

KIC 008235853

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})
008235853-01	OBS	No	0.675124	132.160657	53.7	1.821	9.0	6.4	2.21	6754	1.88	31157.01
008235853-02	OBS	No	3.888529	132.910403	243.6	16.221	9.0	9.1	2.21	6754	4.16	3017.77
008235853-03	OBS	No	431.308283	154.493654	354.7	3.251	10.5	1.1	2.21	6754	4.80	5.66
008235853-04	OBS	No	431.493473	153.882631	1870.8	6.174	9.9	5.7	2.21	6754	13.24	5.66
008235853-05	OBS	No	76.983779	183.513841	2073.0	6.351	8.9	9.9	2.21	6754	18.49	56.35
008235853-06	OBS	No	322.727647	353.293448	223.3	5.000	8.7	-1.0	2.21	6754	3.33	8.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008235853-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT
008235853-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
008235853-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
008235853-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
008235853-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008235853-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

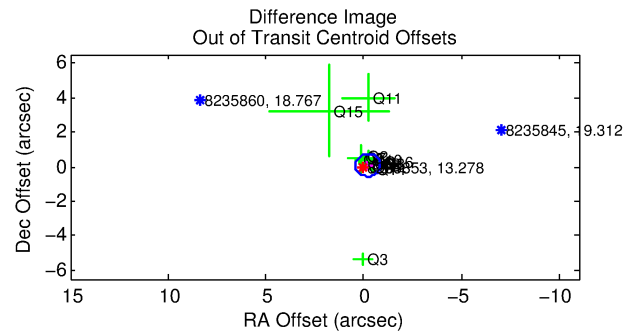
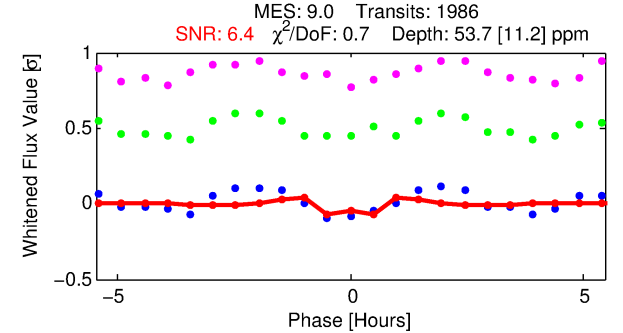
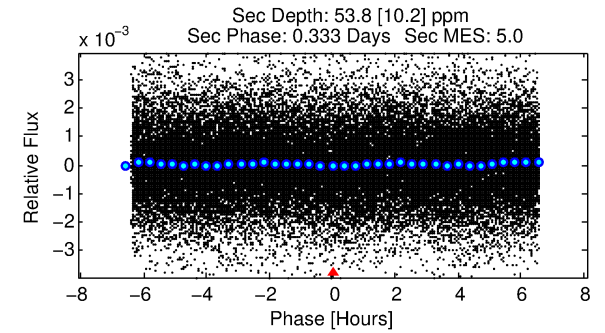
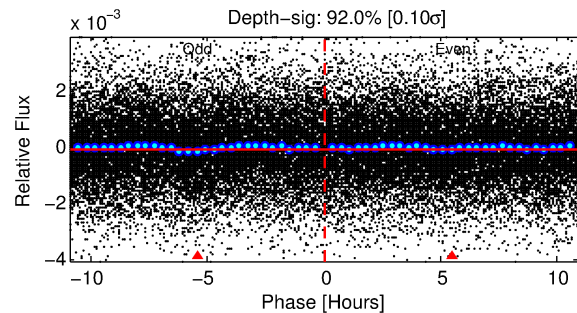
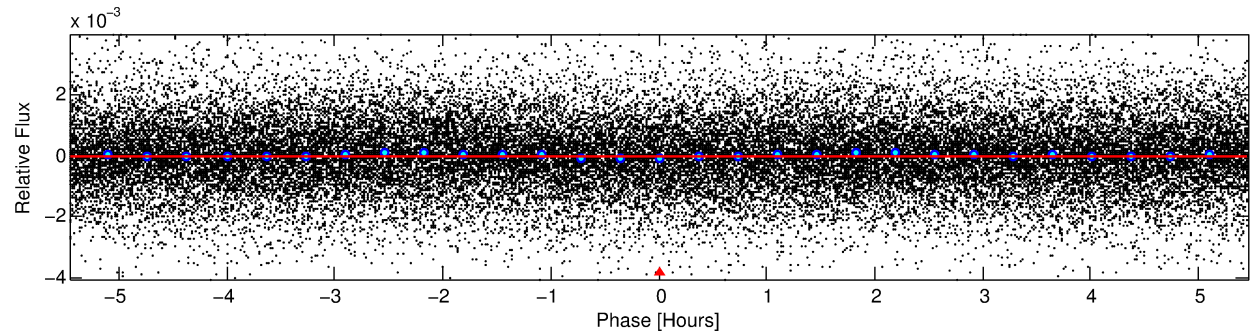
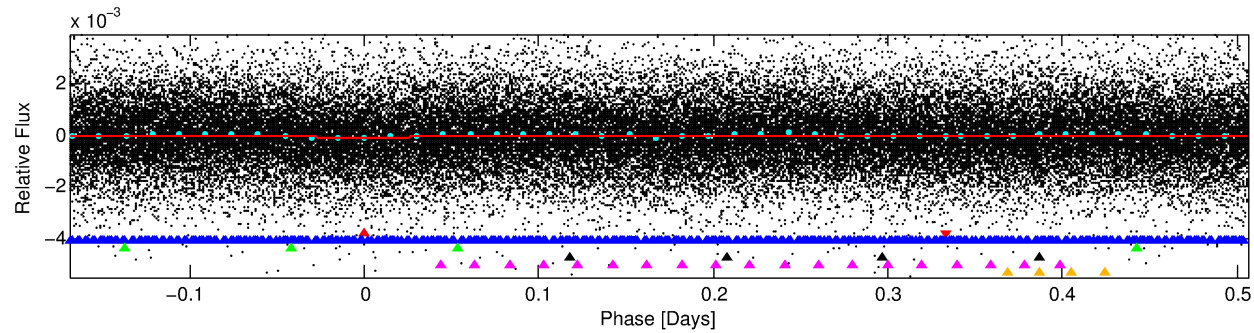
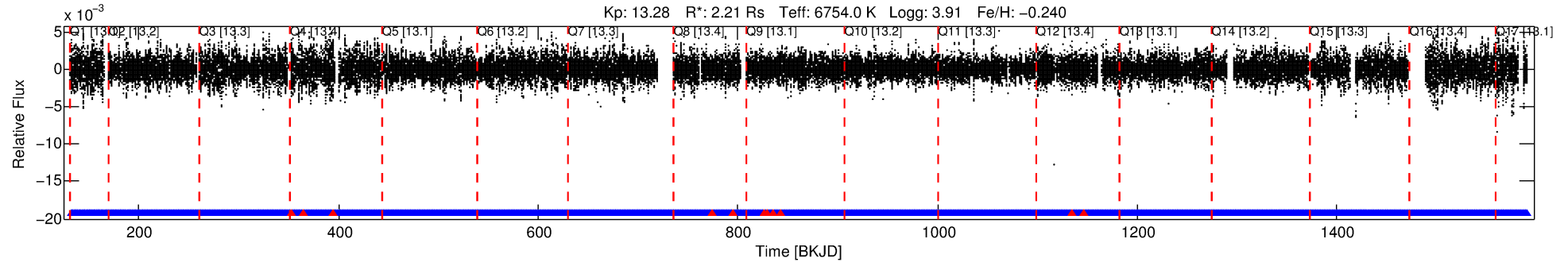
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008235853-01

No Significant Match Found

DV One-Page Summary

KIC: 8235853 Candidate: 1 of 6 Period: 0.675 d



DV Fit Results:

Period = 0.67512 [0.00002] d
Epoch = 132.1607 [0.0017] BKJD
Rp/R* = 0.0078 [0.0024]
a/R* = 1.62 [1.71]
b = 0.89 [0.39]
Seff = 31157.01 [19835.42]
Teq = 3388 [539] K
Rp = 1.88 [0.99] Re
a = 0.0171 [0.0068] AU
Ag = 2.45 [2.18] [0.66 σ]
Teffp = 6551 [1082] K [2.62 σ]

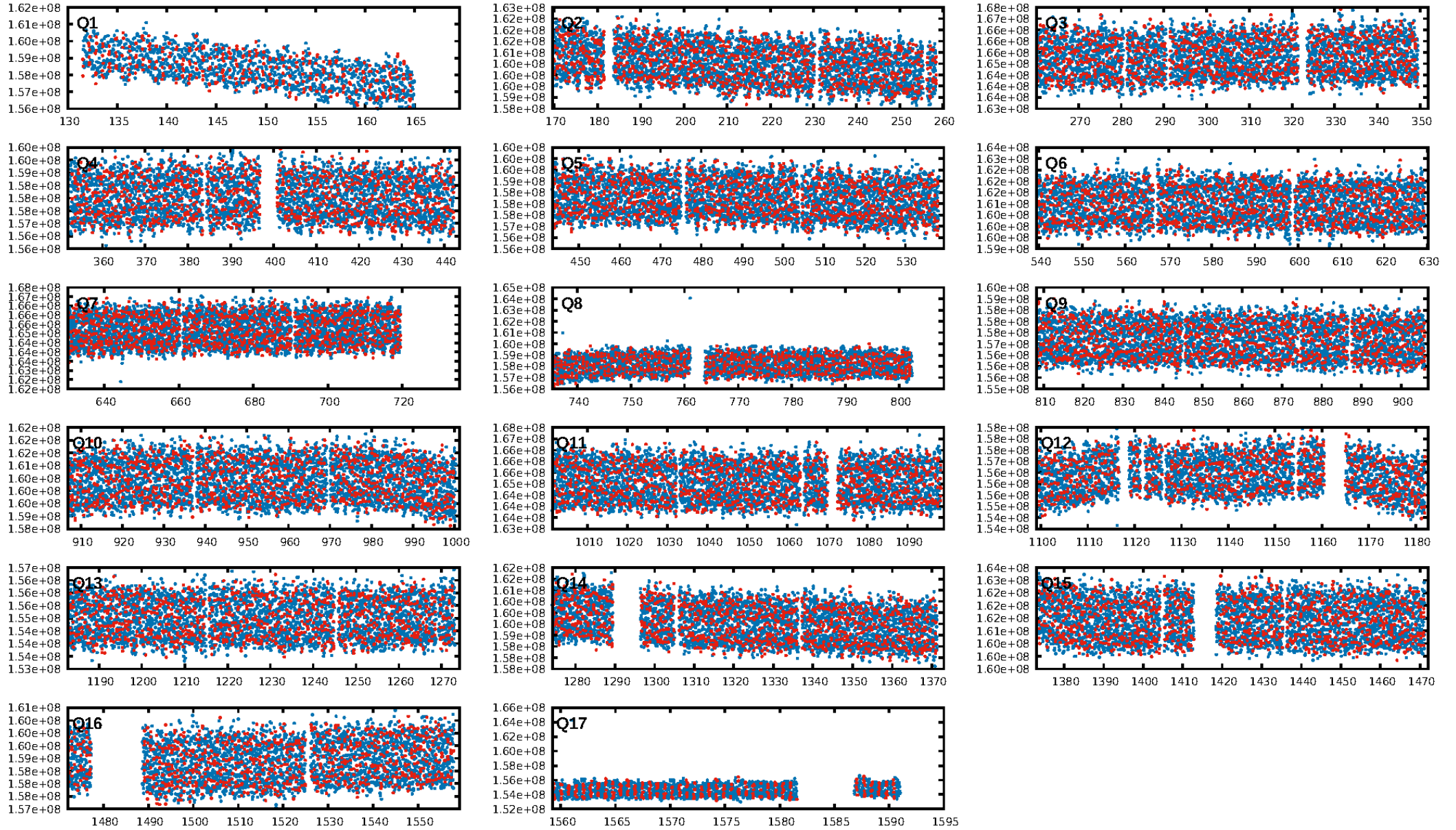
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [4.72 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [1885/1897]
GhostDiagnostic-chr: -16.71
Centroid-sig: 14.2%
Centroid-so: 0.495 arcsec [1.32 σ]
OotOffset-rm: 0.214 arcsec [1.00 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.122 arcsec [0.57 σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.47 [8/17]
DiffImageOverlap-fno: 1.00 [17/17]

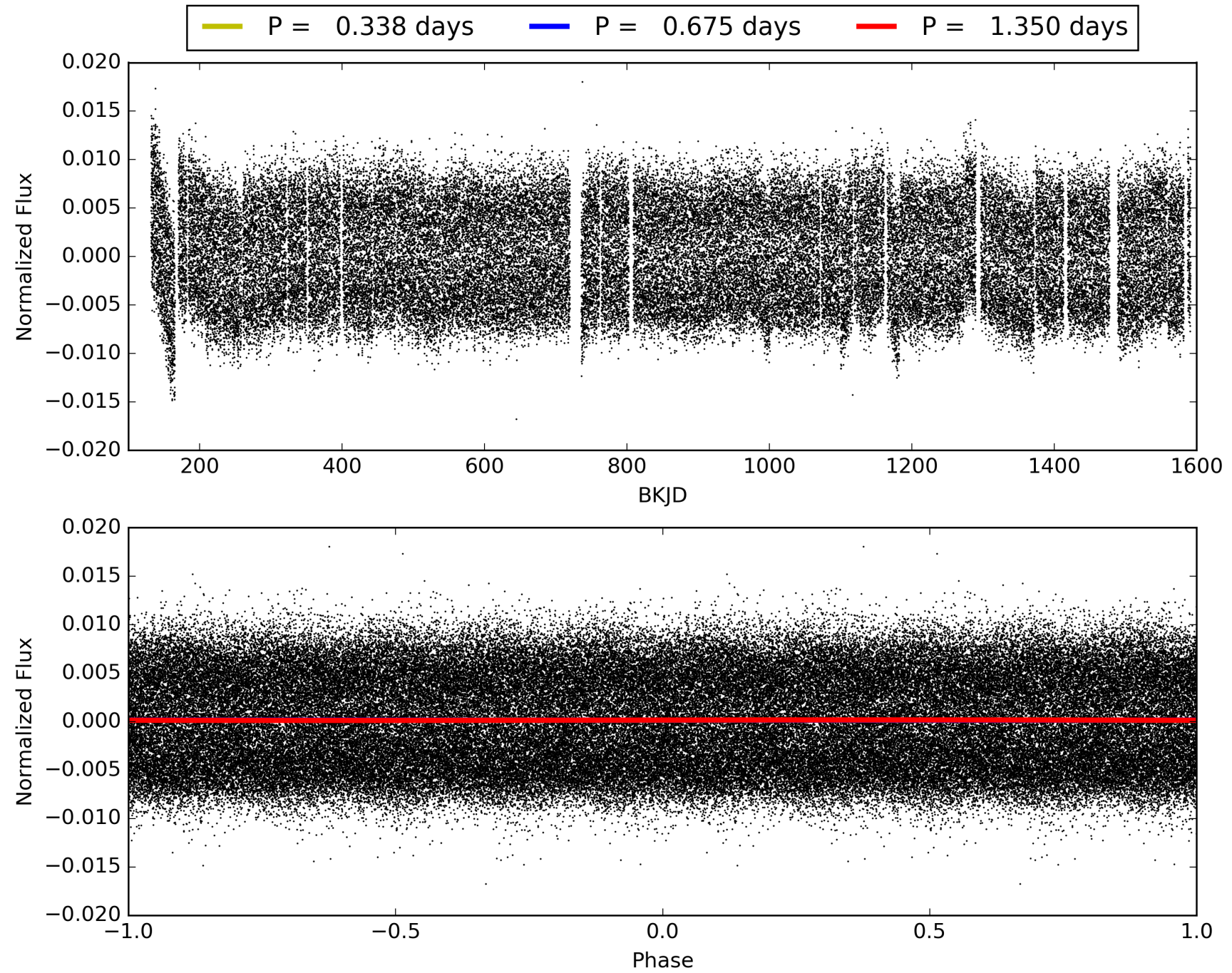
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 18:19:13 Z

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

TCE 008235853-01, PDC Light Curves

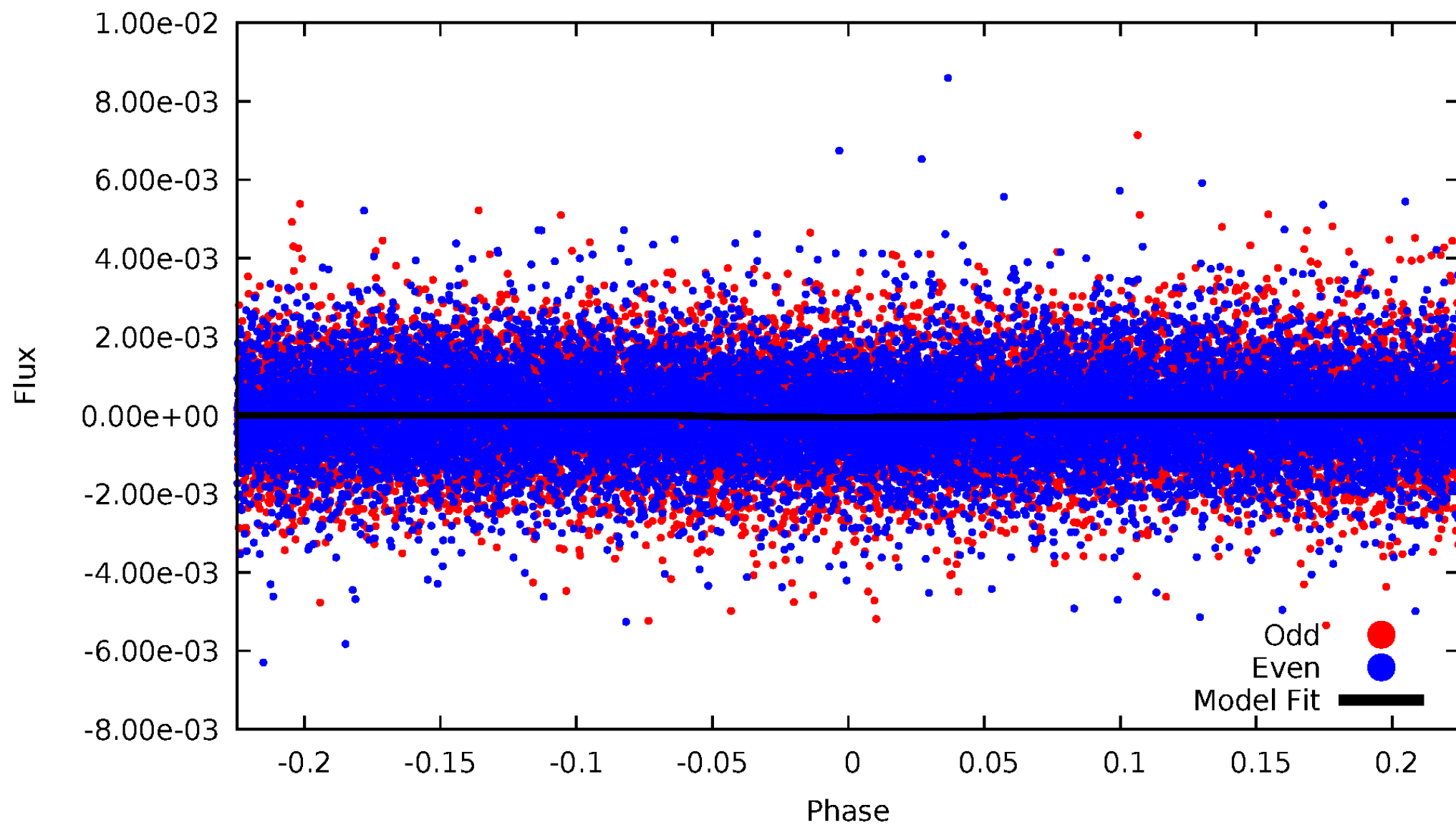


TCE 008235853-01



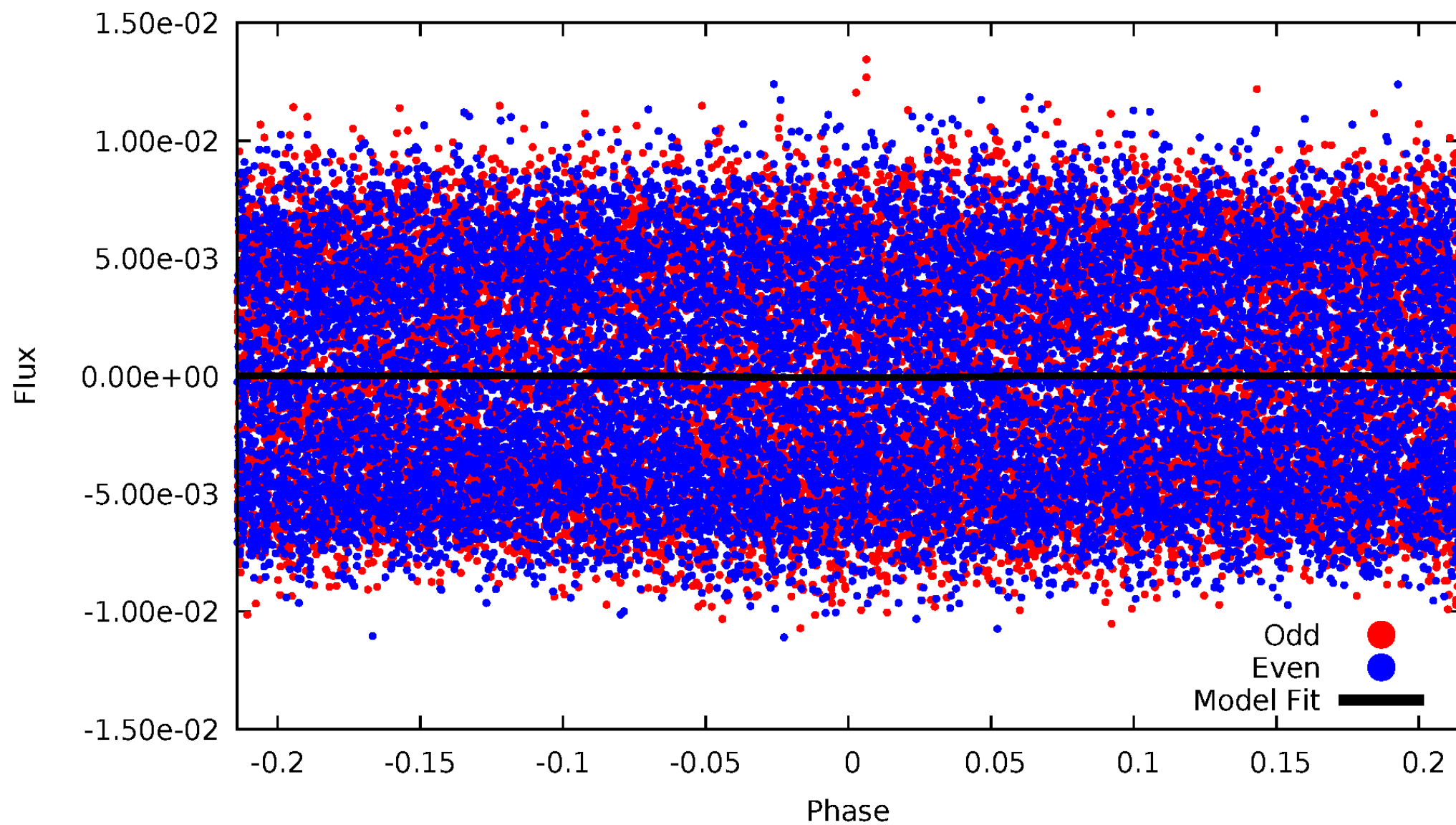
DV Odd/Even

TCE 008235853-01



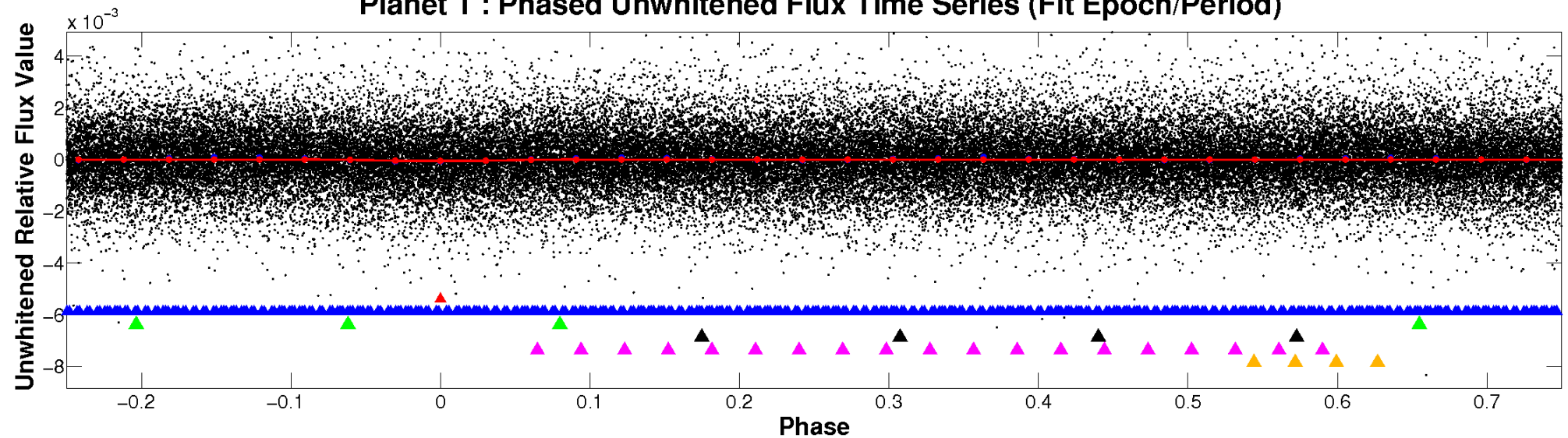
ALT Odd/Even

TCE 008235853-01

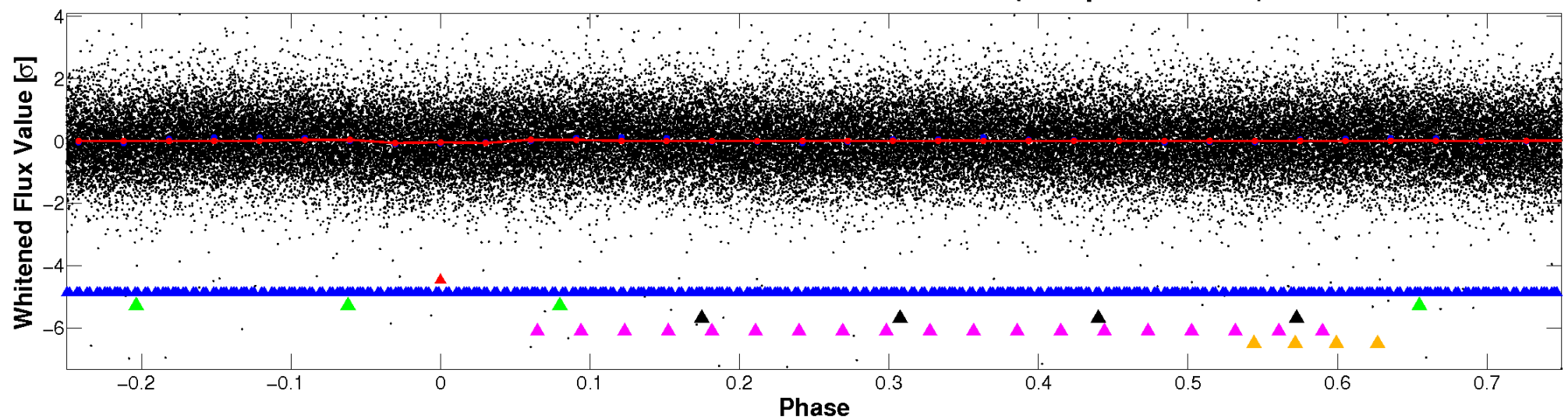


Non-Whitened Vs. Whitened Light Curve

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

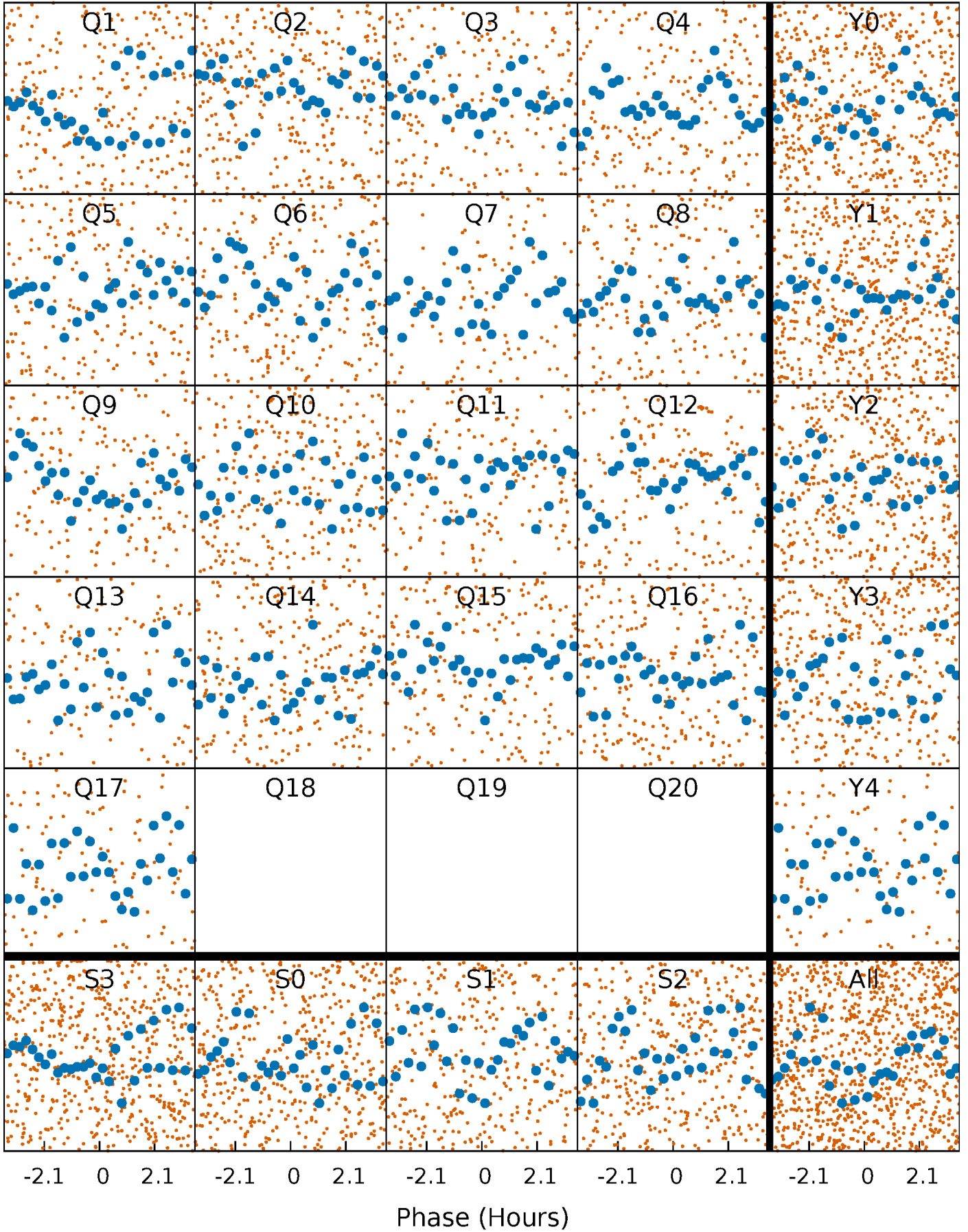


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



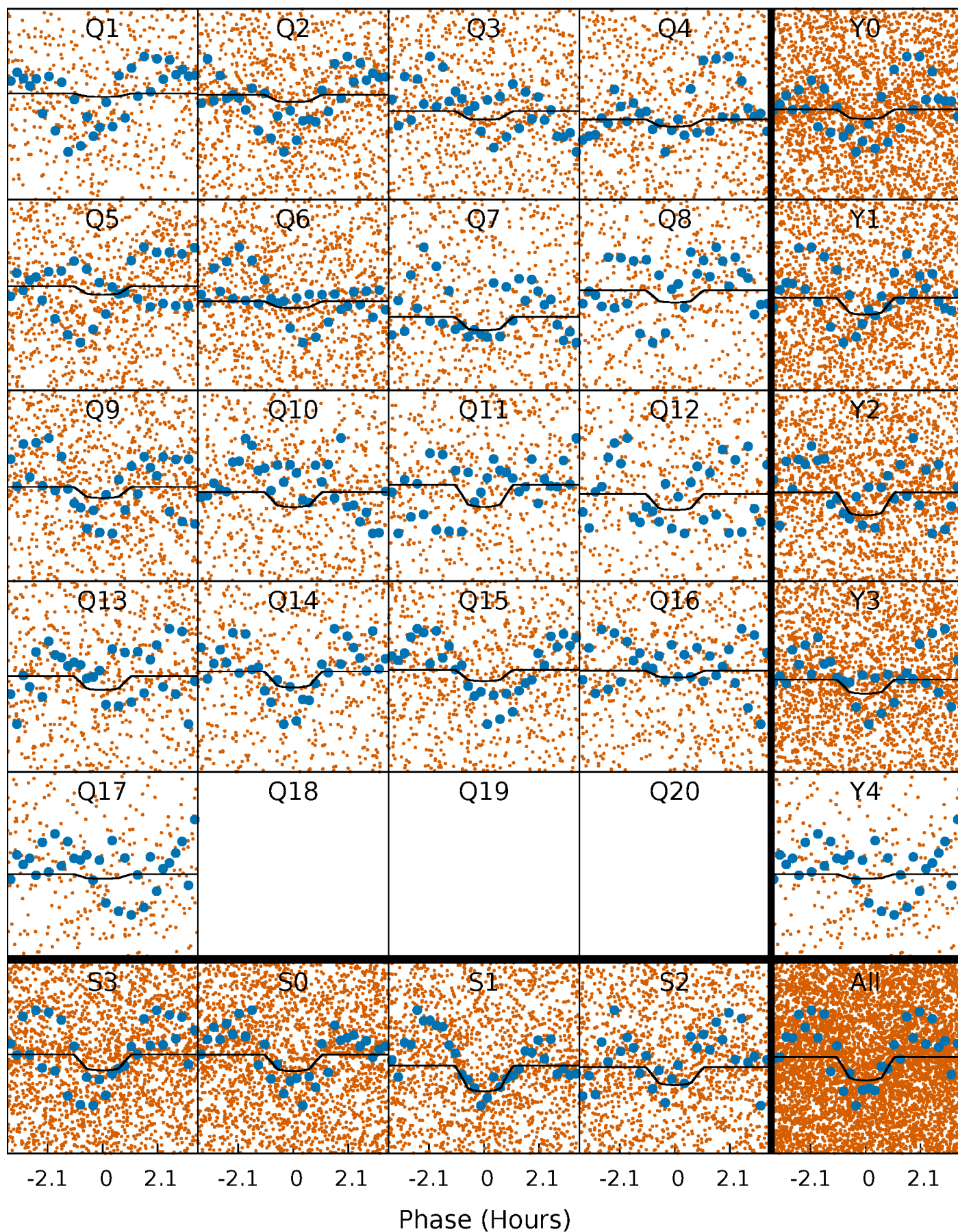
PDC Quarter-Phased Transit Curves

TCE 008235853-01 P= 0.675124 Days $T_0=132.160657$ (BKJD)



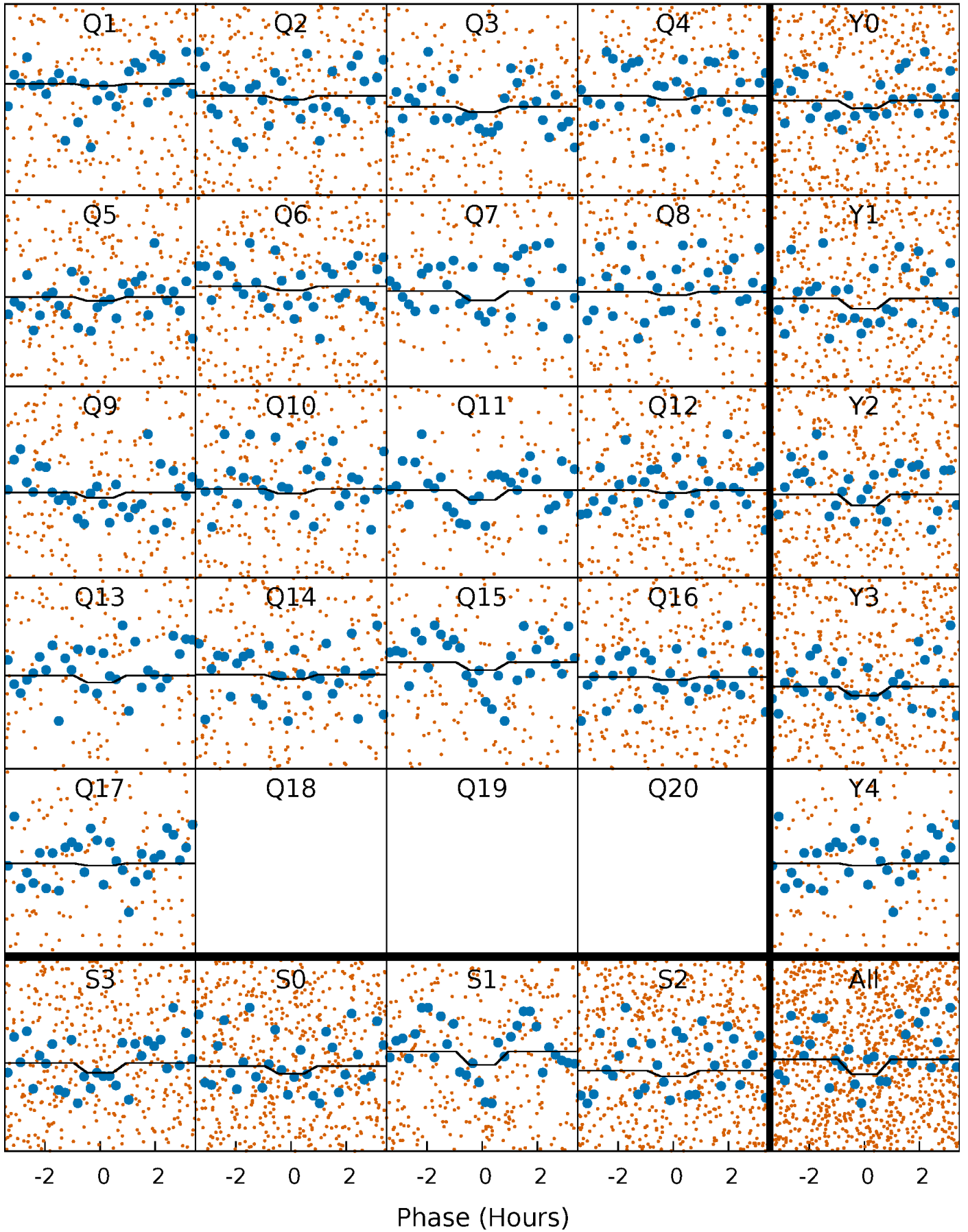
DV Quarter-Phased Transit Curves

TCE 008235853-01 P= 0.675124 Days $T_0=132.160657$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

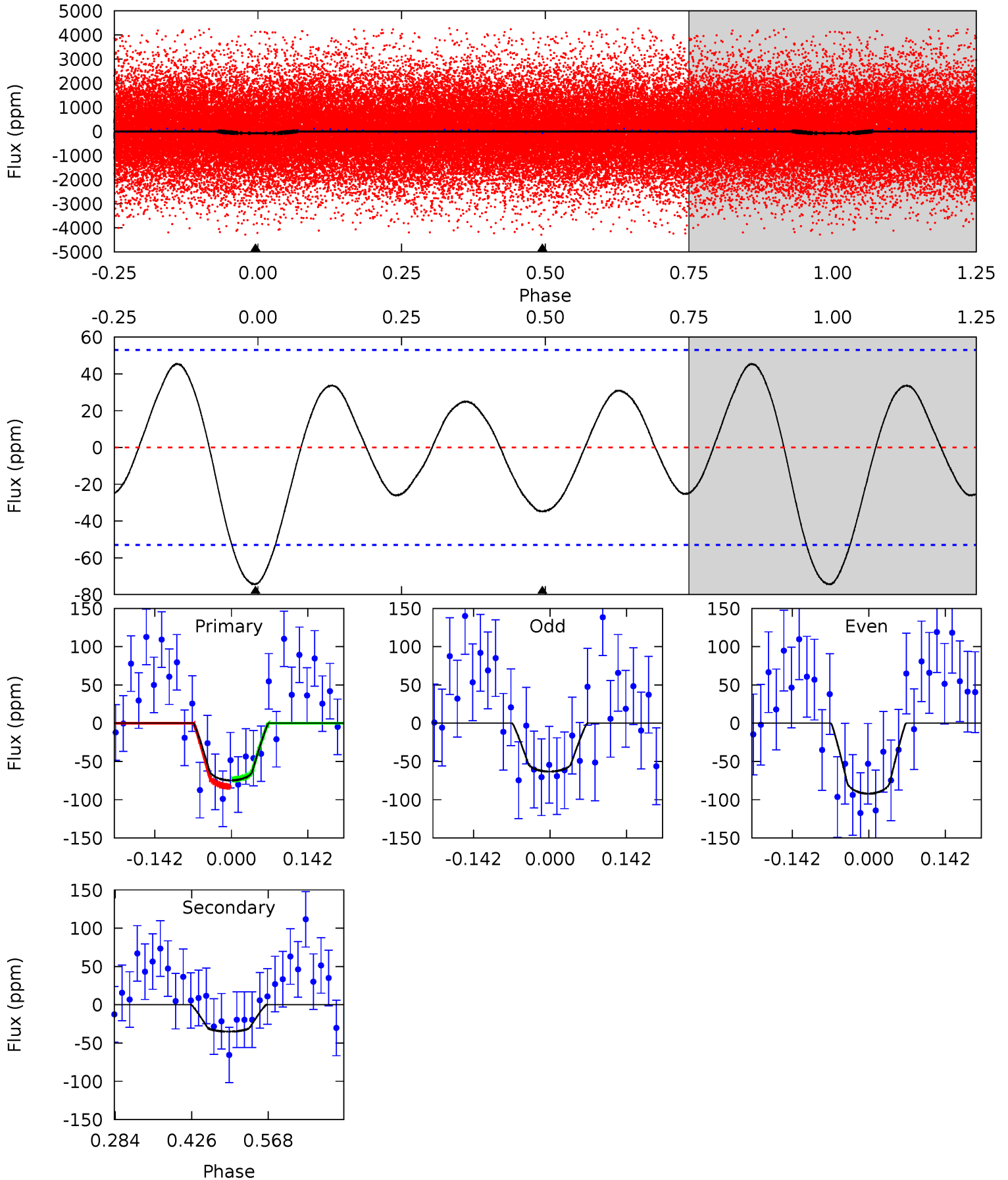
TCE 008235853-01 P= 0.675121 Days $T_0=132.160110$ (BKJD)



DV Model-Shift Uniqueness Test

008235853-01, P = 0.675124 Days, E = 131.485533 Days

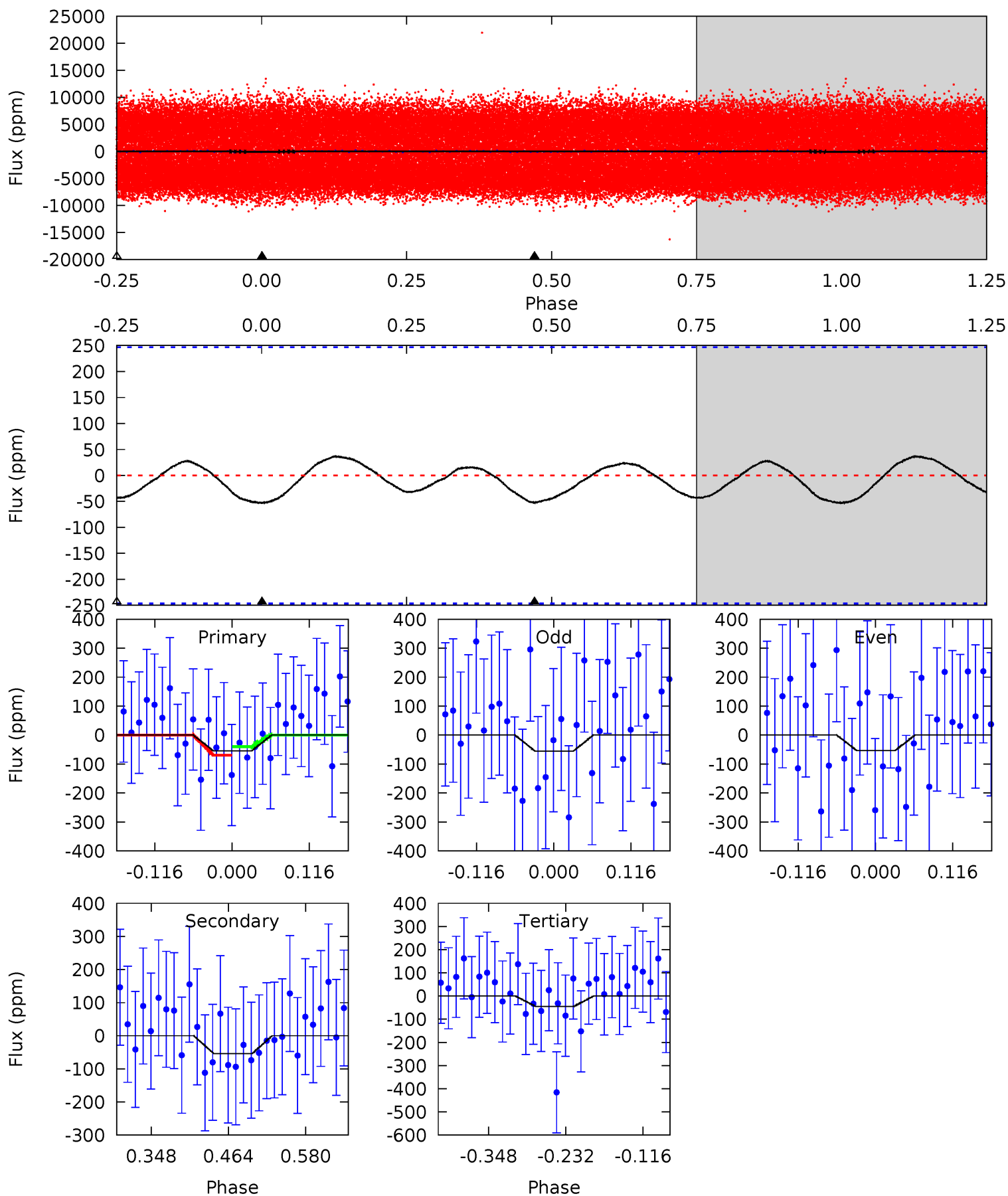
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.33	2.97	0	0	4.49	1.47	1.71	6.33	6.33	2.97	2.97	1.23	0.94	0.38	0.39



Alt Model-Shift Uniqueness Test

008235853-01, P = 0.675121 Days, E = 131.484989 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.00	0.99	0.82	0	4.53	1.57	0.44	0.18	1.00	0.17	0.99	0.02	0.56	0.41	0.27



Stellar Parameters For KIC 008235853

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6754^{+189}_{-260}	$3.914^{+0.357}_{-0.127}$	$-0.240^{+0.250}_{-0.300}$	$2.210^{+0.509}_{-0.945}$	$1.460^{+0.189}_{-0.351}$	$0.191^{+0.584}_{-0.069}$
	+3%/-4%	+9%/-3%	+104%/-125%	+23%/-43%	+13%/-24%	+307%/-36%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008235853-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-35 ± 12	$1.73^{+0.70}_{-0.63}$	4610^{+403}_{-530}	5531^{+1411}_{-924}	$1.729^{+2.692}_{-0.882}$
Alt.	-54 ± 54	$1.65^{+0.72}_{-0.56}$	4644^{+331}_{-499}	6370^{+2393}_{-10511}	$2.711^{+5.762}_{-2.768}$

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

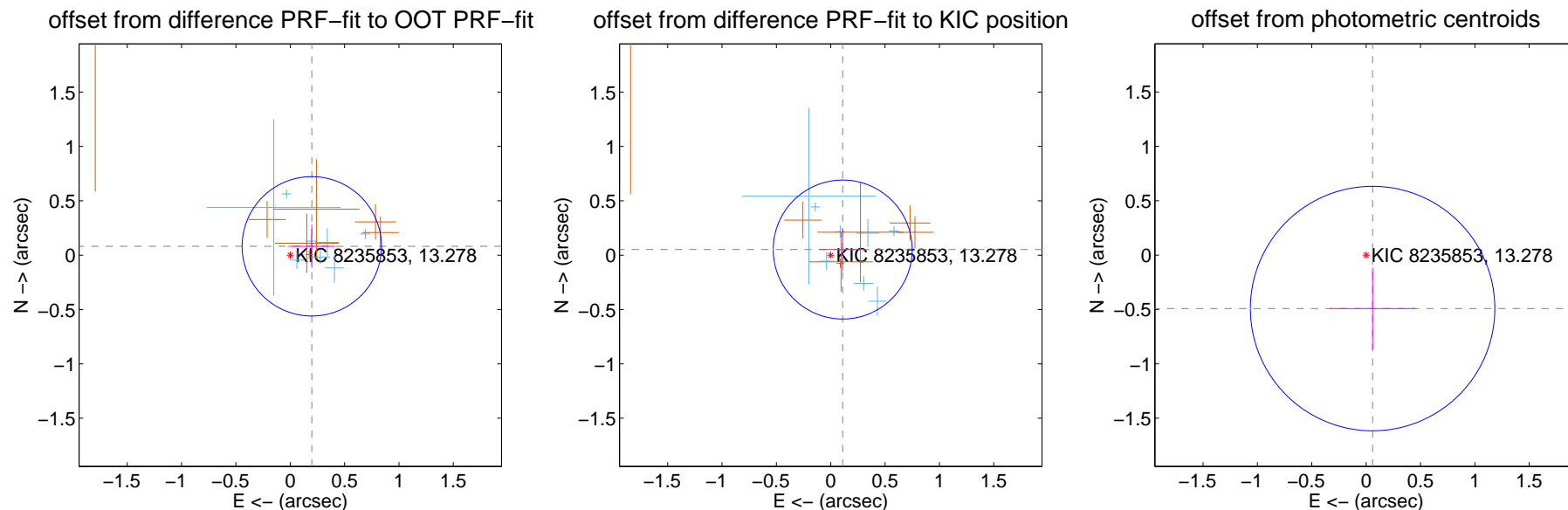
DV Centroid Data

Supplemental centroid analysis for 008235853-01. Kepler magnitude: 13.28. Transit SNR 6.35

There are 8 quarters with good PRF difference image offsets

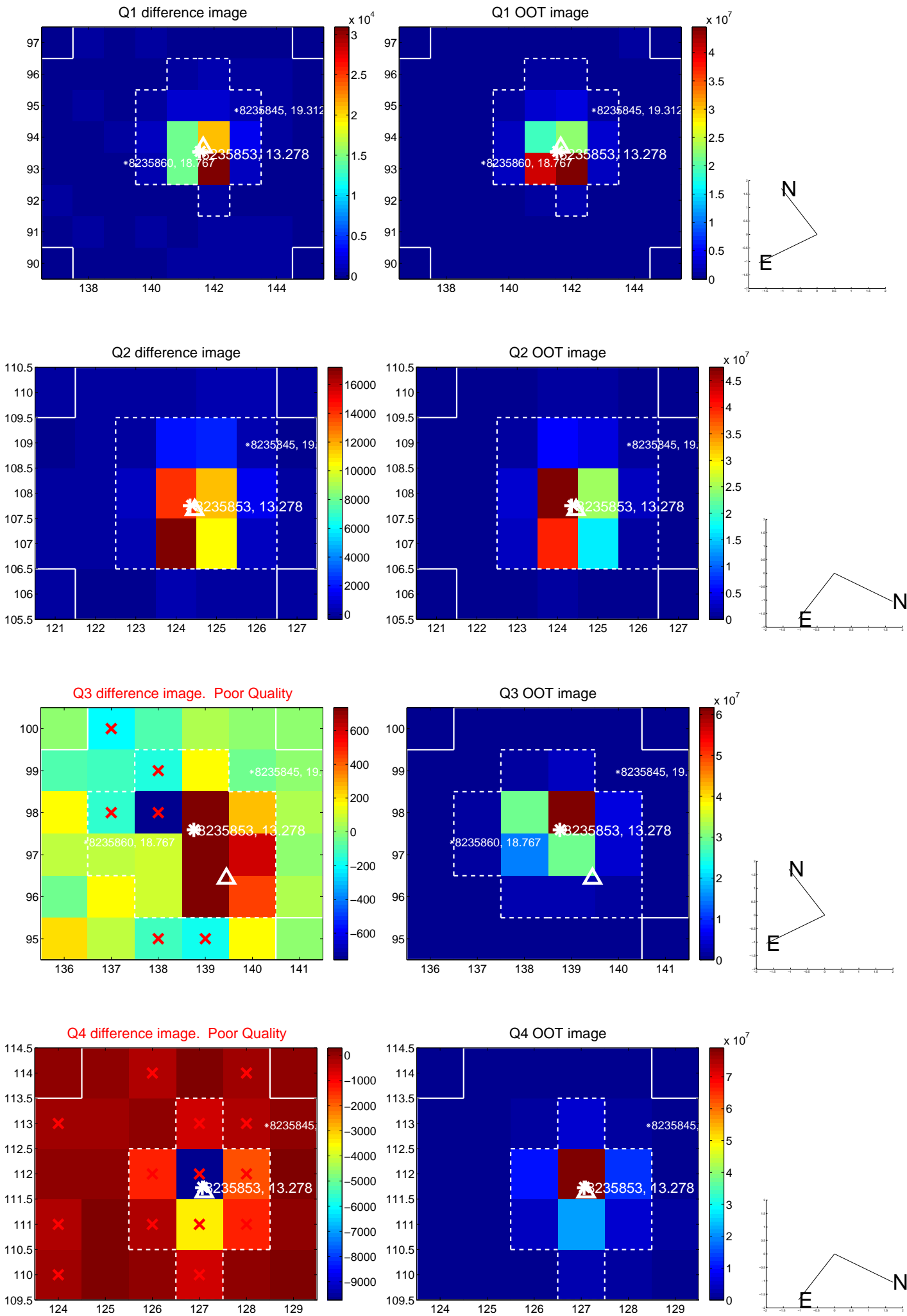
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.214 ± 0.214	1.00	-0.198 ± 0.216	0.081 ± 0.198
PRF-fit source offset from KIC position	0.122 ± 0.213	0.57	-0.110 ± 0.216	0.052 ± 0.198
photometric centroid source offset	0.50 ± 0.37	1.32	-0.06 ± 0.40	-0.49 ± 0.37

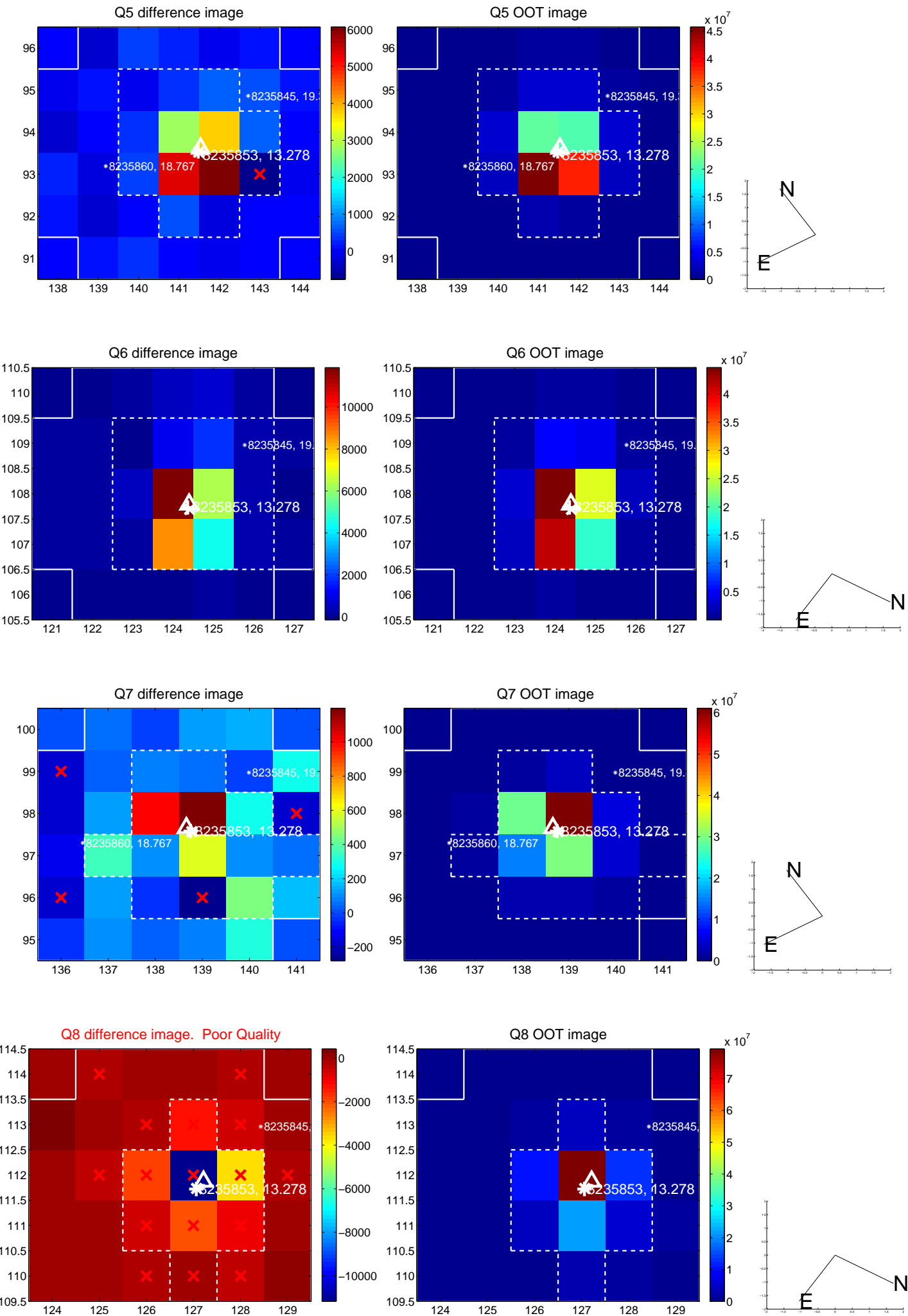


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

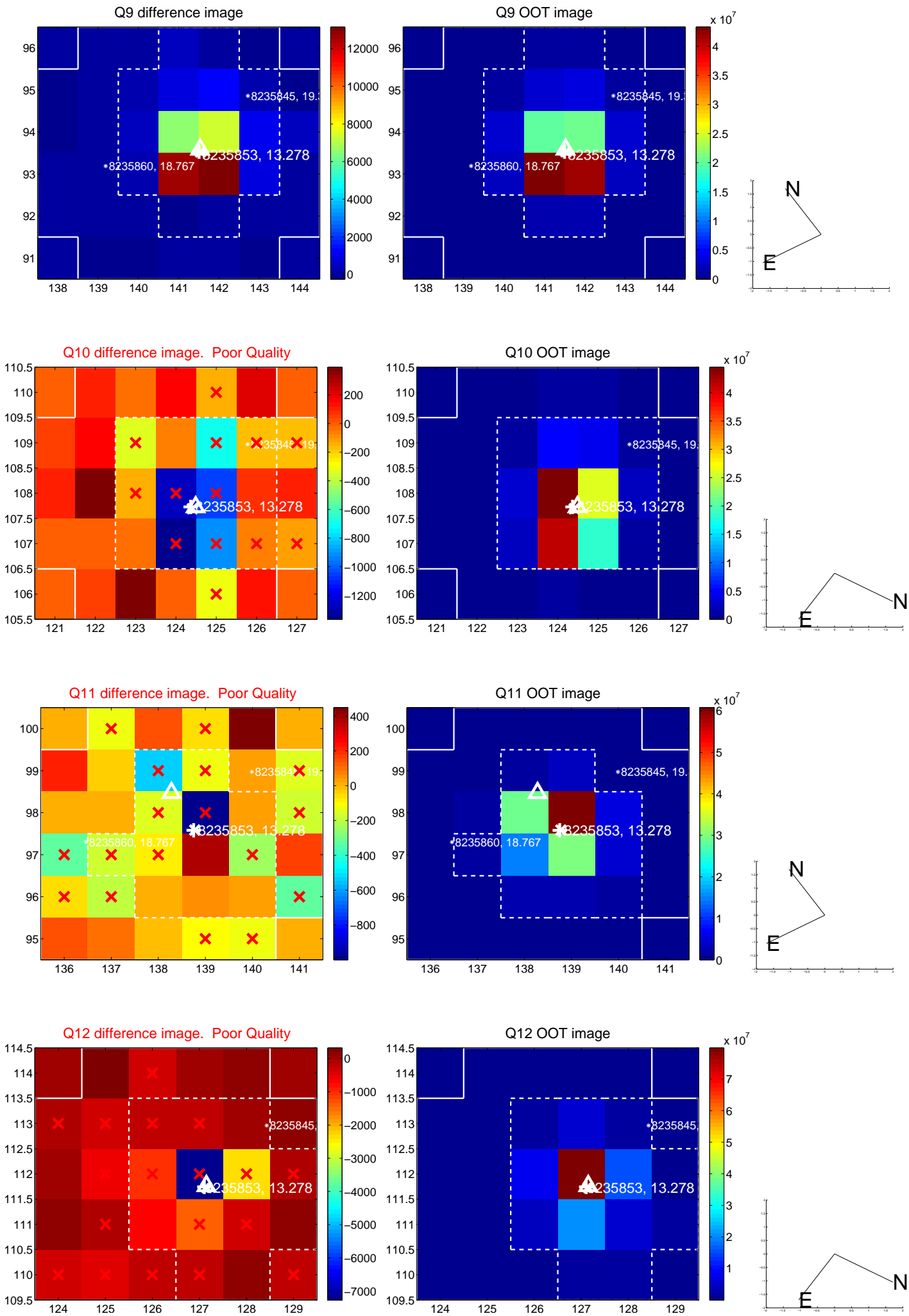
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



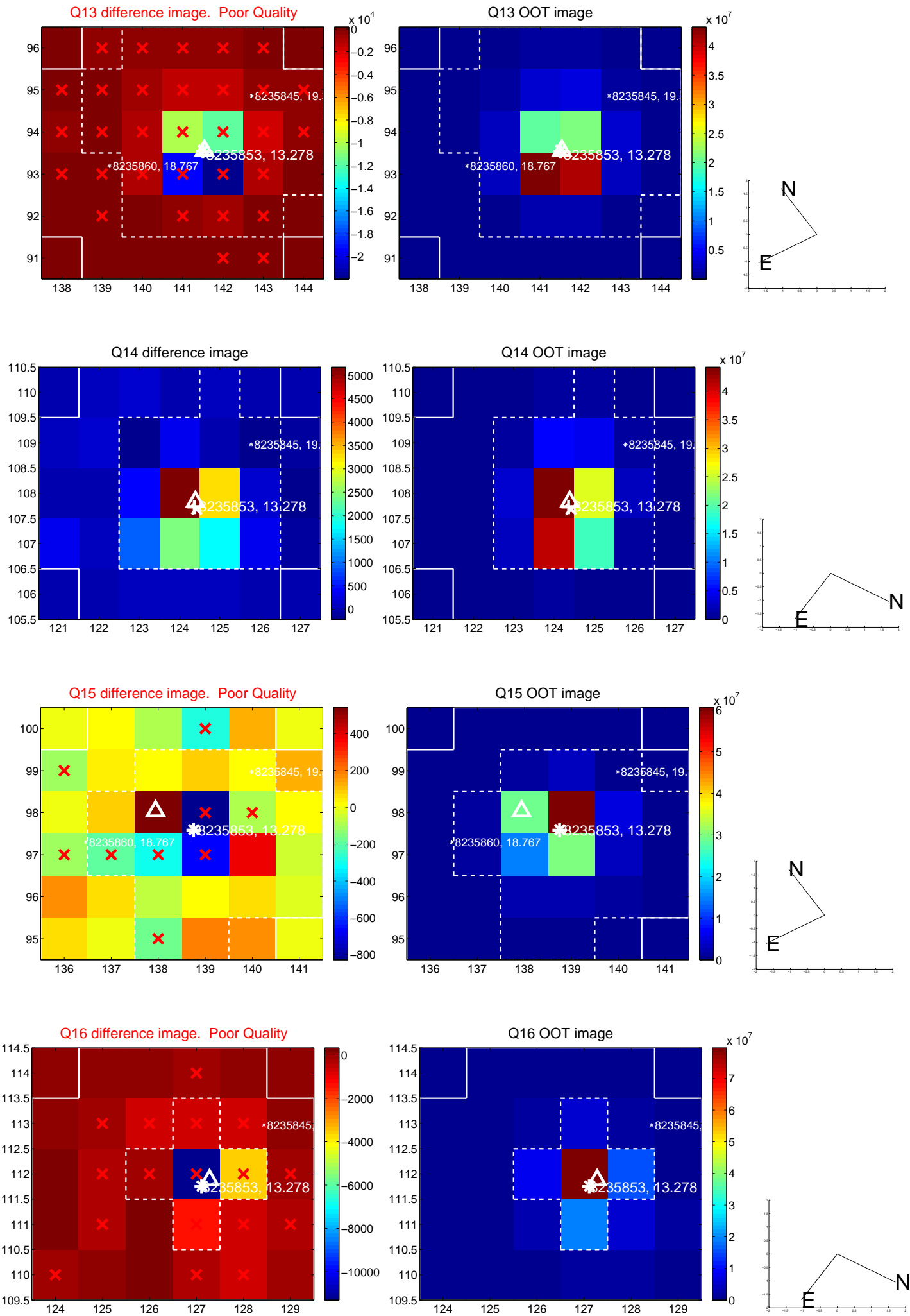
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



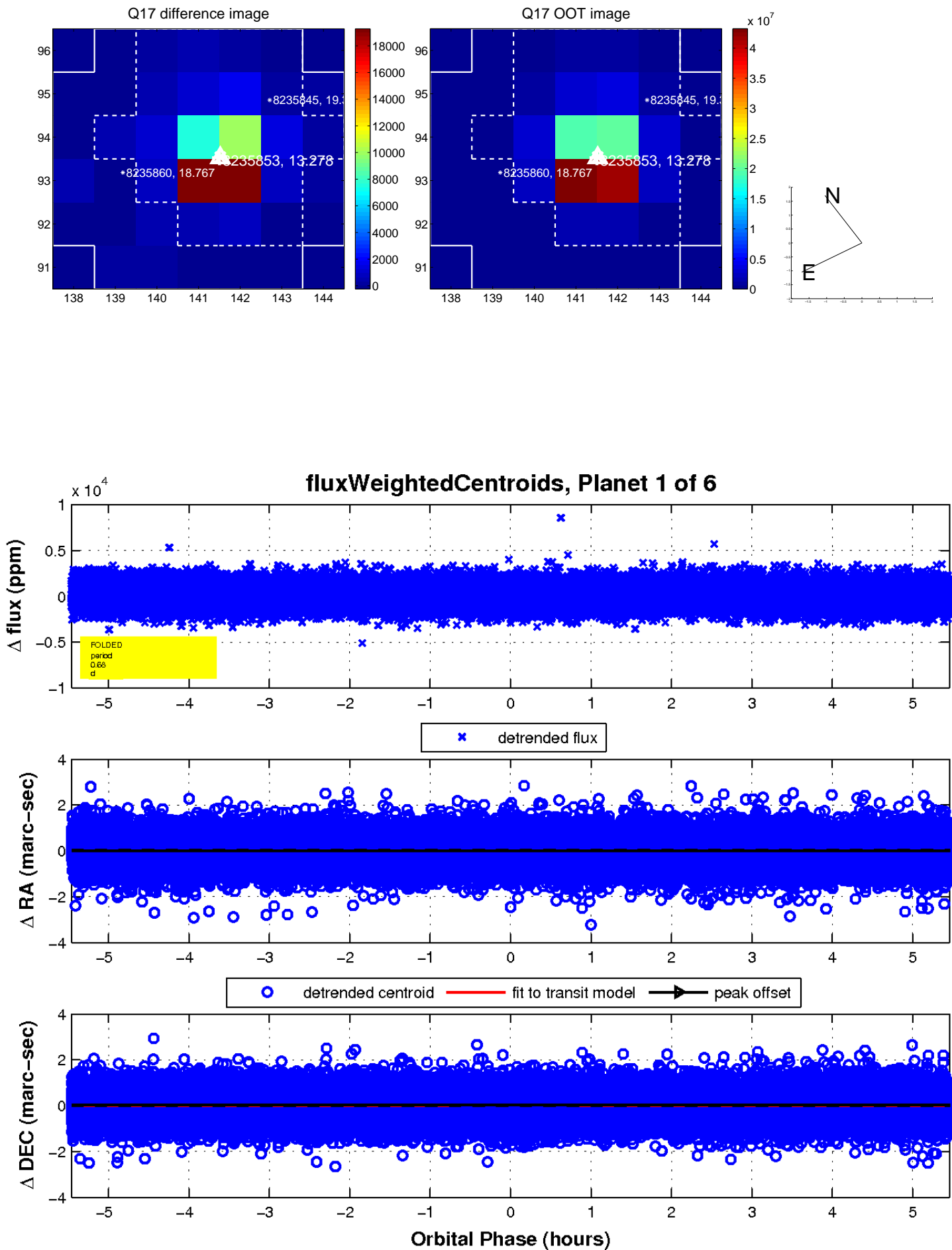
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

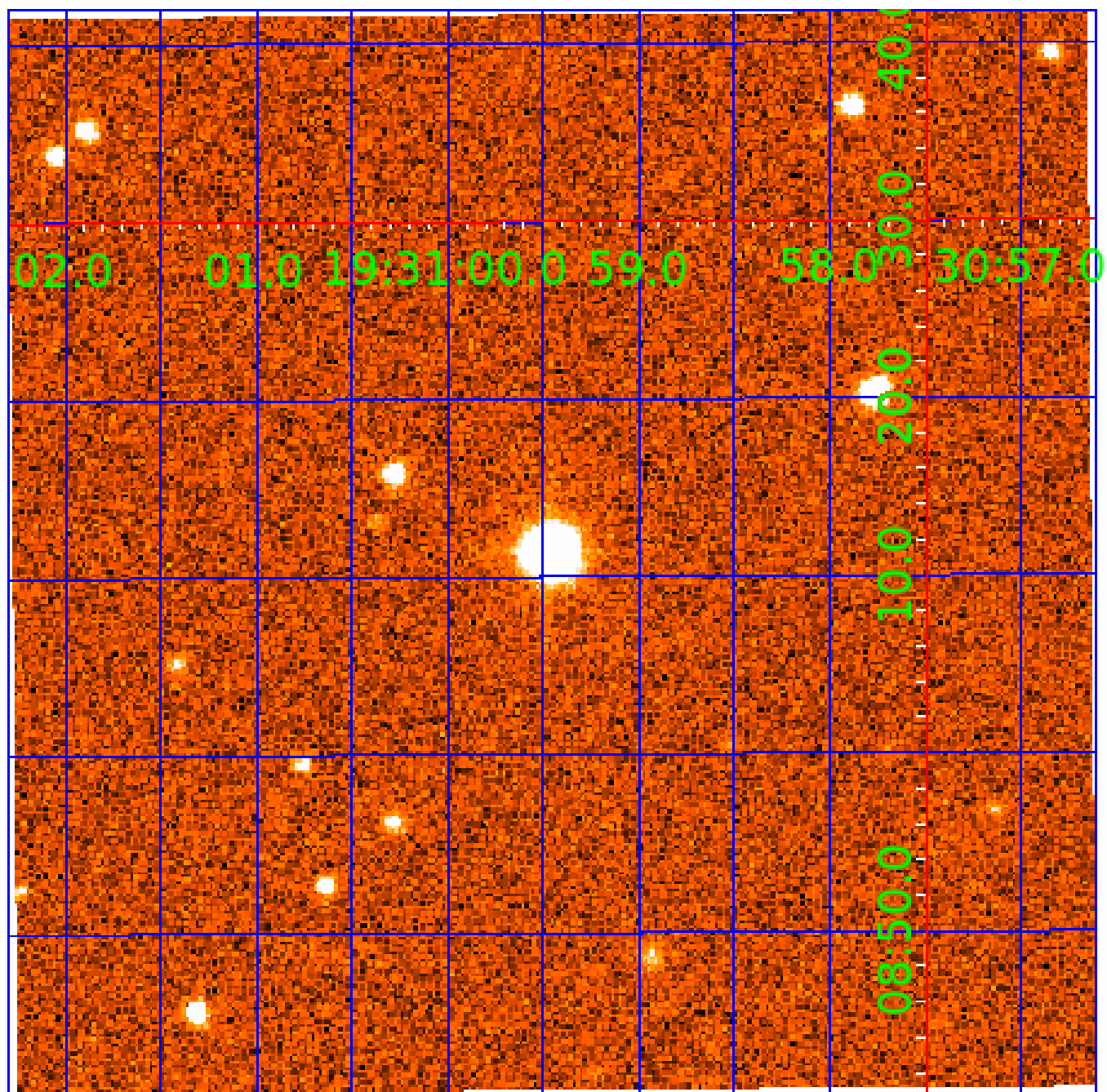


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008235853

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})
008235853-01	OBS	No	0.675124	132.160657	53.7	1.821	9.0	6.4	2.21	6754	1.88	31157.01
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008235853-06	OBS	No	322.727647	353.293448	223.3	5.000	8.7	-1.0	2.21	6754	3.33	8.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008235853-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT
008235853-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
008235853-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
008235853-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
008235853-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008235853-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

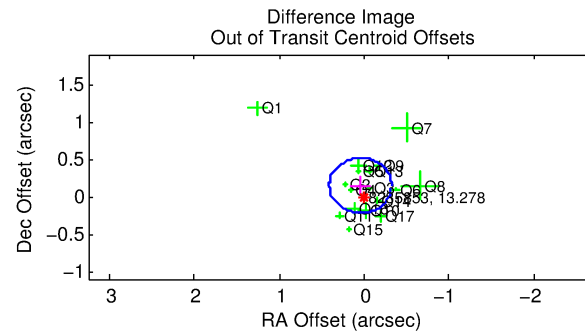
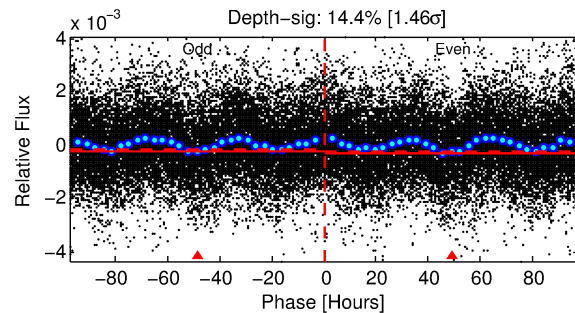
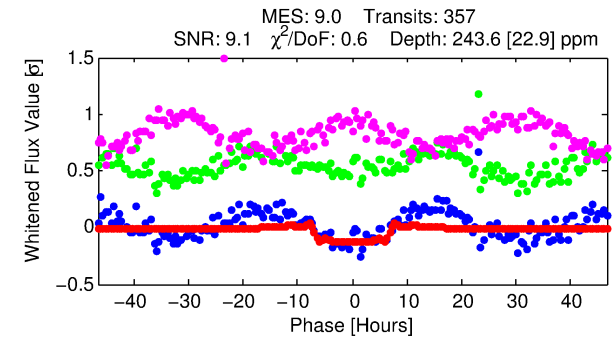
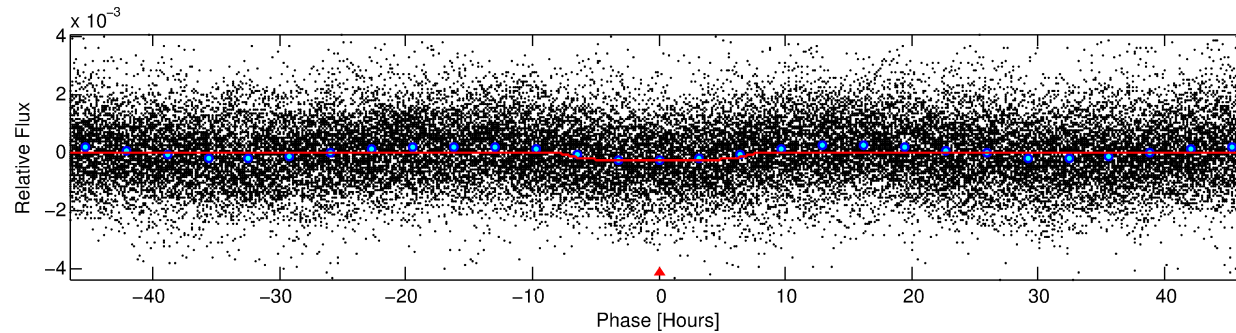
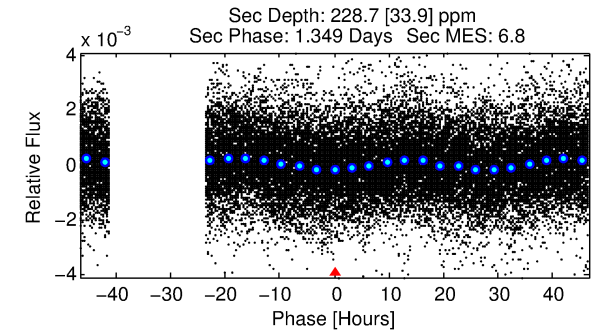
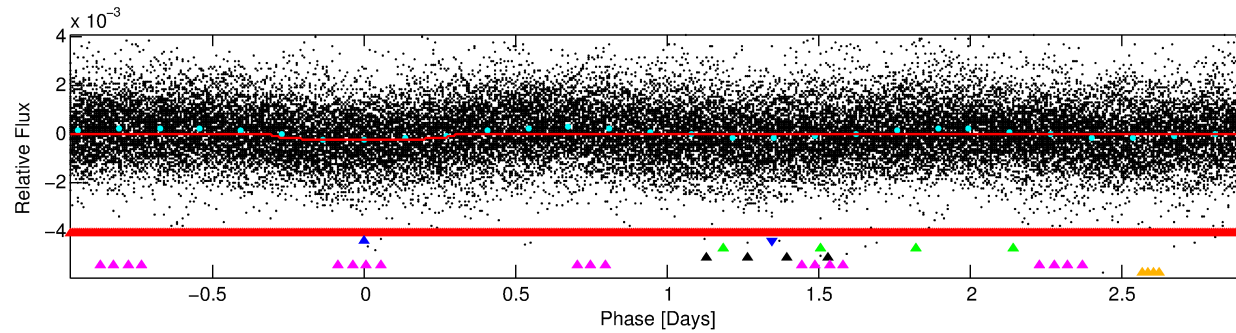
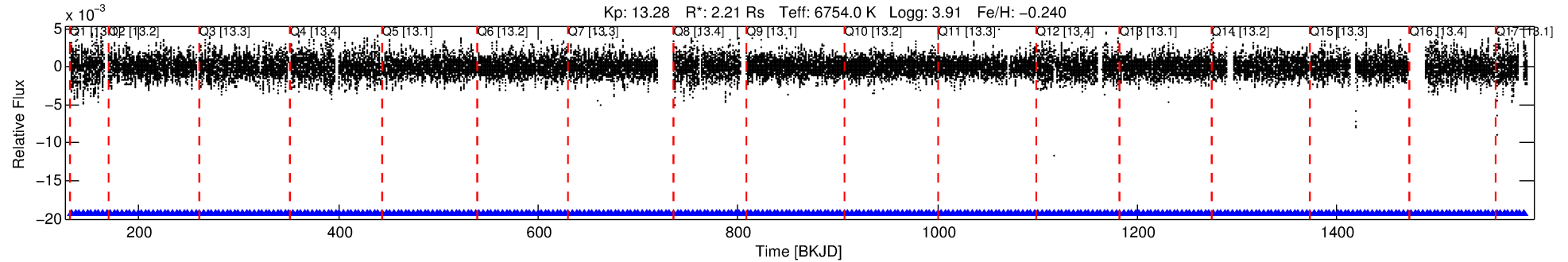
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008235853-02

No Significant Match Found

DV One-Page Summary

KIC: 8235853 Candidate: 2 of 6 Period: 3.889 d



DV Fit Results:

Period = 3.88853 [0.00007] d
Epoch = 132.9104 [0.0134] BKJD
Rp/R* = 0.0173 [0.0009]
a/R* = 1.21 [0.04]
b = 0.94 [0.02]
Seff = 3017.77 [1921.20]
Teq = 1890 [301] K
Rp = 4.16 [1.79] Re
a = 0.0549 [0.0217] AU
Ag = 21.94 [14.11] [1.48σ]
Teffp = 6324 [373] K [9.25σ]

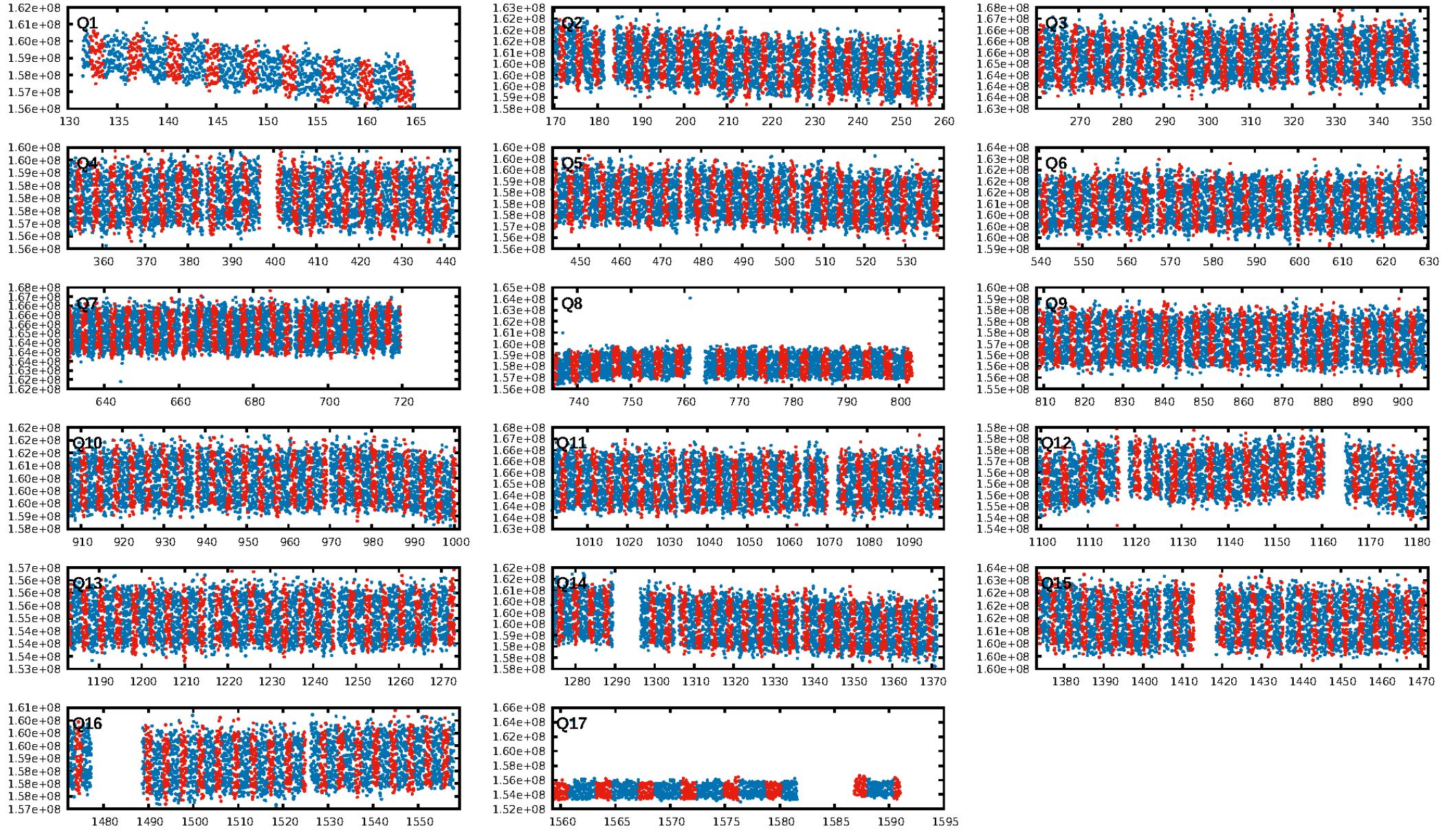
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [4.72σ]
LongPeriod-sig: 100.0% [100.71σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [340/340]
GhostDiagnostic-chr: 2.455
Centroid-sig: 0.0%
Centroid-so: 0.288 arcsec [3.73σ]
OotOffset-rm: 0.153 arcsec [1.26σ]
KicOffset-rm: 0.079 arcsec [0.61σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 0.00 [0/17]

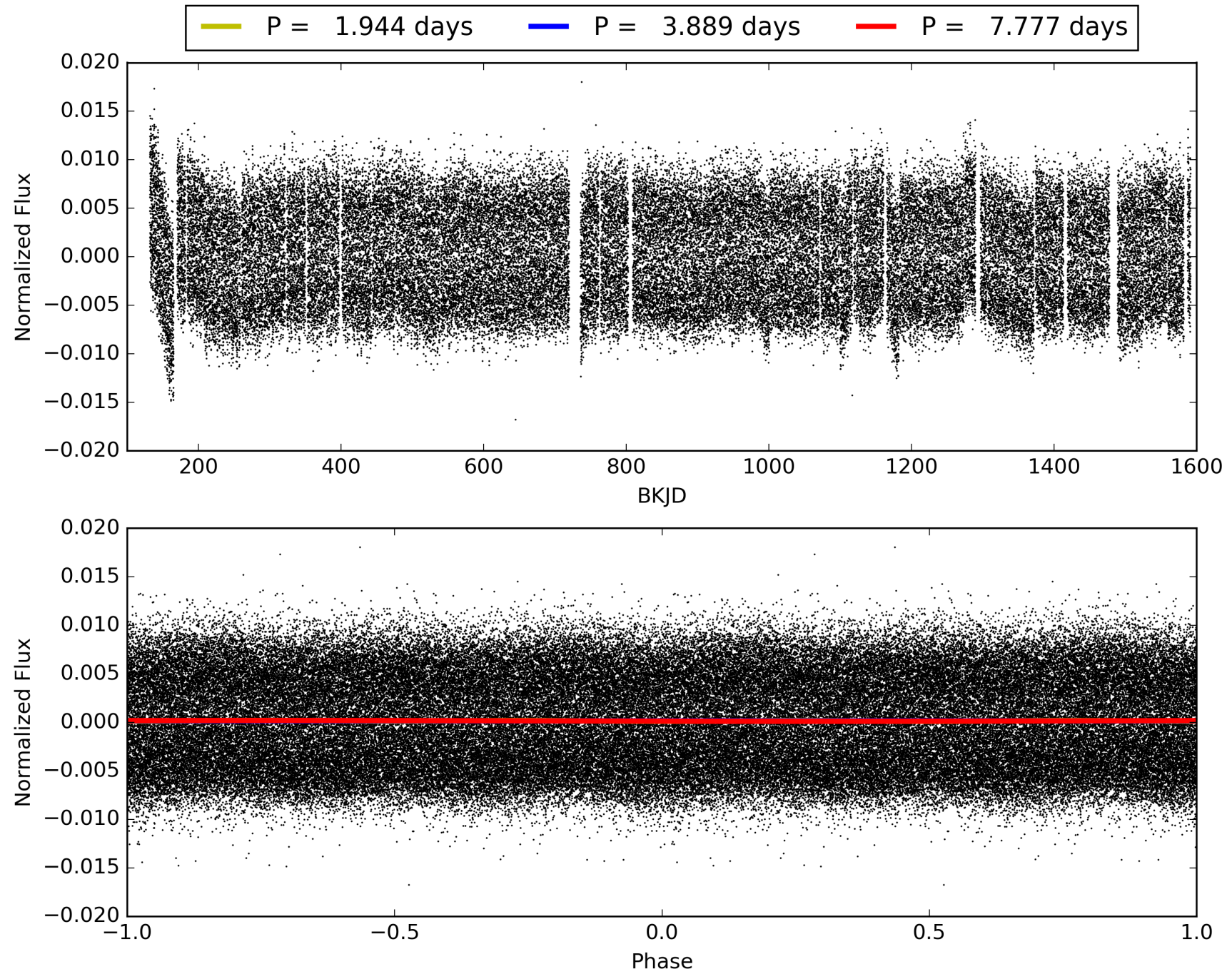
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 18:19:25 Z

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

TCE 008235853-02, PDC Light Curves

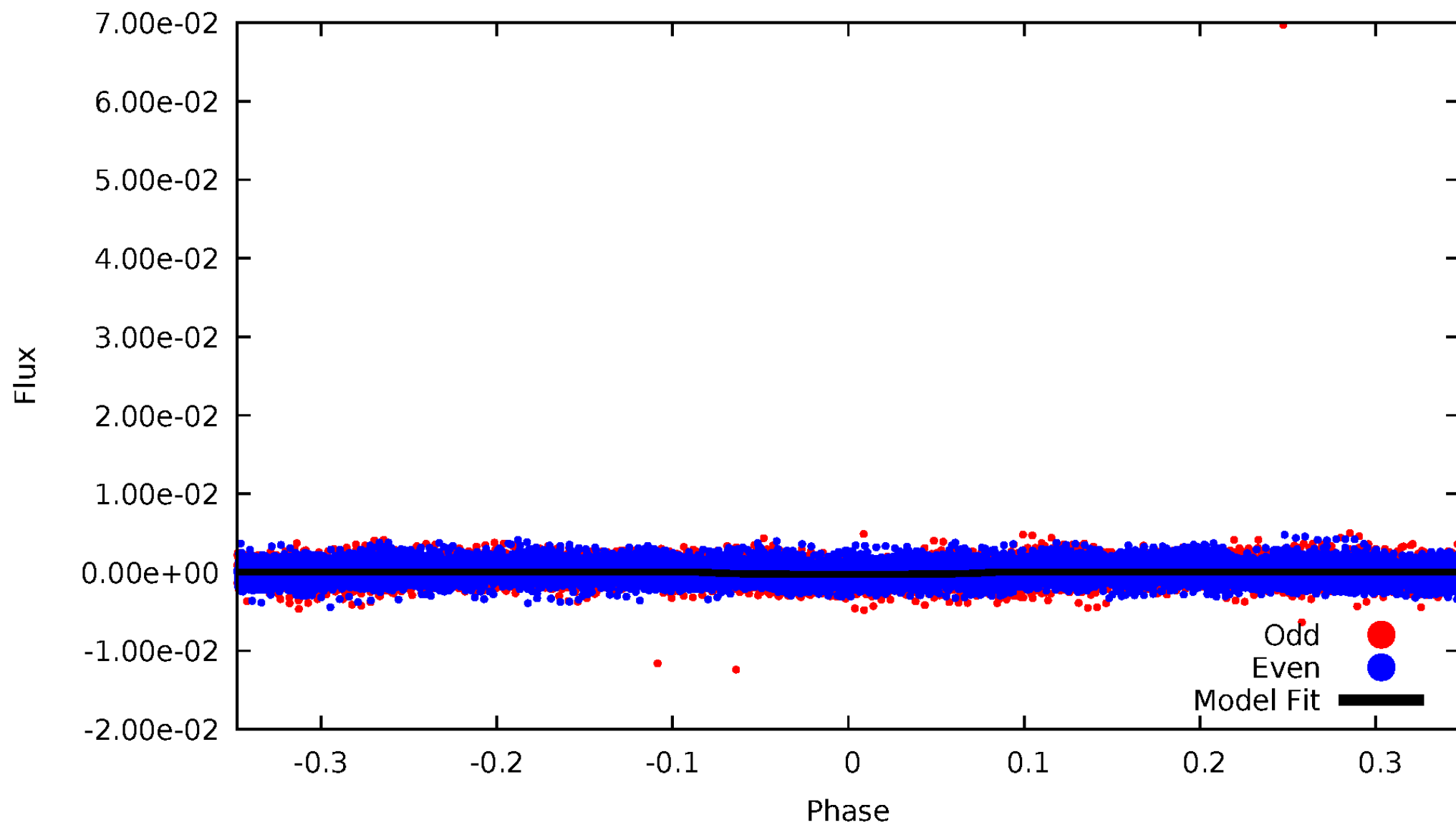


TCE 008235853-02



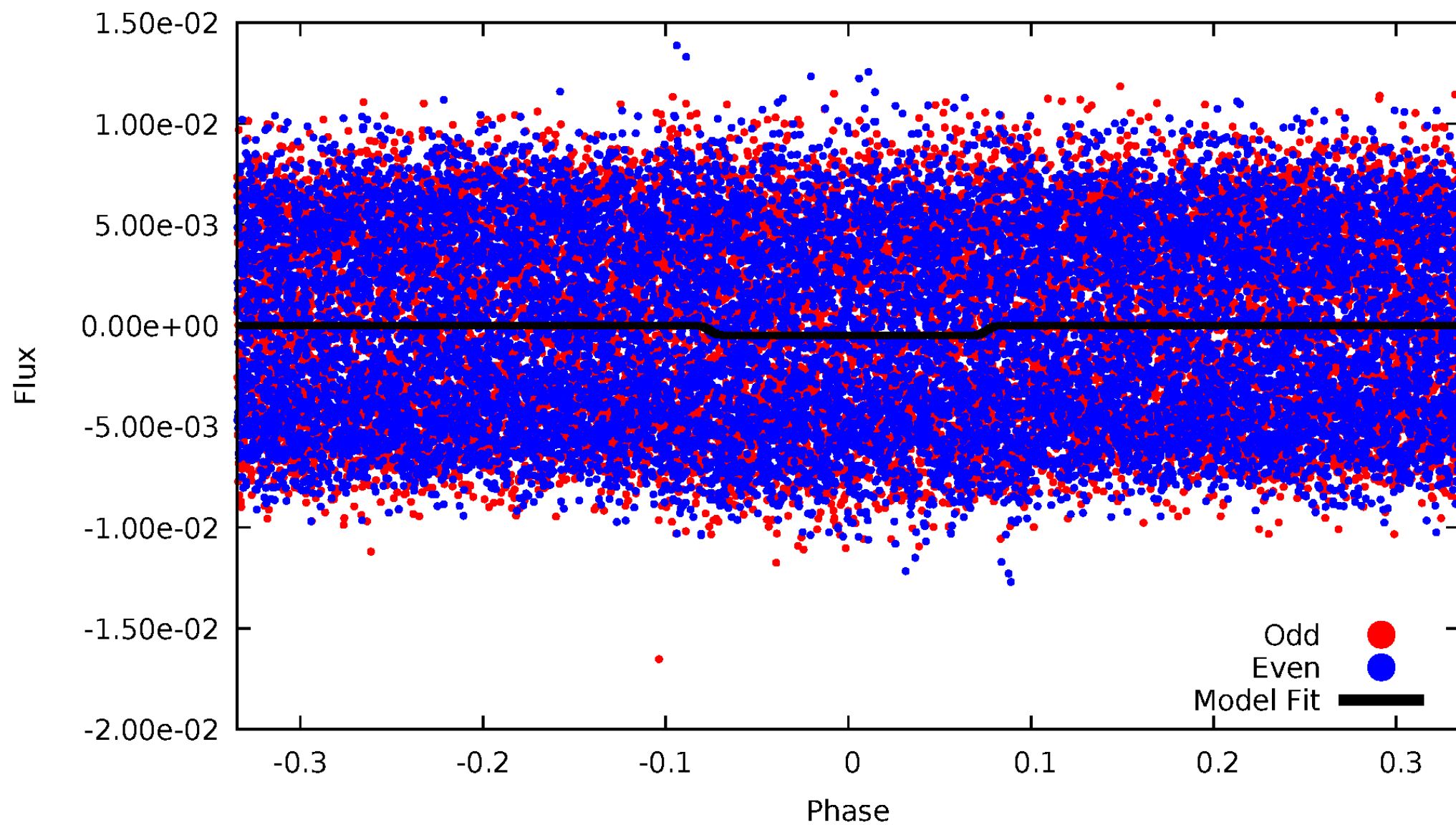
DV Odd/Even

TCE 008235853-02



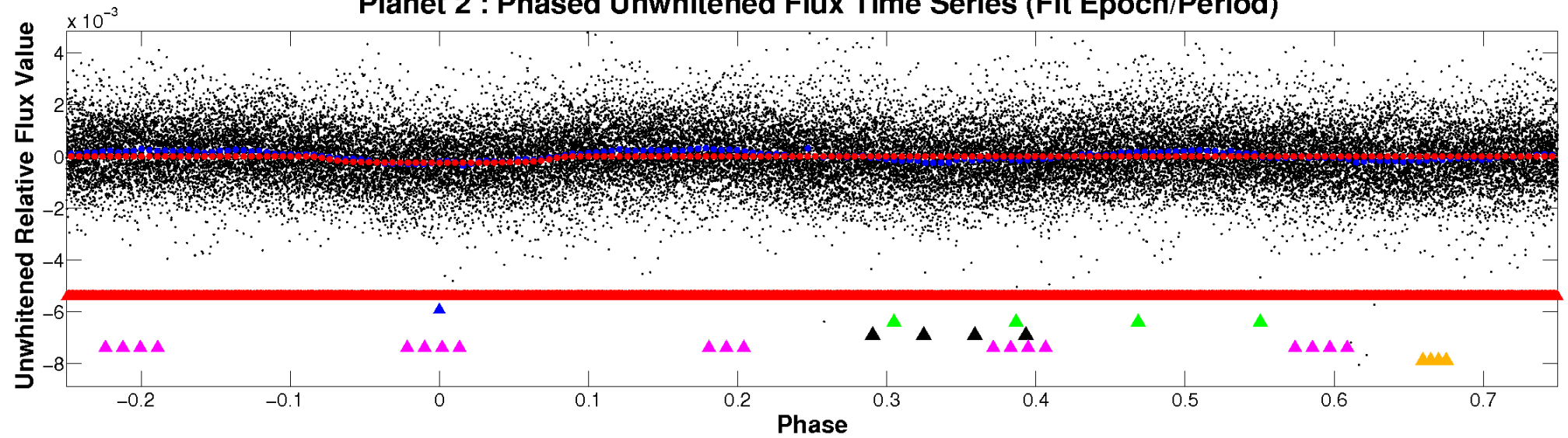
ALT Odd/Even

TCE 008235853-02

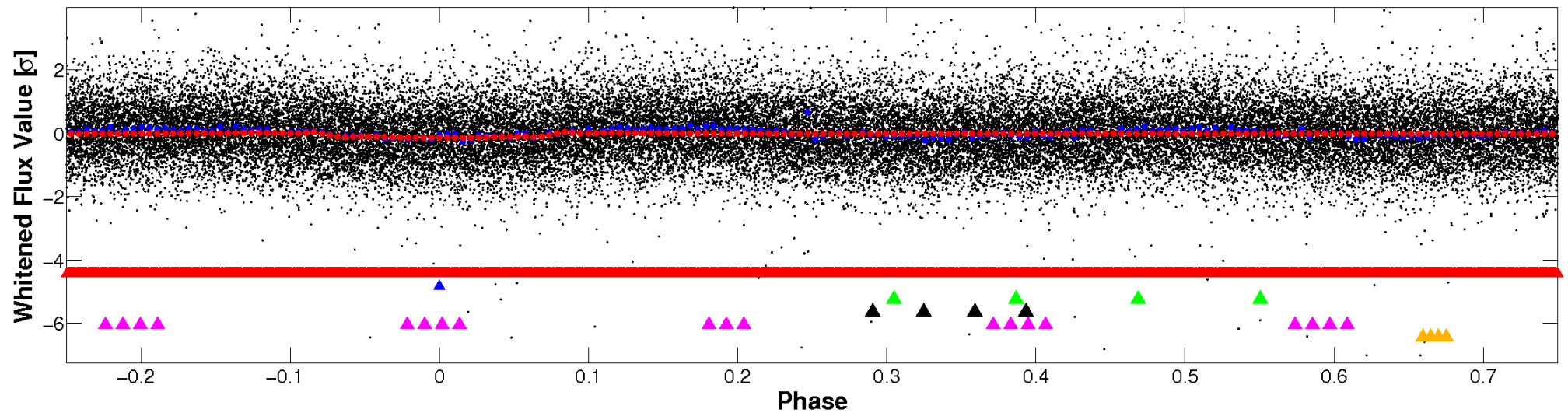


Non-Whitened Vs. Whitened Light Curve

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

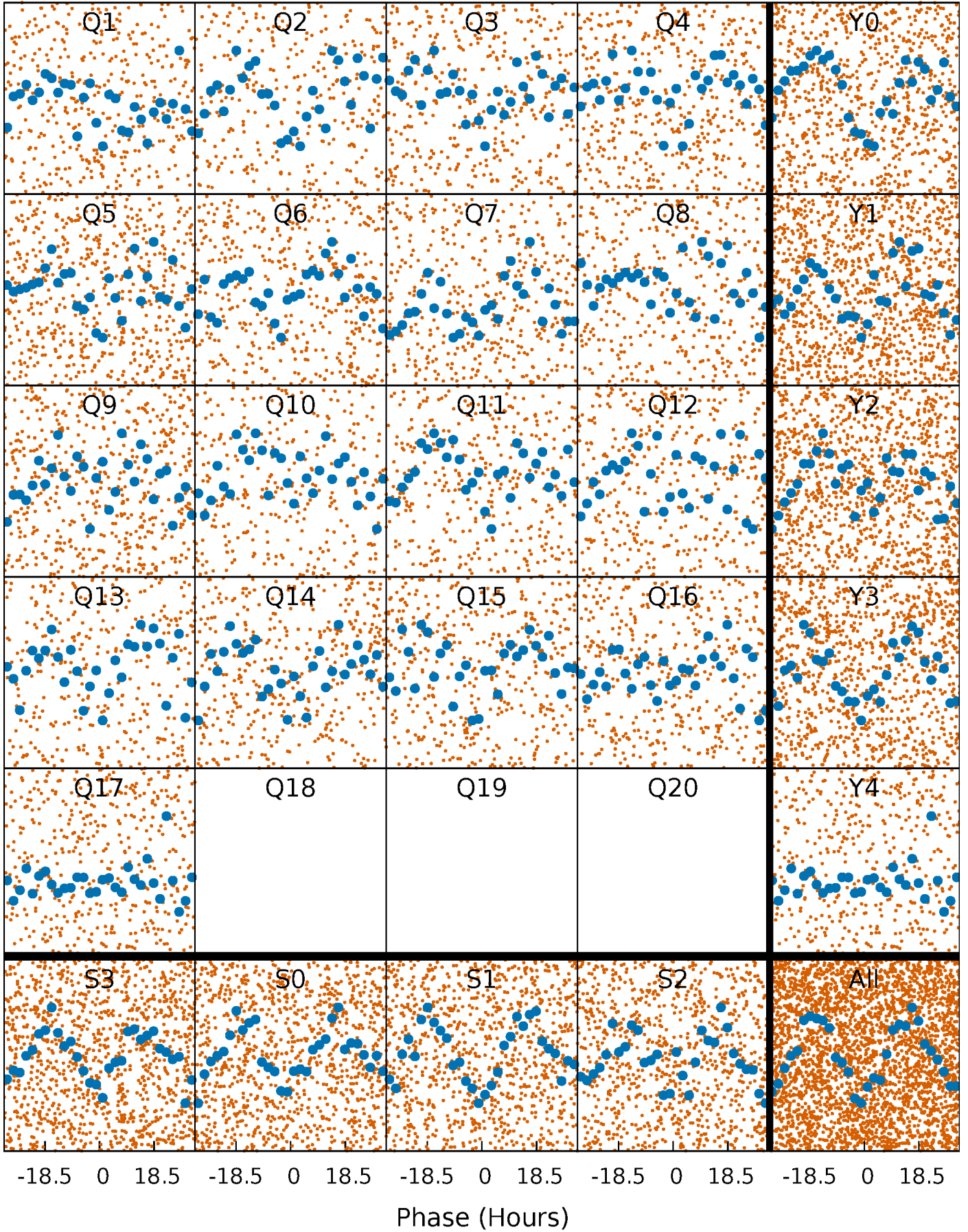


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



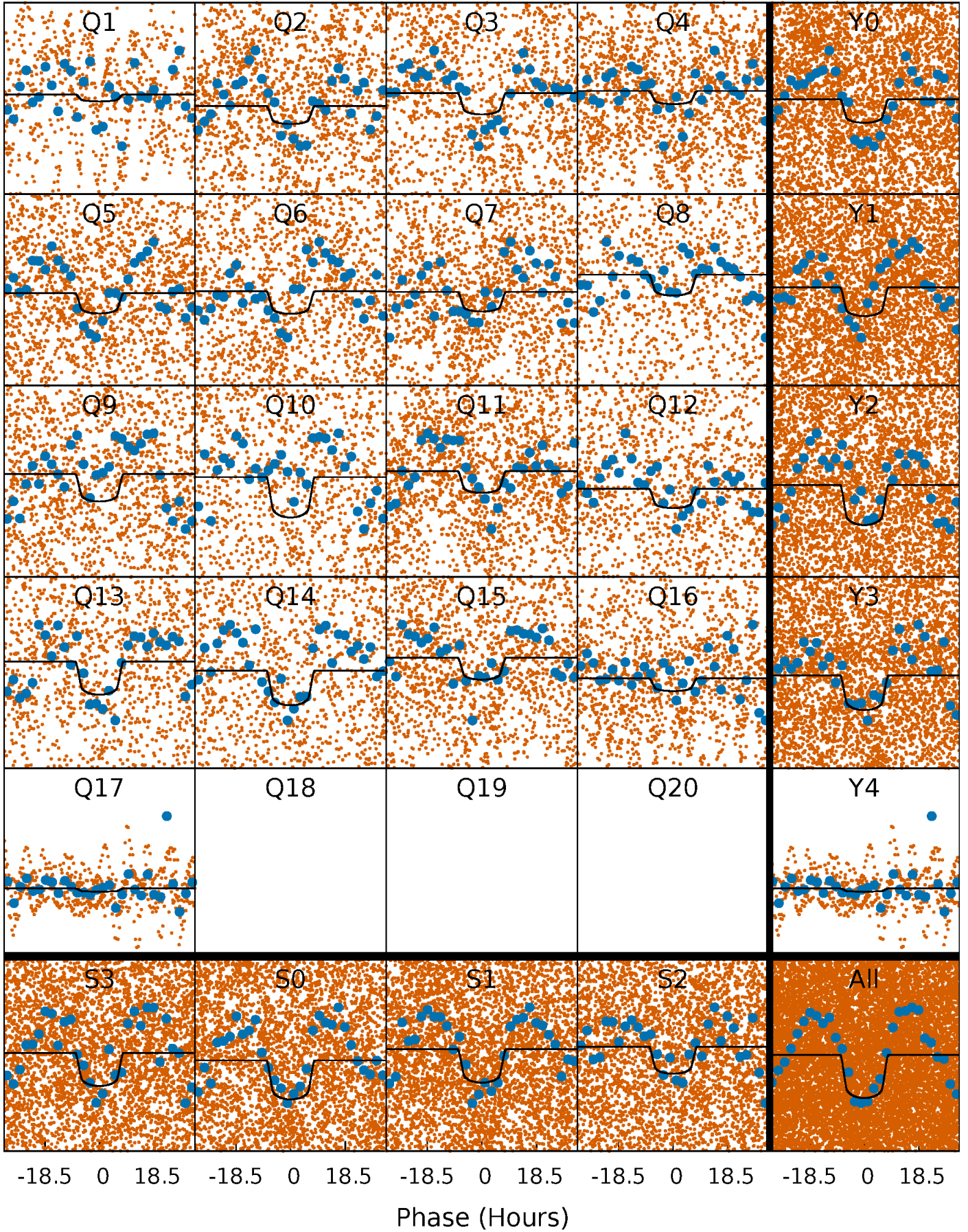
PDC Quarter-Phased Transit Curves

TCE 008235853-02 P= 3.888529 Days $T_0=132.910403$ (BKJD)



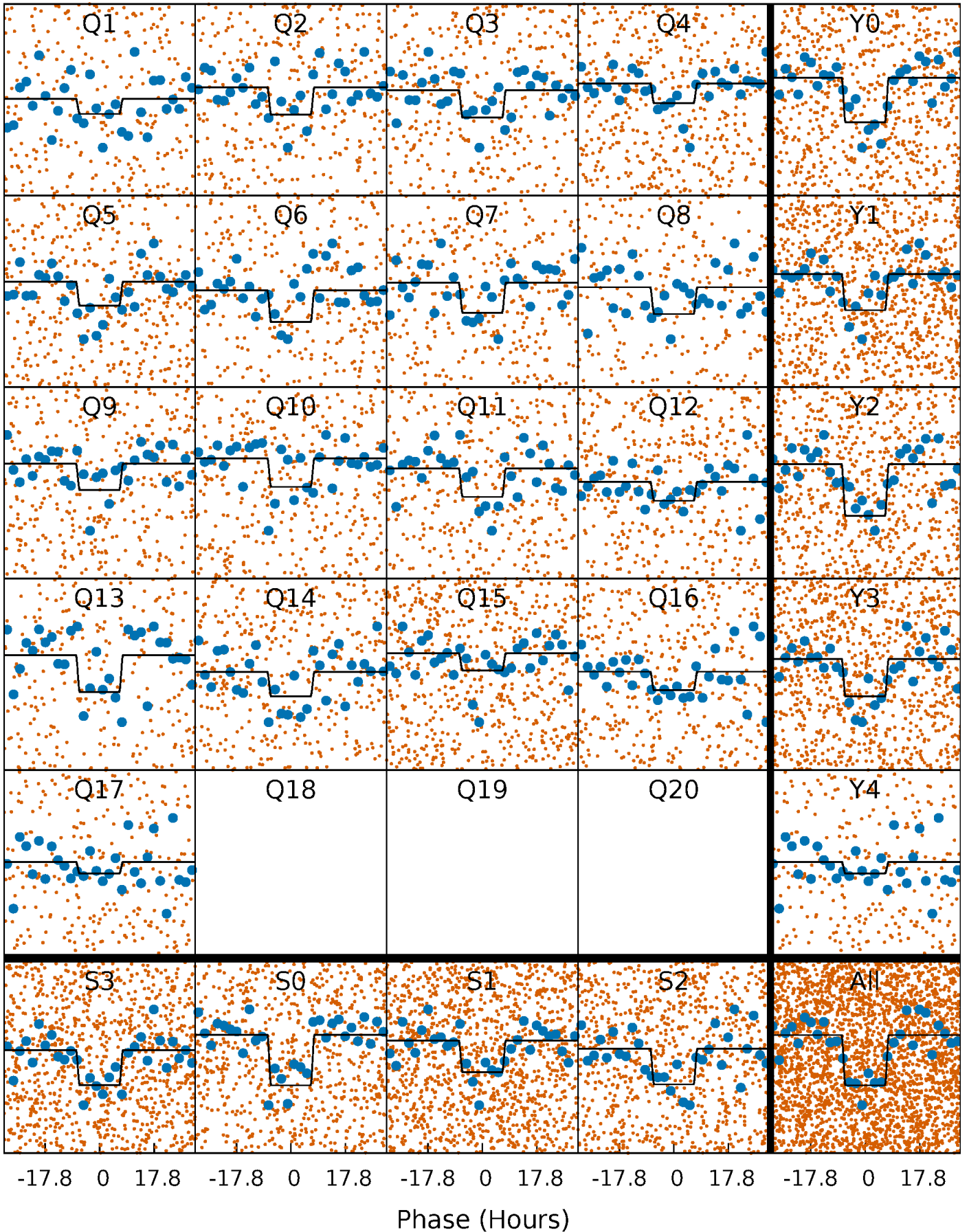
DV Quarter-Phased Transit Curves

TCE 008235853-02 P= 3.888529 Days $T_0=132.910403$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

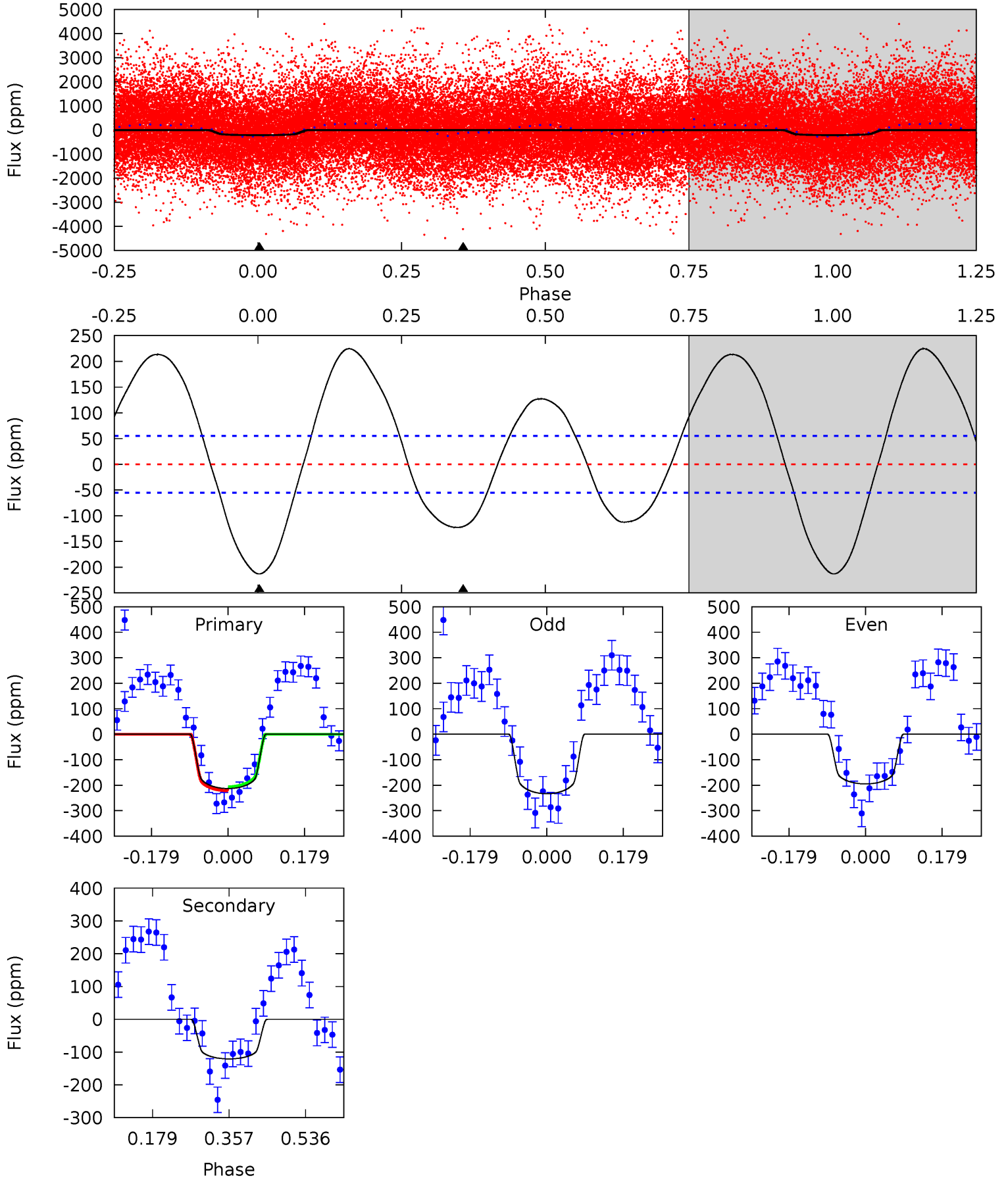
TCE 008235853-02 P= 3.888536 Days $T_0=132.889890$ (BKJD)



DV Model-Shift Uniqueness Test

008235853-02, P = 3.888529 Days, E = 129.021874 Days

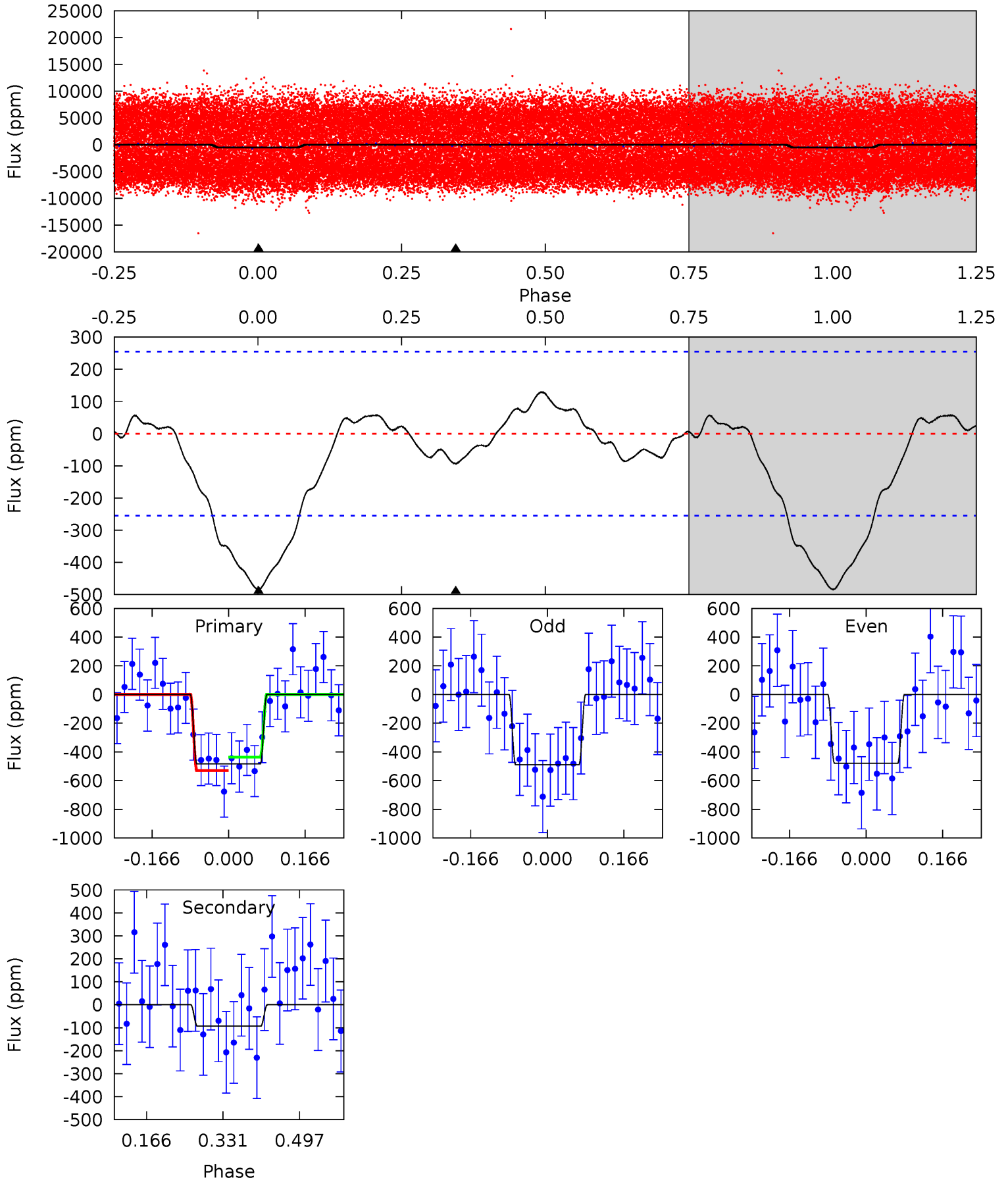
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.2	9.73	0	0	4.44	1.35	8.65	17.2	17.2	9.73	9.73	1.53	0.91	0.51	0.62



Alt Model-Shift Uniqueness Test

008235853-02, P = 3.888536 Days, E = 129.001354 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.47	1.63	0	0	4.46	1.39	0.88	8.47	8.47	1.63	1.63	0.09	0.93	0.21	0.81



Stellar Parameters For KIC 008235853

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6754^{+189}_{-260}	$3.914^{+0.357}_{-0.127}$	$-0.240^{+0.250}_{-0.300}$	$2.210^{+0.509}_{-0.945}$	$1.460^{+0.189}_{-0.351}$	$0.191^{+0.584}_{-0.069}$
	+3%/-4%	+9%/-3%	+104%/-125%	+23%/-43%	+13%/-24%	+307%/-36%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008235853-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-121 ± 12	$4.04^{+0.62}_{-0.94}$	2598^{+195}_{-301}	5377^{+238}_{-208}	12^{+8}_{-3}
Alt.	-93 ± 57	$5.17^{+0.80}_{-1.19}$	2596^{+179}_{-278}	4556^{+474}_{-773}	$5.842^{+4.852}_{-3.696}$

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

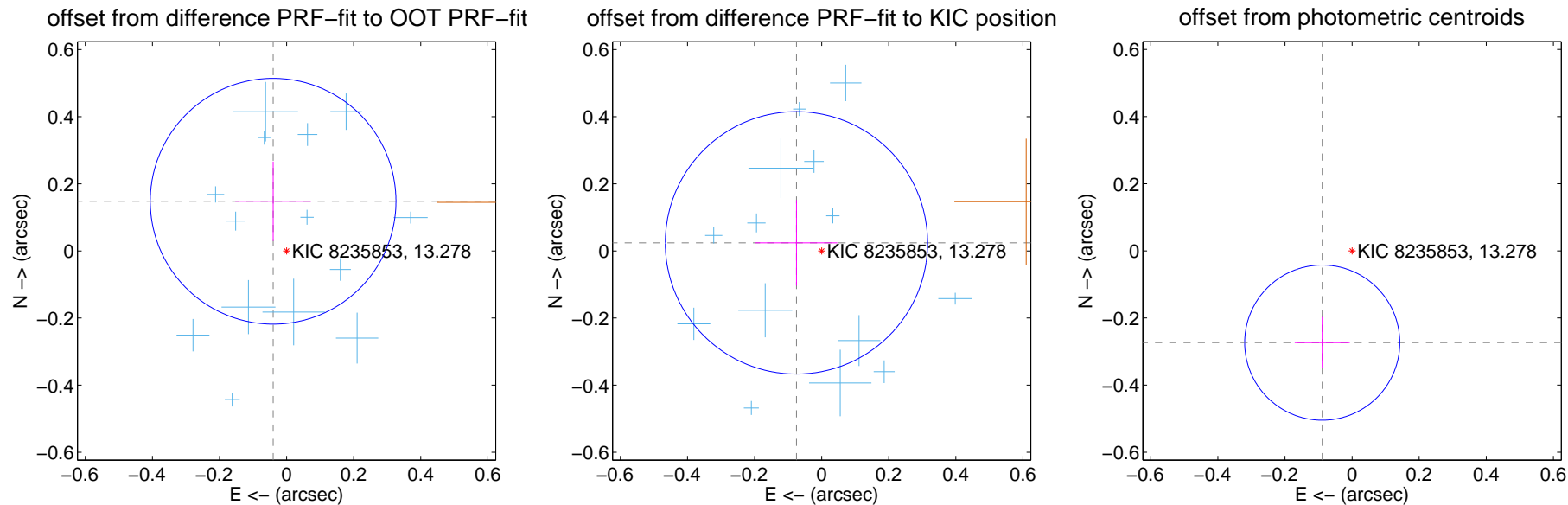
DV Centroid Data

Supplemental centroid analysis for 008235853-02. Kepler magnitude: 13.28. Transit SNR 9.13

There are 16 quarters with good PRF difference image offsets

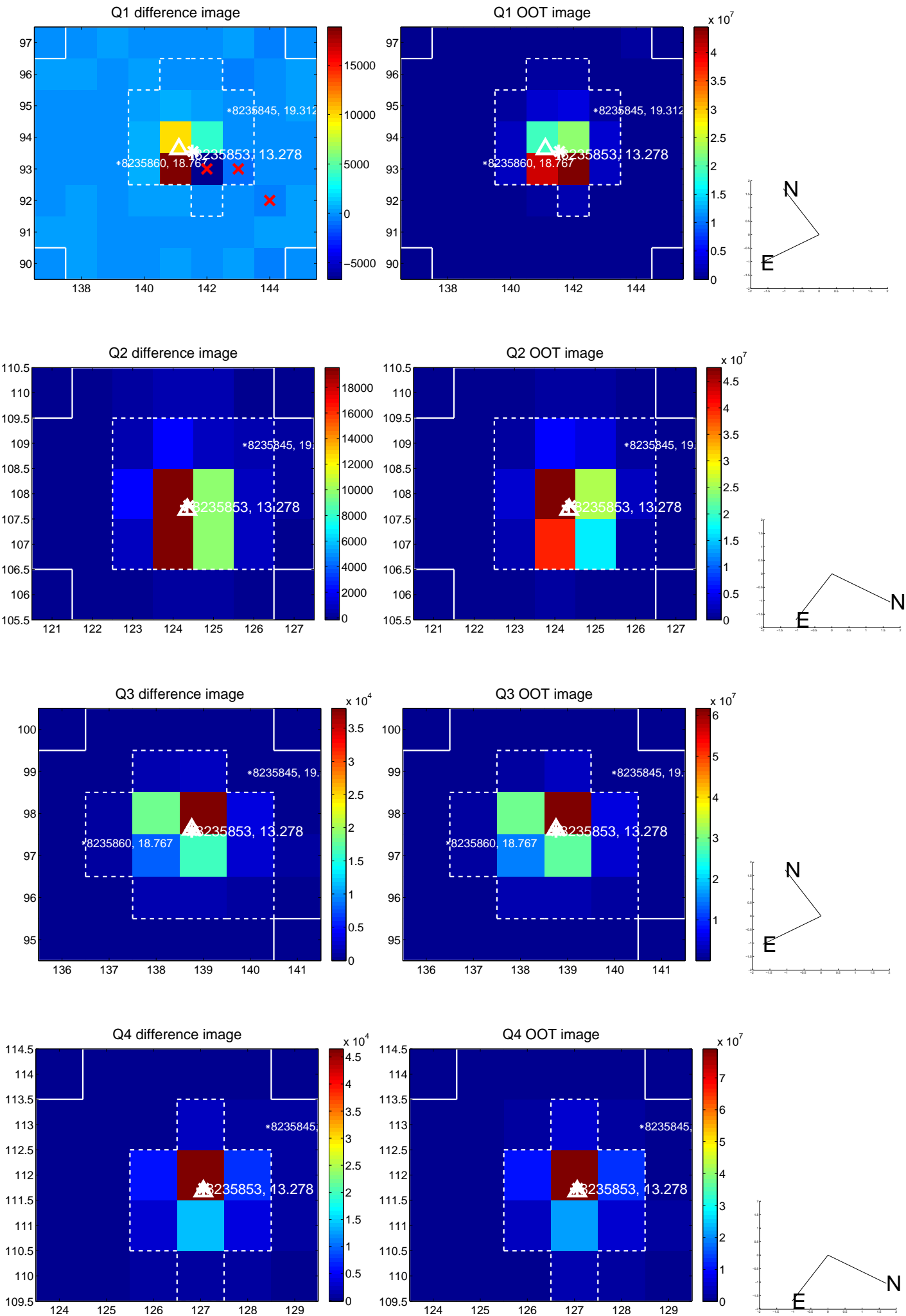
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.153 ± 0.122	1.26	0.040 ± 0.113	0.148 ± 0.118
PRF-fit source offset from KIC position	0.079 ± 0.130	0.61	0.075 ± 0.122	0.024 ± 0.127
photometric centroid source offset	0.29 ± 0.08	3.73	0.09 ± 0.08	-0.27 ± 0.08

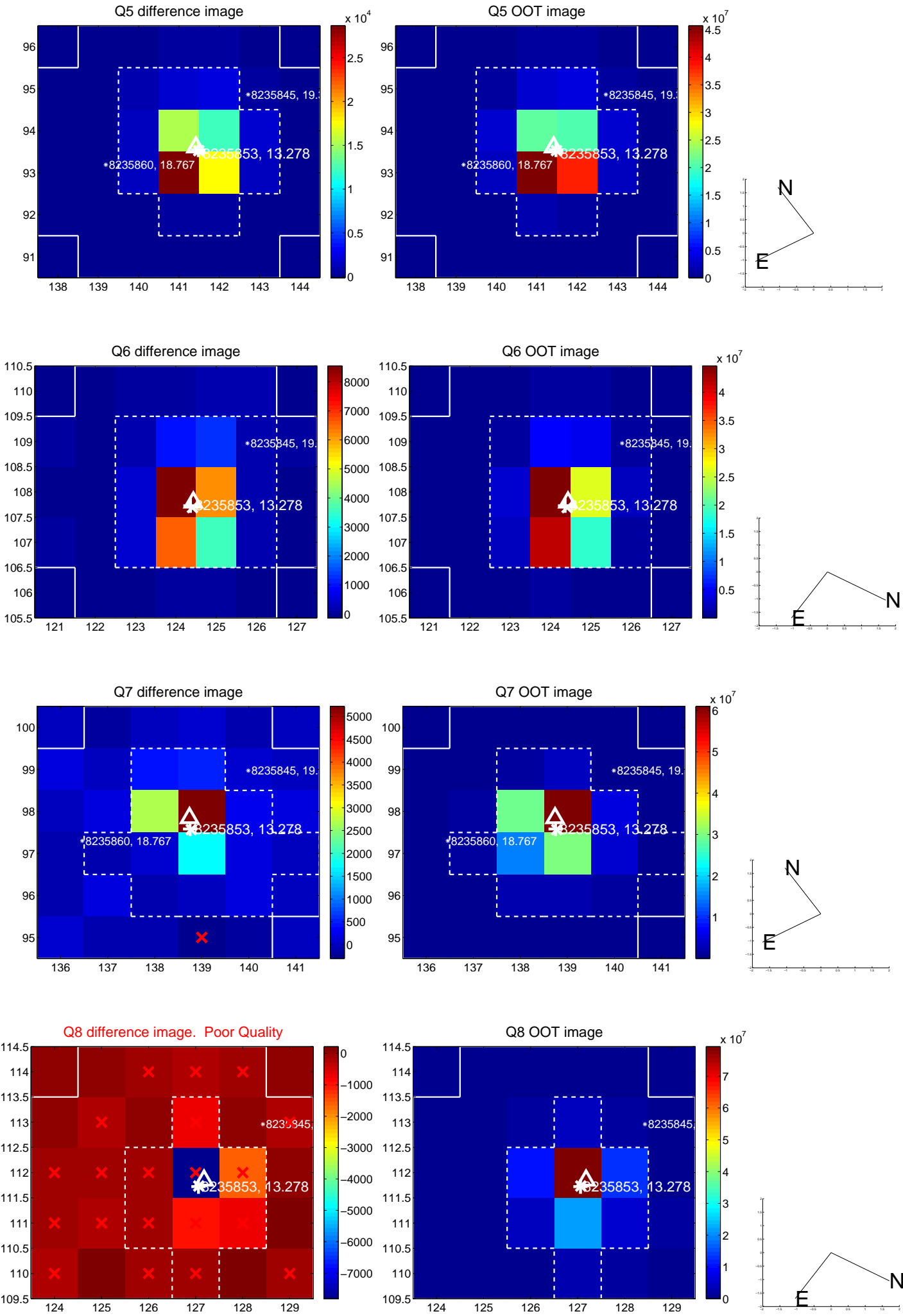


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

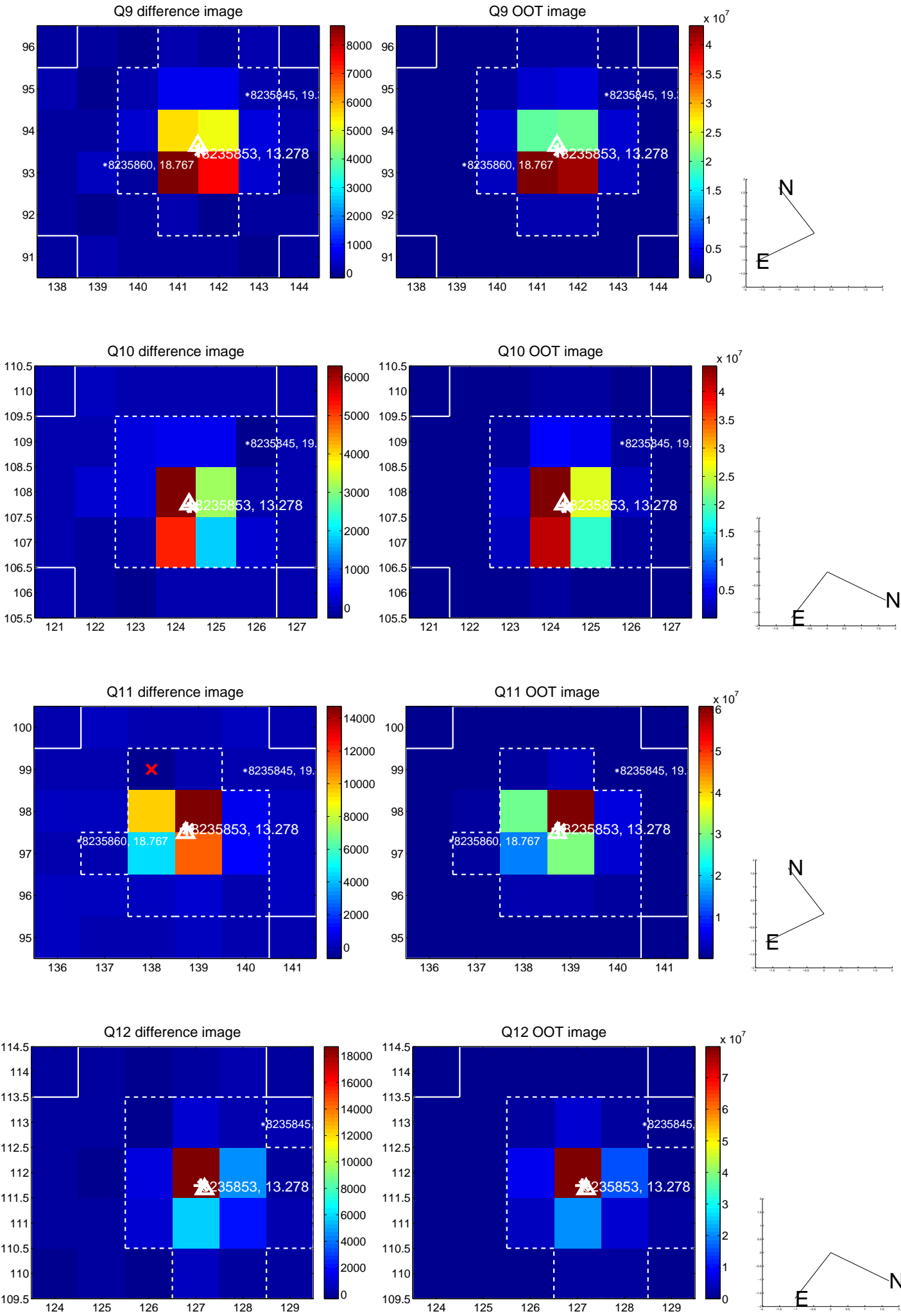
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



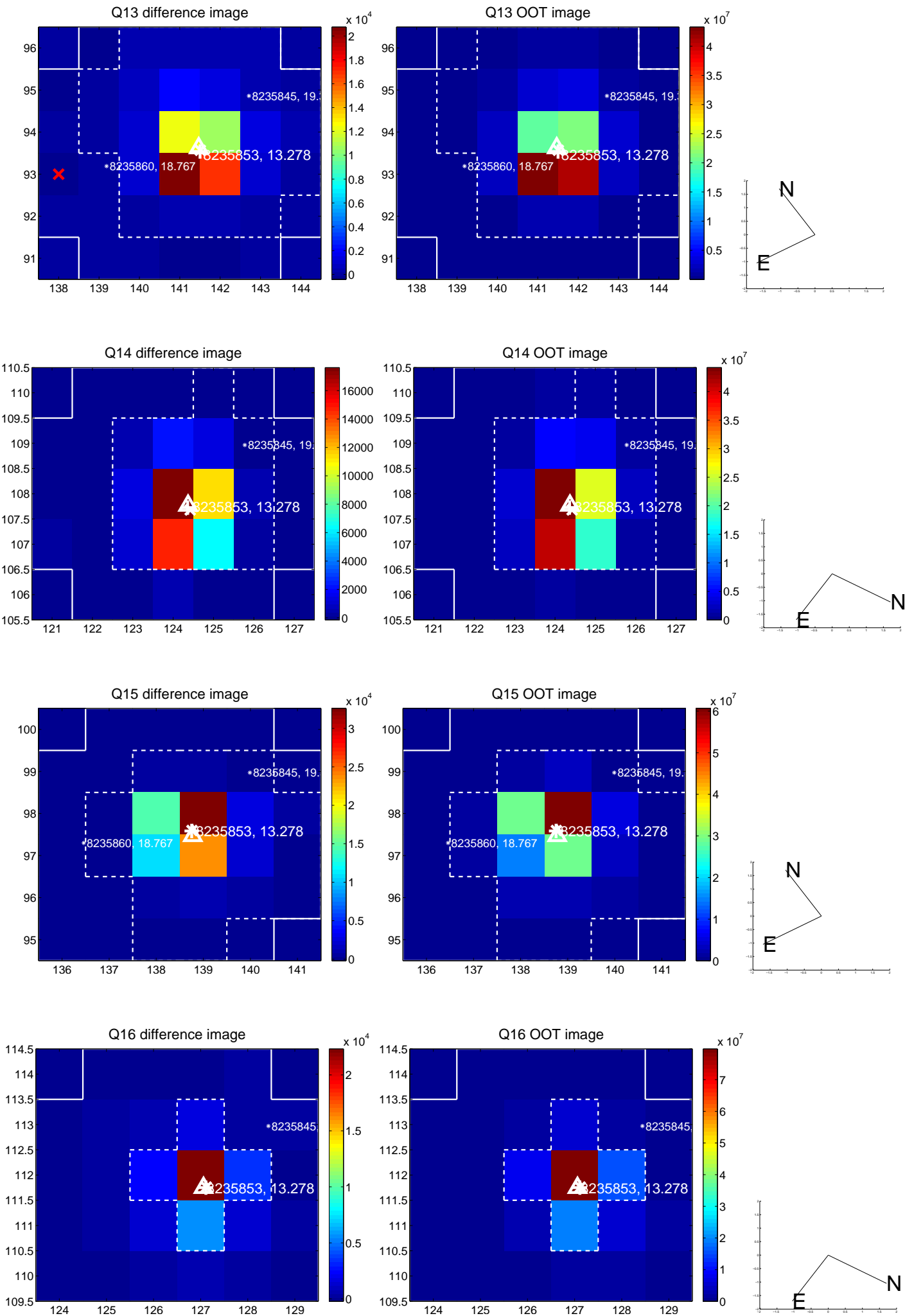
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



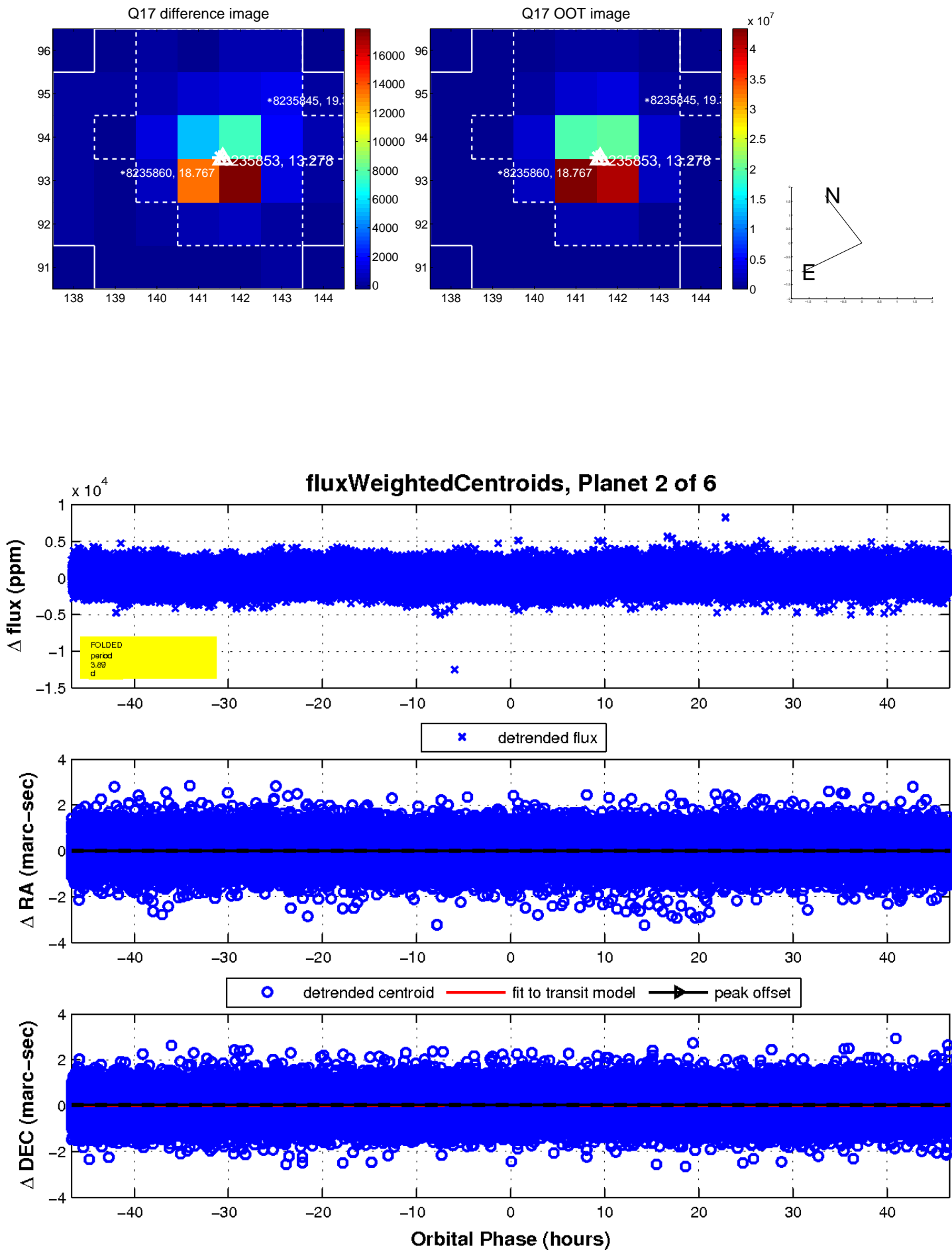
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

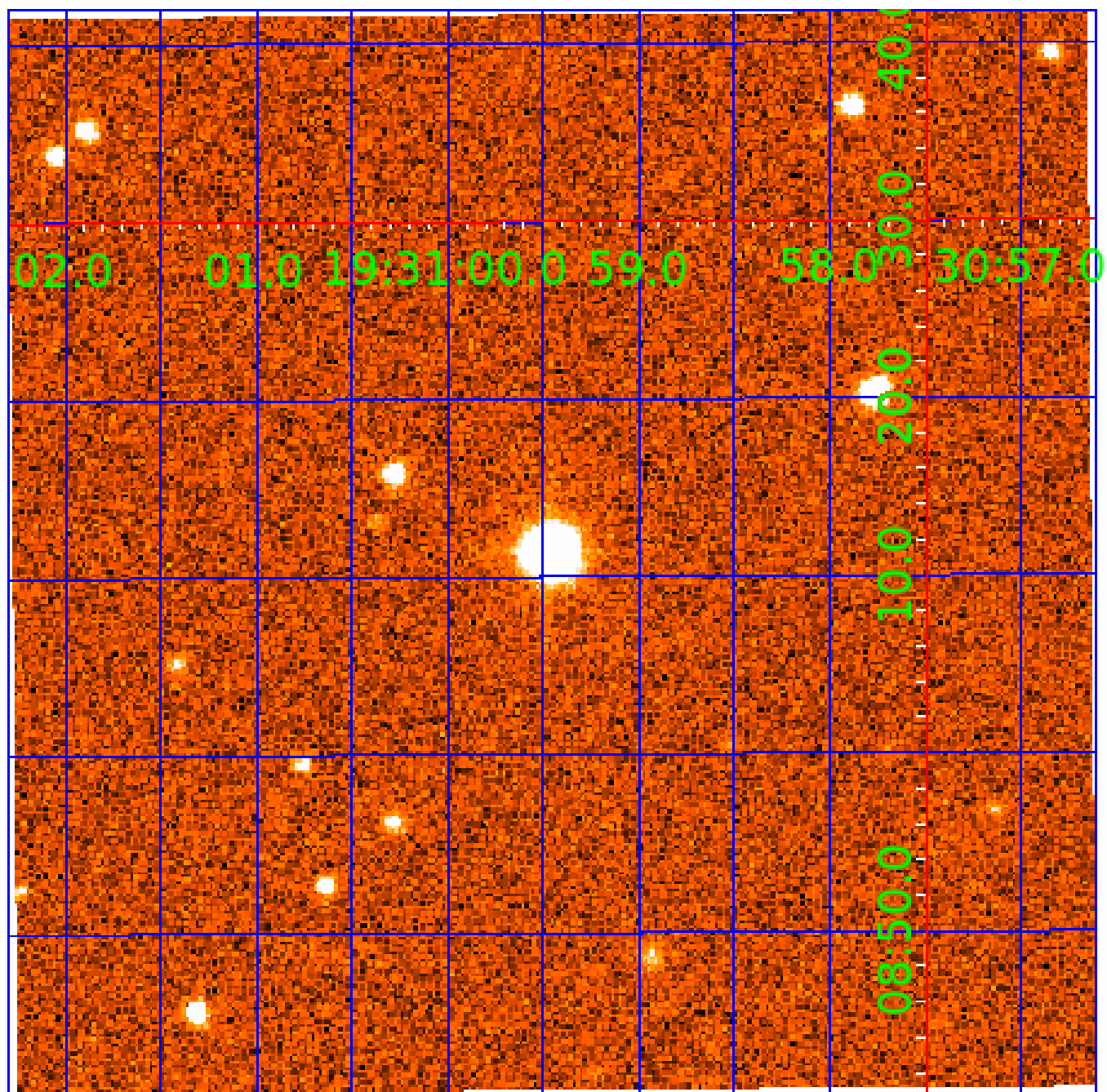


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008235853

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})
008235853-01	OBS	No	0.675124	132.160657	53.7	1.821	9.0	6.4	2.21	6754	1.88	31157.01
008235853-02	OBS	No	3.888529	132.910403	243.6	16.221	9.0	9.1	2.21	6754	4.16	3017.77
008235853-03	OBS	No	431.308283	154.493654	354.7	3.251	10.5	1.1	2.21	6754	4.80	5.66
008235853-04	OBS	No	431.493473	153.882631	1870.8	6.174	9.9	5.7	2.21	6754	13.24	5.66
008235853-05	OBS	No	76.983779	183.513841	2073.0	6.351	8.9	9.9	2.21	6754	18.49	56.35
008235853-06	OBS	No	322.727647	353.293448	223.3	5.000	8.7	-1.0	2.21	6754	3.33	8.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008235853-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT
008235853-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
008235853-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
008235853-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
008235853-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008235853-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

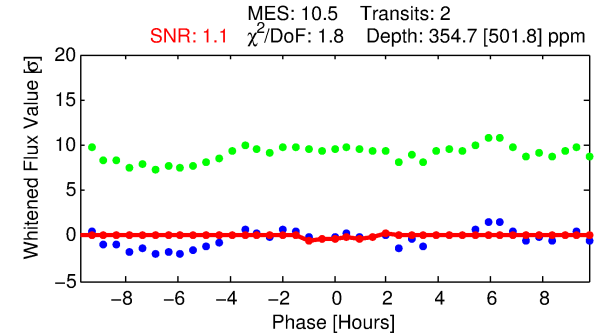
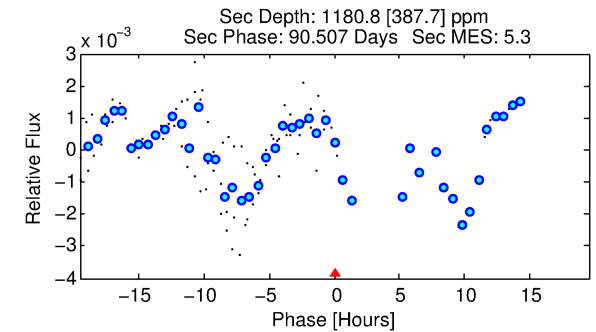
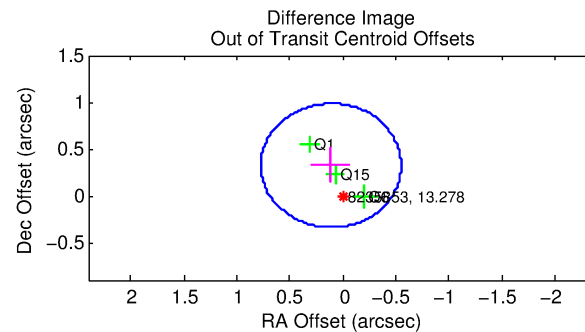
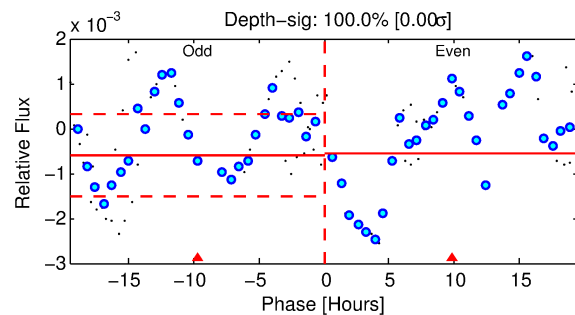
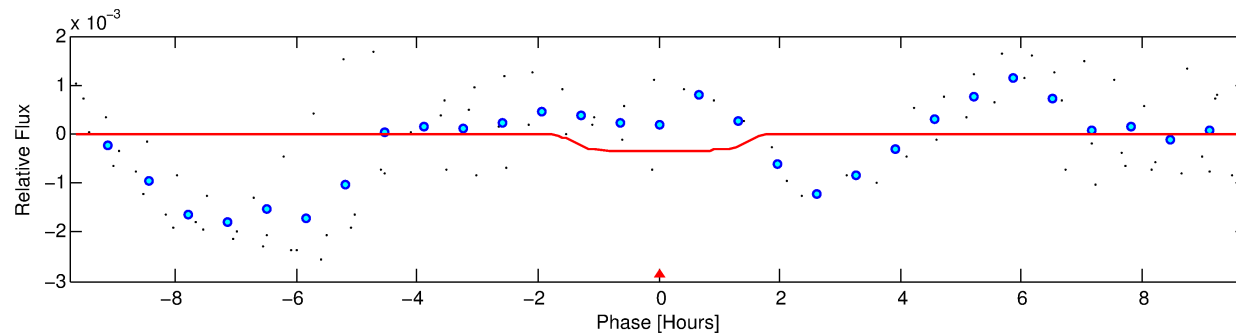
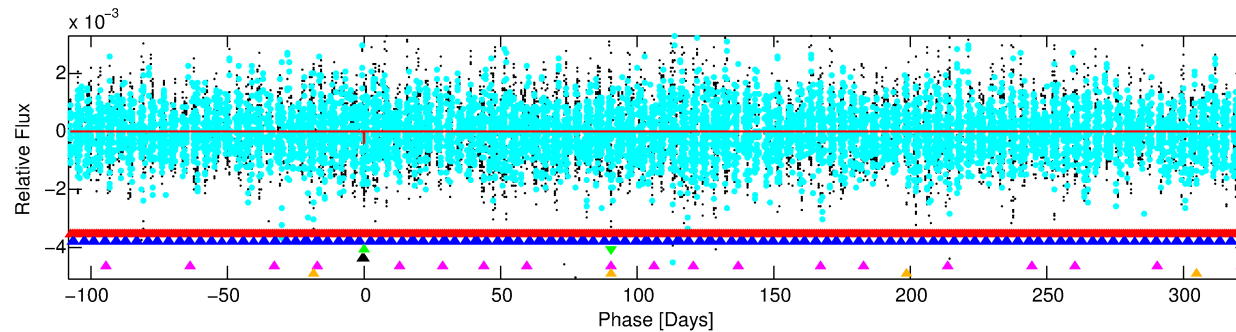
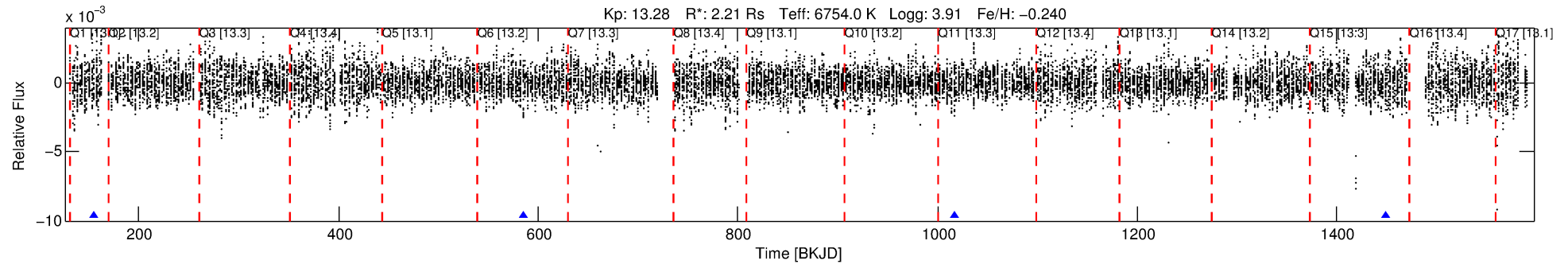
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008235853-03

No Significant Match Found

DV One-Page Summary

KIC: 8235853 Candidate: 3 of 6 Period: 431.308 d



DV Fit Results:

Period = 431.30828 [0.03099] d
Epoch = 154.4937 [0.0927] BKJD
Rp/R* = 0.0199 [0.1704]
a/R* = 513.28 [26804.00]
b = 0.89 [12.87]
Seff = 5.66 [3.60]
Teff = 393 [63] K
Rp = 4.80 [41.16] Re
a = 1.2681 [0.5014] AU
Ag = 45388.85 [778429.34] [0.06σ]
Teffp = 8877 [38037] K [0.22σ]

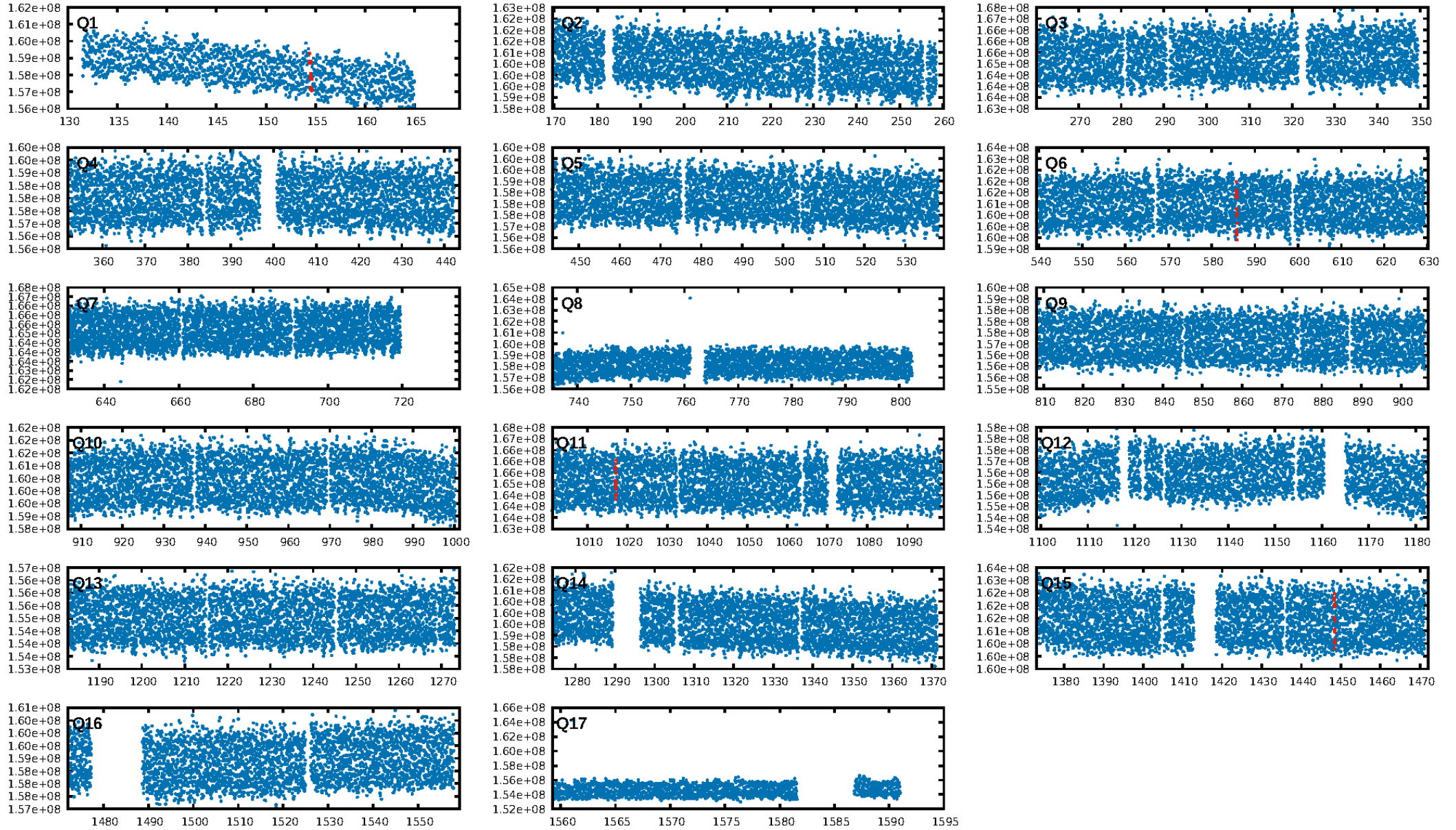
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [436.95σ]
LongPeriod-sig: 47.6% [0.64σ]
ModelChiSquare2-sig: 71.0%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 0.1585
Centroid-sig: 74.5%
Centroid-so: 0.450 arcsec [0.45σ]
OotOffset-rm: 0.341 arcsec [1.54σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-rm: 0.324 arcsec [1.02σ]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.00 [0/4]

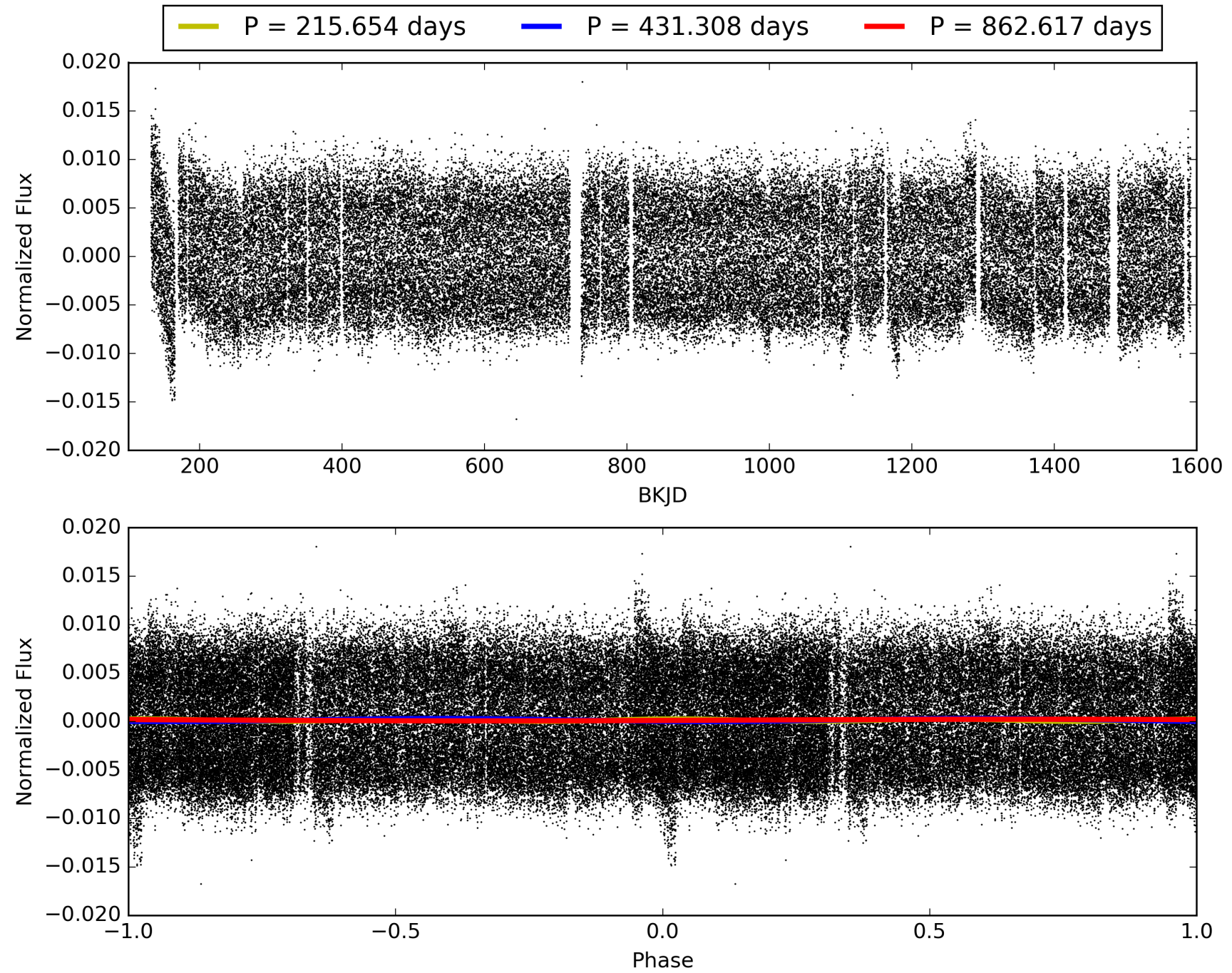
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 18:19:37 Z

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

TCE 008235853-03, PDC Light Curves

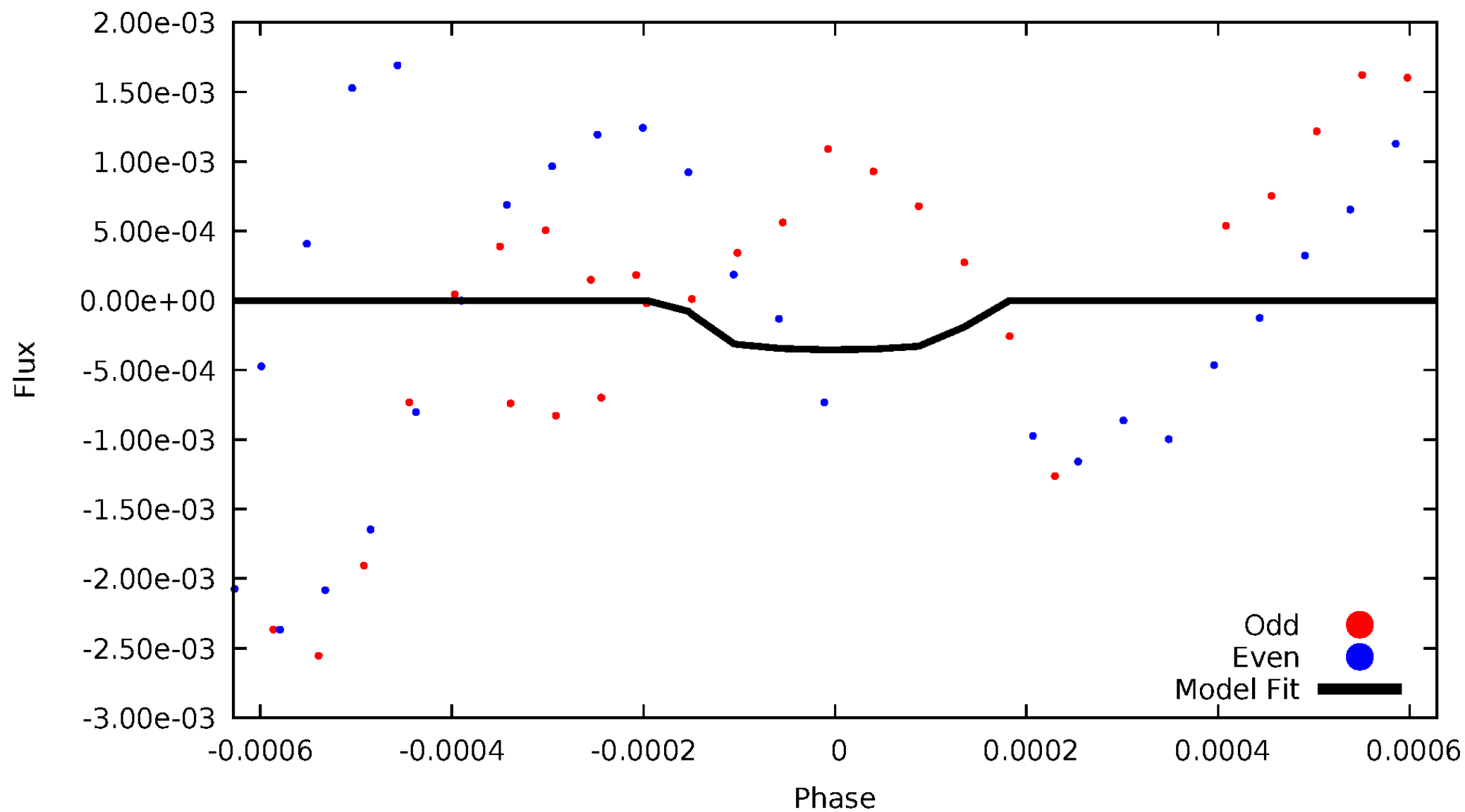


TCE 008235853-03



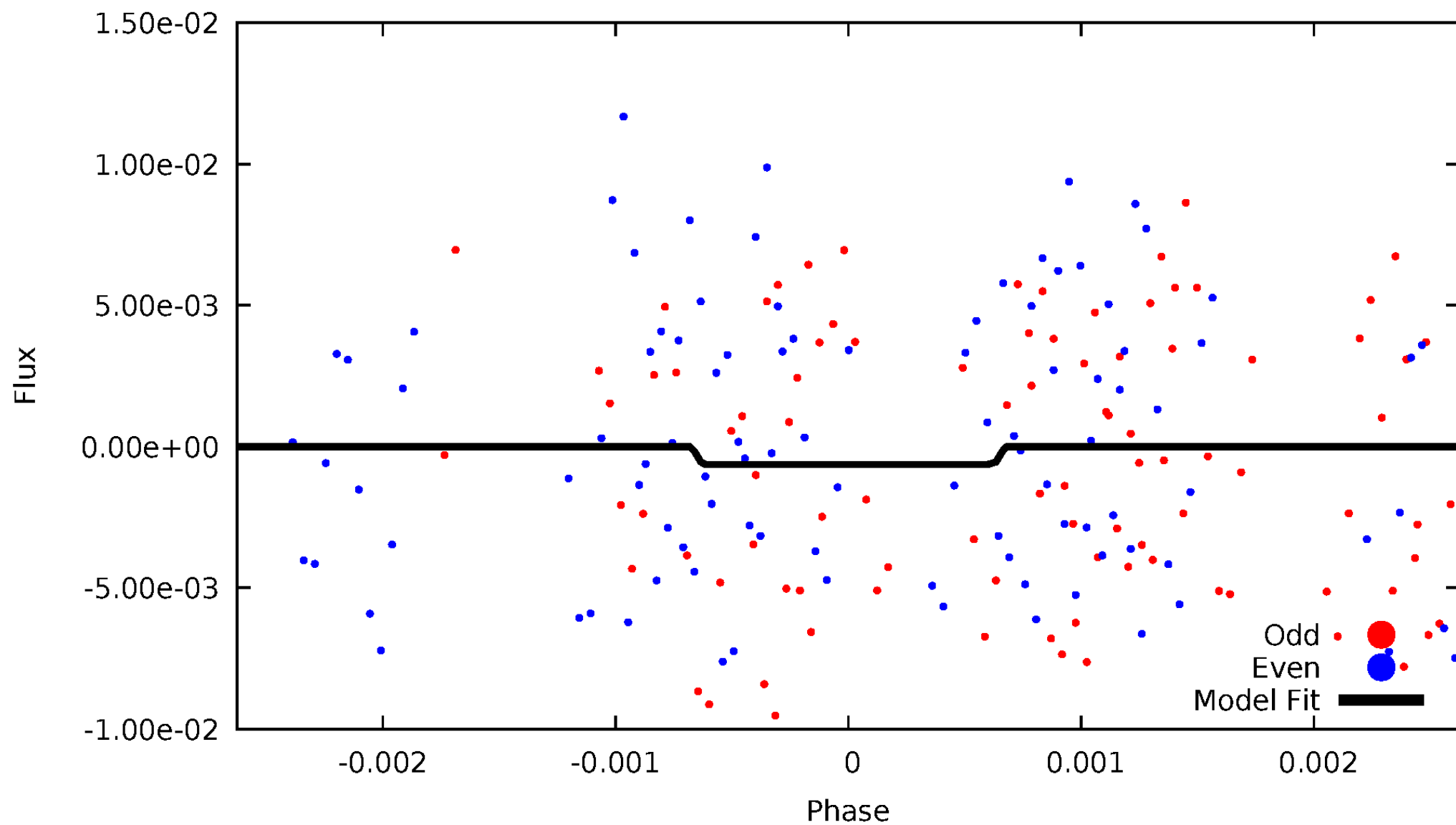
DV Odd/Even

TCE 008235853-03



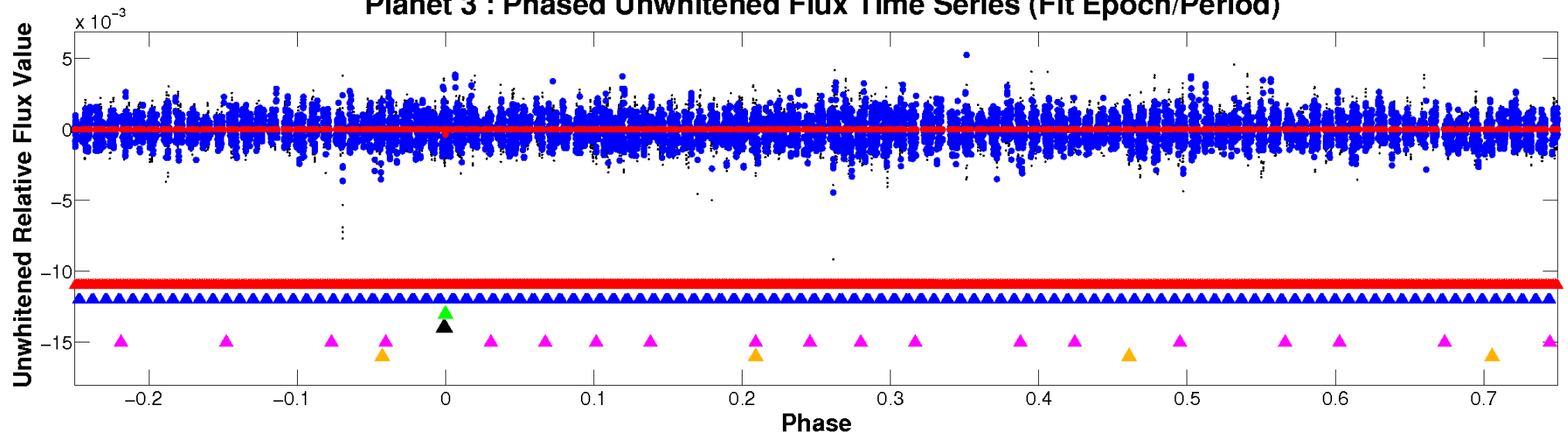
ALT Odd/Even

TCE 008235853-03

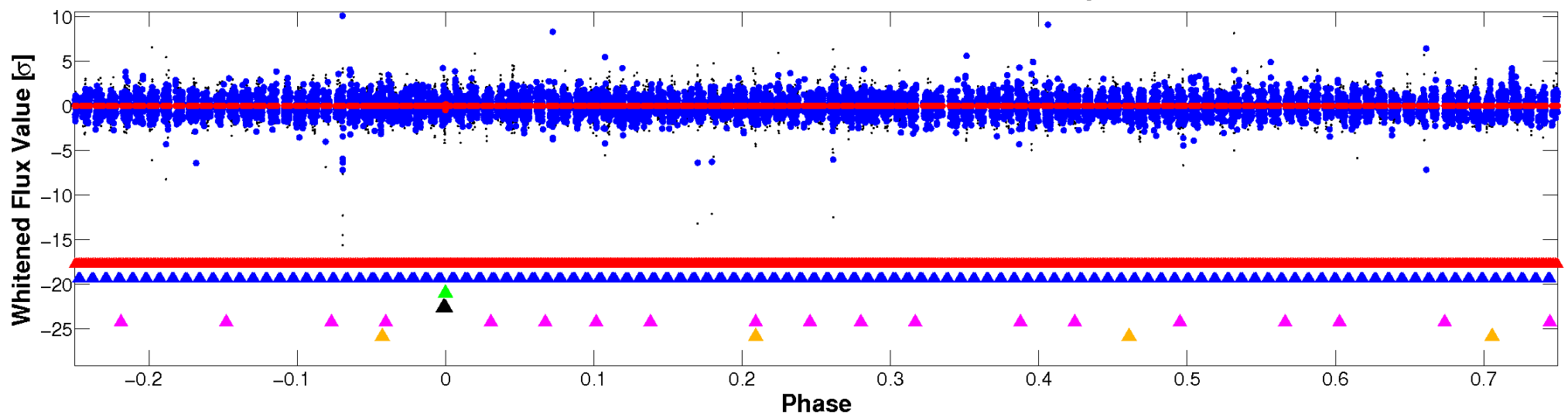


Non-Whitened Vs. Whitened Light Curve

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

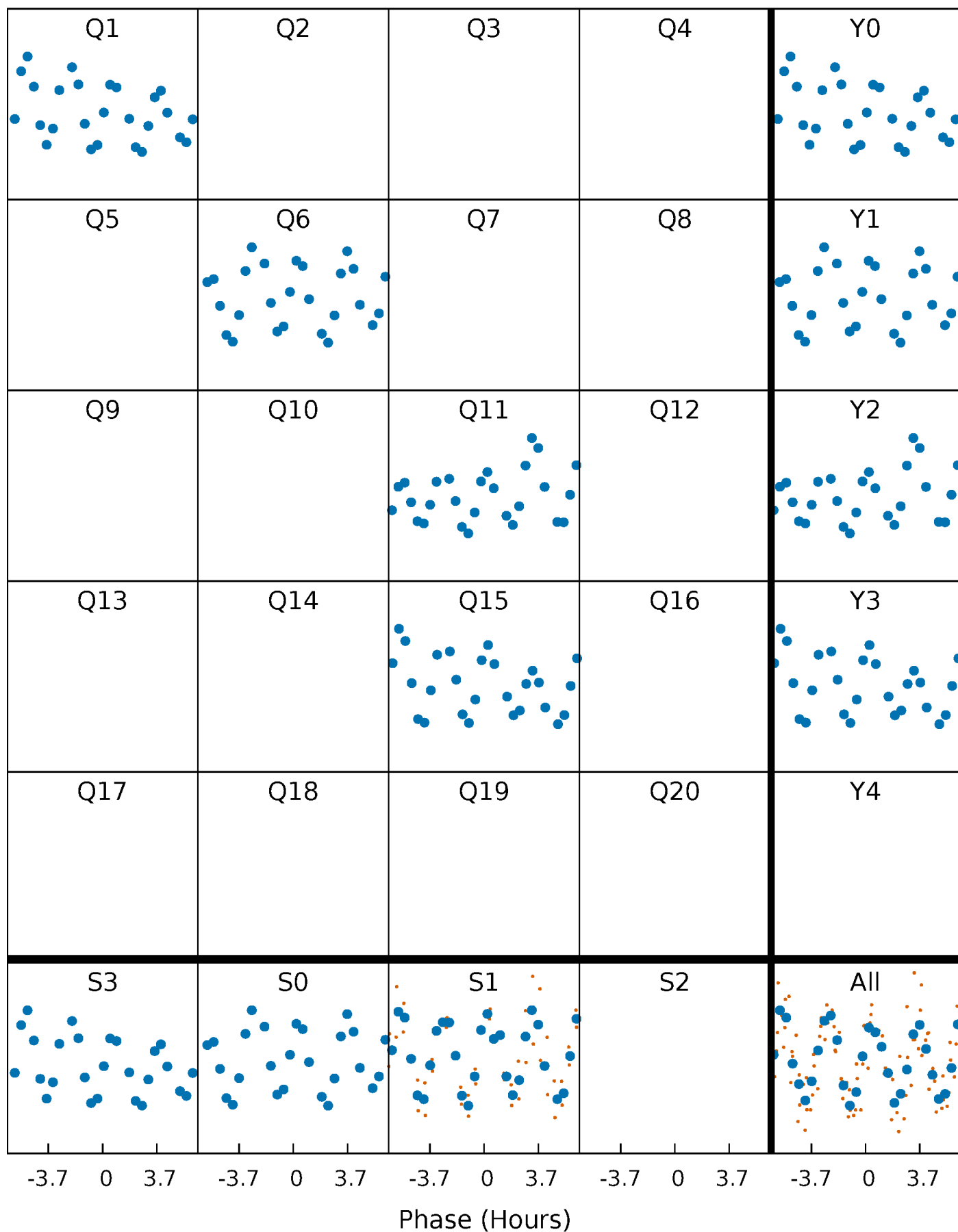


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



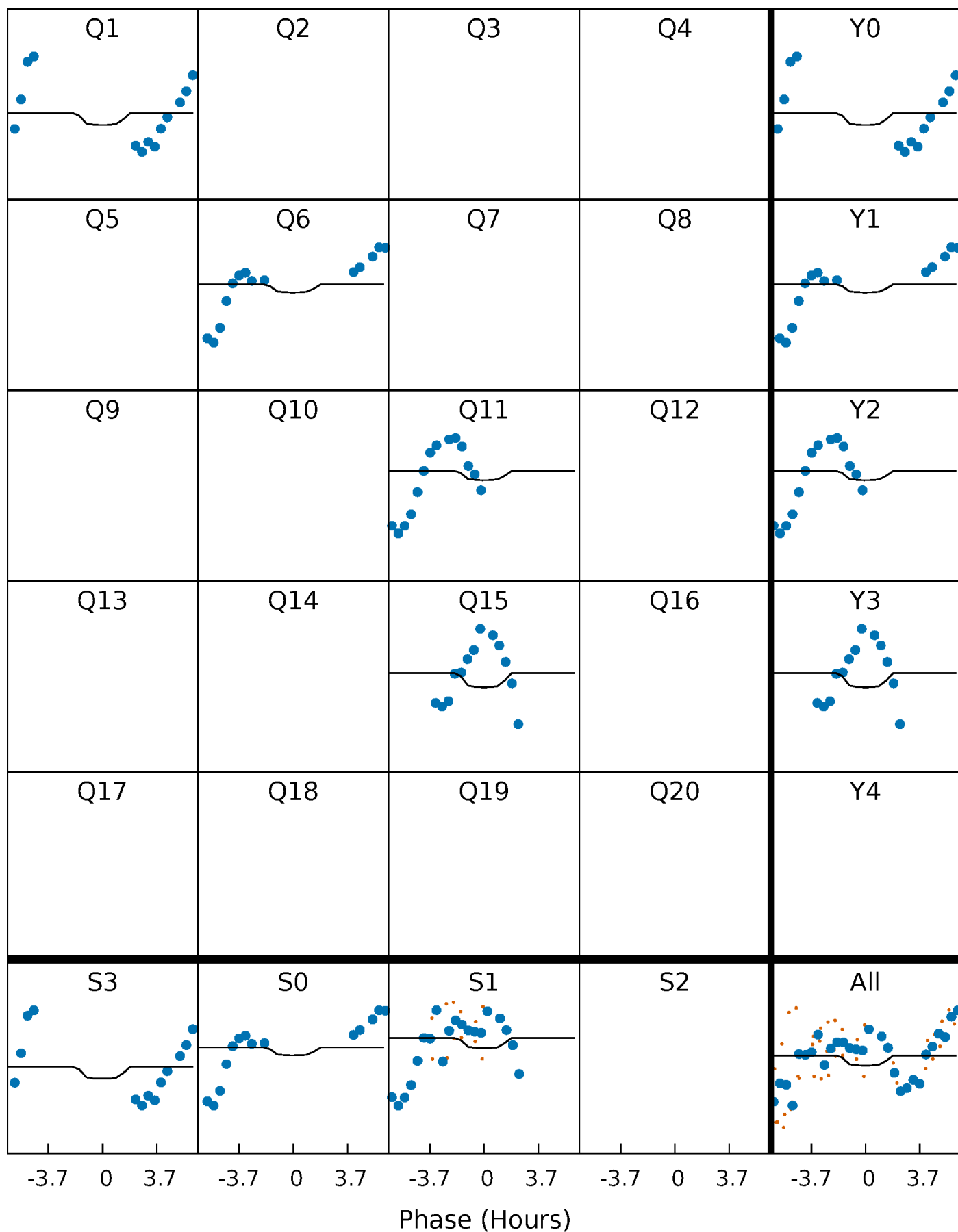
PDC Quarter-Phased Transit Curves

TCE 008235853-03 P=431.308283 Days $T_0=154.493654$ (BKJD)



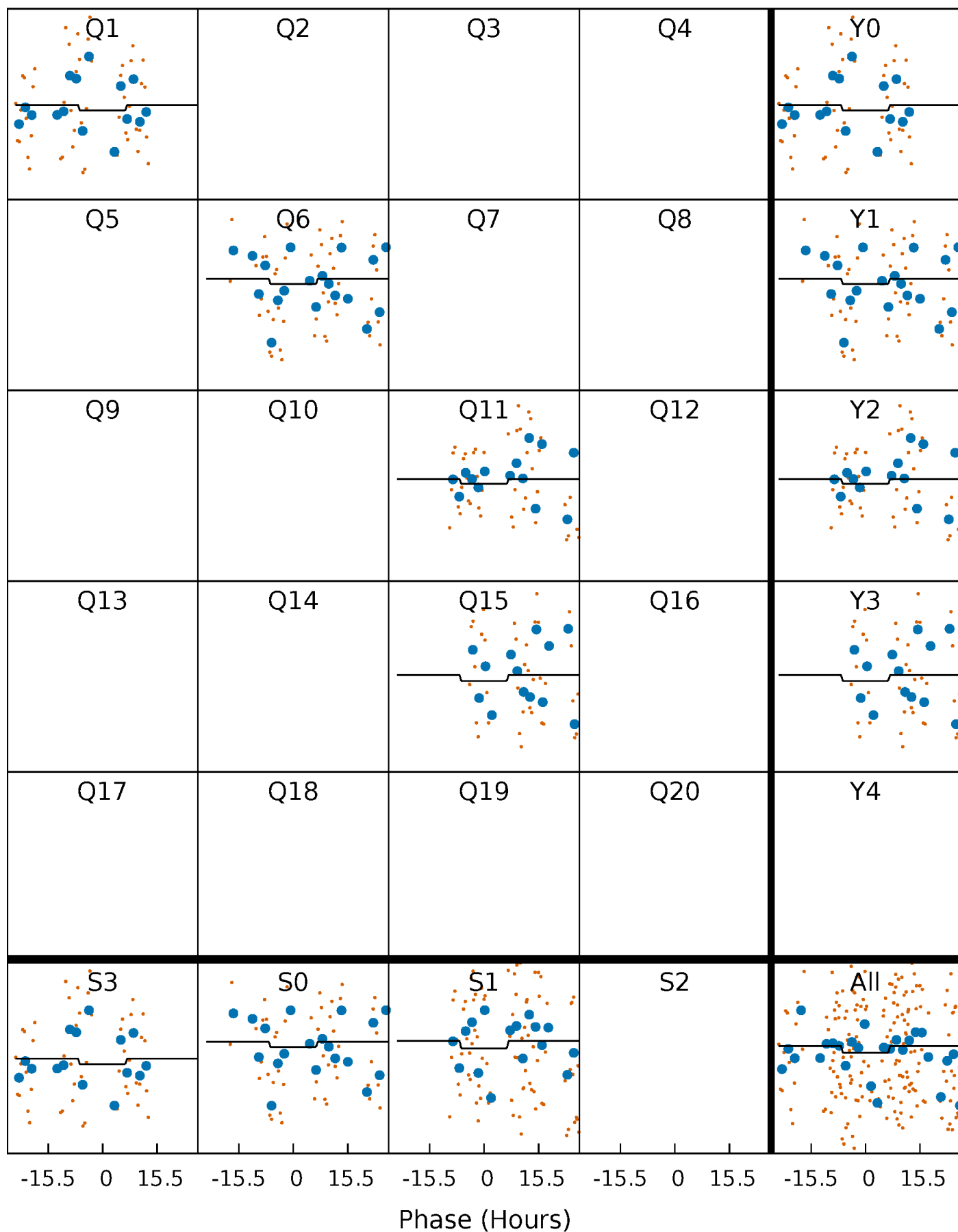
DV Quarter-Phased Transit Curves

TCE 008235853-03 P=431.308283 Days $T_0=154.493654$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

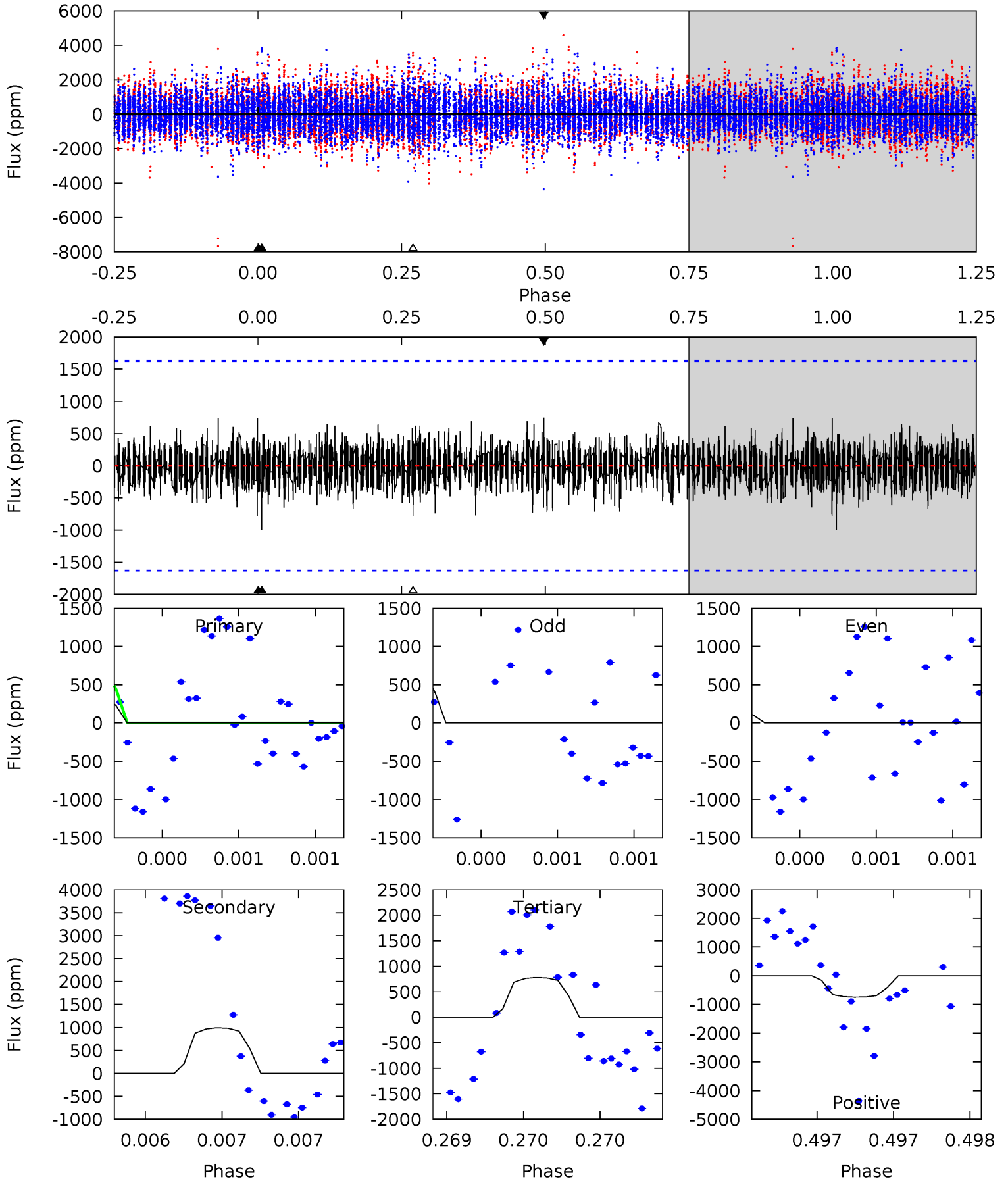
TCE 008235853-03 P=431.338829 Days $T_0=154.427091$ (BKJD)



DV Model-Shift Uniqueness Test

008235853-03, P = 431.308283 Days, E = 154.493654 Days

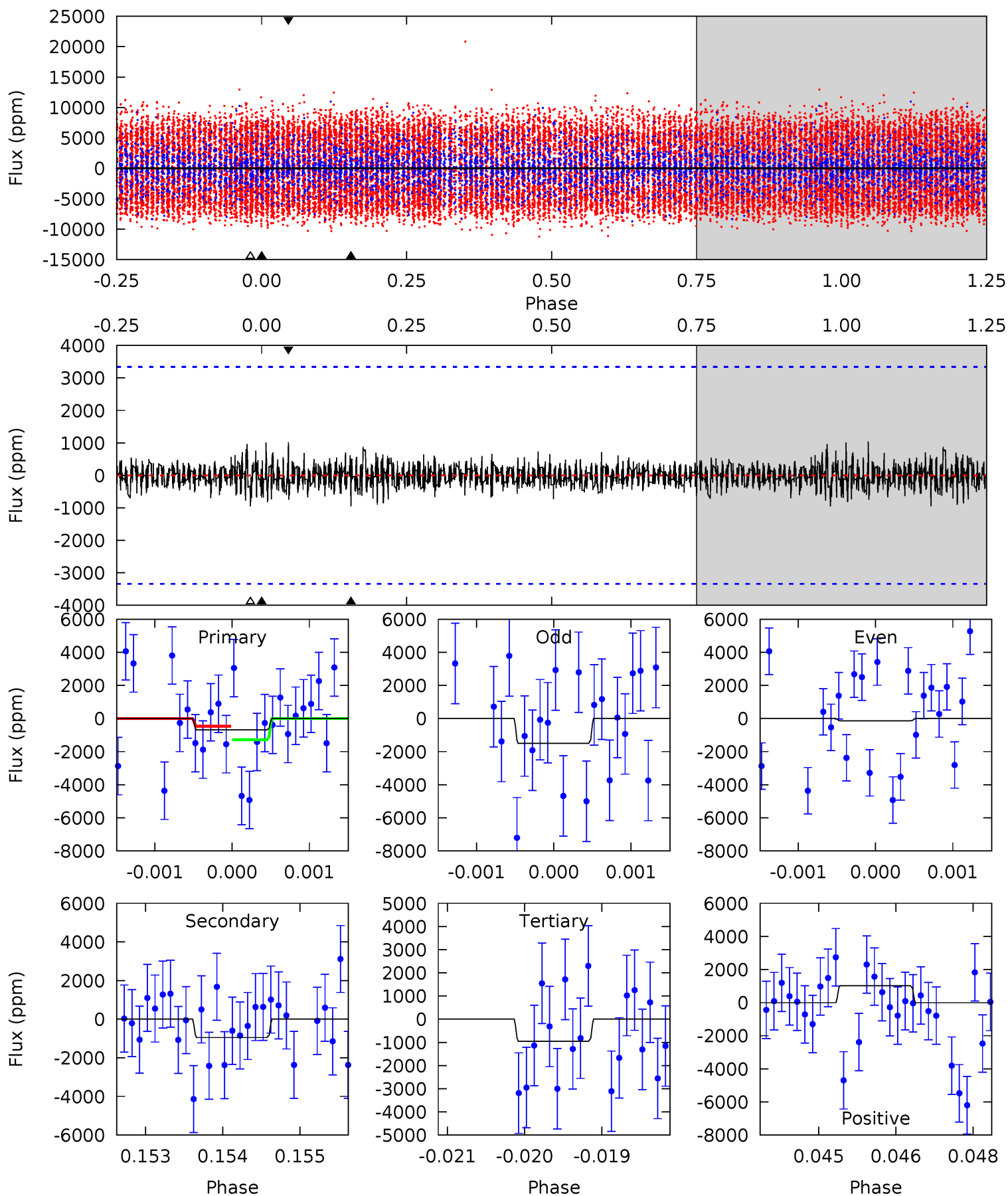
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.41	3.44	2.70	2.58	5.64	3.59	0.72	-1.29	-1.17	0.74	0.86	0.90	1.00	0.43	0.83



Alt Model-Shift Uniqueness Test

008235853-03, P = 431.338829 Days, E = 154.427091 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.11	1.54	1.54	1.65	5.40	3.21	0.39	-0.43	-0.54	0.00	-0.11	1.11	-73.6	0.52	0.59



Stellar Parameters For KIC 008235853

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6754^{+189}_{-260}	$3.914^{+0.357}_{-0.127}$	$-0.240^{+0.250}_{-0.300}$	$2.210^{+0.509}_{-0.945}$	$1.460^{+0.189}_{-0.351}$	$0.191^{+0.584}_{-0.069}$
	+3%/-4%	+9%/-3%	+104%/-125%	+23%/-43%	+13%/-24%	+307%/-36%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008235853-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-993 ± 289	$26.14^{+32.87}_{-18.33}$	536^{+42}_{-53}	3793^{+2444}_{-782}	1202^{+11260}_{-951}
Alt.	-952 ± 618	$27.01^{+31.58}_{-19.81}$	540^{+41}_{-57}	3648^{+2616}_{-883}	930^{+12871}_{-804}

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 $A_{obs} \gg 1.0$

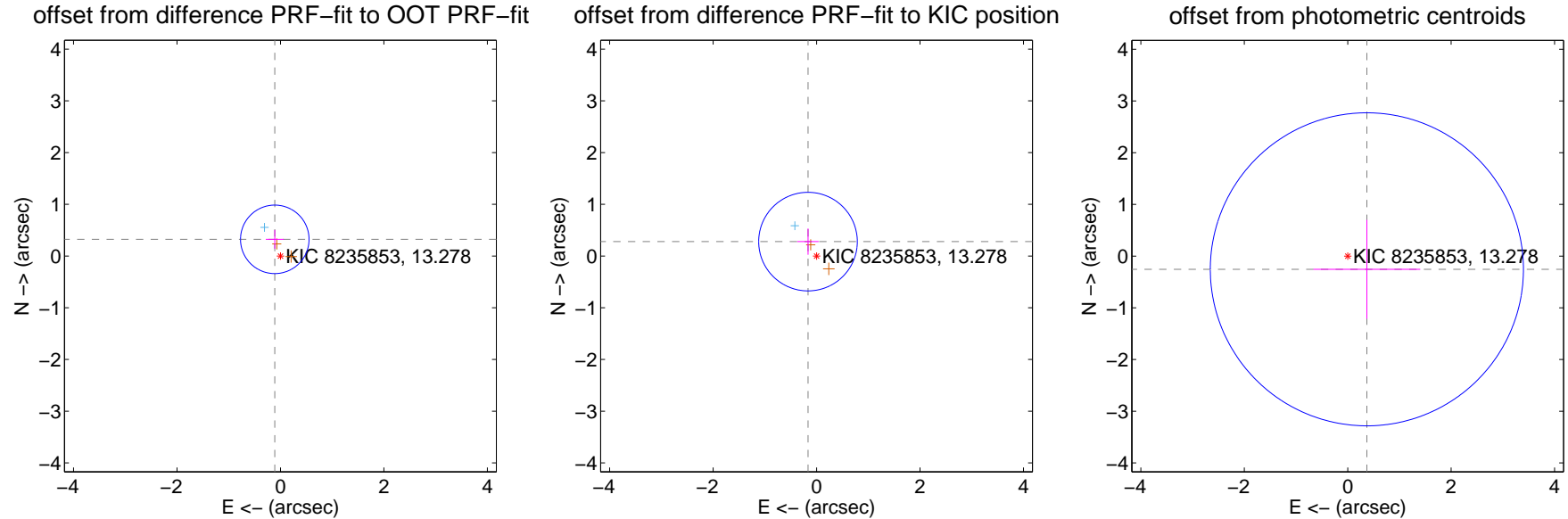
DV Centroid Data

Supplemental centroid analysis for 008235853-03. Kepler magnitude: 13.28. Transit SNR 1.12

There are 1 quarters with good PRF difference image offsets

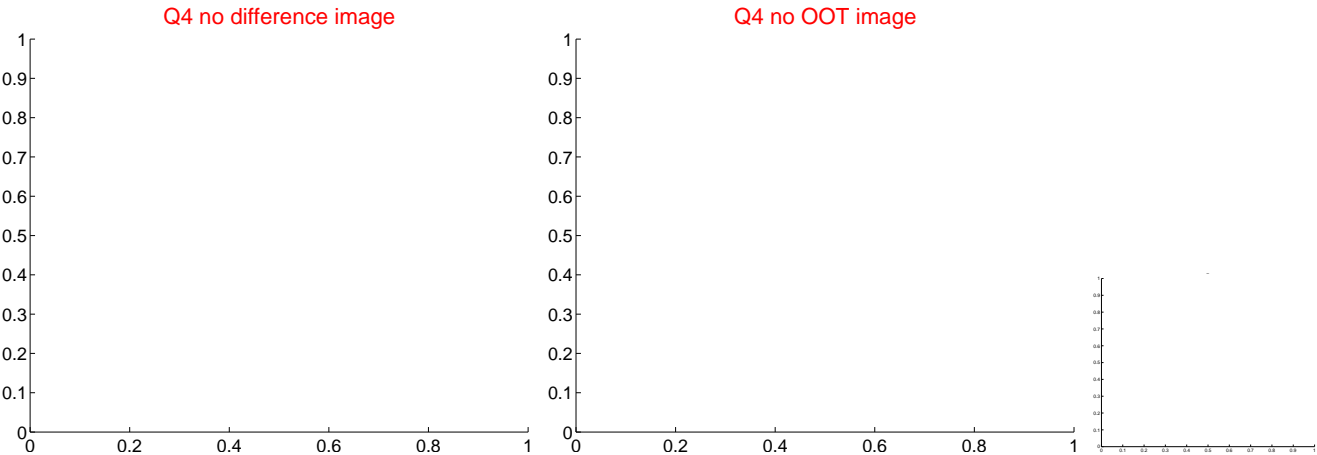
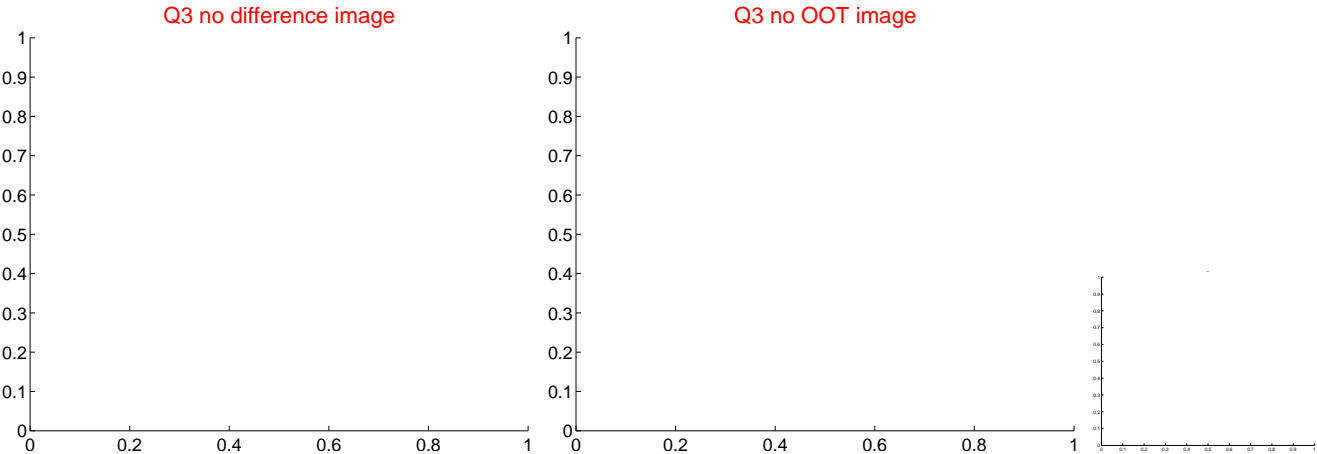
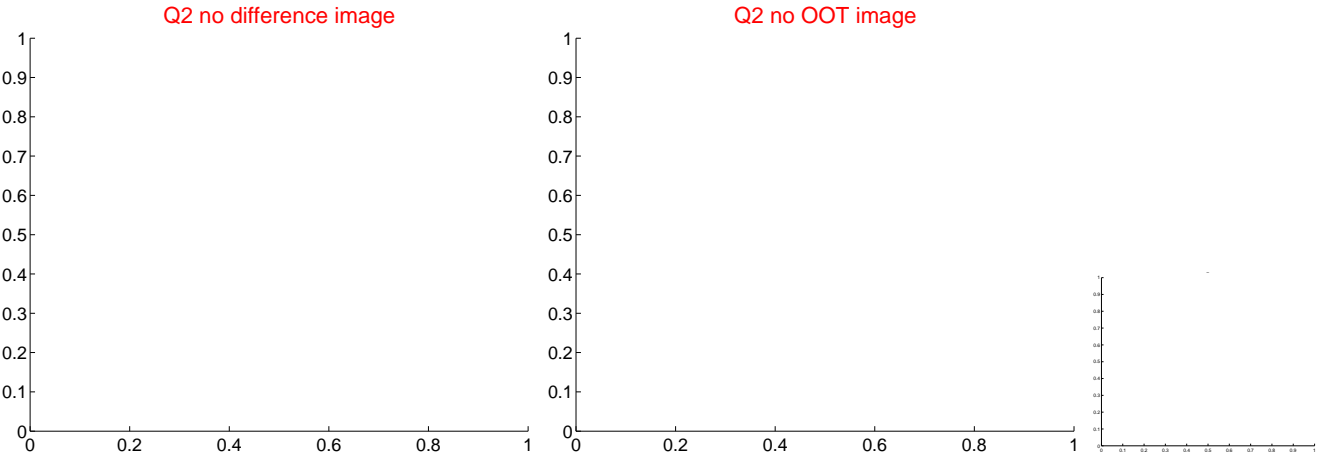
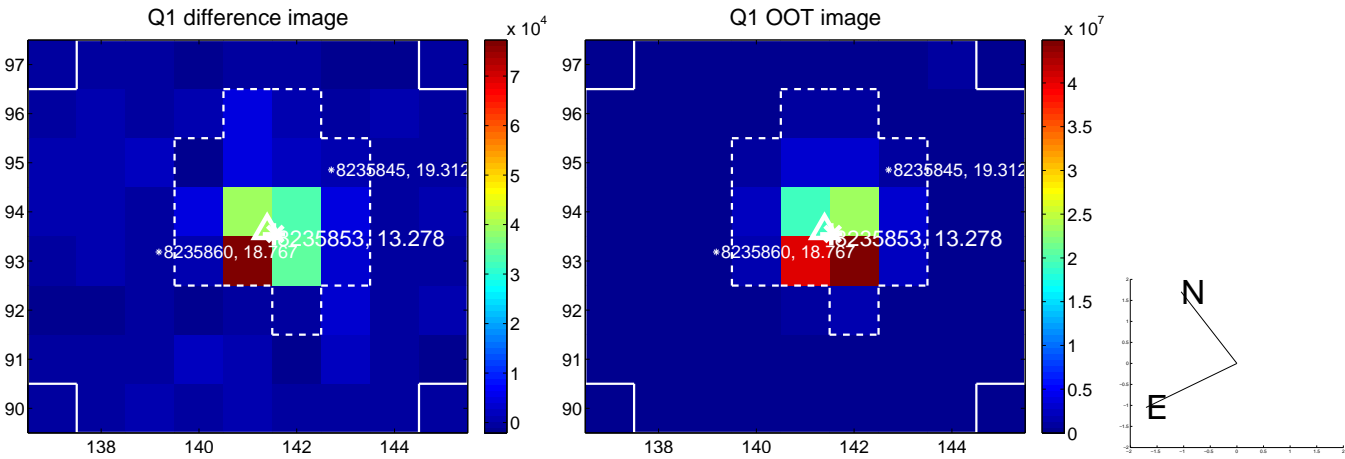
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.341 ± 0.221	1.54	0.110 ± 0.173	0.322 ± 0.181
PRF-fit source offset from KIC position	0.324 ± 0.318	1.02	0.166 ± 0.206	0.279 ± 0.254
photometric centroid source offset	0.45 ± 1.01	0.45	-0.37 ± 1.03	-0.26 ± 0.96

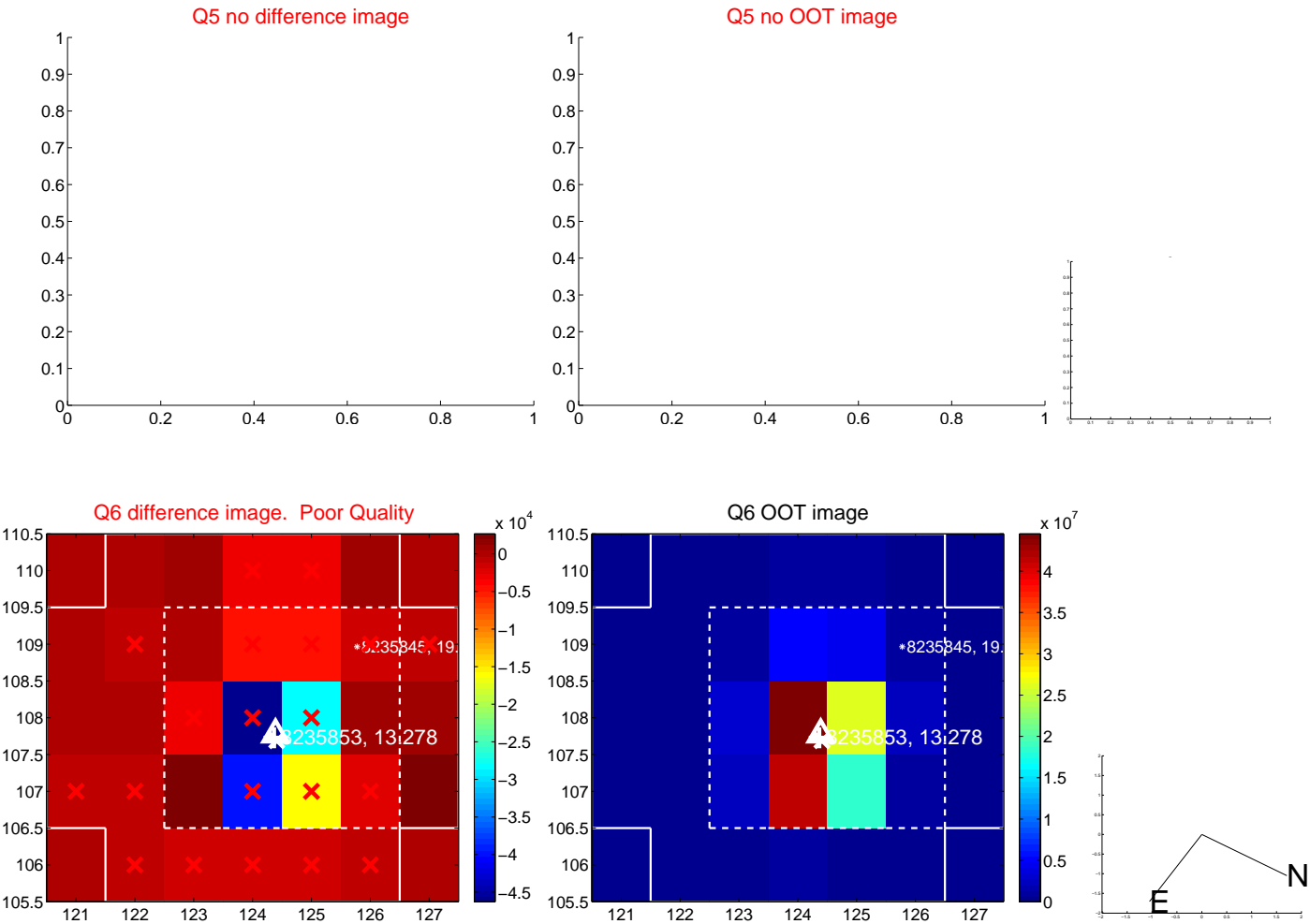


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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

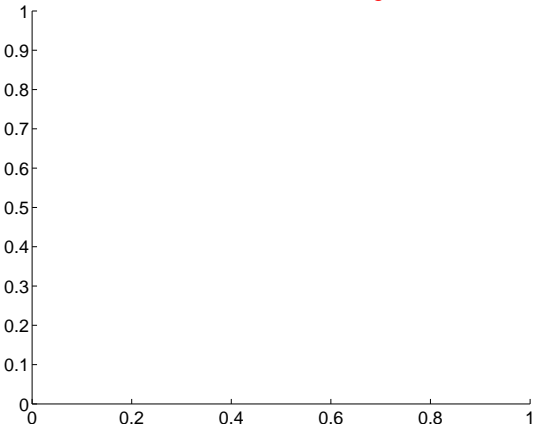


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

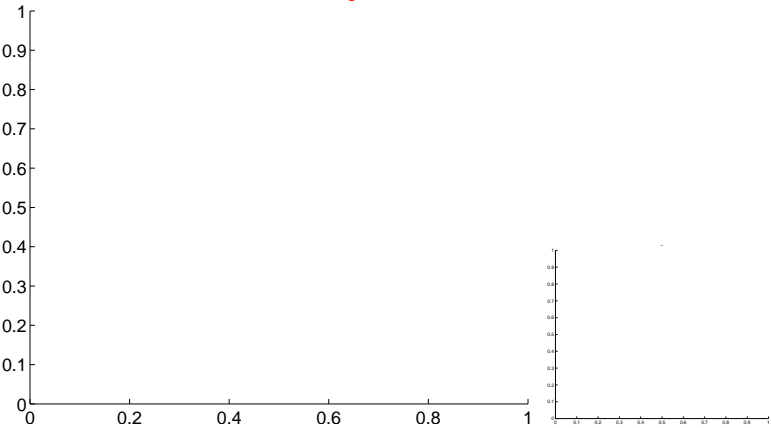


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

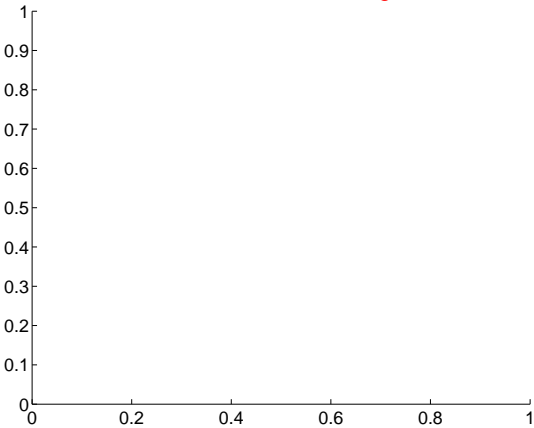
Q9 no difference image



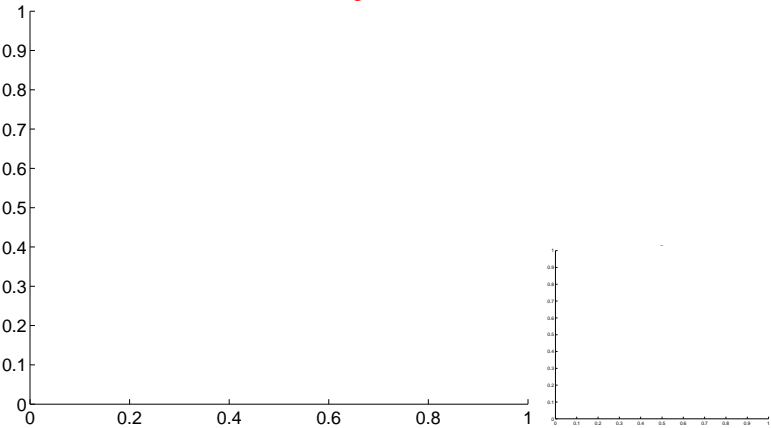
Q9 no OOT image



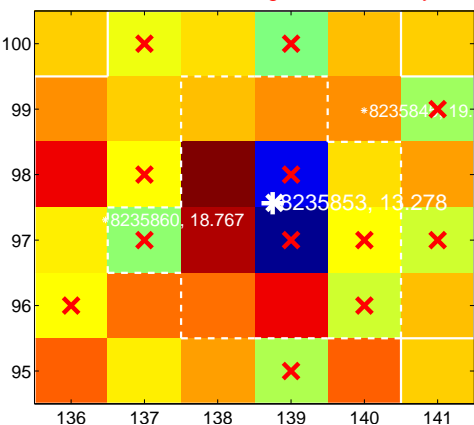
Q10 no difference image



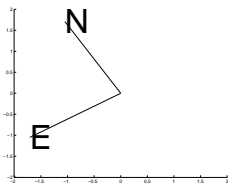
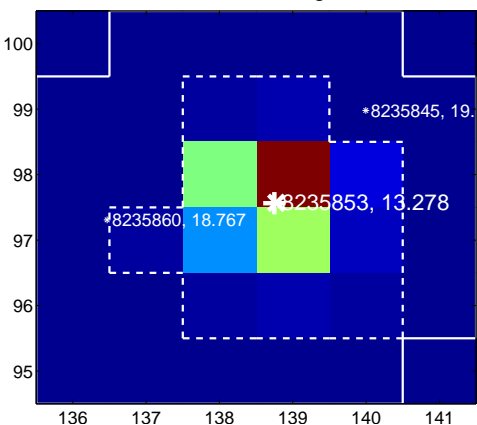
Q10 no OOT image



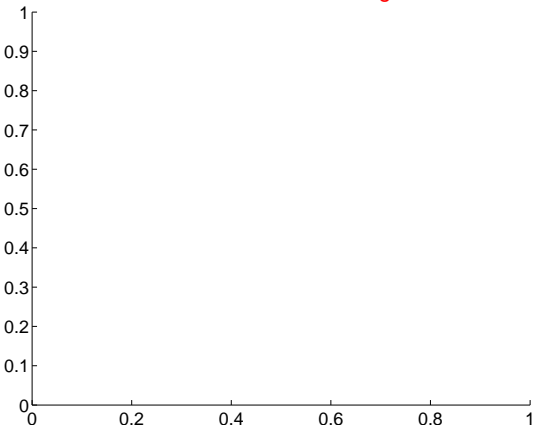
Q11 difference image. Poor Quality



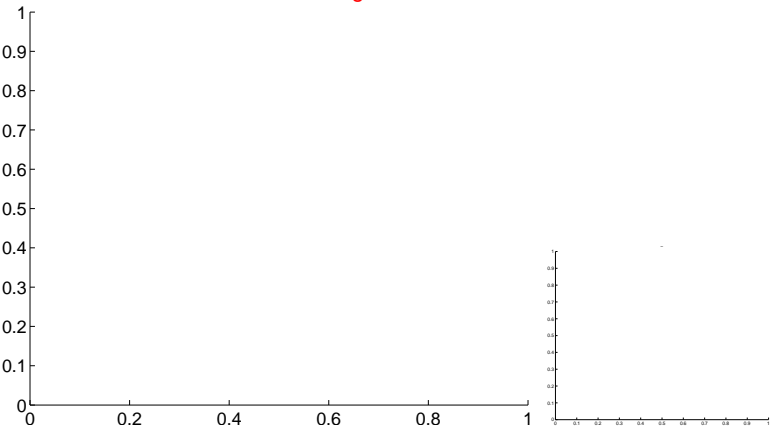
Q11 OOT image



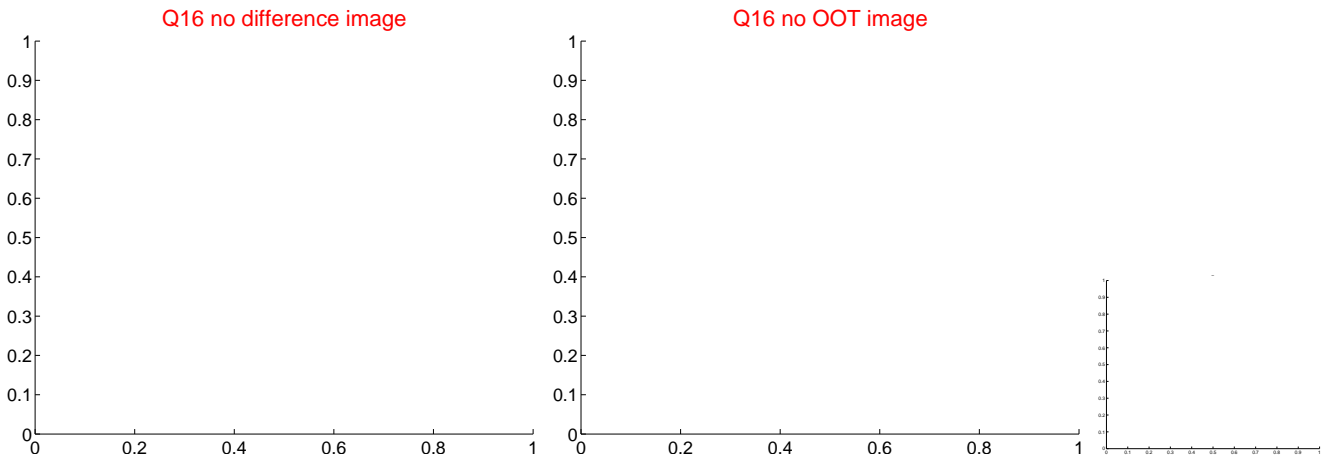
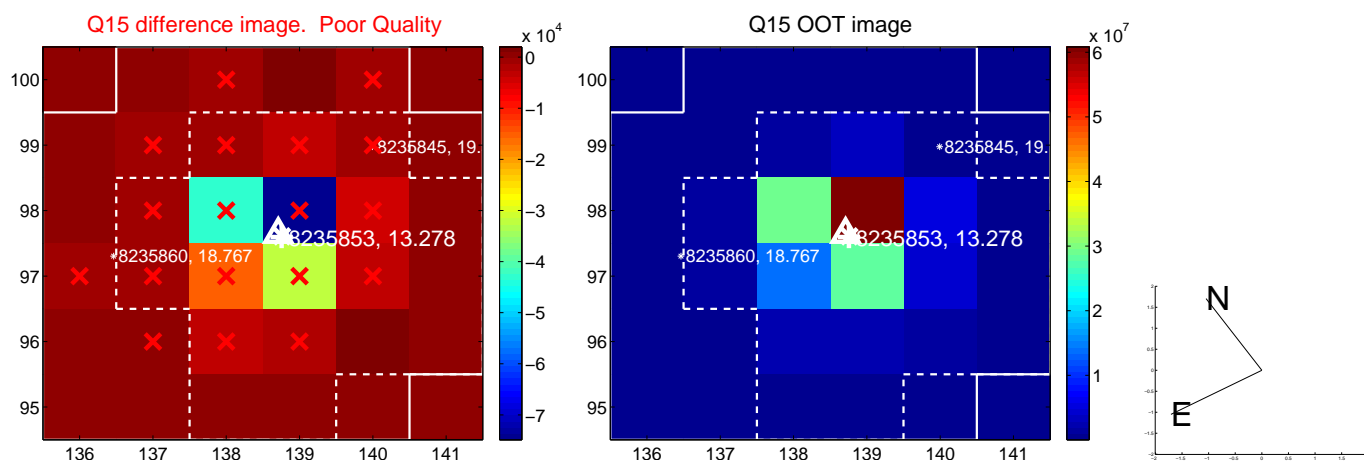
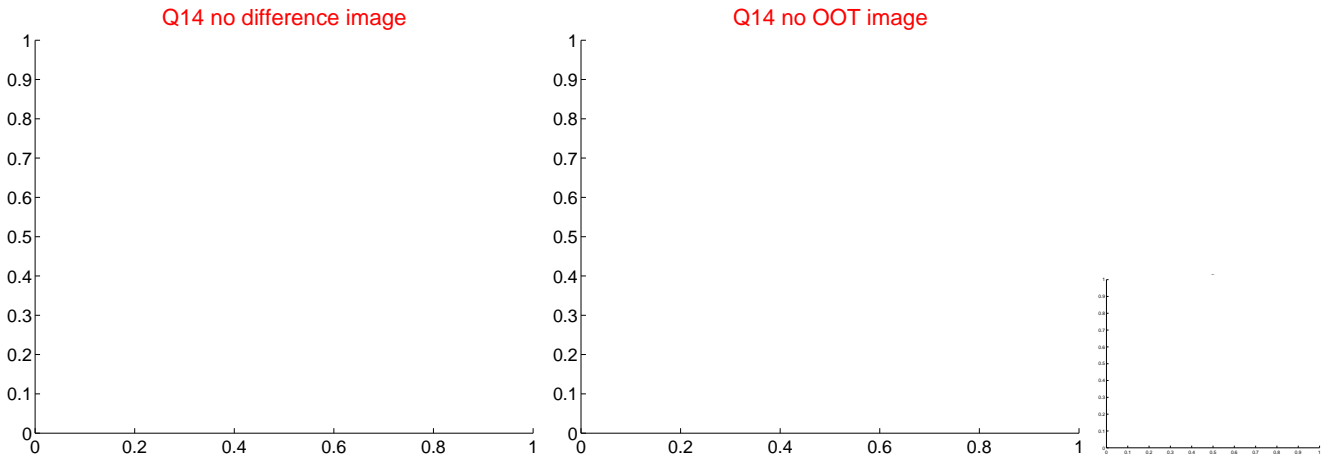
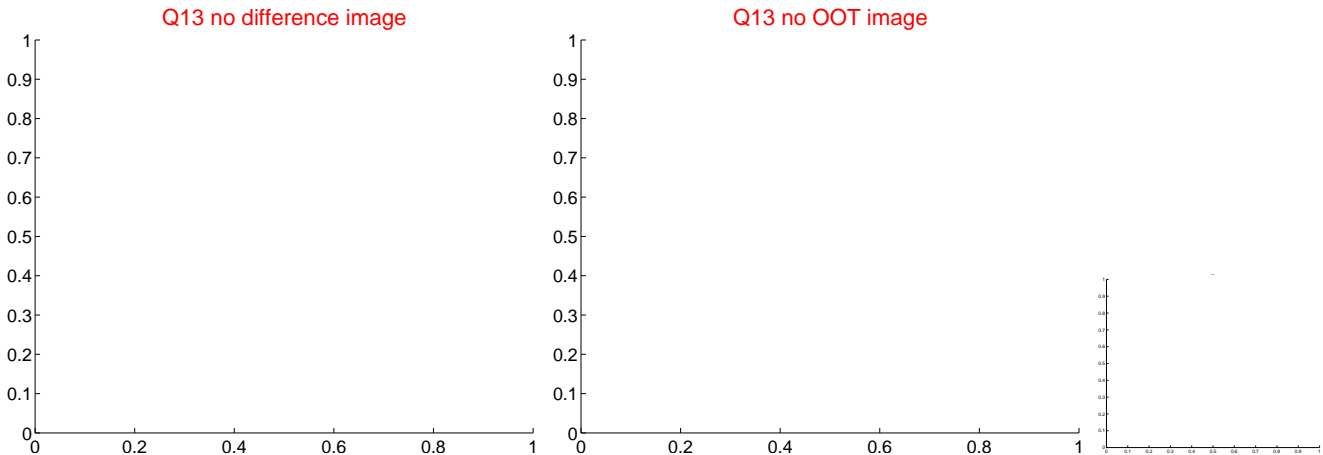
Q12 no difference image



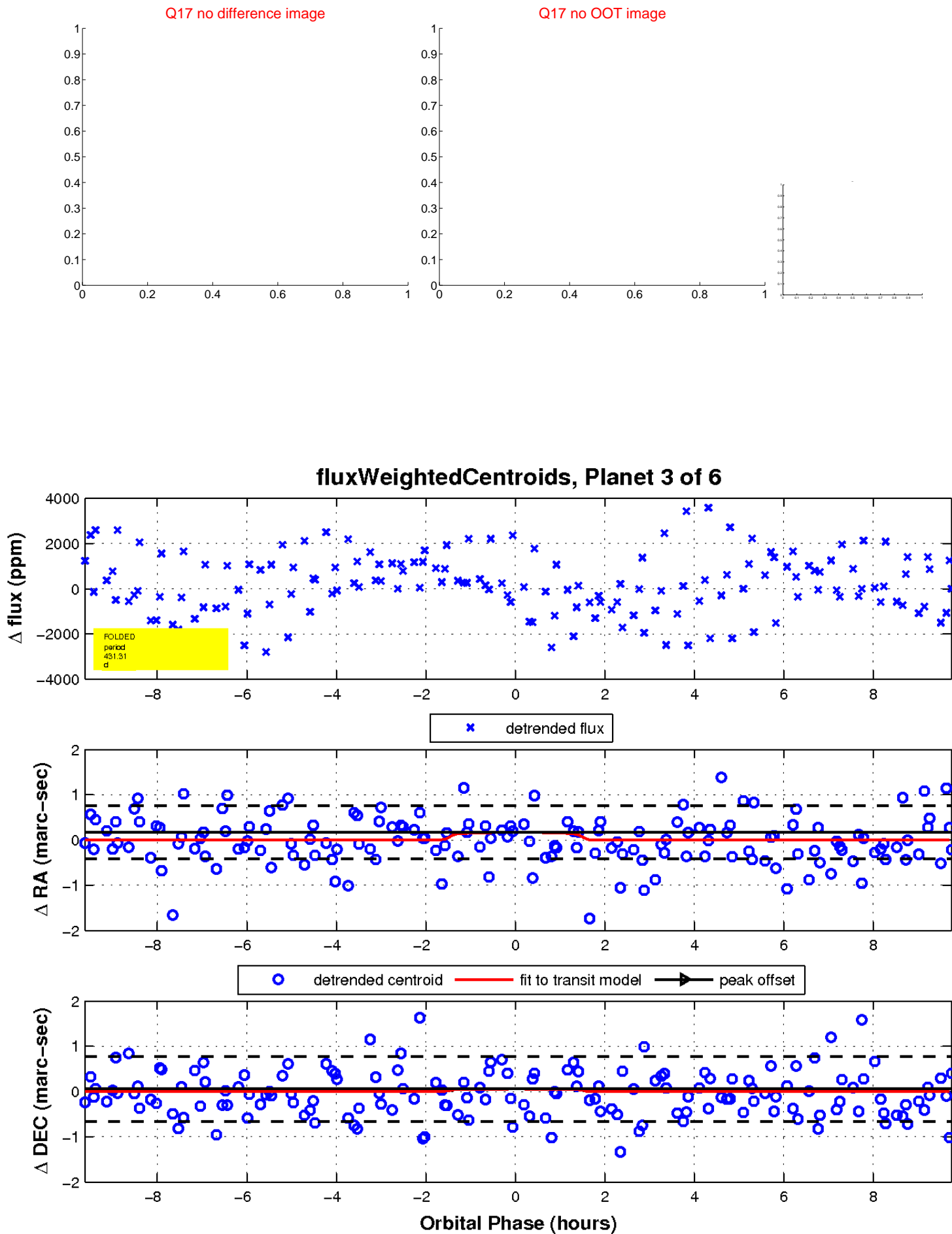
Q12 no OOT image



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

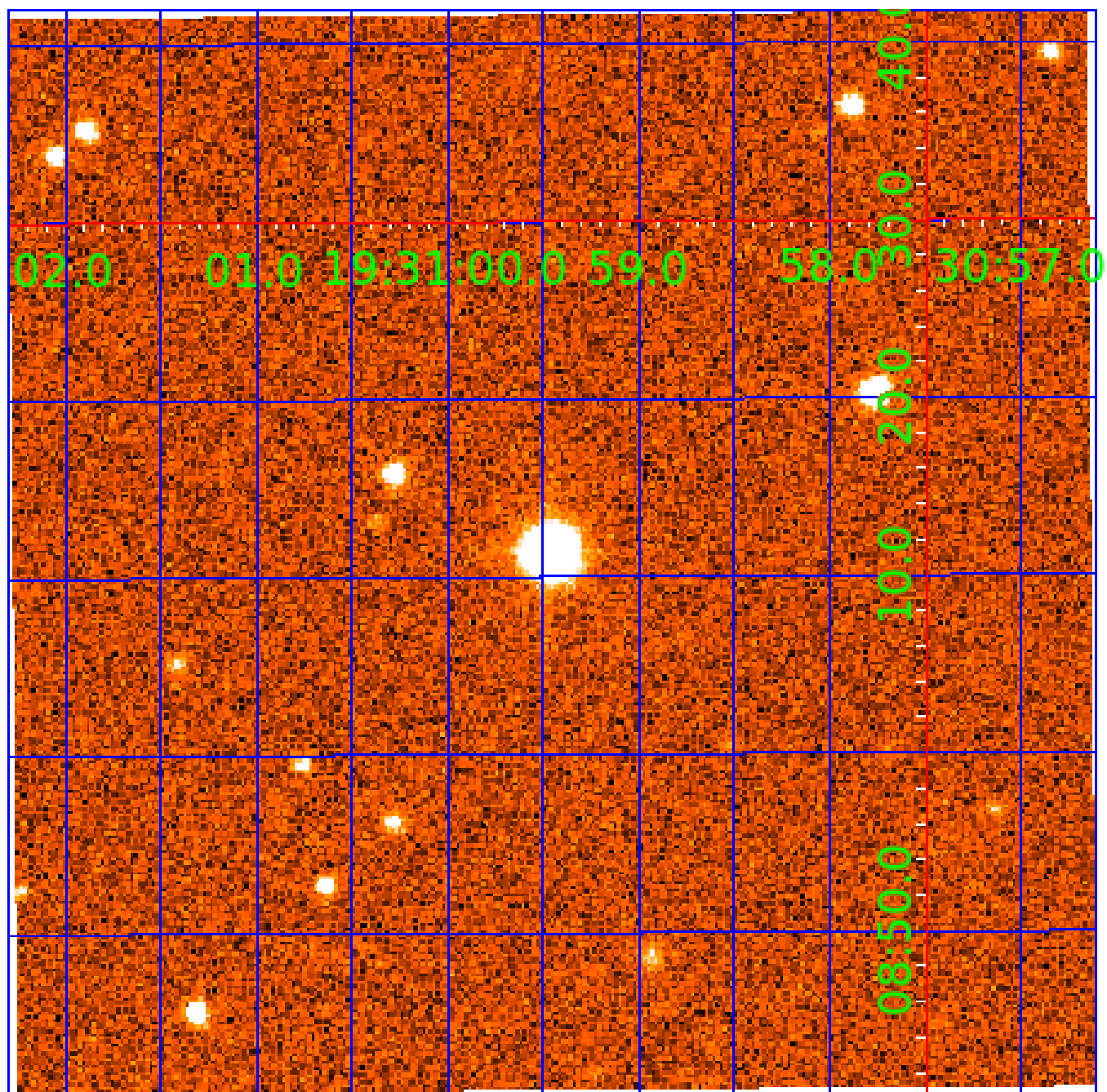


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008235853

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})
008235853-01	OBS	No	0.675124	132.160657	53.7	1.821	9.0	6.4	2.21	6754	1.88	31157.01
008235853-02	OBS	No	3.888529	132.910403	243.6	16.221	9.0	9.1	2.21	6754	4.16	3017.77
008235853-03	OBS	No	431.308283	154.493654	354.7	3.251	10.5	1.1	2.21	6754	4.80	5.66
008235853-04	OBS	No	431.493473	153.882631	1870.8	6.174	9.9	5.7	2.21	6754	13.24	5.66
008235853-05	OBS	No	76.983779	183.513841	2073.0	6.351	8.9	9.9	2.21	6754	18.49	56.35
008235853-06	OBS	No	322.727647	353.293448	223.3	5.000	8.7	-1.0	2.21	6754	3.33	8.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008235853-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT
008235853-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
008235853-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
008235853-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
008235853-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008235853-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

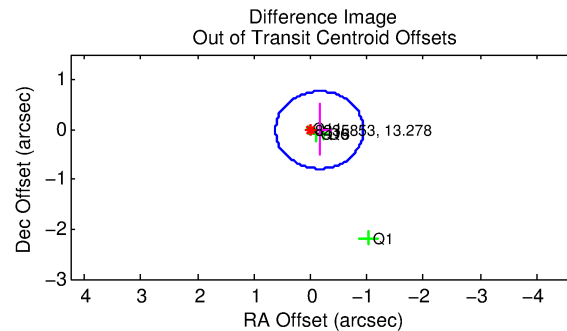
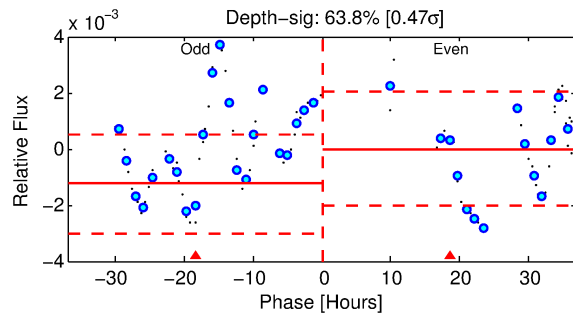
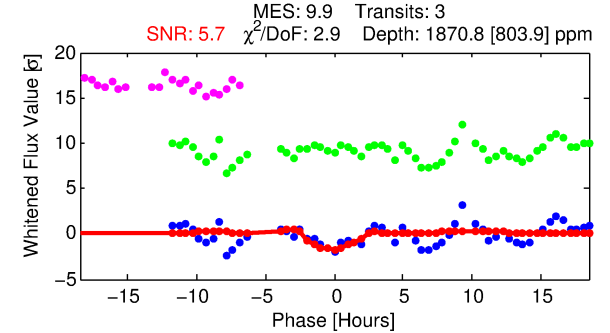
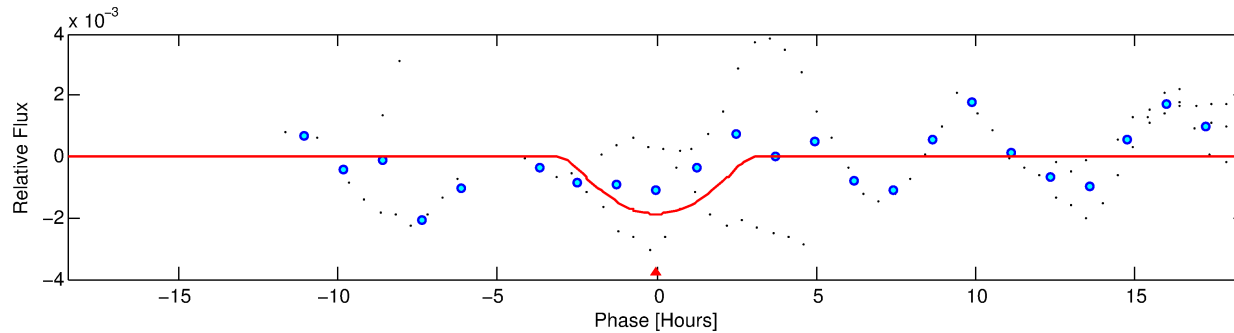
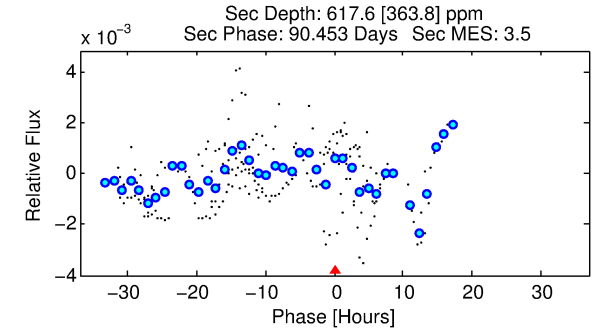
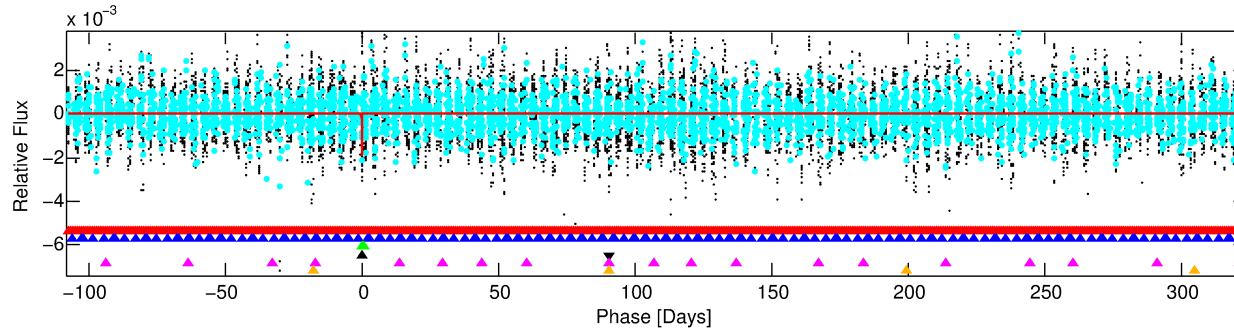
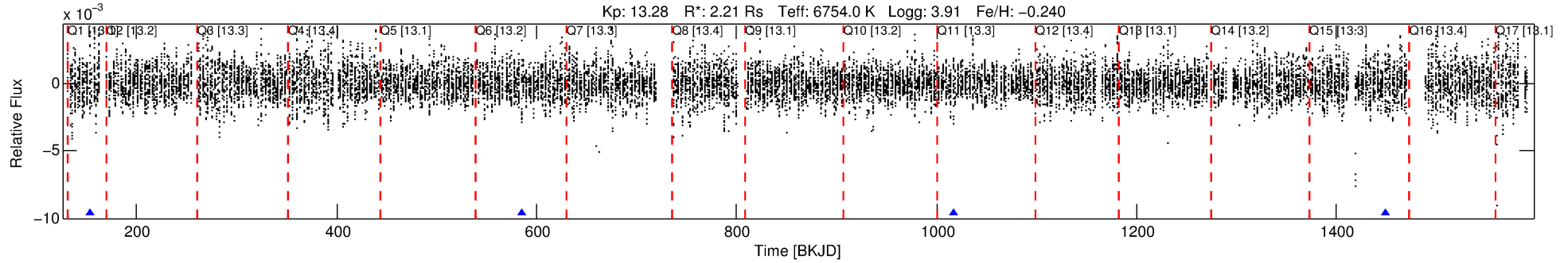
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008235853-04

No Significant Match Found

DV One-Page Summary

KIC: 8235853 Candidate: 4 of 6 Period: 431.493 d



DV Fit Results:

Period = 431.49347 [0.04328] d
Epoch = 153.8826 [0.0588] BKJD
Rp/R* = 0.0549 [0.0871]
a/R* = 223.37 [178.70]
b = 0.97 [0.19]
Seff = 5.66 [3.60]
Teq = 393 [63] K
Rp = 13.24 [21.76] Re
a = 1.2685 [0.5016] AU
Ag = 3119.94 [10254.58] [0.30 σ]
Teffp = 4545 [3672] K [1.13 σ]

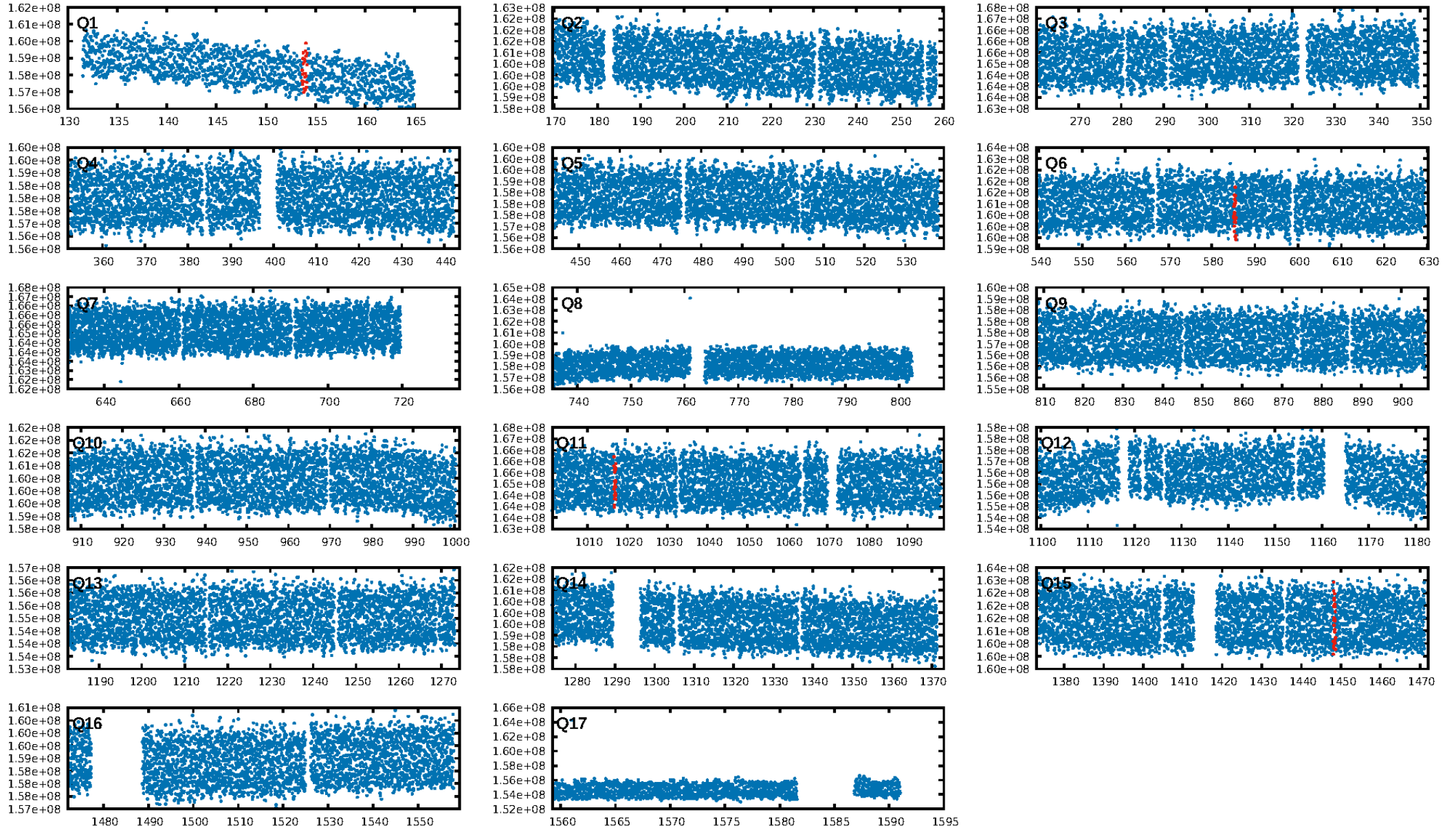
DV Diagnostic Results:

ShortPeriod-sig: 47.6% [0.64 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquare2-sig: 32.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 2.88
Centroid-sig: 16.3%
Centroid-so: 0.328 arcsec [1.88 σ]
OotOffset-rm: 0.157 arcsec [0.61 σ]
OotOffset-st: 1/2/0/1 [4]
KicOffset-rm: 0.231 arcsec [0.45 σ]
KicOffset-st: 1/2/0/1 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 0.00 [0/4]

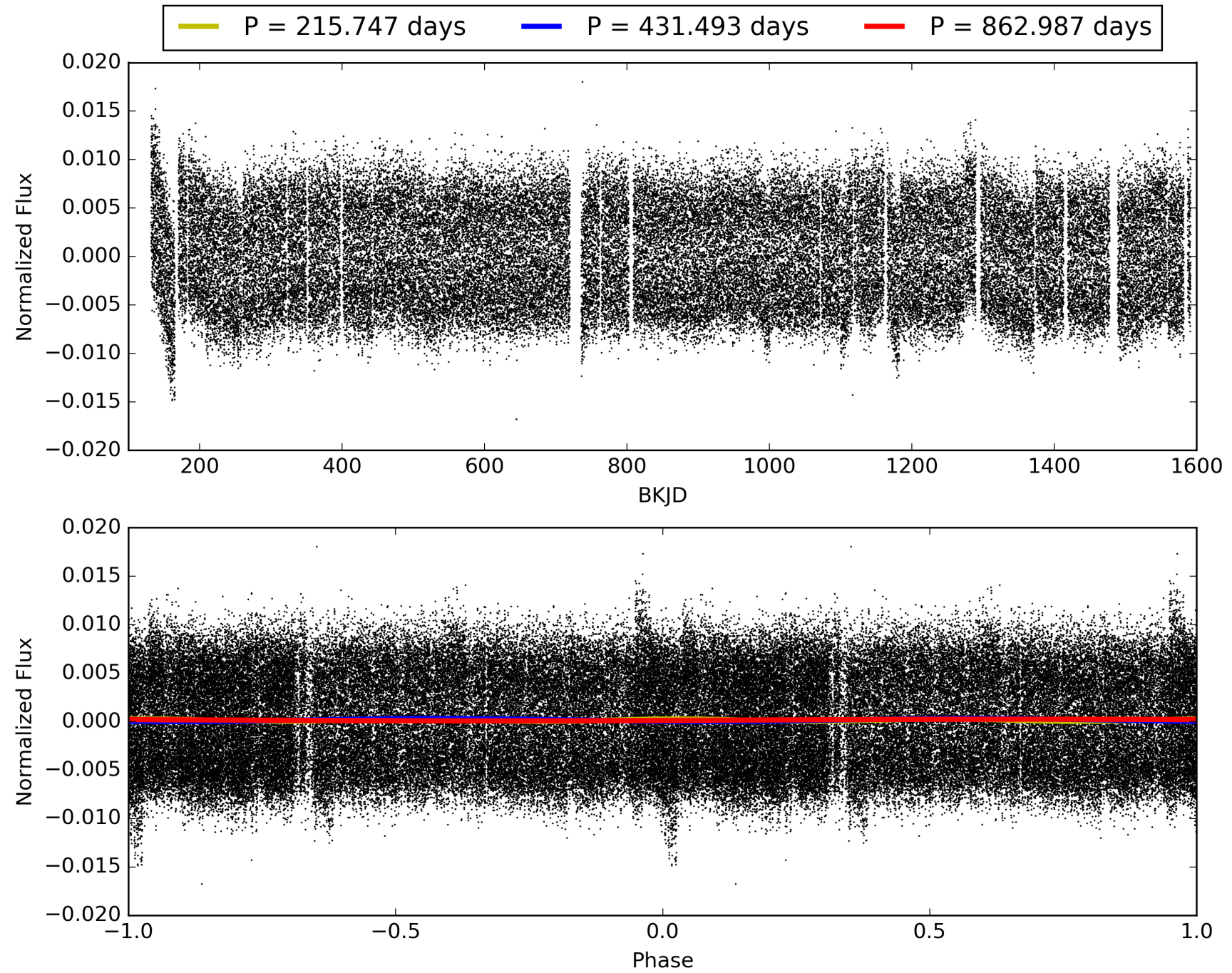
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 18:19:43 Z

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

TCE 008235853-04, PDC Light Curves

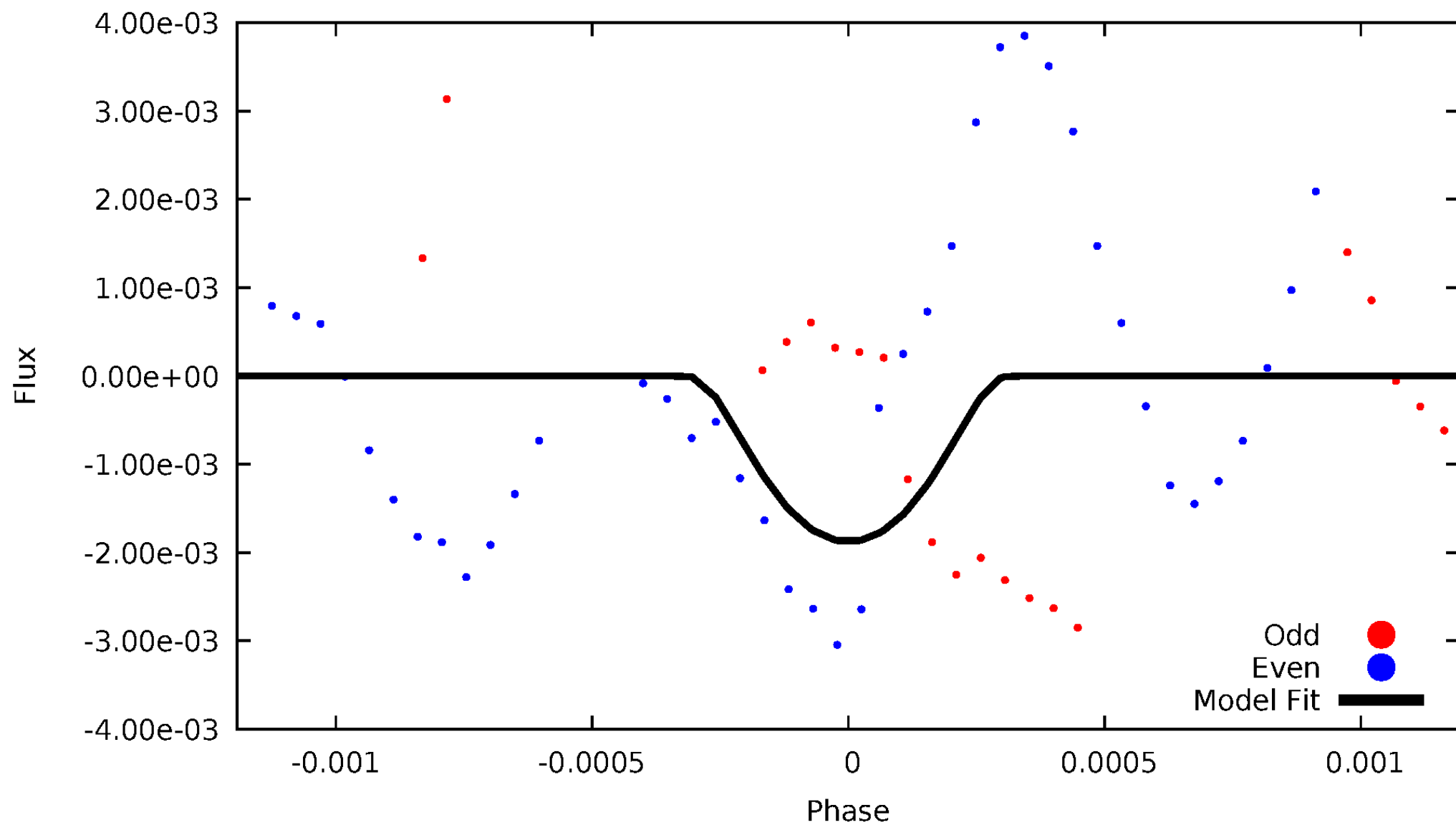


TCE 008235853-04



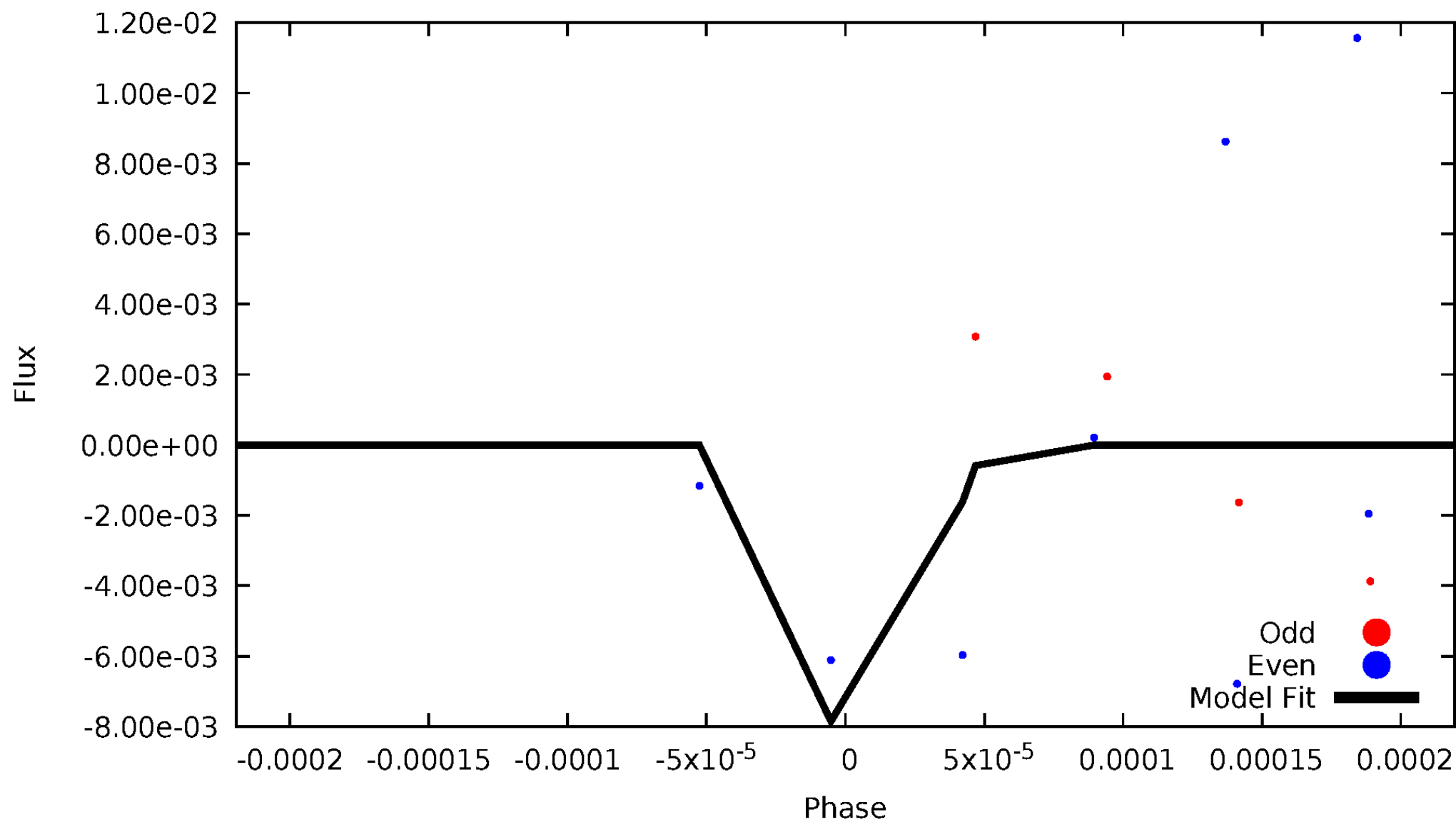
DV Odd/Even

TCE 008235853-04



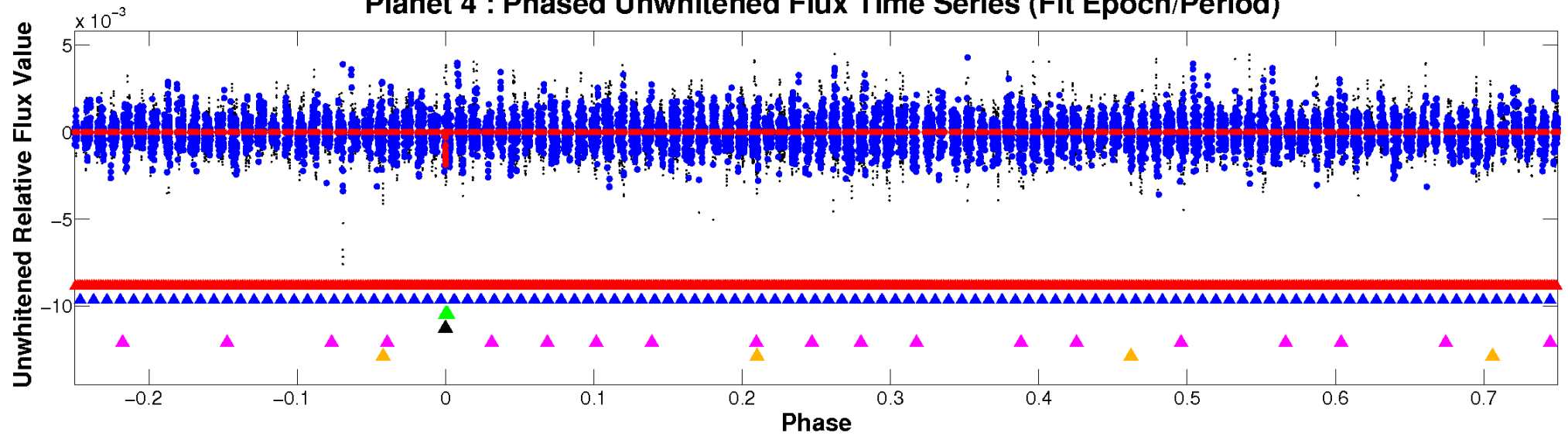
ALT Odd/Even

TCE 008235853-04

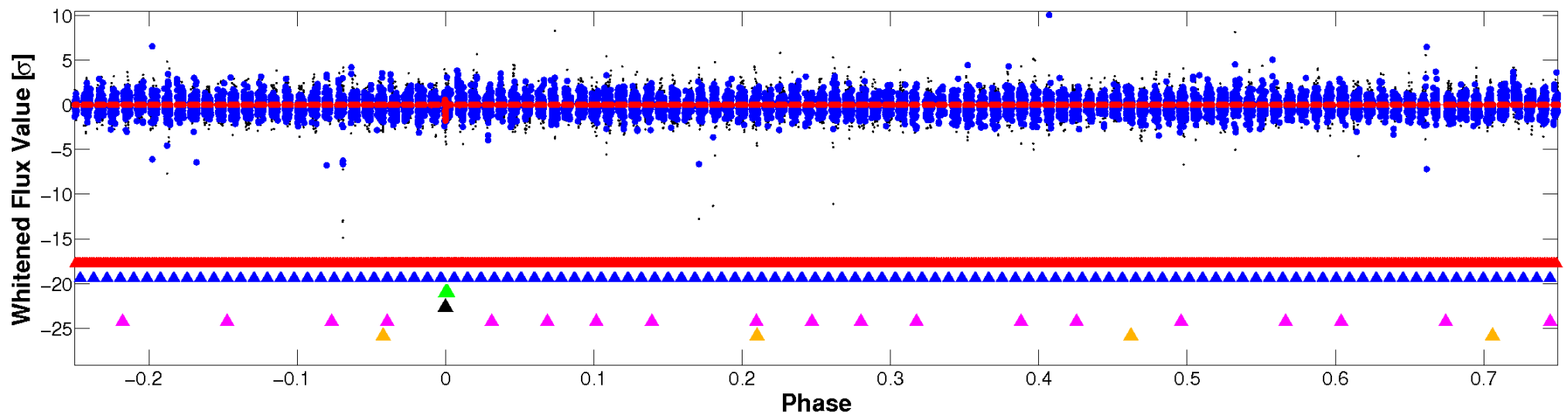


Non-Whitened Vs. Whitened Light Curve

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

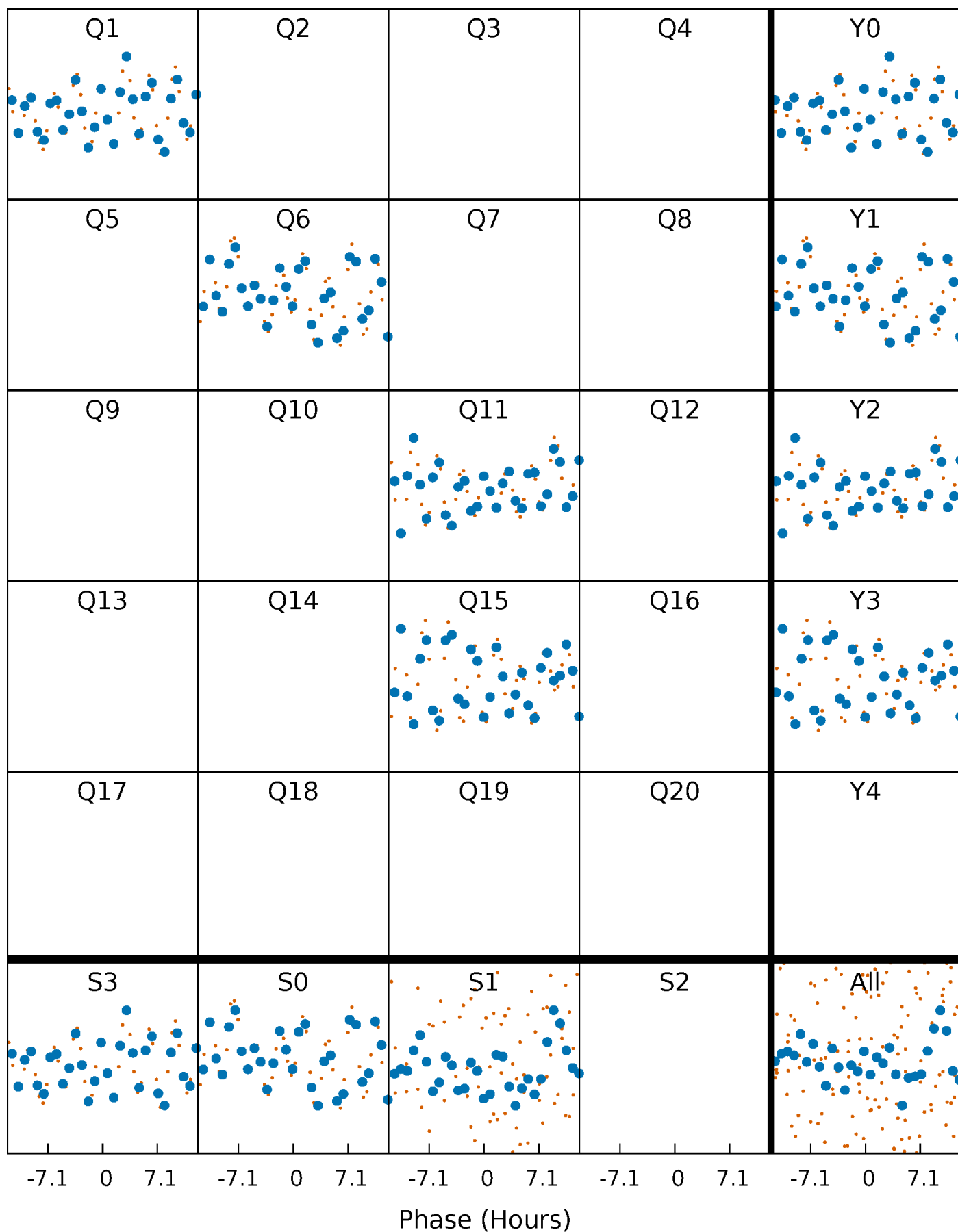


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



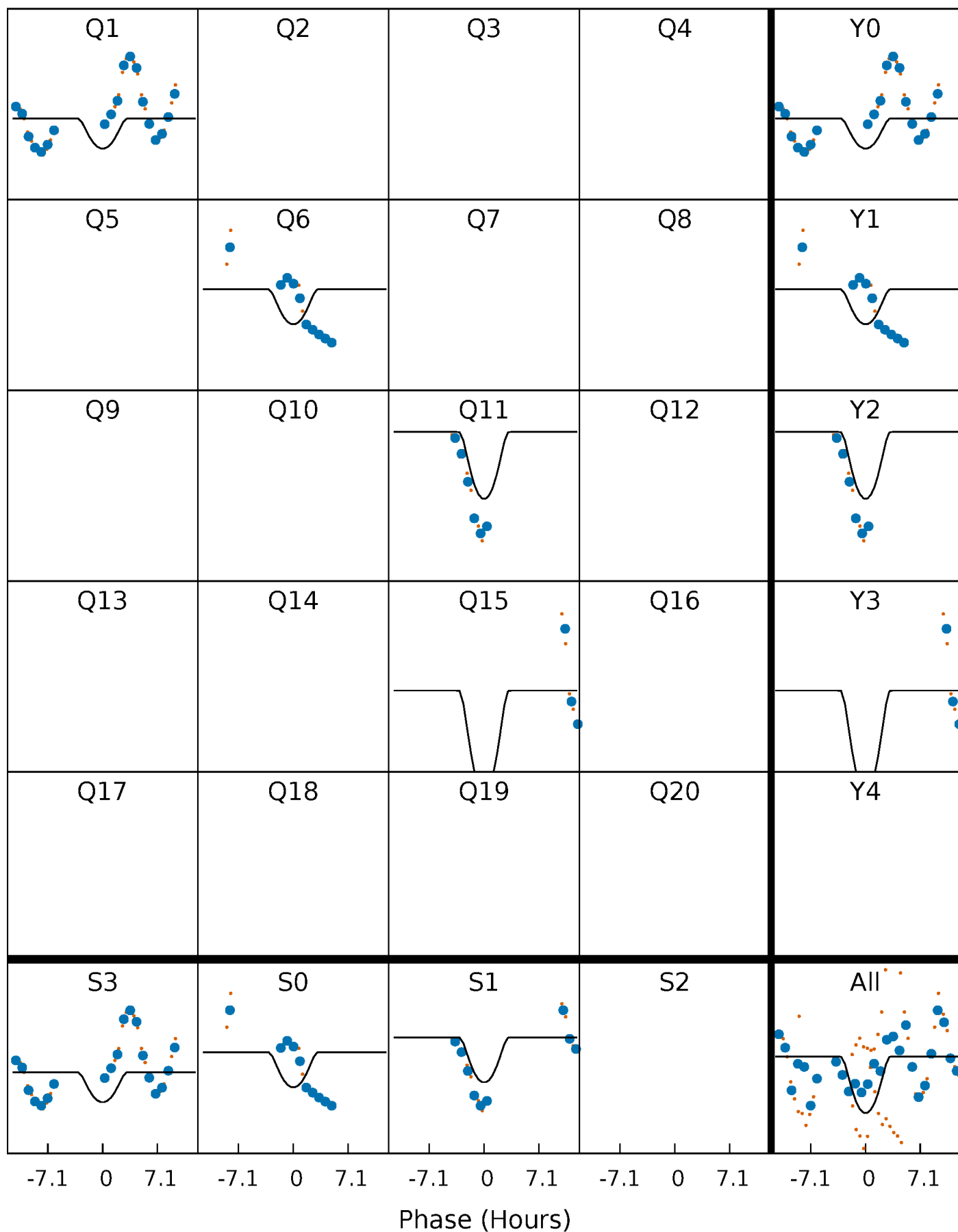
PDC Quarter-Phased Transit Curves

TCE 008235853-04 P=431.493473 Days $T_0=153.882631$ (BKJD)



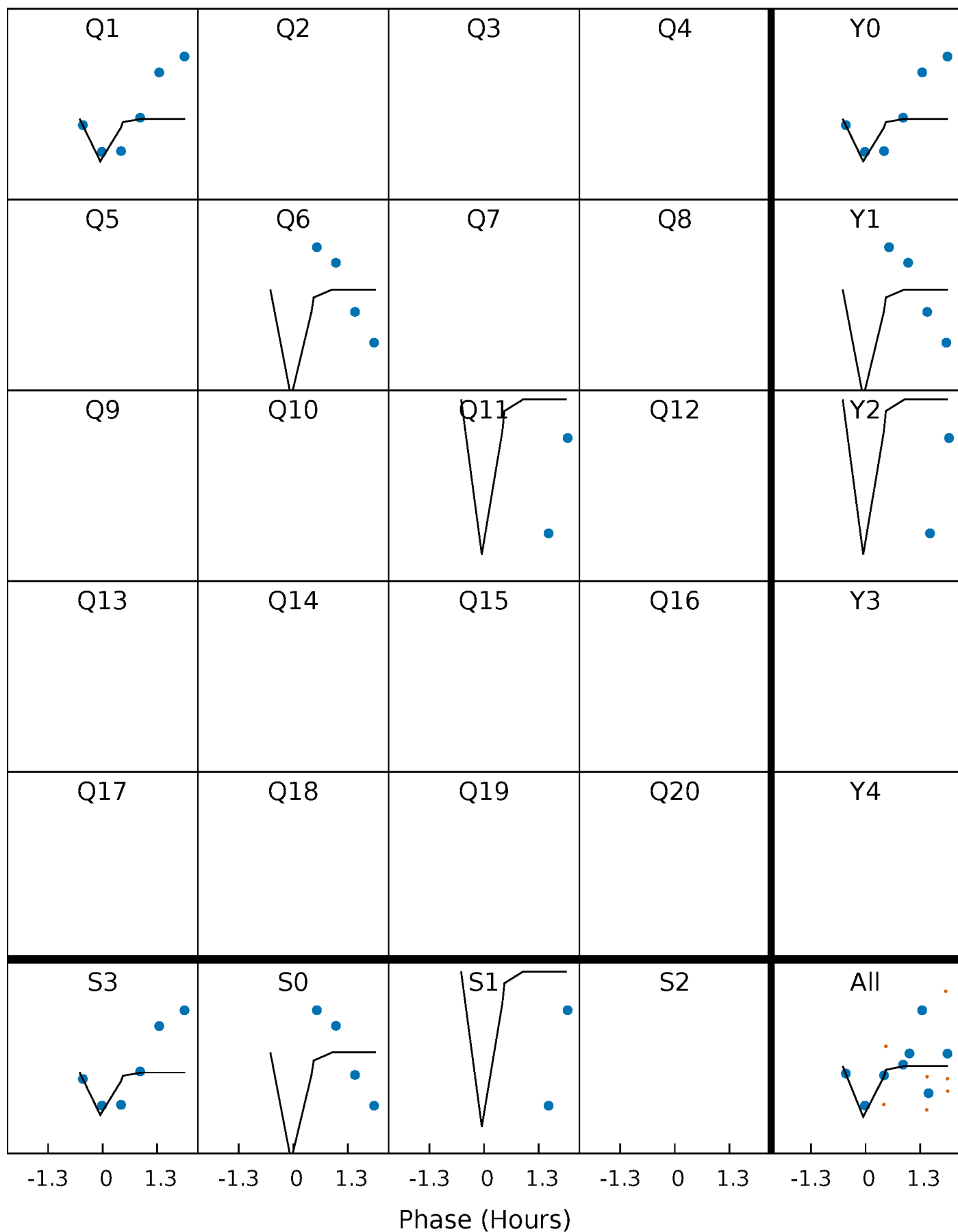
DV Quarter-Phased Transit Curves

TCE 008235853-04 $P=431.493473$ Days $T_0=153.882631$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

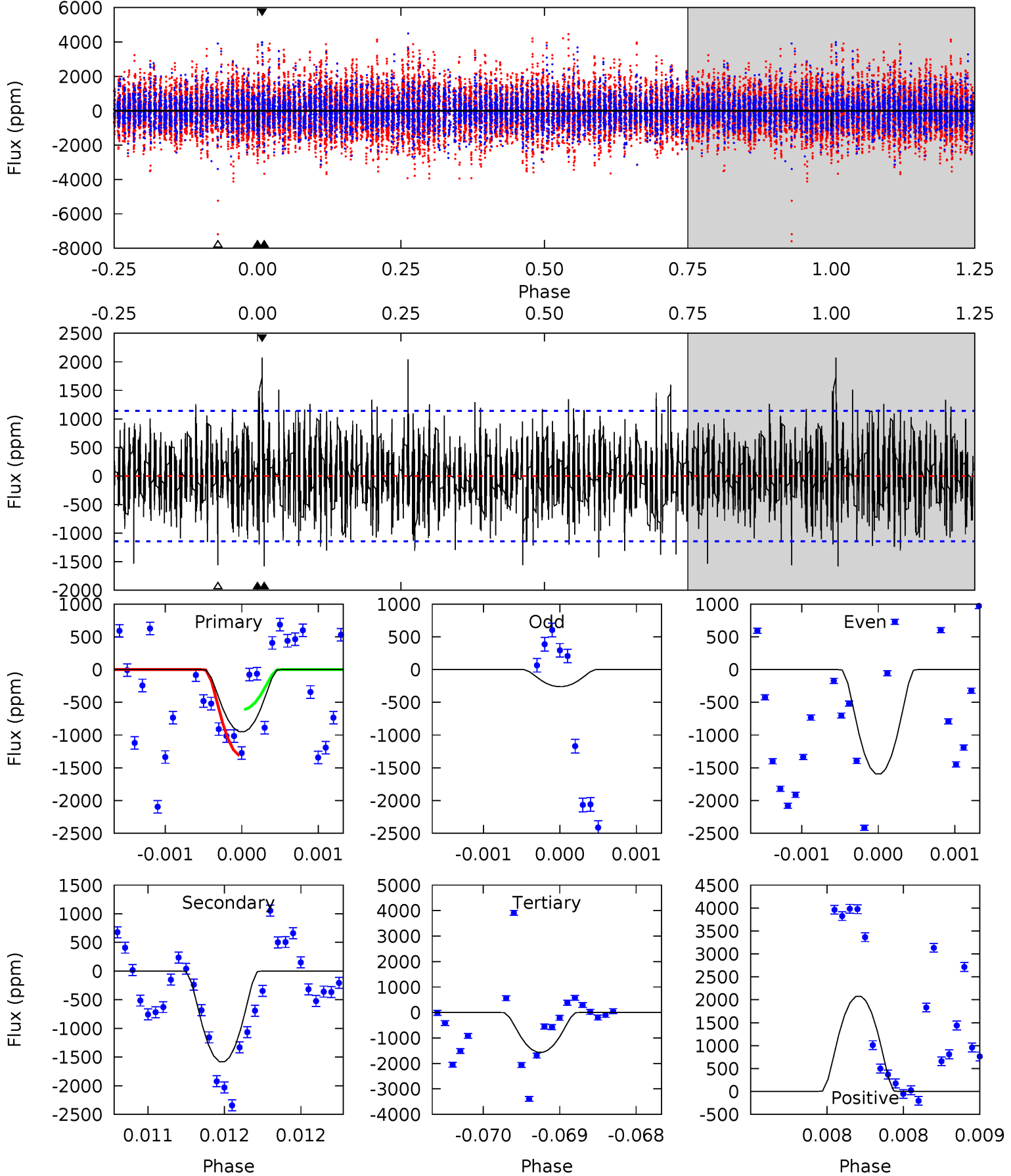
TCE 008235853-04 P=431.352452 Days $T_0=153.930995$ (BKJD)



DV Model-Shift Uniqueness Test

008235853-04, P = 431.493473 Days, E = 153.882631 Days

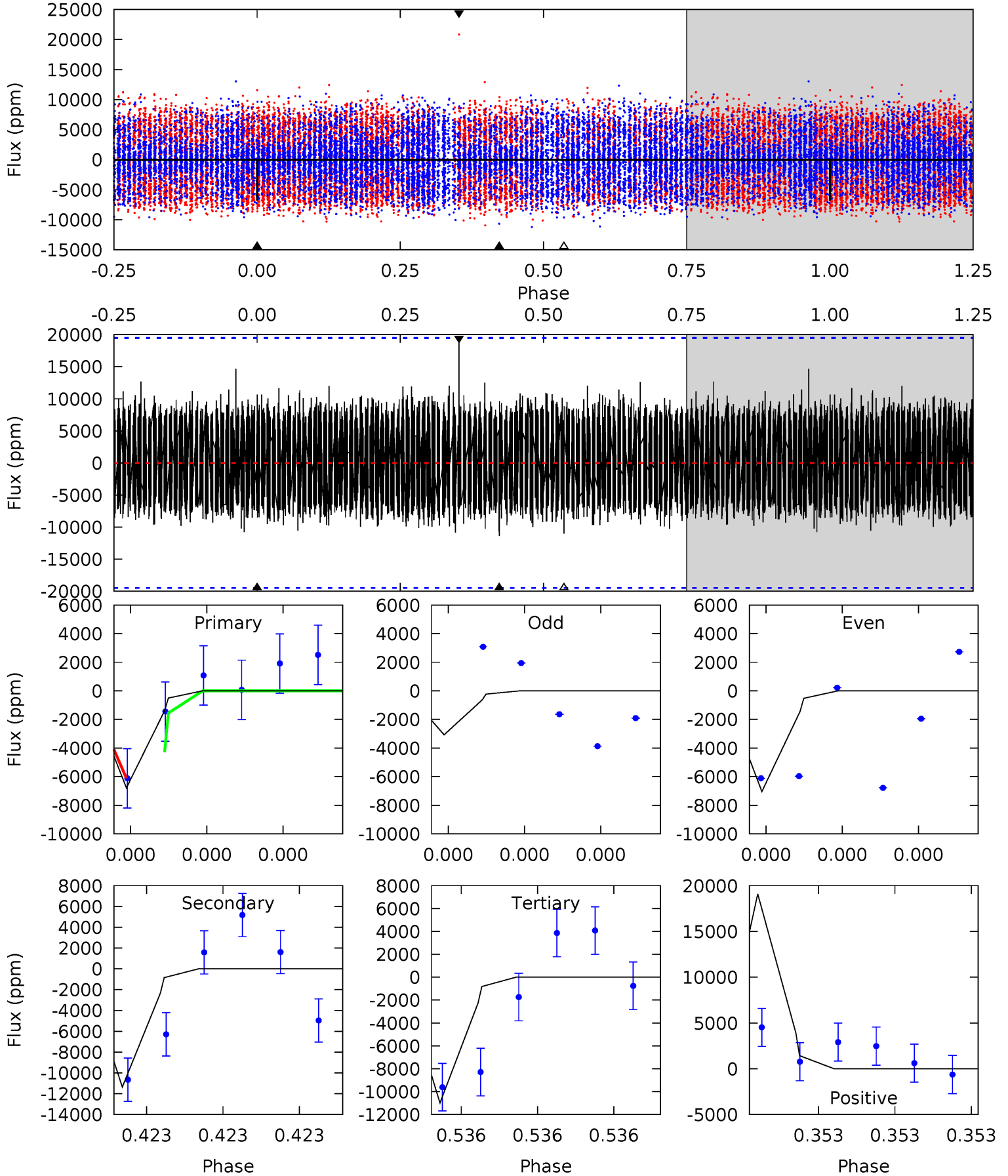
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.59	7.65	7.55	10.0	5.53	3.41	2.21	-2.96	-5.44	0.10	-2.38	3.22	3.14	0.57	1.69



Alt Model-Shift Uniqueness Test

008235853-04, P = 431.352452 Days, E = 153.930995 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.04	3.42	3.30	5.74	5.86	3.90	1.32	-1.26	-3.70	0.11	-2.32	0.60	1.00	0.63	0.00



Stellar Parameters For KIC 008235853

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6754^{+189}_{-260}	$3.914^{+0.357}_{-0.127}$	$-0.240^{+0.250}_{-0.300}$	$2.210^{+0.509}_{-0.945}$	$1.460^{+0.189}_{-0.351}$	$0.191^{+0.584}_{-0.069}$
	+3%/-4%	+9%/-3%	+104%/-125%	+23%/-43%	+13%/-24%	+307%/-36%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008235853-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1580 ± 207	$18.84^{+17.21}_{-12.50}$	534^{+42}_{-54}	4755^{+3277}_{-1012}	4008^{+30289}_{-2932}
Alt.	-11367 ± 3327	$23.75^{+20.26}_{-15.26}$	536^{+44}_{-55}	6681^{+6695}_{-1643}	$17733^{+113035}_{-13110}$

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

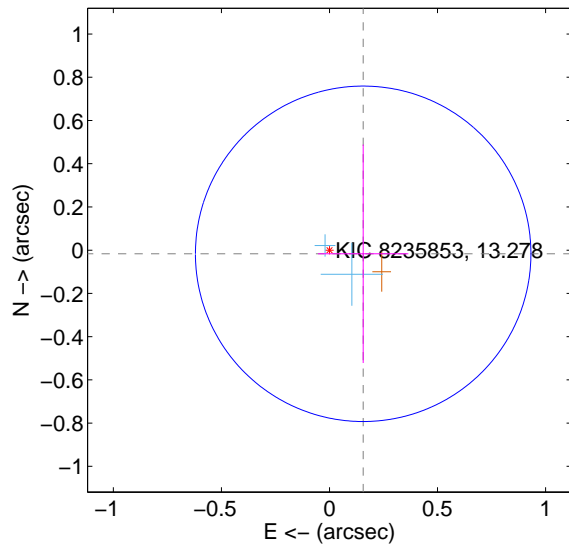
Supplemental centroid analysis for 008235853-04. Kepler magnitude: 13.28. Transit SNR 5.73

There are 3 quarters with good PRF difference image offsets

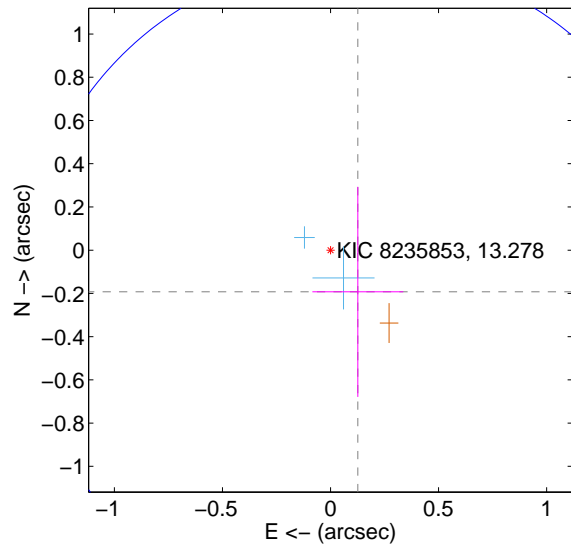
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.157 ± 0.259	0.61	-0.156 ± 0.209	-0.017 ± 0.505
PRF-fit source offset from KIC position	0.231 ± 0.515	0.45	-0.126 ± 0.210	-0.193 ± 0.486
photometric centroid source offset	0.33 ± 0.17	1.88	0.20 ± 0.18	-0.26 ± 0.17

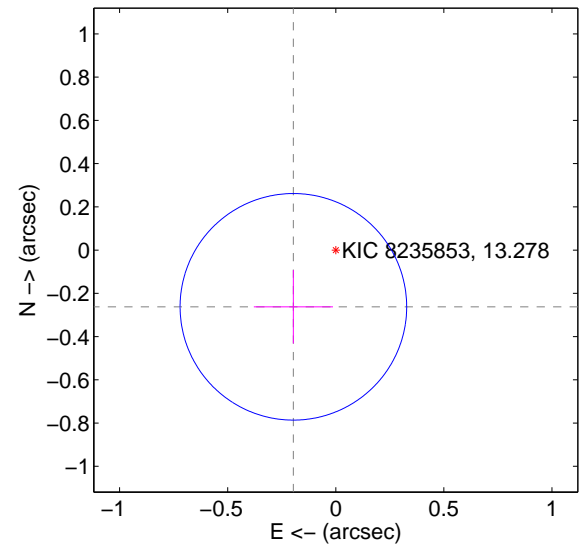
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

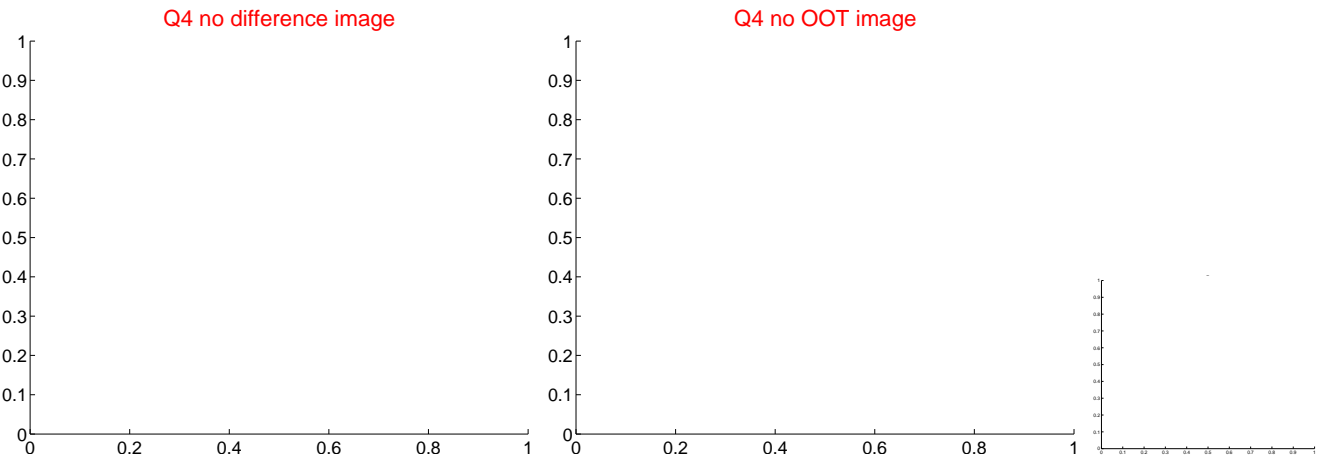
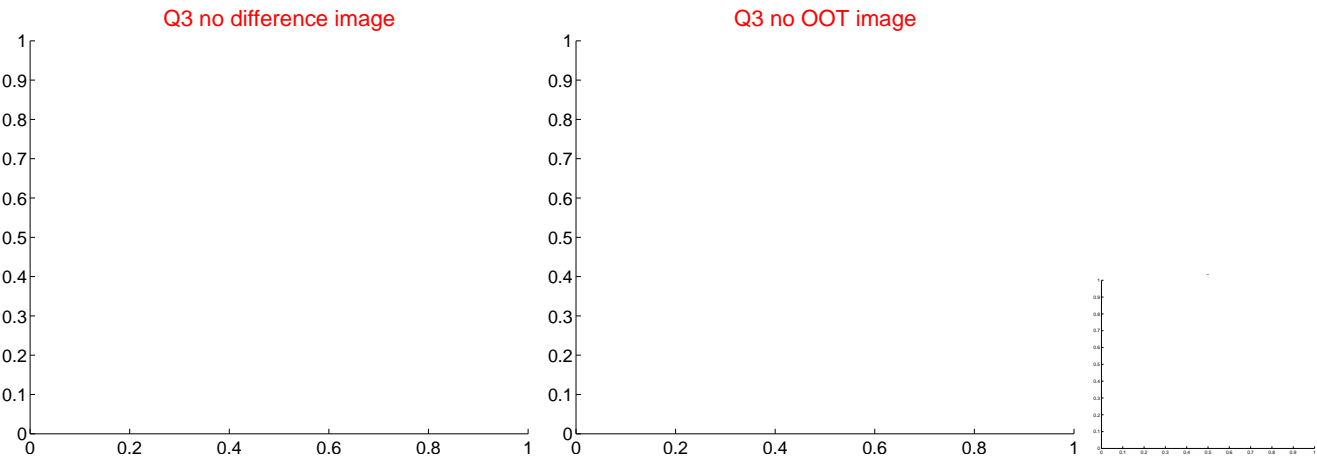
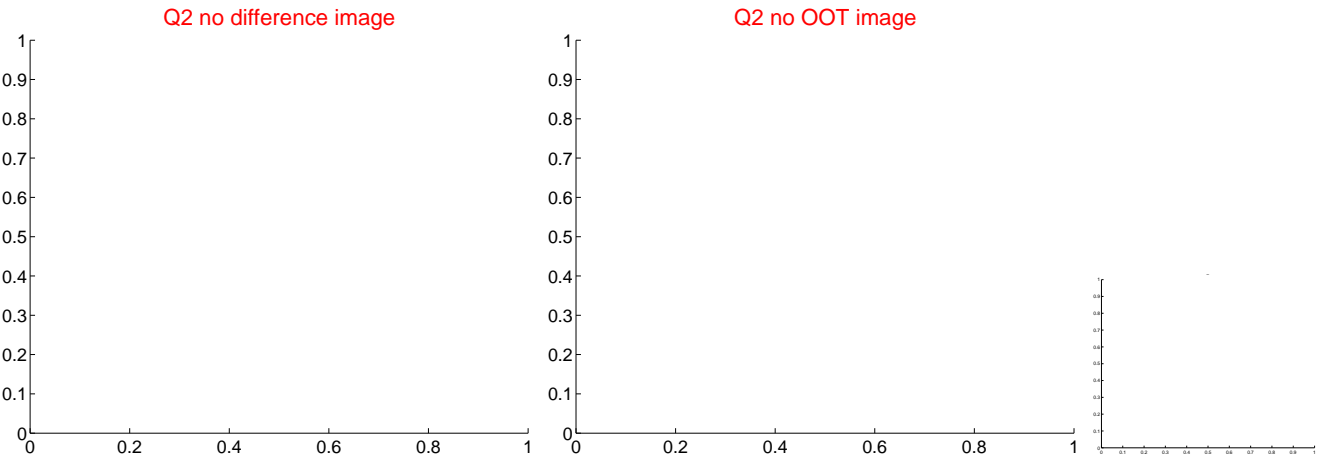
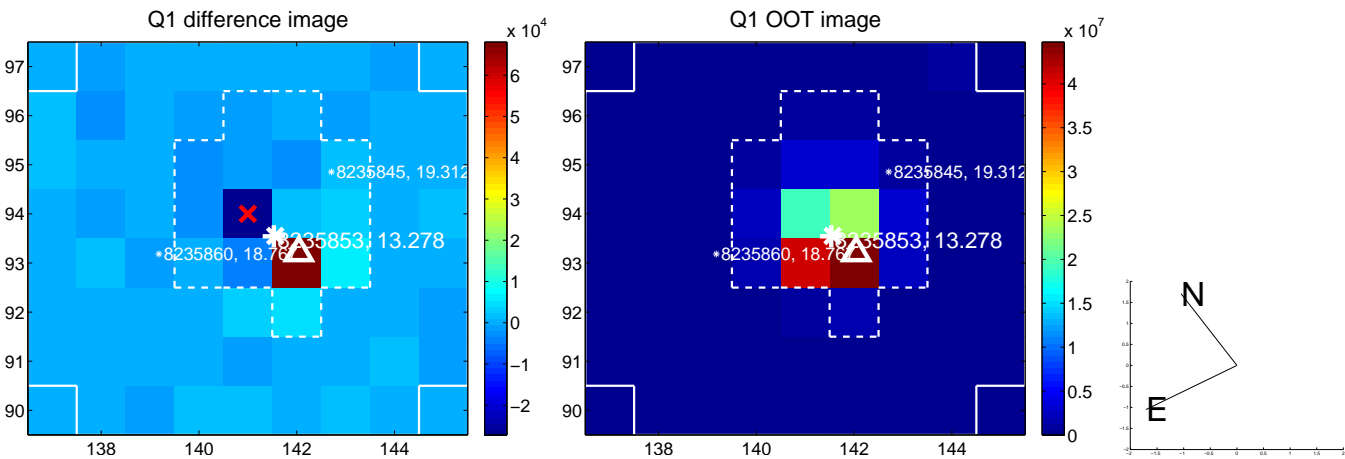


offset from photometric centroids

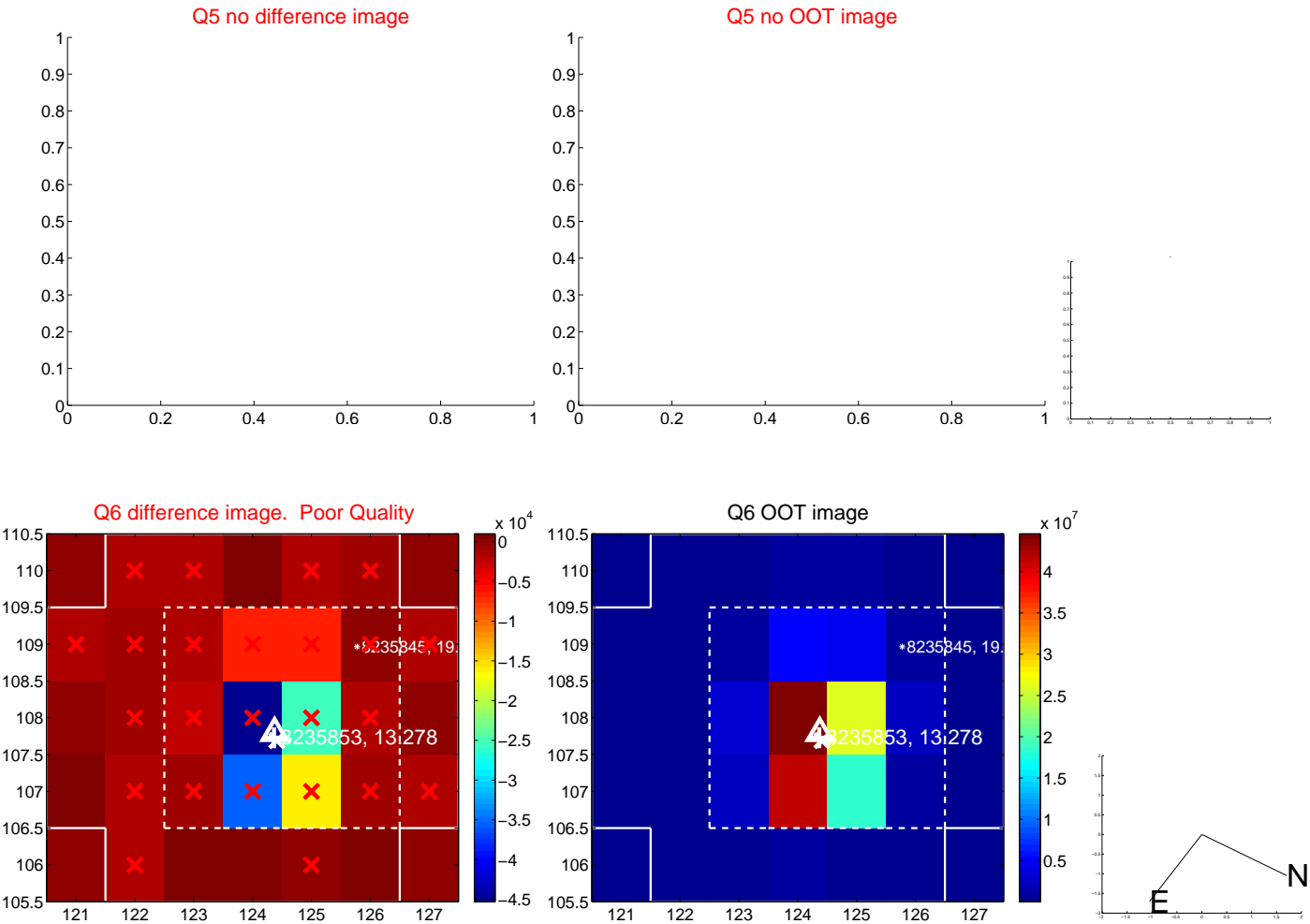


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

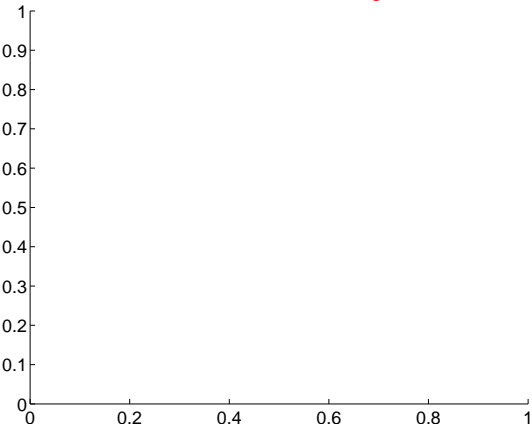


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

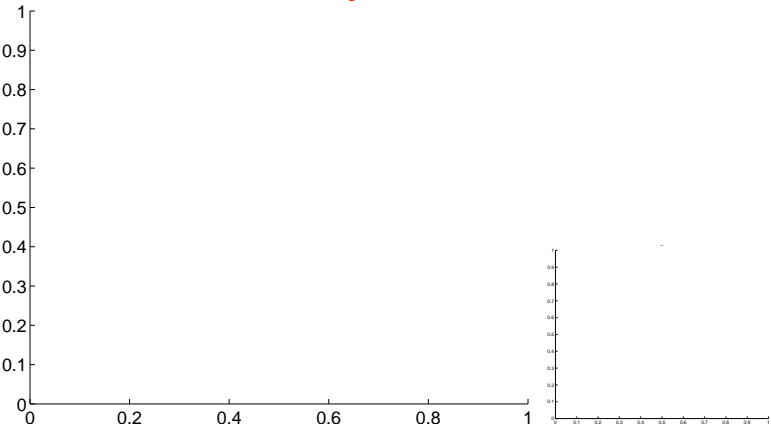


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

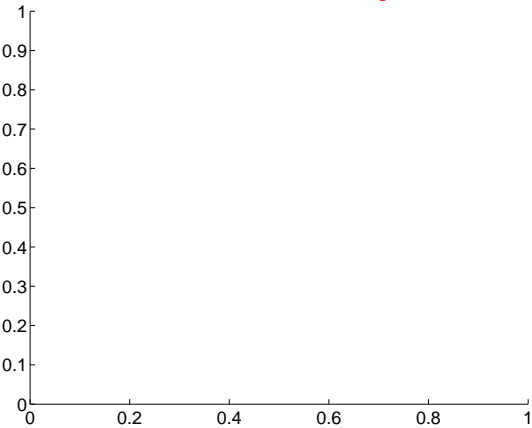
Q9 no difference image



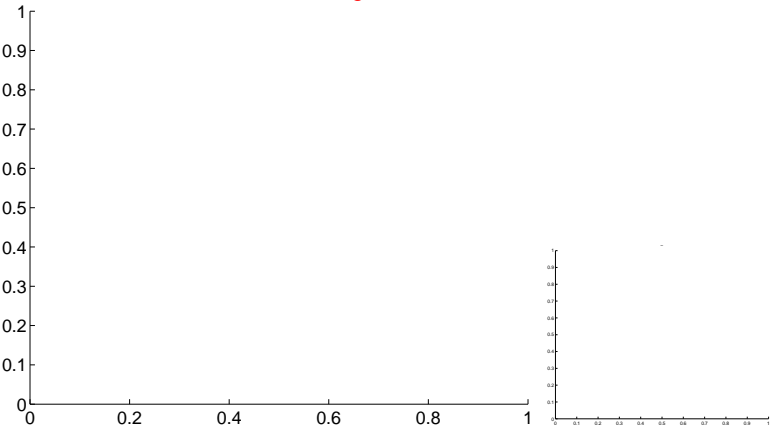
Q9 no OOT image



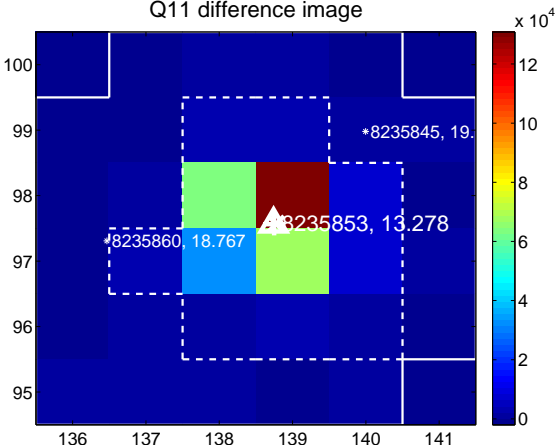
Q10 no difference image



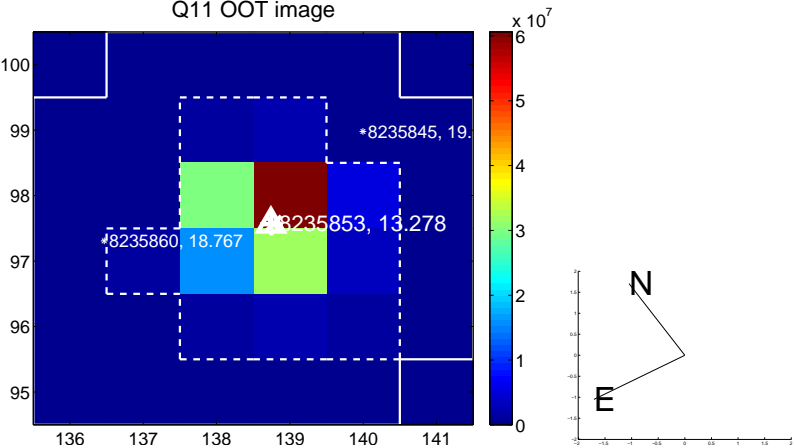
Q10 no OOT image



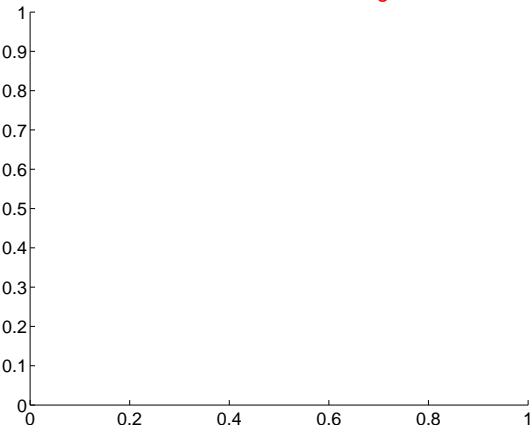
Q11 difference image



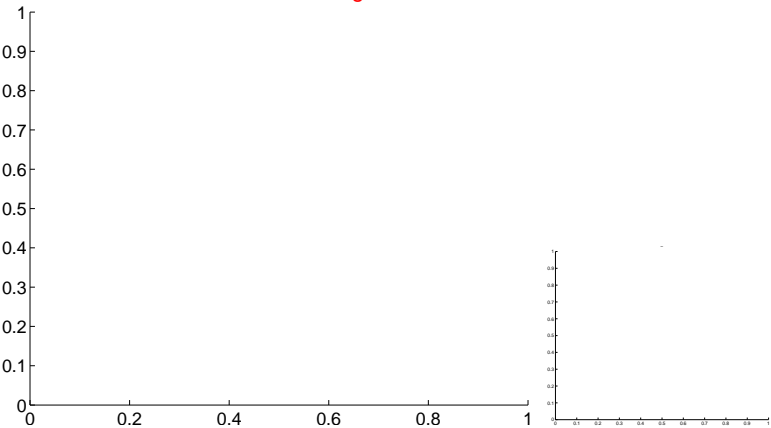
Q11 OOT image



Q12 no difference image

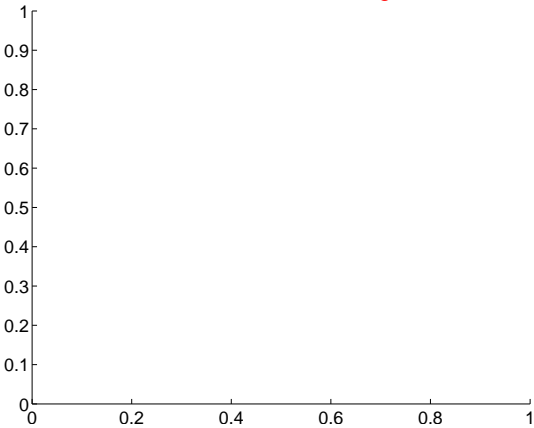


Q12 no OOT image

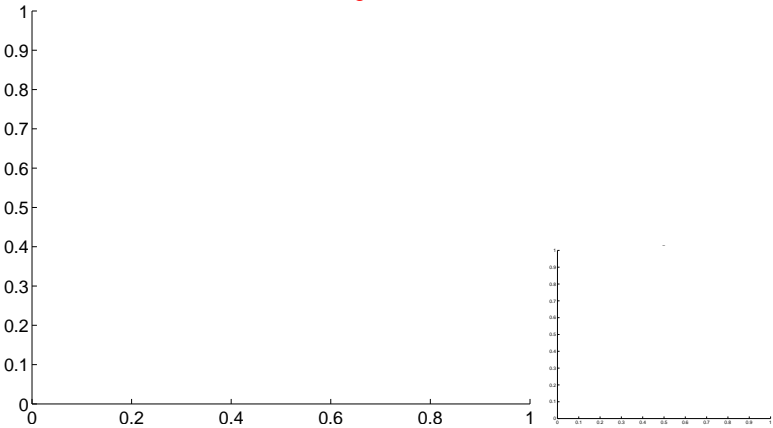


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

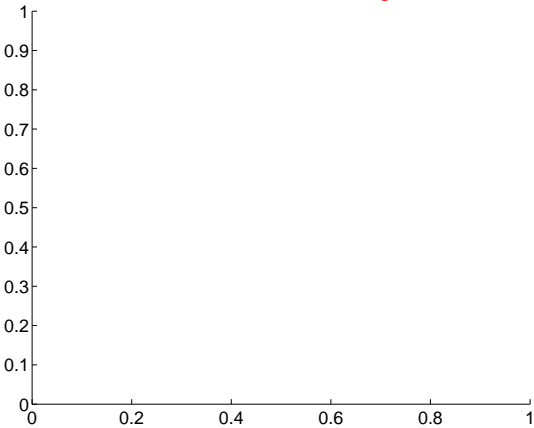
Q13 no difference image



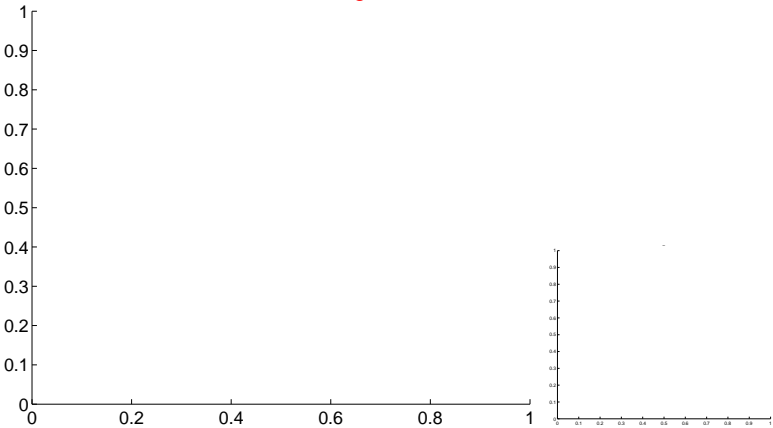
Q13 no OOT image



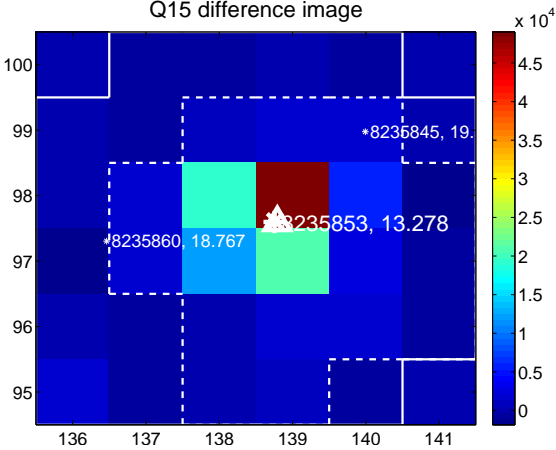
Q14 no difference image



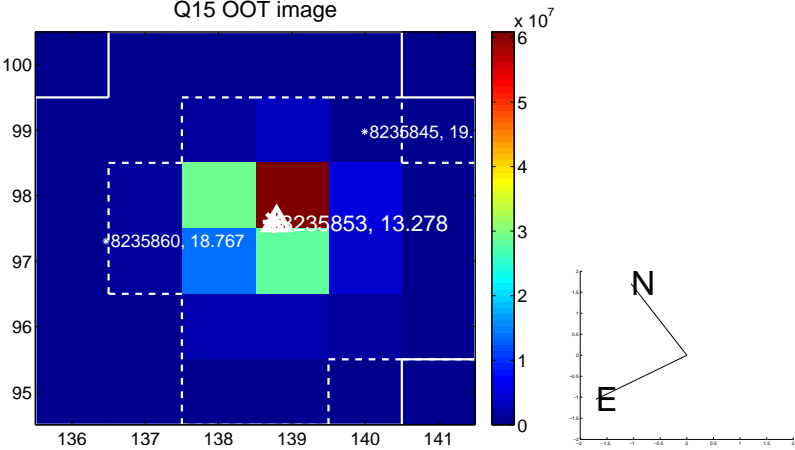
Q14 no OOT image



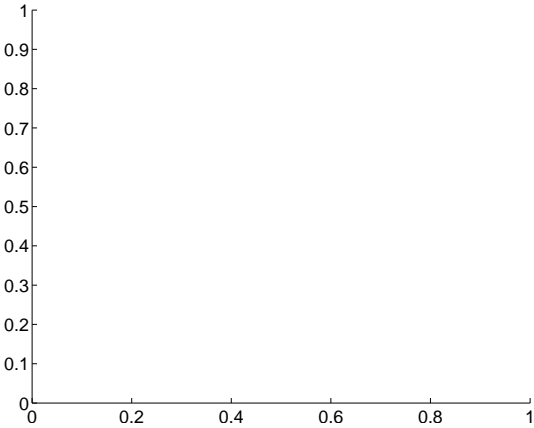
Q15 difference image



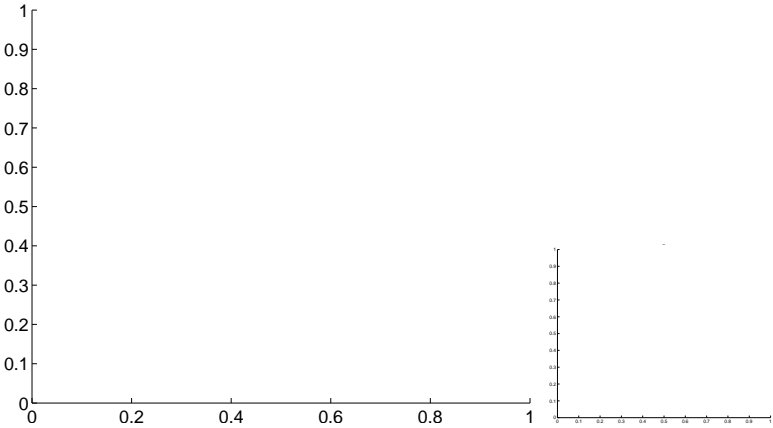
Q15 OOT image



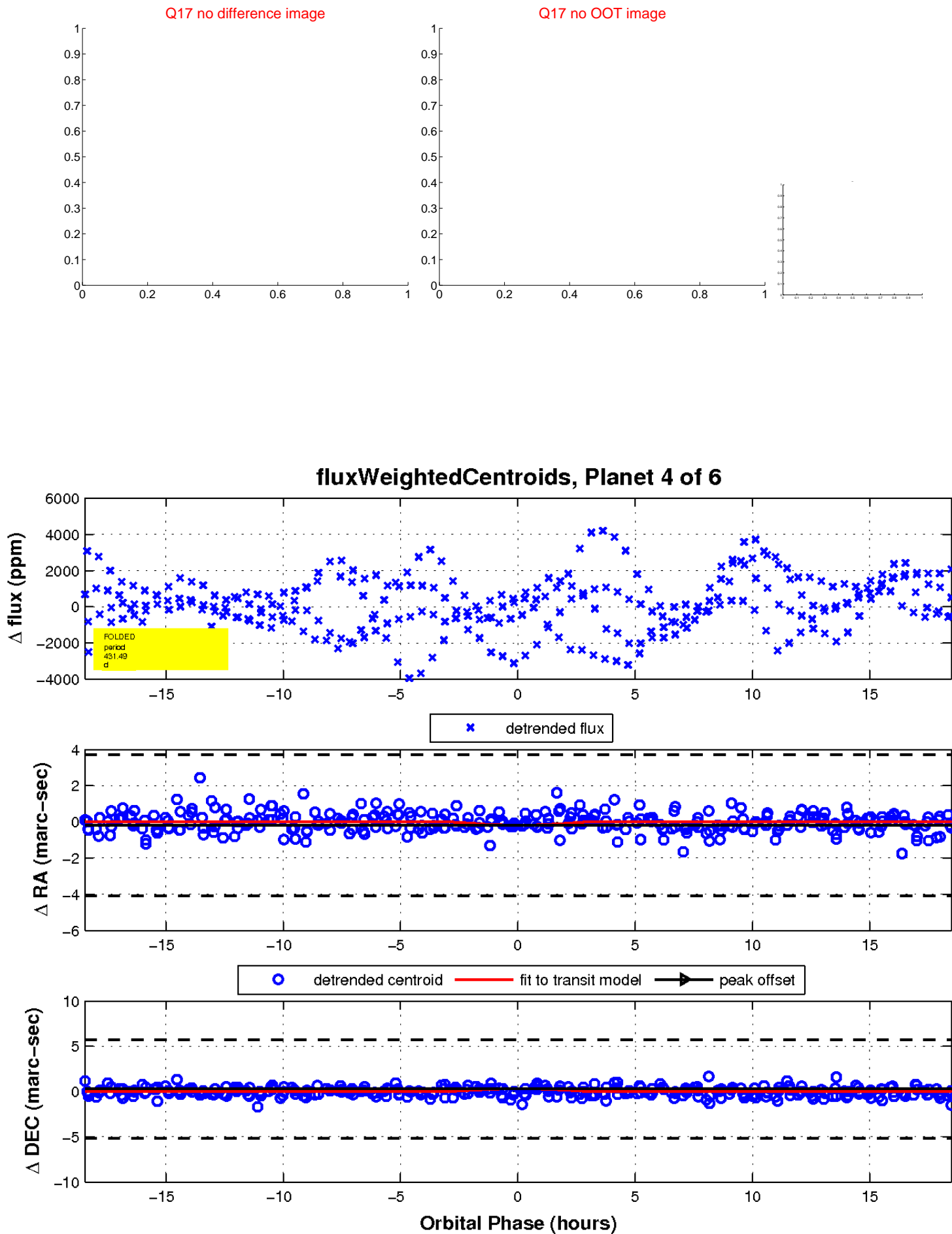
Q16 no difference image



Q16 no OOT image

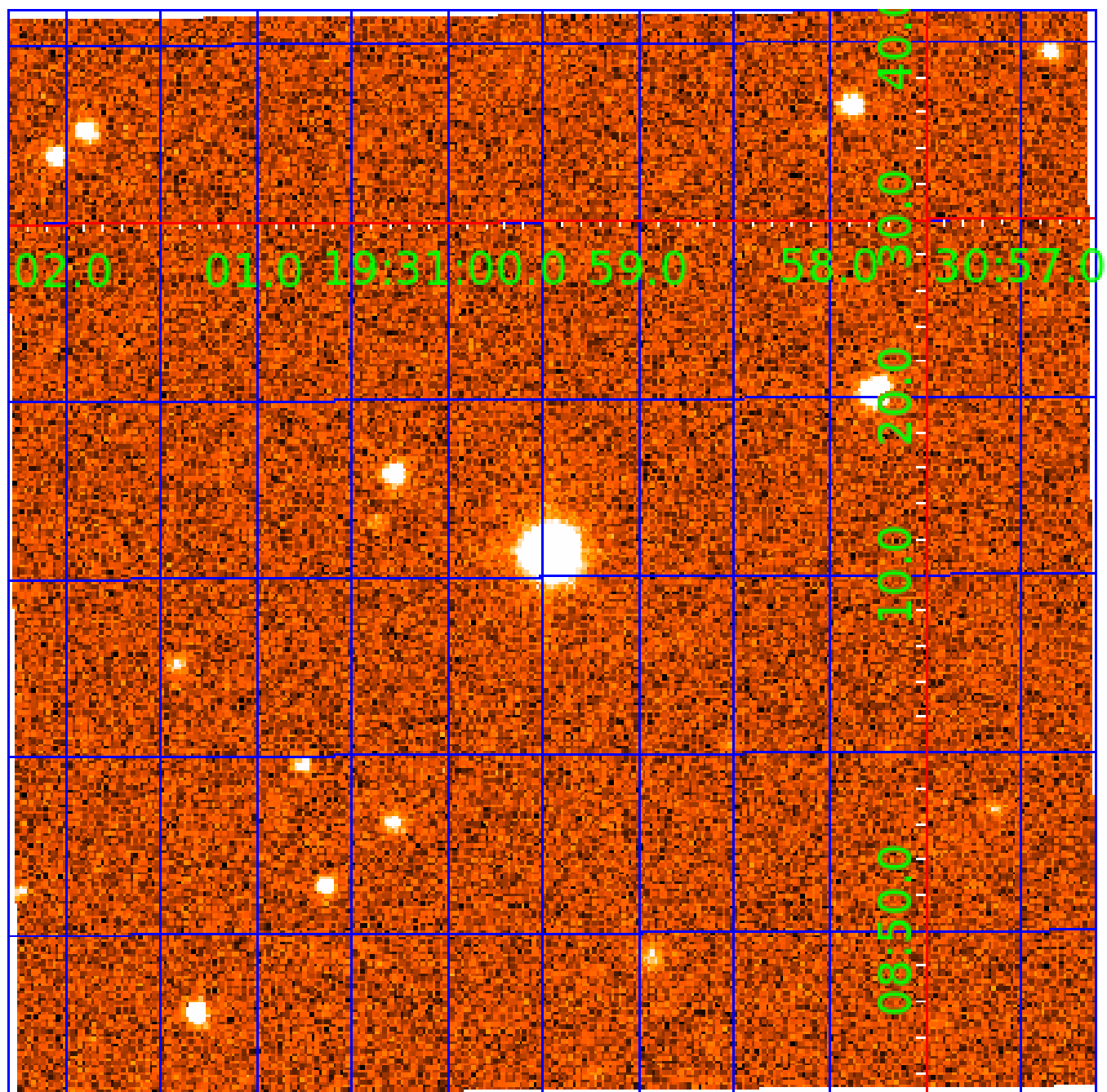


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008235853

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})
008235853-01	OBS	No	0.675124	132.160657	53.7	1.821	9.0	6.4	2.21	6754	1.88	31157.01
008235853-02	OBS	No	3.888529	132.910403	243.6	16.221	9.0	9.1	2.21	6754	4.16	3017.77
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008235853-06	OBS	No	322.727647	353.293448	223.3	5.000	8.7	-1.0	2.21	6754	3.33	8.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008235853-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT
008235853-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
008235853-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
008235853-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
008235853-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008235853-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

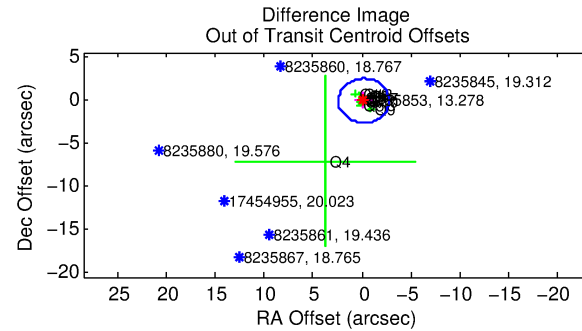
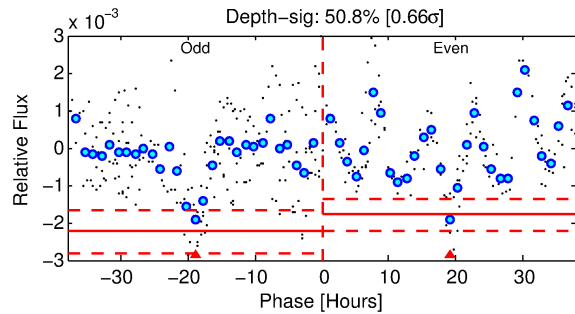
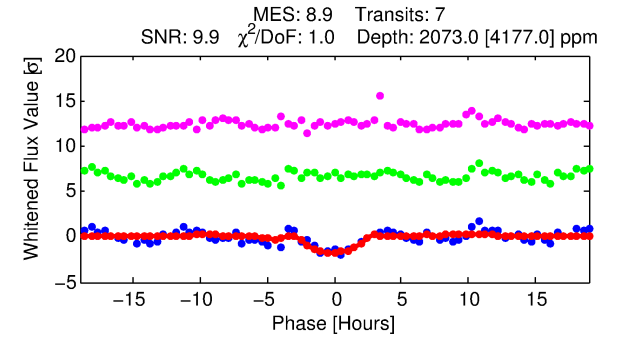
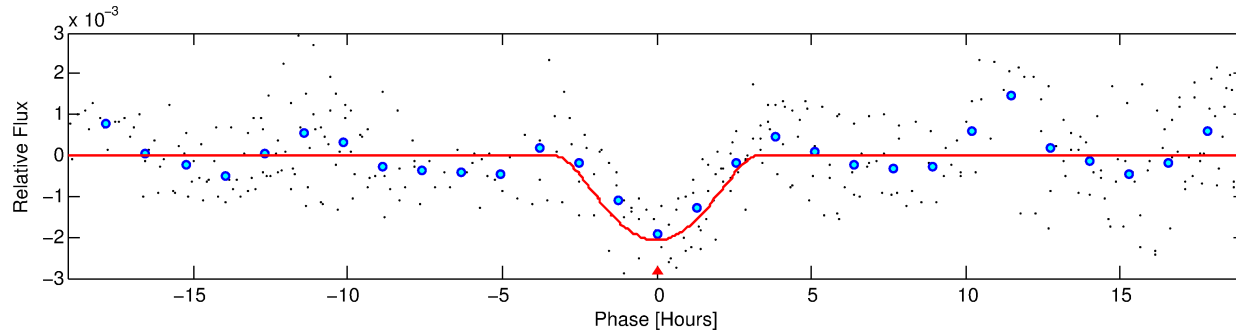
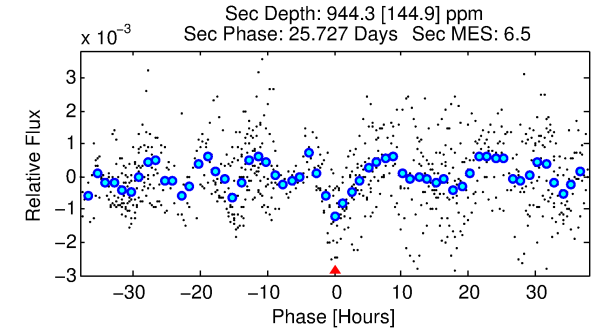
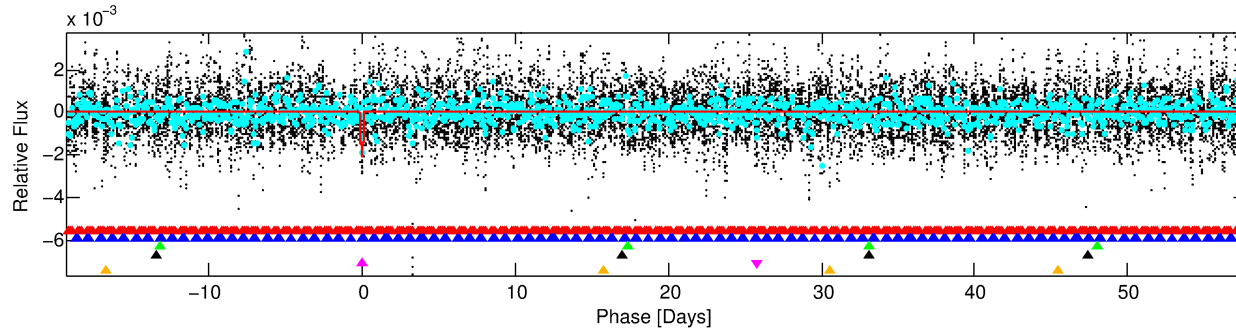
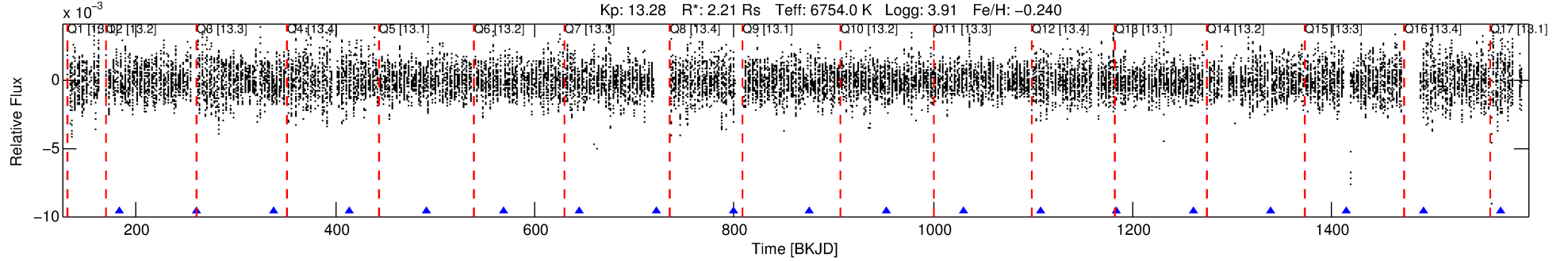
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008235853-05

No Significant Match Found

DV One-Page Summary

KIC: 8235853 Candidate: 5 of 6 Period: 76.984 d



DV Fit Results:

Period = 76.98378 [0.00148] d
Epoch = 183.5138 [0.0191] BKJD
Rp/R* = 0.0767 [0.1618]
a/R* = 36.96 [16.65]
b = 1.00 [0.34]
Seff = 56.35 [35.87]
Teq = 699 [111] K
Rp = 18.49 [39.80] Re
a = 0.4020 [0.1590] AU
Ag = 245.64 [1048.44] [0.23σ]
Teffp = 4276 [4518] K [0.79σ]

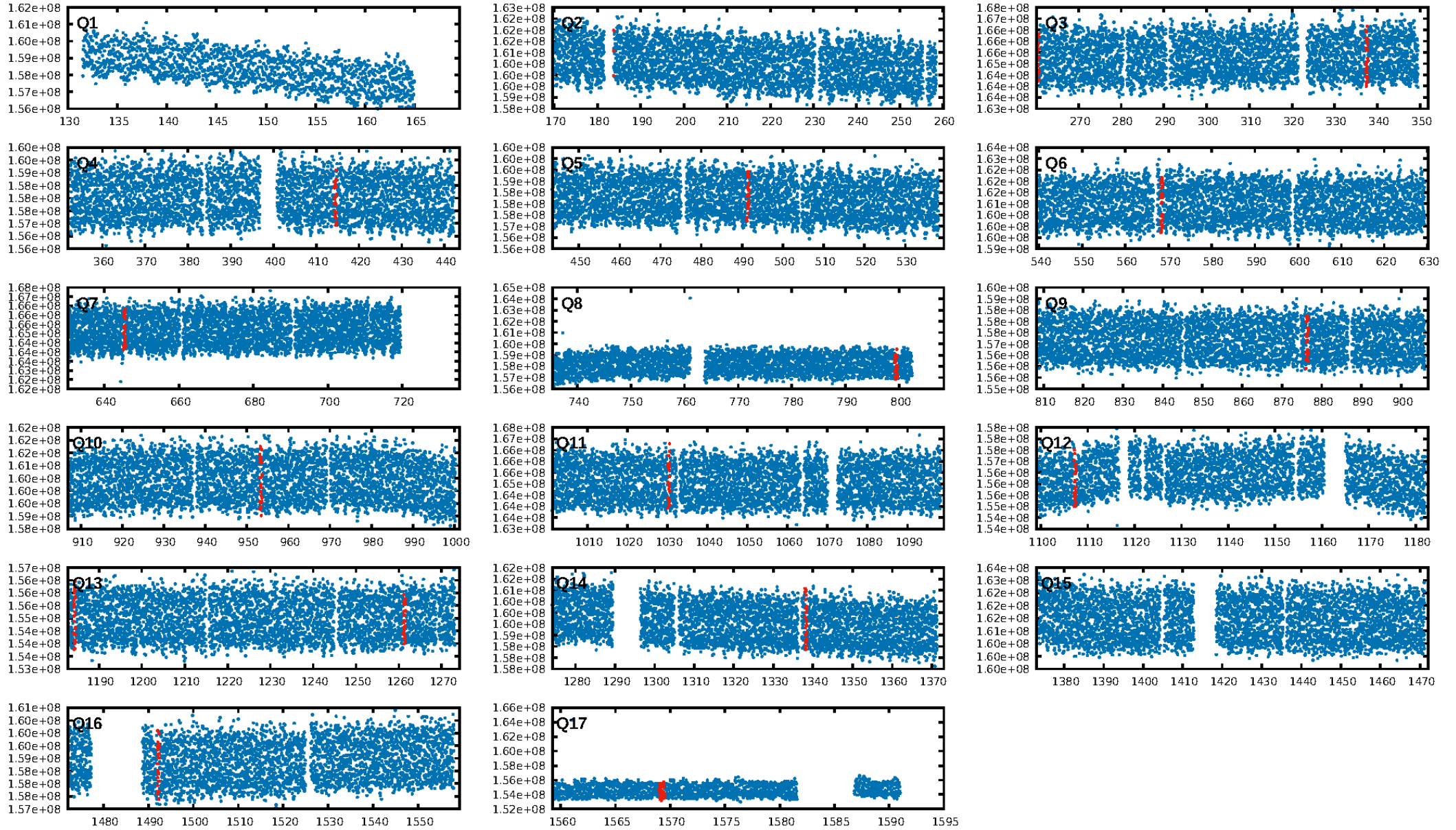
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [100.71σ]
LongPeriod-sig: 100.0% [729.64σ]
ModelChiSquare2-sig: 3.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -0.3224
Centroid-sig: 0.0%
Centroid-so: 0.178 arcsec [2.14σ]
OotOffset-rm: 0.184 arcsec [0.21σ]
KicOffset-rm: 0.109 arcsec [0.13σ]
OotOffset-st: 1/2/4/4 [11]
KicOffset-st: 1/2/4/4 [11]
DiffImageQuality-fgm: 0.64 [7/11]
DiffImageOverlap-fno: 0.00 [0/11]

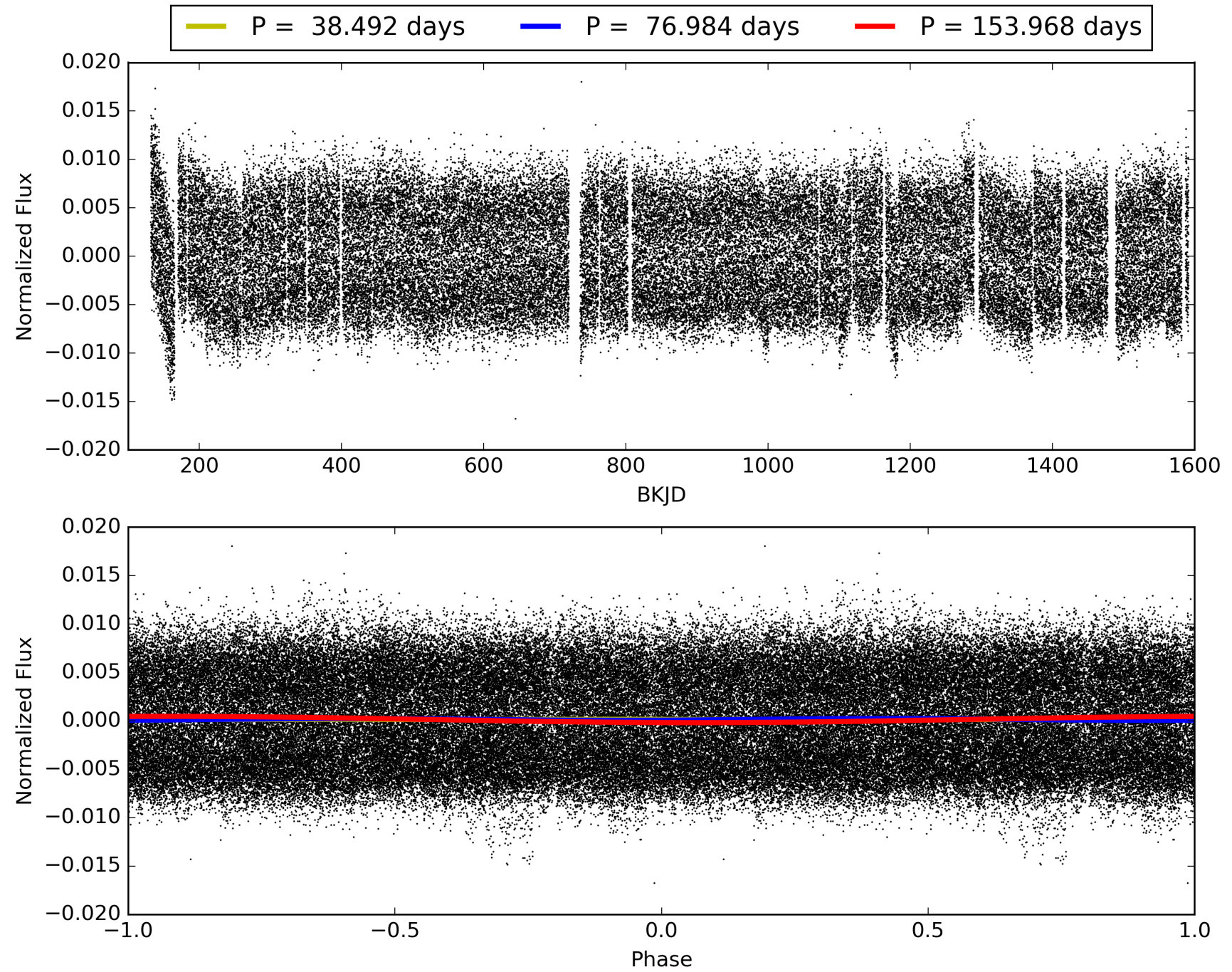
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 18:19:47 Z

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

TCE 008235853-05, PDC Light Curves

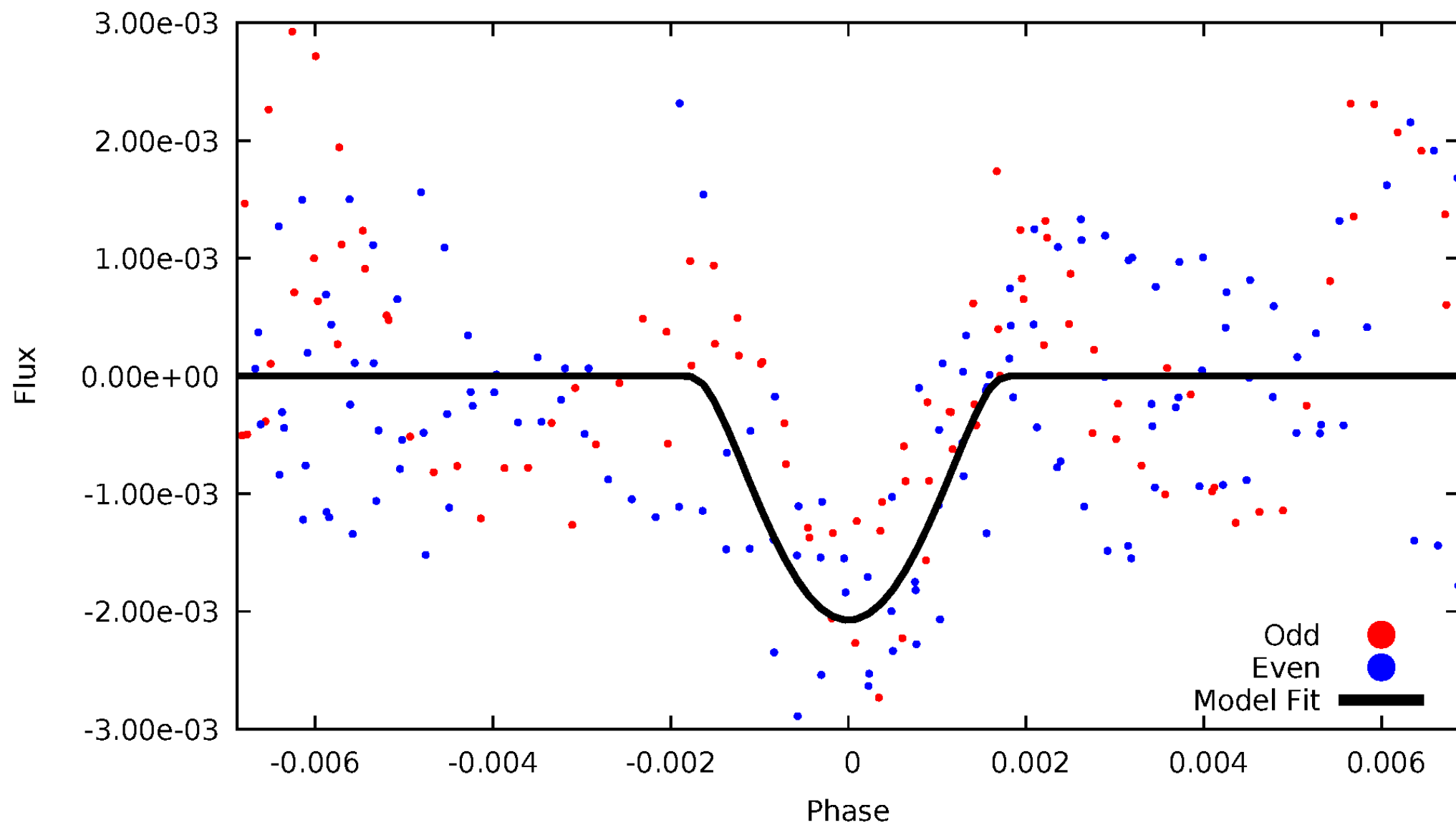


TCE 008235853-05



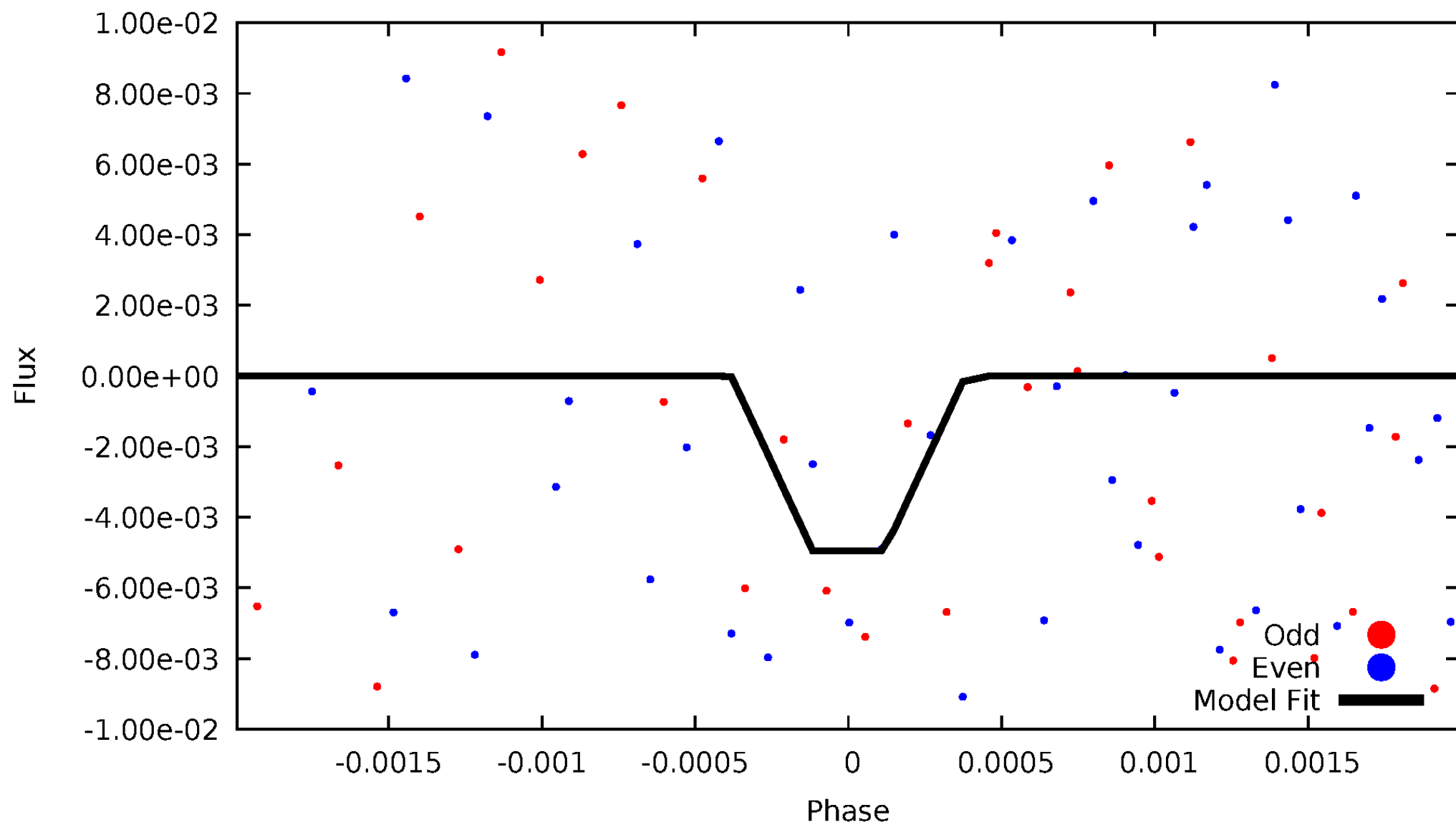
DV Odd/Even

TCE 008235853-05



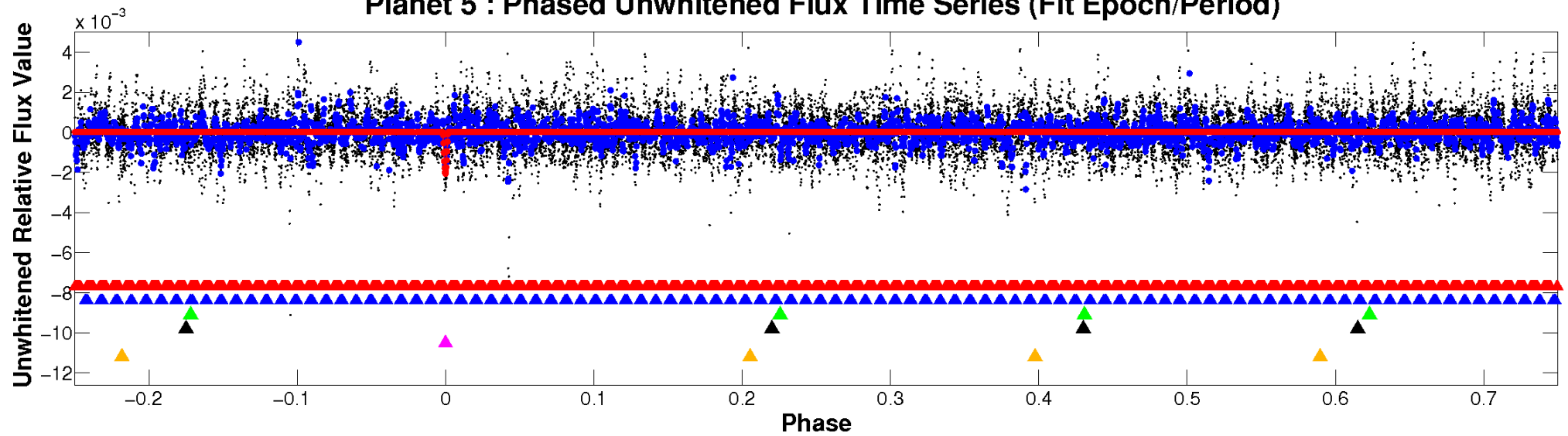
ALT Odd/Even

TCE 008235853-05

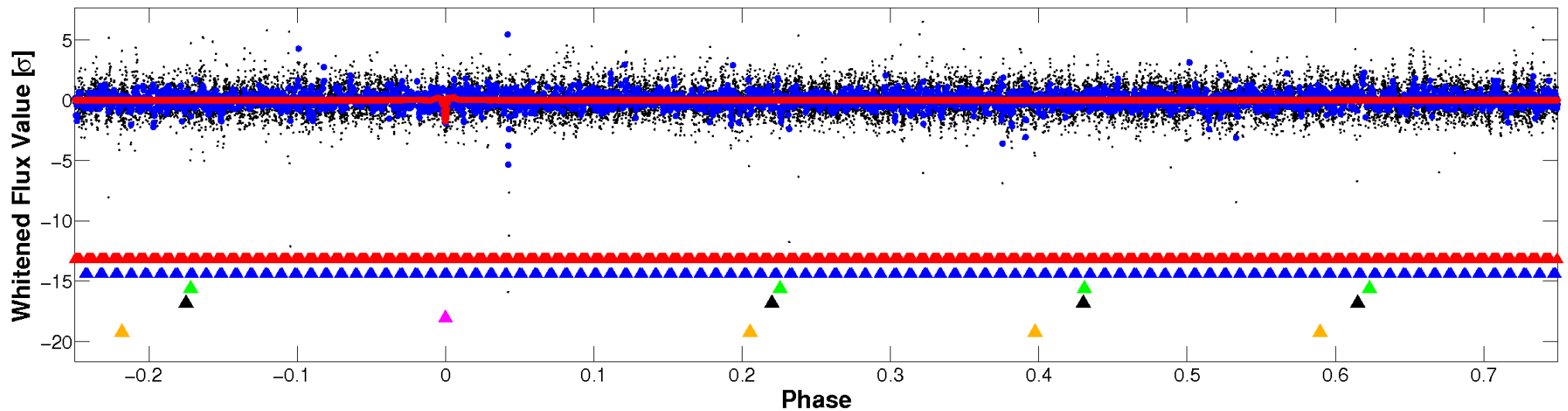


Non-Whitened Vs. Whitened Light Curve

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

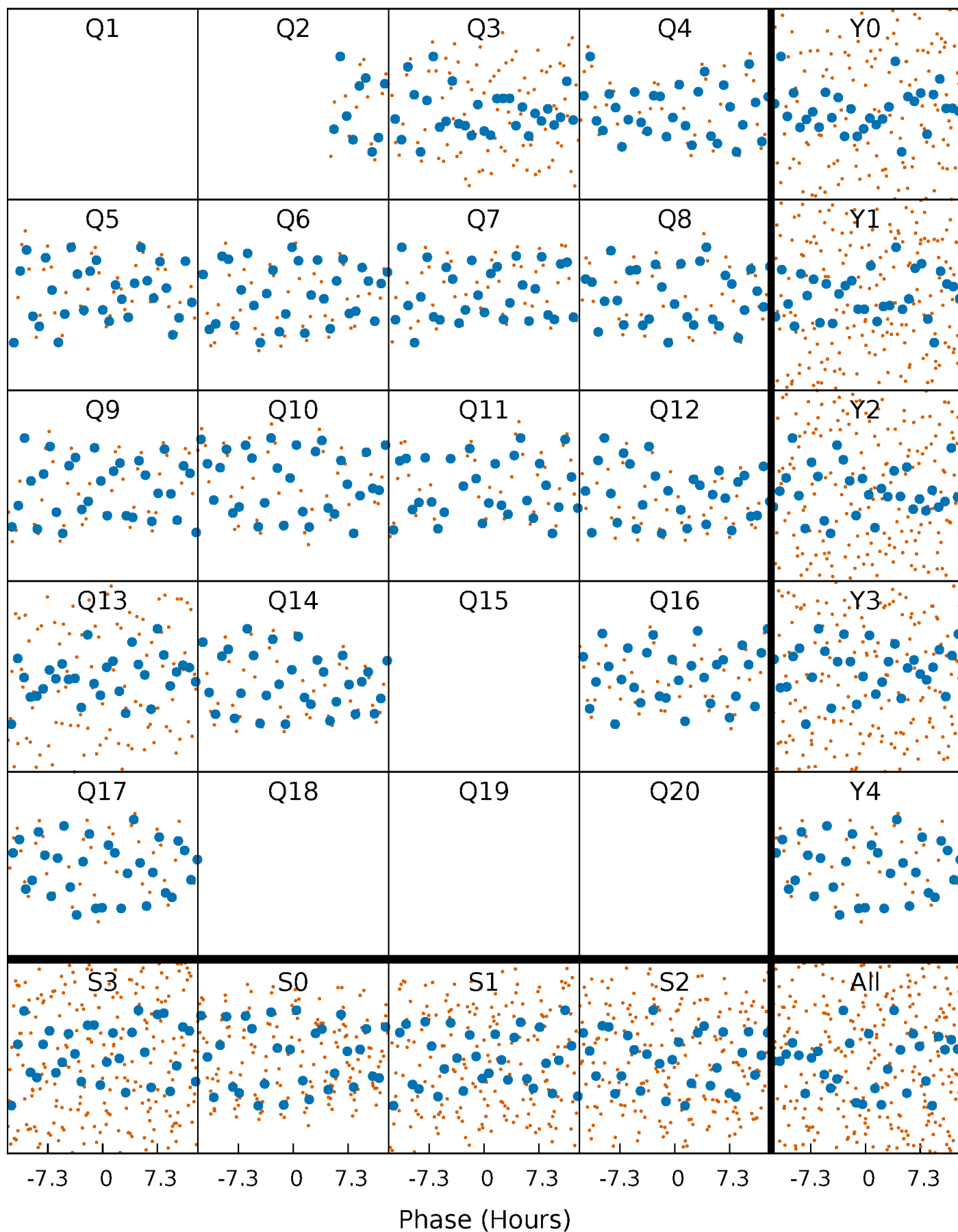


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



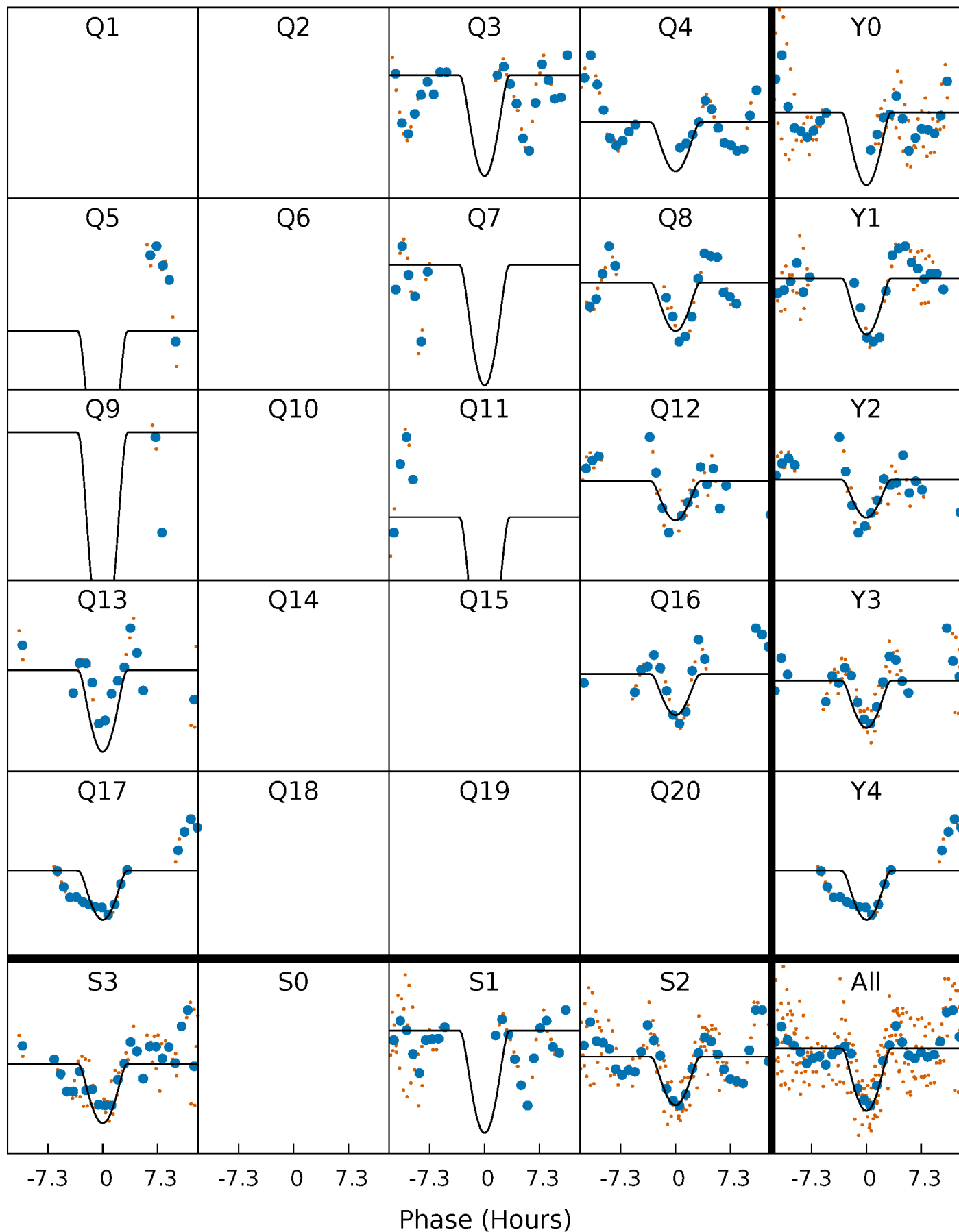
PDC Quarter-Phased Transit Curves

TCE 008235853-05 $P = 76.983779$ Days $T_0 = 183.513841$ (BKJD)



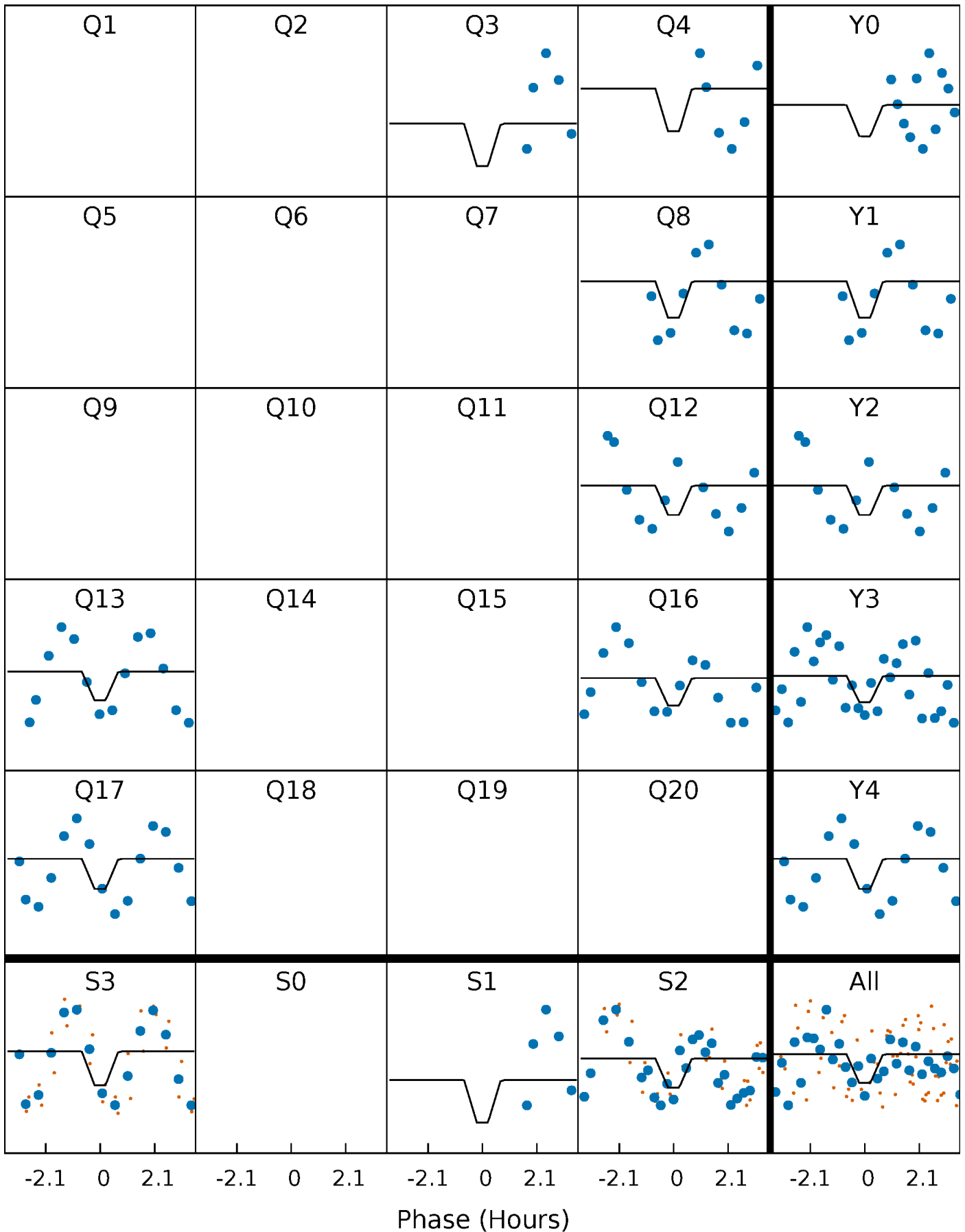
DV Quarter-Phased Transit Curves

TCE 008235853-05 $P = 76.983779$ Days $T_0 = 183.513841$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

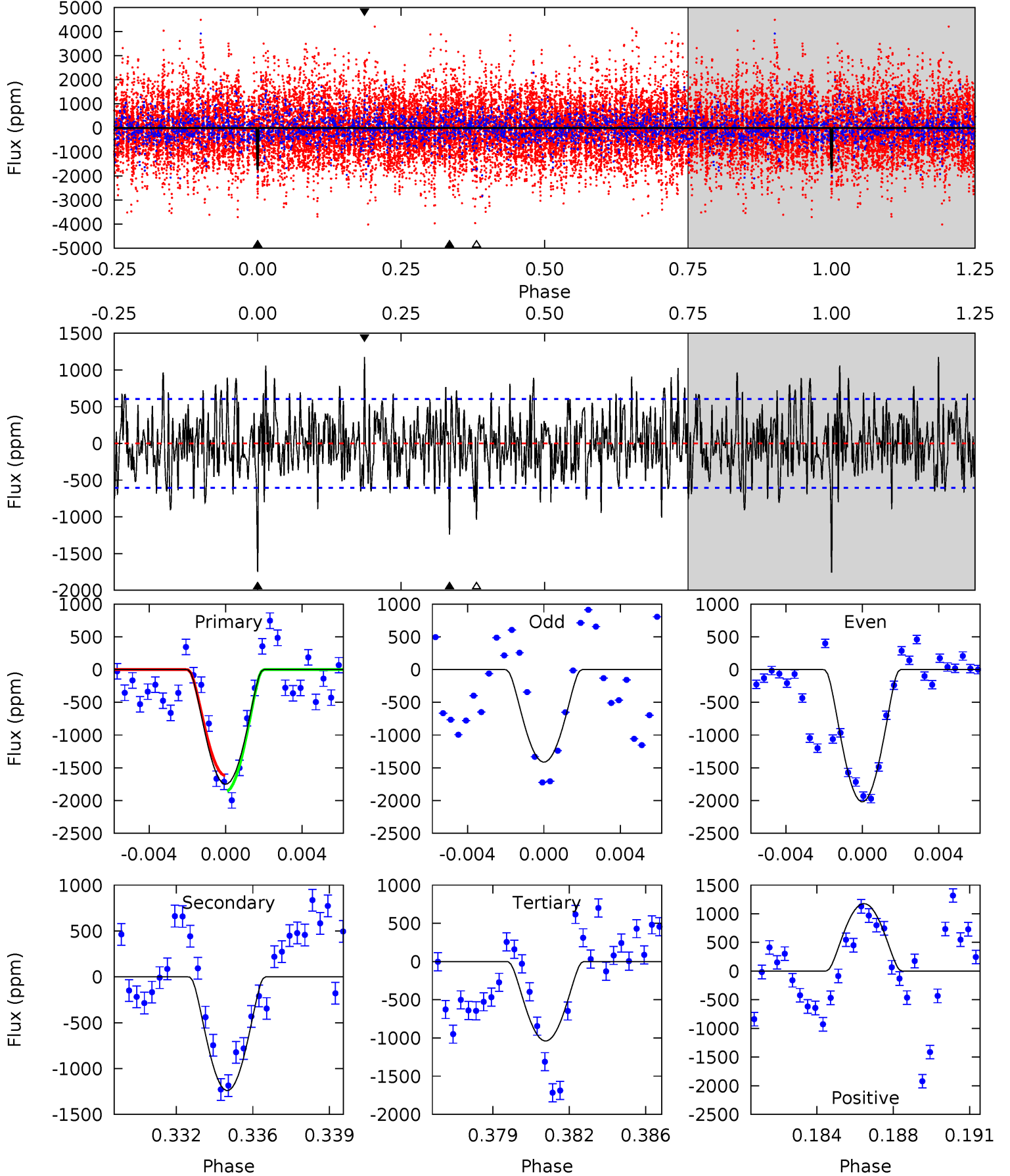
TCE 008235853-05 $P = 76.980799$ Days $T_0 = 183.514682$ (BKJD)



DV Model-Shift Uniqueness Test

008235853-05, P = 76.983779 Days, E = 106.530062 Days

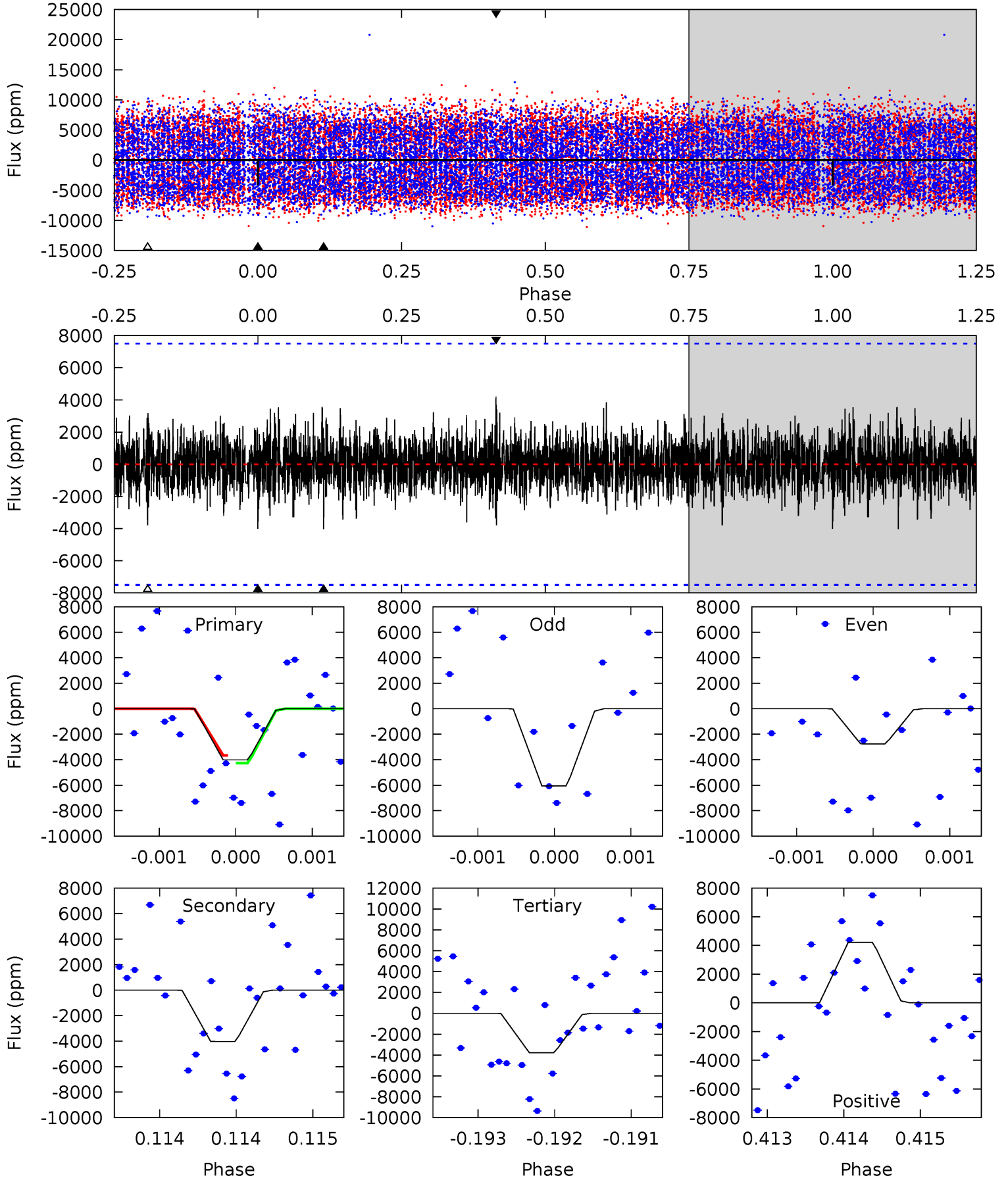
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.1	10.7	8.96	10.1	5.22	2.91	2.93	6.13	4.96	1.73	0.55	2.59	0.81	0.40	1.01



Alt Model-Shift Uniqueness Test

008235853-05, P = 76.980799 Days, E = 106.533883 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.95	2.96	2.78	3.09	5.51	3.39	0.76	0.17	-0.15	0.18	-0.14	1.19	0.82	0.51	0.22



Stellar Parameters For KIC 008235853

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6754^{+189}_{-260}	$3.914^{+0.357}_{-0.127}$	$-0.240^{+0.250}_{-0.300}$	$2.210^{+0.509}_{-0.945}$	$1.460^{+0.189}_{-0.351}$	$0.191^{+0.584}_{-0.069}$
	+3%/-4%	+9%/-3%	+104%/-125%	+23%/-43%	+13%/-24%	+307%/-36%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008235853-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1240 ± 116	$31.35^{+32.86}_{-21.67}$	957^{+73}_{-104}	3766^{+2179}_{-716}	108^{+1038}_{-82}
Alt.	-4029 ± 1362	$31.78^{+31.84}_{-20.70}$	957^{+75}_{-93}	4621^{+3106}_{-1041}	353^{+2484}_{-274}

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

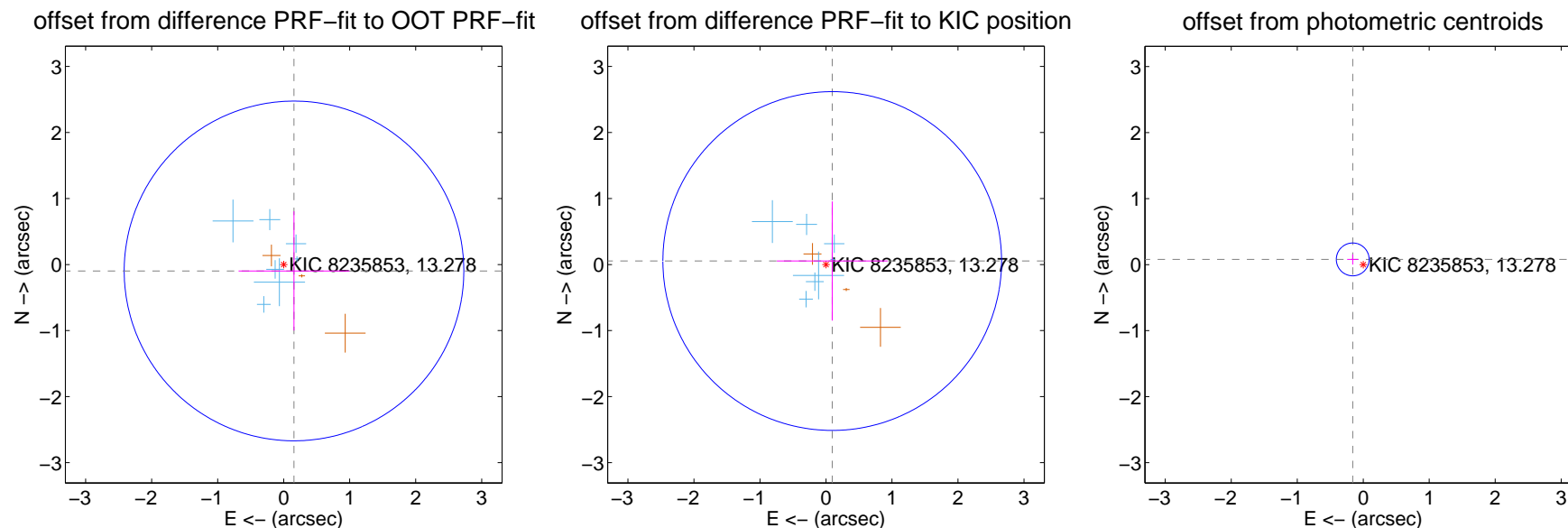
DV Centroid Data

Supplemental centroid analysis for 008235853-05. Kepler magnitude: 13.28. Transit SNR 9.92

There are 7 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

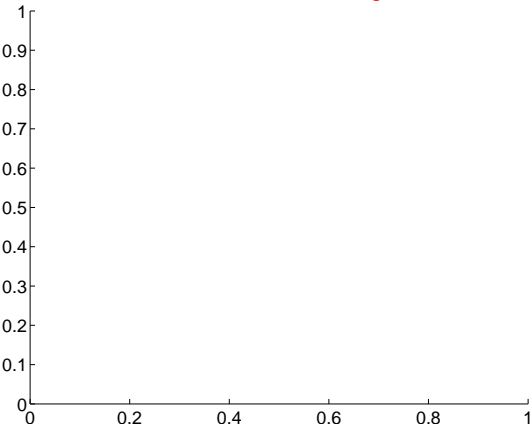
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.184 ± 0.857	0.21	-0.156 ± 0.840	-0.097 ± 0.902
PRF-fit source offset from KIC position	0.109 ± 0.855	0.13	-0.095 ± 0.840	0.053 ± 0.902
photometric centroid source offset	0.18 ± 0.08	2.14	0.16 ± 0.08	0.08 ± 0.08



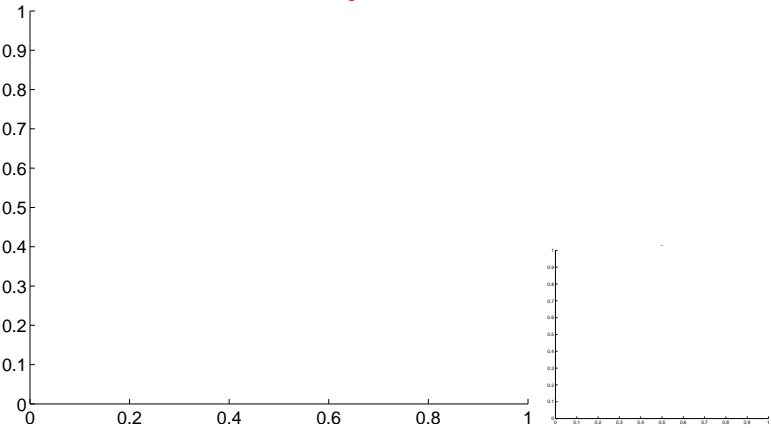
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

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

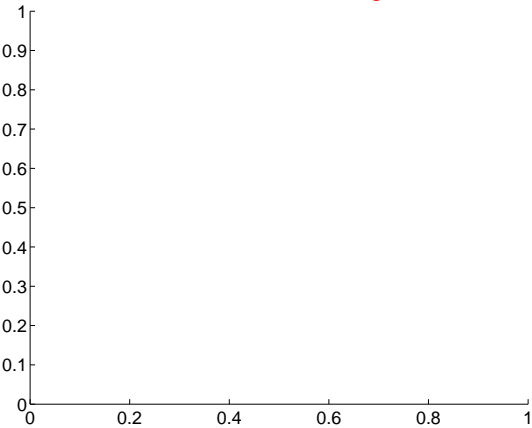
Q1 no difference image



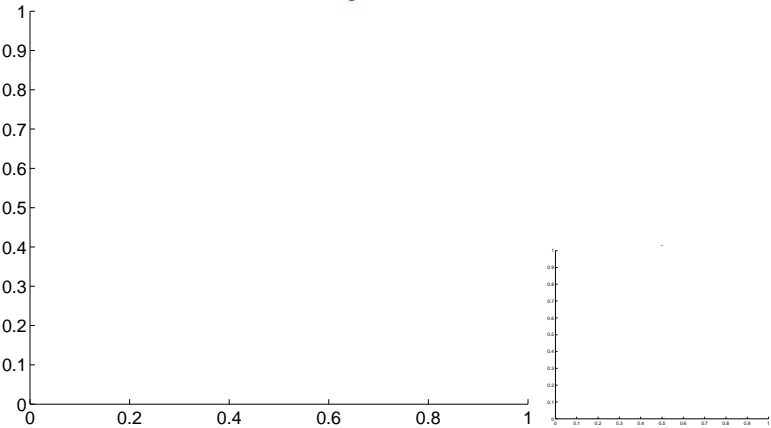
Q1 no OOT image



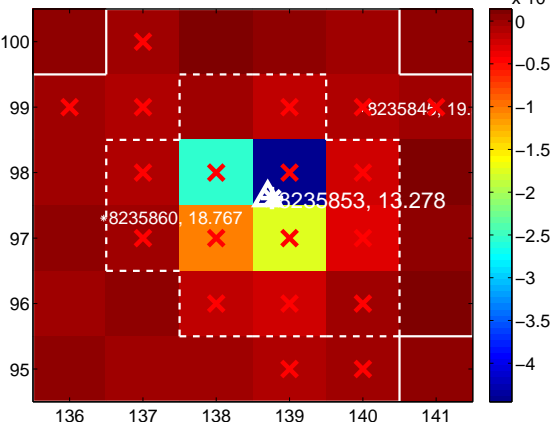
Q2 no difference image



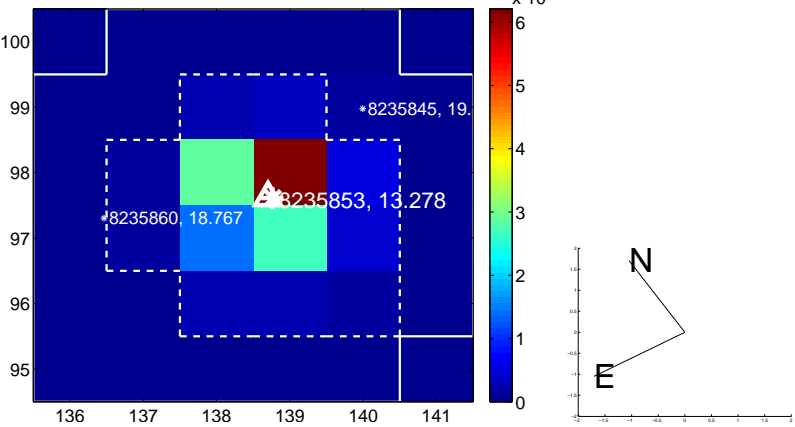
Q2 no OOT image



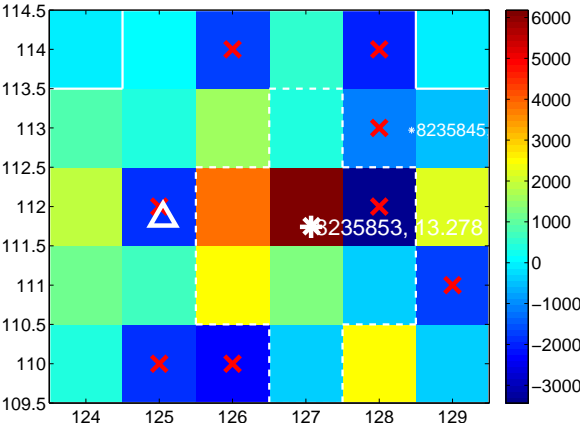
Q3 difference image. Poor Quality



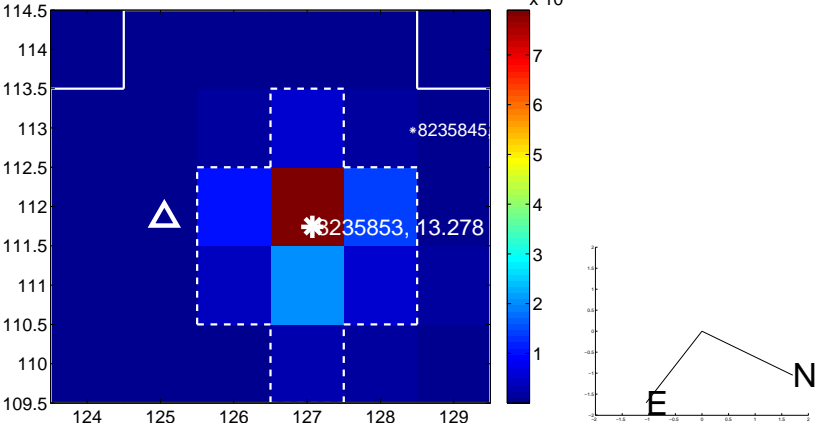
Q3 OOT image



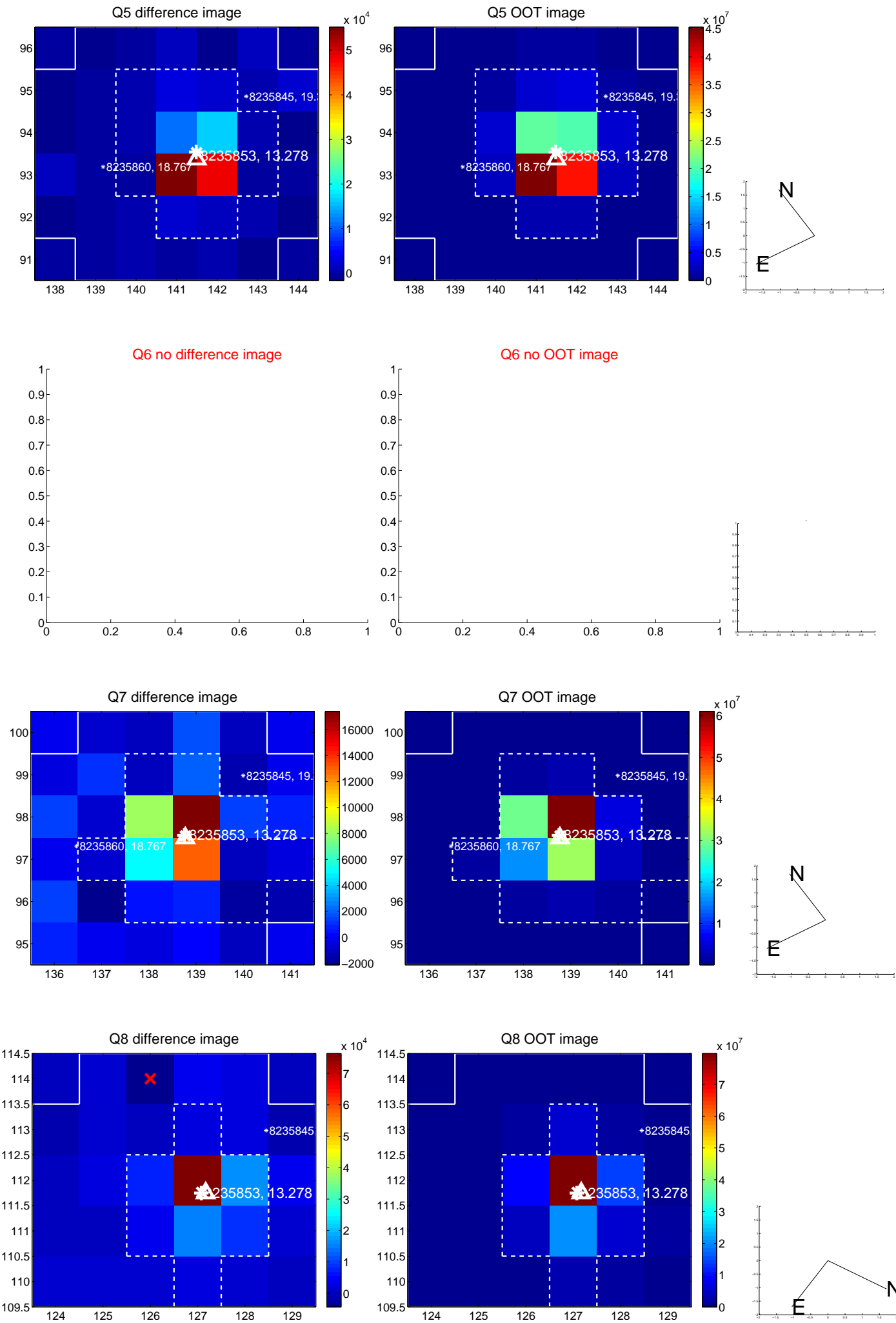
Q4 difference image. Poor Quality



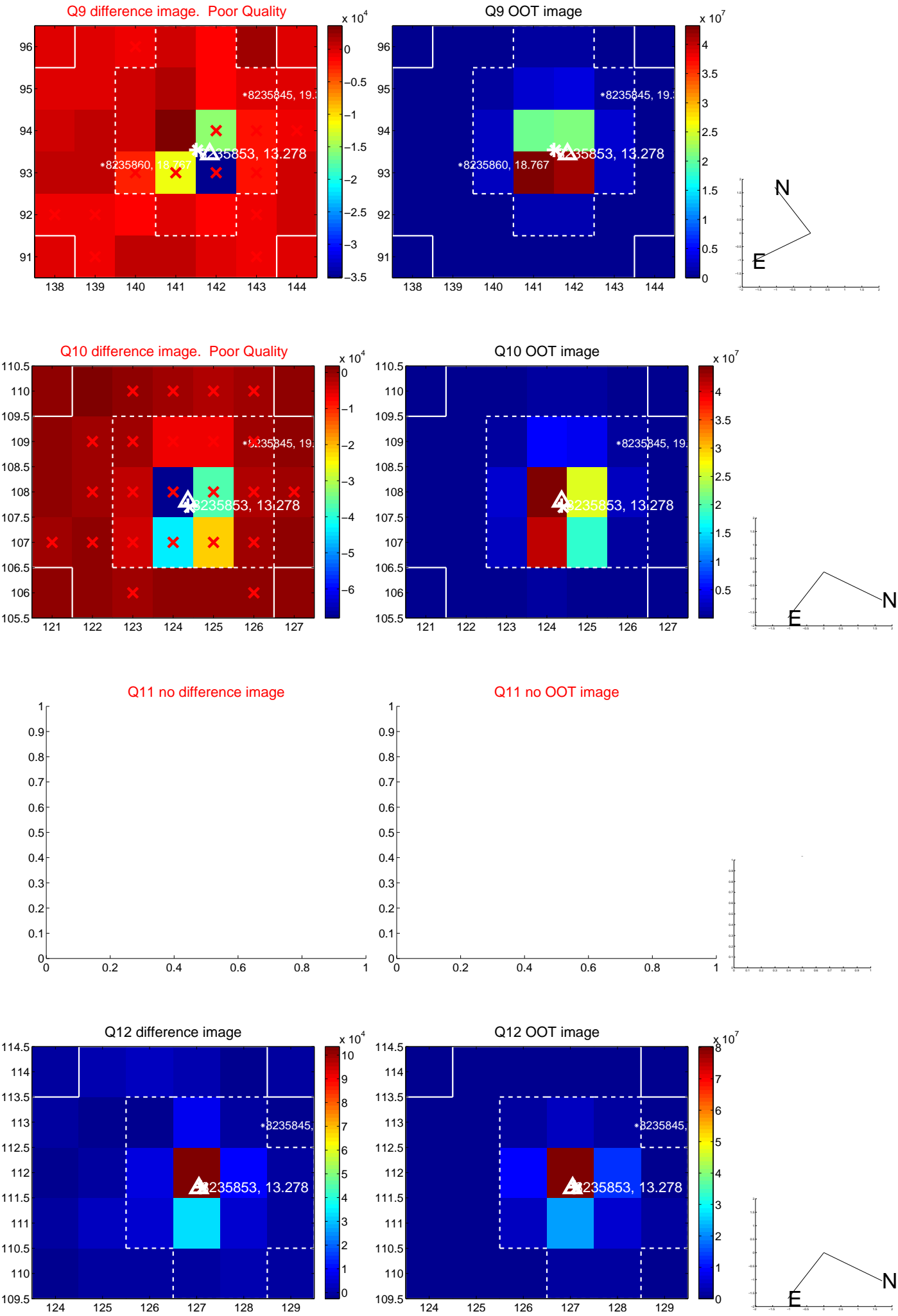
Q4 OOT image



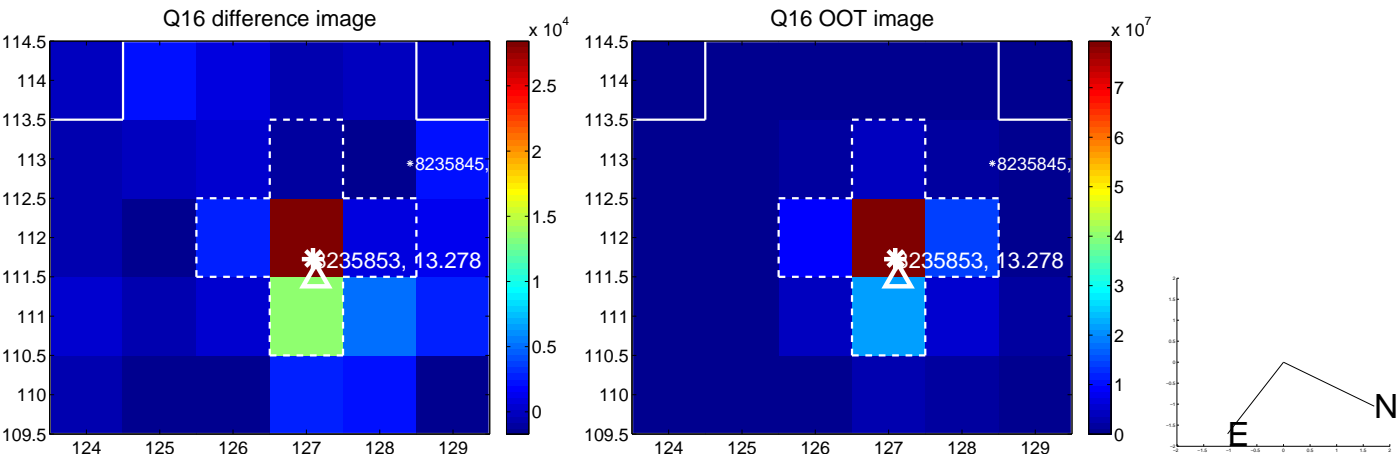
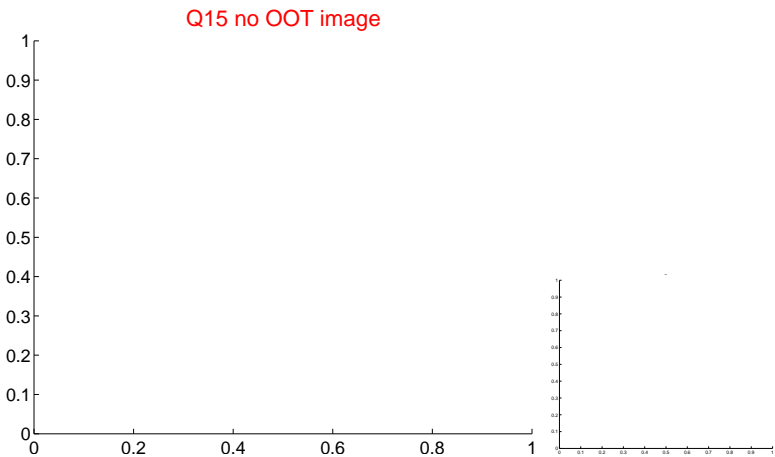
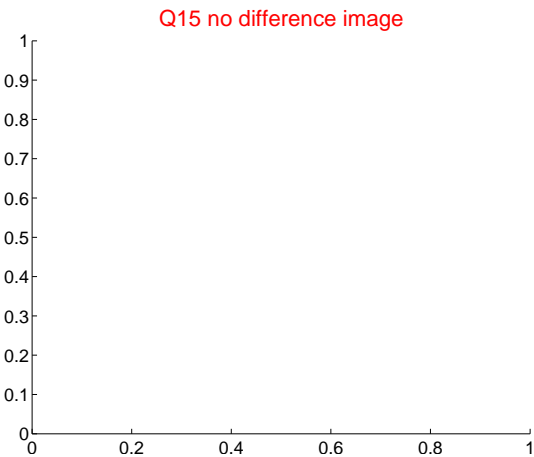
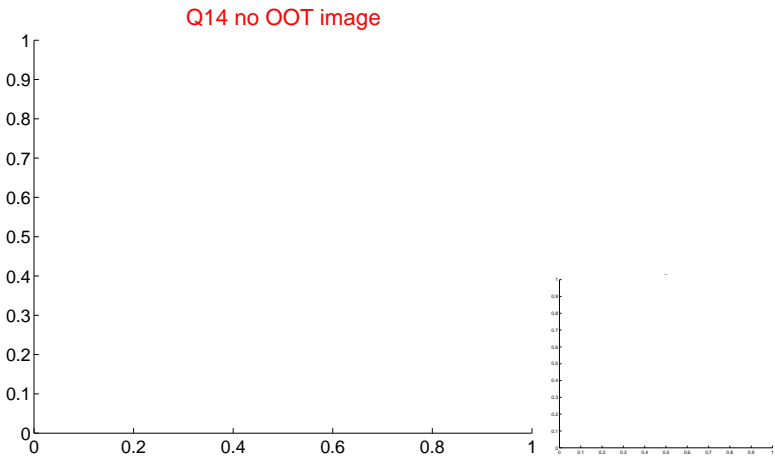
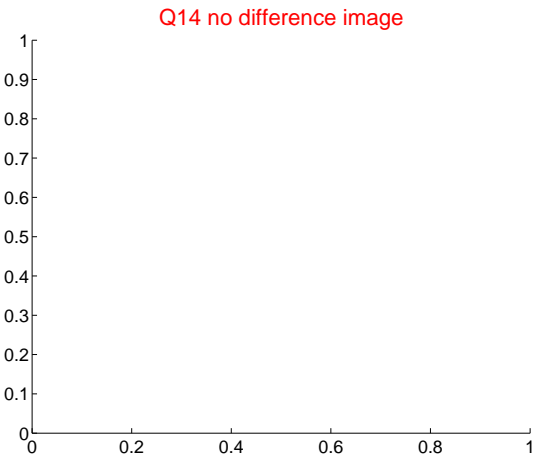
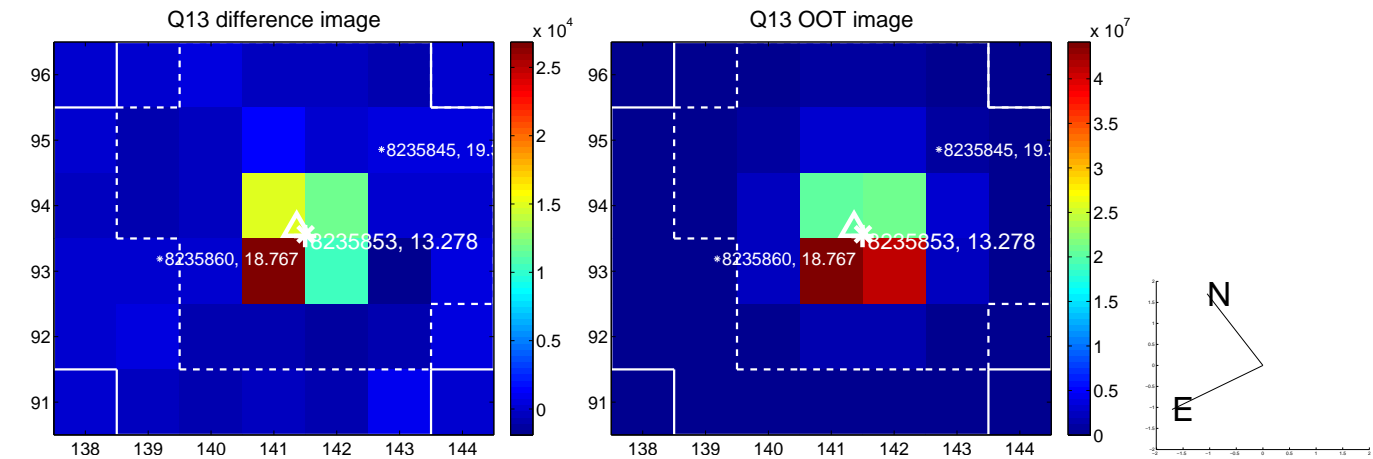
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



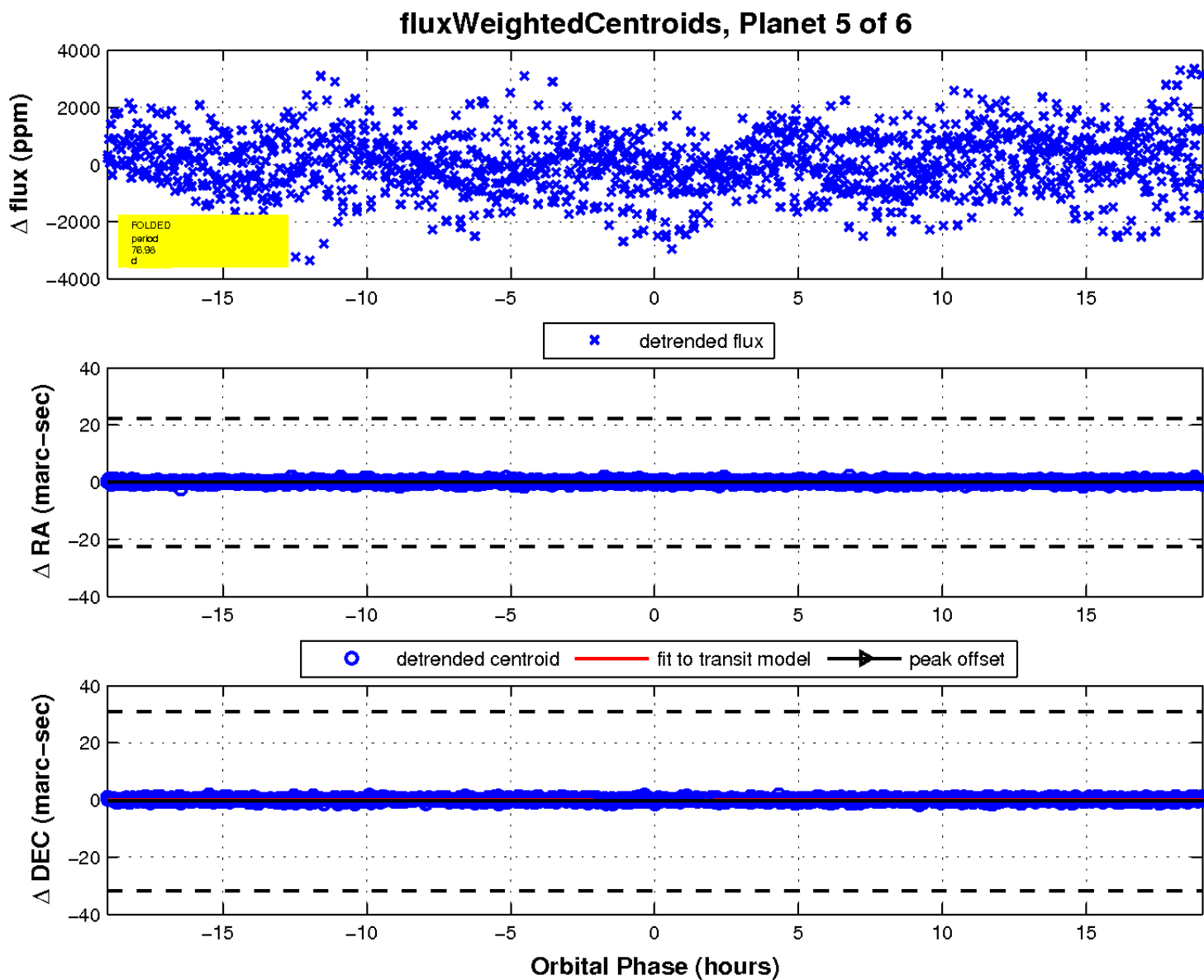
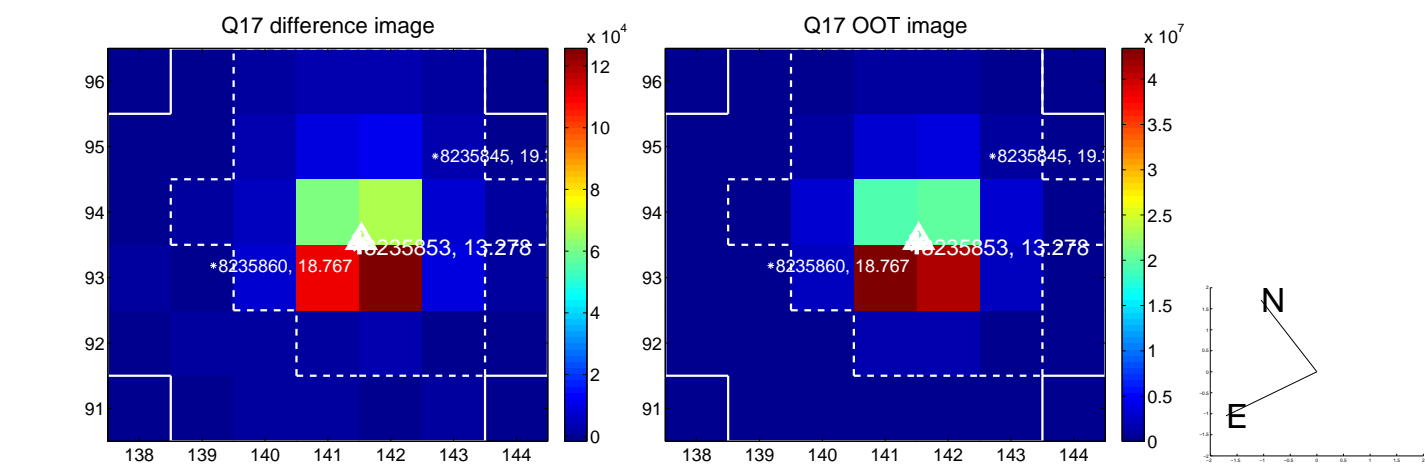
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

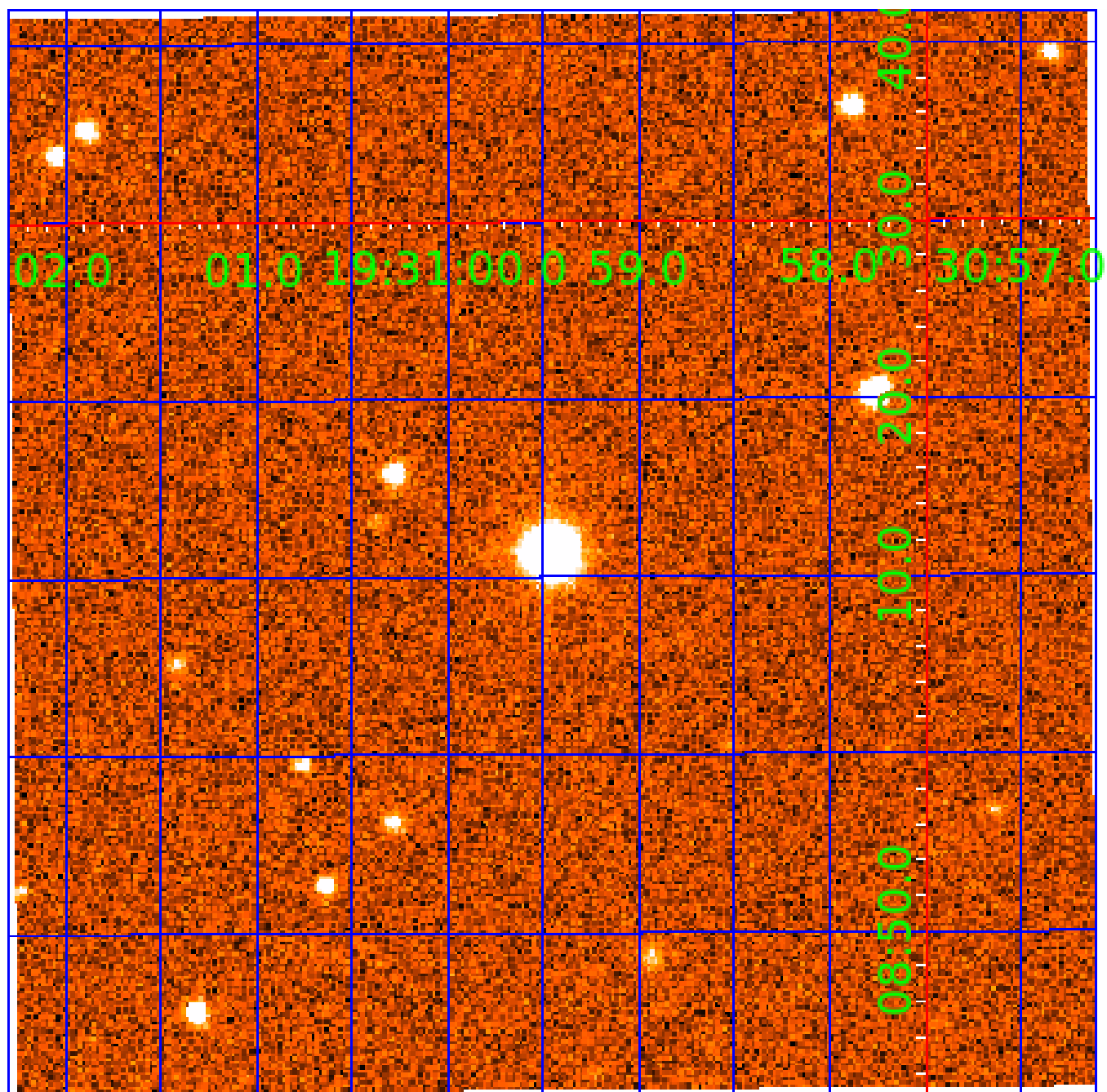


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008235853

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})
008235853-01	OBS	No	0.675124	132.160657	53.7	1.821	9.0	6.4	2.21	6754	1.88	31157.01
008235853-02	OBS	No	3.888529	132.910403	243.6	16.221	9.0	9.1	2.21	6754	4.16	3017.77
008235853-03	OBS	No	431.308283	154.493654	354.7	3.251	10.5	1.1	2.21	6754	4.80	5.66
008235853-04	OBS	No	431.493473	153.882631	1870.8	6.174	9.9	5.7	2.21	6754	13.24	5.66
008235853-05	OBS	No	76.983779	183.513841	2073.0	6.351	8.9	9.9	2.21	6754	18.49	56.35
008235853-06	OBS	No	322.727647	353.293448	223.3	5.000	8.7	-1.0	2.21	6754	3.33	8.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008235853-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT
008235853-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
008235853-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
008235853-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
008235853-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008235853-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

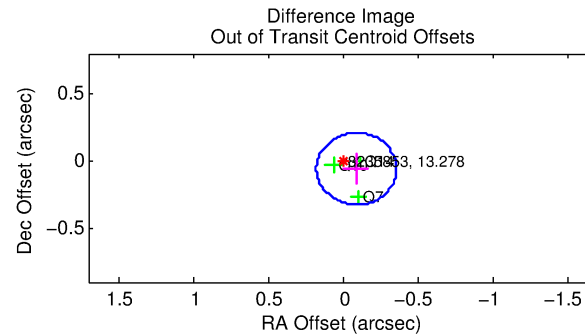
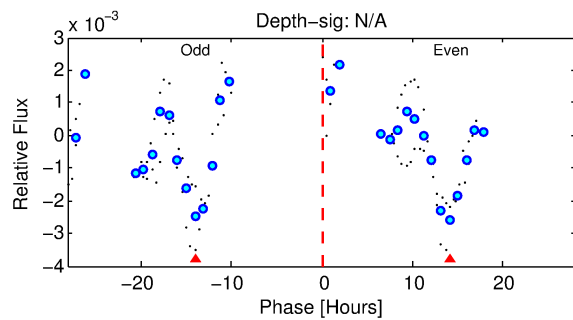
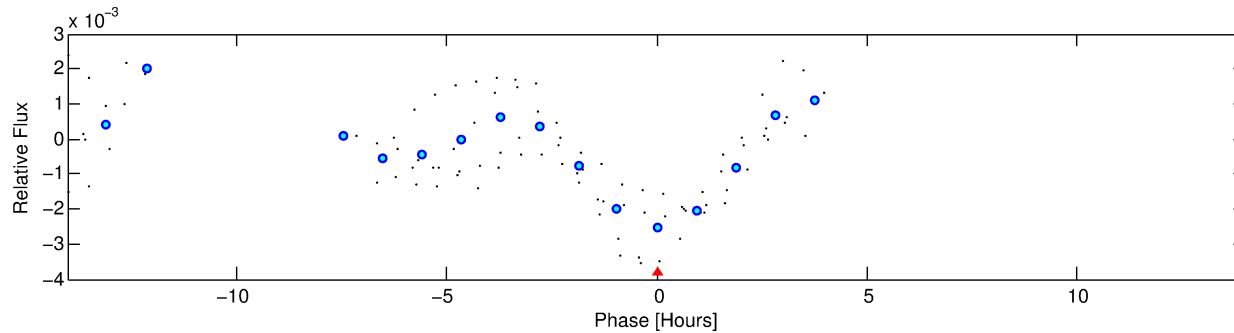
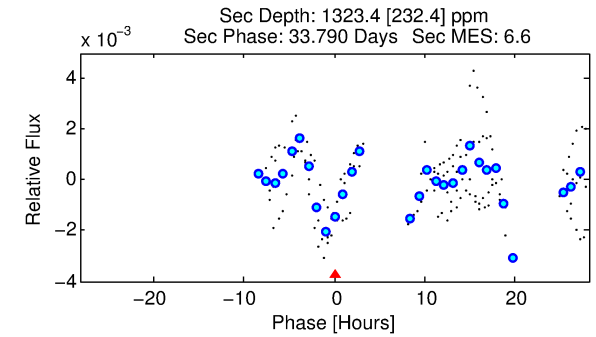
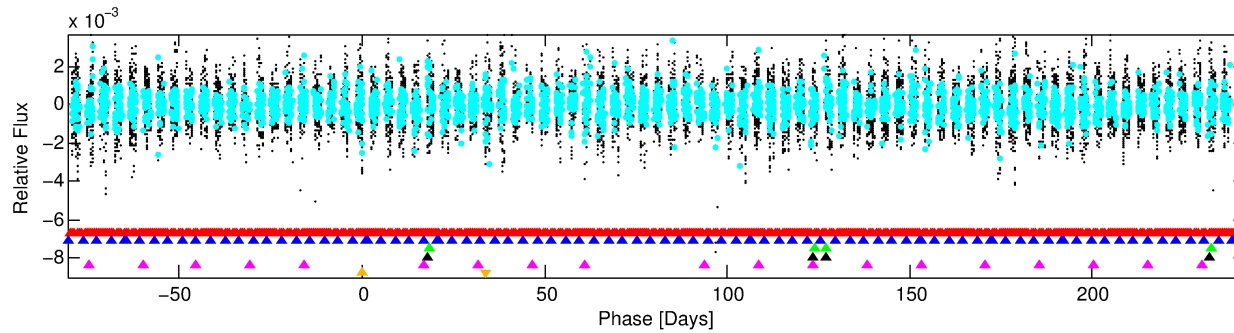
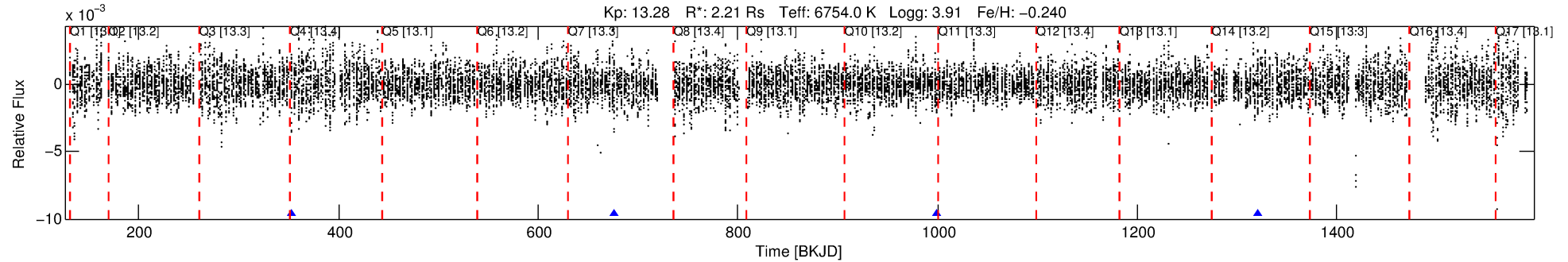
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008235853-06

No Significant Match Found

DV One-Page Summary

KIC: 8235853 Candidate: 6 of 6 Period: 322.728 d



TPS TCE Results:

Period = 322.72765 d
Epoch = 353.2934 BKJD

DV fit results are unavailable

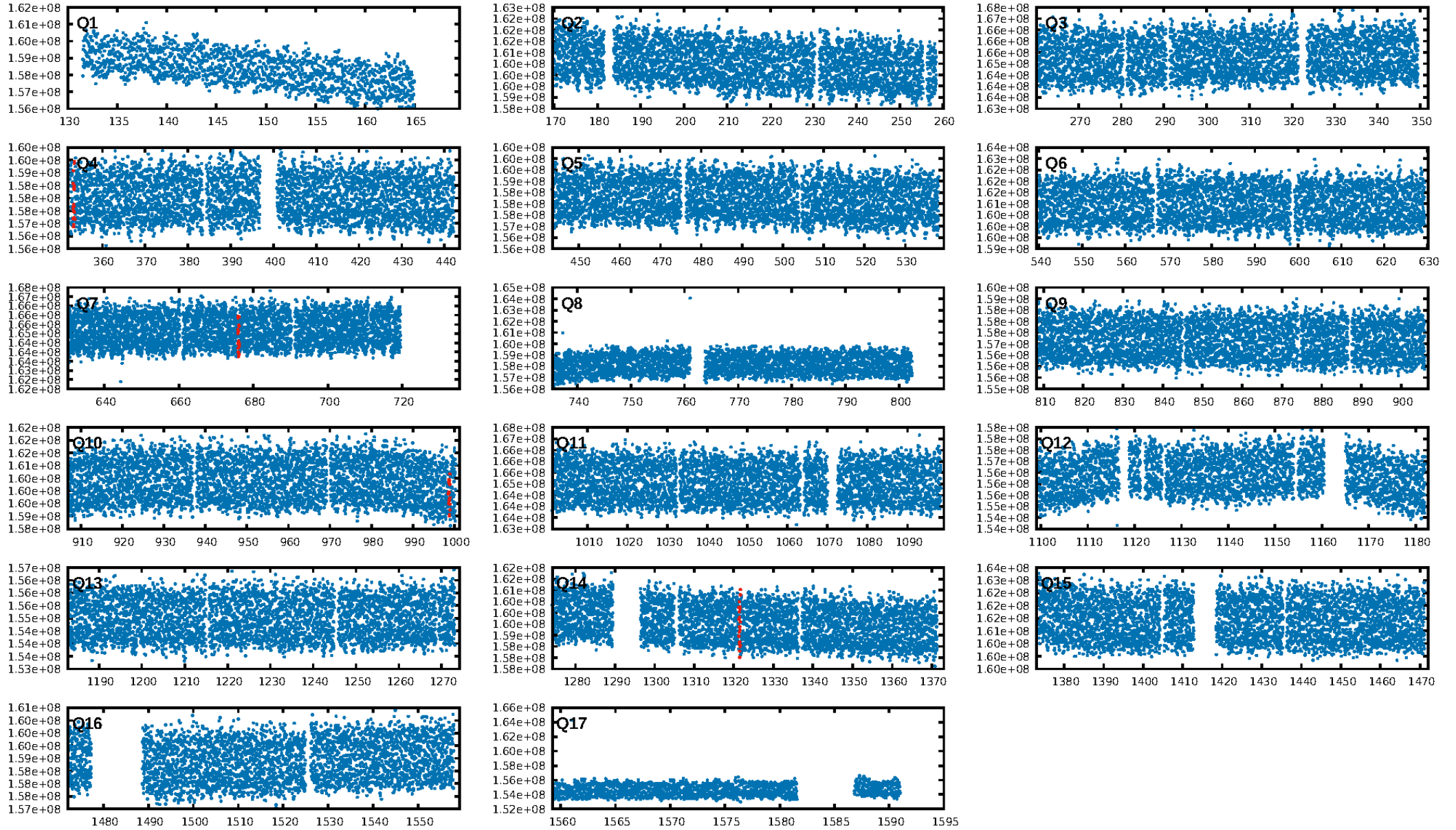
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [729.64 σ]
LongPeriod-sig: 100.0% [436.95 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.267
Centroid-sig: 31.7%
Centroid-so: 0.047 arcsec [0.46 σ]
OotOffset-rm: 0.108 arcsec [1.21 σ]
OotOffset-st: 2/1/0/0 [3]
KicOffset-rm: 0.290 arcsec [3.60 σ]
KicOffset-st: 2/1/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.00 [0/3]

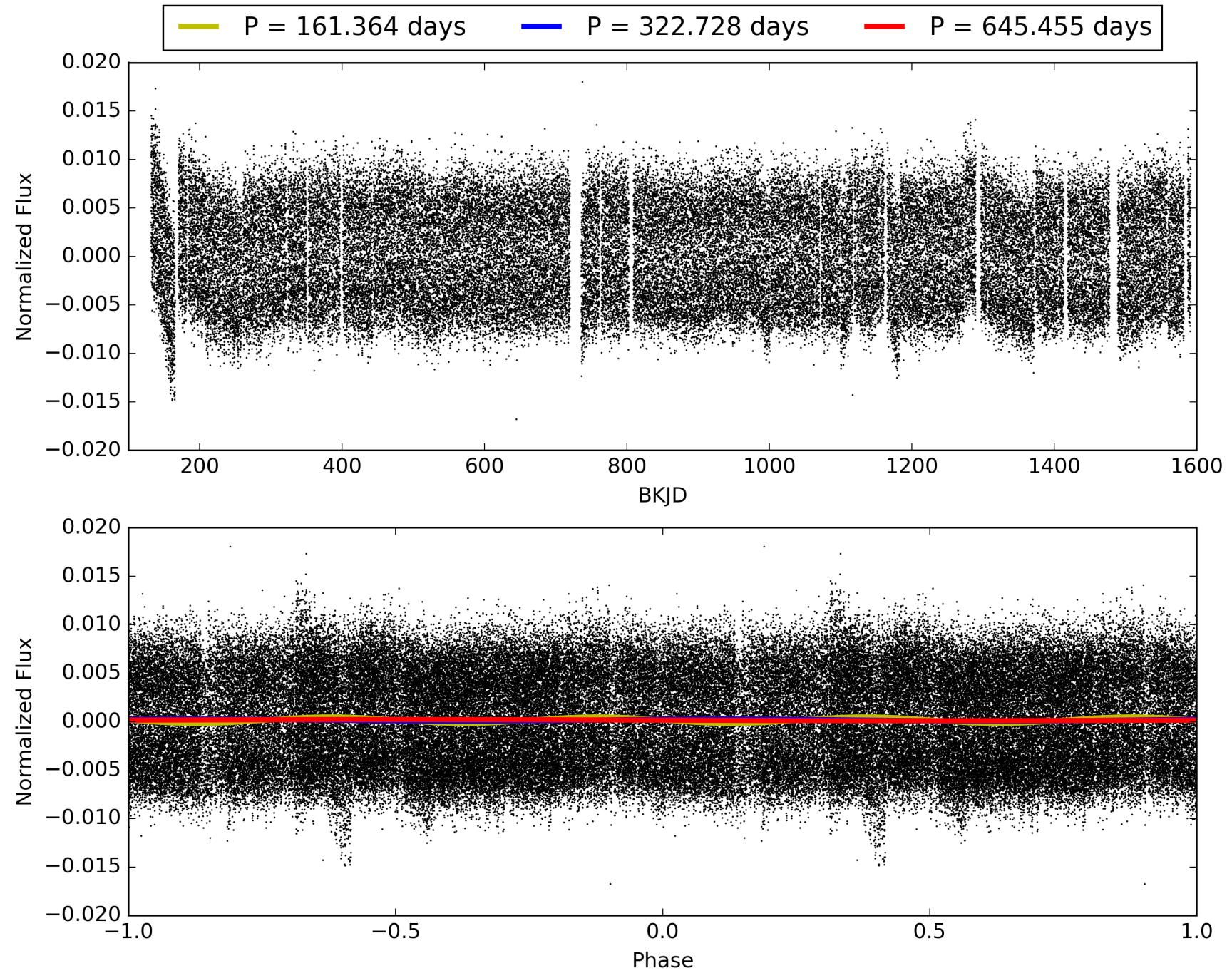
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 18:19:53 Z

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

TCE 008235853-06, PDC Light Curves

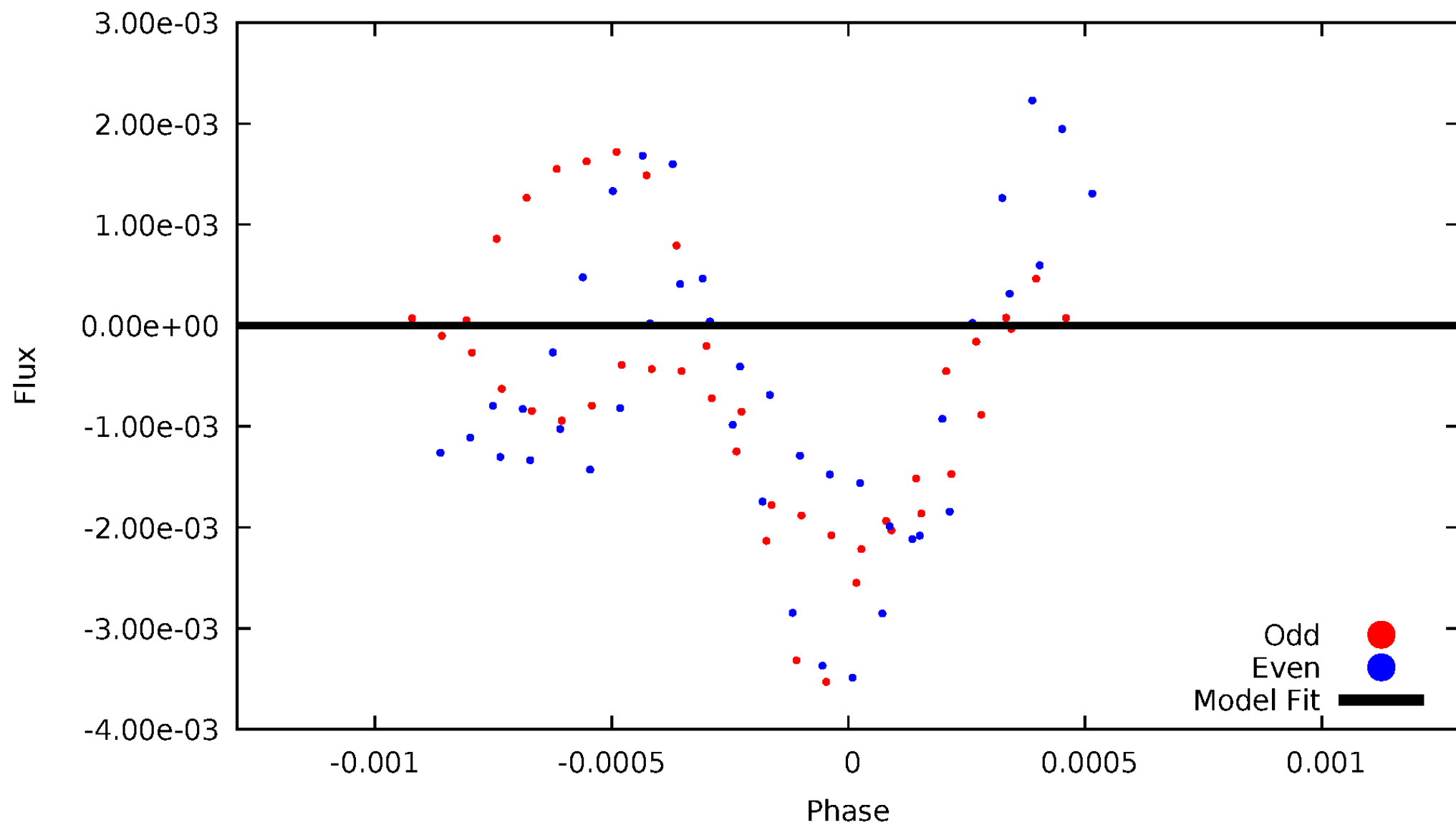


TCE 008235853-06



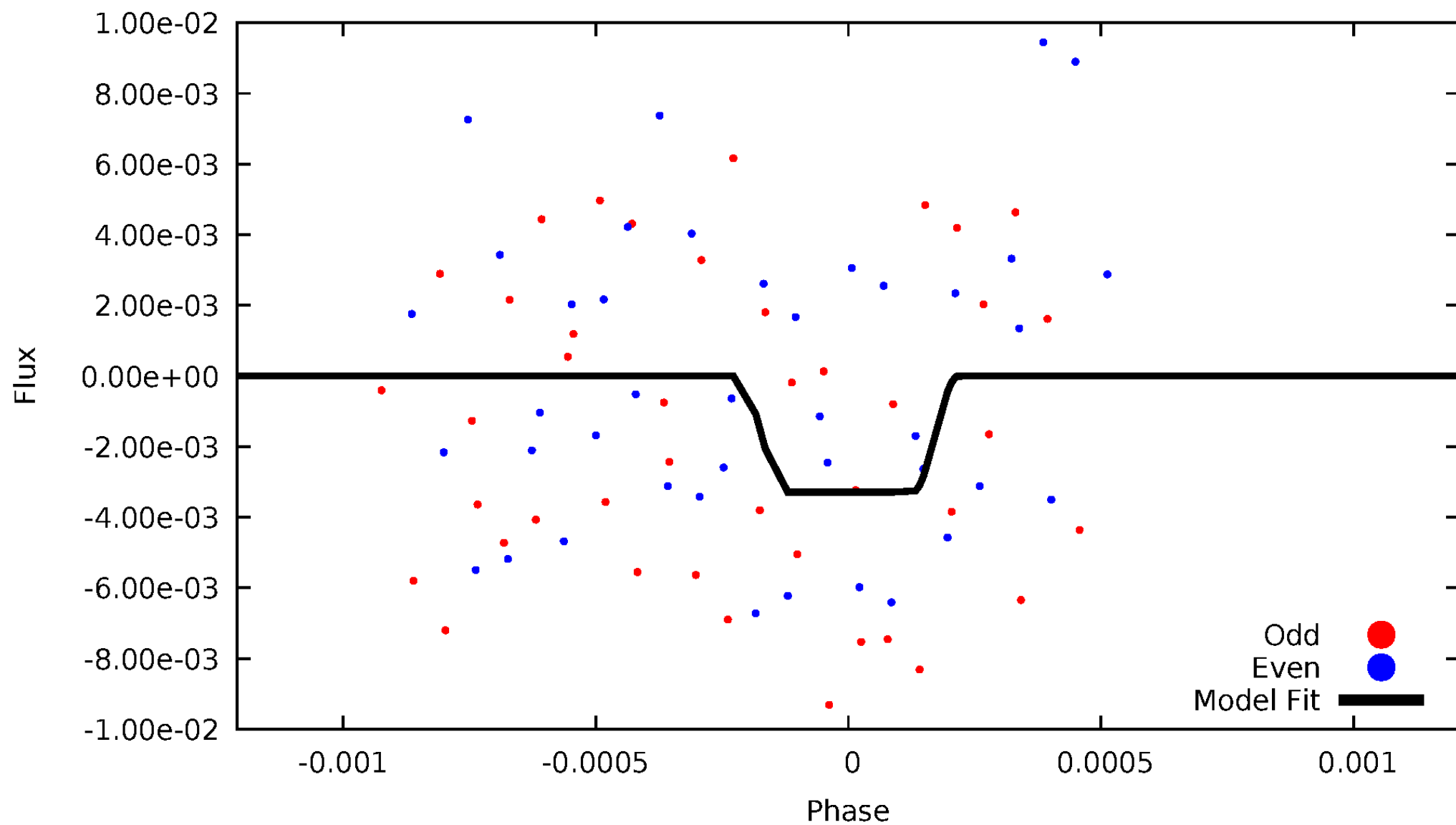
DV Odd/Even

TCE 008235853-06



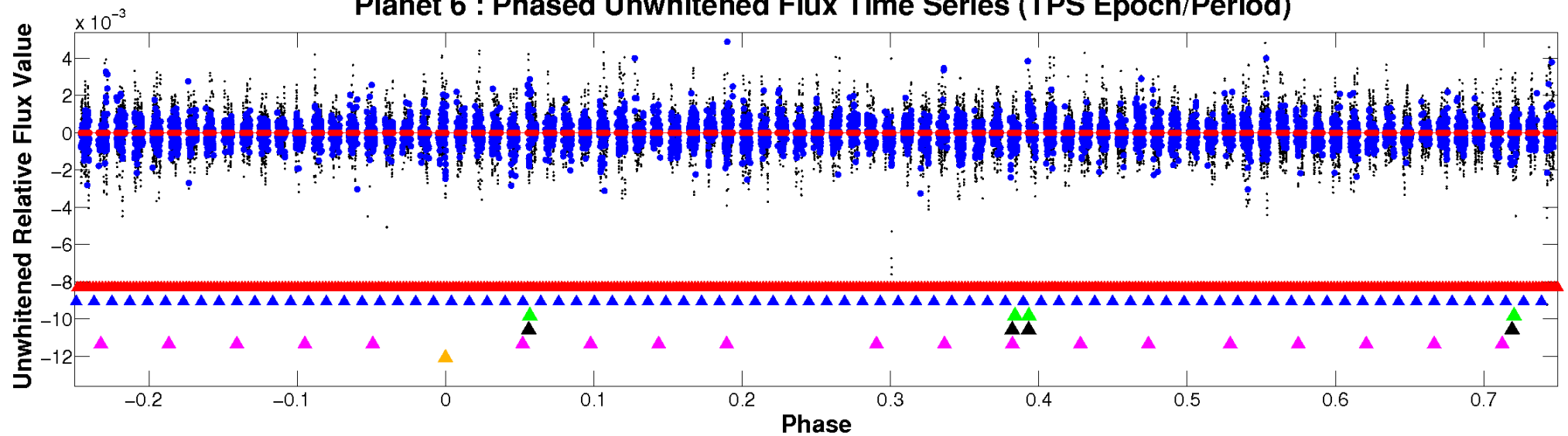
ALT Odd/Even

TCE 008235853-06

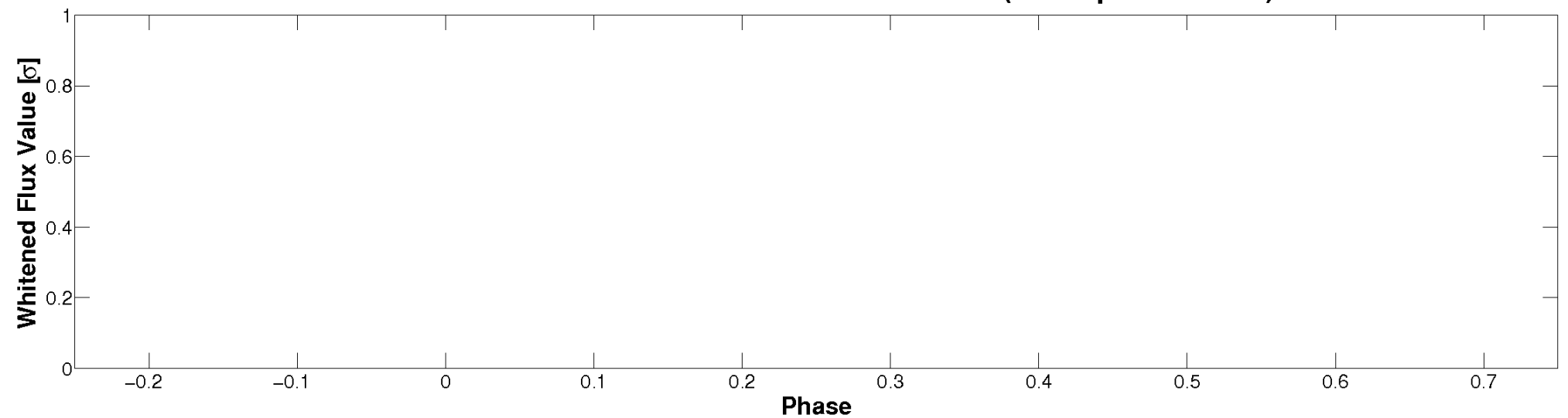


Non-Whitened Vs. Whitened Light Curve

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

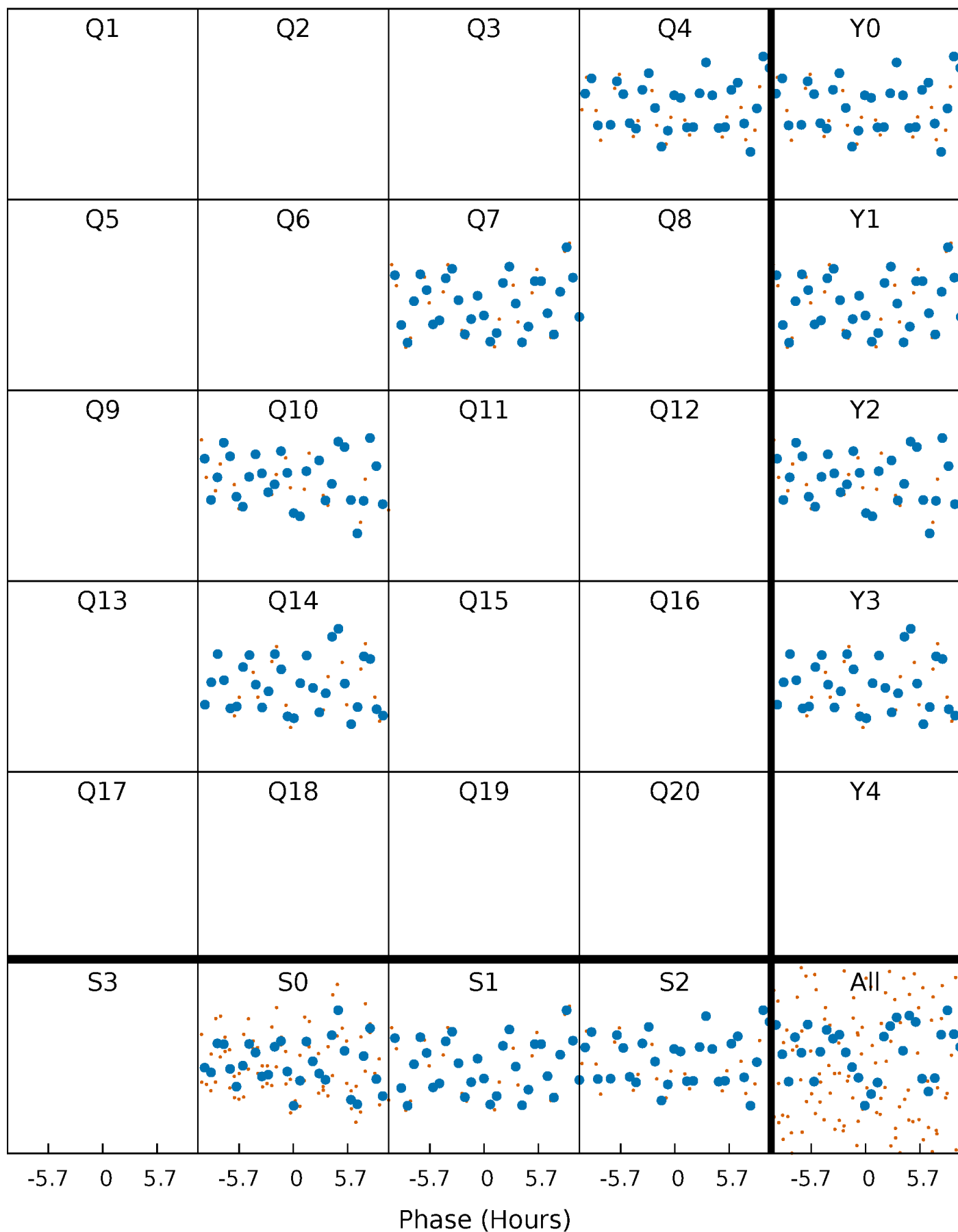


Planet 6 : Phased Whitened Flux Time Series (TPS Epoch/Period)



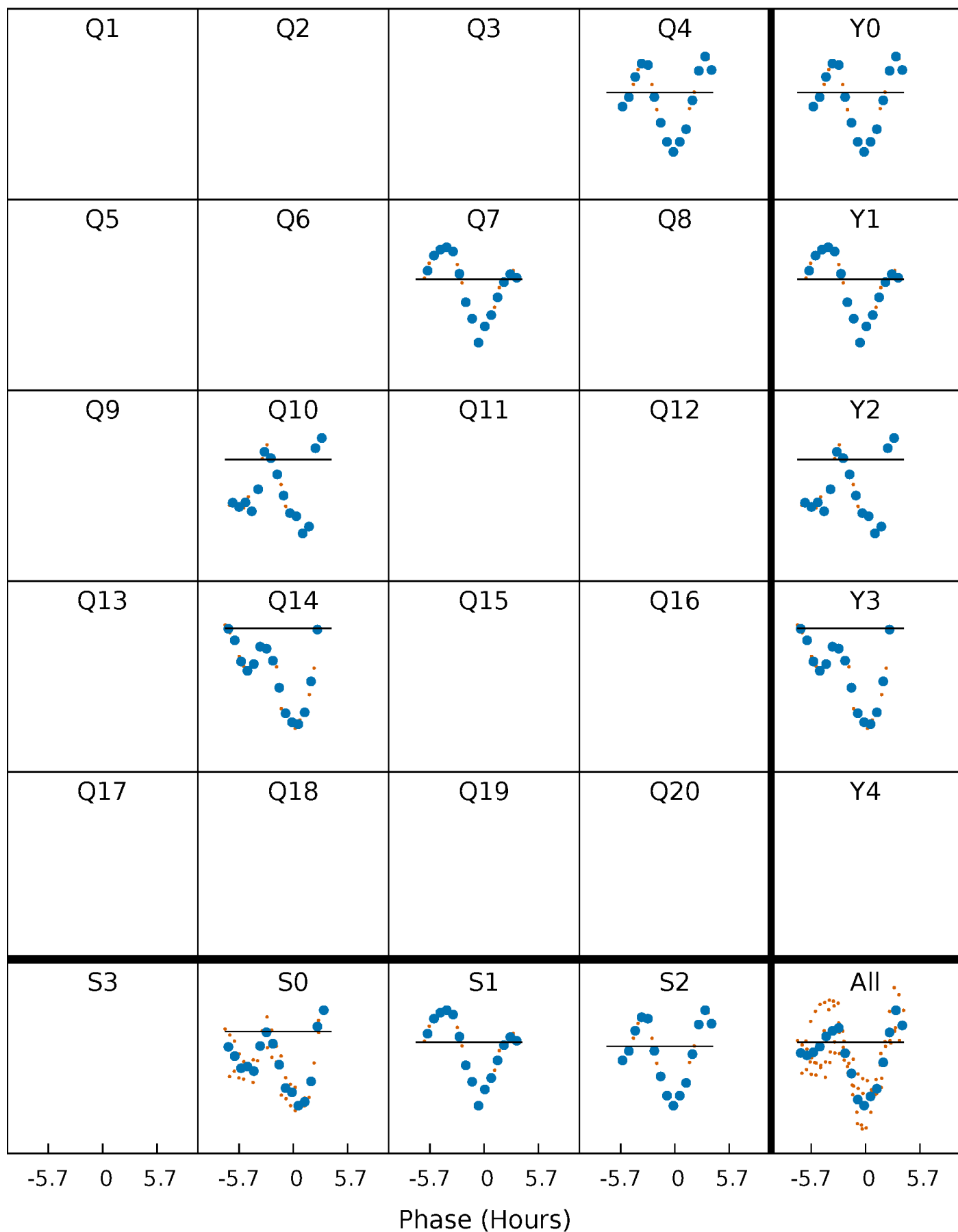
PDC Quarter-Phased Transit Curves

TCE 008235853-06 P=322.727647 Days $T_0=353.293449$ (BKJD)



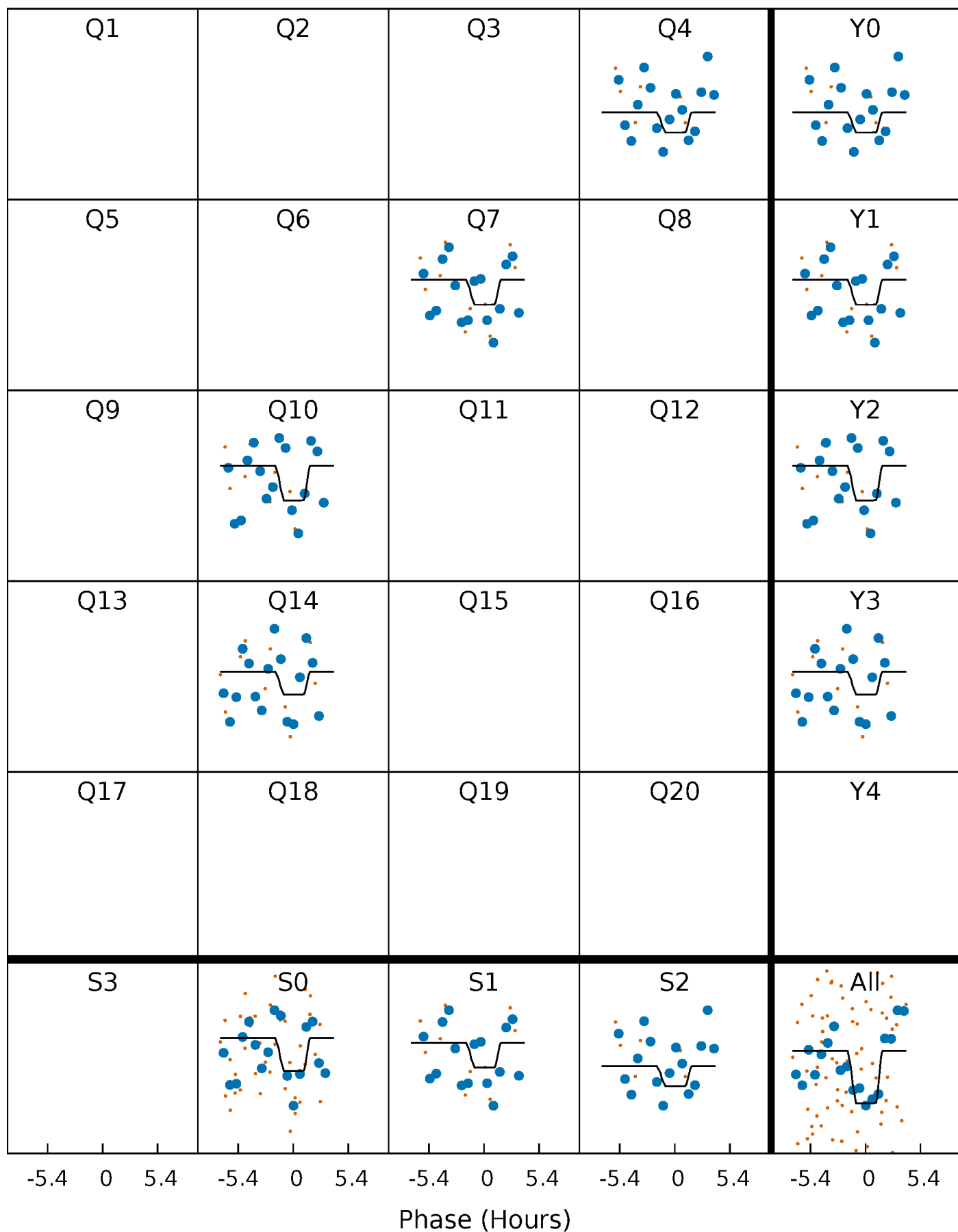
DV Quarter-Phased Transit Curves

TCE 008235853-06 P=322.727647 Days $T_0=353.293449$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

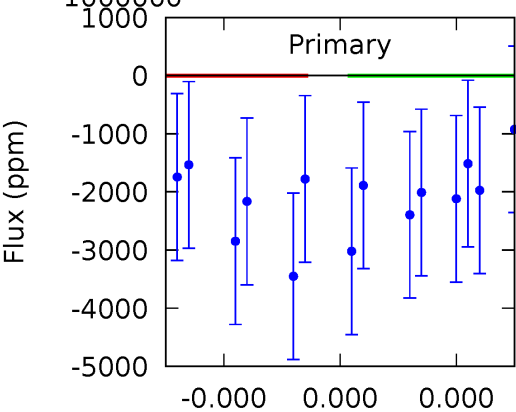
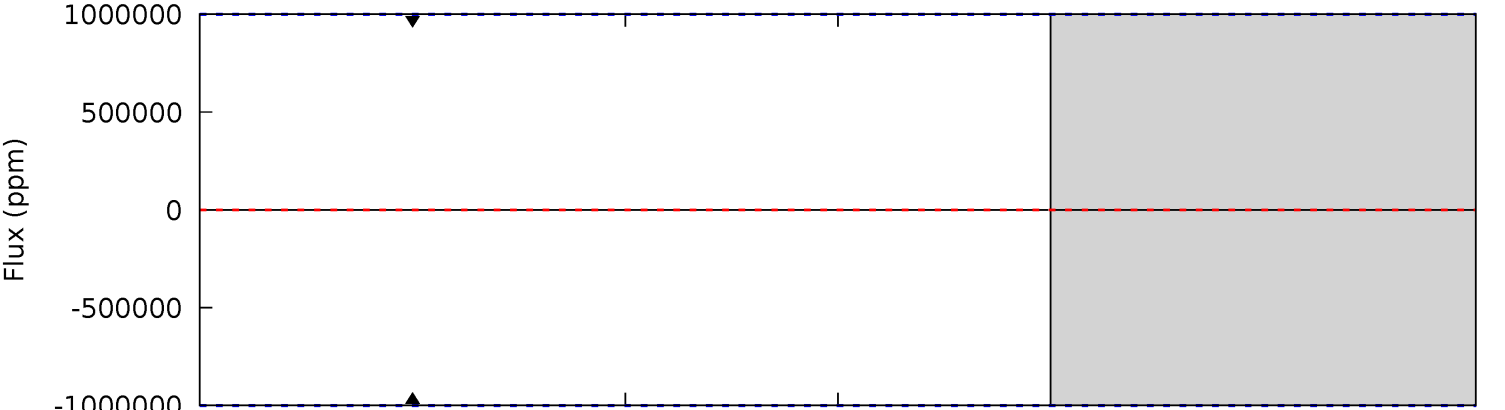
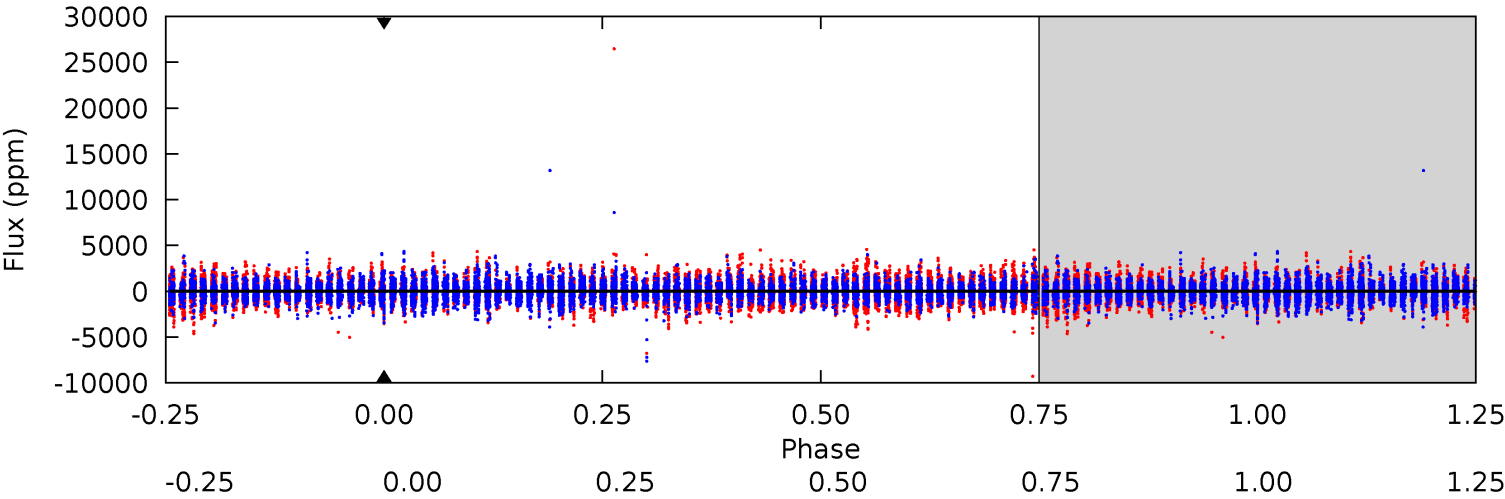
TCE 008235853-06 P=322.727647 Days $T_0=353.294177$ (BKJD)



DV Model-Shift Uniqueness Test

008235853-06, P = 322.727647 Days, E = 30.565802 Days

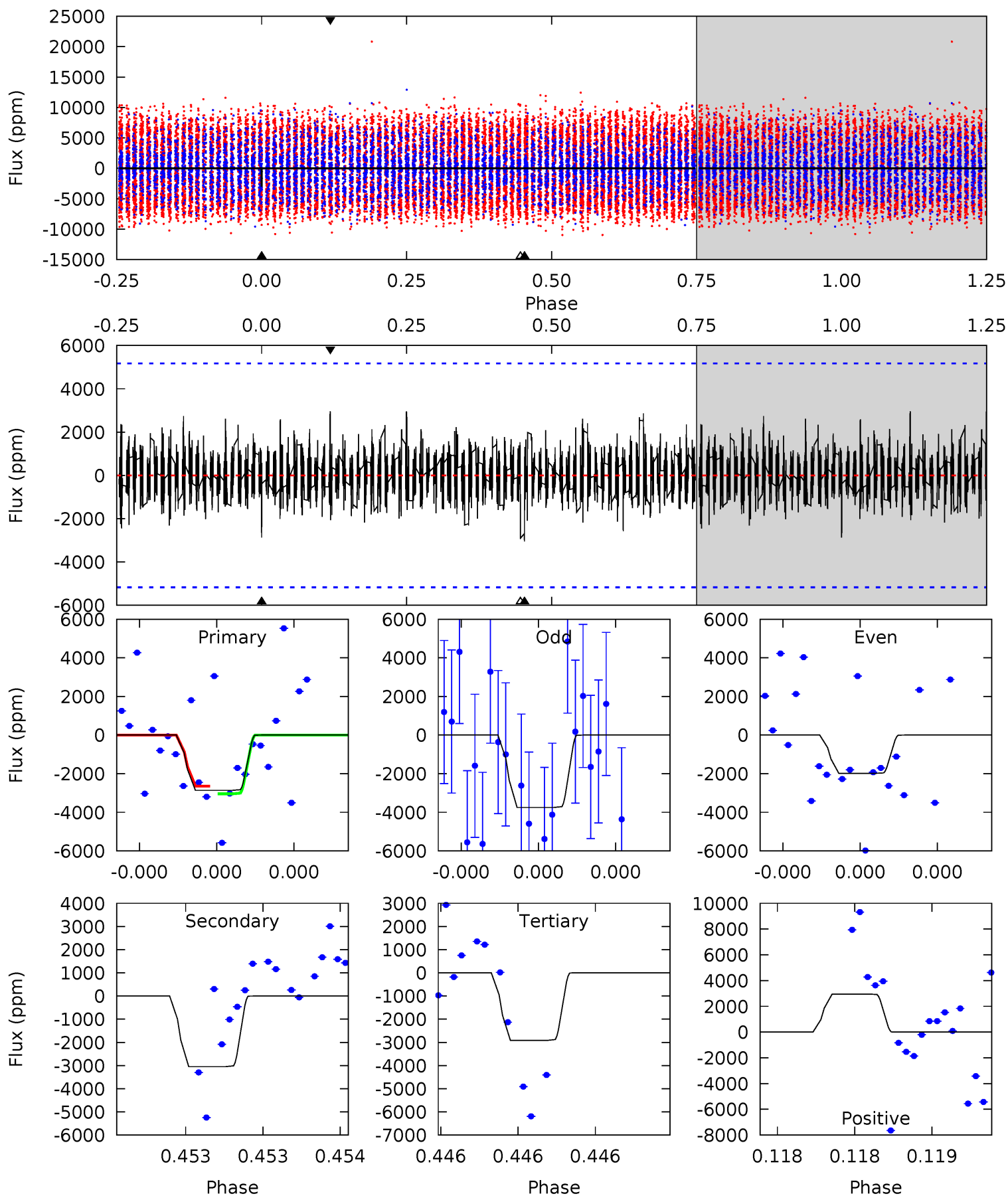
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008235853-06, P = 322.727647 Days, E = 30.566530 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.10	3.30	3.15	3.20	5.60	3.52	0.84	-0.05	-0.10	0.15	0.11	0.96	0.92	0.49	0.21



Stellar Parameters For KIC 008235853

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6754^{+189}_{-260}	$3.914^{+0.357}_{-0.127}$	$-0.240^{+0.250}_{-0.300}$	$2.210^{+0.509}_{-0.945}$	$1.460^{+0.189}_{-0.351}$	$0.191^{+0.584}_{-0.069}$
	+3%/-4%	+9%/-3%	+104%/-125%	+23%/-43%	+13%/-24%	+307%/-36%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008235853-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$15.34^{+18.55}_{-11.25}$	594^{+44}_{-67}	5589^{+37253}_{-34119}	$6011^{+596014}_{-405880}$
Alt.	-3050 ± 924	$21.08^{+20.70}_{-14.69}$	591^{+44}_{-58}	5124^{+5005}_{-1139}	3954^{+45462}_{-2976}

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

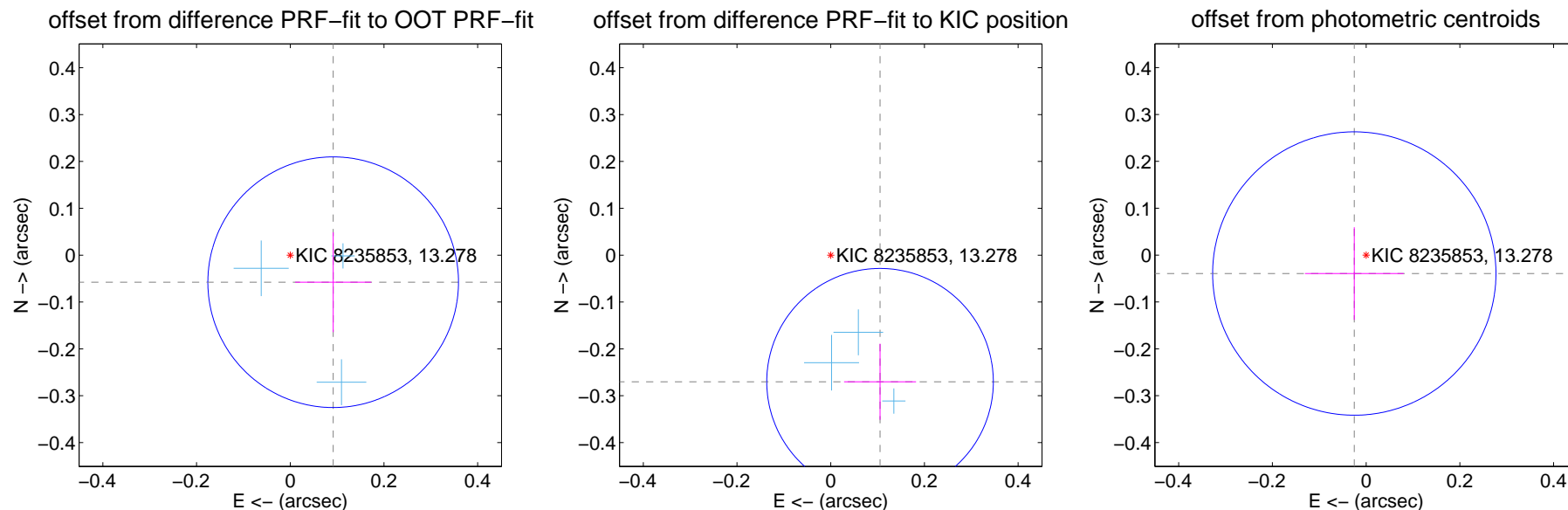
DV Centroid Data

Supplemental centroid analysis for 008235853-06. Kepler magnitude: 13.28. Transit SNR -1.00

There are 3 quarters with good PRF difference image offsets

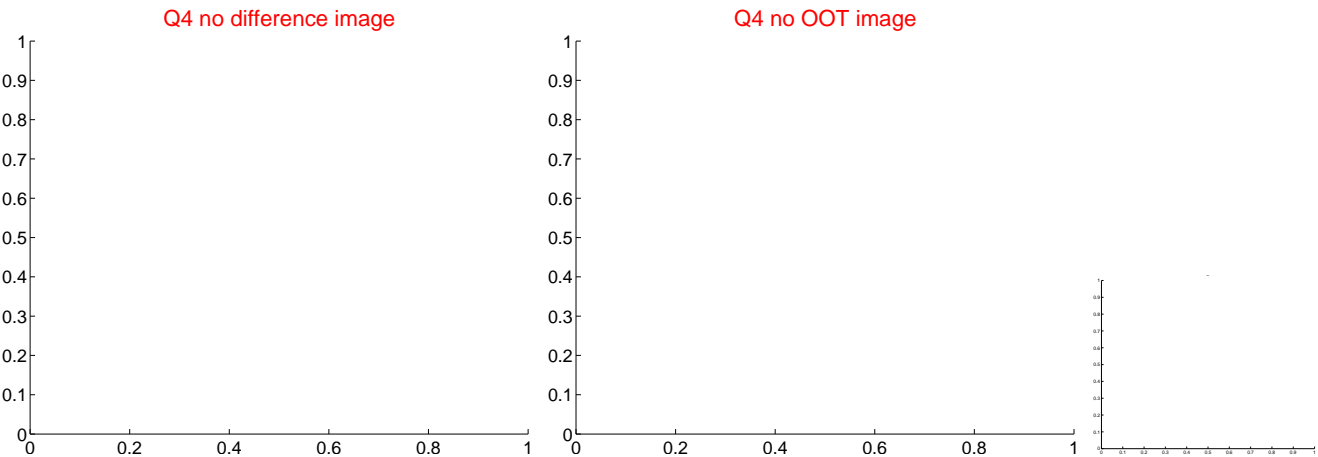
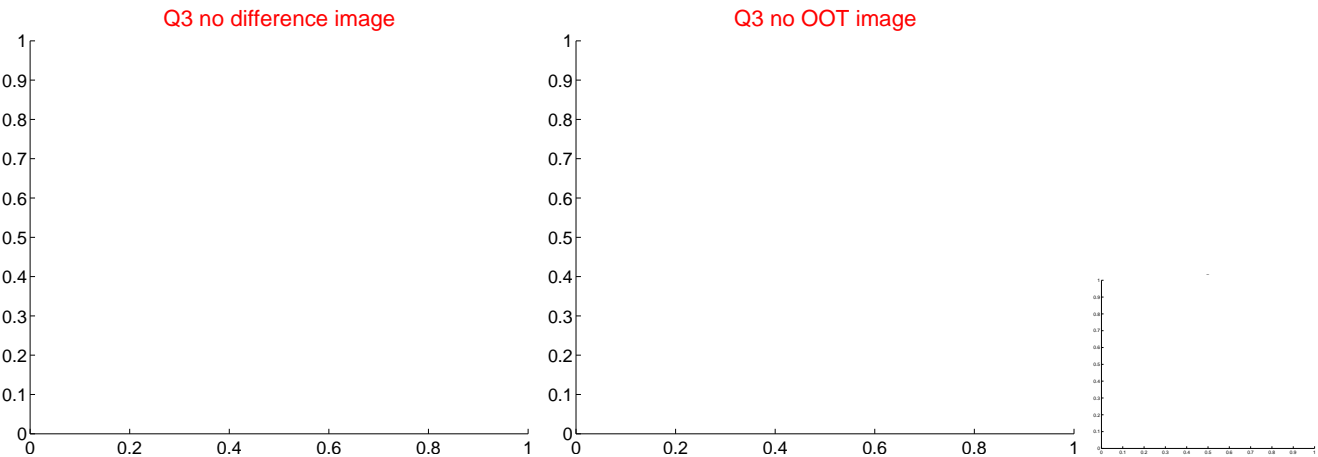
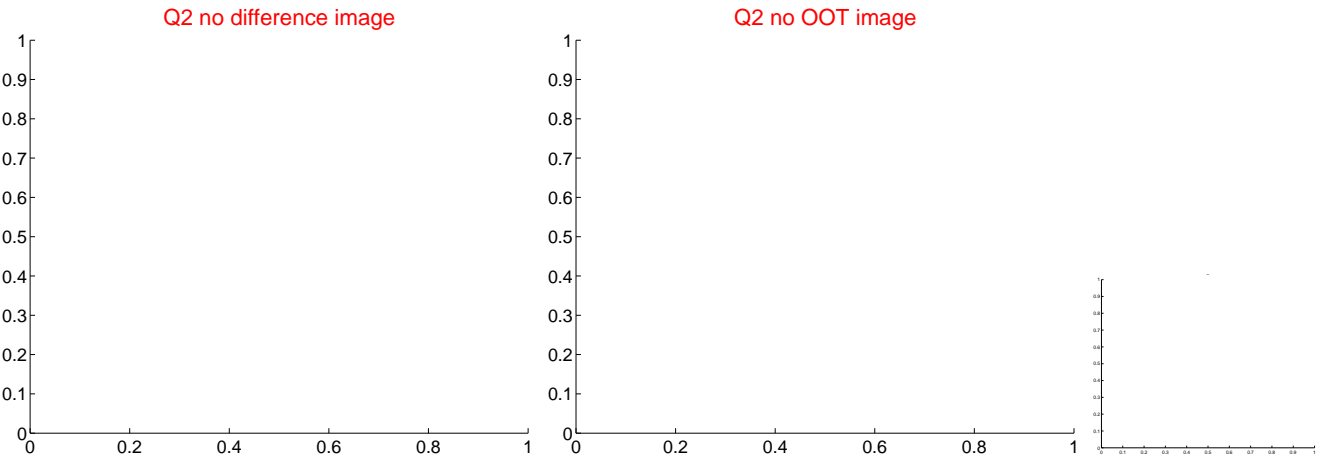
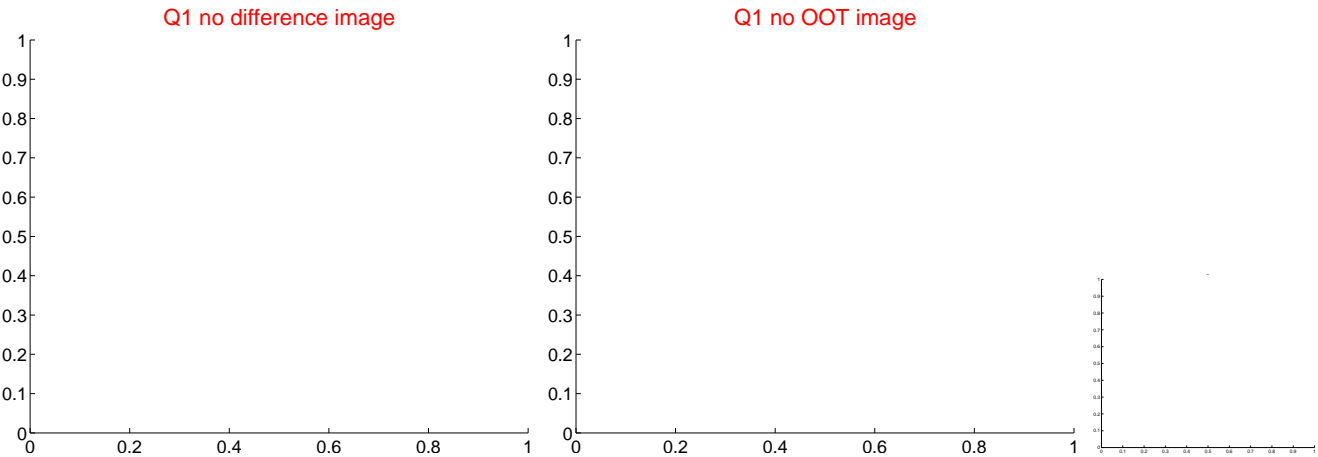
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.108 ± 0.089	1.21	-0.092 ± 0.081	-0.058 ± 0.106
PRF-fit source offset from KIC position	0.290 ± 0.081	3.60	-0.105 ± 0.077	-0.270 ± 0.081
photometric centroid source offset	0.05 ± 0.10	0.46	0.03 ± 0.11	-0.04 ± 0.10



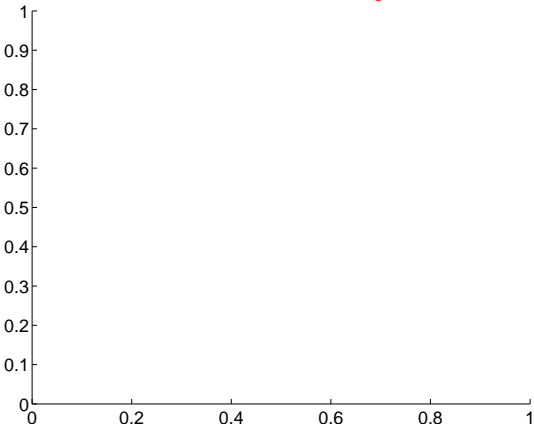
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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

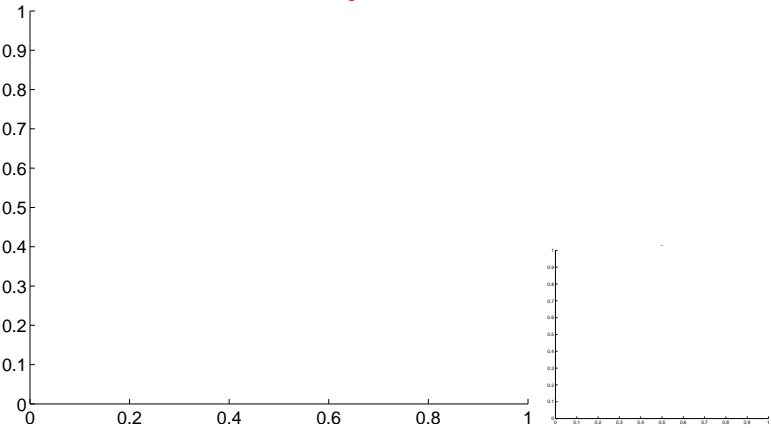


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

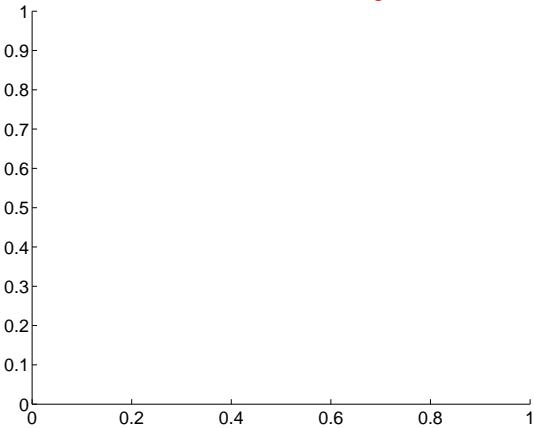
Q5 no difference image



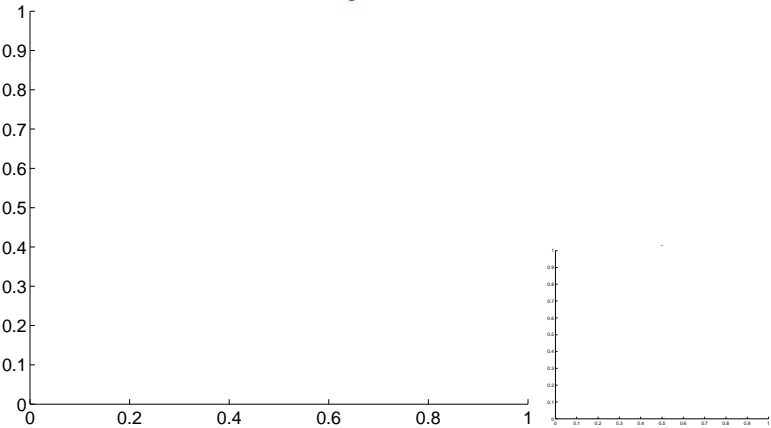
Q5 no OOT image



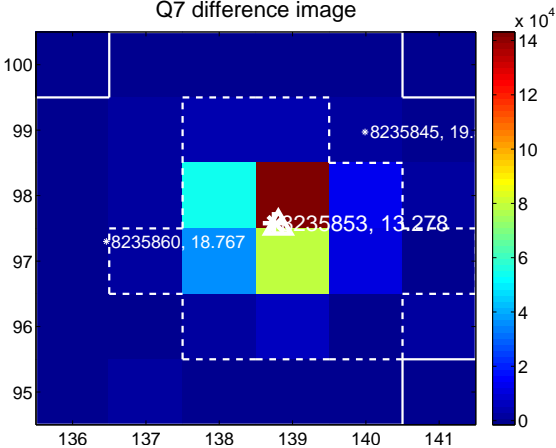
Q6 no difference image



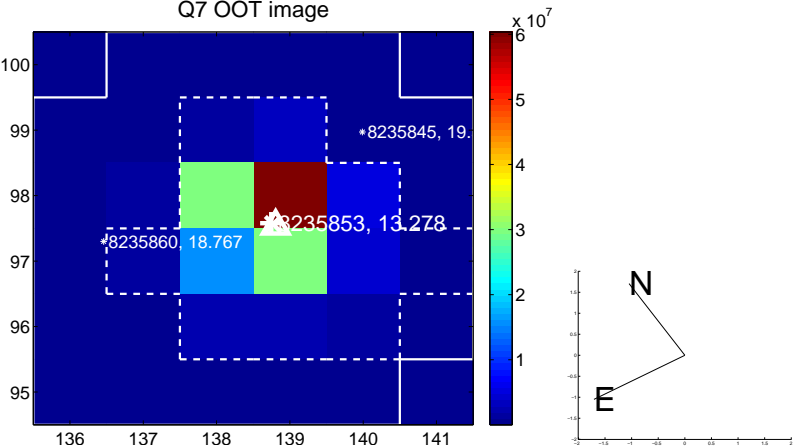
Q6 no OOT image



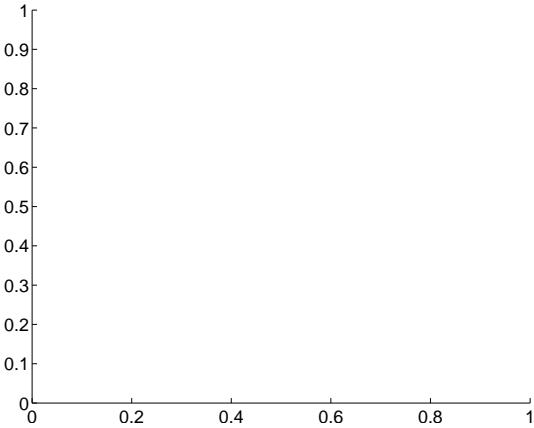
Q7 difference image



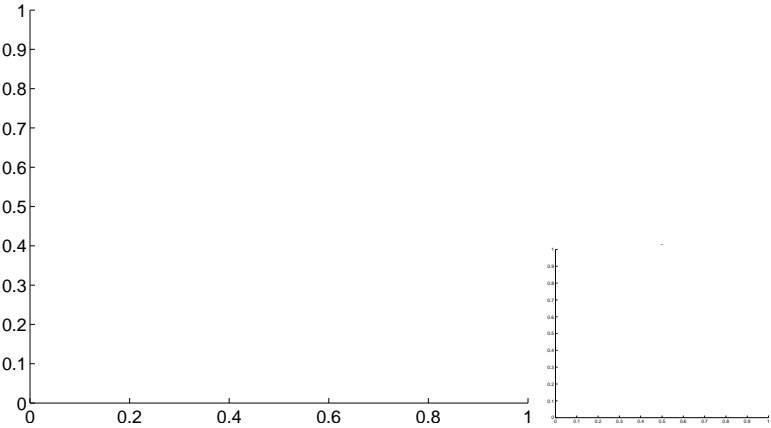
Q7 OOT image



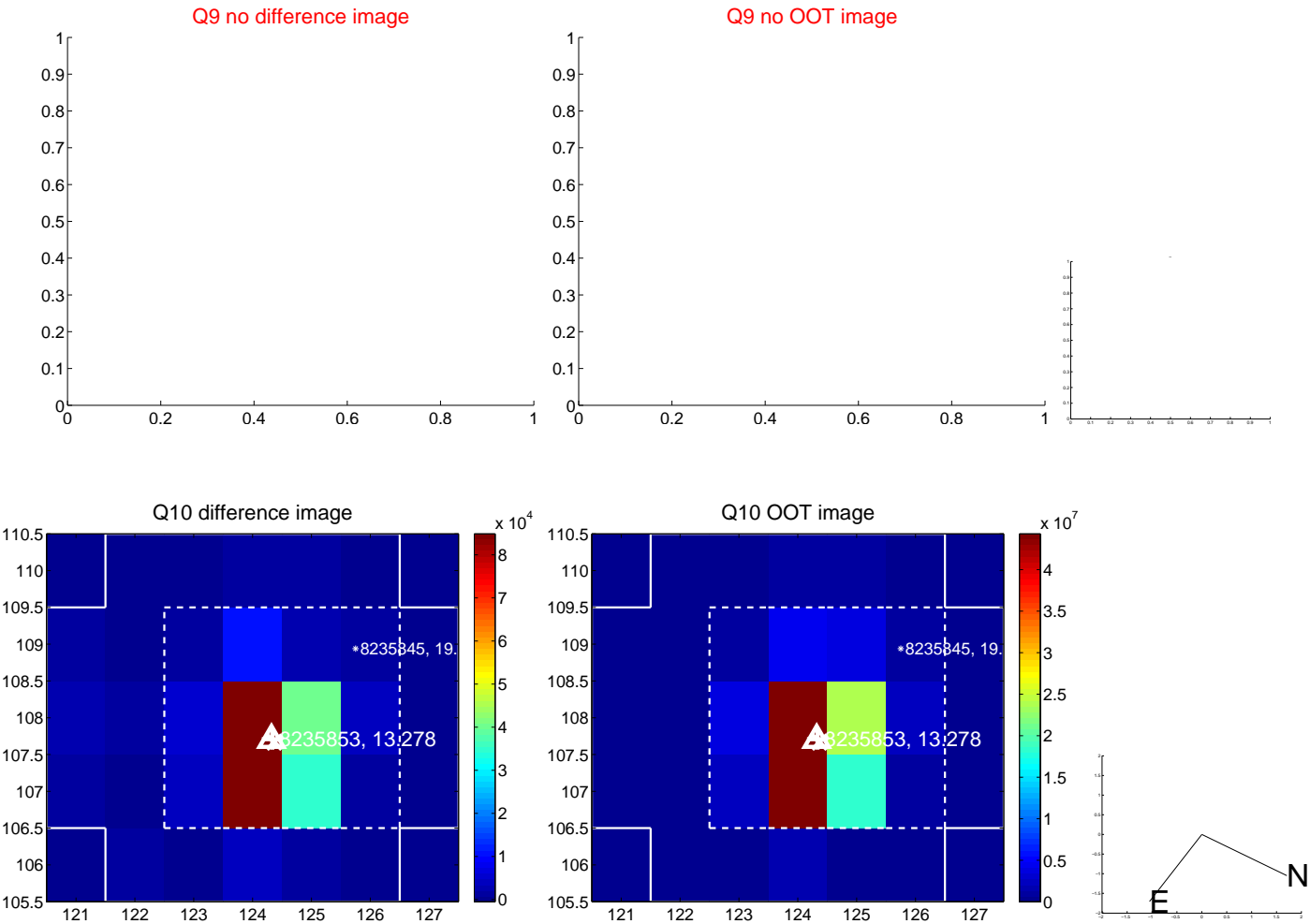
Q8 no difference image



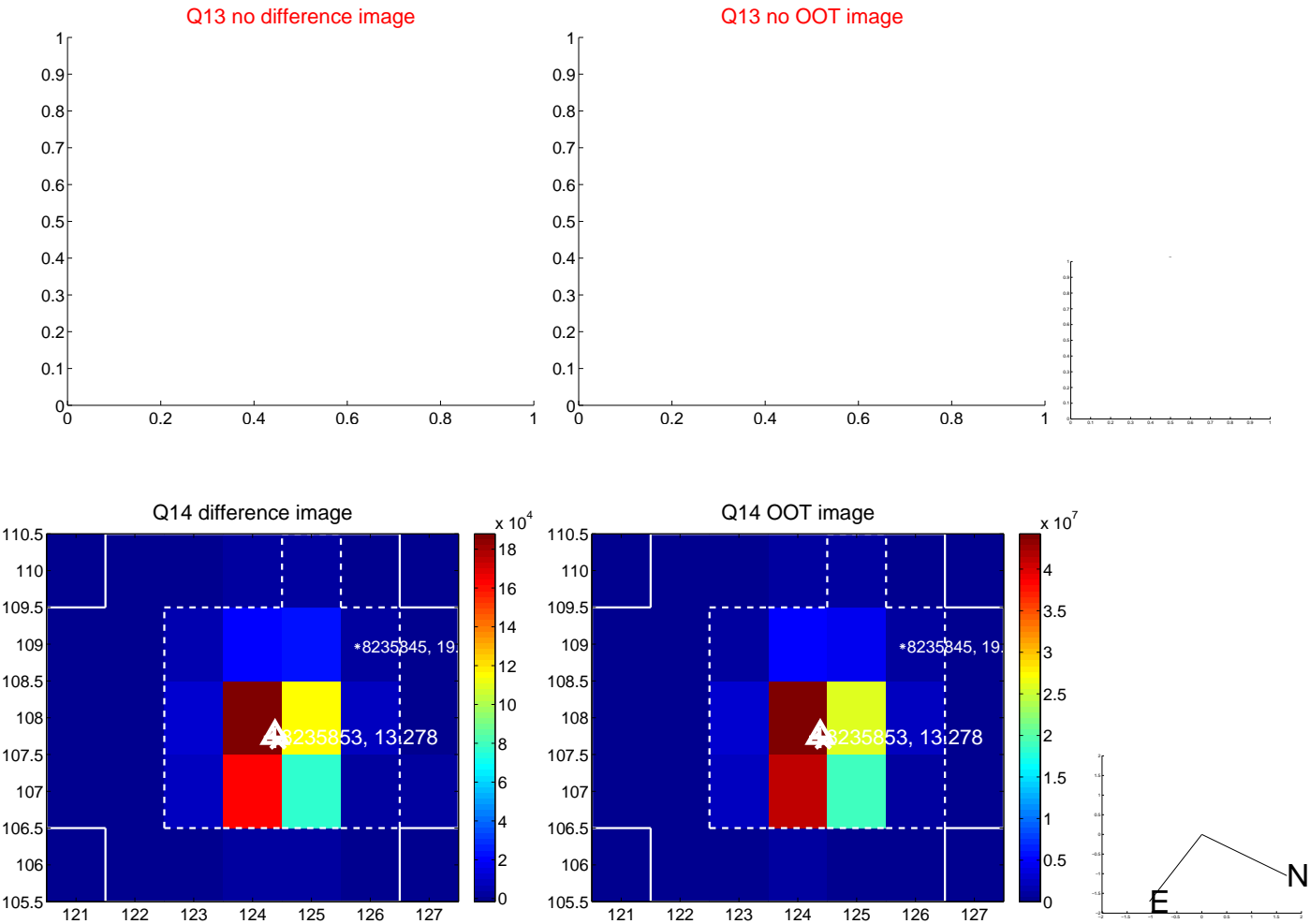
Q8 no OOT image



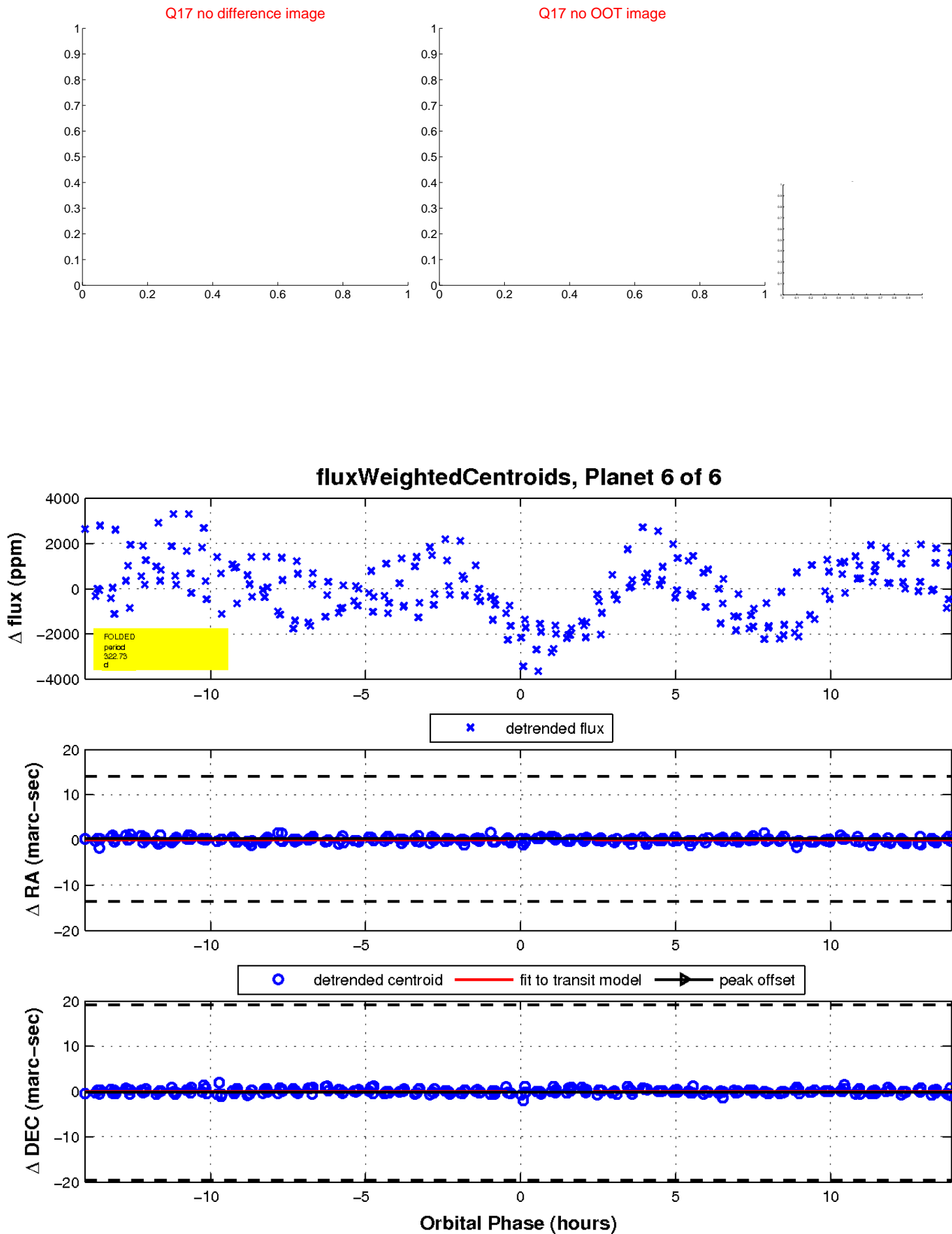
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

