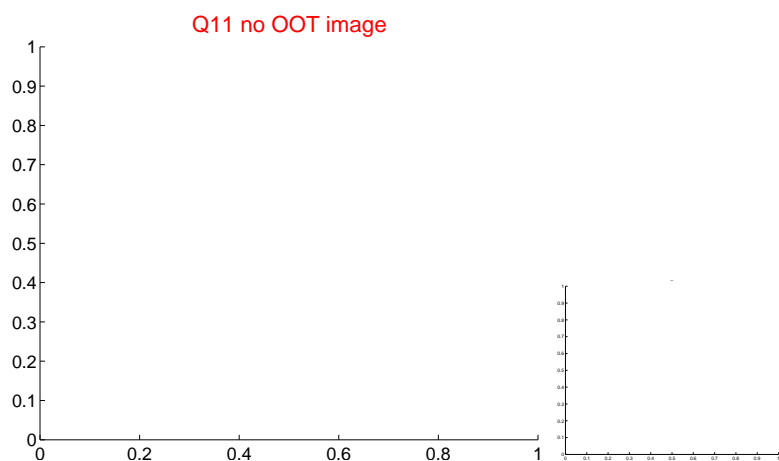
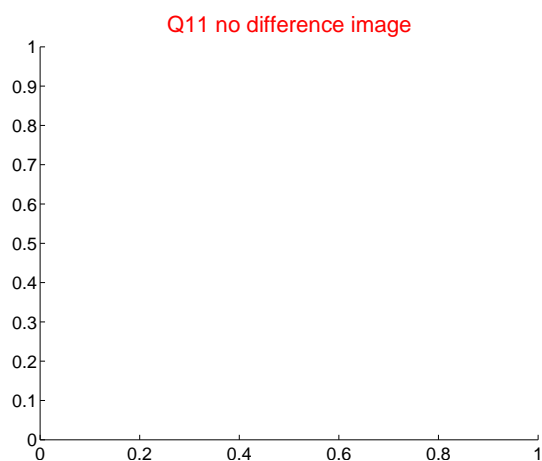
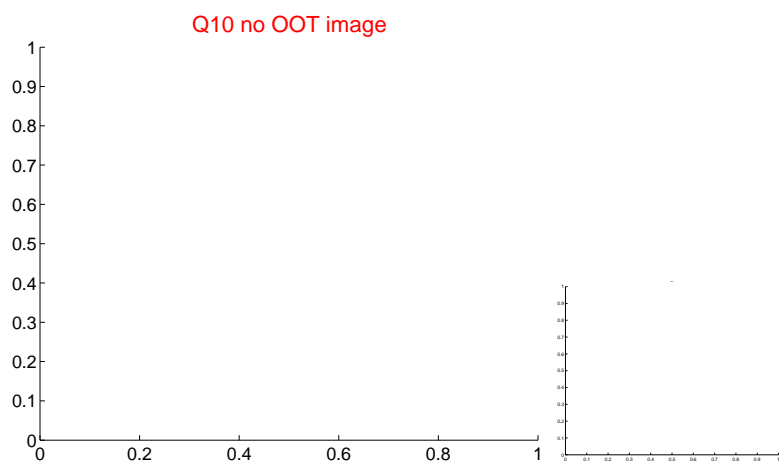
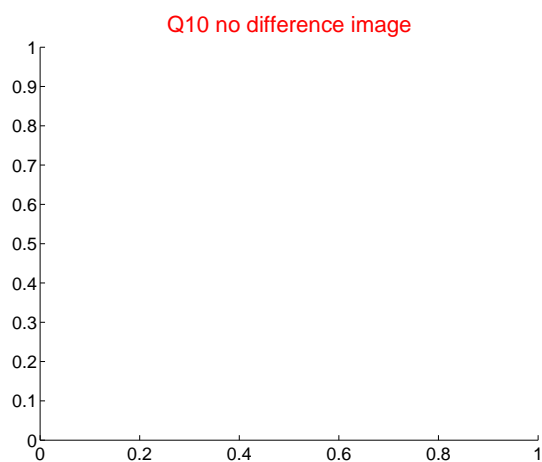
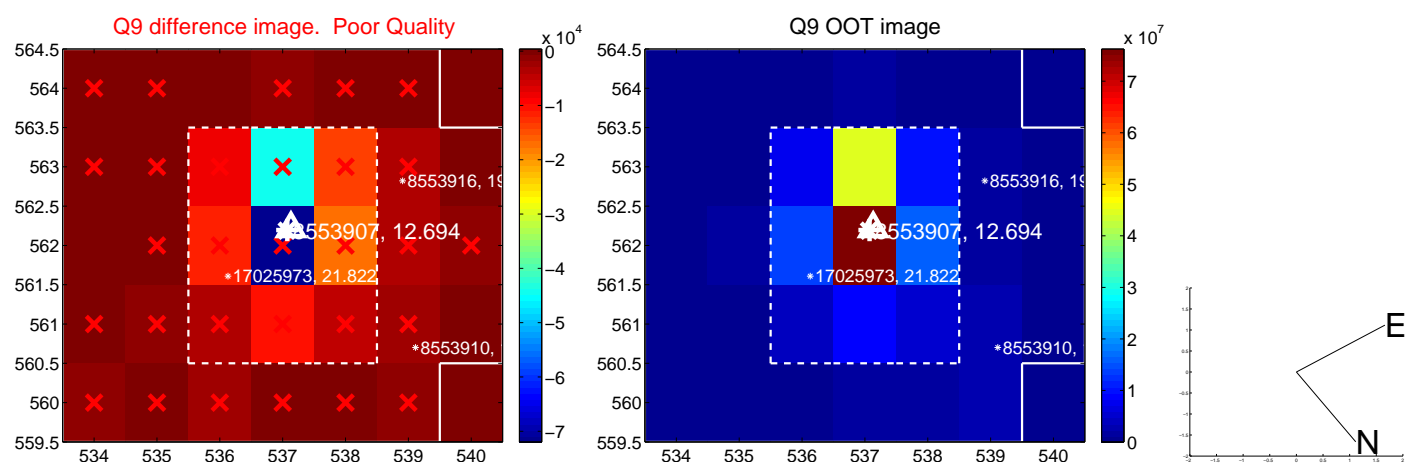
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



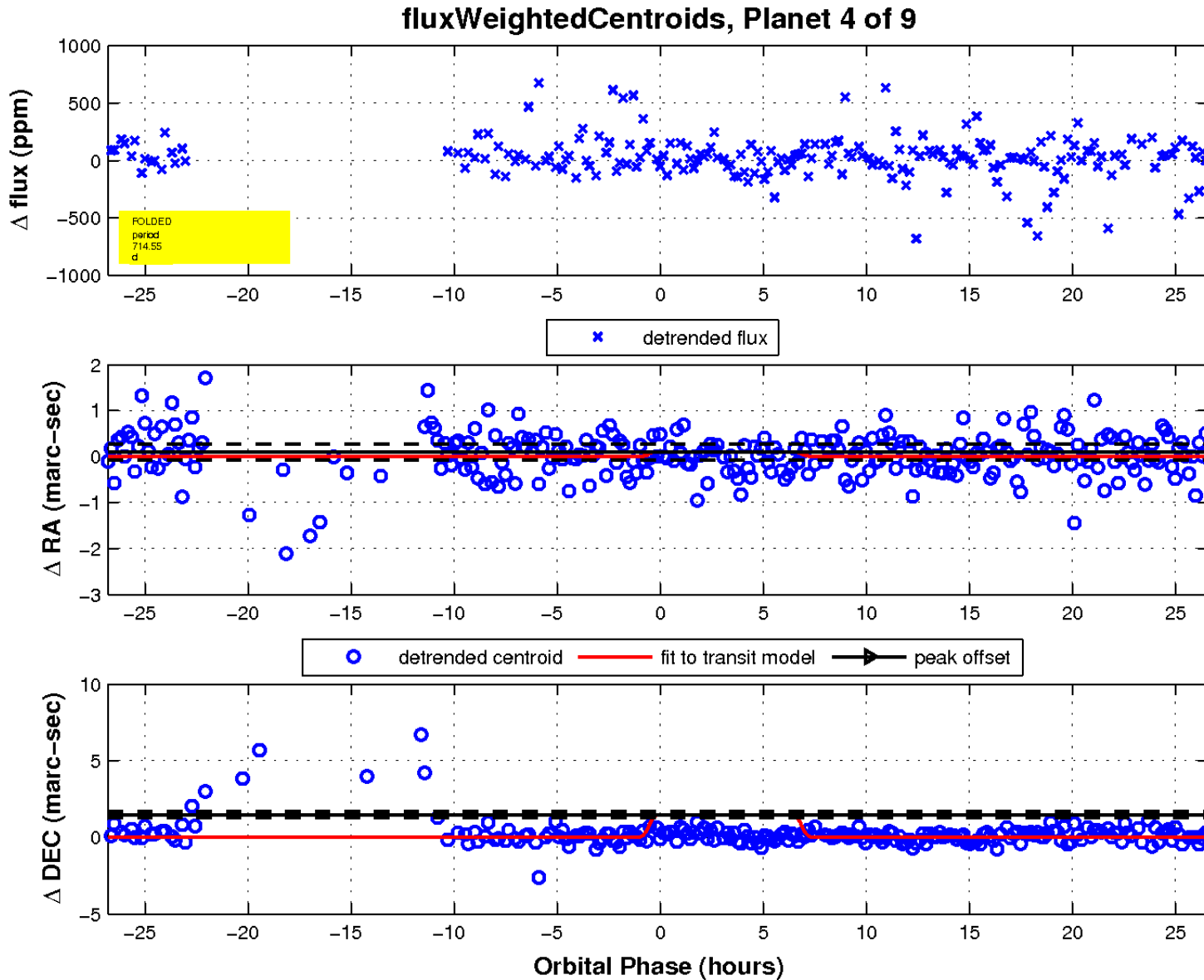
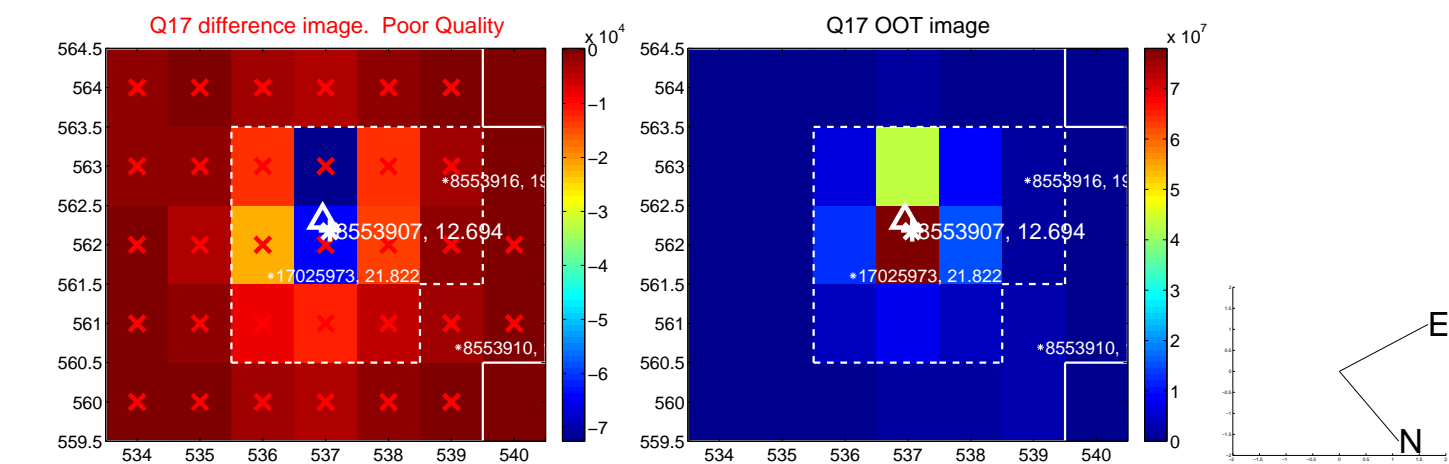
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

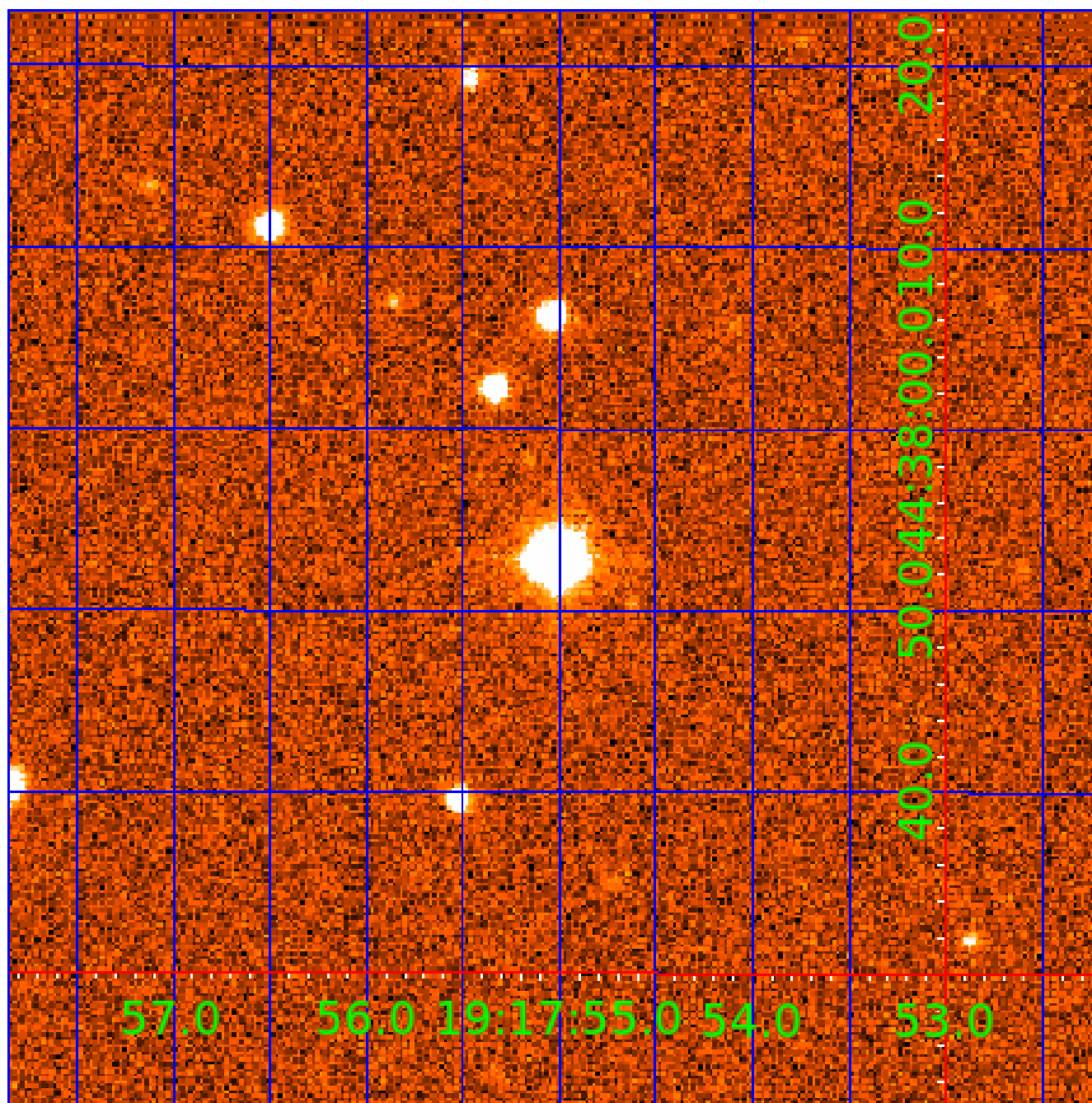


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
008553907-01	OBS	7056.01	42.031158	133.595217	399533.3	7.500	40551.4	-1.0	1.12	6618	60.09	35.41
008553907-02	OBS	No	42.031672	166.918948	419889.0	5.000	40386.0	-1.0	1.12	6618	60.95	35.41
008553907-03	OBS	No	247.811404	132.529266	10565.8	12.000	559.2	-1.0	1.12	6618	11.57	3.32
008553907-04	OBS	No	714.554782	134.633923	8364.8	12.000	573.5	-1.0	1.12	6618	10.30	0.81
008553907-05	OBS	No	343.598598	320.835899	2815.8	1.408	334.0	26.4	1.12	6618	11.09	2.15
008553907-06	OBS	No	292.179474	392.975422	6658.7	12.000	339.7	-1.0	1.12	6618	9.19	2.67
008553907-07	OBS	No	171.705196	149.545205	118.0	4.450	317.5	5.8	1.12	6618	1.33	5.42
008553907-08	OBS	No	465.742133	422.069406	5702.9	15.000	316.5	-1.0	1.12	6618	8.50	1.43
008553907-09	OBS	No	419.378385	472.724201	7183.3	10.500	333.6	-1.0	1.12	6618	9.54	1.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008553907-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
008553907-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
008553907-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008553907-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS
008553907-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_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_FEW_DIFFS
008553907-06	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008553907-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT— MOD_POS_ALT—INCONSISTENT_TRANS—HALO_GHOST
008553907-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS— CENT_NOFITS
008553907-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_NOFITS

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 008553907-05

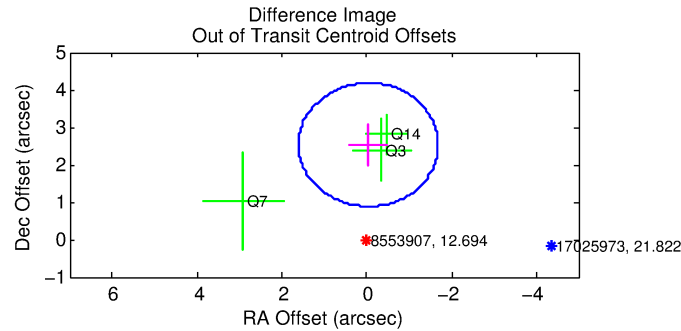
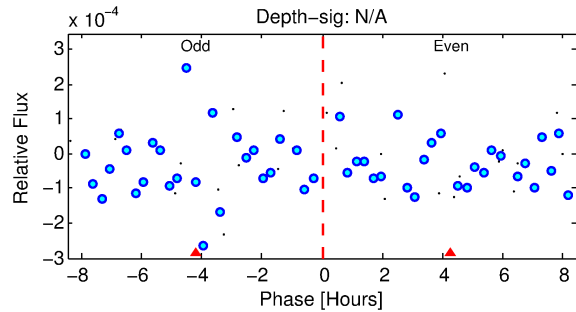
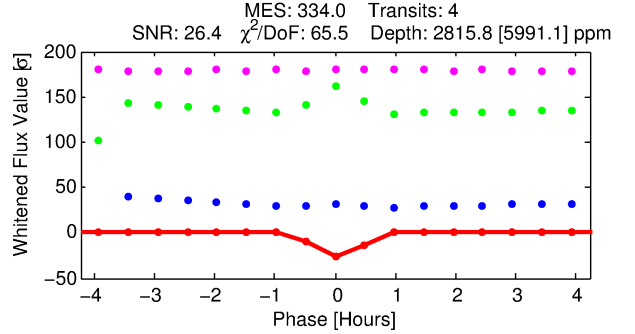
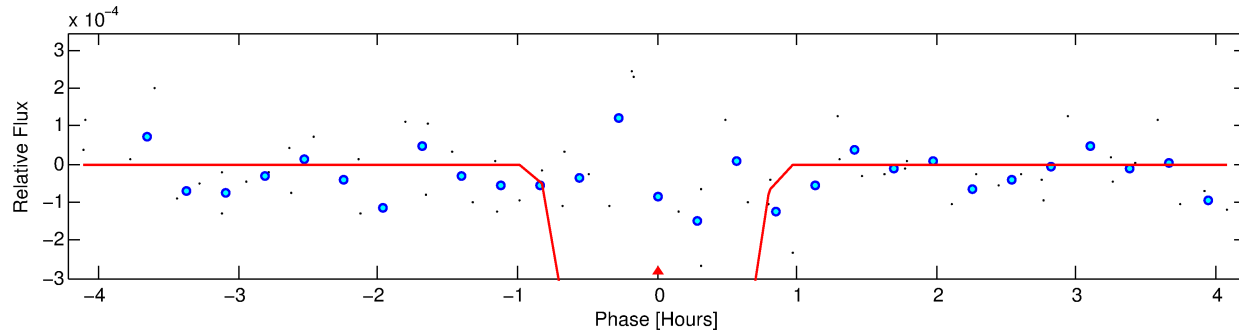
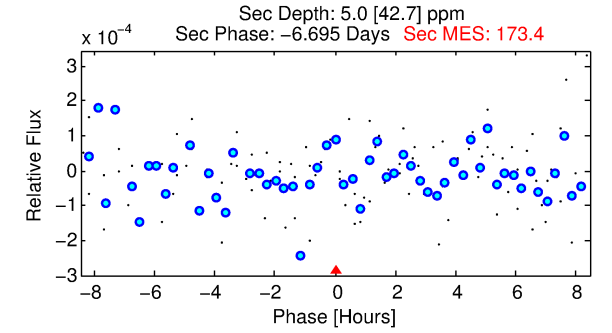
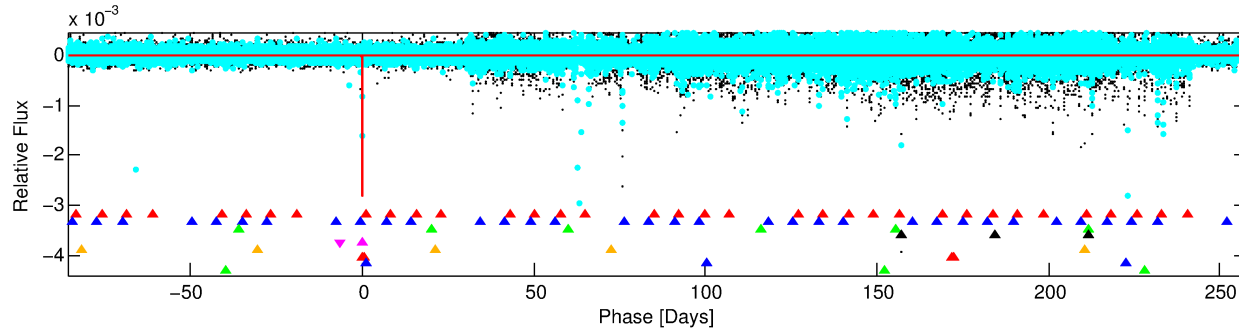
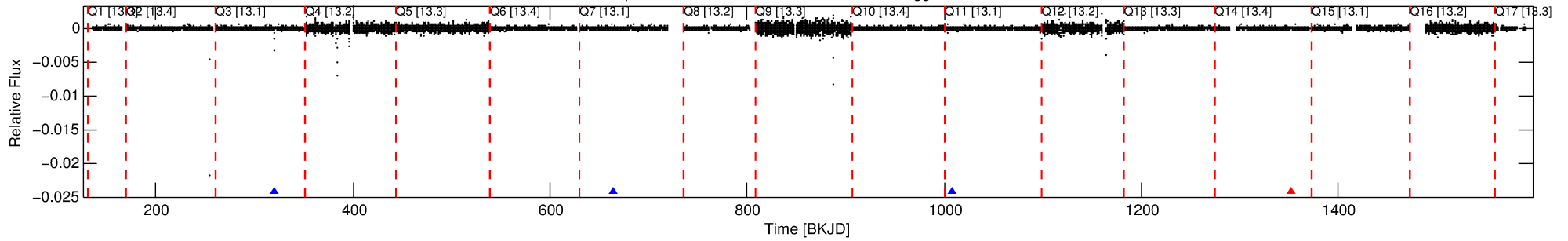
No Significant Match Found

DV One-Page Summary

KIC: 8553907 Candidate: 5 of 9 Period: 343.599 d

KOI: K07056 Corr: No Ephemeris Match

Kp: 12.69 R*: 1.12 Rs Teff: 6618.0 K Logg: 4.39 Fe/H: -0.360



DV Fit Results:

Period = 343.59860 [0.00946] d
Epoch = 320.8359 [0.0173] BKJD
Rp/R* = 0.0910 [5.6982]
a/R* = 814.73 [10742.15]
b = 1.00 [8.00]
Seff = 2.15 [0.64]
Teq = 309 [23] K
Rp = 11.09 [694.56] Re
a = 0.9987 [0.1868] AU
Ag = 22.33 [2802.04] [0.01σ]
Teff = 1038 [32560] K [0.02σ]

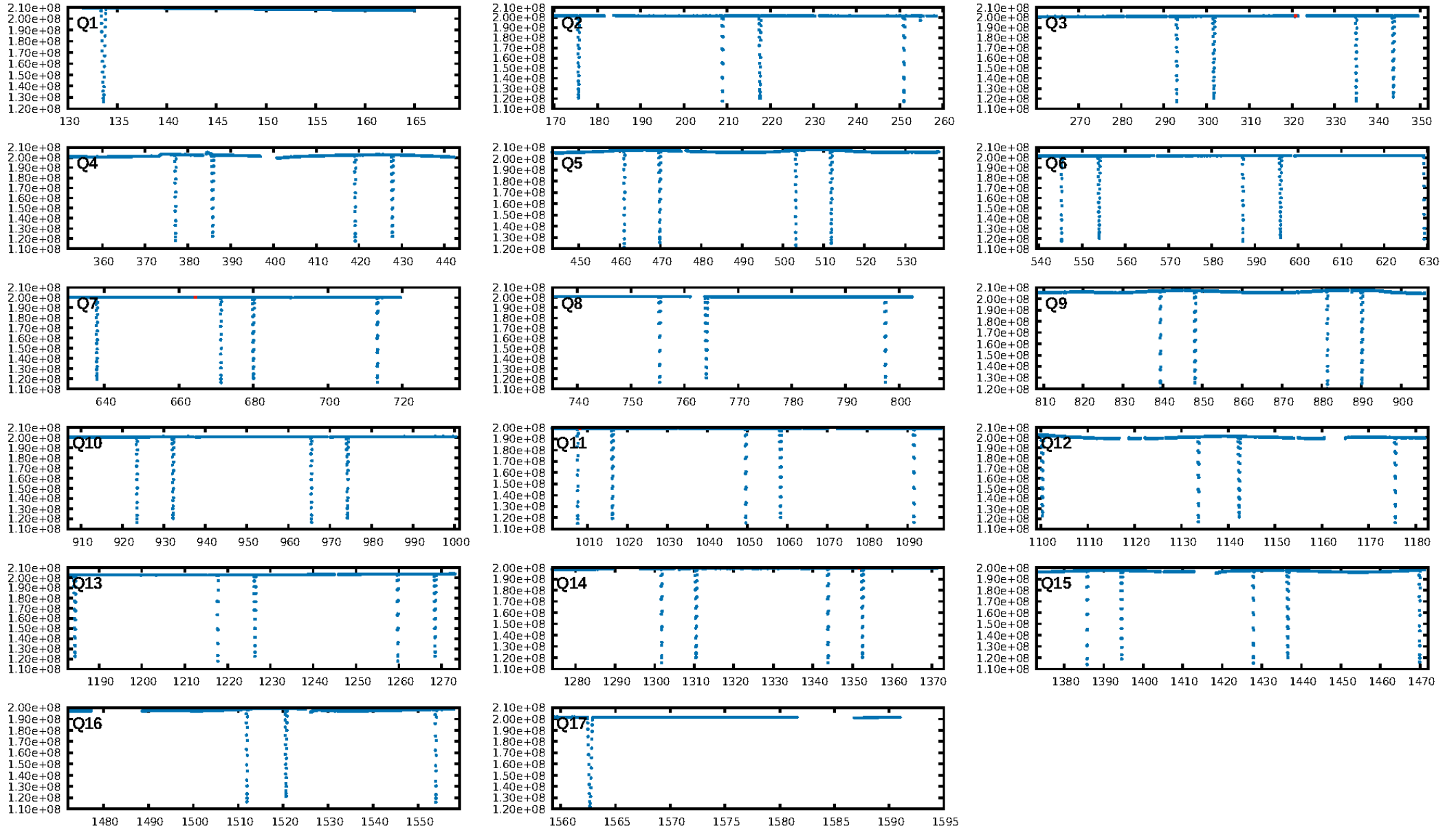
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [102.14σ]
LongPeriod-sig: 100.0% [171.67σ]
ModelChiSquare2-sig: 0.5%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.75 [3/4]
GhostDiagnostic-chr: -1.228
Centroid-sig: 7.2%
Centroid-so: 0.431 arcsec [1.99σ]
OotOffset-rm: 2.532 arcsec [4.61σ]
KicOffset-rm: 2.500 arcsec [4.55σ]
OotOffset-st: 1/2/0/0 [3]
KicOffset-st: 1/2/0/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.25 [1/4]

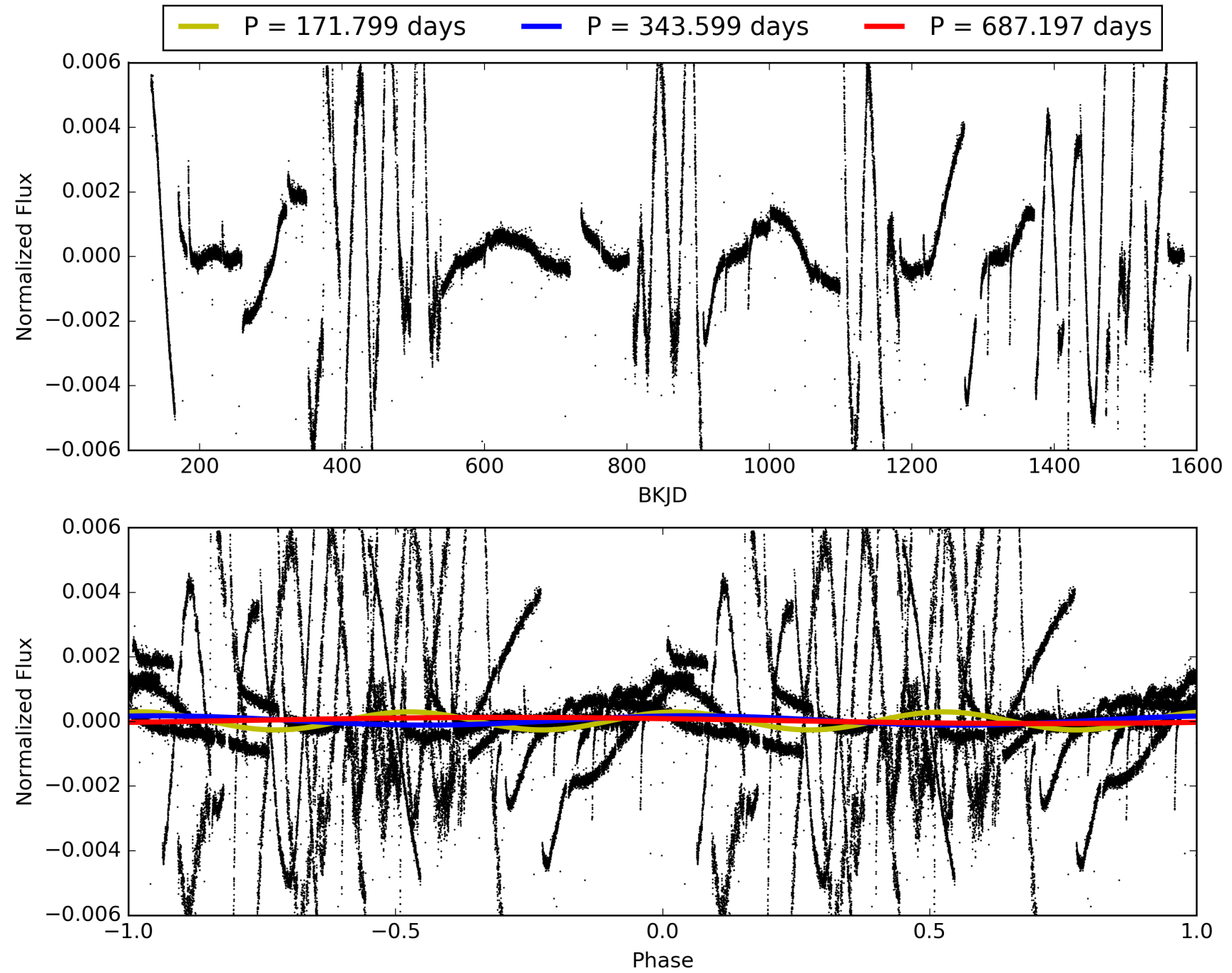
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:54:38 Z

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

TCE 008553907-05, PDC Light Curves

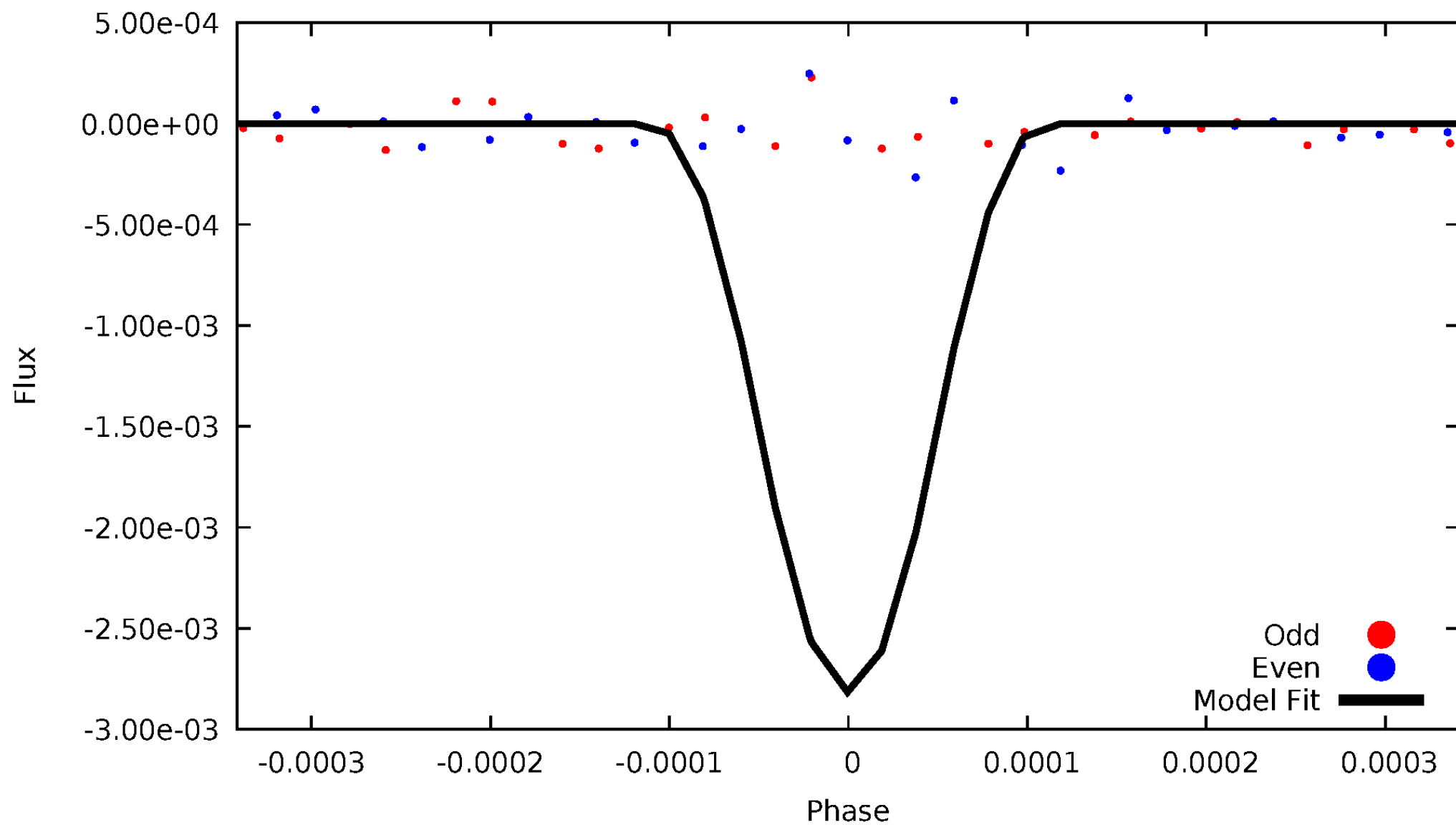


TCE 008553907-05



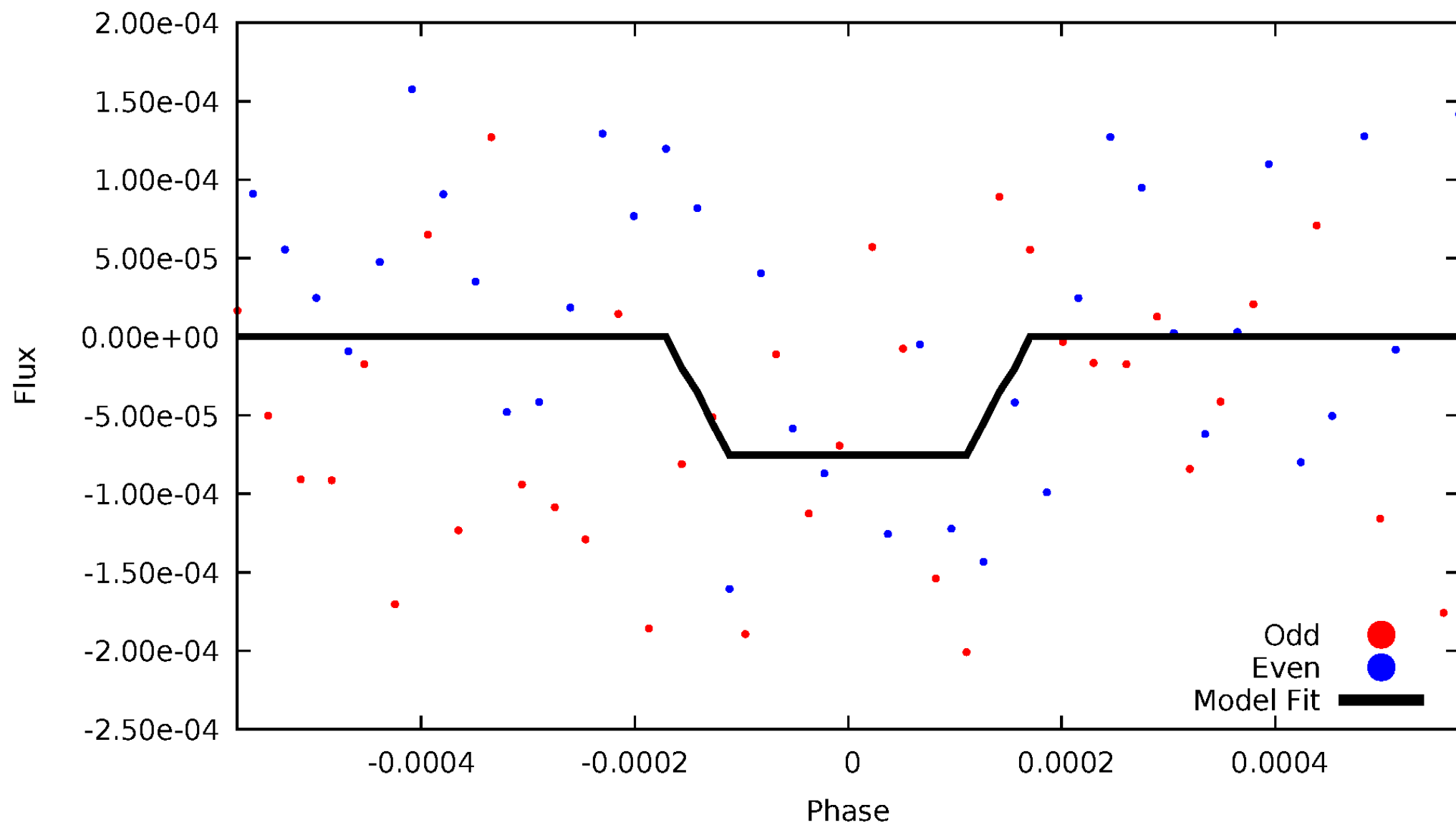
DV Odd/Even

TCE 008553907-05



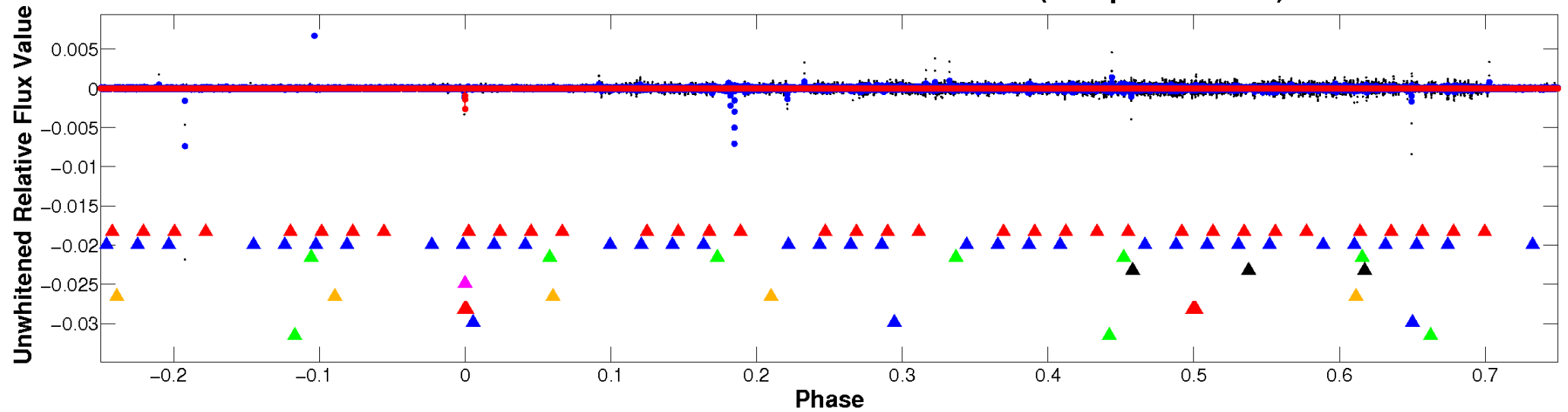
ALT Odd/Even

TCE 008553907-05

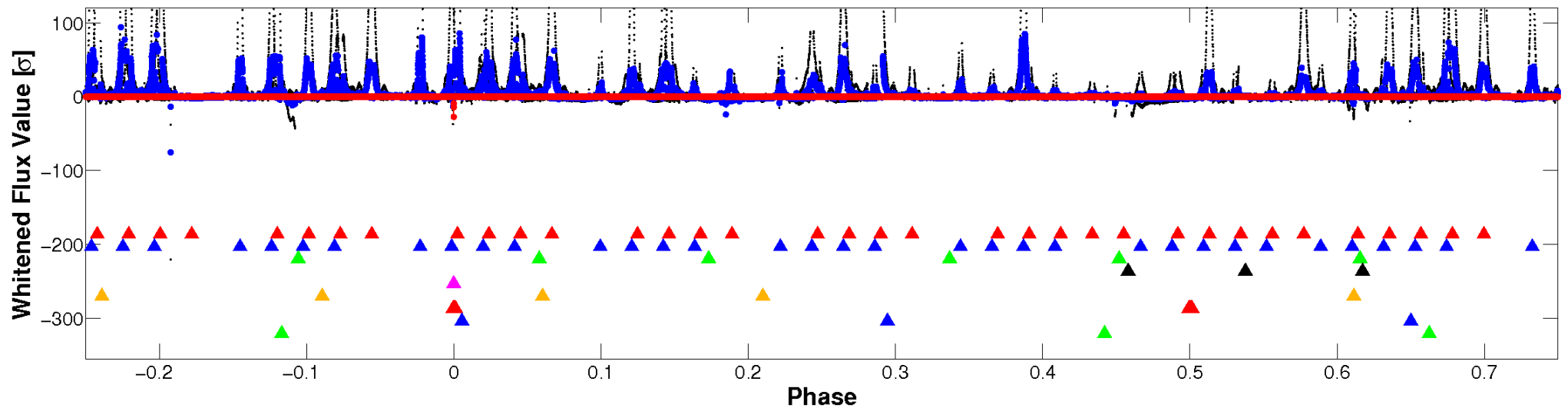


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)



Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



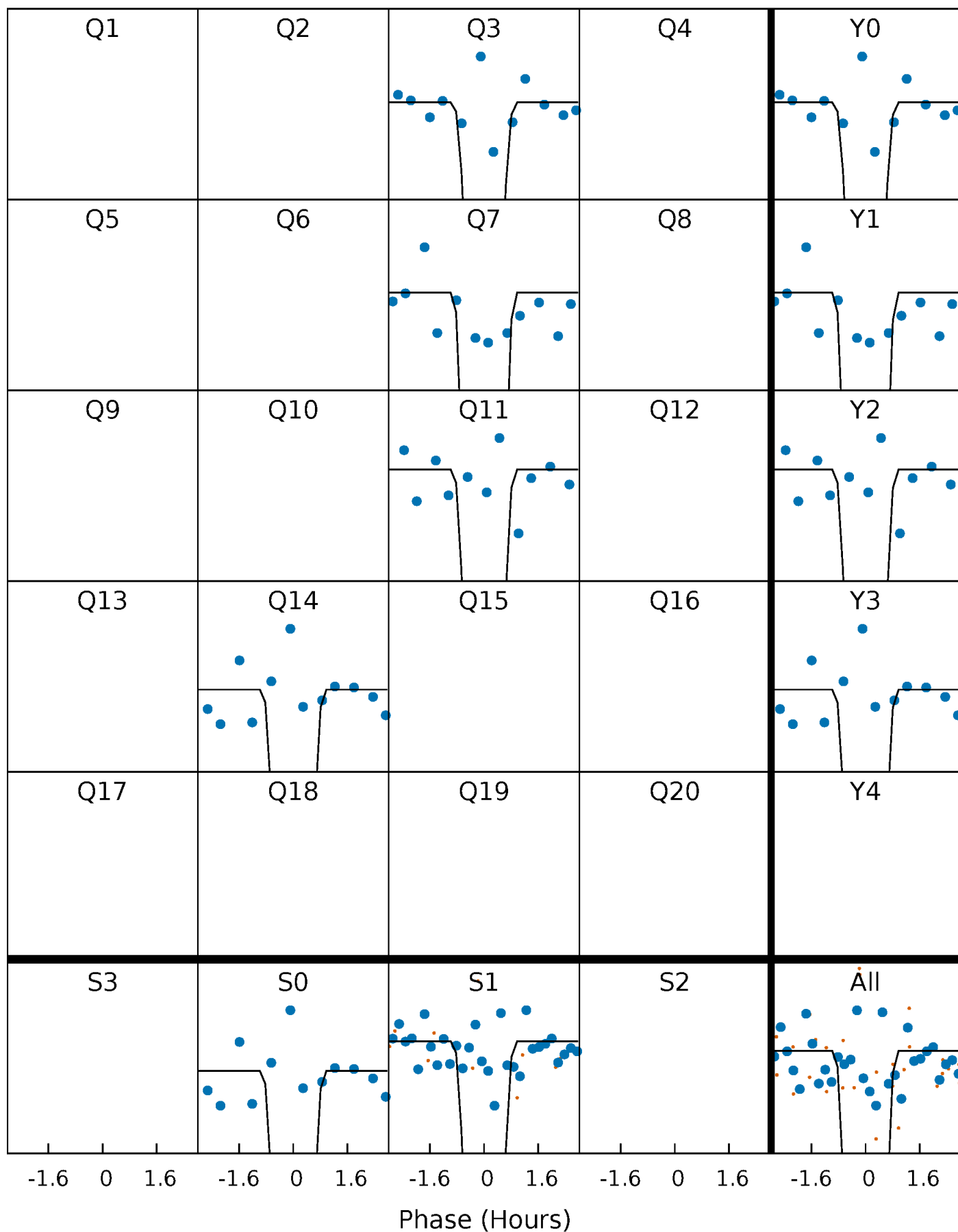
PDC Quarter-Phased Transit Curves

TCE 008553907-05 $P=343.598598$ Days $T_0=320.835899$ (BKJD)



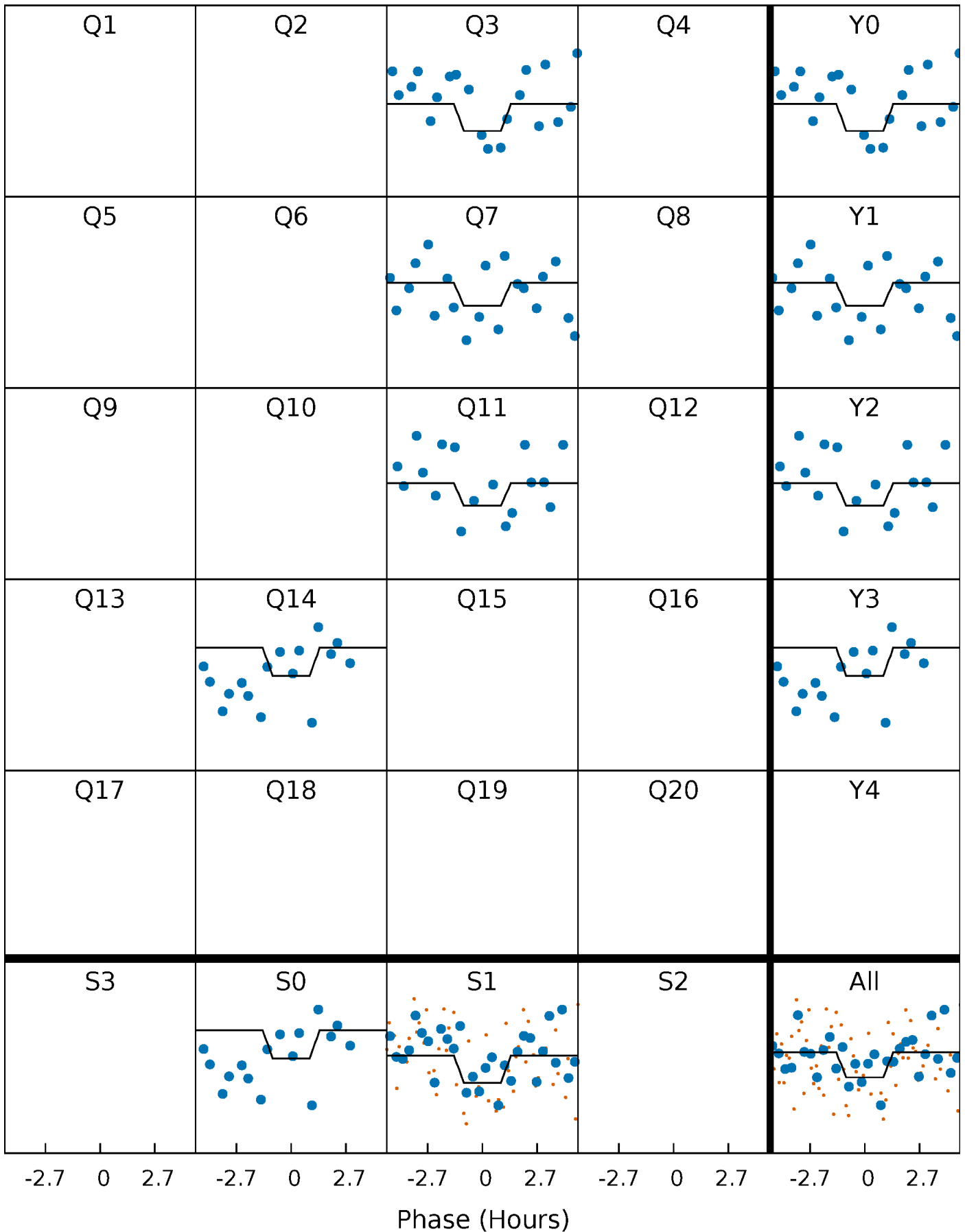
DV Quarter-Phased Transit Curves

TCE 008553907-05 $P=343.598598$ Days $T_0=320.835899$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

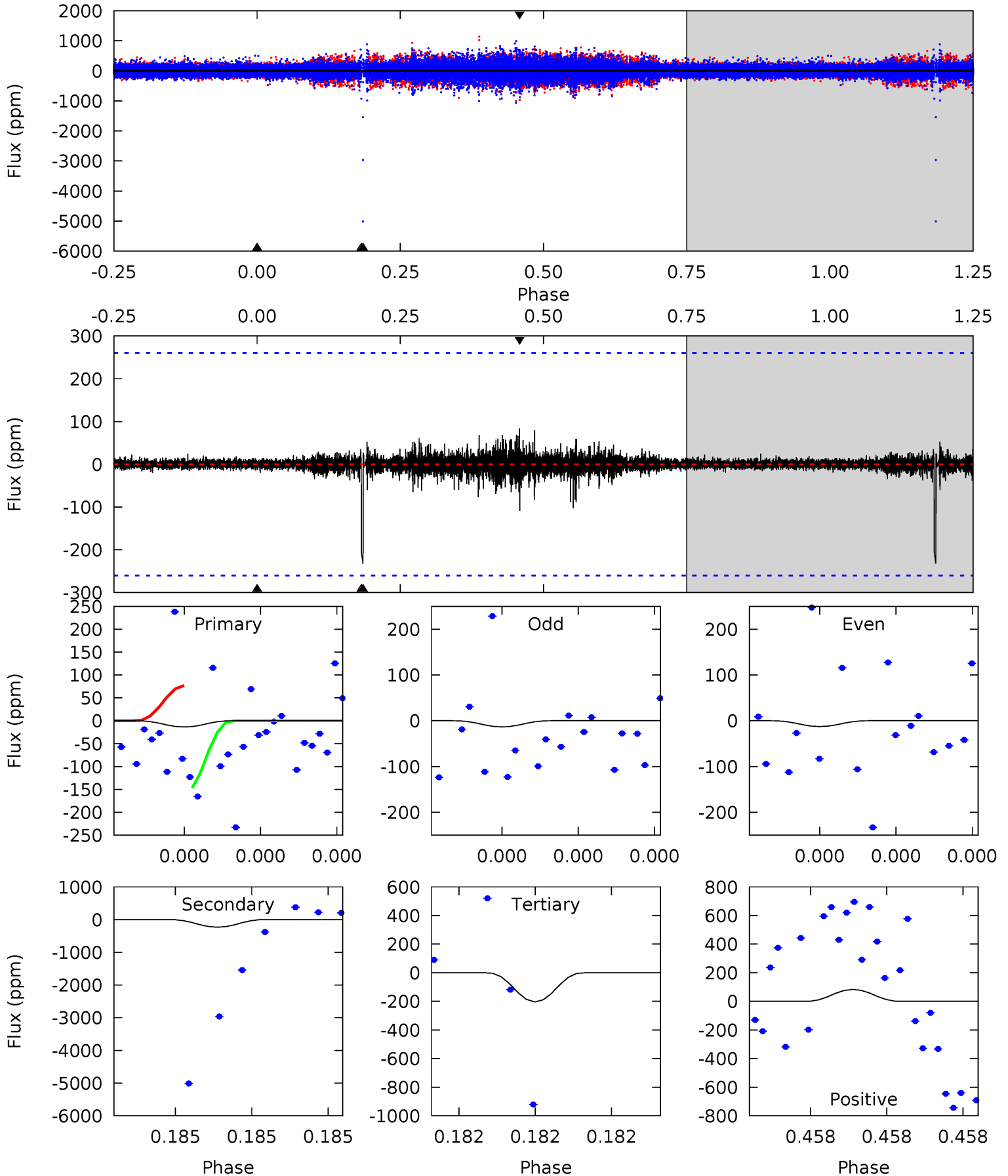
TCE 008553907-05 $P=343.597123$ Days $T_0=321.101728$ (BKJD)



DV Model-Shift Uniqueness Test

008553907-05, P = 343.598598 Days, E = 320.835899 Days

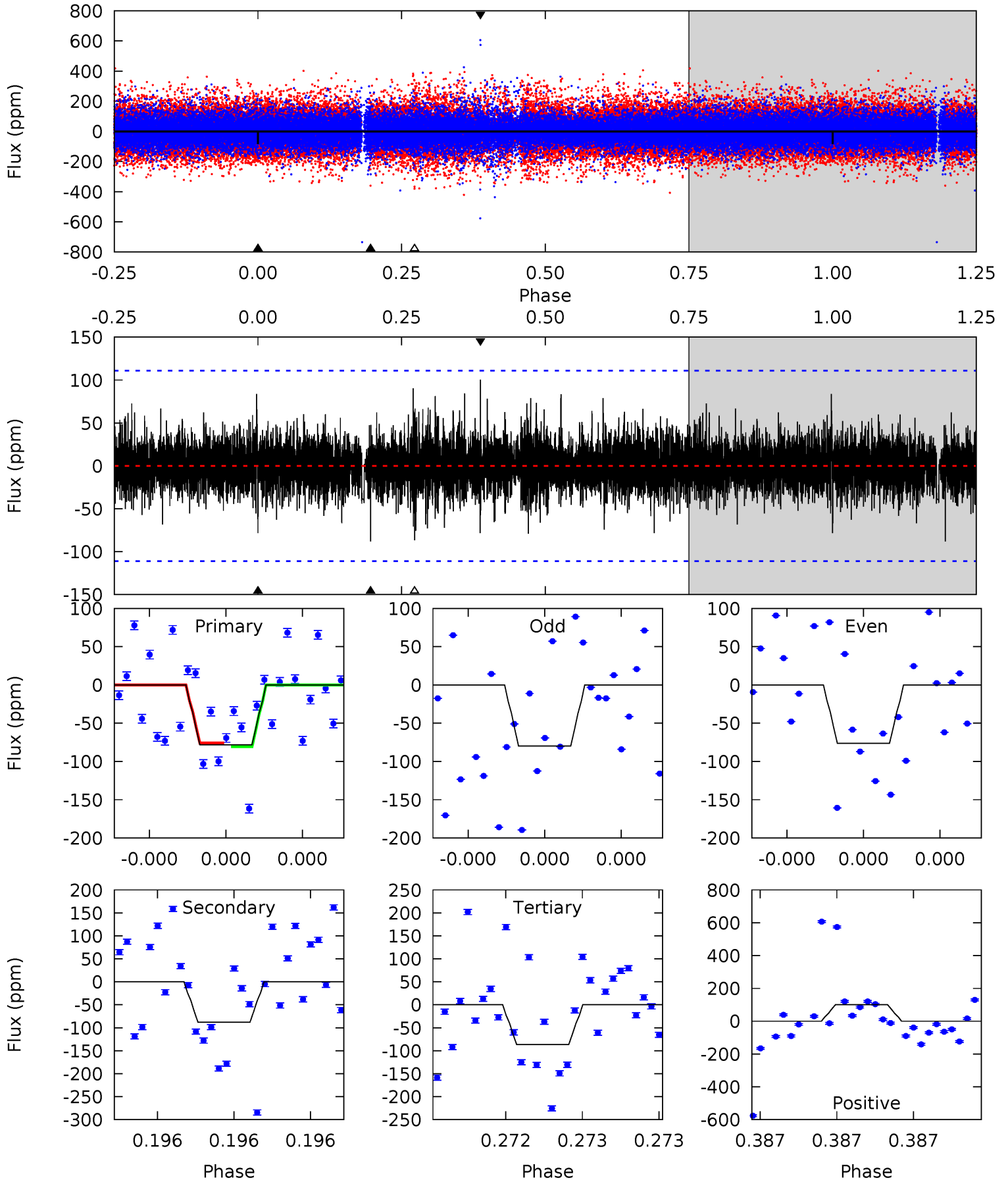
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.30	5.14	4.51	1.84	5.75	3.75	0.27	-4.21	-1.54	0.63	3.30	0.01	1.06	0.26	0.75



Alt Model-Shift Uniqueness Test

008553907-05, P = 343.597123 Days, E = 321.101728 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.98	4.47	4.41	5.11	5.65	3.59	0.98	-0.43	-1.13	0.06	-0.64	0.09	0.98	0.53	0.13



Stellar Parameters For KIC 008553907

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6618^{+148}_{-198}	$4.393^{+0.063}_{-0.147}$	$-0.360^{+0.250}_{-0.300}$	$1.117^{+0.250}_{-0.125}$	$1.128^{+0.125}_{-0.139}$	$1.139^{+0.311}_{-0.464}$
	+2%/-3%	+1%/-3%	+69%/-83%	+22%/-11%	+11%/-12%	+27%/-41%
Source	PHO1	FLK73	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 008553907-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-232 ± 45	$494.07^{+571.33}_{-352.93}$	436^{+24}_{-19}	1372^{+415}_{-2718}	$0.532^{+5.465}_{-0.418}$
Alt.	-88 ± 20	$455.93^{+562.03}_{-334.39}$	437^{+23}_{-19}	-1254^{+2938}_{-126}	$0.228^{+2.844}_{-0.184}$

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 $A_{obs} \gg 1.0$

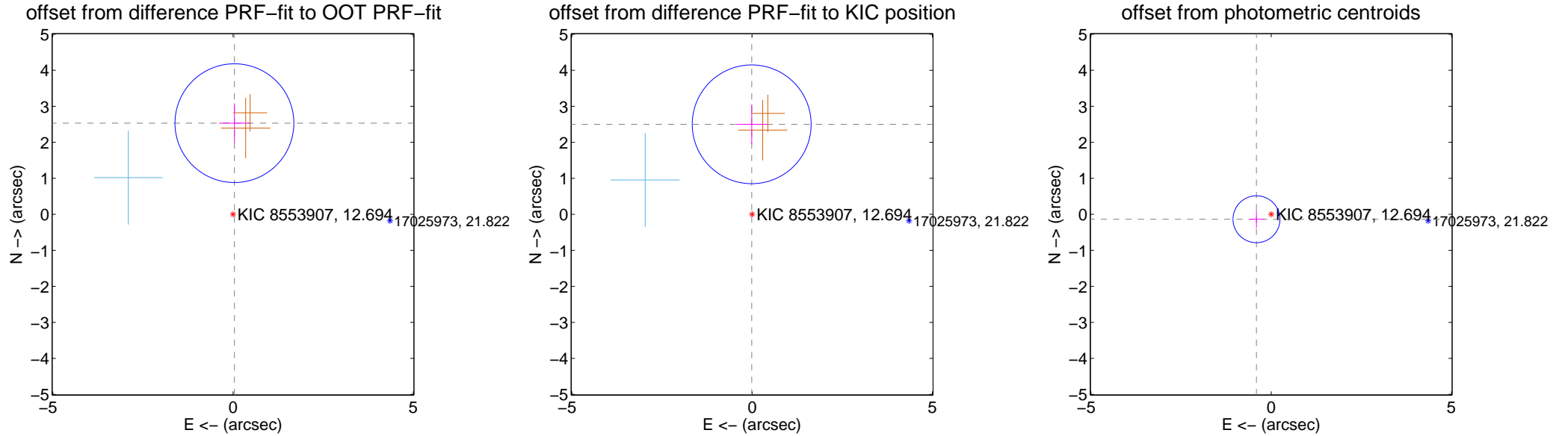
DV Centroid Data

Supplemental centroid analysis for 008553907-05. Kepler magnitude: 12.69. Transit SNR 26.42

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.532 ± 0.550	4.61	-0.038 ± 0.426	2.532 ± 0.550
PRF-fit source offset from KIC position	2.500 ± 0.550	4.55	0.012 ± 0.426	2.500 ± 0.550
photometric centroid source offset	0.43 ± 0.22	1.99	0.41 ± 0.21	-0.14 ± 0.24



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.

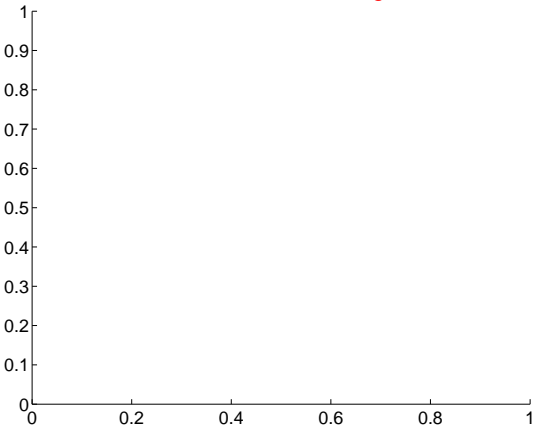
Q1 no difference image



Q1 no OOT image



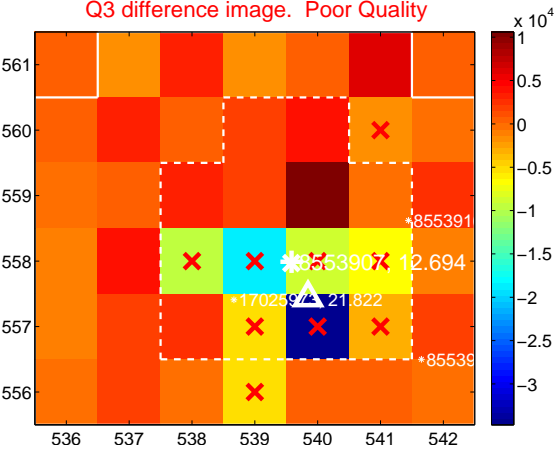
Q2 no difference image



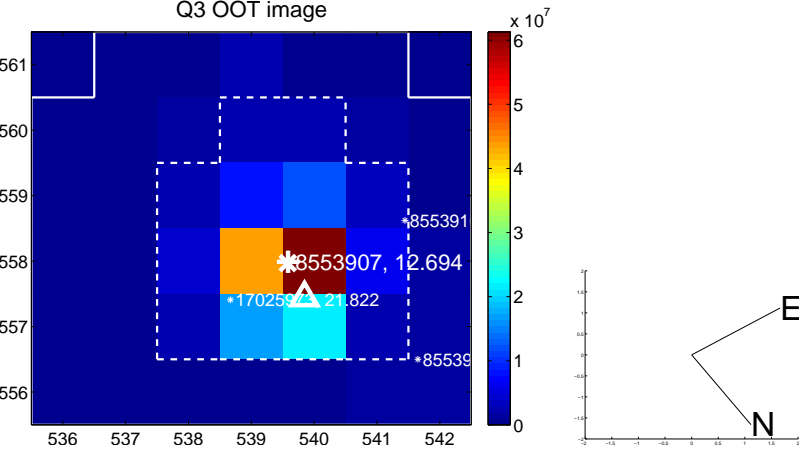
Q2 no OOT image



Q3 difference image. Poor Quality



Q3 OOT image



Q4 no difference image



Q4 no OOT image



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

Q5 no difference image



Q5 no OOT image



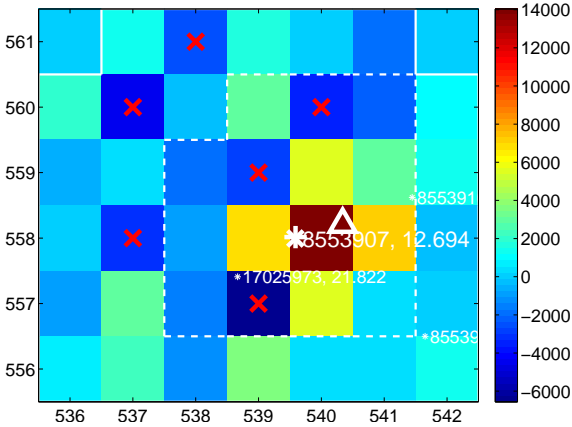
Q6 no difference image



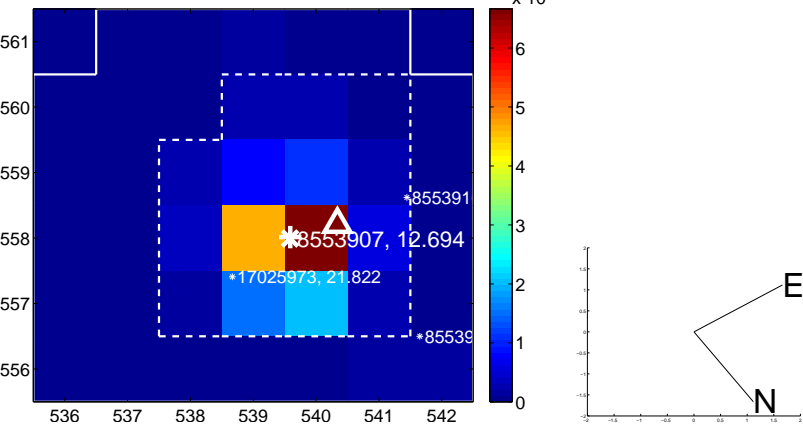
Q6 no OOT image



Q7 difference image



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.

Q9 no difference image



Q9 no OOT image



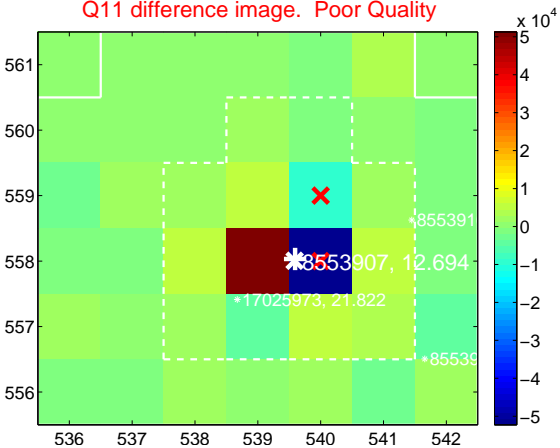
Q10 no difference image



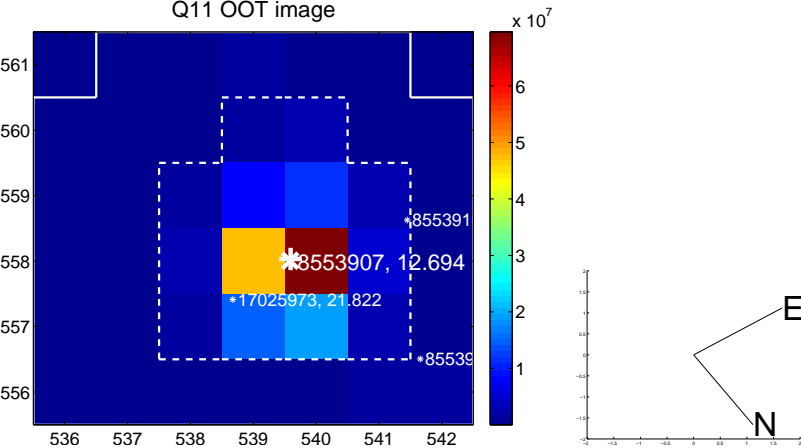
Q10 no OOT image



Q11 difference image. Poor Quality



Q11 OOT image



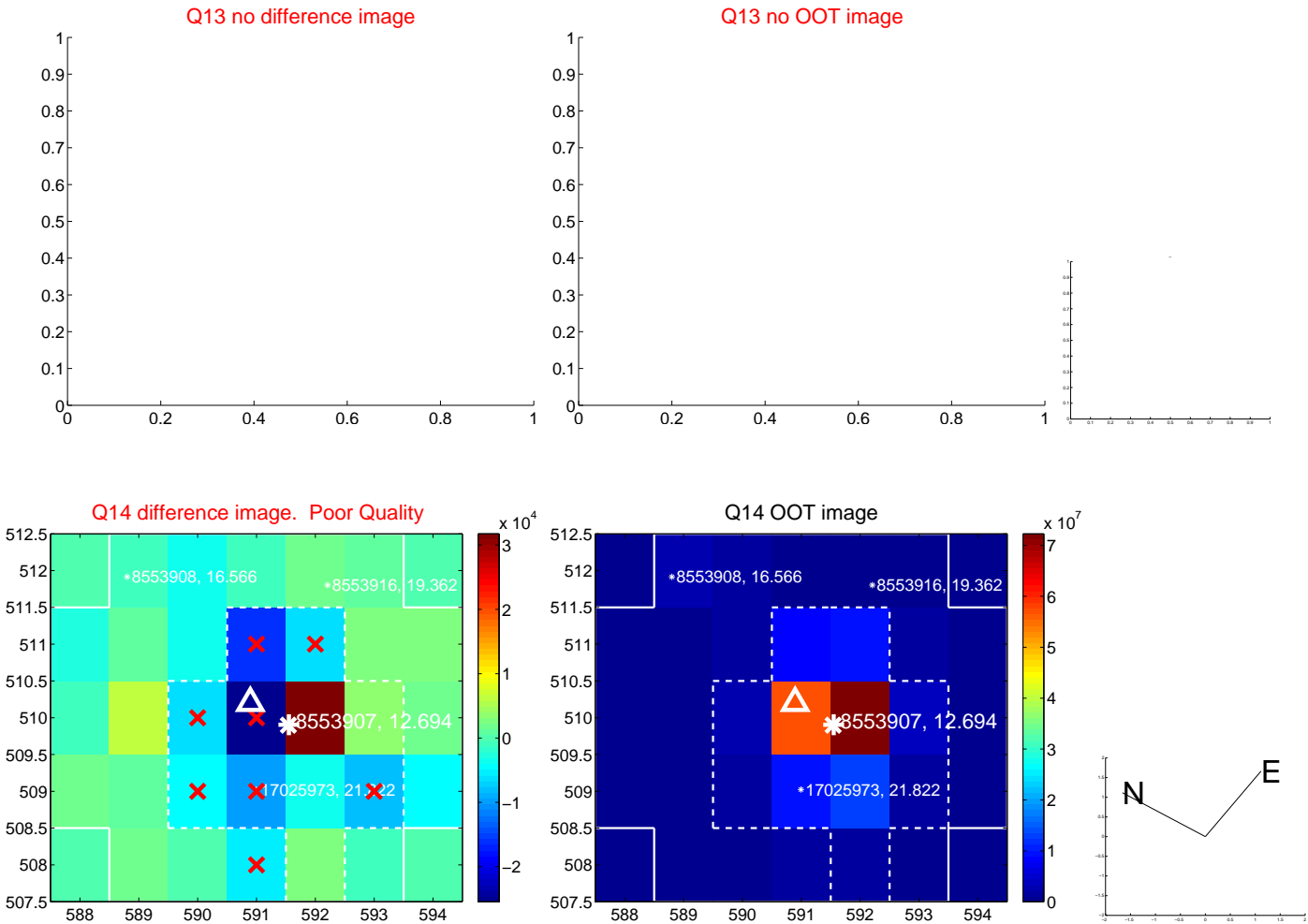
Q12 no difference image



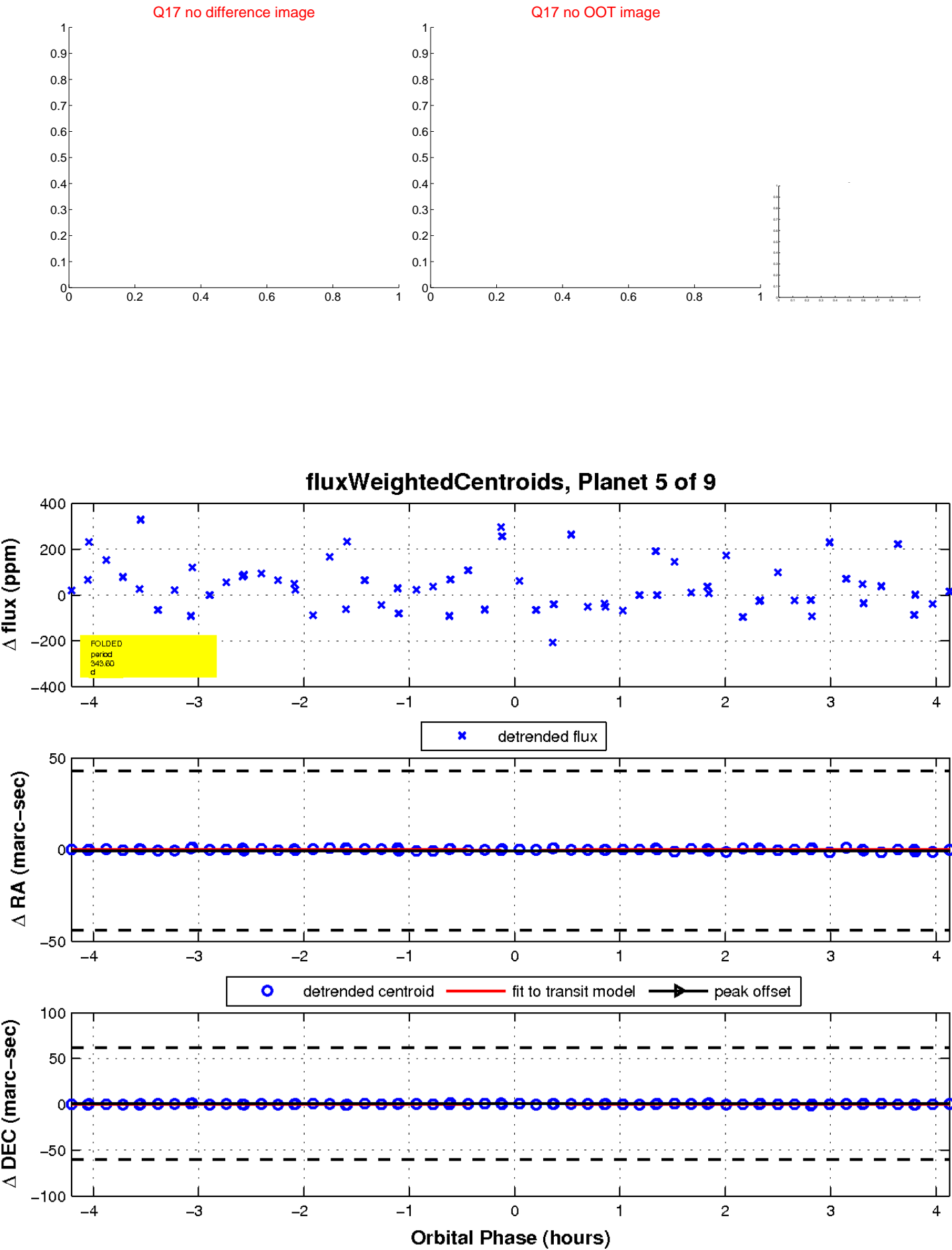
Q12 no OOT image



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

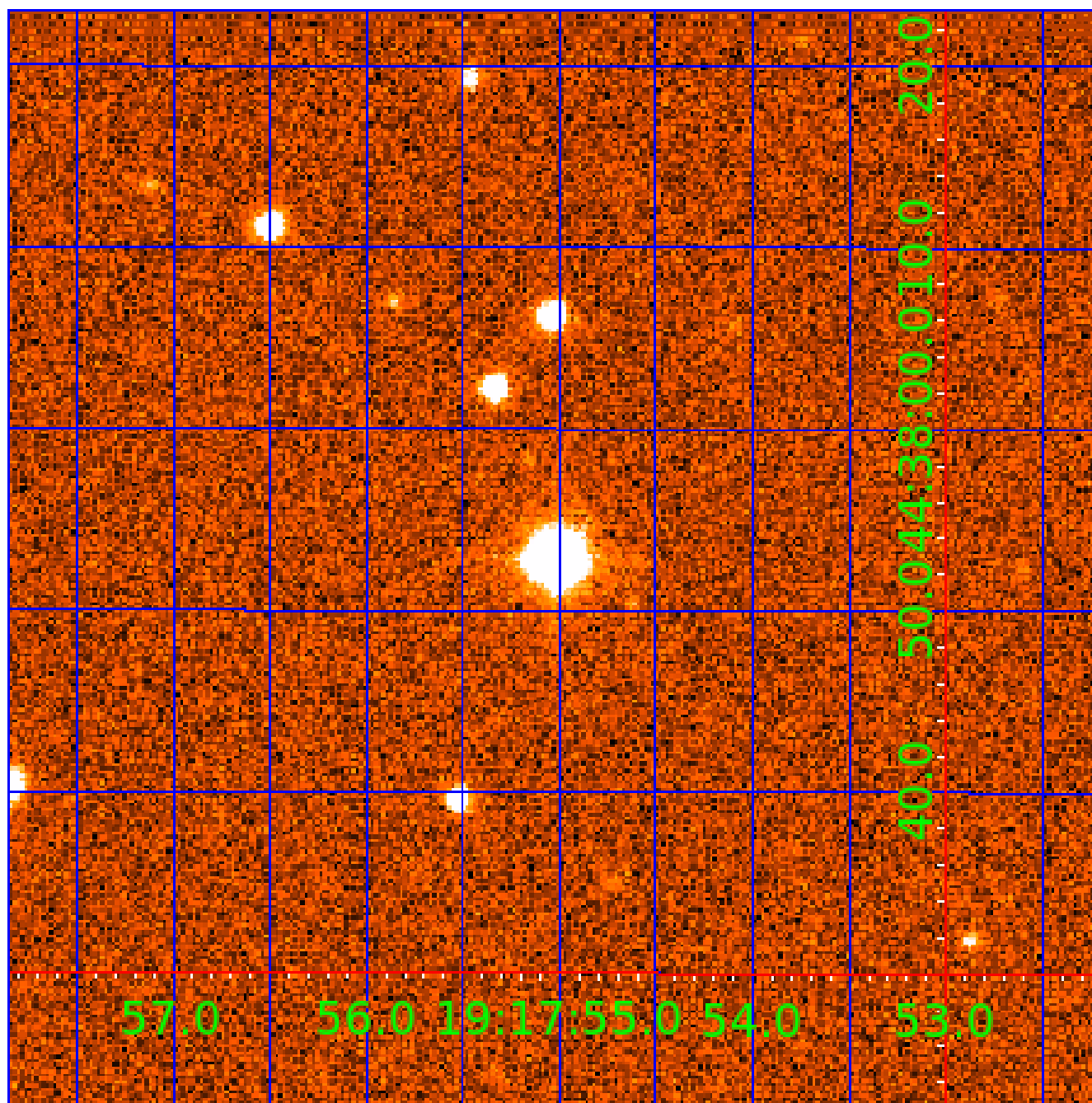


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
008553907-01	OBS	7056.01	42.031158	133.595217	399533.3	7.500	40551.4	-1.0	1.12	6618	60.09	35.41
008553907-02	OBS	No	42.031672	166.918948	419889.0	5.000	40386.0	-1.0	1.12	6618	60.95	35.41
008553907-03	OBS	No	247.811404	132.529266	10565.8	12.000	559.2	-1.0	1.12	6618	11.57	3.32
008553907-04	OBS	No	714.554782	134.633923	8364.8	12.000	573.5	-1.0	1.12	6618	10.30	0.81
008553907-05	OBS	No	343.598598	320.835899	2815.8	1.408	334.0	26.4	1.12	6618	11.09	2.15
008553907-06	OBS	No	292.179474	392.975422	6658.7	12.000	339.7	-1.0	1.12	6618	9.19	2.67
008553907-07	OBS	No	171.705196	149.545205	118.0	4.450	317.5	5.8	1.12	6618	1.33	5.42
008553907-08	OBS	No	465.742133	422.069406	5702.9	15.000	316.5	-1.0	1.12	6618	8.50	1.43
008553907-09	OBS	No	419.378385	472.724201	7183.3	10.500	333.6	-1.0	1.12	6618	9.54	1.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008553907-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
008553907-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
008553907-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008553907-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS
008553907-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_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_FEW_DIFFS
008553907-06	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008553907-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—HALO_GHOST
008553907-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008553907-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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 008553907-06

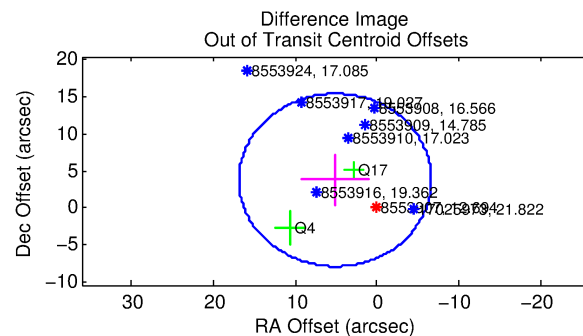
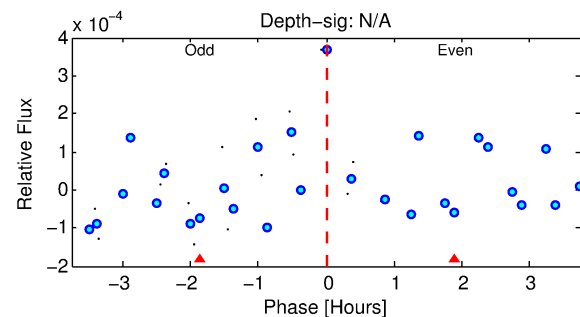
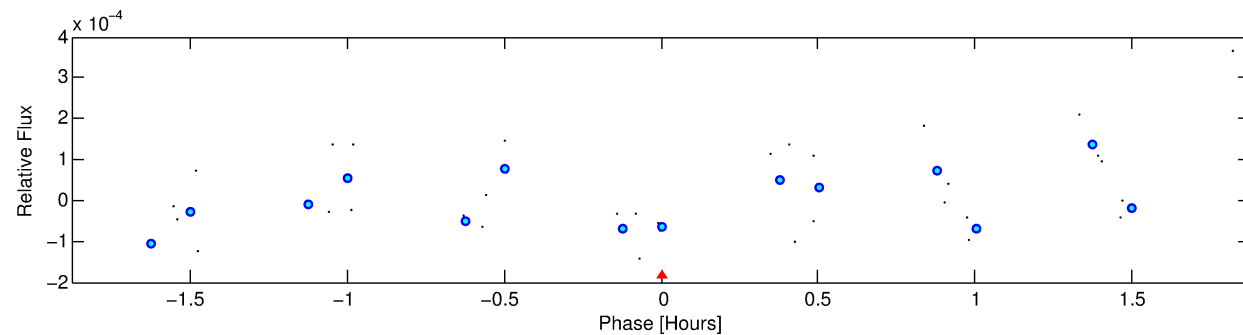
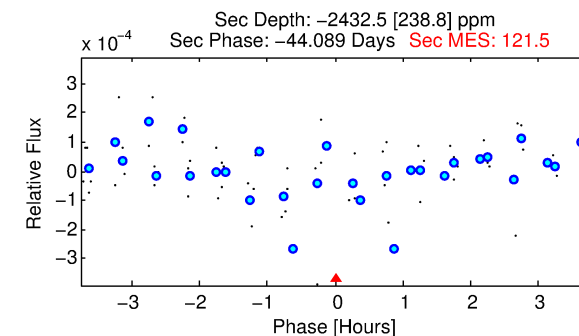
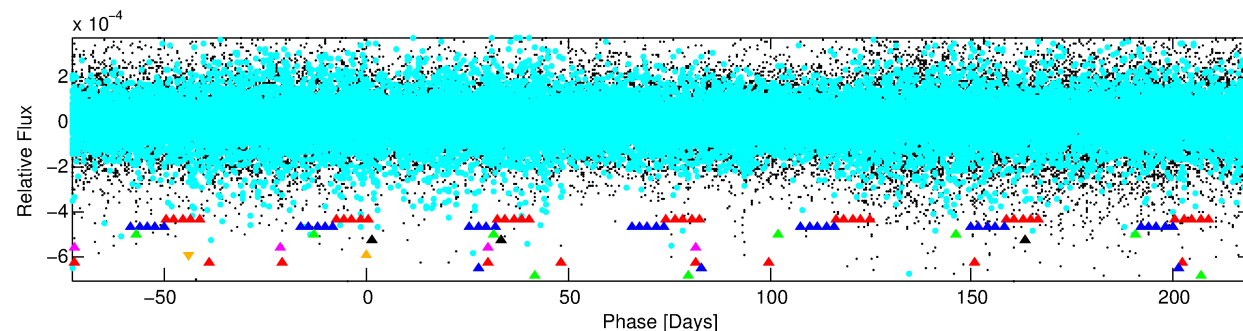
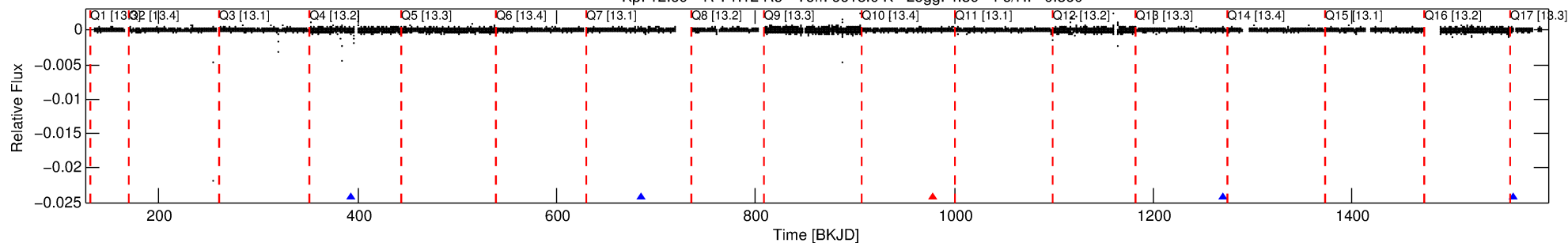
No Significant Match Found

DV One-Page Summary

KIC: 8553907 Candidate: 6 of 9 Period: 292.179 d

KOI: K07056 Corr: No Ephemeris Match

Kp: 12.69 R*: 1.12 Rs Teff: 6618.0 K Logg: 4.39 Fe/H: -0.360



TPS TCE Results:

Period = 292.17947 d
Epoch = 392.9754 BKJD

DV fit results are unavailable

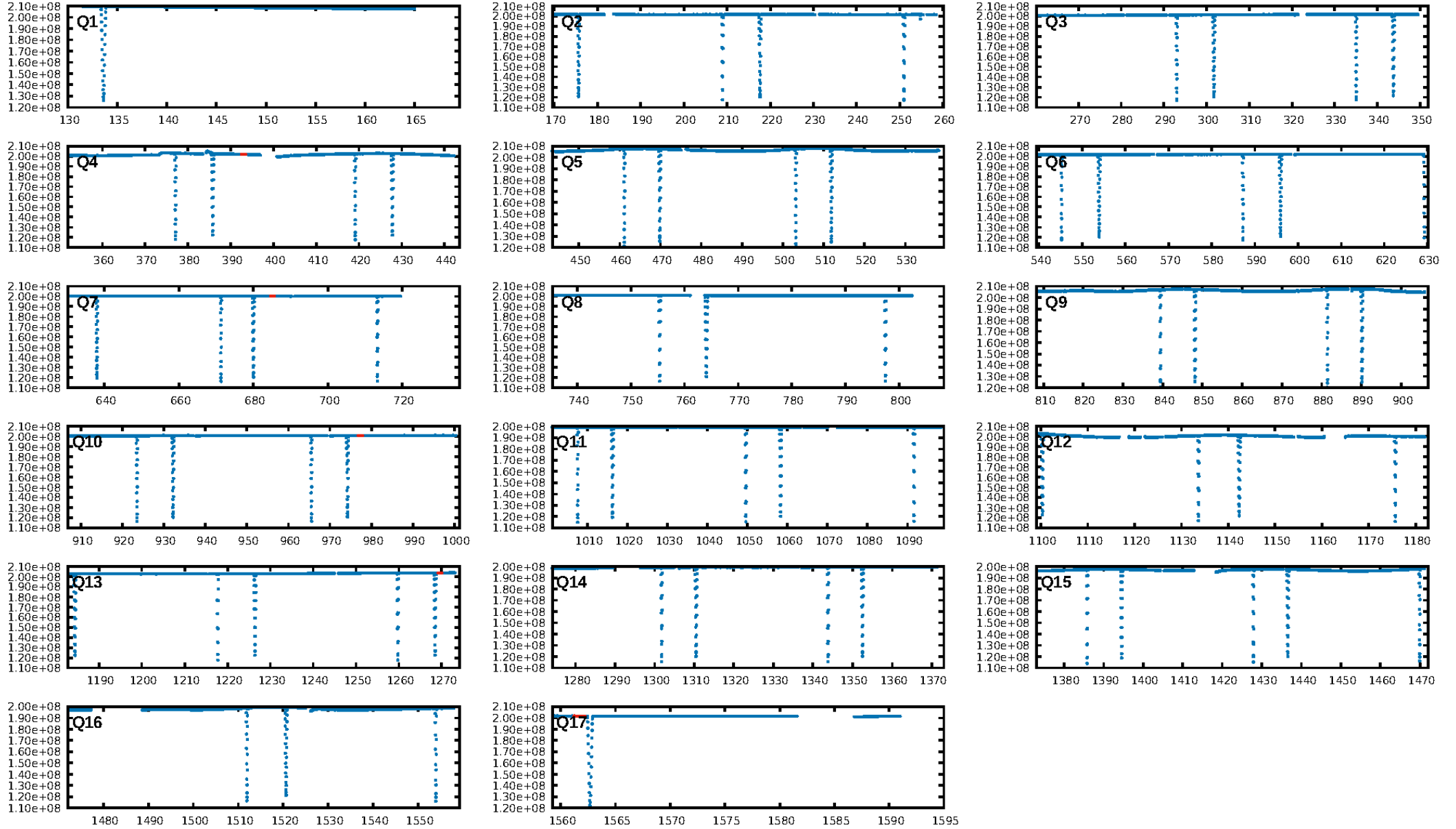
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [62.75σ]
LongPeriod-sig: 100.0% [102.14σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.75 [3/4]
GhostDiagnostic-chr: 0.67
Centroid-sig: 39.3%
Centroid-so: 4.651 arcsec [0.57σ]
OotOffset-rm: 6.346 arcsec [1.62σ]
KicOffset-rm: 6.370 arcsec [1.61σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [5/5]

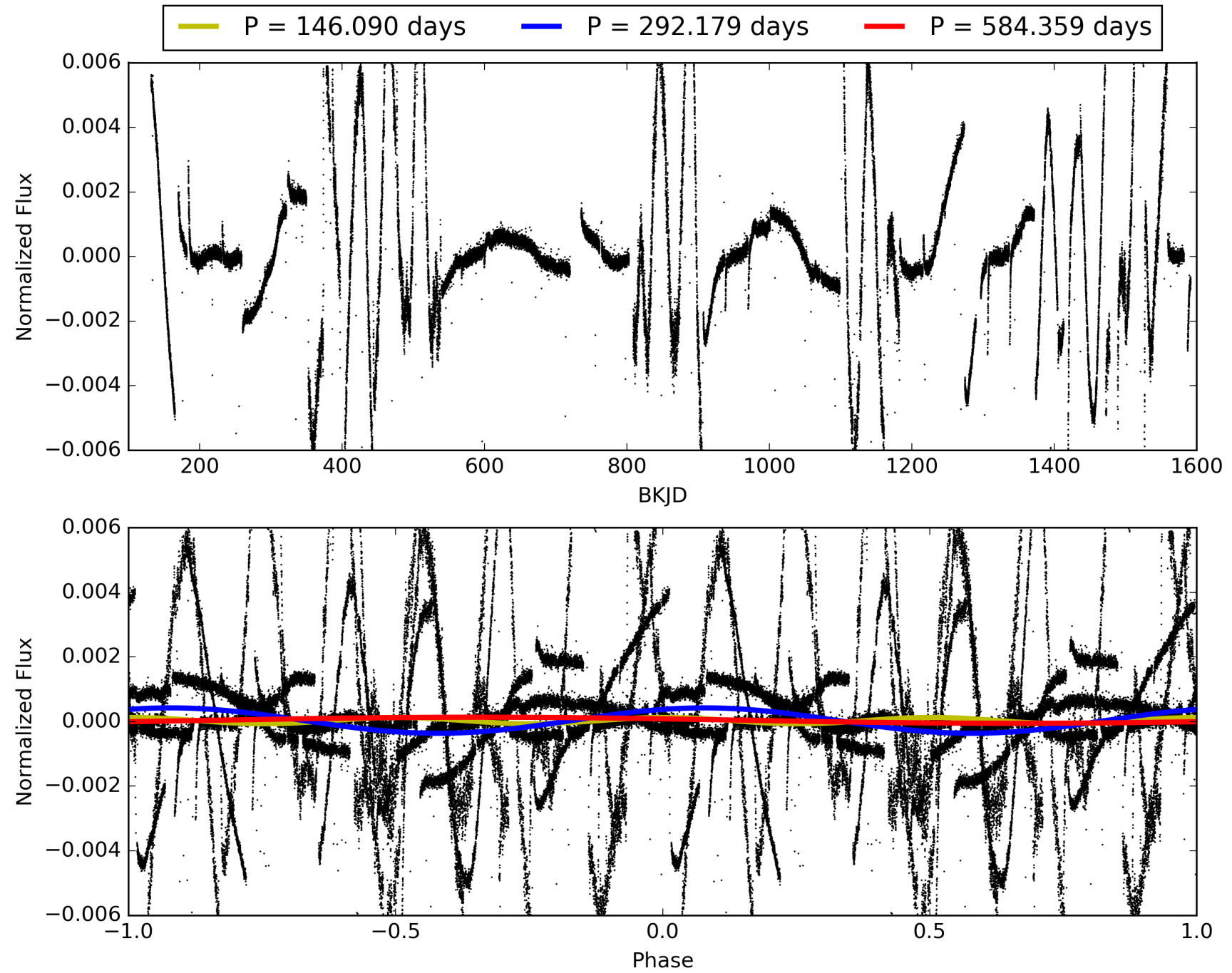
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:55:27 Z

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

TCE 008553907-06, PDC Light Curves

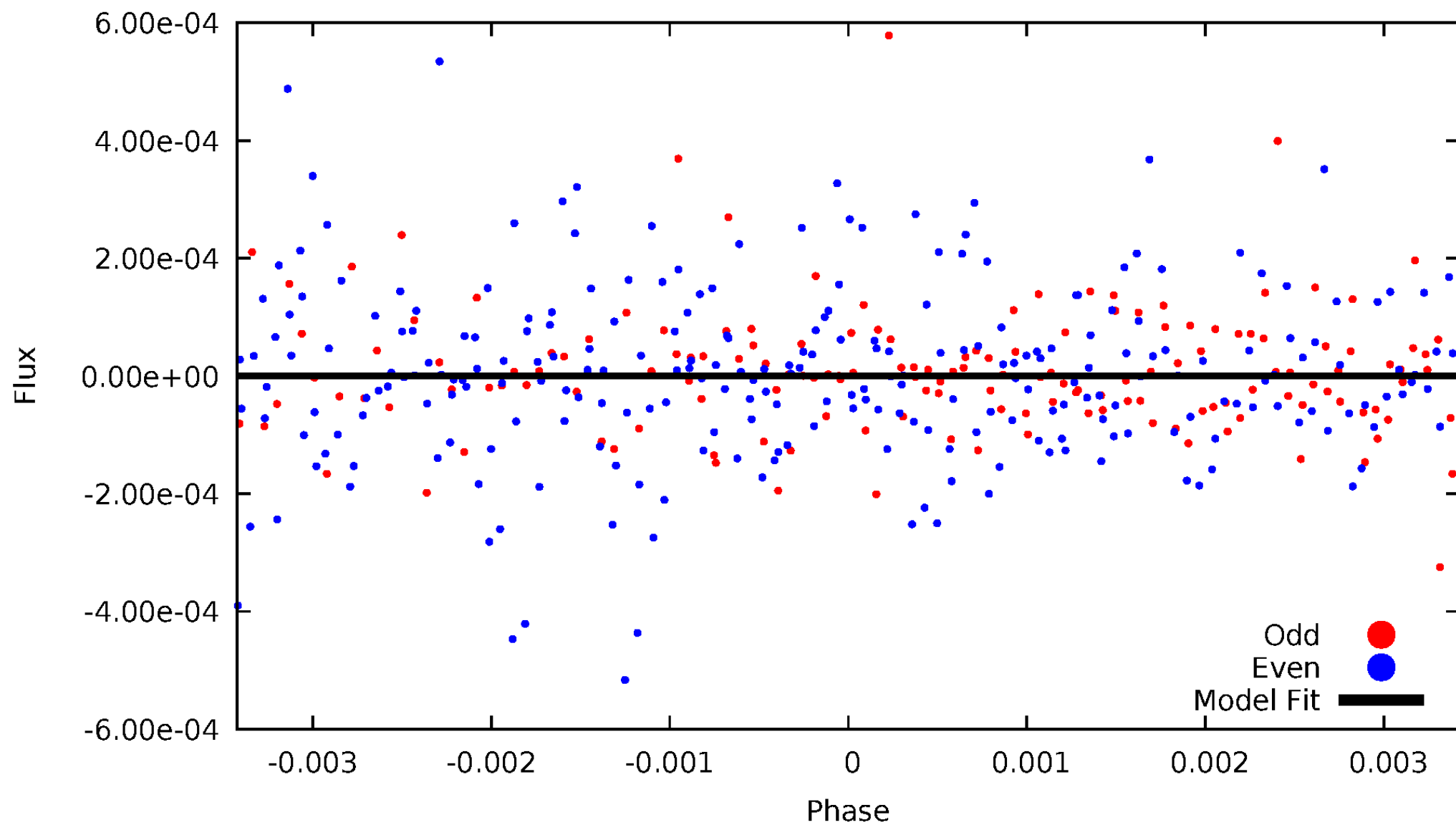


TCE 008553907-06



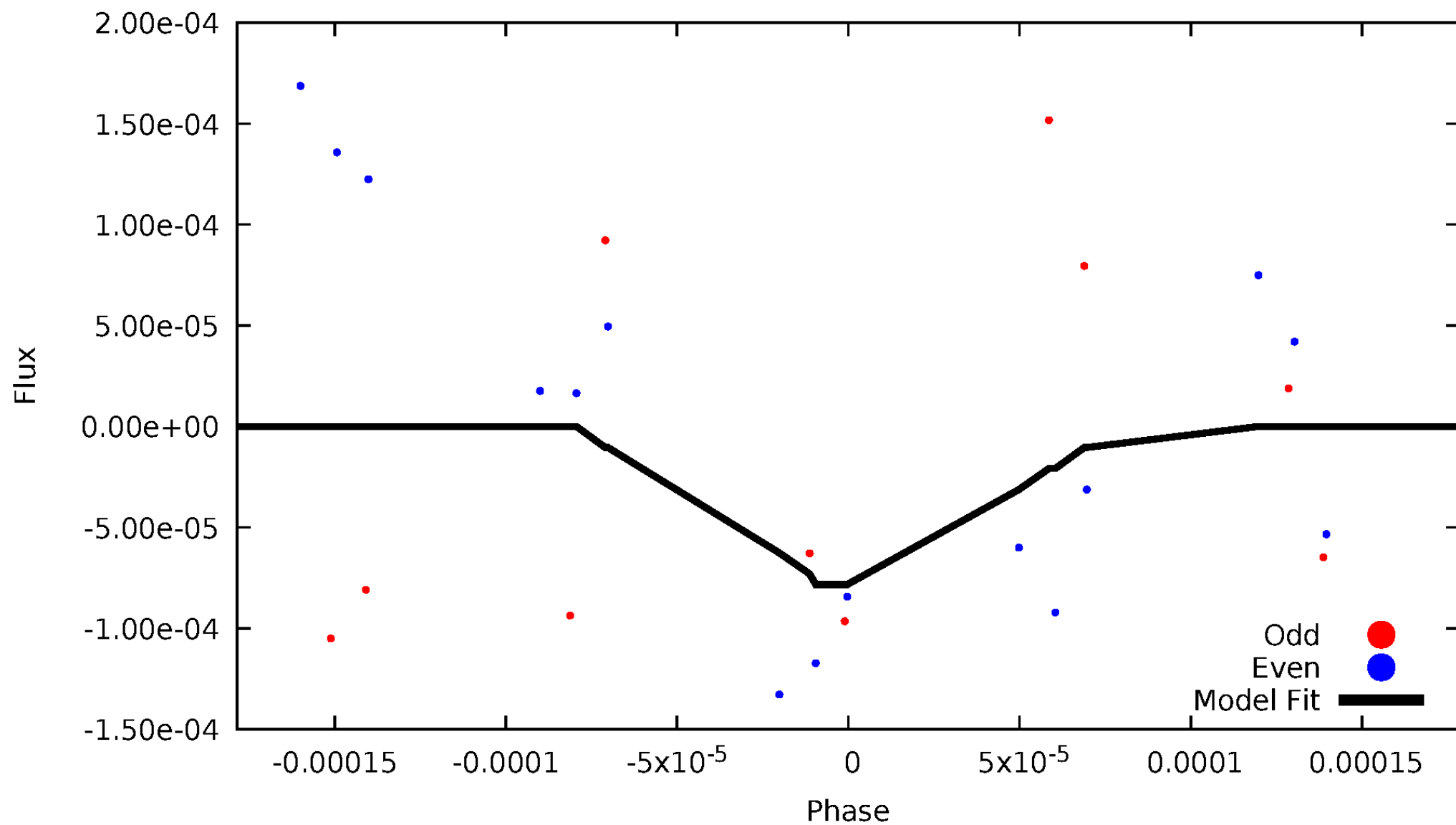
DV Odd/Even

TCE 008553907-06



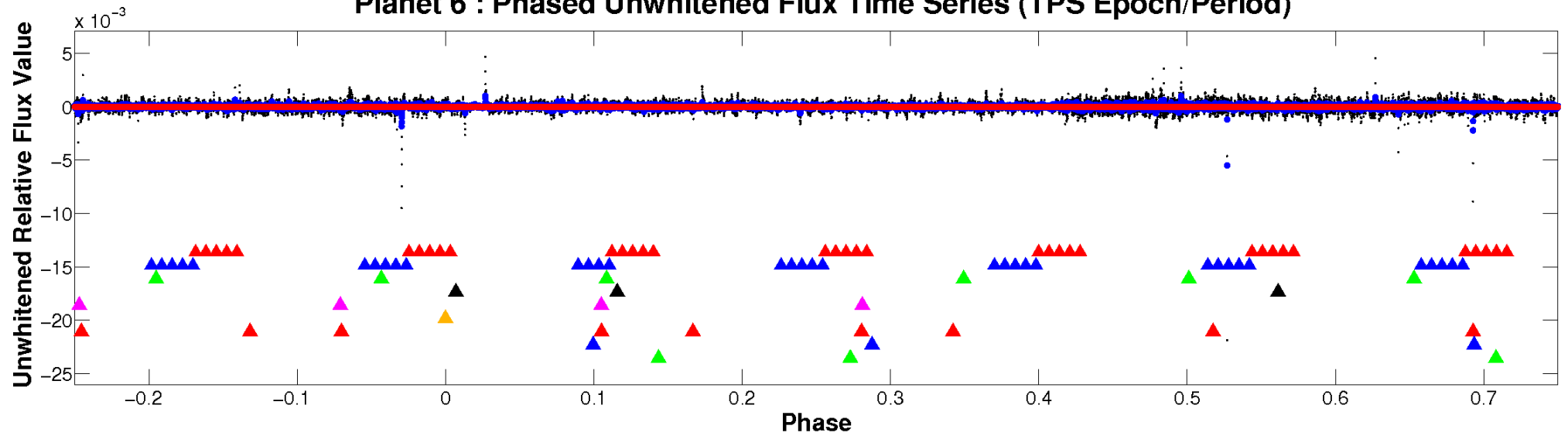
ALT Odd/Even

TCE 008553907-06

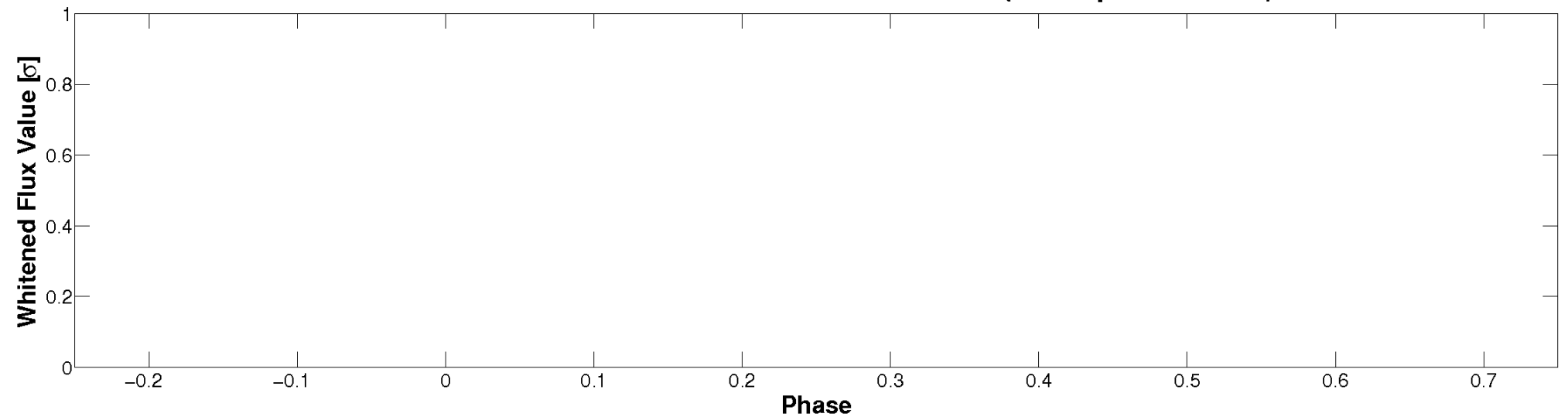


Non-Whitened Vs. Whitened Light Curve

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

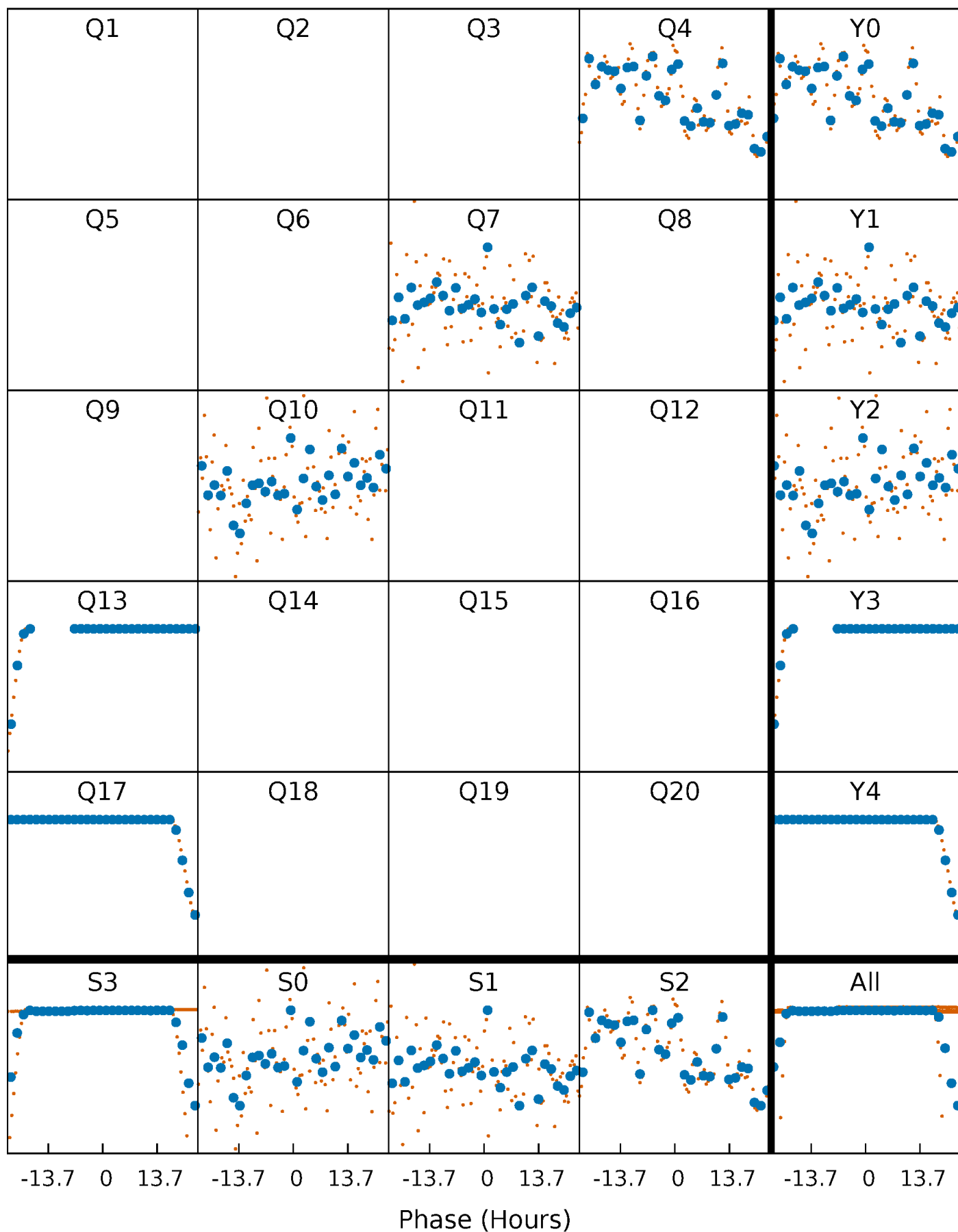


Planet 6 : Phased Whitened Flux Time Series (TPS Epoch/Period)



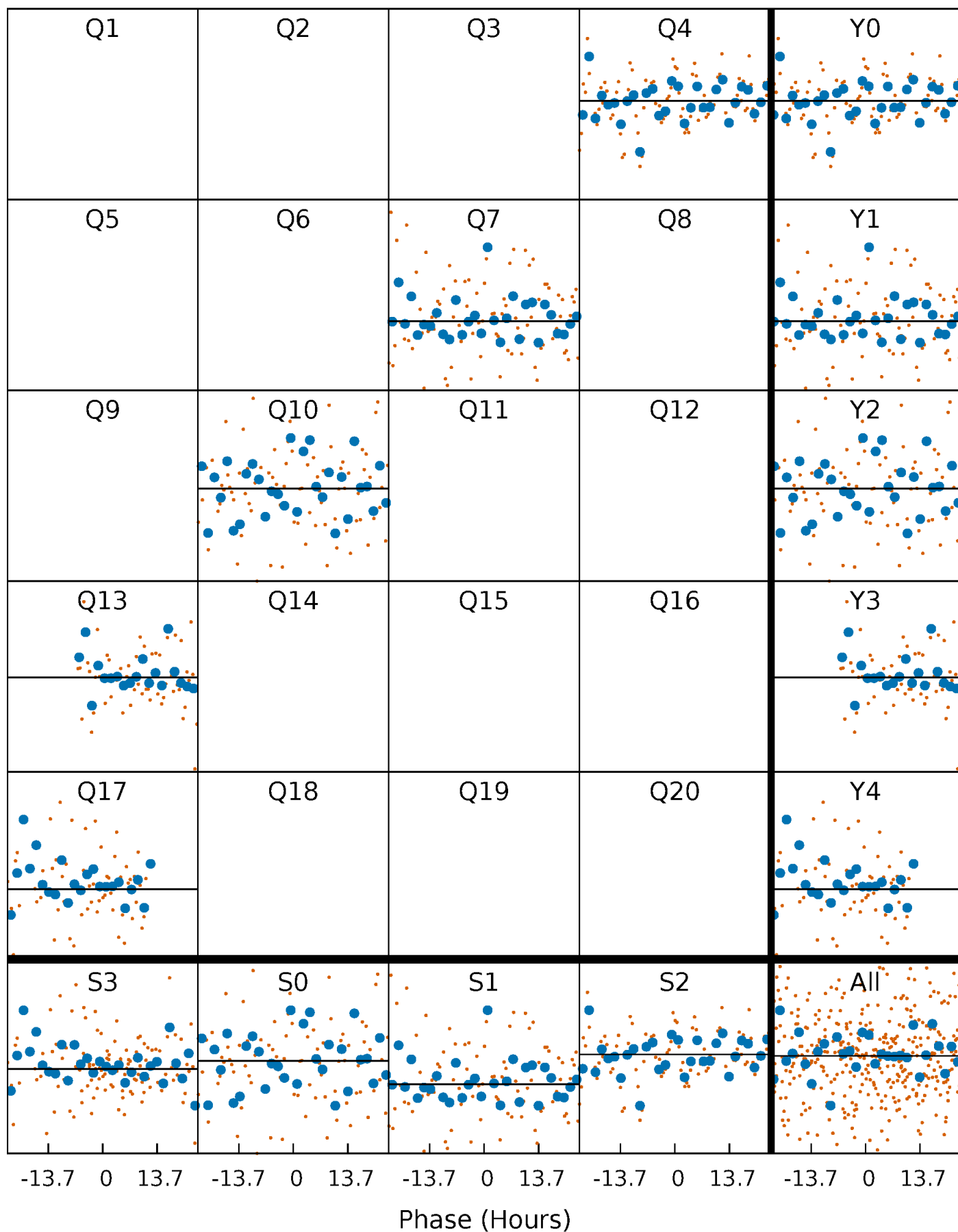
PDC Quarter-Phased Transit Curves

TCE 008553907-06 $P=292.179474$ Days $T_0=392.975422$ (BKJD)



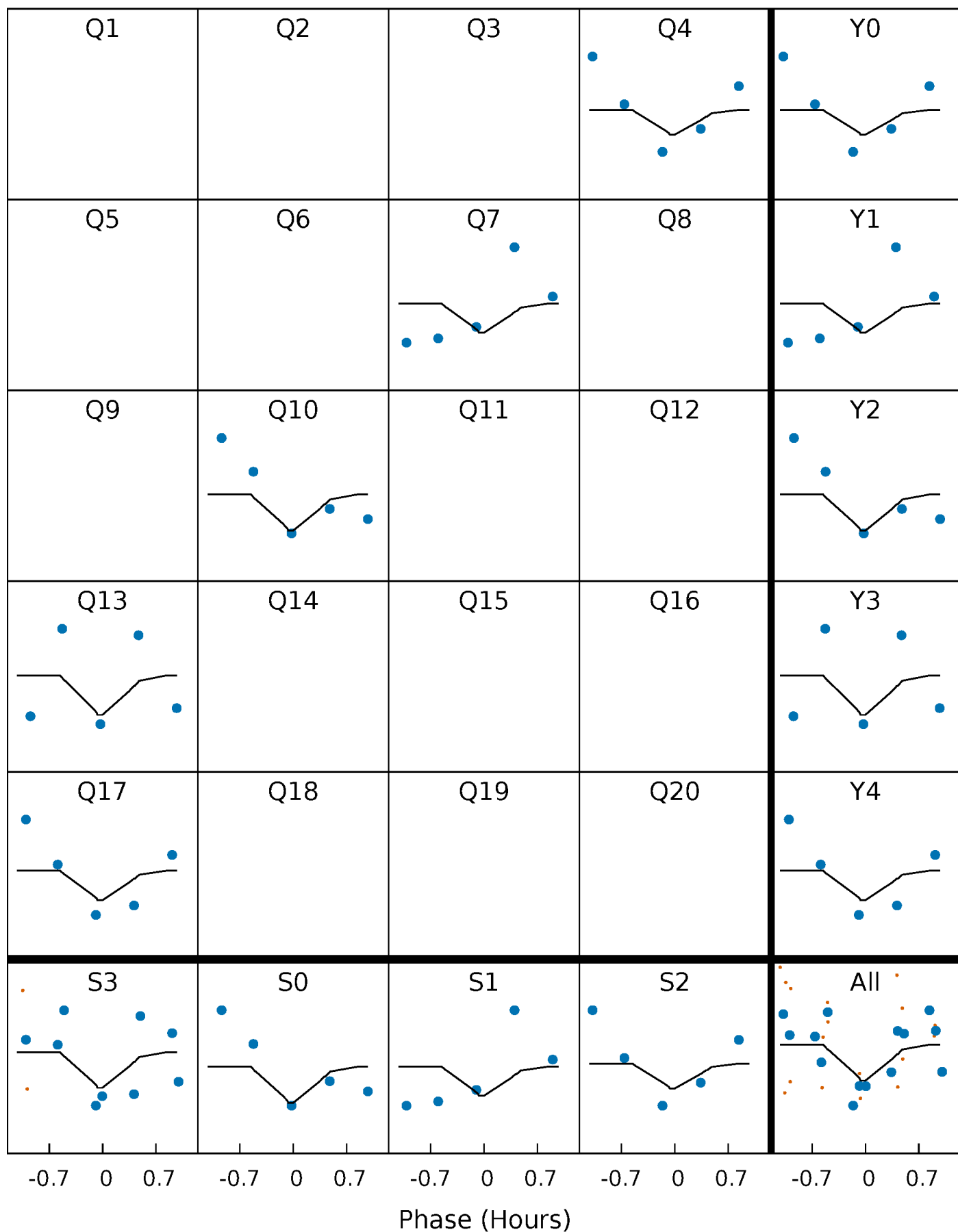
DV Quarter-Phased Transit Curves

TCE 008553907-06 $P=292.179474$ Days $T_0=392.975422$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

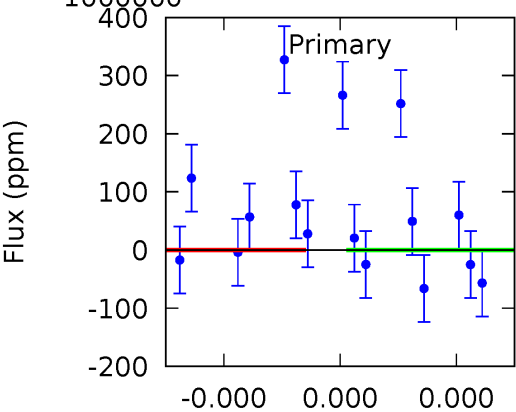
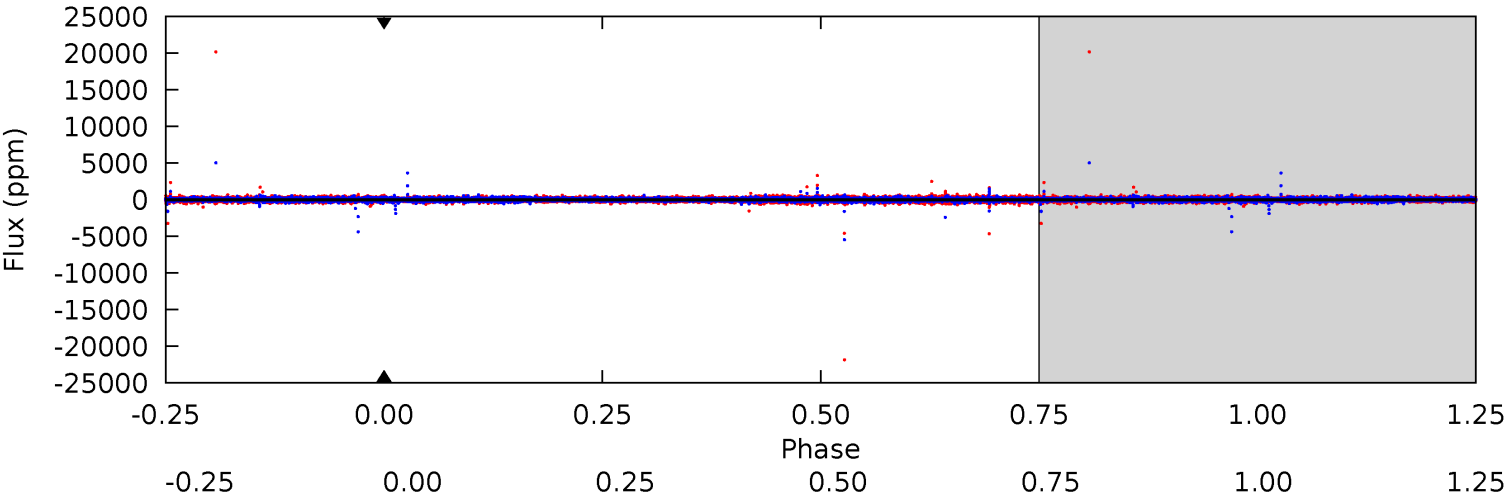
TCE 008553907-06 P=292.179474 Days $T_0=393.392235$ (BKJD)



DV Model-Shift Uniqueness Test

008553907-06, P = 292.179474 Days, E = 100.795948 Days

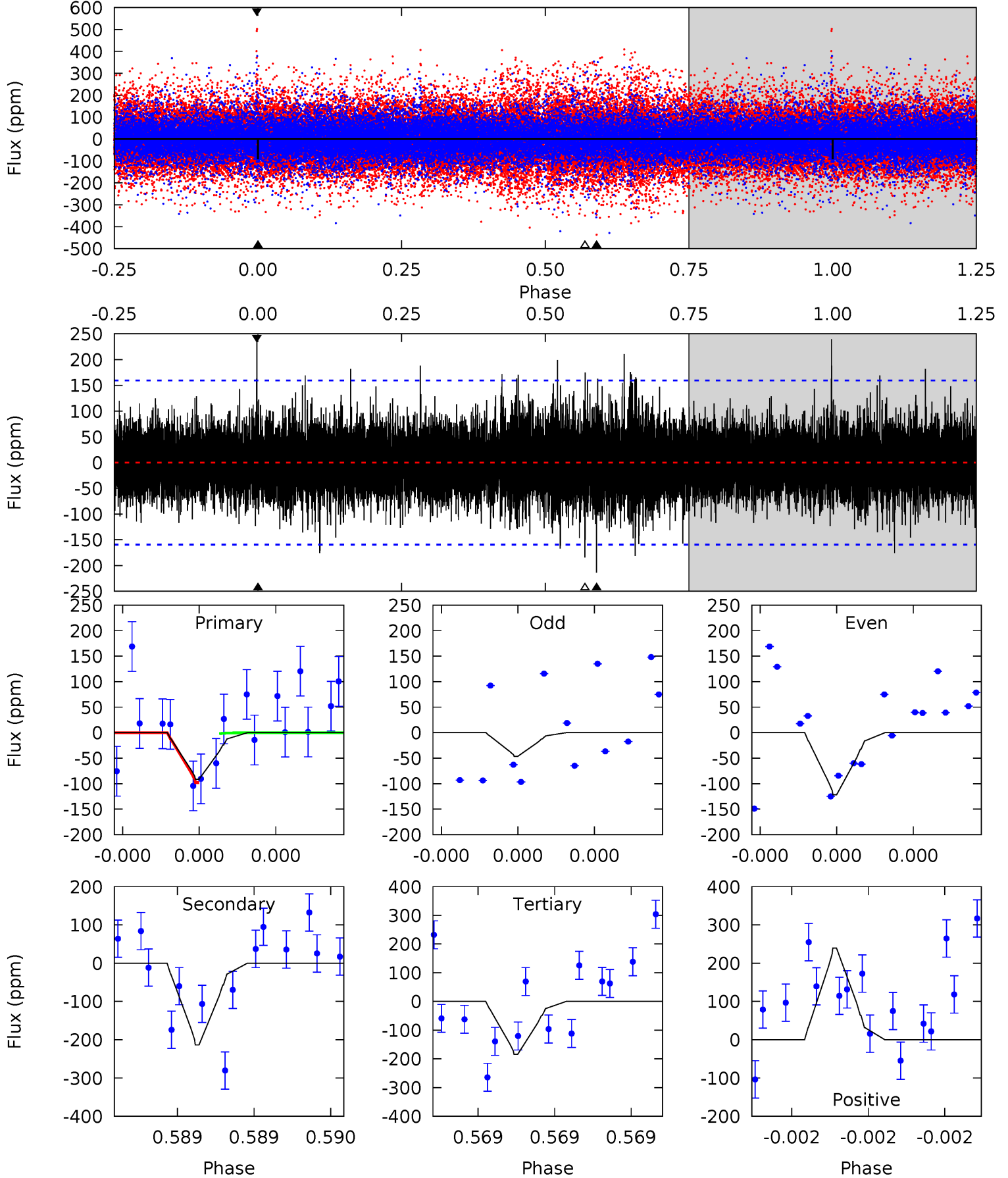
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008553907-06, P = 292.179474 Days, E = 101.212761 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.29	7.69	6.63	8.62	5.74	3.73	1.43	-3.34	-5.33	1.06	-0.92	1.29	1.17	0.53	1.73



Stellar Parameters For KIC 008553907

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6618^{+148}_{-198}	$4.393^{+0.063}_{-0.147}$	$-0.360^{+0.250}_{-0.300}$	$1.117^{+0.250}_{-0.125}$	$1.128^{+0.125}_{-0.139}$	$1.139^{+0.311}_{-0.464}$
	+2%/-3%	+1%/-3%	+69%/-83%	+22%/-11%	+11%/-12%	+27%/-41%
Source	PHO1	FLK73	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 008553907-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$13.29^{+10.16}_{-8.50}$	461^{+26}_{-20}	4365^{+14255}_{-20940}	$4078^{+410980}_{-356488}$
Alt.	-214 ± 28	$9.06^{+9.57}_{-6.30}$	460^{+24}_{-20}	3480^{+1904}_{-677}	1143^{+11583}_{-880}

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 $A_{obs} \gg 1.0$

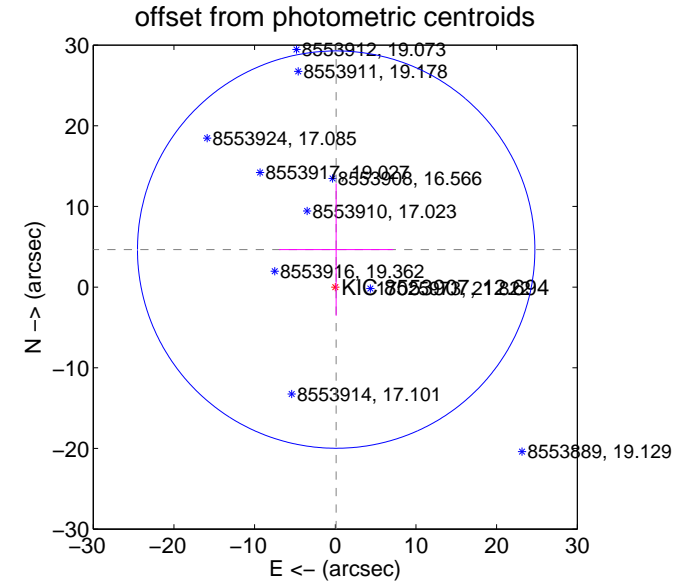
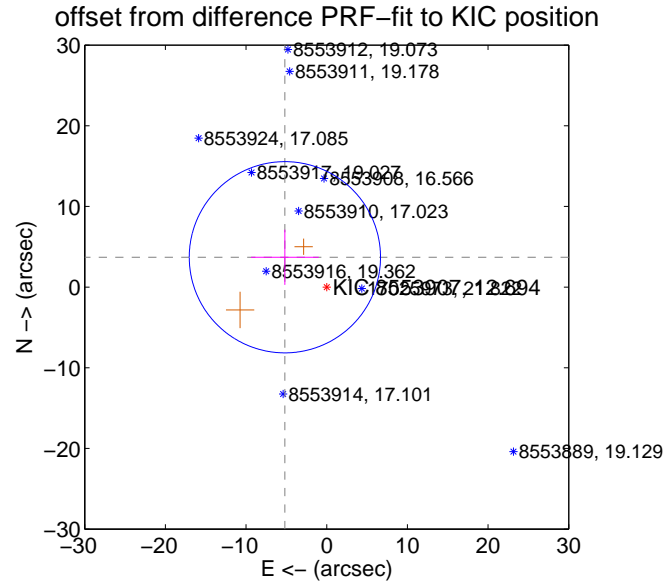
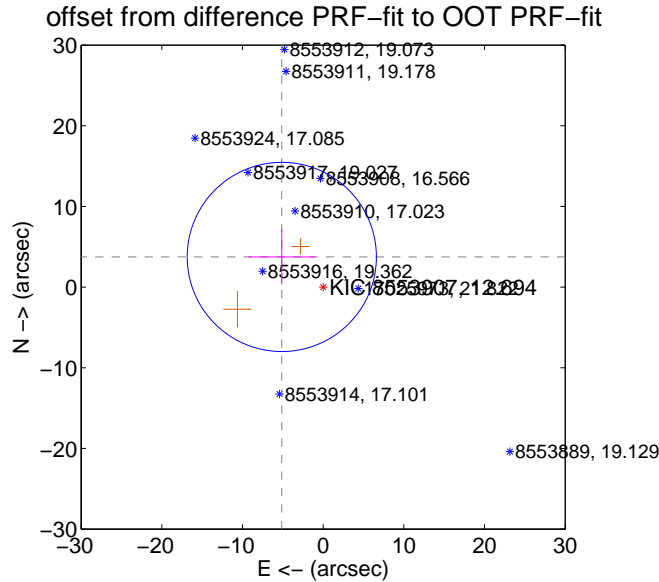
DV Centroid Data

Supplemental centroid analysis for 008553907-06. Kepler magnitude: 12.69. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

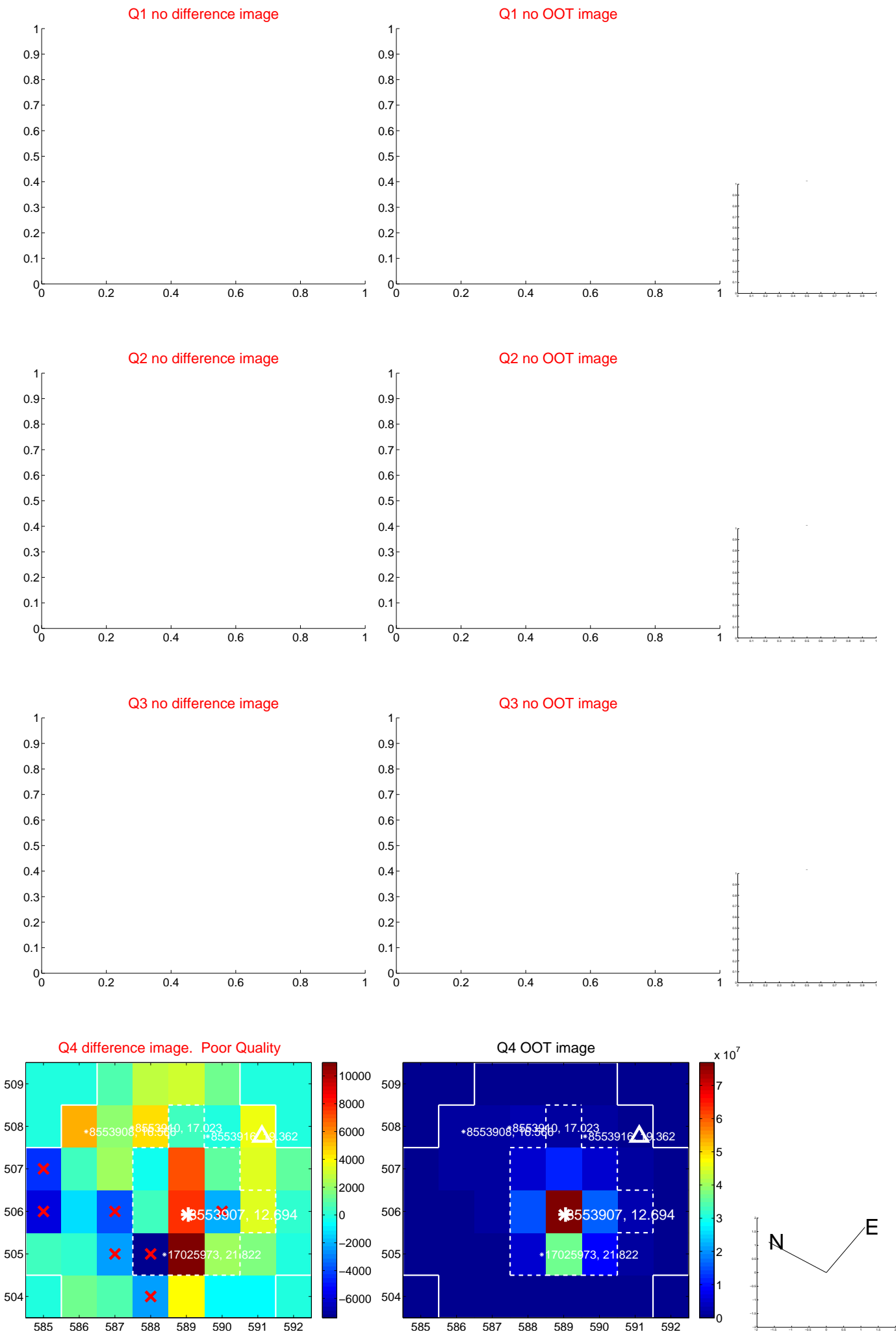
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.346 ± 3.909	1.62	5.127 ± 4.157	3.739 ± 3.392
PRF-fit source offset from KIC position	6.370 ± 3.951	1.61	5.185 ± 4.196	3.699 ± 3.417
photometric centroid source offset	4.65 ± 8.21	0.57	-0.11 ± 7.07	4.65 ± 8.21



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

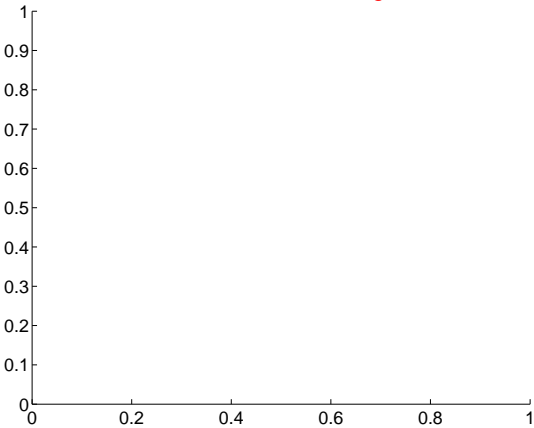
Q5 no difference image



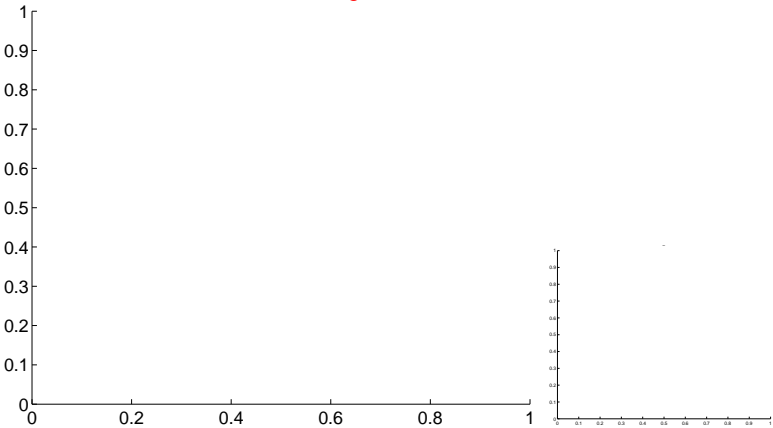
Q5 no OOT image



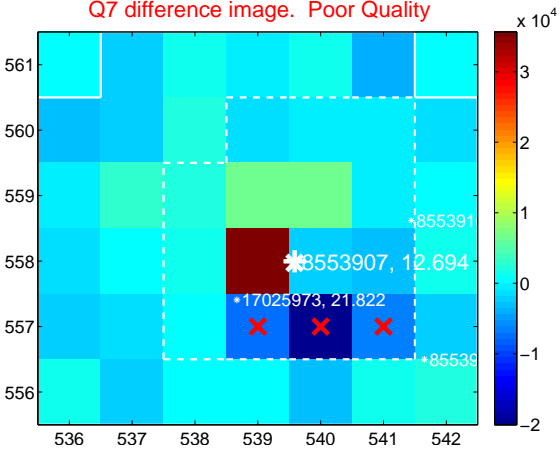
Q6 no difference image



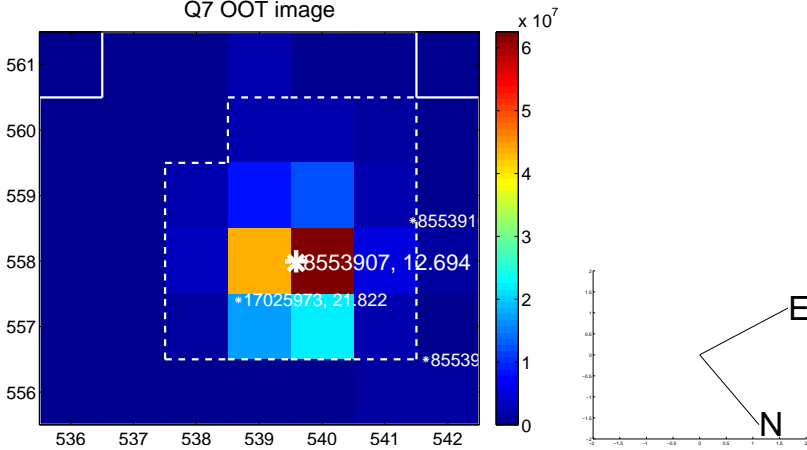
Q6 no OOT image



Q7 difference image. Poor Quality



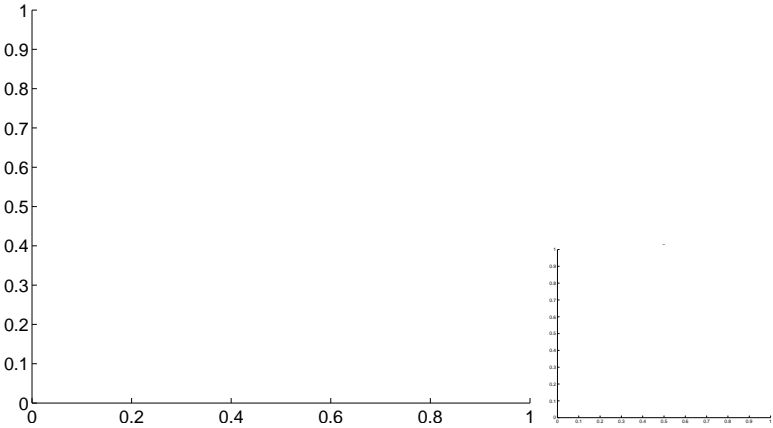
Q7 OOT image



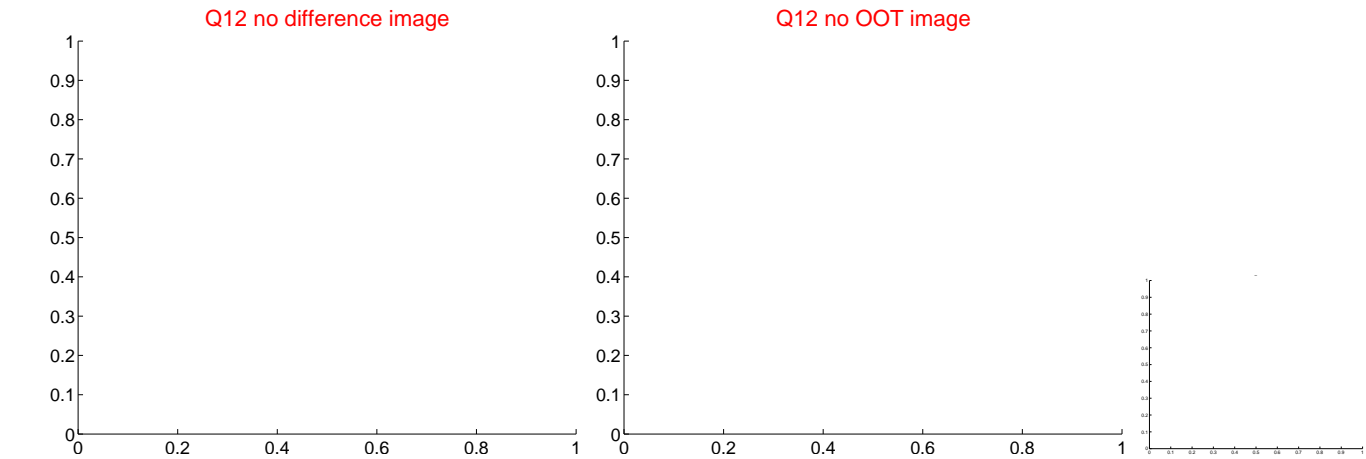
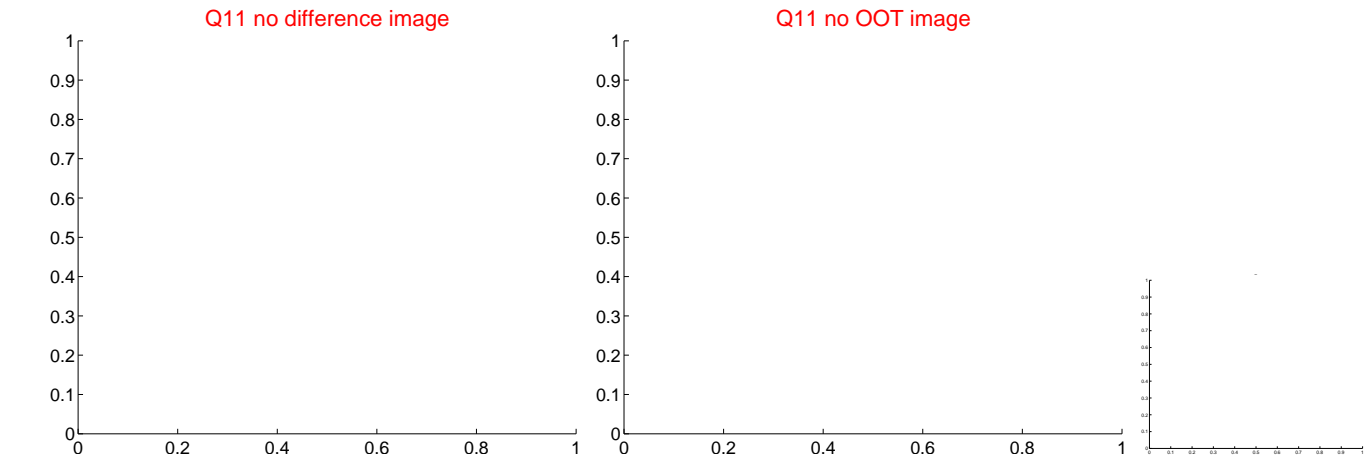
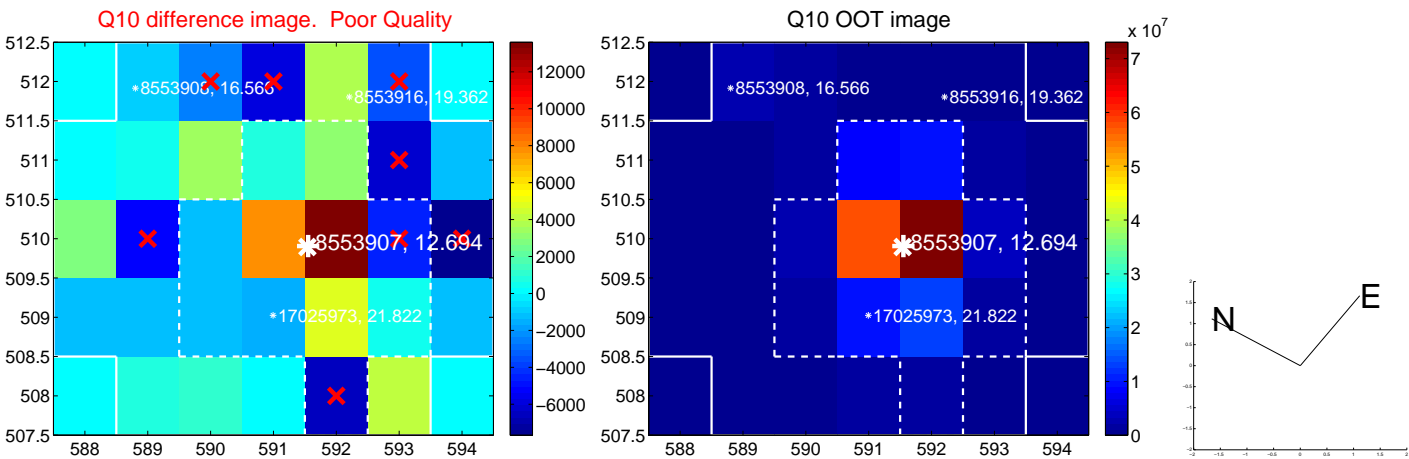
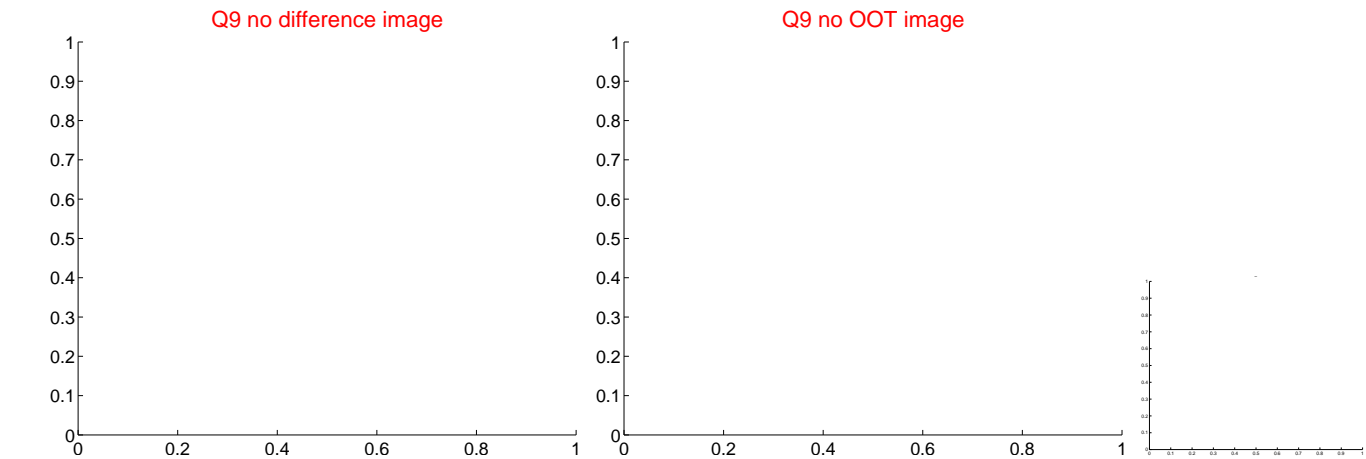
Q8 no difference image



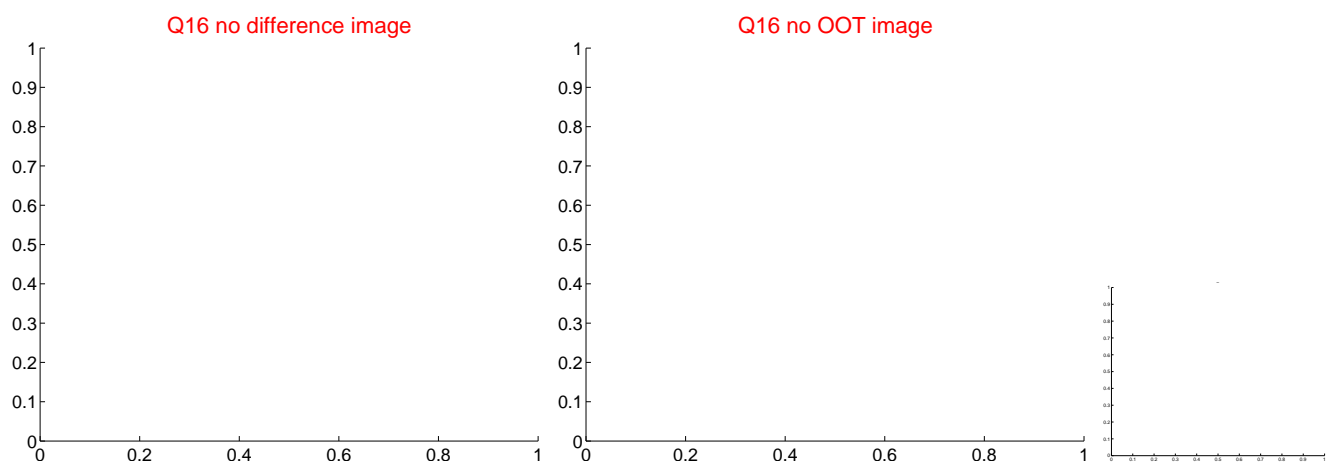
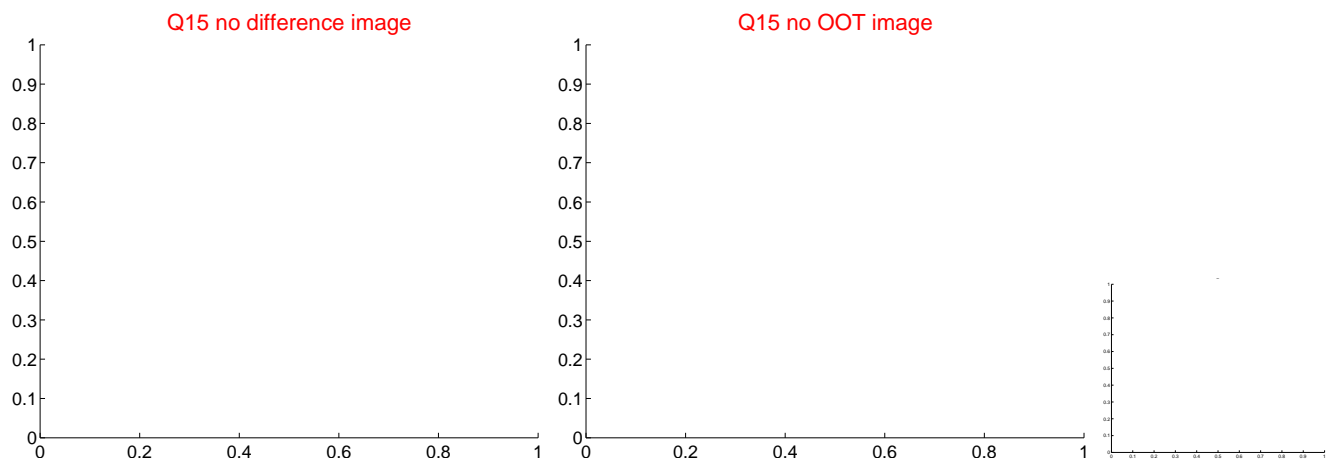
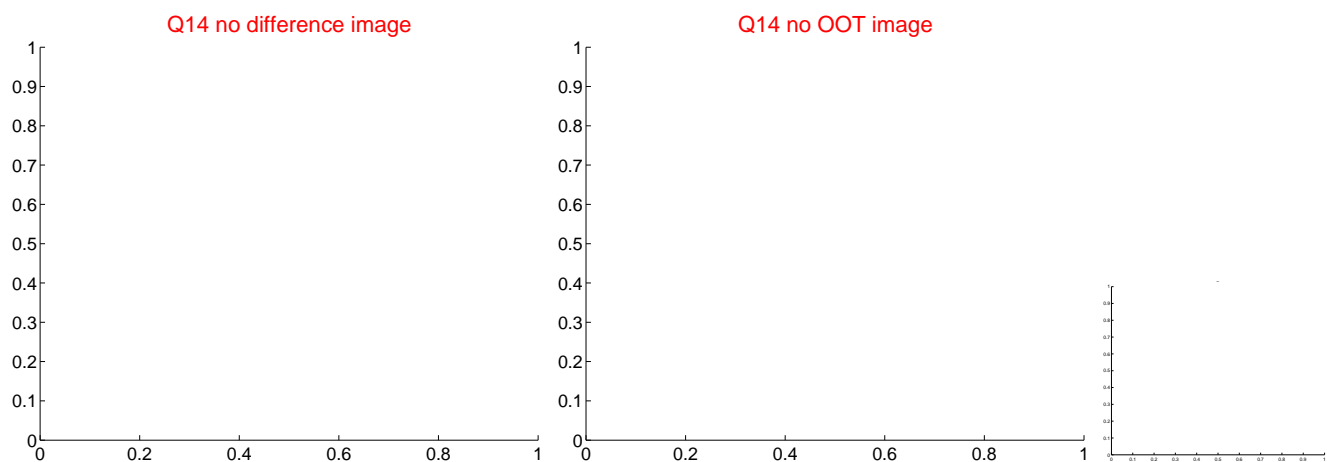
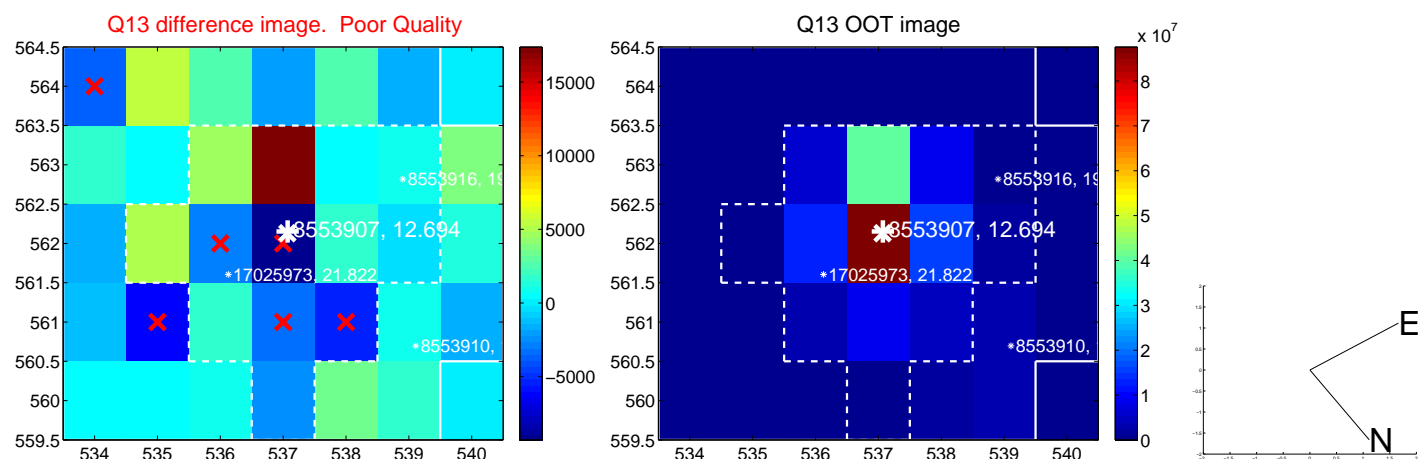
Q8 no OOT image



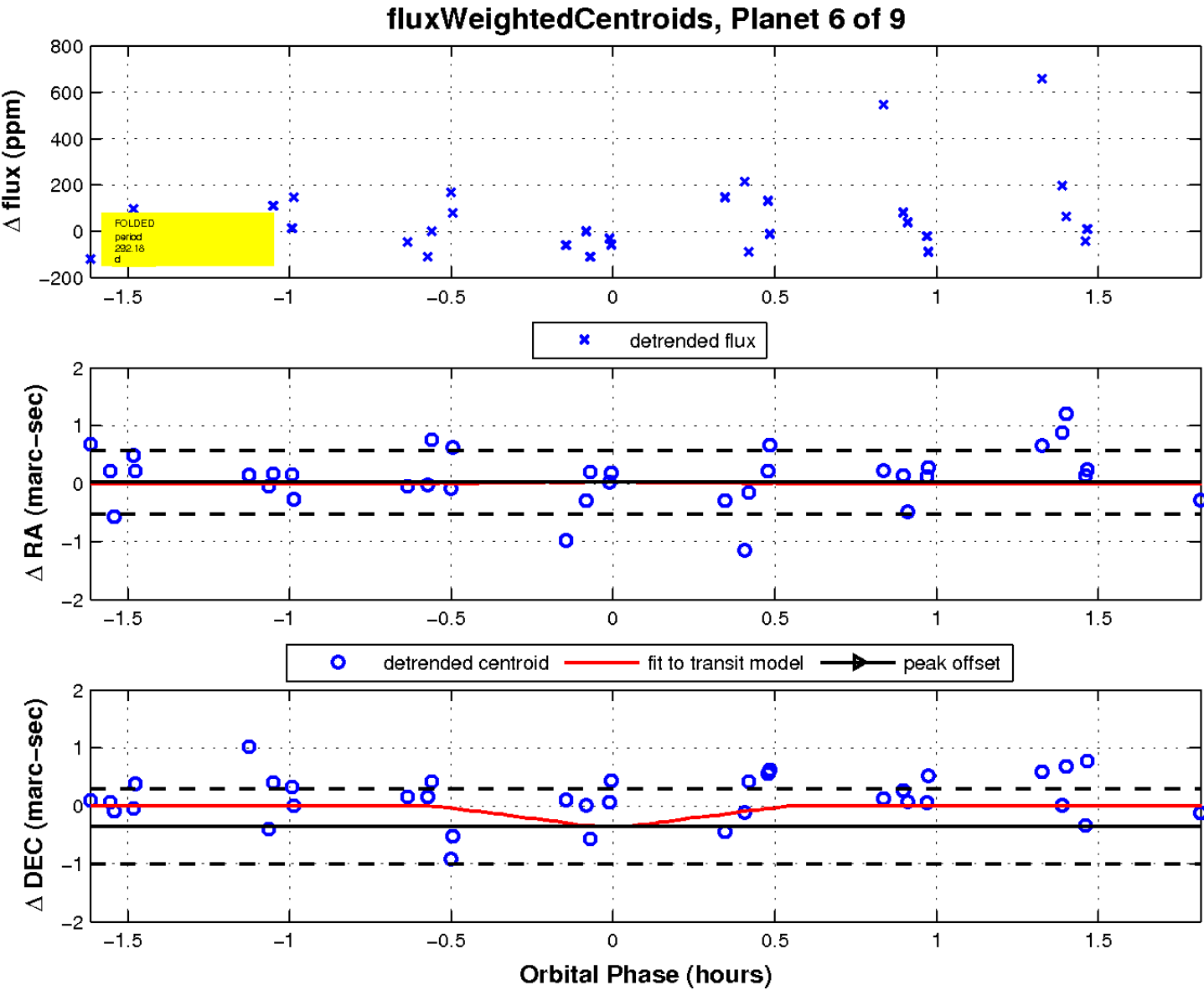
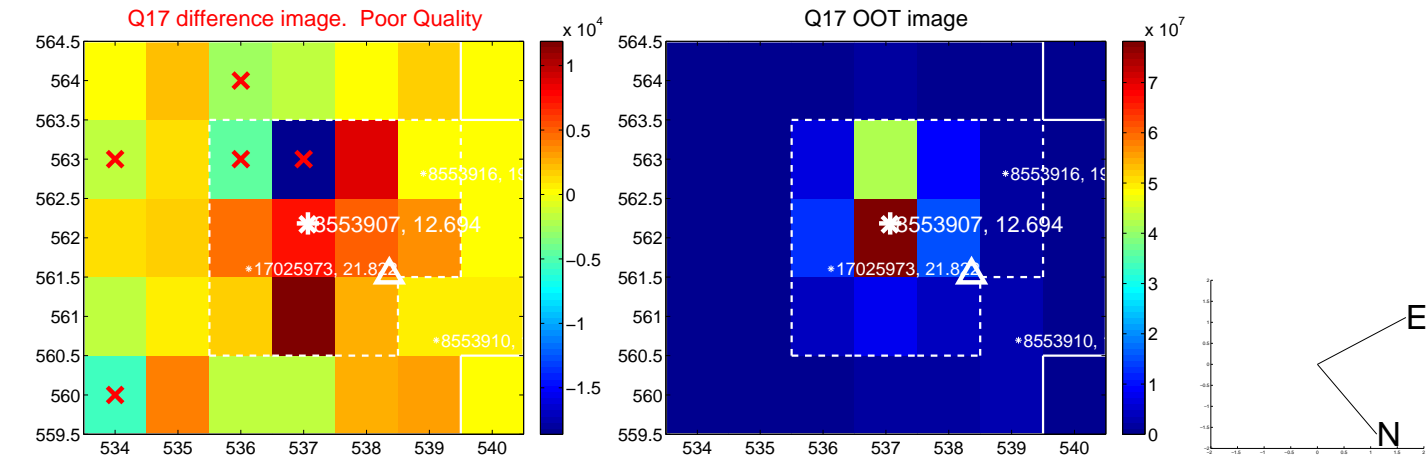
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

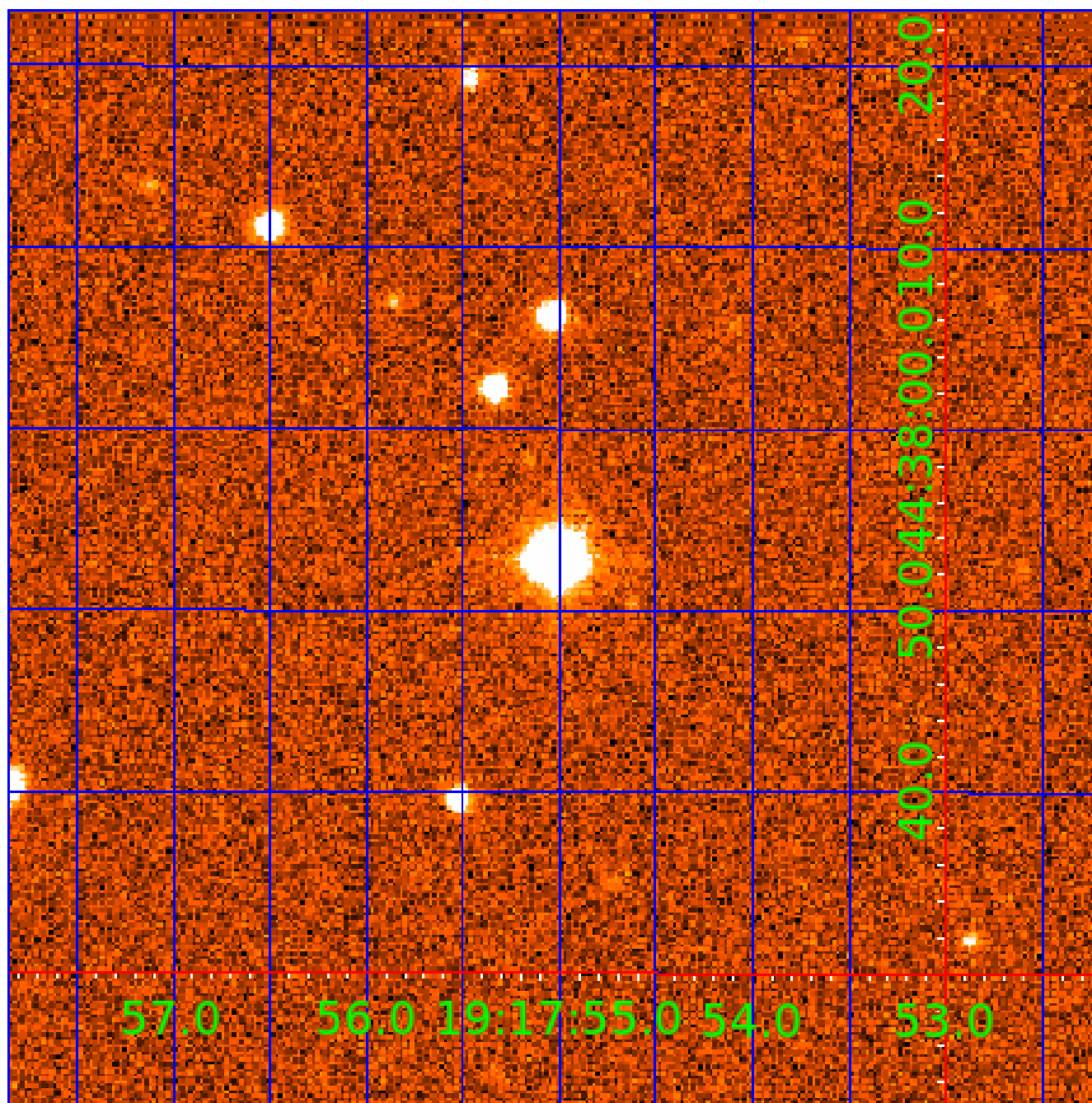


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
008553907-01	OBS	7056.01	42.031158	133.595217	399533.3	7.500	40551.4	-1.0	1.12	6618	60.09	35.41
008553907-02	OBS	No	42.031672	166.918948	419889.0	5.000	40386.0	-1.0	1.12	6618	60.95	35.41
008553907-03	OBS	No	247.811404	132.529266	10565.8	12.000	559.2	-1.0	1.12	6618	11.57	3.32
008553907-04	OBS	No	714.554782	134.633923	8364.8	12.000	573.5	-1.0	1.12	6618	10.30	0.81
008553907-05	OBS	No	343.598598	320.835899	2815.8	1.408	334.0	26.4	1.12	6618	11.09	2.15
008553907-06	OBS	No	292.179474	392.975422	6658.7	12.000	339.7	-1.0	1.12	6618	9.19	2.67
008553907-07	OBS	No	171.705196	149.545205	118.0	4.450	317.5	5.8	1.12	6618	1.33	5.42
008553907-08	OBS	No	465.742133	422.069406	5702.9	15.000	316.5	-1.0	1.12	6618	8.50	1.43
008553907-09	OBS	No	419.378385	472.724201	7183.3	10.500	333.6	-1.0	1.12	6618	9.54	1.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008553907-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
008553907-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
008553907-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008553907-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS
008553907-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_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_FEW_DIFFS
008553907-06	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008553907-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—HALO_GHOST
008553907-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008553907-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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 008553907-07

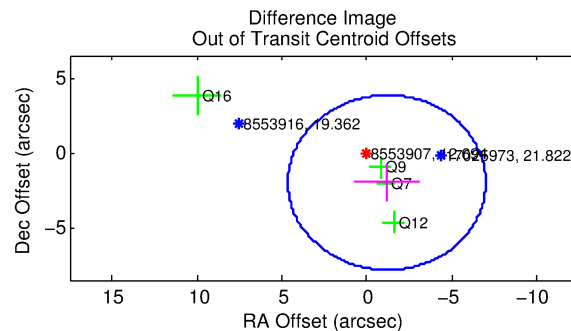
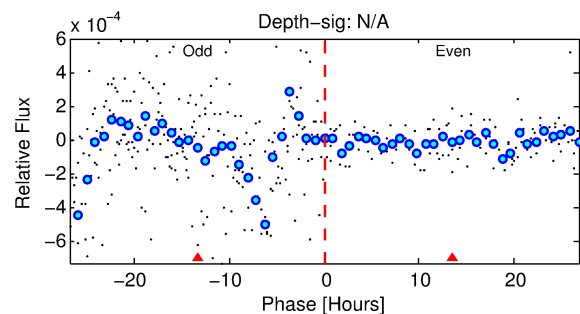
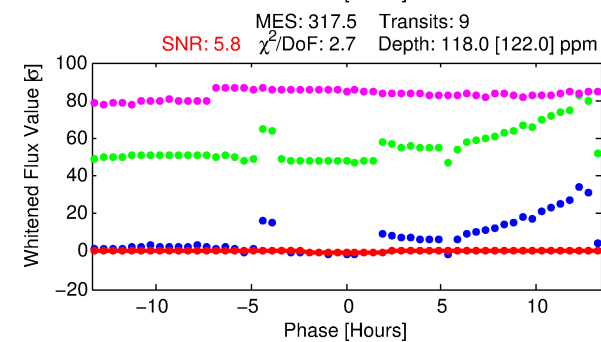
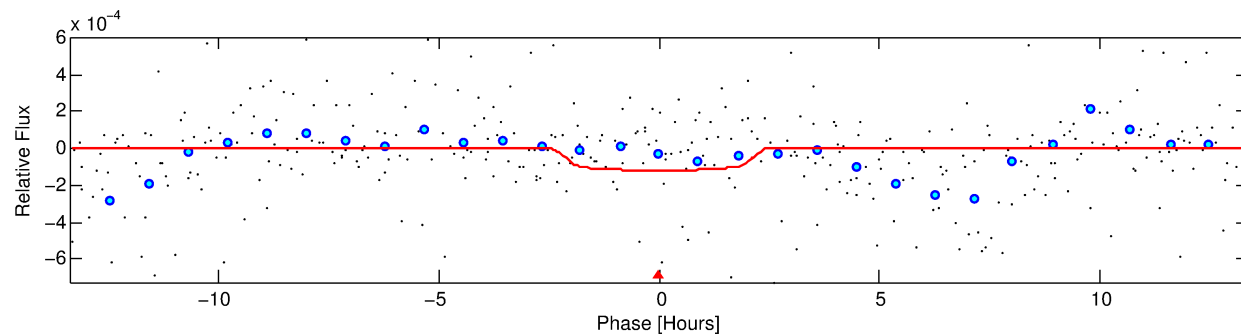
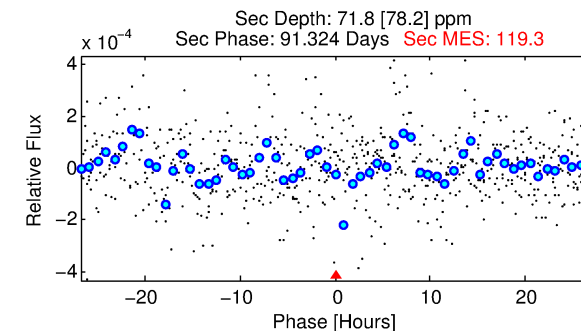
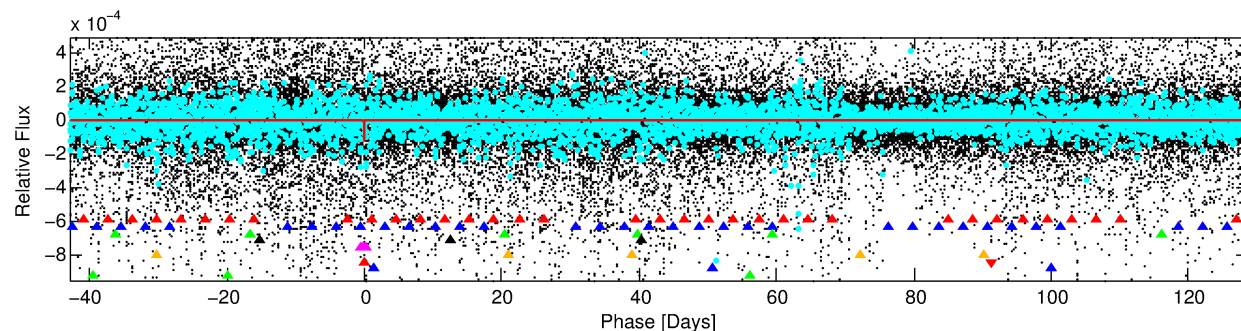
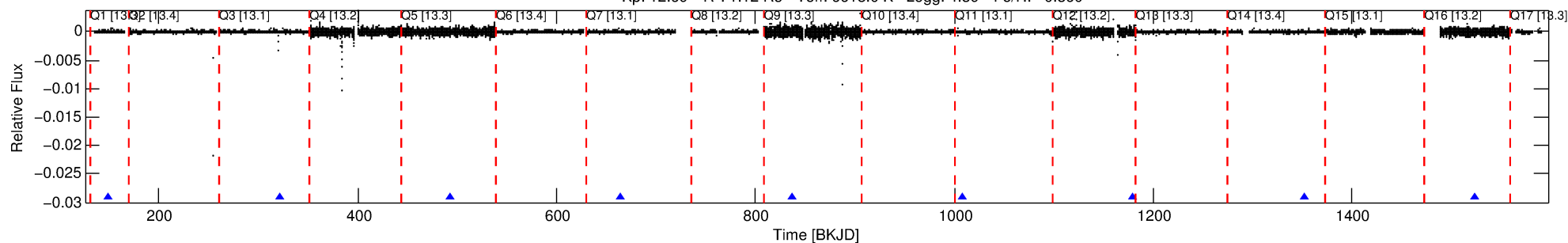
No Significant Match Found

DV One-Page Summary

KIC: 8553907 Candidate: 7 of 9 Period: 171.705 d

KOI: K07056 Corr: No Ephemeris Match

Kp: 12.69 R*: 1.12 Rs Teff: 6618.0 K Logg: 4.39 Fe/H: -0.360



DV Fit Results:

Period = 171.70520 [0.01508] d
Epoch = 149.5452 [0.0675] BKJD
Rp/R* = 0.0109 [0.0835]
a/R* = 192.46 [8496.92]
b = 0.77 [23.28]
Seff = 5.42 [1.60]
Teq = 389 [29] K
Rp = 1.33 [10.19] Re
a = 0.6289 [0.1176] AU
Ag = 8894.83 [136984.93] [0.06σ]
Teff = 5842 [22491] K [0.24σ]

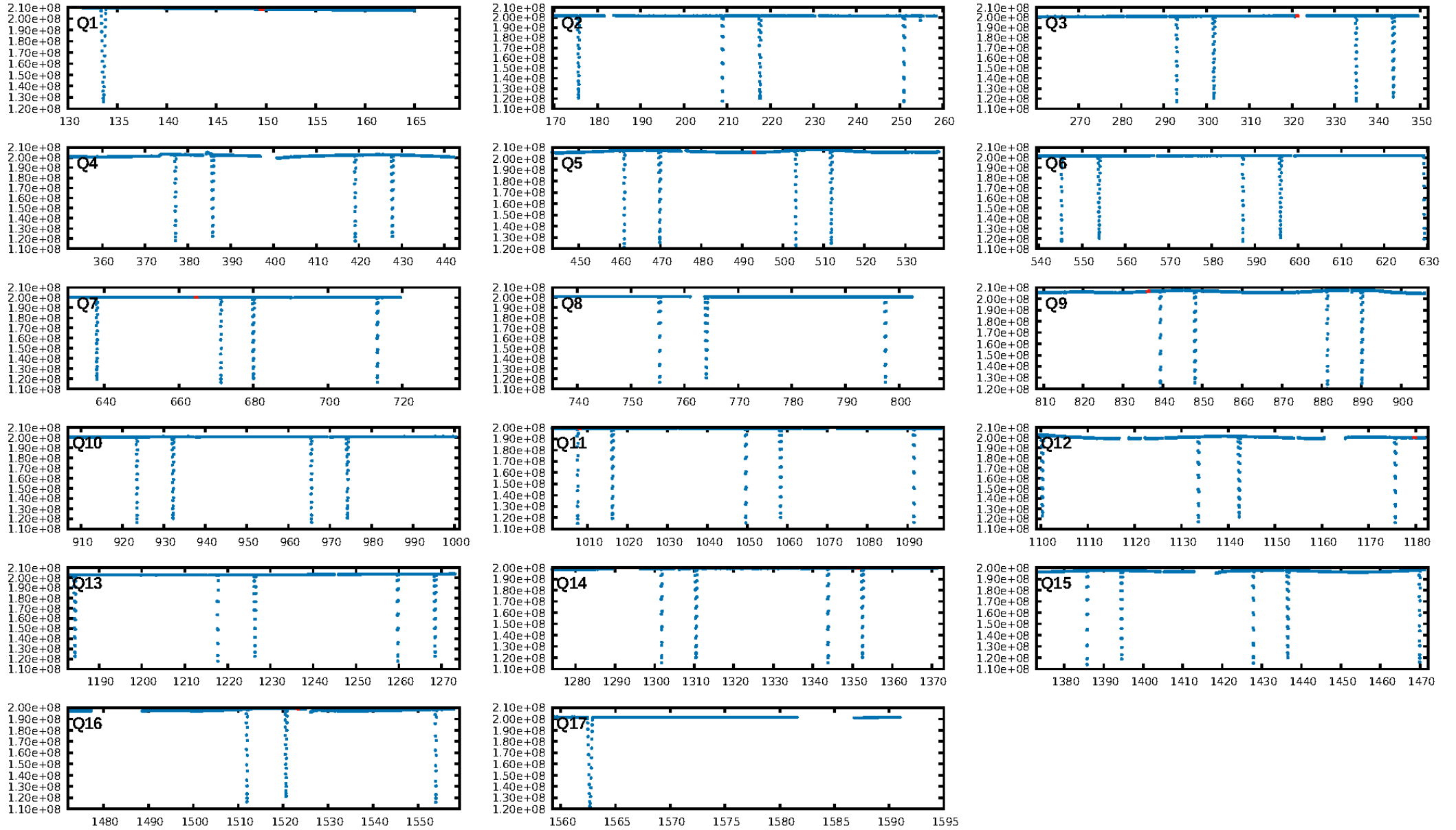
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [464.95σ]
LongPeriod-sig: 100.0% [142.71σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: 0.1099
Centroid-sig: 14.3%
Centroid-so: 2.221 arcsec [1.50σ]
OotOffset-rm: 2.328 arcsec [1.20σ]
KicOffset-rm: 2.345 arcsec [1.23σ]
OotOffset-st: 0/1/2/1 [4]
KicOffset-st: 0/1/2/1 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 0.71 [5/7]

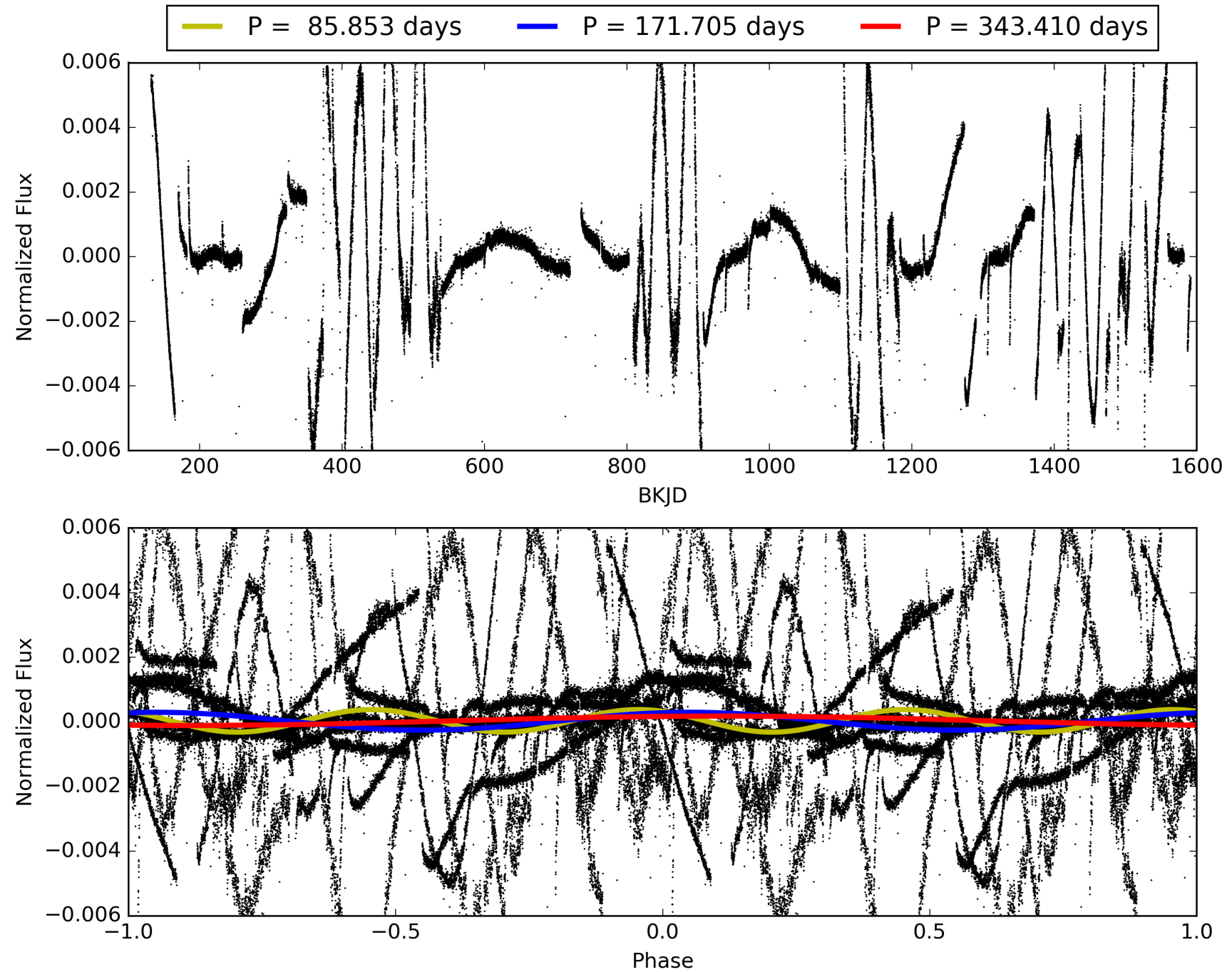
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:55:37 Z

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

TCE 008553907-07, PDC Light Curves

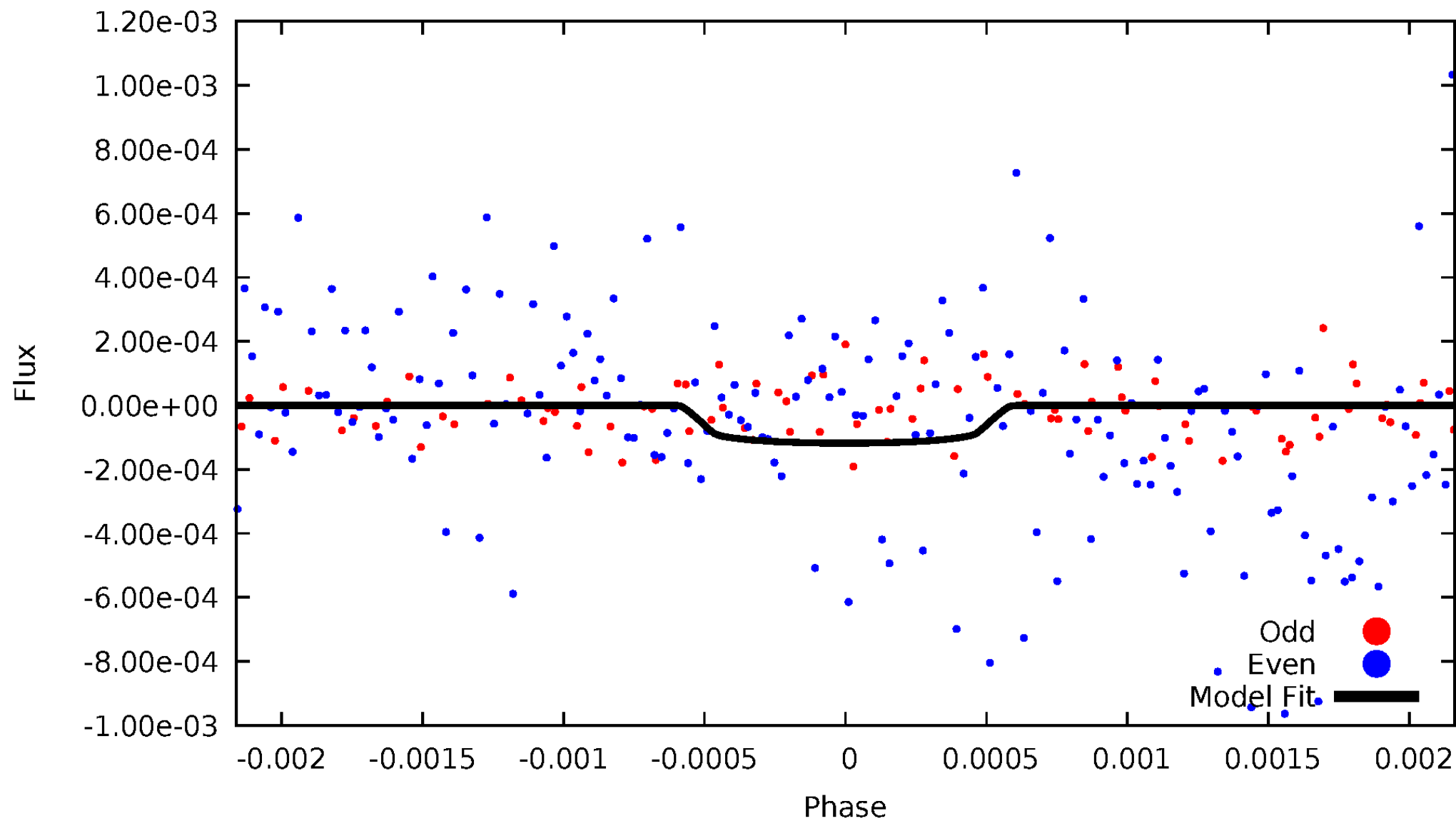


TCE 008553907-07



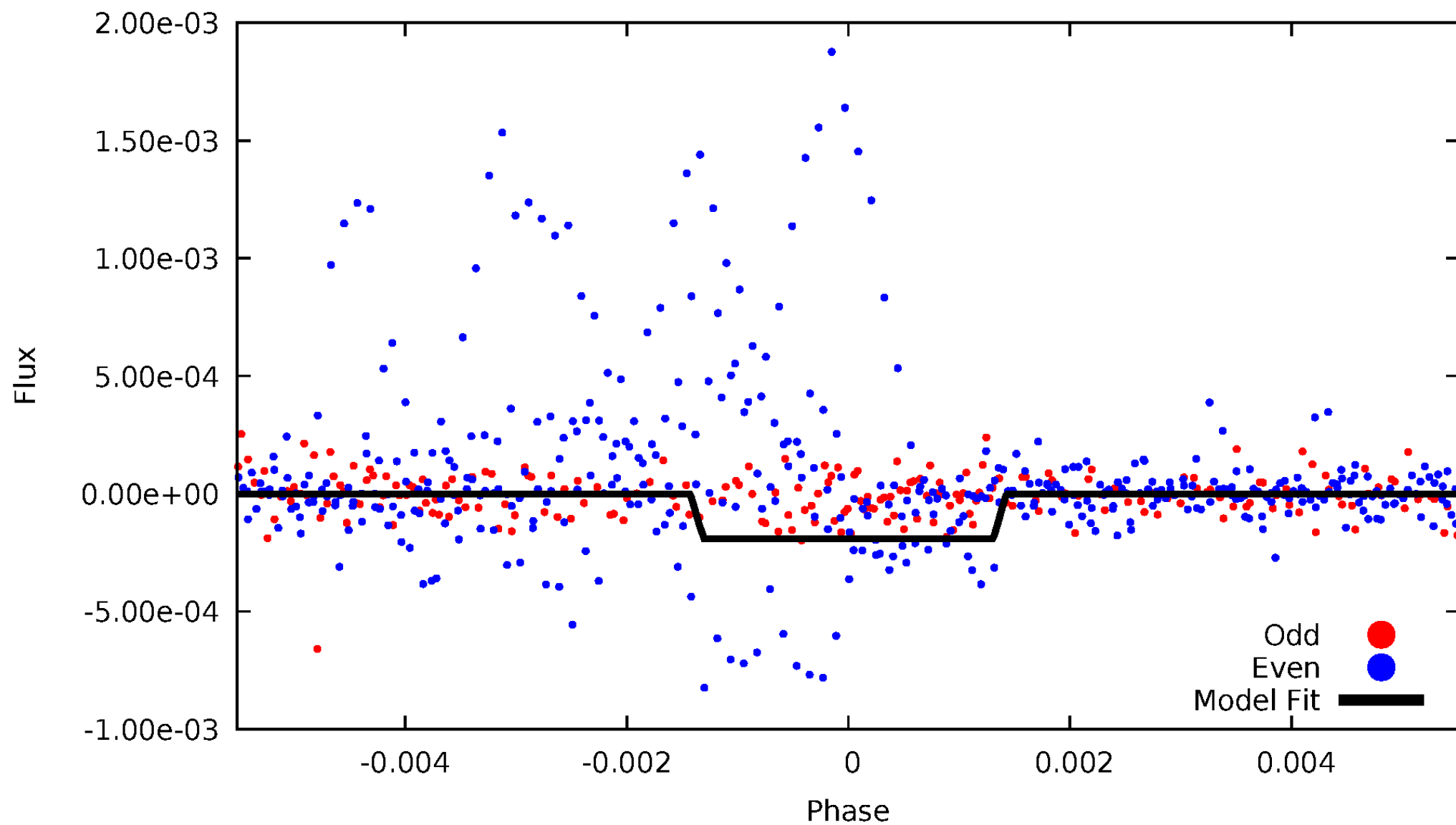
DV Odd/Even

TCE 008553907-07



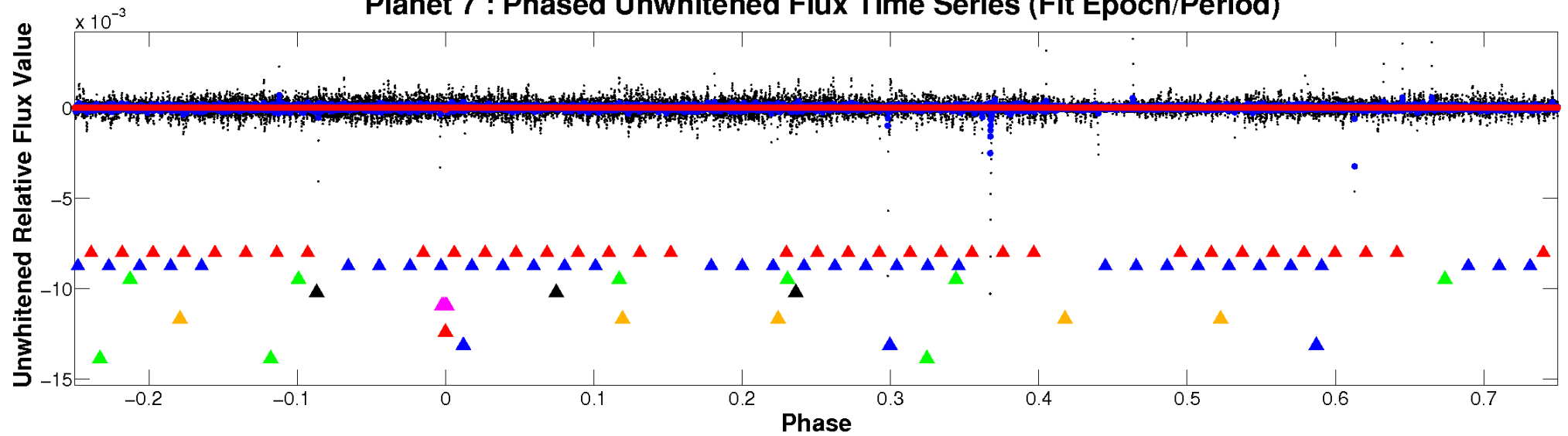
ALT Odd/Even

TCE 008553907-07

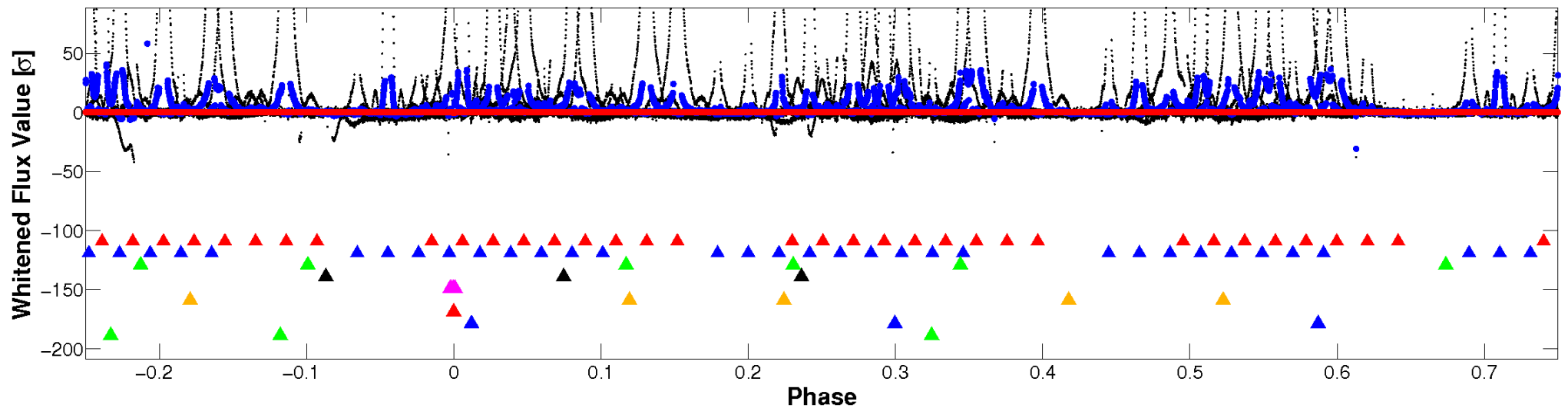


Non-Whitened Vs. Whitened Light Curve

Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

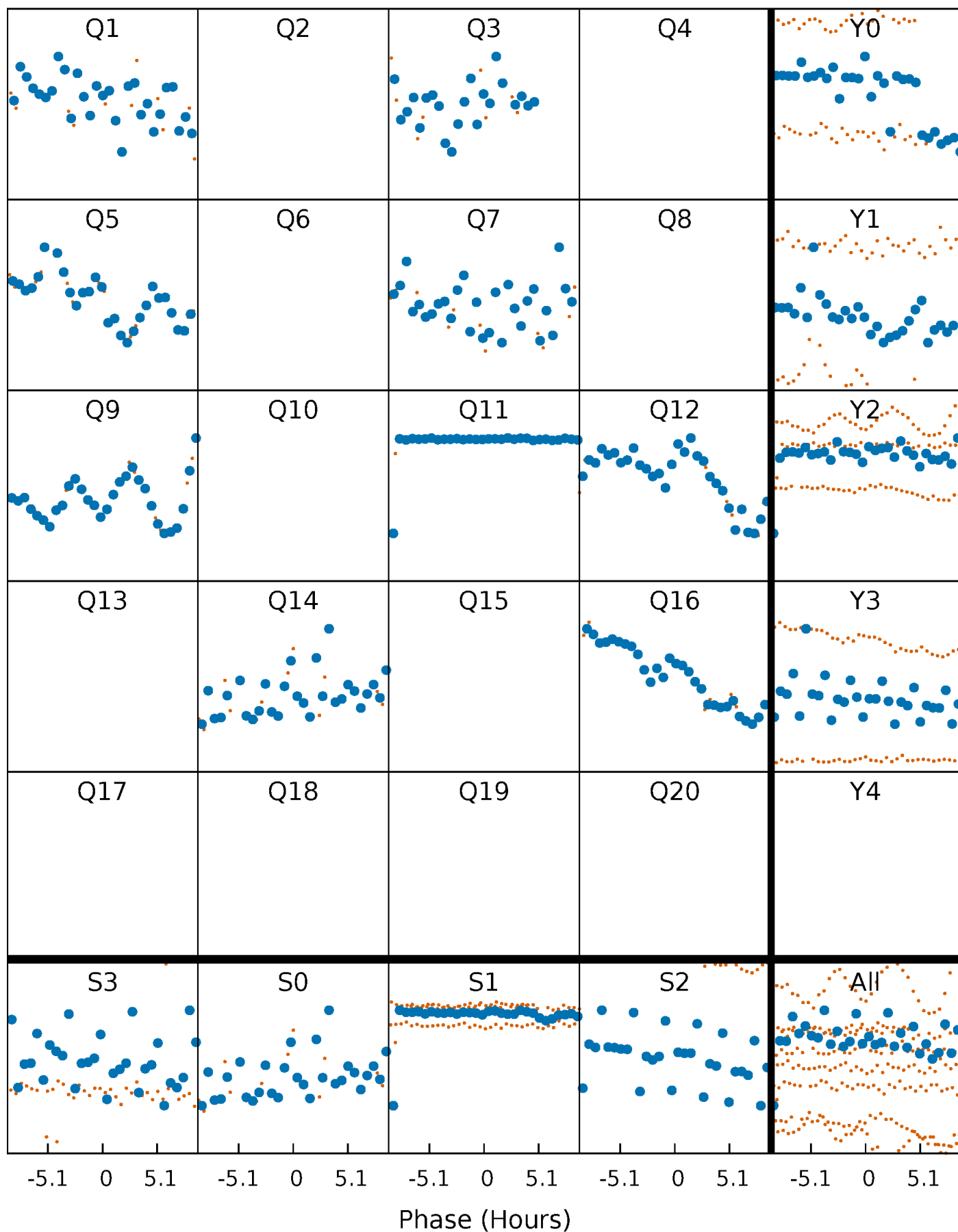


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



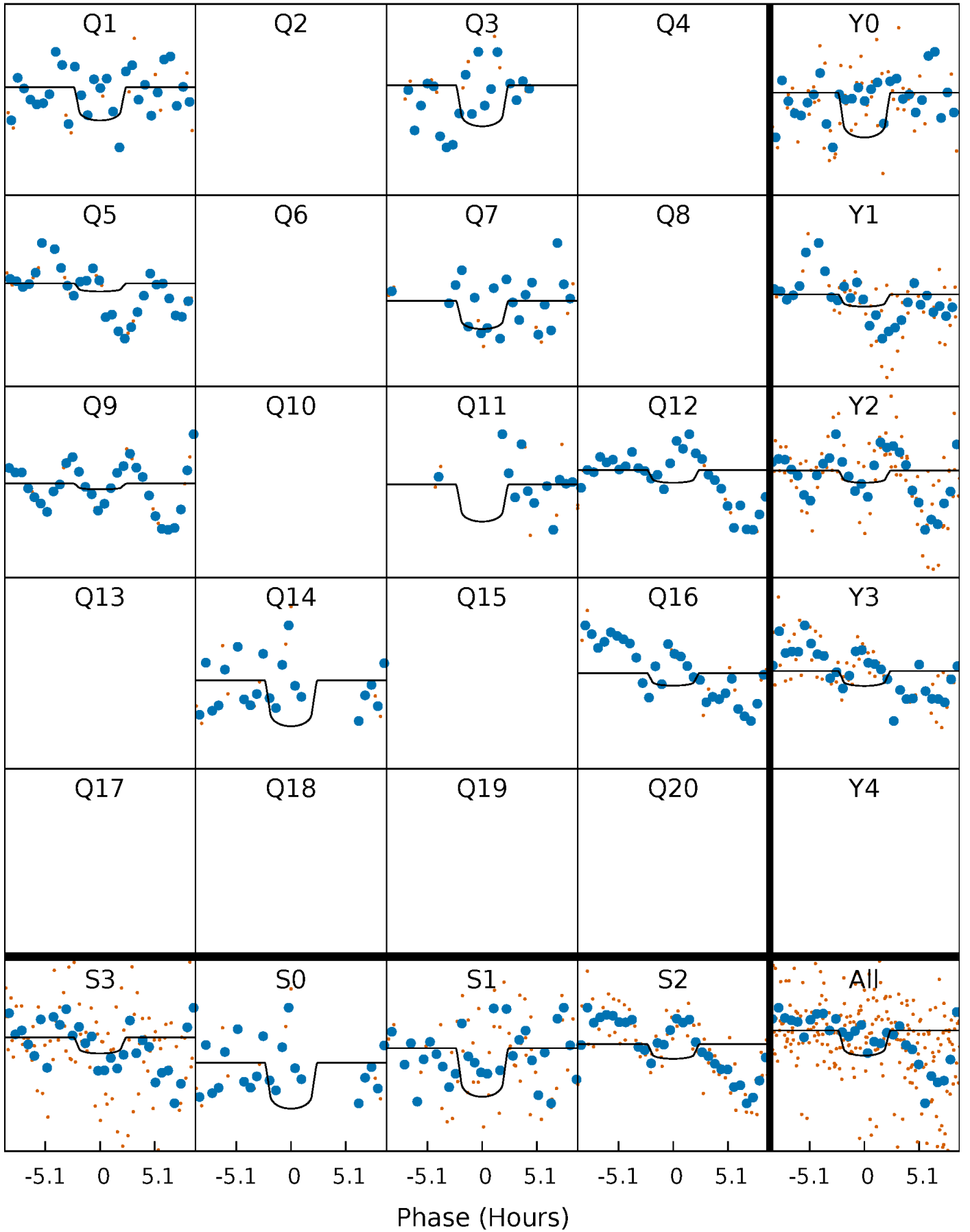
PDC Quarter-Phased Transit Curves

TCE 008553907-07 $P=171.705196$ Days $T_0=149.545205$ (BKJD)



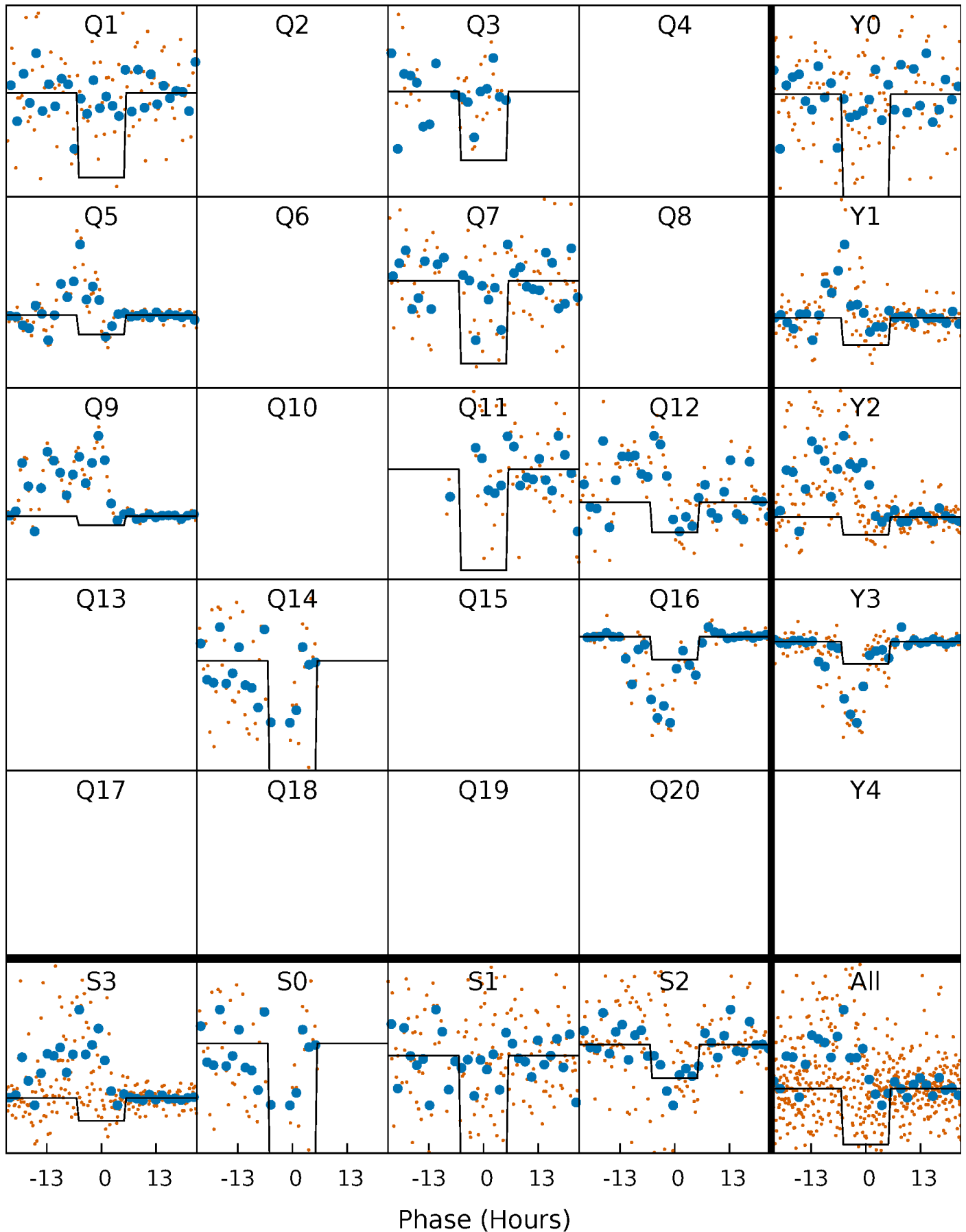
DV Quarter-Phased Transit Curves

TCE 008553907-07 $P=171.705196$ Days $T_0=149.545205$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

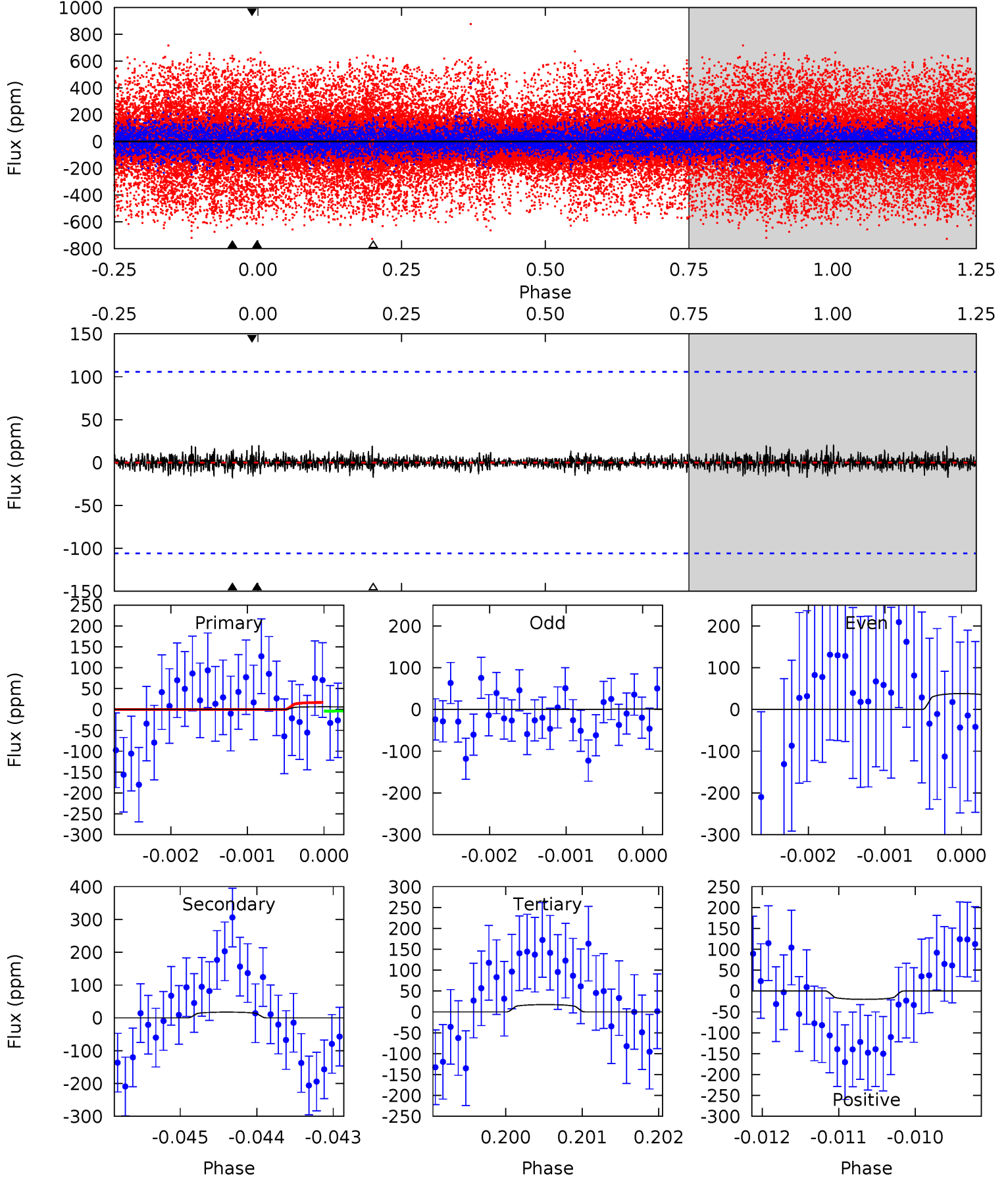
TCE 008553907-07 $P=171.757694$ Days $T_0=149.464923$ (BKJD)



DV Model-Shift Uniqueness Test

008553907-07, P = 171.705196 Days, E = 149.545205 Days

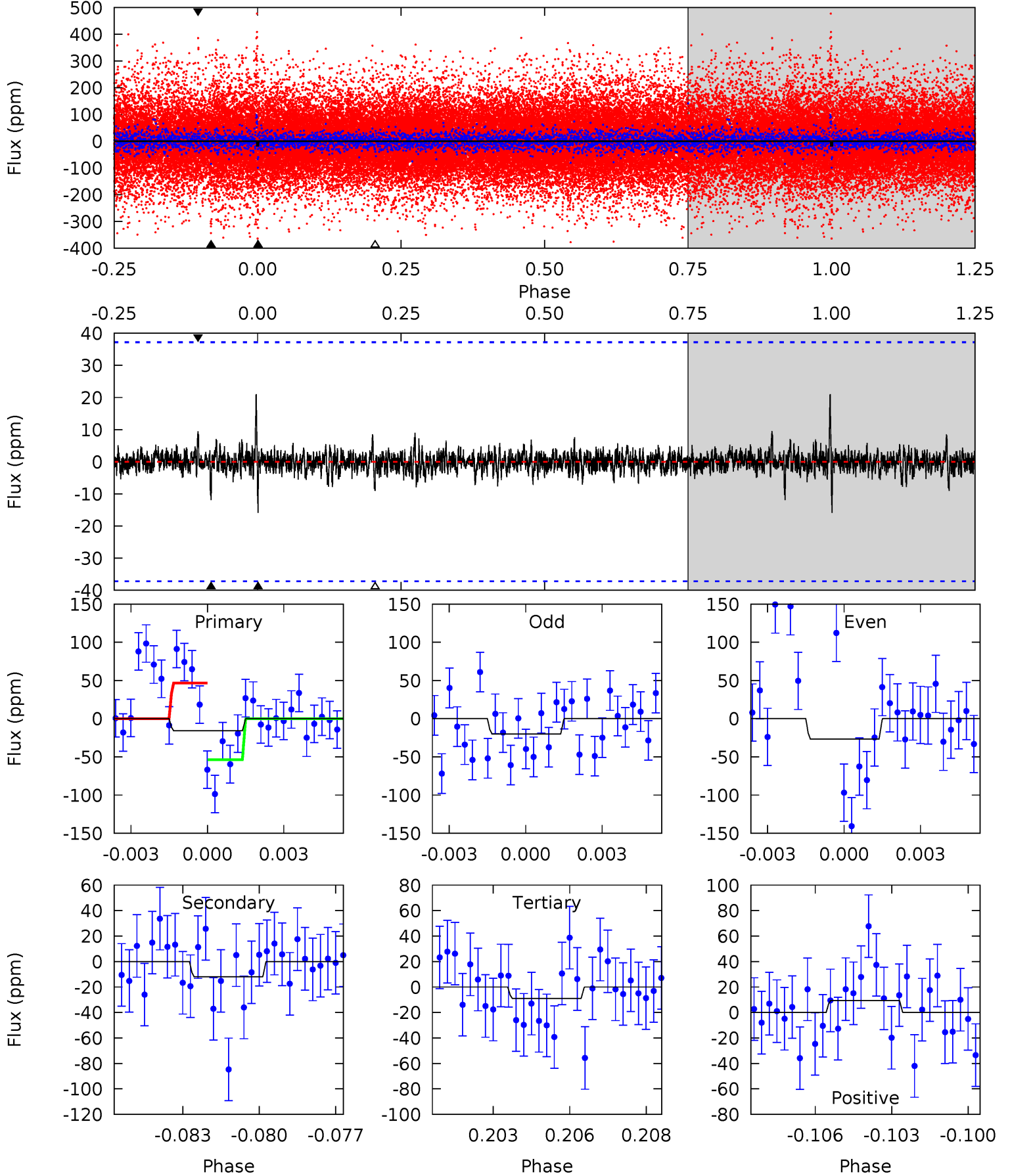
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.33	0.90	0.89	1.02	5.42	3.24	0.23	-0.56	-0.69	0.00	-0.13	0.86	3.55	0.54	0.34



Alt Model-Shift Uniqueness Test

008553907-07, P = 171.757694 Days, E = 149.464923 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.24	1.68	1.27	1.34	5.26	2.98	0.33	0.97	0.90	0.41	0.34	0.48	-3.38	0.57	0.47



Stellar Parameters For KIC 008553907

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6618^{+148}_{-198}	$4.393^{+0.063}_{-0.147}$	$-0.360^{+0.250}_{-0.300}$	$1.117^{+0.250}_{-0.125}$	$1.128^{+0.125}_{-0.139}$	$1.139^{+0.311}_{-0.464}$
	+2%/-3%	+1%/-3%	+69%/-83%	+22%/-11%	+11%/-12%	+27%/-41%
Source	PHO1	FLK73	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 008553907-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-17 ± 20	$7.20^{+8.48}_{-5.14}$	549^{+32}_{-23}	2441^{+1143}_{-4396}	45^{+624}_{-51}
Alt.	-12 ± 7	$8.01^{+7.57}_{-5.52}$	549^{+29}_{-26}	2378^{+877}_{-391}	36^{+348}_{-29}

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

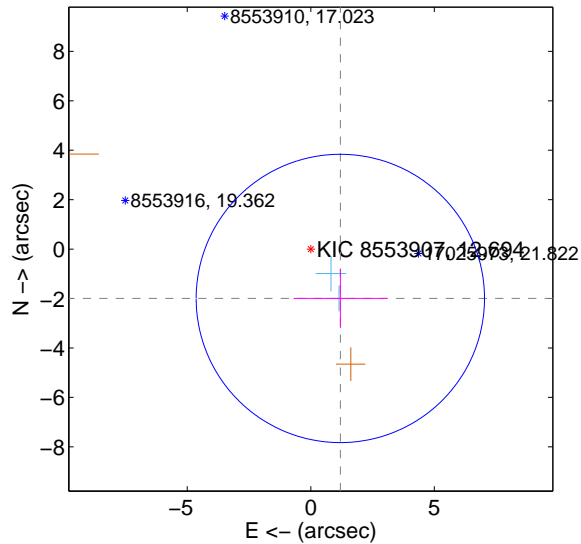
Supplemental centroid analysis for 008553907-07. Kepler magnitude: 12.69. Transit SNR 5.77

There are 2 quarters with good PRF difference image offsets

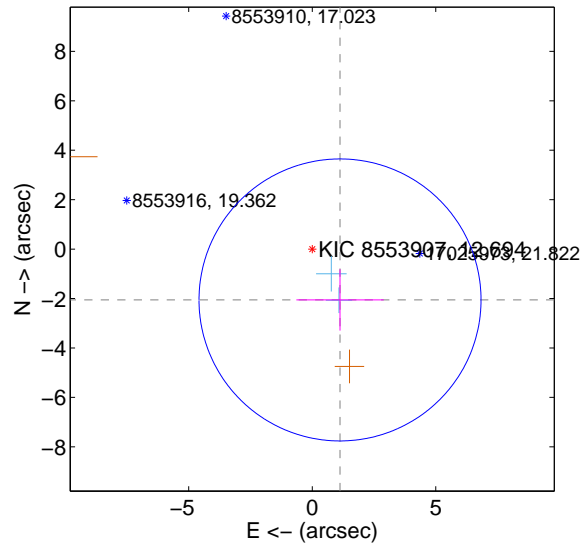
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.328 ± 1.945	1.20	-1.196 ± 1.895	-1.997 ± 1.192
PRF-fit source offset from KIC position	2.345 ± 1.902	1.23	-1.125 ± 1.768	-2.058 ± 1.240
photometric centroid source offset	2.22 ± 1.48	1.50	1.90 ± 1.42	1.15 ± 1.61

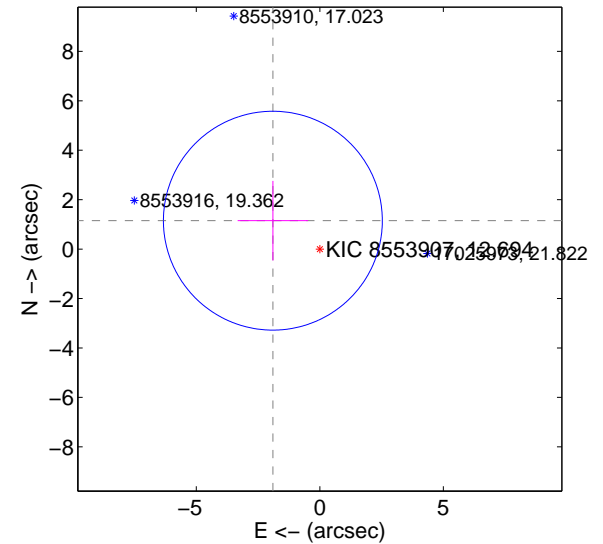
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

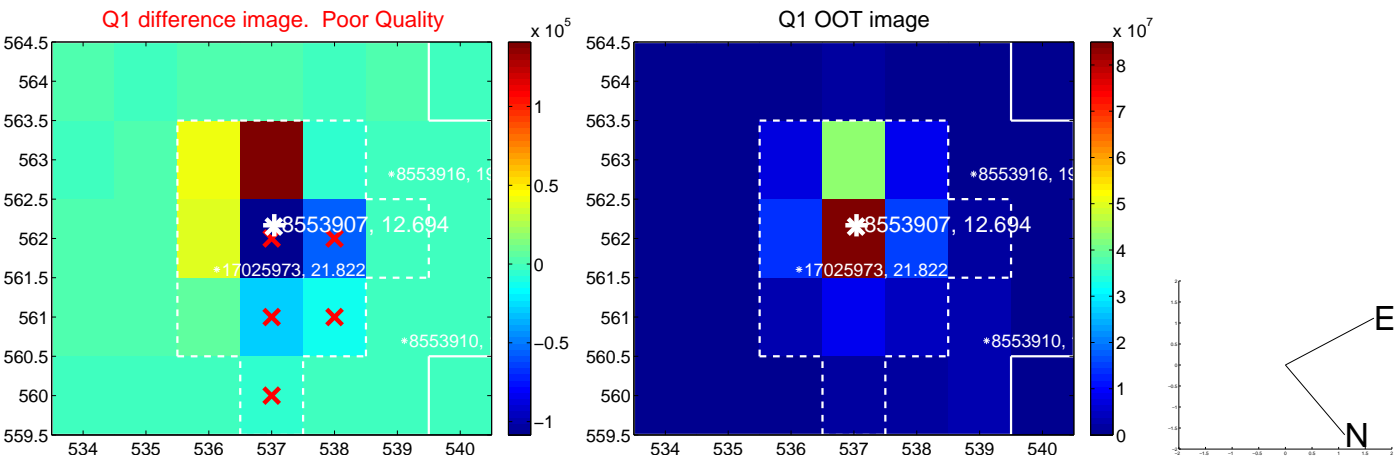


offset from photometric centroids

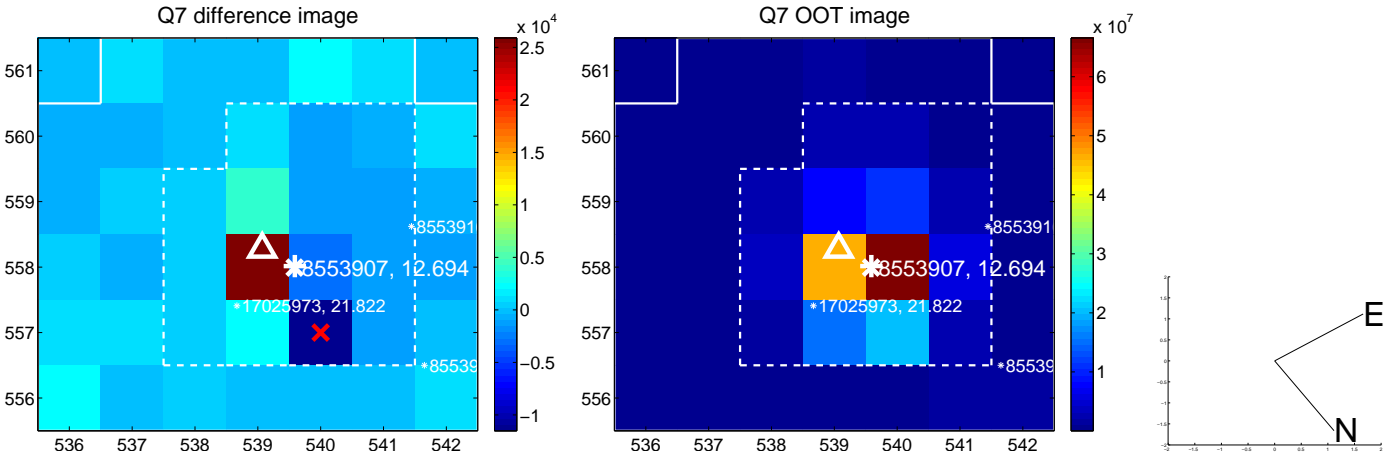
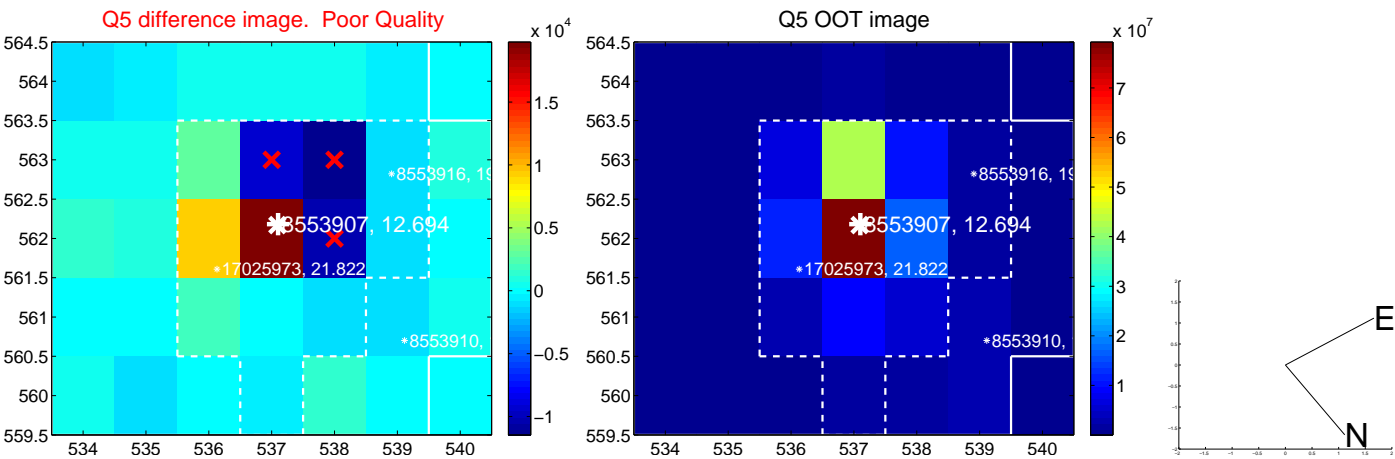


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

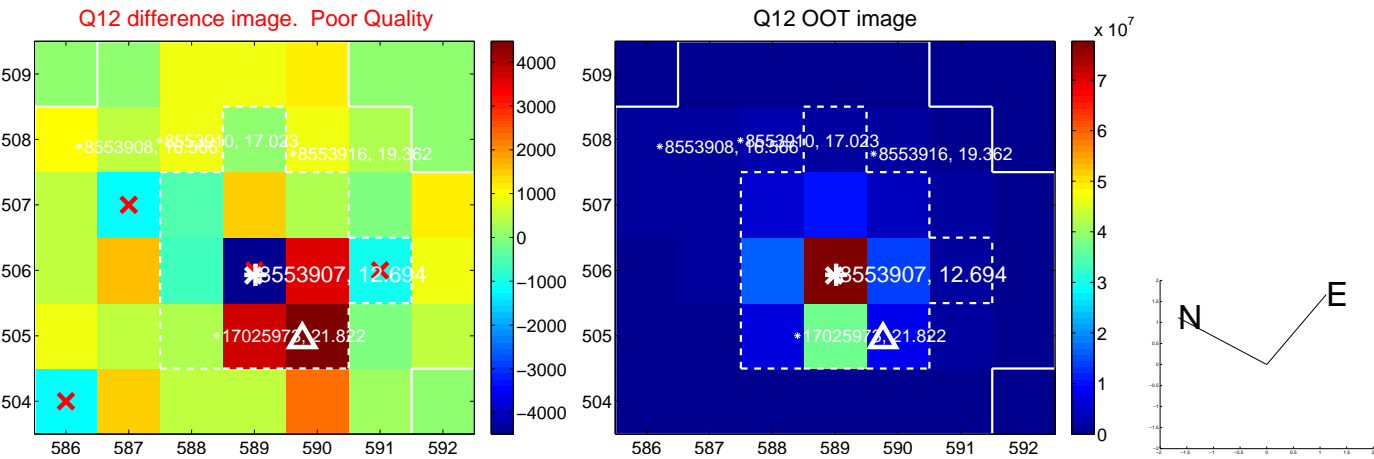
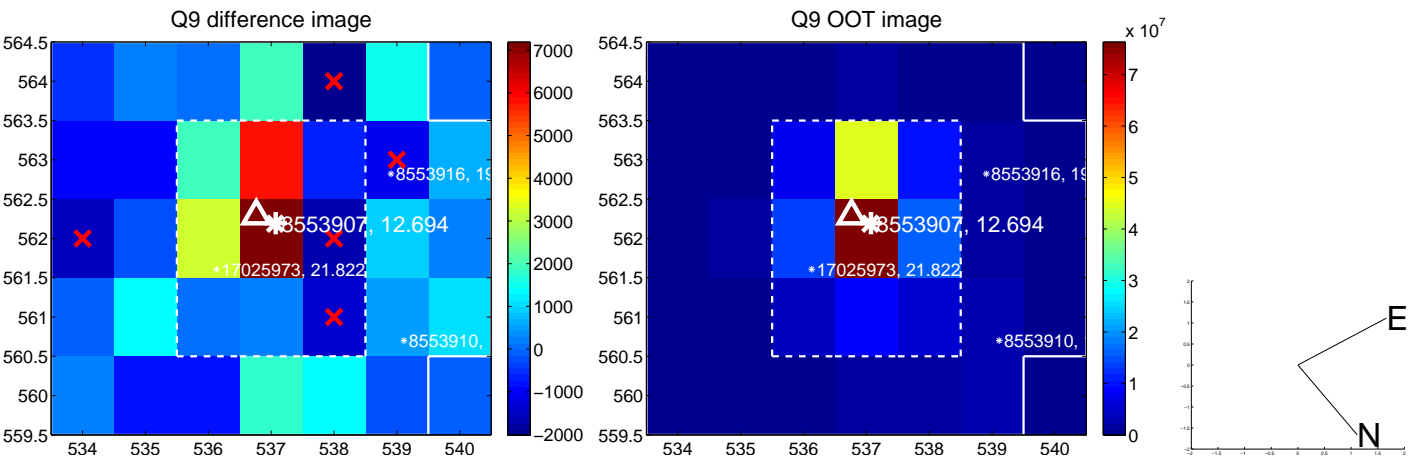
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



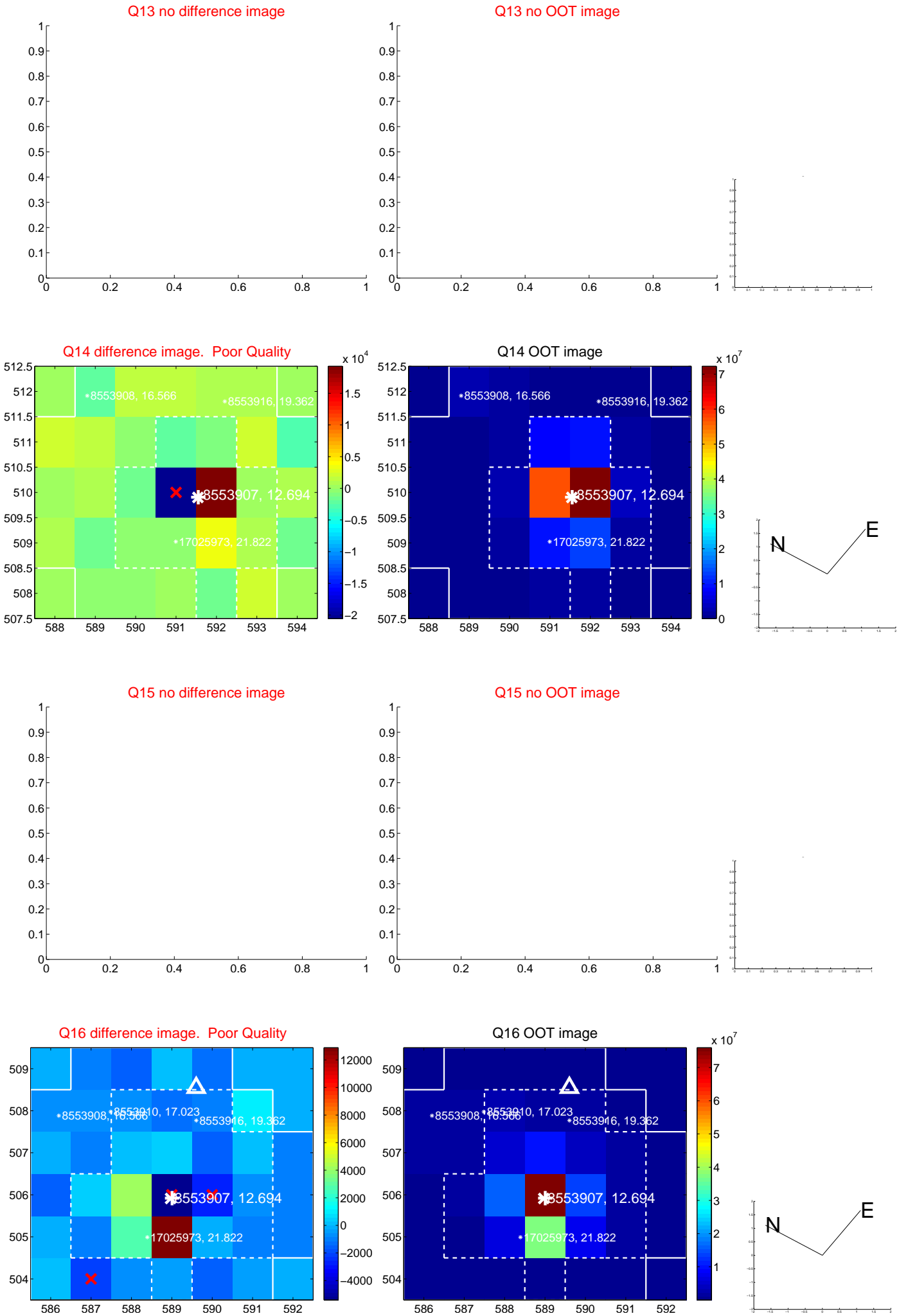
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



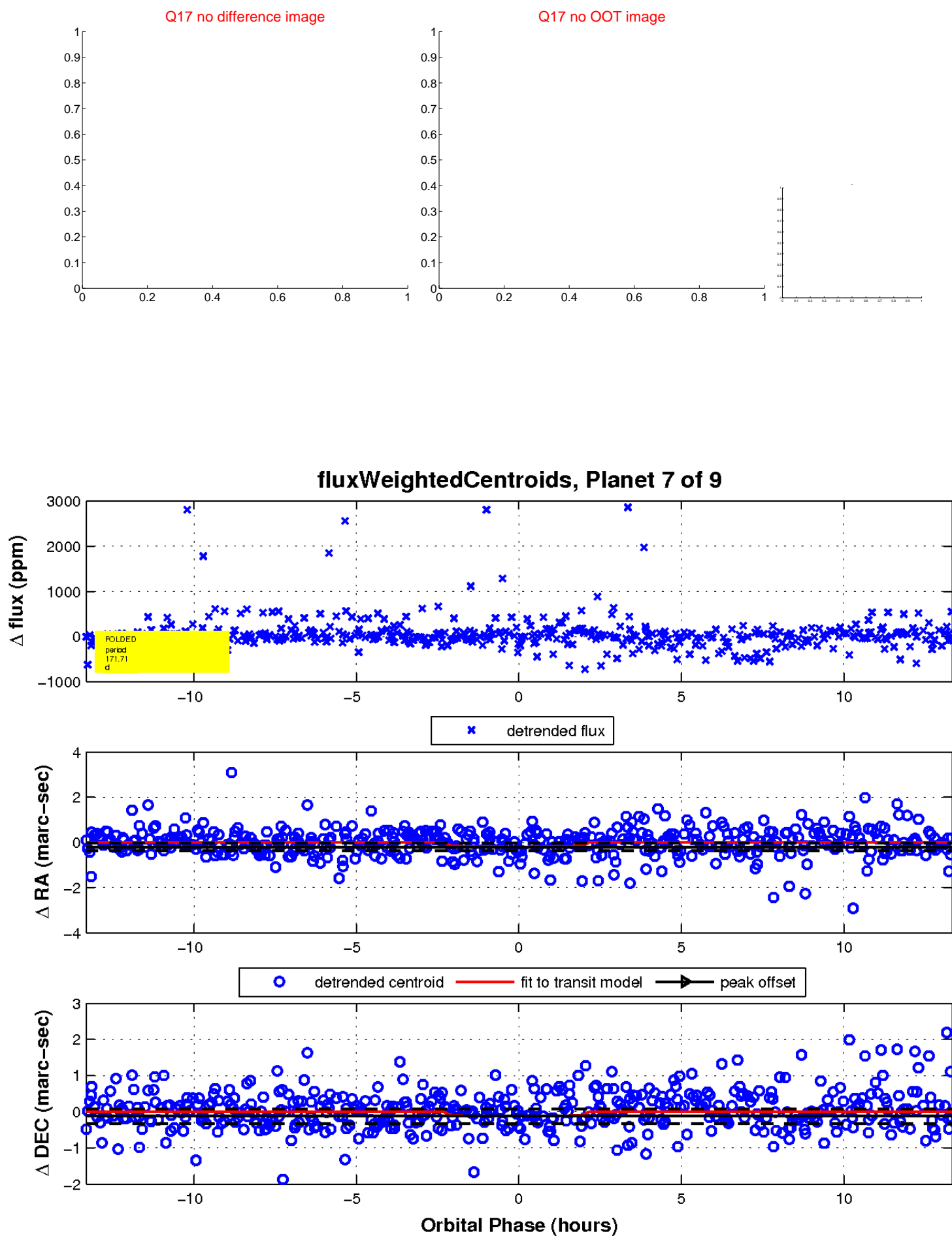
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

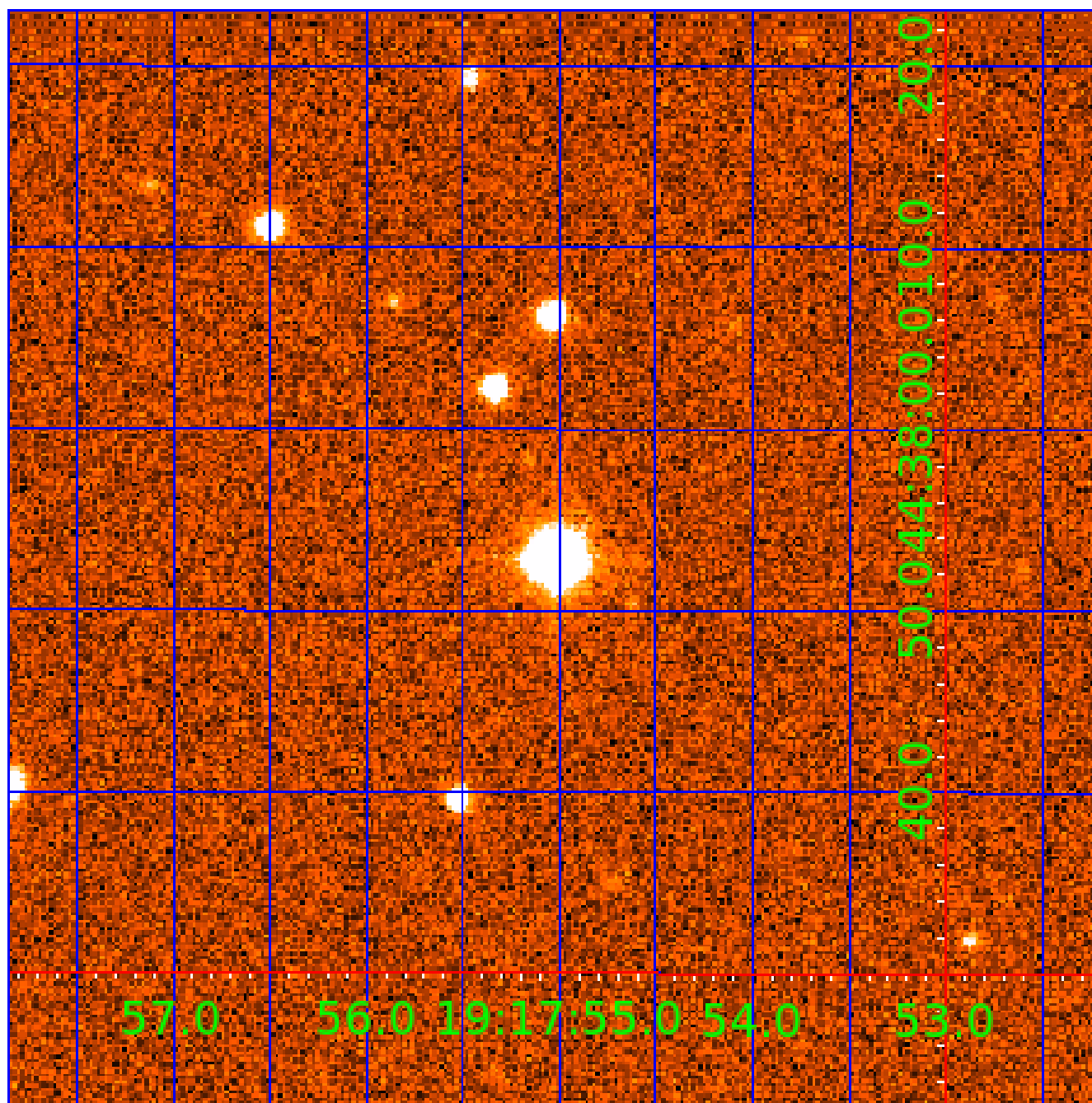


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
008553907-01	OBS	7056.01	42.031158	133.595217	399533.3	7.500	40551.4	-1.0	1.12	6618	60.09	35.41
008553907-02	OBS	No	42.031672	166.918948	419889.0	5.000	40386.0	-1.0	1.12	6618	60.95	35.41
008553907-03	OBS	No	247.811404	132.529266	10565.8	12.000	559.2	-1.0	1.12	6618	11.57	3.32
008553907-04	OBS	No	714.554782	134.633923	8364.8	12.000	573.5	-1.0	1.12	6618	10.30	0.81
008553907-05	OBS	No	343.598598	320.835899	2815.8	1.408	334.0	26.4	1.12	6618	11.09	2.15
008553907-06	OBS	No	292.179474	392.975422	6658.7	12.000	339.7	-1.0	1.12	6618	9.19	2.67
008553907-07	OBS	No	171.705196	149.545205	118.0	4.450	317.5	5.8	1.12	6618	1.33	5.42
008553907-08	OBS	No	465.742133	422.069406	5702.9	15.000	316.5	-1.0	1.12	6618	8.50	1.43
008553907-09	OBS	No	419.378385	472.724201	7183.3	10.500	333.6	-1.0	1.12	6618	9.54	1.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008553907-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
008553907-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
008553907-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008553907-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS
008553907-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_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_FEW_DIFFS
008553907-06	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008553907-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—HALO_GHOST
008553907-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008553907-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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 008553907-08

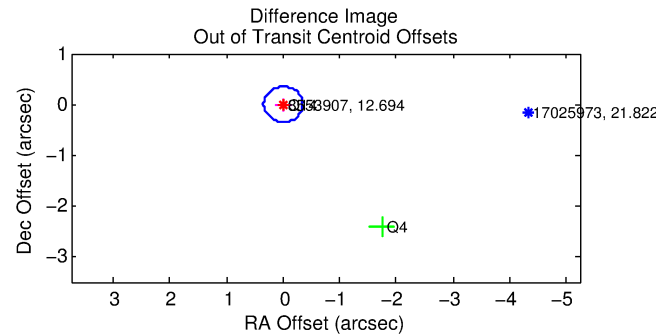
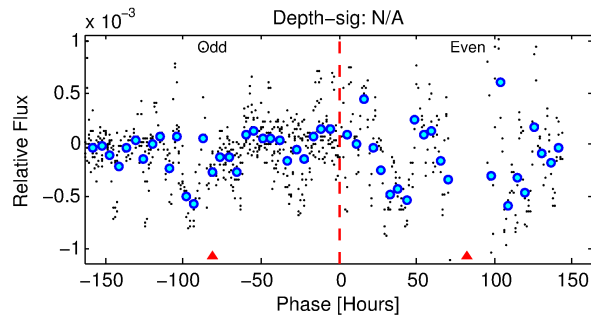
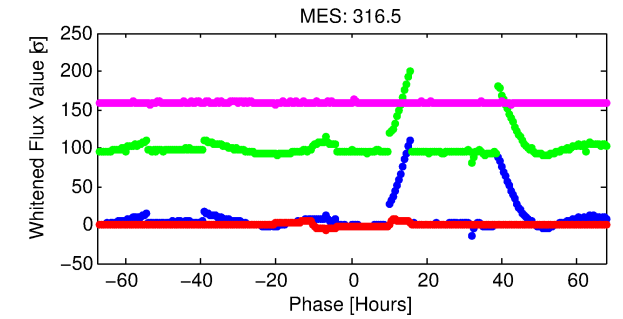
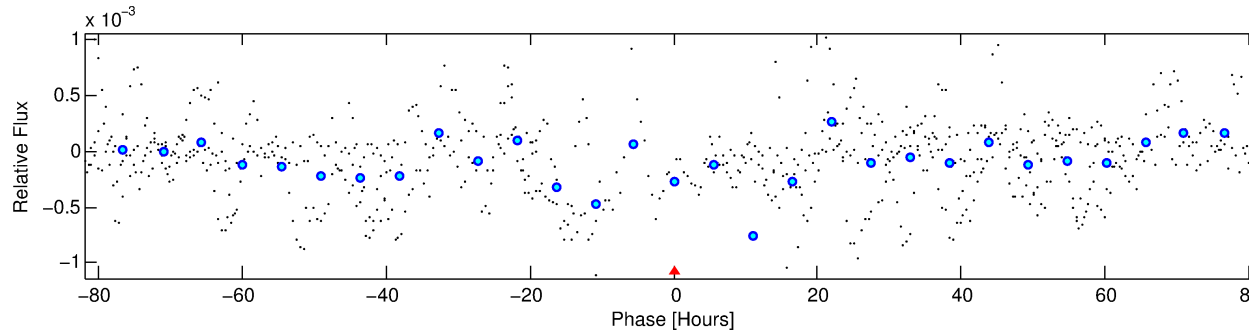
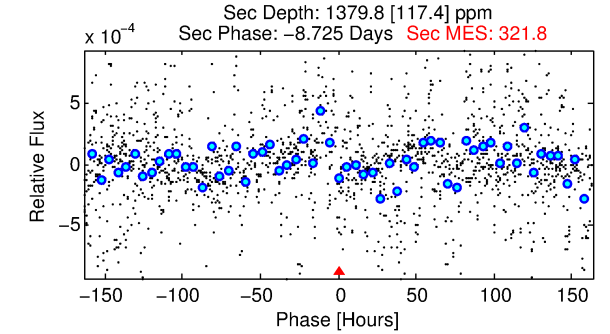
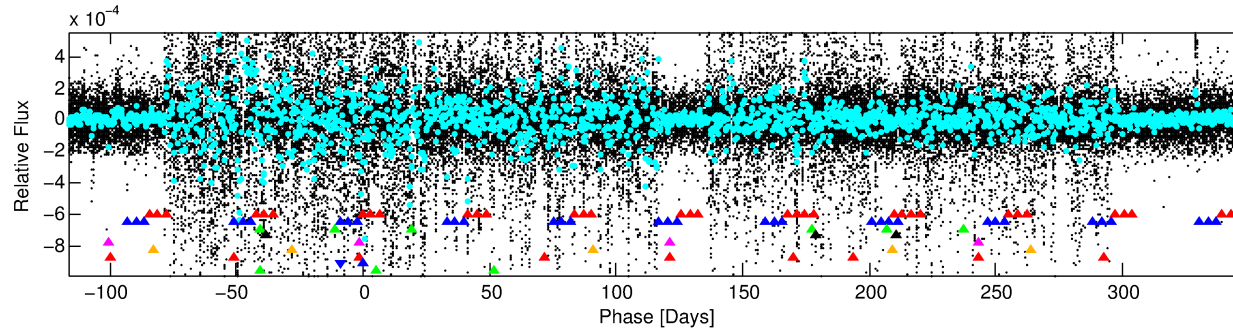
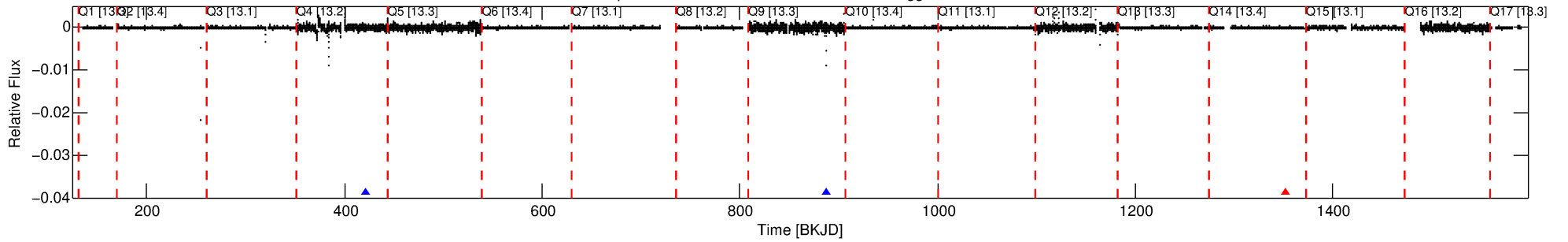
No Significant Match Found

DV One-Page Summary

KIC: 8553907 Candidate: 8 of 9 Period: 465.742 d

KOI: K07056 Corr: No Ephemeris Match

Kp: 12.69 R*: 1.12 Rs Teff: 6618.0 K Logg: 4.39 Fe/H: -0.360



TPS TCE Results:

Period = 465.74213 d

Epoch = 422.0694 BKJD

DV fit results are unavailable

DV Diagnostic Results:

ShortPeriod-sig: 100.0% [60.77σ]

LongPeriod-sig: 100.0% [310.86σ]

ModelChiSquare2-sig: N/A

ModelChiSquareGof-sig: N/A

Bootstrap-pfa: N/A

RollingBand-fgt: 0.67 [2/3]

GhostDiagnostic-chr: 0.4698

Centroid-sig: 0.5%

Centroid-so: 5.668 arcsec [1.97σ]

OotOffset-rm: 0.000 arcsec [0.00σ]

KicOffset-rm: 0.040 arcsec [0.13σ]

OotOffset-st: 1/0/1/0 [2]

KicOffset-st: 1/0/1/0 [2]

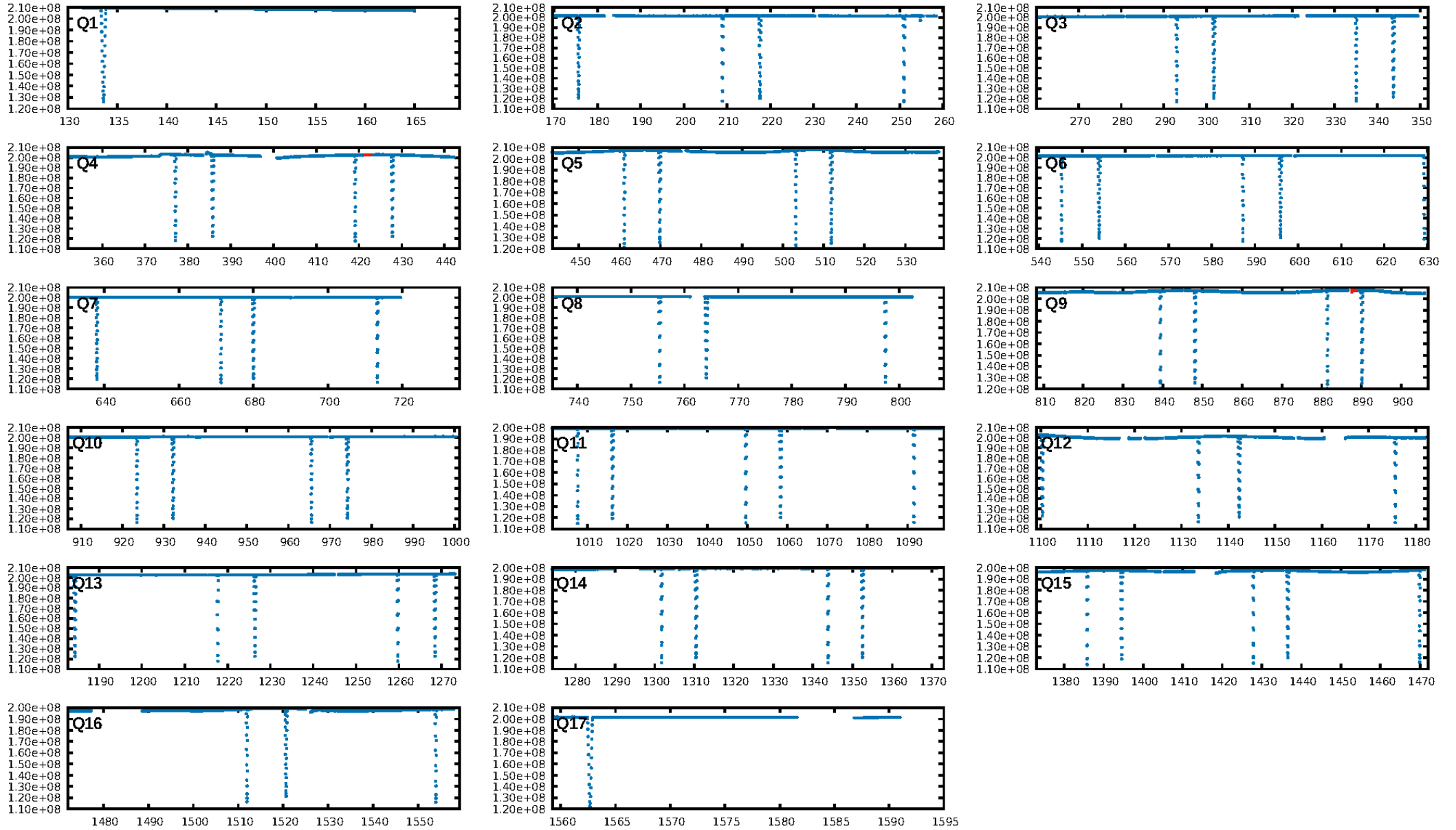
DiffImageQuality-fgm: 0.50 [1/2]

DiffImageOverlap-fno: 0.50 [1/2]

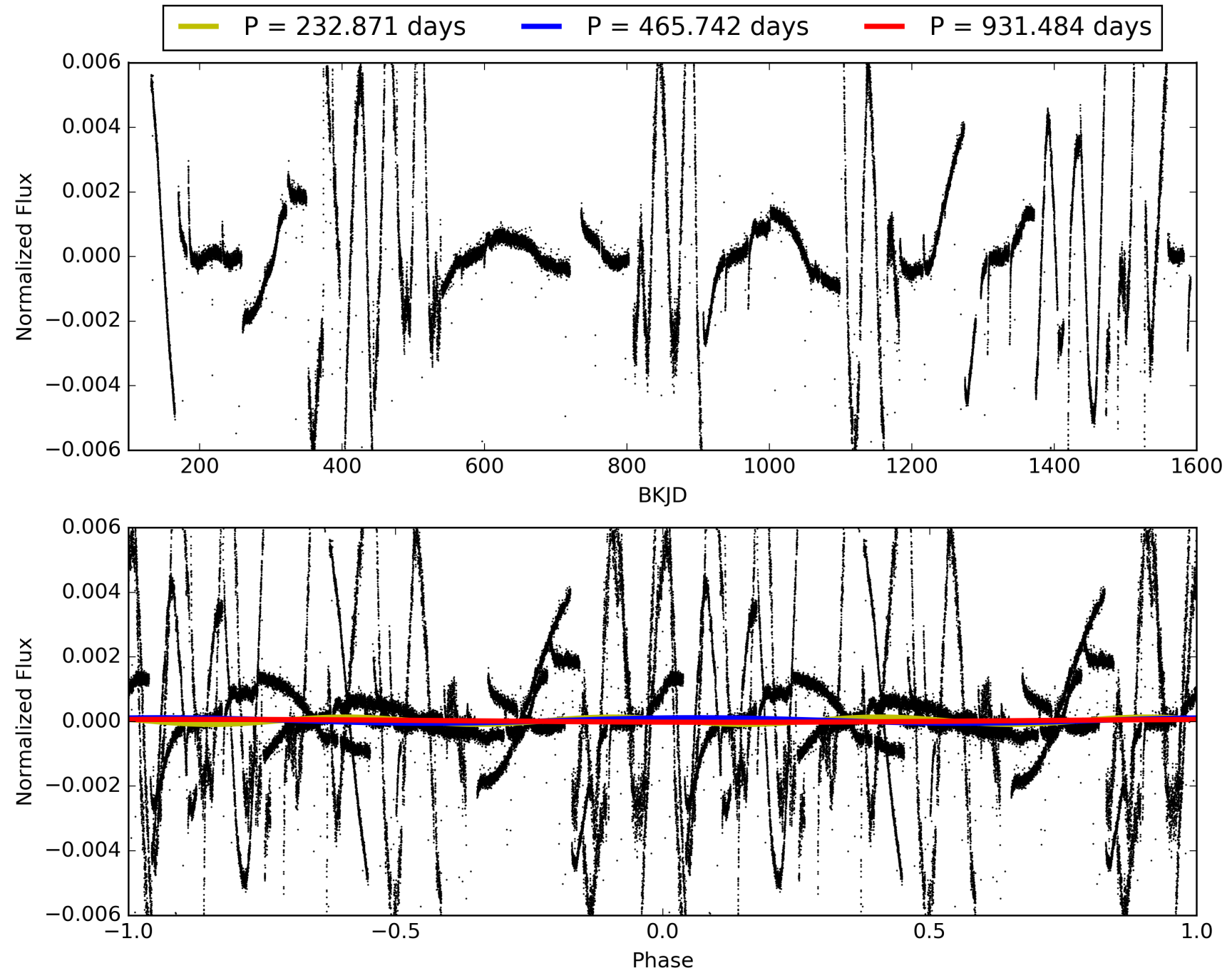
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:55:44 Z

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

TCE 008553907-08, PDC Light Curves

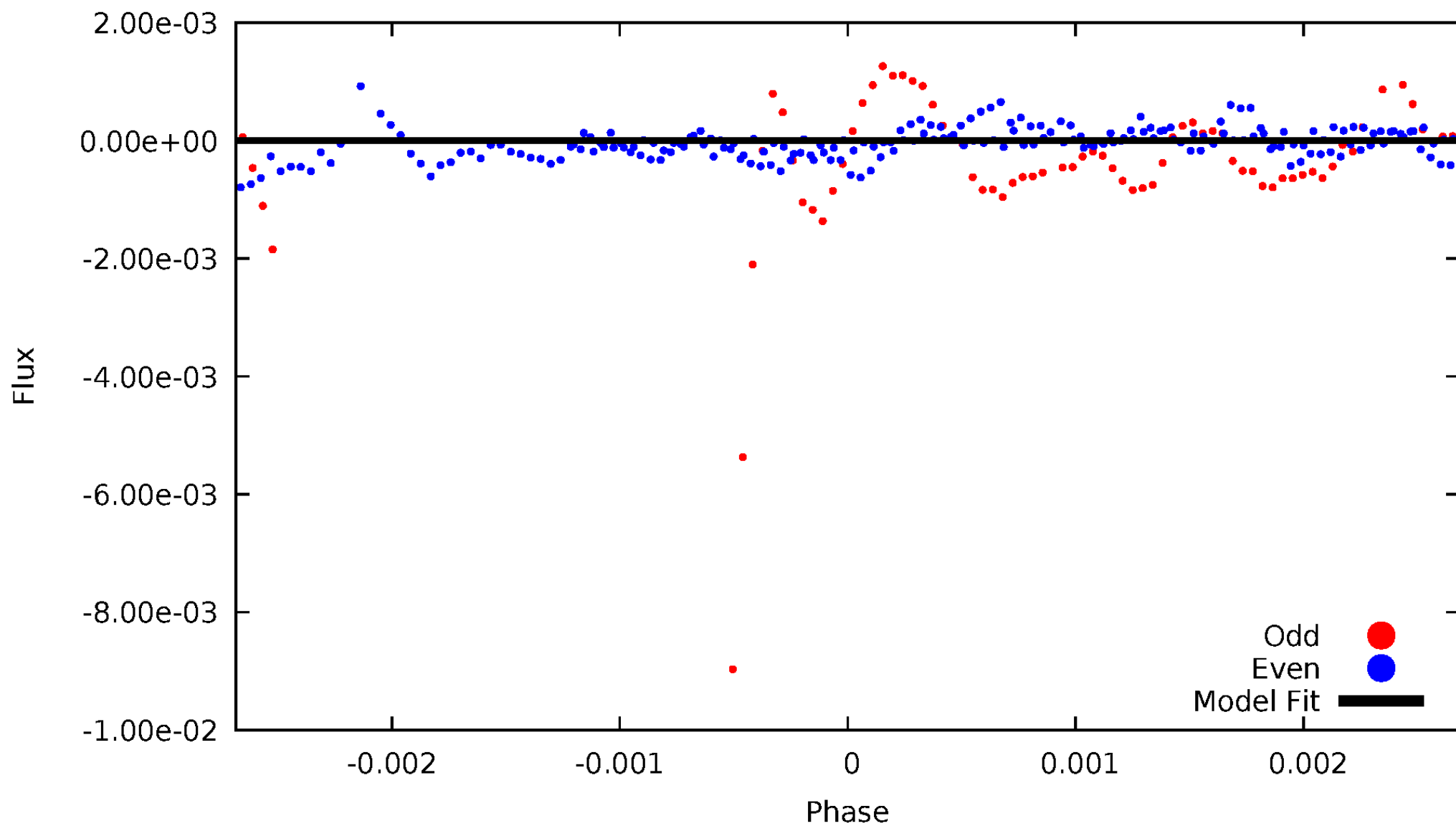


TCE 008553907-08



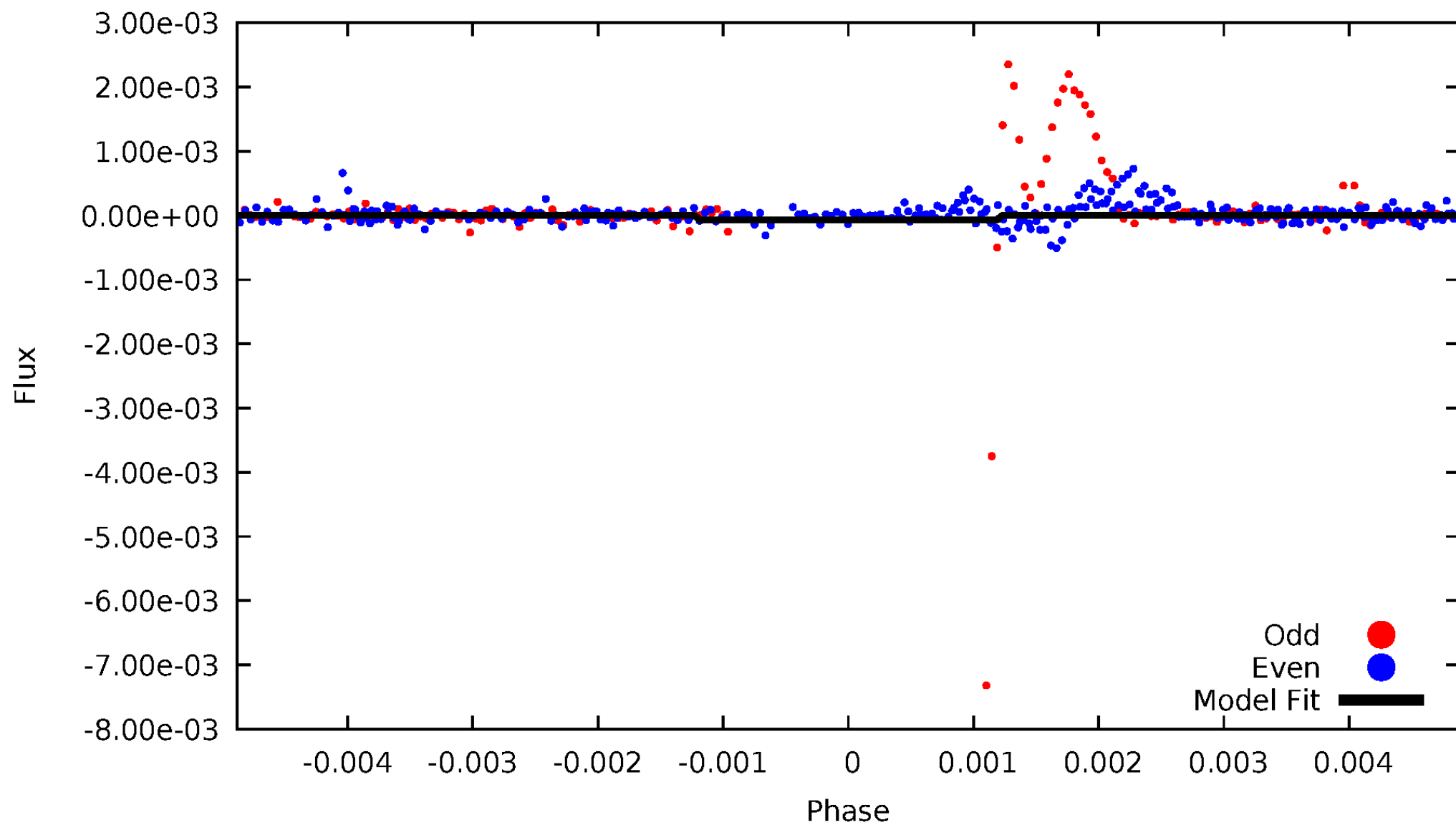
DV Odd/Even

TCE 008553907-08



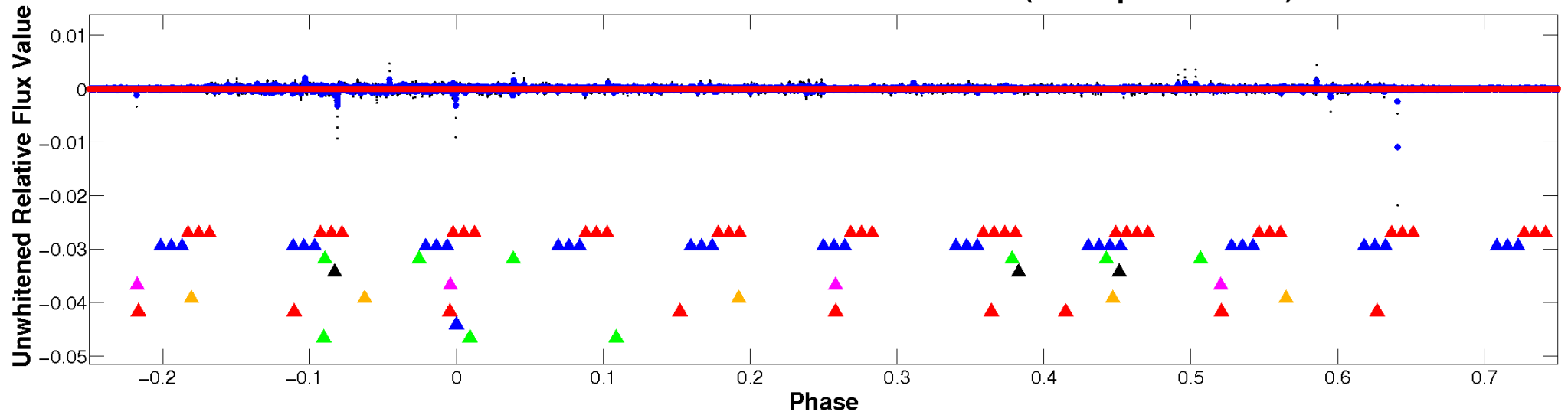
ALT Odd/Even

TCE 008553907-08

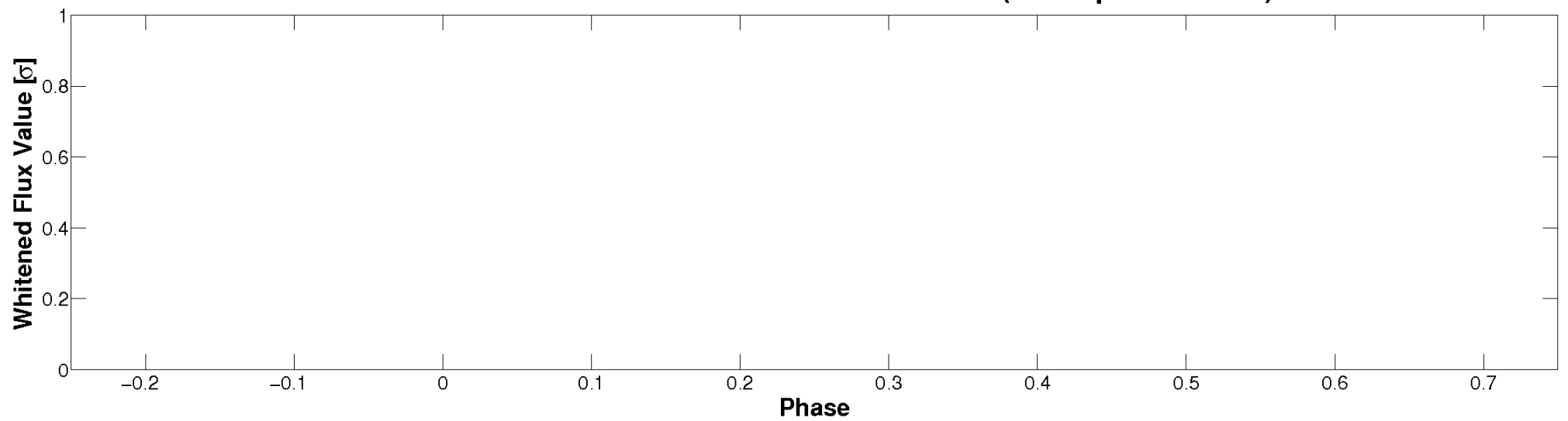


Non-Whitened Vs. Whitened Light Curve

Planet 8 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

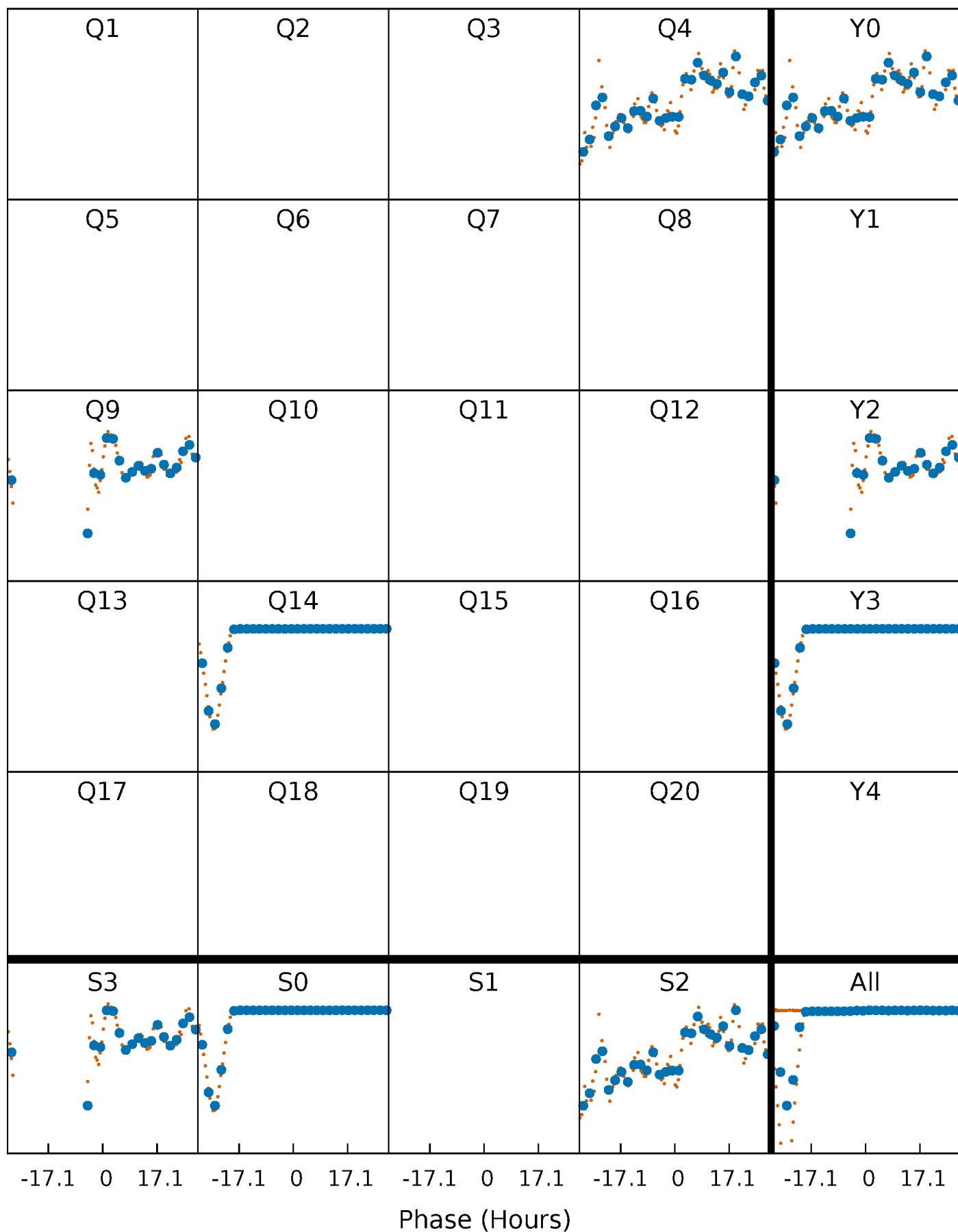


Planet 8 : Phased Whitened Flux Time Series (TPS Epoch/Period)



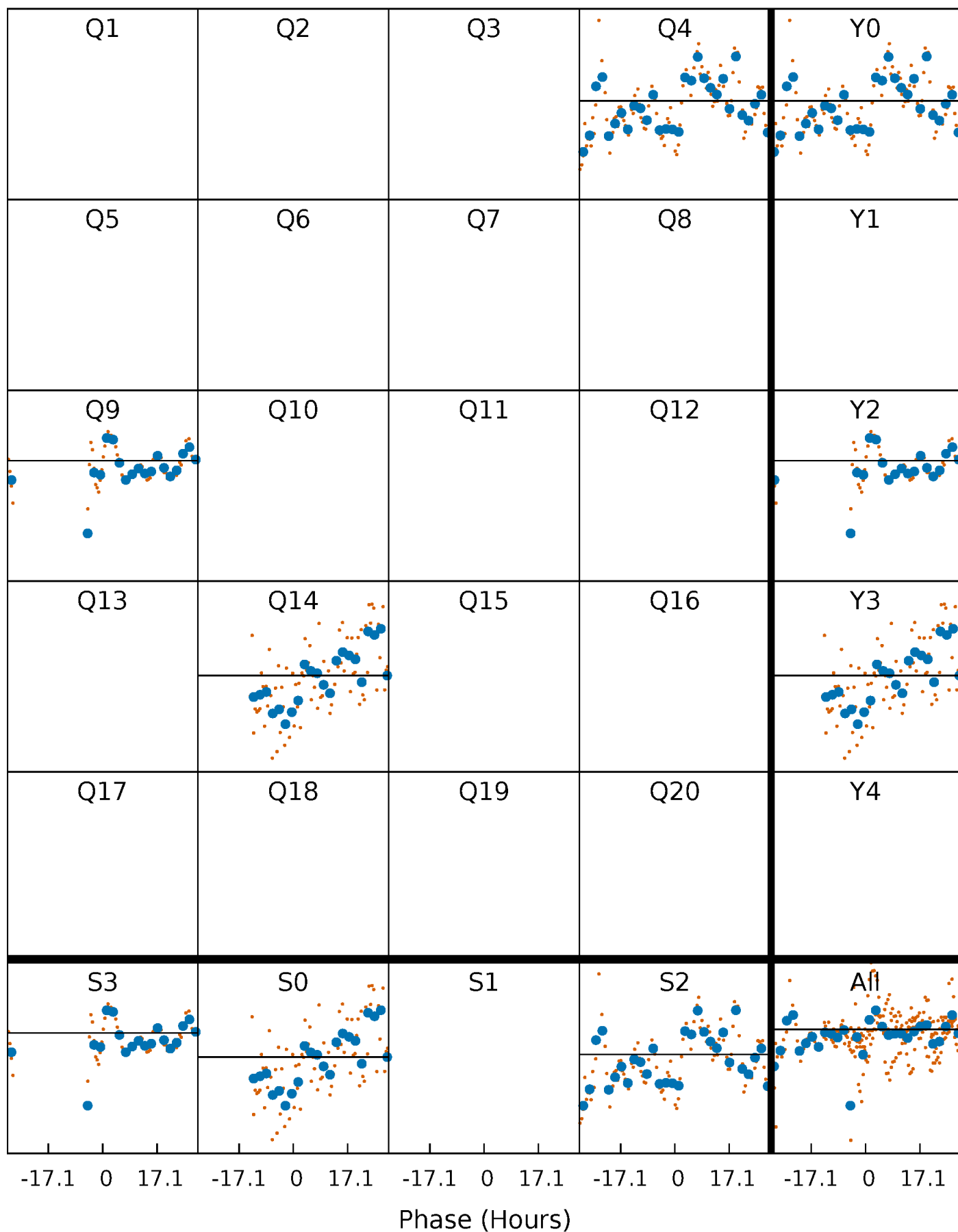
PDC Quarter-Phased Transit Curves

TCE 008553907-08 $P=465.742133$ Days $T_0=422.069406$ (BKJD)



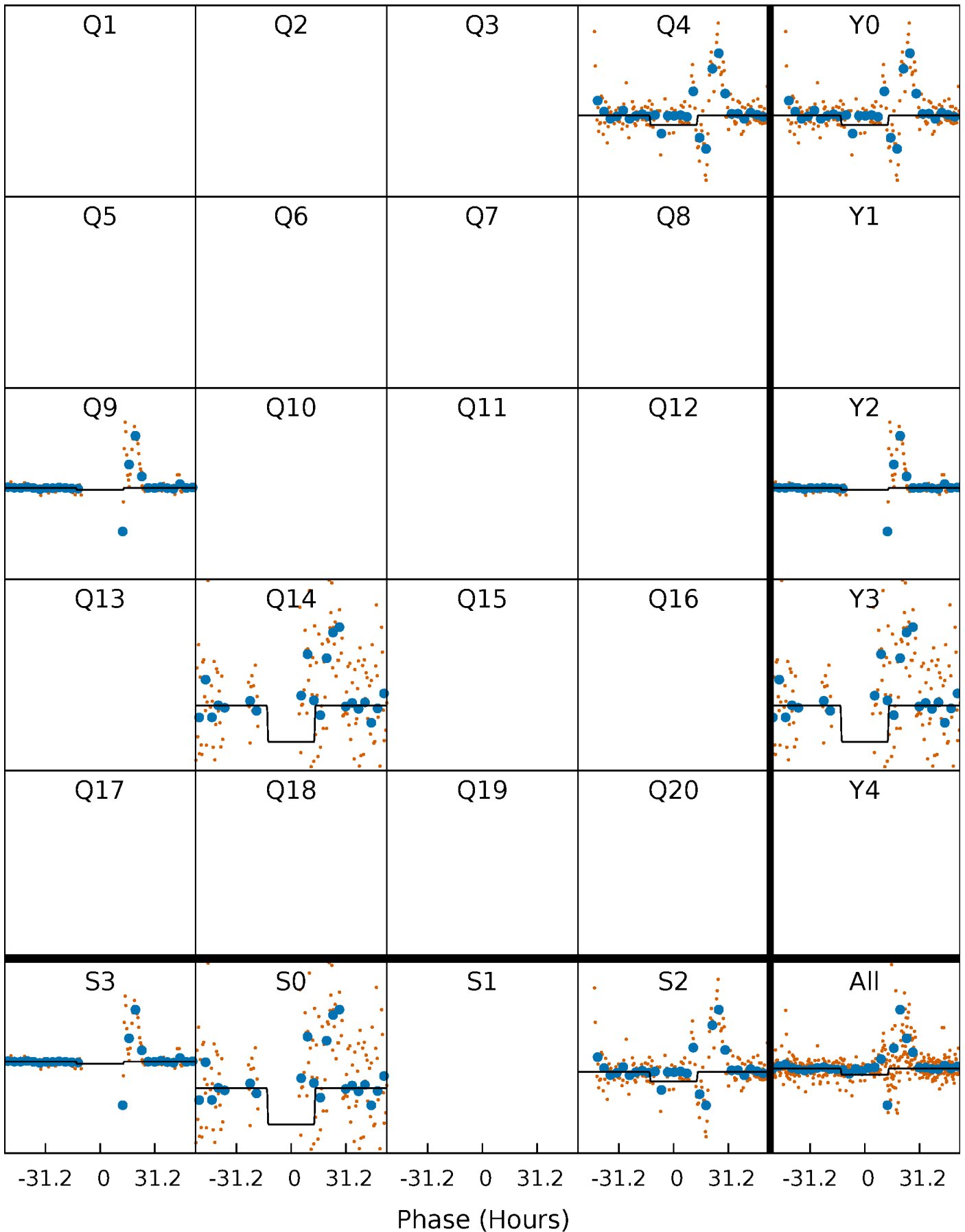
DV Quarter-Phased Transit Curves

TCE 008553907-08 $P=465.742133$ Days $T_0=422.069406$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

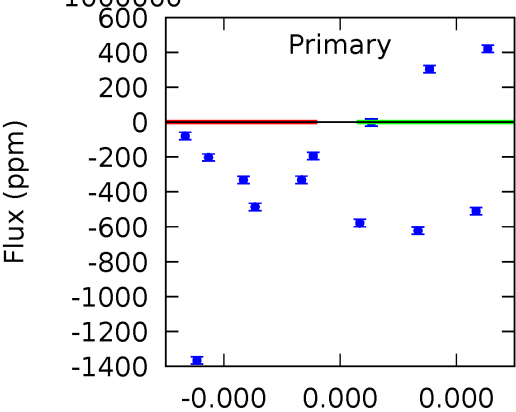
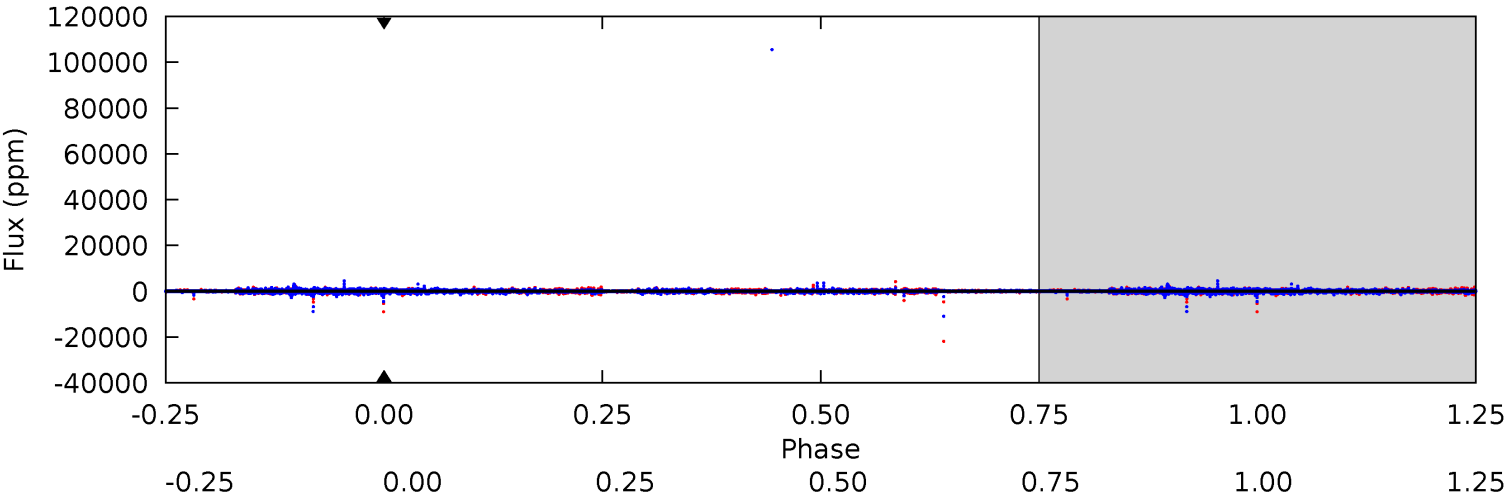
TCE 008553907-08 $P=465.742133$ Days $T_0=421.321209$ (BKJD)



DV Model-Shift Uniqueness Test

008553907-08, P = 465.742133 Days, E = 422.069406 Days

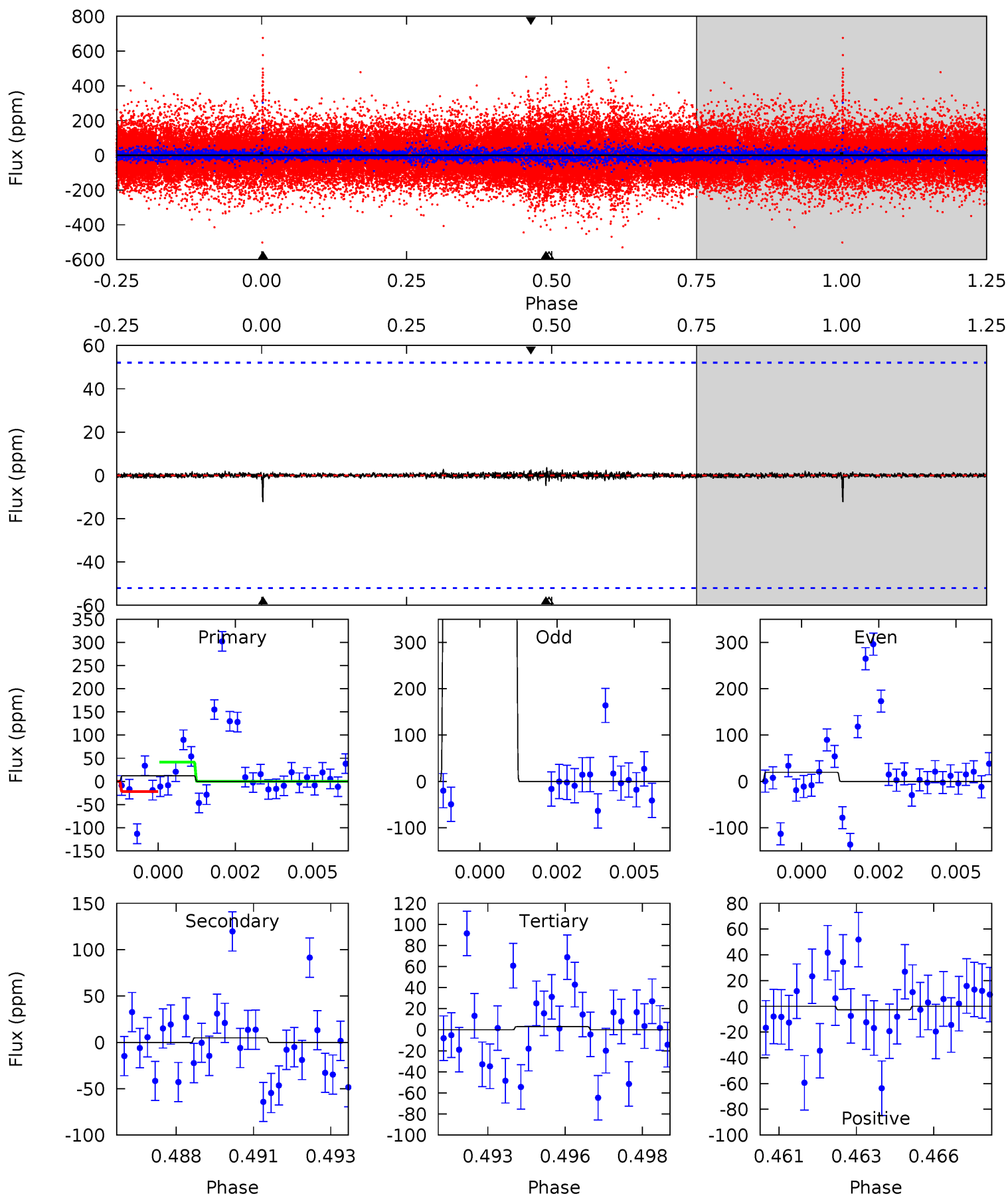
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008553907-08, P = 465.742133 Days, E = 421.321209 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.25	0.49	0.29	0.27	5.29	3.02	0.06	0.96	0.98	0.20	0.22	14.8	-45.1	0.23	0.96



Stellar Parameters For KIC 008553907

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6618^{+148}_{-198}	$4.393^{+0.063}_{-0.147}$	$-0.360^{+0.250}_{-0.300}$	$1.117^{+0.250}_{-0.125}$	$1.128^{+0.125}_{-0.139}$	$1.139^{+0.311}_{-0.464}$
	+2%/-3%	+1%/-3%	+69%/-83%	+22%/-11%	+11%/-12%	+27%/-41%
Source	PHO1	FLK73	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 008553907-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$12.51^{+10.71}_{-8.27}$	394^{+22}_{-17}	-2446^{+24454}_{-14588}	$-199.796^{+1114925.622}_{-716790.576}$
Alt.	-5 ± 10	$9.22^{+9.87}_{-6.65}$	395^{+20}_{-17}	1939^{+820}_{-4097}	19^{+419}_{-69}

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

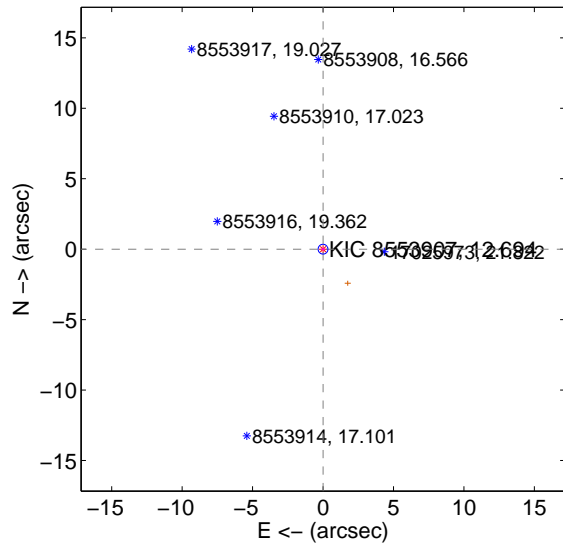
Supplemental centroid analysis for 008553907-08. Kepler magnitude: 12.69. Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

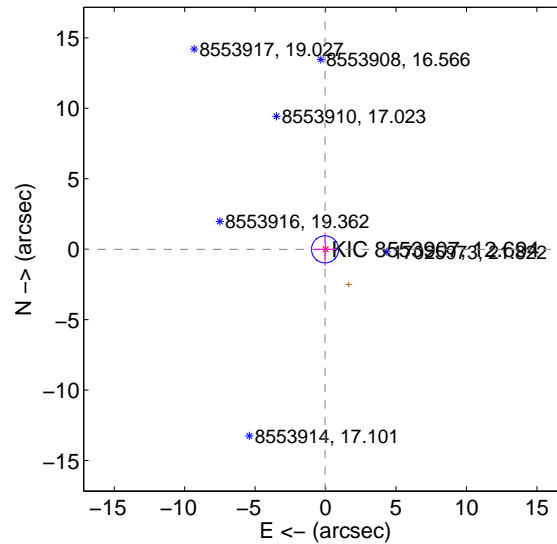
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.000 ± 0.116	0.00	-0.000 ± 0.127	-0.000 ± 0.111
PRF-fit source offset from KIC position	0.040 ± 0.320	0.13	0.037 ± 0.805	-0.015 ± 1.196
photometric centroid source offset	5.67 ± 2.88	1.97	3.97 ± 3.20	-4.04 ± 2.54

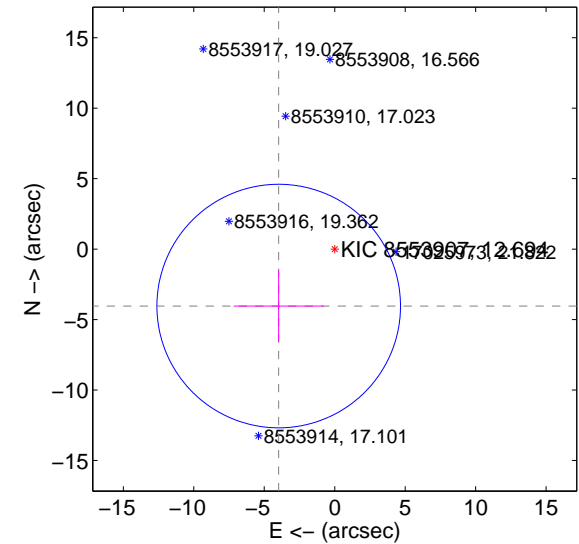
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

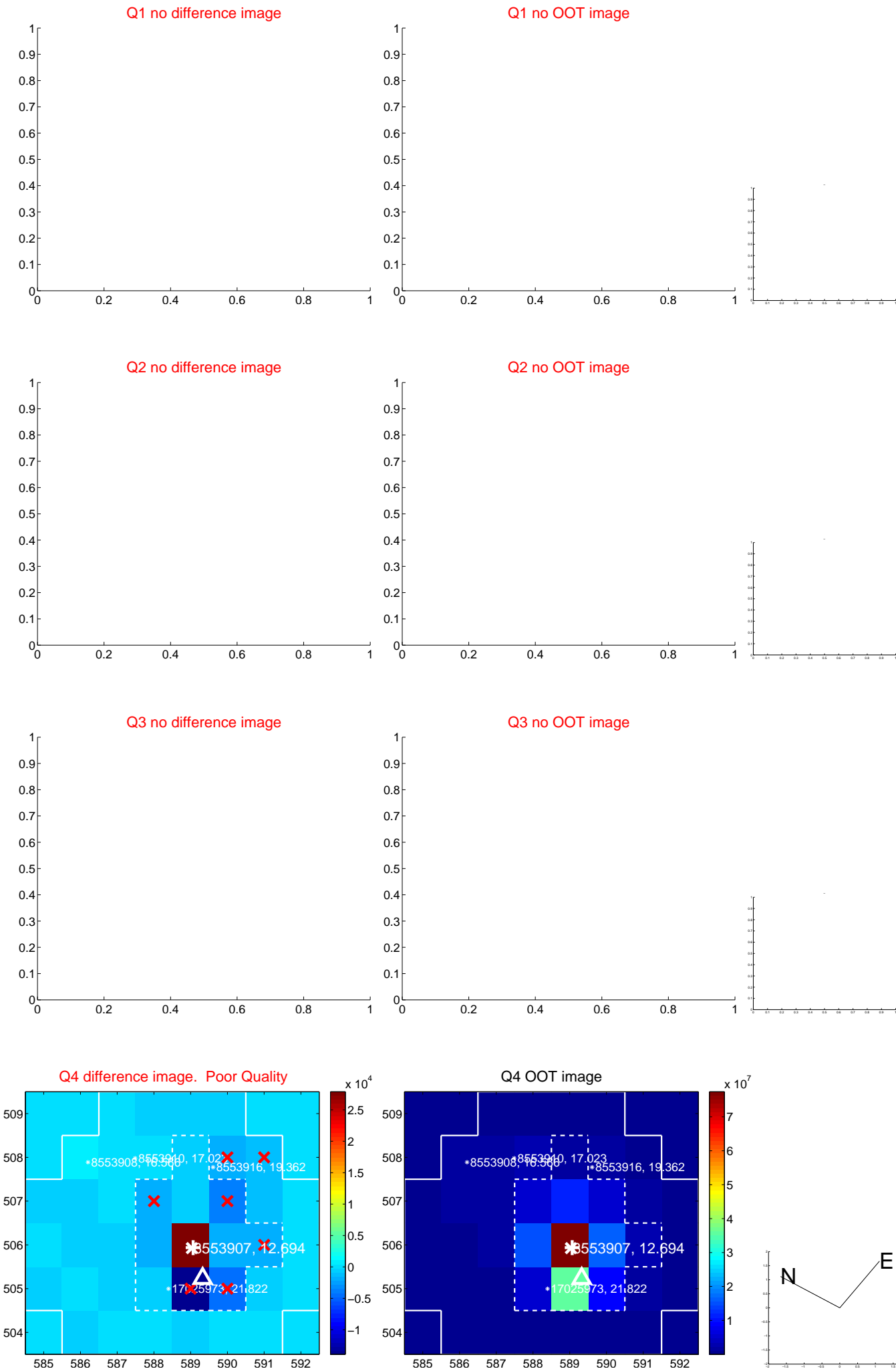


offset from photometric centroids



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.



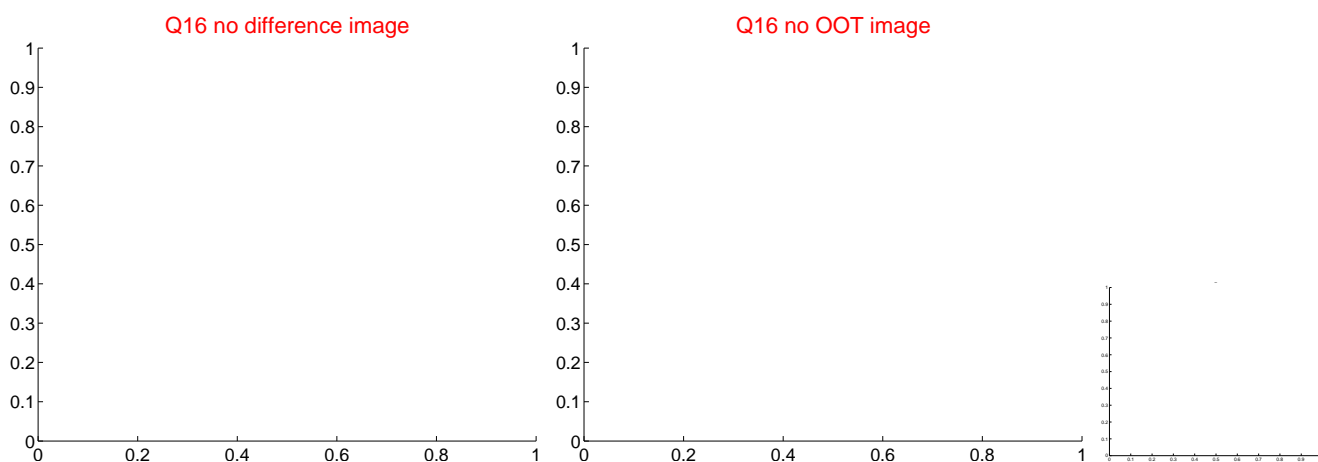
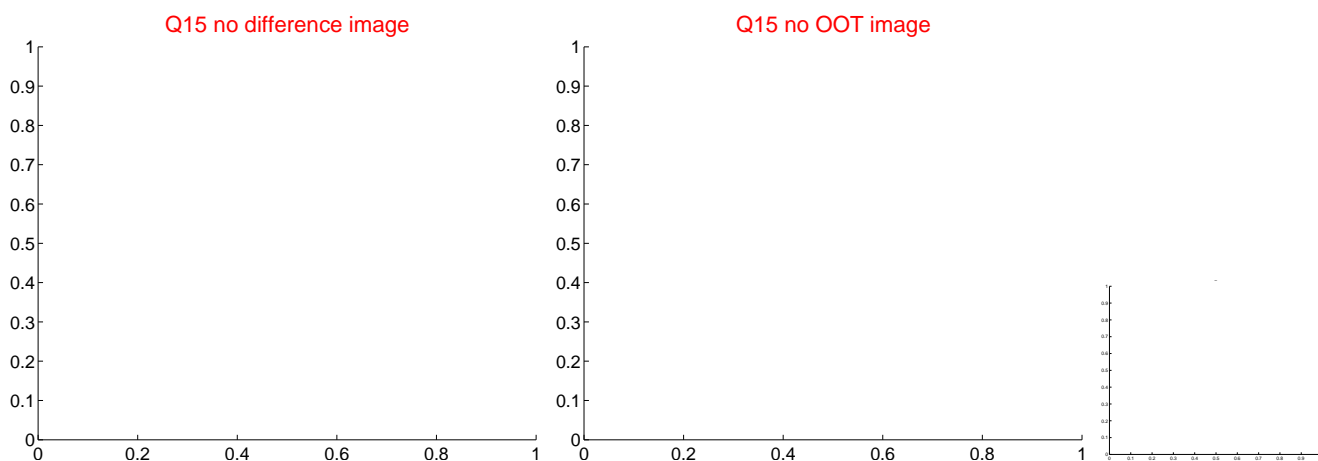
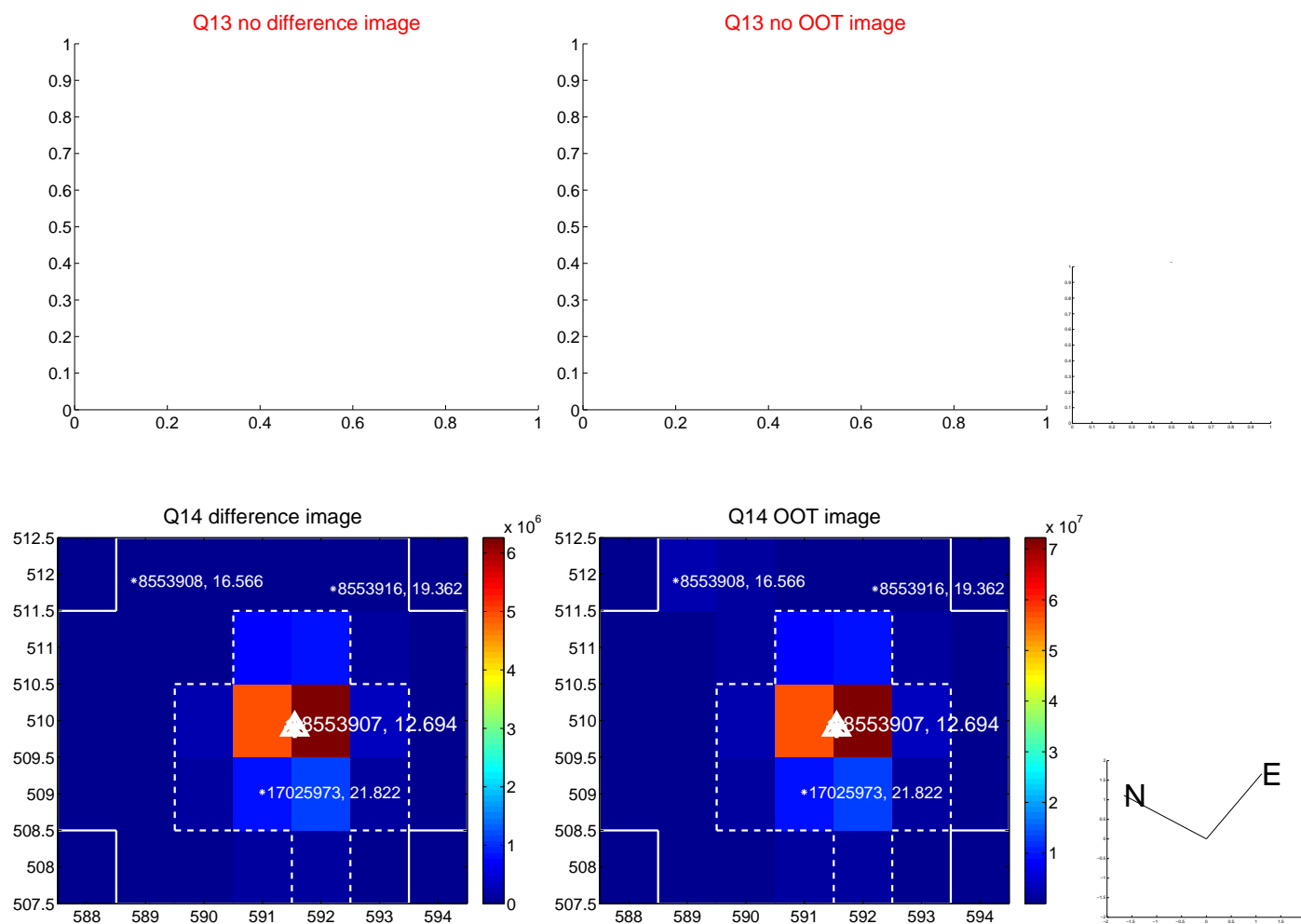
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



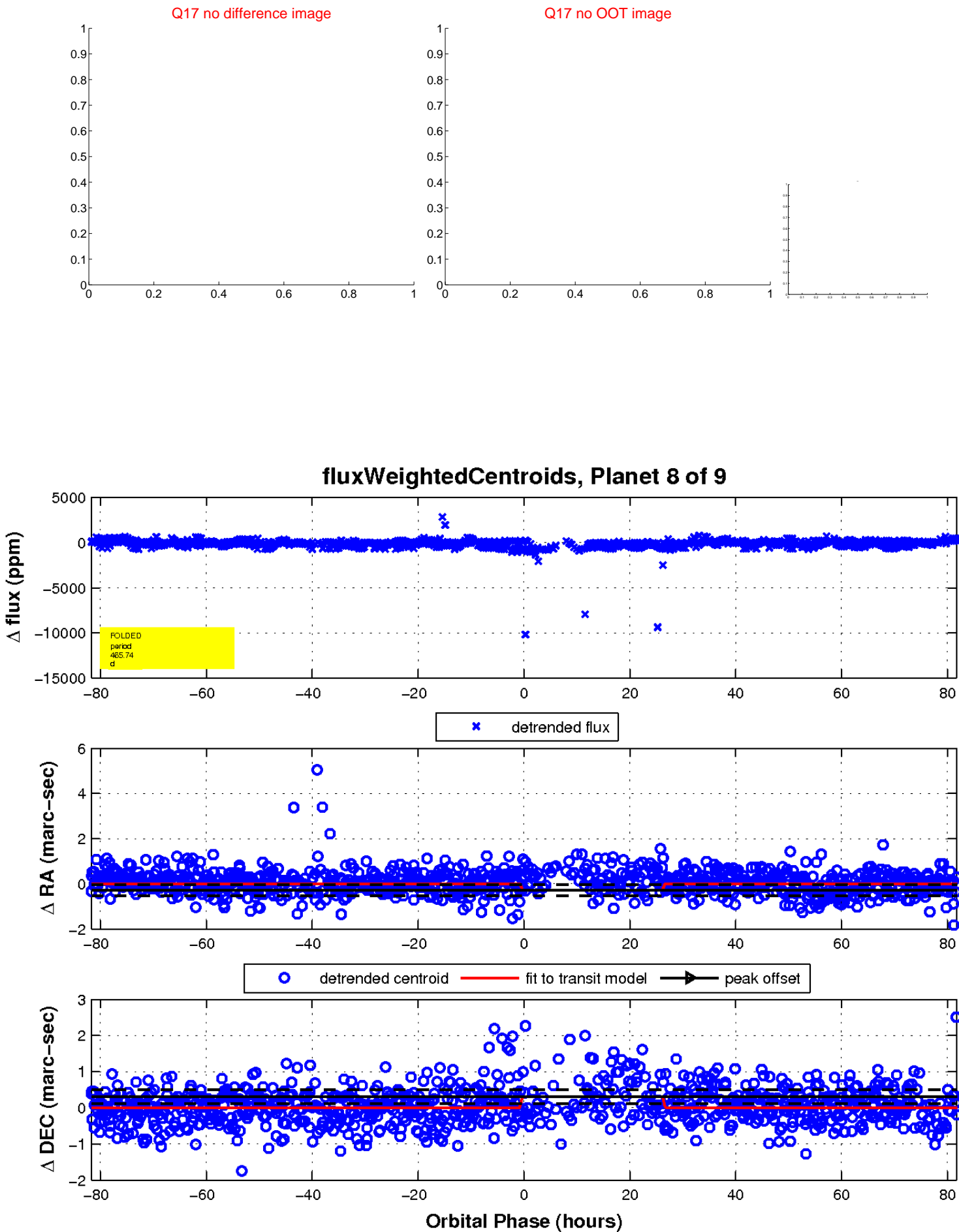
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

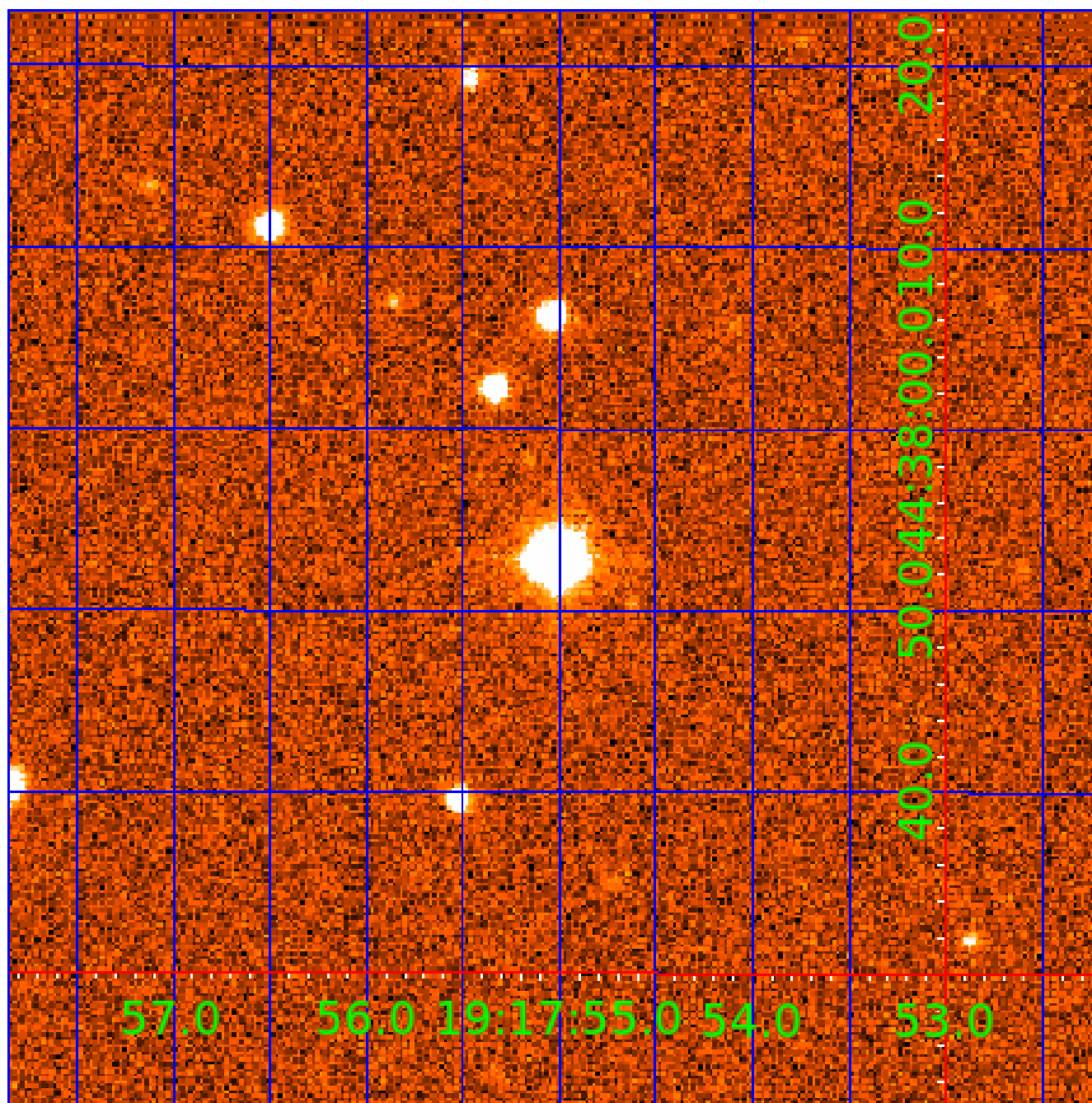


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
008553907-01	OBS	7056.01	42.031158	133.595217	399533.3	7.500	40551.4	-1.0	1.12	6618	60.09	35.41
008553907-02	OBS	No	42.031672	166.918948	419889.0	5.000	40386.0	-1.0	1.12	6618	60.95	35.41
008553907-03	OBS	No	247.811404	132.529266	10565.8	12.000	559.2	-1.0	1.12	6618	11.57	3.32
008553907-04	OBS	No	714.554782	134.633923	8364.8	12.000	573.5	-1.0	1.12	6618	10.30	0.81
008553907-05	OBS	No	343.598598	320.835899	2815.8	1.408	334.0	26.4	1.12	6618	11.09	2.15
008553907-06	OBS	No	292.179474	392.975422	6658.7	12.000	339.7	-1.0	1.12	6618	9.19	2.67
008553907-07	OBS	No	171.705196	149.545205	118.0	4.450	317.5	5.8	1.12	6618	1.33	5.42
008553907-08	OBS	No	465.742133	422.069406	5702.9	15.000	316.5	-1.0	1.12	6618	8.50	1.43
008553907-09	OBS	No	419.378385	472.724201	7183.3	10.500	333.6	-1.0	1.12	6618	9.54	1.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008553907-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
008553907-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
008553907-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008553907-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS
008553907-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE_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_FEW_DIFFS
008553907-06	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008553907-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—HALO_GHOST
008553907-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
008553907-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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 008553907-09

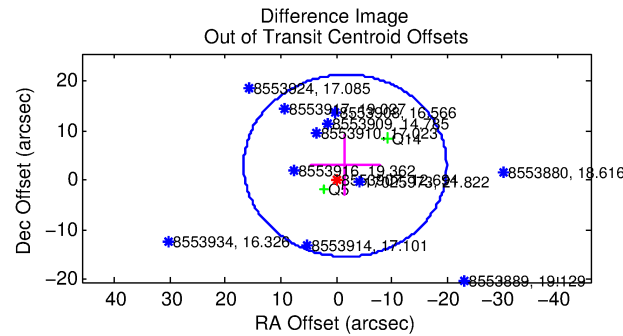
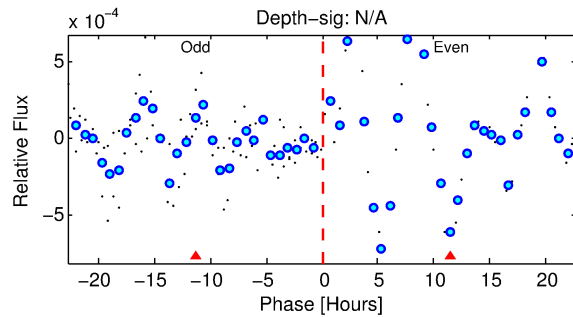
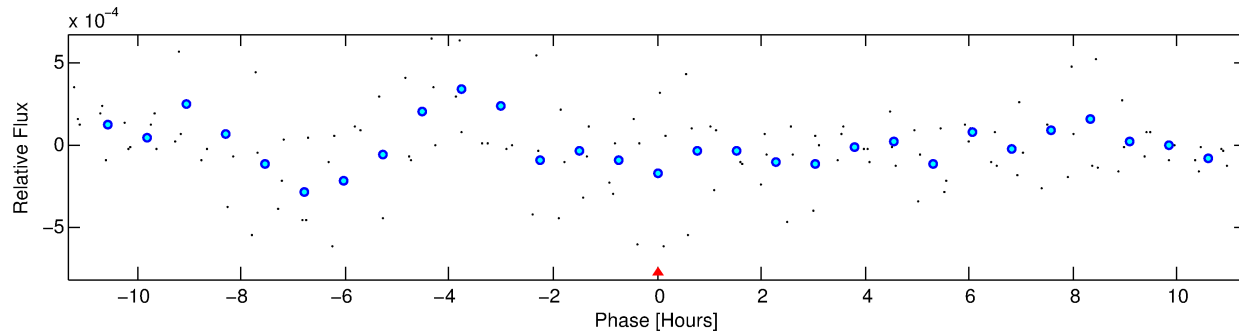
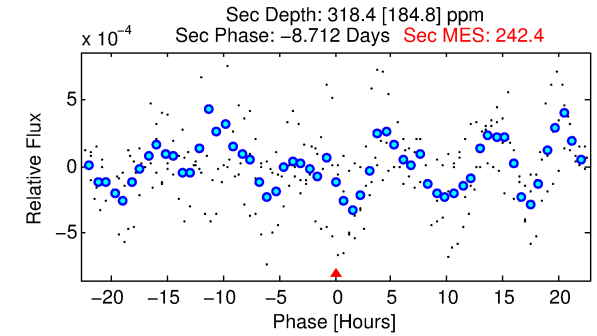
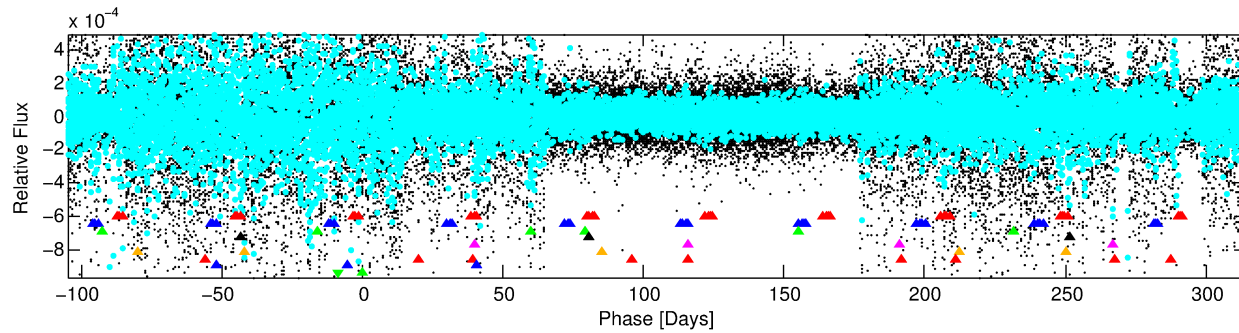
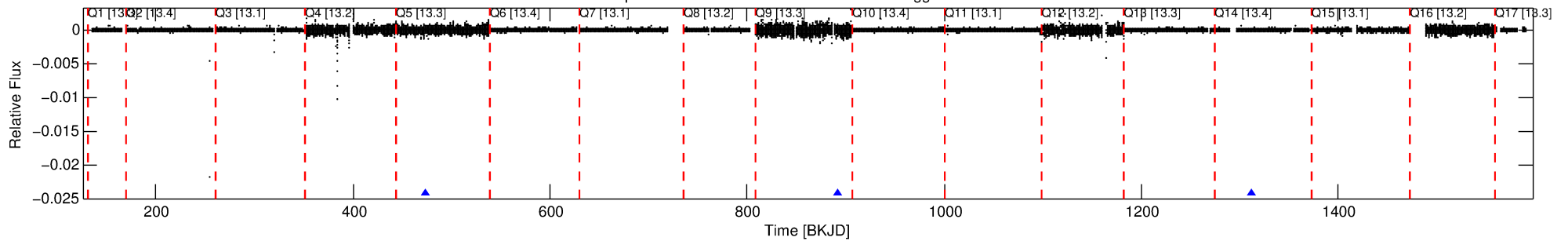
No Significant Match Found

DV One-Page Summary

KIC: 8553907 Candidate: 9 of 9 Period: 419.378 d

KOI: K07056 Corr: No Ephemeris Match

Kp: 12.69 R*: 1.12 Rs Teff: 6618.0 K Logg: 4.39 Fe/H: -0.360



TPS TCE Results:

Period = 419.37839 d
Epoch = 472.7242 BKJD

DV fit results are unavailable

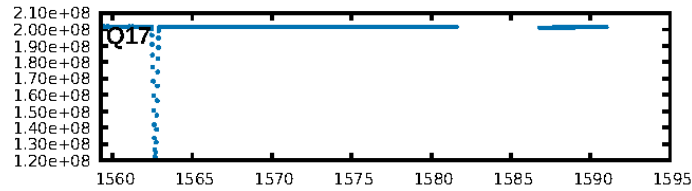
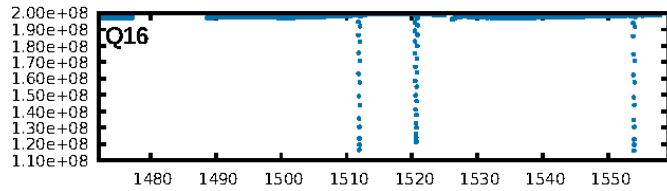
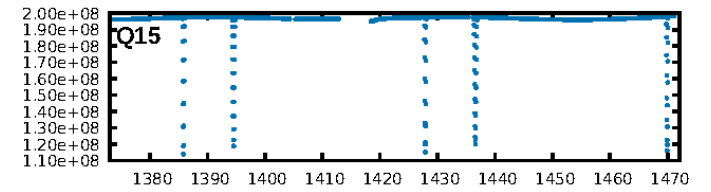
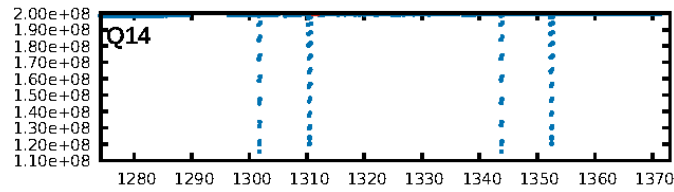
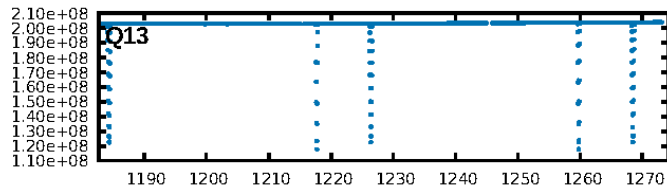
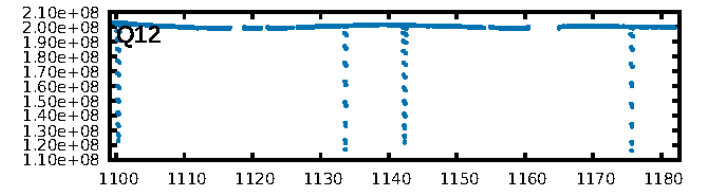
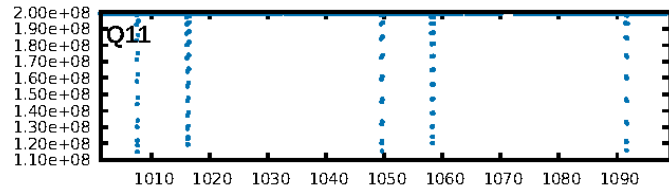
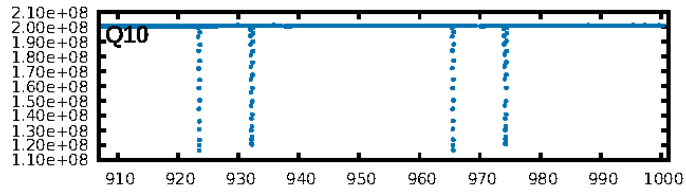
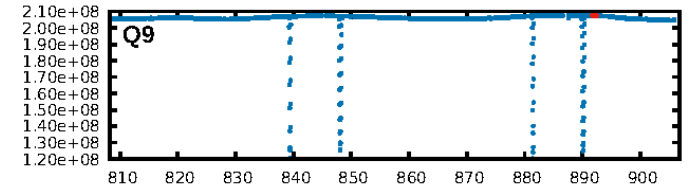
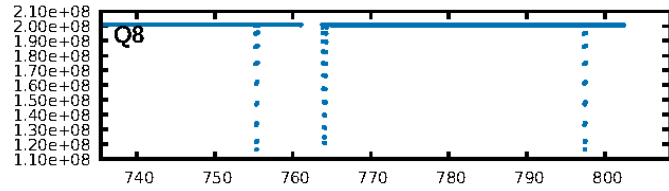
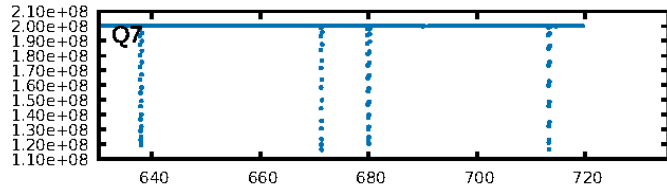
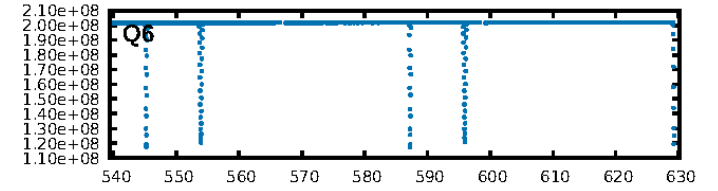
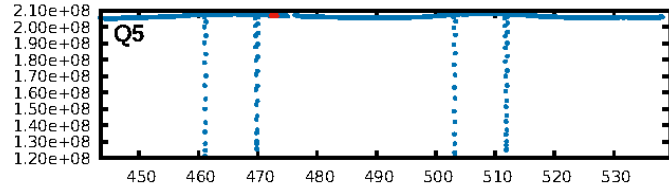
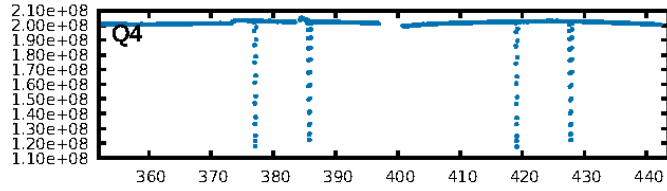
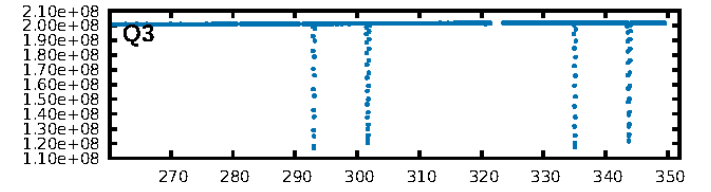
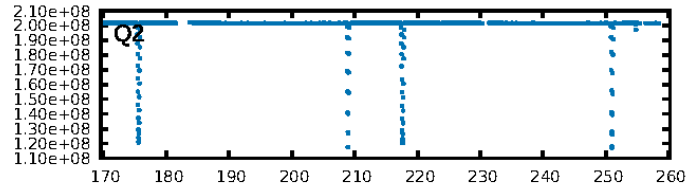
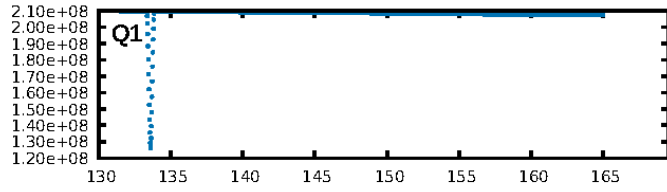
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [171.67σ]
LongPeriod-sig: 100.0% [60.77σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.3181
Centroid-sig: 49.1%
Centroid-so: 2.146 arcsec [0.76σ]
OotOffset-rm: 3.370 arcsec [0.55σ]
KicOffset-rm: 3.330 arcsec [0.54σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [3/3]

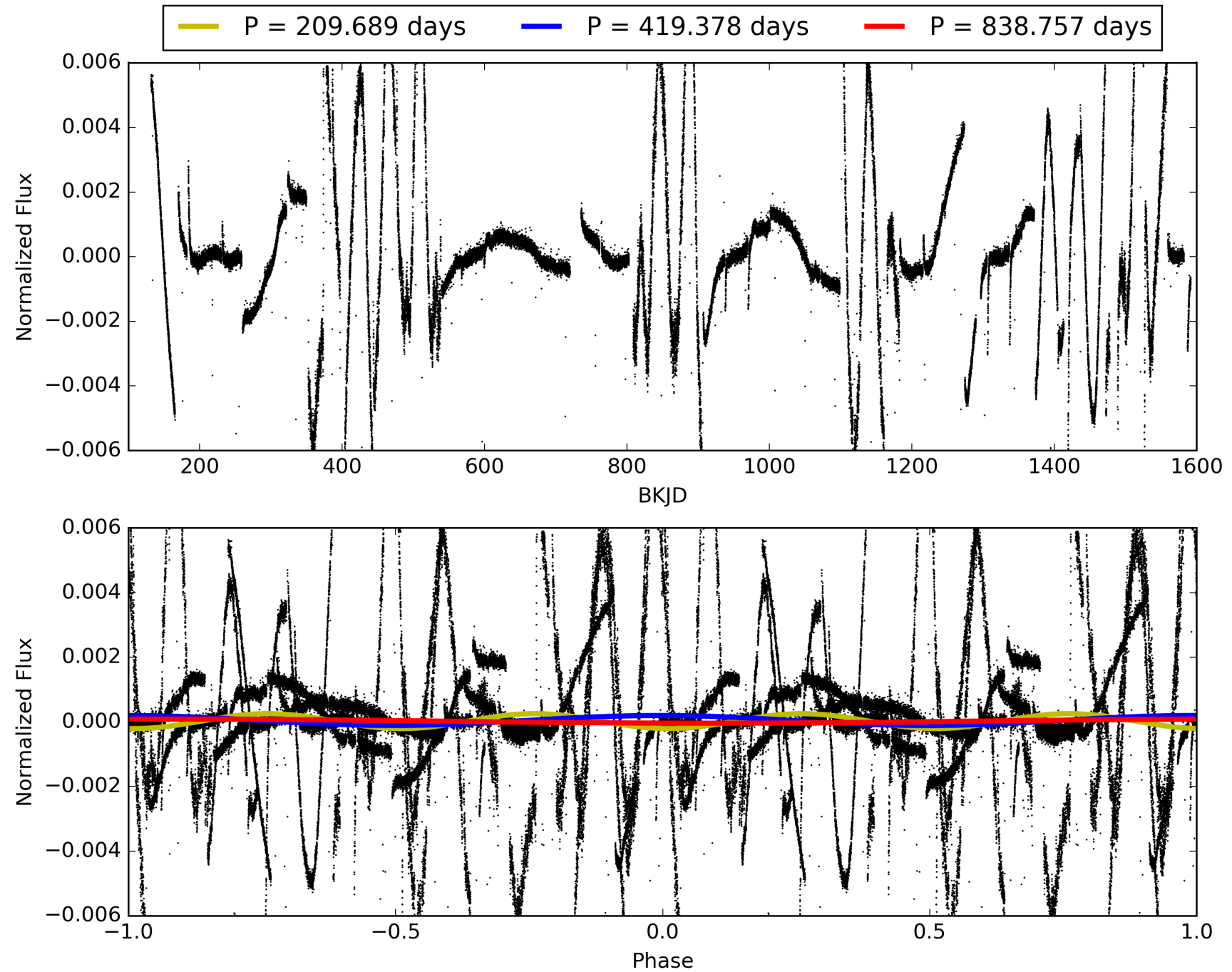
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:55:59 Z

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

TCE 008553907-09, PDC Light Curves

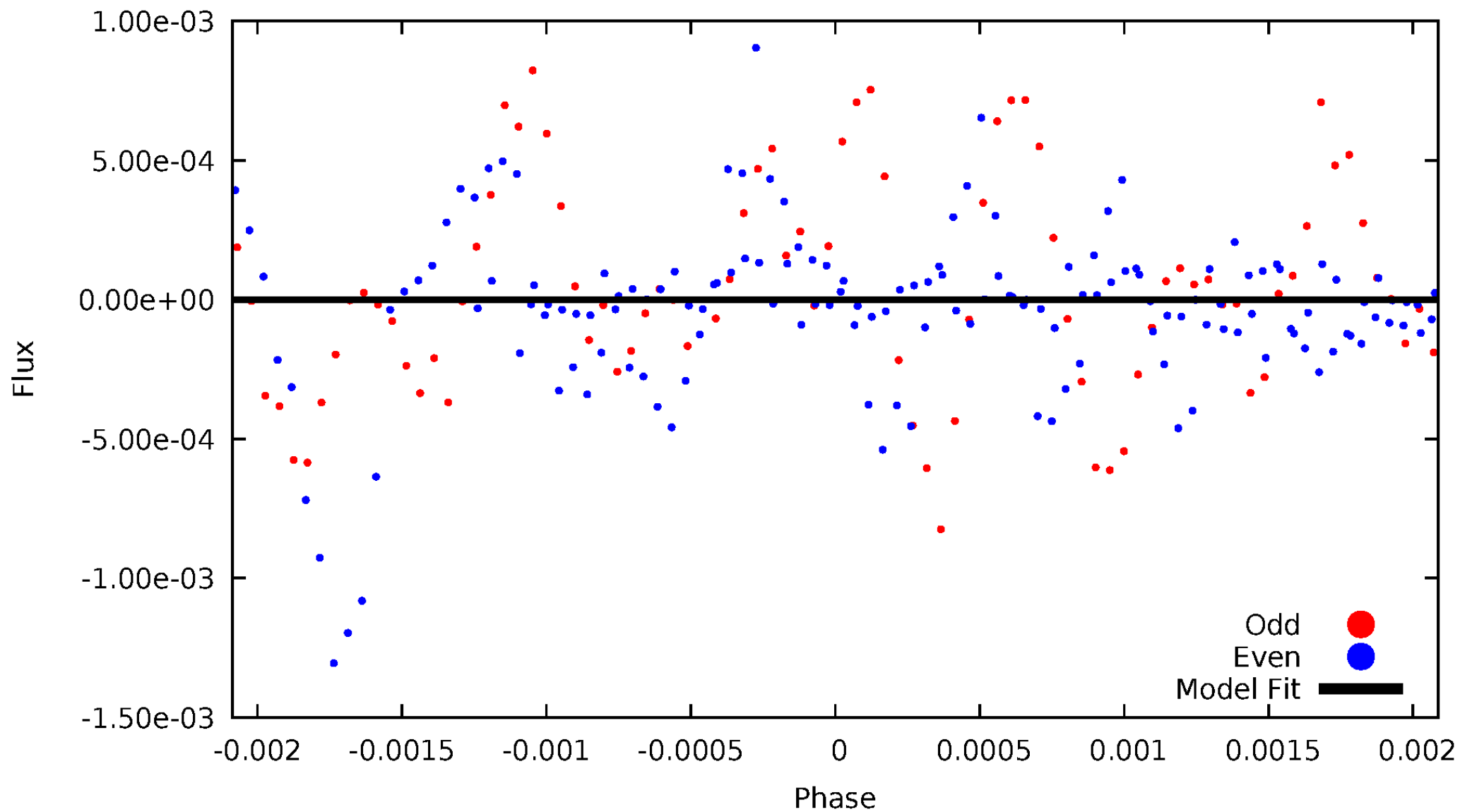


TCE 008553907-09



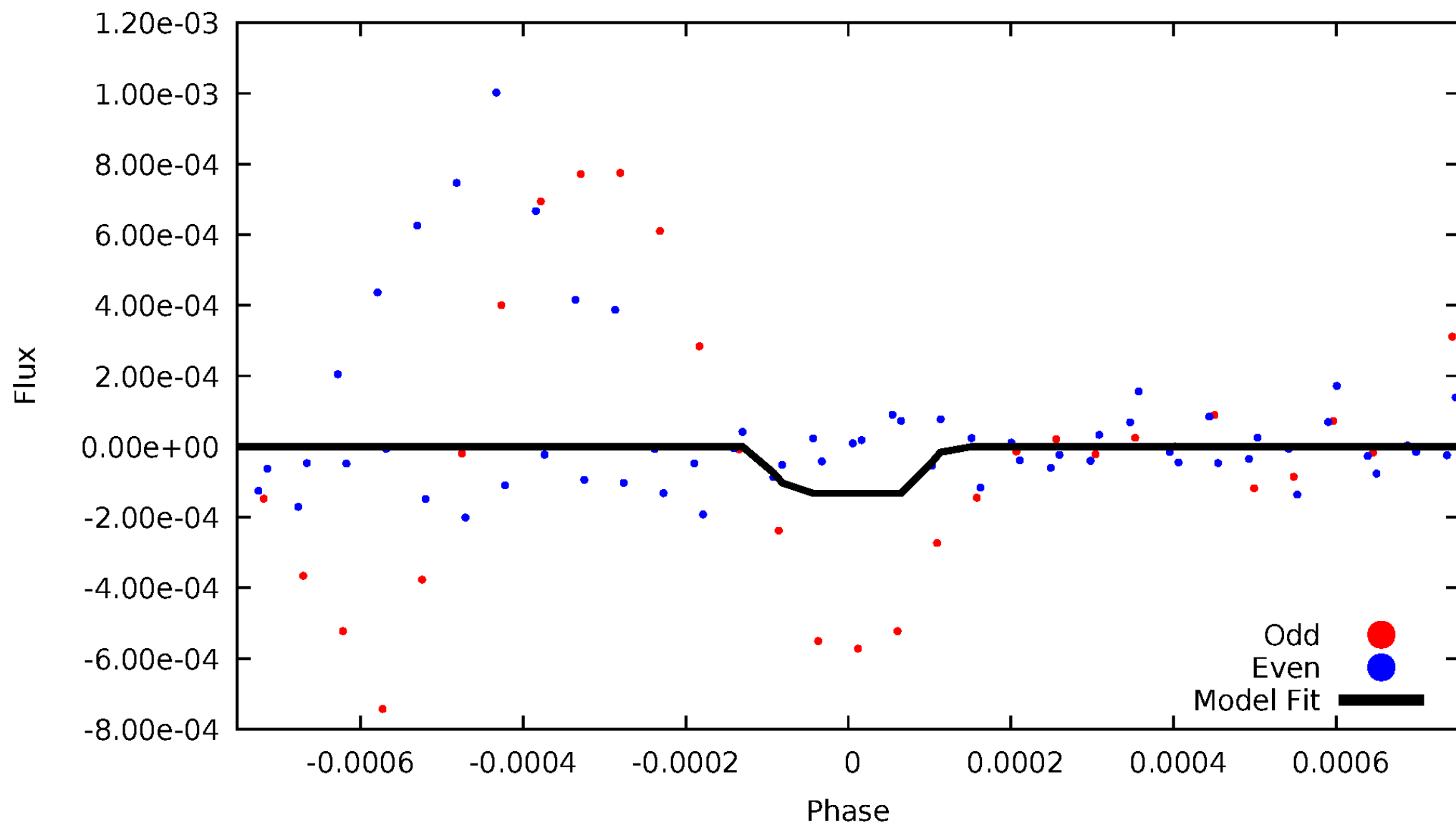
DV Odd/Even

TCE 008553907-09



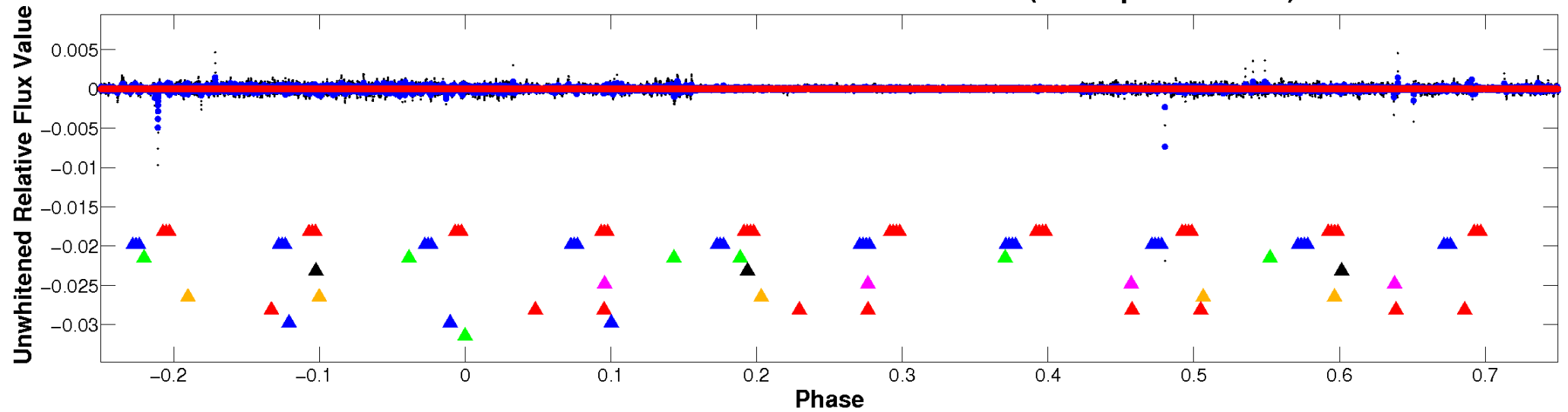
ALT Odd/Even

TCE 008553907-09



Non-Whitened Vs. Whitened Light Curve

Planet 9 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

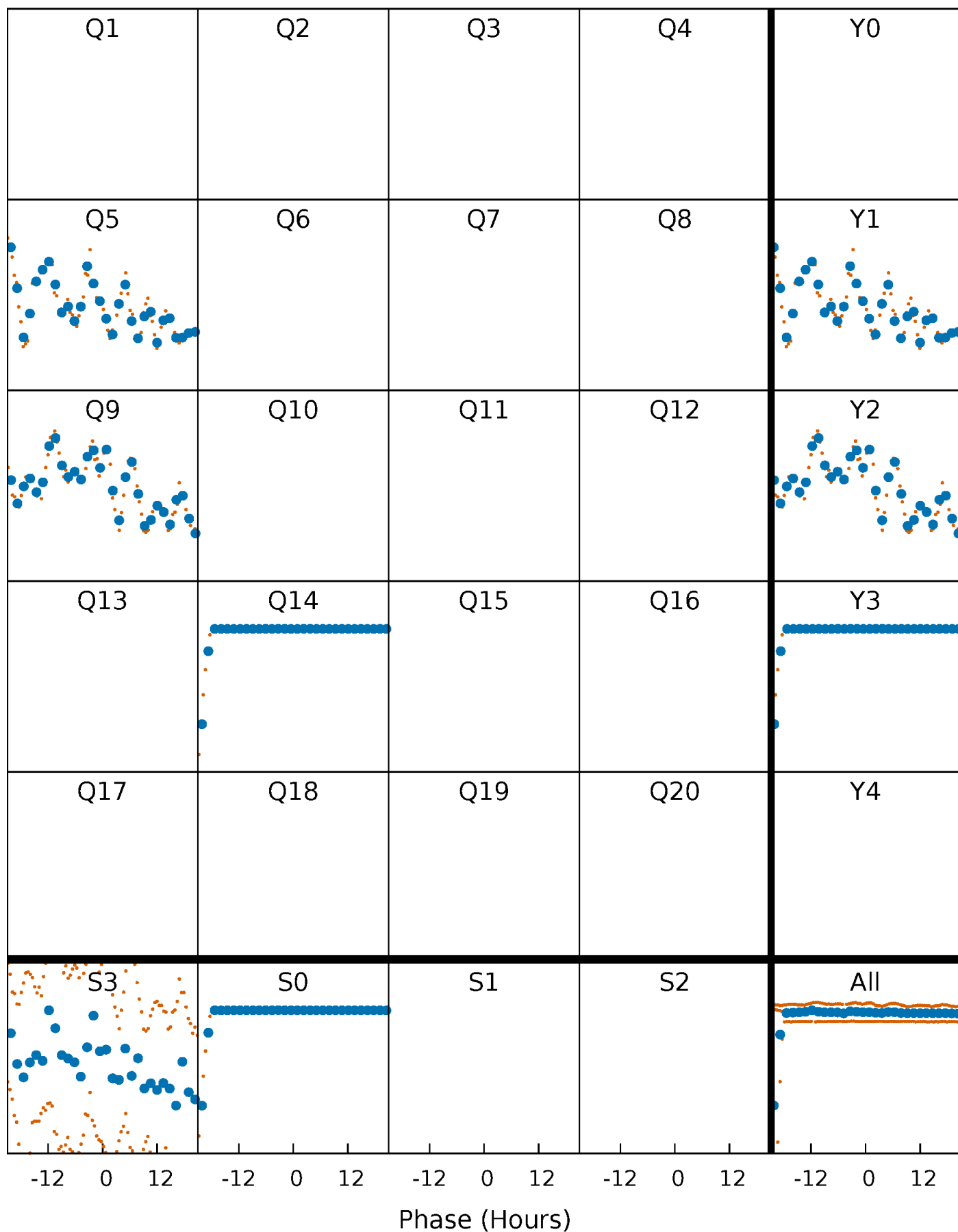


Planet 9 : Phased Whitened Flux Time Series (TPS Epoch/Period)



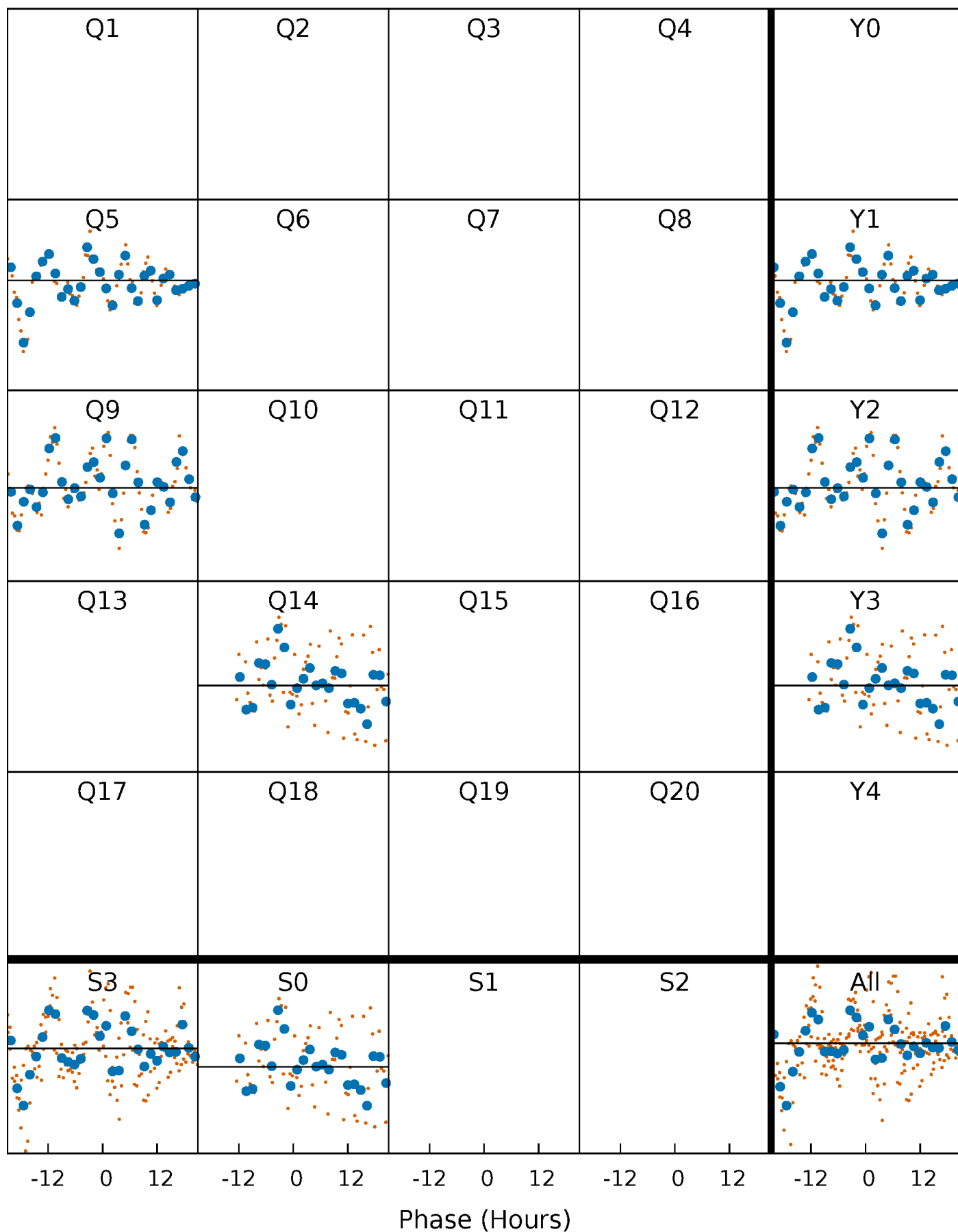
PDC Quarter-Phased Transit Curves

TCE 008553907-09 $P=419.378385$ Days $T_0=472.724201$ (BKJD)



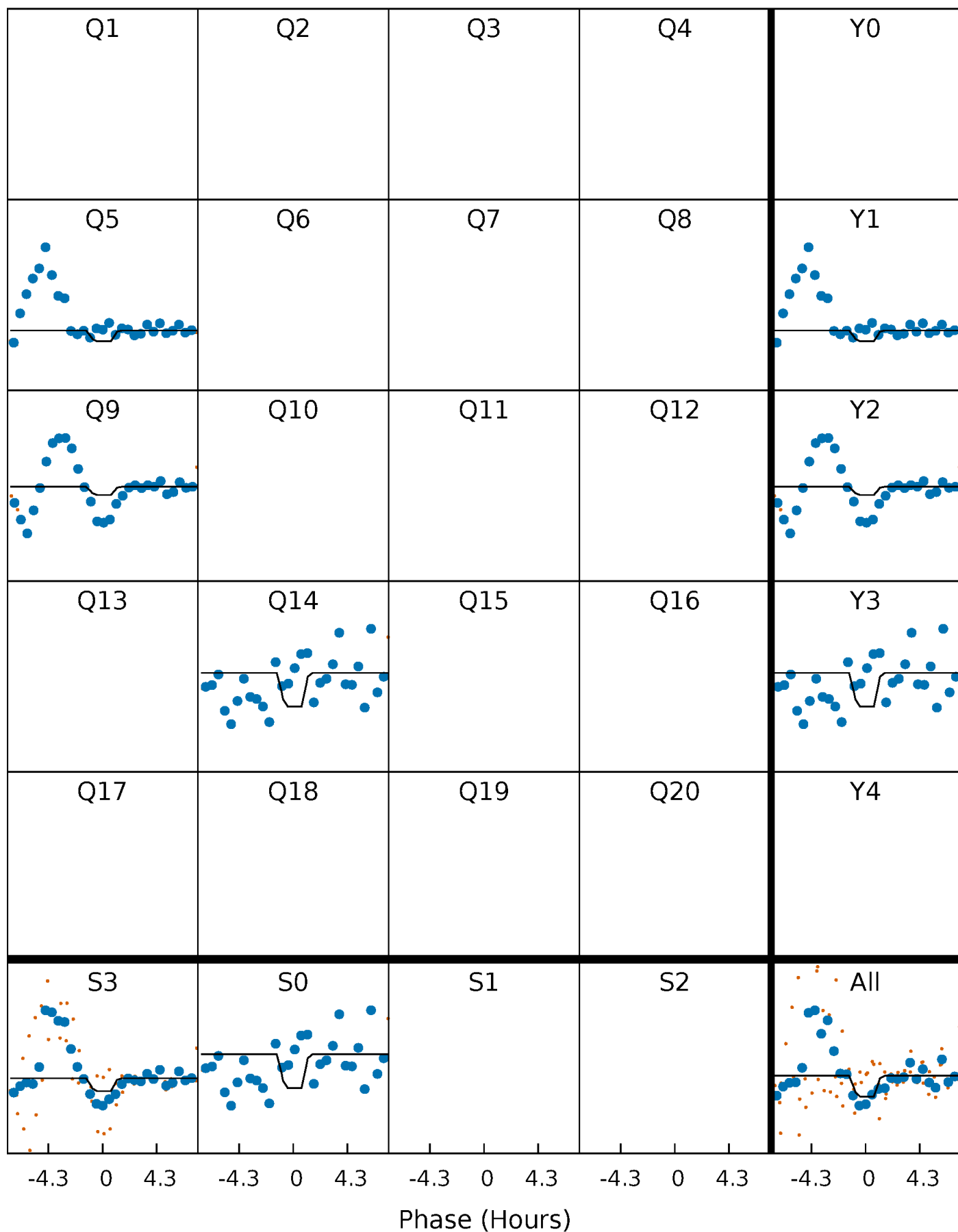
DV Quarter-Phased Transit Curves

TCE 008553907-09 $P=419.378385$ Days $T_0=472.724201$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

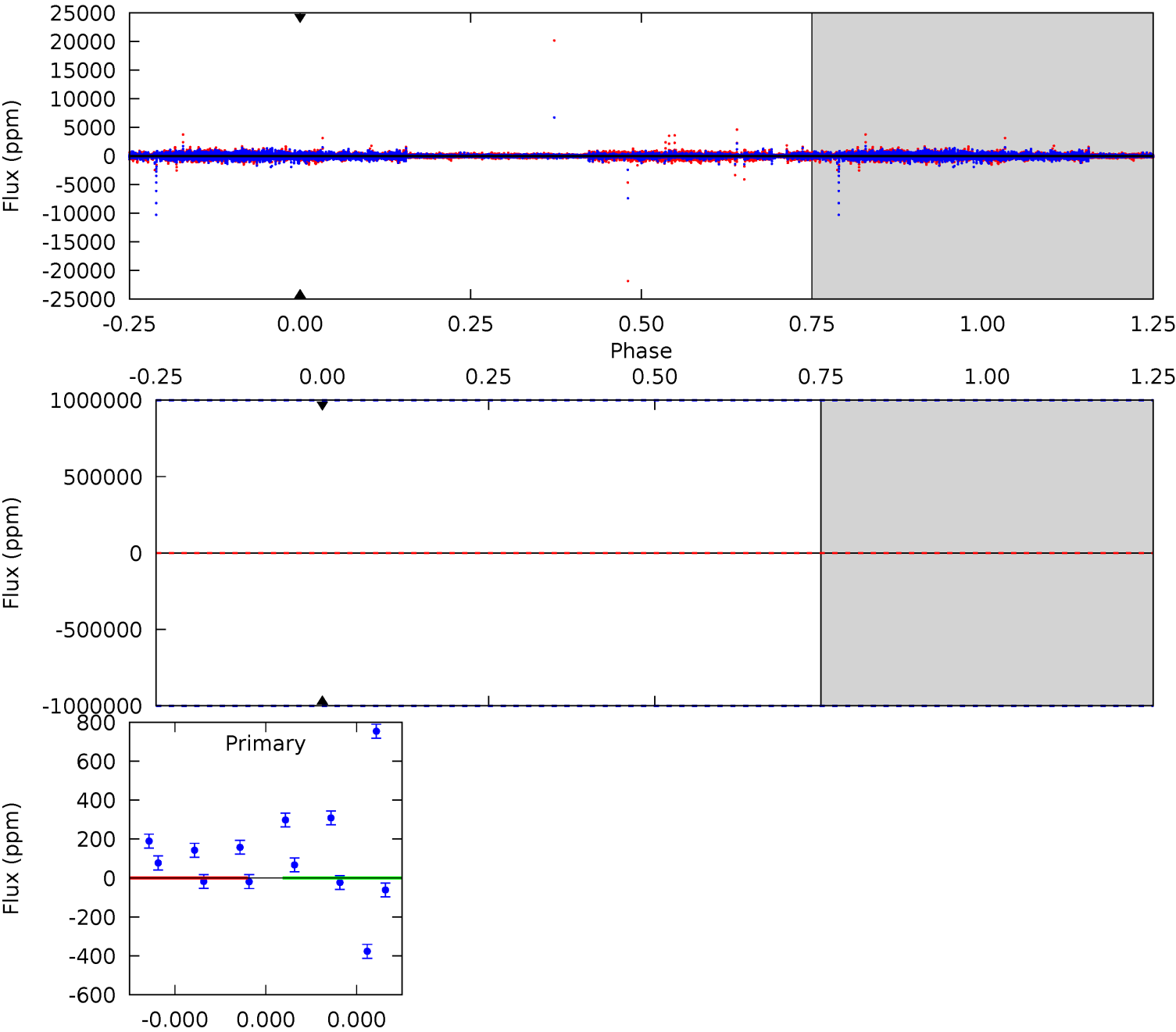
TCE 008553907-09 $P=419.378385$ Days $T_0=473.117852$ (BKJD)



DV Model-Shift Uniqueness Test

008553907-09, P = 419.378385 Days, E = 53.345816 Days

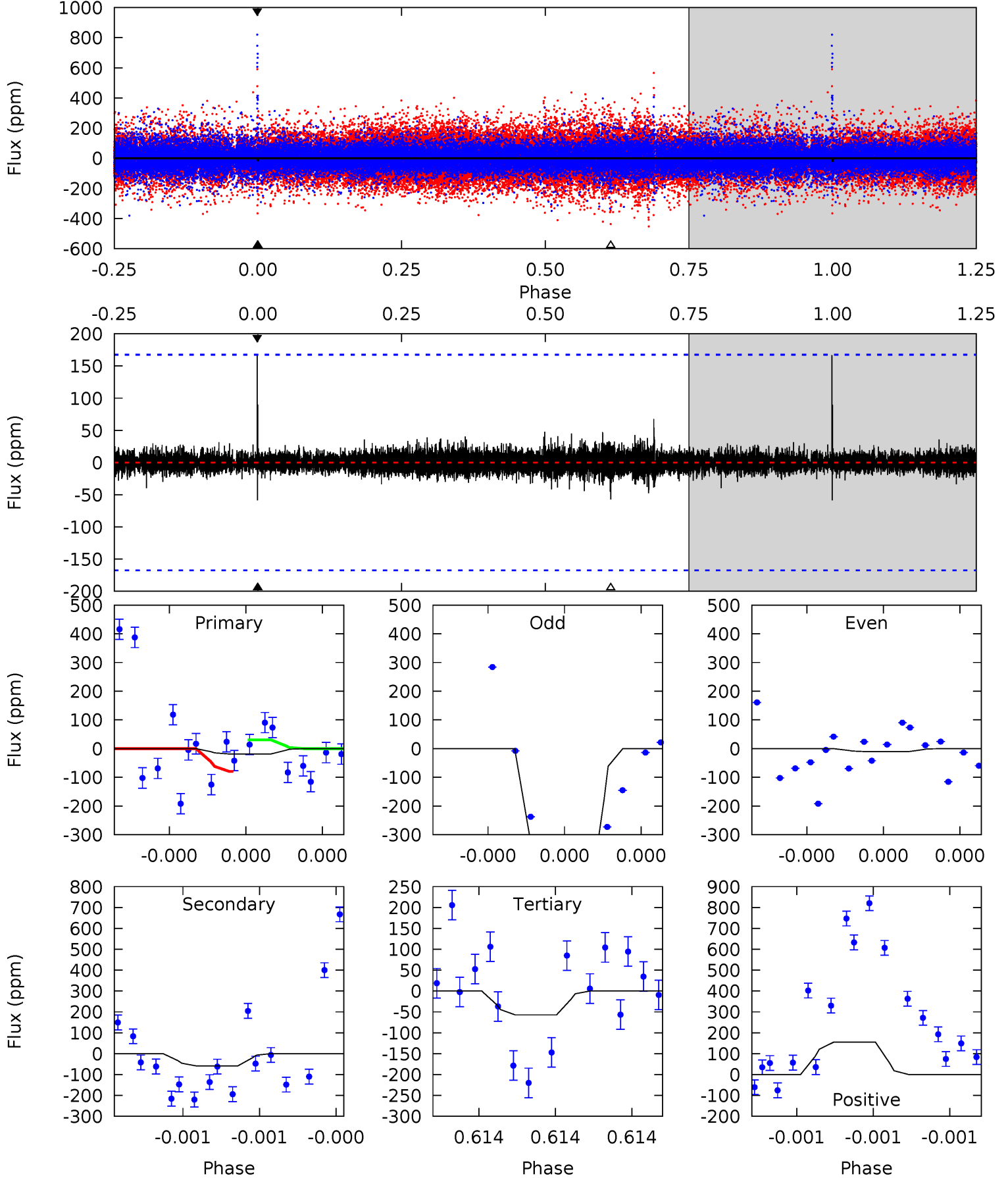
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008553907-09, P = 419.378385 Days, E = 53.739467 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.65	2.01	1.95	5.32	5.73	3.72	0.32	-1.31	-4.68	0.05	-3.32	9.69	-33.5	0.74	0.79



Stellar Parameters For KIC 008553907

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6618^{+148}_{-198}	$4.393^{+0.063}_{-0.147}$	$-0.360^{+0.250}_{-0.300}$	$1.117^{+0.250}_{-0.125}$	$1.128^{+0.125}_{-0.139}$	$1.139^{+0.311}_{-0.464}$
	+2%/-3%	+1%/-3%	+69%/-83%	+22%/-11%	+11%/-12%	+27%/-41%
Source	PHO1	FLK73	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 008553907-09 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$13.31^{+11.66}_{-8.60}$	407^{+24}_{-18}	-2912^{+21148}_{-13342}	$-1055.277^{+686439.002}_{-541884.770}$
Alt.	-59 ± 29	$9.05^{+9.68}_{-6.49}$	407^{+22}_{-17}	2807^{+1274}_{-508}	435^{+4619}_{-349}

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 $A_{obs} \gg 1.0$

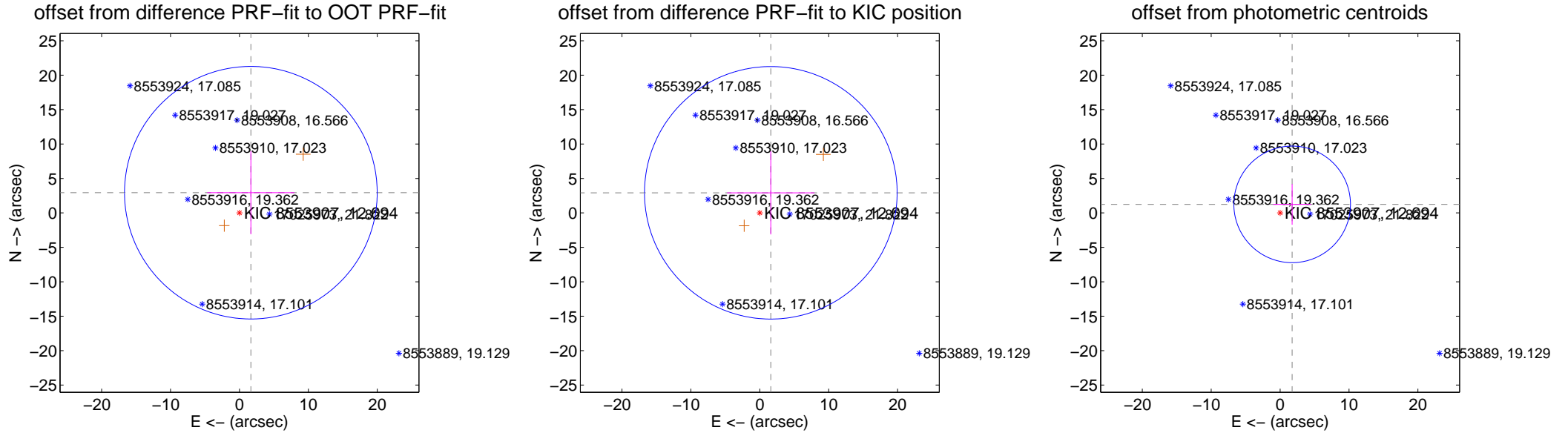
DV Centroid Data

Supplemental centroid analysis for 008553907-09. Kepler magnitude: 12.69. 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 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.370 ± 6.113	0.55	-1.654 ± 6.330	2.936 ± 6.043
PRF-fit source offset from KIC position	3.330 ± 6.112	0.54	-1.601 ± 6.344	2.919 ± 6.040
photometric centroid source offset	2.15 ± 2.82	0.76	-1.75 ± 2.76	1.24 ± 2.95

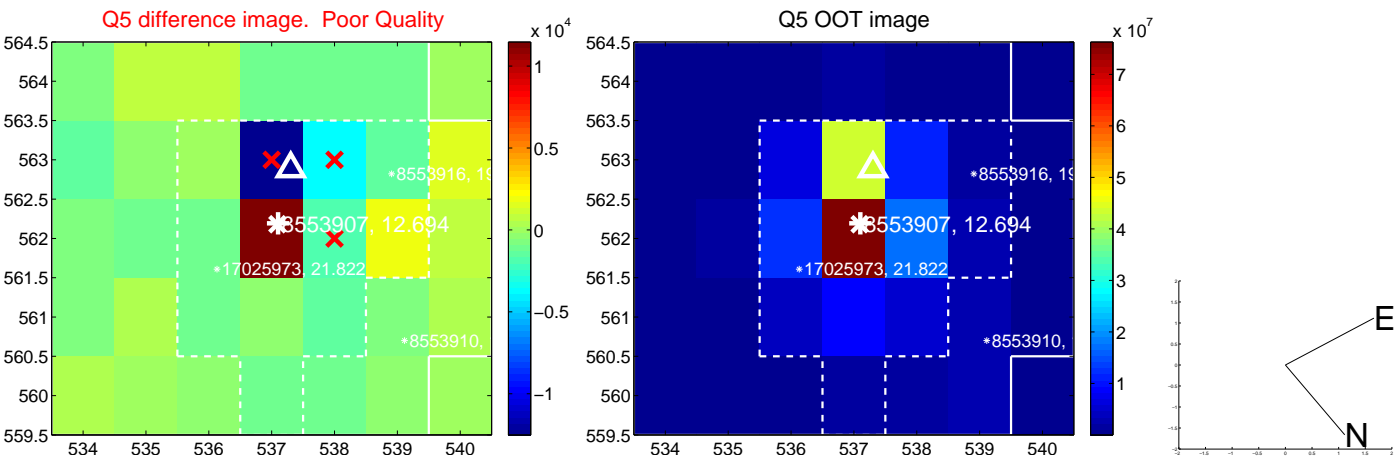


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

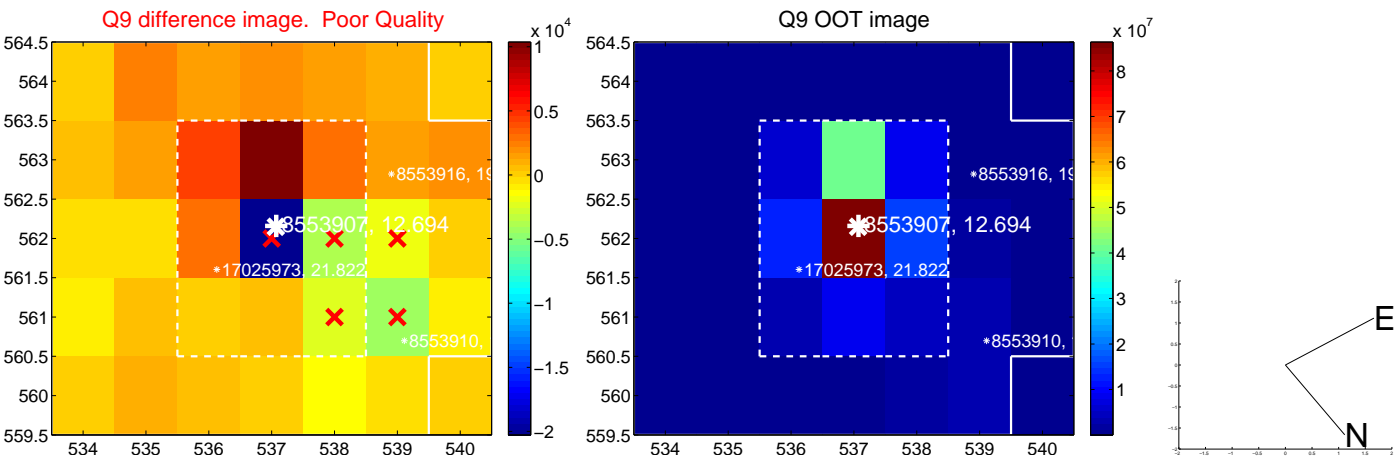
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



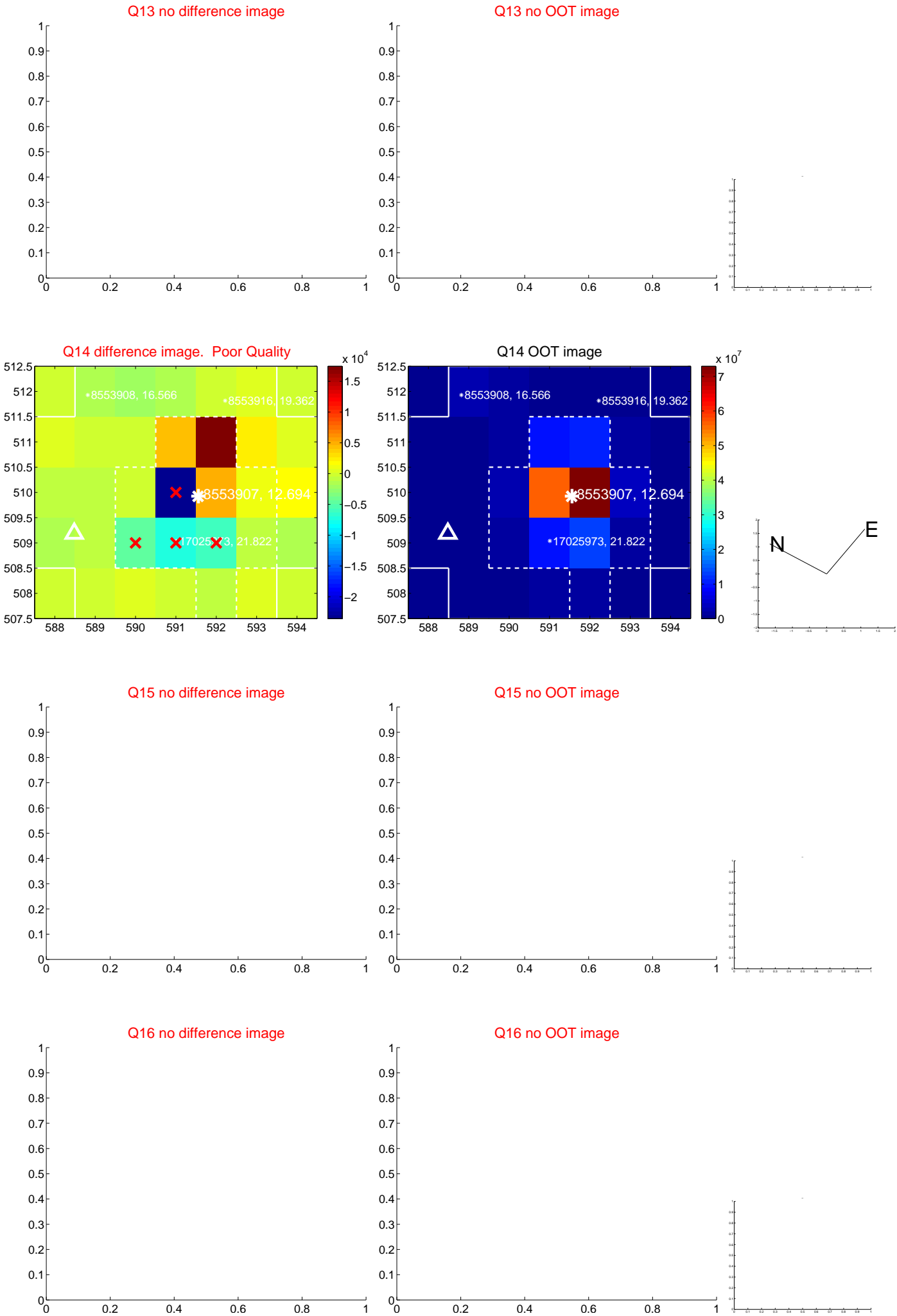
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



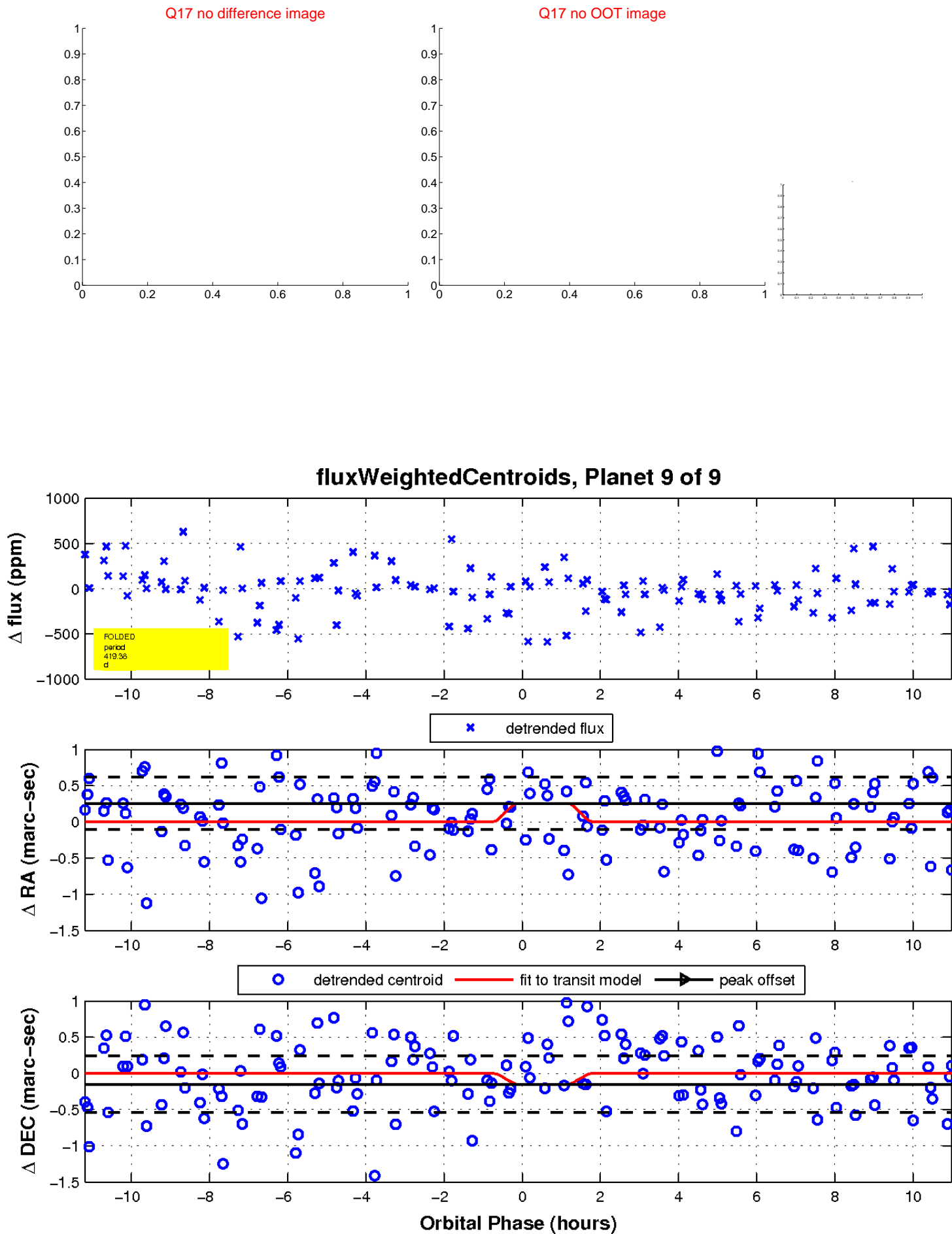
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

