

KIC 005556241

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})
005556241-01	OBS	No	2.180702	132.687978	10.6	10.446	8.0	2.9	1.14	6703	0.43	1956.27
005556241-02	OBS	No	228.138748	138.341671	443.2	1.488	9.2	5.9	1.14	6703	2.57	3.97
005556241-03	OBS	No	159.928606	165.332506	282.0	7.542	9.0	7.4	1.14	6703	2.05	6.37
005556241-04	OBS	No	190.814469	235.957720	273.5	8.682	8.6	5.0	1.14	6703	2.18	5.04
005556241-05	OBS	No	218.936789	138.186906	436.6	2.911	7.8	7.3	1.14	6703	2.71	4.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005556241-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
005556241-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
005556241-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_KIC_POS—HALO_GHOST
005556241-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS—HALO_GHOST
005556241-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

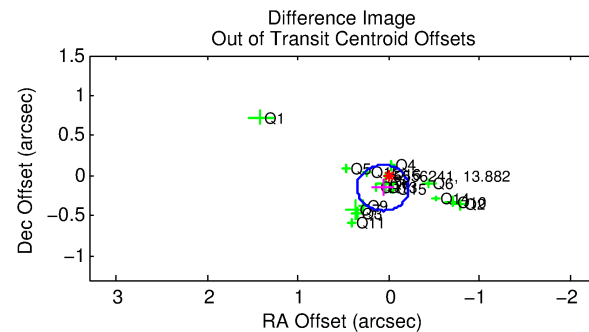
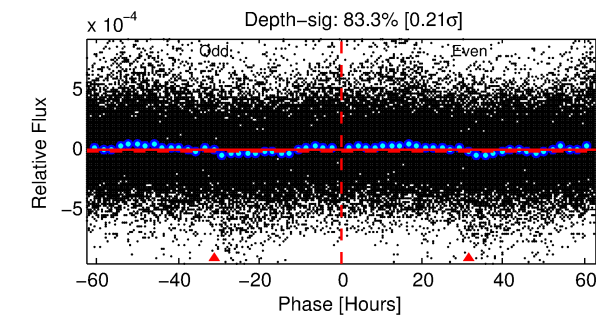
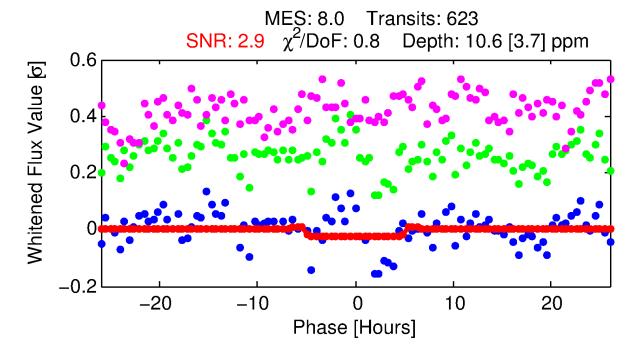
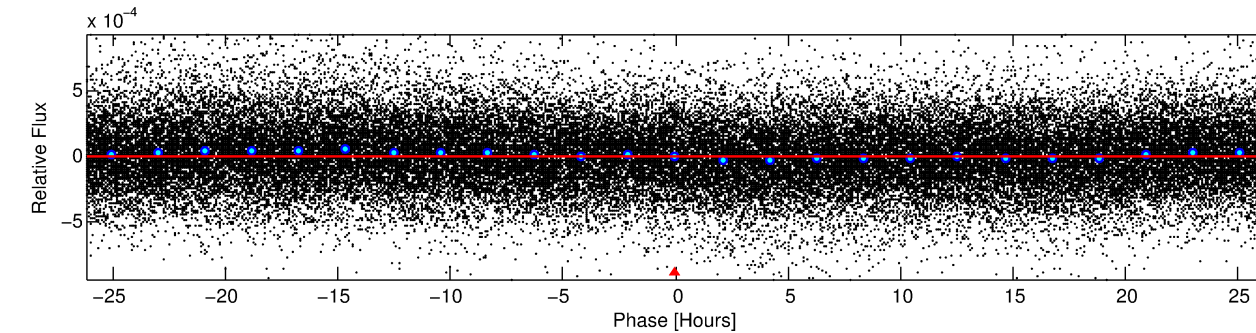
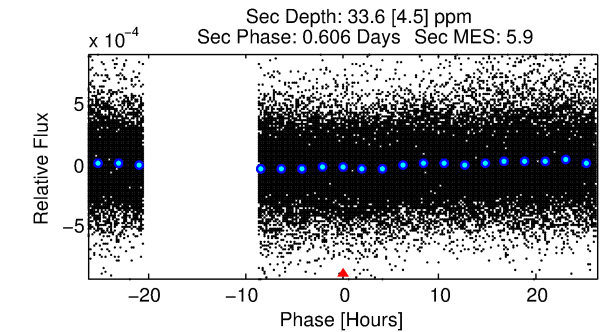
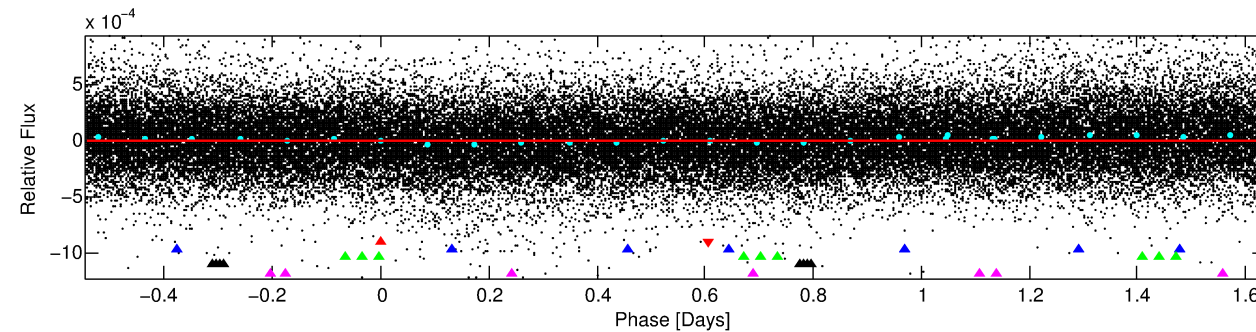
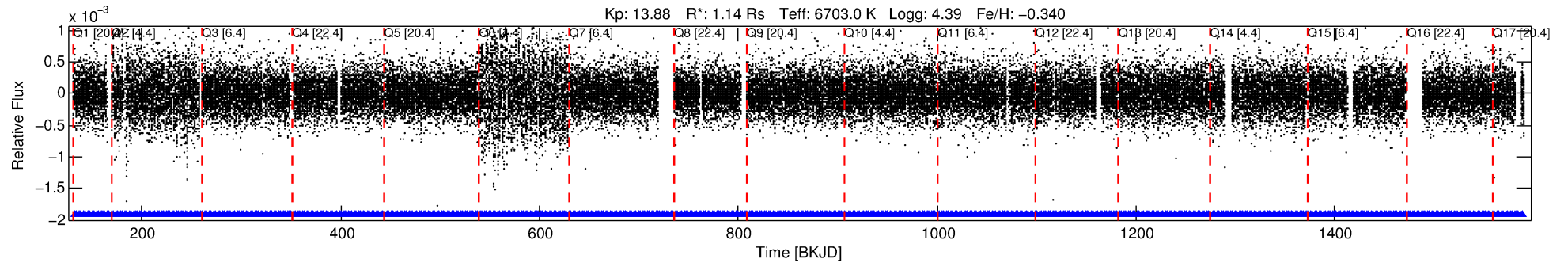
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005556241-01

No Significant Match Found

DV One-Page Summary

KIC: 5556241 Candidate: 1 of 5 Period: 2.181 d



DV Fit Results:

Period = 2.18070 [0.00009] d
Epoch = 132.6880 [0.0214] BKJD
Rp/R* = 0.0035 [0.0024]
a/R* = 1.19 [1.38]
b = 0.89 [0.92]
Seff = 1956.27 [804.04]
Teq = 1696 [174] K
Rp = 0.43 [0.32] Re
a = 0.0345 [0.0093] AU
Ag = 120.05 [170.66] [0.70σ]
Teffp = 8679 [2985] K [2.34σ]

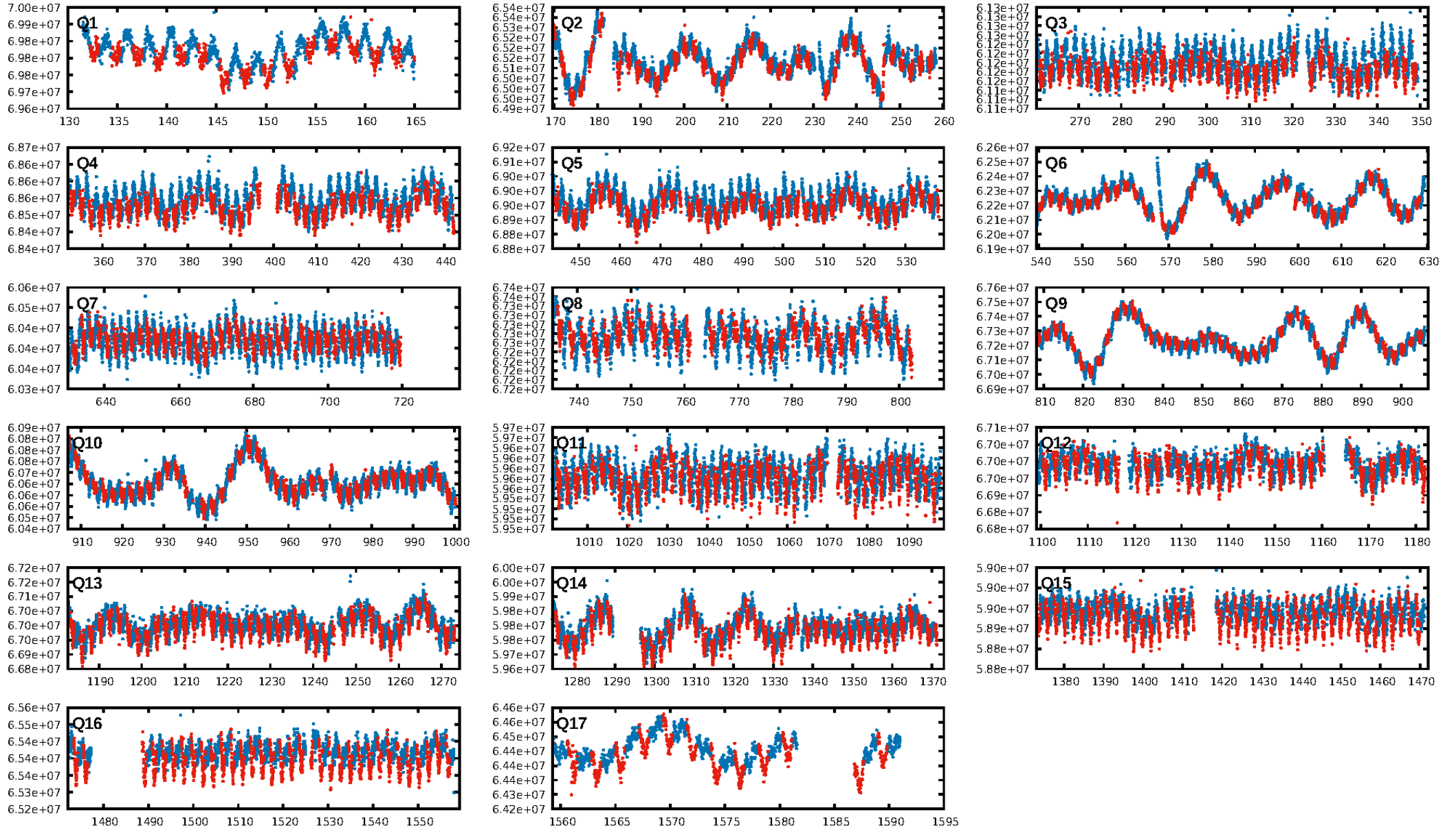
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [293.84σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.76e-10
RollingBand-fgt: 1.00 [596/596]
GhostDiagnostic-chr: 0.6775
Centroid-sig: 0.0%
Centroid-so: 33.416 arcsec [3.88σ]
OotOffset-rm: 0.167 arcsec [1.76σ]
KicOffset-rm: 0.230 arcsec [2.48σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

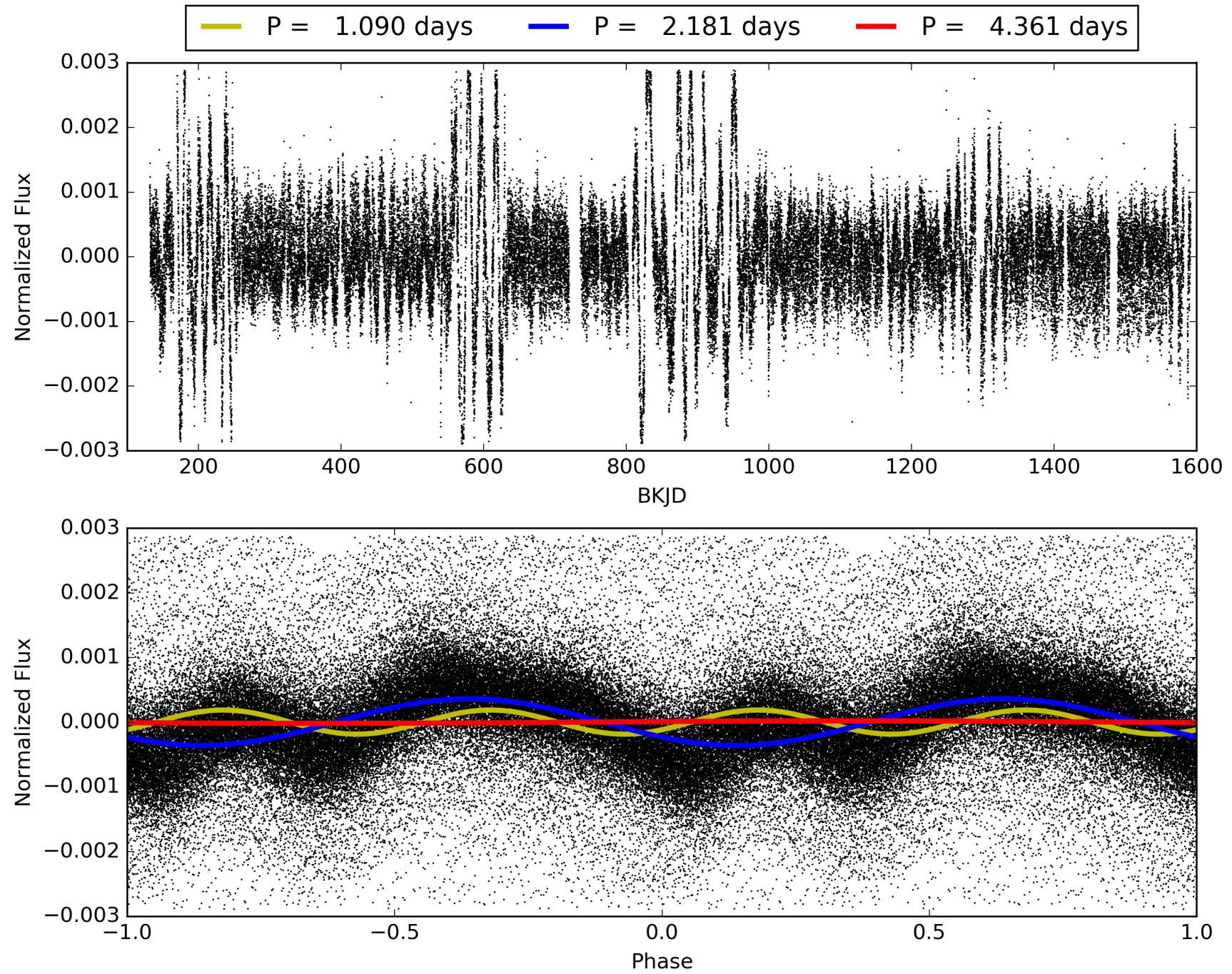
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 00:03:56 Z

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

TCE 005556241-01, PDC Light Curves

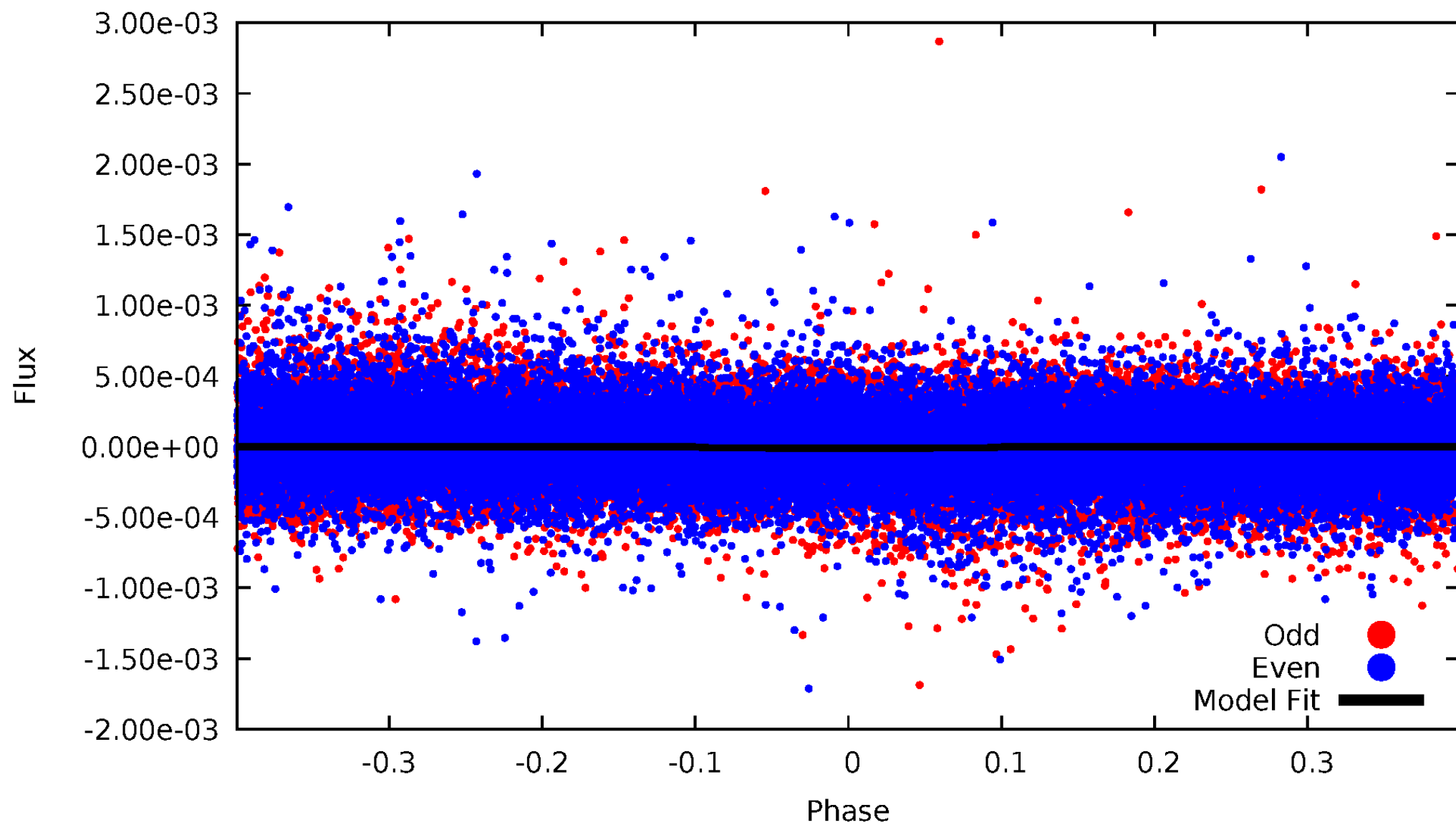


TCE 005556241-01



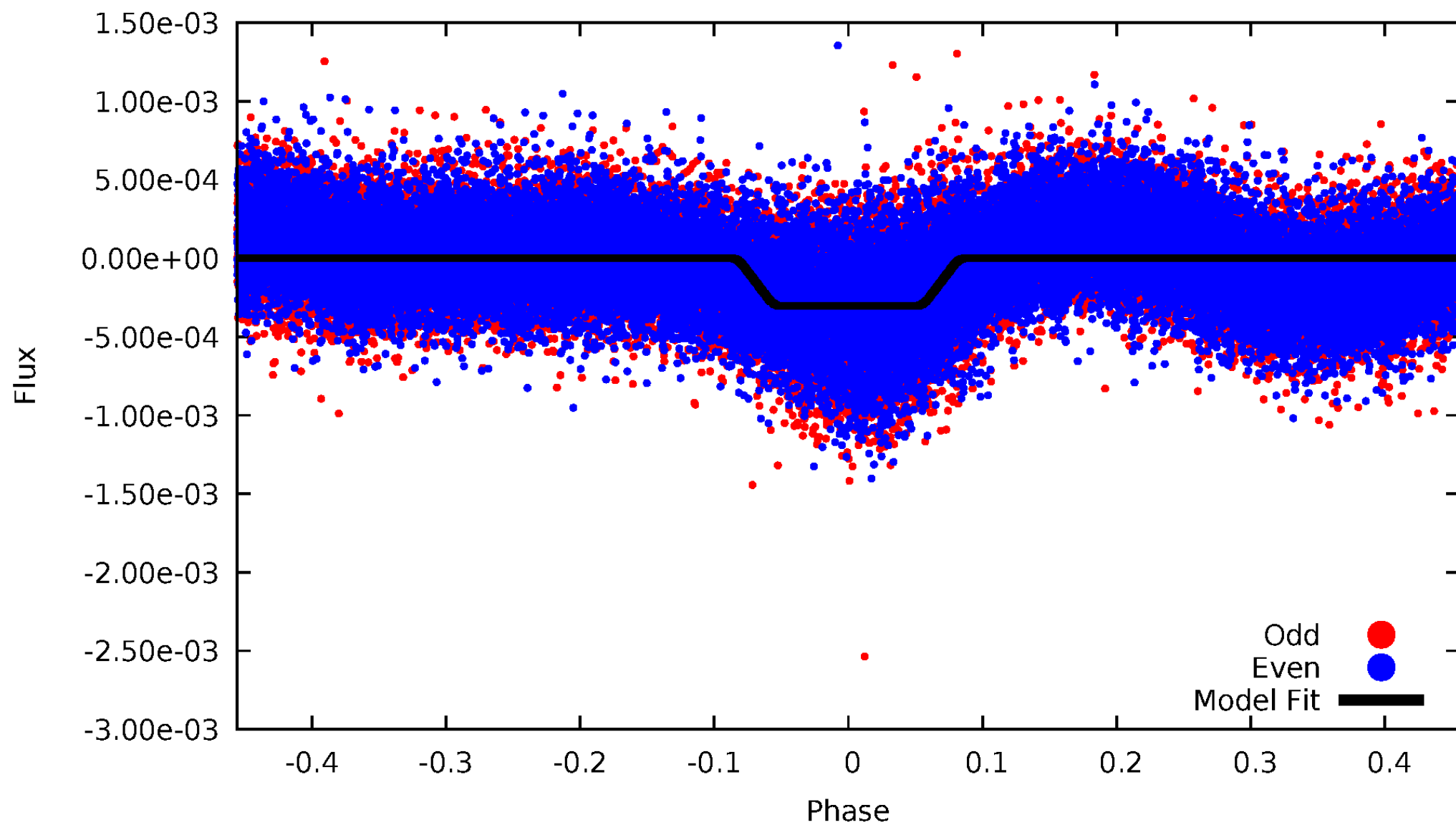
DV Odd/Even

TCE 005556241-01



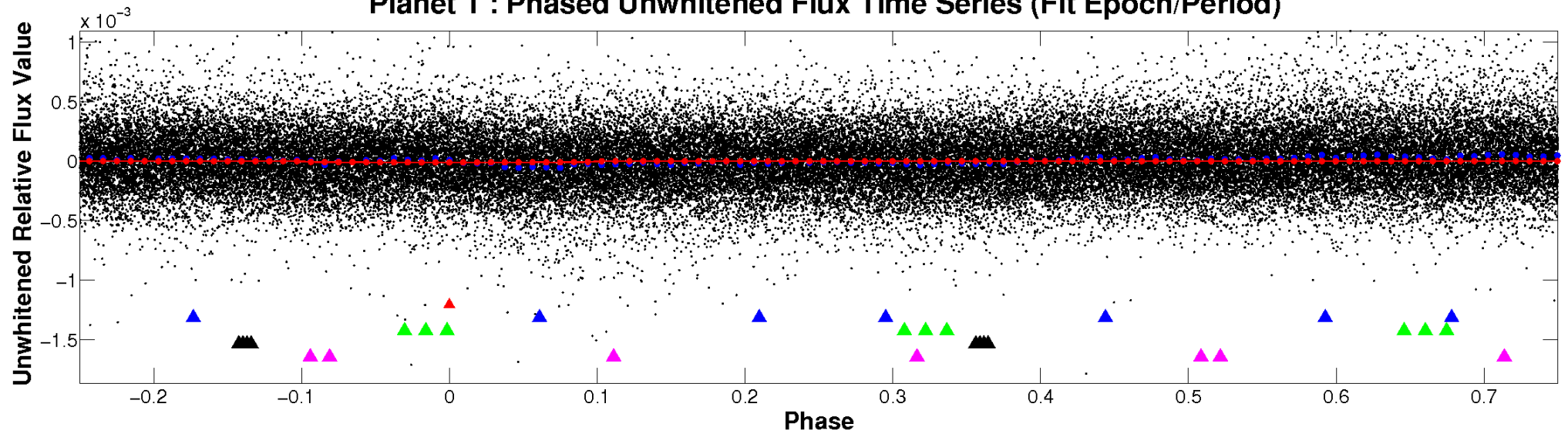
ALT Odd/Even

TCE 005556241-01

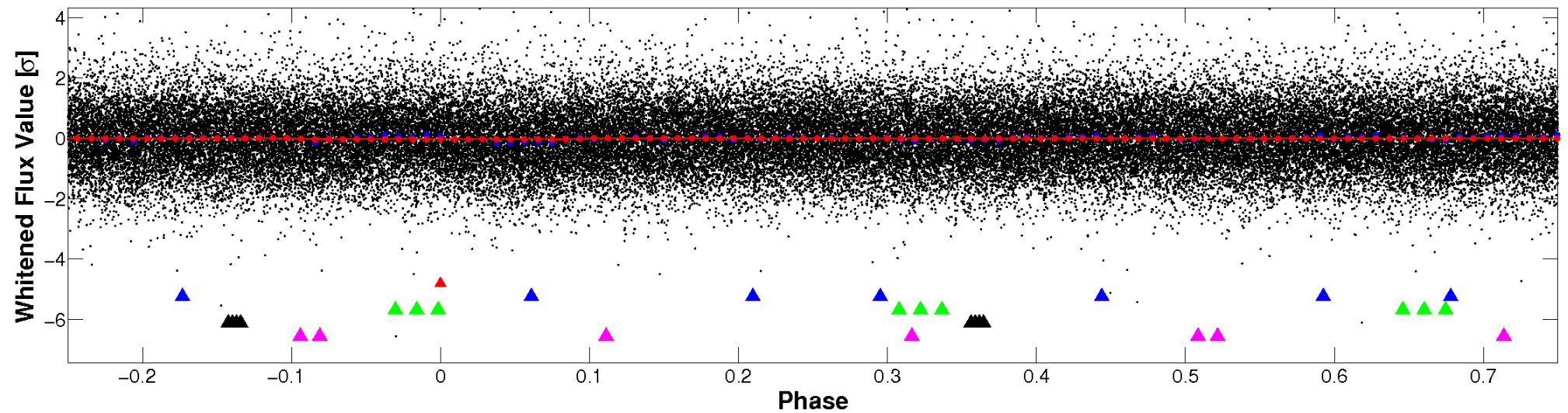


Non-Whitened Vs. Whitened Light Curve

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

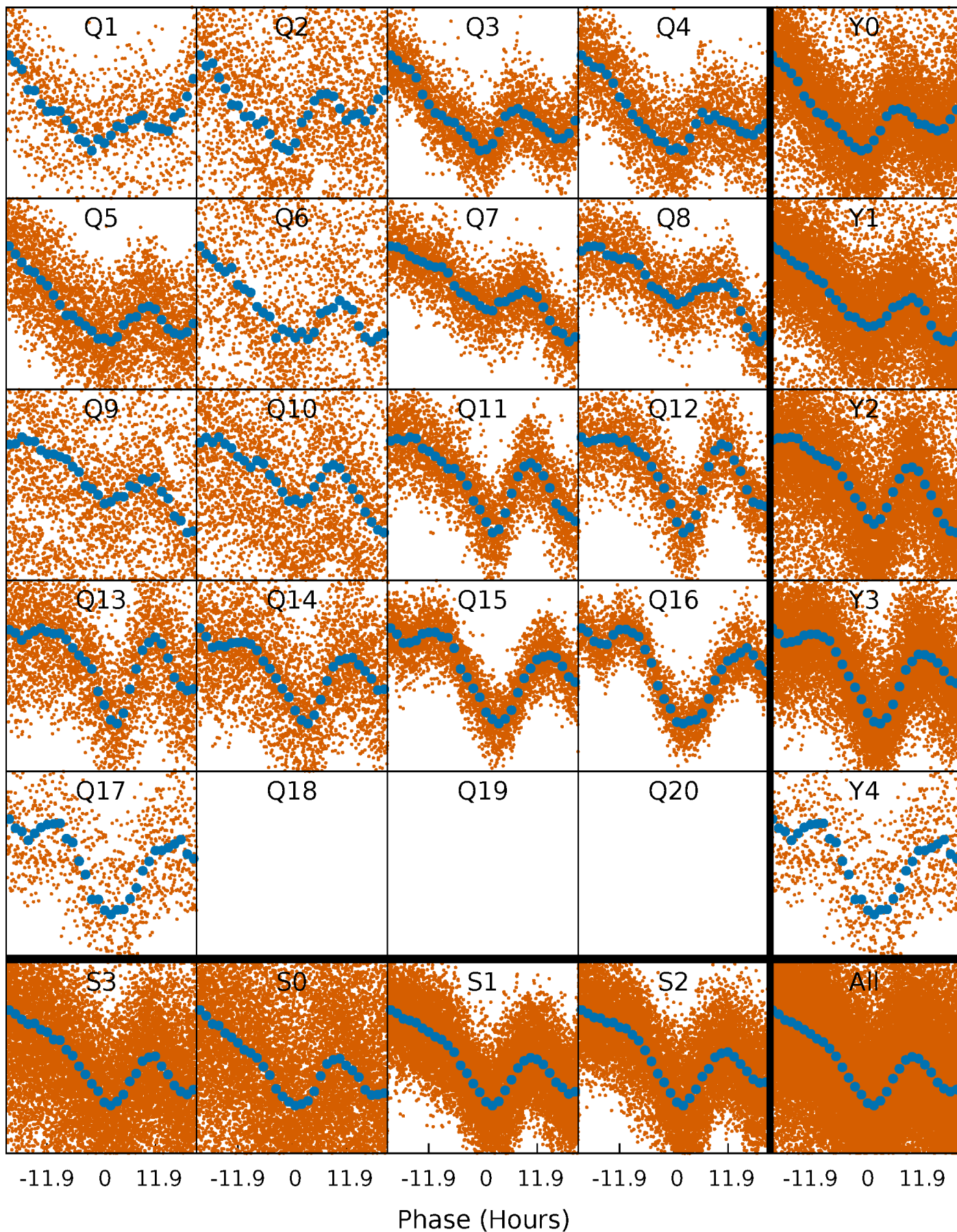


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



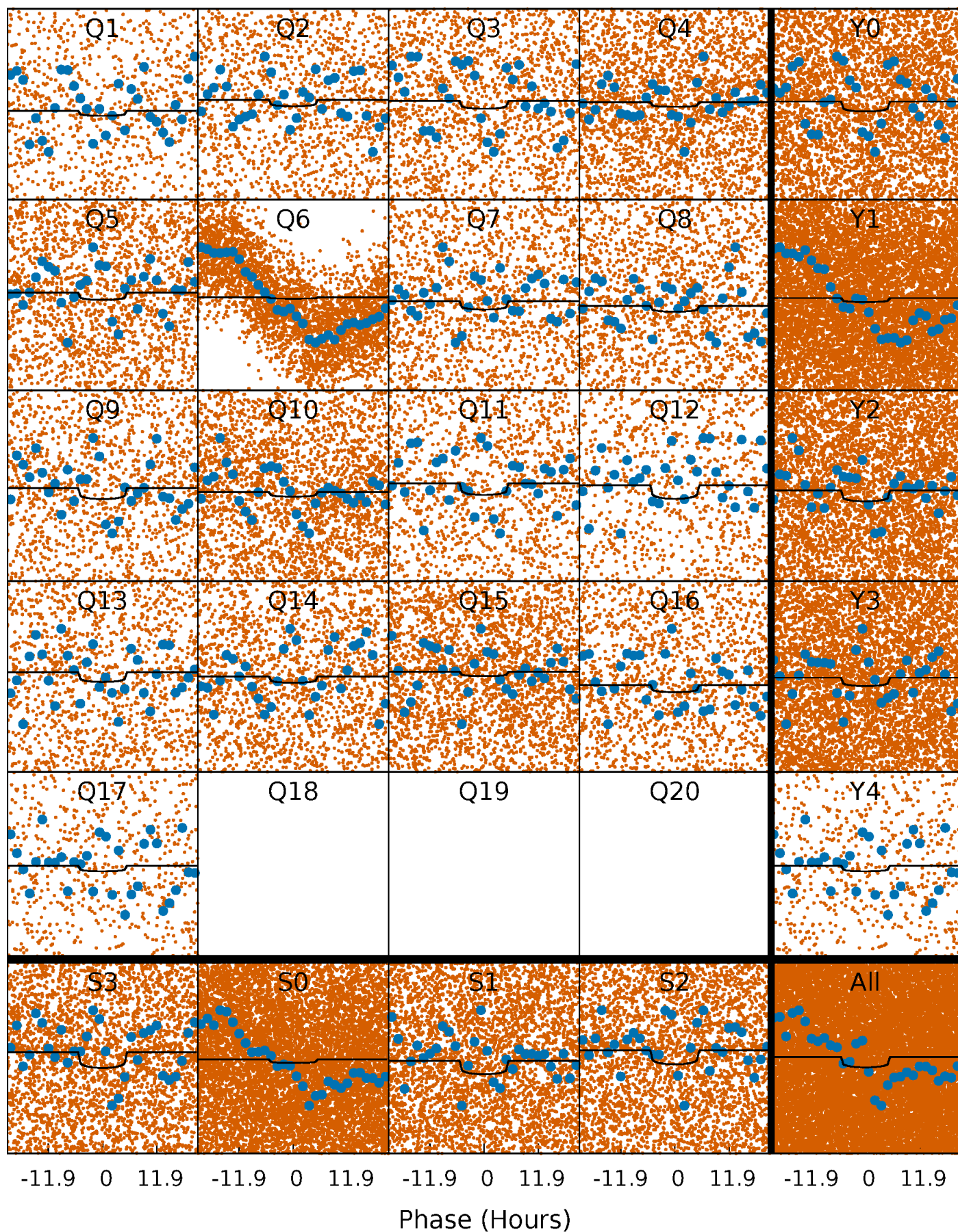
PDC Quarter-Phased Transit Curves

TCE 005556241-01 P= 2.180702 Days $T_0=132.687978$ (BKJD)



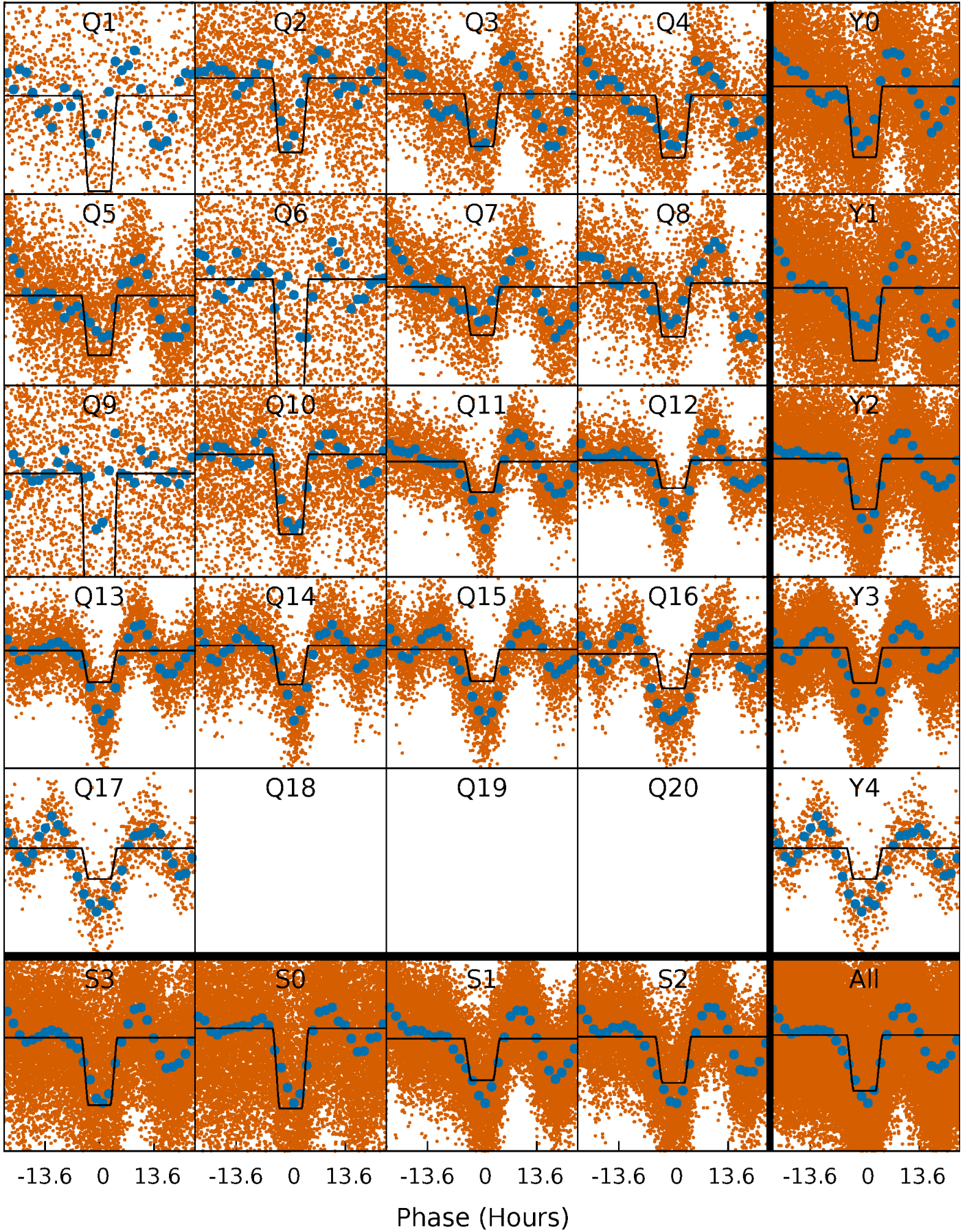
DV Quarter-Phased Transit Curves

TCE 005556241-01 P= 2.180702 Days $T_0=132.687978$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

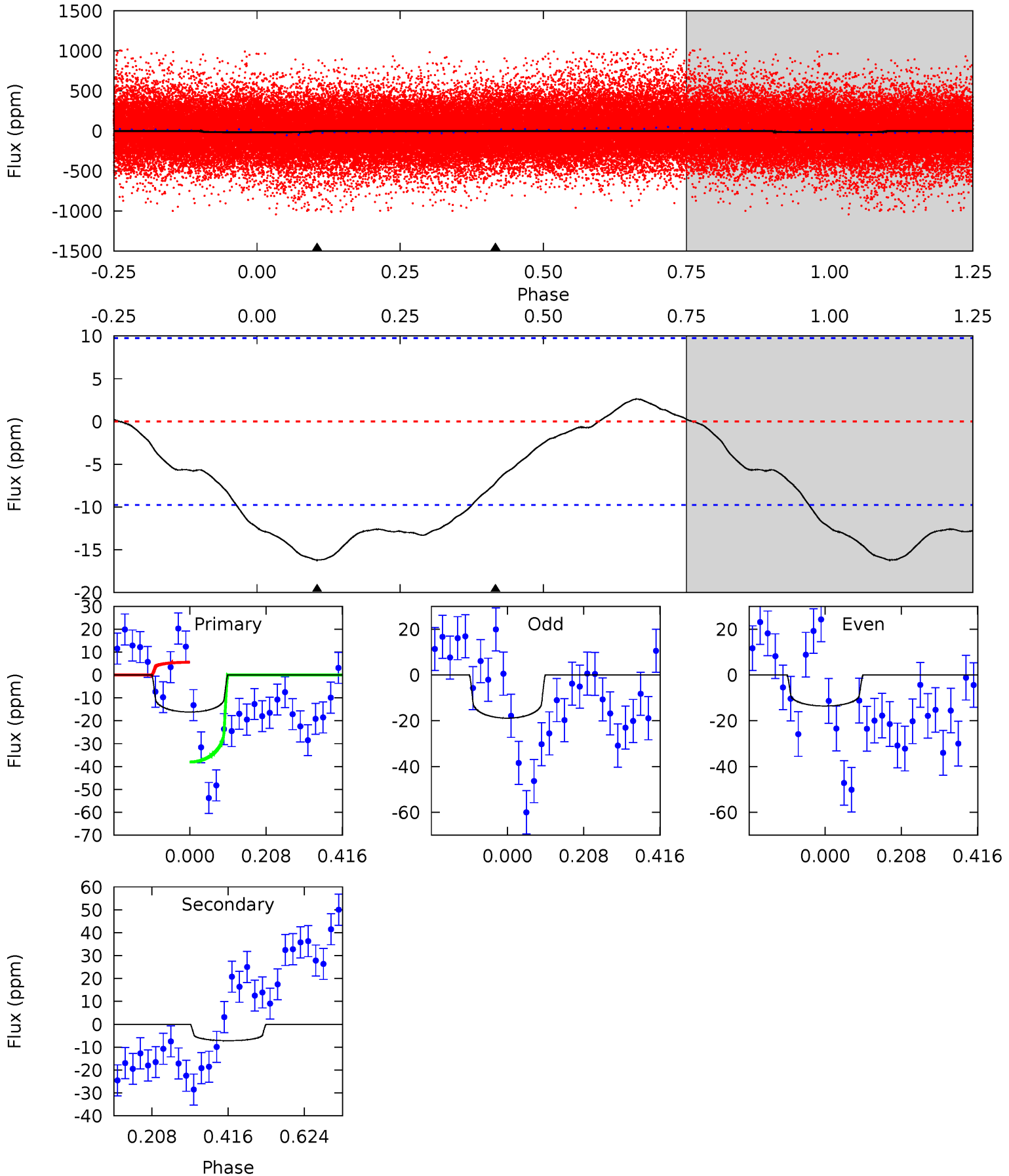
TCE 005556241-01 P= 2.180880 Days $T_0=132.683106$ (BKJD)



DV Model-Shift Uniqueness Test

005556241-01, P = 2.180702 Days, E = 130.507276 Days

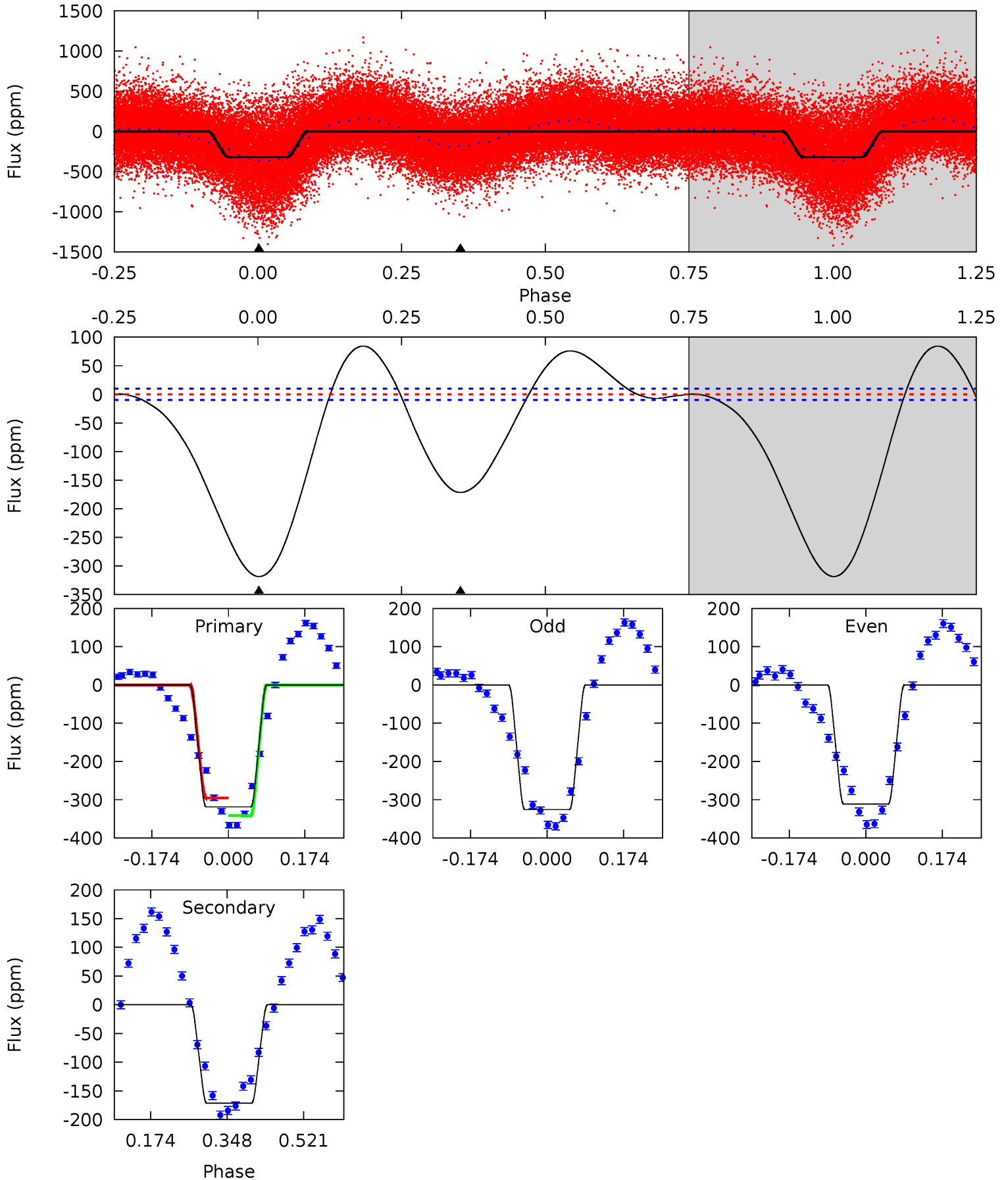
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.32	3.25	0	0	4.41	1.26	1.34	7.32	7.32	3.25	3.25	1.20	1.65	0.14	7.75



Alt Model-Shift Uniqueness Test

005556241-01, P = 2.180880 Days, E = 130.502226 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
142.0	76.5	0	0	4.45	1.36	14.2	142.0	142.0	76.5	76.5	3.25	1.13	0.21	9.98



Stellar Parameters For KIC 005556241

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6703^{+159}_{-239}	$4.390^{+0.065}_{-0.208}$	$-0.340^{+0.250}_{-0.300}$	$1.136^{+0.368}_{-0.123}$	$1.158^{+0.165}_{-0.148}$	$1.114^{+0.311}_{-0.580}$
	+2%/-4%	+1%/-5%	+74%/-88%	+32%/-11%	+14%/-13%	+28%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005556241-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-7 ± 2	$0.47^{+0.31}_{-0.26}$	2408^{+170}_{-134}	5688^{+3361}_{-1168}	21^{+88}_{-14}
Alt.	-172 ± 2	$2.23^{+0.49}_{-0.37}$	2411^{+180}_{-120}	5788^{+464}_{-379}	22^{+9}_{-7}

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

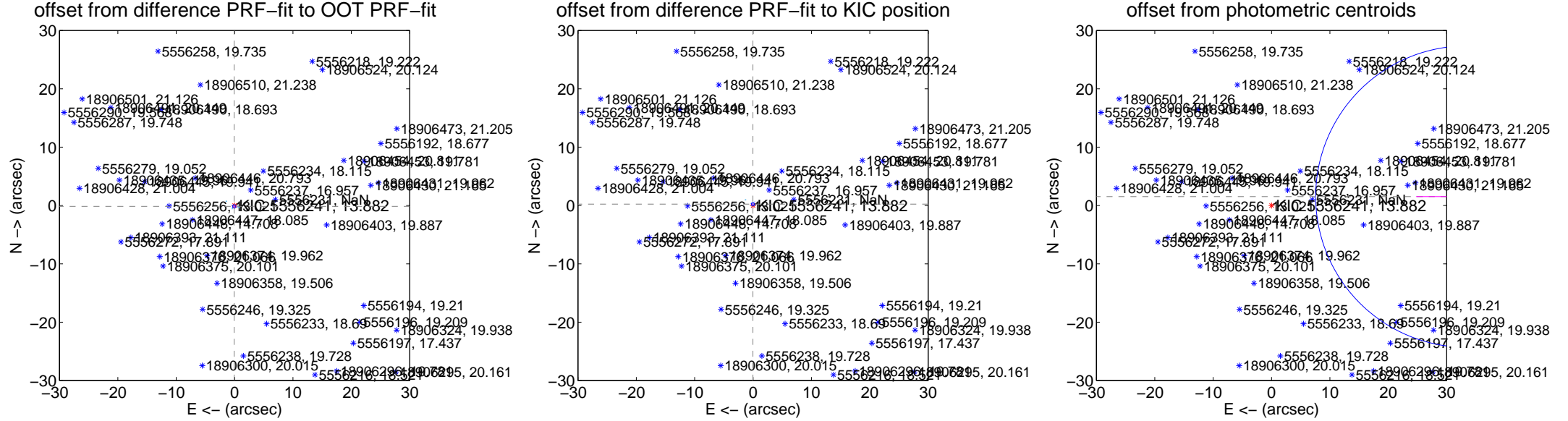
DV Centroid Data

Supplemental centroid analysis for 005556241-01. Kepler magnitude: 13.88. Transit SNR 2.89

There are 17 quarters with good PRF difference image offsets

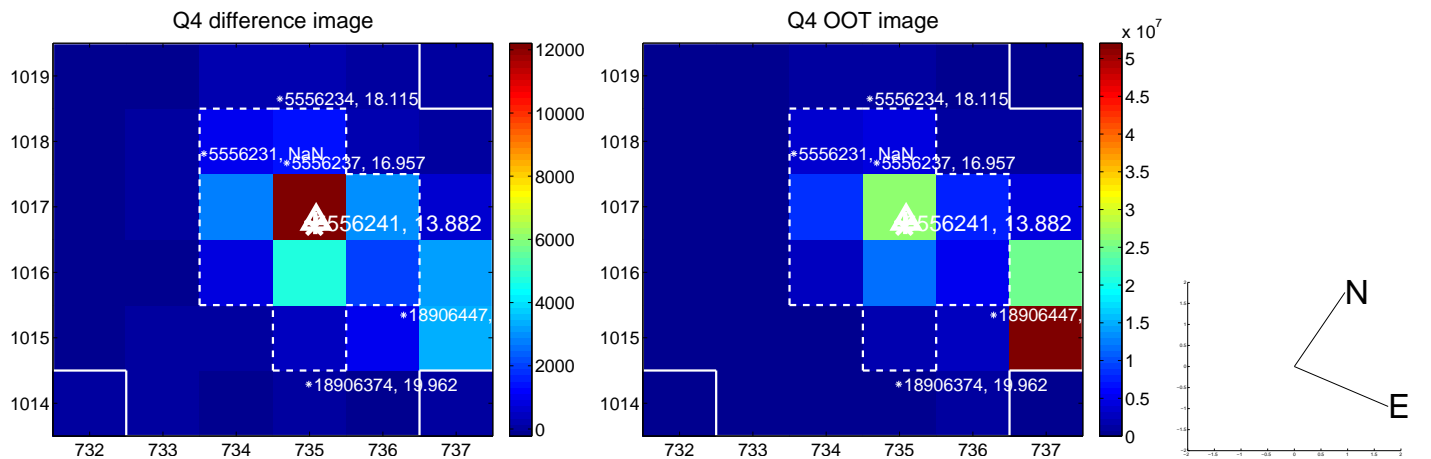
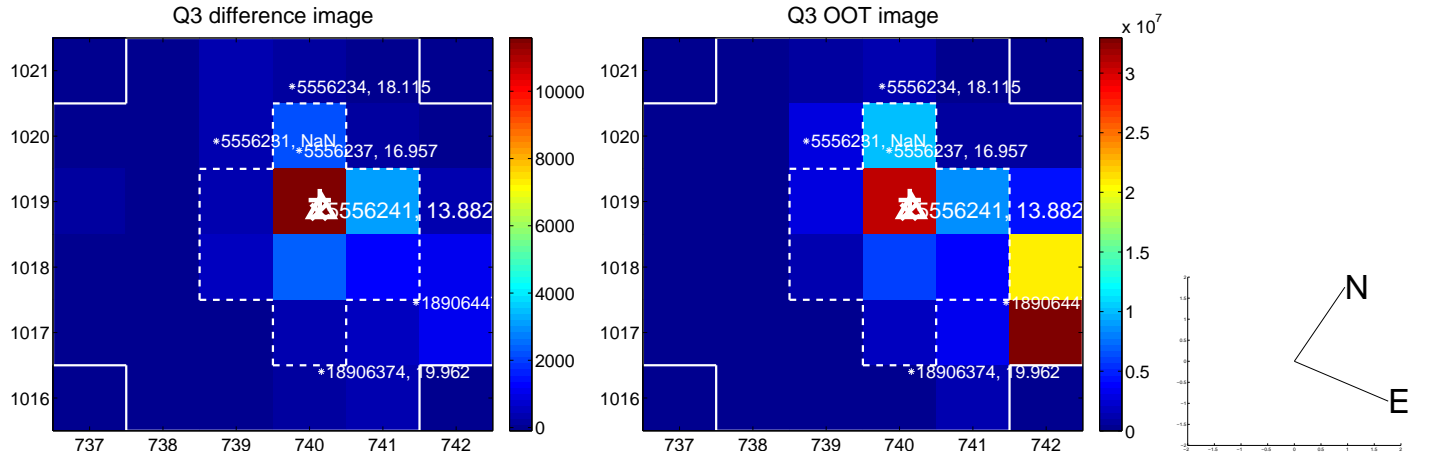
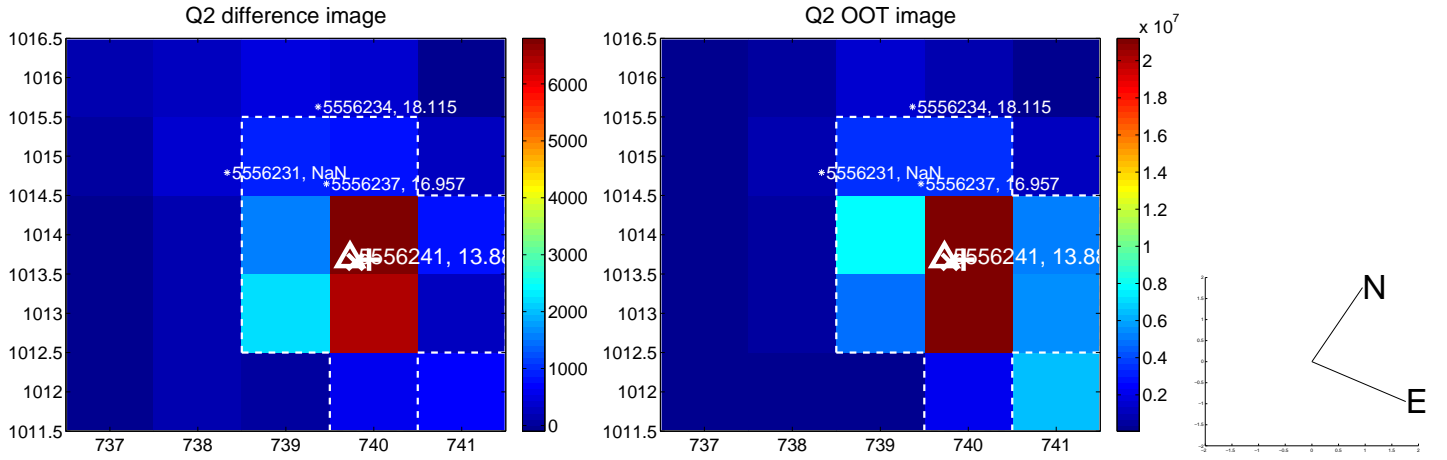
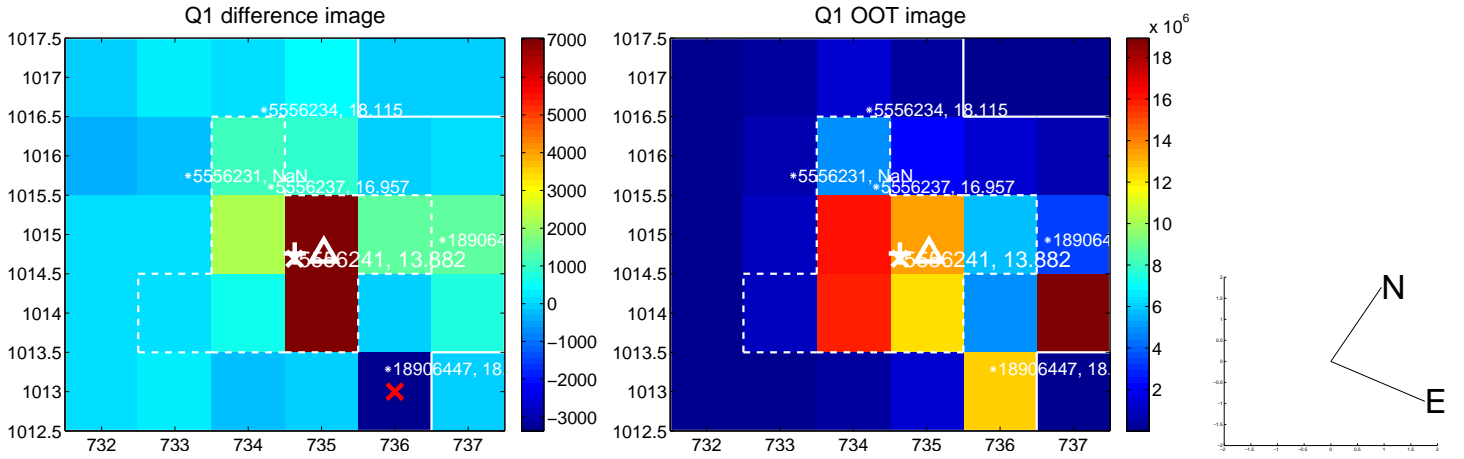
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.167 ± 0.095	1.76	0.067 ± 0.115	-0.153 ± 0.090
PRF-fit source offset from KIC position	0.230 ± 0.093	2.48	0.024 ± 0.107	0.228 ± 0.088
photometric centroid source offset	33.42 ± 8.61	3.88	-33.38 ± 8.61	1.53 ± 2.47

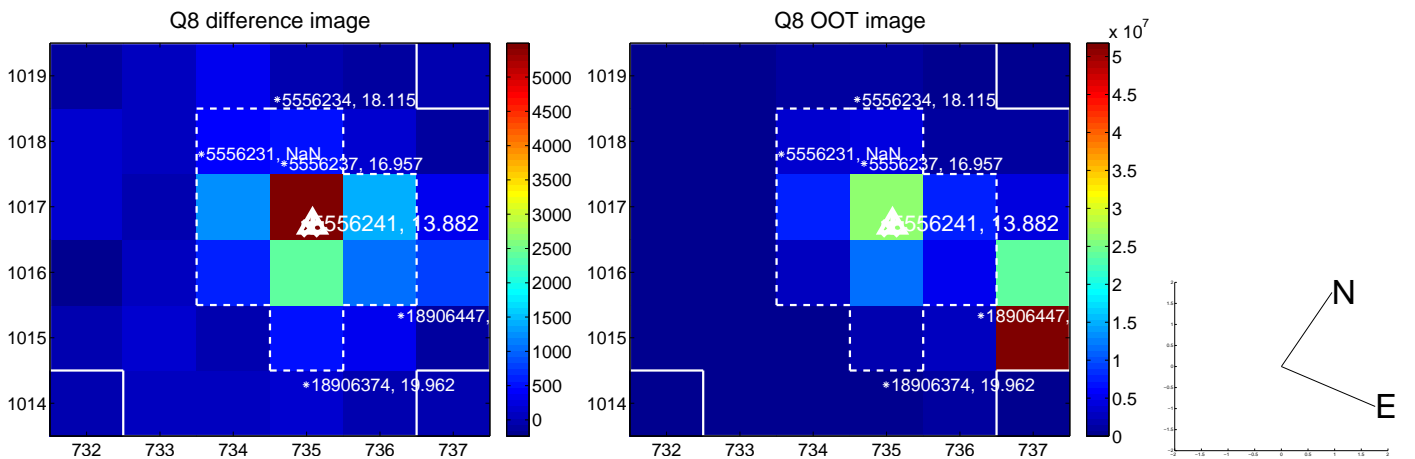
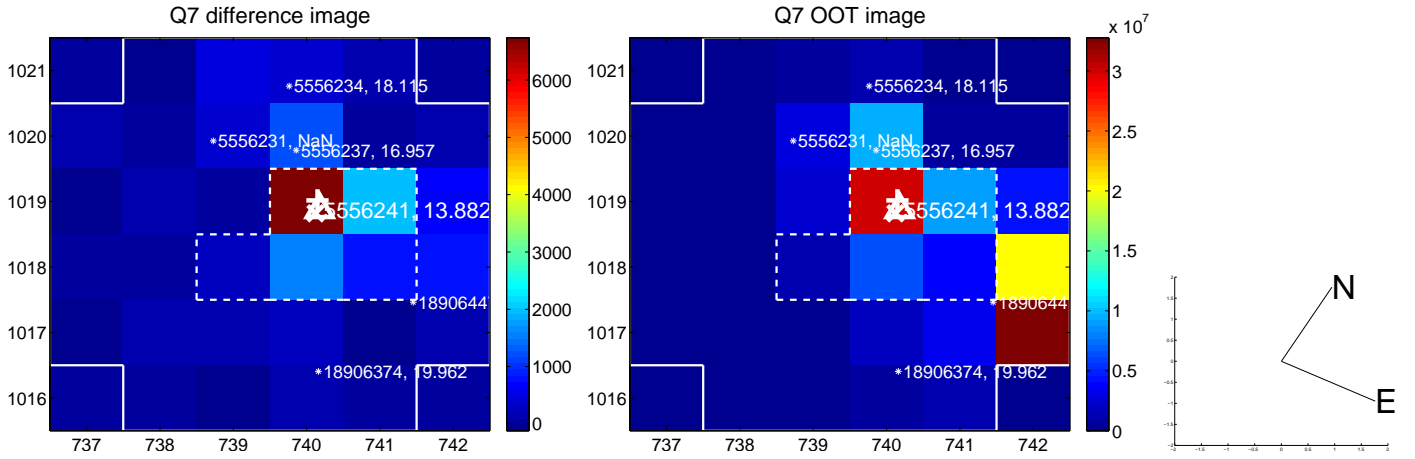
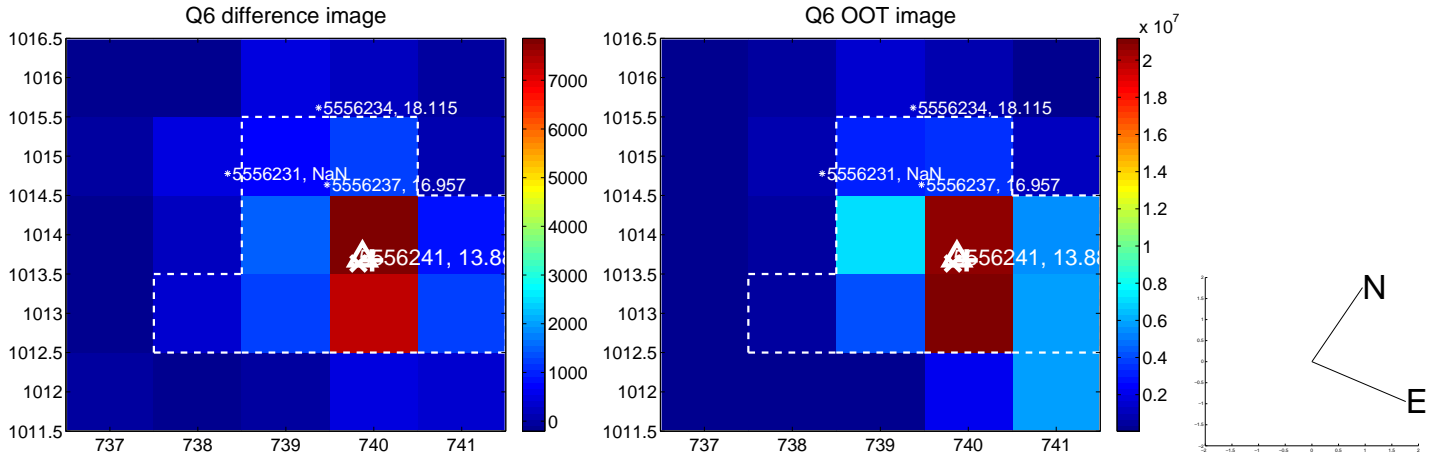
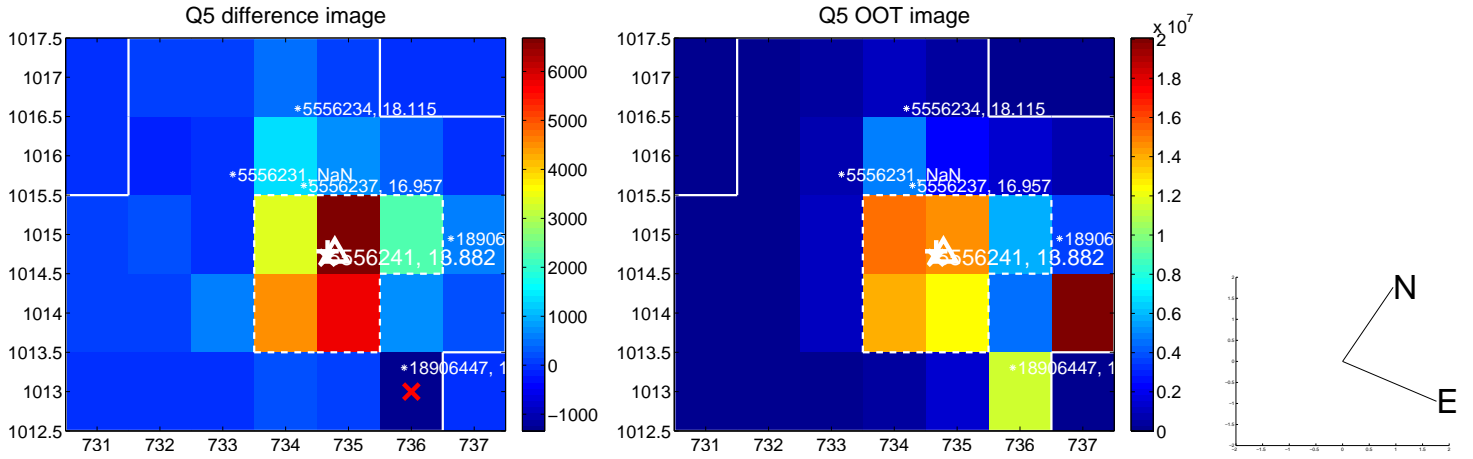


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

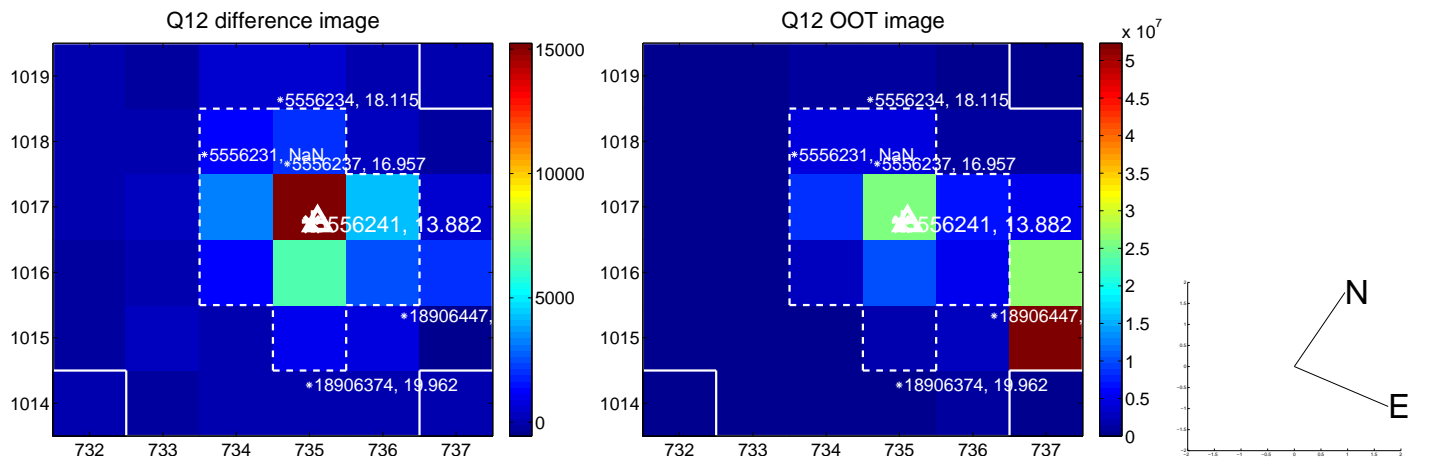
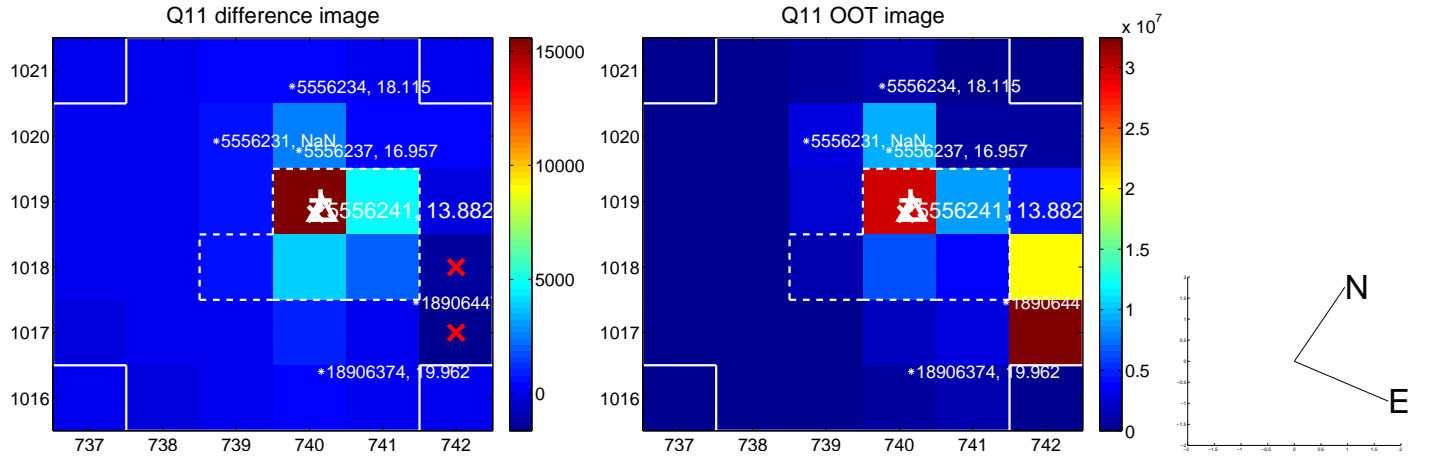
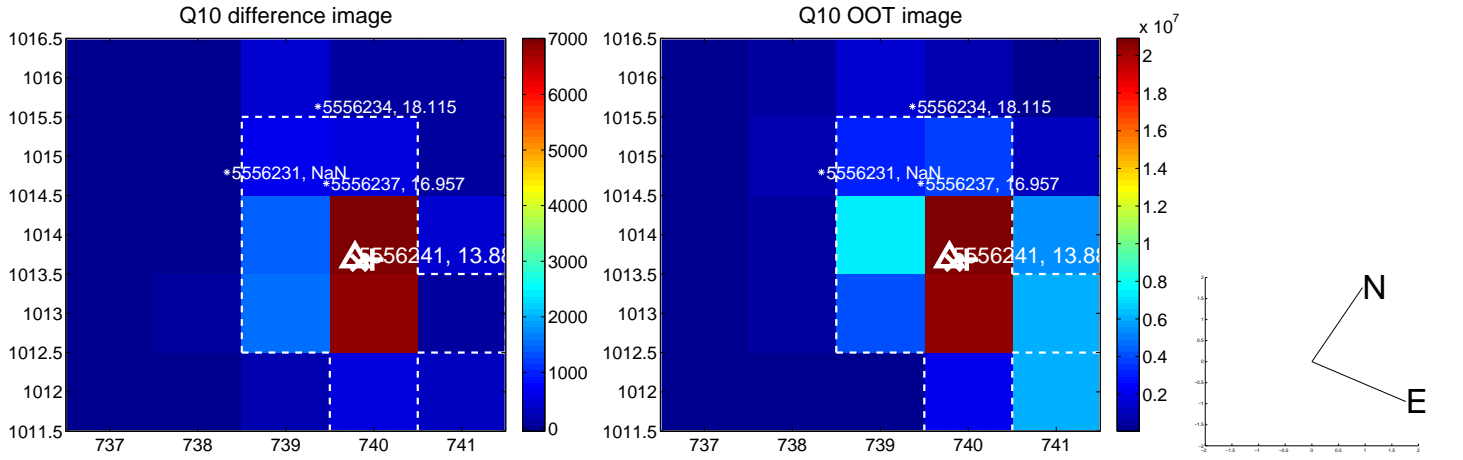
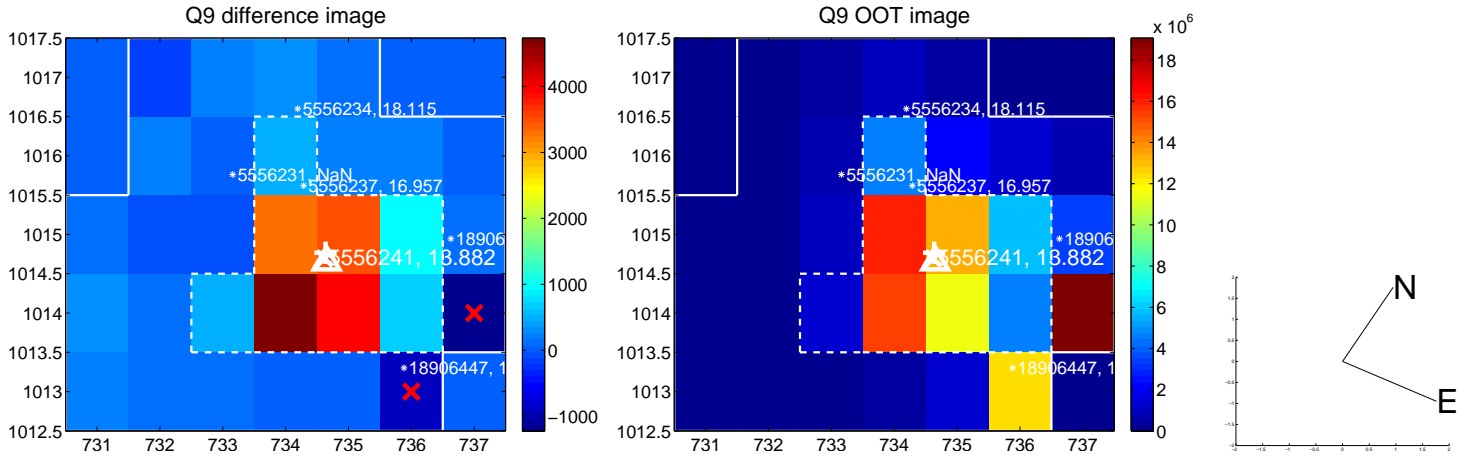
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



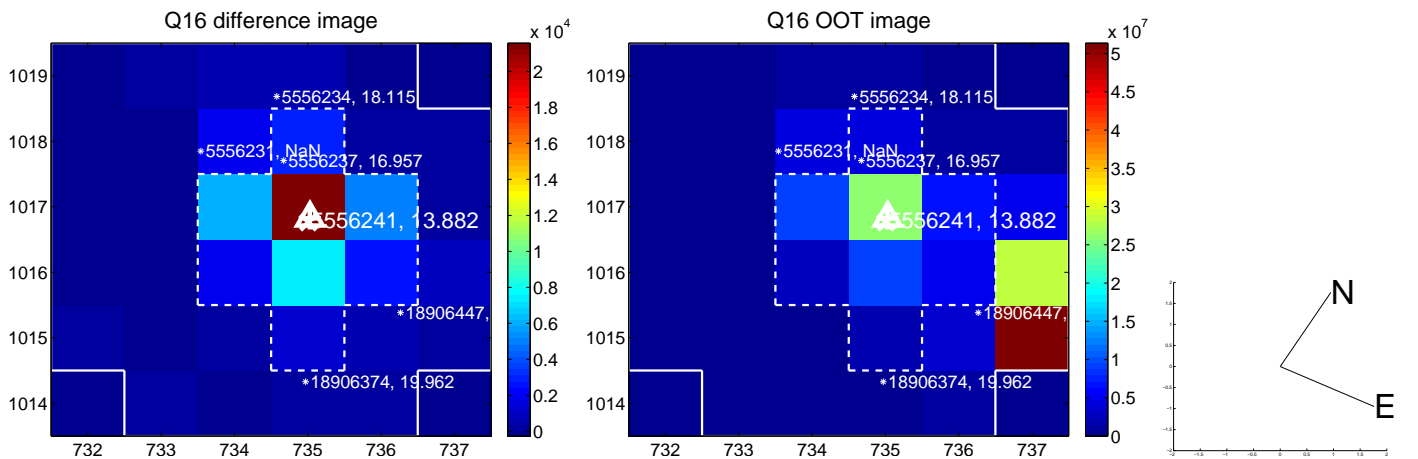
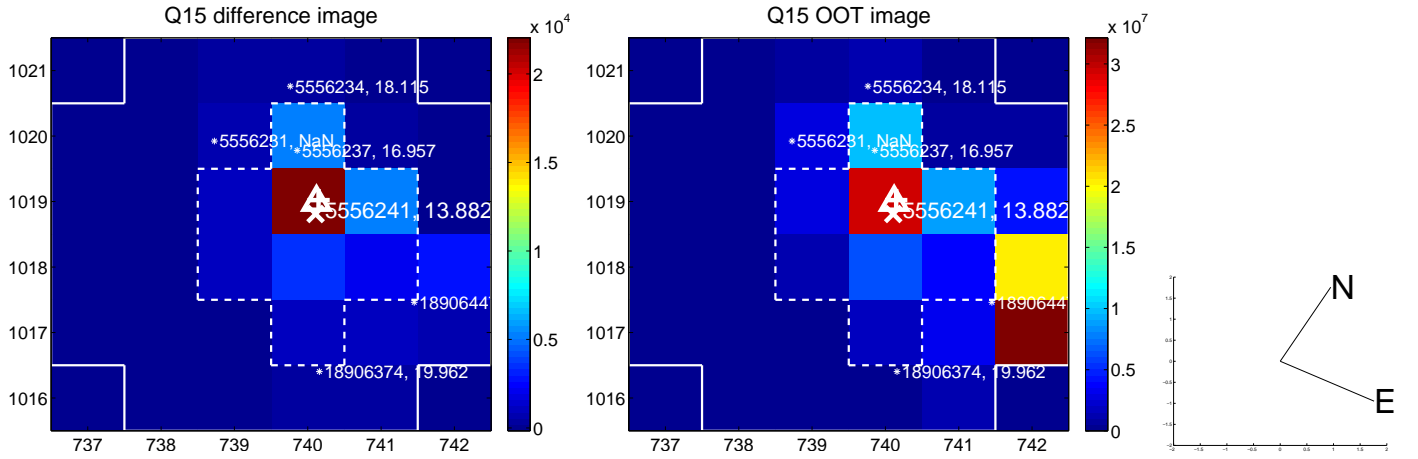
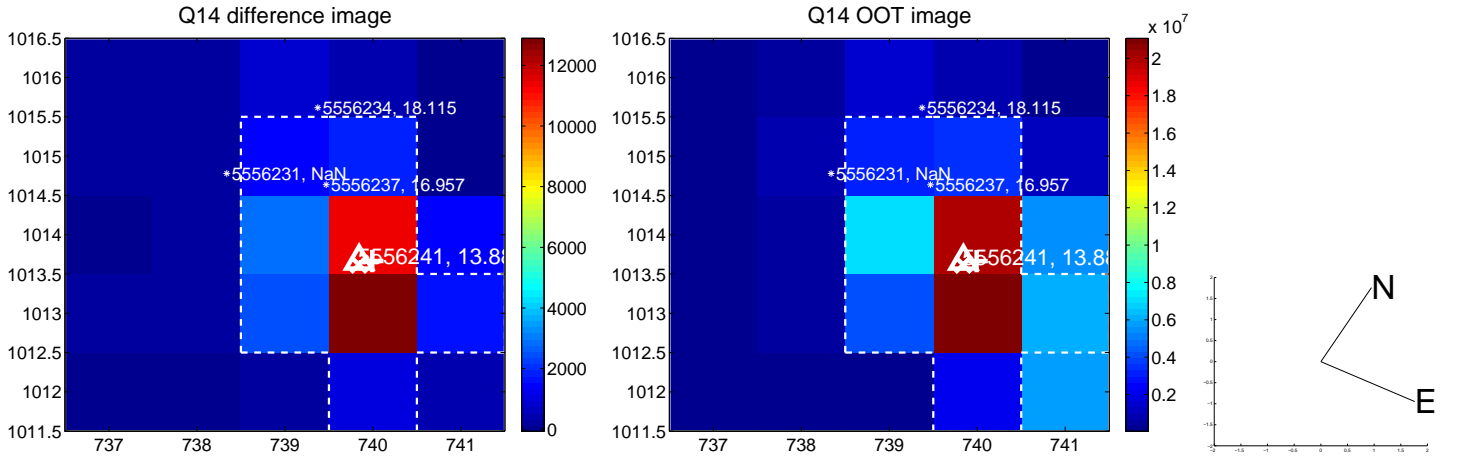
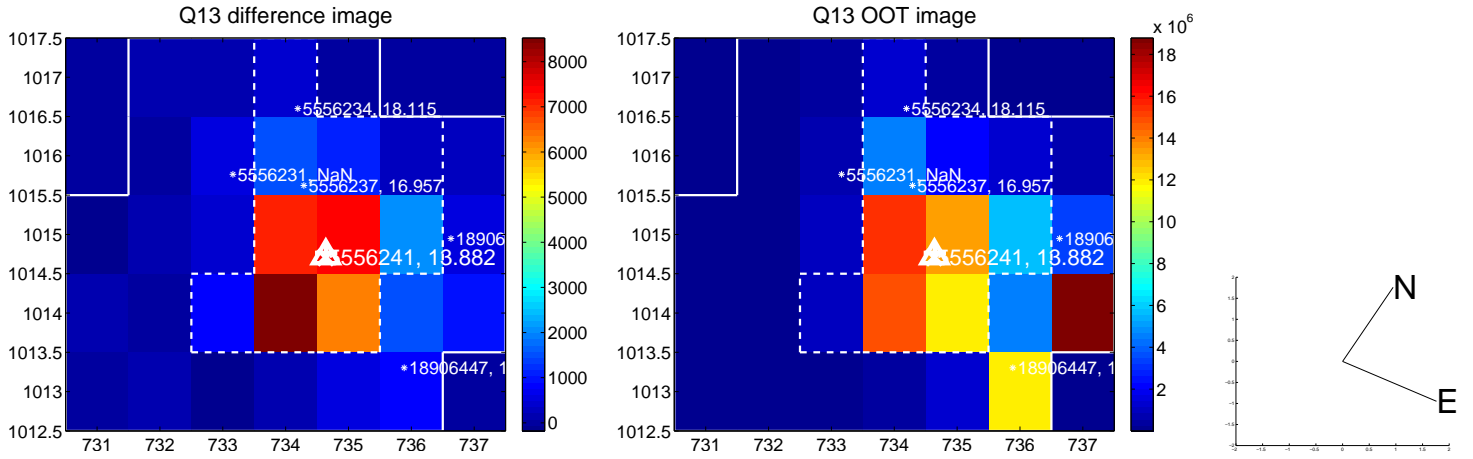
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



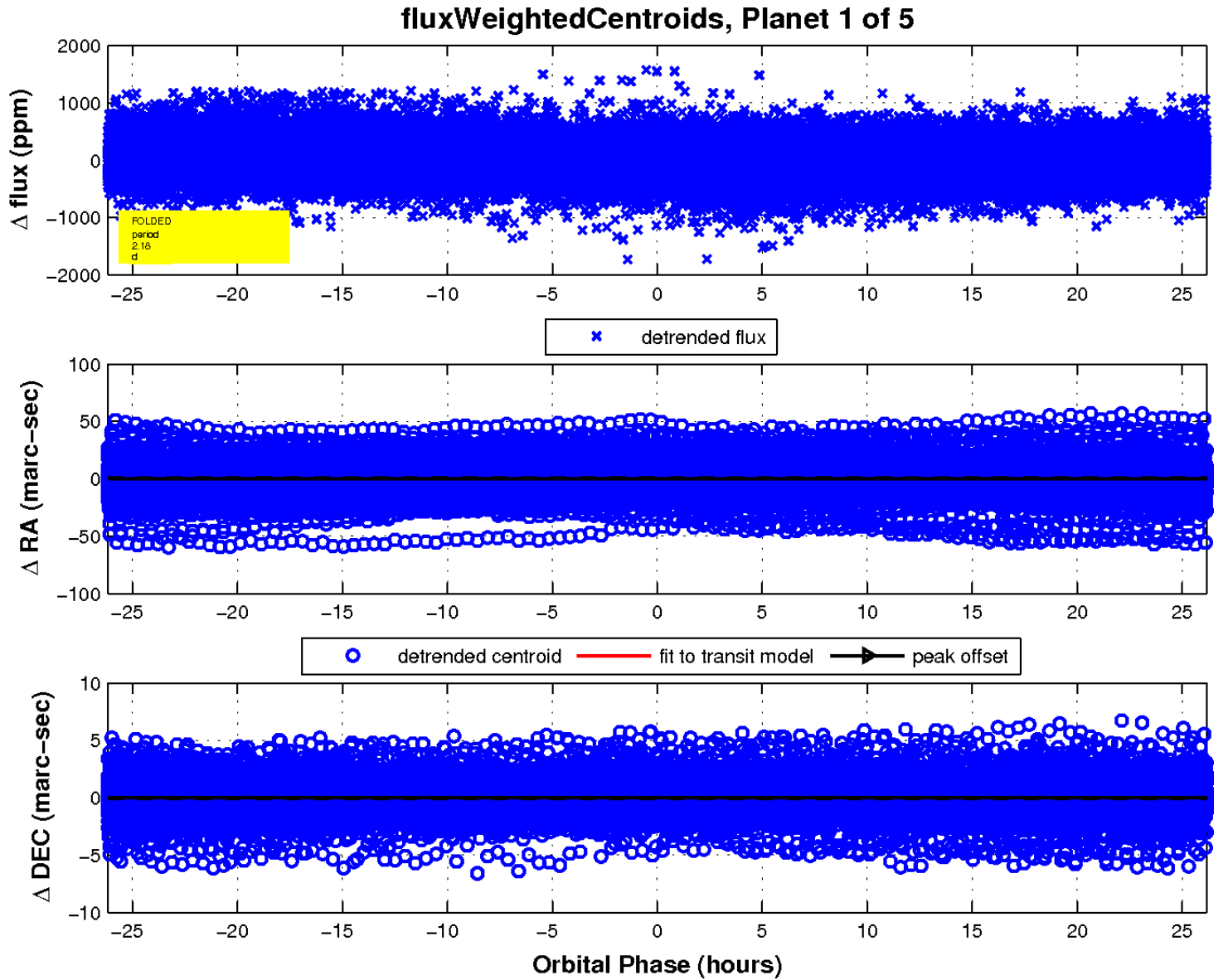
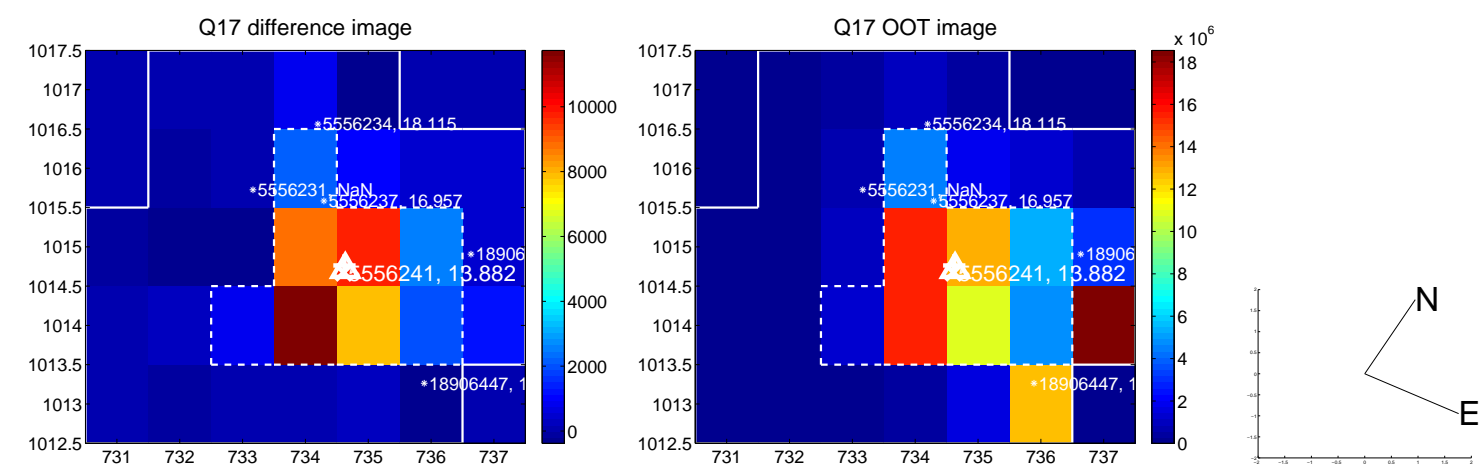
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



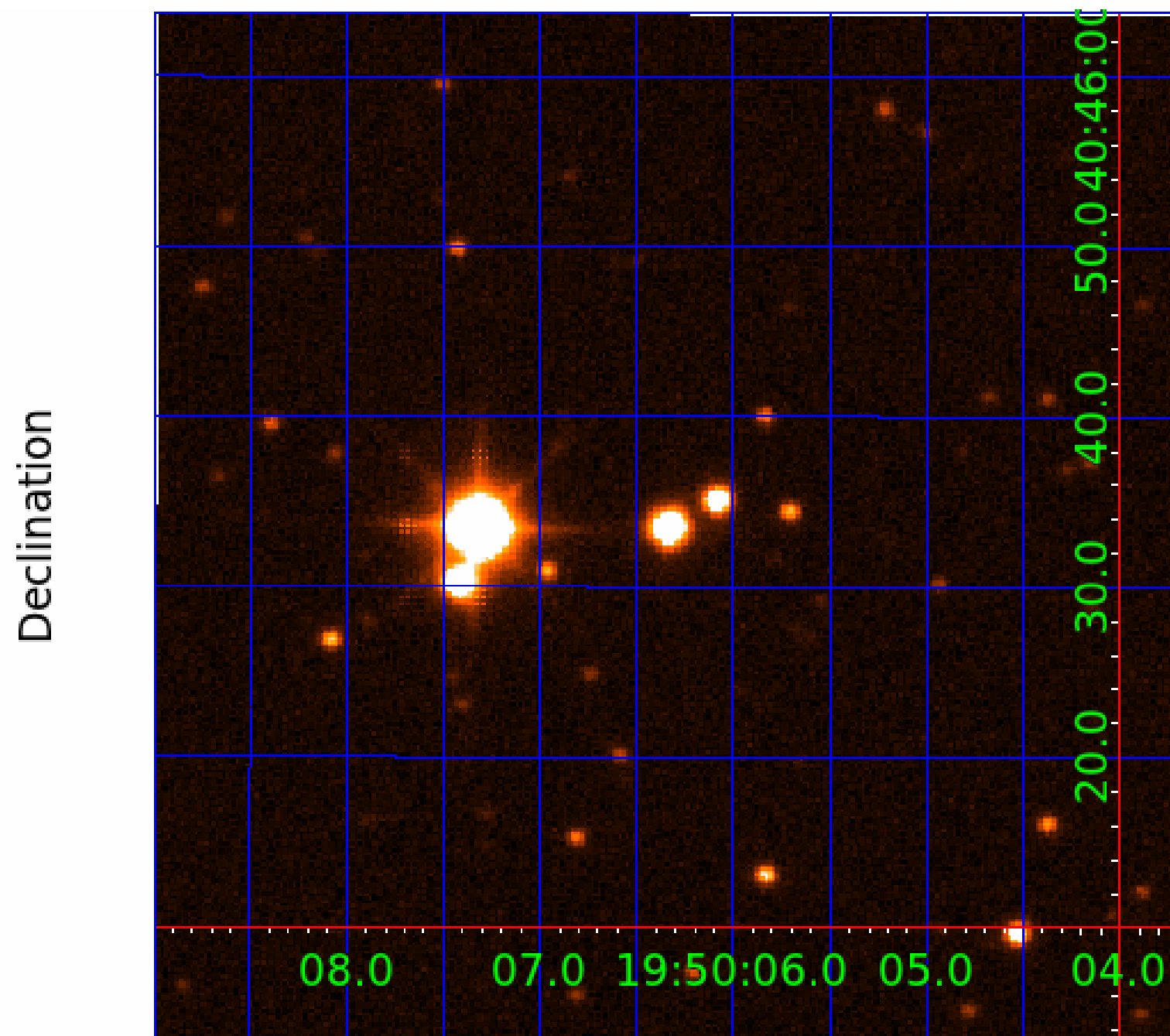
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 005556241

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})
005556241-01	OBS	No	2.180702	132.687978	10.6	10.446	8.0	2.9	1.14	6703	0.43	1956.27
005556241-02	OBS	No	228.138748	138.341671	443.2	1.488	9.2	5.9	1.14	6703	2.57	3.97
005556241-03	OBS	No	159.928606	165.332506	282.0	7.542	9.0	7.4	1.14	6703	2.05	6.37
005556241-04	OBS	No	190.814469	235.957720	273.5	8.682	8.6	5.0	1.14	6703	2.18	5.04
005556241-05	OBS	No	218.936789	138.186906	436.6	2.911	7.8	7.3	1.14	6703	2.71	4.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005556241-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
005556241-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
005556241-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_KIC_POS—HALO_GHOST
005556241-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS—HALO_GHOST
005556241-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

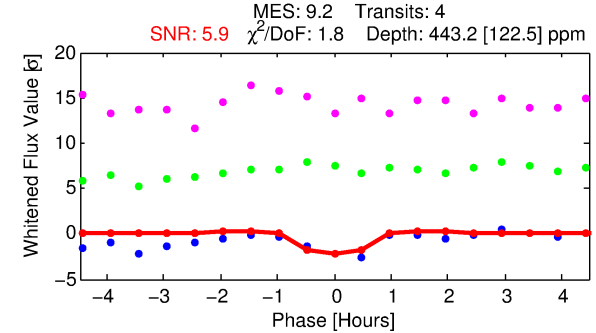
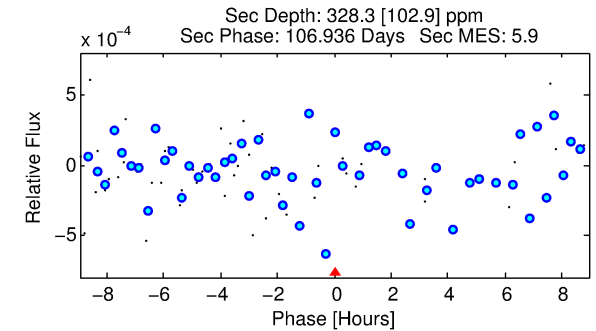
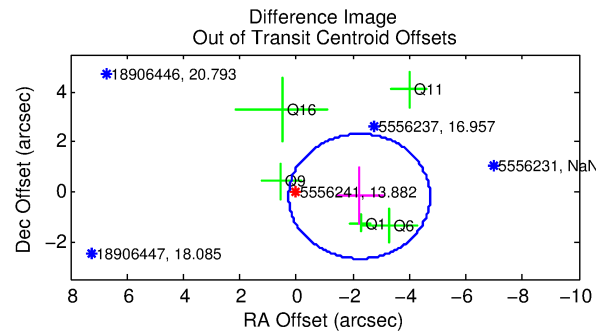
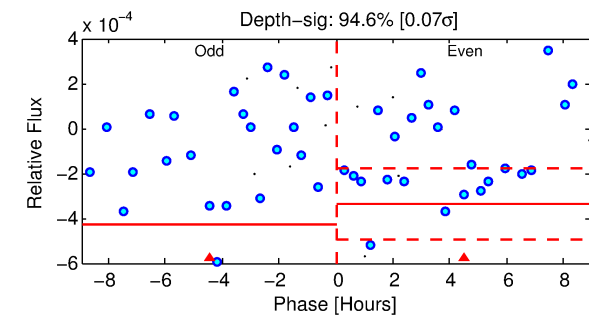
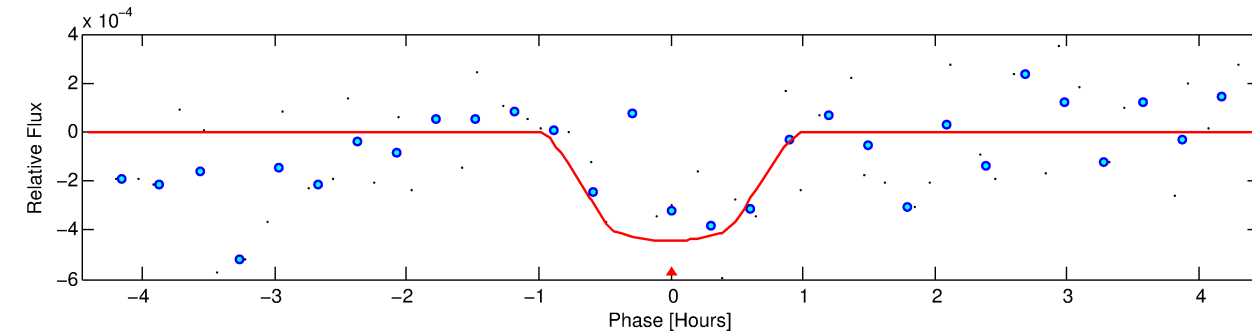
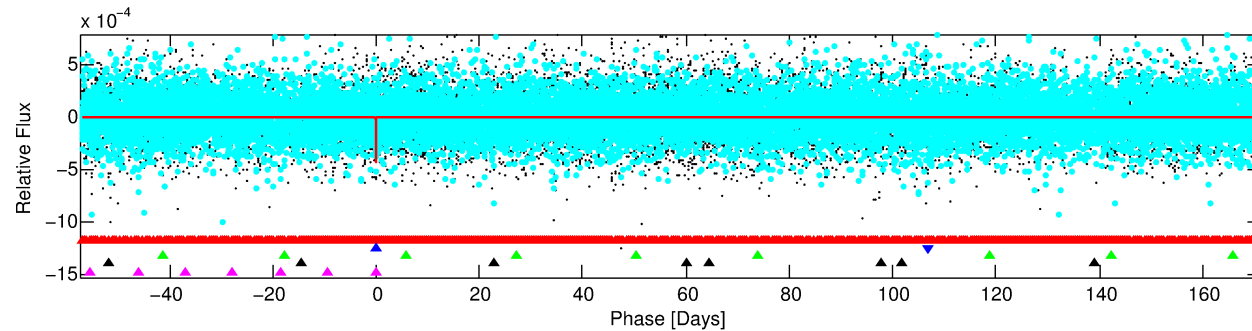
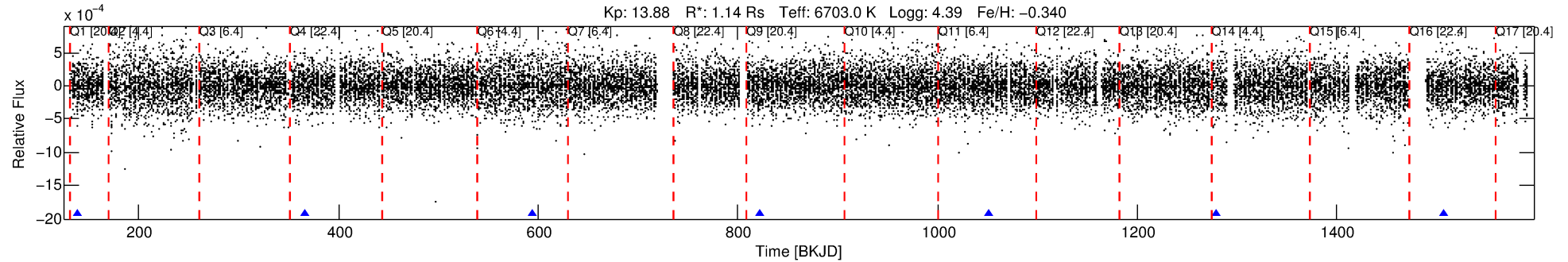
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005556241-02

No Significant Match Found

DV One-Page Summary

KIC: 5556241 Candidate: 2 of 5 Period: 228.139 d



DV Fit Results:

Period = 228.13875 [0.00236] d
Epoch = 138.3417 [0.0075] BKJD
Rp/R* = 0.0207 [0.0842]
a/R* = 869.81 [20483.82]
b = 0.70 [17.17]
Seff = 3.97 [1.63]
Teq = 360 [37] K
Rp = 2.57 [10.47] Re
a = 0.7669 [0.2060] AU
Ag = 16092.14 [130929.28] [0.12σ]
Teffp = 6267 [12736] K [0.46σ]

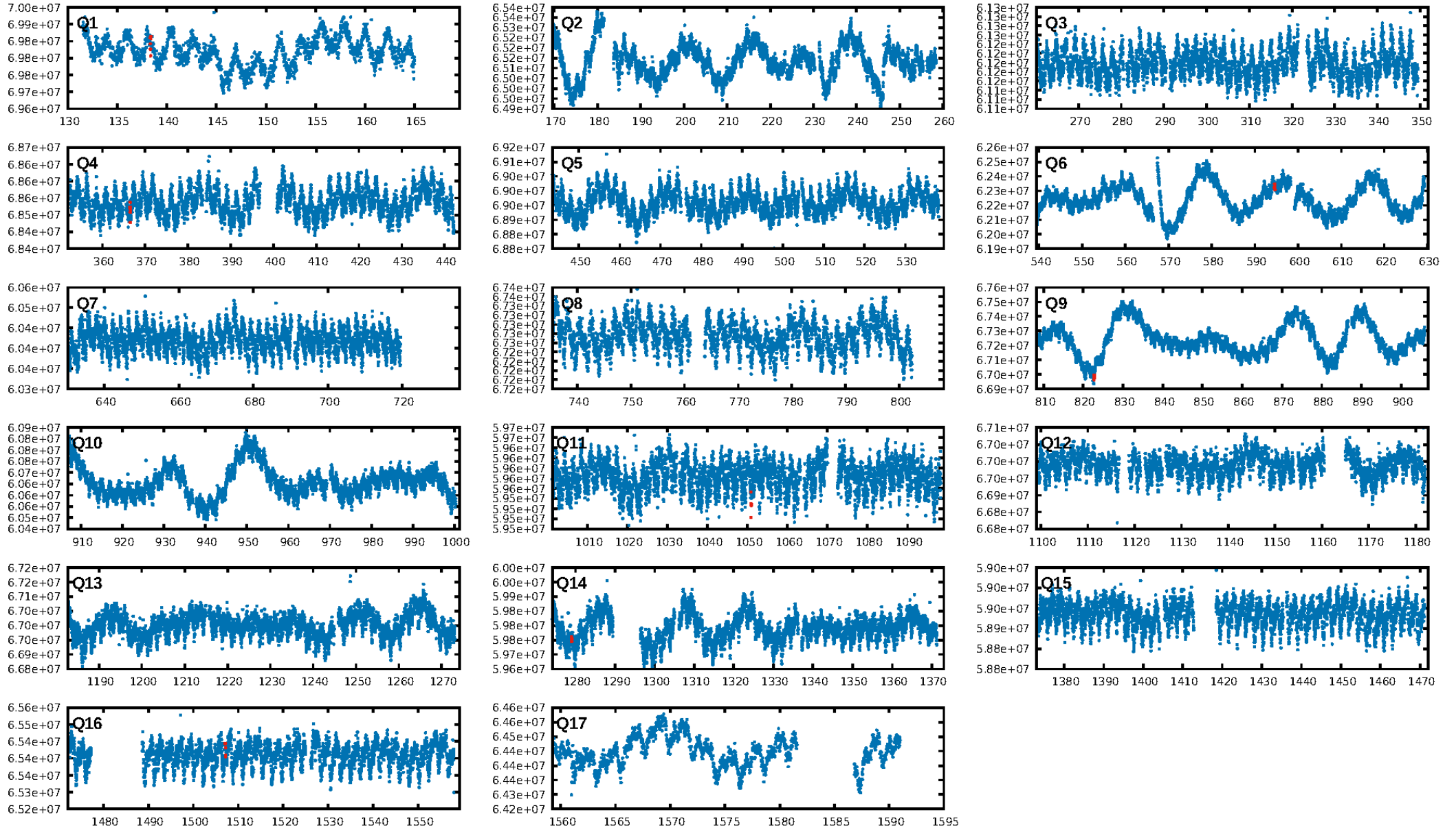
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [67.55σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 47.4%
ModelChiSquareGof-sig: 96.9%
Bootstrap-pfa: 4.14e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 234.4
Centroid-sig: 7.5%
Centroid-so: 1.123 arcsec [0.69σ]
OotOffset-rm: 2.236 arcsec [2.68σ]
KicOffset-rm: 2.311 arcsec [2.78σ]
OotOffset-st: 1/1/1/2 [5]
KicOffset-st: 1/1/1/2 [5]
DiffImageQuality-fgm: 0.00 [0/5]
DiffImageOverlap-fno: 0.50 [3/6]

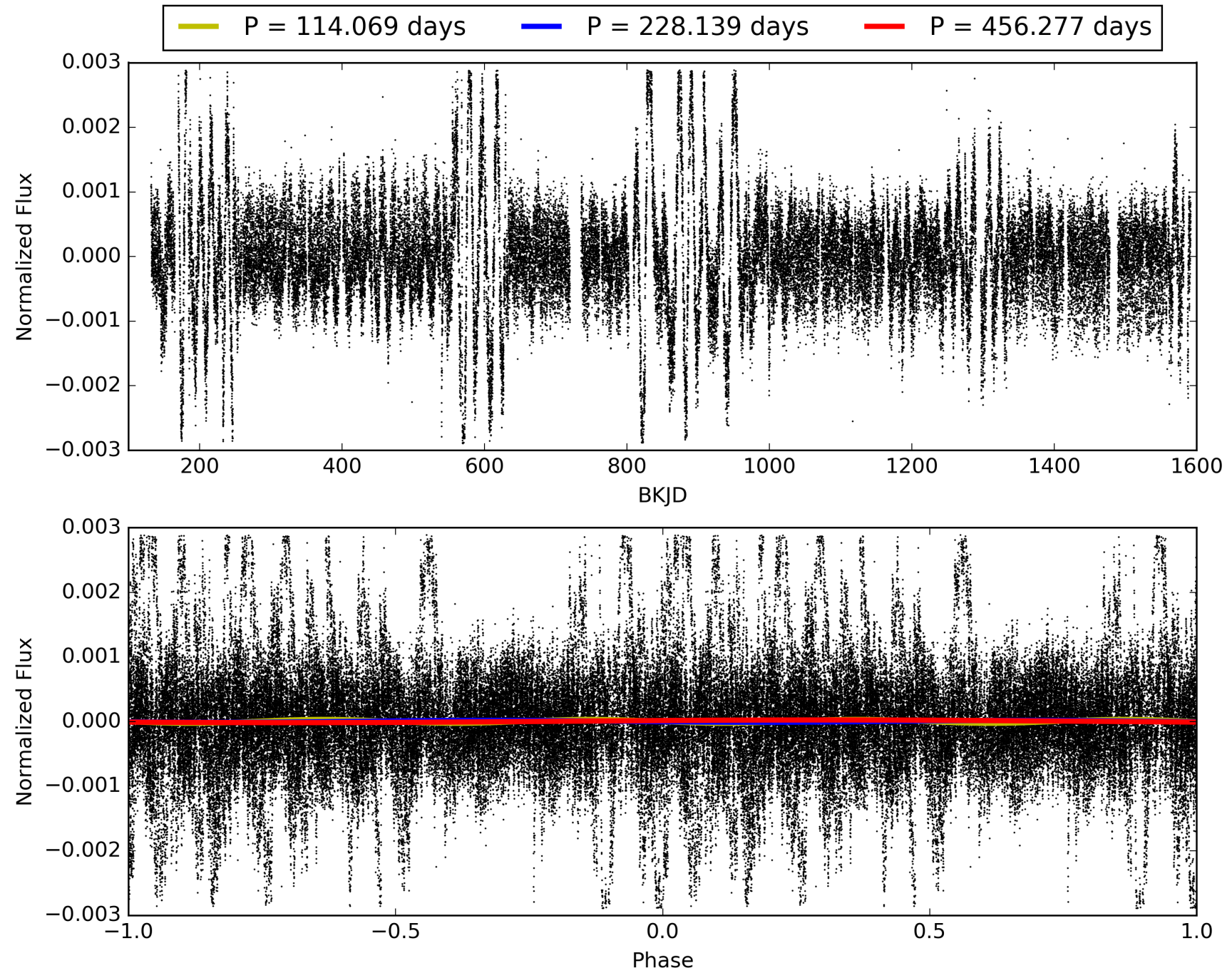
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 00:04:13 Z

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

TCE 005556241-02, PDC Light Curves

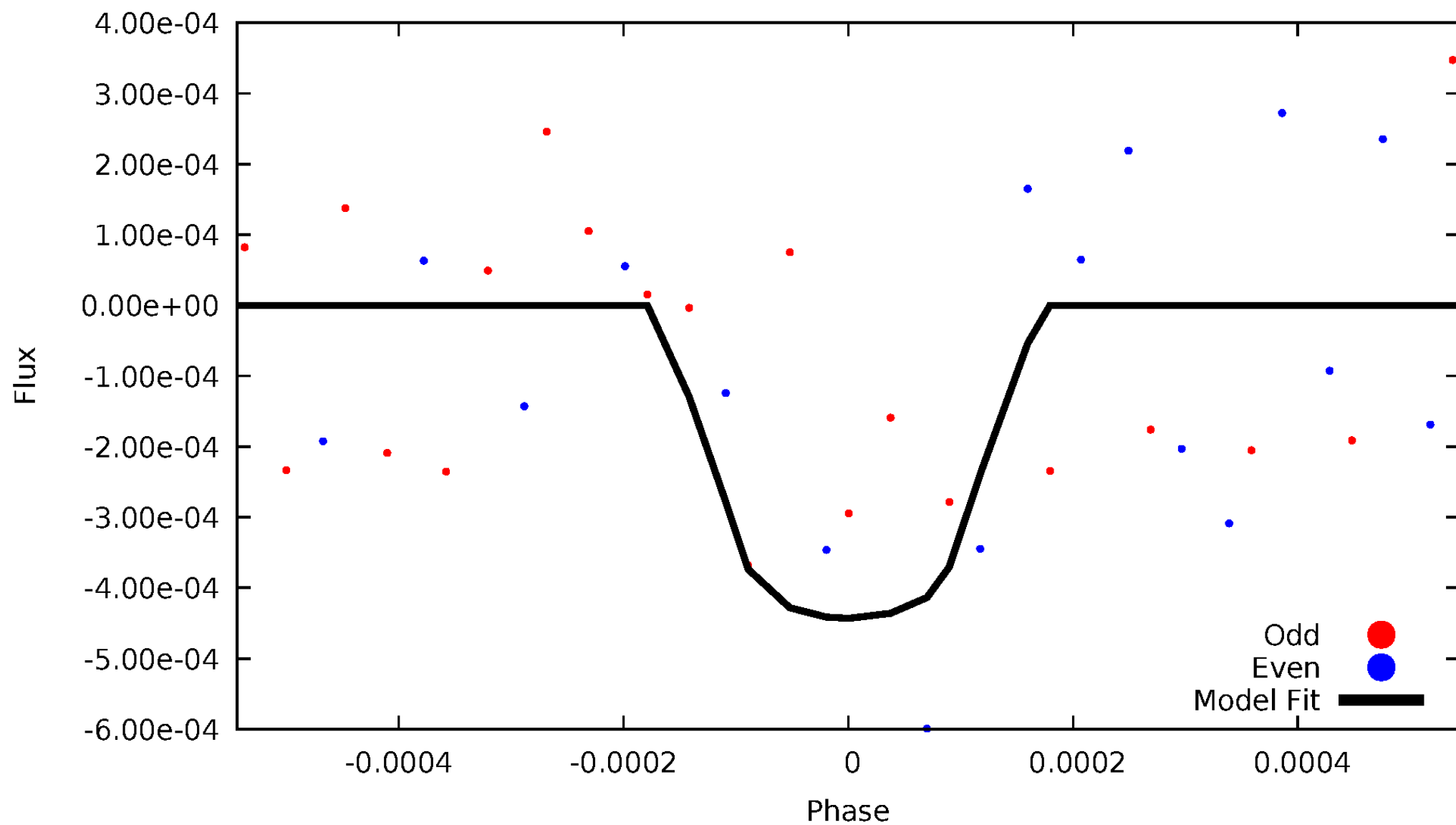


TCE 005556241-02



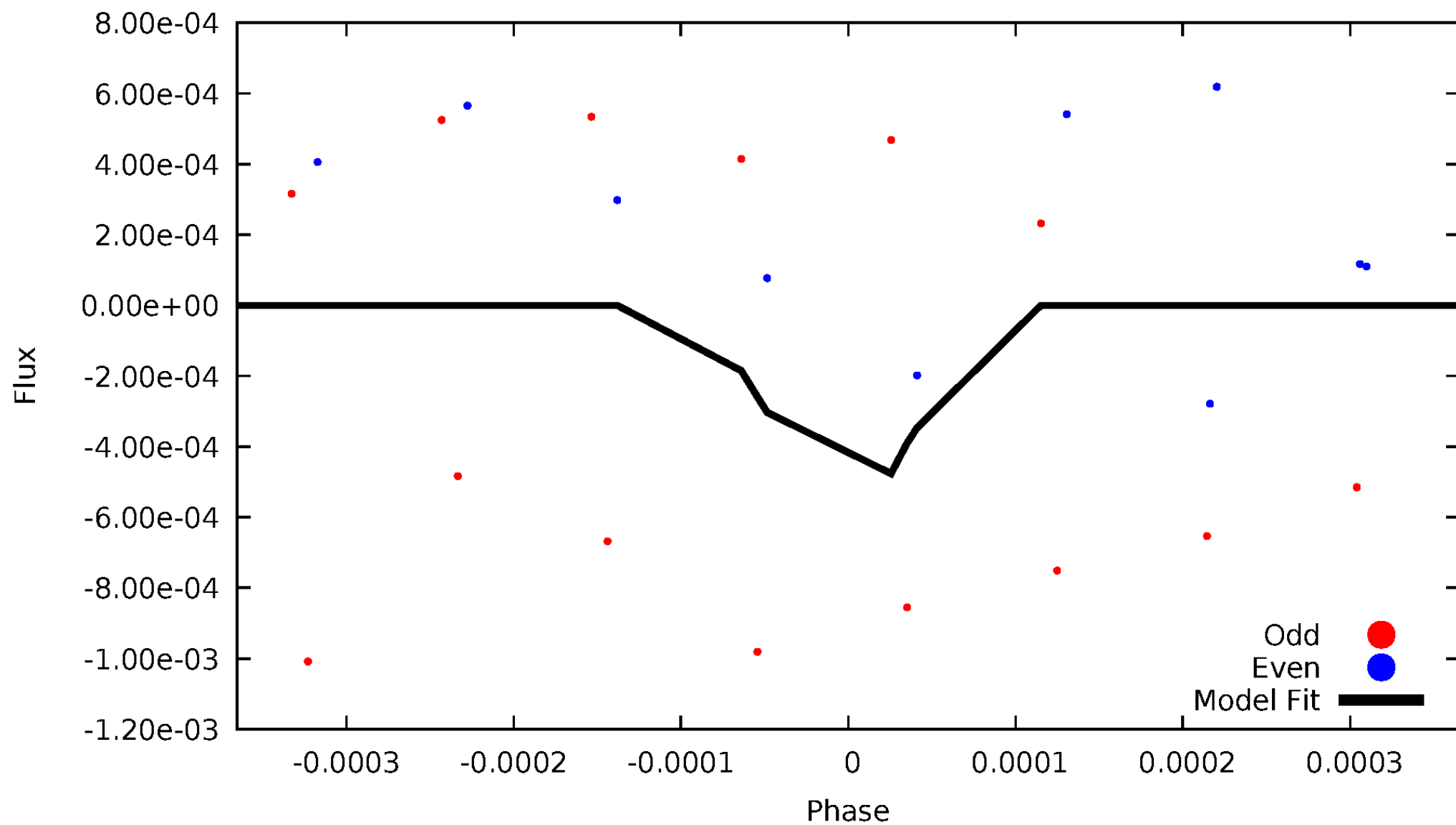
DV Odd/Even

TCE 005556241-02



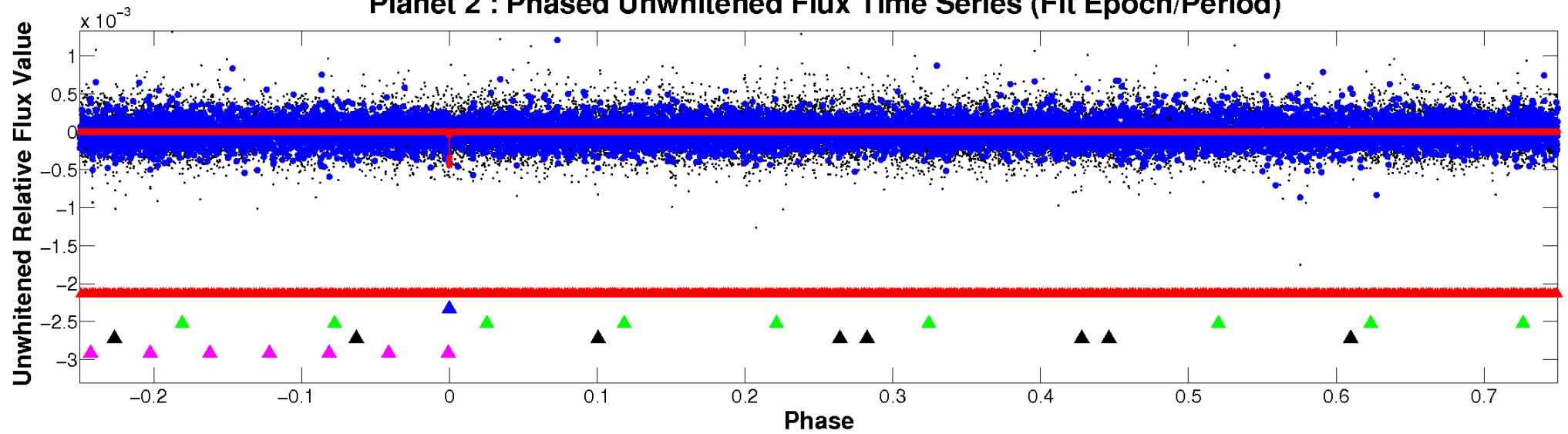
ALT Odd/Even

TCE 005556241-02

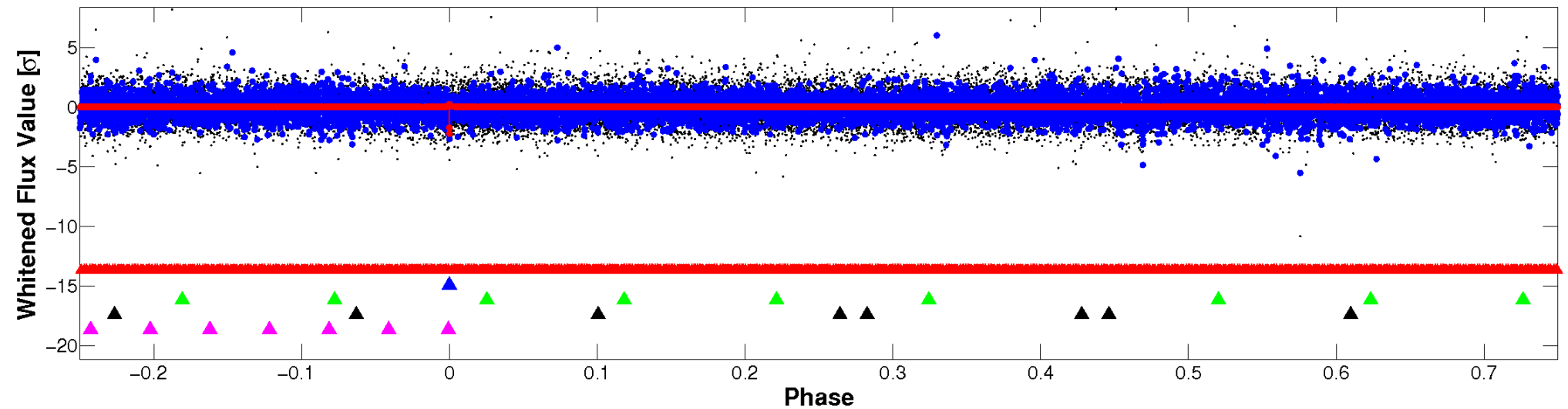


Non-Whitened Vs. Whitened Light Curve

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

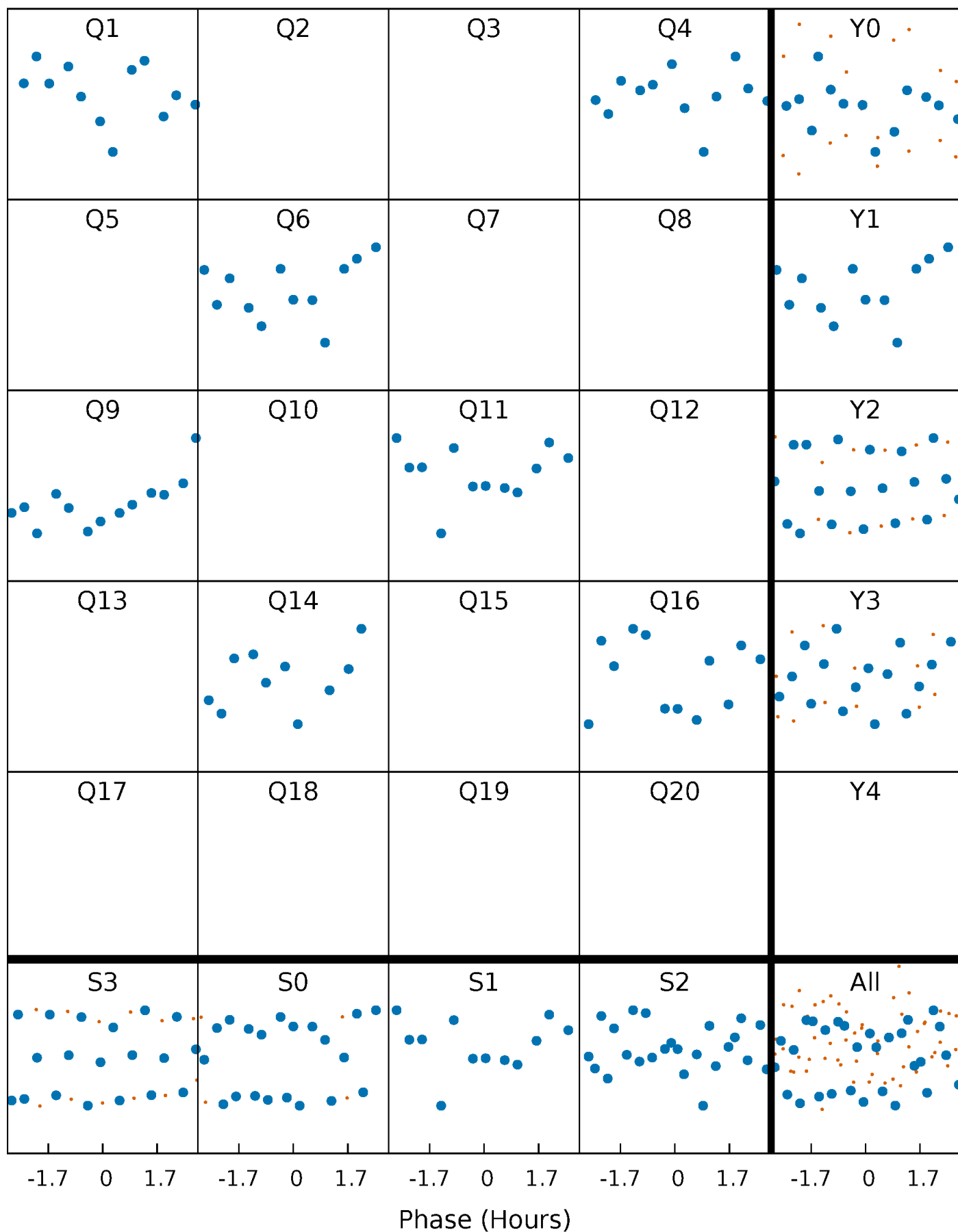


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



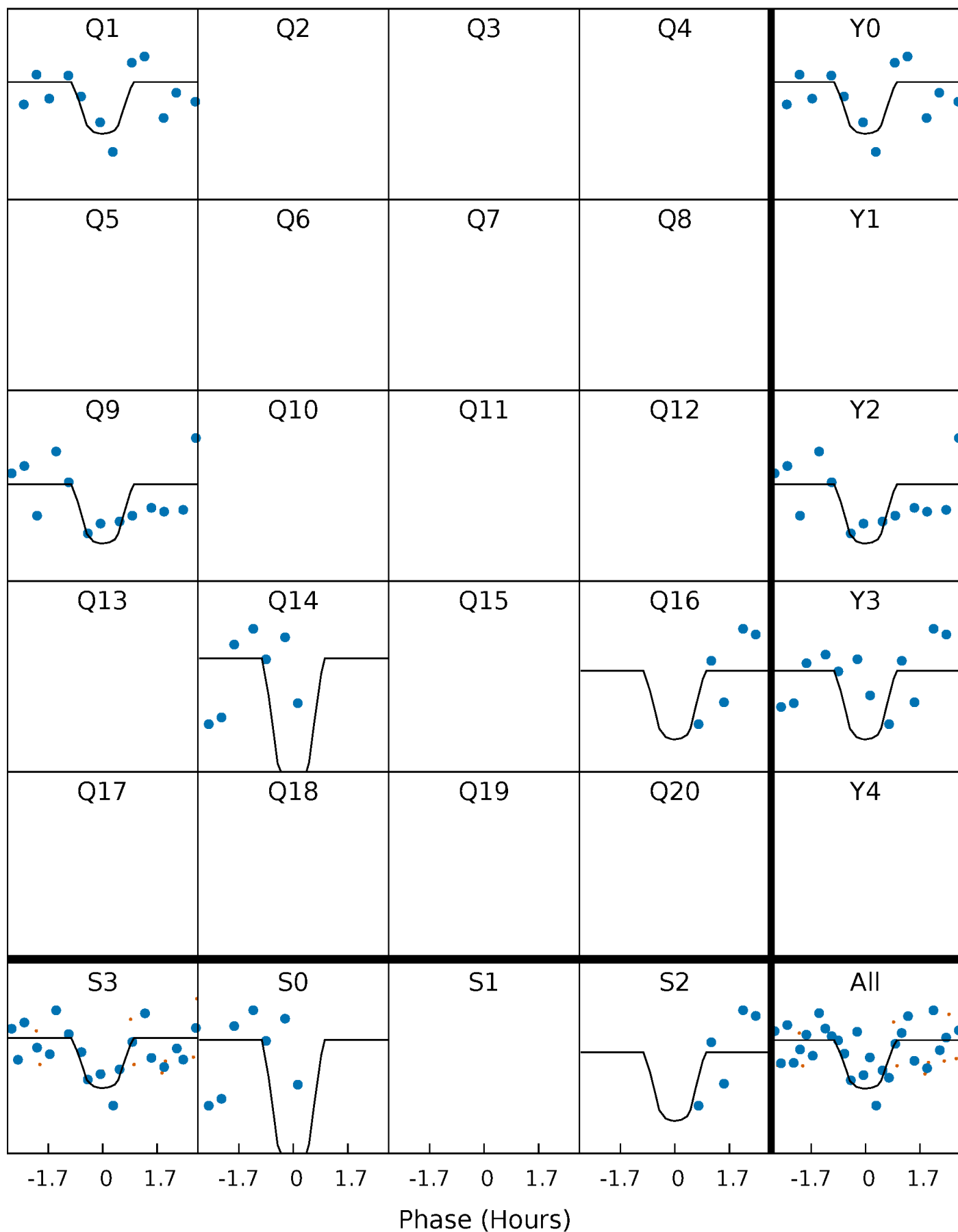
PDC Quarter-Phased Transit Curves

TCE 005556241-02 P=228.138748 Days $T_0=138.341671$ (BKJD)



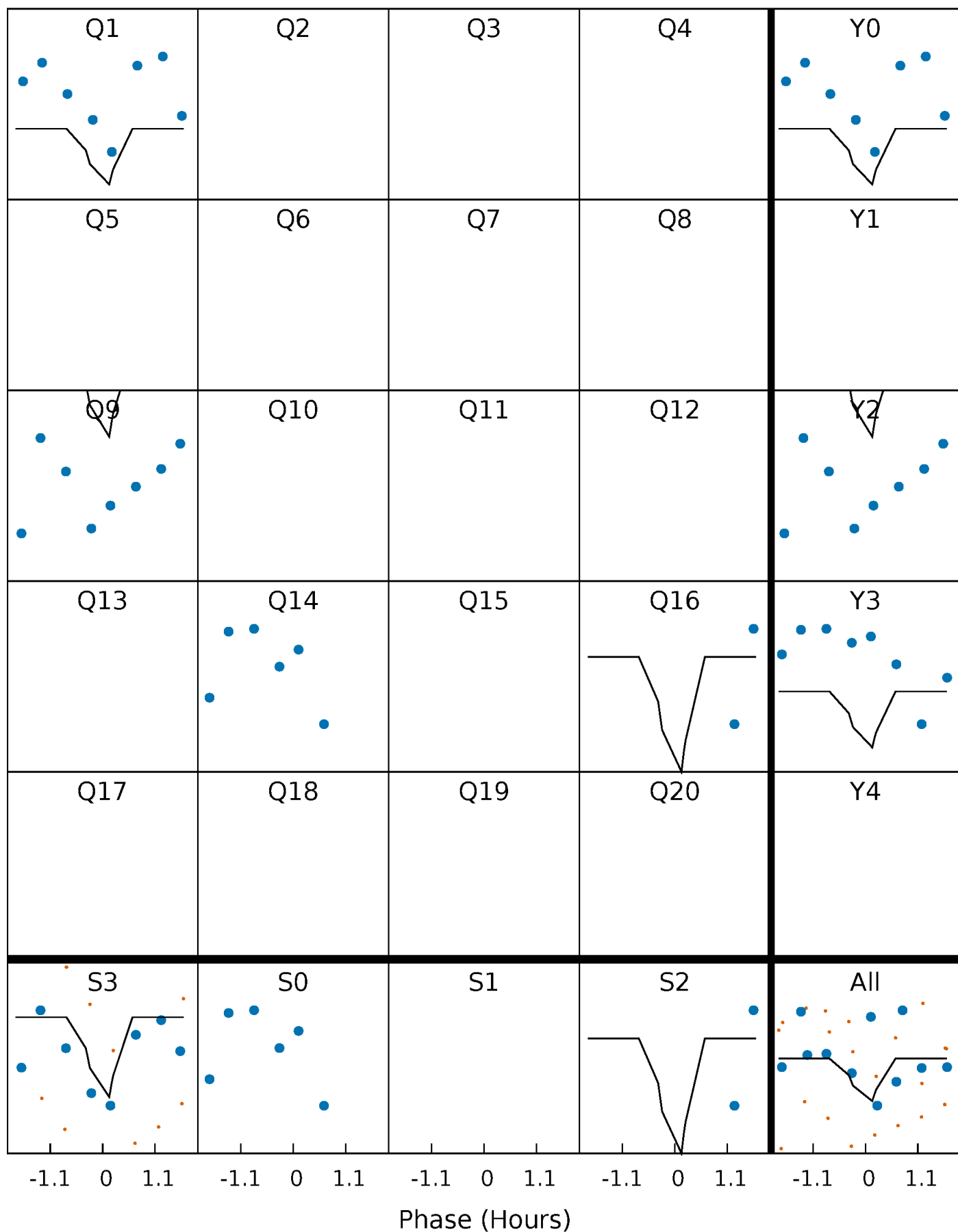
DV Quarter-Phased Transit Curves

TCE 005556241-02 $P=228.138748$ Days $T_0=138.341671$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

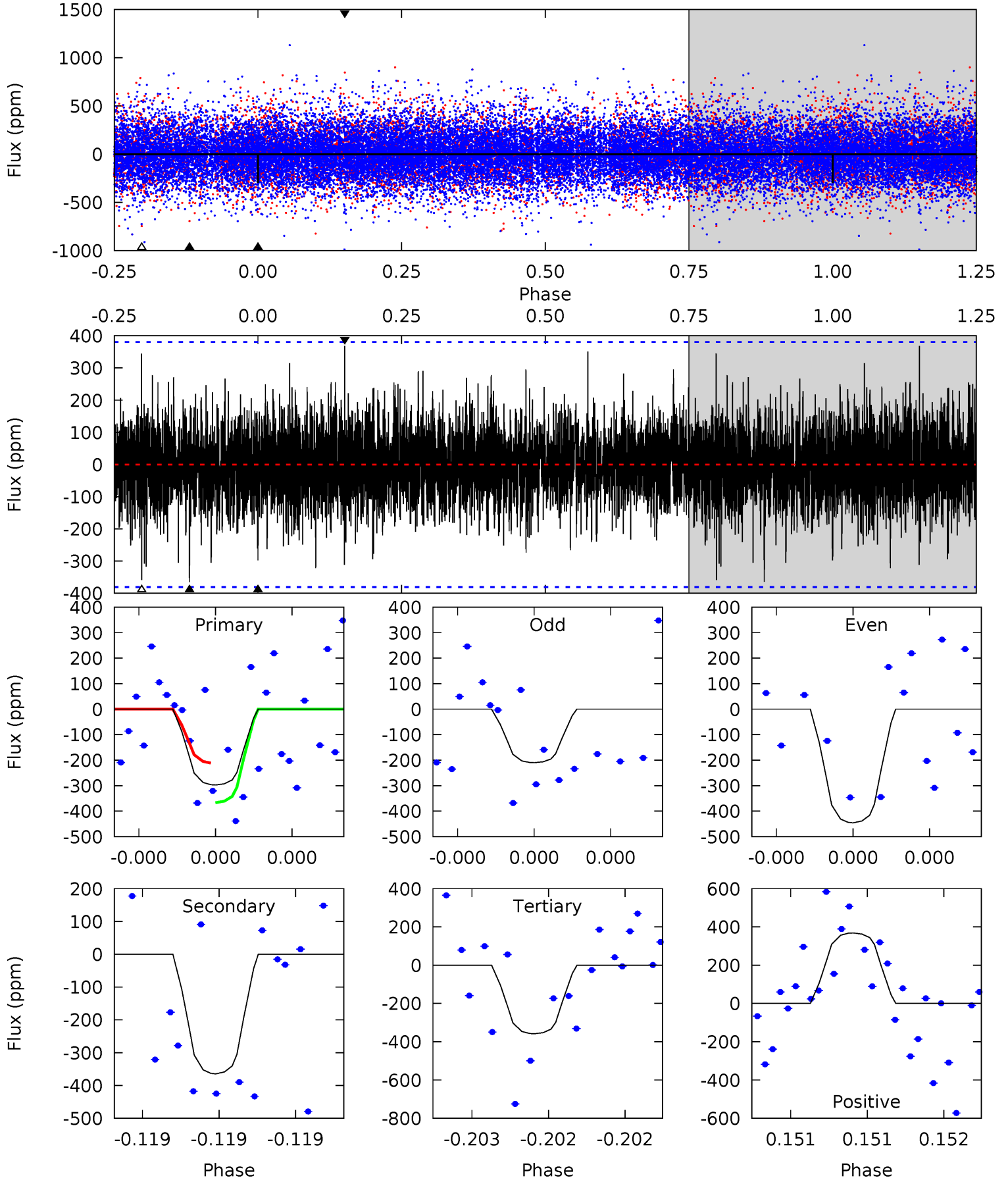
TCE 005556241-02 P=228.133886 Days $T_0=138.348286$ (BKJD)



DV Model-Shift Uniqueness Test

005556241-02, P = 228.138748 Days, E = 138.341671 Days

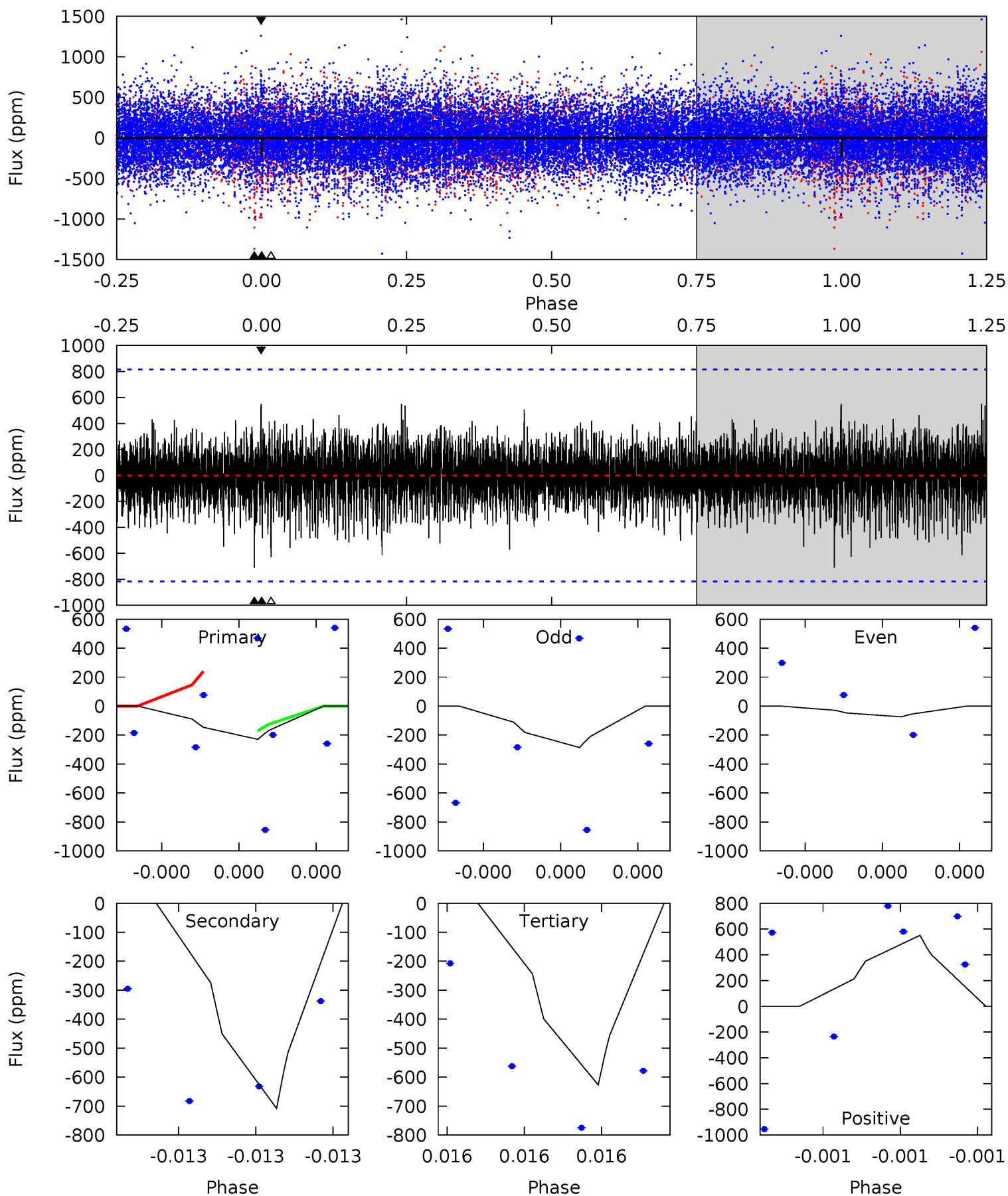
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.42	5.41	5.32	5.47	5.65	3.60	1.26	-0.90	-1.06	0.09	-0.06	1.75	0.78	0.50	1.14



Alt Model-Shift Uniqueness Test

005556241-02, P = 228.133886 Days, E = 138.348286 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.64	5.07	4.49	3.94	5.84	3.88	1.03	-2.84	-2.30	0.58	1.12	0.67	2.71	0.44	0.20



Stellar Parameters For KIC 005556241

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6703^{+159}_{-239}	$4.390^{+0.065}_{-0.208}$	$-0.340^{+0.250}_{-0.300}$	$1.136^{+0.368}_{-0.123}$	$1.158^{+0.165}_{-0.148}$	$1.114^{+0.311}_{-0.580}$
	+2%/-4%	+1%/-5%	+74%/-88%	+32%/-11%	+14%/-13%	+28%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005556241-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-365 ± 67	$7.82^{+8.64}_{-5.50}$	510^{+37}_{-25}	4000^{+2995}_{-854}	1853^{+21537}_{-1462}
Alt.	-708 ± 140	$8.99^{+8.76}_{-6.38}$	513^{+35}_{-27}	4377^{+3666}_{-949}	2831^{+29015}_{-2149}

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

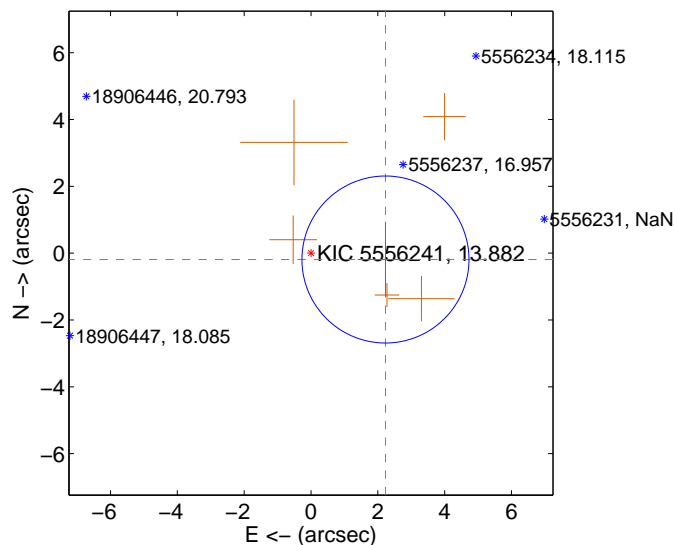
Supplemental centroid analysis for 005556241-02. Kepler magnitude: 13.88. Transit SNR 5.86

There are 0 quarters with good PRF difference image offsets

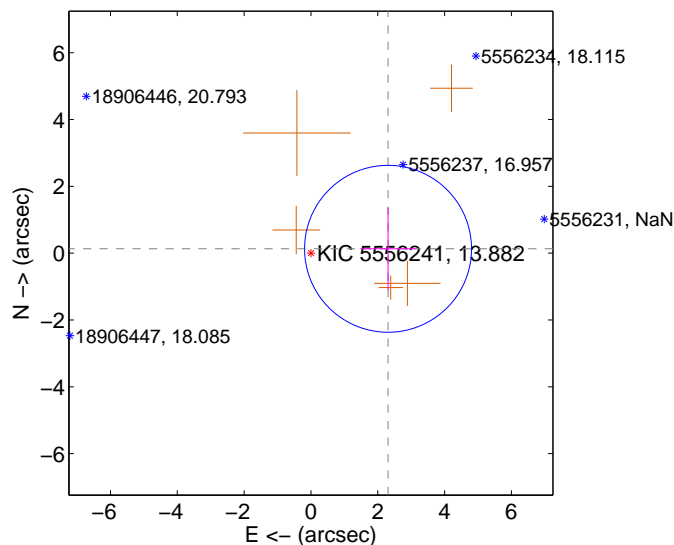
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.236 ± 0.833	2.68	-2.228 ± 0.831	-0.190 ± 1.128
PRF-fit source offset from KIC position	2.311 ± 0.833	2.78	-2.307 ± 0.831	0.131 ± 1.236
photometric centroid source offset	1.12 ± 1.64	0.69	0.68 ± 2.35	0.89 ± 1.00

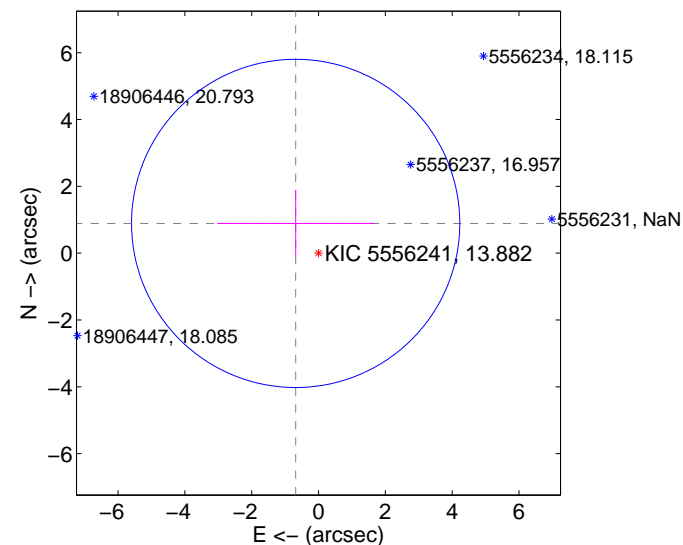
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

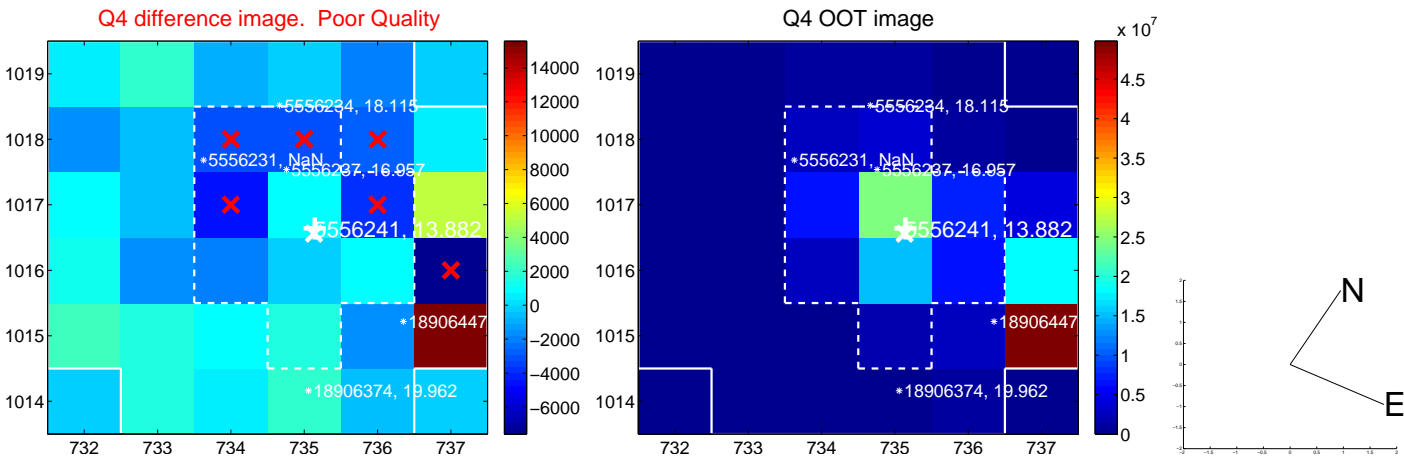
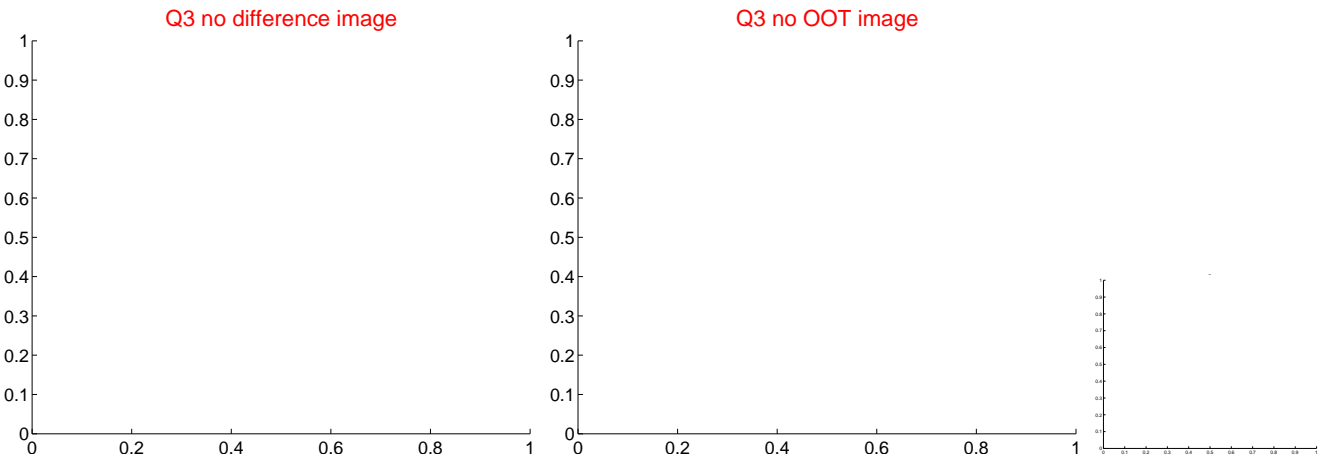
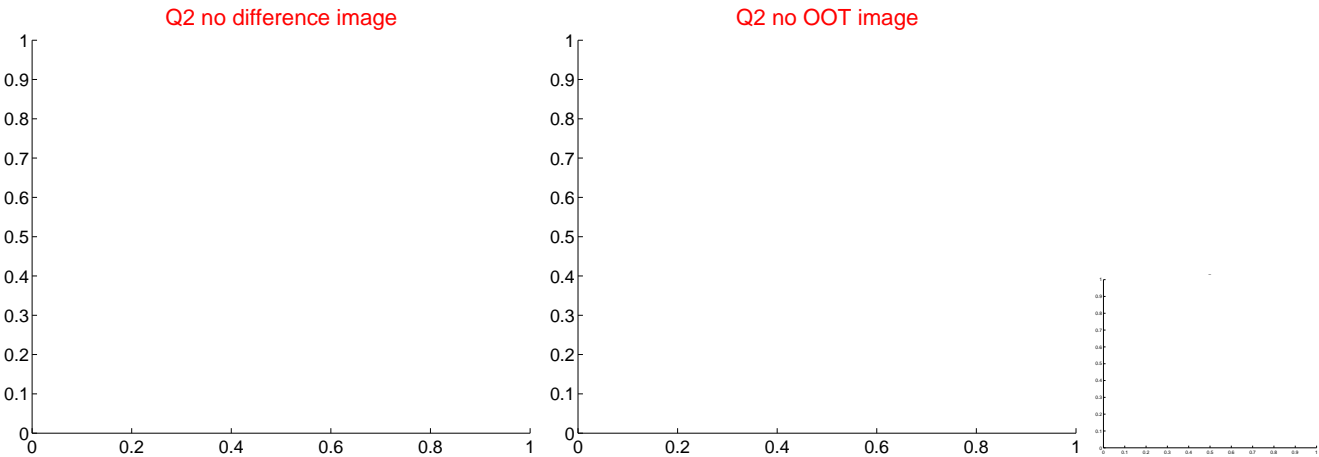
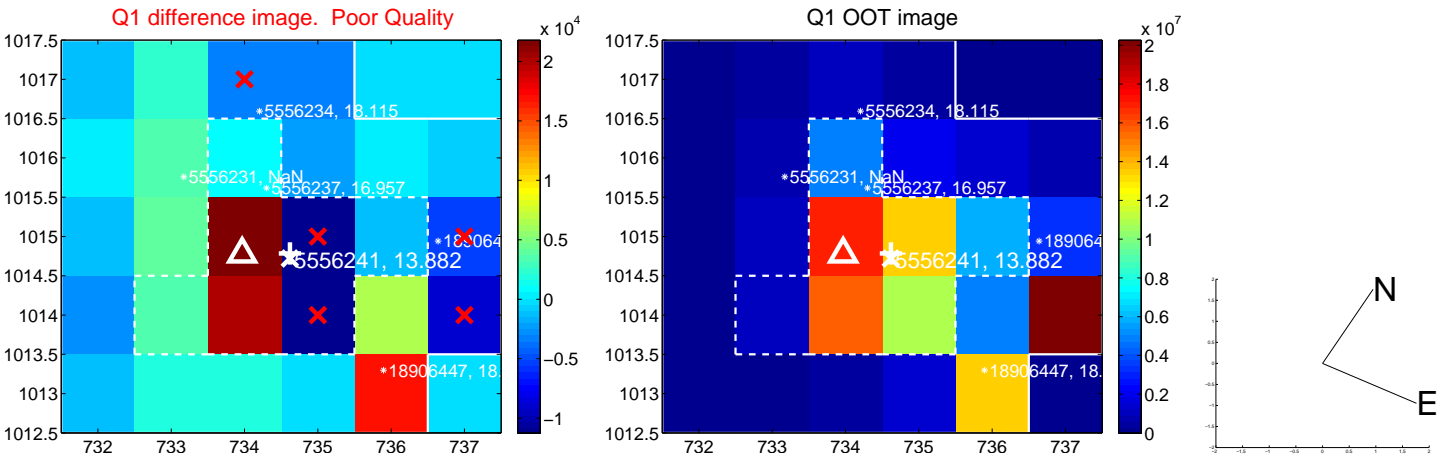


offset from photometric centroids



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

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



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

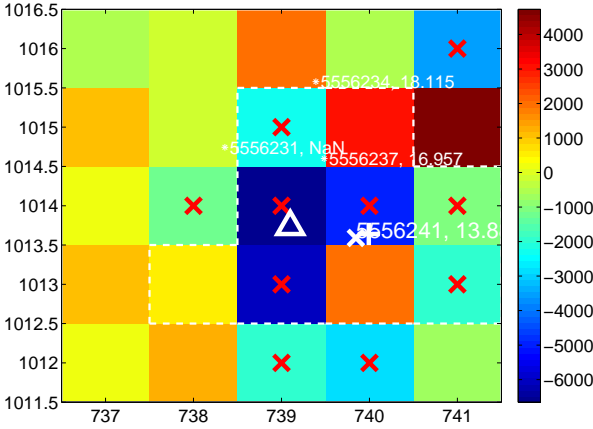
Q5 no difference image



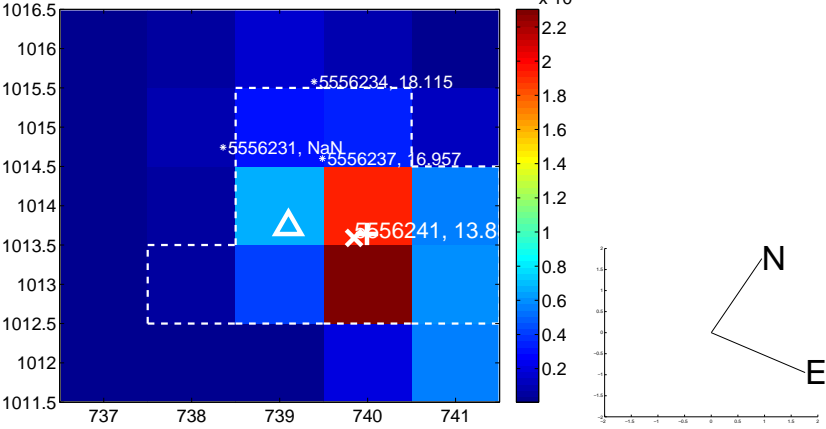
Q5 no OOT image



Q6 difference image. Poor Quality



Q6 OOT image



Q7 no difference image



Q7 no OOT image



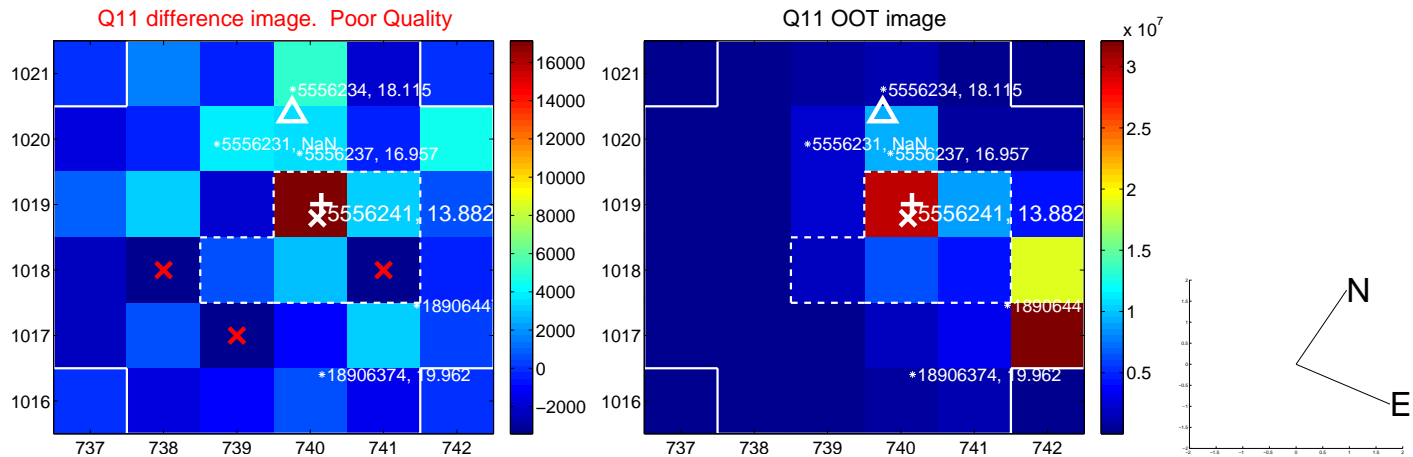
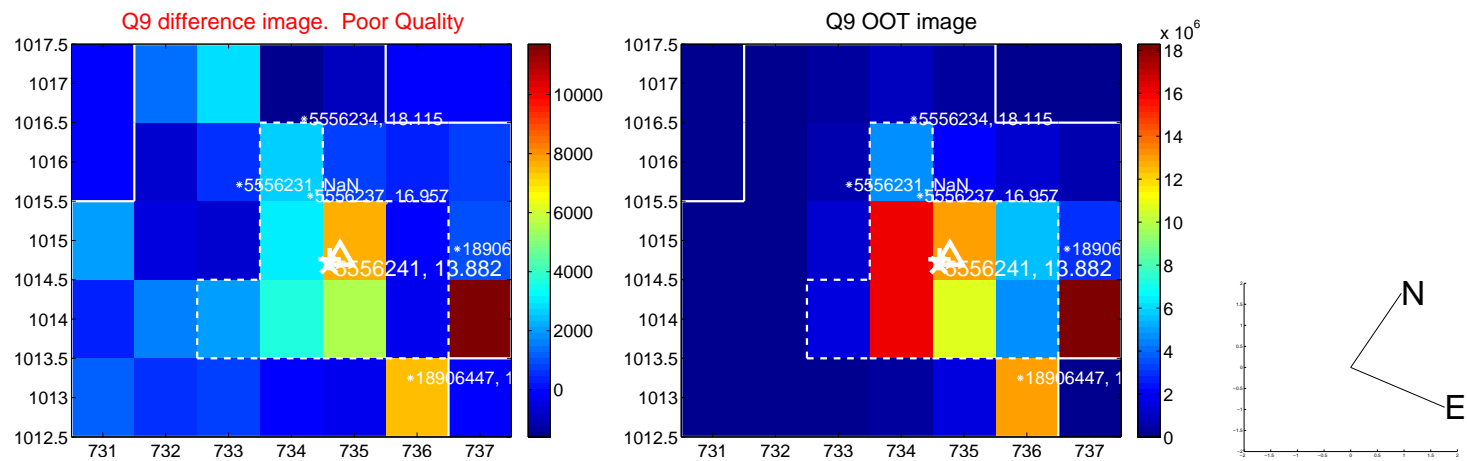
Q8 no difference image



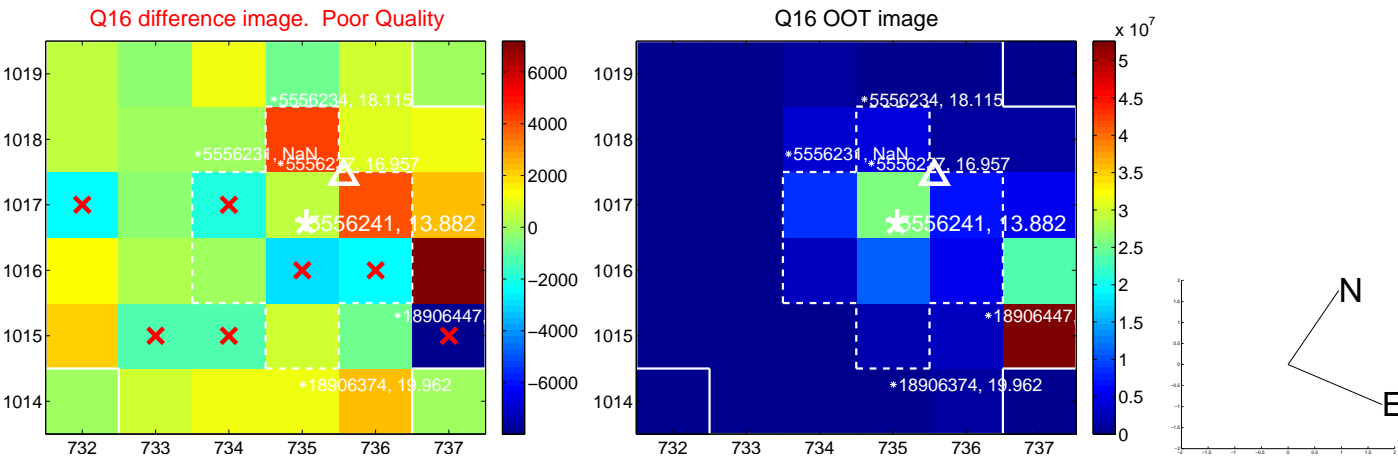
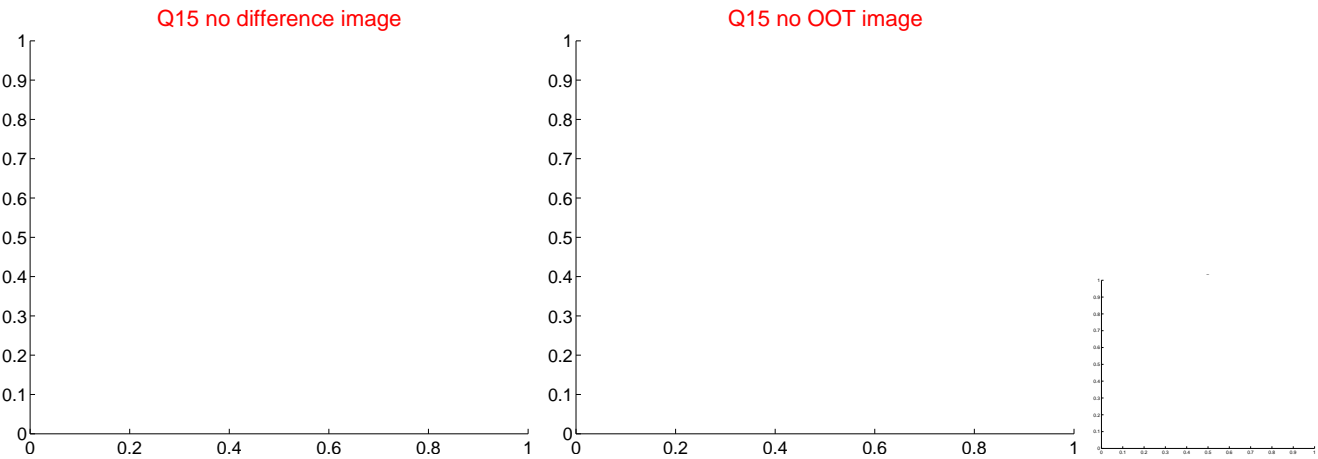
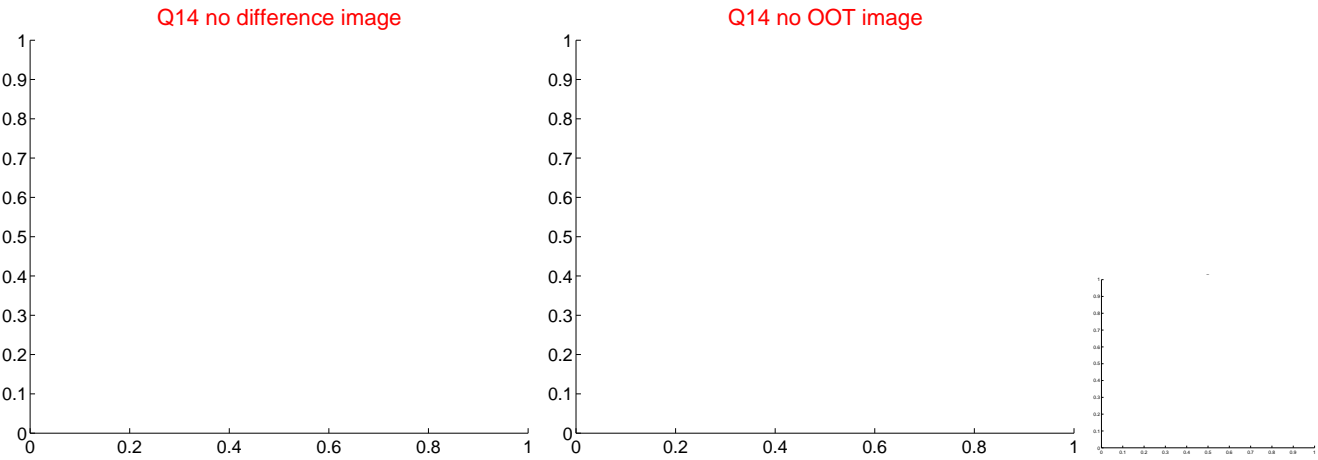
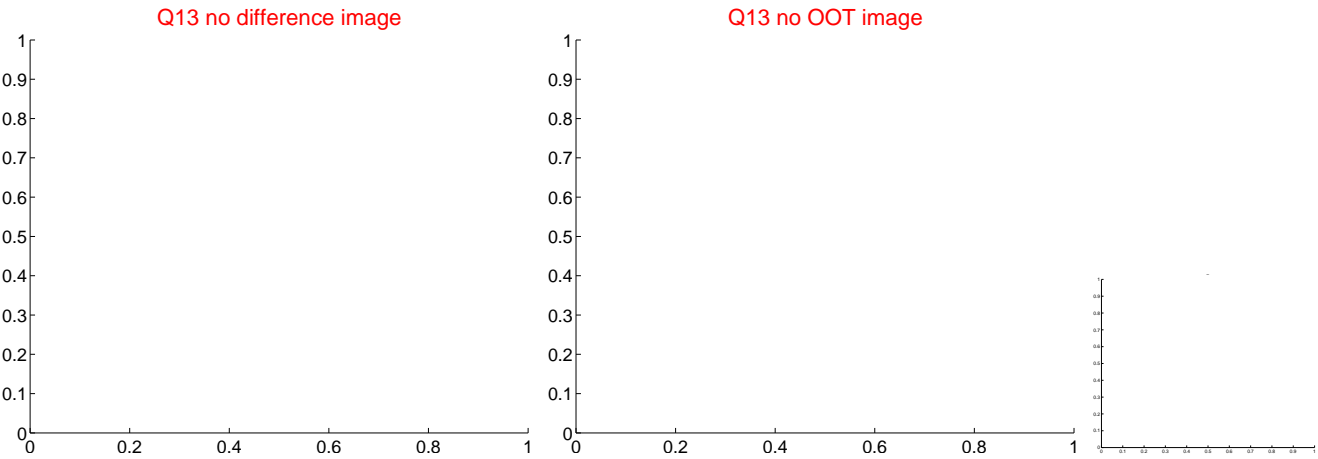
Q8 no OOT image



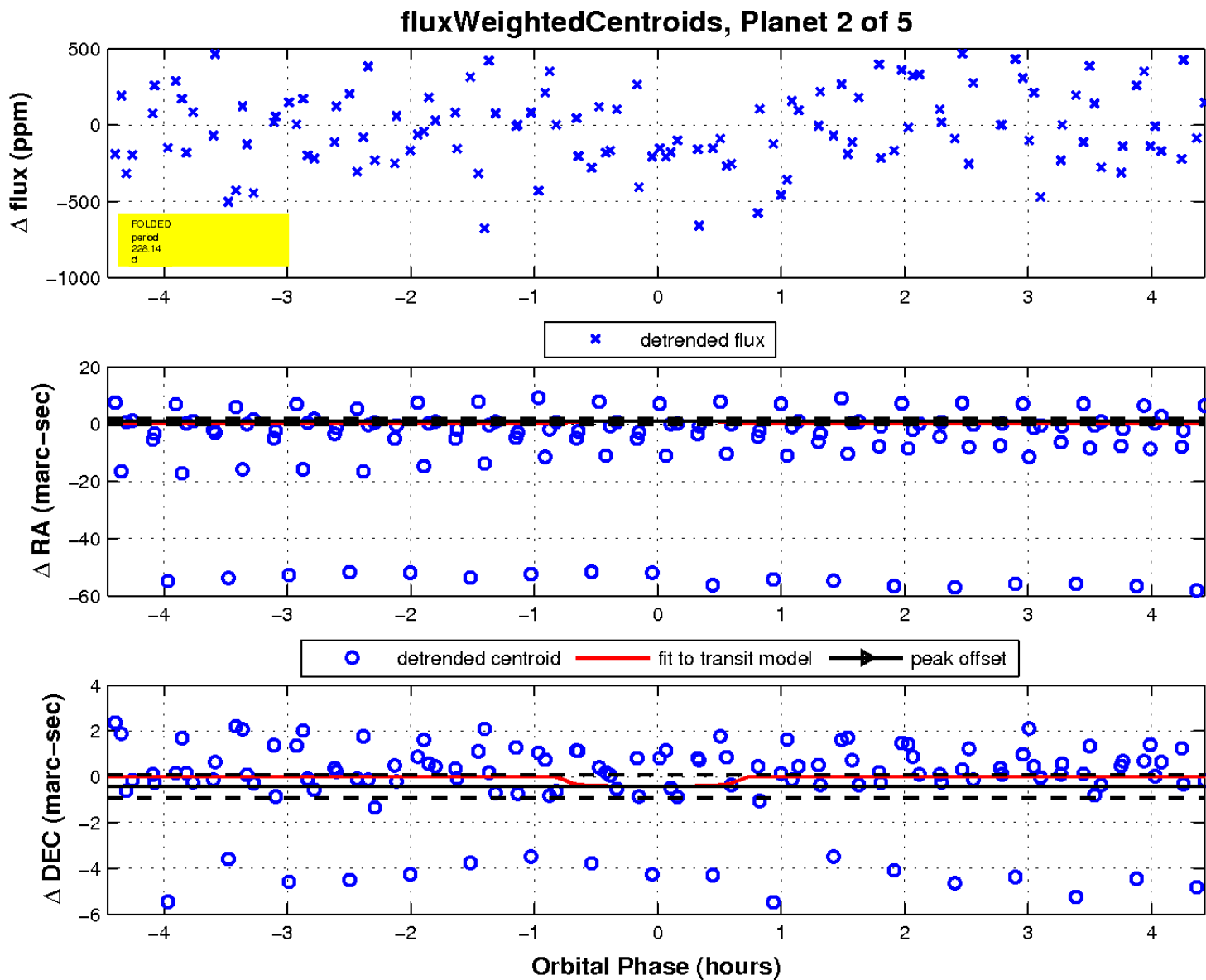
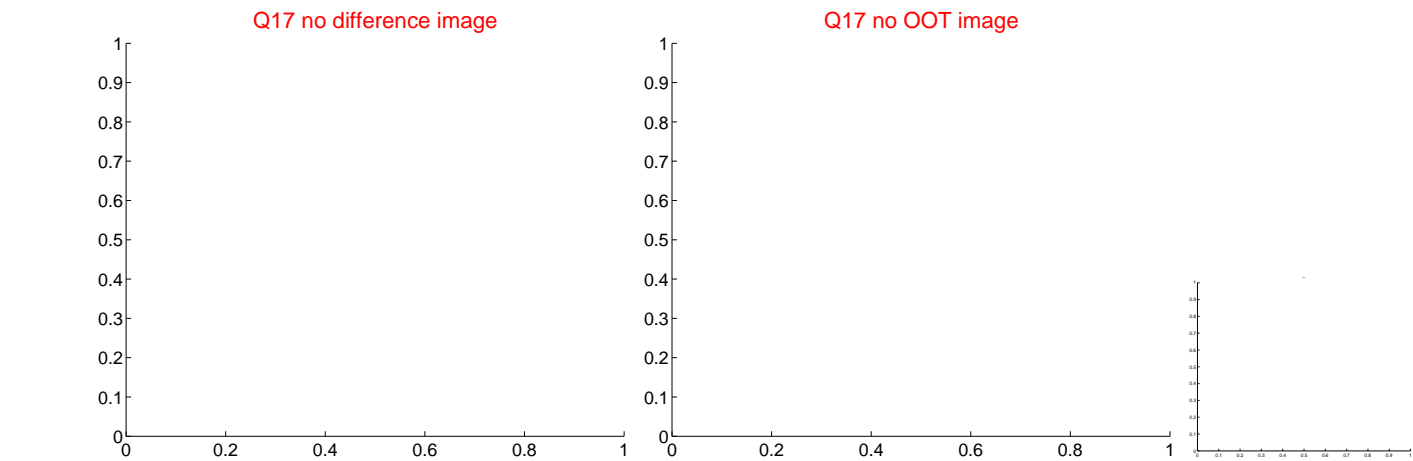
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



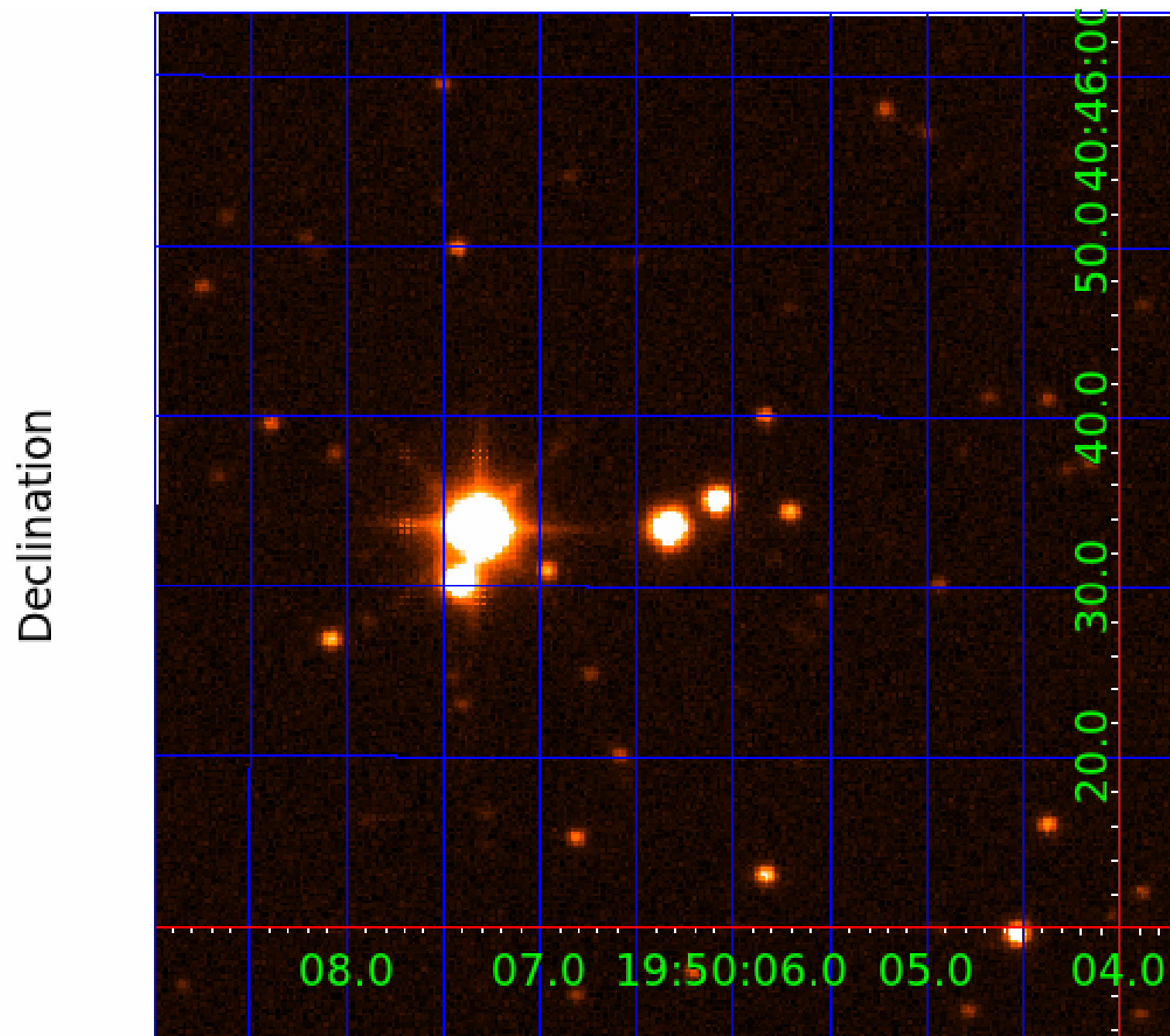
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image



KIC 005556241

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})
005556241-01	OBS	No	2.180702	132.687978	10.6	10.446	8.0	2.9	1.14	6703	0.43	1956.27
005556241-02	OBS	No	228.138748	138.341671	443.2	1.488	9.2	5.9	1.14	6703	2.57	3.97
005556241-03	OBS	No	159.928606	165.332506	282.0	7.542	9.0	7.4	1.14	6703	2.05	6.37
005556241-04	OBS	No	190.814469	235.957720	273.5	8.682	8.6	5.0	1.14	6703	2.18	5.04
005556241-05	OBS	No	218.936789	138.186906	436.6	2.911	7.8	7.3	1.14	6703	2.71	4.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005556241-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
005556241-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
005556241-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_KIC_POS—HALO_GHOST
005556241-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS—HALO_GHOST
005556241-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

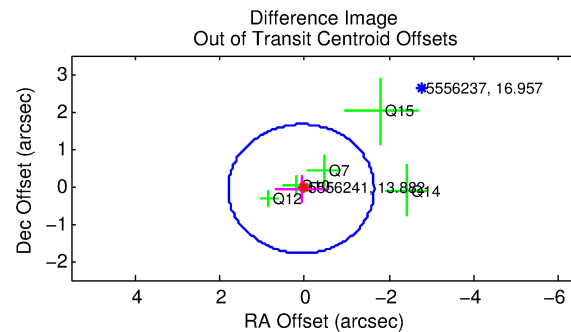
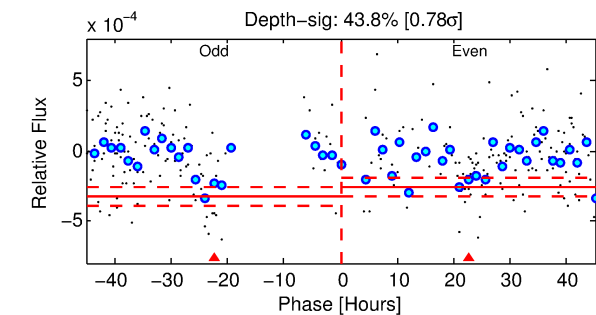
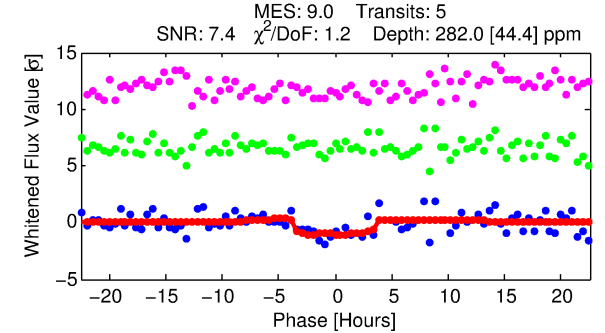
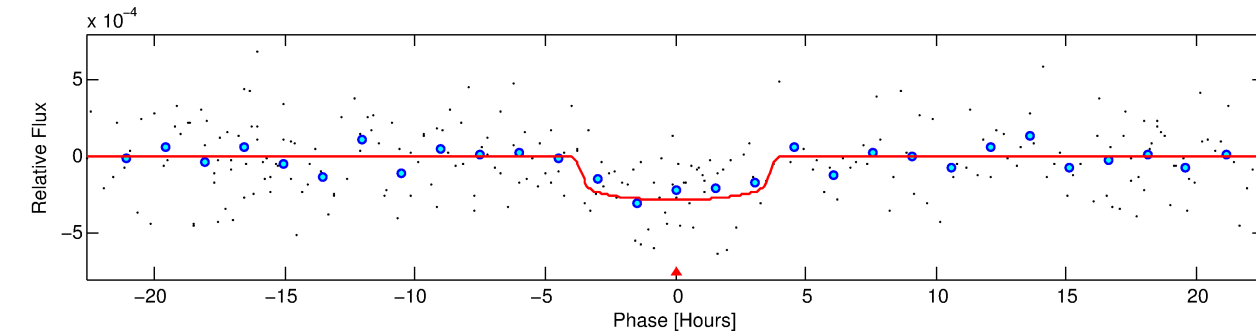
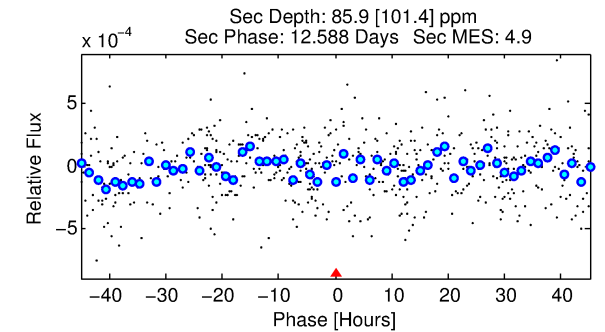
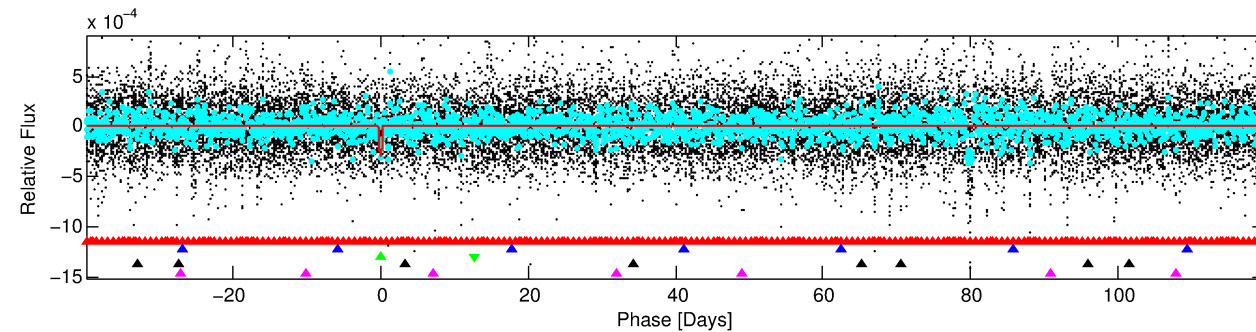
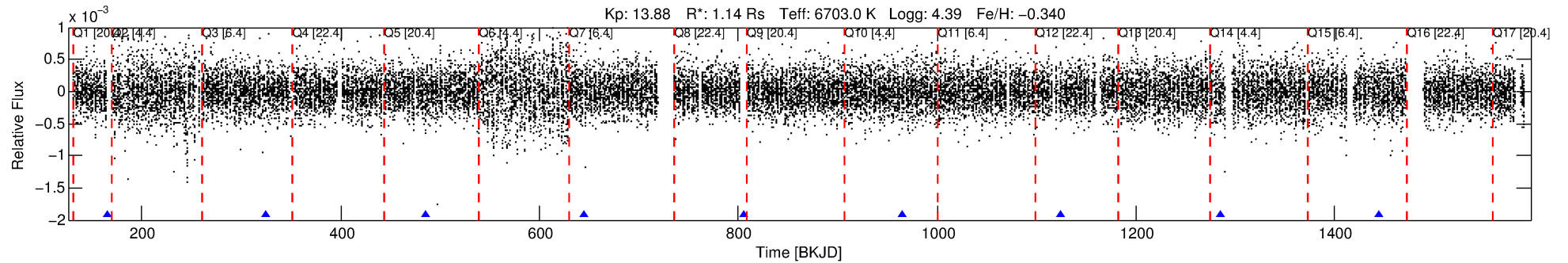
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005556241-03

No Significant Match Found

DV One-Page Summary

KIC: 5556241 Candidate: 3 of 5 Period: 159.929 d



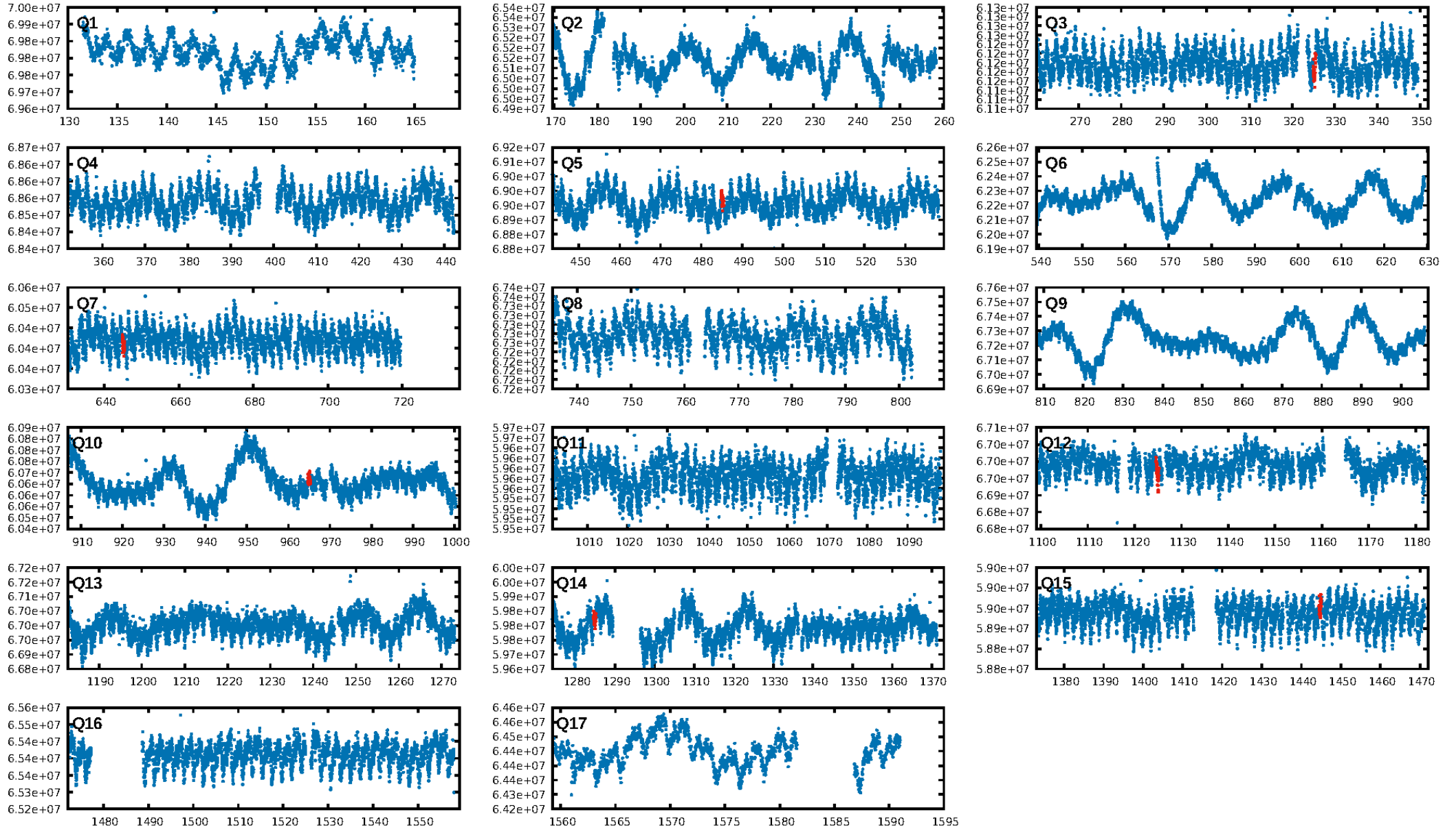
DV Fit Results:

Period = 159.92861 [0.00404] d
Epoch = 165.3325 [0.0220] BKJD
Rp/R* = 0.0165 [0.0220]
a/R* = 117.59 [894.39]
b = 0.71 [5.31]
Seff = 6.37 [2.62]
Teff = 405 [42] K
Rp = 2.05 [2.81] Re
a = 0.6052 [0.1625] AU
Ag = 4127.59 [12146.74] [0.34 σ]
Teffp = 5021 [3666] K [1.26 σ]

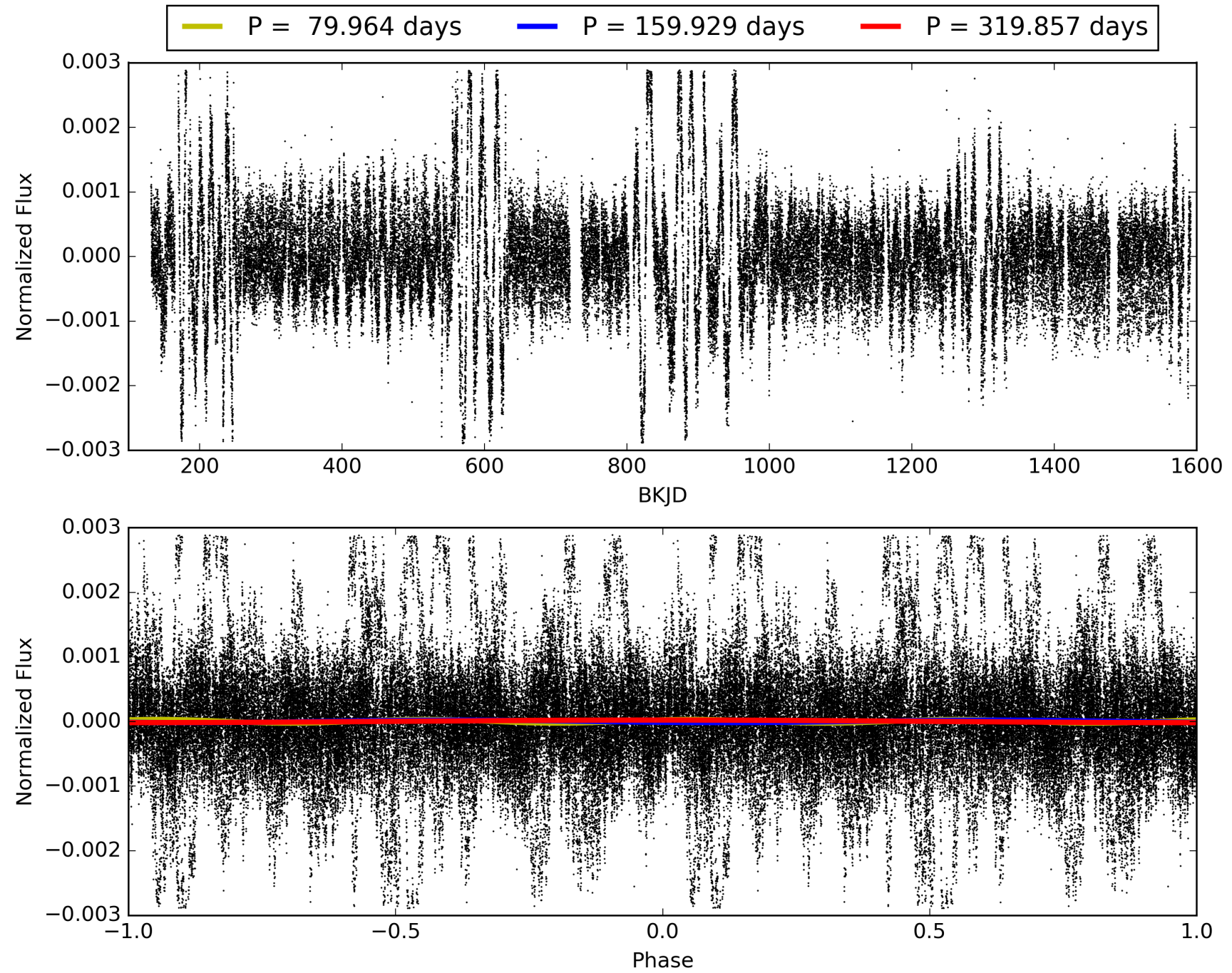
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [293.84 σ]
LongPeriod-sig: 100.0% [64.46 σ]
ModelChiSquare2-sig: 61.1%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 3.01e-11
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.1572
Centroid-sig: 0.2%
Centroid-so: 6.392 arcsec [2.31 σ]
OotOffset-rm: 0.097 arcsec [0.17 σ]
KicOffset-rm: 0.345 arcsec [0.92 σ]
OotOffset-st: 2/2/1/0 [5]
KicOffset-st: 2/2/1/0 [5]
DiffImageQuality-fgm: 0.60 [3/5]
DiffImageOverlap-fno: 0.00 [0/7]

TCE 005556241-03, PDC Light Curves

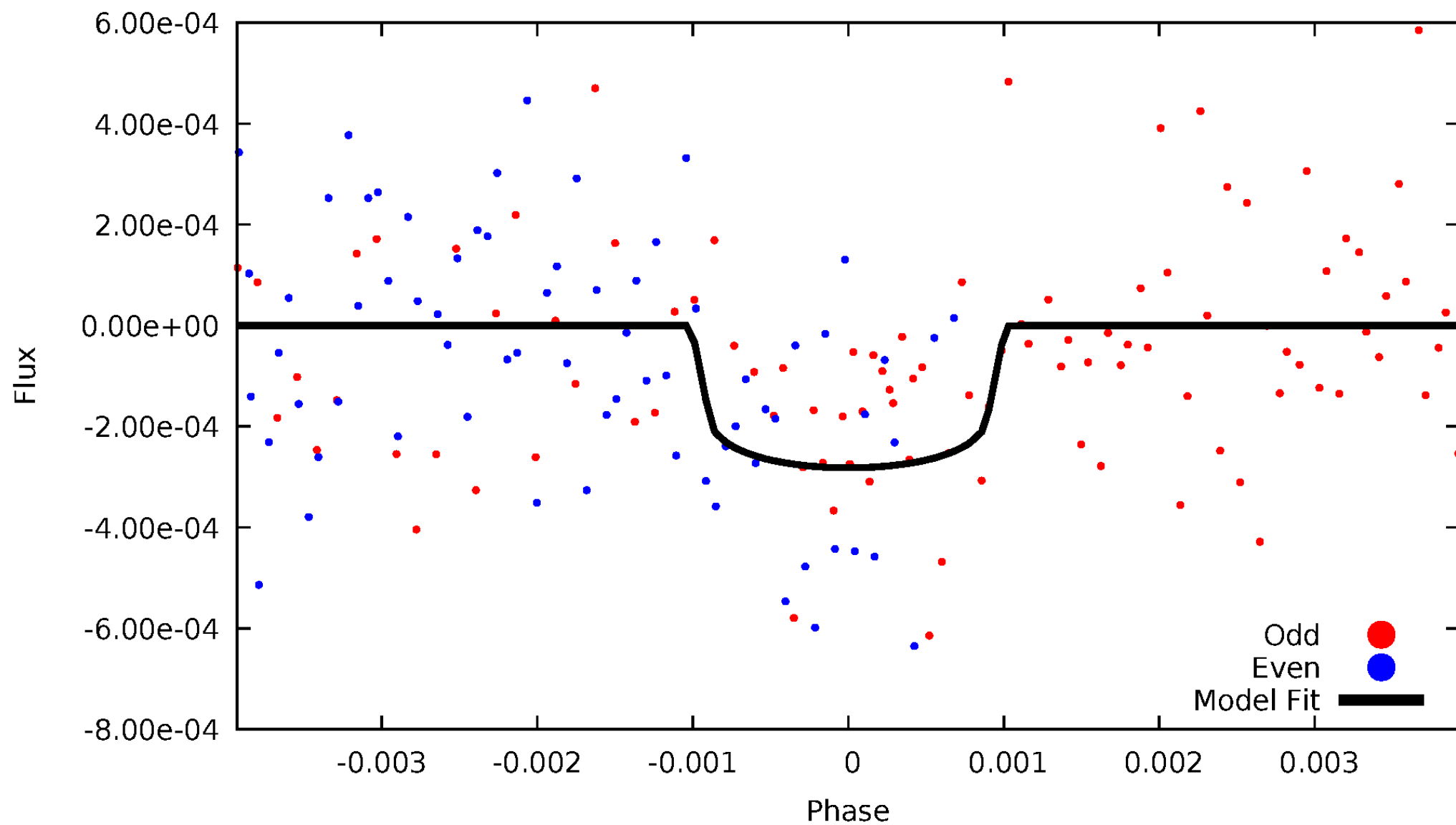


TCE 005556241-03



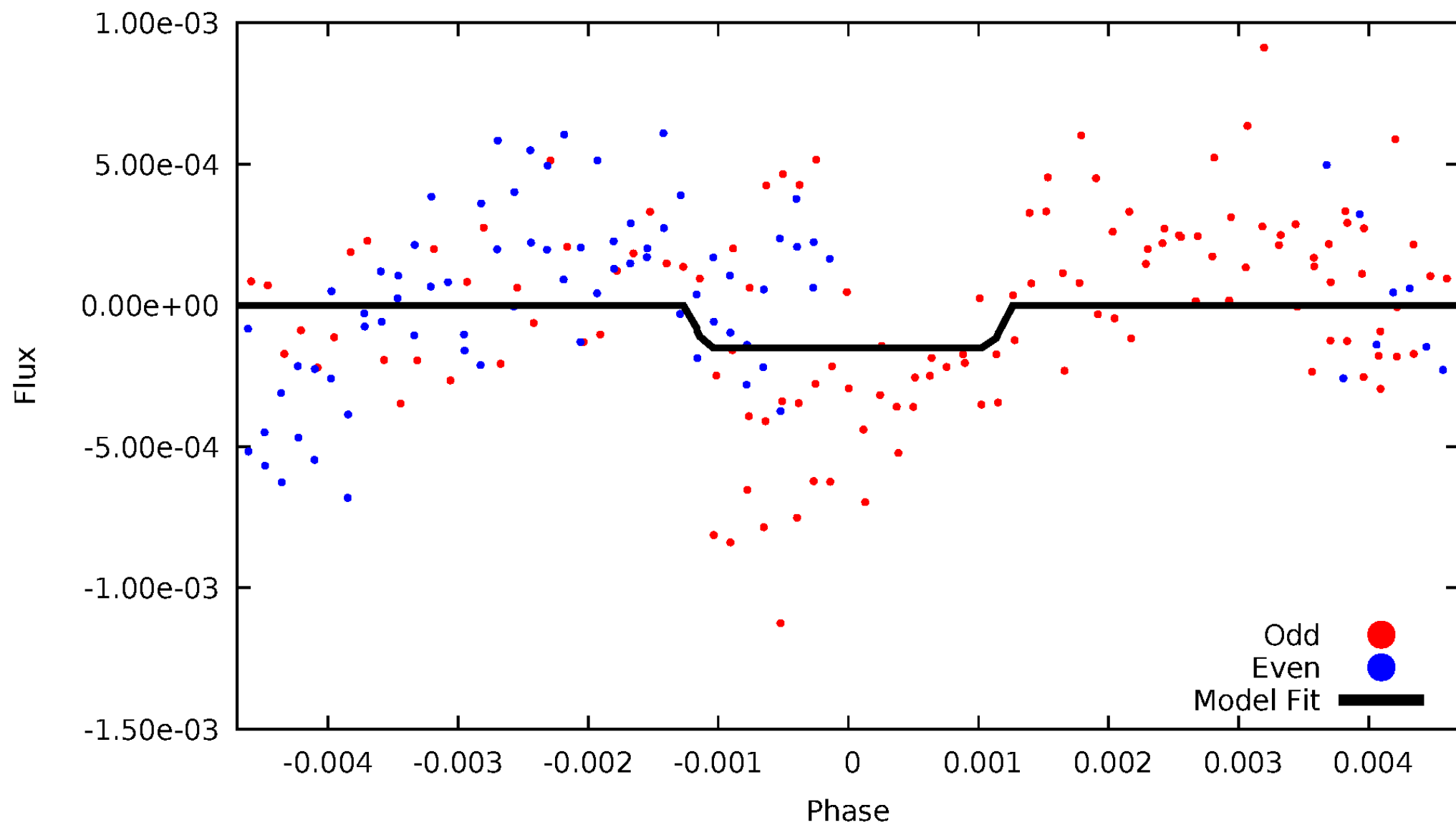
DV Odd/Even

TCE 005556241-03



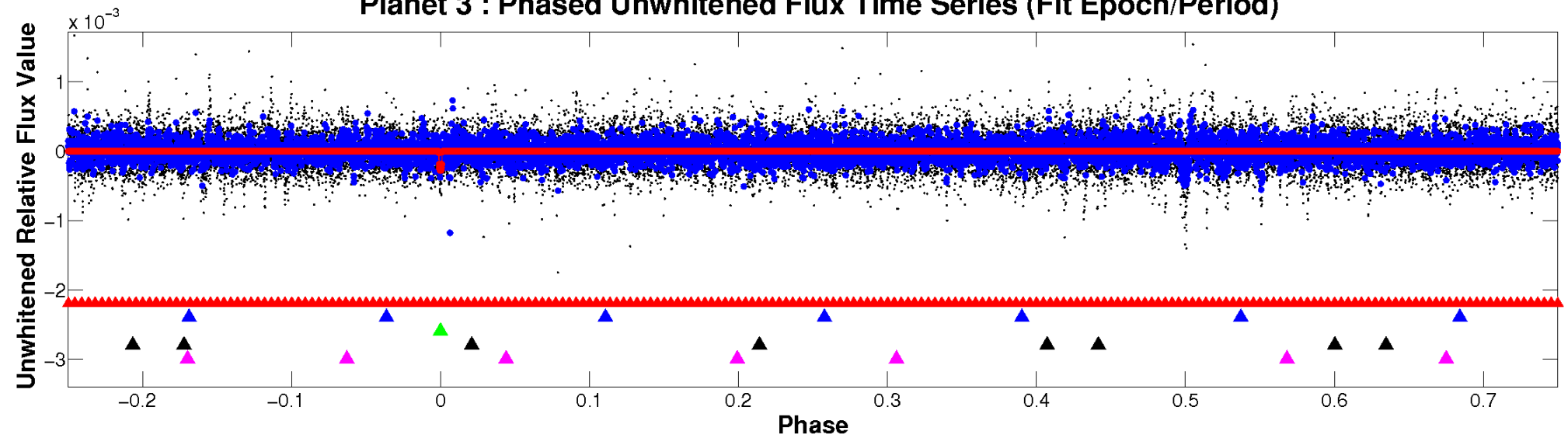
ALT Odd/Even

TCE 005556241-03

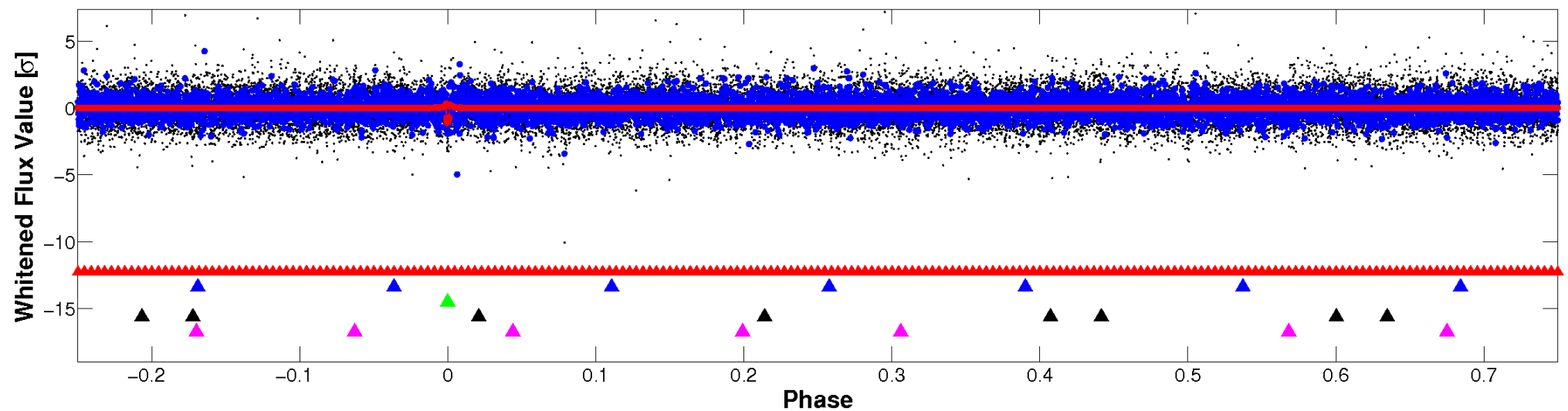


Non-Whitened Vs. Whitened Light Curve

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

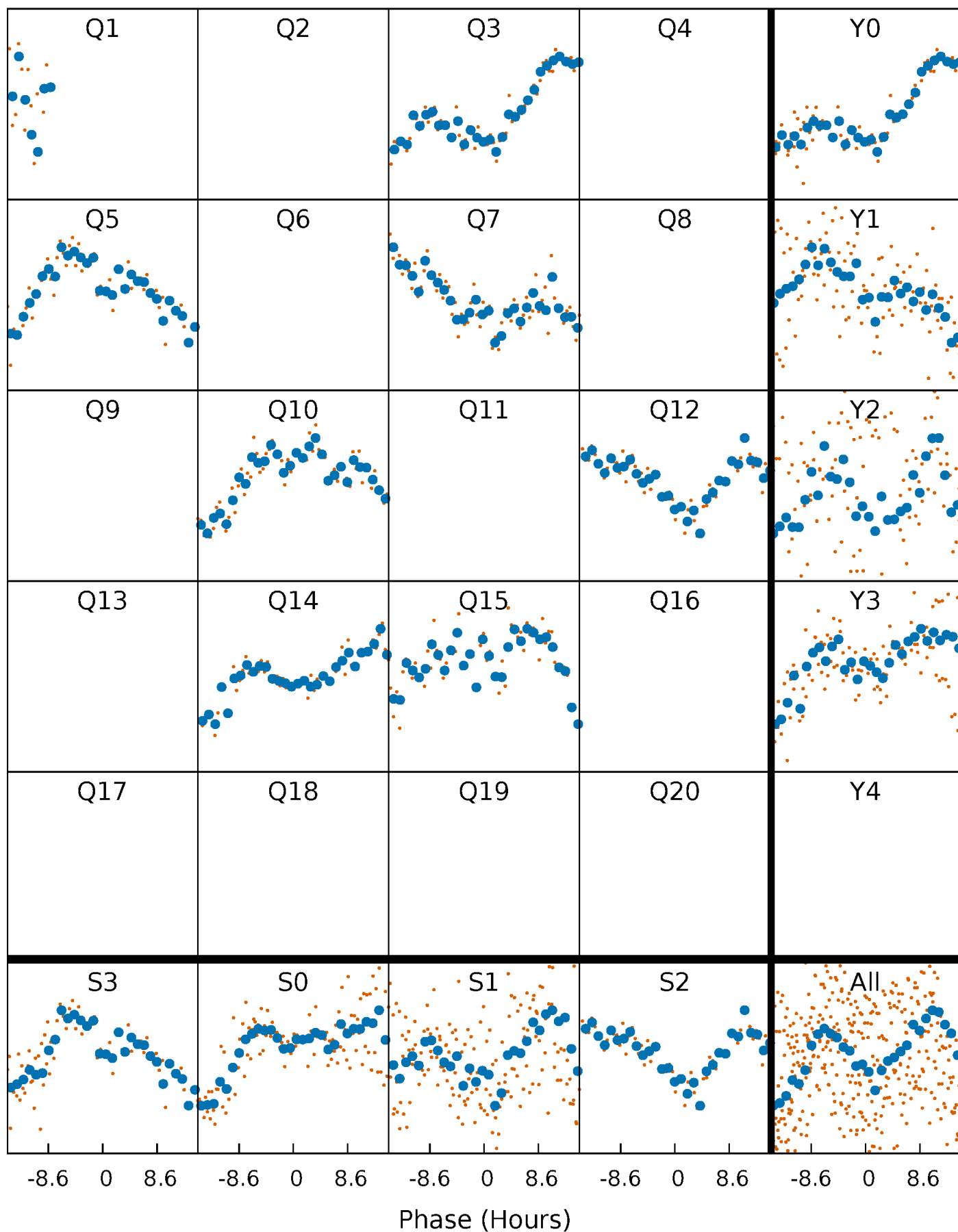


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



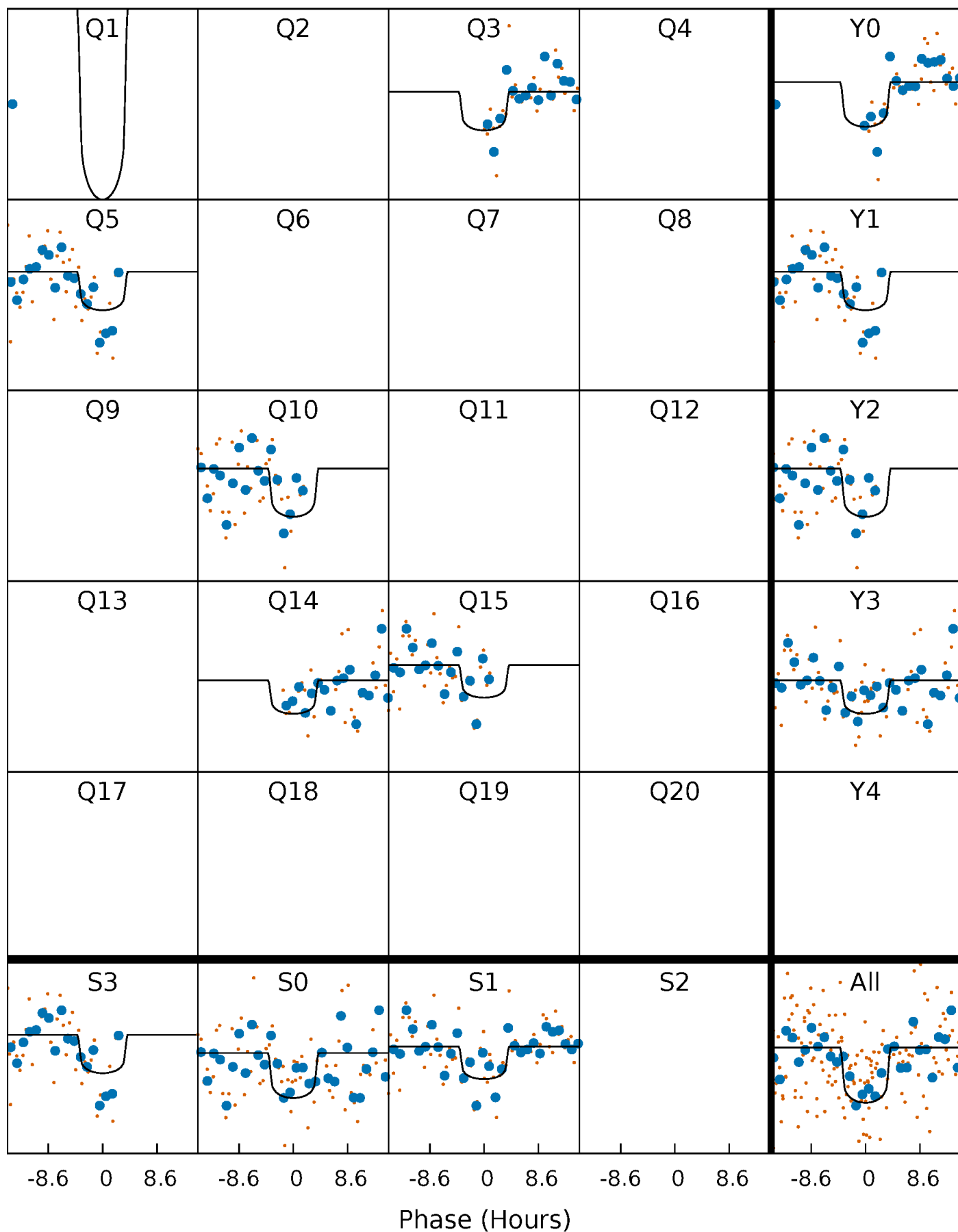
PDC Quarter-Phased Transit Curves

TCE 005556241-03 P=159.928606 Days $T_0=165.332506$ (BKJD)



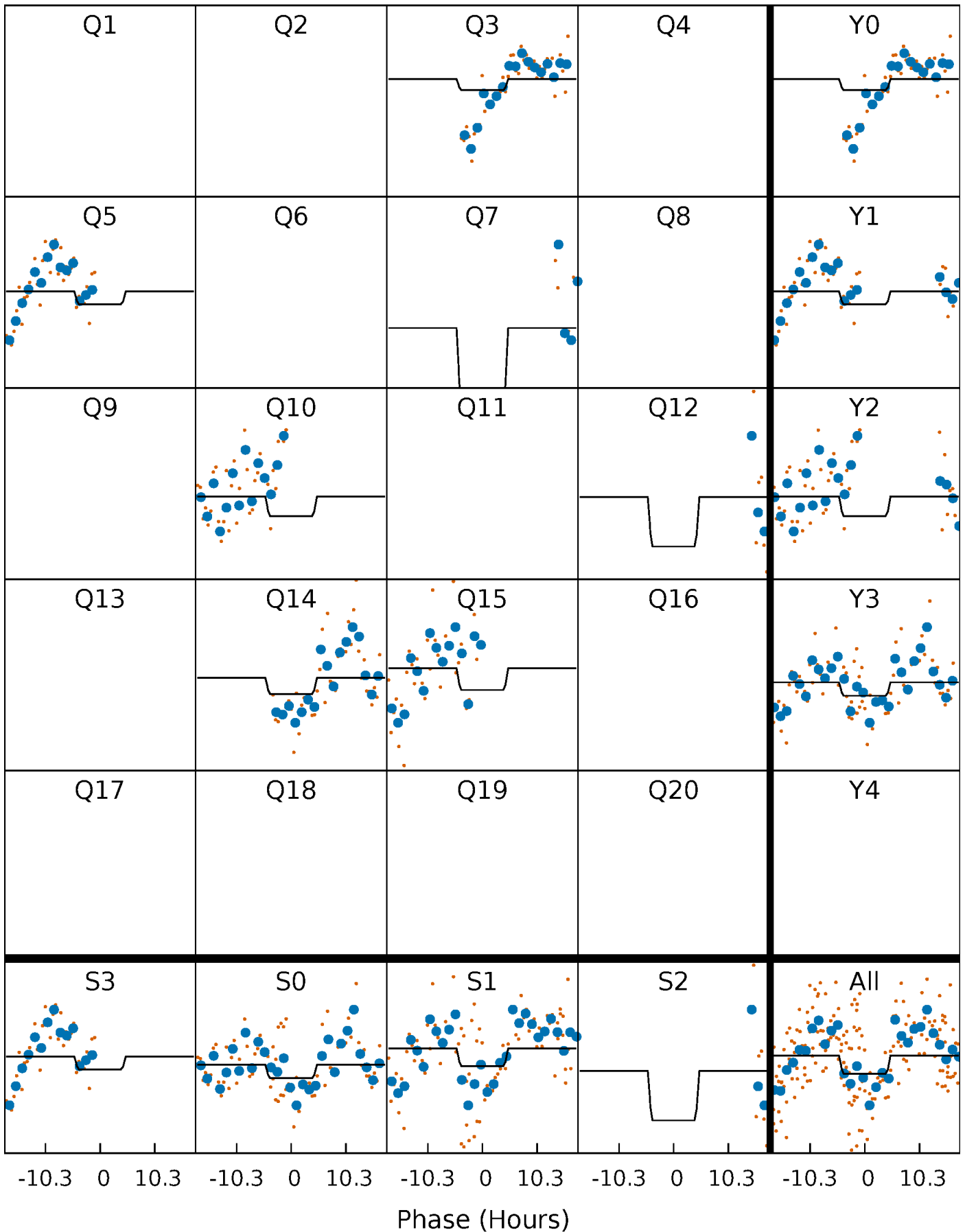
DV Quarter-Phased Transit Curves

TCE 005556241-03 P=159.928606 Days $T_0=165.332506$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

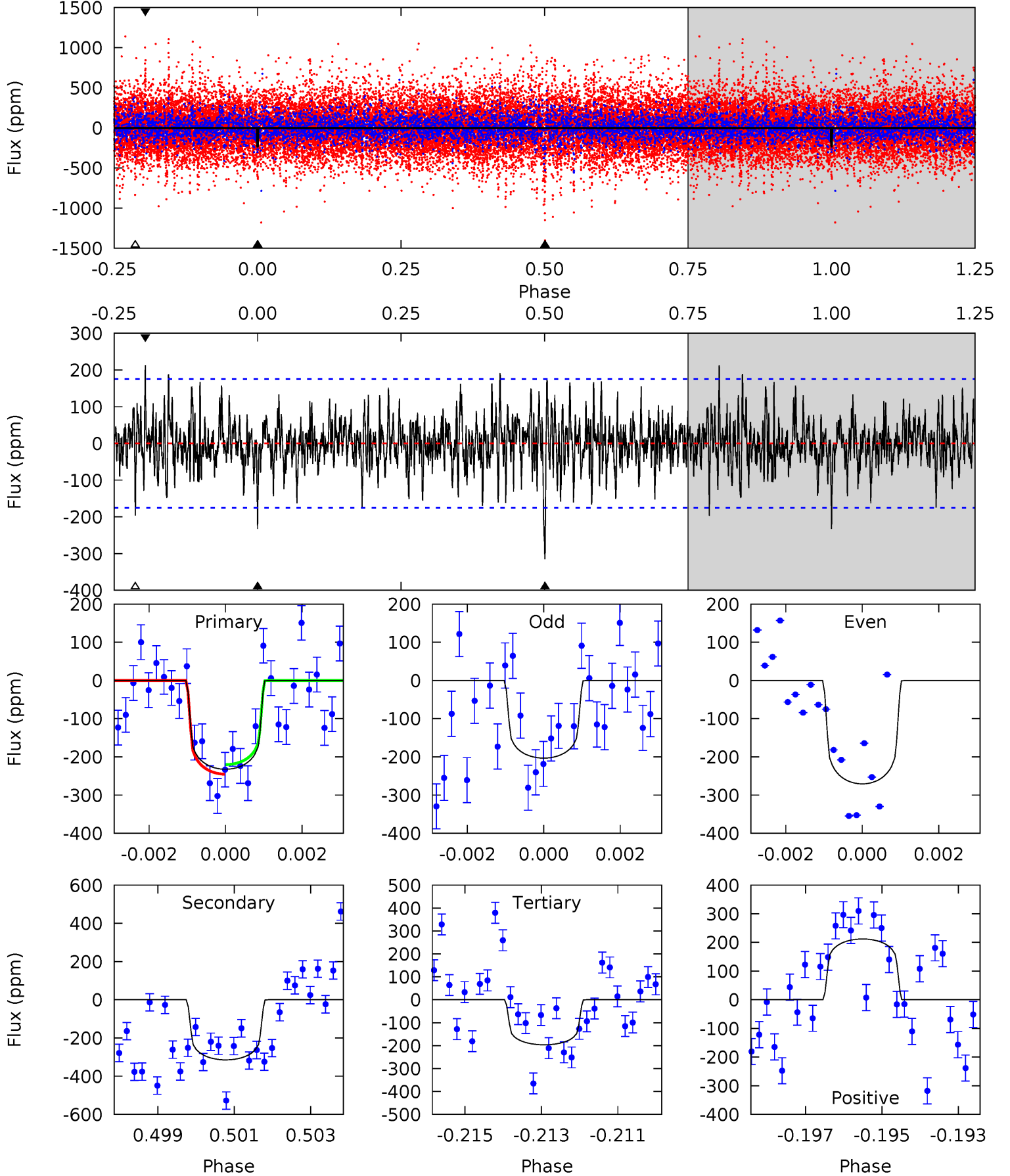
TCE 005556241-03 P=159.913416 Days $T_0=165.514497$ (BKJD)



DV Model-Shift Uniqueness Test

005556241-03, P = 159.928606 Days, E = 5.403900 Days

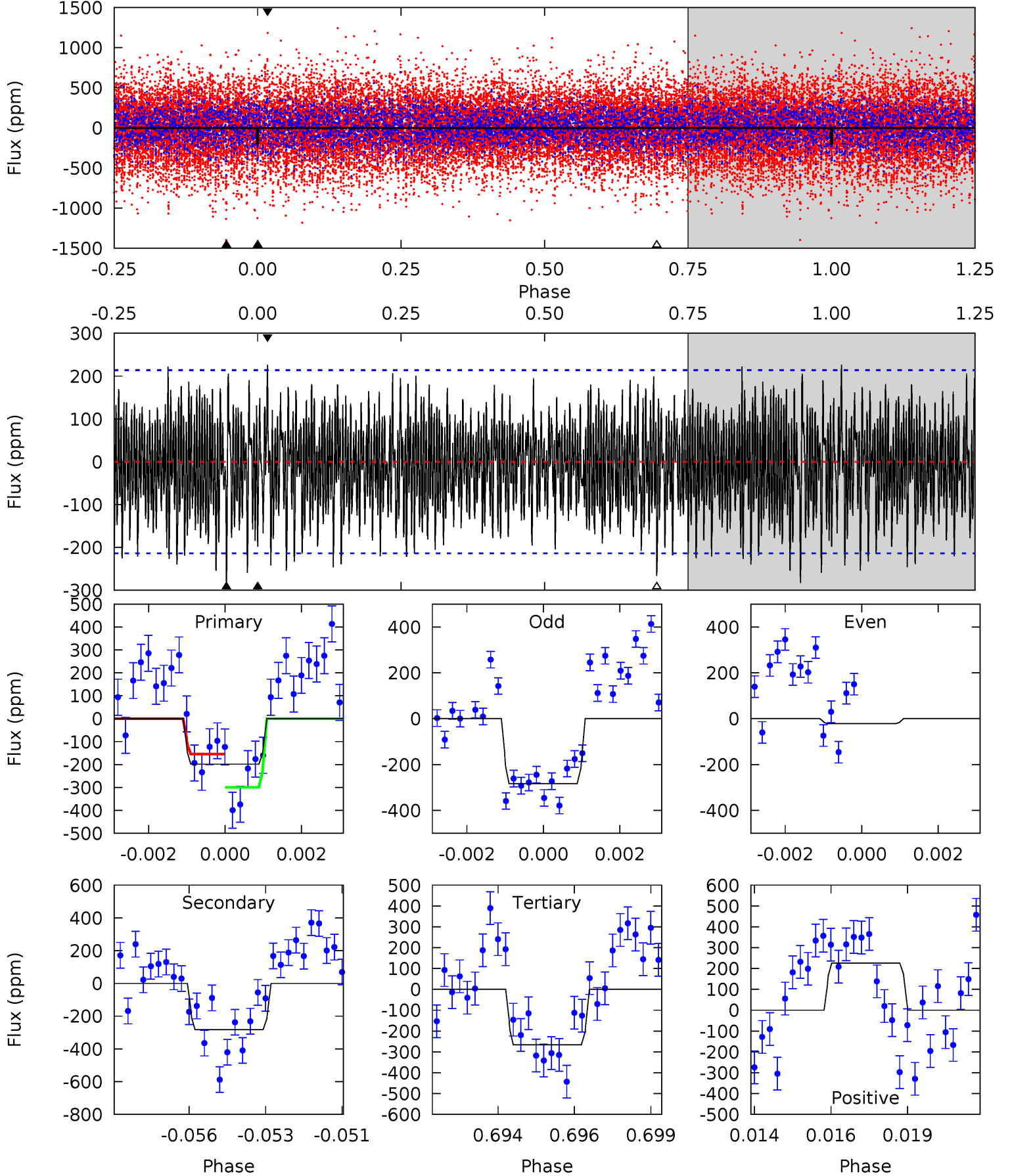
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.04	9.54	5.95	6.43	5.33	3.09	1.73	1.09	0.62	3.59	3.11	1.03	1.14	0.40	0.38



Alt Model-Shift Uniqueness Test

005556241-03, P = 159.913416 Days, E = 5.601081 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.92	7.00	6.60	5.60	5.30	3.05	2.32	-1.68	-0.68	0.41	1.40	2.82	2.56	0.44	1.66



Stellar Parameters For KIC 005556241

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6703^{+159}_{-239}	$4.390^{+0.065}_{-0.208}$	$-0.340^{+0.250}_{-0.300}$	$1.136^{+0.368}_{-0.123}$	$1.158^{+0.165}_{-0.148}$	$1.114^{+0.311}_{-0.580}$
	+2%/-4%	+1%/-5%	+74%/-88%	+32%/-11%	+14%/-13%	+28%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005556241-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-315 ± 33	$3.10^{+2.60}_{-1.93}$	575^{+39}_{-30}	5733^{+4426}_{-1264}	6348^{+40549}_{-4397}
Alt.	-283 ± 40	$2.64^{+2.56}_{-1.74}$	575^{+43}_{-29}	6030^{+5673}_{-1507}	8136^{+58668}_{-6081}

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 $A_{obs} \gg 1.0$

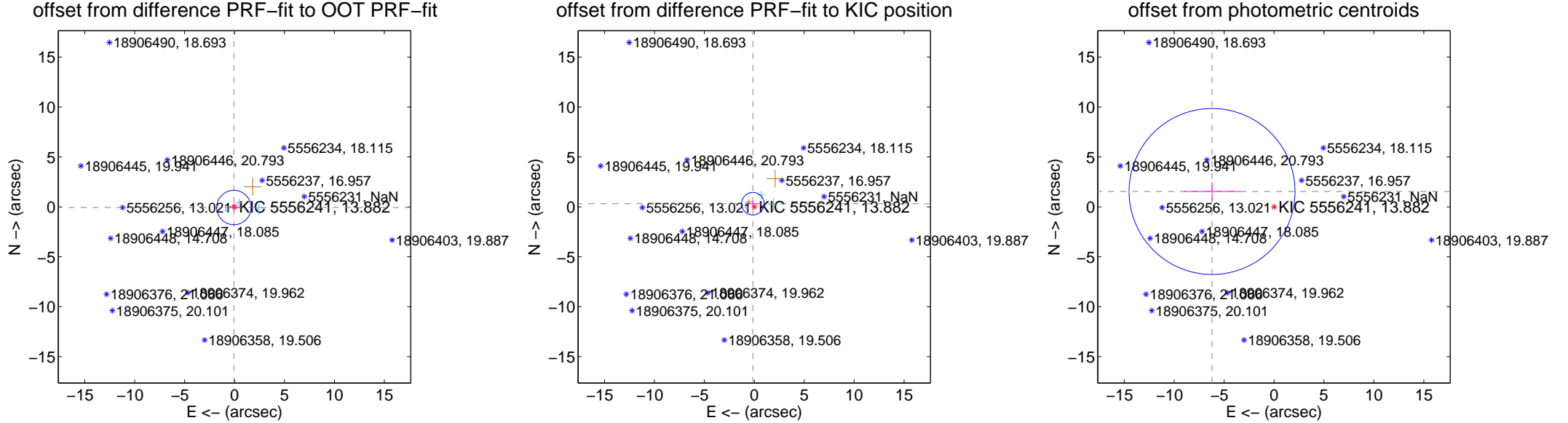
DV Centroid Data

Supplemental centroid analysis for 005556241-03. Kepler magnitude: 13.88. Transit SNR 7.36

There are 3 quarters with good PRF difference image offsets

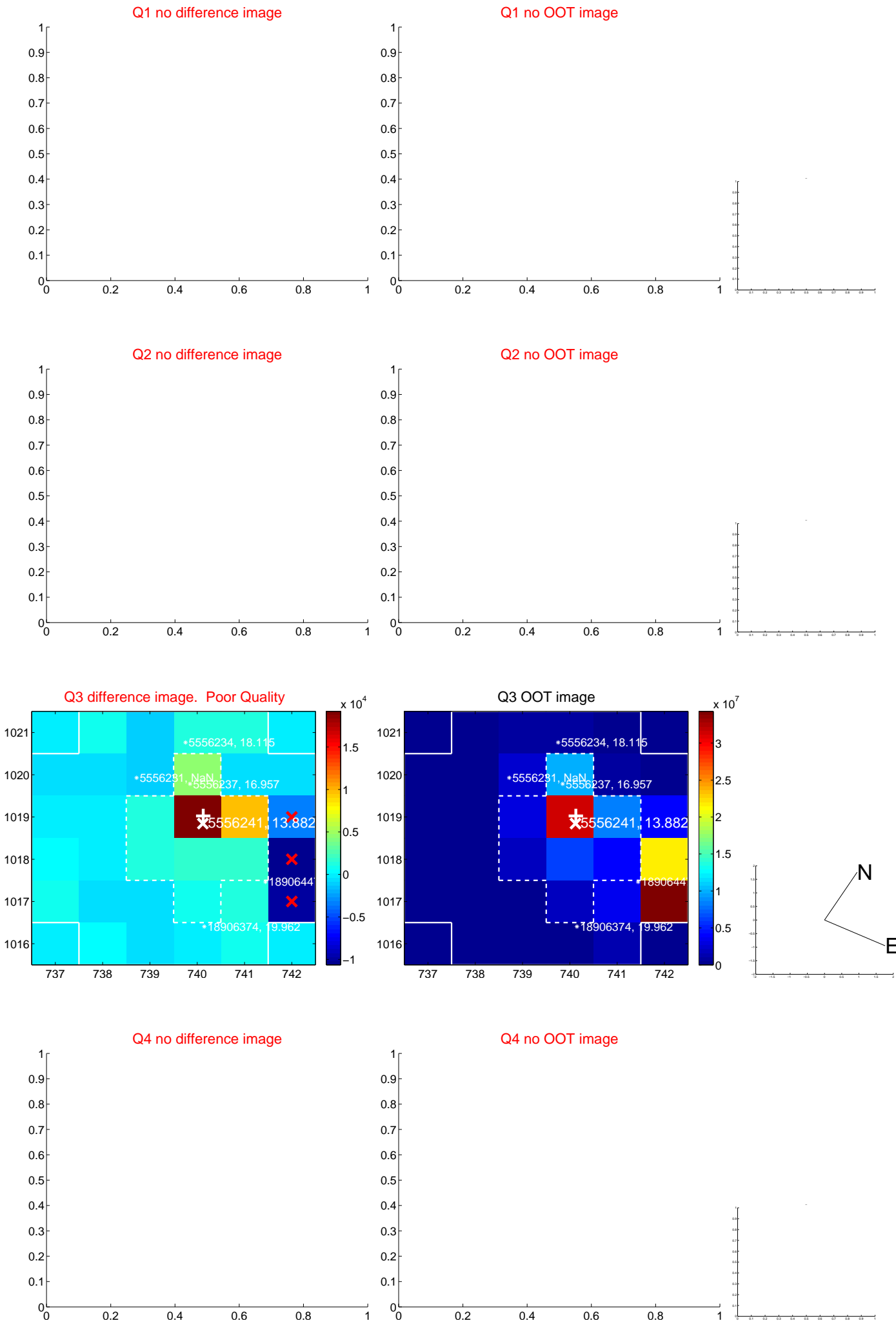
The direct PRF centroid is offset from the target star catalog position by about 0.86 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.097 ± 0.574	0.17	0.071 ± 0.611	-0.066 ± 0.346
PRF-fit source offset from KIC position	0.345 ± 0.376	0.92	0.143 ± 0.552	0.314 ± 0.328
photometric centroid source offset	6.39 ± 2.77	2.31	6.20 ± 2.84	1.54 ± 0.94

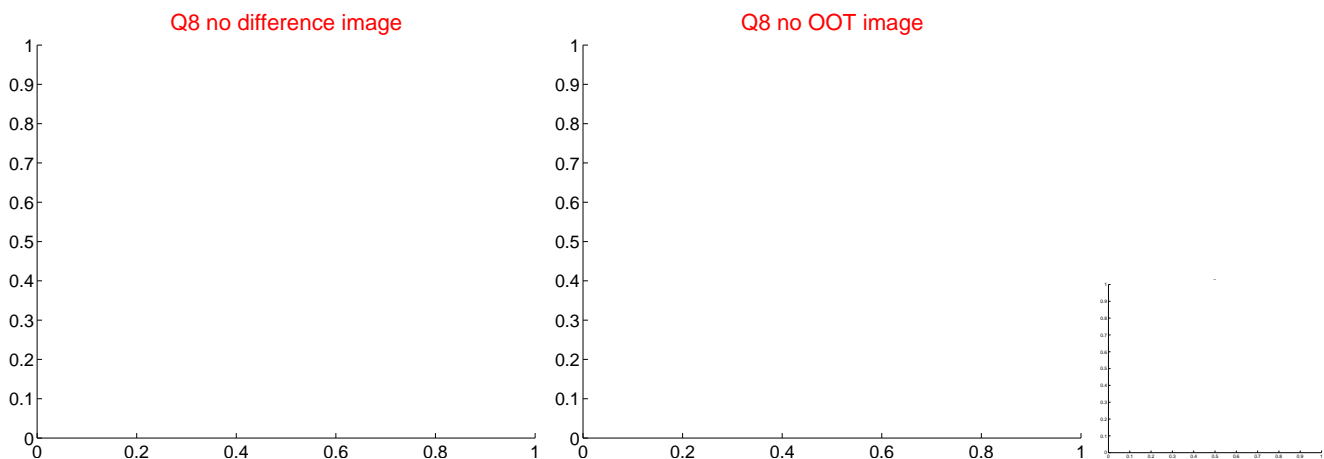
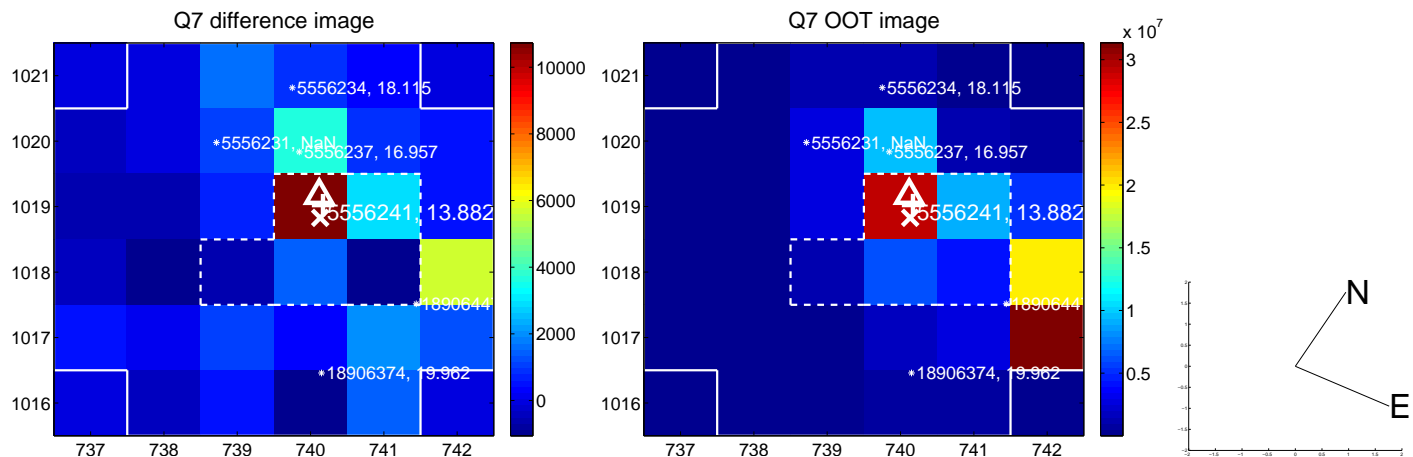
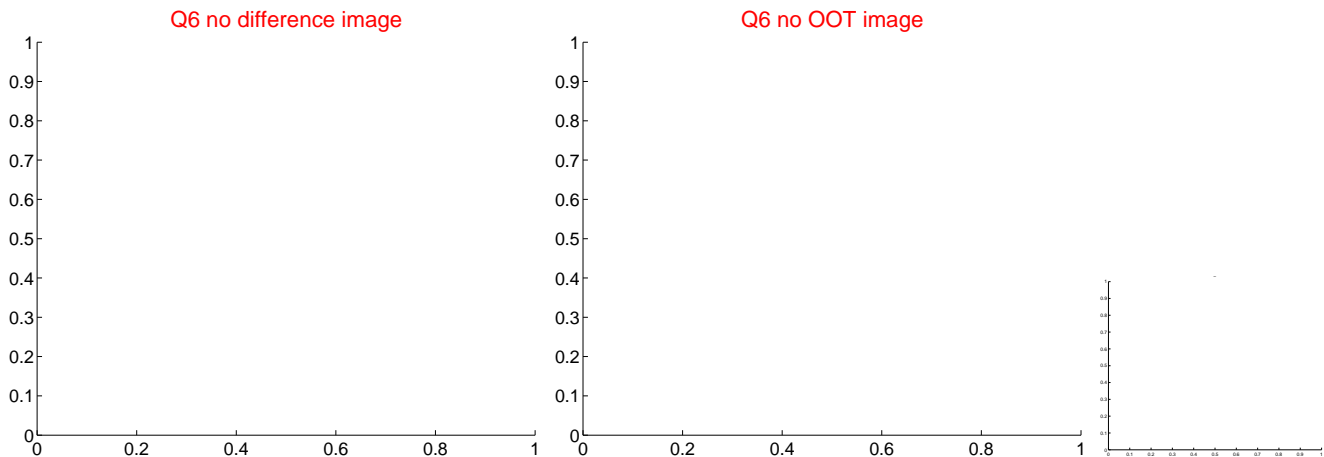
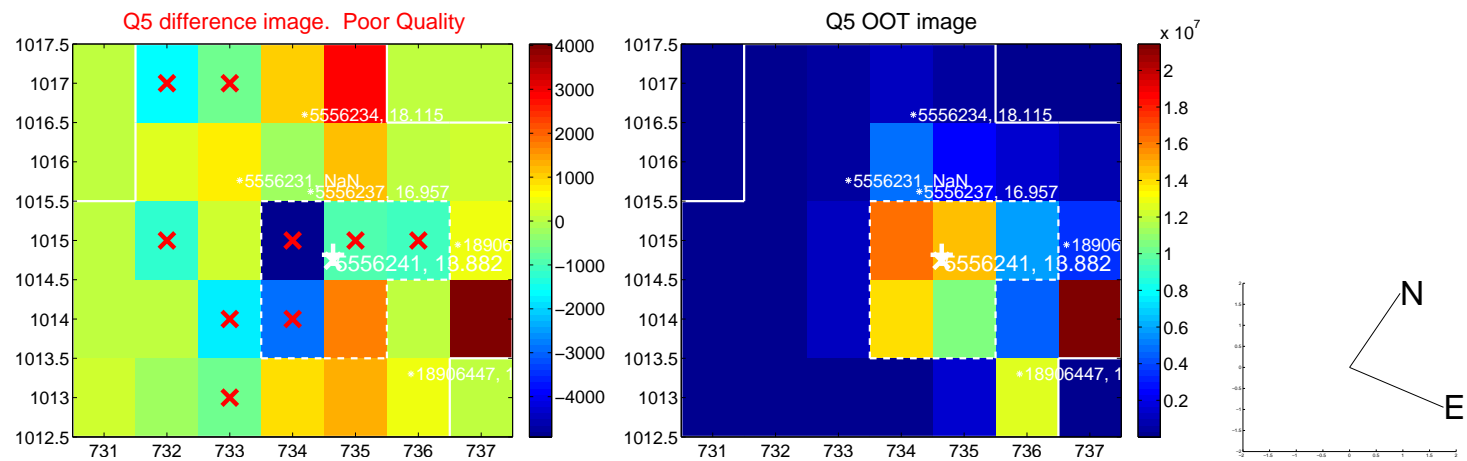


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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



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



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

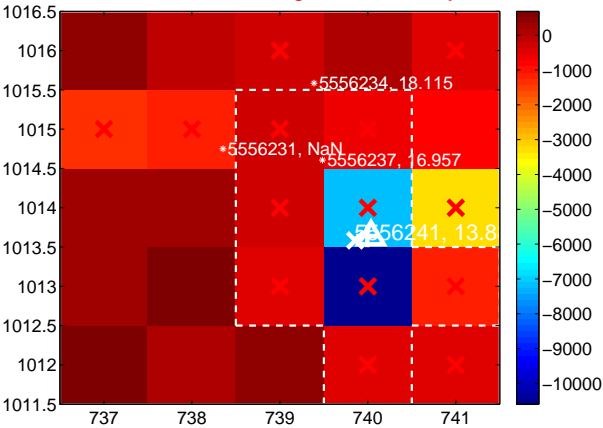
Q9 no difference image



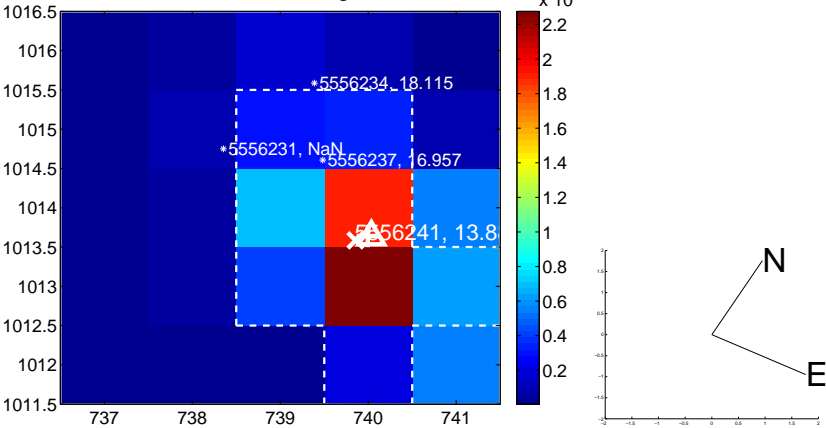
Q9 no OOT image



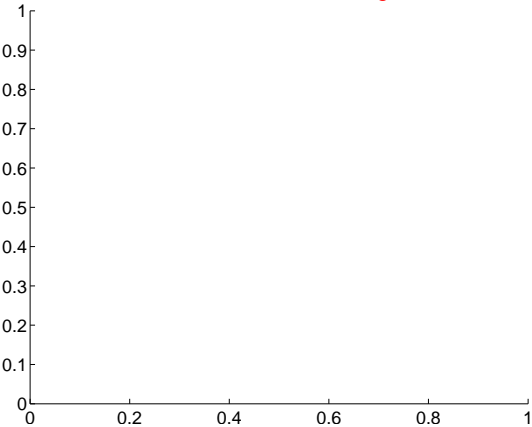
Q10 difference image. Poor Quality



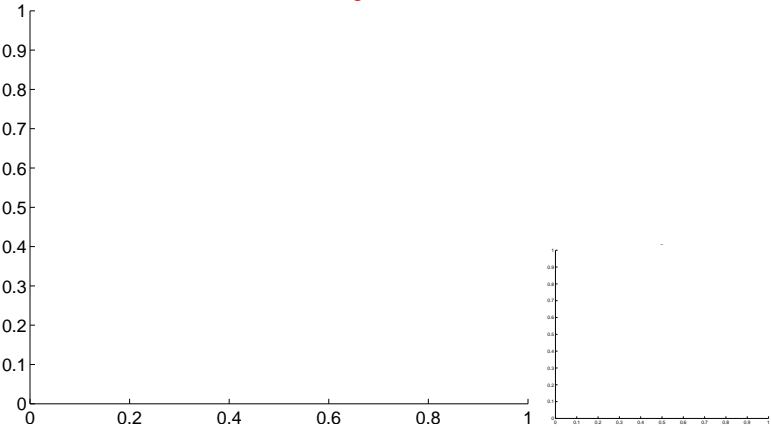
Q10 OOT image



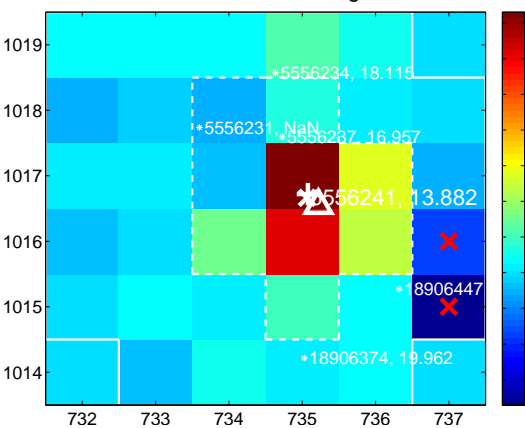
Q11 no difference image



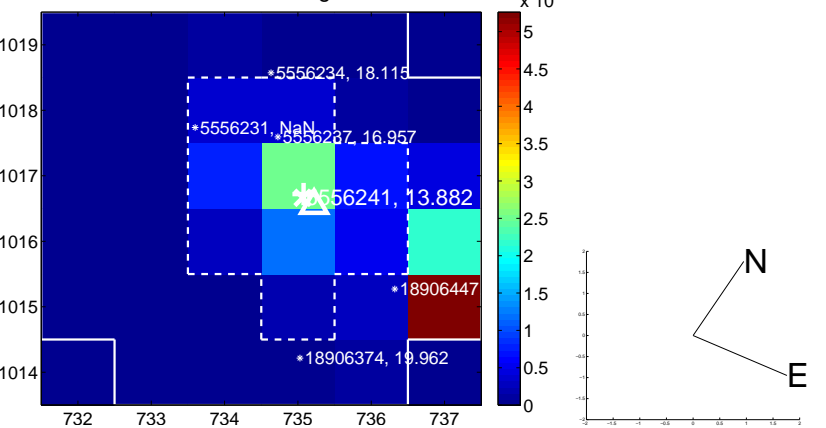
Q11 no OOT image



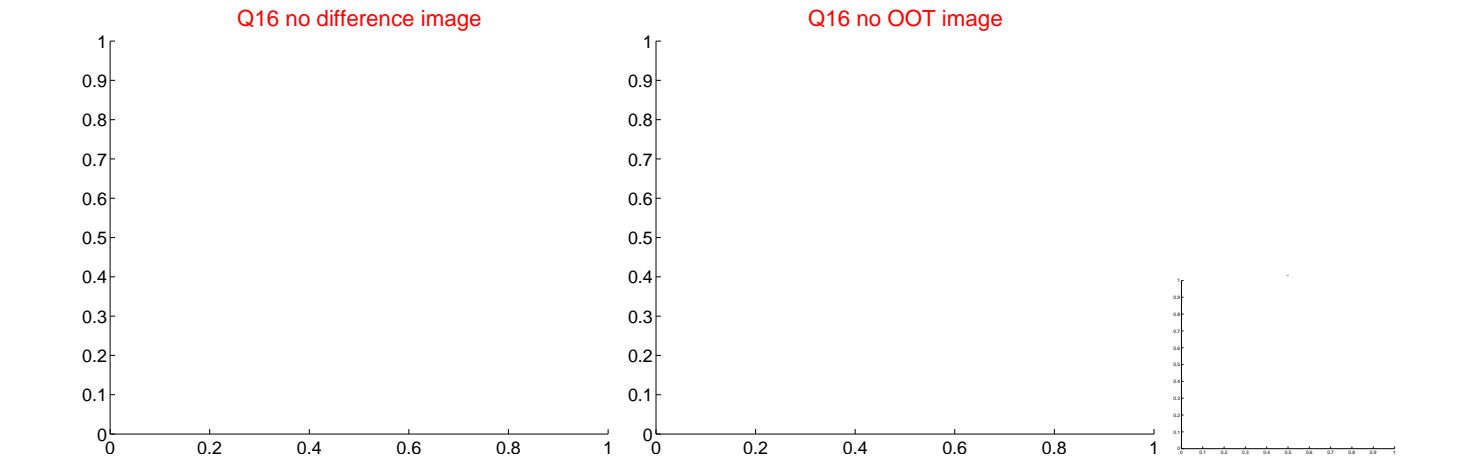
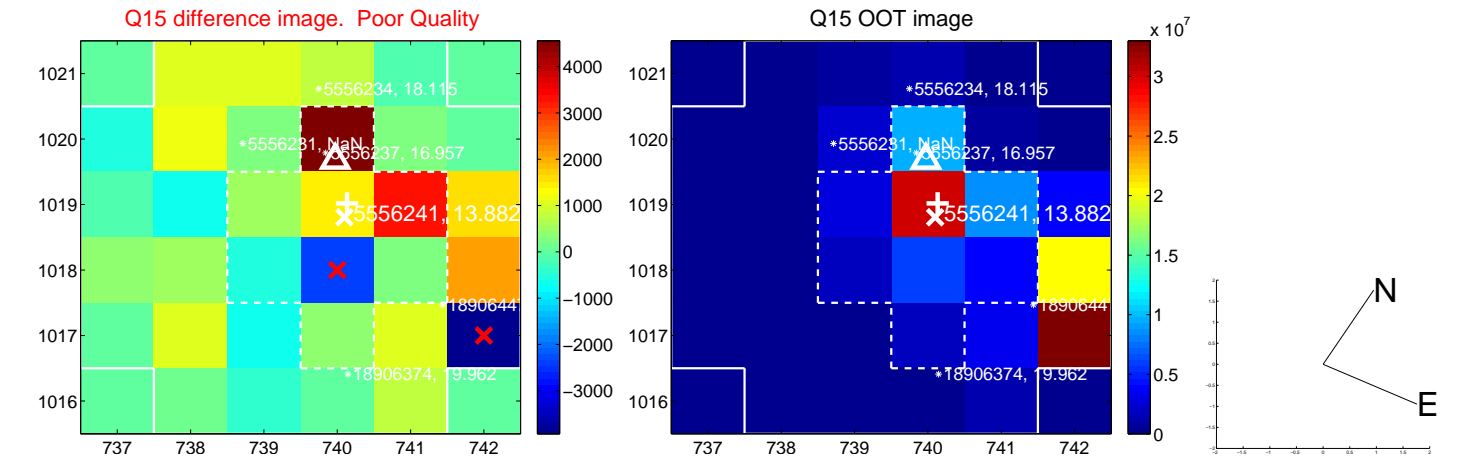
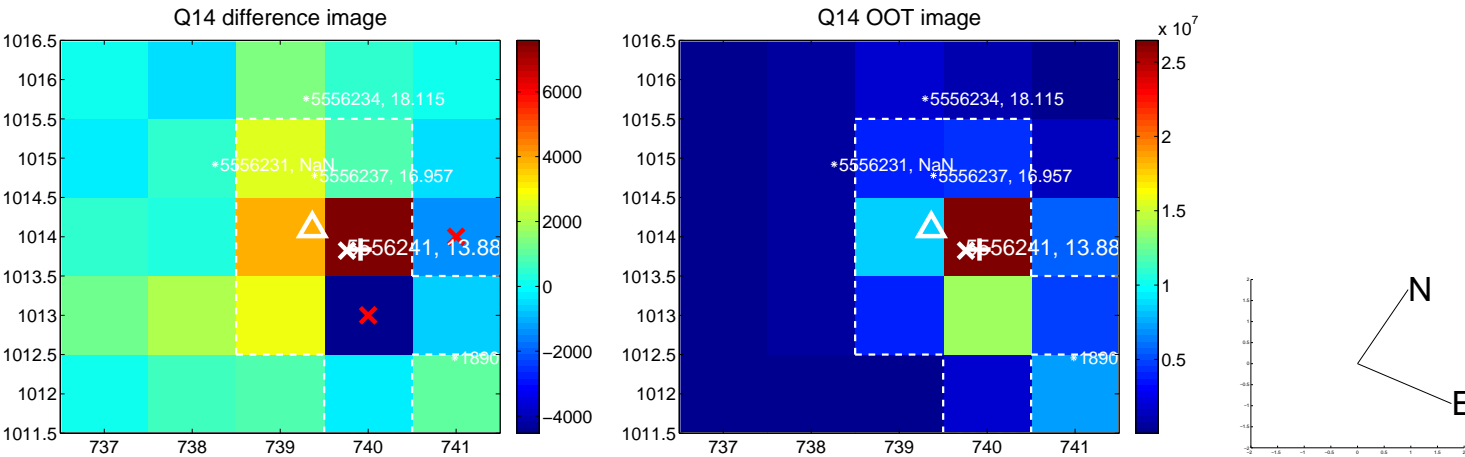
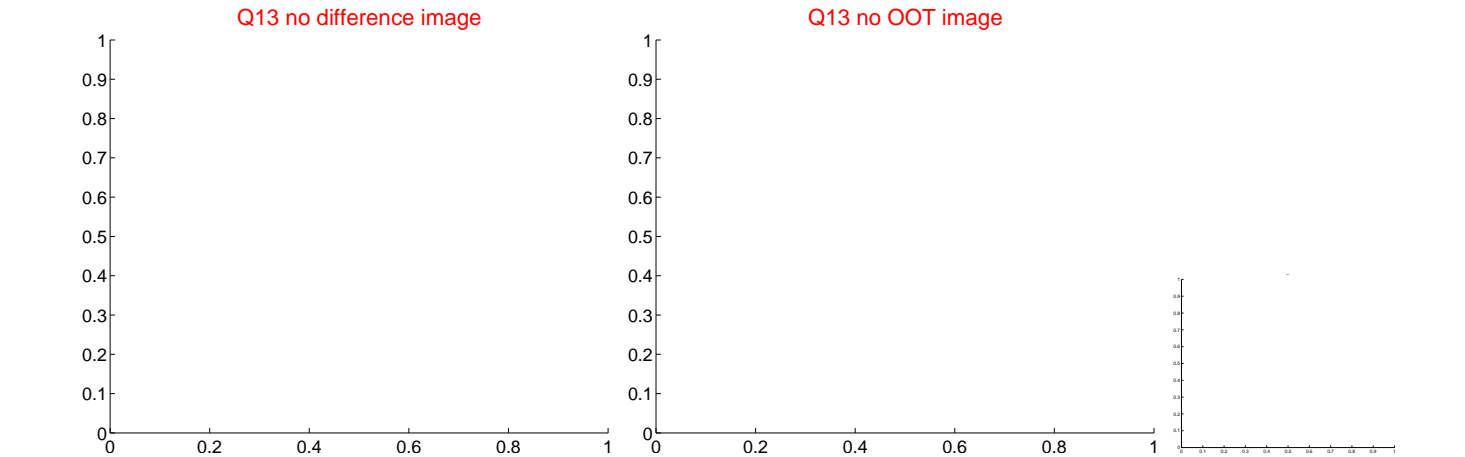
Q12 difference image



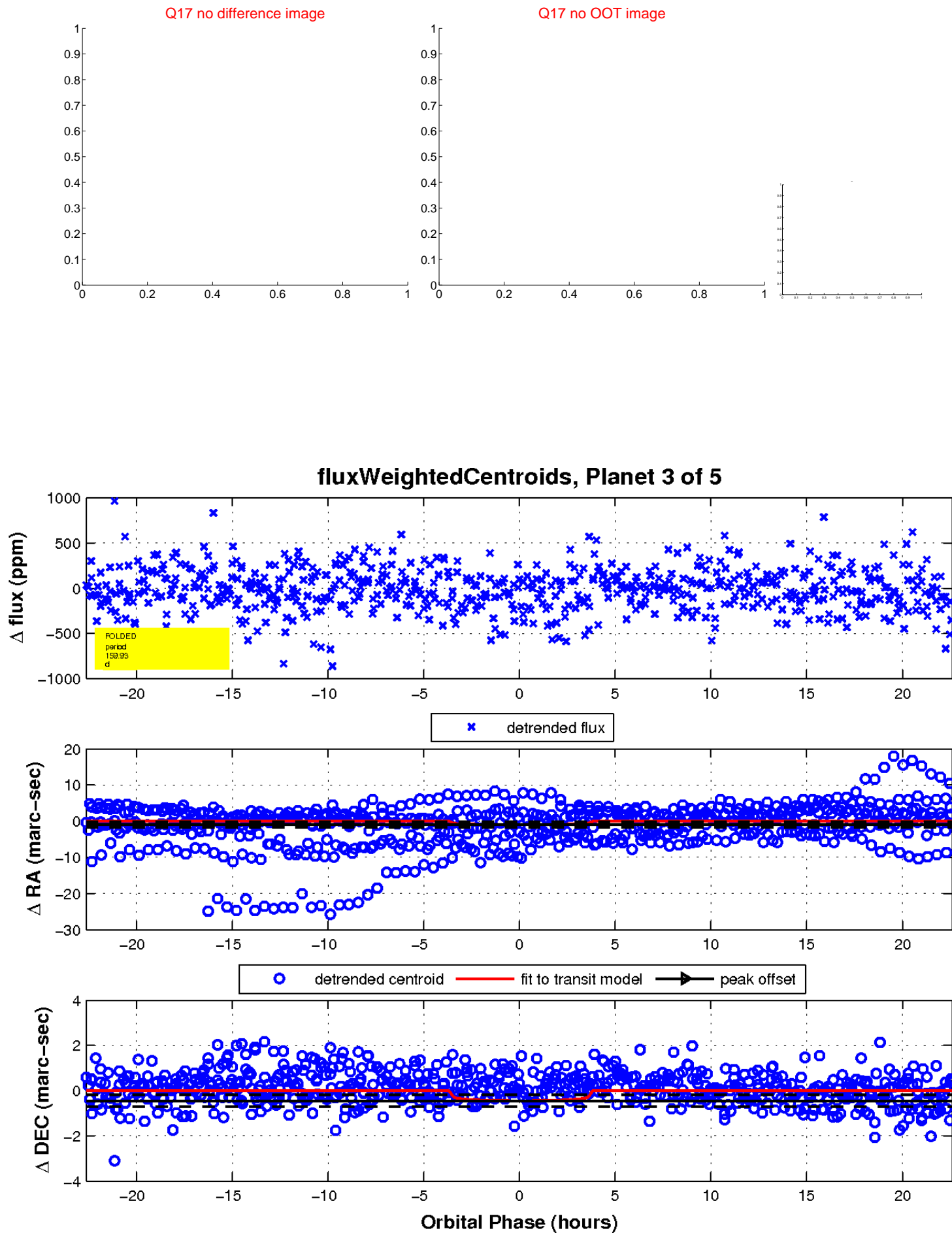
Q12 OOT image



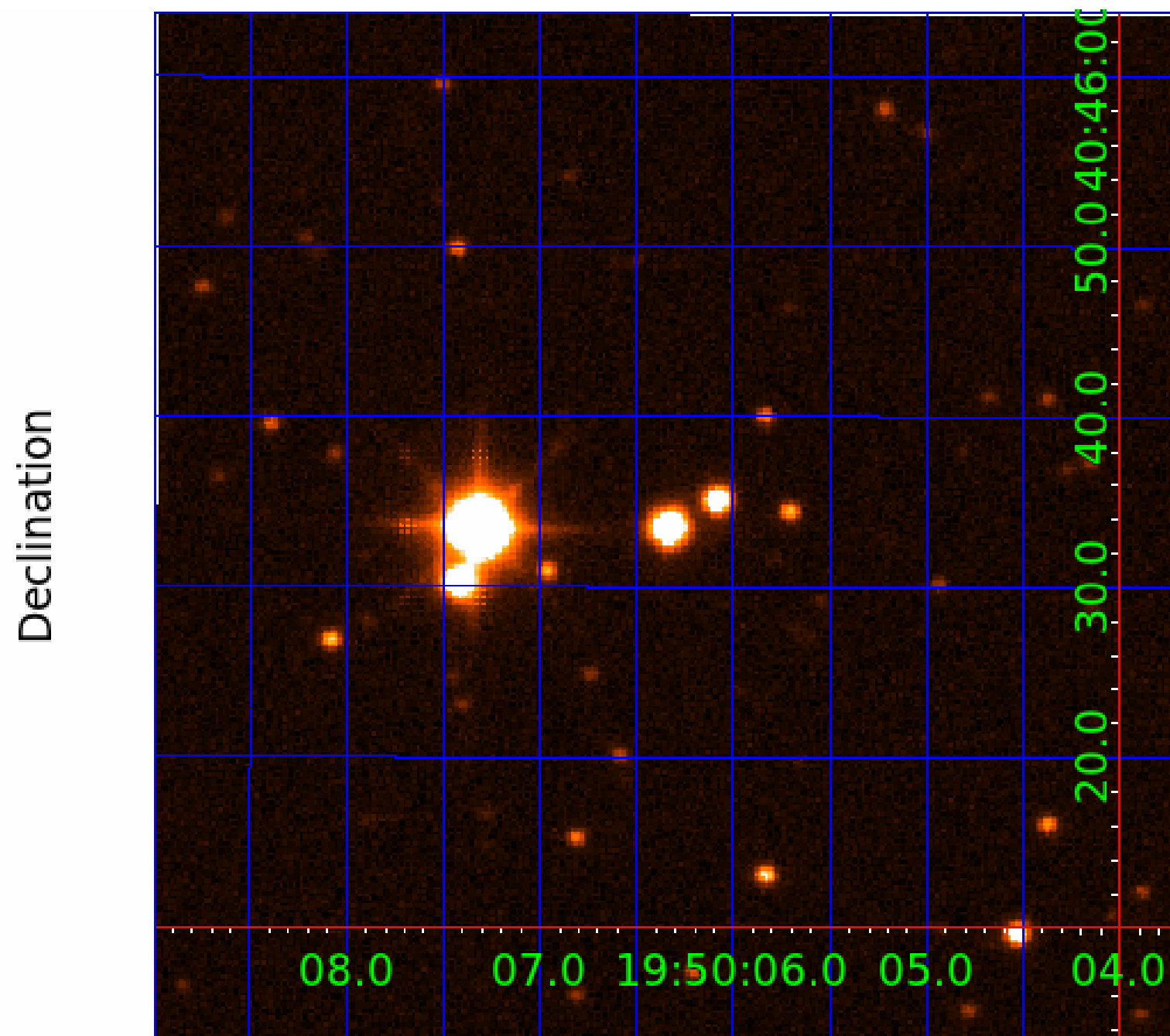
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image



KIC 005556241

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})
005556241-01	OBS	No	2.180702	132.687978	10.6	10.446	8.0	2.9	1.14	6703	0.43	1956.27
005556241-02	OBS	No	228.138748	138.341671	443.2	1.488	9.2	5.9	1.14	6703	2.57	3.97
005556241-03	OBS	No	159.928606	165.332506	282.0	7.542	9.0	7.4	1.14	6703	2.05	6.37
005556241-04	OBS	No	190.814469	235.957720	273.5	8.682	8.6	5.0	1.14	6703	2.18	5.04
005556241-05	OBS	No	218.936789	138.186906	436.6	2.911	7.8	7.3	1.14	6703	2.71	4.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005556241-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
005556241-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
005556241-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_KIC_POS—HALO_GHOST
005556241-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS—HALO_GHOST
005556241-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

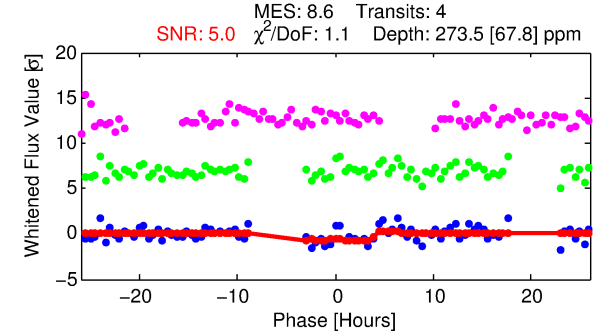
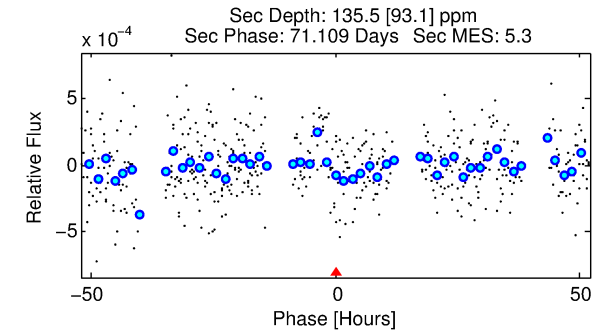
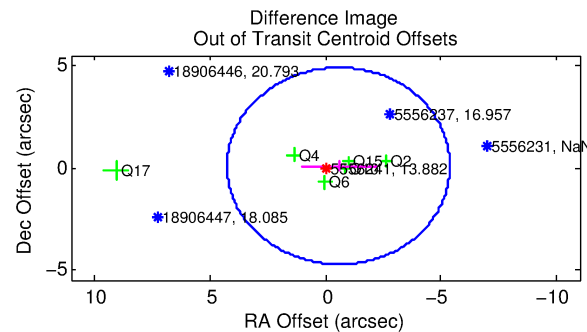
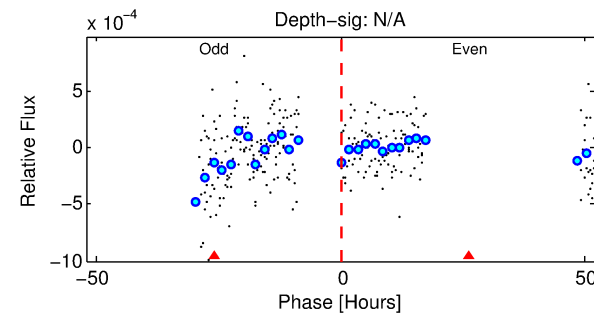
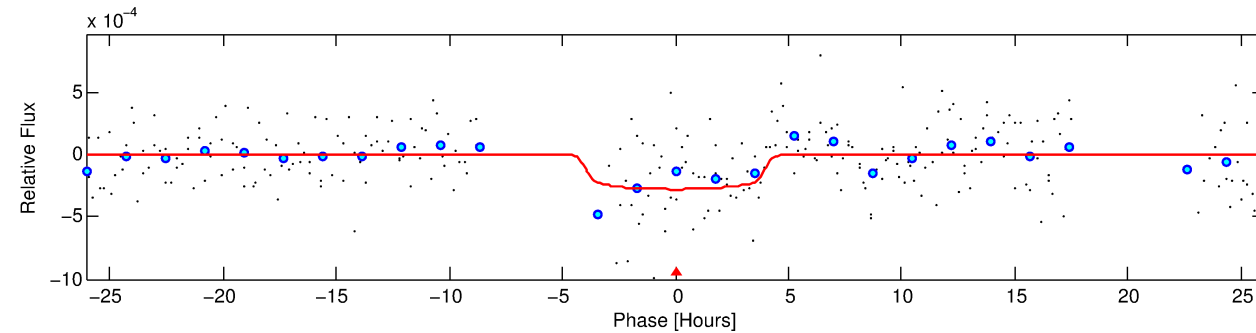
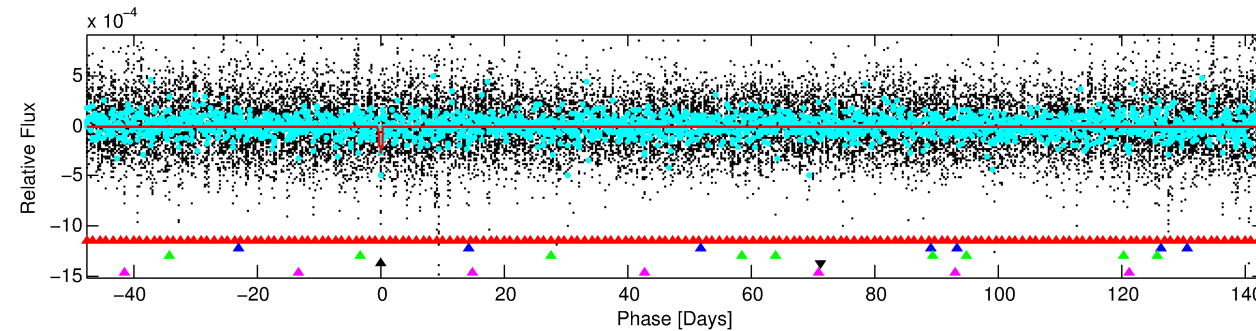
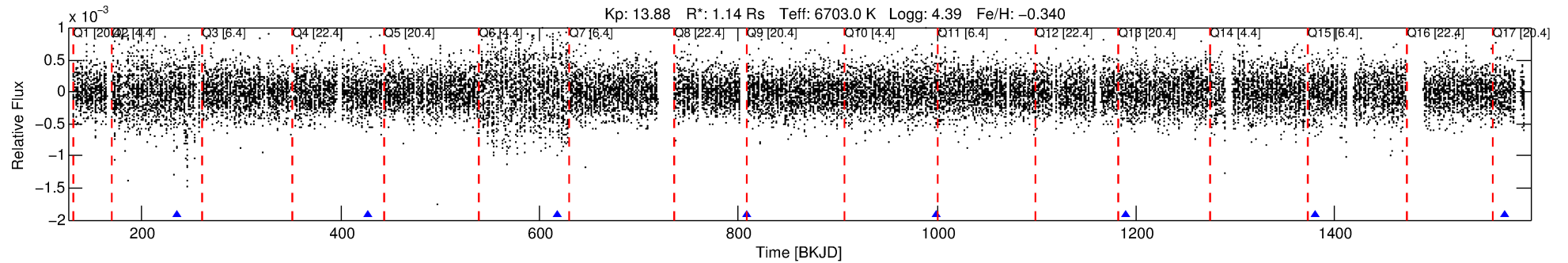
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005556241-04

No Significant Match Found

DV One-Page Summary

KIC: 5556241 Candidate: 4 of 5 Period: 190.814 d



DV Fit Results:

Period = 190.81447 [0.00669] d
Epoch = 235.9577 [0.0698] BKJD
Rp/R* = 0.0176 [0.0059]
a/R* = 81.82 [156.00]
b = 0.89 [0.38]
Seff = 5.04 [2.07]
Teq = 382 [39] K
Rp = 2.18 [1.01] Re
a = 0.6808 [0.1828] AU
Ag = 7298.33 [7544.01] [0.97σ]
Teffp = 5459 [1323] K [3.83σ]

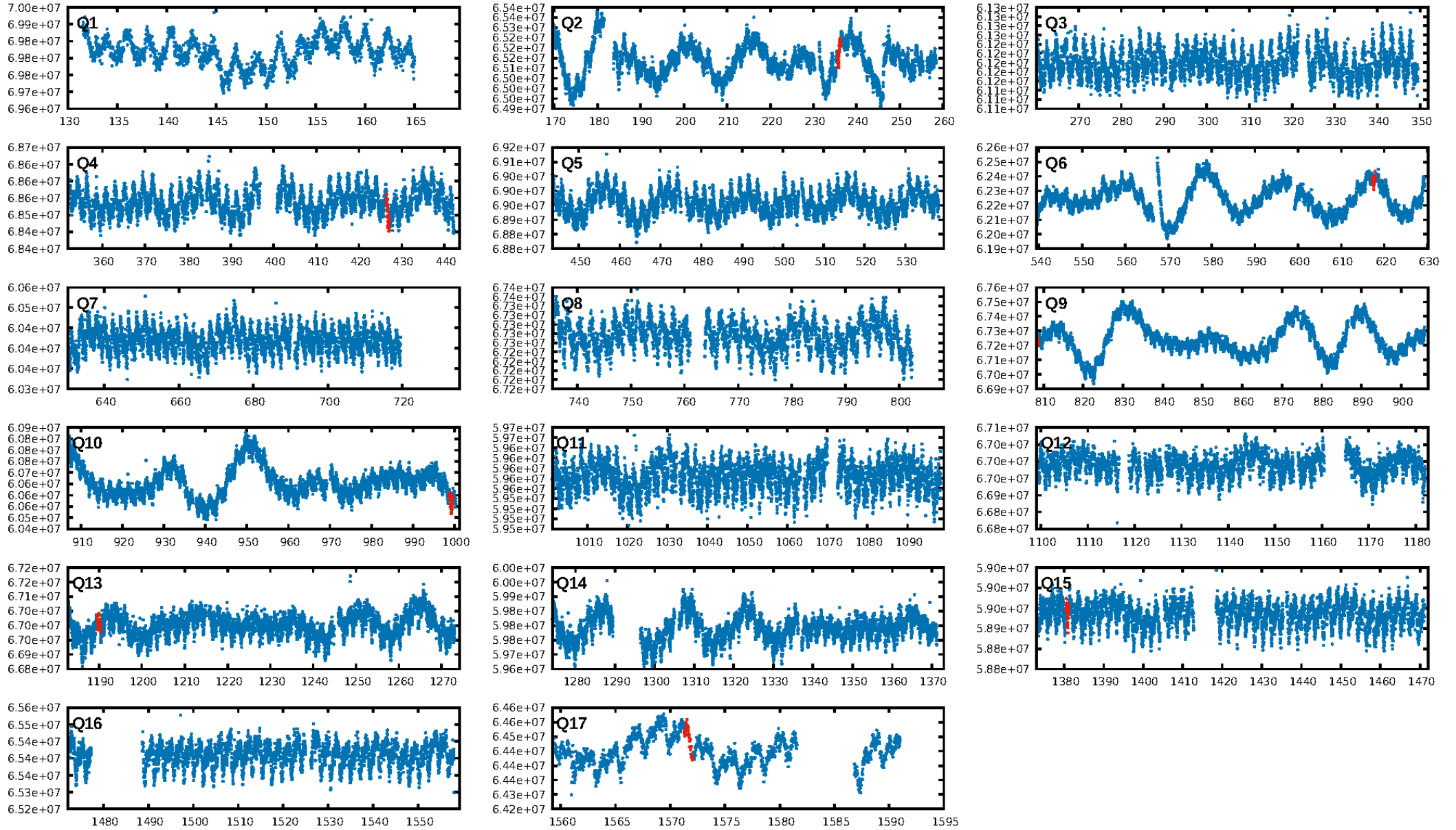
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [64.46σ]
LongPeriod-sig: 100.0% [73.71σ]
ModelChiSquare2-sig: 80.1%
ModelChiSquareGof-sig: 99.1%
Bootstrap-pfa: 1.77e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.06595
Centroid-sig: 27.7%
Centroid-so: 0.311 arcsec [0.15σ]
OotOffset-rm: 0.577 arcsec [0.36σ]
KicOffset-rm: 0.738 arcsec [0.91σ]
OotOffset-st: 3/1/1/1 [6]
KicOffset-st: 3/1/1/1 [6]
DiffImageQuality-fgm: 0.83 [5/6]
DiffImageOverlap-fno: 0.00 [0/7]

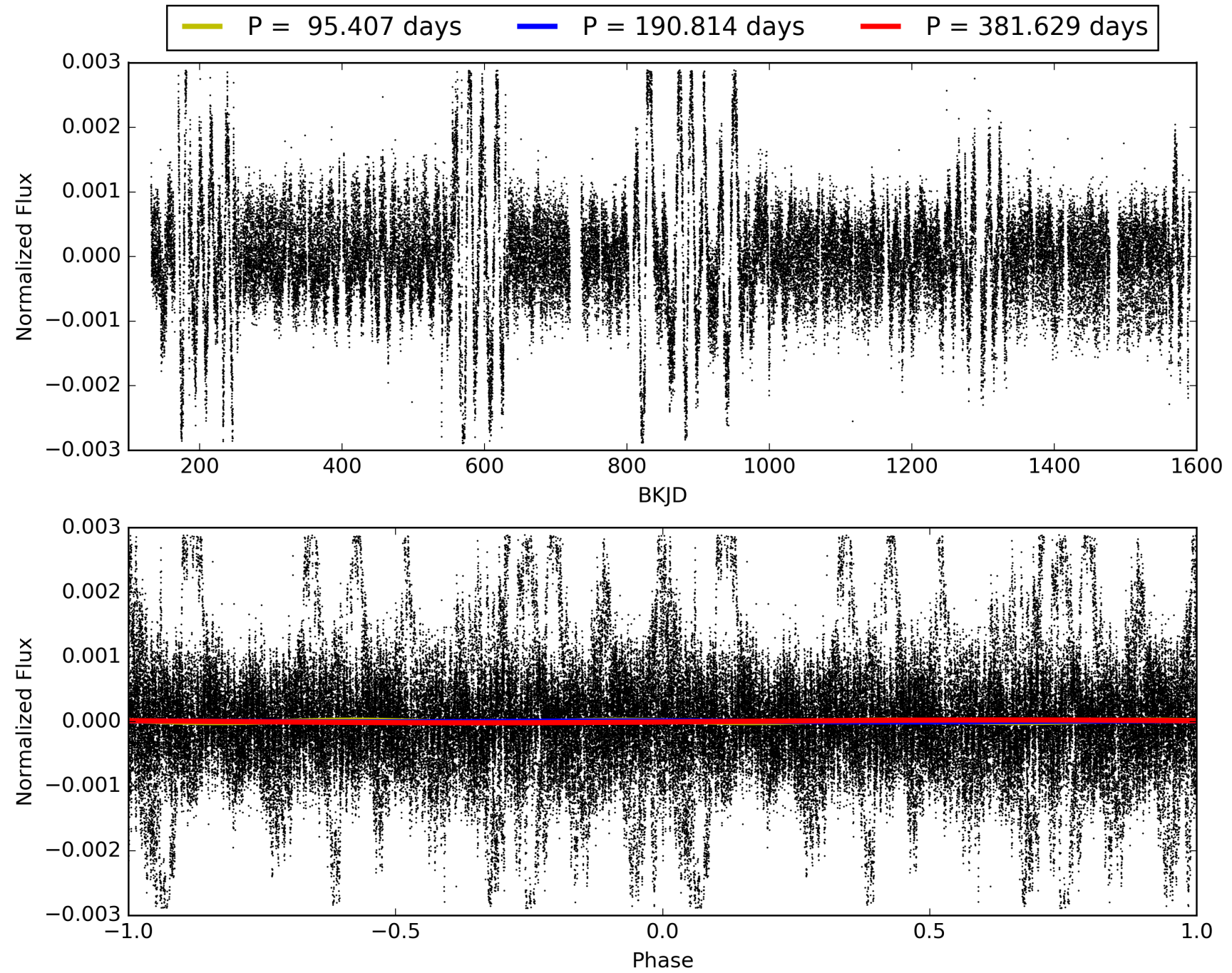
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 00:04:24 Z

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

TCE 005556241-04, PDC Light Curves

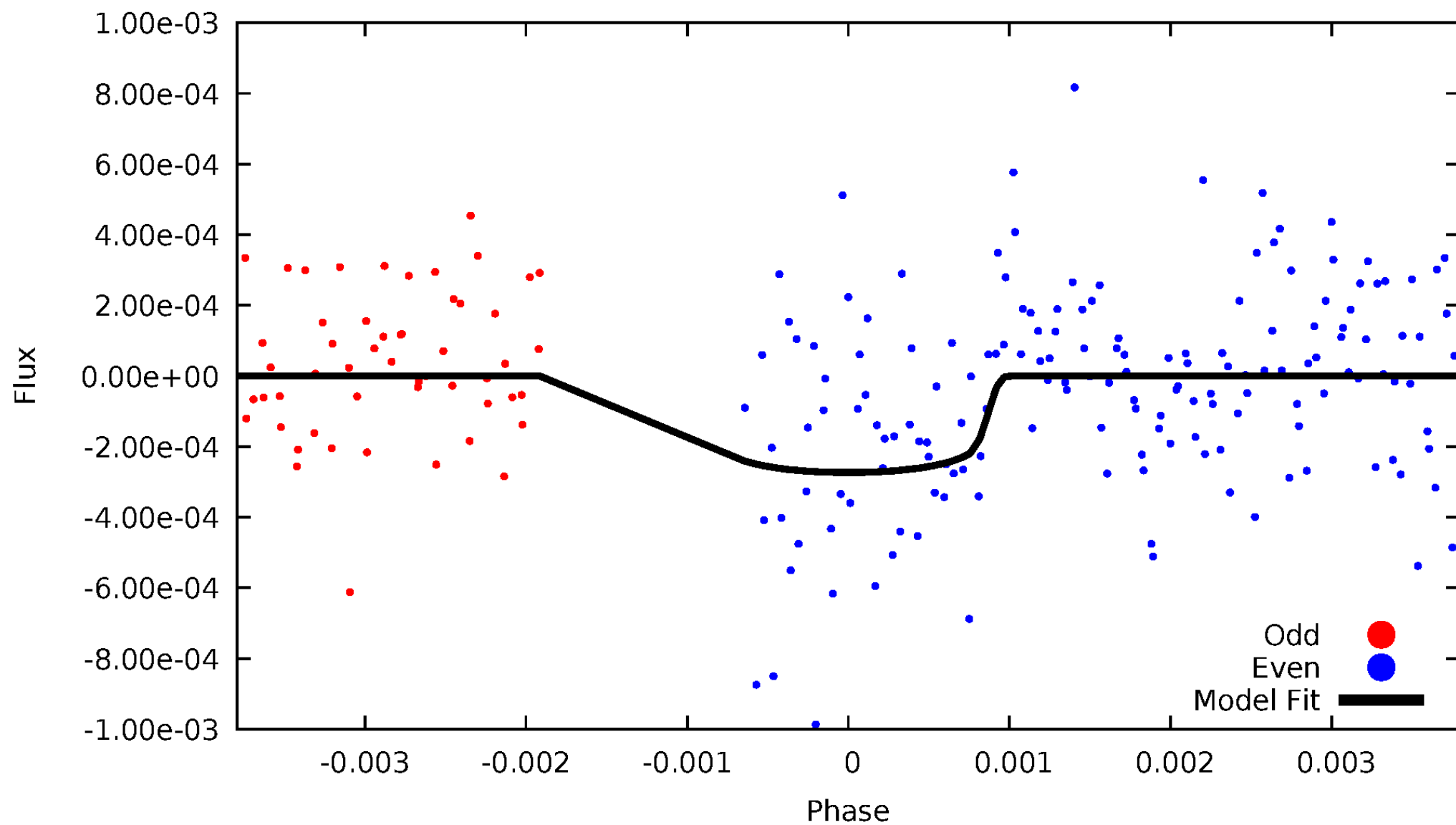


TCE 005556241-04



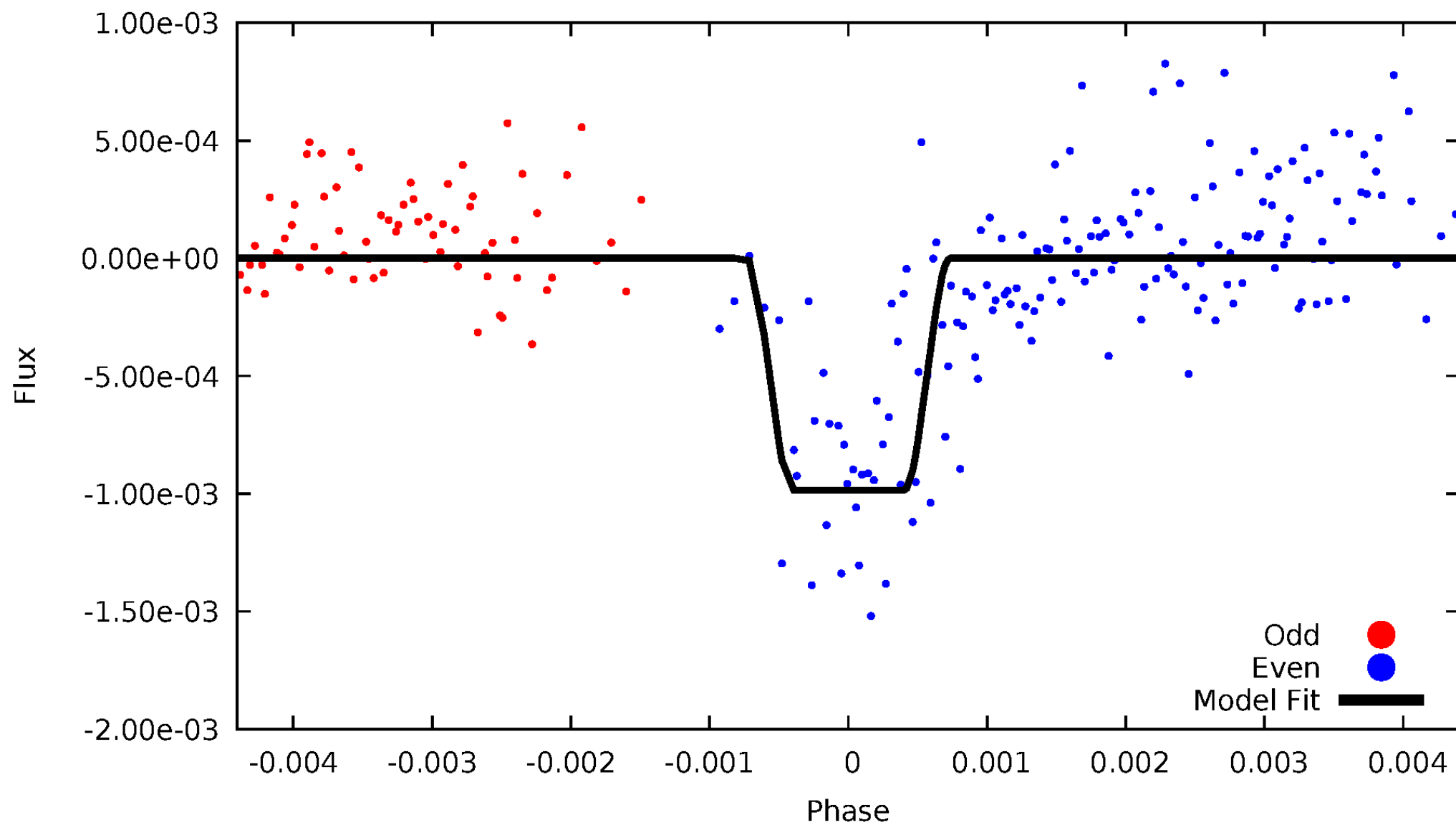
DV Odd/Even

TCE 005556241-04



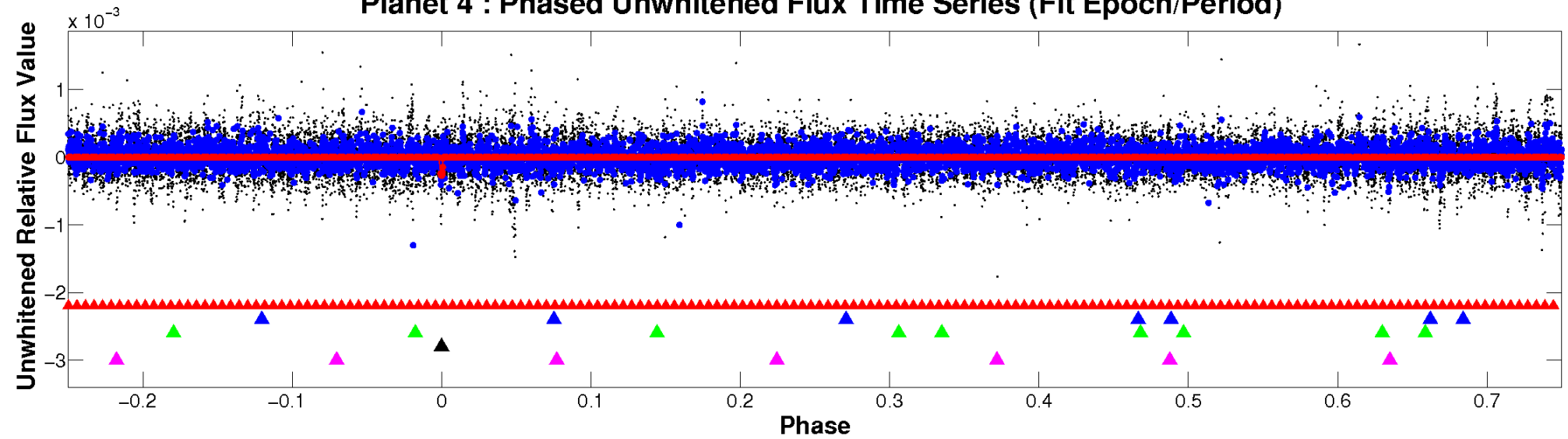
ALT Odd/Even

TCE 005556241-04

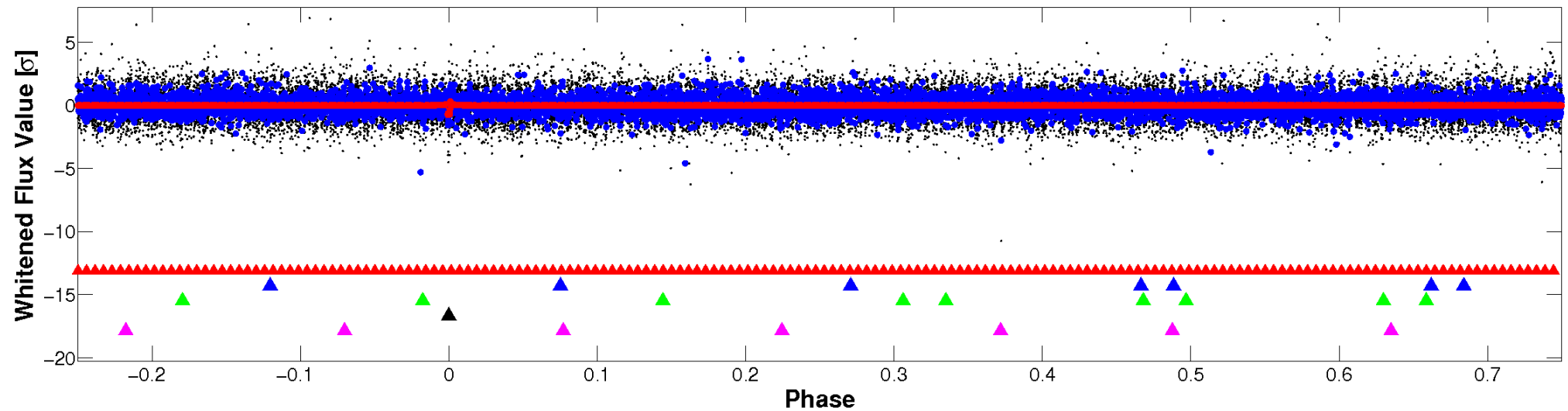


Non-Whitened Vs. Whitened Light Curve

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

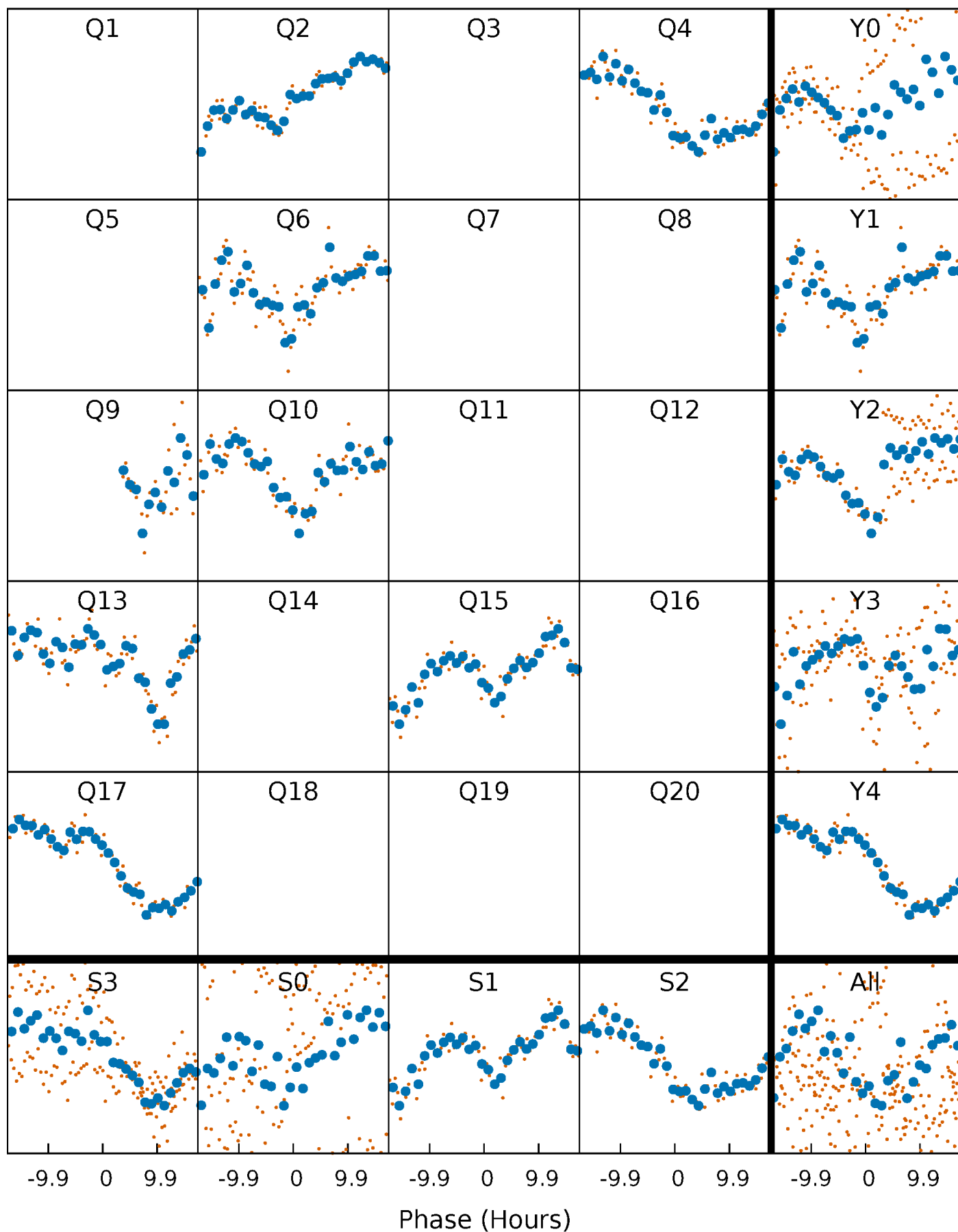


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



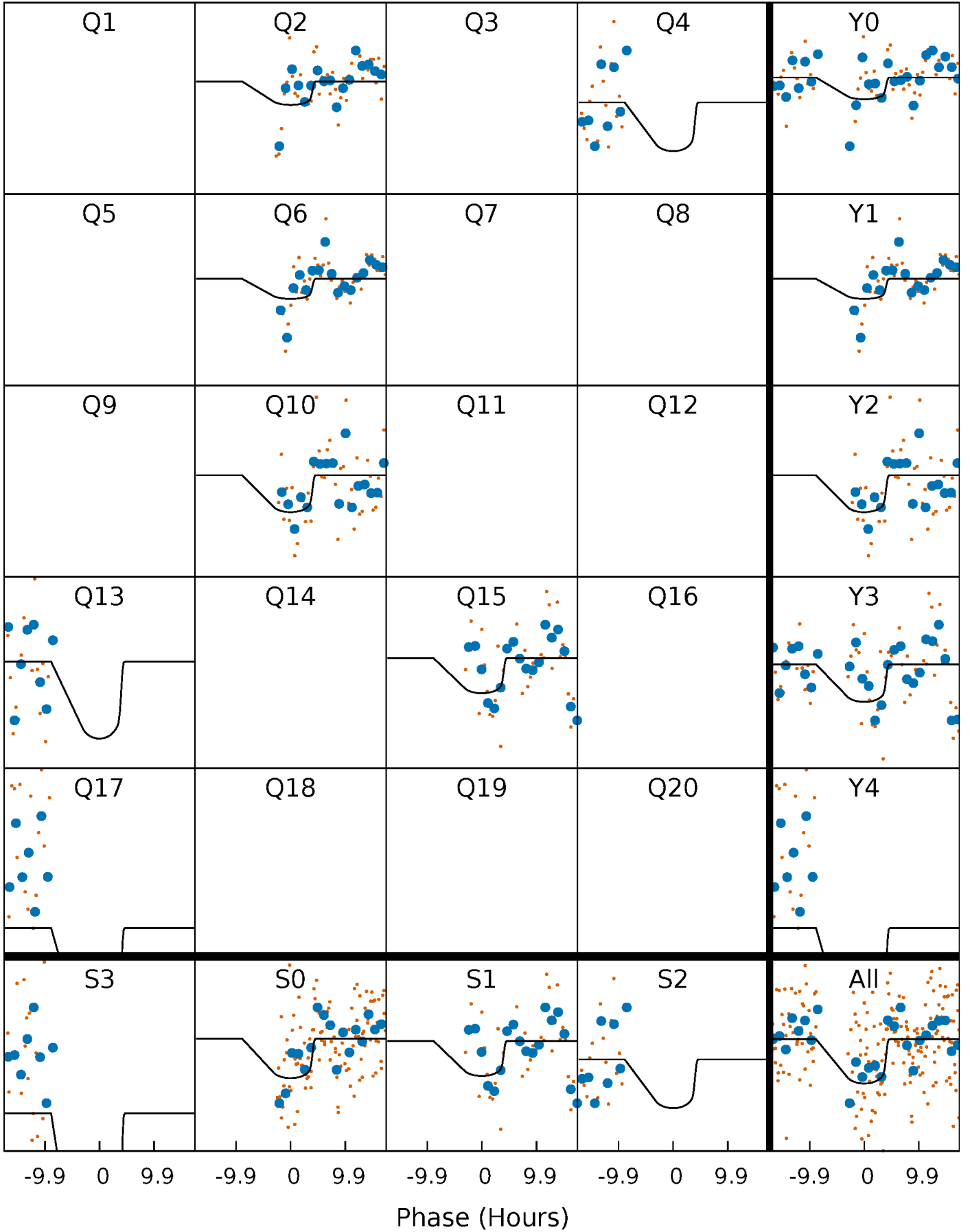
PDC Quarter-Phased Transit Curves

TCE 005556241-04 P=190.814469 Days $T_0=235.957720$ (BKJD)



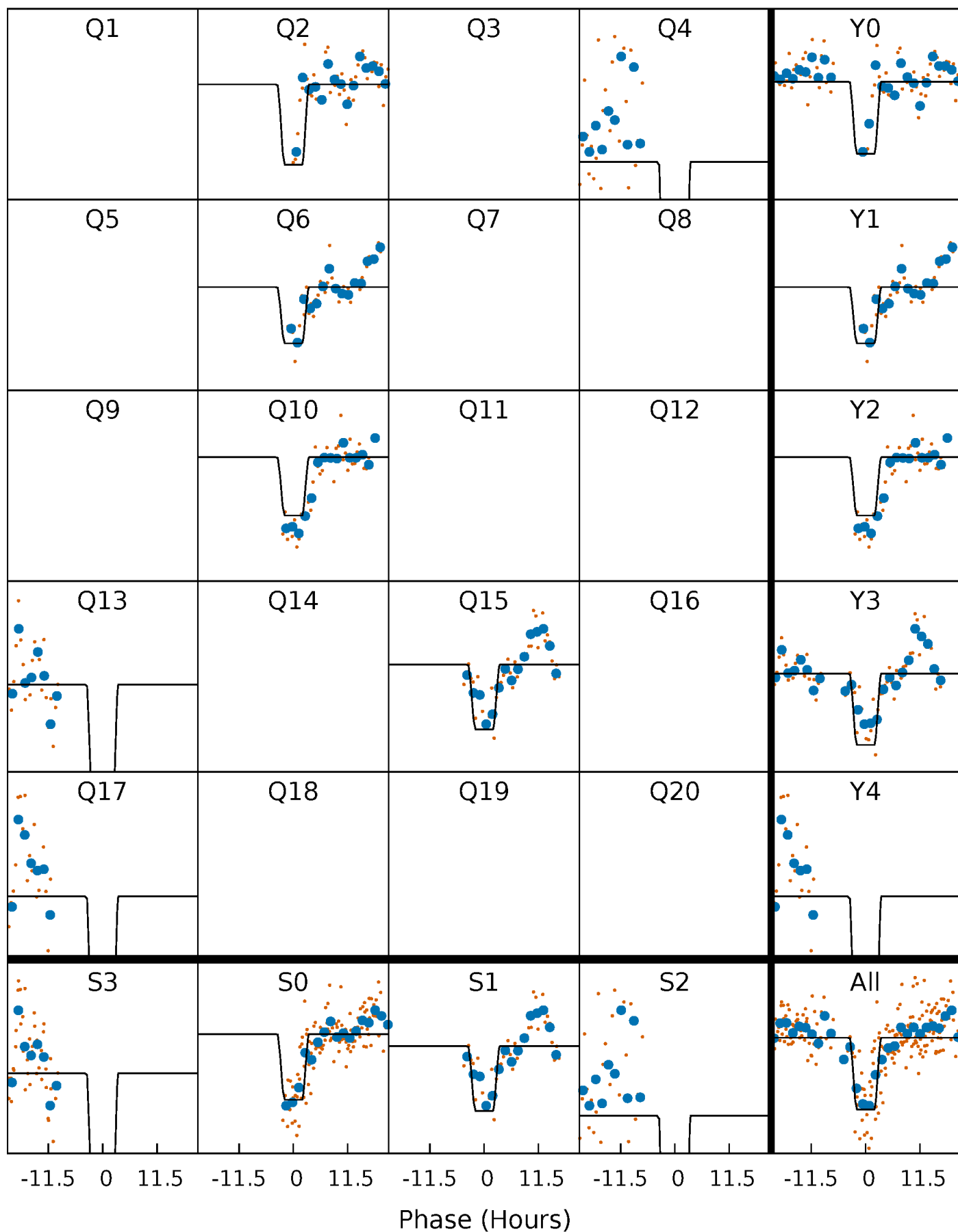
DV Quarter-Phased Transit Curves

TCE 005556241-04 P=190.814469 Days $T_0=235.957720$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

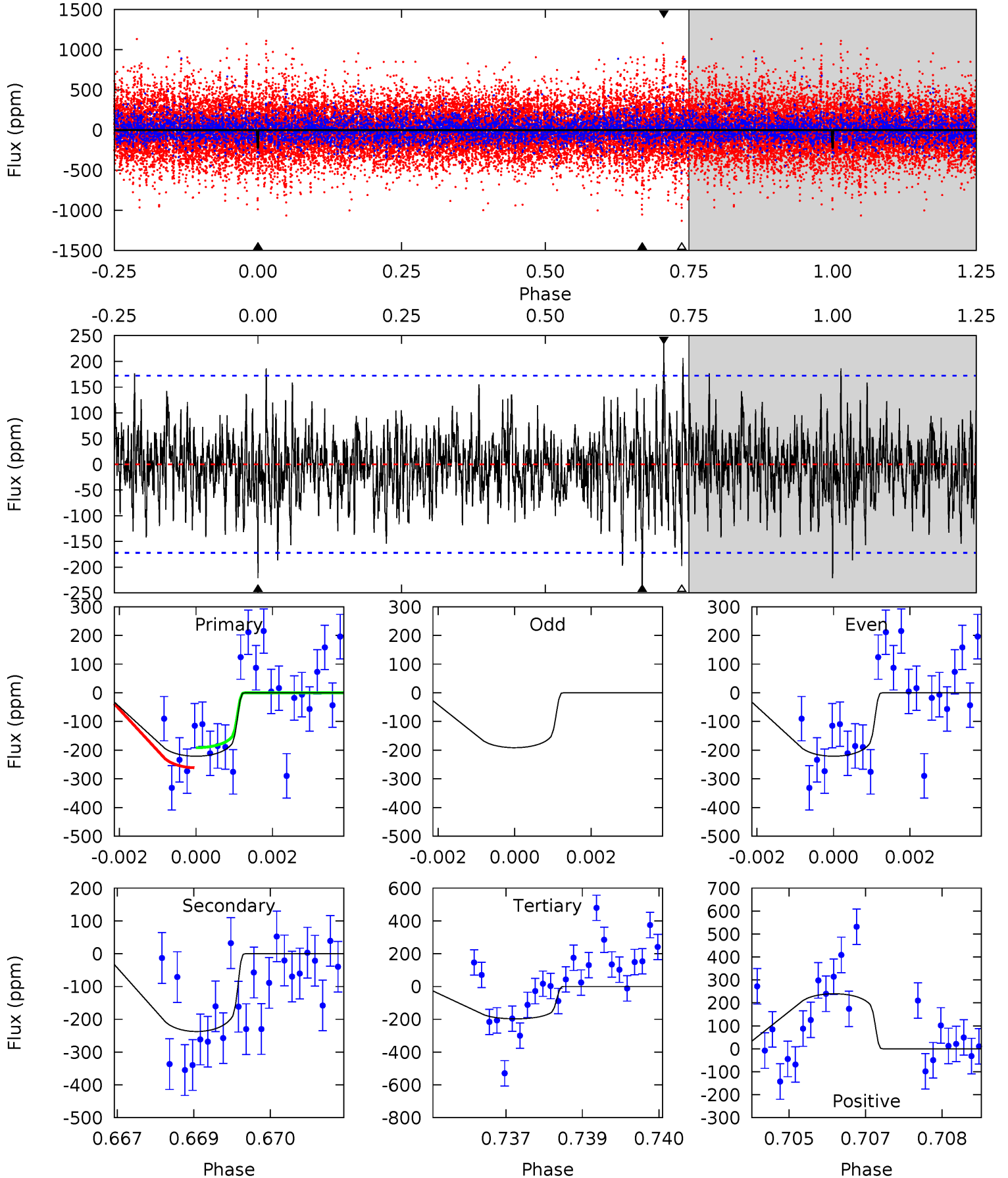
TCE 005556241-04 P=190.841468 Days $T_0=235.850314$ (BKJD)



DV Model-Shift Uniqueness Test

005556241-04, P = 190.814469 Days, E = 45.143251 Days

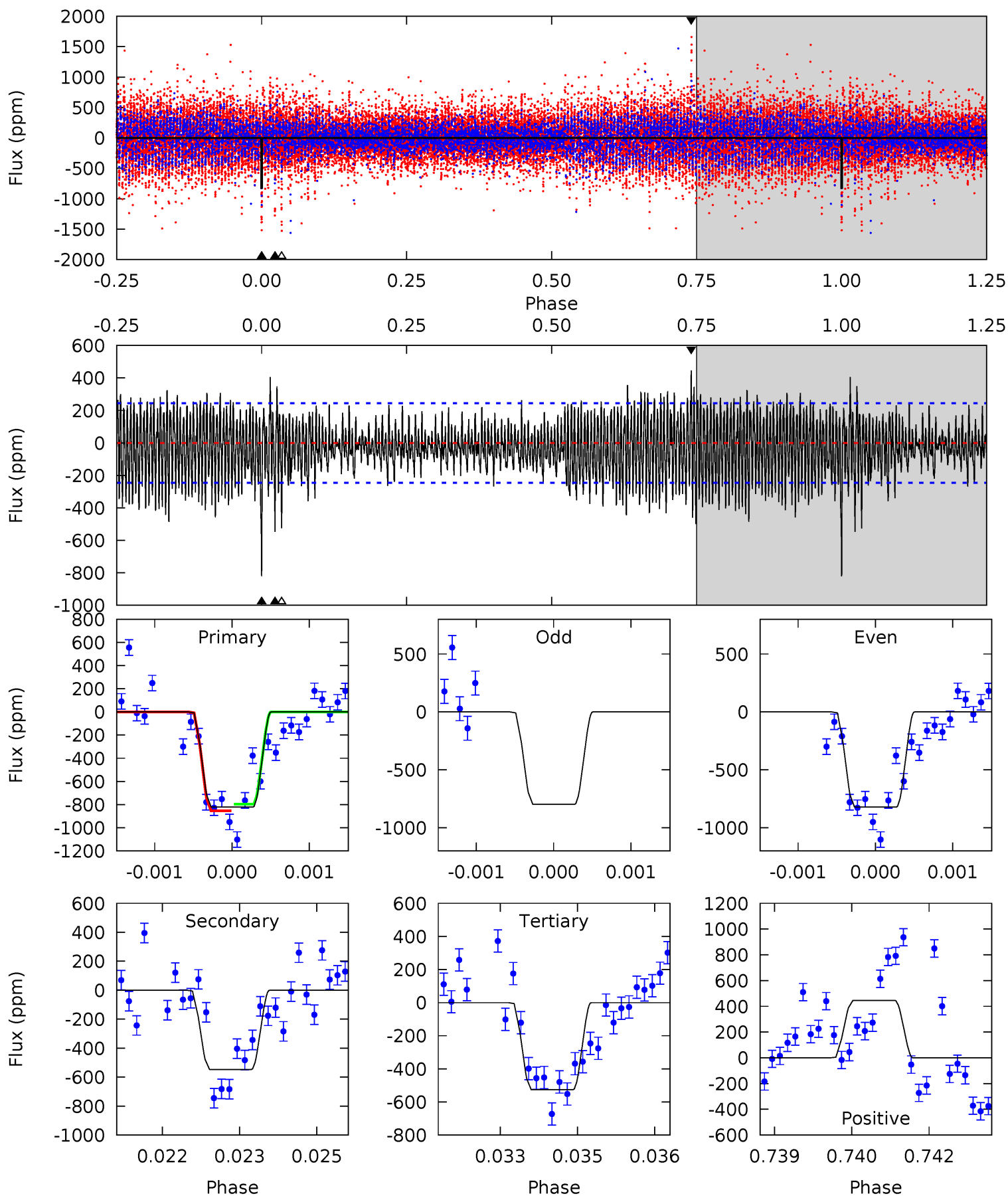
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.89	7.40	6.15	7.47	5.37	3.16	1.68	0.74	-0.58	1.25	-0.07	0.58	0.94	0.50	1.03



Alt Model-Shift Uniqueness Test

005556241-04, P = 190.841468 Days, E = 45.008846 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.0	12.0	11.5	9.79	5.38	3.18	3.51	6.49	8.25	0.46	2.22	0.34	1.09	0.35	0.57



Stellar Parameters For KIC 005556241

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6703^{+159}_{-239}	$4.390^{+0.065}_{-0.208}$	$-0.340^{+0.250}_{-0.300}$	$1.136^{+0.368}_{-0.123}$	$1.158^{+0.165}_{-0.148}$	$1.114^{+0.311}_{-0.580}$
	+2%/-4%	+1%/-5%	+74%/-88%	+32%/-11%	+14%/-13%	+28%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005556241-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-237 ± 32	$2.27^{+0.83}_{-0.74}$	541^{+41}_{-25}	6227^{+1673}_{-851}	11753^{+15032}_{-5733}
Alt.	-547 ± 46	$4.07^{+0.94}_{-0.86}$	542^{+38}_{-26}	5758^{+689}_{-496}	8330^{+4874}_{-2784}

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

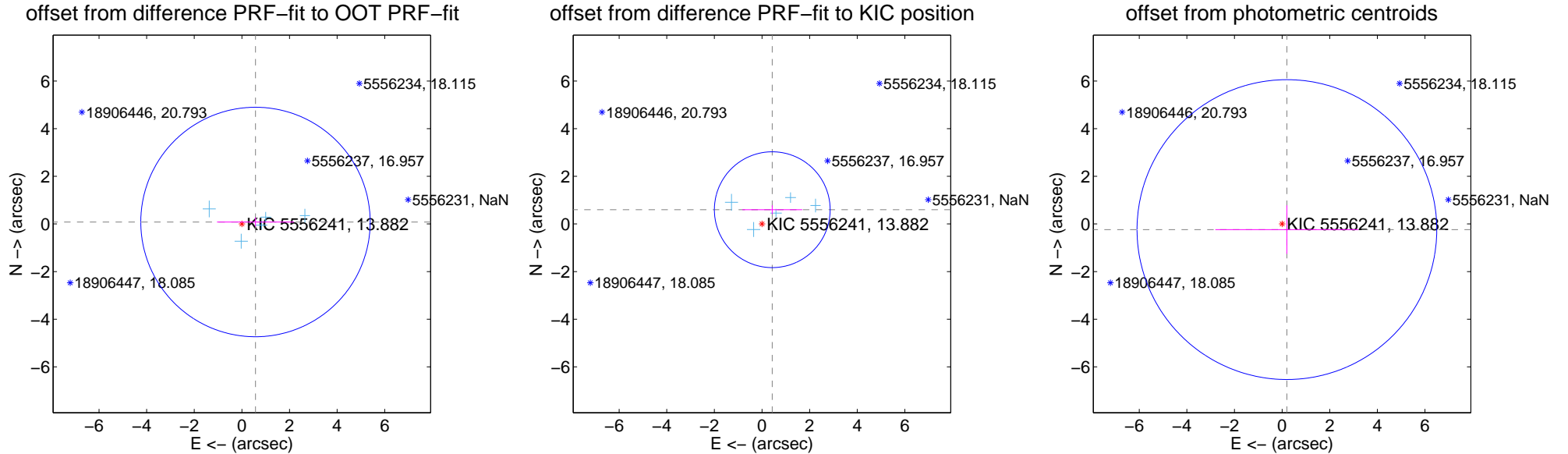
DV Centroid Data

Supplemental centroid analysis for 005556241-04. Kepler magnitude: 13.88. Transit SNR 5.02

There are 5 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.577 ± 1.606	0.36	-0.571 ± 1.617	0.082 ± 0.195
PRF-fit source offset from KIC position	0.738 ± 0.811	0.91	-0.431 ± 1.259	0.599 ± 0.183
photometric centroid source offset	0.31 ± 2.10	0.15	-0.20 ± 3.01	-0.24 ± 1.02



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.

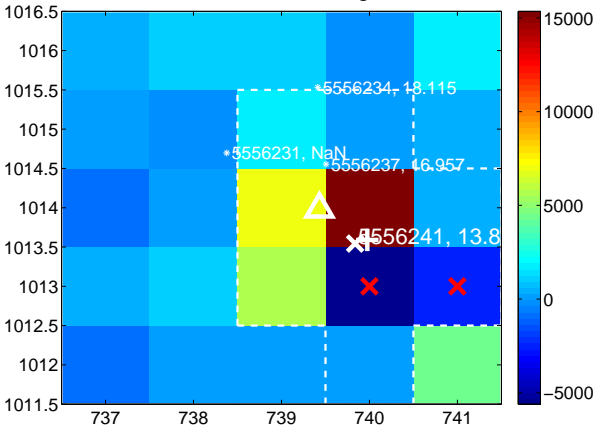
Q1 no difference image



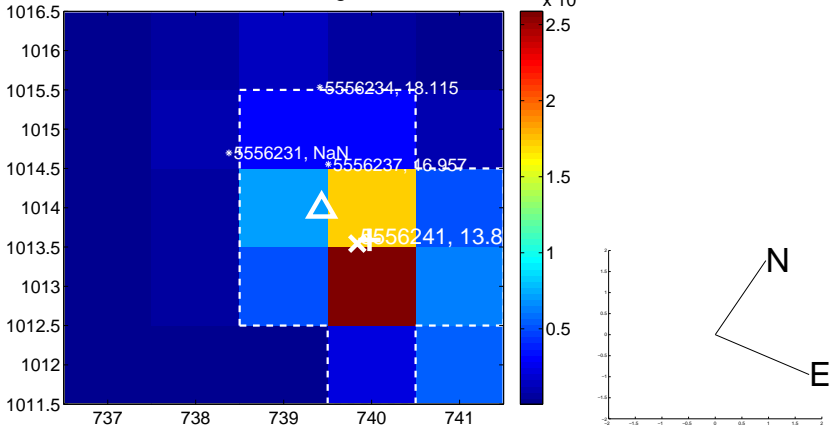
Q1 no OOT image



Q2 difference image



Q2 OOT image



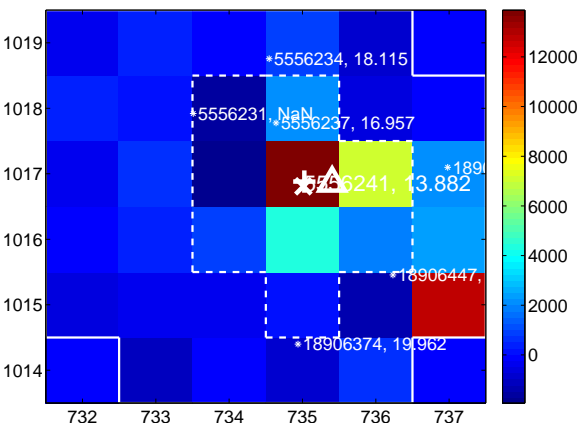
Q3 no difference image



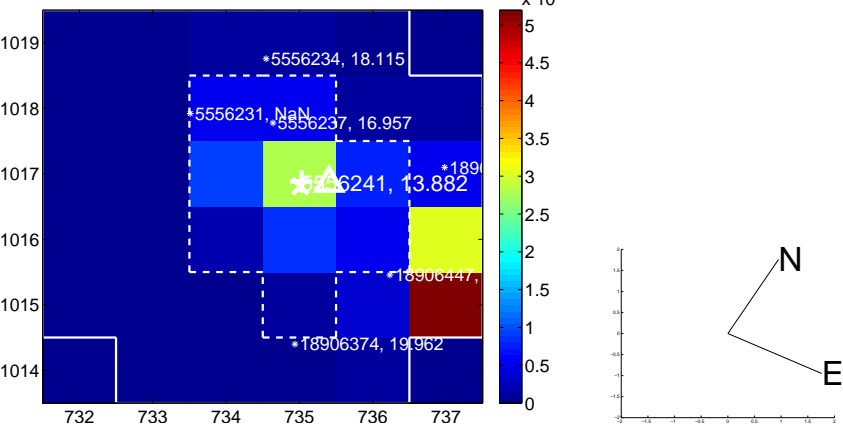
Q3 no OOT image



Q4 difference image



Q4 OOT image



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

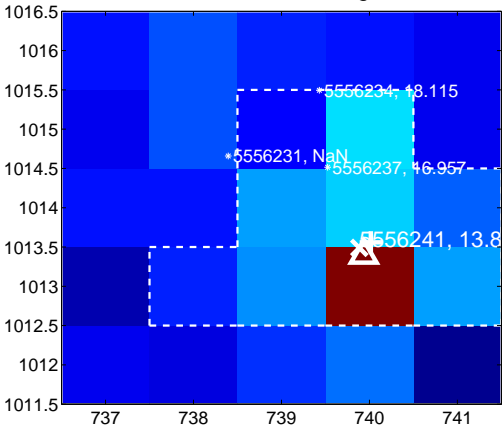
Q5 no difference image



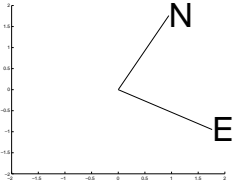
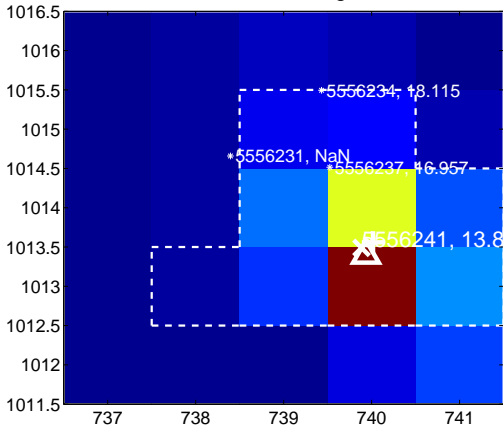
Q5 no OOT image



Q6 difference image



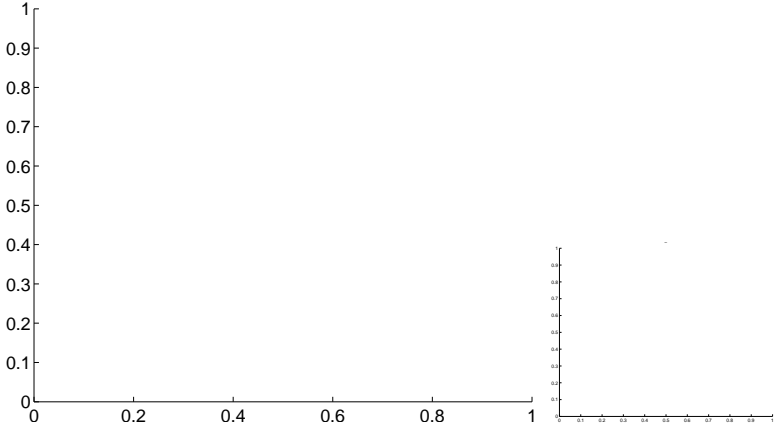
Q6 OOT image



Q7 no difference image



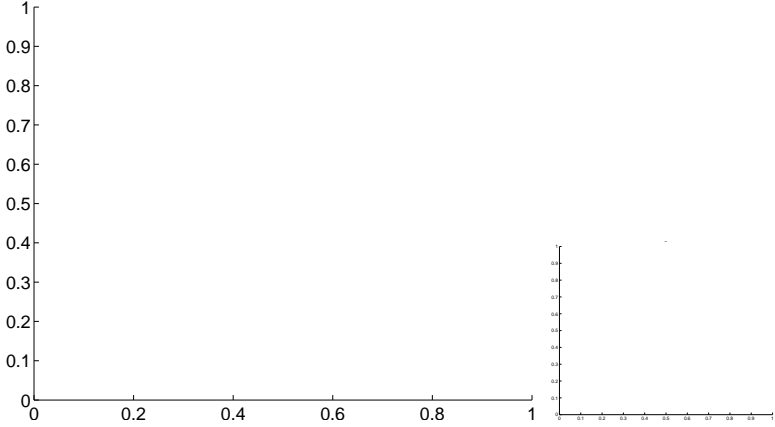
Q7 no OOT image



Q8 no difference image



Q8 no OOT image

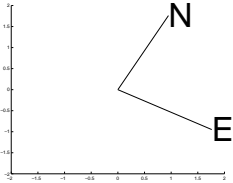
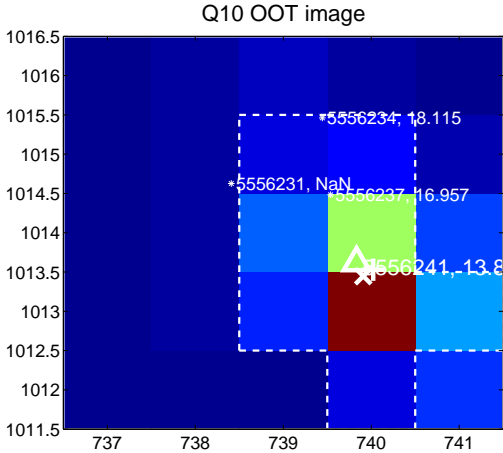
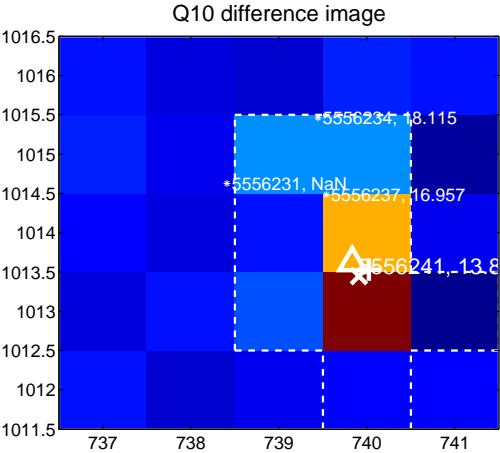


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

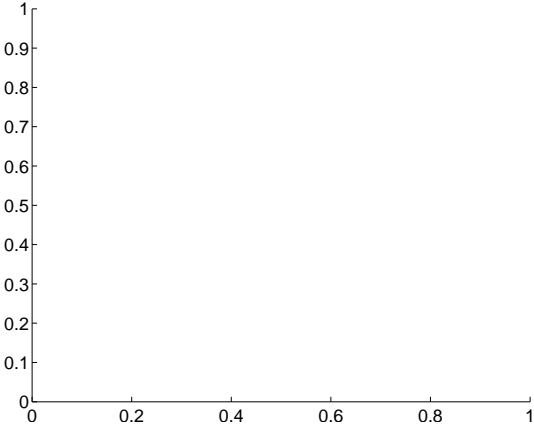
Q9 no difference image



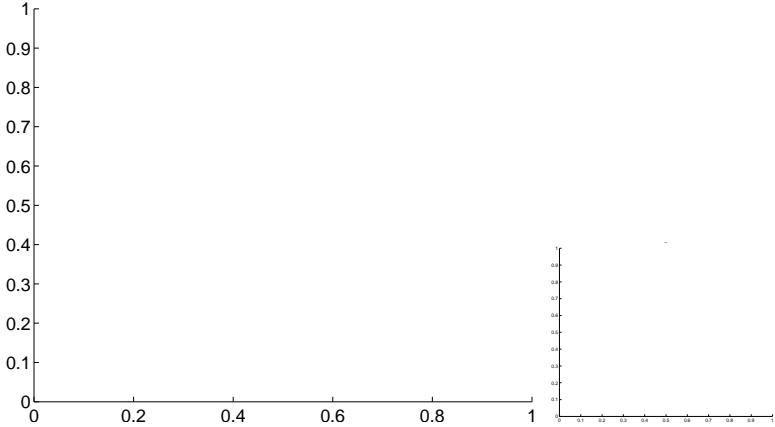
Q9 no OOT image



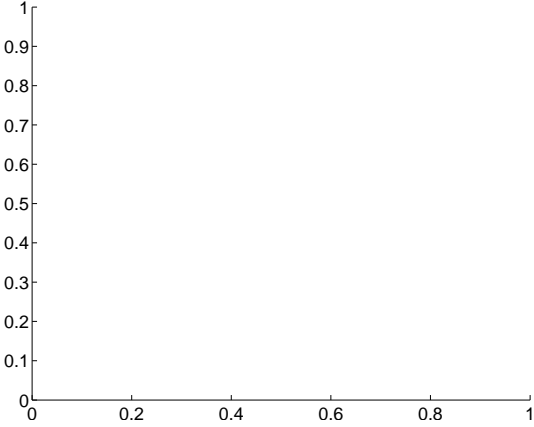
Q11 no difference image



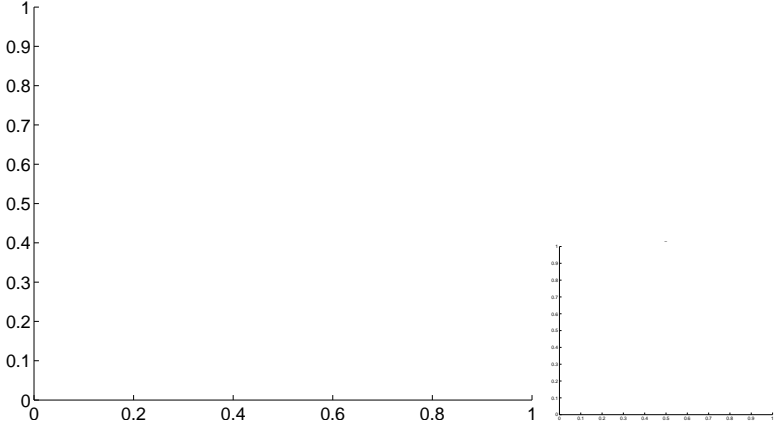
Q11 no OOT image



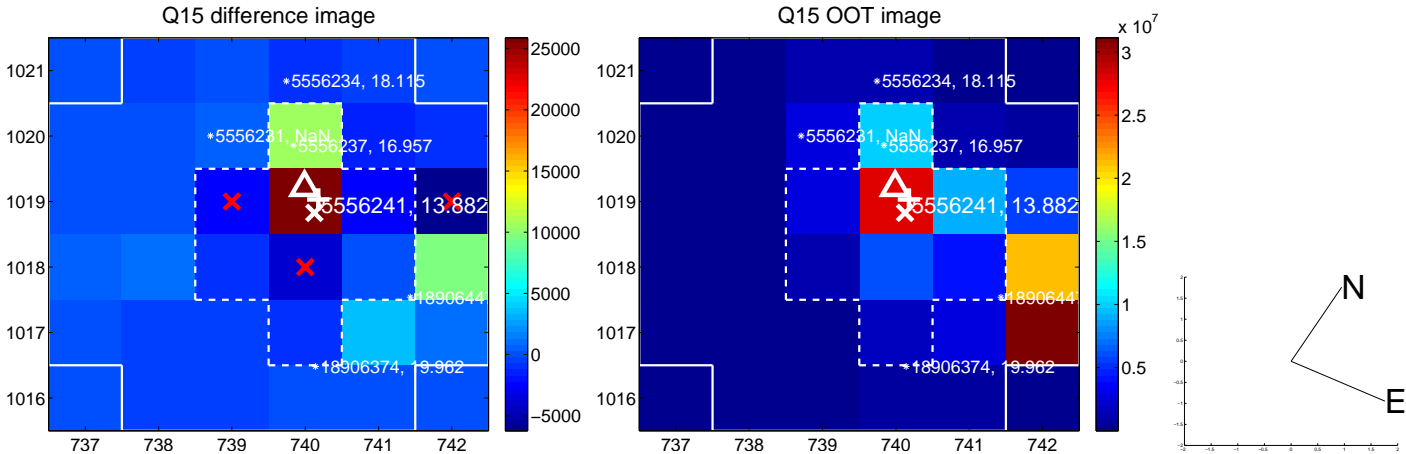
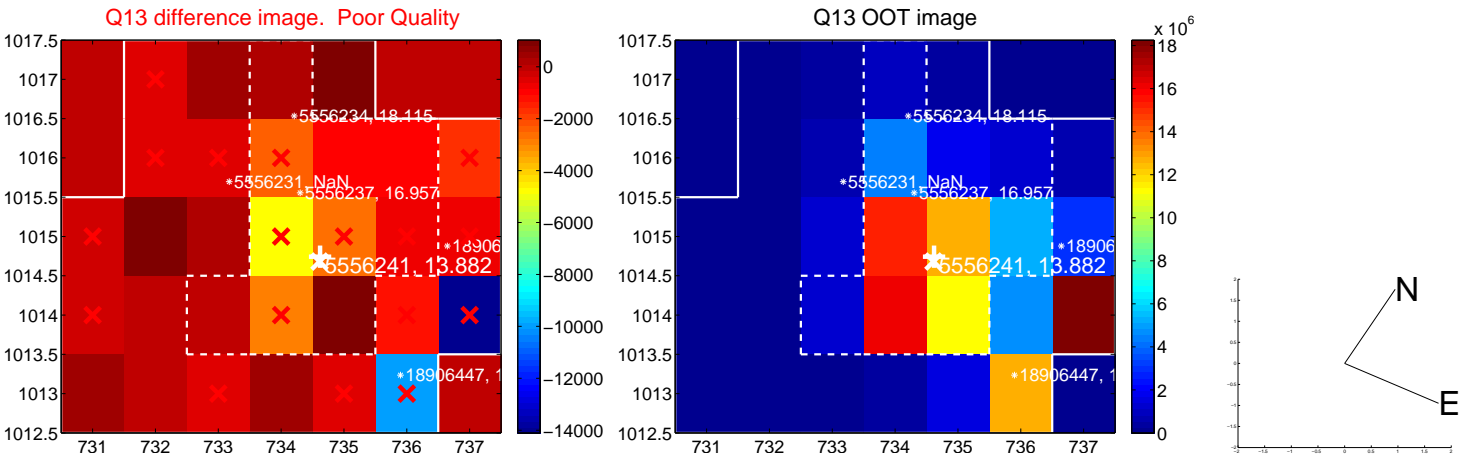
Q12 no difference image



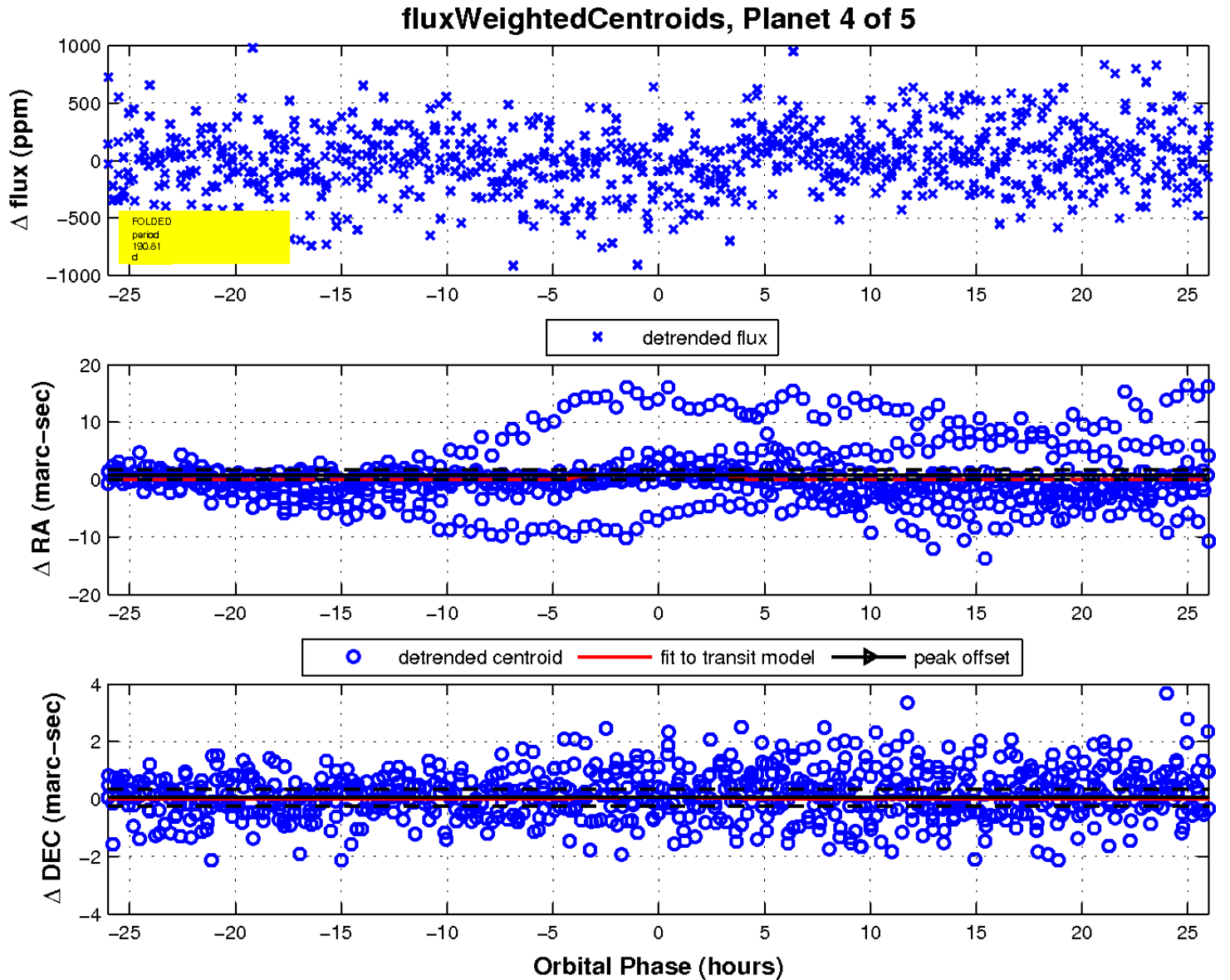
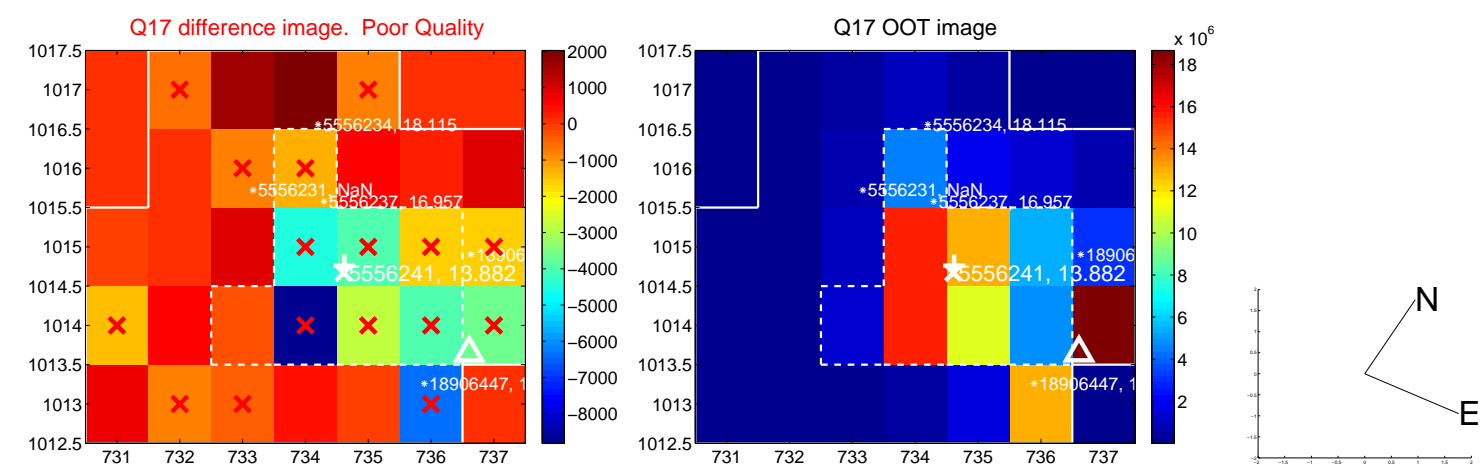
Q12 no OOT image



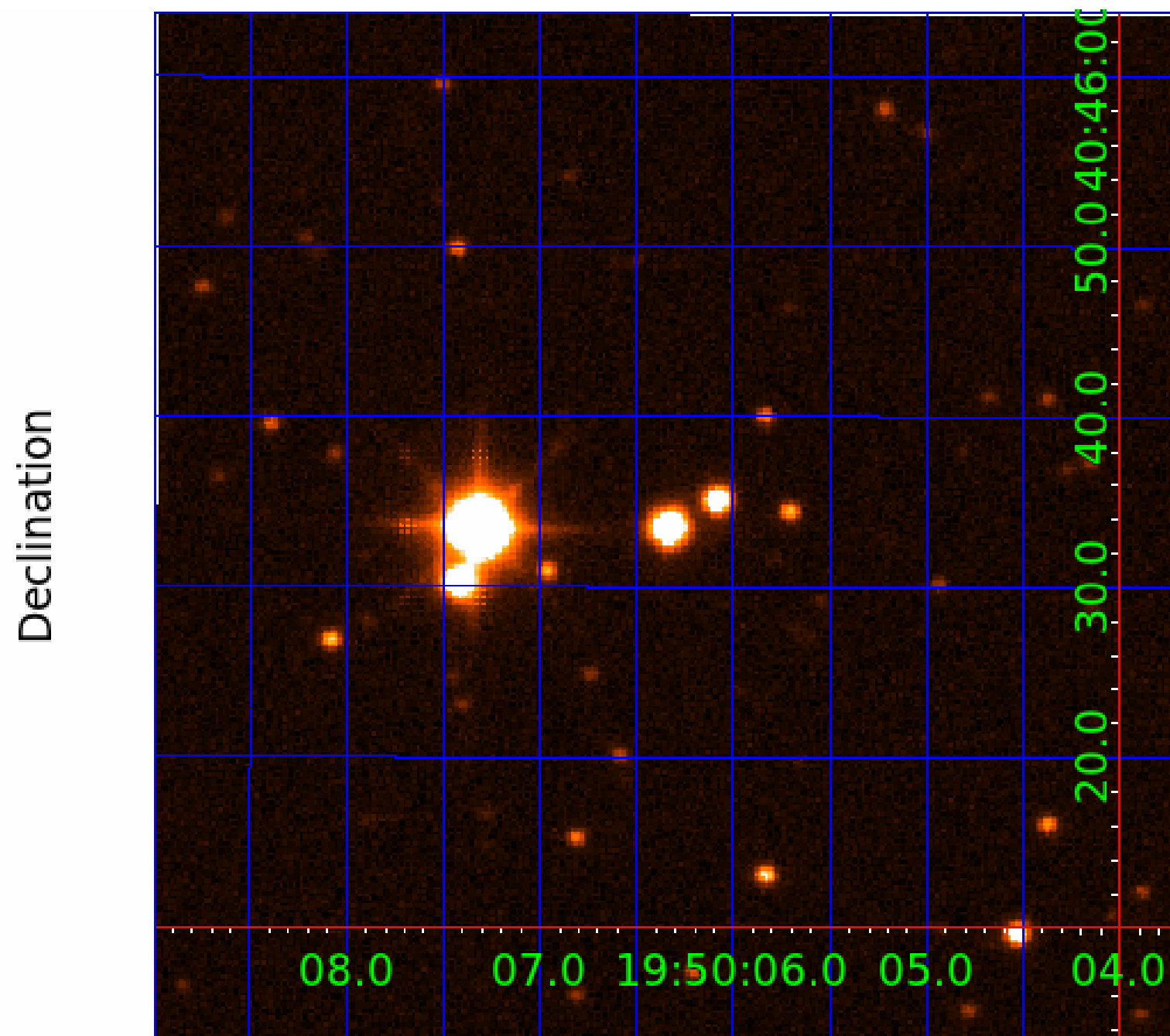
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 005556241

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})
005556241-01	OBS	No	2.180702	132.687978	10.6	10.446	8.0	2.9	1.14	6703	0.43	1956.27
005556241-02	OBS	No	228.138748	138.341671	443.2	1.488	9.2	5.9	1.14	6703	2.57	3.97
005556241-03	OBS	No	159.928606	165.332506	282.0	7.542	9.0	7.4	1.14	6703	2.05	6.37
005556241-04	OBS	No	190.814469	235.957720	273.5	8.682	8.6	5.0	1.14	6703	2.18	5.04
005556241-05	OBS	No	218.936789	138.186906	436.6	2.911	7.8	7.3	1.14	6703	2.71	4.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005556241-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
005556241-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
005556241-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_KIC_POS—HALO_GHOST
005556241-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS—HALO_GHOST
005556241-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

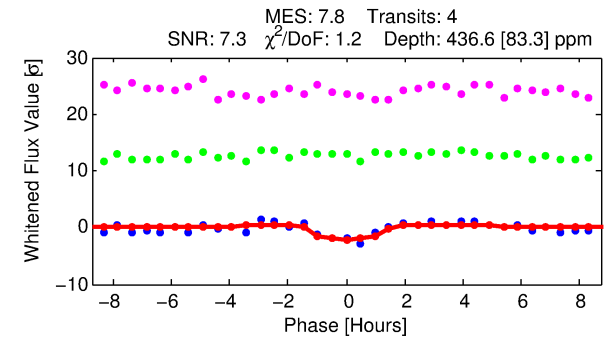
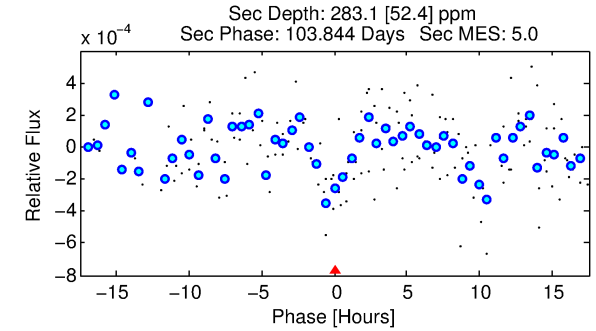
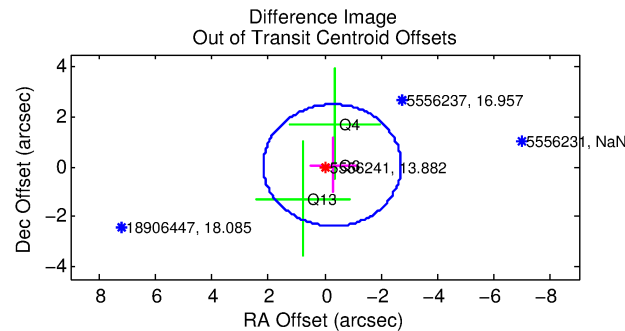
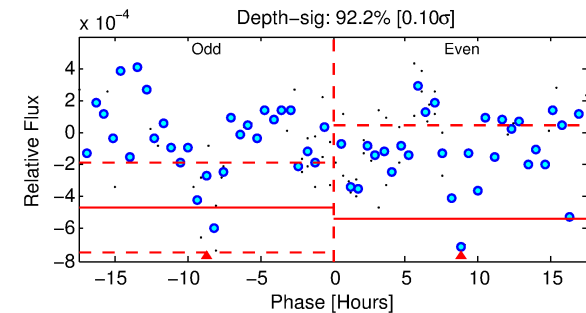
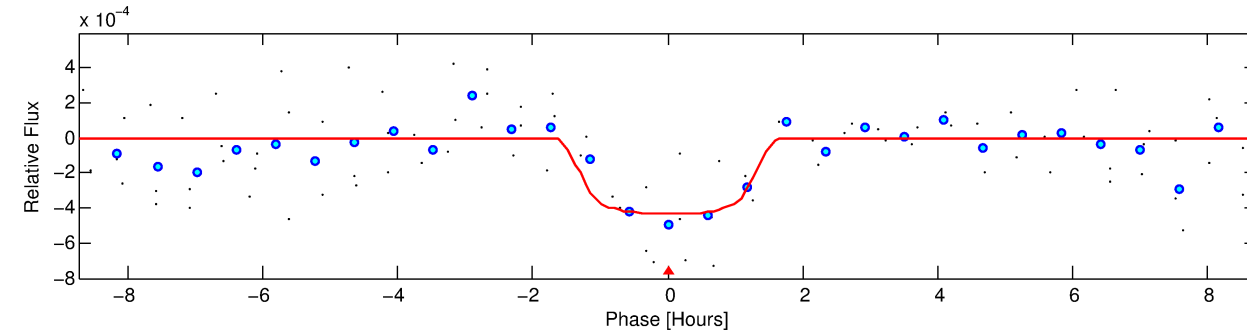
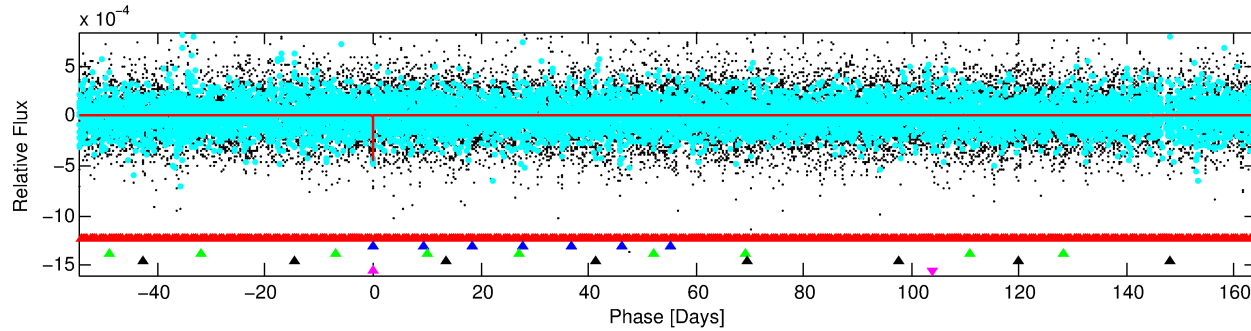
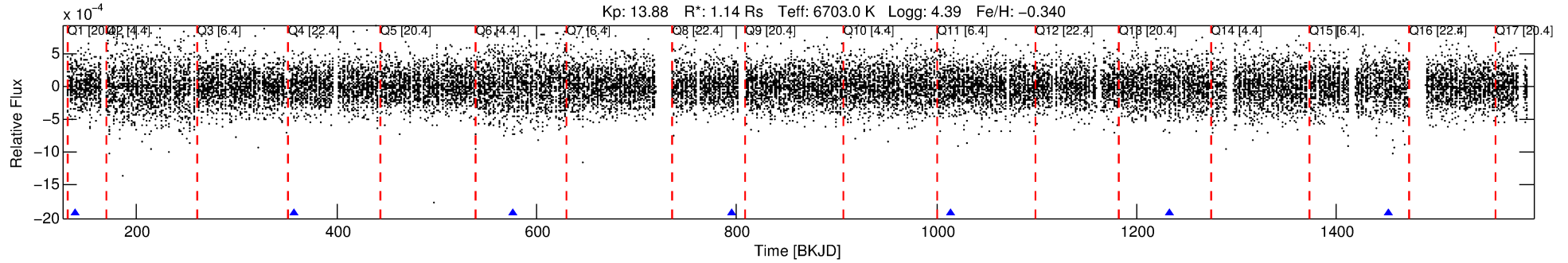
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005556241-05

No Significant Match Found

DV One-Page Summary

KIC: 5556241 Candidate: 5 of 5 Period: 218.937 d



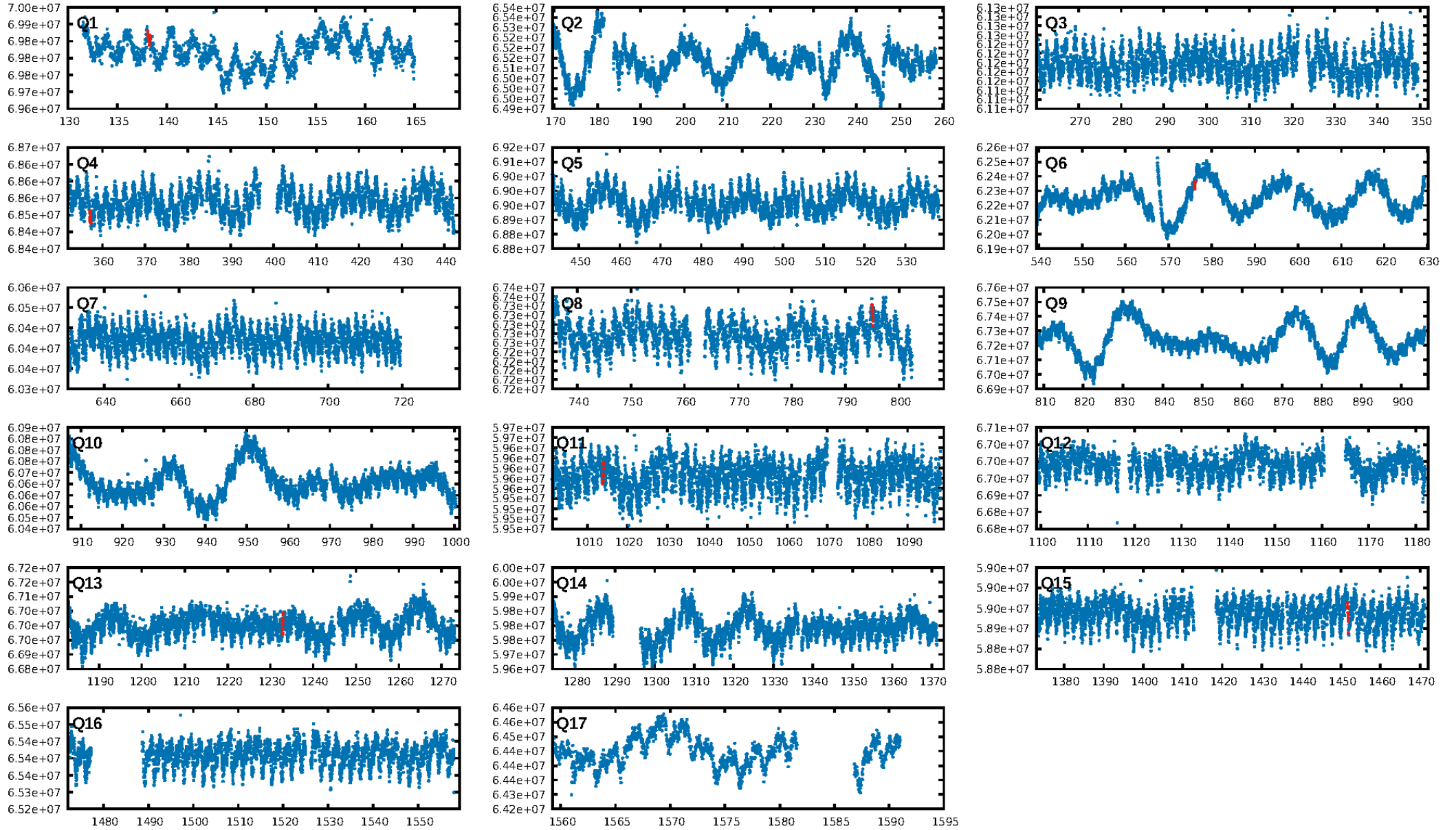
DV Fit Results:

Period = 218.93679 [0.00275] d
Epoch = 138.1869 [0.0096] BKJD
Rp/R* = 0.0218 [0.0331]
a/R* = 309.92 [2763.29]
b = 0.87 [2.56]
Seff = 4.19 [1.72]
Teq = 365 [37] K
Rp = 2.71 [4.20] Re
a = 0.7462 [0.2004] AU
Ag = 11834.57 [36278.58] [0.33 σ]
Teffp = 5884 [4478] K [1.23 σ]

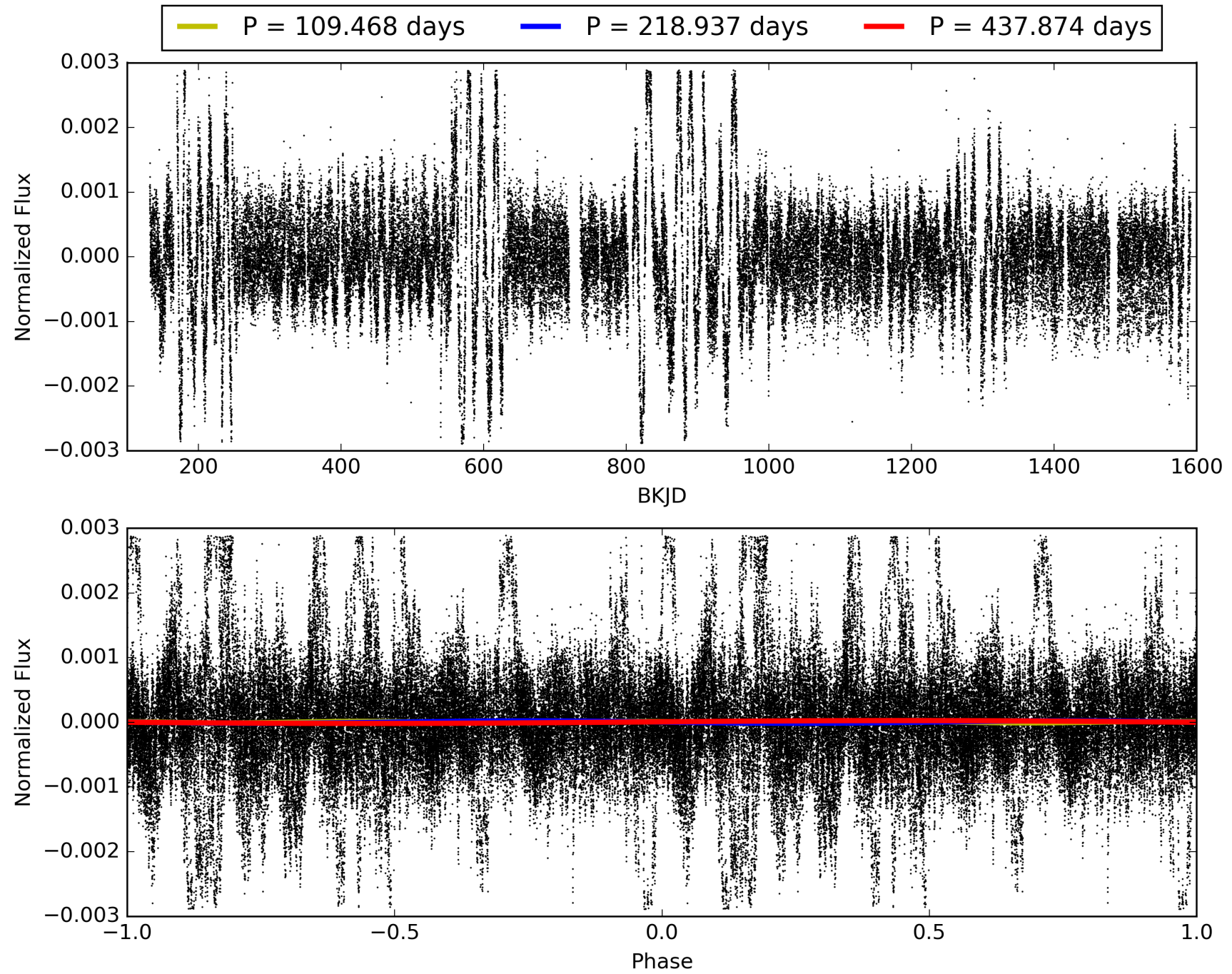
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [73.71 σ]
LongPeriod-sig: 100.0% [67.55 σ]
ModelChiSquare2-sig: 63.6%
ModelChiSquareGof-sig: 99.2%
Bootstrap-pfa: 5.19e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.735
Centroid-sig: 84.8%
Centroid-so: 2.029 arcsec [0.92 σ]
OotOffset-rm: 0.277 arcsec [0.34 σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-rm: 0.490 arcsec [0.46 σ]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.43 [3/7]

TCE 005556241-05, PDC Light Curves

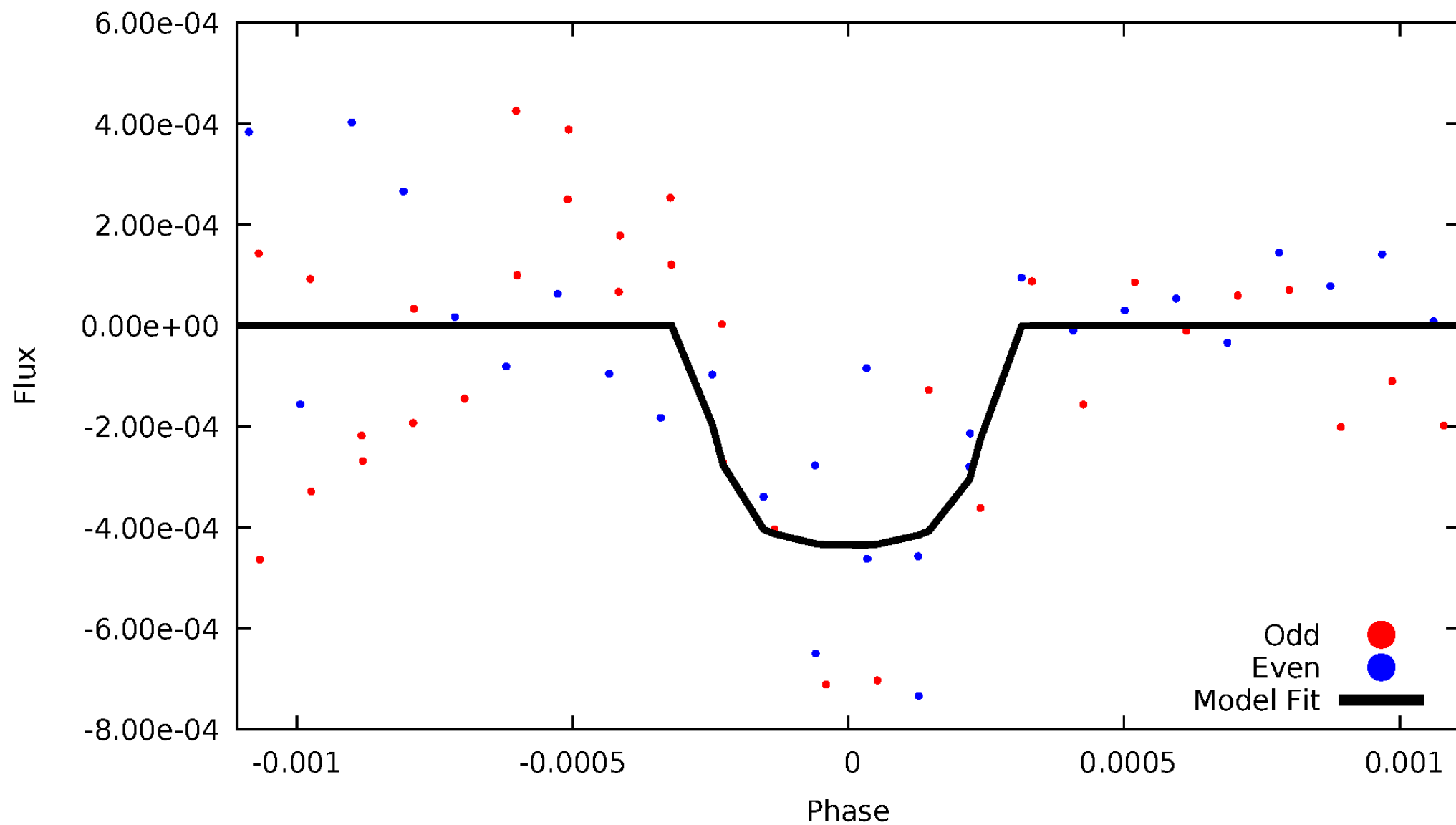


TCE 005556241-05



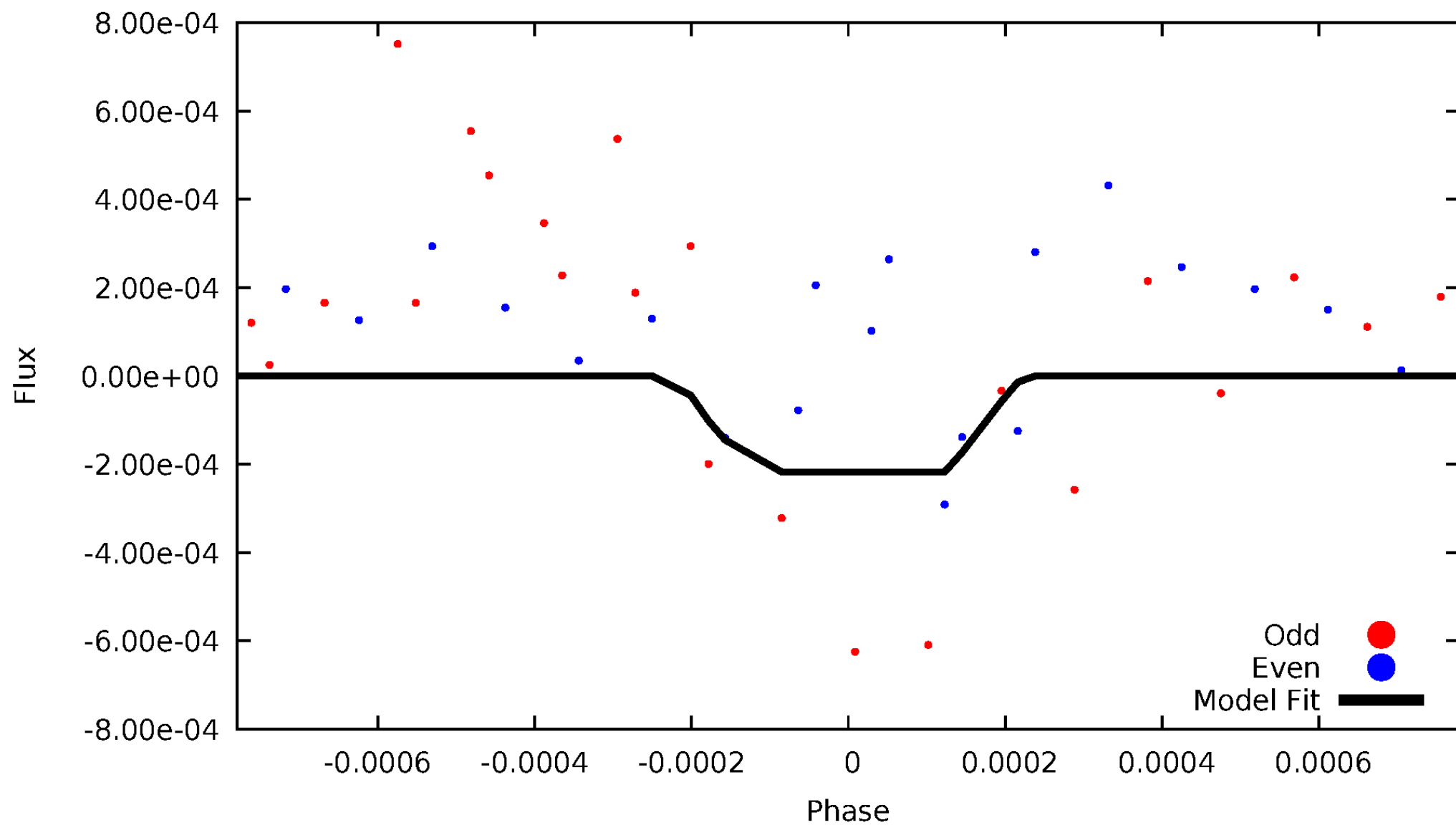
DV Odd/Even

TCE 005556241-05



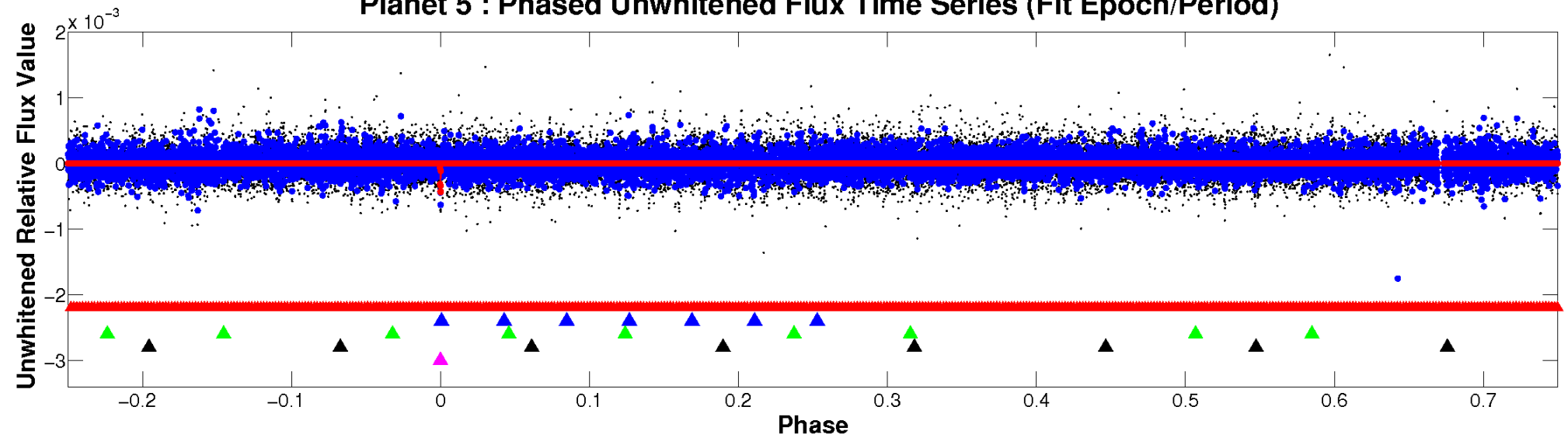
ALT Odd/Even

TCE 005556241-05

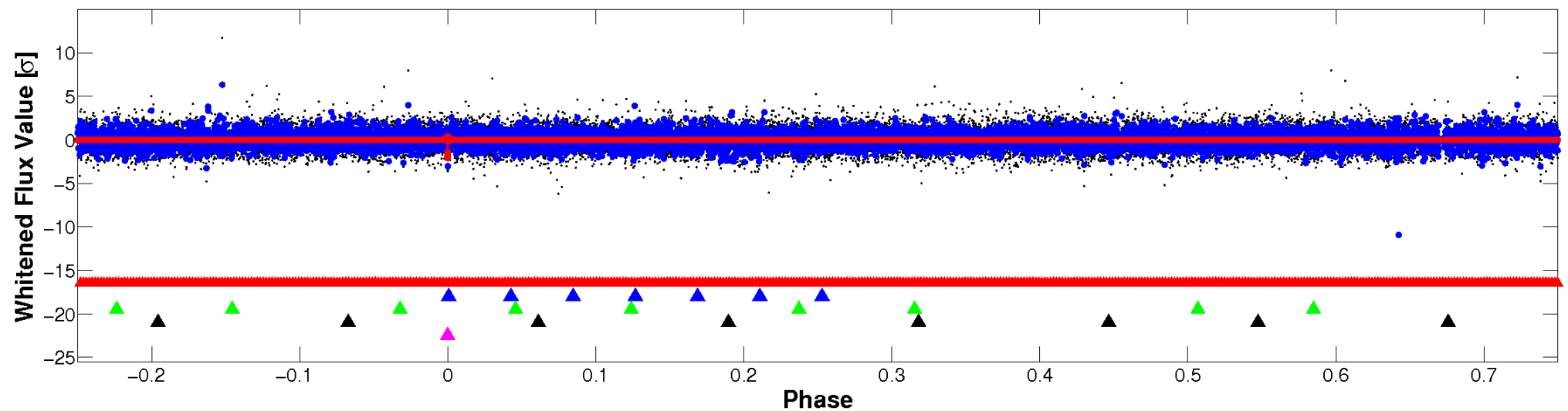


Non-Whitened Vs. Whitened Light Curve

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

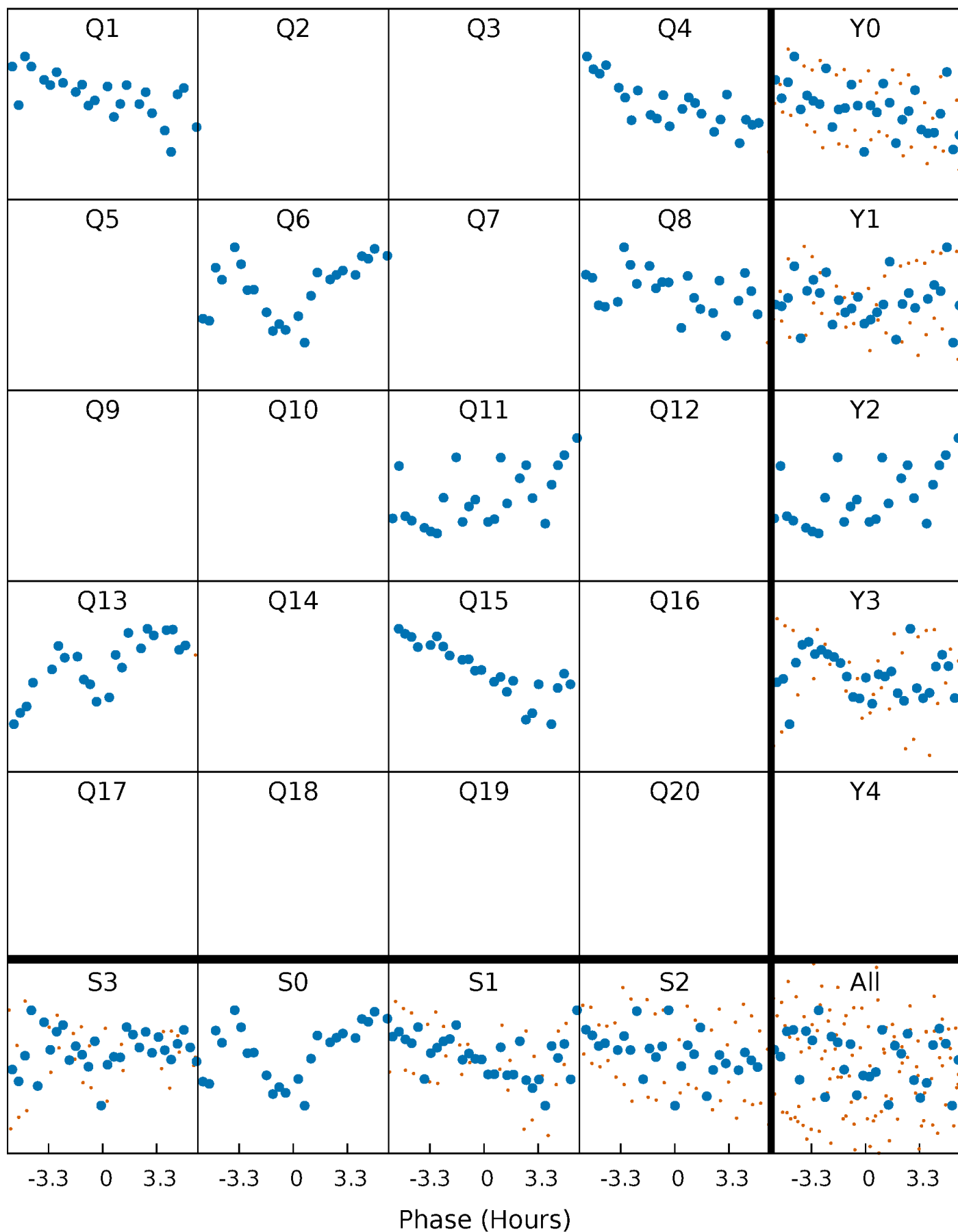


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



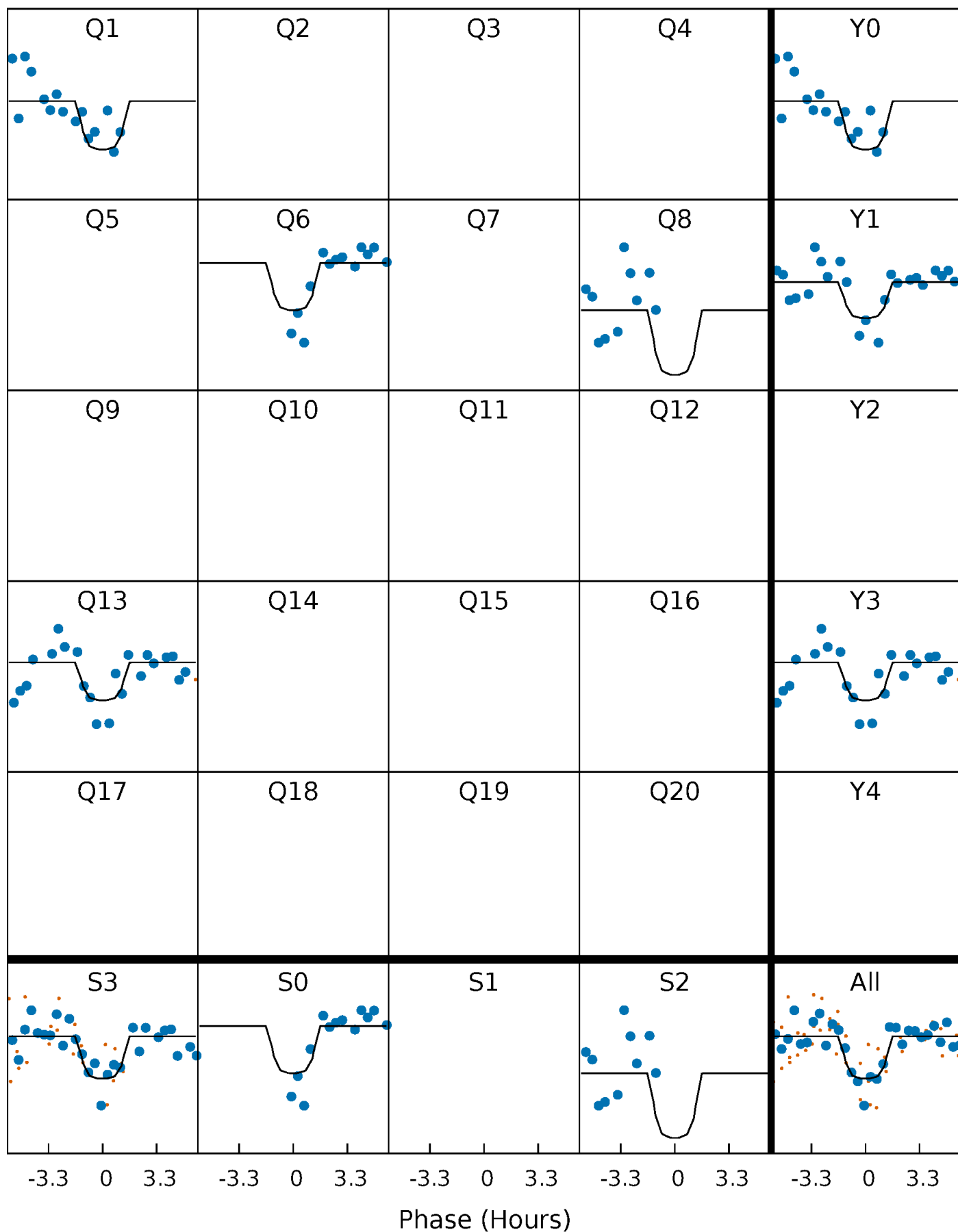
PDC Quarter-Phased Transit Curves

TCE 005556241-05 $P=218.936789$ Days $T_0=138.186906$ (BKJD)



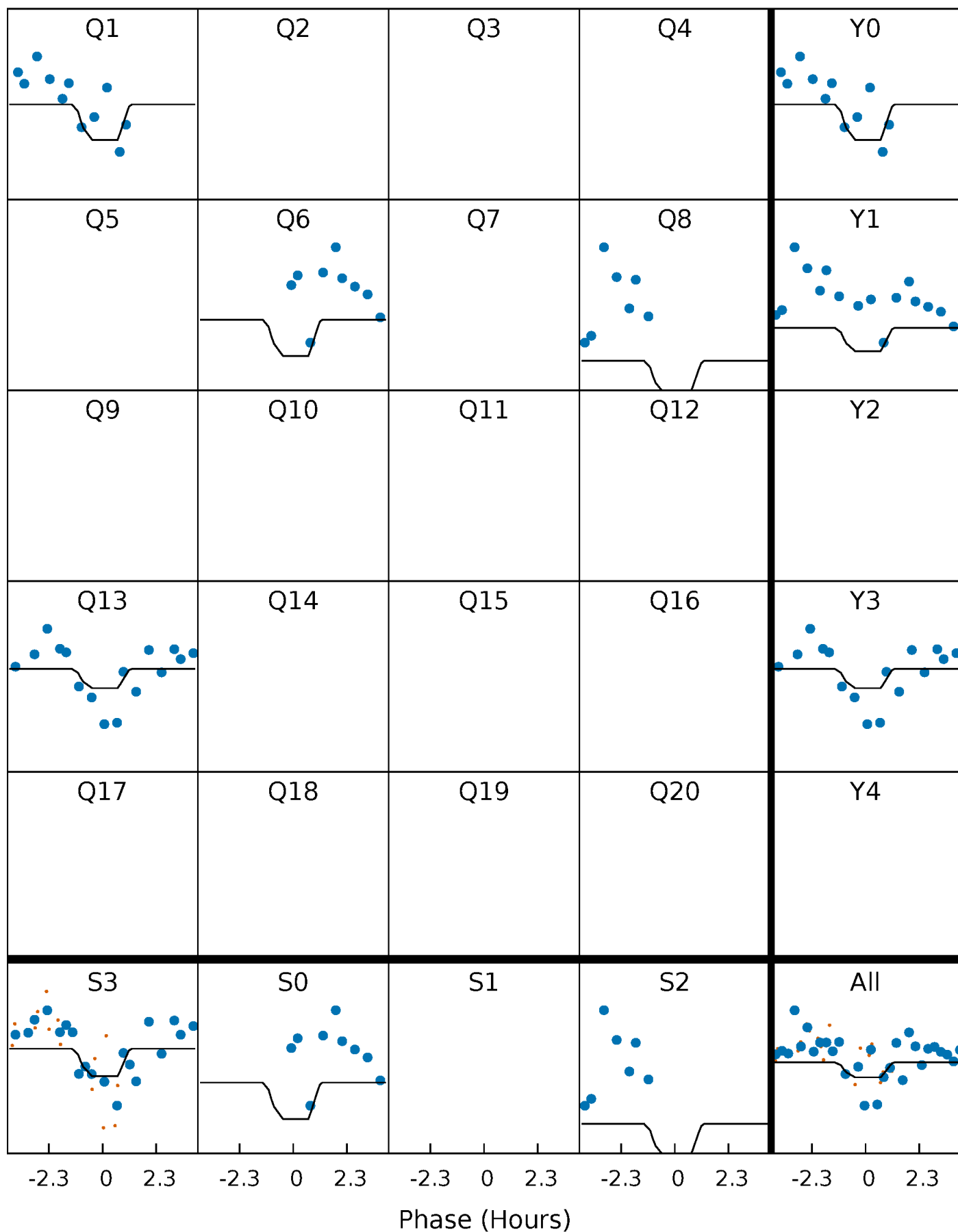
DV Quarter-Phased Transit Curves

TCE 005556241-05 $P=218.936789$ Days $T_0=138.186906$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

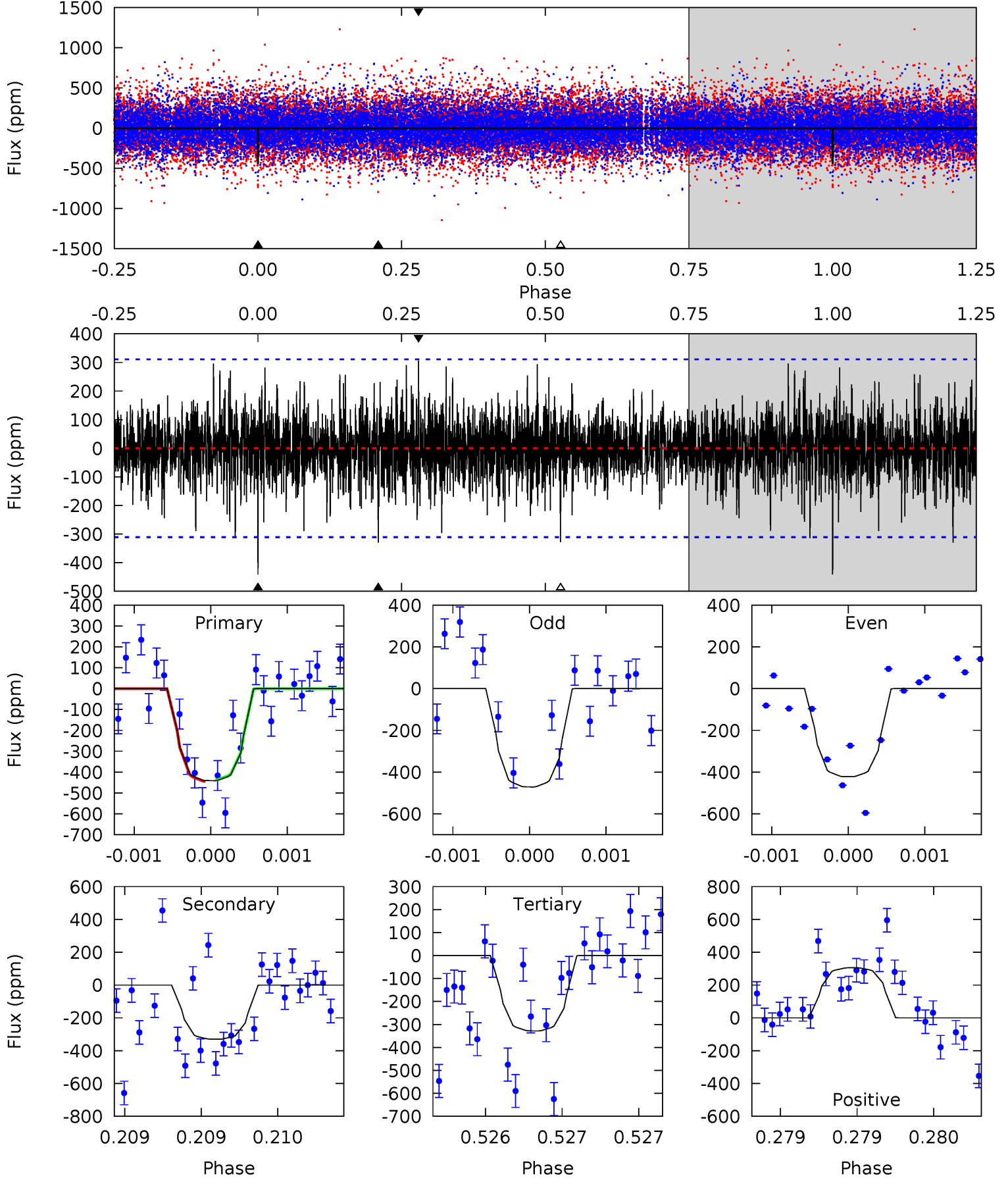
TCE 005556241-05 P=218.934481 Days $T_0=138.187712$ (BKJD)



DV Model-Shift Uniqueness Test

005556241-05, P = 218.936789 Days, E = 138.186906 Days

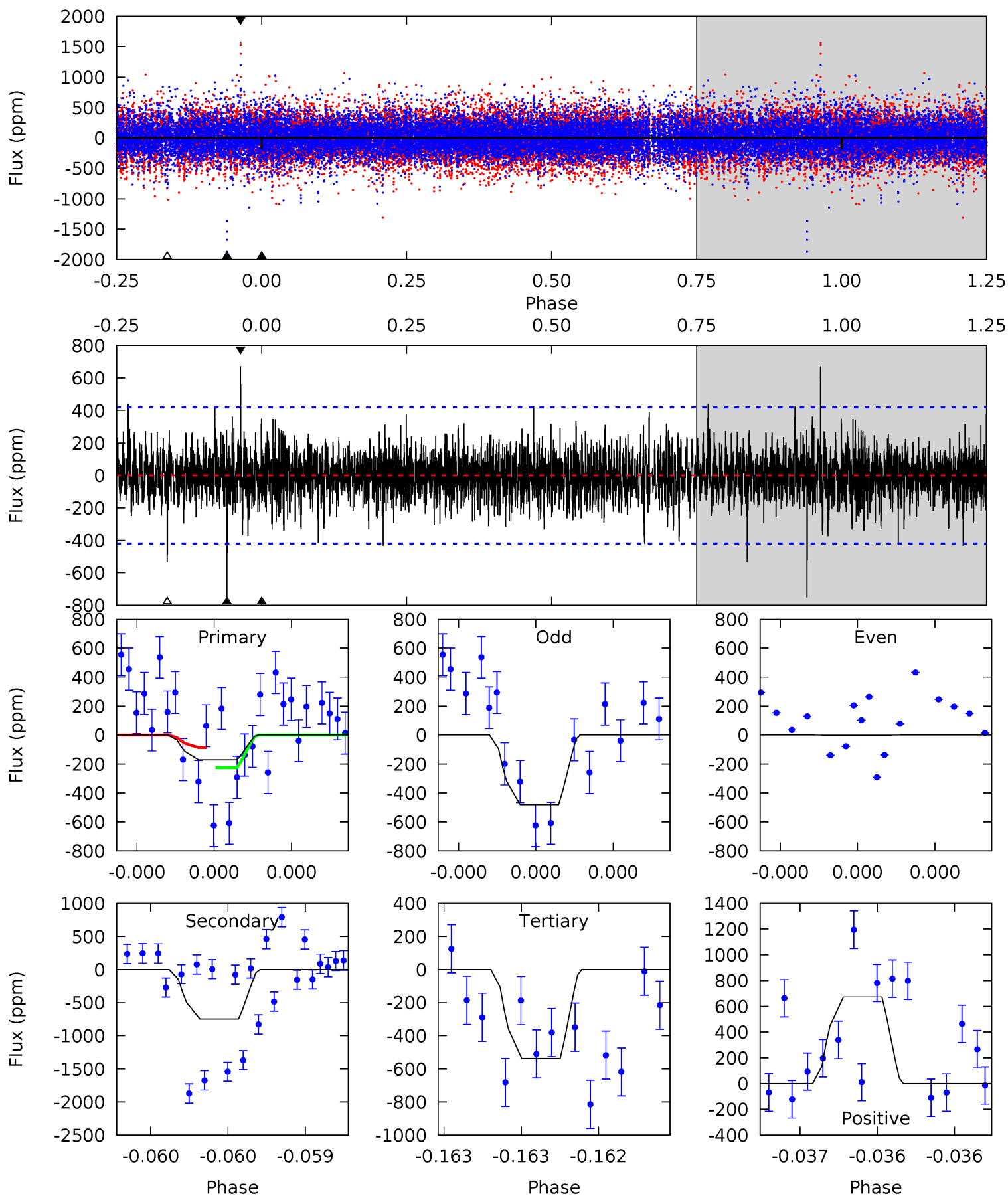
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.89	5.90	5.87	5.46	5.55	3.45	1.39	2.01	2.42	0.03	0.44	0.44	0.91	0.41	0.06



Alt Model-Shift Uniqueness Test

005556241-05, P = 218.934481 Days, E = 138.187712 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.28	10.0	7.18	9.00	5.60	3.53	1.47	-4.90	-6.72	2.86	1.04	3.02	1.48	0.47	0.86



Stellar Parameters For KIC 005556241

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6703^{+159}_{-239}	$4.390^{+0.065}_{-0.208}$	$-0.340^{+0.250}_{-0.300}$	$1.136^{+0.368}_{-0.123}$	$1.158^{+0.165}_{-0.148}$	$1.114^{+0.311}_{-0.580}$
	+2%/-4%	+1%/-5%	+74%/-88%	+32%/-11%	+14%/-13%	+28%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005556241-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-330 ± 56	$4.34^{+3.53}_{-2.94}$	518^{+41}_{-25}	5026^{+4084}_{-1054}	5303^{+44470}_{-3694}
Alt.	-750 ± 75	$3.60^{+3.62}_{-2.44}$	518^{+38}_{-25}	6547^{+7851}_{-1681}	$17501^{+148527}_{-13093}$

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

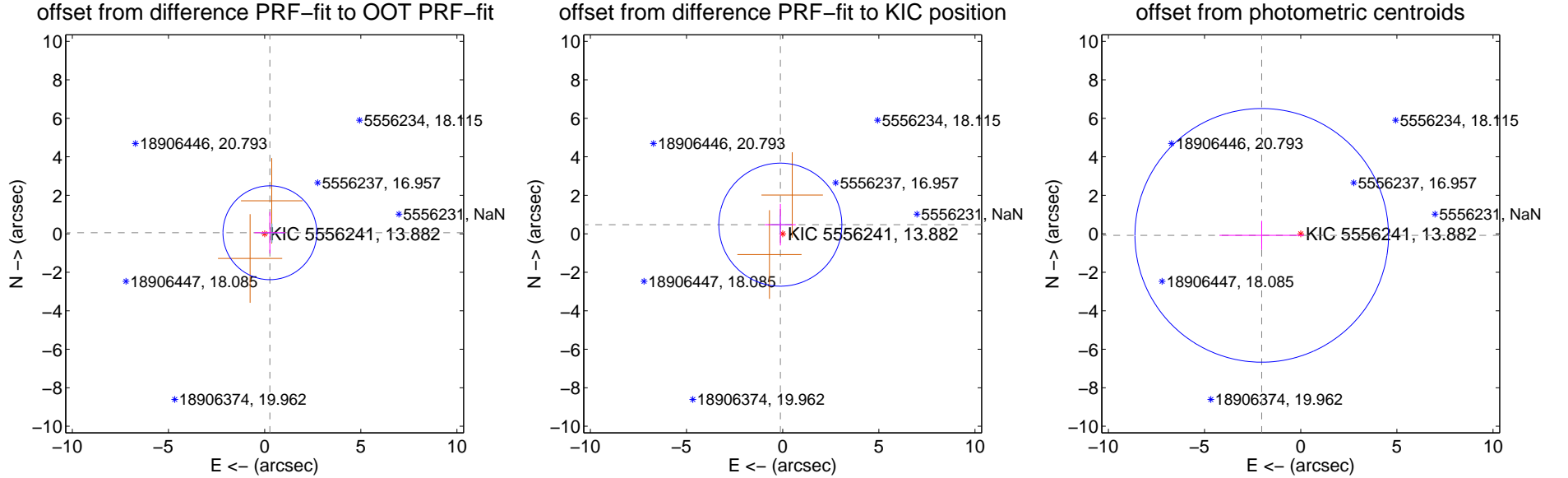
DV Centroid Data

Supplemental centroid analysis for 005556241-05. Kepler magnitude: 13.88. Transit SNR 7.27

There are 1 quarters with good PRF difference image offsets

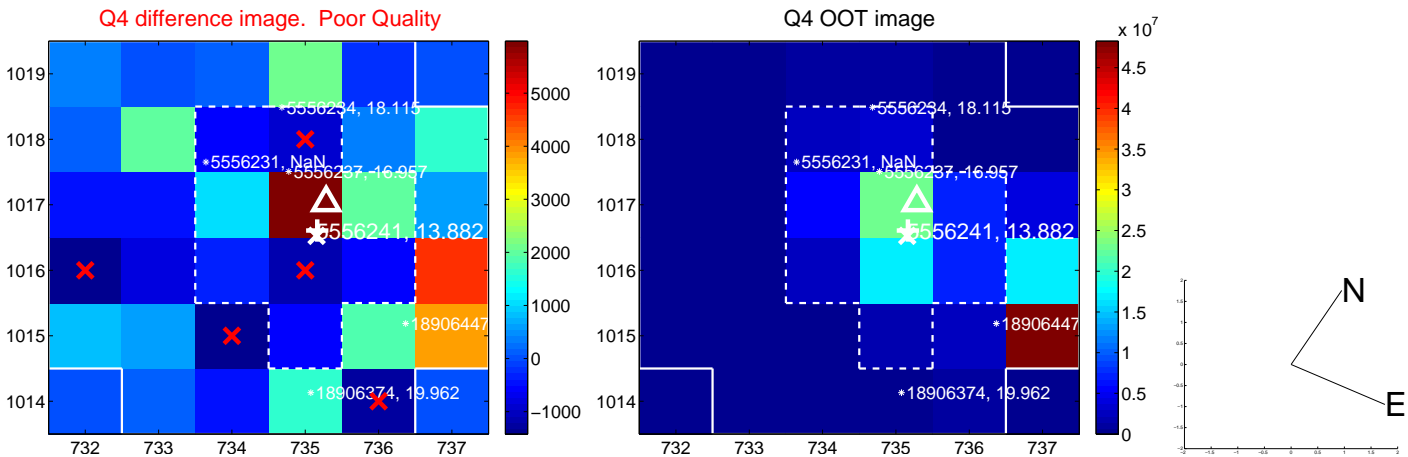
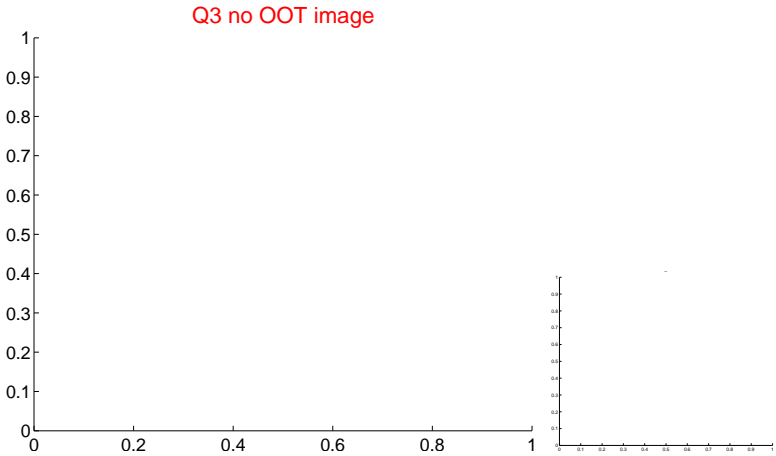
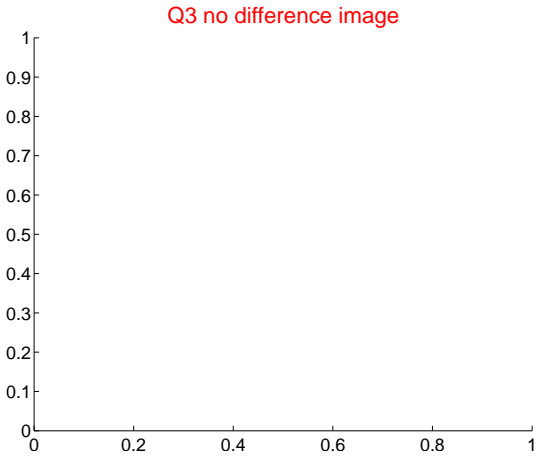
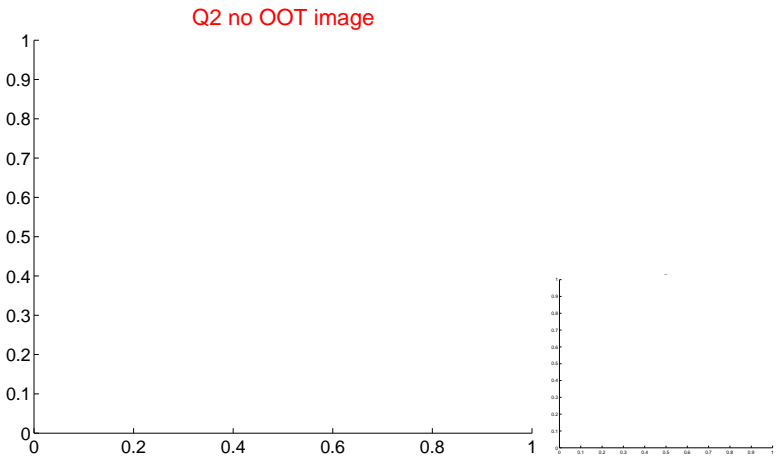
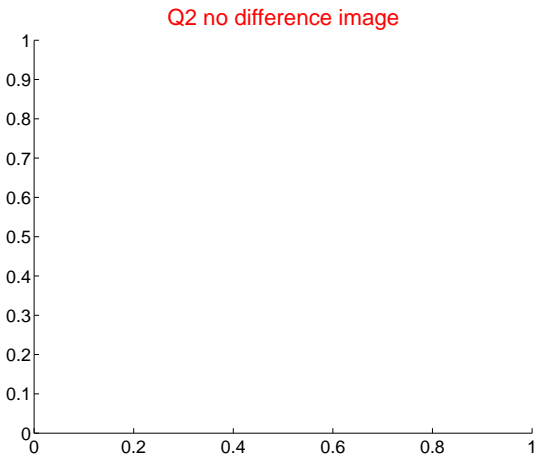
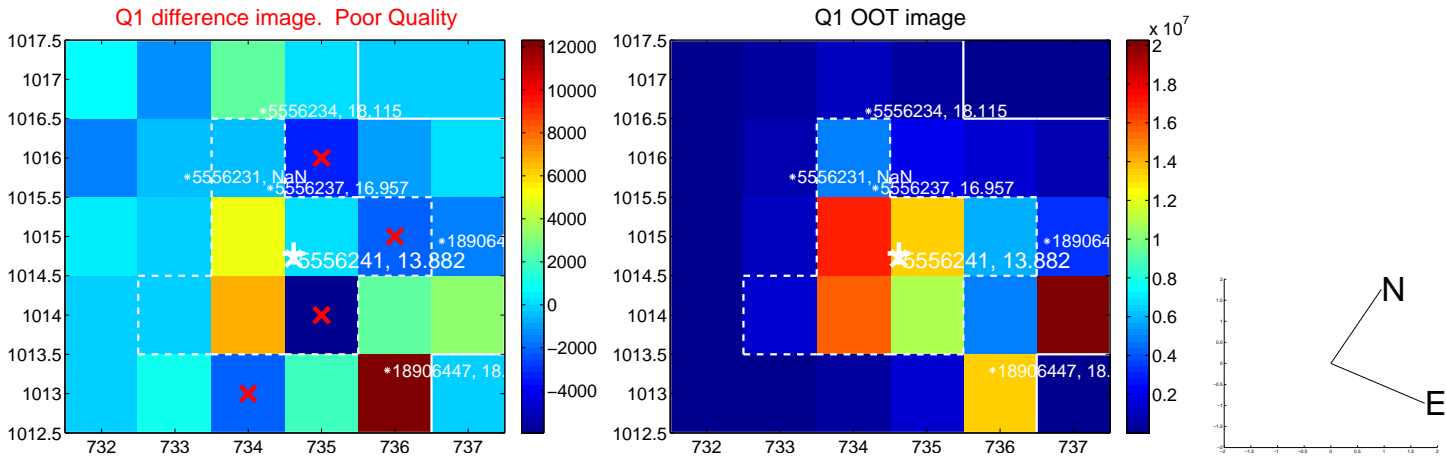
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.277 ± 0.813	0.34	-0.271 ± 0.800	0.054 ± 1.081
PRF-fit source offset from KIC position	0.490 ± 1.066	0.46	0.122 ± 0.800	0.475 ± 1.081
photometric centroid source offset	2.03 ± 2.20	0.92	2.03 ± 2.20	-0.08 ± 0.76



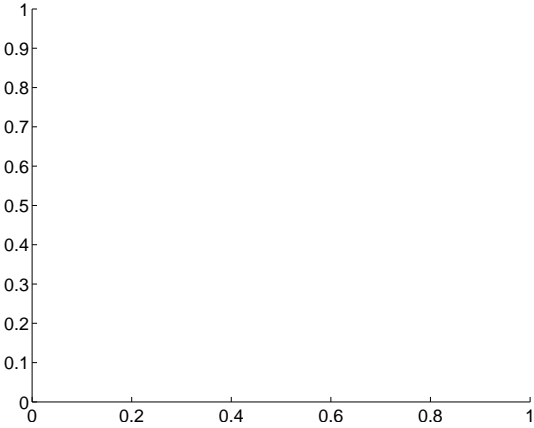
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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

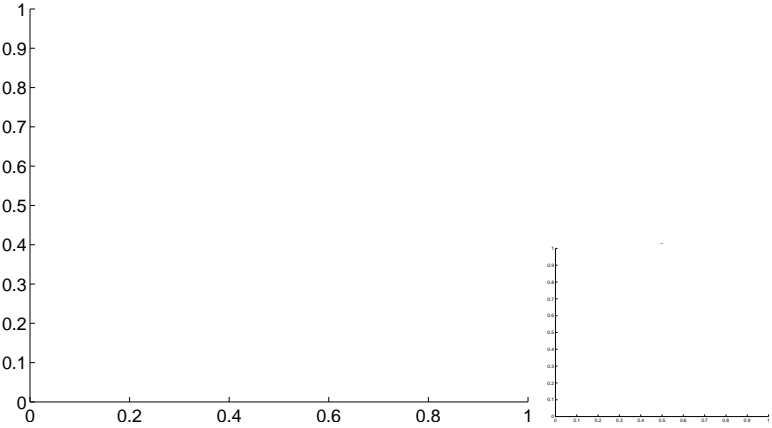


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

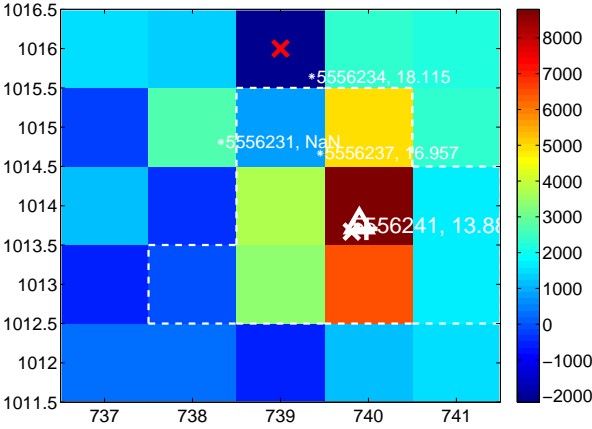
Q5 no difference image



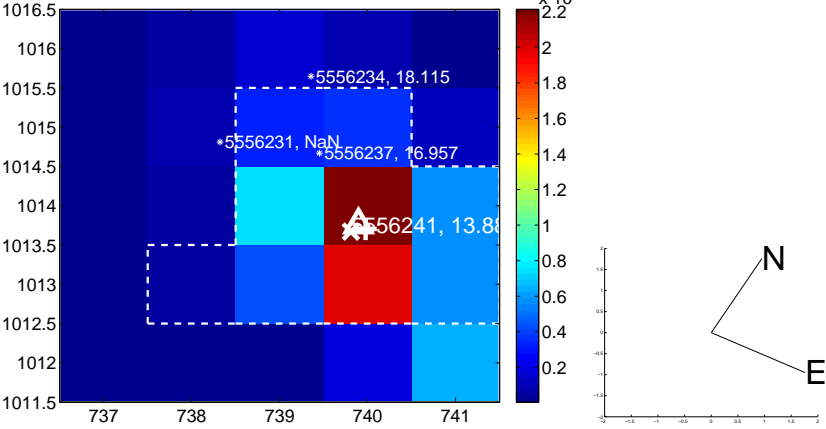
Q5 no OOT image



Q6 difference image



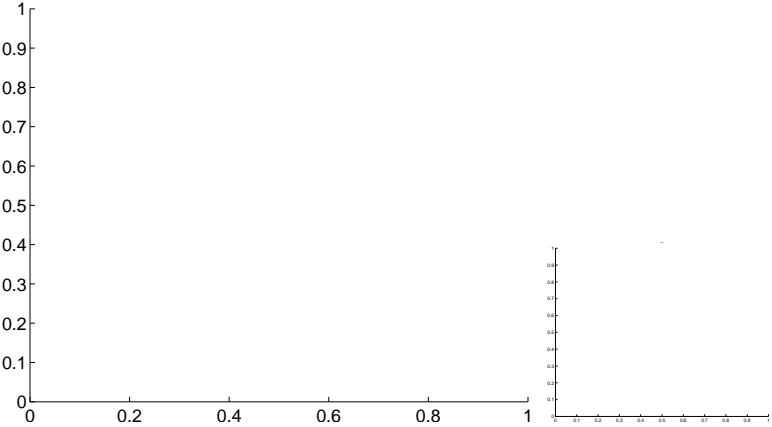
Q6 OOT image



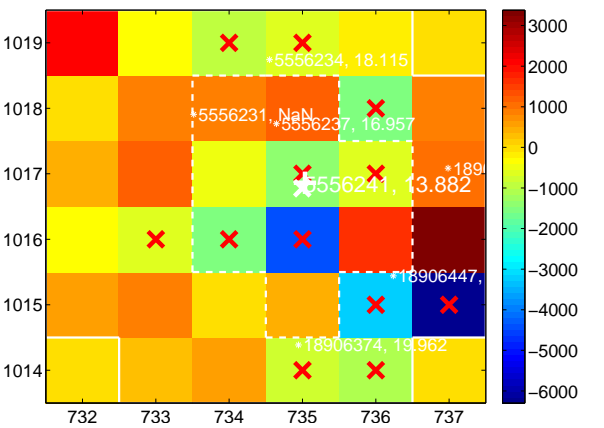
Q7 no difference image



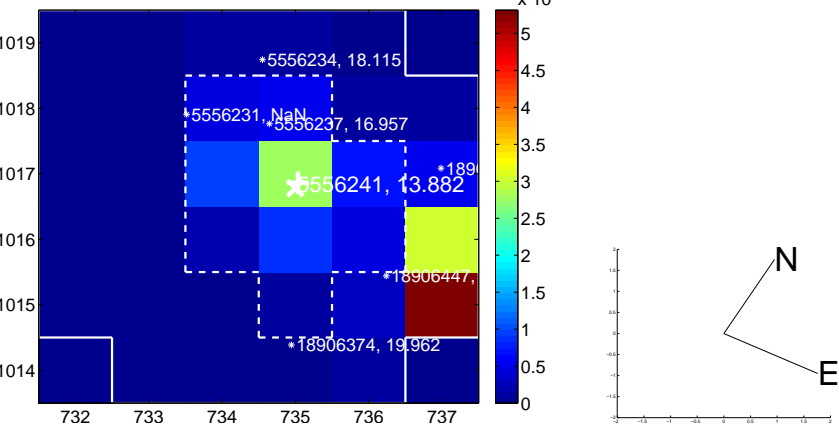
Q7 no OOT image



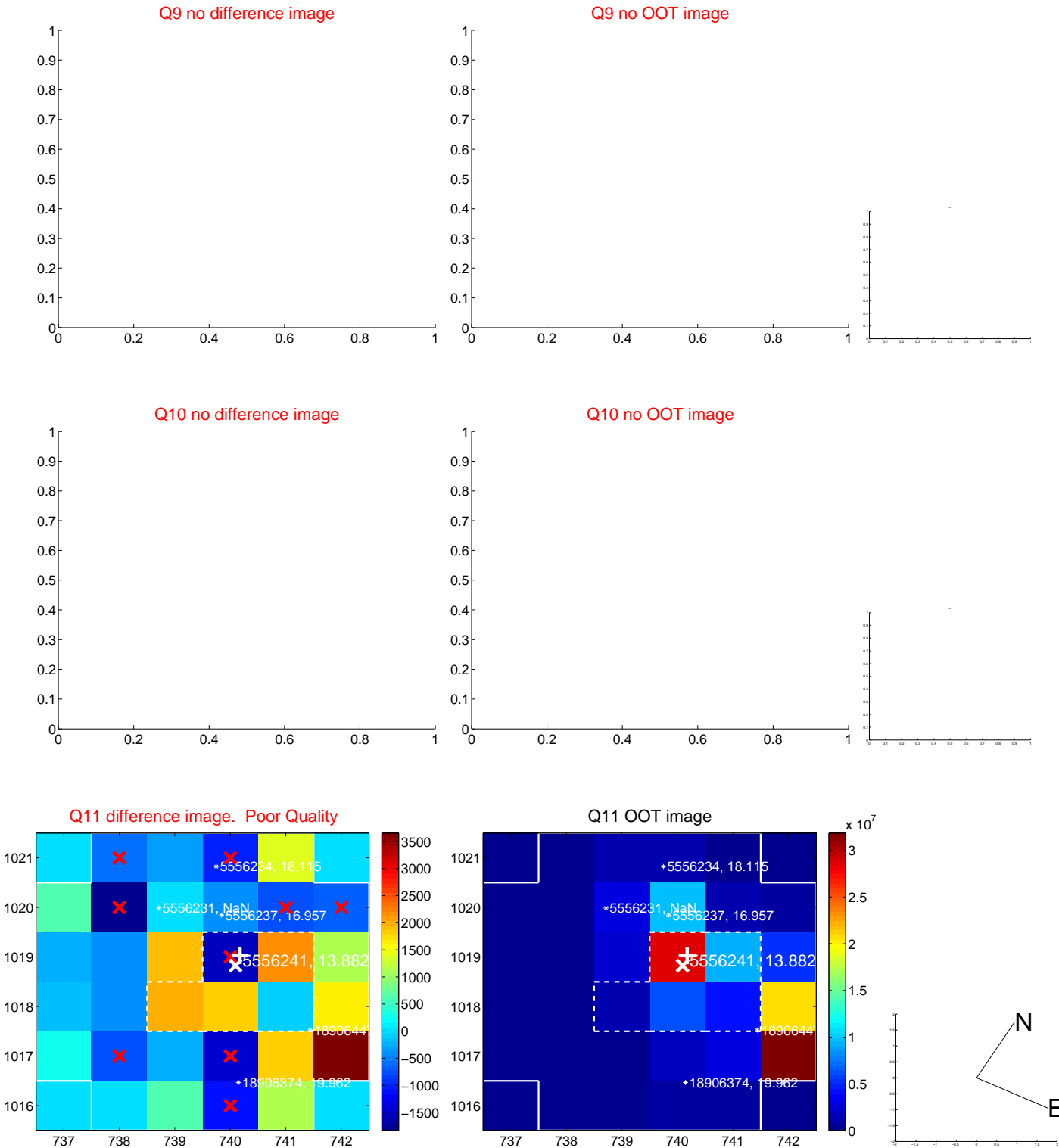
Q8 difference image. Poor Quality



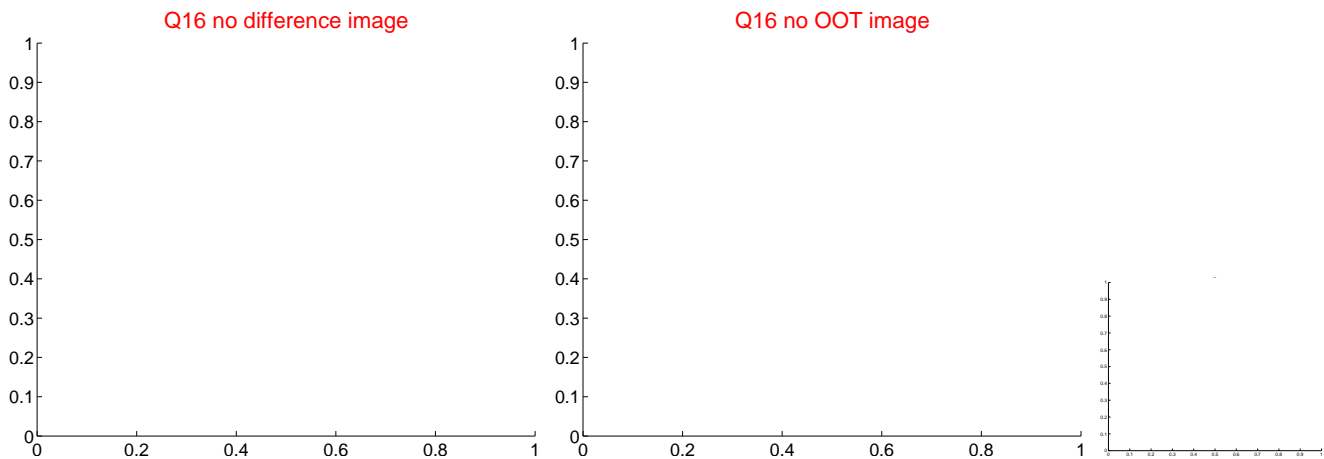
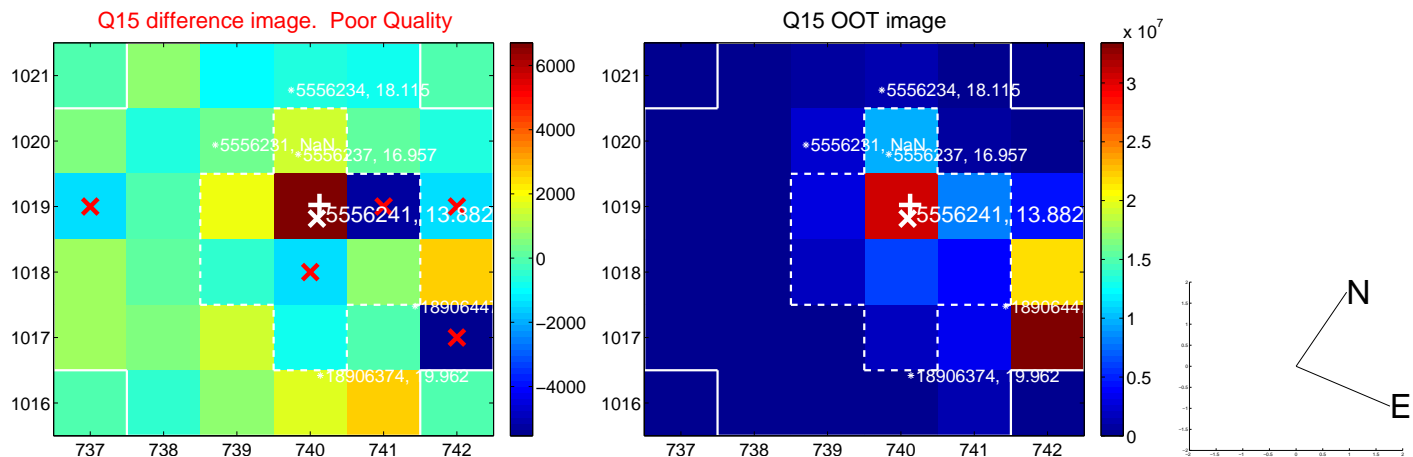
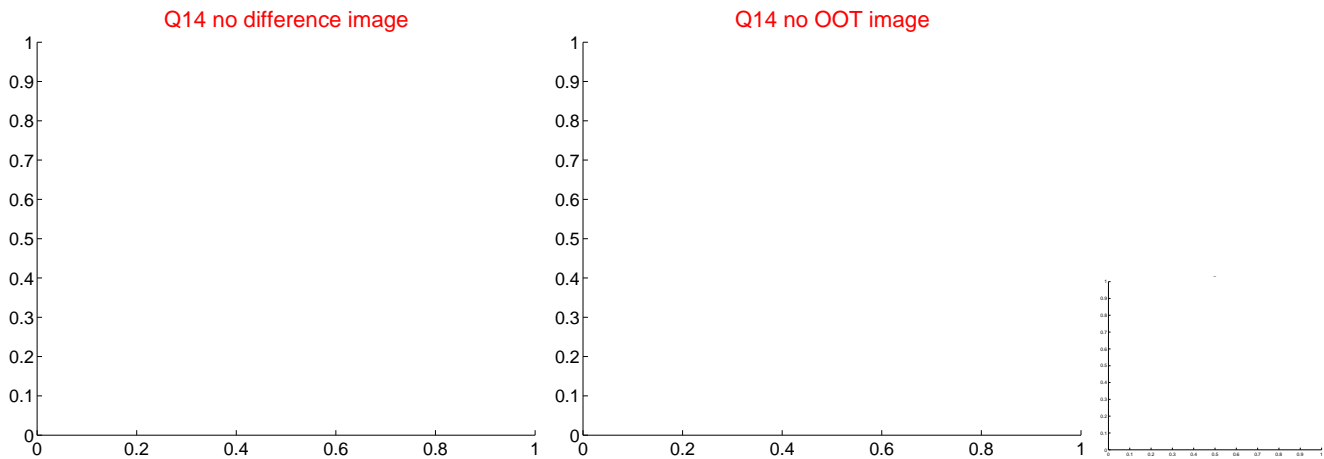
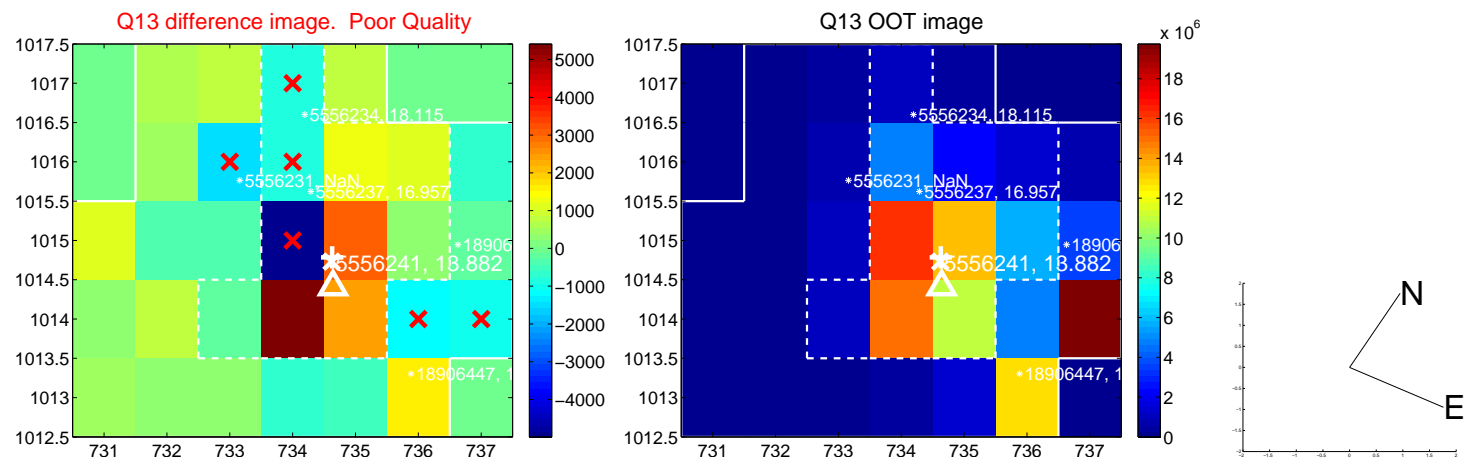
Q8 OOT image



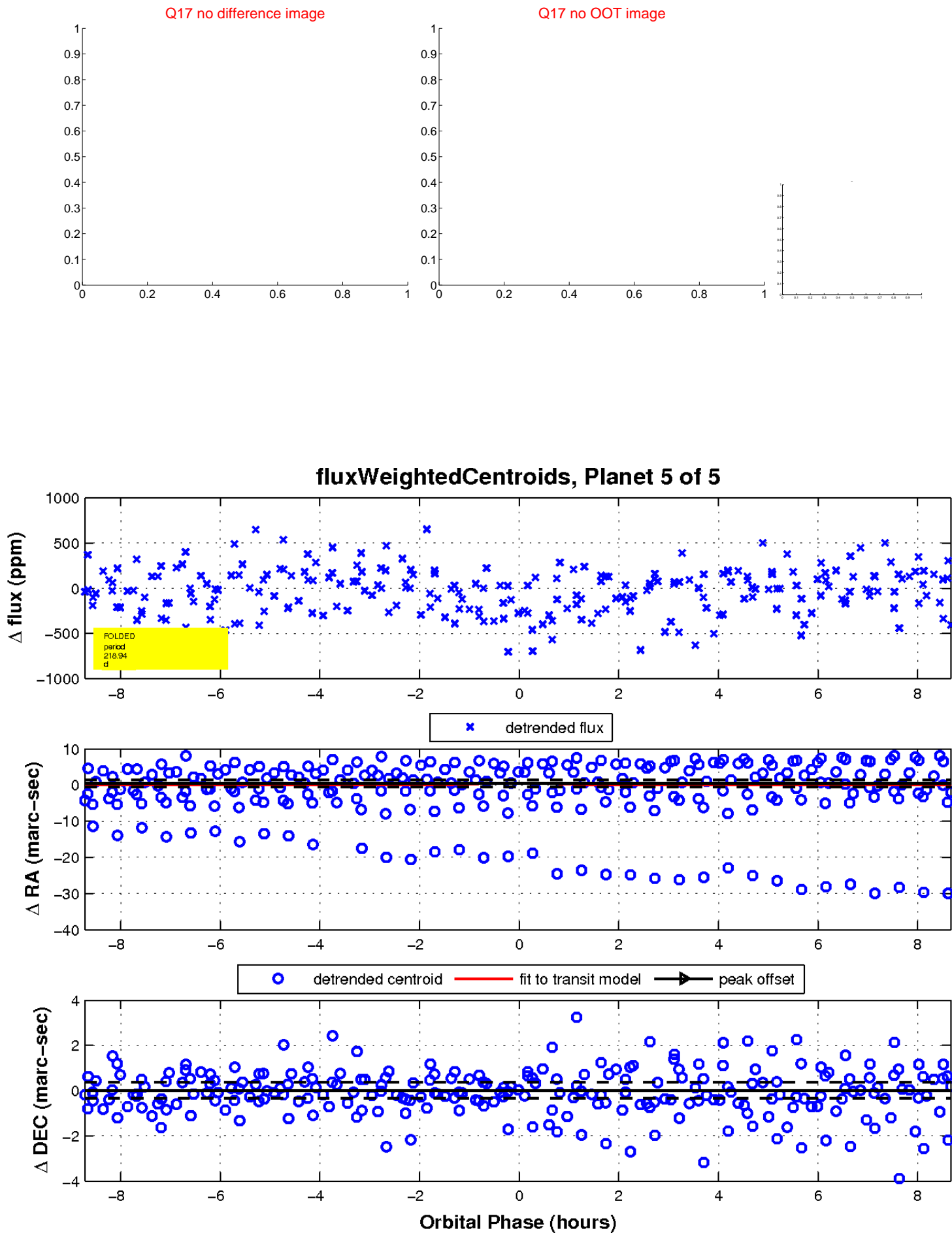
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



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



UKIRT Image

