

KIC 005385754

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})
005385754-01	OBS	No	1.761729	131.640962	106.2	6.184	9.8	10.4	3.18	6649	3.81	16318.45
005385754-02	OBS	No	1.761697	132.530406	109.9	5.354	10.9	11.5	3.18	6649	3.35	16318.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005385754-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005385754-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_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.

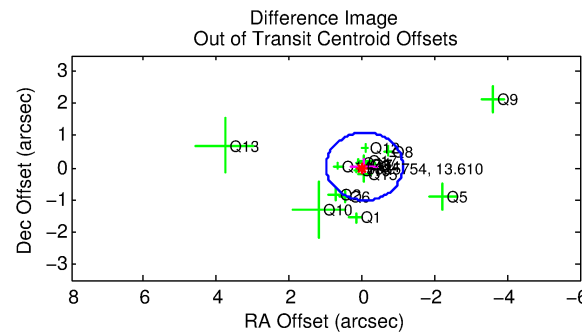
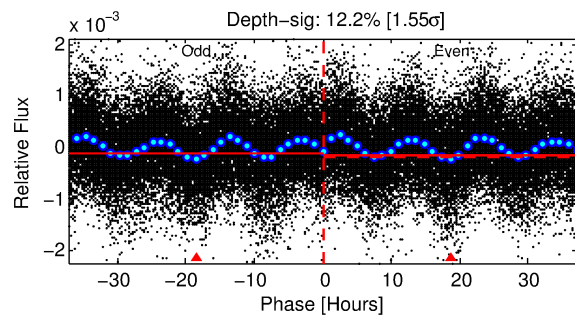
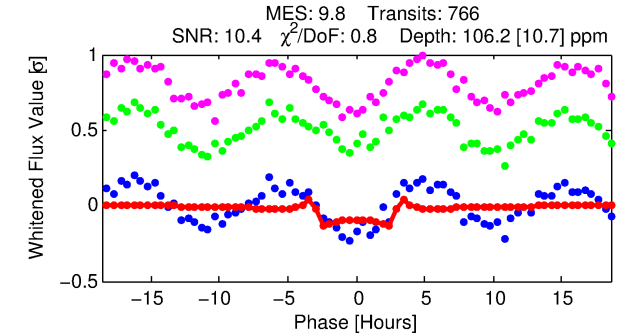
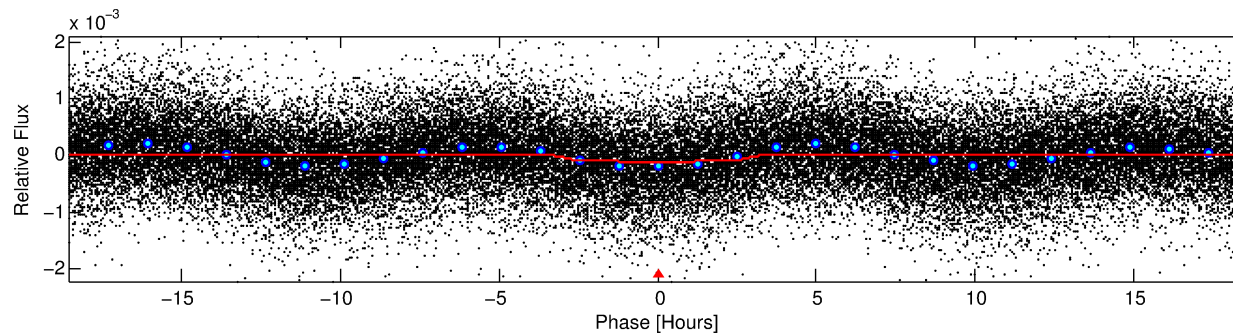
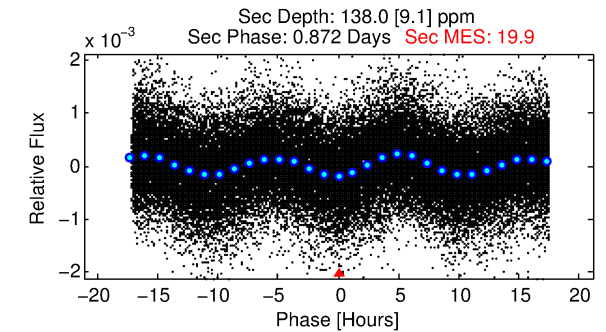
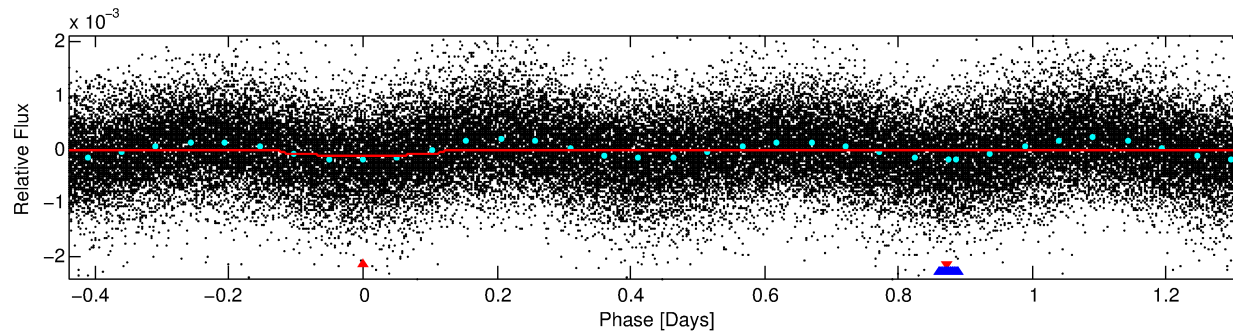
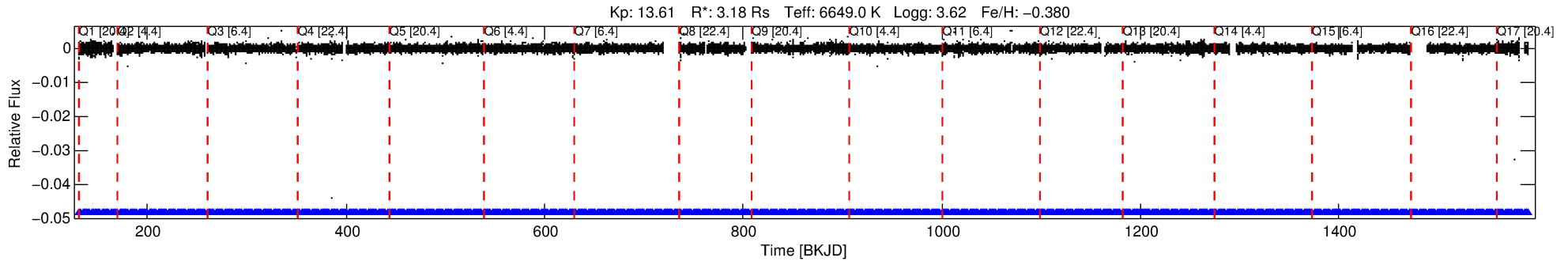
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005385754-01

No Significant Match Found

DV One-Page Summary

KIC: 5385754 Candidate: 1 of 2 Period: 1.762 d



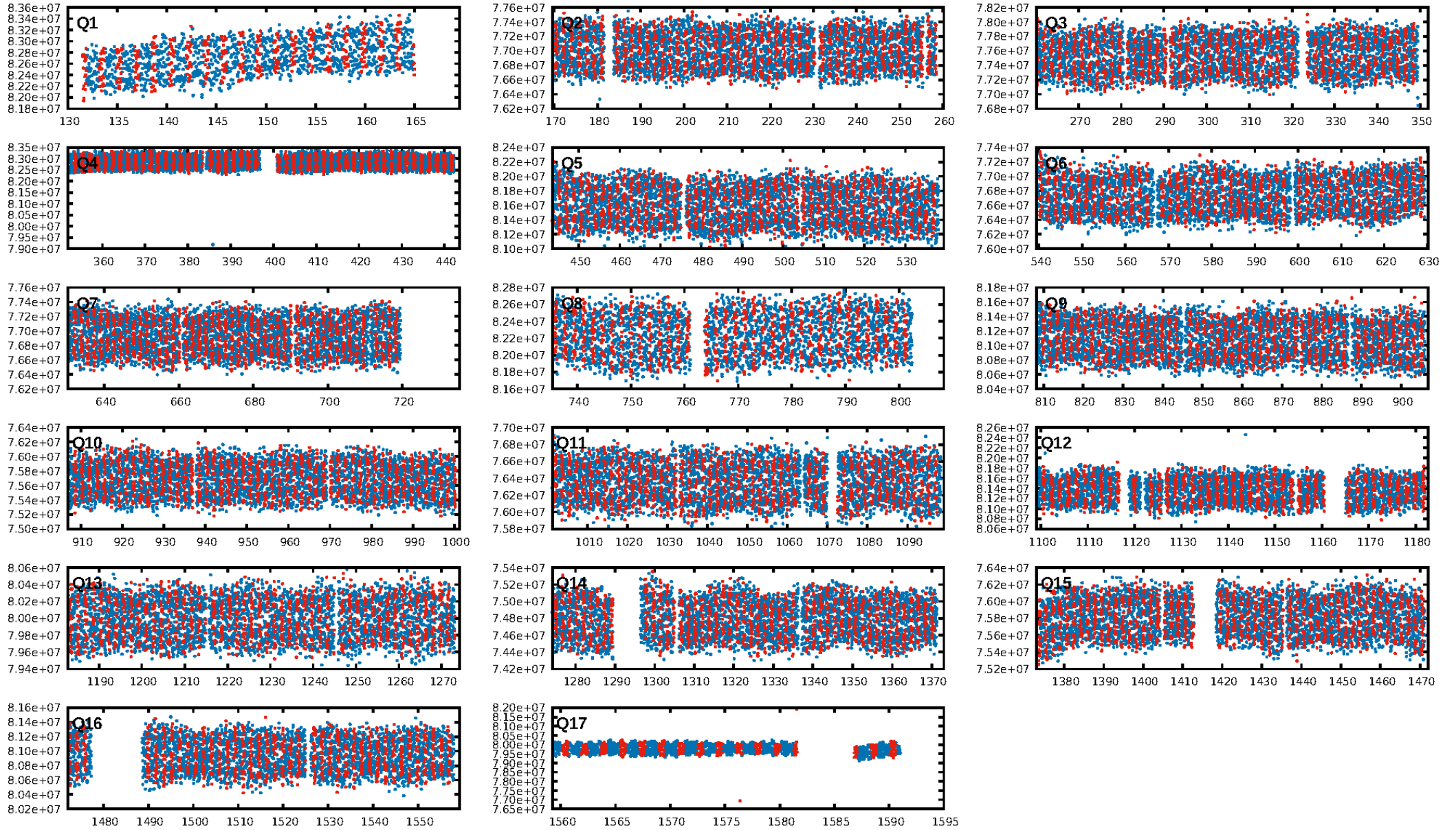
DV Fit Results:

Period = 1.76173 [0.00001] d
Epoch = 131.6410 [0.0029] BKJD
Rp/R* = 0.0110 [0.0013]
a/R* = 1.37 [0.41]
b = 0.90 [0.14]
Seff = 16318.45 [17646.53]
Teq = 2882 [779] K
Rp = 3.81 [2.30] Re
a = 0.0329 [0.0209] AU
Ag = 5.65 [6.21] [0.75σ]
Teffp = 6871 [508] K [4.29σ]

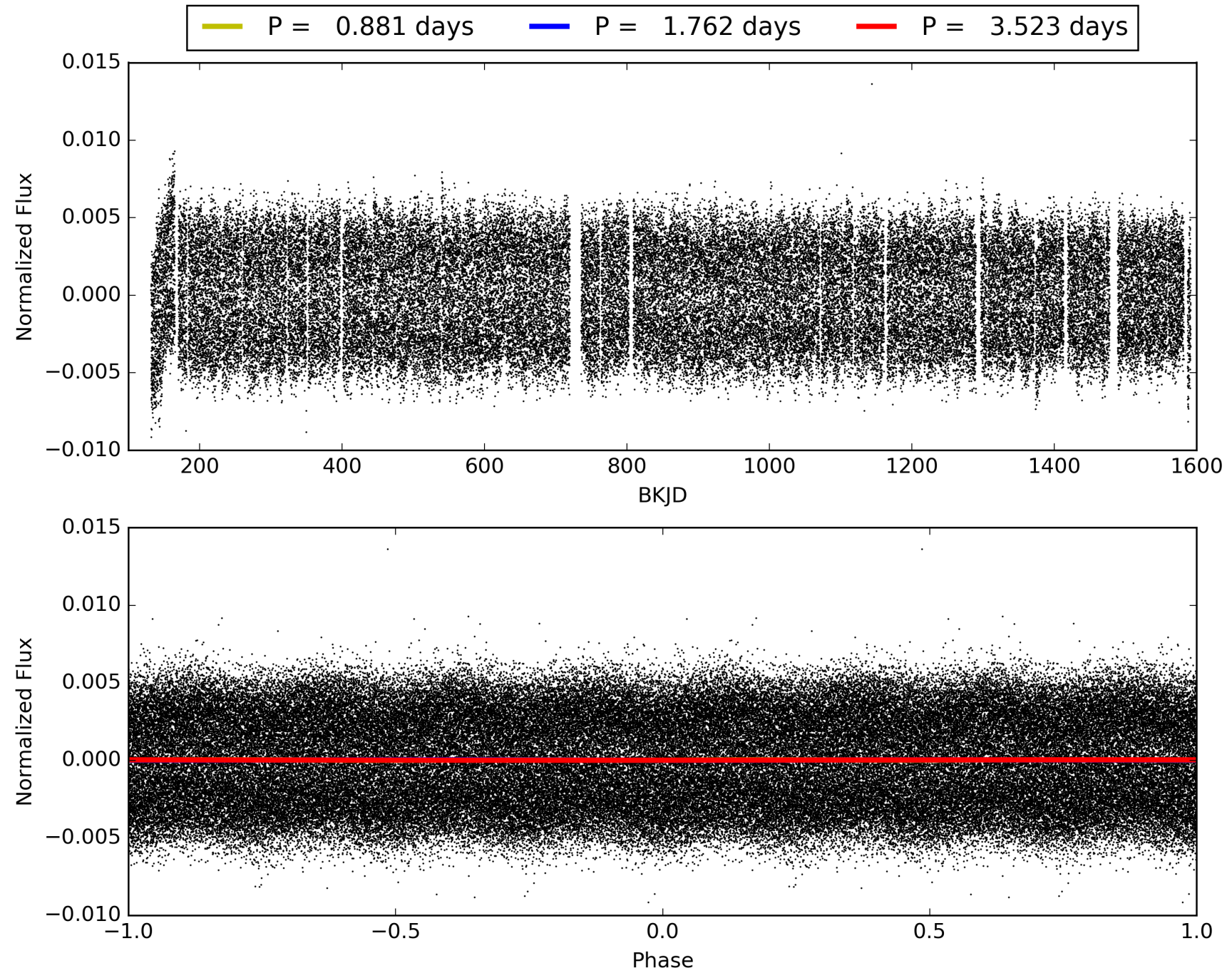
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.34e-04
RollingBand-fgt: 1.00 [730/730]
GhostDiagnostic-chr: 1.002
Centroid-sig: 46.8%
Centroid-so: 0.300 arcsec [1.14σ]
OotOffset-rm: 0.082 arcsec [0.23σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.006 arcsec [0.02σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.76 [13/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005385754-01, PDC Light Curves

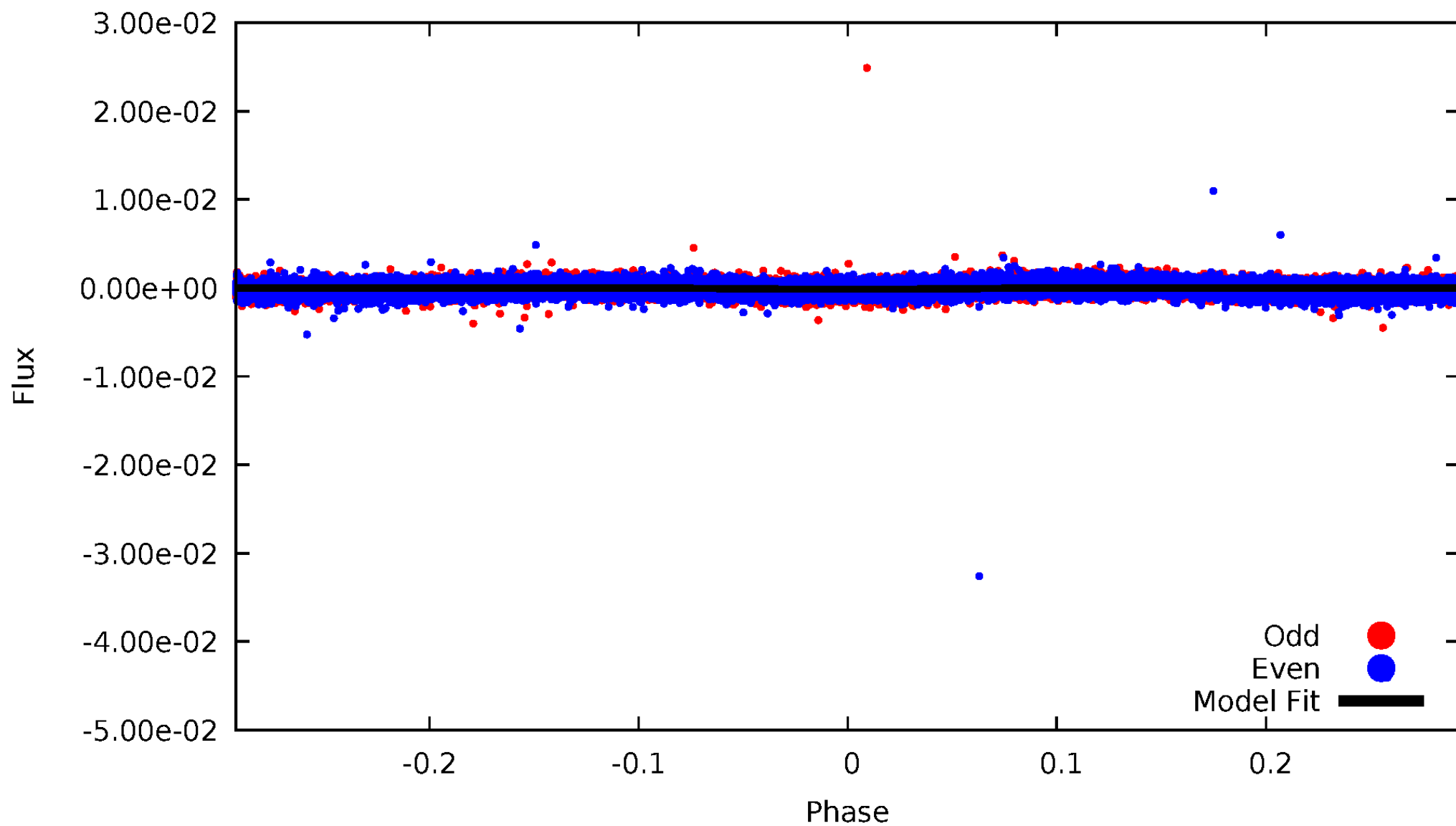


TCE 005385754-01



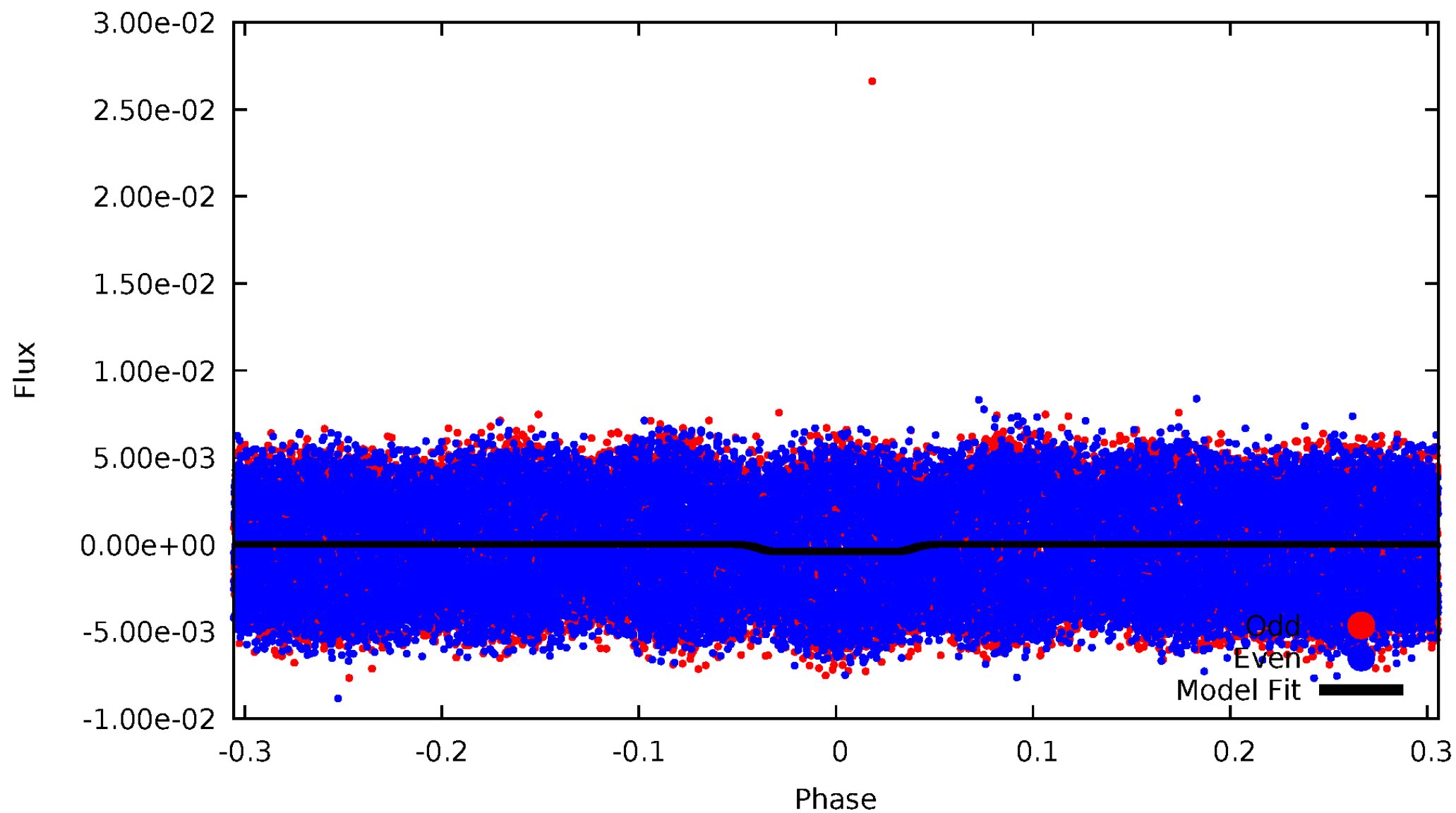
DV Odd/Even

TCE 005385754-01

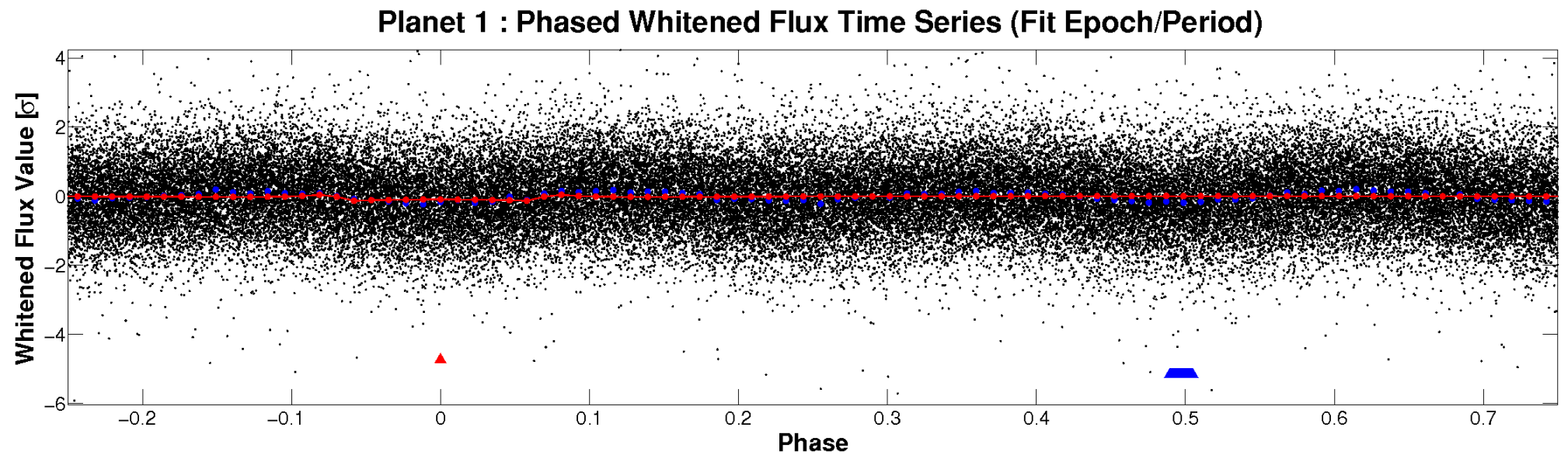
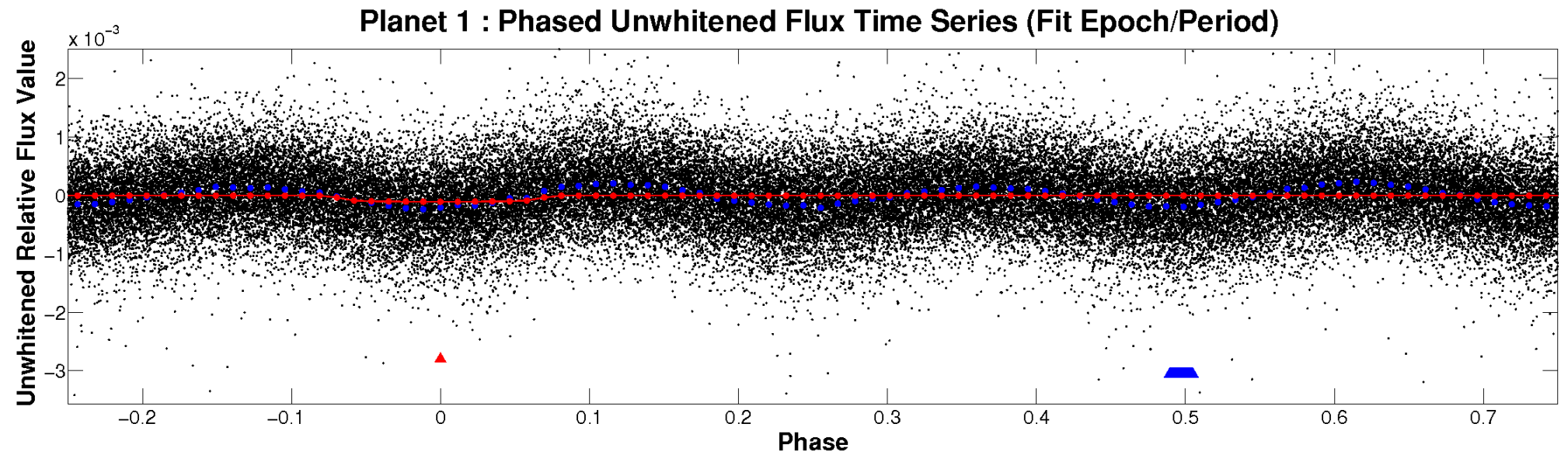


ALT Odd/Even

TCE 005385754-01

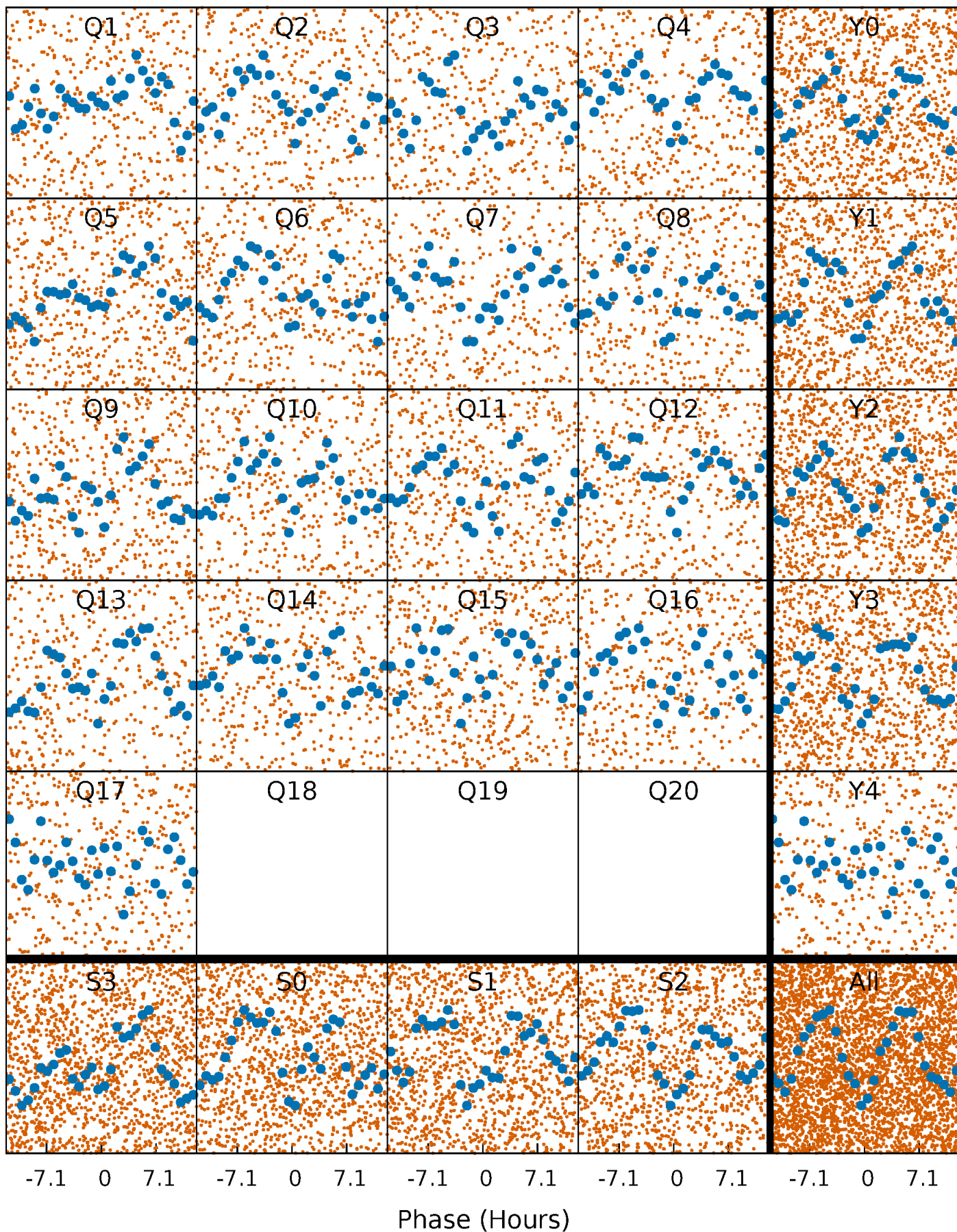


Non-Whitened Vs. Whitened Light Curve



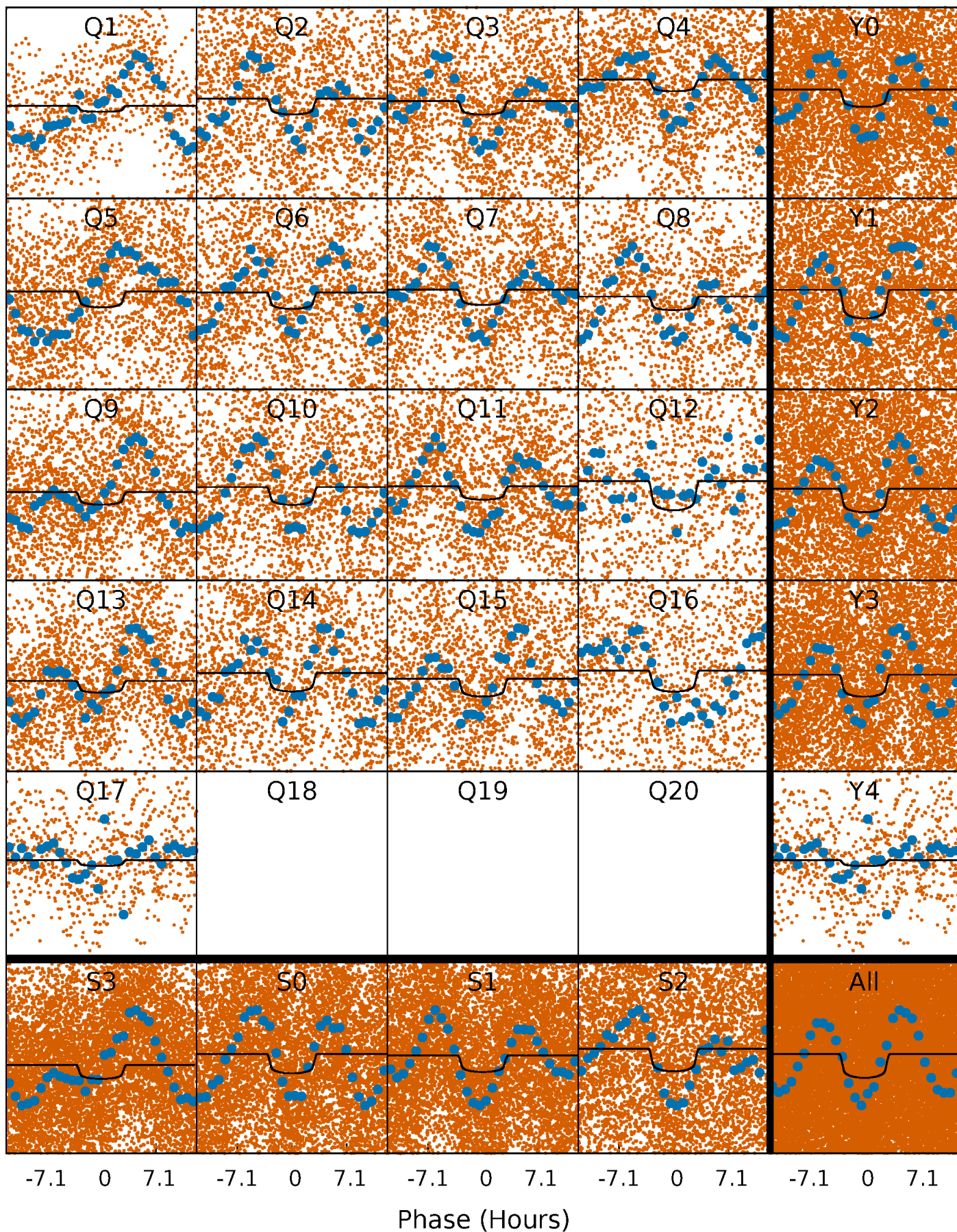
PDC Quarter-Phased Transit Curves

TCE 005385754-01 P= 1.761729 Days $T_0=131.640963$ (BKJD)



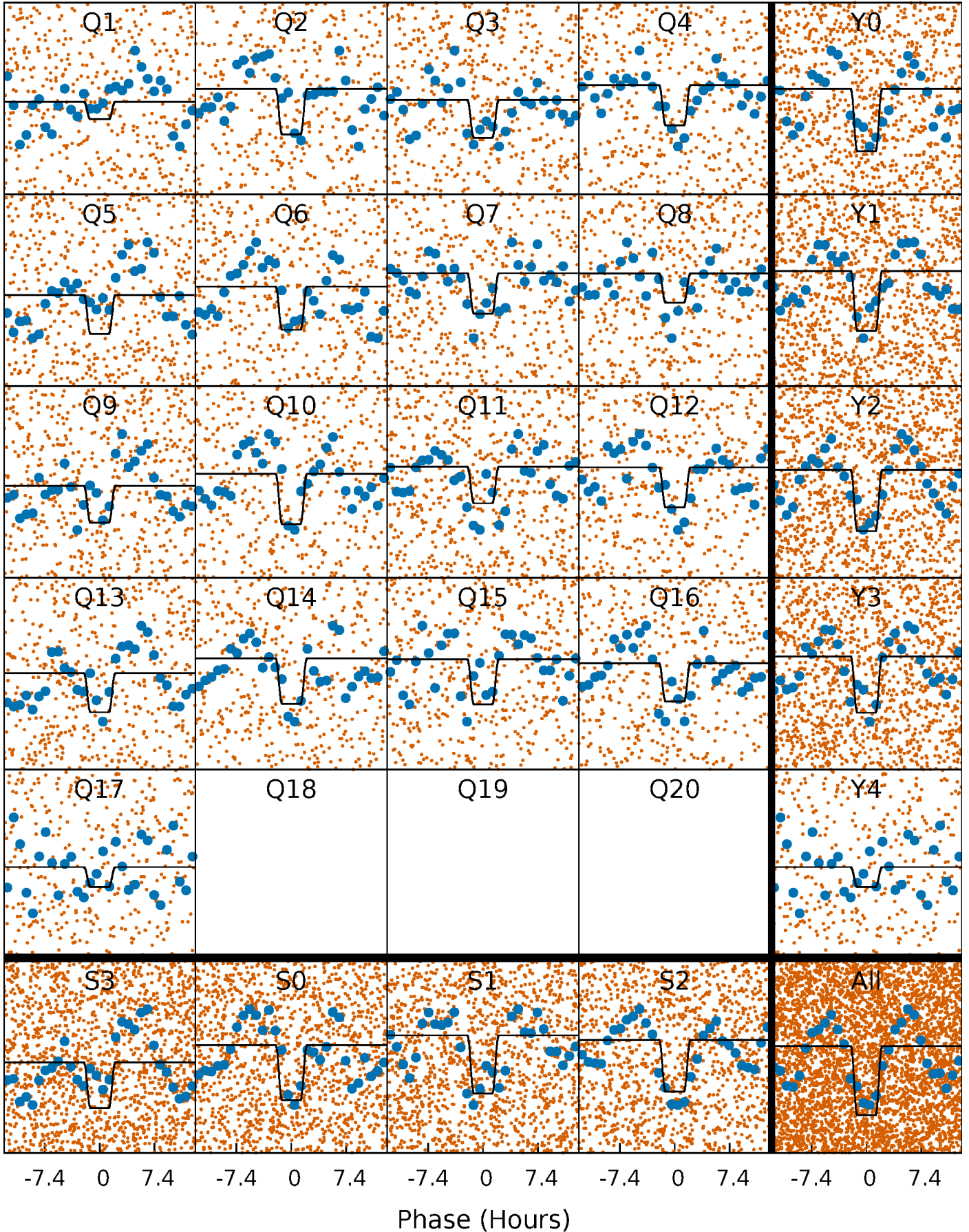
DV Quarter-Phased Transit Curves

TCE 005385754-01 P= 1.761729 Days $T_0=131.640963$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

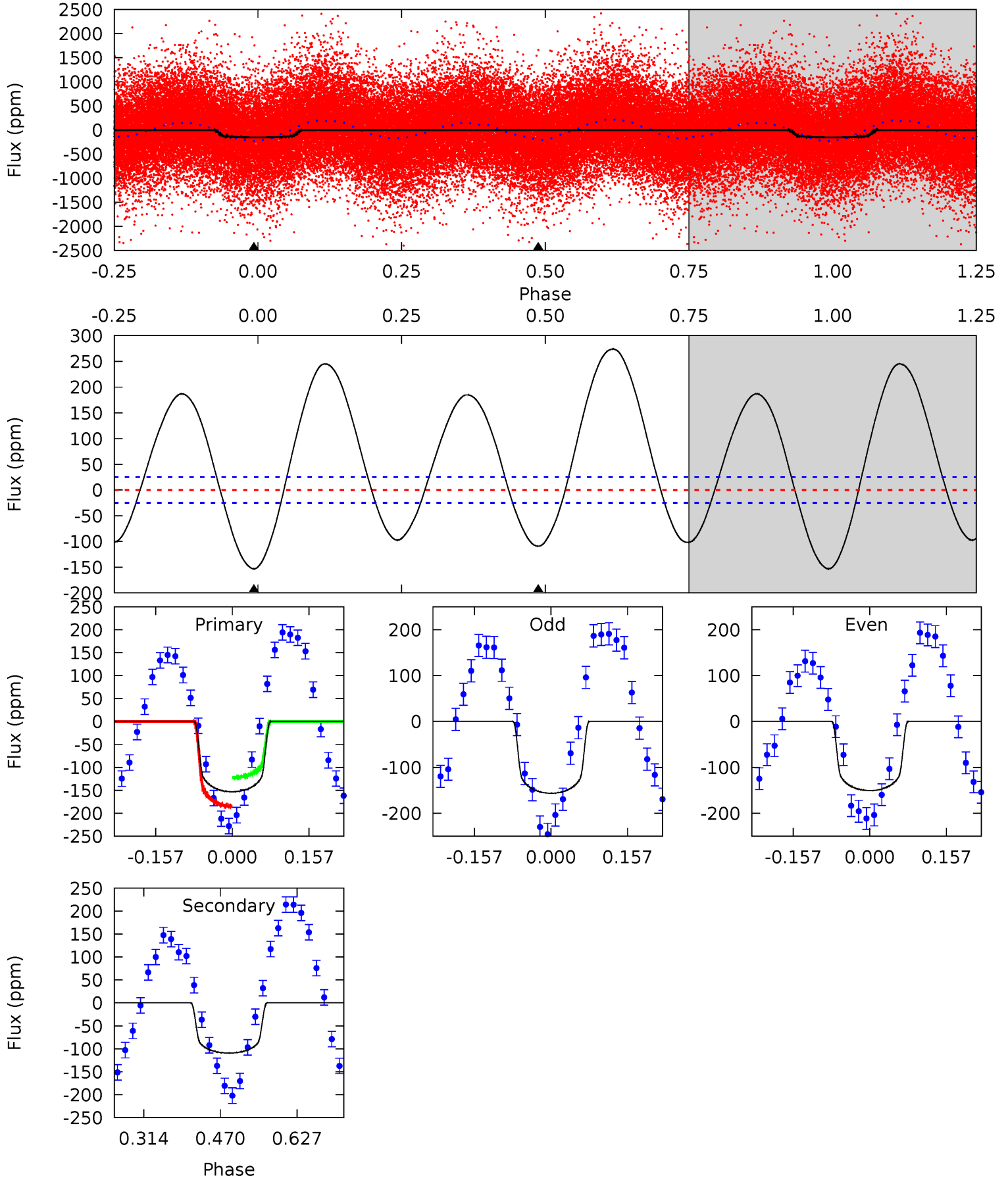
TCE 005385754-01 P= 1.761722 Days $T_0=131.630741$ (BKJD)



DV Model-Shift Uniqueness Test

005385754-01, P = 1.761729 Days, E = 129.879234 Days

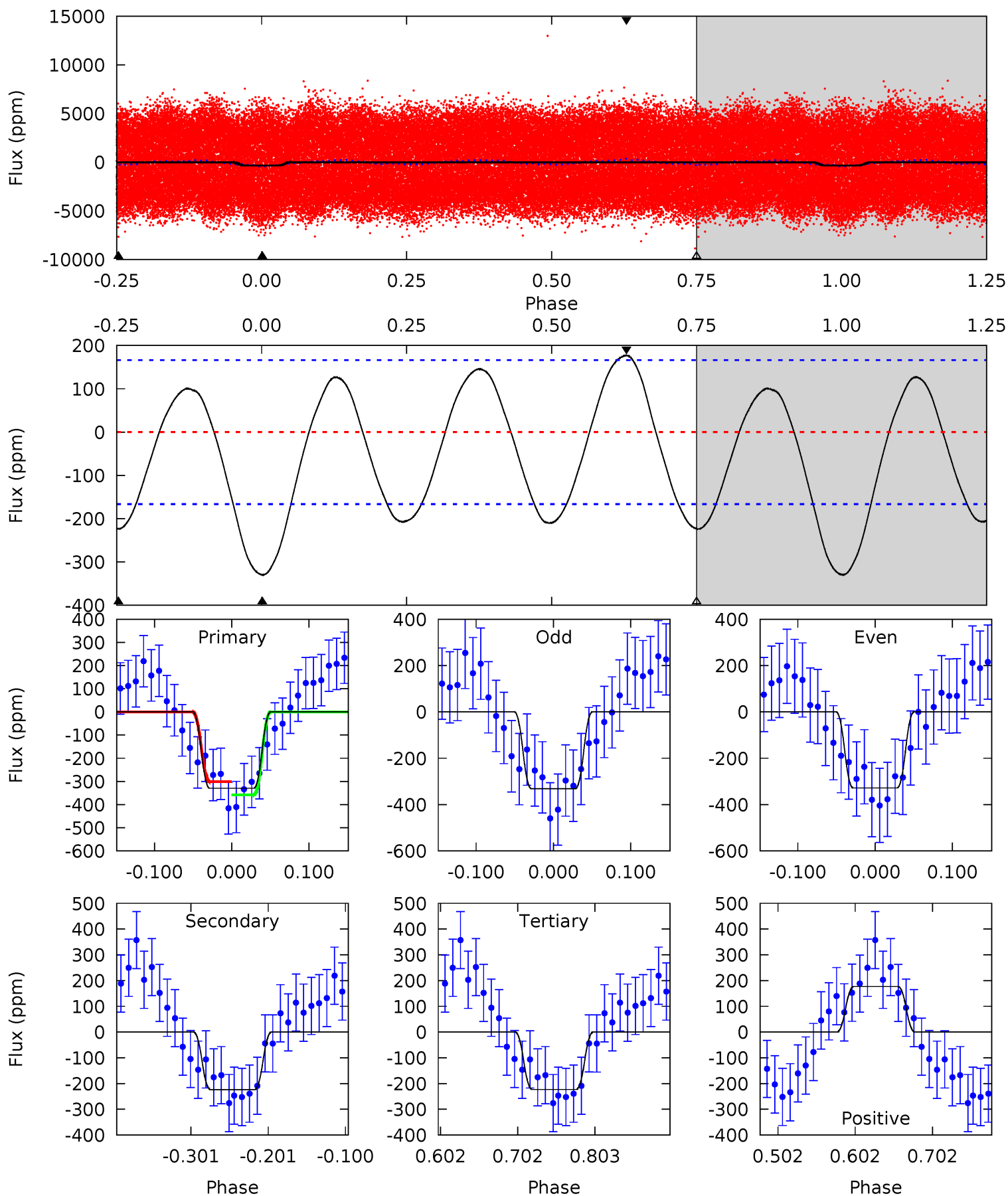
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.5	19.6	0	0	4.47	1.42	16.3	27.5	27.5	19.6	19.6	0.52	1.00	0.64	5.66



Alt Model-Shift Uniqueness Test

005385754-01, P = 1.761722 Days, E = 129.869019 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.05	6.14	6.12	4.86	4.56	1.64	3.56	2.92	4.19	0.02	1.28	0.04	1.11	0.35	0.78



Stellar Parameters For KIC 005385754

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6649^{+213}_{-260}	$3.619^{+0.648}_{-0.108}$	$-0.380^{+0.300}_{-0.300}$	$3.177^{+0.470}_{-1.879}$	$1.532^{+0.196}_{-0.457}$	$0.067^{+0.633}_{-0.024}$
	+3%/-4%	+18%/-3%	+79%/-79%	+15%/-59%	+13%/-30%	+941%/-35%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005385754-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-109 ± 6	$3.53^{+0.76}_{-1.09}$	3899^{+296}_{-579}	6362^{+514}_{-429}	$5.293^{+5.153}_{-1.691}$
Alt.	-224 ± 36	$6.70^{+1.10}_{-2.06}$	3934^{+263}_{-642}	5557^{+371}_{-330}	$3.052^{+2.959}_{-0.944}$

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 $A_{obs} \gg 1.0$

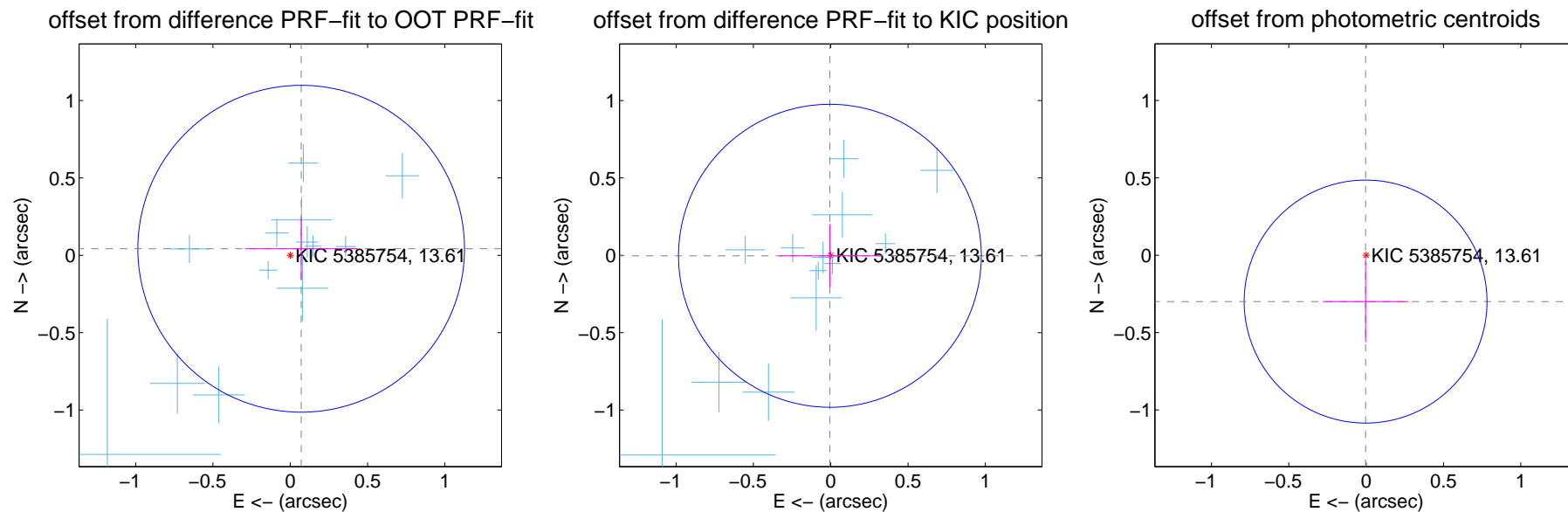
DV Centroid Data

Supplemental centroid analysis for 005385754-01. Kepler magnitude: 13.61. Transit SNR 10.37

There are 13 quarters with good PRF difference image offsets

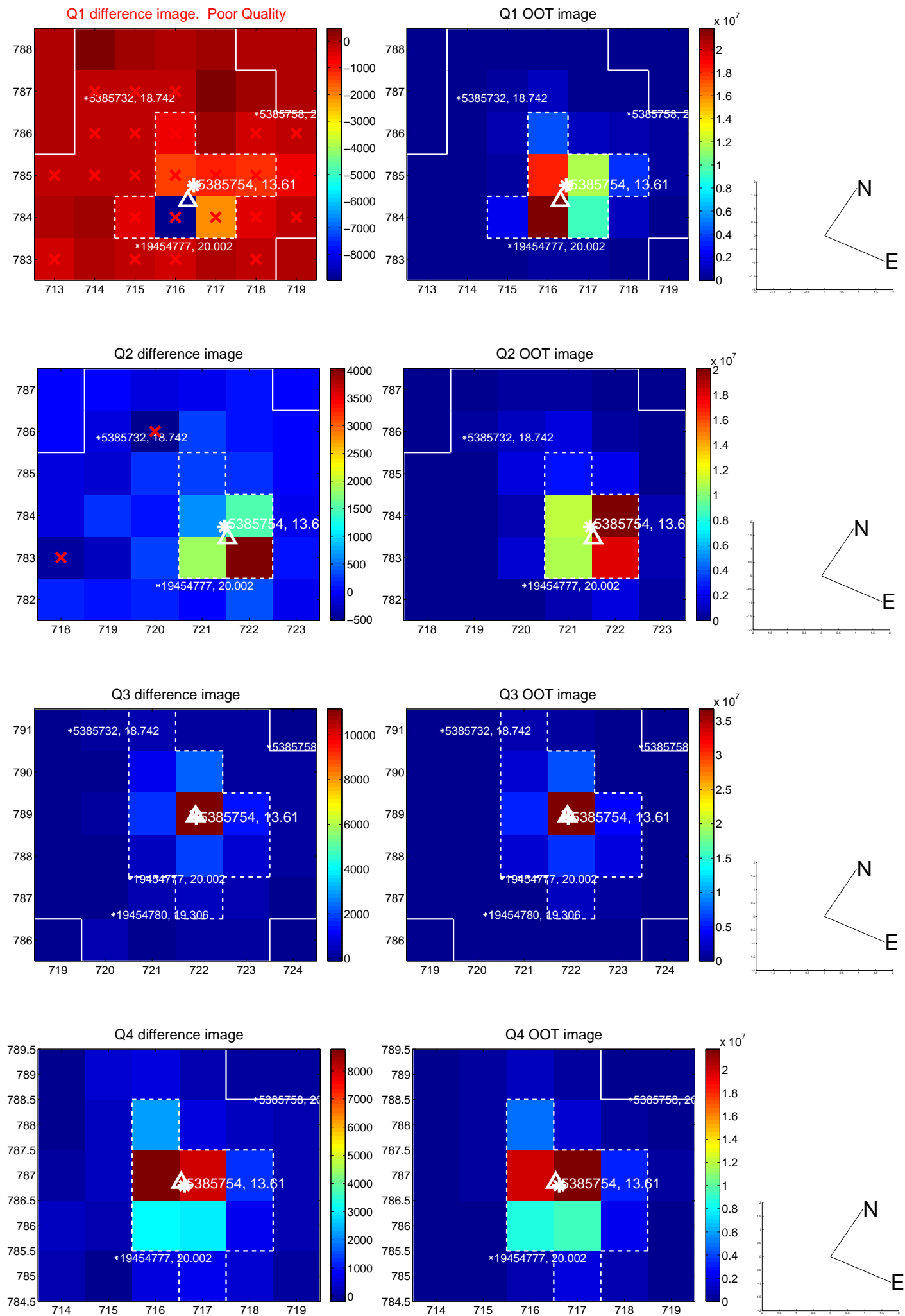
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.082 ± 0.352	0.23	-0.071 ± 0.362	0.042 ± 0.204
PRF-fit source offset from KIC position	0.006 ± 0.326	0.02	0.005 ± 0.330	-0.003 ± 0.204
photometric centroid source offset	0.30 ± 0.26	1.14	0.00 ± 0.28	-0.30 ± 0.26

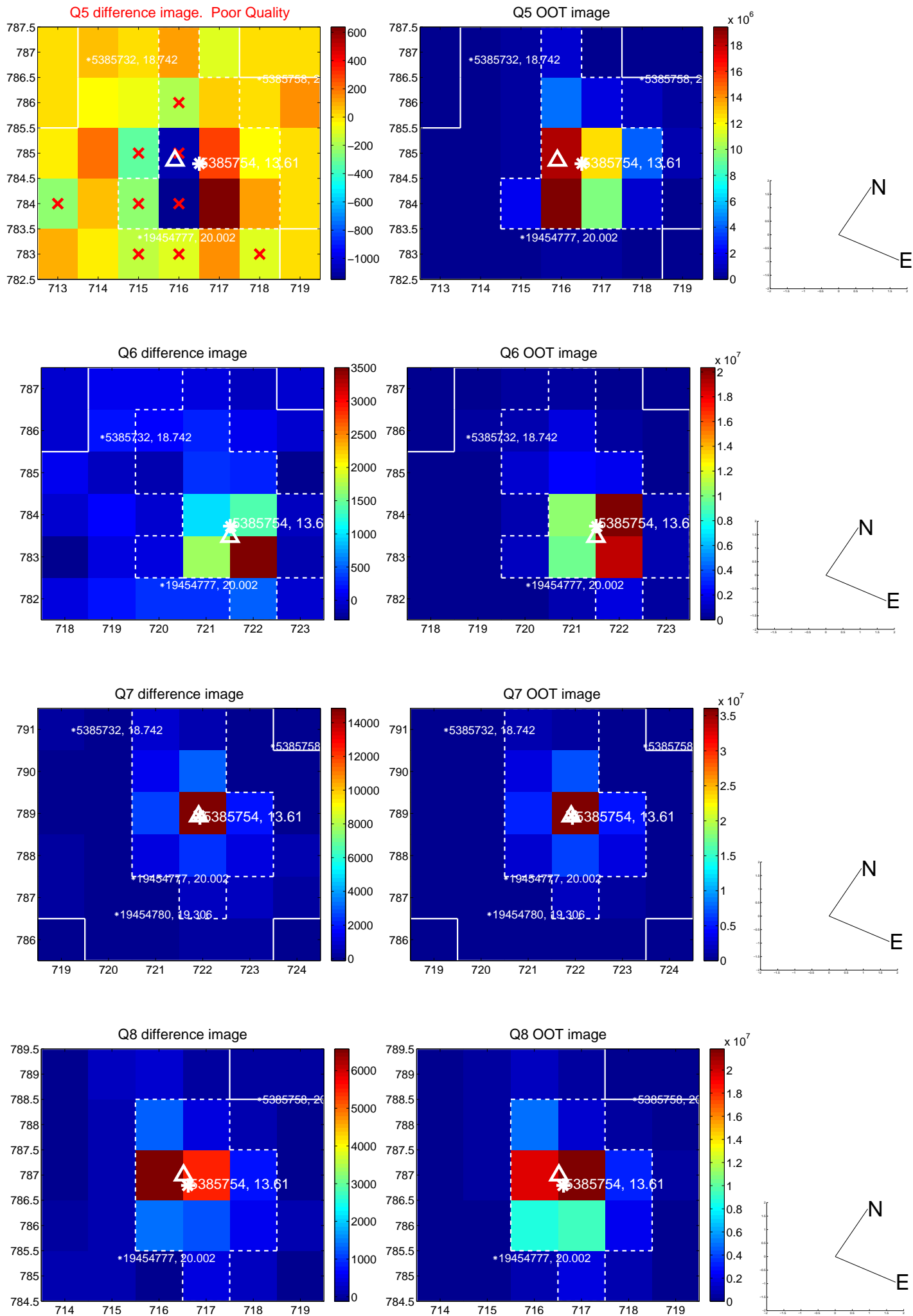


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

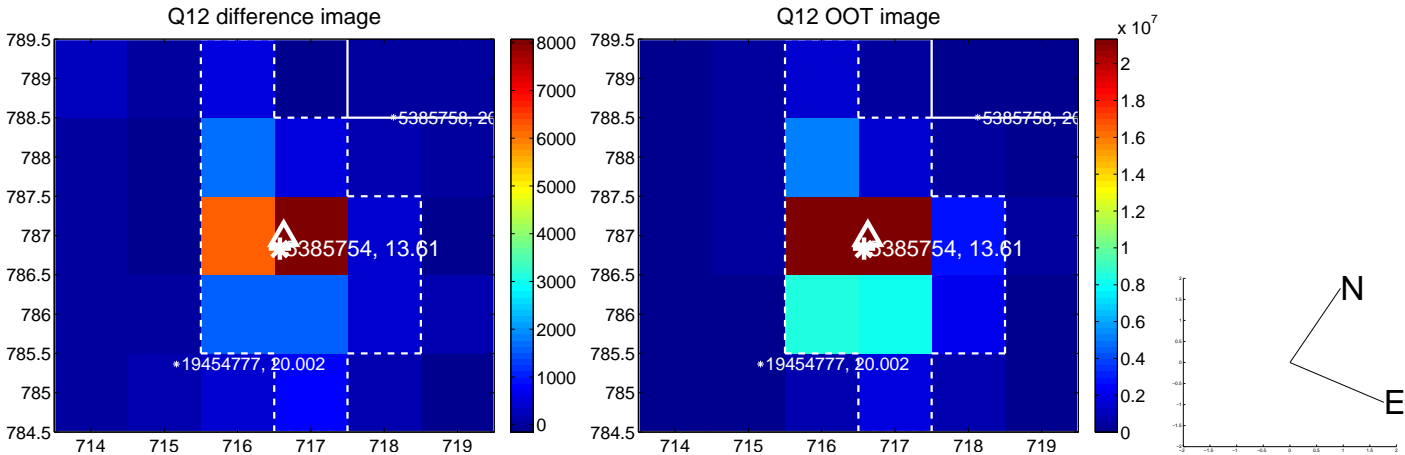
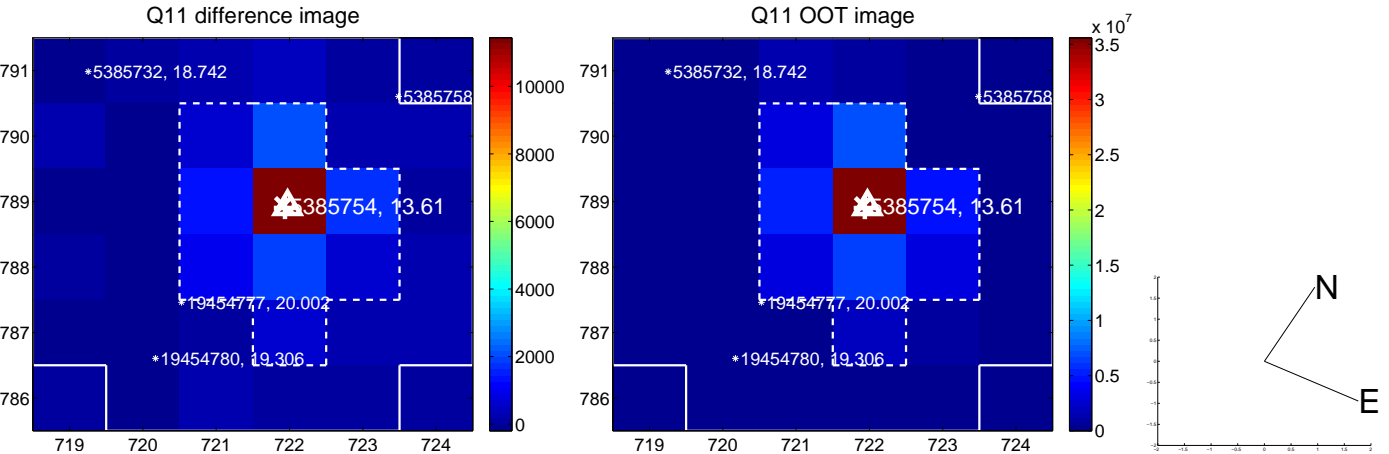
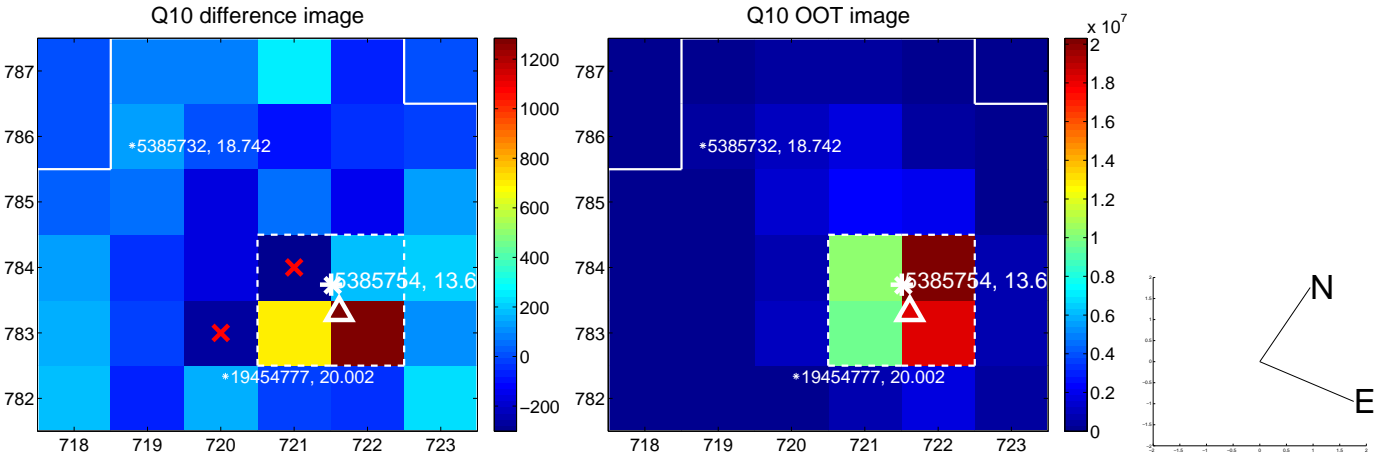
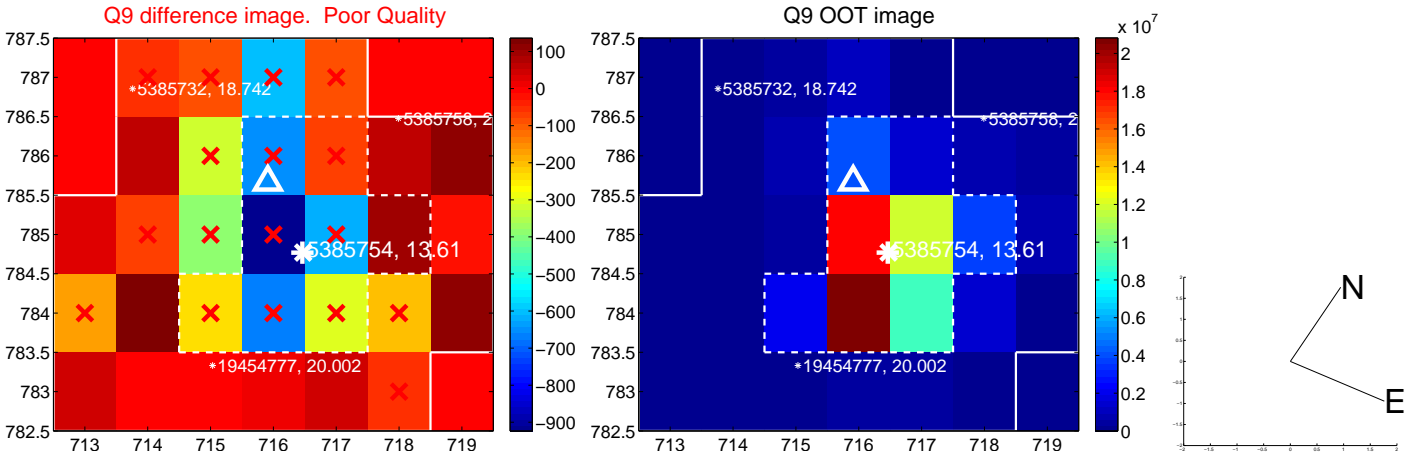
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



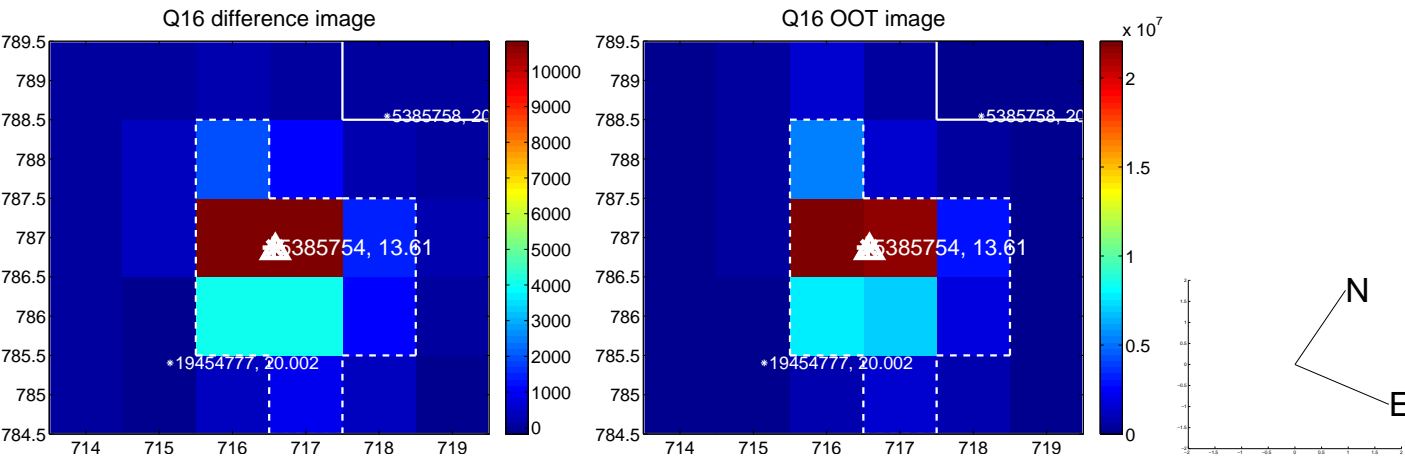
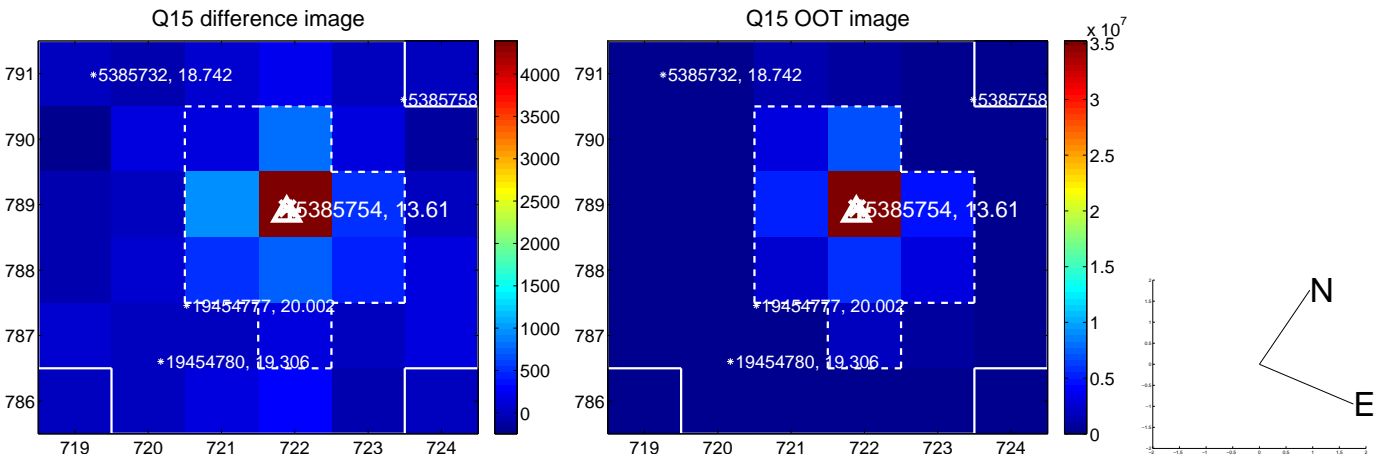
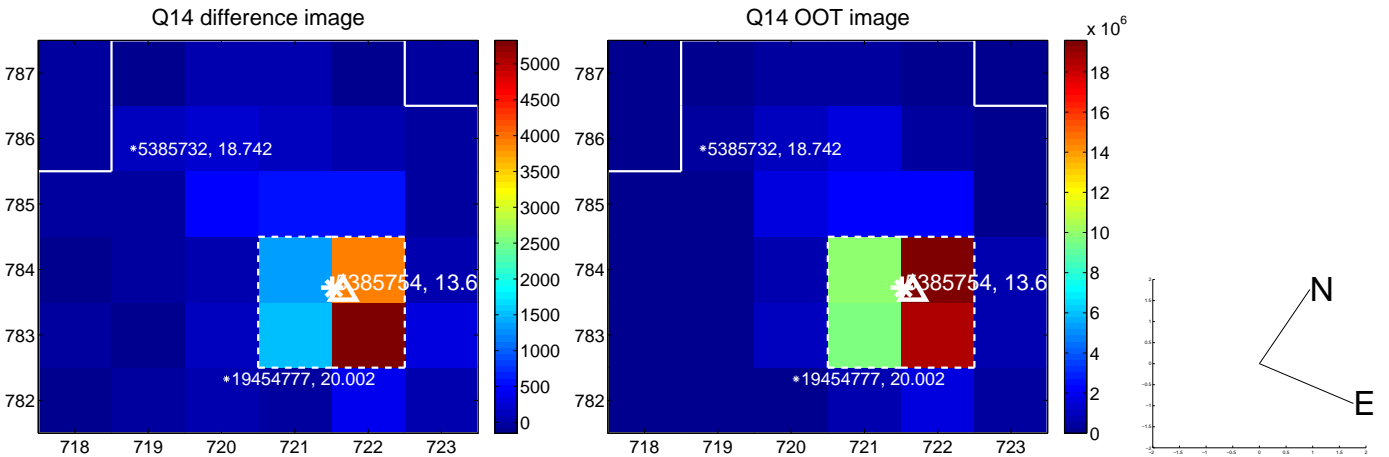
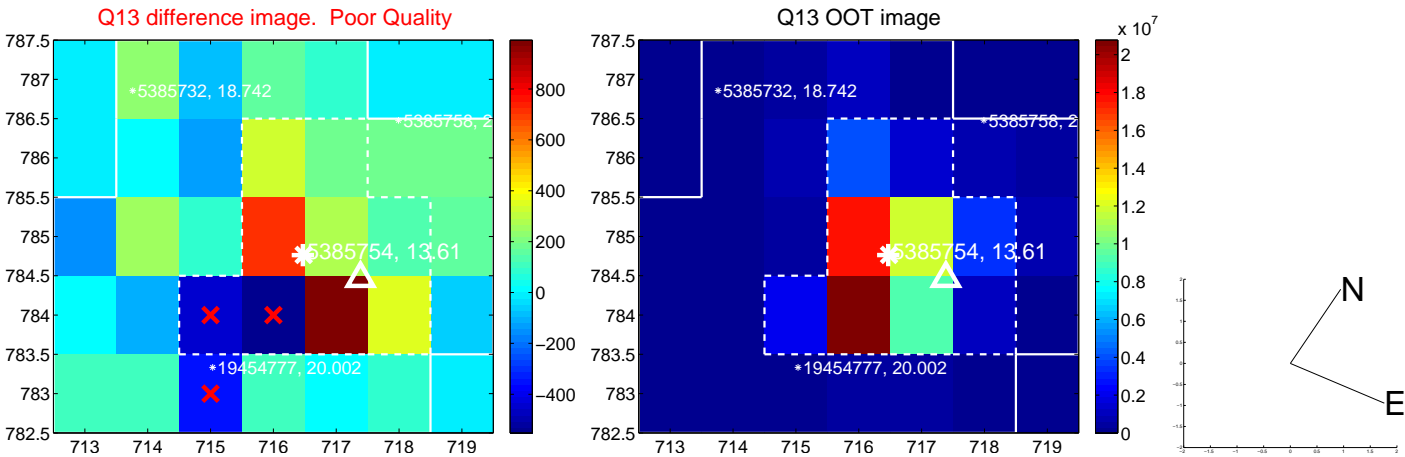
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



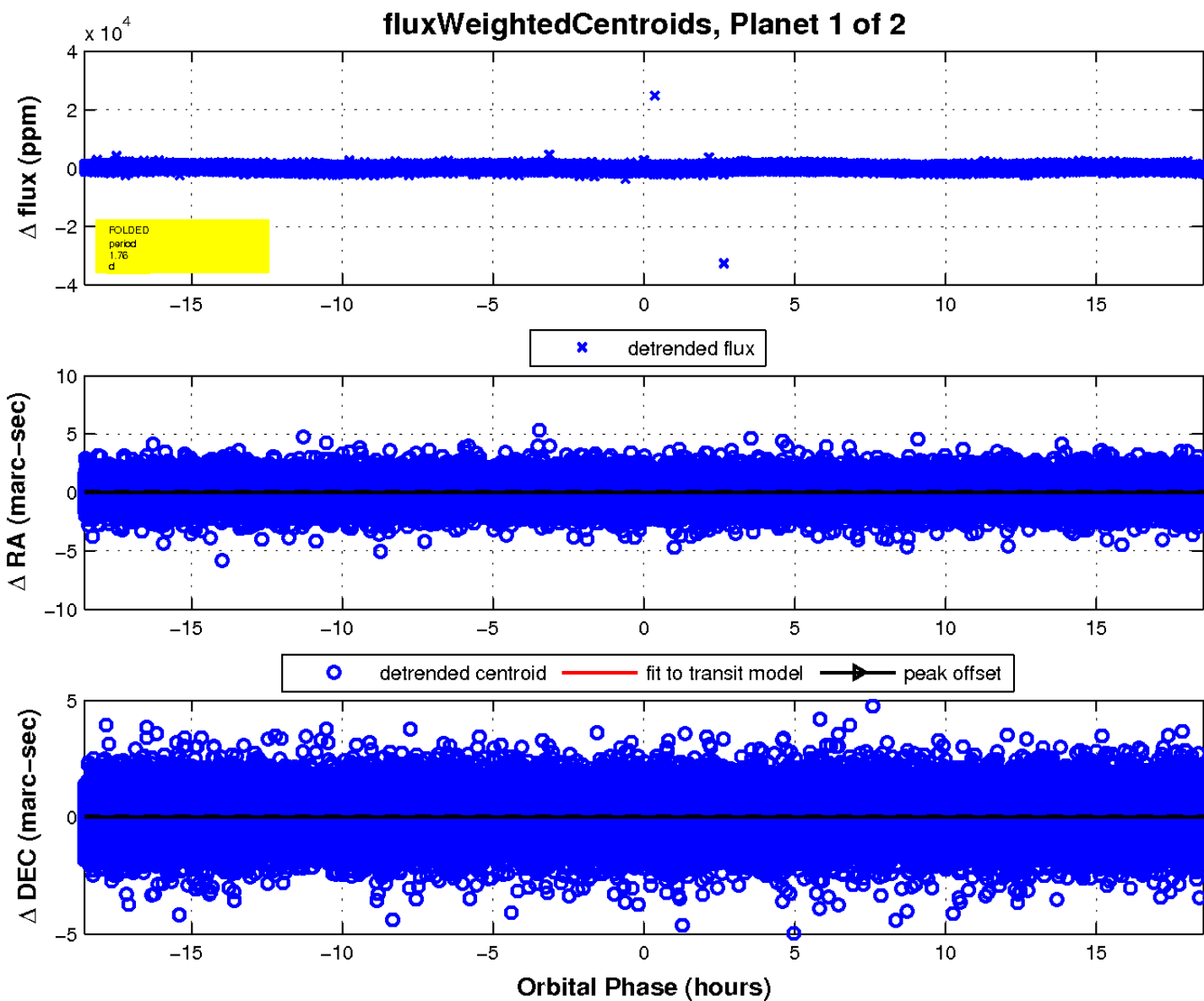
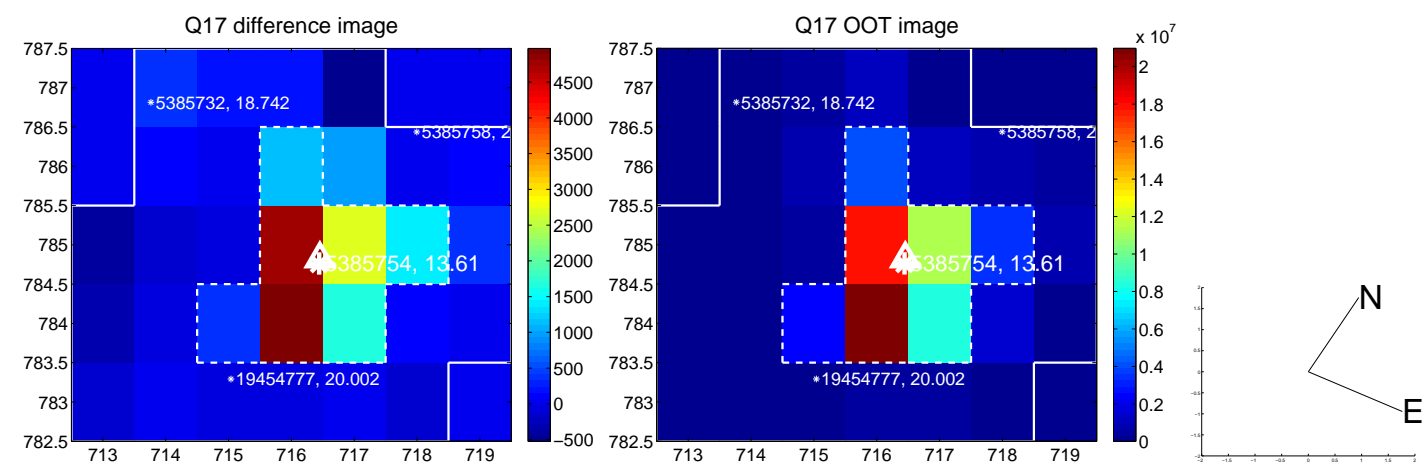
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

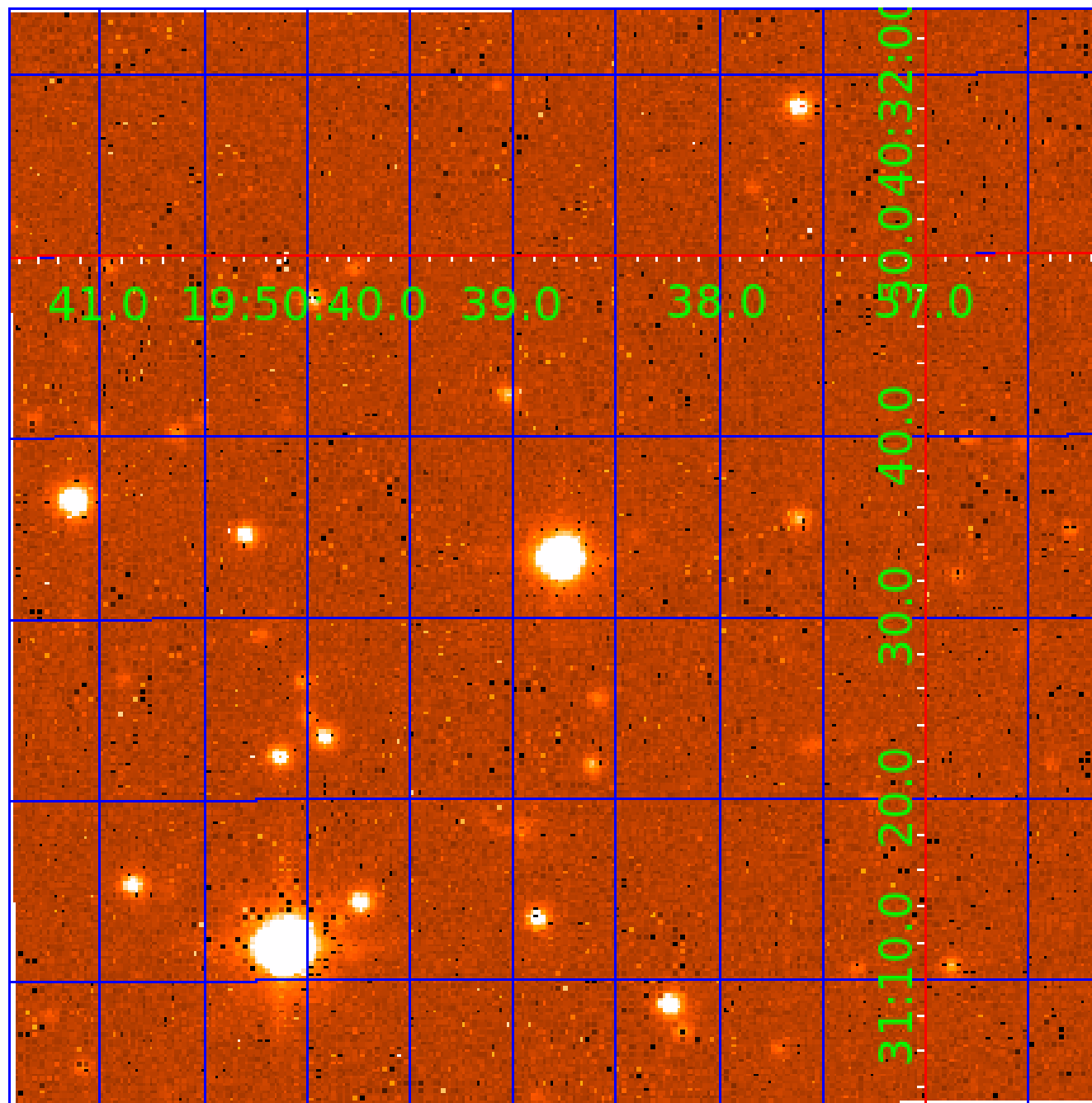


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005385754

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})
005385754-01	OBS	No	1.761729	131.640962	106.2	6.184	9.8	10.4	3.18	6649	3.81	16318.45
005385754-02	OBS	No	1.761697	132.530406	109.9	5.354	10.9	11.5	3.18	6649	3.35	16318.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005385754-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005385754-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_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.

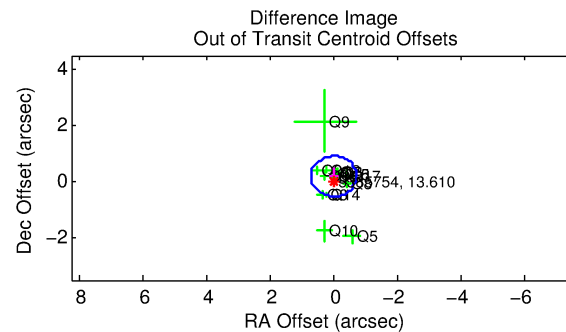
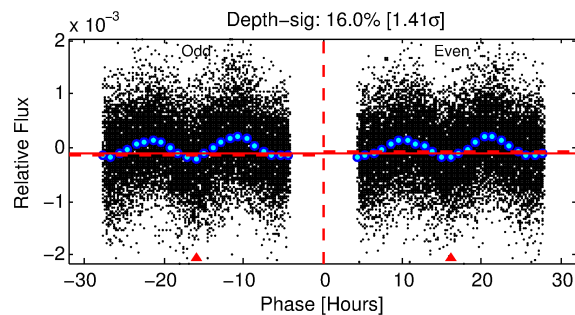
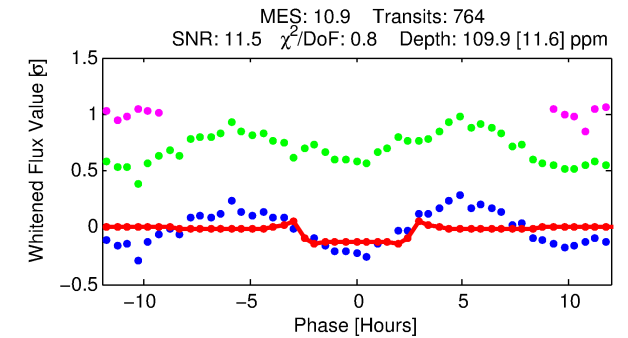
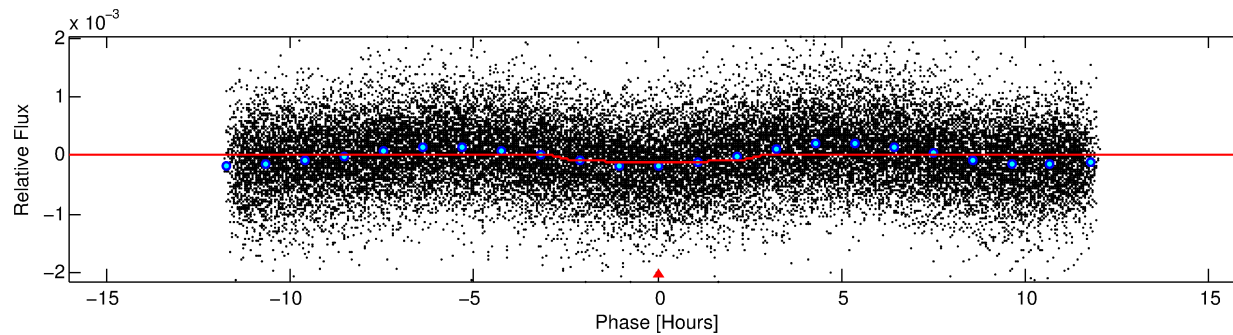
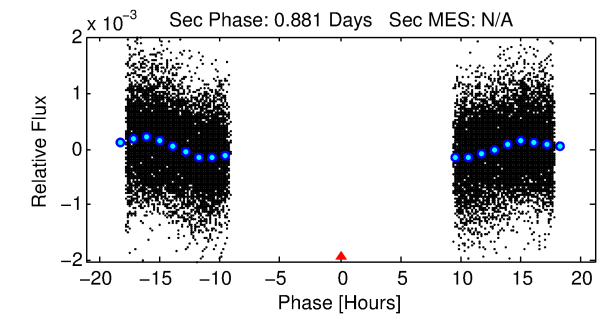
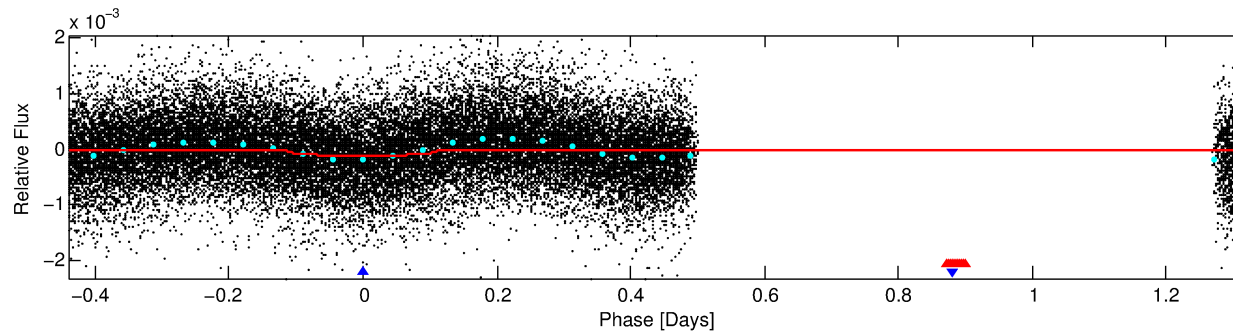
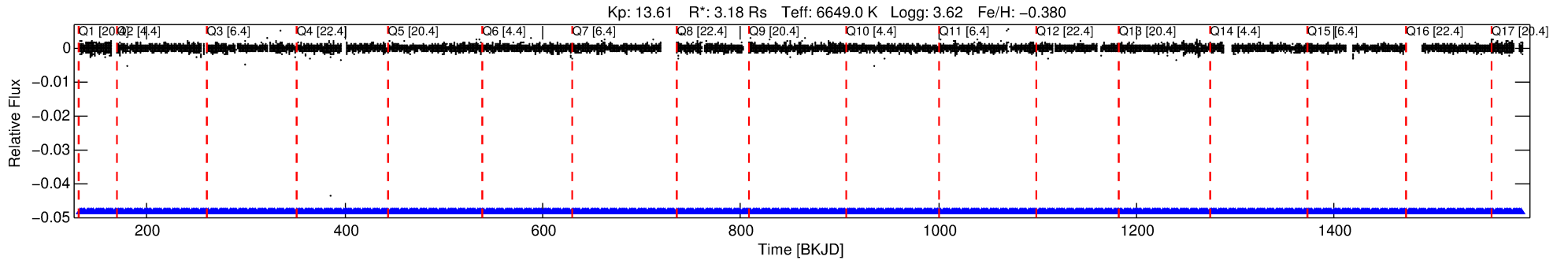
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005385754-02

No Significant Match Found

DV One-Page Summary

KIC: 5385754 Candidate: 2 of 2 Period: 1.762 d



DV Fit Results:

Period = 1.76170 [0.00001] d
Epoch = 132.5304 [0.0028] BKJD
Rp/R* = 0.0097 [0.0054]
a/R* = 2.61 [6.66]
b = 0.02 [159.16]
Seff = 16318.85 [17646.96]
Teq = 2882 [779] K
Rp = 3.35 [2.72] Re
a = 0.0329 [0.0209] AU

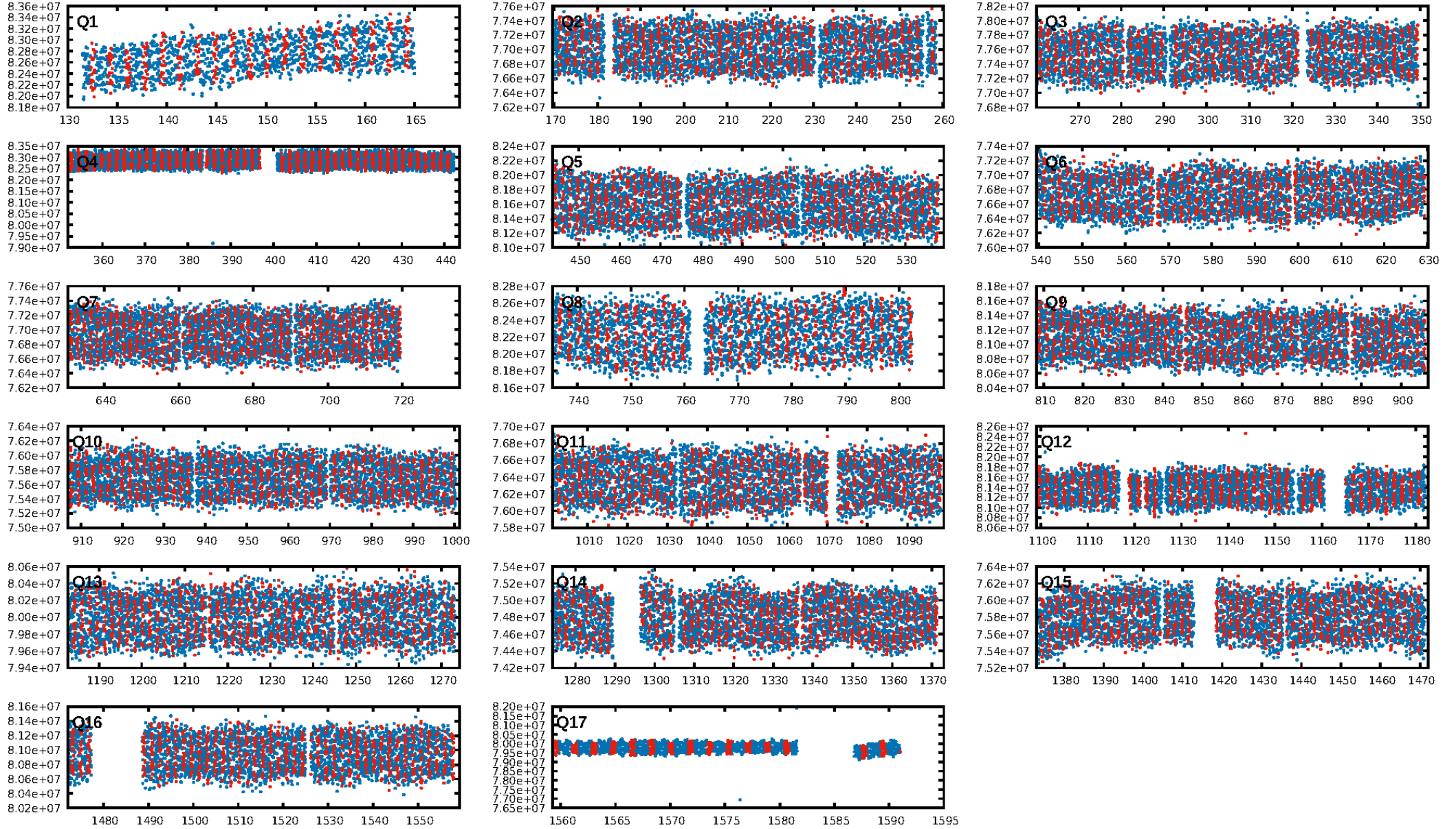
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.24e-06
RollingBand-fgt: 1.00 [730/730]
GhostDiagnostic-chr: 0.9336
Centroid-sig: 0.0%
Centroid-so: 0.585 arcsec [2.14σ]
OotOffset-rm: 0.195 arcsec [0.82σ]
KicOffset-rm: 0.163 arcsec [0.70σ]
OotOffset-st: 4/4/4 [16]
KicOffset-st: 4/4/4 [16]
DiffImageQuality-fgm: 0.94 [15/16]
DiffImageOverlap-fno: 1.00 [17/17]

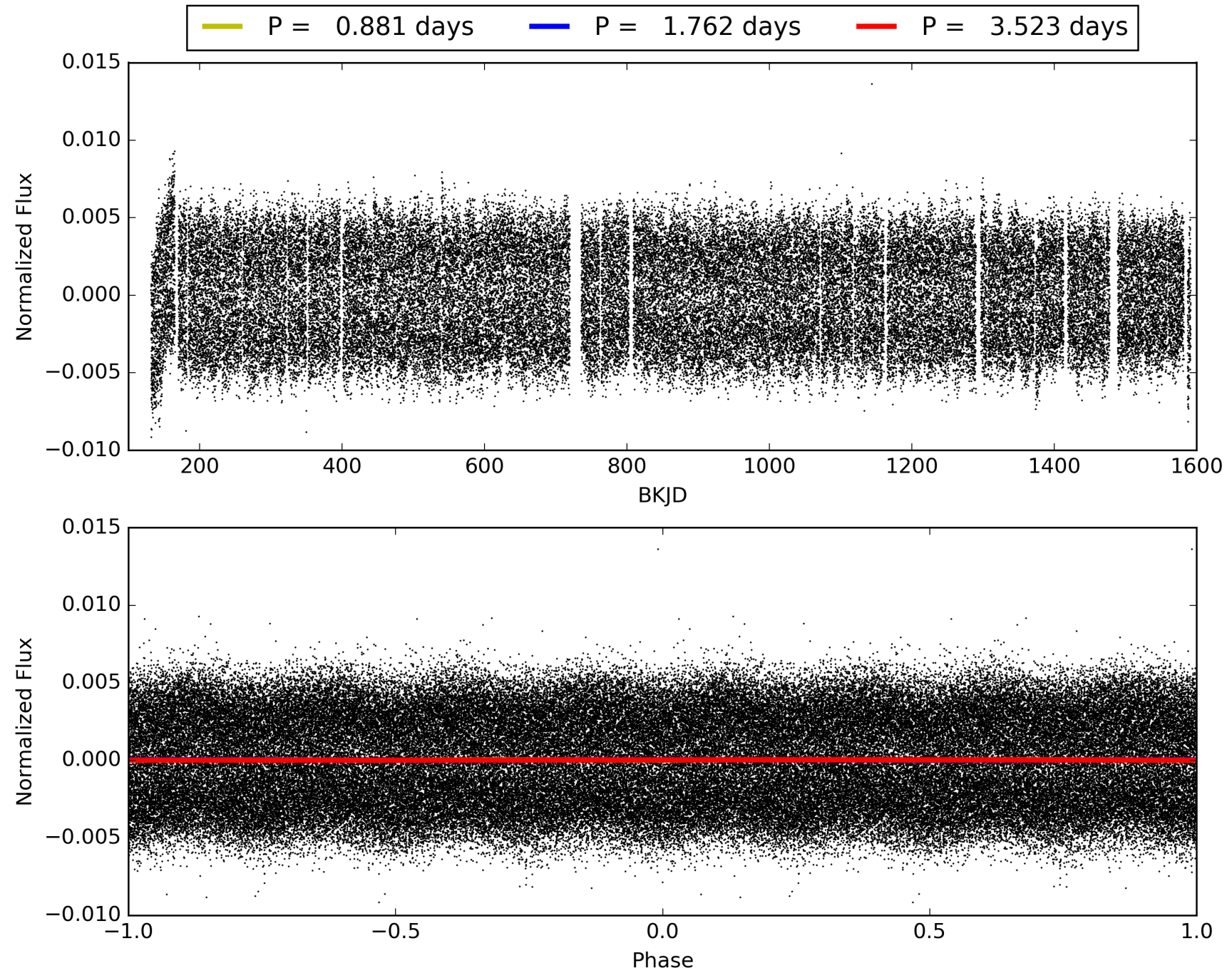
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 08:55:15 Z

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

TCE 005385754-02, PDC Light Curves

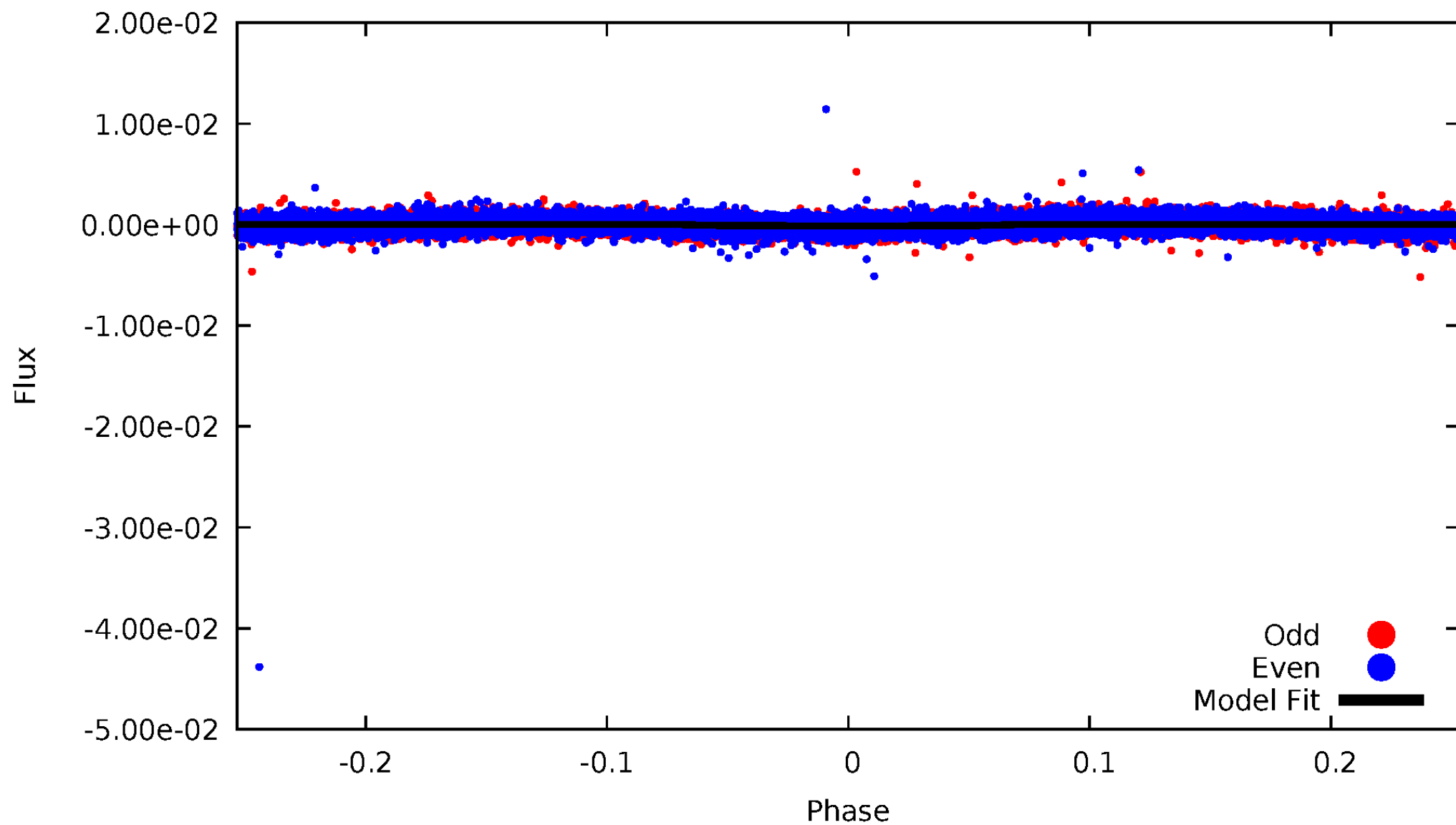


TCE 005385754-02



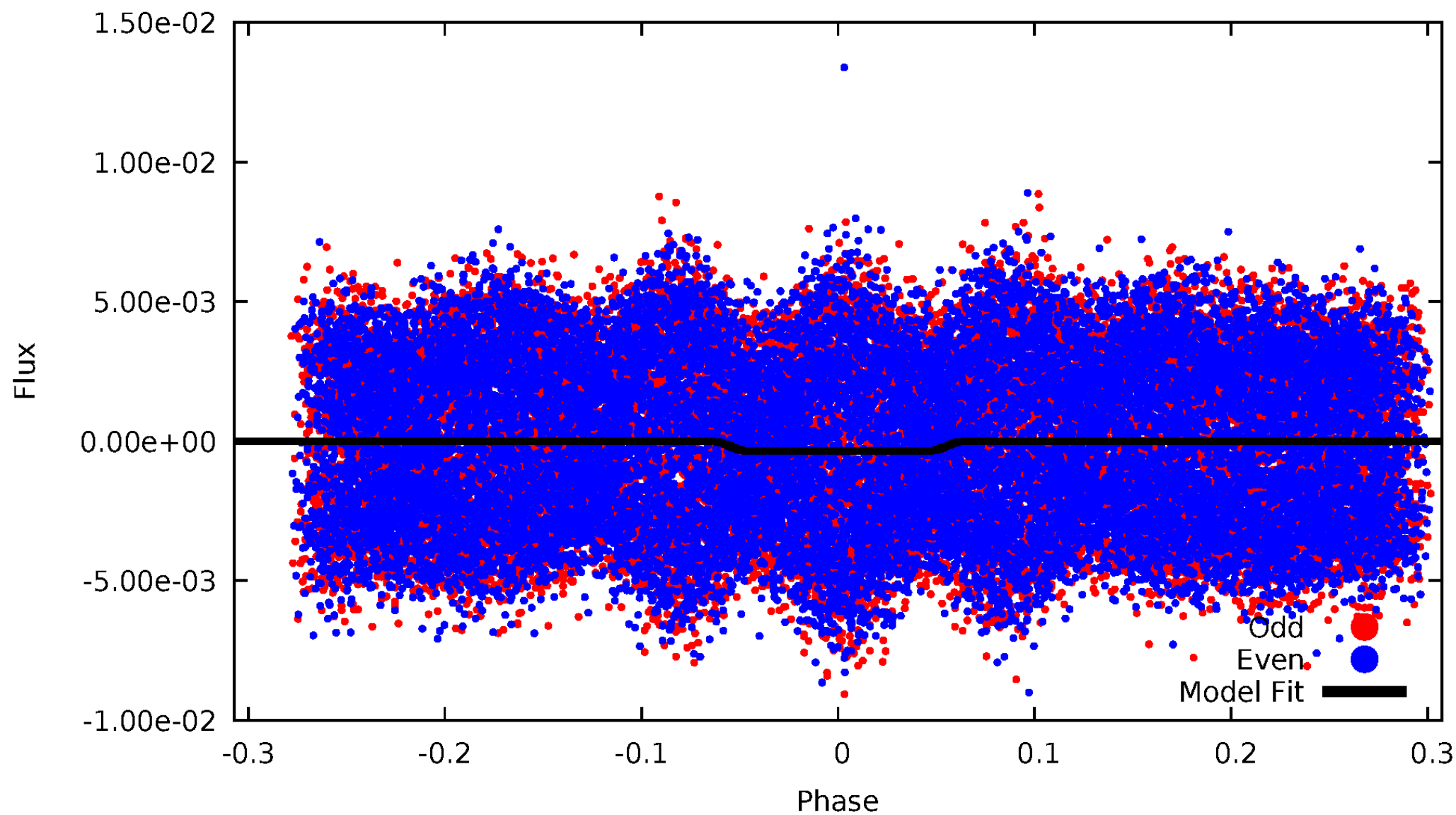
DV Odd/Even

TCE 005385754-02



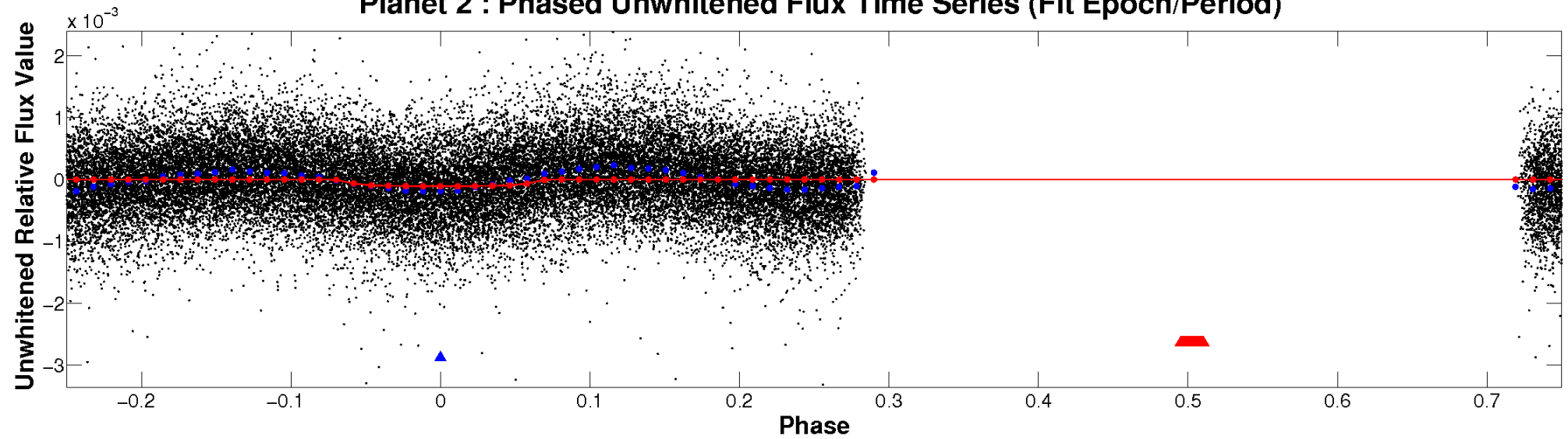
ALT Odd/Even

TCE 005385754-02

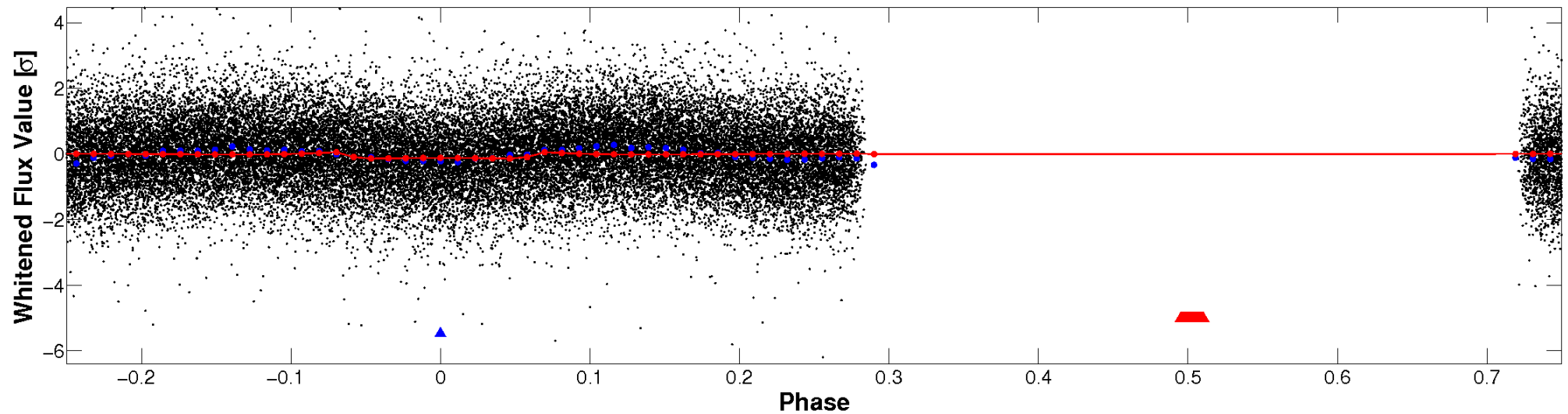


Non-Whitened Vs. Whitened Light Curve

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

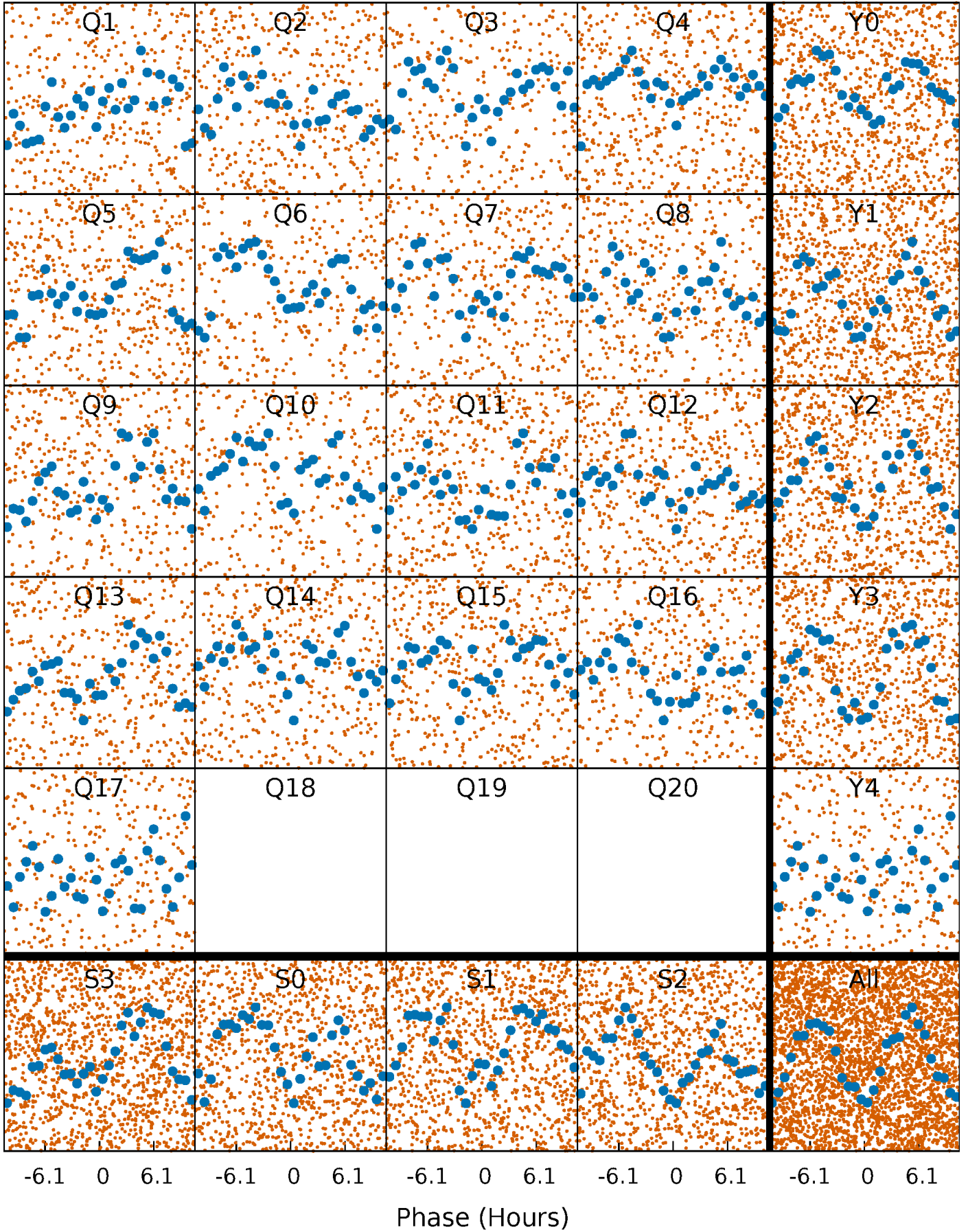


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



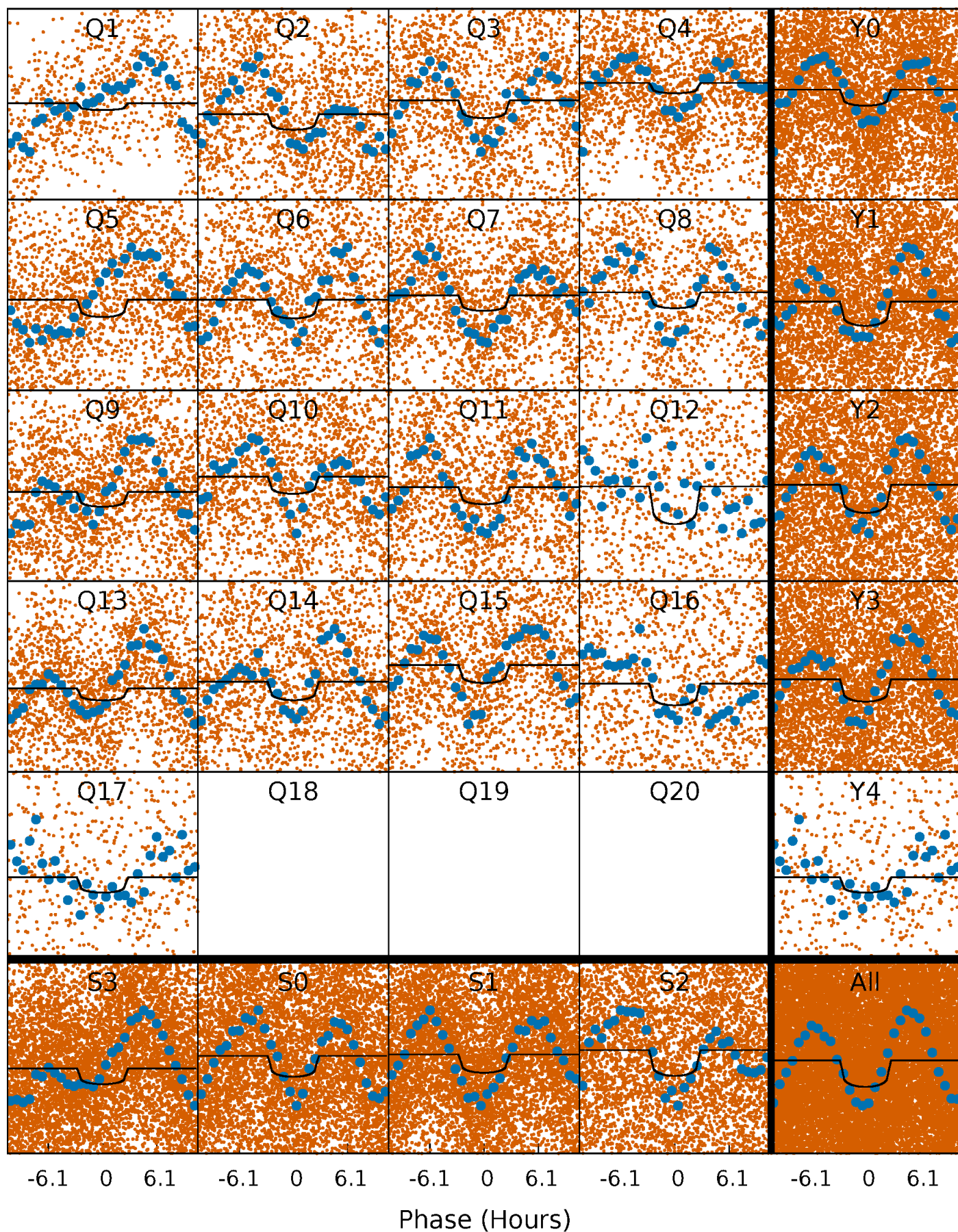
PDC Quarter-Phased Transit Curves

TCE 005385754-02 P= 1.761697 Days $T_0=132.530406$ (BKJD)



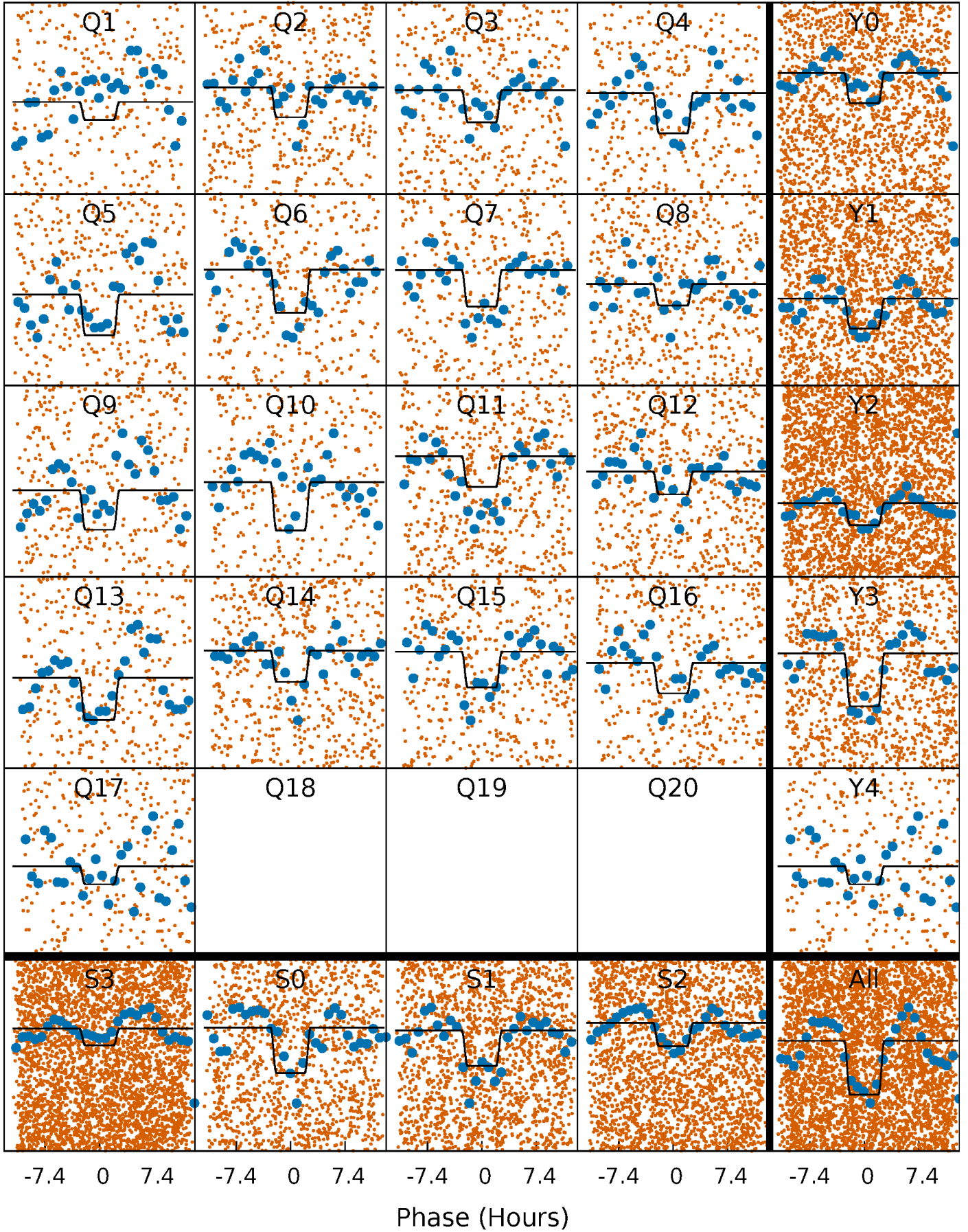
DV Quarter-Phased Transit Curves

TCE 005385754-02 P= 1.761697 Days $T_0=132.530406$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

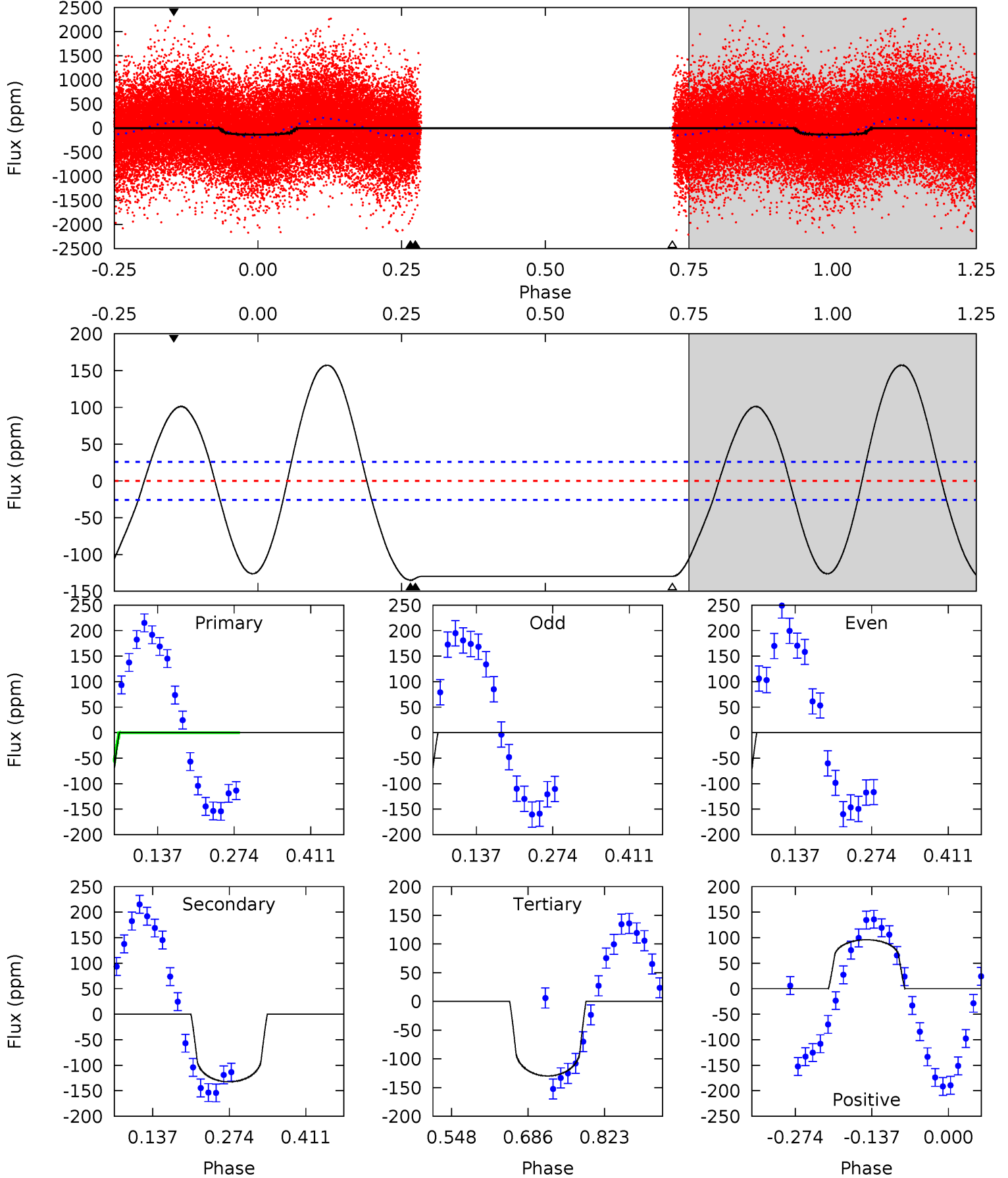
TCE 005385754-02 P= 1.761662 Days $T_0=132.528731$ (BKJD)



DV Model-Shift Uniqueness Test

005385754-02, P = 1.761697 Days, E = 130.768709 Days

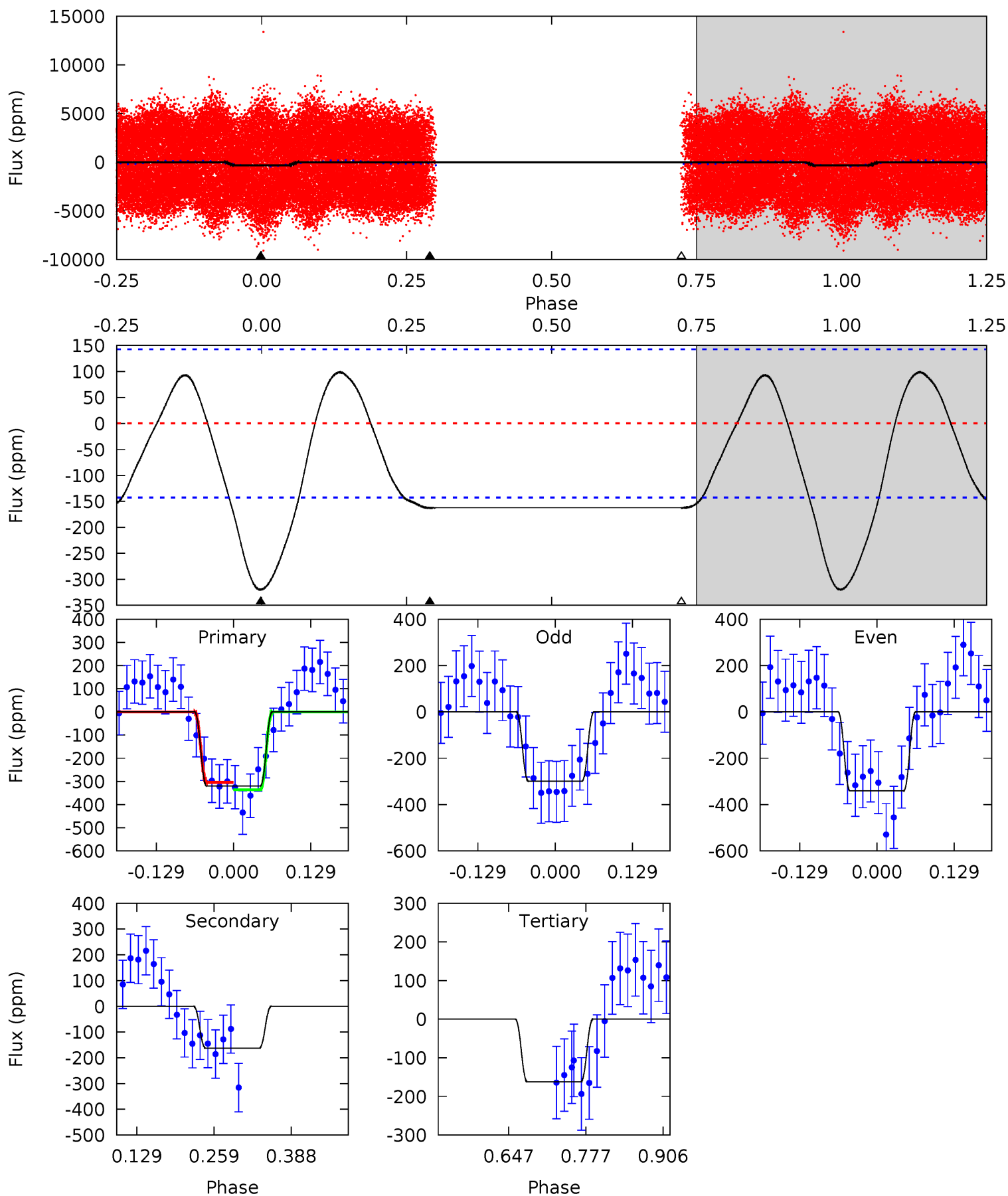
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.4	23.0	22.5	16.6	4.50	1.49	15.6	0.89	6.77	0.47	6.34	0.94	1.00	0.54	4.90



Alt Model-Shift Uniqueness Test

005385754-02, P = 1.761662 Days, E = 130.767069 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	5.15	5.13	0	4.51	1.52	2.91	4.98	10.1	0.01	5.15	0.66	0.97	0.24	0.52



Stellar Parameters For KIC 005385754

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6649^{+213}_{-260}	$3.619^{+0.648}_{-0.108}$	$-0.380^{+0.300}_{-0.300}$	$3.177^{+0.470}_{-1.879}$	$1.532^{+0.196}_{-0.457}$	$0.067^{+0.633}_{-0.024}$
	+3%/-4%	+18%/-3%	+79%/-79%	+15%/-59%	+13%/-30%	+941%/-35%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005385754-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-132 ± 6	$3.02^{+2.07}_{-1.65}$	3906^{+300}_{-547}	7062^{+4149}_{-1491}	$8.680^{+29.428}_{-5.633}$
Alt.	-163 ± 32	$5.92^{+2.37}_{-2.23}$	3929^{+256}_{-605}	5280^{+1081}_{-660}	$2.738^{+4.315}_{-1.335}$

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 $A_{obs} \gg 1.0$

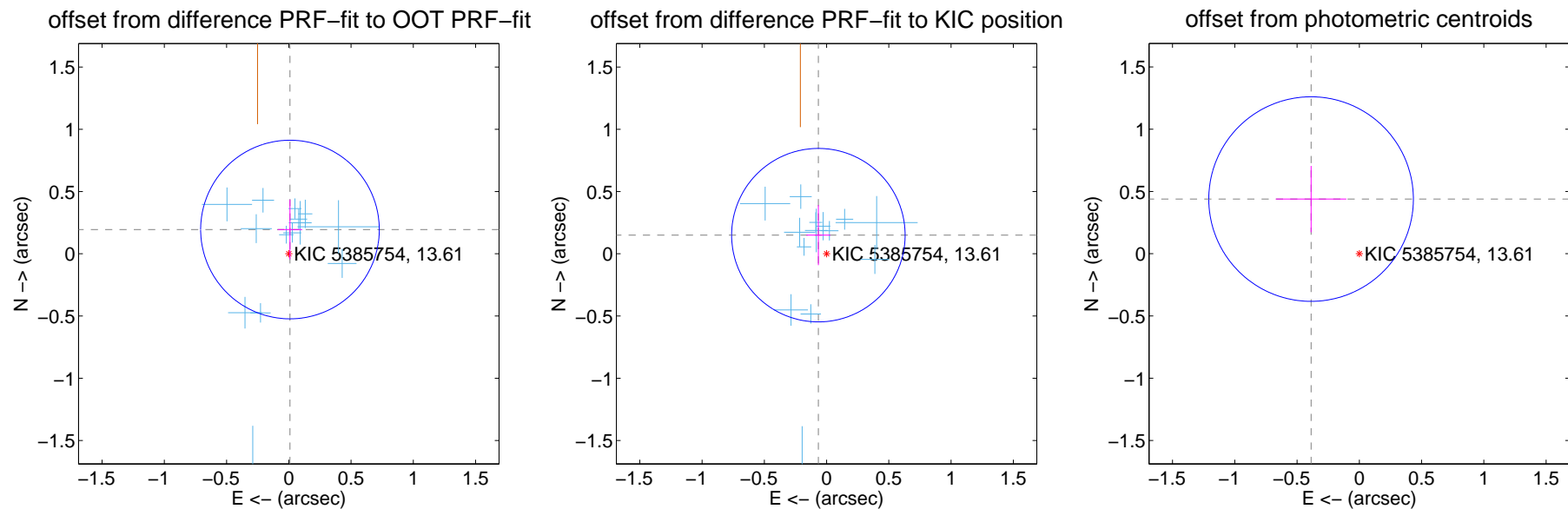
DV Centroid Data

Supplemental centroid analysis for 005385754-02. Kepler magnitude: 13.61. Transit SNR 11.55

There are 15 quarters with good PRF difference image offsets

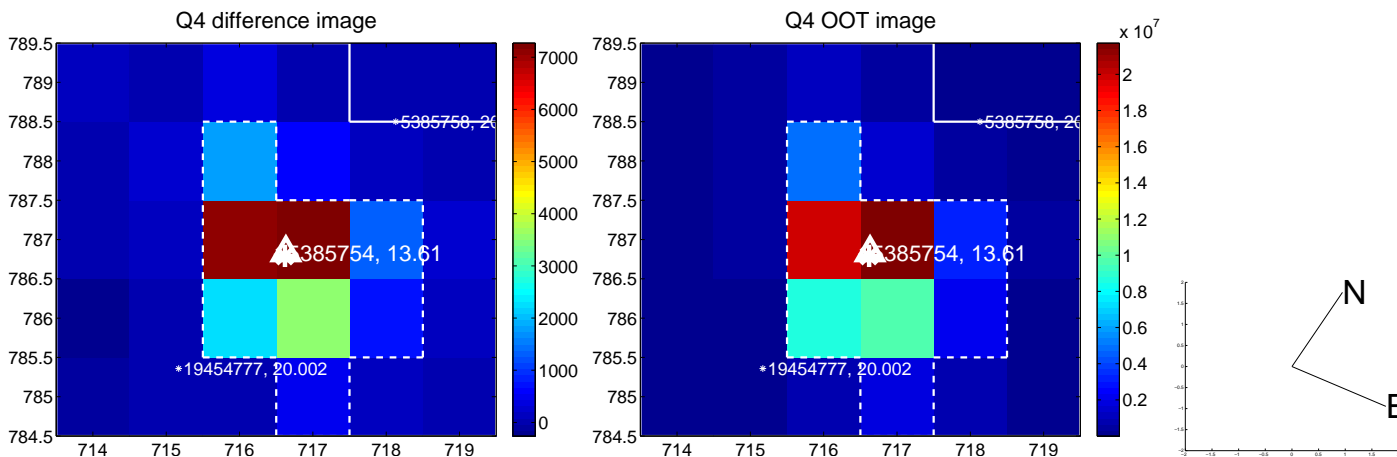
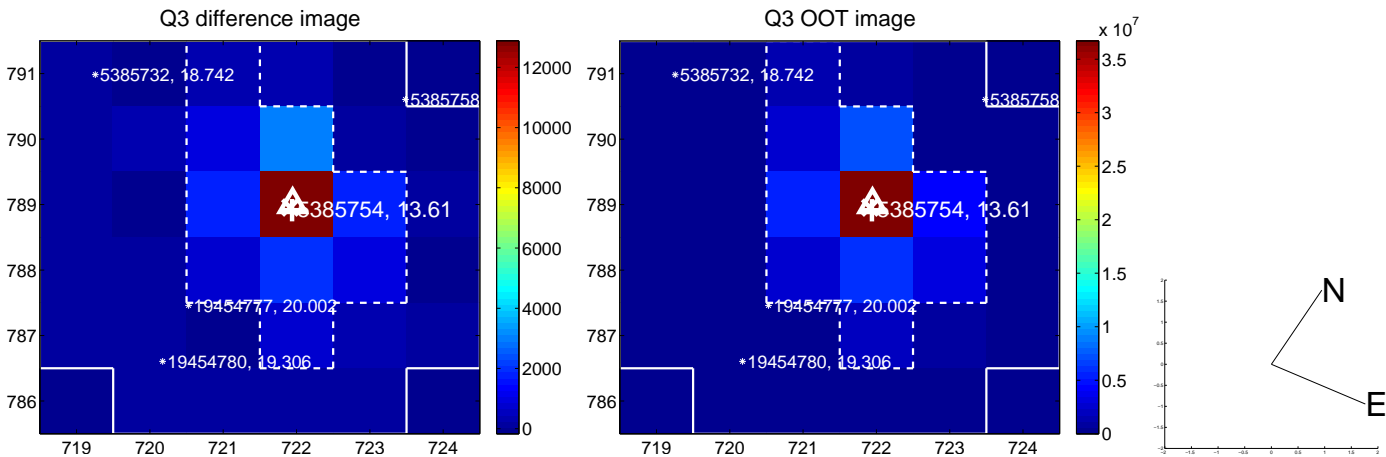
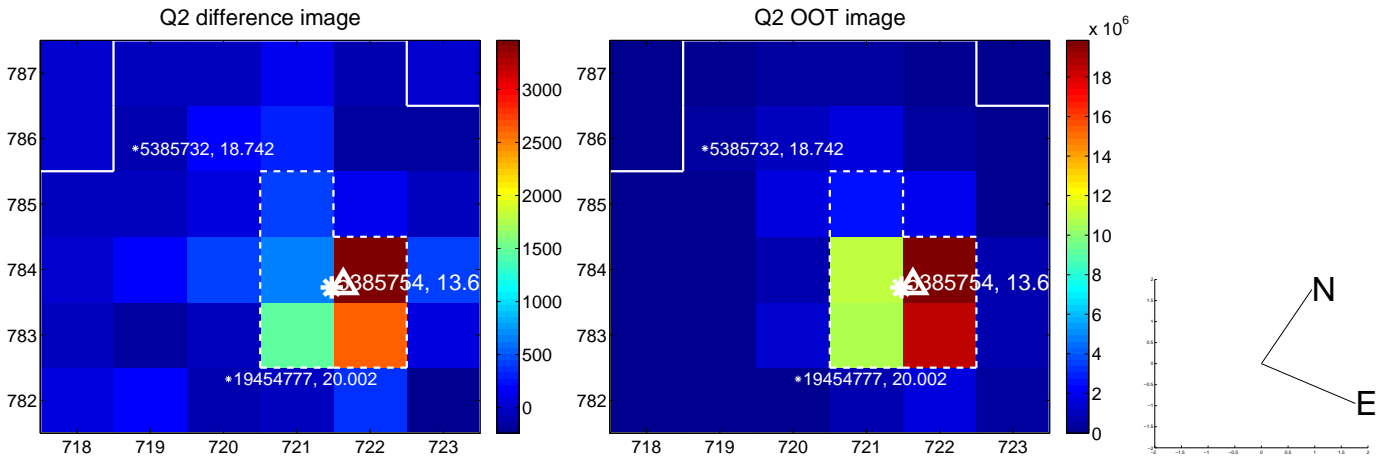
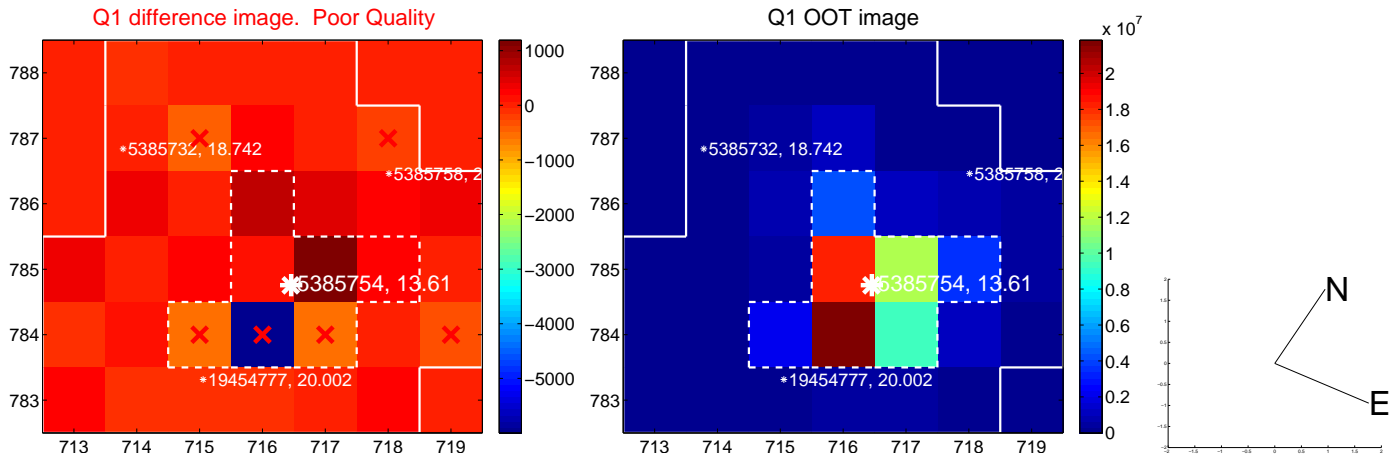
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.195 ± 0.239	0.82	-0.009 ± 0.098	0.195 ± 0.240
PRF-fit source offset from KIC position	0.163 ± 0.232	0.70	0.066 ± 0.097	0.150 ± 0.241
photometric centroid source offset	0.59 ± 0.27	2.14	0.39 ± 0.28	0.44 ± 0.27

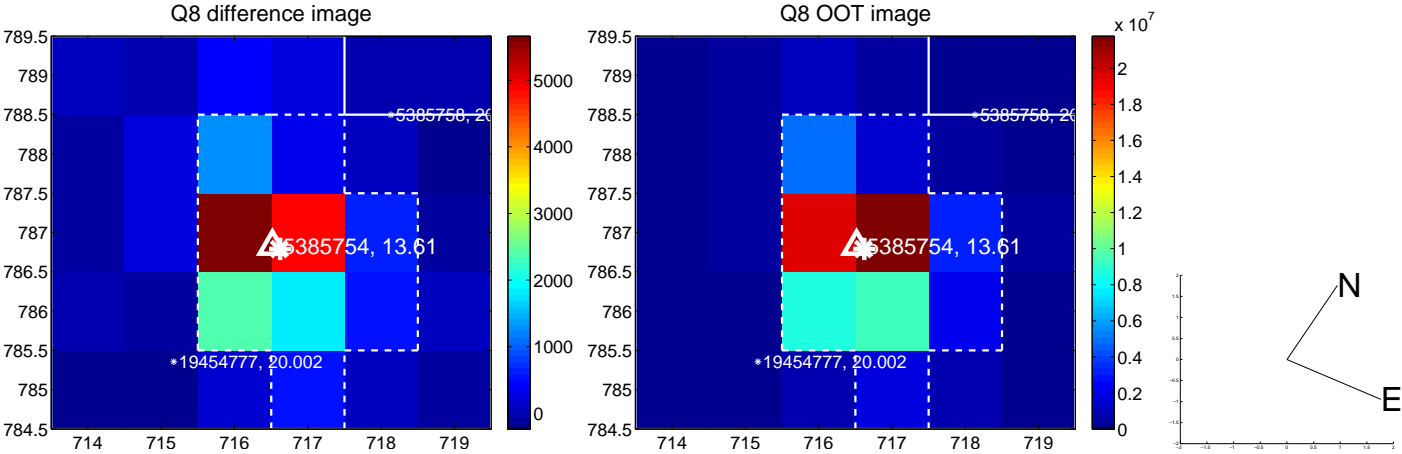
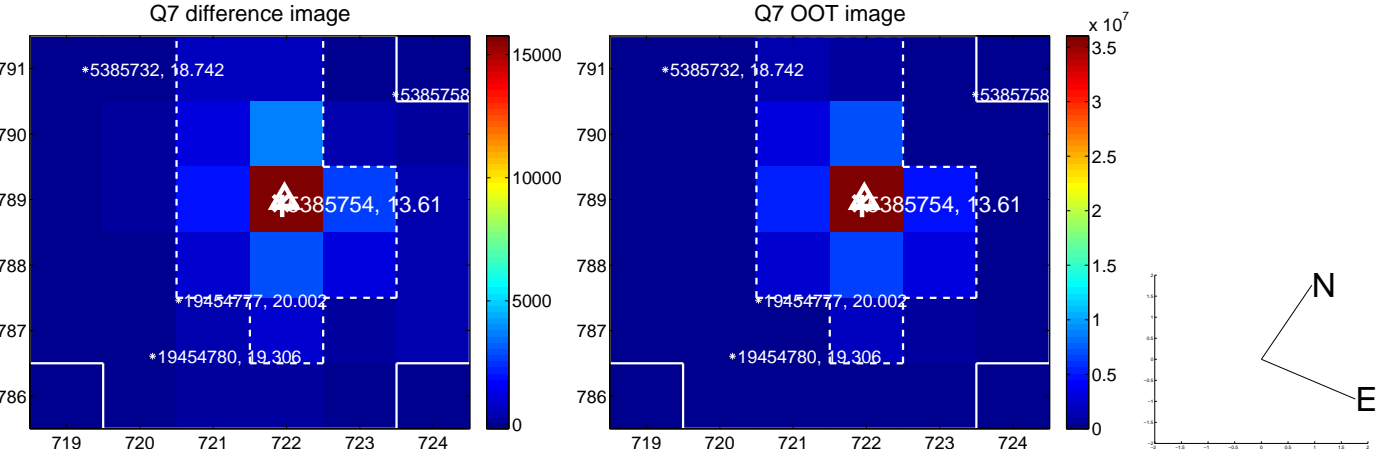
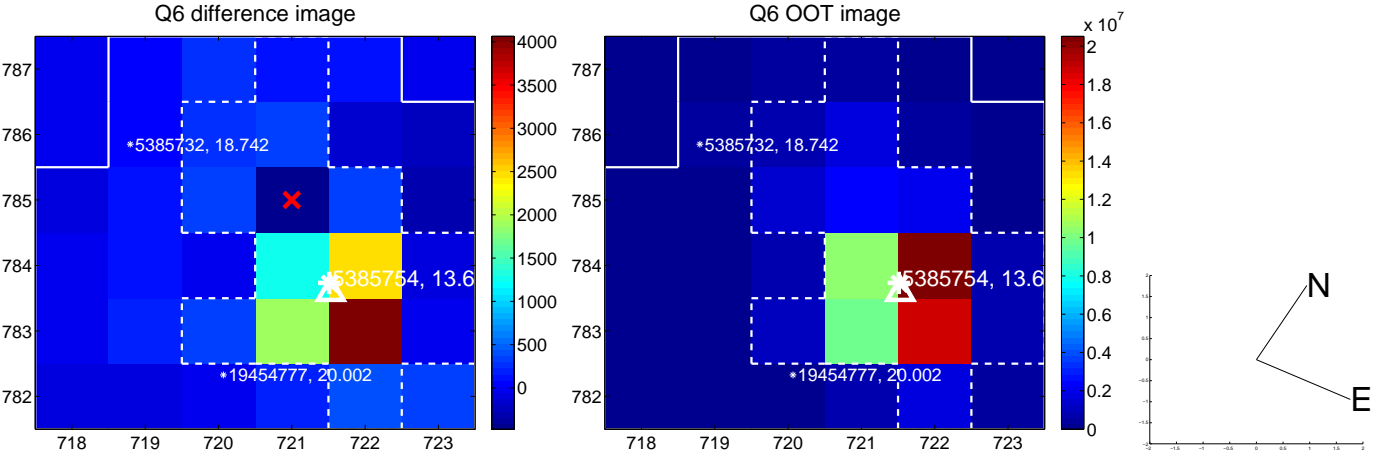
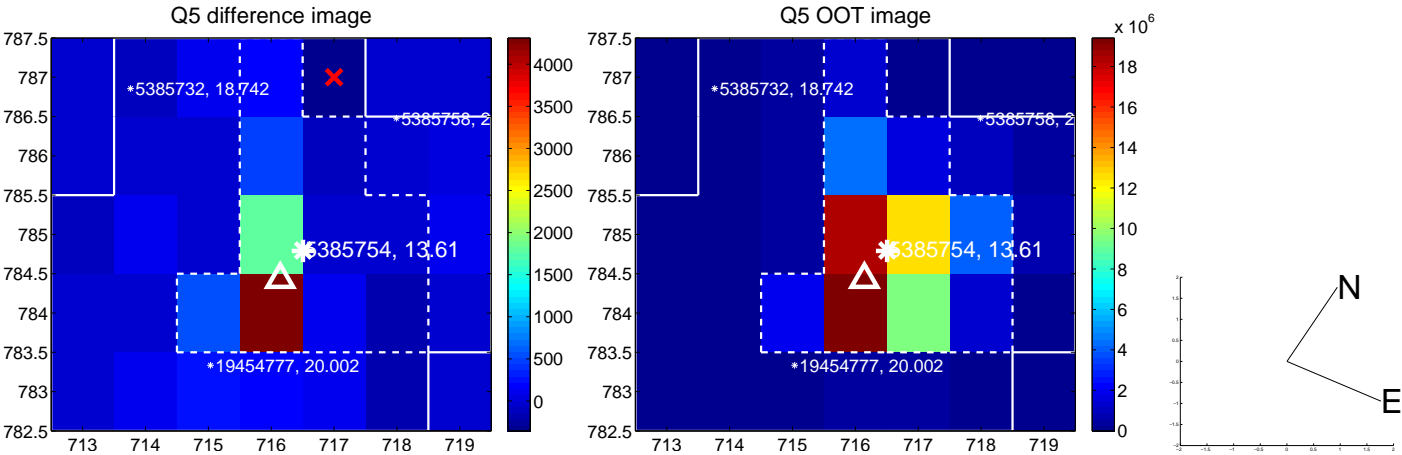


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

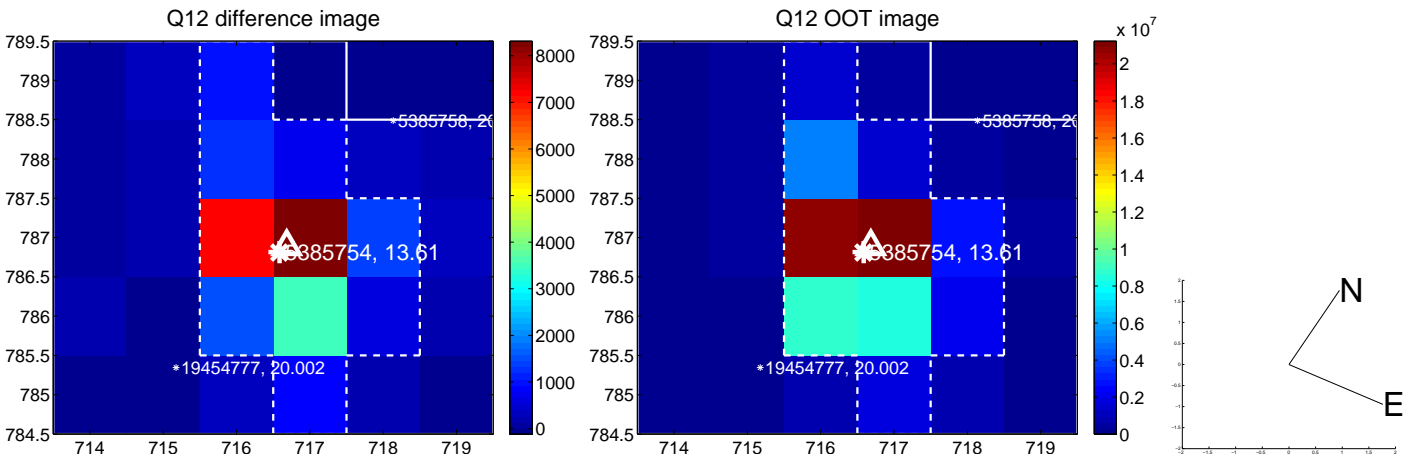
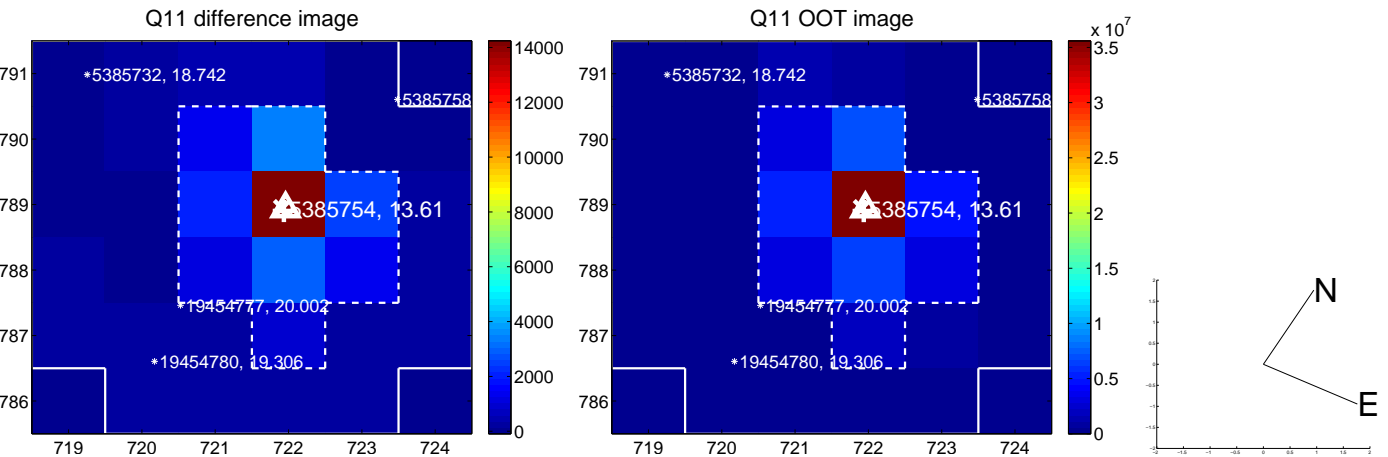
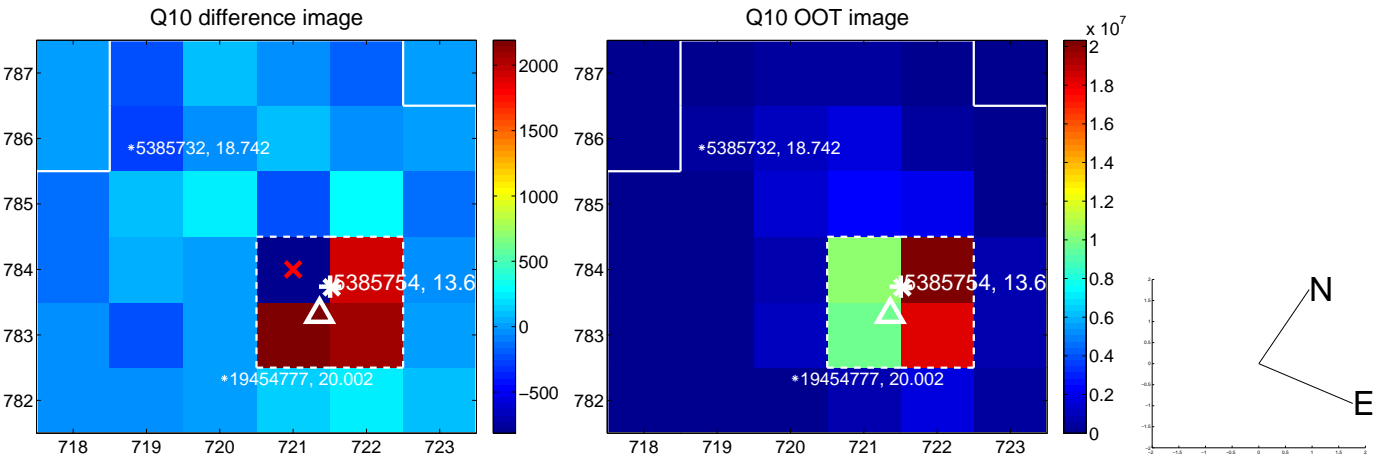
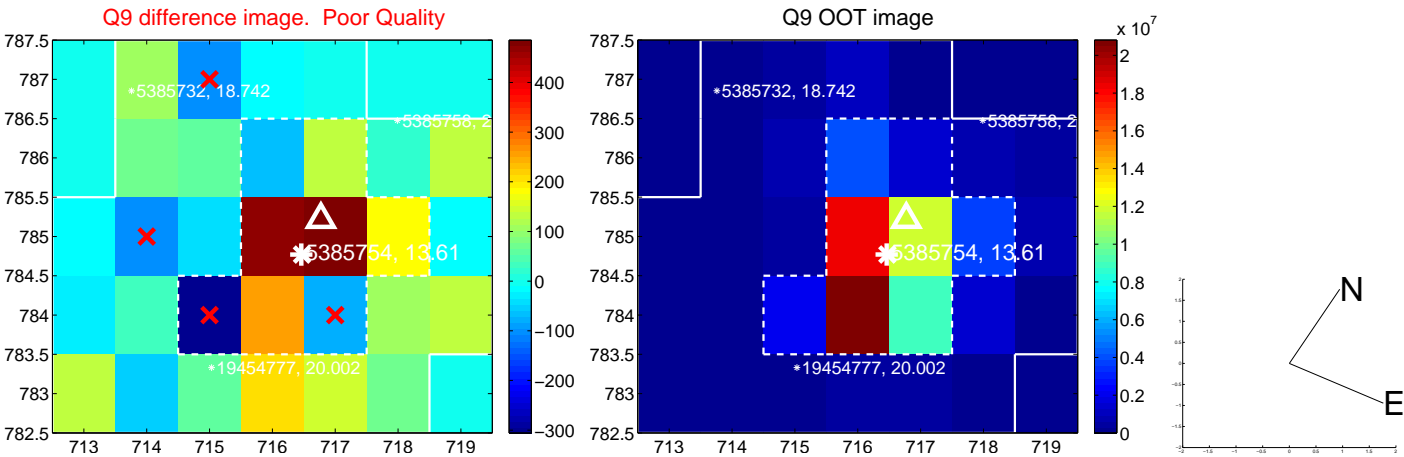
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



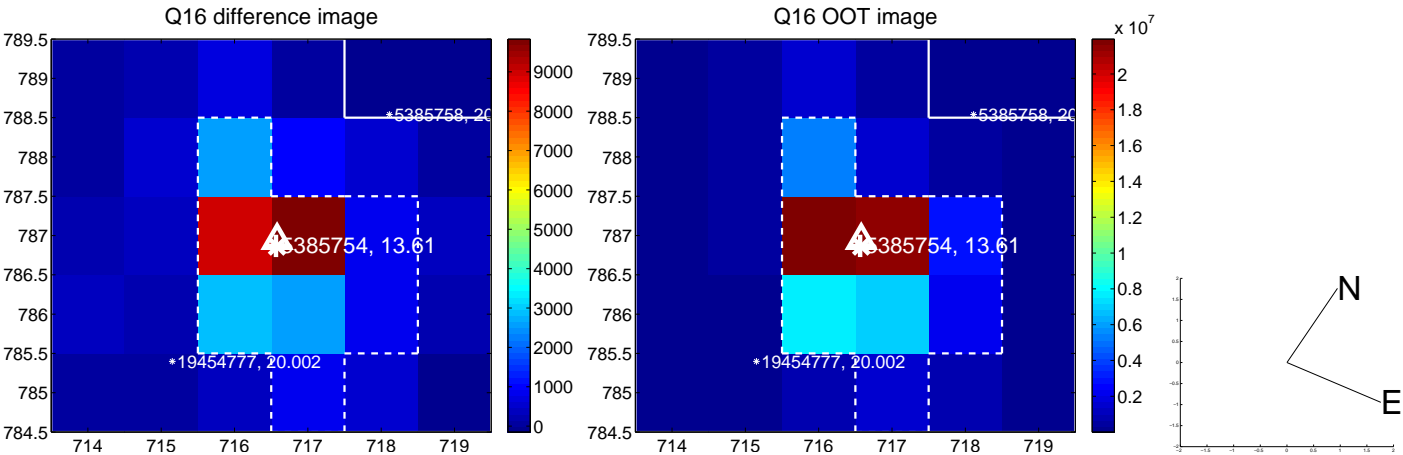
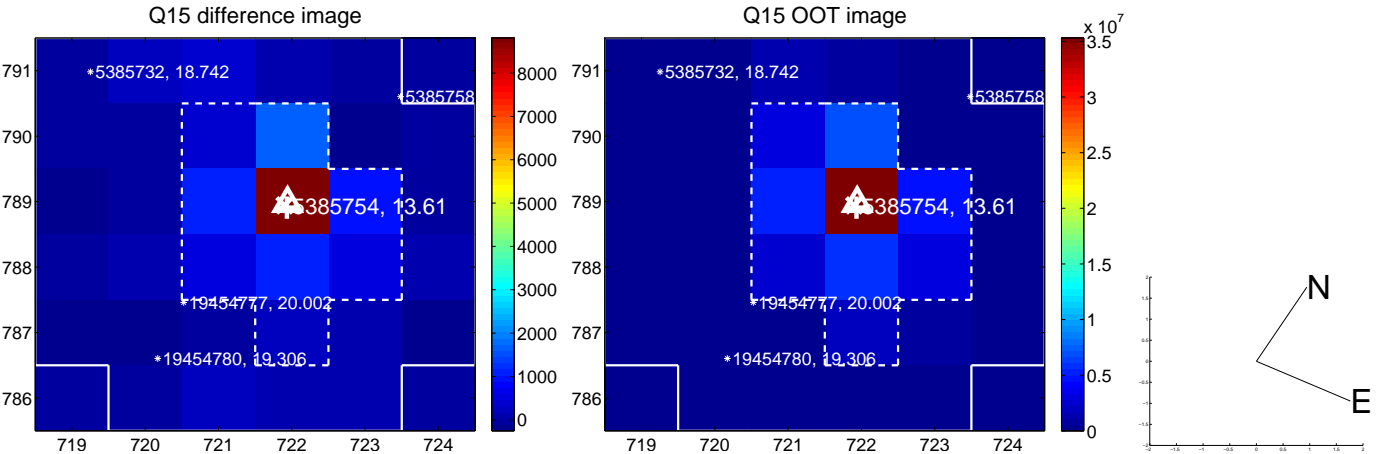
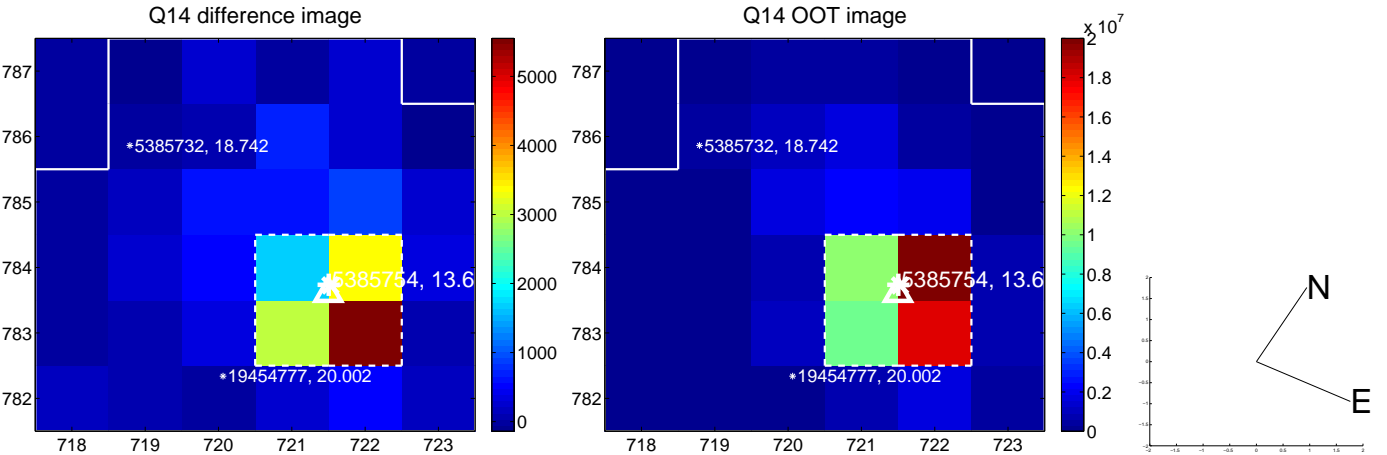
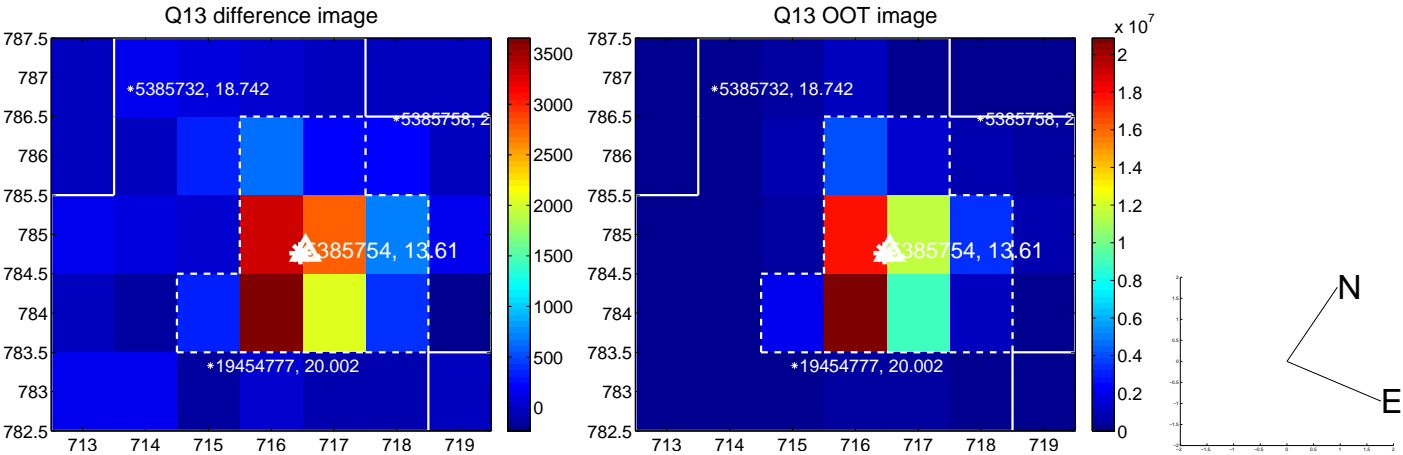
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

