

KIC 007582608

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})
007582608-01	OBS	No	20.452071	140.258714	31.3	19.173	9.0	7.9	1.99	8373	1.20	527.76
007582608-02	OBS	No	20.450378	151.361920	16.7	23.395	7.9	4.1	1.99	8373	0.90	527.82
007582608-03	OBS	No	20.442306	134.837610	14.9	13.269	7.5	4.0	1.99	8373	0.87	528.10
007582608-04	OBS	No	20.442689	135.818232	48.2	10.522	10.6	11.4	1.99	8373	1.61	528.09
007582608-05	OBS	No	6.816620	137.171090	35.3	15.000	8.1	-1.0	1.99	8373	1.20	2283.84
007582608-06	OBS	No	308.315176	428.199474	466.1	12.500	35.4	-1.0	1.99	8373	4.36	14.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007582608-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
007582608-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
007582608-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
007582608-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—SAME_NTL_PERIOD—CENT_FEW_DIFFS
007582608-05	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS
007582608-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS—HALO_GHOST

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

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

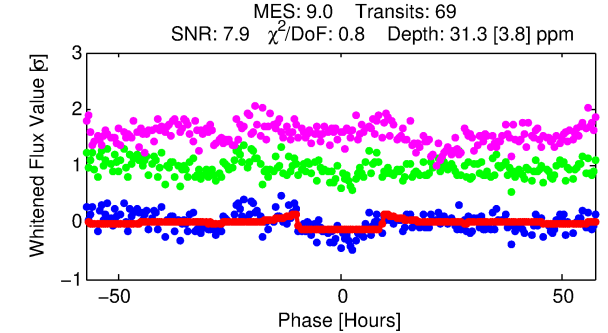
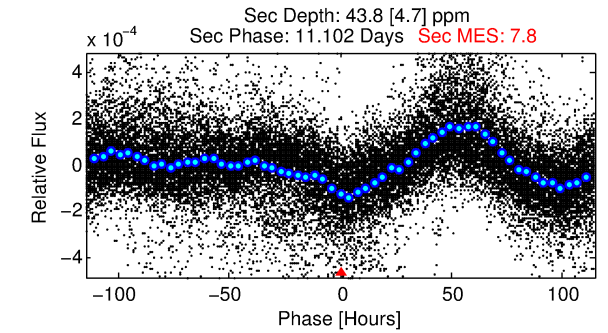
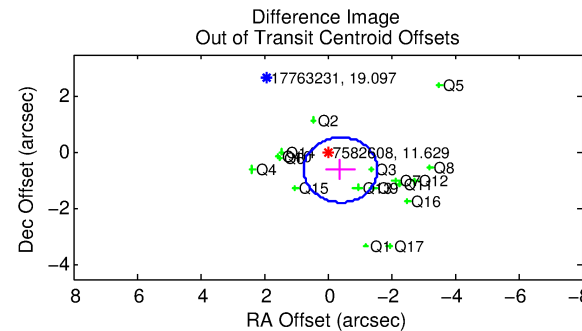
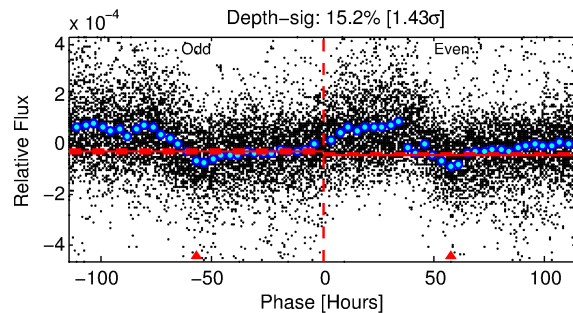
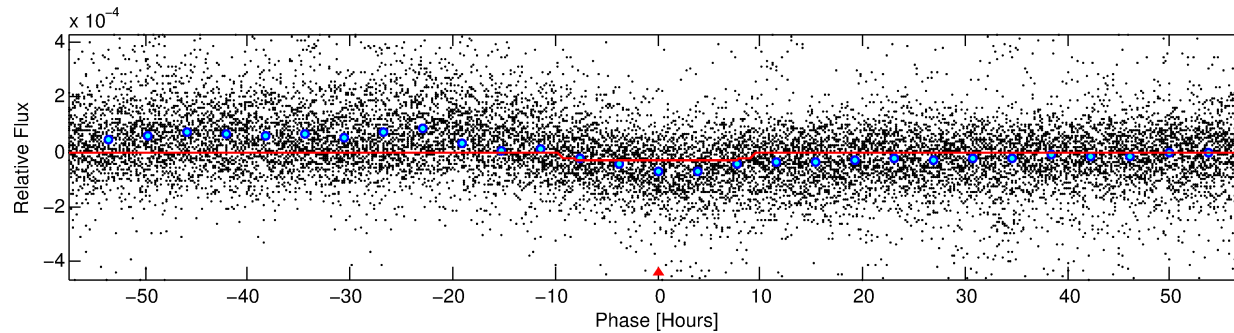
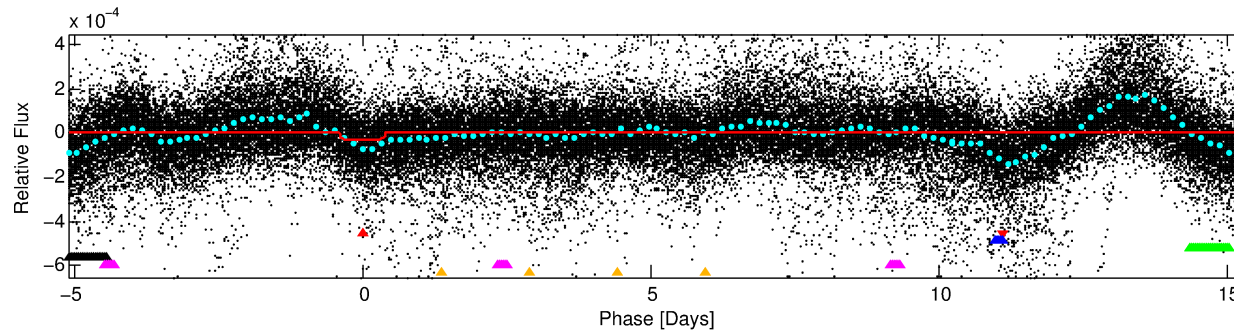
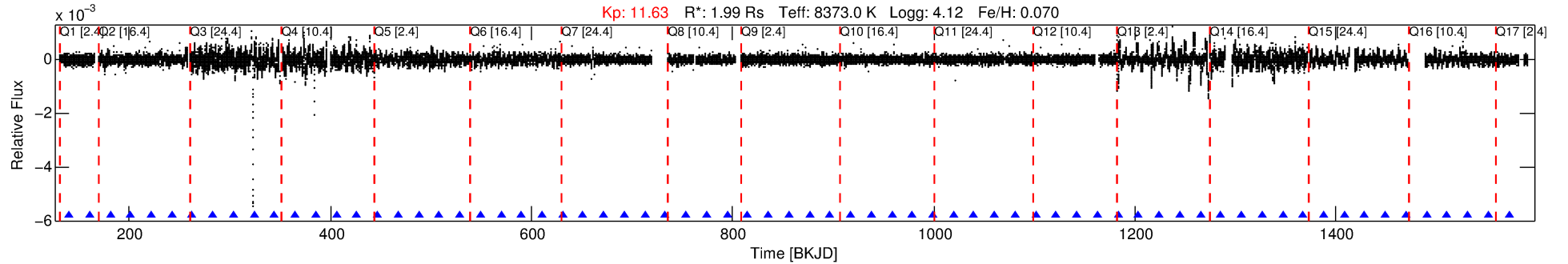
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007582608-01

No Significant Match Found

DV One-Page Summary

KIC: 7582608 Candidate: 1 of 6 Period: 20.452 d



DV Fit Results:

Period = 20.45207 [0.00034] d
Epoch = 140.2587 [0.0140] BKJD
Rp/R* = 0.0055 [0.0008]
a/R* = 5.89 [4.20]
b = 0.71 [0.52]
Seff = 527.76 [175.74]
Teq = 1222 [102] K
Rp = 1.20 [0.32] Re
a = 0.1821 [0.0348] AU
Ag = 558.57 [227.13] [2.45 σ]
Teffp = 9186 [793] K [9.96 σ]

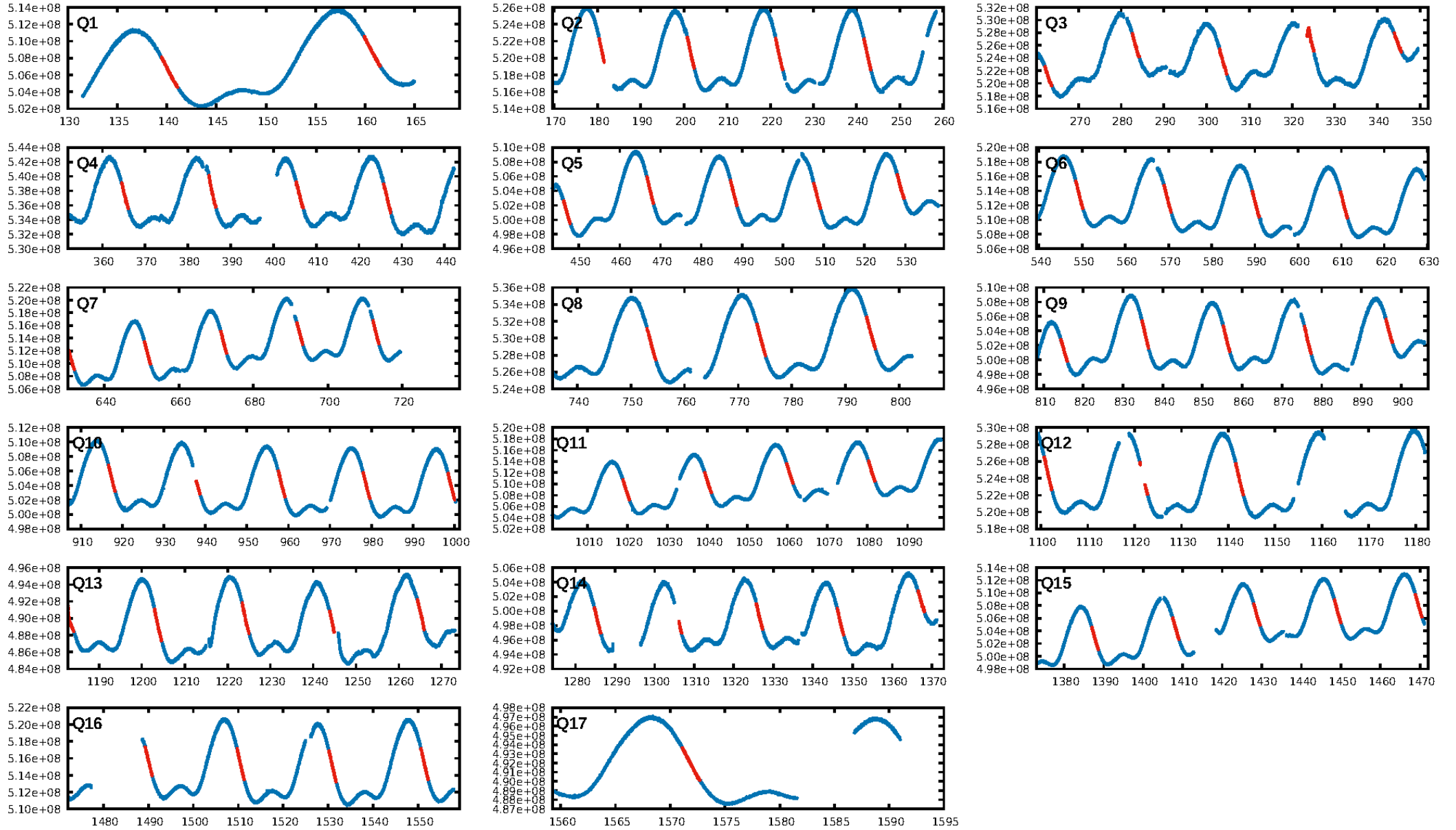
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00 σ]
LongPeriod-sig: 100.0% [301.85 σ]
ModelChiSquare2-sig: 99.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.65e-14
RollingBand-fgt: 1.00 [66/66]
GhostDiagnostic-chr: 3.045
Centroid-sig: N/A
Centroid-so: 1.750 arcsec [1.52 σ]
OotOffset-rm: 0.741 arcsec [1.92 σ]
KicOffset-rm: 0.591 arcsec [1.46 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.76 [13/17]
DiffImageOverlap-fno: 1.00 [17/17]

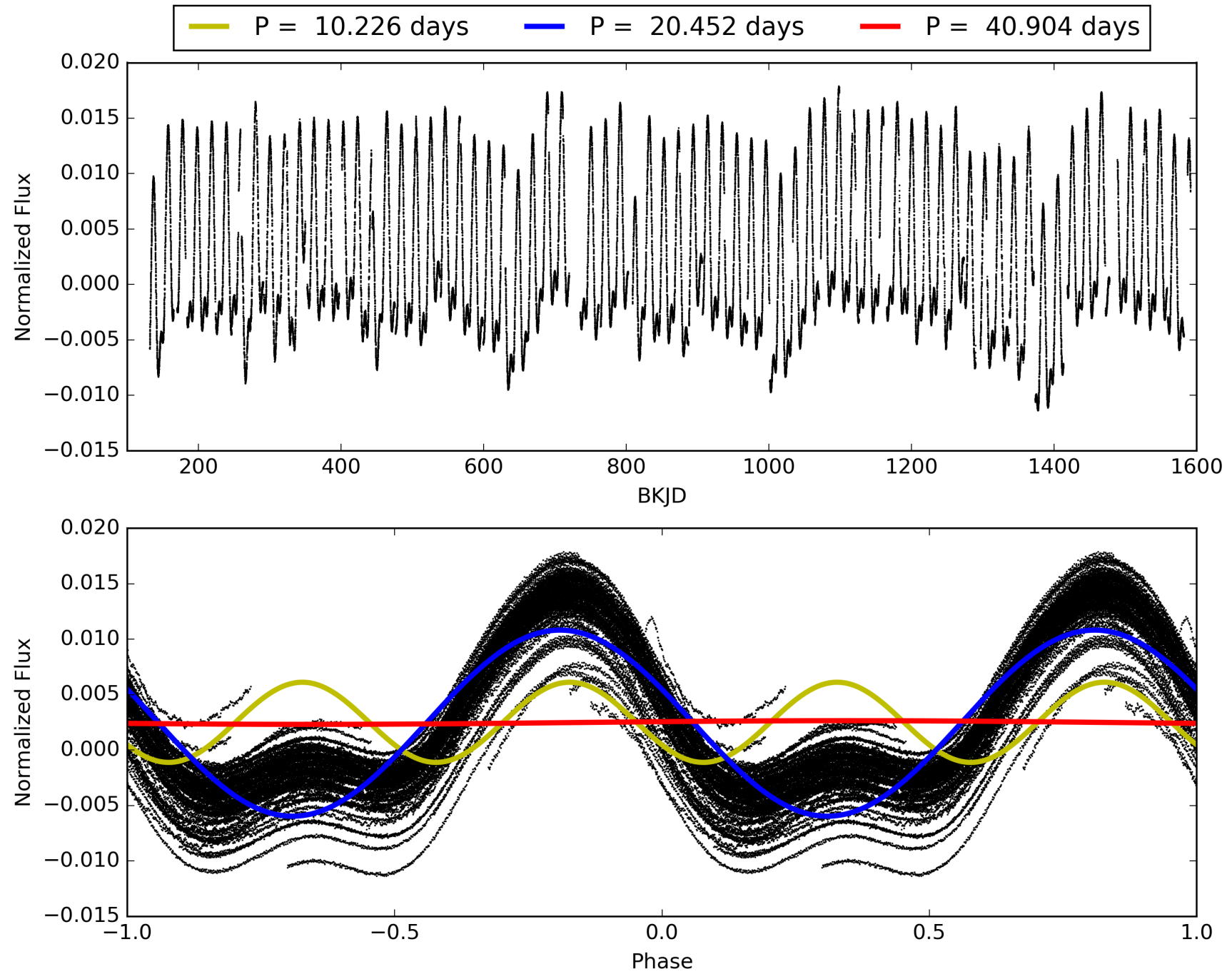
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 20:38:05 Z

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

TCE 007582608-01, PDC Light Curves

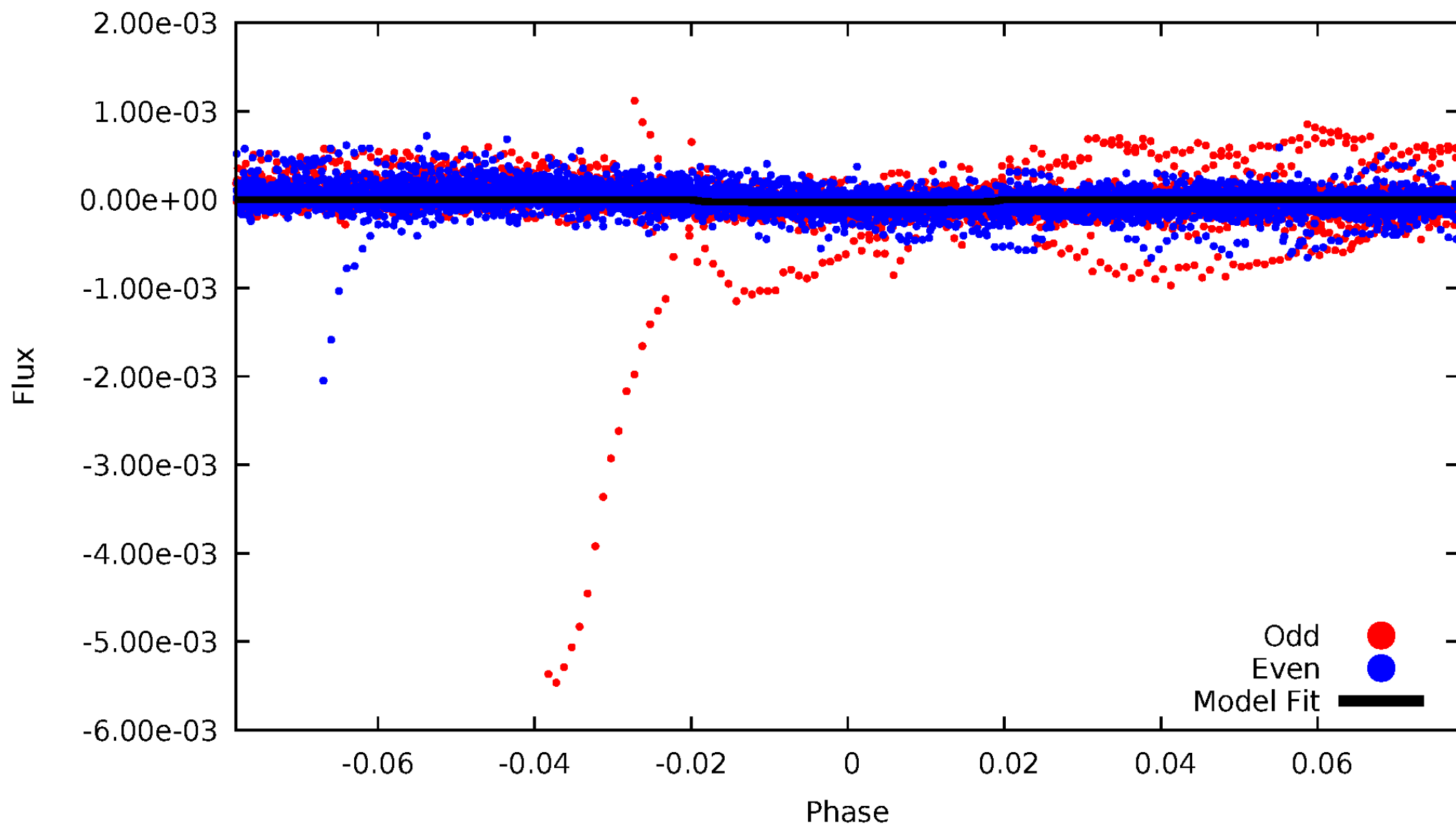


TCE 007582608-01



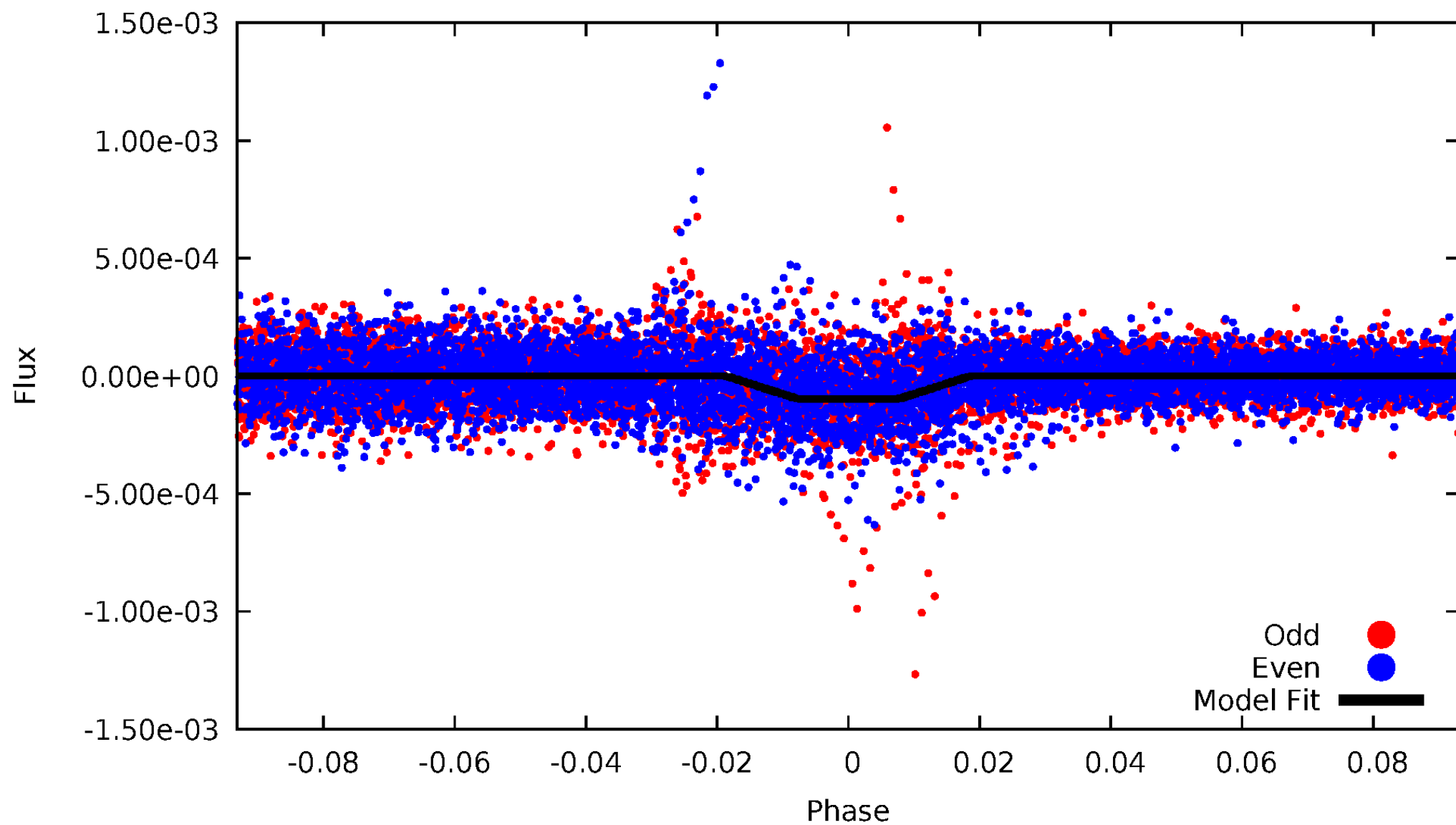
DV Odd/Even

TCE 007582608-01

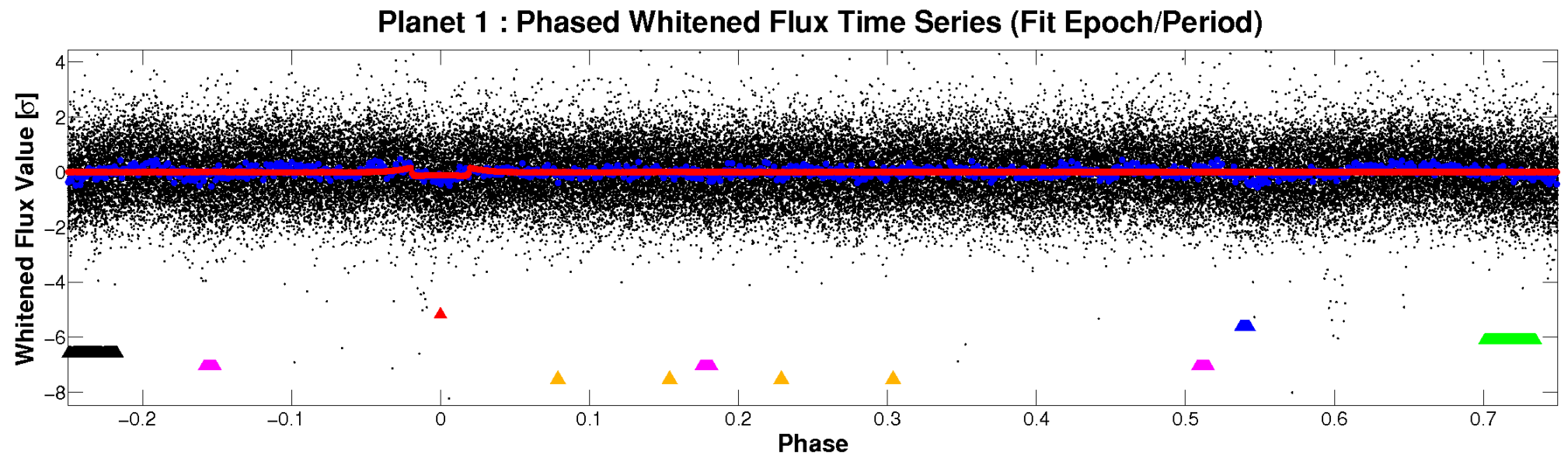
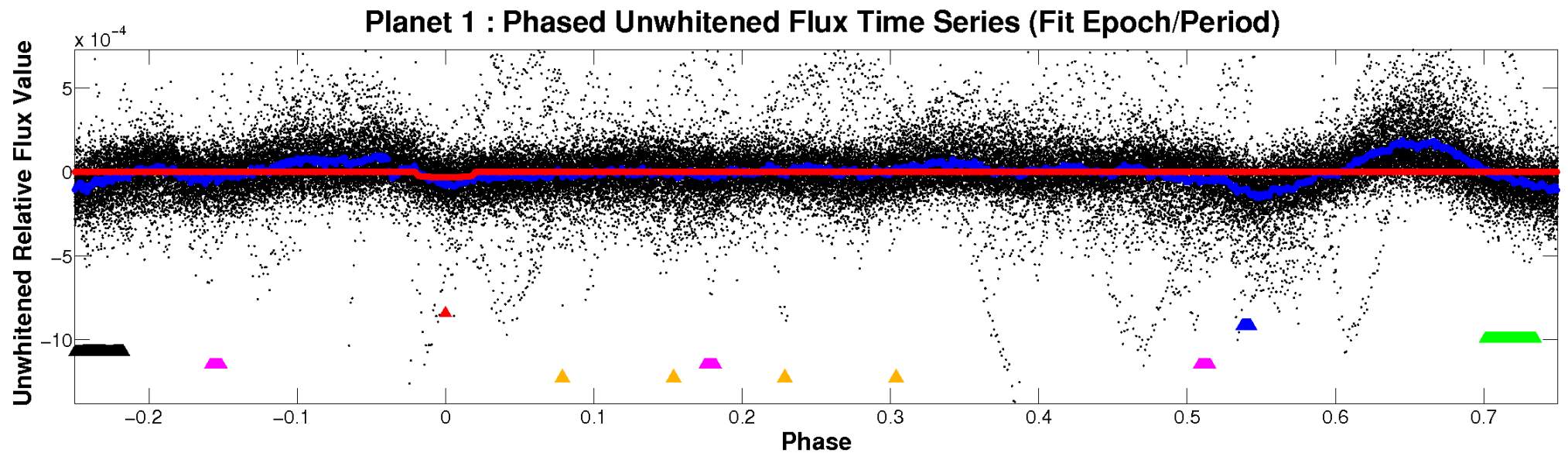


ALT Odd/Even

TCE 007582608-01

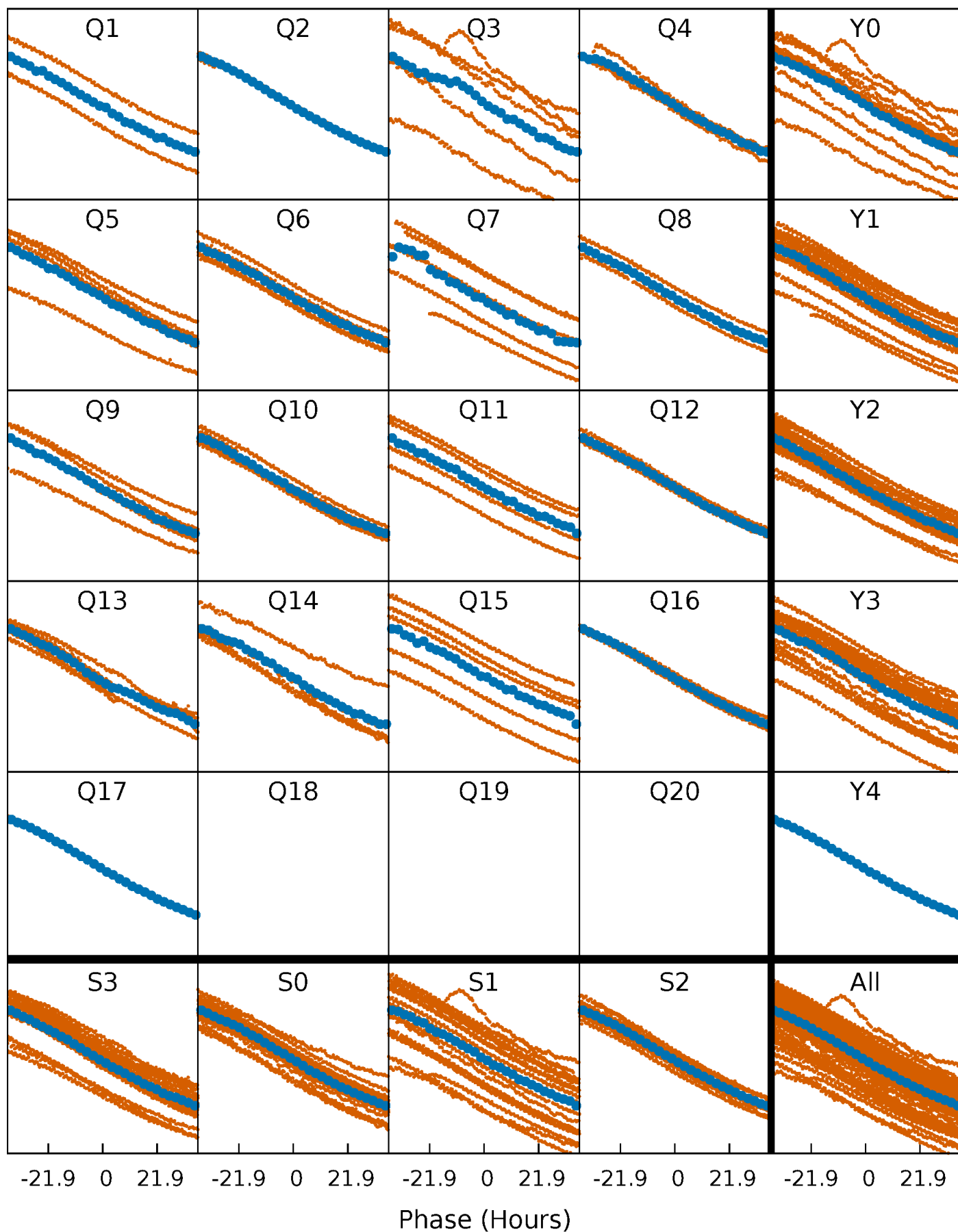


Non-Whitened Vs. Whitened Light Curve



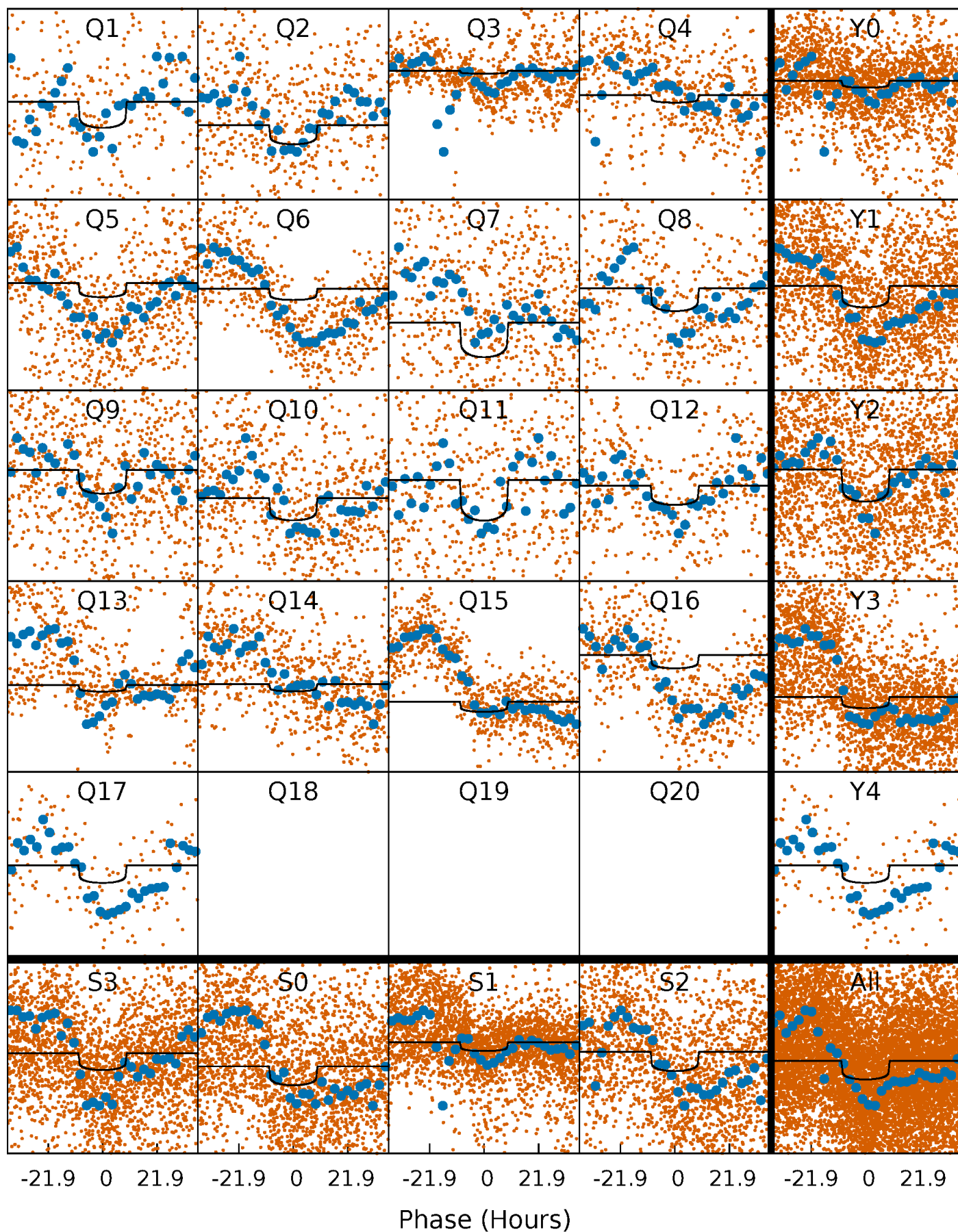
PDC Quarter-Phased Transit Curves

TCE 007582608-01 P= 20.452071 Days $T_0=140.258714$ (BKJD)



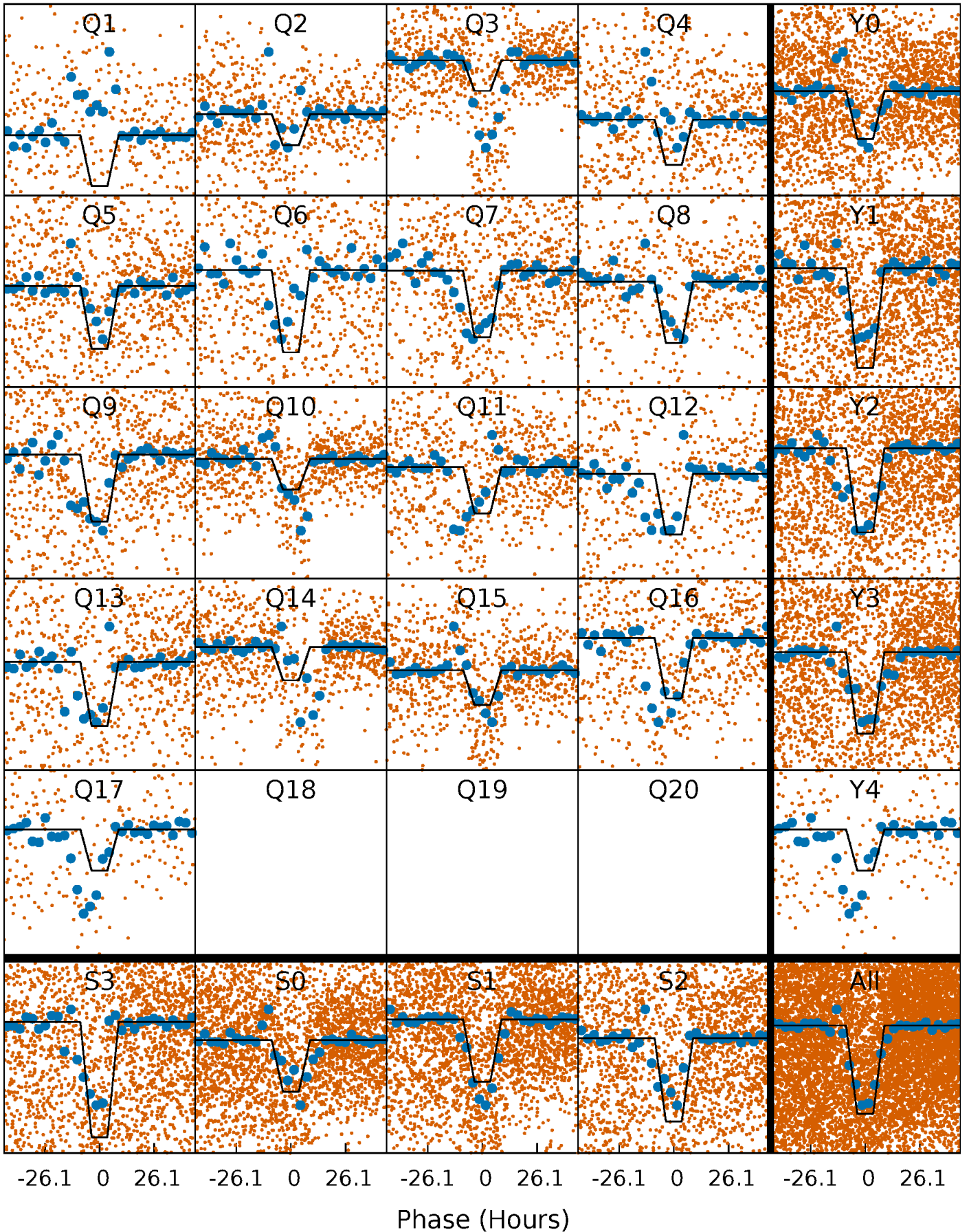
DV Quarter-Phased Transit Curves

TCE 007582608-01 P= 20.452071 Days $T_0=140.258714$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

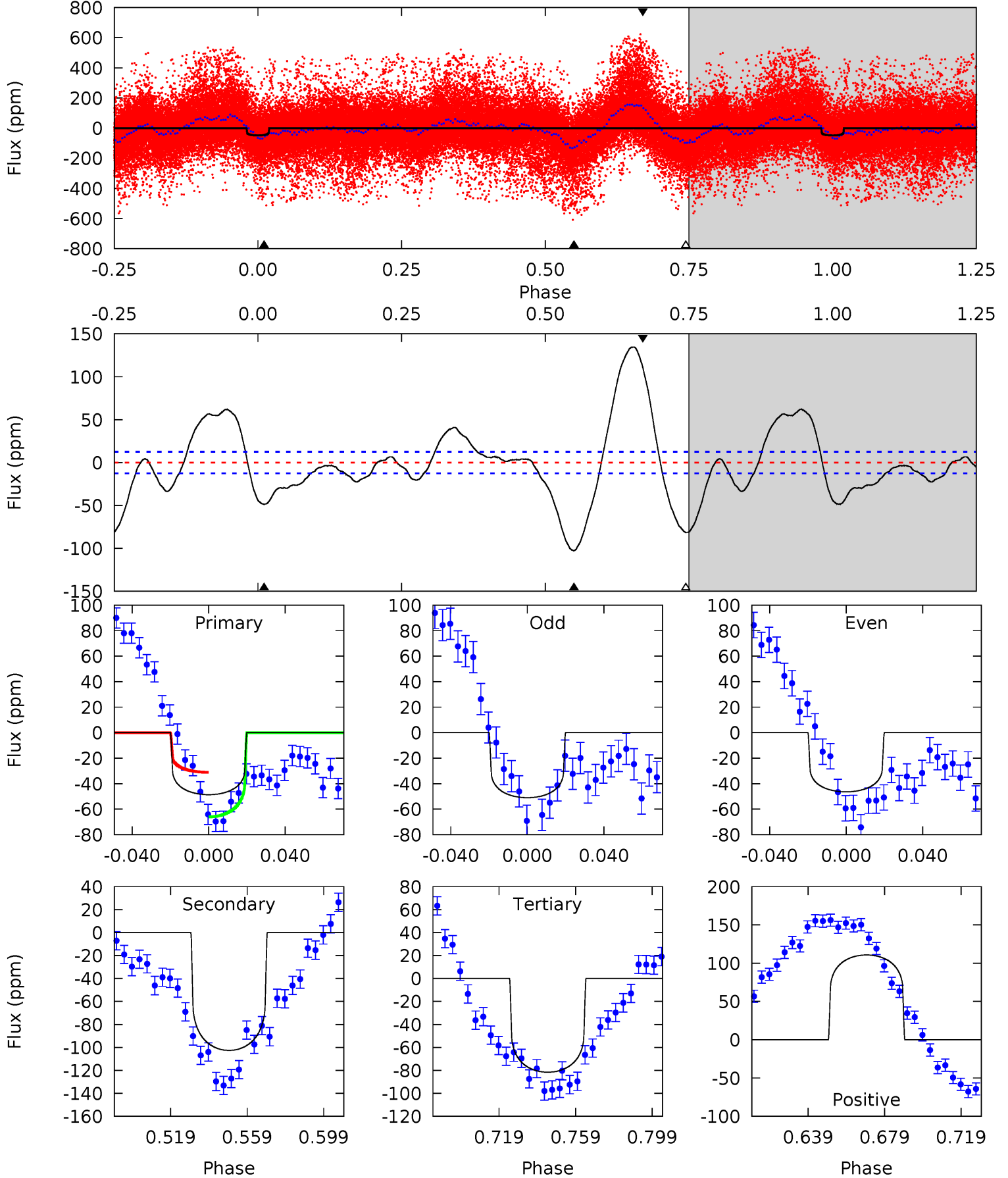
TCE 007582608-01 P= 20.450850 Days $T_0=140.379868$ (BKJD)



DV Model-Shift Uniqueness Test

007582608-01, P = 20.452071 Days, E = 119.806643 Days

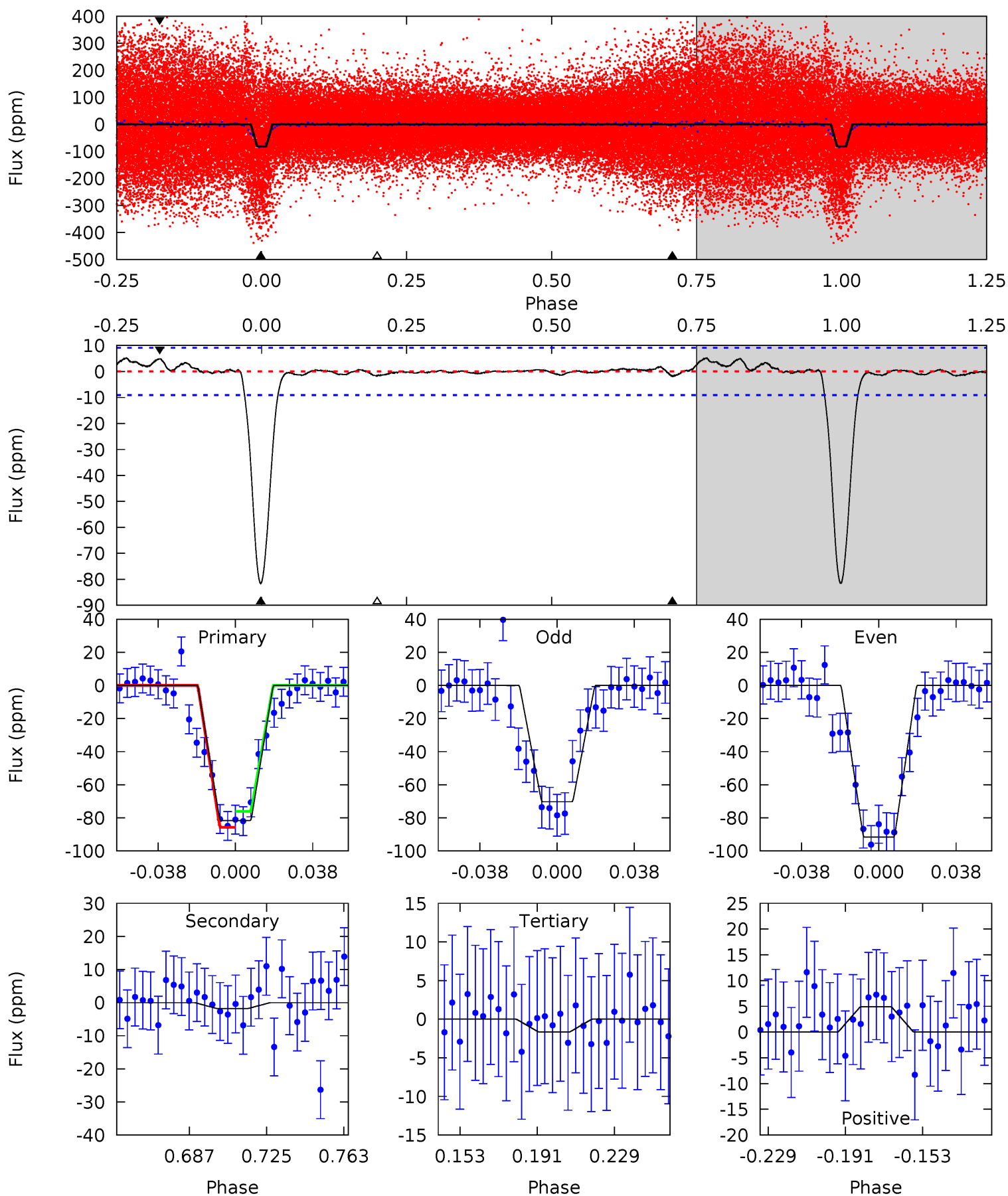
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.4	38.9	31.0	42.0	4.75	2.05	16.4	-12.5	-23.5	7.97	-3.07	0.88	1.39	0.57	6.66



Alt Model-Shift Uniqueness Test

007582608-01, P = 20.450850 Days, E = 119.929018 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
42.6	0.93	0.87	2.56	4.76	2.07	0.71	41.7	40.0	0.06	-1.63	5.58	0.96	0.06	2.38



Stellar Parameters For KIC 007582608

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8373^{+203}_{-377}	$4.123^{+0.126}_{-0.154}$	$0.070^{+0.250}_{-0.550}$	$1.993^{+0.449}_{-0.449}$	$1.922^{+0.313}_{-0.383}$	$0.342^{+0.251}_{-0.146}$
	+2%/-5%	+3%/-4%	+357%/-786%	+23%/-23%	+16%/-20%	+74%/-43%
Source	KIC0	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 007582608-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-103 ± 3	$1.22^{+0.23}_{-0.23}$	1707^{+116}_{-107}	13062^{+1899}_{-1487}	1273^{+522}_{-379}
Alt.	-2 ± 2	$2.17^{+0.32}_{-0.31}$	1712^{+108}_{-107}	3393^{+465}_{-5916}	$6.436^{+8.268}_{-6.903}$

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

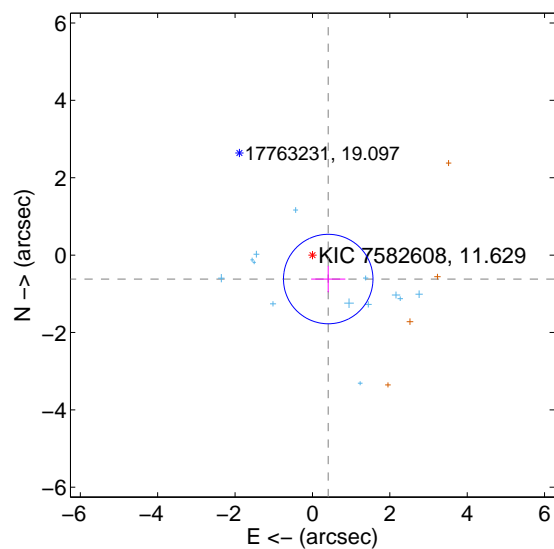
Supplemental centroid analysis for 007582608-01. **Kepler magnitude: 11.63.** Transit SNR 7.94

There are 13 quarters with good PRF difference image offsets

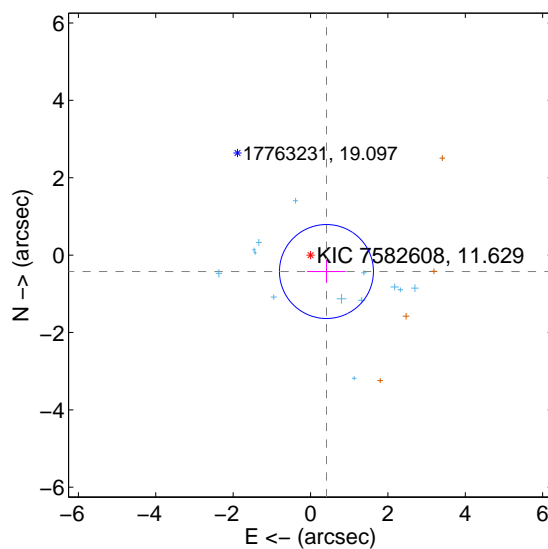
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.741 ± 0.385	1.92	-0.408 ± 0.442	-0.619 ± 0.341
PRF-fit source offset from KIC position	0.591 ± 0.405	1.46	-0.412 ± 0.498	-0.424 ± 0.292
photometric centroid source offset	1.75 ± 1.15	1.52	1.44 ± 1.21	-1.00 ± 1.02

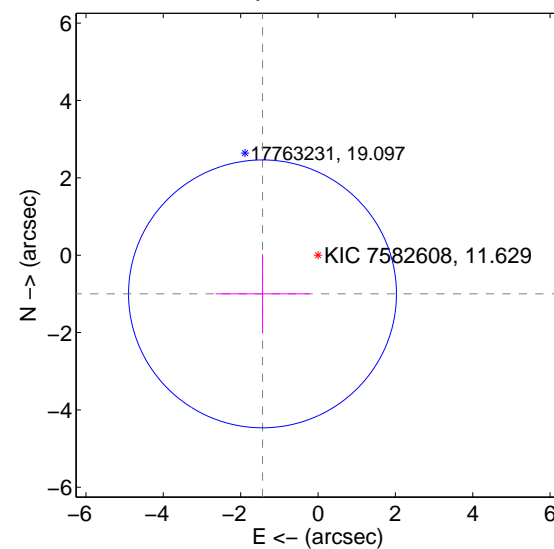
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

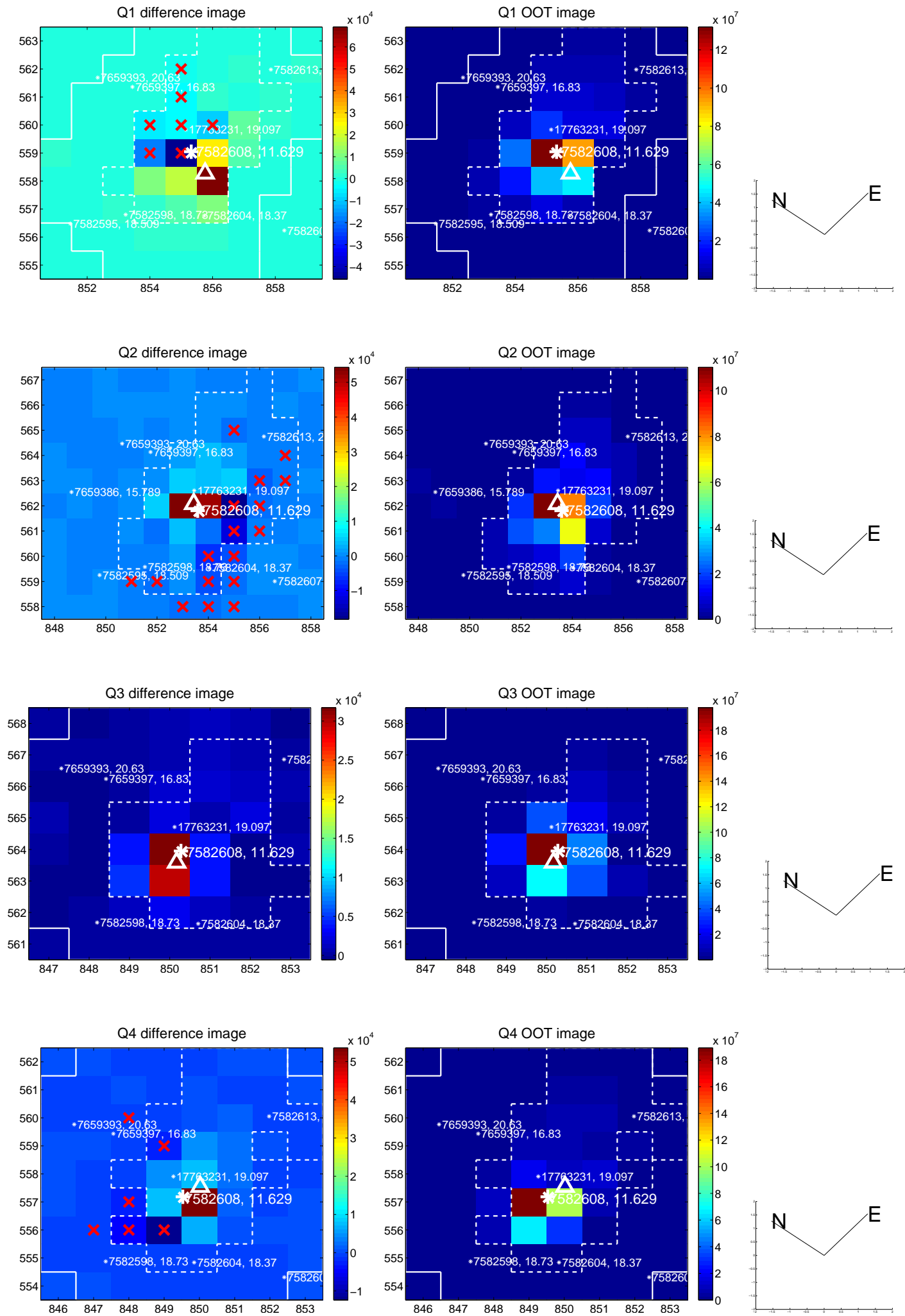


offset from photometric centroids

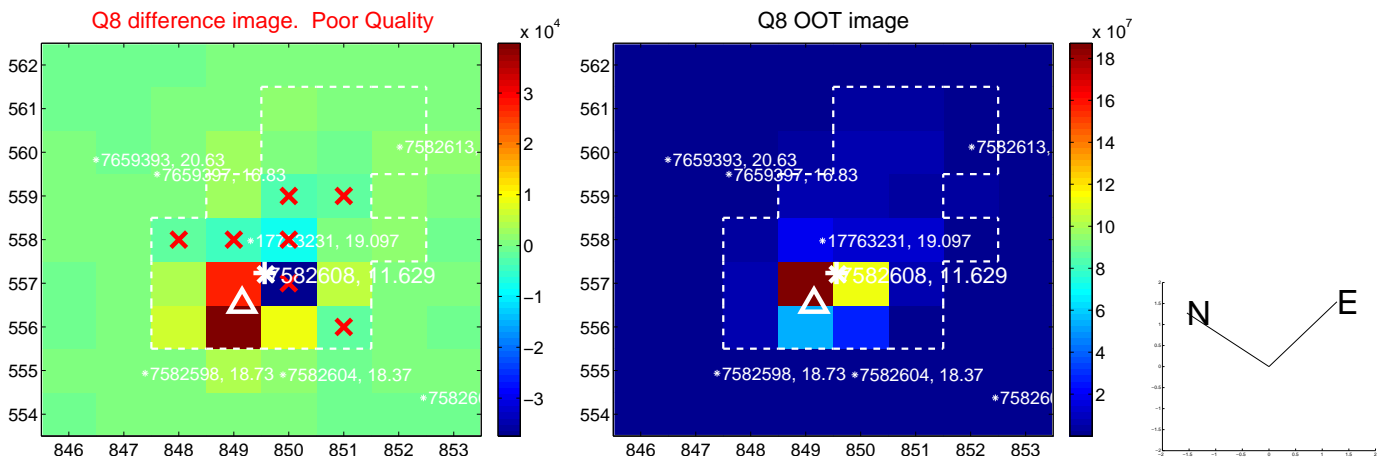
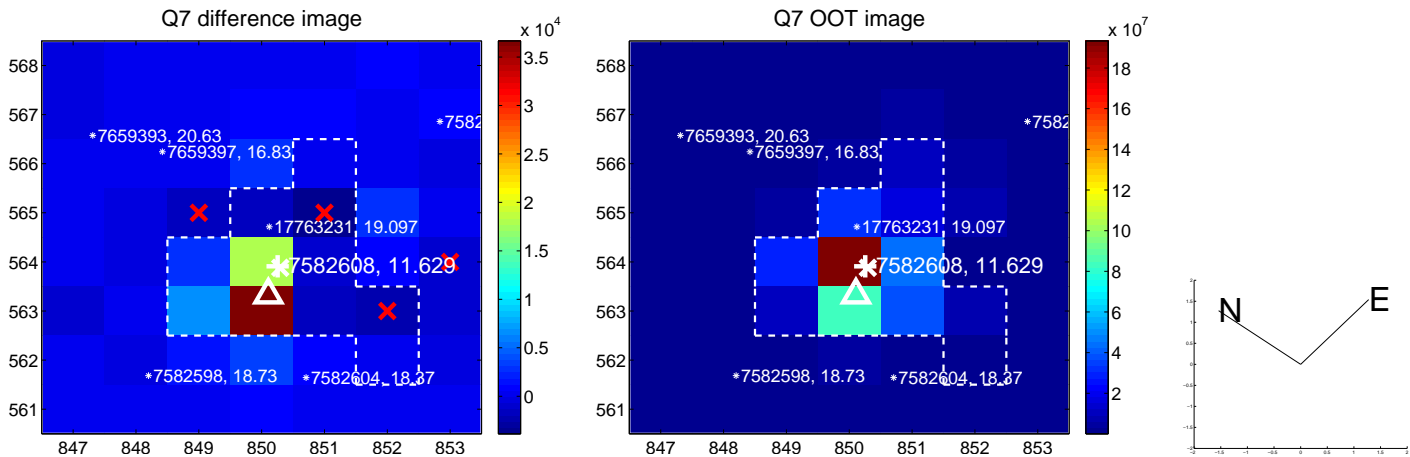
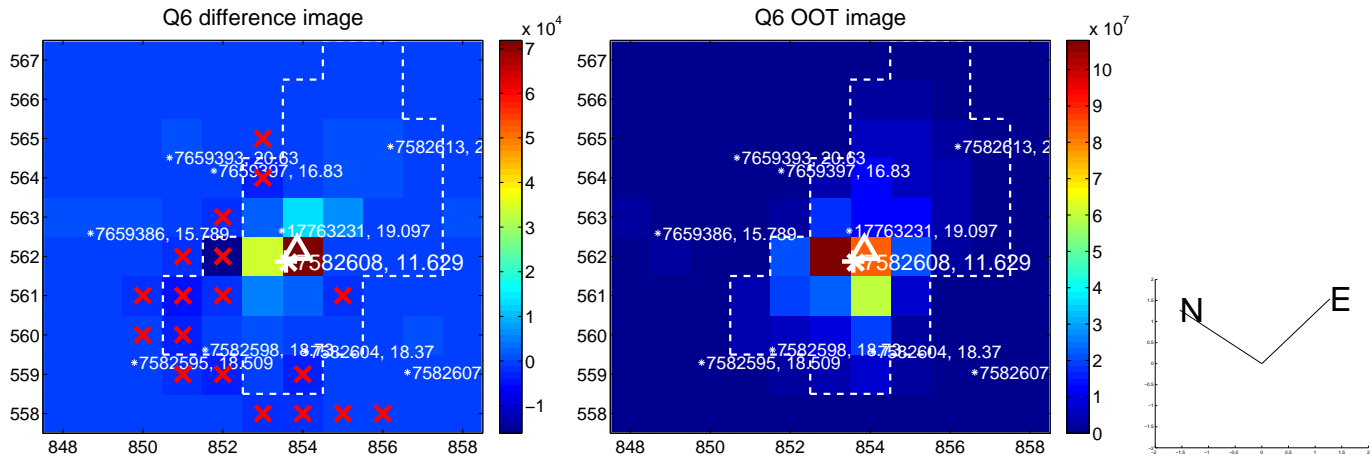
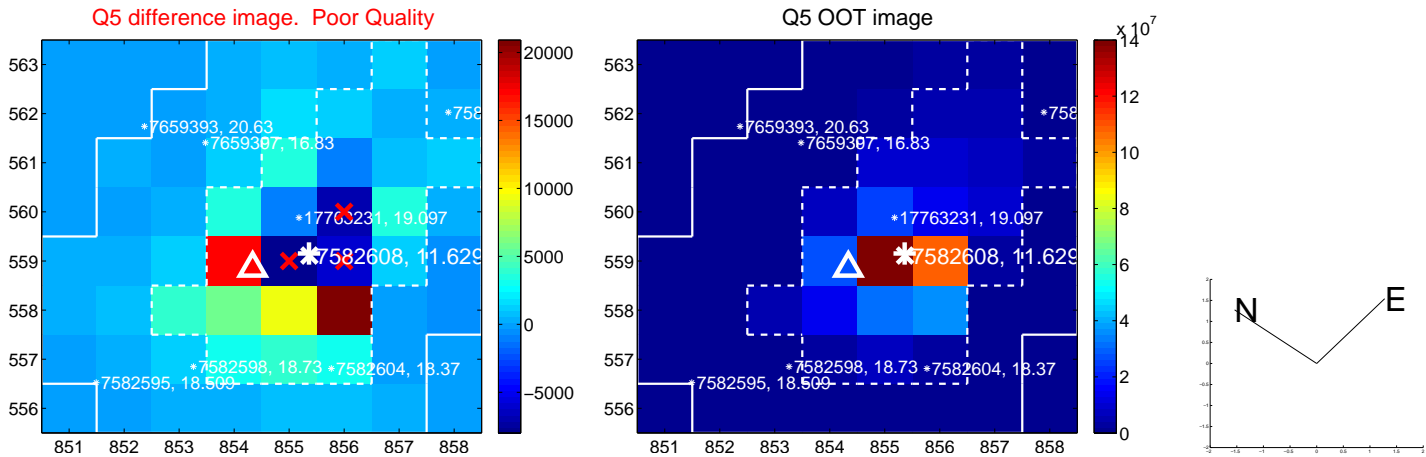


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

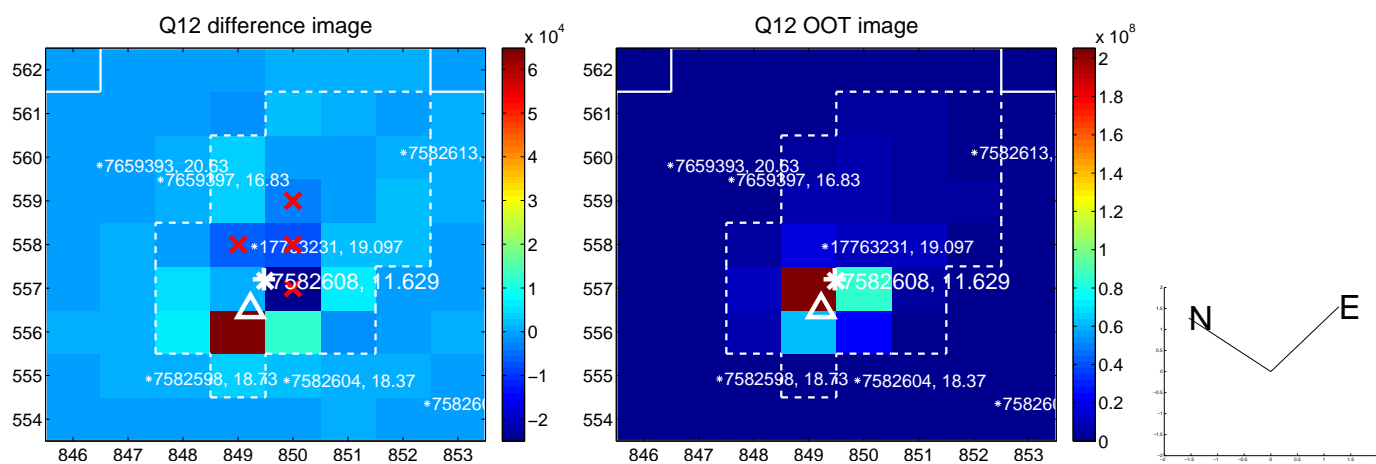
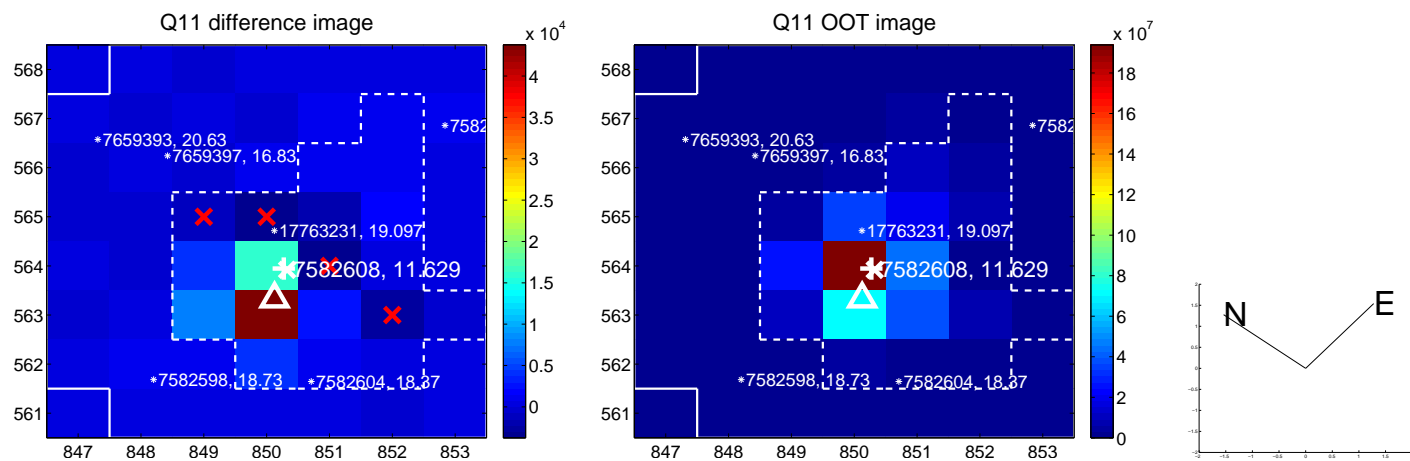
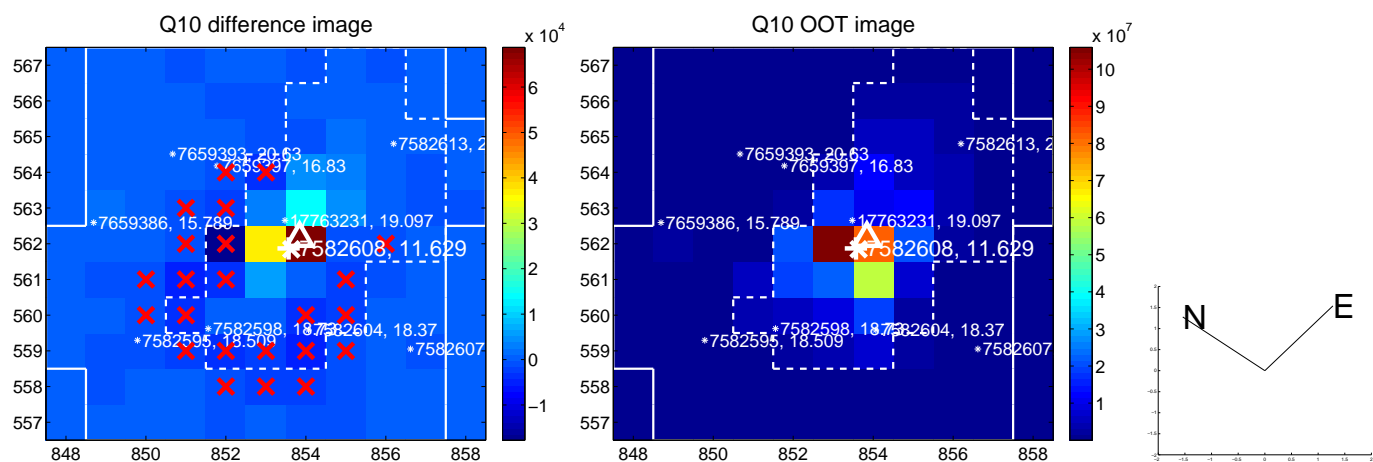
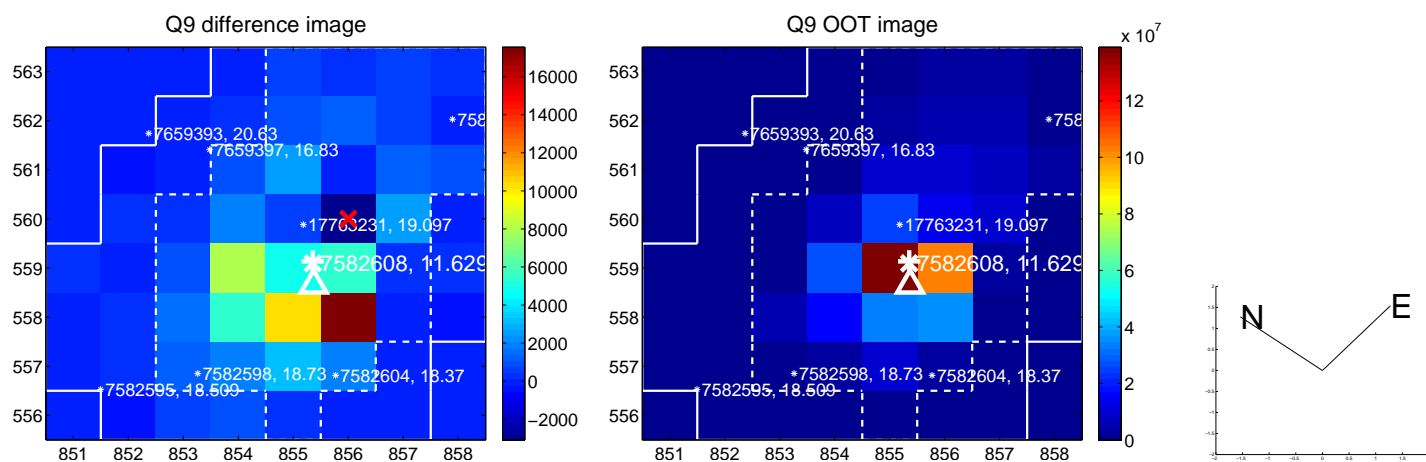
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



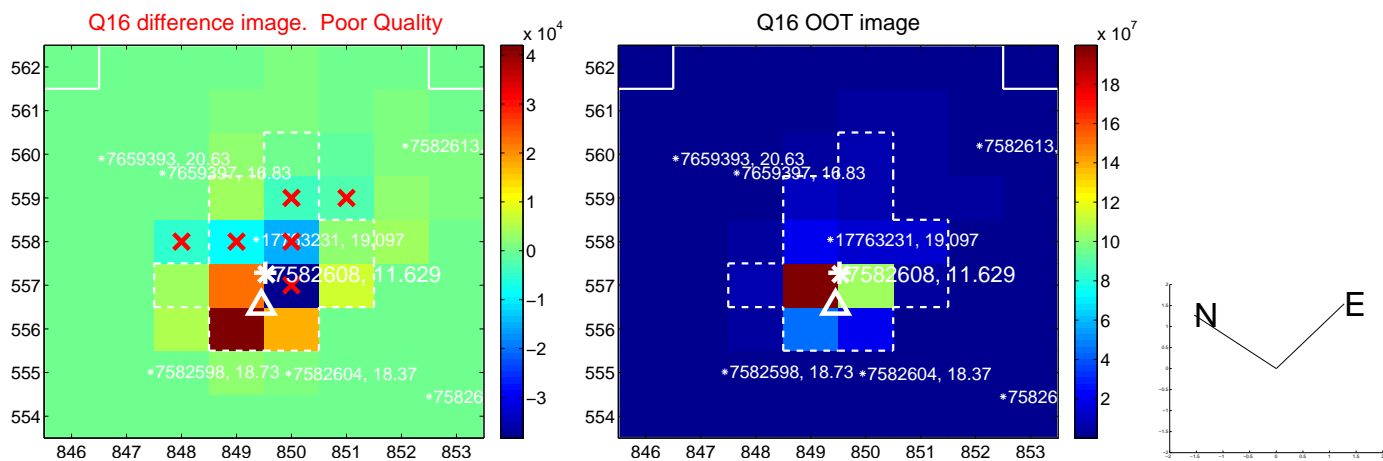
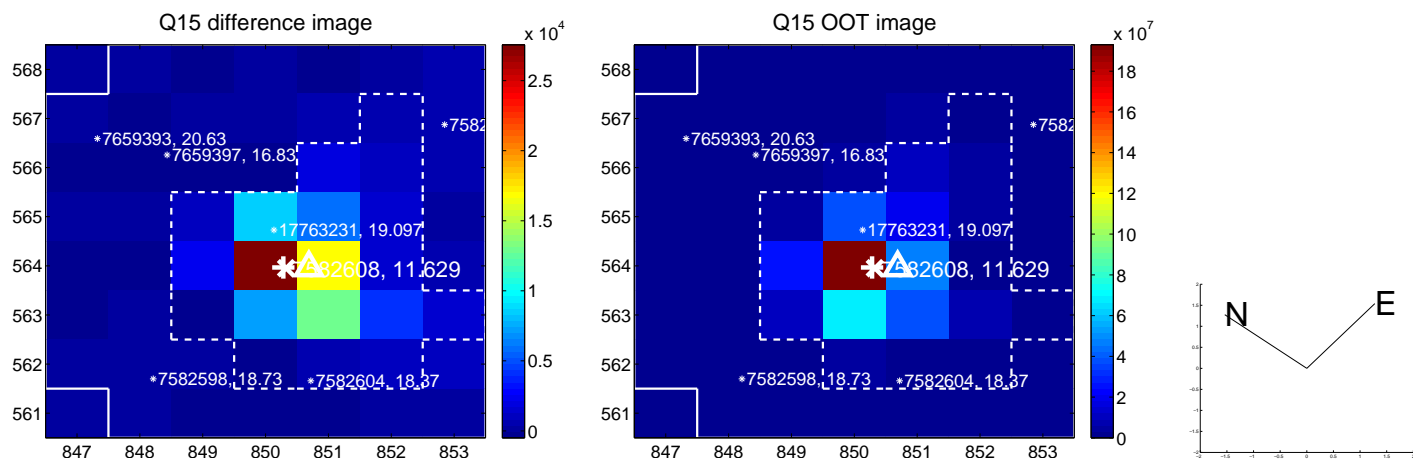
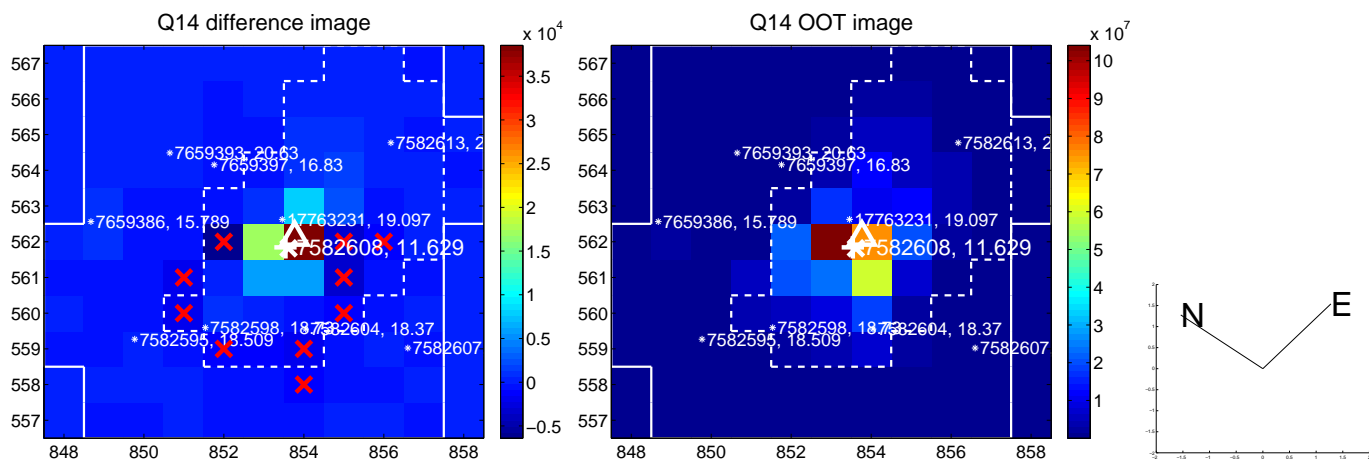
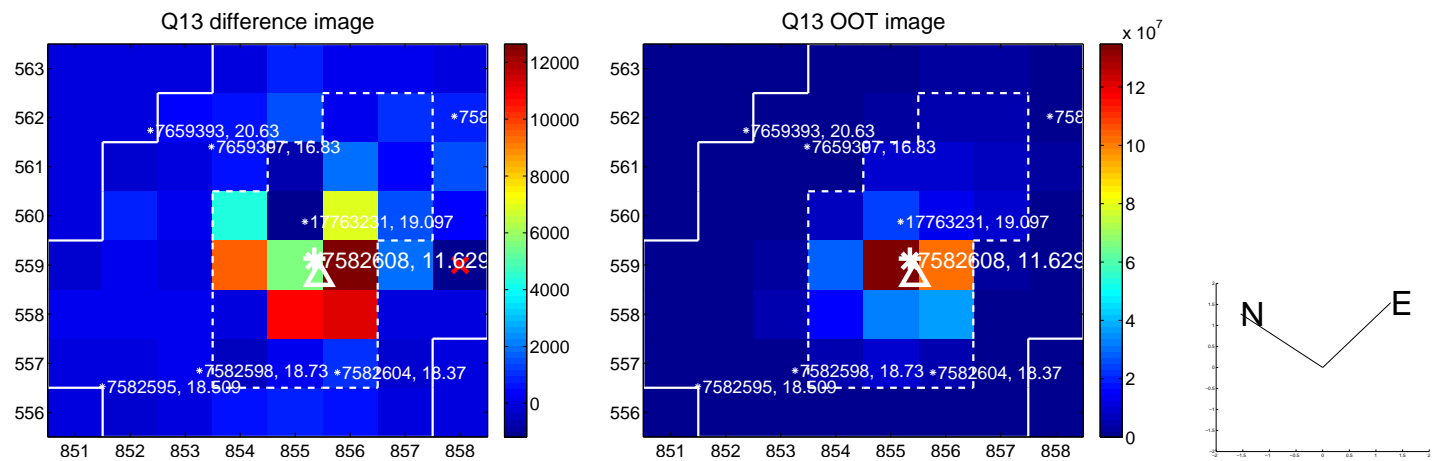
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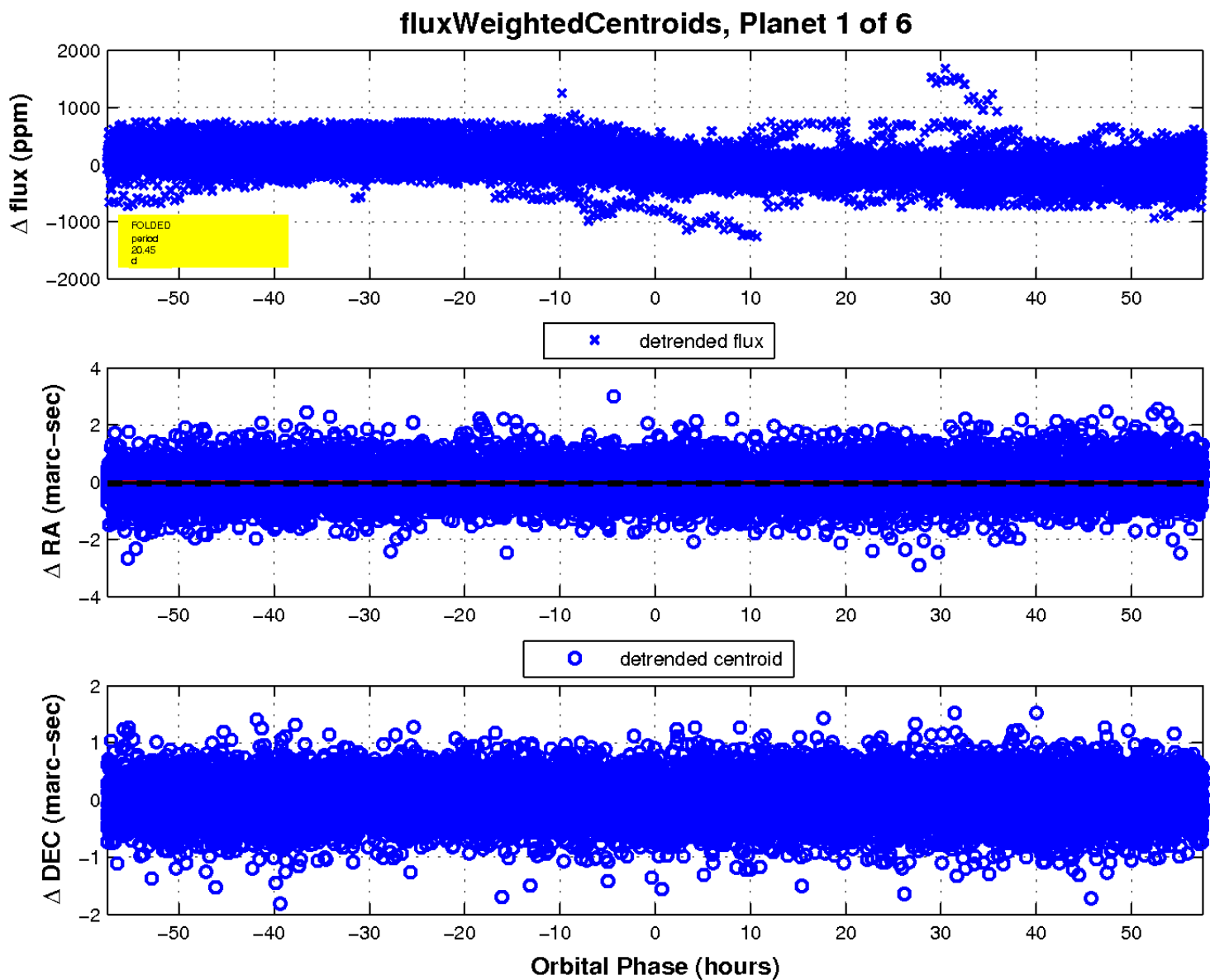
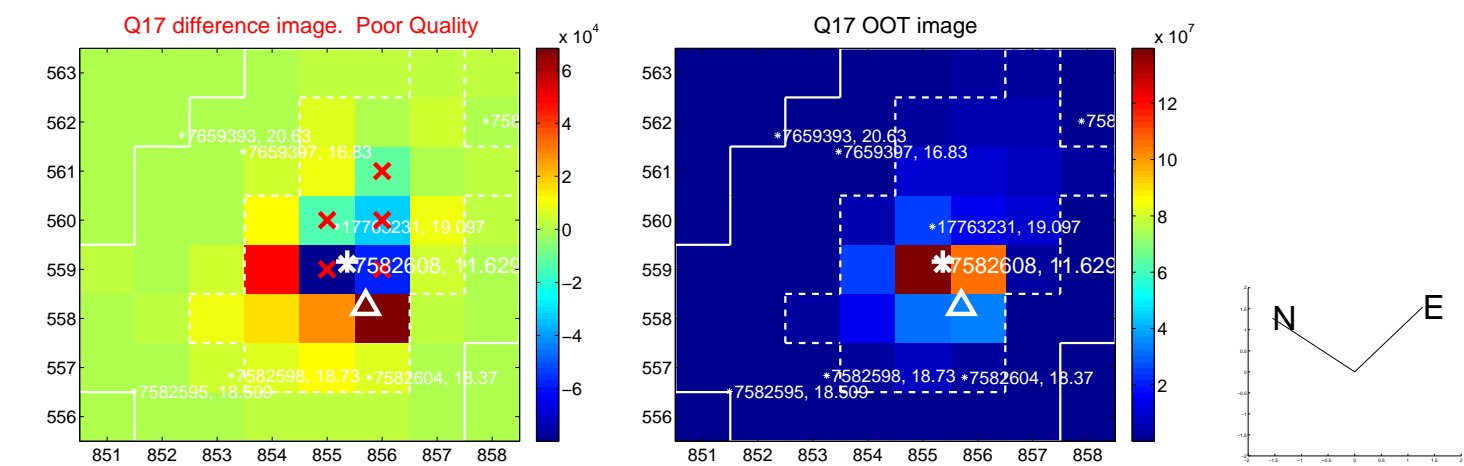
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



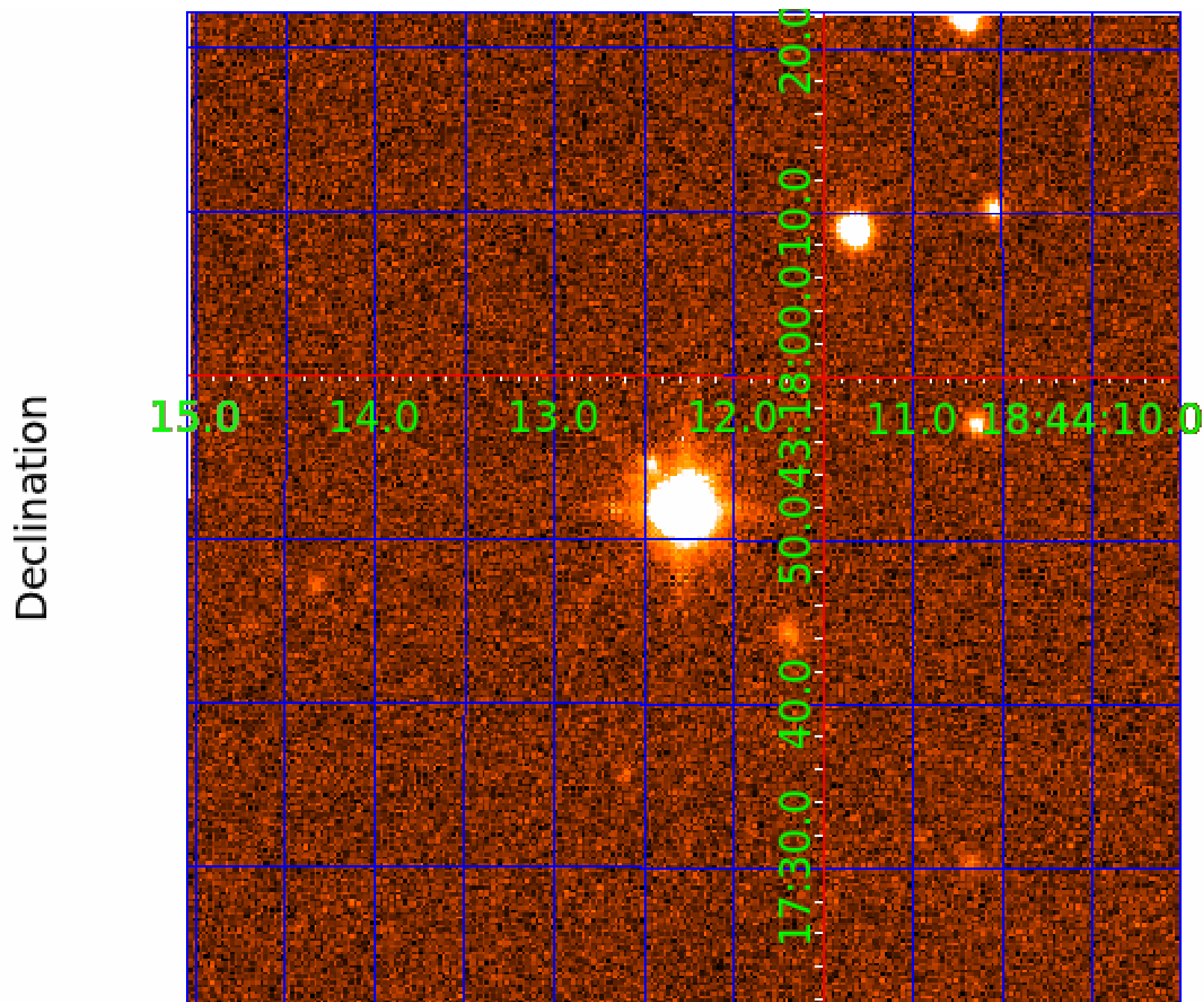
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 007582608

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})
007582608-01	OBS	No	20.452071	140.258714	31.3	19.173	9.0	7.9	1.99	8373	1.20	527.76
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Robovetter Results

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007582608-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
007582608-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
007582608-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—SAME_NTL_PERIOD—CENT_FEW_DIFFS
007582608-05	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS
007582608-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS—HALO_GHOST

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

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

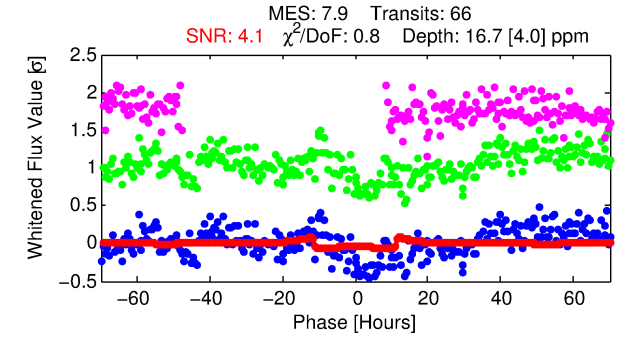
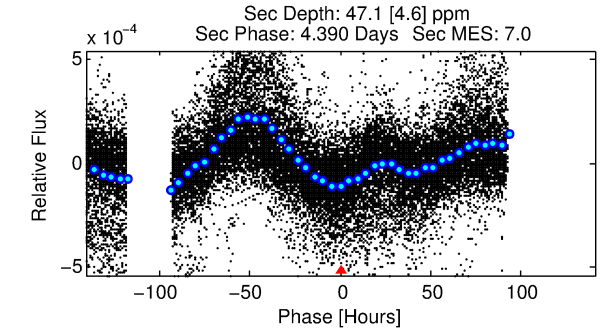
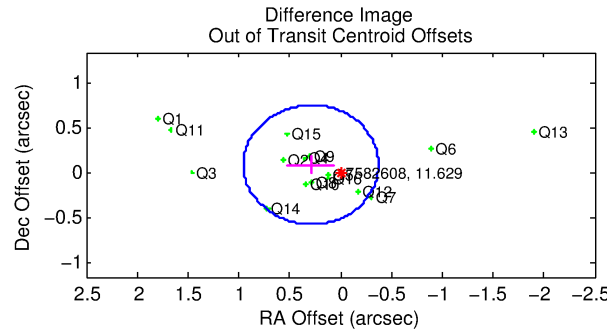
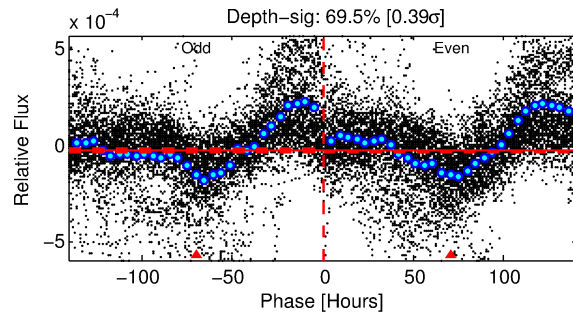
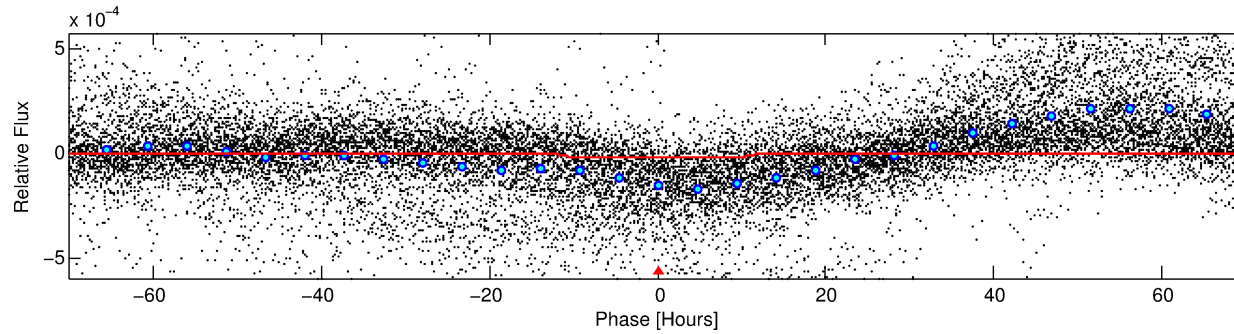
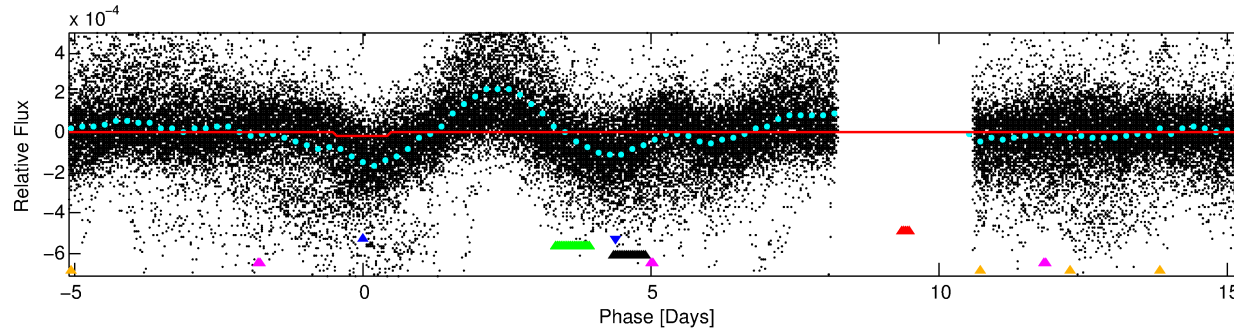
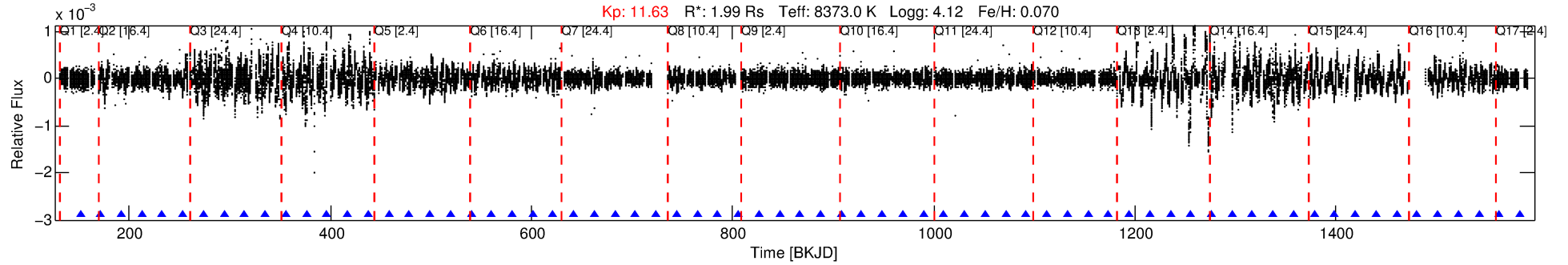
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007582608-02

No Significant Match Found

DV One-Page Summary

KIC: 7582608 Candidate: 2 of 6 Period: 20.450 d



DV Fit Results:

Period = 20.45038 [0.00068] d
Epoch = 151.3619 [0.0280] BKJD
Rp/R* = 0.0042 [0.0008]
a/R* = 4.01 [3.05]
b = 0.82 [0.33]
Seff = 527.82 [175.76]
Teq = 1222 [102] K
Rp = 0.90 [0.26] Re
a = 0.1820 [0.0348] AU
Ag = 1052.00 [499.75] [2.10 σ]
Teffp = 10762 [1140] K [8.33 σ]

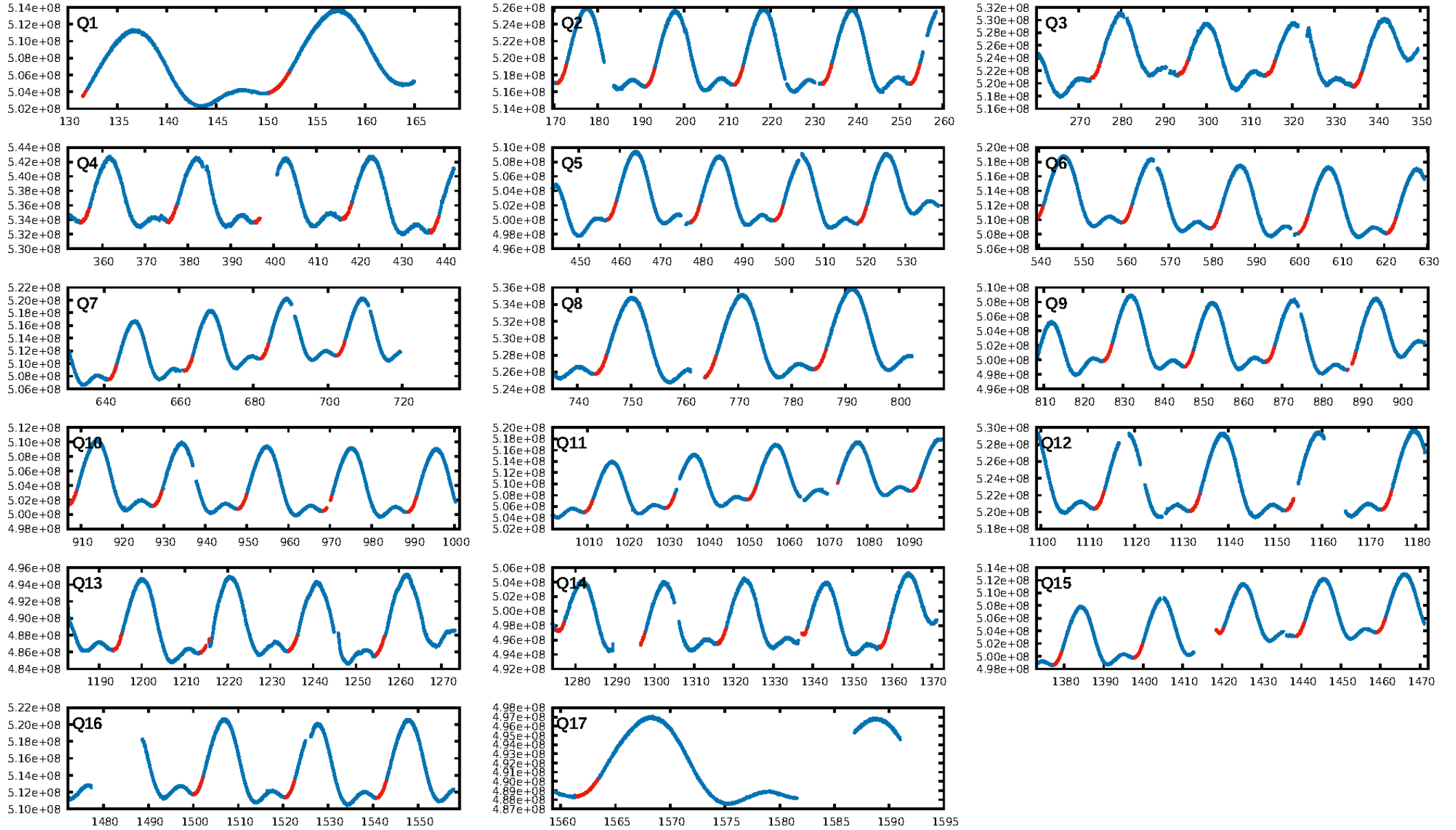
DV Diagnostic Results:

ShortPeriod-sig: 0.6% [0.01 σ]
LongPeriod-sig: 0.1% [0.00 σ]
ModelChiSquare2-sig: 87.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.89e-12
RollingBand-fgt: 1.00 [64/64]
GhostDiagnostic-chr: -0.8837
Centroid-sig: N/A
Centroid-so: 3.993 arcsec [1.93 σ]
OotOffset-rm: 0.307 arcsec [1.39 σ]
KicOffset-rm: 0.372 arcsec [2.05 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.94 [15/16]
DiffImageOverlap-fno: 1.00 [16/16]

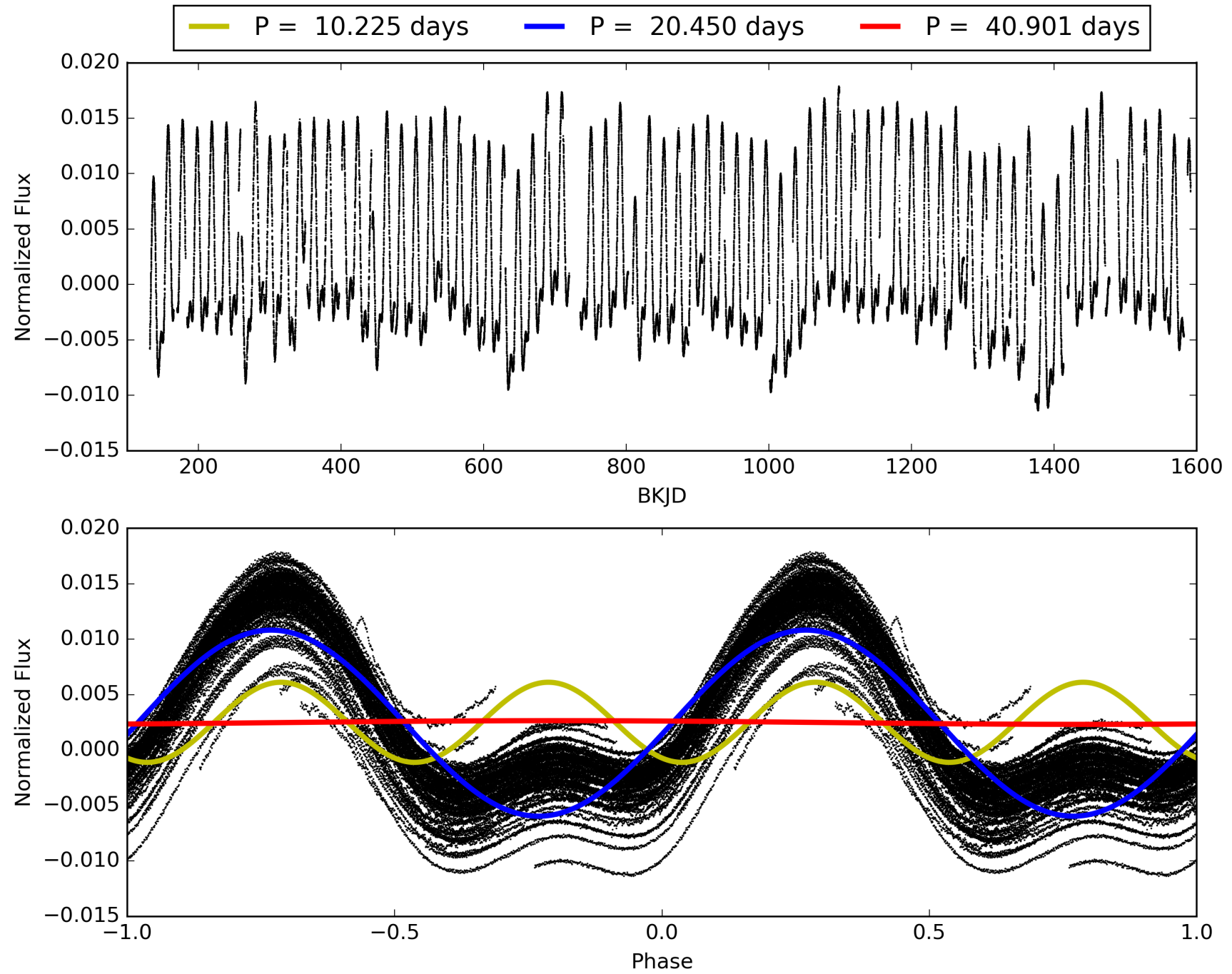
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 20:38:13 Z

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

TCE 007582608-02, PDC Light Curves

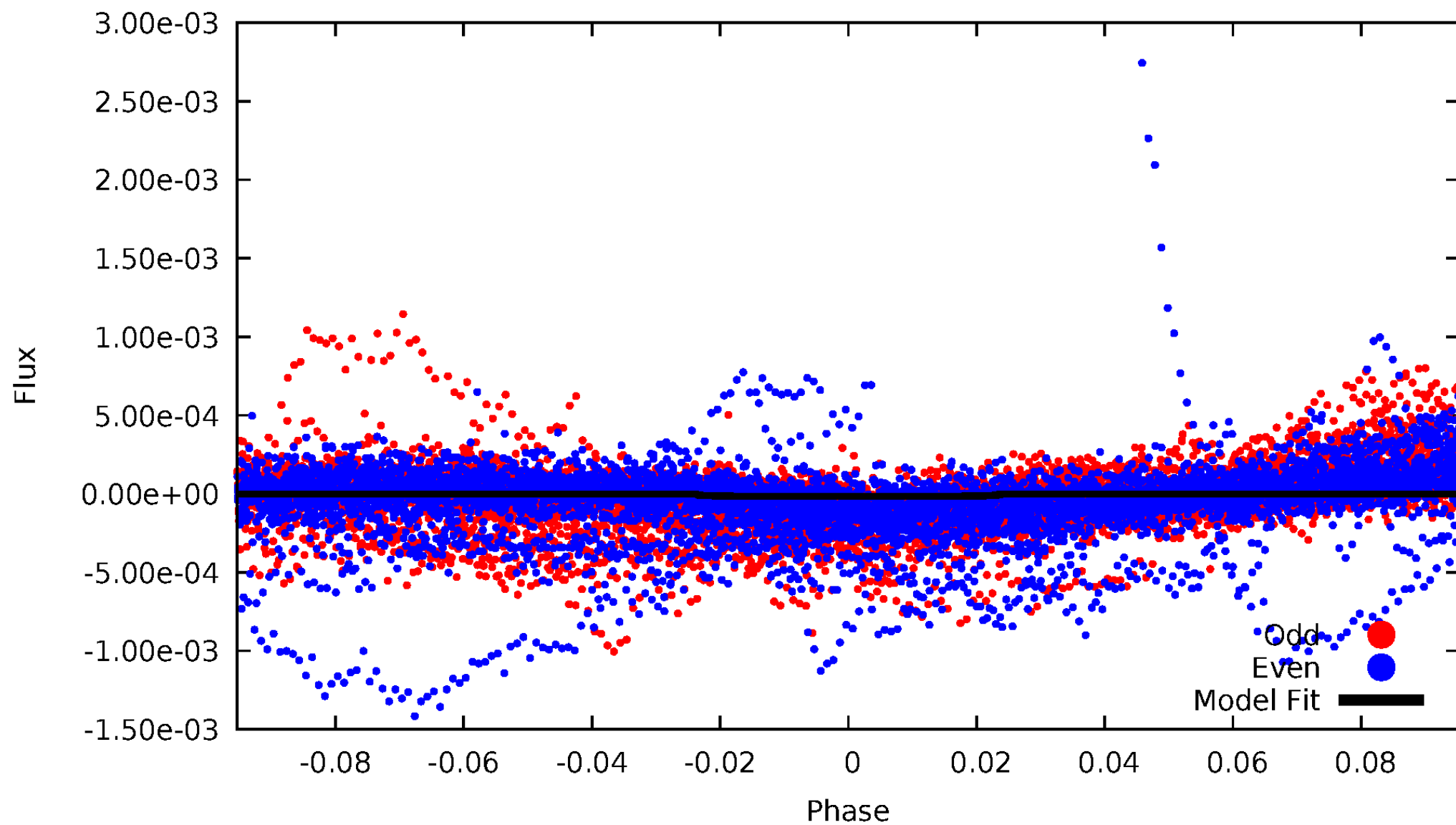


TCE 007582608-02



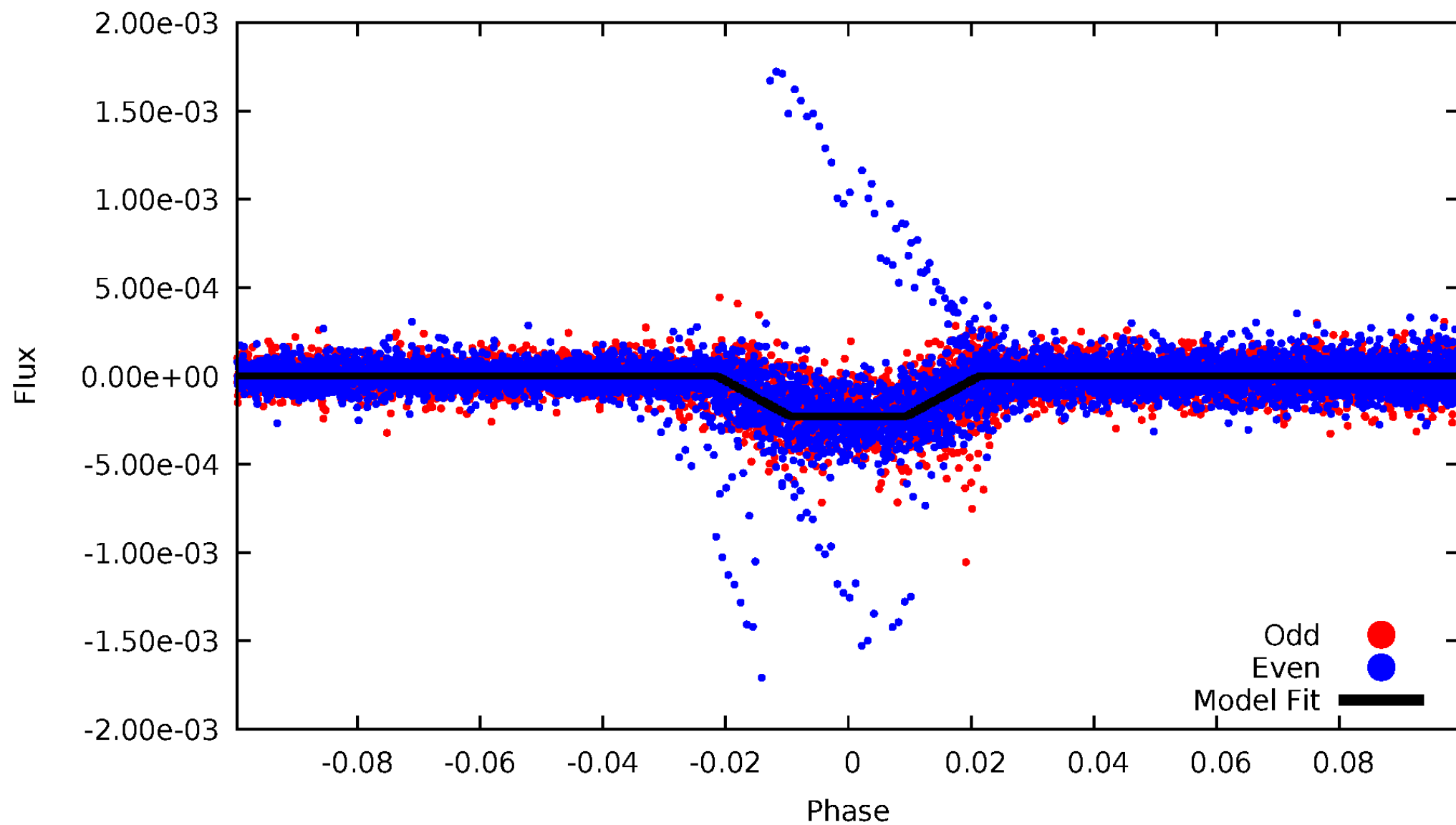
DV Odd/Even

TCE 007582608-02



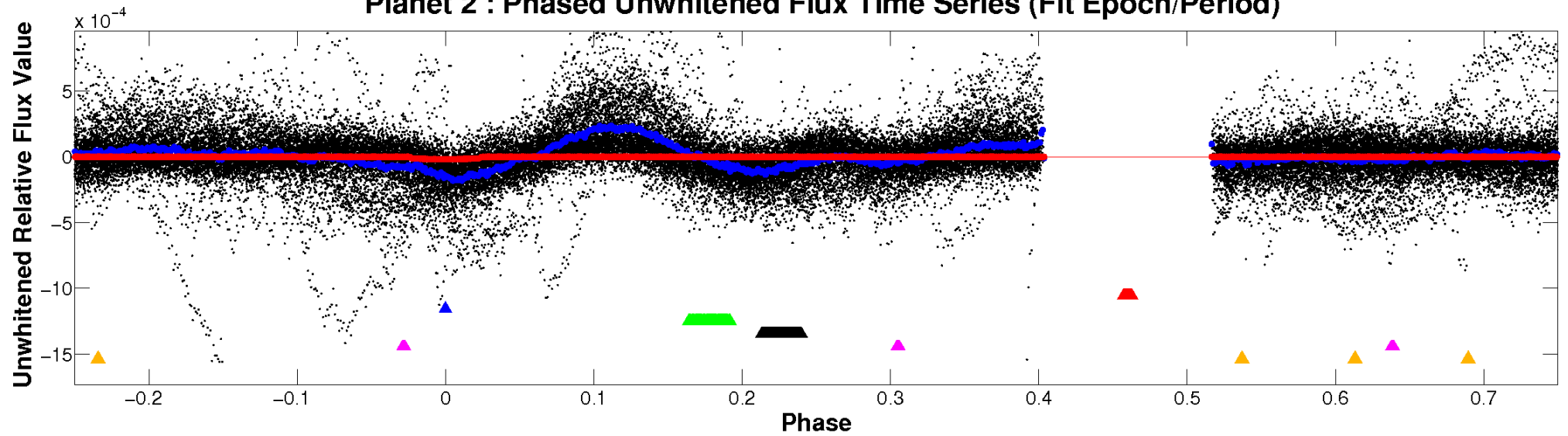
ALT Odd/Even

TCE 007582608-02

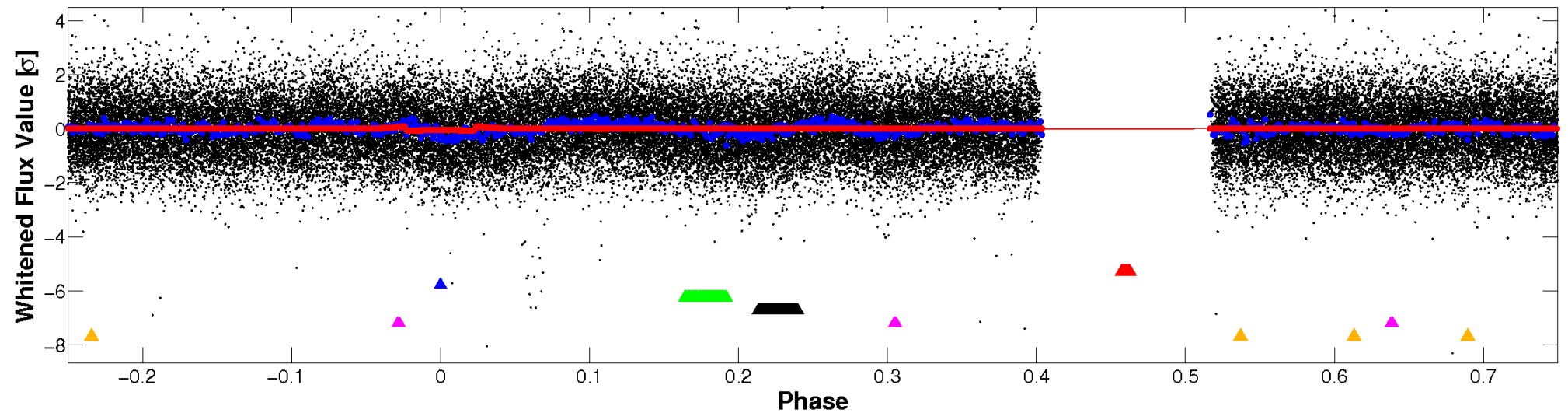


Non-Whitened Vs. Whitened Light Curve

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

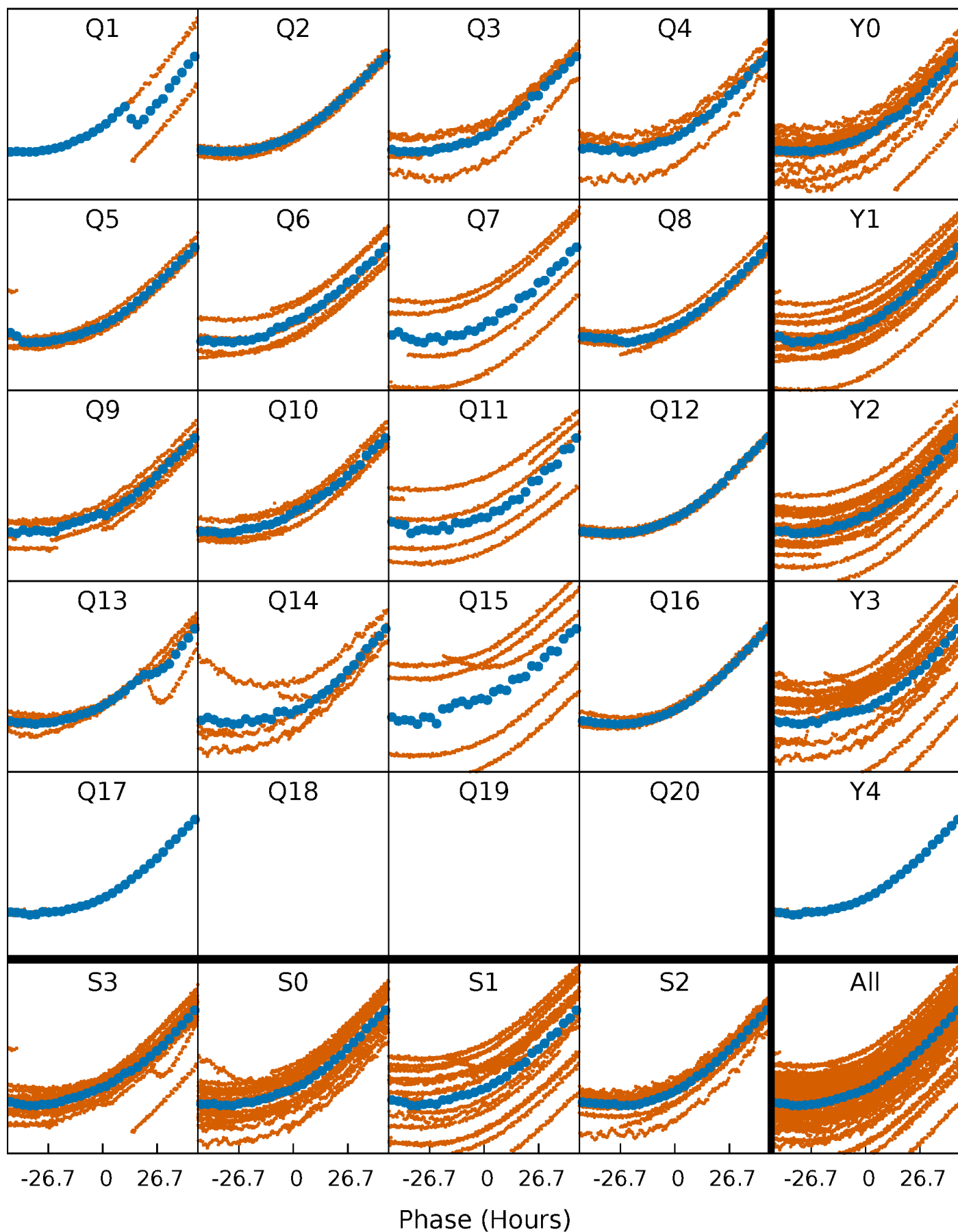


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



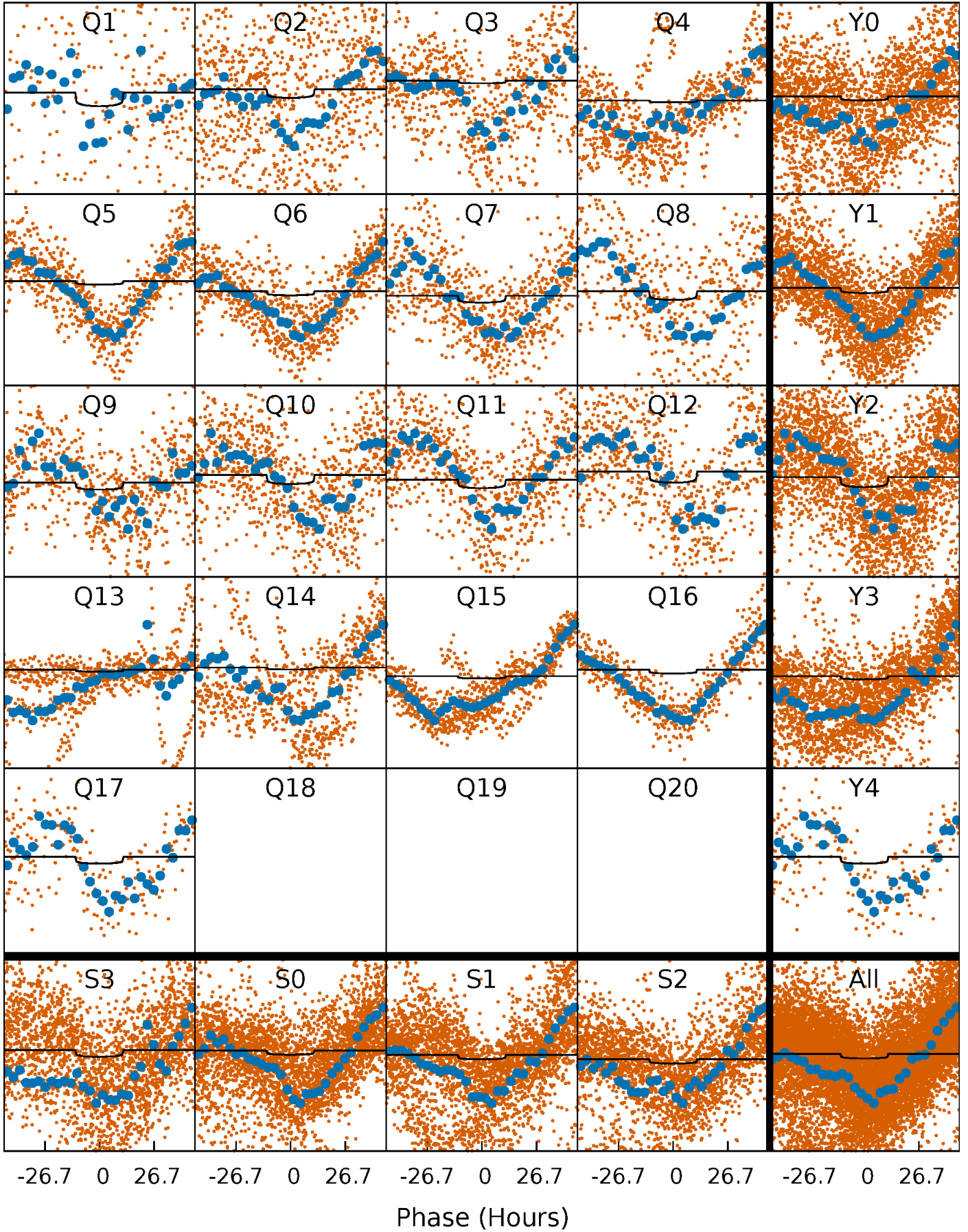
PDC Quarter-Phased Transit Curves

TCE 007582608-02 P= 20.450378 Days $T_0=151.361920$ (BKJD)



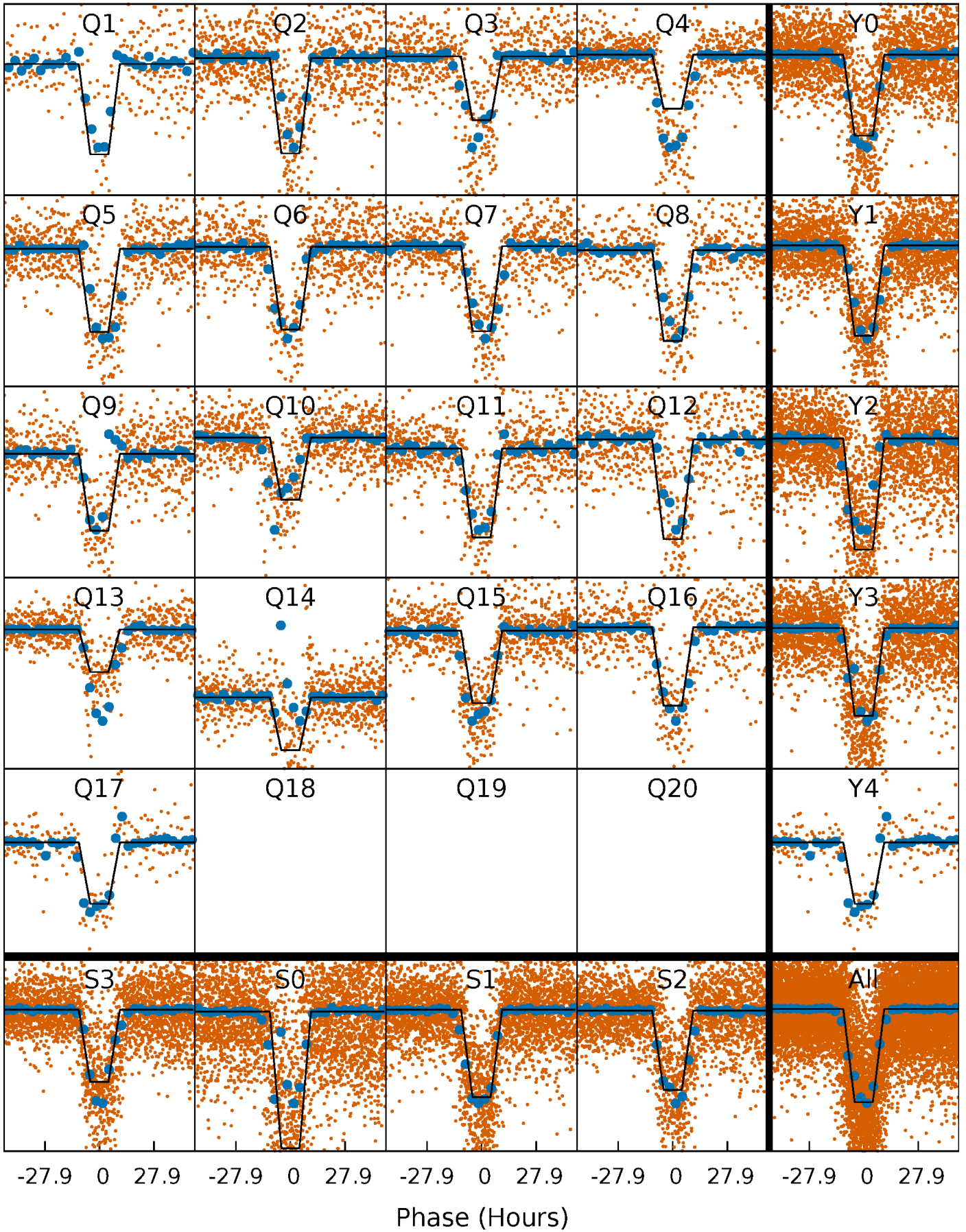
DV Quarter-Phased Transit Curves

TCE 007582608-02 P= 20.450378 Days $T_0=151.361920$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

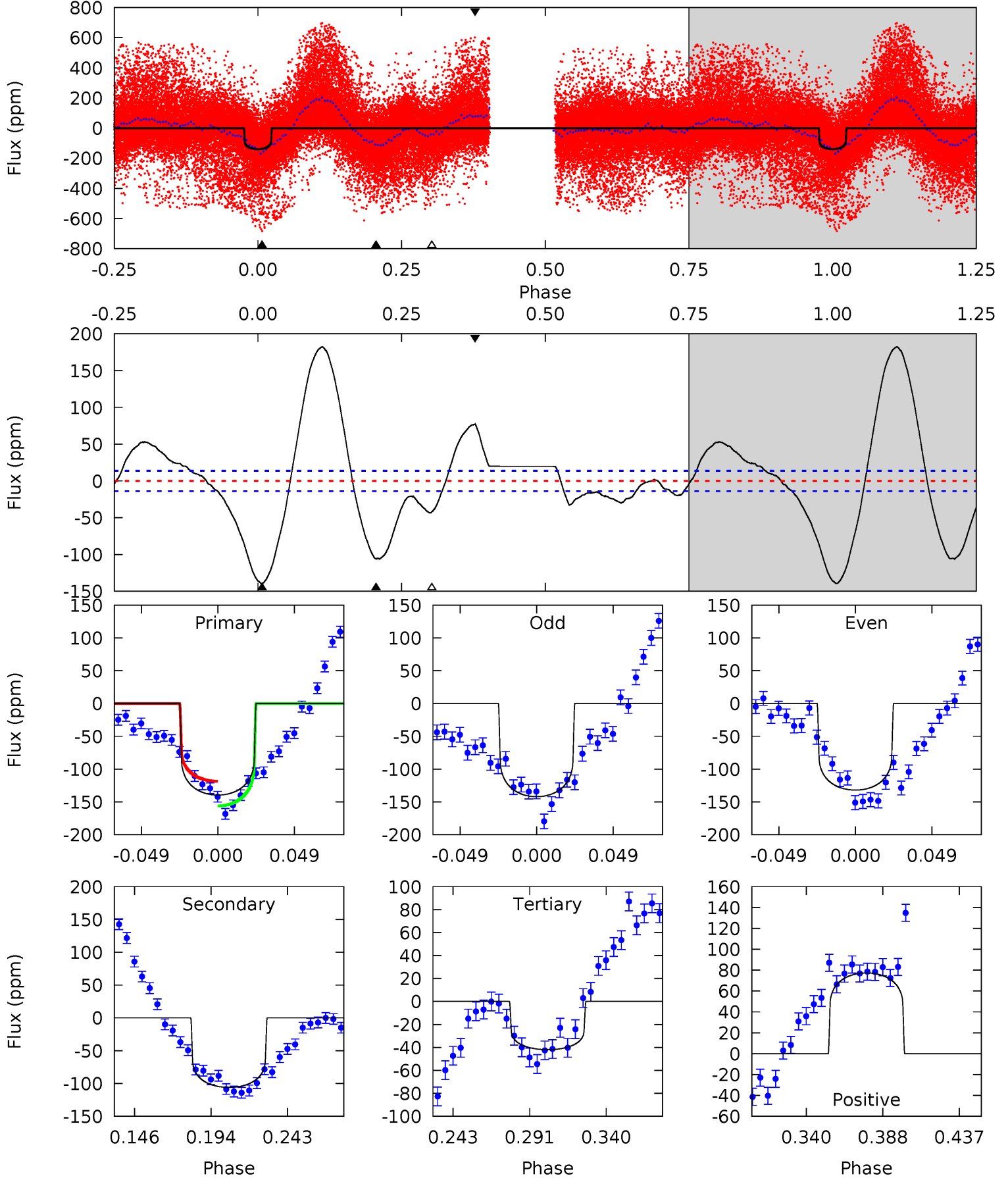
TCE 007582608-02 P= 20.450850 Days $T_0=151.330328$ (BKJD)



DV Model-Shift Uniqueness Test

007582608-02, P = 20.450378 Days, E = 130.911542 Days

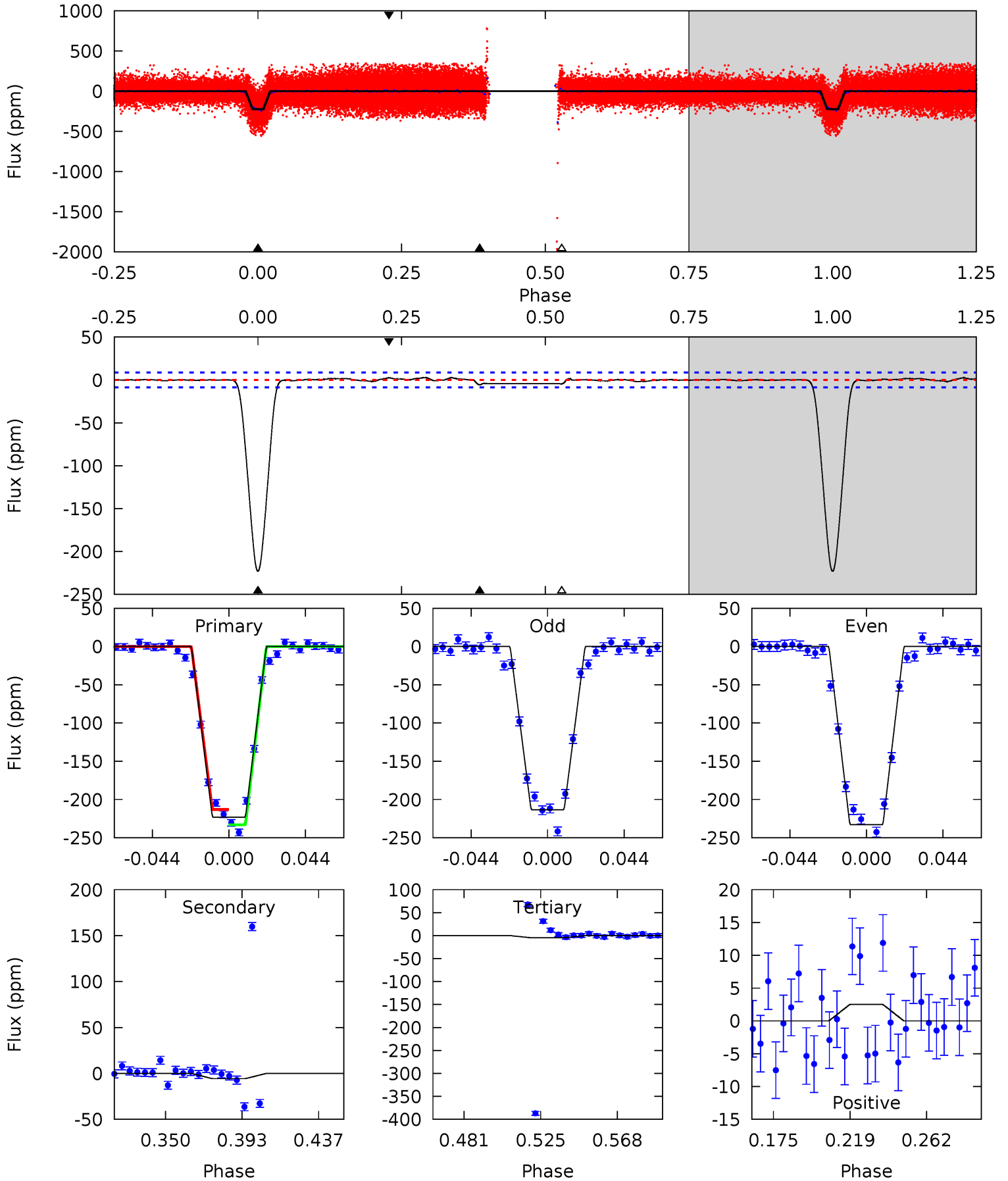
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
47.5	36.1	14.3	26.3	4.71	1.97	18.4	33.2	21.2	21.8	9.76	1.73	1.39	0.57	6.43



Alt Model-Shift Uniqueness Test

007582608-02, P = 20.450850 Days, E = 130.879478 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
120.7	3.10	2.53	1.36	4.74	2.02	0.56	118.2	119.4	0.57	1.75	5.34	1.69	0.01	5.19



Stellar Parameters For KIC 007582608

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8373^{+203}_{-377}	$4.123^{+0.126}_{-0.154}$	$0.070^{+0.250}_{-0.550}$	$1.993^{+0.449}_{-0.449}$	$1.922^{+0.313}_{-0.383}$	$0.342^{+0.251}_{-0.146}$
	+2%/-5%	+3%/-4%	+357%/-786%	+23%/-23%	+16%/-20%	+74%/-43%
Source	KIC0	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 007582608-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-106 ± 3	$0.91^{+0.22}_{-0.20}$	1707^{+106}_{-111}	17532^{+4451}_{-2873}	2343^{+1393}_{-772}
Alt.	-6 ± 2	$3.36^{+0.43}_{-0.47}$	1710^{+107}_{-107}	3615^{+202}_{-241}	$9.387^{+3.823}_{-3.480}$

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 $A_{obs} \gg 1.0$

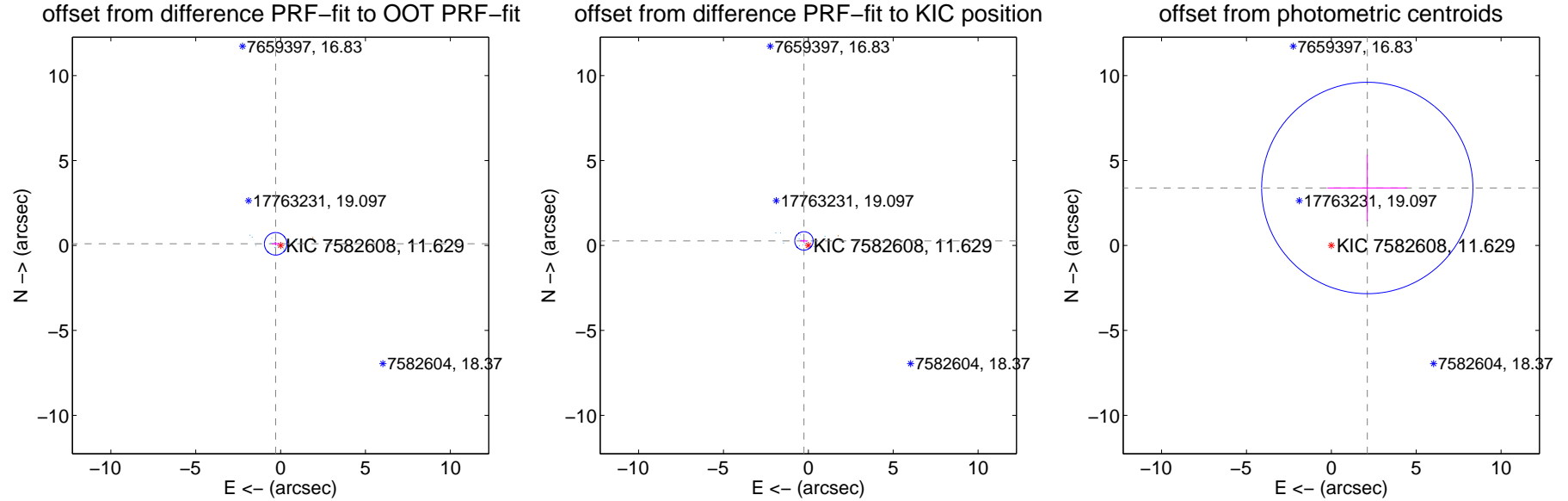
DV Centroid Data

Supplemental centroid analysis for 007582608-02. **Kepler magnitude: 11.63.** Transit SNR 4.11

There are 15 quarters with good PRF difference image offsets

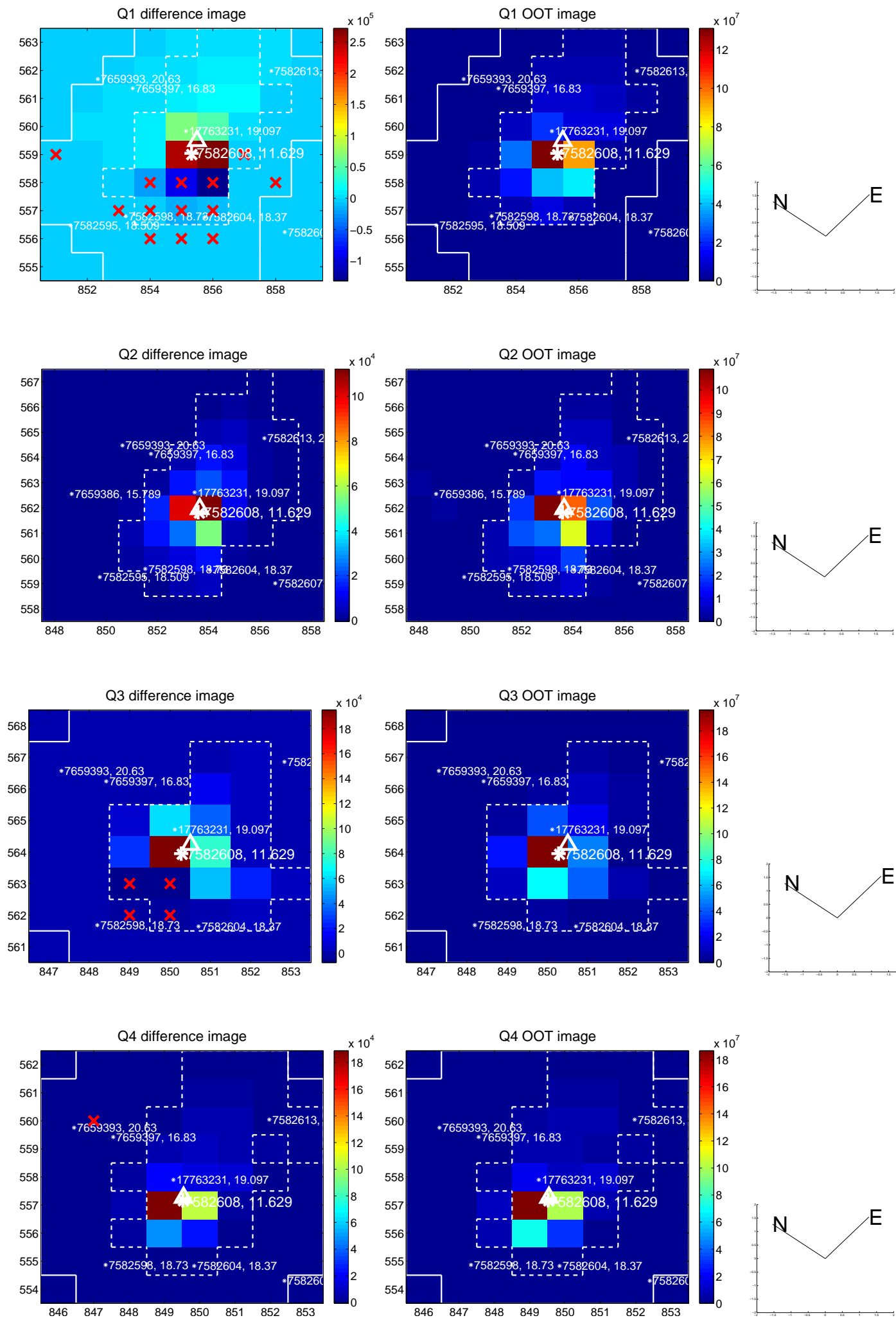
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.307 ± 0.221	1.39	0.291 ± 0.230	0.099 ± 0.099
PRF-fit source offset from KIC position	0.372 ± 0.181	2.05	0.257 ± 0.227	0.269 ± 0.097
photometric centroid source offset	3.99 ± 2.07	1.93	-2.12 ± 2.35	3.39 ± 1.96

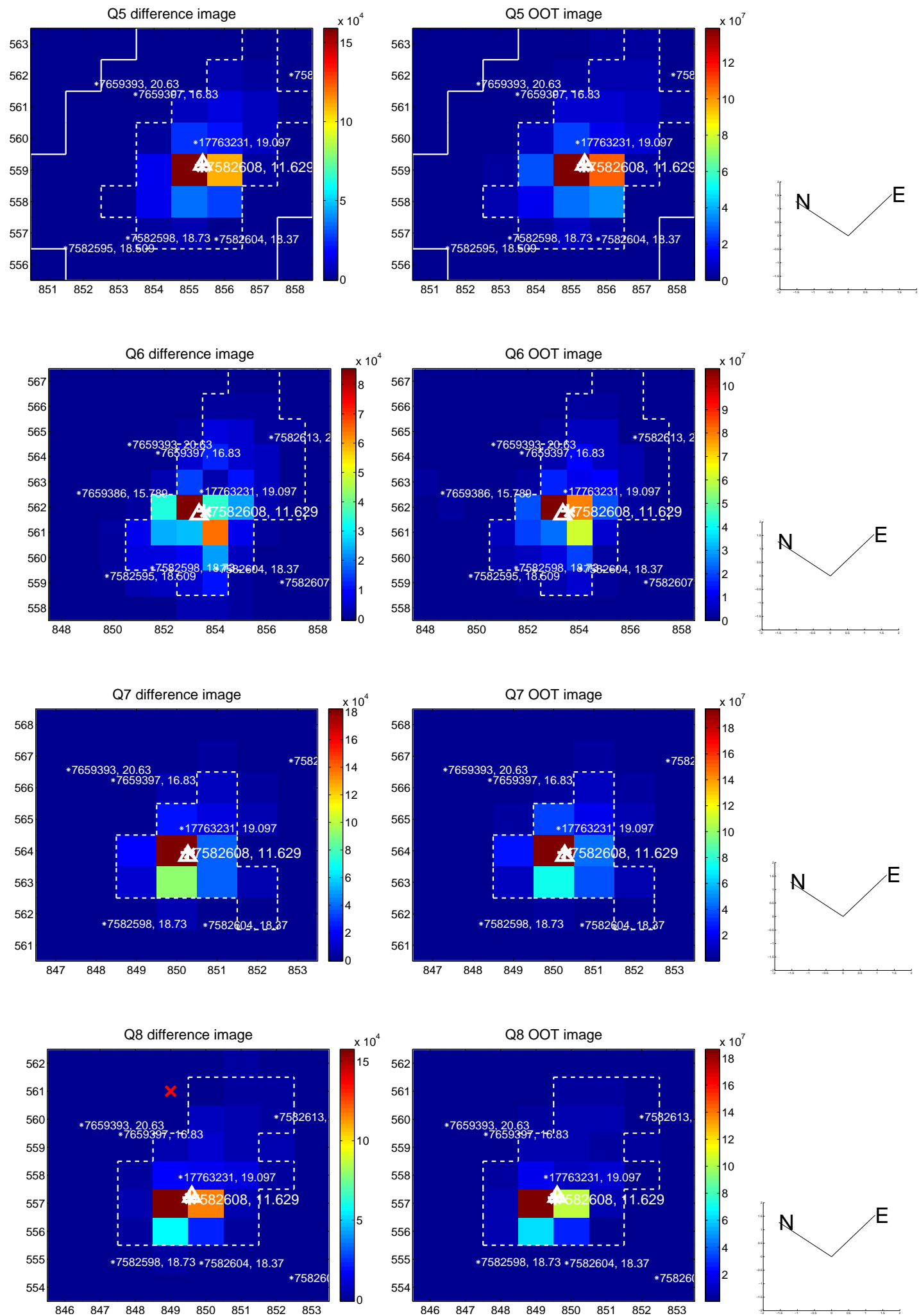


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

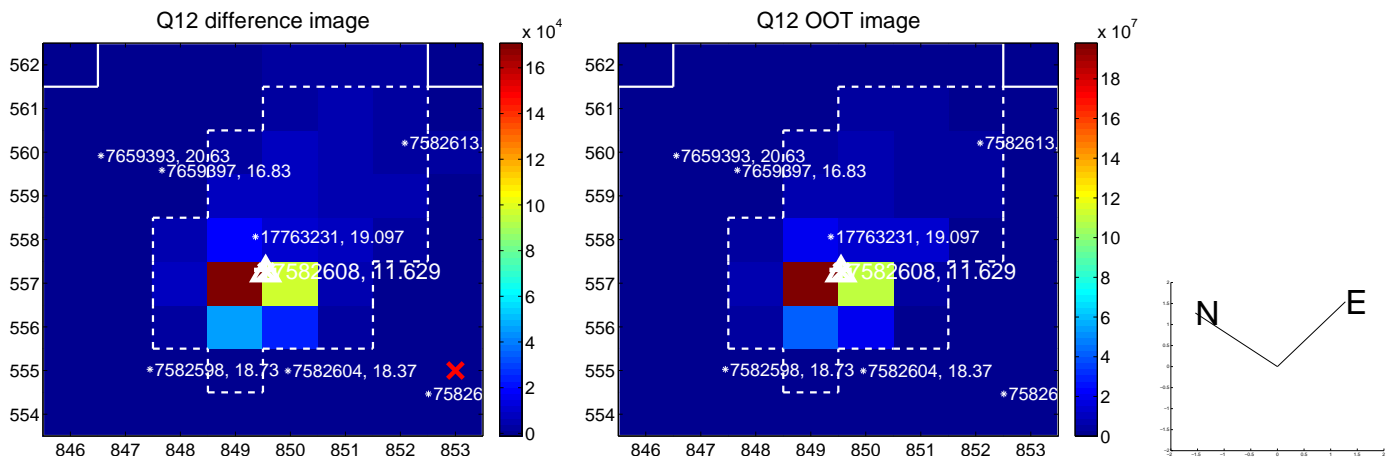
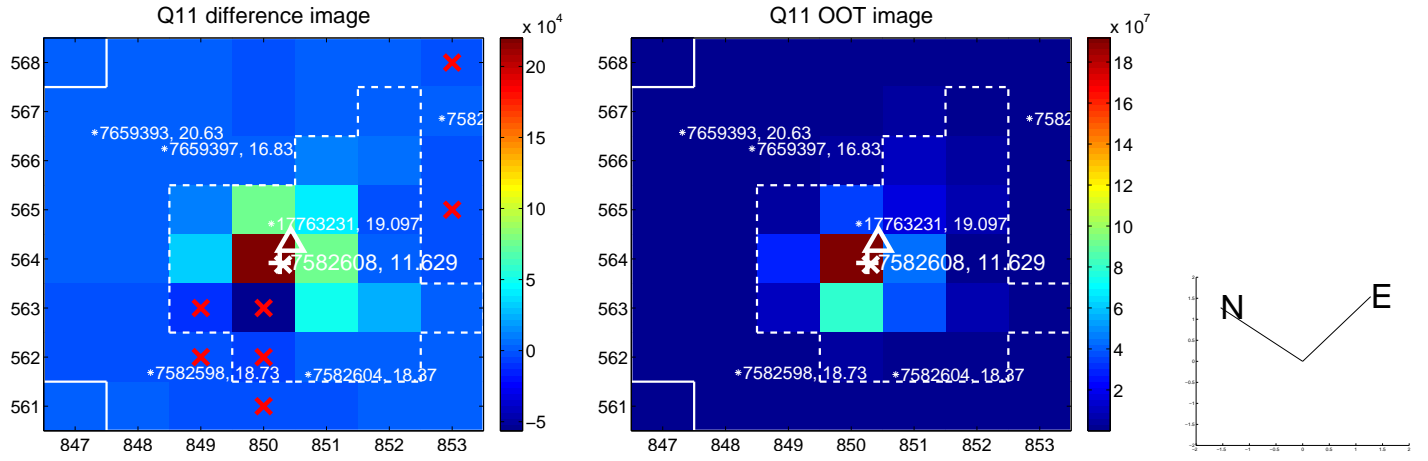
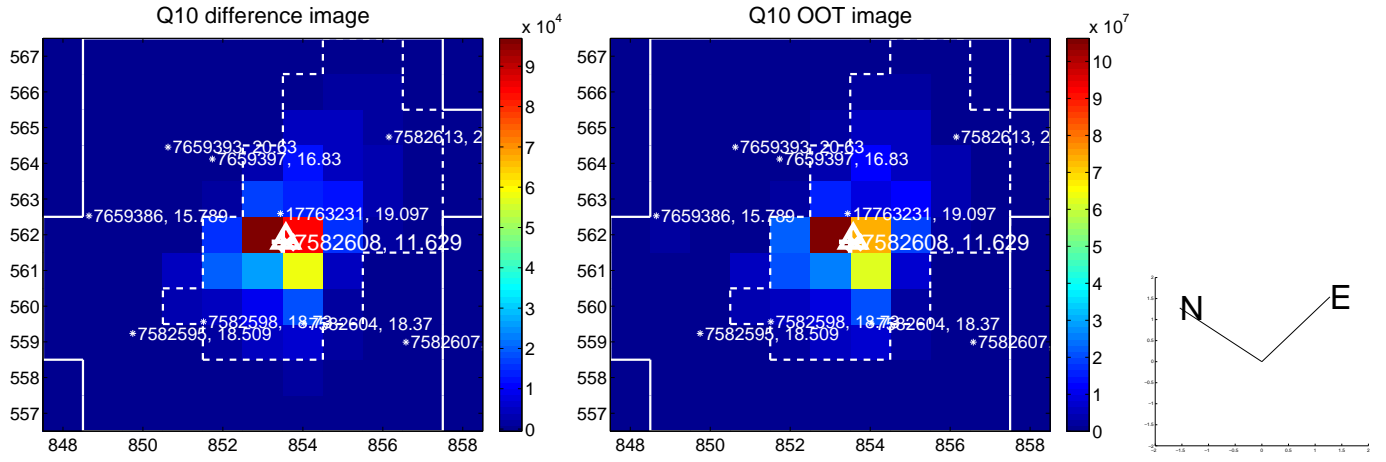
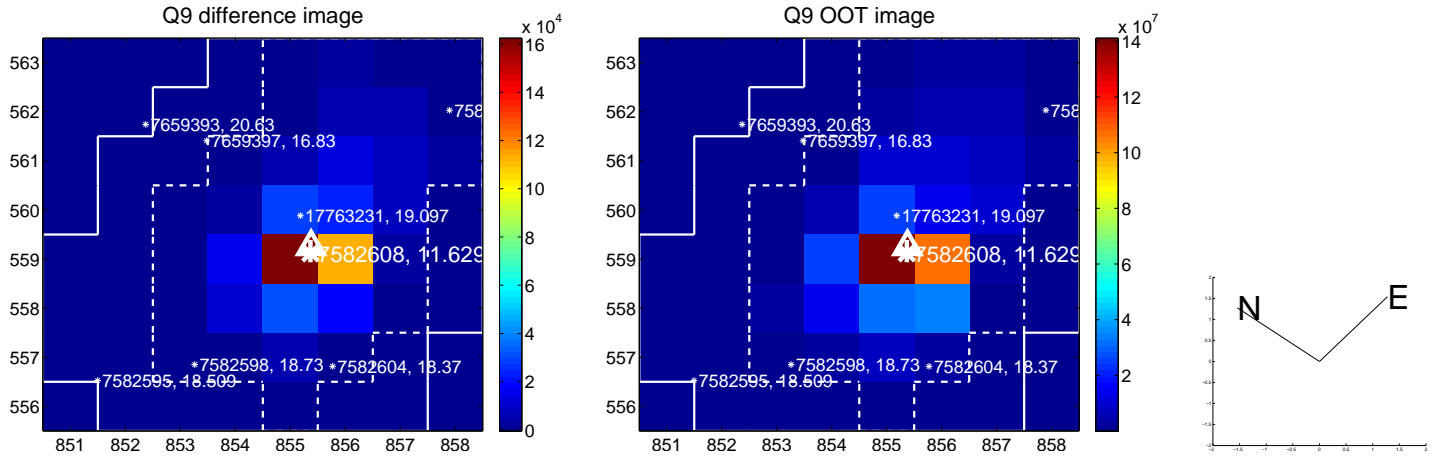
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



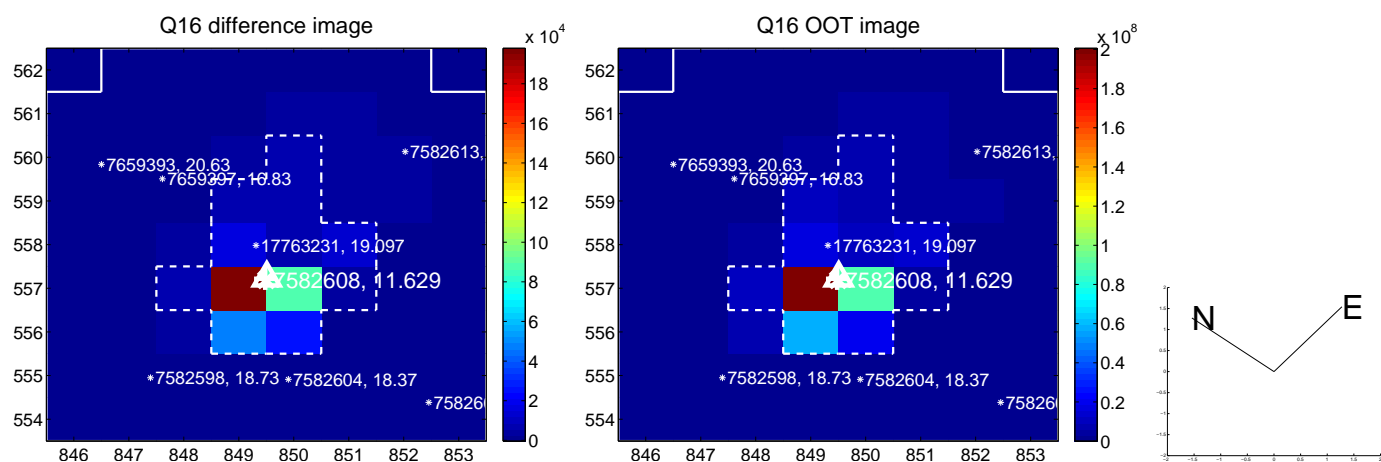
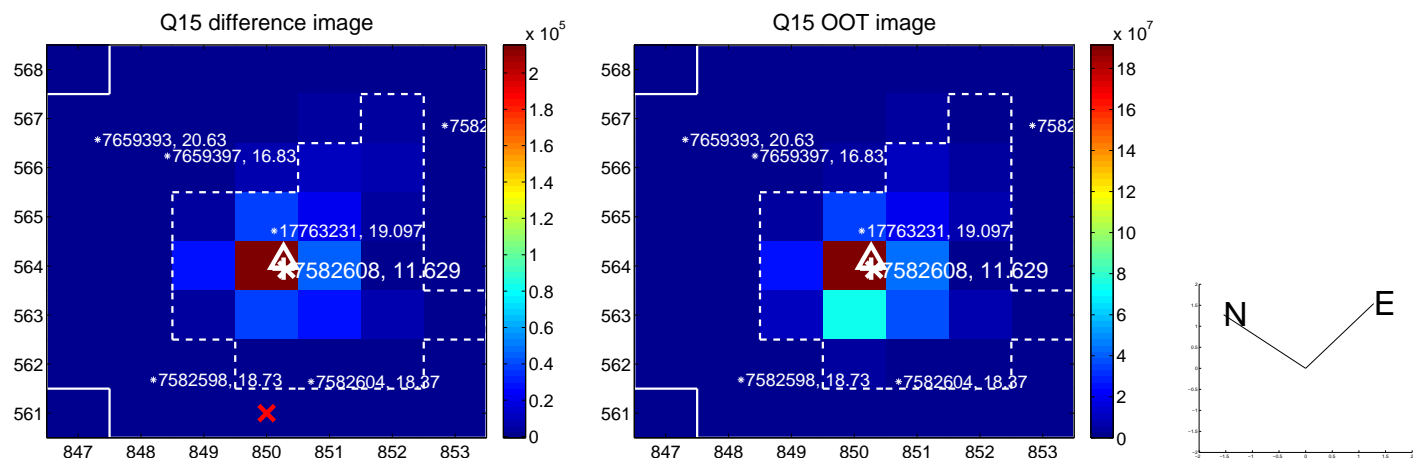
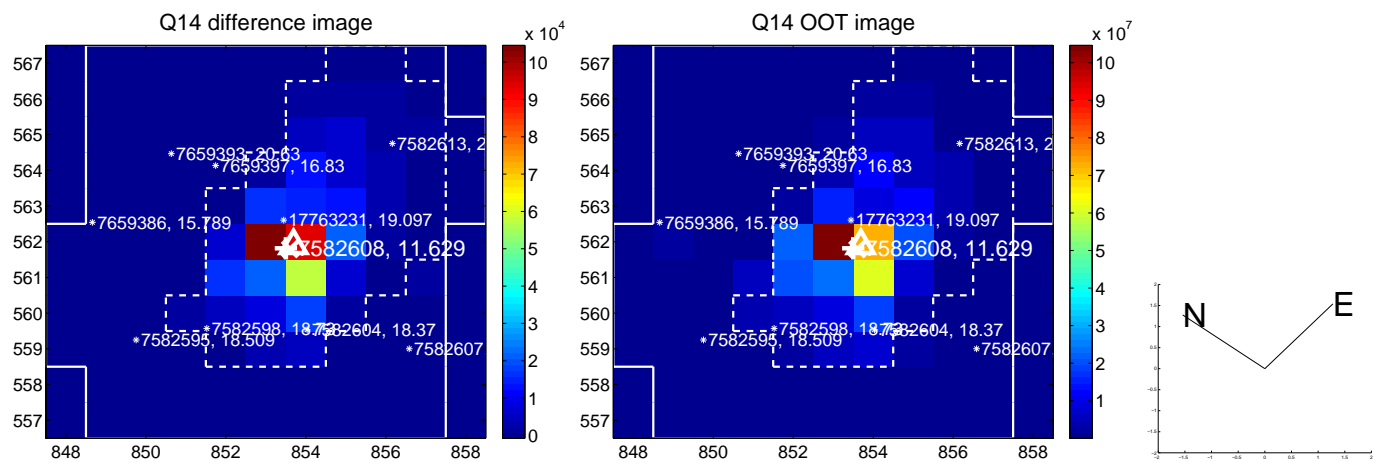
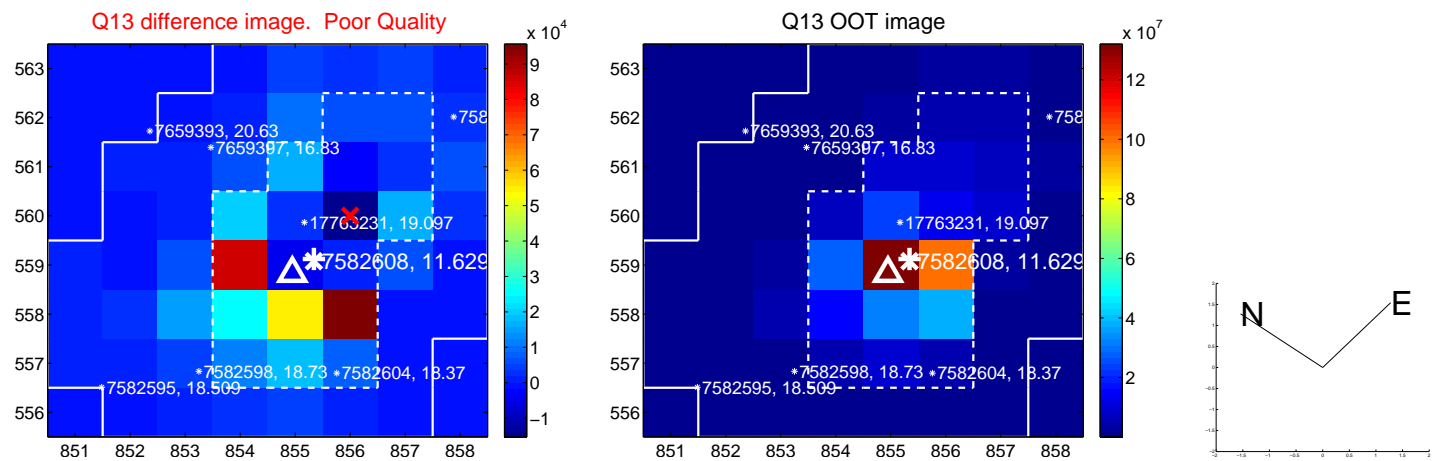
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



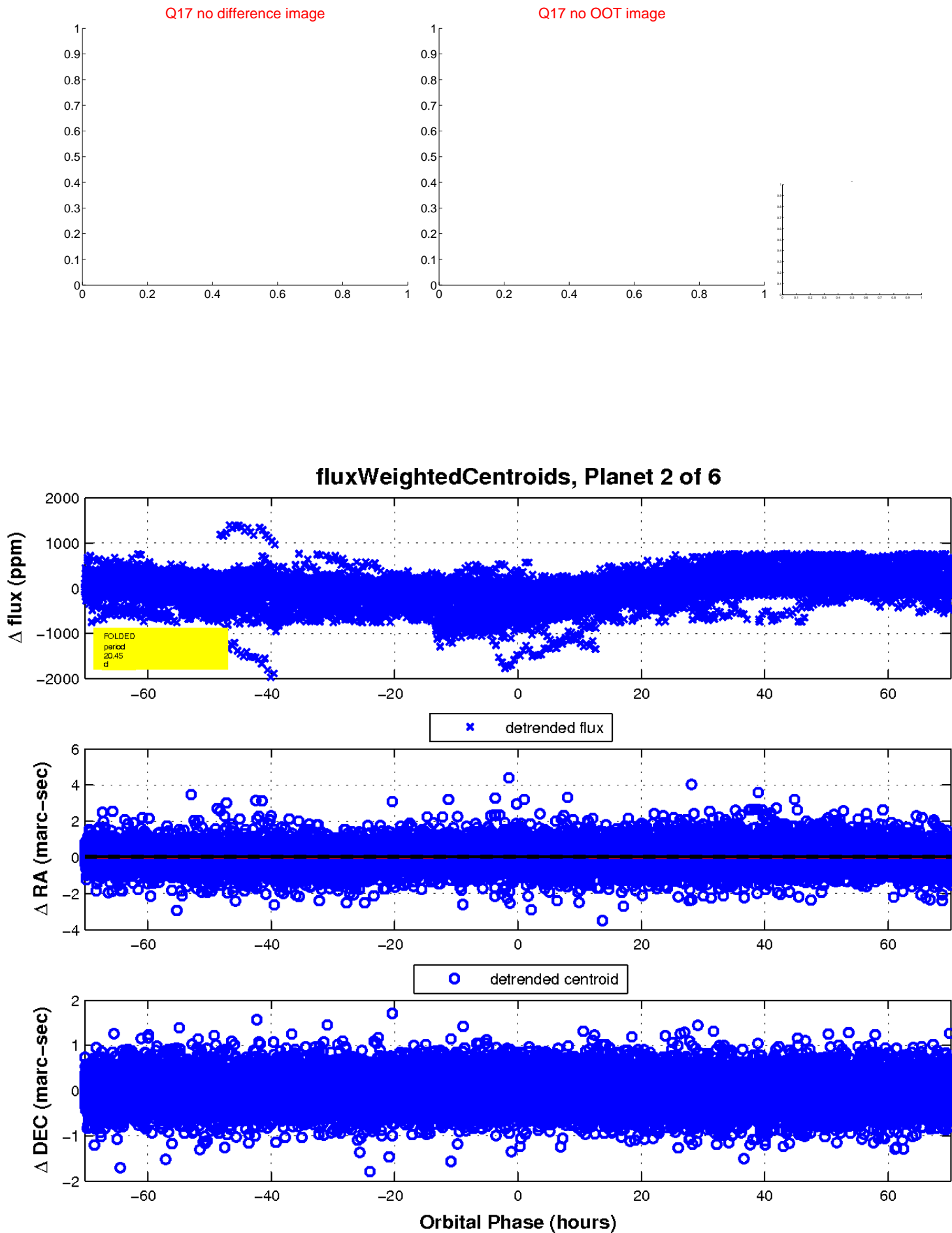
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



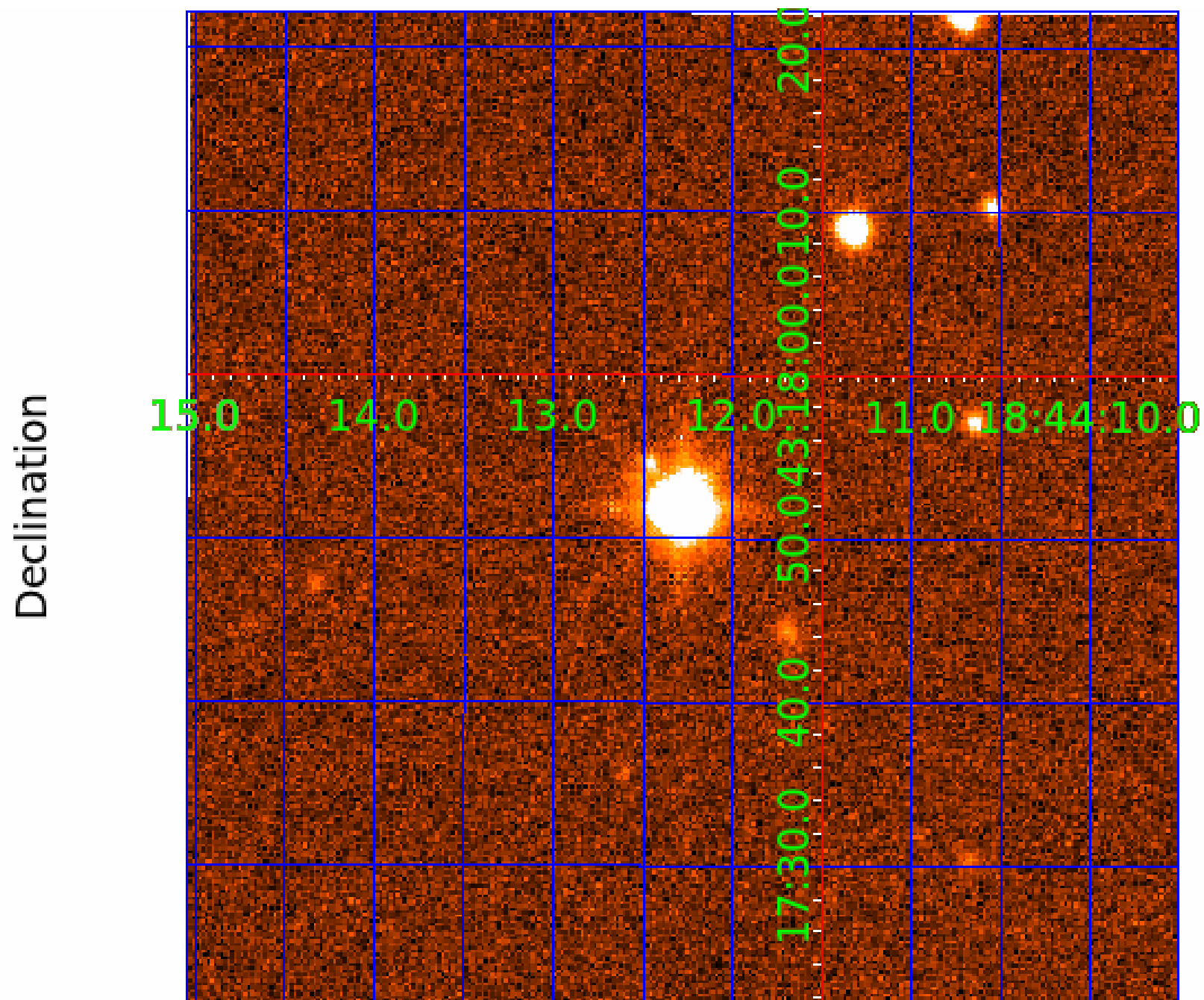
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 007582608

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})
007582608-01	OBS	No	20.452071	140.258714	31.3	19.173	9.0	7.9	1.99	8373	1.20	527.76
007582608-02	OBS	No	20.450378	151.361920	16.7	23.395	7.9	4.1	1.99	8373	0.90	527.82
007582608-03	OBS	No	20.442306	134.837610	14.9	13.269	7.5	4.0	1.99	8373	0.87	528.10
007582608-04	OBS	No	20.442689	135.818232	48.2	10.522	10.6	11.4	1.99	8373	1.61	528.09
007582608-05	OBS	No	6.816620	137.171090	35.3	15.000	8.1	-1.0	1.99	8373	1.20	2283.84
007582608-06	OBS	No	308.315176	428.199474	466.1	12.500	35.4	-1.0	1.99	8373	4.36	14.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007582608-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
007582608-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
007582608-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
007582608-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—SAME_NTL_PERIOD—CENT_FEW_DIFFS
007582608-05	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS
007582608-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS—HALO_GHOST

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

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

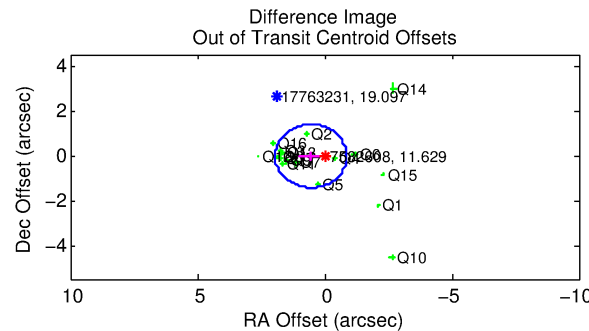
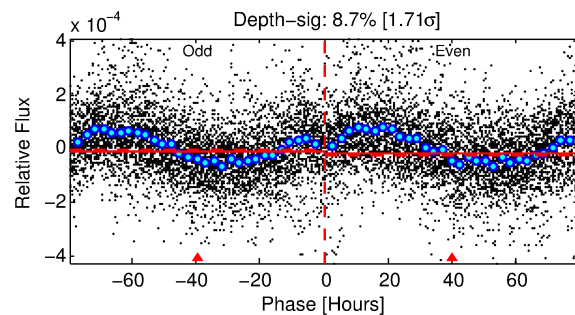
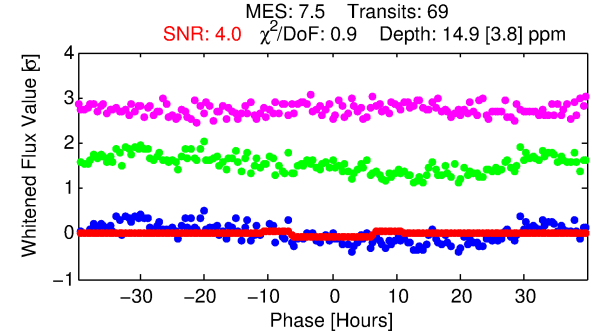
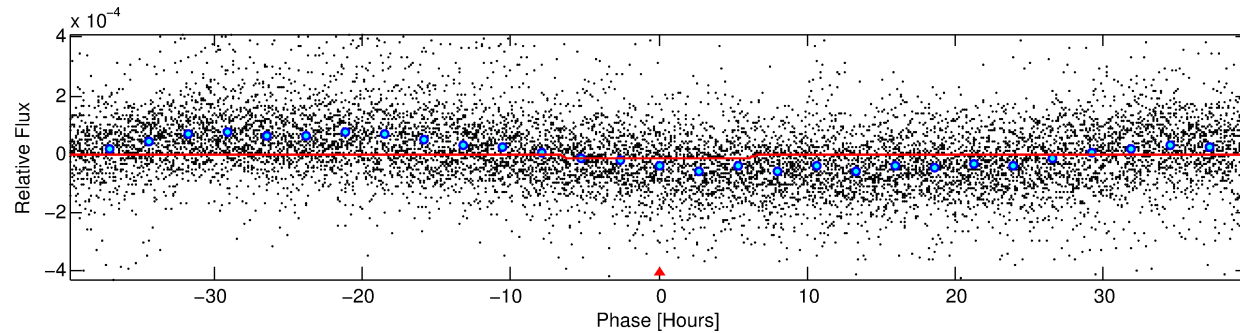
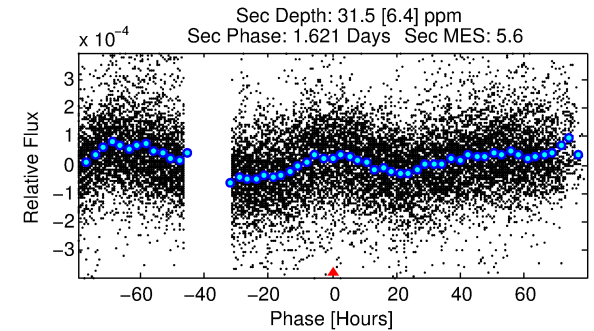
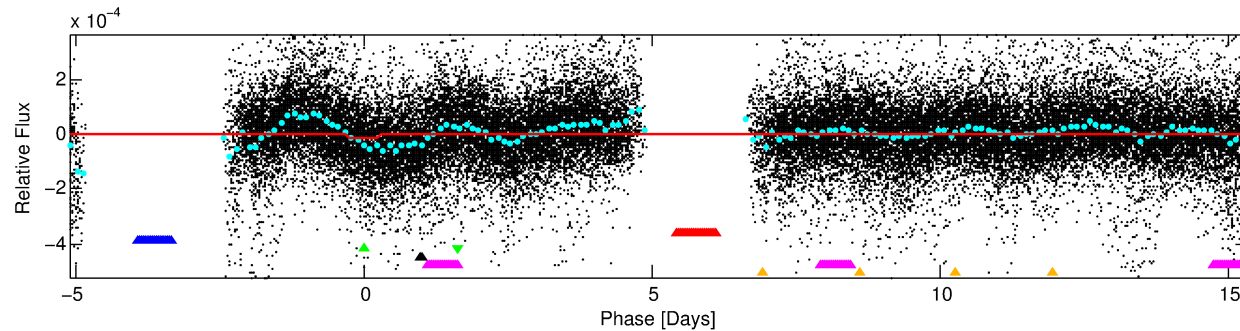
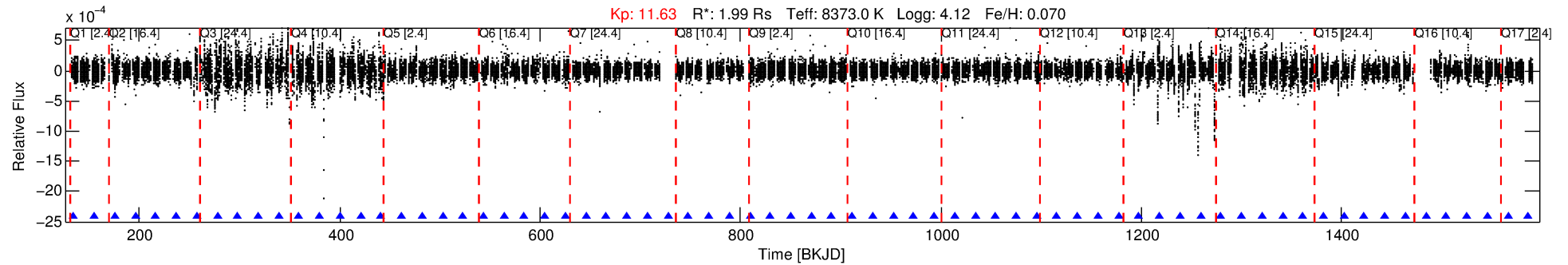
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007582608-03

No Significant Match Found

DV One-Page Summary

KIC: 7582608 Candidate: 3 of 6 Period: 20.442 d



DV Fit Results:

Period = 20.44231 [0.00072] d
Epoch = 134.8376 [0.0295] BKJD
Rp/R* = 0.0040 [0.0010]
a/R* = 6.08 [8.38]
b = 0.86 [0.42]
Seff = 528.10 [175.85]
Teq = 1222 [102] K
Rp = 0.87 [0.30] Re
a = 0.1820 [0.0348] AU
Ag = 754.02 [471.50] [1.60σ]
Teffp = 9904 [1454] K [5.95σ]

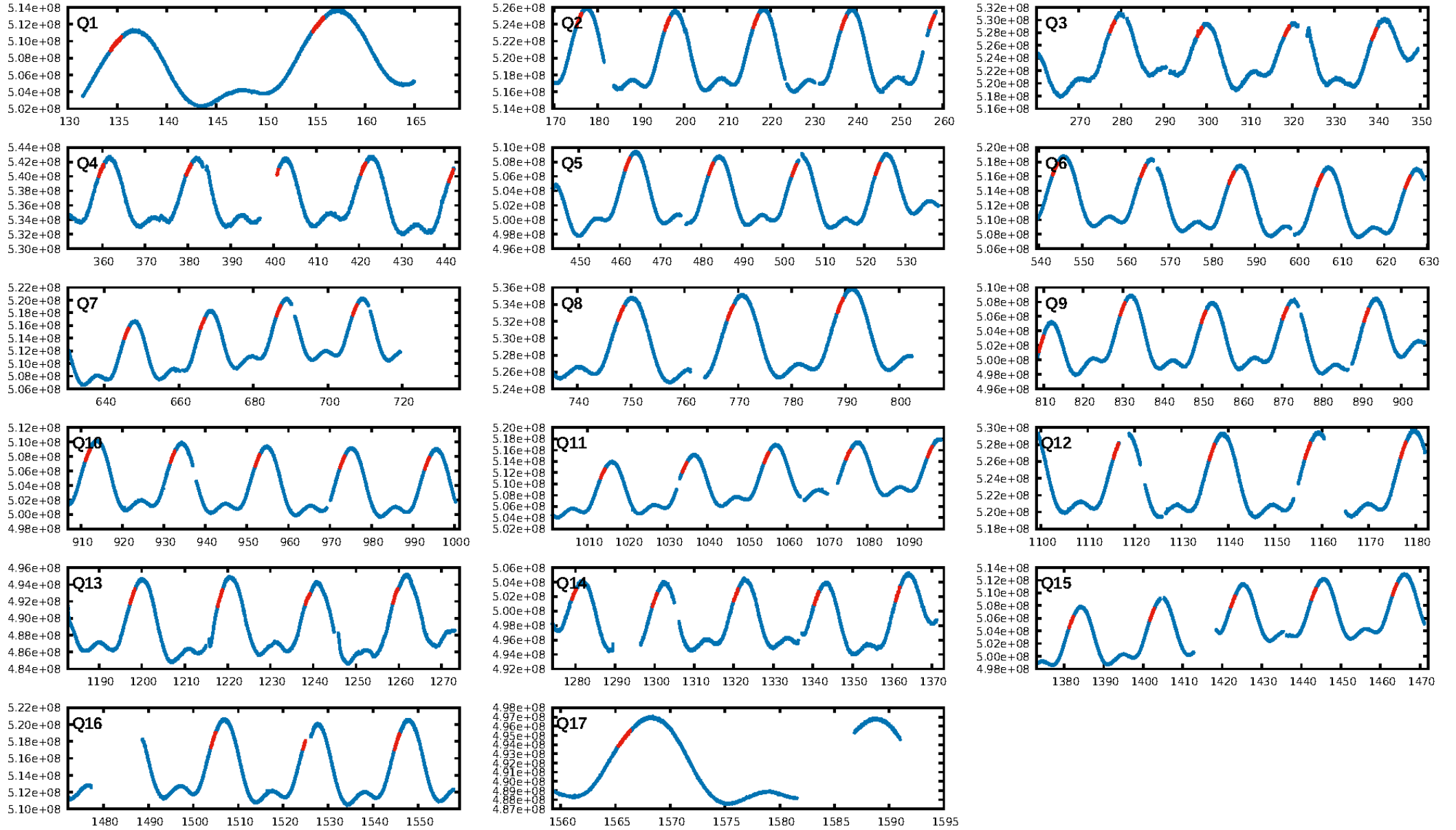
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [16.33σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 99.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.32e-11
RollingBand-fgt: 1.00 [66/66]
GhostDiagnostic-chr: -1.237
Centroid-sig: N/A
Centroid-so: 4.154 arcsec [1.44σ]
OotOffset-rm: 0.541 arcsec [1.15σ]
KicOffset-rm: 0.624 arcsec [1.33σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 0.00 [0/17]

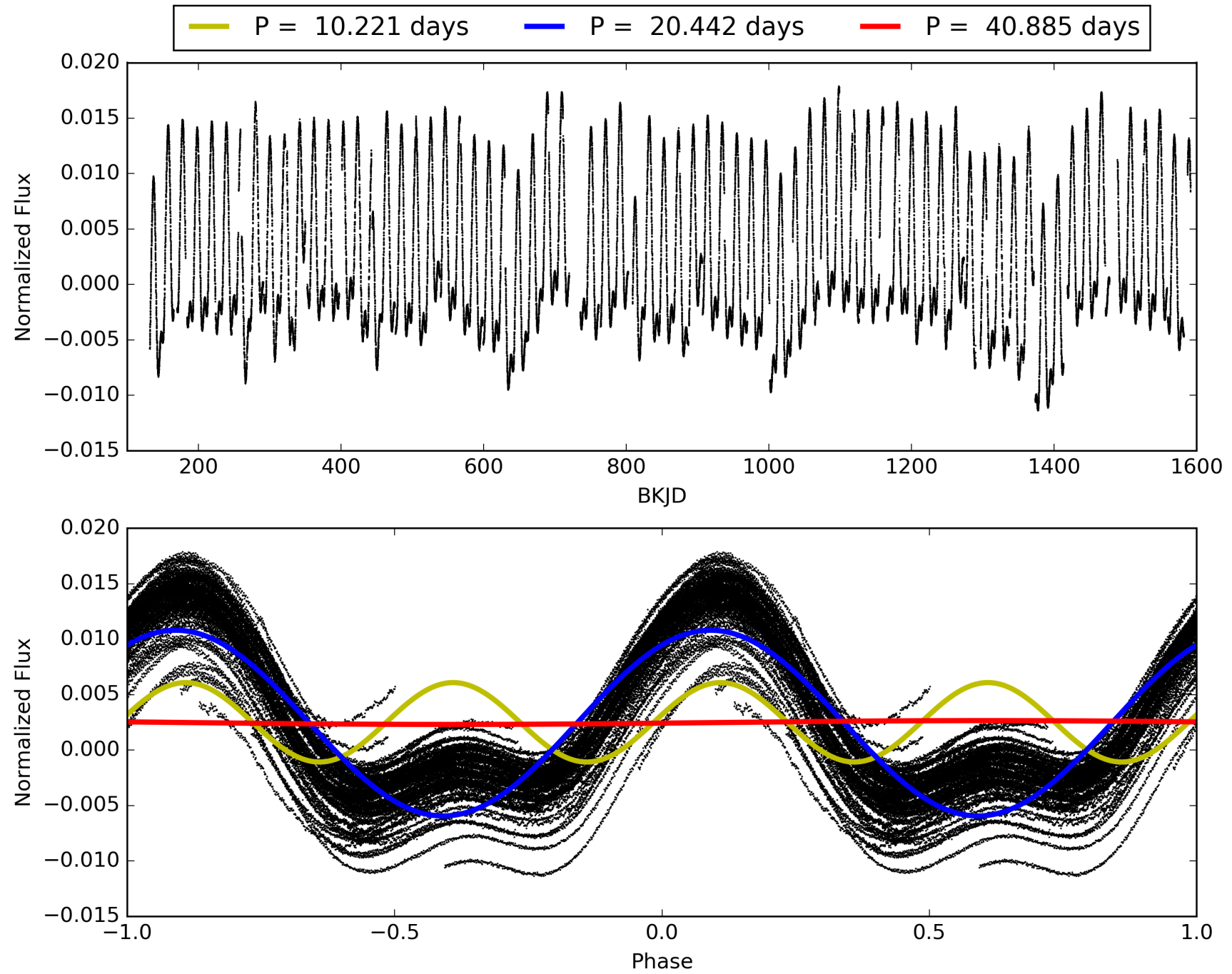
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 20:38:20 Z

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

TCE 007582608-03, PDC Light Curves

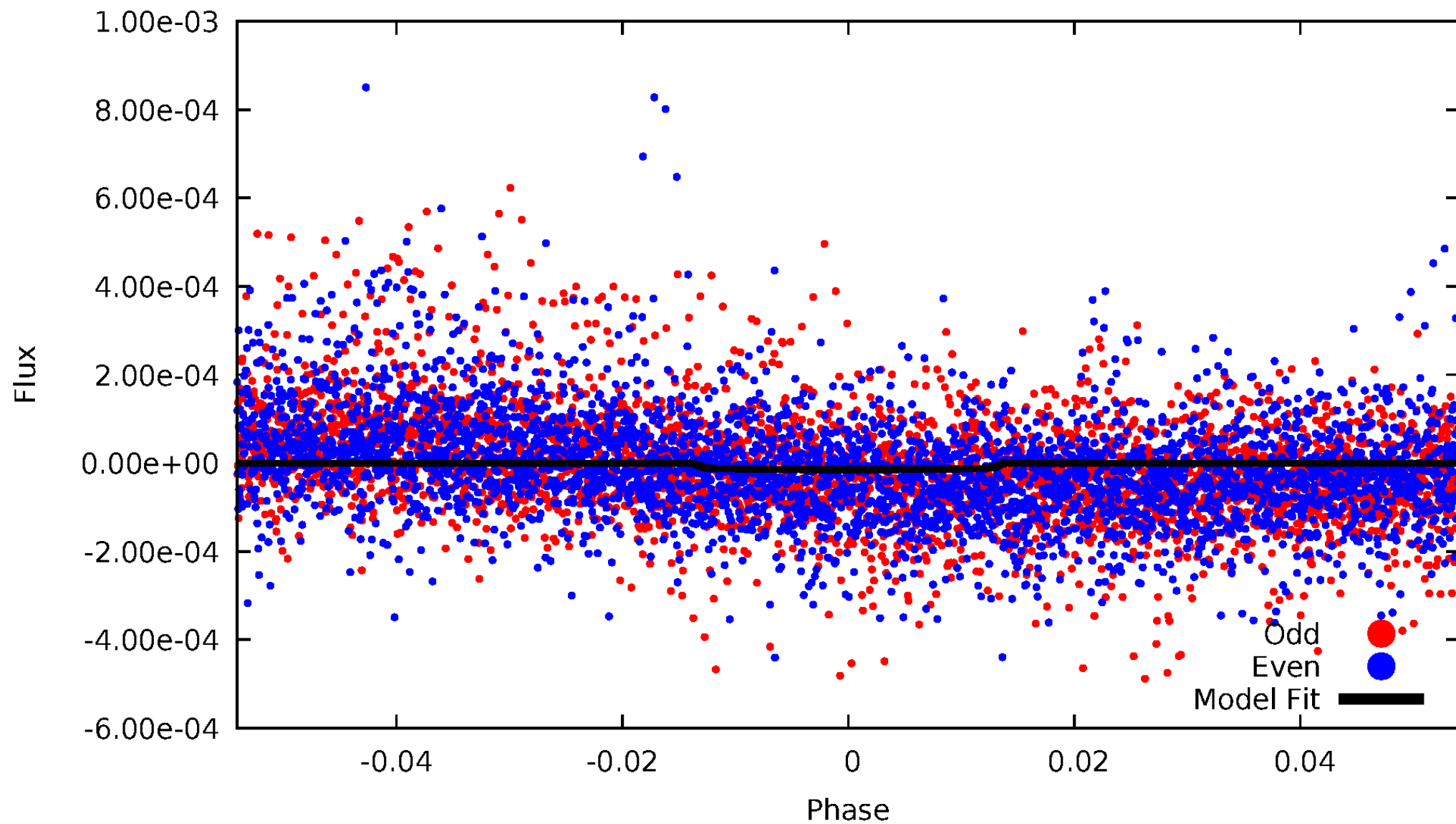


TCE 007582608-03



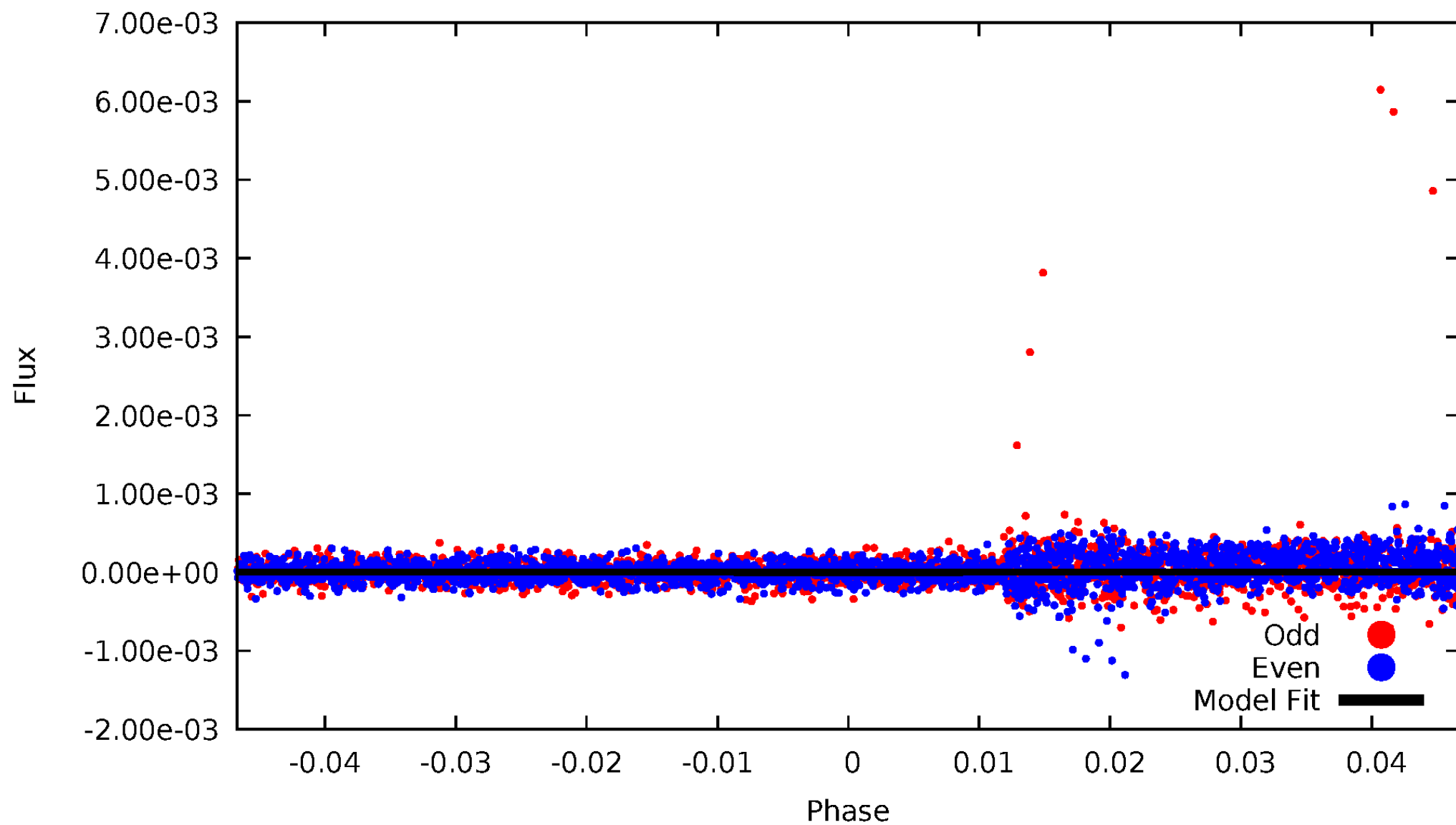
DV Odd/Even

TCE 007582608-03



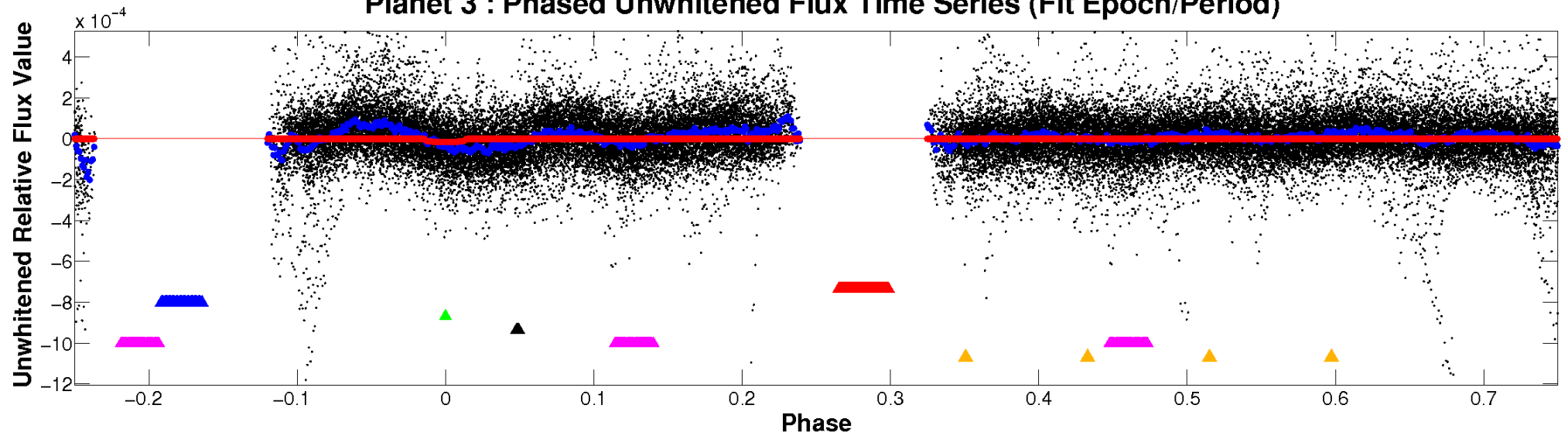
ALT Odd/Even

TCE 007582608-03

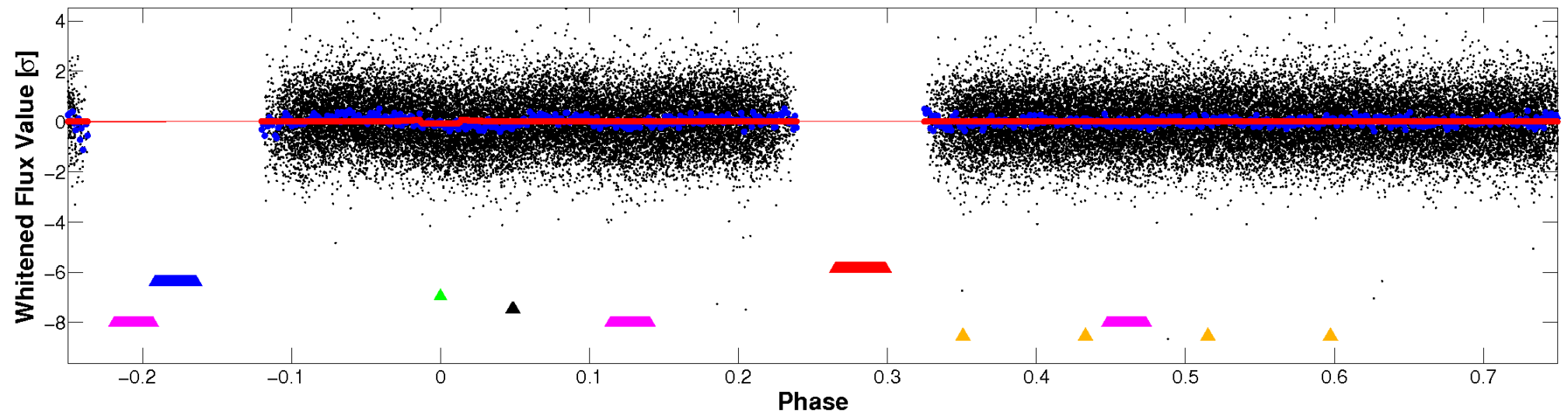


Non-Whitened Vs. Whitened Light Curve

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

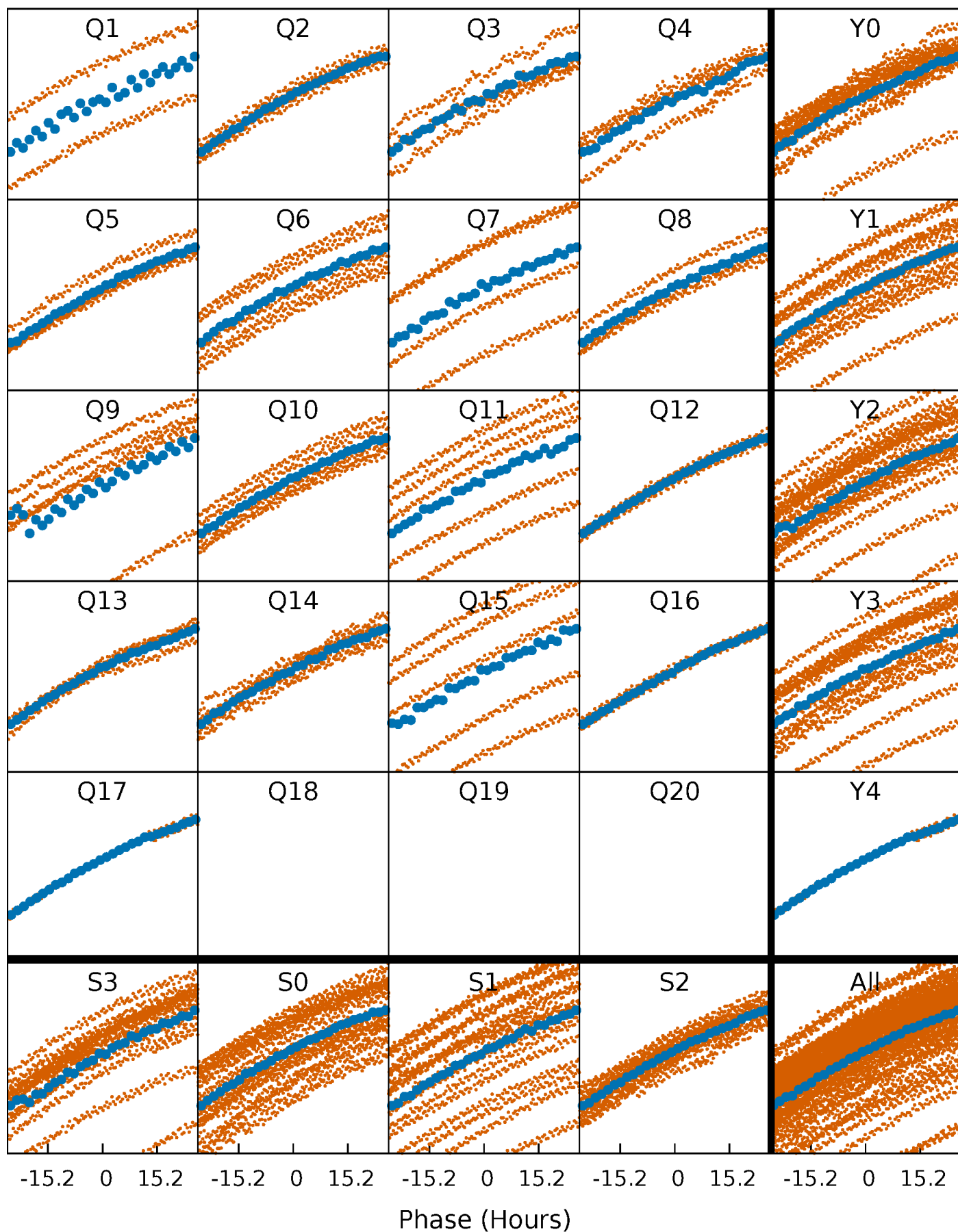


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



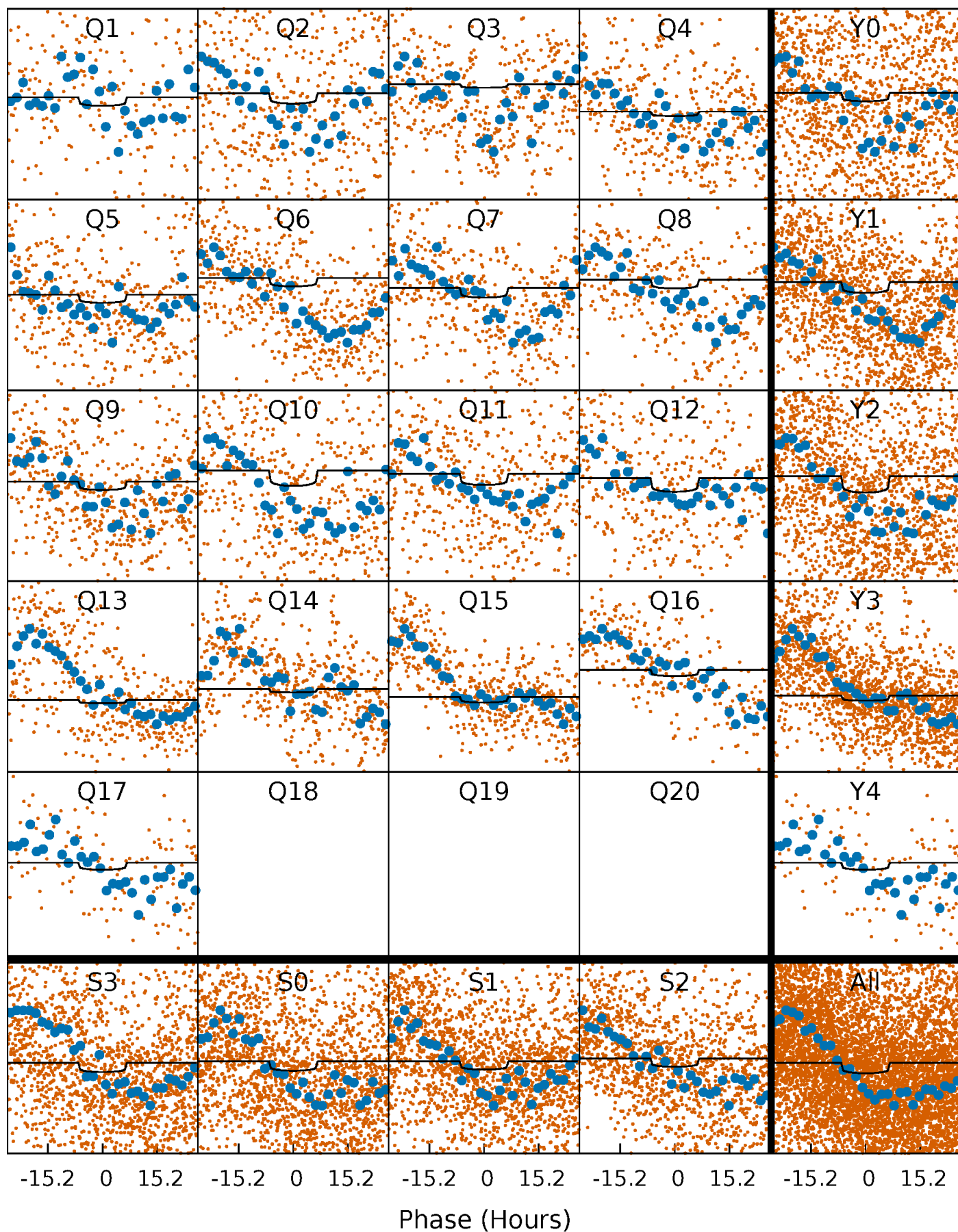
PDC Quarter-Phased Transit Curves

TCE 007582608-03 P= 20.442306 Days $T_0=134.837610$ (BKJD)



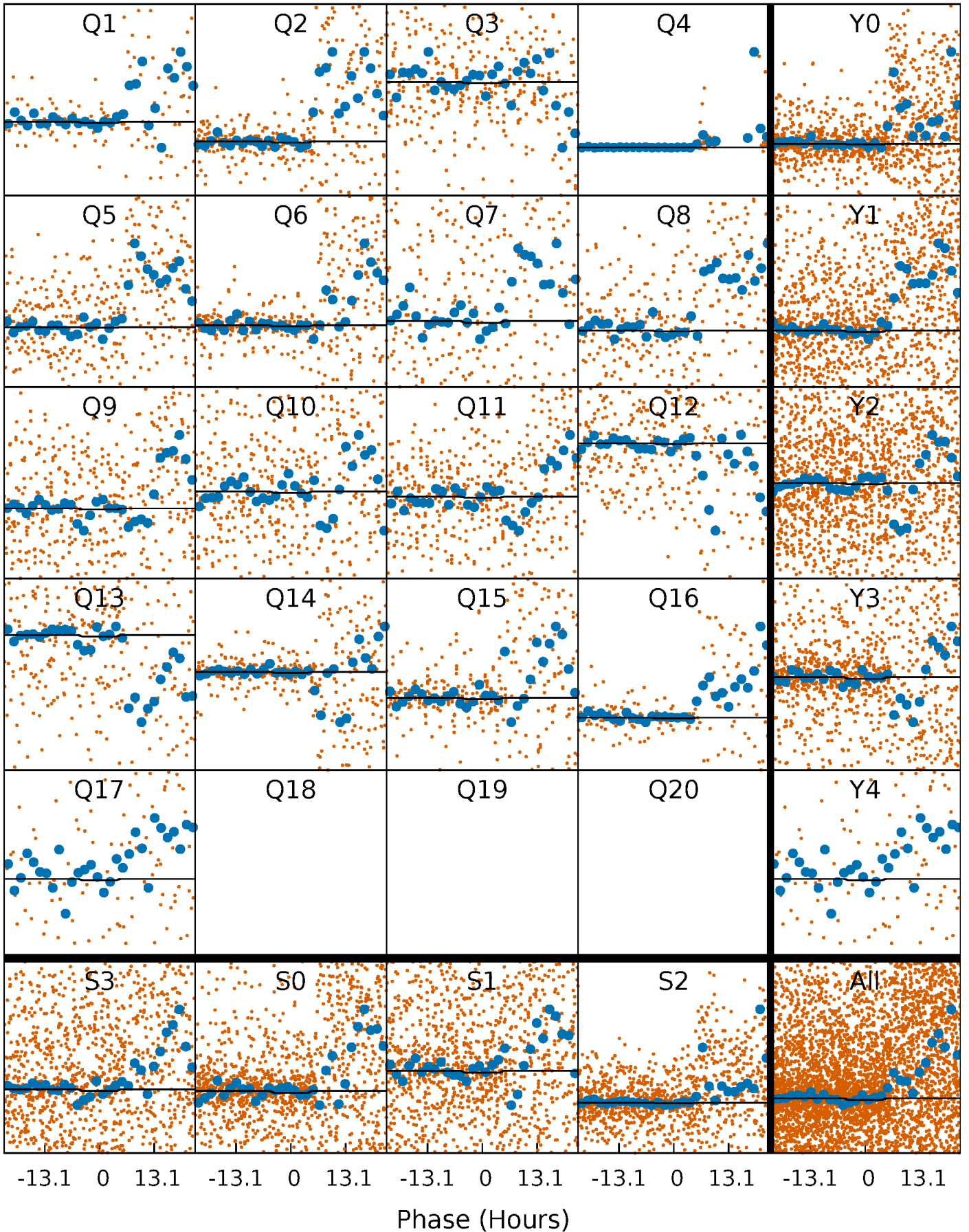
DV Quarter-Phased Transit Curves

TCE 007582608-03 P= 20.442306 Days $T_0=134.837610$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

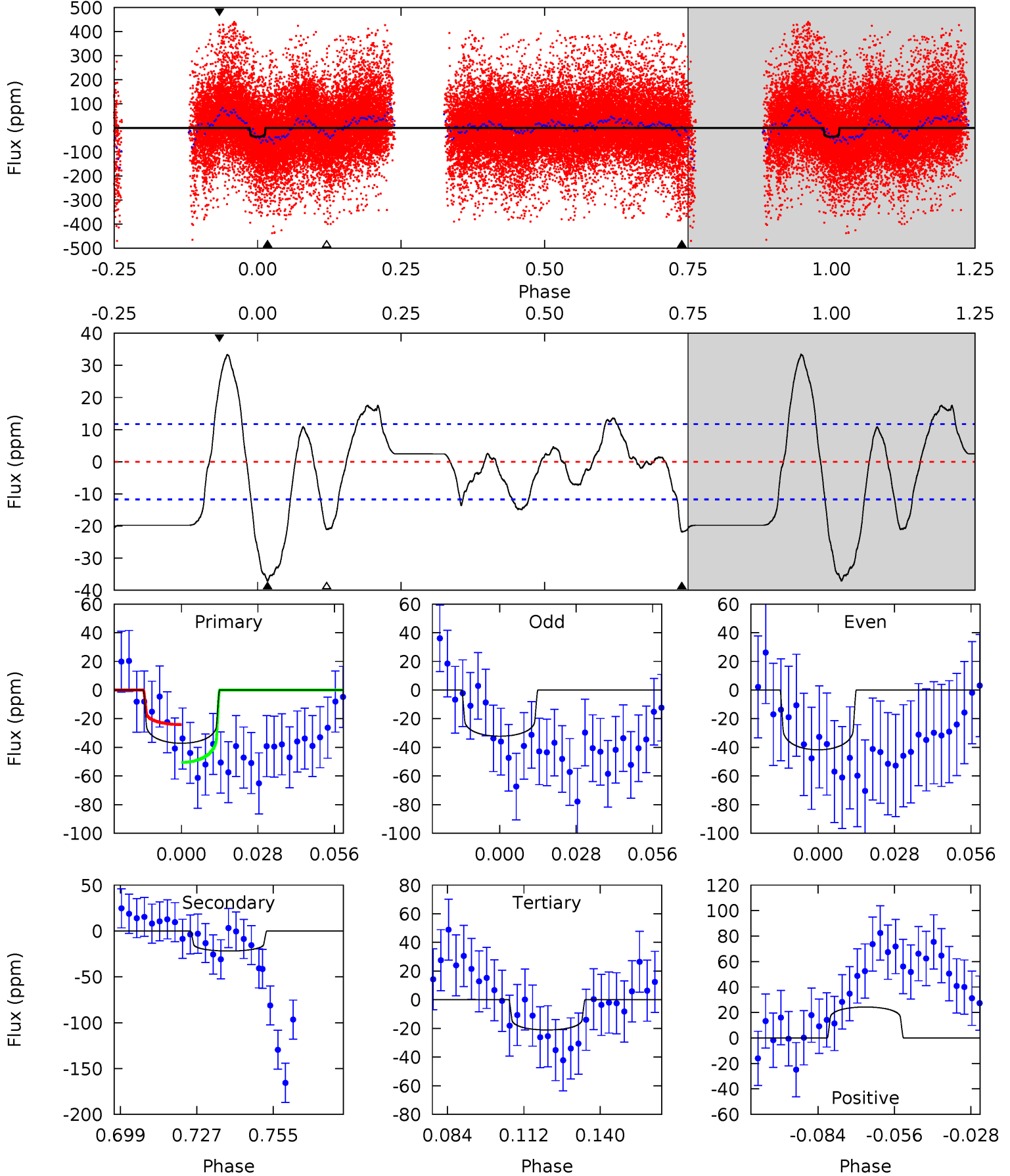
TCE 007582608-03 P= 20.452586 Days $T_0=134.517858$ (BKJD)



DV Model-Shift Uniqueness Test

007582608-03, $P = 20.442306$ Days, $E = 114.395304$ Days

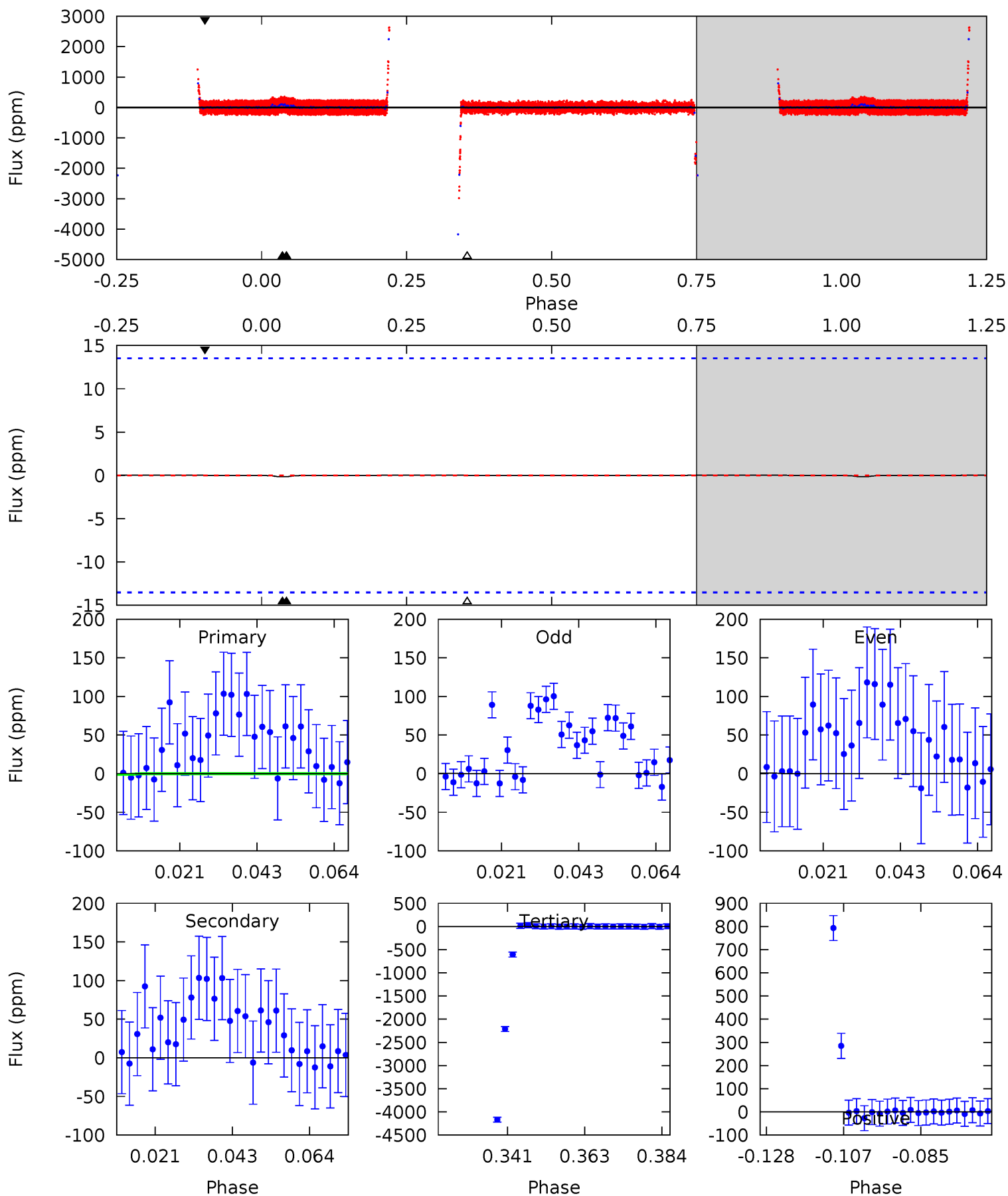
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.3	8.98	8.67	10.00	4.83	2.20	4.76	6.61	5.28	0.31	-1.02	1.96	1.16	0.47	5.43



Alt Model-Shift Uniqueness Test

007582608-03, P = 20.452586 Days, E = 114.065272 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.06	0.06	0	0.01	4.88	2.30	0.00	0.06	0.04	0.06	0.04	0.05	1.52	0.18	0.41



Stellar Parameters For KIC 007582608

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8373^{+203}_{-377}	$4.123^{+0.126}_{-0.154}$	$0.070^{+0.250}_{-0.550}$	$1.993^{+0.449}_{-0.449}$	$1.922^{+0.313}_{-0.383}$	$0.342^{+0.251}_{-0.146}$
	+2%/-5%	+3%/-4%	+357%/-786%	+23%/-23%	+16%/-20%	+74%/-43%
Source	KIC0	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 007582608-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-22 ± 2	$0.87^{+0.28}_{-0.25}$	1710^{+112}_{-103}	9207^{+2638}_{-1441}	511^{+519}_{-212}
Alt.	-0 ± 3	$0.35^{+0.24}_{-0.19}$	1712^{+114}_{-111}	4357^{+5762}_{-13274}	26^{+613}_{-496}

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

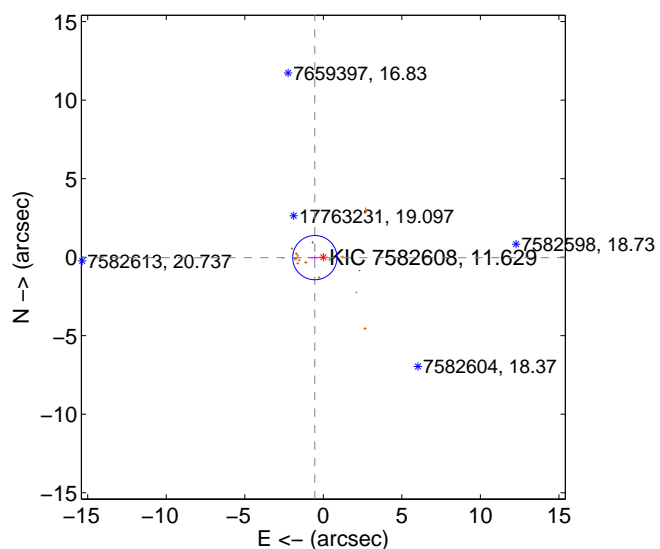
Supplemental centroid analysis for 007582608-03. **Kepler magnitude: 11.63.** Transit SNR 3.95

There are 0 quarters with good PRF difference image offsets

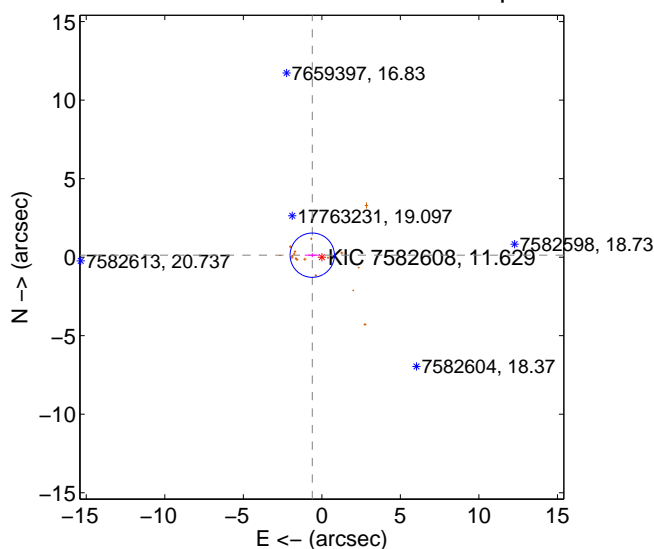
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.541 ± 0.469	1.15	0.540 ± 0.470	-0.029 ± 0.150
PRF-fit source offset from KIC position	0.624 ± 0.470	1.33	0.611 ± 0.479	0.125 ± 0.129
photometric centroid source offset	4.15 ± 2.89	1.44	-4.09 ± 2.91	-0.72 ± 2.32

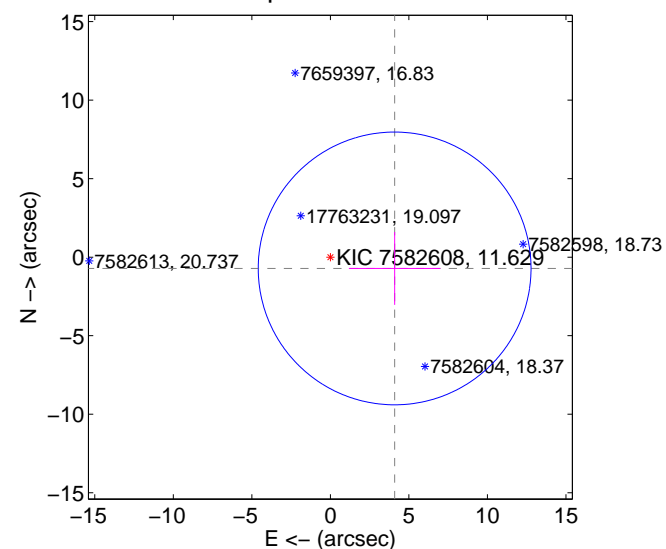
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

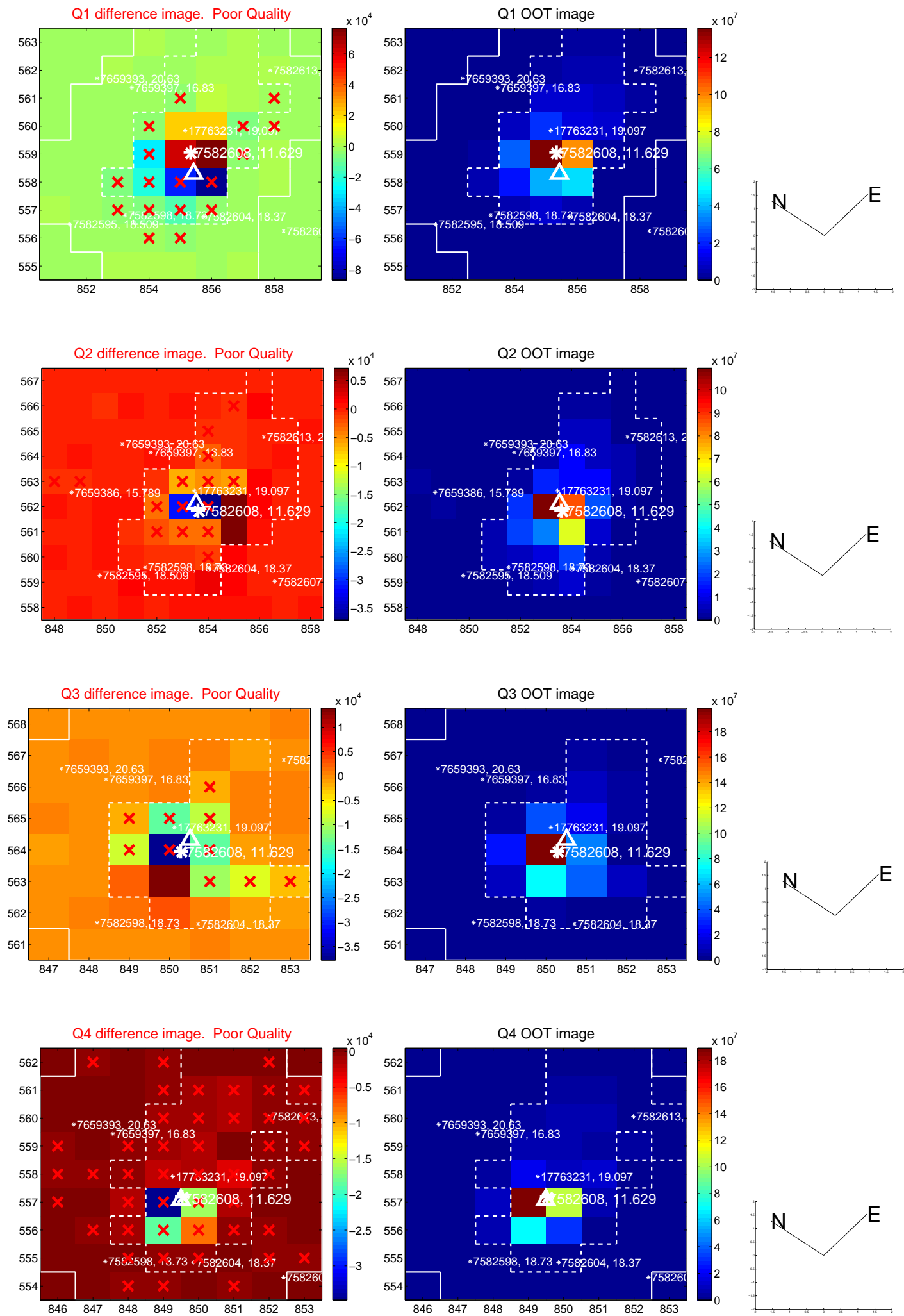


offset from photometric centroids

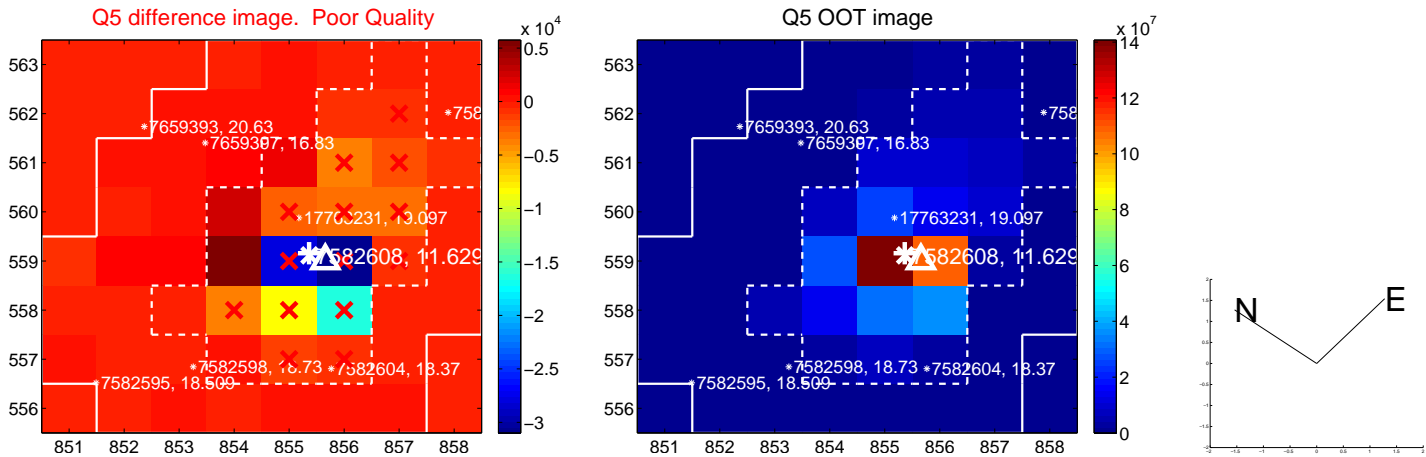


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

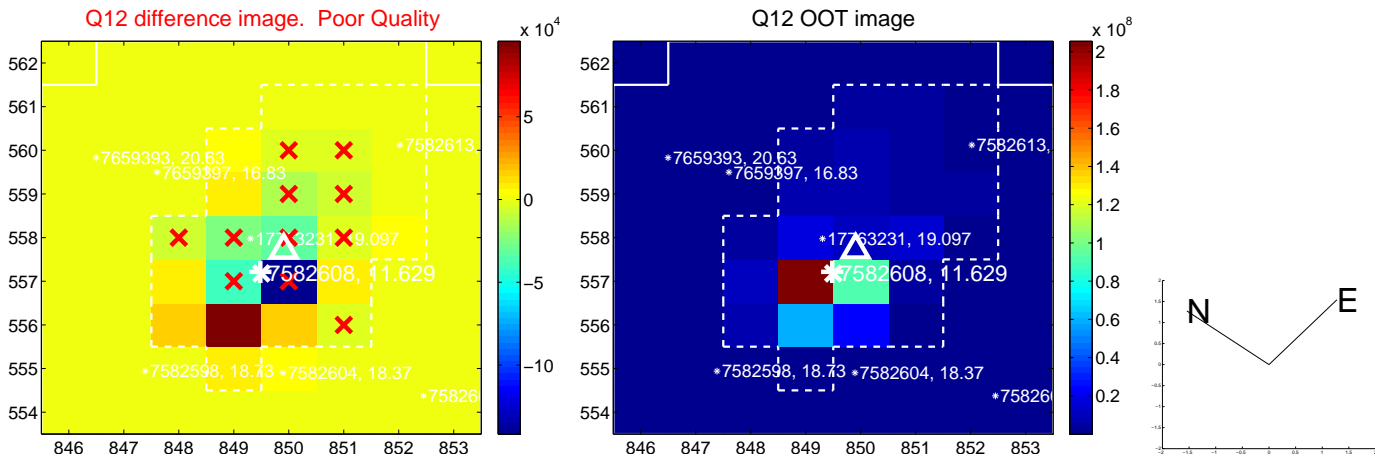
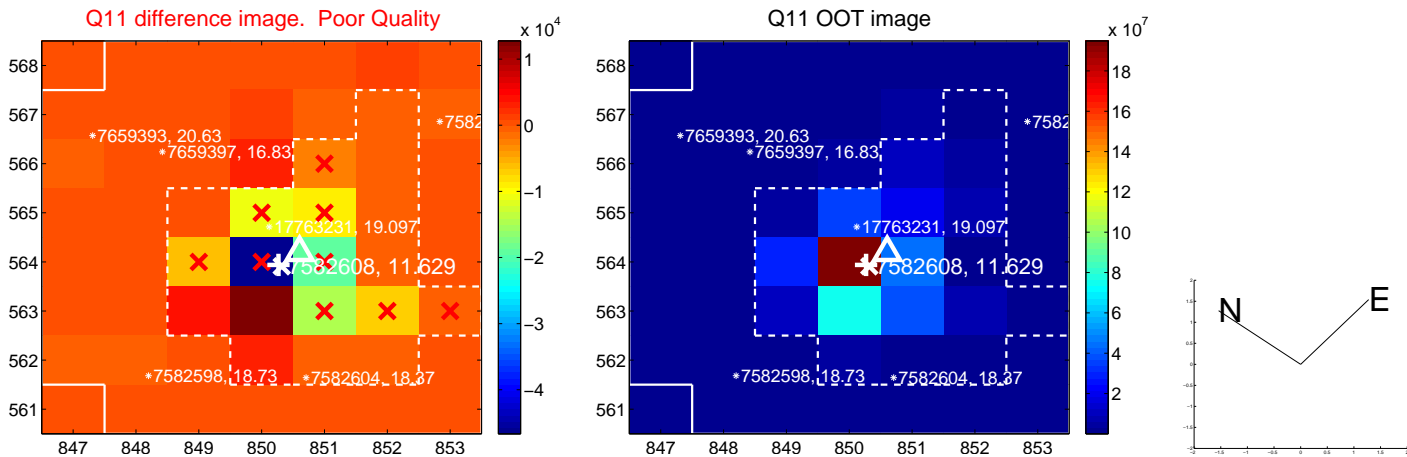
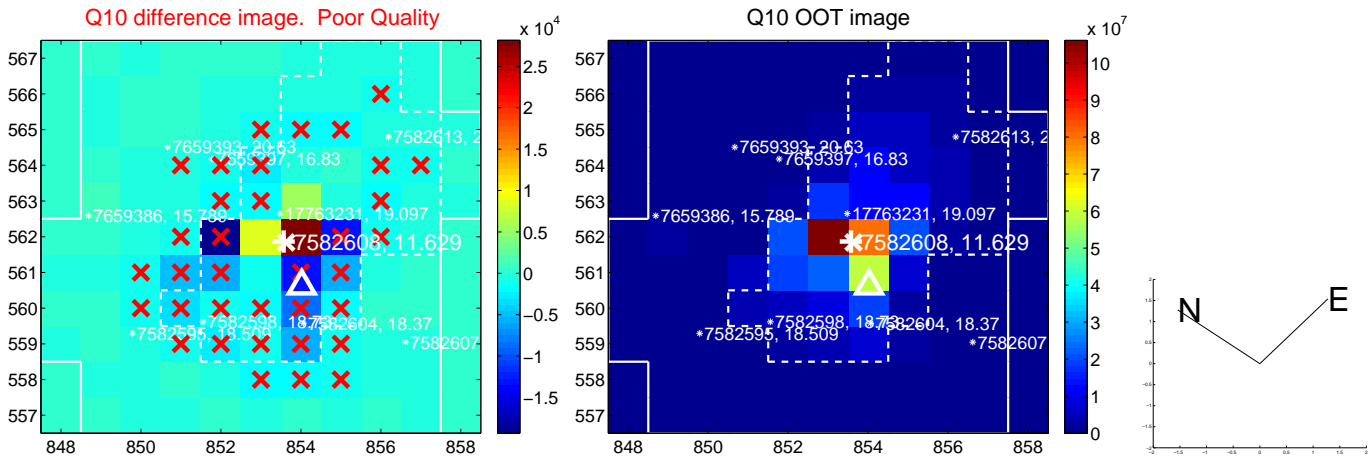
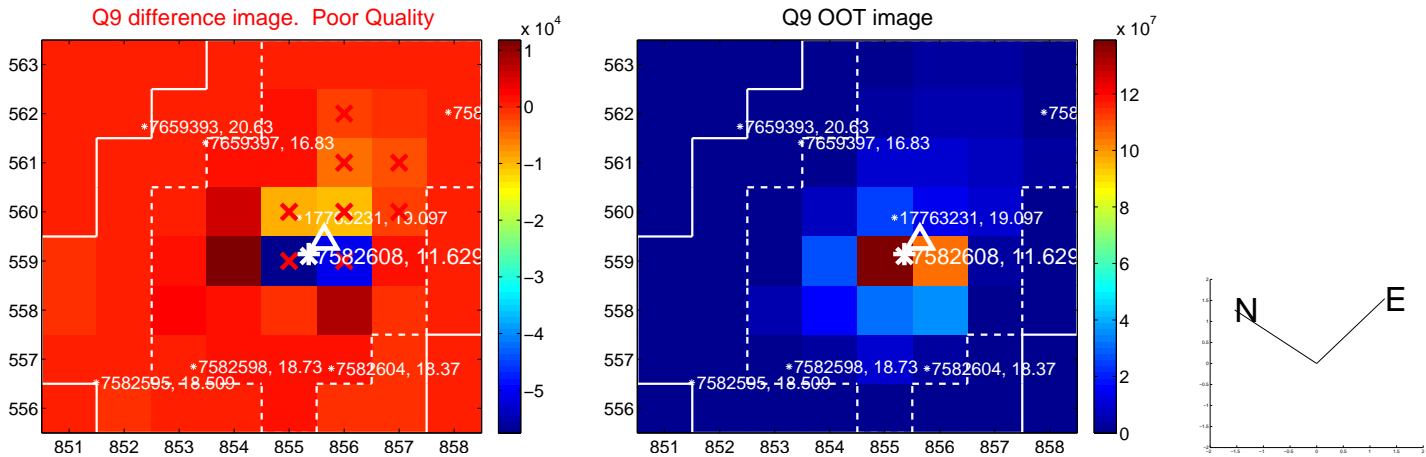
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



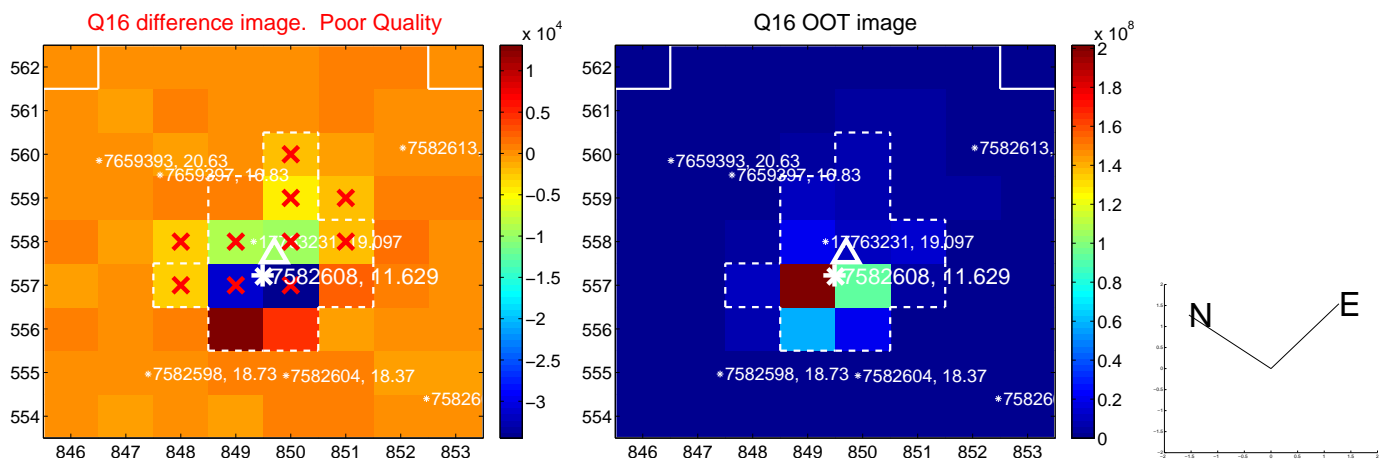
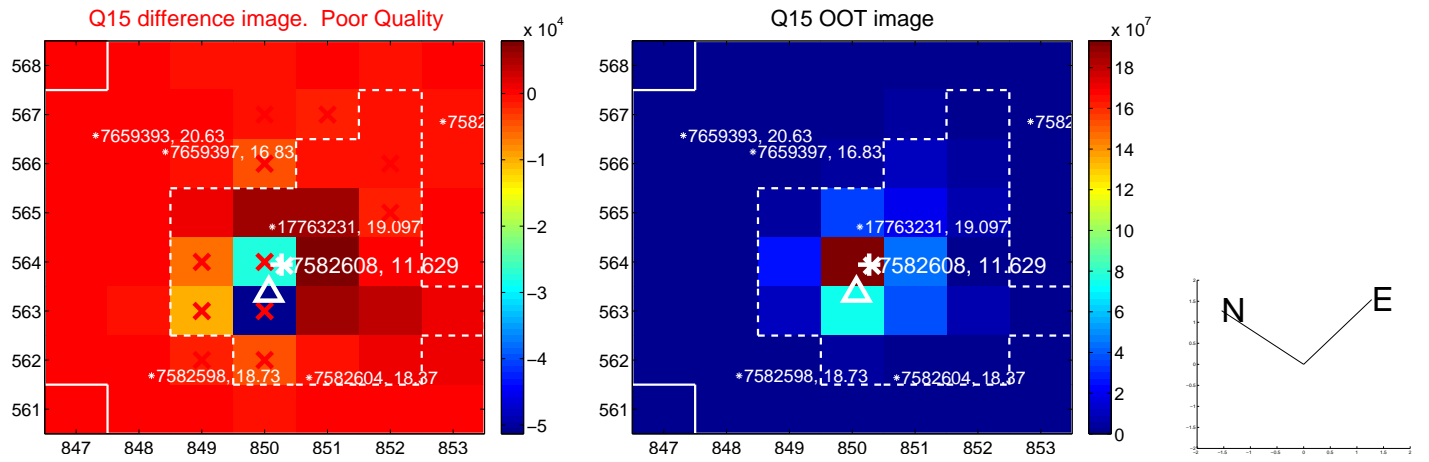
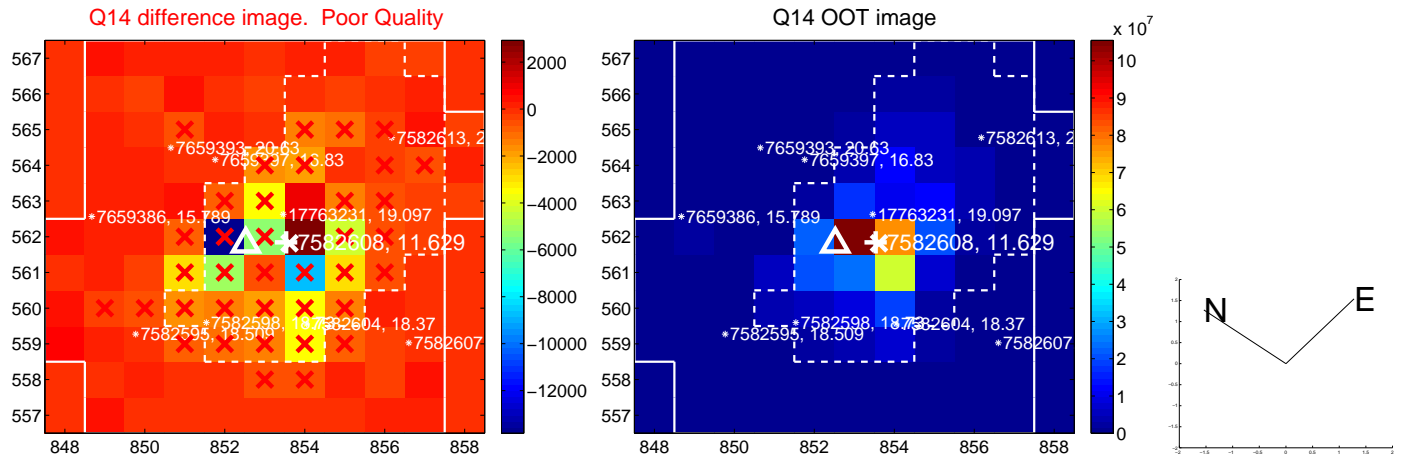
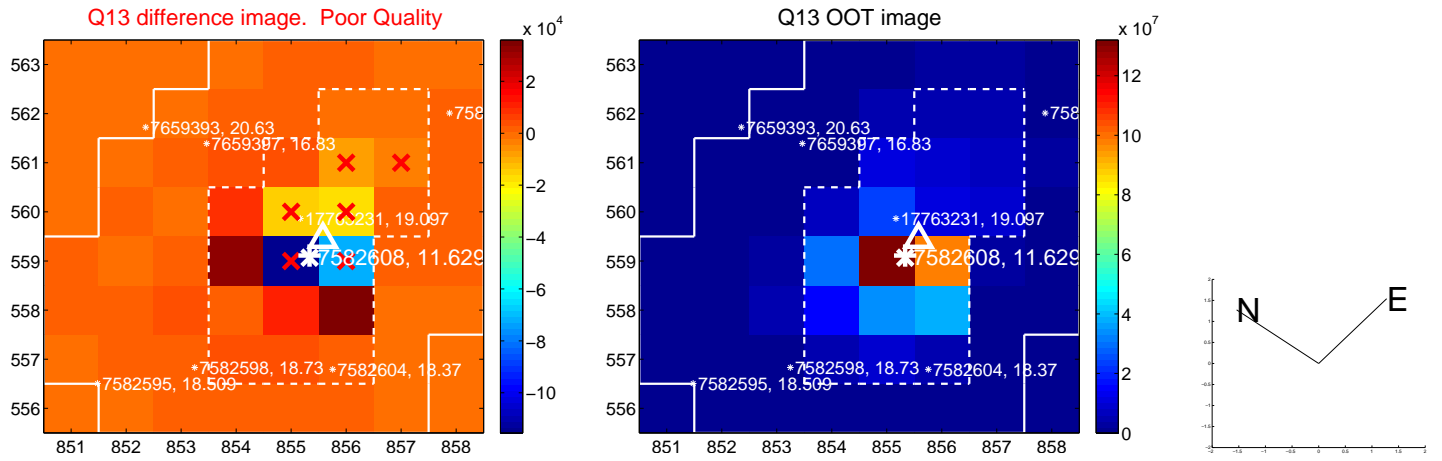
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



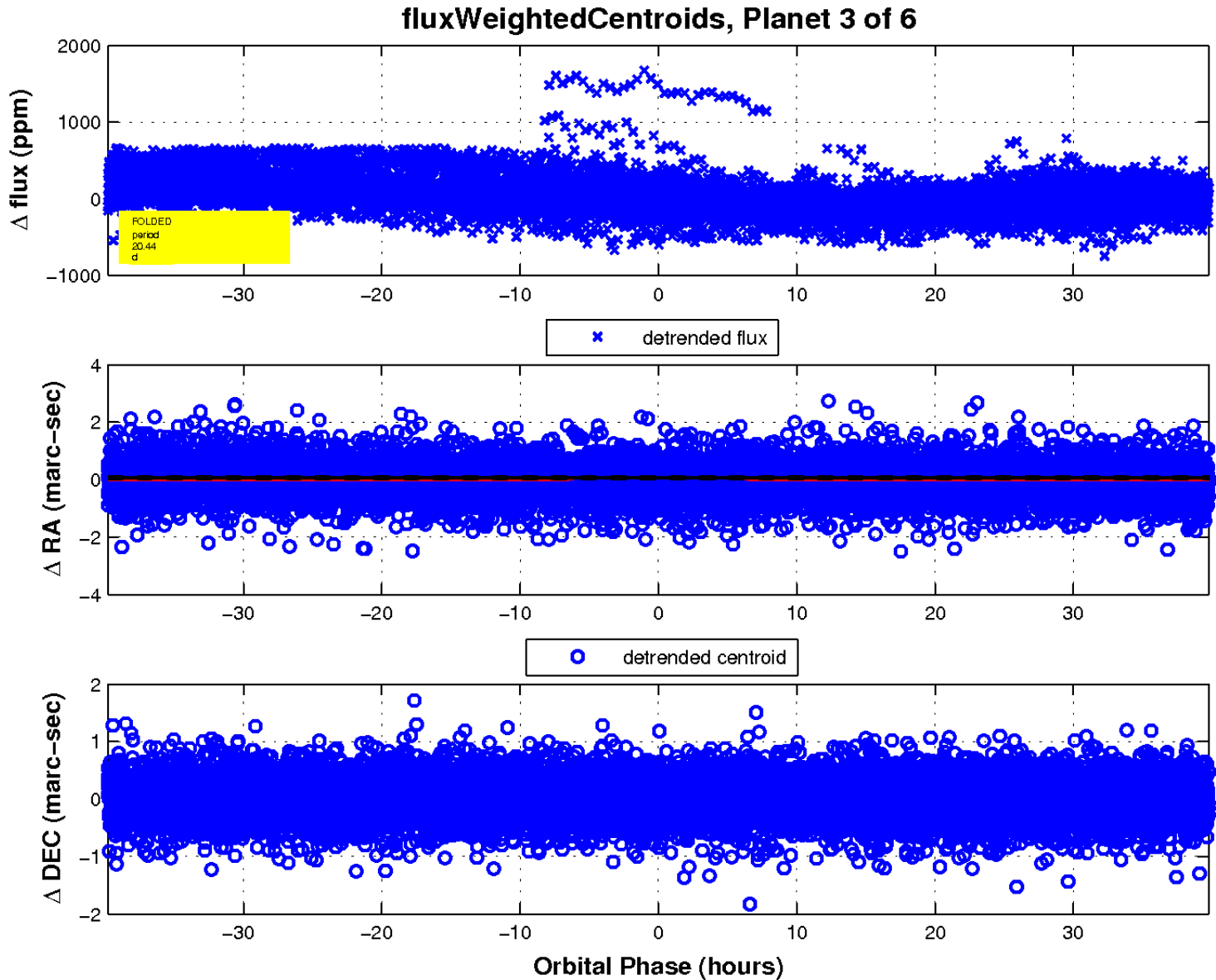
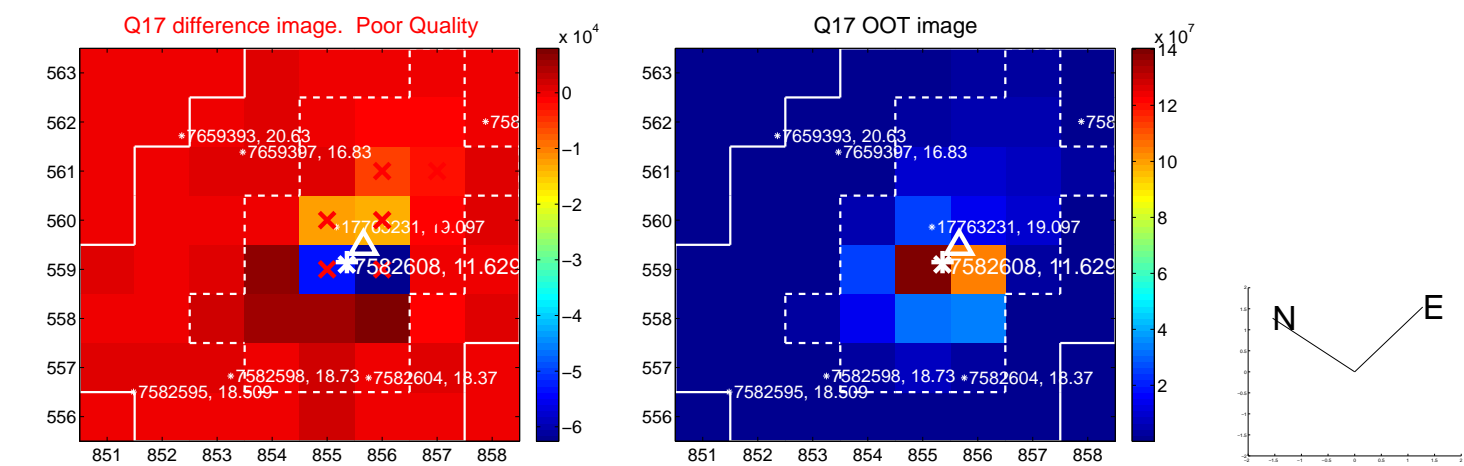
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



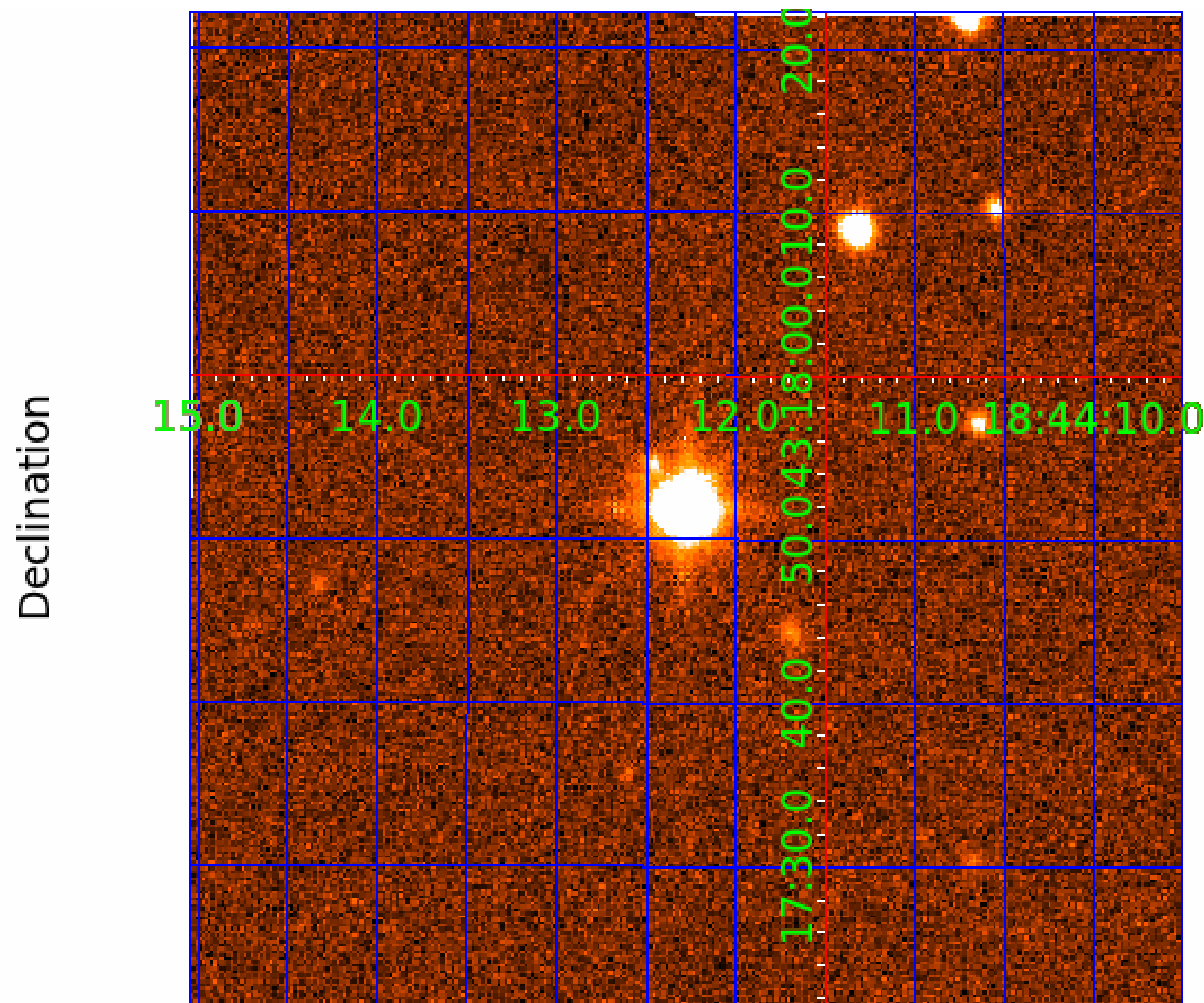
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UKIRT Image



KIC 007582608

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})
007582608-01	OBS	No	20.452071	140.258714	31.3	19.173	9.0	7.9	1.99	8373	1.20	527.76
007582608-02	OBS	No	20.450378	151.361920	16.7	23.395	7.9	4.1	1.99	8373	0.90	527.82
007582608-03	OBS	No	20.442306	134.837610	14.9	13.269	7.5	4.0	1.99	8373	0.87	528.10
007582608-04	OBS	No	20.442689	135.818232	48.2	10.522	10.6	11.4	1.99	8373	1.61	528.09
007582608-05	OBS	No	6.816620	137.171090	35.3	15.000	8.1	-1.0	1.99	8373	1.20	2283.84
007582608-06	OBS	No	308.315176	428.199474	466.1	12.500	35.4	-1.0	1.99	8373	4.36	14.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007582608-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
007582608-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
007582608-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
007582608-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—SAME_NTL_PERIOD—CENT_FEW_DIFFS
007582608-05	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS
007582608-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS—HALO_GHOST

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

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

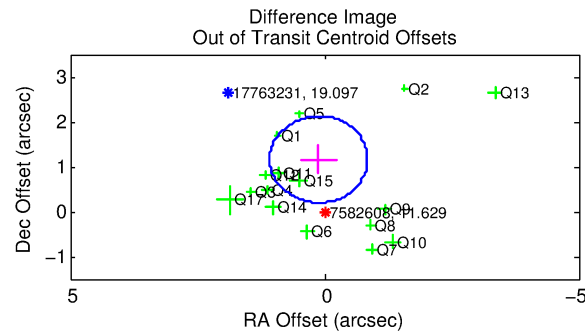
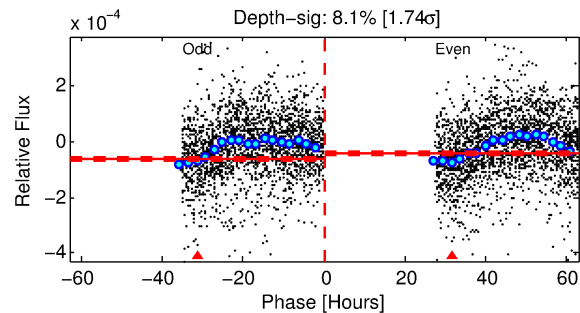
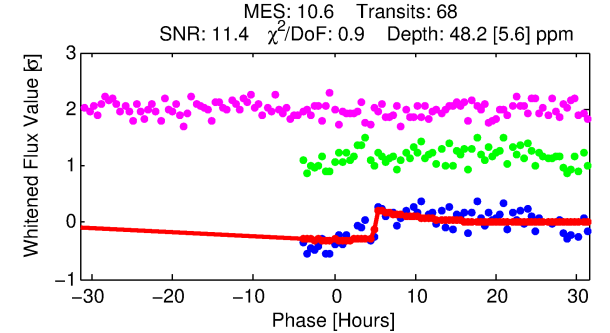
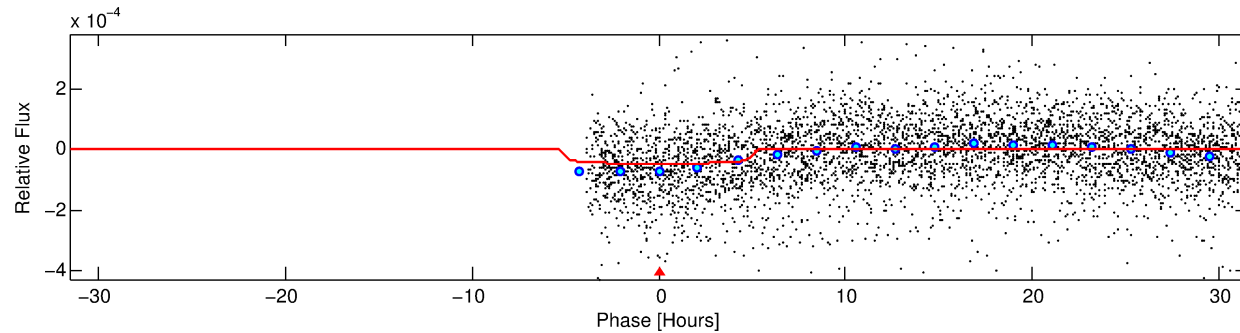
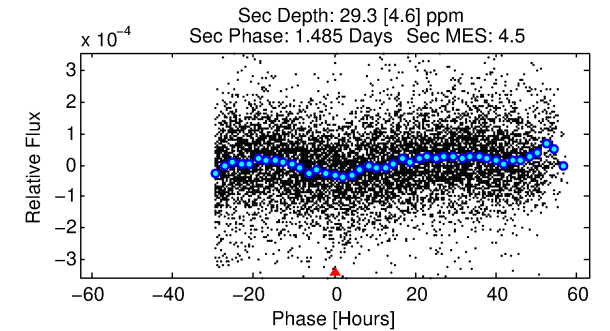
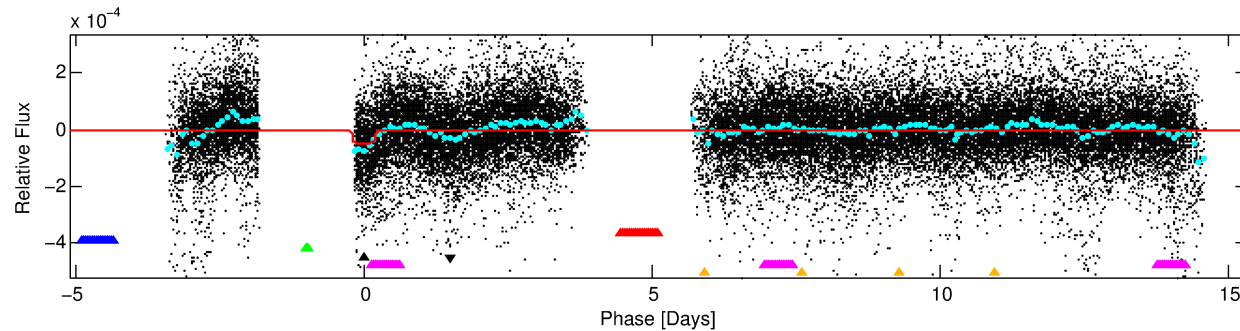
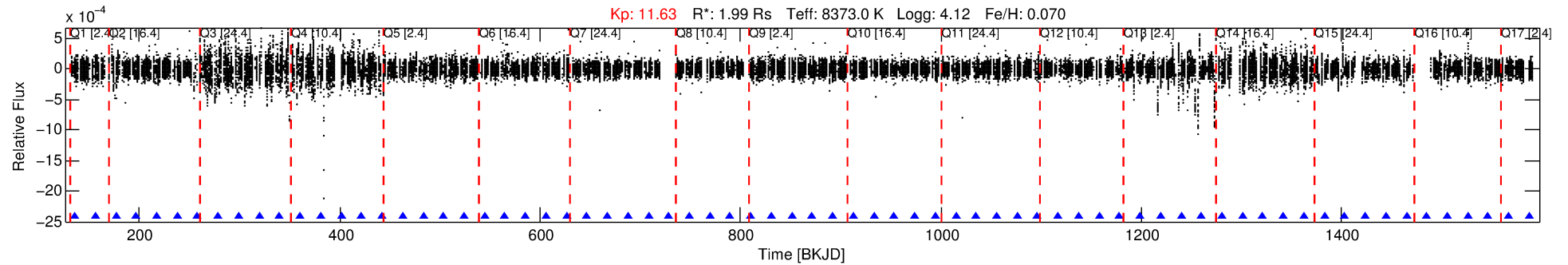
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007582608-04

No Significant Match Found

DV One-Page Summary

KIC: 7582608 Candidate: 4 of 6 Period: 20.443 d



DV Fit Results:

Period = 20.44269 [0.00032] d
Epoch = 135.8182 [0.0379] BKJD
Rp/R* = 0.0074 [0.0016]
a/R* = 6.68 [8.45]
b = 0.90 [0.24]
Seff = 528.09 [175.85]
Teq = 1222 [102] K
Rp = 1.61 [0.50] Re
a = 0.1820 [0.0348] AU
Ag = 206.09 [108.95] [1.88σ]
Teffp = 7161 [865] K [6.82σ]

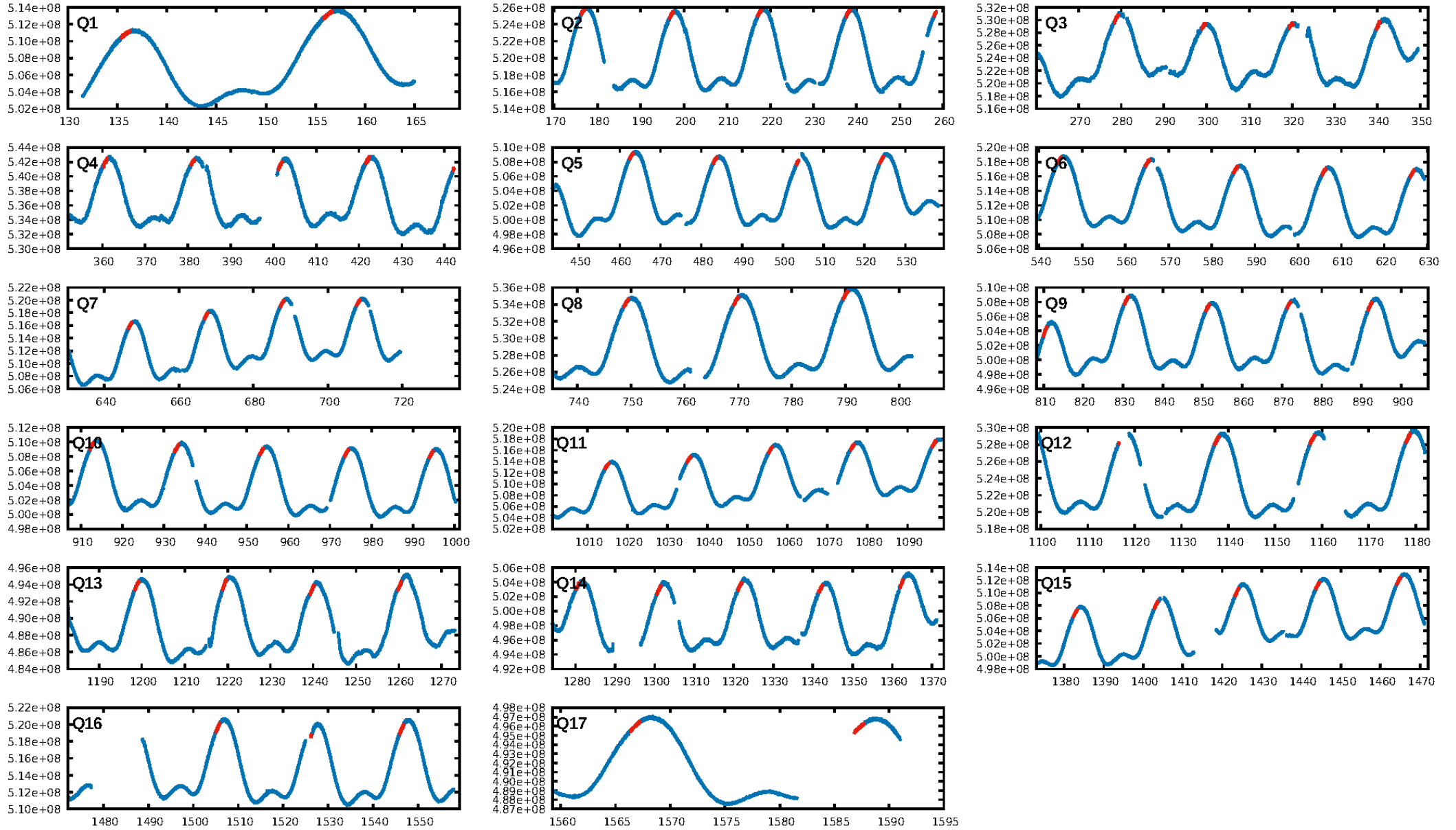
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 0.6% [0.01σ]
ModelChiSquare2-sig: 99.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.01e-18
RollingBand-fgt: 1.00 [64/64]
GhostDiagnostic-chr: -12.03
Centroid-sig: N/A
Centroid-so: 0.582 arcsec [0.62σ]
OotOffset-rm: 1.166 arcsec [3.63σ]
KicOffset-rm: 1.322 arcsec [4.17σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.00 [0/16]
DiffImageOverlap-fno: 0.00 [0/16]

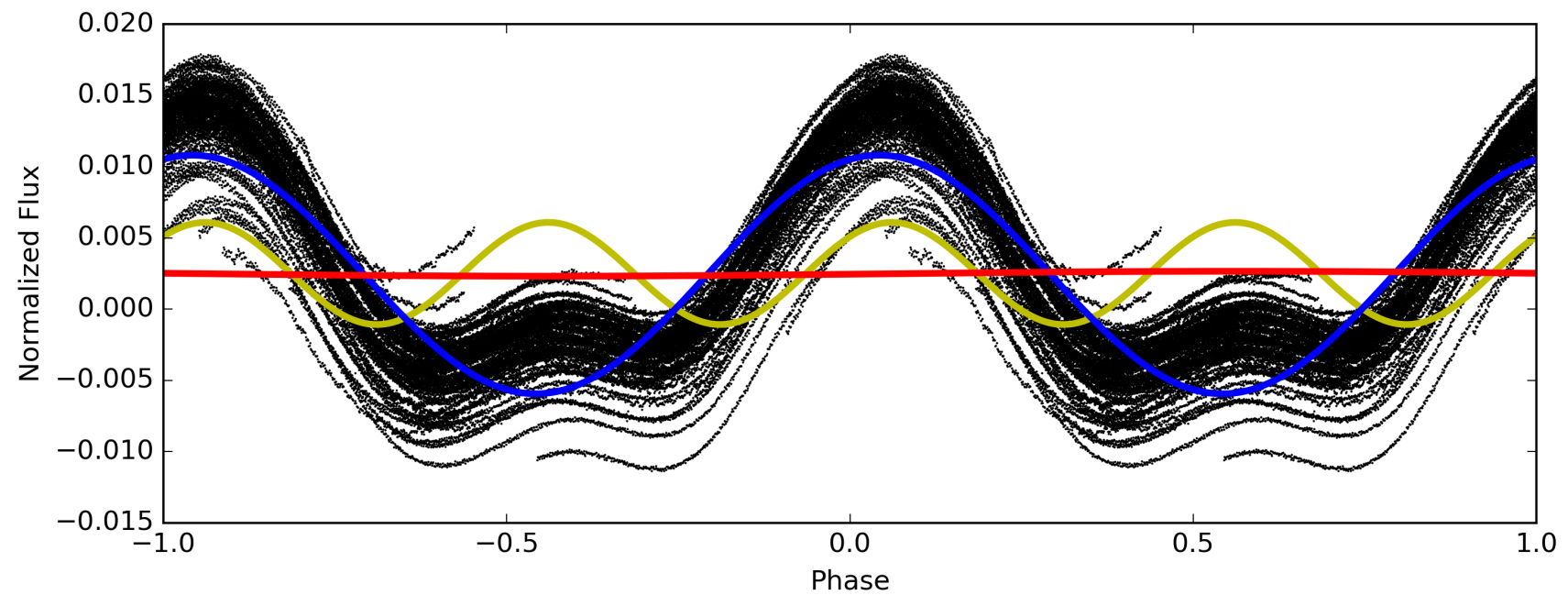
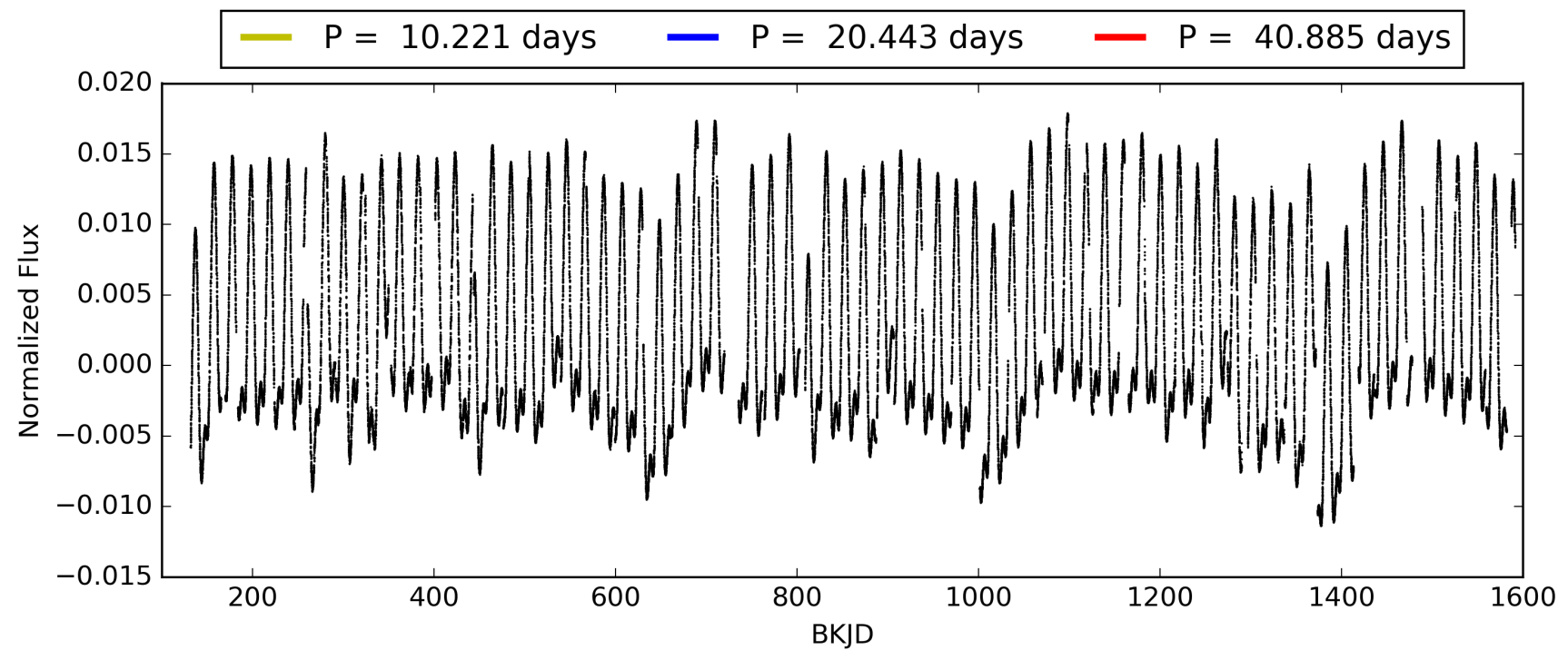
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 20:38:27 Z

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

TCE 007582608-04, PDC Light Curves

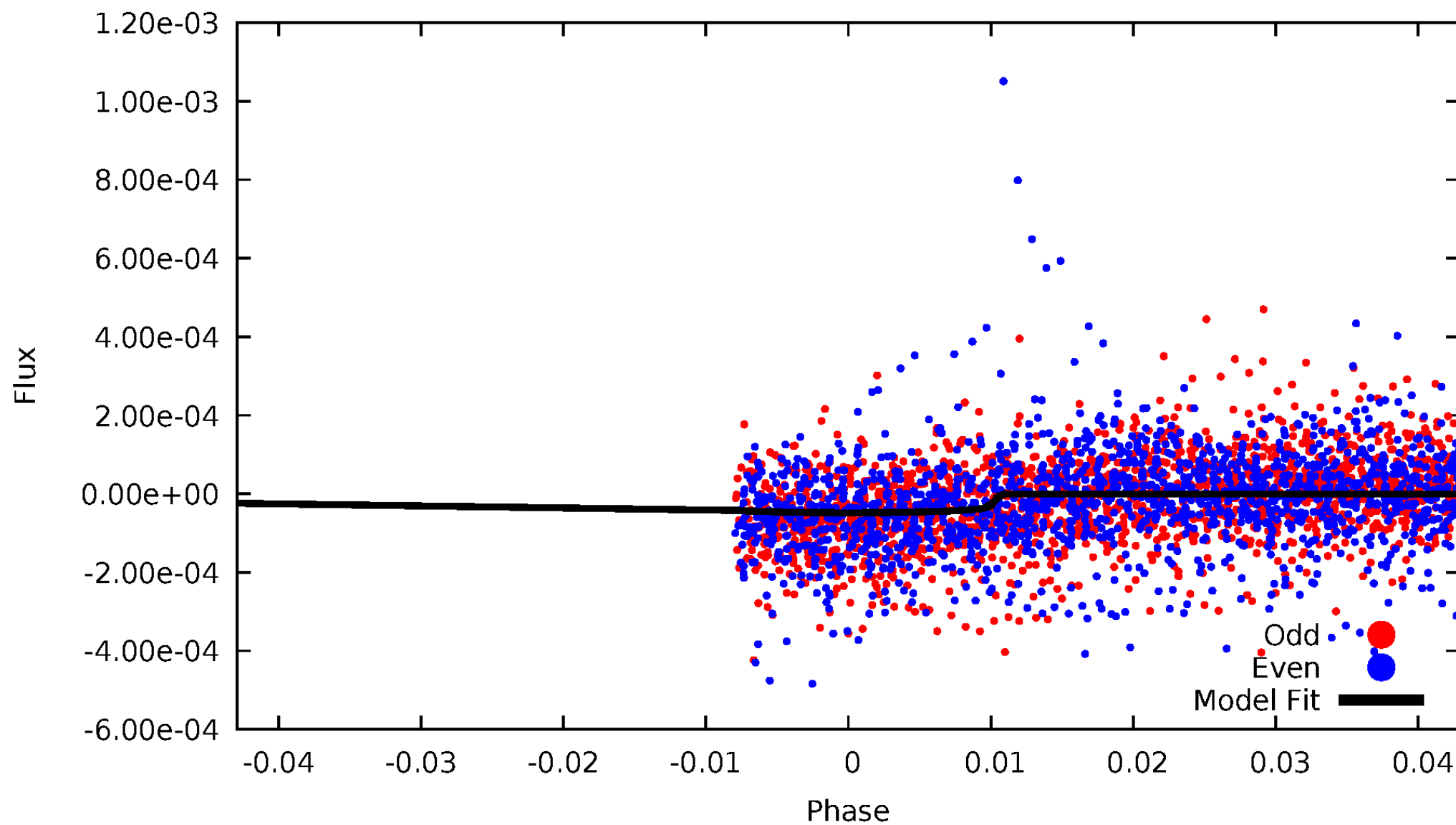


TCE 007582608-04



DV Odd/Even

TCE 007582608-04

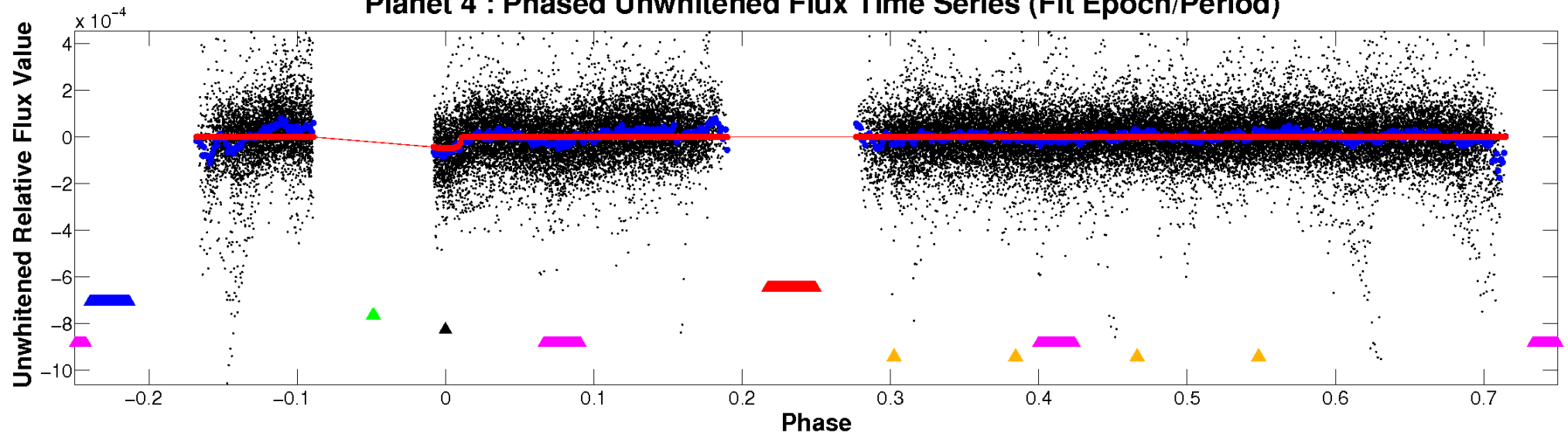


ALT Odd/Even

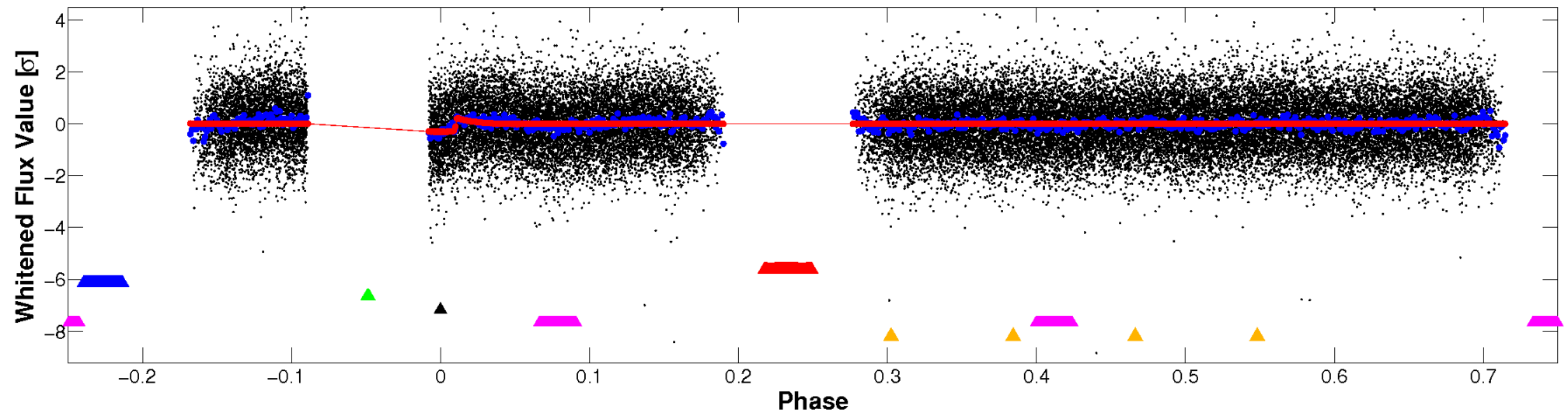
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

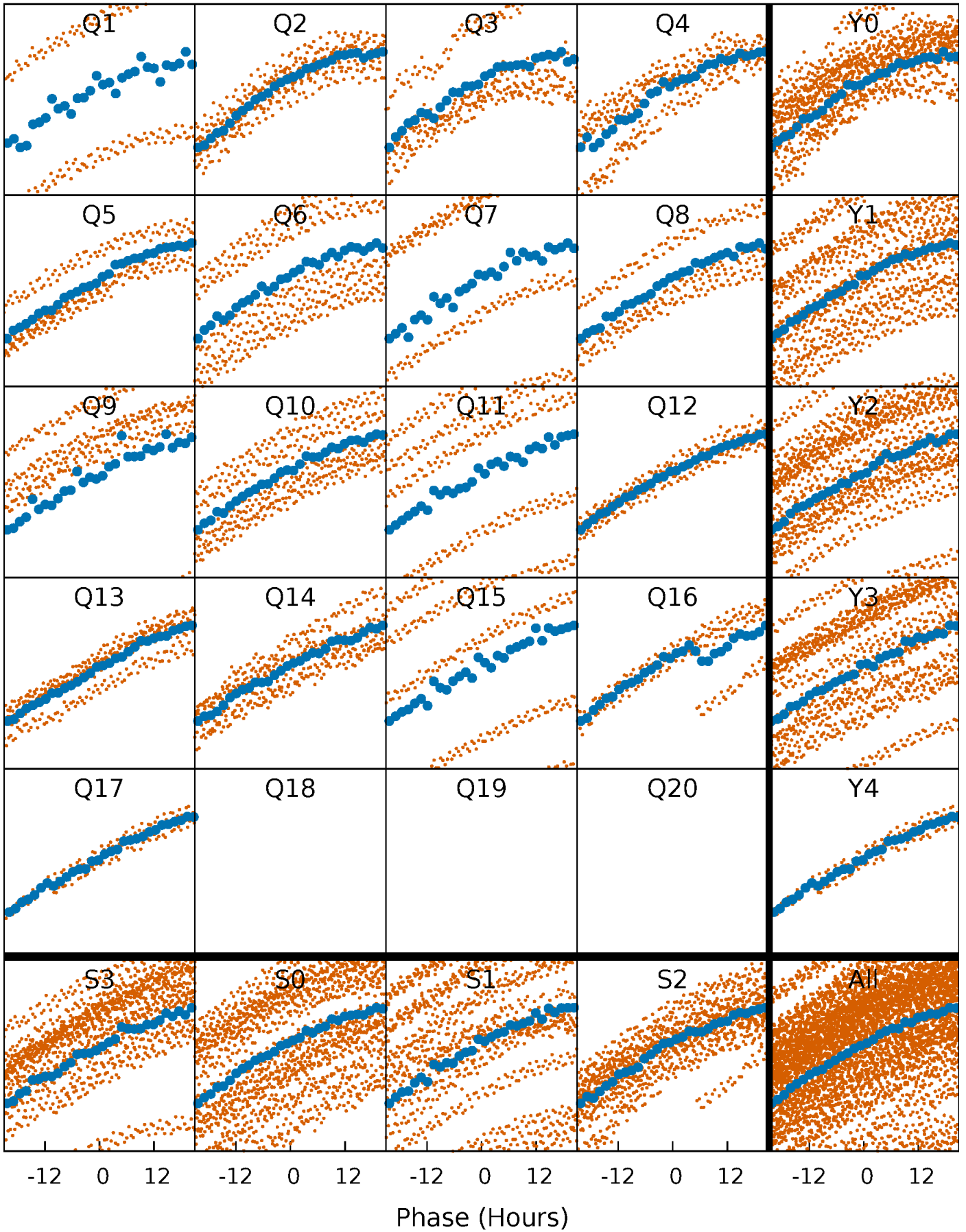


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



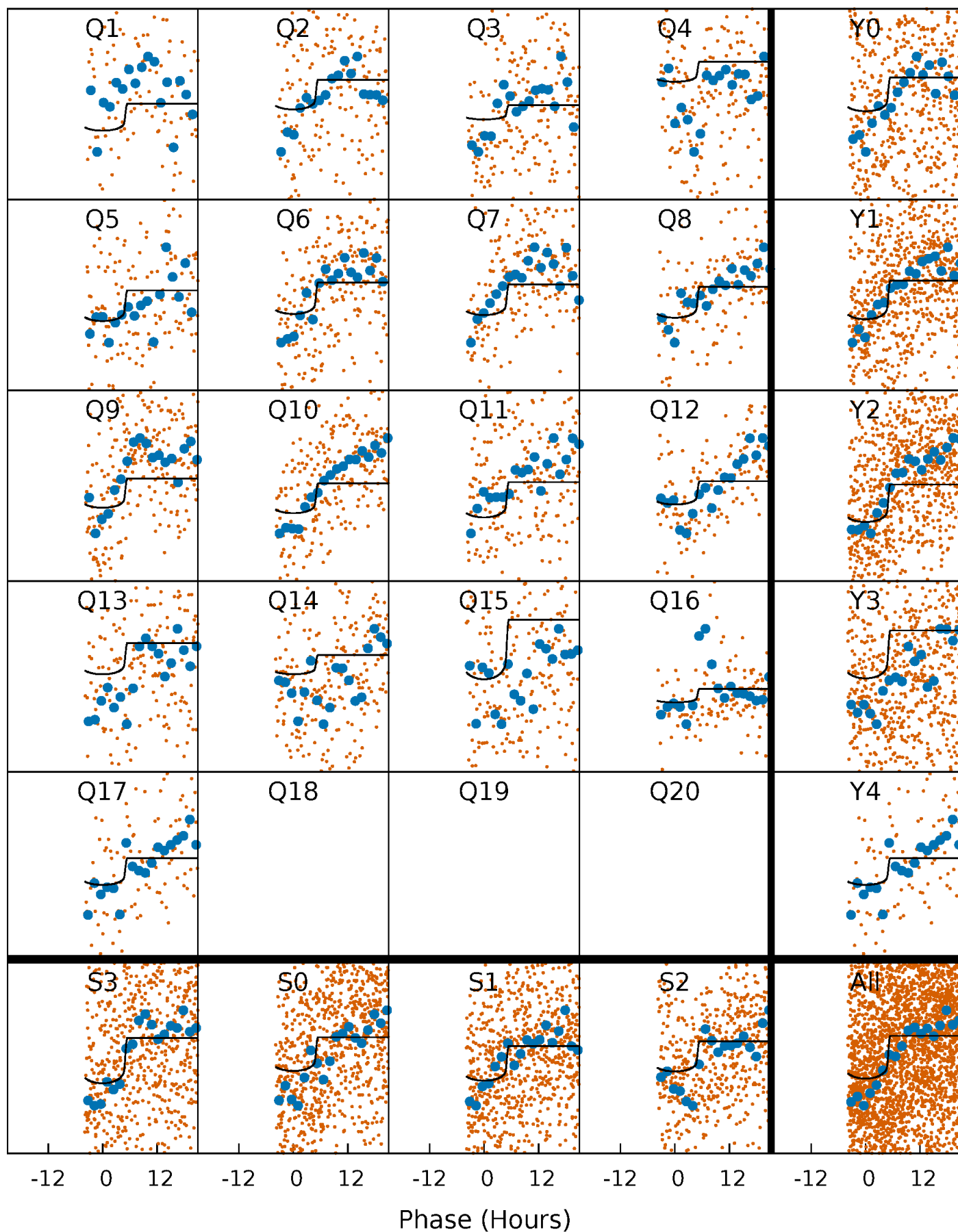
PDC Quarter-Phased Transit Curves

TCE 007582608-04 P= 20.442689 Days $T_0=135.818232$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007582608-04 P= 20.442689 Days $T_0=135.818232$ (BKJD)

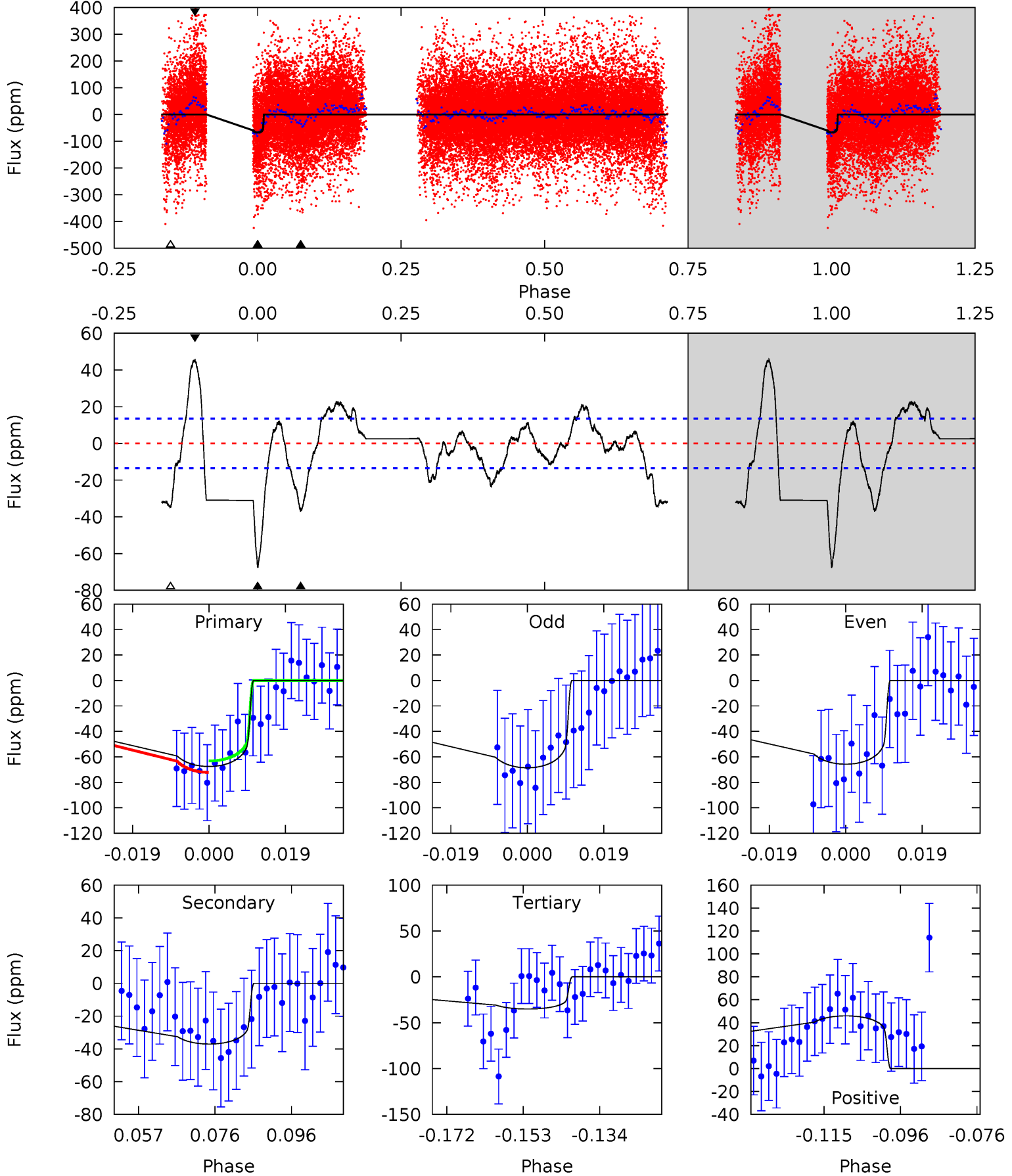


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

007582608-04, P = 20.442689 Days, E = 115.375543 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.5	13.4	12.7	16.7	4.90	2.34	5.20	11.8	7.83	0.71	-3.23	0.52	1.23	0.40	1.60



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 007582608

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8373^{+203}_{-377}	$4.123^{+0.126}_{-0.154}$	$0.070^{+0.250}_{-0.550}$	$1.993^{+0.449}_{-0.449}$	$1.922^{+0.313}_{-0.383}$	$0.342^{+0.251}_{-0.146}$
	+2%/-5%	+3%/-4%	+357%/-786%	+23%/-23%	+16%/-20%	+74%/-43%
Source	KIC0	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 007582608-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-37 ± 3	$1.61^{+0.40}_{-0.38}$	1713^{+101}_{-108}	7377^{+1320}_{-820}	255^{+174}_{-91}
Alt.	N/A	N/A	N/A	N/A	N/A

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 $A_{obs} \gg 1.0$

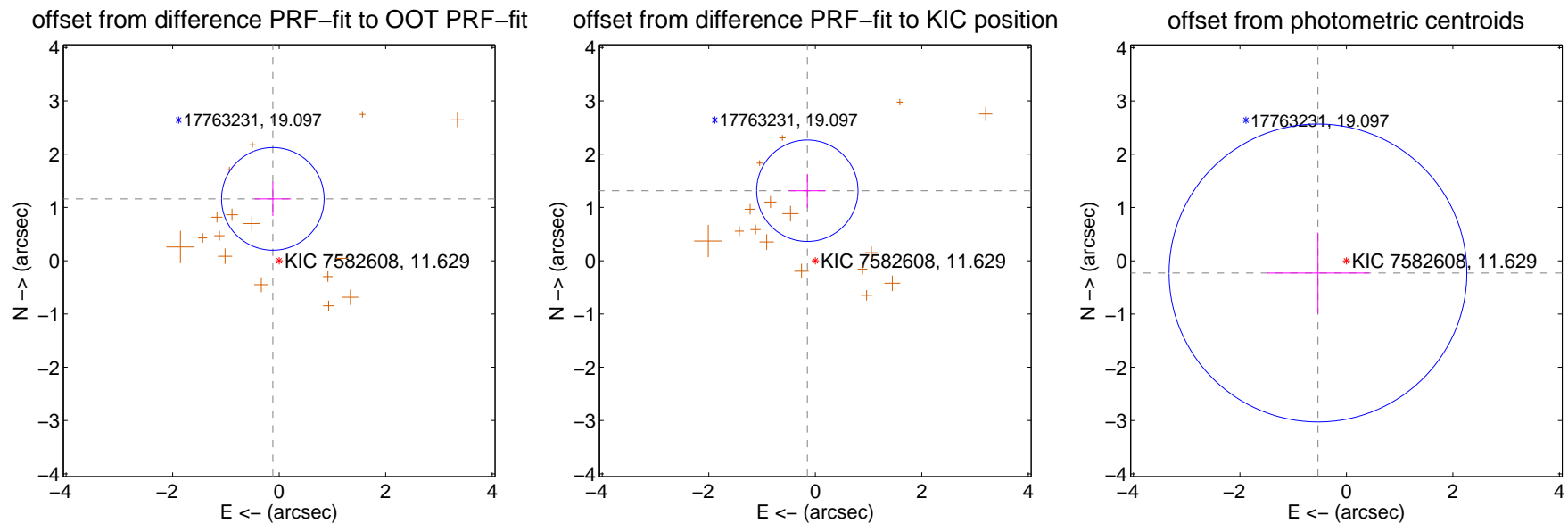
DV Centroid Data

Supplemental centroid analysis for 007582608-04. **Kepler magnitude: 11.63.** Transit SNR 11.40

There are 0 quarters with good PRF difference image offsets

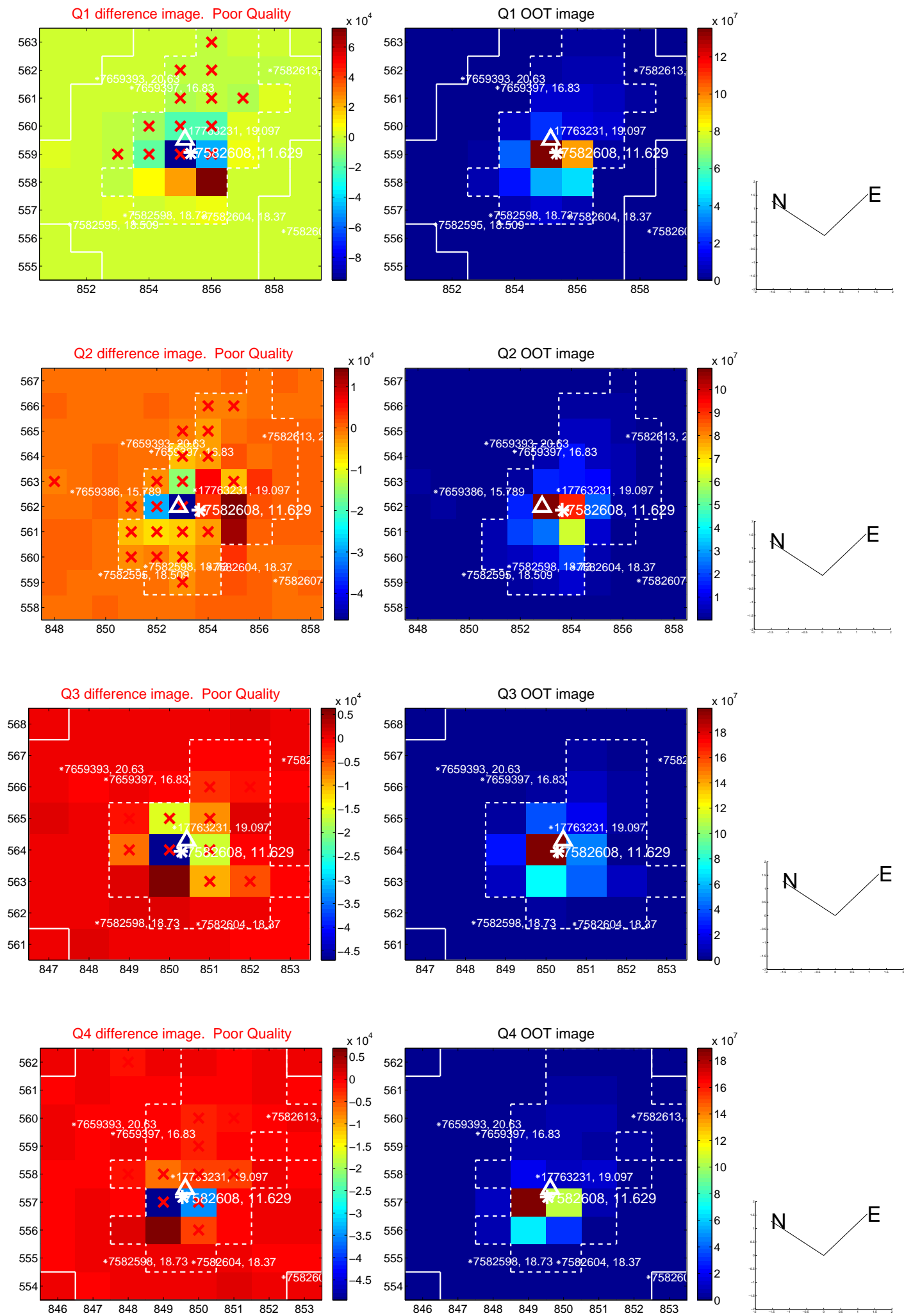
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.166 \pm 0.321	3.63	0.119 \pm 0.342	1.160 \pm 0.321
PRF-fit source offset from KIC position	1.322 \pm 0.317	4.17	0.149 \pm 0.344	1.313 \pm 0.317
photometric centroid source offset	0.58 \pm 0.93	0.62	0.53 \pm 0.96	-0.23 \pm 0.76

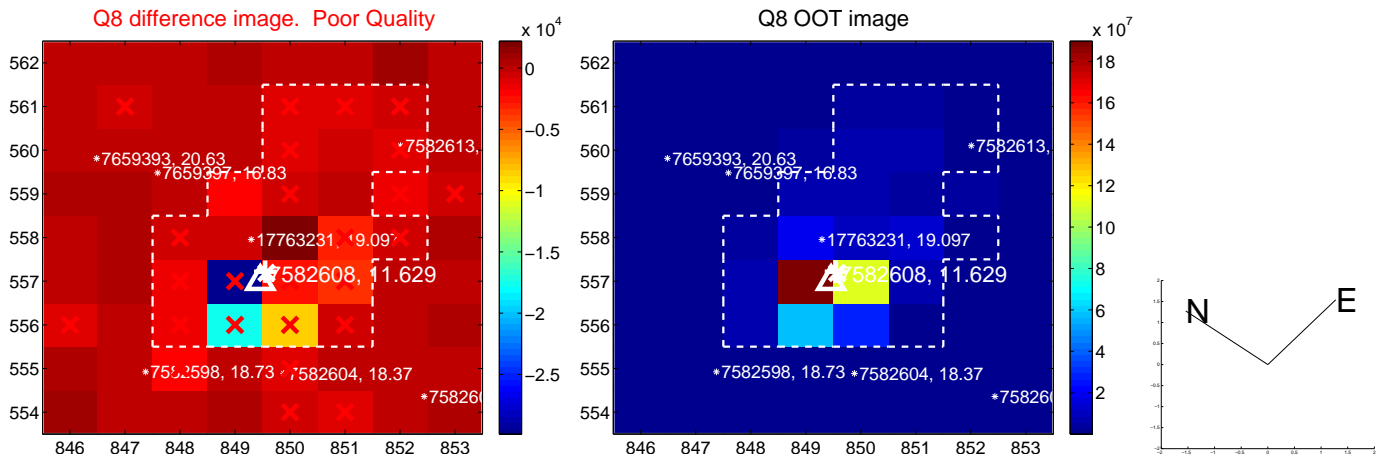
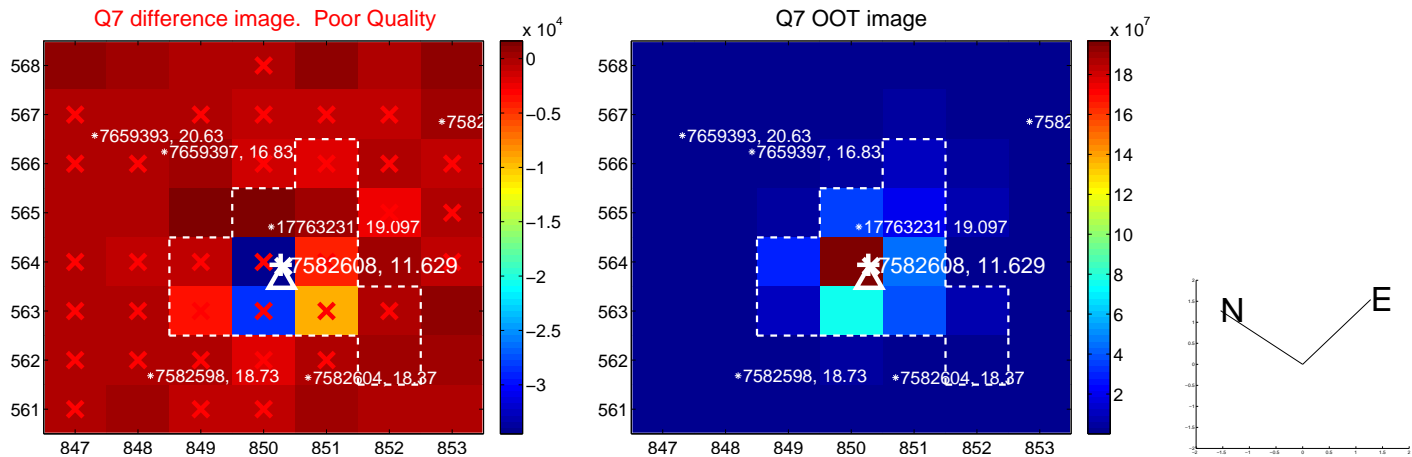
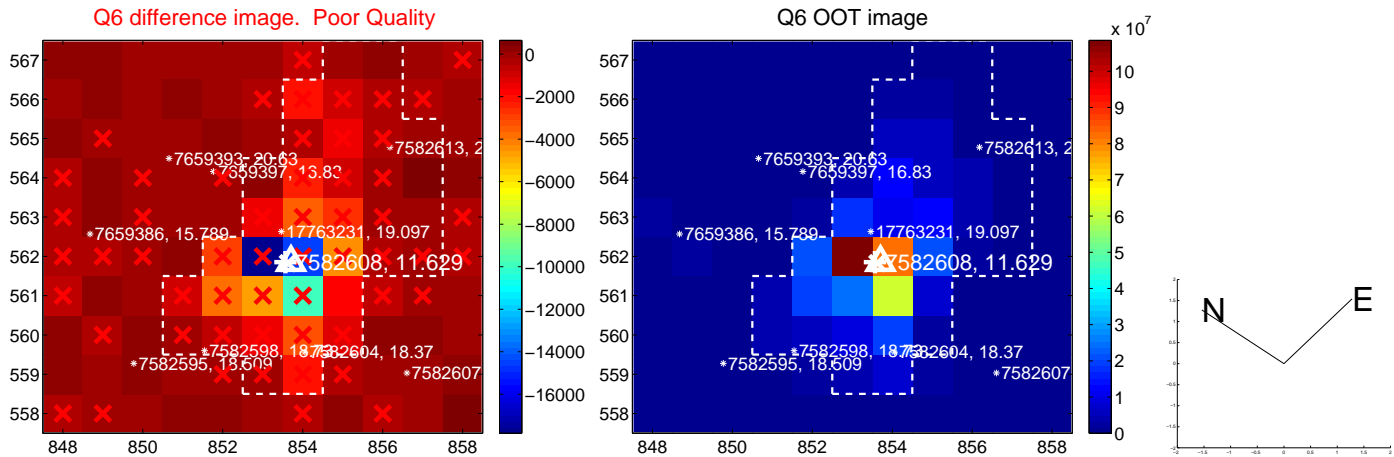
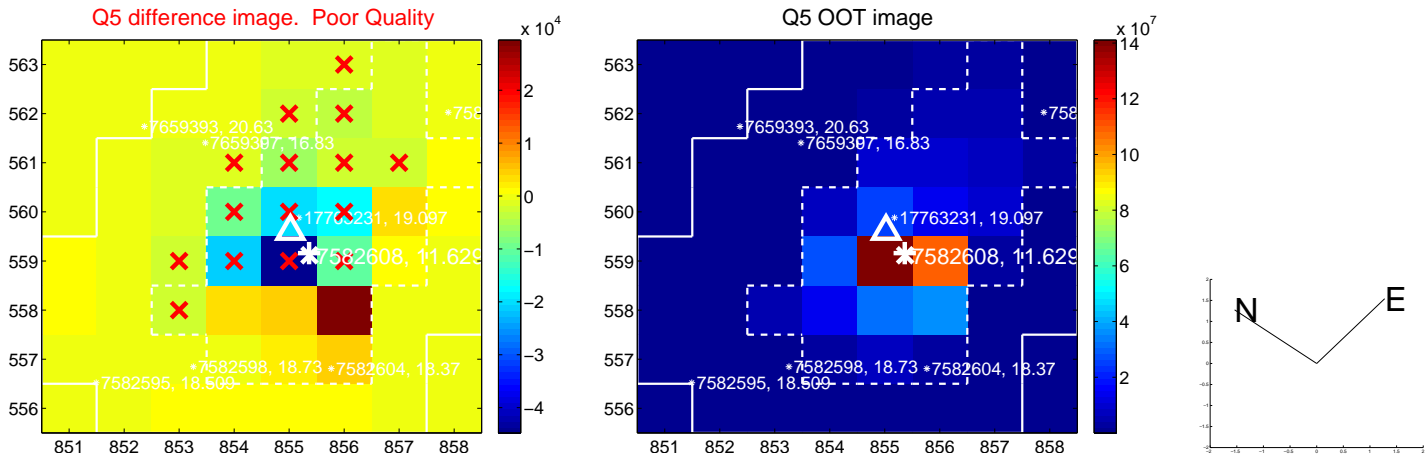


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

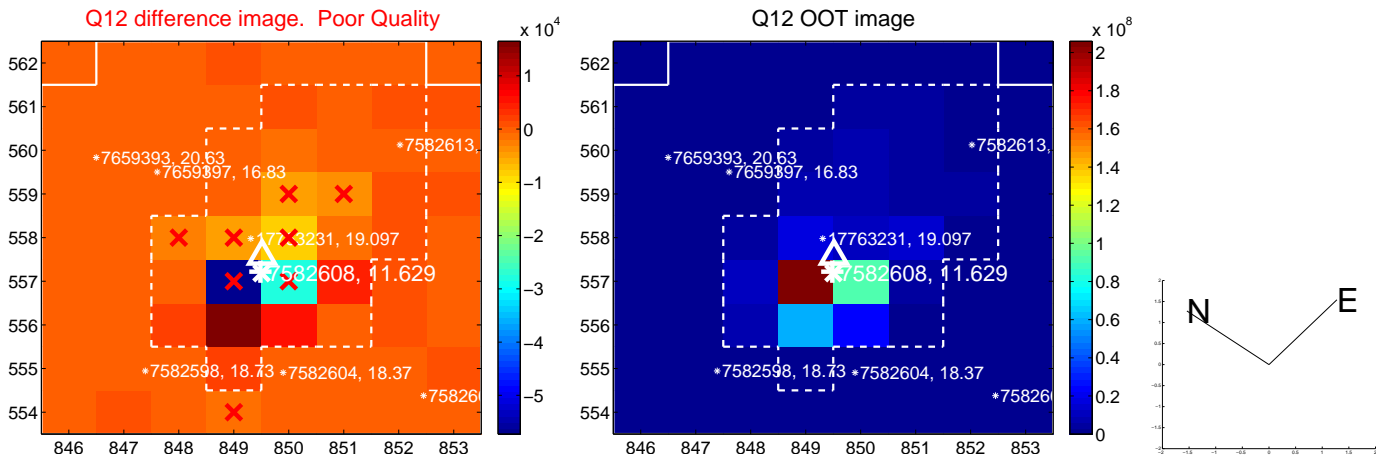
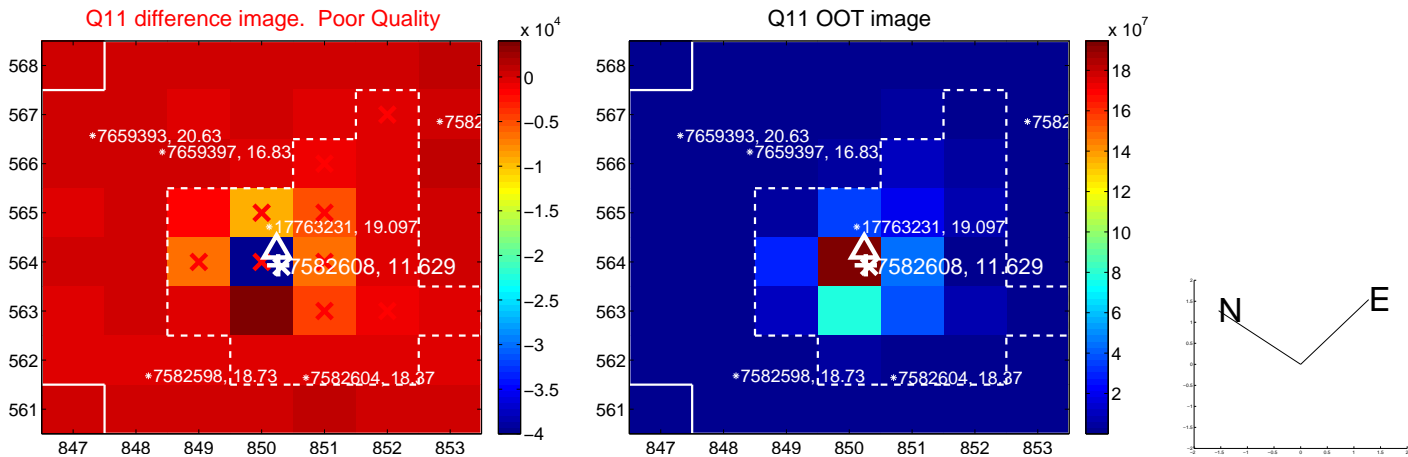
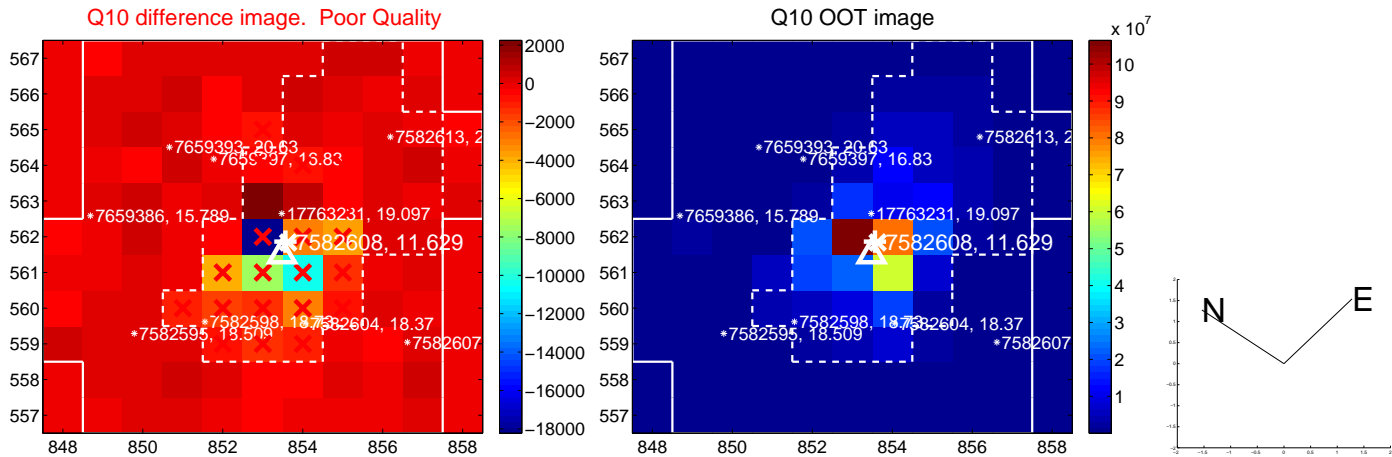
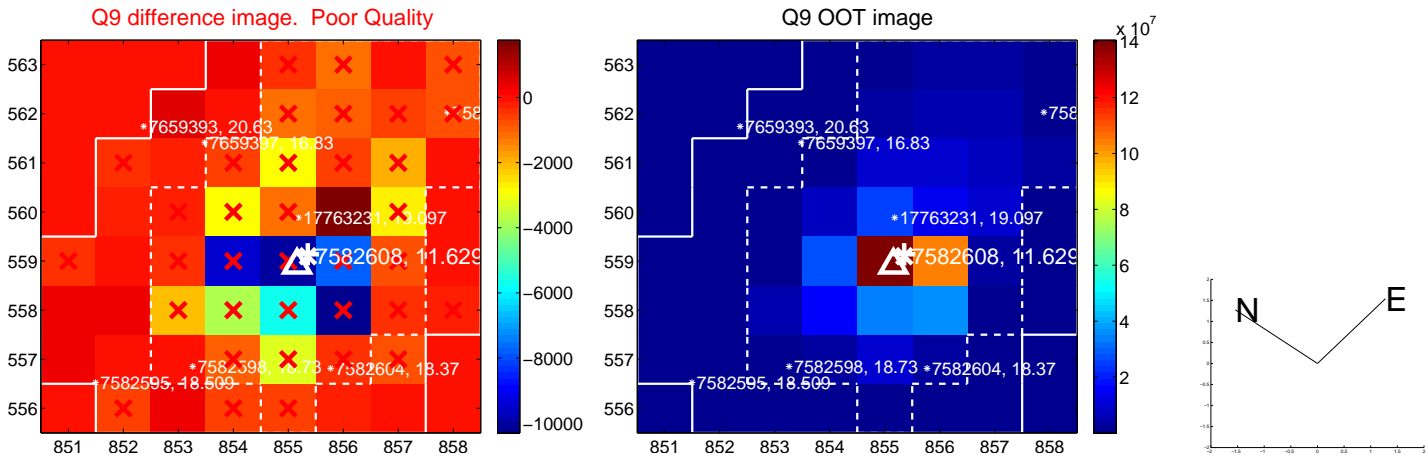
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



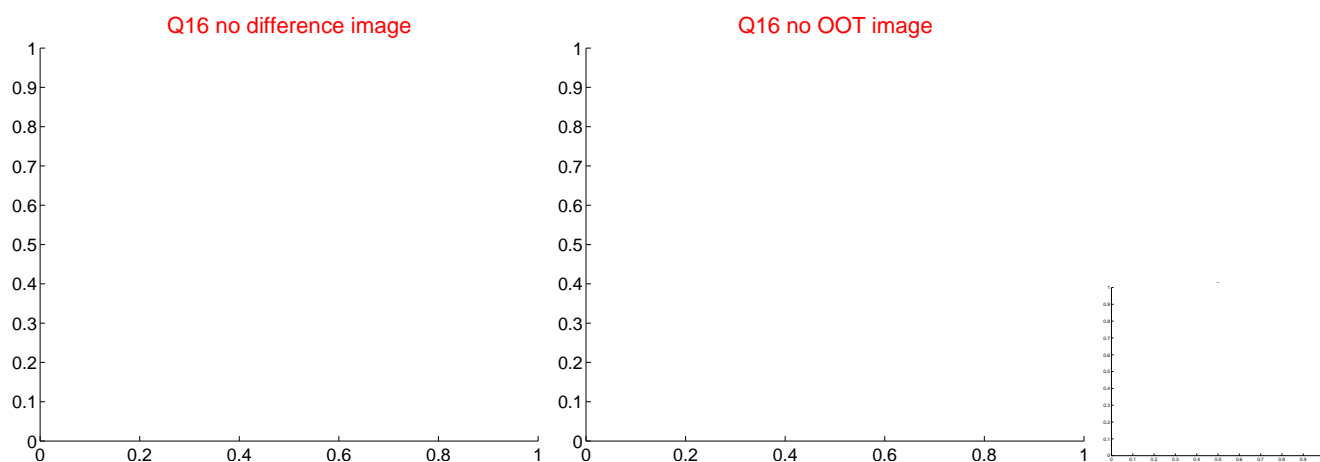
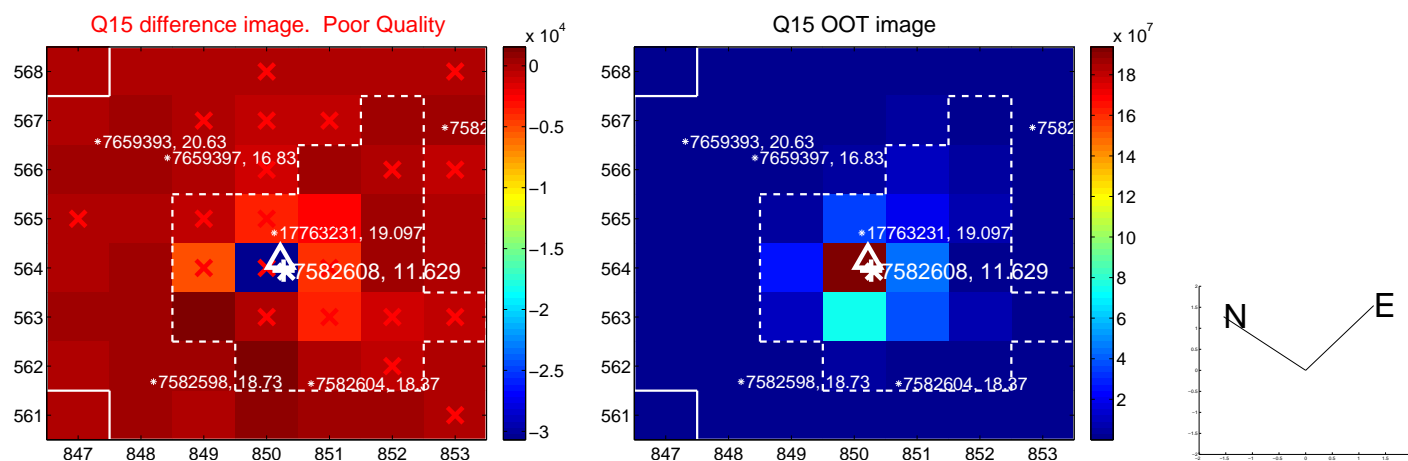
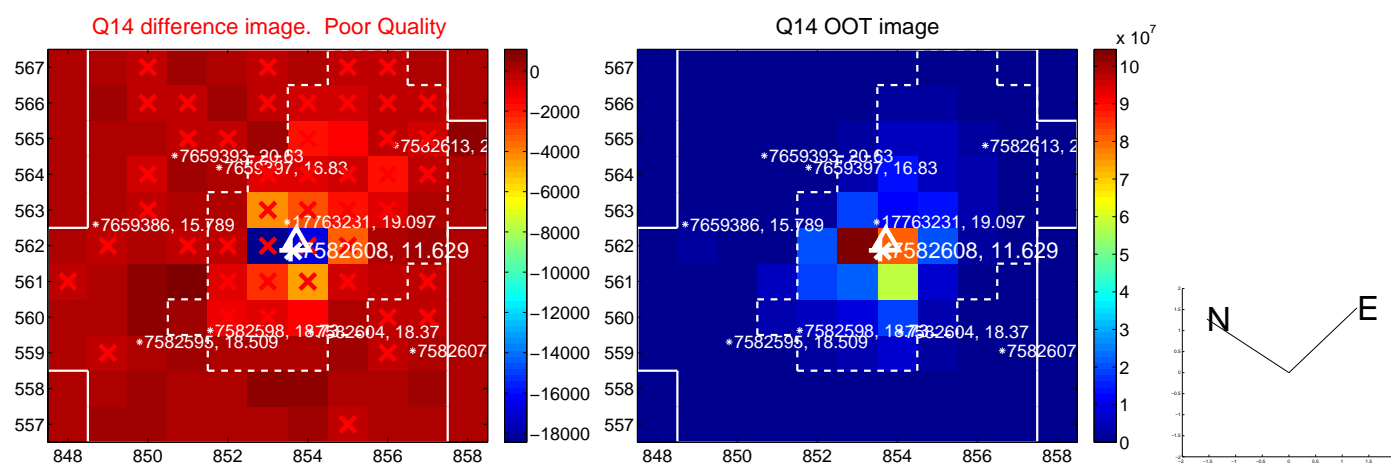
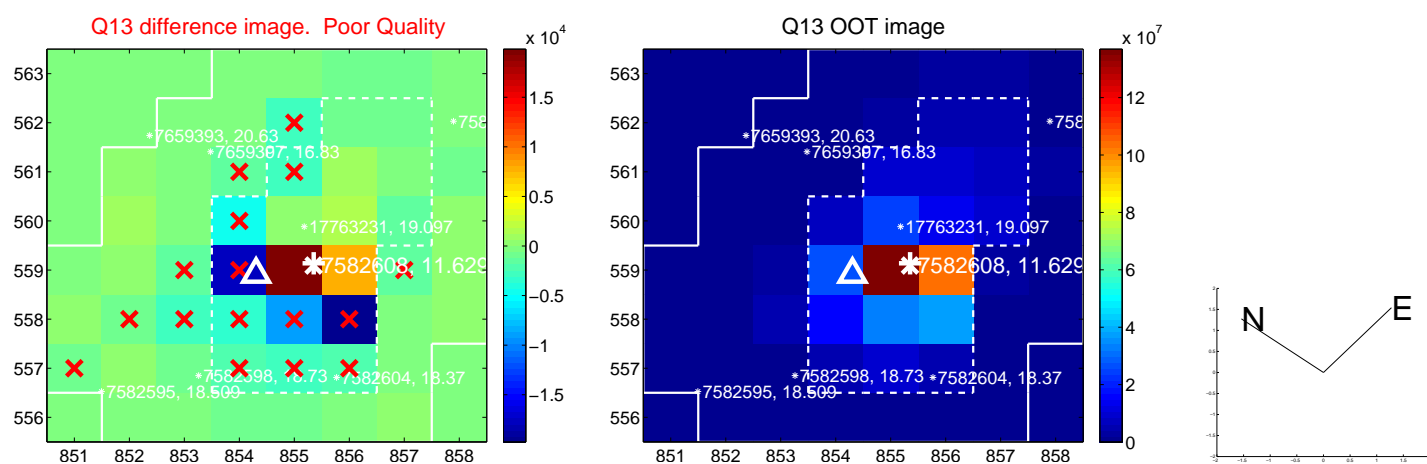
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



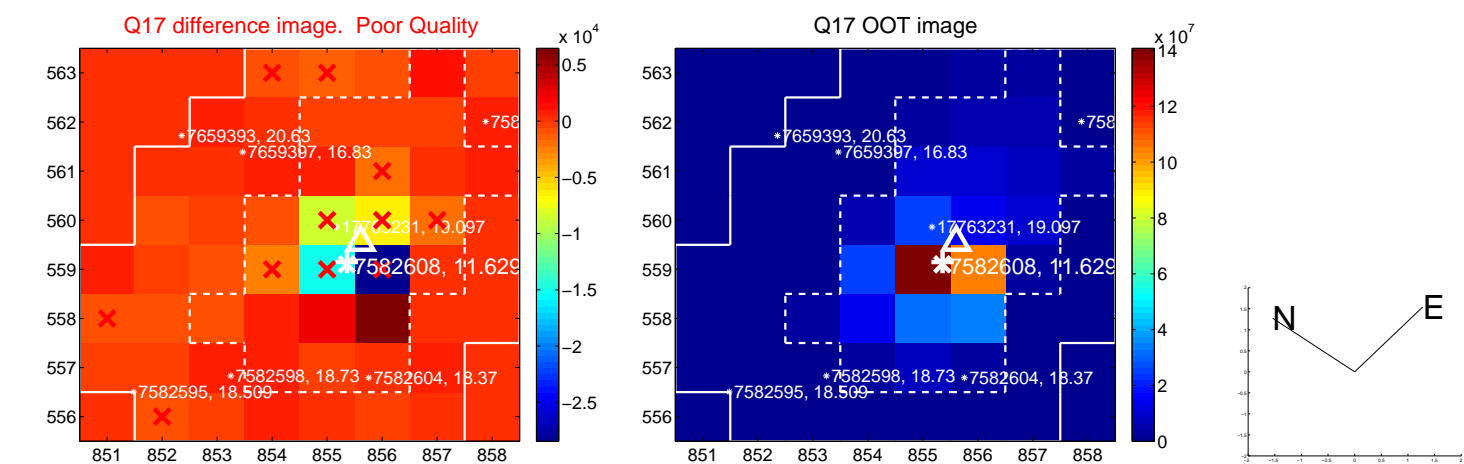
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



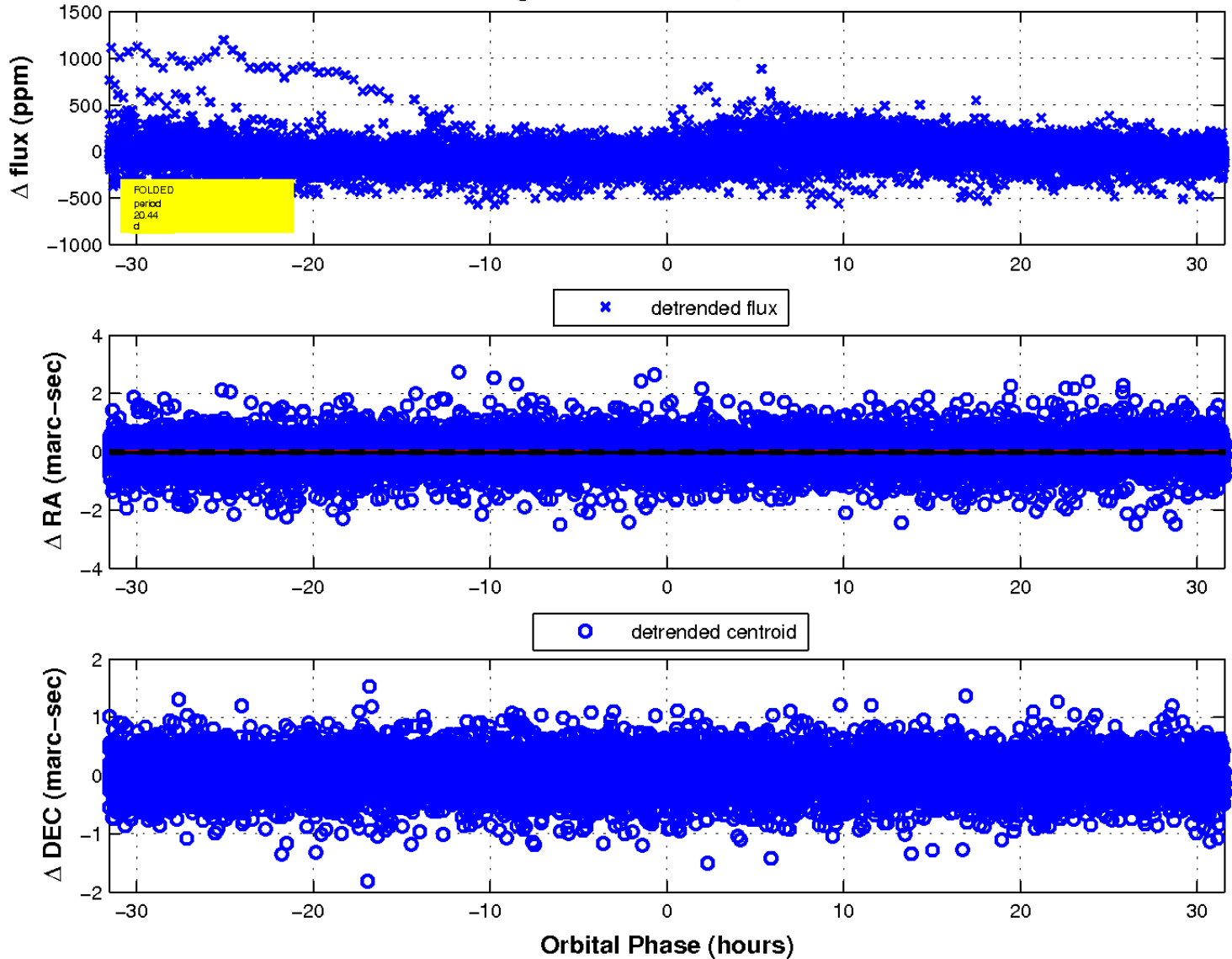
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



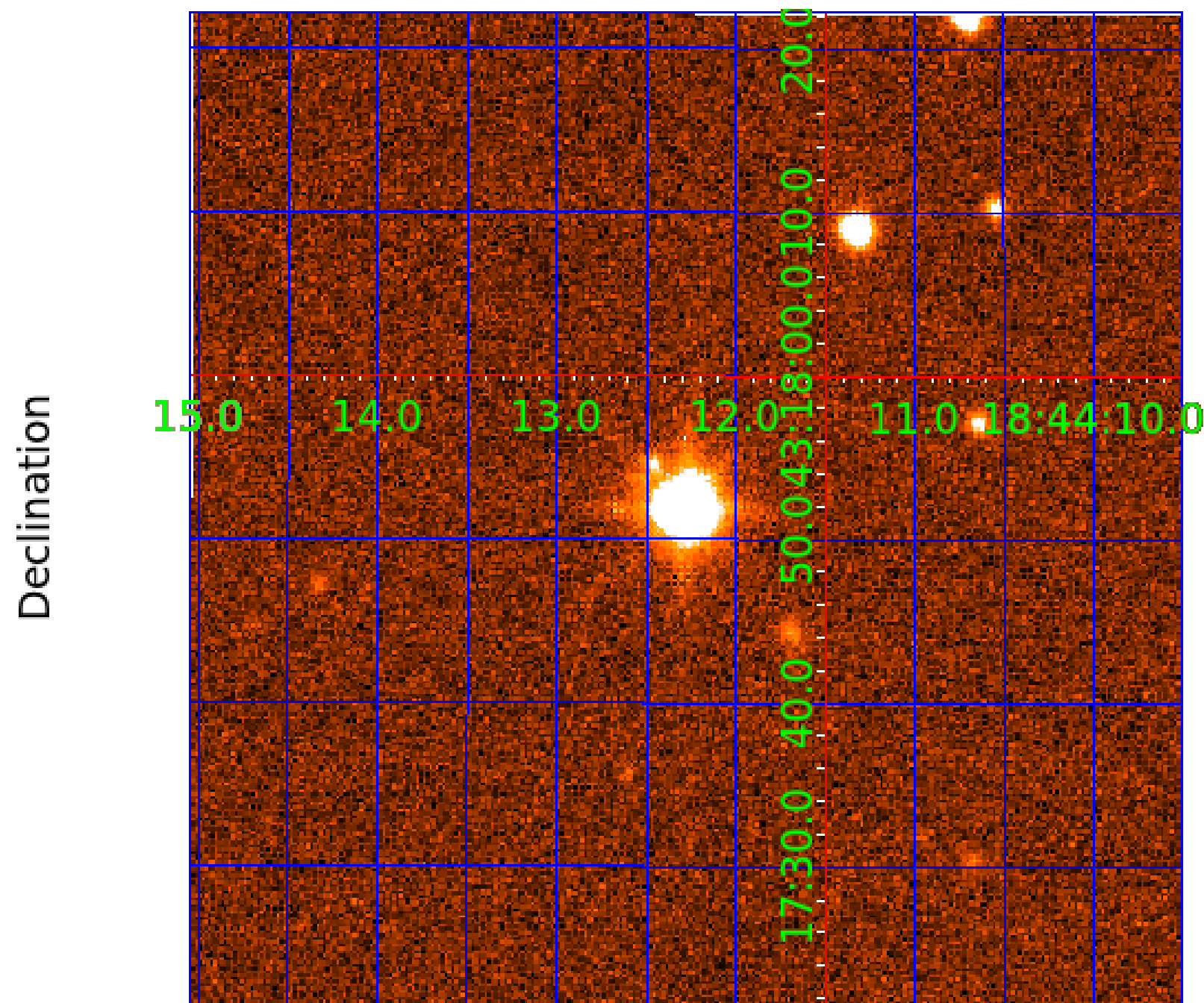
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 4 of 6



UKIRT Image



KIC 007582608

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})
007582608-01	OBS	No	20.452071	140.258714	31.3	19.173	9.0	7.9	1.99	8373	1.20	527.76
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Robovetter Results

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007582608-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
007582608-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
007582608-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—SAME_NTL_PERIOD—CENT_FEW_DIFFS
007582608-05	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS
007582608-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS—HALO_GHOST

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

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

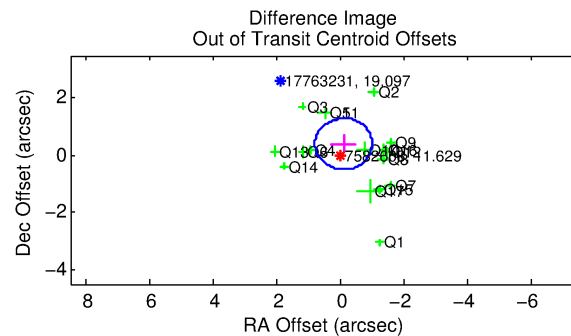
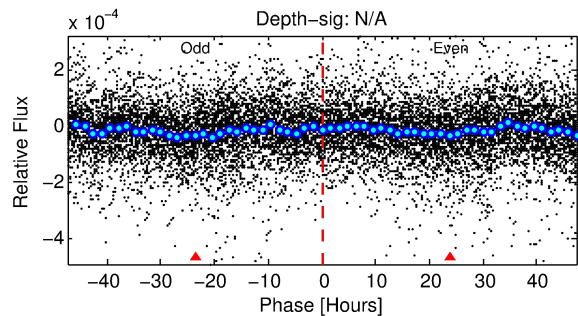
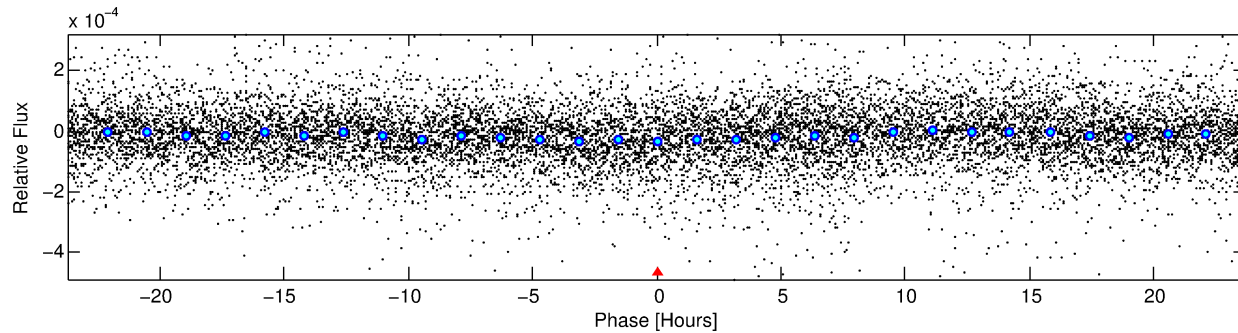
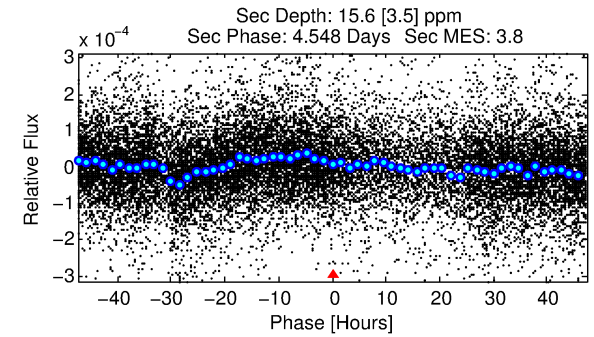
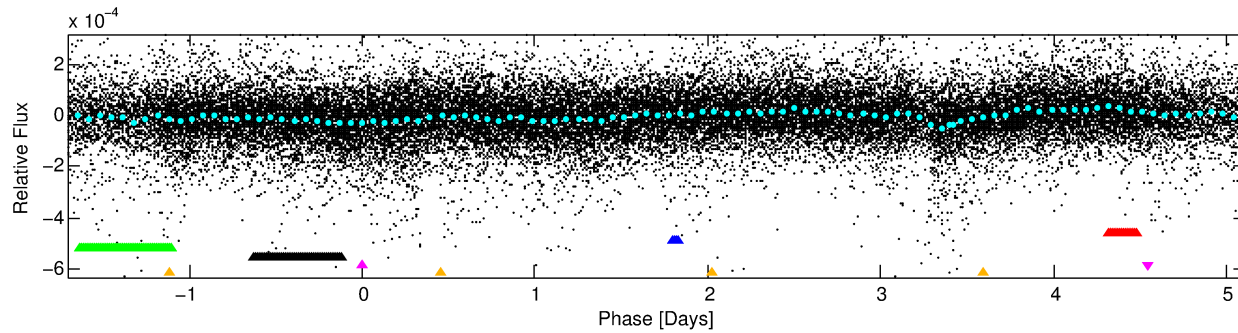
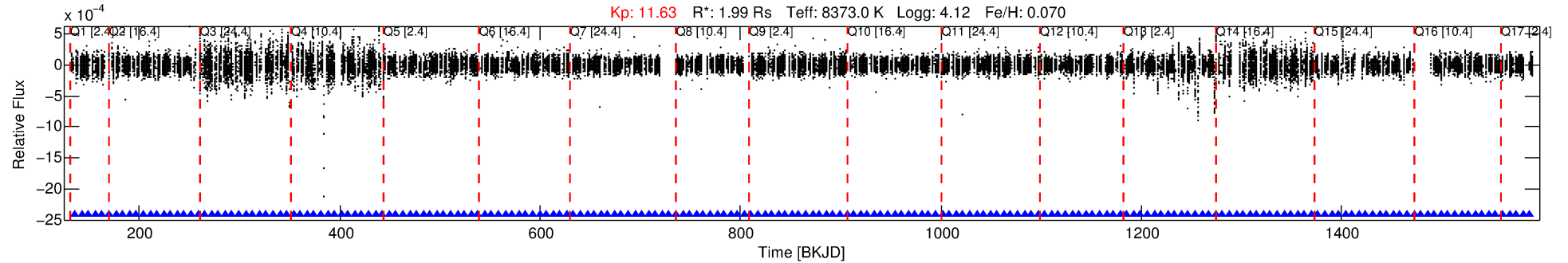
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007582608-05

No Significant Match Found

DV One-Page Summary

KIC: 7582608 Candidate: 5 of 6 Period: 6.817 d



TPS TCE Results:

Period = 6.81662 d
Epoch = 137.1711 BKJD

DV fit results are unavailable

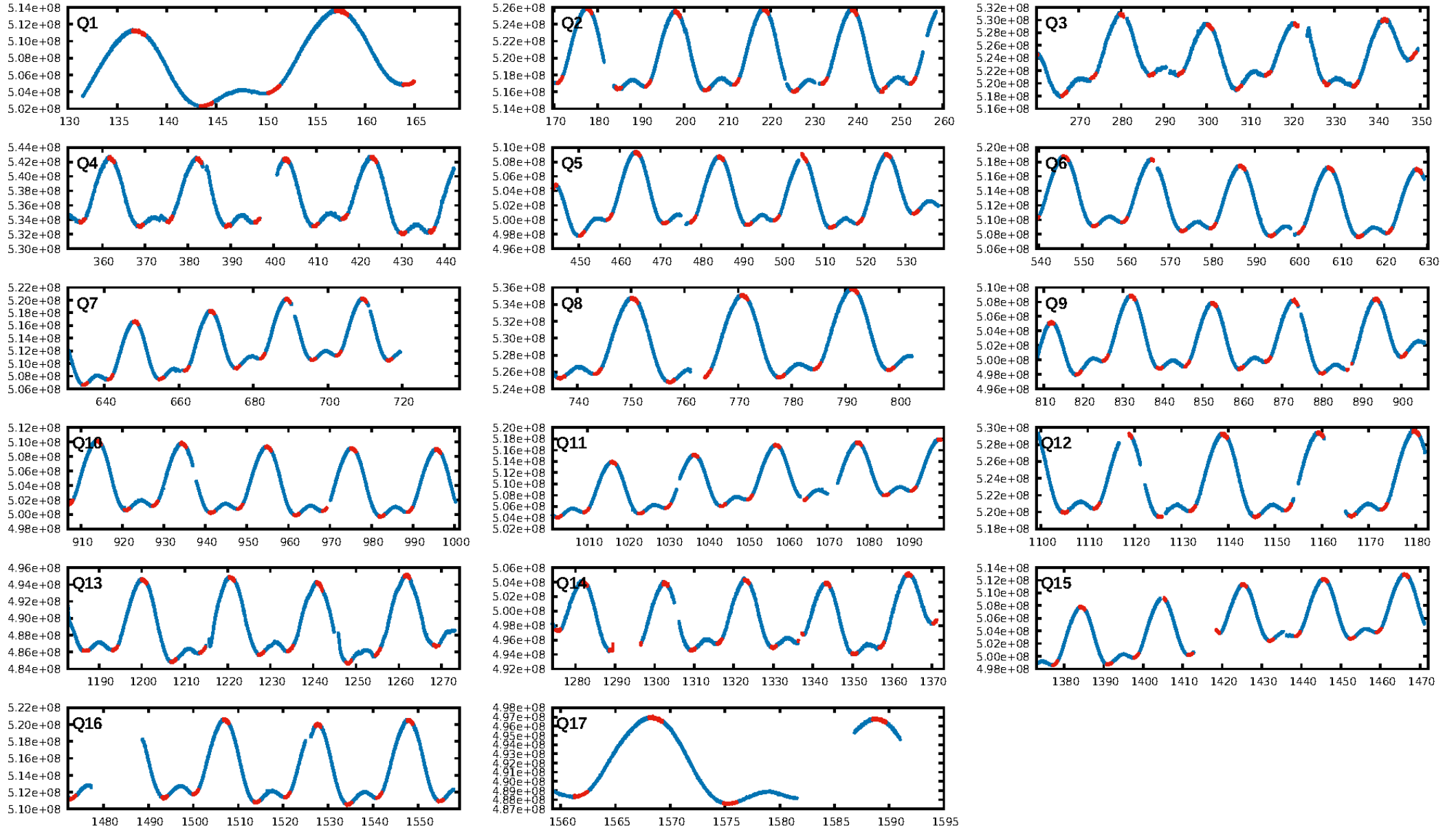
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [16.33σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.28e-12
RollingBand-fgt: 1.00 [142/142]
GhostDiagnostic-chr: 2.722
Centroid-sig: N/A
Centroid-so: 0.187 arcsec [1.33σ]
OotOffset-rm: 0.415 arcsec [1.39σ]
KicOffset-rm: 0.216 arcsec [0.76σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

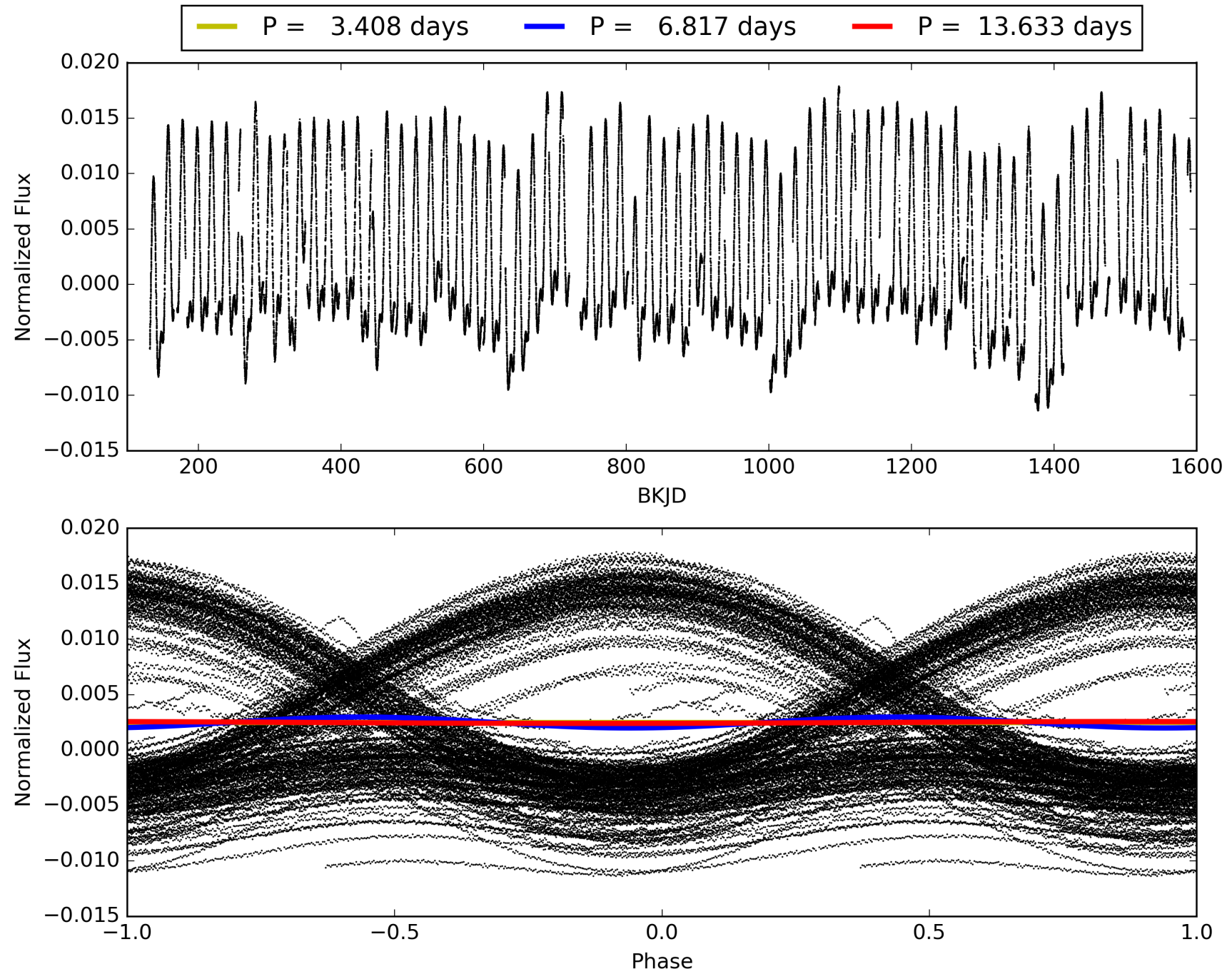
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 20:38:32 Z

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

TCE 007582608-05, PDC Light Curves

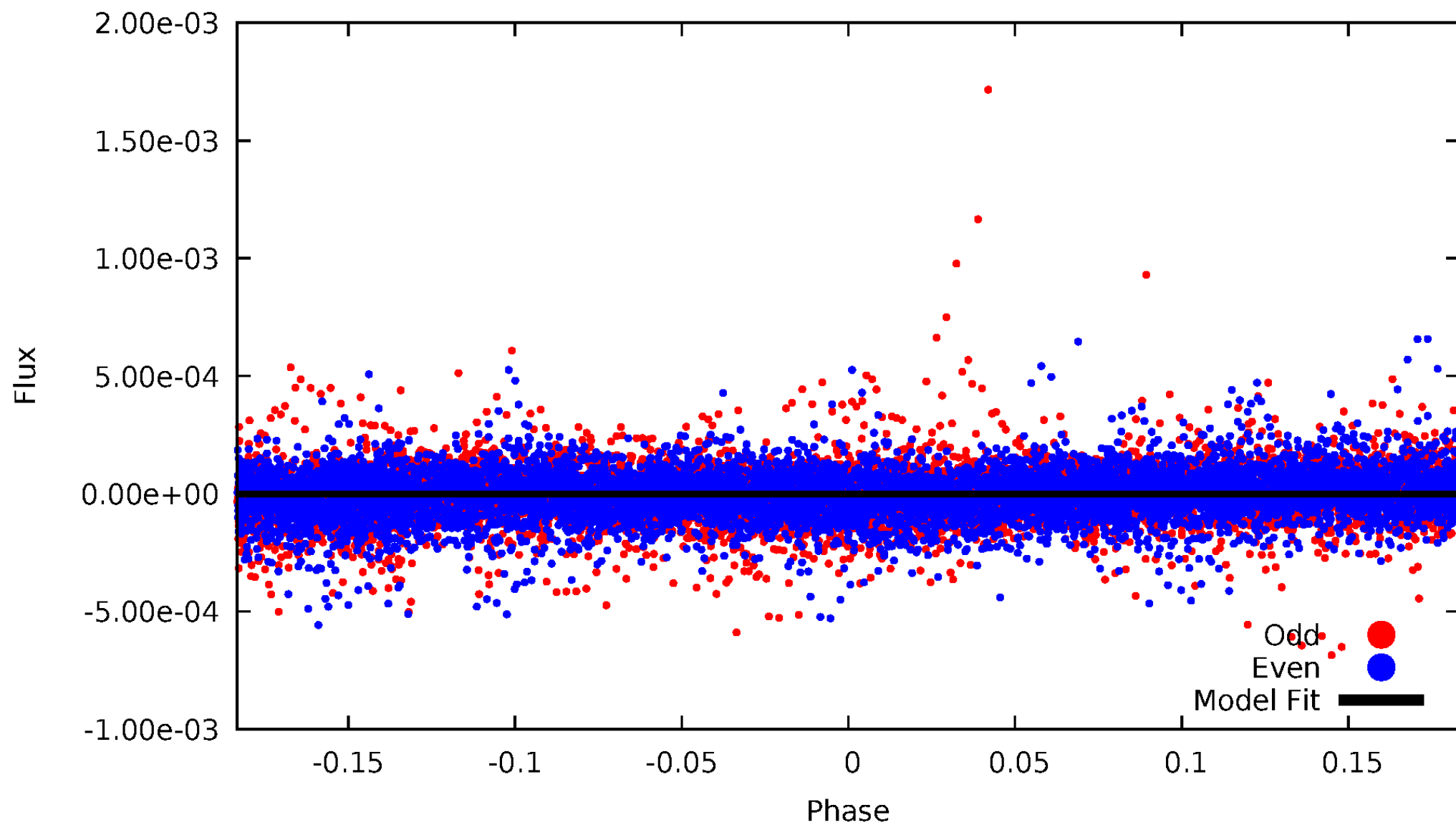


TCE 007582608-05



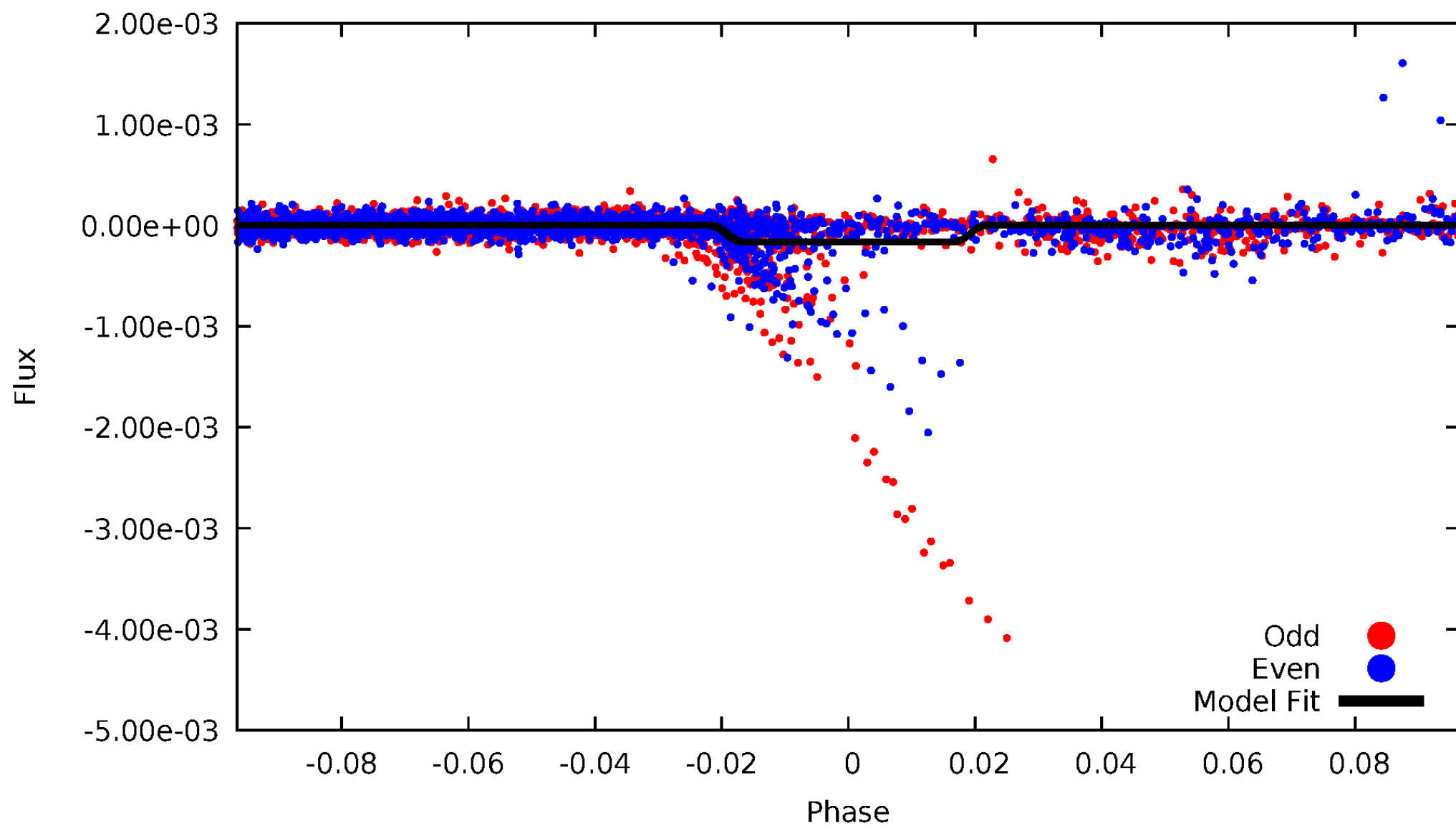
DV Odd/Even

TCE 007582608-05

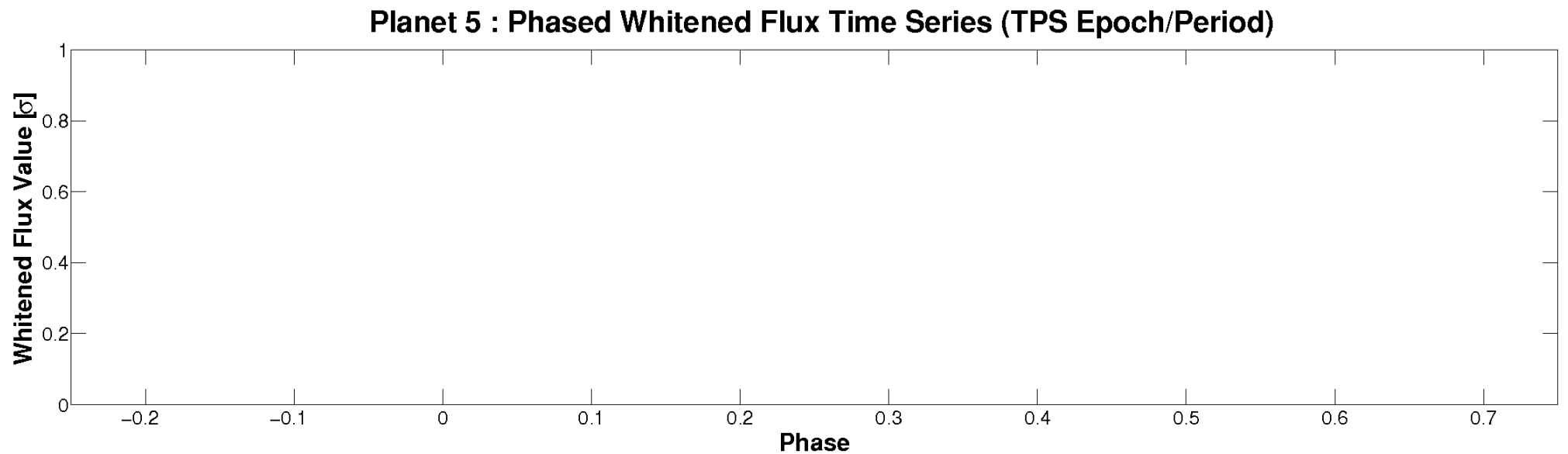
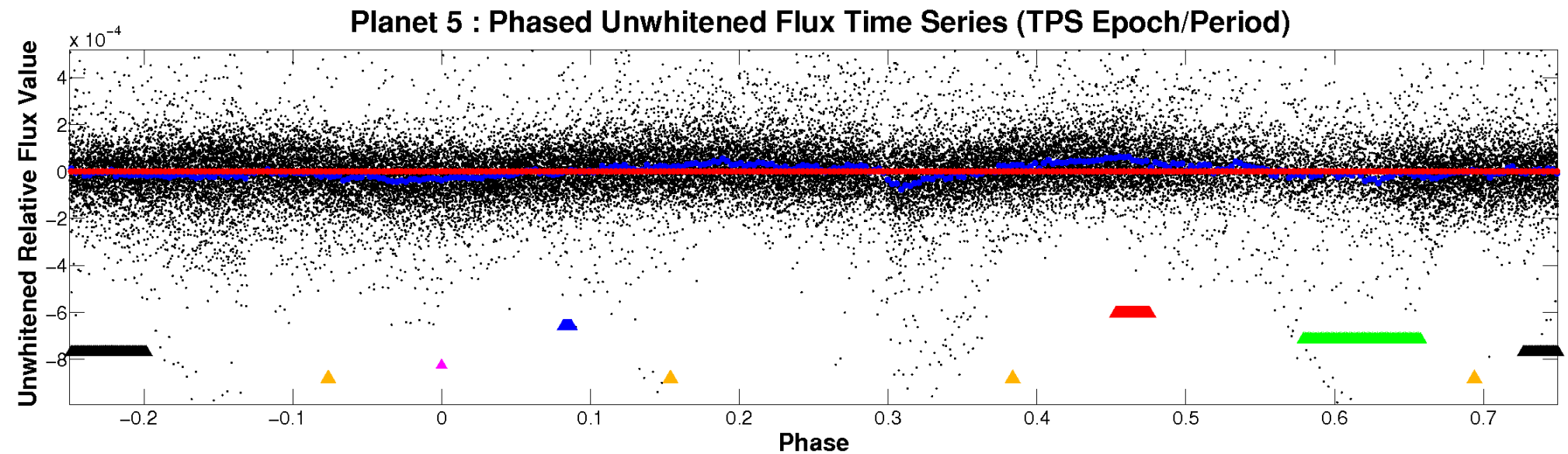


ALT Odd/Even

TCE 007582608-05

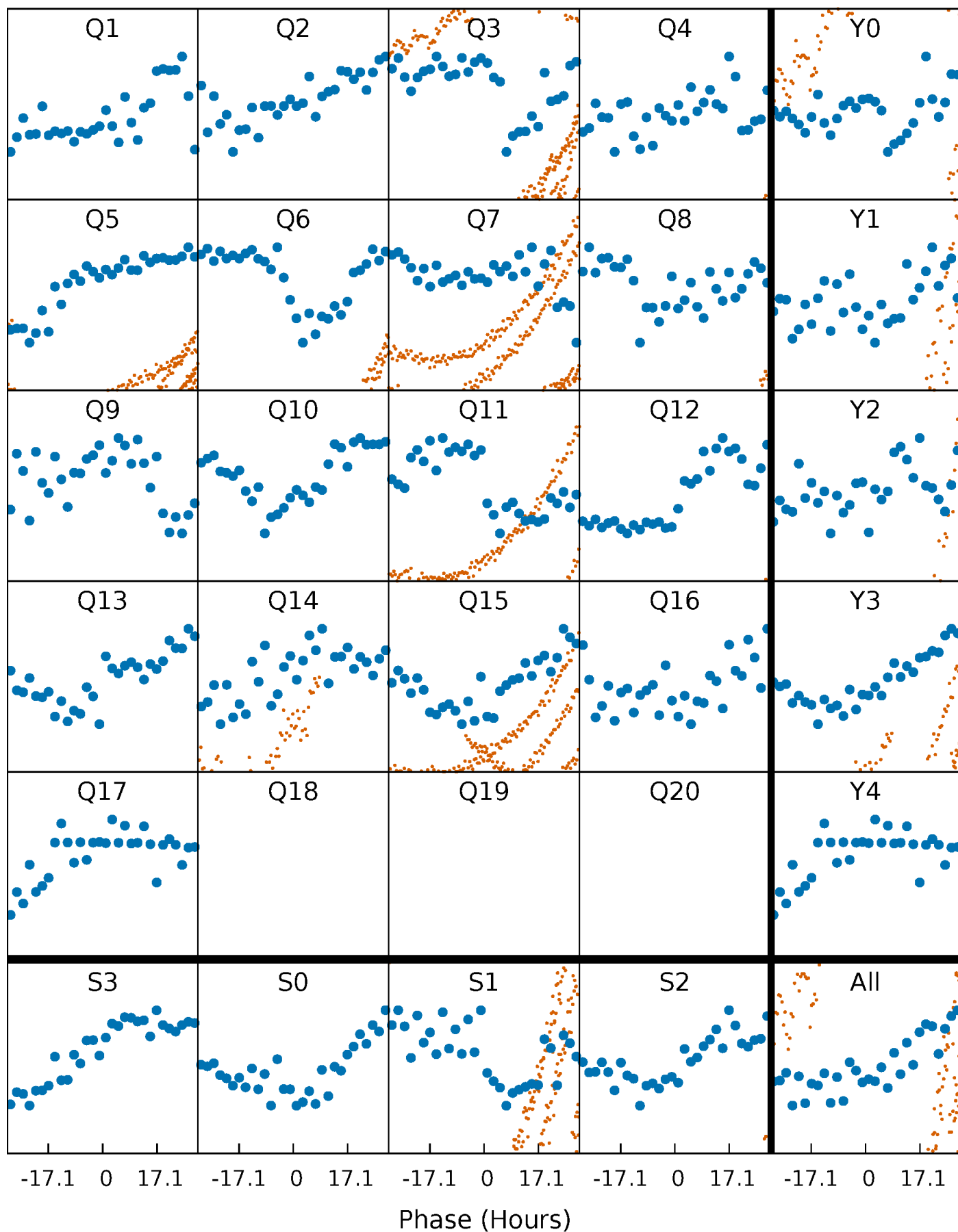


Non-Whitened Vs. Whitened Light Curve



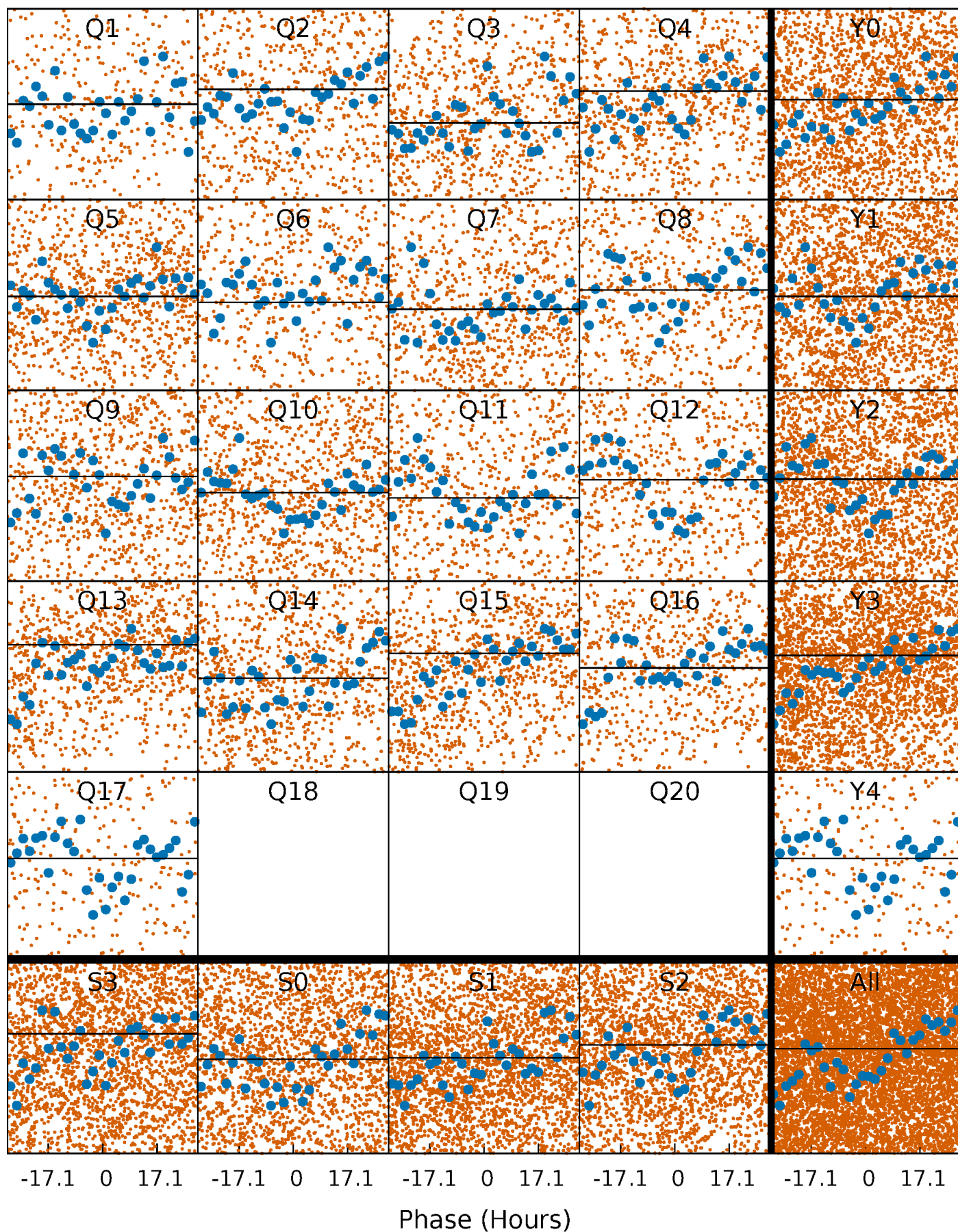
PDC Quarter-Phased Transit Curves

TCE 007582608-05 P= 6.816620 Days $T_0=137.171090$ (BKJD)



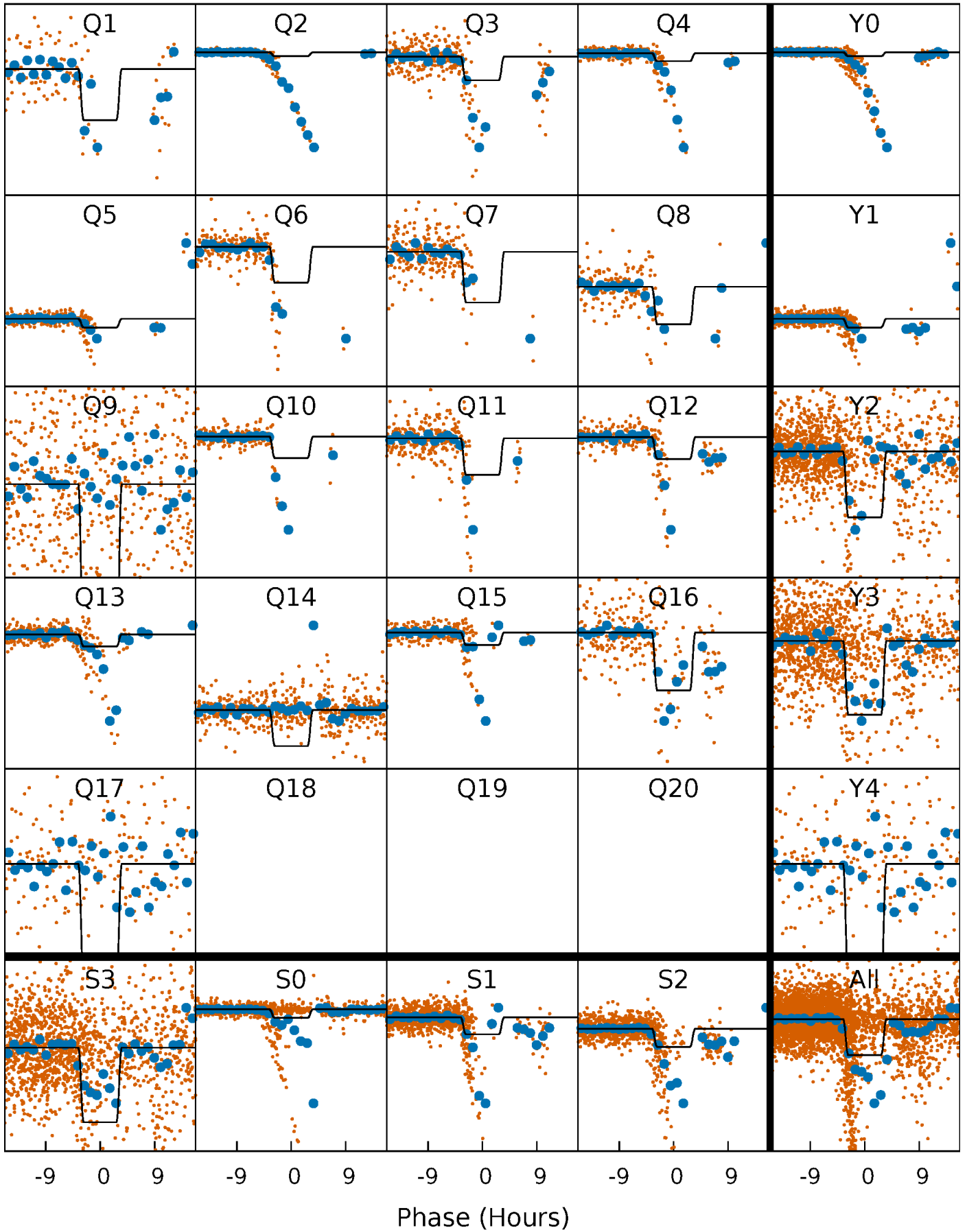
DV Quarter-Phased Transit Curves

TCE 007582608-05 $P = 6.816620$ Days $T_0 = 137.171090$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

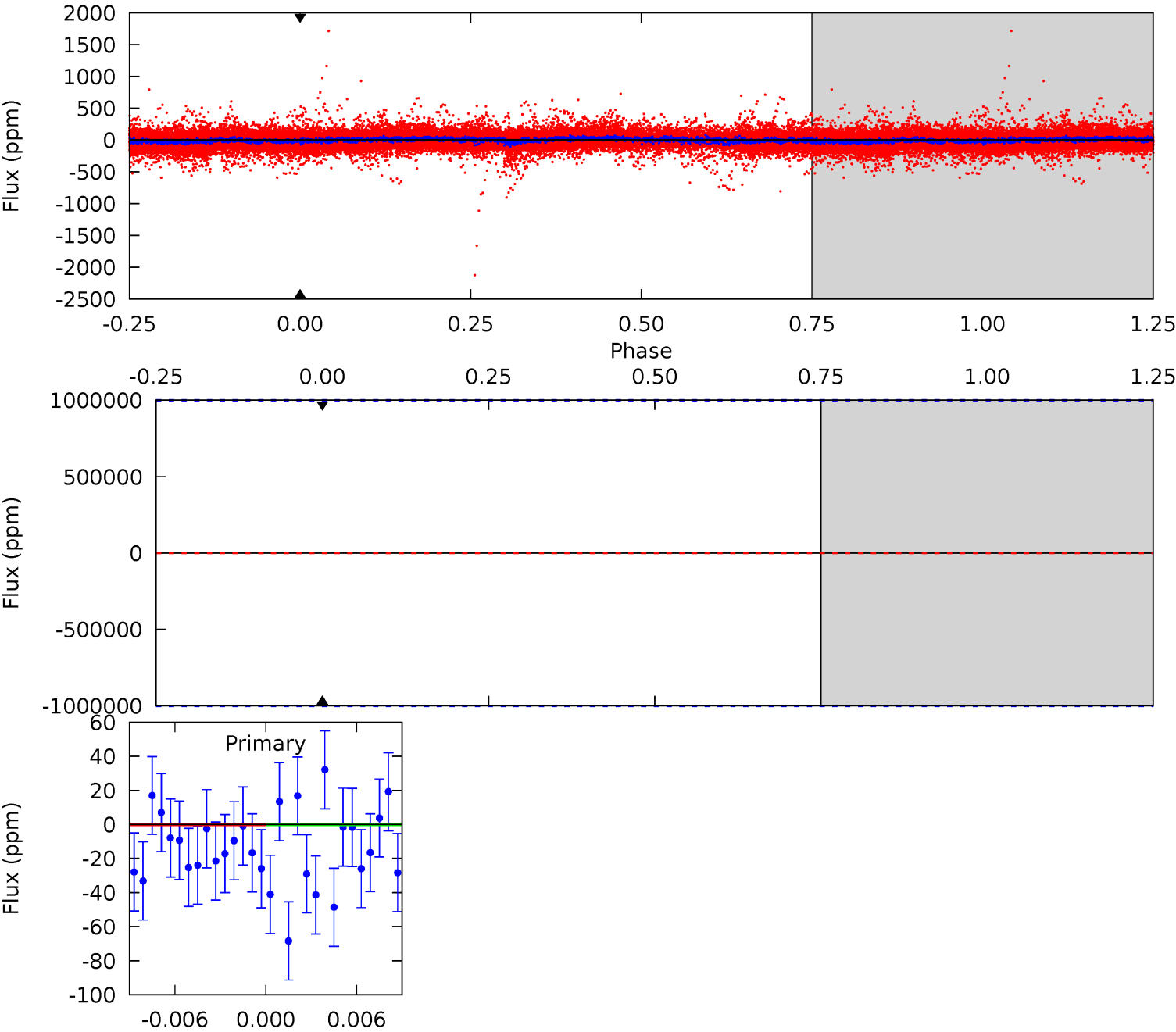
TCE 007582608-05 $P = 6.816620$ Days $T_0 = 135.936438$ (BKJD)



DV Model-Shift Uniqueness Test

007582608-05, P = 6.816620 Days, E = 130.354470 Days

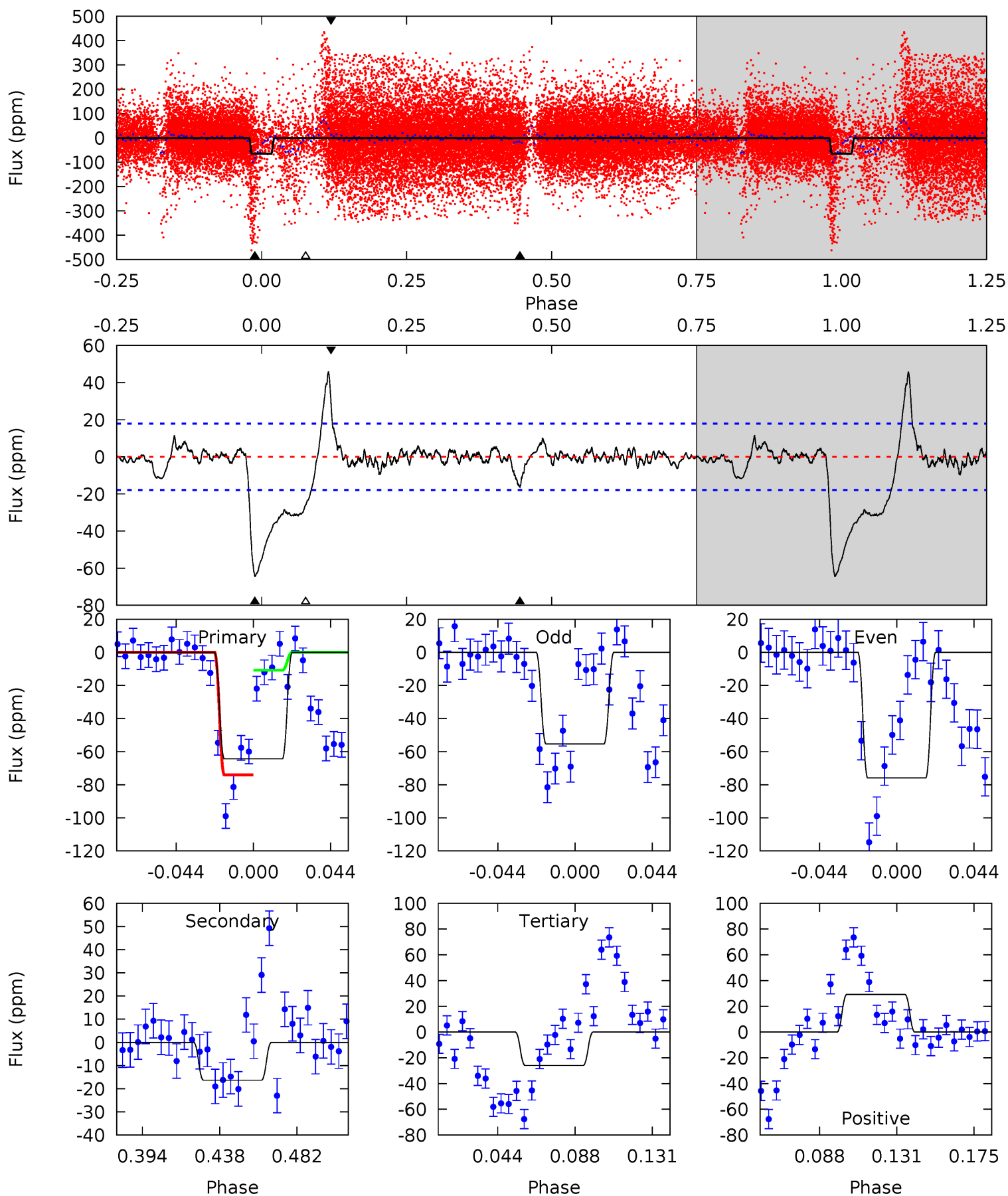
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007582608-05, P = 6.816620 Days, E = 129.119818 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.0	4.32	6.86	7.72	4.74	2.02	1.92	10.2	9.30	-2.55	-3.40	2.78	2.20	0.42	6.79



Stellar Parameters For KIC 007582608

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8373^{+203}_{-377}	$4.123^{+0.126}_{-0.154}$	$0.070^{+0.250}_{-0.550}$	$1.993^{+0.449}_{-0.449}$	$1.922^{+0.313}_{-0.383}$	$0.342^{+0.251}_{-0.146}$
	+2%/-5%	+3%/-4%	+357%/-786%	+23%/-23%	+16%/-20%	+74%/-43%
Source	KIC0	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 007582608-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$15.30^{+16.51}_{-10.46}$	2460^{+157}_{-165}	4838^{+57333}_{-50731}	11^{+3667}_{-2282}
Alt.	-16 ± 4	$15.39^{+17.11}_{-10.38}$	2469^{+161}_{-151}	-2044^{+5669}_{-601}	$0.276^{+2.255}_{-0.213}$

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

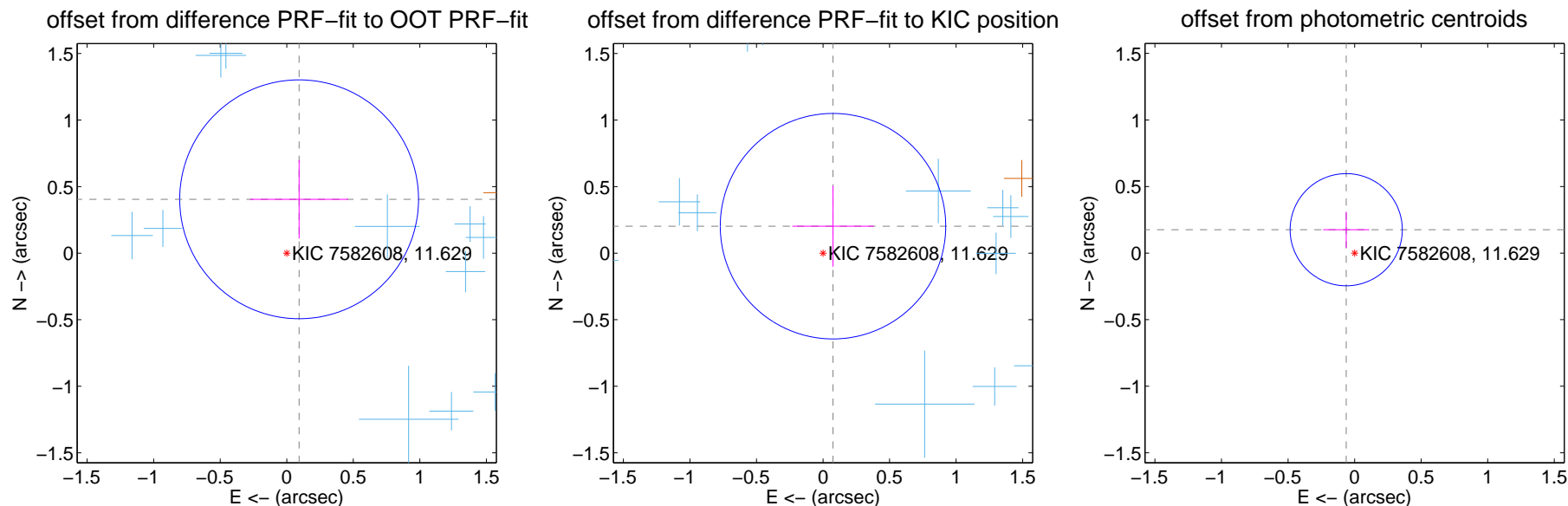
DV Centroid Data

Supplemental centroid analysis for 007582608-05. **Kepler magnitude: 11.63.** Transit SNR -1.00

There are 16 quarters with good PRF difference image offsets

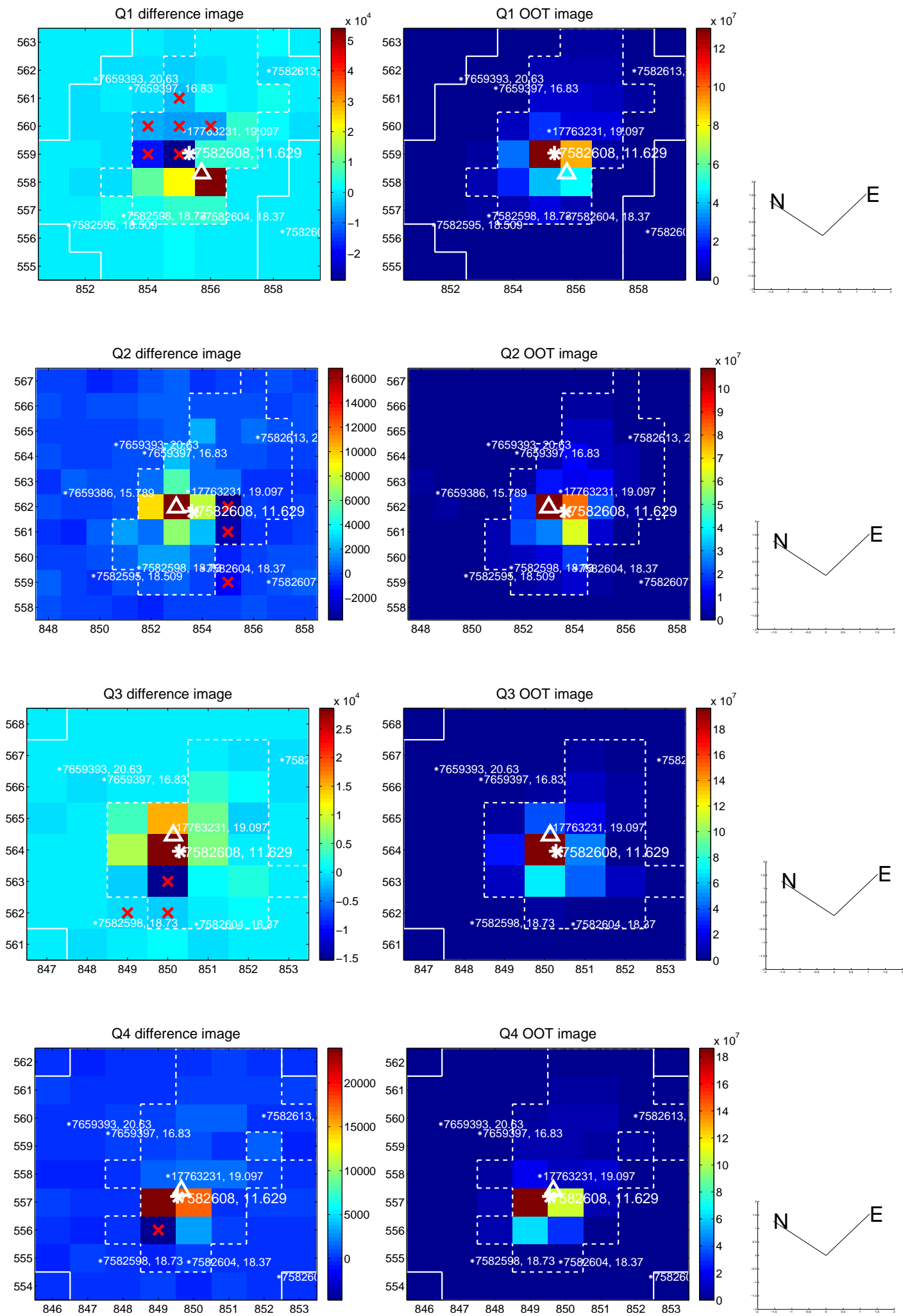
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.415 ± 0.299	1.39	-0.093 ± 0.369	0.405 ± 0.295
PRF-fit source offset from KIC position	0.216 ± 0.282	0.76	-0.075 ± 0.306	0.203 ± 0.304
photometric centroid source offset	0.19 ± 0.14	1.33	0.06 ± 0.17	0.18 ± 0.14

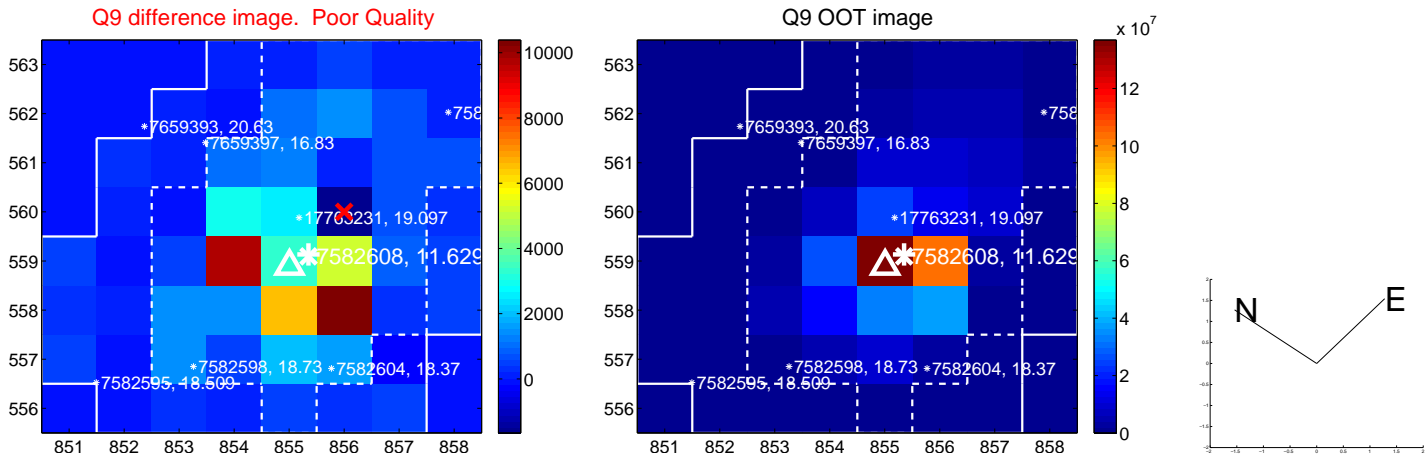


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

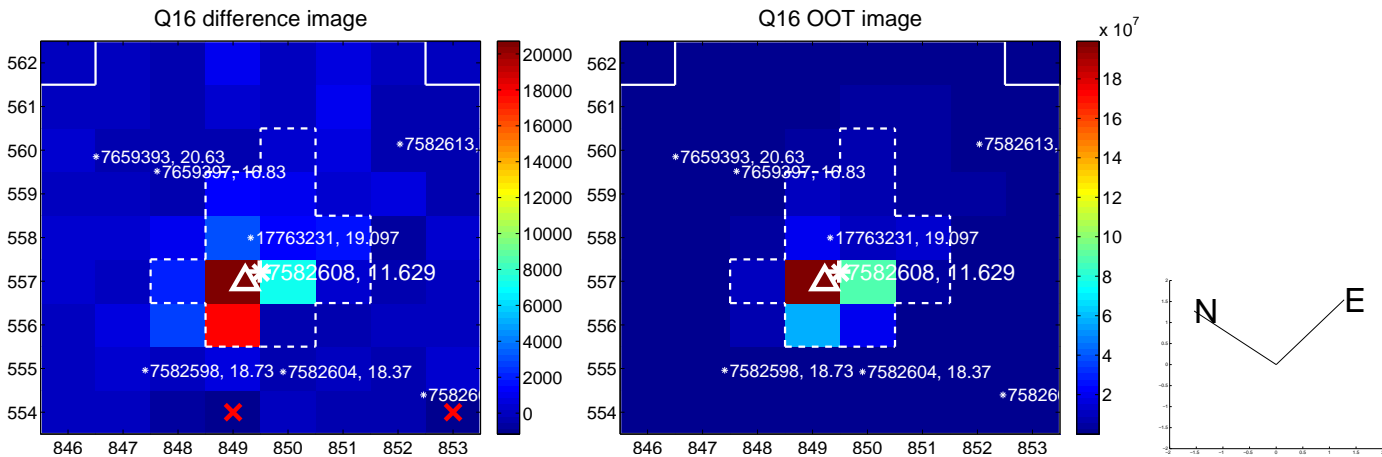
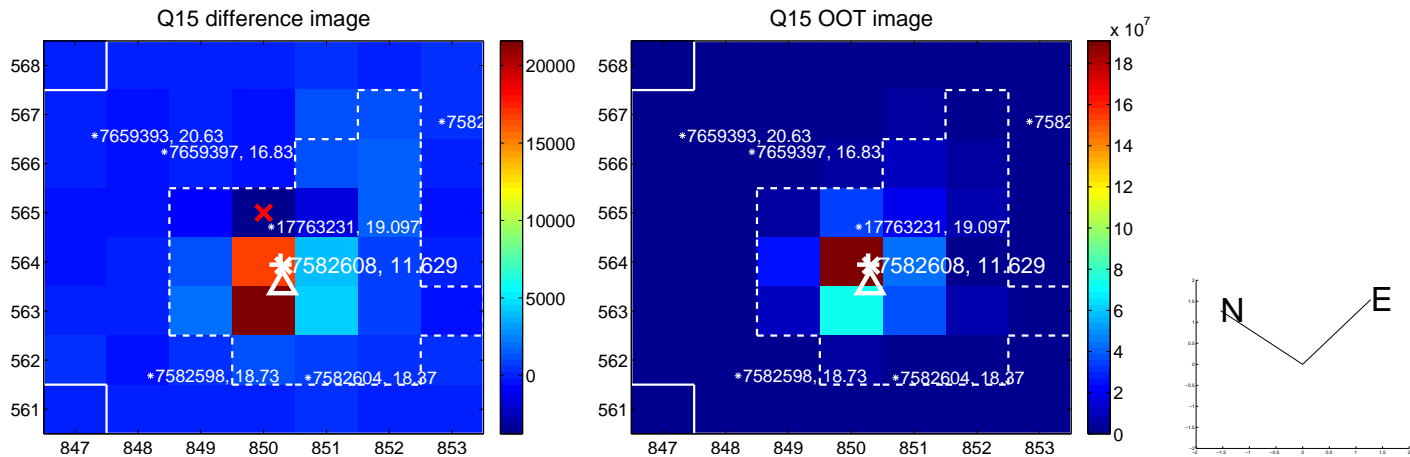
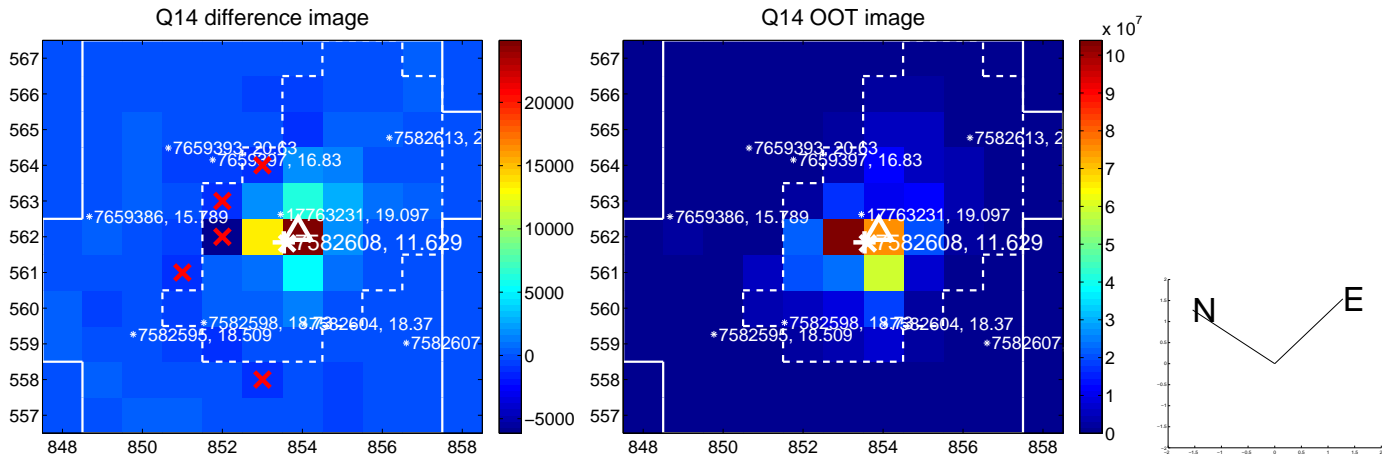
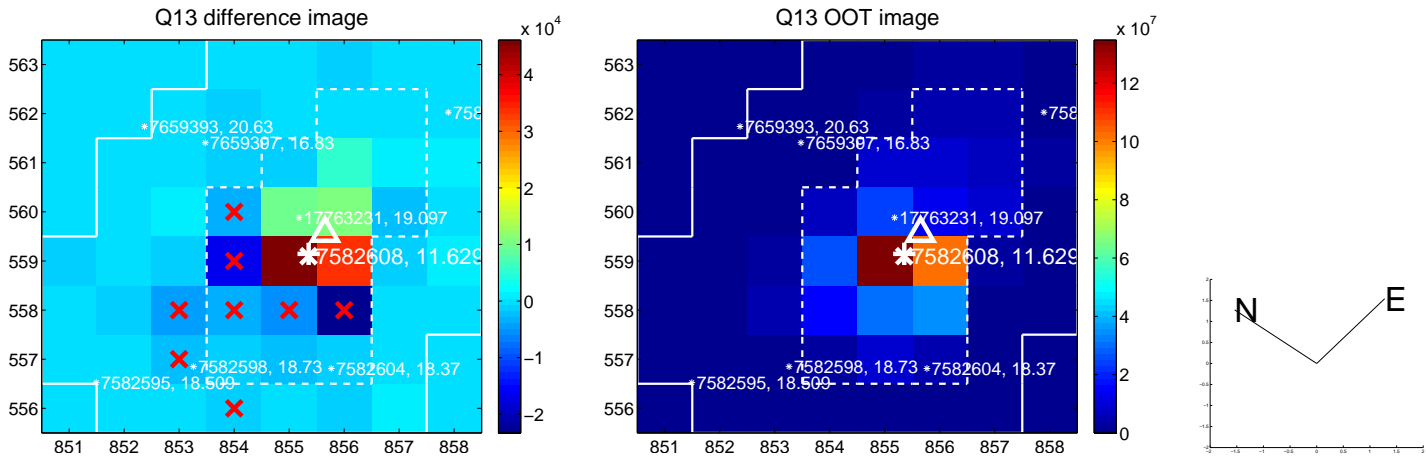
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



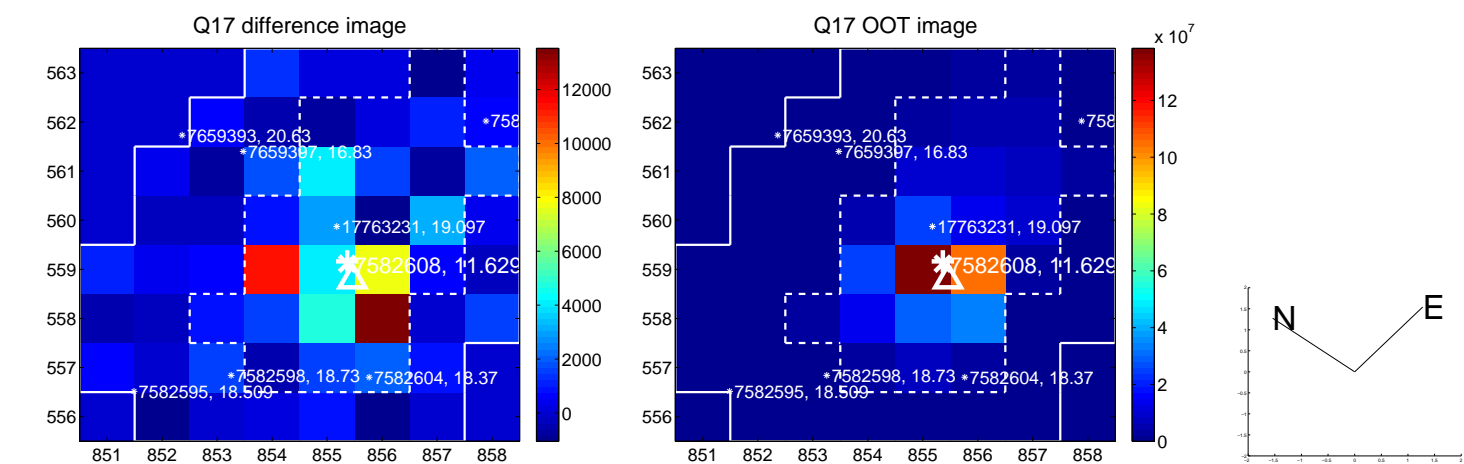
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



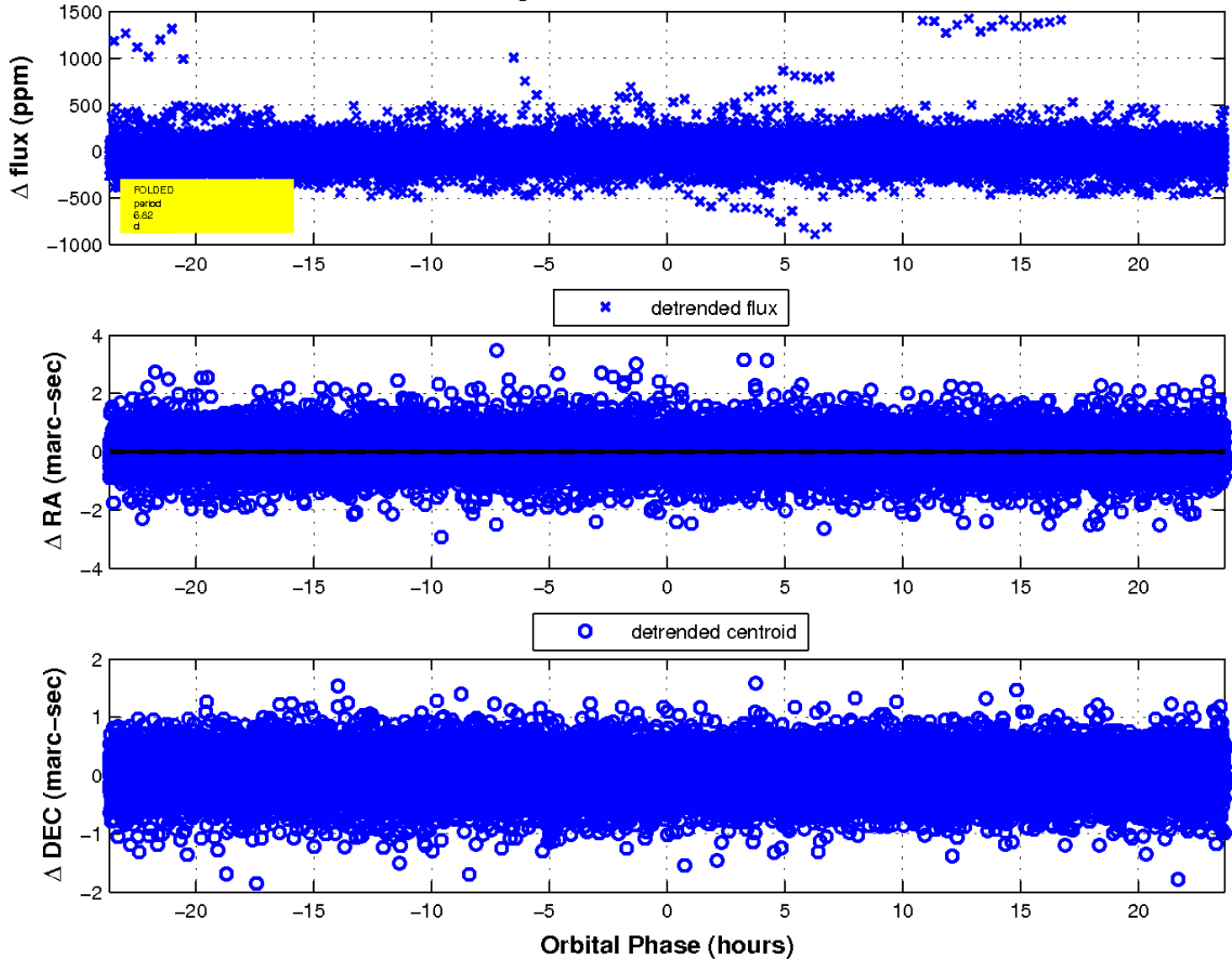
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



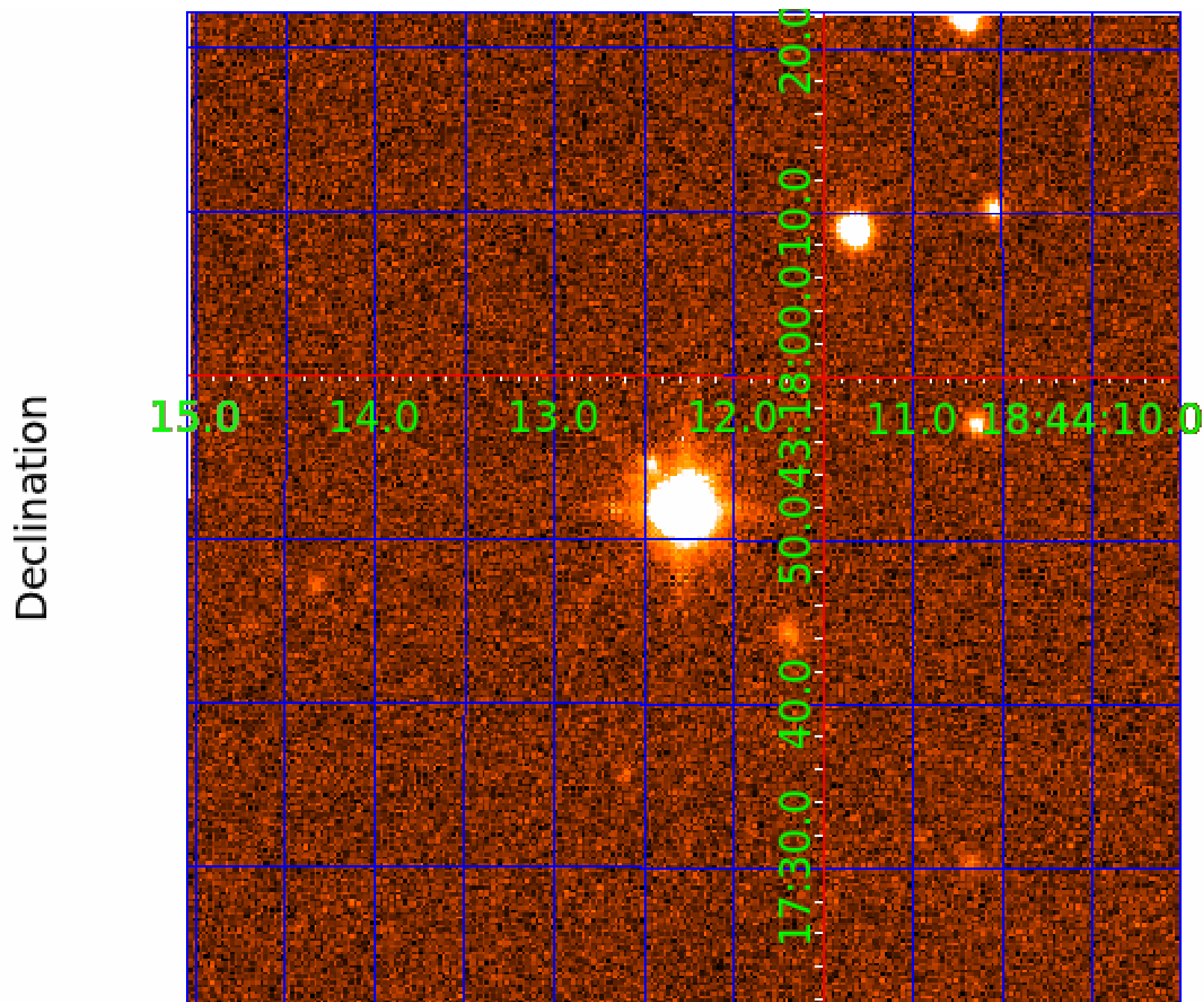
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 5 of 6



UKIRT Image



KIC 007582608

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})
007582608-01	OBS	No	20.452071	140.258714	31.3	19.173	9.0	7.9	1.99	8373	1.20	527.76
007582608-02	OBS	No	20.450378	151.361920	16.7	23.395	7.9	4.1	1.99	8373	0.90	527.82
007582608-03	OBS	No	20.442306	134.837610	14.9	13.269	7.5	4.0	1.99	8373	0.87	528.10
007582608-04	OBS	No	20.442689	135.818232	48.2	10.522	10.6	11.4	1.99	8373	1.61	528.09
007582608-05	OBS	No	6.816620	137.171090	35.3	15.000	8.1	-1.0	1.99	8373	1.20	2283.84
007582608-06	OBS	No	308.315176	428.199474	466.1	12.500	35.4	-1.0	1.99	8373	4.36	14.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007582608-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
007582608-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
007582608-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
007582608-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—SAME_NTL_PERIOD—CENT_FEW_DIFFS
007582608-05	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS
007582608-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS—HALO_GHOST

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

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

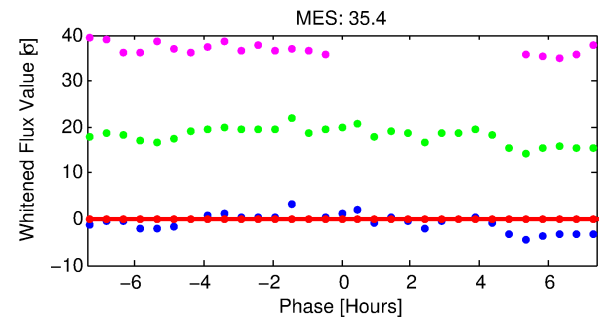
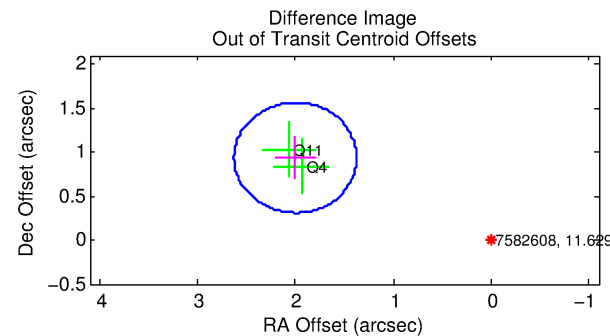
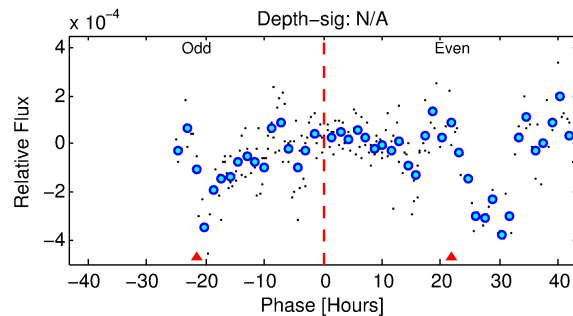
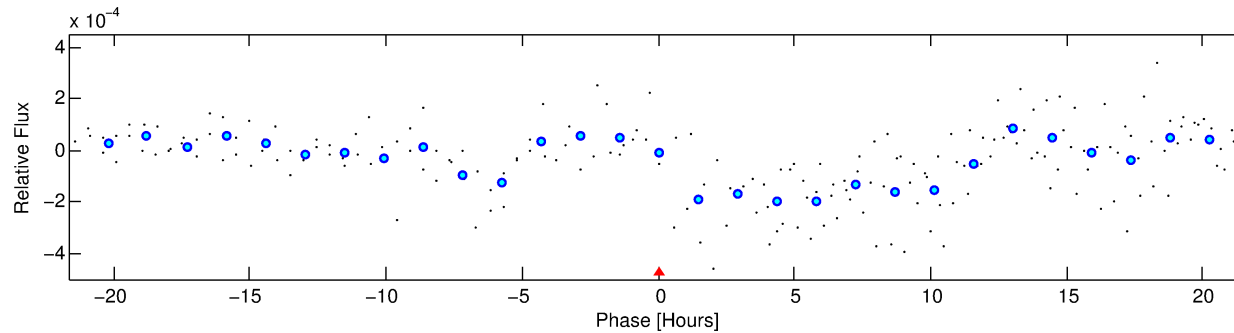
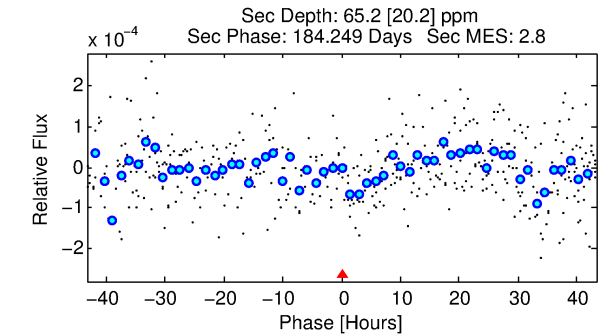
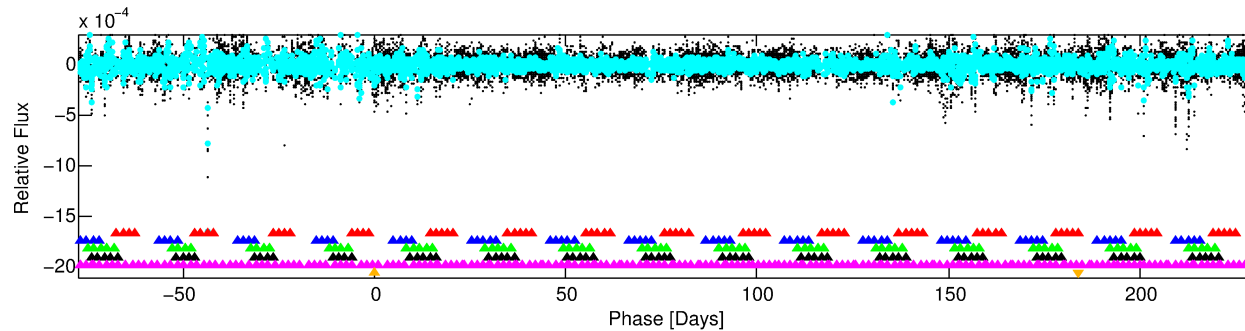
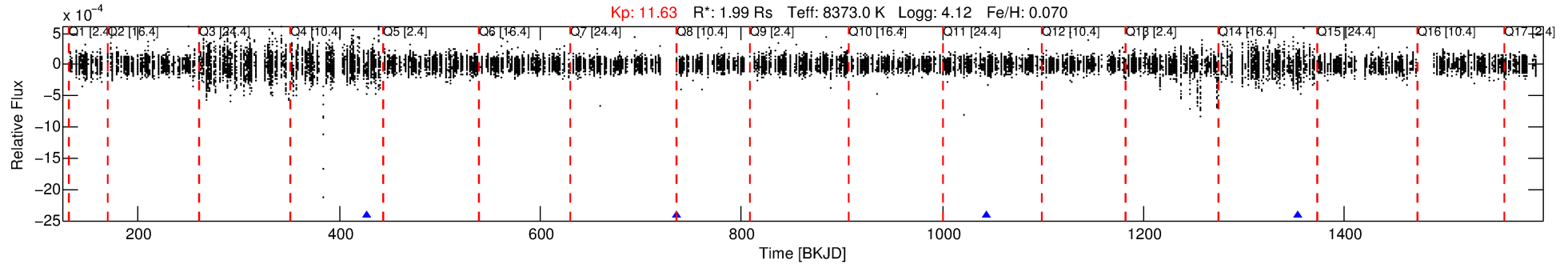
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007582608-06

No Significant Match Found

DV One-Page Summary

KIC: 7582608 Candidate: 6 of 6 Period: 308.315 d



TPS TCE Results:

Period = 308.31518 d
Epoch = 428.1995 BKJD

DV fit results are unavailable

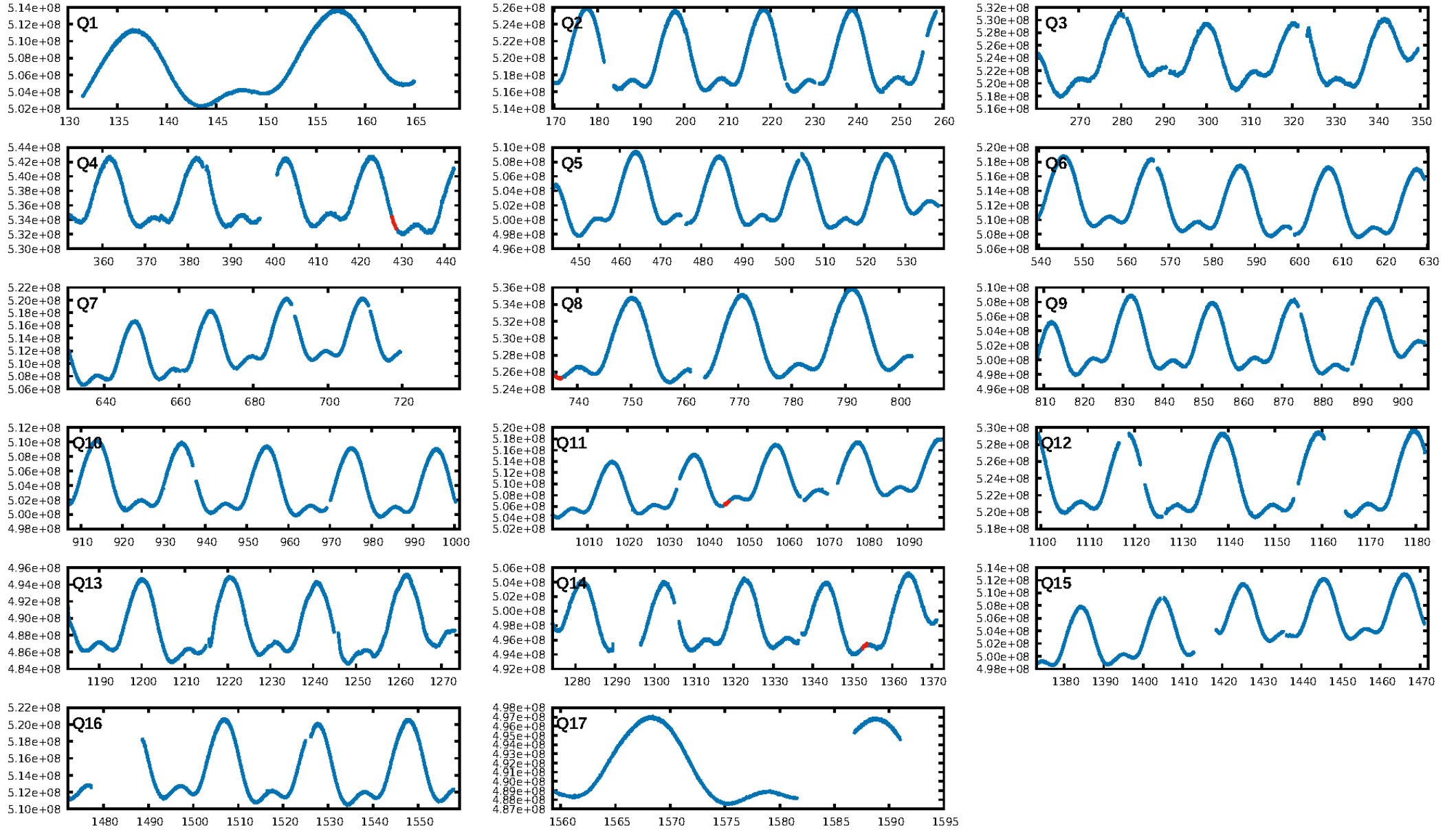
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [301.85σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.80e-82
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -0.2084
Centroid-sig: N/A
Centroid-so: 0.289 arcsec [2.08σ]
OotOffset-rm: 2.209 arcsec [10.56σ]
KicOffset-rm: 2.301 arcsec [10.92σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

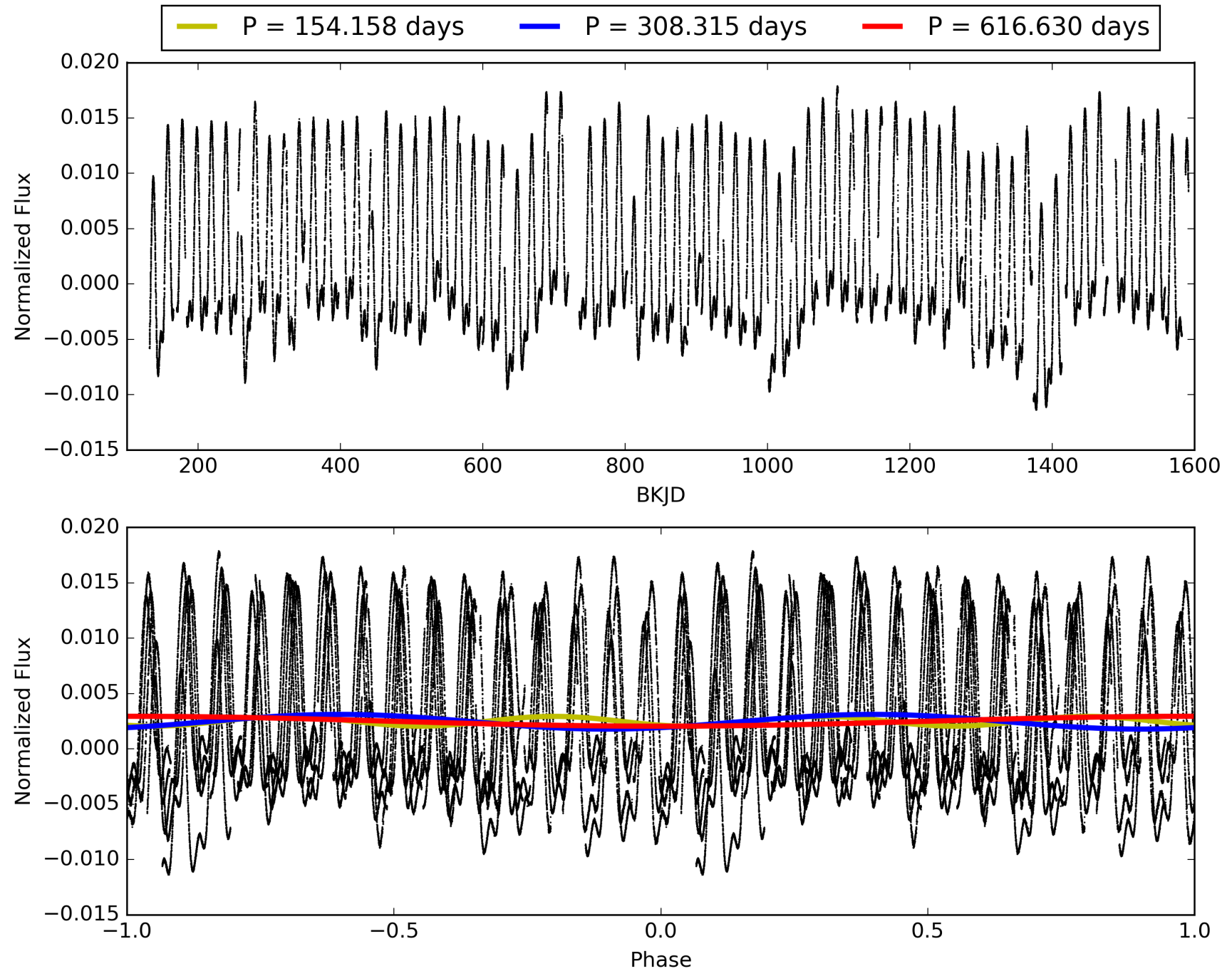
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 20:38:40 Z

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

TCE 007582608-06, PDC Light Curves

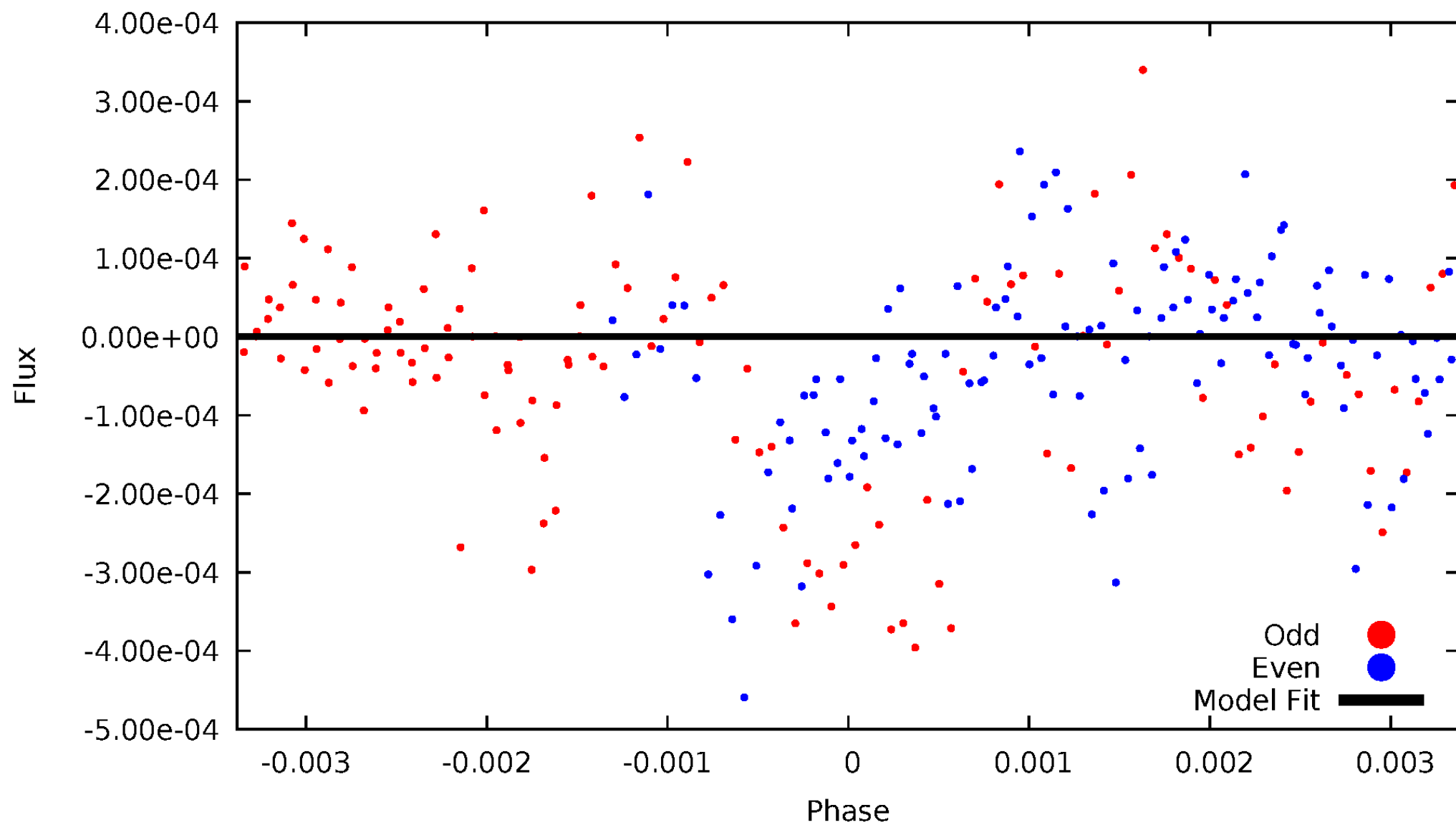


TCE 007582608-06



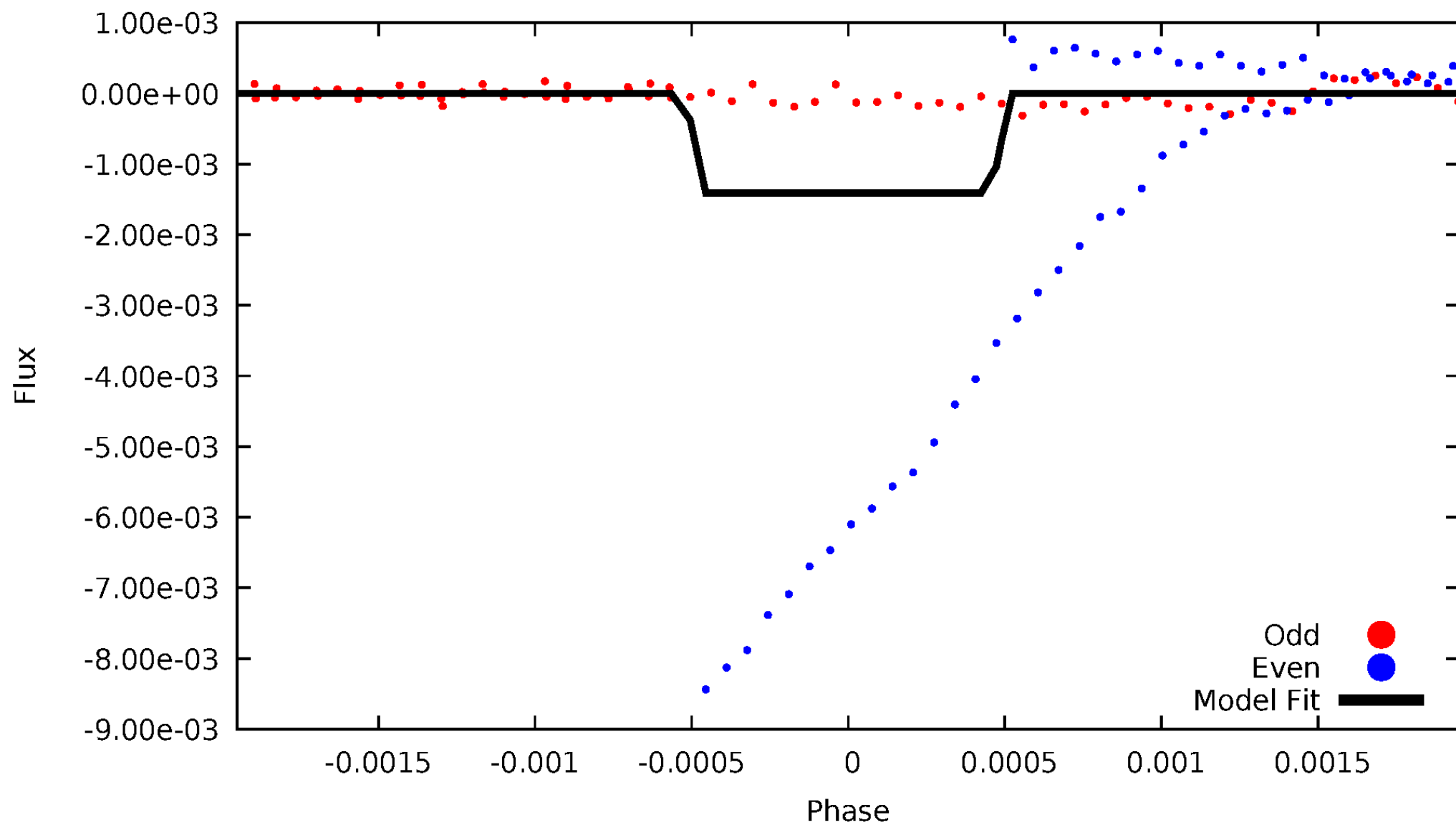
DV Odd/Even

TCE 007582608-06



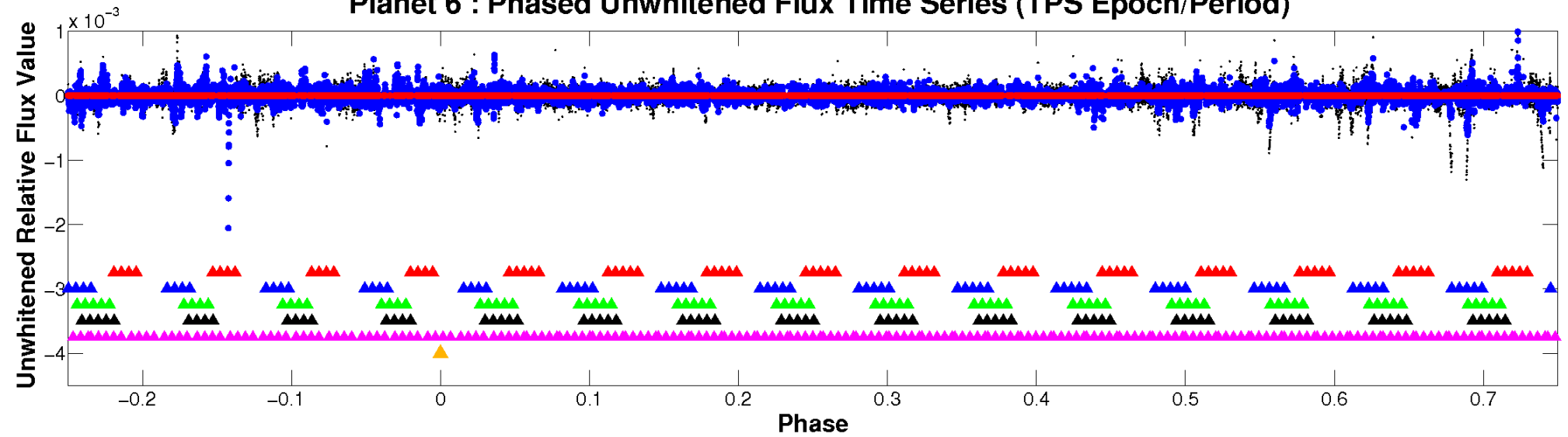
ALT Odd/Even

TCE 007582608-06

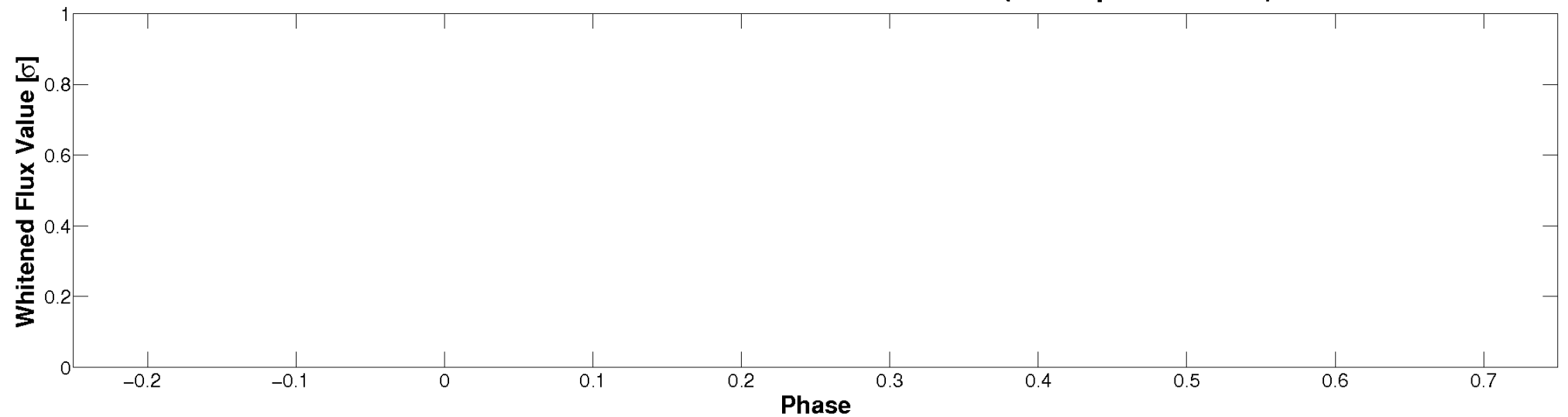


Non-Whitened Vs. Whitened Light Curve

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

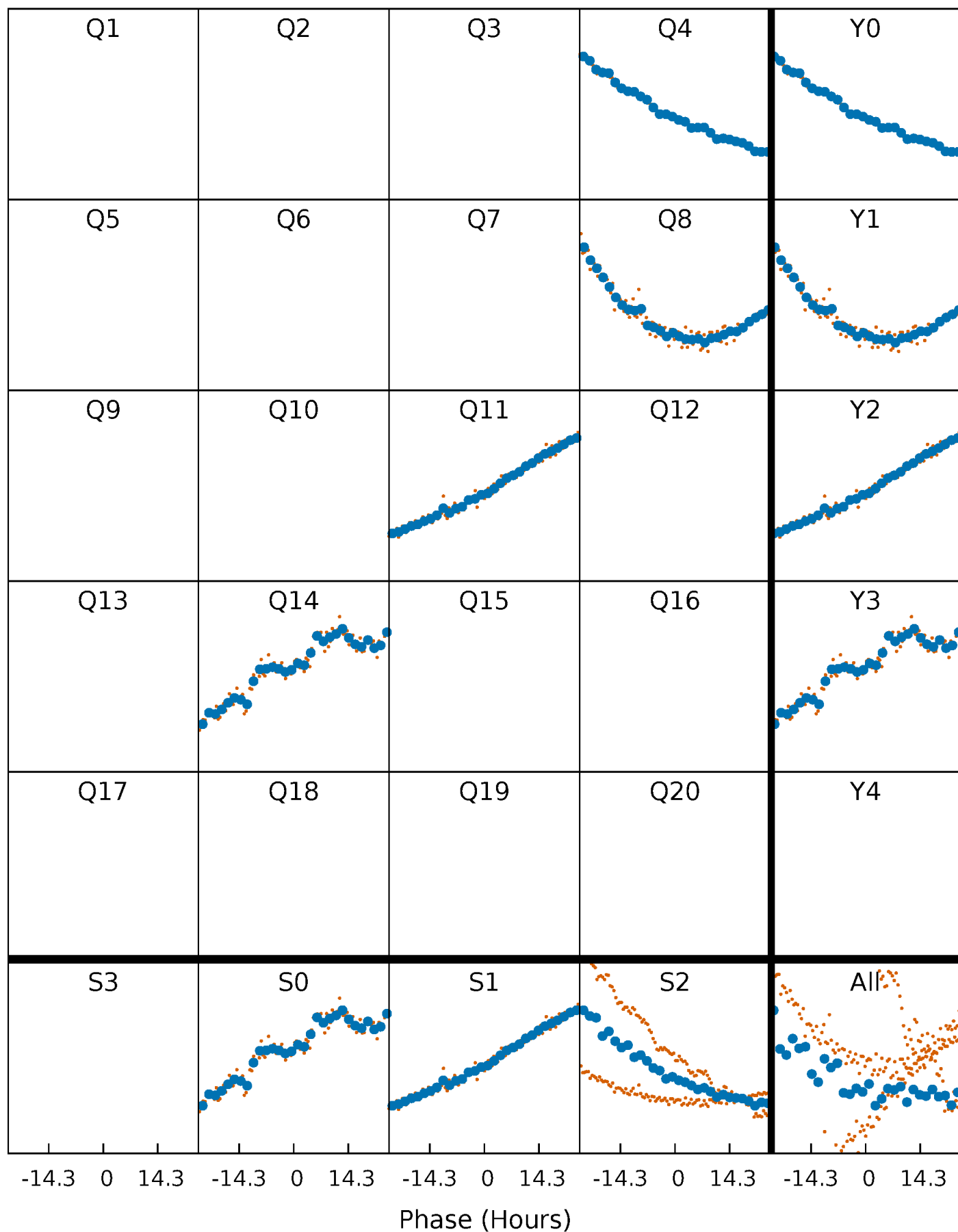


Planet 6 : Phased Whitened Flux Time Series (TPS Epoch/Period)



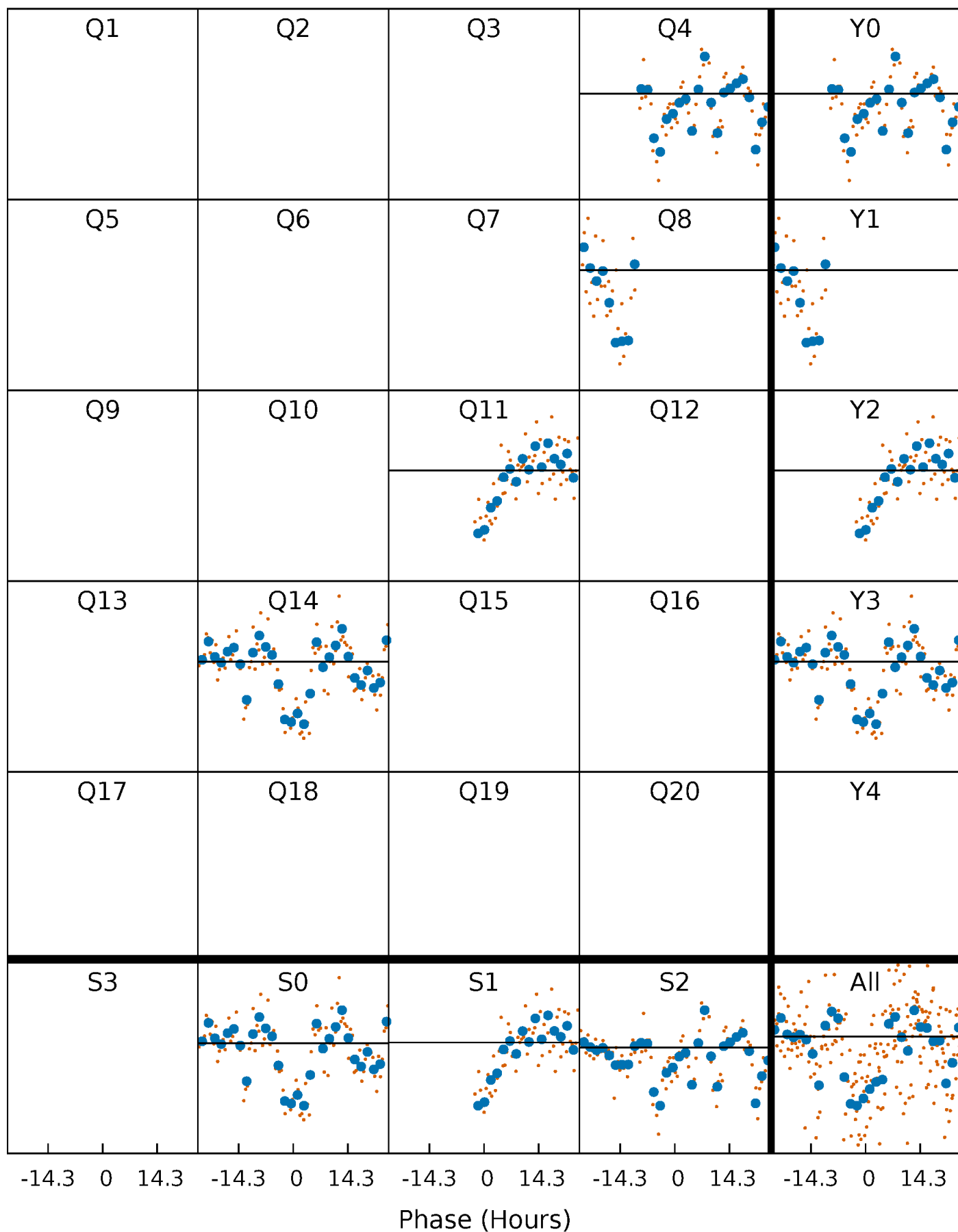
PDC Quarter-Phased Transit Curves

TCE 007582608-06 P=308.315176 Days $T_0=428.199474$ (BKJD)



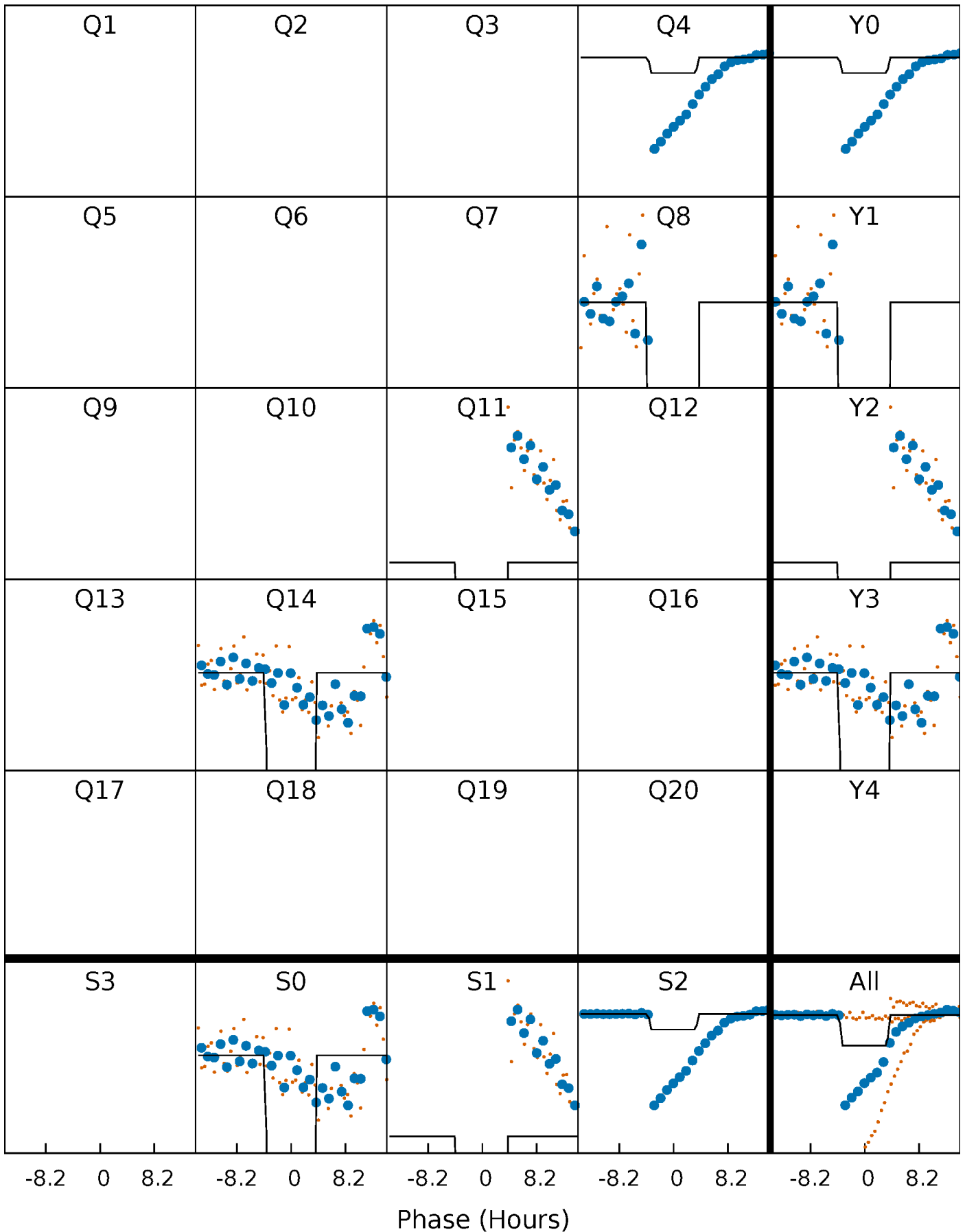
DV Quarter-Phased Transit Curves

TCE 007582608-06 $P=308.315176$ Days $T_0=428.199474$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

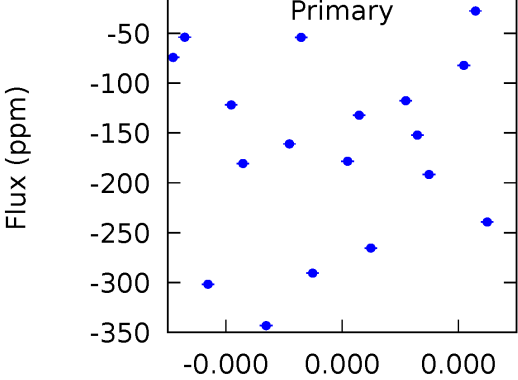
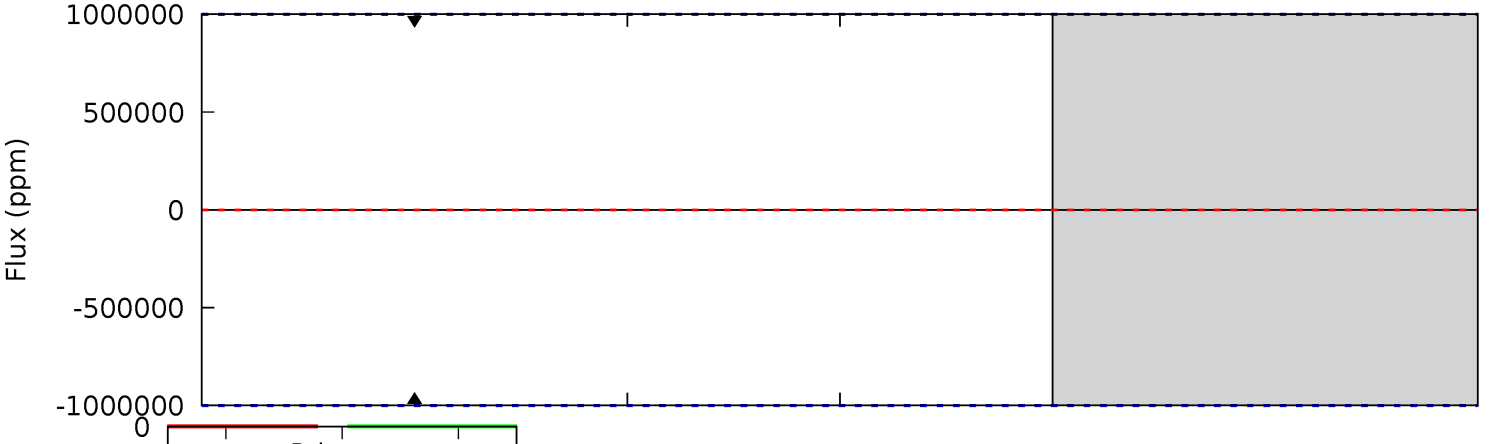
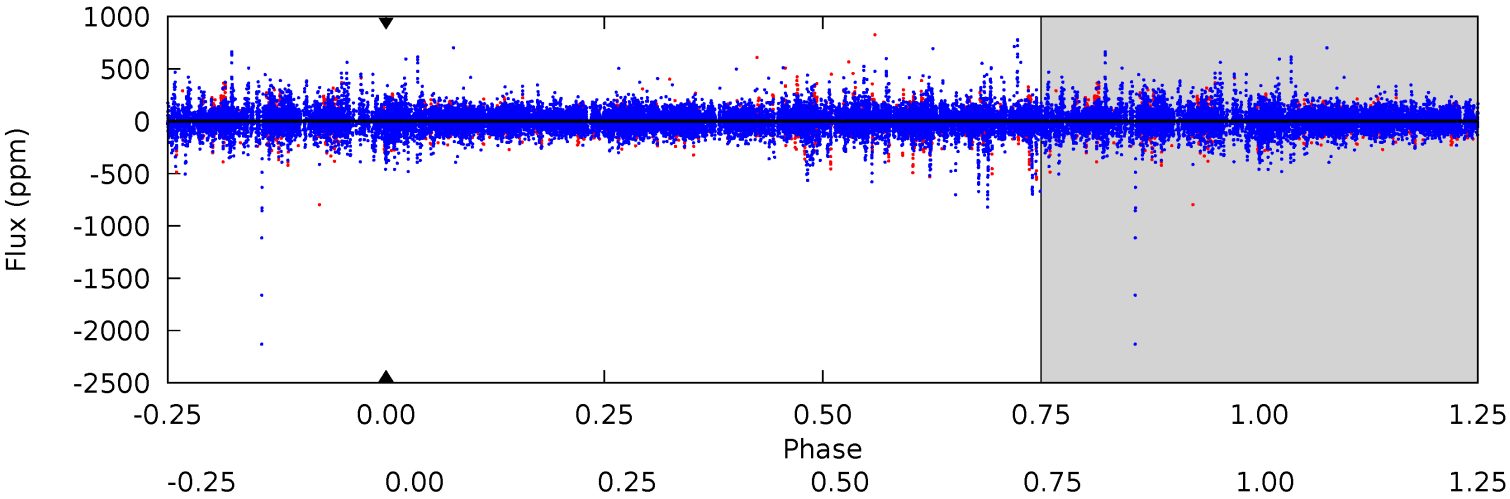
TCE 007582608-06 P=308.315176 Days $T_0=427.937715$ (BKJD)



DV Model-Shift Uniqueness Test

007582608-06, P = 308.315176 Days, E = 119.884298 Days

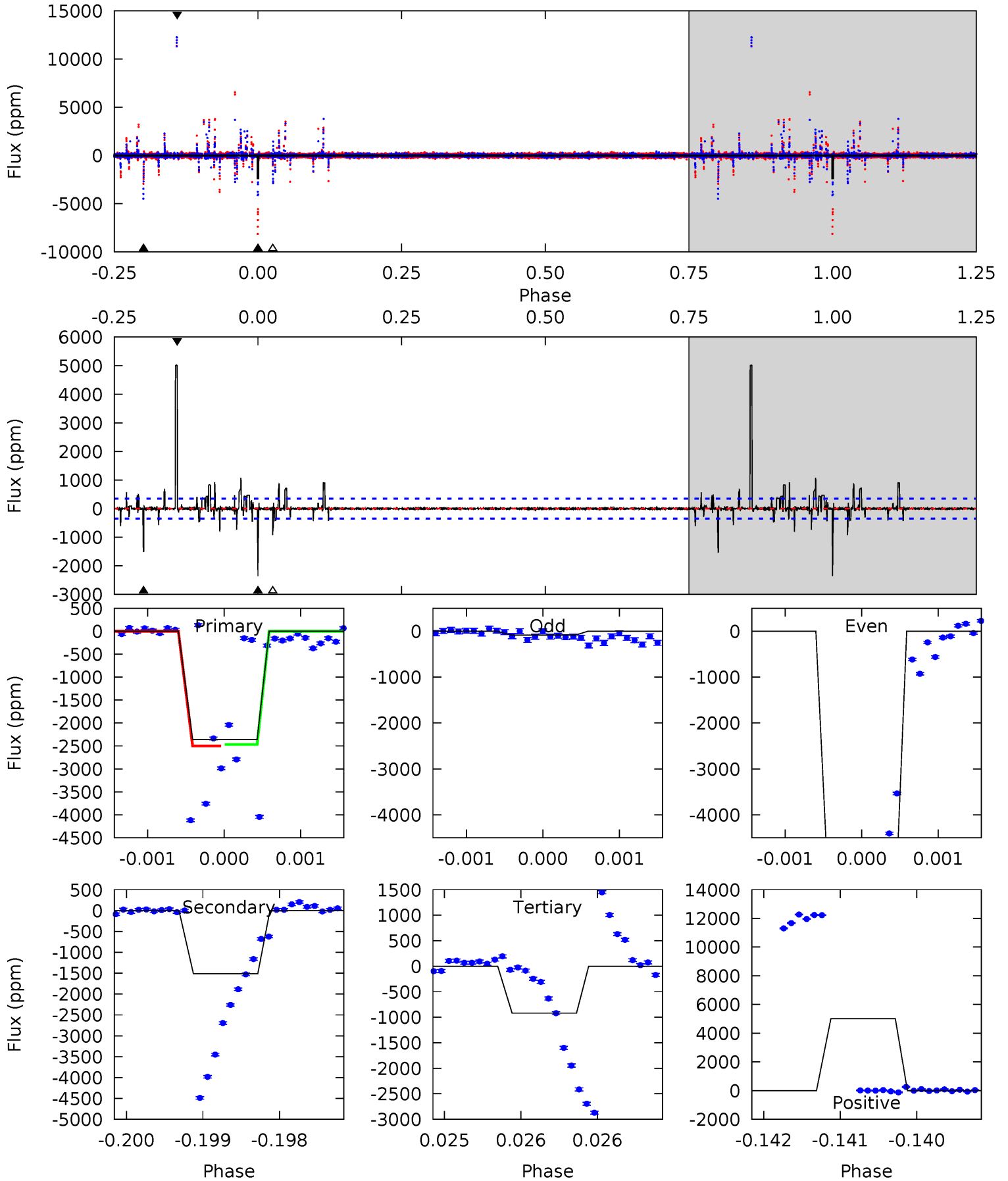
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007582608-06, P = 308.315176 Days, E = 119.622539 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.0	23.6	14.4	78.5	5.46	3.31	2.28	22.6	-41.6	9.24	-54.9	55.8	1.00	0.68	0.23



Stellar Parameters For KIC 007582608

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8373^{+203}_{-377}	$4.123^{+0.126}_{-0.154}$	$0.070^{+0.250}_{-0.550}$	$1.993^{+0.449}_{-0.449}$	$1.922^{+0.313}_{-0.383}$	$0.342^{+0.251}_{-0.146}$
	+2%/-5%	+3%/-4%	+357%/-786%	+23%/-23%	+16%/-20%	+74%/-43%
Source	KIC0	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 007582608-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$16.83^{+18.26}_{-11.74}$	693^{+45}_{-51}	-4701^{+60920}_{-48491}	$-1231.975^{+512255.412}_{-499413.321}$
Alt.	-1511 ± 64	$18.85^{+18.87}_{-12.84}$	691^{+44}_{-43}	5429^{+5015}_{-1277}	2850^{+24868}_{-2108}

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 $A_{obs} \gg 1.0$

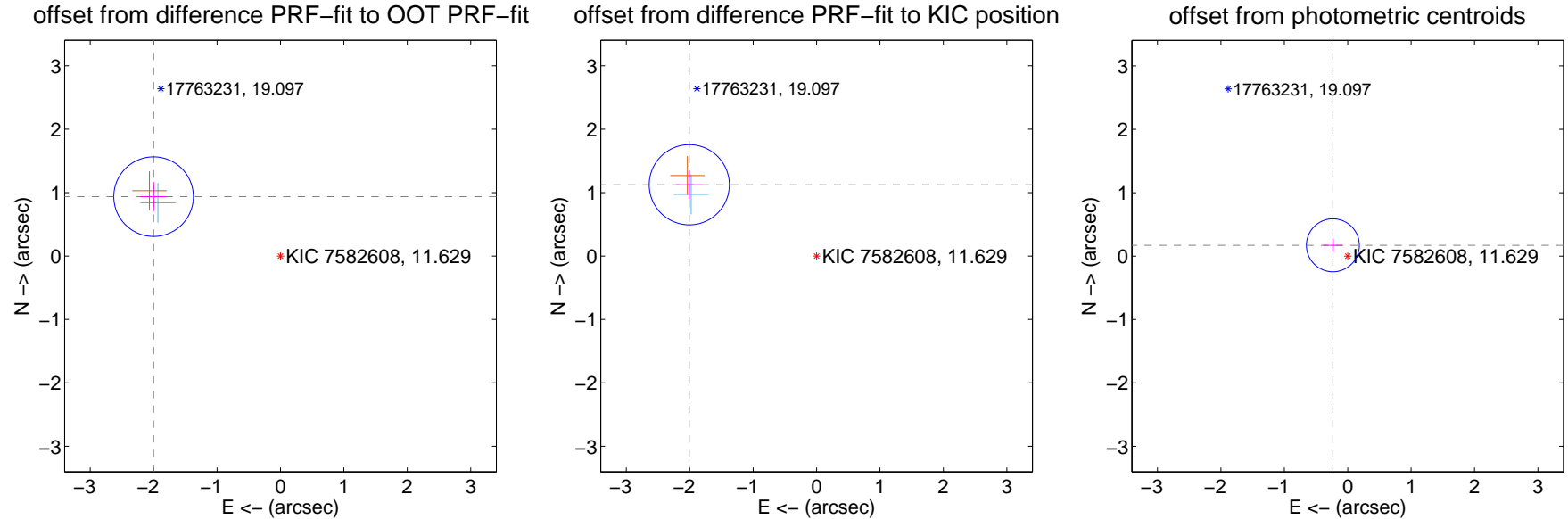
DV Centroid Data

Supplemental centroid analysis for 007582608-06. **Kepler magnitude: 11.63.** Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

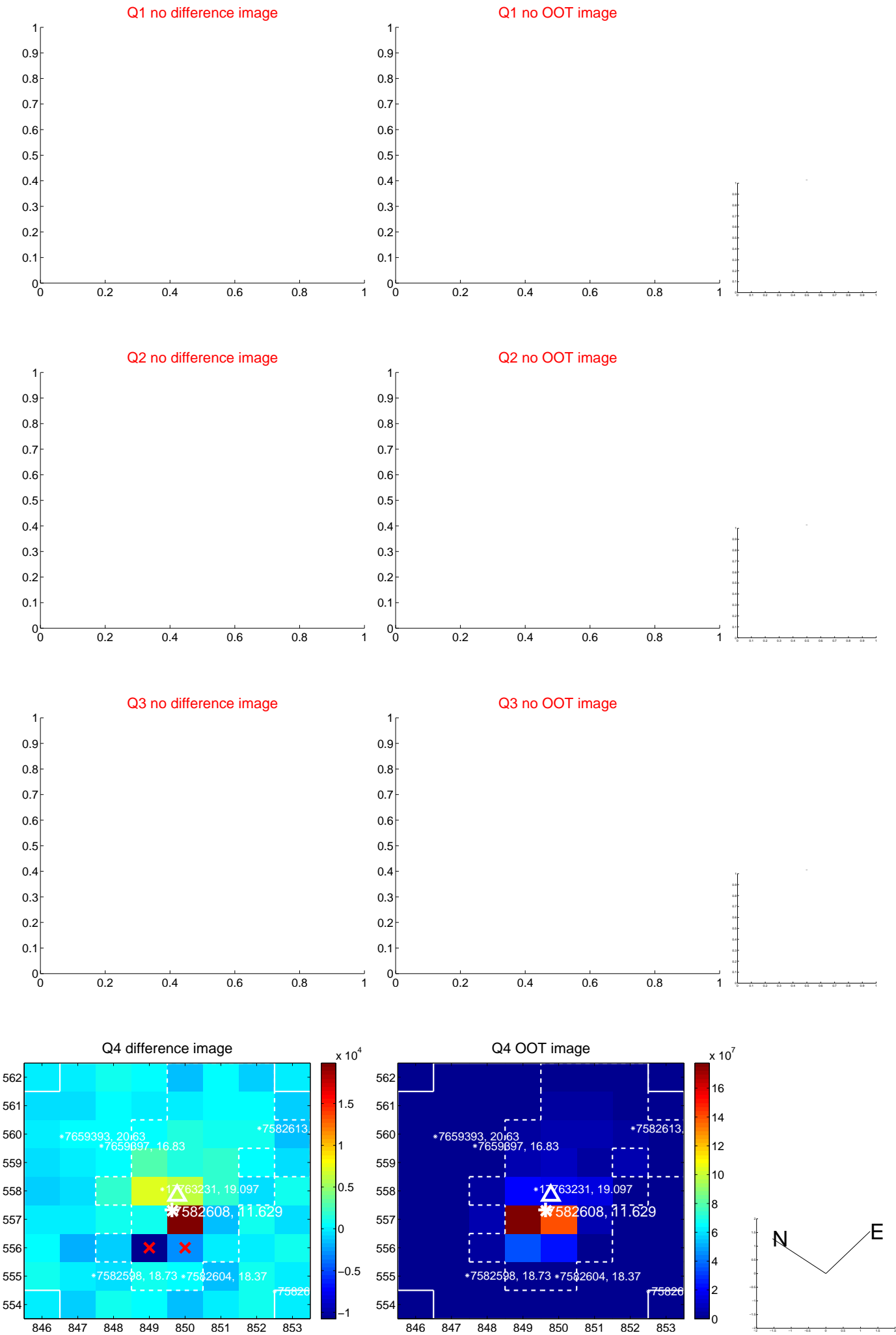
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.209 \pm 0.209	10.56	2.001 \pm 0.204	0.937 \pm 0.229
PRF-fit source offset from KIC position	2.301 \pm 0.211	10.92	2.008 \pm 0.204	1.124 \pm 0.229
photometric centroid source offset	0.29 \pm 0.14	2.08	0.23 \pm 0.15	0.17 \pm 0.10



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

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



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



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

Q9 no difference image



Q9 no OOT image



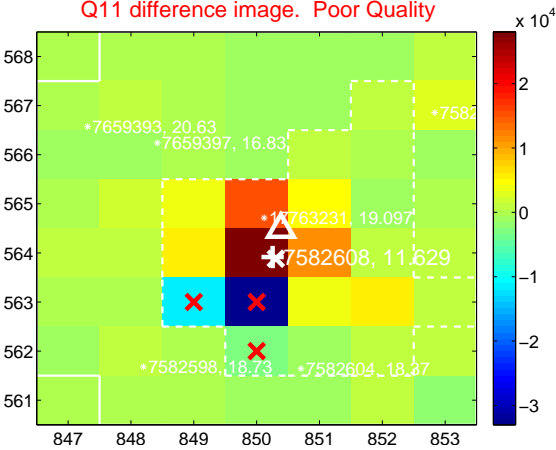
Q10 no difference image



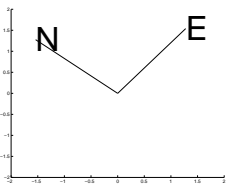
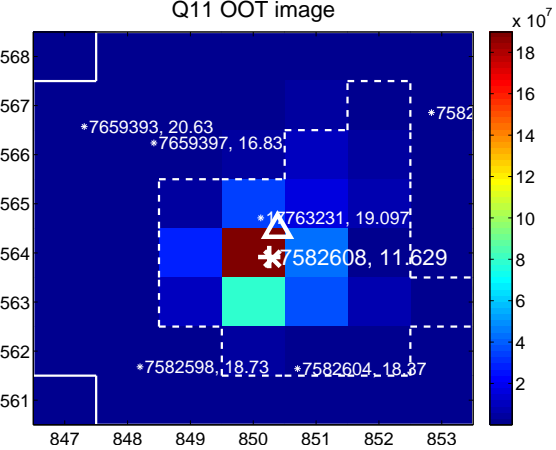
Q10 no OOT image



Q11 difference image. Poor Quality



Q11 OOT image



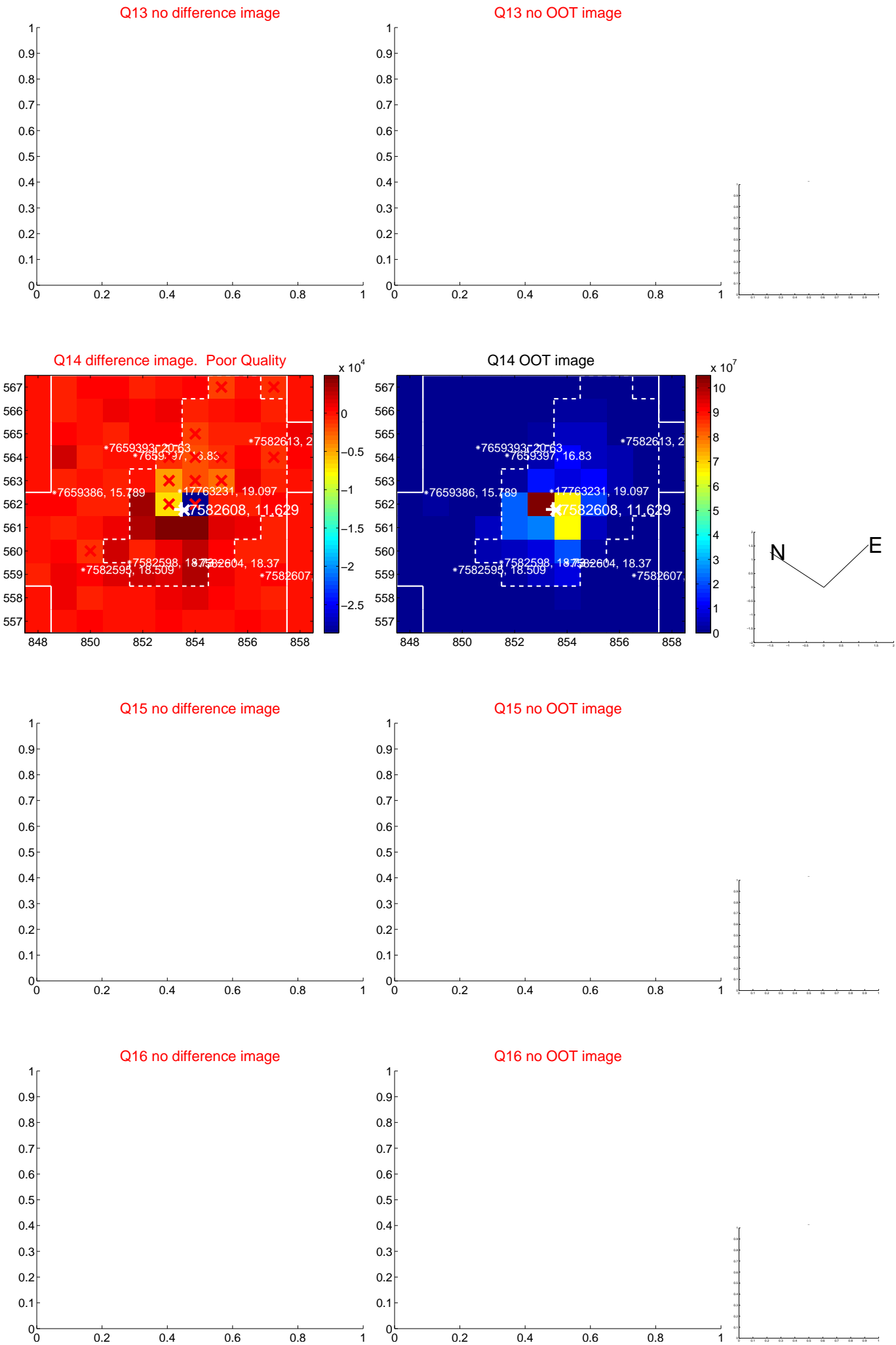
Q12 no difference image



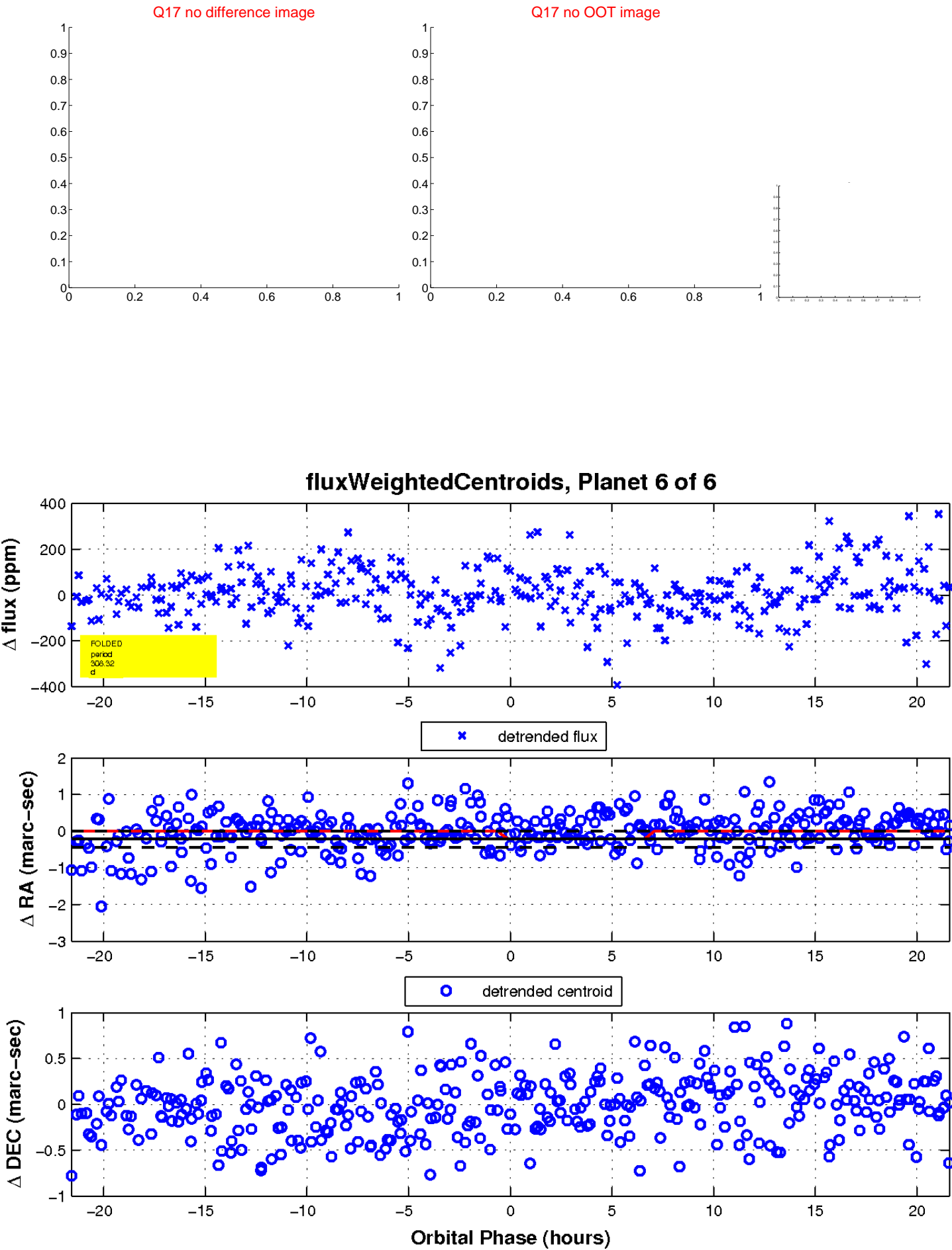
Q12 no OOT image



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



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



UKIRT Image

