

KIC 008025357

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})
008025357-01	OBS	No	3.756326	134.935657	167.8	18.581	11.5	11.4	1.52	7100	3.86	1759.84
008025357-02	OBS	No	3.756442	133.235120	129.1	13.056	10.0	11.2	1.52	7100	1.75	1759.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008025357-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008025357-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

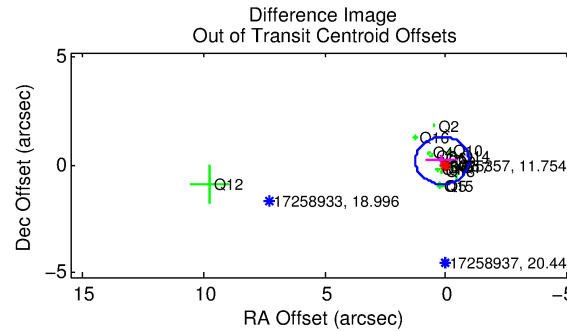
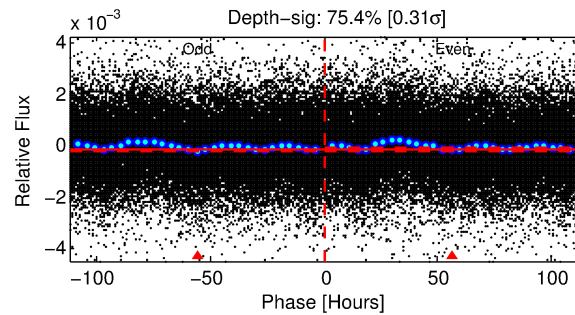
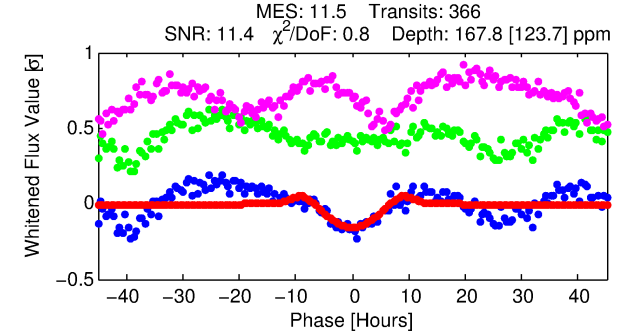
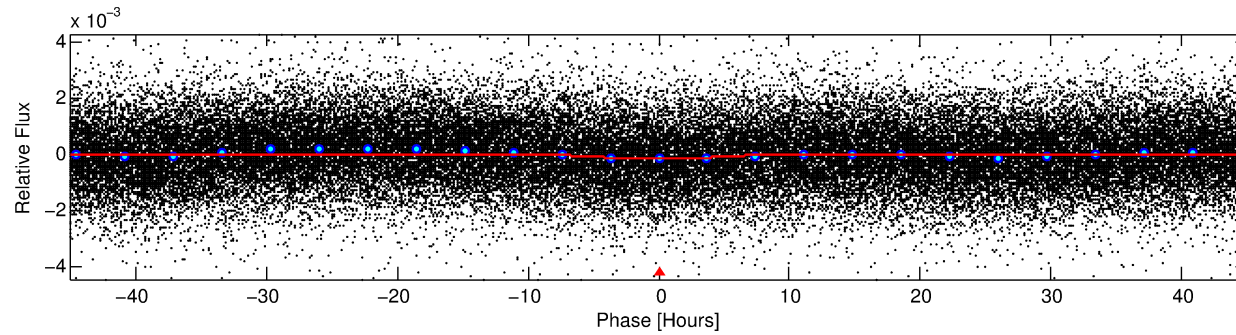
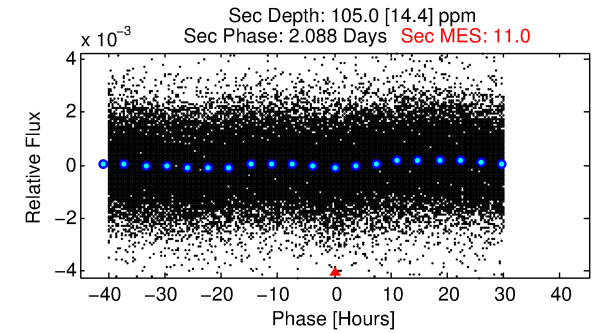
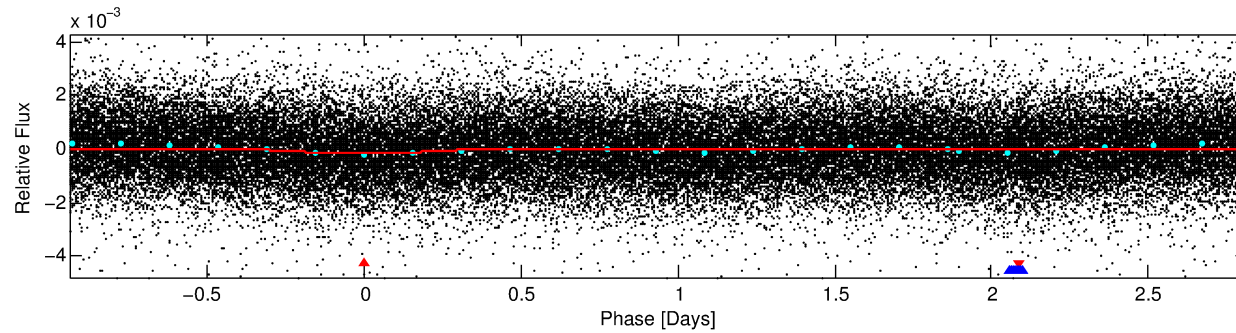
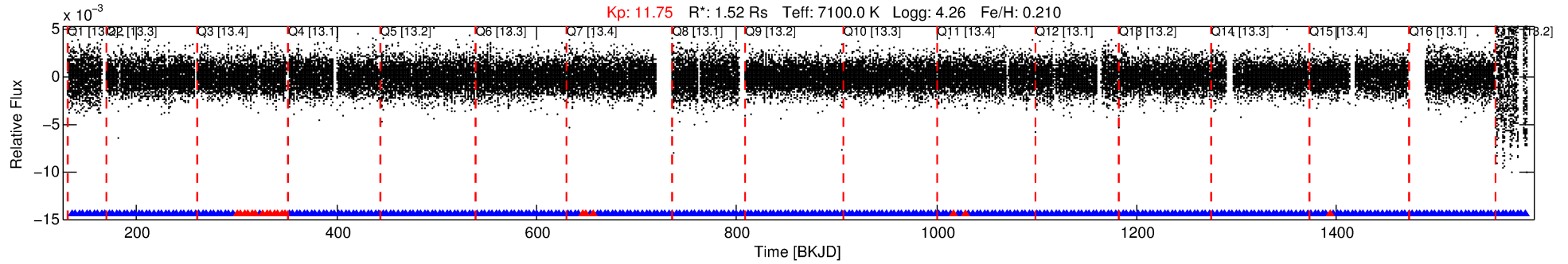
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008025357-01

No Significant Match Found

DV One-Page Summary

KIC: 8025357 Candidate: 1 of 2 Period: 3.756 d



DV Fit Results:

Period = 3.75633 [0.00012] d
Epoch = 134.9357 [0.0273] BKJD
Rp/R* = 0.0233 [0.0353]
a/R* = 1.06 [0.01]
b = 1.00 [0.06]
Seff = 1759.84 [851.02]
Teq = 1652 [200] K
Rp = 3.86 [6.03] Re
a = 0.0547 [0.0170] AU
Ag = 11.60 [35.66] [0.30σ]
Teffp = 4713 [3590] K [0.85σ]

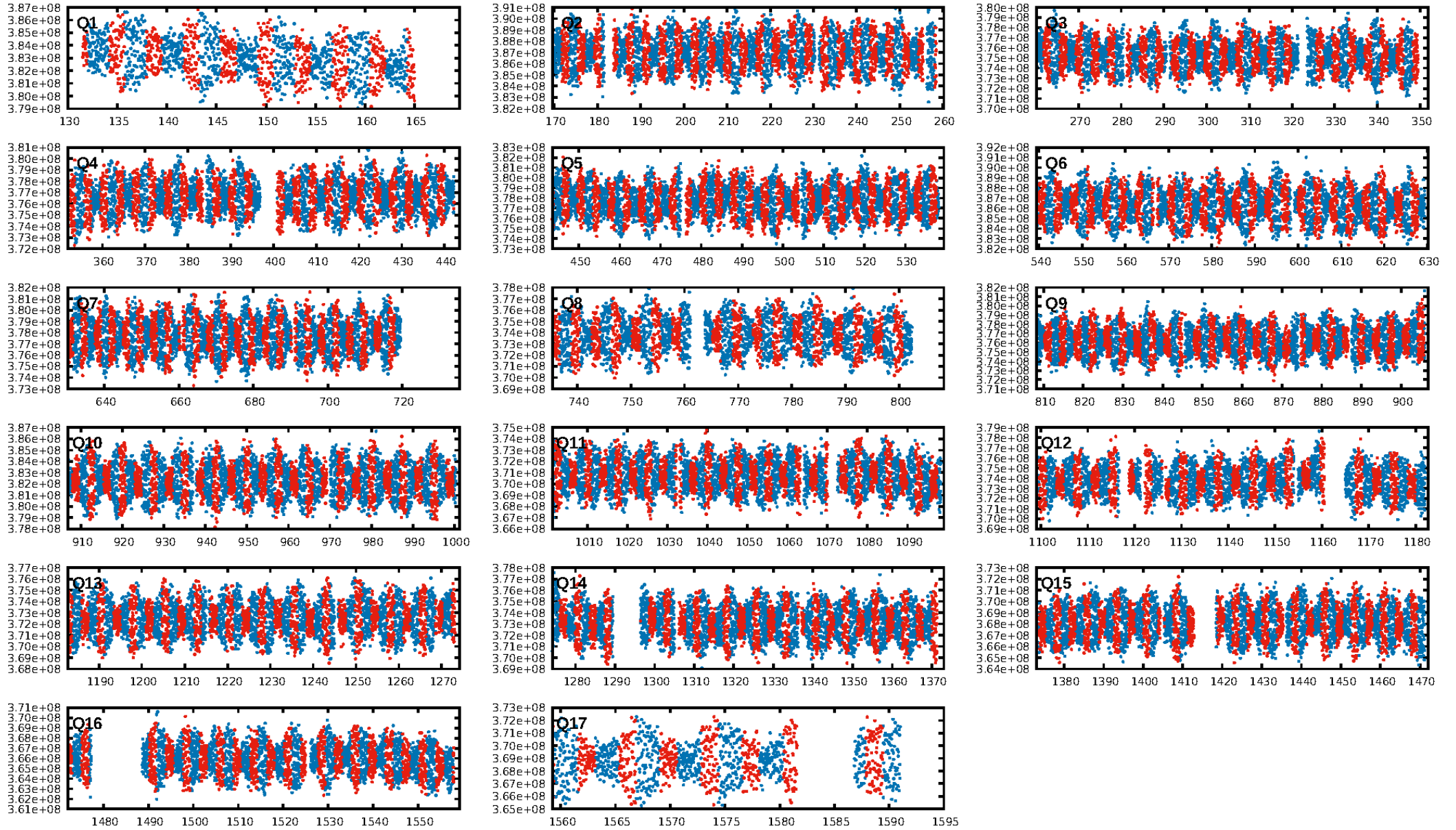
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.95 [330/349]
GhostDiagnostic-chr: 2.543
Centroid-sig: 6.3%
Centroid-so: 0.103 arcsec [0.92σ]
OotOffset-rm: 0.239 arcsec [0.65σ]
KicOffset-rm: 0.261 arcsec [0.75σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.94 [15/16]
DiffImageOverlap-fno: 1.00 [17/17]

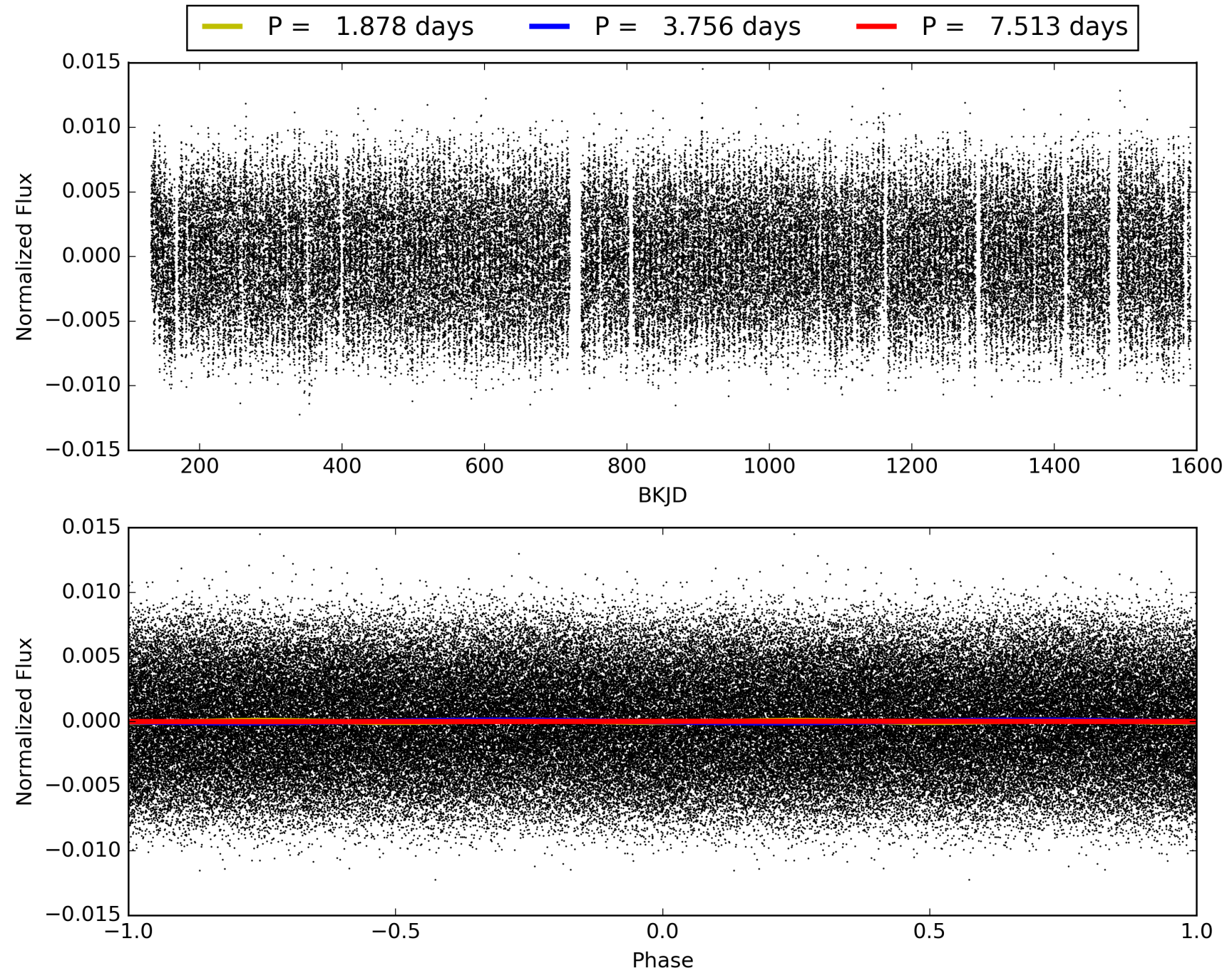
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:27:00 Z

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

TCE 008025357-01, PDC Light Curves

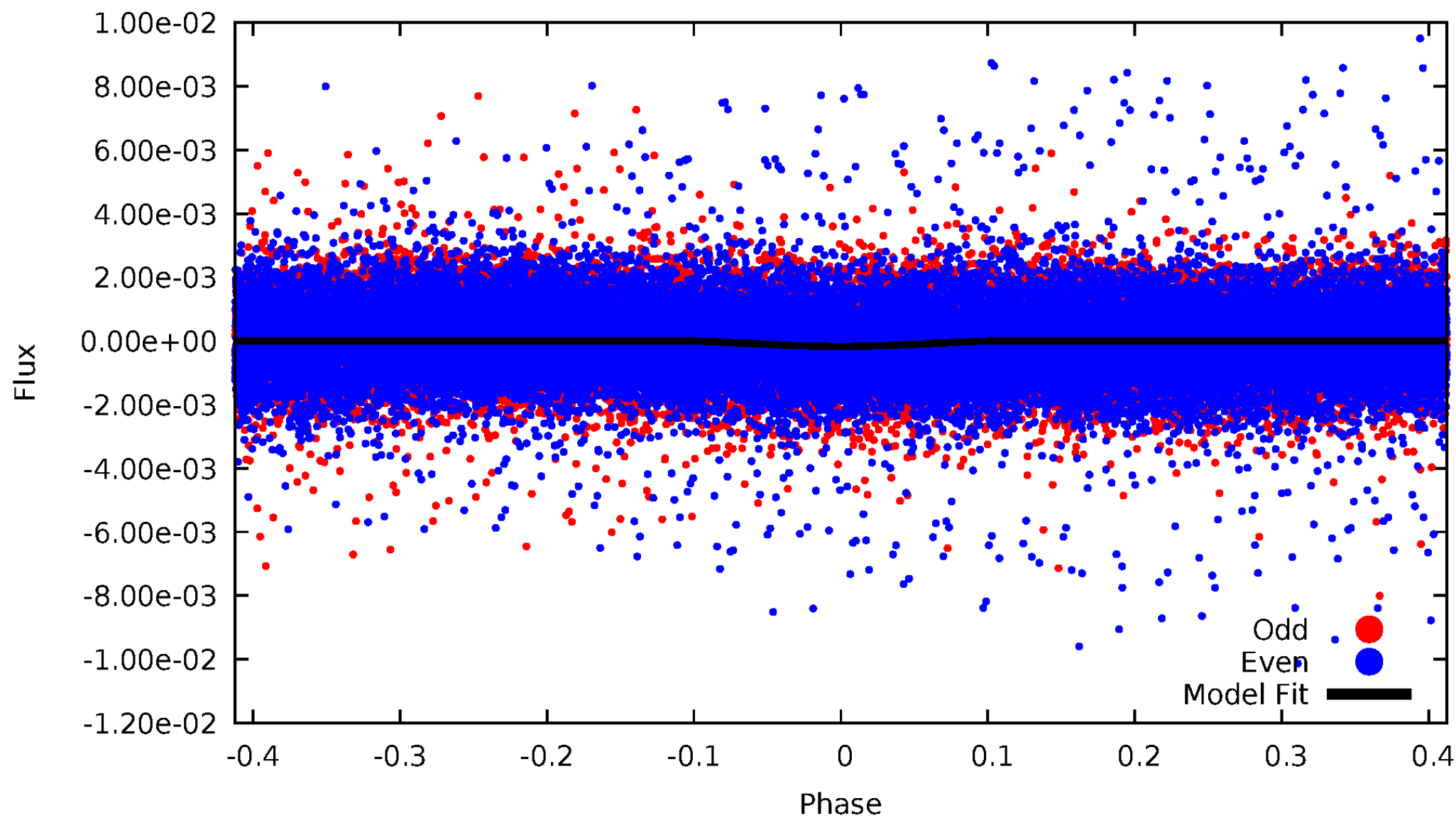


TCE 008025357-01



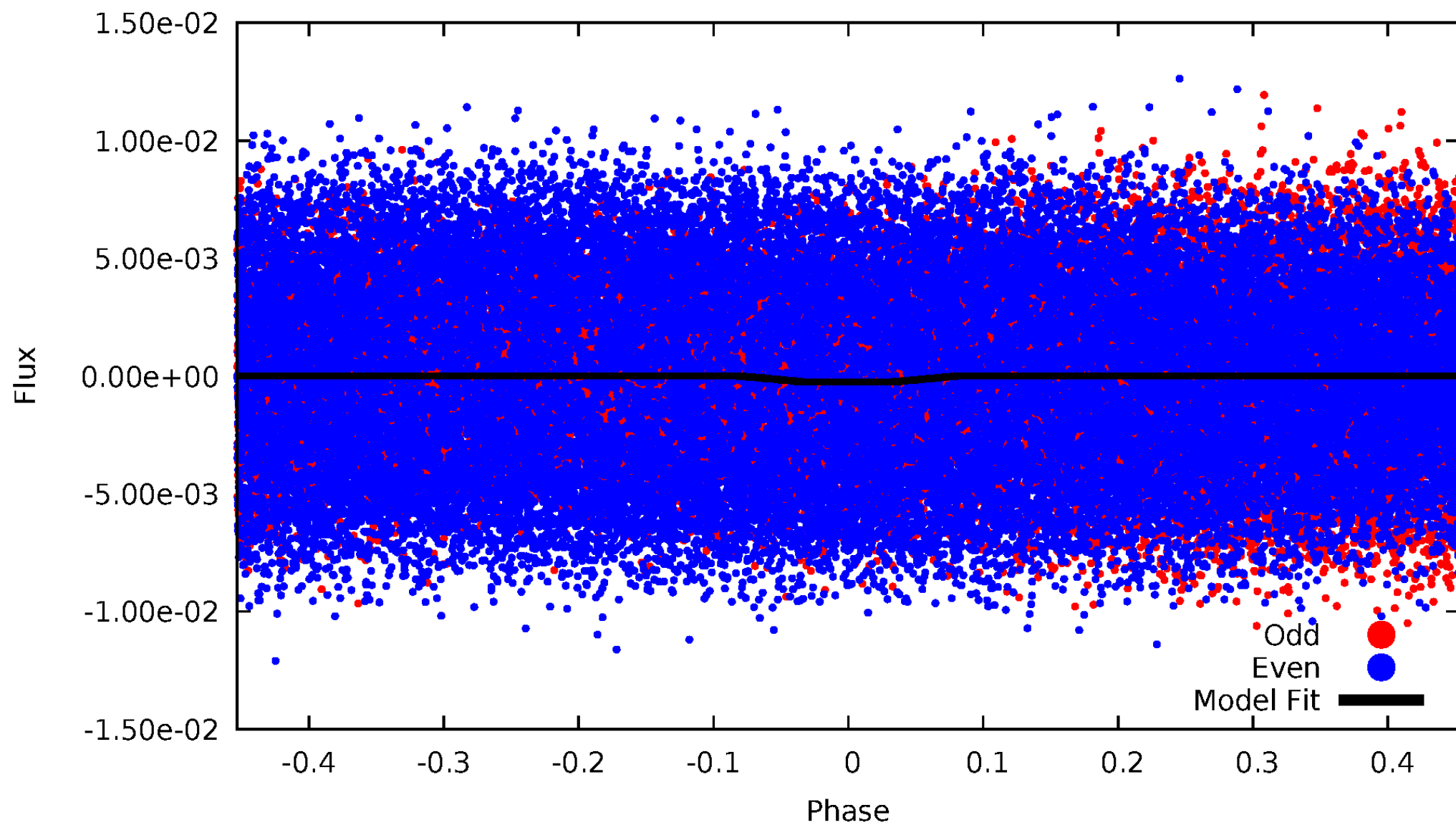
DV Odd/Even

TCE 008025357-01



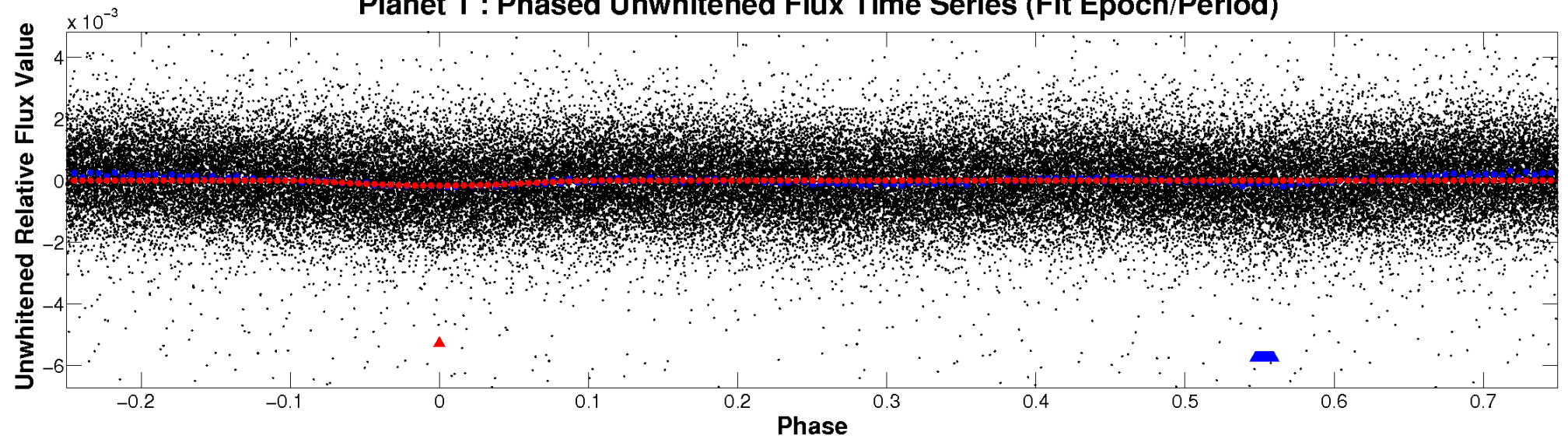
ALT Odd/Even

TCE 008025357-01

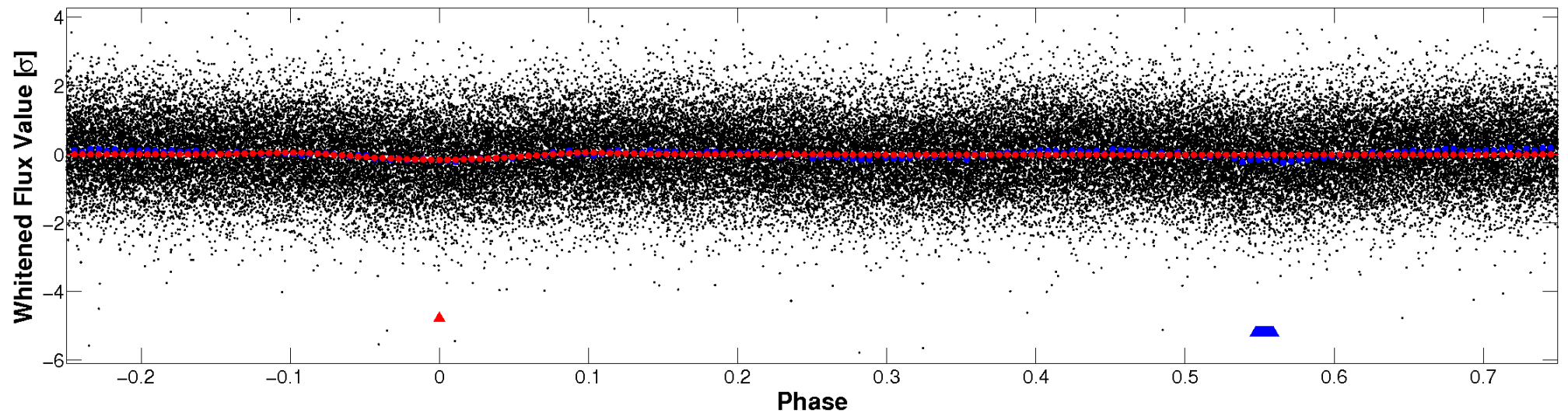


Non-Whitened Vs. Whitened Light Curve

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

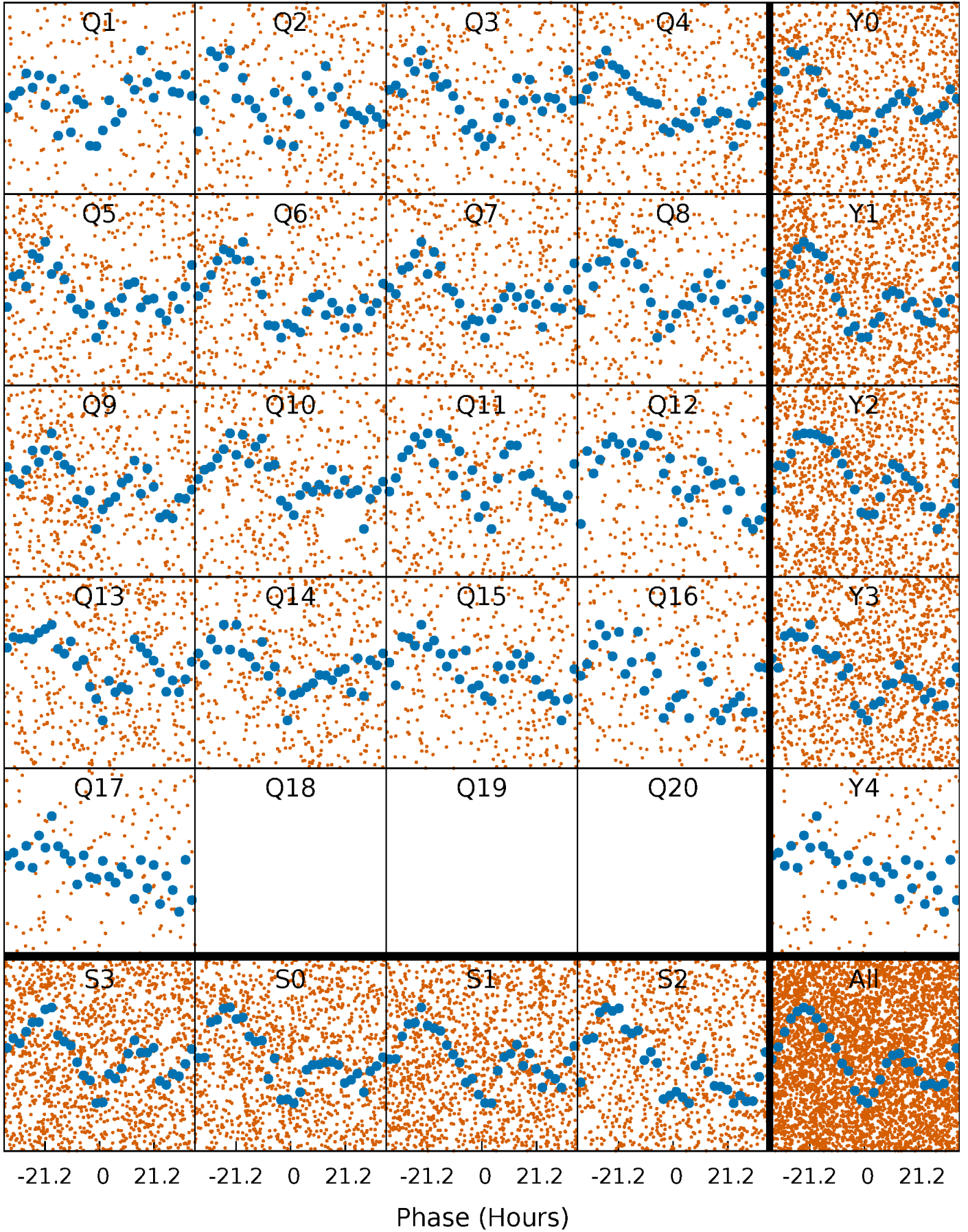


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



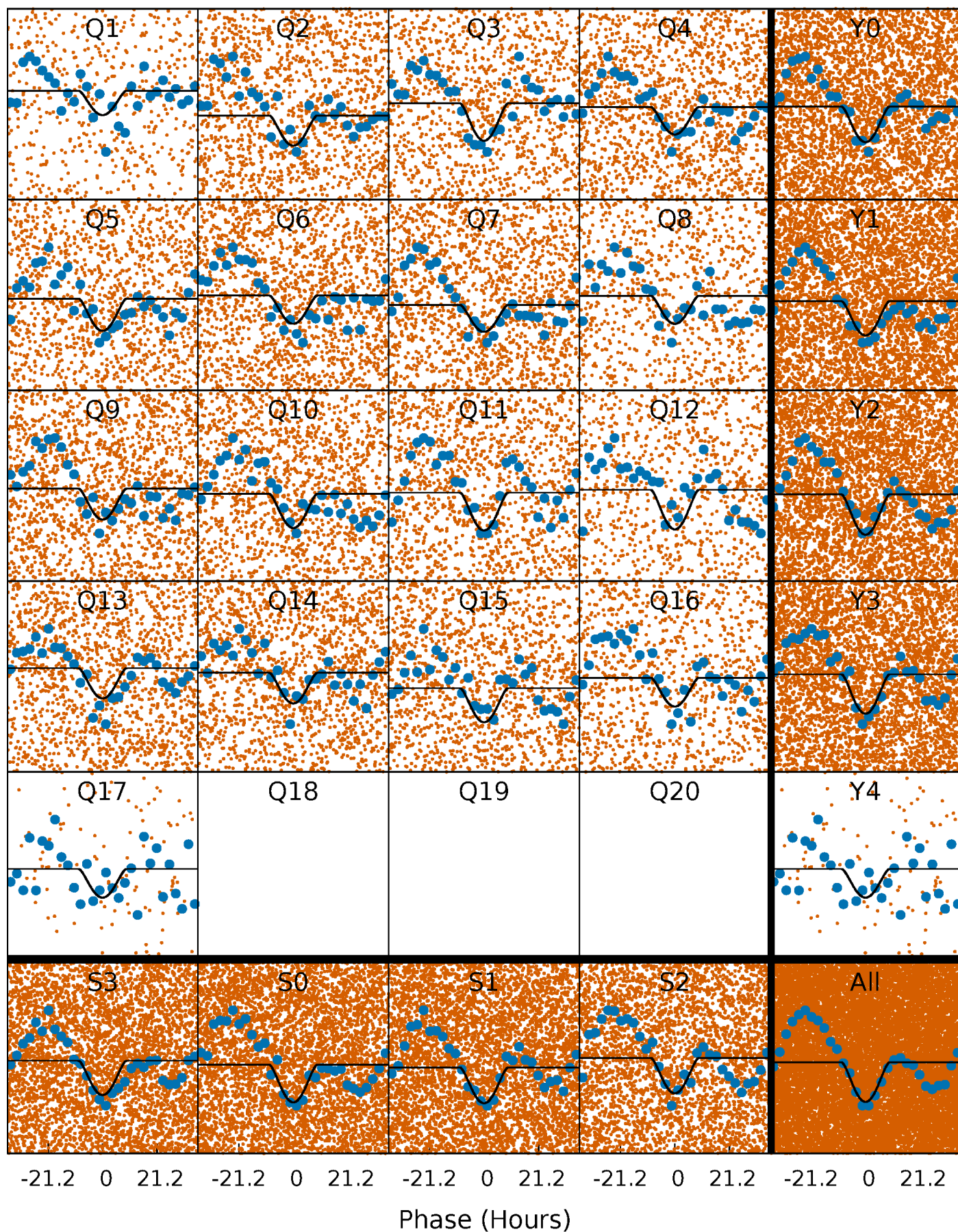
PDC Quarter-Phased Transit Curves

TCE 008025357-01 P= 3.756326 Days $T_0=134.935657$ (BKJD)



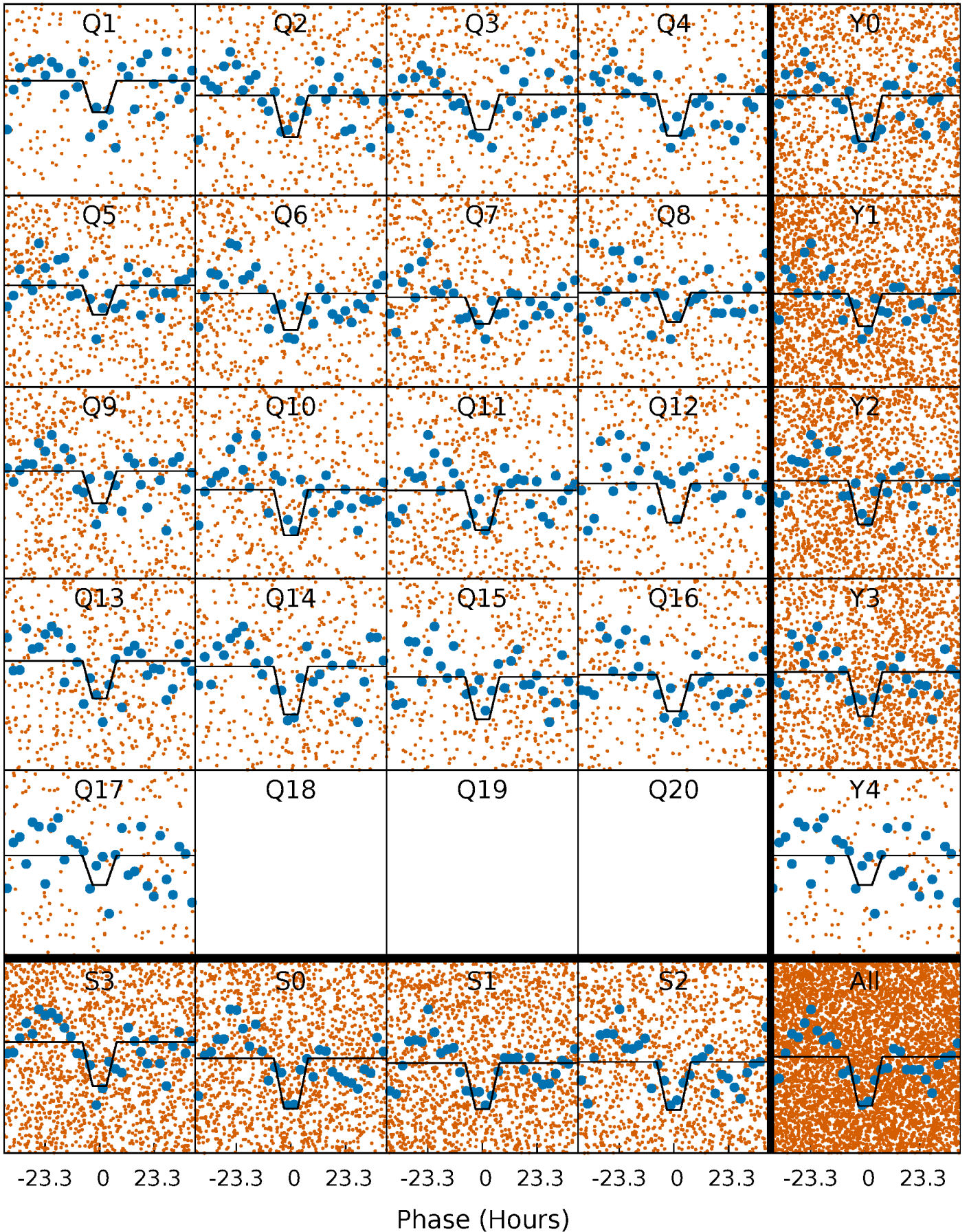
DV Quarter-Phased Transit Curves

TCE 008025357-01 P= 3.756326 Days $T_0=134.935657$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

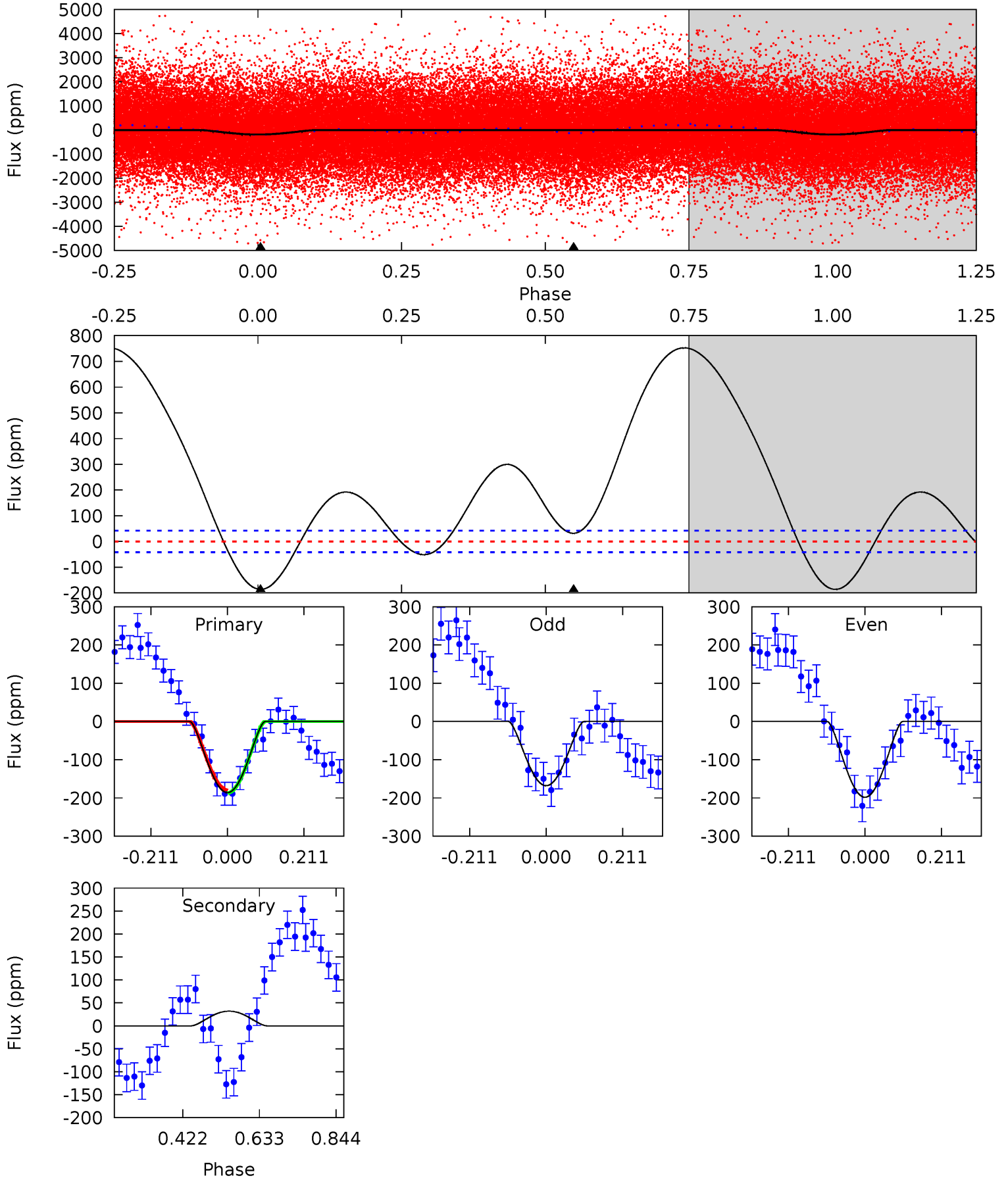
TCE 008025357-01 P= 3.756367 Days $T_0=134.928131$ (BKJD)



DV Model-Shift Uniqueness Test

008025357-01, P = 3.756326 Days, E = 131.179331 Days

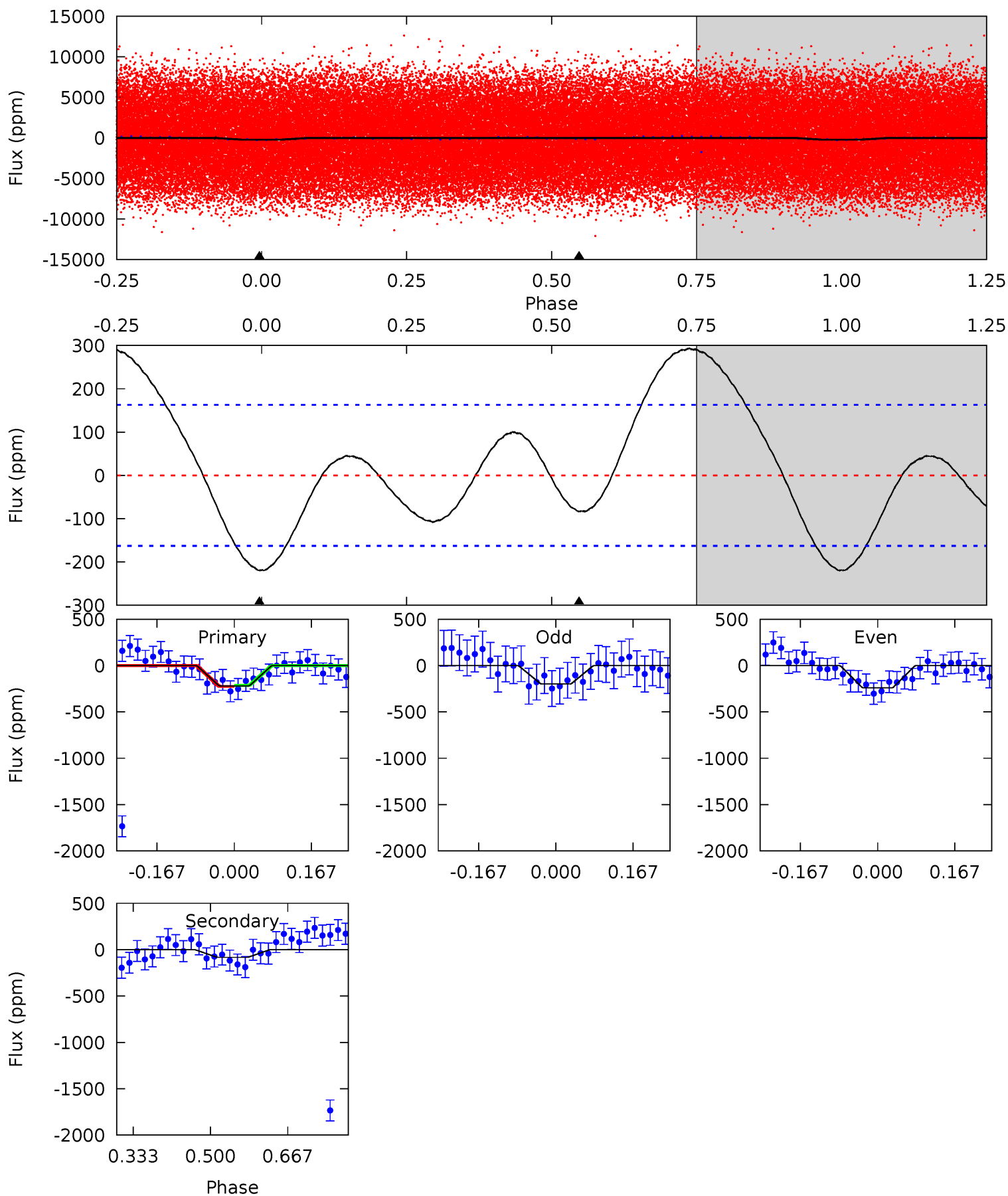
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.7	-3.38	0	0	4.41	1.25	31.5	19.7	19.7	-3.38	-3.38	1.60	2.16	0.80	0.41



Alt Model-Shift Uniqueness Test

008025357-01, P = 3.756367 Days, E = 131.171764 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.01	2.28	0	0	4.46	1.38	4.14	6.01	6.01	2.28	2.28	0.59	0.27	0.57	0.15



Stellar Parameters For KIC 008025357

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7100^{+195}_{-335}	$4.263^{+0.060}_{-0.240}$	$0.210^{+0.150}_{-0.350}$	$1.520^{+0.570}_{-0.190}$	$1.541^{+0.214}_{-0.214}$	$0.619^{+0.206}_{-0.376}$
	+3%/-5%	+1%/-6%	+71%/-167%	+37%/-12%	+14%/-14%	+33%/-61%
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 008025357-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	32 ± 9	$6.36^{+5.35}_{-4.21}$	2354^{+208}_{-136}	-3403^{+395}_{-1420}	$-1.201^{+0.868}_{-10.342}$
Alt.	-83 ± 37	$5.38^{+5.01}_{-3.62}$	2340^{+209}_{-126}	4045^{+2474}_{-1004}	$4.343^{+38.534}_{-3.320}$

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

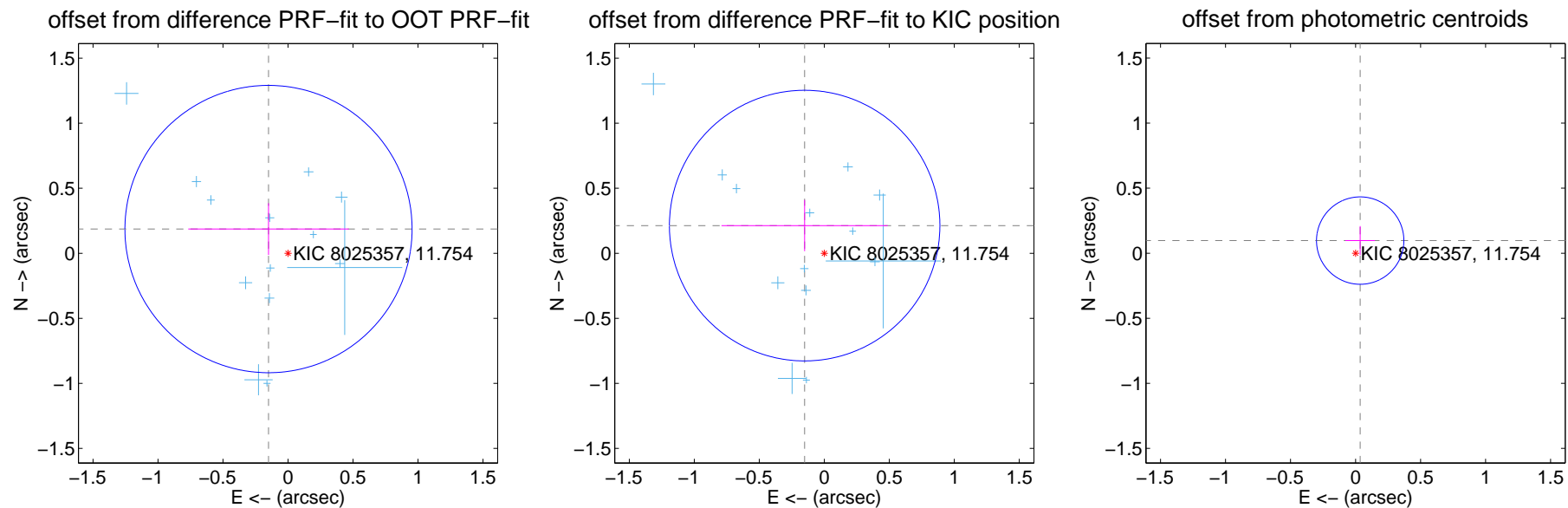
DV Centroid Data

Supplemental centroid analysis for 008025357-01. **Kepler magnitude: 11.75.** Transit SNR 11.38

There are 15 quarters with good PRF difference image offsets

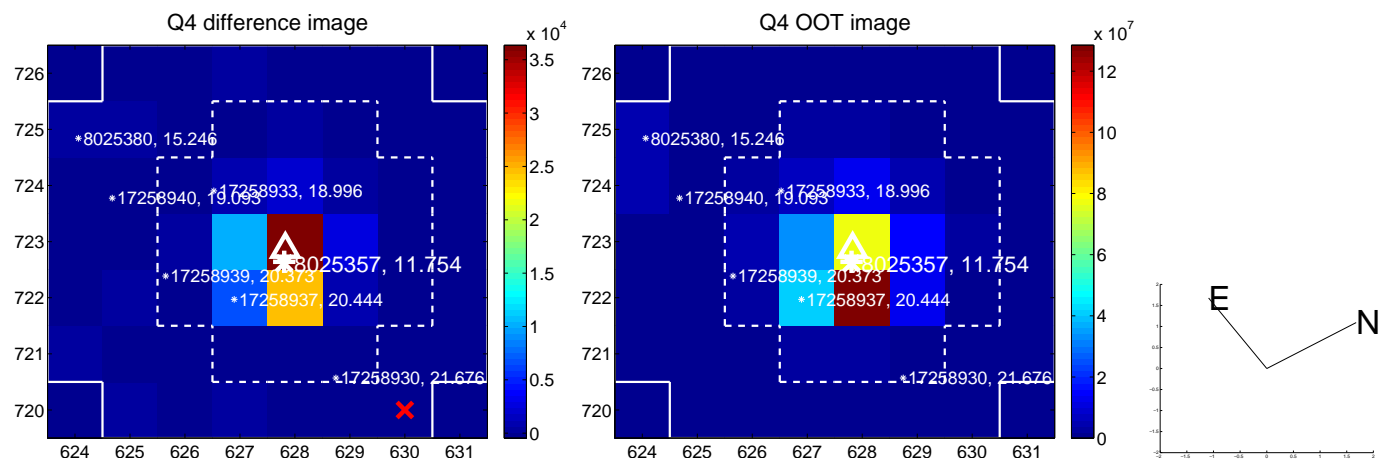
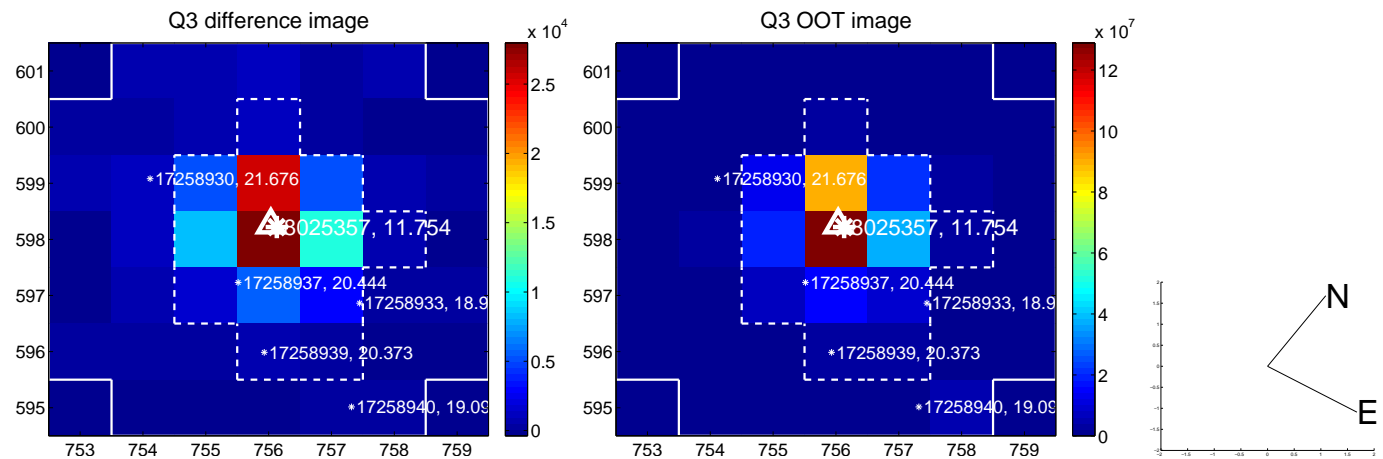
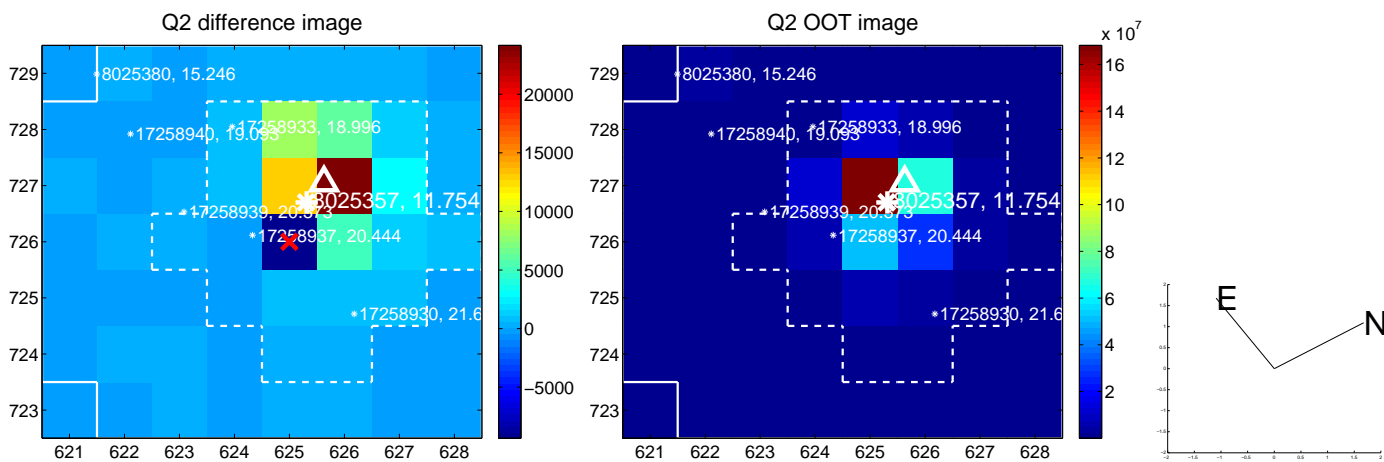
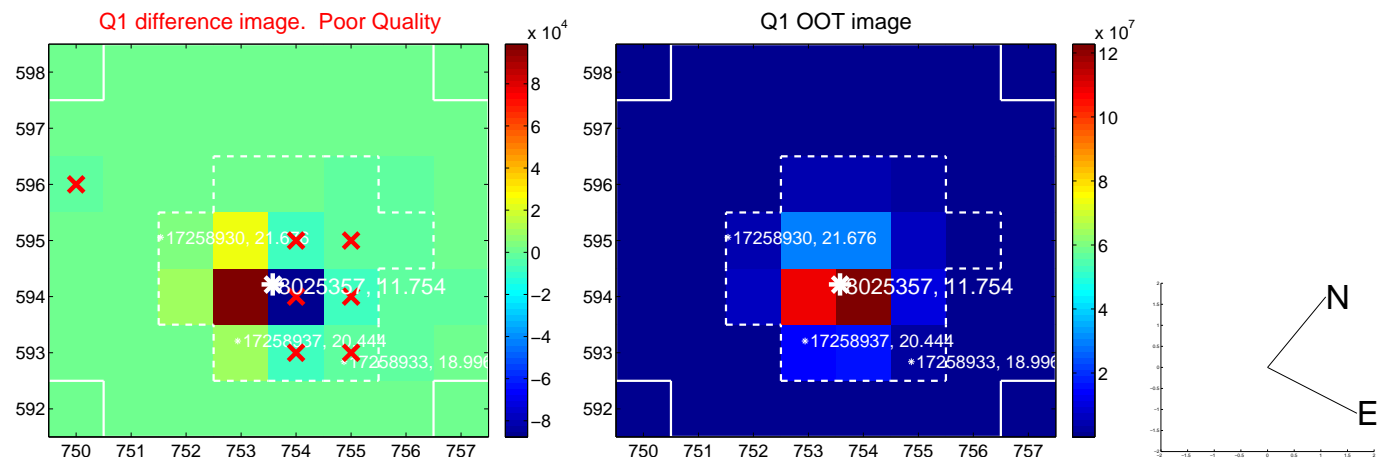
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.239 ± 0.368	0.65	0.150 ± 0.618	0.186 ± 0.199
PRF-fit source offset from KIC position	0.261 ± 0.347	0.75	0.151 ± 0.640	0.213 ± 0.197
photometric centroid source offset	0.10 ± 0.11	0.92	-0.04 ± 0.11	0.10 ± 0.11

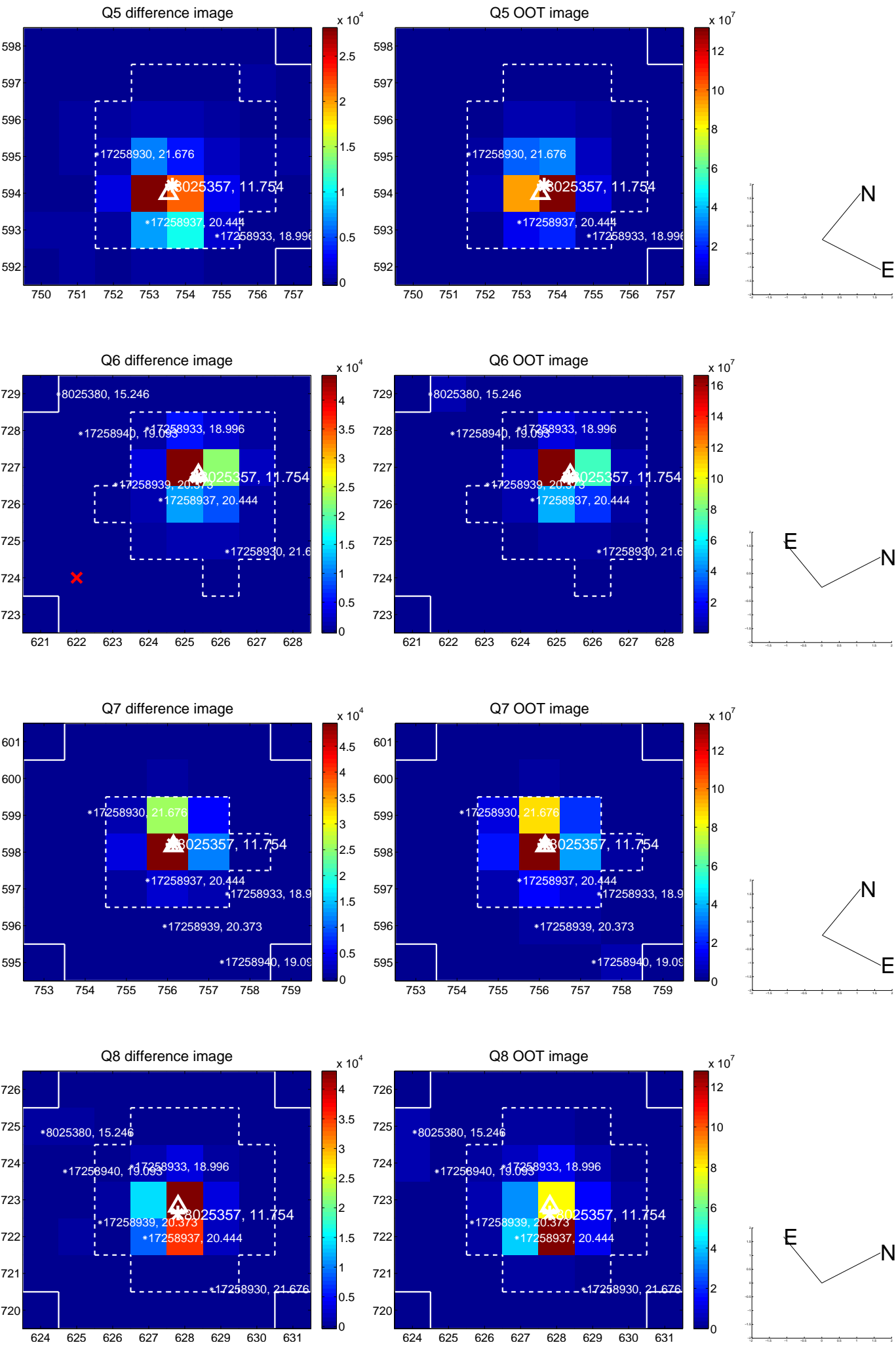


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

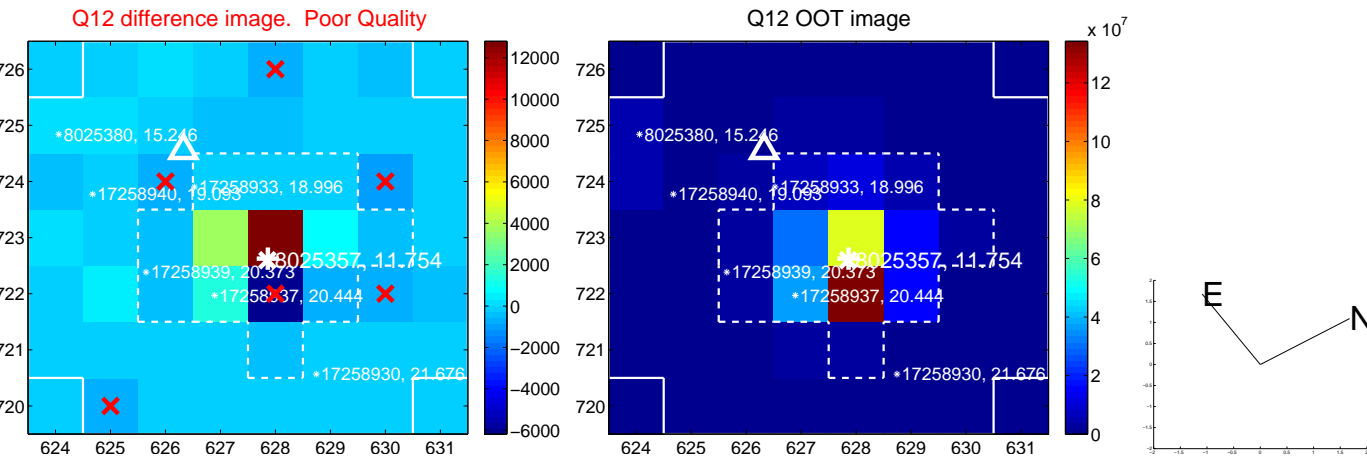
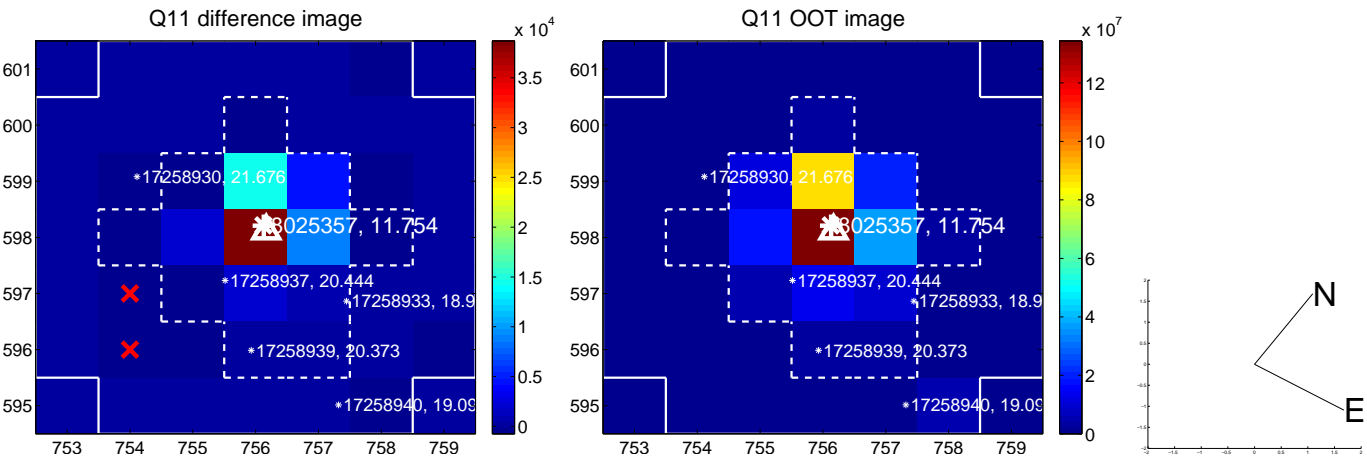
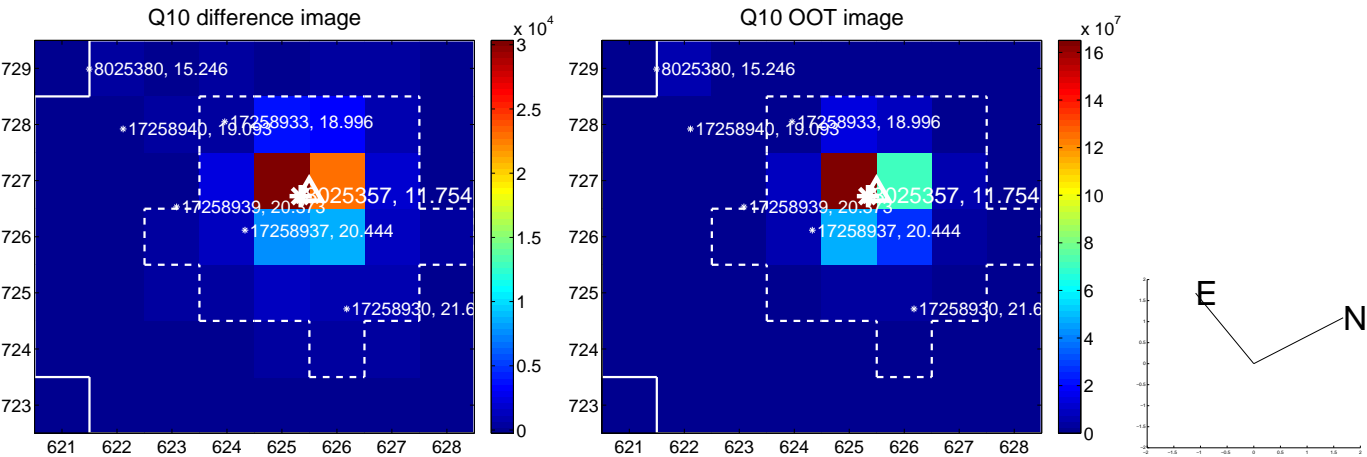
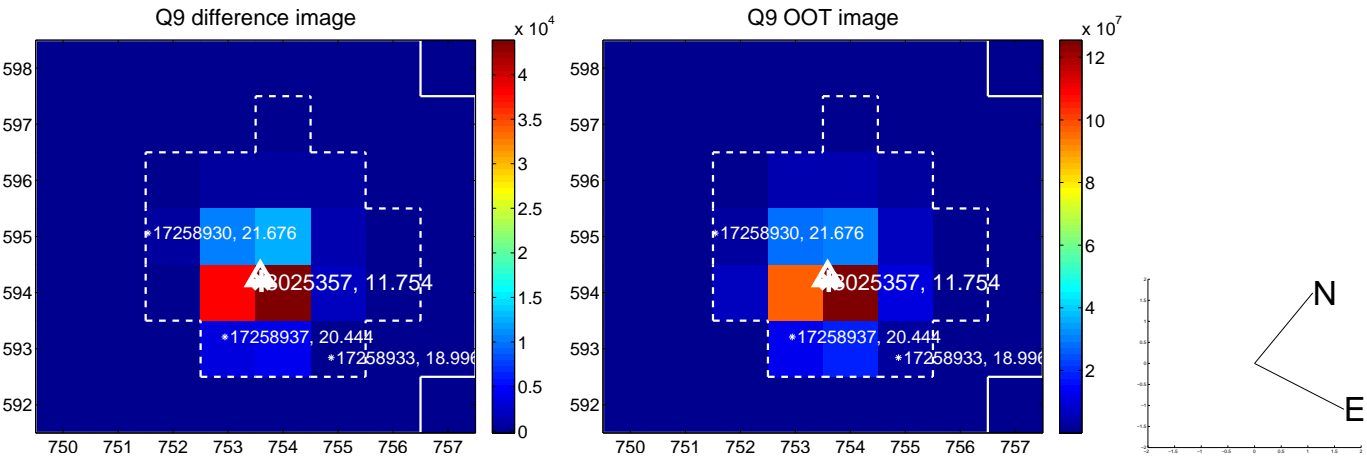
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



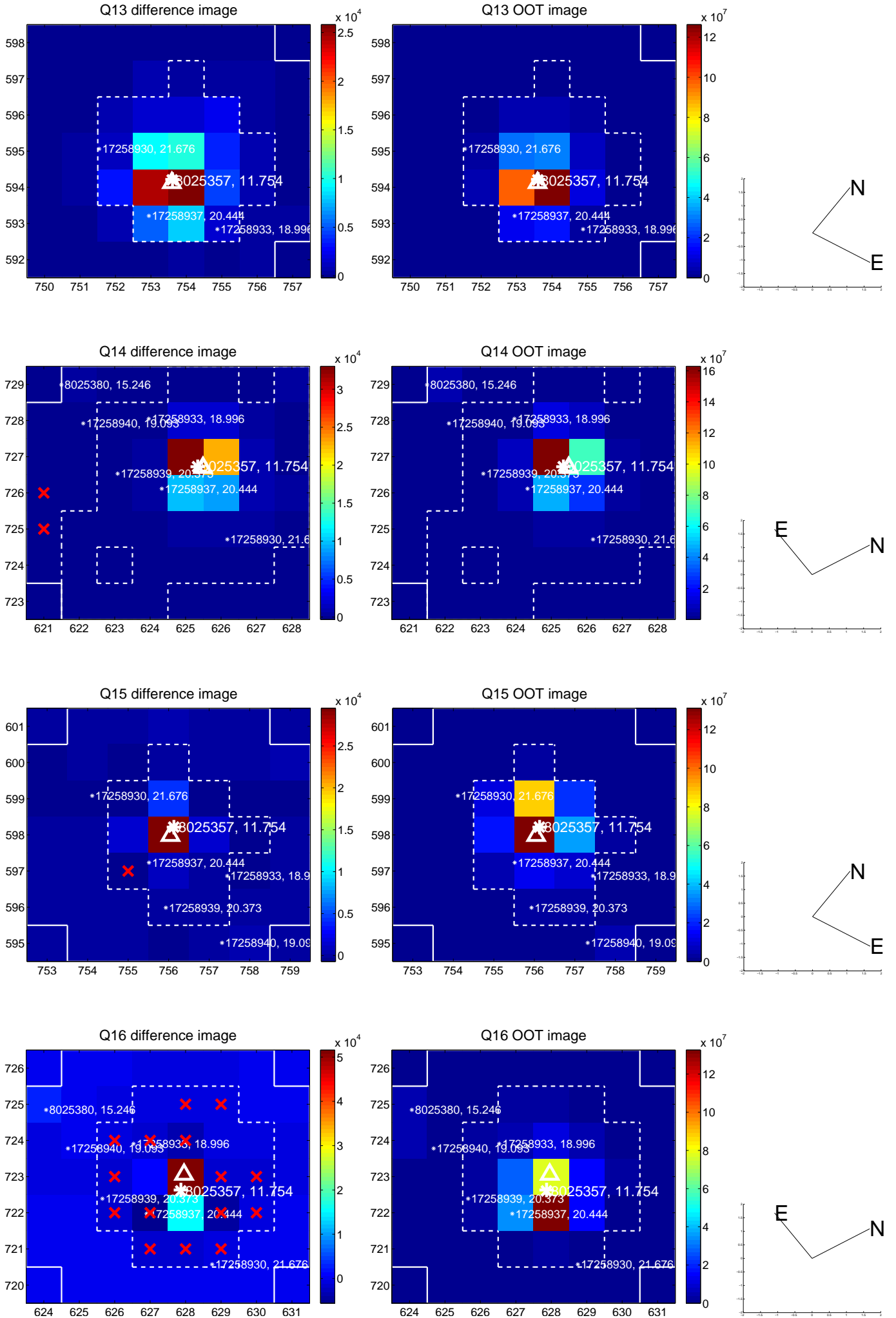
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



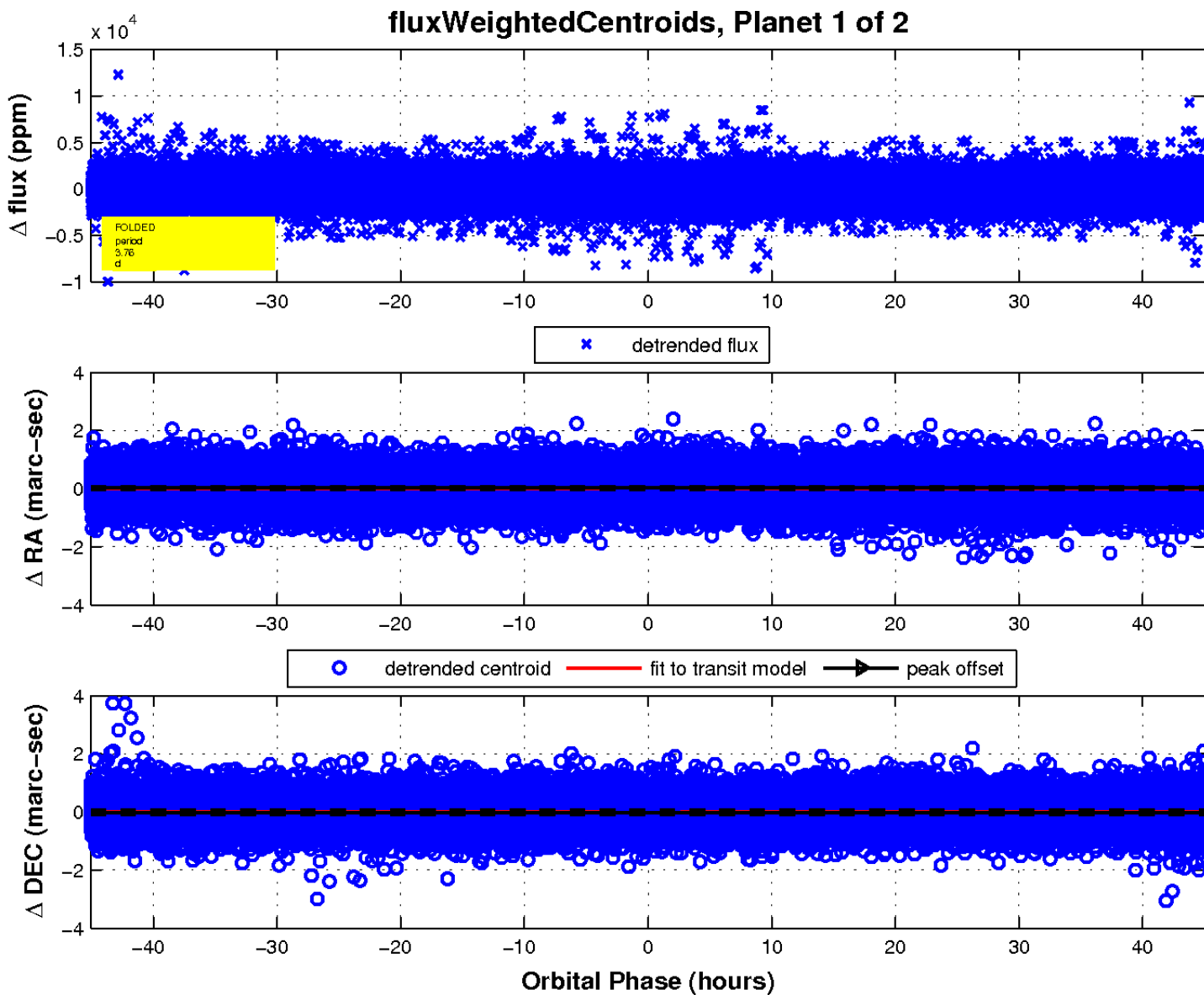
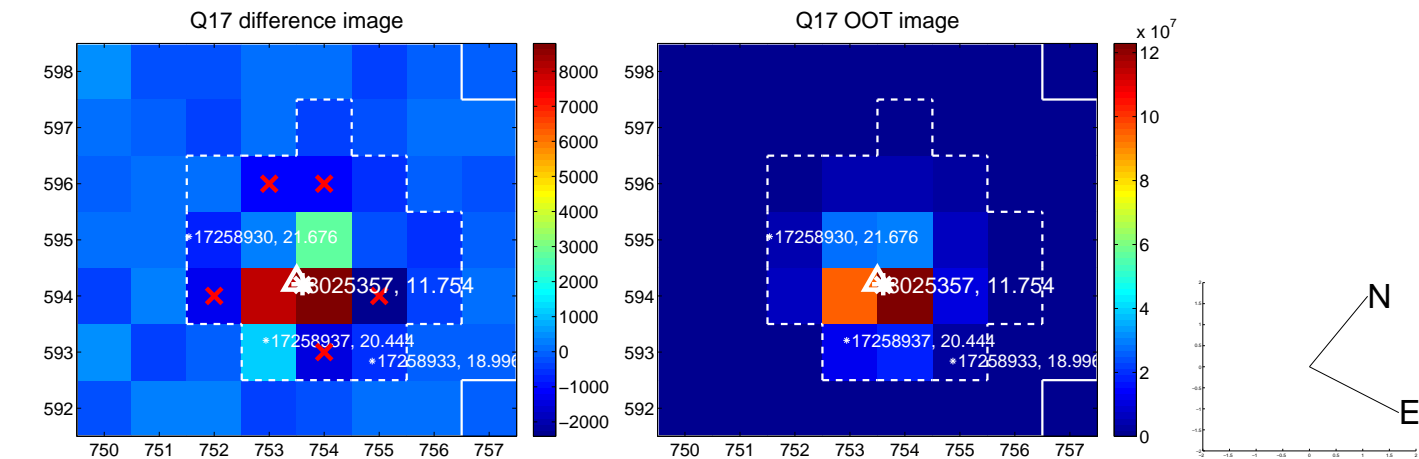
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



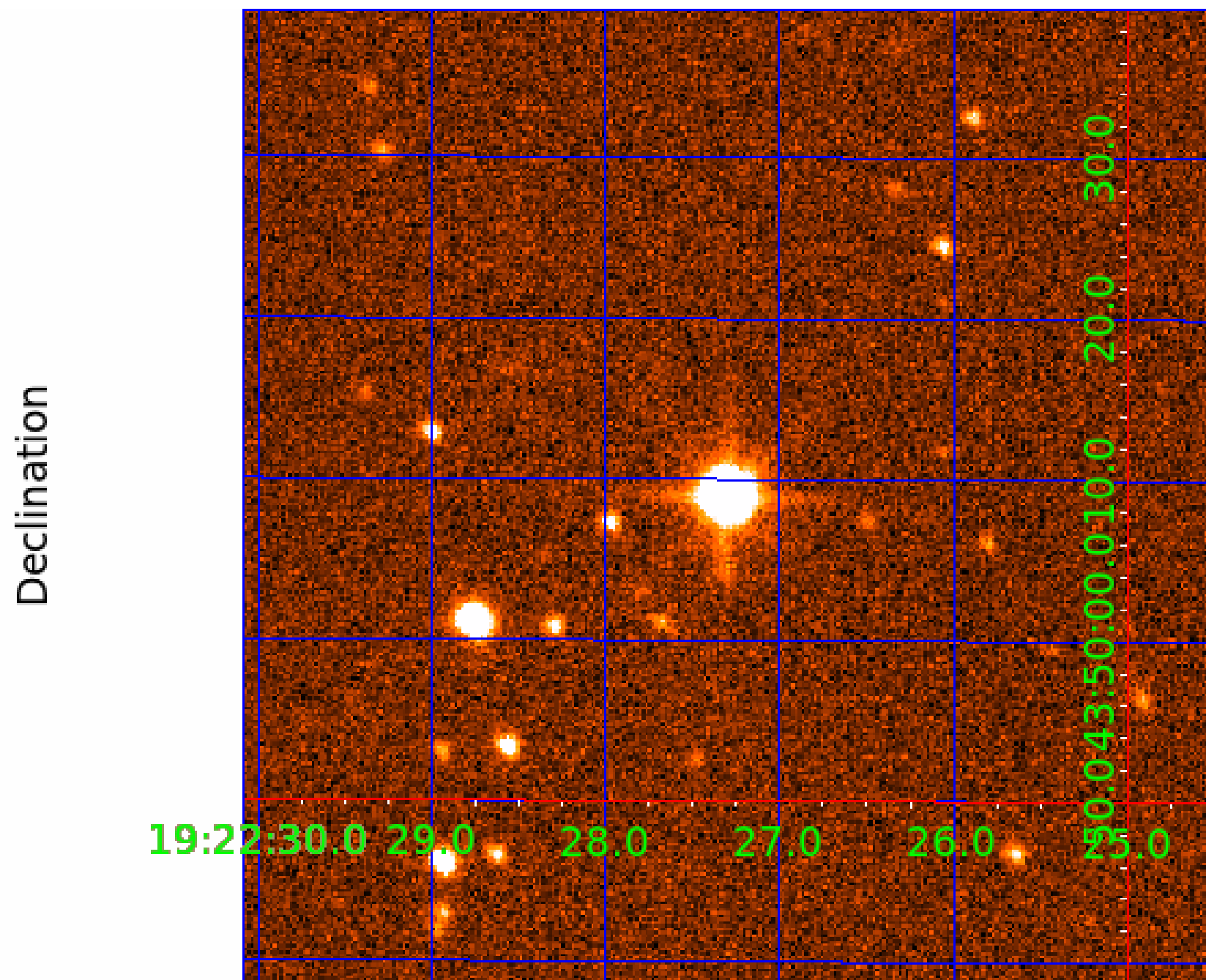
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 008025357

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})
008025357-01	OBS	No	3.756326	134.935657	167.8	18.581	11.5	11.4	1.52	7100	3.86	1759.84
008025357-02	OBS	No	3.756442	133.235120	129.1	13.056	10.0	11.2	1.52	7100	1.75	1759.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008025357-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008025357-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

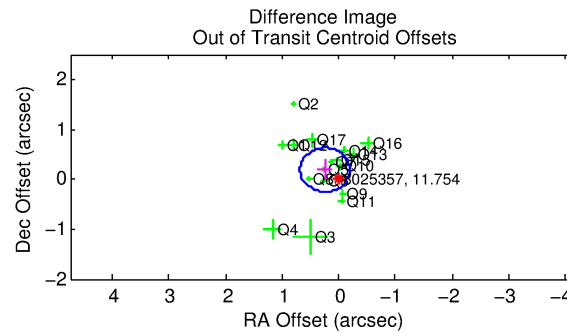
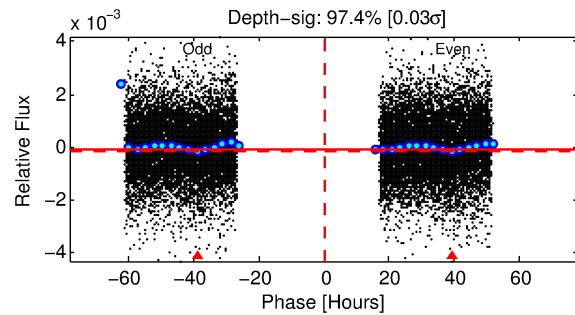
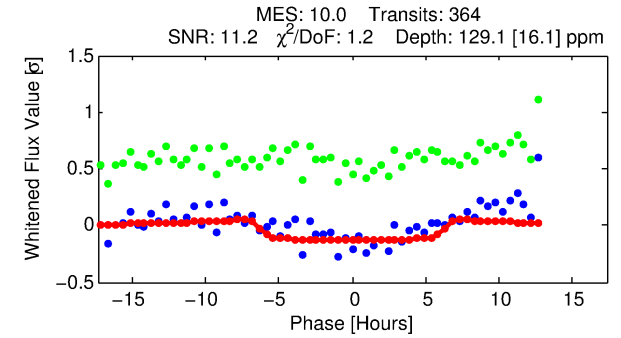
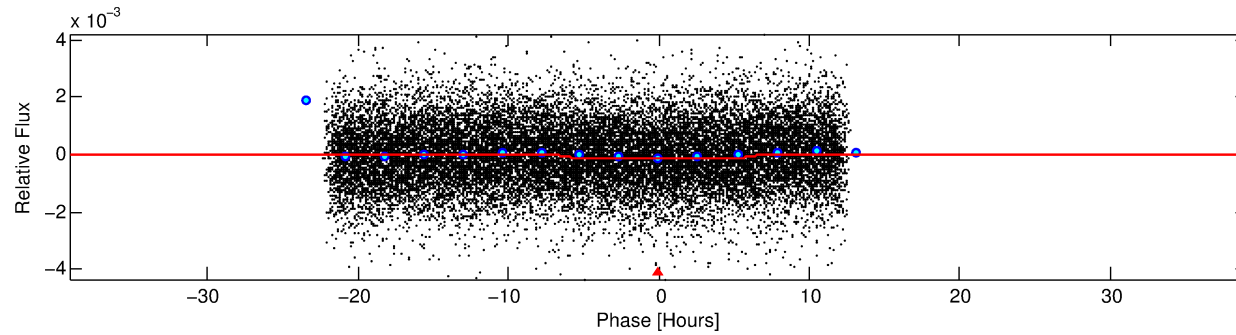
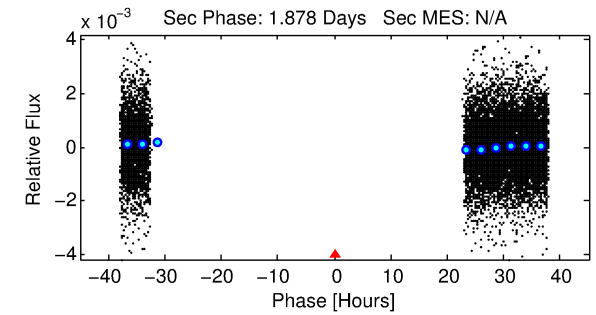
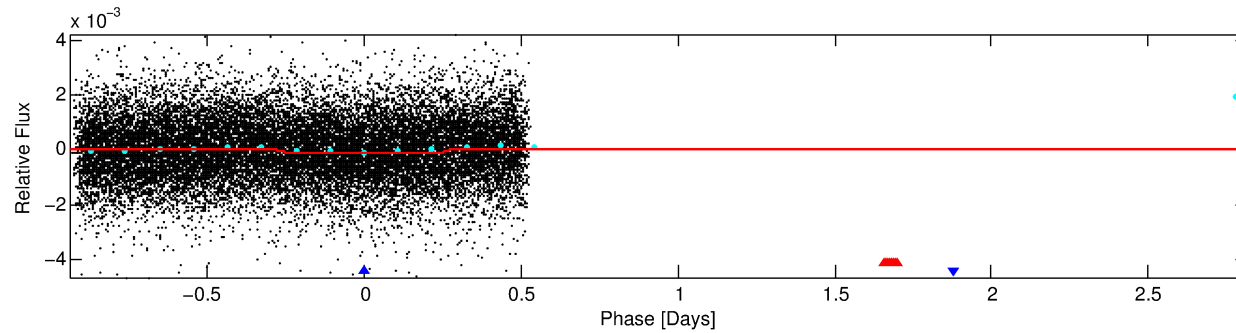
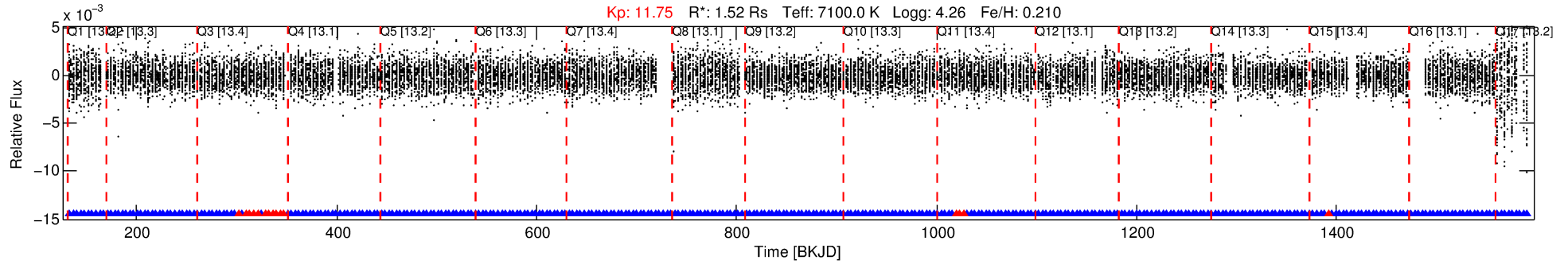
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008025357-02

No Significant Match Found

DV One-Page Summary

KIC: 8025357 Candidate: 2 of 2 Period: 3.756 d



DV Fit Results:

Period = 3.75644 [0.00007] d
Epoch = 133.2351 [0.0126] BKJD
Rp/R* = 0.0105 [0.0125]
a/R* = 2.30 [12.77]
b = 0.01 [1253.69]
Seff = 1759.76 [850.98]
Teq = 1652 [200] K
Rp = 1.74 [2.18] Re
a = 0.0547 [0.0170] AU

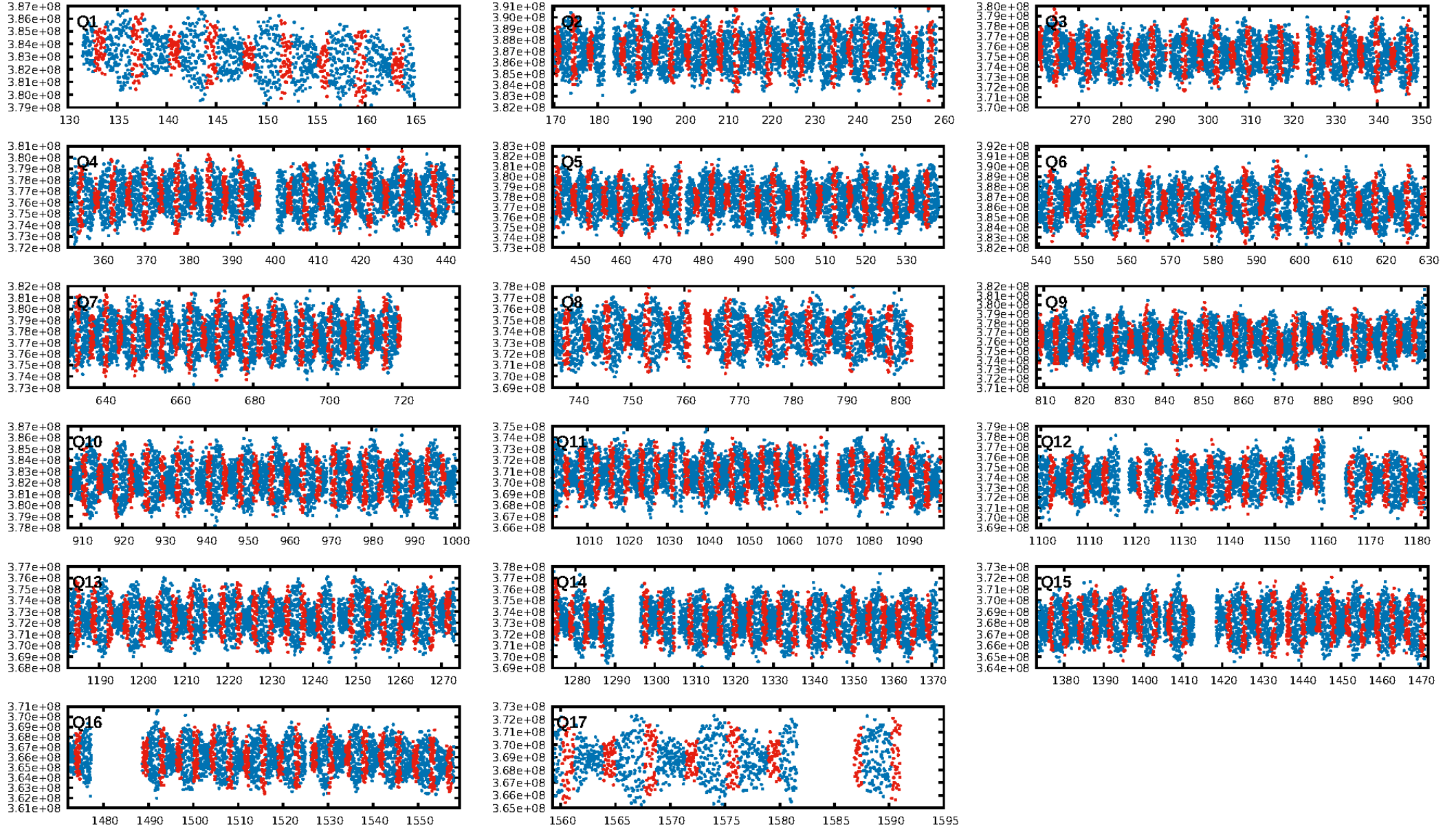
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.96 [332/347]
GhostDiagnostic-chr: 1.936
Centroid-sig: 65.0%
Centroid-so: 0.118 arcsec [0.94σ]
OotOffset-rm: 0.311 arcsec [2.13σ]
KicOffset-rm: 0.336 arcsec [2.18σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

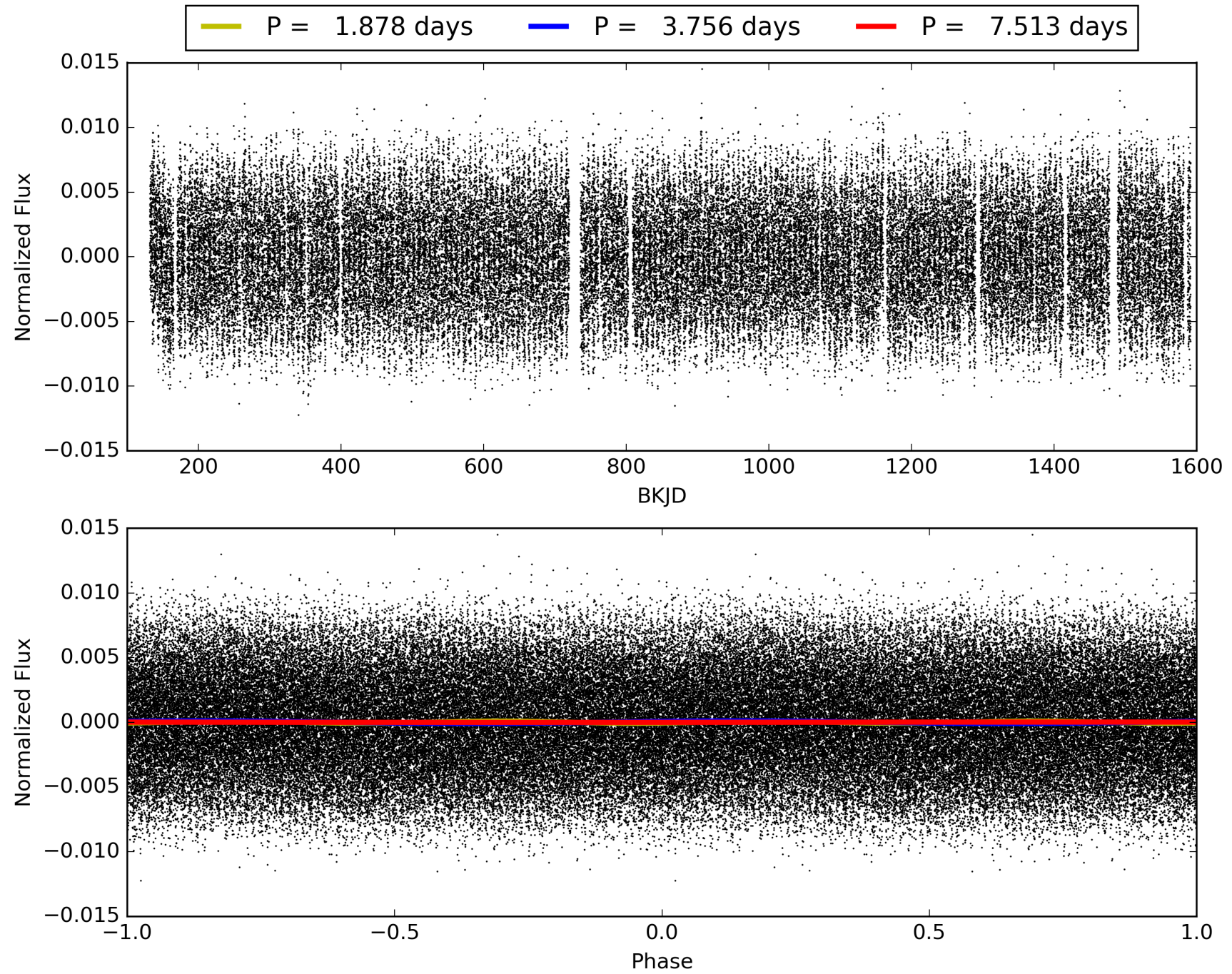
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:27:13 Z

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

TCE 008025357-02, PDC Light Curves

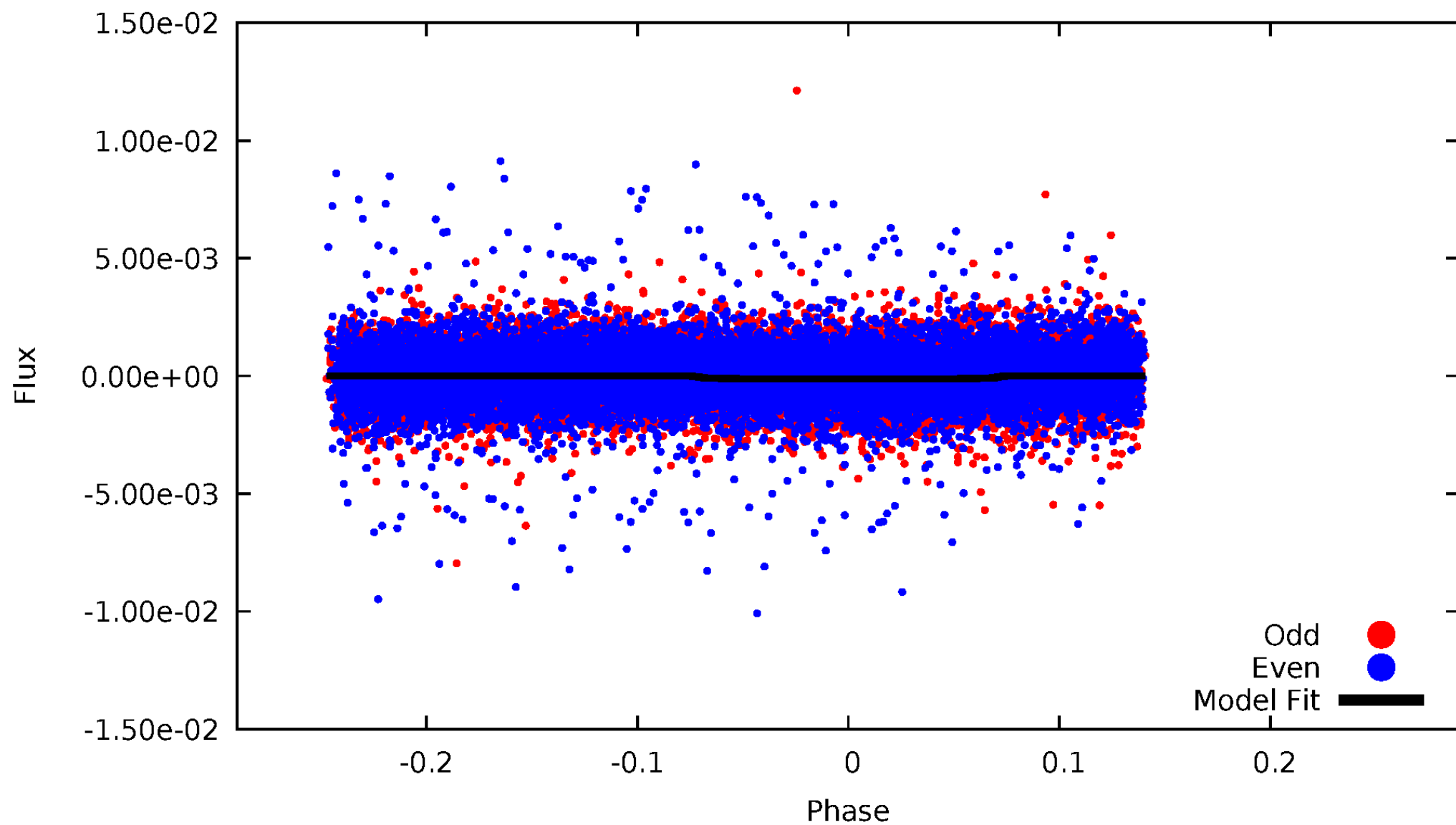


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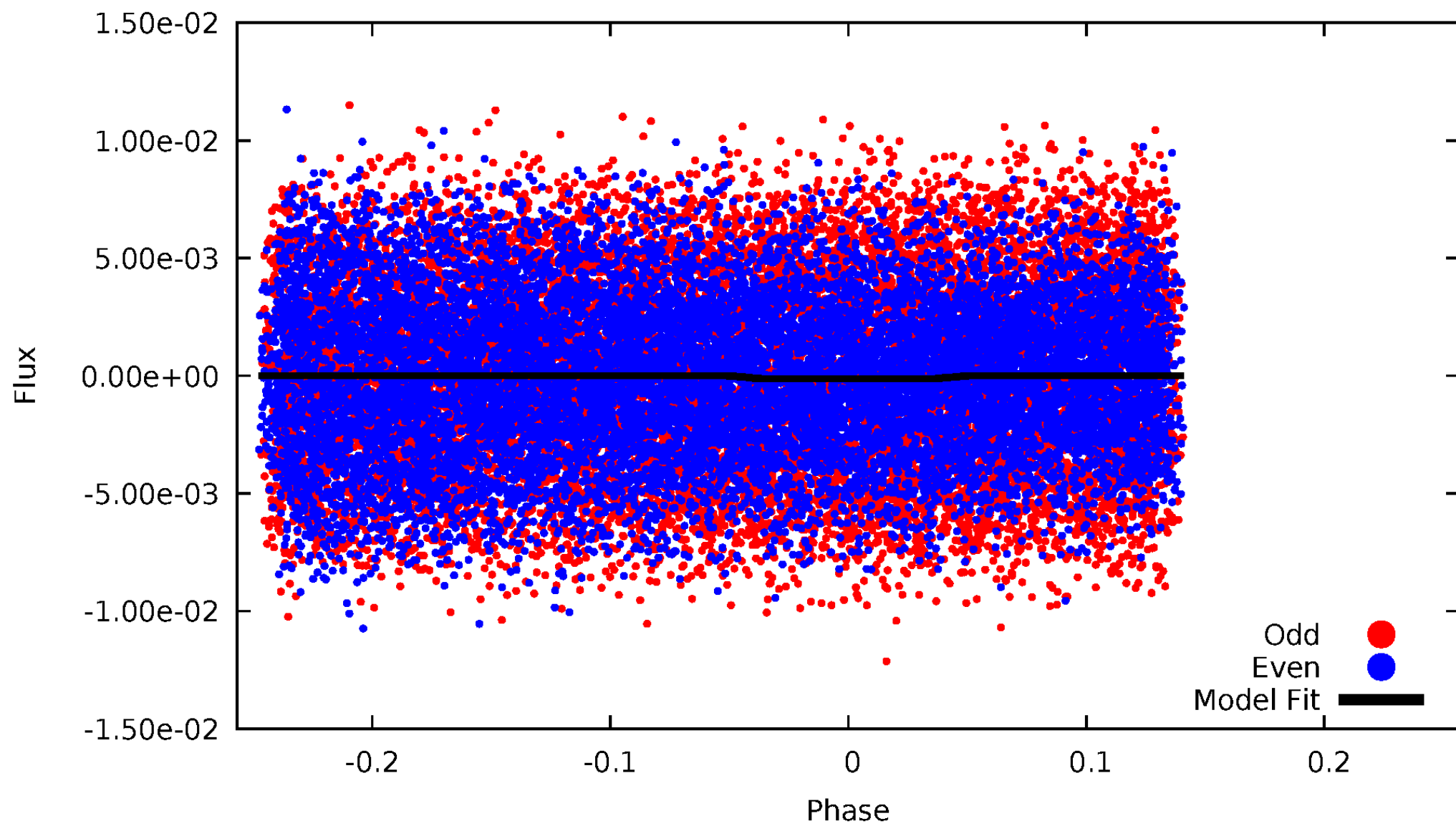
DV Odd/Even

TCE 008025357-02



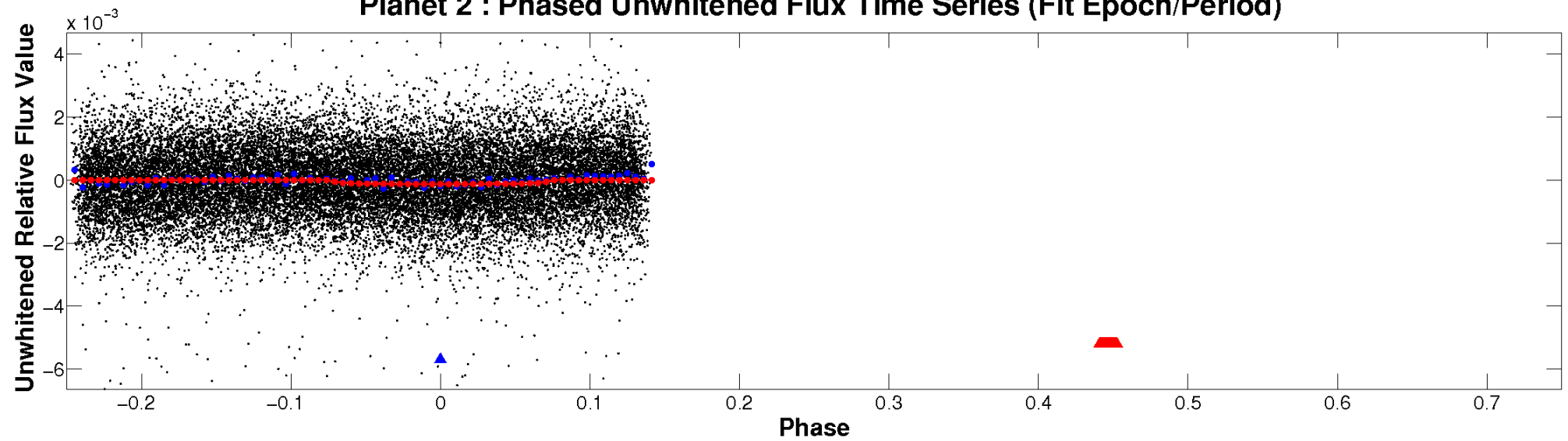
ALT Odd/Even

TCE 008025357-02

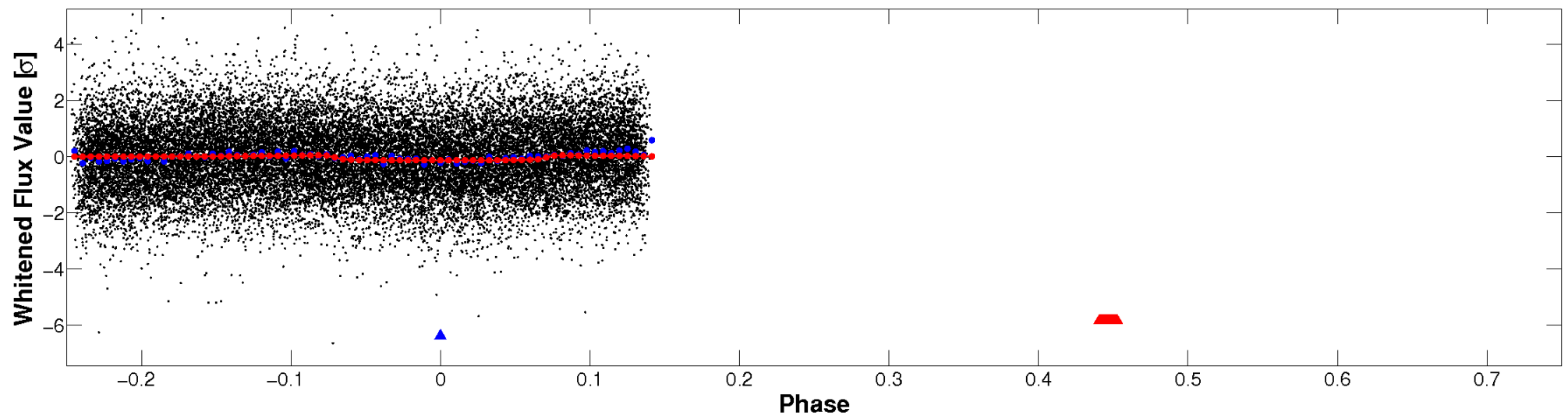


Non-Whitened Vs. Whitened Light Curve

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

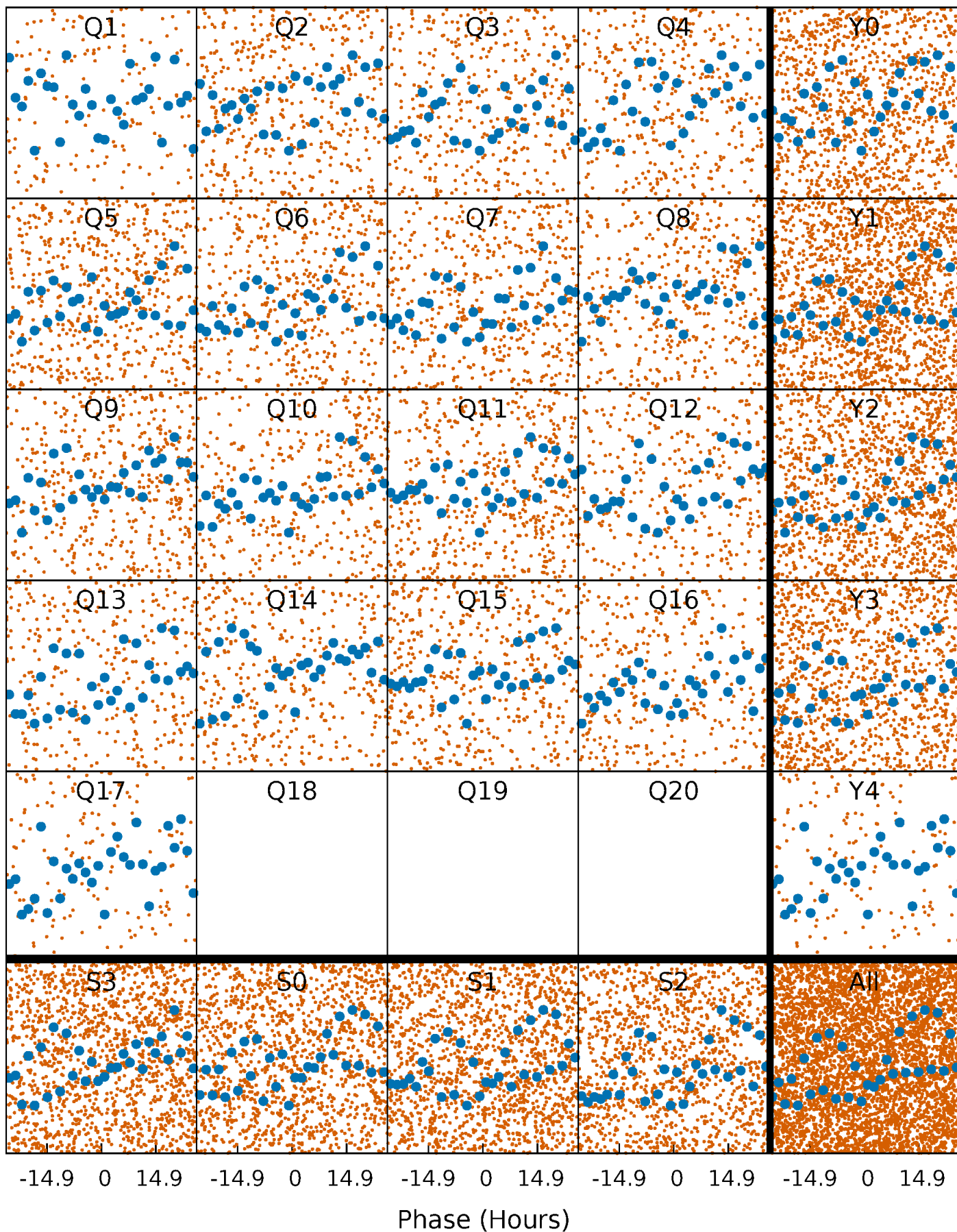


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



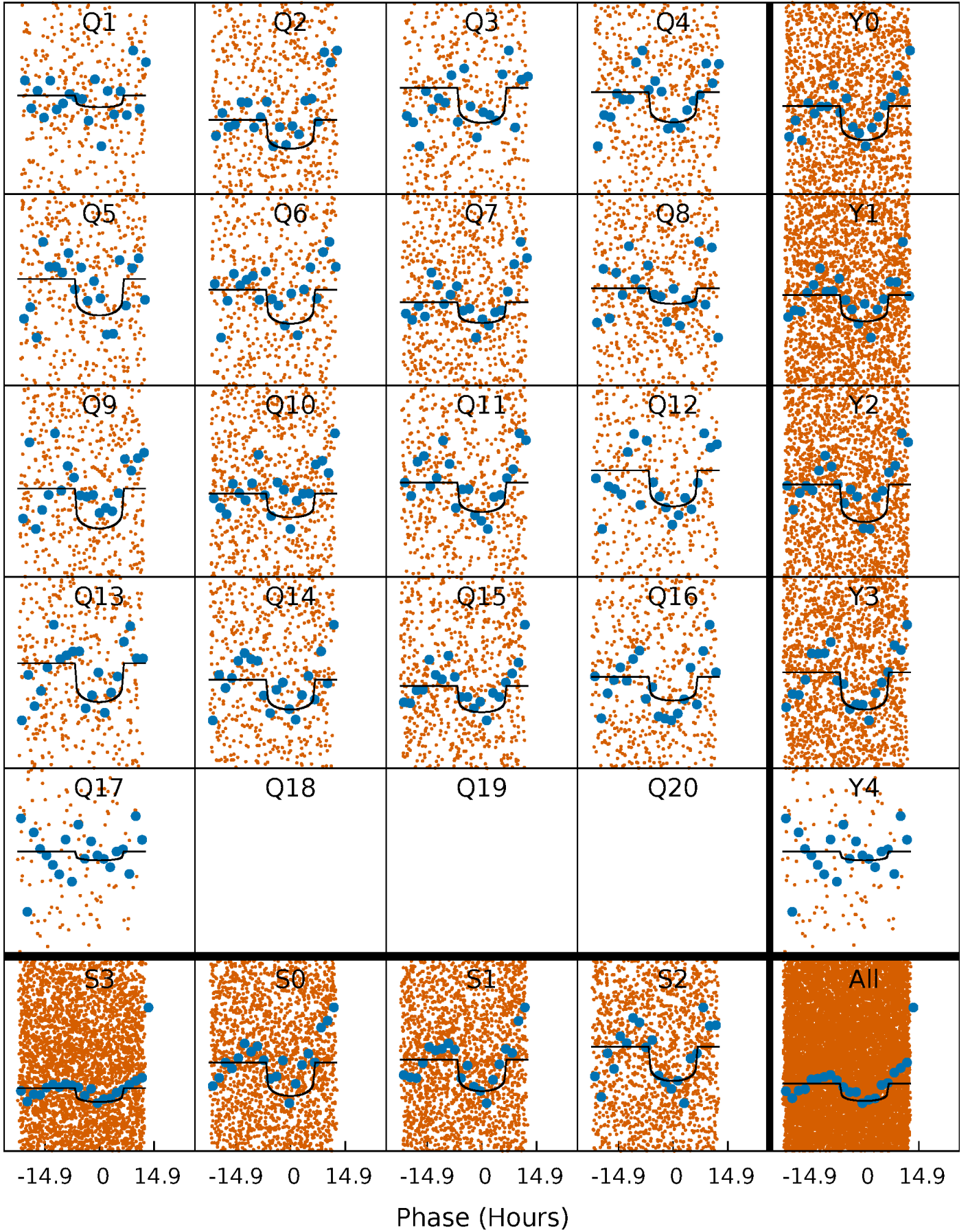
PDC Quarter-Phased Transit Curves

TCE 008025357-02 P= 3.756442 Days $T_0=133.235120$ (BKJD)



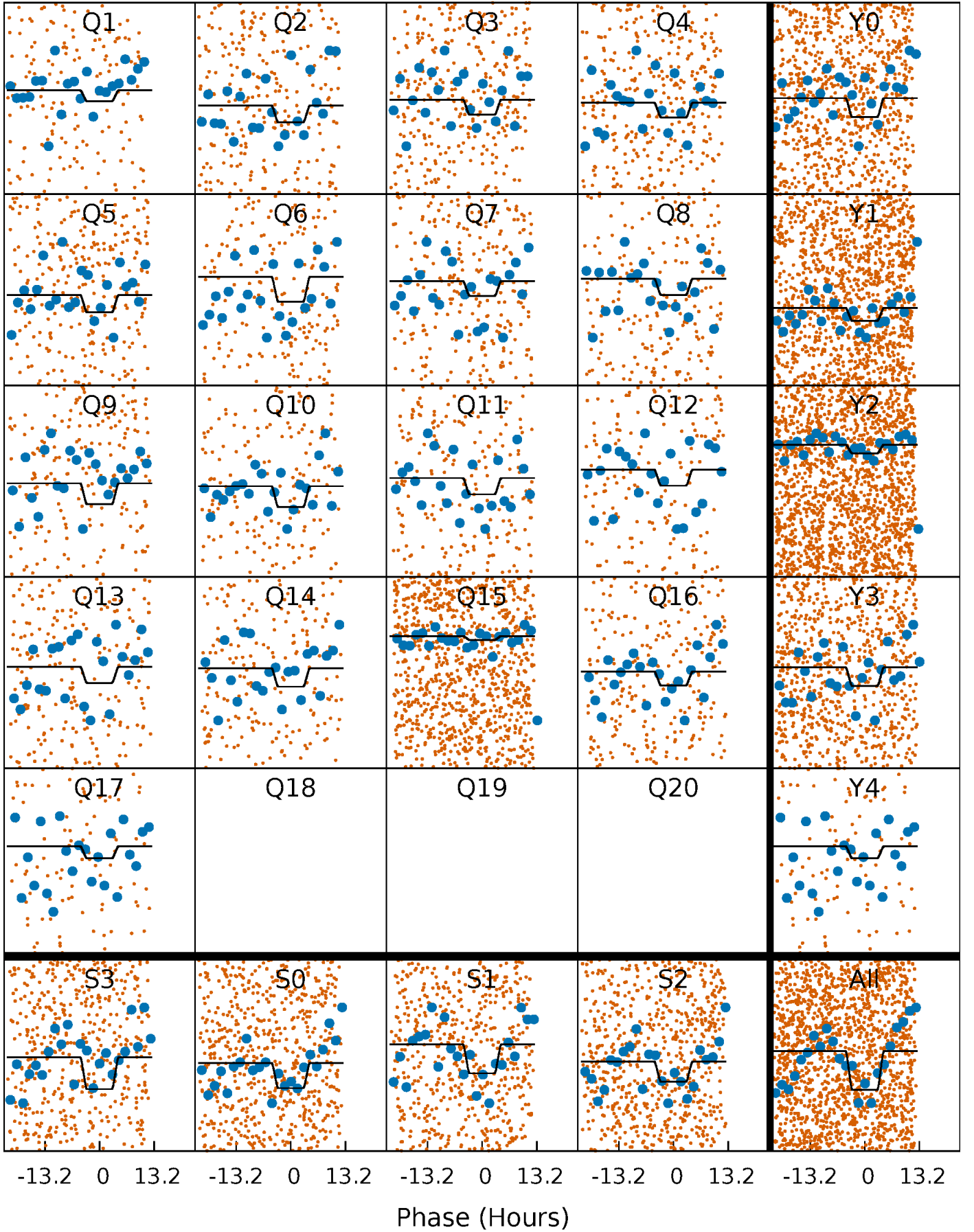
DV Quarter-Phased Transit Curves

TCE 008025357-02 $P = 3.756442$ Days $T_0 = 133.235120$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

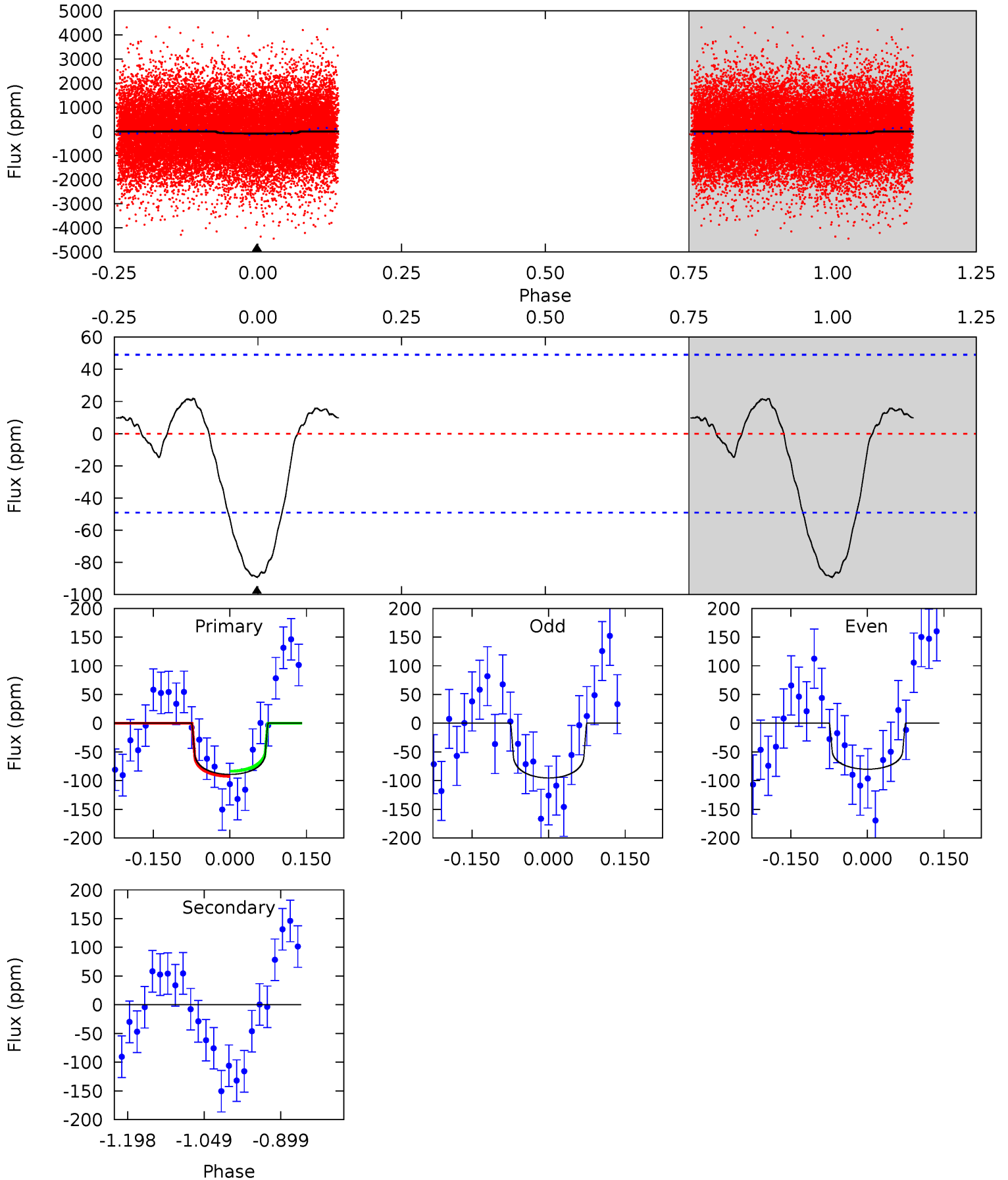
TCE 008025357-02 P= 3.756199 Days $T_0=133.282019$ (BKJD)



DV Model-Shift Uniqueness Test

008025357-02, P = 3.756442 Days, E = 129.478678 Days

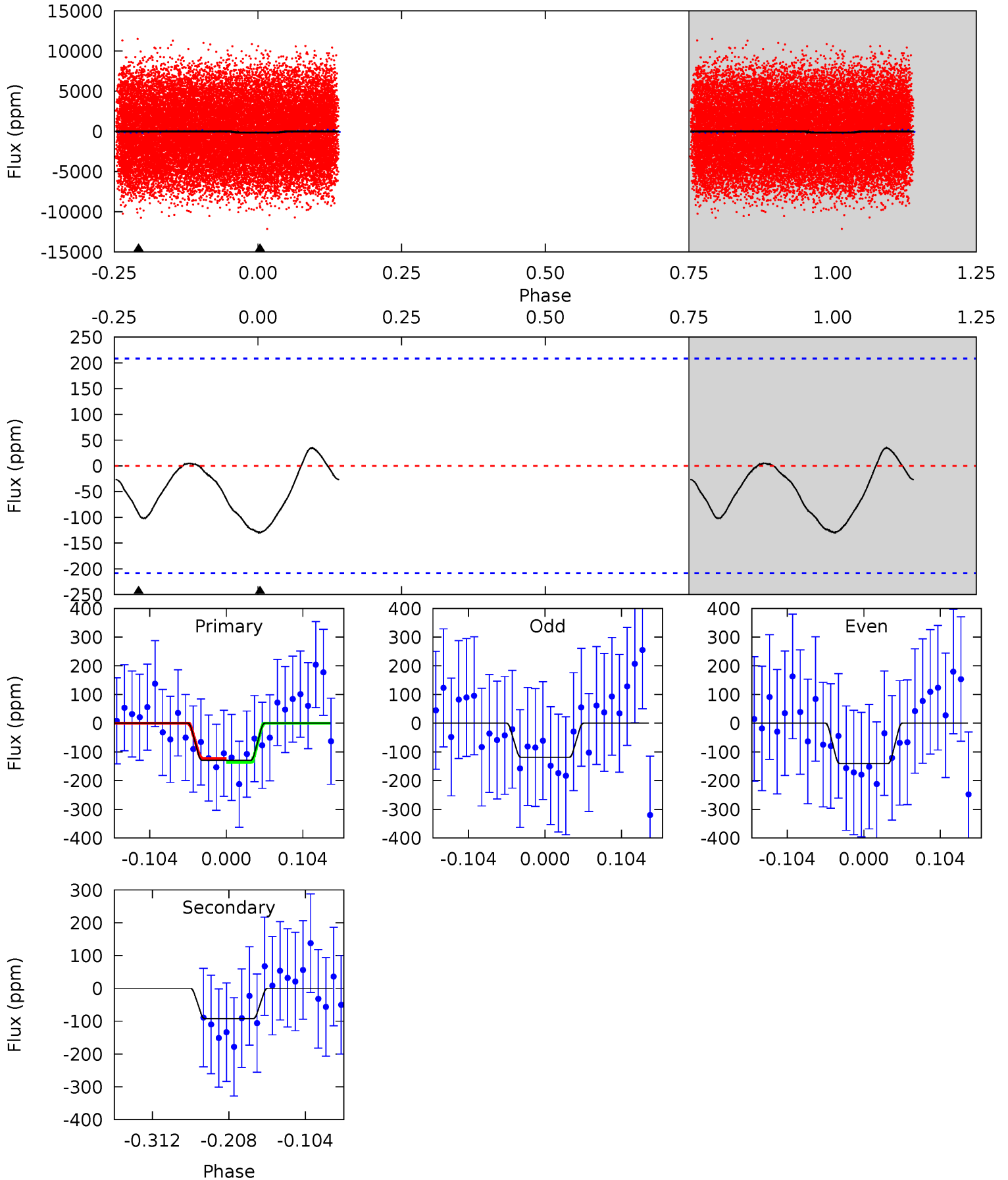
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.14	0	0	0	4.48	1.44	0.73	8.14	8.14	0	0	0.70	1.17	0.20	0.40



Alt Model-Shift Uniqueness Test

008025357-02, P = 3.756199 Days, E = 129.525820 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.83	2.03	0	0	4.56	1.63	0.29	2.83	2.83	2.03	2.03	0.24	0.87	0.21	0.15



Stellar Parameters For KIC 008025357

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7100^{+195}_{-335}	$4.263^{+0.060}_{-0.240}$	$0.210^{+0.150}_{-0.350}$	$1.520^{+0.570}_{-0.190}$	$1.541^{+0.214}_{-0.214}$	$0.619^{+0.206}_{-0.376}$
	+3%/-5%	+1%/-6%	+71%/-167%	+37%/-12%	+14%/-14%	+33%/-61%
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 008025357-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 11	$2.32^{+2.06}_{-1.46}$	2355^{+188}_{-145}	-2764^{+6711}_{-1462}	$-0.040^{+4.497}_{-5.458}$
Alt.	-93 ± 46	$2.65^{+2.00}_{-1.71}$	2348^{+186}_{-133}	5477^{+4544}_{-1372}	20^{+134}_{-15}

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 $A_{obs} \gg 1.0$

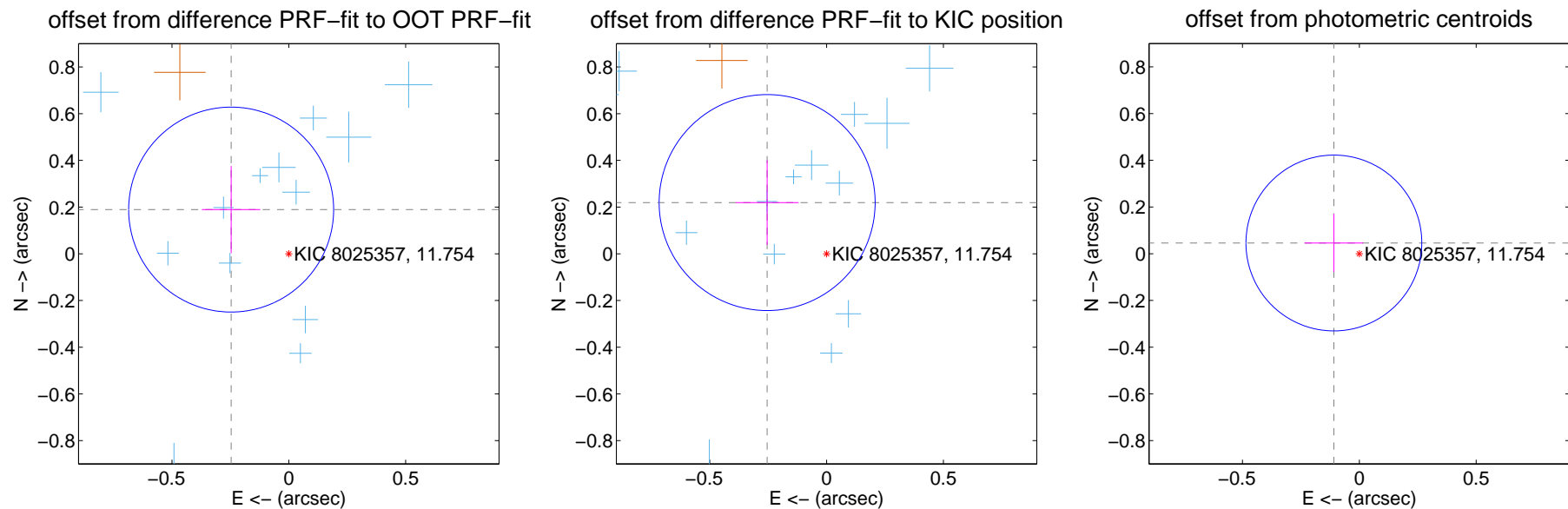
DV Centroid Data

Supplemental centroid analysis for 008025357-02. **Kepler magnitude: 11.75.** Transit SNR 11.20

There are 16 quarters with good PRF difference image offsets

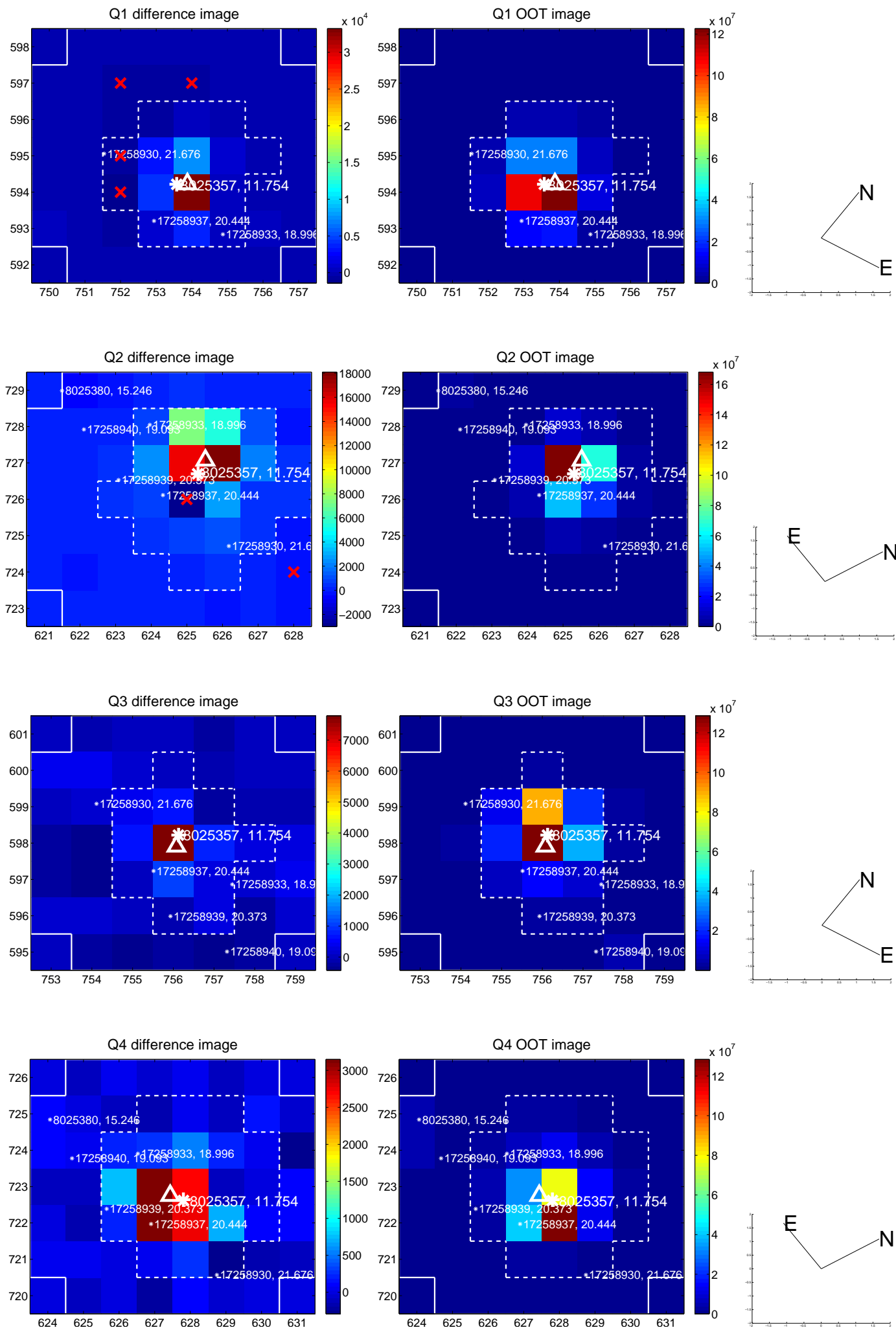
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.311 ± 0.146	2.13	0.247 ± 0.125	0.189 ± 0.186
PRF-fit source offset from KIC position	0.336 ± 0.154	2.18	0.254 ± 0.135	0.219 ± 0.181
photometric centroid source offset	0.12 ± 0.13	0.94	0.11 ± 0.13	0.05 ± 0.12

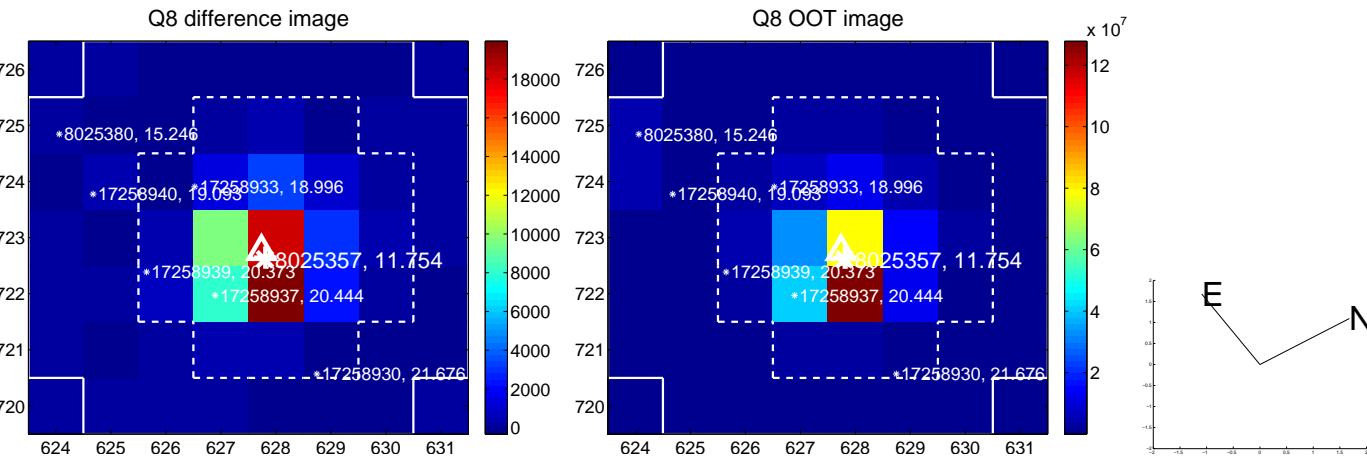
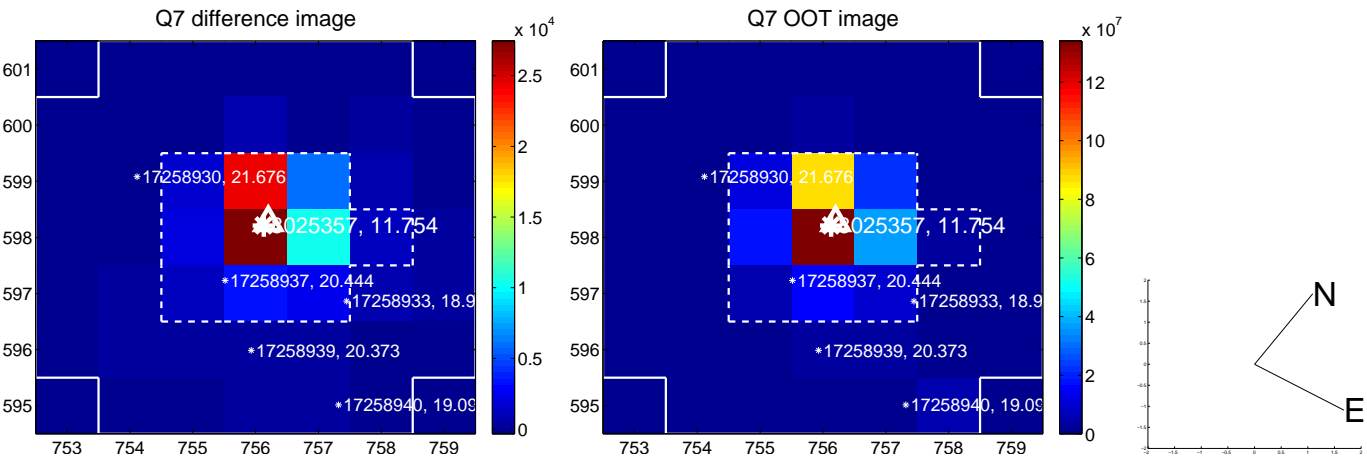
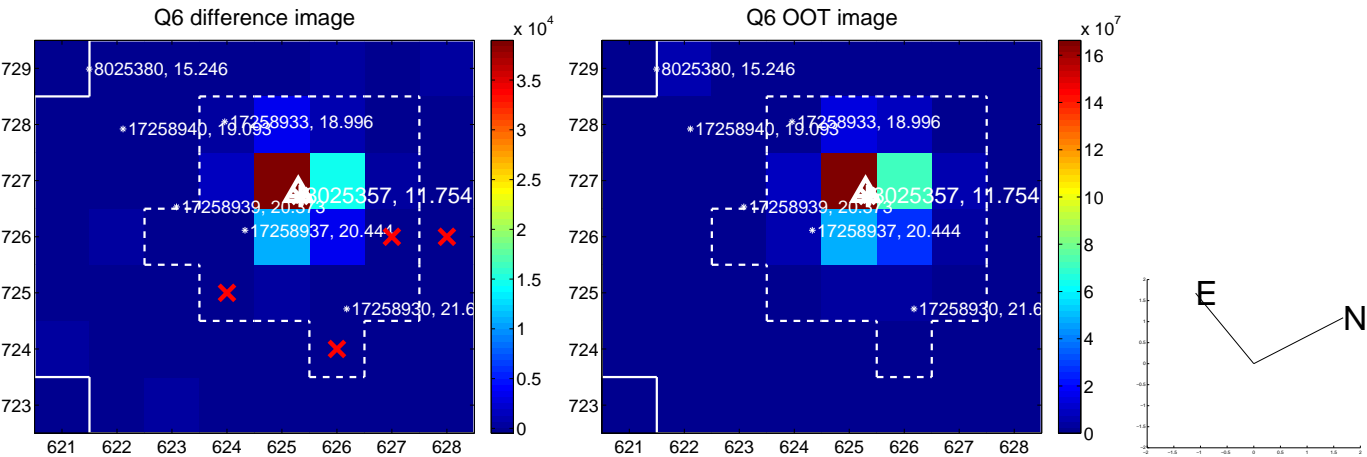
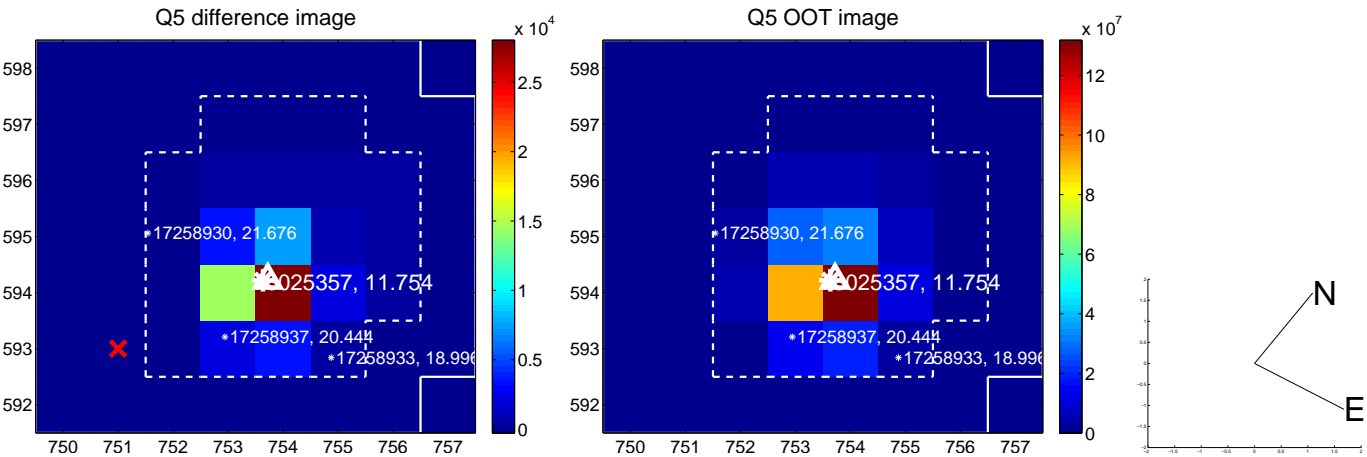


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

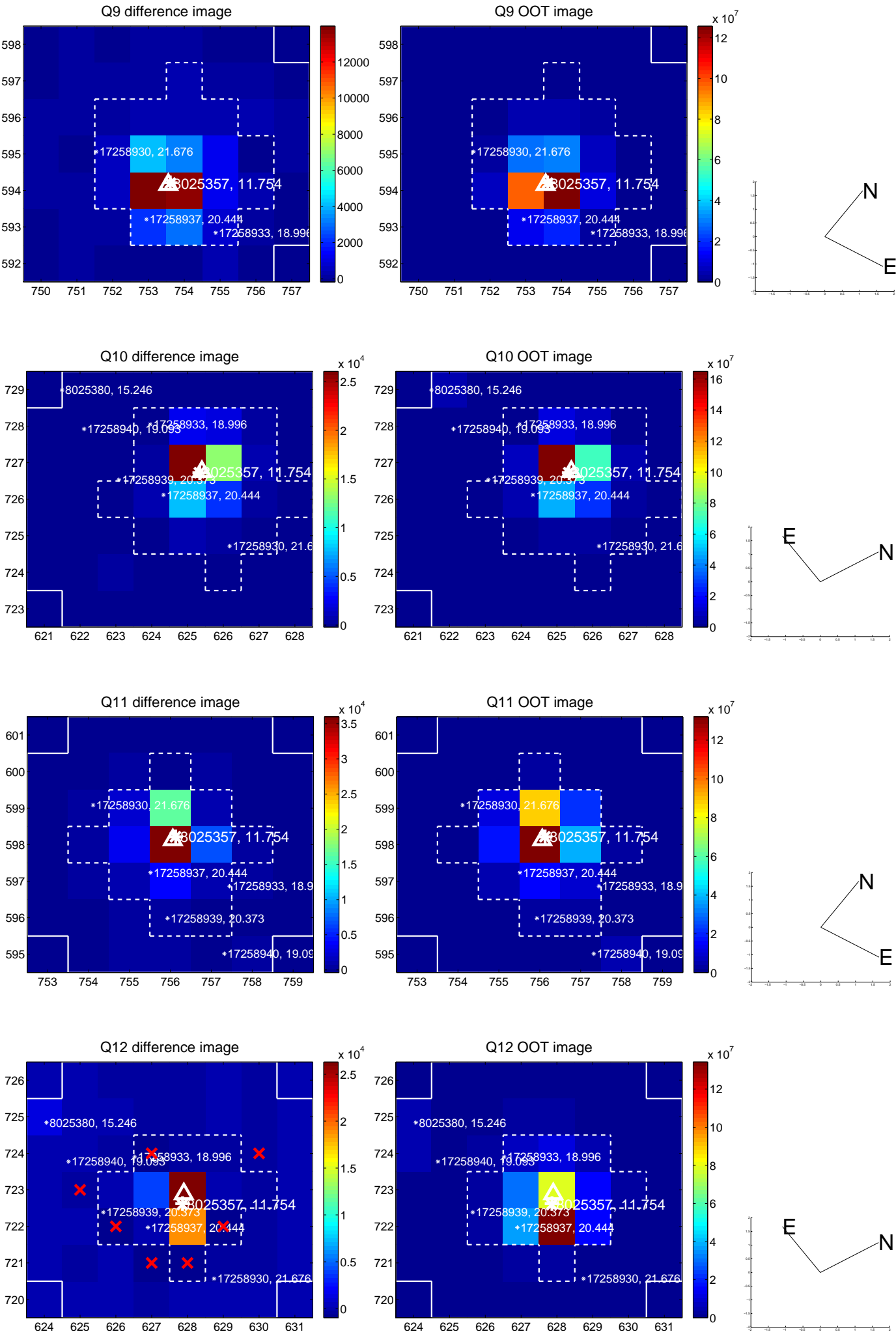
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



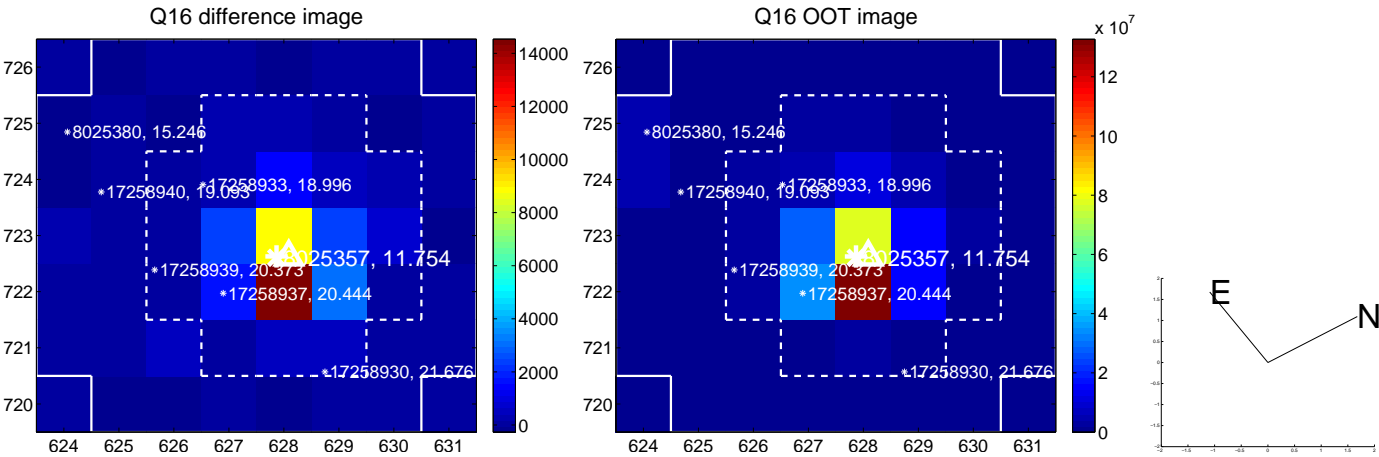
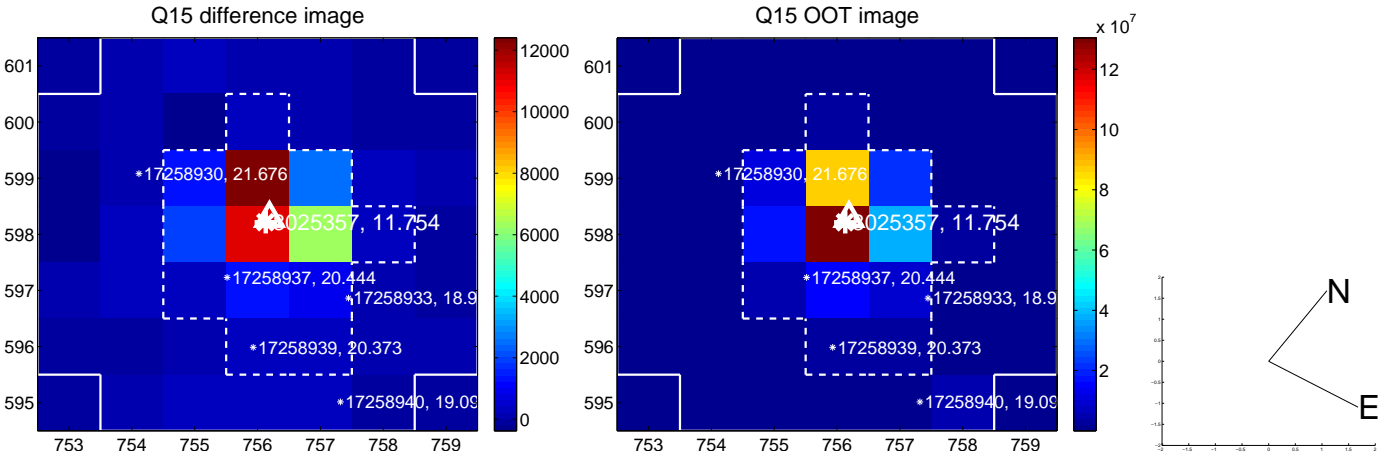
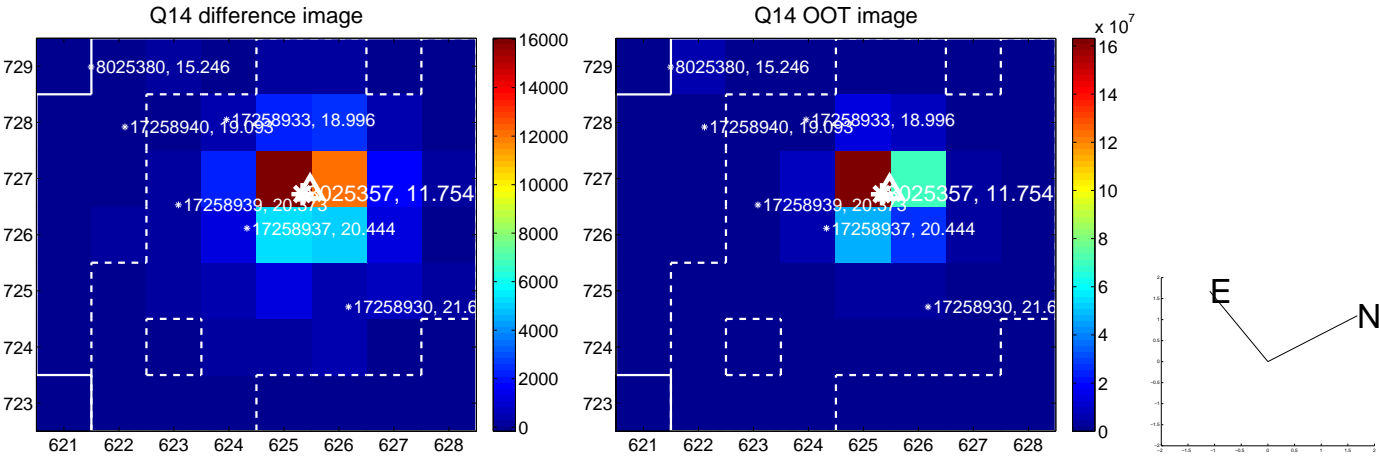
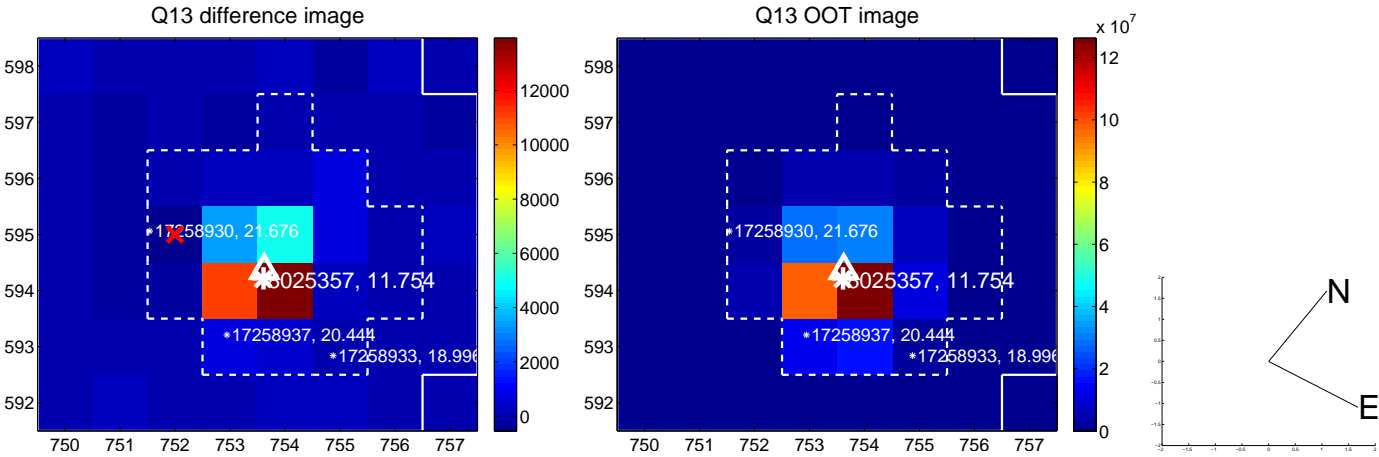
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



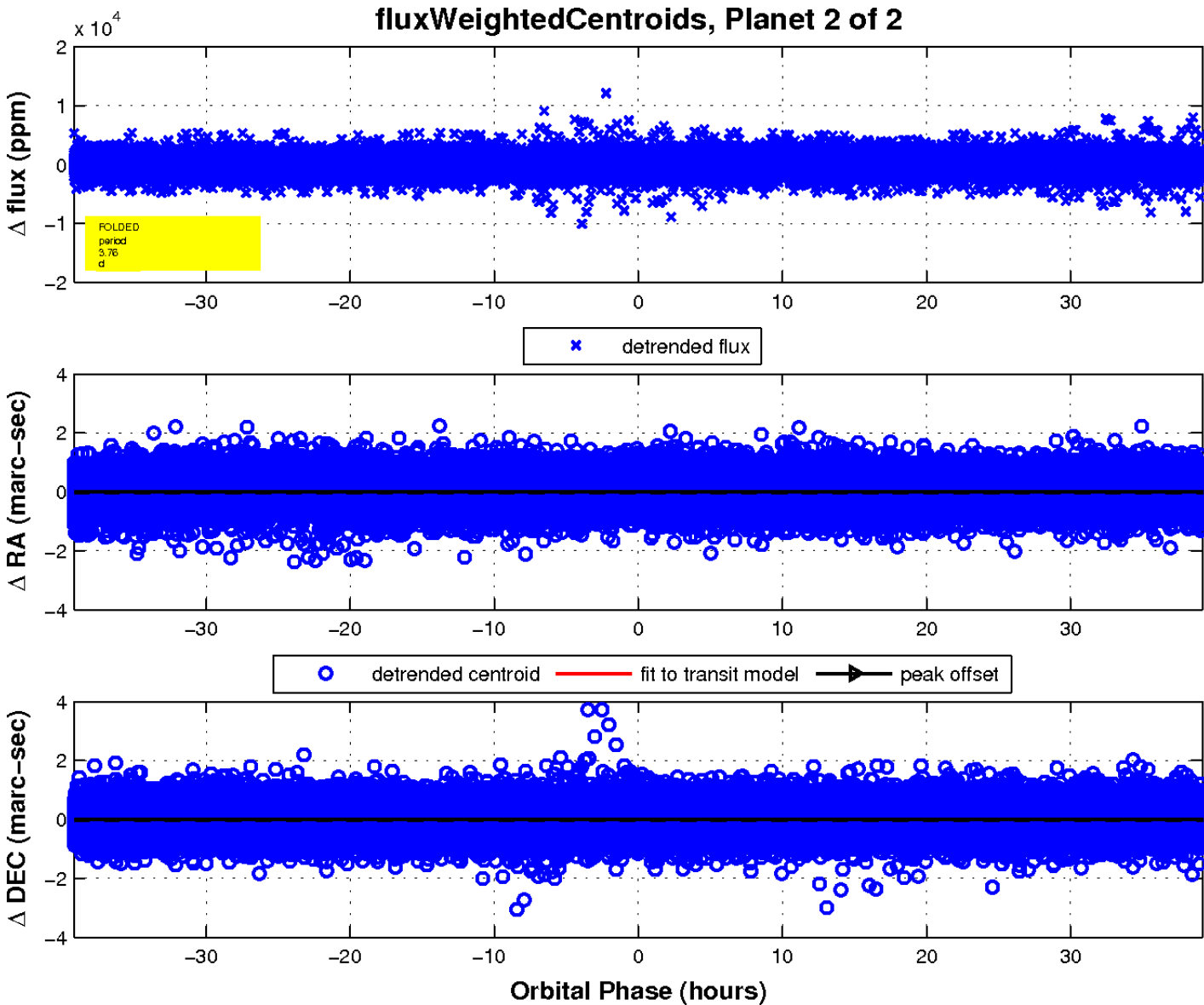
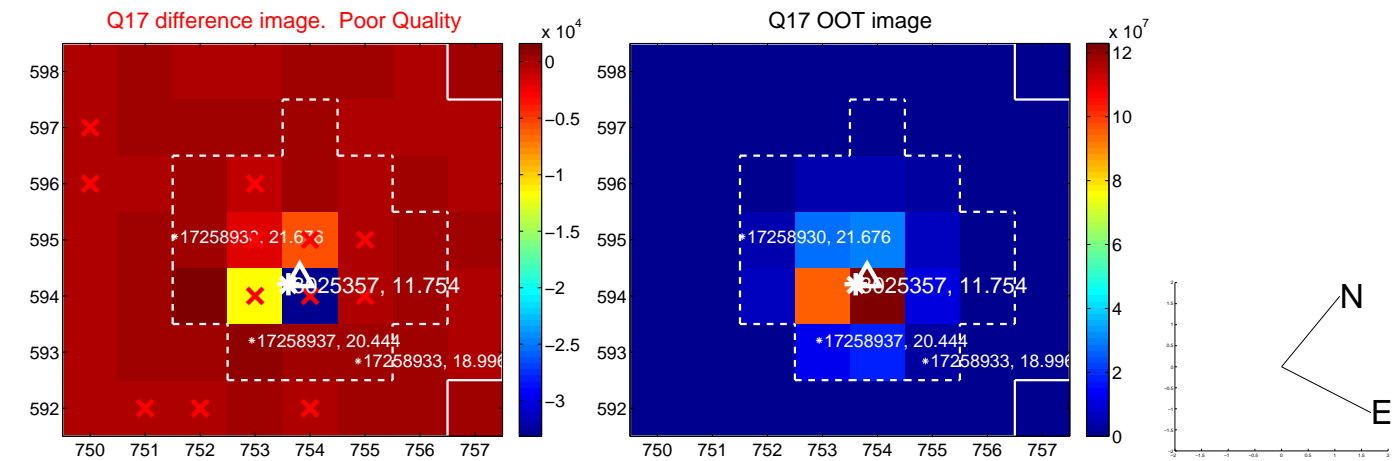
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

