

KIC 007031853

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})
007031853-01	OBS	No	0.566754	131.839314	17.0	4.284	10.8	4.2	1.25	6468	0.54	11360.26
007031853-02	OBS	No	7.498891	137.054763	1219.4	0.526	13.5	22.0	1.25	6468	4.76	363.01
007031853-03	OBS	No	9.179254	138.020646	537.7	1.736	12.5	15.1	1.25	6468	2.99	277.23
007031853-04	OBS	No	2.376727	131.545693	450.8	1.232	12.8	15.8	1.25	6468	3.12	1679.87
007031853-05	OBS	No	4.850105	134.338245	788.9	1.215	13.8	22.2	1.25	6468	3.54	649.00
007031853-06	OBS	No	8.492754	137.042016	530.8	2.036	14.2	16.3	1.25	6468	2.98	307.50
007031853-07	OBS	No	7.627644	137.430878	836.1	1.088	12.9	13.8	1.25	6468	3.74	354.86
007031853-08	OBS	No	1.601906	131.727945	251.2	0.798	12.2	8.5	1.25	6468	2.04	2842.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007031853-01	OBS	FP	0.00	1	0	0	1	LPP_DV—LPP_ALT—CENT_FEW_DIFFS—EPHEM_MATCH
007031853-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007031853-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST
007031853-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST
007031853-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007031853-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007031853-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST
007031853-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—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.

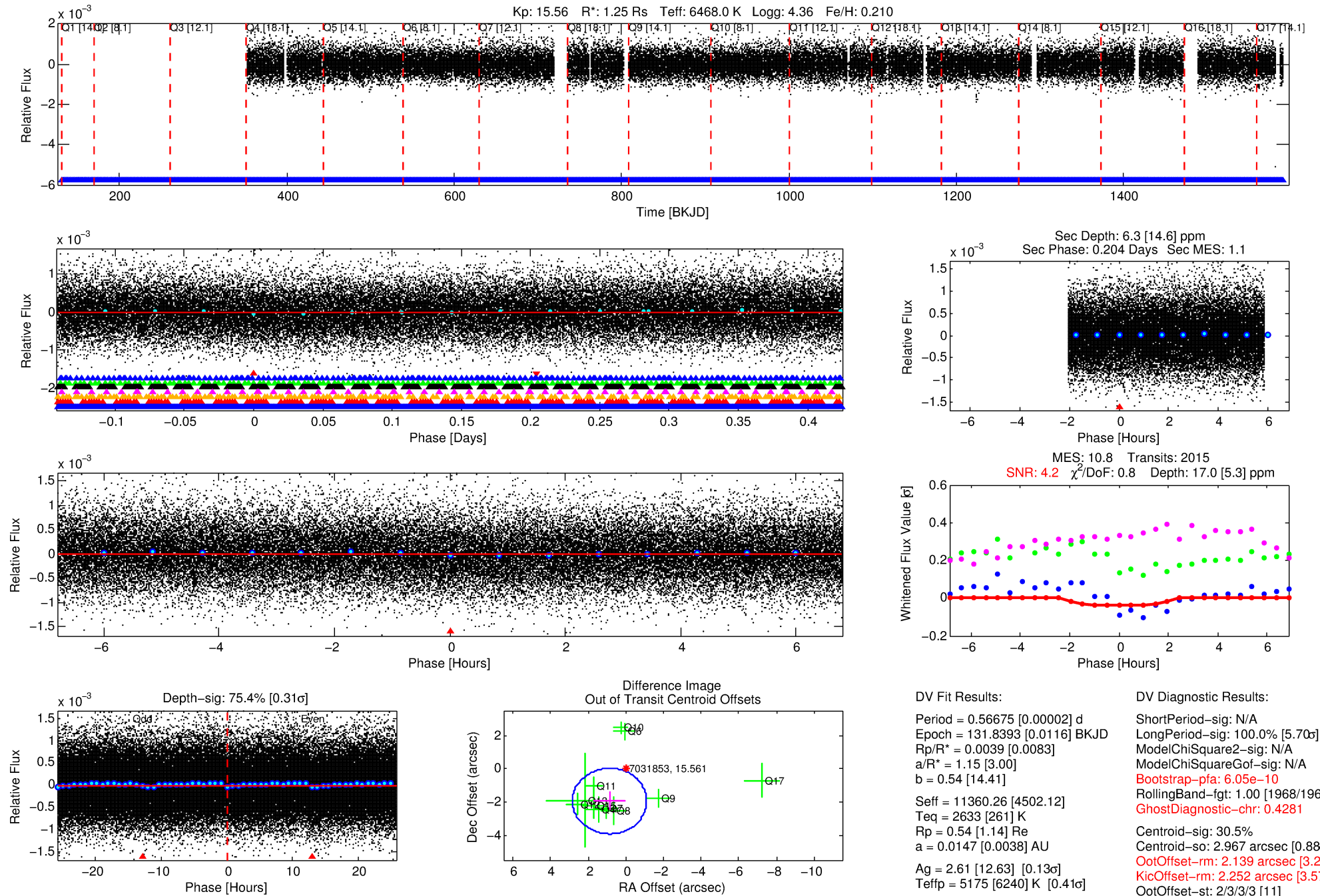
Ephemeris Match Information For 007031853-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist ($''$)	Δ Row	Δ Col	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ_P	σ_T
007031853-01	7031853	RR-Lyr-pri	7198959	1:1	960.8	141	-196	7.86	15.56	36664.00	Direct-PRF	0	1.22	24.23

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 7031853 Candidate: 1 of 8 Period: 0.567 d



DV Fit Results:

Period = 0.56675 [0.00002] d
Epoch = 131.8393 [0.0116] BKJD
Rp/R* = 0.0039 [0.0083]
a/R* = 1.15 [3.00]
b = 0.54 [14.41]
Seff = 11360.26 [4502.12]
Teff = 2633 [261] K
Rp = 0.54 [1.14] Re
a = 0.0147 [0.0038] AU
Ag = 2.61 [12.63] [0.13σ]
Teffp = 5175 [6240] K [0.41σ]

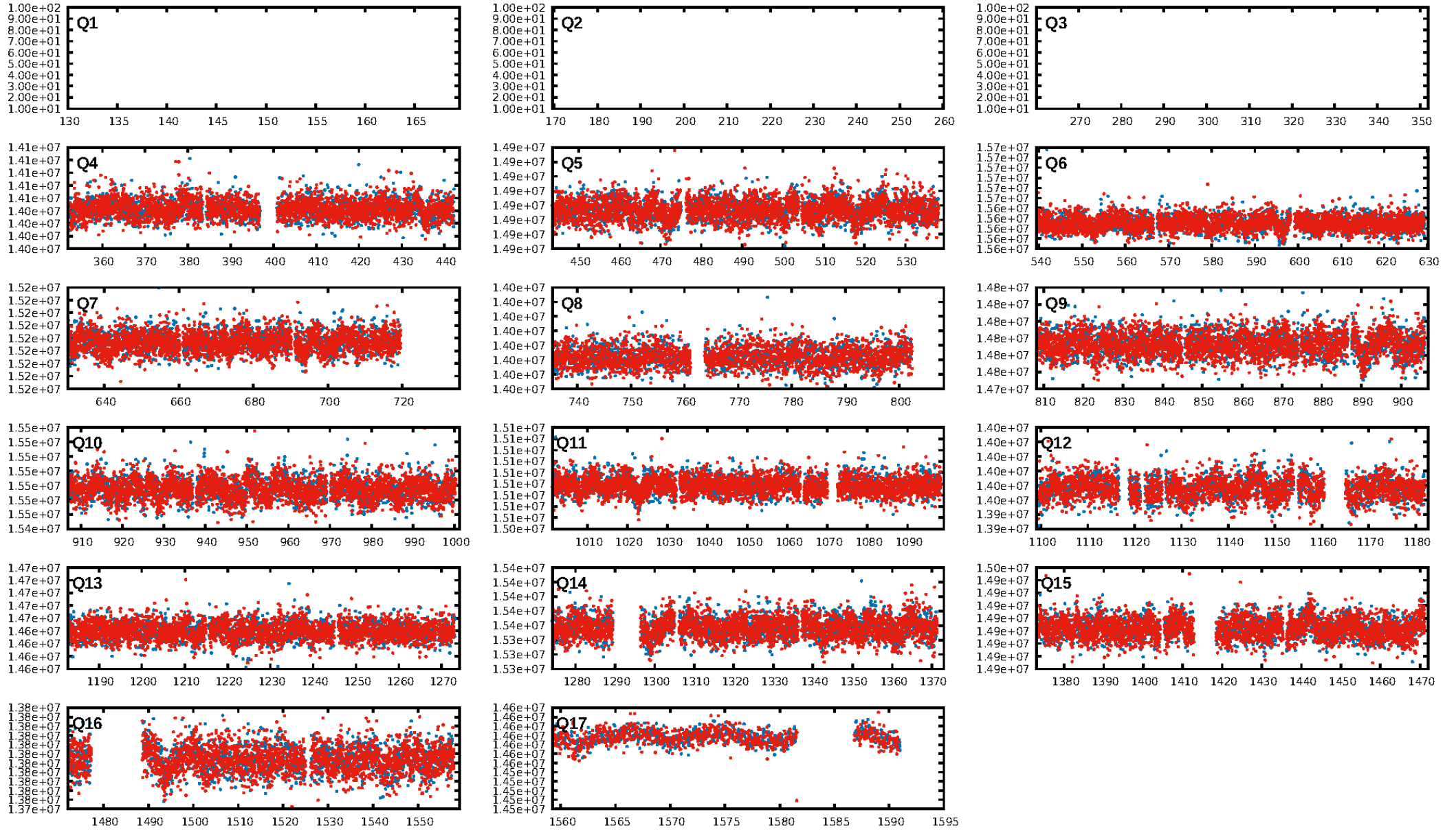
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [5.70σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.05e-10
RollingBand-fgt: 1.00 [1968/1968]
GhostDiagnostic-chr: 0.4281
Centroid-sig: 30.5%
Centroid-so: 2.967 arcsec [0.88σ]
OotOffset-rm: 2.139 arcsec [3.25σ]
KicOffset-rm: 2.252 arcsec [3.57σ]
OotOffset-st: 2/3/3/3 [11]
KicOffset-st: 2/3/3/3 [11]
DiffImageQuality-fgm: 0.45 [5/11]
DiffImageOverlap-fno: 1.00 [14/14]

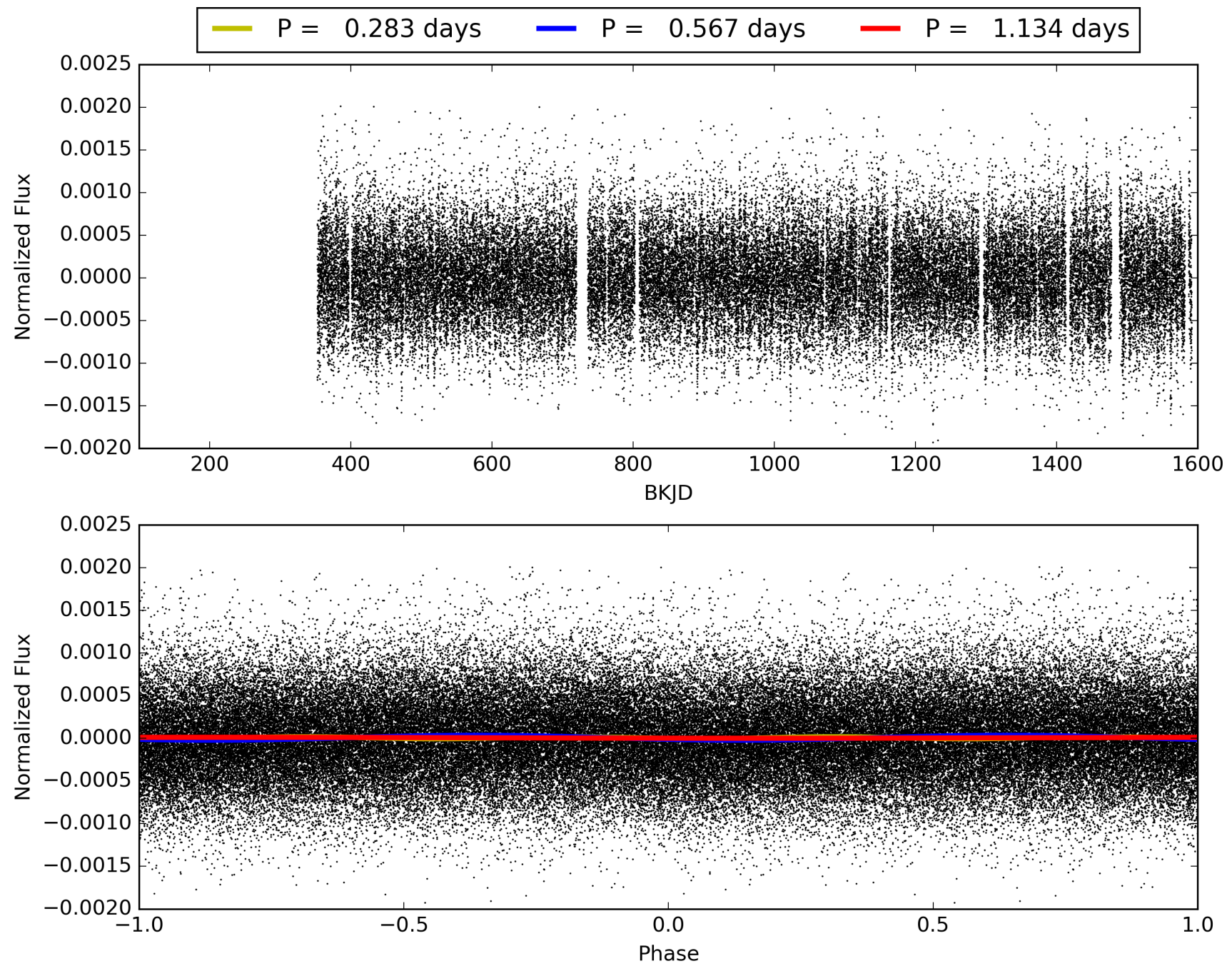
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:38:23 Z

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

TCE 007031853-01, PDC Light Curves

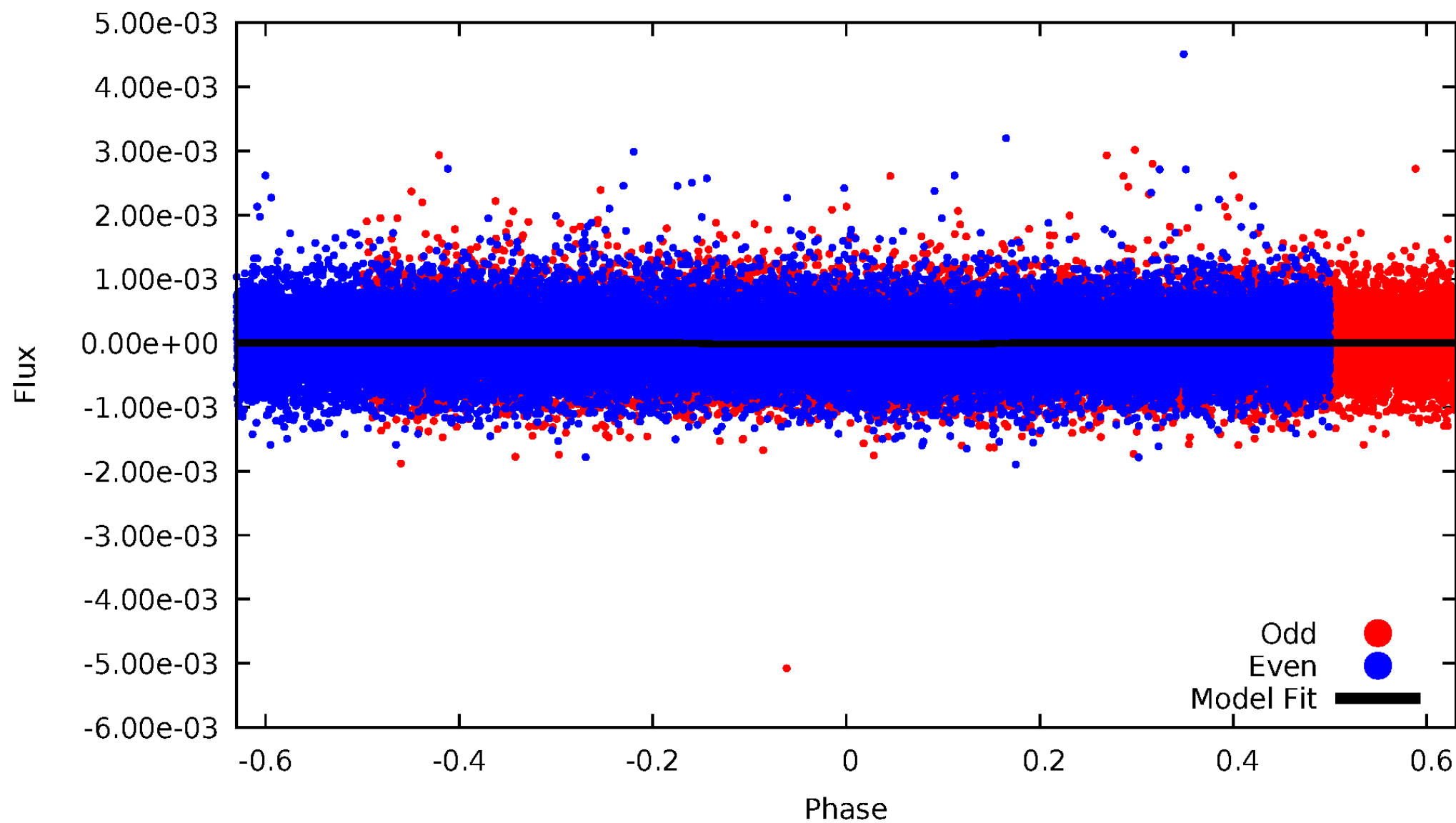


TCE 007031853-01



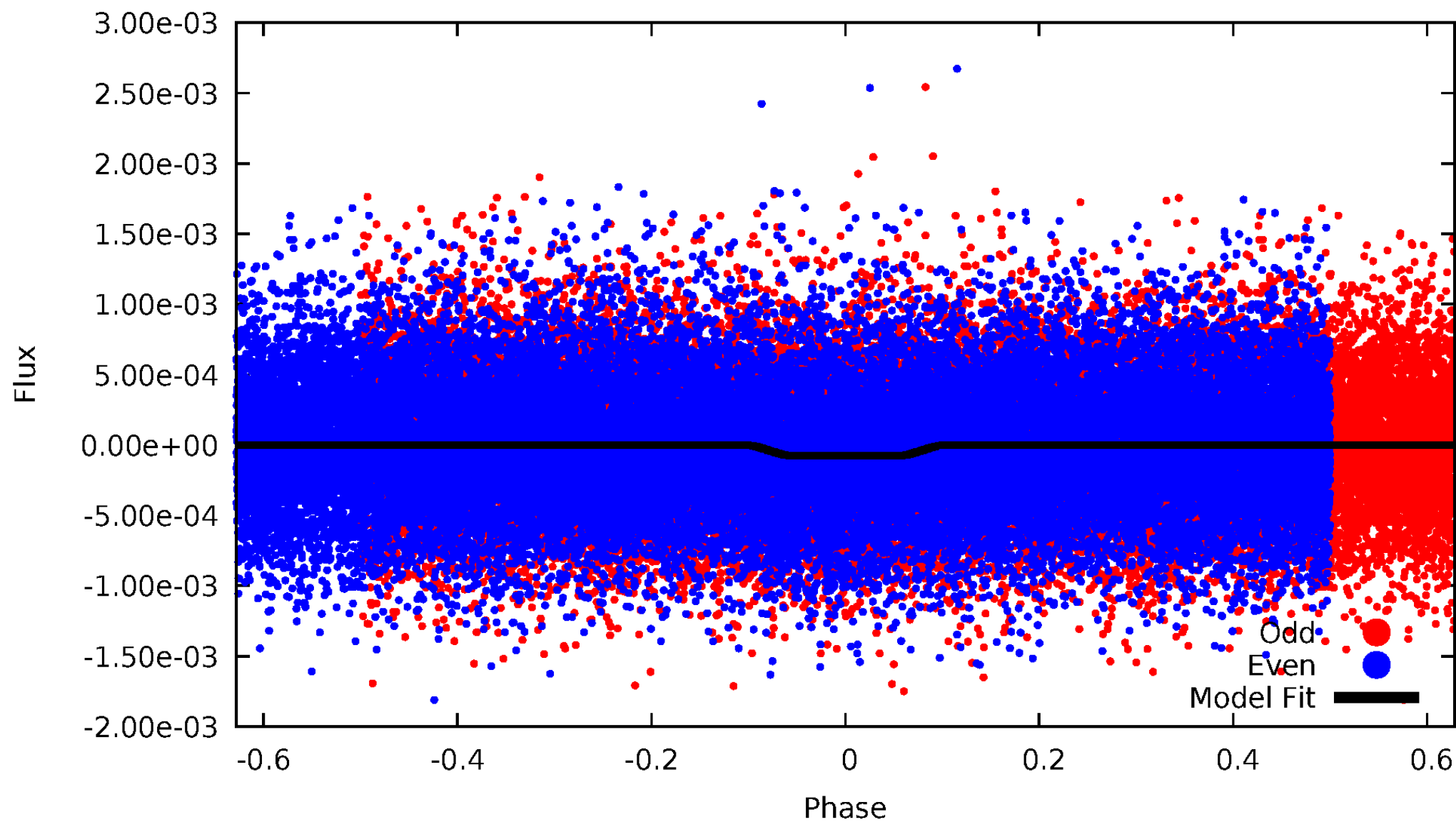
DV Odd/Even

TCE 007031853-01



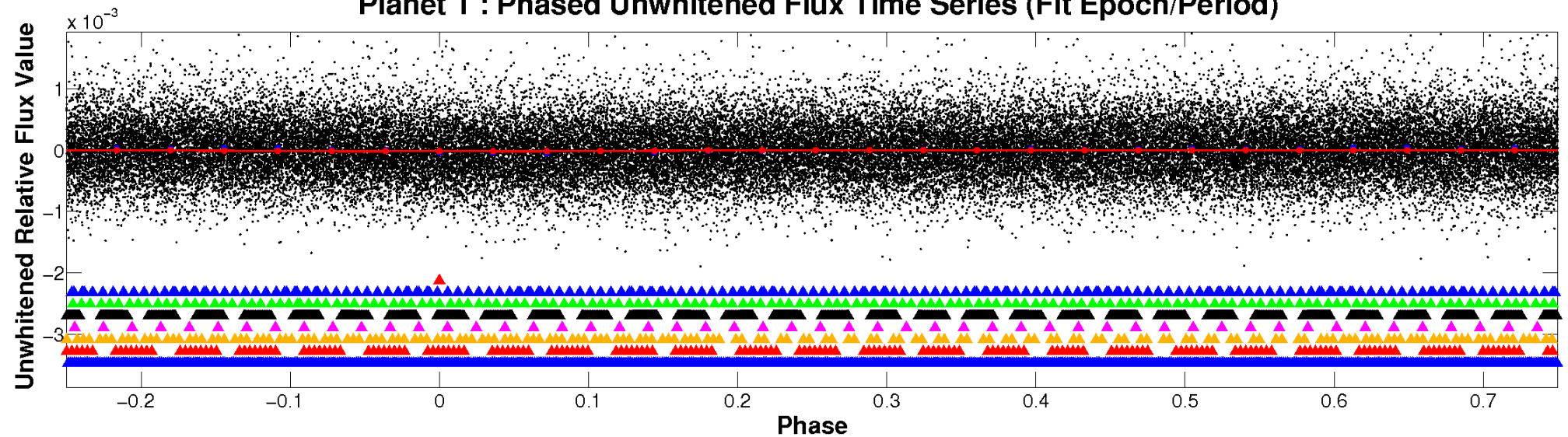
ALT Odd/Even

TCE 007031853-01

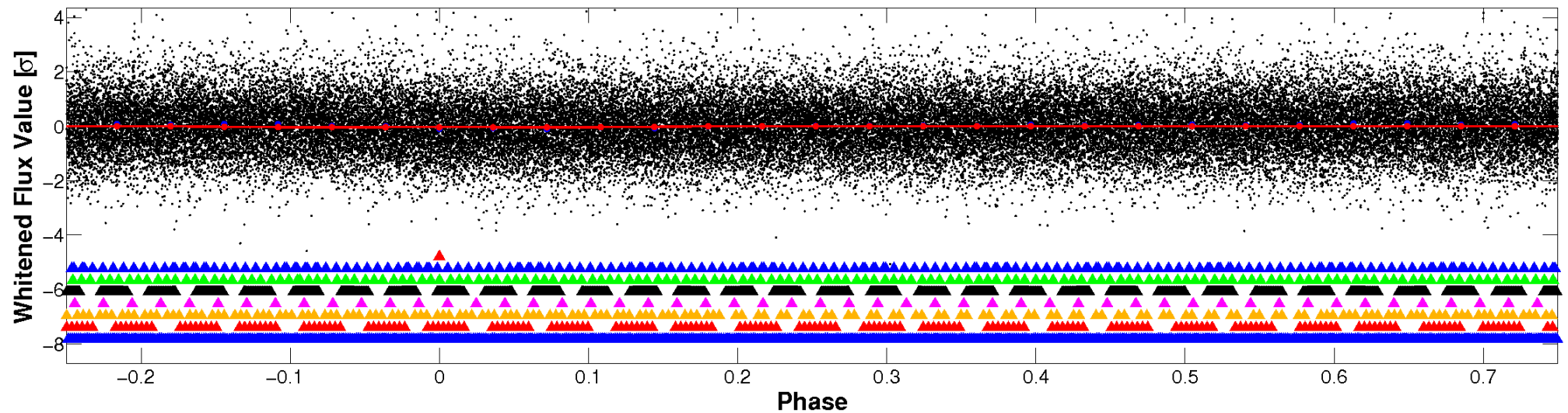


Non-Whitened Vs. Whitened Light Curve

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

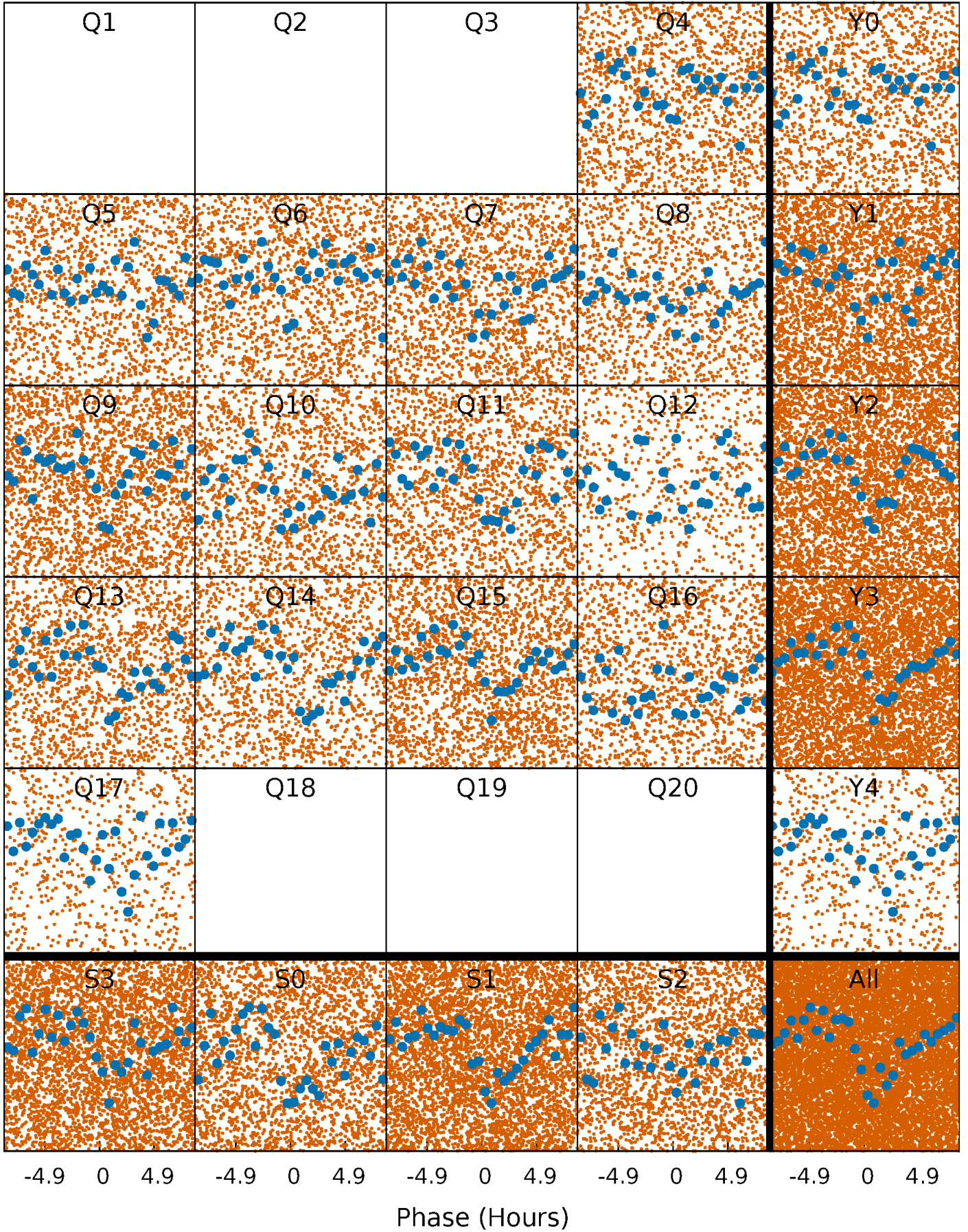


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



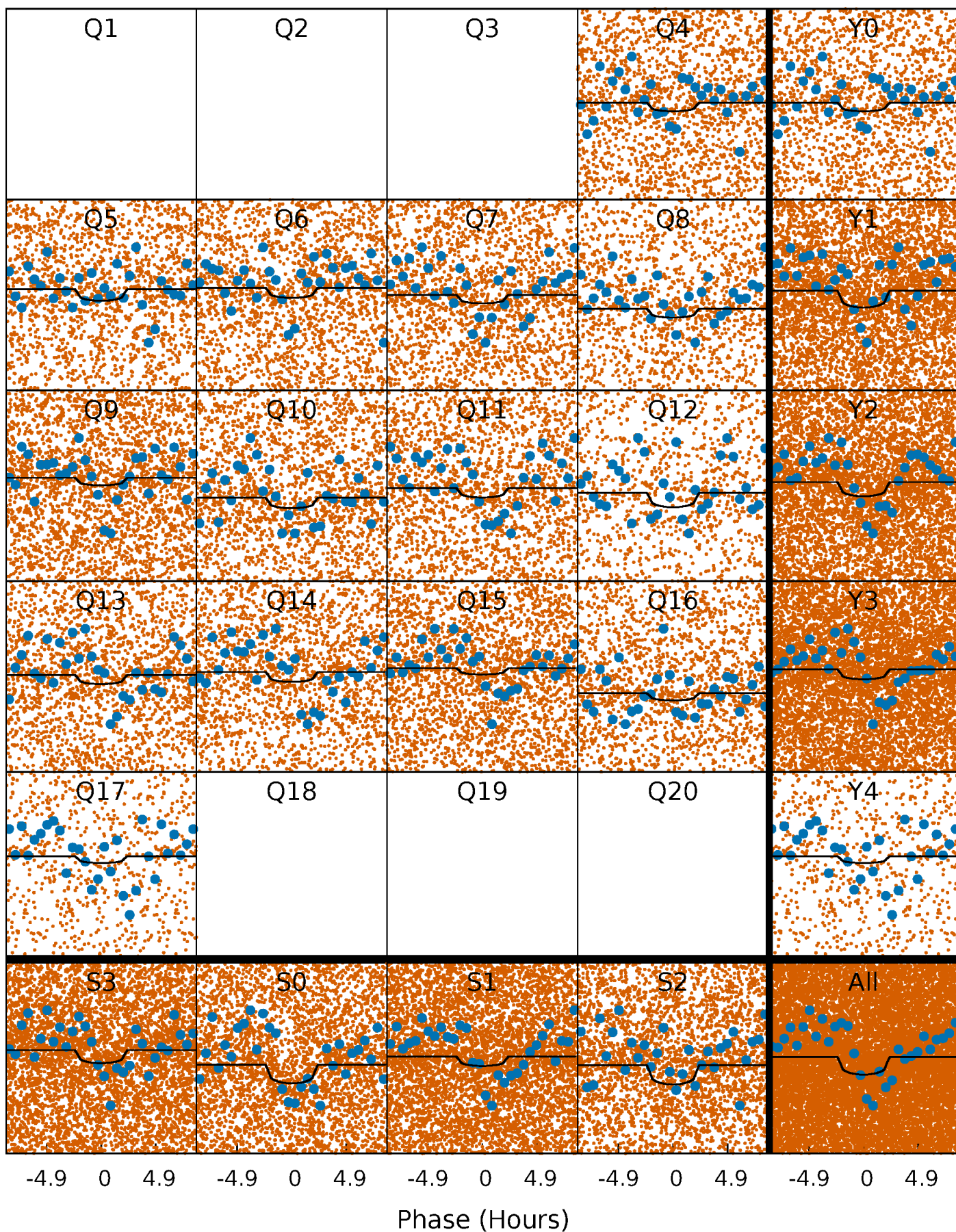
PDC Quarter-Phased Transit Curves

TCE 007031853-01 P= 0.566754 Days $T_0=131.839314$ (BKJD)



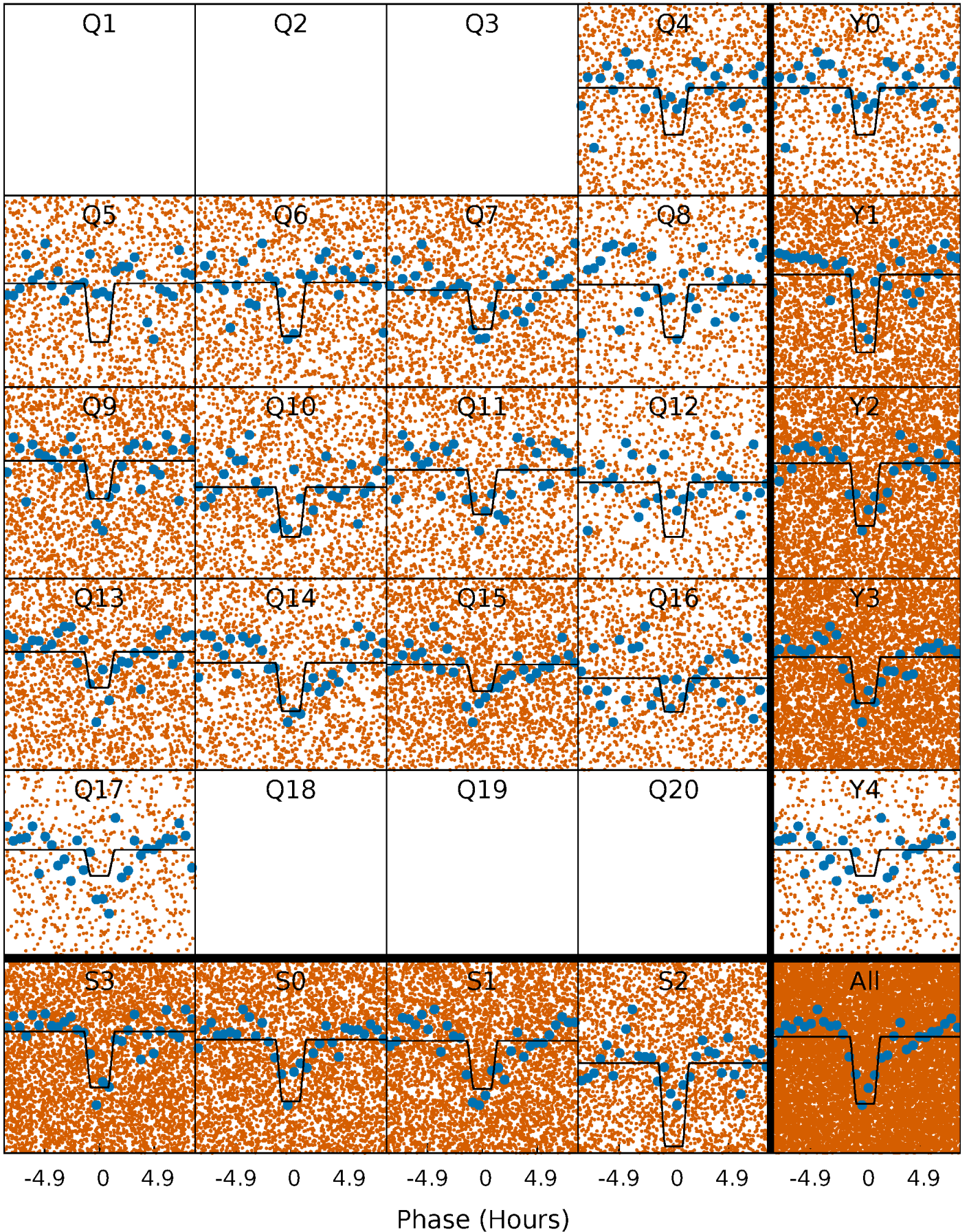
DV Quarter-Phased Transit Curves

TCE 007031853-01 P= 0.566754 Days $T_0=131.839314$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

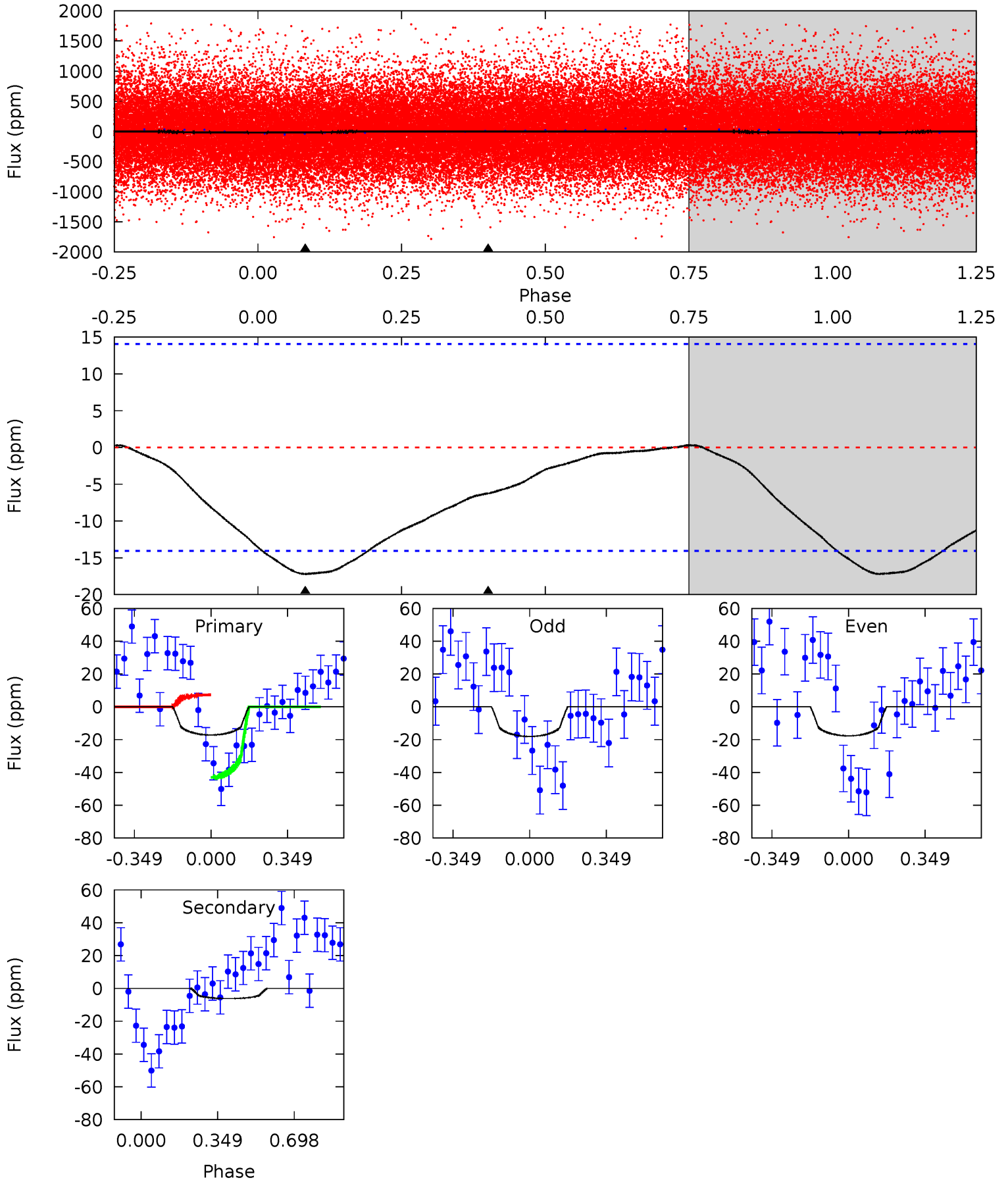
TCE 007031853-01 P= 0.566808 Days $T_0=131.794952$ (BKJD)



DV Model-Shift Uniqueness Test

007031853-01, P = 0.566754 Days, E = 131.839314 Days

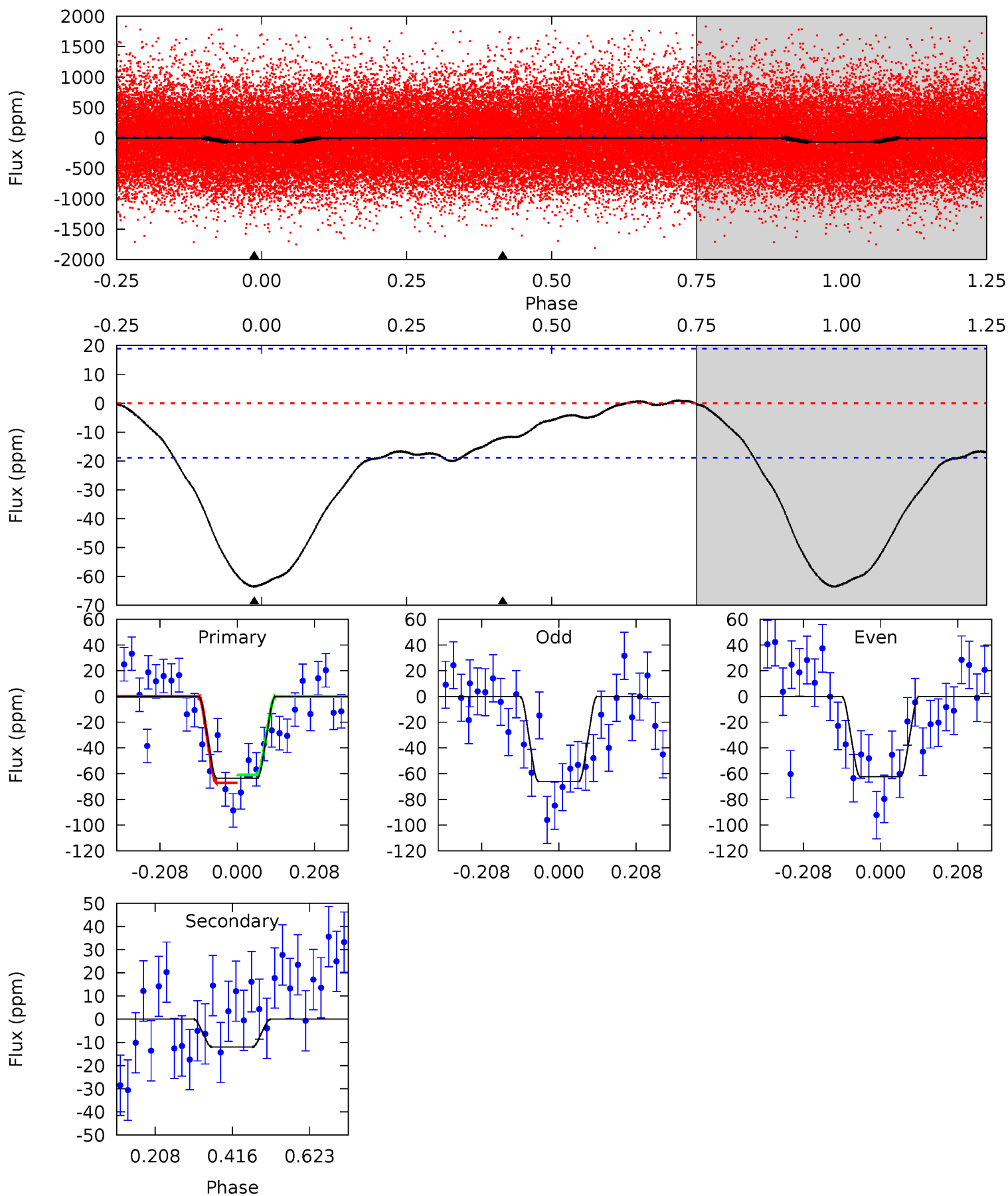
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.25	1.91	0	0	4.30	0.94	0.07	5.25	5.25	1.91	1.91	0.06	0.87	0.02	5.59



Alt Model-Shift Uniqueness Test

007031853-01, P = 0.566808 Days, E = 131.794952 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.9	2.81	0	0	4.41	1.26	1.20	14.9	14.9	2.81	2.81	0.44	0.99	0.01	0.75



Stellar Parameters For KIC 007031853

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6468^{+180}_{-248}	$4.363^{+0.065}_{-0.195}$	$0.210^{+0.200}_{-0.350}$	$1.250^{+0.393}_{-0.157}$	$1.313^{+0.154}_{-0.205}$	$0.948^{+0.324}_{-0.468}$
	+3%/-4%	+1%/-4%	+95%/-167%	+31%/-13%	+12%/-16%	+34%/-49%
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 007031853-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-6 ± 3	$1.00^{+1.07}_{-0.64}$	3741^{+279}_{-187}	3569^{+2518}_{-6863}	$0.605^{+4.185}_{-0.487}$
Alt.	-12 ± 4	$1.50^{+1.09}_{-0.95}$	3742^{+279}_{-211}	3498^{+2419}_{-6542}	$0.572^{+3.768}_{-0.379}$

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 $A_{obs} \gg 1.0$

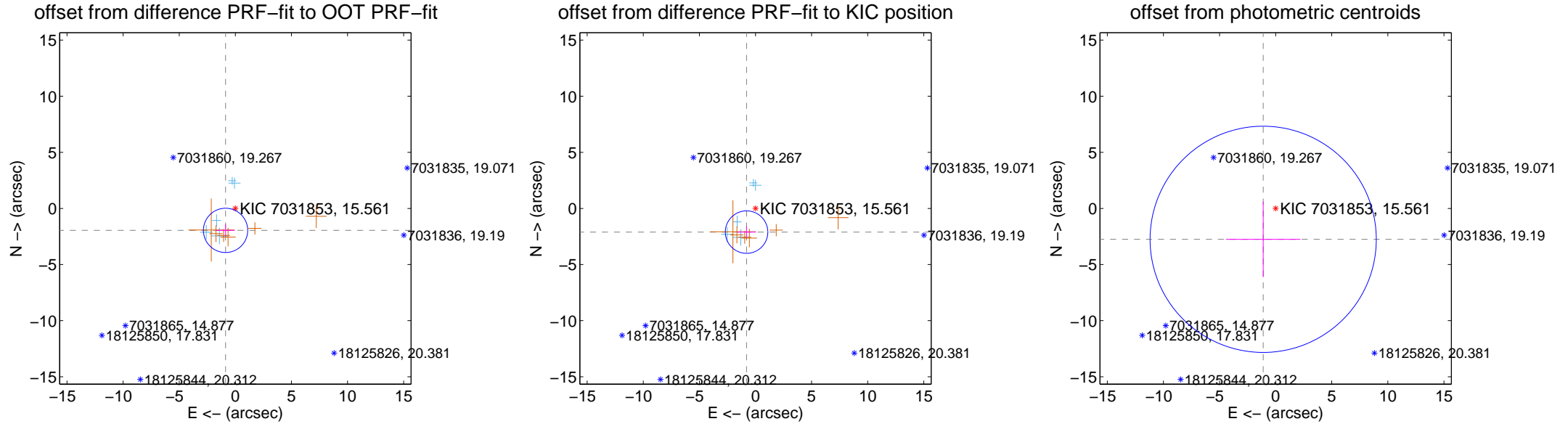
DV Centroid Data

Supplemental centroid analysis for 007031853-01. Kepler magnitude: 15.56. Transit SNR 4.24

There are 5 quarters with good PRF difference image offsets

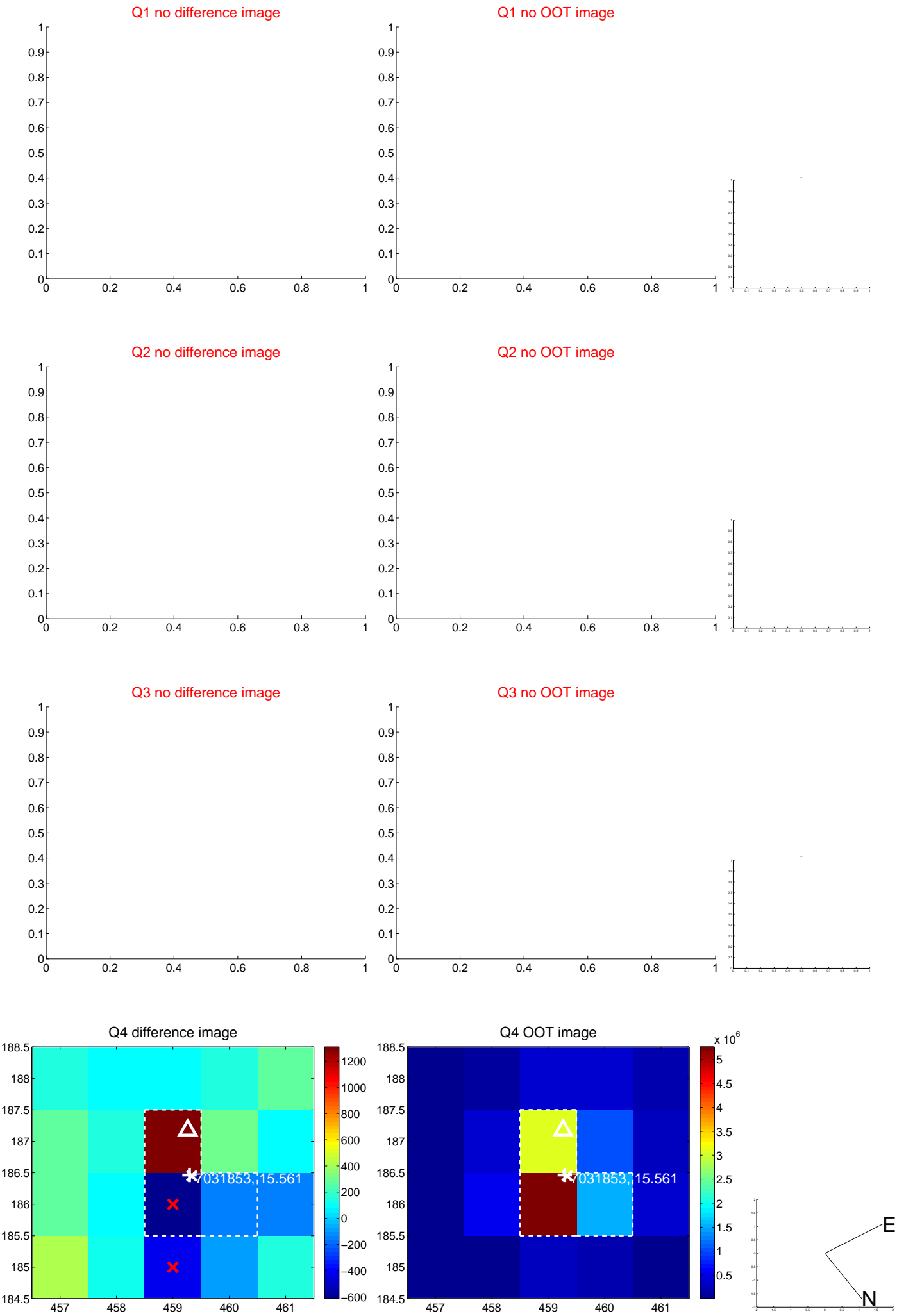
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.139 ± 0.658	3.25	0.871 ± 0.833	-1.954 ± 0.536
PRF-fit source offset from KIC position	2.252 ± 0.631	3.57	0.794 ± 0.838	-2.107 ± 0.523
photometric centroid source offset	2.97 ± 3.36	0.88	1.11 ± 3.32	-2.75 ± 3.37

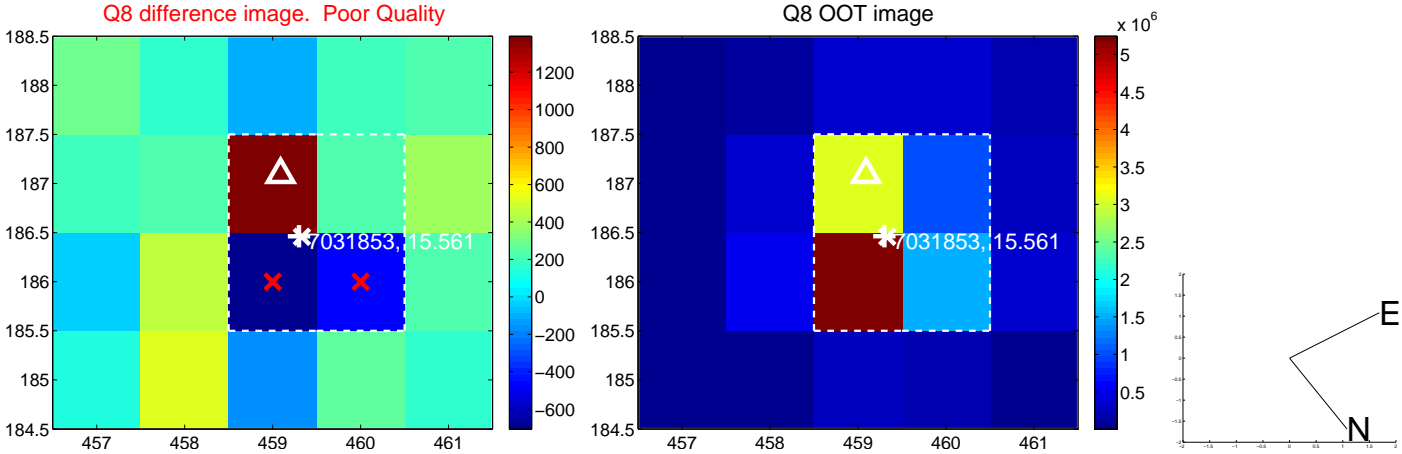
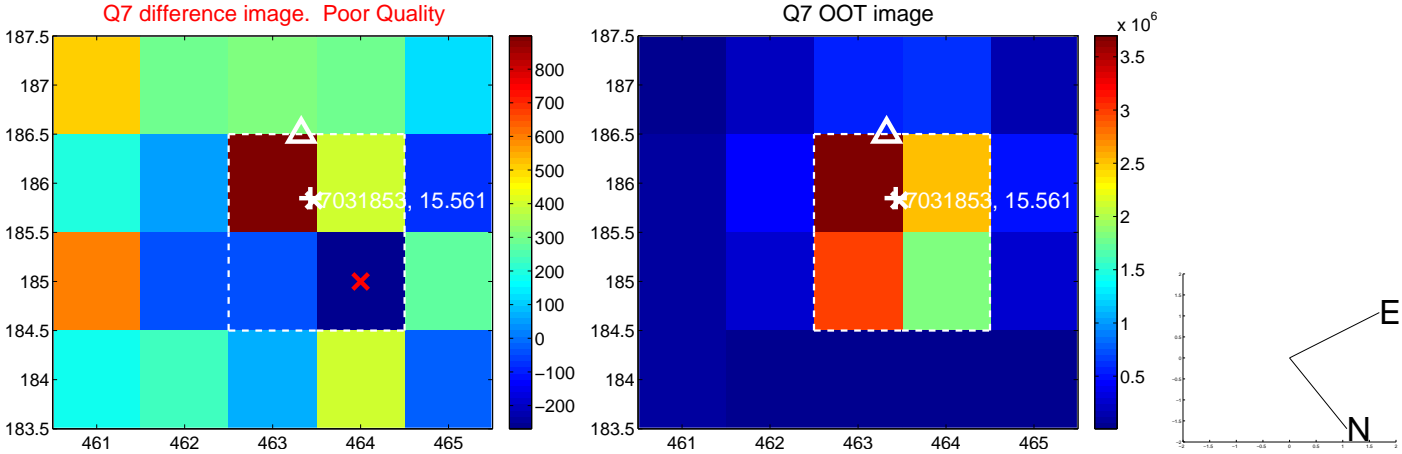
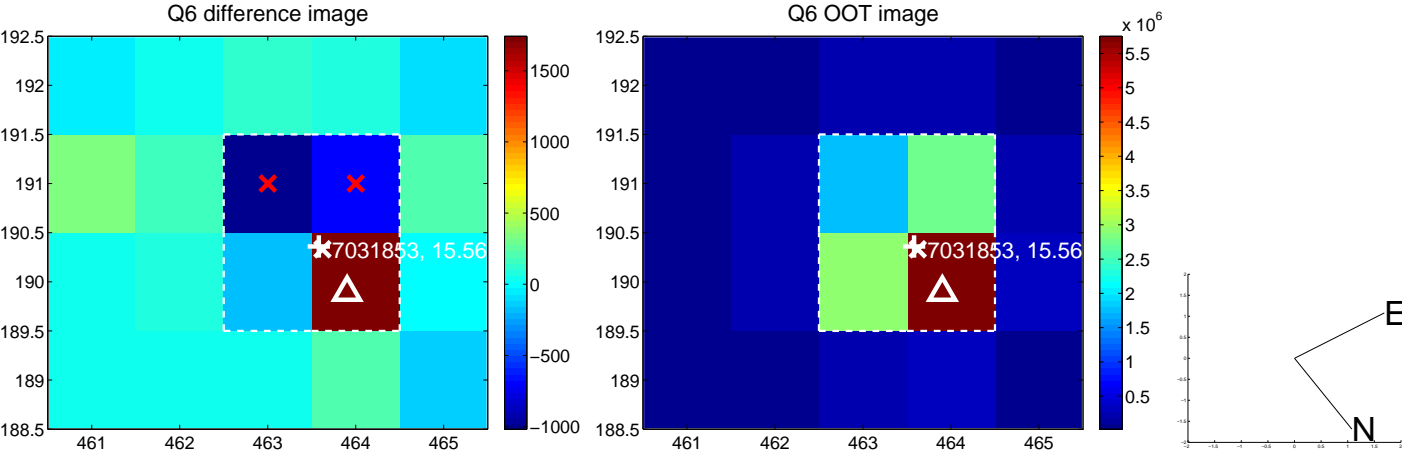
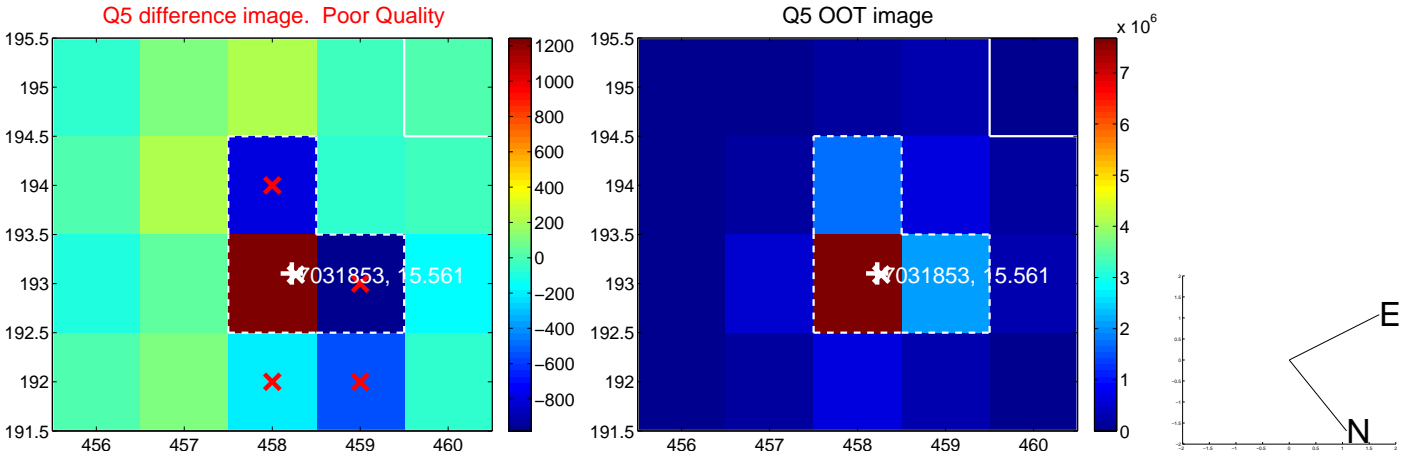


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

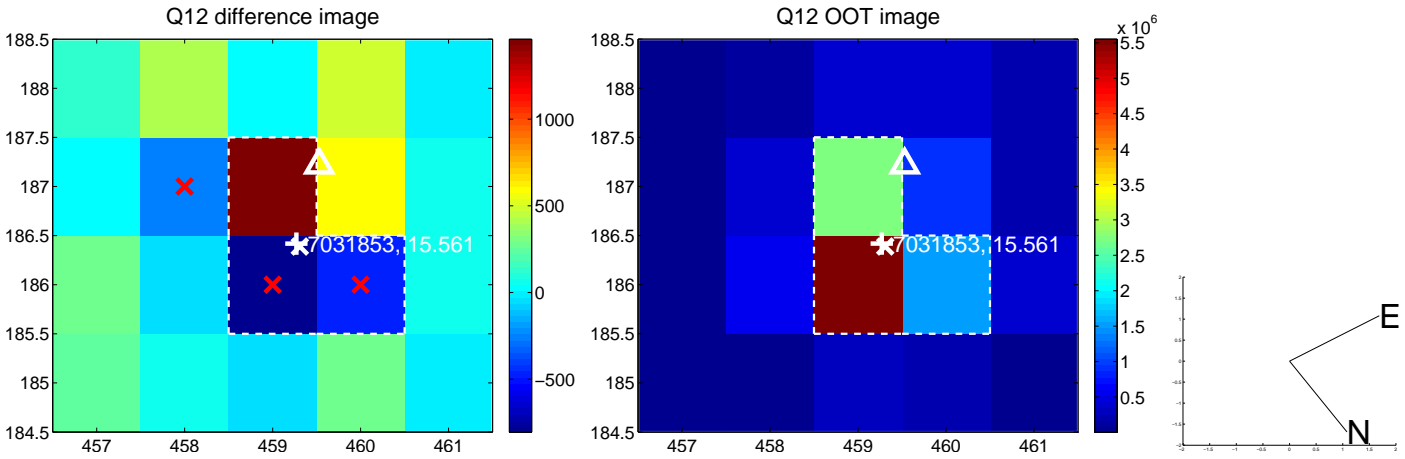
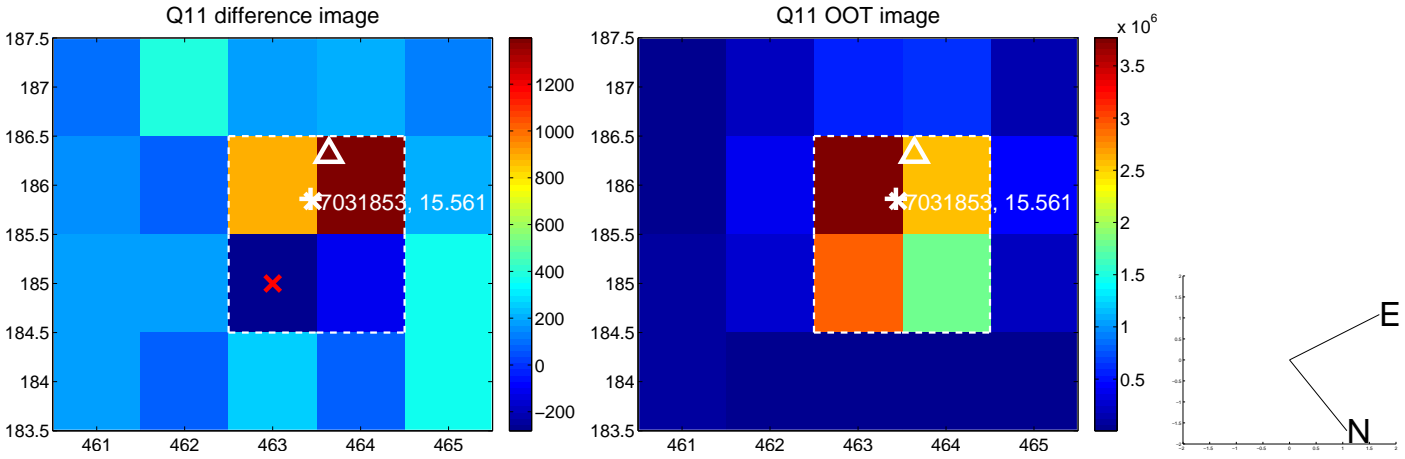
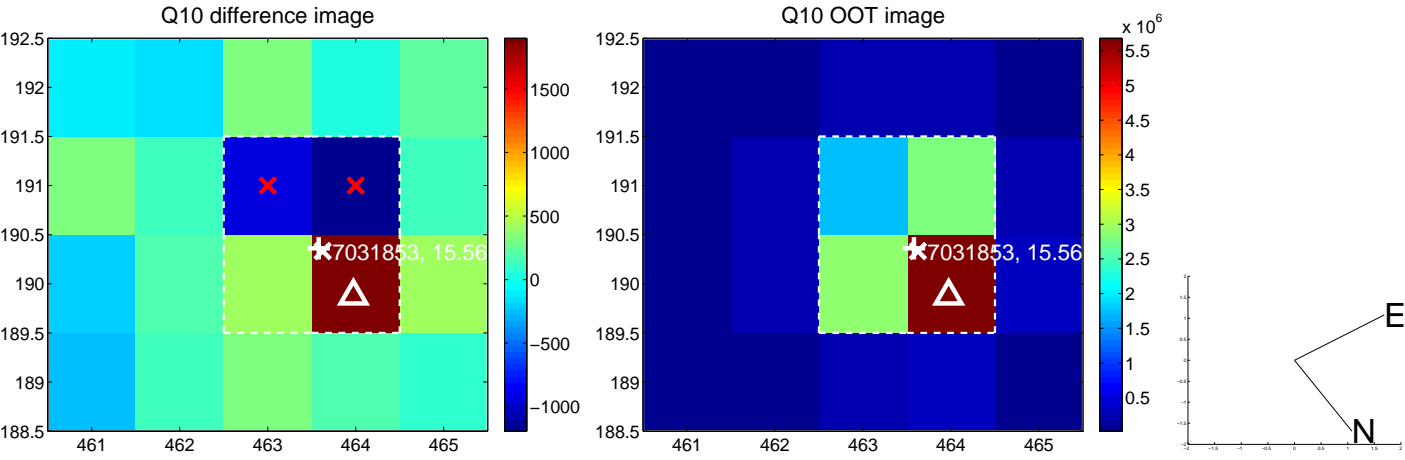
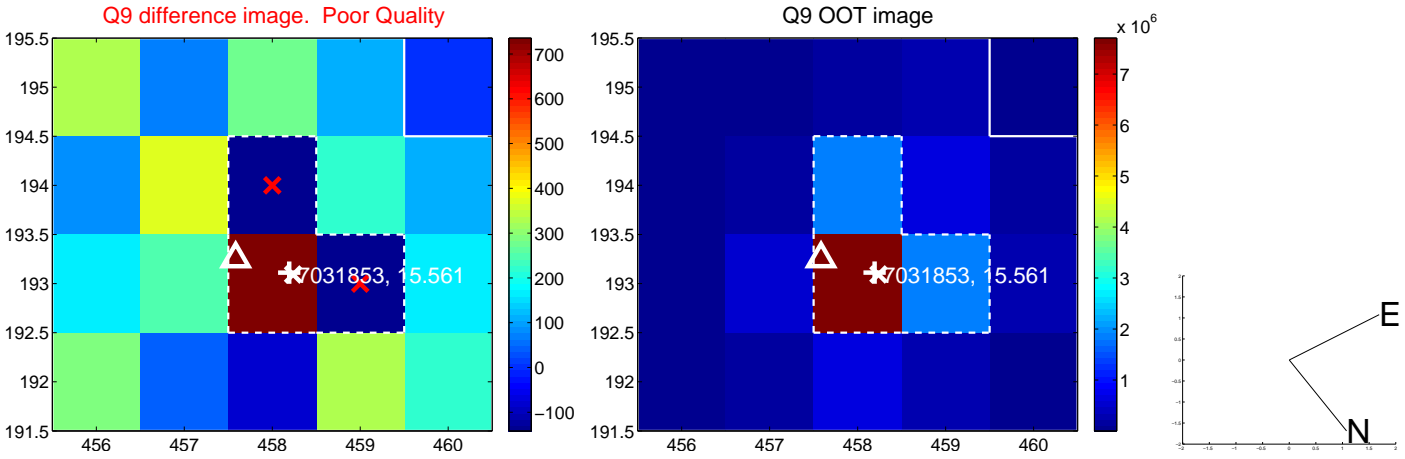
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



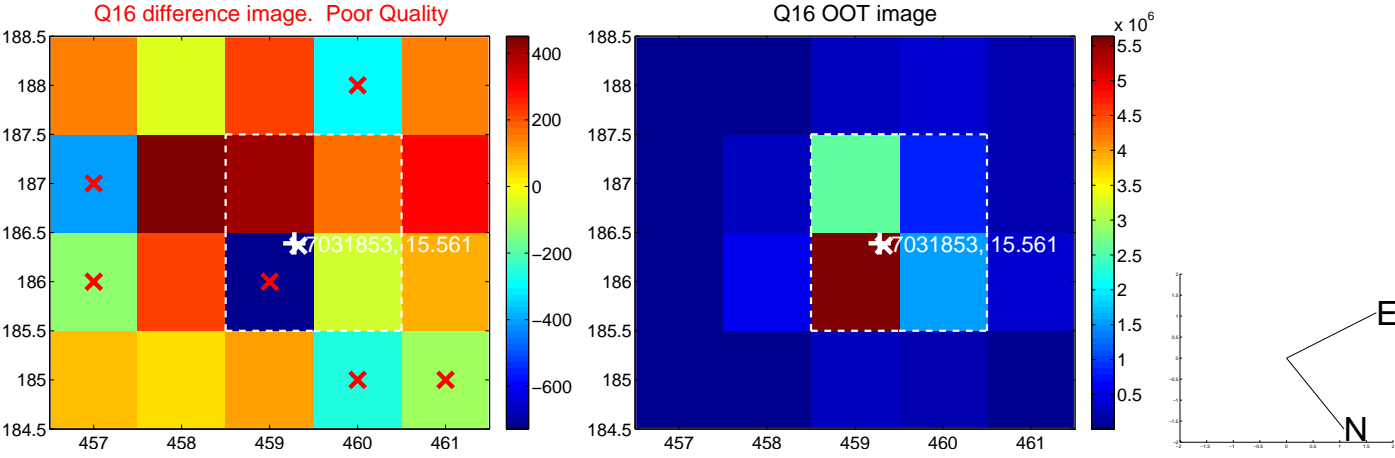
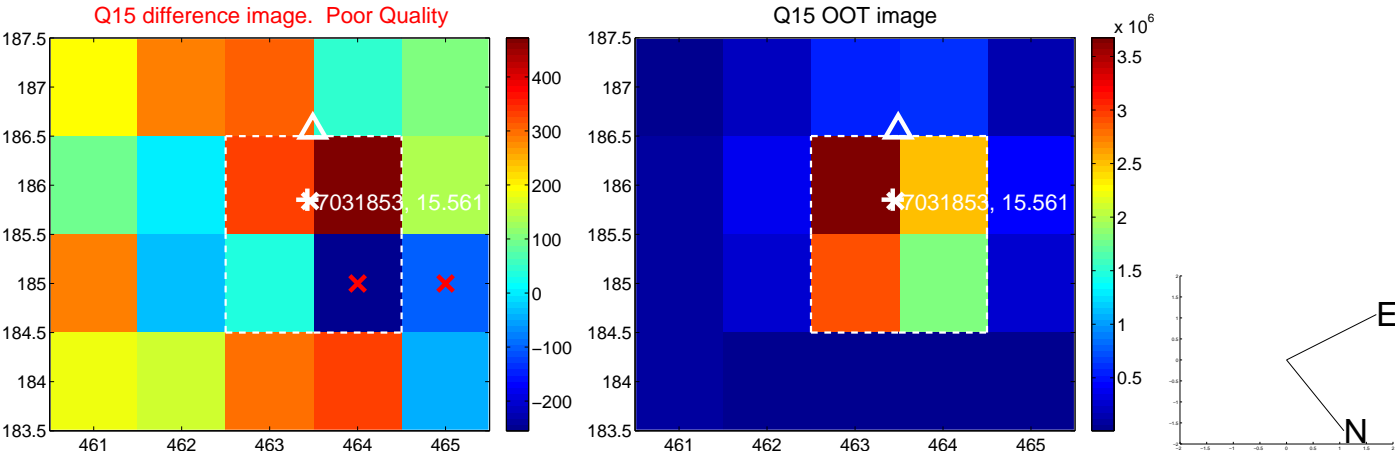
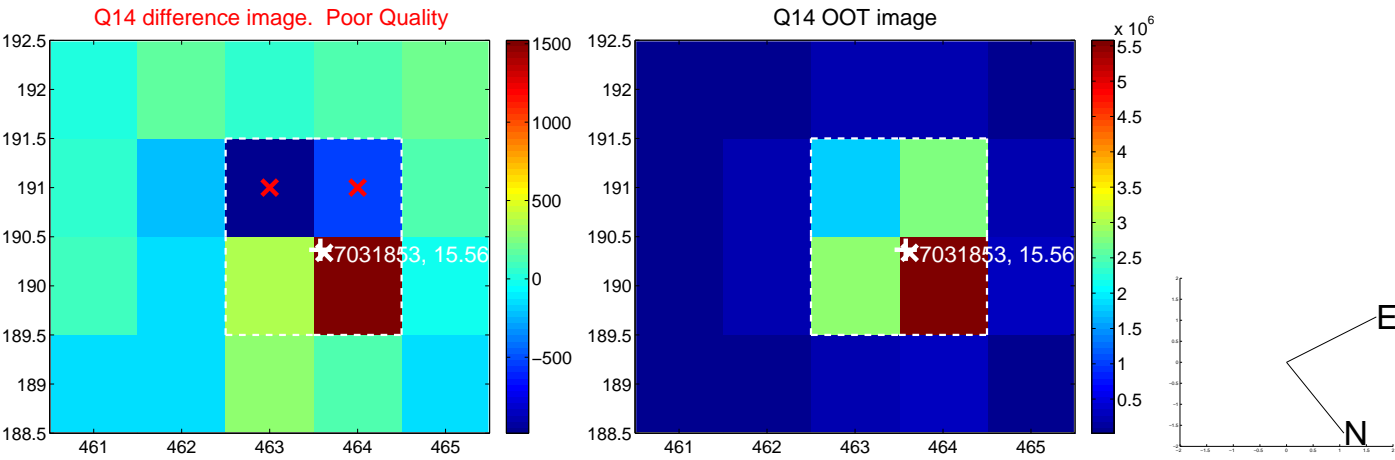
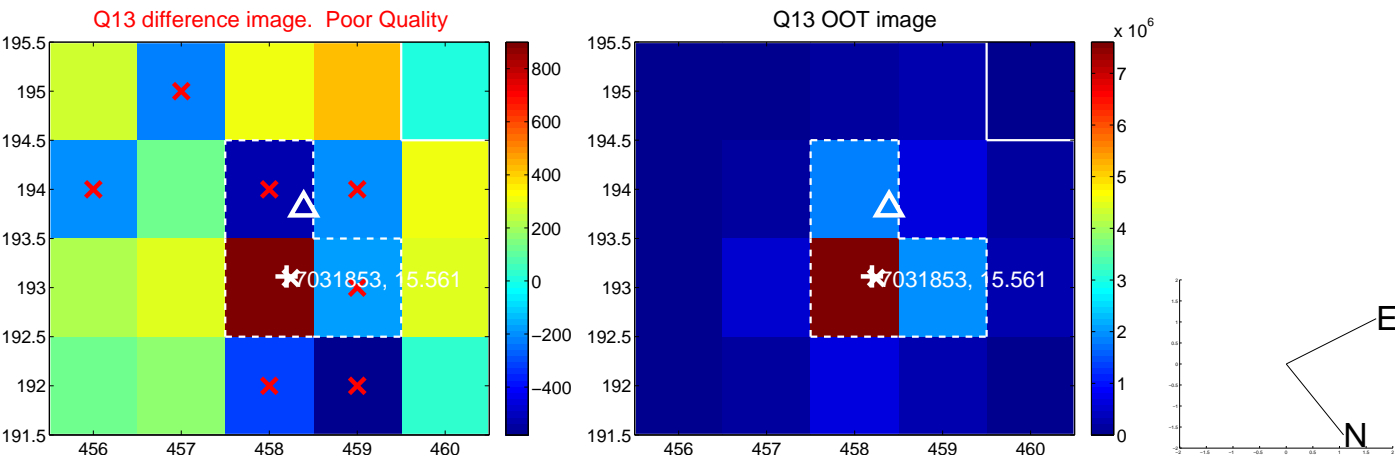
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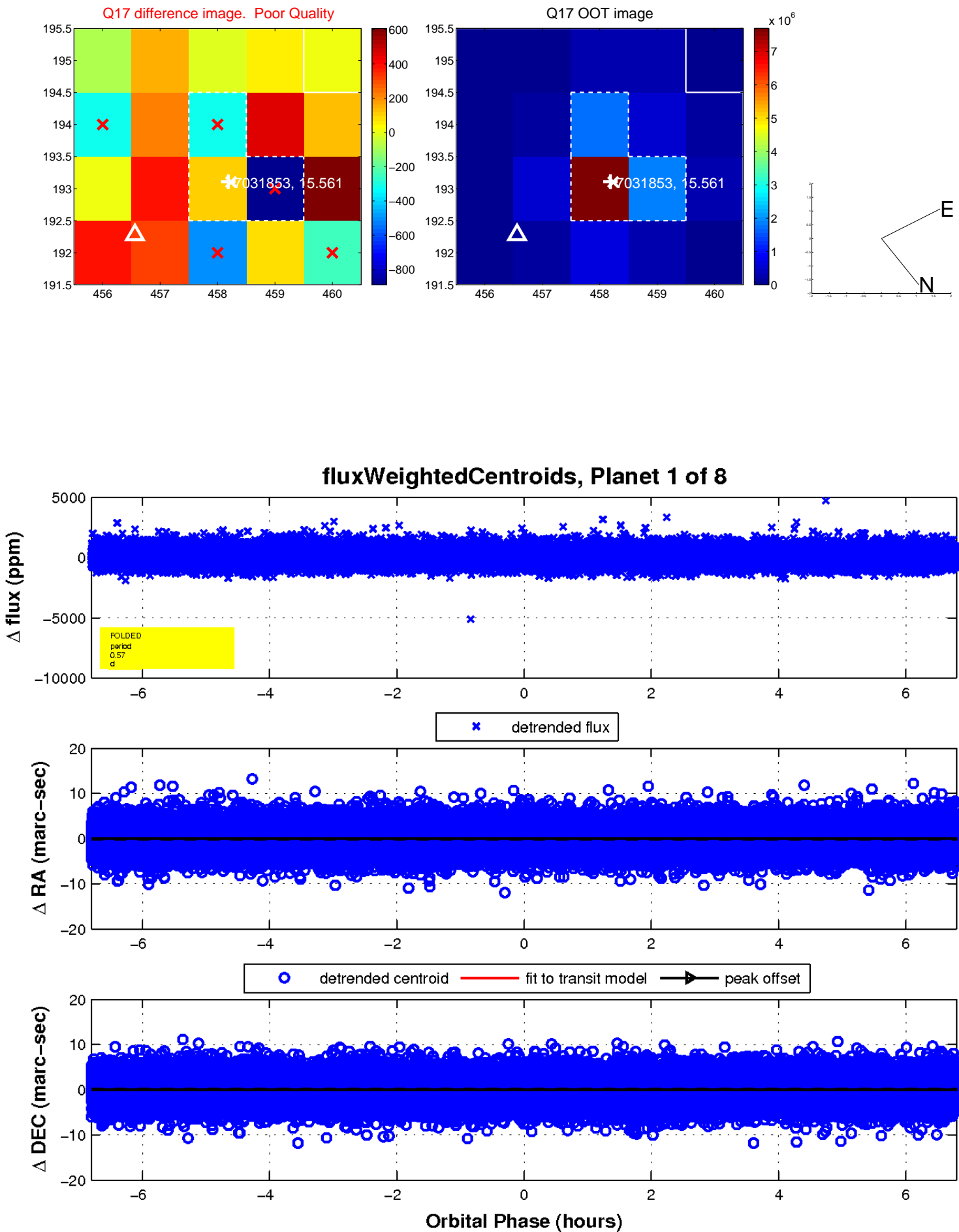
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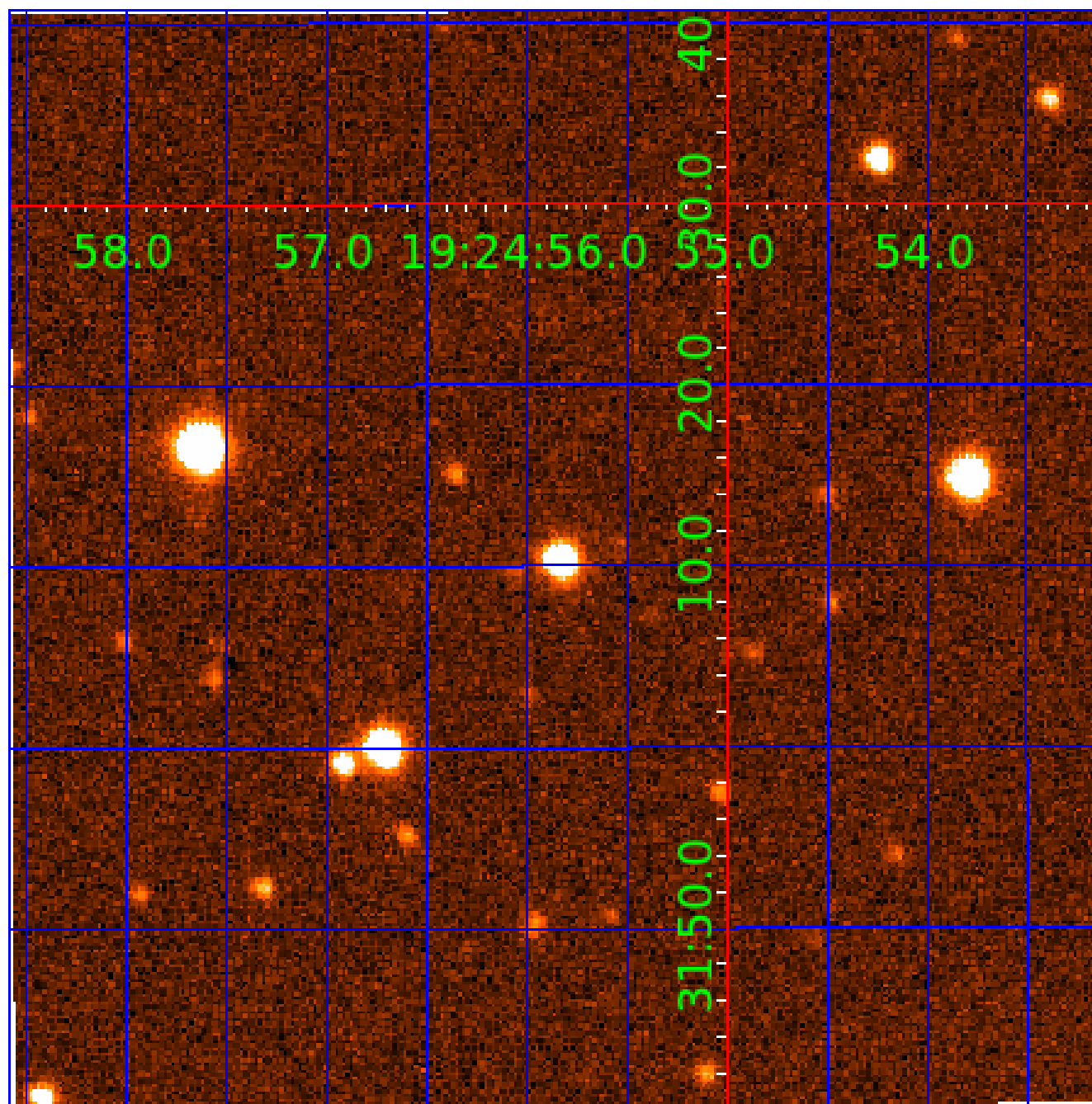


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007031853

Q1-17 DR25 TCE Parameters

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007031853-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007031853-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST
007031853-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST
007031853-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007031853-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007031853-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST
007031853-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—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.

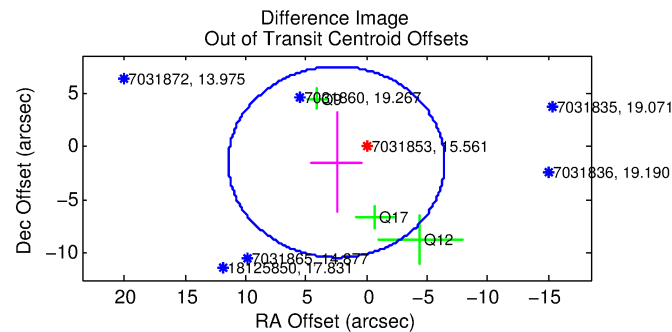
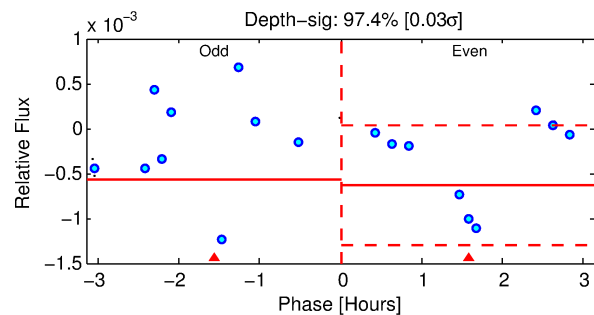
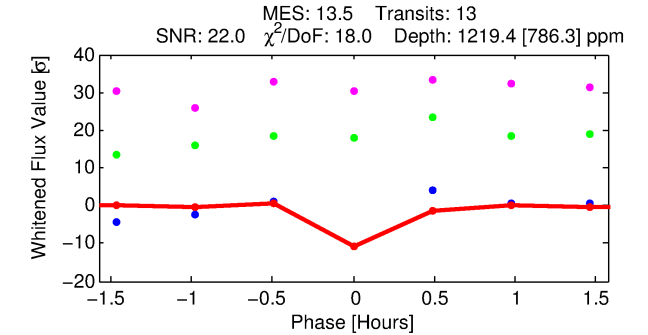
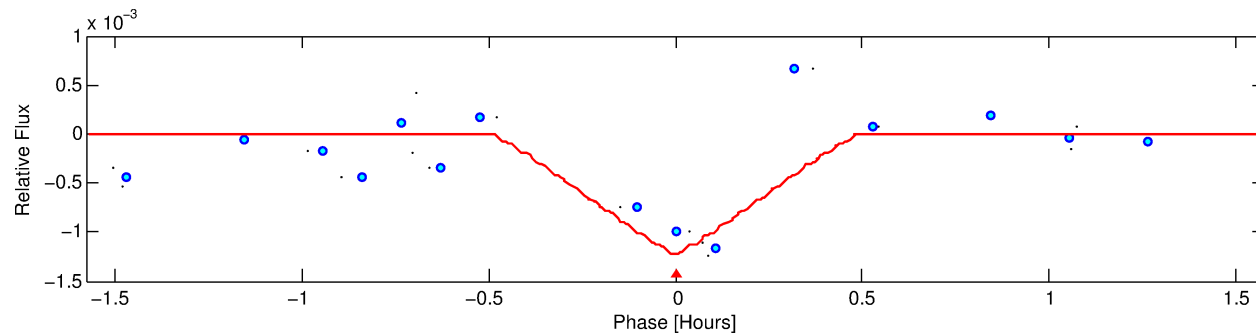
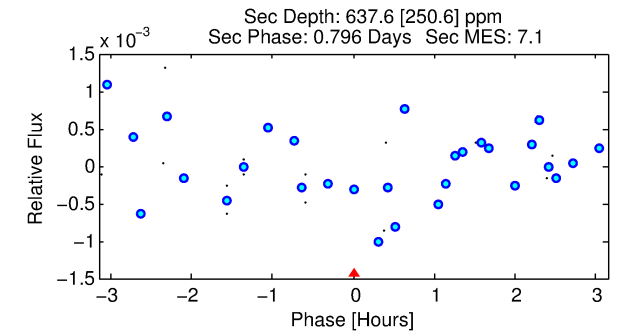
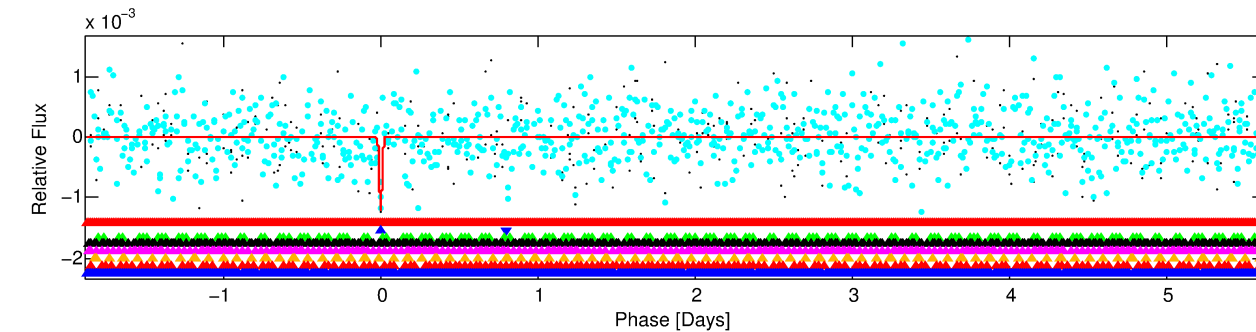
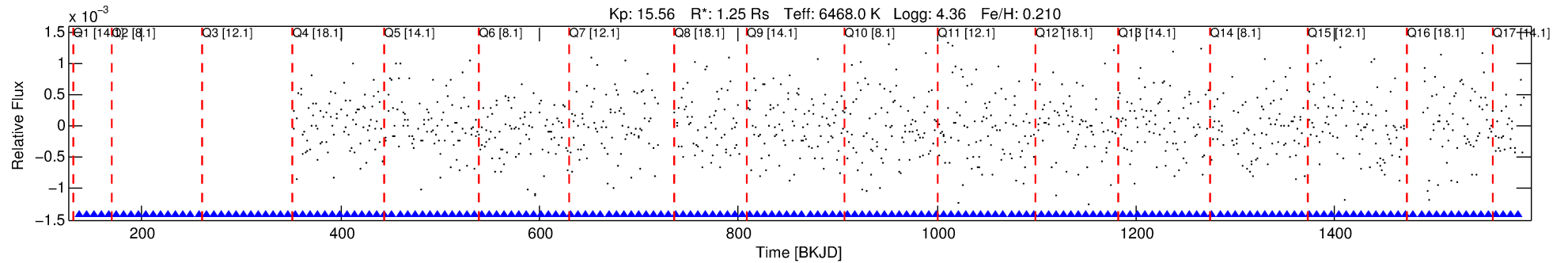
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007031853-02

No Significant Match Found

DV One-Page Summary

KIC: 7031853 Candidate: 2 of 8 Period: 7.499 d



DV Fit Results:

Period = 7.49889 [0.00013] d
Epoch = 137.0548 [0.0105] BKJD
Rp/R* = 0.0349 [0.0774]
a/R* = 93.81 [1054.51]
b = 0.57 [13.58]
Seff = 363.01 [143.86]
Teff = 1113 [110] K
Rp = 4.76 [10.66] Re
a = 0.0822 [0.0212] AU
Ag = 104.63 [467.76] [0.22σ]
Teffp = 5504 [6135] K [0.72σ]

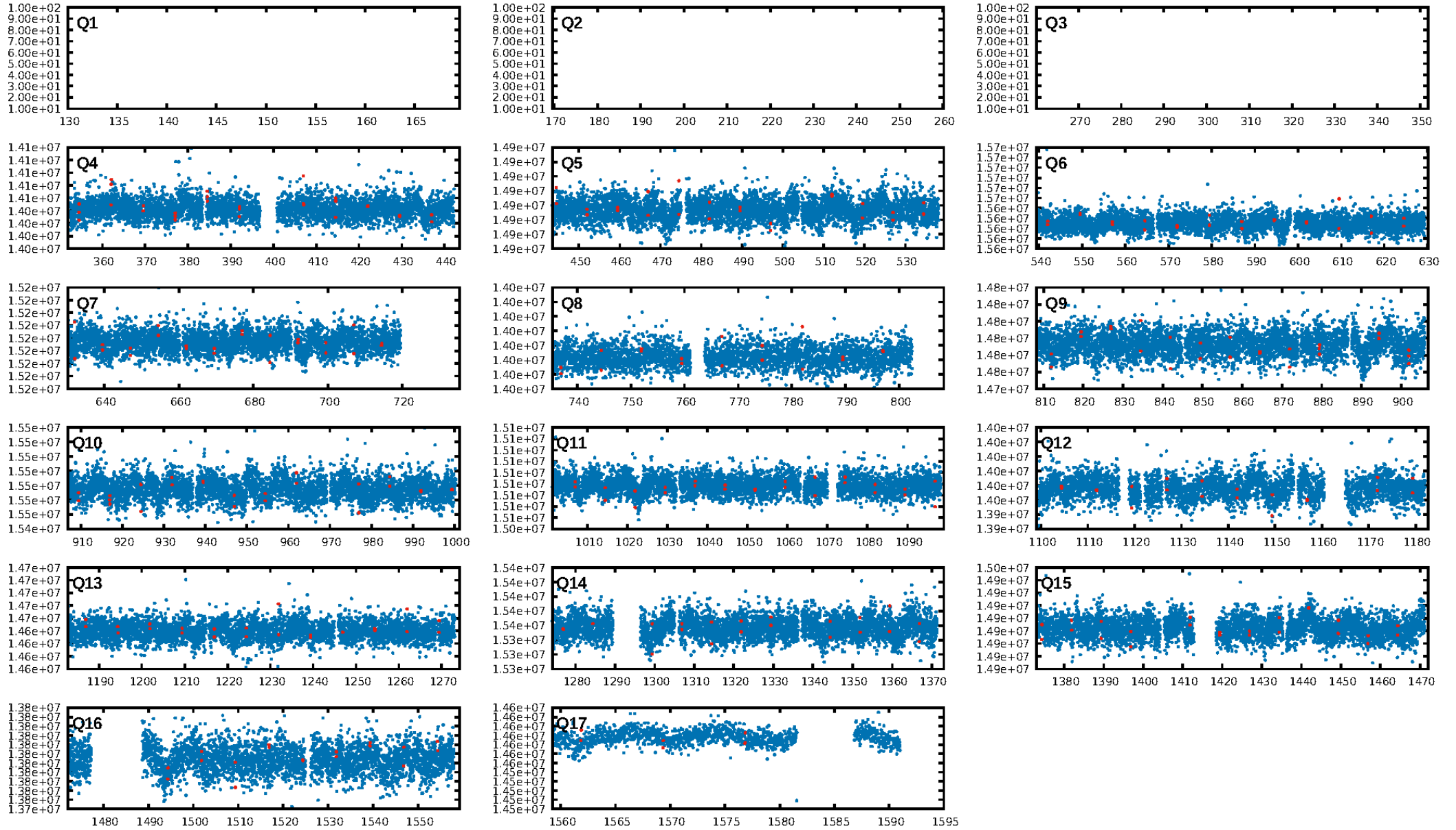
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [48.00σ]
LongPeriod-sig: 98.9% [2.56σ]
ModelChiSquare2-sig: 0.3%
ModelChiSquareGof-sig: 19.8%
Bootstrap-pfa: 8.04e-09
RollingBand-fgt: 1.00 [13/13]
GhostDiagnostic-chr: 0.8128
Centroid-sig: 6.7%
Centroid-so: 0.723 arcsec [1.39σ]
OotOffset-rm: 2.902 arcsec [0.98σ]
KicOffset-rm: 2.883 arcsec [0.92σ]
OotOffset-st: 0/0/1/2 [3]
KicOffset-st: 0/0/1/2 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 0.00 [0/10]

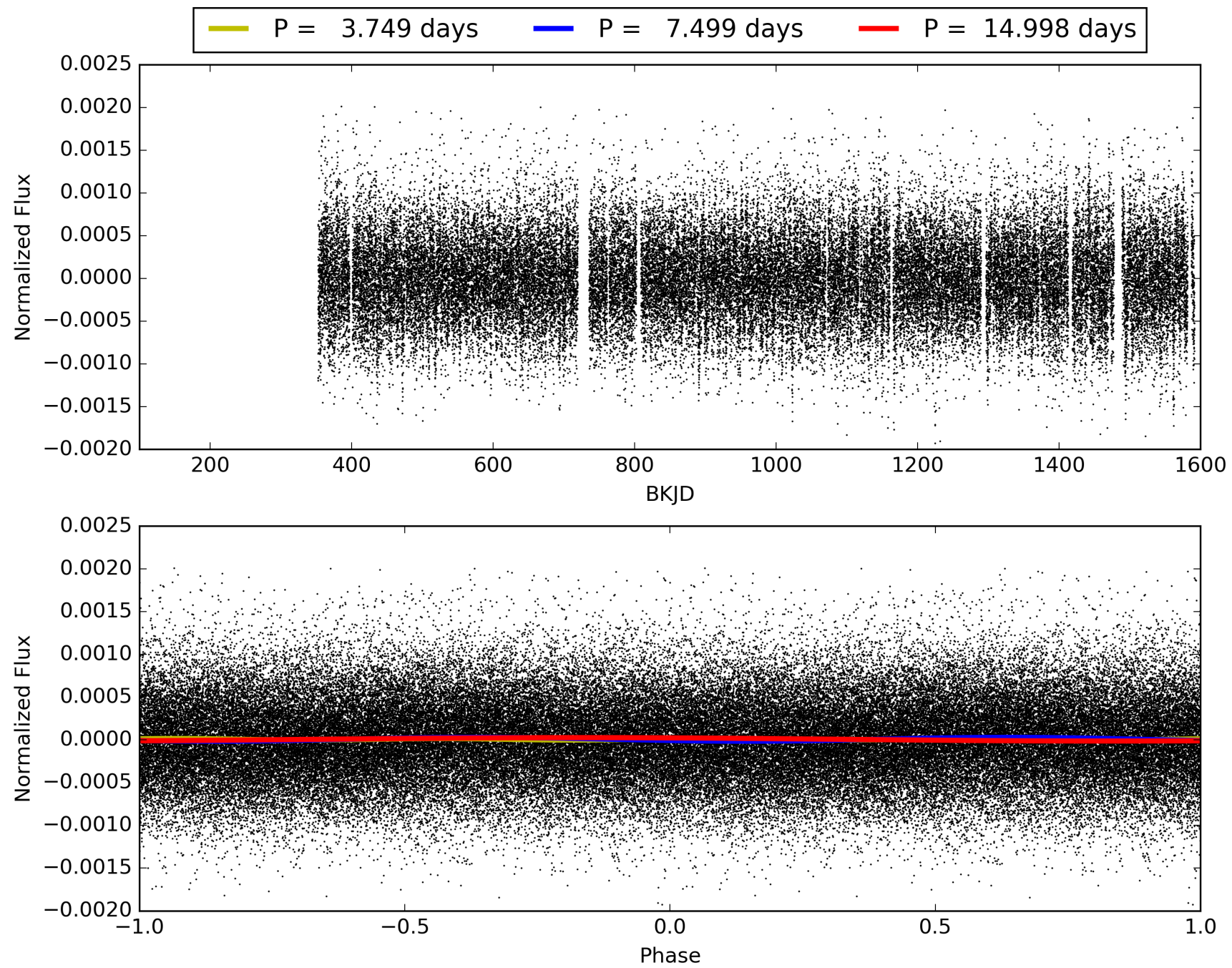
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:38:33 Z

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

TCE 007031853-02, PDC Light Curves

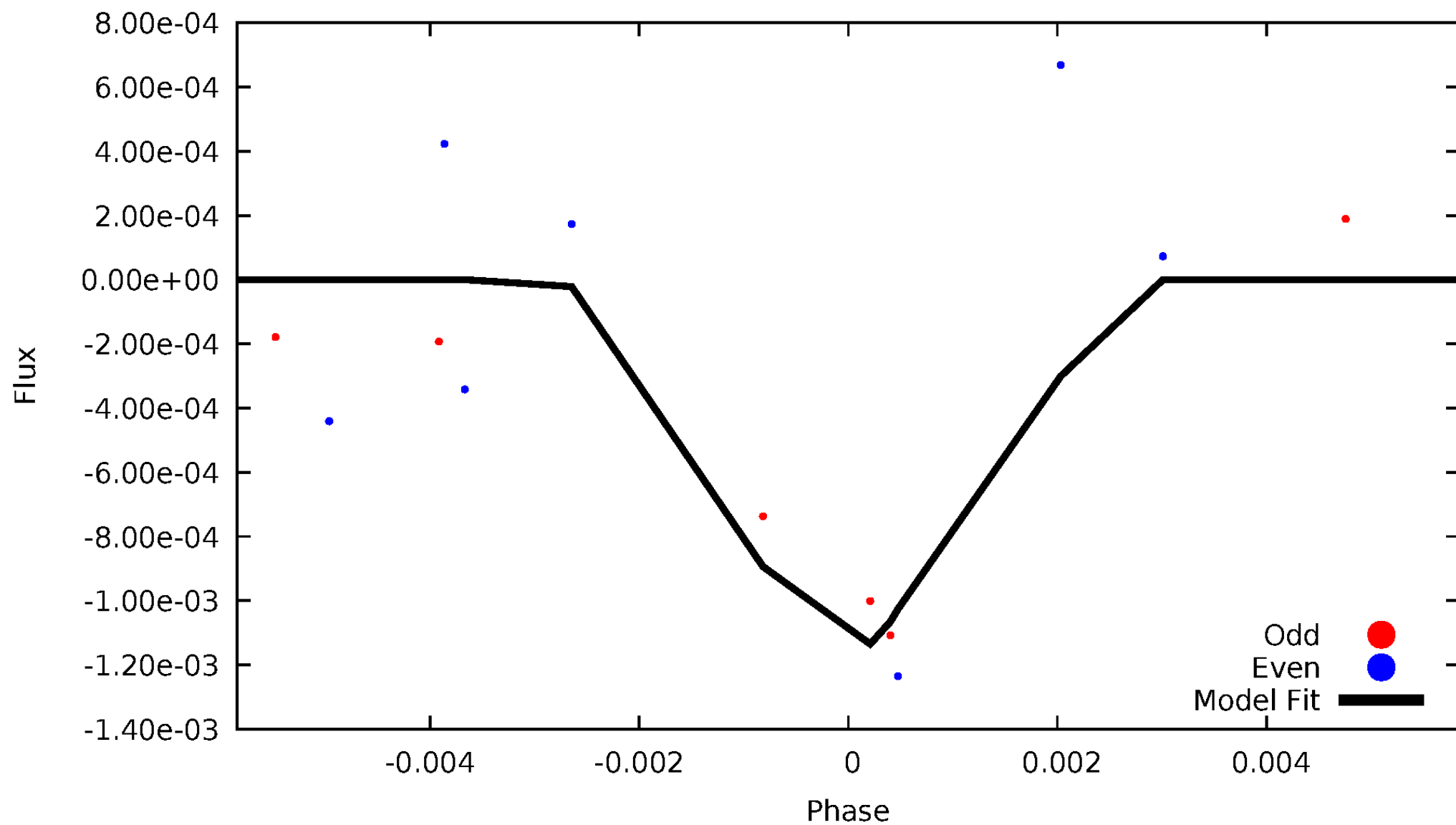


TCE 007031853-02



DV Odd/Even

TCE 007031853-02

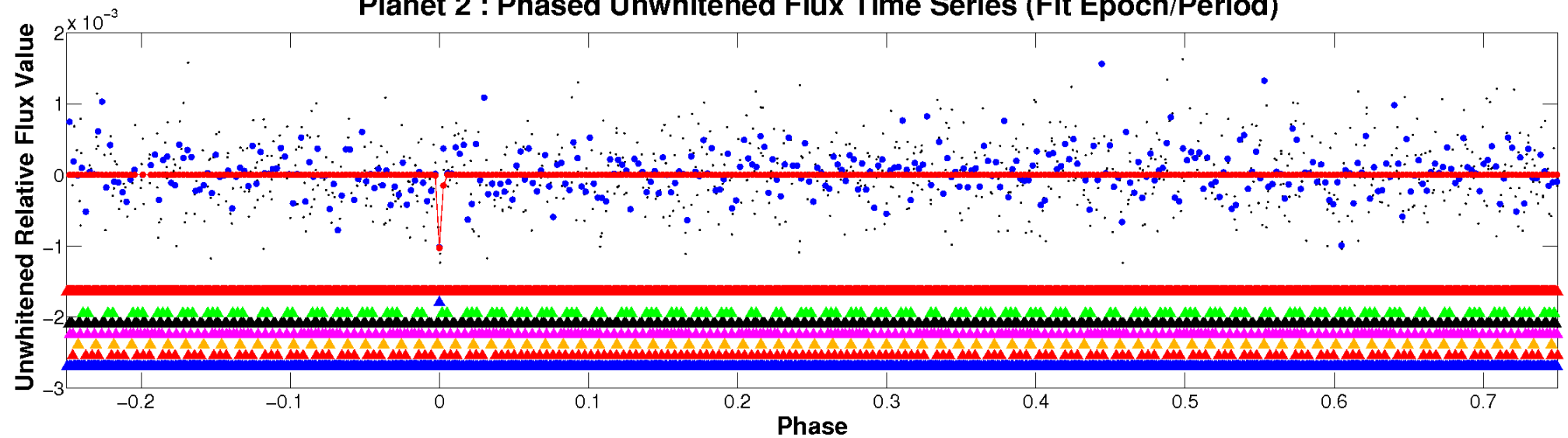


ALT Odd/Even

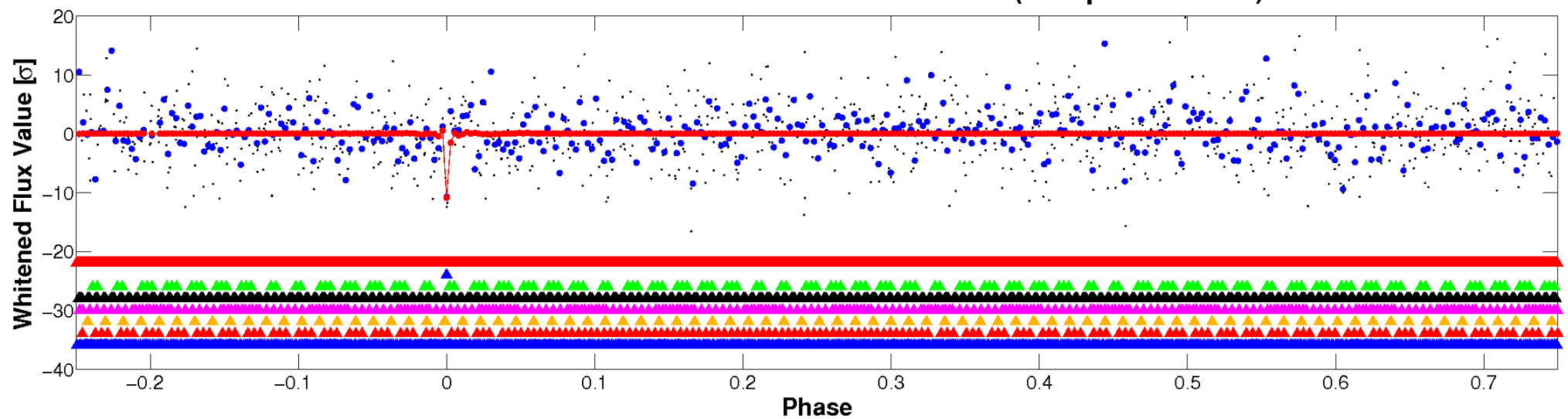
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

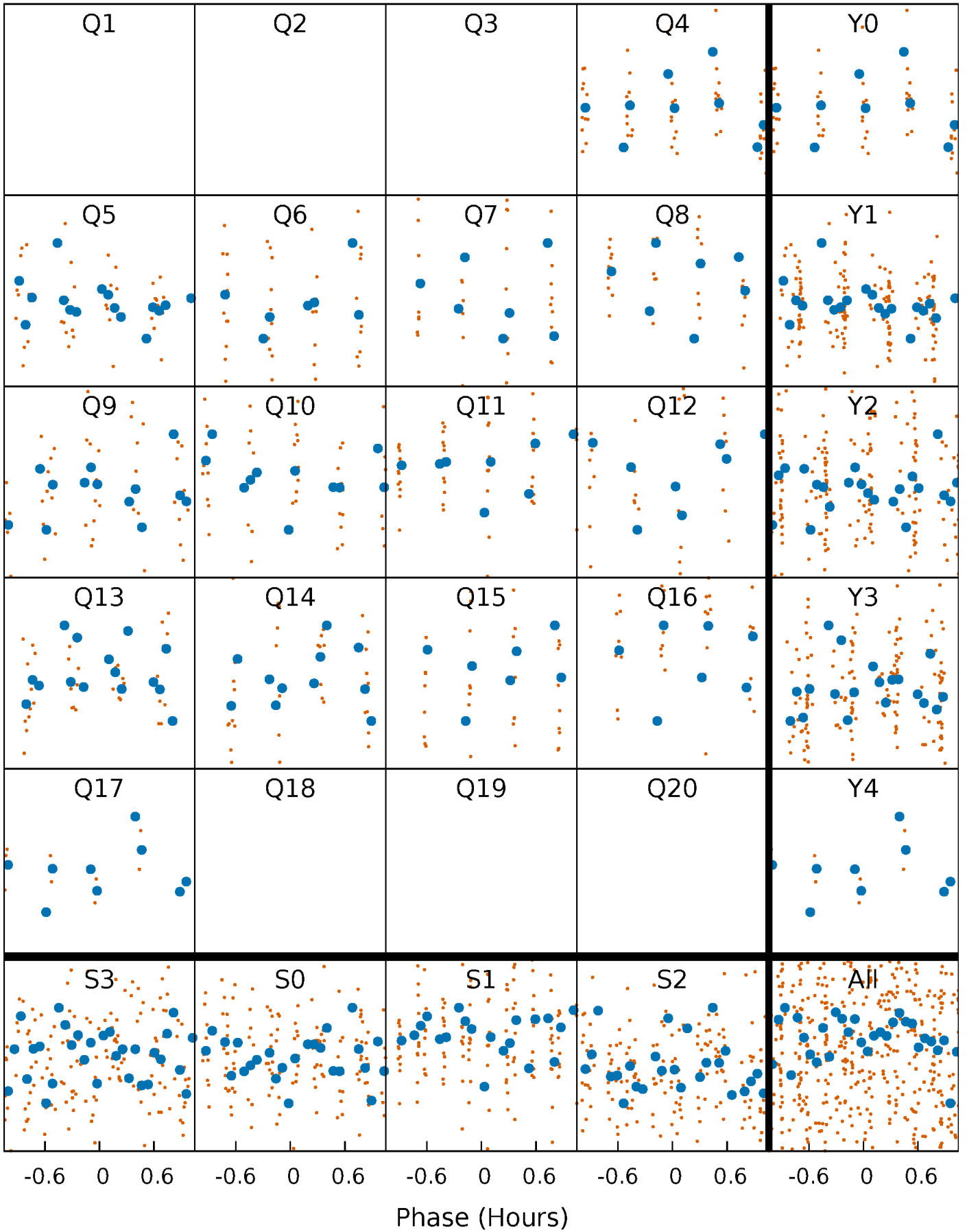


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



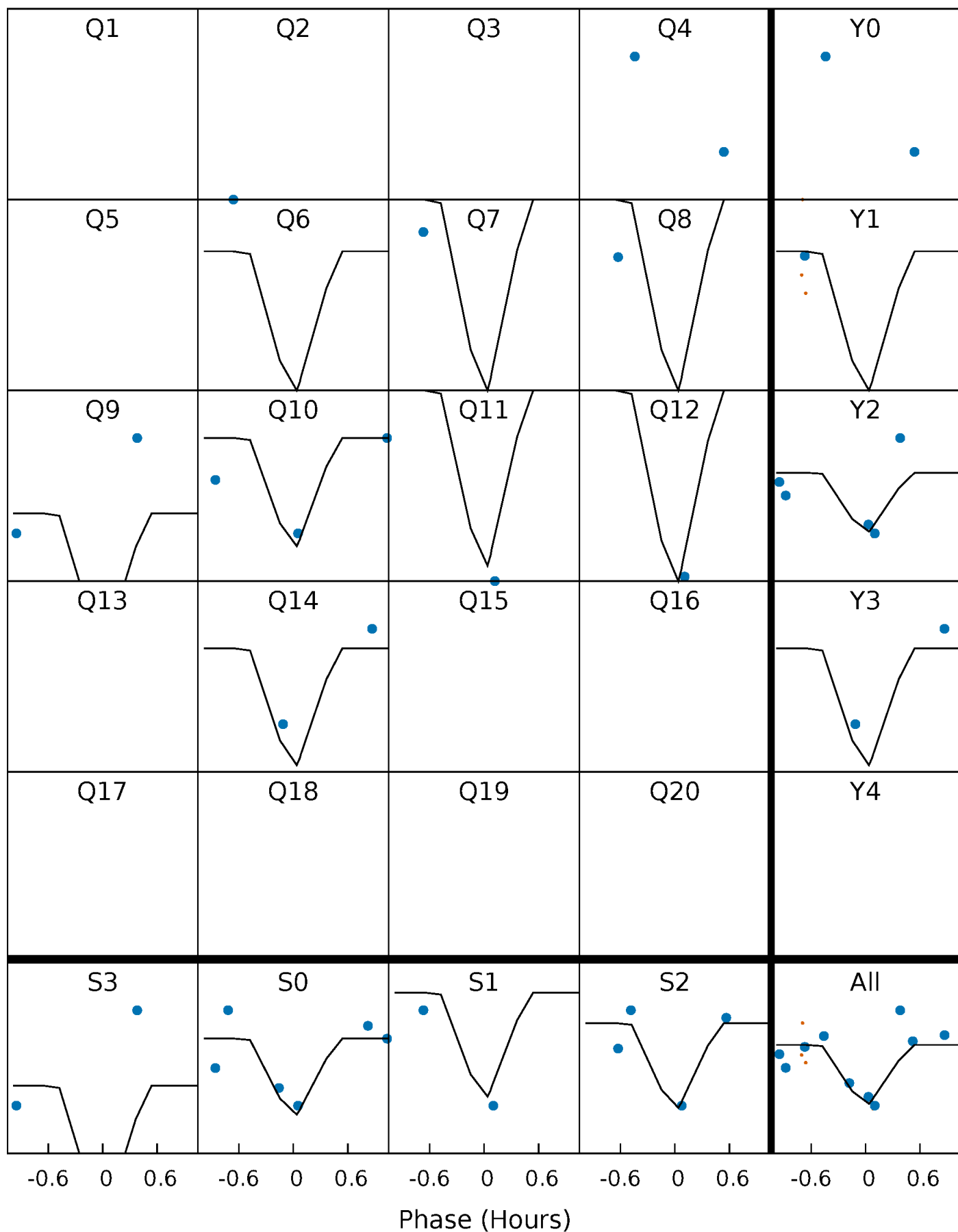
PDC Quarter-Phased Transit Curves

TCE 007031853-02 P= 7.498891 Days $T_0=137.054763$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007031853-02 P= 7.498891 Days $T_0=137.054763$ (BKJD)

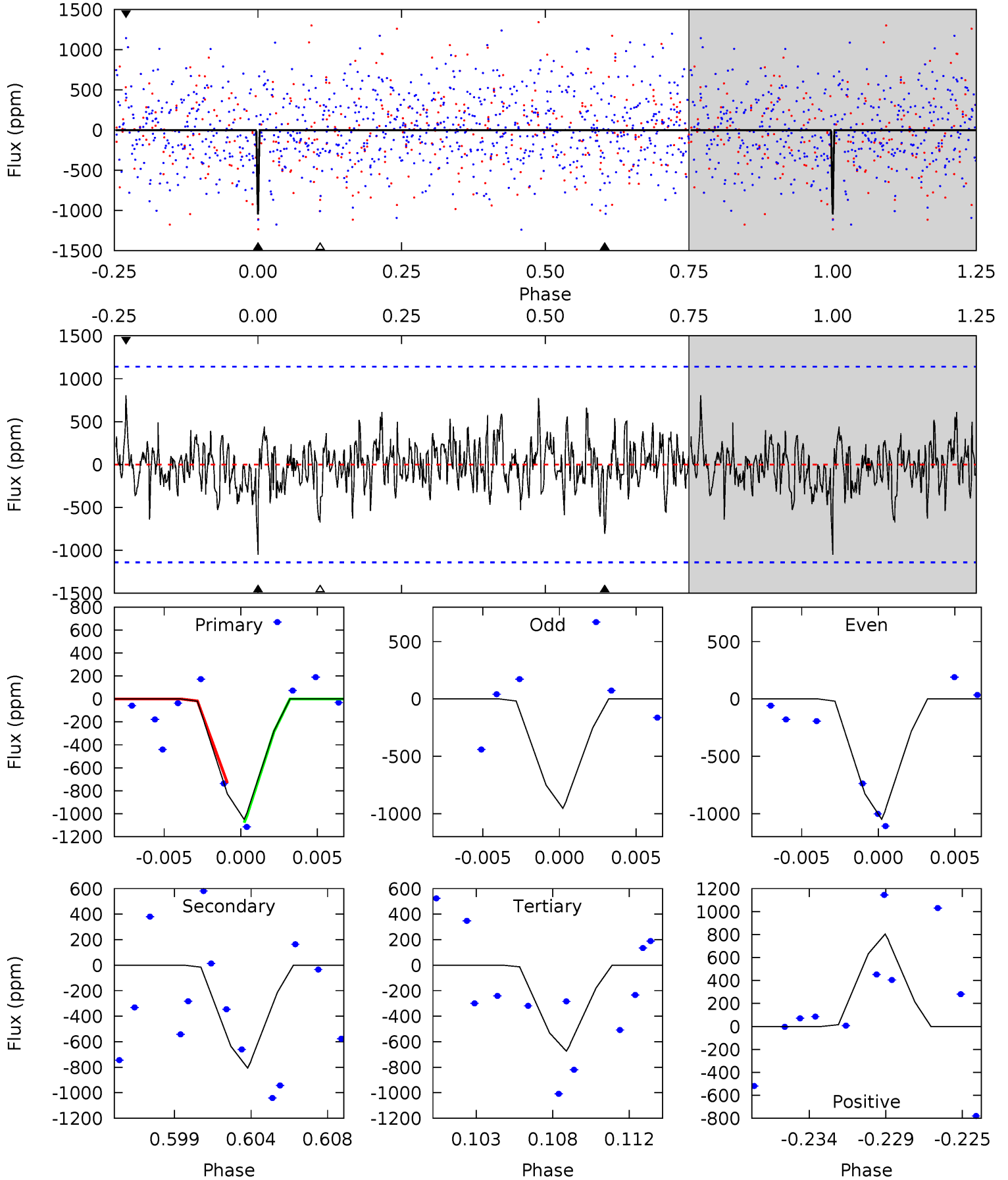


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

007031853-02, P = 7.498891 Days, E = 137.054763 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.76	3.65	3.05	3.65	5.17	2.83	1.05	1.70	1.11	0.60	0.01	0.19	0	0.43	0.68



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 007031853

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6468^{+180}_{-248}	$4.363^{+0.065}_{-0.195}$	$0.210^{+0.200}_{-0.350}$	$1.250^{+0.393}_{-0.157}$	$1.313^{+0.154}_{-0.205}$	$0.948^{+0.324}_{-0.468}$
	+3%/-4%	+1%/-4%	+95%/-167%	+31%/-13%	+12%/-16%	+34%/-49%
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 007031853-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-806 ± 221	$9.66^{+7.99}_{-6.63}$	1581^{+102}_{-82}	4370^{+3045}_{-876}	32^{+279}_{-23}
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 $A_{obs} \gg 1.0$

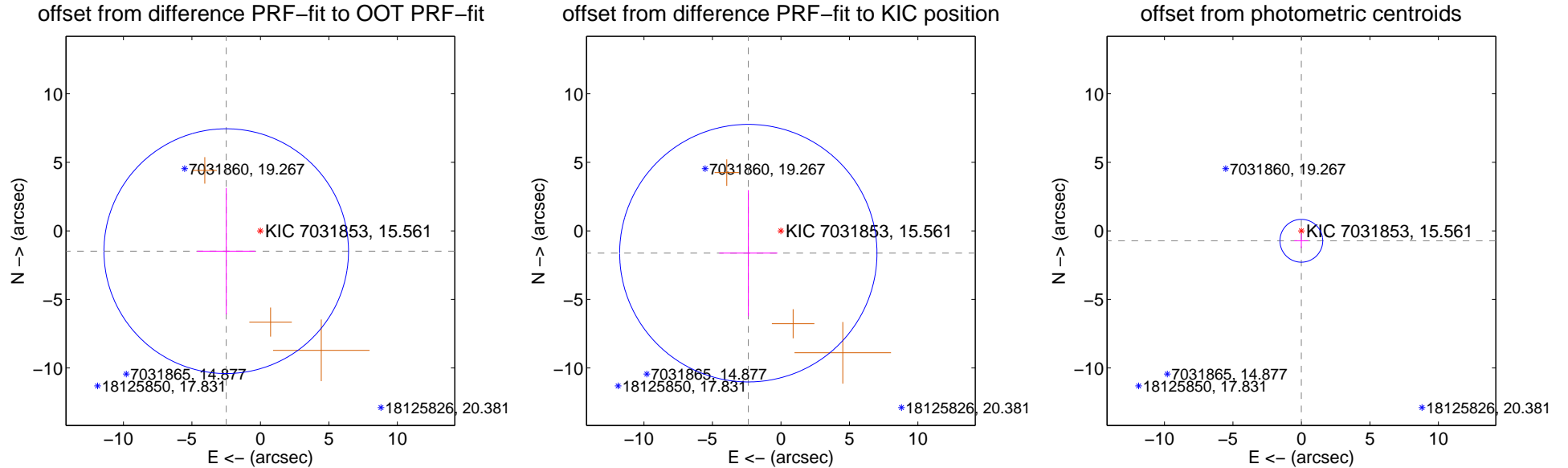
DV Centroid Data

Supplemental centroid analysis for 007031853-02. Kepler magnitude: 15.56. Transit SNR 22.02

There are 0 quarters with good PRF difference image offsets

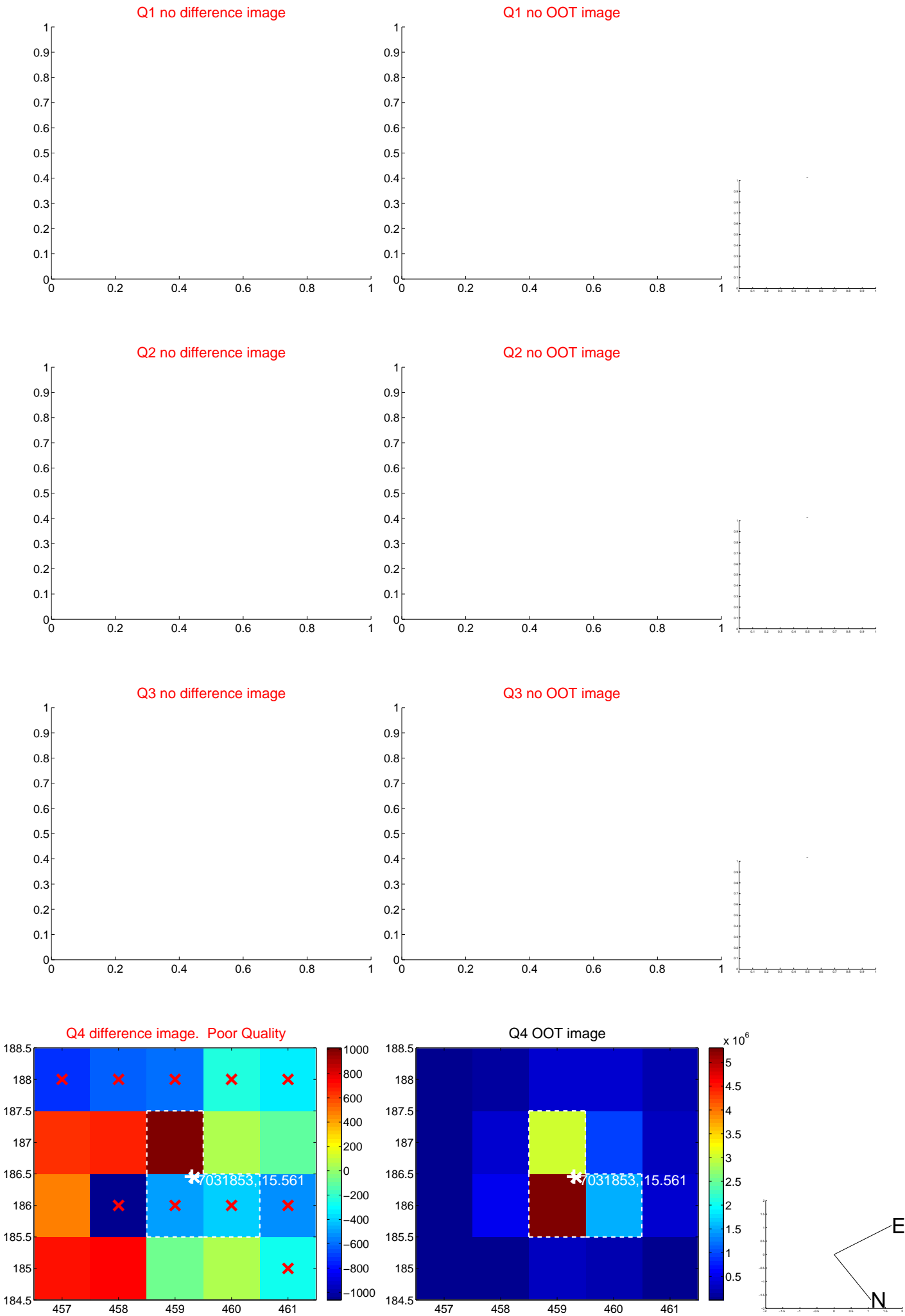
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.902 ± 2.975	0.98	2.495 ± 2.121	-1.481 ± 4.607
PRF-fit source offset from KIC position	2.883 ± 3.131	0.92	2.381 ± 2.123	-1.625 ± 4.601
photometric centroid source offset	0.72 ± 0.52	1.39	0.01 ± 0.52	-0.72 ± 0.52

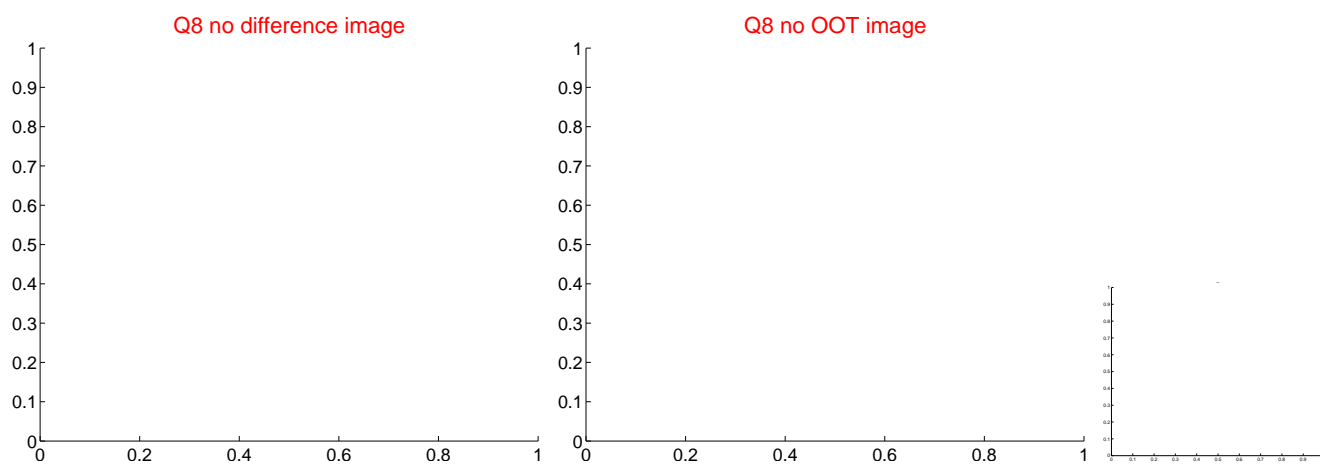
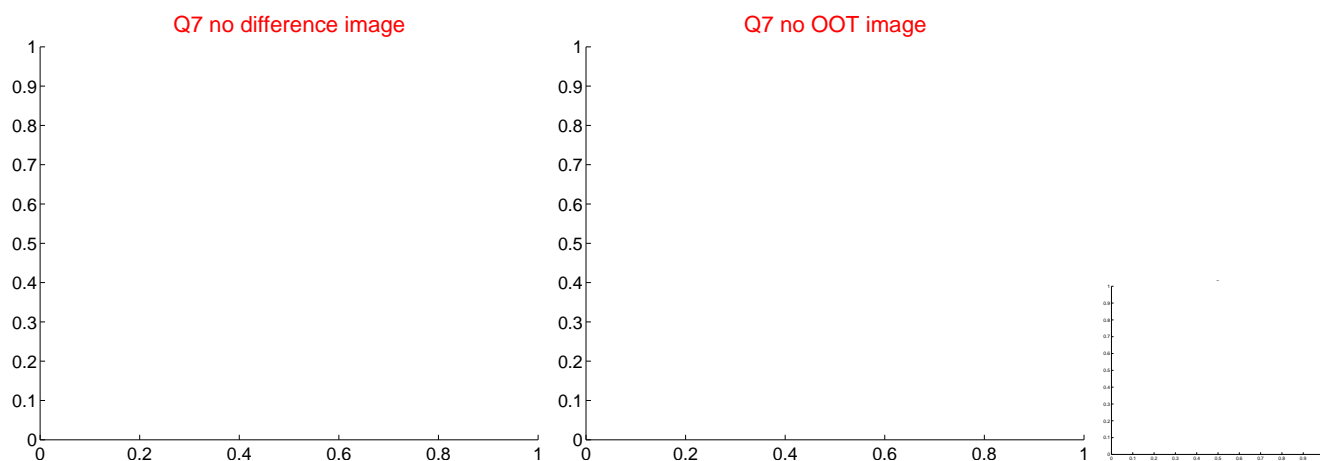
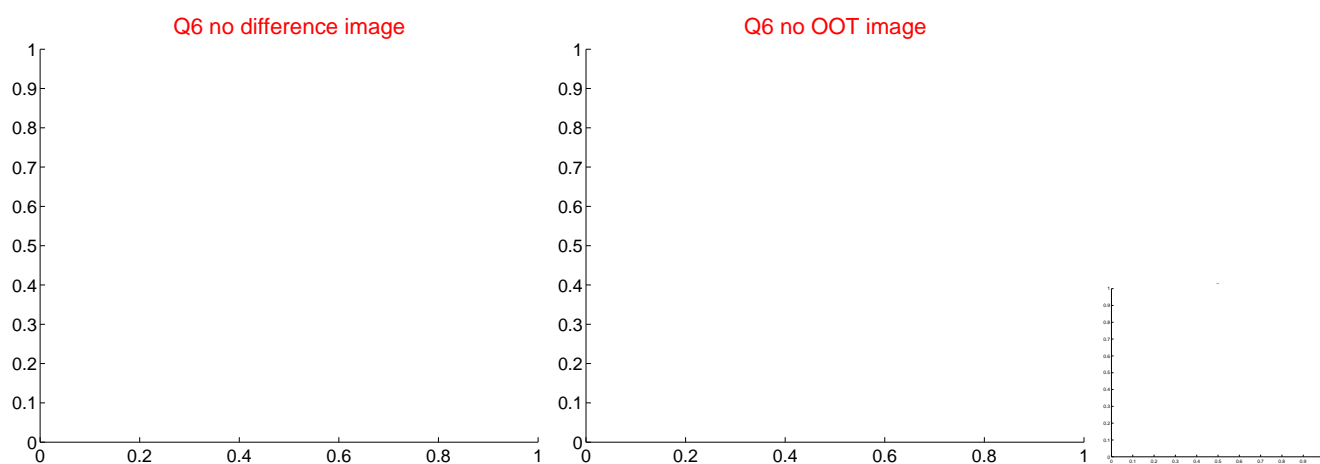
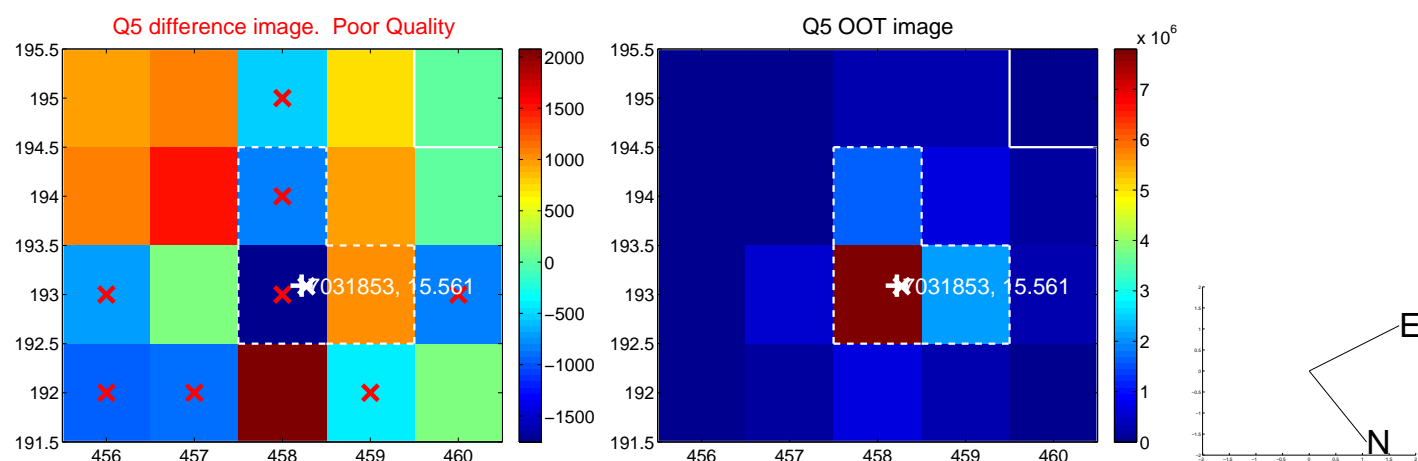


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

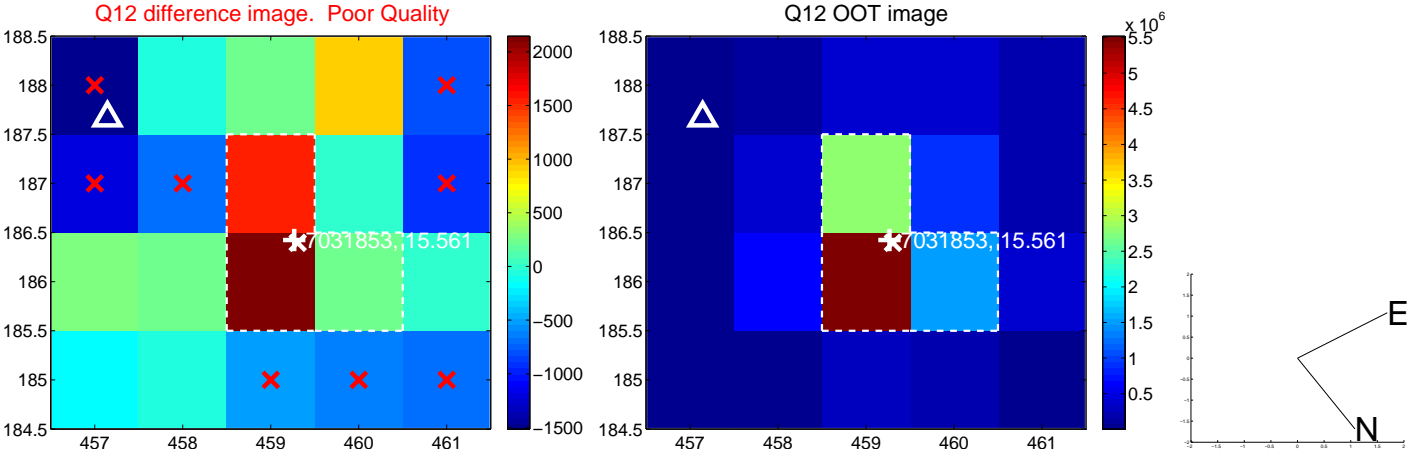
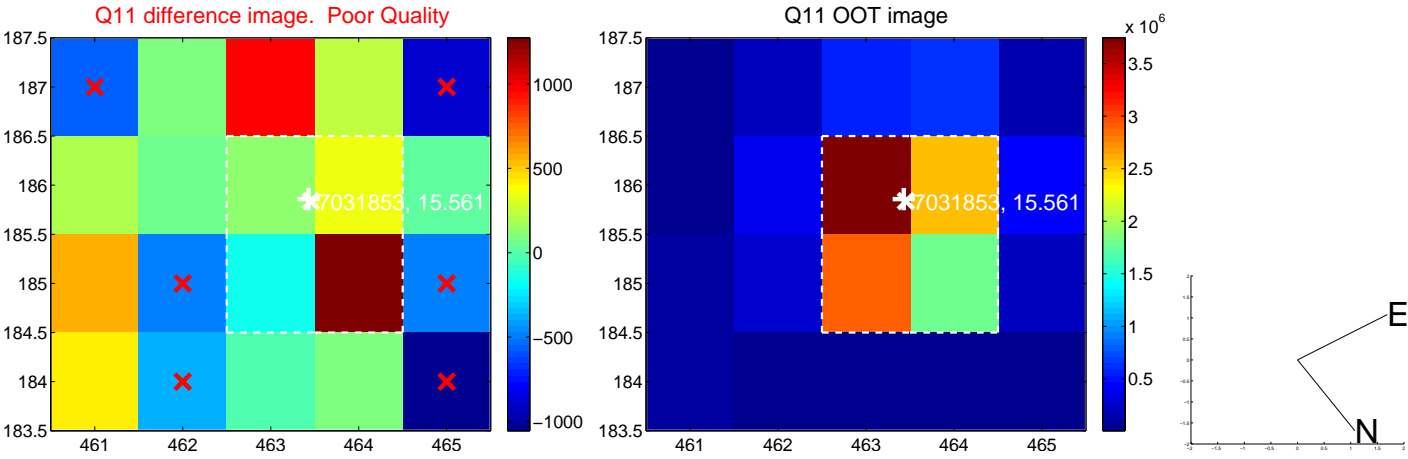
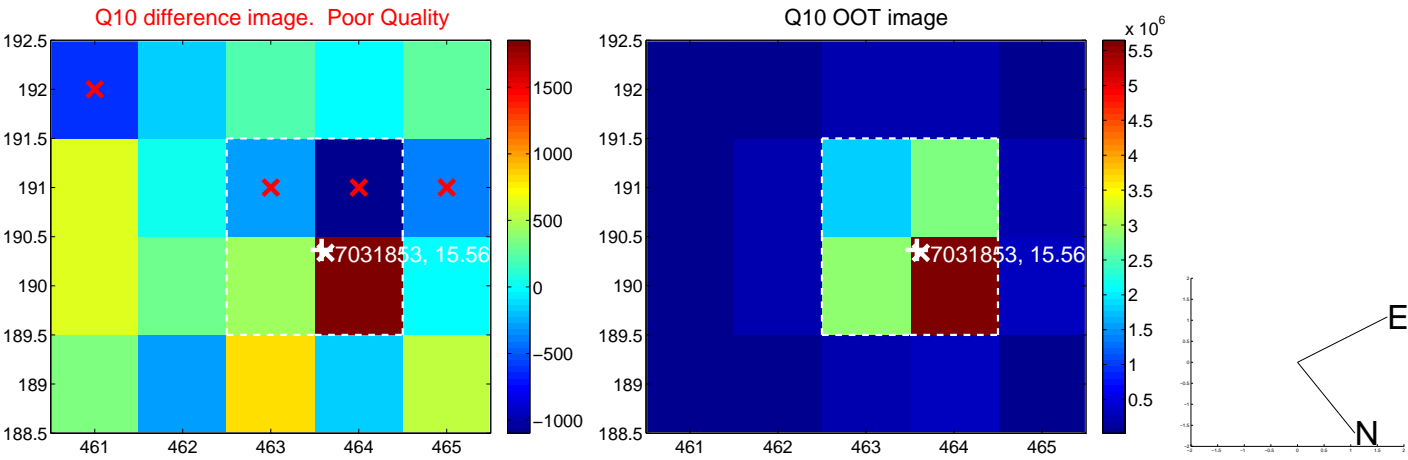
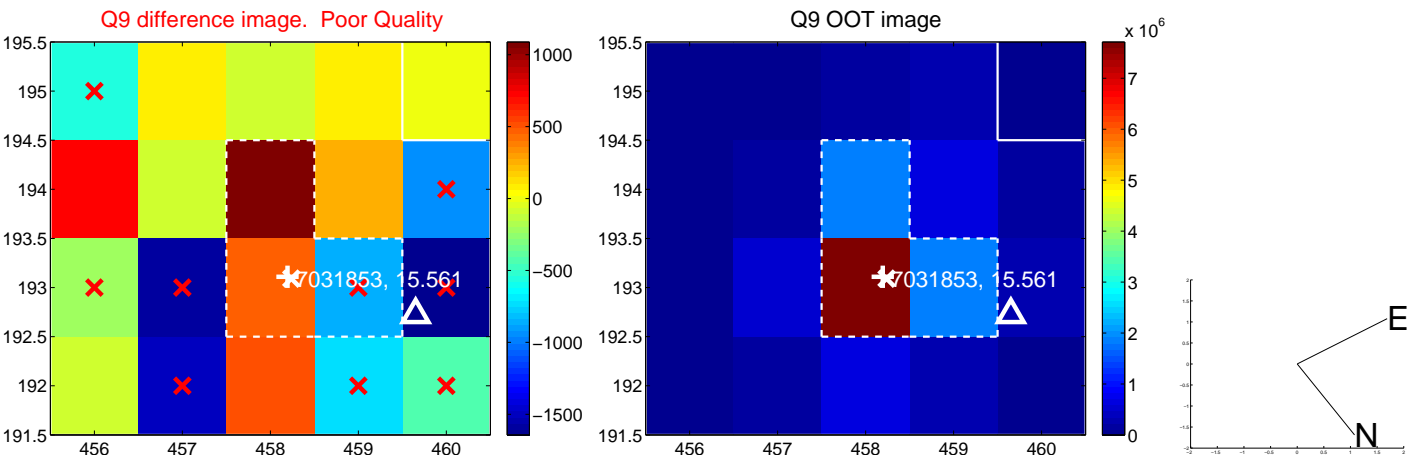
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



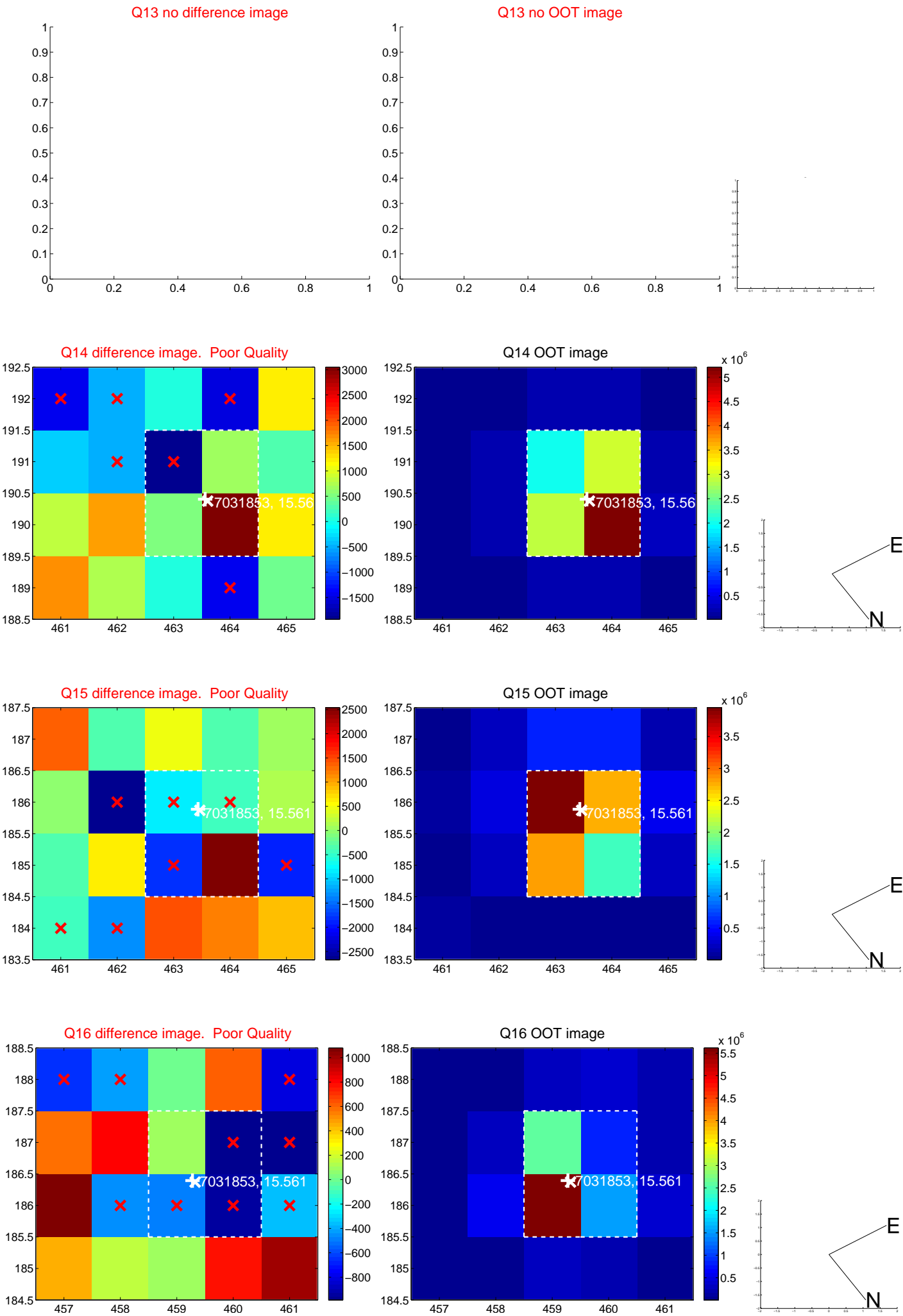
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

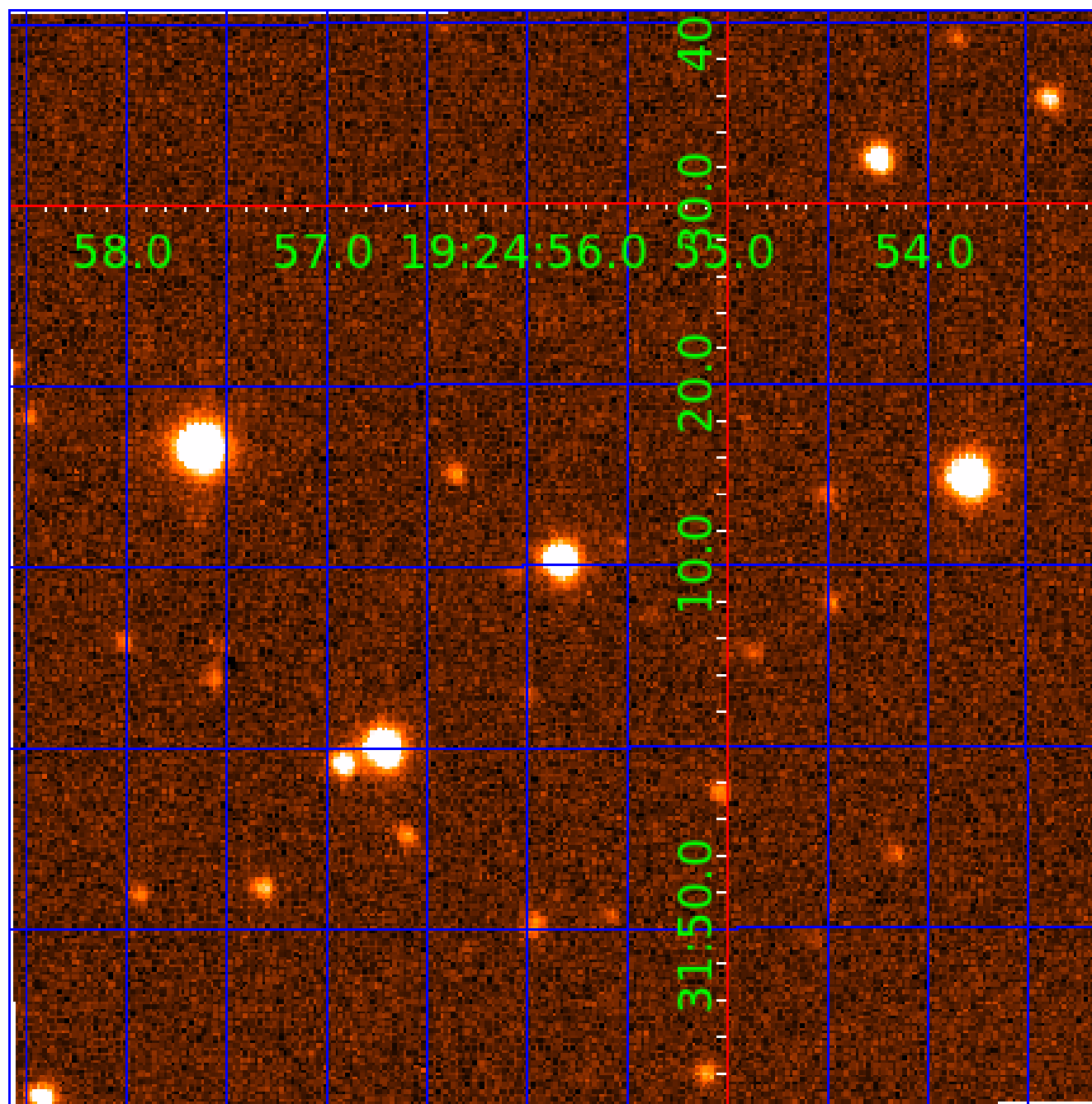


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007031853

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})
007031853-01	OBS	No	0.566754	131.839314	17.0	4.284	10.8	4.2	1.25	6468	0.54	11360.26
007031853-02	OBS	No	7.498891	137.054763	1219.4	0.526	13.5	22.0	1.25	6468	4.76	363.01
007031853-03	OBS	No	9.179254	138.020646	537.7	1.736	12.5	15.1	1.25	6468	2.99	277.23
007031853-04	OBS	No	2.376727	131.545693	450.8	1.232	12.8	15.8	1.25	6468	3.12	1679.87
007031853-05	OBS	No	4.850105	134.338245	788.9	1.215	13.8	22.2	1.25	6468	3.54	649.00
007031853-06	OBS	No	8.492754	137.042016	530.8	2.036	14.2	16.3	1.25	6468	2.98	307.50
007031853-07	OBS	No	7.627644	137.430878	836.1	1.088	12.9	13.8	1.25	6468	3.74	354.86
007031853-08	OBS	No	1.601906	131.727945	251.2	0.798	12.2	8.5	1.25	6468	2.04	2842.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007031853-01	OBS	FP	0.00	1	0	0	1	LPP_DV—LPP_ALT—CENT_FEW_DIFFS—EPHEM_MATCH
007031853-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007031853-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST
007031853-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST
007031853-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007031853-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007031853-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST
007031853-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—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.

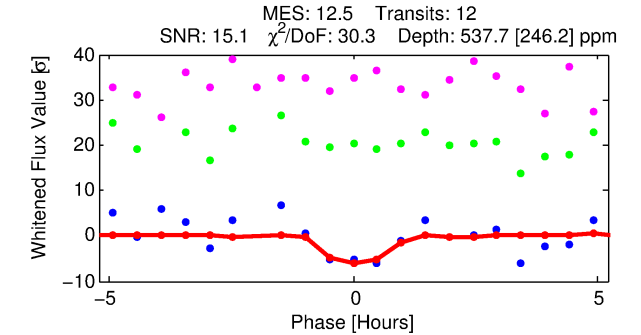
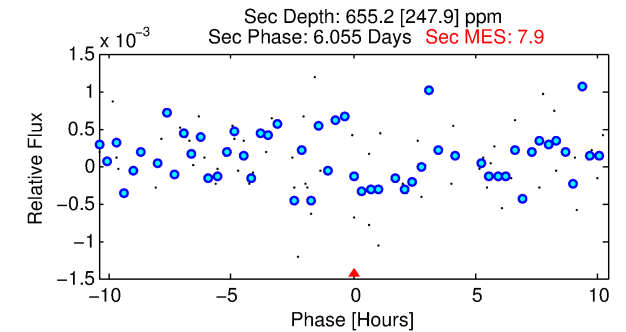
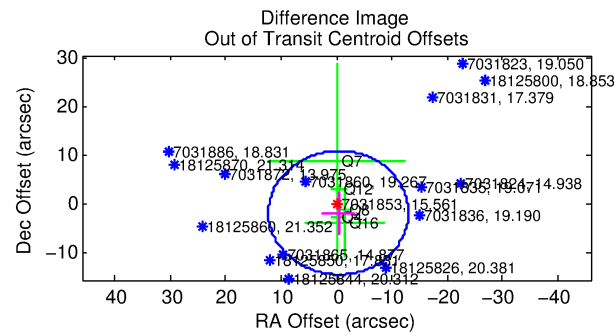
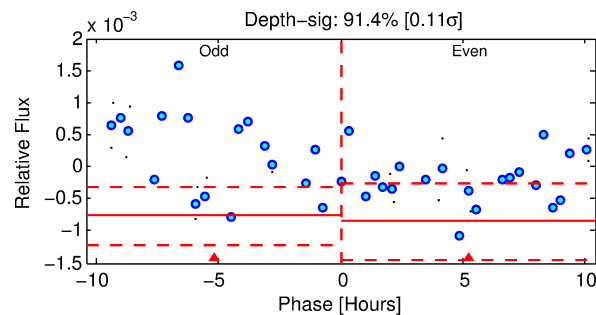
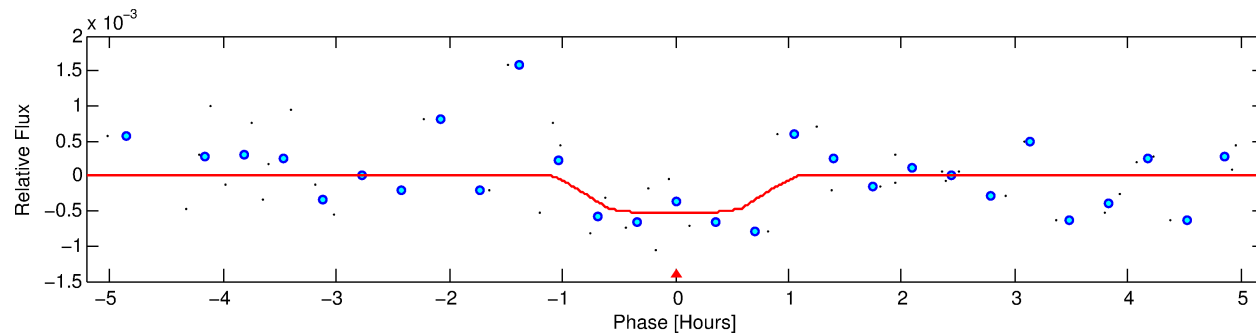
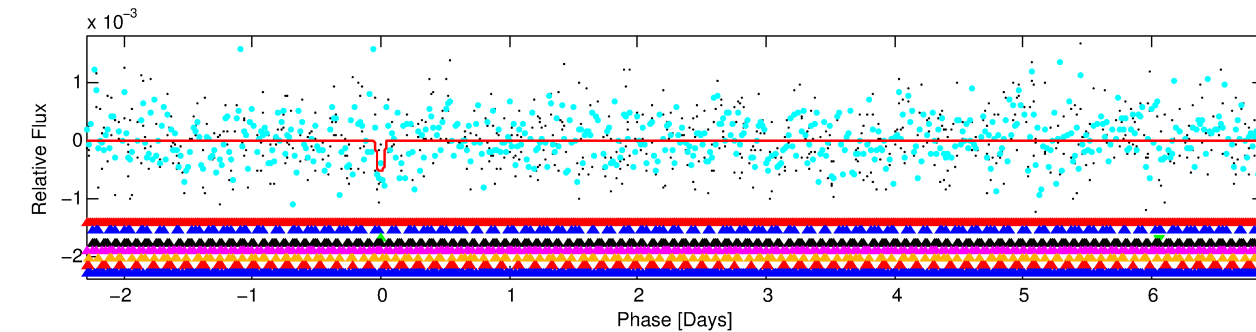
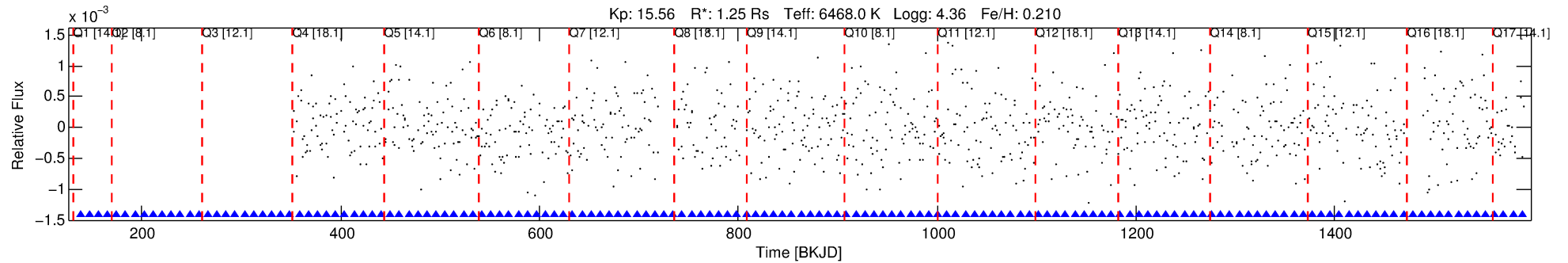
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007031853-03

No Significant Match Found

DV One-Page Summary

KIC: 7031853 Candidate: 3 of 8 Period: 9.179 d



DV Fit Results:

Period = 9.17925 [0.00029] d
Epoch = 138.0206 [0.0264] BKJD
Rp/R* = 0.0220 [0.1241]
a/R* = 36.01 [1016.11]
b = 0.50 [43.40]
Seff = 277.23 [109.87]
Teq = 1040 [103] K
Rp = 2.99 [16.95] Re
a = 0.0940 [0.0242] AU
Ag = 355.32 [4021.39] [0.09σ]
Teffp = 6984 [19753] K [0.30σ]

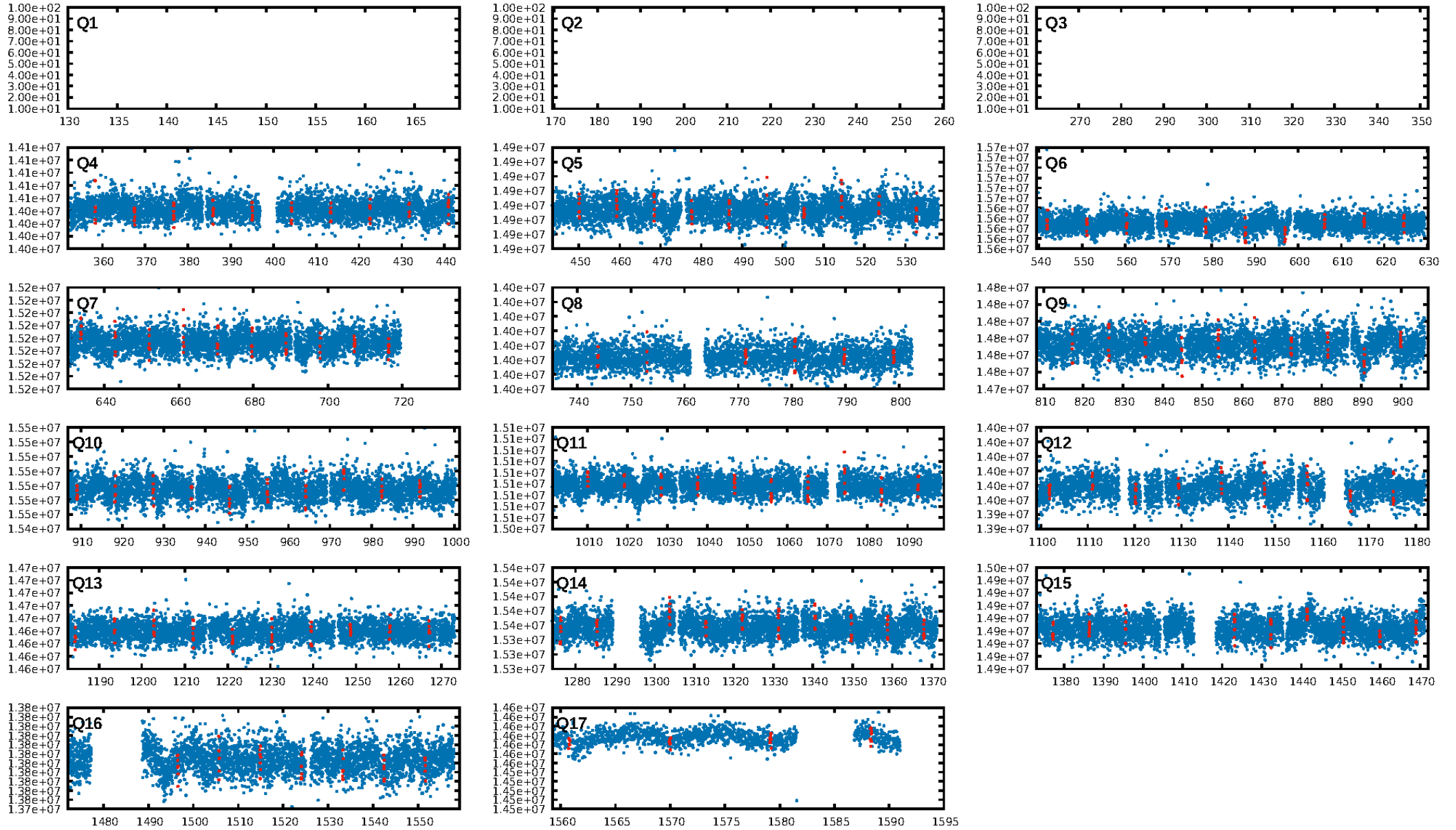
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [6.16σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 8.98e-08
RollingBand-fgt: 1.00 [11/11]
GhostDiagnostic-chr: -0.09808
Centroid-sig: 0.2%
Centroid-so: 1.379 arcsec [2.09σ]
OotOffset-rm: 1.782 arcsec [0.42σ]
KicOffset-rm: 1.912 arcsec [0.46σ]
OotOffset-st: 0/1/4/0 [5]
KicOffset-st: 0/1/4/0 [5]
DiffImageQuality-fgm: 0.00 [0/5]
DiffImageOverlap-fno: 0.00 [0/14]

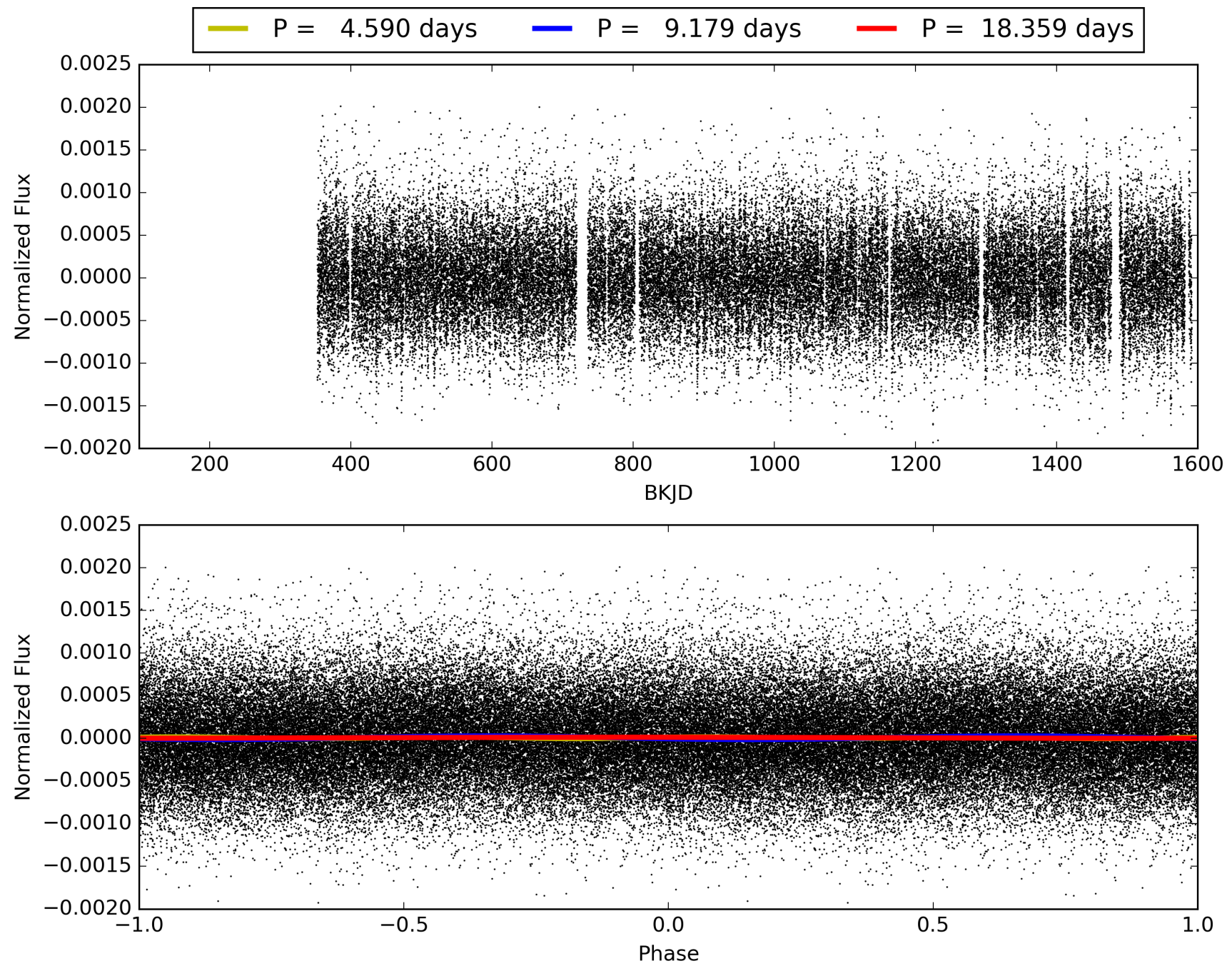
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:38:36 Z

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

TCE 007031853-03, PDC Light Curves

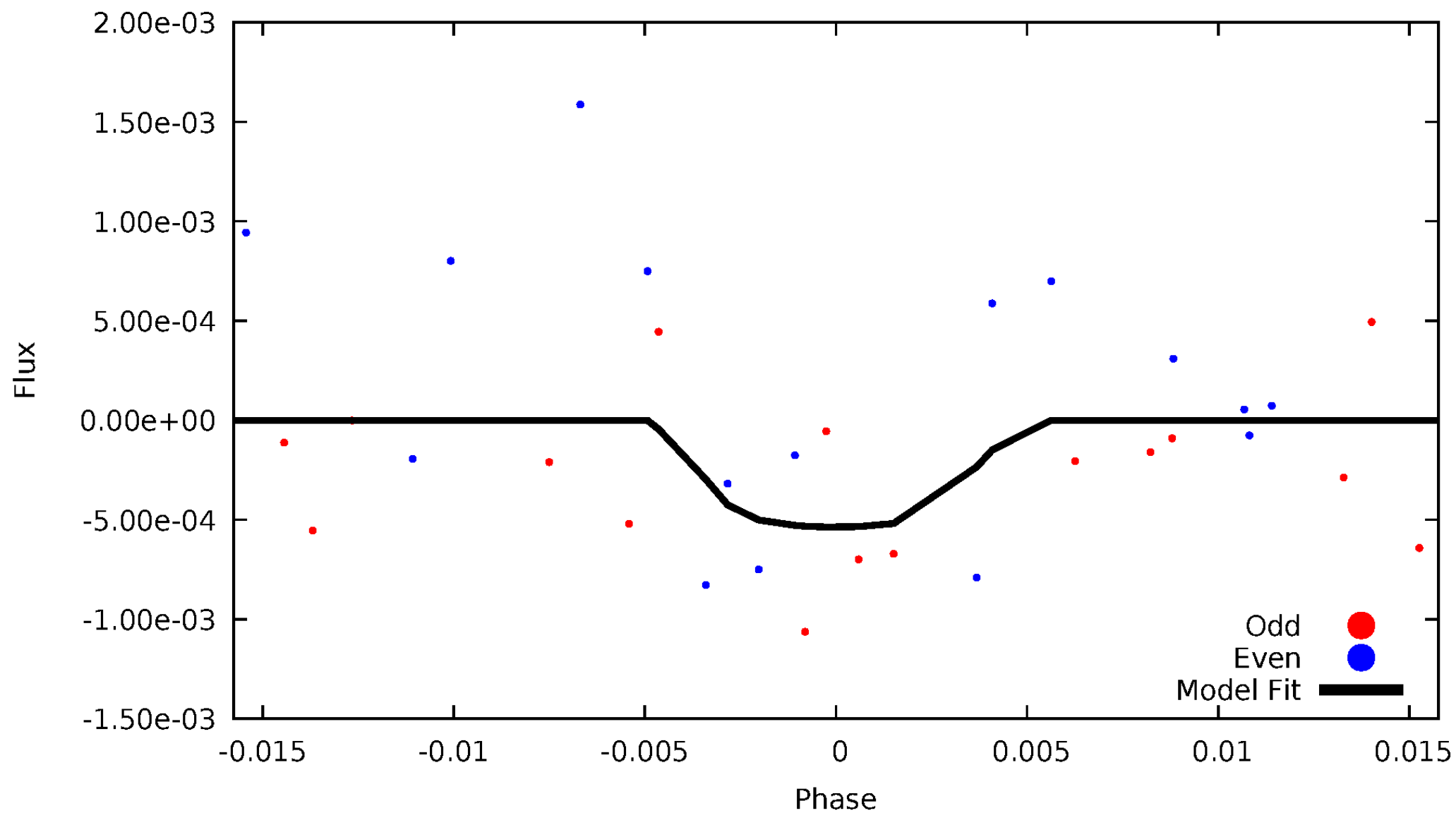


TCE 007031853-03



DV Odd/Even

TCE 007031853-03

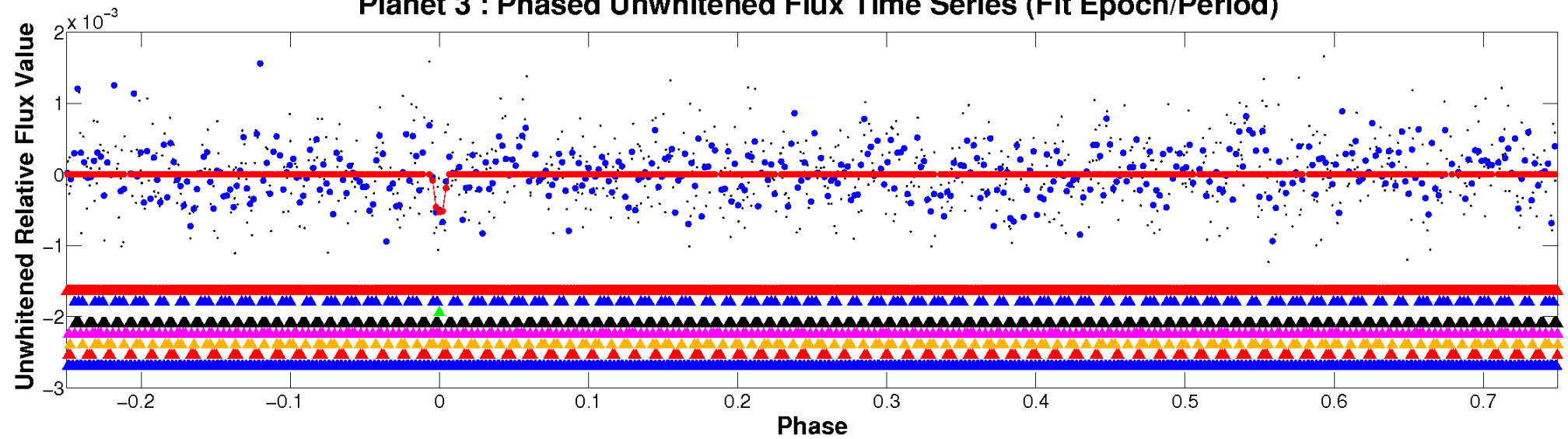


ALT Odd/Even

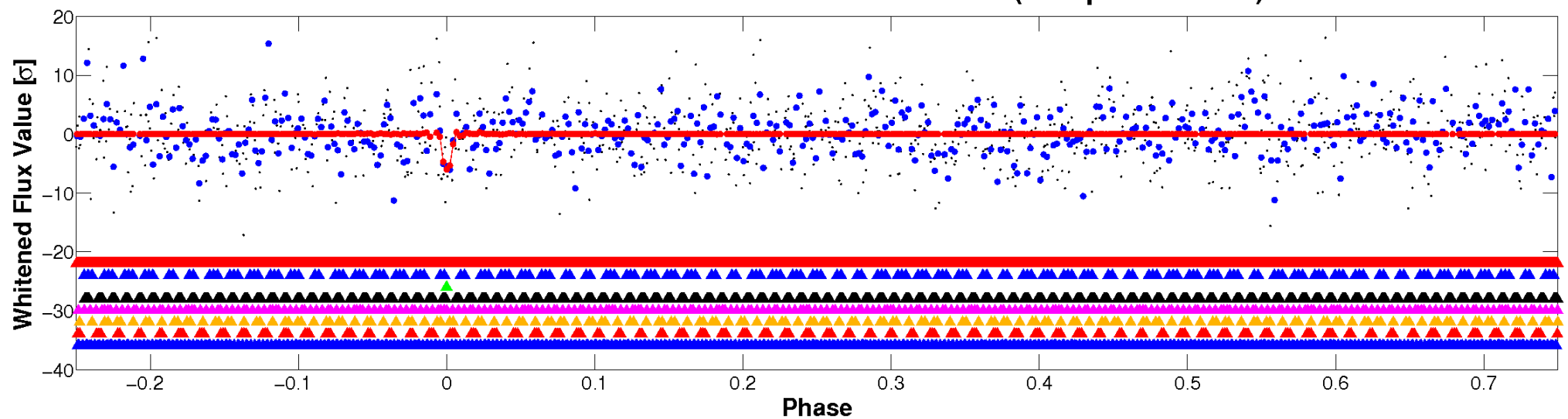
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

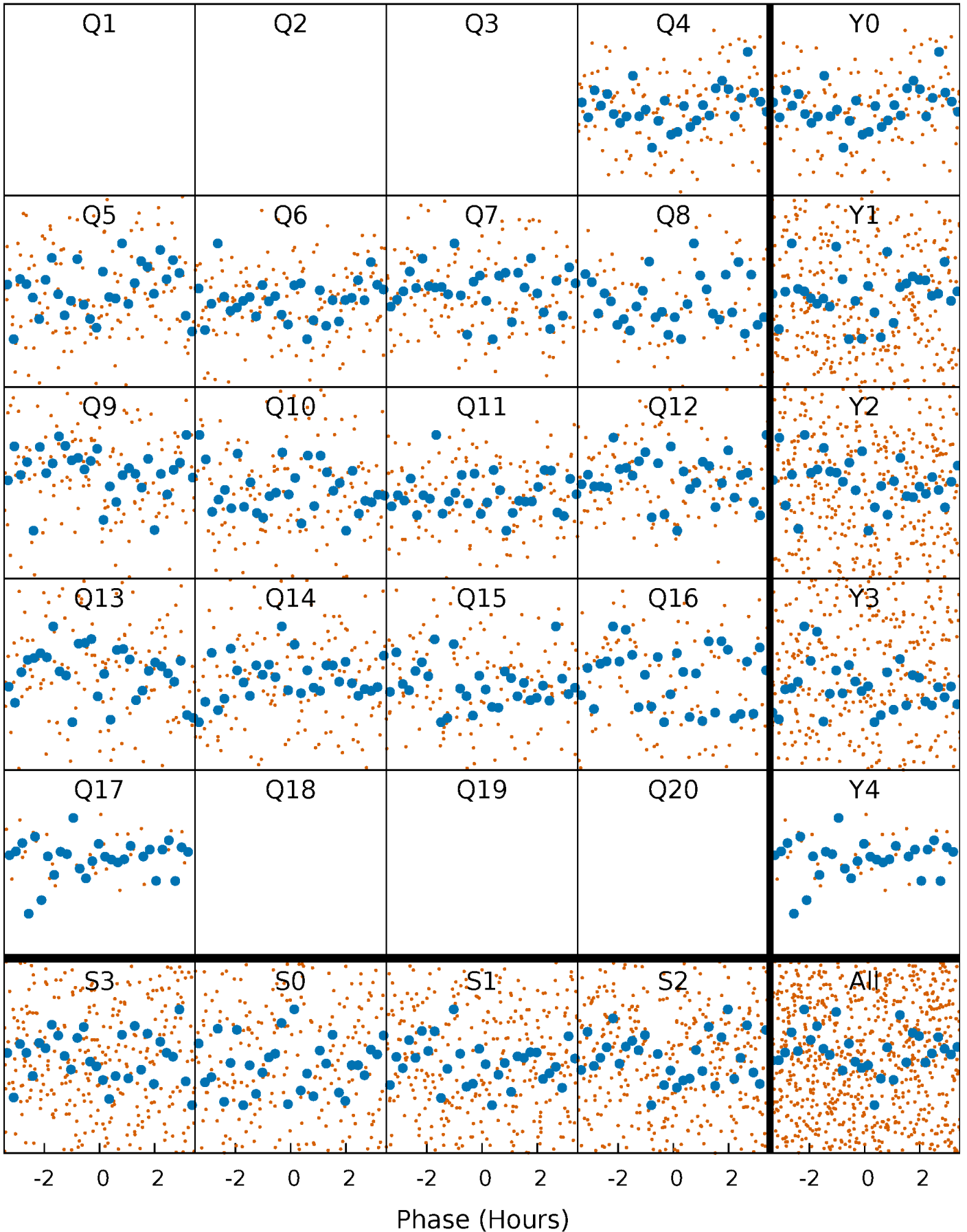


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



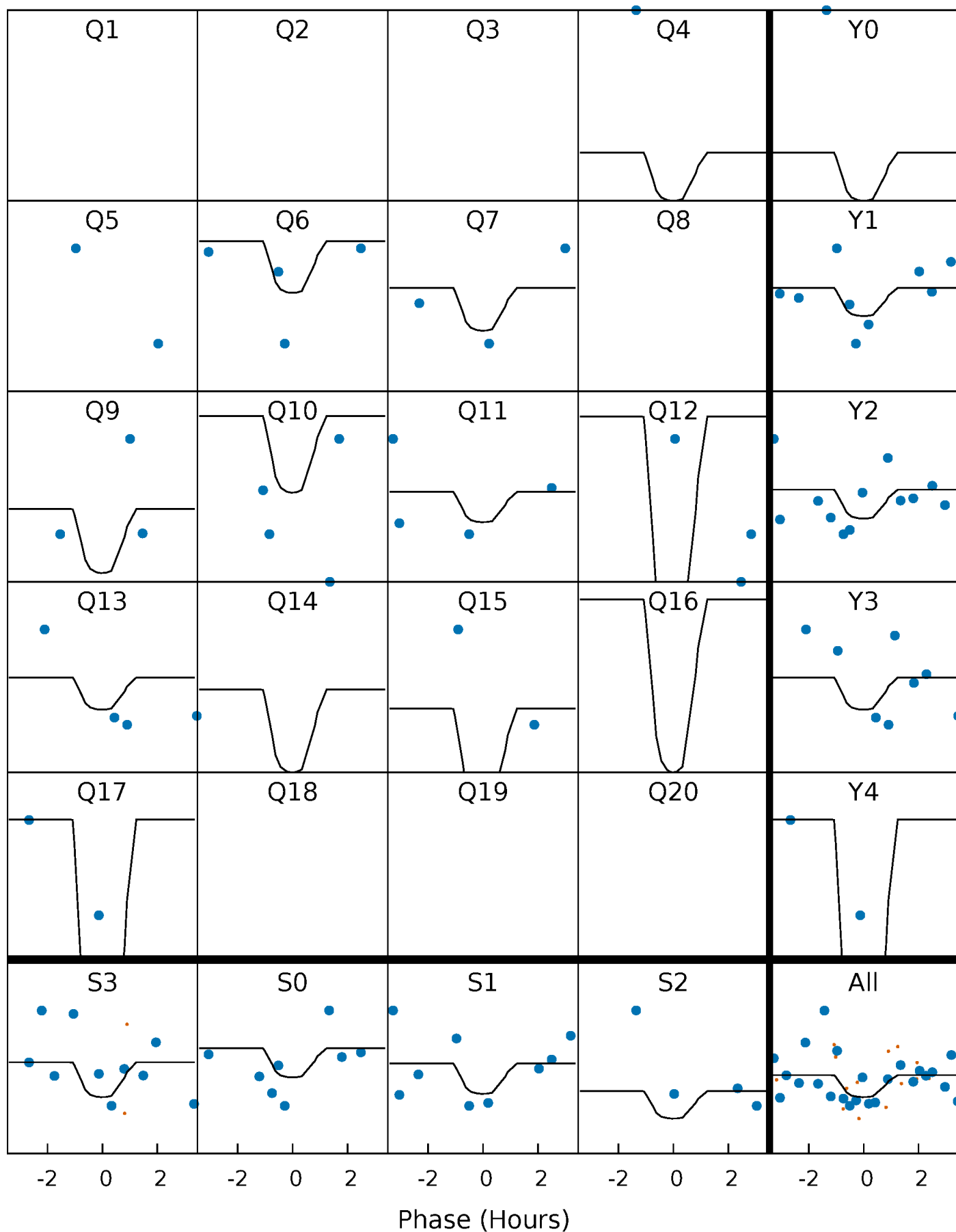
PDC Quarter-Phased Transit Curves

TCE 007031853-03 P= 9.179254 Days $T_0=138.020646$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007031853-03 P= 9.179254 Days $T_0=138.020646$ (BKJD)

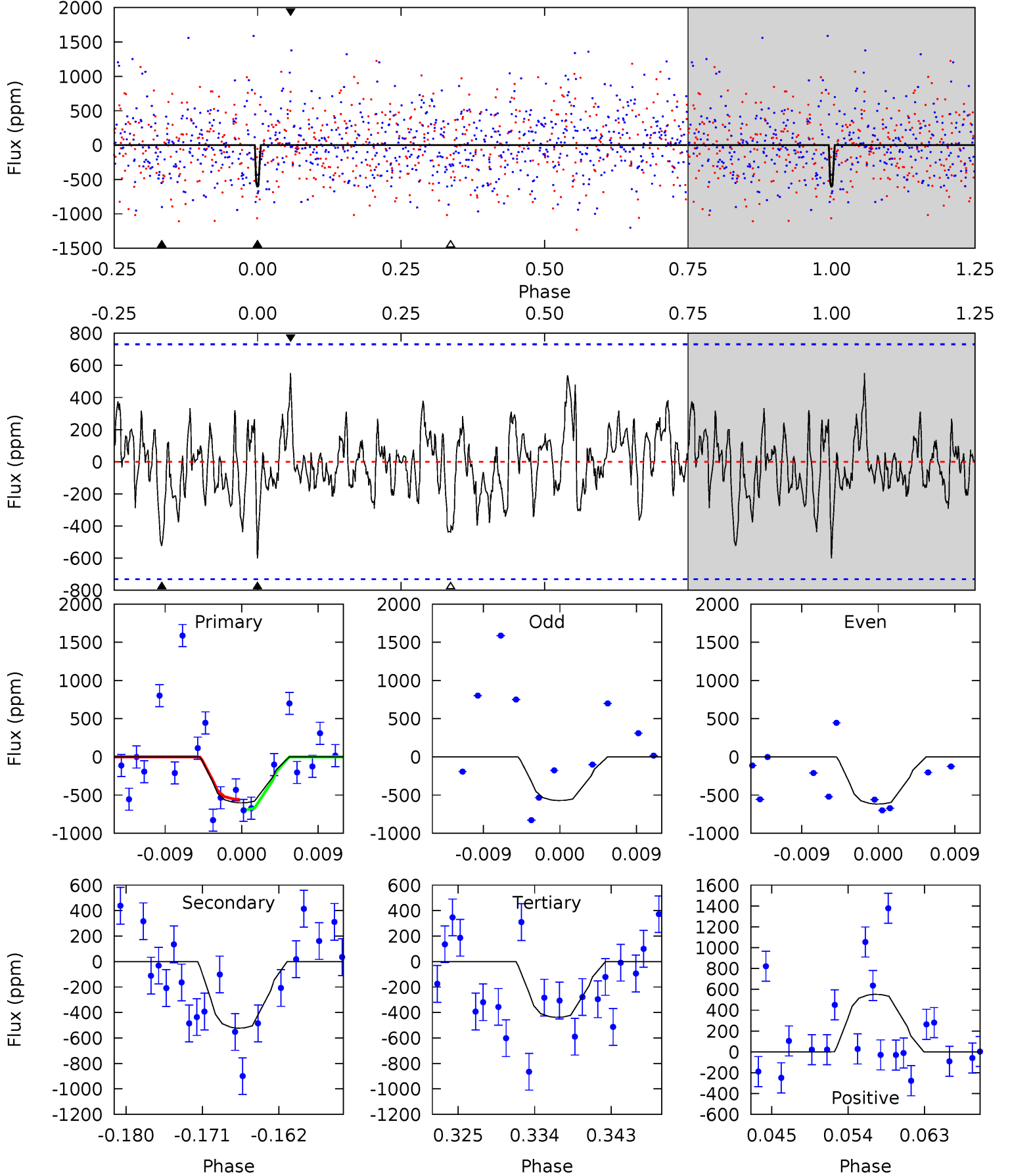


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

007031853-03, P = 9.179254 Days, E = 138.020646 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.15	3.61	3.02	3.81	5.05	2.61	1.22	1.13	0.34	0.59	-0.20	0.16	0	0.48	0.44



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 007031853

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6468^{+180}_{-248}	$4.363^{+0.065}_{-0.195}$	$0.210^{+0.200}_{-0.350}$	$1.250^{+0.393}_{-0.157}$	$1.313^{+0.154}_{-0.205}$	$0.948^{+0.324}_{-0.468}$
	+3%/-4%	+1%/-4%	+95%/-167%	+31%/-13%	+12%/-16%	+34%/-49%
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 007031853-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-523 ± 145	$13.15^{+12.57}_{-9.23}$	1476^{+101}_{-80}	3595^{+2240}_{-700}	13^{+153}_{-10}
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 $A_{obs} \gg 1.0$

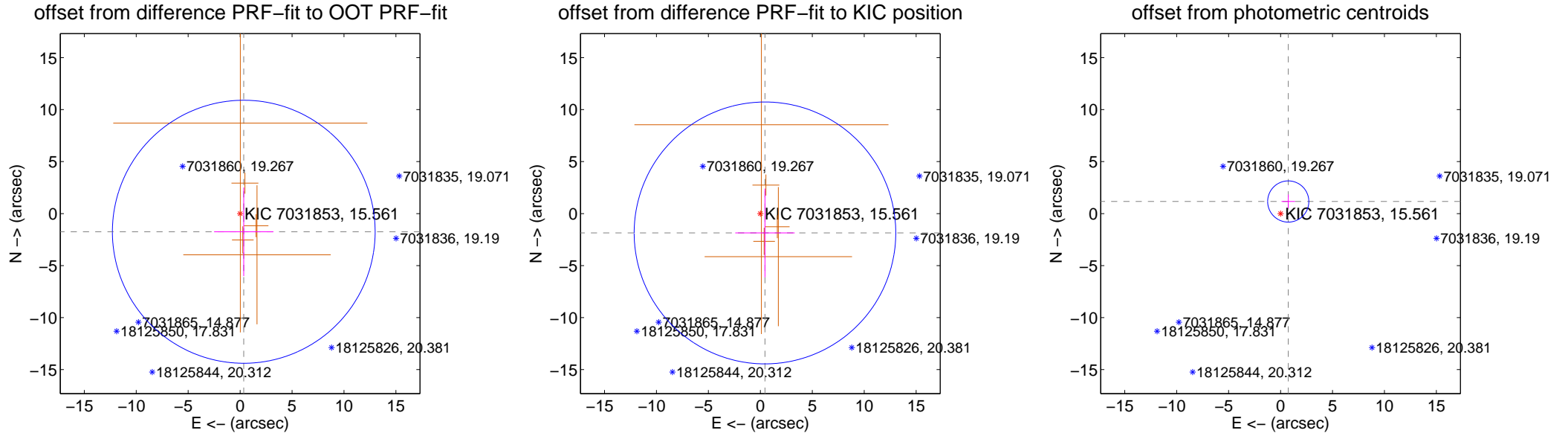
DV Centroid Data

Supplemental centroid analysis for 007031853-03. Kepler magnitude: 15.56. Transit SNR 15.08

There are 0 quarters with good PRF difference image offsets

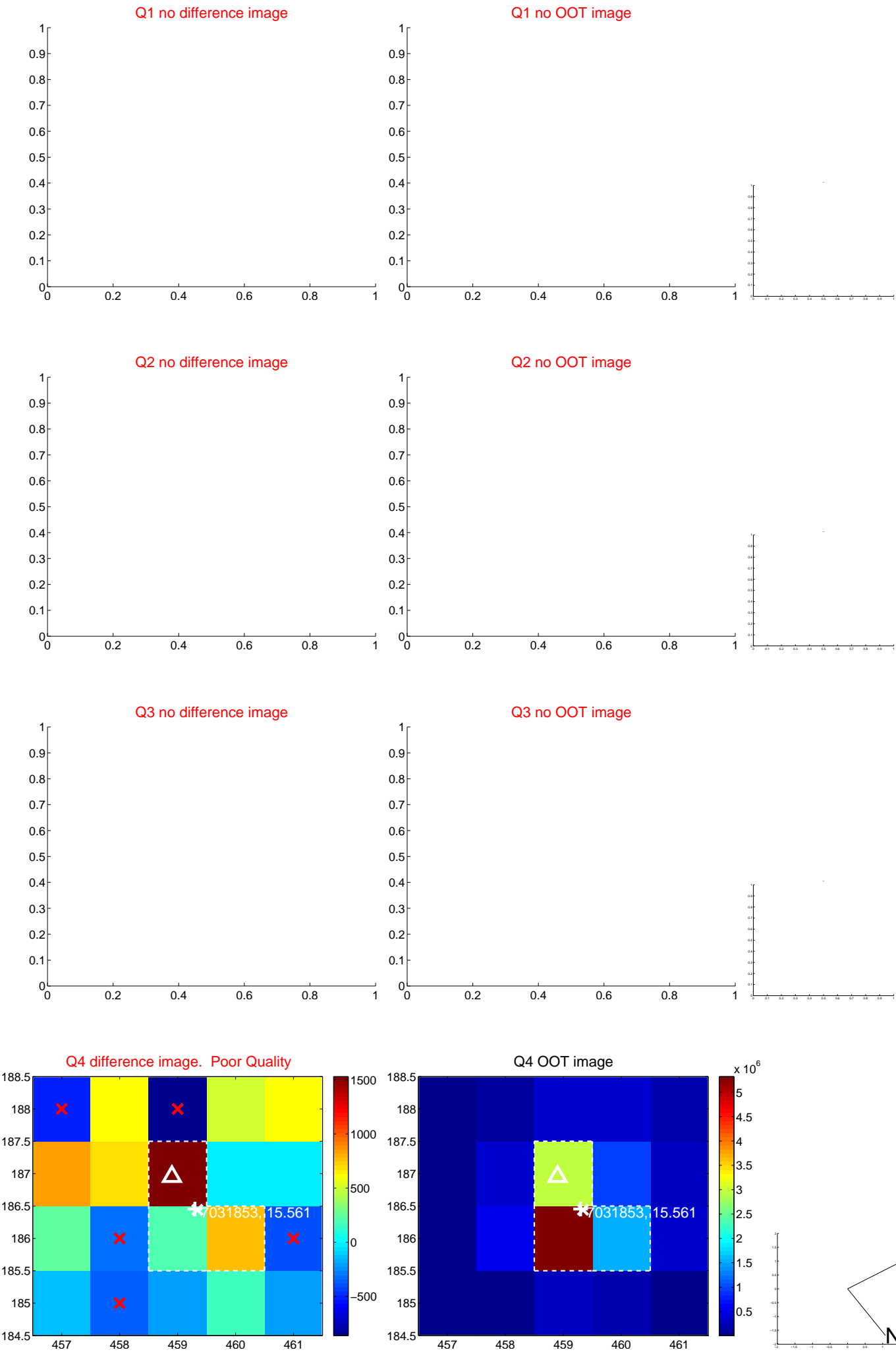
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.782 ± 4.215	0.42	-0.352 ± 2.857	-1.747 ± 4.261
PRF-fit source offset from KIC position	1.912 ± 4.197	0.46	-0.446 ± 2.857	-1.859 ± 4.261
photometric centroid source offset	1.38 ± 0.66	2.09	-0.74 ± 0.65	1.16 ± 0.67

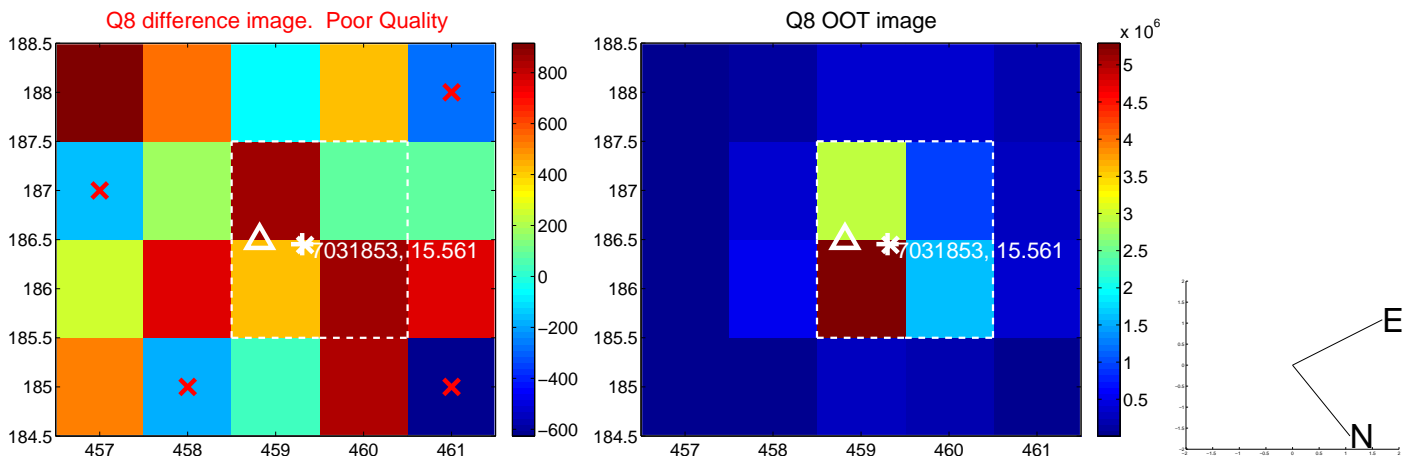
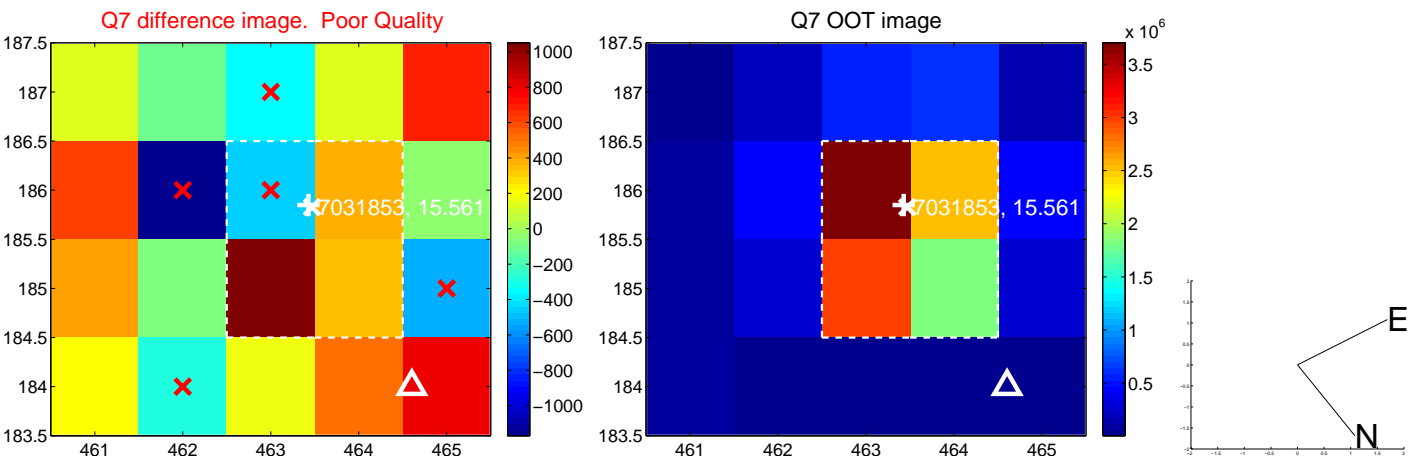
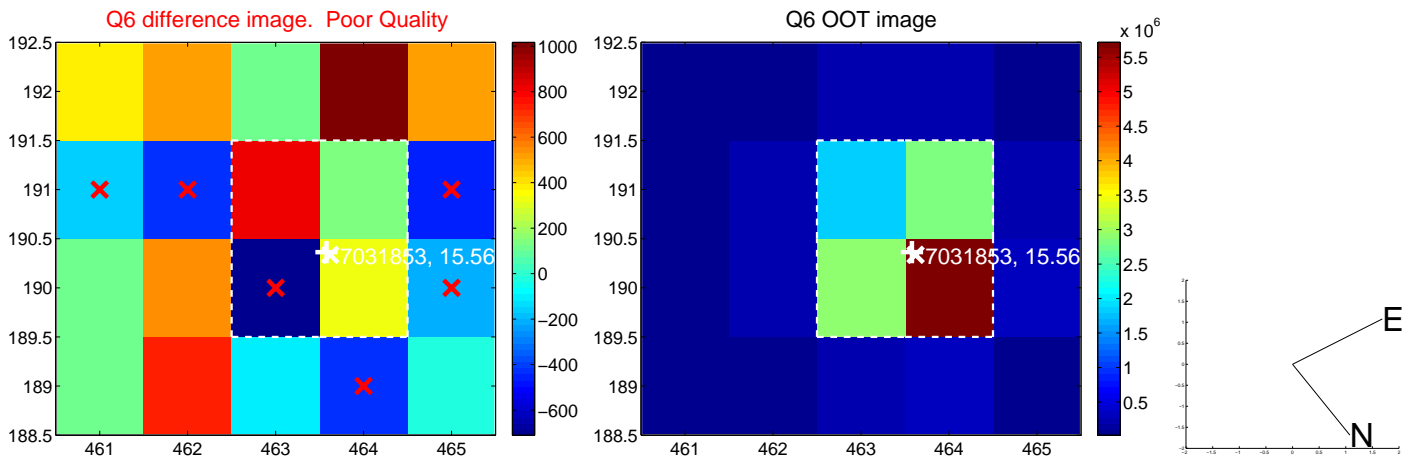
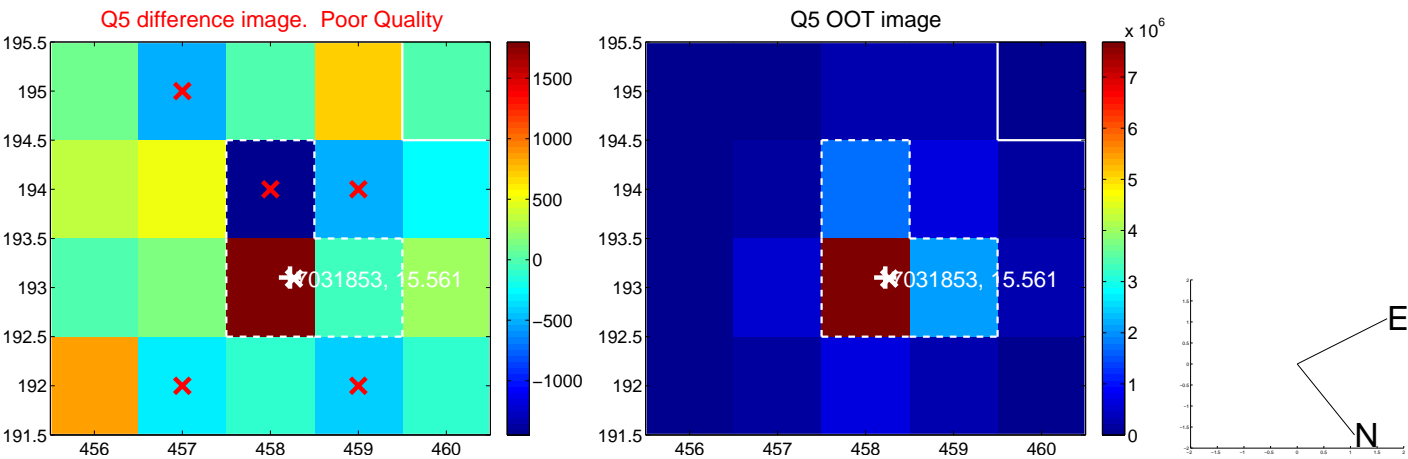


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

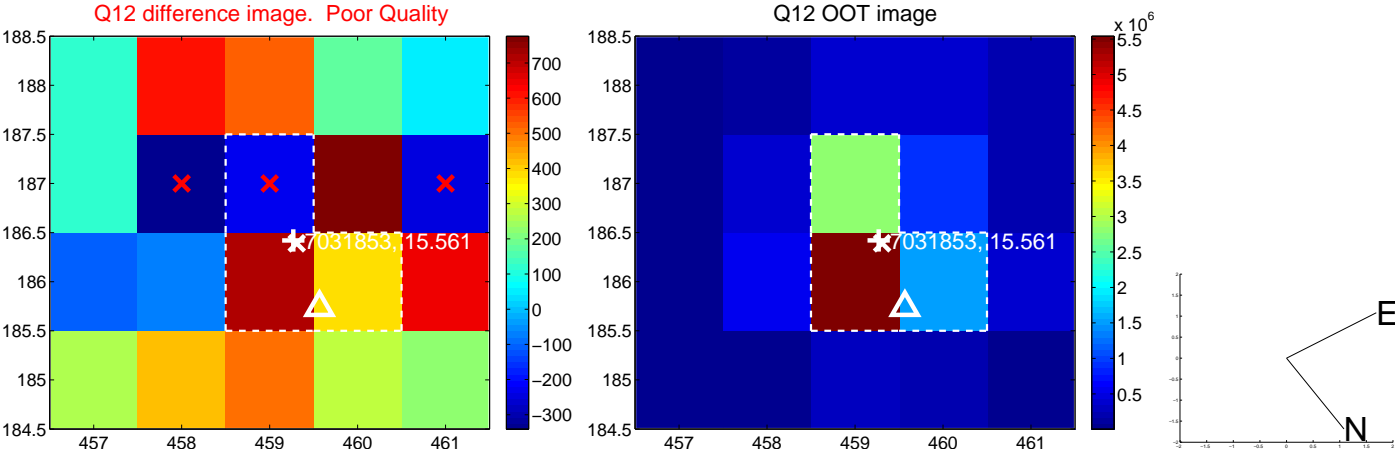
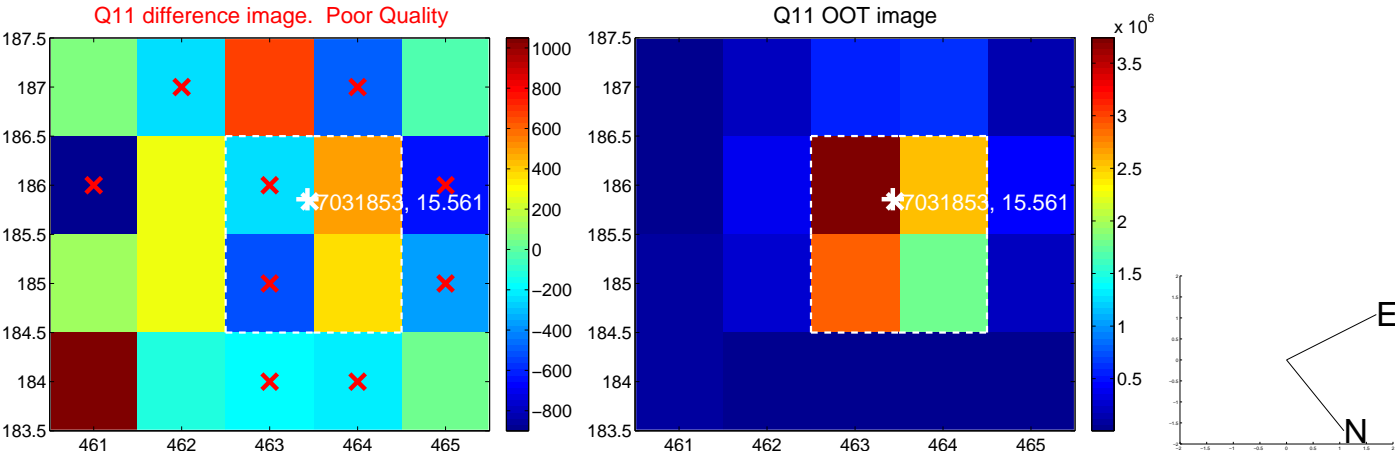
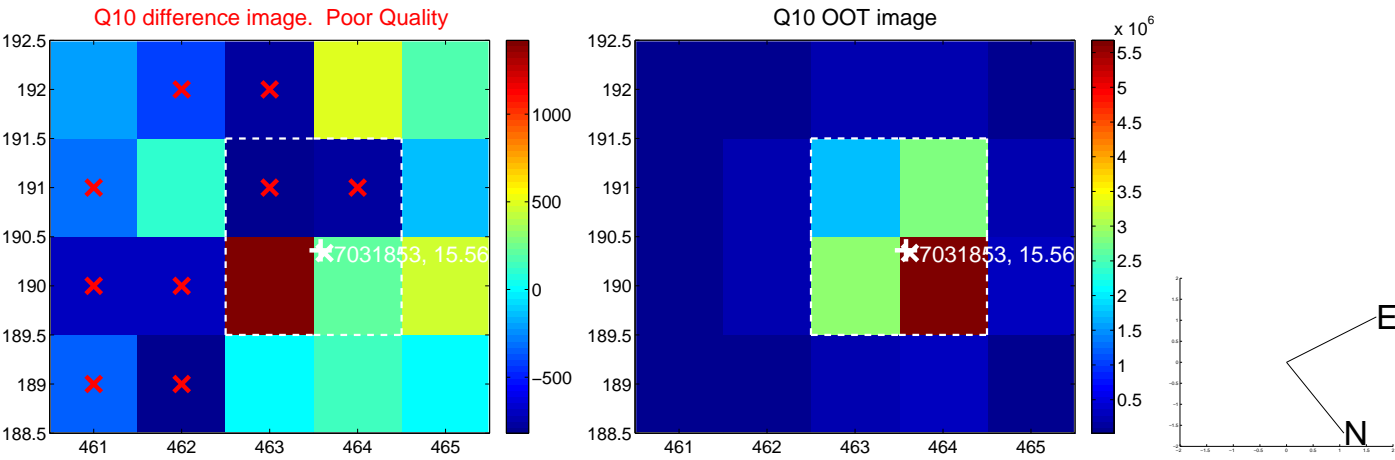
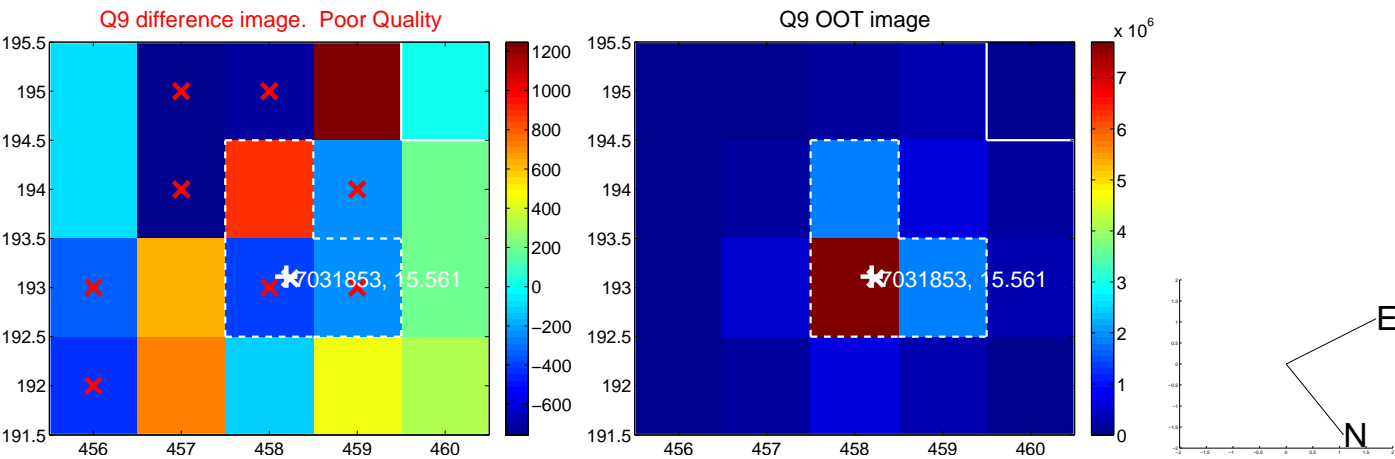
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



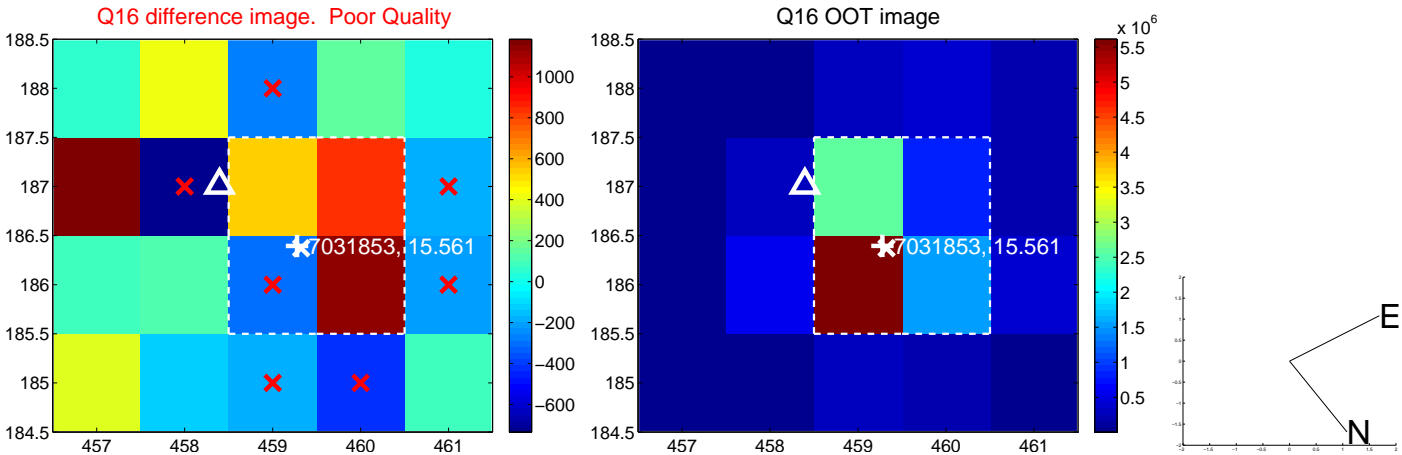
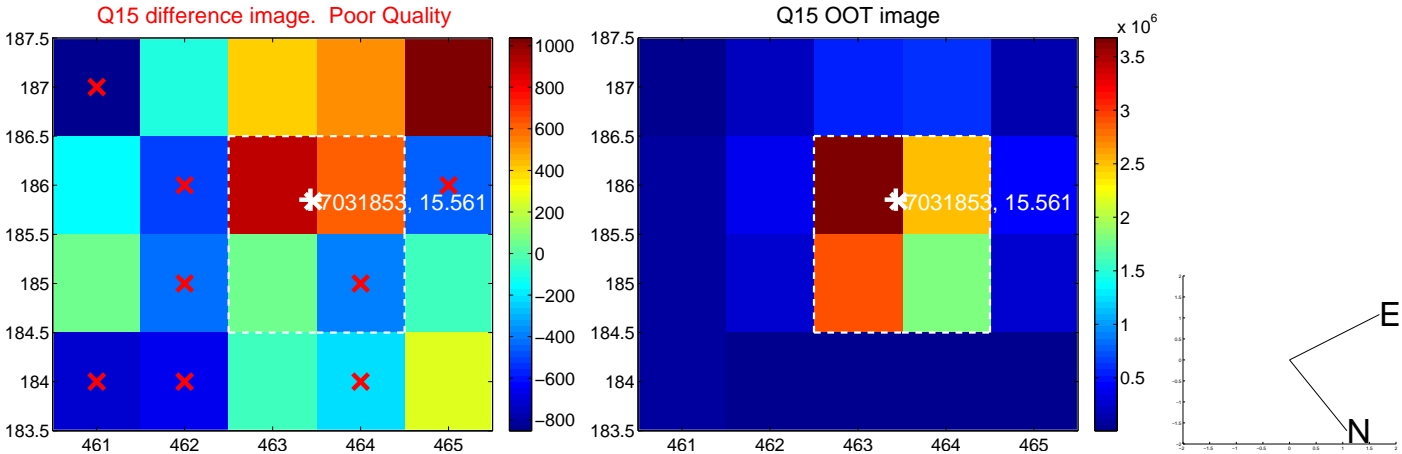
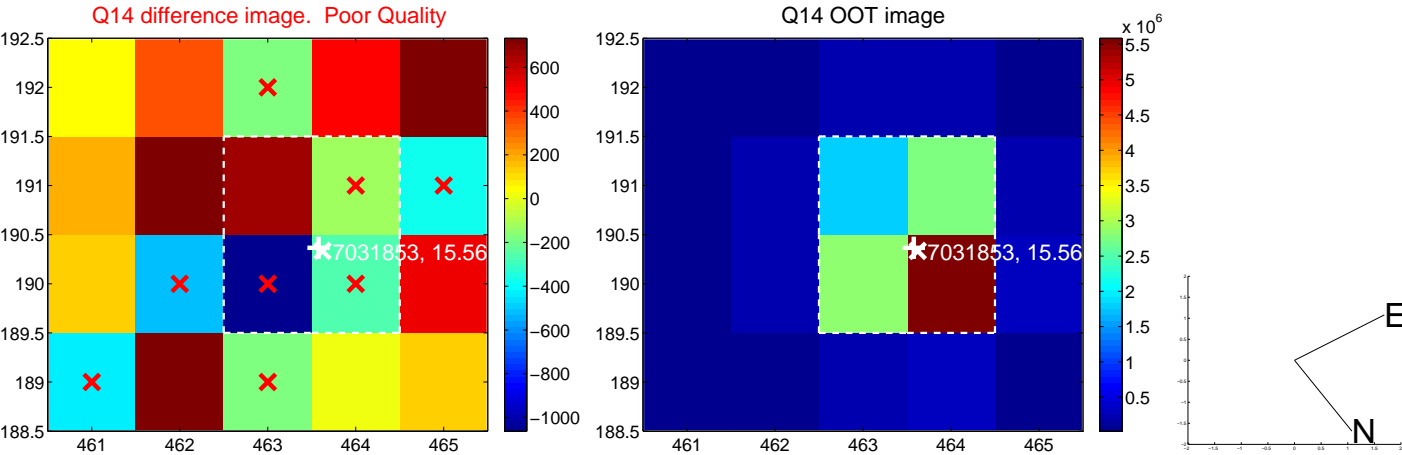
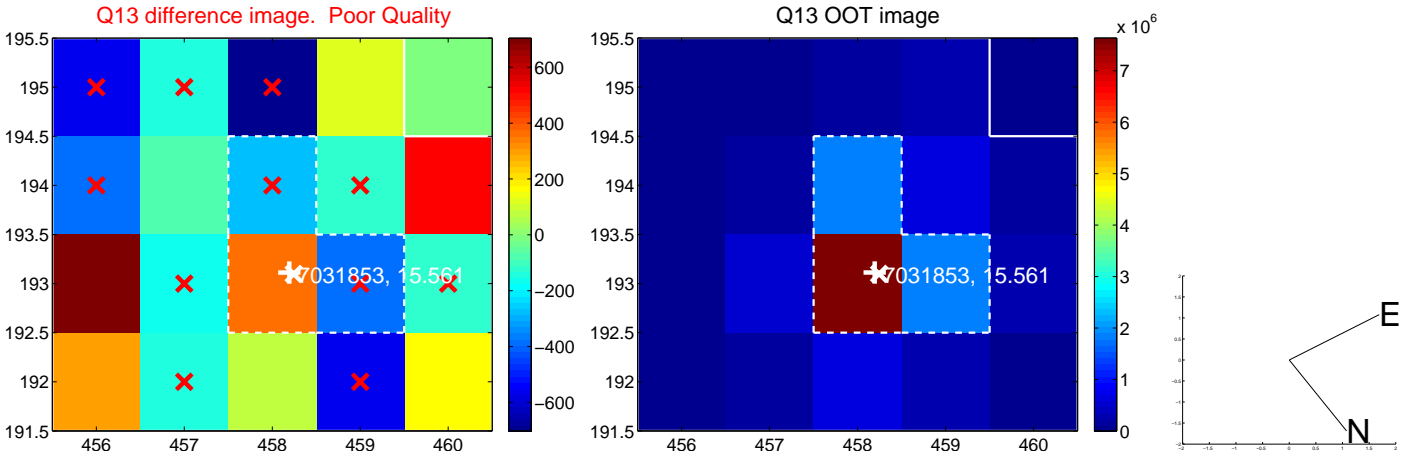
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



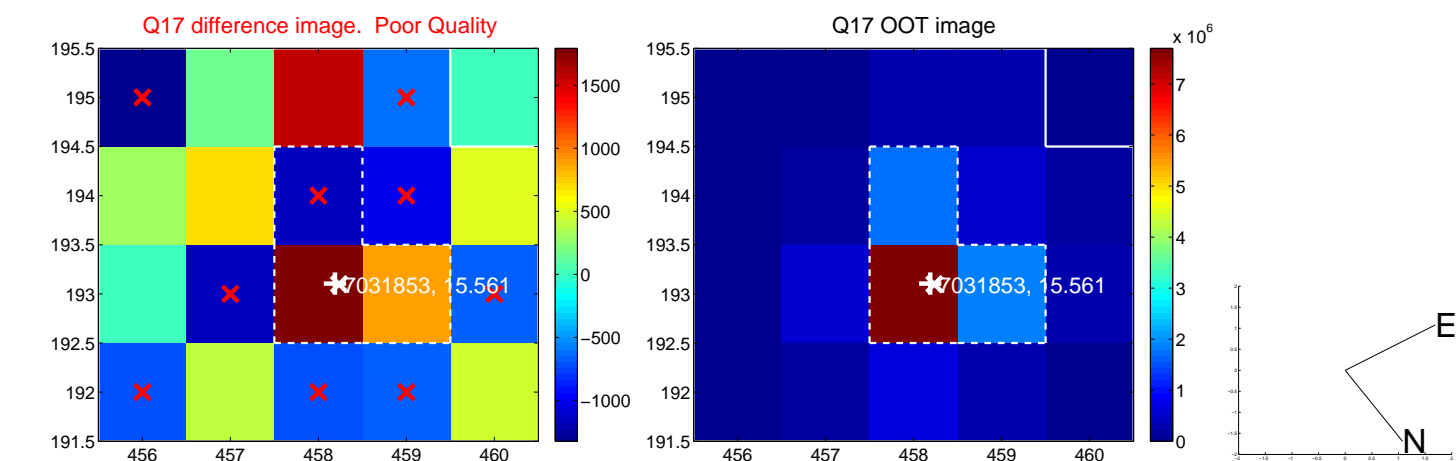
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



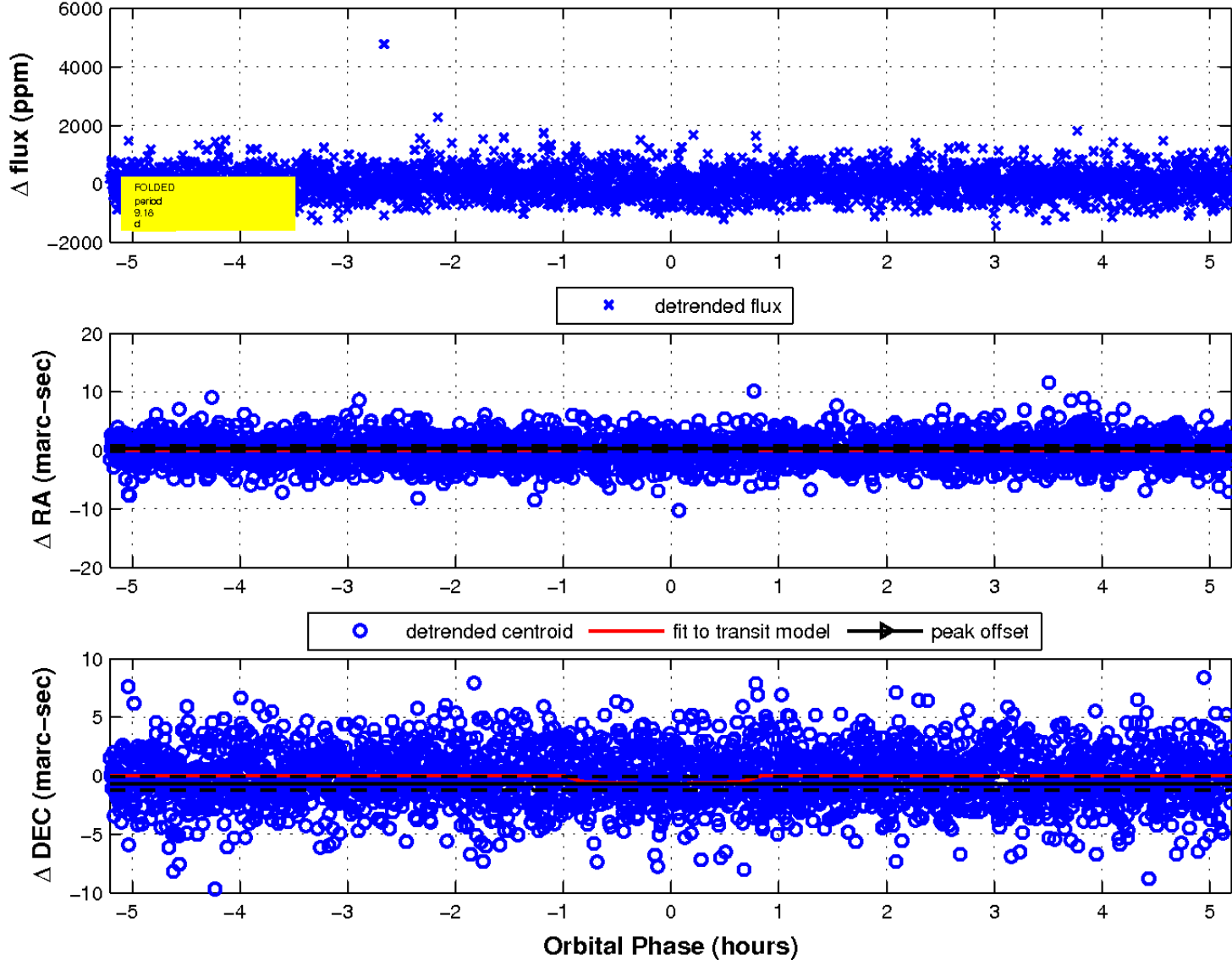
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

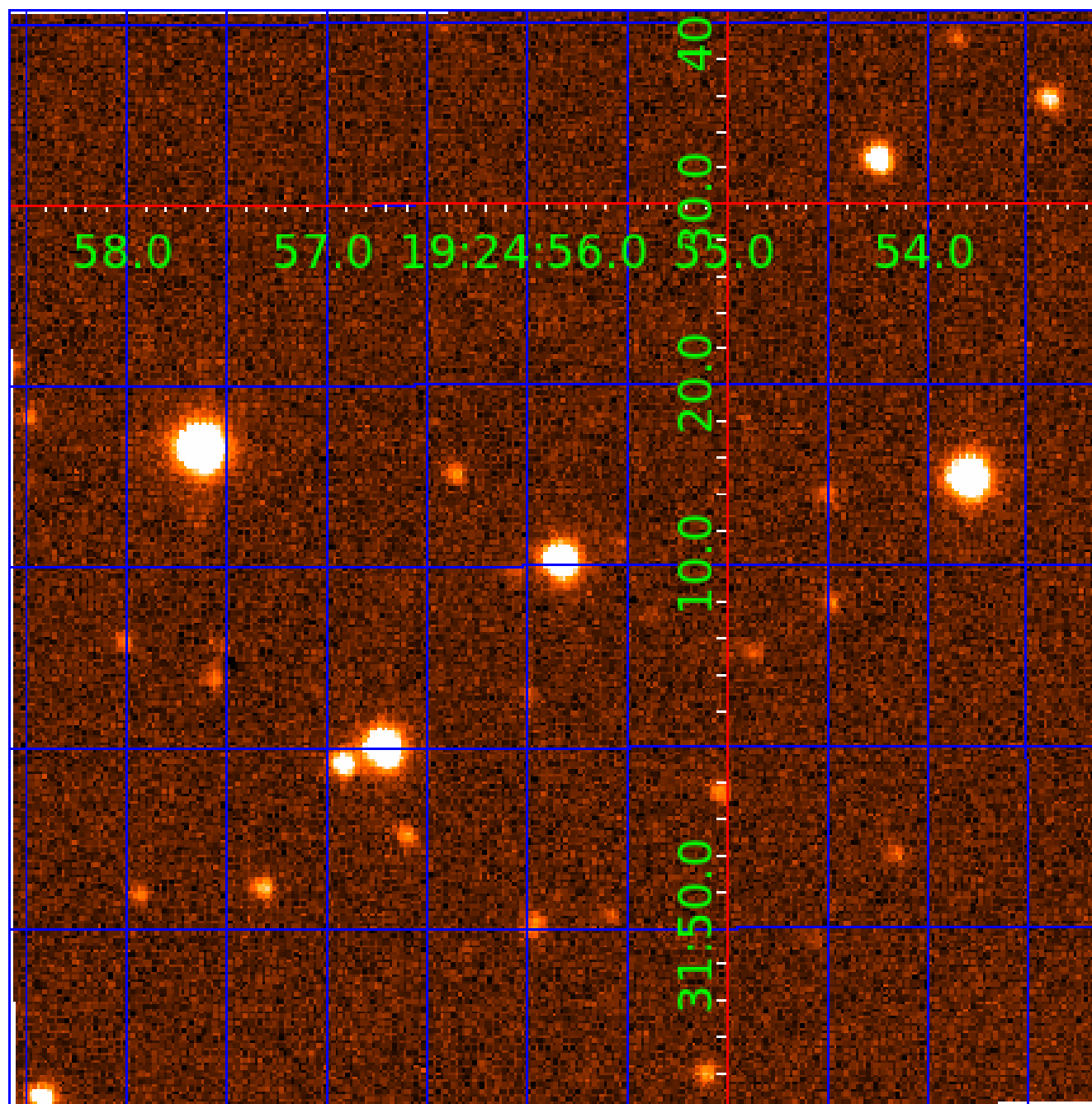


fluxWeightedCentroids, Planet 3 of 8



UKIRT Image

Declination



KIC 007031853

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})
007031853-01	OBS	No	0.566754	131.839314	17.0	4.284	10.8	4.2	1.25	6468	0.54	11360.26
007031853-02	OBS	No	7.498891	137.054763	1219.4	0.526	13.5	22.0	1.25	6468	4.76	363.01
007031853-03	OBS	No	9.179254	138.020646	537.7	1.736	12.5	15.1	1.25	6468	2.99	277.23
007031853-04	OBS	No	2.376727	131.545693	450.8	1.232	12.8	15.8	1.25	6468	3.12	1679.87
007031853-05	OBS	No	4.850105	134.338245	788.9	1.215	13.8	22.2	1.25	6468	3.54	649.00
007031853-06	OBS	No	8.492754	137.042016	530.8	2.036	14.2	16.3	1.25	6468	2.98	307.50
007031853-07	OBS	No	7.627644	137.430878	836.1	1.088	12.9	13.8	1.25	6468	3.74	354.86
007031853-08	OBS	No	1.601906	131.727945	251.2	0.798	12.2	8.5	1.25	6468	2.04	2842.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007031853-01	OBS	FP	0.00	1	0	0	1	LPP_DV—LPP_ALT—CENT_FEW_DIFFS—EPHEM_MATCH
007031853-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007031853-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST
007031853-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST
007031853-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007031853-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007031853-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST
007031853-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—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.

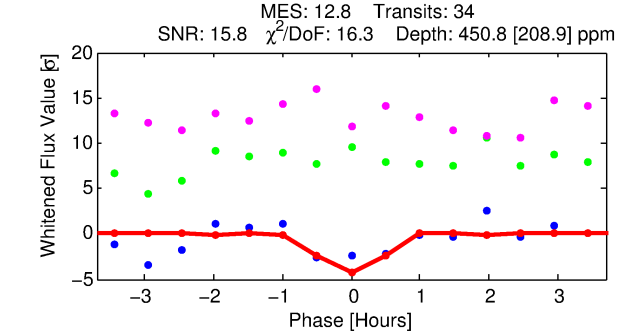
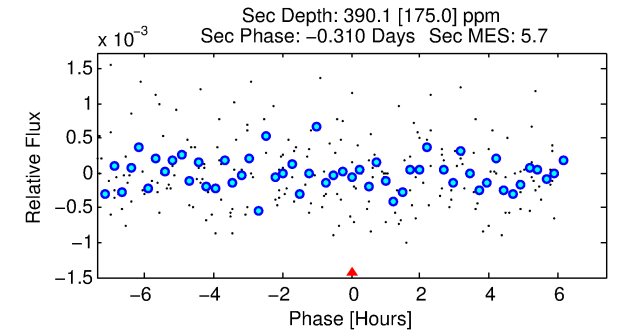
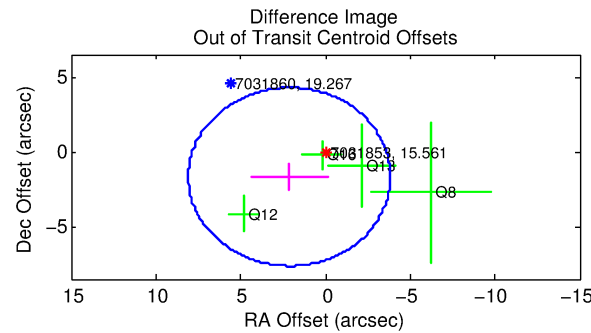
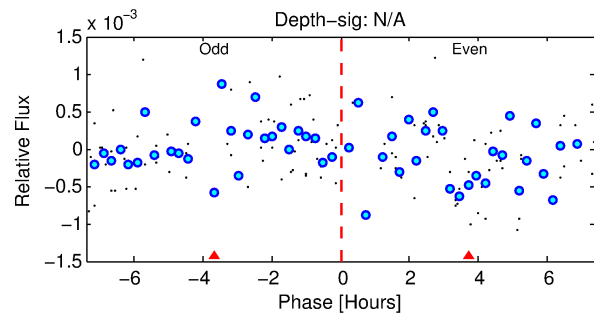
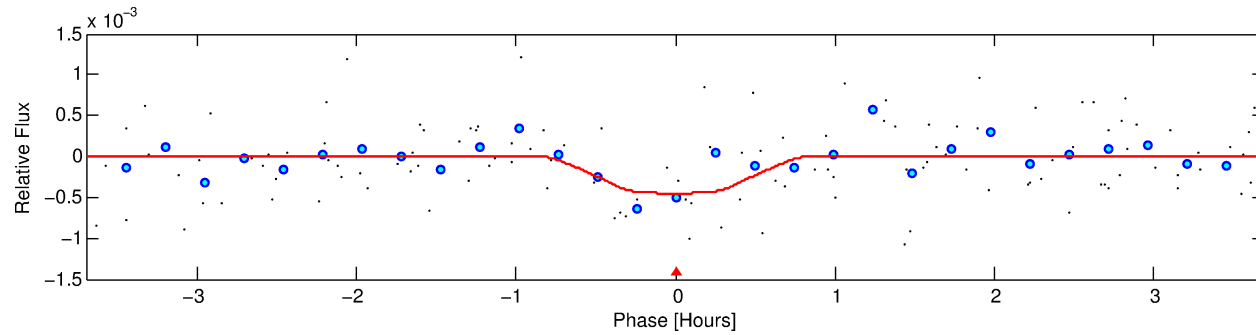
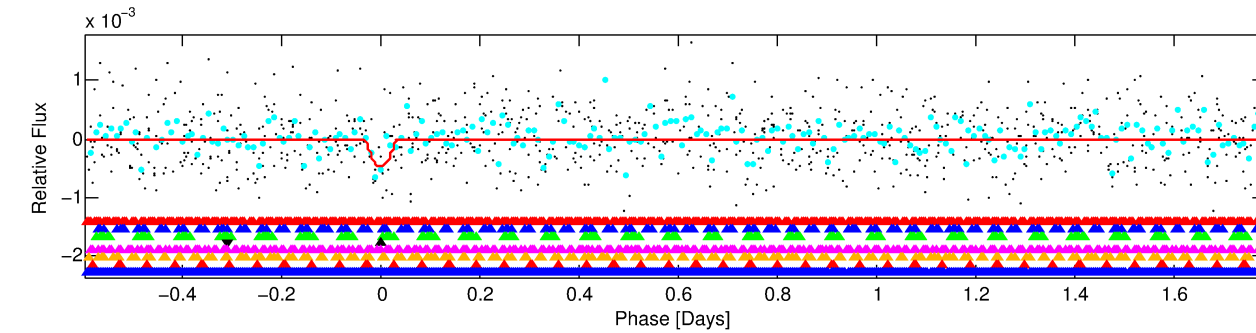
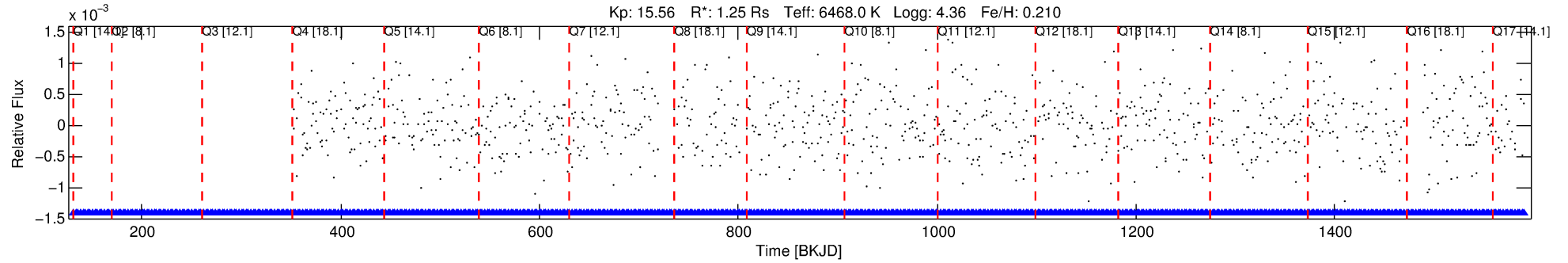
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007031853-04

No Significant Match Found

DV One-Page Summary

KIC: 7031853 Candidate: 4 of 8 Period: 2.377 d



DV Fit Results:

Period = 2.37673 [0.00003] d
Epoch = 131.5457 [0.0061] BKJD
Rp/R* = 0.0229 [0.0375]
a/R* = 7.31 [61.47]
b = 0.90 [1.91]
Seff = 1679.87 [665.74]
Teq = 1632 [162] K
Rp = 3.12 [5.21] Re
a = 0.0382 [0.0098] AU
Ag = 32.12 [106.99] [0.29σ]
Teffp = 6009 [4979] K [0.88σ]

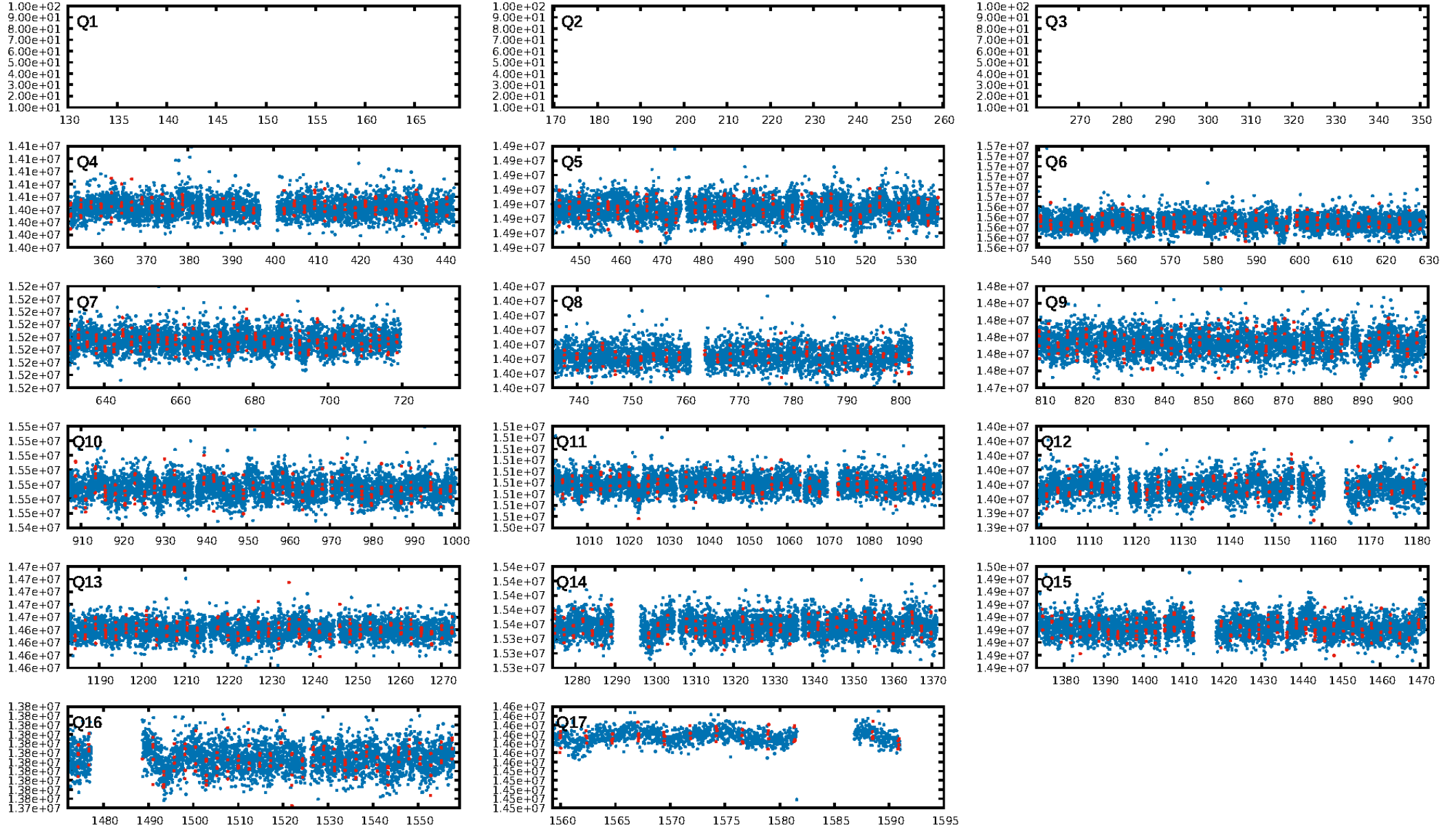
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [12.67σ]
LongPeriod-sig: 100.0% [34.31σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 3.00e-09
RollingBand-fgt: 1.00 [33/33]
GhostDiagnostic-chr: -0.09026
Centroid-sig: 17.0%
Centroid-so: 0.572 arcsec [1.14σ]
OotOffset-rm: 2.707 arcsec [1.36σ]
KicOffset-rm: 2.751 arcsec [1.53σ]
OotOffset-st: 0/0/3/1 [4]
KicOffset-st: 0/0/3/1 [4]
DiffImageQuality-fgm: 0.25 [1/4]
DiffImageOverlap-fno: 0.00 [0/14]

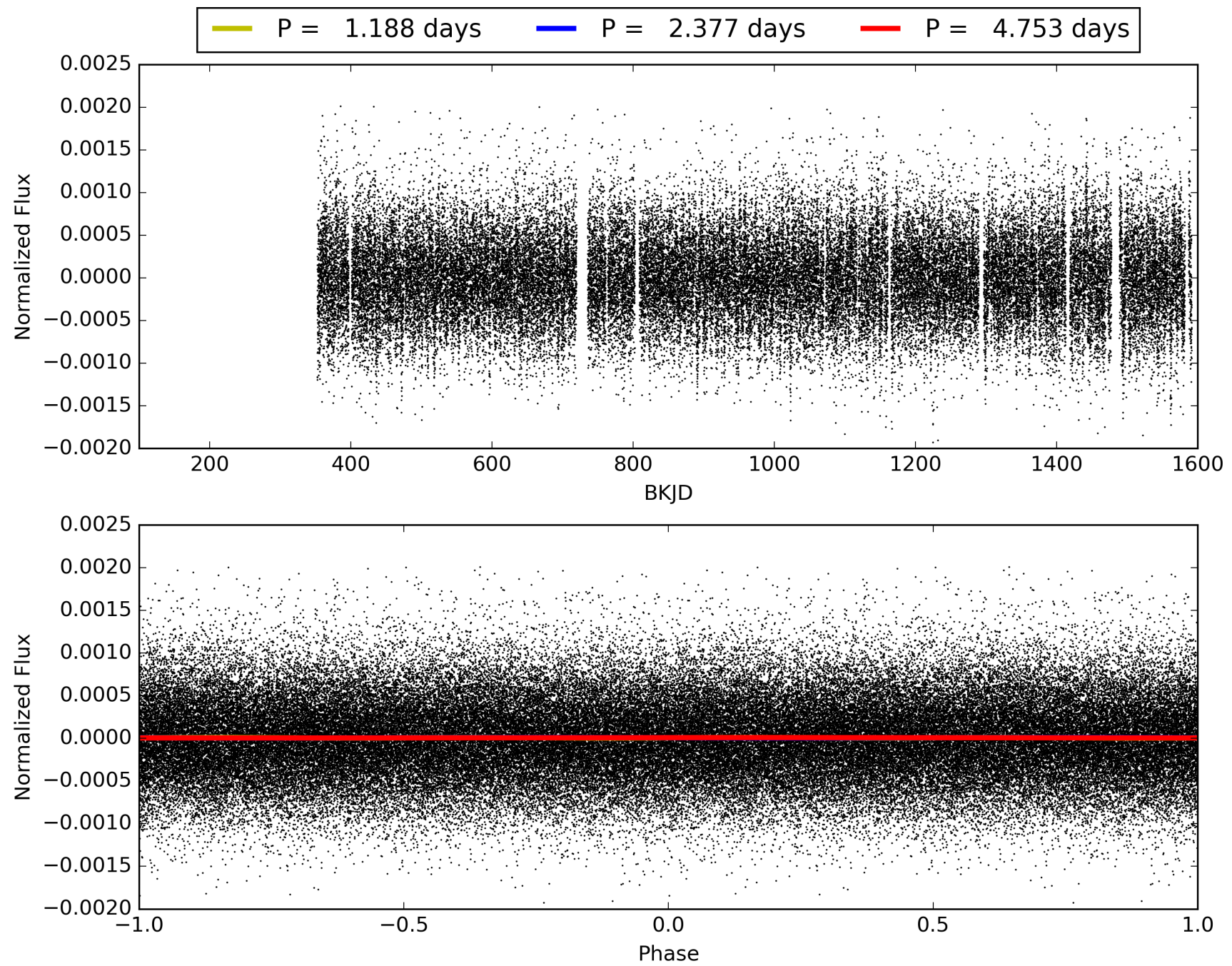
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:38:39 Z

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

TCE 007031853-04, PDC Light Curves

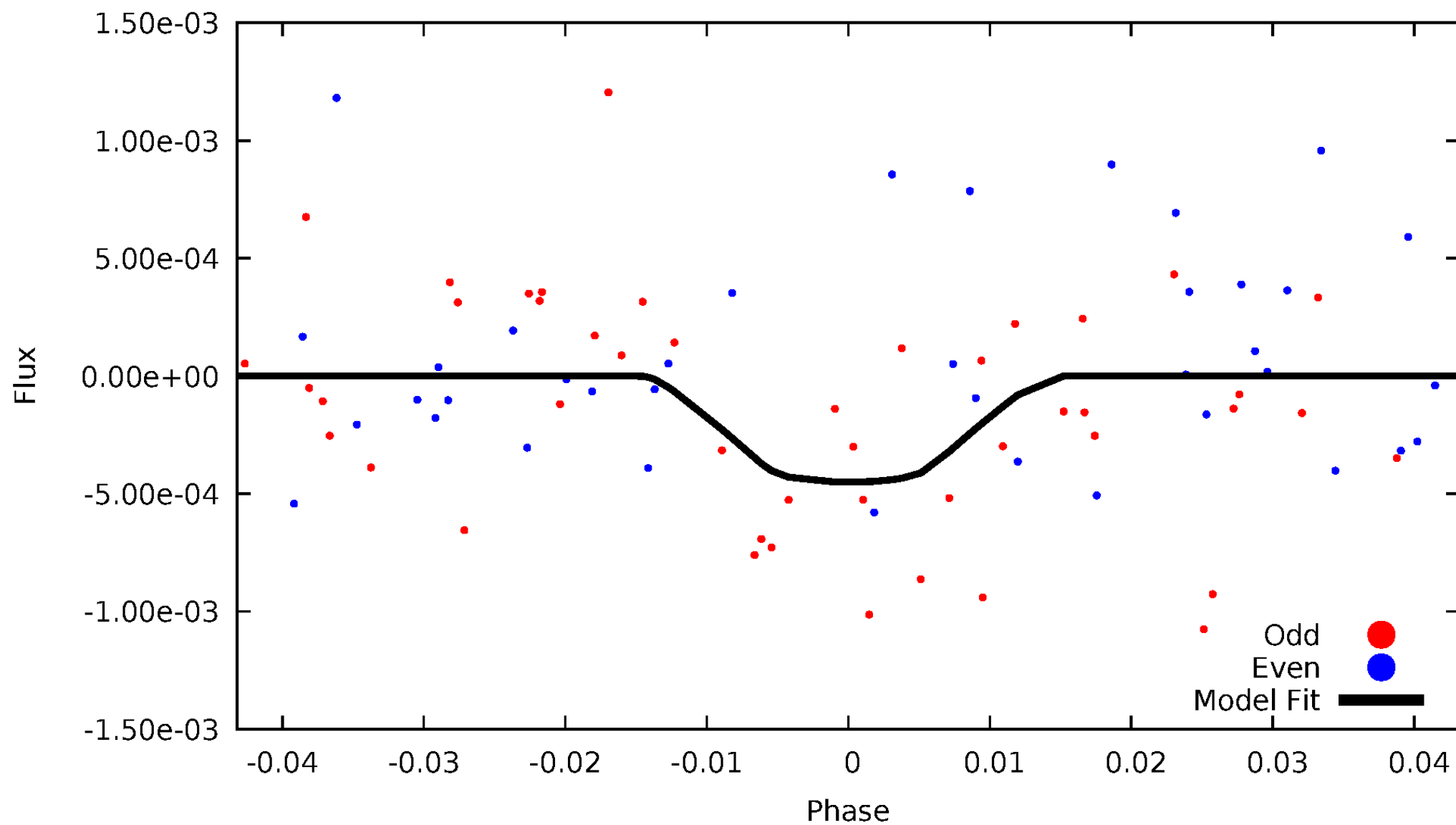


TCE 007031853-04



DV Odd/Even

TCE 007031853-04

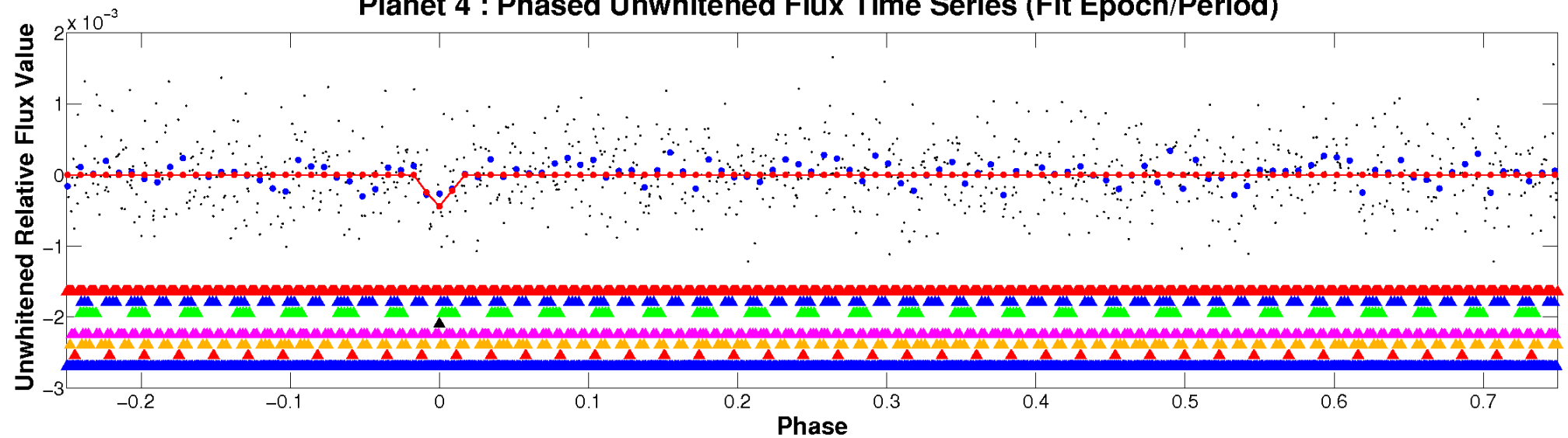


ALT Odd/Even

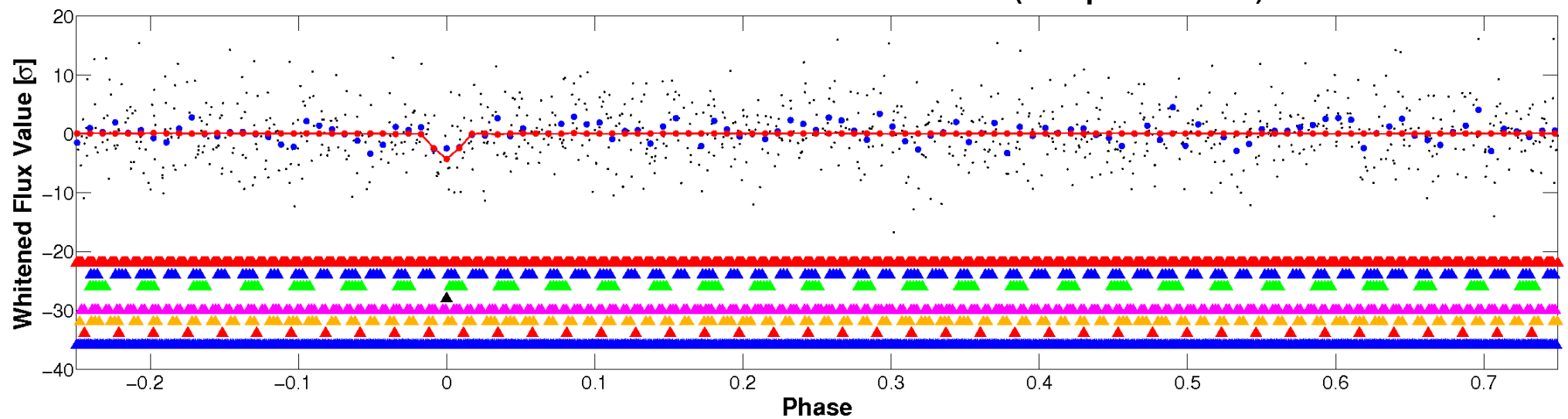
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

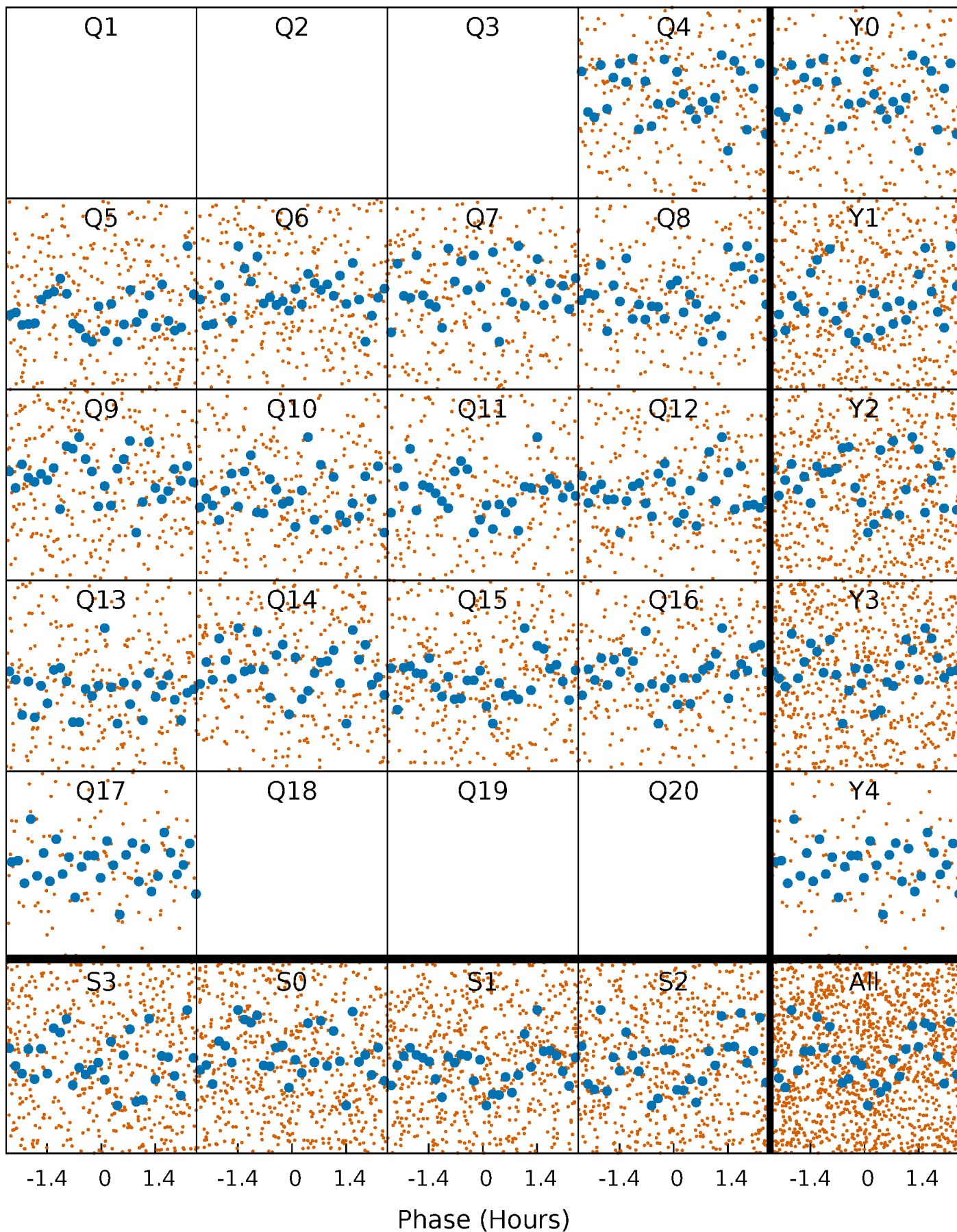


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



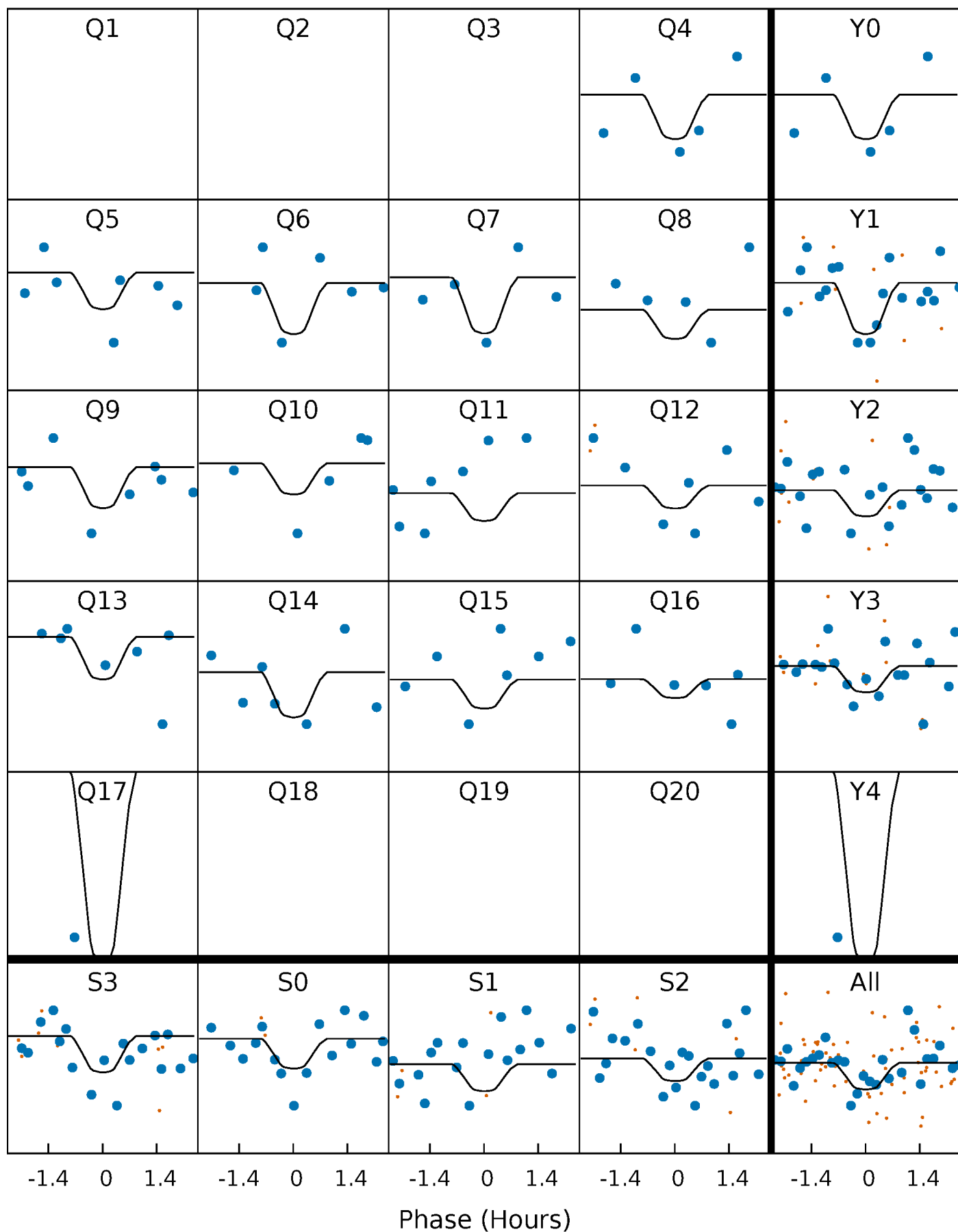
PDC Quarter-Phased Transit Curves

TCE 007031853-04 P= 2.376727 Days $T_0=131.545693$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007031853-04 P= 2.376727 Days $T_0=131.545693$ (BKJD)

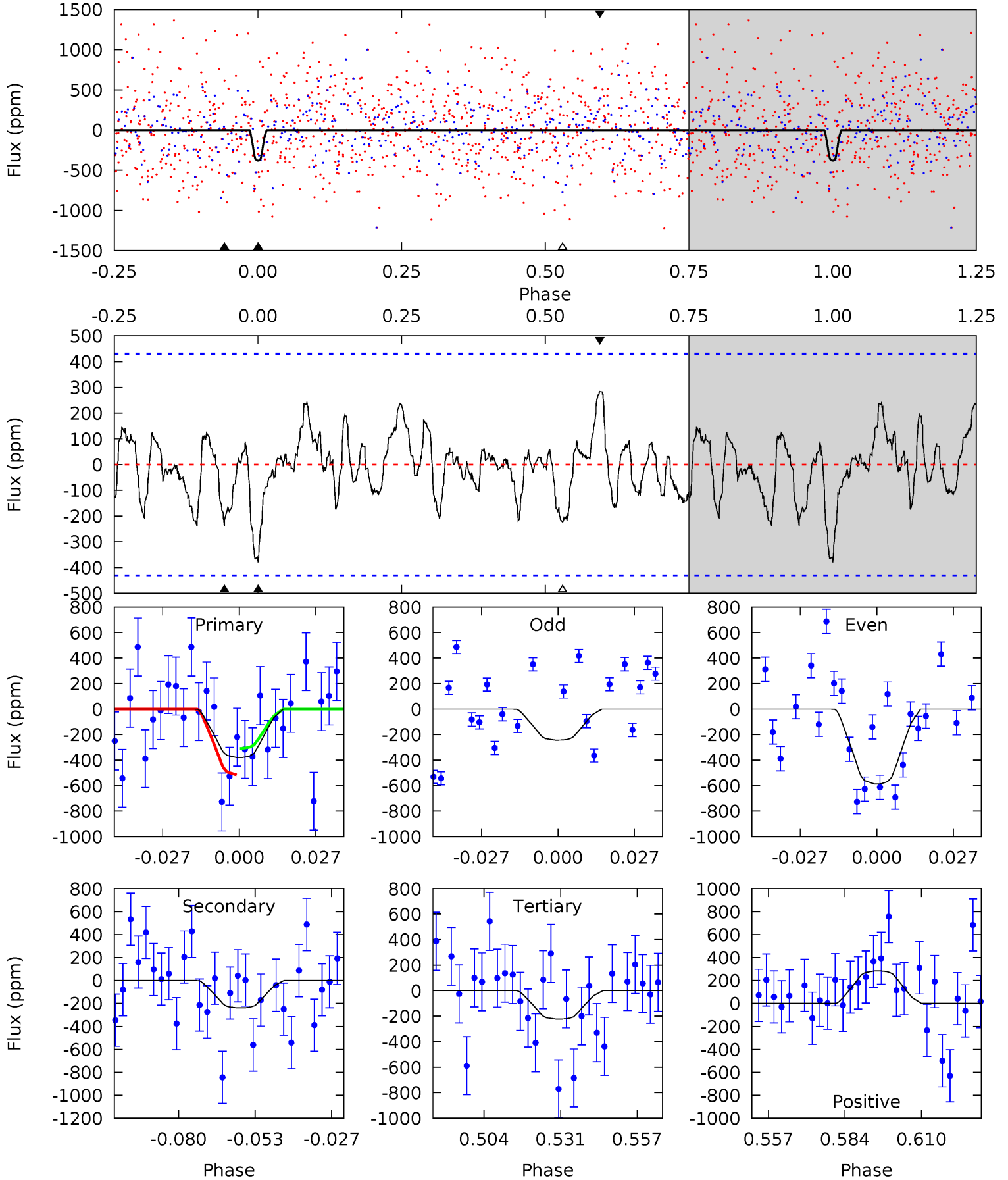


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

007031853-04, P = 2.376727 Days, E = 131.545693 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.27	2.69	2.51	3.19	4.84	2.22	1.14	1.76	1.08	0.18	-0.50	1.87	0	0.43	1.16



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 007031853

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6468^{+180}_{-248}	$4.363^{+0.065}_{-0.195}$	$0.210^{+0.200}_{-0.350}$	$1.250^{+0.393}_{-0.157}$	$1.313^{+0.154}_{-0.205}$	$0.948^{+0.324}_{-0.468}$
	+3%/-4%	+1%/-4%	+95%/-167%	+31%/-13%	+12%/-16%	+34%/-49%
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 007031853-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-239 ± 89	$4.92^{+4.95}_{-3.12}$	2321^{+167}_{-122}	4369^{+2911}_{-959}	$6.935^{+50.116}_{-5.138}$
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

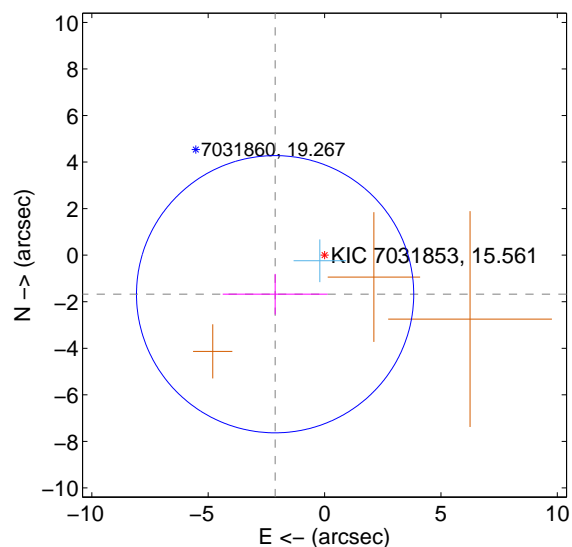
Supplemental centroid analysis for 007031853-04. Kepler magnitude: 15.56. Transit SNR 15.81

There are 1 quarters with good PRF difference image offsets

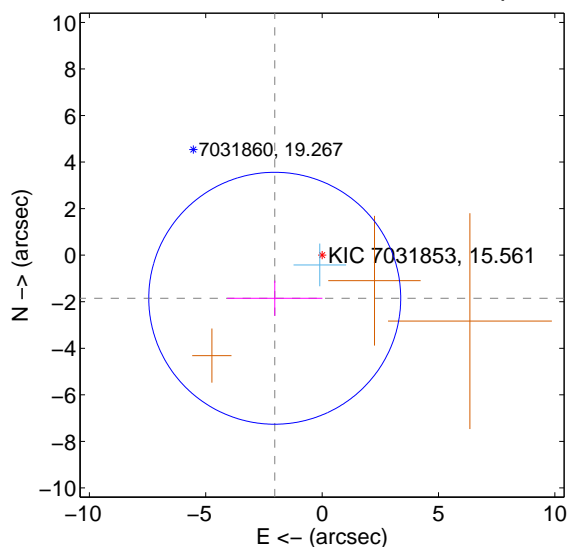
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.707 ± 1.985	1.36	2.125 ± 2.250	-1.677 ± 0.875
PRF-fit source offset from KIC position	2.751 ± 1.804	1.53	2.035 ± 2.045	-1.851 ± 0.757
photometric centroid source offset	0.57 ± 0.50	1.14	0.32 ± 0.50	-0.47 ± 0.50

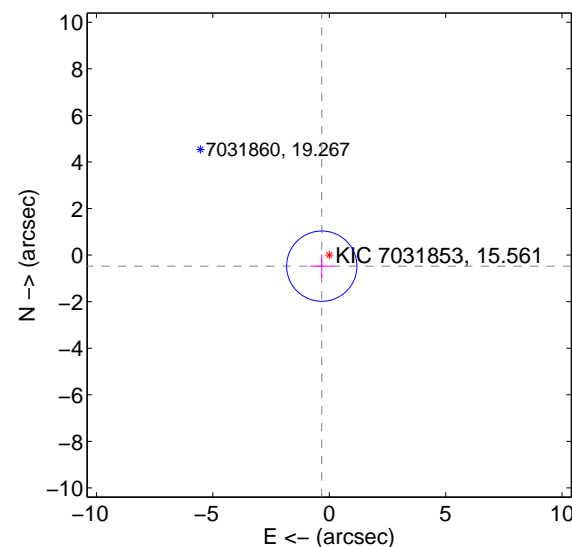
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

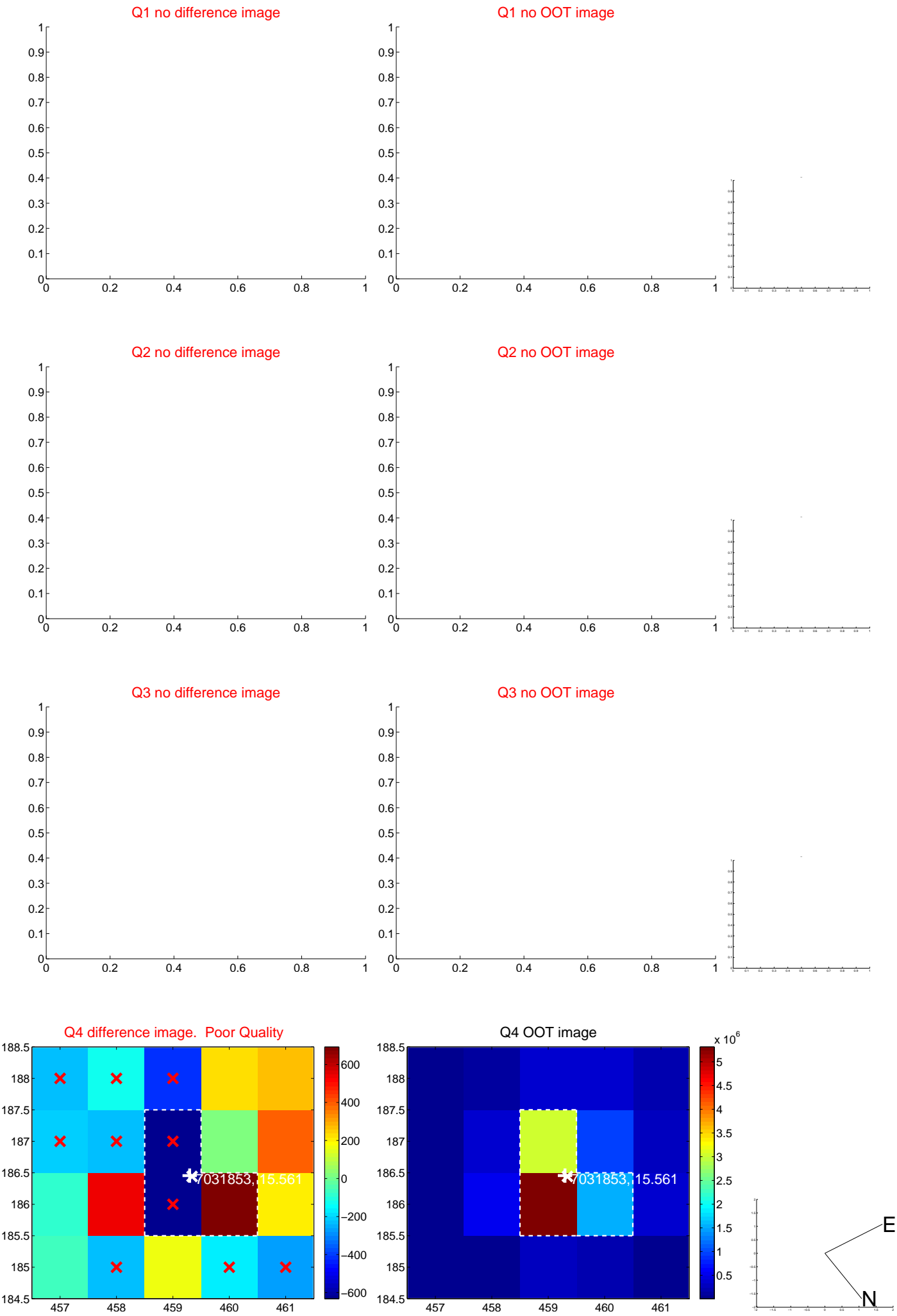


offset from photometric centroids

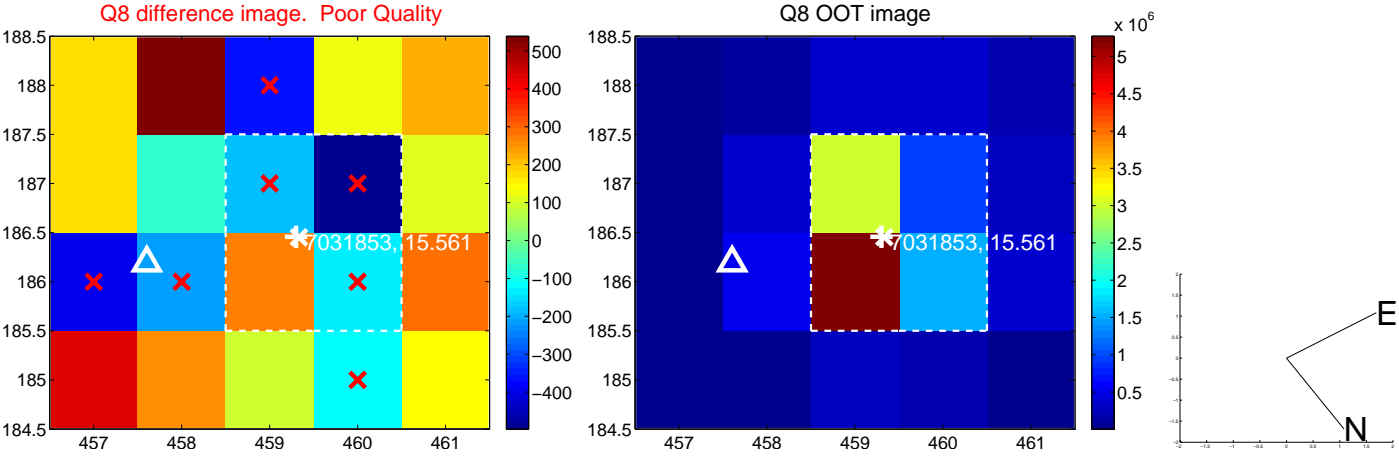
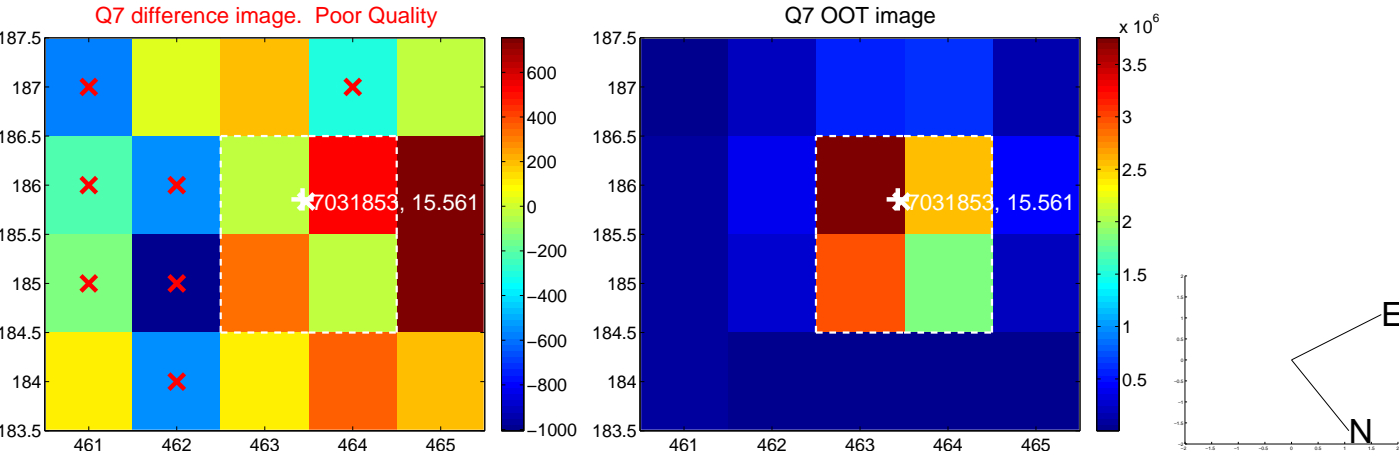
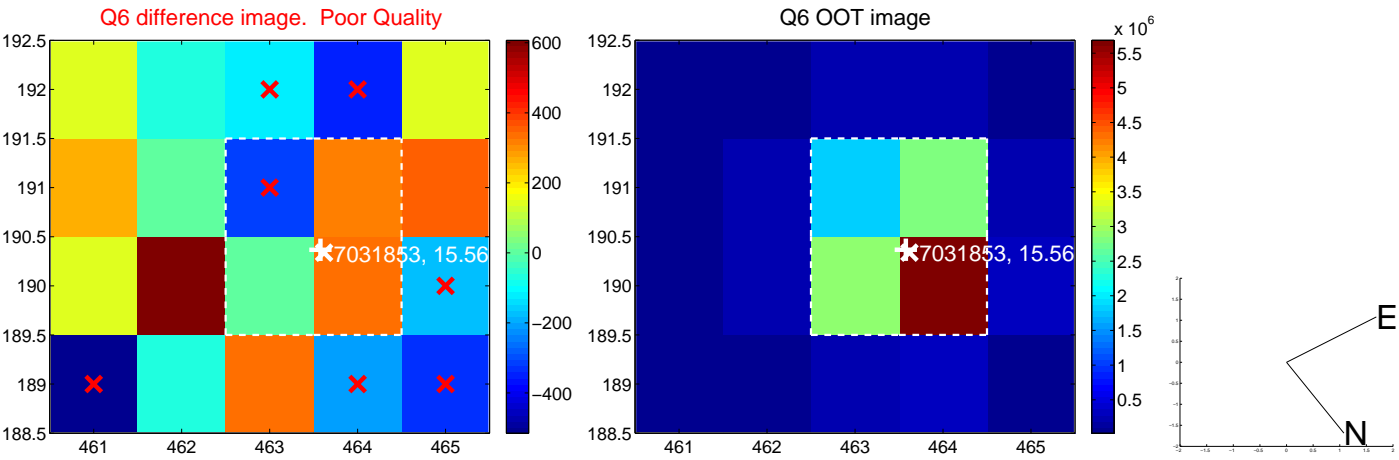
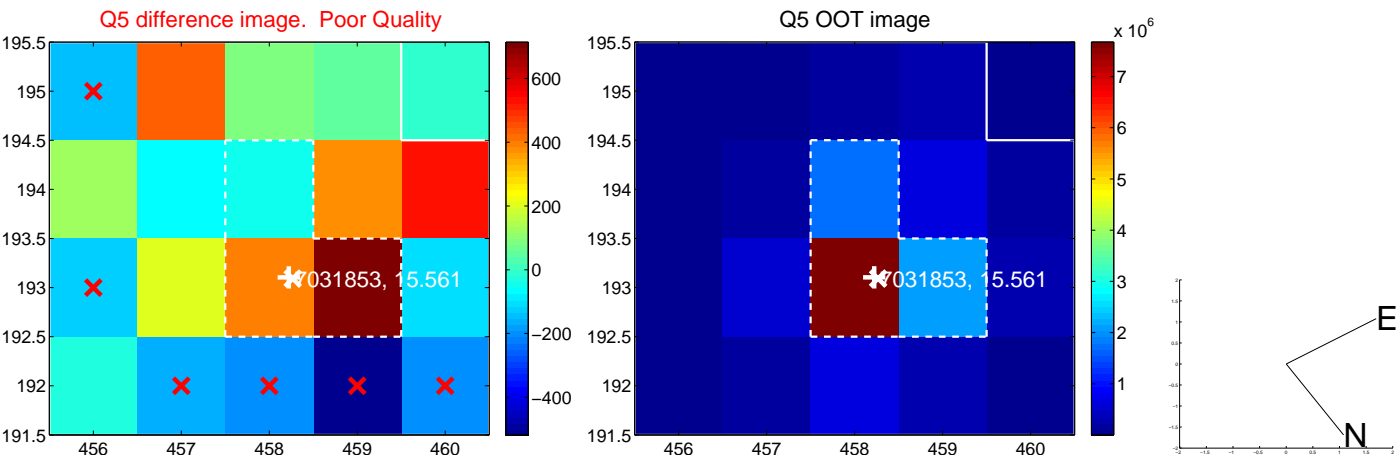


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

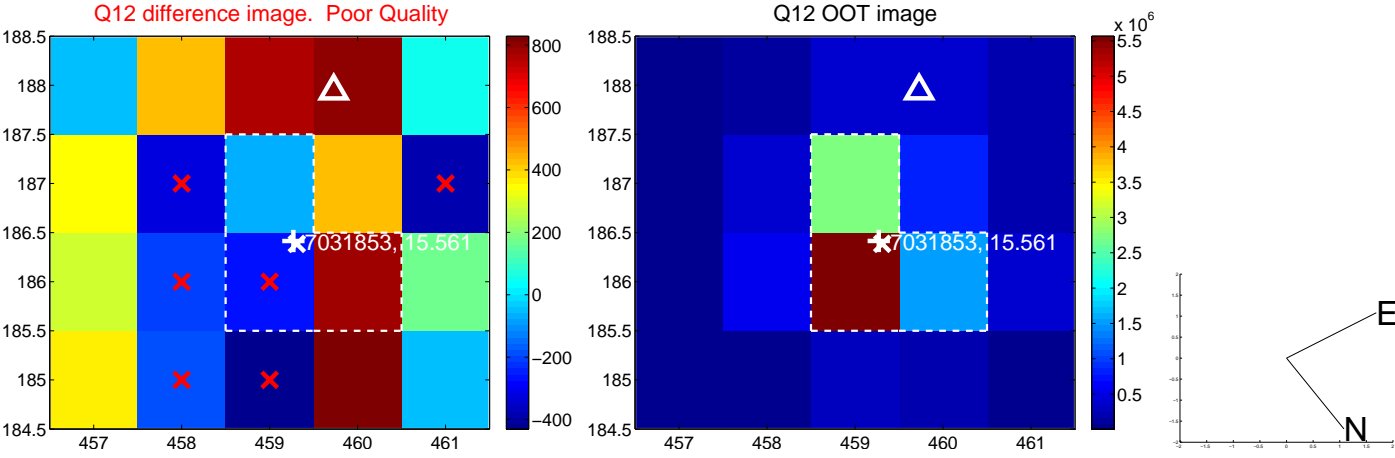
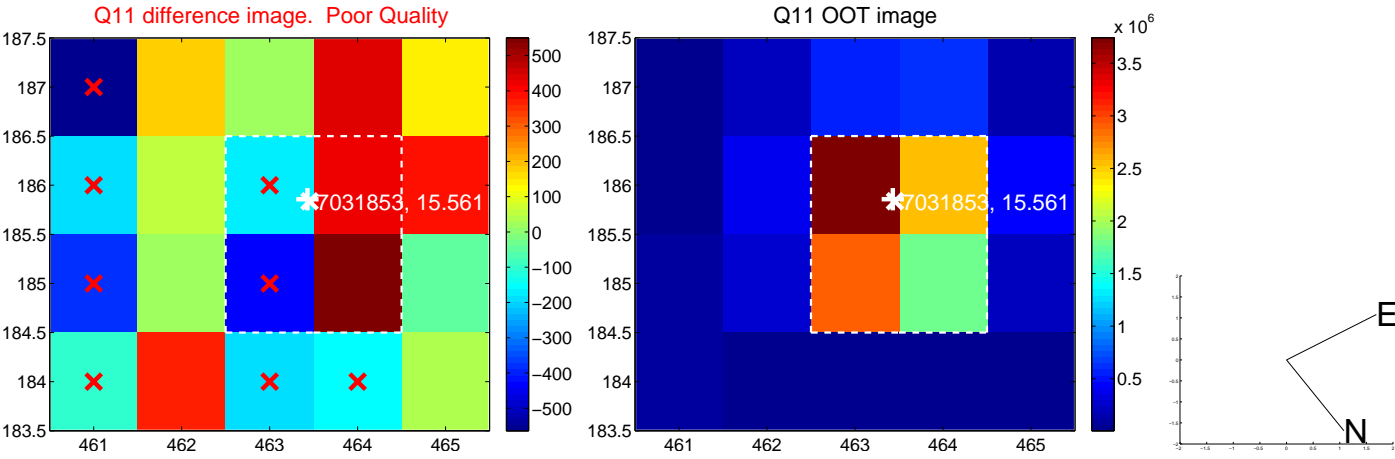
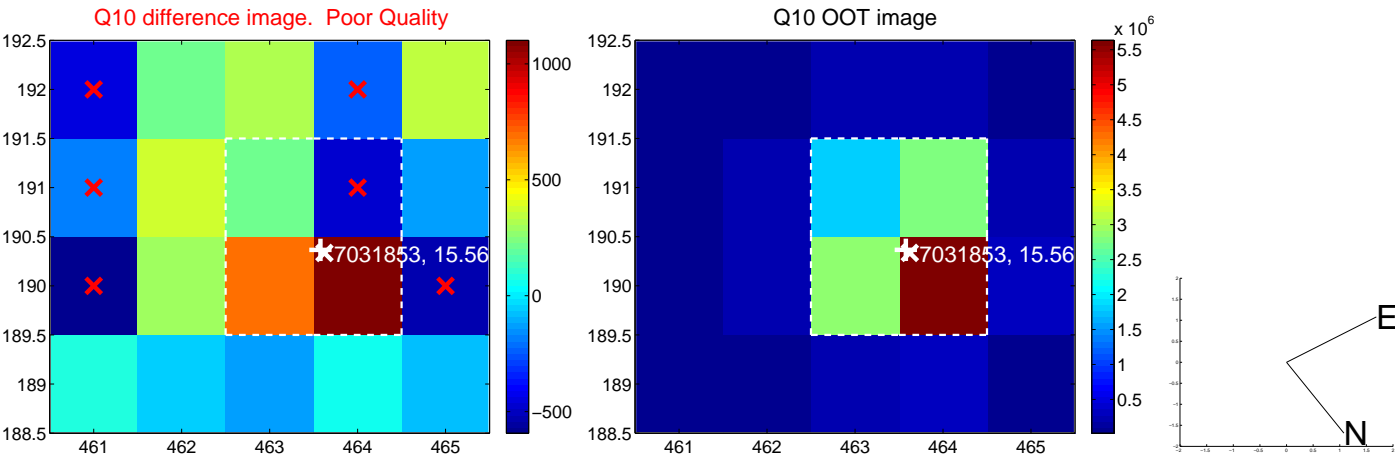
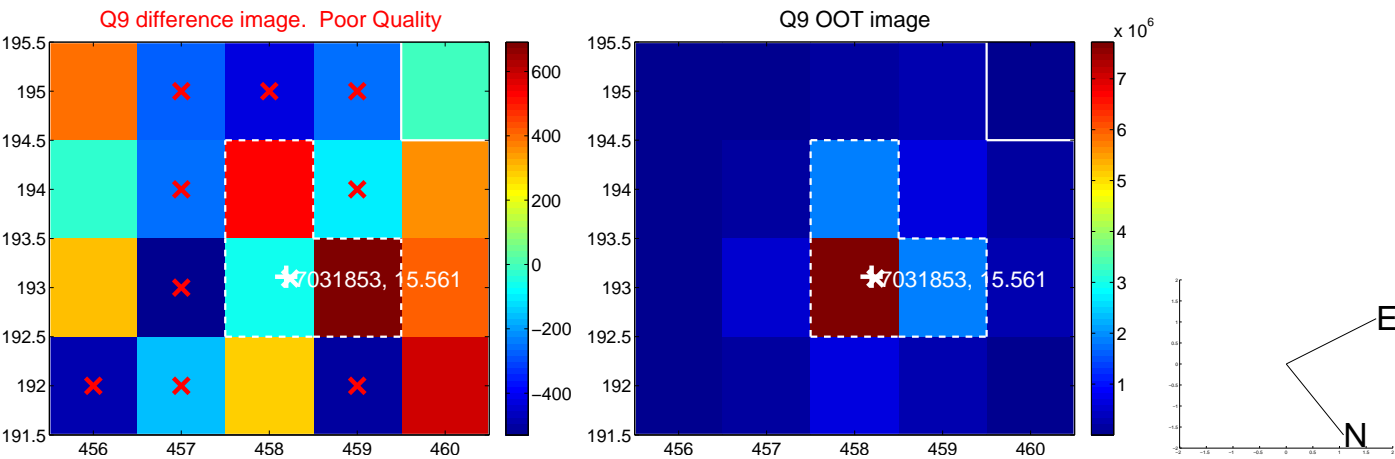
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



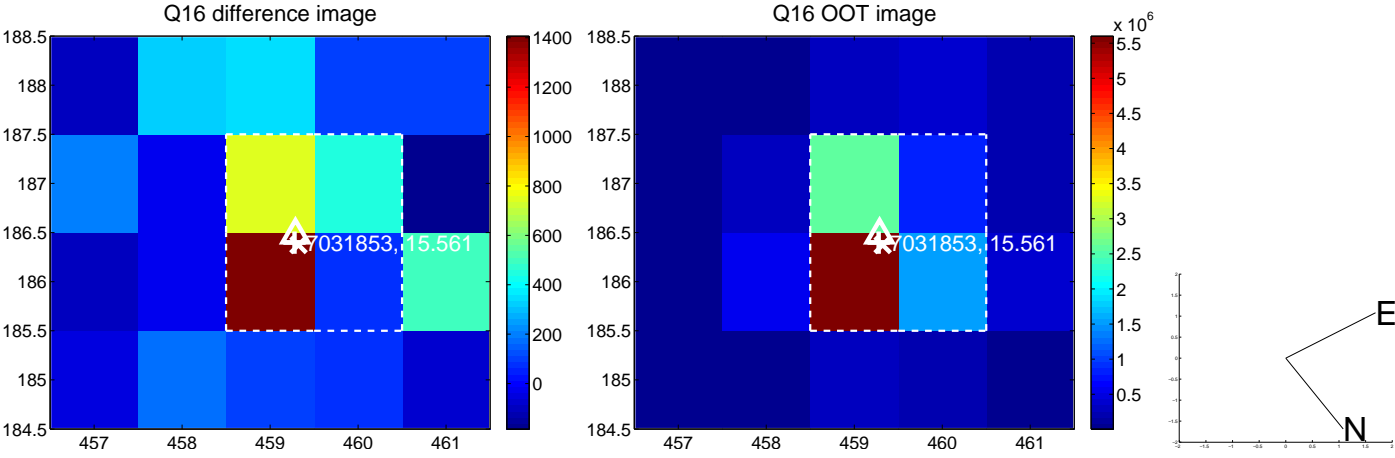
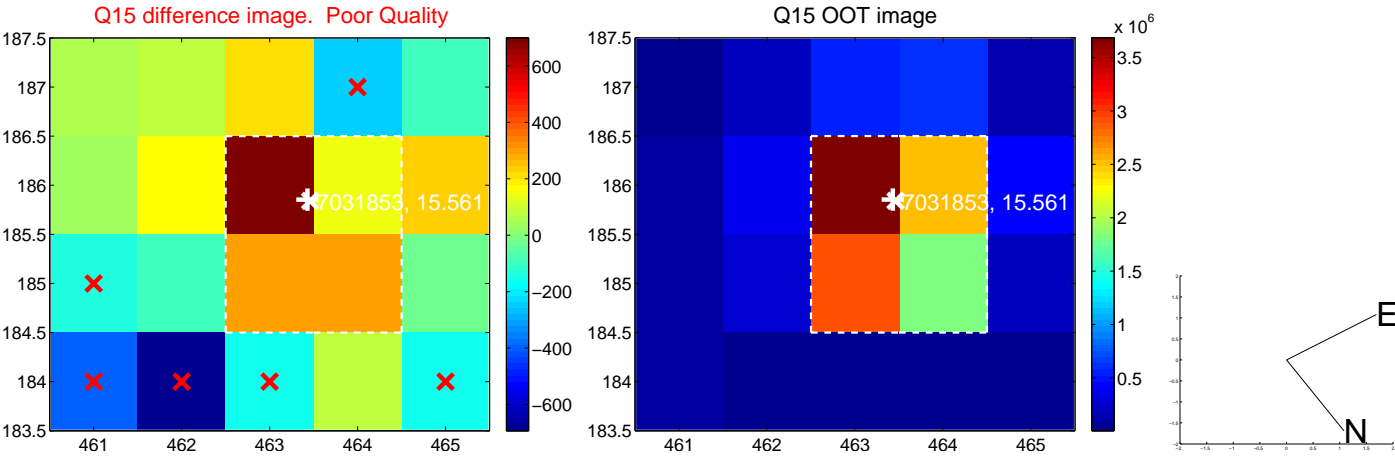
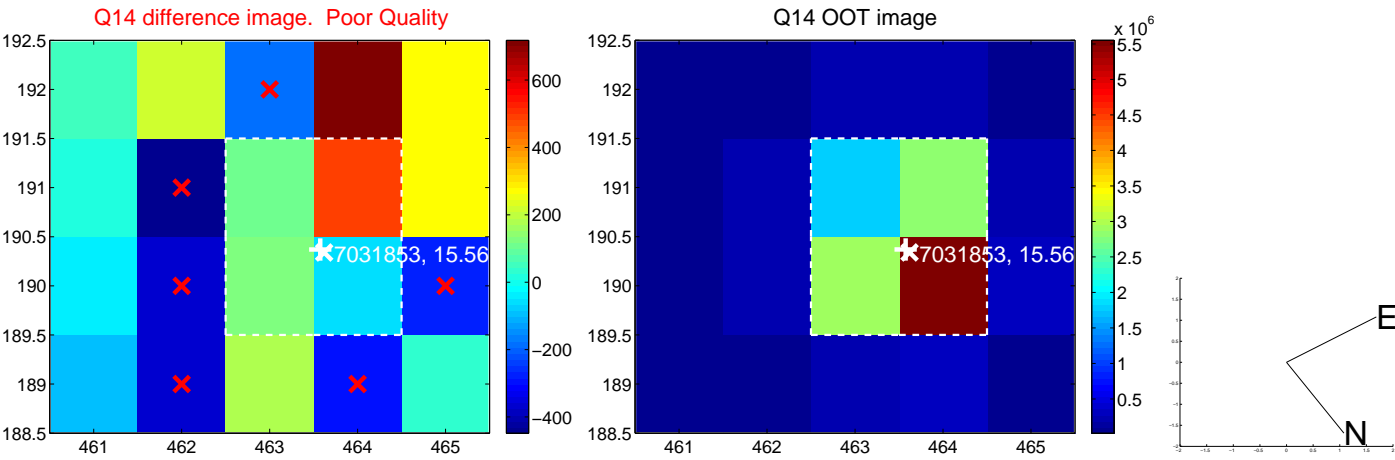
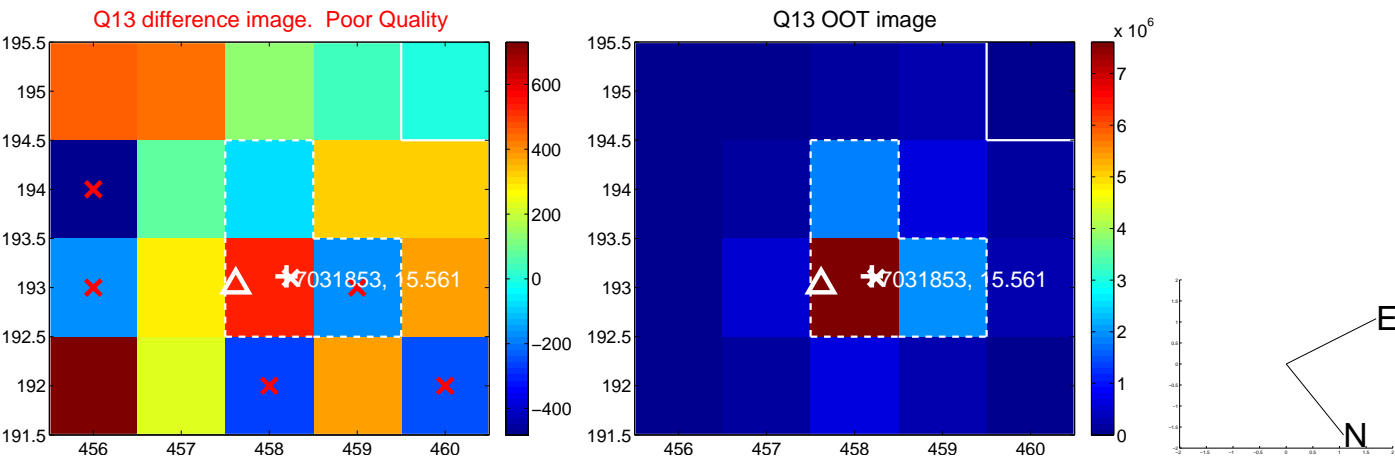
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



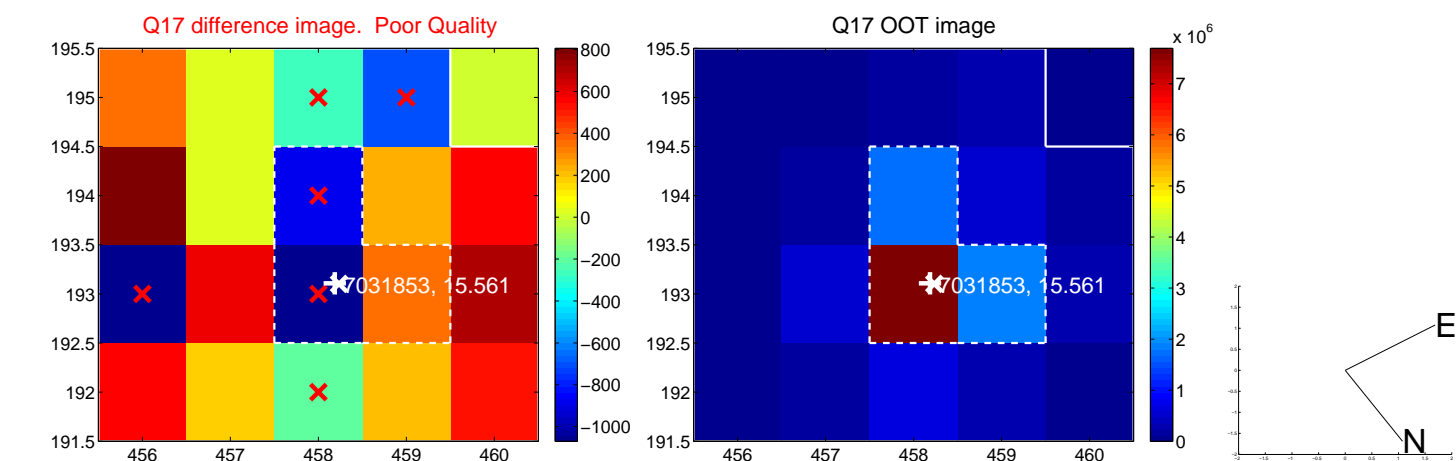
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



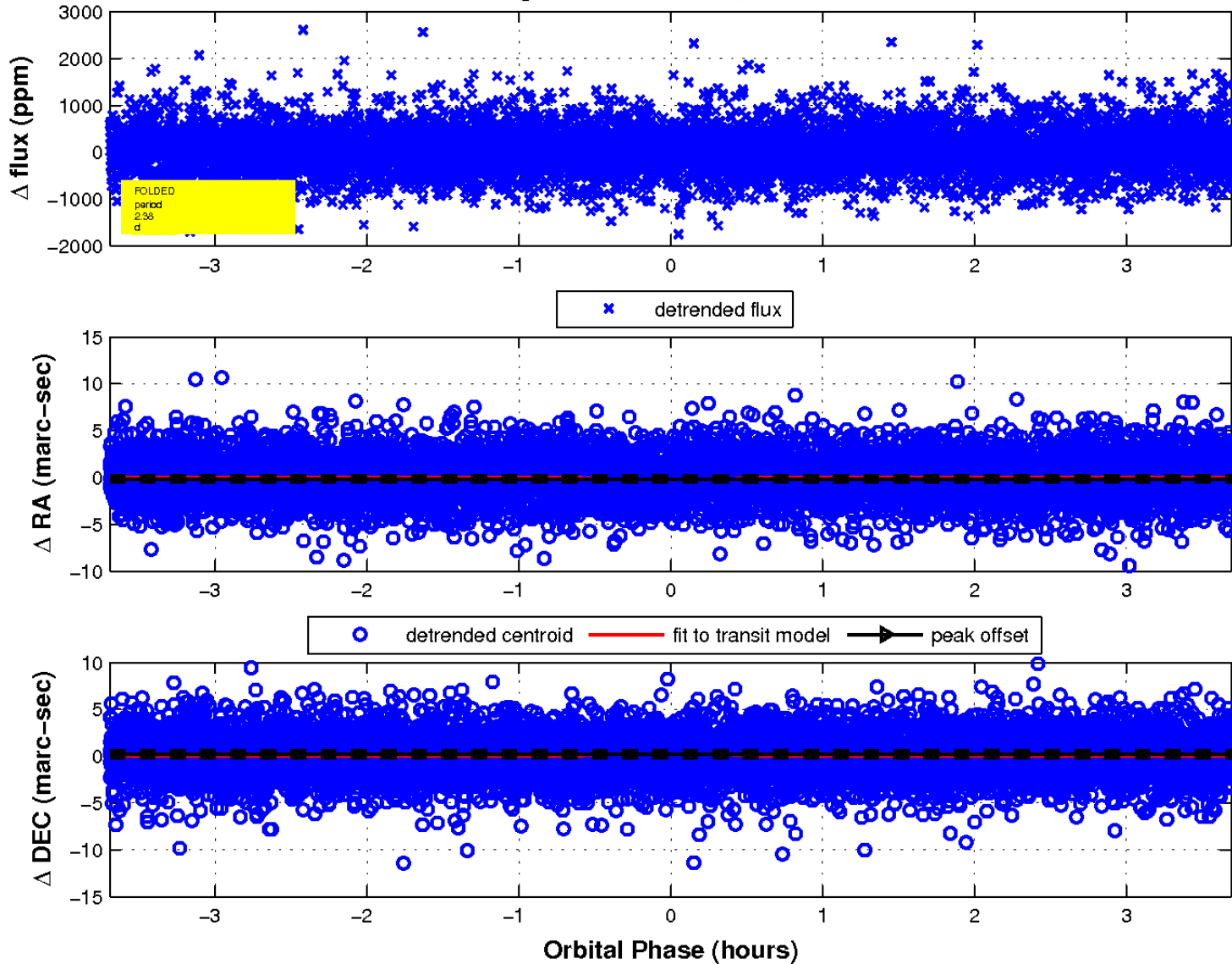
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

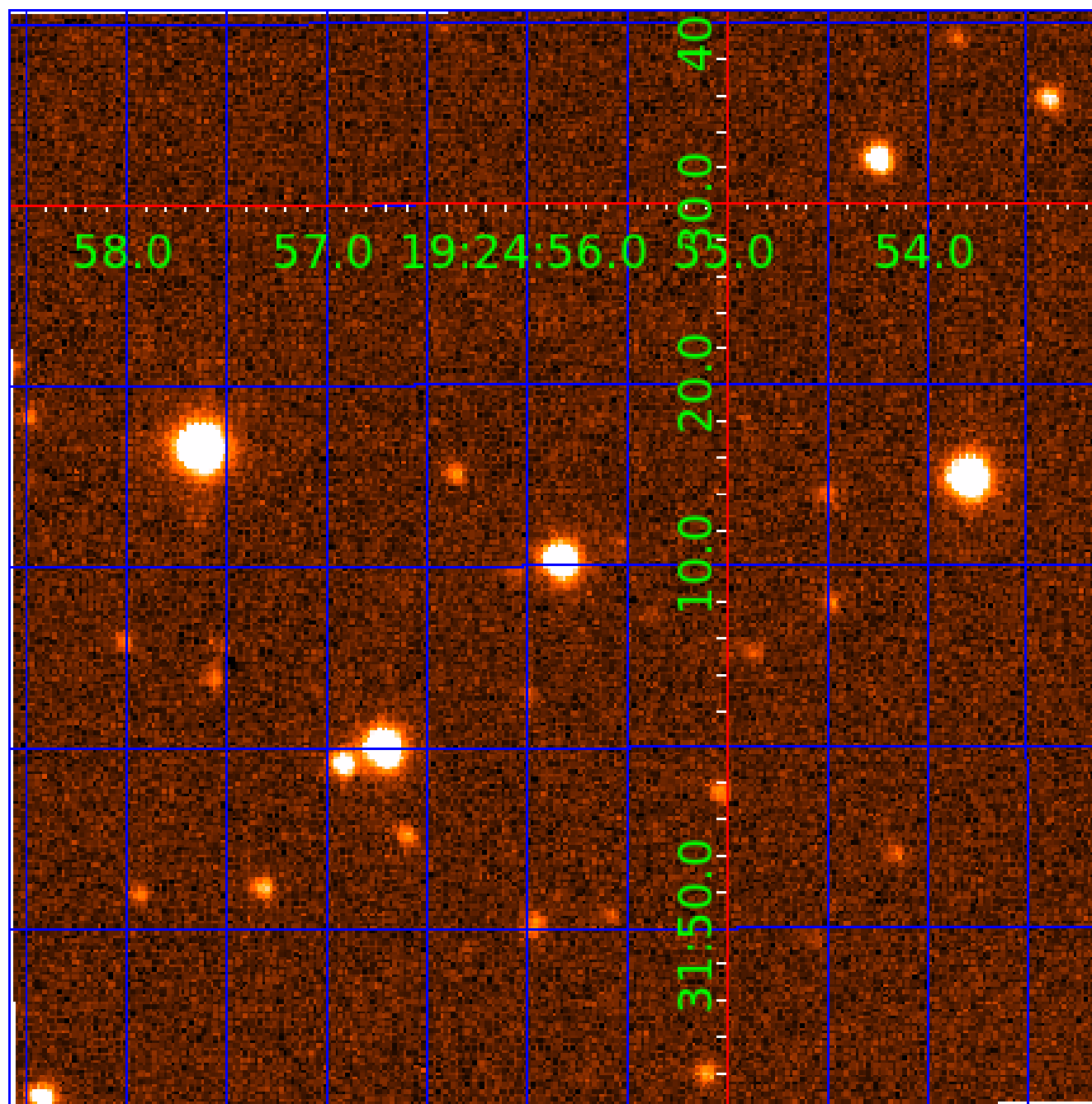


fluxWeightedCentroids, Planet 4 of 8



UKIRT Image

Declination



KIC 007031853

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})
007031853-01	OBS	No	0.566754	131.839314	17.0	4.284	10.8	4.2	1.25	6468	0.54	11360.26
007031853-02	OBS	No	7.498891	137.054763	1219.4	0.526	13.5	22.0	1.25	6468	4.76	363.01
007031853-03	OBS	No	9.179254	138.020646	537.7	1.736	12.5	15.1	1.25	6468	2.99	277.23
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007031853-08	OBS	No	1.601906	131.727945	251.2	0.798	12.2	8.5	1.25	6468	2.04	2842.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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007031853-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007031853-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST
007031853-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST
007031853-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007031853-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007031853-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST
007031853-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—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.

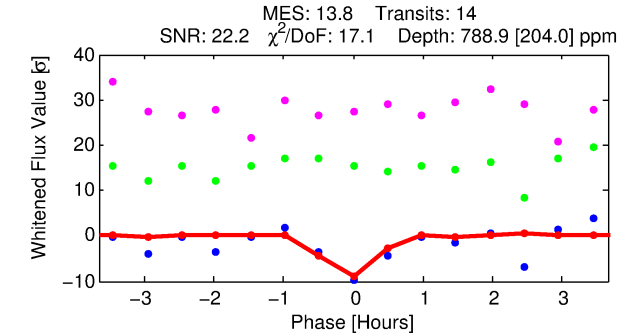
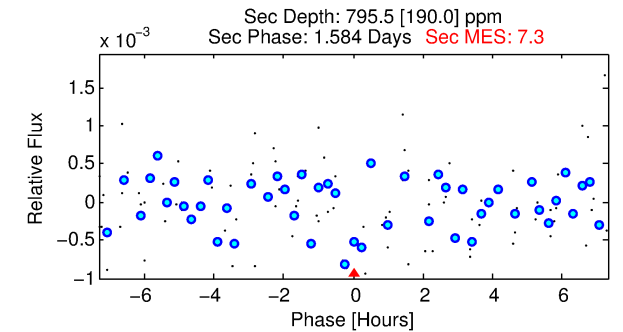
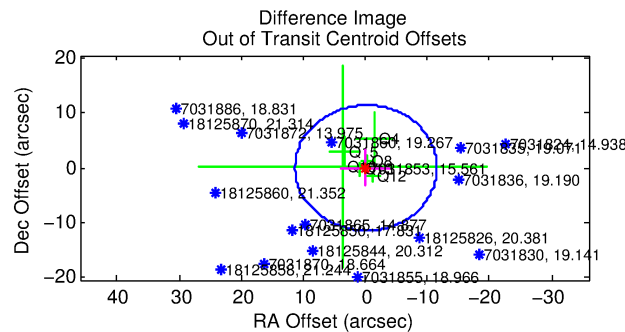
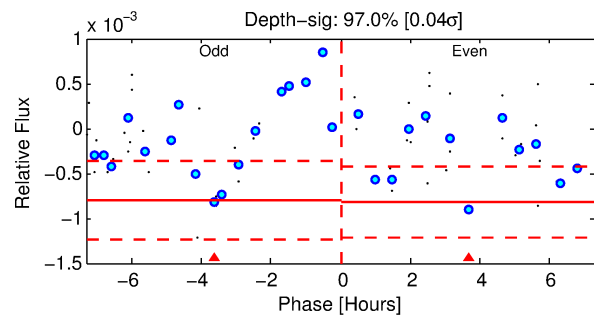
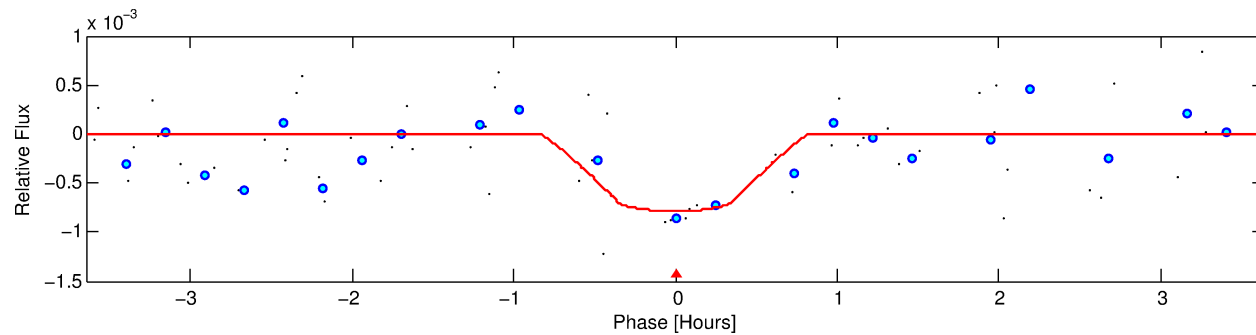
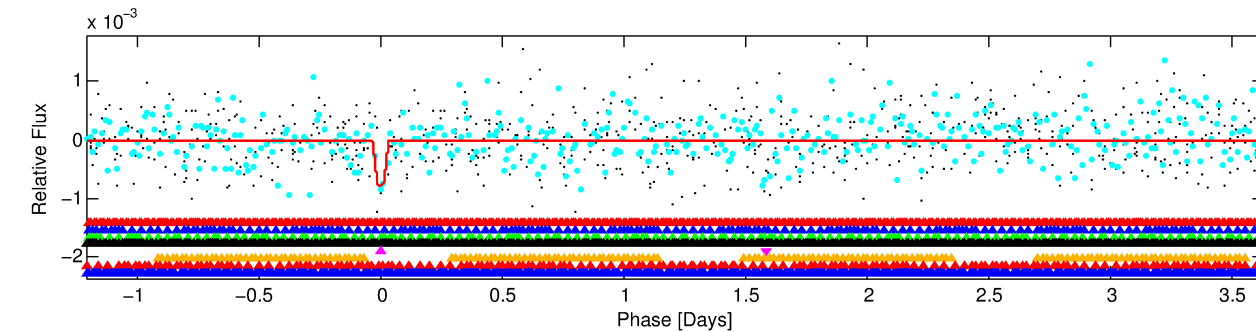
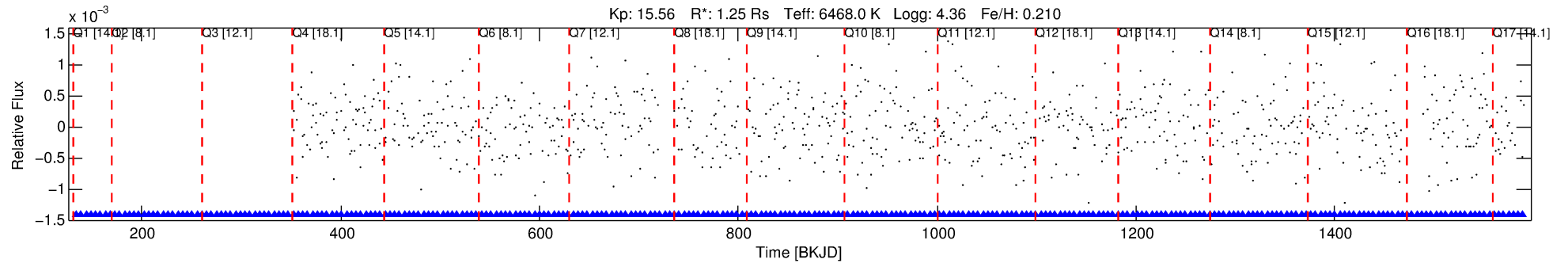
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007031853-05

No Significant Match Found

DV One-Page Summary

KIC: 7031853 Candidate: 5 of 8 Period: 4.850 d



DV Fit Results:

Period = 4.85011 [0.00004] d
Epoch = 134.3382 [0.0077] BKJD
Rp/R* = 0.0259 [0.0532]
a/R* = 31.28 [330.36]
b = 0.01 [1501.50]
Seff = 649.00 [257.20]
T_{eq} = 1287 [128] K
Rp = 3.54 [7.35] Re
a = 0.0614 [0.0158] AU
Ag = 132.09 [545.58] [0.24σ]
T_{eff} = 6746 [6944] K [0.79σ]

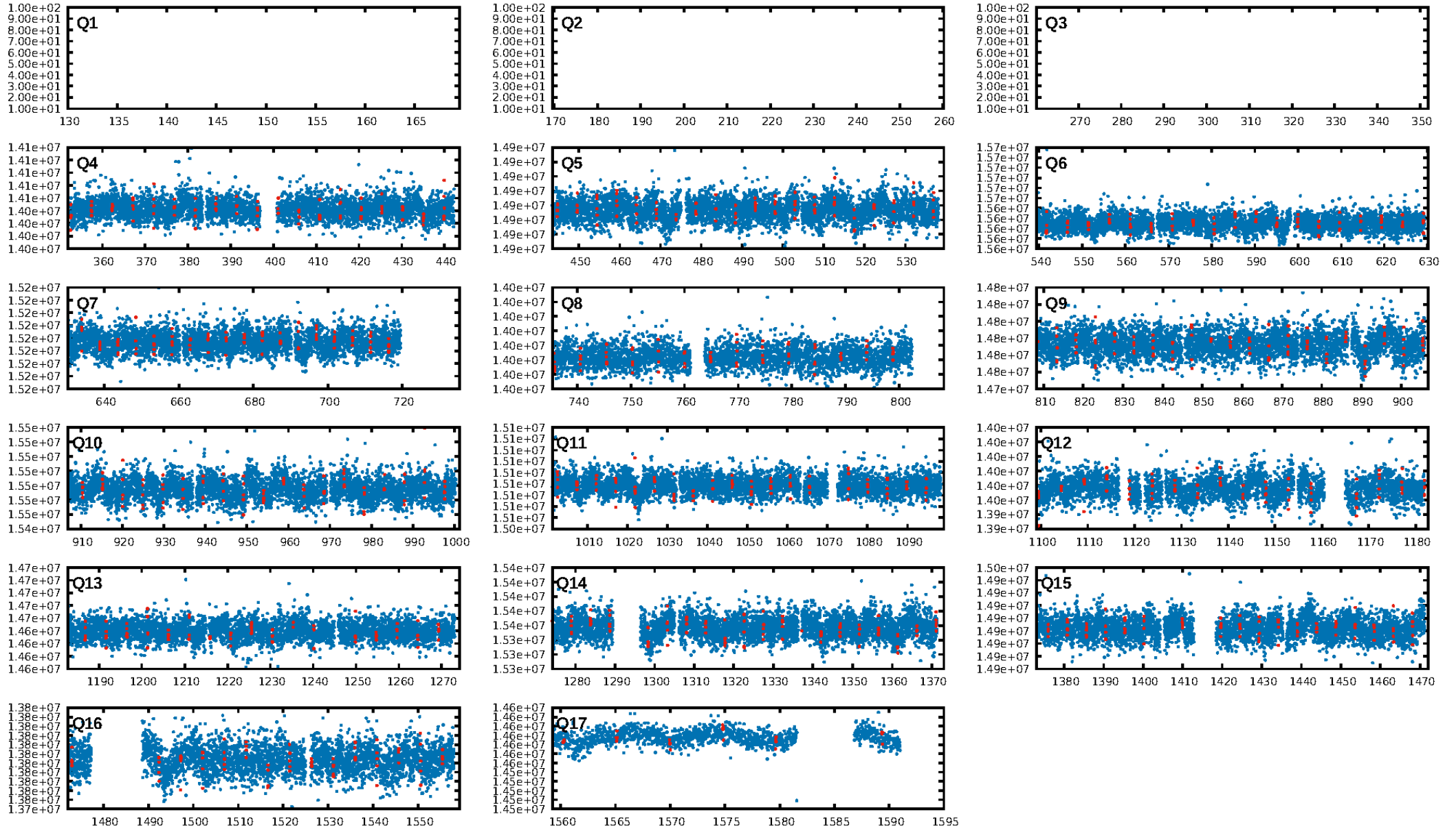
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [34.31σ]
LongPeriod-sig: 100.0% [48.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 9.30e-08
RollingBand-fgt: 1.00 [14/14]
GhostDiagnostic-chr: 3.722
Centroid-sig: 0.0%
Centroid-so: 1.225 arcsec [3.09σ]
OotOffset-rm: 0.102 arcsec [0.03σ]
KicOffset-rm: 0.268 arcsec [0.07σ]
OotOffset-st: 0/1/4/1 [6]
KicOffset-st: 0/1/4/1 [6]
DiffImageQuality-fgm: 0.00 [0/6]
DiffImageOverlap-fno: 0.00 [0/14]

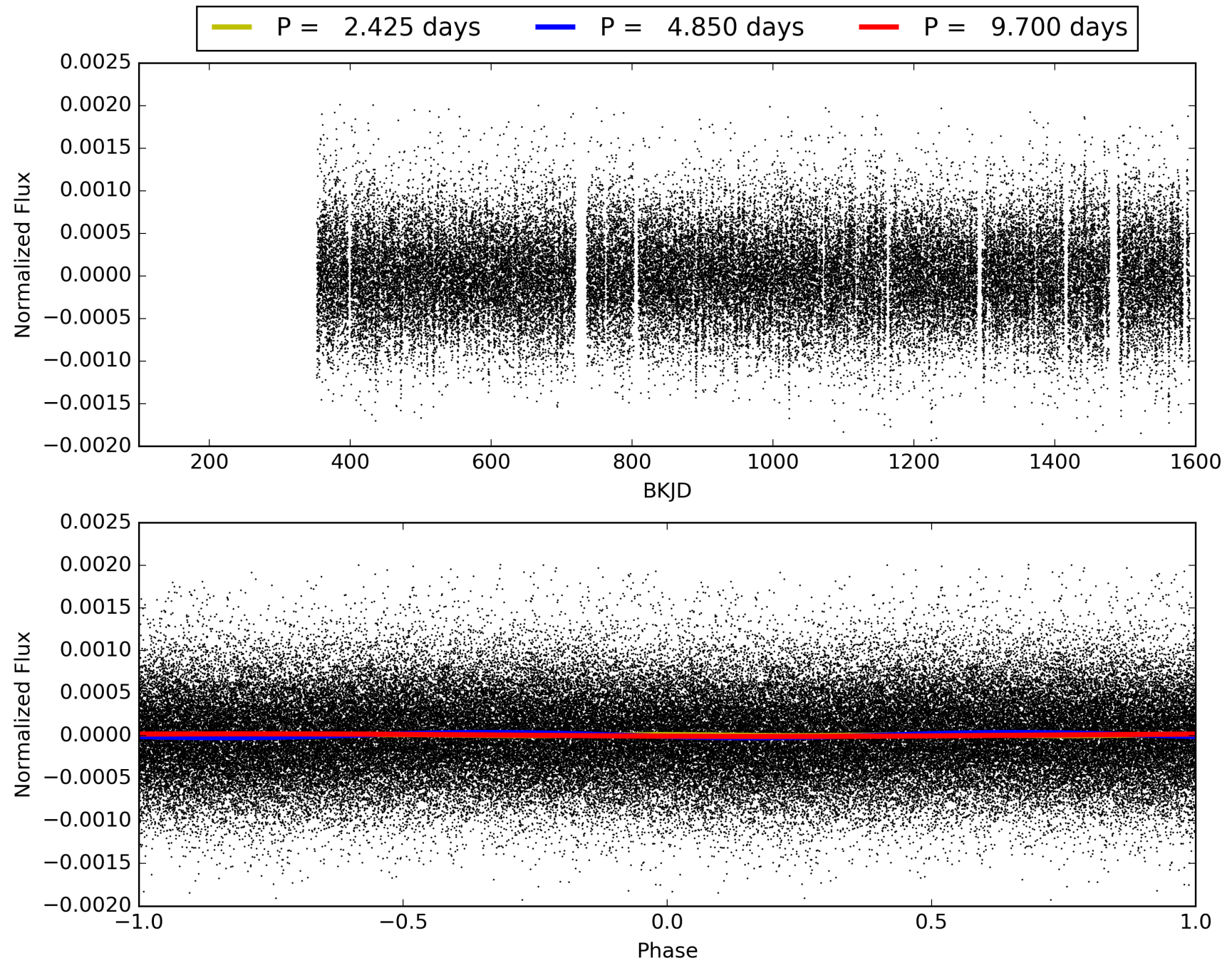
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:38:42 Z

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

TCE 007031853-05, PDC Light Curves

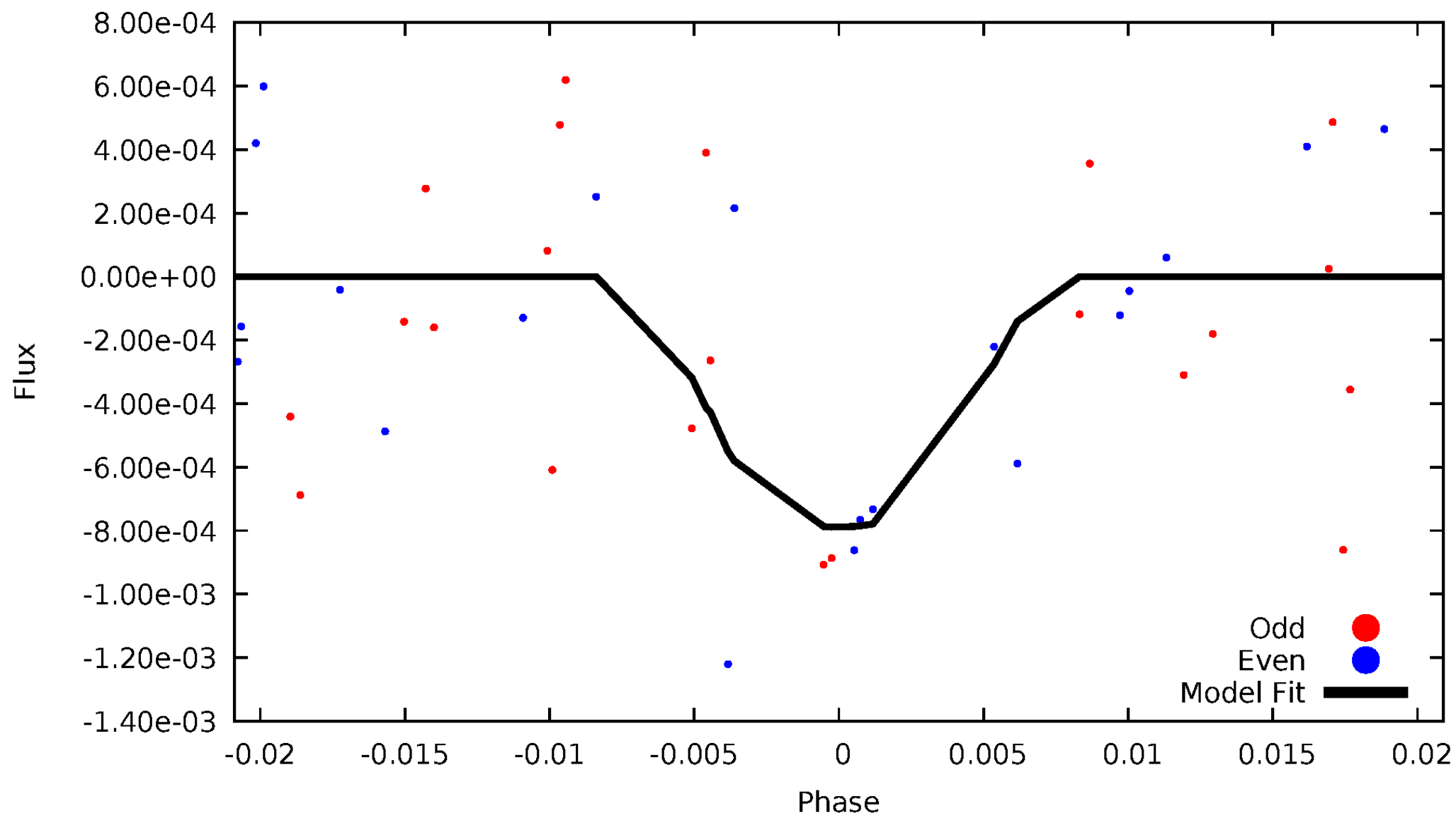


TCE 007031853-05



DV Odd/Even

TCE 007031853-05

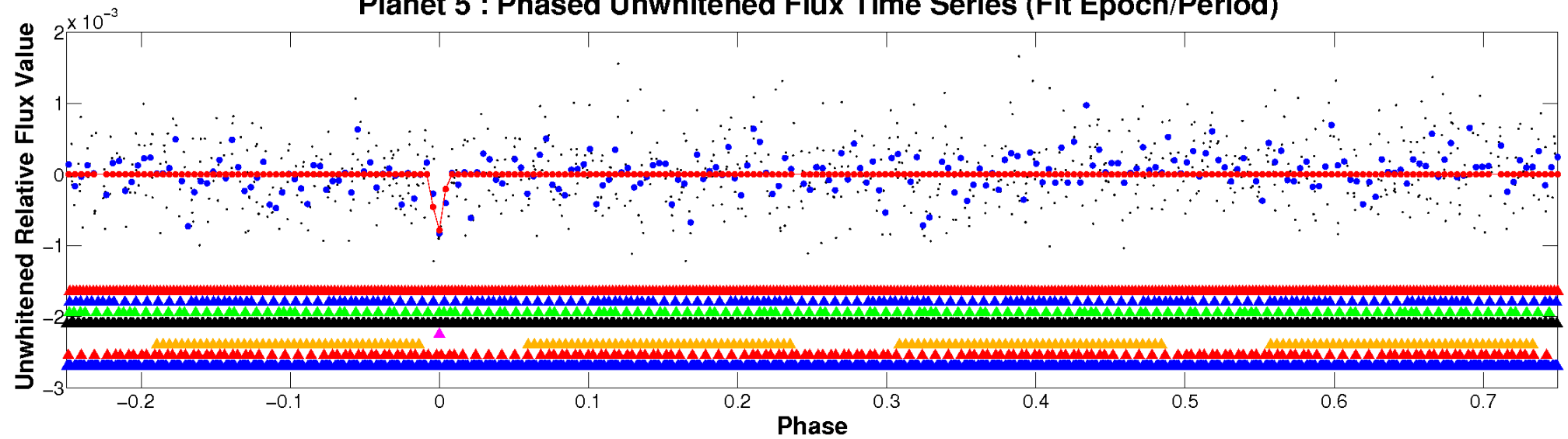


ALT Odd/Even

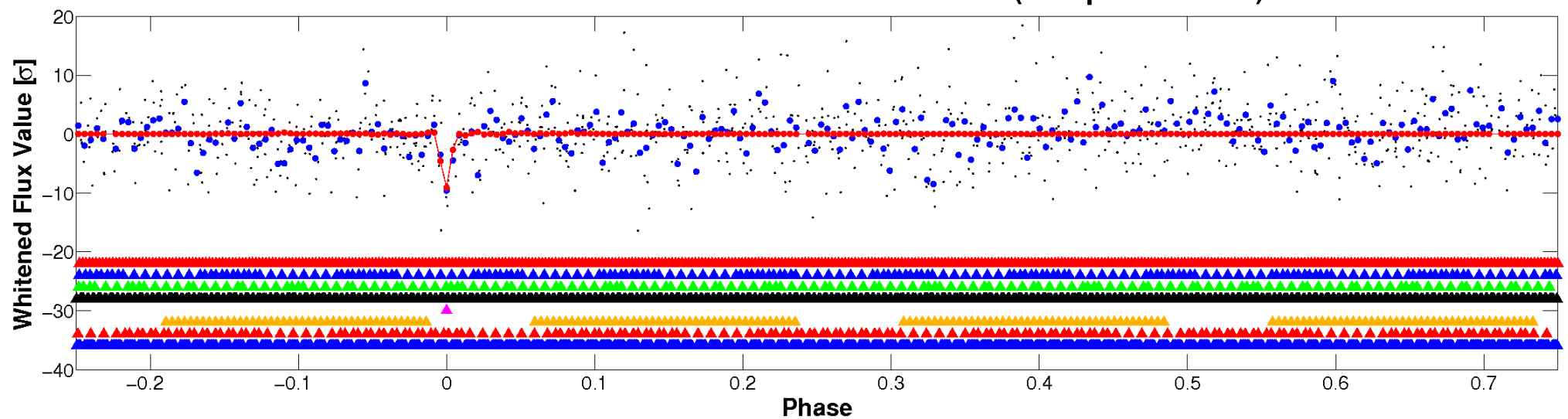
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

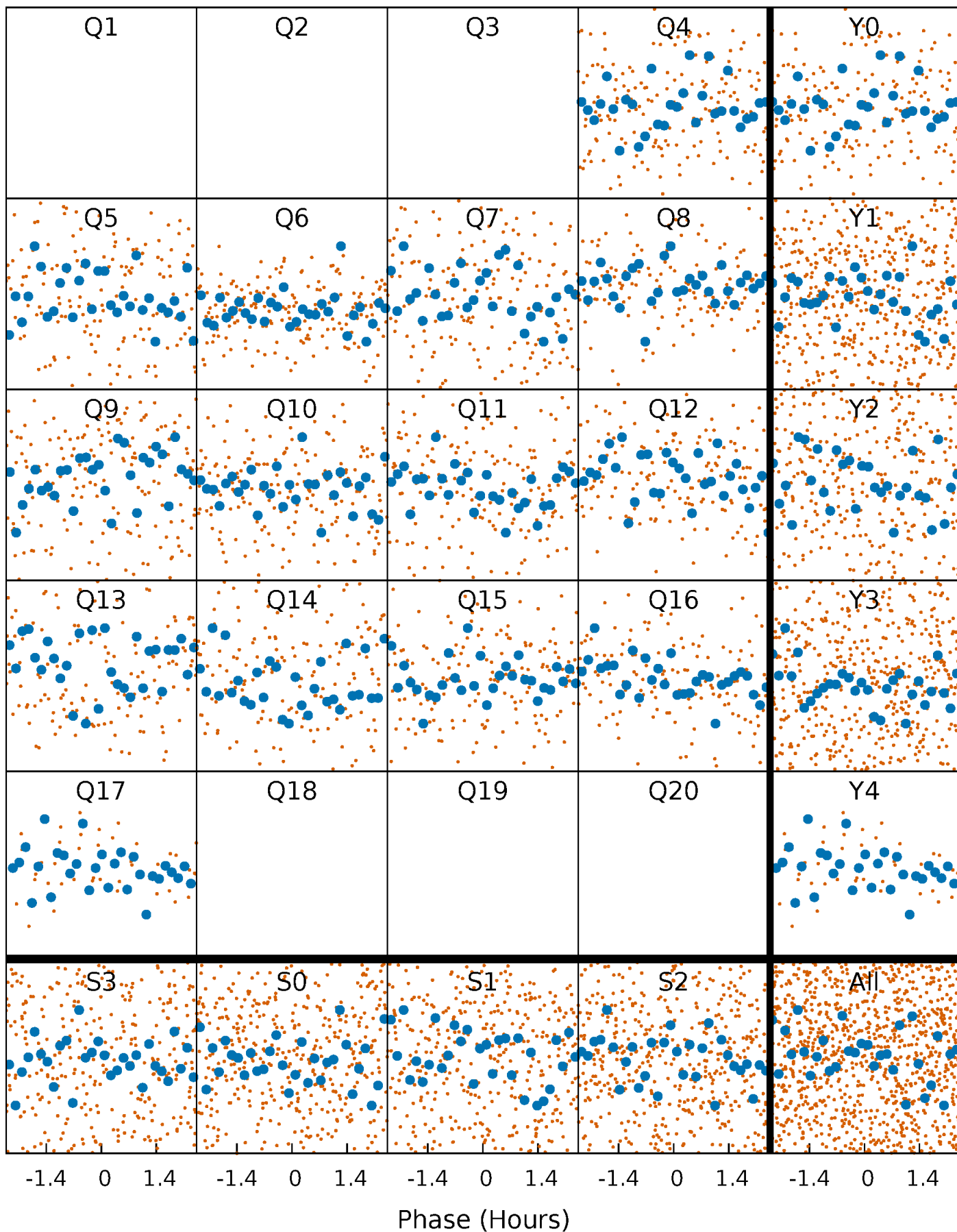


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



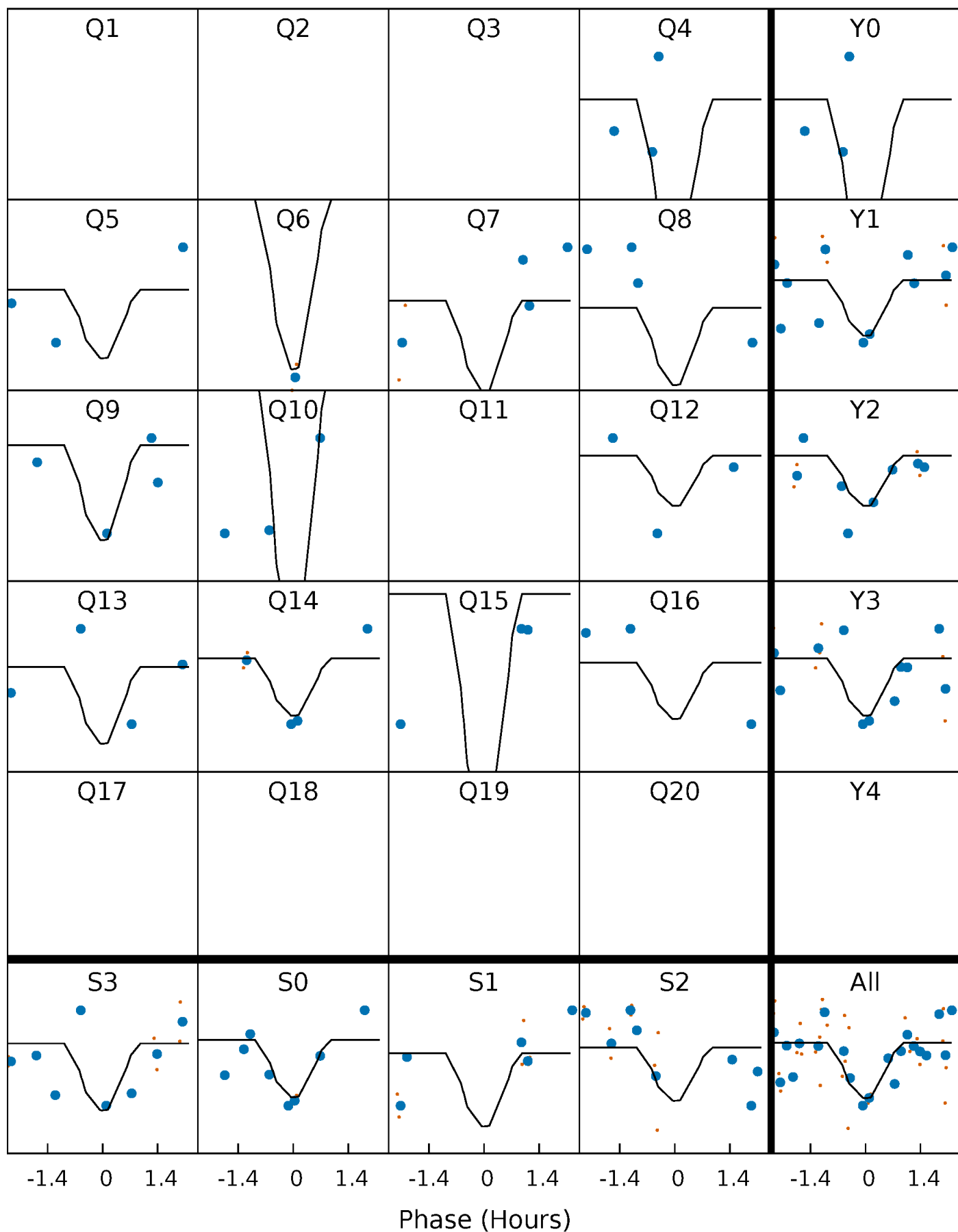
PDC Quarter-Phased Transit Curves

TCE 007031853-05 P= 4.850105 Days $T_0=134.338245$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007031853-05 P= 4.850105 Days $T_0=134.338245$ (BKJD)

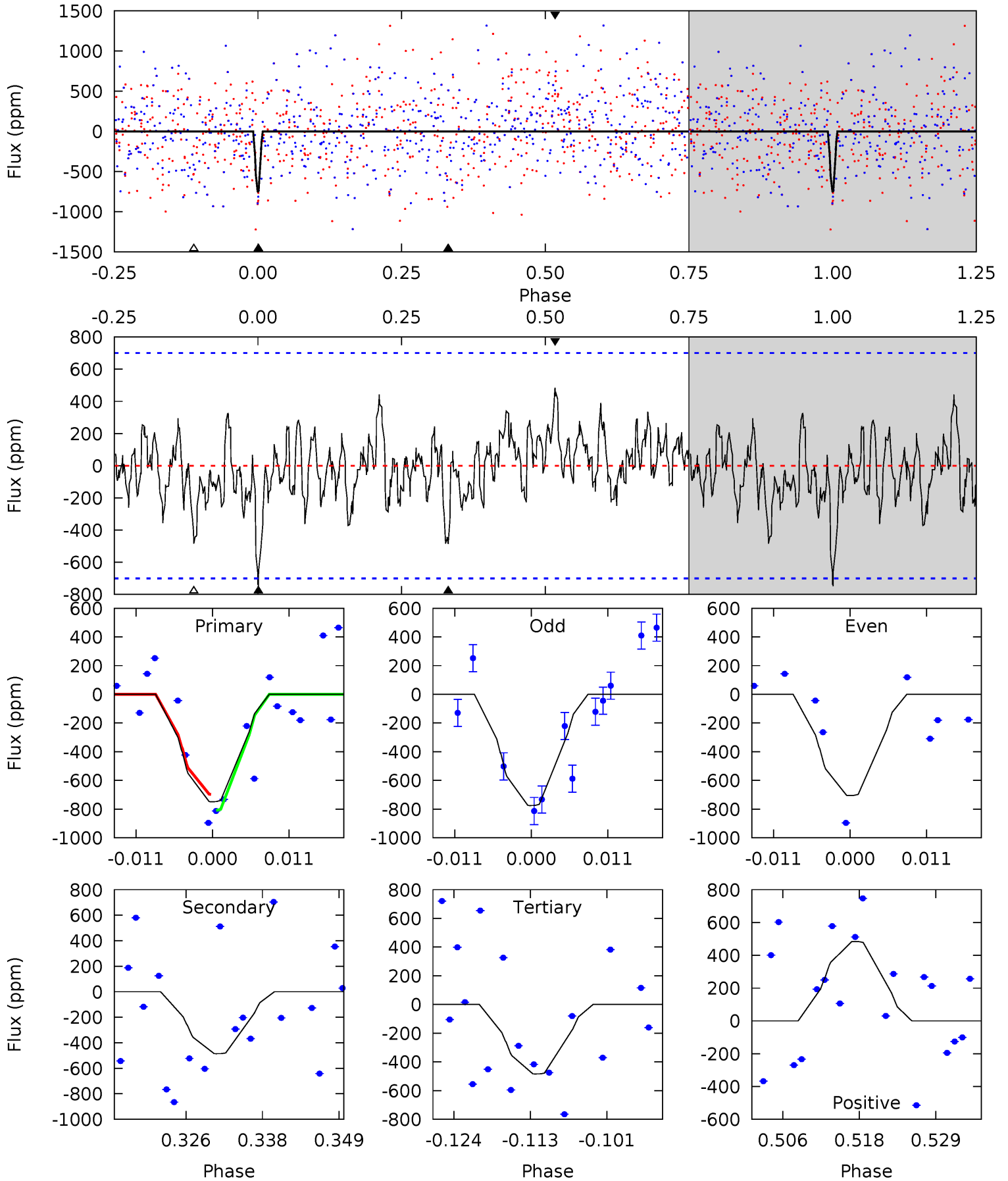


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

007031853-05, P = 4.850105 Days, E = 134.338245 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.35	3.47	3.46	3.46	5.00	2.53	1.17	1.89	1.89	0.01	0.01	0.24	0	0.39	0.39



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 007031853

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6468^{+180}_{-248}	$4.363^{+0.065}_{-0.195}$	$0.210^{+0.200}_{-0.350}$	$1.250^{+0.393}_{-0.157}$	$1.313^{+0.154}_{-0.205}$	$0.948^{+0.324}_{-0.468}$
	+3%/-4%	+1%/-4%	+95%/-167%	+31%/-13%	+12%/-16%	+34%/-49%
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 007031853-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-486 ± 140	$6.66^{+6.64}_{-4.56}$	1823^{+130}_{-94}	4532^{+3393}_{-1038}	22^{+192}_{-16}
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 $A_{obs} \gg 1.0$

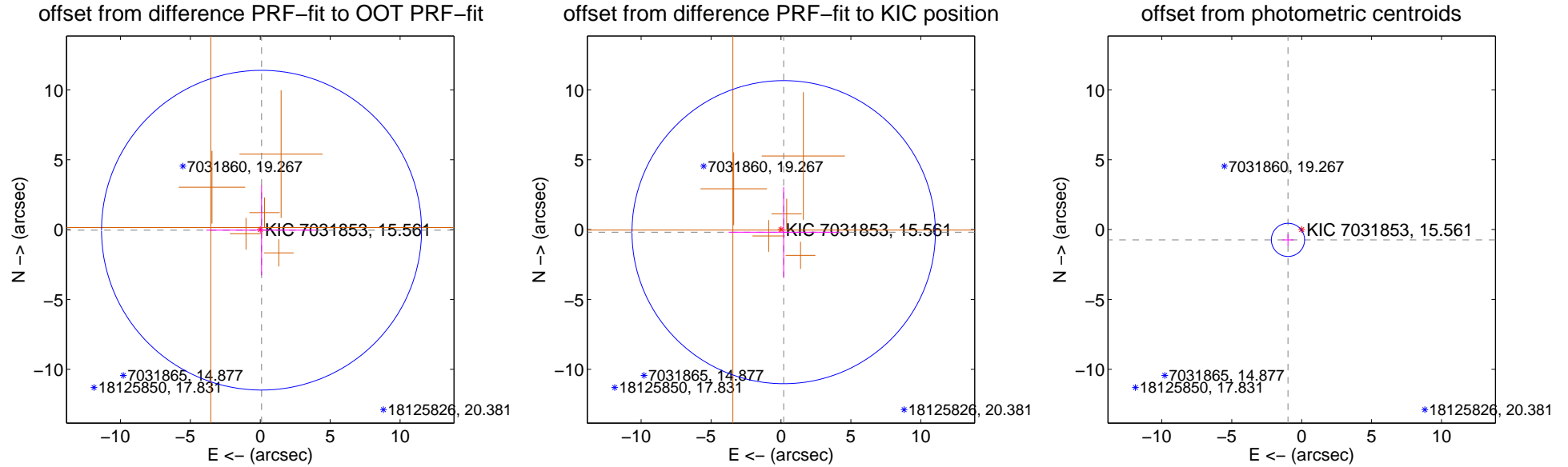
DV Centroid Data

Supplemental centroid analysis for 007031853-05. Kepler magnitude: 15.56. Transit SNR 22.16

There are 0 quarters with good PRF difference image offsets

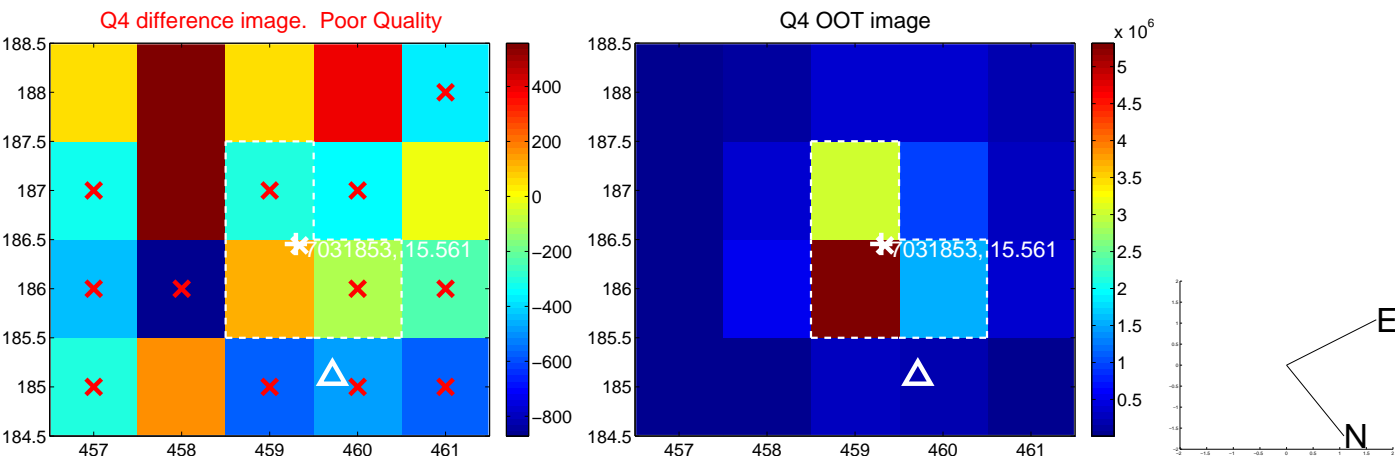
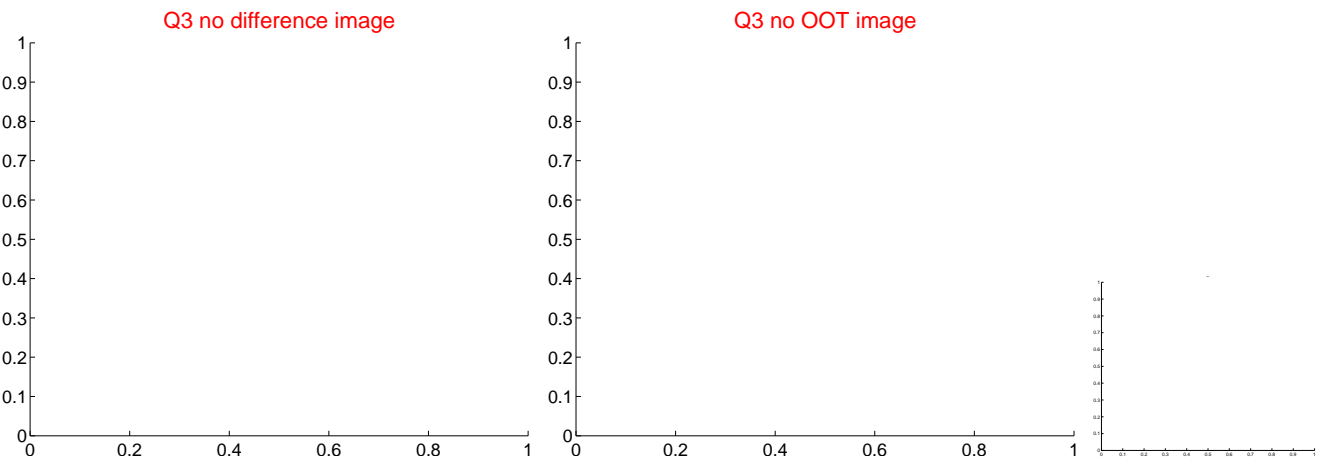
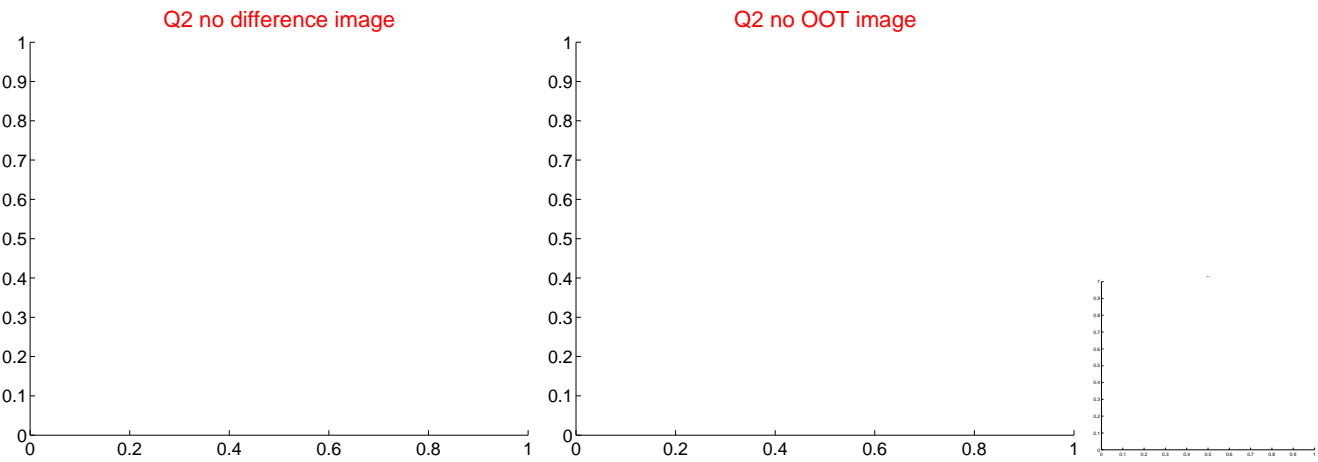
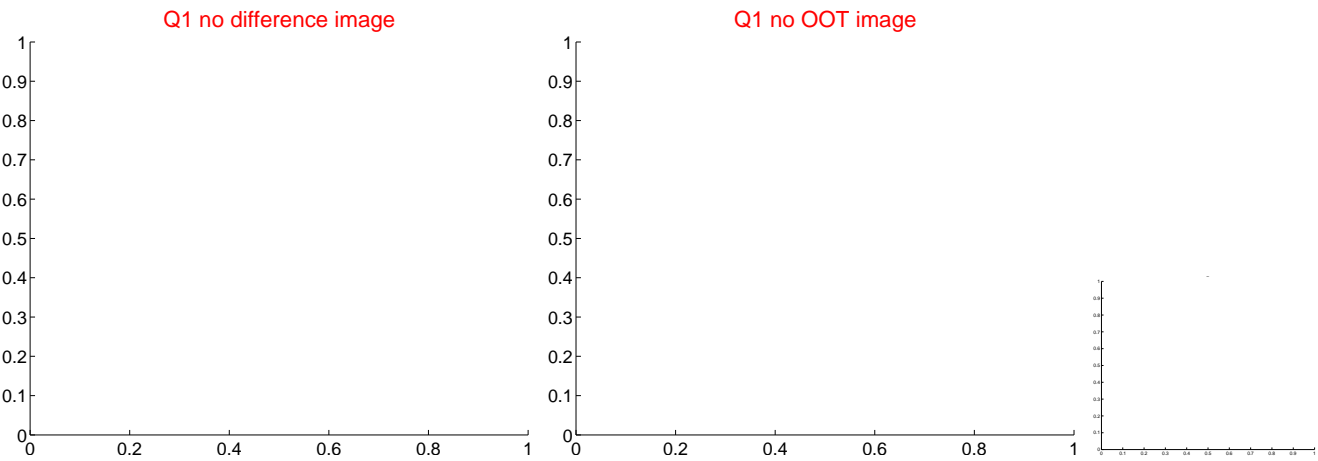
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.102 ± 3.814	0.03	-0.092 ± 3.941	-0.044 ± 3.214
PRF-fit source offset from KIC position	0.268 ± 3.616	0.07	-0.195 ± 3.941	-0.184 ± 3.214
photometric centroid source offset	1.23 ± 0.40	3.09	0.98 ± 0.39	-0.74 ± 0.40

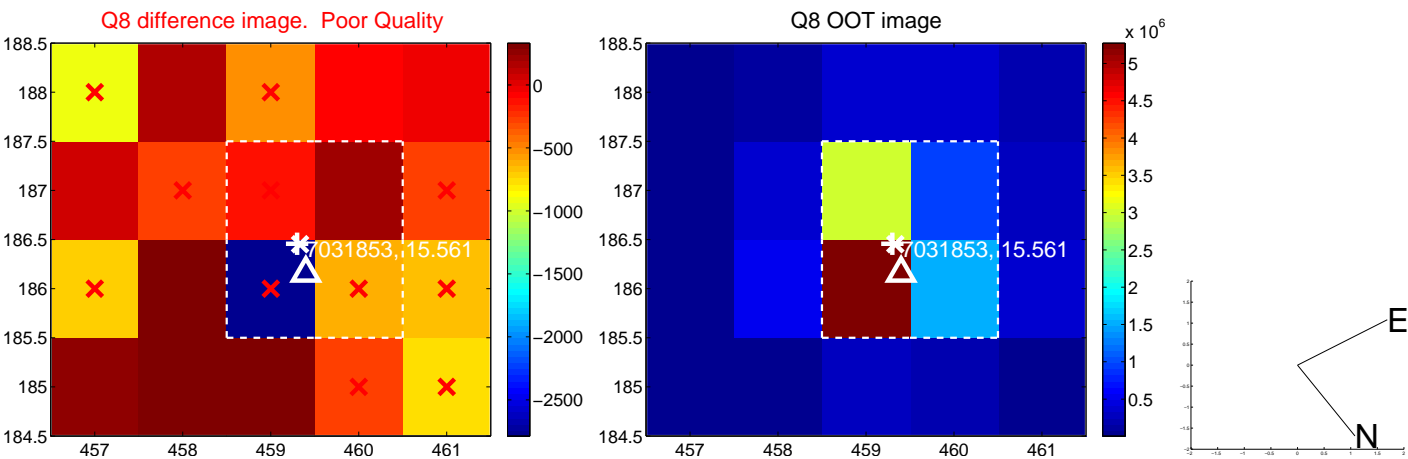
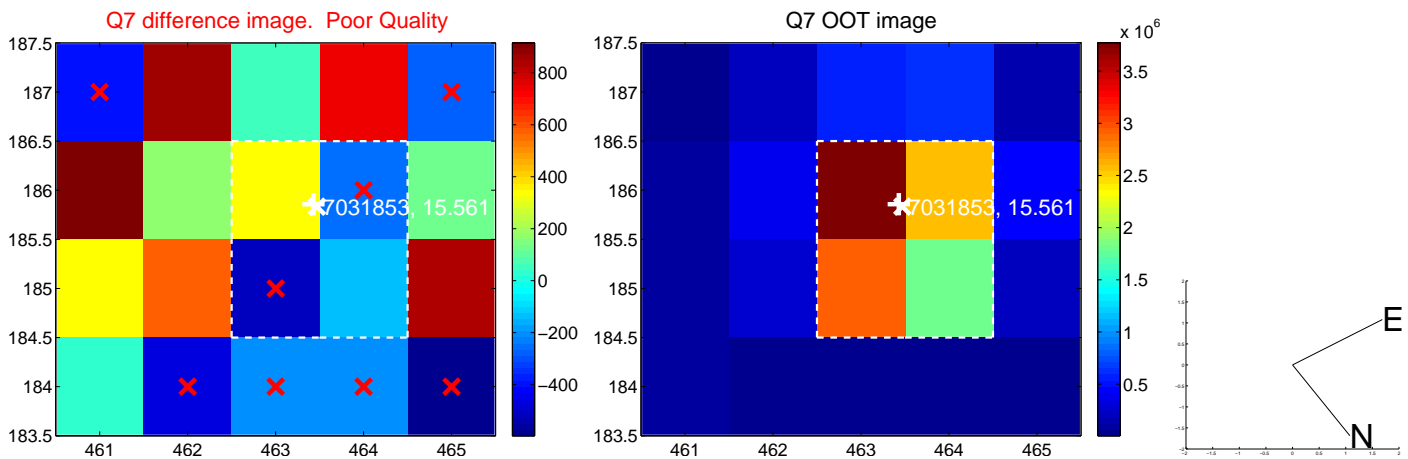
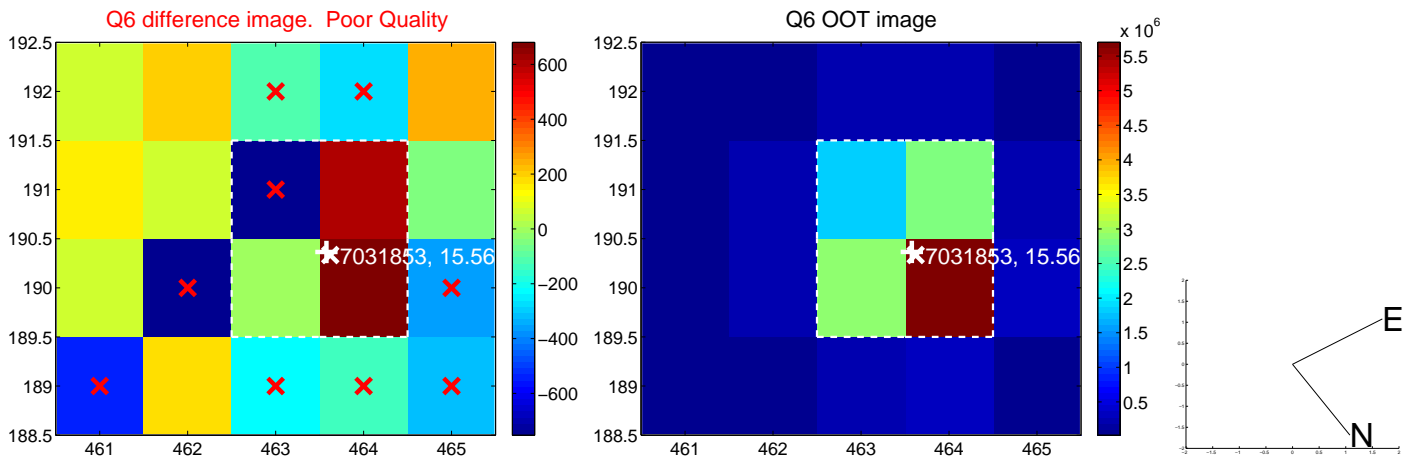
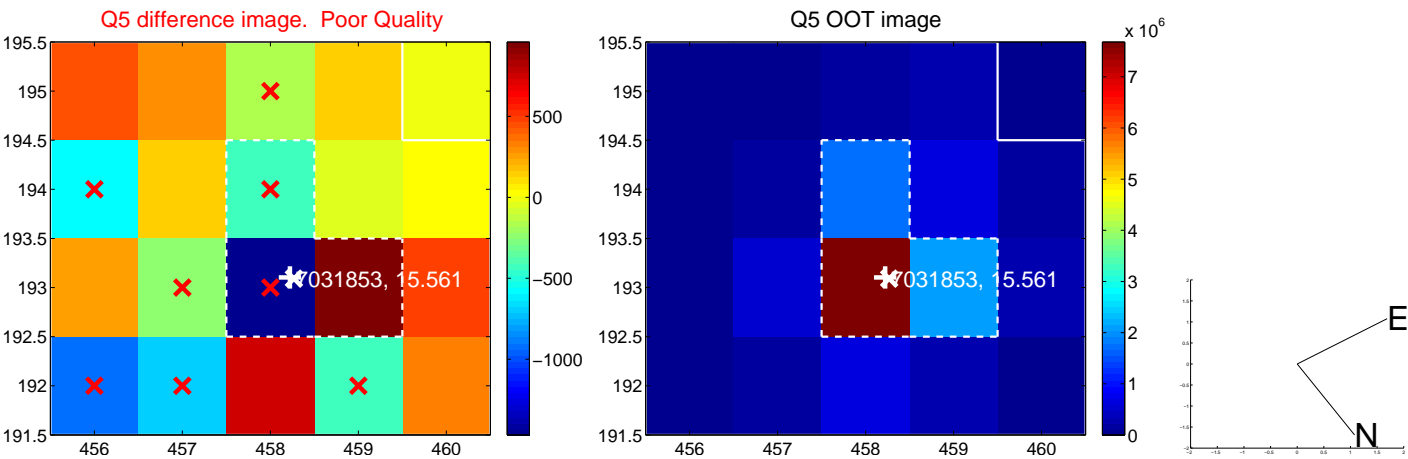


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

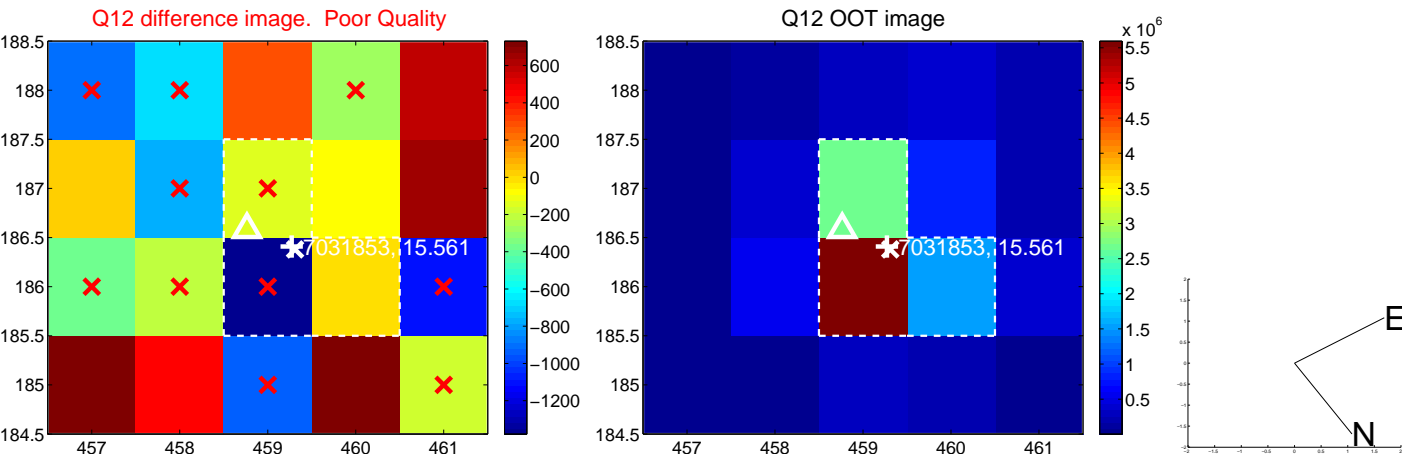
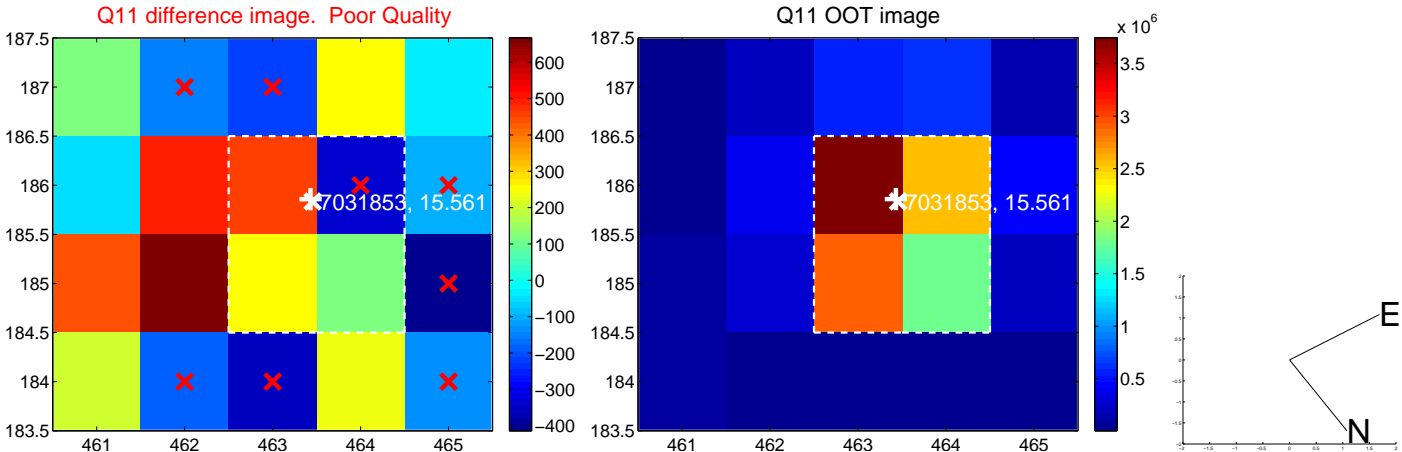
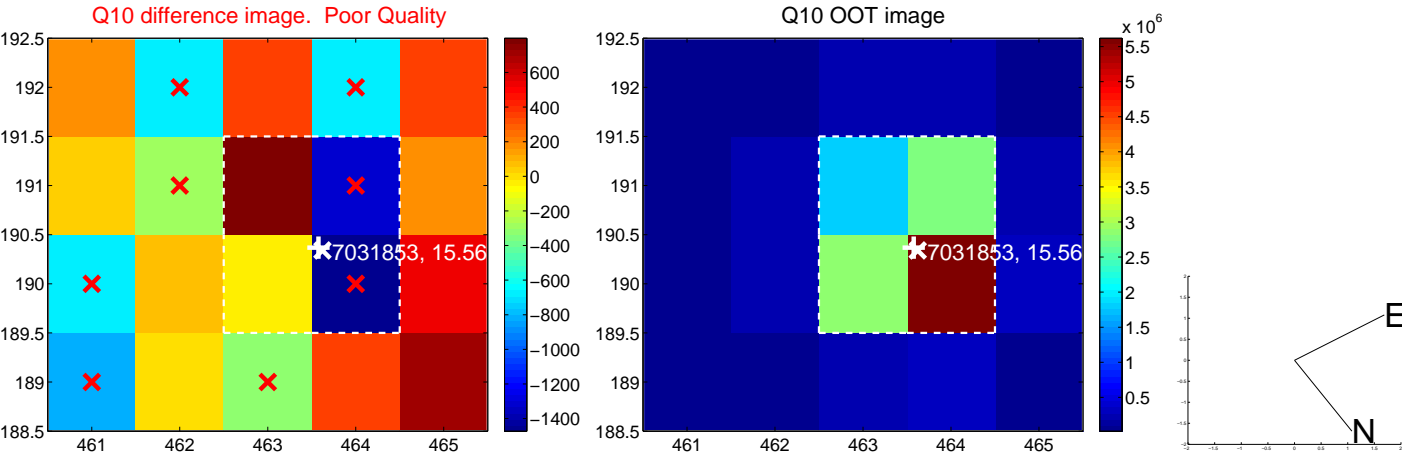
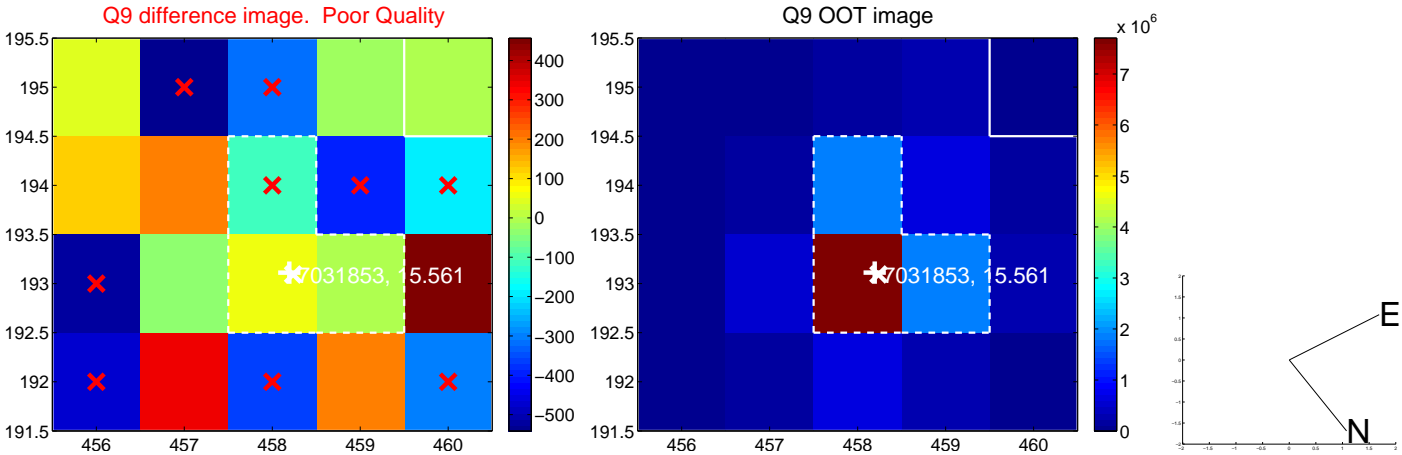
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



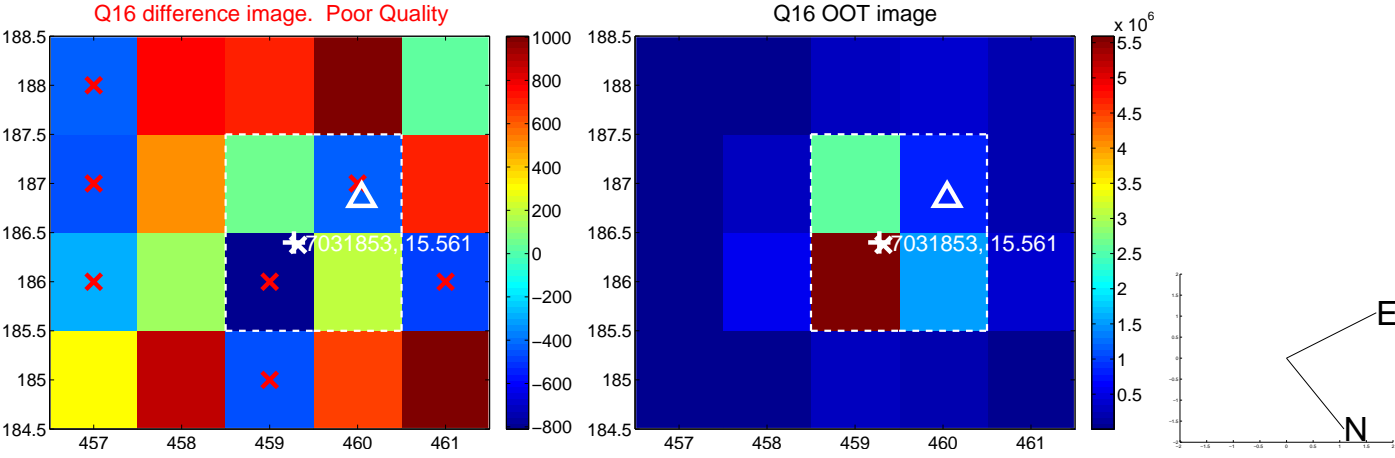
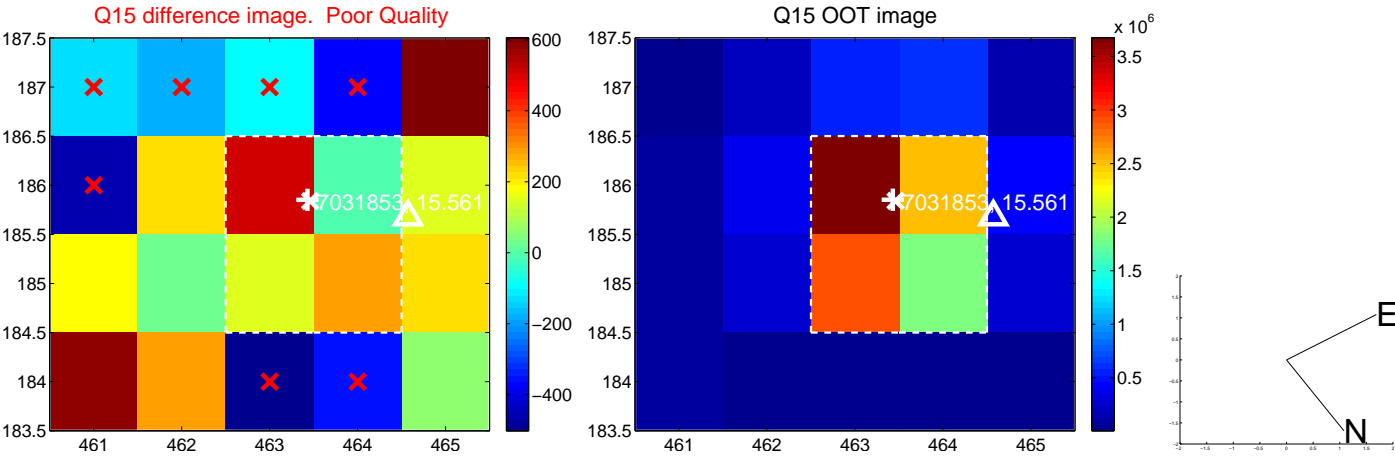
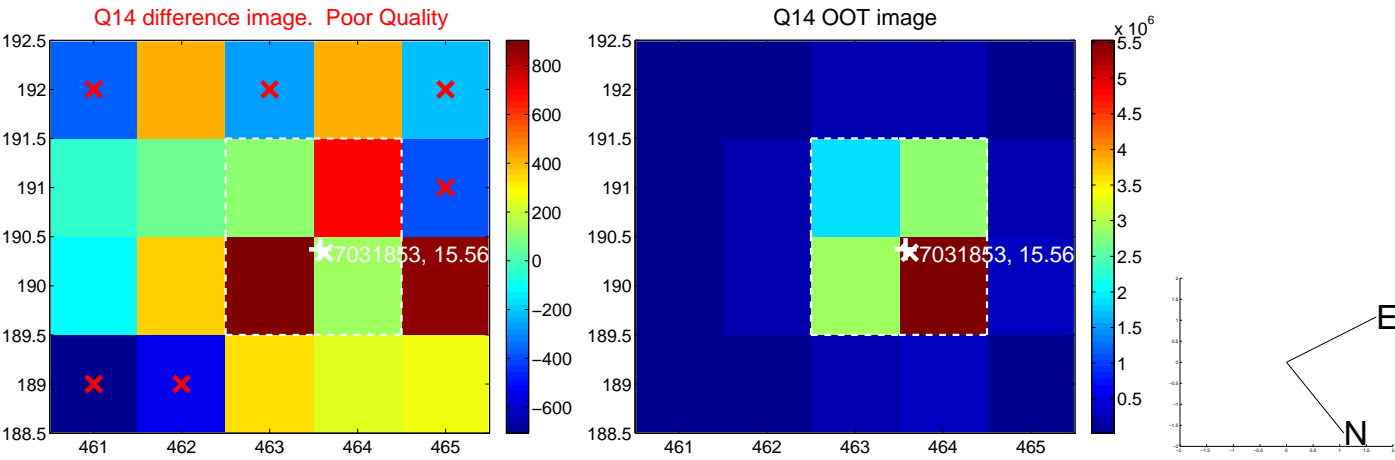
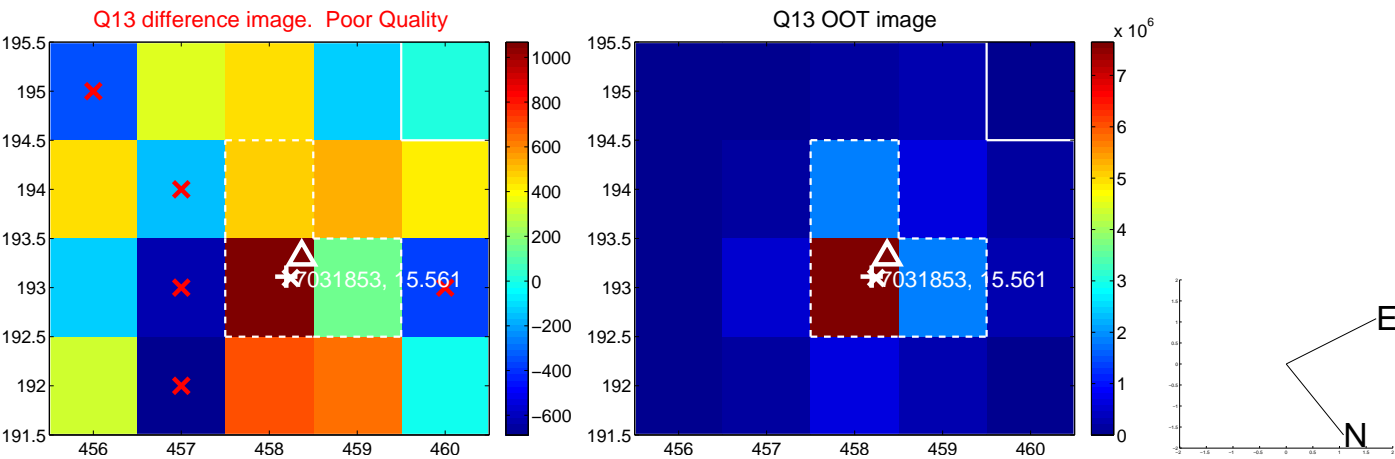
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

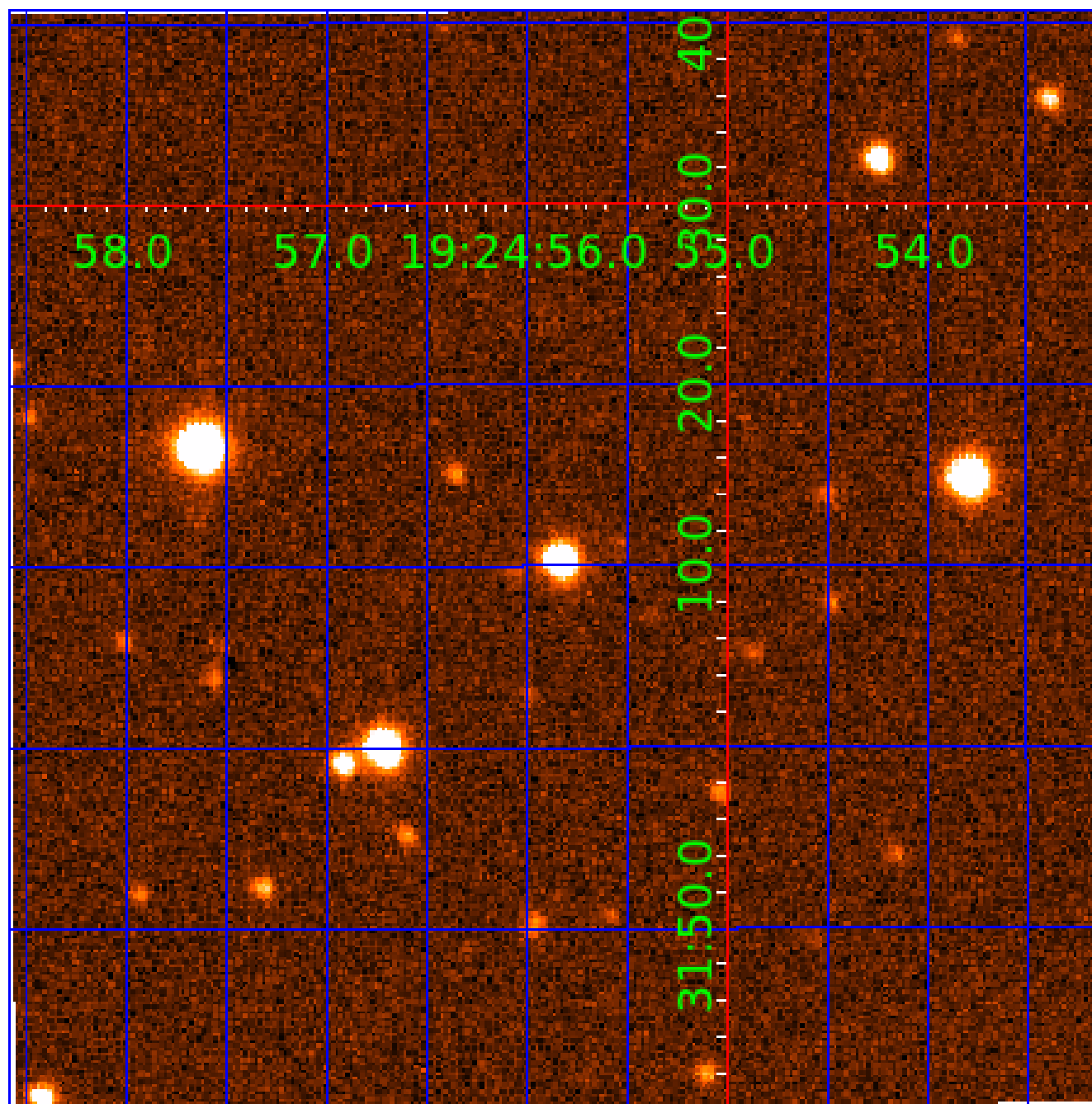


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007031853

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})
007031853-01	OBS	No	0.566754	131.839314	17.0	4.284	10.8	4.2	1.25	6468	0.54	11360.26
007031853-02	OBS	No	7.498891	137.054763	1219.4	0.526	13.5	22.0	1.25	6468	4.76	363.01
007031853-03	OBS	No	9.179254	138.020646	537.7	1.736	12.5	15.1	1.25	6468	2.99	277.23
007031853-04	OBS	No	2.376727	131.545693	450.8	1.232	12.8	15.8	1.25	6468	3.12	1679.87
007031853-05	OBS	No	4.850105	134.338245	788.9	1.215	13.8	22.2	1.25	6468	3.54	649.00
007031853-06	OBS	No	8.492754	137.042016	530.8	2.036	14.2	16.3	1.25	6468	2.98	307.50
007031853-07	OBS	No	7.627644	137.430878	836.1	1.088	12.9	13.8	1.25	6468	3.74	354.86
007031853-08	OBS	No	1.601906	131.727945	251.2	0.798	12.2	8.5	1.25	6468	2.04	2842.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007031853-01	OBS	FP	0.00	1	0	0	1	LPP_DV—LPP_ALT—CENT_FEW_DIFFS—EPHEM_MATCH
007031853-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007031853-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST
007031853-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST
007031853-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007031853-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007031853-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST
007031853-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—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.

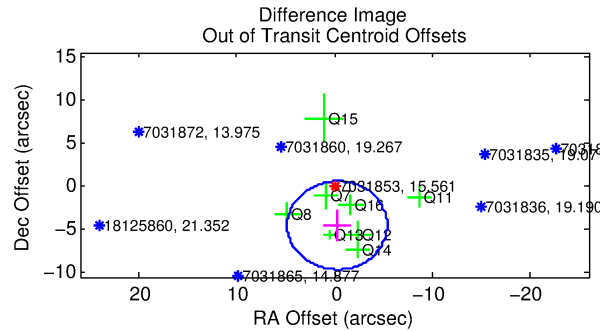
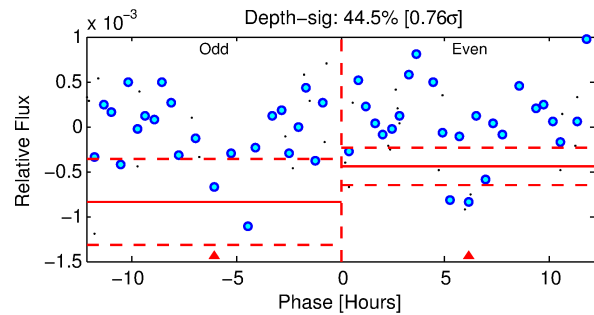
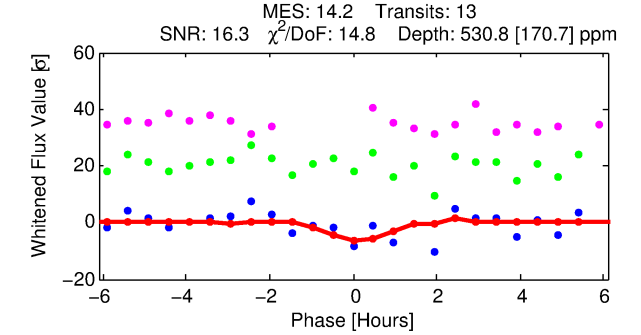
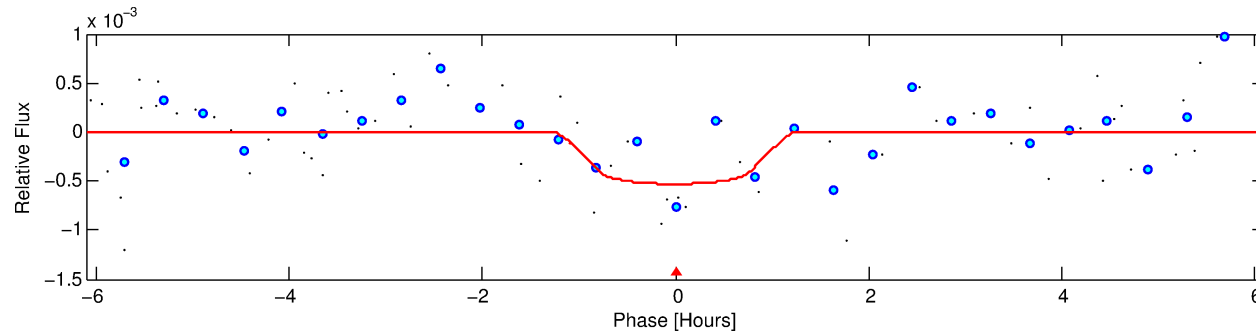
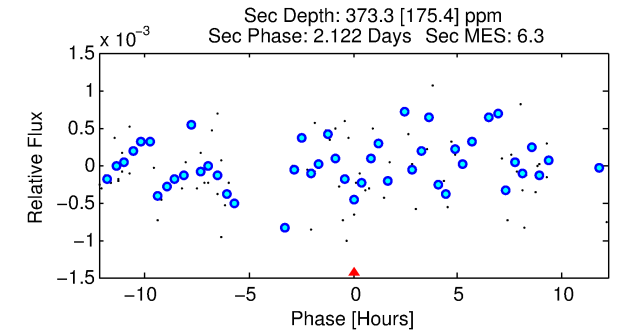
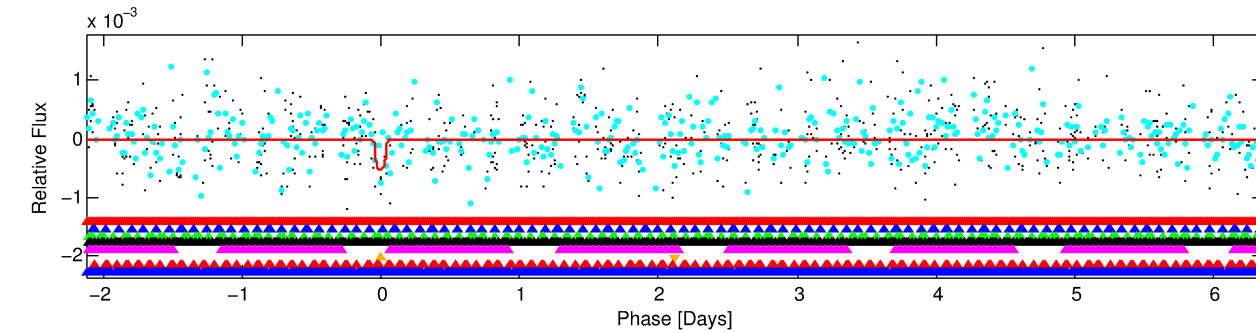
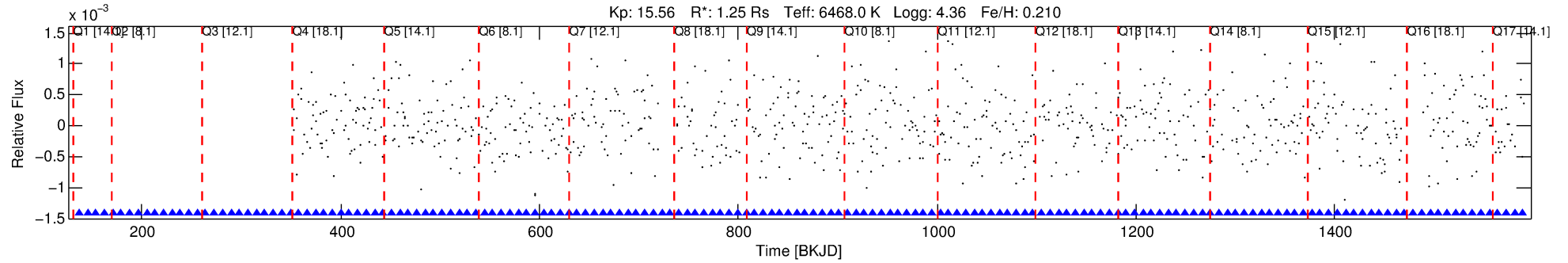
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007031853-06

No Significant Match Found

DV One-Page Summary

KIC: 7031853 Candidate: 6 of 8 Period: 8.493 d



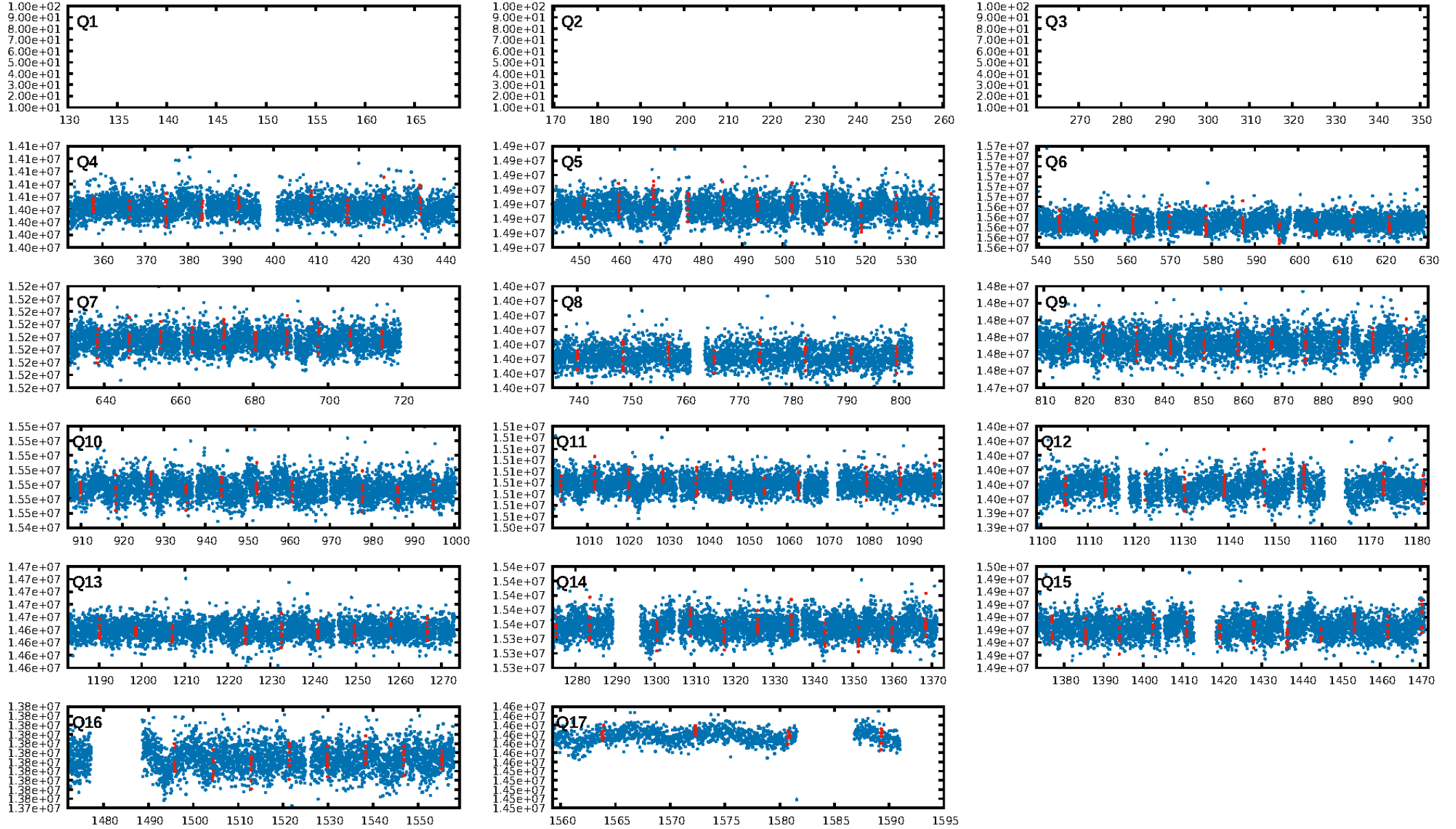
DV Fit Results:

Period = 8.49275 [0.00035] d
Epoch = 137.0420 [0.0292] BKJD
Rp/R* = 0.0219 [0.0987]
a/R* = 27.91 [636.08]
b = 0.53 [31.65]
Seff = 307.50 [121.86]
Teff = 1068 [106] K
Rp = 2.98 [13.50] Re
a = 0.0893 [0.0230] AU
Ag = 183.85 [1663.60] [0.11σ]
Teffp = 6079 [13743] K [0.36σ]

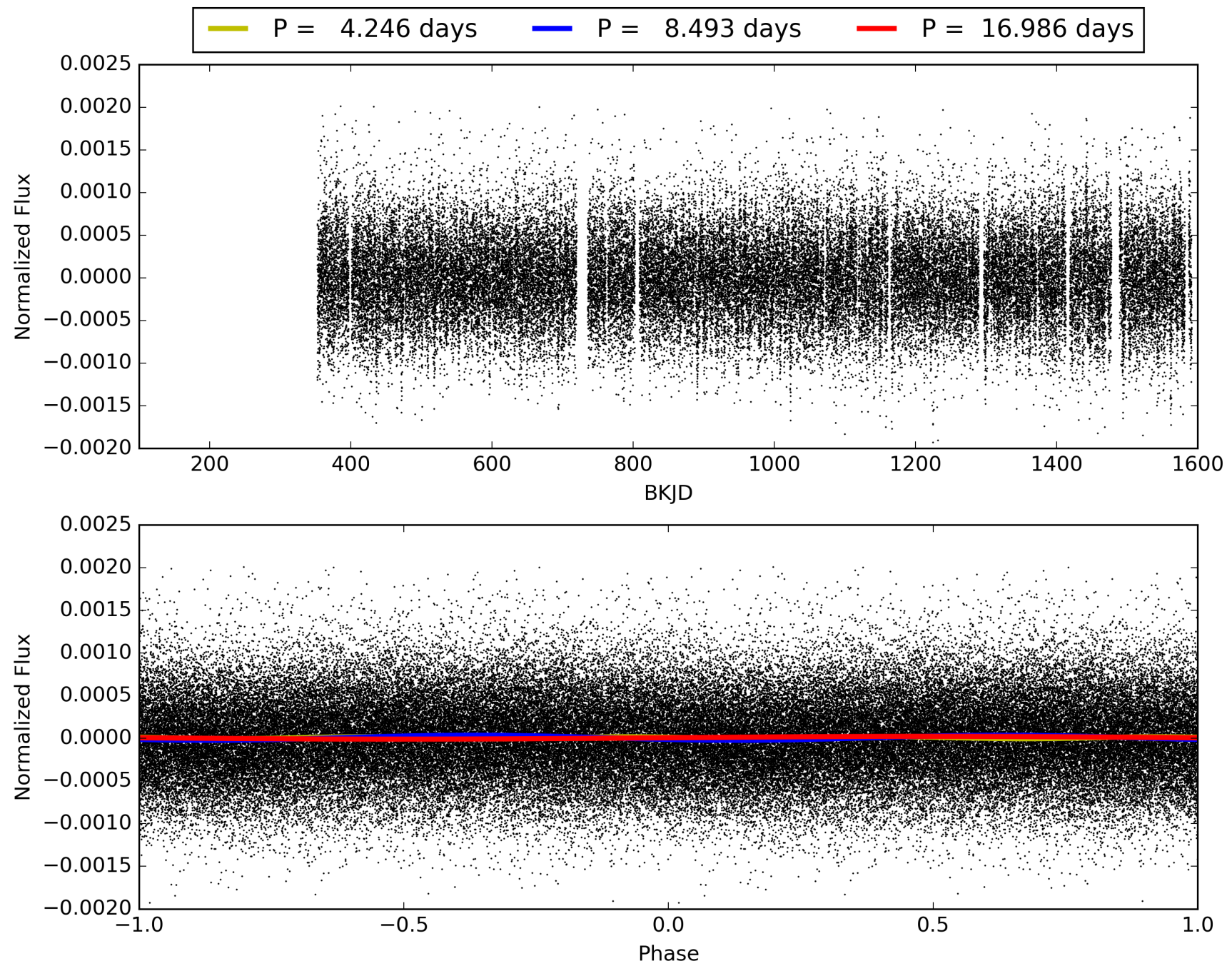
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [8.99σ]
LongPeriod-sig: 100.0% [6.16σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.2%
Bootstrap-pfa: 1.34e-07
RollingBand-fgt: 1.00 [13/13]
GhostDiagnostic-chr: 2584
Centroid-sig: 5.7%
Centroid-so: 0.980 arcsec [1.64σ]
OotOffset-rm: 4.541 arcsec [2.66σ]
OotOffset-st: 1/3/3/1 [8]
KicOffset-rm: 4.704 arcsec [2.89σ]
KicOffset-st: 1/3/3/1 [8]
DiffImageQuality-fgm: 0.00 [0/8]
DiffImageOverlap-fno: 0.00 [0/14]

TCE 007031853-06, PDC Light Curves

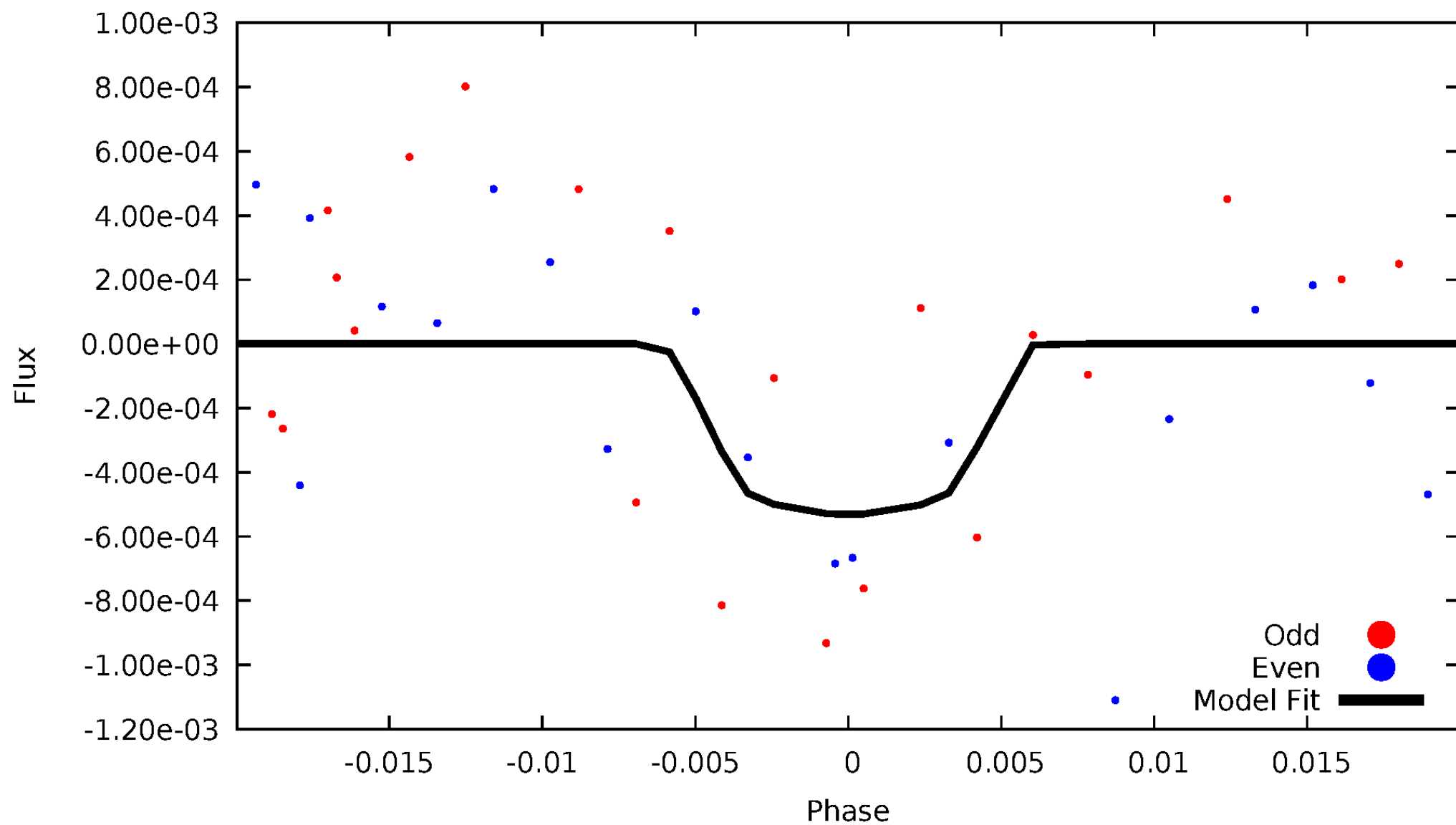


TCE 007031853-06



DV Odd/Even

TCE 007031853-06

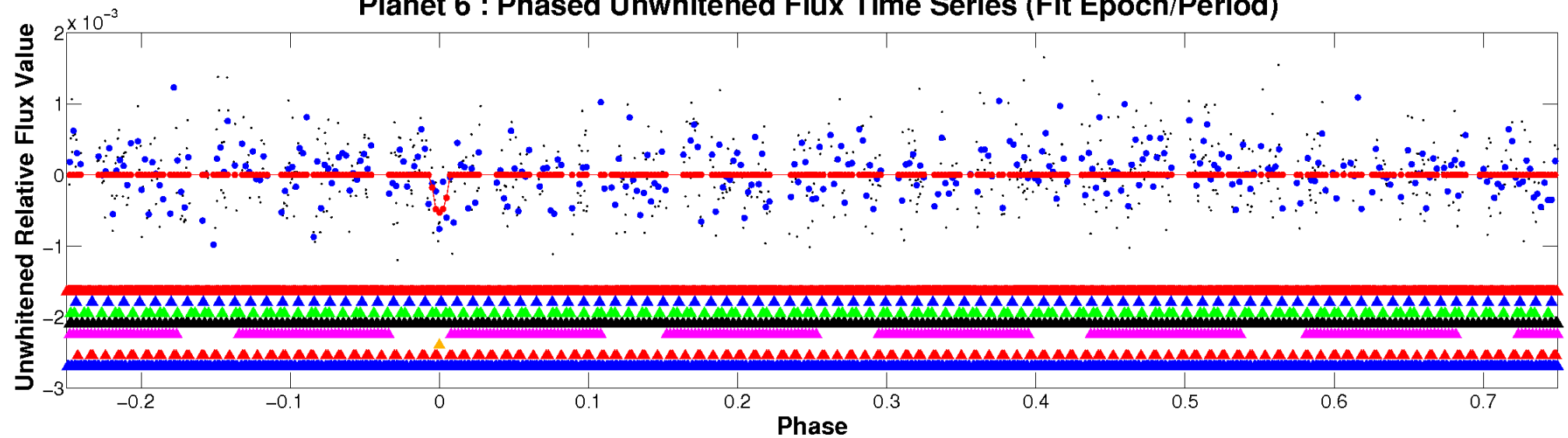


ALT Odd/Even

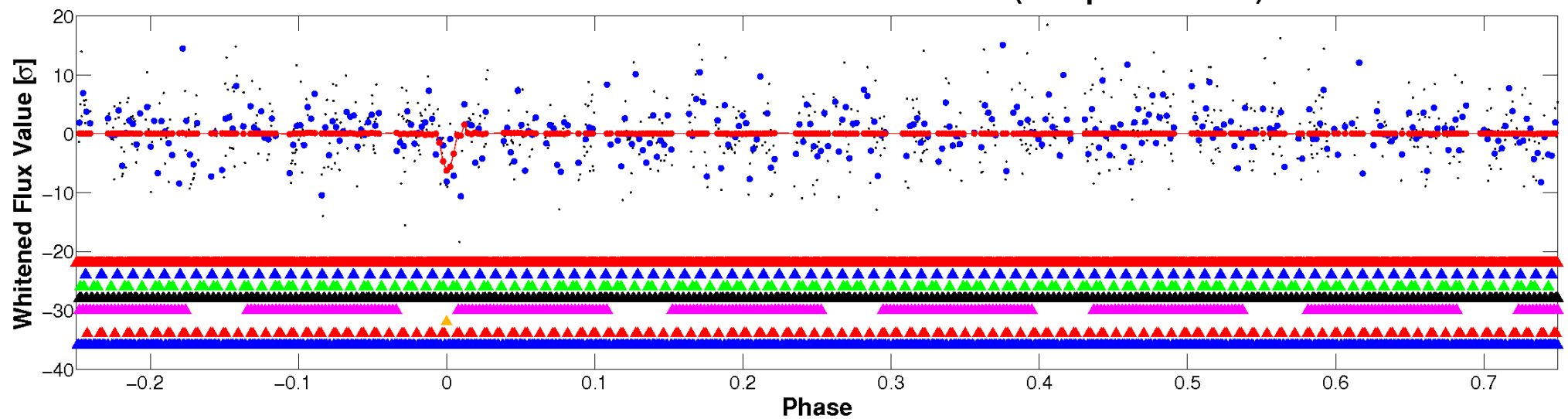
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

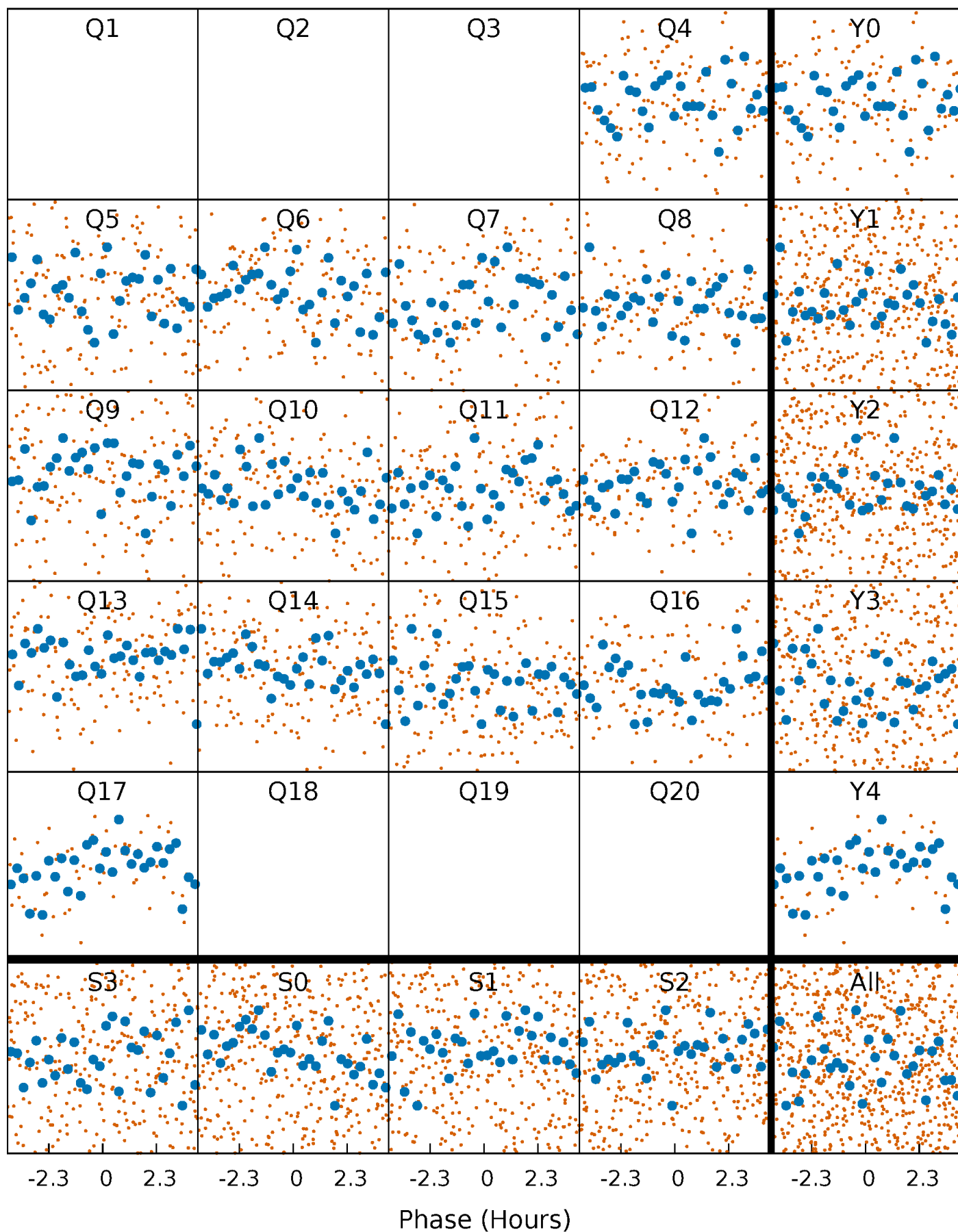


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



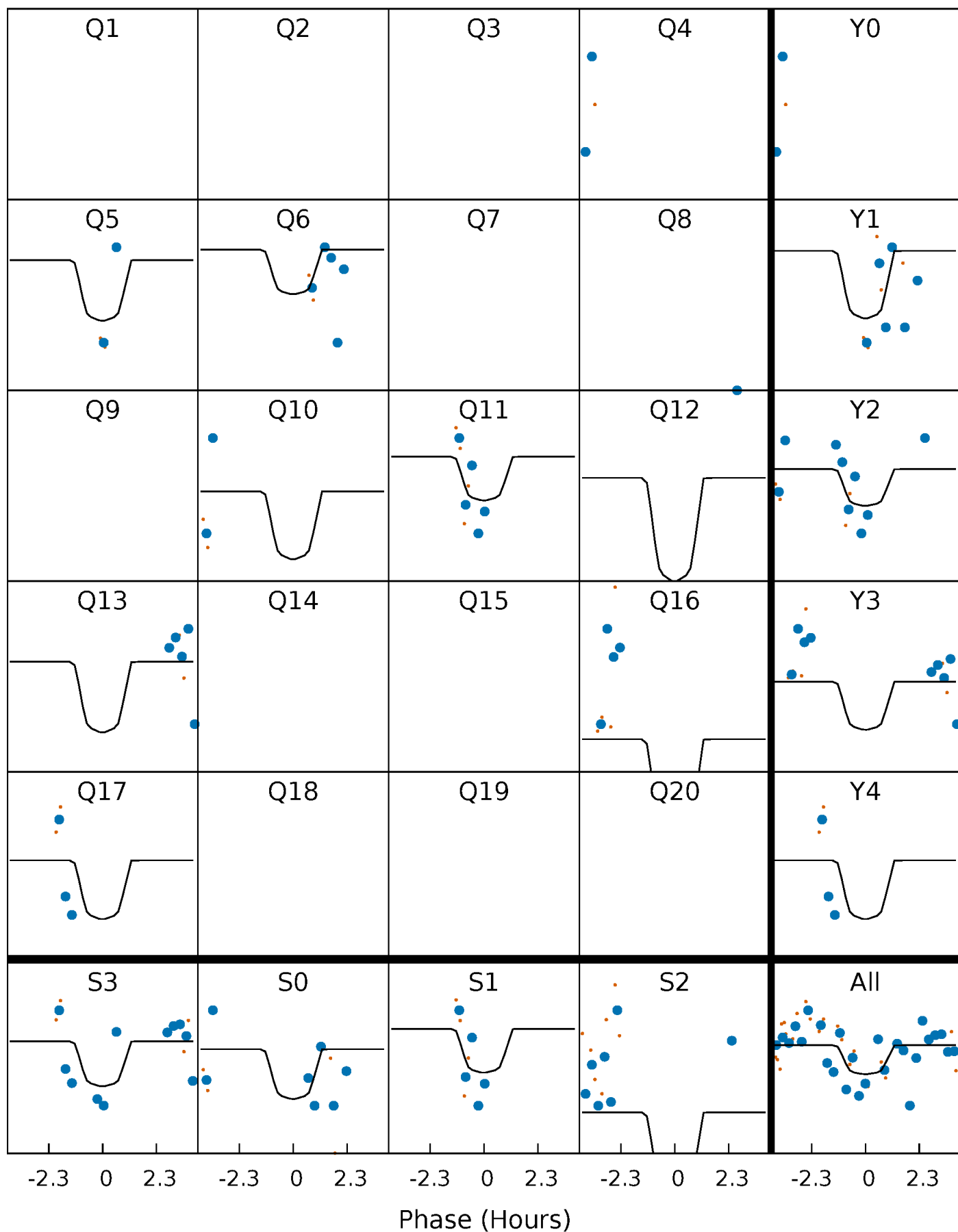
PDC Quarter-Phased Transit Curves

TCE 007031853-06 P= 8.492754 Days $T_0=137.042015$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007031853-06 P= 8.492754 Days $T_0=137.042015$ (BKJD)

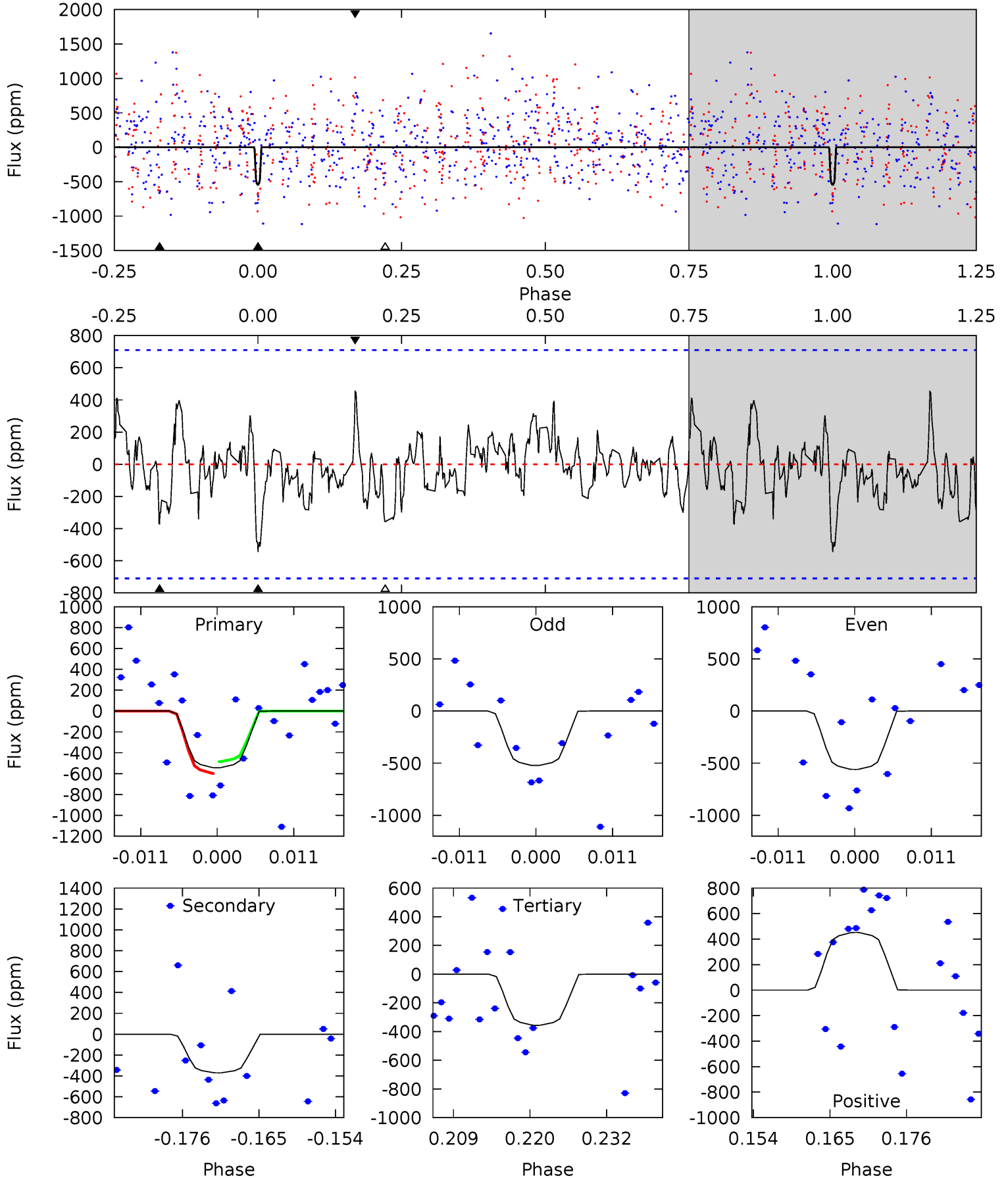


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

007031853-06, P = 8.492754 Days, E = 137.042015 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.84	2.61	2.52	3.19	5.01	2.54	1.01	1.32	0.65	0.10	-0.58	0.13	0	0.45	0.41



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 007031853

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6468^{+180}_{-248}	$4.363^{+0.065}_{-0.195}$	$0.210^{+0.200}_{-0.350}$	$1.250^{+0.393}_{-0.157}$	$1.313^{+0.154}_{-0.205}$	$0.948^{+0.324}_{-0.468}$
	+3%/-4%	+1%/-4%	+95%/-167%	+31%/-13%	+12%/-16%	+34%/-49%
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 007031853-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-370 ± 142	$10.70^{+11.36}_{-7.22}$	1516^{+112}_{-78}	3584^{+2008}_{-730}	13^{+117}_{-10}
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

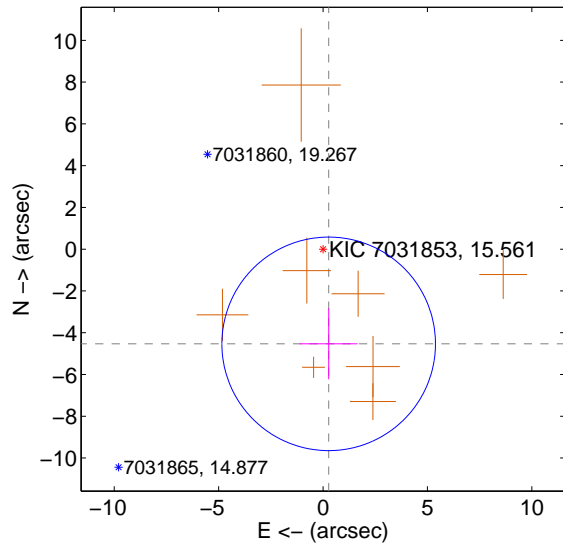
Supplemental centroid analysis for 007031853-06. Kepler magnitude: 15.56. Transit SNR 16.33

There are 0 quarters with good PRF difference image offsets

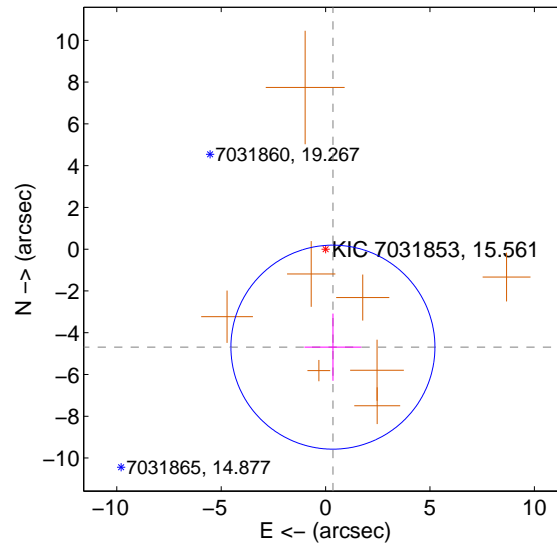
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.541 ± 1.704	2.66	-0.270 ± 1.388	-4.533 ± 1.697
PRF-fit source offset from KIC position	4.704 ± 1.628	2.89	-0.352 ± 1.362	-4.691 ± 1.608
photometric centroid source offset	0.98 ± 0.60	1.64	-0.59 ± 0.59	-0.78 ± 0.60

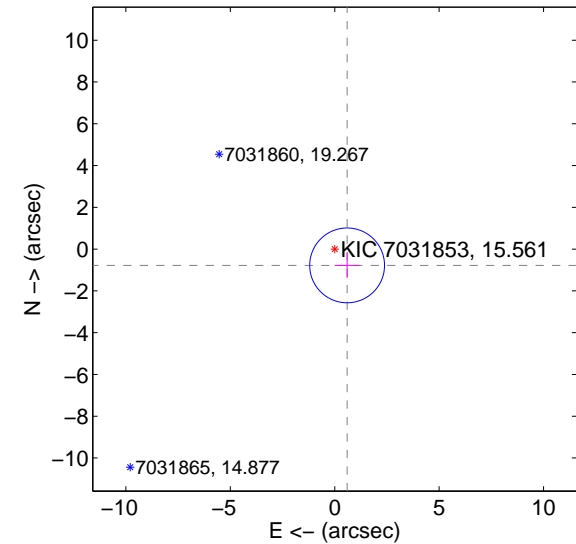
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

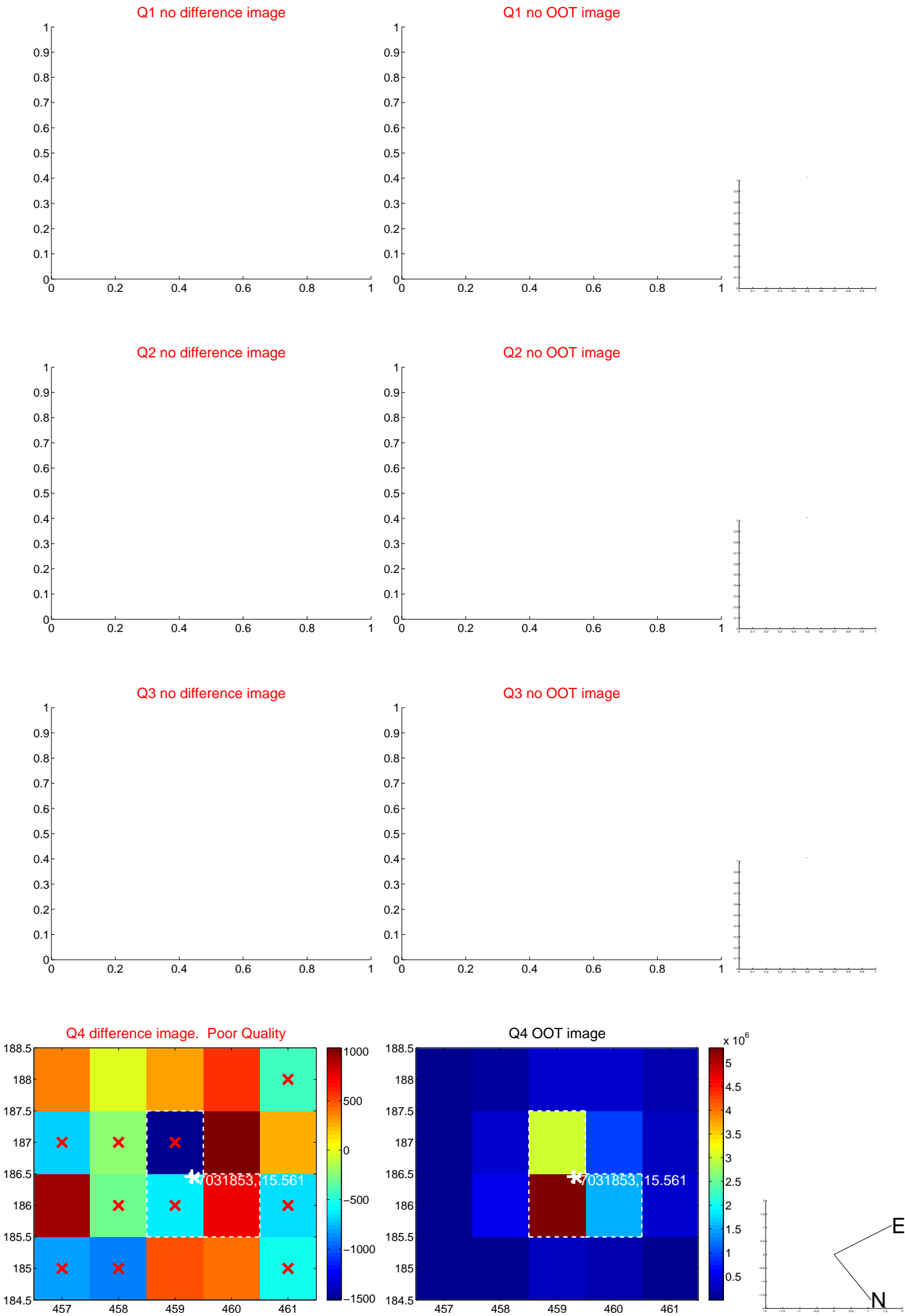


offset from photometric centroids

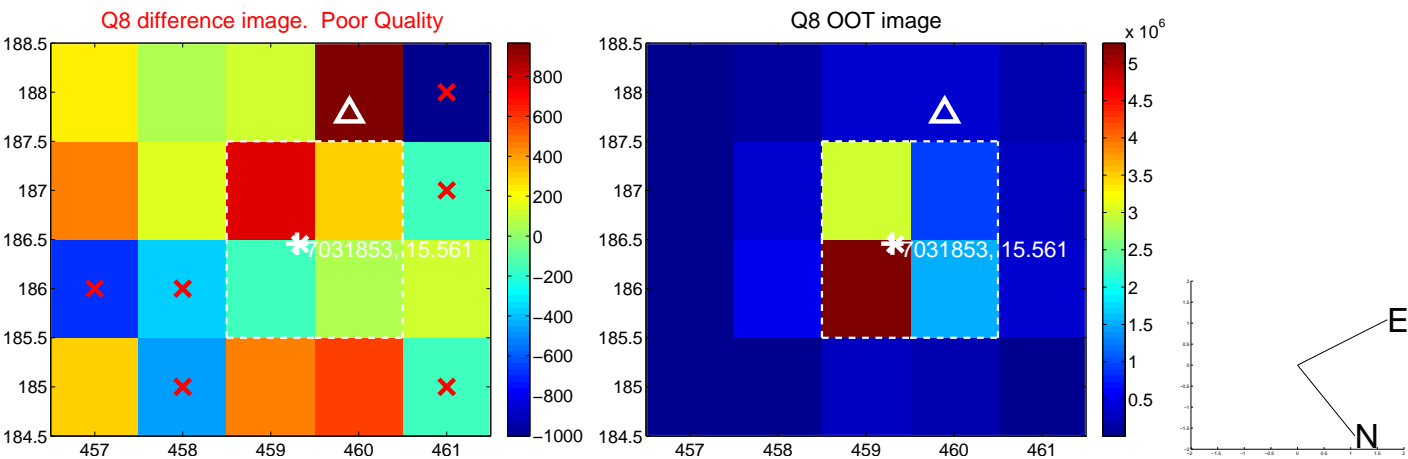
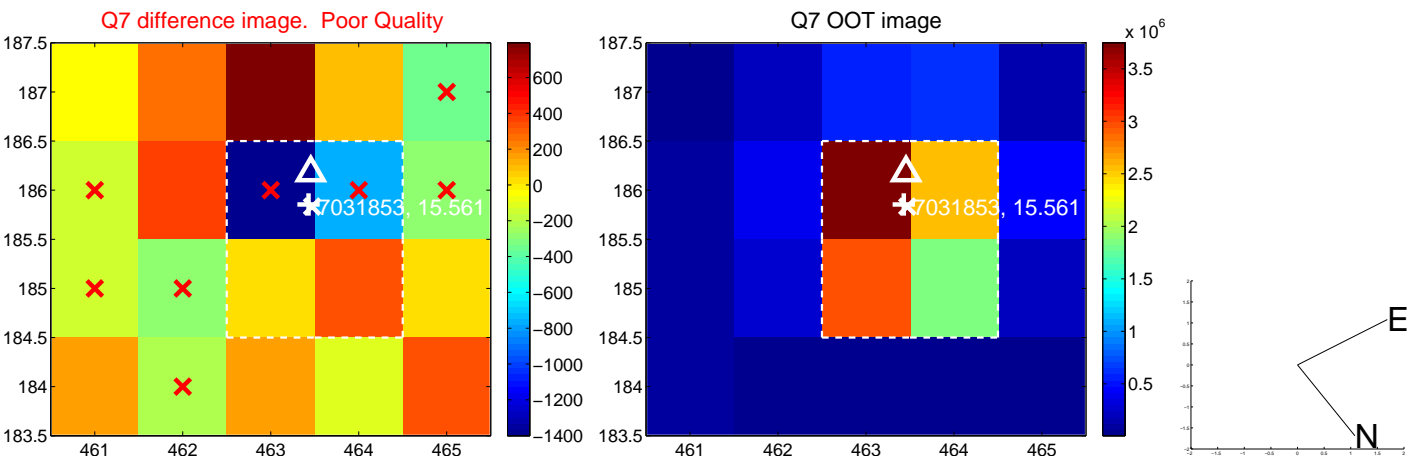
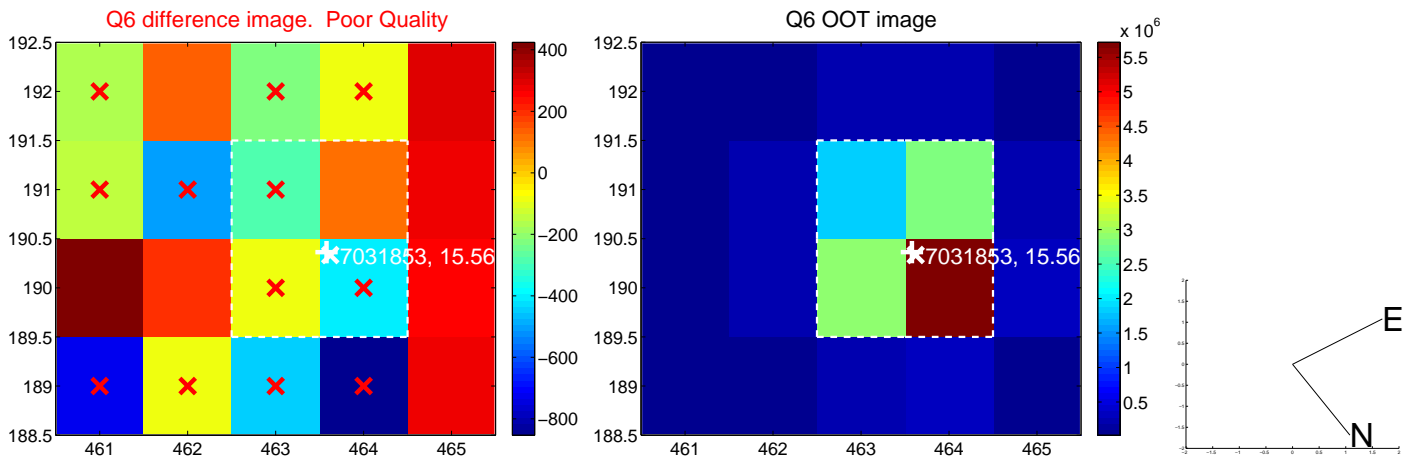
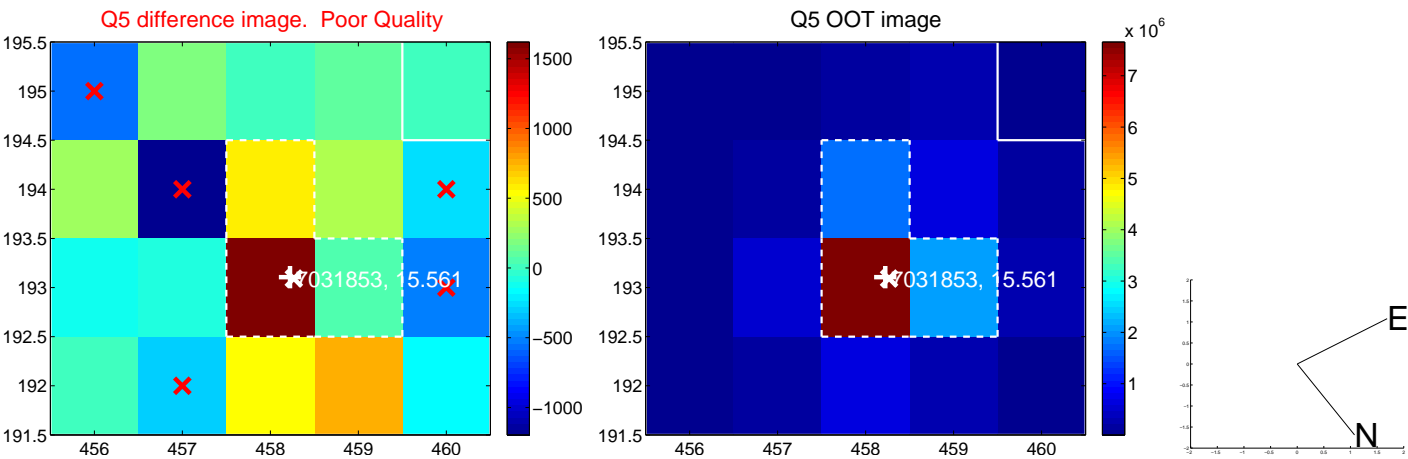


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

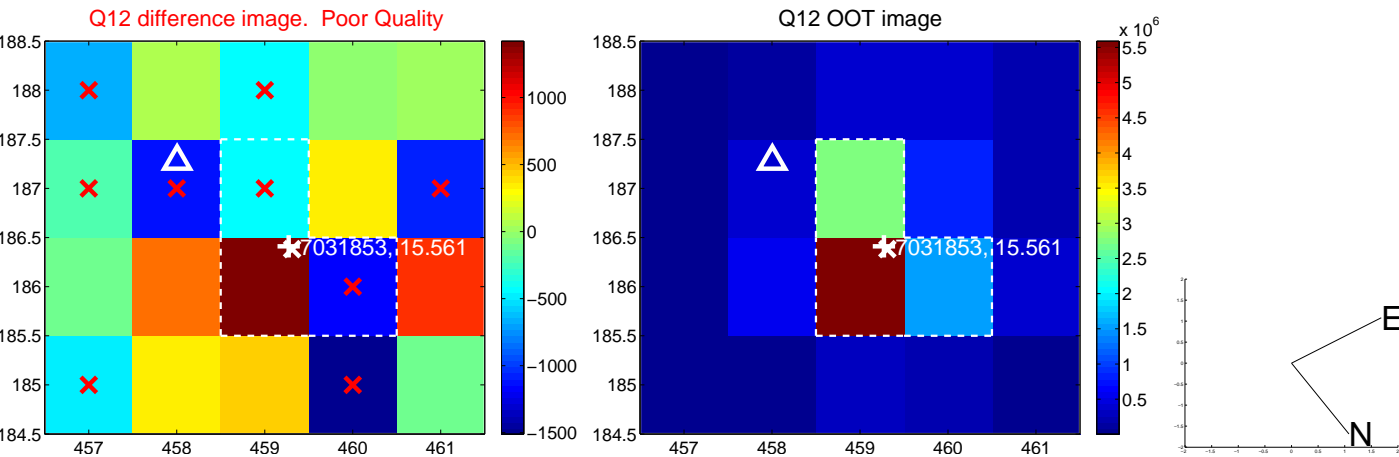
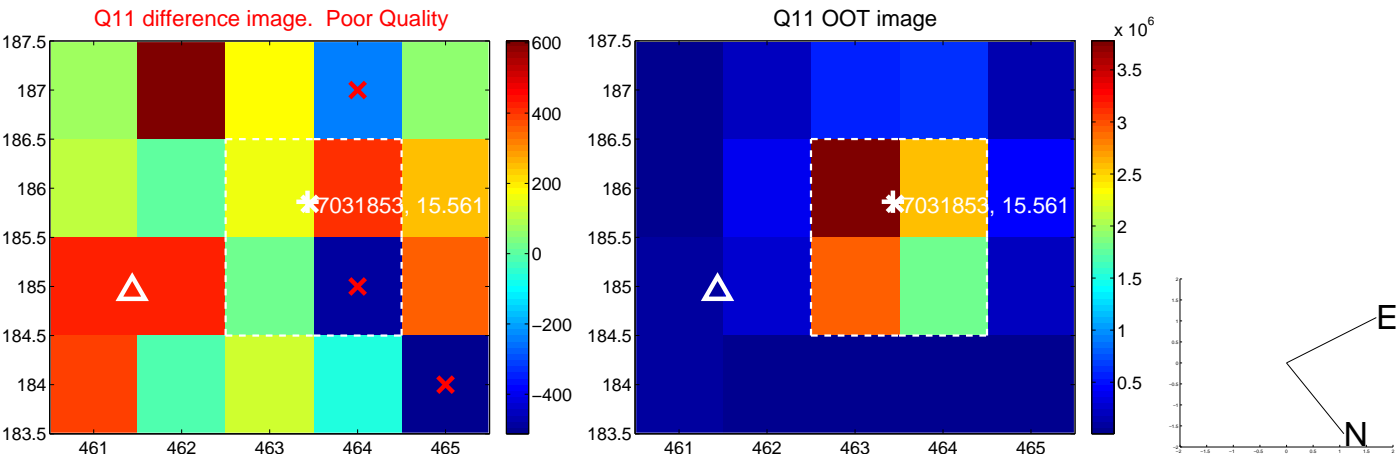
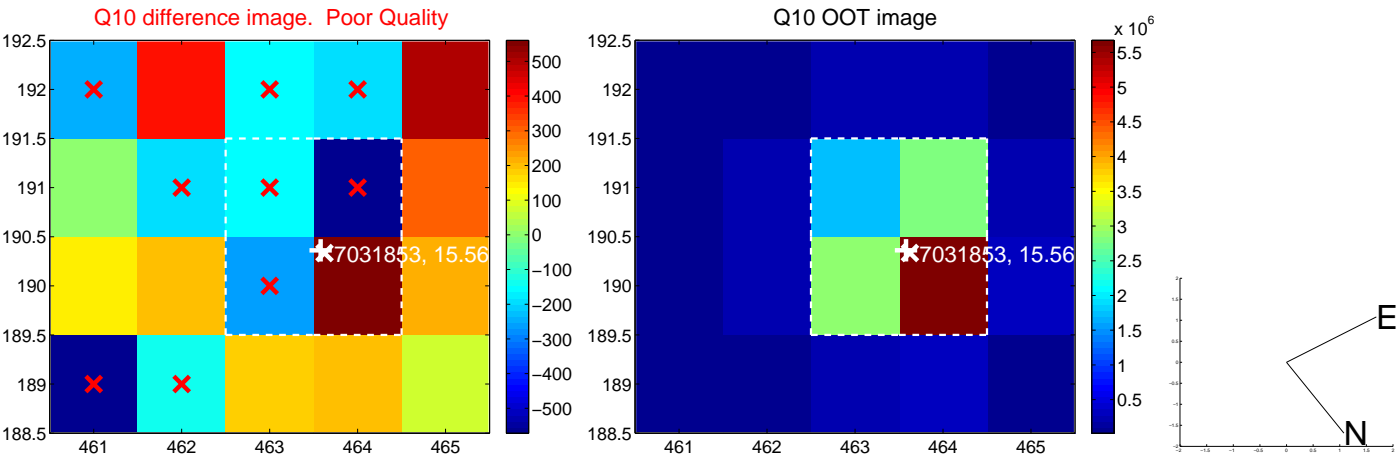
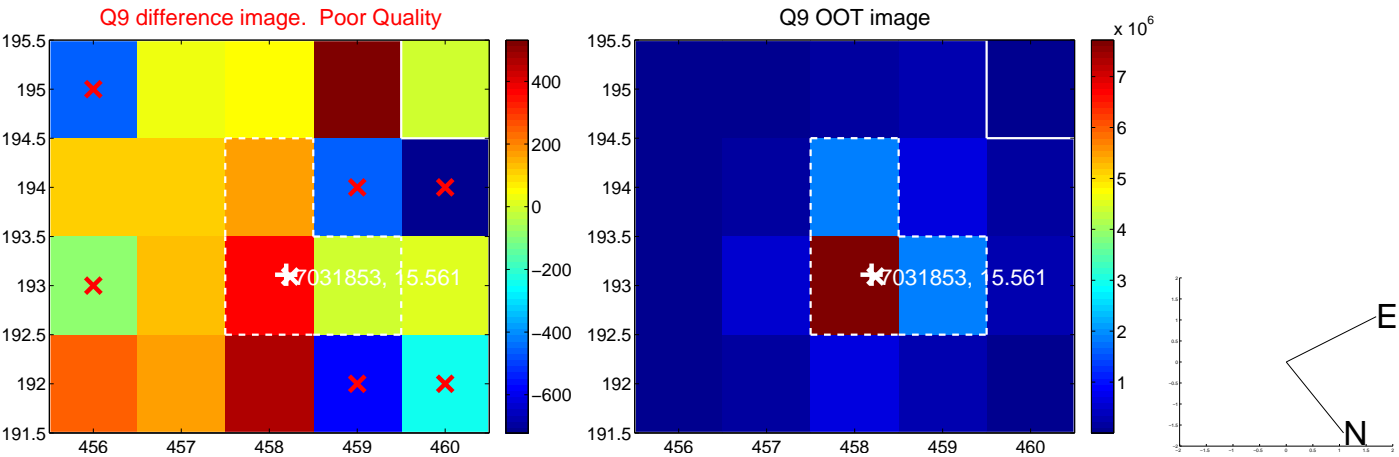
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



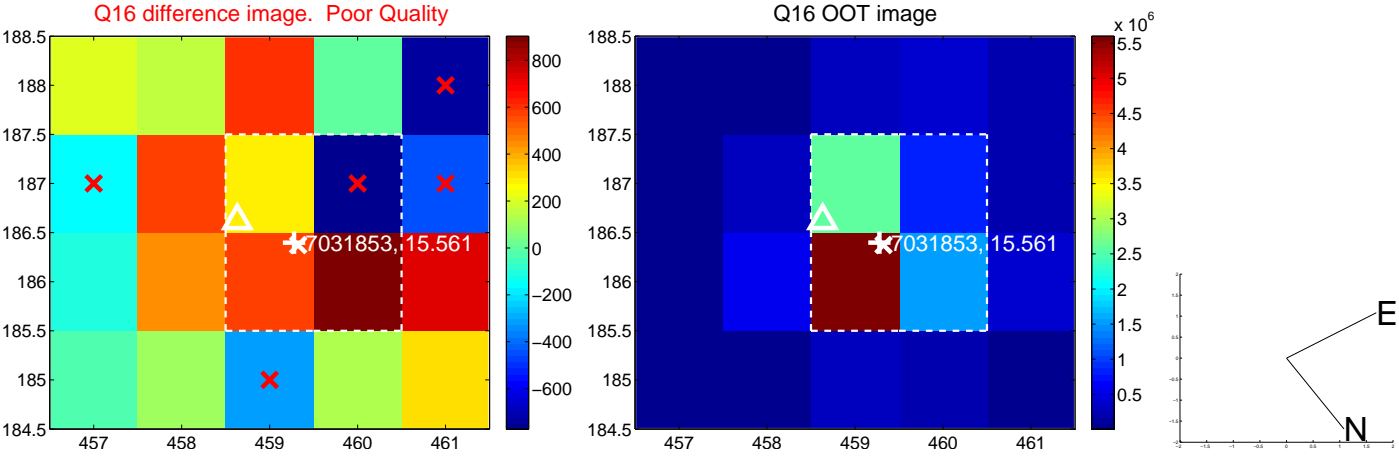
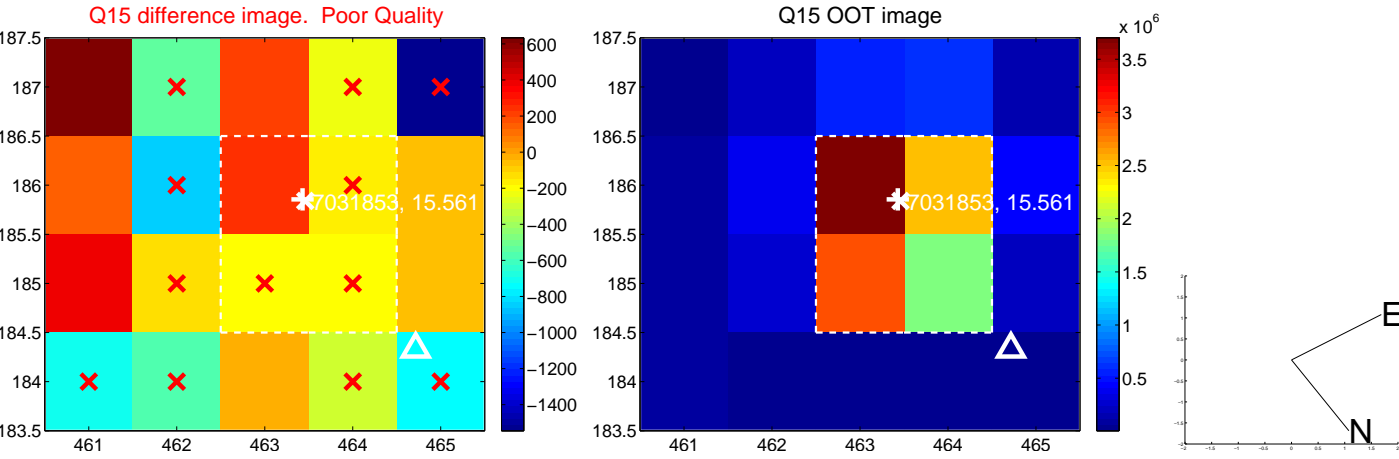
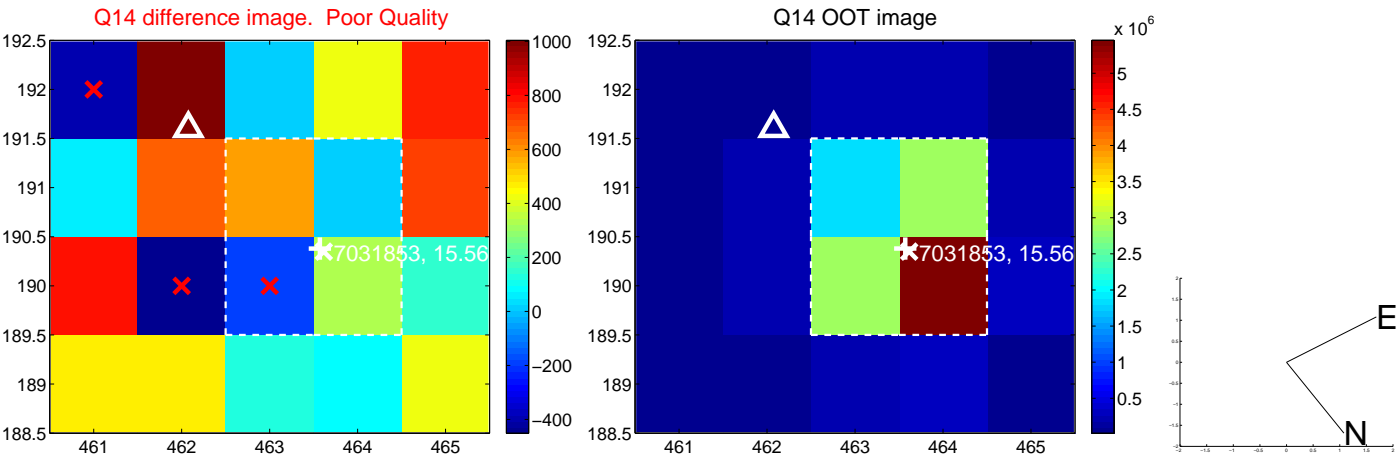
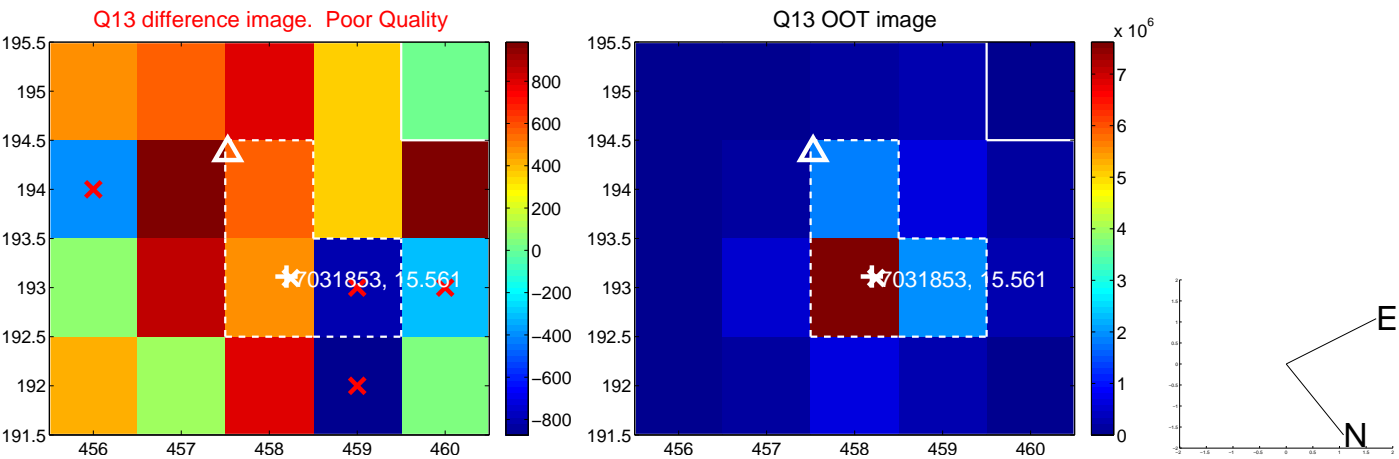
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



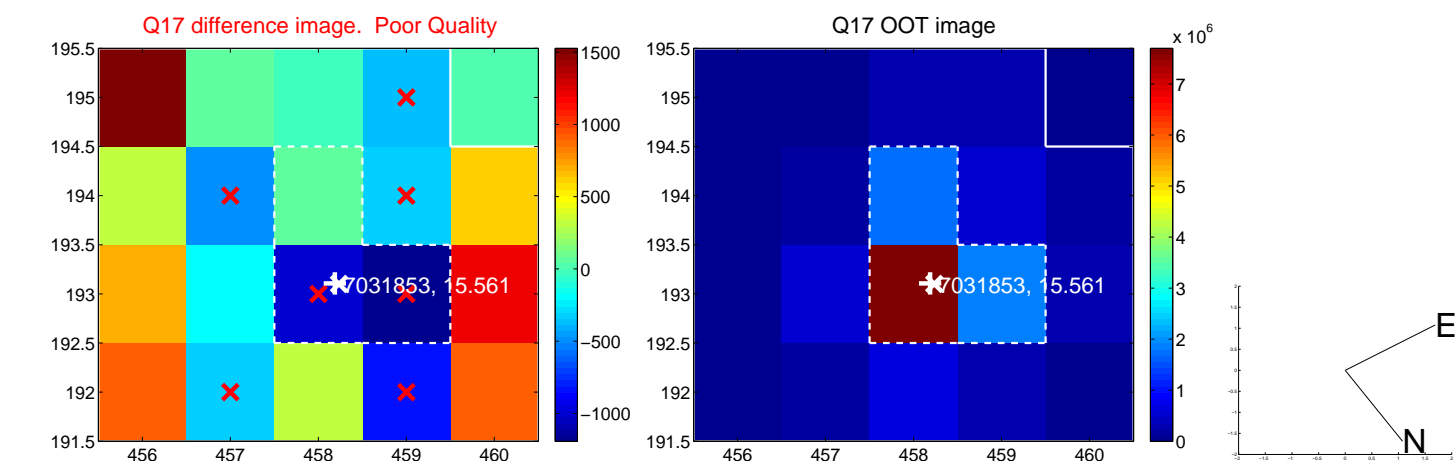
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



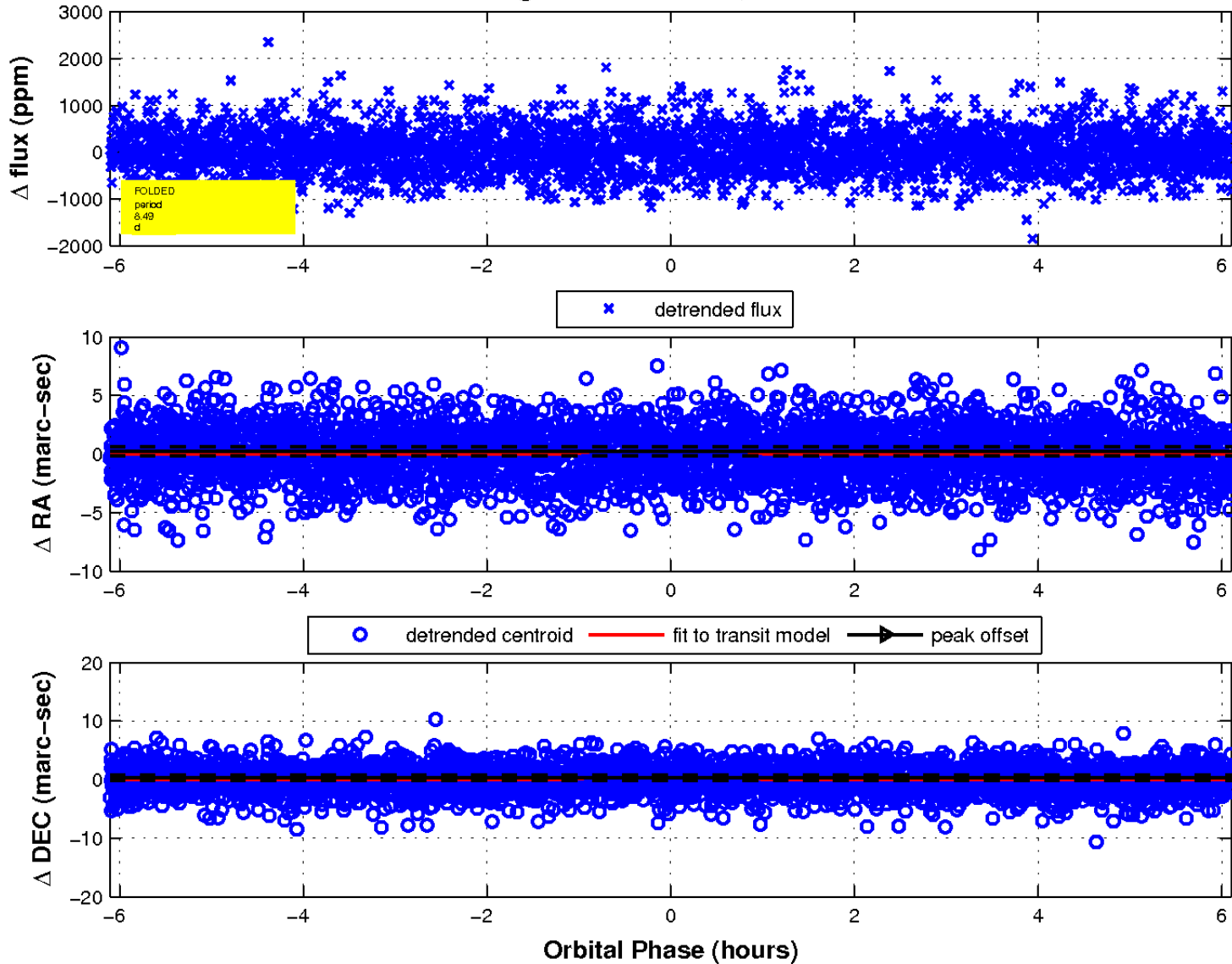
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

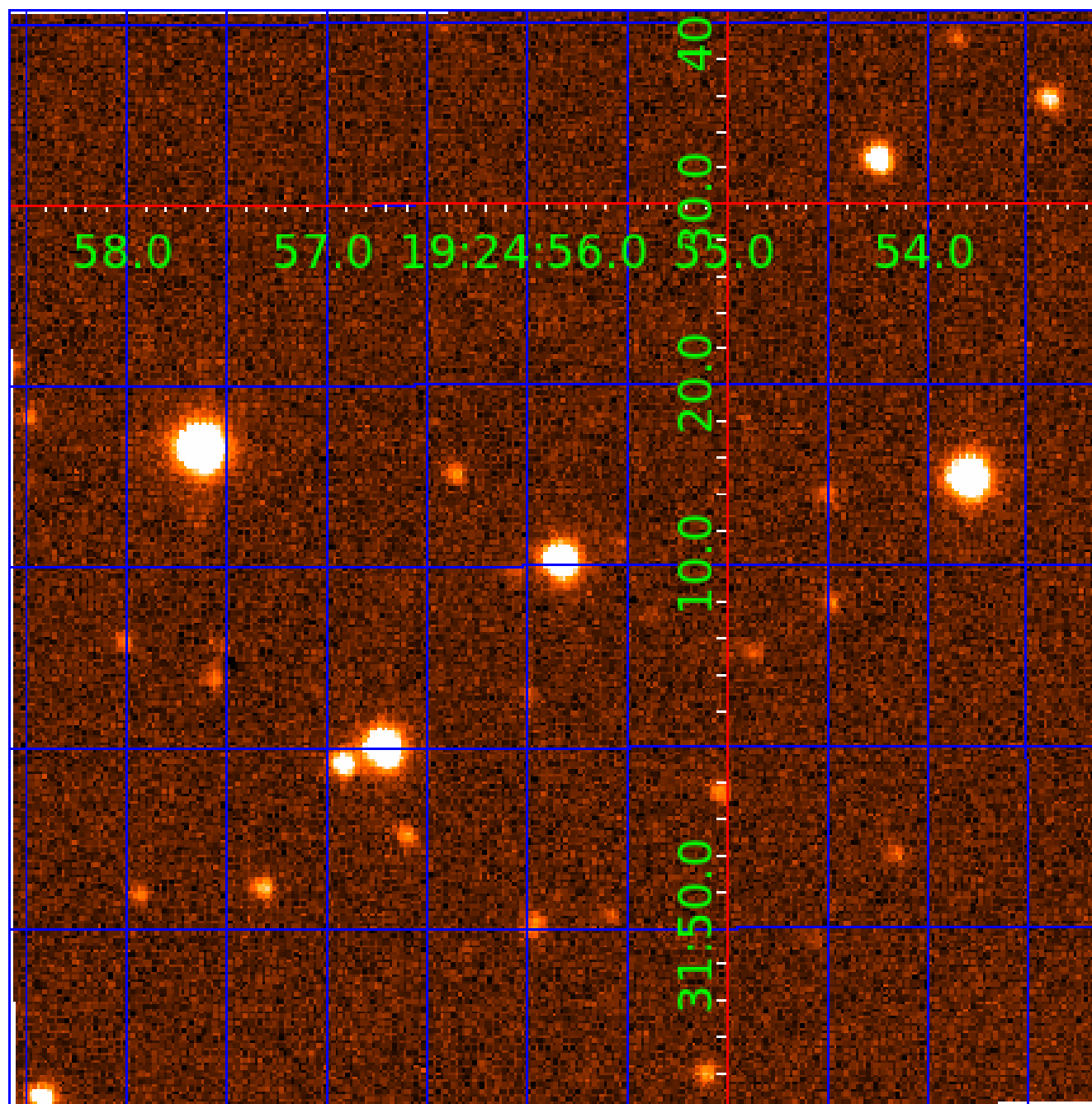


fluxWeightedCentroids, Planet 6 of 8



UKIRT Image

Declination



KIC 007031853

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})
007031853-01	OBS	No	0.566754	131.839314	17.0	4.284	10.8	4.2	1.25	6468	0.54	11360.26
007031853-02	OBS	No	7.498891	137.054763	1219.4	0.526	13.5	22.0	1.25	6468	4.76	363.01
007031853-03	OBS	No	9.179254	138.020646	537.7	1.736	12.5	15.1	1.25	6468	2.99	277.23
007031853-04	OBS	No	2.376727	131.545693	450.8	1.232	12.8	15.8	1.25	6468	3.12	1679.87
007031853-05	OBS	No	4.850105	134.338245	788.9	1.215	13.8	22.2	1.25	6468	3.54	649.00
007031853-06	OBS	No	8.492754	137.042016	530.8	2.036	14.2	16.3	1.25	6468	2.98	307.50
007031853-07	OBS	No	7.627644	137.430878	836.1	1.088	12.9	13.8	1.25	6468	3.74	354.86
007031853-08	OBS	No	1.601906	131.727945	251.2	0.798	12.2	8.5	1.25	6468	2.04	2842.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007031853-01	OBS	FP	0.00	1	0	0	1	LPP_DV—LPP_ALT—CENT_FEW_DIFFS—EPHEM_MATCH
007031853-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007031853-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST
007031853-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST
007031853-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007031853-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007031853-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST
007031853-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—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.

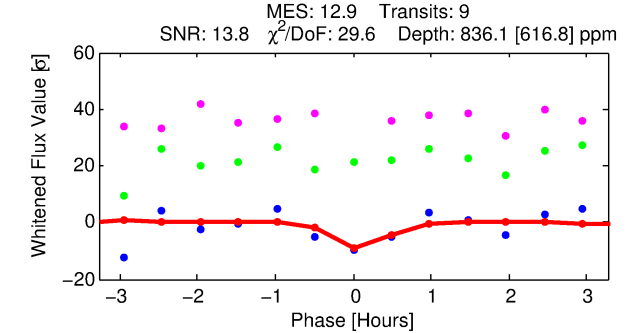
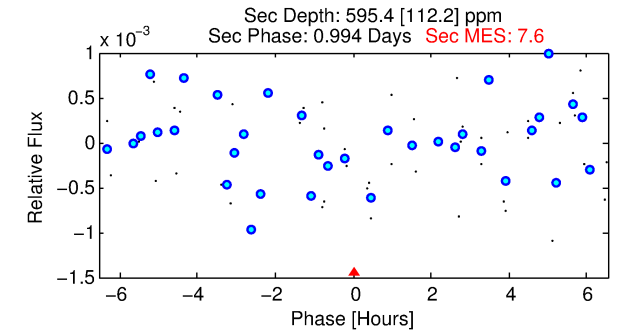
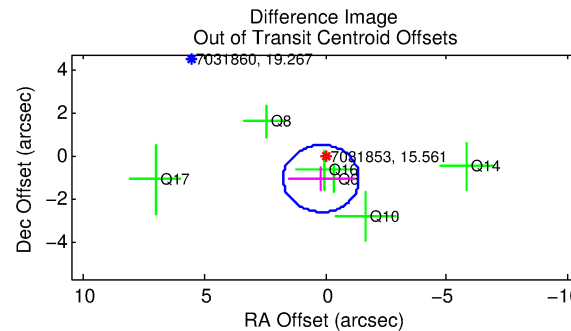
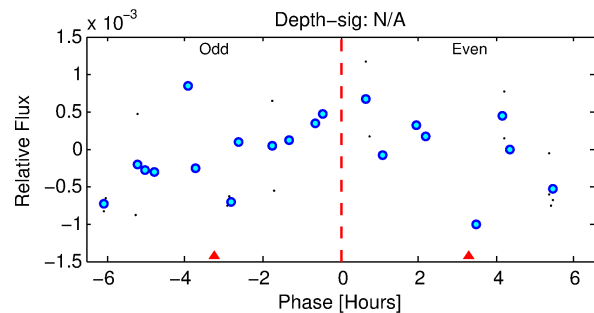
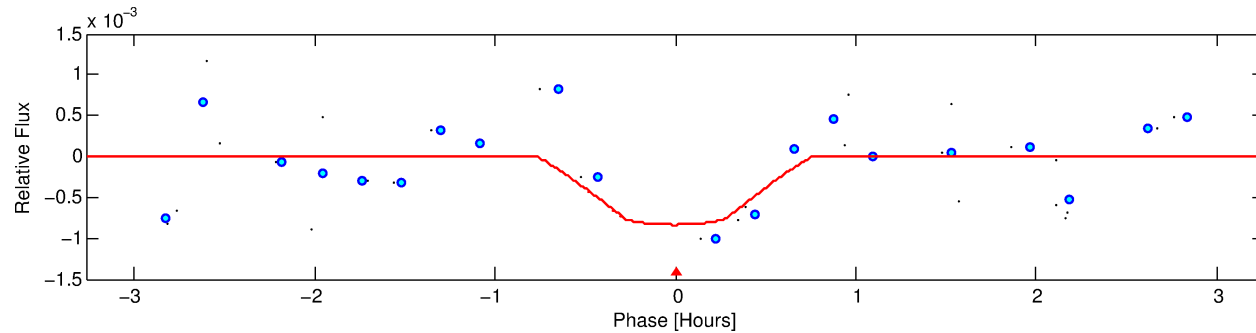
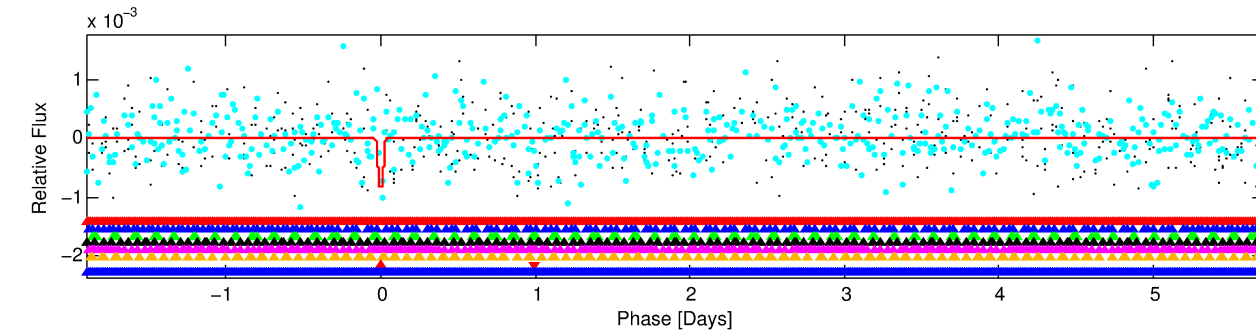
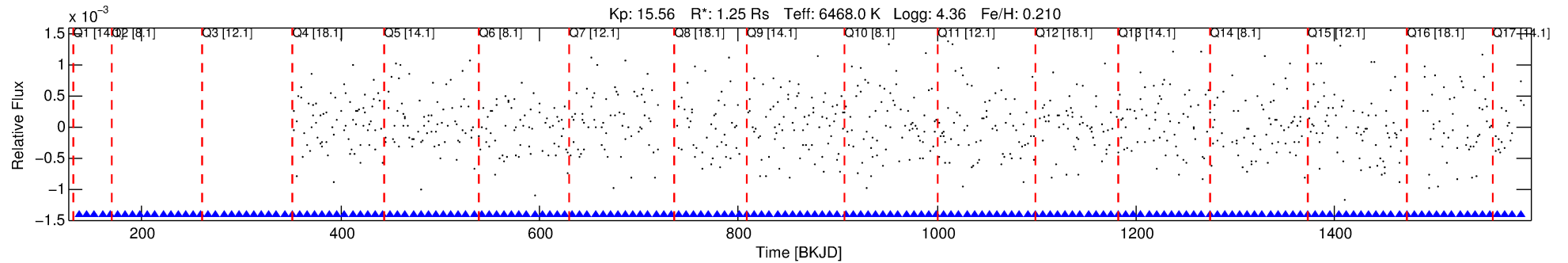
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007031853-07

No Significant Match Found

DV One-Page Summary

KIC: 7031853 Candidate: 7 of 8 Period: 7.628 d



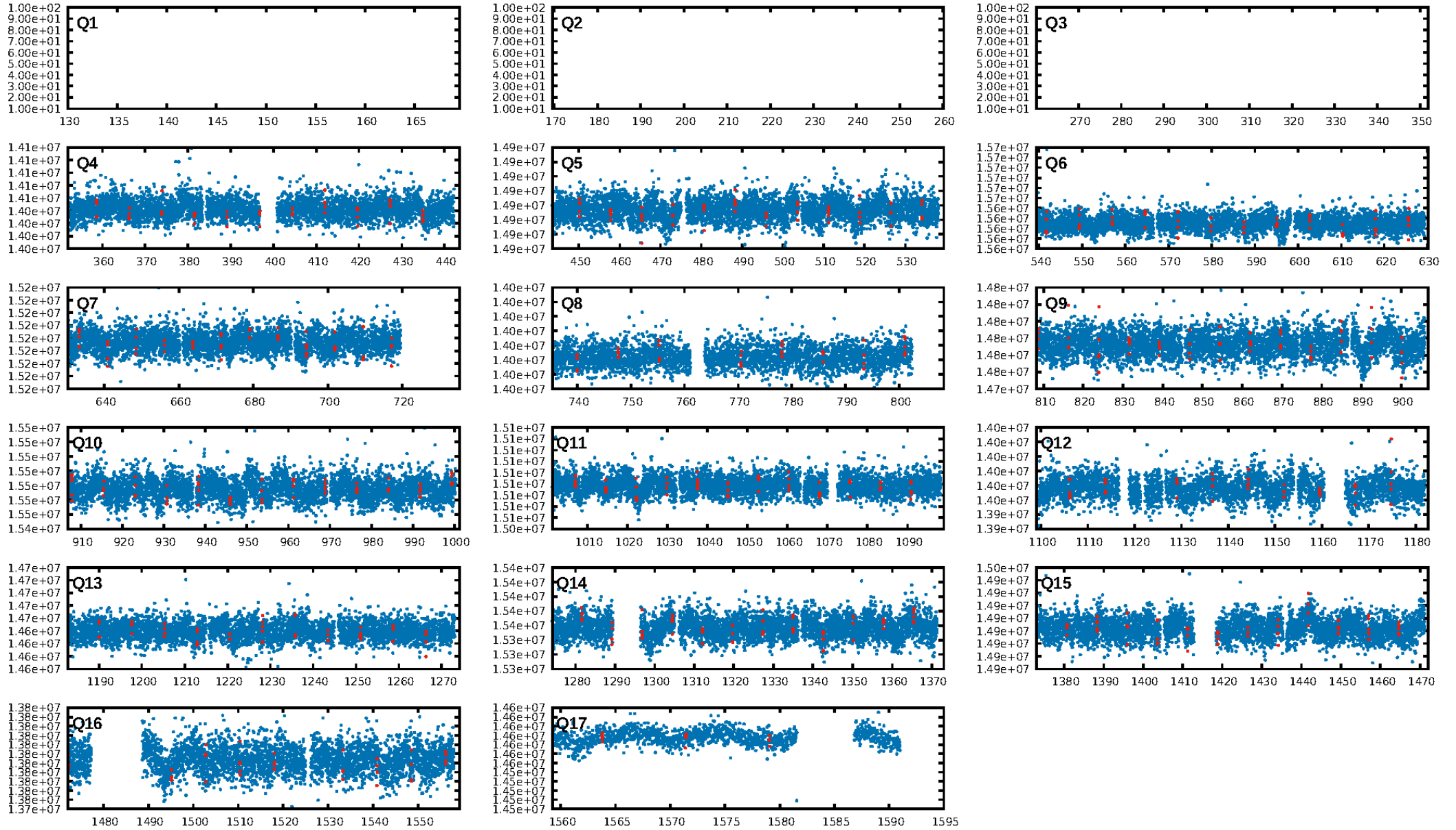
DV Fit Results:

Period = 7.62764 [0.00016] d
Epoch = 137.4309 [0.0124] BKJD
Rp/R* = 0.0274 [0.1157]
a/R* = 48.60 [1016.12]
b = 0.48 [33.63]
Seff = 354.86 [140.63]
Teff = 1107 [110] K
Rp = 3.74 [15.83] Re
a = 0.0831 [0.0214] AU
Ag = 161.47 [1363.60] [0.12σ]
Teffp = 6100 [12868] K [0.39σ]

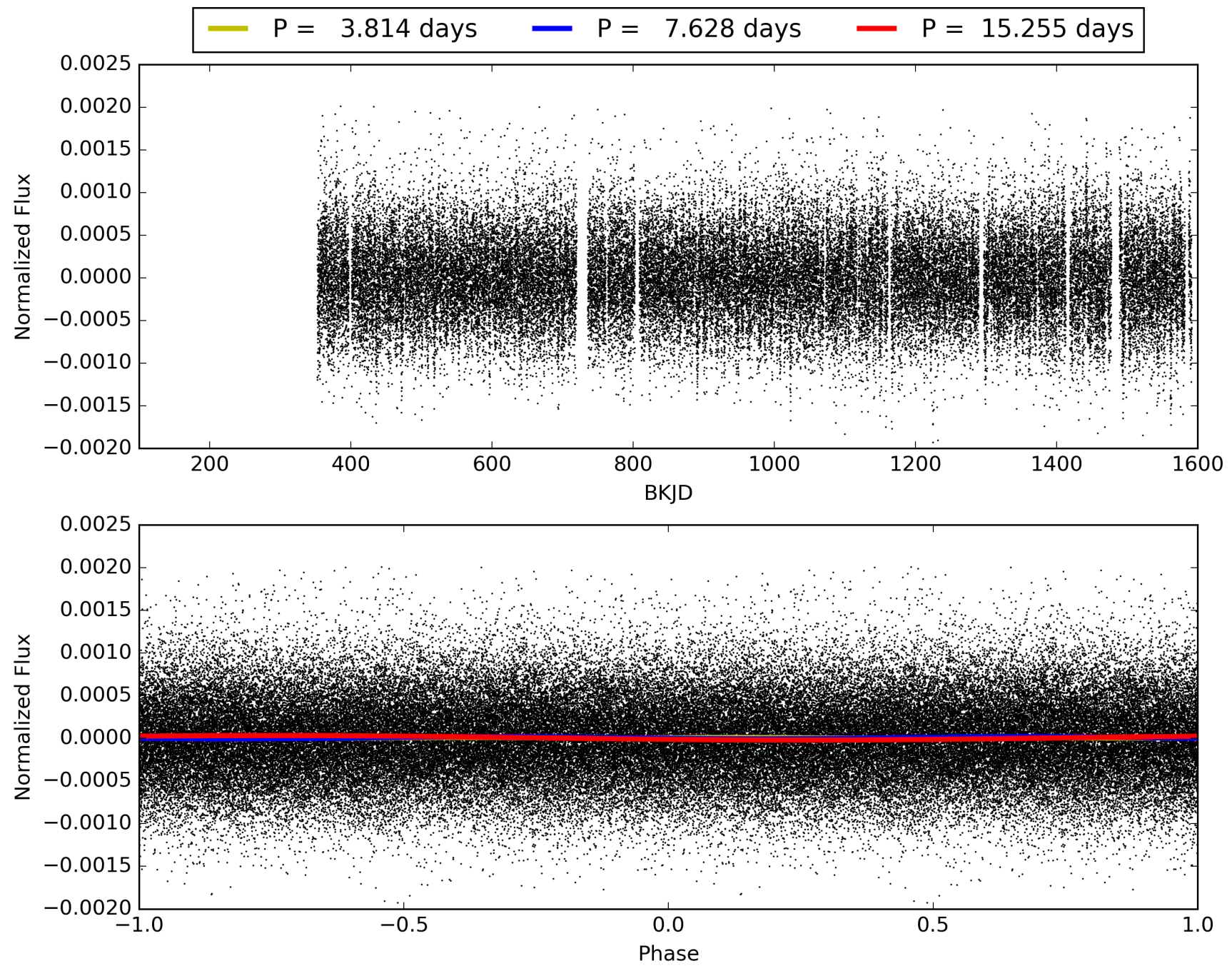
DV Diagnostic Results:

ShortPeriod-sig: 98.9% [2.56σ]
LongPeriod-sig: 100.0% [8.99σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 1.3%
Bootstrap-pfa: 8.17e-07
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: 0.001377
Centroid-sig: 11.9%
Centroid-so: 0.628 arcsec [1.24σ]
OotOffset-rm: 1.074 arcsec [2.06σ]
KicOffset-rm: 1.241 arcsec [2.16σ]
OotOffset-st: 3/0/2/1 [6]
KicOffset-st: 3/0/2/1 [6]
DiffImageQuality-fgm: 0.17 [1/6]
DiffImageOverlap-fno: 0.00 [0/14]

TCE 007031853-07, PDC Light Curves

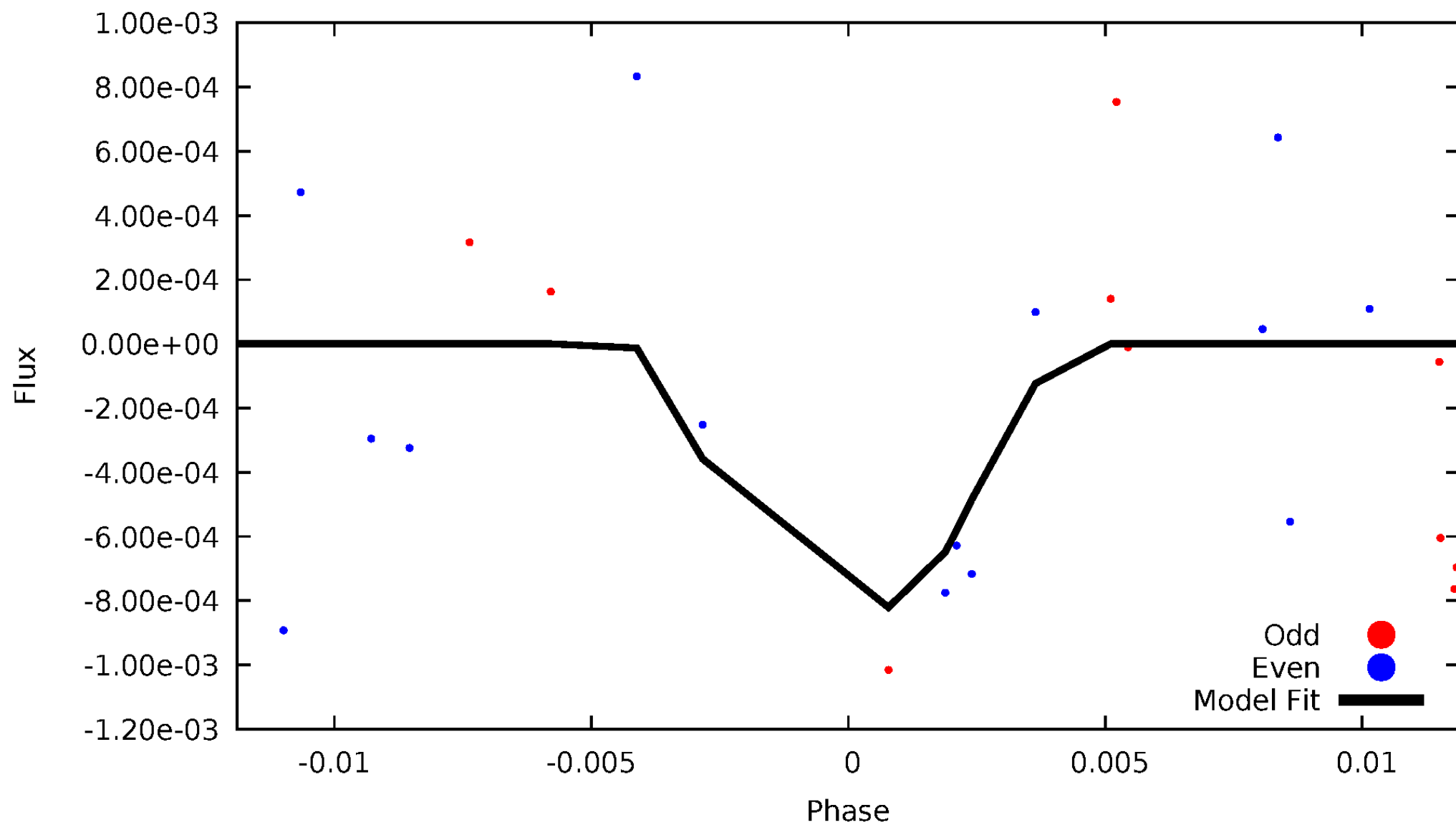


TCE 007031853-07



DV Odd/Even

TCE 007031853-07

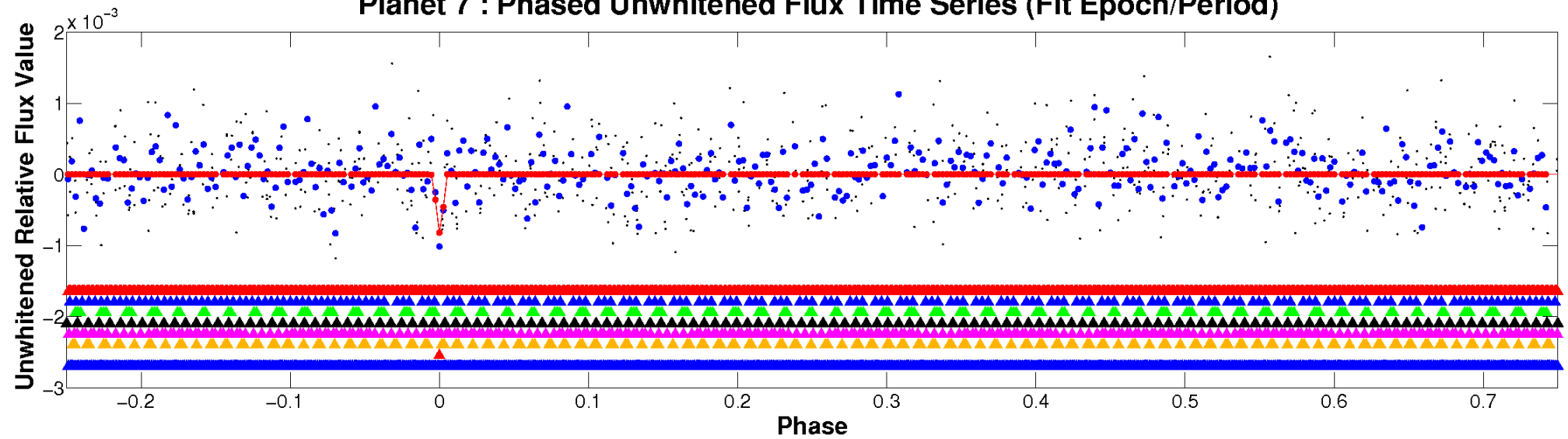


ALT Odd/Even

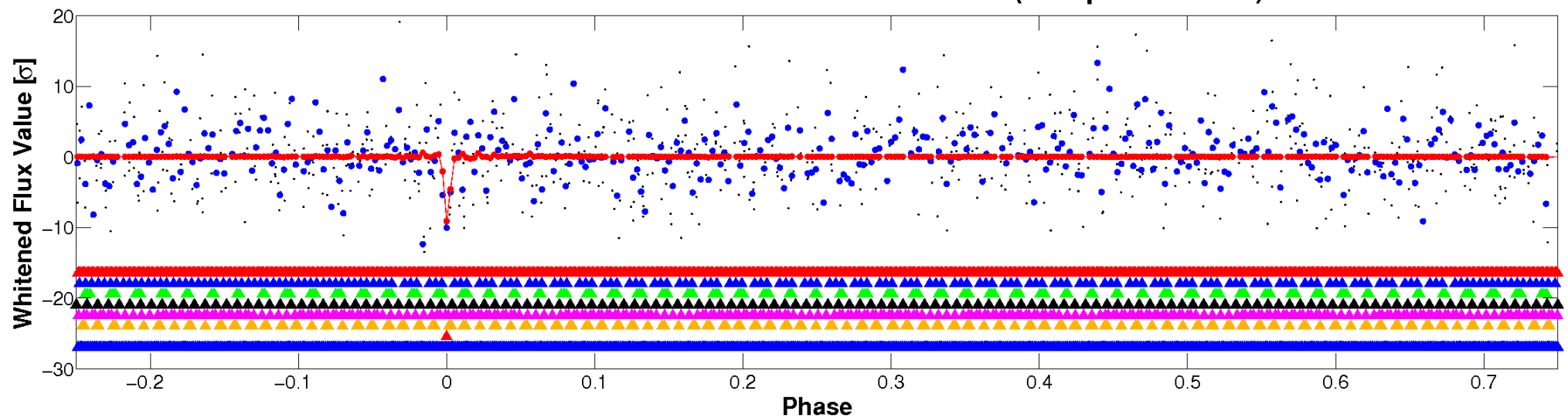
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

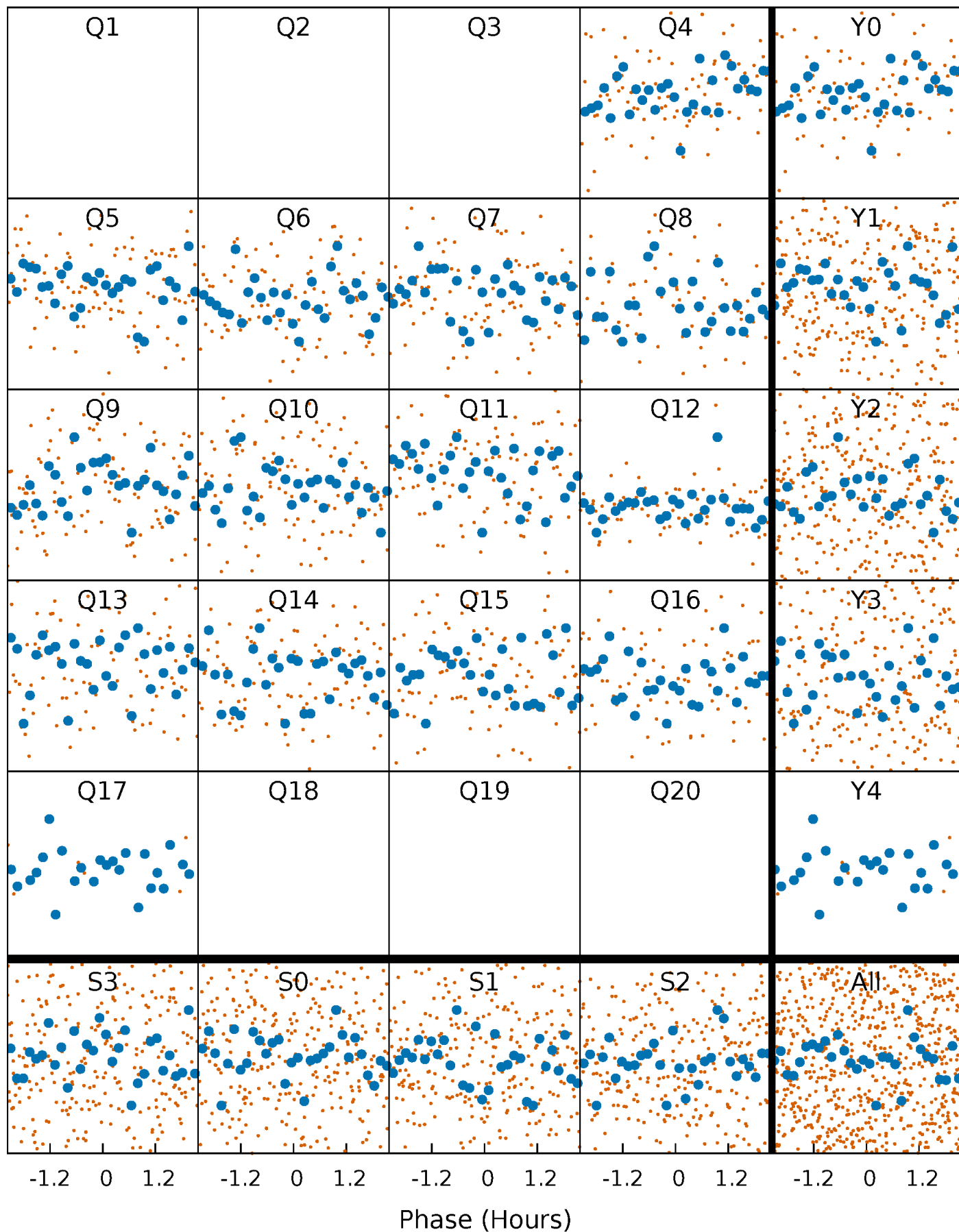


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



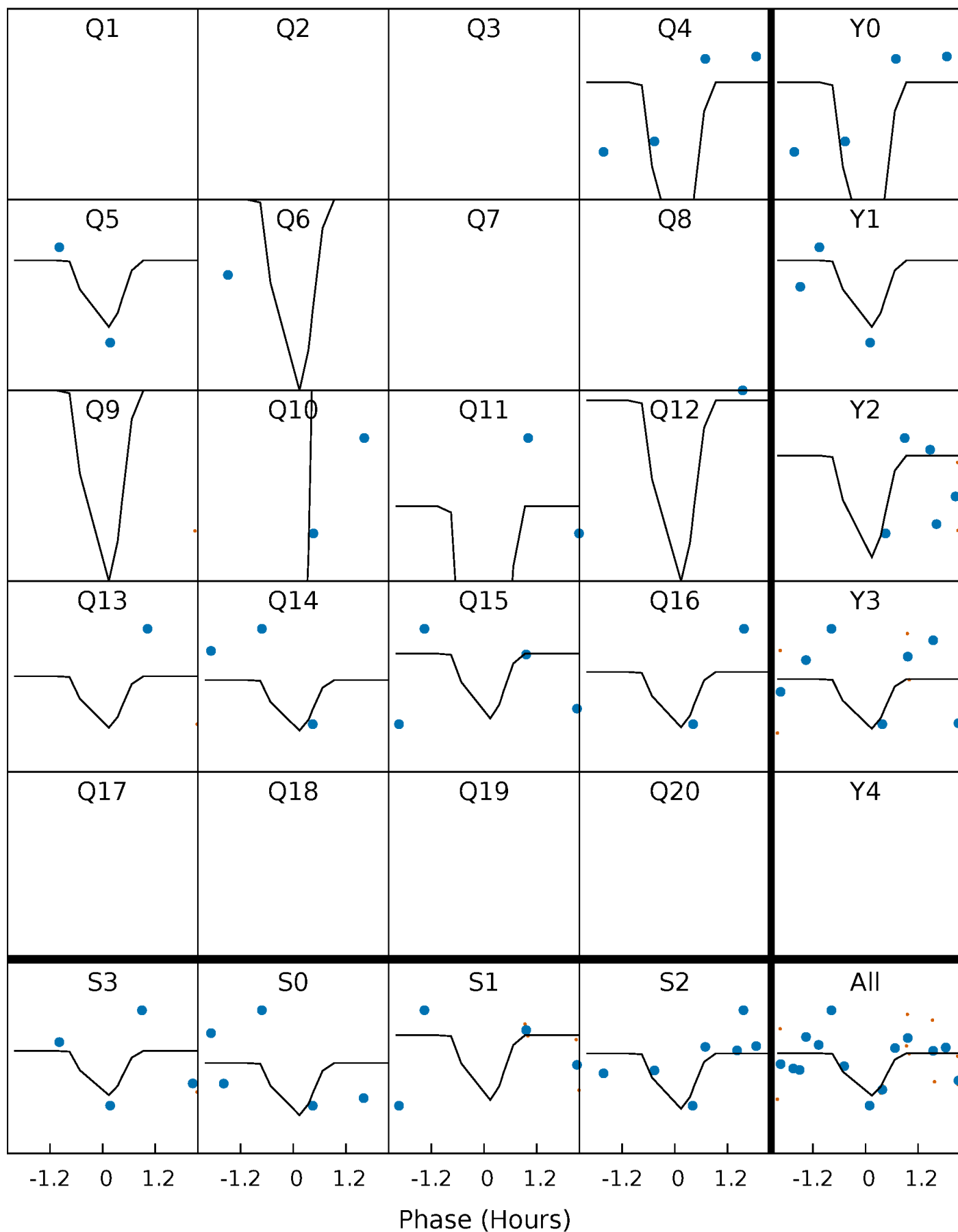
PDC Quarter-Phased Transit Curves

TCE 007031853-07 $P = 7.627644$ Days $T_0 = 137.430878$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007031853-07 $P = 7.627644$ Days $T_0 = 137.430878$ (BKJD)

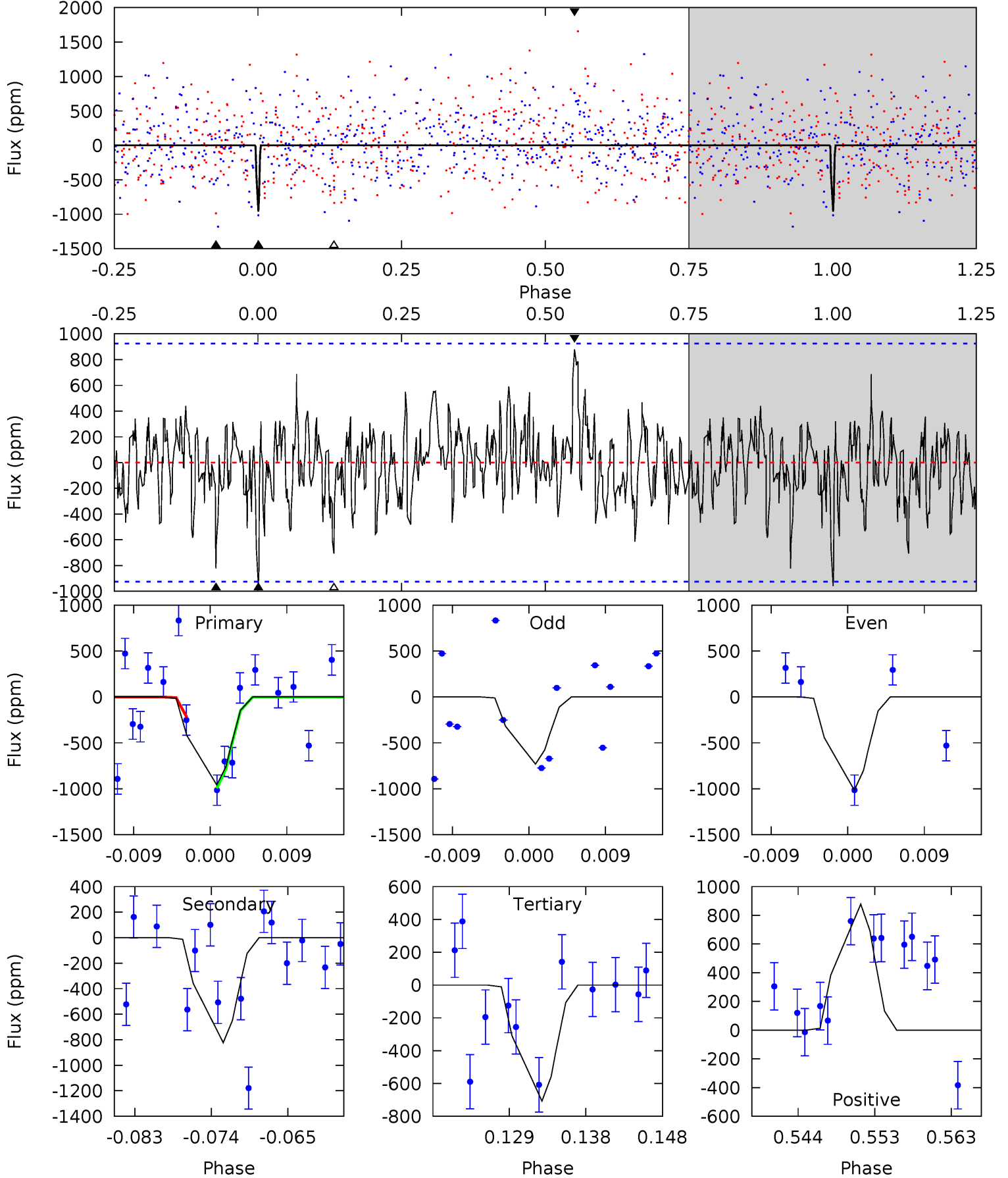


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

007031853-07, P = 7.627644 Days, E = 137.430878 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.23	4.48	3.86	4.79	5.04	2.60	1.34	1.37	0.44	0.63	-0.30	0.60	0	0.48	1.60



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 007031853

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6468^{+180}_{-248}	$4.363^{+0.065}_{-0.195}$	$0.210^{+0.200}_{-0.350}$	$1.250^{+0.393}_{-0.157}$	$1.313^{+0.154}_{-0.205}$	$0.948^{+0.324}_{-0.468}$
	+3%/-4%	+1%/-4%	+95%/-167%	+31%/-13%	+12%/-16%	+34%/-49%
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 007031853-07 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-822±183	$13.15^{+12.77}_{-8.76}$	1563^{+112}_{-83}	3870^{+2362}_{-765}	17^{+148}_{-13}
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

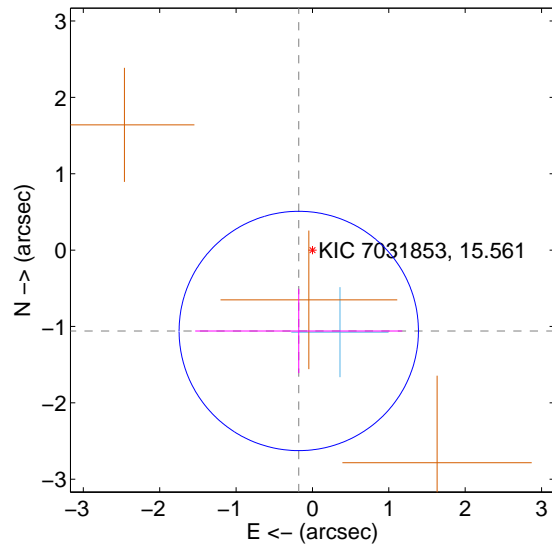
Supplemental centroid analysis for 007031853-07. Kepler magnitude: 15.56. Transit SNR 13.83

There are 1 quarters with good PRF difference image offsets

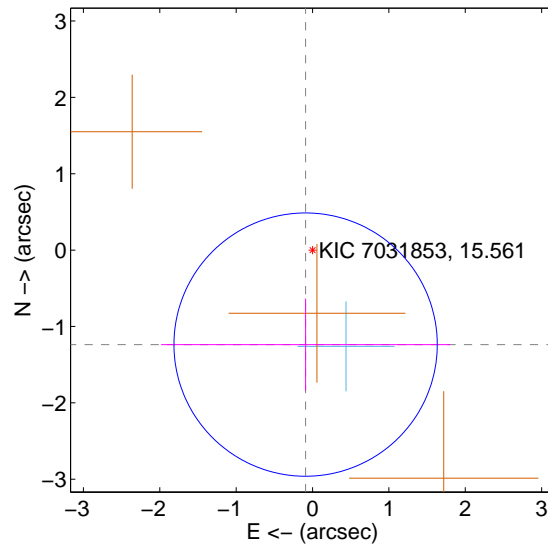
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.074 ± 0.522	2.06	0.179 ± 1.356	-1.059 ± 0.551
PRF-fit source offset from KIC position	1.241 ± 0.575	2.16	0.091 ± 1.892	-1.237 ± 0.603
photometric centroid source offset	0.63 ± 0.51	1.24	0.12 ± 0.50	-0.62 ± 0.51

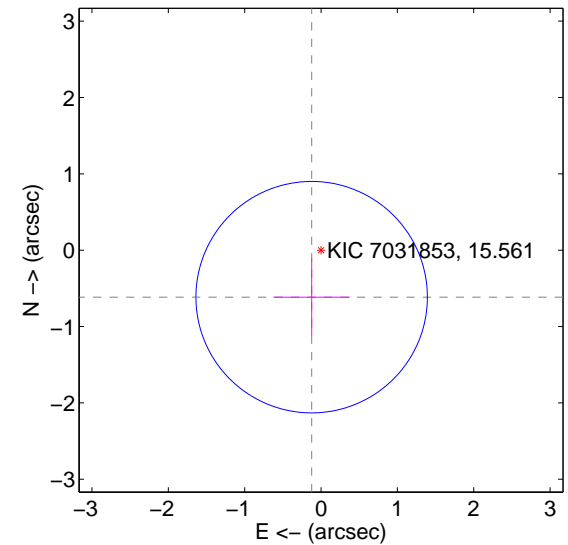
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

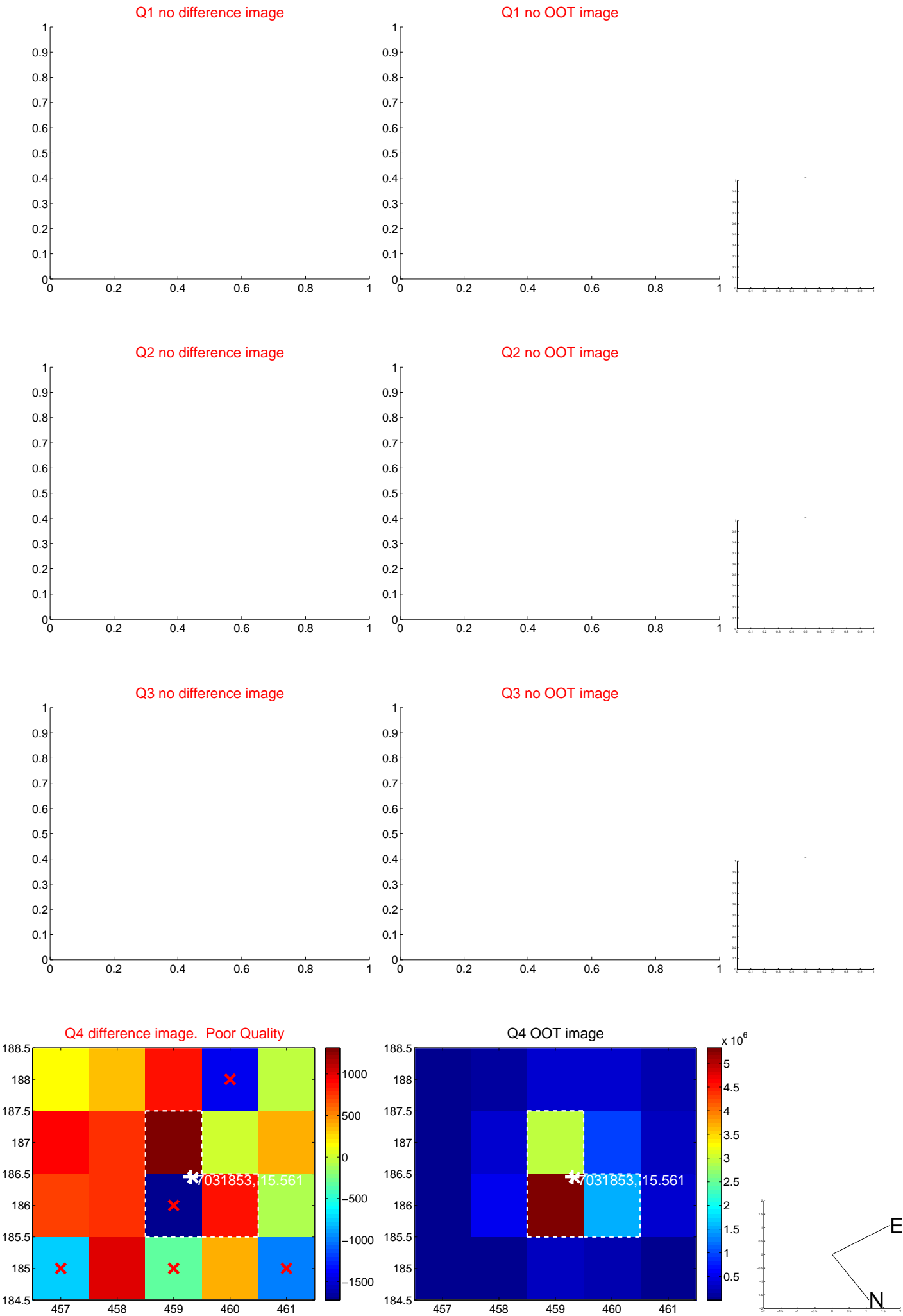


offset from photometric centroids

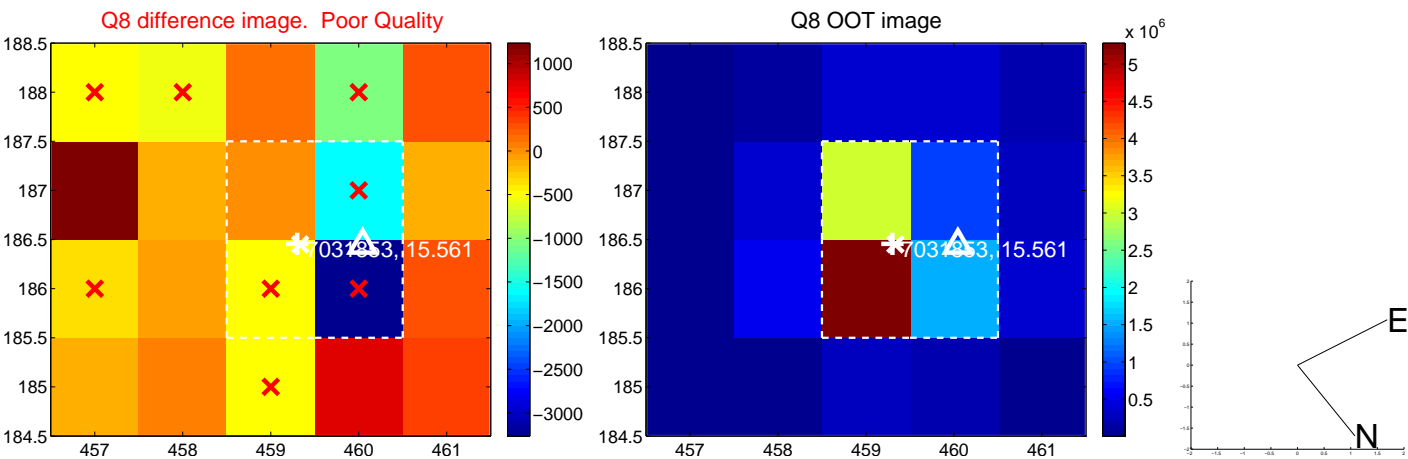
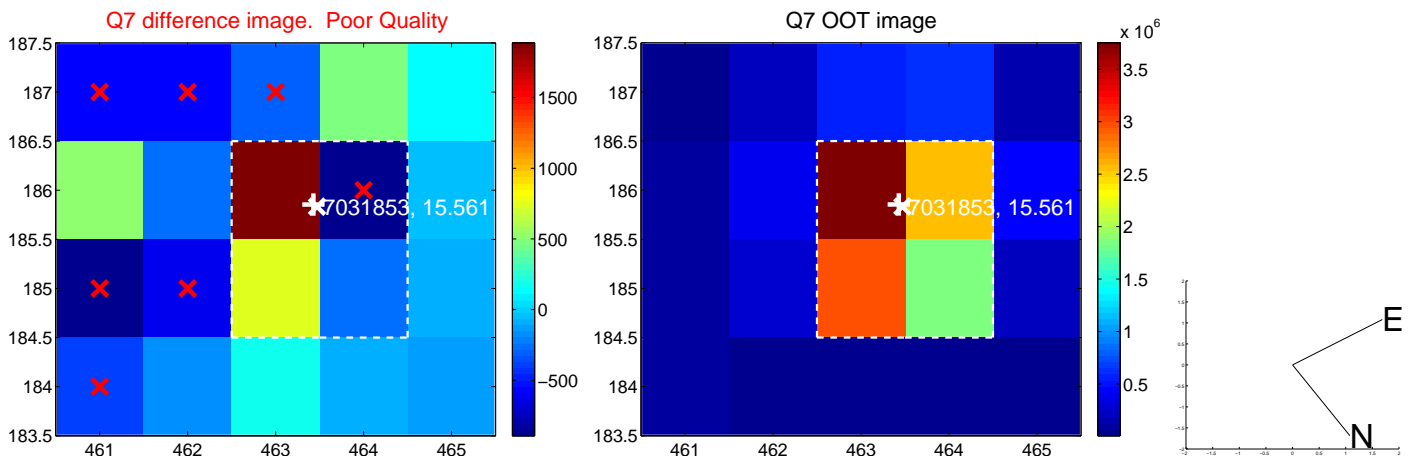
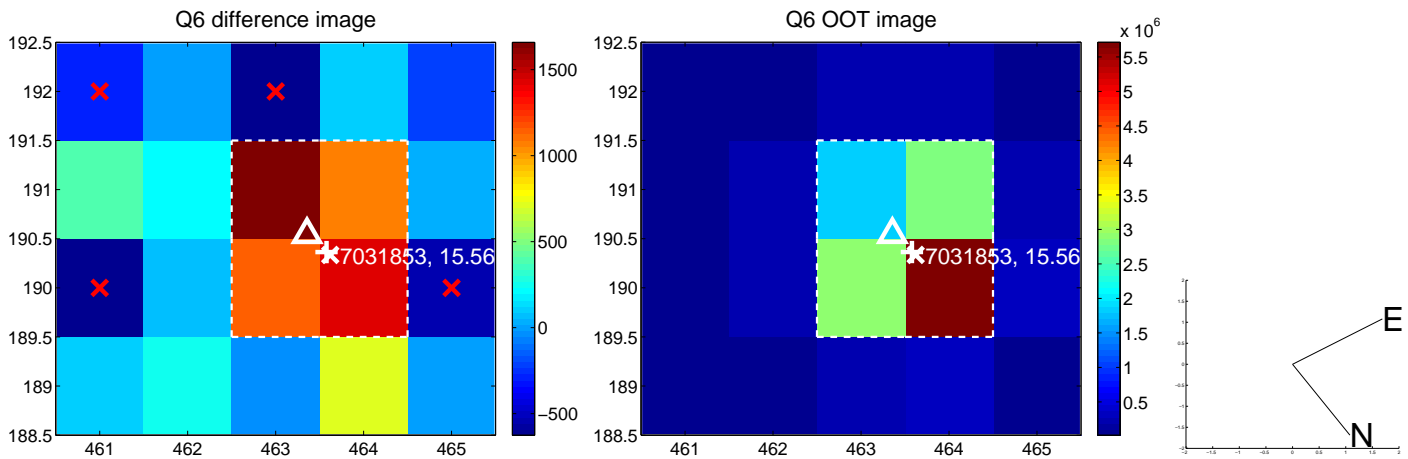
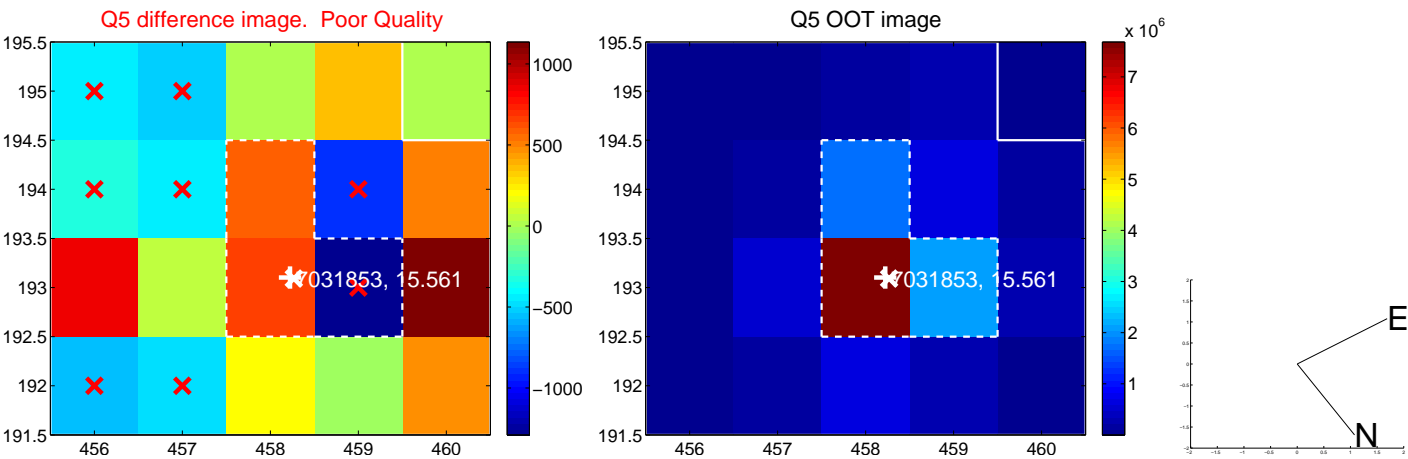


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

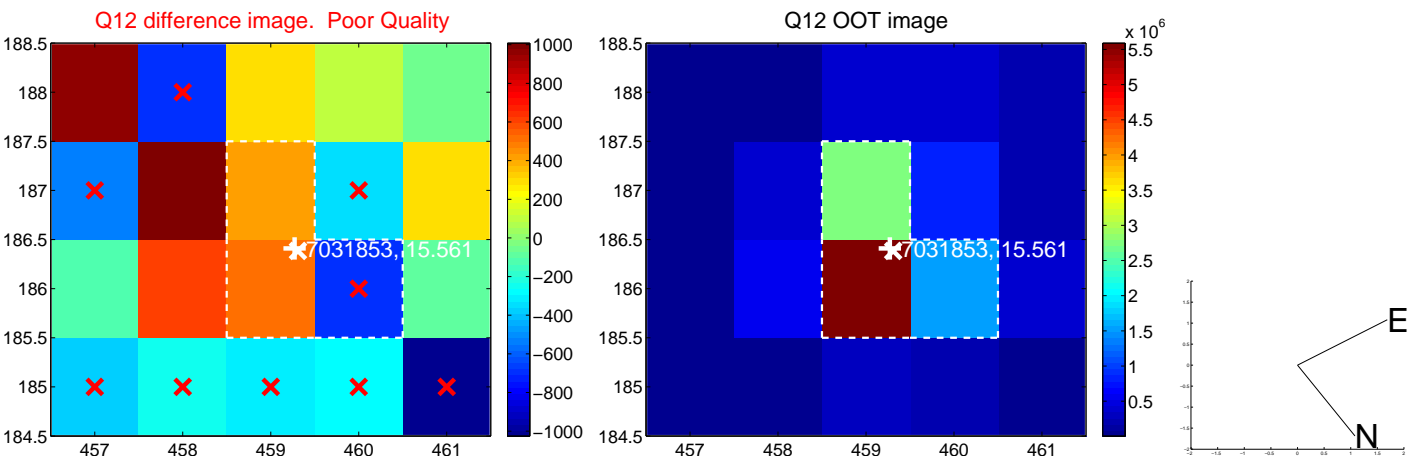
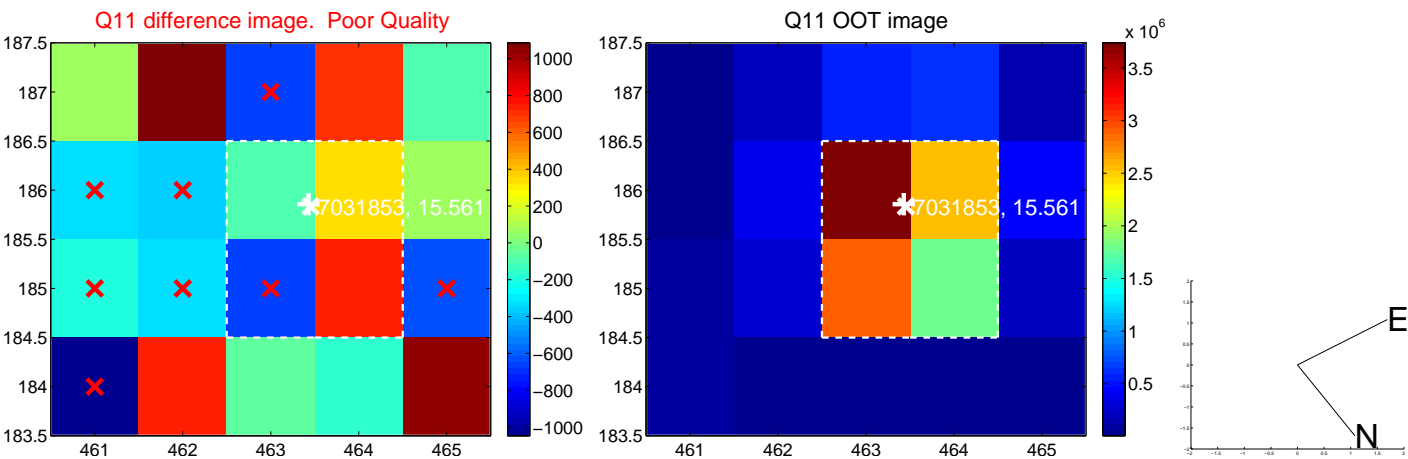
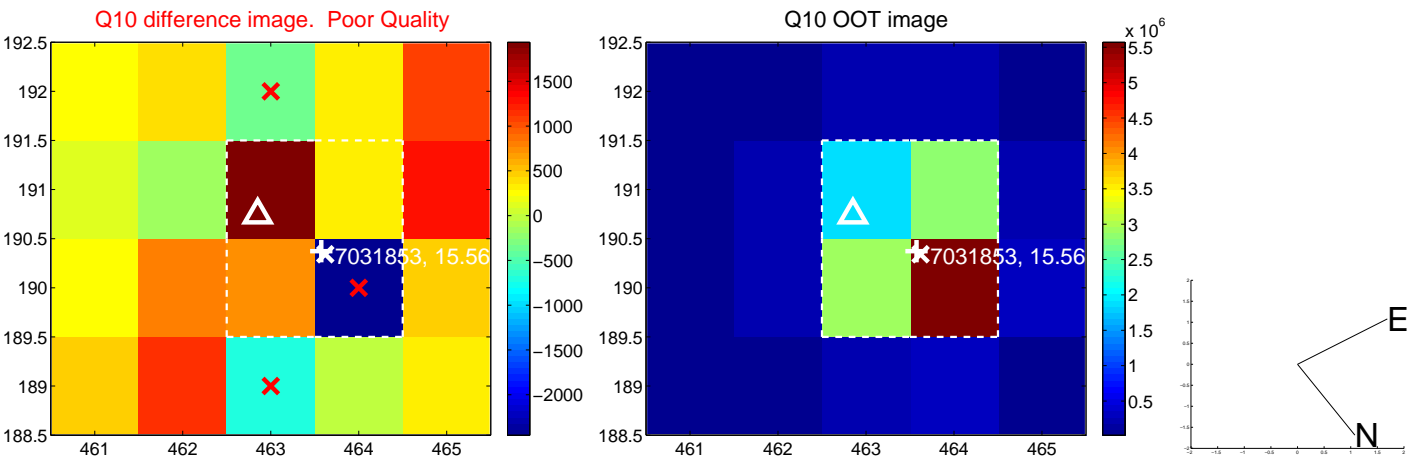
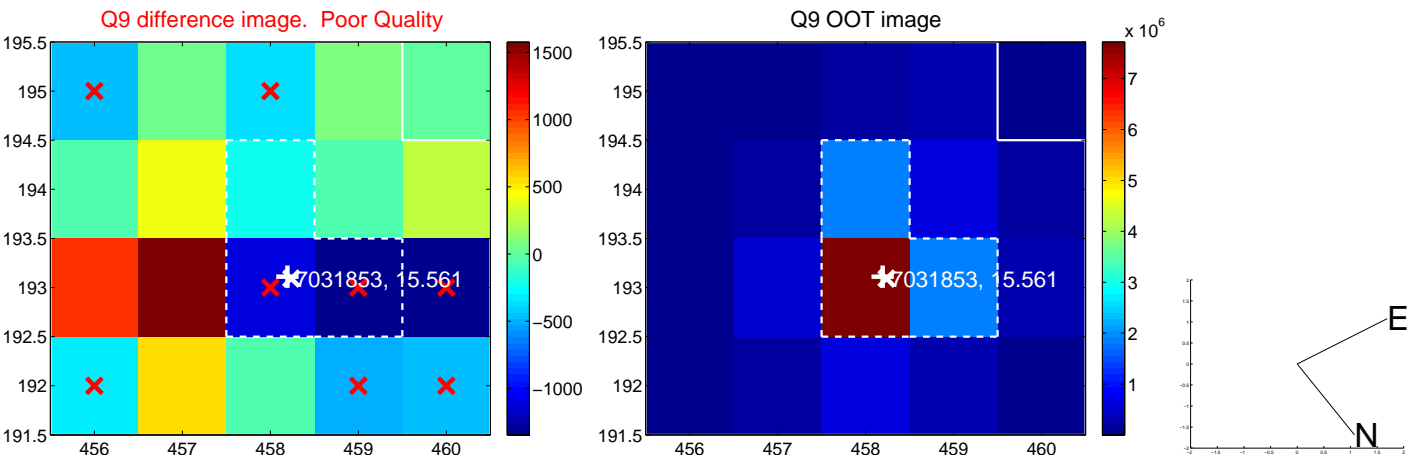
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



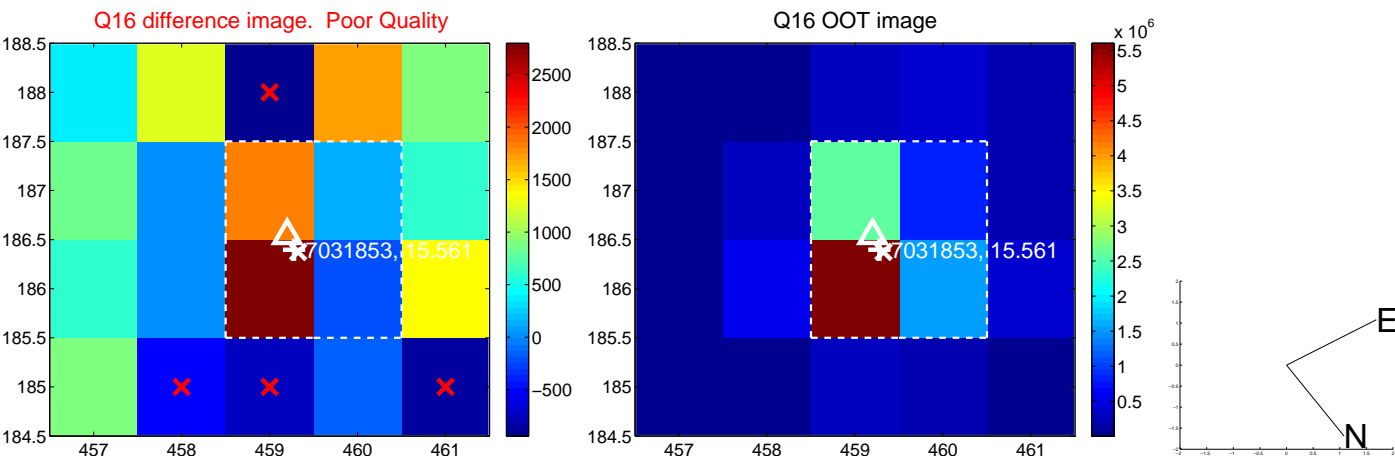
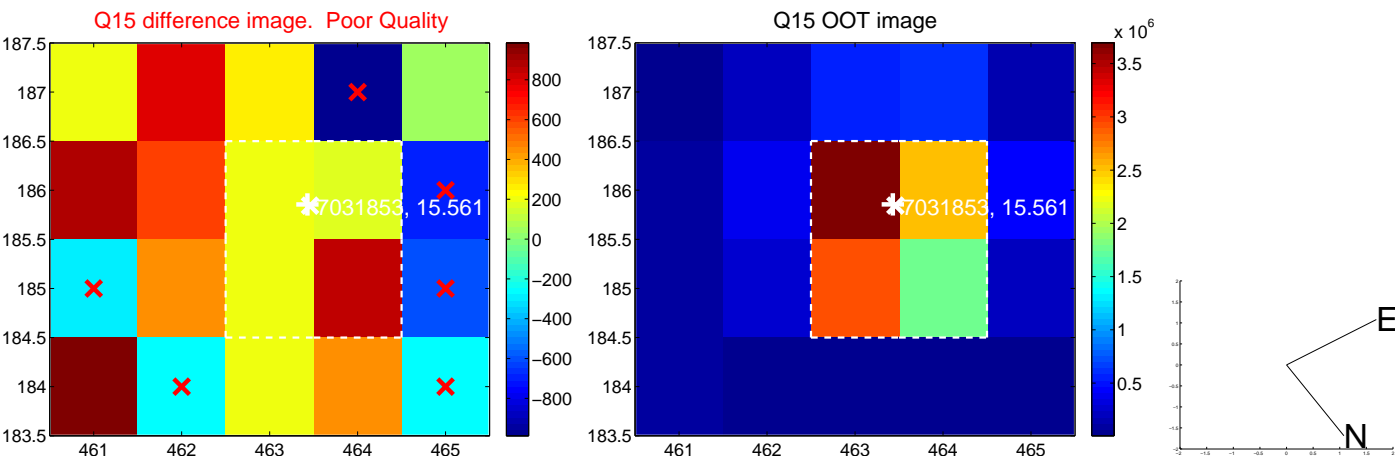
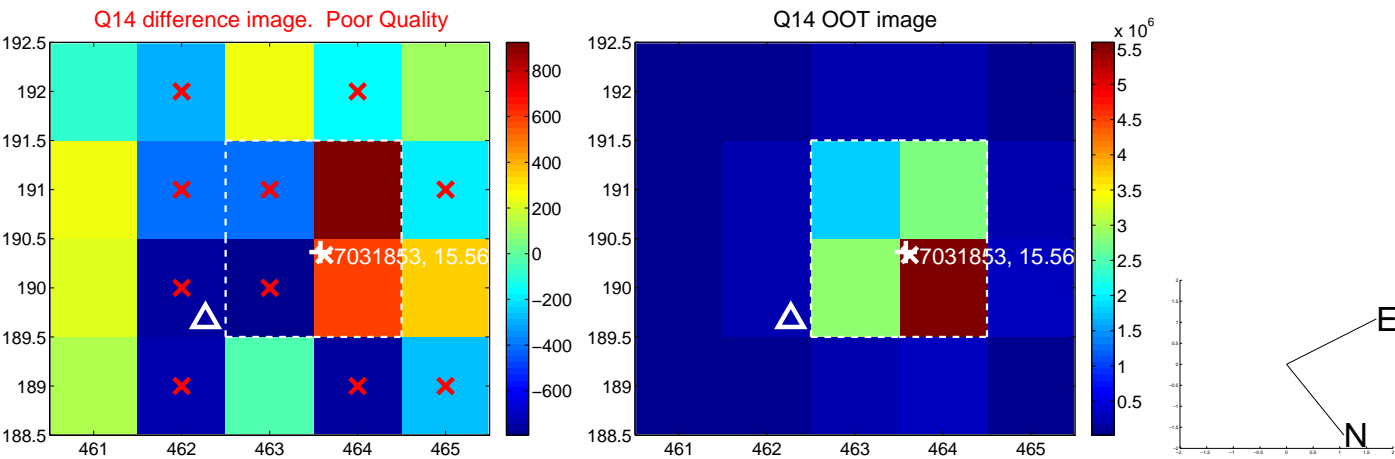
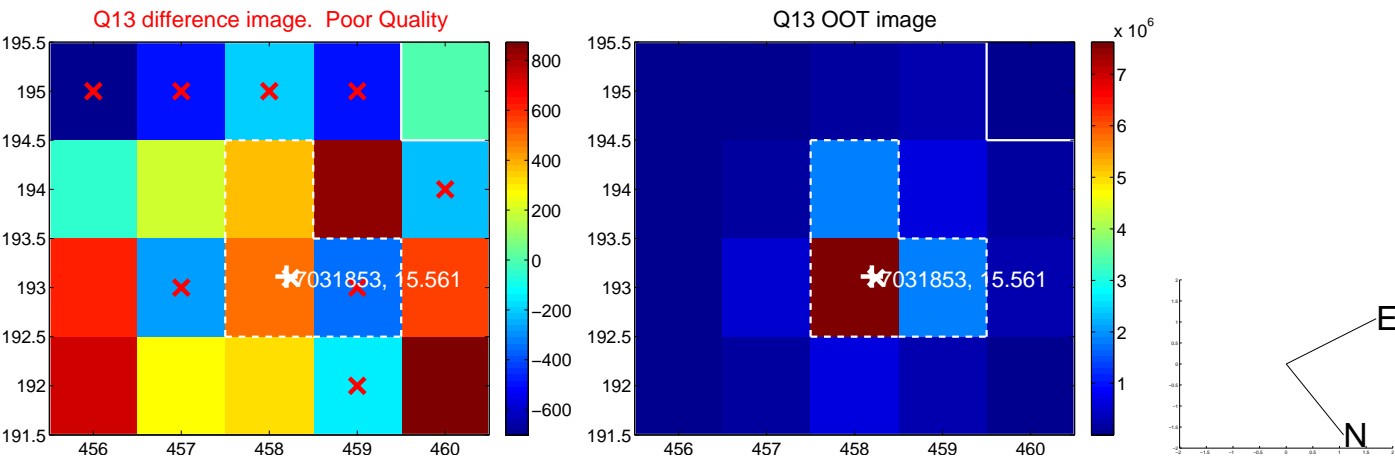
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



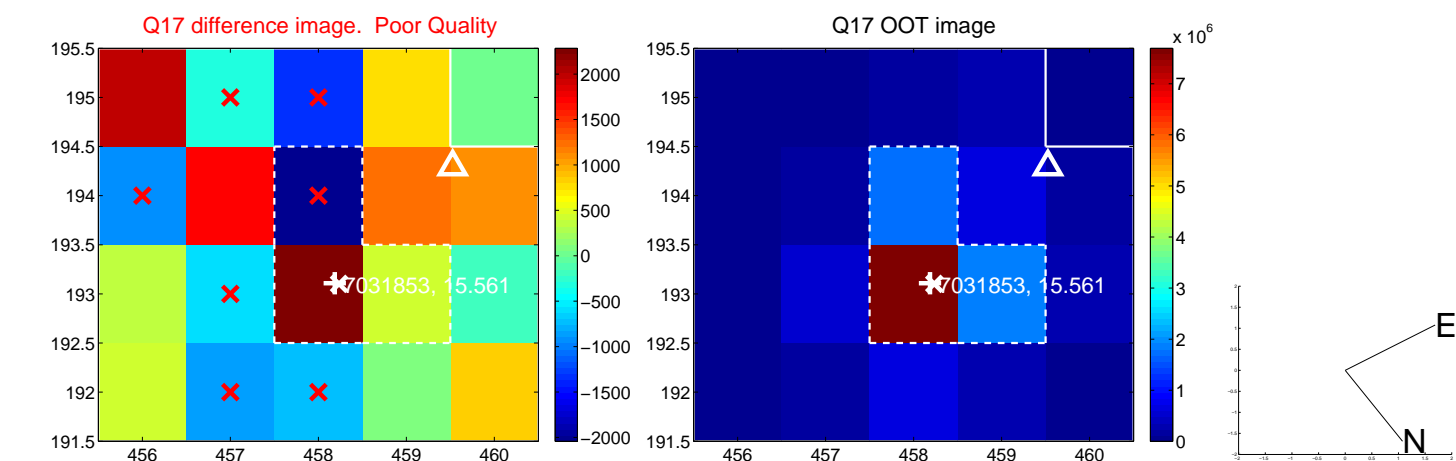
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



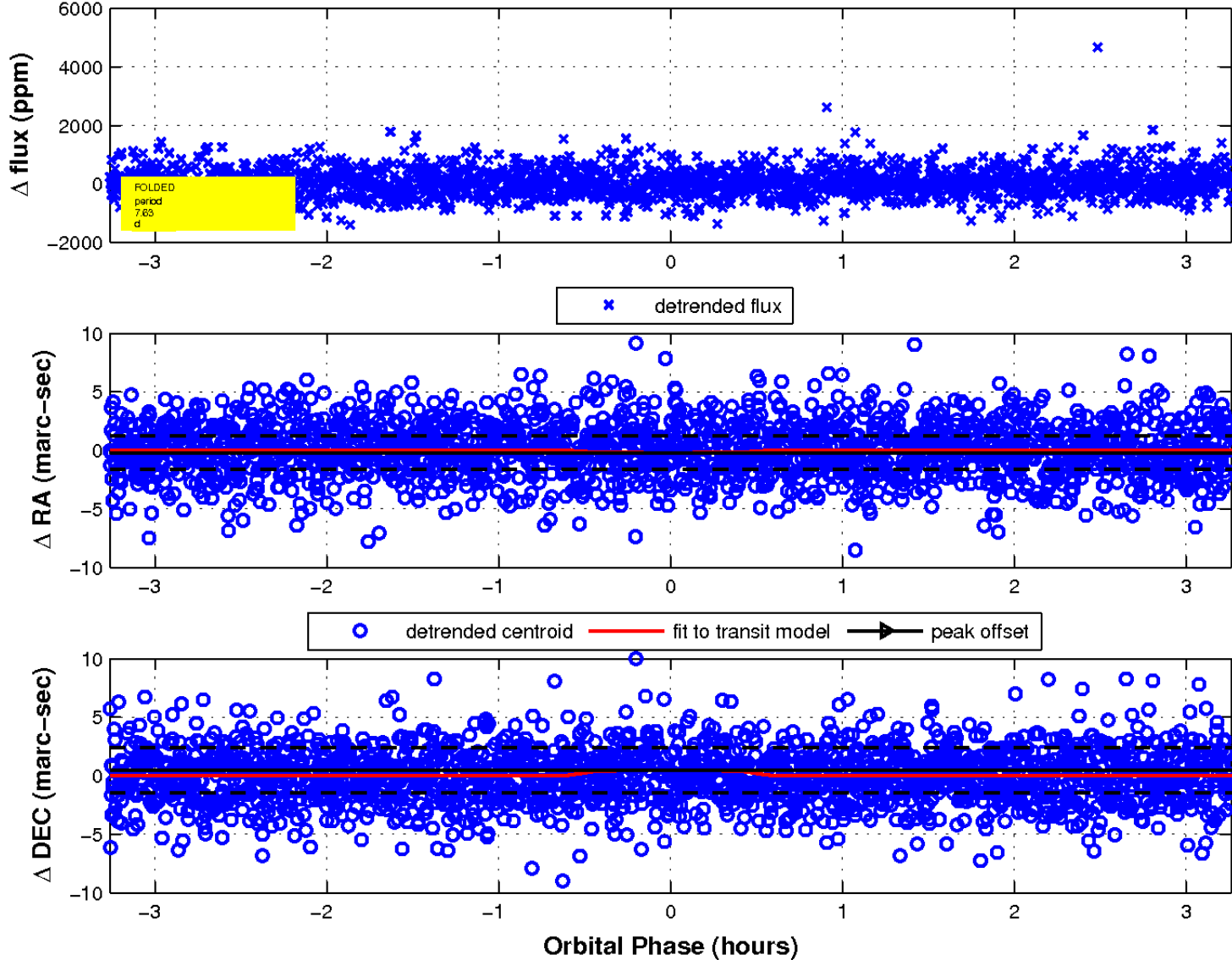
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

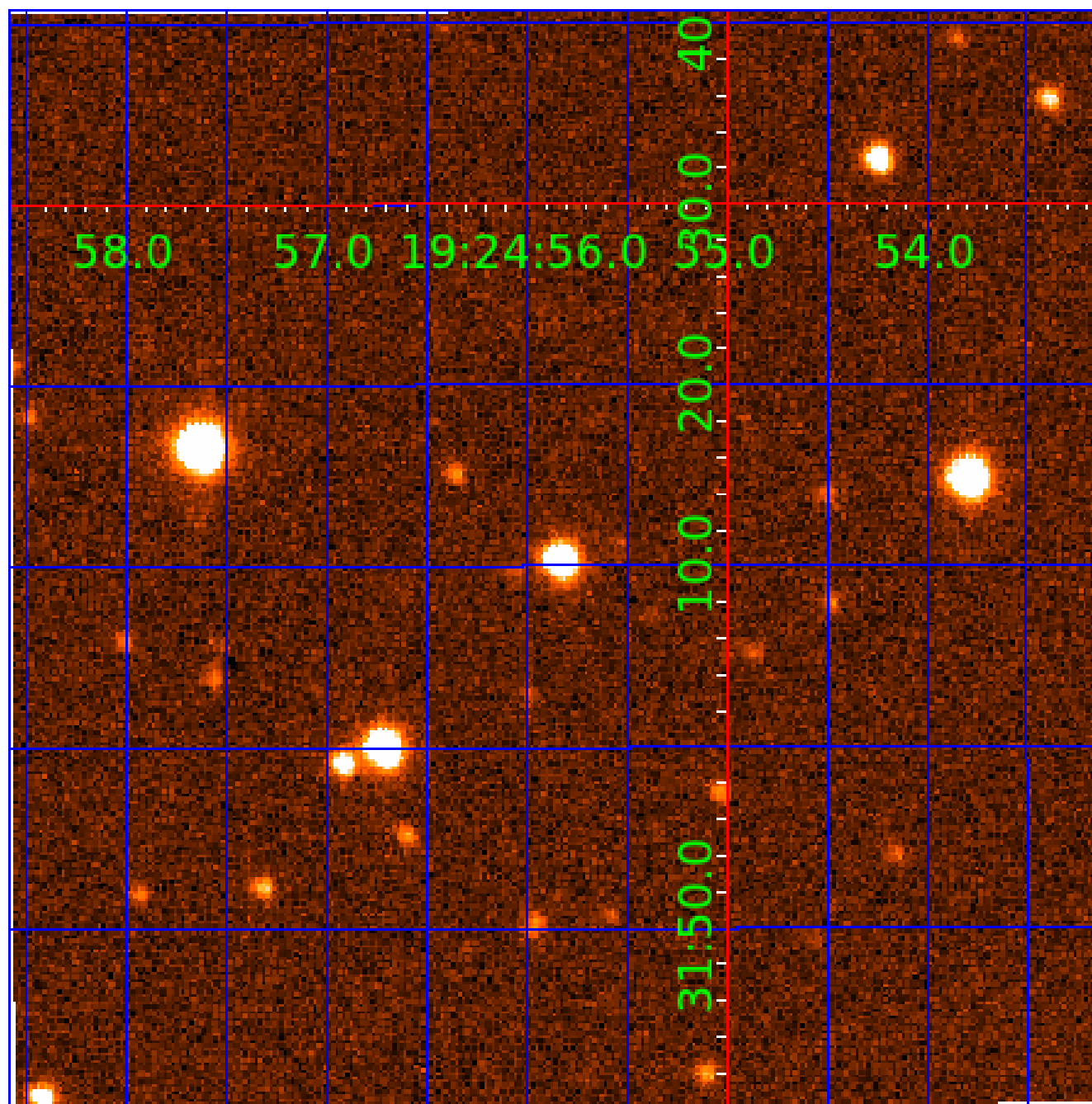


fluxWeightedCentroids, Planet 7 of 8



UKIRT Image

Declination



KIC 007031853

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})
007031853-01	OBS	No	0.566754	131.839314	17.0	4.284	10.8	4.2	1.25	6468	0.54	11360.26
007031853-02	OBS	No	7.498891	137.054763	1219.4	0.526	13.5	22.0	1.25	6468	4.76	363.01
007031853-03	OBS	No	9.179254	138.020646	537.7	1.736	12.5	15.1	1.25	6468	2.99	277.23
007031853-04	OBS	No	2.376727	131.545693	450.8	1.232	12.8	15.8	1.25	6468	3.12	1679.87
007031853-05	OBS	No	4.850105	134.338245	788.9	1.215	13.8	22.2	1.25	6468	3.54	649.00
007031853-06	OBS	No	8.492754	137.042016	530.8	2.036	14.2	16.3	1.25	6468	2.98	307.50
007031853-07	OBS	No	7.627644	137.430878	836.1	1.088	12.9	13.8	1.25	6468	3.74	354.86
007031853-08	OBS	No	1.601906	131.727945	251.2	0.798	12.2	8.5	1.25	6468	2.04	2842.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007031853-01	OBS	FP	0.00	1	0	0	1	LPP_DV—LPP_ALT—CENT_FEW_DIFFS—EPHEM_MATCH
007031853-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007031853-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST
007031853-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST
007031853-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007031853-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
007031853-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS—HALO_GHOST
007031853-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—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.

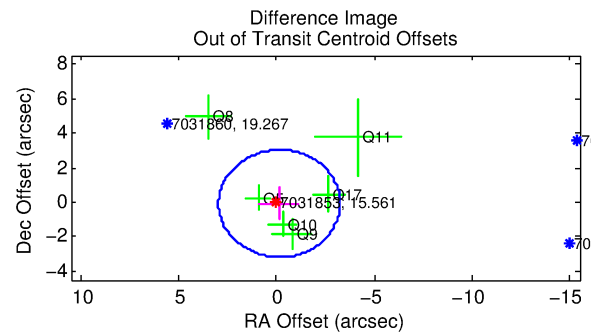
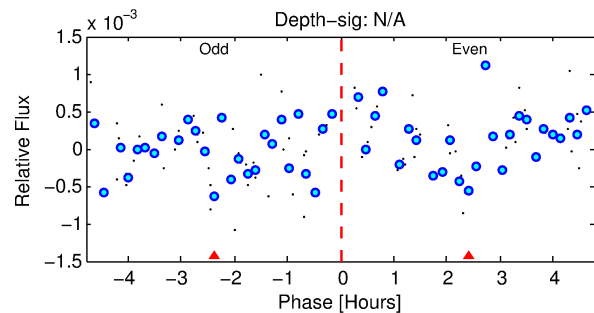
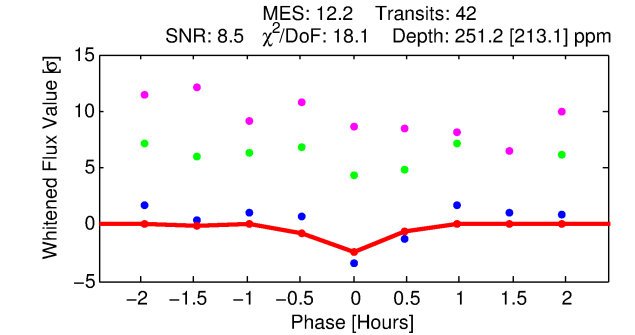
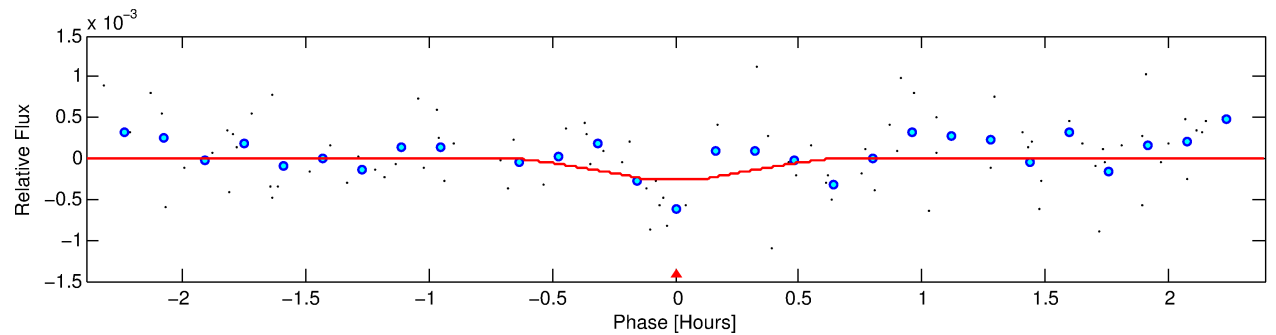
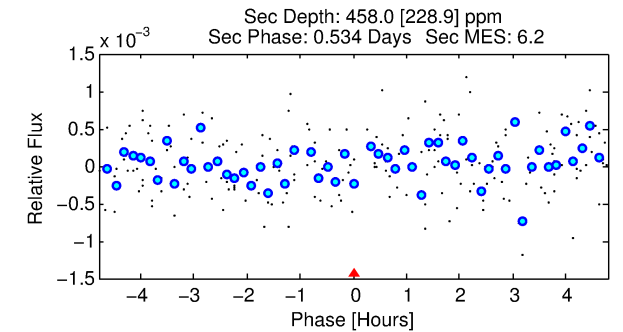
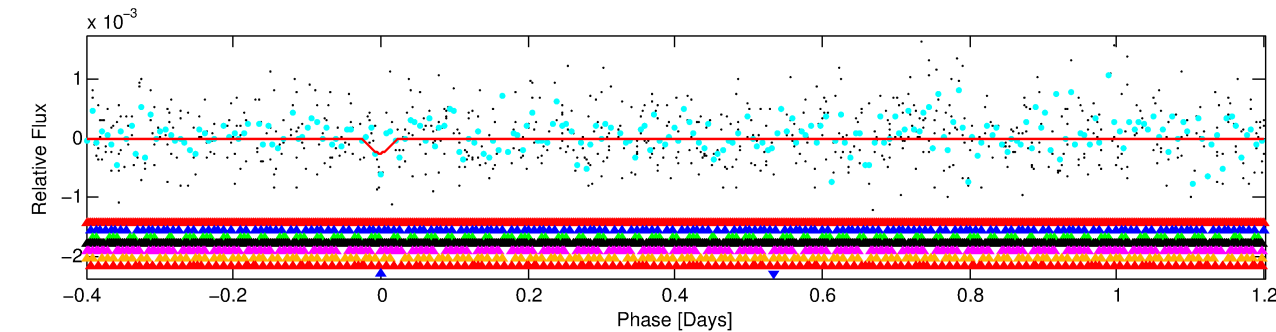
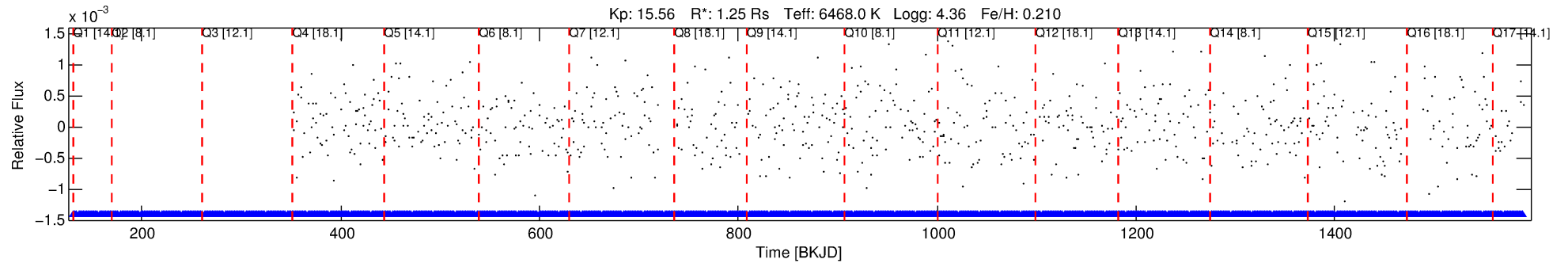
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007031853-08

No Significant Match Found

DV One-Page Summary

KIC: 7031853 Candidate: 8 of 8 Period: 1.602 d



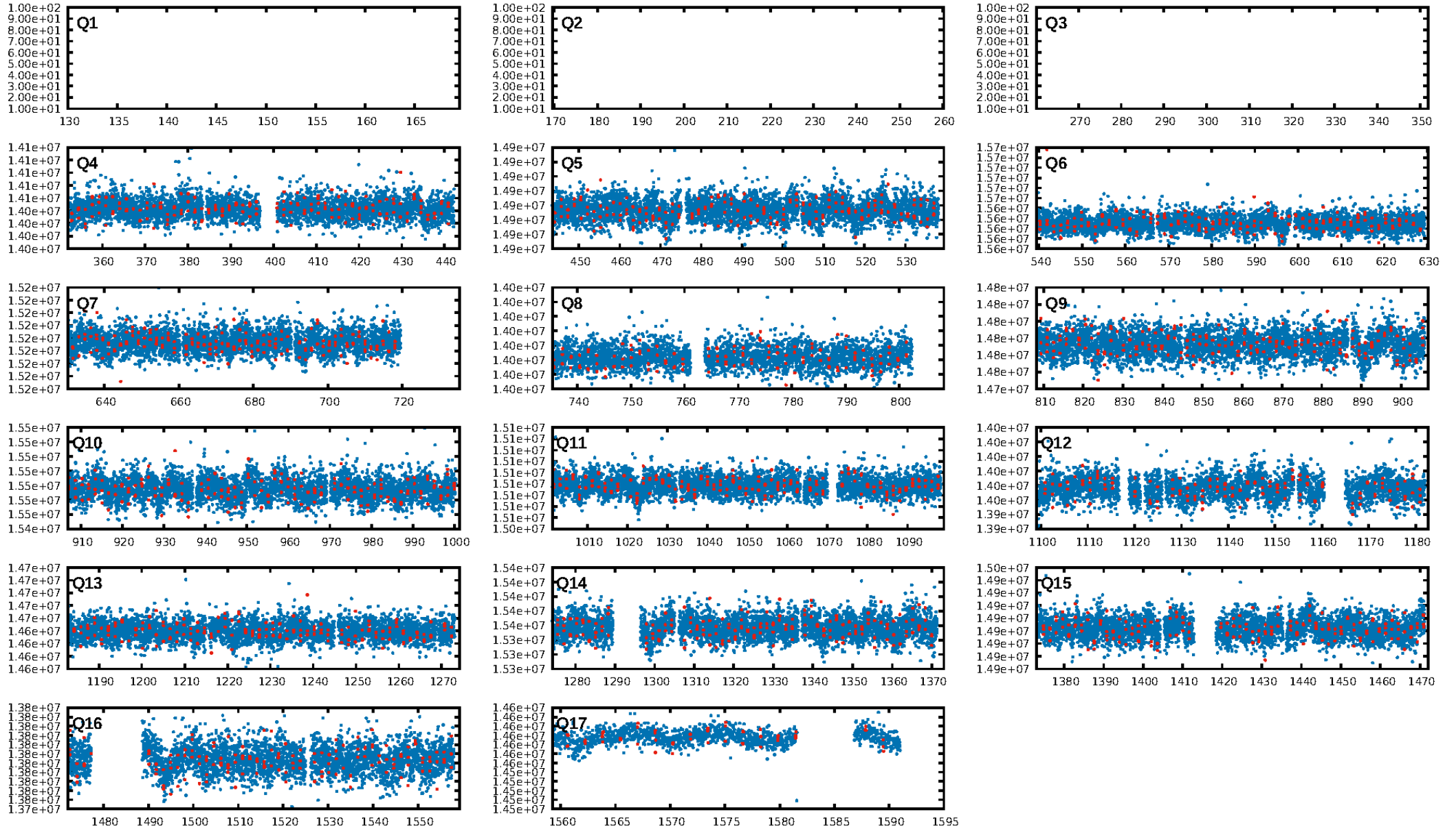
DV Fit Results:

Period = 1.60191 [0.00006] d
Epoch = 131.7279 [0.0093] BKJD
Rp/R* = 0.0149 [0.0941]
a/R* = 14.65 [482.83]
b = 0.35 [84.05]
Seff = 2842.70 [1126.57]
Teff = 1862 [184] K
Rp = 2.04 [12.85] Re
a = 0.0294 [0.0076] AU
Ag = 52.30 [659.58] [0.08σ]
Teffp = 7741 [24401] K [0.24σ]

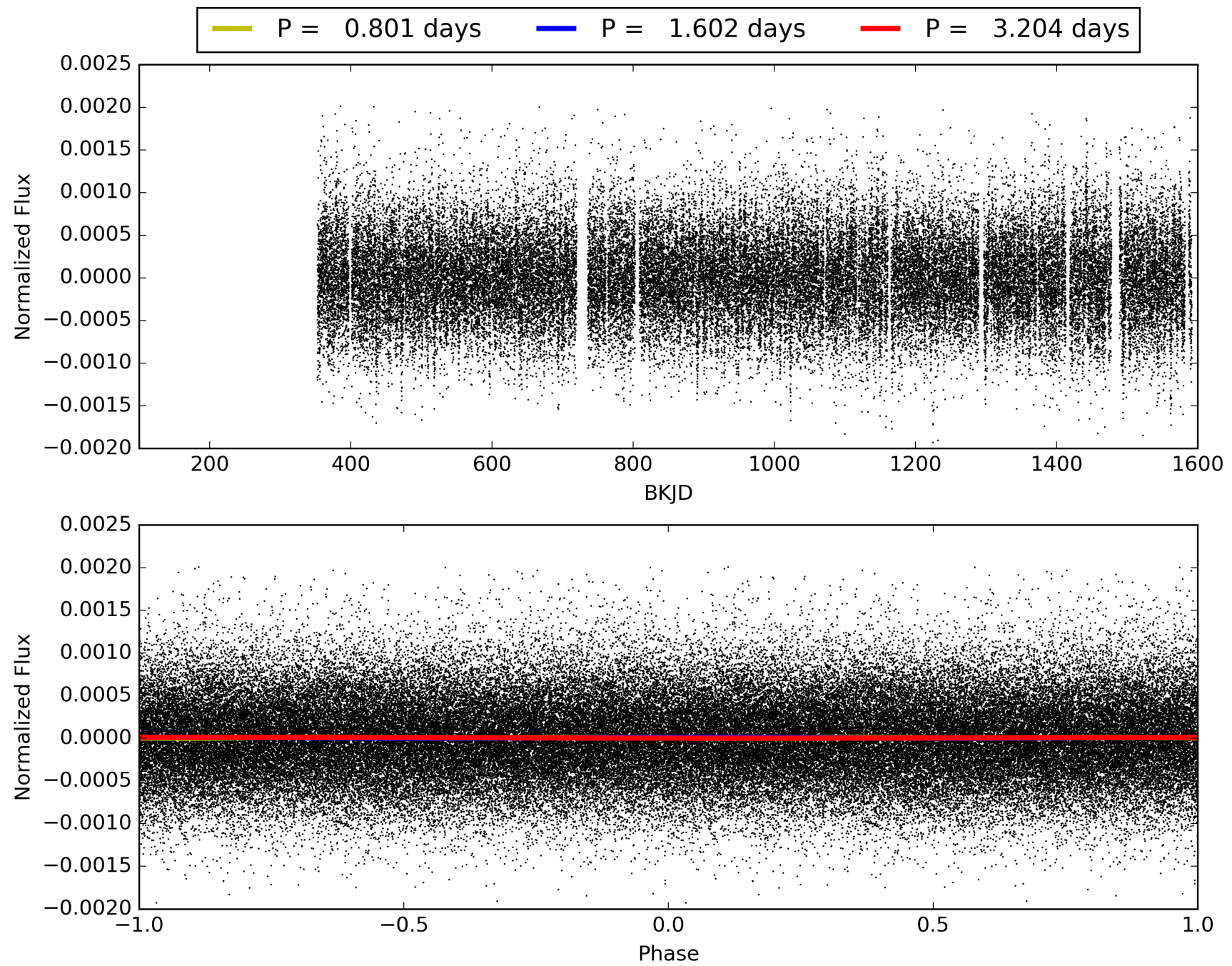
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [5.70σ]
LongPeriod-sig: 100.0% [12.67σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 5.54e-08
RollingBand-fgt: 1.00 [40/40]
GhostDiagnostic-chr: -1.523
Centroid-sig: 17.8%
Centroid-so: 1.086 arcsec [1.19σ]
OotOffset-rm: 0.165 arcsec [0.16σ]
KicOffset-rm: 0.342 arcsec [0.28σ]
OotOffset-st: 1/1/1/3 [6]
KicOffset-st: 1/1/1/3 [6]
DiffImageQuality-fgm: 0.00 [0/6]
DiffImageOverlap-fno: 0.00 [0/14]

TCE 007031853-08, PDC Light Curves

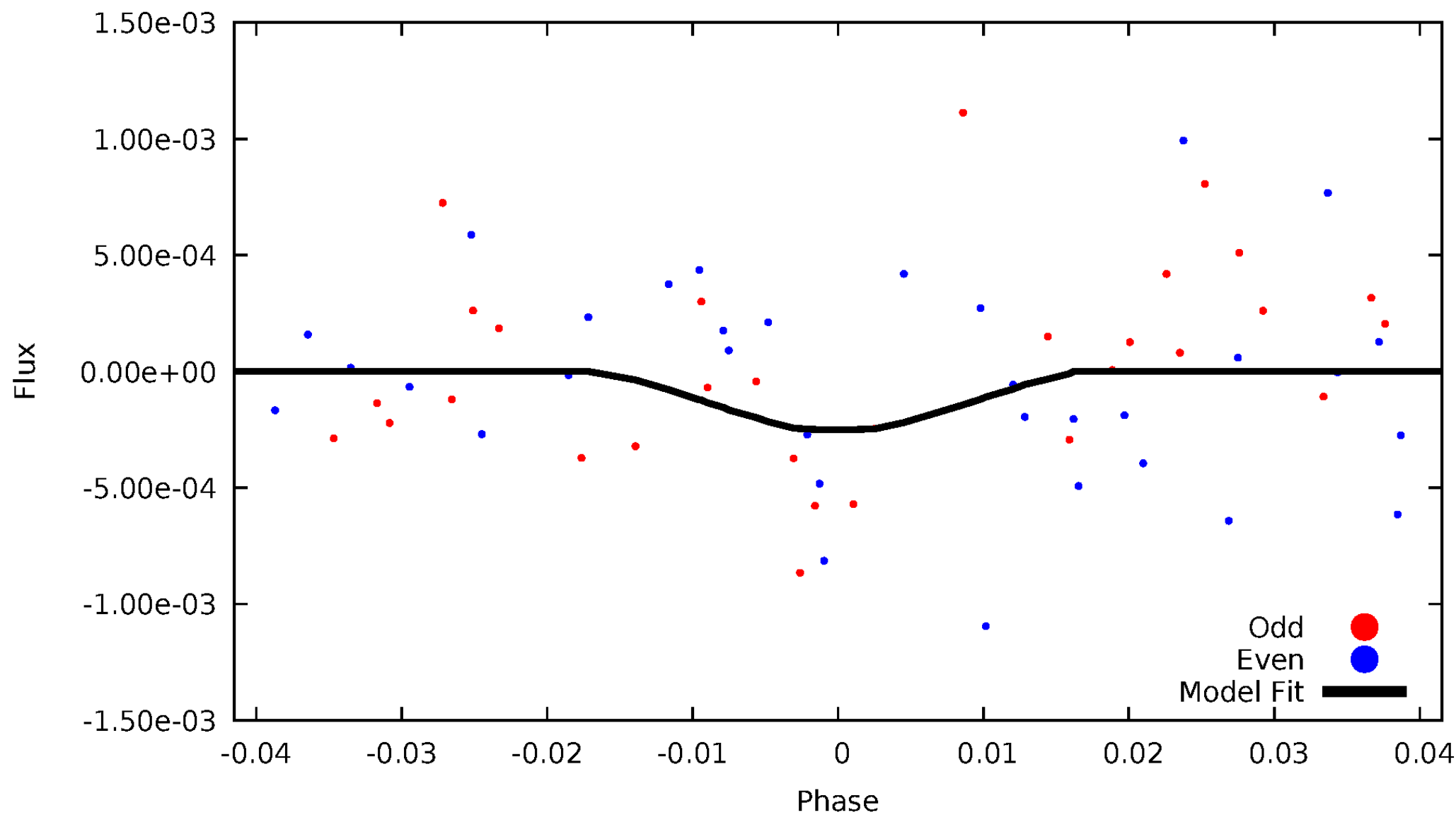


TCE 007031853-08



DV Odd/Even

TCE 007031853-08

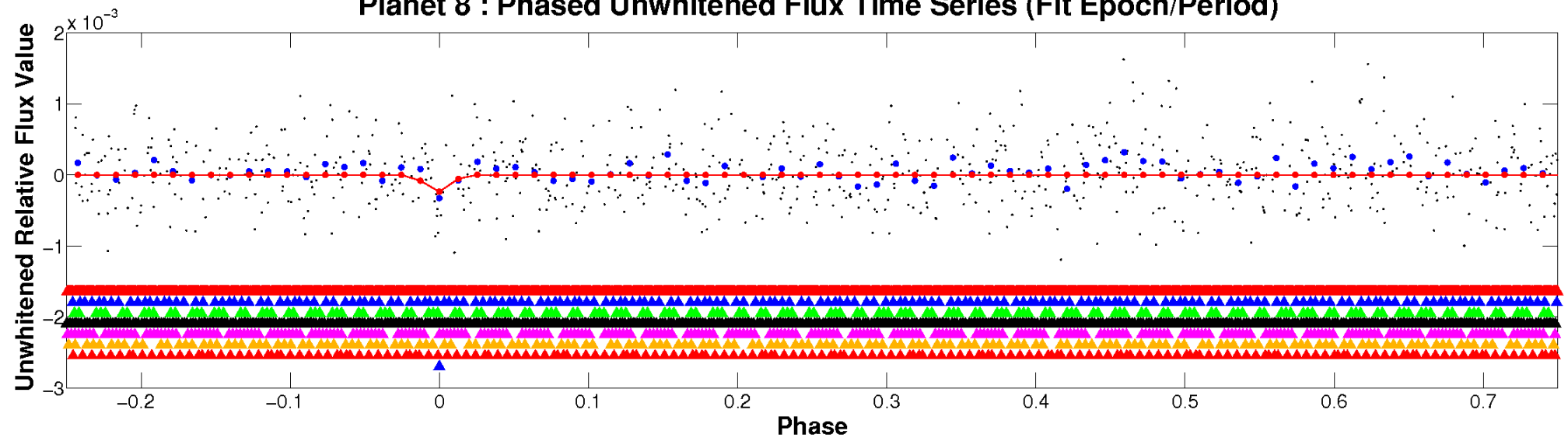


ALT Odd/Even

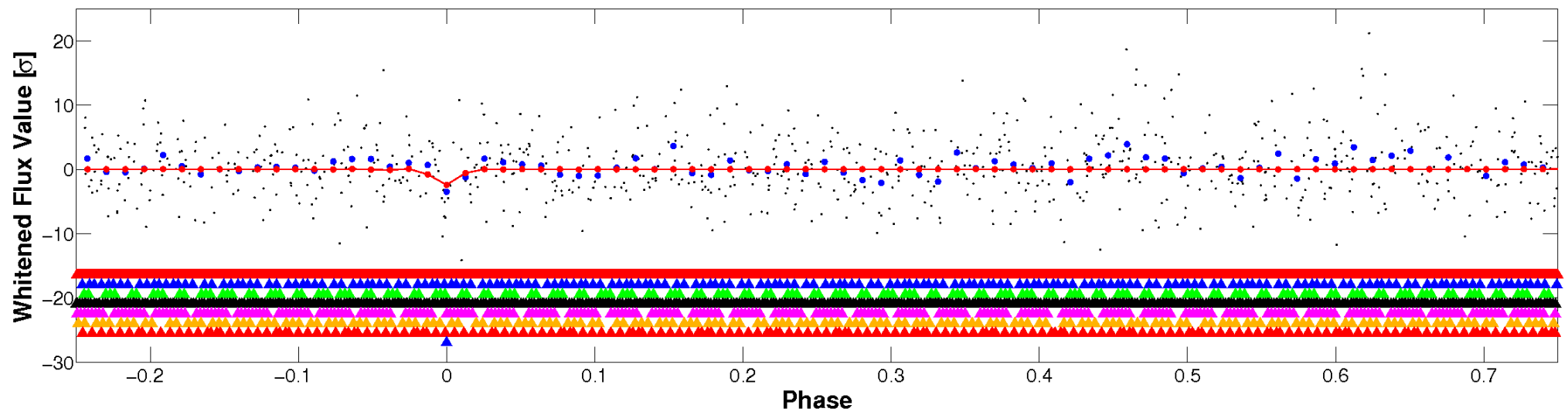
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

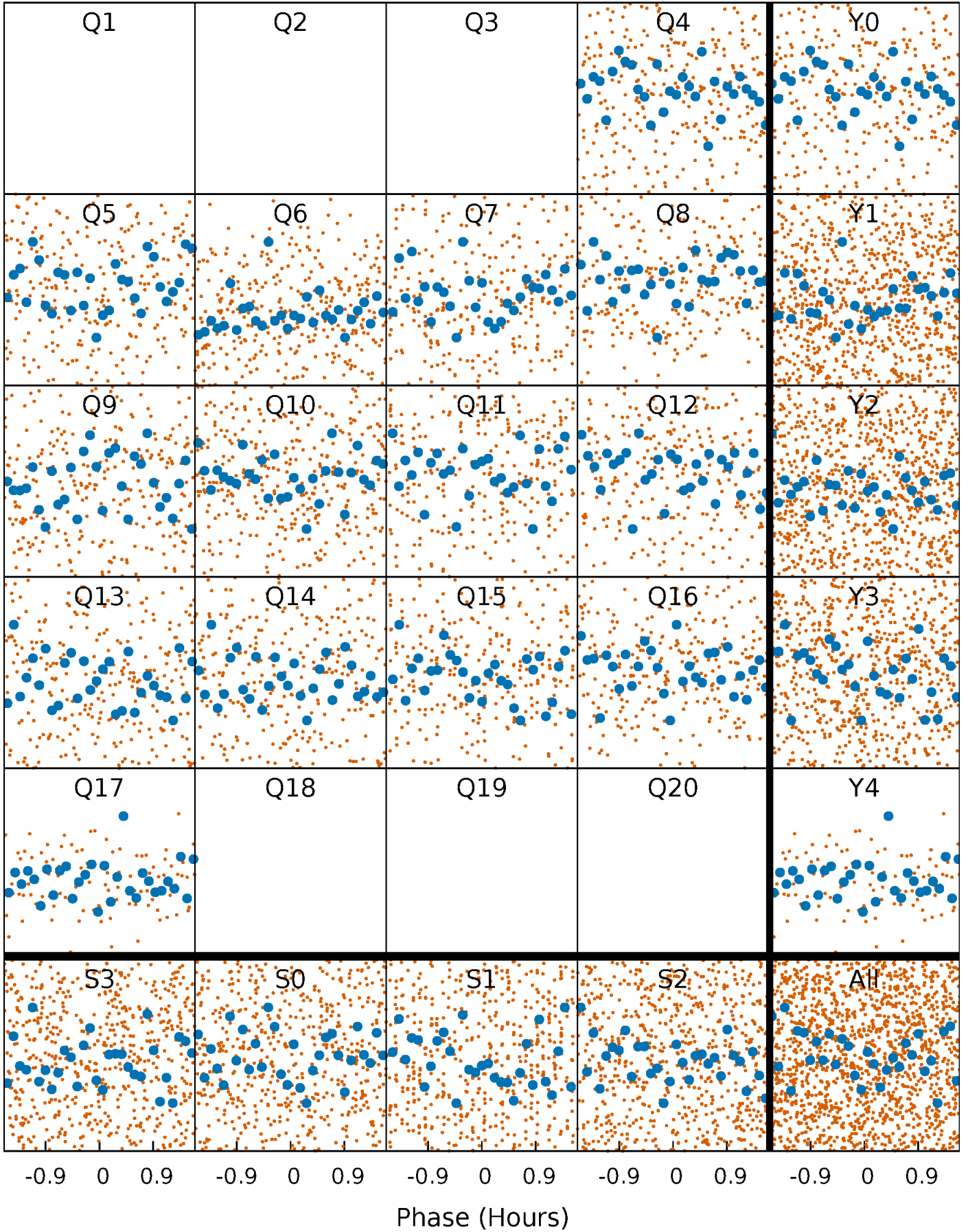


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



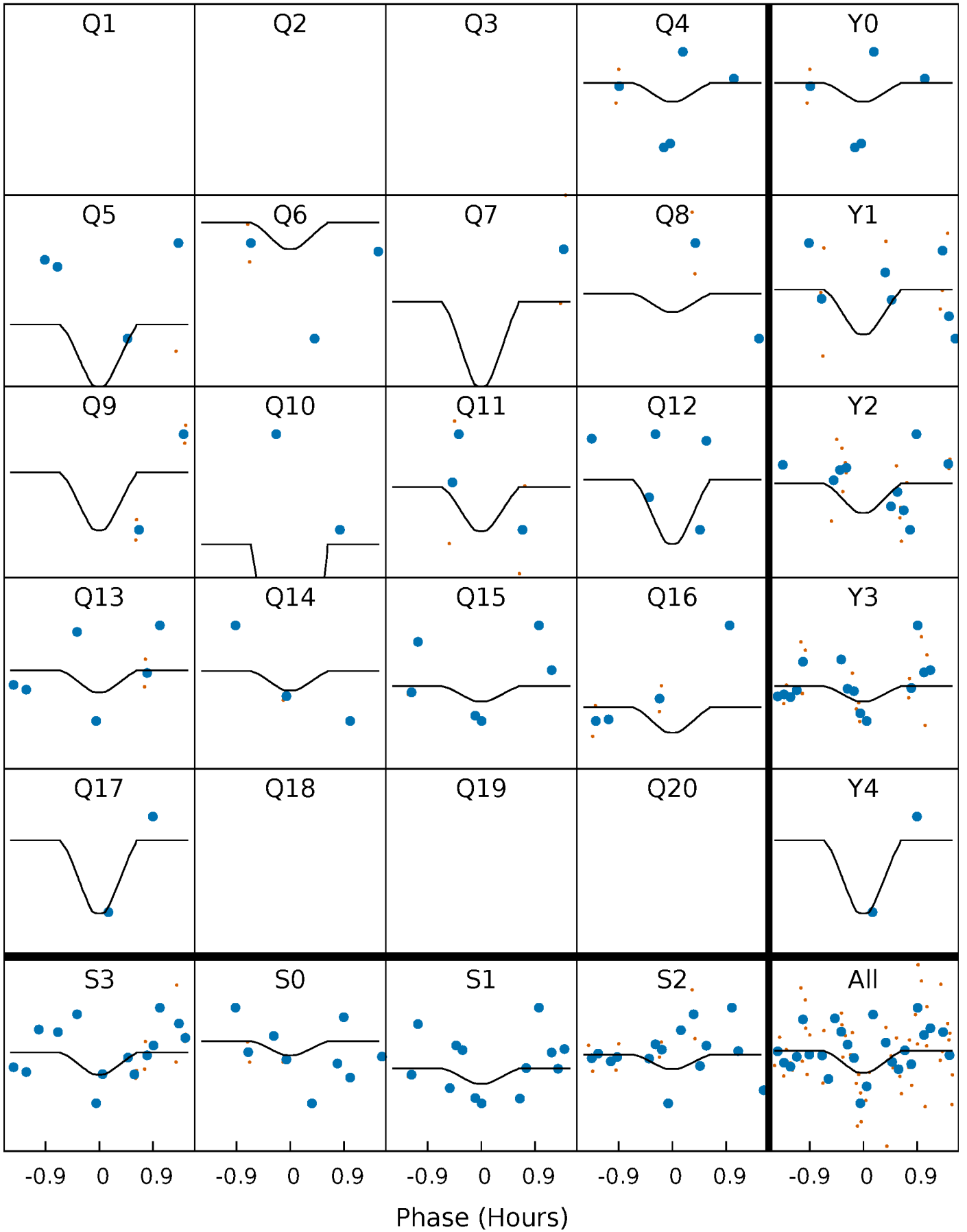
PDC Quarter-Phased Transit Curves

TCE 007031853-08 P= 1.601906 Days $T_0=131.727945$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007031853-08 P= 1.601906 Days $T_0=131.727945$ (BKJD)

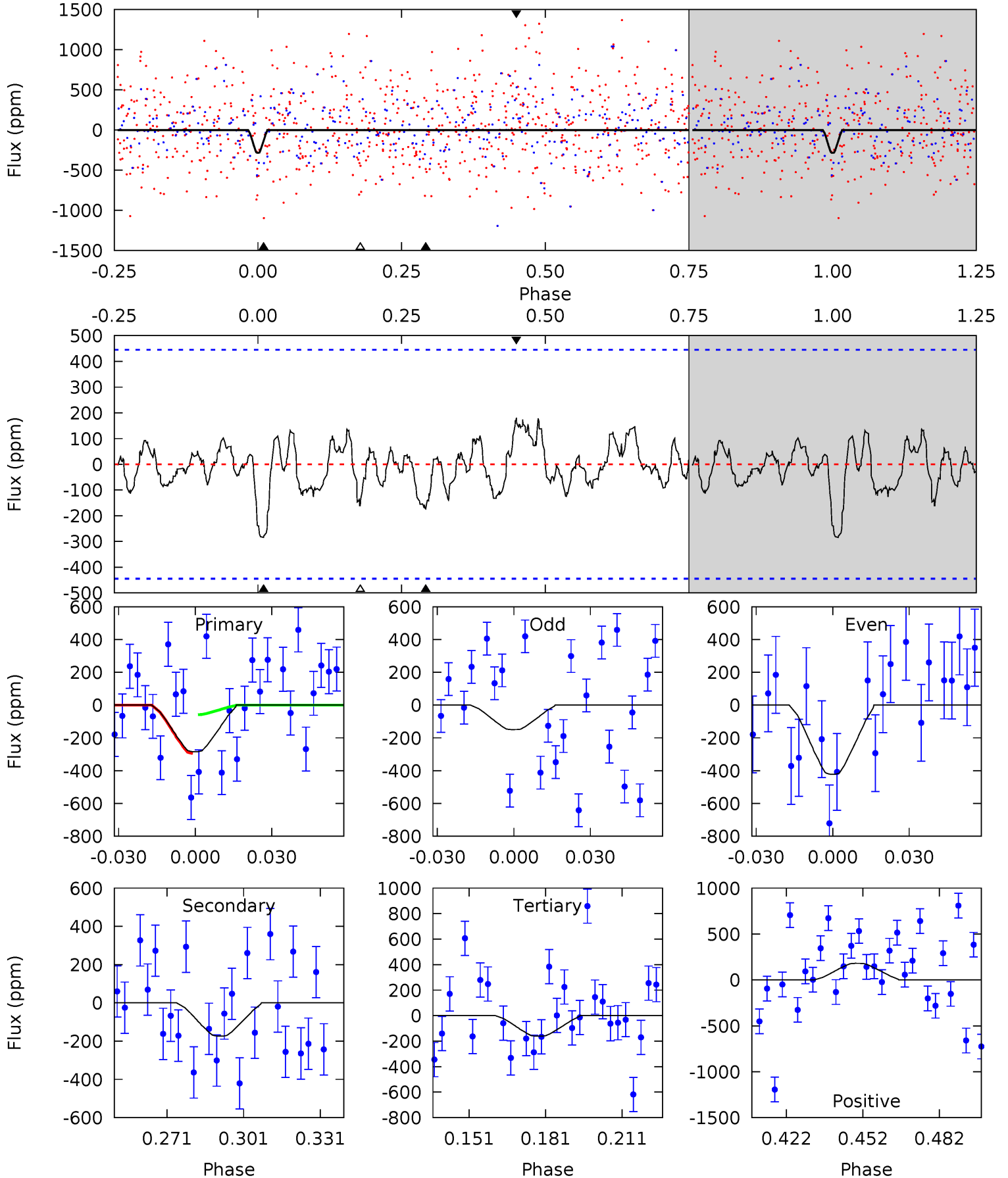


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

007031853-08, P = 1.601906 Days, E = 131.727945 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.07	1.88	1.74	1.95	4.81	2.17	0.78	1.34	1.12	0.14	-0.08	1.45	0	0.39	1.27



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 007031853

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6468^{+180}_{-248}	$4.363^{+0.065}_{-0.195}$	$0.210^{+0.200}_{-0.350}$	$1.250^{+0.393}_{-0.157}$	$1.313^{+0.154}_{-0.205}$	$0.948^{+0.324}_{-0.468}$
	+3%/-4%	+1%/-4%	+95%/-167%	+31%/-13%	+12%/-16%	+34%/-49%
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 007031853-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-174 ± 92	$9.47^{+10.01}_{-6.33}$	2652^{+192}_{-140}	3127^{+1895}_{-5736}	$0.809^{+7.761}_{-0.645}$
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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

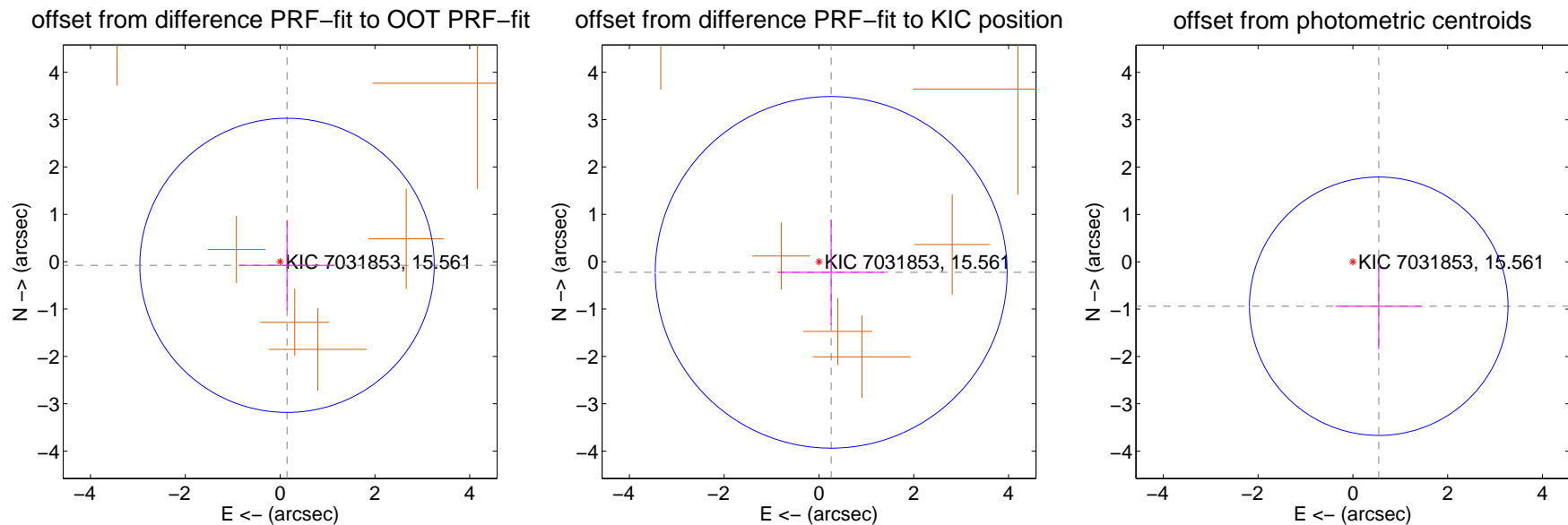
DV Centroid Data

Supplemental centroid analysis for 007031853-08. Kepler magnitude: 15.56. Transit SNR 8.55

There are 0 quarters with good PRF difference image offsets

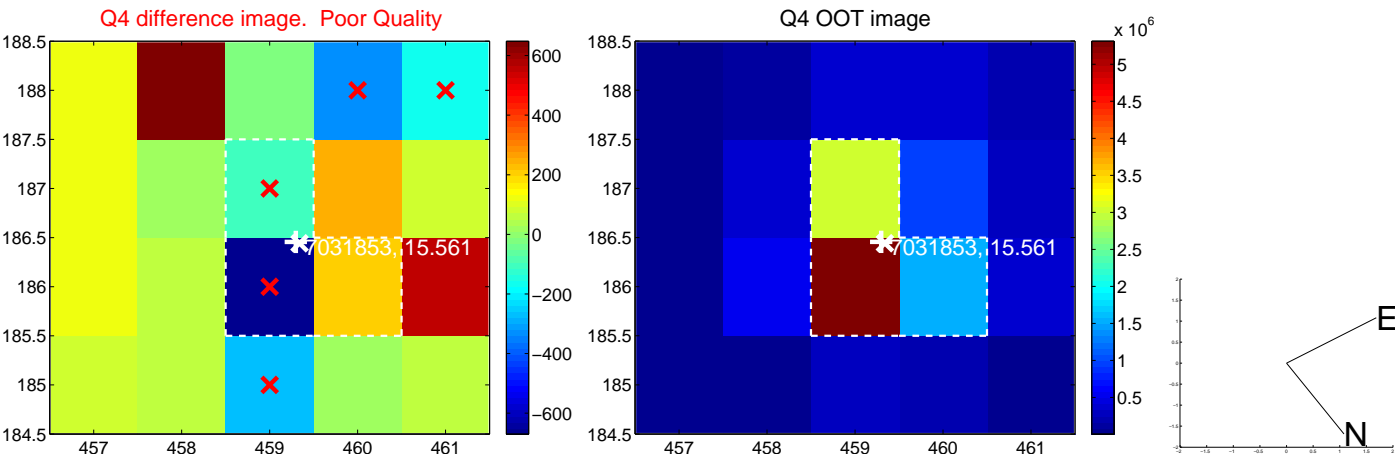
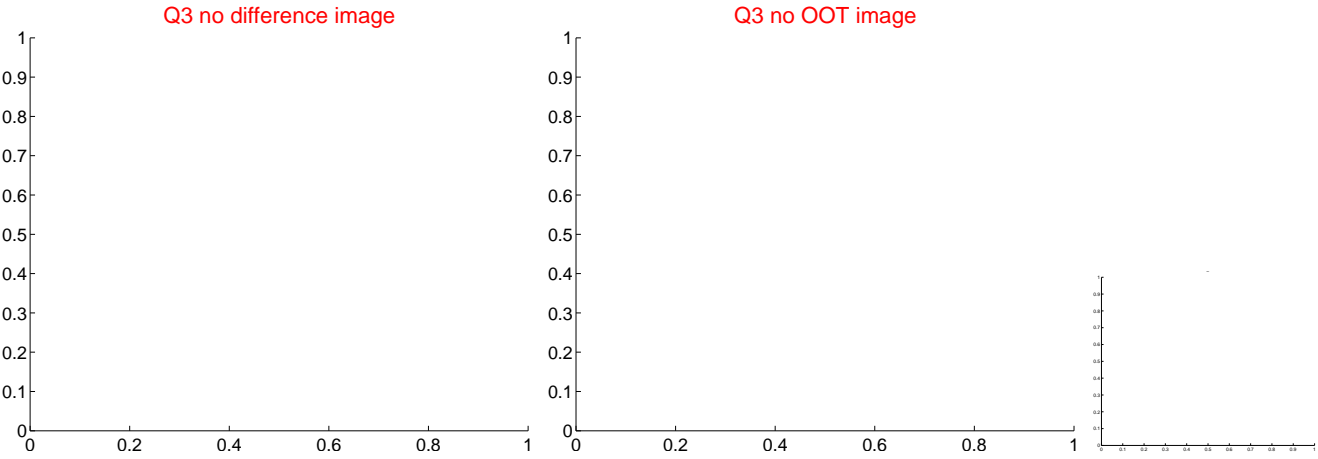
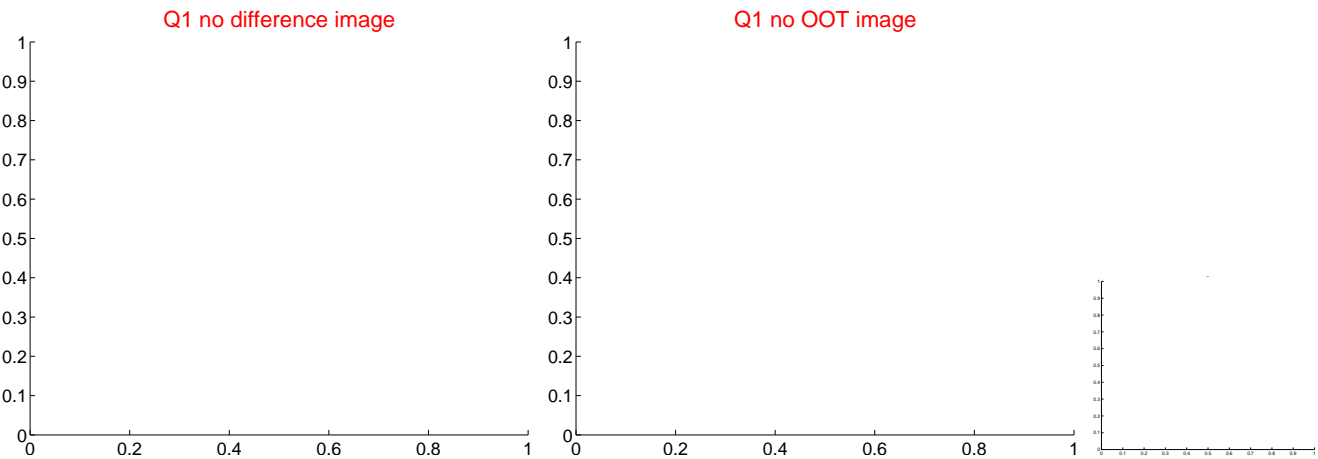
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.165 ± 1.035	0.16	-0.146 ± 1.006	-0.077 ± 0.945
PRF-fit source offset from KIC position	0.342 ± 1.237	0.28	-0.257 ± 1.114	-0.225 ± 1.113
photometric centroid source offset	1.09 ± 0.91	1.19	-0.55 ± 0.91	-0.94 ± 0.91

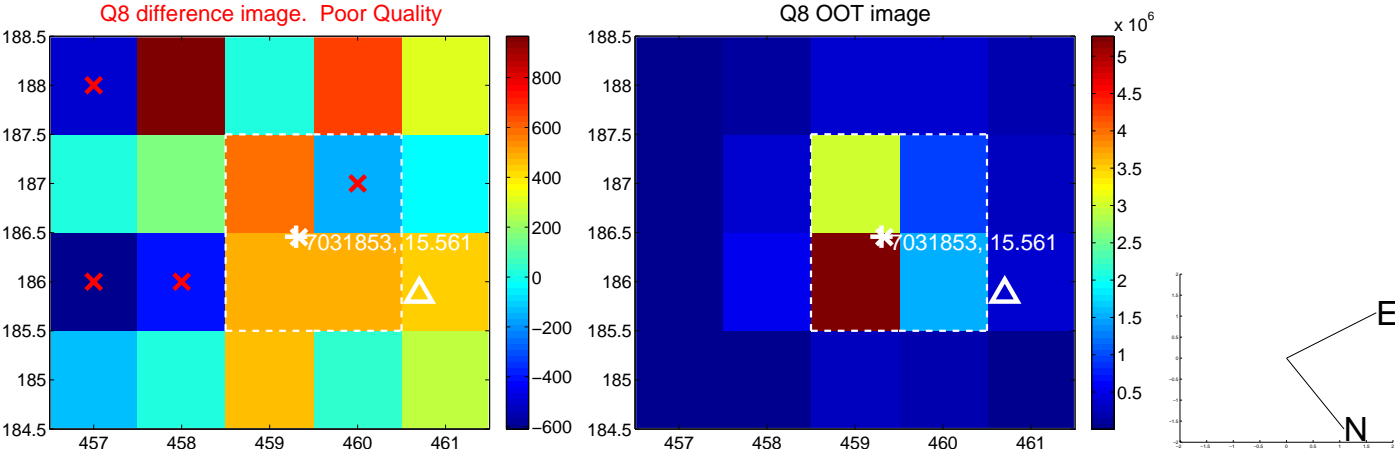
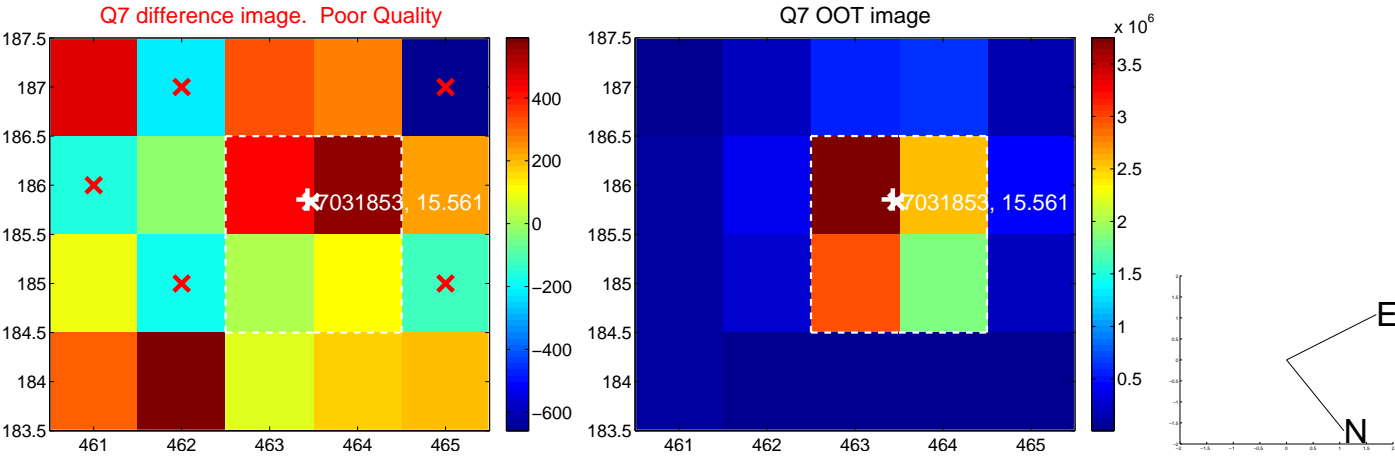
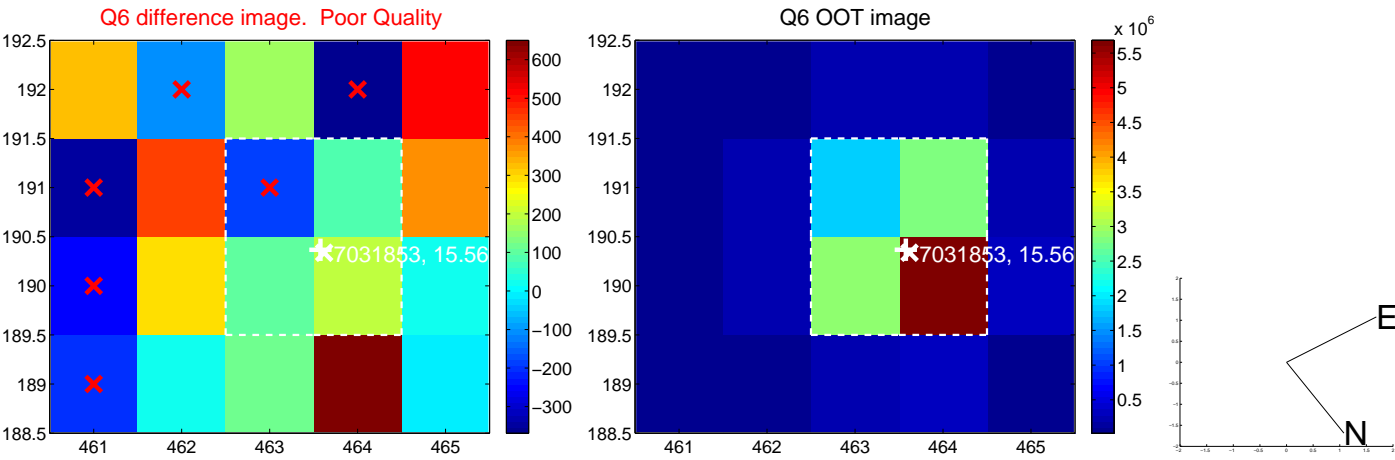
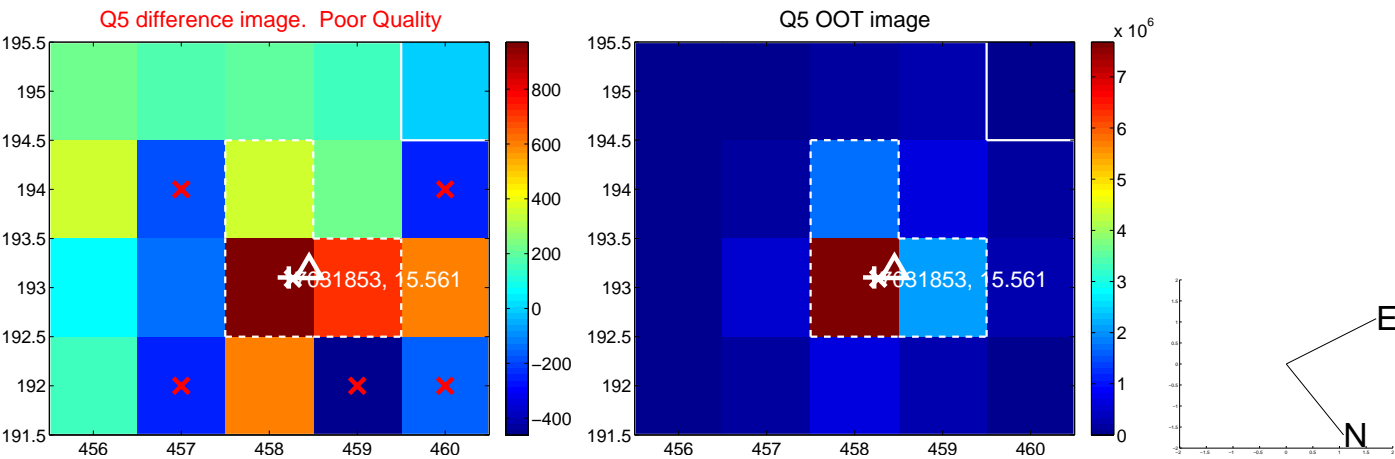


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

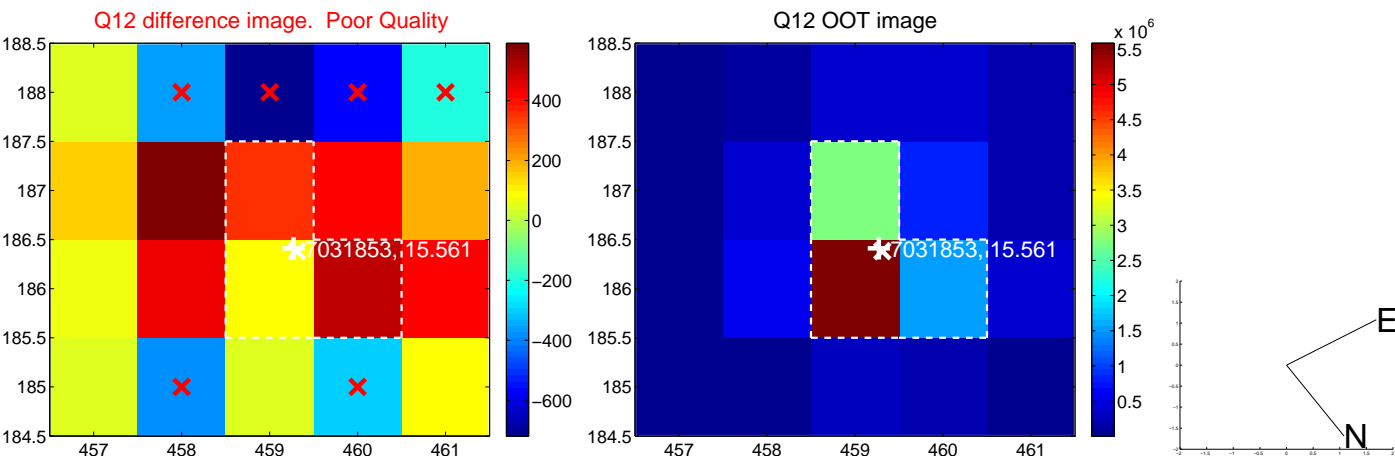
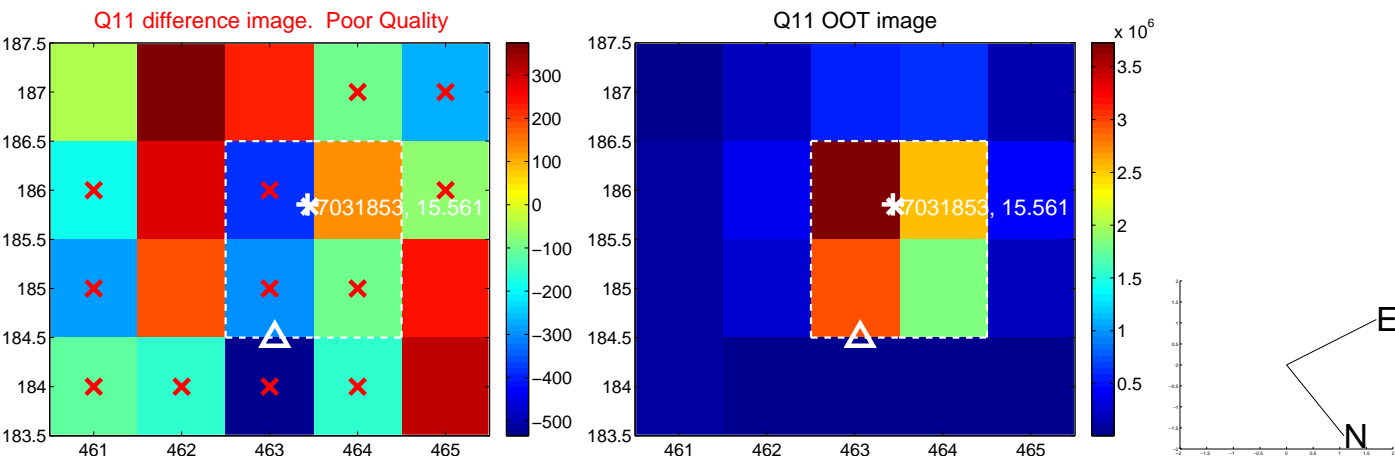
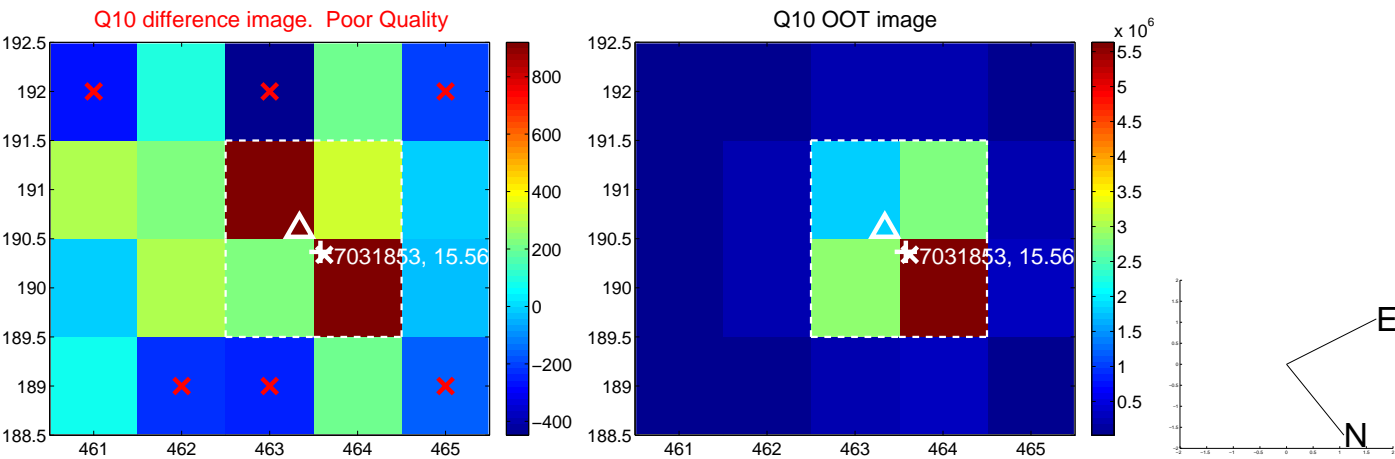
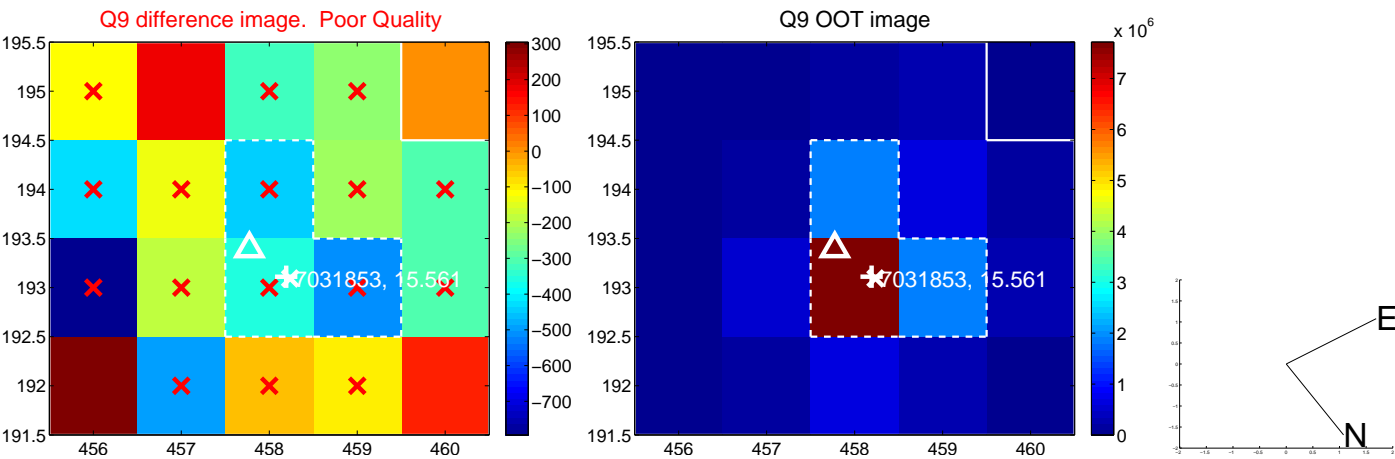
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



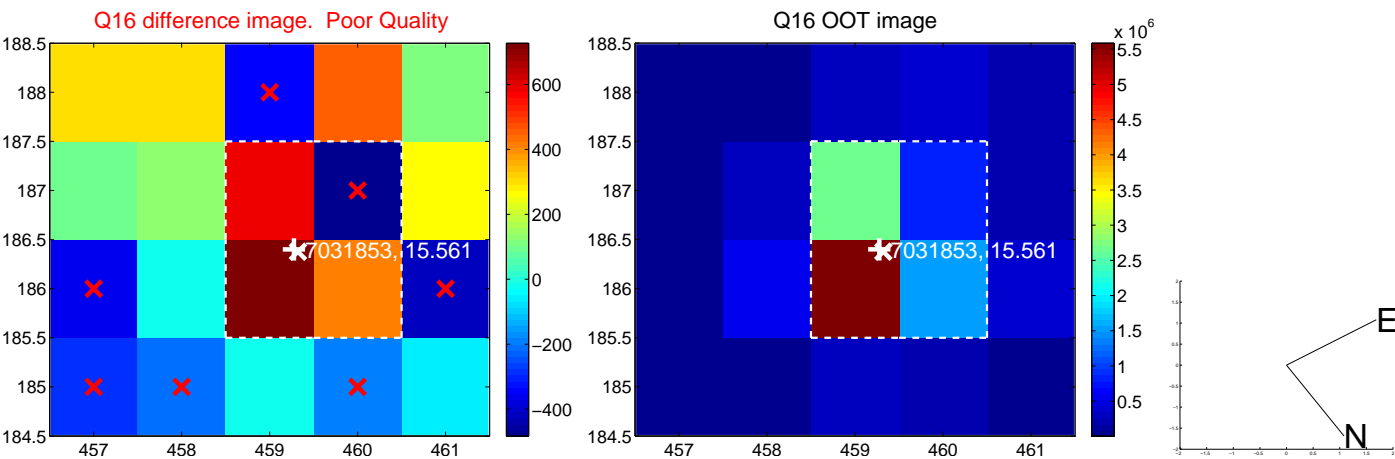
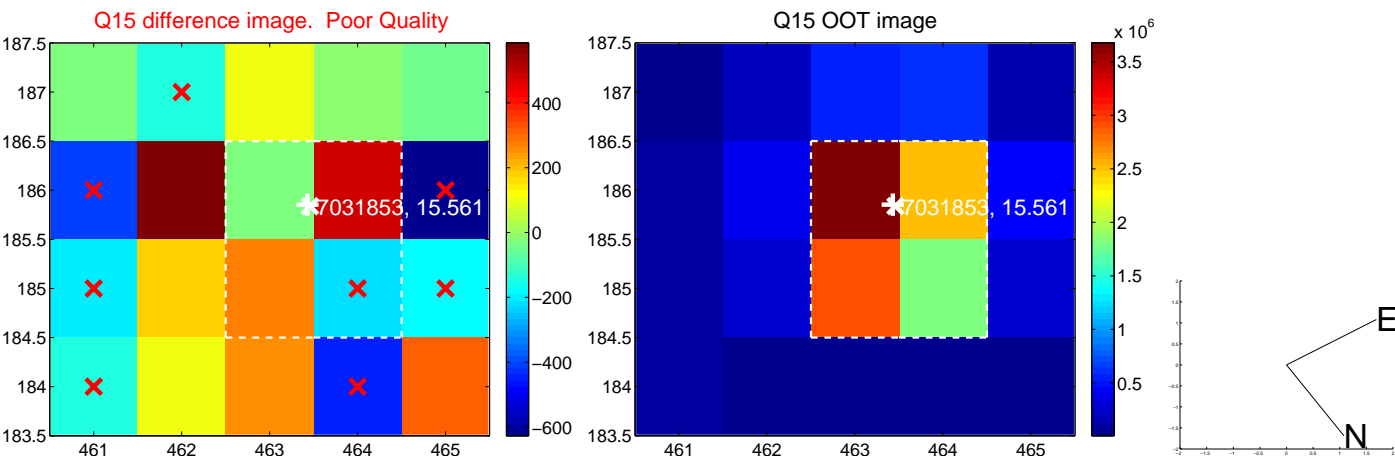
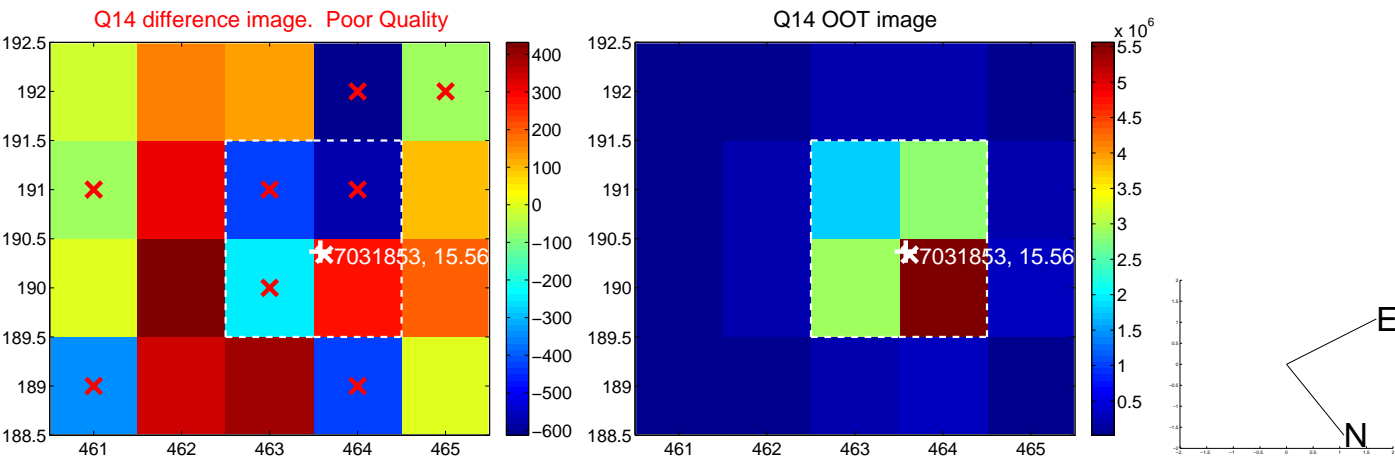
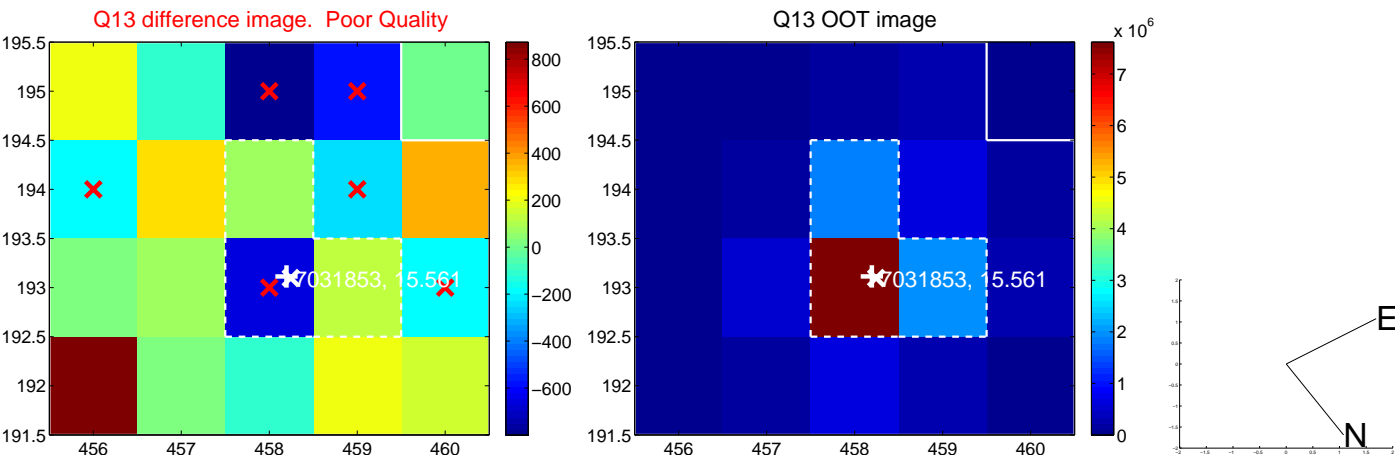
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



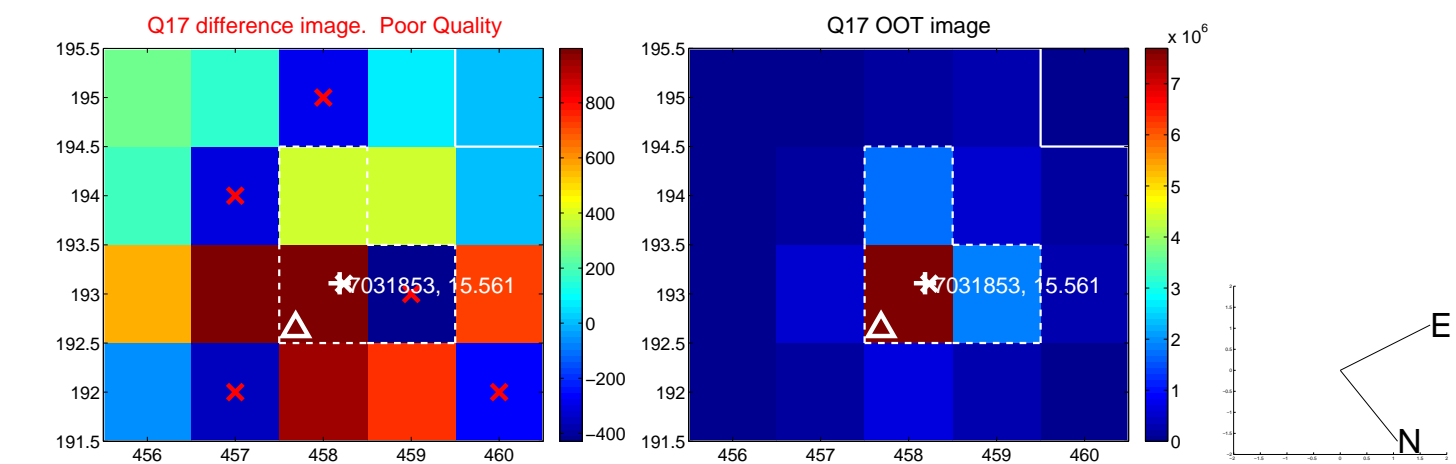
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



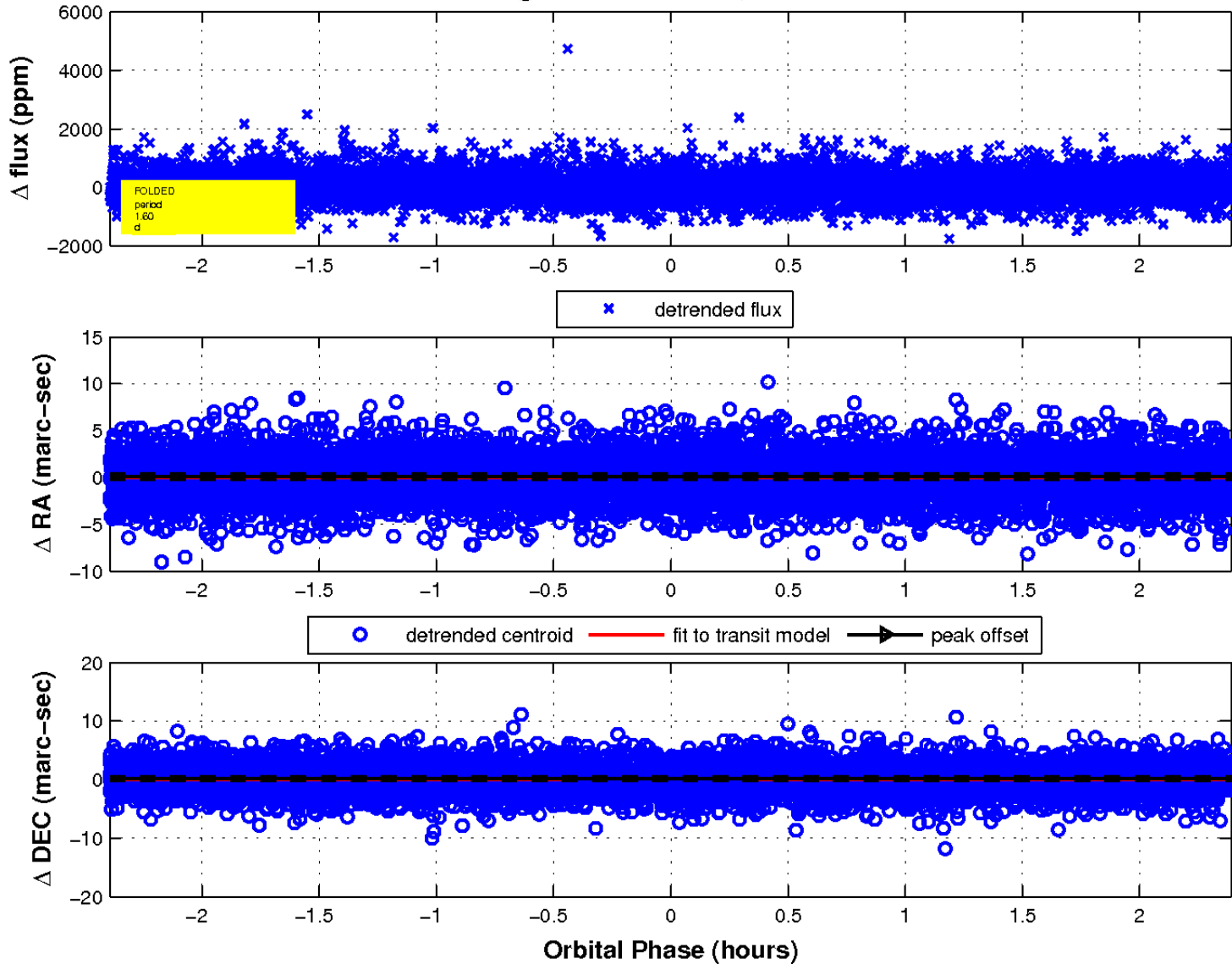
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 8 of 8



UKIRT Image

Declination

