

KIC 005564082

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})
005564082-01	OBS	No	1.803659	131.841511	23.8	10.571	11.2	8.7	1.08	5899	0.52	1450.60
005564082-02	OBS	No	207.117508	264.274806	457.8	3.147	14.1	6.5	1.08	5899	2.68	2.60
005564082-03	OBS	No	420.337323	481.060818	3649.4	34.460	10.4	8.0	1.08	5899	6.45	1.01
005564082-05	OBS	No	281.373974	152.665943	44.6	18.551	11.2	0.2	1.08	5899	0.72	1.73
005564082-06	OBS	No	222.223595	235.030701	325.1	6.531	17.0	3.4	1.08	5899	2.05	2.37
005564082-07	OBS	No	139.361843	136.491682	308.6	5.114	9.4	4.9	1.08	5899	2.10	4.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005564082-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
005564082-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—CENT_SATURATED
005564082-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
005564082-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
005564082-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
005564082-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—CENT_SATURATED

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

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

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

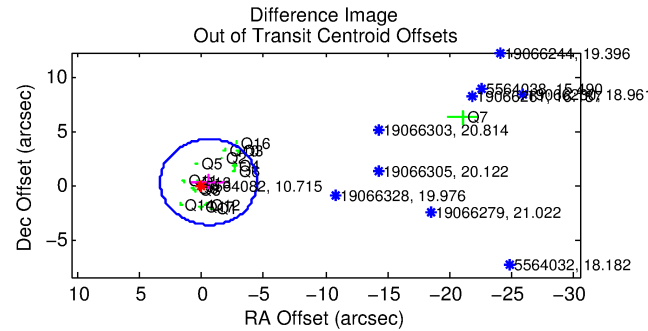
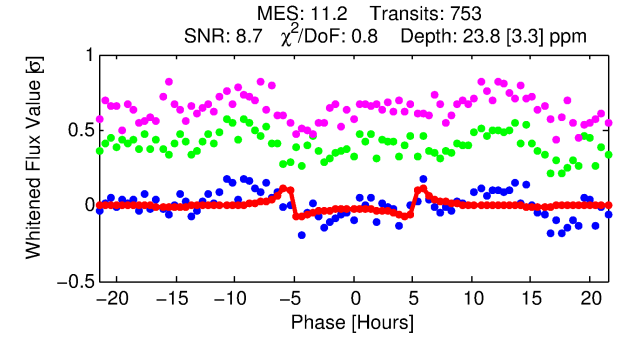
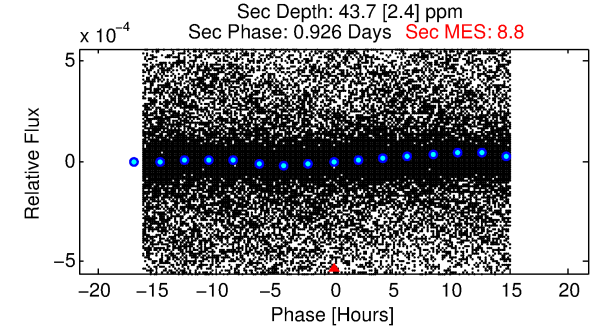
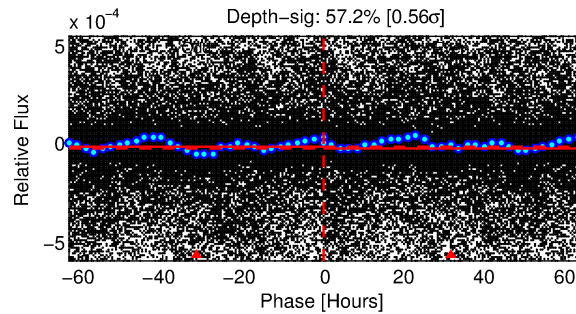
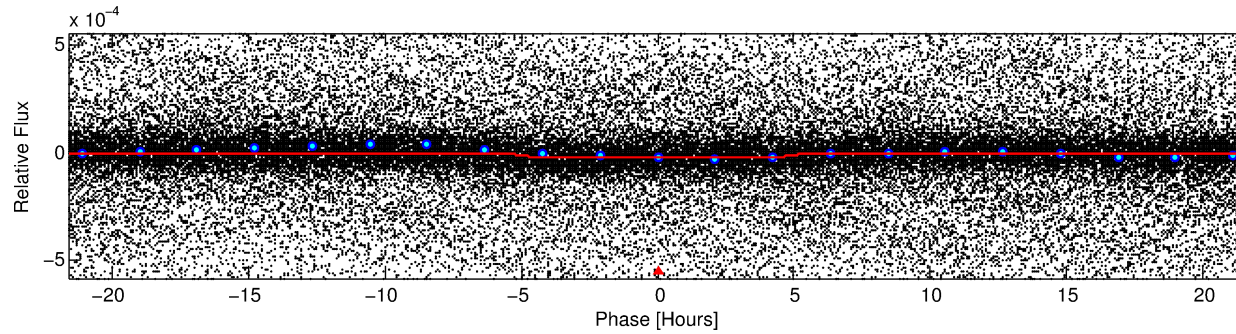
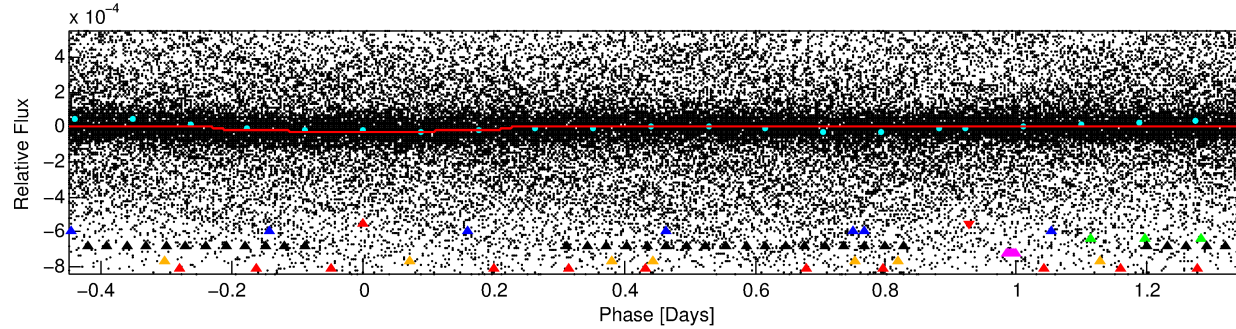
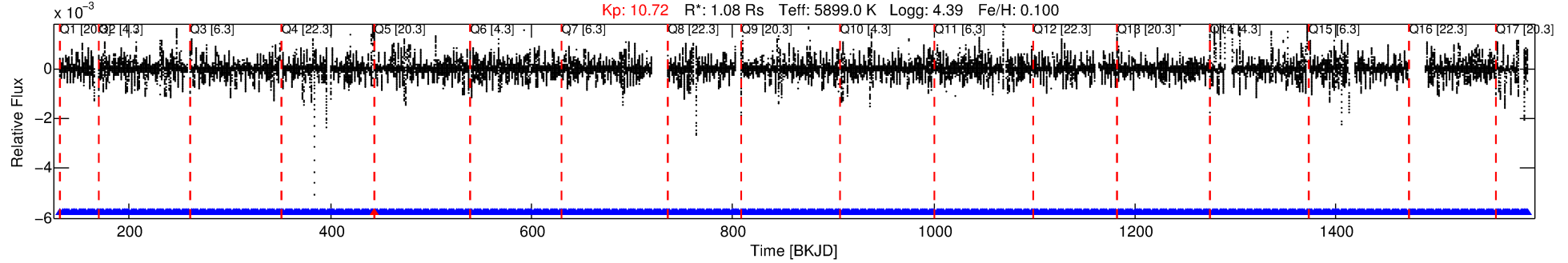
Ephemeris Match Information For 005564082-01

No Significant Match Found

DV One-Page Summary

KIC: 5564082 Candidate: 1 of 7 Period: 1.804 d
KOI: K06600 Corr: No Ephemeris Match

Kp: 10.72 R*: 1.08 Rs Teff: 5899.0 K Logg: 4.39 Fe/H: 0.100



DV Fit Results:

Period = 1.80366 [0.00001] d
Epoch = 131.8415 [0.0024] BKJD
Rp/R* = 0.0044 [0.0019]
a/R* = 1.45 [1.49]
b = 0.03 [62.57]
Seff = 1450.60 [329.52]
Teq = 1574 [89] K
Rp = 0.52 [0.24] Re
a = 0.0295 [0.0043] AU
Ag = 76.96 [67.69] [1.12σ]
Teffp = 7207 [1538] K [3.66σ]

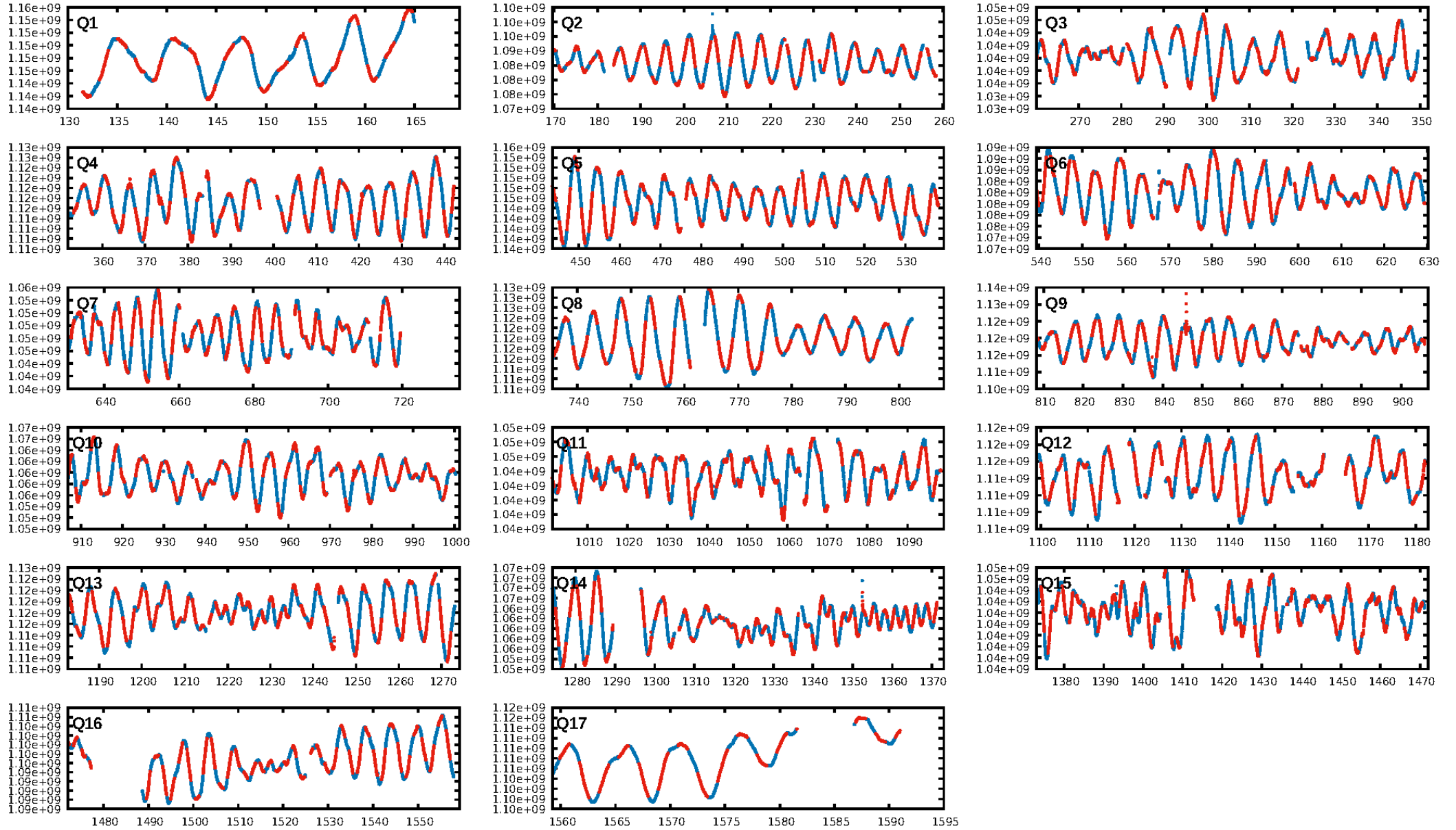
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [79.38σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.05e-23
RollingBand-fgt: 1.00 [718/719]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 2.362 arcsec [3.69σ]
OotOffset-rm: 0.715 arcsec [0.55σ]
KicOffset-rm: 0.610 arcsec [0.75σ]
OotOffset-st: 4/3/4/5 [16]
KicOffset-st: 4/3/4/5 [16]
DiffImageQuality-fgm: 0.81 [13/16]
DiffImageOverlap-fno: 1.00 [17/17]

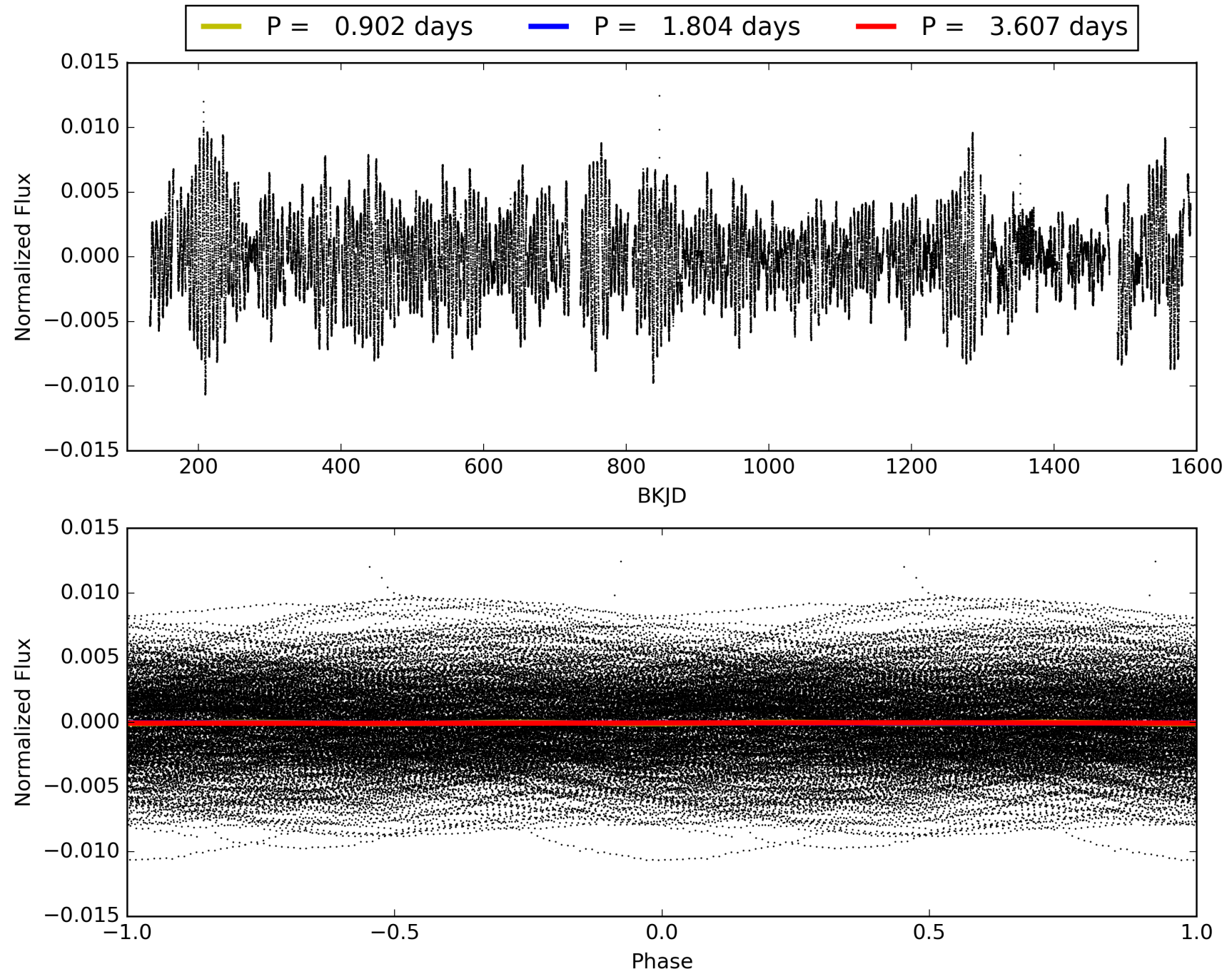
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:46:35 Z

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

TCE 005564082-01, PDC Light Curves

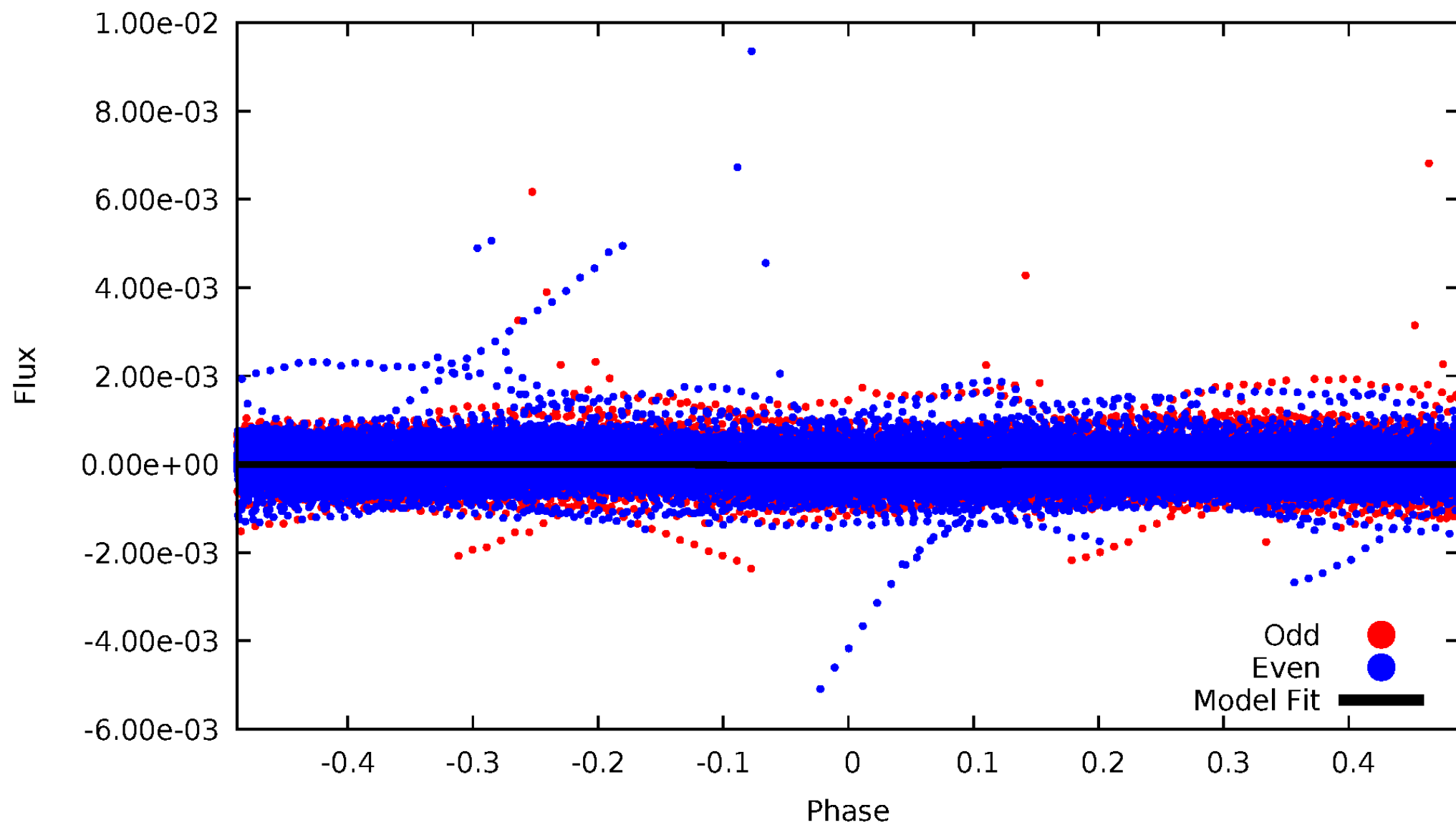


TCE 005564082-01



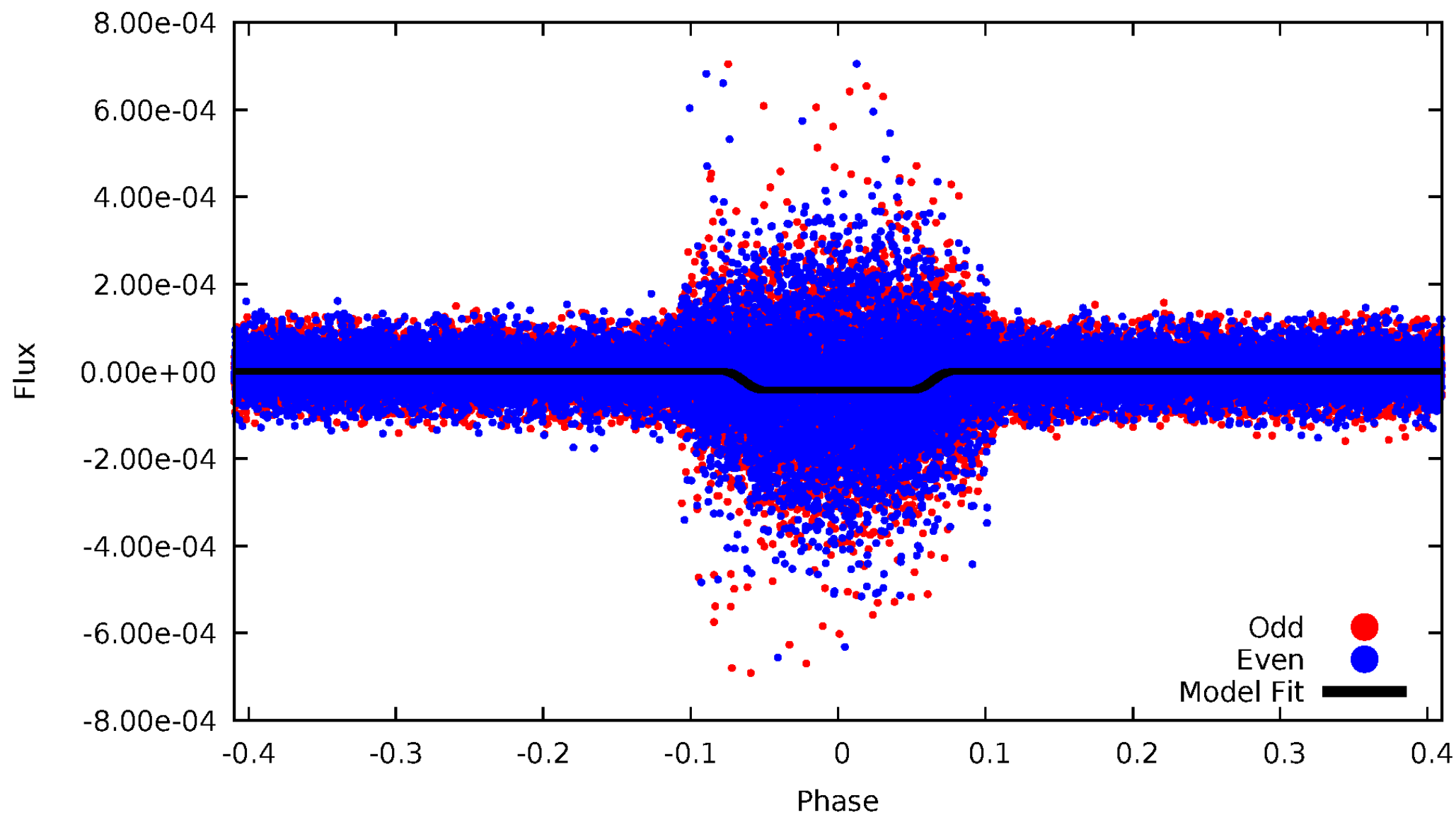
DV Odd/Even

TCE 005564082-01

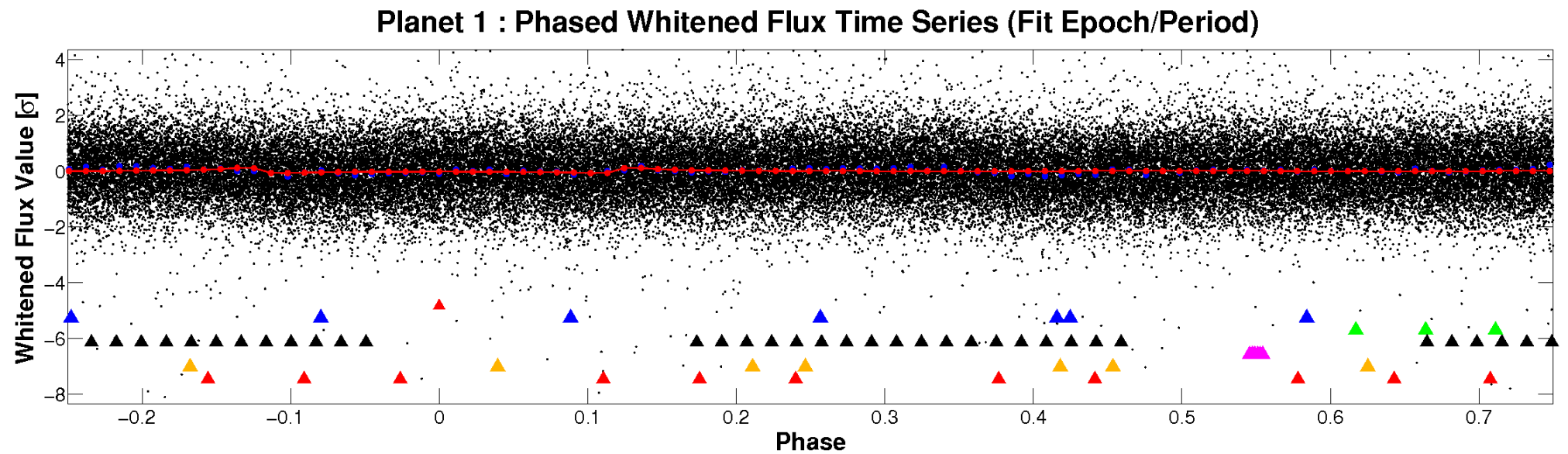
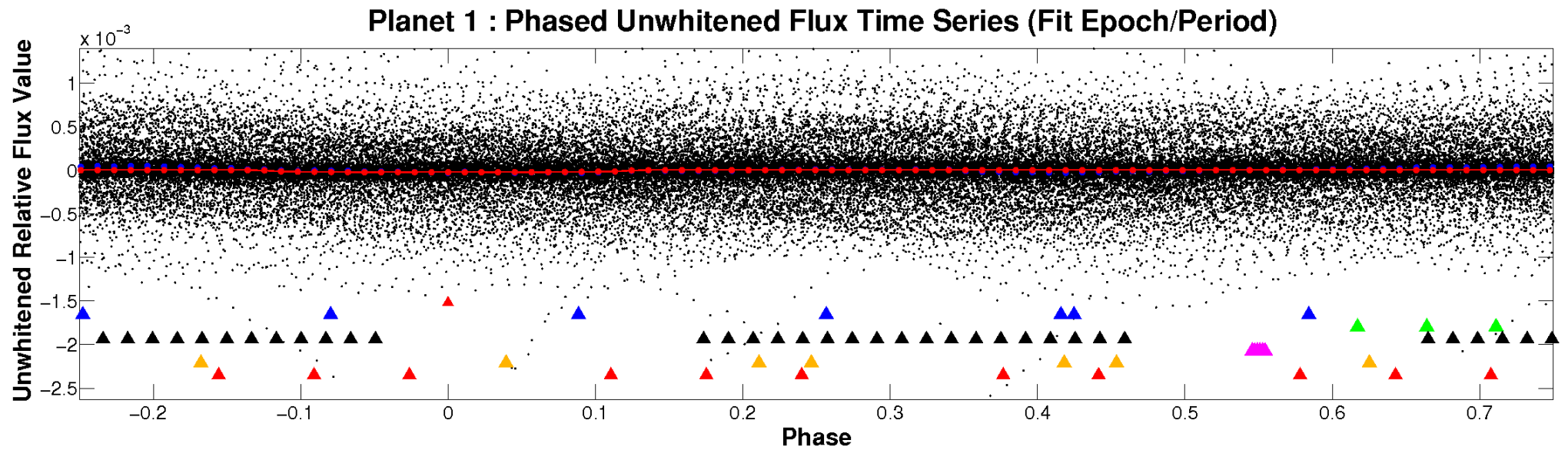


ALT Odd/Even

TCE 005564082-01

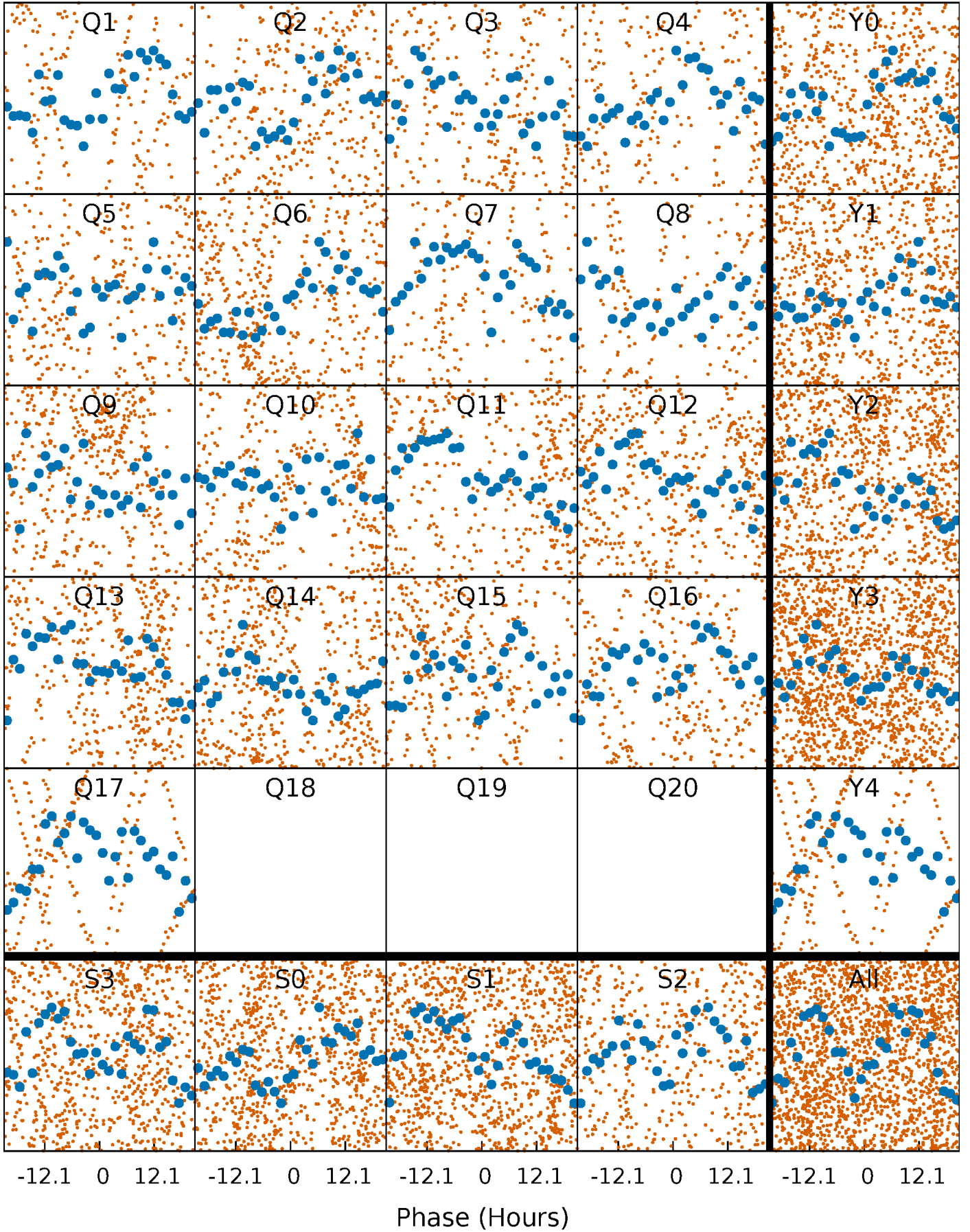


Non-Whitened Vs. Whitened Light Curve



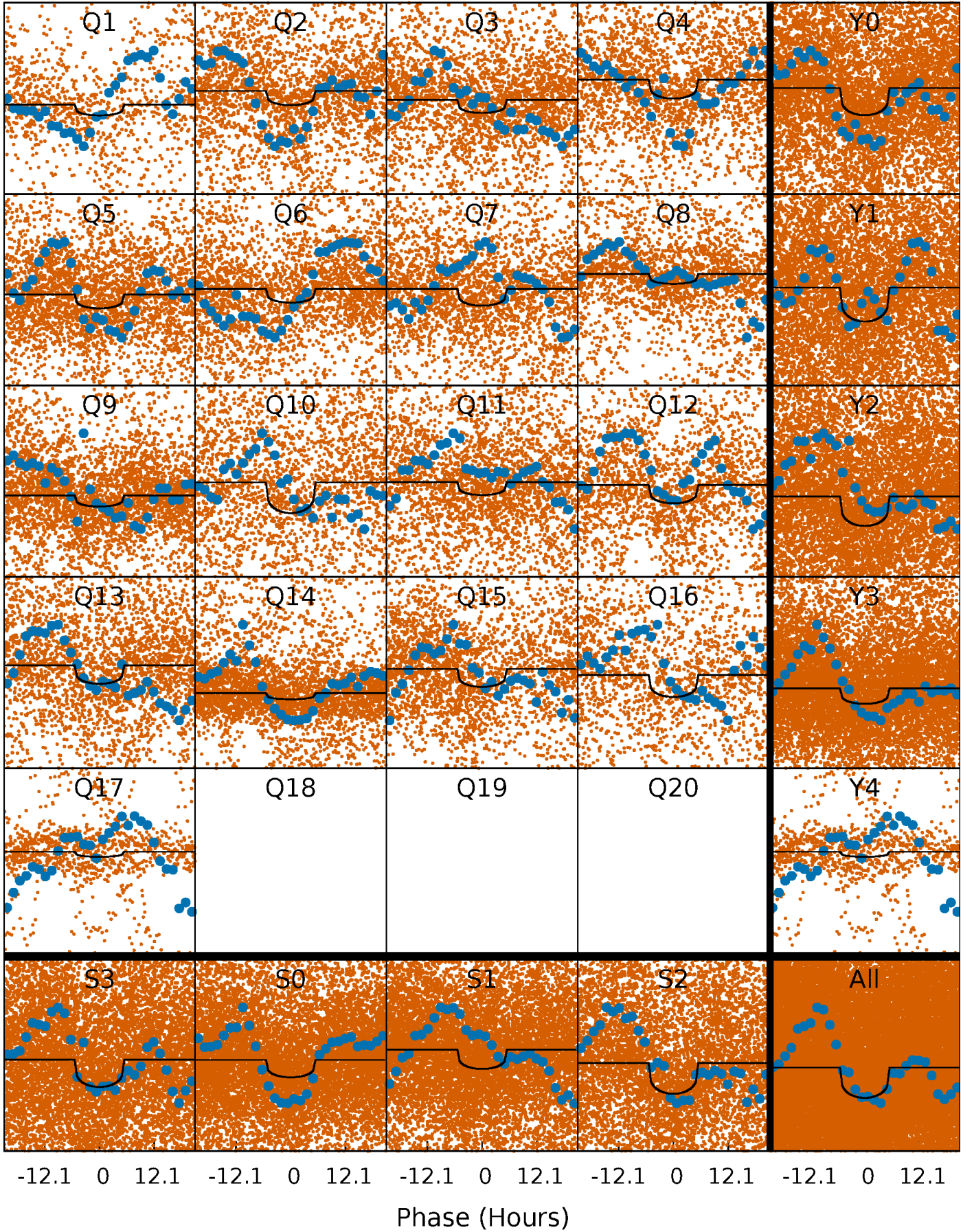
PDC Quarter-Phased Transit Curves

TCE 005564082-01 P= 1.803659 Days $T_0=131.841511$ (BKJD)



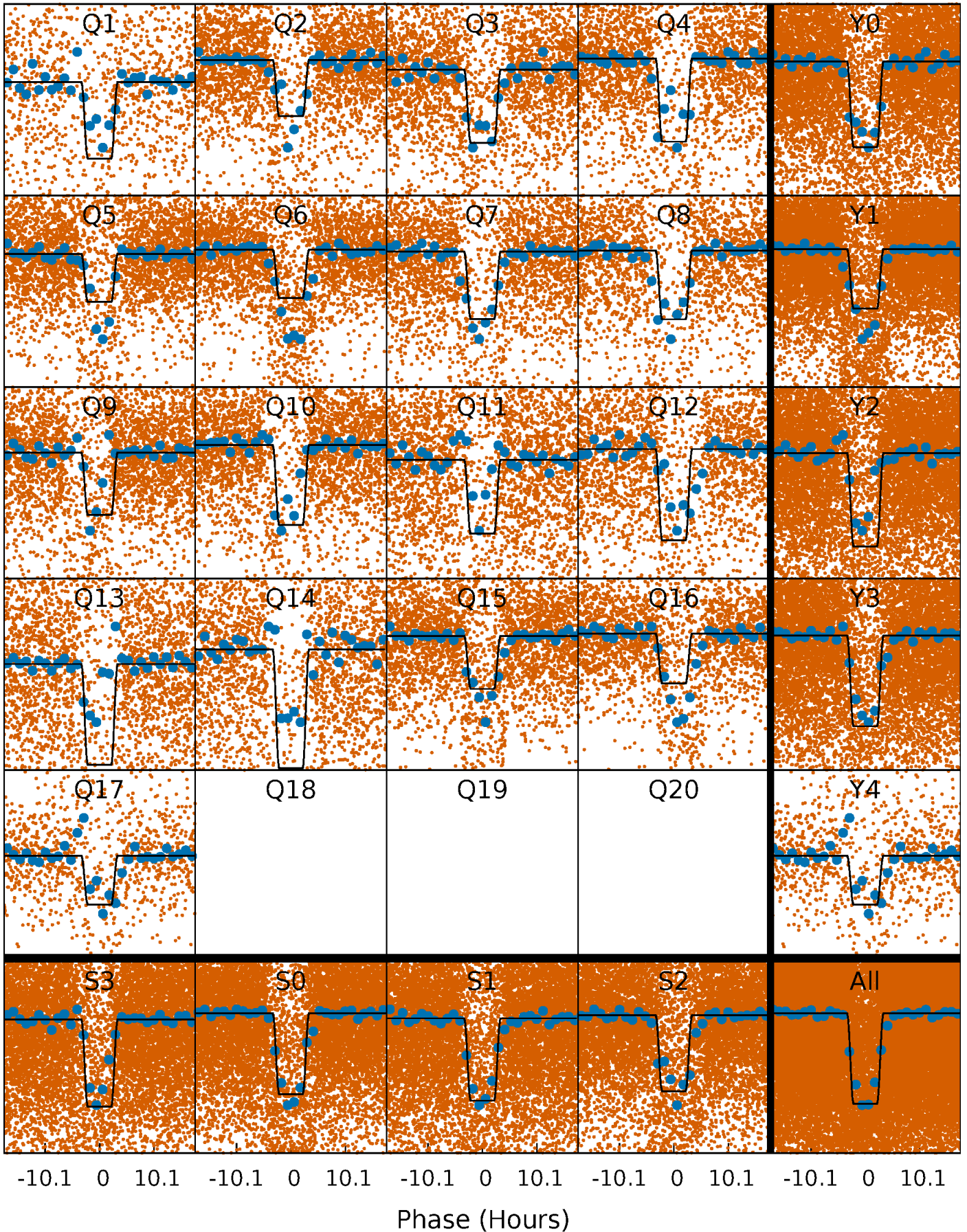
DV Quarter-Phased Transit Curves

TCE 005564082-01 P= 1.803659 Days $T_0=131.841511$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

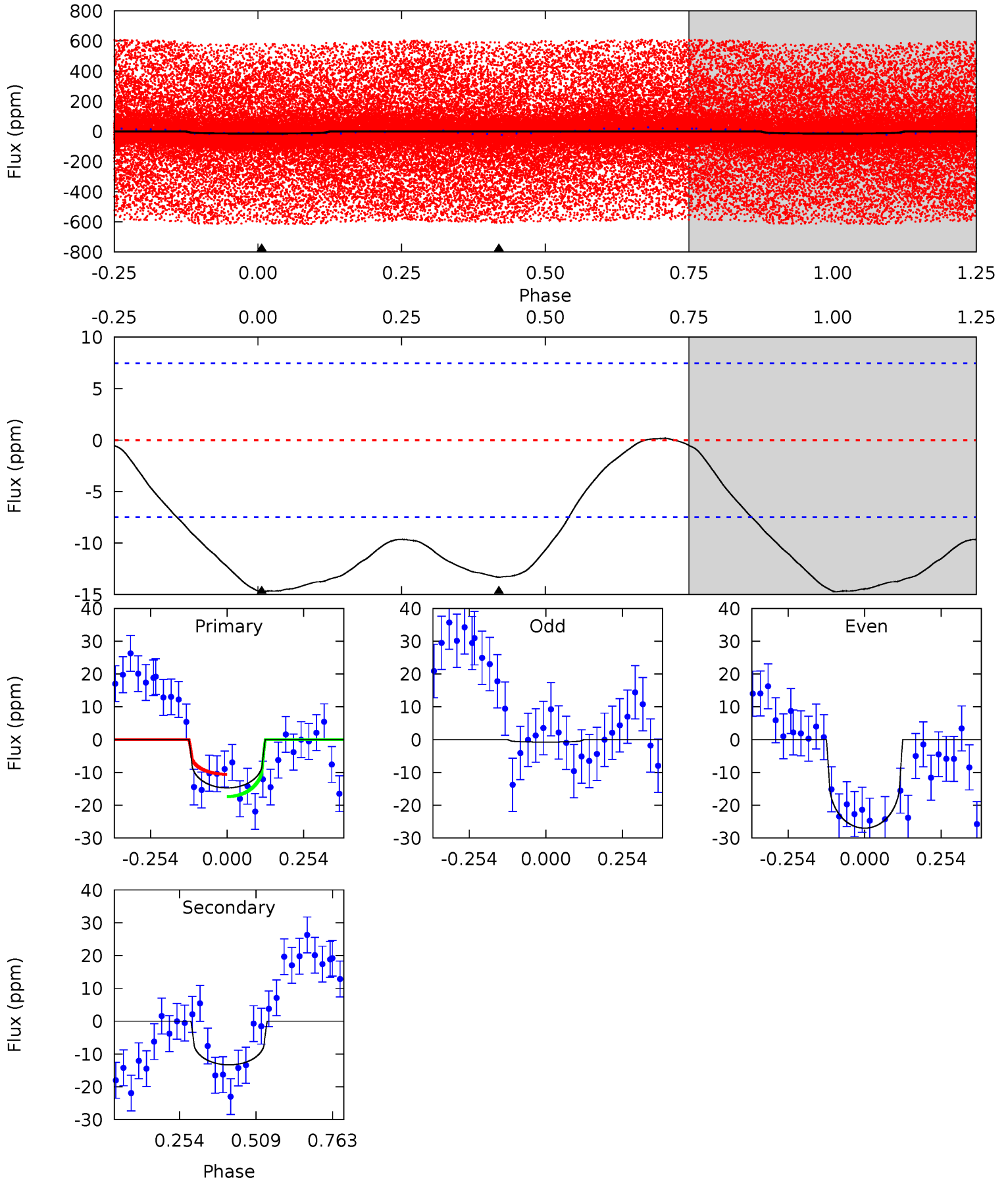
TCE 005564082-01 P= 1.803835 Days $T_0=131.639188$ (BKJD)



DV Model-Shift Uniqueness Test

005564082-01, P = 1.803659 Days, E = 130.037852 Days

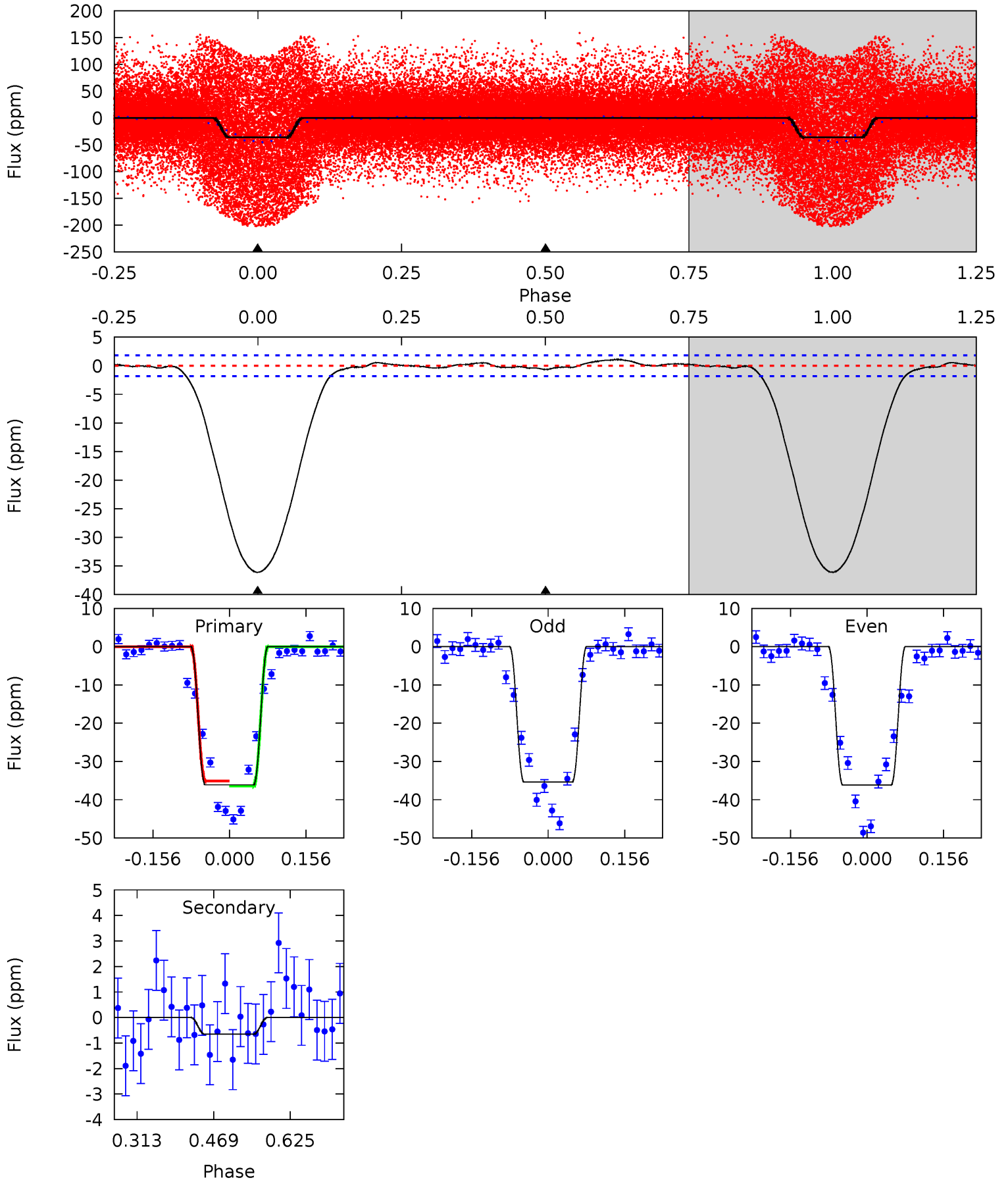
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.61	7.78	0	0	4.36	1.14	0.17	8.61	8.61	7.78	7.78	7.85	1.82	0.01	1.99



Alt Model-Shift Uniqueness Test

005564082-01, P = 1.803835 Days, E = 131.639188 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
88.8	1.61	0	0	4.47	1.42	0.61	88.8	88.8	1.61	1.61	0.97	0.97	0.03	1.59



Stellar Parameters For KIC 005564082

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5899^{+70}_{-88}	$4.394^{+0.066}_{-0.123}$	$0.100^{+0.150}_{-0.150}$	$1.078^{+0.180}_{-0.097}$	$1.051^{+0.074}_{-0.067}$	$1.181^{+0.315}_{-0.421}$
	+1%/-1%	+2%/-3%	+150%/-150%	+17%/-9%	+7%/-6%	+27%/-36%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 005564082-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-13 ± 2	$0.53^{+0.23}_{-0.22}$	2211^{+93}_{-69}	5344^{+1760}_{-707}	23^{+46}_{-12}
Alt.	-1 ± 0	$0.80^{+0.23}_{-0.23}$	2210^{+92}_{-68}	2414^{+562}_{-4831}	$0.452^{+0.656}_{-0.303}$

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 $A_{obs} \gg 1.0$

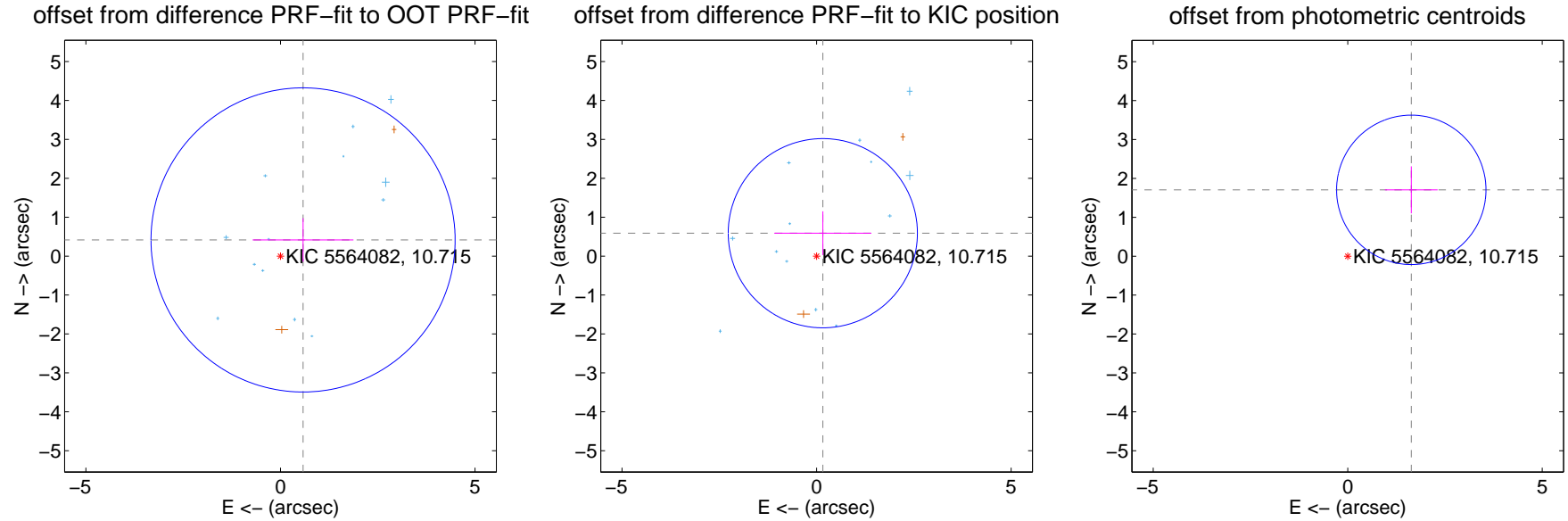
DV Centroid Data

Supplemental centroid analysis for 005564082-01. **Kepler magnitude: 10.71.** Transit SNR 8.71

There are 13 quarters with good PRF difference image offsets

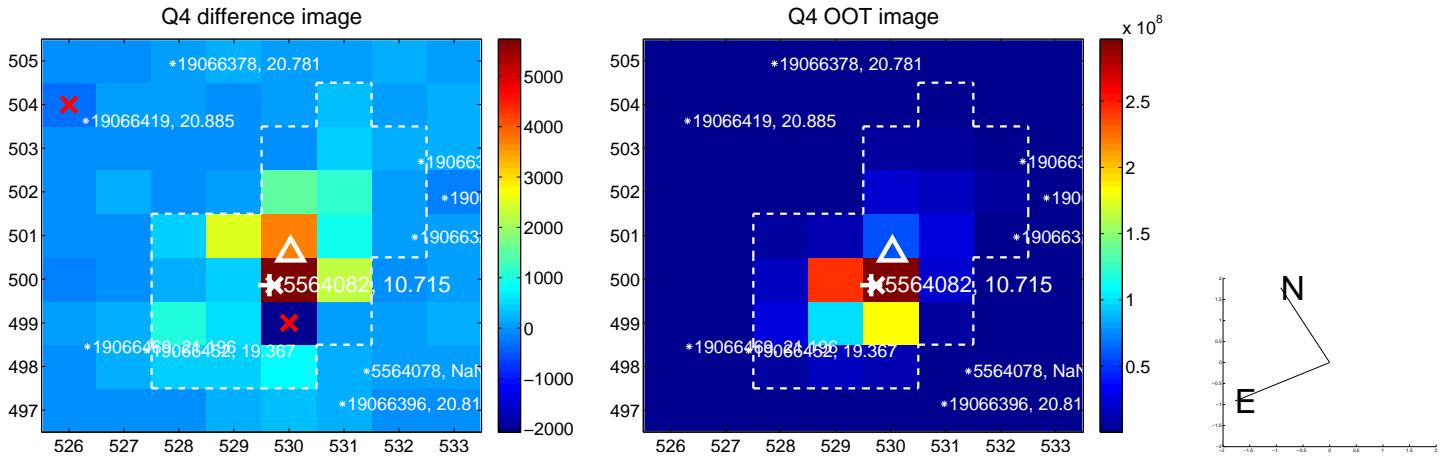
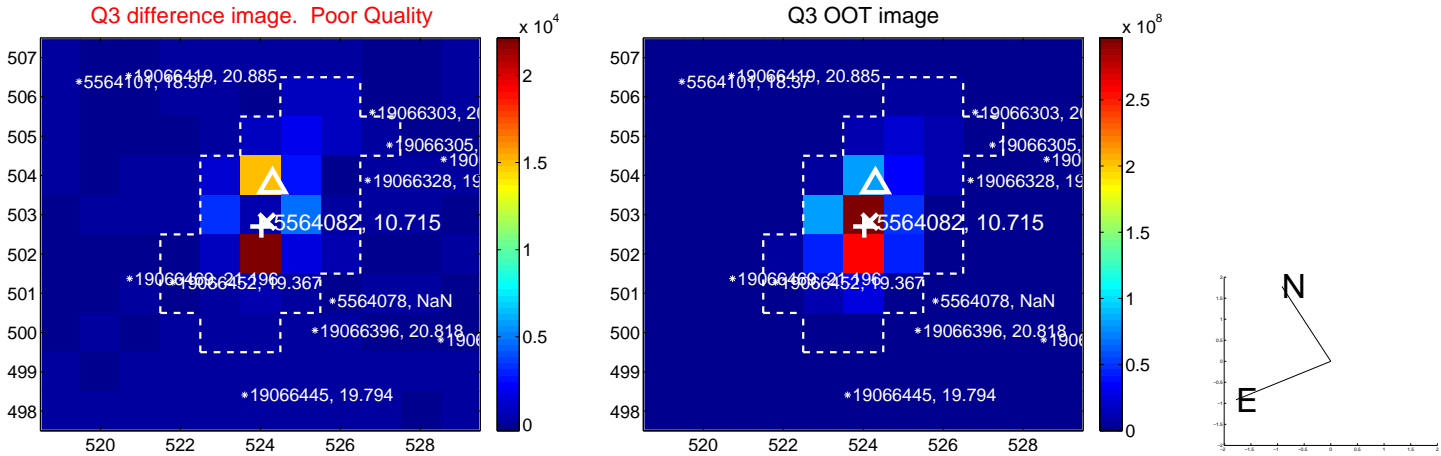
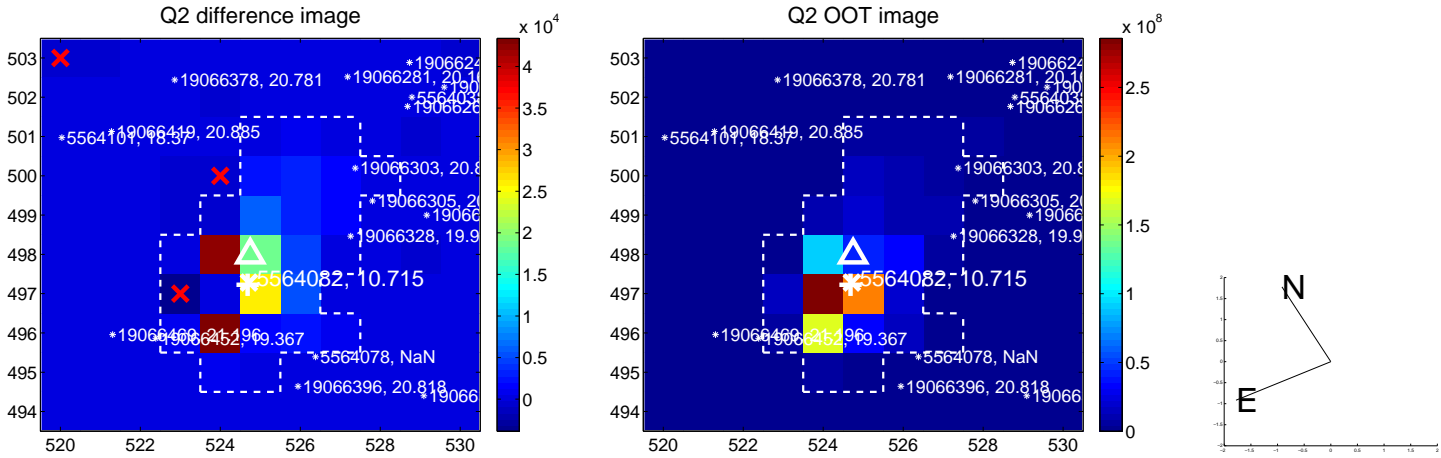
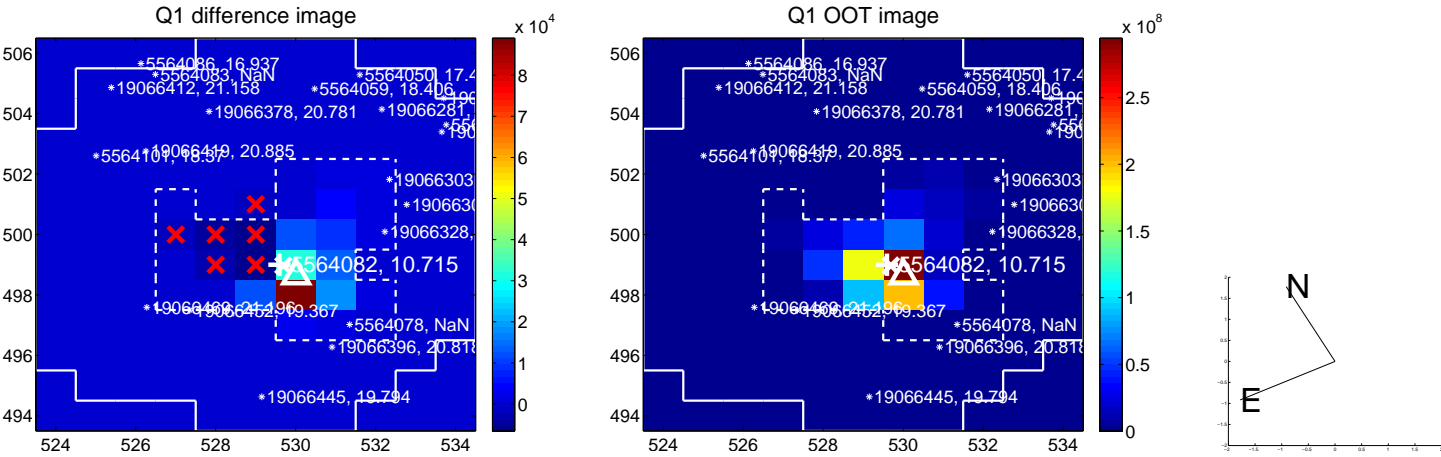
The direct PRF centroid is offset from the target star catalog position by about 0.54 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.715 ± 1.302	0.55	-0.581 ± 1.295	0.416 ± 0.559
PRF-fit source offset from KIC position	0.610 ± 0.810	0.75	-0.160 ± 1.248	0.589 ± 0.562
photometric centroid source offset	2.36 ± 0.64	3.69	-1.63 ± 0.68	1.71 ± 0.60

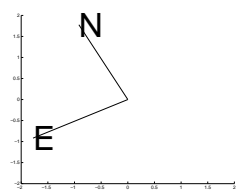
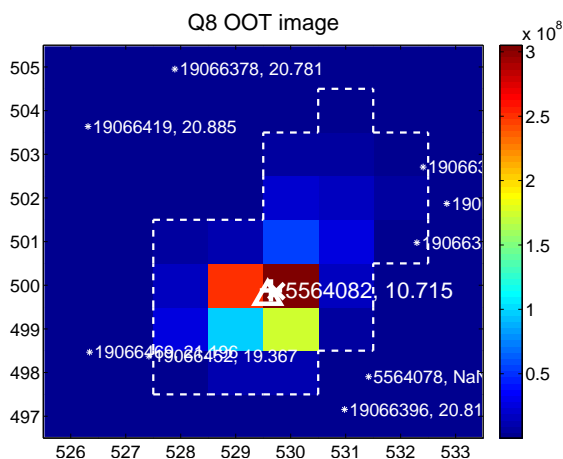
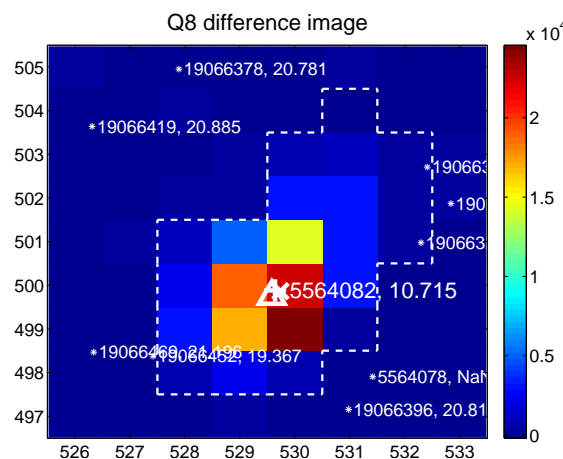
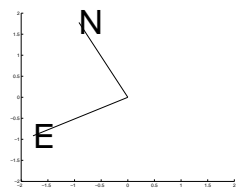
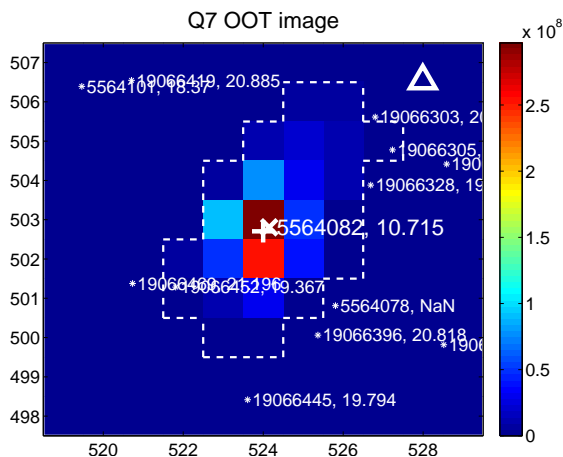
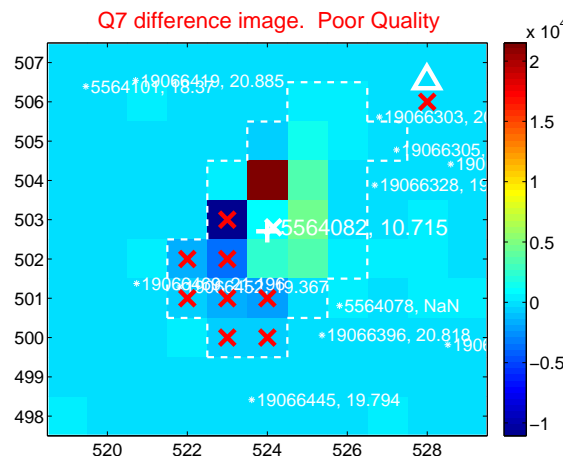
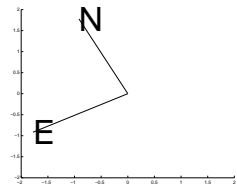
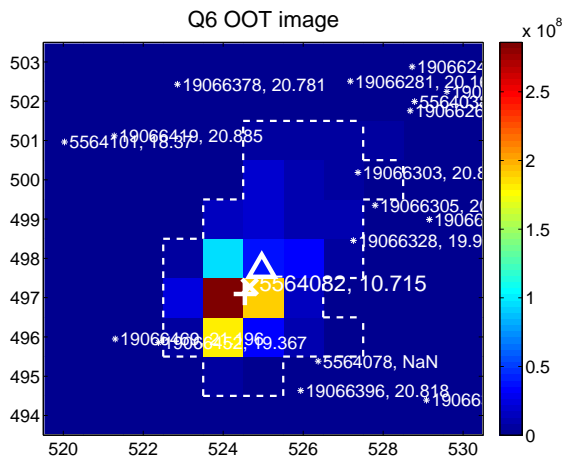
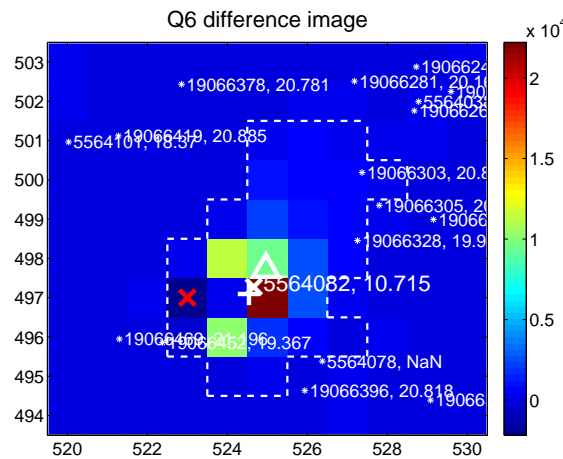
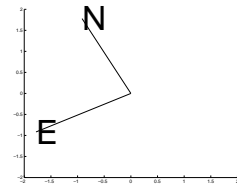
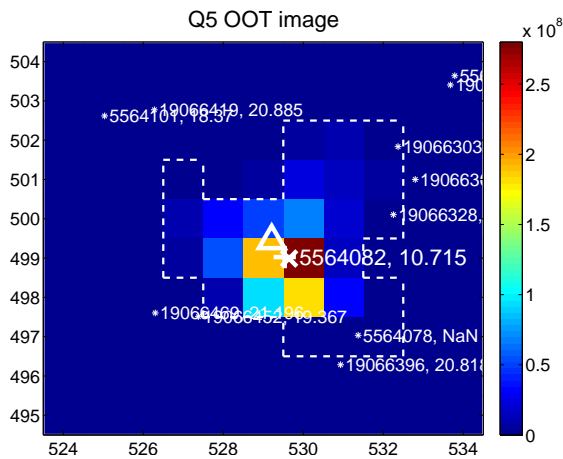
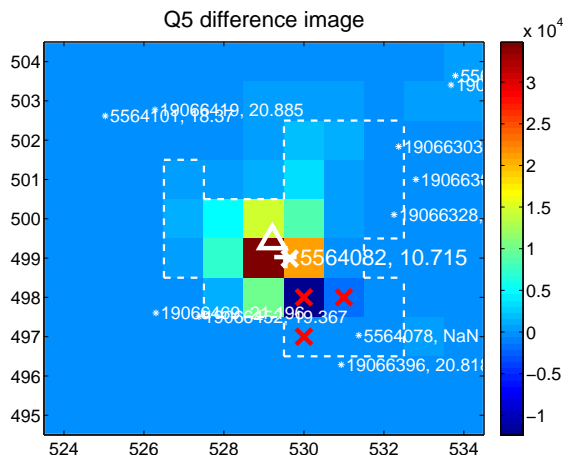


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

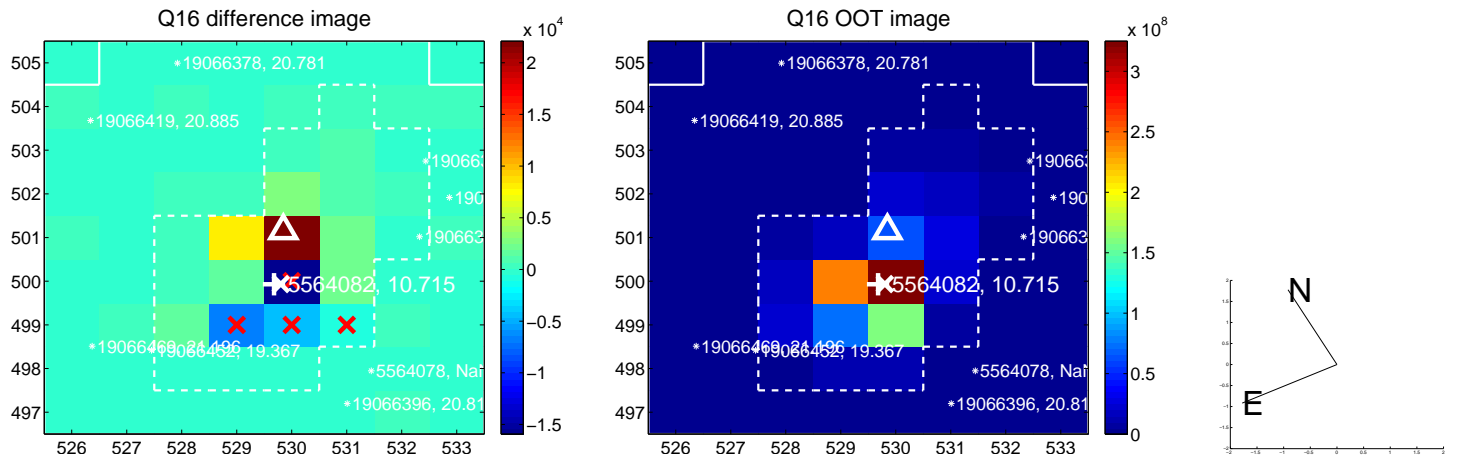
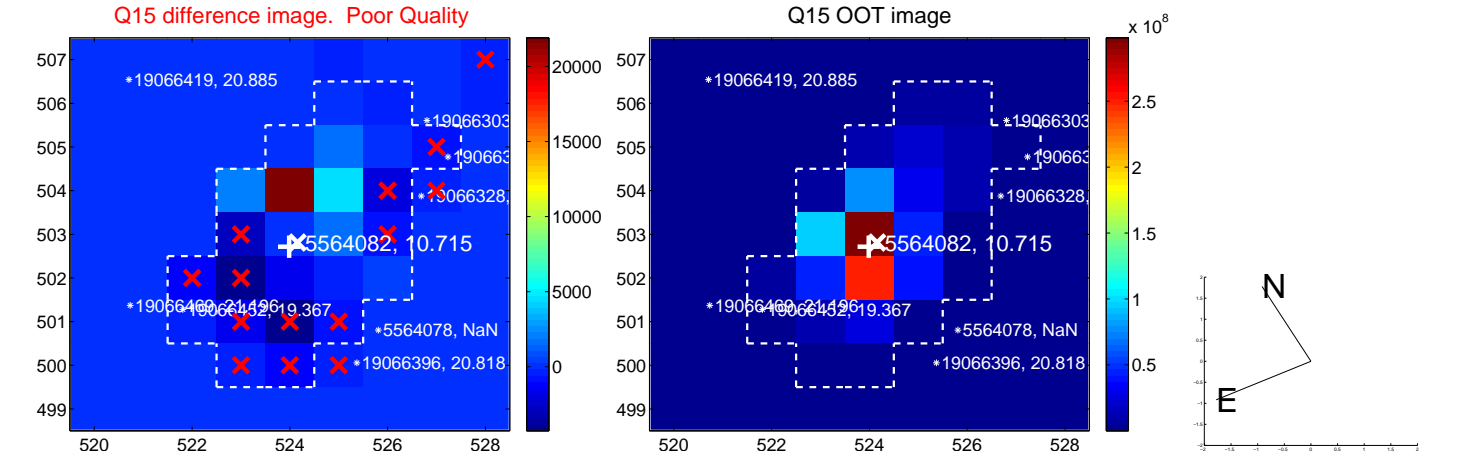
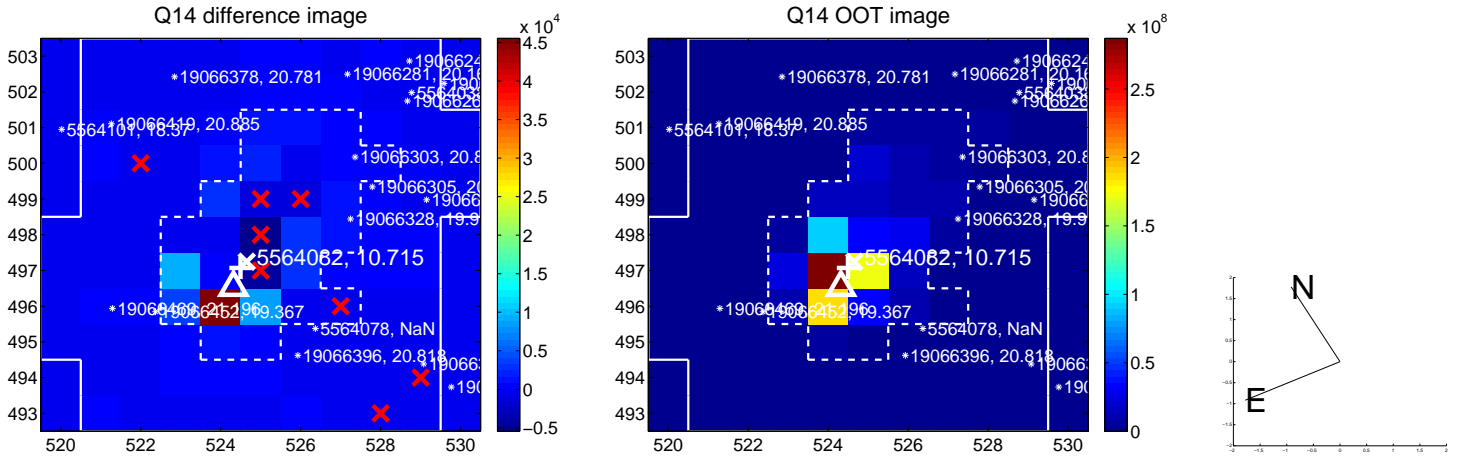
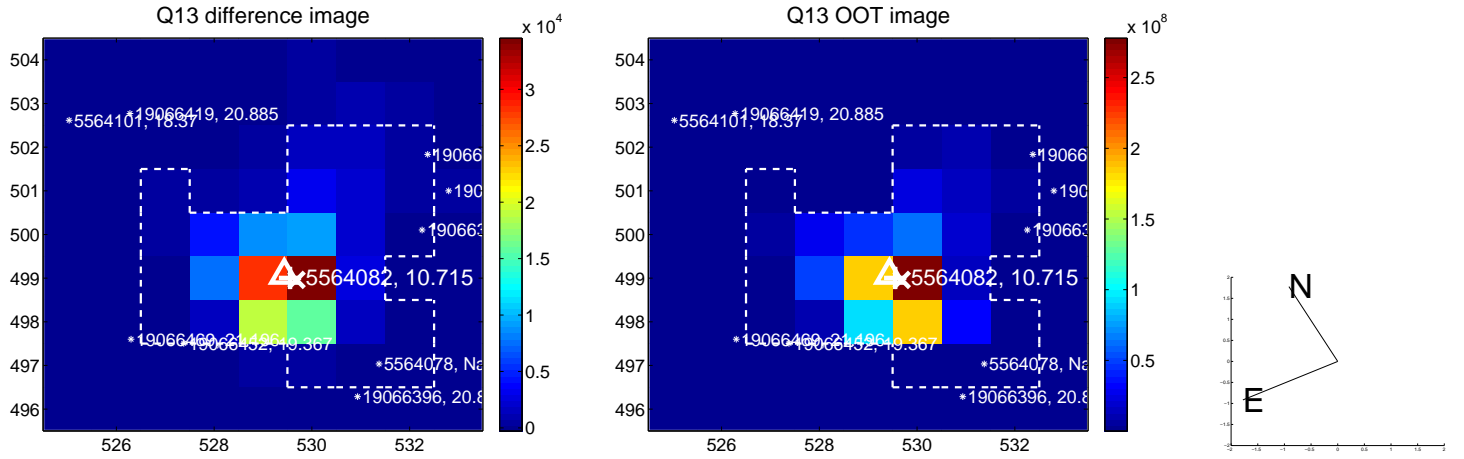
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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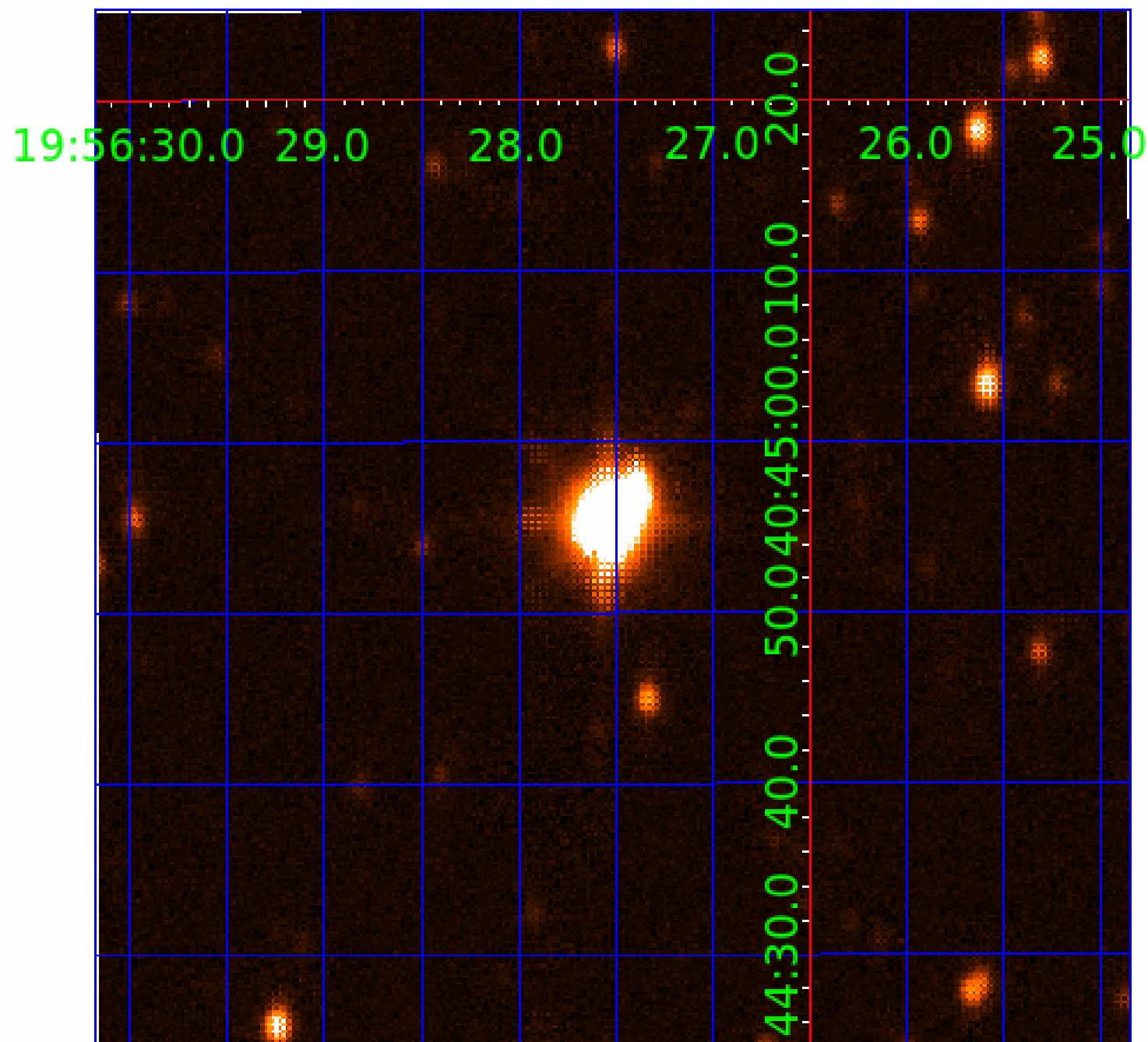


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005564082

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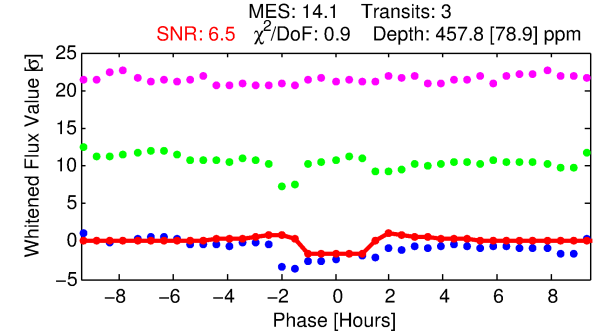
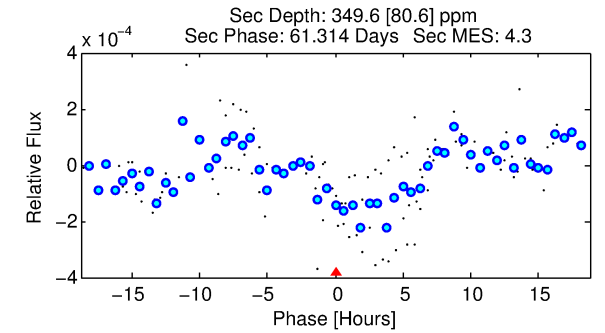
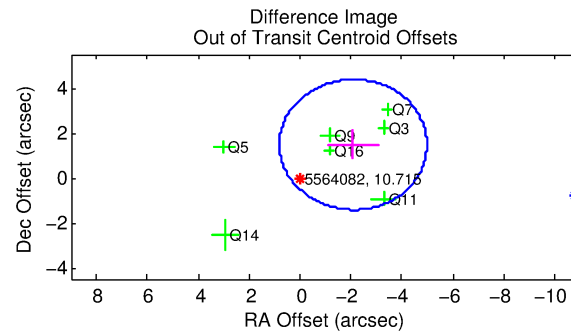
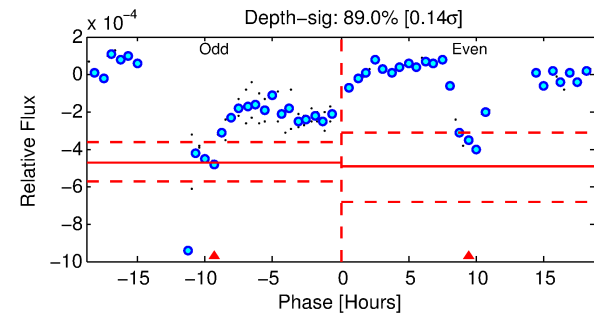
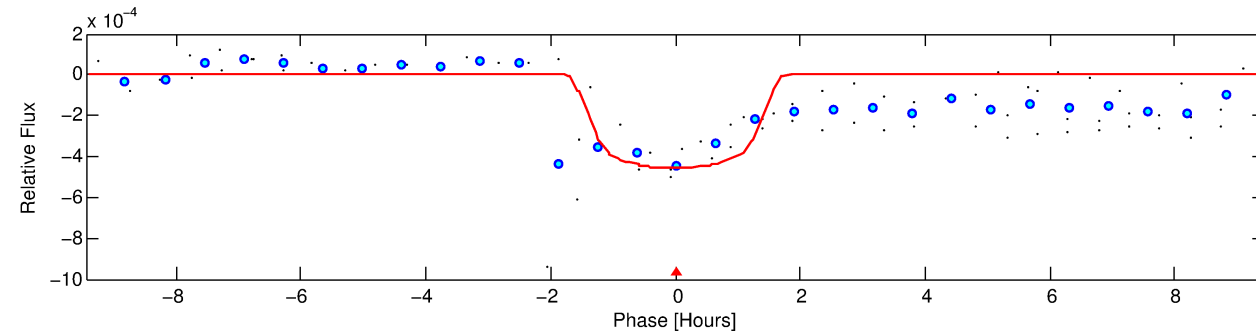
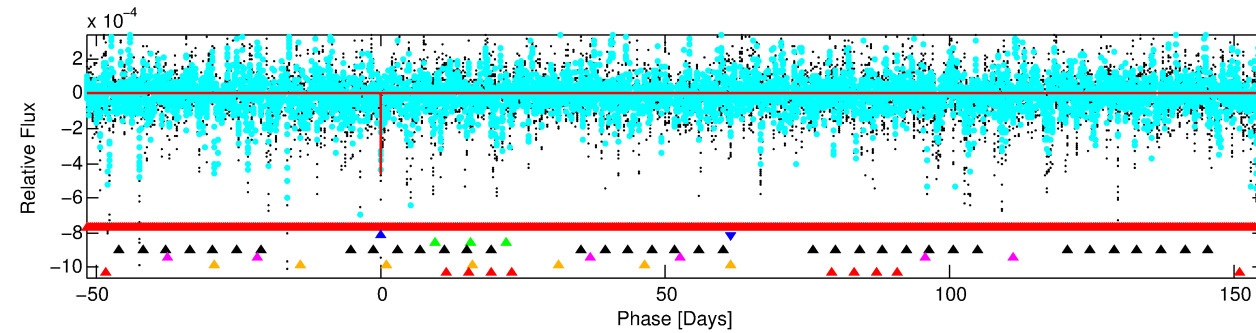
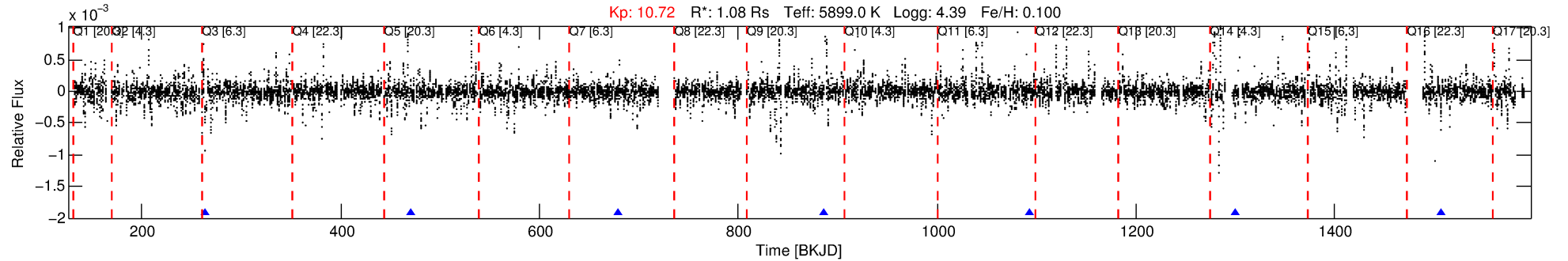
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005564082-02

No Significant Match Found

DV One-Page Summary

KIC: 5564082 Candidate: 2 of 7 Period: 207.118 d
KOI: K06600 Corr: No Ephemeris Match



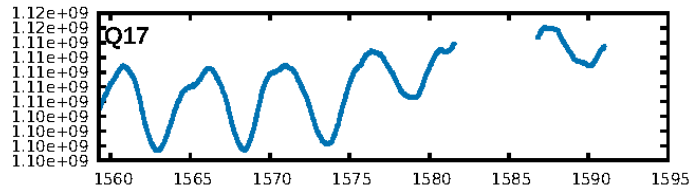
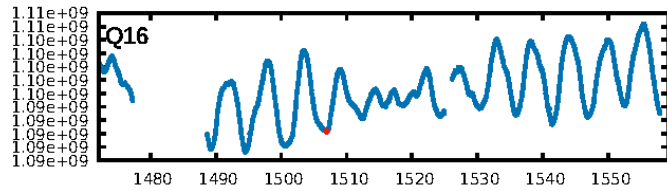
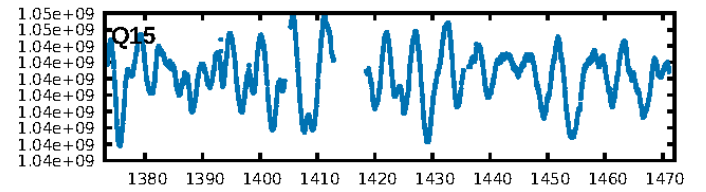
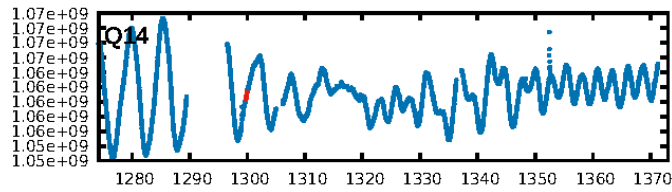
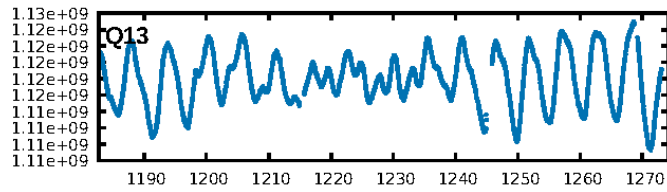
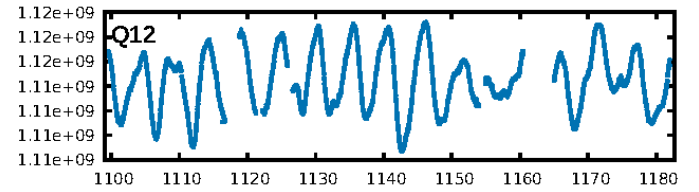
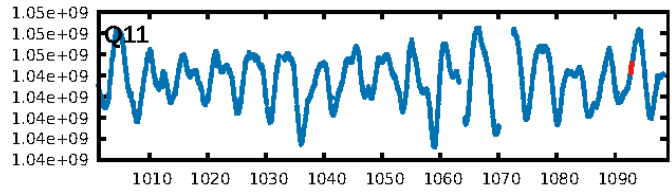
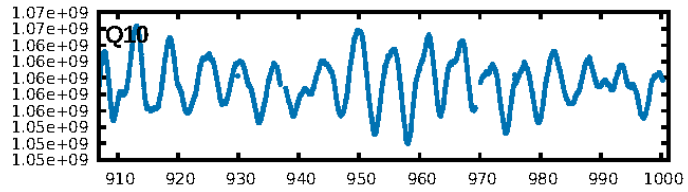
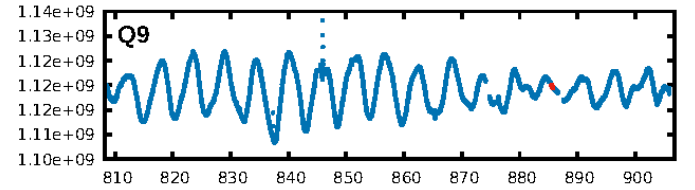
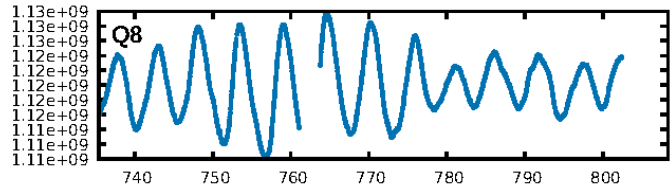
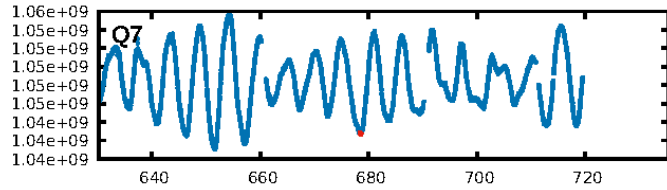
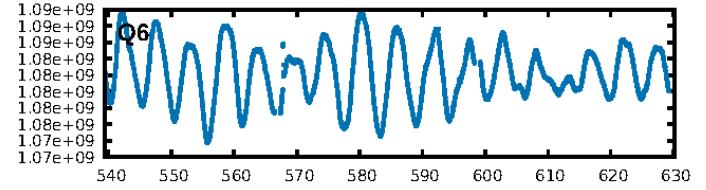
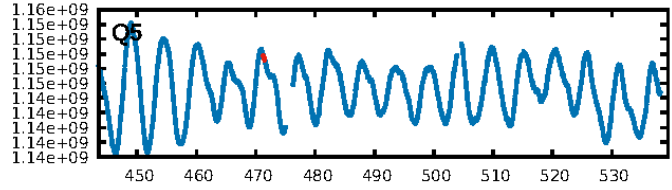
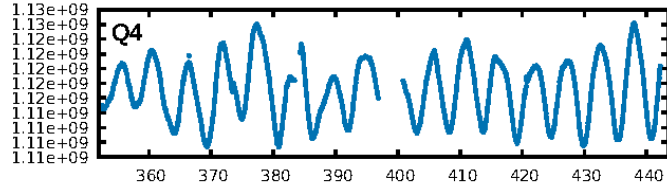
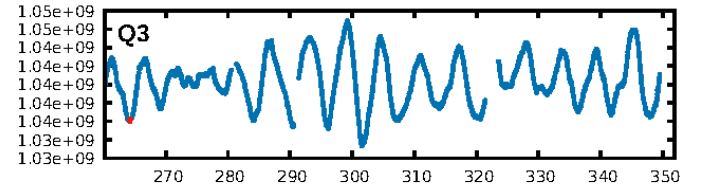
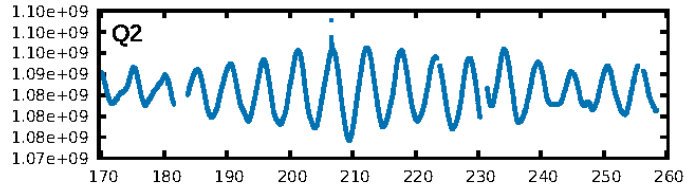
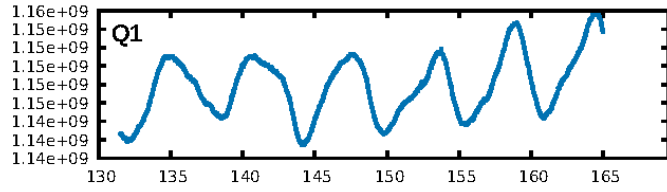
DV Fit Results:

Period = 207.11751 [0.00138] d
Epoch = 264.2748 [0.0067] BKJD
Rp/R* = 0.0227 [0.0411]
a/R* = 267.93 [2270.47]
b = 0.87 [2.37]
Teff = 2.60 [0.59]
Teq = 324 [18] K
Rp = 2.68 [4.86] Re
a = 0.6965 [0.1017] AU
Ag = 13028.48 [47304.16] [0.28 σ]
Teffp = 5348 [4846] K [1.04 σ]

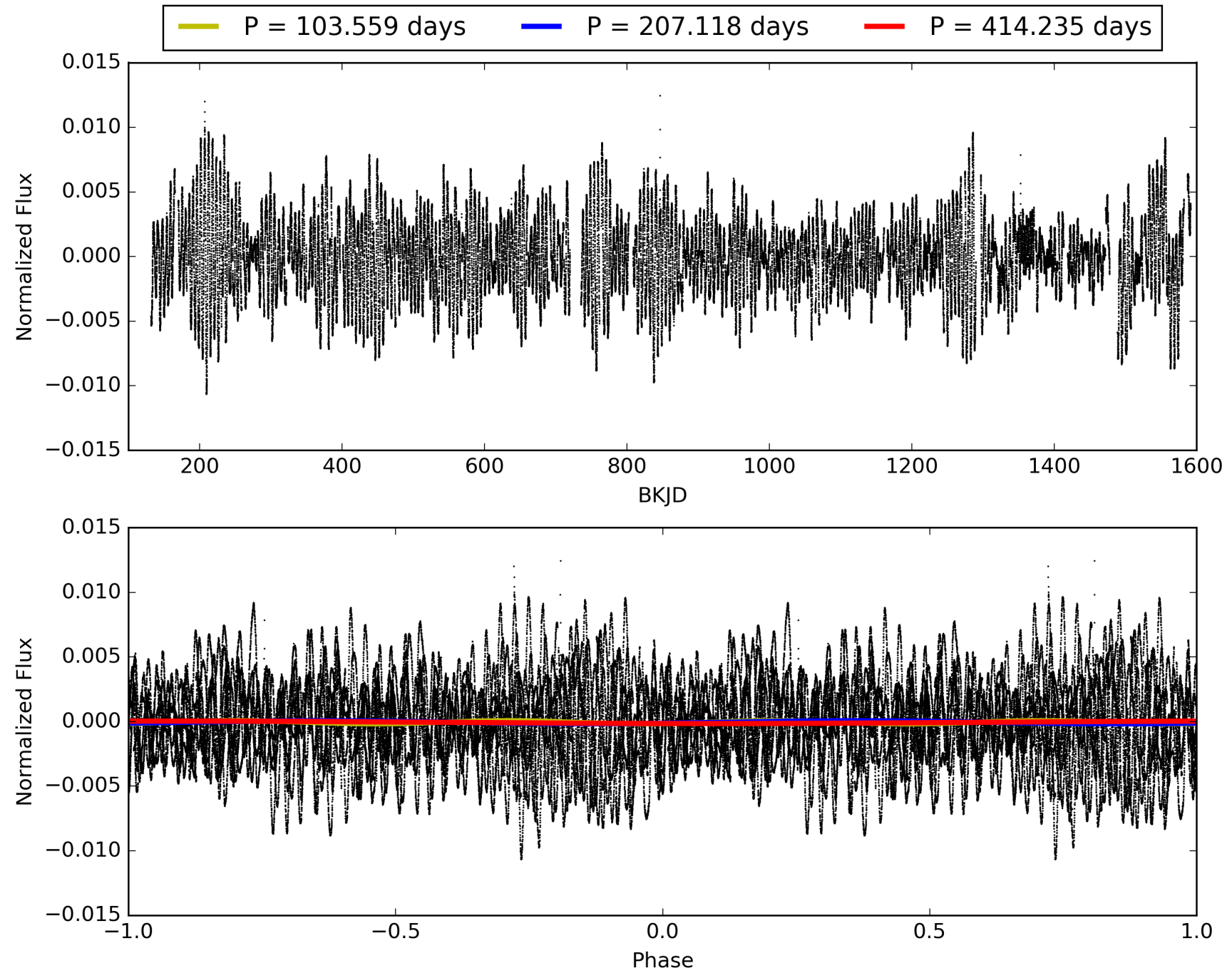
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [270.81 σ]
LongPeriod-sig: 100.0% [50.01 σ]
ModelChiSquare2-sig: 35.1%
ModelChiSquareGof-sig: 93.2%
Bootstrap-pfa: 2.95e-19
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: N/A
Centroid-sig: 12.3%
Centroid-so: 0.381 arcsec [0.96 σ]
OotOffset-rm: 2.562 arcsec [2.65 σ]
KicOffset-rm: 2.489 arcsec [2.87 σ]
OotOffset-st: 1/3/1/2 [7]
KicOffset-st: 1/3/1/2 [7]
DiffImageQuality-fgm: 0.29 [2/7]
DiffImageOverlap-fno: 0.43 [3/7]

TCE 005564082-02, PDC Light Curves

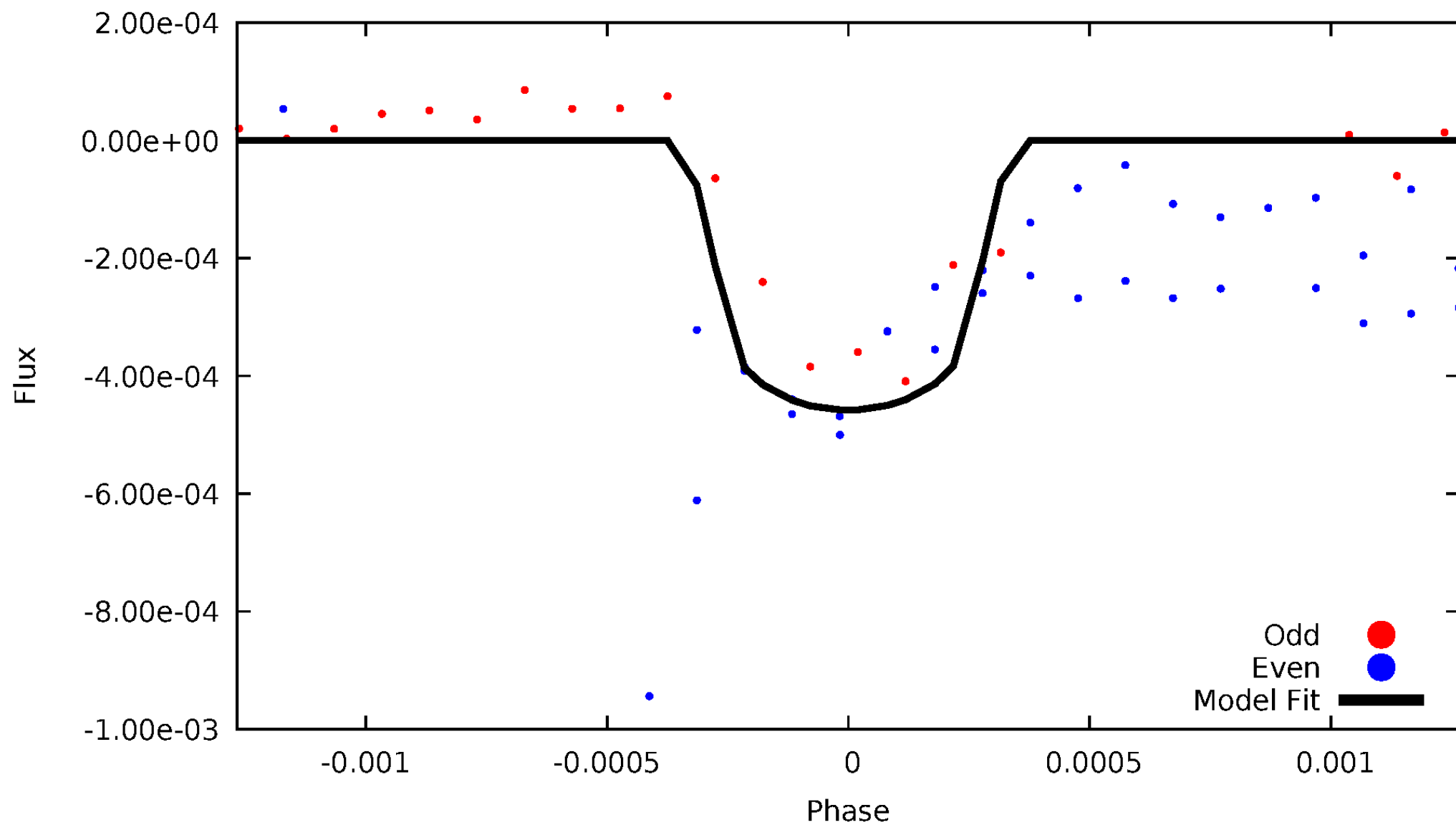


TCE 005564082-02



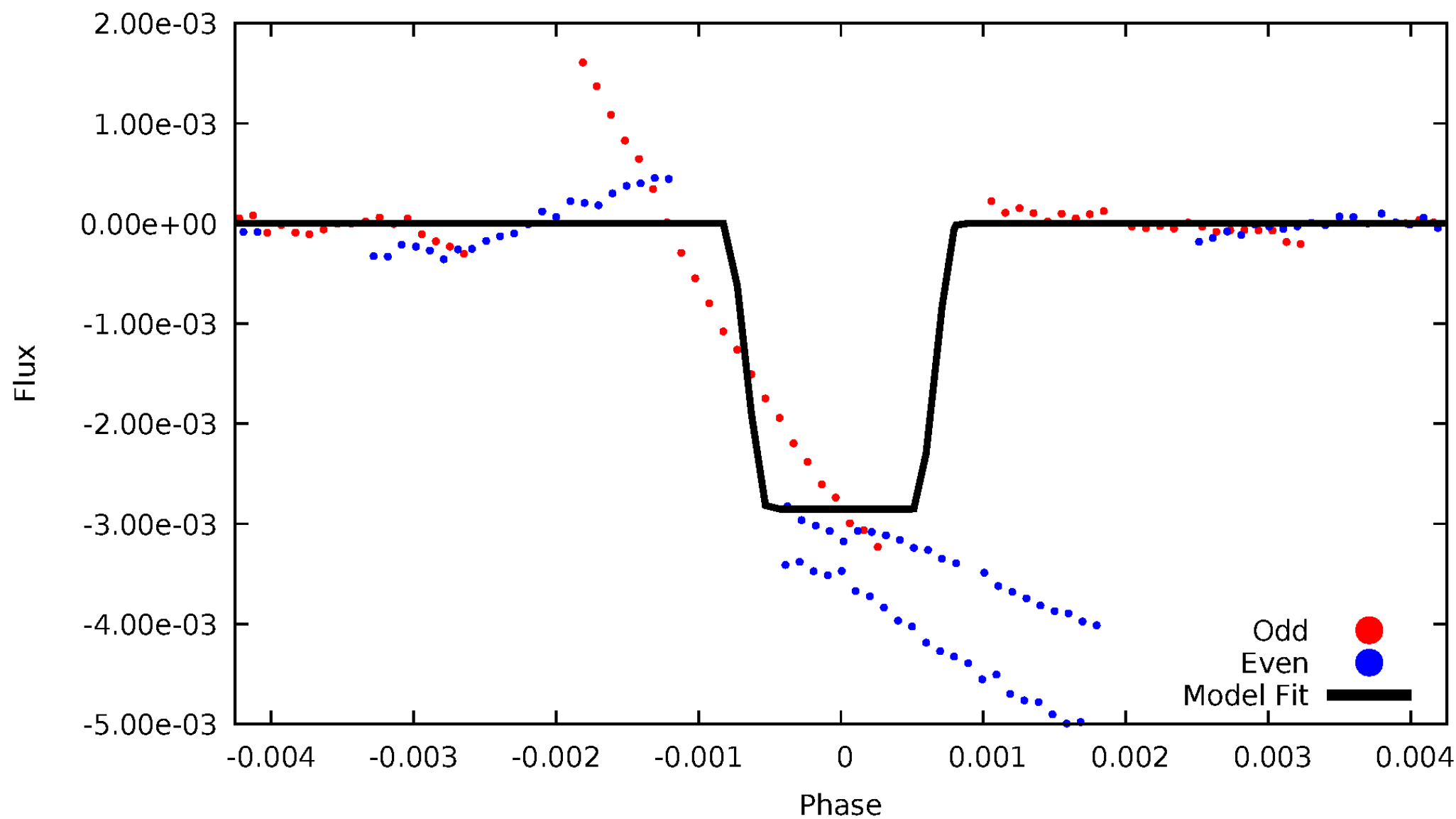
DV Odd/Even

TCE 005564082-02



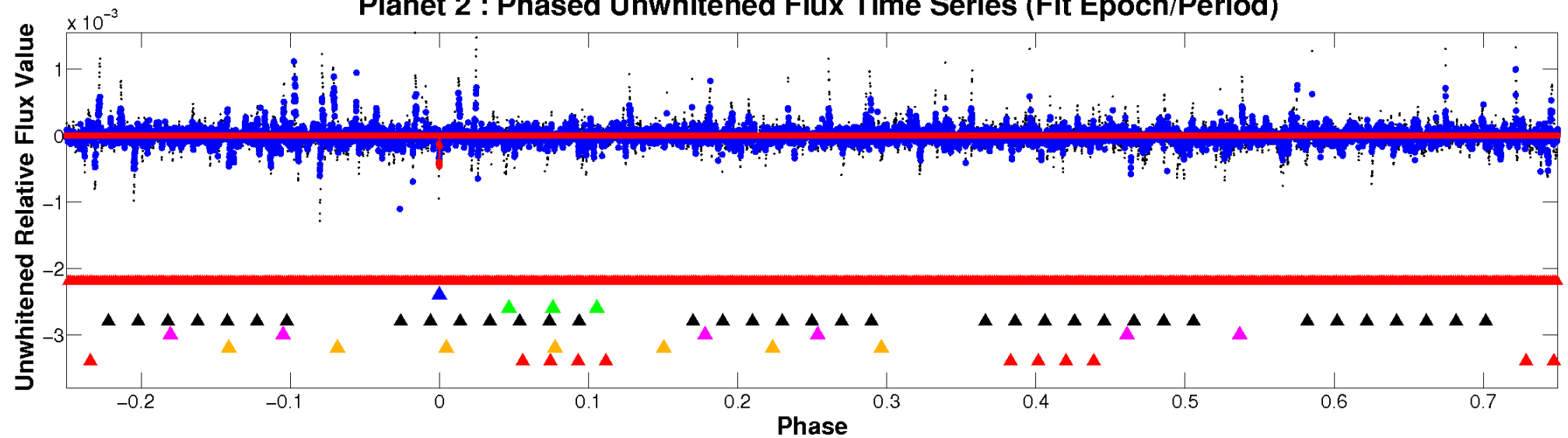
ALT Odd/Even

TCE 005564082-02

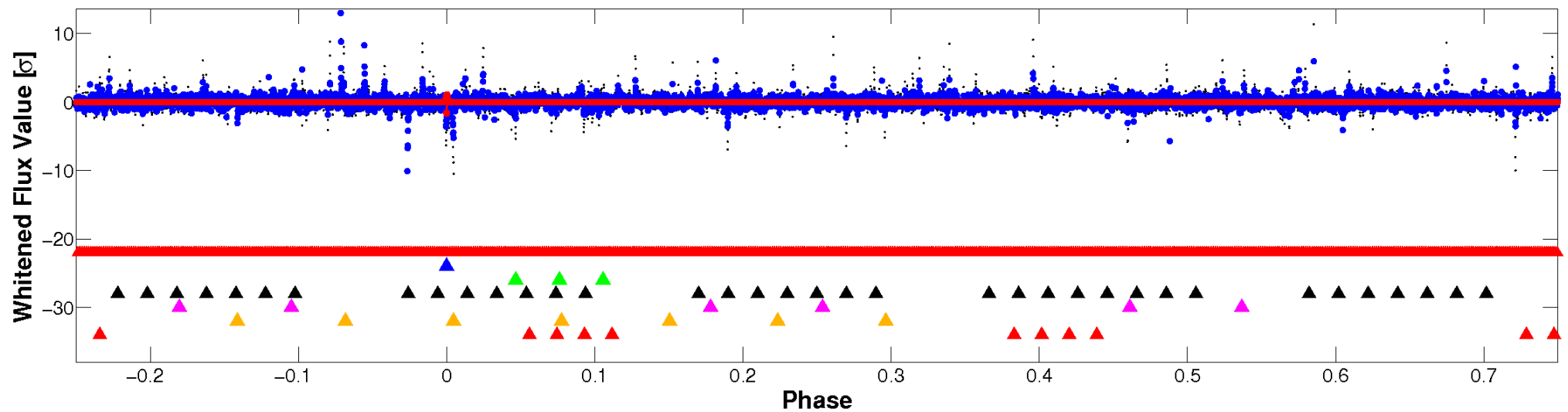


Non-Whitened Vs. Whitened Light Curve

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

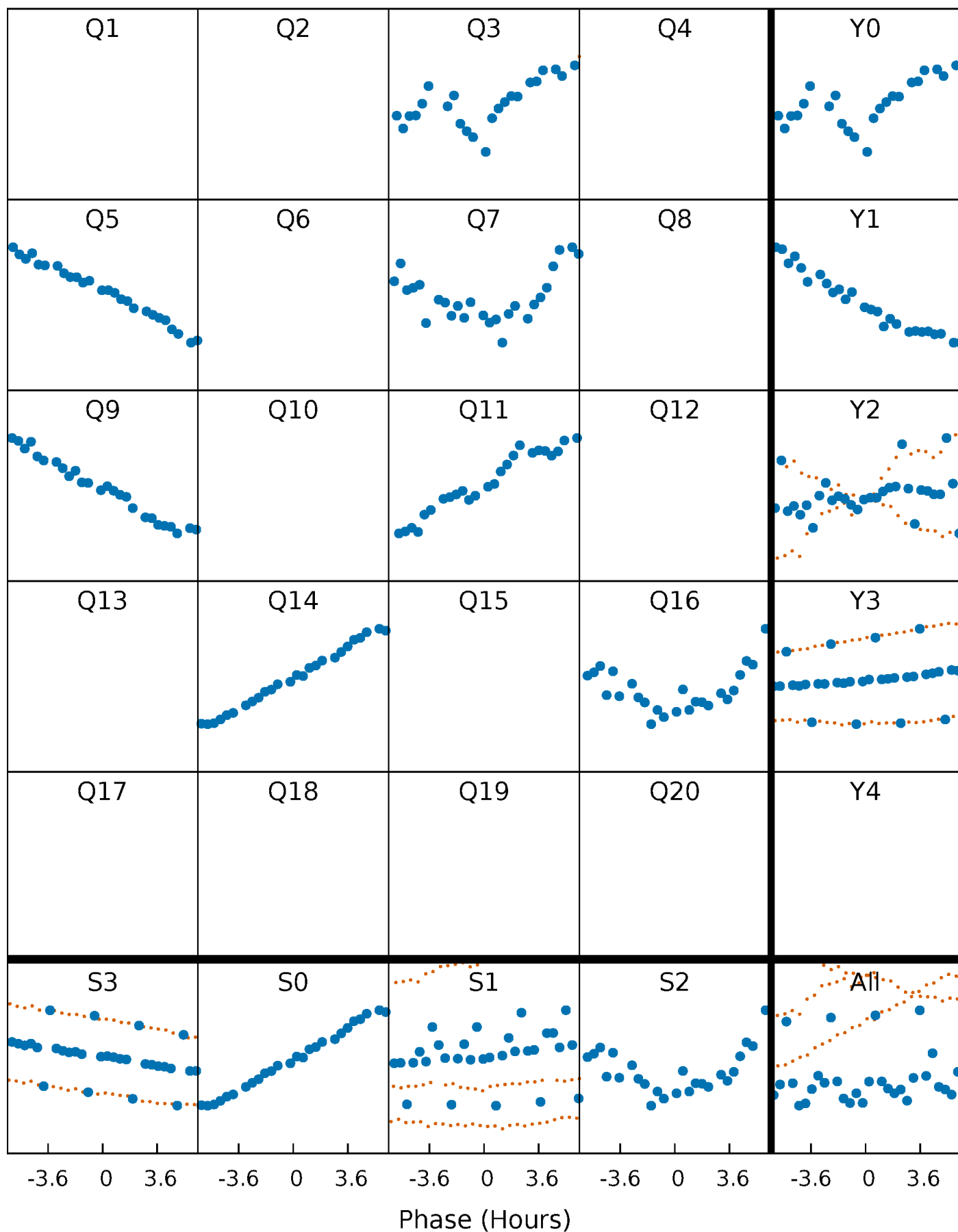


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



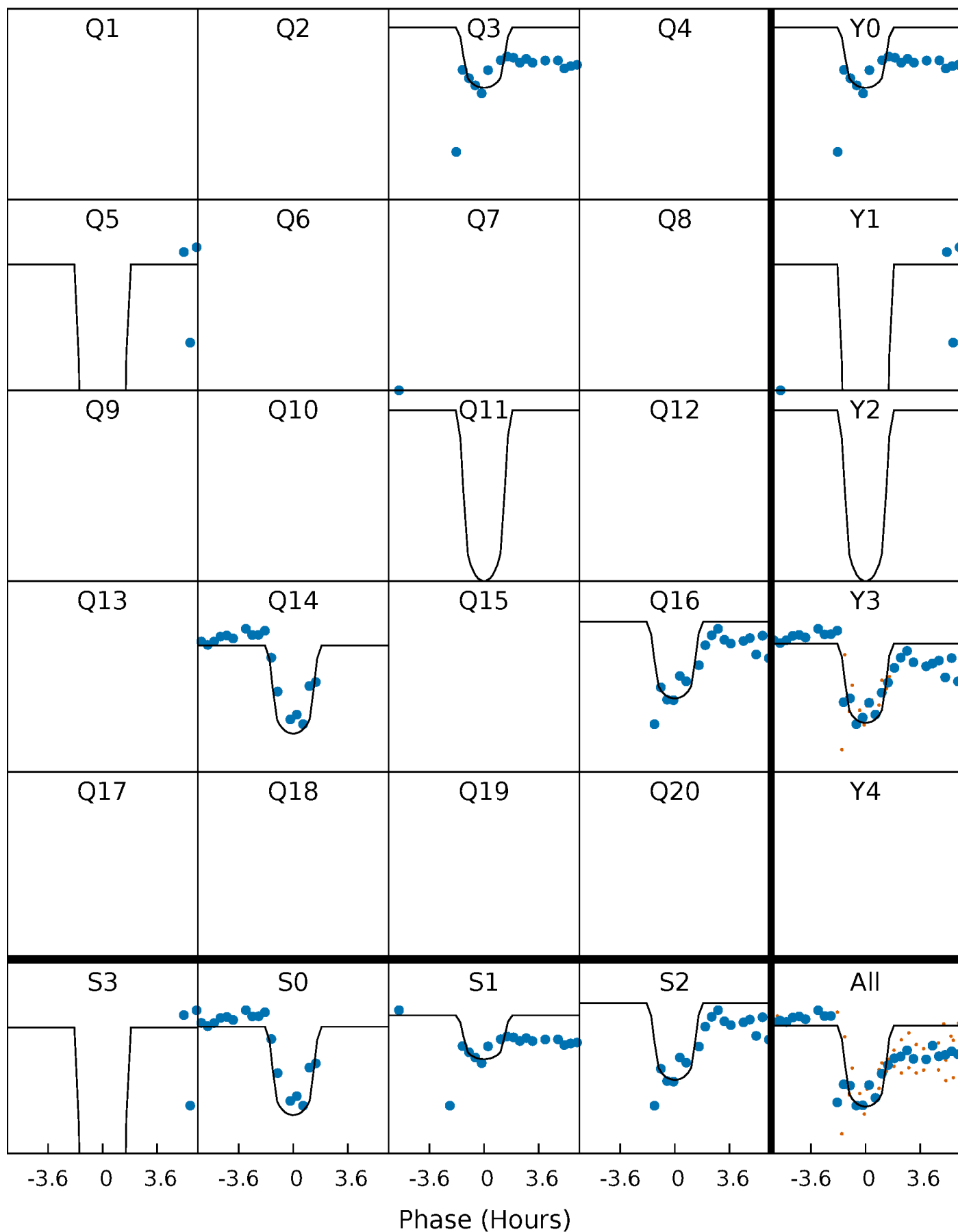
PDC Quarter-Phased Transit Curves

TCE 005564082-02 P=207.117508 Days $T_0=264.274806$ (BKJD)



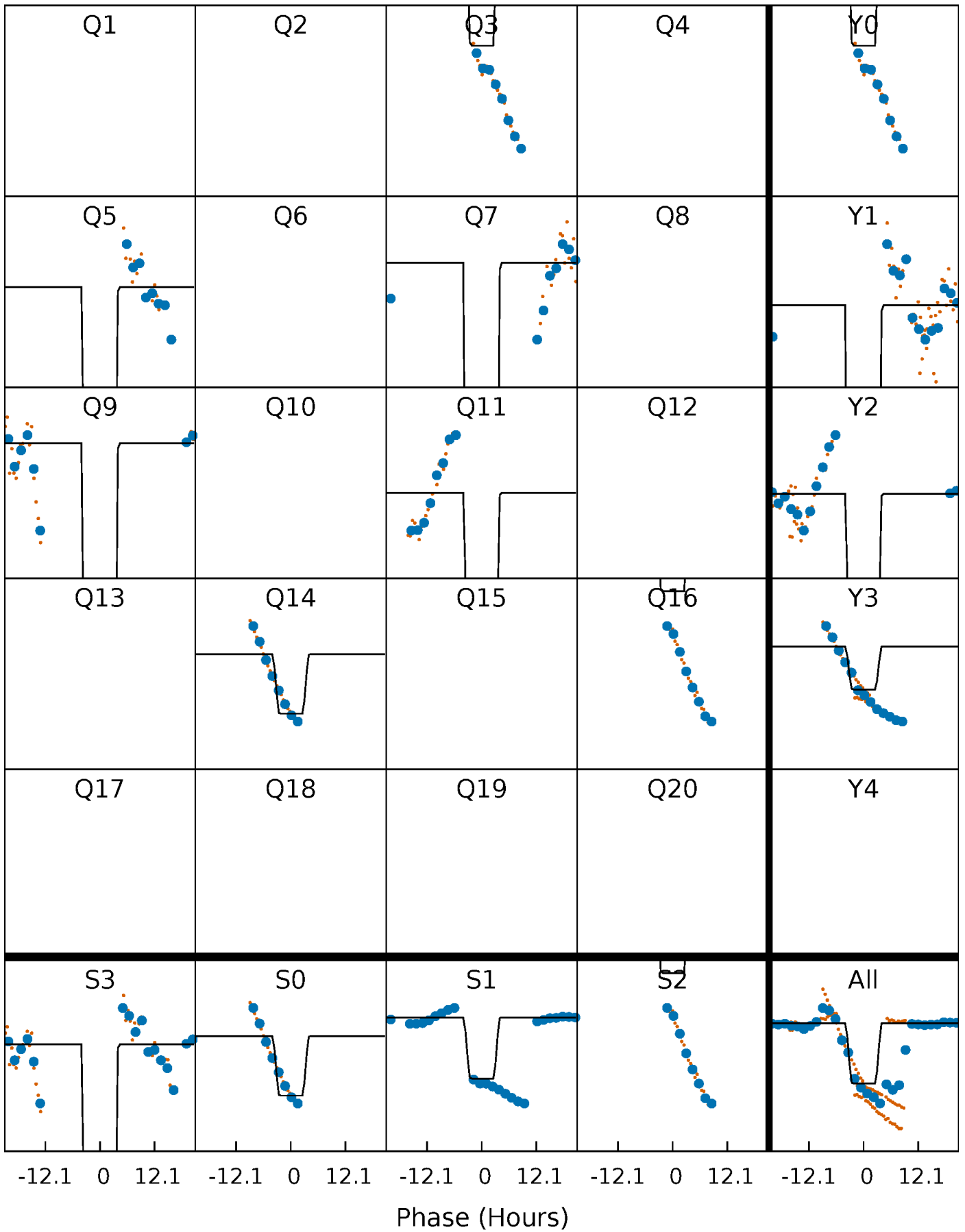
DV Quarter-Phased Transit Curves

TCE 005564082-02 $P=207.117508$ Days $T_0=264.274806$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

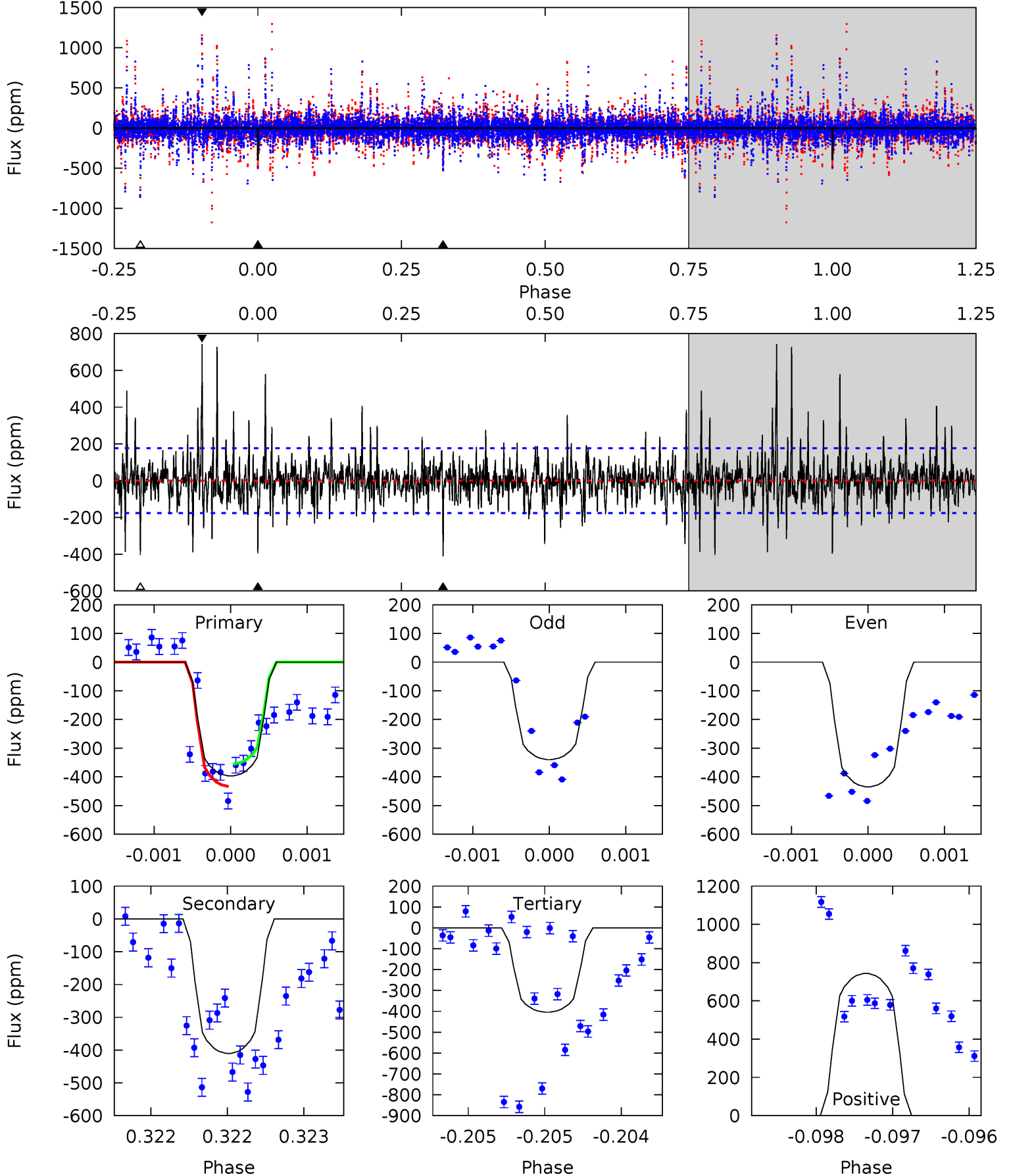
TCE 005564082-02 P=207.121375 Days $T_0=264.267108$ (BKJD)



DV Model-Shift Uniqueness Test

005564082-02, P = 207.117508 Days, E = 57.157298 Days

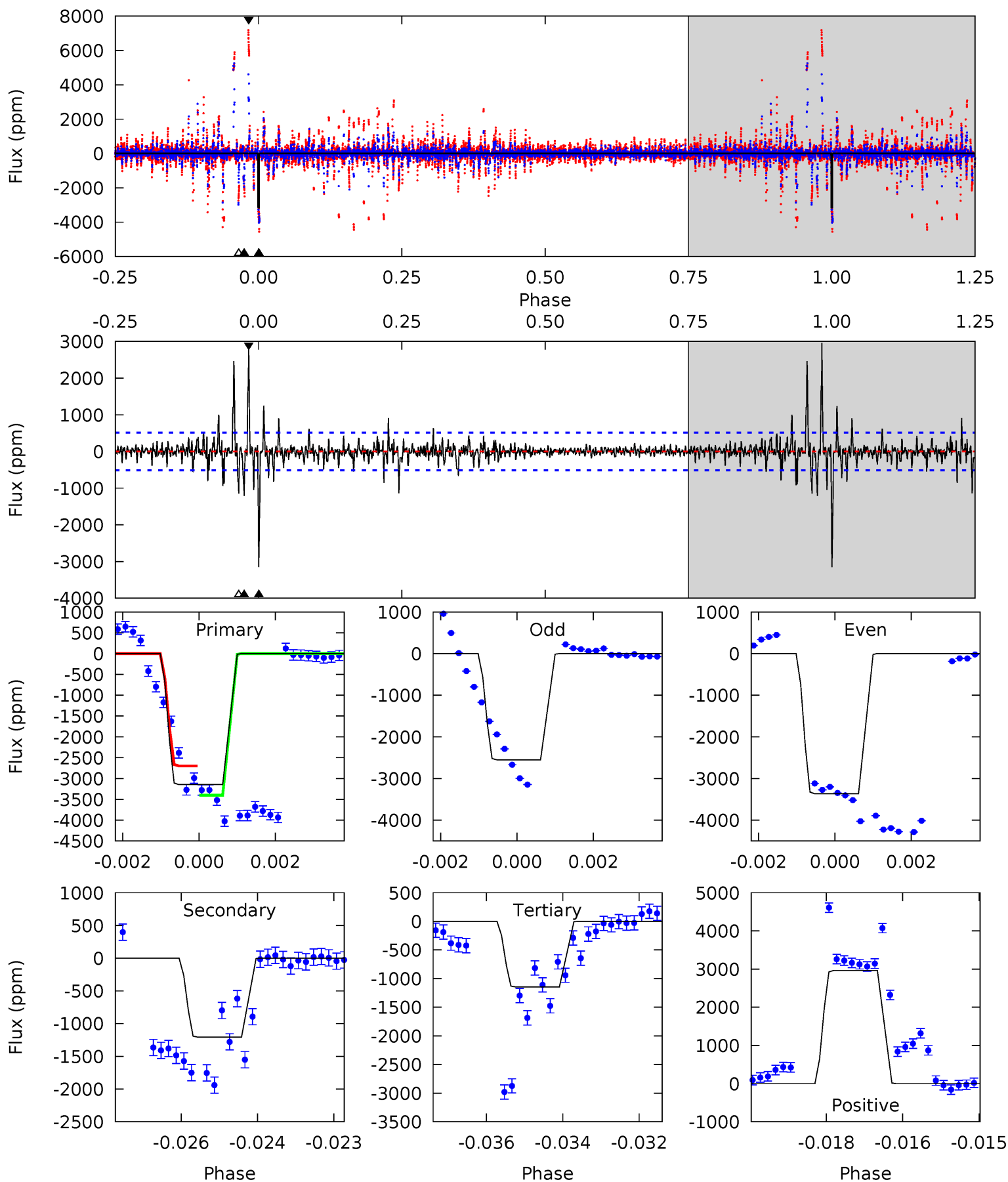
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.5	12.9	12.7	23.3	5.53	3.42	2.80	-0.24	-10.9	0.19	-10.5	1.26	0.97	0.64	1.23



Alt Model-Shift Uniqueness Test

005564082-02, P = 207.121375 Days, E = 57.145733 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.9	12.6	12.0	31.0	5.36	3.15	2.37	20.9	1.93	0.64	-18.4	3.50	1.00	0.48	3.48



Stellar Parameters For KIC 005564082

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5899^{+70}_{-88}	$4.394^{+0.066}_{-0.123}$	$0.100^{+0.150}_{-0.150}$	$1.078^{+0.180}_{-0.097}$	$1.051^{+0.074}_{-0.067}$	$1.181^{+0.315}_{-0.421}$
	+1%/-1%	+2%/-3%	+150%/-150%	+17%/-9%	+7%/-6%	+27%/-36%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 005564082-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-410 ± 32	$4.34^{+4.17}_{-2.80}$	454^{+19}_{-15}	4551^{+2898}_{-960}	5835^{+39528}_{-4306}
Alt.	-1206 ± 96	$7.12^{+4.81}_{-4.26}$	455^{+19}_{-15}	4601^{+2418}_{-744}	6045^{+31811}_{-3777}

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 $A_{obs} \gg 1.0$

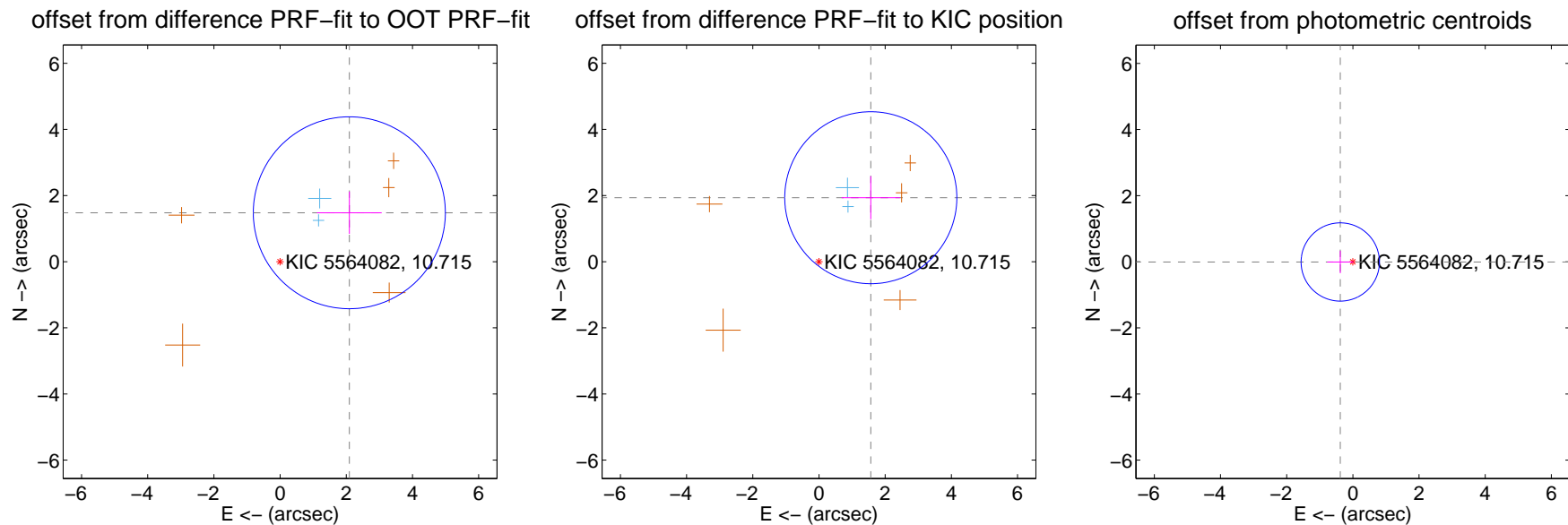
DV Centroid Data

Supplemental centroid analysis for 005564082-02. **Kepler magnitude: 10.71.** Transit SNR 6.49

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.50 arcsec

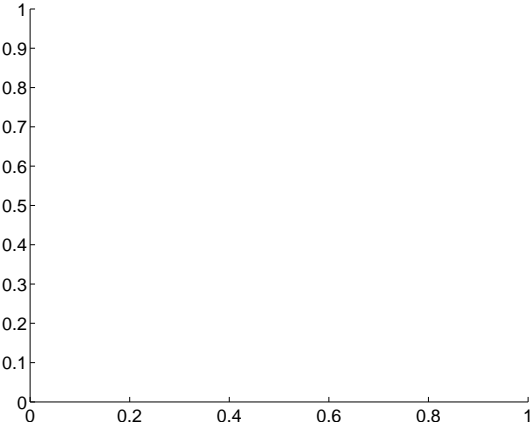
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.562 ± 0.967	2.65	-2.092 ± 0.980	1.480 ± 0.637
PRF-fit source offset from KIC position	2.489 ± 0.867	2.87	-1.566 ± 0.882	1.935 ± 0.653
photometric centroid source offset	0.38 ± 0.39	0.96	0.38 ± 0.39	-0.01 ± 0.34



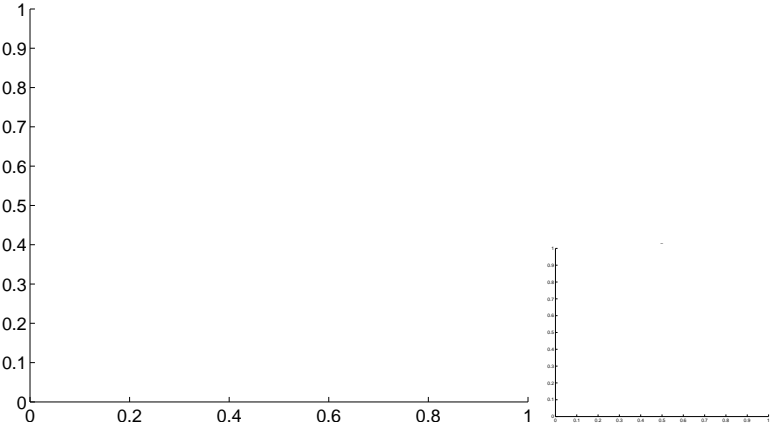
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

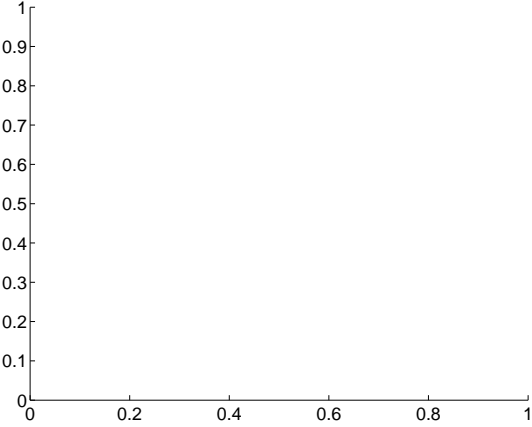
Q1 no difference image



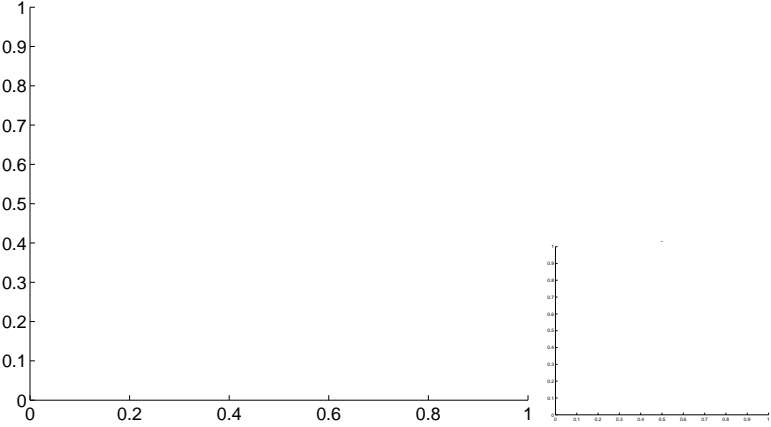
Q1 no OOT image



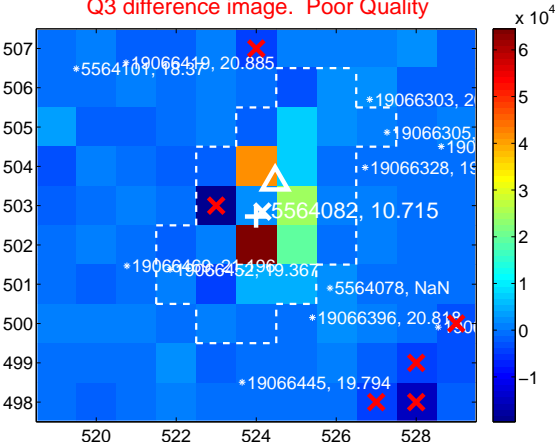
Q2 no difference image



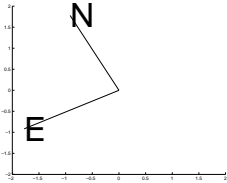
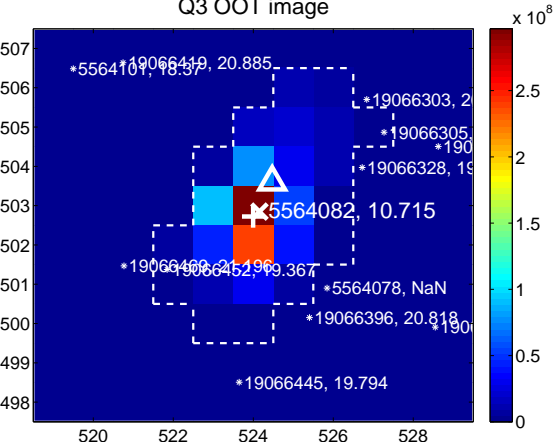
Q2 no OOT image



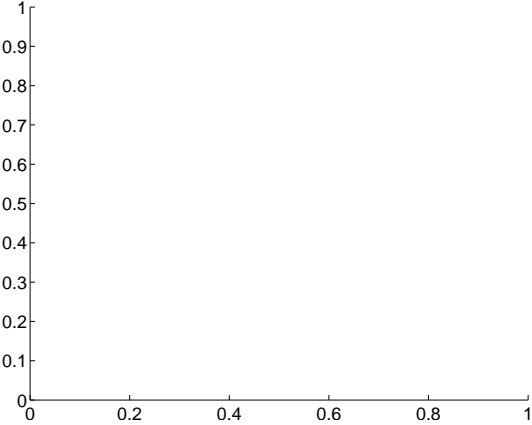
Q3 difference image. Poor Quality



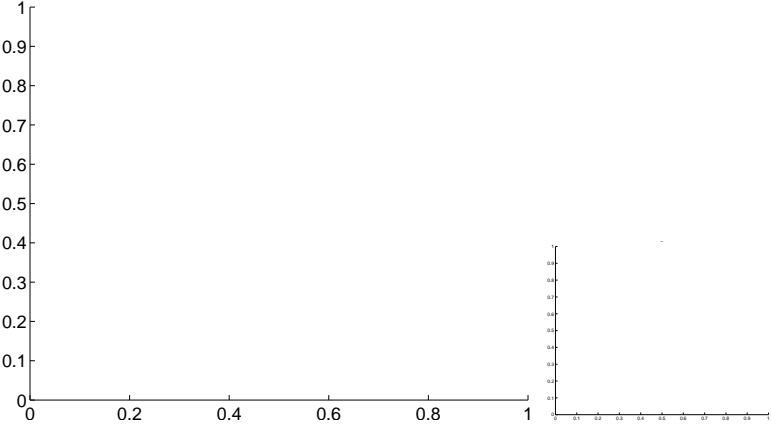
Q3 OOT image



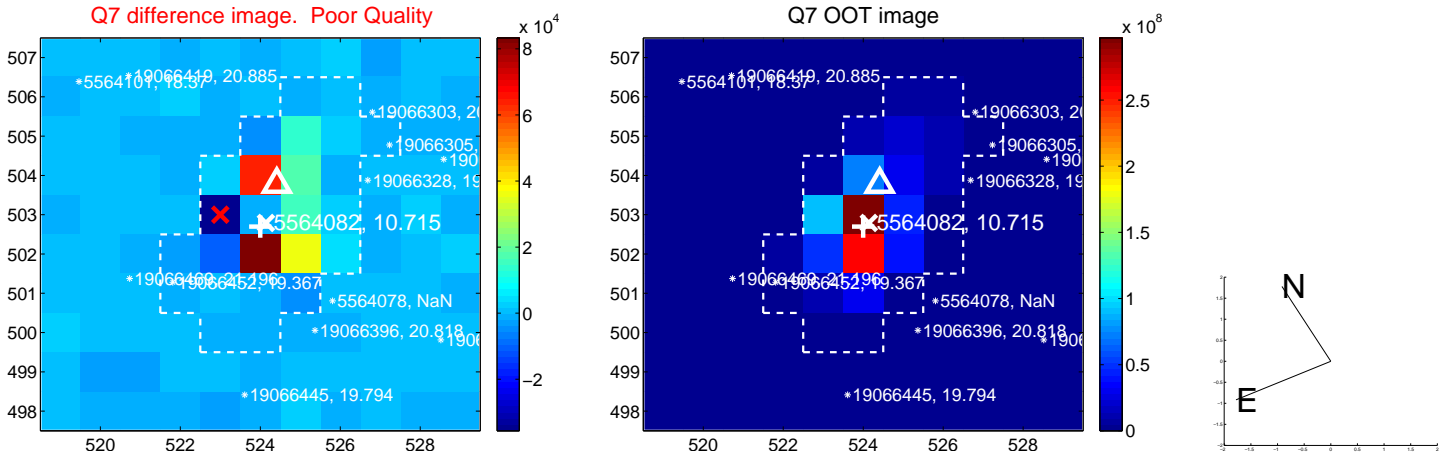
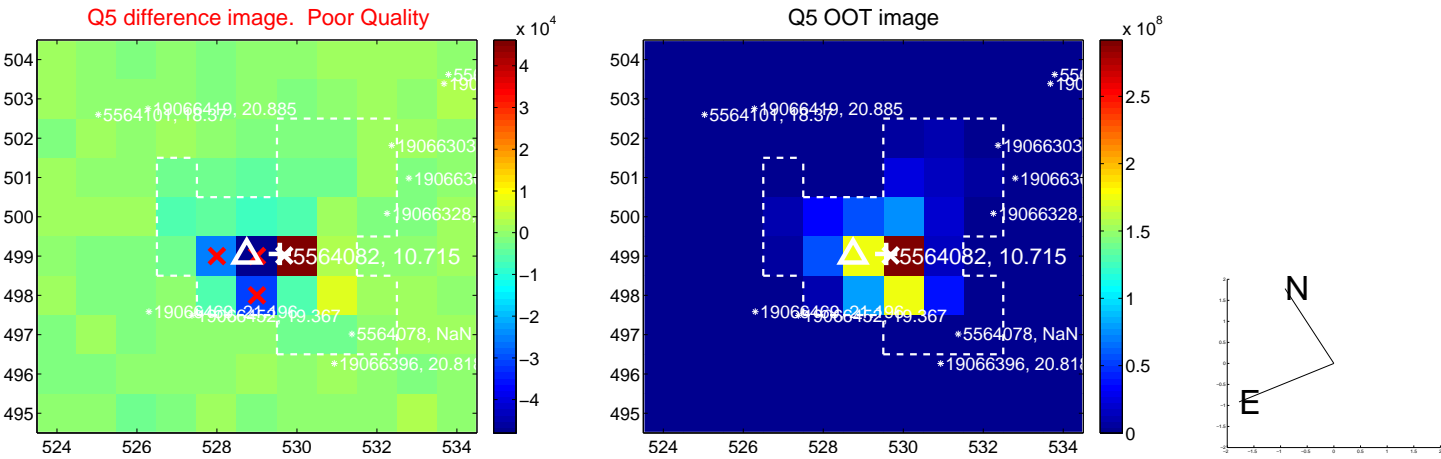
Q4 no difference image



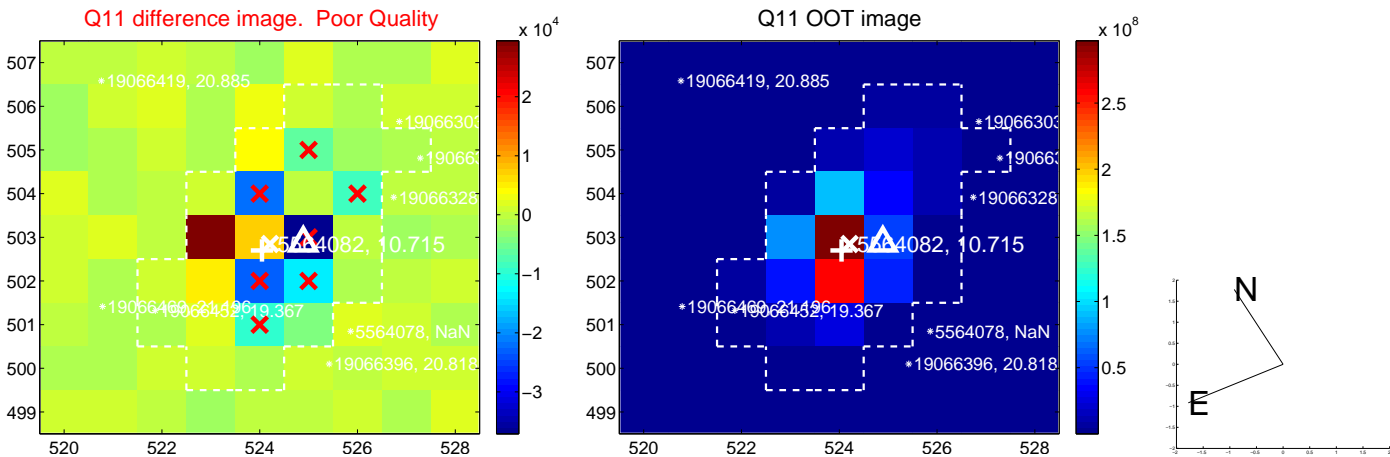
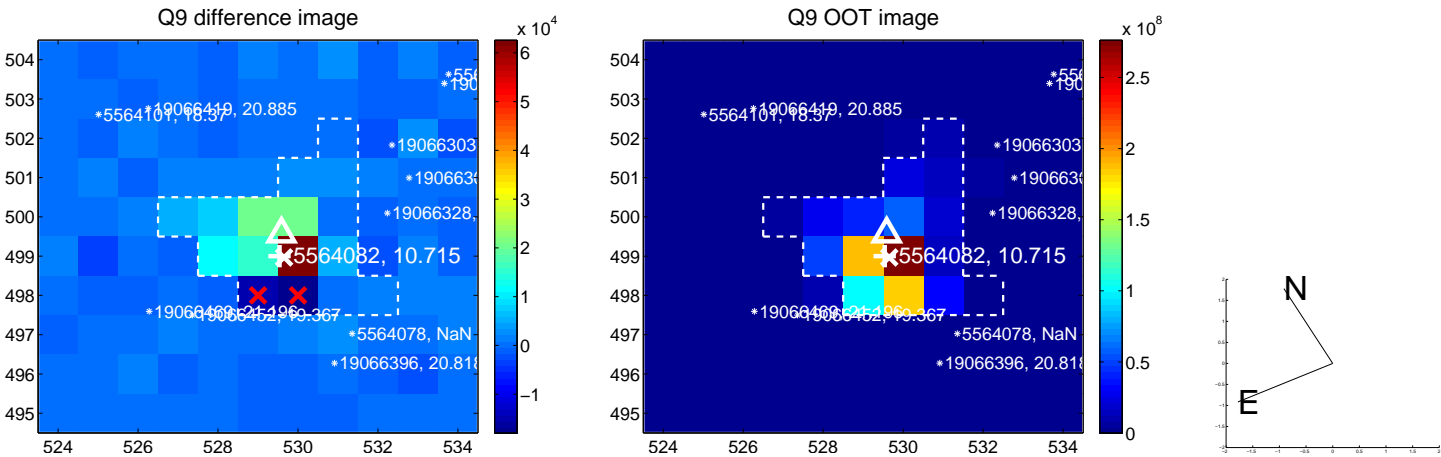
Q4 no OOT image



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

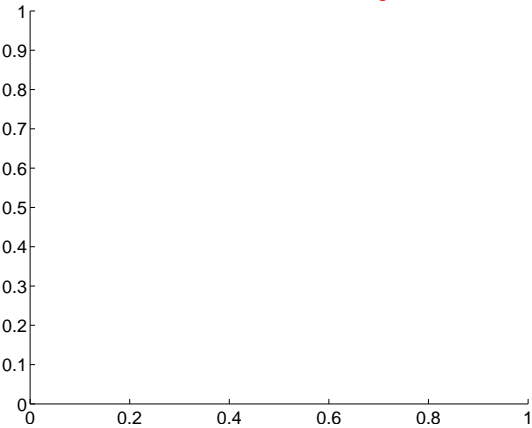


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

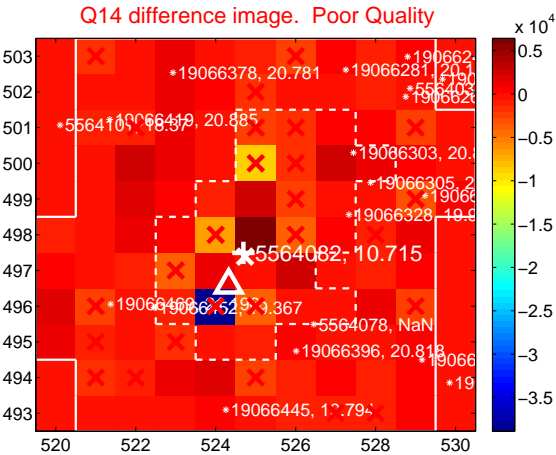
Q13 no difference image



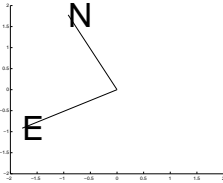
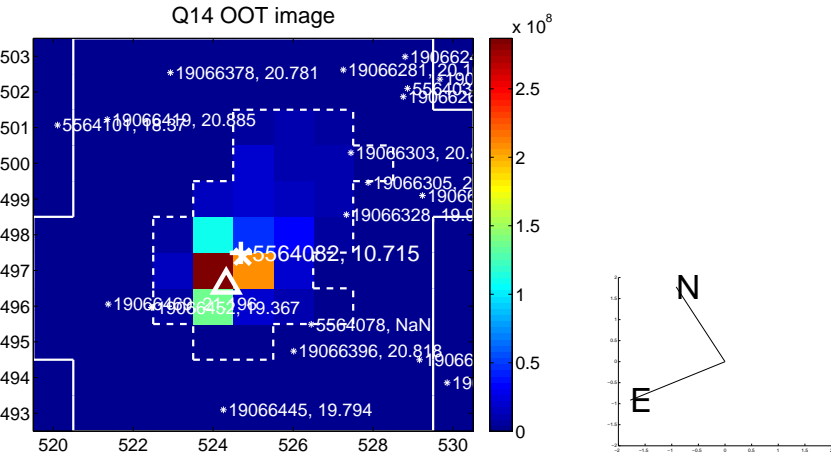
Q13 no OOT image



Q14 difference image. Poor Quality



Q14 OOT image



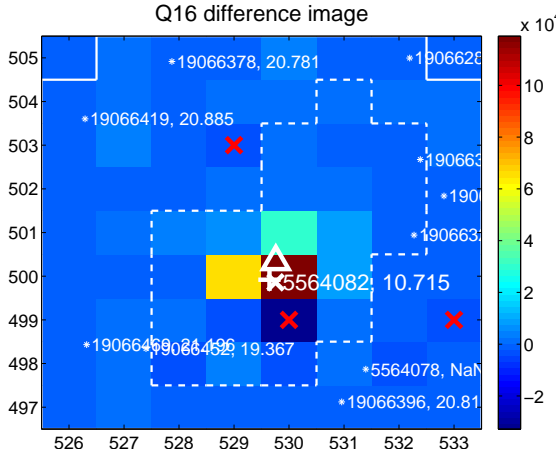
Q15 no difference image



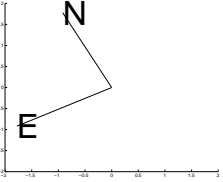
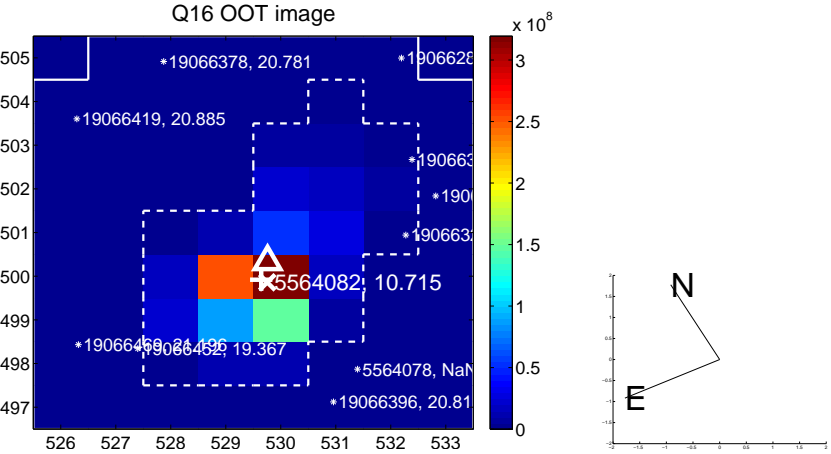
Q15 no OOT image



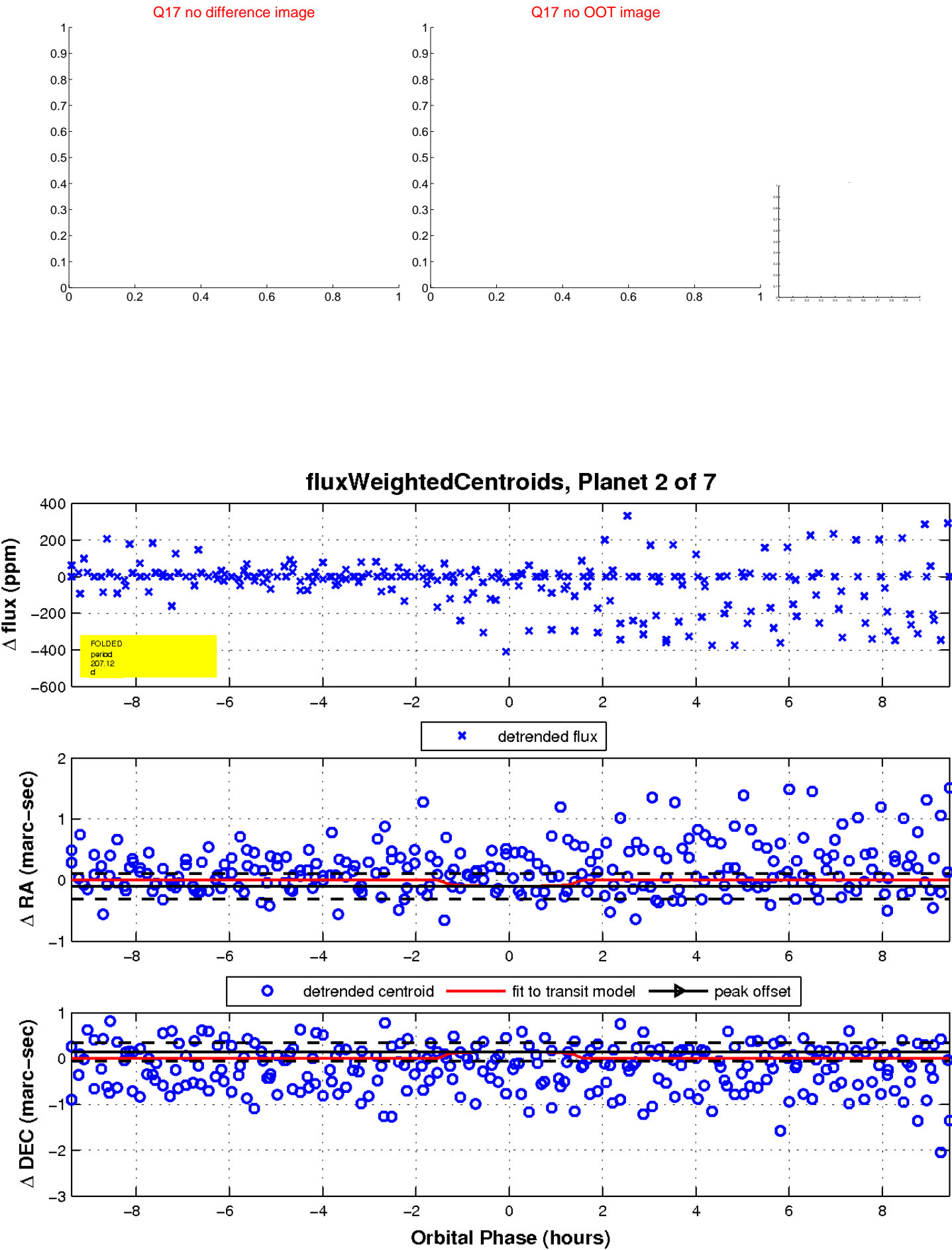
Q16 difference image



Q16 OOT image

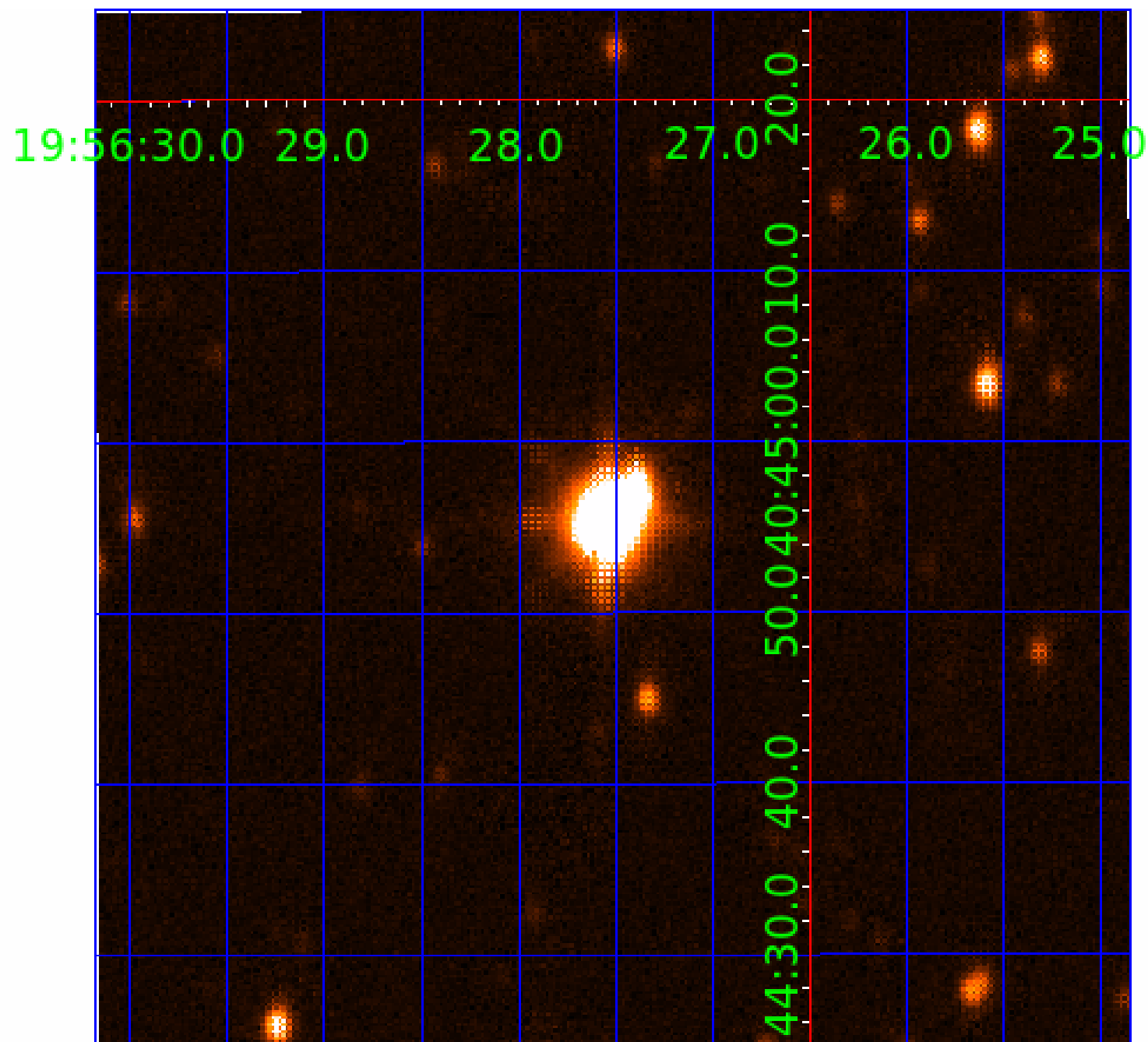


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005564082

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})
005564082-01	OBS	No	1.803659	131.841511	23.8	10.571	11.2	8.7	1.08	5899	0.52	1450.60
005564082-02	OBS	No	207.117508	264.274806	457.8	3.147	14.1	6.5	1.08	5899	2.68	2.60
005564082-03	OBS	No	420.337323	481.060818	3649.4	34.460	10.4	8.0	1.08	5899	6.45	1.01
005564082-05	OBS	No	281.373974	152.665943	44.6	18.551	11.2	0.2	1.08	5899	0.72	1.73
005564082-06	OBS	No	222.223595	235.030701	325.1	6.531	17.0	3.4	1.08	5899	2.05	2.37
005564082-07	OBS	No	139.361843	136.491682	308.6	5.114	9.4	4.9	1.08	5899	2.10	4.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005564082-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
005564082-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—CENT_SATURATED
005564082-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
005564082-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
005564082-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
005564082-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—CENT_SATURATED

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

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

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

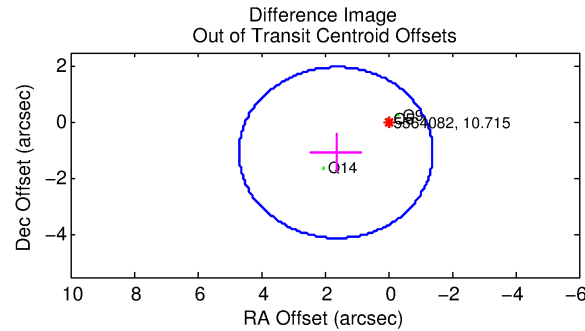
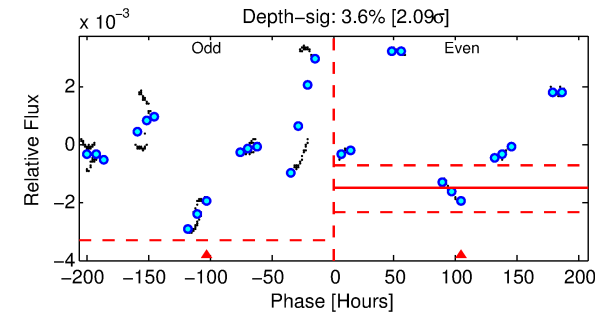
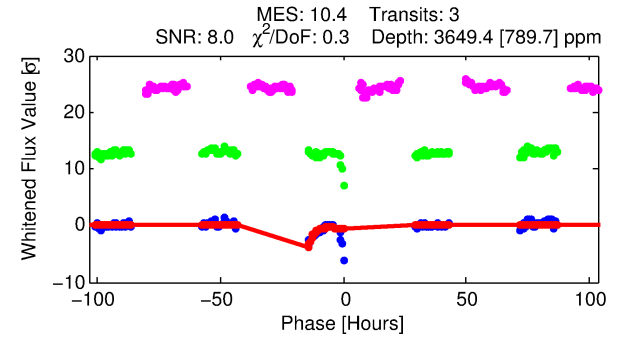
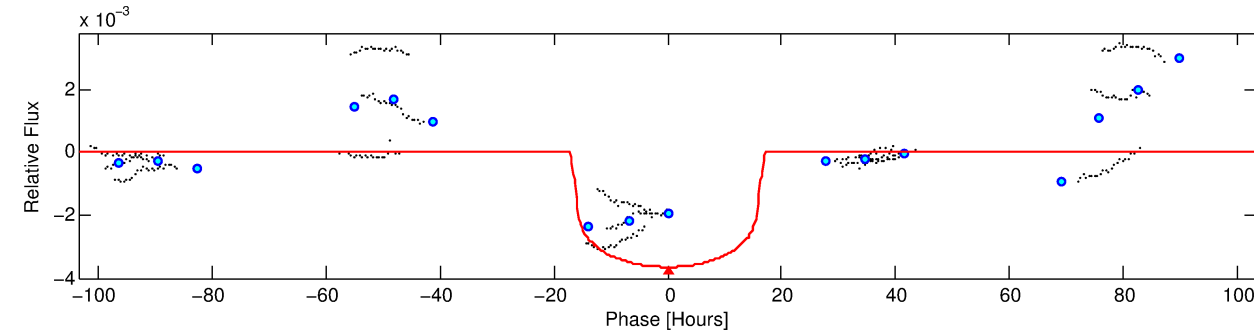
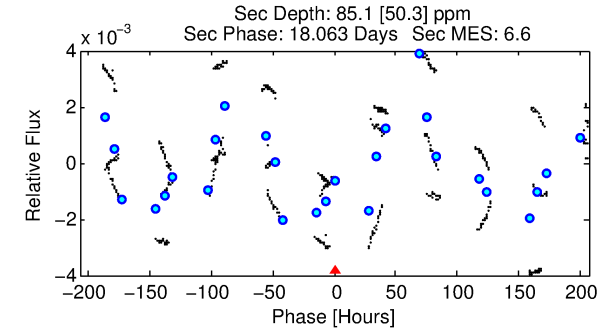
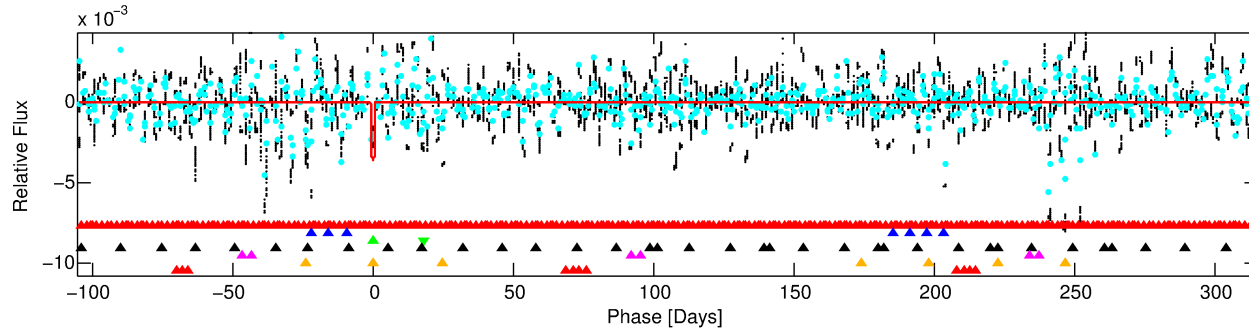
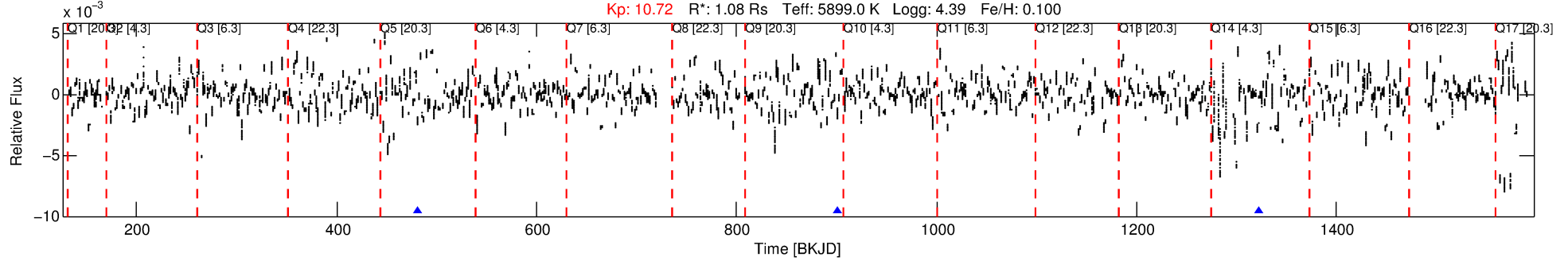
Ephemeris Match Information For 005564082-03

No Significant Match Found

DV One-Page Summary

KIC: 5564082 Candidate: 3 of 7 Period: 420.337 d
KOI: K06600 Corr: No Ephemeris Match

Kp: 10.72 R*: 1.08 Rs Teff: 5899.0 K Logg: 4.39 Fe/H: 0.100



DV Fit Results:

Period = 420.33732 [0.03278] d
Epoch = 481.0608 [0.0772] BKJD
Rp/R* = 0.0549 [0.0281]
a/R* = 98.28 [215.94]
b = 0.02 [118.75]
Seff = 1.01 [0.23]
Teq = 256 [15] K
Rp = 6.45 [3.48] Re
a = 1.1165 [0.1630] AU
Ag = 1401.88 [1687.29] [0.83σ]
Teffp = 2419 [717] K [3.02σ]

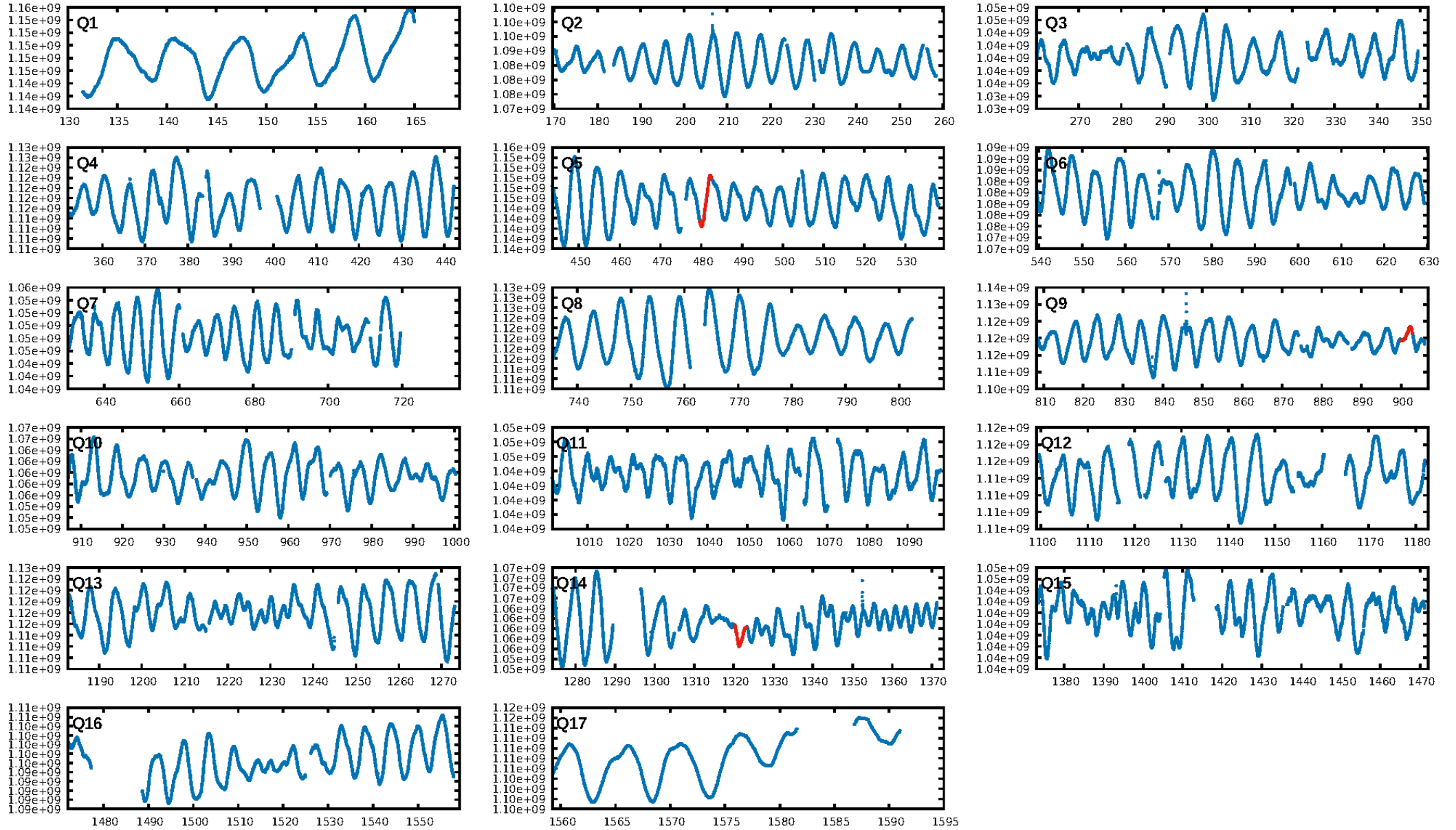
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [85.22σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 87.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.59e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 0.181 arcsec [3.15σ]
OotOffset-rm: 1.958 arcsec [1.93σ]
KicOffset-rm: 2.331 arcsec [2.60σ]
OotOffset-st: 1/0/0/2 [3]
KicOffset-st: 1/0/0/2 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.00 [0/3]

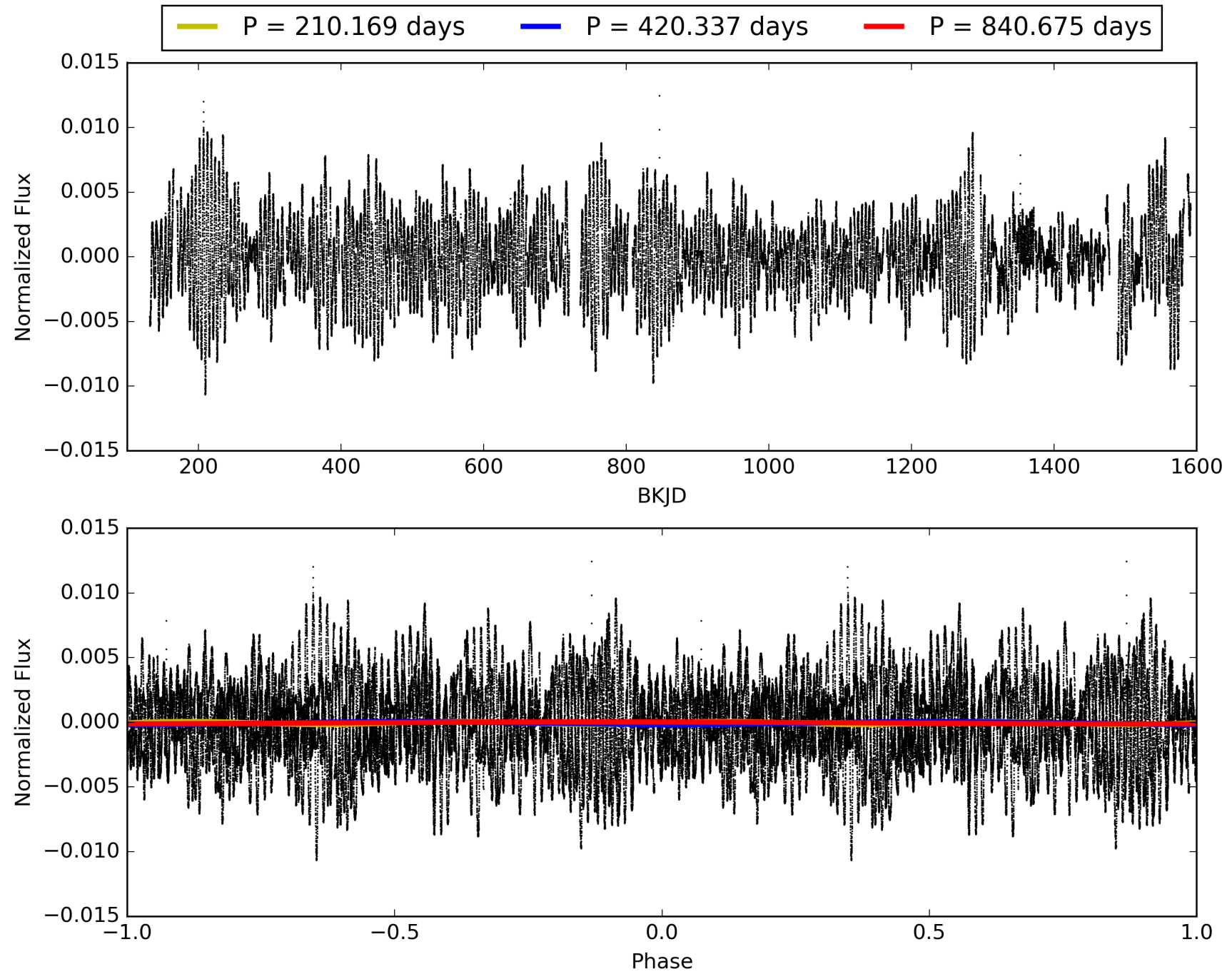
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:46:51 Z

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

TCE 005564082-03, PDC Light Curves

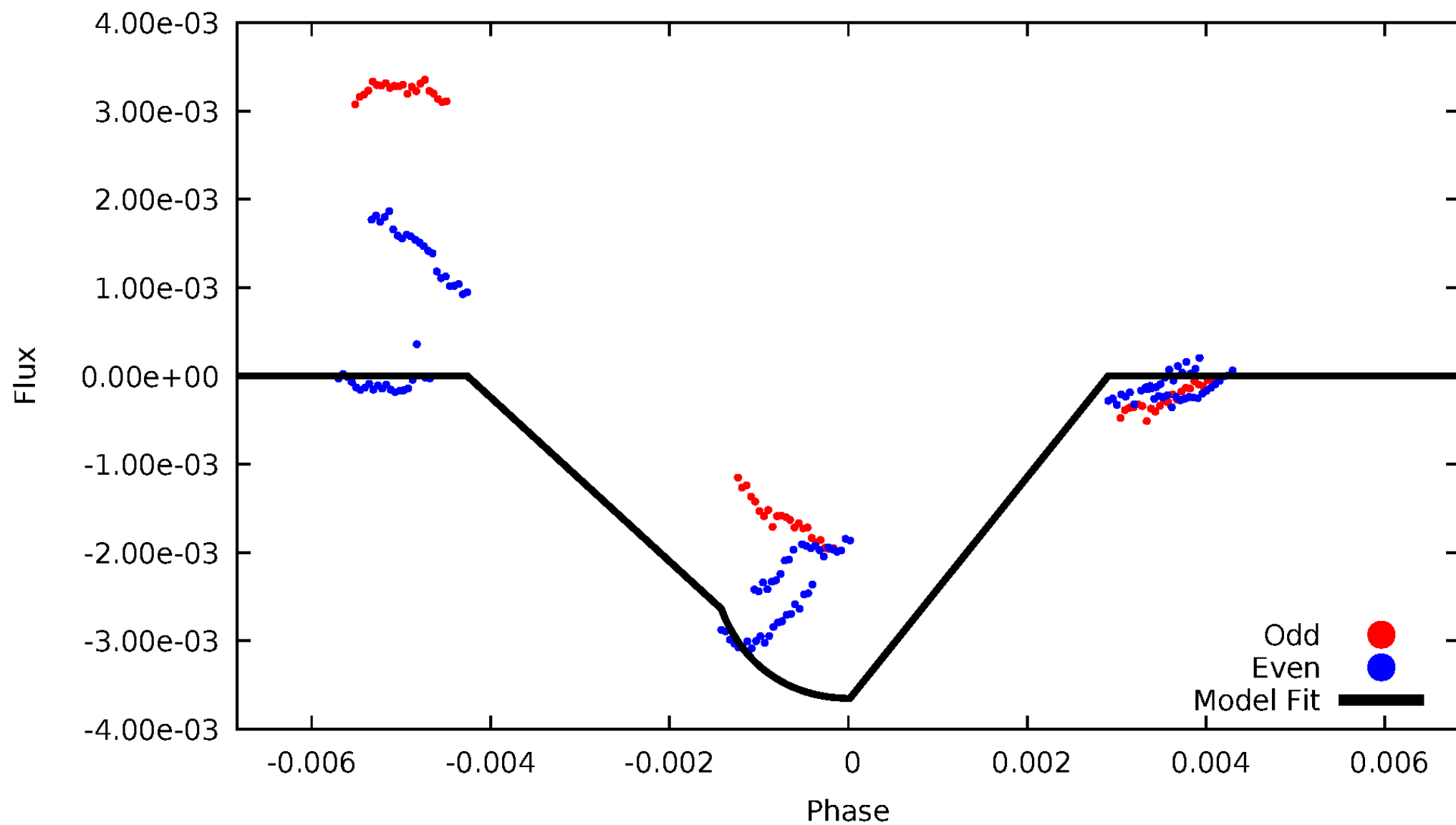


TCE 005564082-03



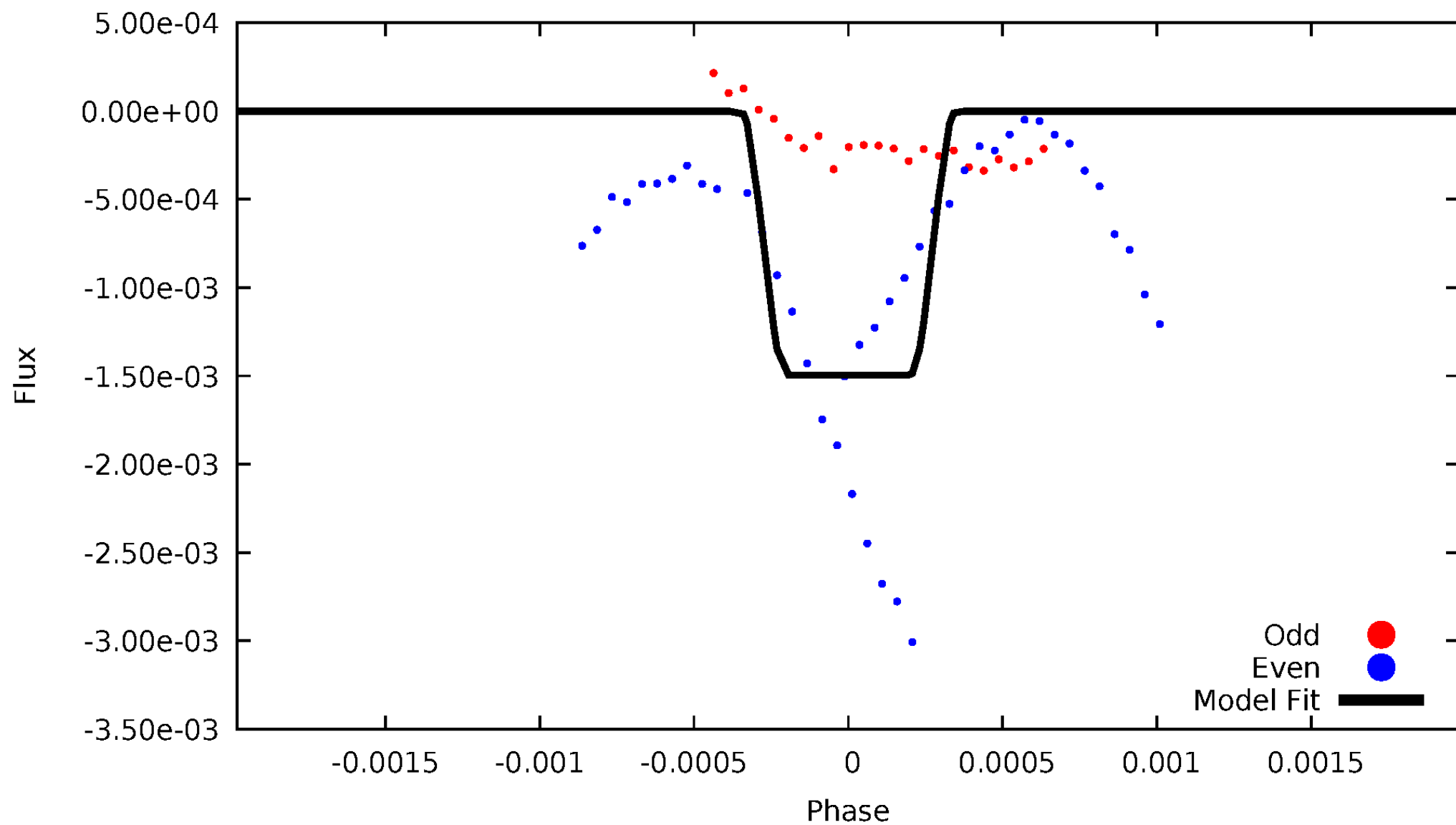
DV Odd/Even

TCE 005564082-03



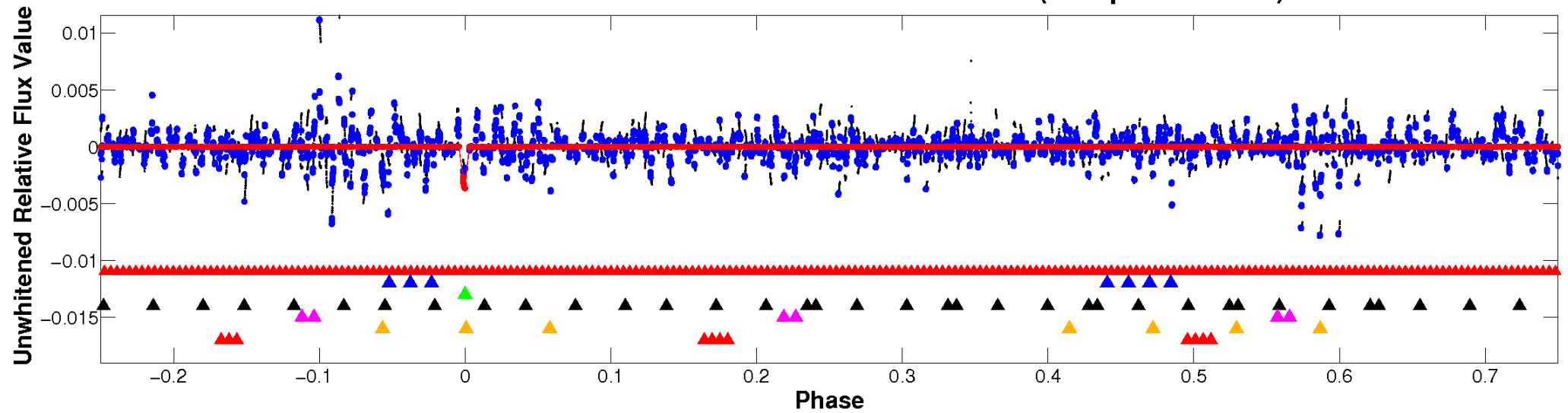
ALT Odd/Even

TCE 005564082-03

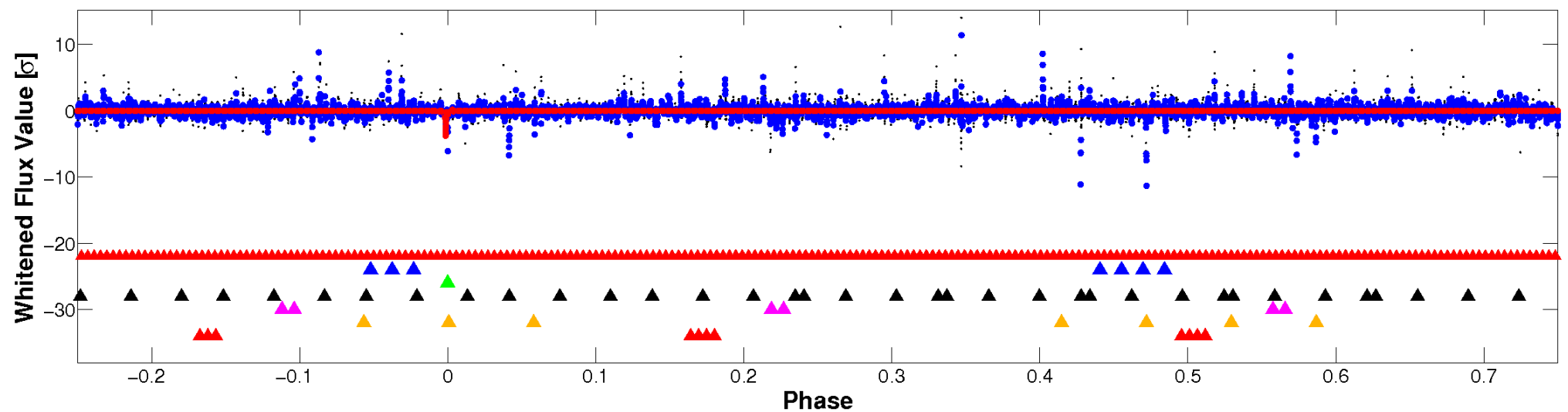


Non-Whitened Vs. Whitened Light Curve

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

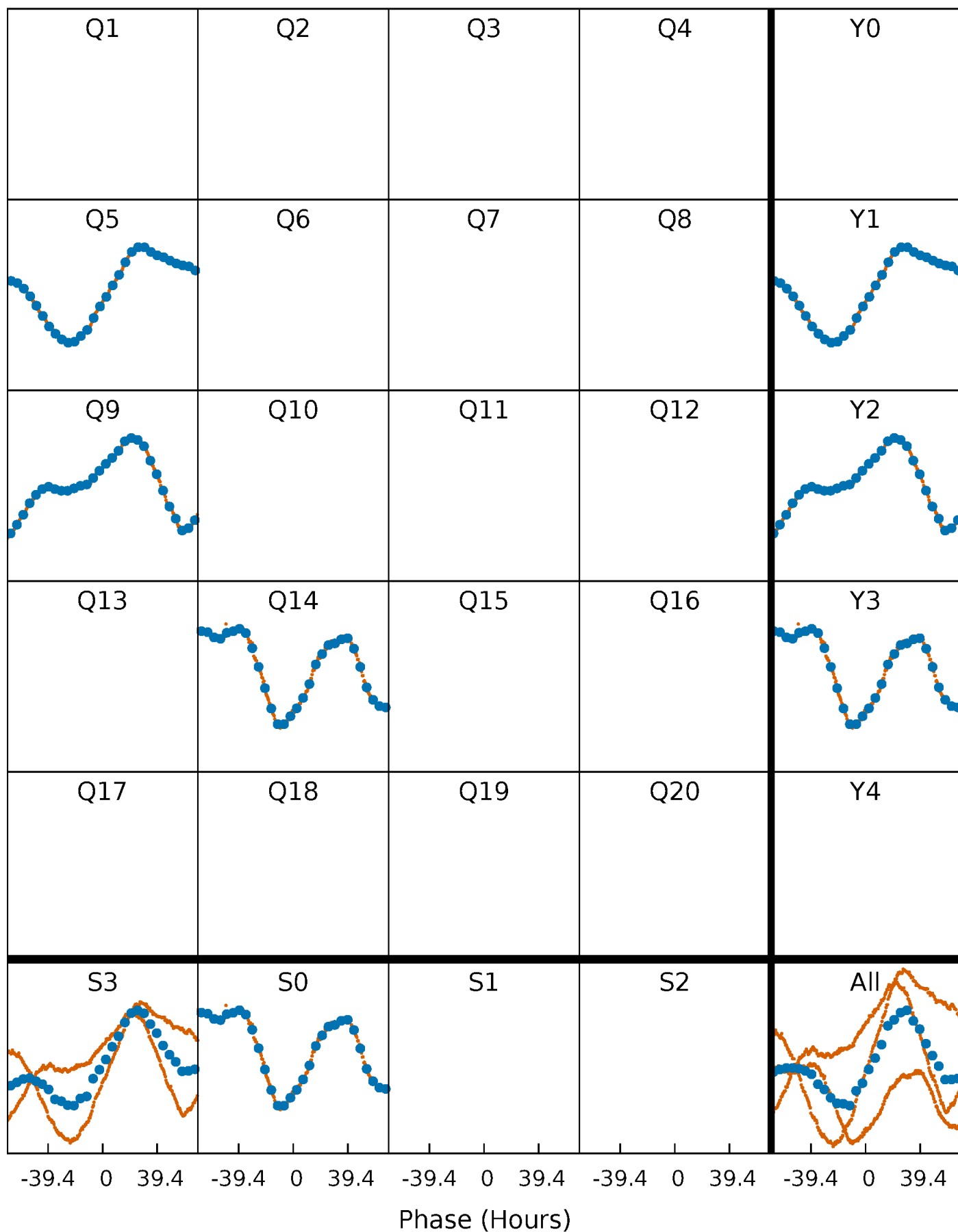


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



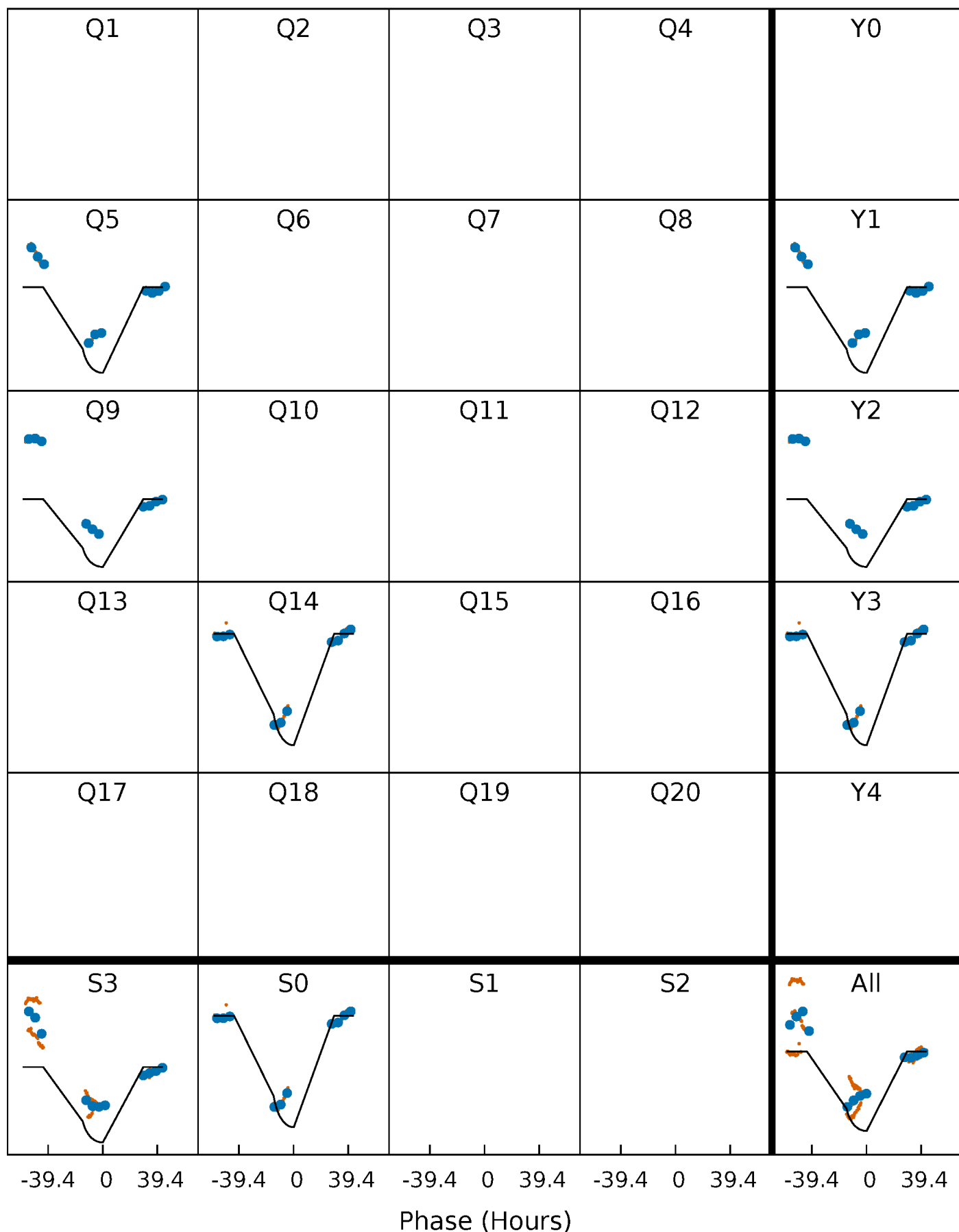
PDC Quarter-Phased Transit Curves

TCE 005564082-03 $P=420.337323$ Days $T_0=481.060818$ (BKJD)



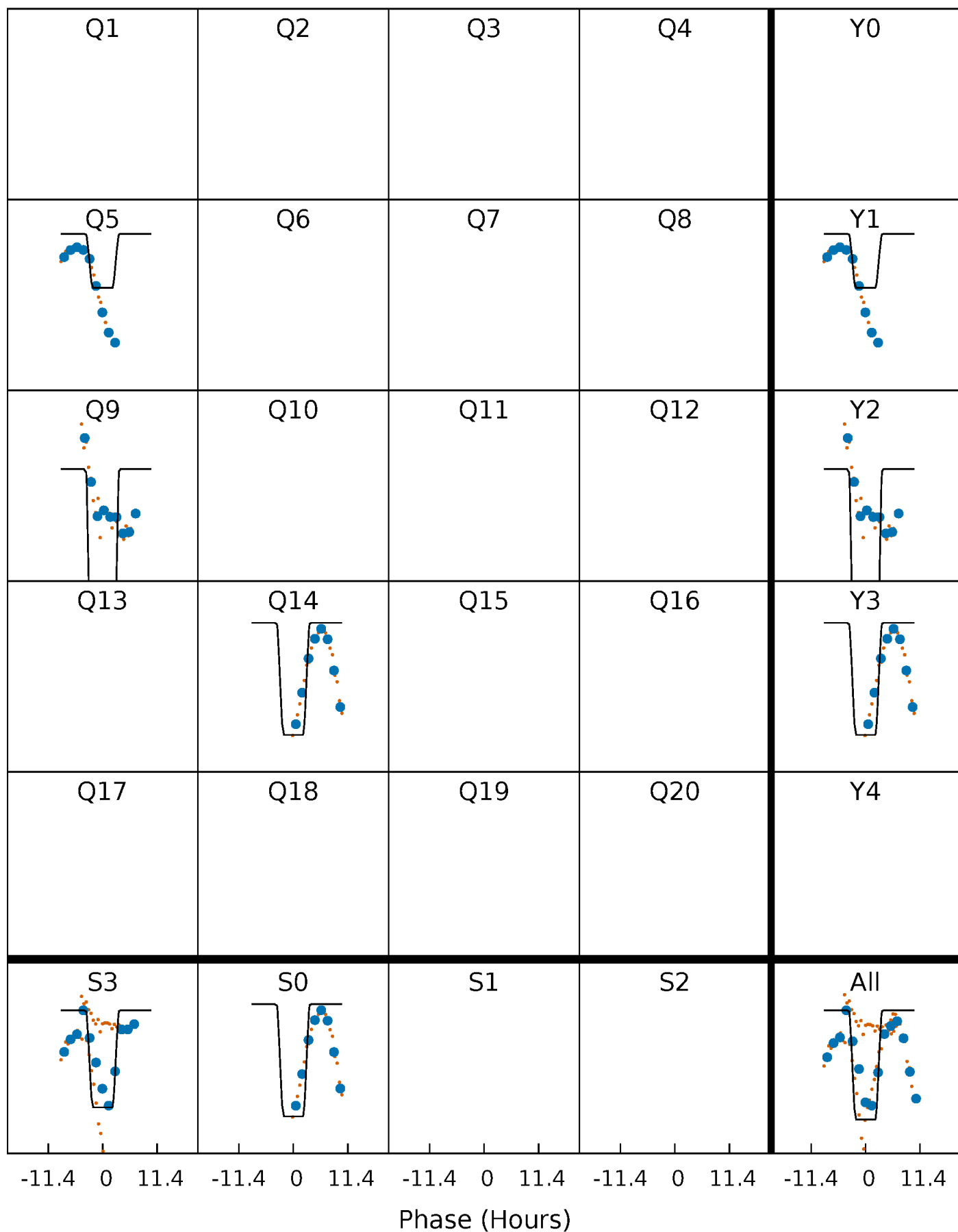
DV Quarter-Phased Transit Curves

TCE 005564082-03 $P=420.337323$ Days $T_0=481.060818$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

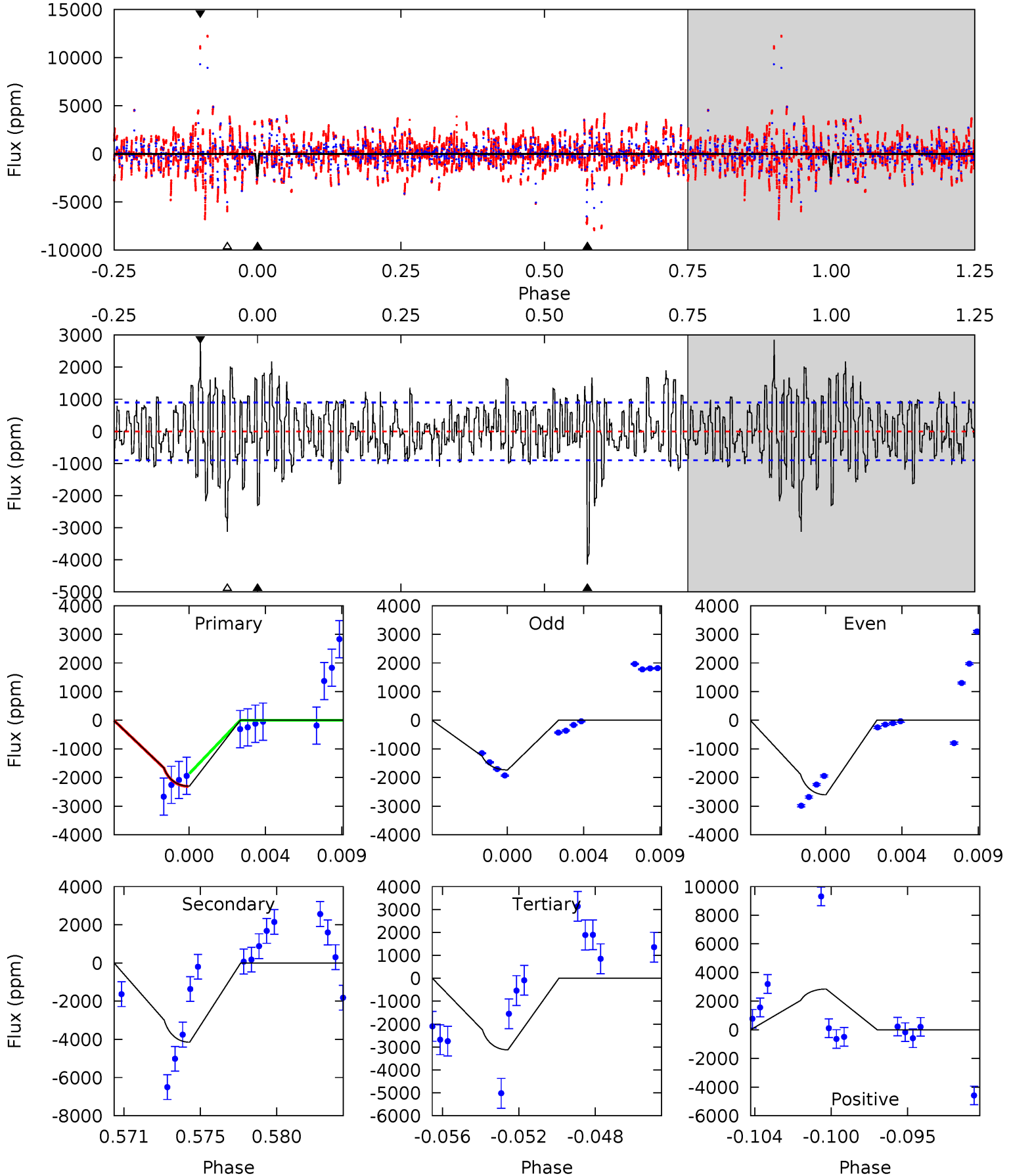
TCE 005564082-03 P=420.081000 Days $T_0=480.981521$ (BKJD)



DV Model-Shift Uniqueness Test

005564082-03, $P = 420.337323$ Days, $E = 60.723495$ Days

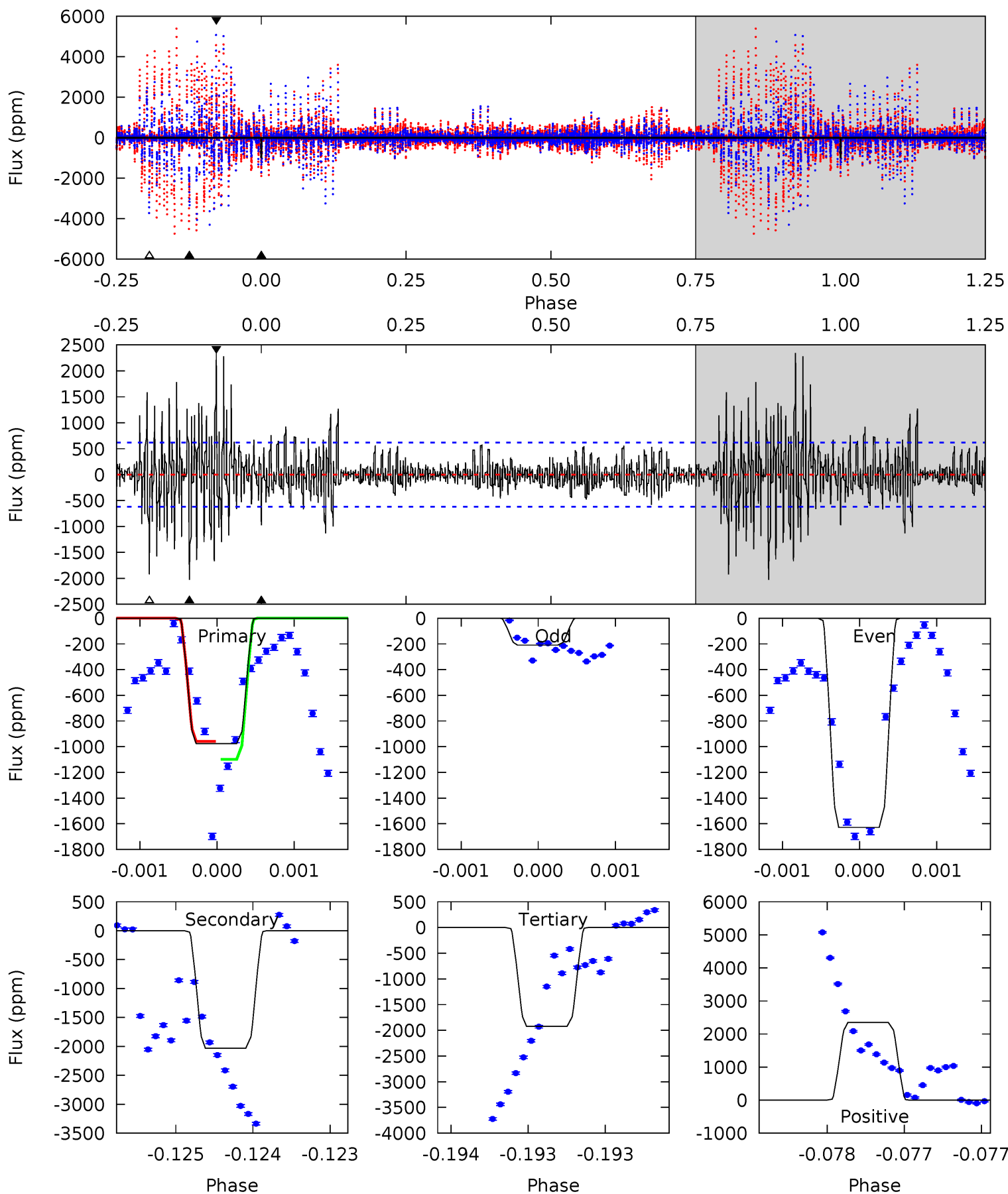
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.3	23.9	18.0	16.4	5.18	2.85	3.98	-4.72	-3.12	5.90	7.50	2.35	1.08	0.41	0.36



Alt Model-Shift Uniqueness Test

005564082-03, P = 420.081000 Days, E = 60.900521 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.70	18.1	17.1	20.9	5.51	3.38	2.85	-8.43	-12.2	0.95	-2.81	6.30	0.97	0.54	0.62



Stellar Parameters For KIC 005564082

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5899^{+70}_{-88}	$4.394^{+0.066}_{-0.123}$	$0.100^{+0.150}_{-0.150}$	$1.078^{+0.180}_{-0.097}$	$1.051^{+0.074}_{-0.067}$	$1.181^{+0.315}_{-0.421}$
	+1%/-1%	+2%/-3%	+150%/-150%	+17%/-9%	+7%/-6%	+27%/-36%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 005564082-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-4147 ± 174	$6.59^{+3.95}_{-3.28}$	359^{+16}_{-12}	6378^{+3342}_{-1226}	$64366^{+199210}_{-38237}$
Alt.	-2030 ± 112	$5.01^{+3.20}_{-2.99}$	359^{+15}_{-11}	6148^{+4671}_{-1264}	$54565^{+284511}_{-33963}$

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

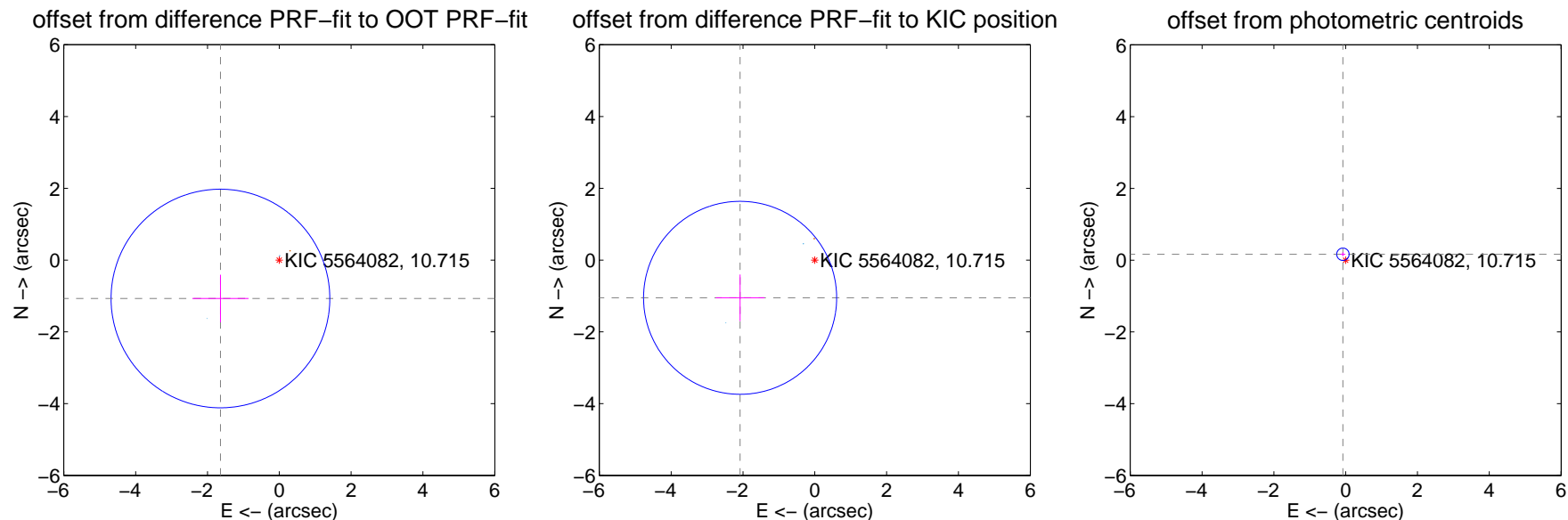
DV Centroid Data

Supplemental centroid analysis for 005564082-03. **Kepler magnitude: 10.71.** Transit SNR 8.02

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.48 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.958 ± 1.015	1.93	1.640 ± 0.783	-1.071 ± 0.662
PRF-fit source offset from KIC position	2.331 ± 0.896	2.60	2.081 ± 0.678	-1.051 ± 0.651
photometric centroid source offset	0.18 ± 0.06	3.15	0.08 ± 0.07	0.16 ± 0.06

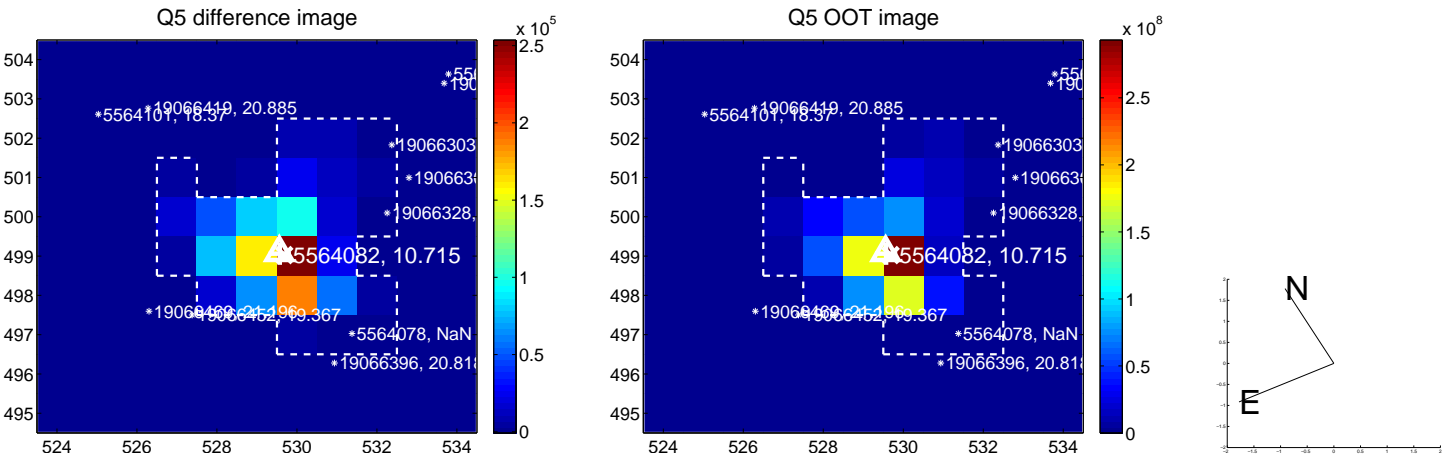


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

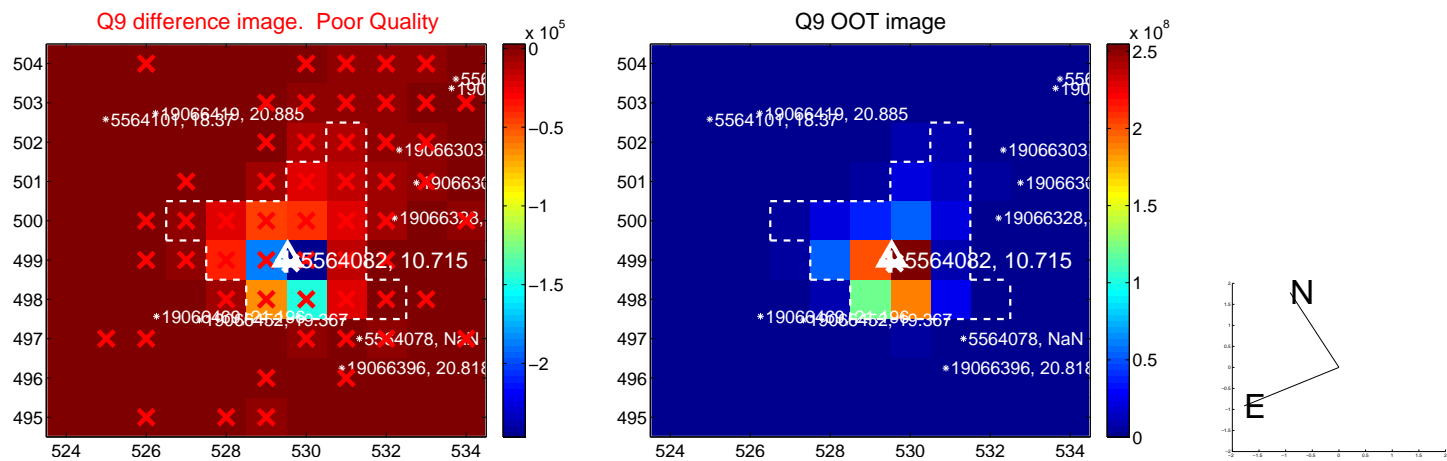
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



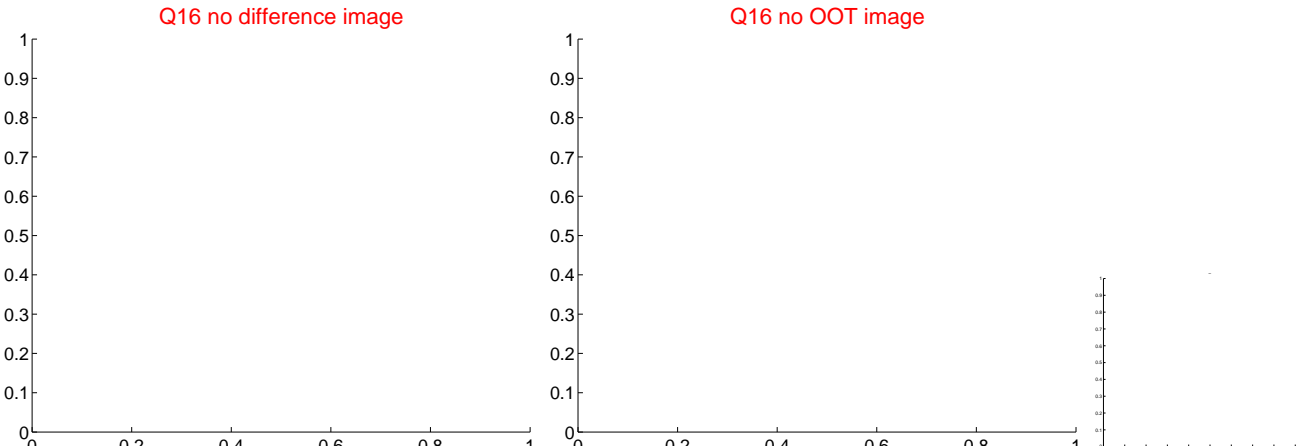
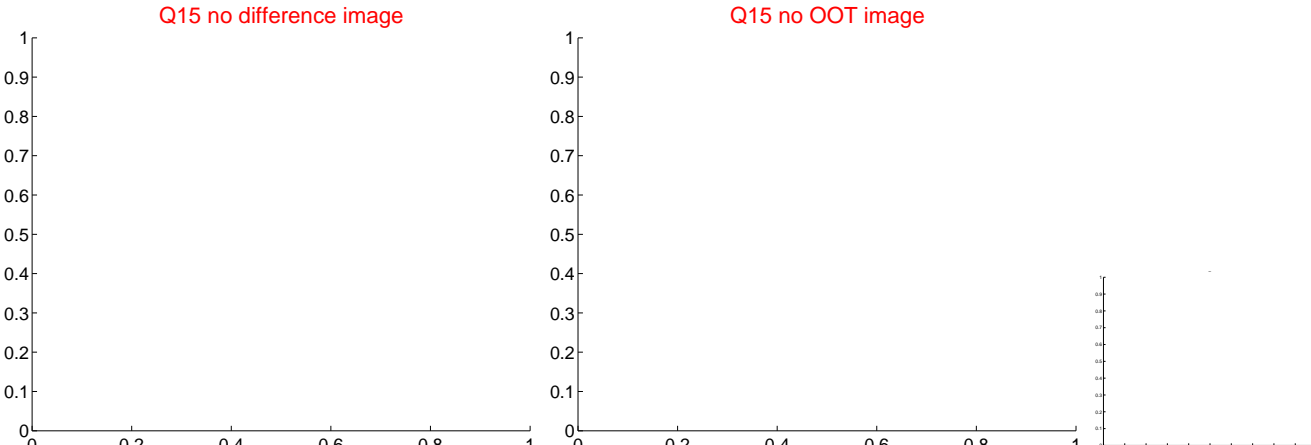
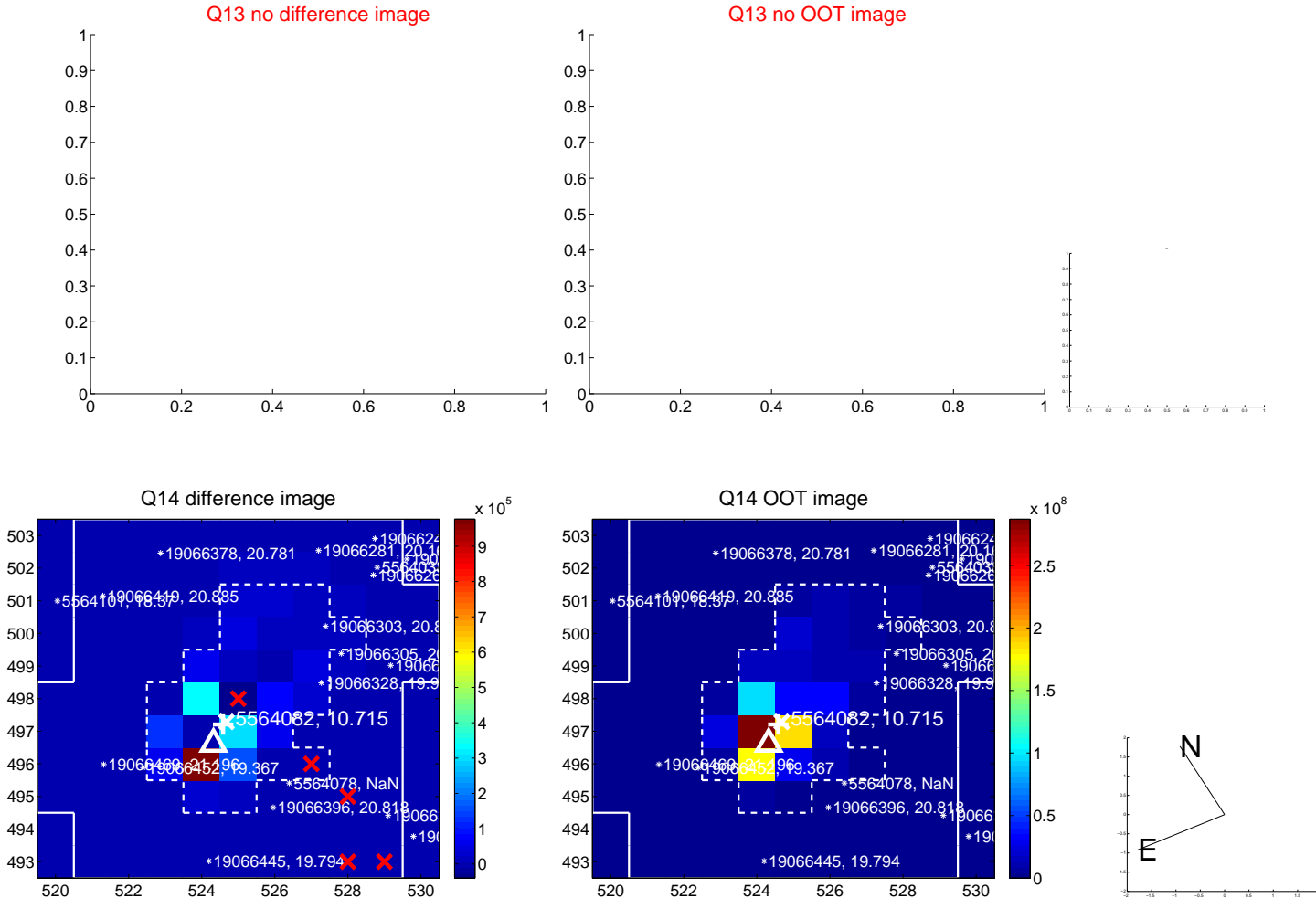
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



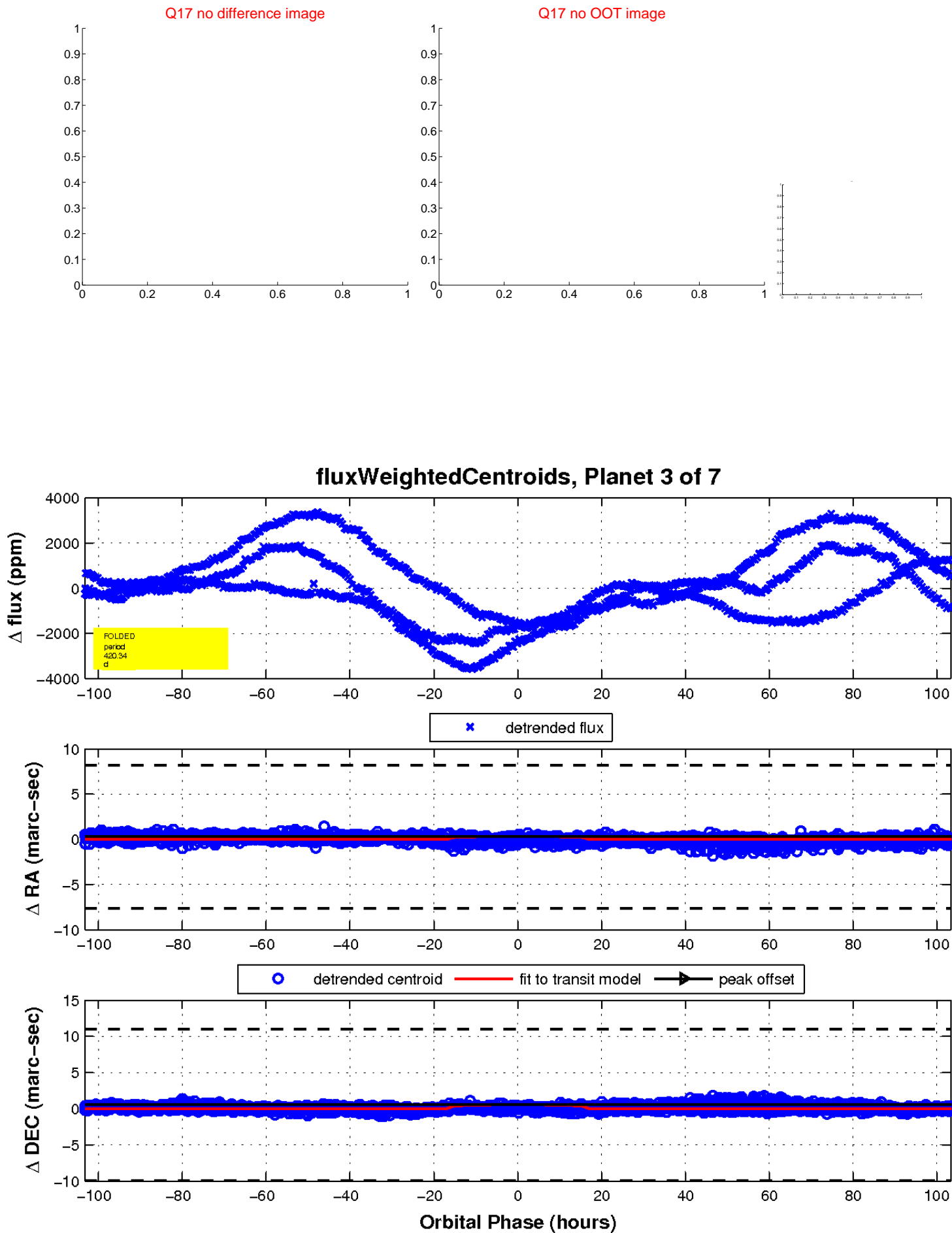
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

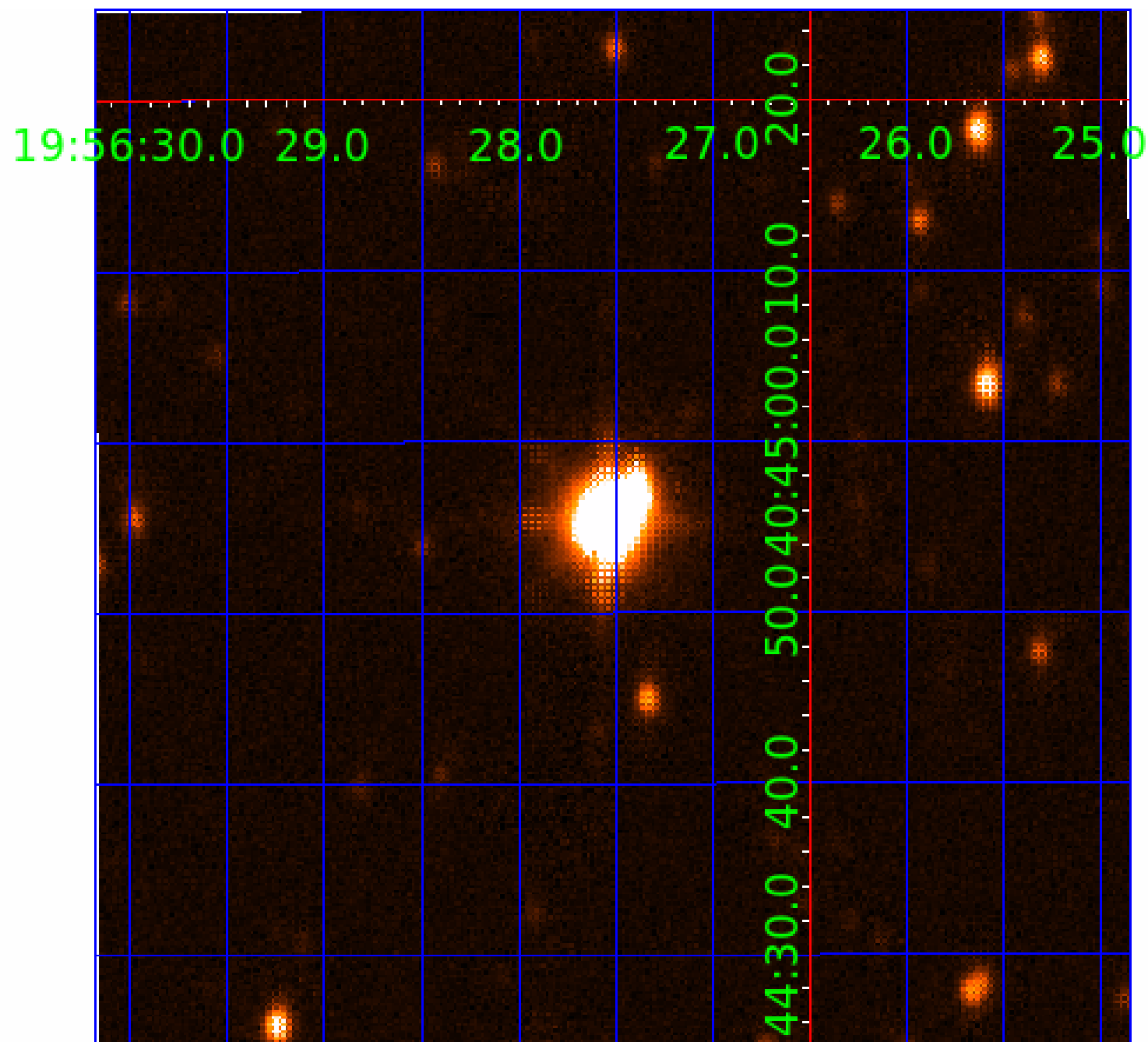


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005564082

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})
005564082-01	OBS	No	1.803659	131.841511	23.8	10.571	11.2	8.7	1.08	5899	0.52	1450.60
005564082-02	OBS	No	207.117508	264.274806	457.8	3.147	14.1	6.5	1.08	5899	2.68	2.60
005564082-03	OBS	No	420.337323	481.060818	3649.4	34.460	10.4	8.0	1.08	5899	6.45	1.01
005564082-05	OBS	No	281.373974	152.665943	44.6	18.551	11.2	0.2	1.08	5899	0.72	1.73
005564082-06	OBS	No	222.223595	235.030701	325.1	6.531	17.0	3.4	1.08	5899	2.05	2.37
005564082-07	OBS	No	139.361843	136.491682	308.6	5.114	9.4	4.9	1.08	5899	2.10	4.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005564082-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
005564082-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—CENT_SATURATED
005564082-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
005564082-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
005564082-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
005564082-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—CENT_SATURATED

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

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

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

Ephemeris Match Information For 005564082-05

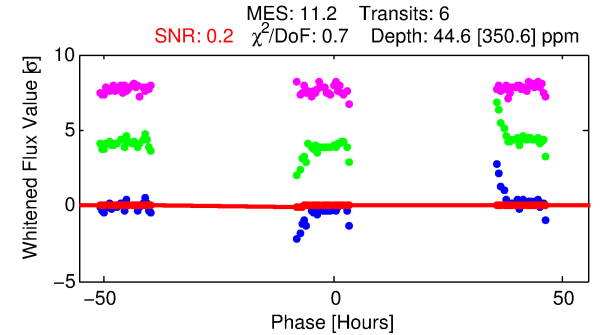
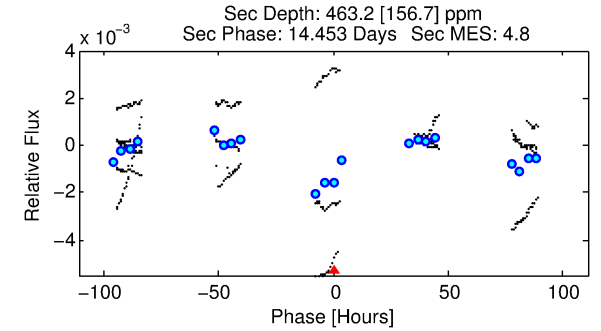
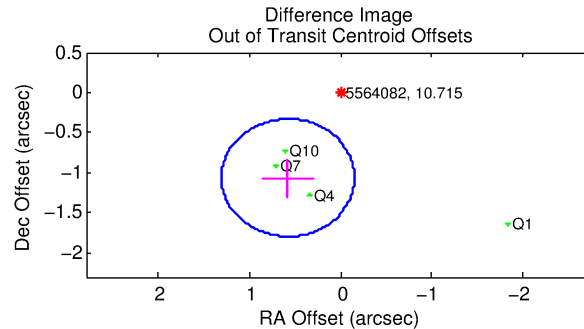
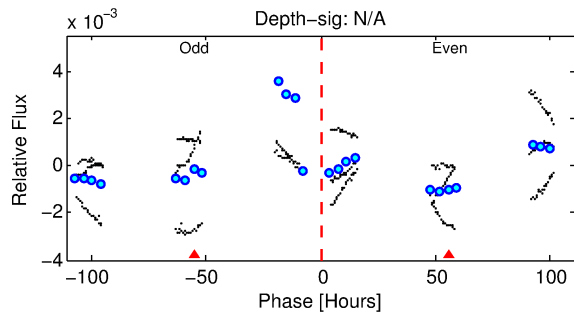
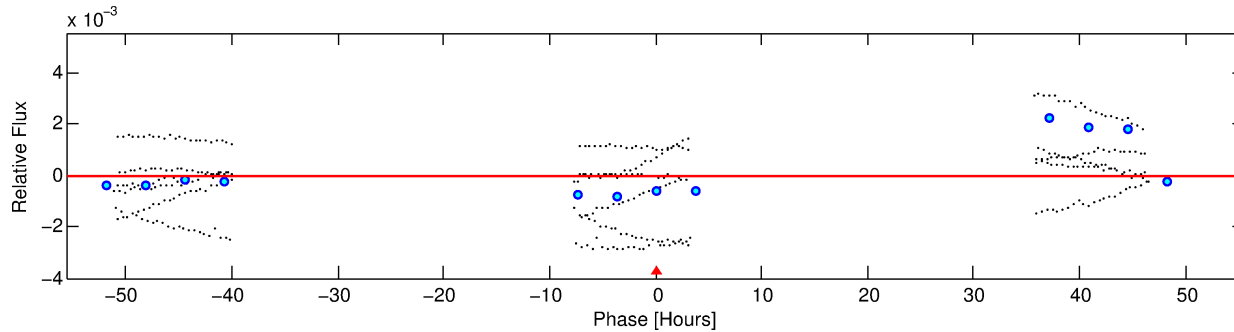
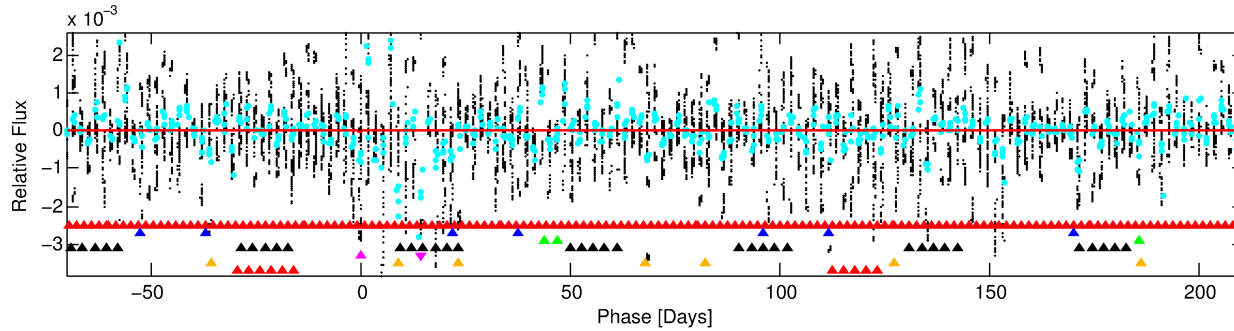
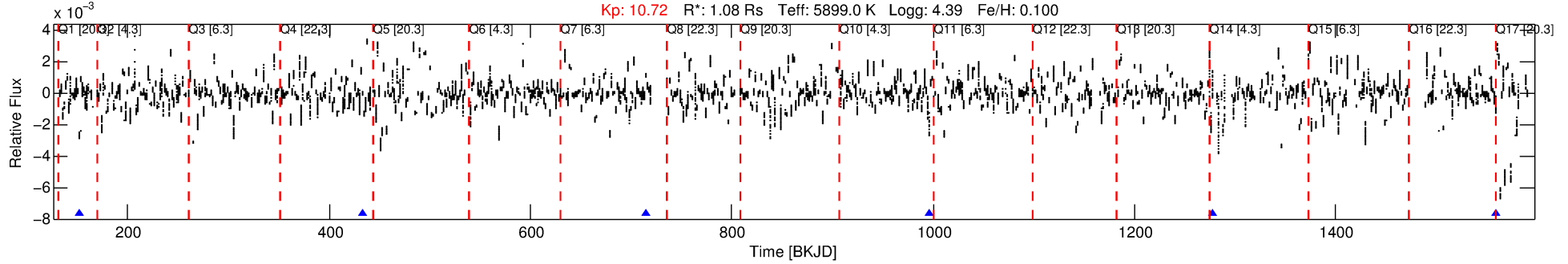
No Significant Match Found

DV One-Page Summary

KIC: 5564082 Candidate: 5 of 7 Period: 281.374 d

KOI: K06600 Corr: No Ephemeris Match

Kp: 10.72 R*: 1.08 Rs Teff: 5899.0 K Logg: 4.39 Fe/H: 0.100



DV Fit Results:

Period = 281.37397 [0.50880] d
Epoch = 152.6659 [1.8163] BKJD
Rp/R* = 0.0061 [0.2002]
a/R* = 111.08 [15748.22]
b = 0.31 [419.51]
Seff = 1.73 [0.39]
Teq = 292 [17] K
Rp = 0.72 [23.55] Re
a = 0.8543 [0.1247] AU
Ag = 357468.29 [23343170.78] [0.02σ]
Teffp = 11051 [180420] K [0.06σ]

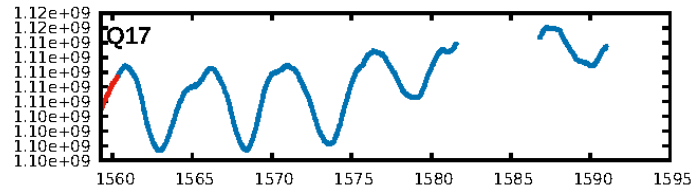
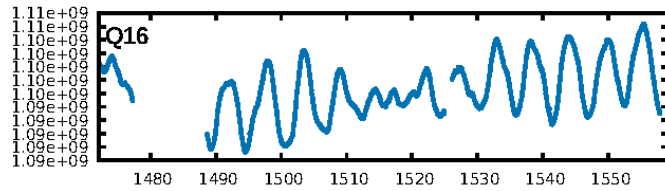
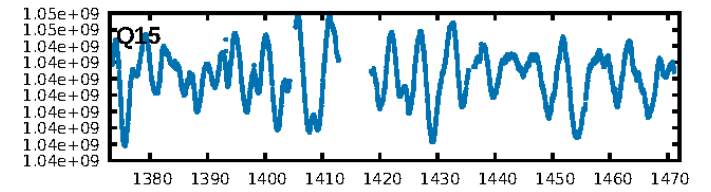
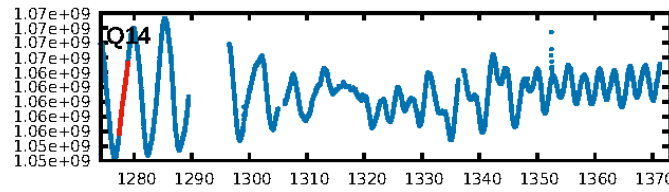
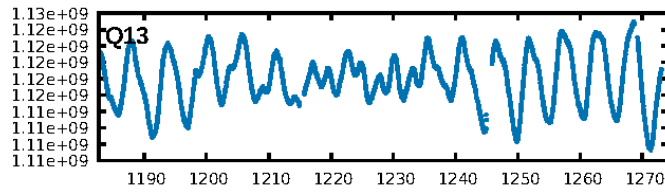
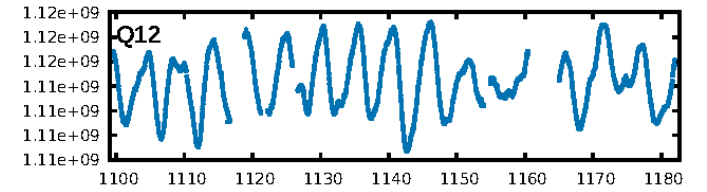
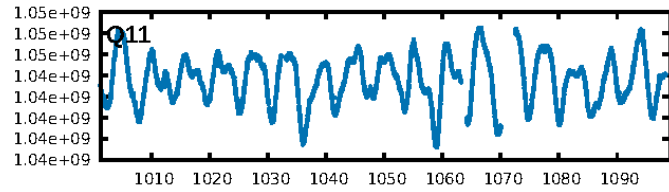
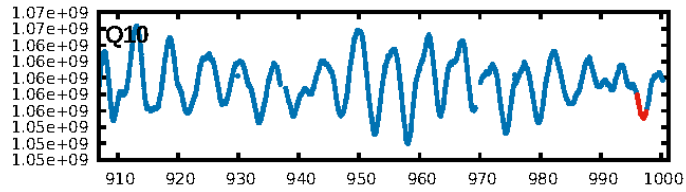
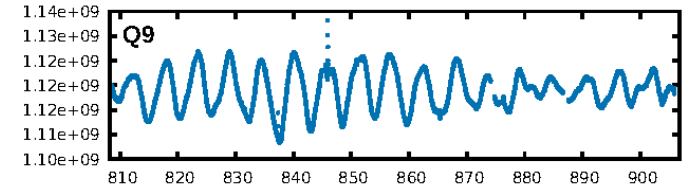
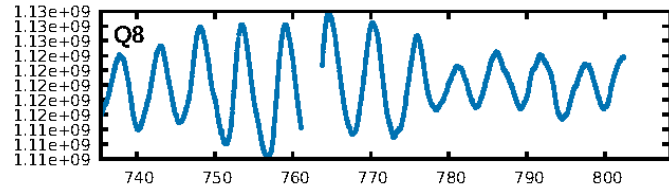
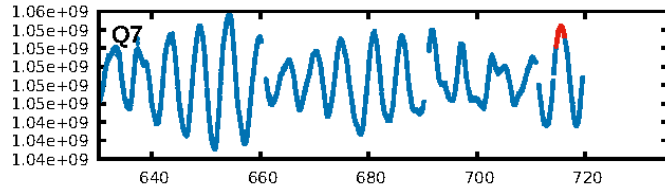
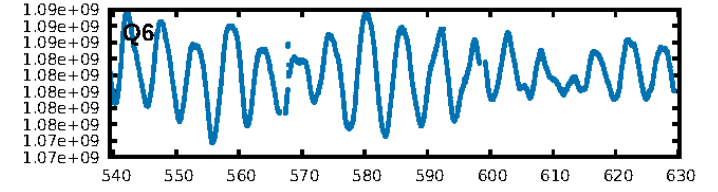
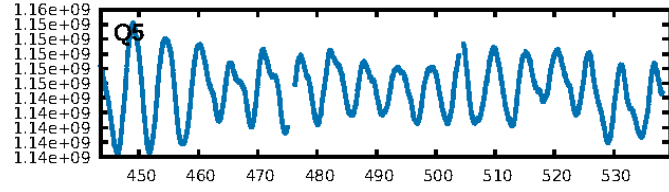
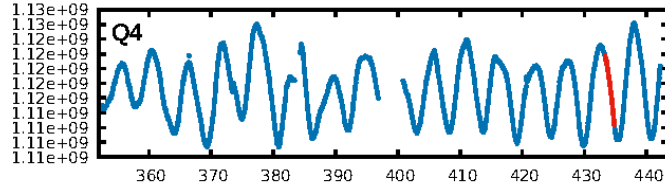
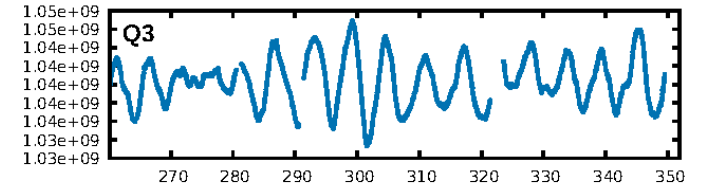
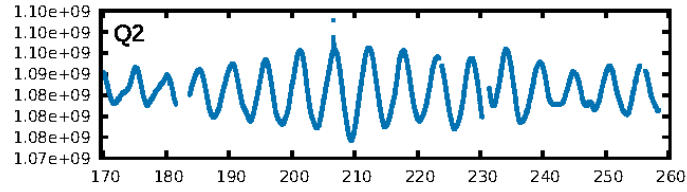
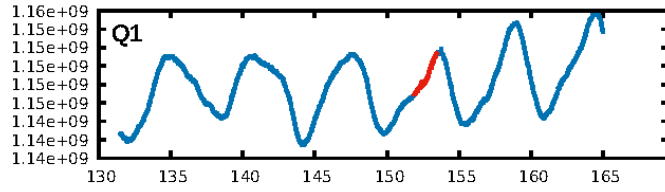
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [72.18σ]
LongPeriod-sig: 100.0% [85.22σ]
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.08e-15
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: N/A
Centroid-sig: 6.3%
Centroid-so: 7.304 arcsec [1.47σ]
OotOffset-rm: 1.212 arcsec [4.97σ]
KicOffset-rm: 1.790 arcsec [3.63σ]
OotOffset-st: 1/1/1/1 [4]
KicOffset-st: 1/1/1/1 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 0.00 [0/4]

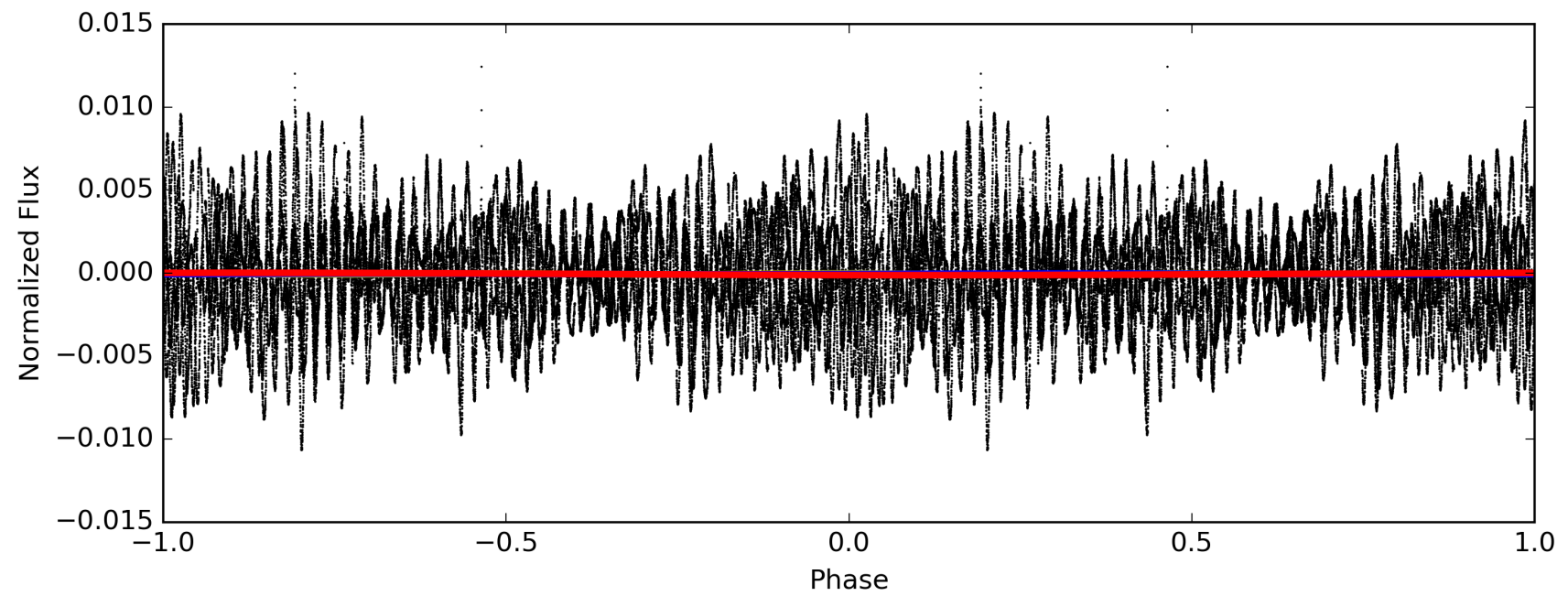
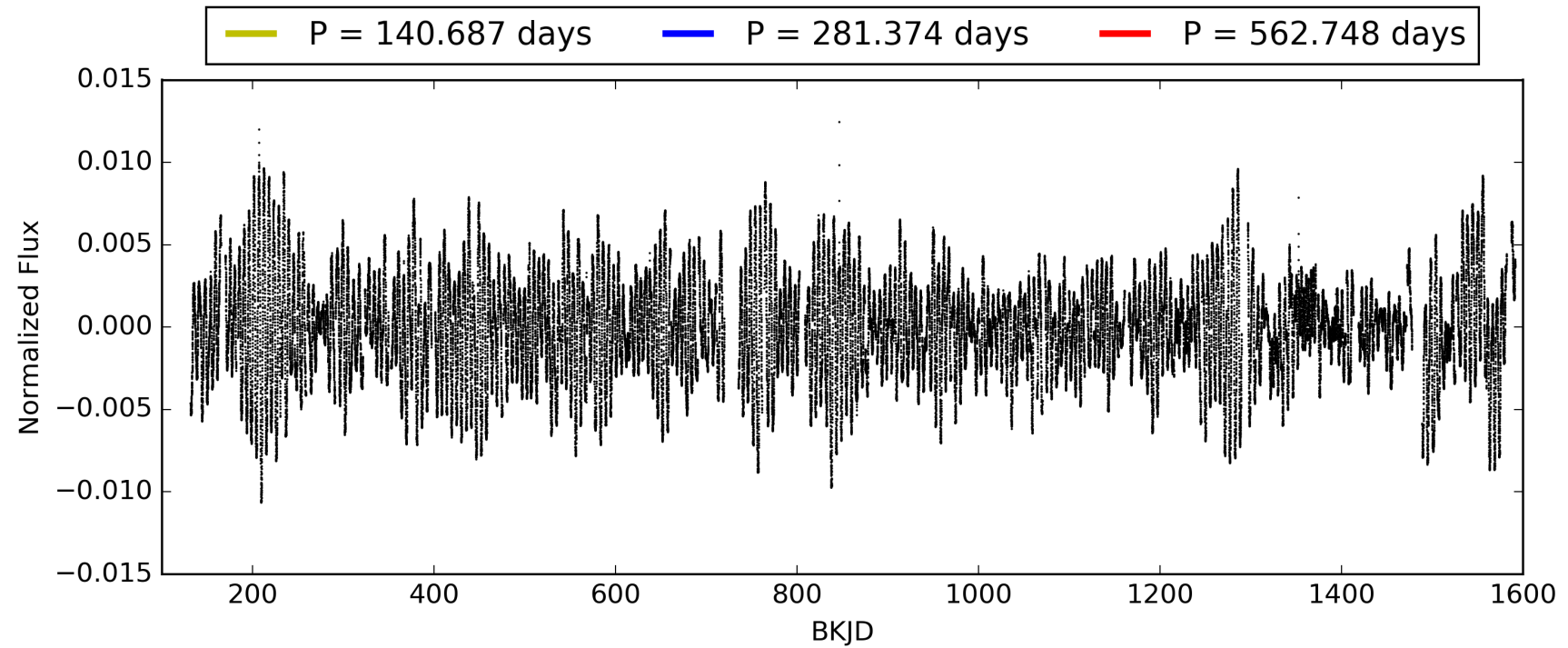
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:46:59 Z

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

TCE 005564082-05, PDC Light Curves

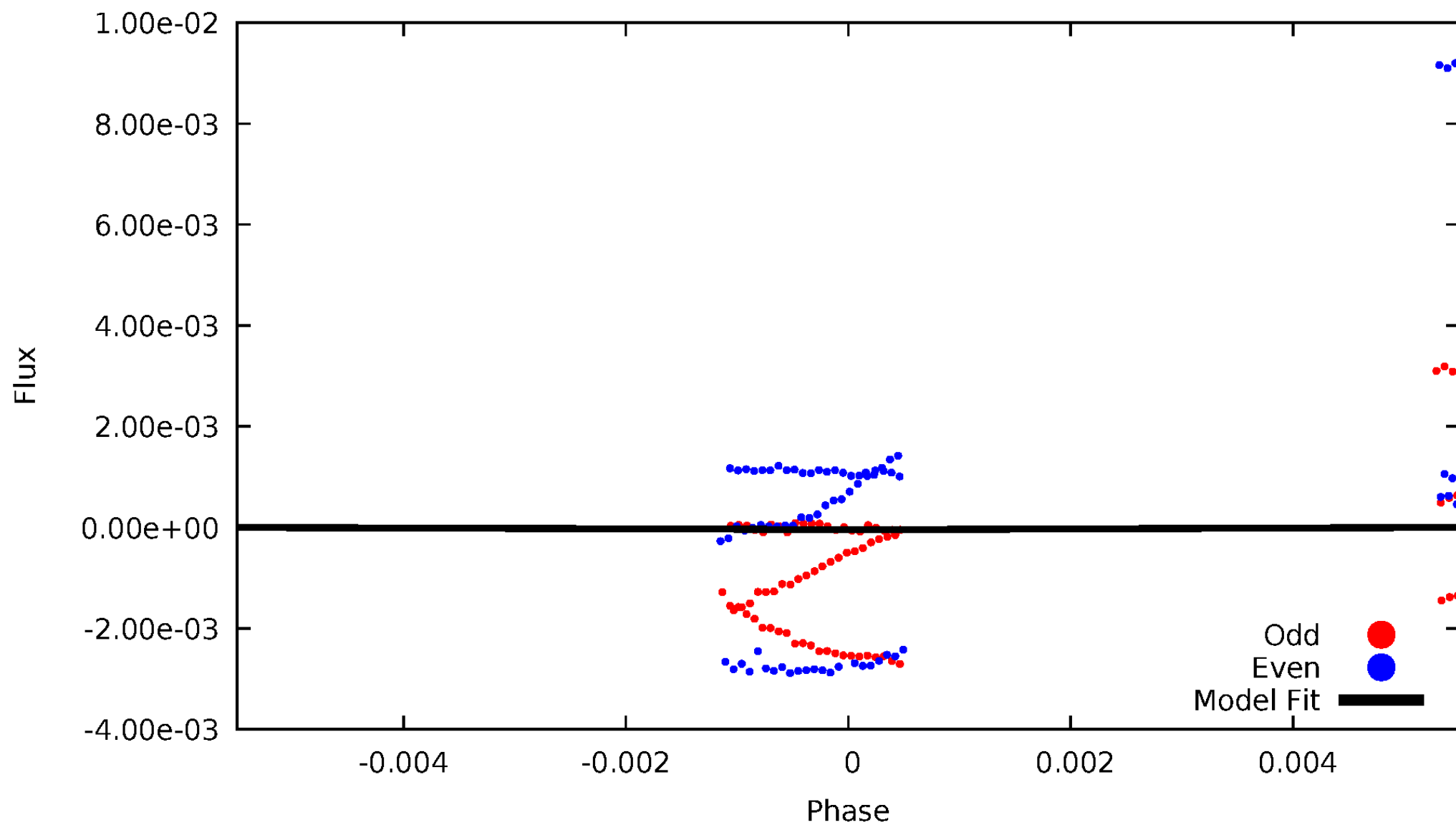


TCE 005564082-05



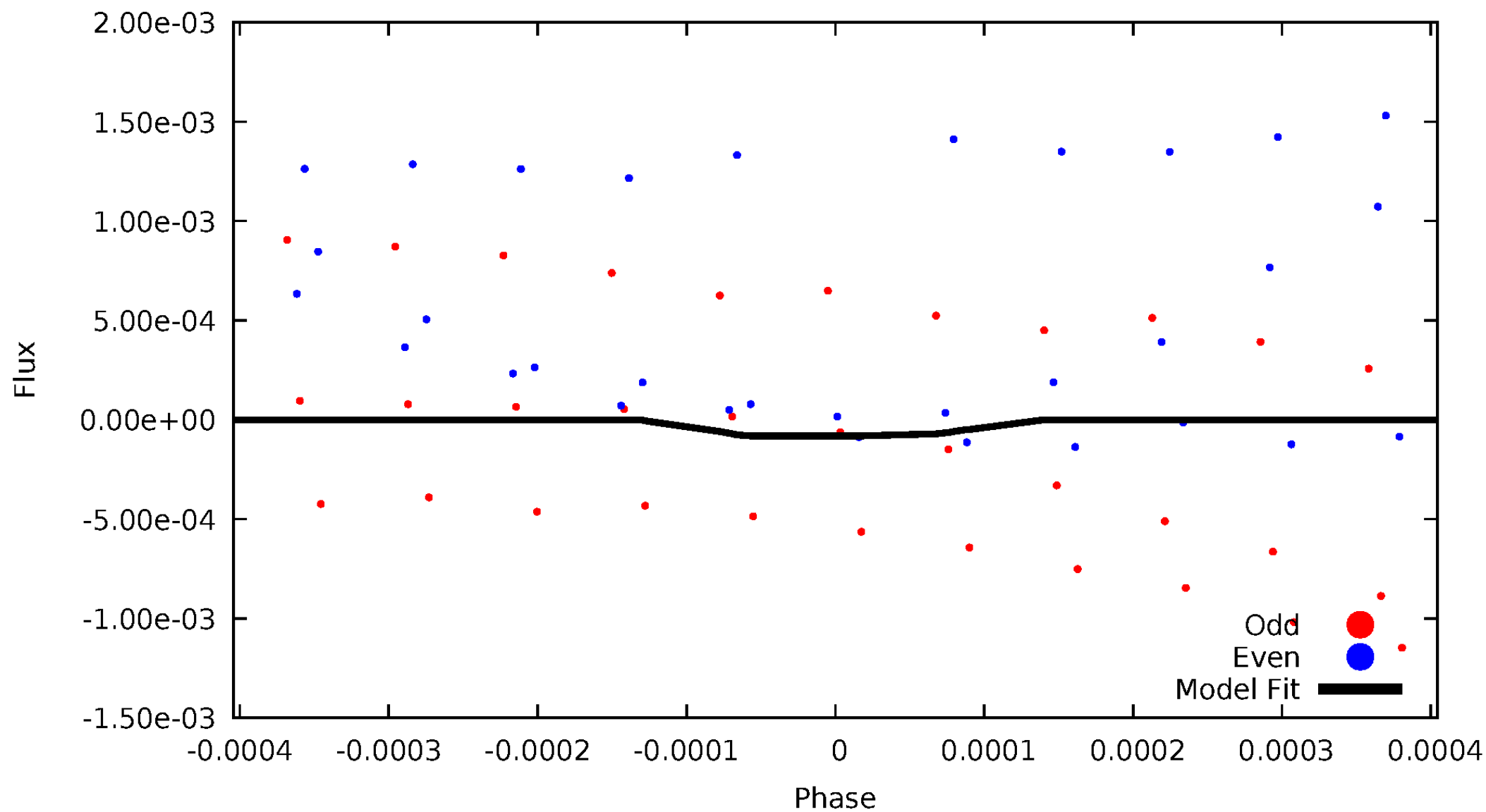
DV Odd/Even

TCE 005564082-05



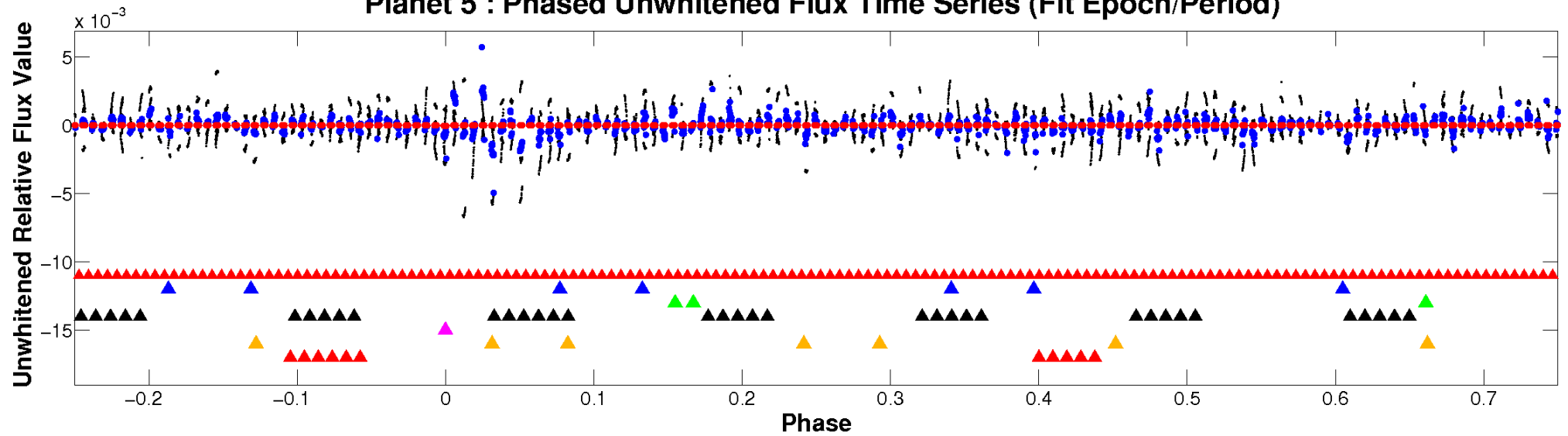
ALT Odd/Even

TCE 005564082-05

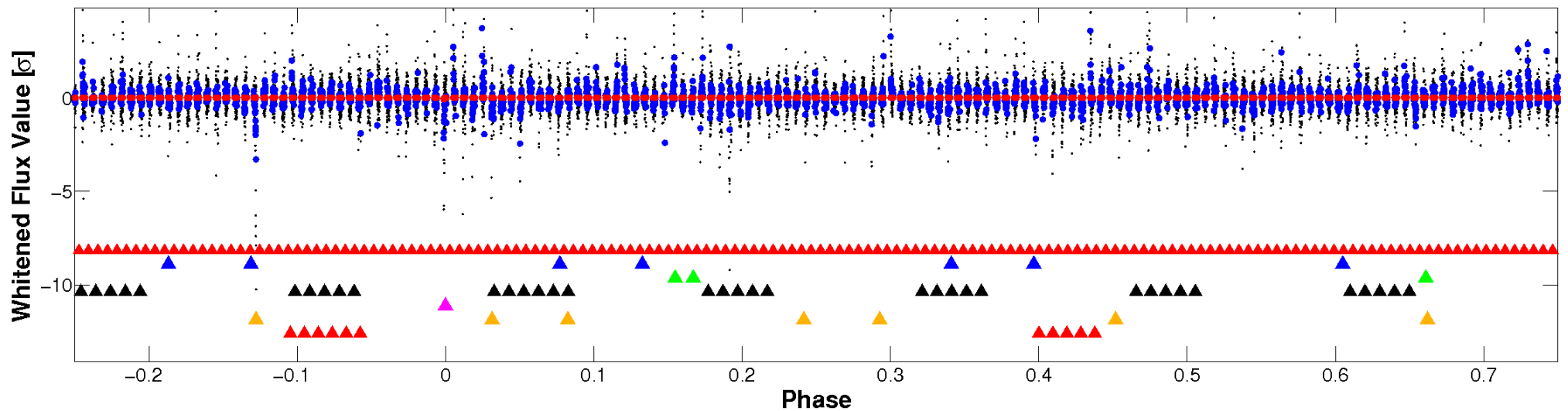


Non-Whitened Vs. Whitened Light Curve

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

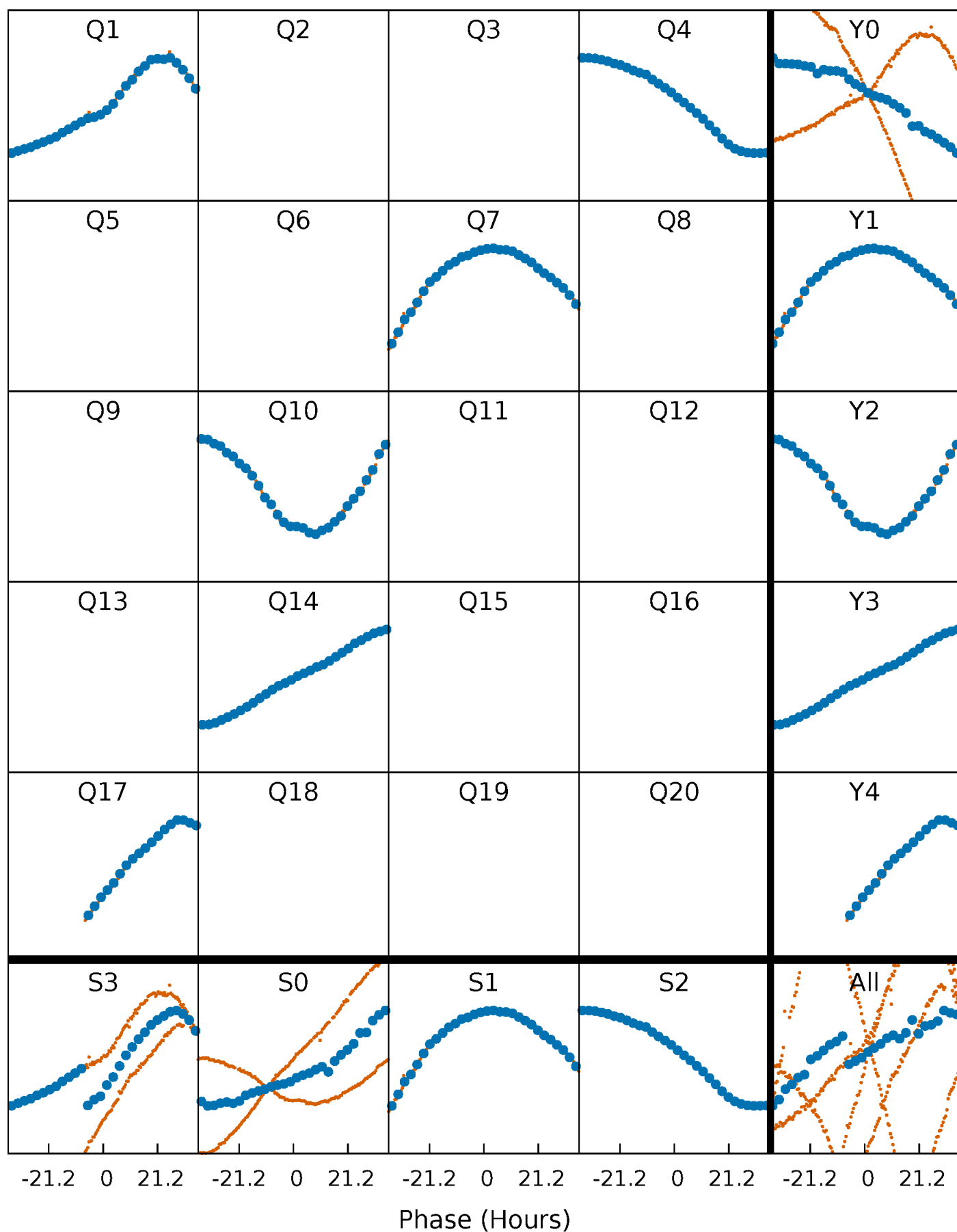


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



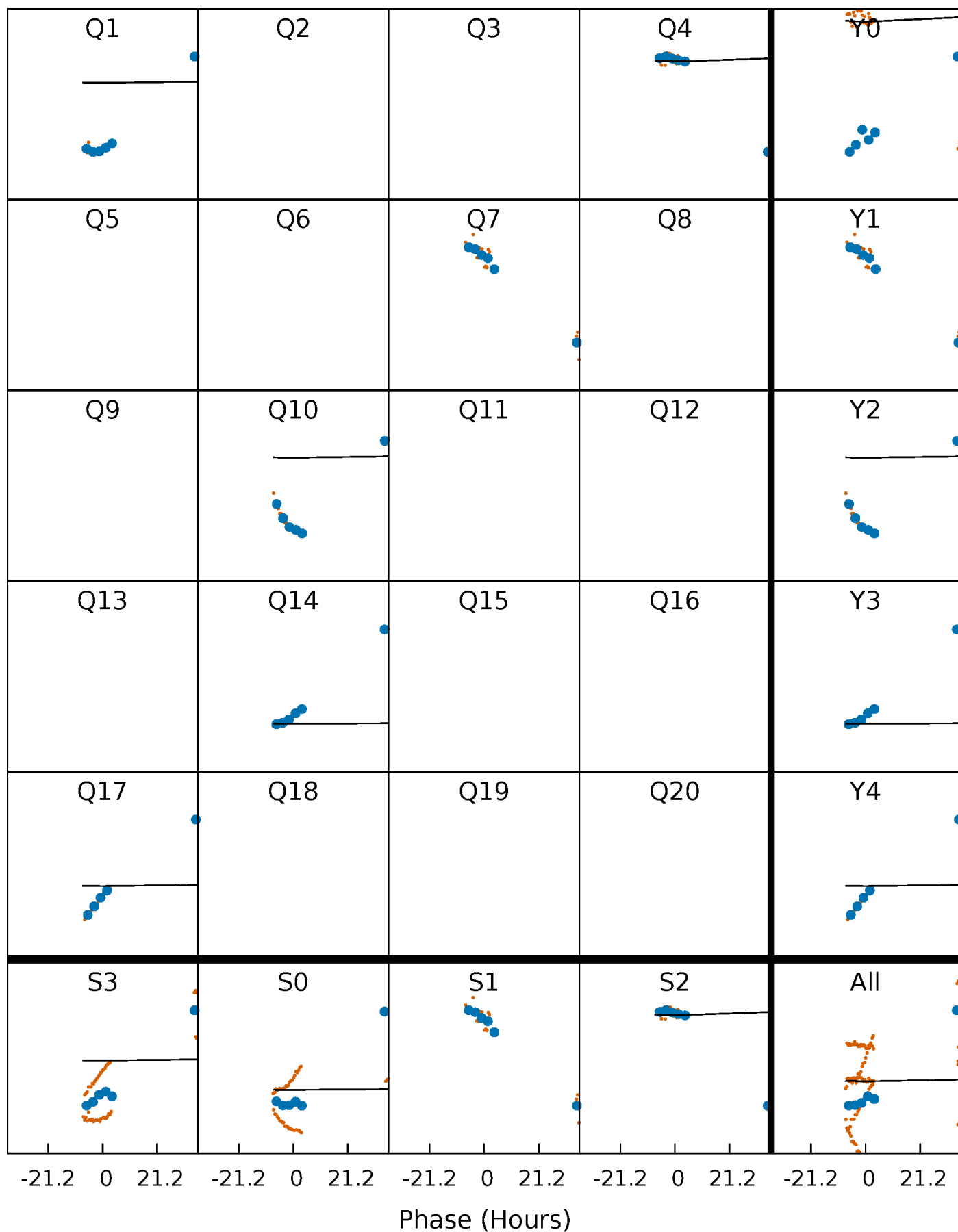
PDC Quarter-Phased Transit Curves

TCE 005564082-05 $P=281.373974$ Days $T_0=152.665943$ (BKJD)



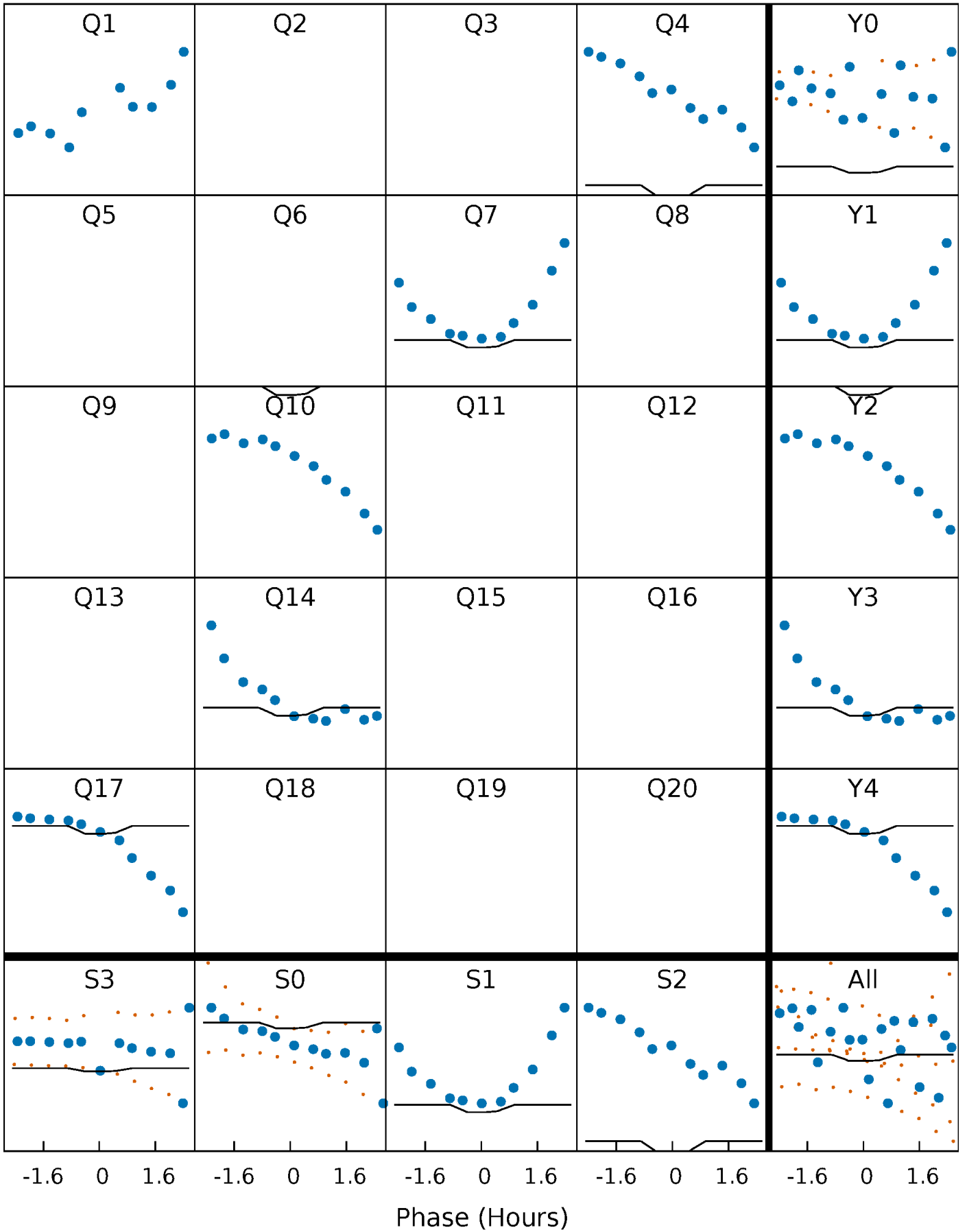
DV Quarter-Phased Transit Curves

TCE 005564082-05 $P=281.373974$ Days $T_0=152.665943$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

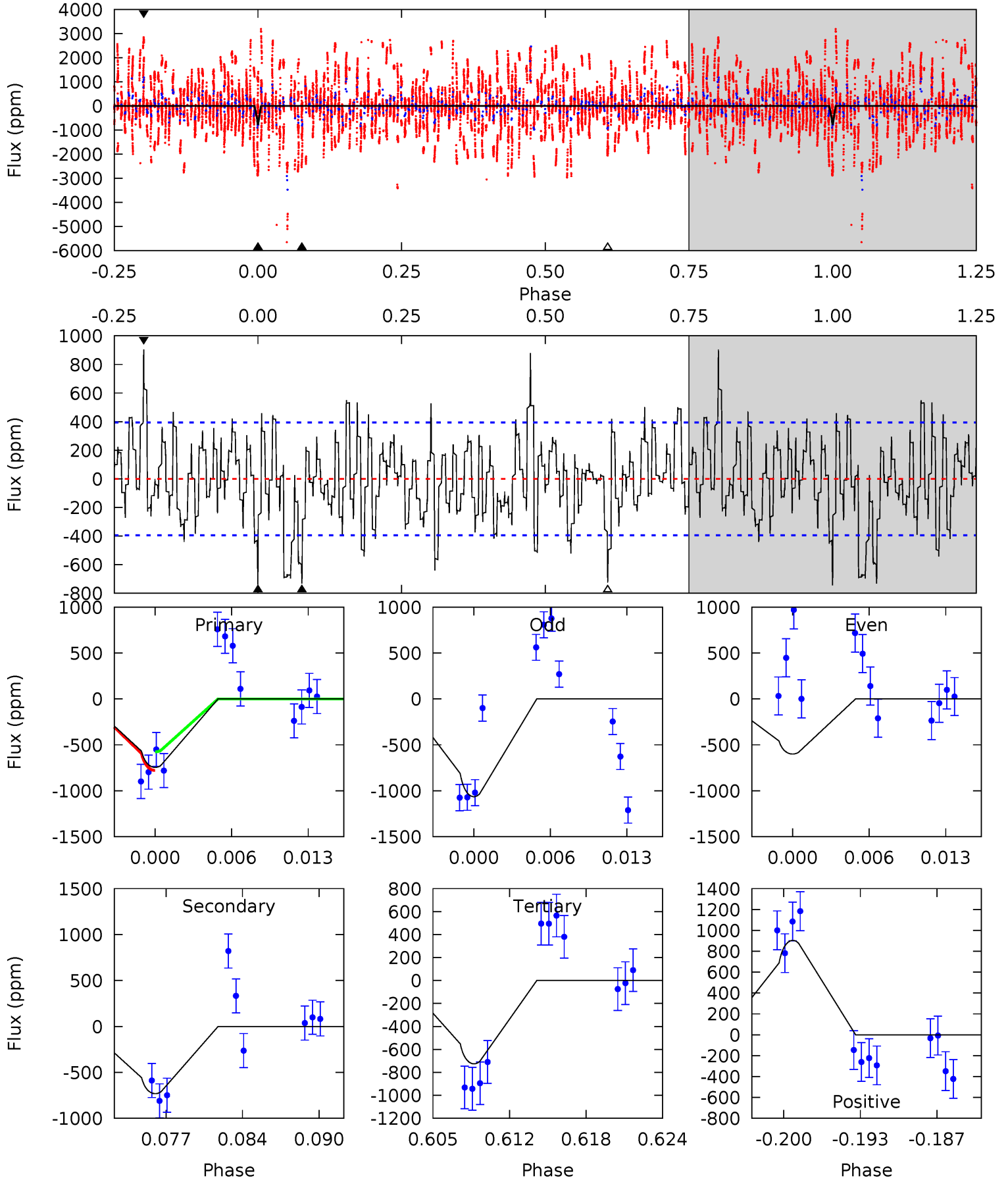
TCE 005564082-05 $P=281.370121$ Days $T_0=152.659876$ (BKJD)



DV Model-Shift Uniqueness Test

005564082-05, P = 281.373974 Days, E = 152.665943 Days

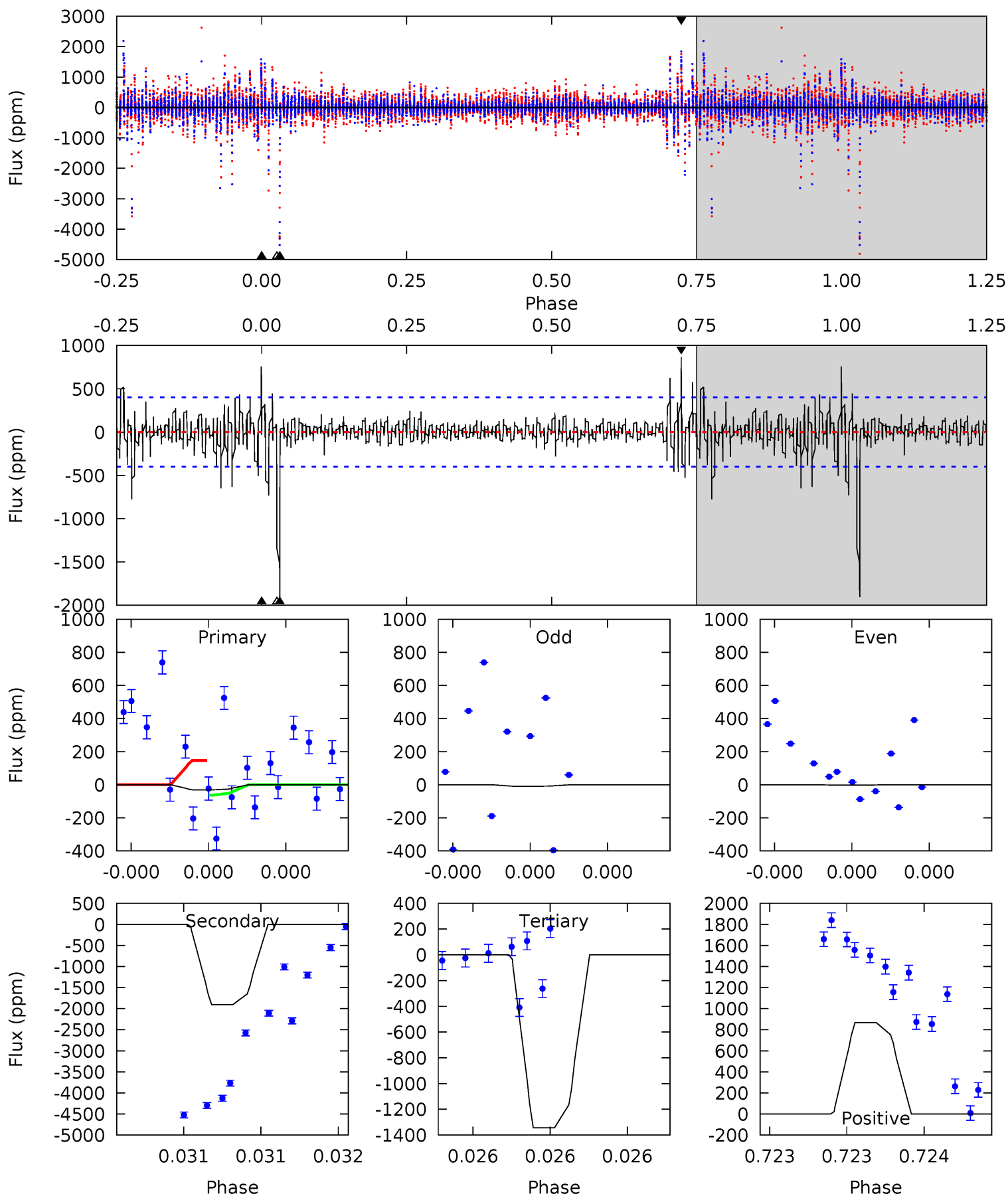
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.66	9.49	9.40	11.7	5.11	2.72	3.12	0.25	-2.05	0.08	-2.23	2.60	1.72	0.55	1.18



Alt Model-Shift Uniqueness Test

005564082-05, P = 281.370121 Days, E = 152.659876 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.44	27.0	19.0	12.3	5.68	3.64	1.42	-18.6	-11.9	7.94	14.7	0.03	102.6	0.31	0.56



Stellar Parameters For KIC 005564082

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5899^{+70}_{-88}	$4.394^{+0.066}_{-0.123}$	$0.100^{+0.150}_{-0.150}$	$1.078^{+0.180}_{-0.097}$	$1.051^{+0.074}_{-0.067}$	$1.181^{+0.315}_{-0.421}$
	+1%/-1%	+2%/-3%	+150%/-150%	+17%/-9%	+7%/-6%	+27%/-36%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 005564082-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-732 ± 77	$15.95^{+18.66}_{-11.18}$	411^{+16}_{-13}	3254^{+1749}_{-630}	1164^{+12480}_{-928}
Alt.	-1903 ± 71	$17.22^{+18.42}_{-12.16}$	411^{+19}_{-14}	3677^{+2404}_{-747}	2543^{+27486}_{-1948}

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 $A_{obs} \gg 1.0$

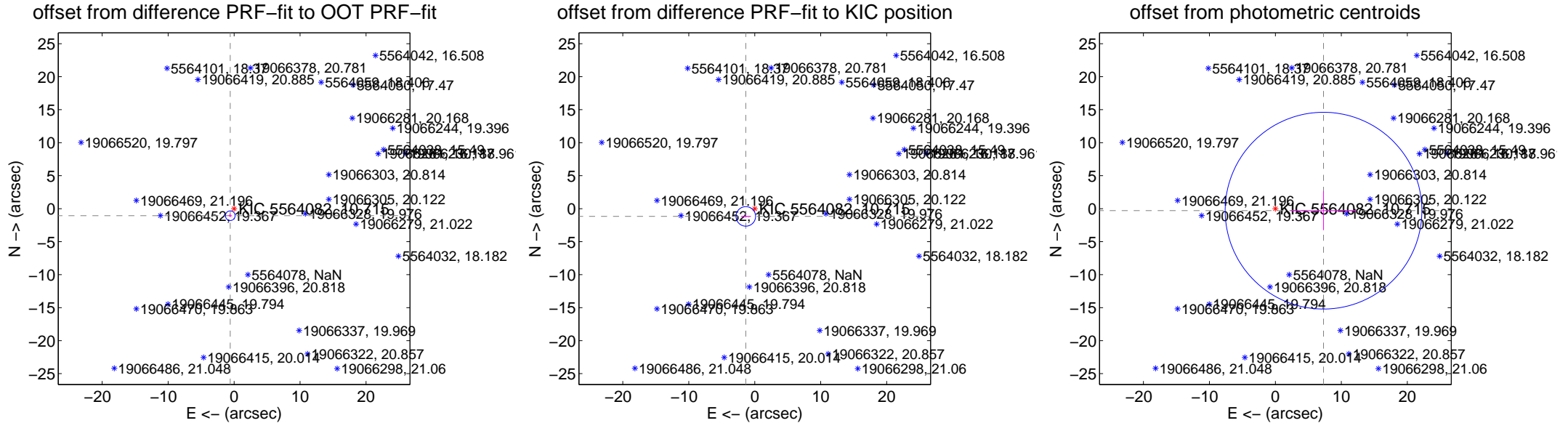
DV Centroid Data

Supplemental centroid analysis for 005564082-05. **Kepler magnitude: 10.71.** Transit SNR 0.16

There are 2 quarters with good PRF difference image offsets

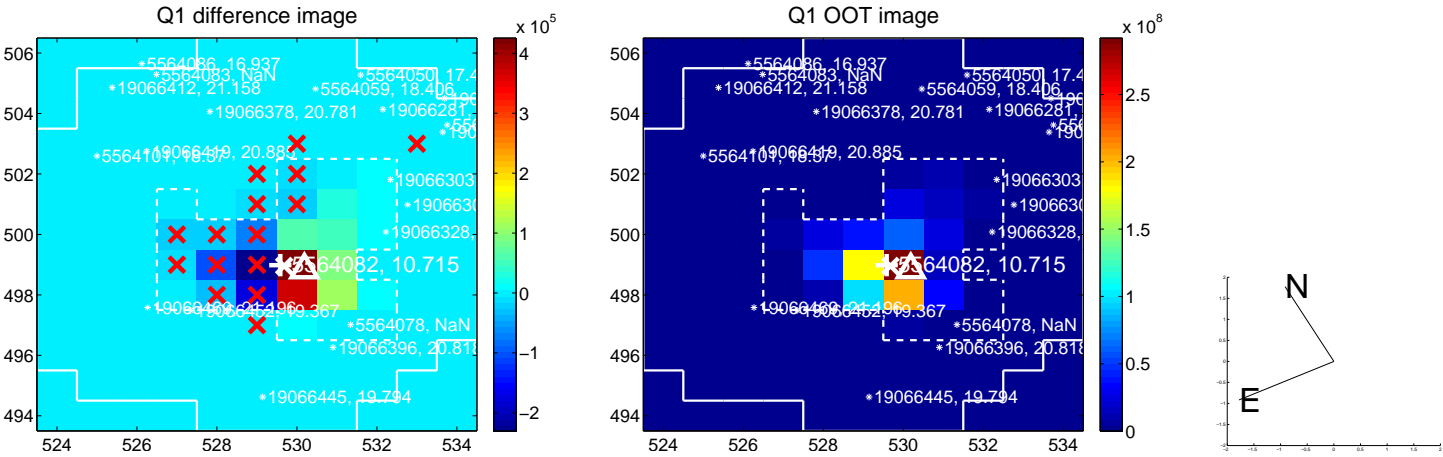
The direct PRF centroid is offset from the target star catalog position by about 0.89 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.212 \pm 0.244	4.97	0.581 \pm 0.276	-1.064 \pm 0.233
PRF-fit source offset from KIC position	1.790 \pm 0.494	3.63	1.354 \pm 0.739	-1.171 \pm 0.158
photometric centroid source offset	7.30 \pm 4.97	1.47	-7.30 \pm 4.97	-0.30 \pm 2.96



Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

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



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

Q5 no difference image



Q5 no OOT image



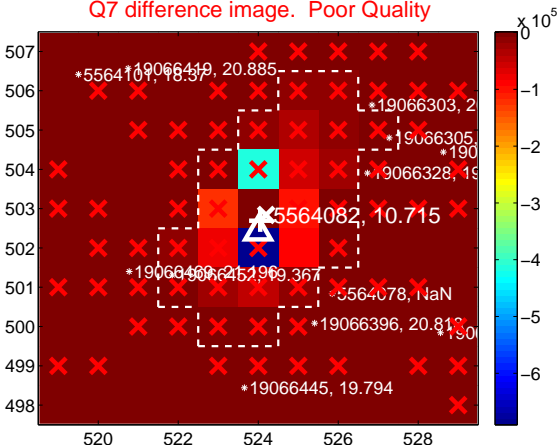
Q6 no difference image



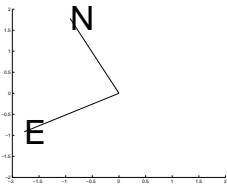
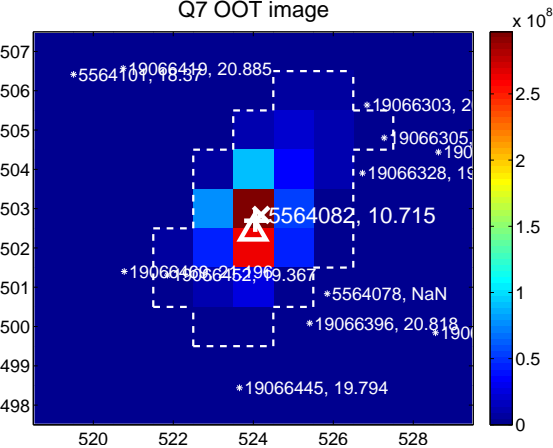
Q6 no OOT image



Q7 difference image. Poor Quality



Q7 OOT image



Q8 no difference image



Q8 no OOT image



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

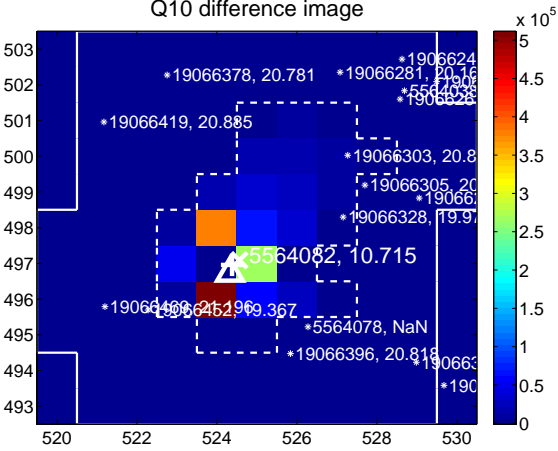
Q9 no difference image



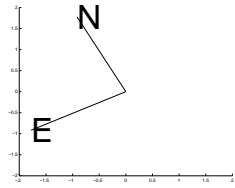
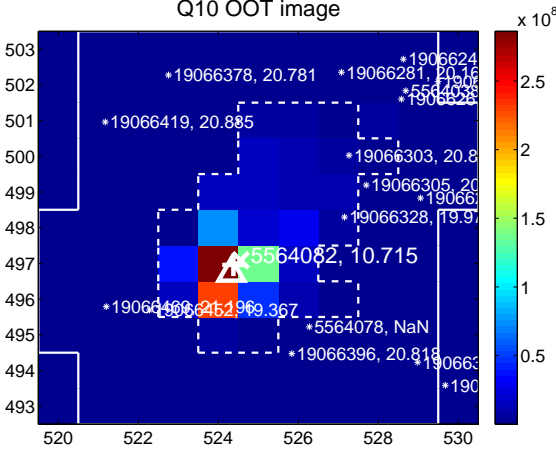
Q9 no OOT image



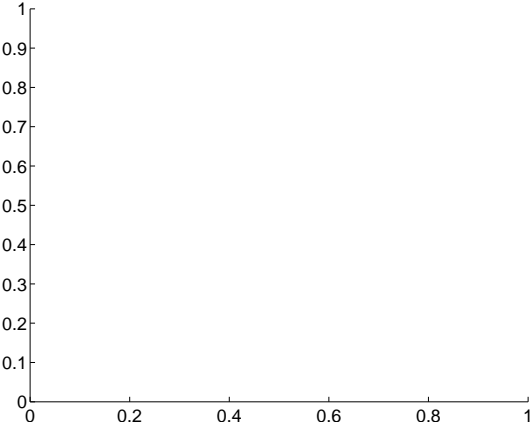
Q10 difference image



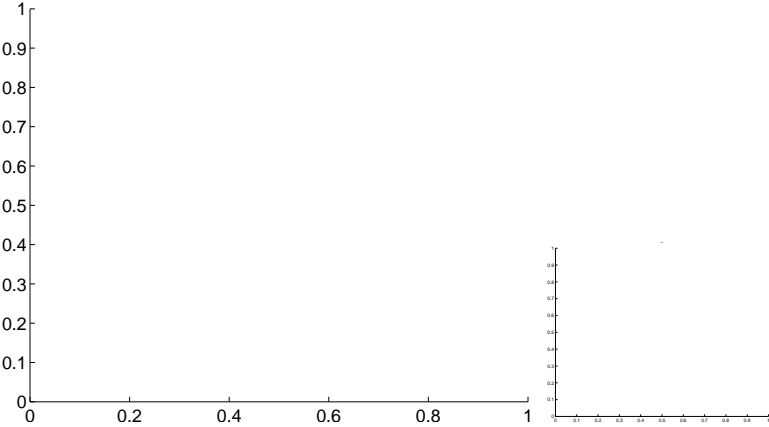
Q10 OOT image



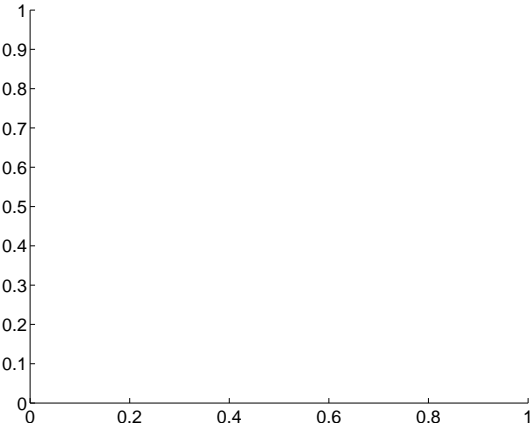
Q11 no difference image



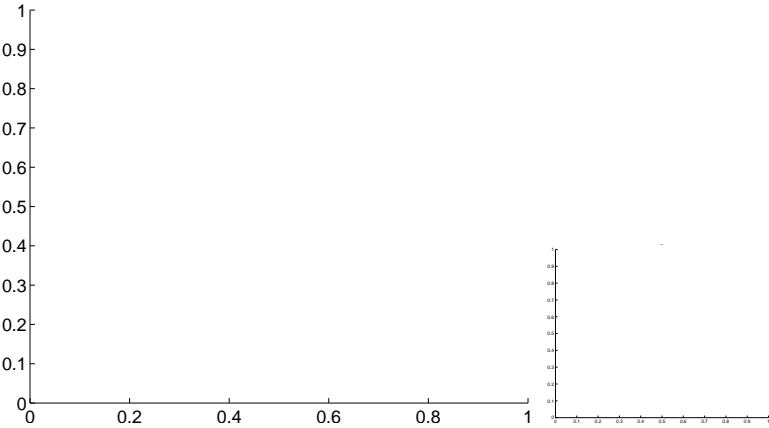
Q11 no OOT image



Q12 no difference image



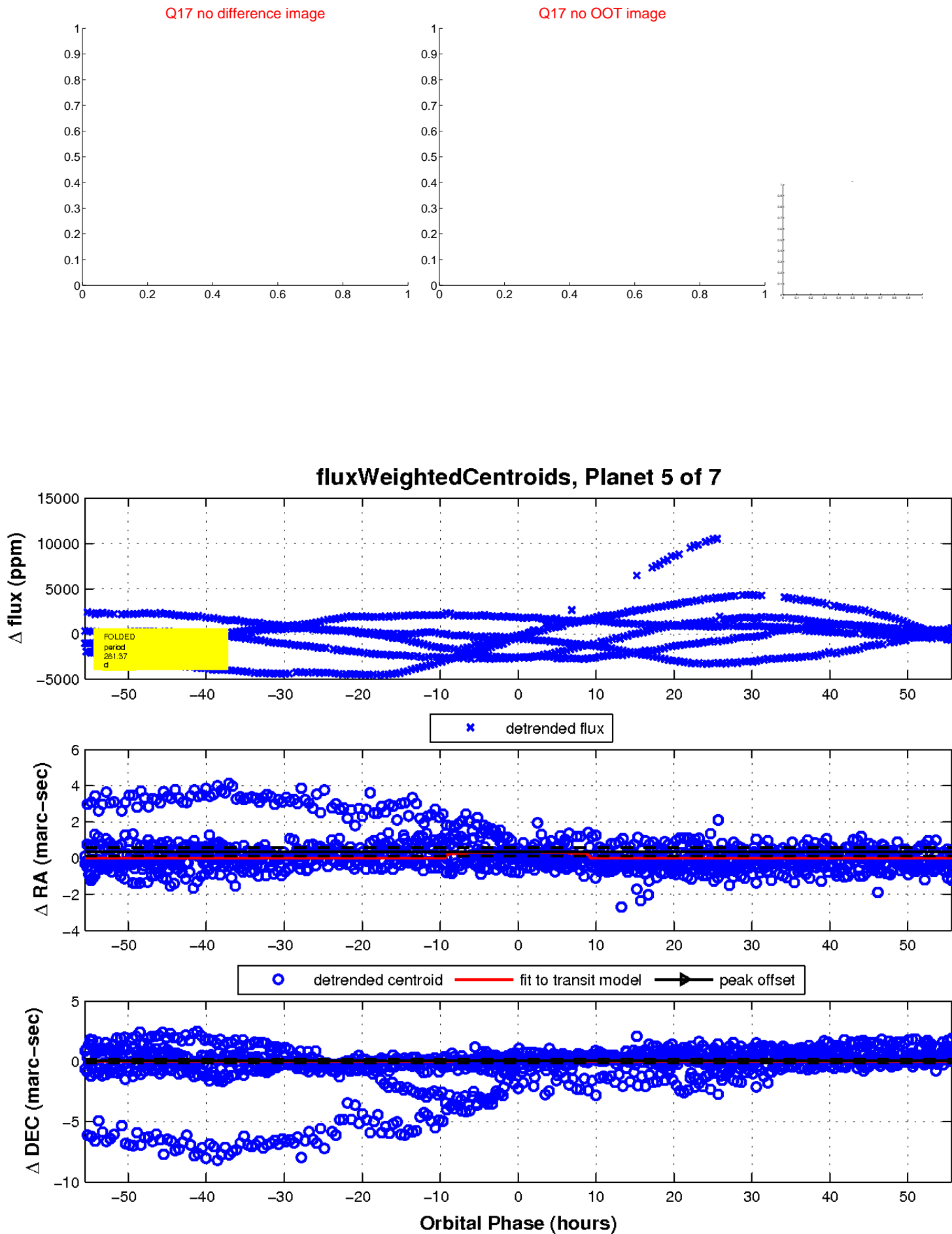
Q12 no OOT image



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

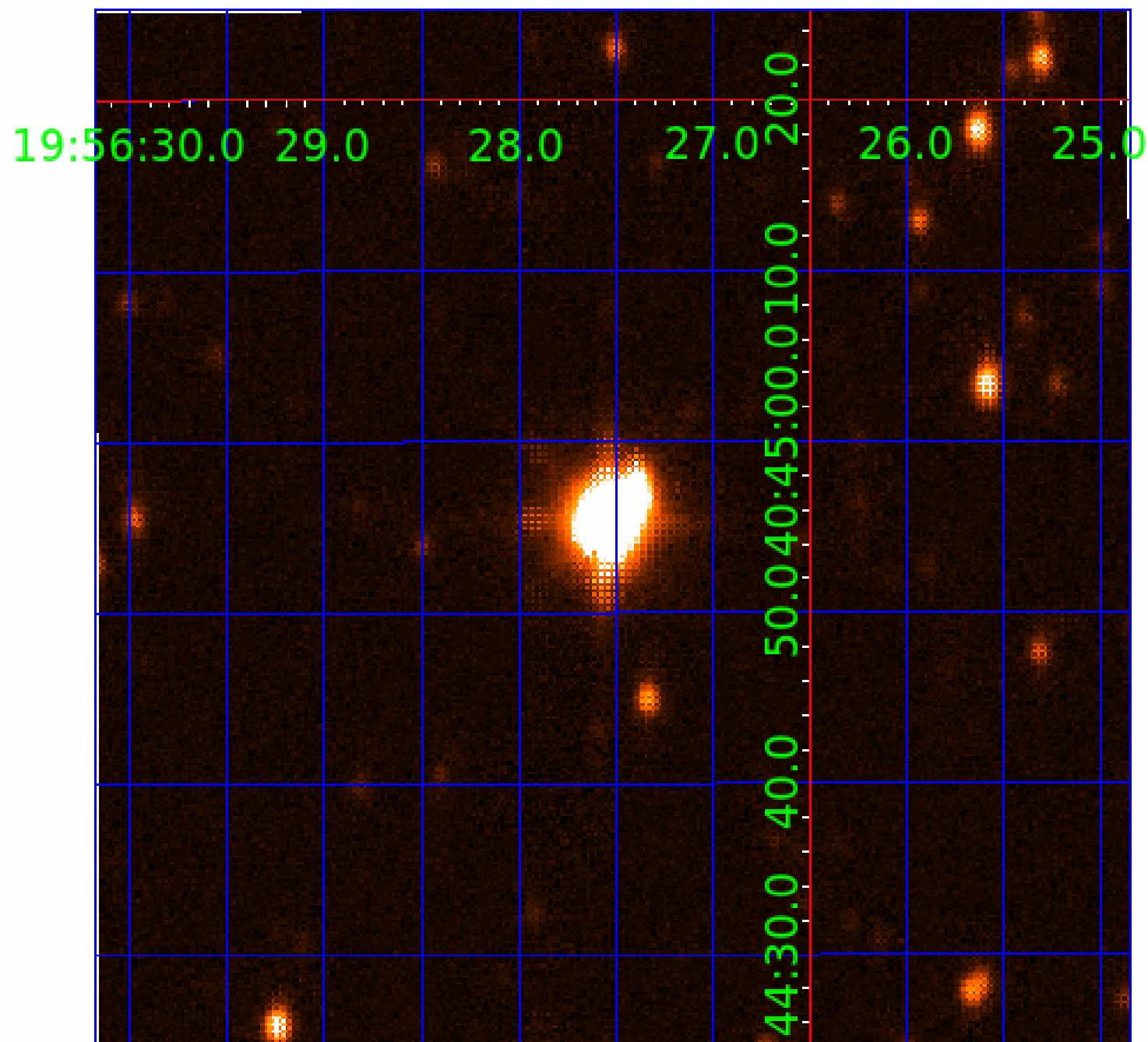


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005564082

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})
005564082-01	OBS	No	1.803659	131.841511	23.8	10.571	11.2	8.7	1.08	5899	0.52	1450.60
005564082-02	OBS	No	207.117508	264.274806	457.8	3.147	14.1	6.5	1.08	5899	2.68	2.60
005564082-03	OBS	No	420.337323	481.060818	3649.4	34.460	10.4	8.0	1.08	5899	6.45	1.01
005564082-05	OBS	No	281.373974	152.665943	44.6	18.551	11.2	0.2	1.08	5899	0.72	1.73
005564082-06	OBS	No	222.223595	235.030701	325.1	6.531	17.0	3.4	1.08	5899	2.05	2.37
005564082-07	OBS	No	139.361843	136.491682	308.6	5.114	9.4	4.9	1.08	5899	2.10	4.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005564082-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
005564082-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—CENT_SATURATED
005564082-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
005564082-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
005564082-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
005564082-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—CENT_SATURATED

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

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

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

Ephemeris Match Information For 005564082-06

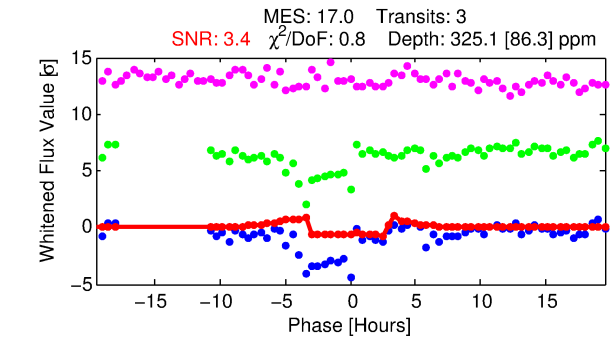
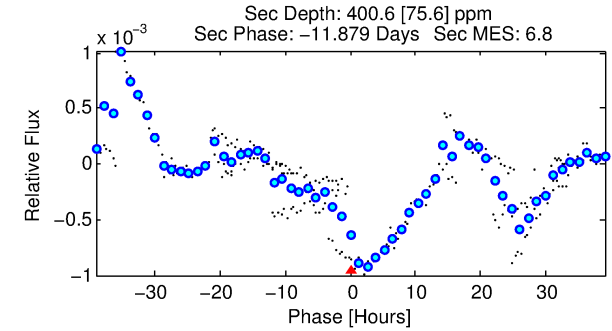
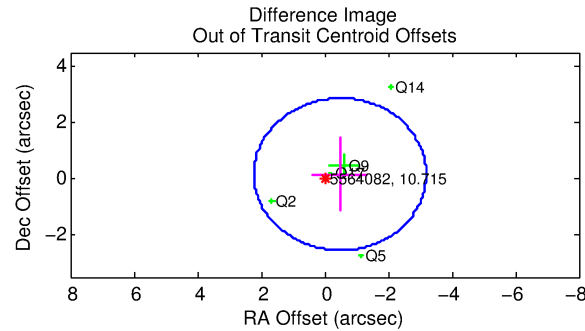
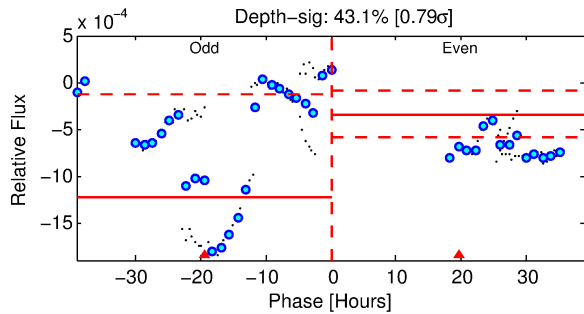
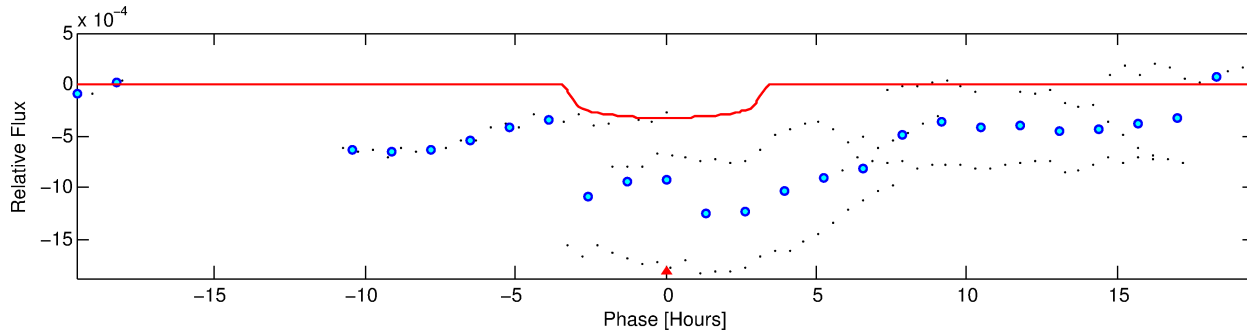
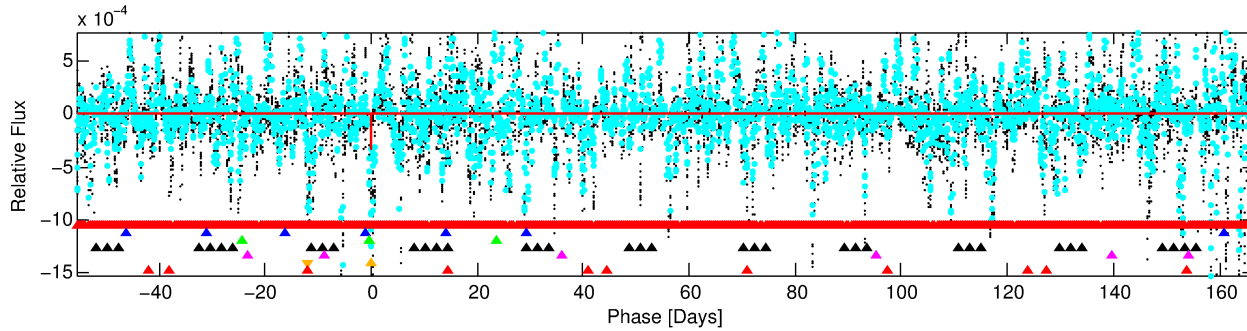
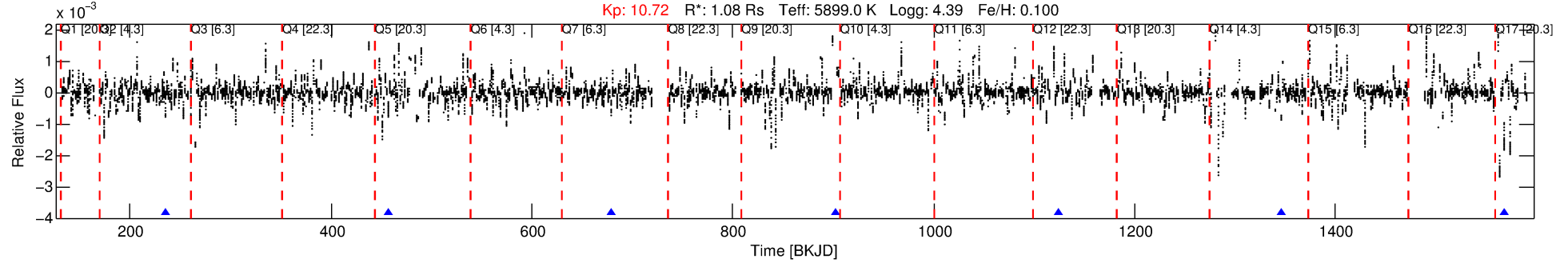
No Significant Match Found

DV One-Page Summary

KIC: 5564082 Candidate: 6 of 7 Period: 222.224 d

KOI: K06600 Corr: No Ephemeris Match

Kp: 10.72 R*: 1.08 Rs Teff: 5899.0 K Logg: 4.39 Fe/H: 0.100



DV Fit Results:

Period = 222.22359 [0.00251] d
Epoch = 235.0307 [0.0107] BKJD
Rp/R* = 0.0175 [0.0130]
a/R* = 200.84 [650.75]
b = 0.66 [2.76]
Seff = 2.37 [0.54]
Teq = 316 [18] K
Rp = 2.05 [1.57] Re
a = 0.7300 [0.1065] AU
Ag = 27855.01 [42417.70] [0.66σ]
Teffp = 6317 [2382] K [2.52σ]

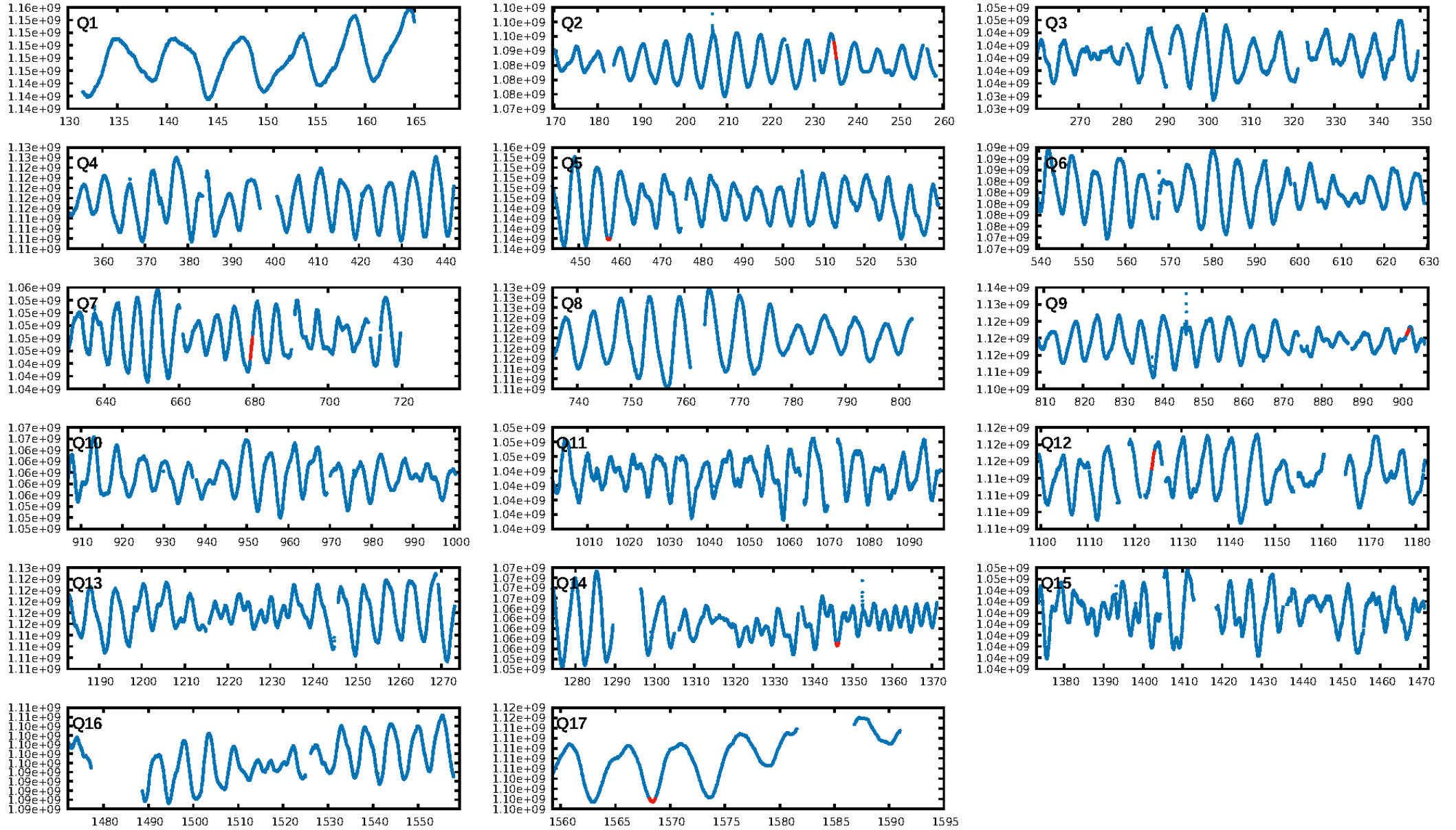
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [50.01σ]
LongPeriod-sig: 100.0% [72.18σ]
ModelChiSquare2-sig: 8.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.18e-33
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: N/A
Centroid-sig: 8.1%
Centroid-so: 0.862 arcsec [1.84σ]
OotOffset-rm: 0.510 arcsec [0.57σ]
KicOffset-rm: 0.265 arcsec [0.21σ]
OotOffset-st: 2/0/0/3 [5]
KicOffset-st: 2/0/0/3 [5]
DiffImageQuality-fgm: 0.60 [3/5]
DiffImageOverlap-fno: 0.33 [2/6]

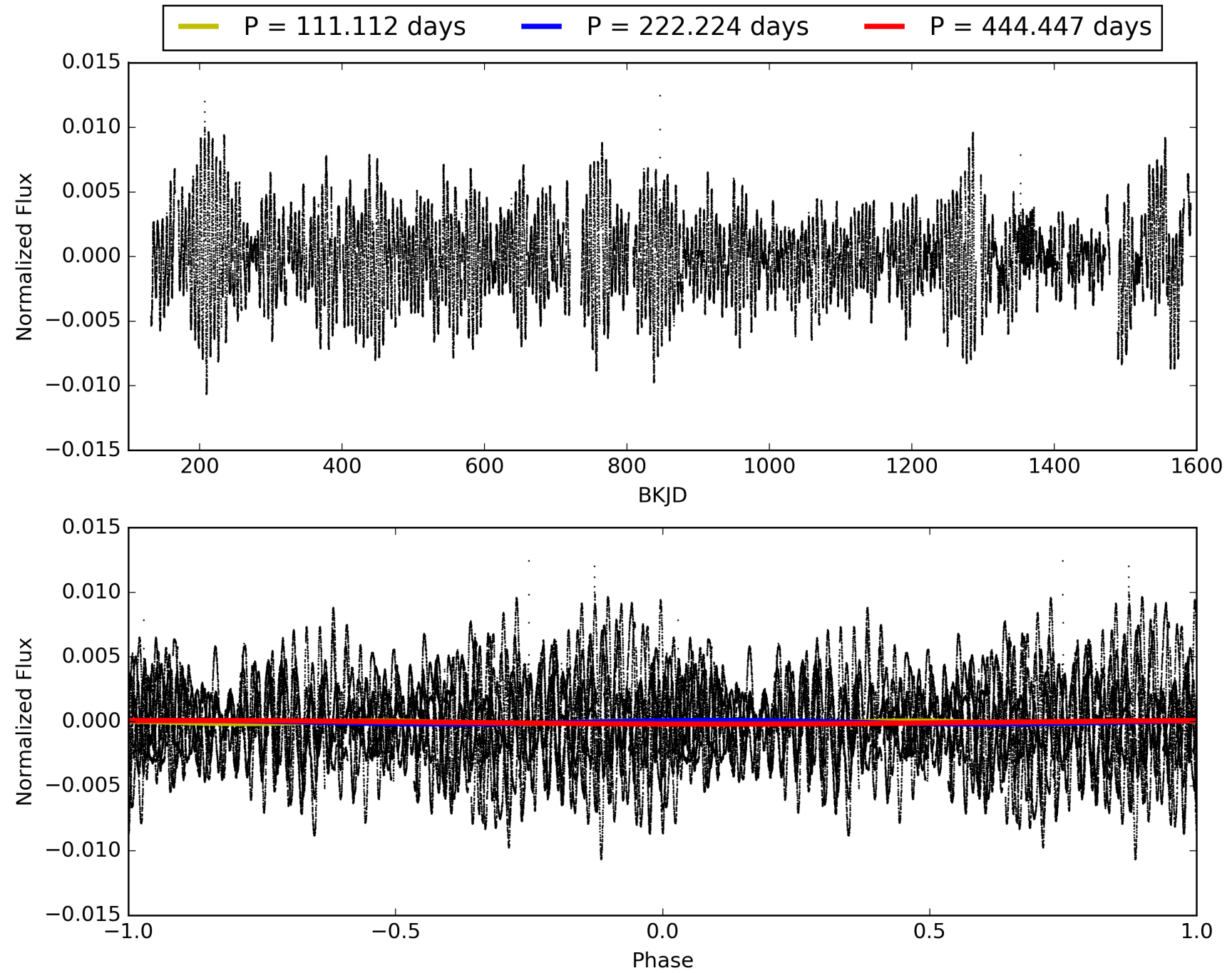
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:47:03 Z

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

TCE 005564082-06, PDC Light Curves

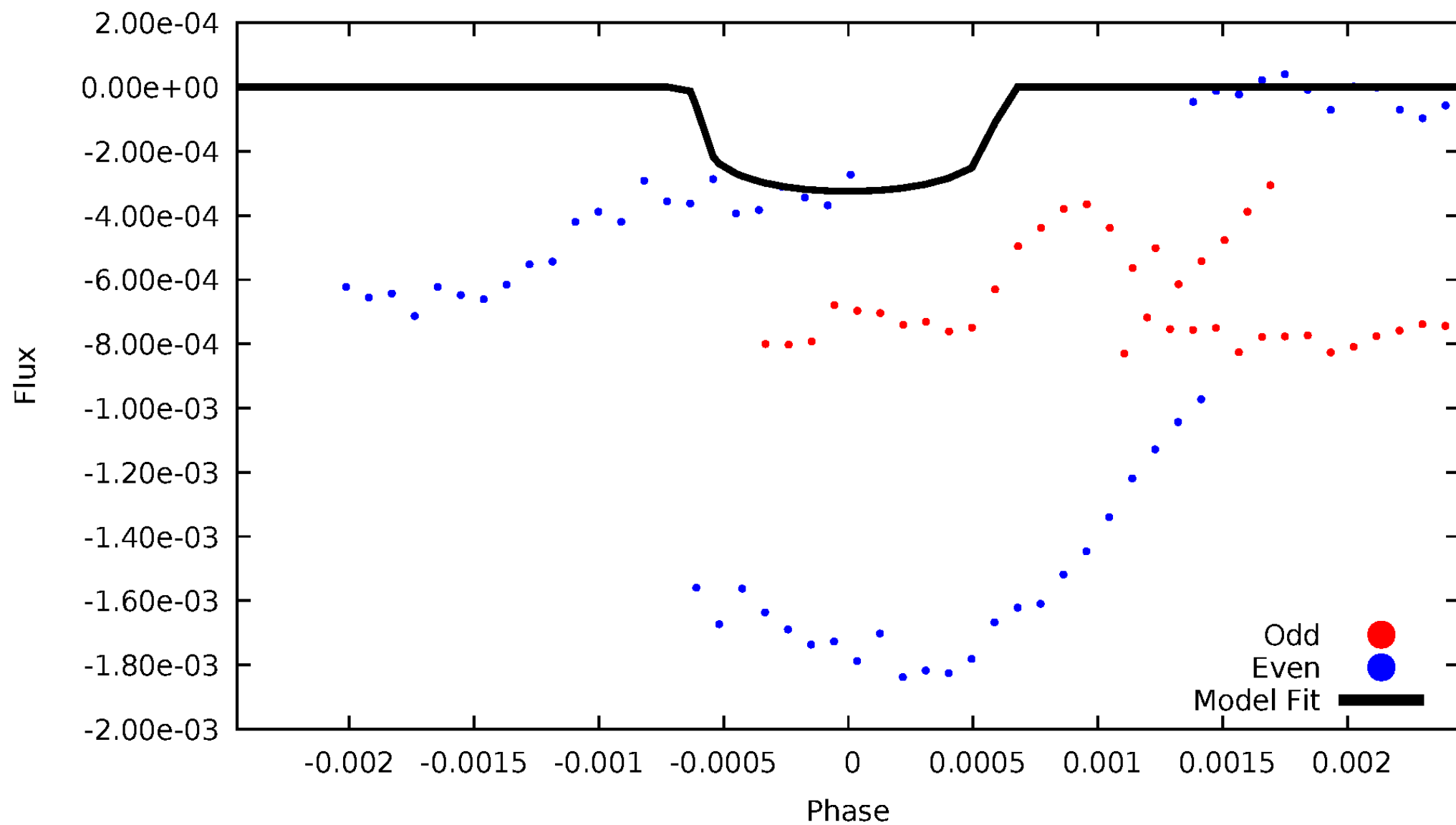


TCE 005564082-06



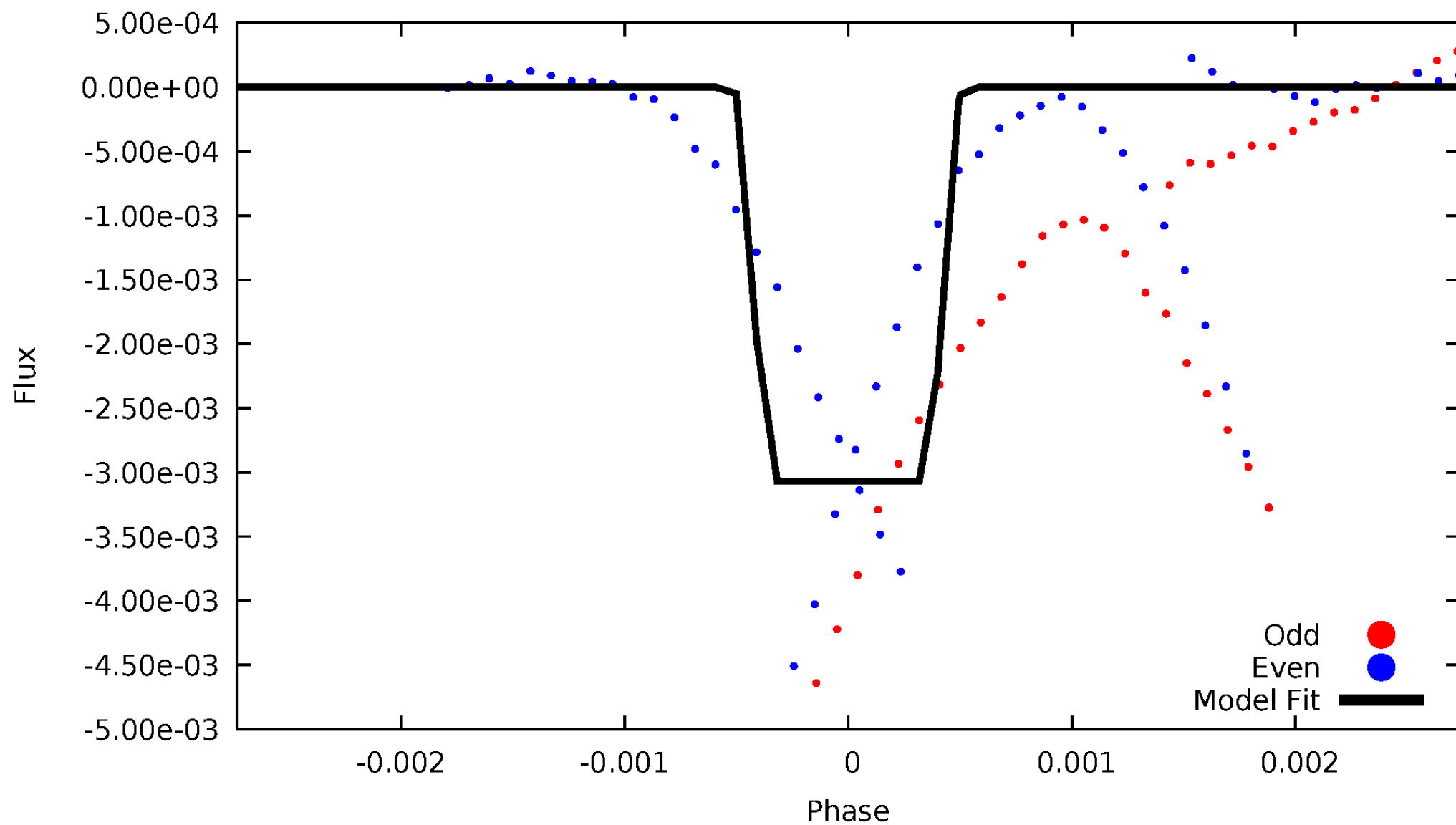
DV Odd/Even

TCE 005564082-06



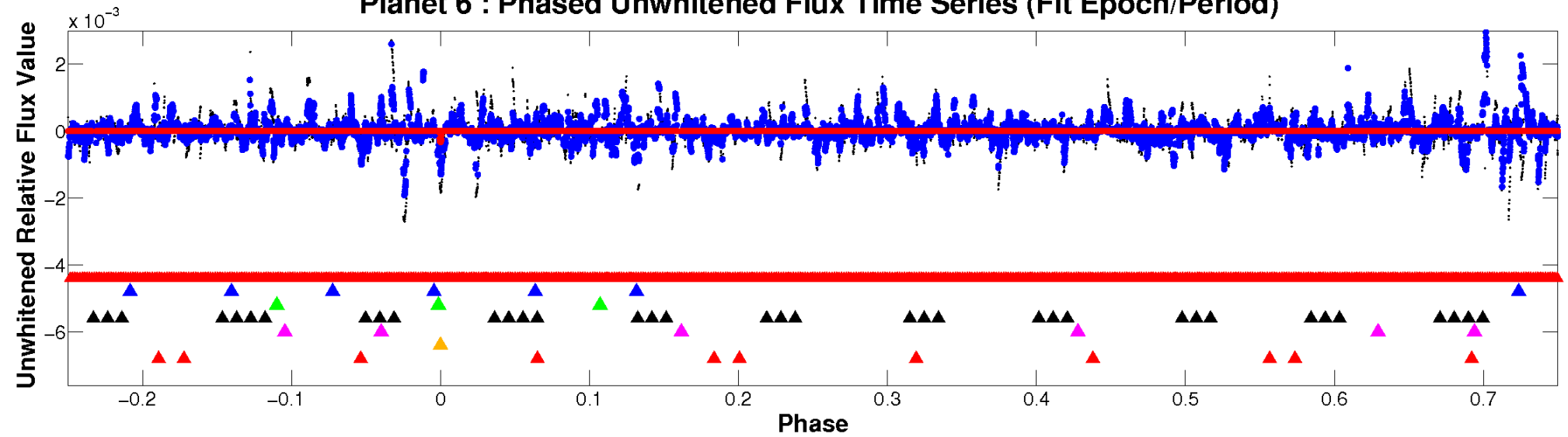
ALT Odd/Even

TCE 005564082-06

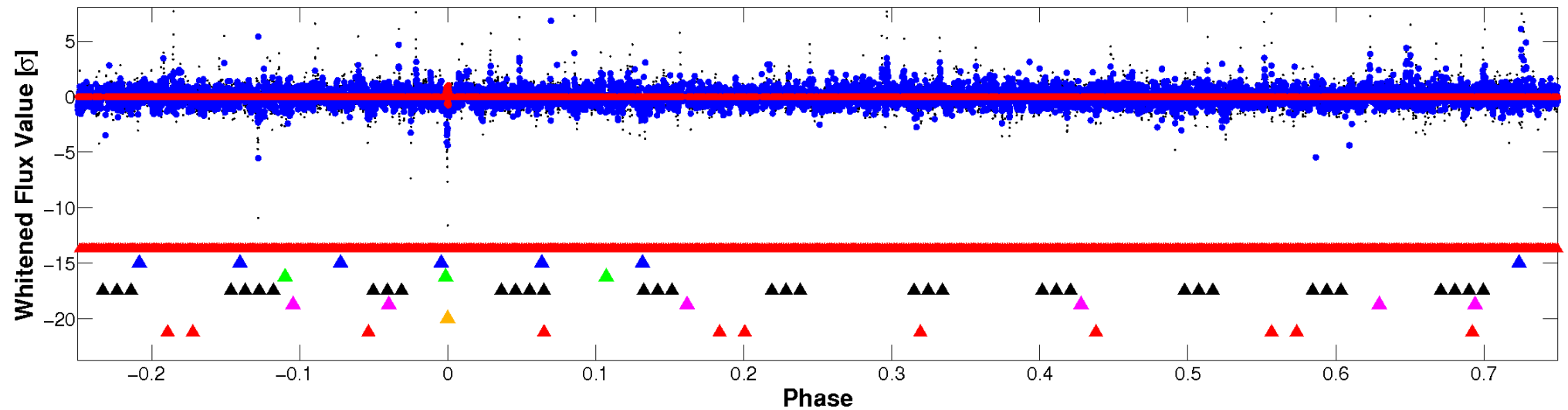


Non-Whitened Vs. Whitened Light Curve

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

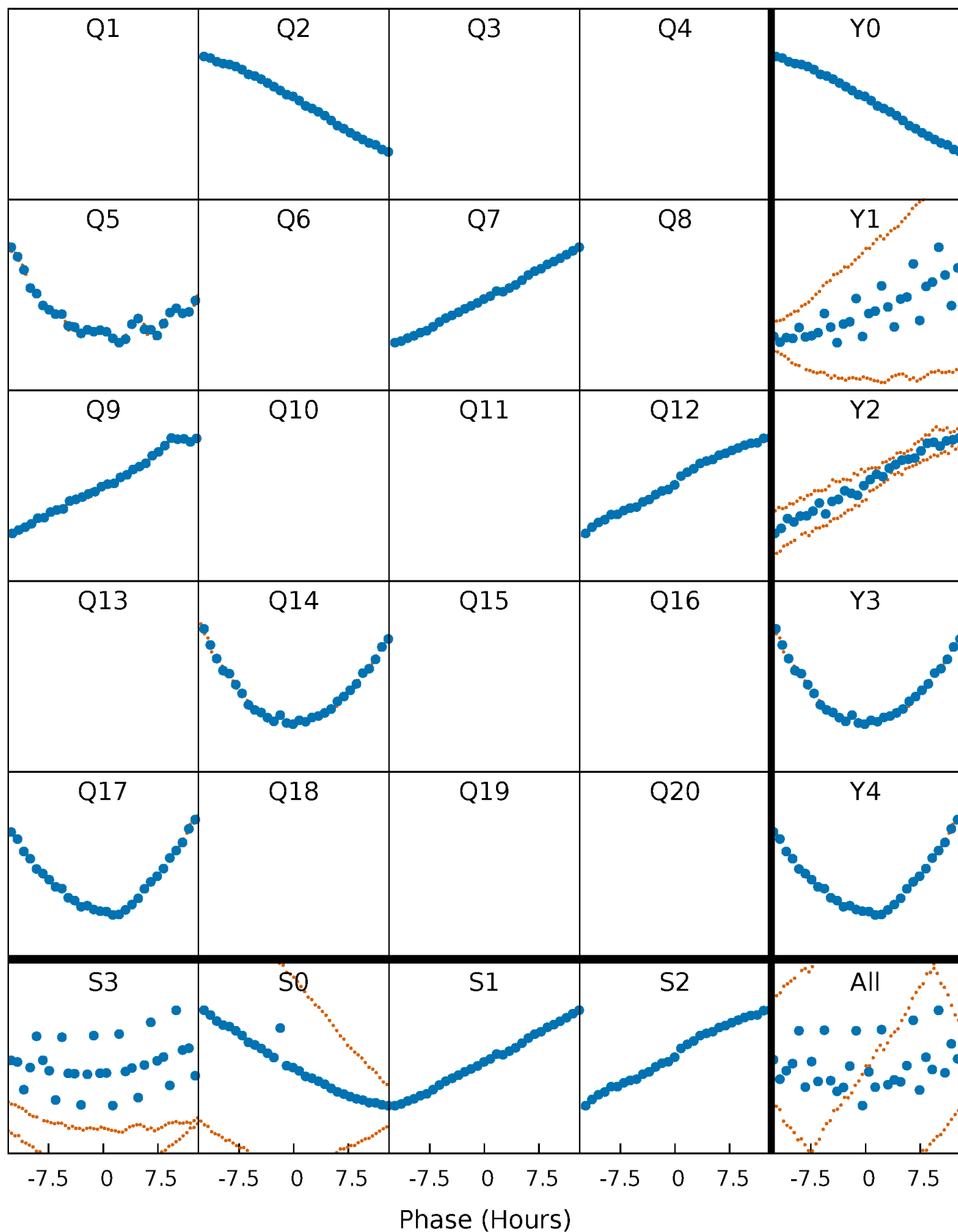


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



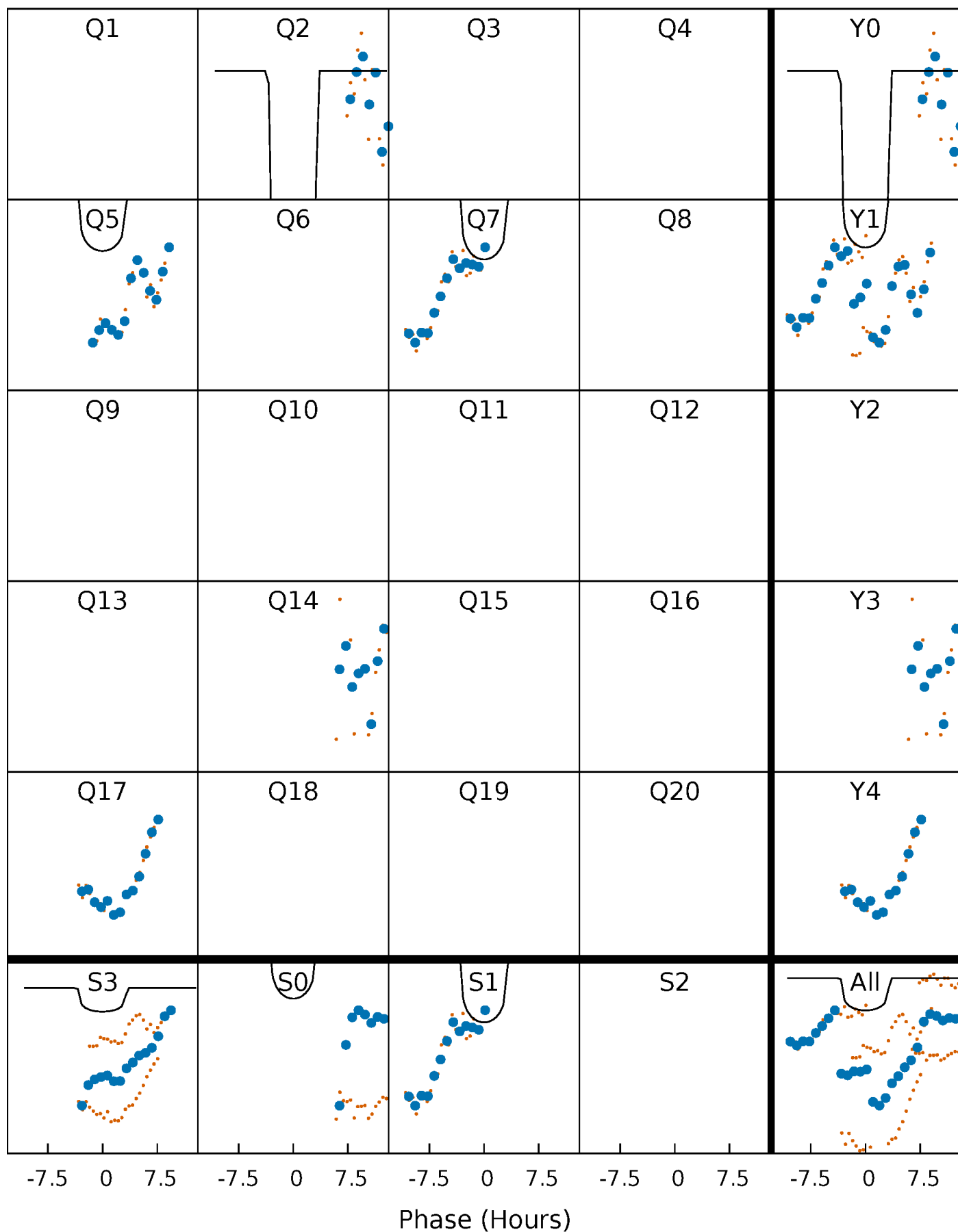
PDC Quarter-Phased Transit Curves

TCE 005564082-06 $P=222.223595$ Days $T_0=235.030701$ (BKJD)



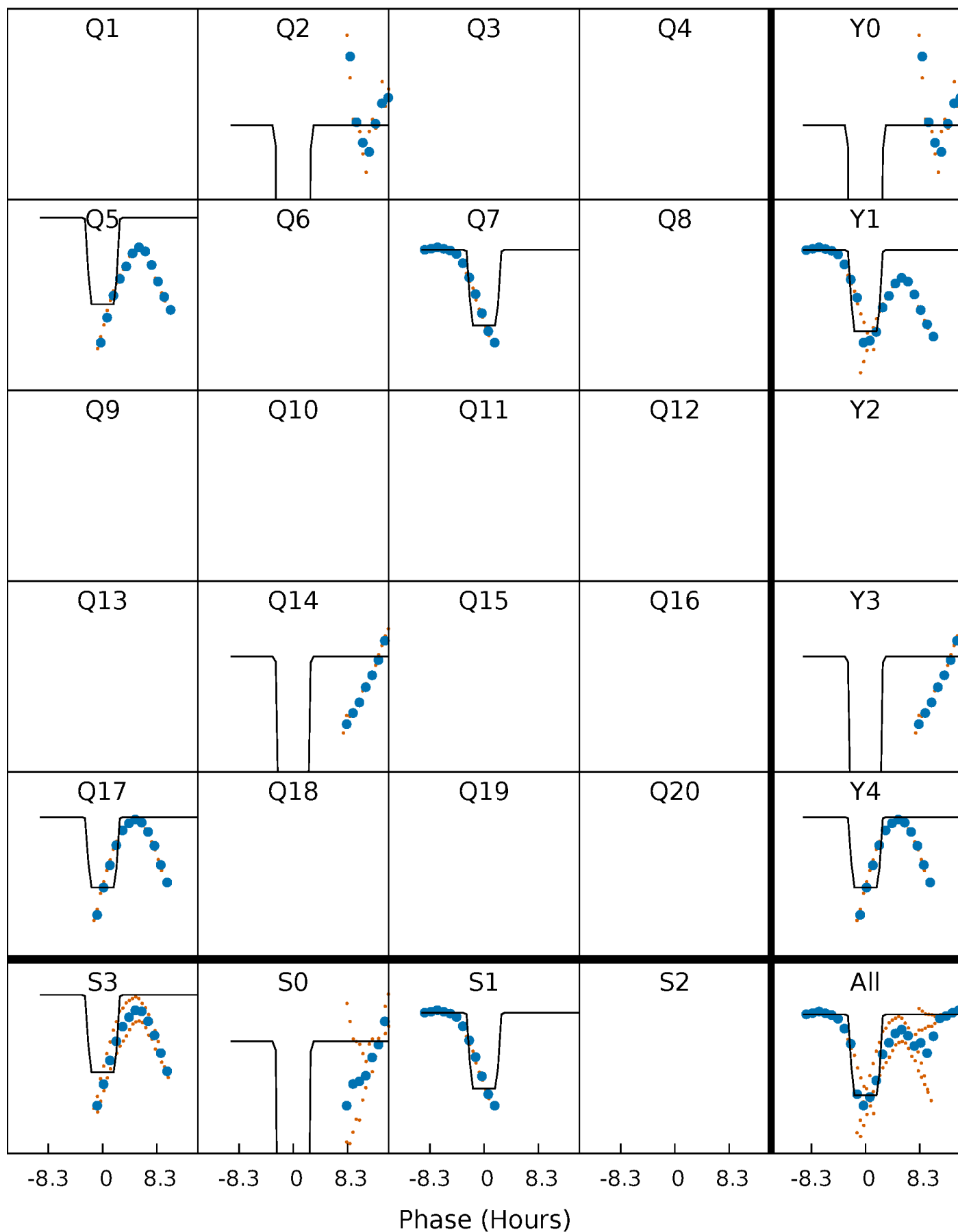
DV Quarter-Phased Transit Curves

TCE 005564082-06 $P=222.223595$ Days $T_0=235.030701$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

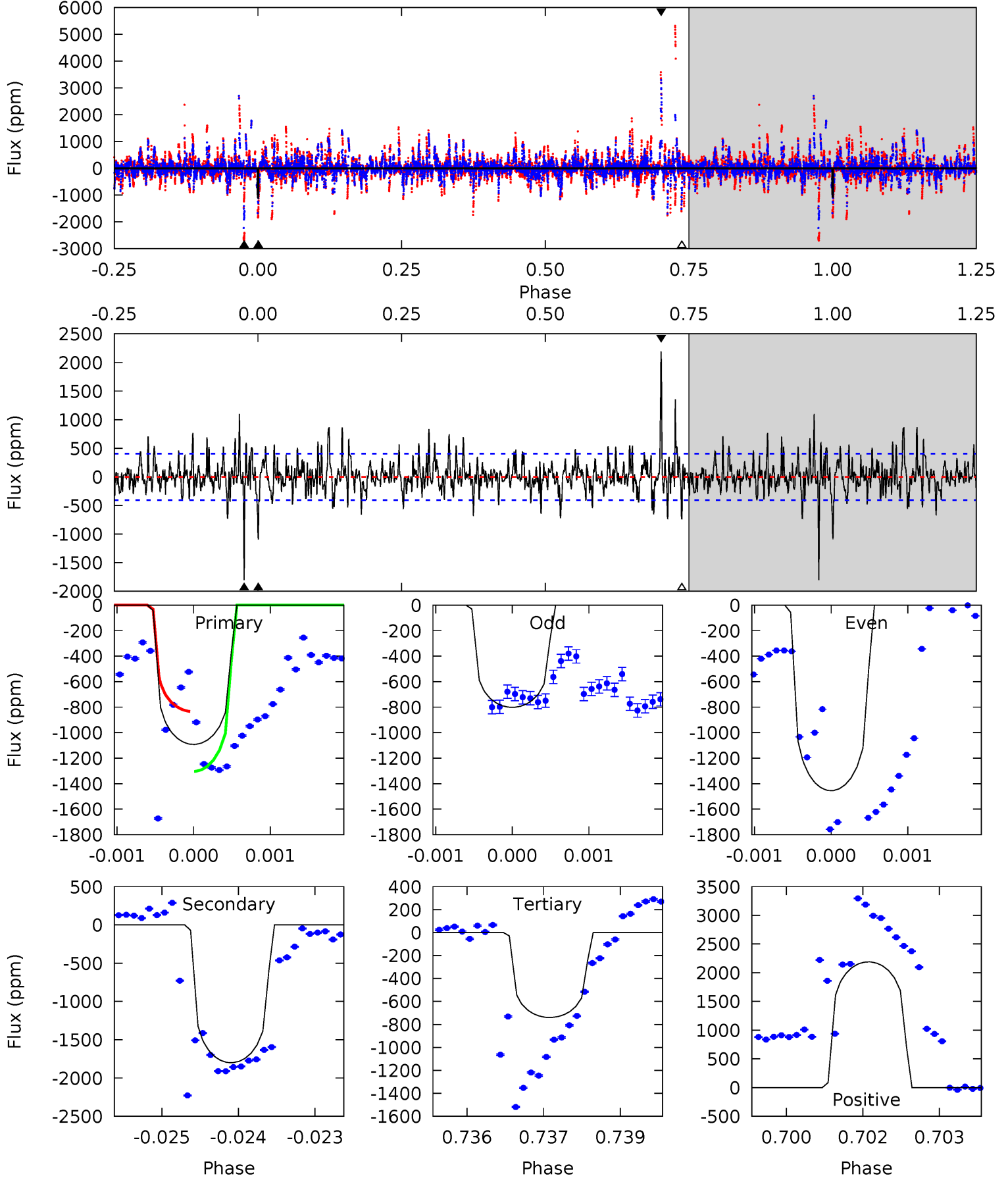
TCE 005564082-06 P=222.215713 Days $T_0=234.996645$ (BKJD)



DV Model-Shift Uniqueness Test

005564082-06, P = 222.223595 Days, E = 12.807106 Days

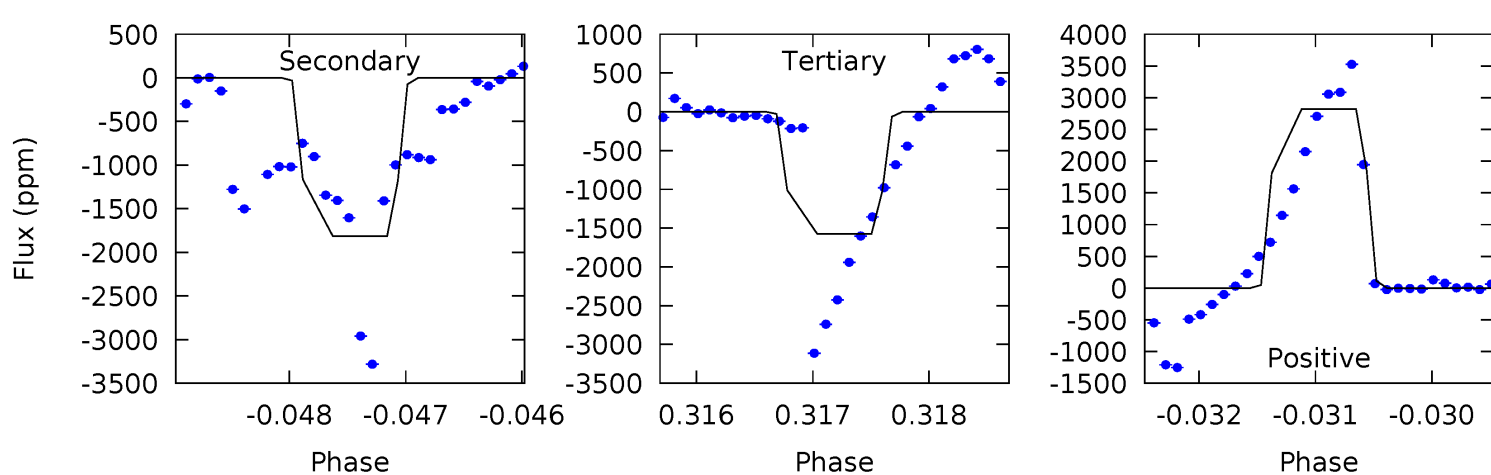
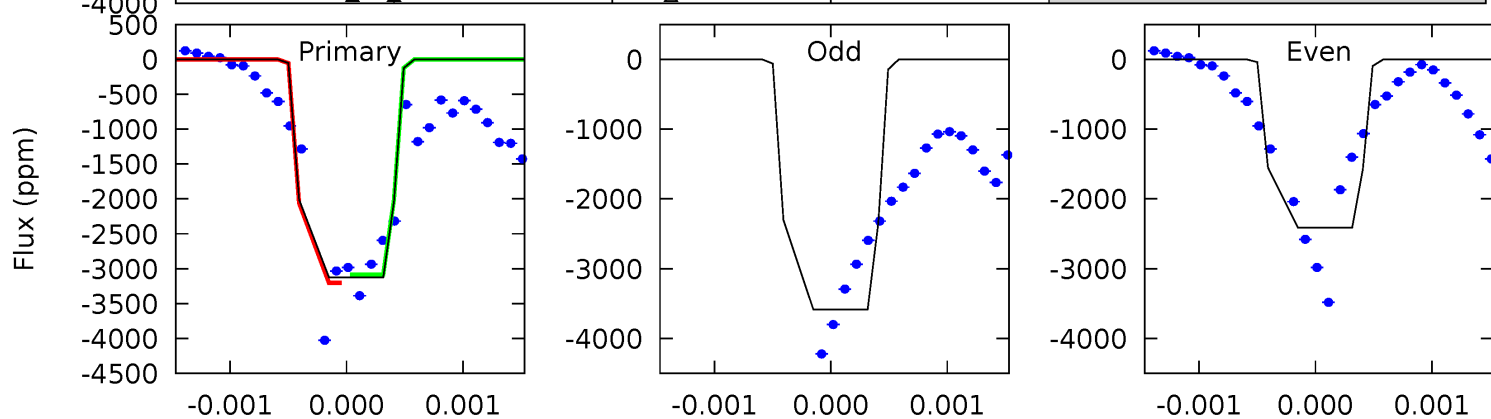
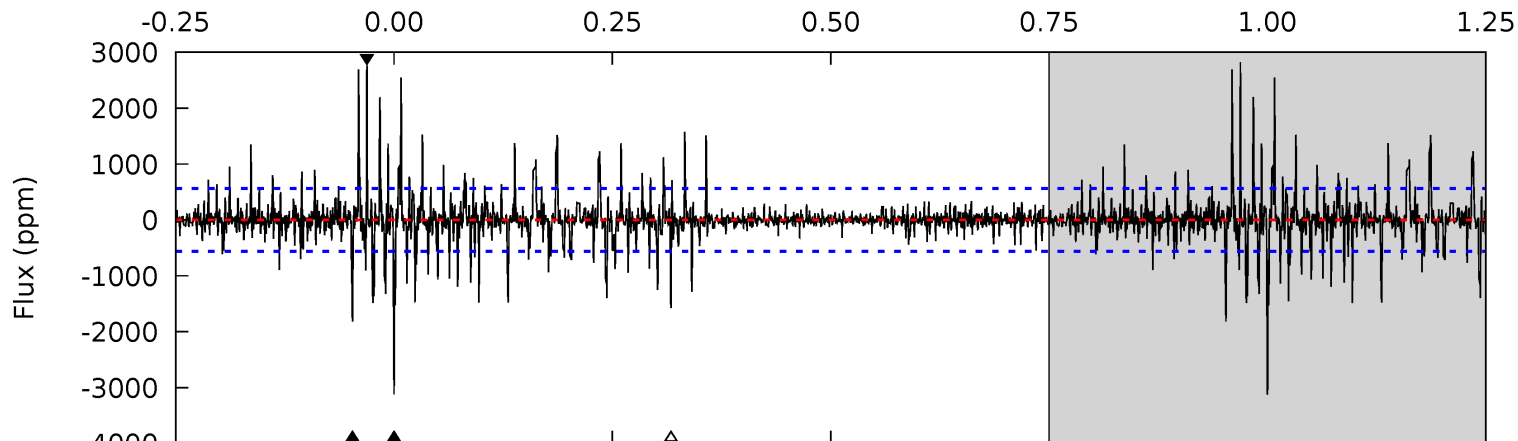
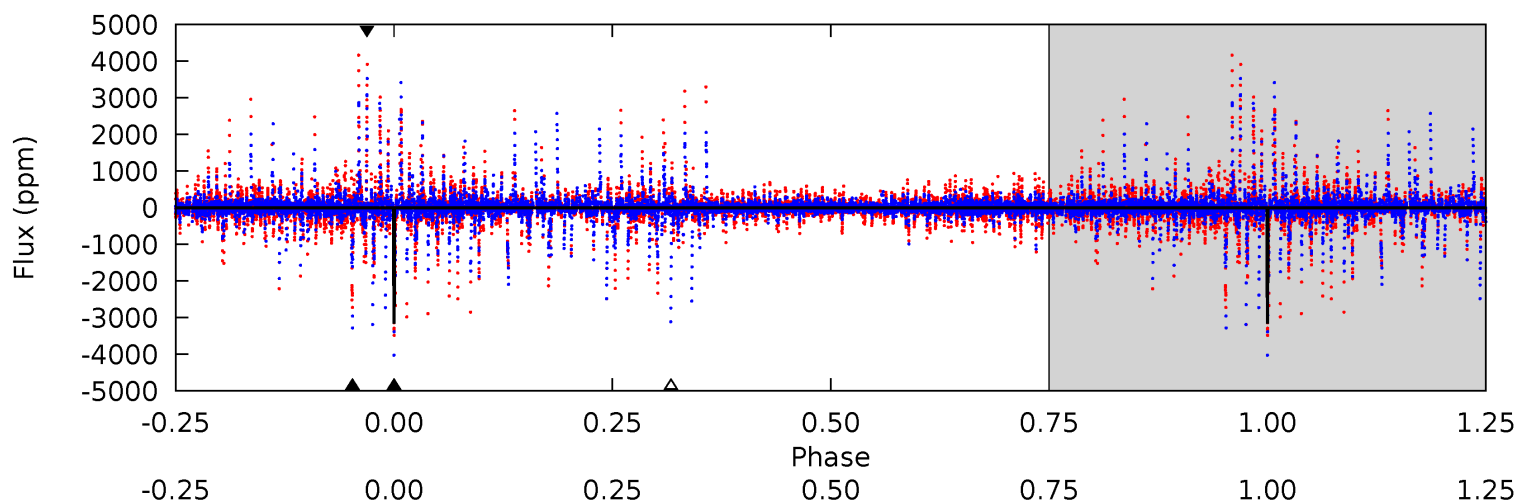
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.6	24.1	9.88	29.3	5.42	3.24	3.16	4.71	-14.7	14.2	-5.21	3.71	1.29	0.55	3.21



Alt Model-Shift Uniqueness Test

005564082-06, P = 222.215713 Days, E = 12.780932 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.3	17.6	15.3	27.4	5.45	3.29	2.67	15.1	2.96	2.32	-9.78	5.48	1.08	0.47	0.58



Stellar Parameters For KIC 005564082

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5899^{+70}_{-88}	$4.394^{+0.066}_{-0.123}$	$0.100^{+0.150}_{-0.150}$	$1.078^{+0.180}_{-0.097}$	$1.051^{+0.074}_{-0.067}$	$1.181^{+0.315}_{-0.421}$
	+1%/-1%	+2%/-3%	+150%/-150%	+17%/-9%	+7%/-6%	+27%/-36%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 005564082-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1800 ± 75	$2.30^{+1.46}_{-1.30}$	444^{+19}_{-13}	9224^{+9599}_{-2385}	$96954^{+418559}_{-59694}$
Alt.	-1812 ± 103	$6.61^{+1.64}_{-1.63}$	443^{+18}_{-12}	5216^{+727}_{-467}	12294^{+9081}_{-4705}

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 $A_{obs} \gg 1.0$

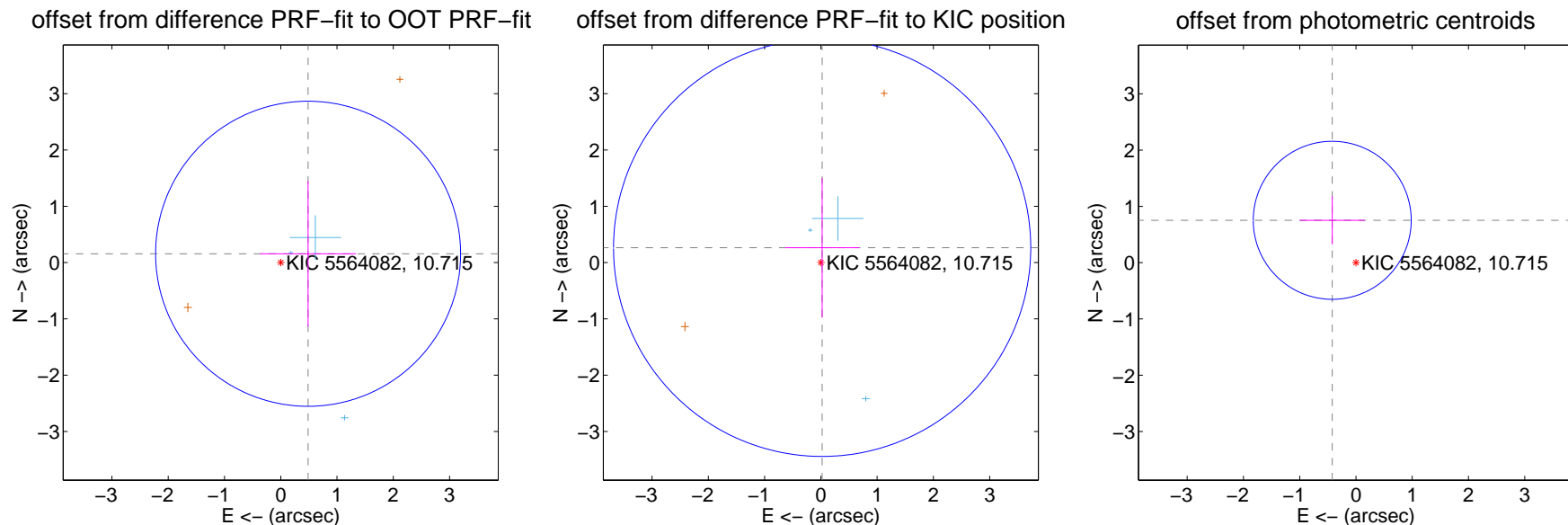
DV Centroid Data

Supplemental centroid analysis for 005564082-06. **Kepler magnitude: 10.71.** Transit SNR 3.44

There are 3 quarters with good PRF difference image offsets

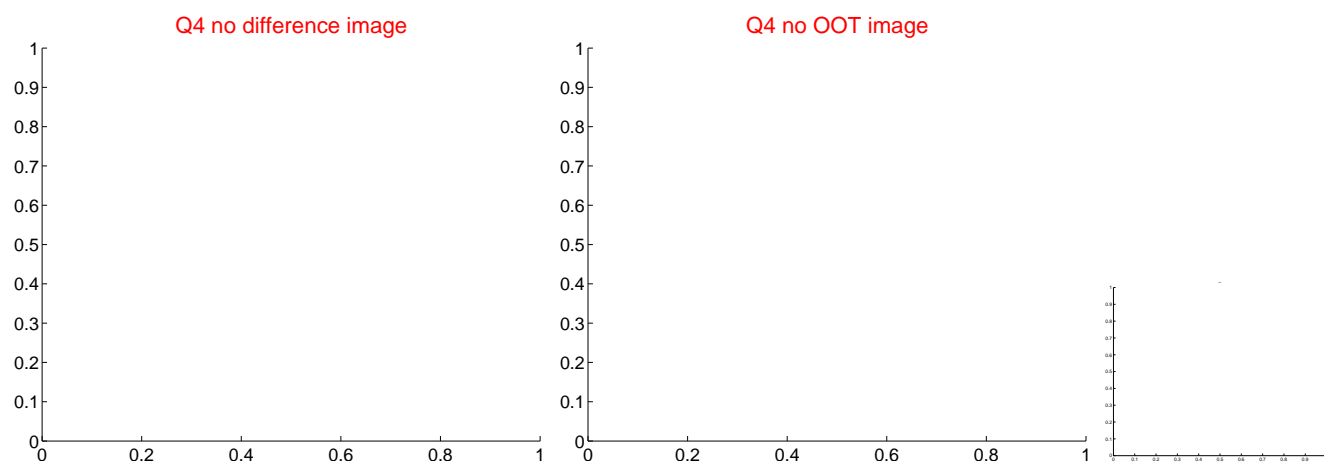
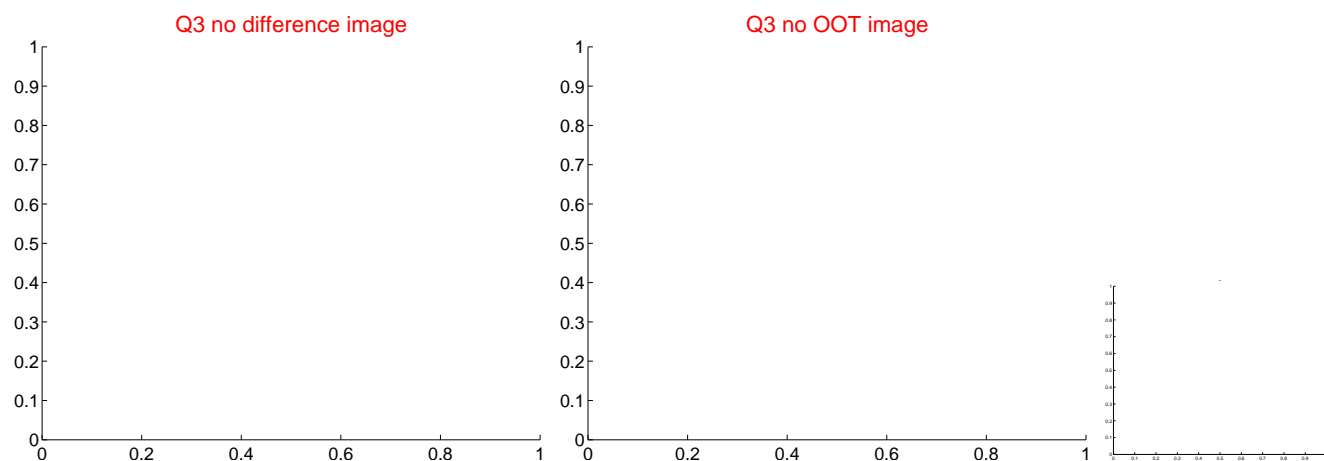
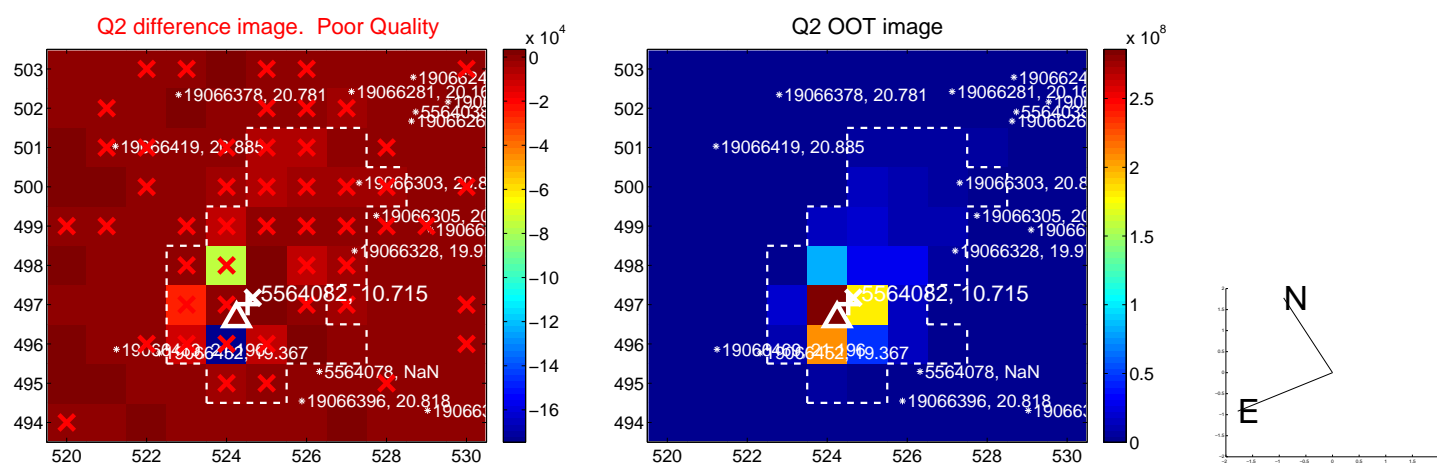
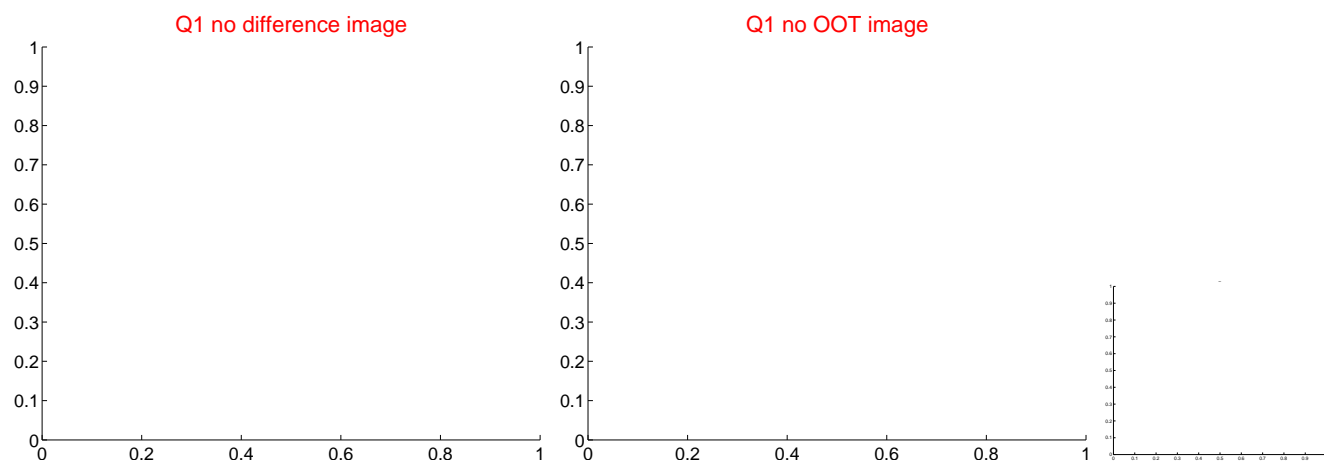
The direct PRF centroid is offset from the target star catalog position by about 0.55 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.510 ± 0.903	0.57	-0.486 ± 0.852	0.157 ± 1.292
PRF-fit source offset from KIC position	0.265 ± 1.235	0.21	-0.023 ± 0.658	0.264 ± 1.239
photometric centroid source offset	0.86 ± 0.47	1.84	0.42 ± 0.58	0.75 ± 0.43

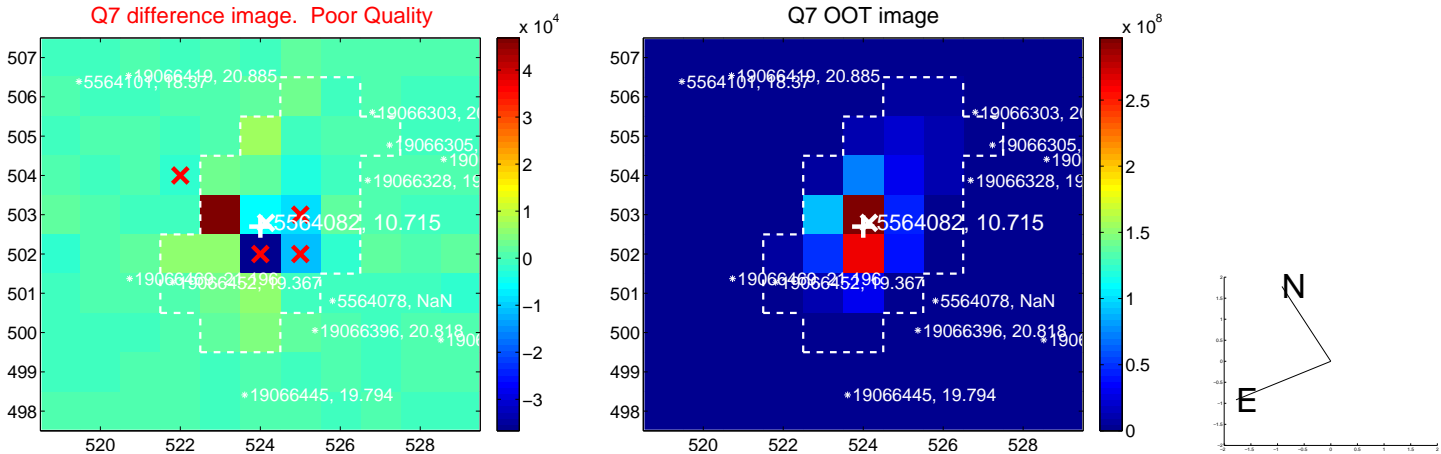
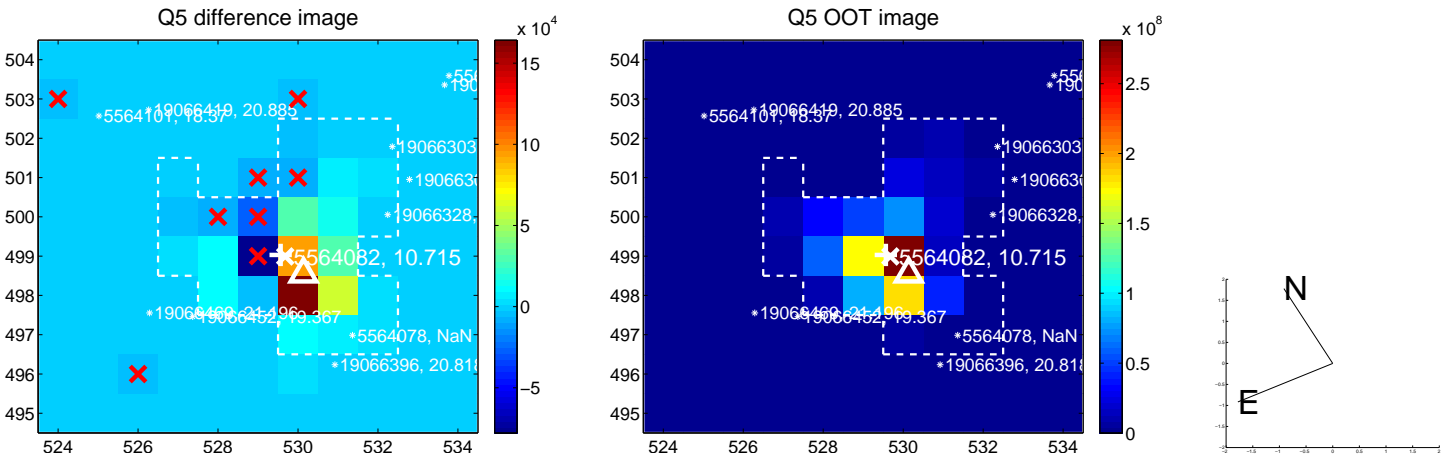


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

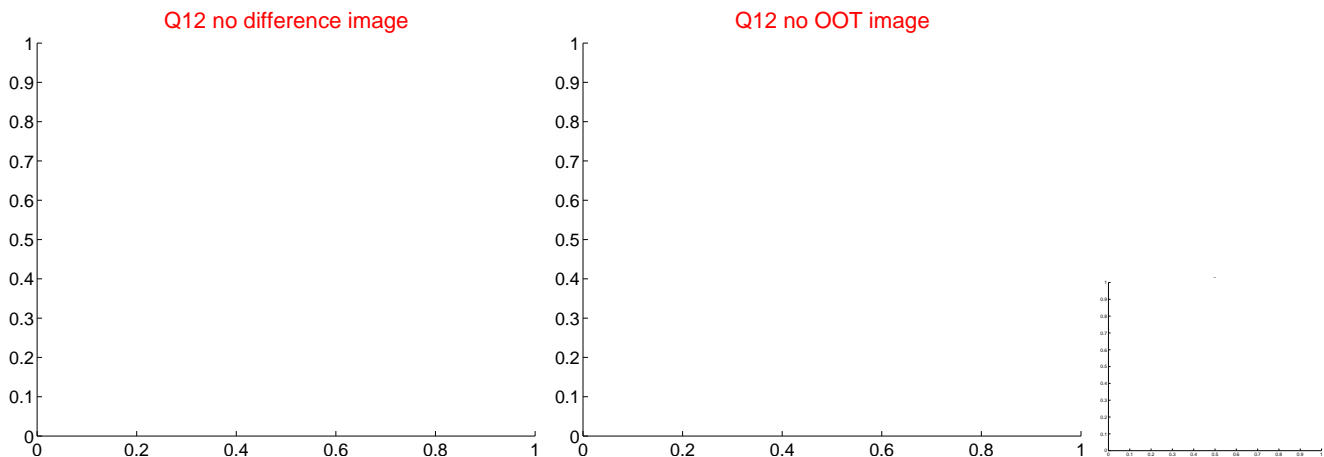
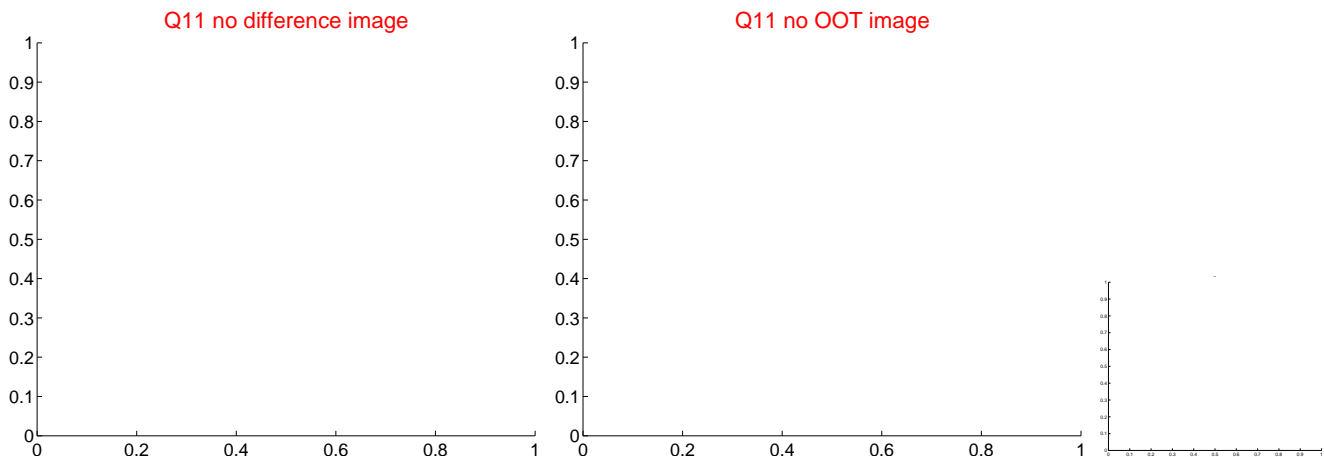
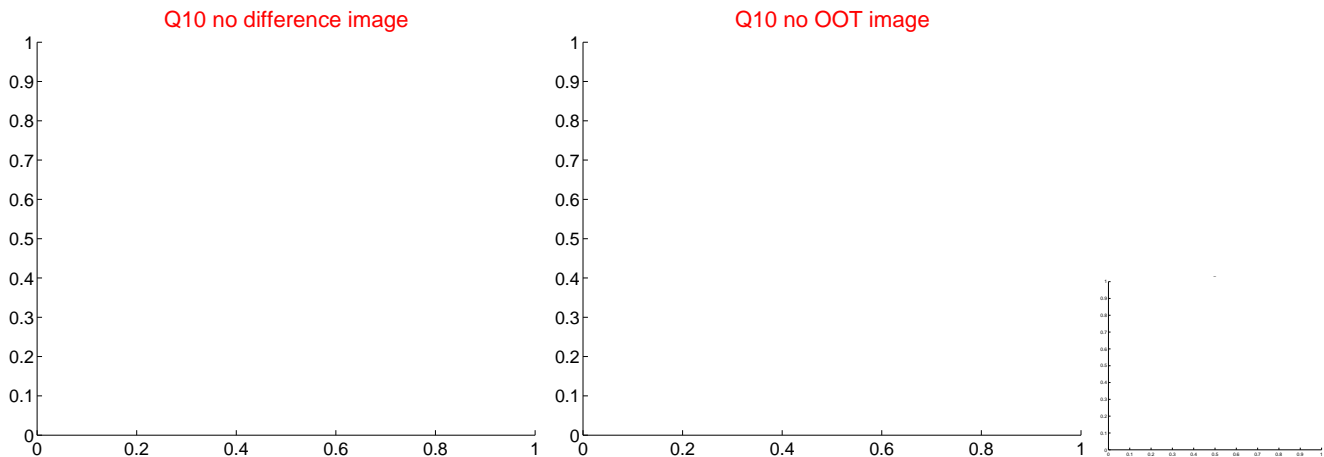
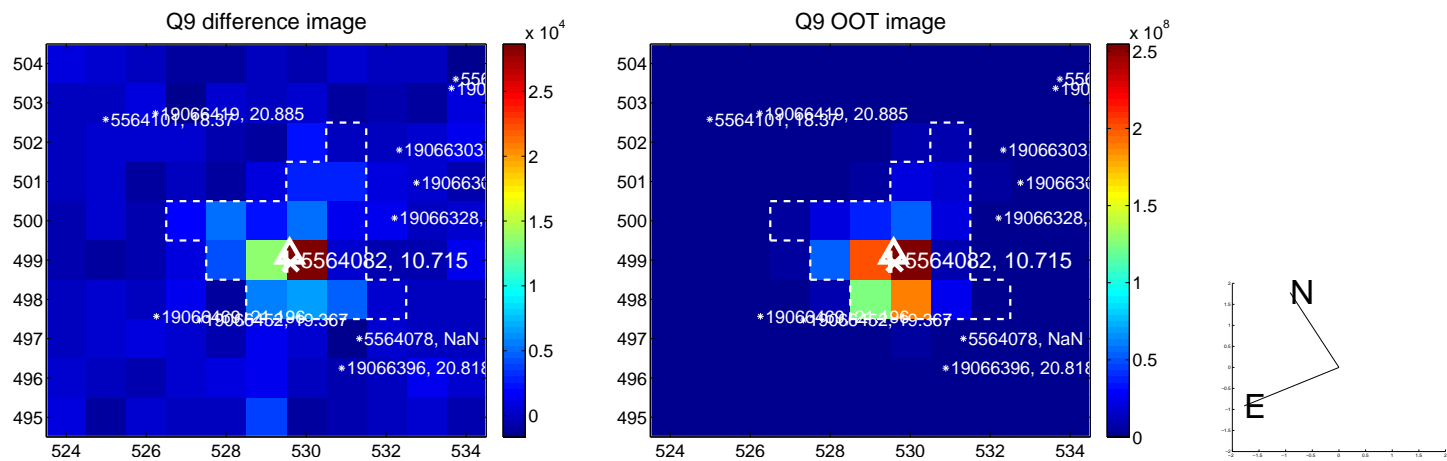
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



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



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

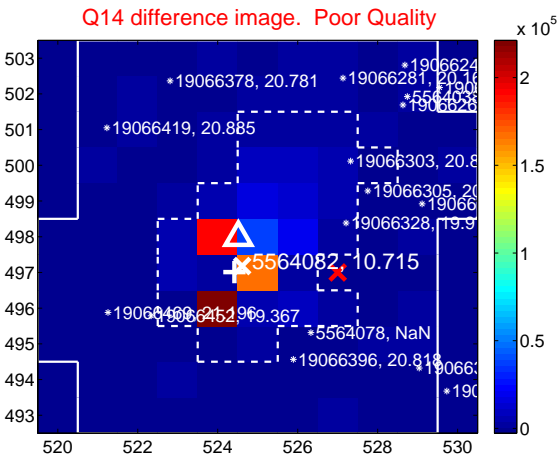
Q13 no difference image



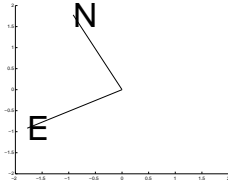
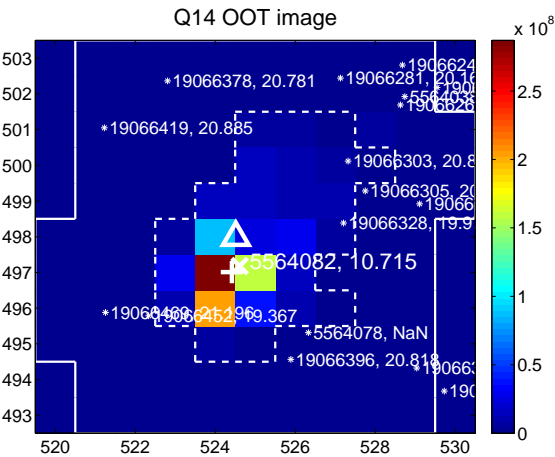
Q13 no OOT image



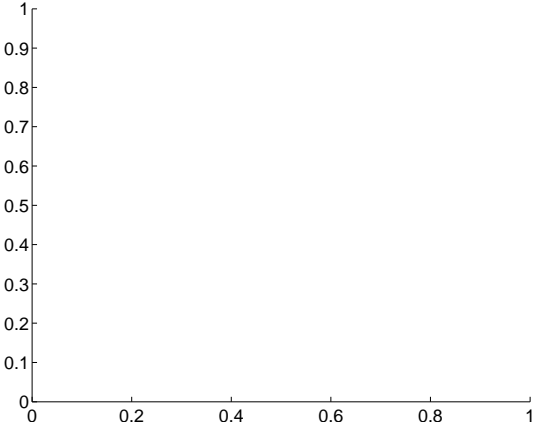
Q14 difference image. Poor Quality



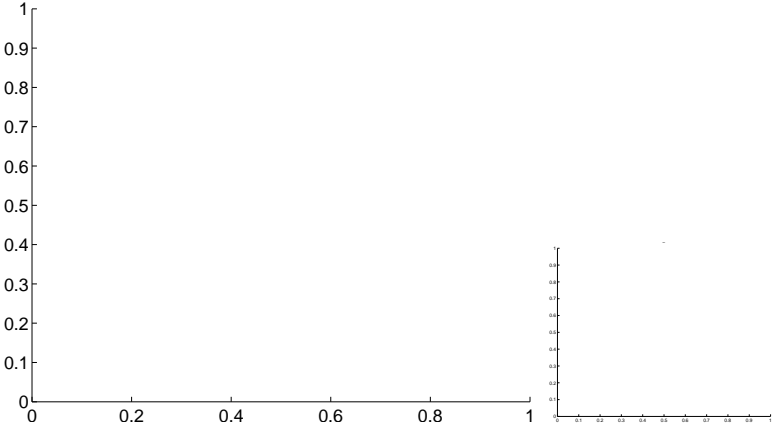
Q14 OOT image



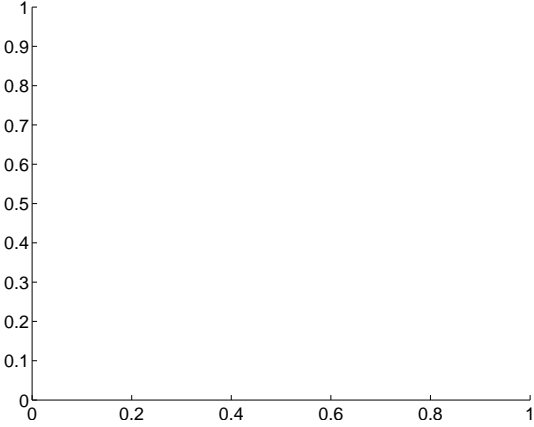
Q15 no difference image



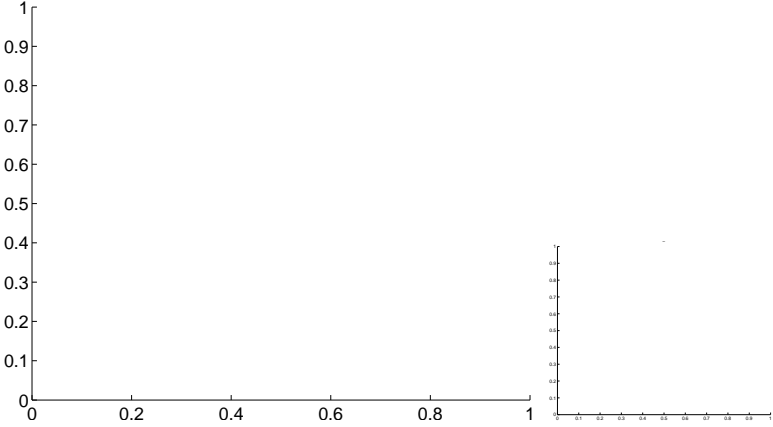
Q15 no OOT image



Q16 no difference image

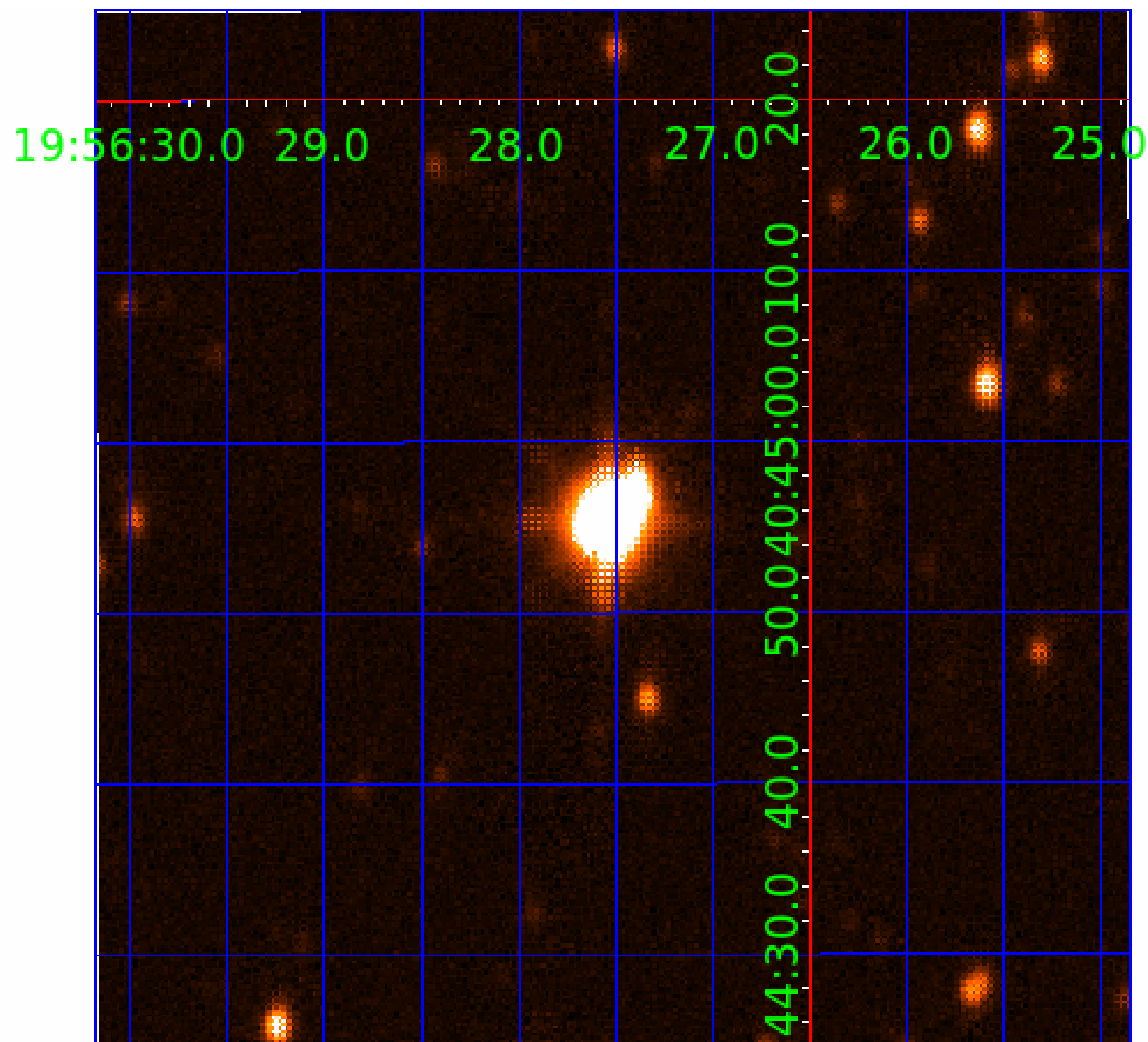


Q16 no OOT image



UKIRT Image

Declination



KIC 005564082

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})
005564082-01	OBS	No	1.803659	131.841511	23.8	10.571	11.2	8.7	1.08	5899	0.52	1450.60
005564082-02	OBS	No	207.117508	264.274806	457.8	3.147	14.1	6.5	1.08	5899	2.68	2.60
005564082-03	OBS	No	420.337323	481.060818	3649.4	34.460	10.4	8.0	1.08	5899	6.45	1.01
005564082-05	OBS	No	281.373974	152.665943	44.6	18.551	11.2	0.2	1.08	5899	0.72	1.73
005564082-06	OBS	No	222.223595	235.030701	325.1	6.531	17.0	3.4	1.08	5899	2.05	2.37
005564082-07	OBS	No	139.361843	136.491682	308.6	5.114	9.4	4.9	1.08	5899	2.10	4.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005564082-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
005564082-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—CENT_SATURATED
005564082-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
005564082-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
005564082-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
005564082-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—CENT_SATURATED

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

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

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

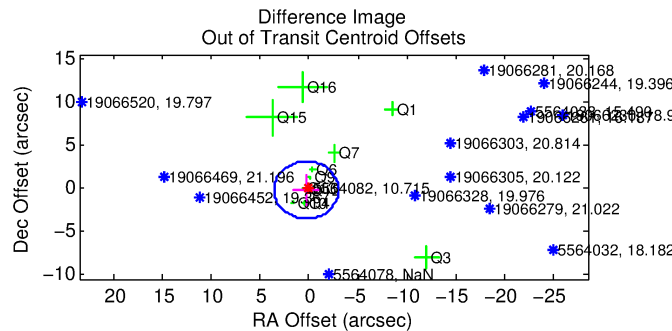
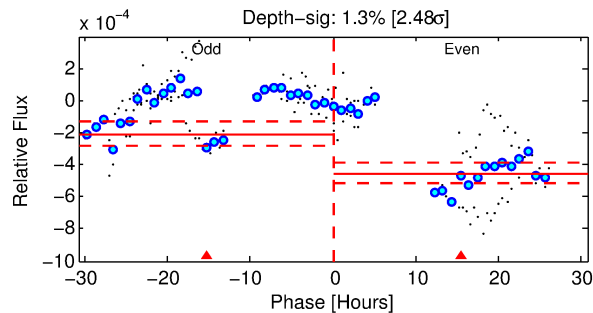
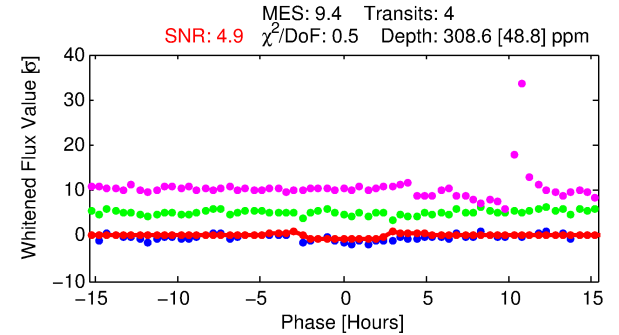
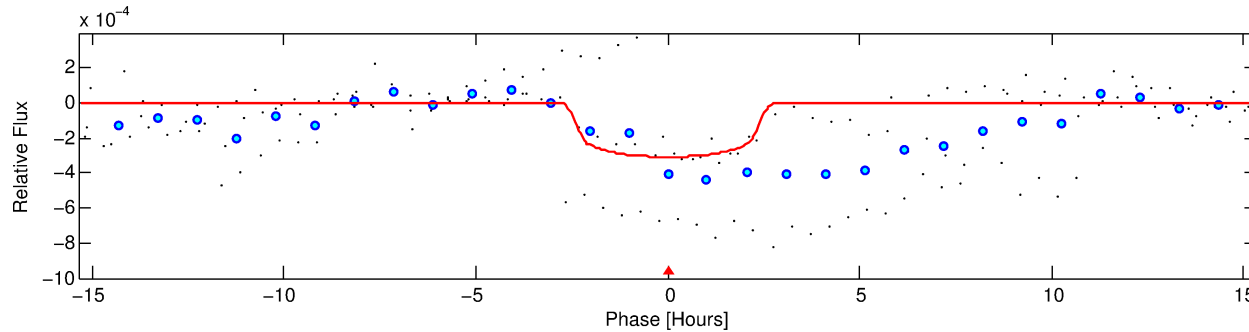
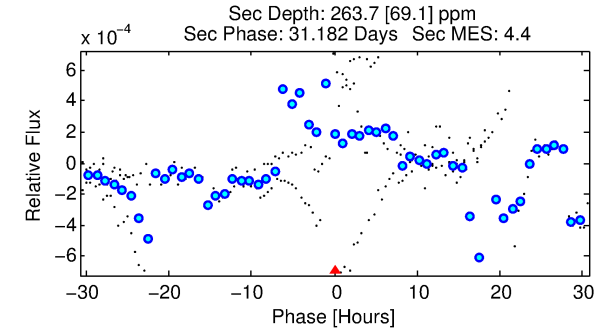
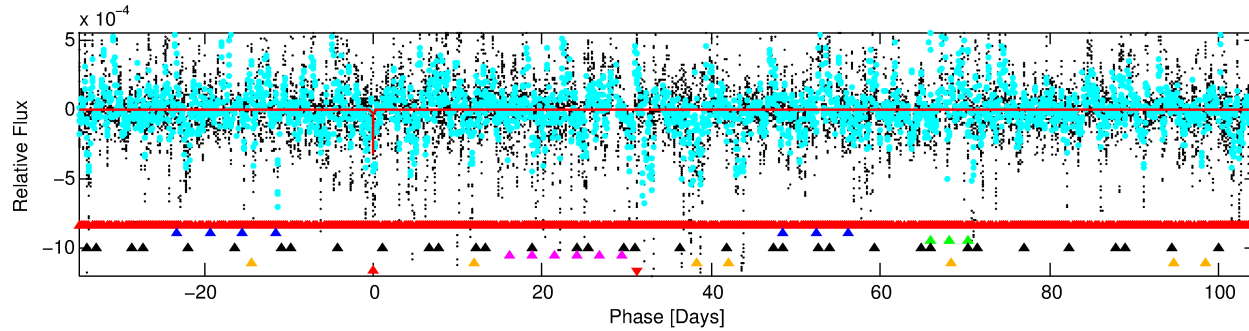
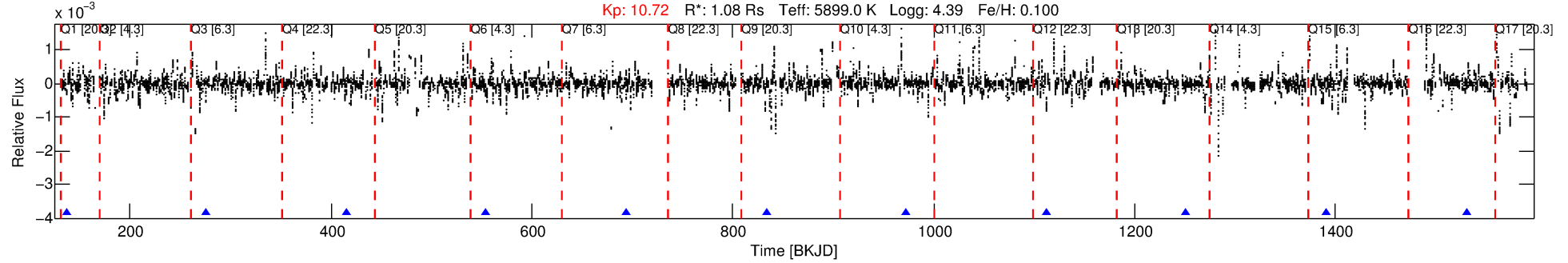
Ephemeris Match Information For 005564082-07

No Significant Match Found

DV One-Page Summary

KIC: 5564082 Candidate: 7 of 7 Period: 139.362 d
KOI: K06600 Corr: No Ephemeris Match

Kp: 10.72 R*: 1.08 Rs Teff: 5899.0 K Logg: 4.39 Fe/H: 0.100



DV Fit Results:

Period = 139.36184 [0.00157] d
Epoch = 136.4917 [0.0072] BKJD
Rp/R* = 0.0178 [0.0070]
a/R* = 131.28 [222.83]
b = 0.80 [0.78]
Seff = 4.41 [1.00]
Teq = 369 [21] K
Rp = 2.10 [0.89] Re
a = 0.5348 [0.0781] AU
Ag = 9410.37 [8015.91] [1.17σ]
Teffp = 5626 [1161] K [4.53σ]

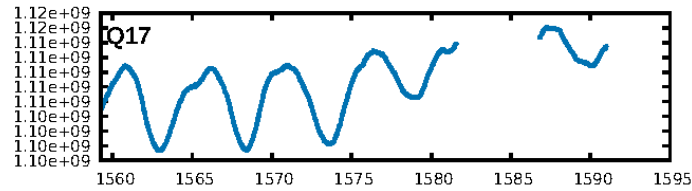
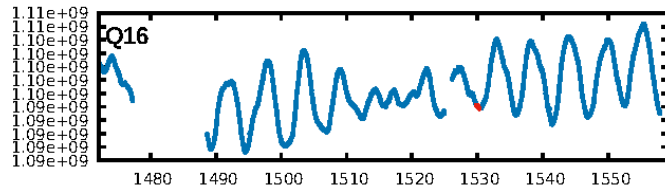
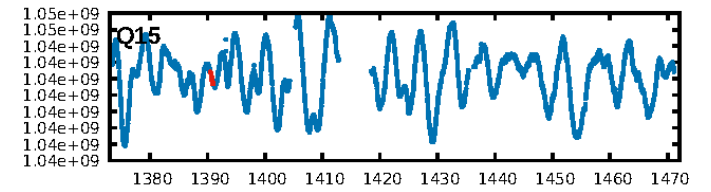
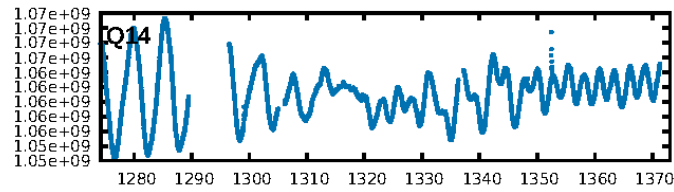
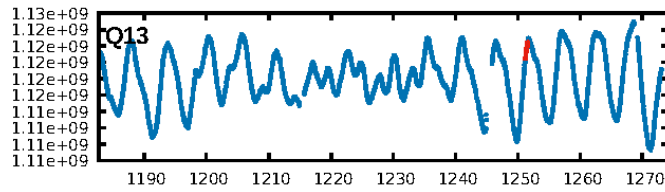
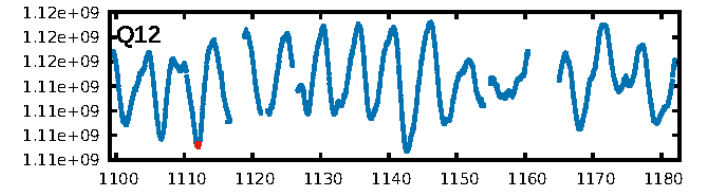
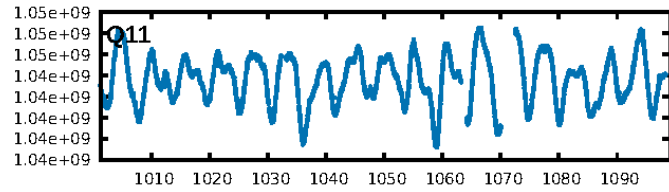
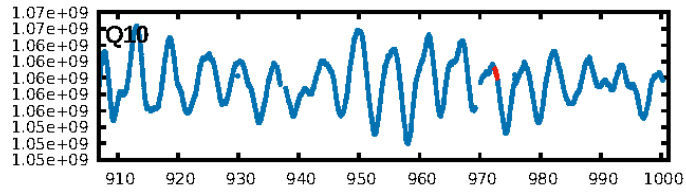
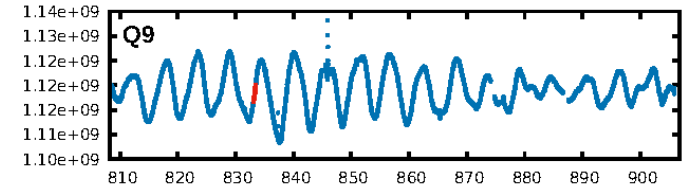
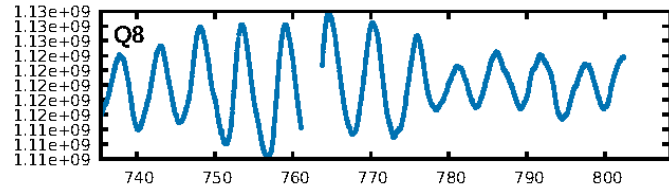
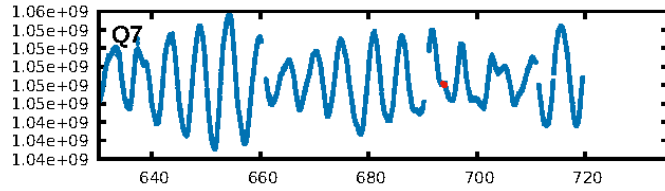
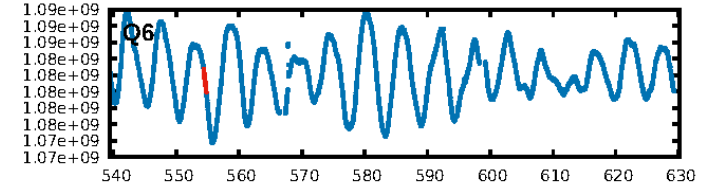
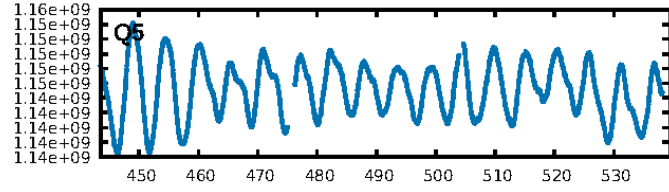
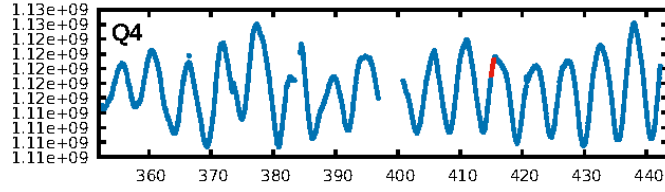
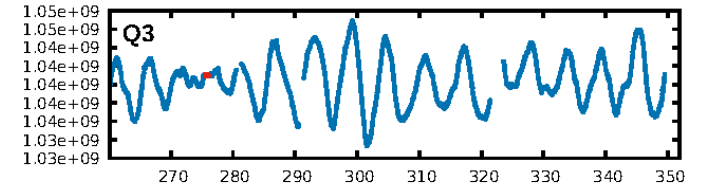
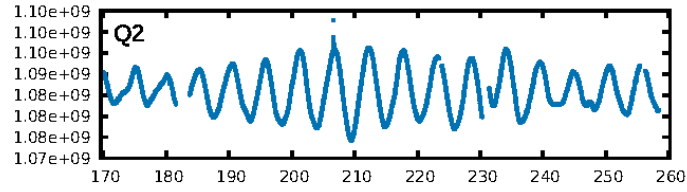
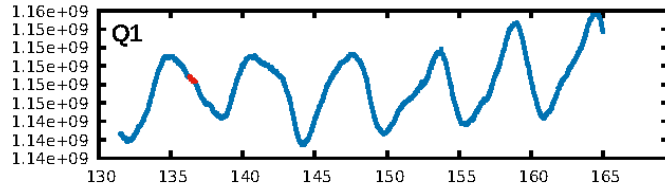
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [328.82σ]
LongPeriod-sig: 100.0% [270.81σ]
ModelChiSquare2-sig: 5.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.05e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: N/A
Centroid-sig: 44.3%
Centroid-so: 0.406 arcsec [0.98σ]
OotOffset-rm: 0.370 arcsec [0.34σ]
KicOffset-rm: 0.626 arcsec [0.43σ]
OotOffset-st: 2/3/3/3 [11]
KicOffset-st: 2/3/3/3 [11]
DiffImageQuality-fgm: 0.18 [2/11]
DiffImageOverlap-fno: 0.27 [3/11]

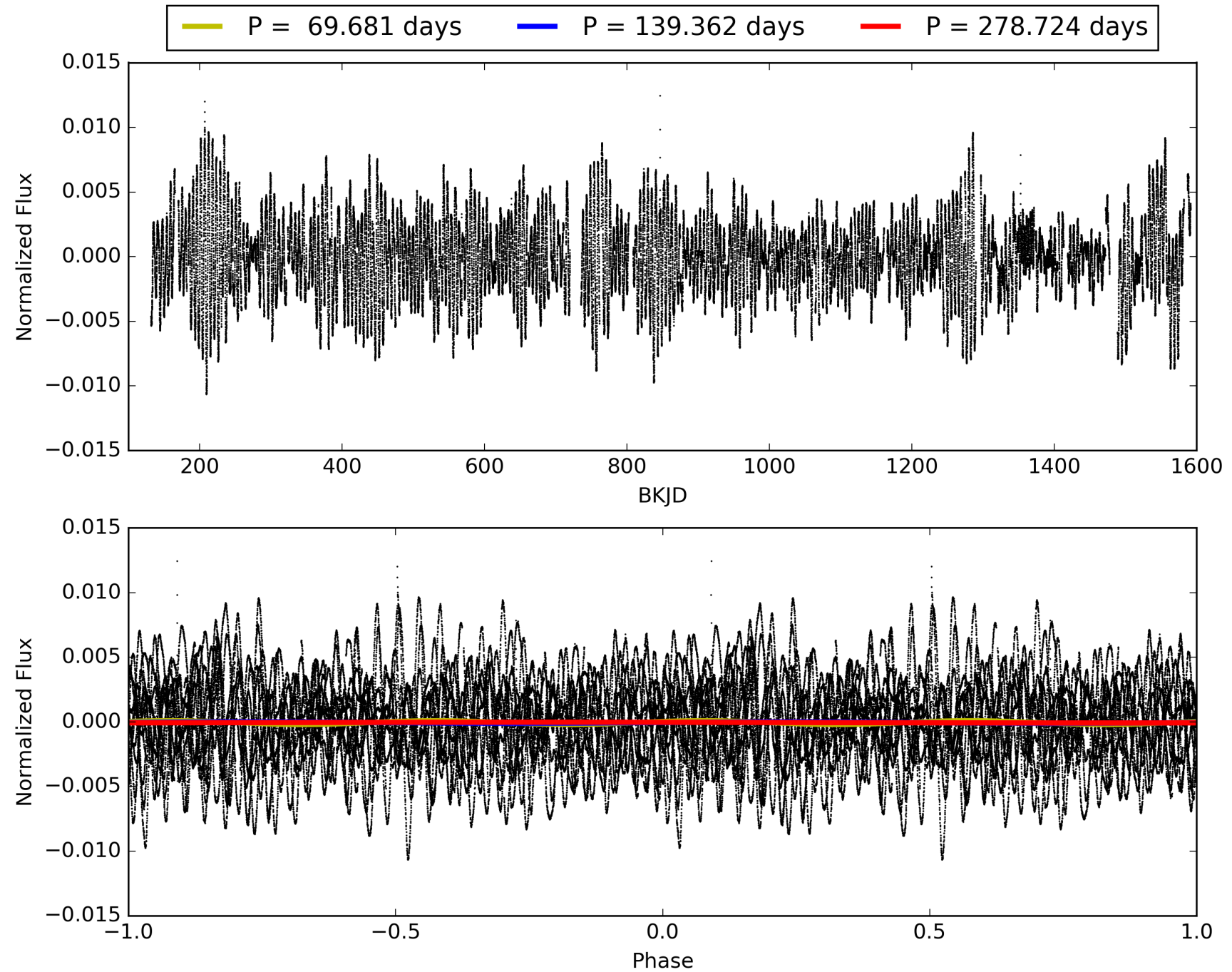
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:47:07 Z

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

TCE 005564082-07, PDC Light Curves

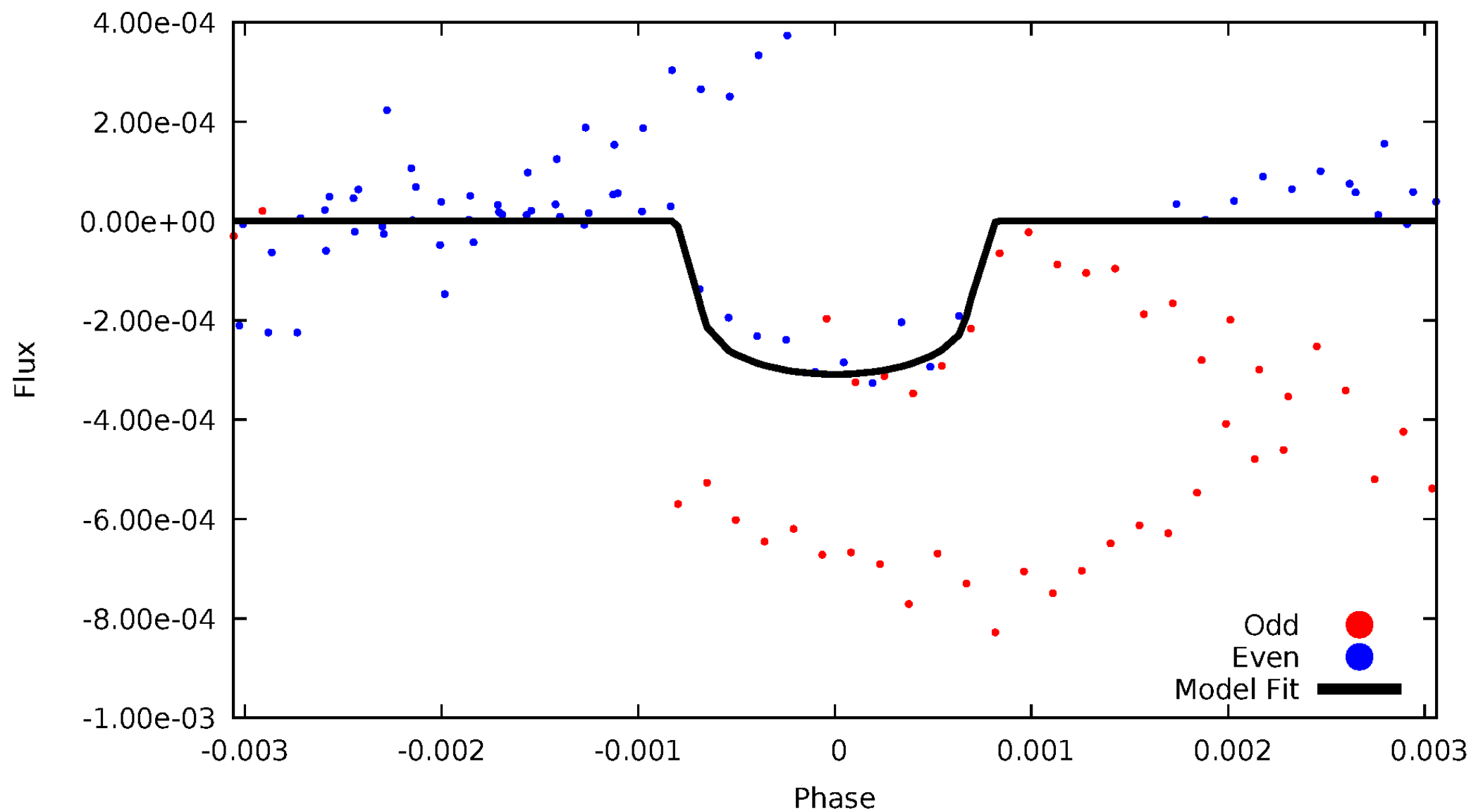


TCE 005564082-07



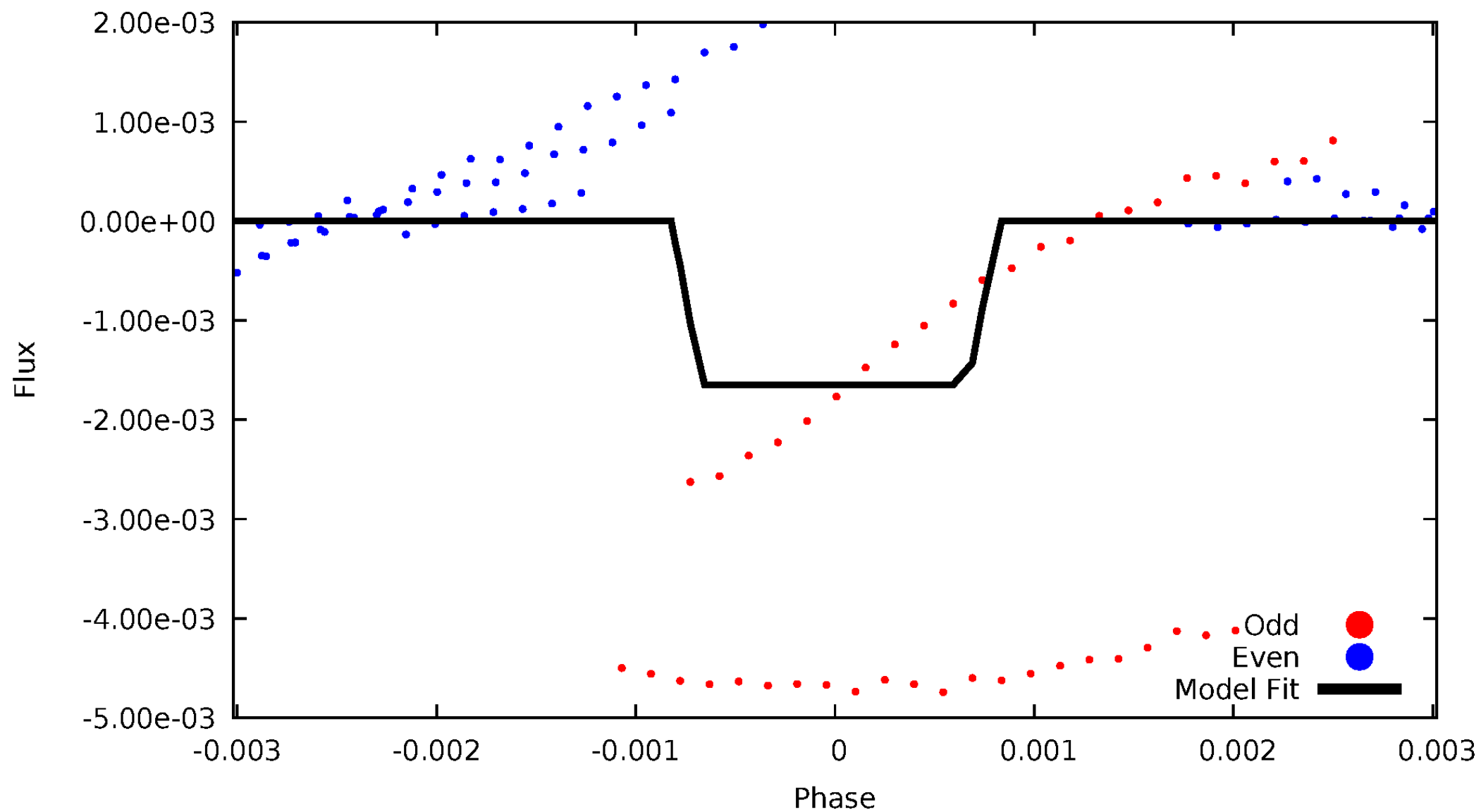
DV Odd/Even

TCE 005564082-07



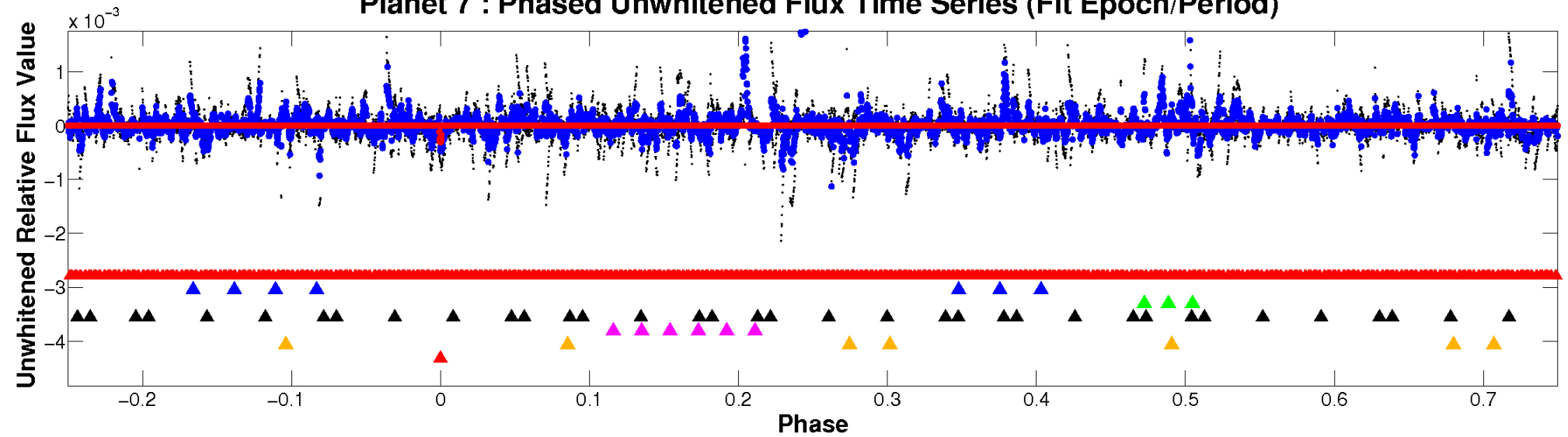
ALT Odd/Even

TCE 005564082-07

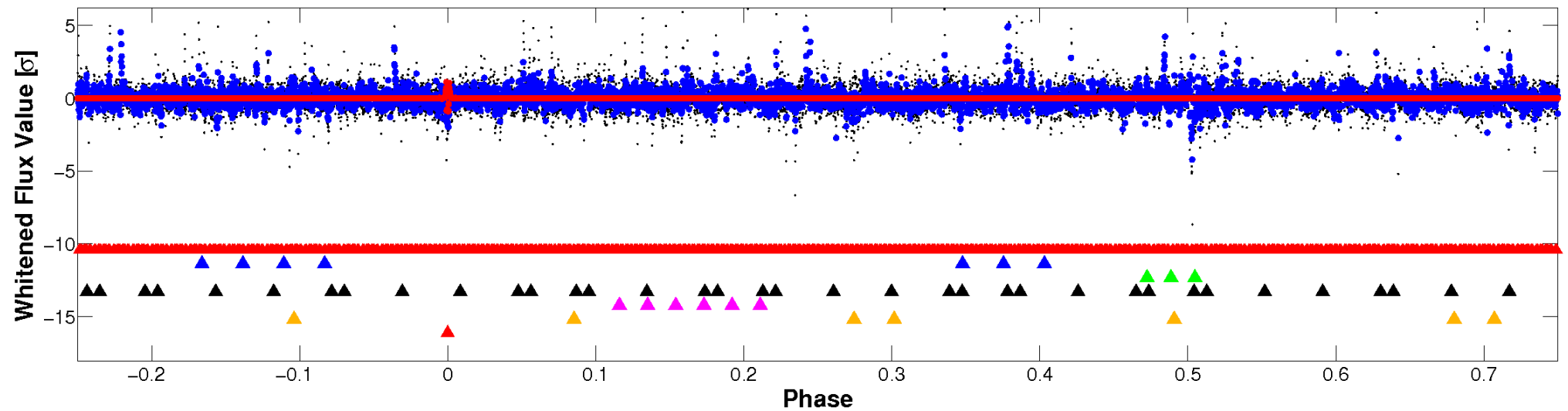


Non-Whitened Vs. Whitened Light Curve

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

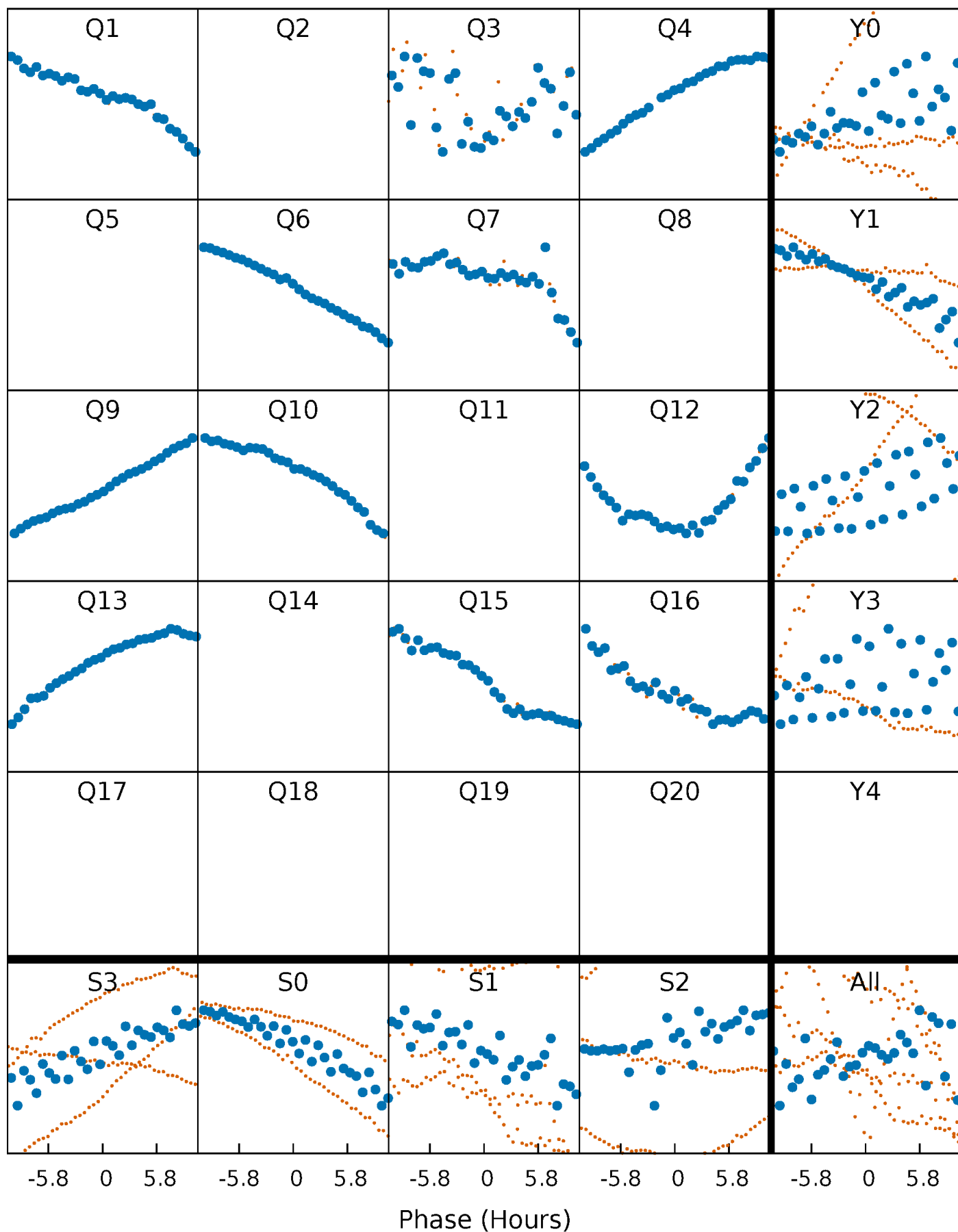


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



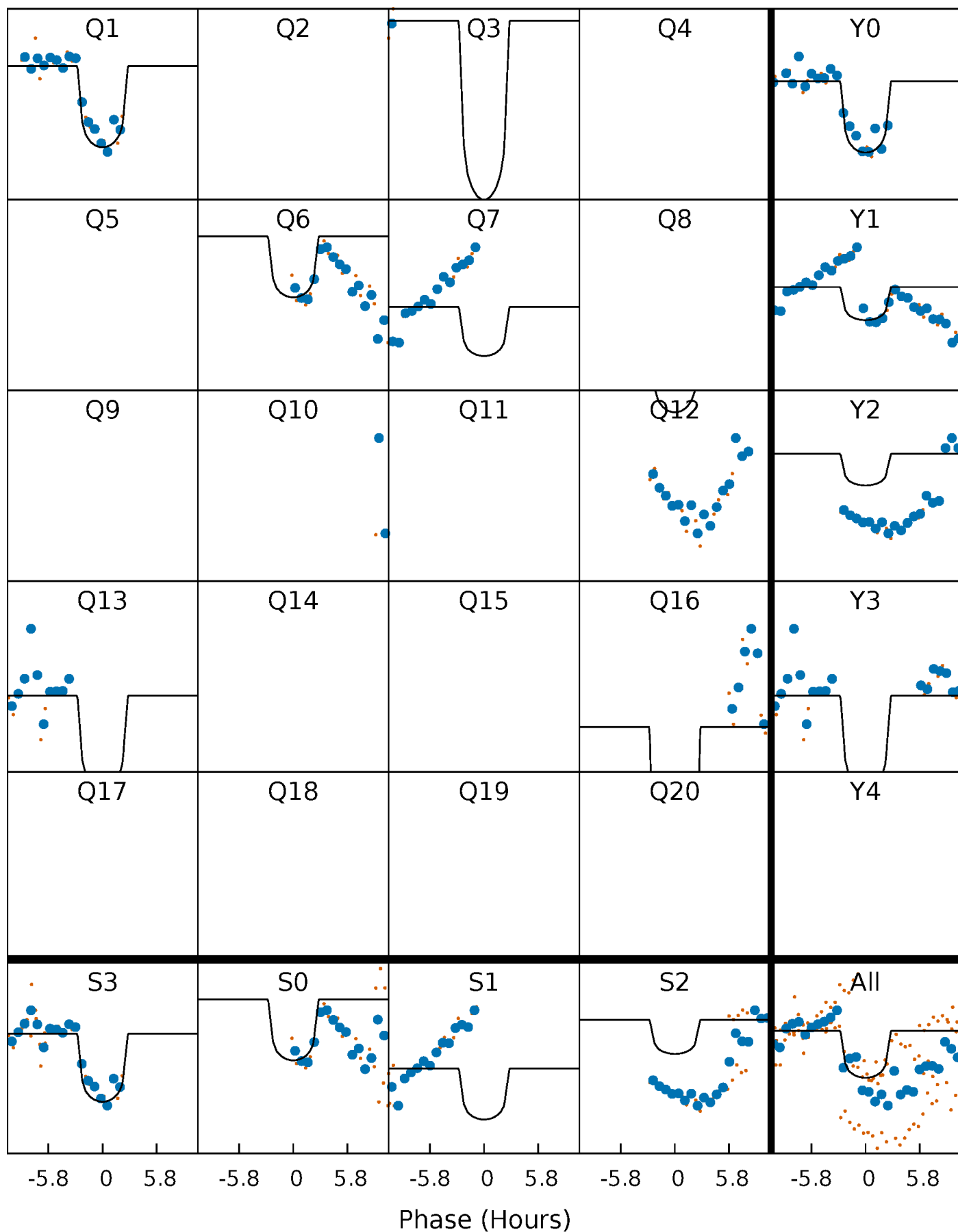
PDC Quarter-Phased Transit Curves

TCE 005564082-07 $P=139.361843$ Days $T_0=136.491682$ (BKJD)



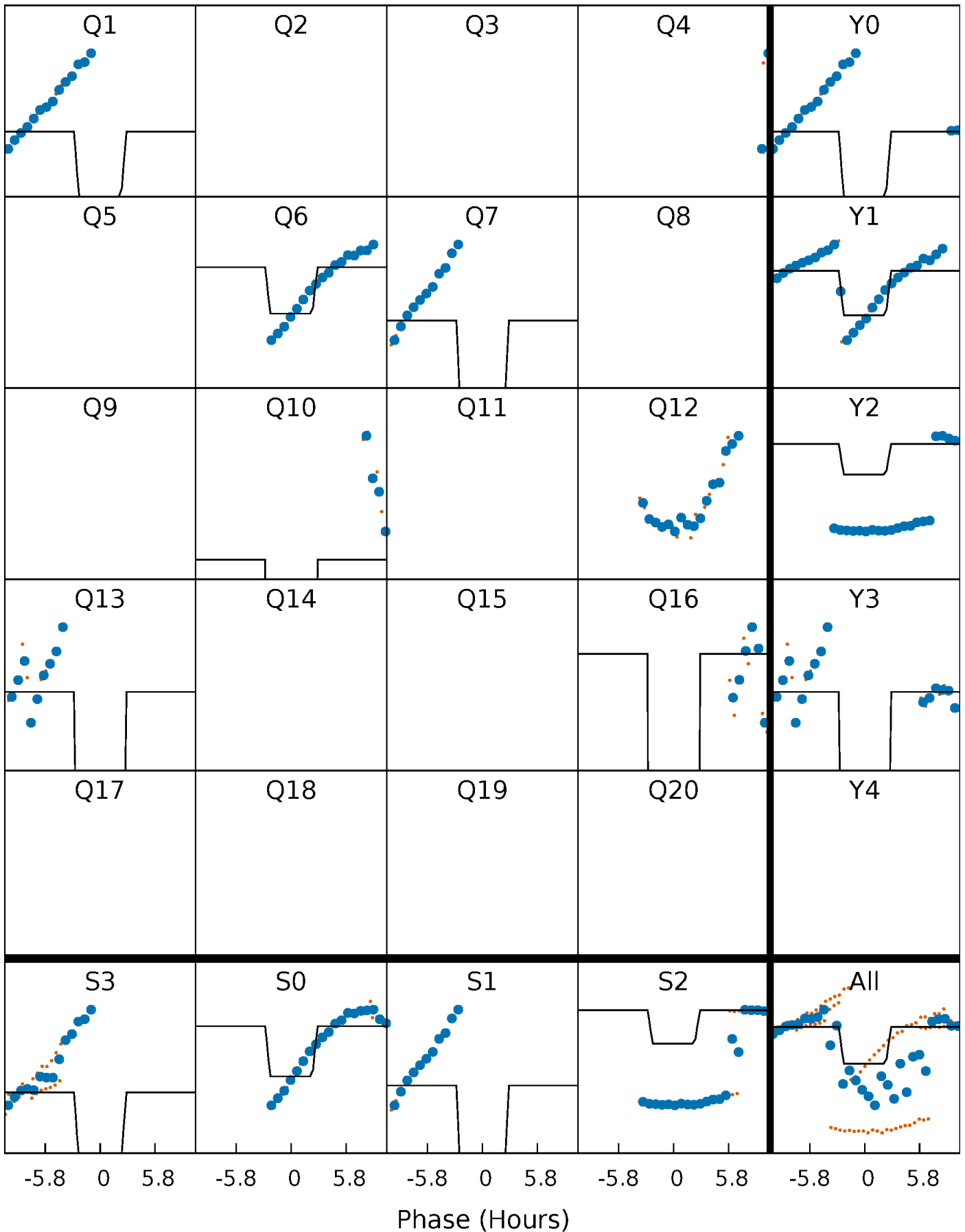
DV Quarter-Phased Transit Curves

TCE 005564082-07 $P=139.361843$ Days $T_0=136.491682$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

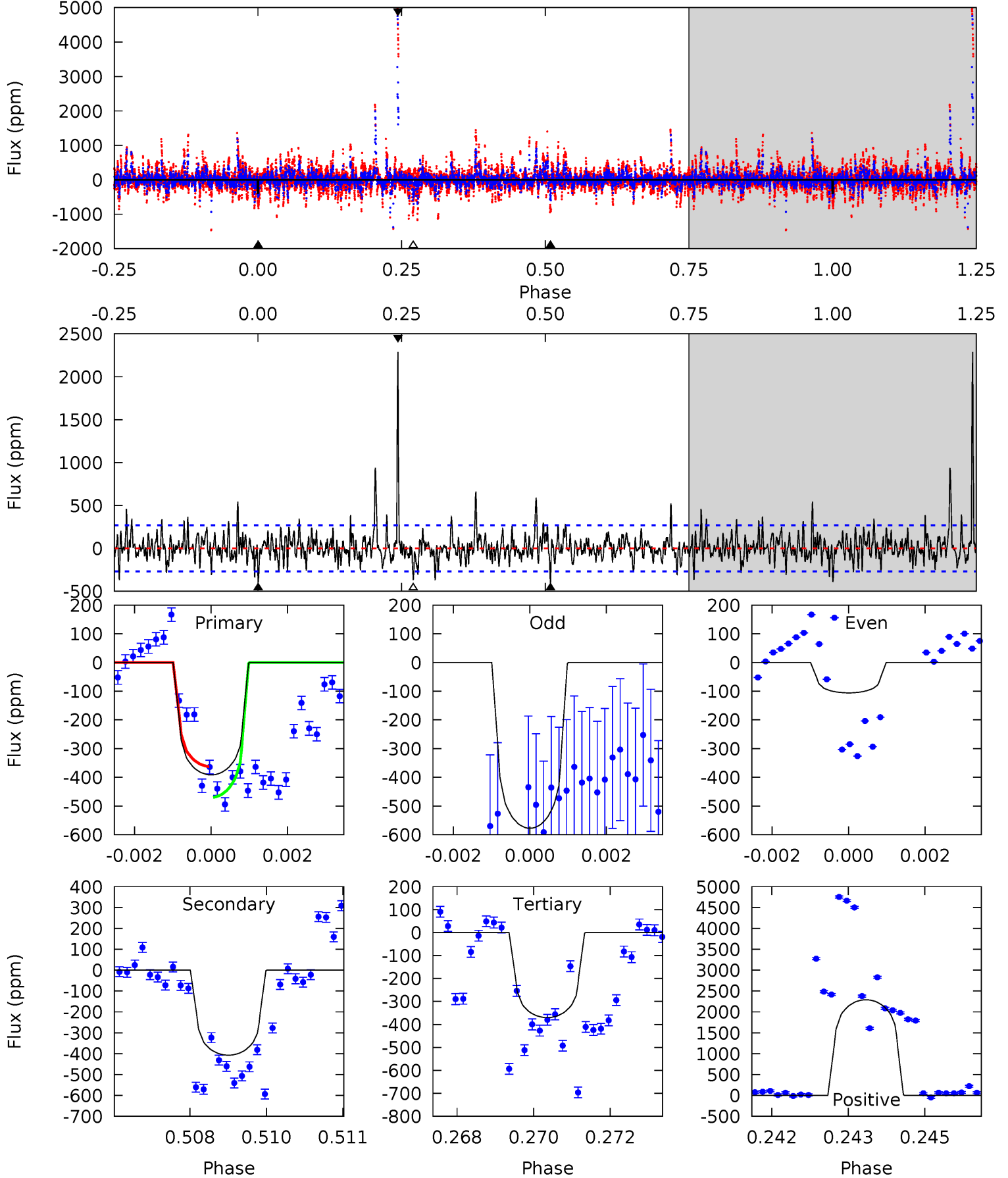
TCE 005564082-07 P=139.347491 Days $T_0=136.630116$ (BKJD)



DV Model-Shift Uniqueness Test

005564082-07, P = 139.361843 Days, E = 136.491682 Days

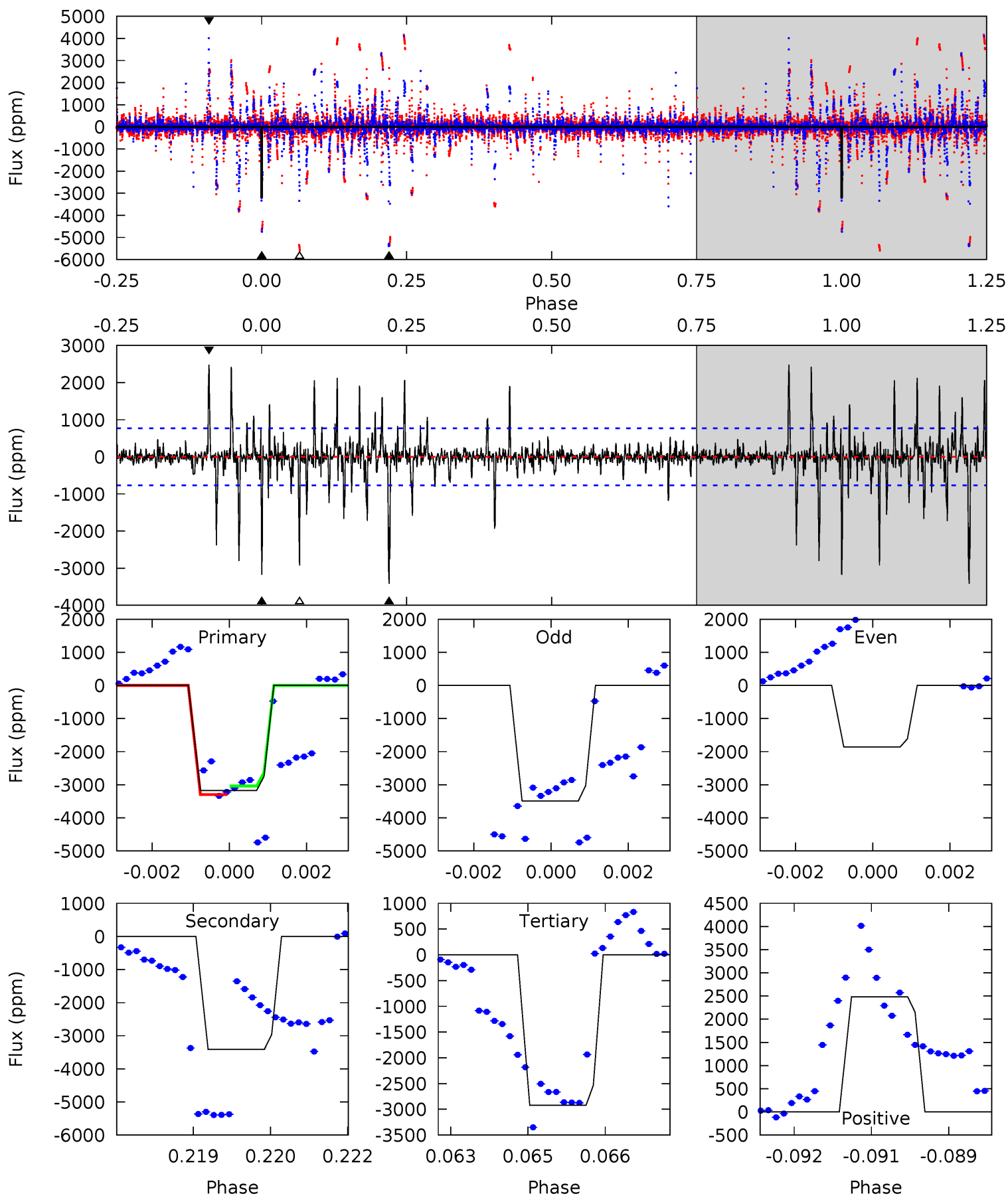
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.81	8.13	7.39	45.7	5.36	3.14	2.92	0.42	-37.9	0.74	-37.6	4.21	0.81	0.85	1.07



Alt Model-Shift Uniqueness Test

005564082-07, P = 139.347491 Days, E = 136.630116 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.2	23.9	20.5	17.4	5.37	3.17	2.44	1.74	4.83	3.44	6.54	5.69	0.88	0.42	0.88



Stellar Parameters For KIC 005564082

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5899^{+70}_{-88}	$4.394^{+0.066}_{-0.123}$	$0.100^{+0.150}_{-0.150}$	$1.078^{+0.180}_{-0.097}$	$1.051^{+0.074}_{-0.067}$	$1.181^{+0.315}_{-0.421}$
	+1%/-1%	+2%/-3%	+150%/-150%	+17%/-9%	+7%/-6%	+27%/-36%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 005564082-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-407 ± 50	$2.14^{+0.94}_{-0.76}$	519^{+22}_{-16}	6246^{+1724}_{-969}	13976^{+20759}_{-7274}
Alt.	-3415 ± 143	$4.81^{+0.97}_{-0.86}$	519^{+22}_{-16}	7191^{+814}_{-644}	22821^{+11142}_{-6659}

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 $A_{obs} \gg 1.0$

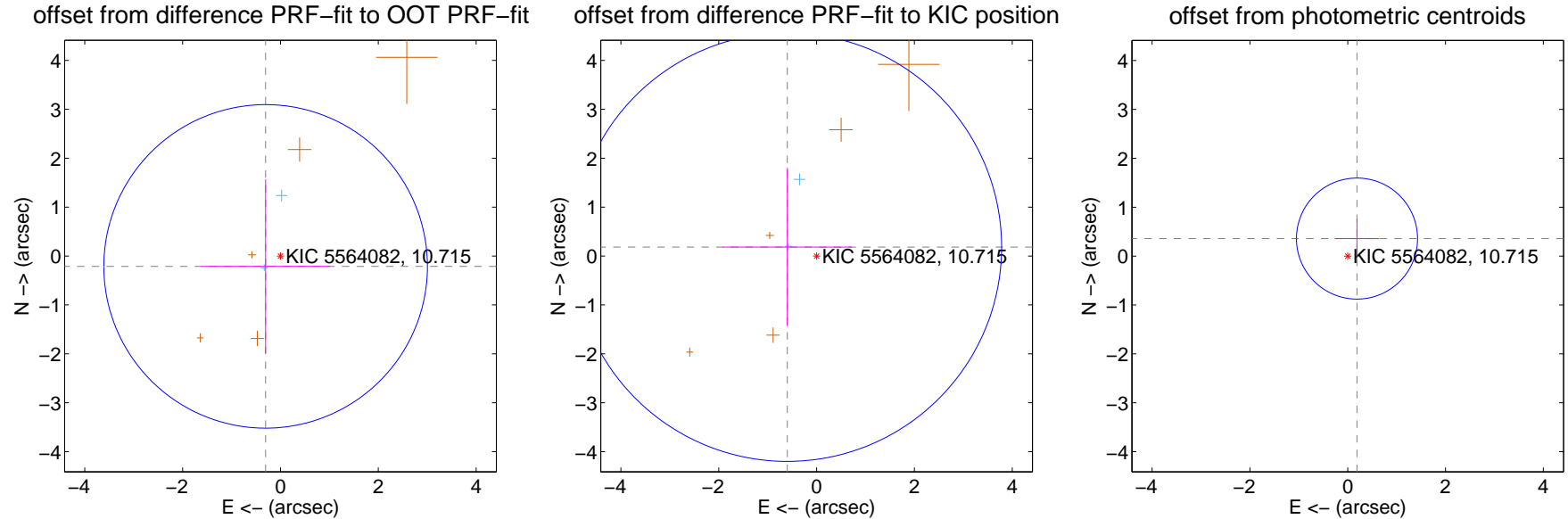
DV Centroid Data

Supplemental centroid analysis for 005564082-07. **Kepler magnitude: 10.71.** Transit SNR 4.93

There are 2 quarters with good PRF difference image offsets

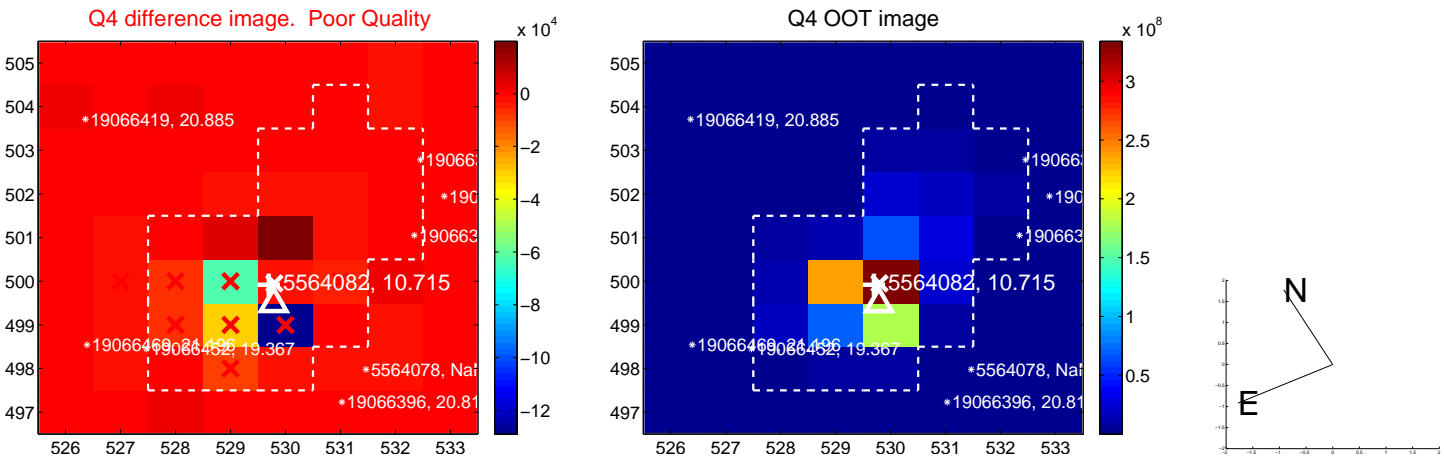
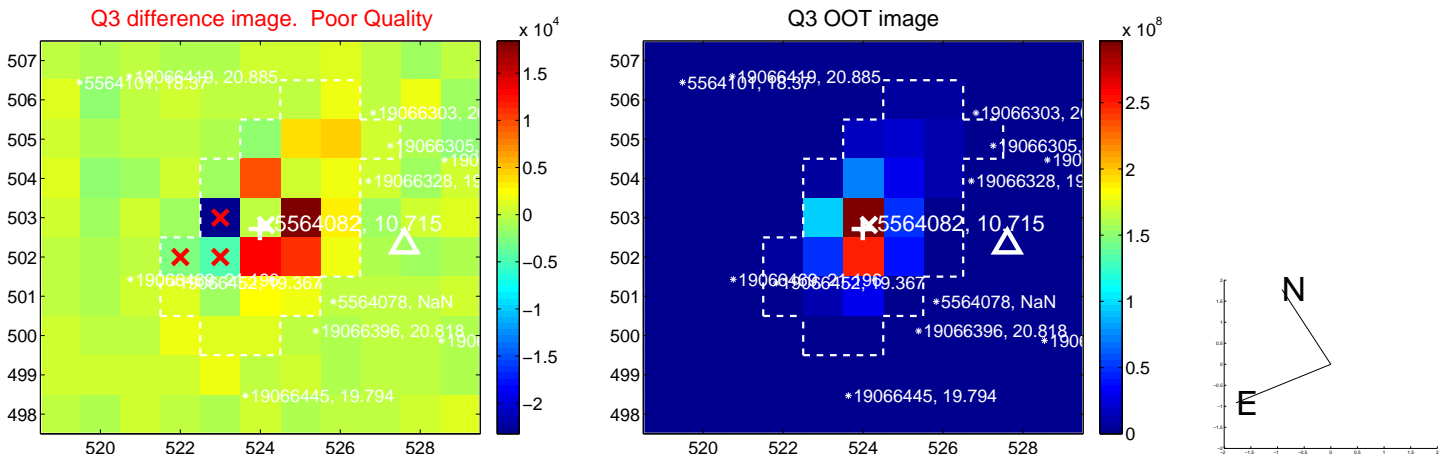
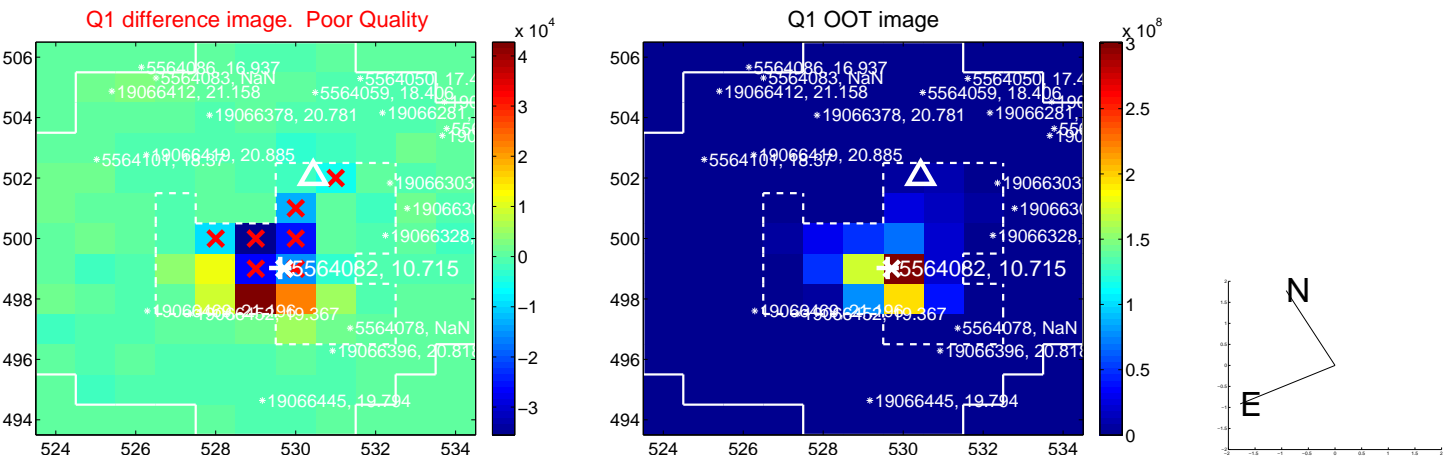
The direct PRF centroid is offset from the target star catalog position by about 0.51 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.370 ± 1.103	0.34	0.303 ± 1.315	-0.212 ± 1.779
PRF-fit source offset from KIC position	0.626 ± 1.461	0.43	0.599 ± 1.324	0.182 ± 1.616
photometric centroid source offset	0.41 ± 0.41	0.98	-0.19 ± 0.45	0.36 ± 0.40



Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

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



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

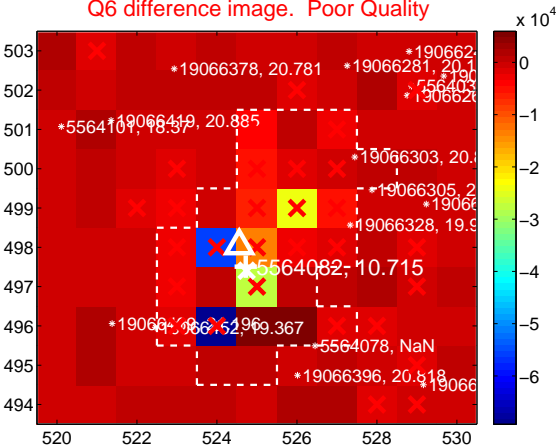
Q5 no difference image



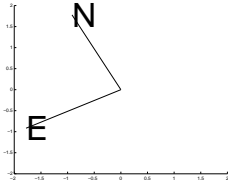
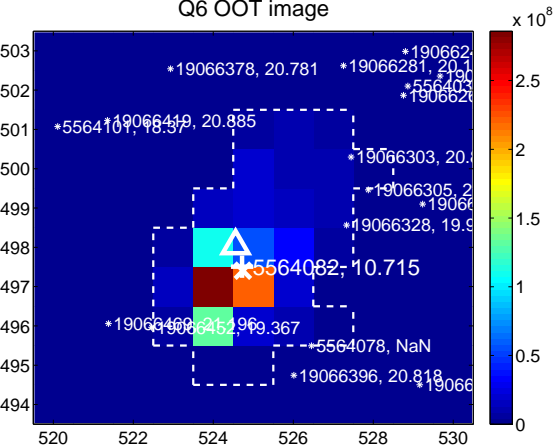
Q5 no OOT image



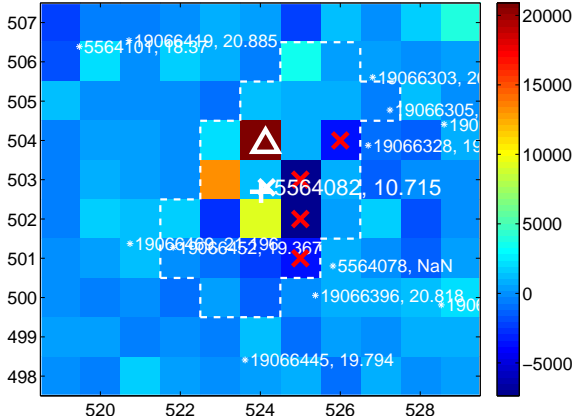
Q6 difference image. Poor Quality



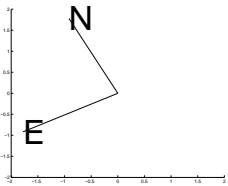
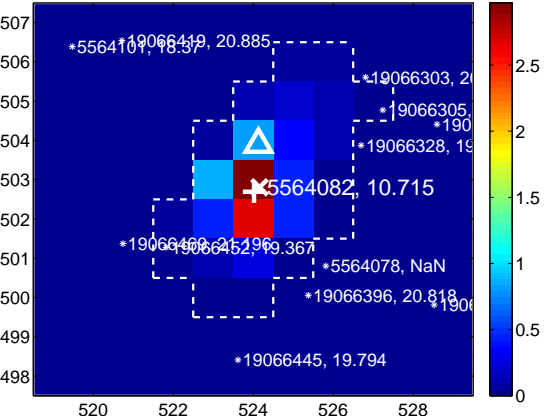
Q6 OOT image



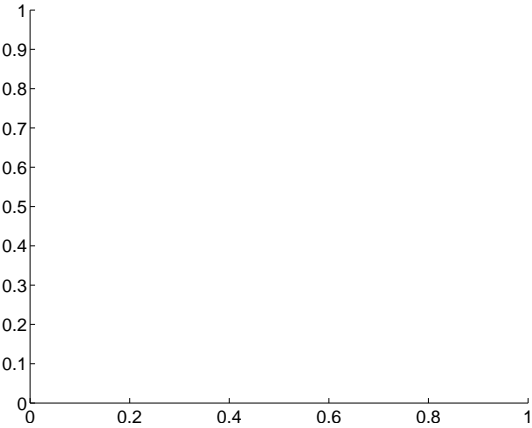
Q7 difference image. Poor Quality



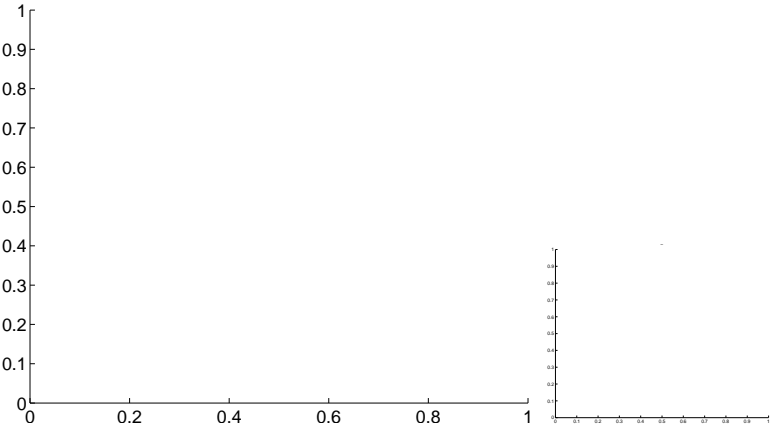
Q7 OOT image



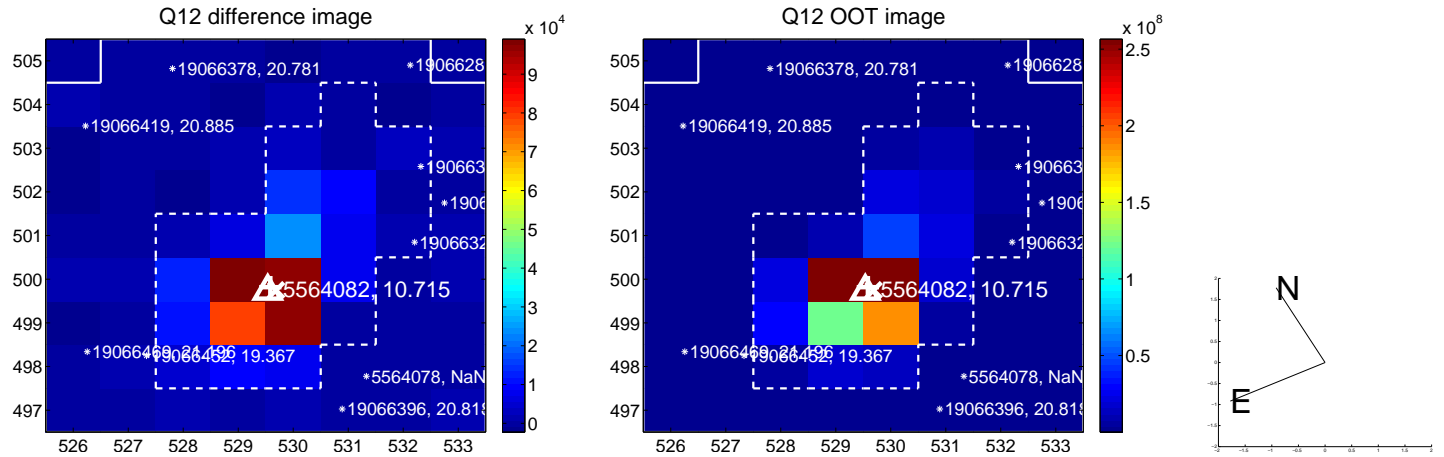
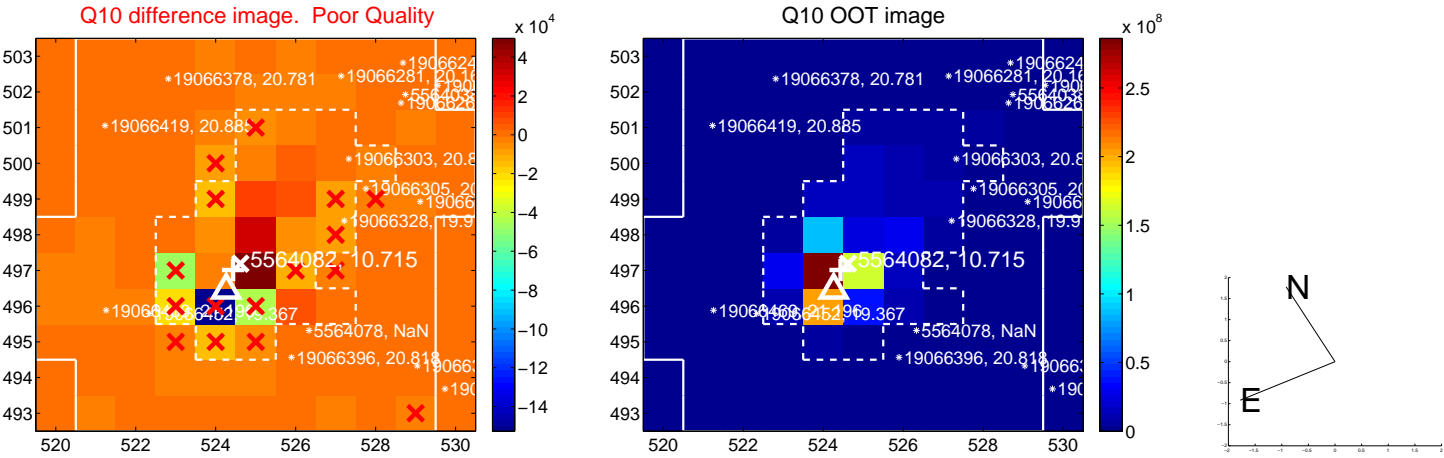
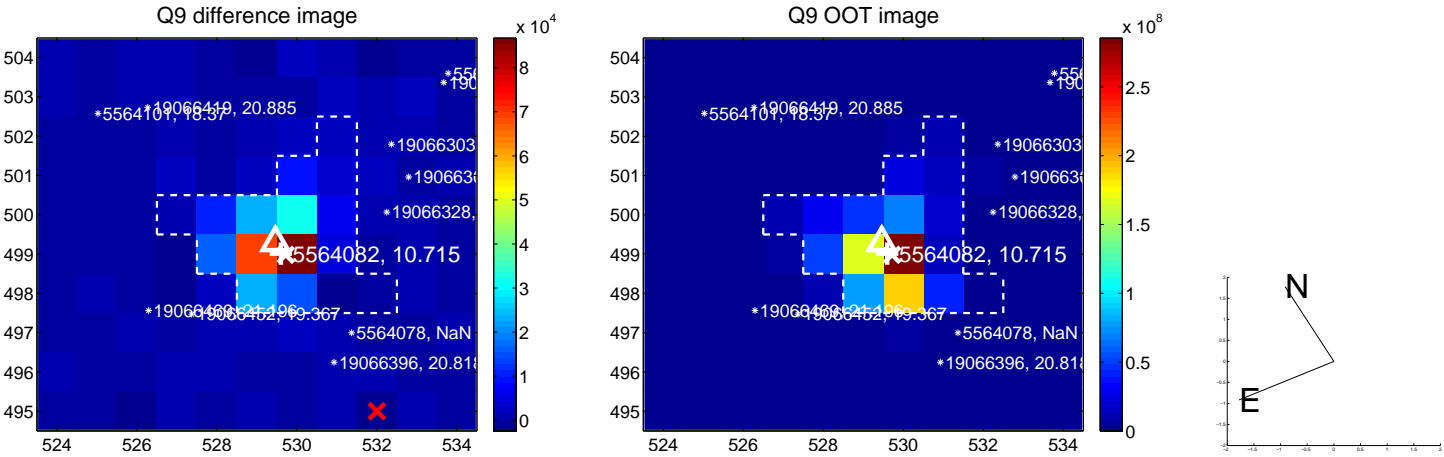
Q8 no difference image



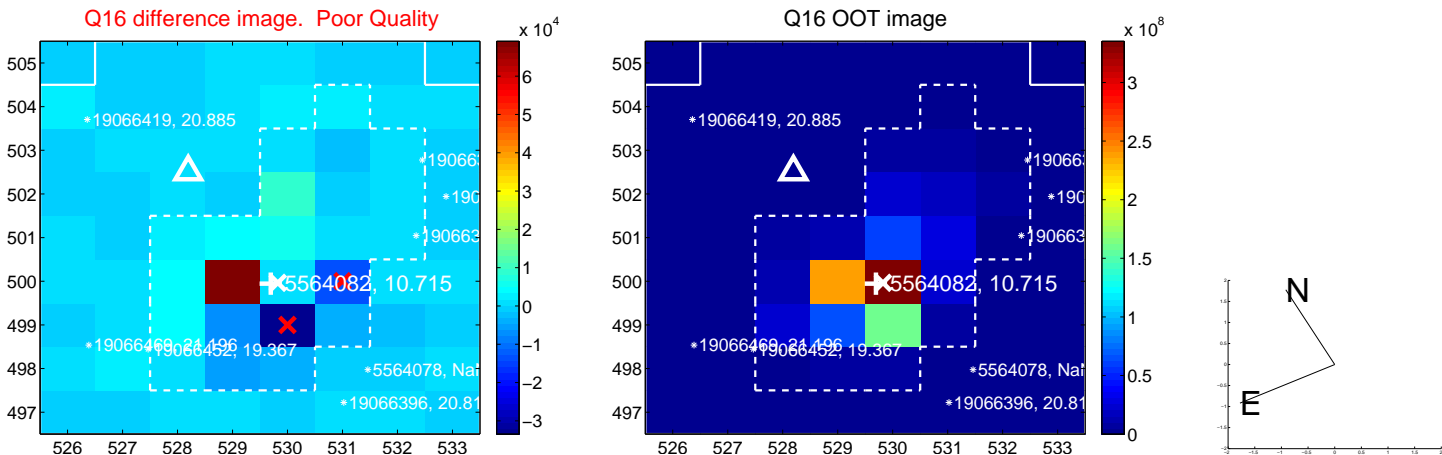
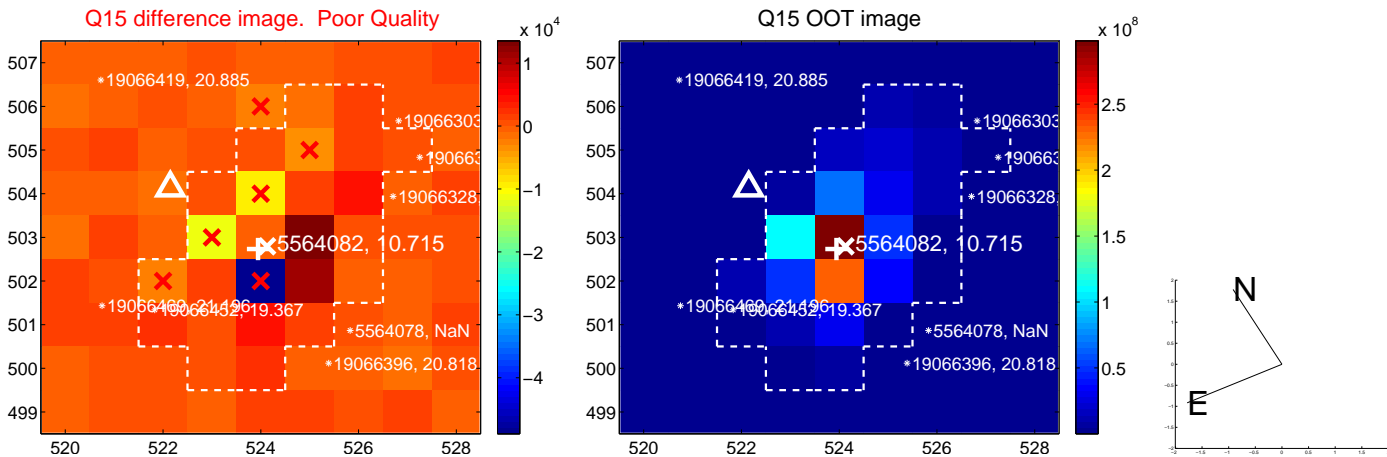
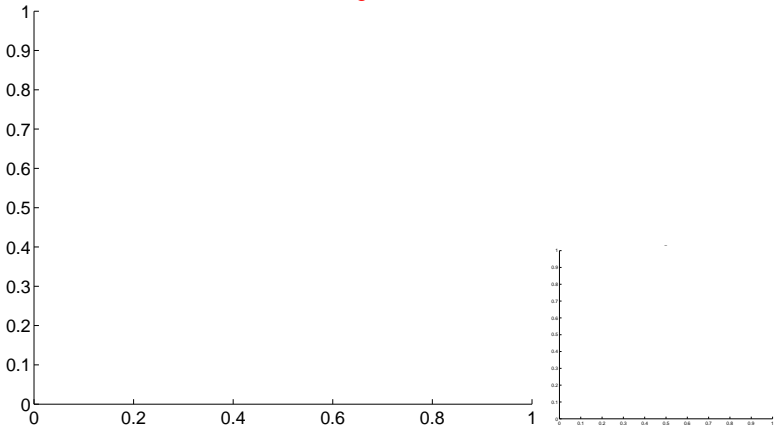
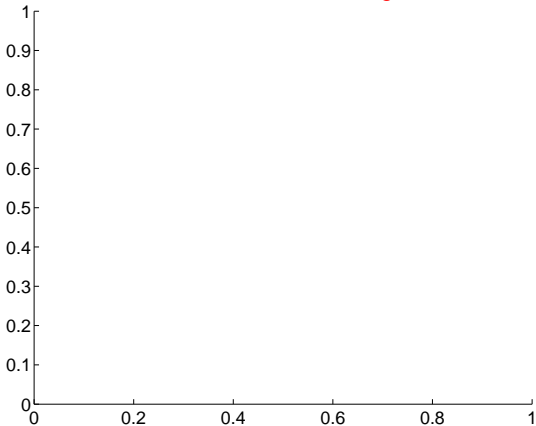
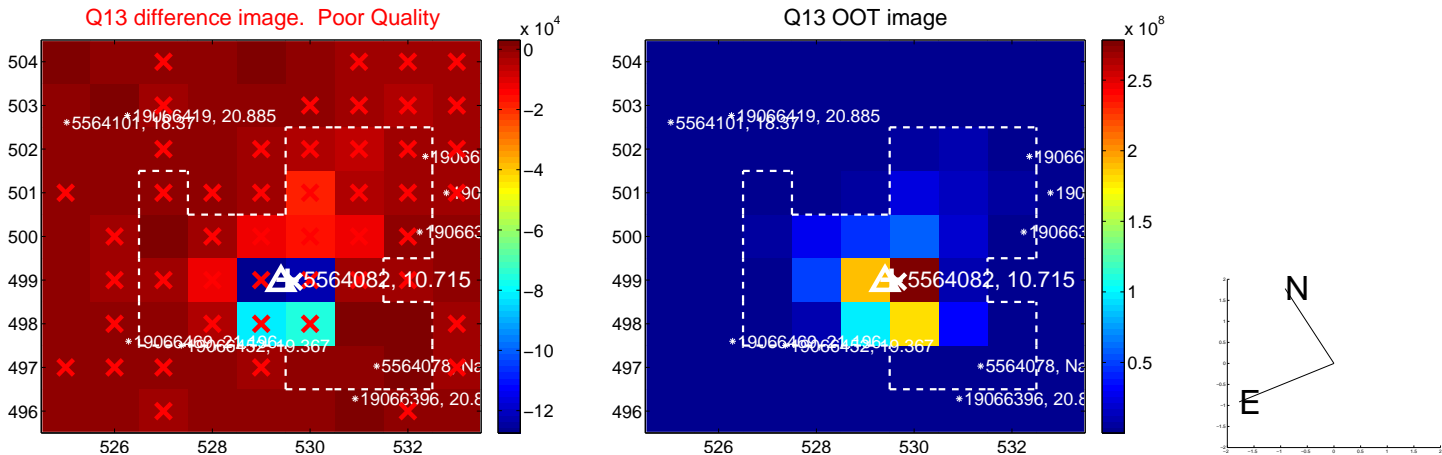
Q8 no OOT image



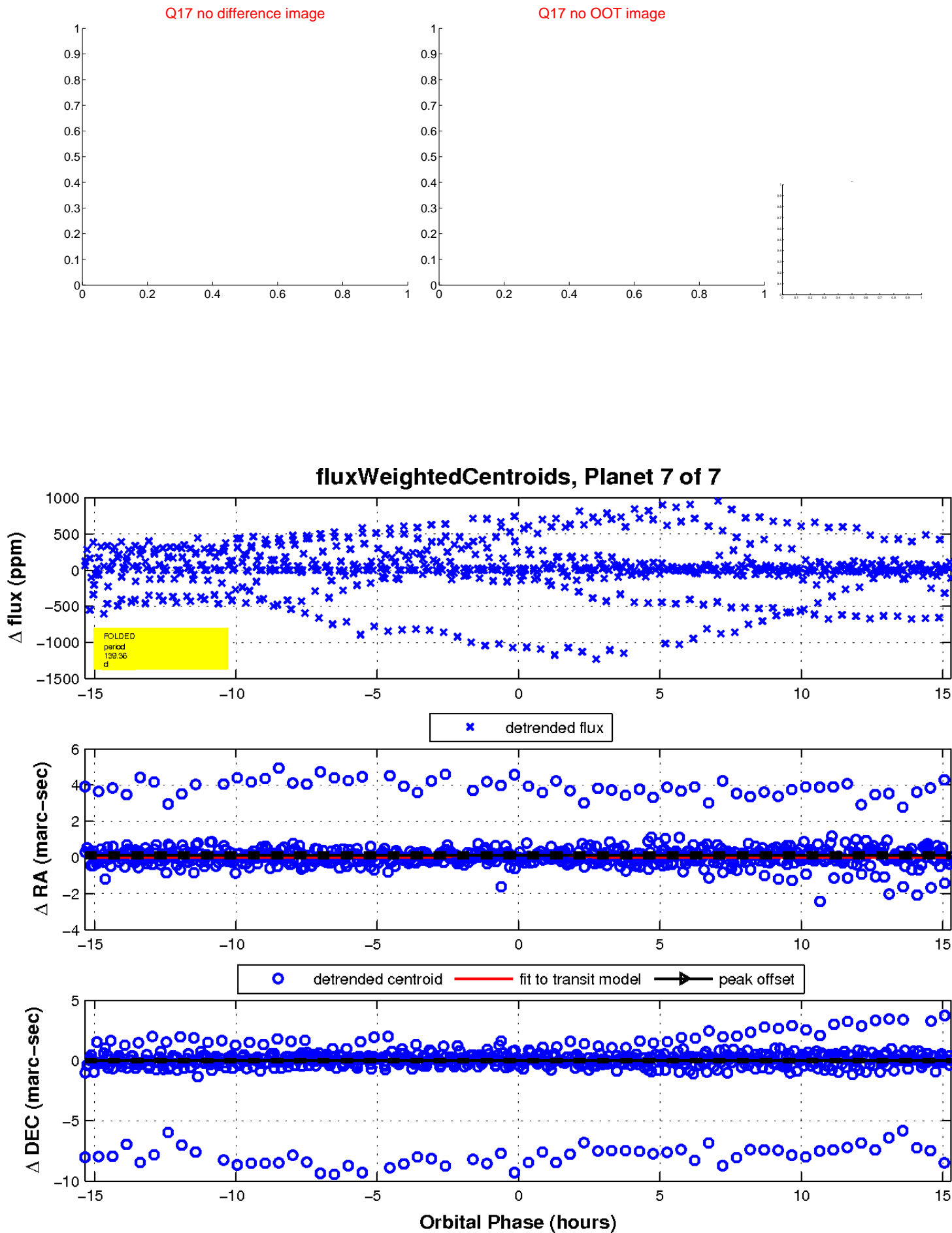
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

