

KIC 005877364

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})
005877364-01	OBS	No	89.649330	163.504603	447.8	12.523	44.7	59.4	1.76	7502	7.02	45.93
005877364-02	OBS	No	89.654763	165.166570	352.9	24.801	21.5	33.1	1.76	7502	6.27	45.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005877364-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_TER_ALT—CENT_SATURATED
005877364-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD—CENT_SATURATED

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

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

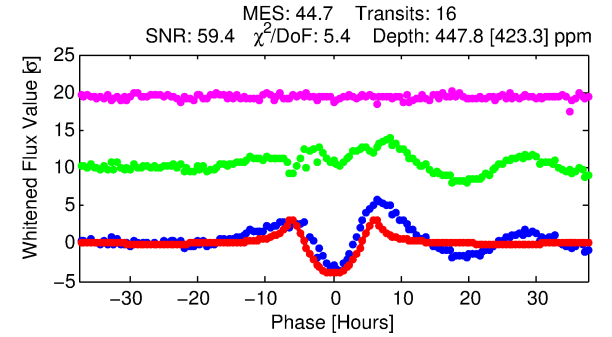
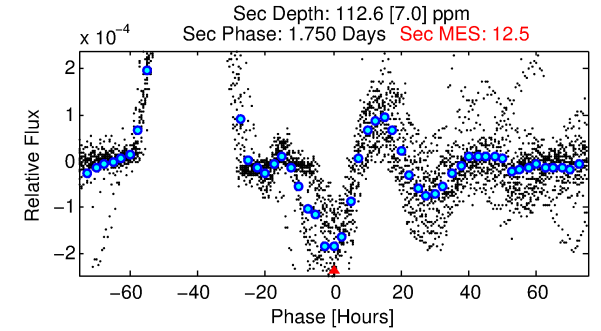
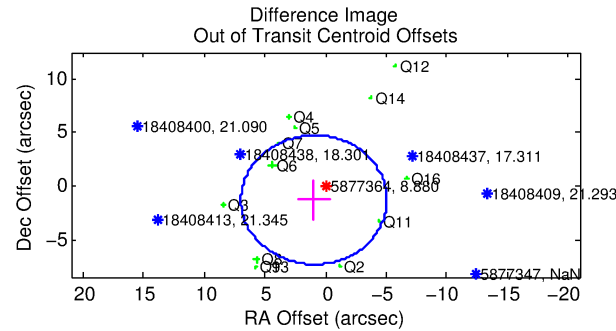
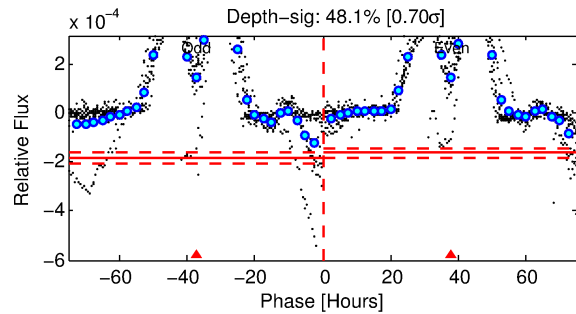
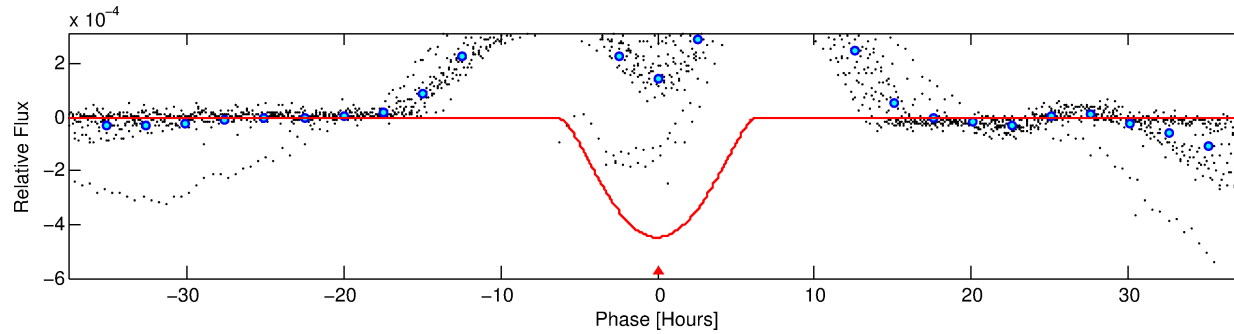
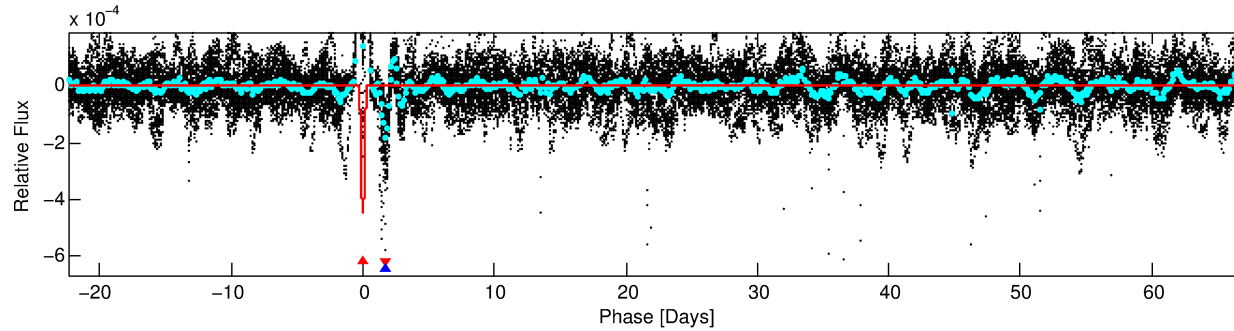
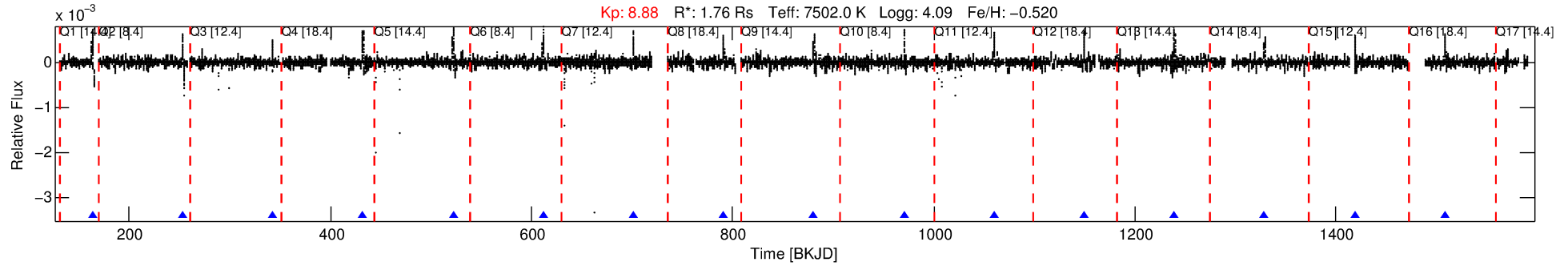
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005877364-01

No Significant Match Found

DV One-Page Summary

KIC: 5877364 Candidate: 1 of 2 Period: 89.649 d



DV Fit Results:

Period = 89.64933 [0.00075] d
Epoch = 163.5046 [0.0064] BKJD
 R_p/R^* = 0.0366 [0.0159]
 a/R^* = 14.97 [1.62]
 b = 1.00 [0.00]
 Seff = 45.93 [18.65]
 T_{eq} = 664 [67] K
 R_p = 7.02 [3.61] R_e
 a = 0.4368 [0.1069] AU
 Ag = 239.96 [226.62] [1.05 σ]
 T_{eff} = 4039 [893] K [3.77 σ]

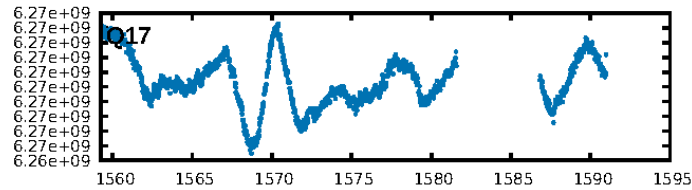
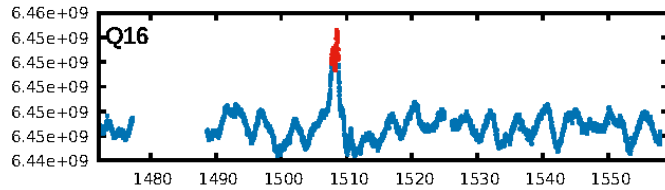
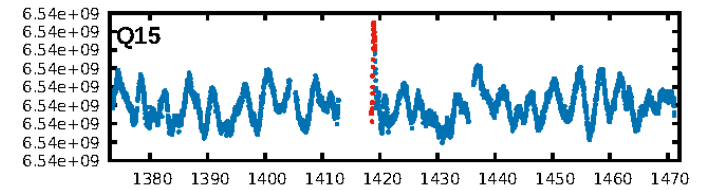
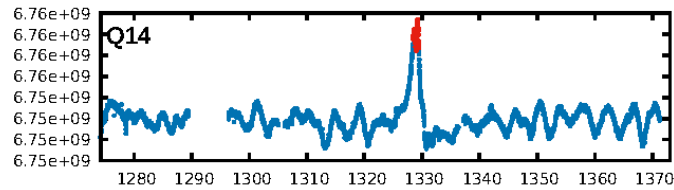
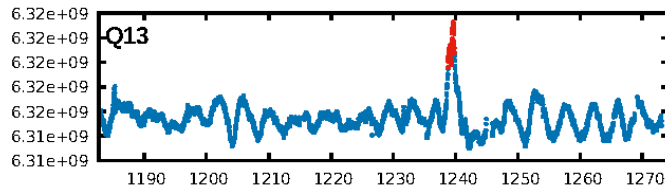
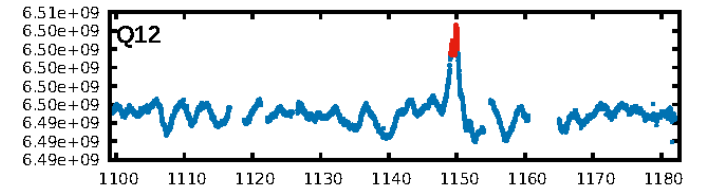
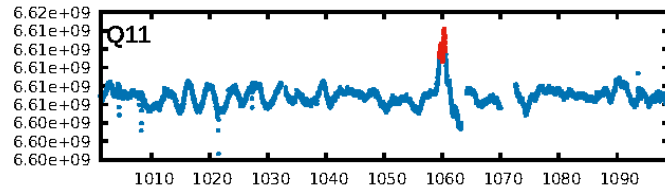
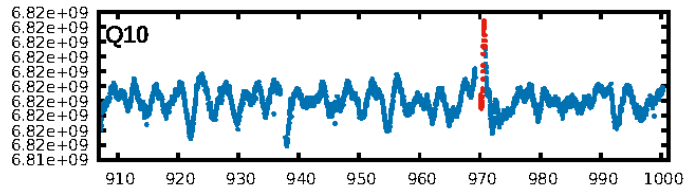
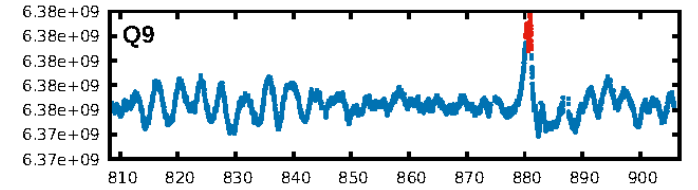
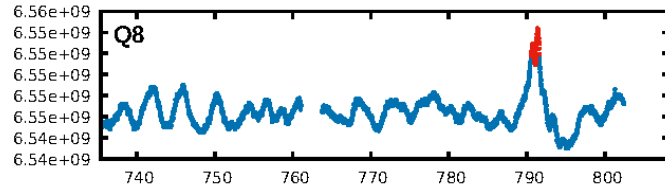
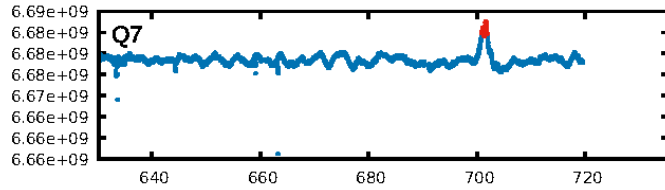
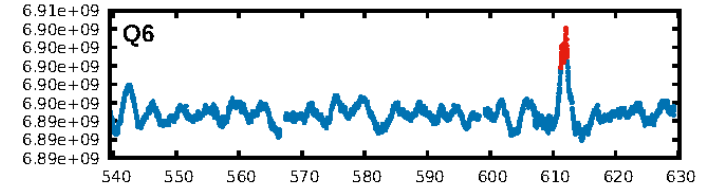
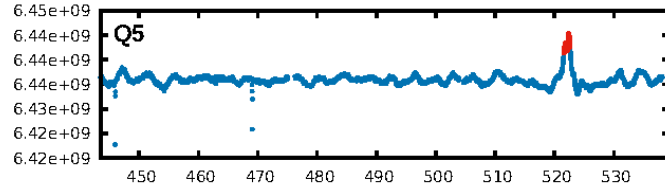
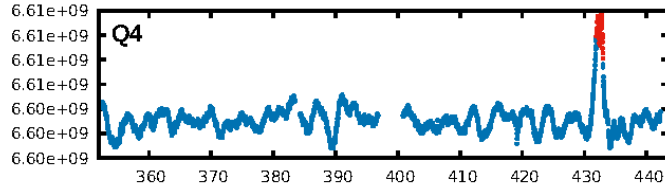
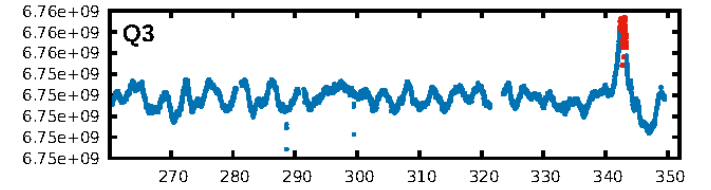
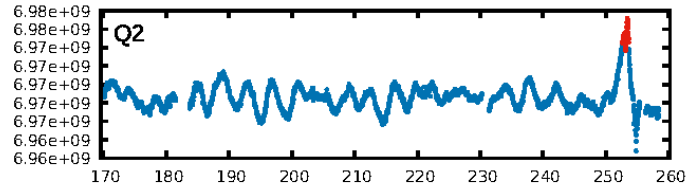
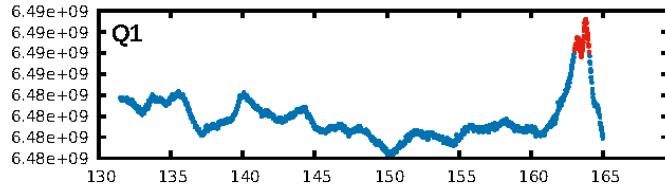
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.4% [0.00 σ]
ModelChiSquare2-sig: 86.5%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 4.33e-96
RollingBand-fgt: 1.00 [15/15]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 2.183 arcsec [7.58 σ]
OotOffset-rm: 1.607 arcsec [0.80 σ]
KicOffset-rm: 2.662 arcsec [1.39 σ]
OotOffset-st: 3/3/4/3 [13]
KicOffset-st: 3/3/4/3 [13]
DiffImageQuality-fgm: 0.00 [0/13]
DiffImageOverlap-fno: 1.00 [14/14]

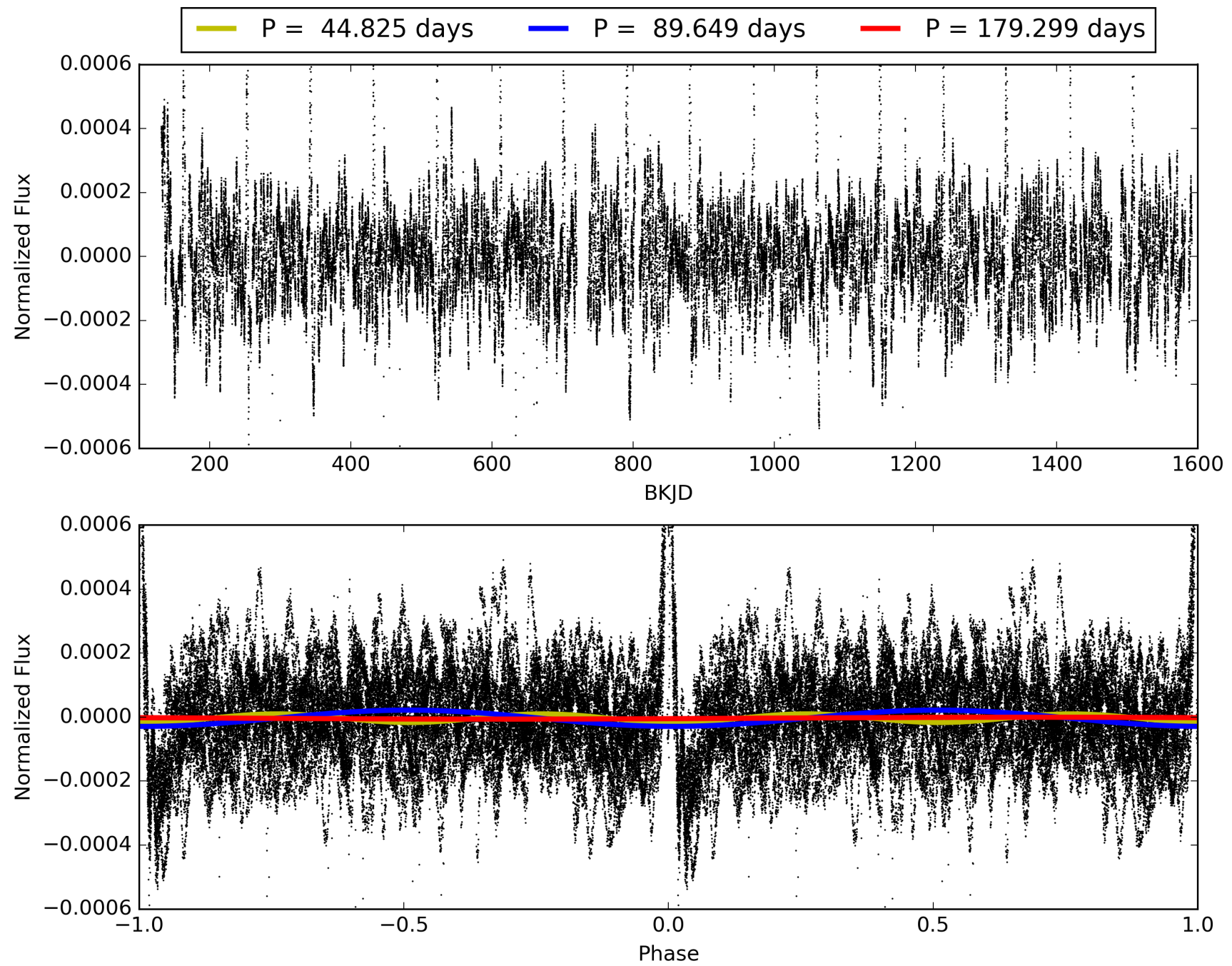
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:02:37 Z

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

TCE 005877364-01, PDC Light Curves

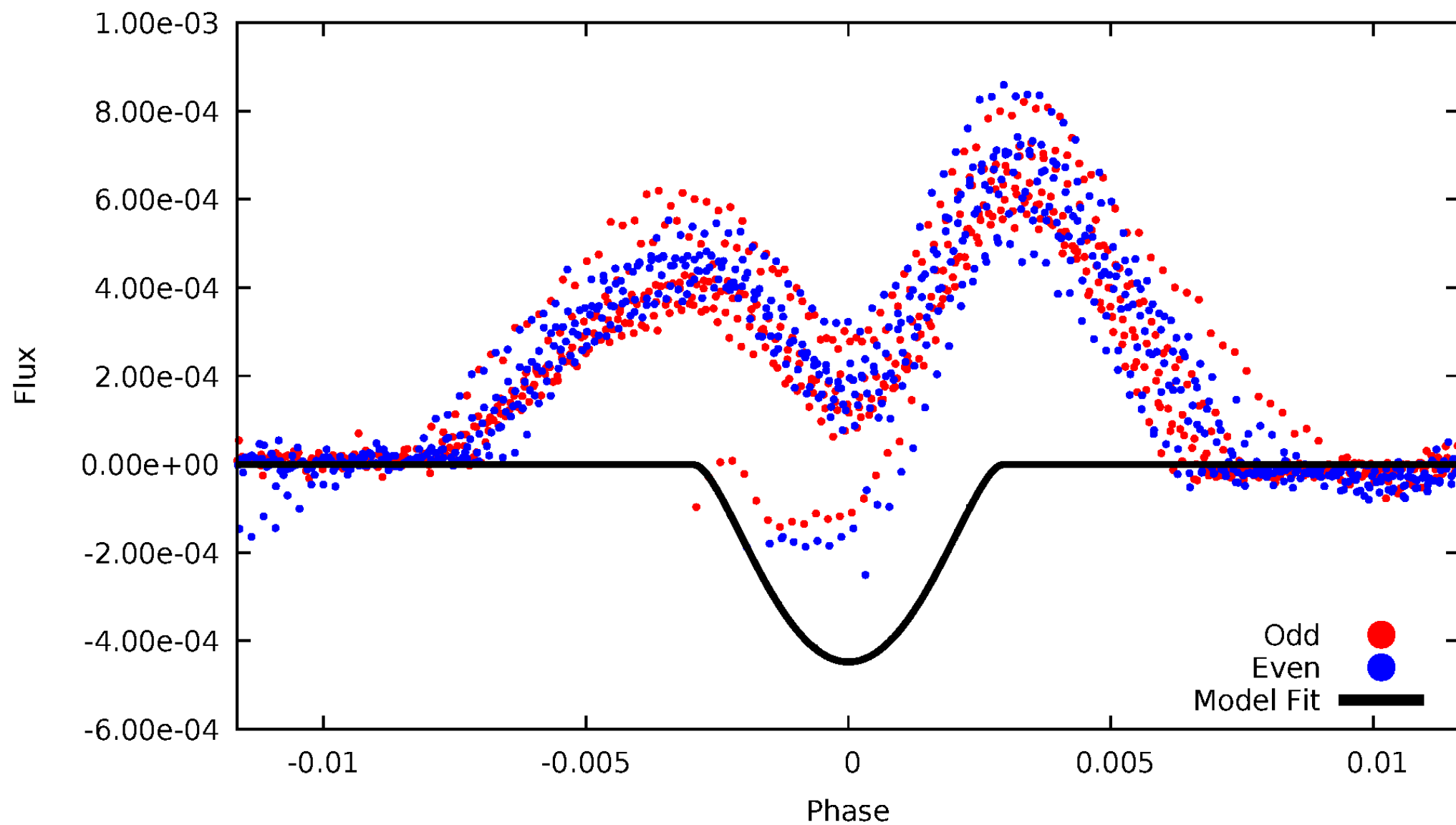


TCE 005877364-01



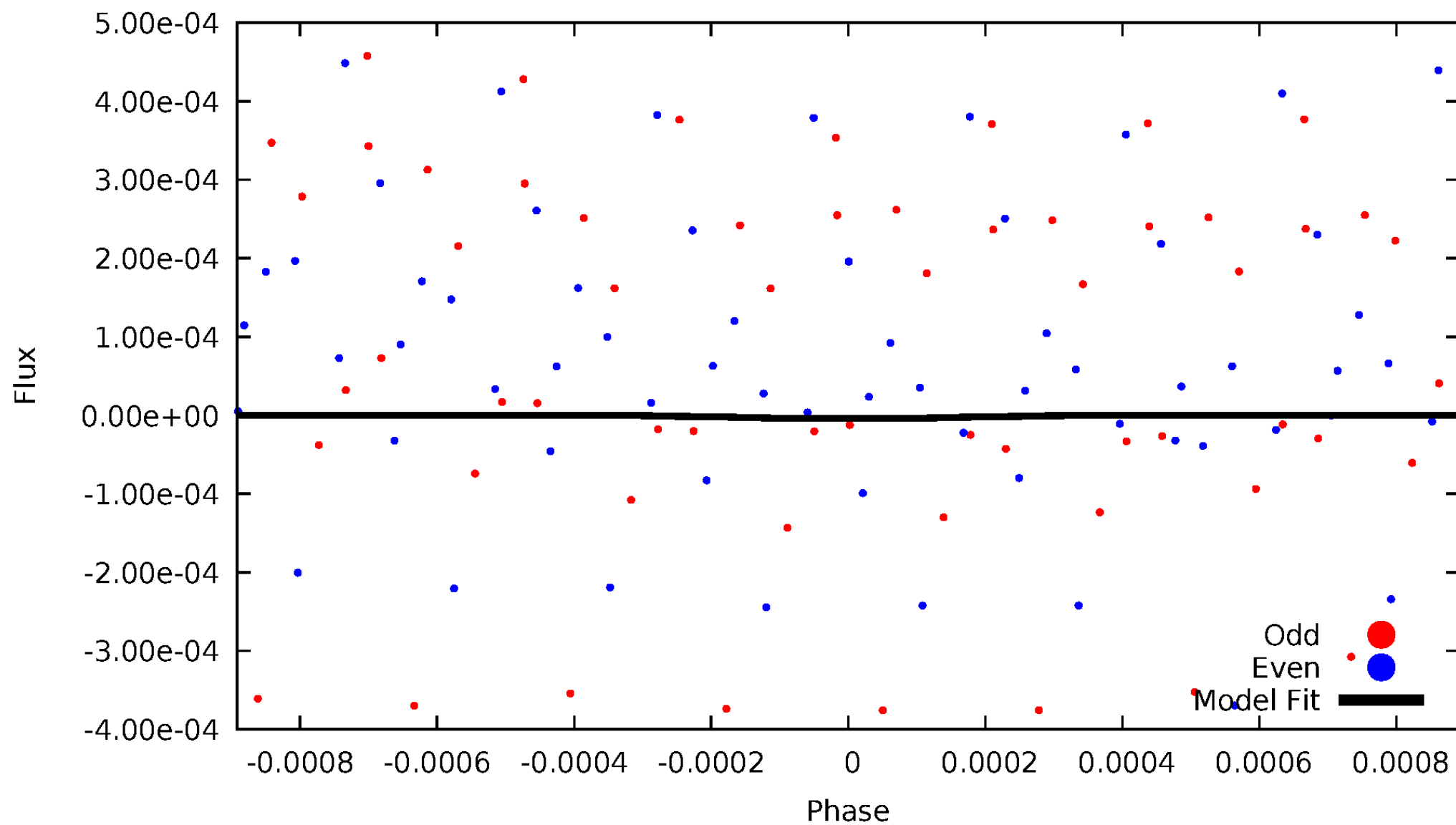
DV Odd/Even

TCE 005877364-01



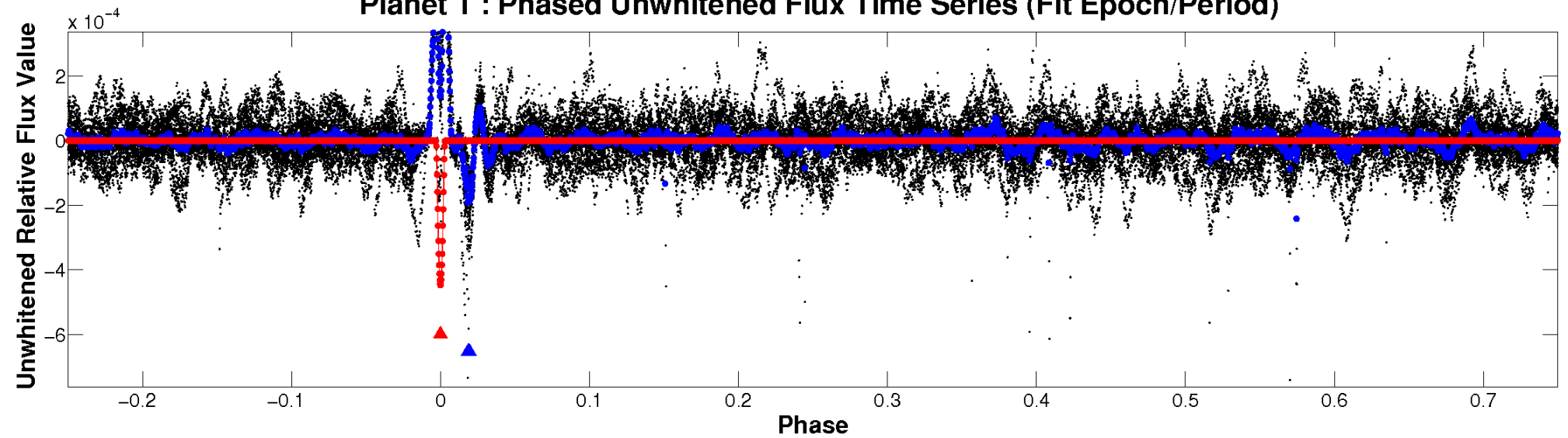
ALT Odd/Even

TCE 005877364-01

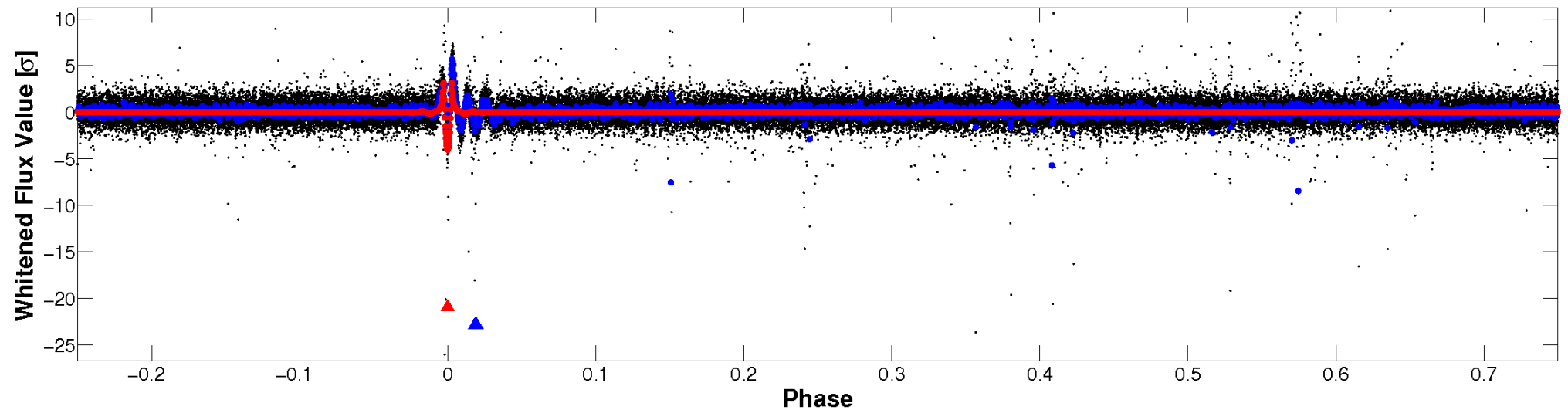


Non-Whitened Vs. Whitened Light Curve

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

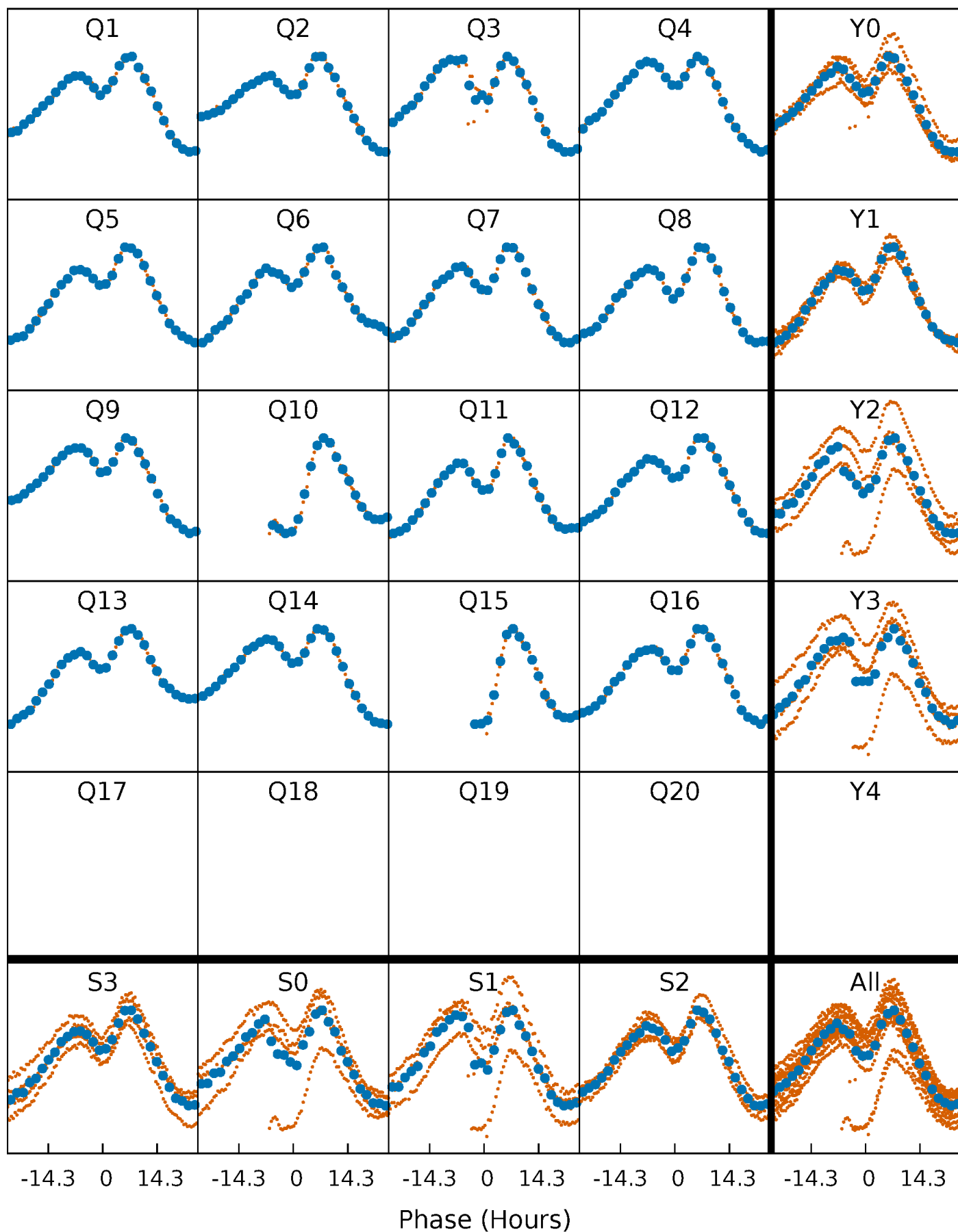


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



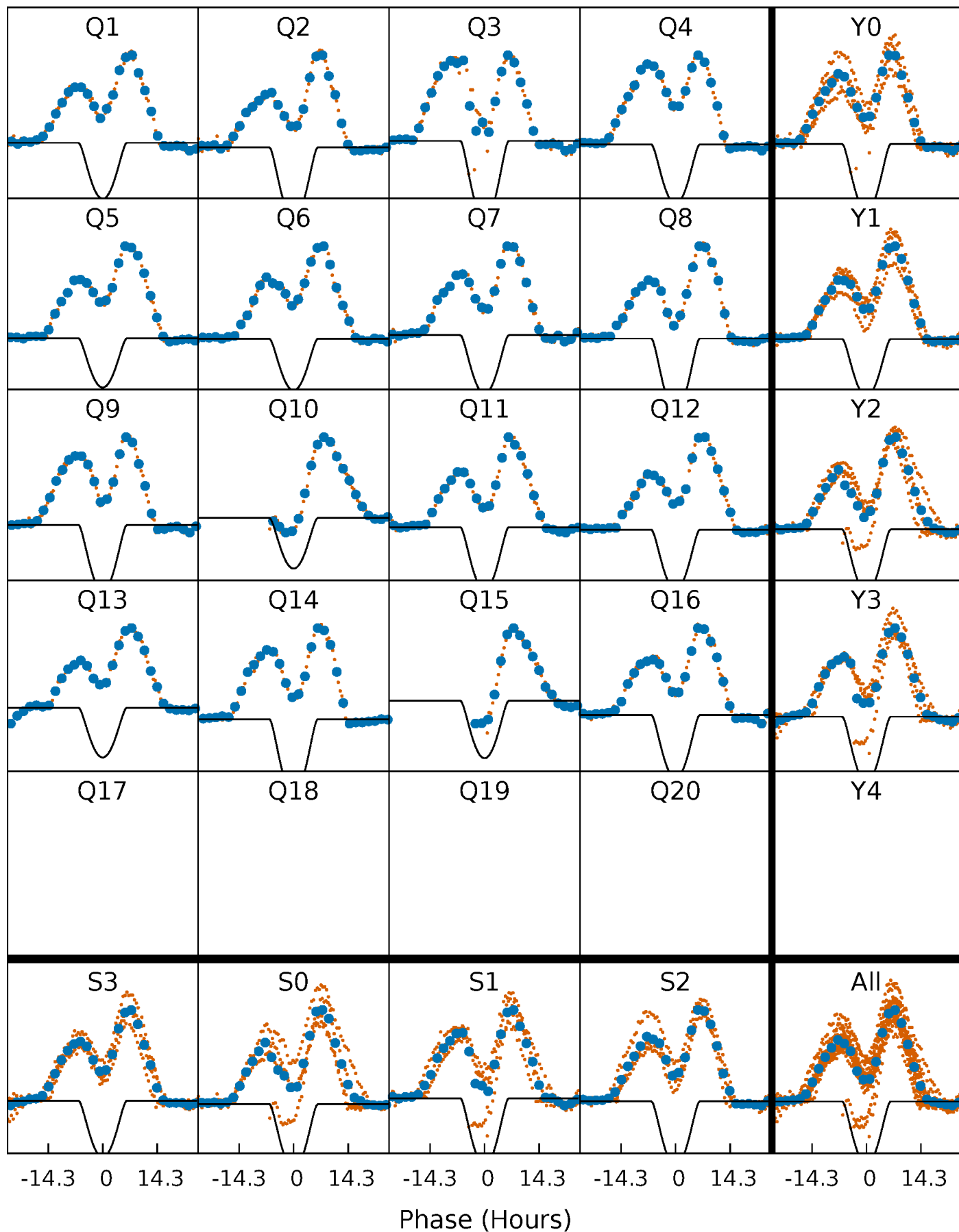
PDC Quarter-Phased Transit Curves

TCE 005877364-01 P= 89.649330 Days $T_0=163.504603$ (BKJD)



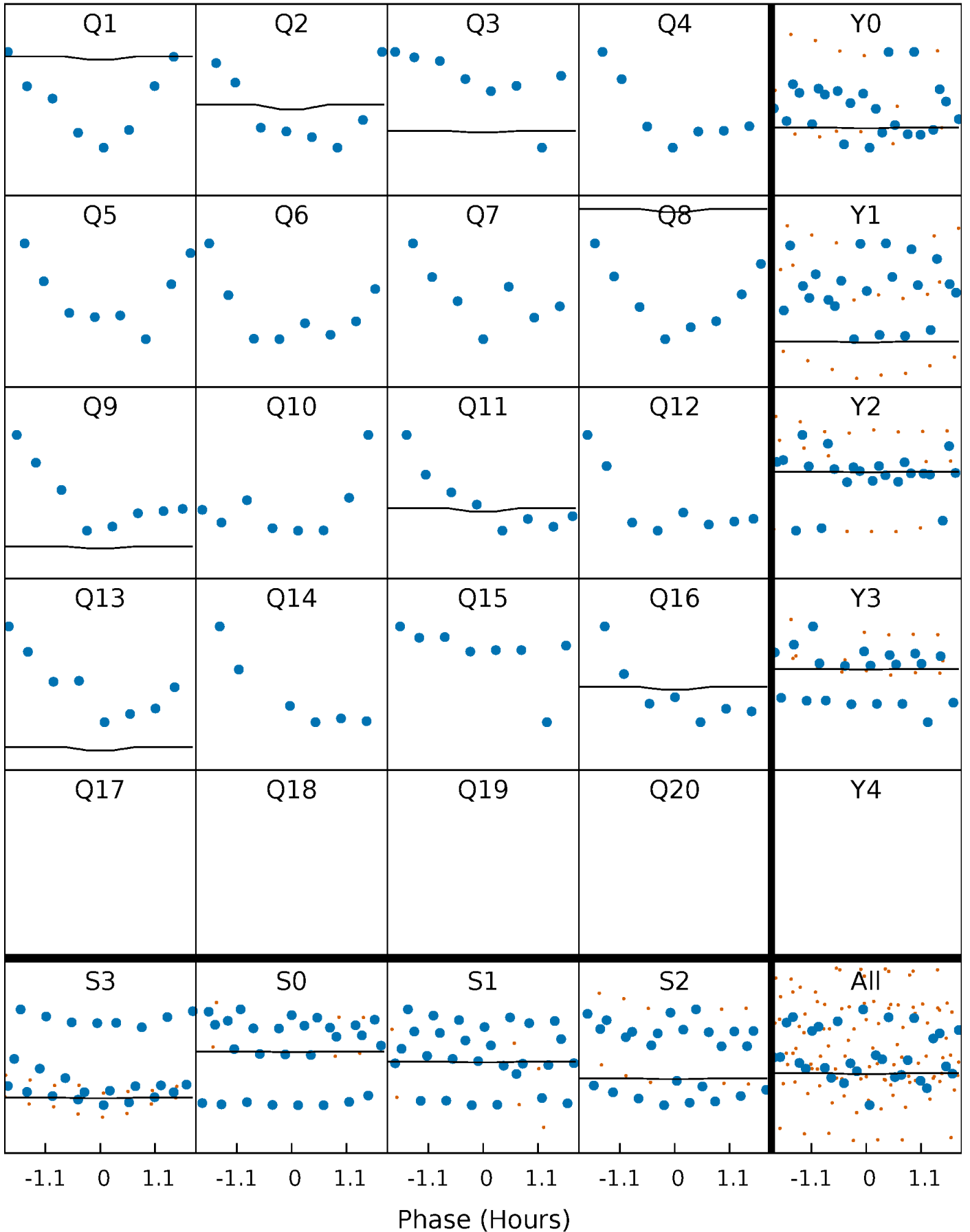
DV Quarter-Phased Transit Curves

TCE 005877364-01 P= 89.649330 Days $T_0=163.504603$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

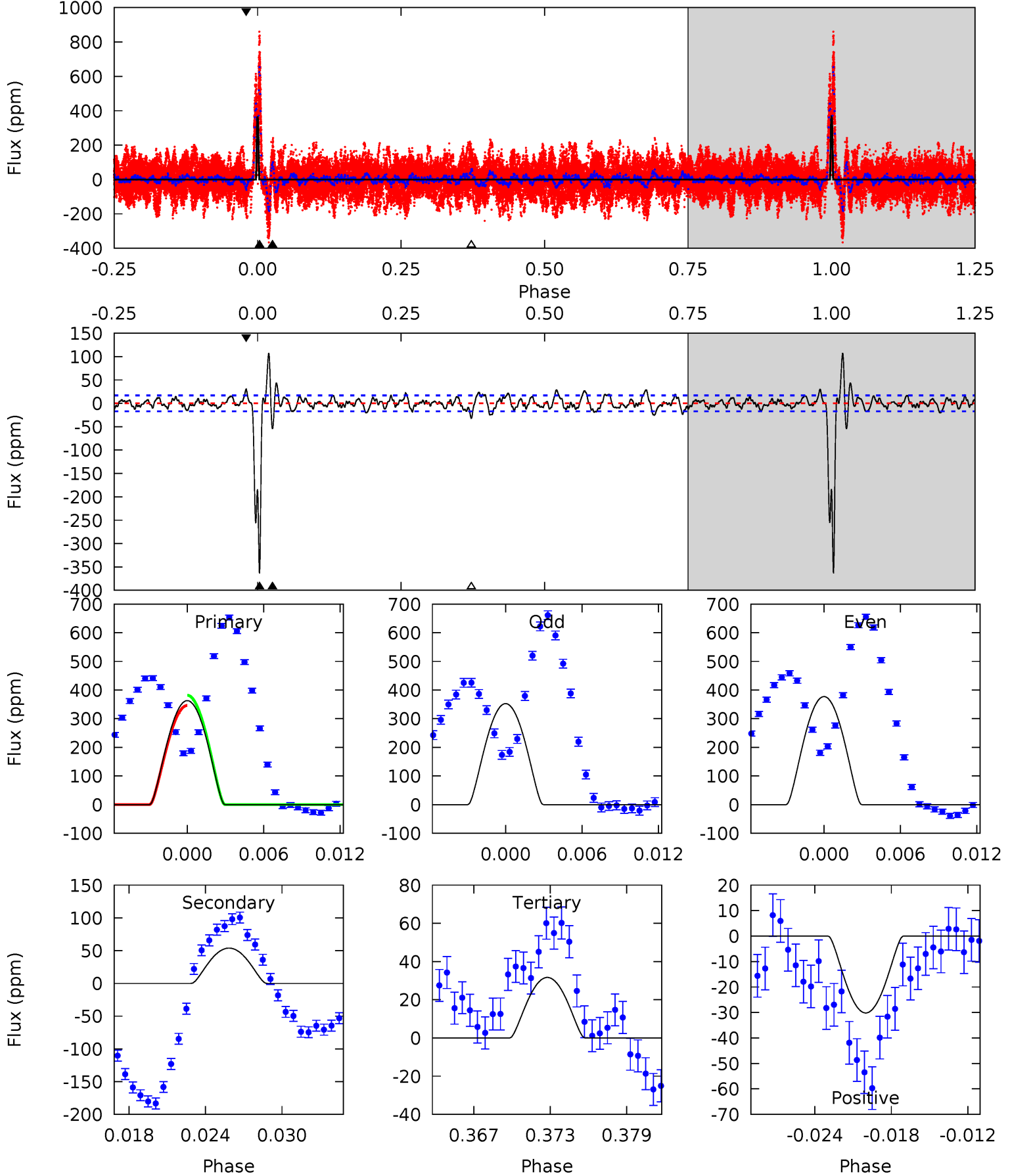
TCE 005877364-01 P= 89.648811 Days $T_0=163.490382$ (BKJD)



DV Model-Shift Uniqueness Test

005877364-01, P = 89.649330 Days, E = 73.855273 Days

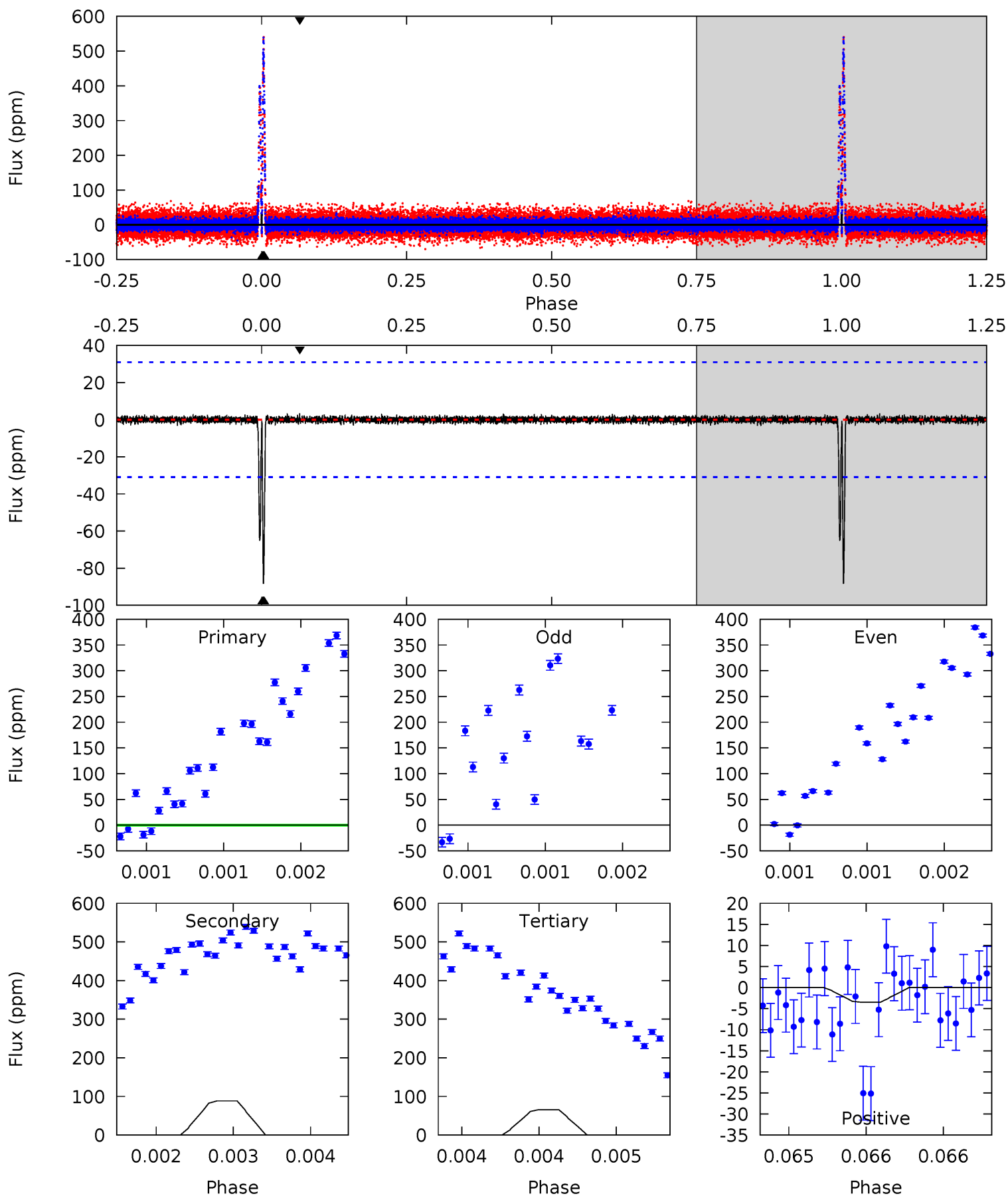
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
108.8	16.1	9.50	9.05	5.12	2.75	5.24	99.3	99.8	6.65	7.10	3.70	0.93	0.23	5.65



Alt Model-Shift Uniqueness Test

005877364-01, P = 89.648811 Days, E = 73.841571 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.95	15.8	11.7	0.62	5.54	3.42	0.42	-6.78	4.33	4.06	15.2	2.06	1.80	0.04	0



Stellar Parameters For KIC 005877364

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7502^{+234}_{-313}	$4.089^{+0.209}_{-0.152}$	$-0.520^{+0.300}_{-0.300}$	$1.757^{+0.487}_{-0.438}$	$1.383^{+0.205}_{-0.225}$	$0.359^{+0.439}_{-0.160}$
	+3%/-4%	+5%/-4%	+58%/-58%	+28%/-25%	+15%/-16%	+122%/-45%
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 005877364-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-54 ± 3	$6.70^{+3.42}_{-2.71}$	921^{+68}_{-84}	3737^{+733}_{-445}	126^{+234}_{-70}
Alt.	-88 ± 6	$2.19^{+2.31}_{-1.55}$	911^{+69}_{-64}	6728^{+9428}_{-2008}	1973^{+20209}_{-1510}

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

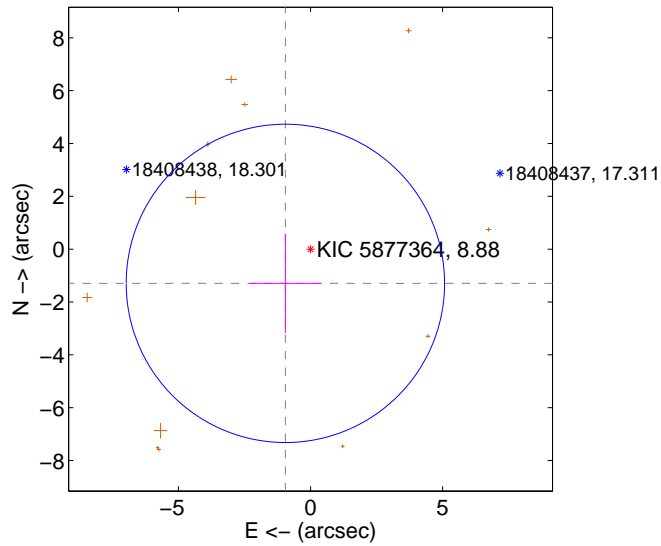
Supplemental centroid analysis for 005877364-01. **Kepler magnitude: 8.88.** Transit SNR 59.43

There are 0 quarters with good PRF difference image offsets

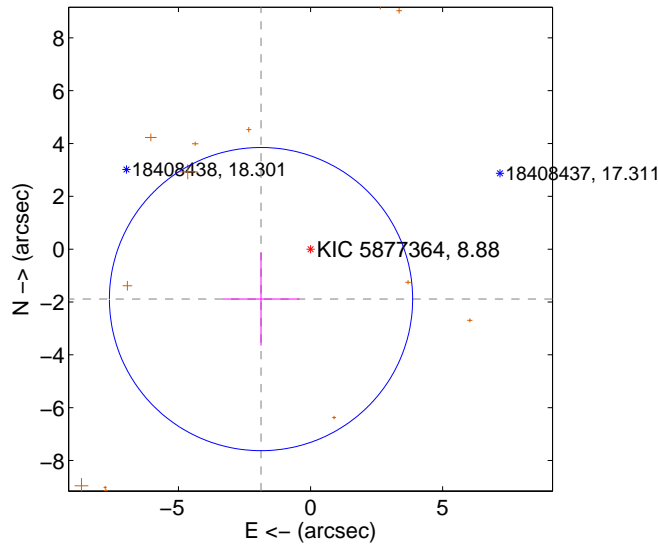
The OOT PRF centroid is offset from the target star catalog position by about 3.64 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.607 ± 2.009	0.80	0.952 ± 1.356	-1.295 ± 1.876
PRF-fit source offset from KIC position	2.662 ± 1.913	1.39	1.875 ± 1.452	-1.890 ± 1.757
photometric centroid source offset	2.18 ± 0.29	7.58	0.51 ± 0.19	-2.12 ± 0.29

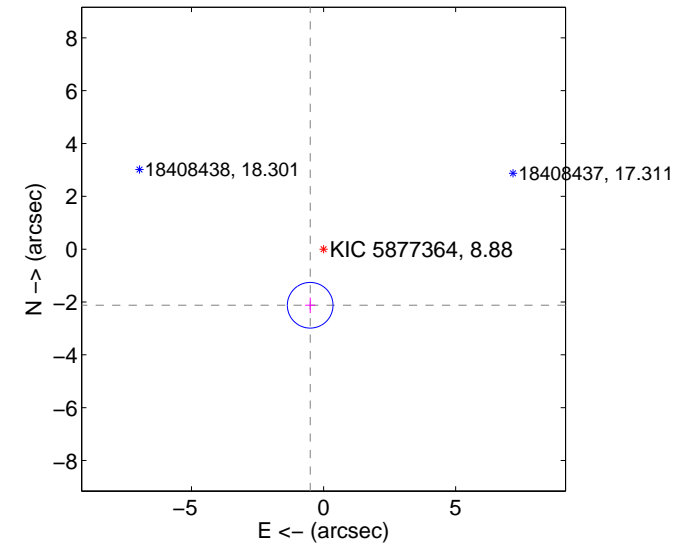
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

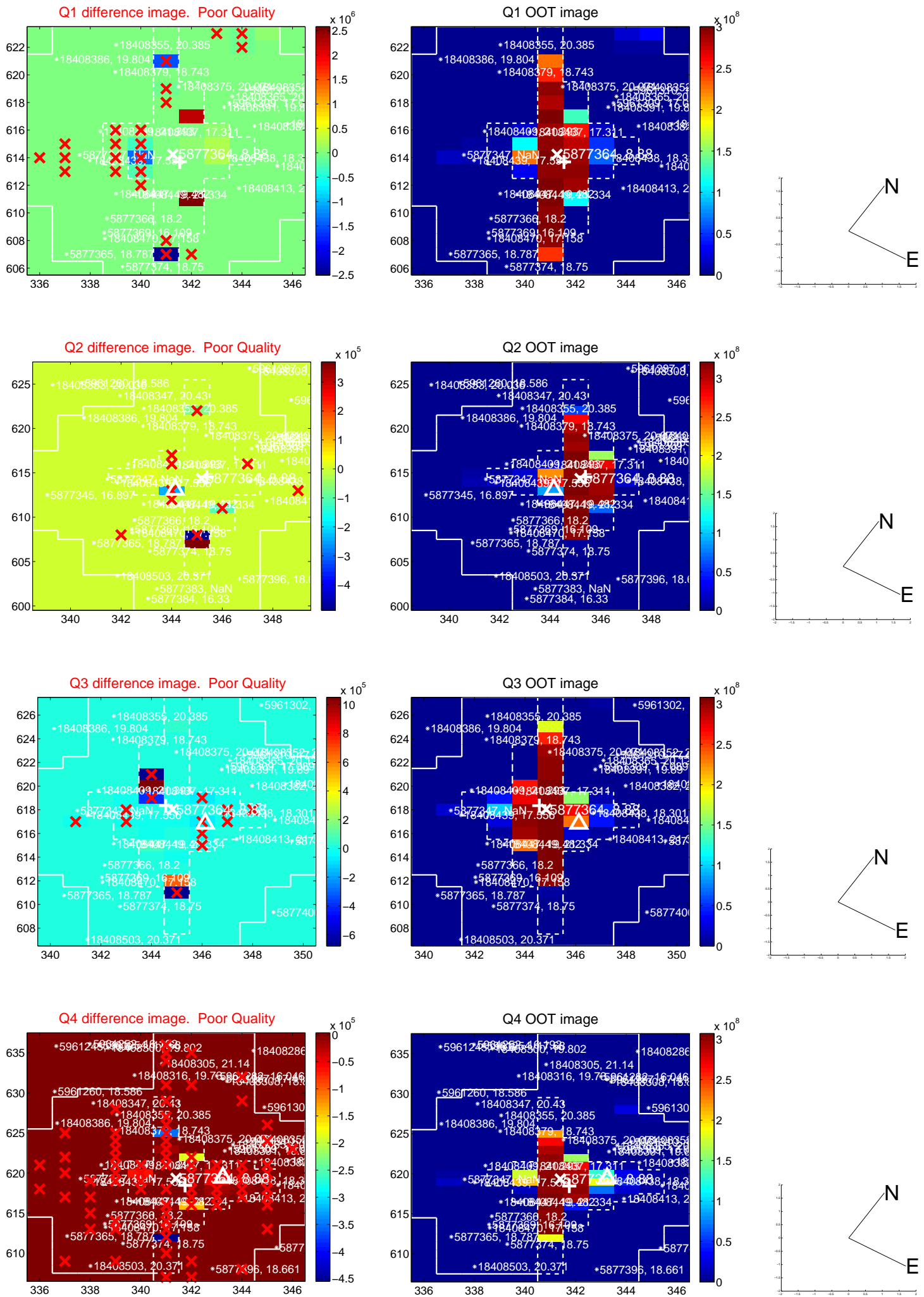


offset from photometric centroids

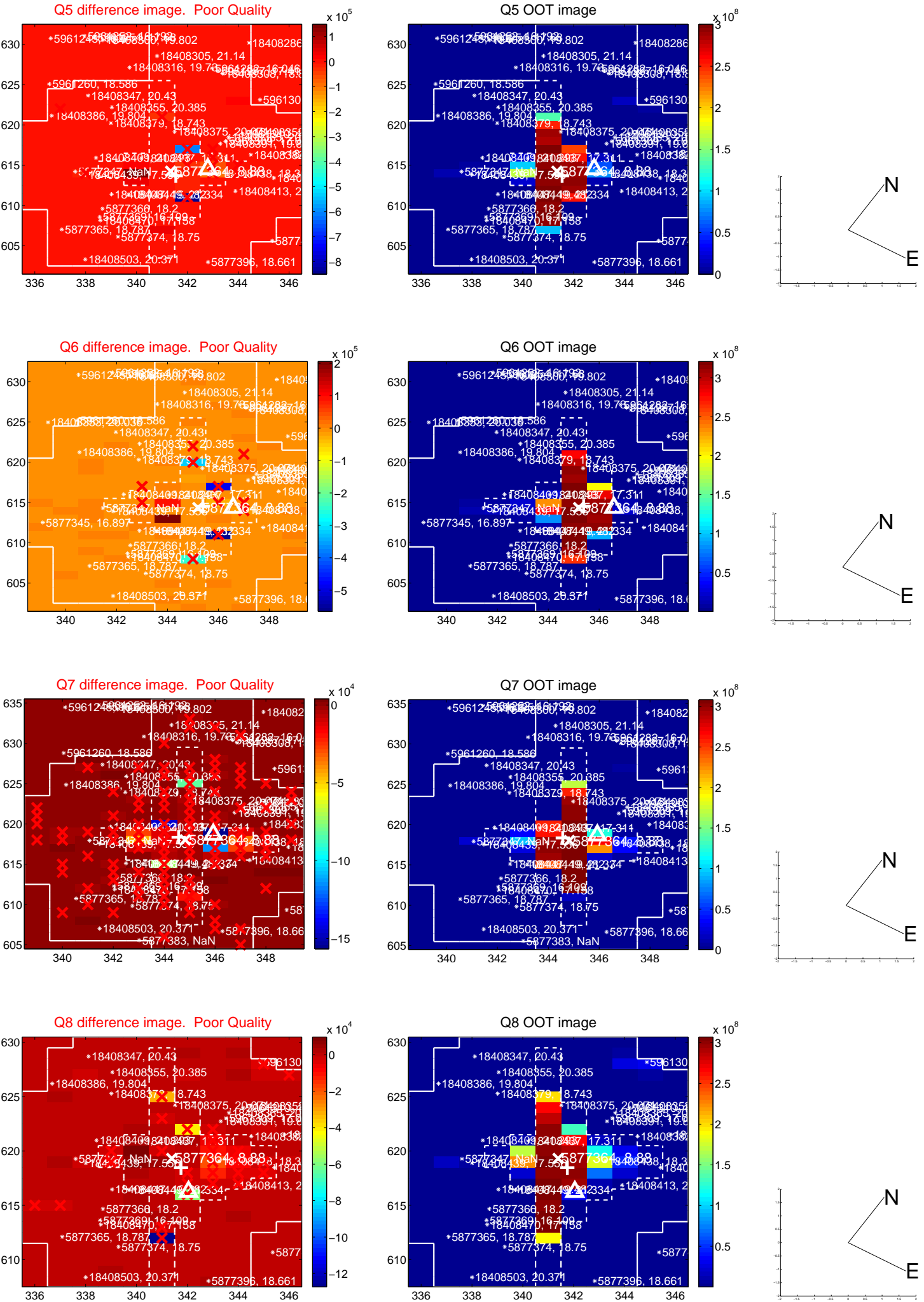


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

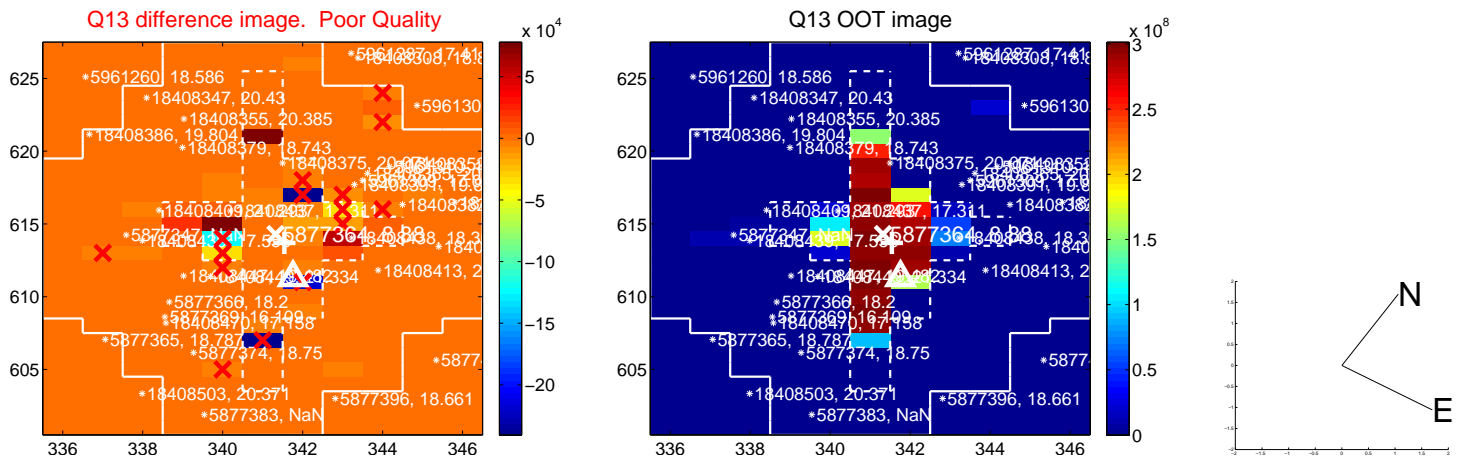
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



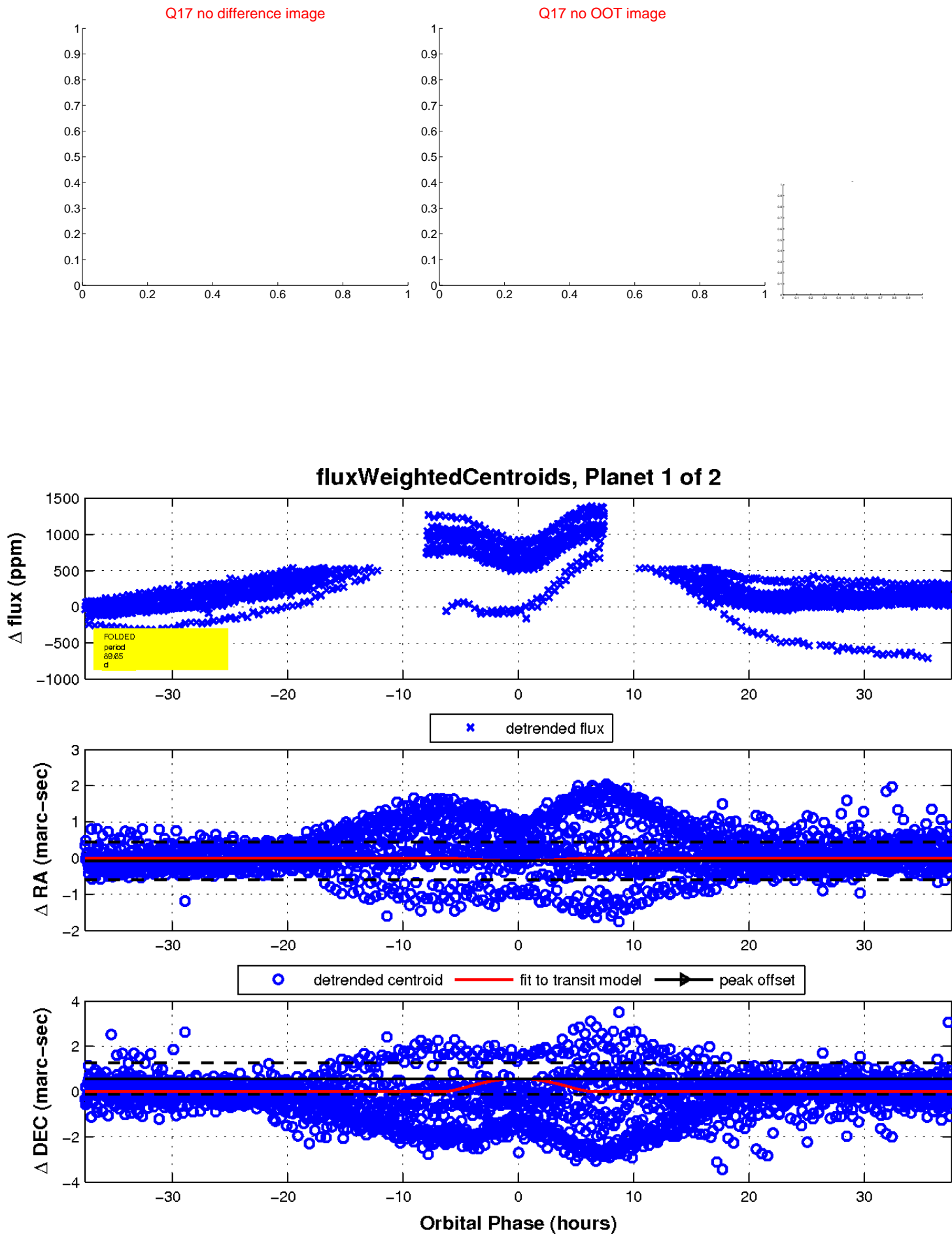
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



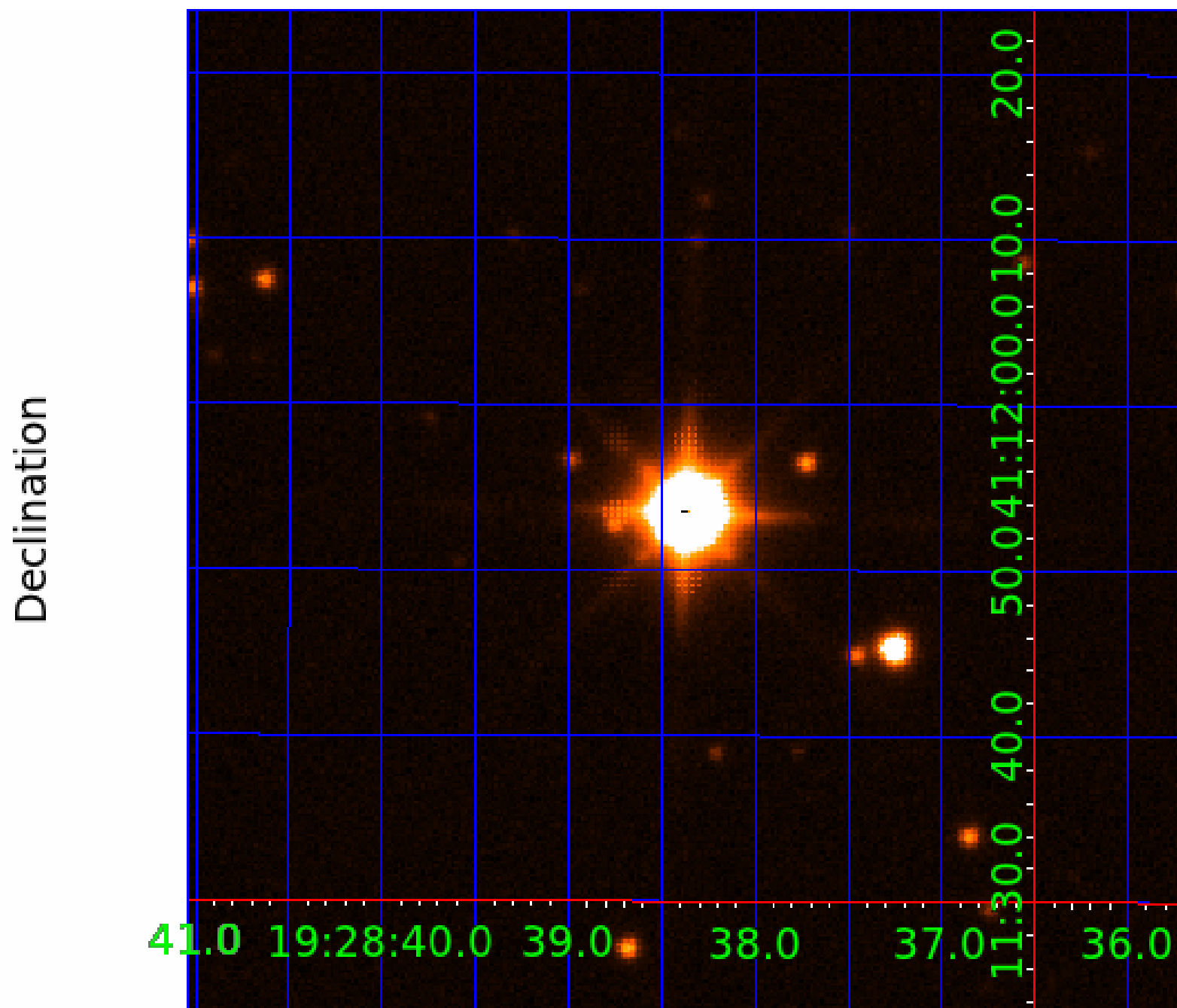
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



UKIRT Image



KIC 005877364

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})
005877364-01	OBS	No	89.649330	163.504603	447.8	12.523	44.7	59.4	1.76	7502	7.02	45.93
005877364-02	OBS	No	89.654763	165.166570	352.9	24.801	21.5	33.1	1.76	7502	6.27	45.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005877364-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_TER_ALT—CENT_SATURATED
005877364-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD—CENT_SATURATED

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

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

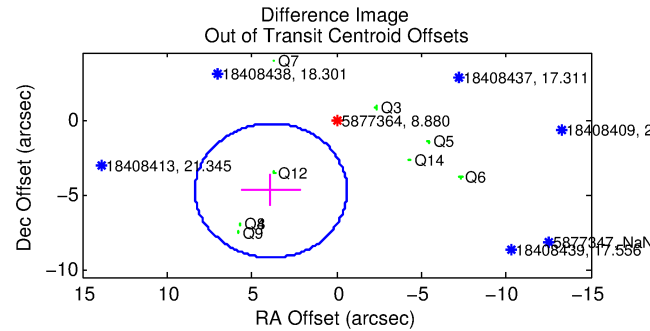
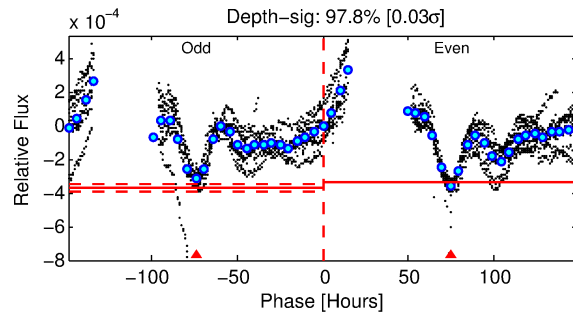
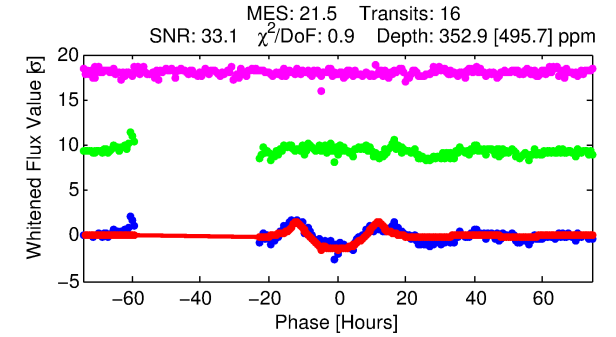
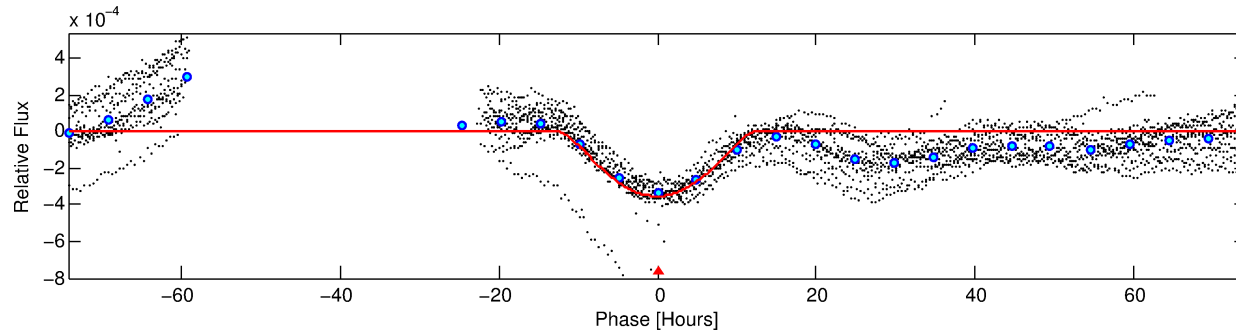
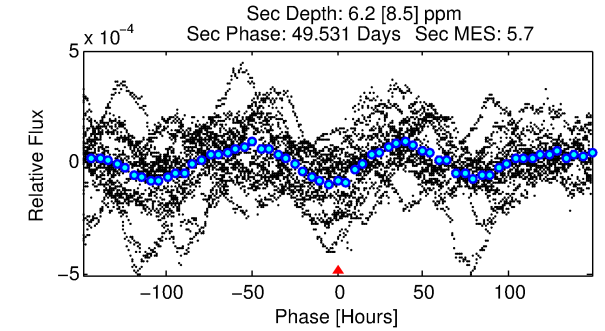
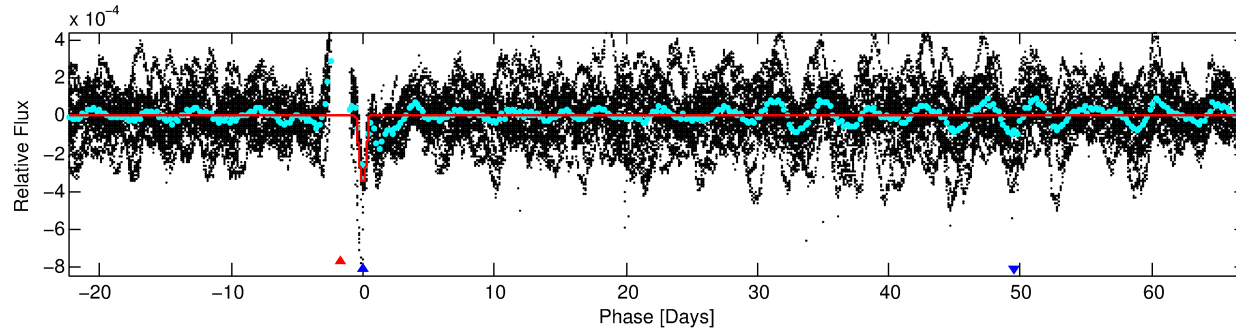
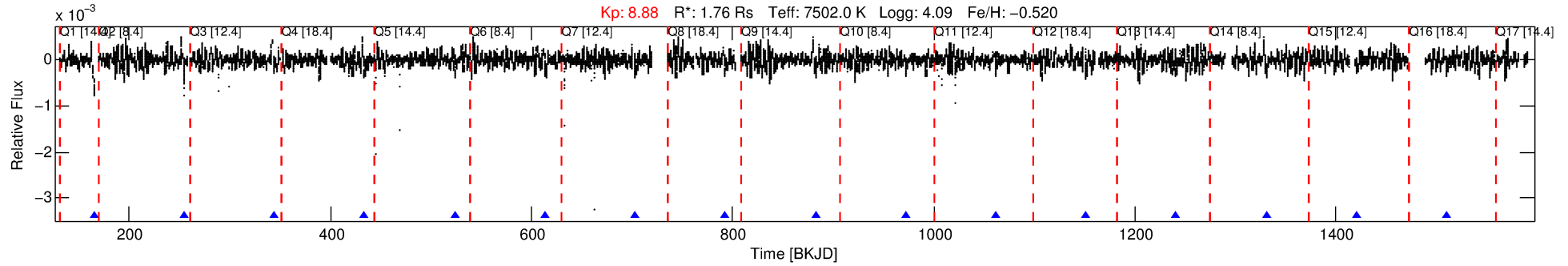
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005877364-02

No Significant Match Found

DV One-Page Summary

KIC: 5877364 Candidate: 2 of 2 Period: 89.655 d



DV Fit Results:

Period = 89.65476 [0.00096] d
Epoch = 165.1666 [0.0086] BKJD
 $R_p/R^* = 0.0327$ [0.0084]
 $a/R^* = 7.19$ [0.44]
 $b = 1.00$ [0.02]
 $\text{Seff} = 45.92$ [18.65]
 $T_{\text{eq}} = 664$ [67] K
 $R_p = 6.27$ [2.36] R_e
 $a = 0.4368$ [0.1069] AU
 $\text{Ag} = 16.59$ [25.03] [0.62σ]
 $T_{\text{eff}} = 2071$ [762] K [1.84σ]

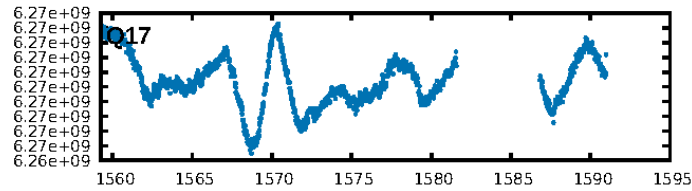
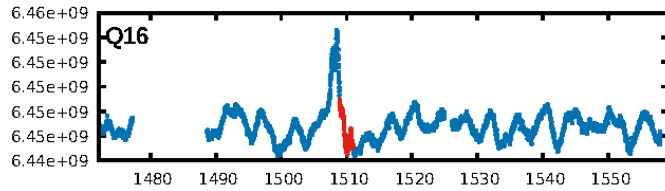
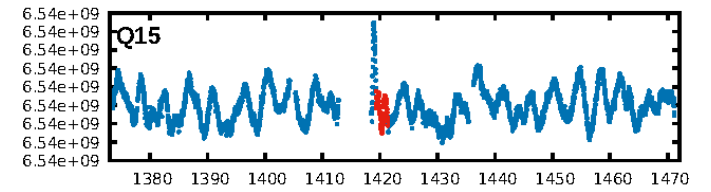
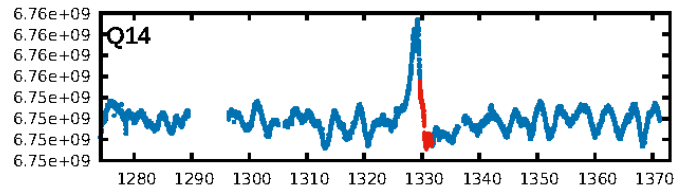
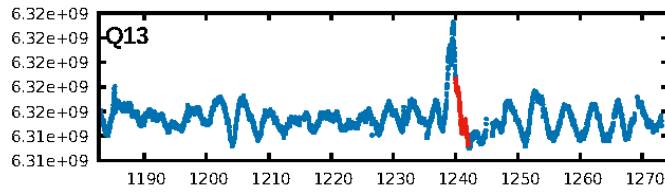
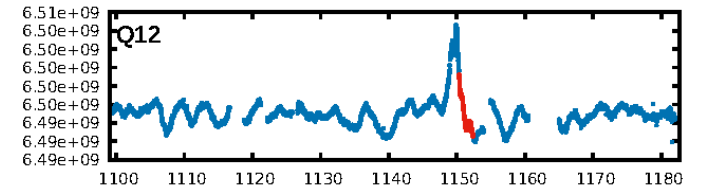
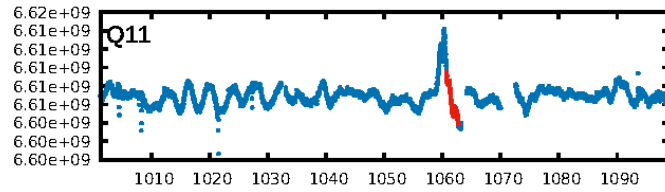
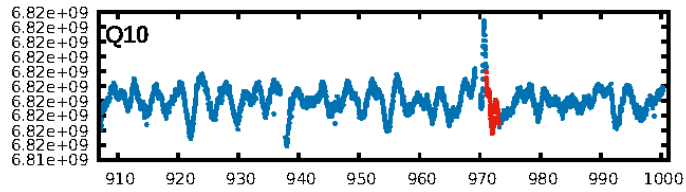
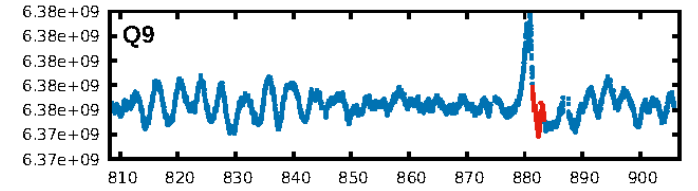
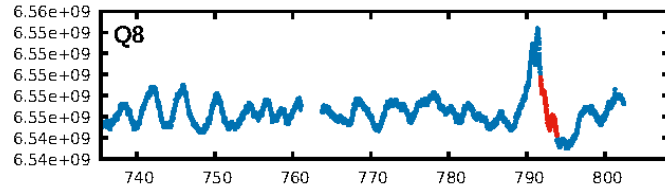
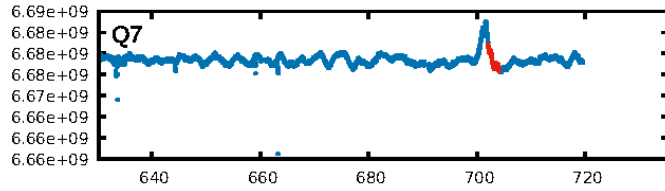
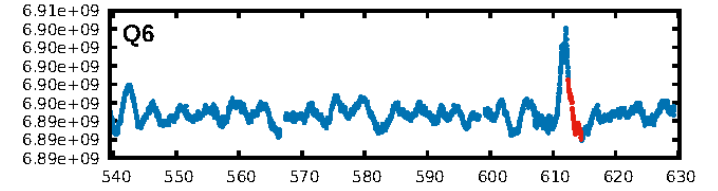
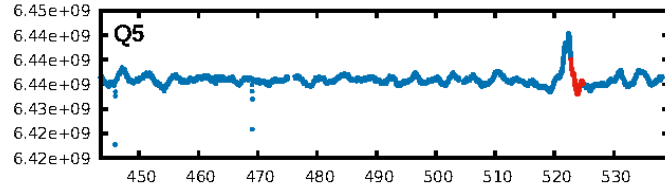
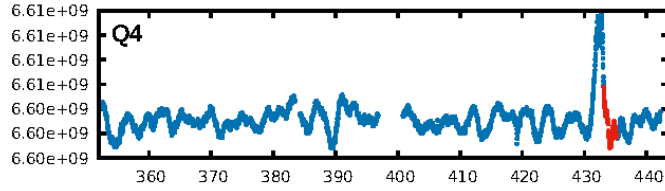
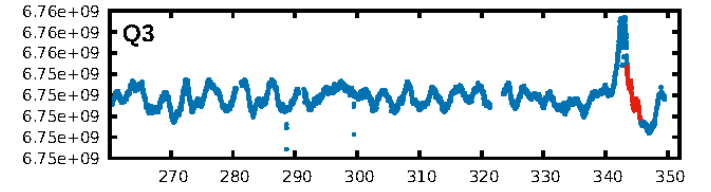
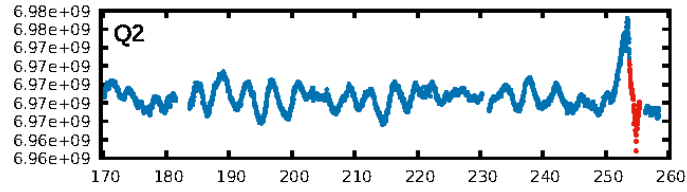
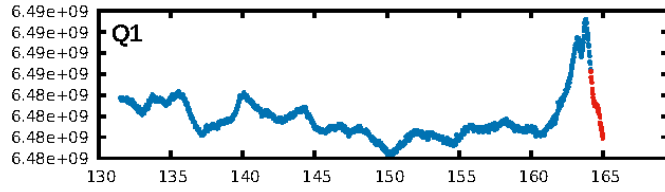
DV Diagnostic Results:

ShortPeriod-sig: 0.4% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 15.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.15e-28
RollingBand-fgt: 1.00 [15/15]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 1.996 arcsec [4.40σ]
OotOffset-rm: 6.111 arcsec [4.09σ]
KicOffset-rm: 7.561 arcsec [3.12σ]
OotOffset-st: 2/2/3/2 [9]
KicOffset-st: 2/2/3/2 [9]
DiffImageQuality-fgm: 0.00 [0/9]
DiffImageOverlap-fno: 0.00 [0/9]

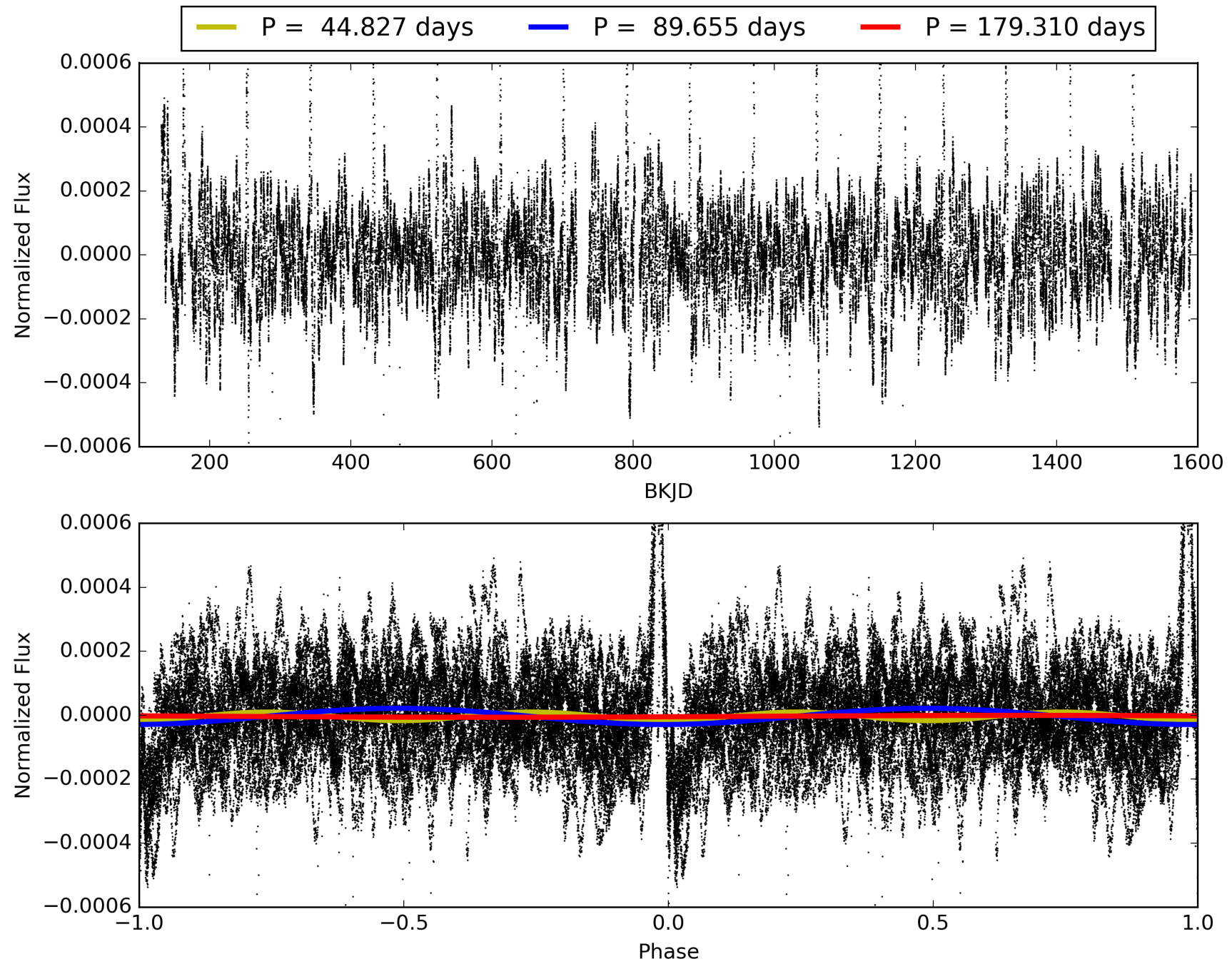
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:02:43 Z

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

TCE 005877364-02, PDC Light Curves

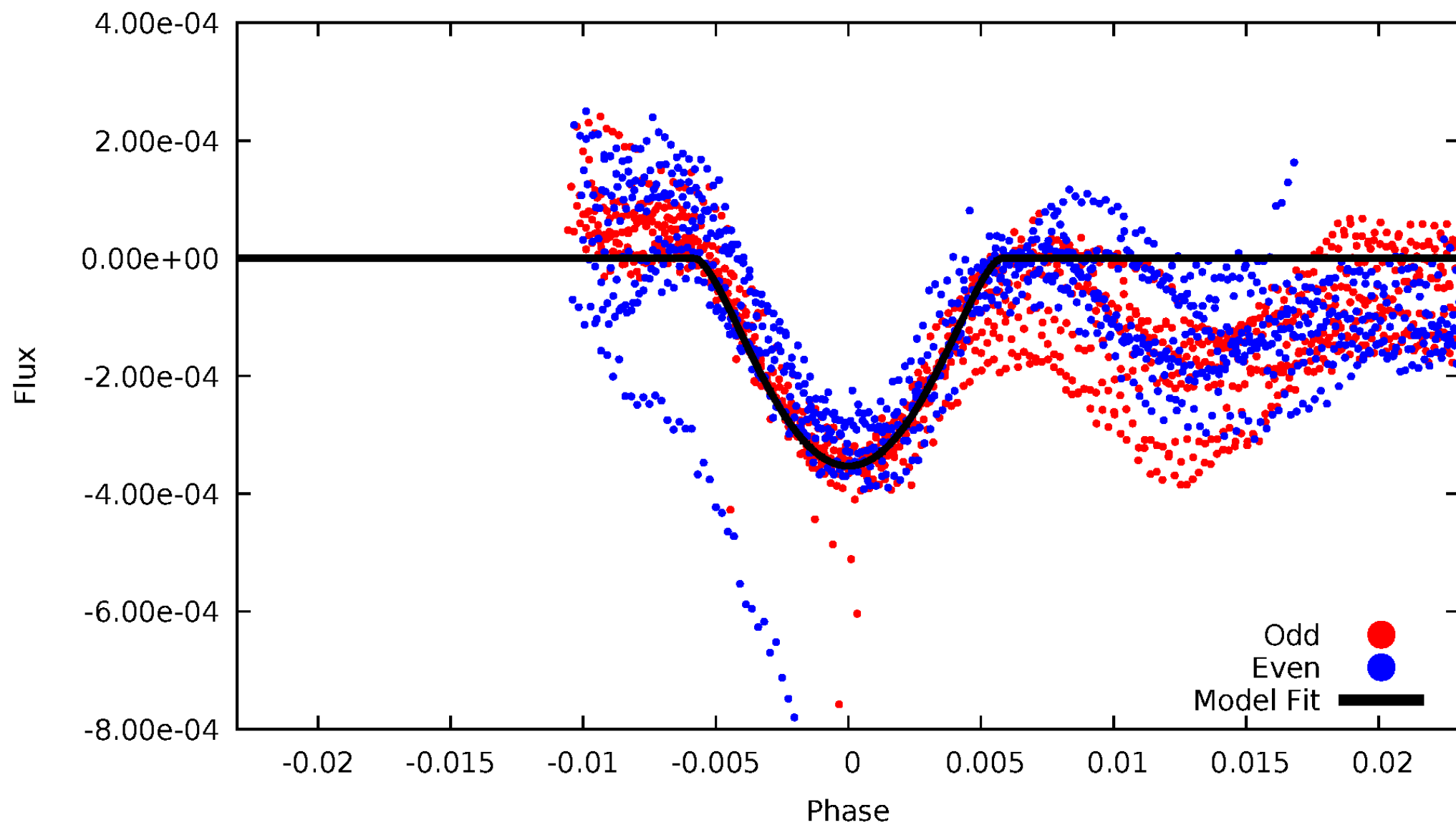


TCE 005877364-02



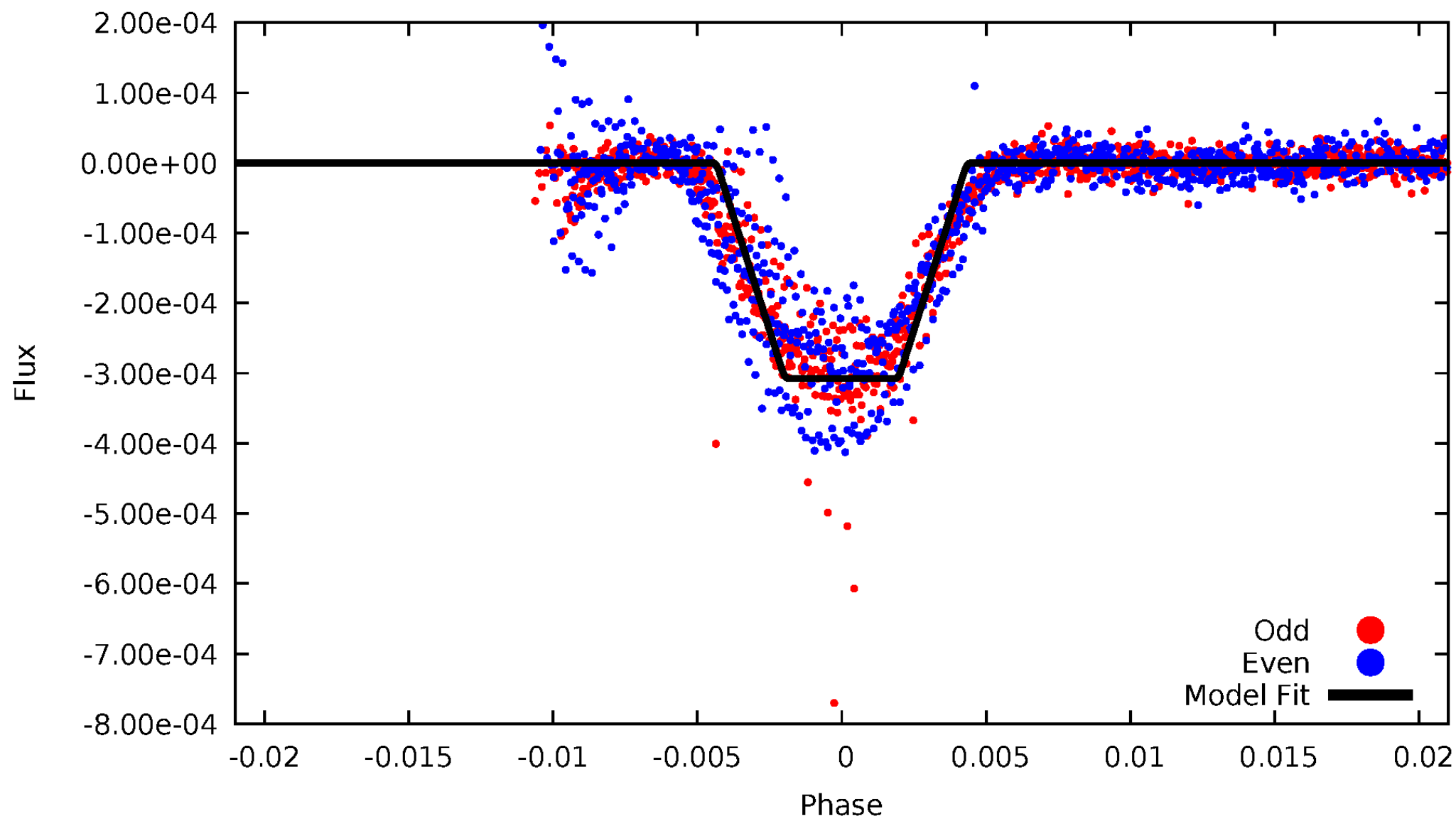
DV Odd/Even

TCE 005877364-02



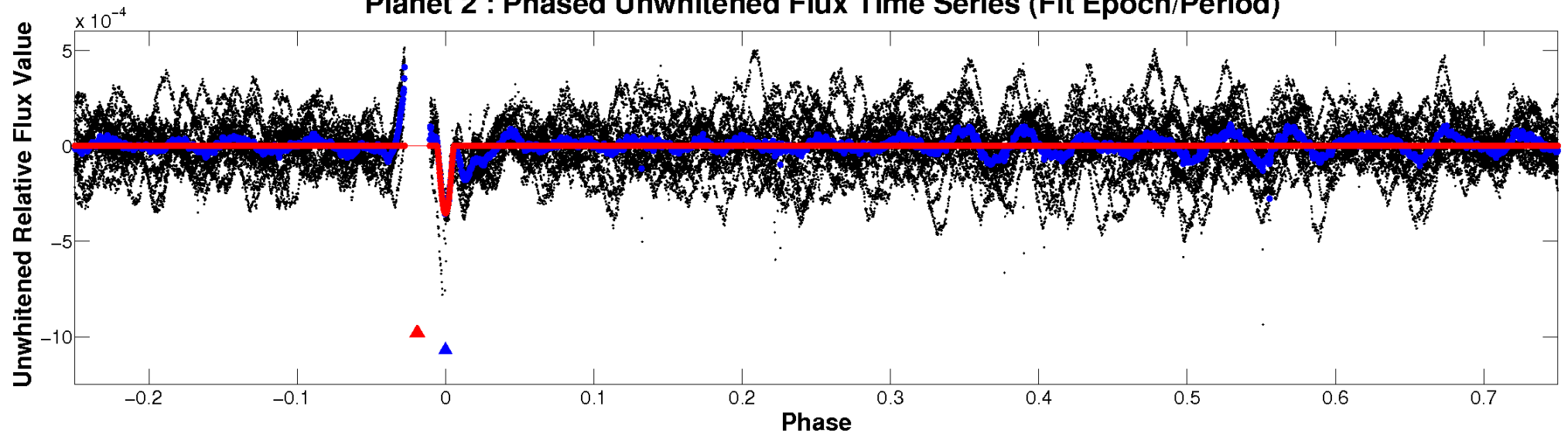
ALT Odd/Even

TCE 005877364-02

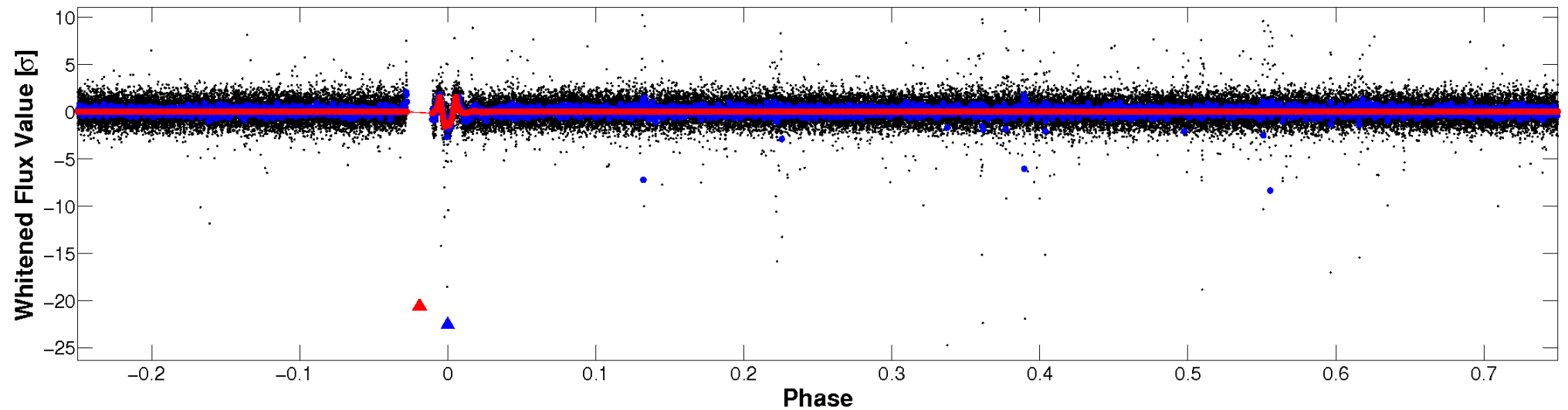


Non-Whitened Vs. Whitened Light Curve

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

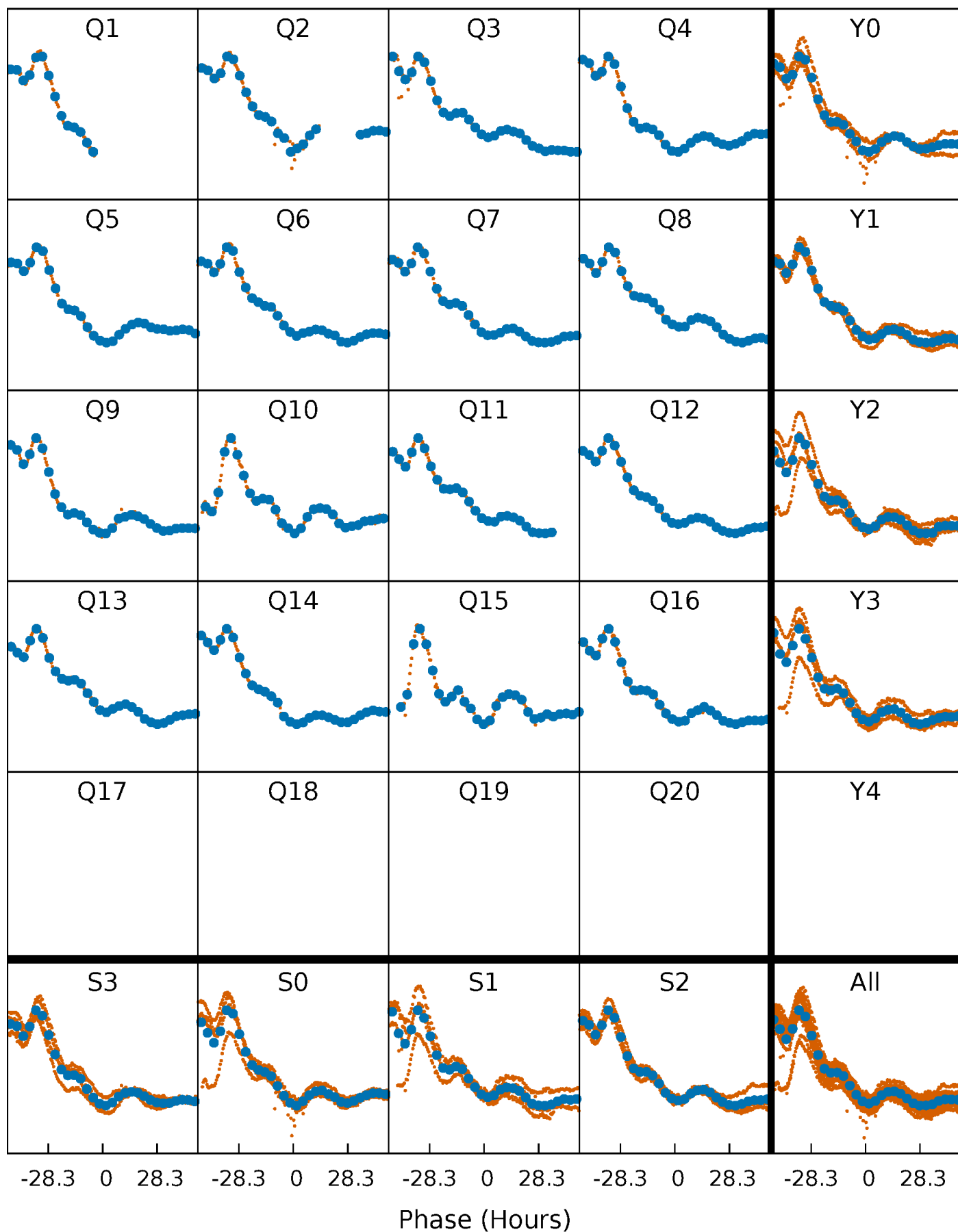


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



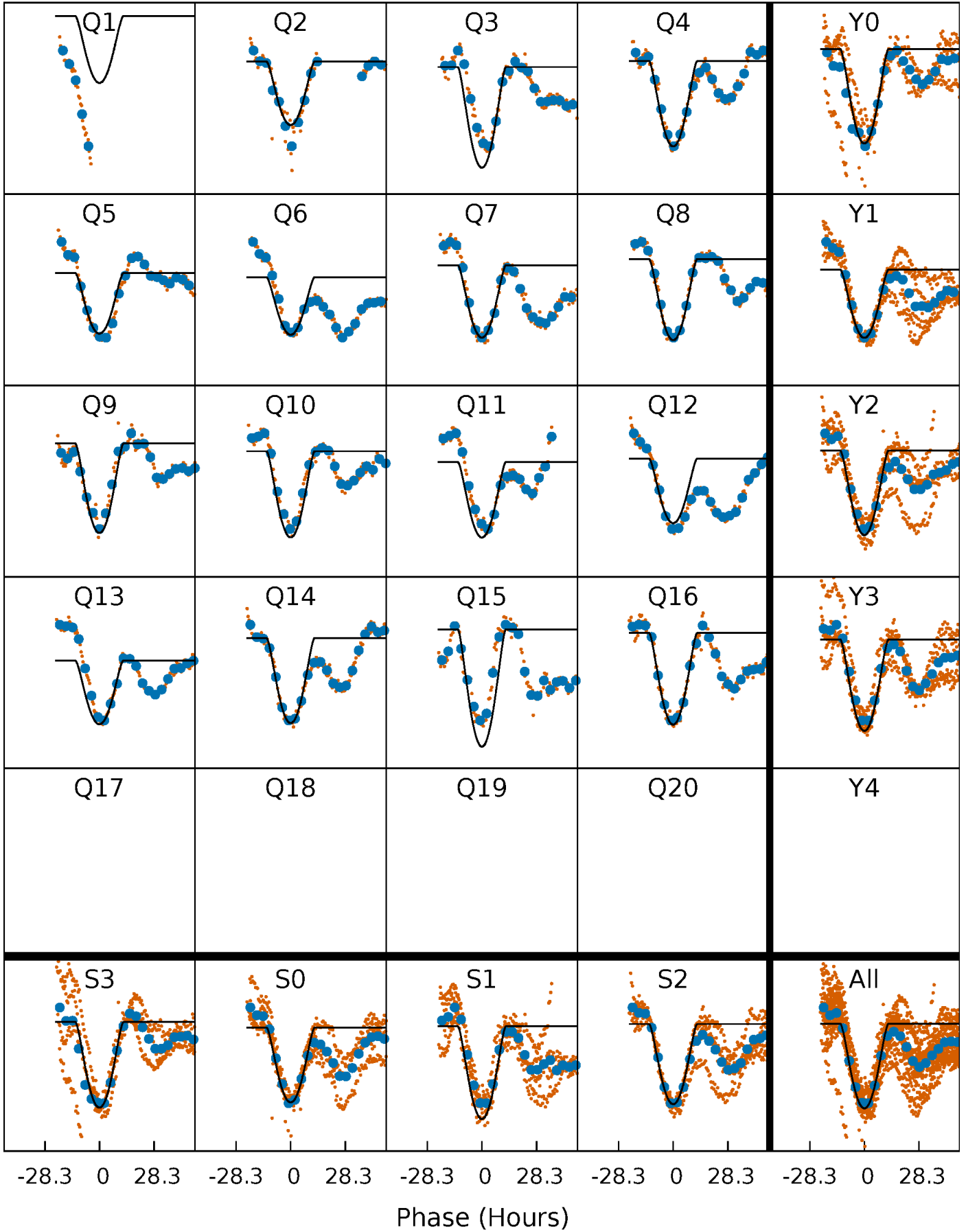
PDC Quarter-Phased Transit Curves

TCE 005877364-02 P= 89.654763 Days $T_0=165.166570$ (BKJD)



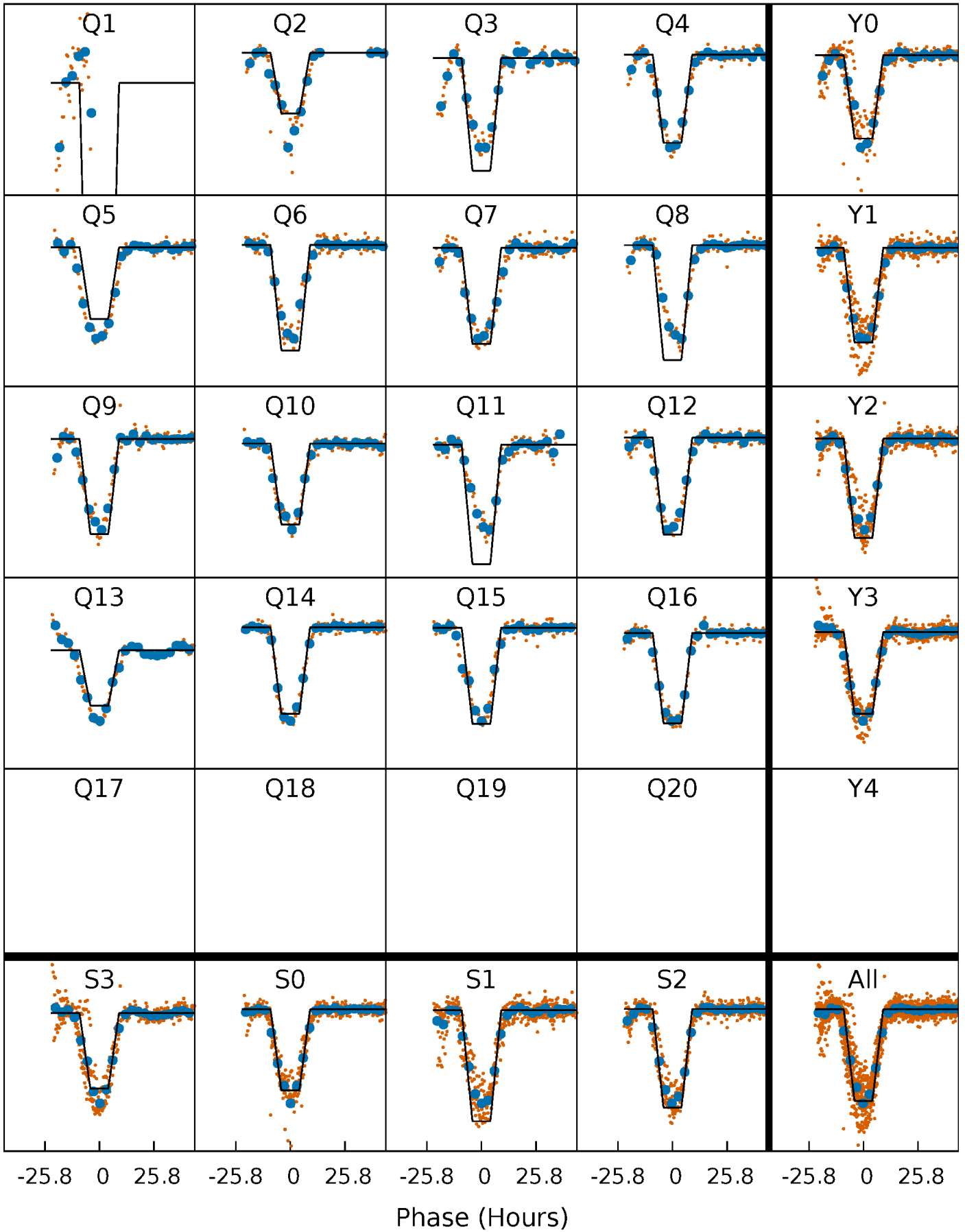
DV Quarter-Phased Transit Curves

TCE 005877364-02 P= 89.654763 Days $T_0=165.166570$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

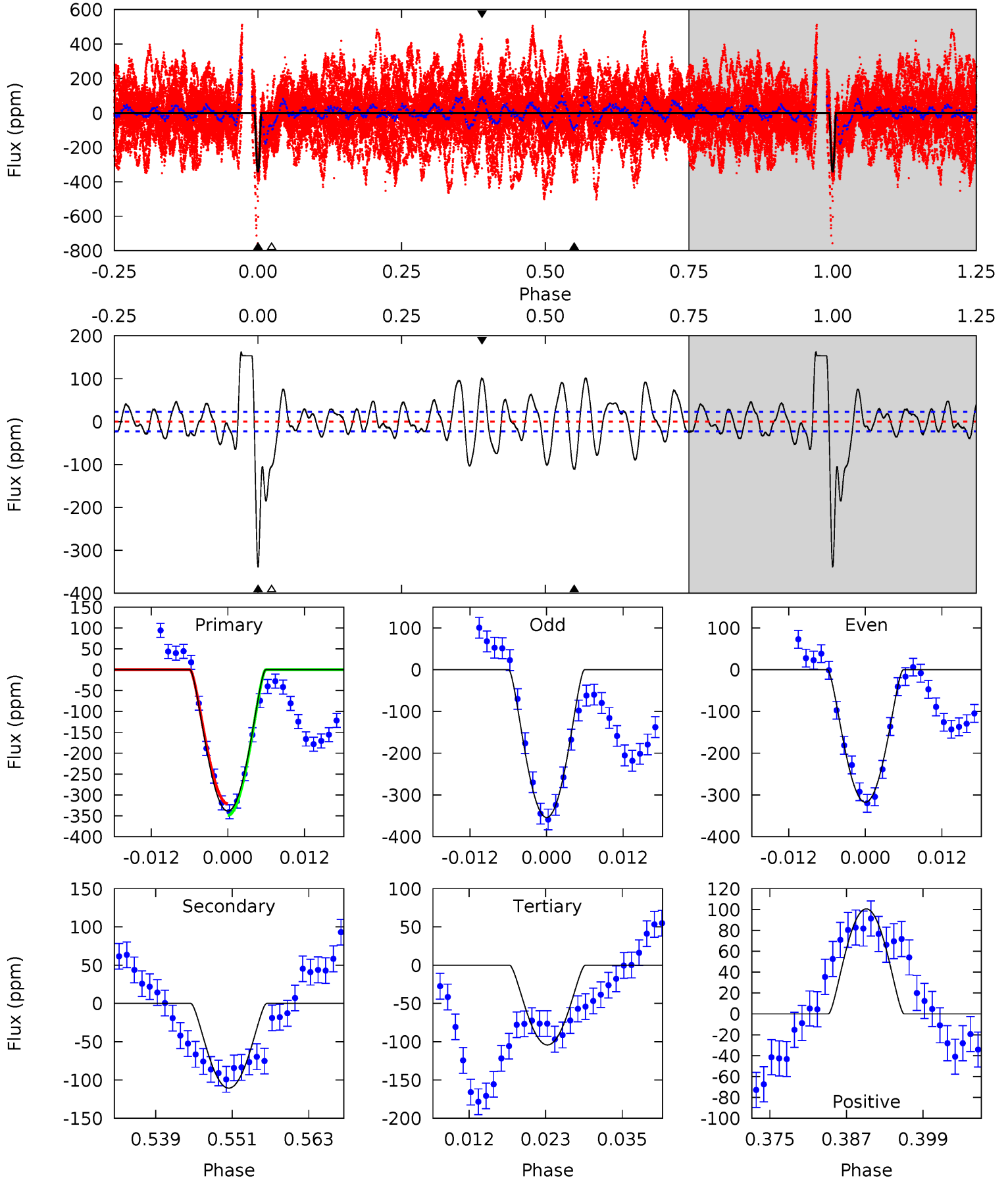
TCE 005877364-02 P= 89.655650 Days $T_0=165.157216$ (BKJD)



DV Model-Shift Uniqueness Test

005877364-02, P = 89.654763 Days, E = 75.511807 Days

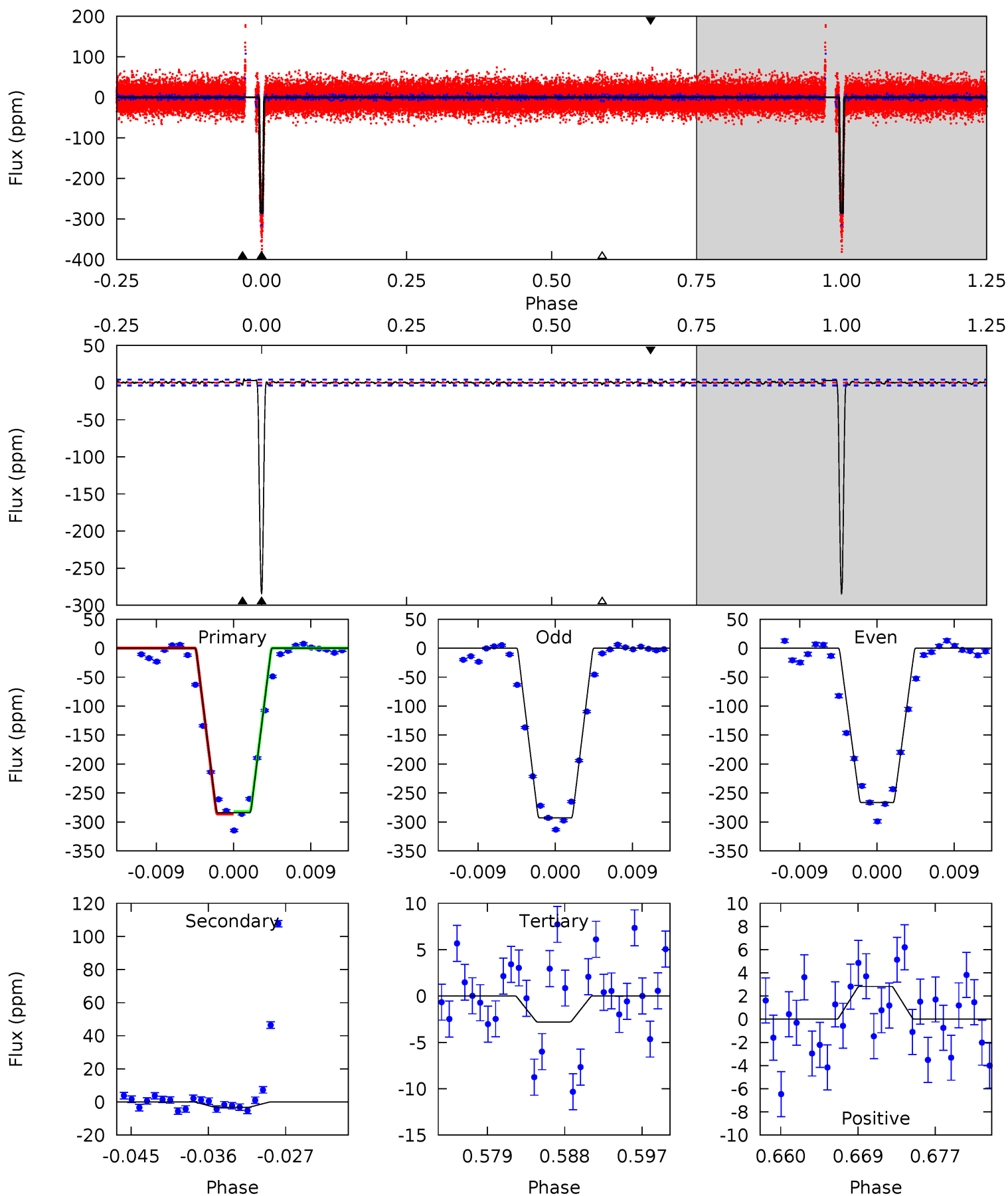
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
73.9	24.1	22.7	21.9	5.00	2.52	9.81	51.2	52.0	1.41	2.20	3.99	1.11	0.32	3.03



Alt Model-Shift Uniqueness Test

005877364-02, P = 89.655650 Days, E = 75.501566 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
369.4	4.18	3.64	3.67	5.05	2.62	1.06	365.7	365.7	0.53	0.51	16.6	0.96	0.02	2.71



Stellar Parameters For KIC 005877364

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7502^{+234}_{-313}	$4.089^{+0.209}_{-0.152}$	$-0.520^{+0.300}_{-0.300}$	$1.757^{+0.487}_{-0.438}$	$1.383^{+0.205}_{-0.225}$	$0.359^{+0.439}_{-0.160}$
	+3%/-4%	+5%/-4%	+58%/-58%	+28%/-25%	+15%/-16%	+122%/-45%
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 005877364-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-111 ± 5	$6.07^{+1.90}_{-1.80}$	921^{+63}_{-70}	4419^{+595}_{-366}	320^{+299}_{-137}
Alt.	-3 ± 1	$3.25^{+1.83}_{-1.53}$	920^{+70}_{-68}	3002^{+576}_{-346}	30^{+79}_{-18}

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 $A_{obs} \gg 1.0$

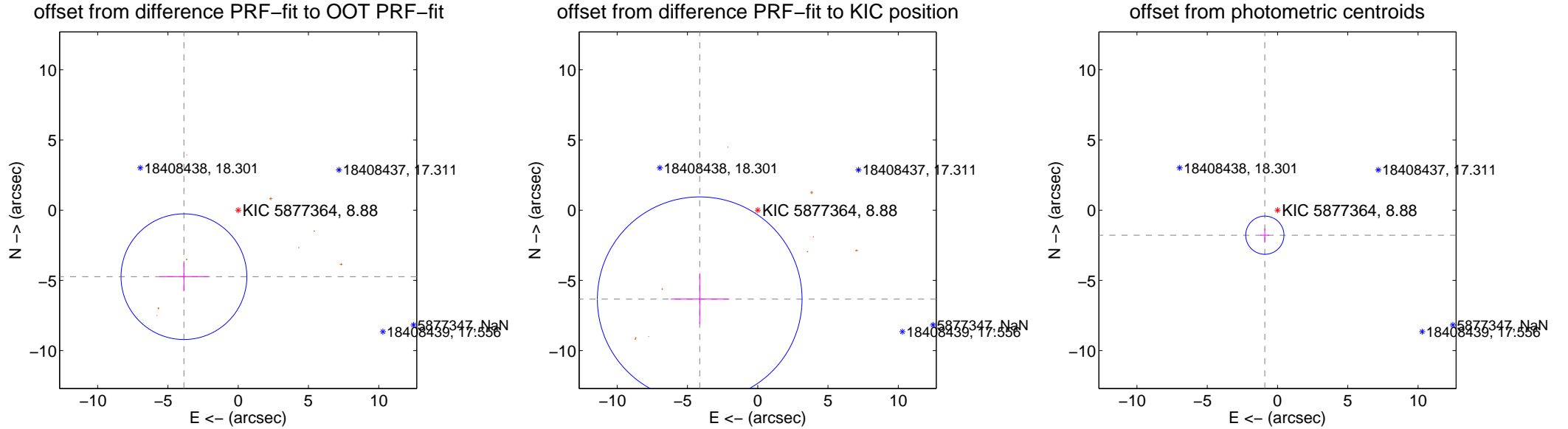
DV Centroid Data

Supplemental centroid analysis for 005877364-02. **Kepler magnitude: 8.88.** Transit SNR 33.14

There are 0 quarters with good PRF difference image offsets

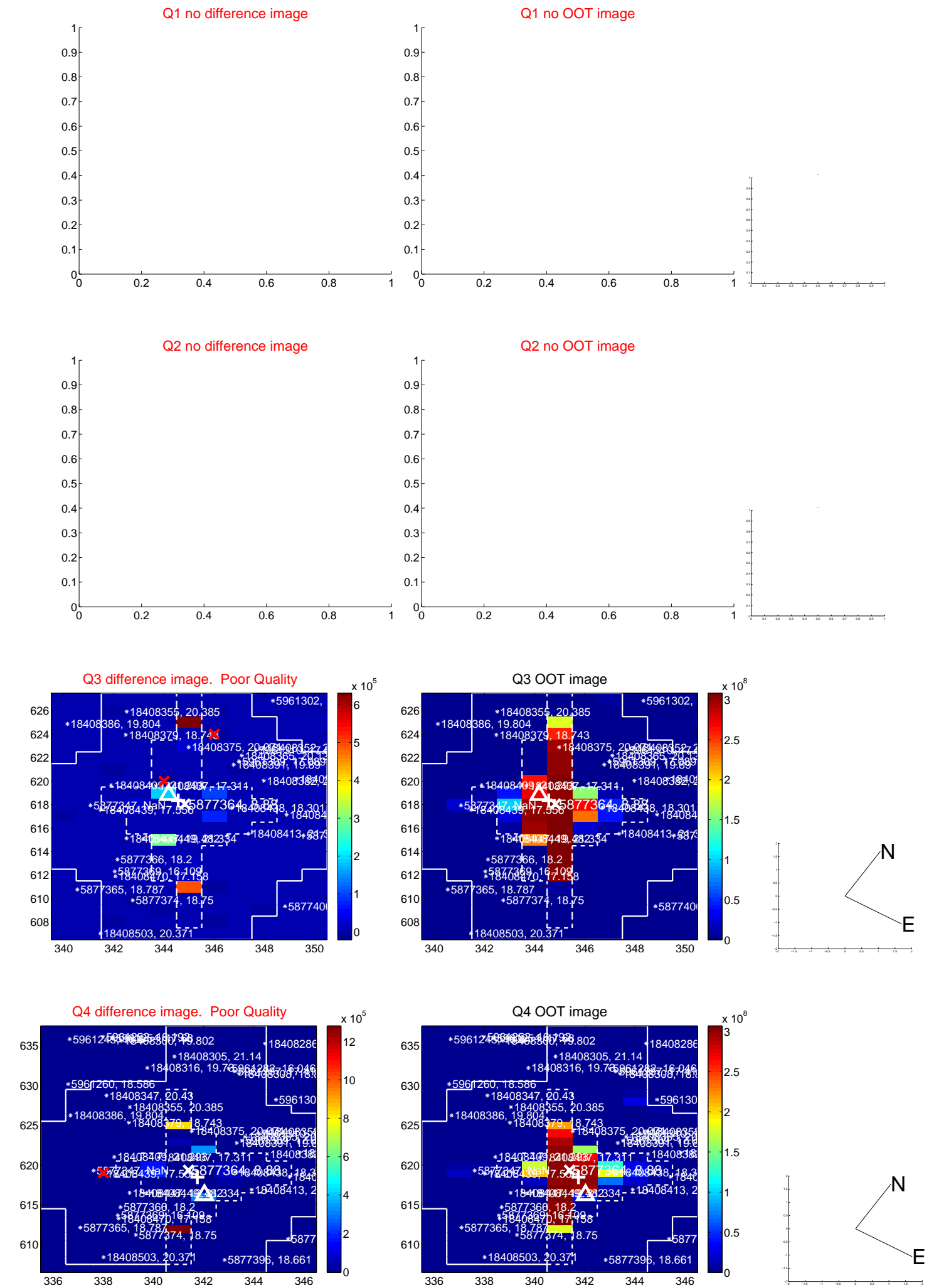
The direct PRF centroid is offset from the target star catalog position by about 0.85 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.111 ± 1.492	4.09	3.862 ± 1.735	-4.736 ± 0.996
PRF-fit source offset from KIC position	7.561 ± 2.427	3.12	4.128 ± 2.054	-6.335 ± 1.774
photometric centroid source offset	2.00 ± 0.45	4.40	0.90 ± 0.31	-1.78 ± 0.48

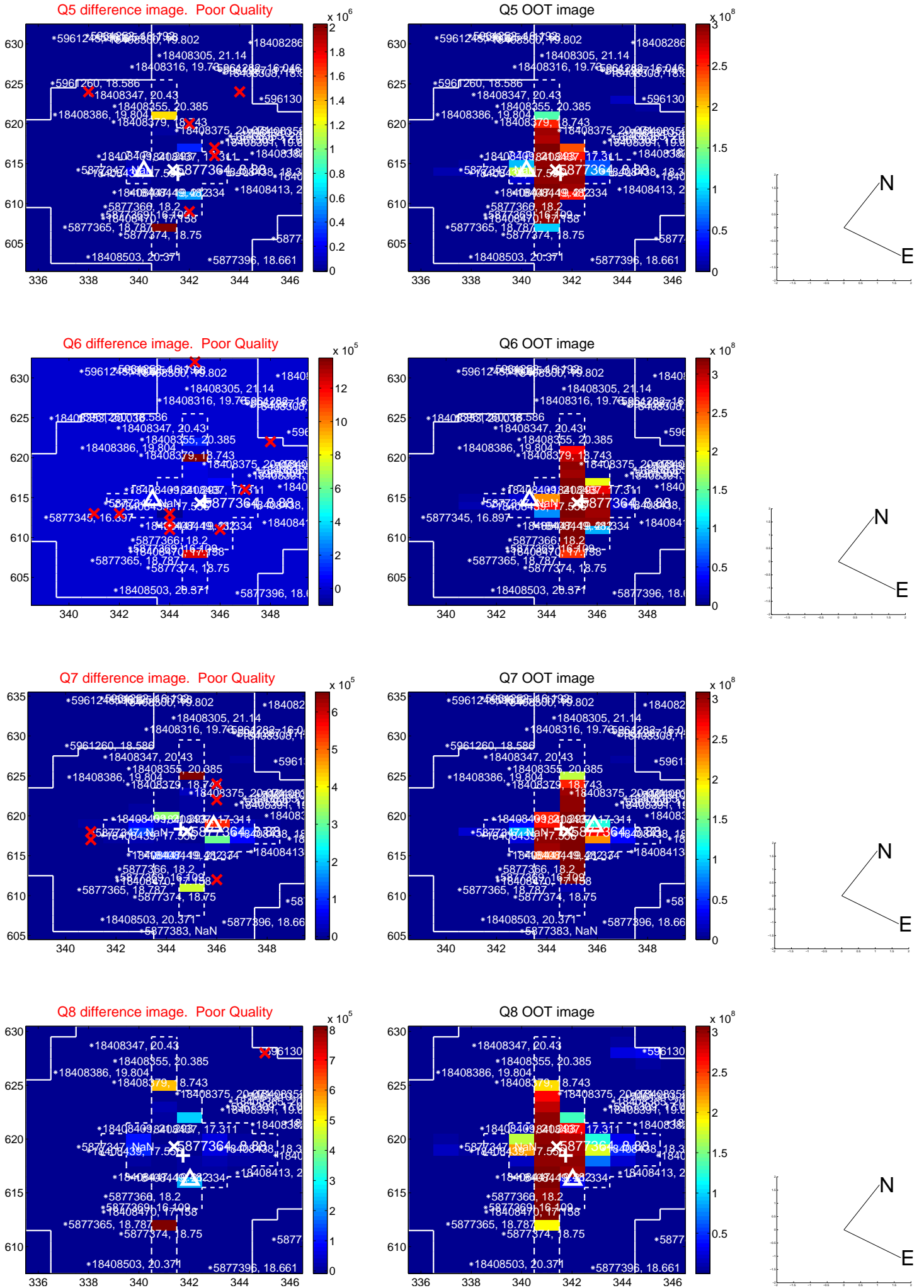


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

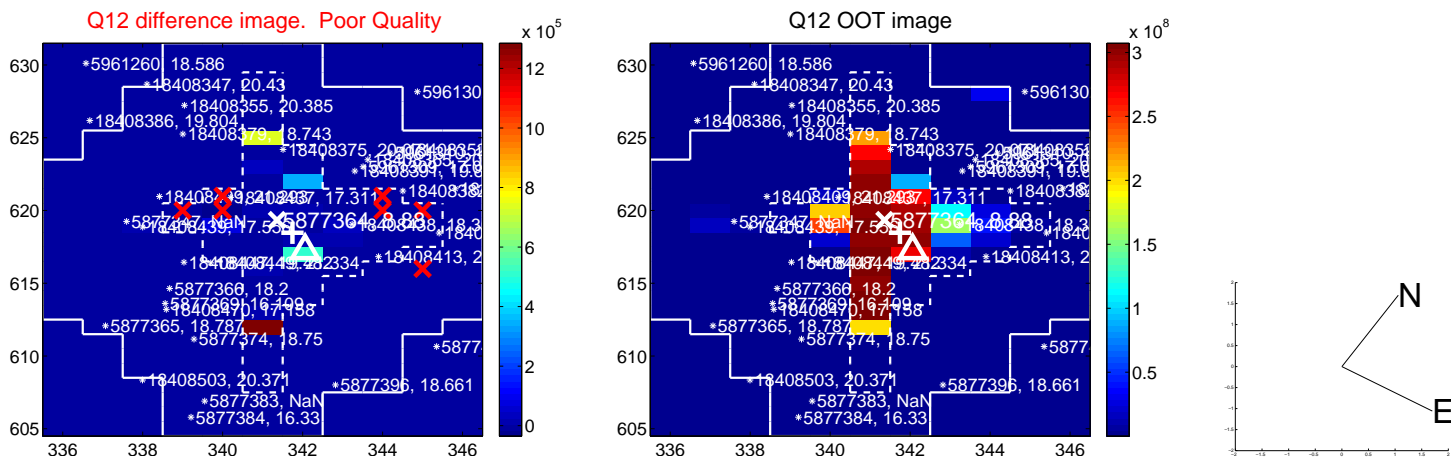
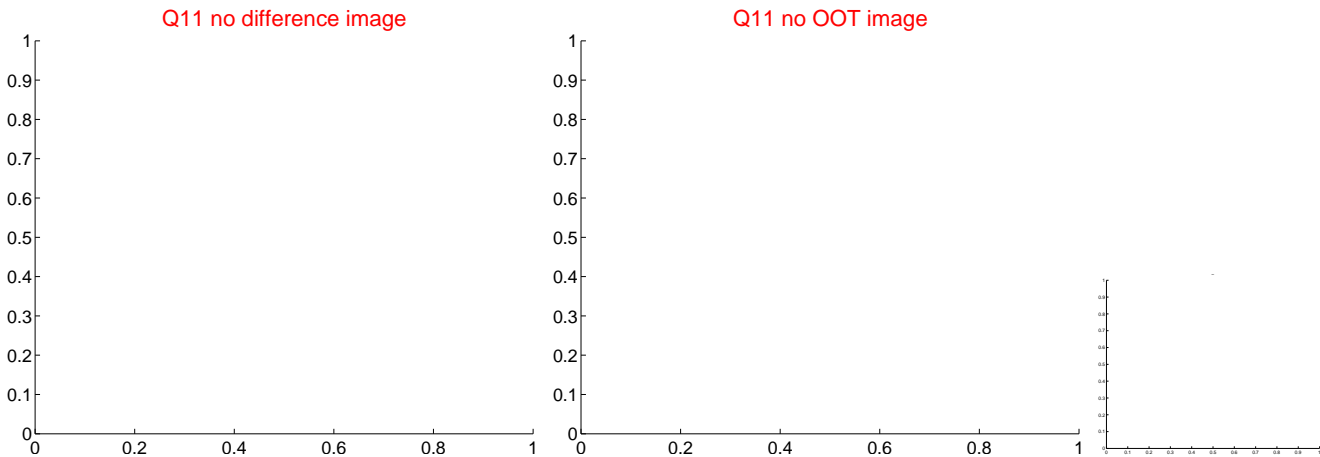
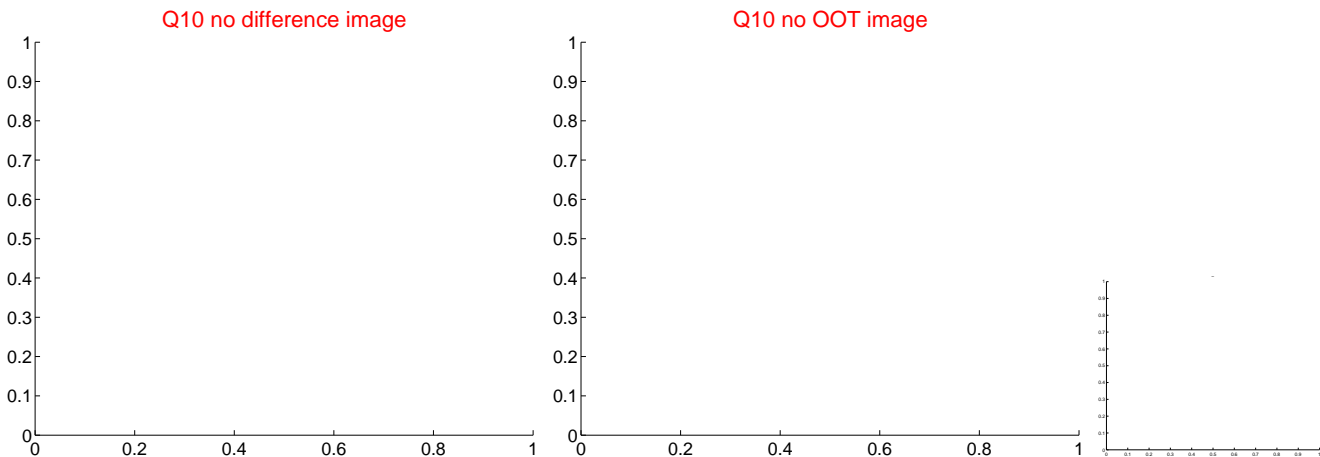
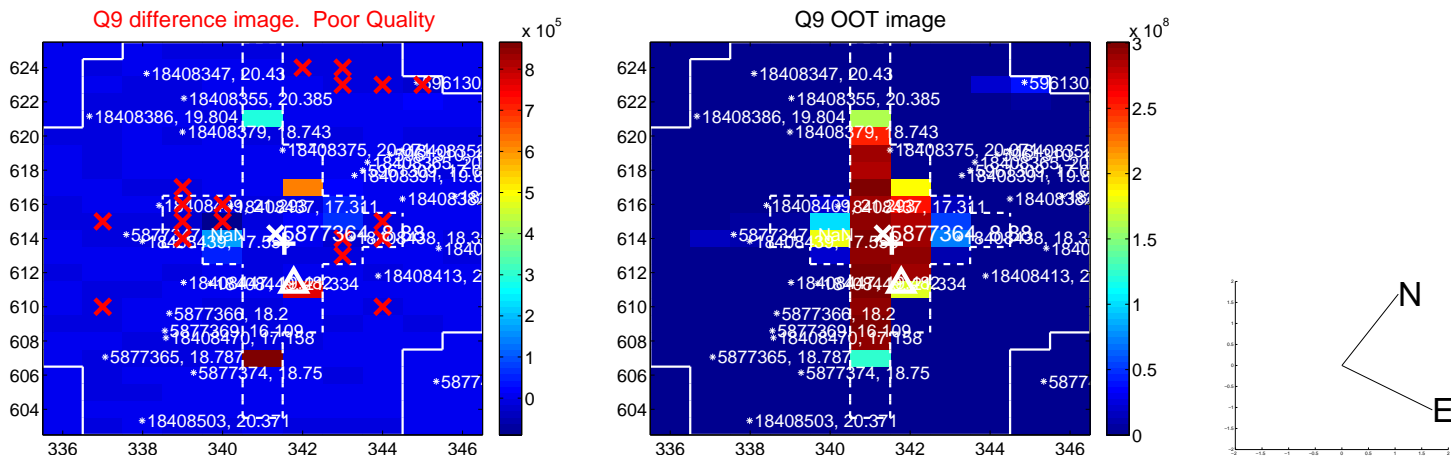
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



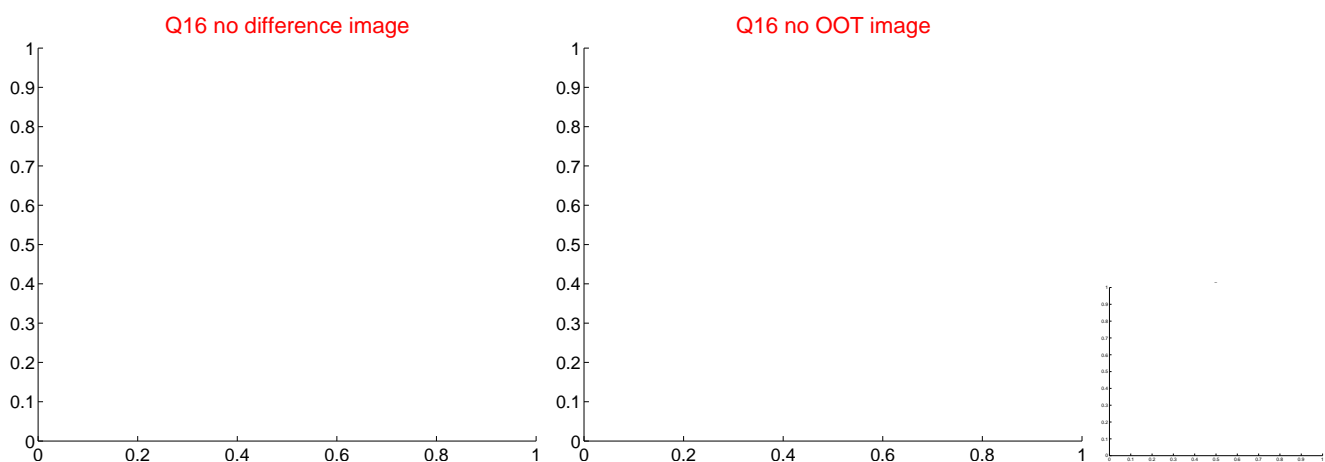
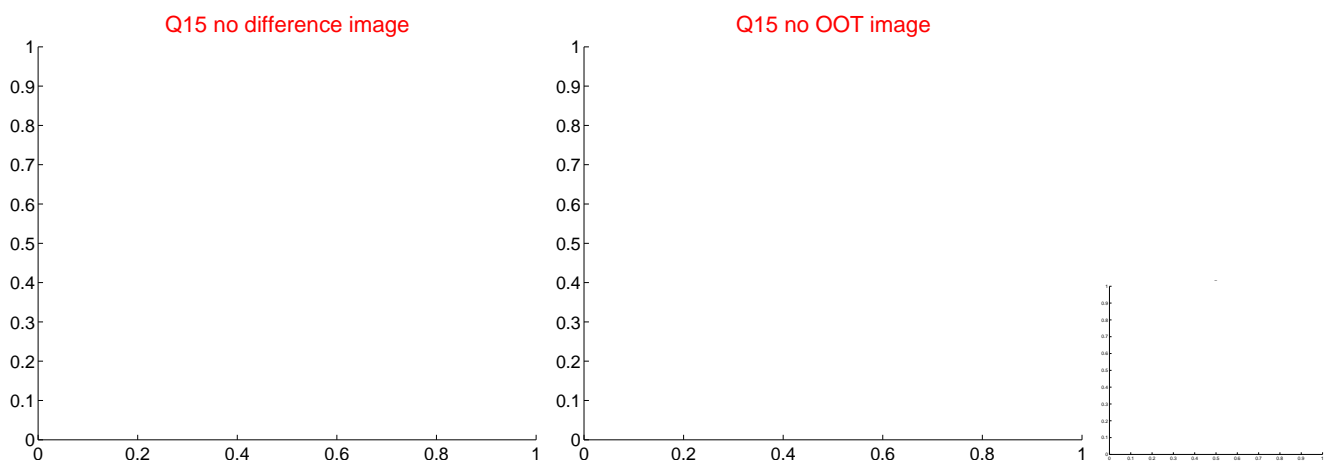
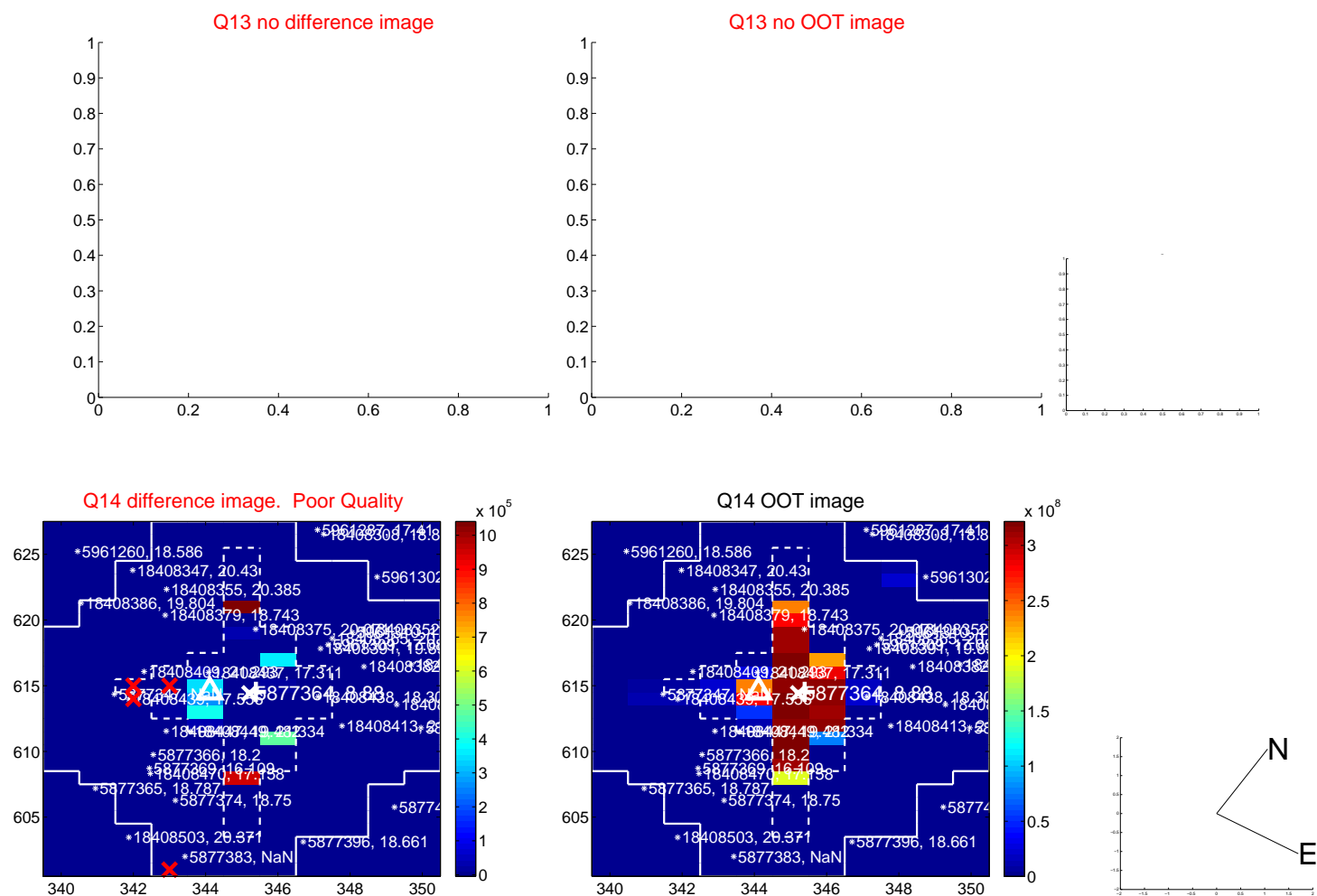
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



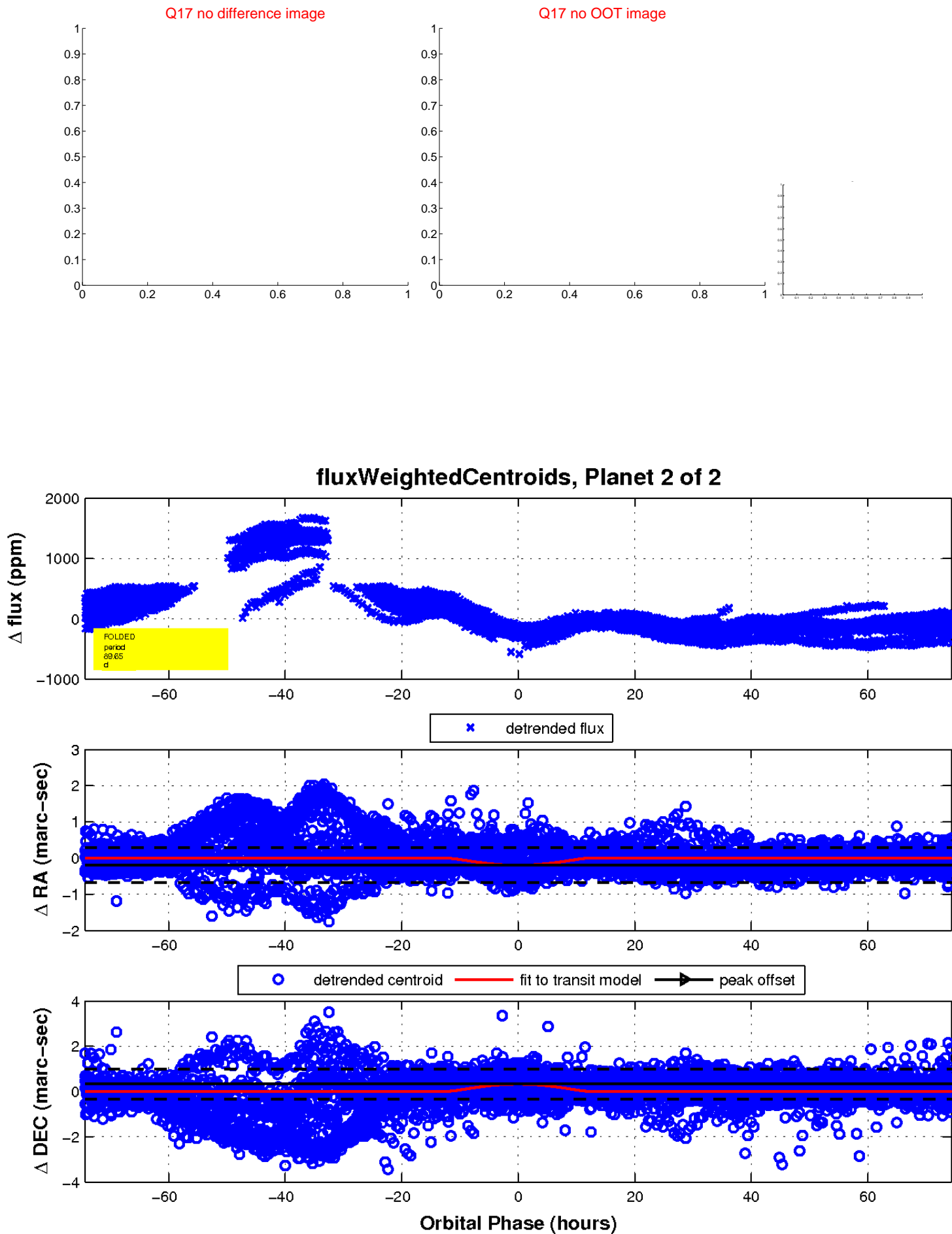
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

