

KIC 005788363

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})
005788363-01	OBS	No	5.023505	135.704598	33.6	15.013	13.2	9.8	2.01	6742	1.21	1731.64
005788363-02	OBS	No	2.512059	132.130716	29.0	18.922	13.1	13.3	2.01	6742	1.09	4362.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005788363-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
005788363-02	OBS	FP	0.00	1	0	0	0	LPP_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.

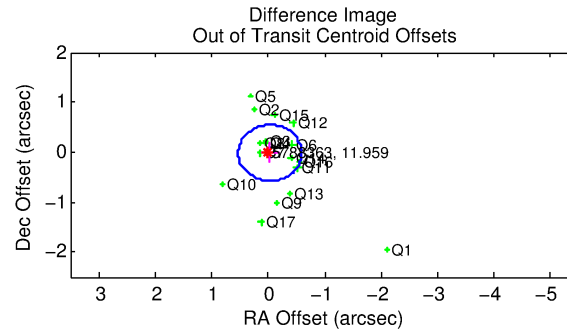
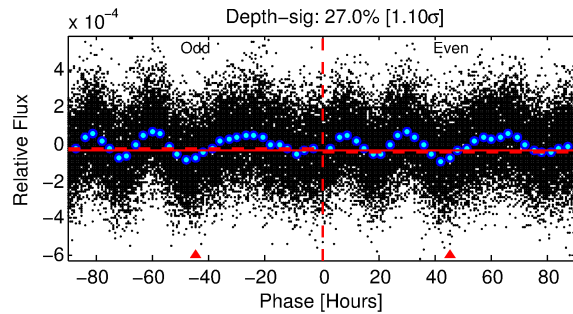
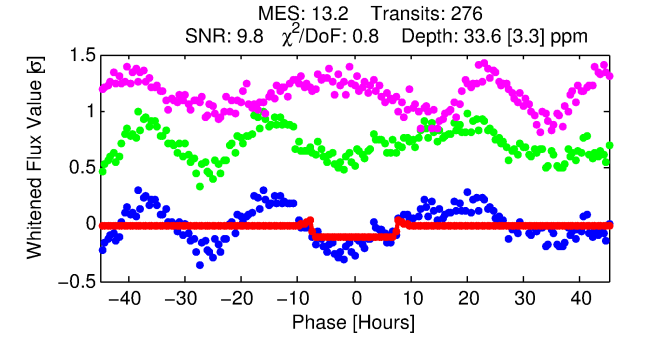
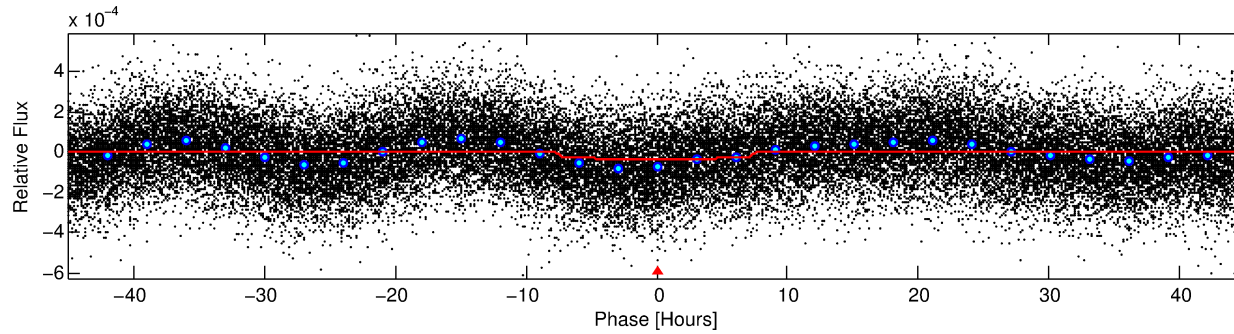
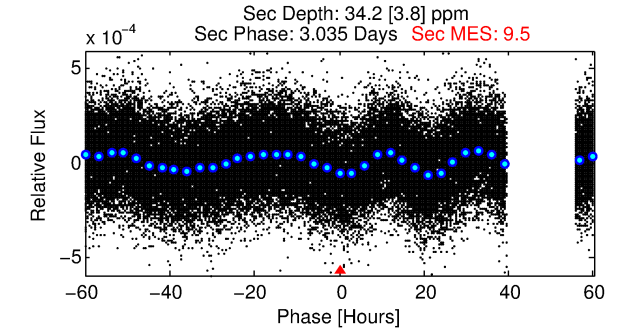
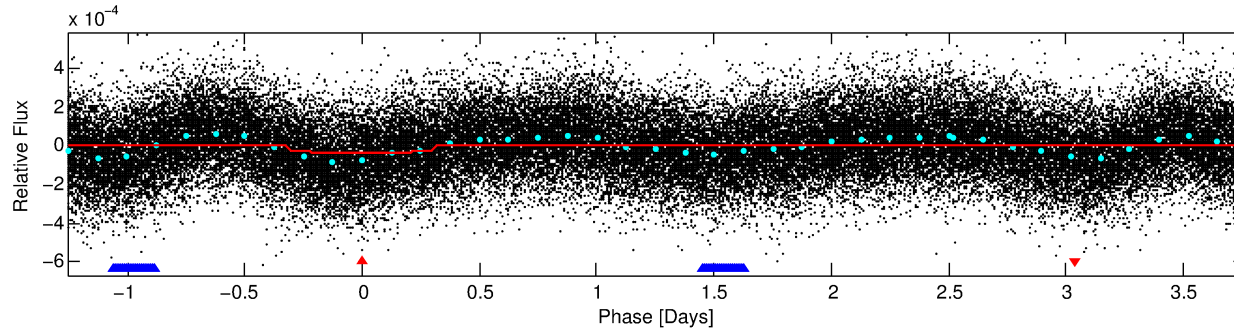
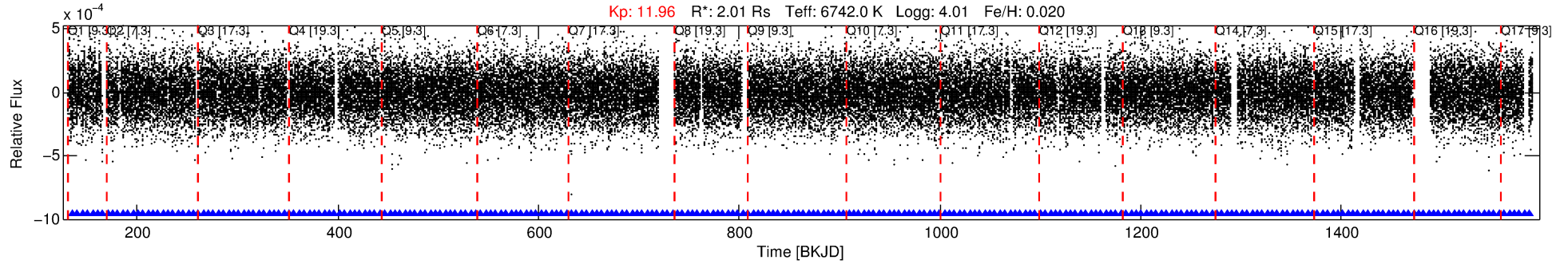
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005788363-01

No Significant Match Found

DV One-Page Summary

KIC: 5788363 Candidate: 1 of 2 Period: 5.024 d



DV Fit Results:

Period = 5.02350 [0.00005] d
Epoch = 135.7046 [0.0074] BKJD
Rp/R* = 0.0055 [0.0014]
a/R* = 2.33 [2.63]
b = 0.51 [2.02]
Seff = 1731.65 [539.98]
Teq = 1645 [128] K
Rp = 1.21 [0.41] Re
a = 0.0658 [0.0133] AU
Ag = 55.92 [33.47] [1.64σ]
Teffp = 6955 [897] K [5.86σ]

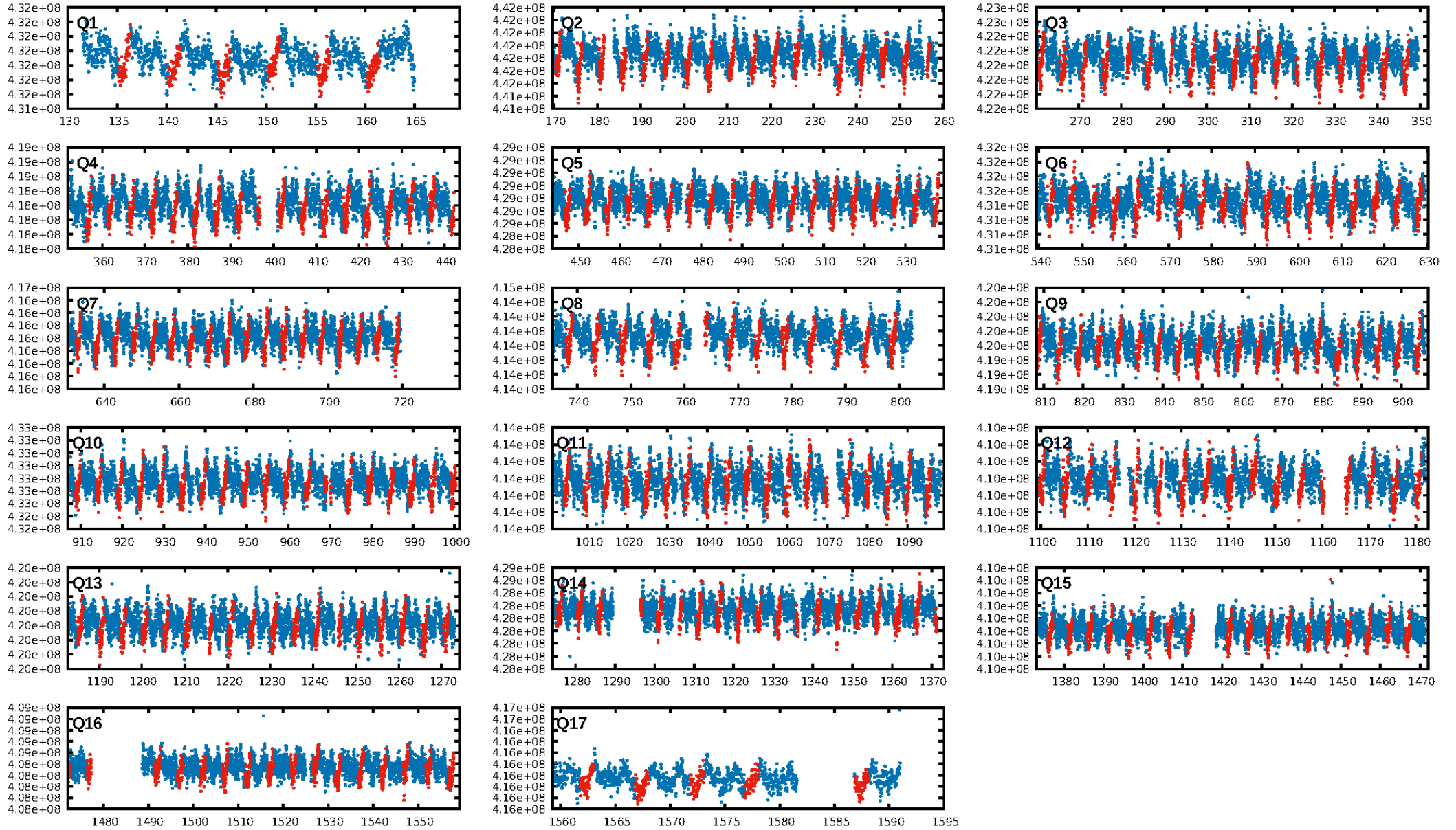
DV Diagnostic Results:

ShortPeriod-sig: 98.7% [2.50σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [265/265]
GhostDiagnostic-chr: 1.56
Centroid-sig: 35.9%
Centroid-so: 0.263 arcsec [0.82σ]
OotOffset-rm: 0.034 arcsec [0.18σ]
KicOffset-rm: 0.095 arcsec [0.48σ]
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]

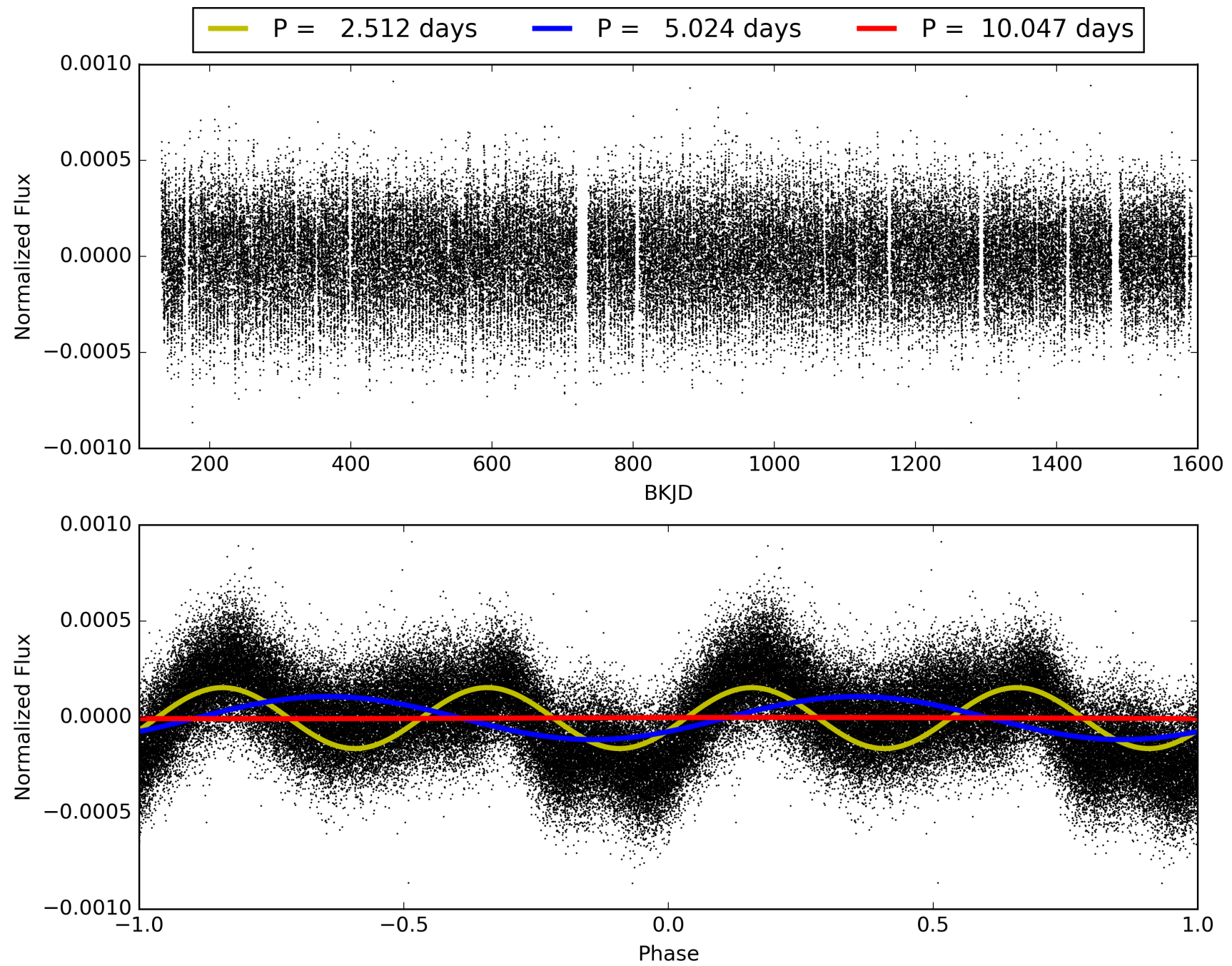
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 13:21:53 Z

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

TCE 005788363-01, PDC Light Curves

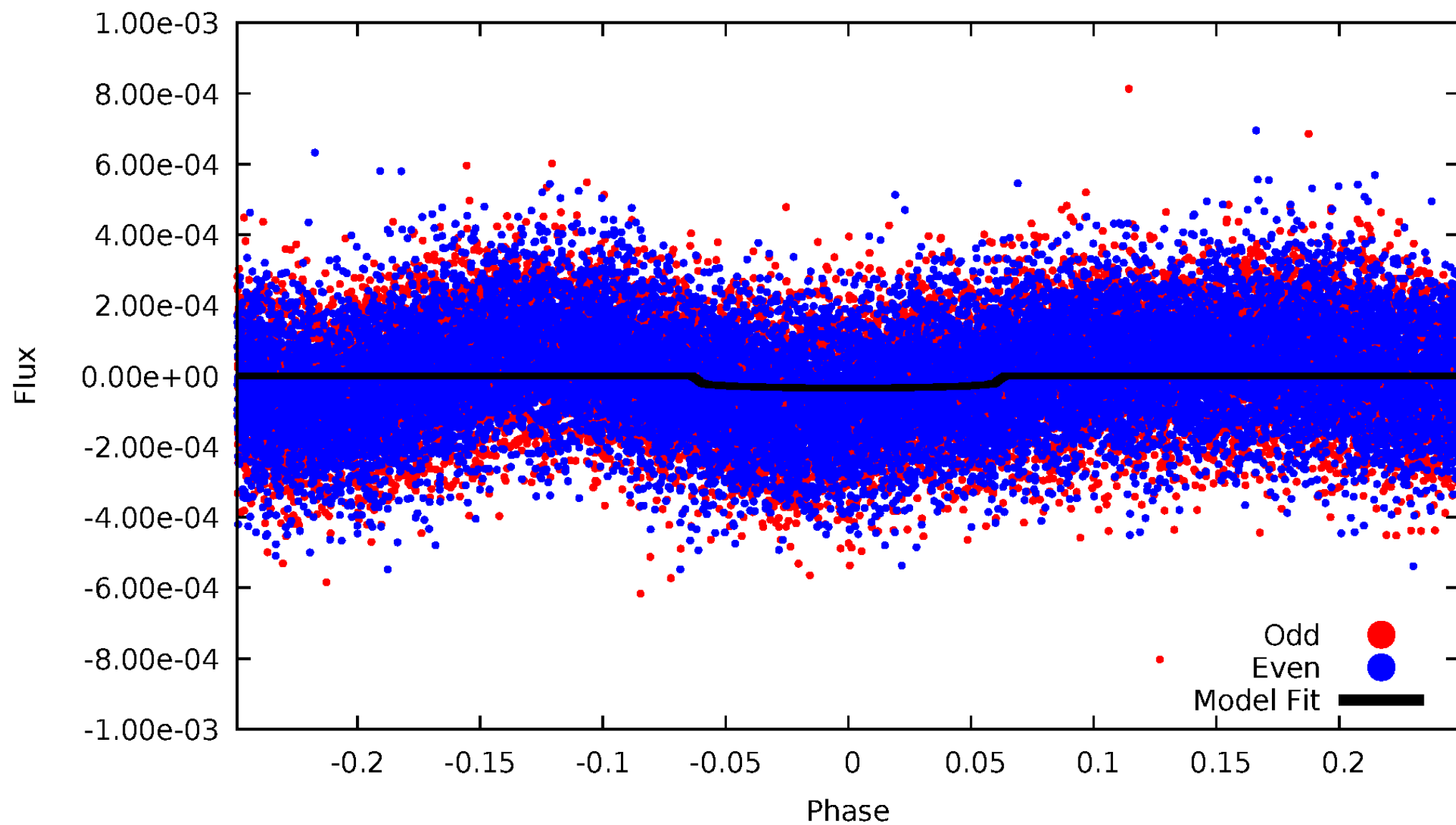


TCE 005788363-01



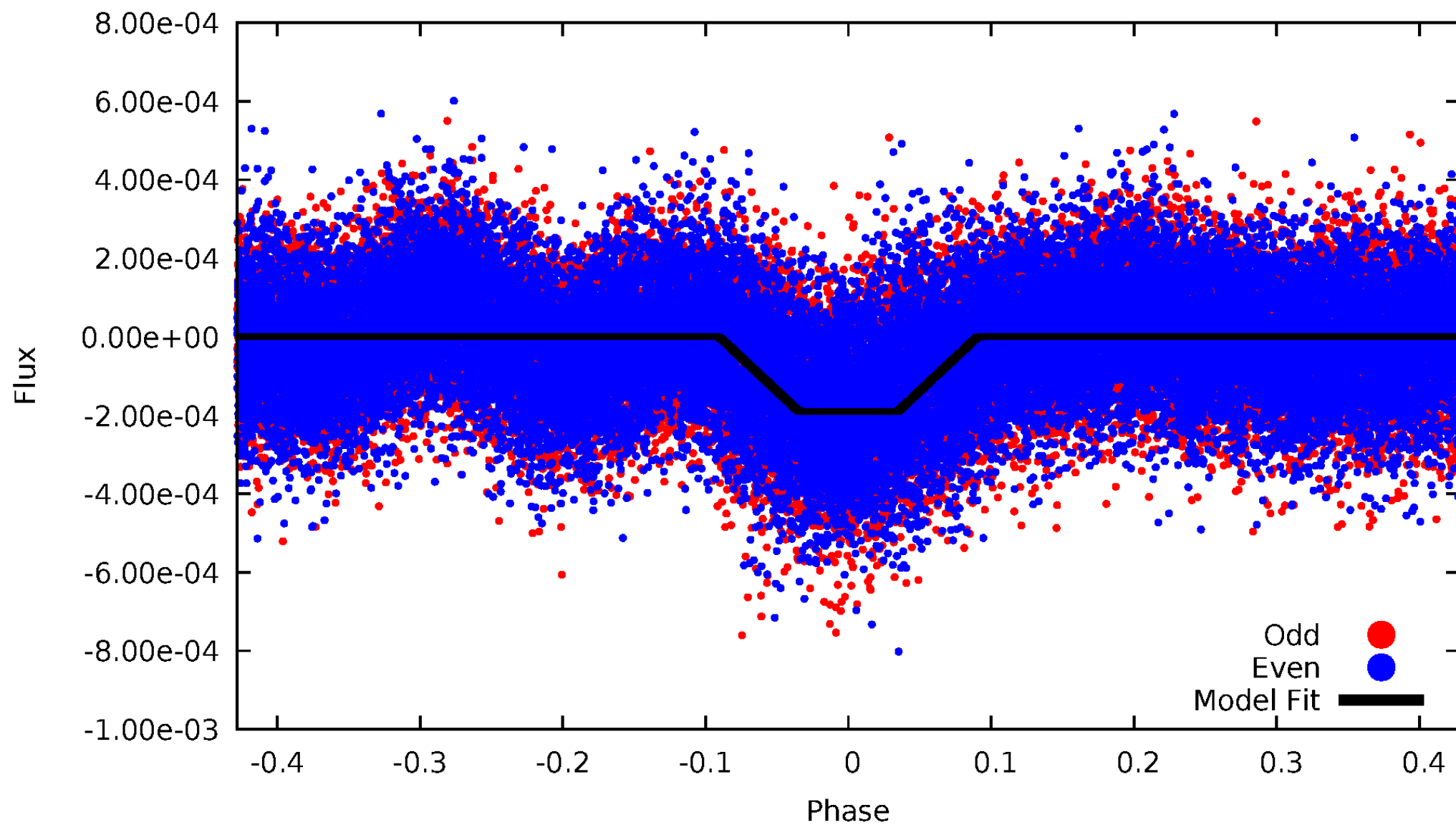
DV Odd/Even

TCE 005788363-01



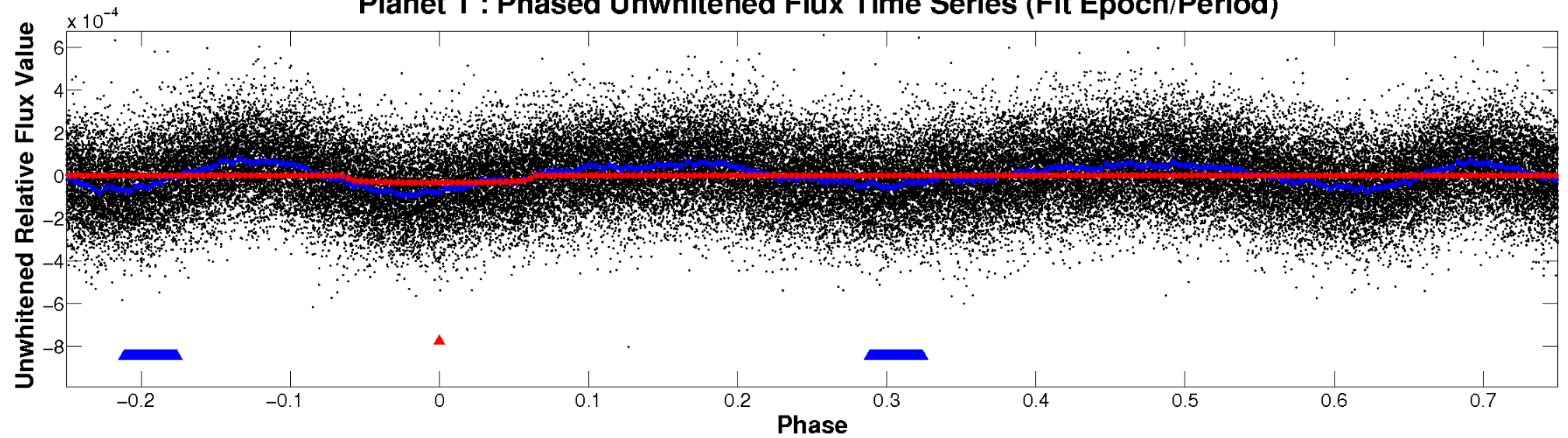
ALT Odd/Even

TCE 005788363-01

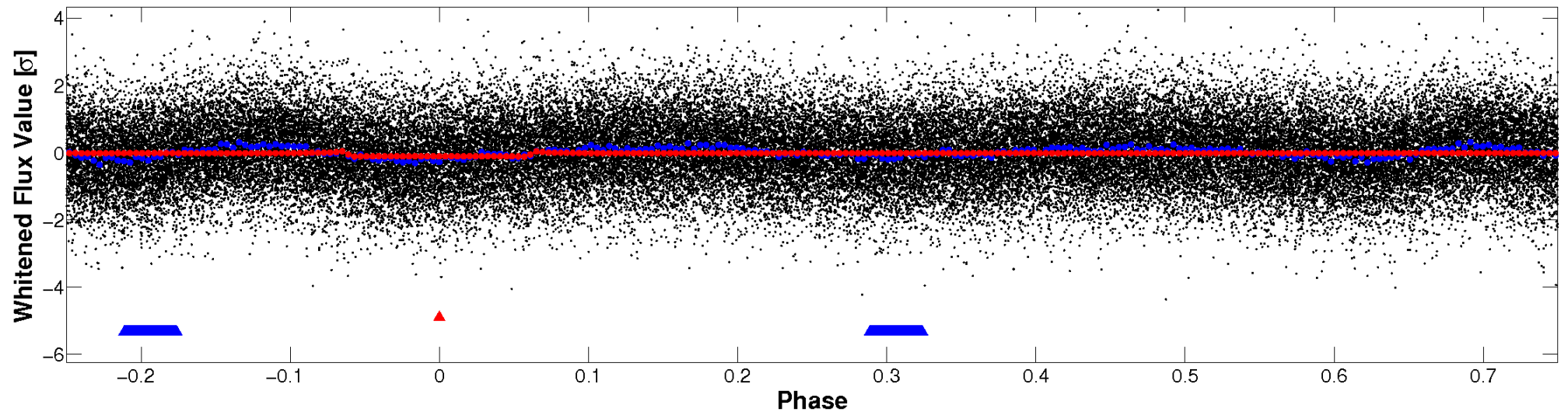


Non-Whitened Vs. Whitened Light Curve

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

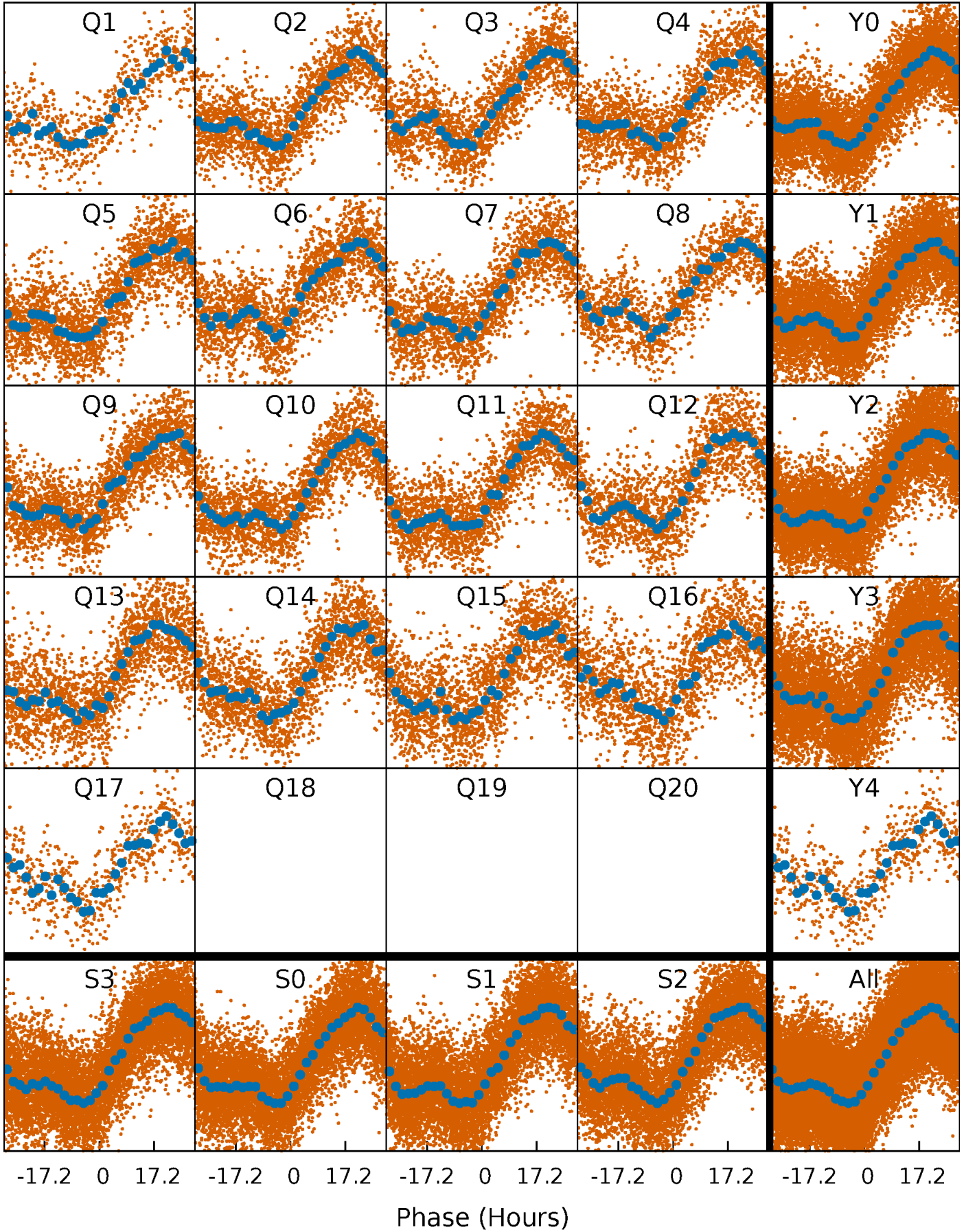


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



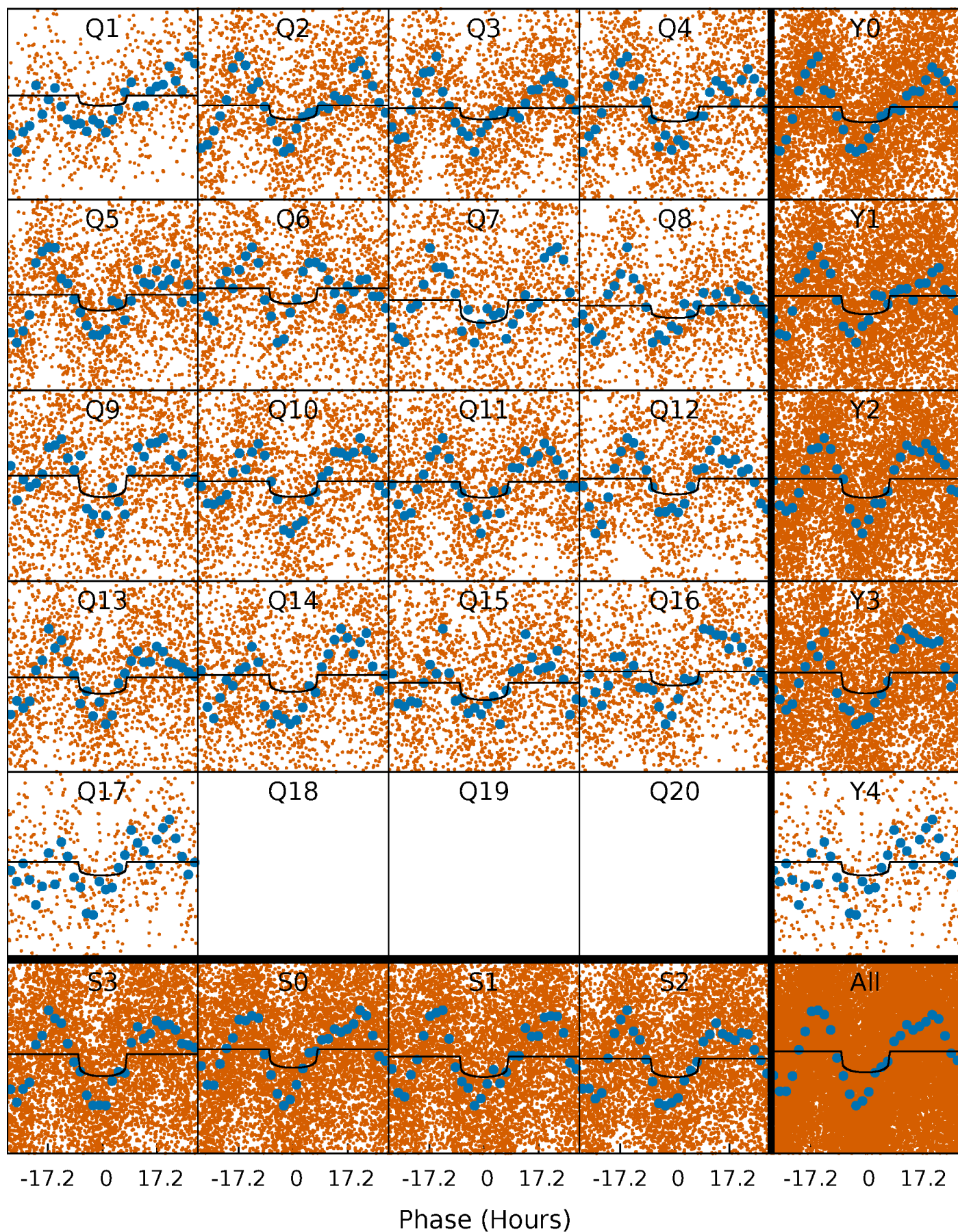
PDC Quarter-Phased Transit Curves

TCE 005788363-01 P= 5.023505 Days $T_0=135.704598$ (BKJD)



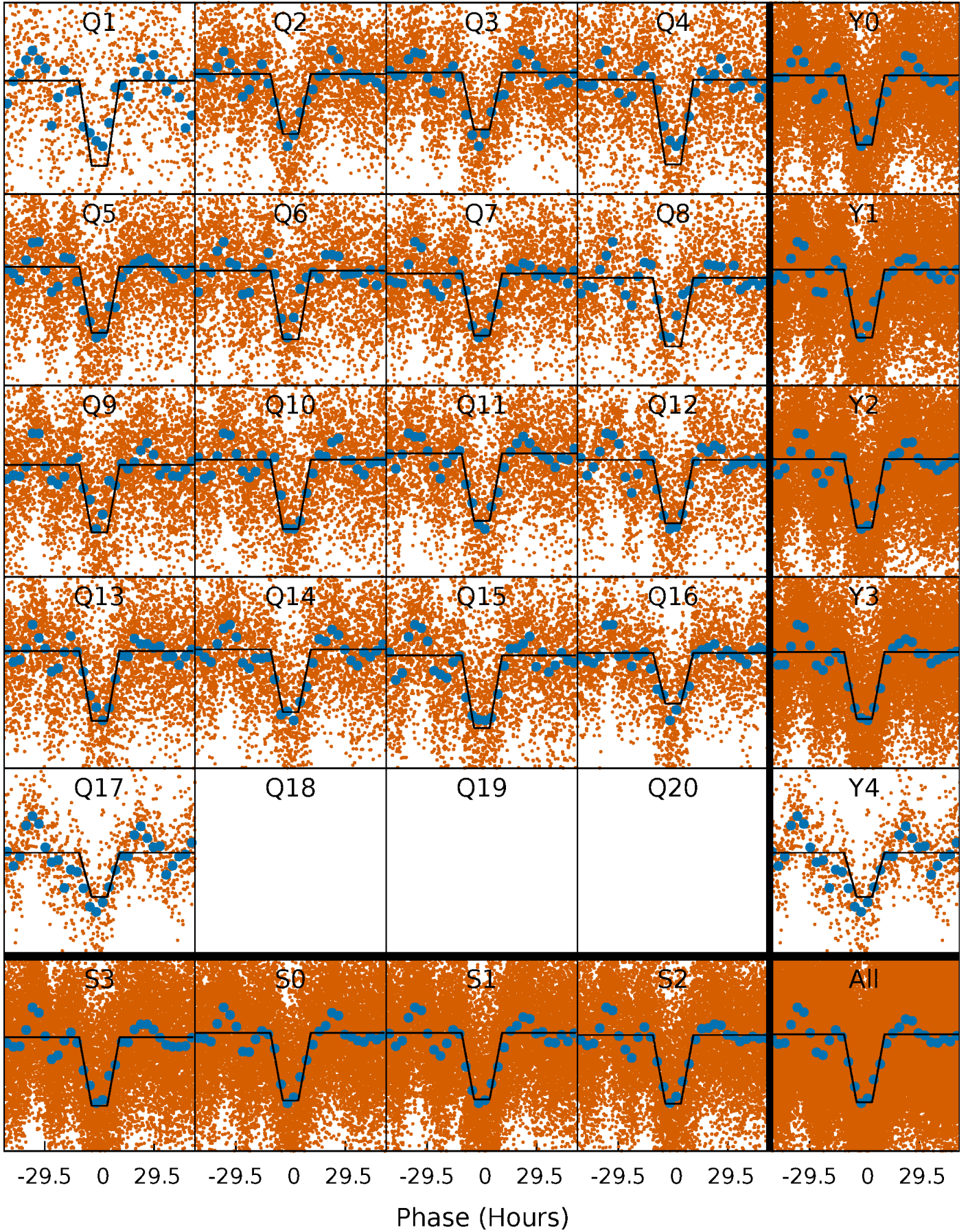
DV Quarter-Phased Transit Curves

TCE 005788363-01 P= 5.023505 Days $T_0=135.704598$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

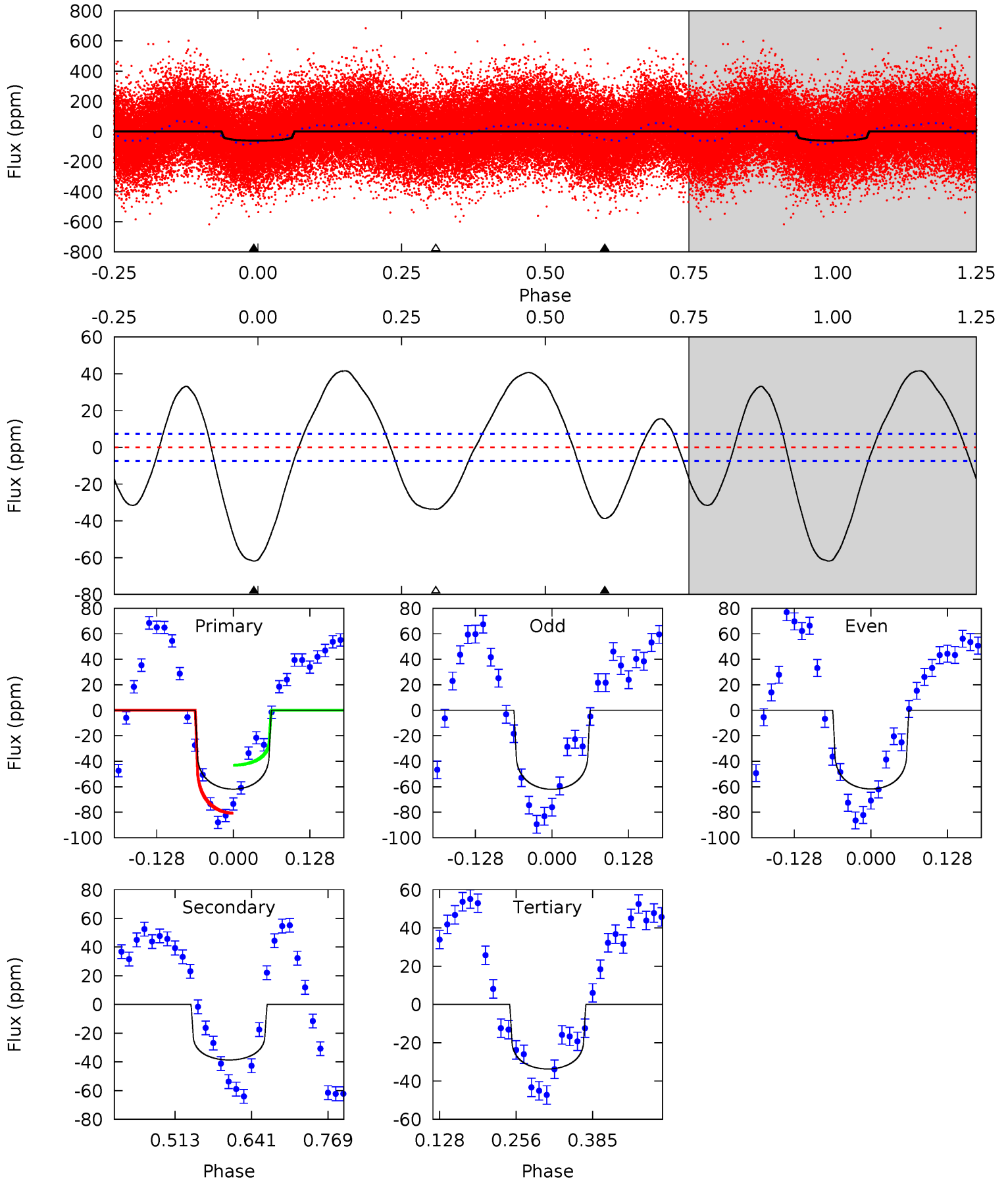
TCE 005788363-01 P= 5.023627 Days $T_0=135.618187$ (BKJD)



DV Model-Shift Uniqueness Test

005788363-01, P = 5.023505 Days, E = 130.681093 Days

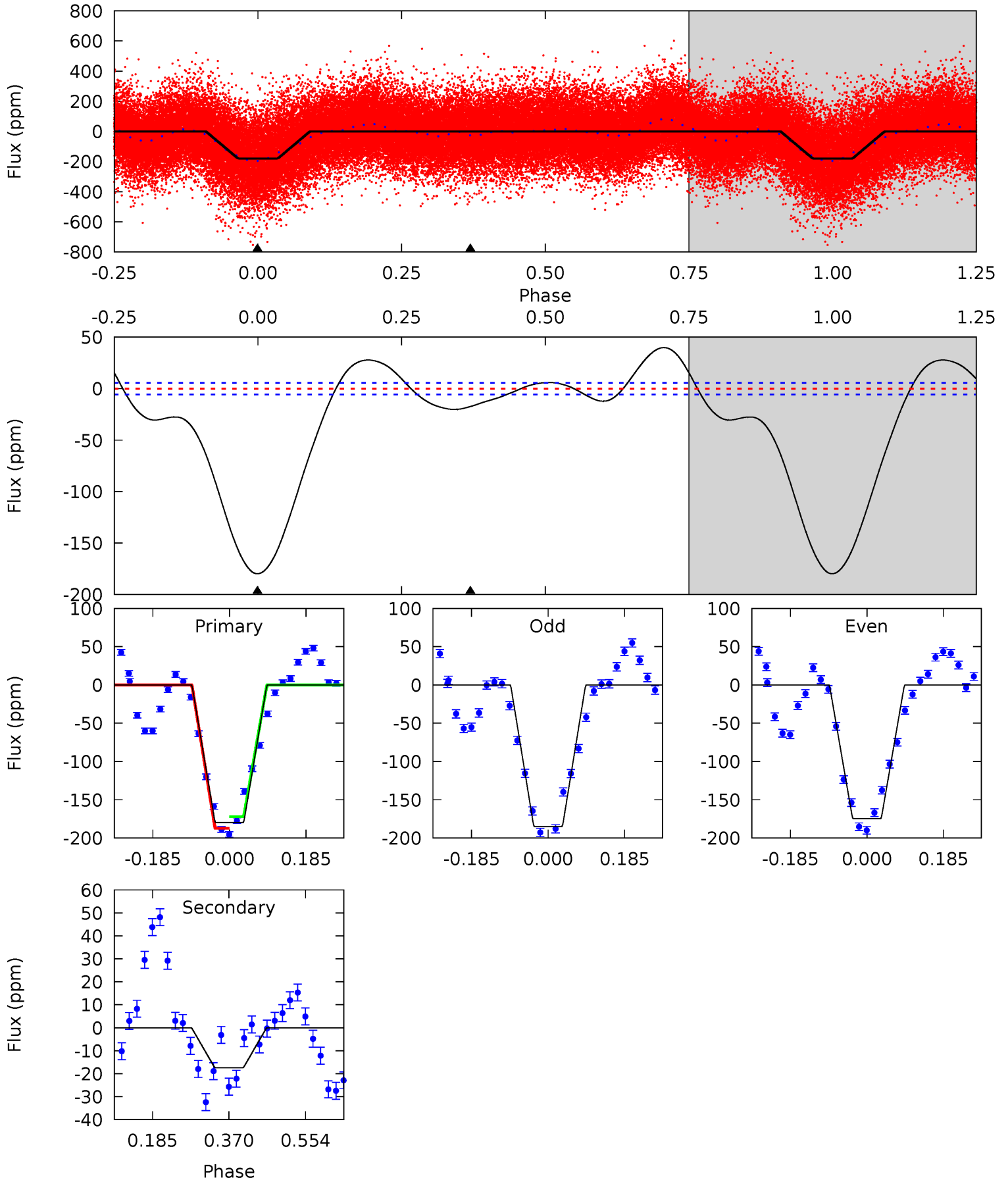
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.7	23.5	20.5	0	4.51	1.52	16.1	17.2	37.7	3.03	23.5	0.09	0.99	0.40	11.4



Alt Model-Shift Uniqueness Test

005788363-01, P = 5.023627 Days, E = 130.594560 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
142.2	13.8	0	0	4.43	1.33	16.8	142.2	142.2	13.8	13.8	4.14	1.00	0.18	6.02



Stellar Parameters For KIC 005788363

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6742^{+74}_{-87}	$4.008^{+0.174}_{-0.116}$	$0.020^{+0.150}_{-0.150}$	$2.012^{+0.376}_{-0.460}$	$1.504^{+0.117}_{-0.156}$	$0.260^{+0.246}_{-0.093}$
	+1%/-1%	+4%/-3%	+750%/-750%	+19%/-23%	+8%/-10%	+94%/-36%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005788363-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-39 ± 2	$1.21^{+0.33}_{-0.32}$	2290^{+120}_{-125}	7194^{+1342}_{-846}	63^{+52}_{-25}
Alt.	-17 ± 1	$3.00^{+0.48}_{-0.45}$	2287^{+119}_{-126}	3963^{+175}_{-159}	$4.639^{+1.665}_{-1.247}$

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 $A_{obs} \gg 1.0$

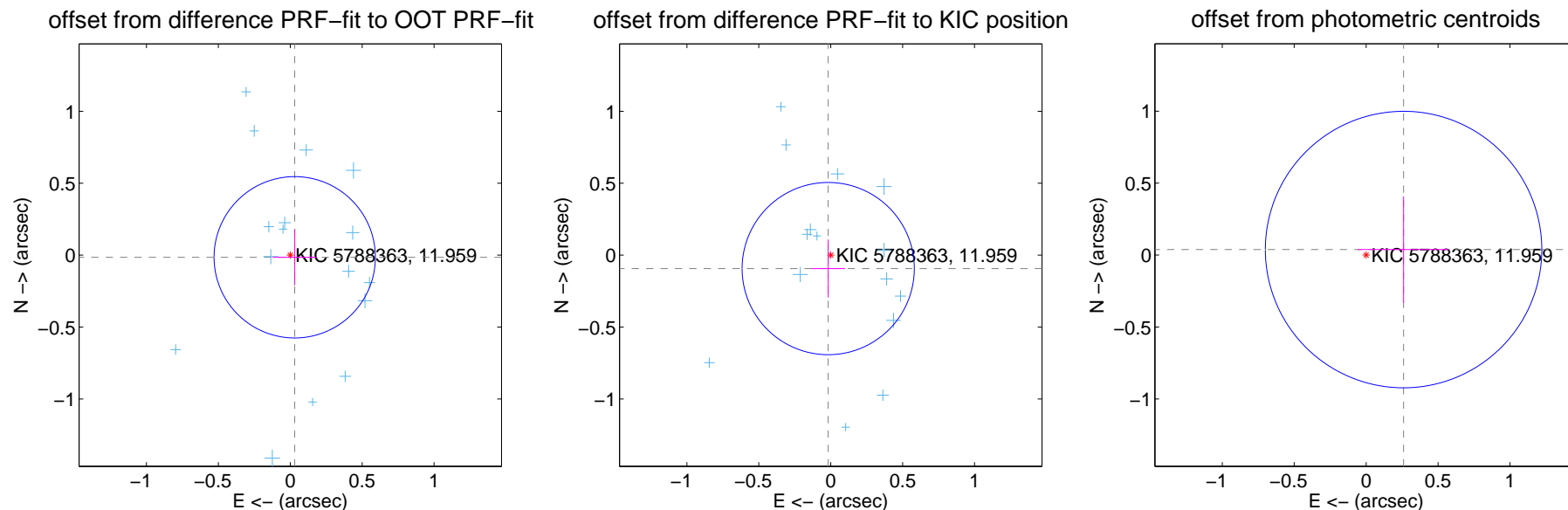
DV Centroid Data

Supplemental centroid analysis for 005788363-01. **Kepler magnitude: 11.96.** Transit SNR 9.77

There are 16 quarters with good PRF difference image offsets

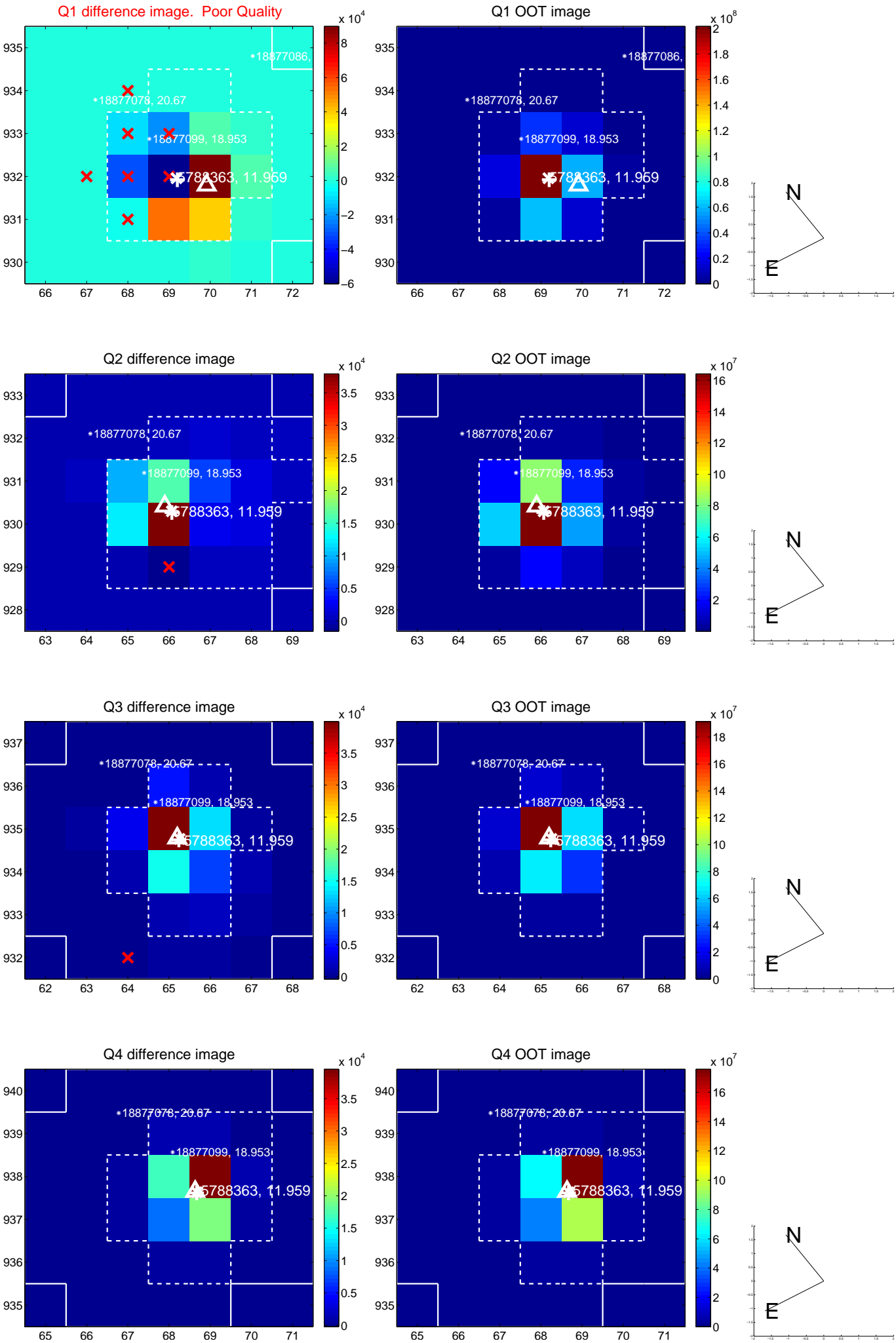
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.034 ± 0.187	0.18	-0.031 ± 0.154	-0.015 ± 0.195
PRF-fit source offset from KIC position	0.095 ± 0.200	0.48	0.017 ± 0.118	-0.093 ± 0.202
photometric centroid source offset	0.26 ± 0.32	0.82	-0.26 ± 0.32	0.04 ± 0.37

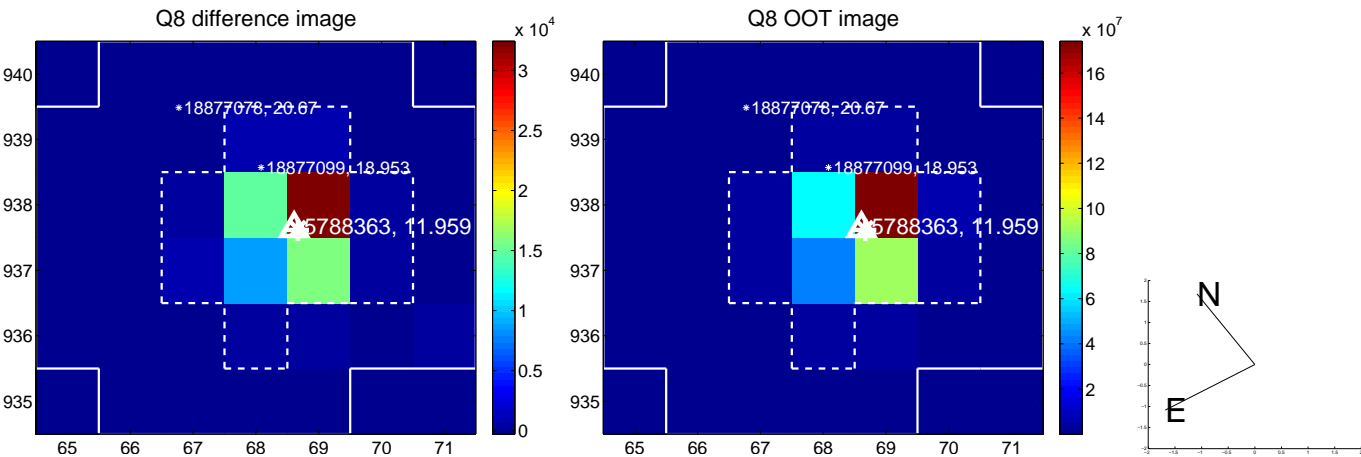
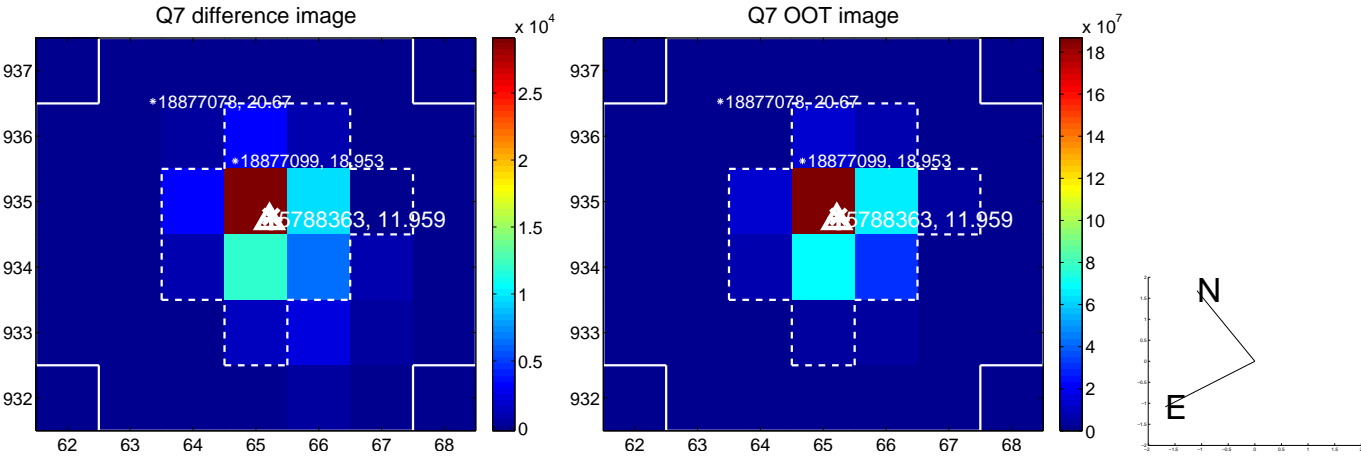
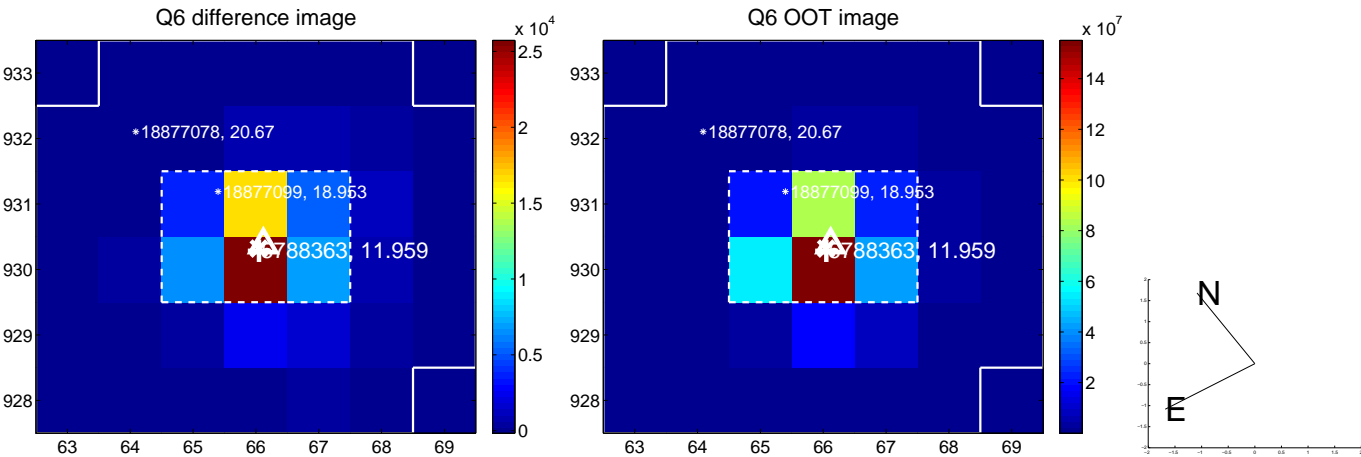
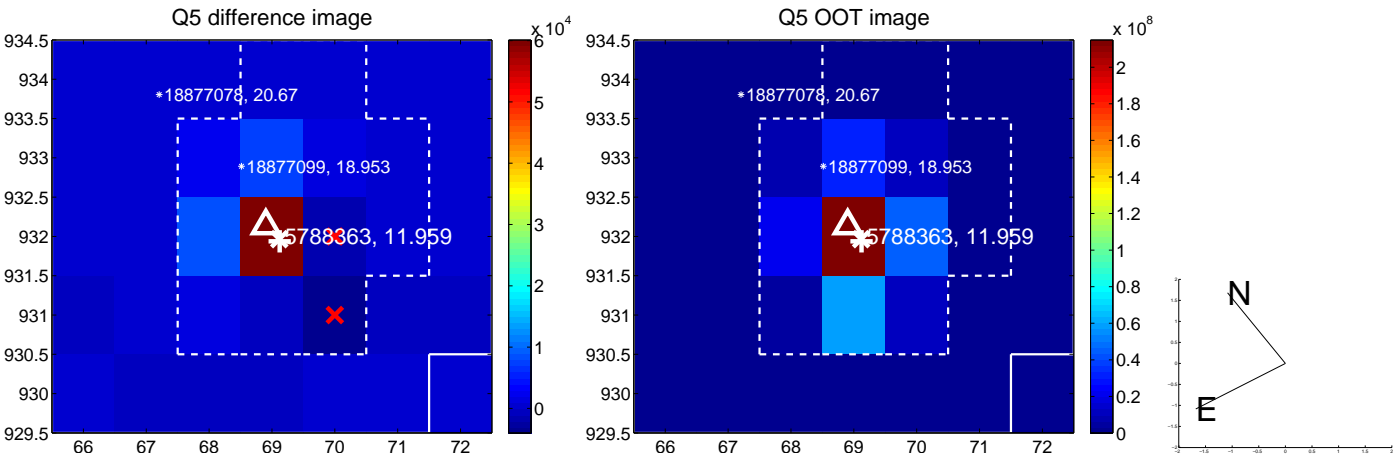


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

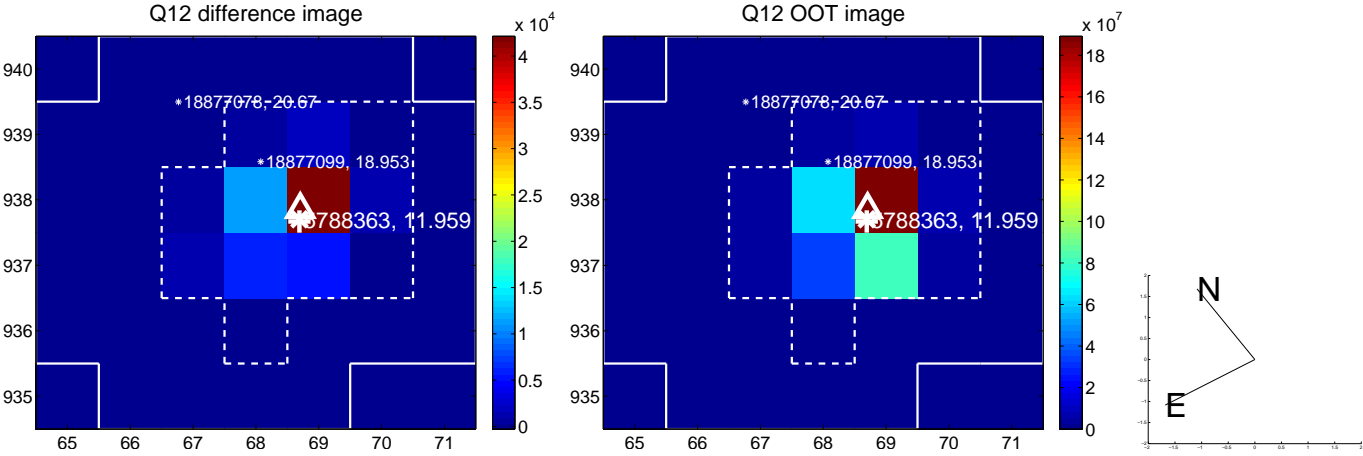
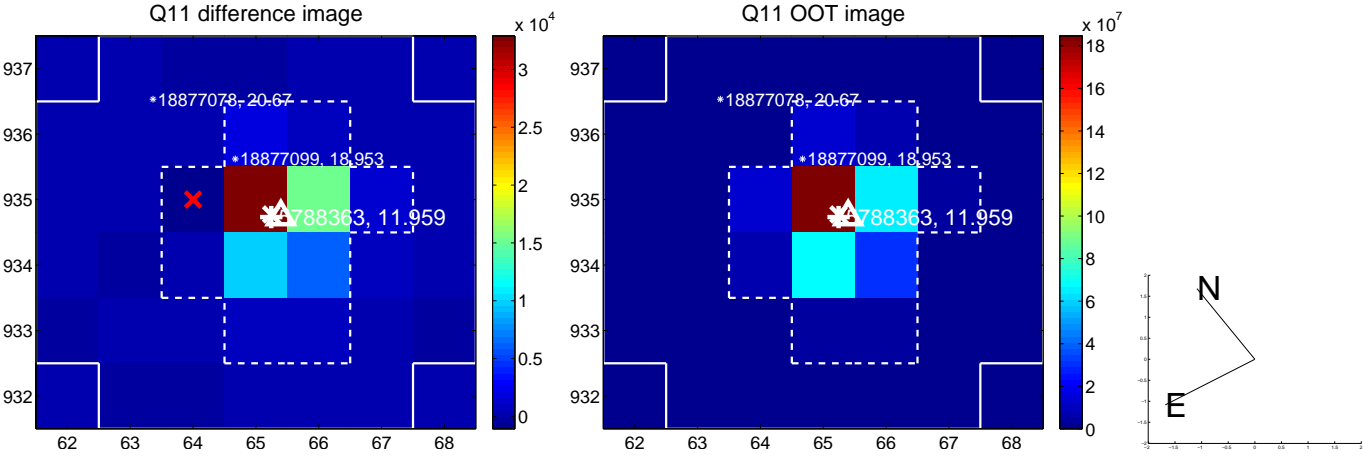
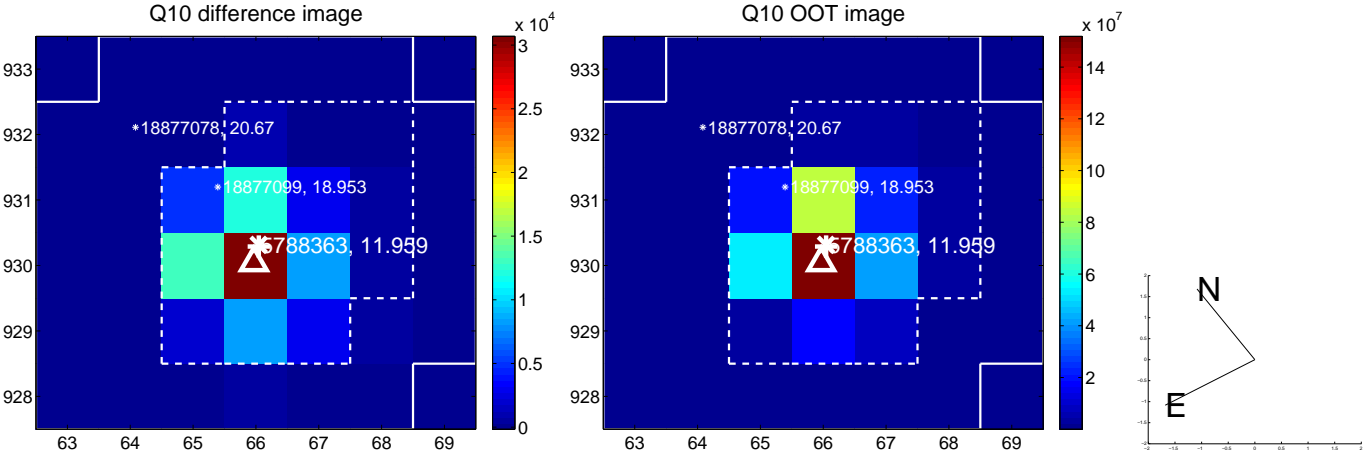
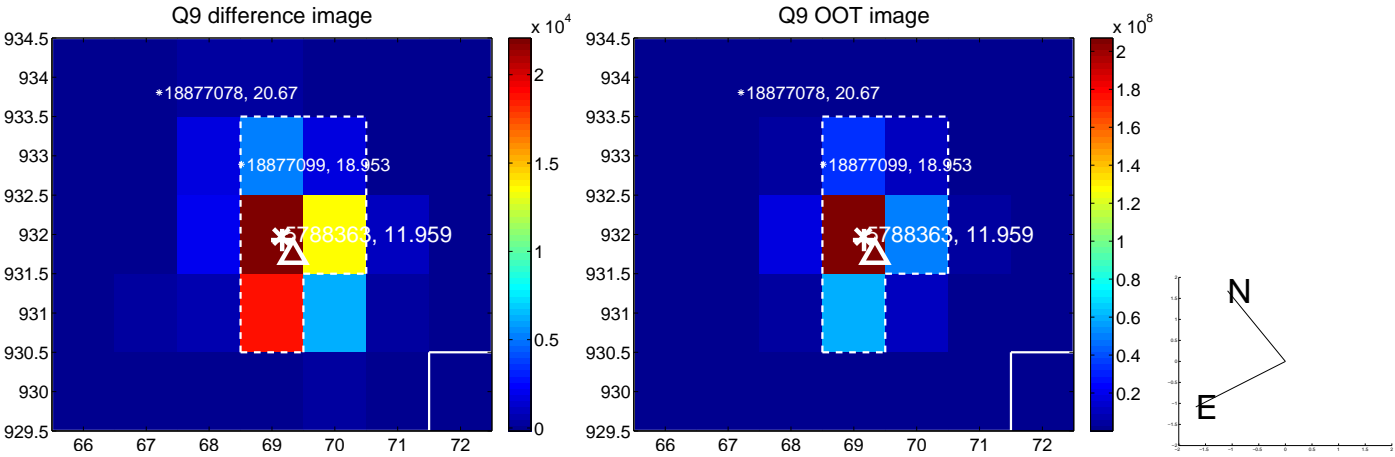
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



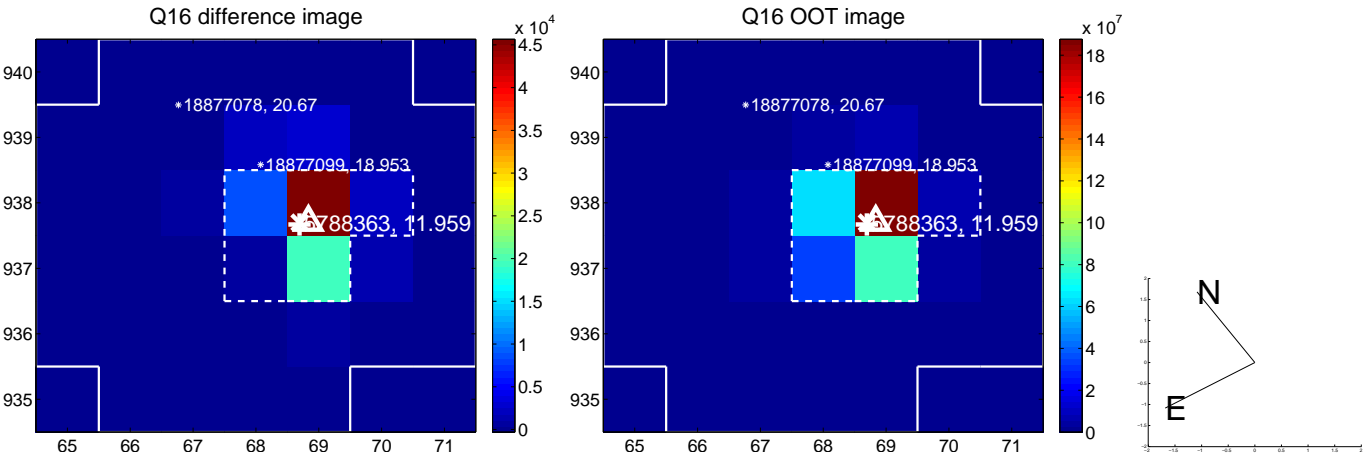
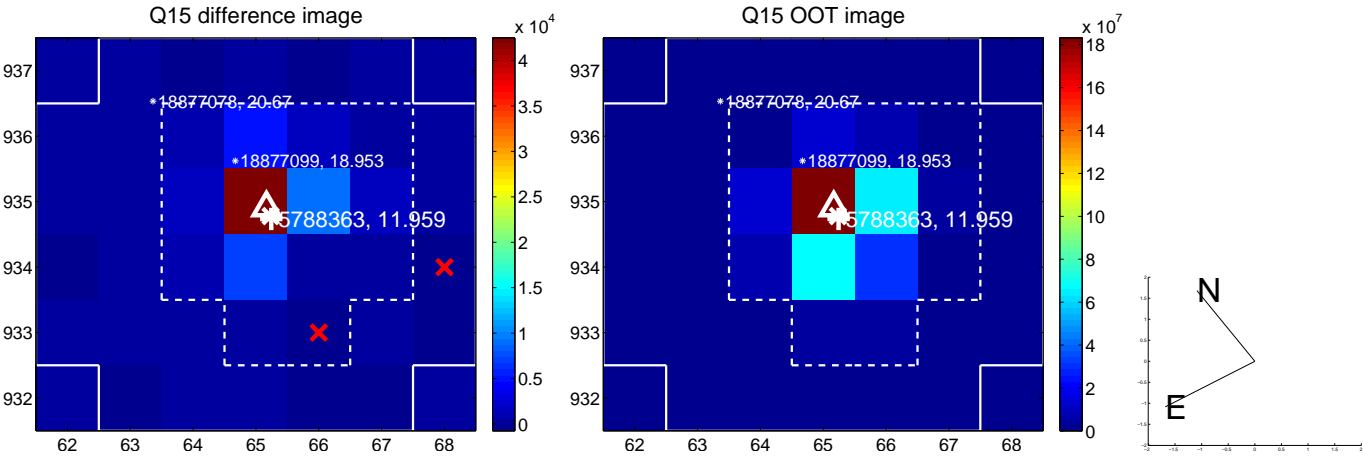
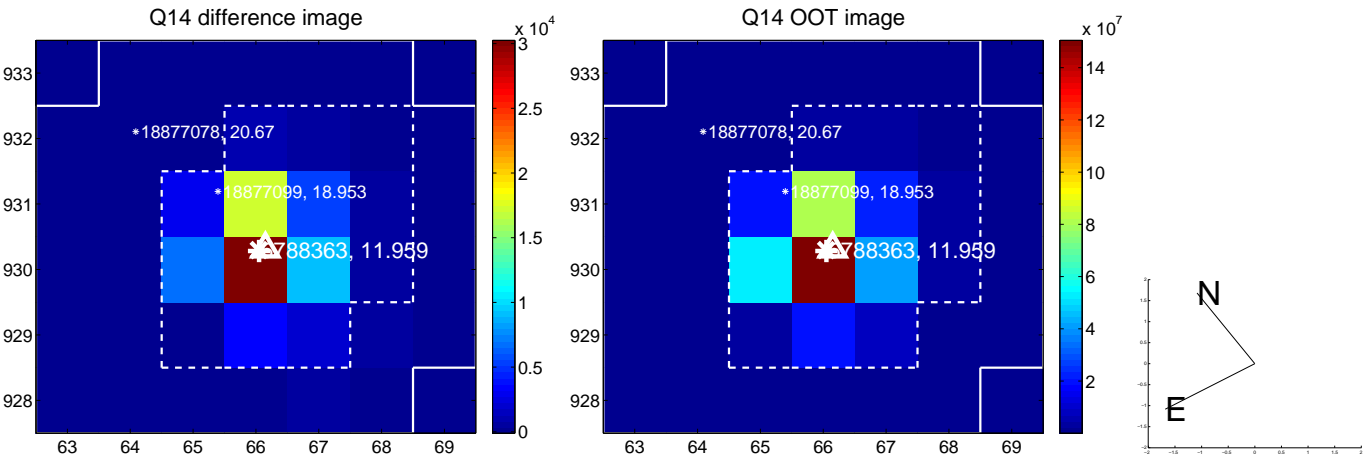
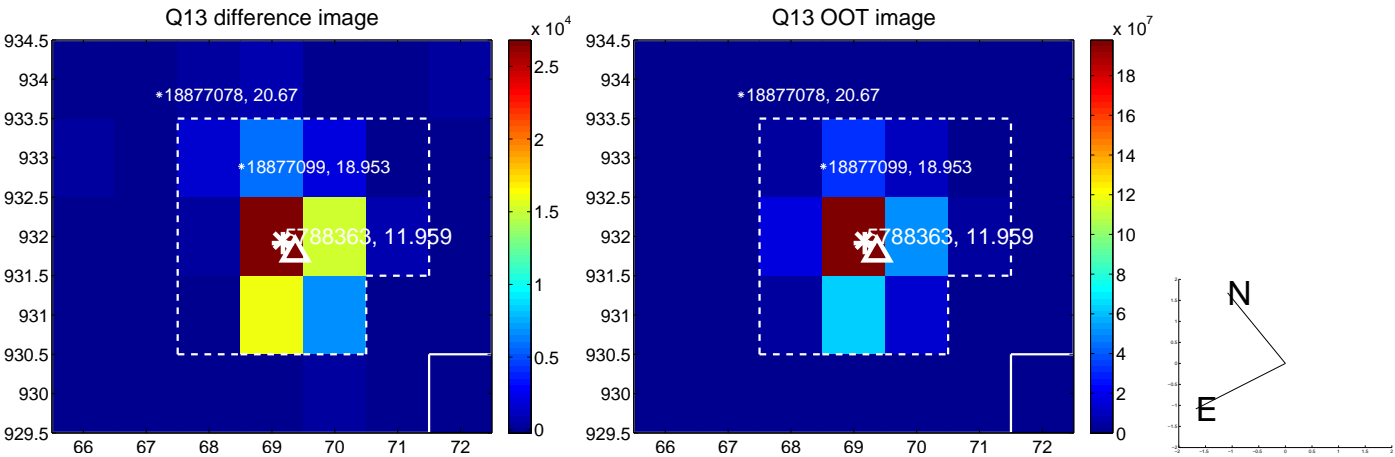
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



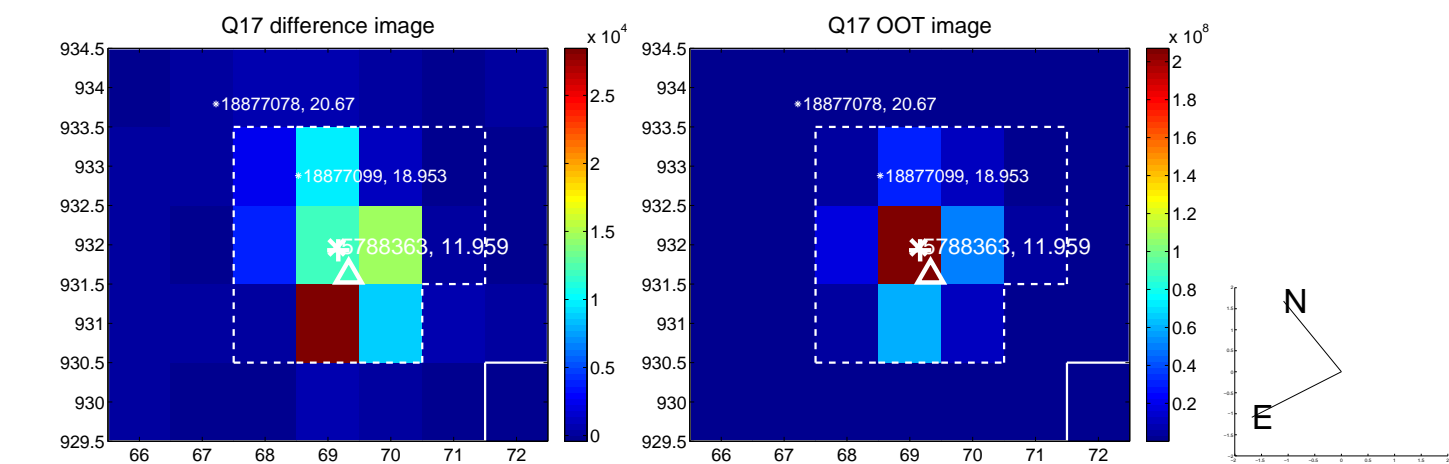
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



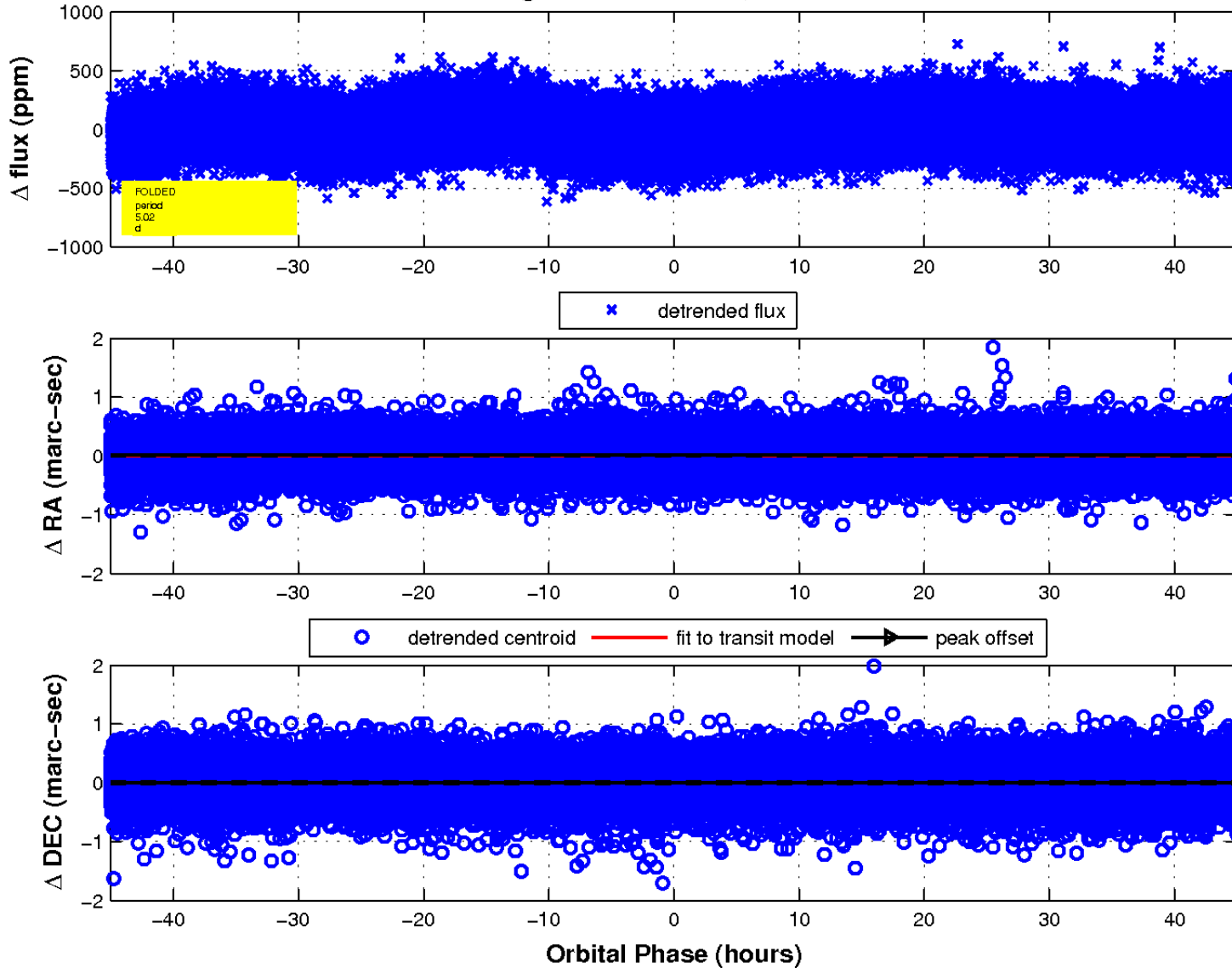
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

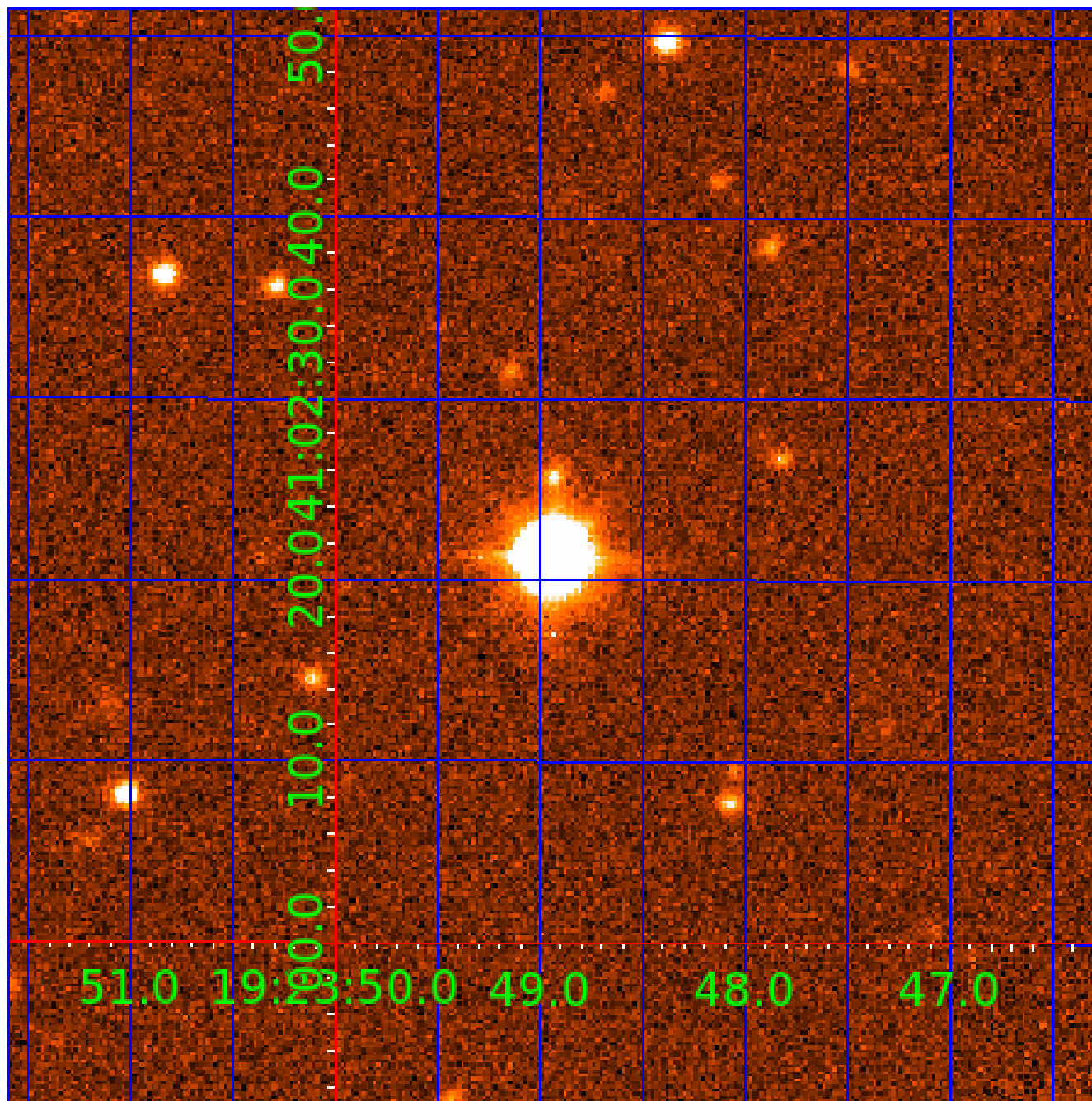


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 005788363

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})
005788363-01	OBS	No	5.023505	135.704598	33.6	15.013	13.2	9.8	2.01	6742	1.21	1731.64
005788363-02	OBS	No	2.512059	132.130716	29.0	18.922	13.1	13.3	2.01	6742	1.09	4362.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005788363-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
005788363-02	OBS	FP	0.00	1	0	0	0	LPP_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.

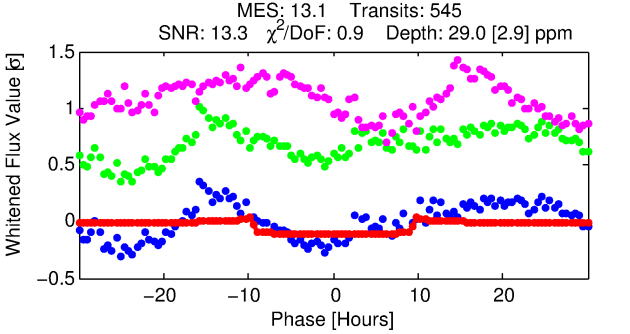
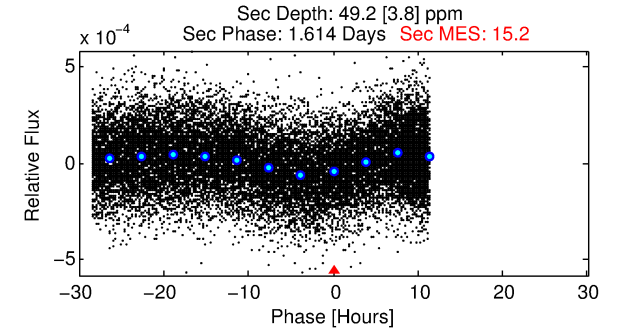
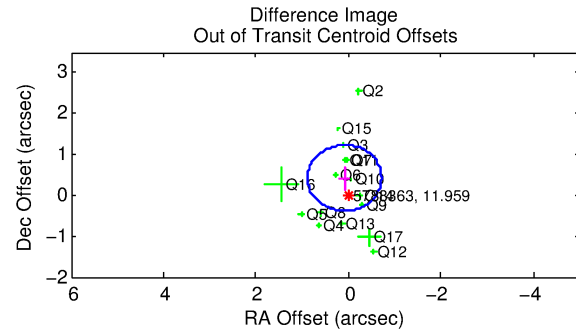
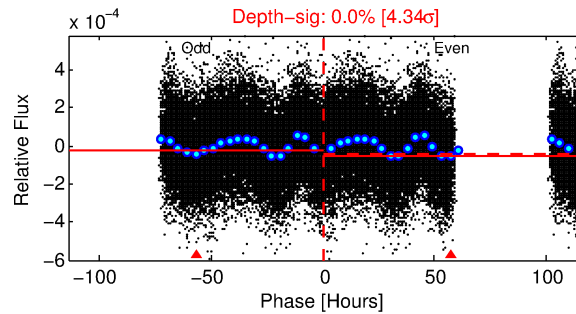
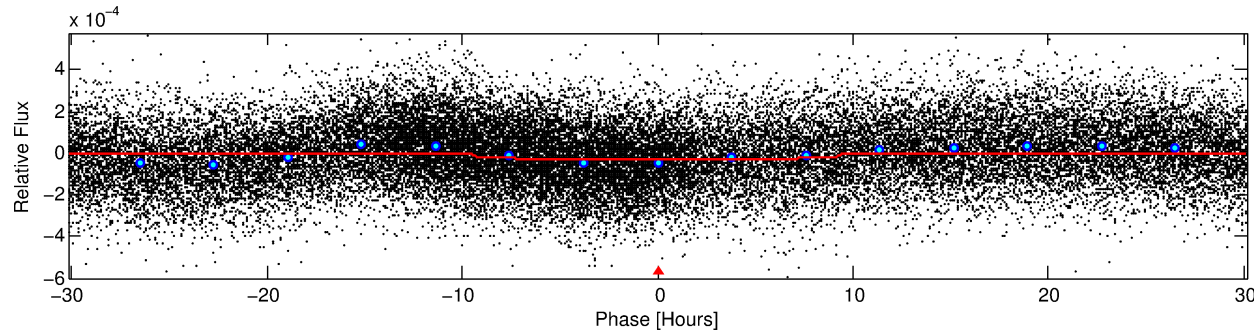
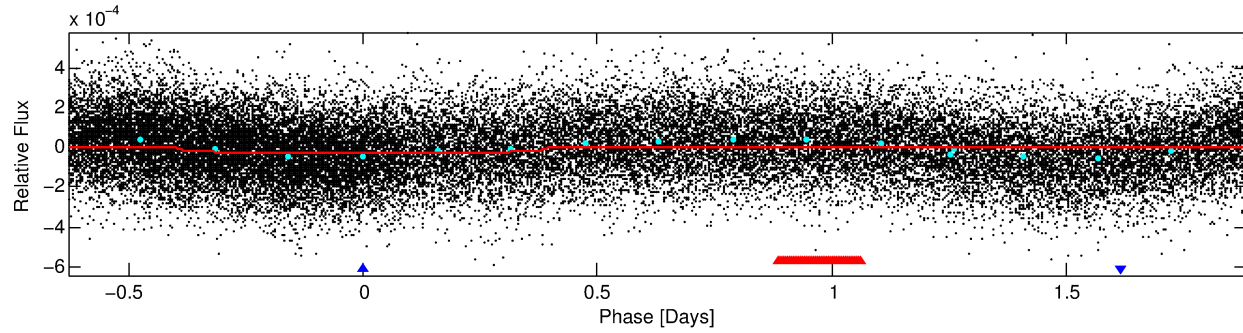
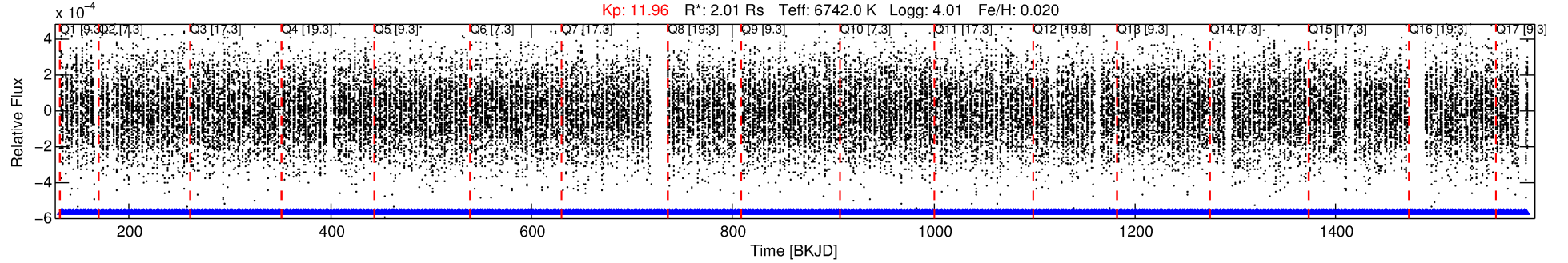
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005788363-02

No Significant Match Found

DV One-Page Summary

KIC: 5788363 Candidate: 2 of 2 Period: 2.512 d



DV Fit Results:

Period = 2.51206 [0.00003] d
Epoch = 132.1307 [0.0072] BKJD
Rp/R* = 0.0050 [0.0035]
a/R* = 1.21 [1.46]
b = 0.01 [412.10]
Seff = 4362.76 [1360.44]
Teq = 2072 [162] K
Rp = 1.09 [0.81] Re
a = 0.0414 [0.0084] AU
Ag = 39.07 [56.54] [0.67 σ]
Teffp = 8011 [2834] K [2.09 σ]

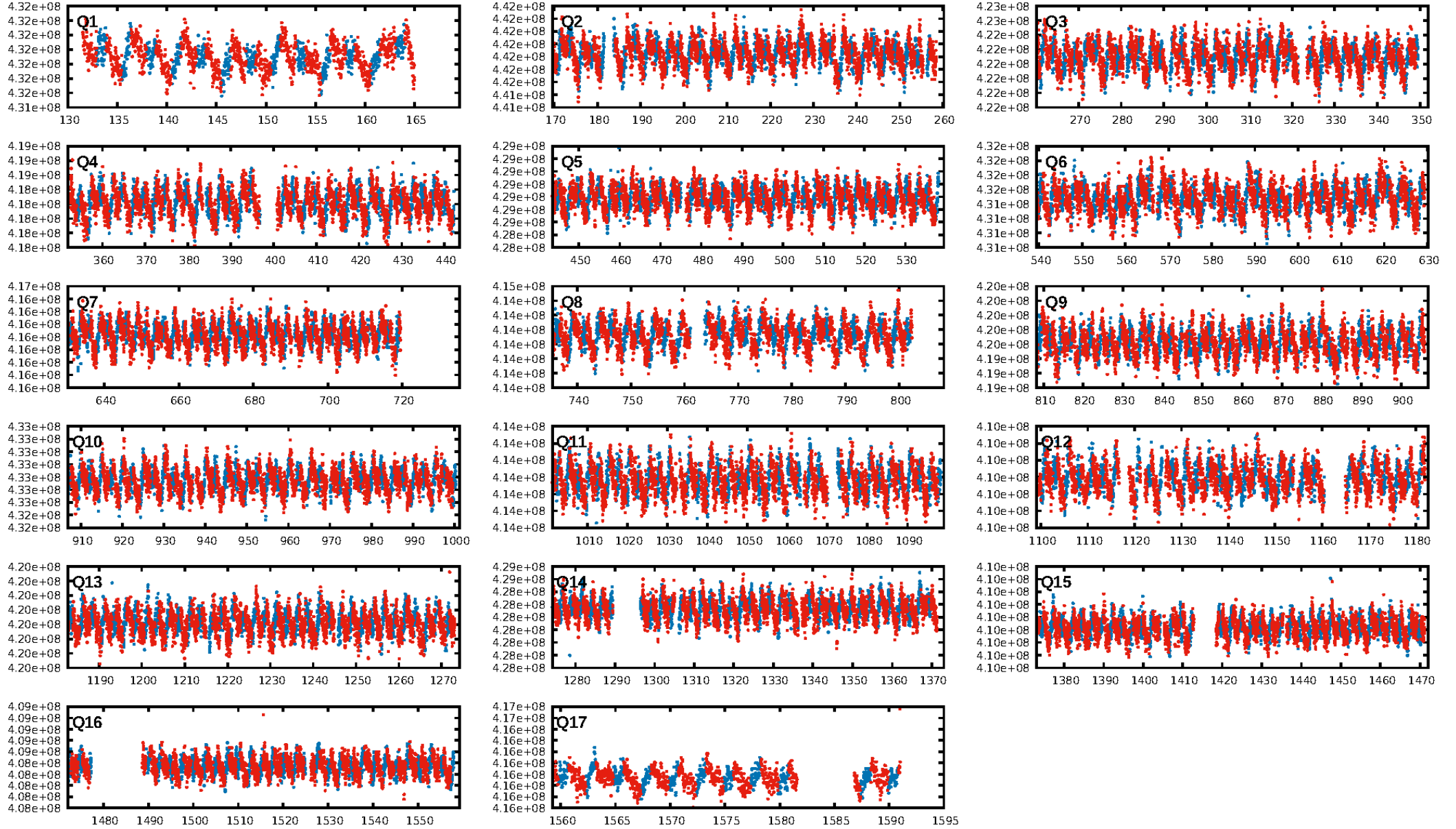
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 98.7% [2.50 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [520/520]
GhostDiagnostic-chr: 2.037
Centroid-sig: 11.4%
Centroid-so: 0.337 arcsec [1.47 σ]
OotOffset-rm: 0.433 arcsec [1.62 σ]
KicOffset-rm: 0.355 arcsec [1.39 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 0.12 [2/17]

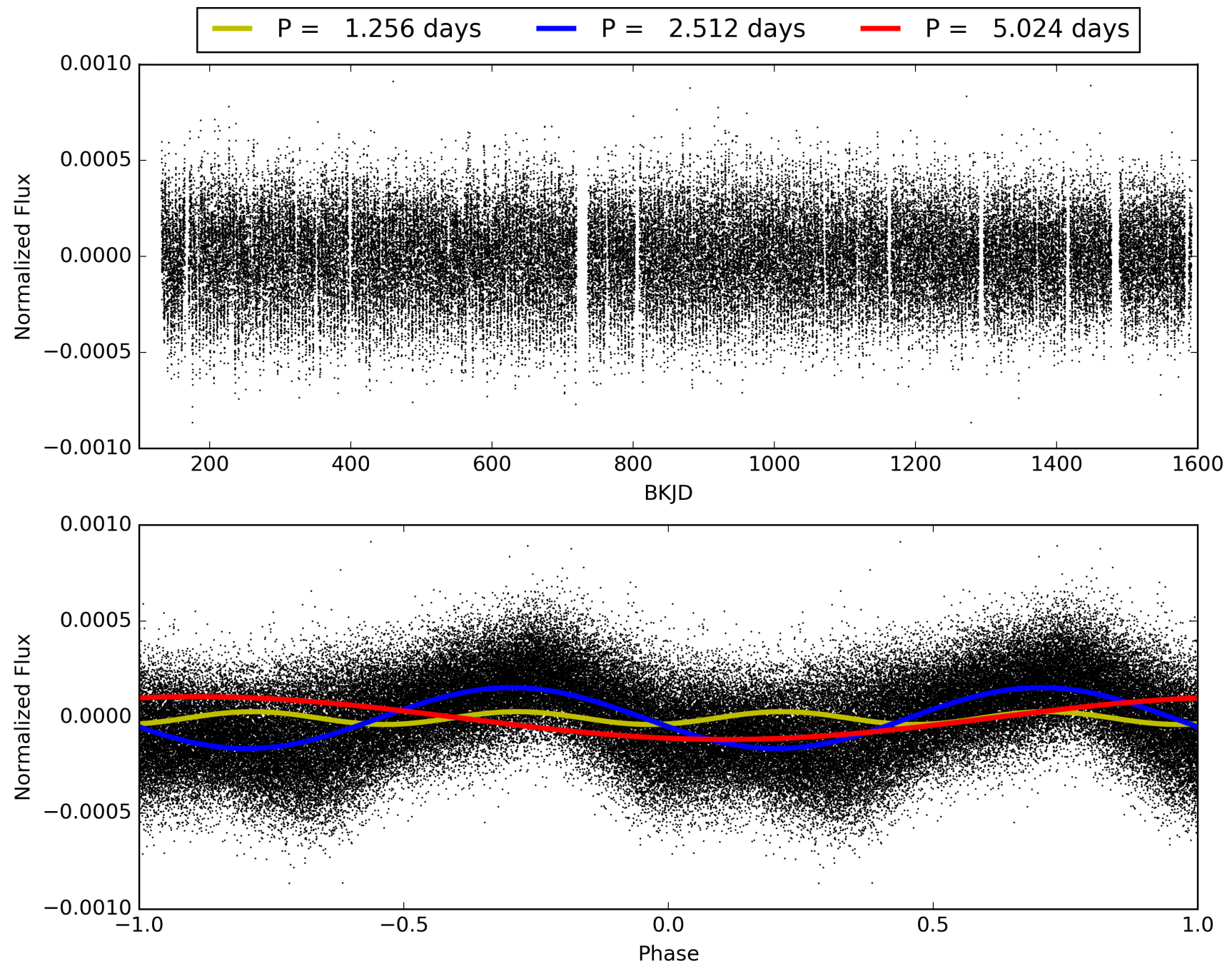
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 13:22:07 Z

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

TCE 005788363-02, PDC Light Curves

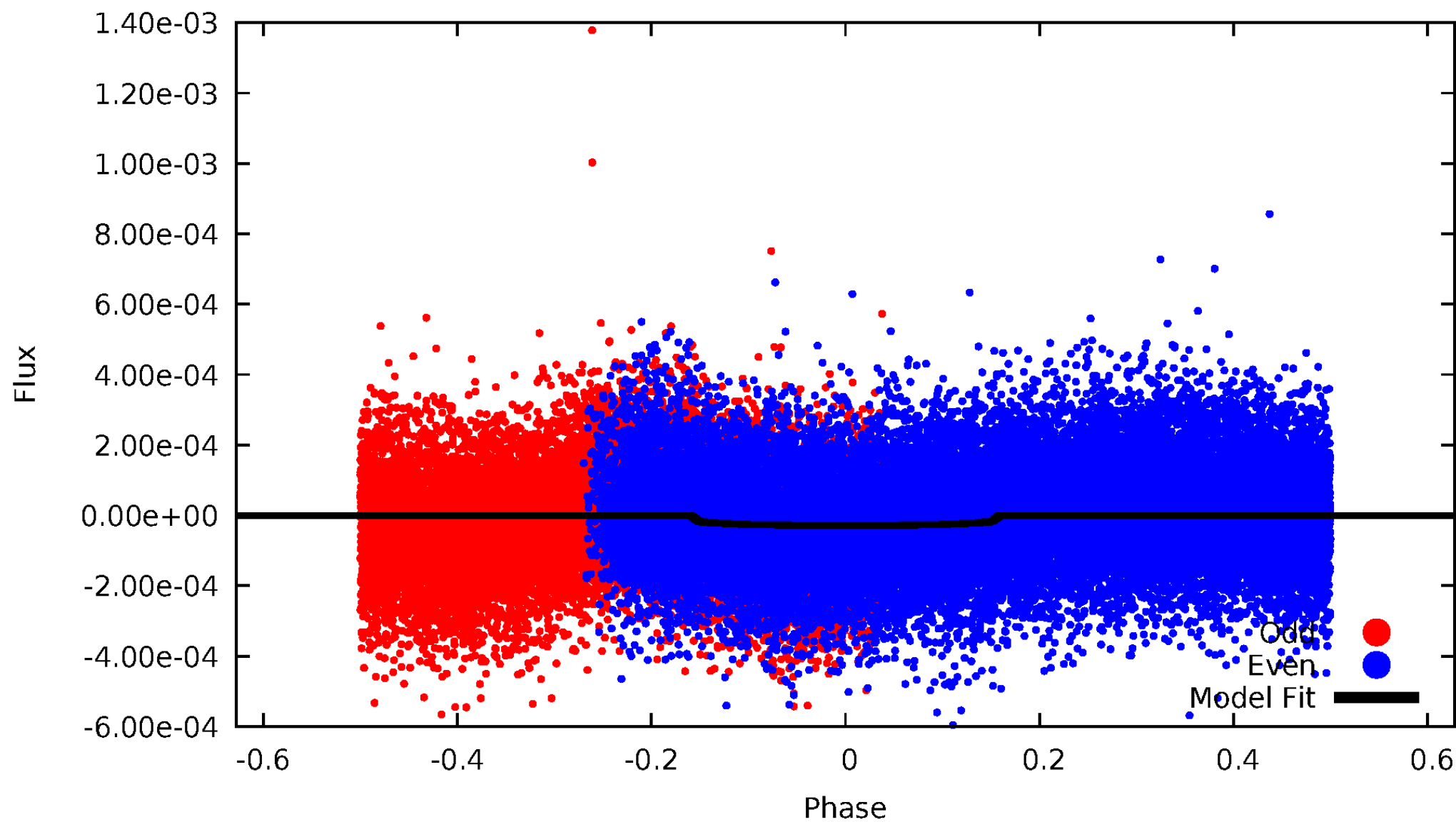


TCE 005788363-02



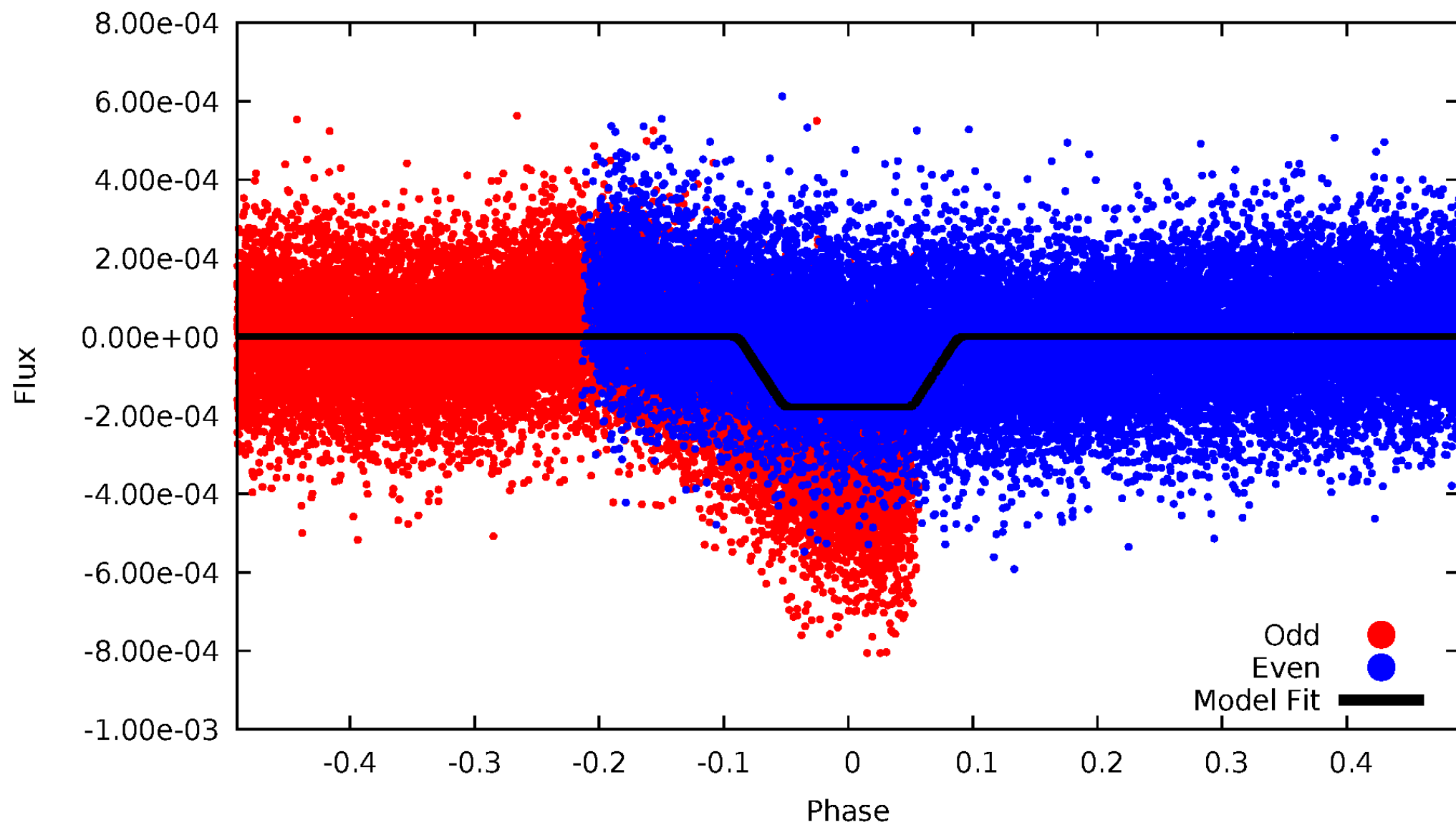
DV Odd/Even

TCE 005788363-02



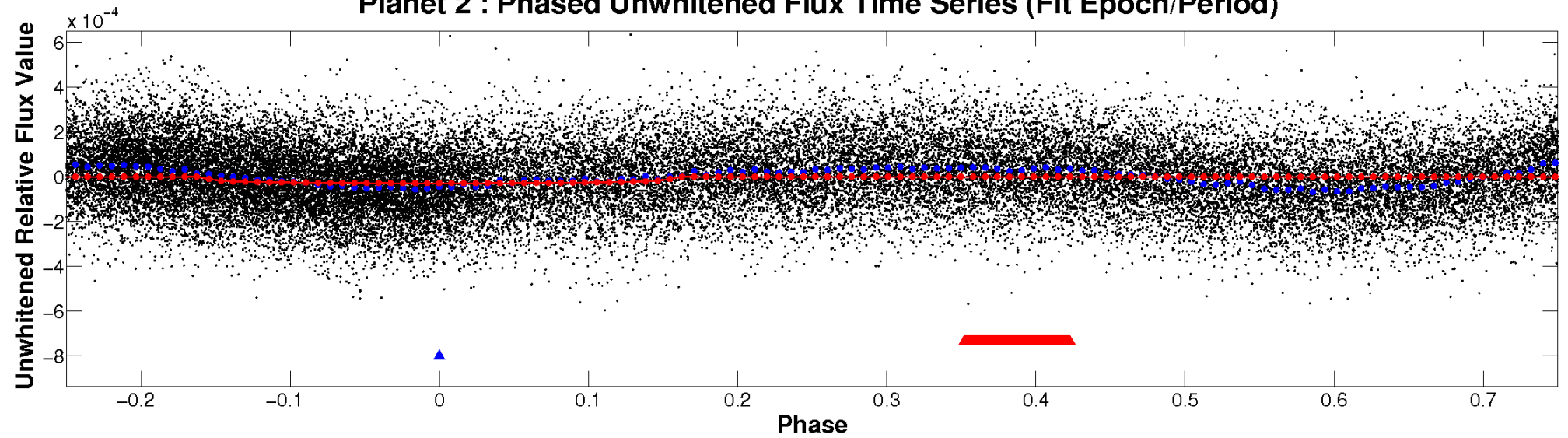
ALT Odd/Even

TCE 005788363-02

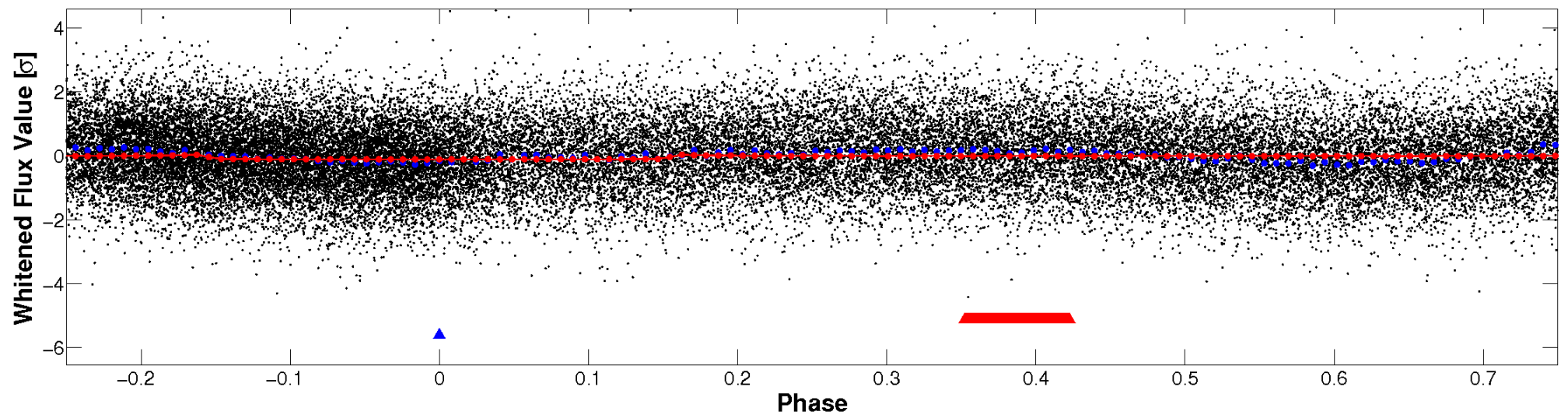


Non-Whitened Vs. Whitened Light Curve

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

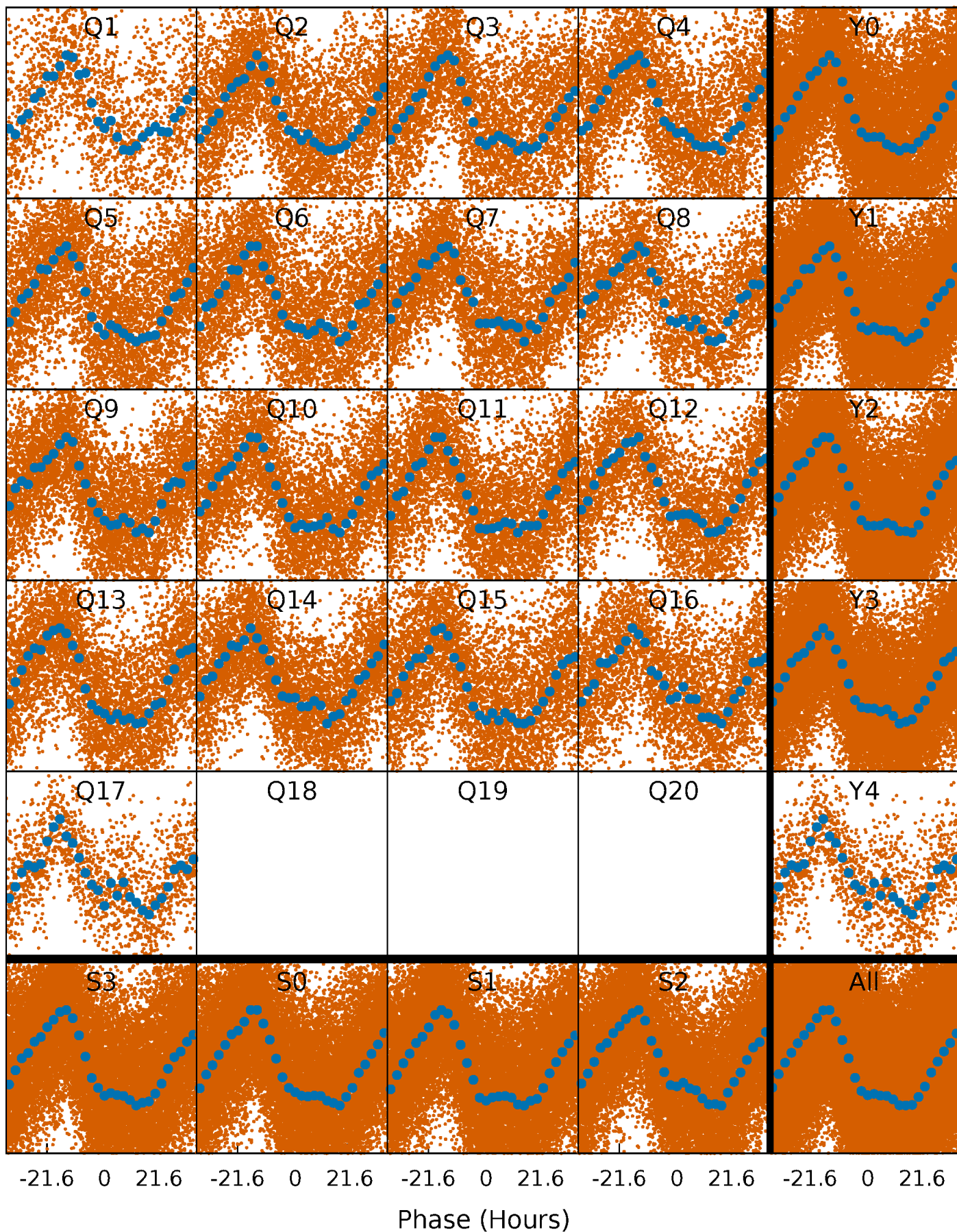


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



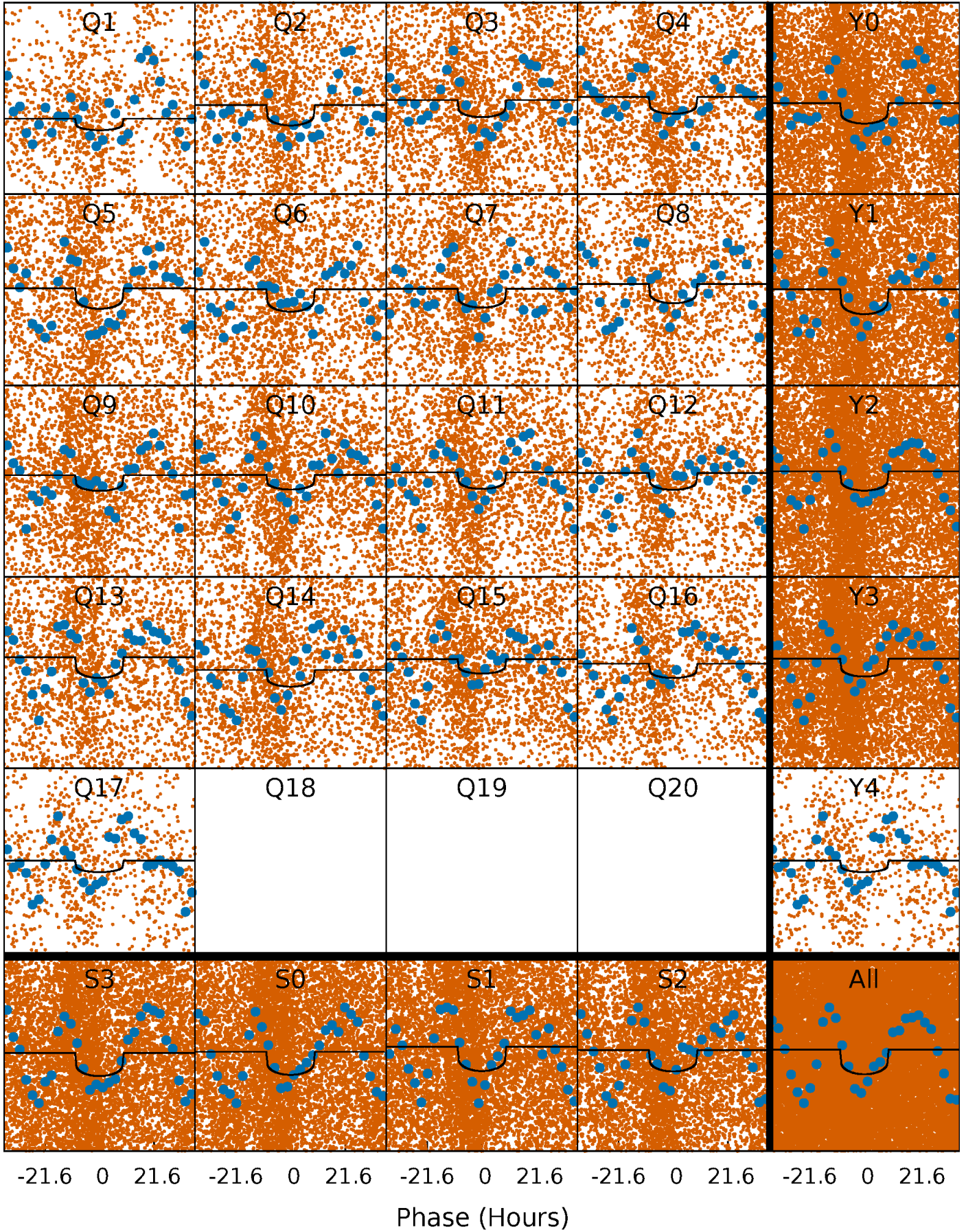
PDC Quarter-Phased Transit Curves

TCE 005788363-02 P= 2.512059 Days $T_0=132.130716$ (BKJD)



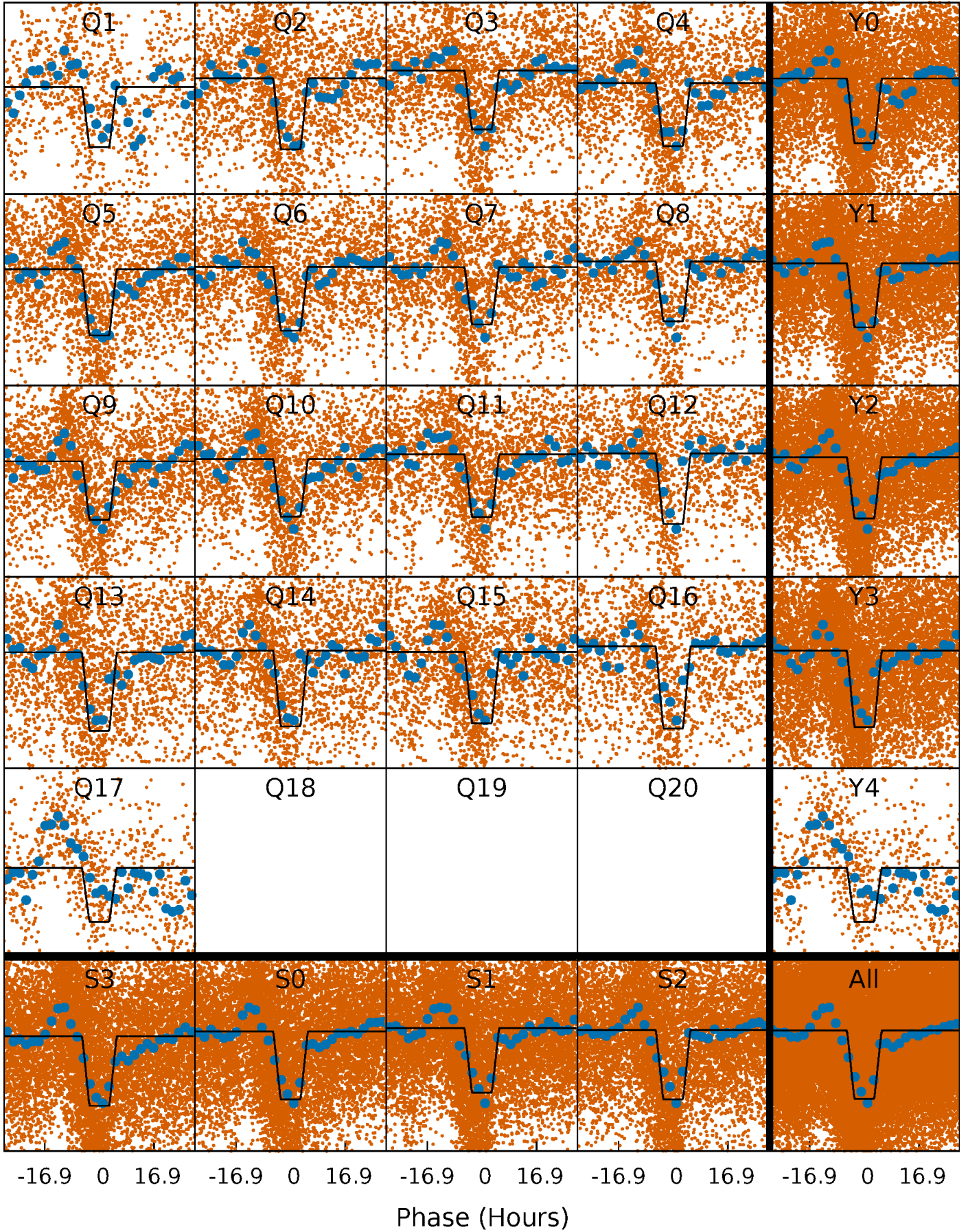
DV Quarter-Phased Transit Curves

TCE 005788363-02 P= 2.512059 Days $T_0=132.130716$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

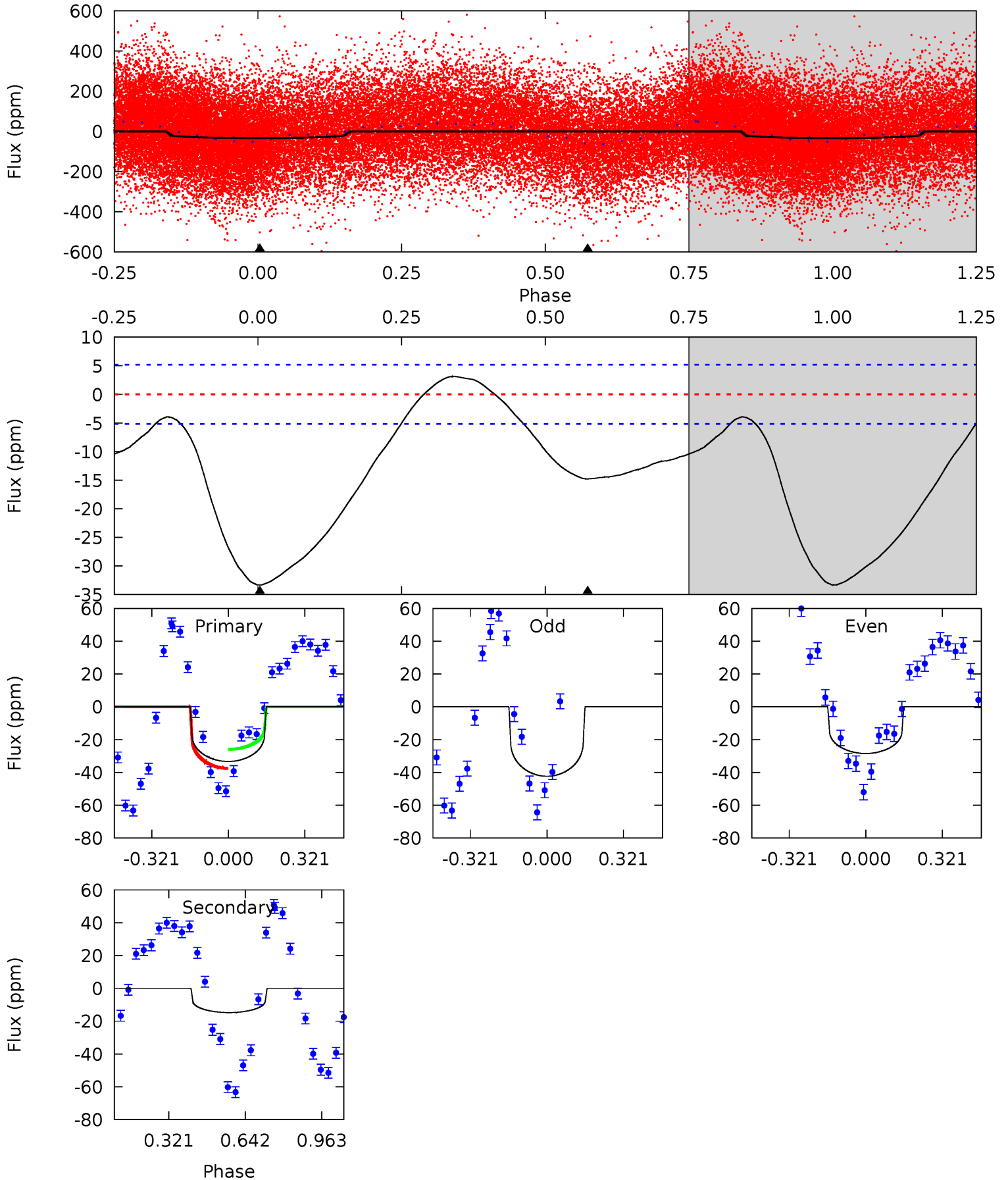
TCE 005788363-02 P= 2.511879 Days $T_0=132.097782$ (BKJD)



DV Model-Shift Uniqueness Test

005788363-02, P = 2.512059 Days, E = 129.618657 Days

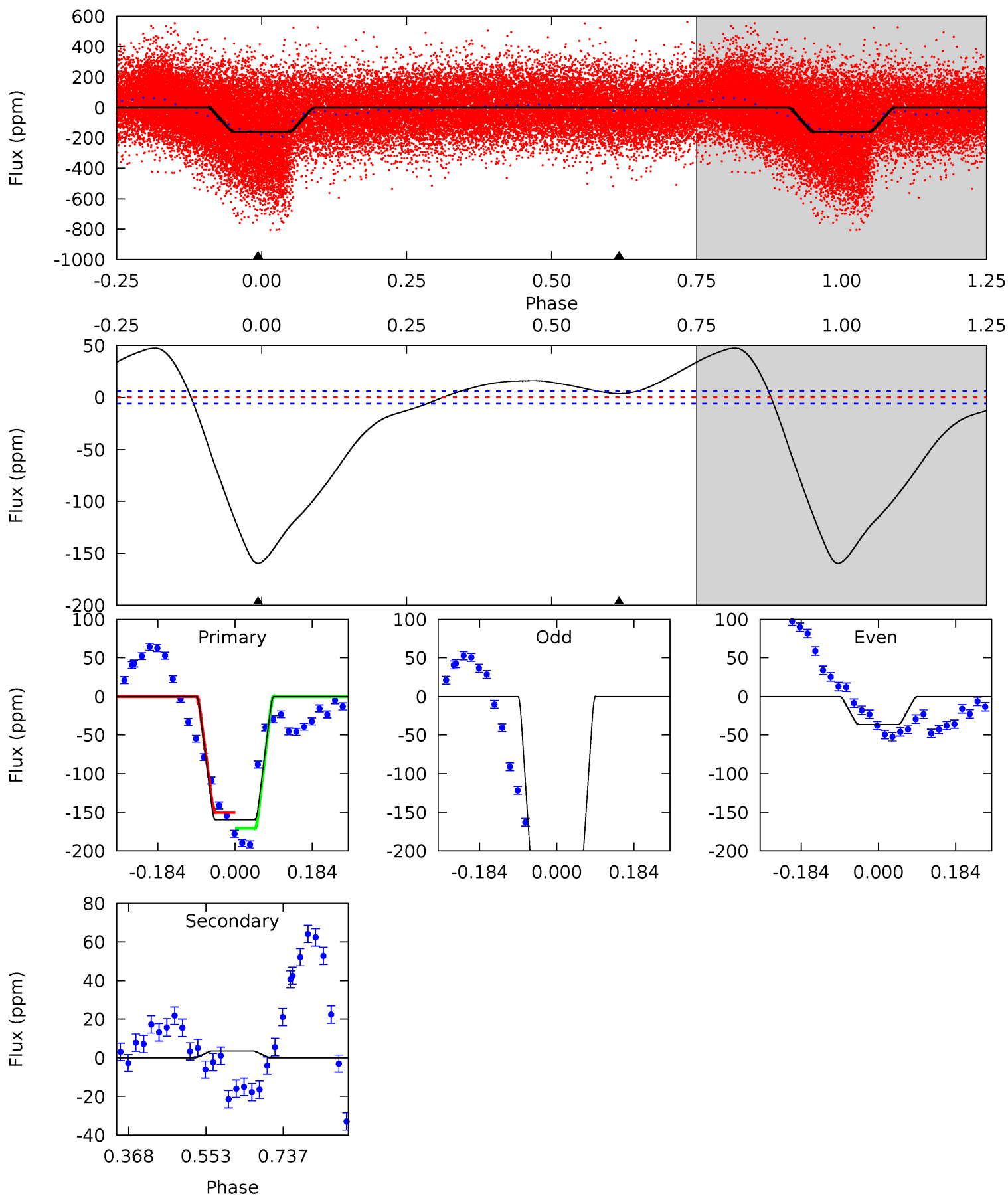
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.8	12.3	0	0	4.31	0.99	3.02	27.8	27.8	12.3	12.3	5.77	0.99	0.09	4.84



Alt Model-Shift Uniqueness Test

005788363-02, P = 2.511879 Days, E = 129.585903 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
119.4	-2.72	0	0	4.43	1.33	13.2	119.4	119.4	-2.72	-2.72	95.2	1.14	0.23	7.62



Stellar Parameters For KIC 005788363

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6742^{+74}_{-87}	$4.008^{+0.174}_{-0.116}$	$0.020^{+0.150}_{-0.150}$	$2.012^{+0.376}_{-0.460}$	$1.504^{+0.117}_{-0.156}$	$0.260^{+0.246}_{-0.093}$
	+1%/-1%	+4%/-3%	+750%/-750%	+19%/-23%	+8%/-10%	+94%/-36%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005788363-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-15 ± 1	$1.14^{+0.77}_{-0.63}$	2893^{+142}_{-175}	5753^{+3317}_{-1257}	11^{+42}_{-7}
Alt.	4 ± 1	$2.86^{+0.84}_{-0.84}$	2883^{+144}_{-156}	-3433^{+188}_{-277}	$-0.406^{+0.210}_{-0.424}$

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 $A_{obs} \gg 1.0$

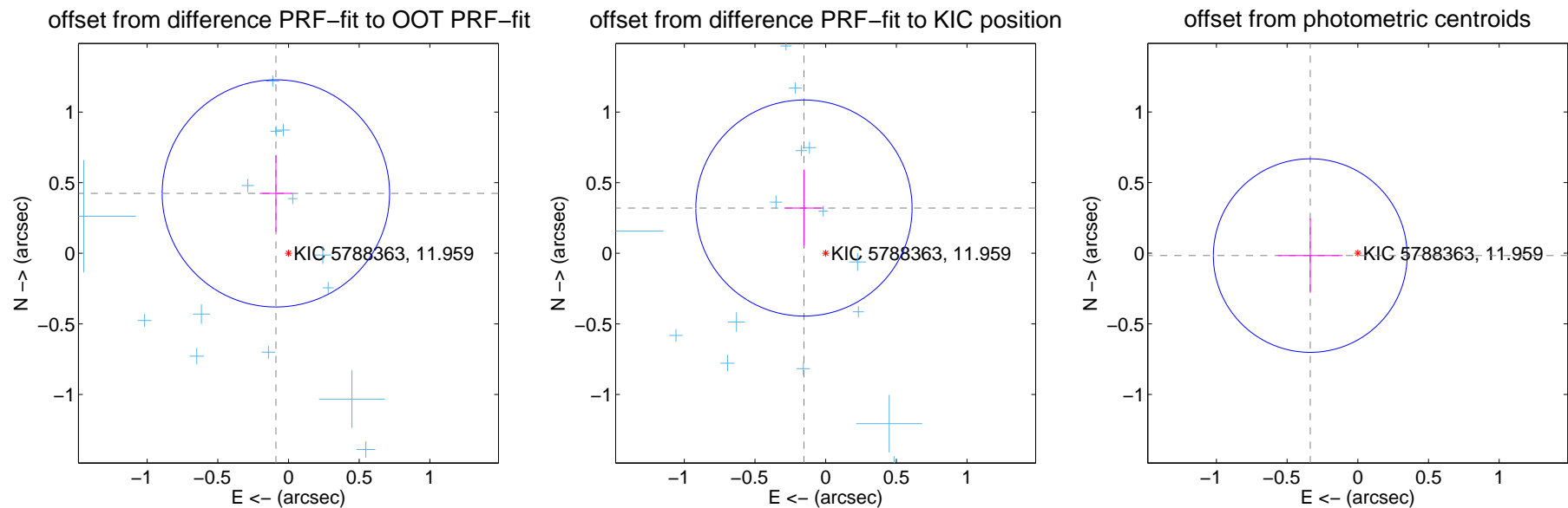
DV Centroid Data

Supplemental centroid analysis for 005788363-02. **Kepler magnitude: 11.96.** Transit SNR 13.28

There are 16 quarters with good PRF difference image offsets

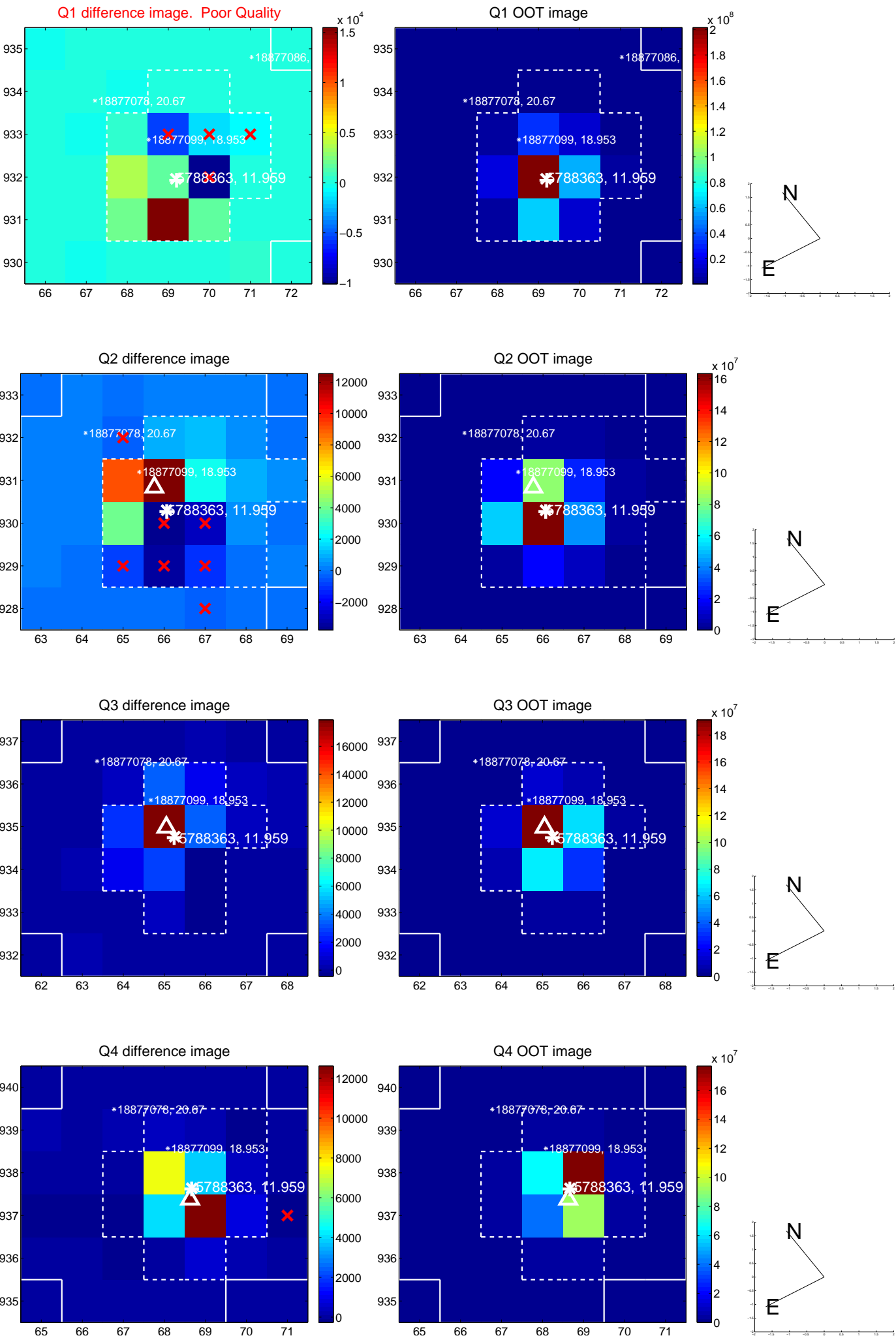
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.433 ± 0.268	1.62	0.089 ± 0.115	0.424 ± 0.273
PRF-fit source offset from KIC position	0.355 ± 0.255	1.39	0.154 ± 0.138	0.321 ± 0.273
photometric centroid source offset	0.34 ± 0.23	1.47	0.34 ± 0.23	-0.02 ± 0.26

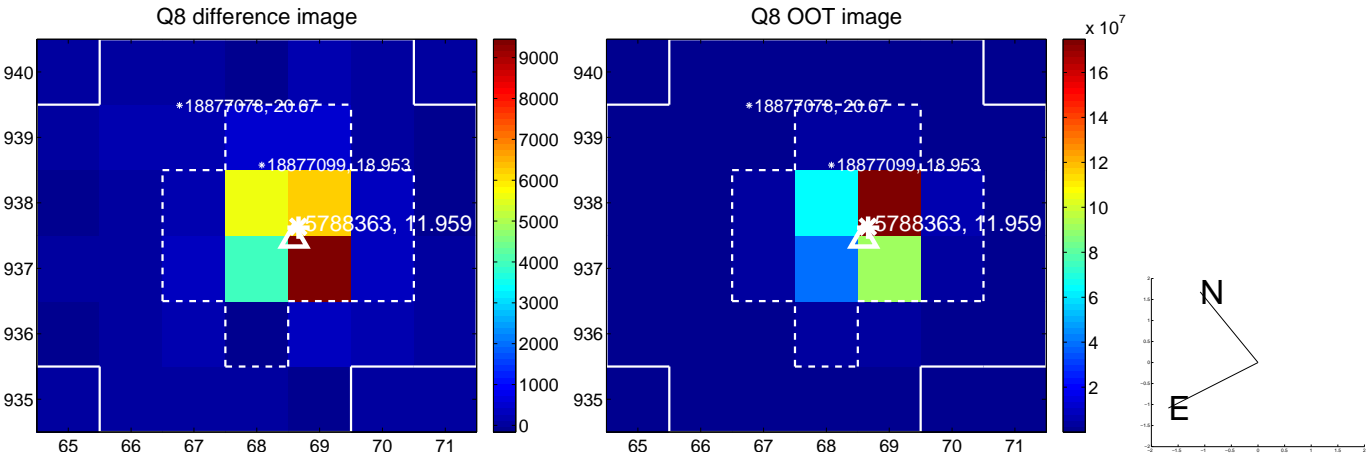
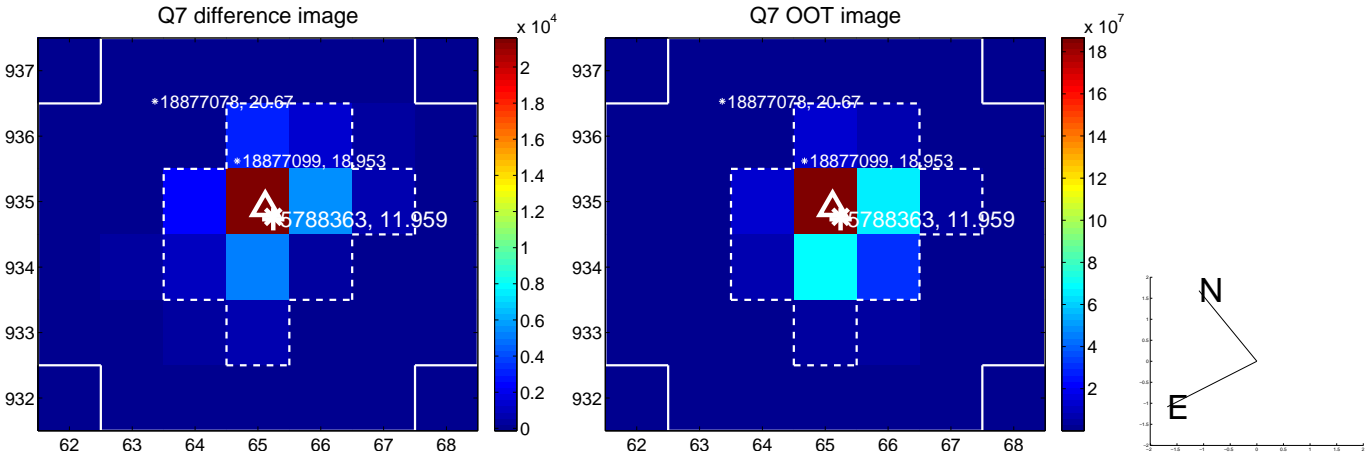
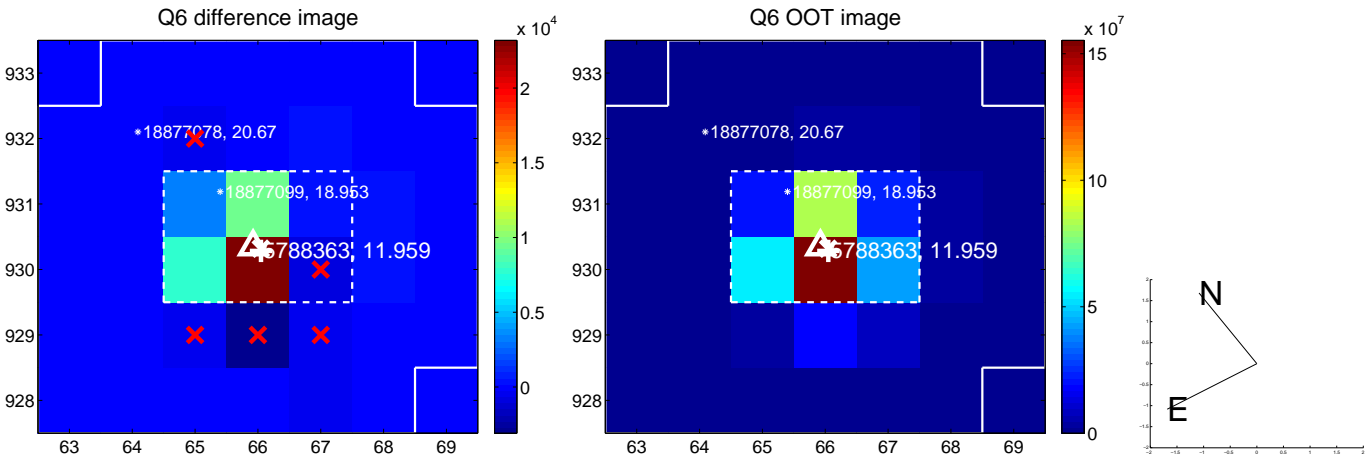
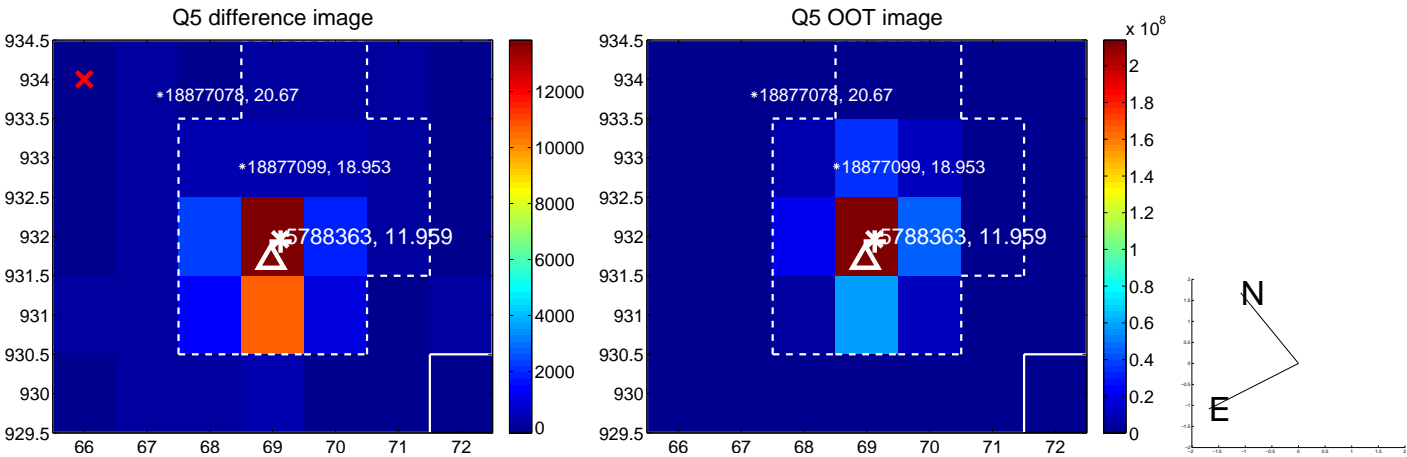


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

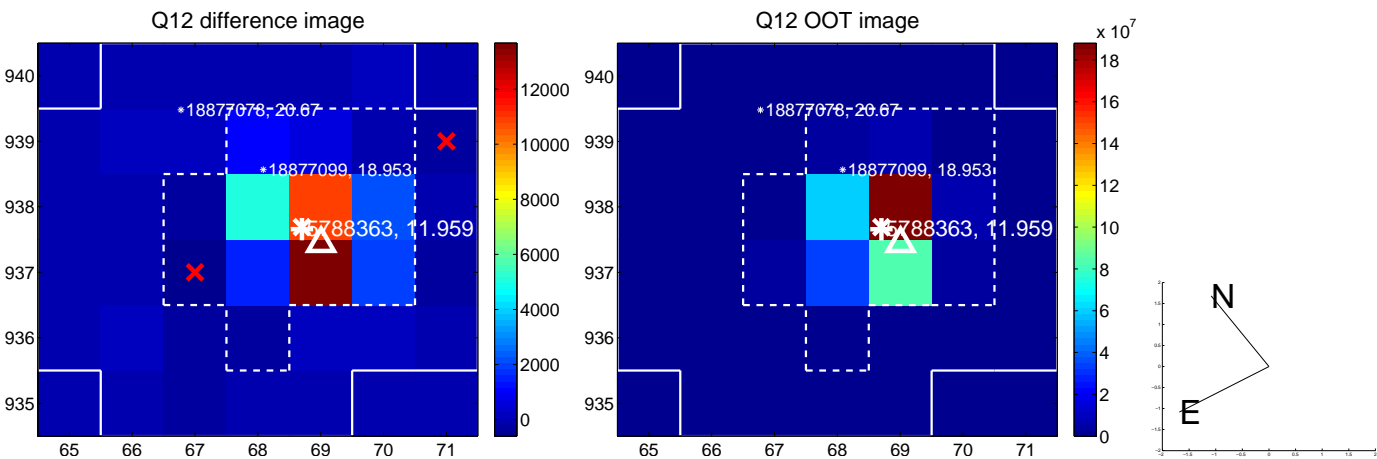
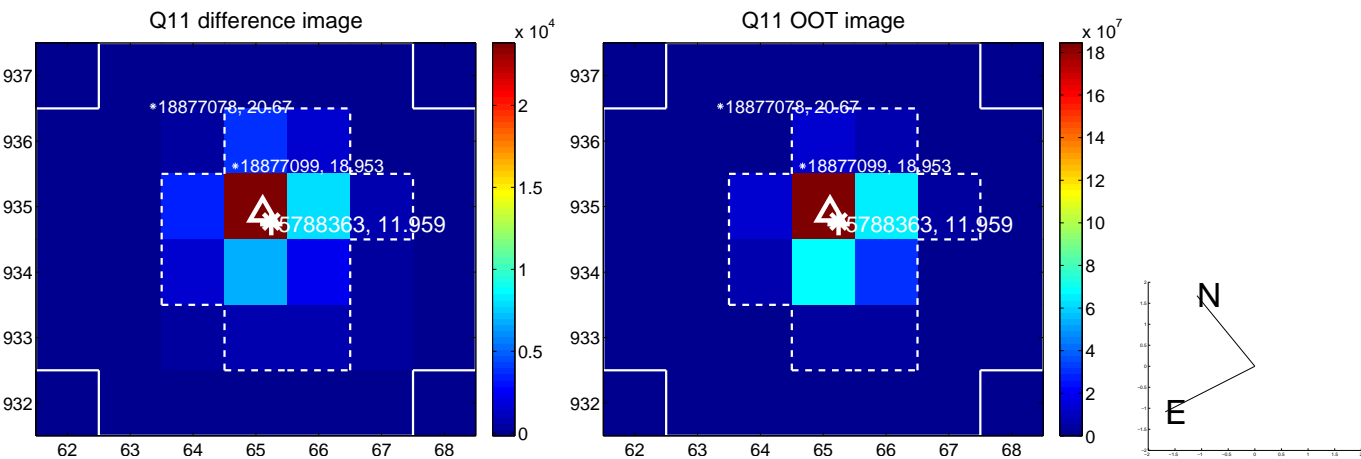
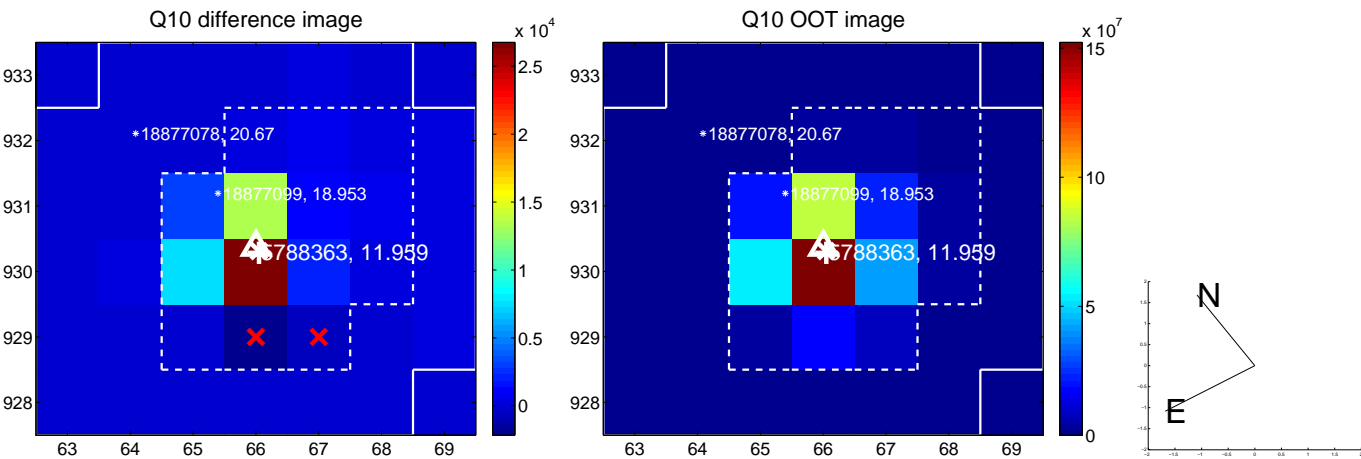
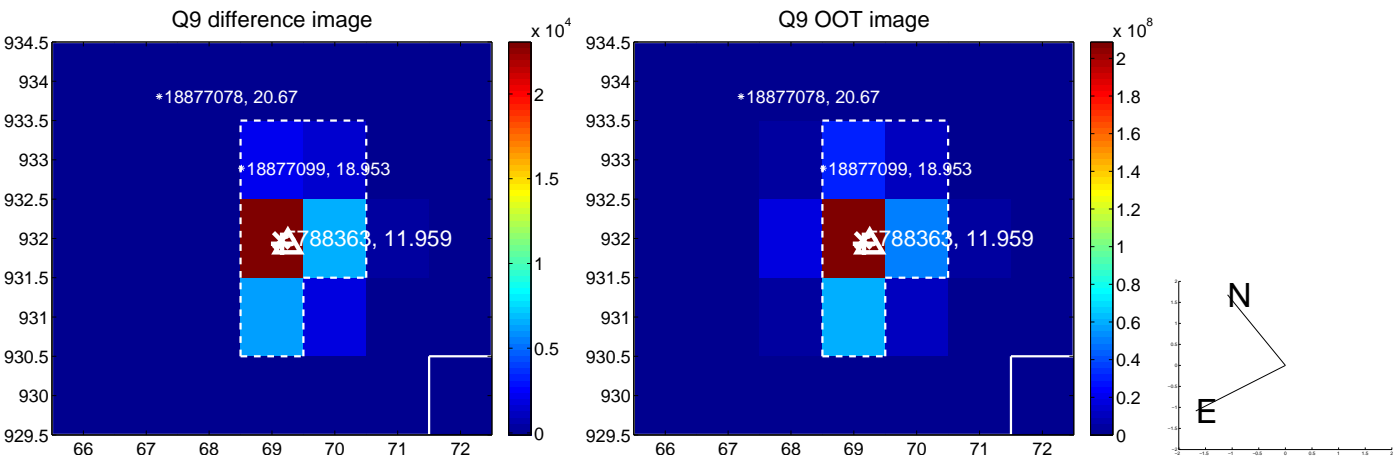
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



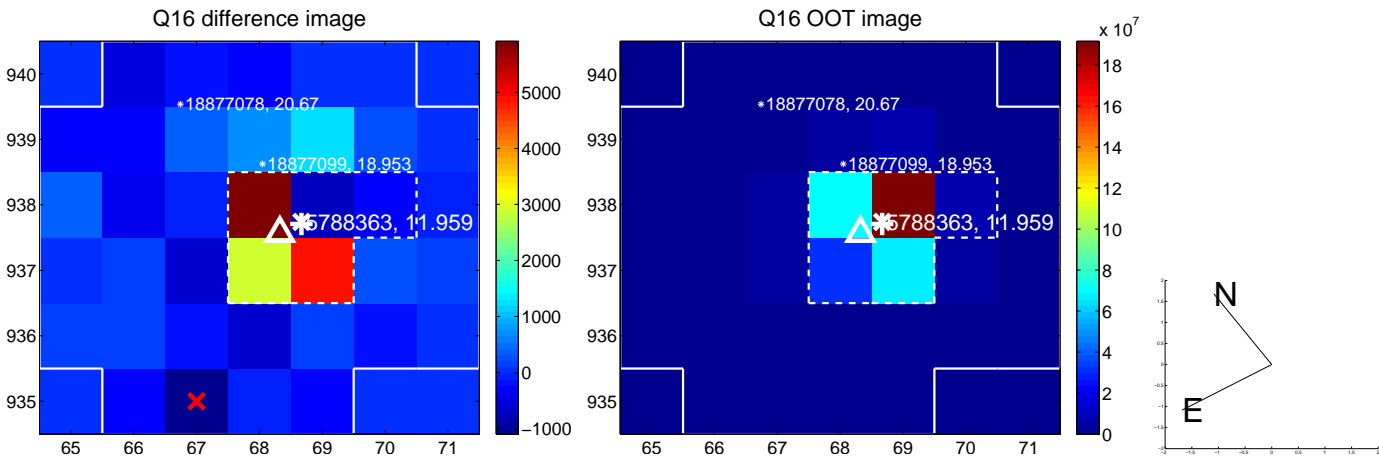
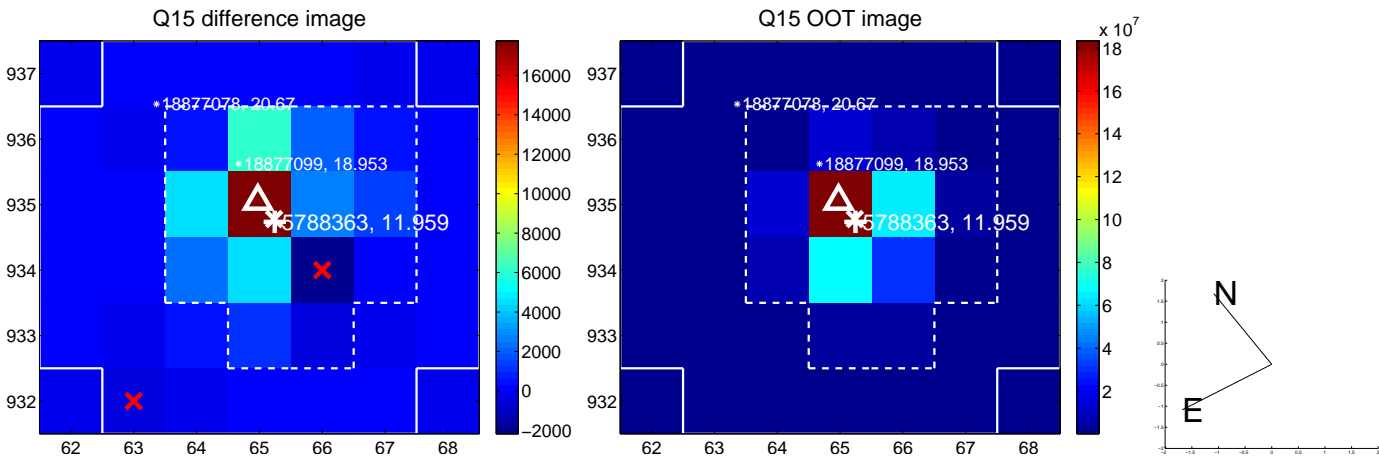
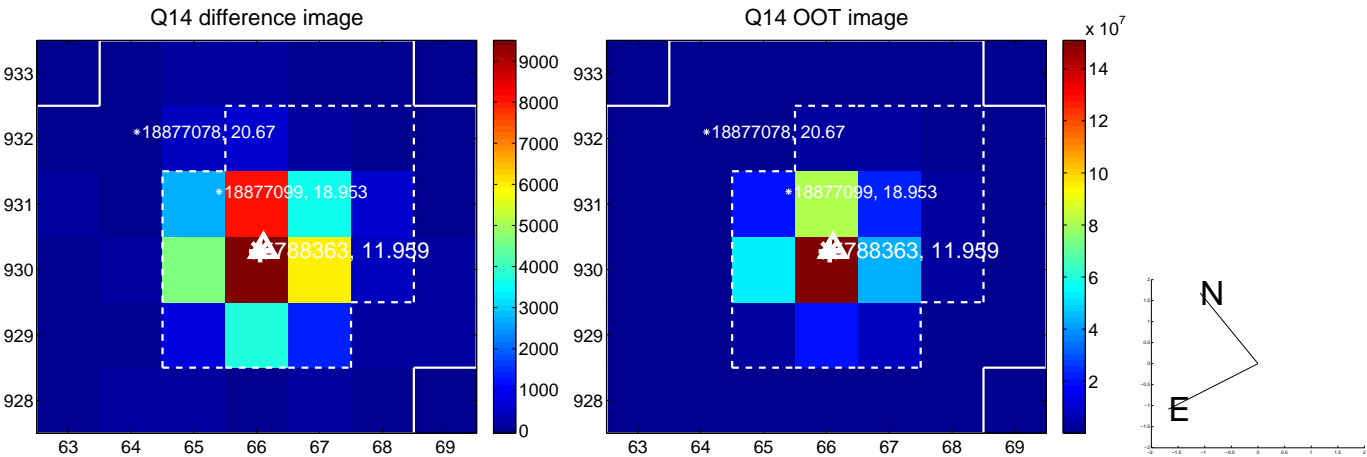
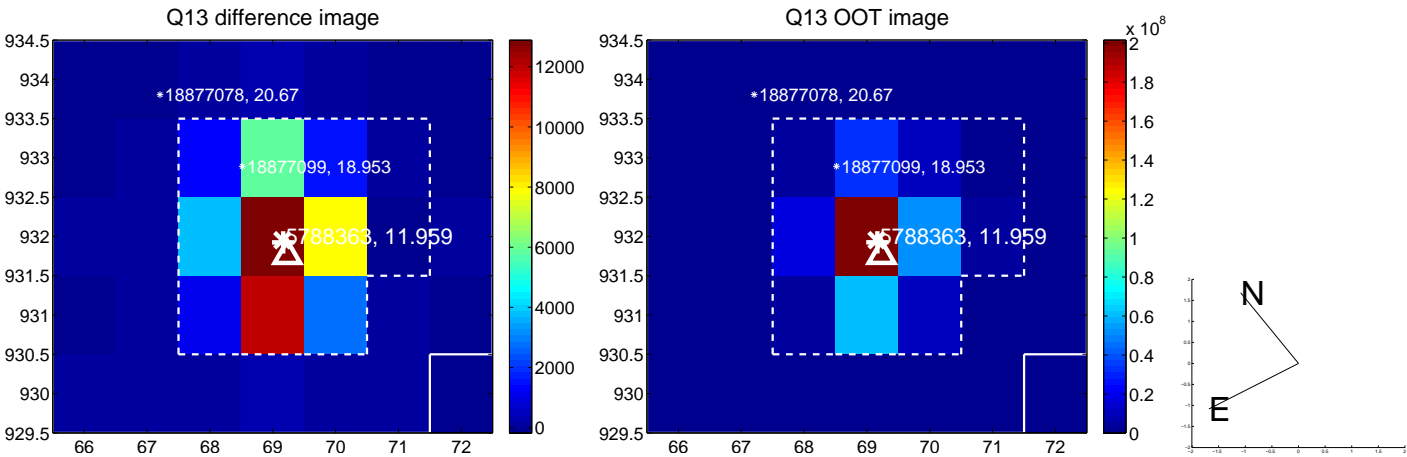
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



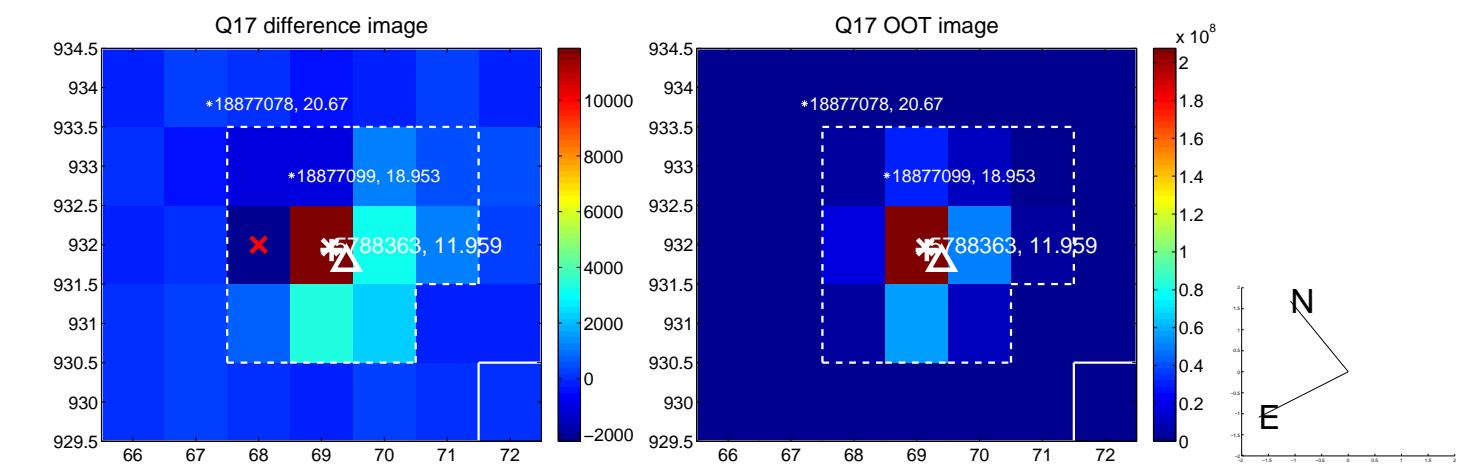
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



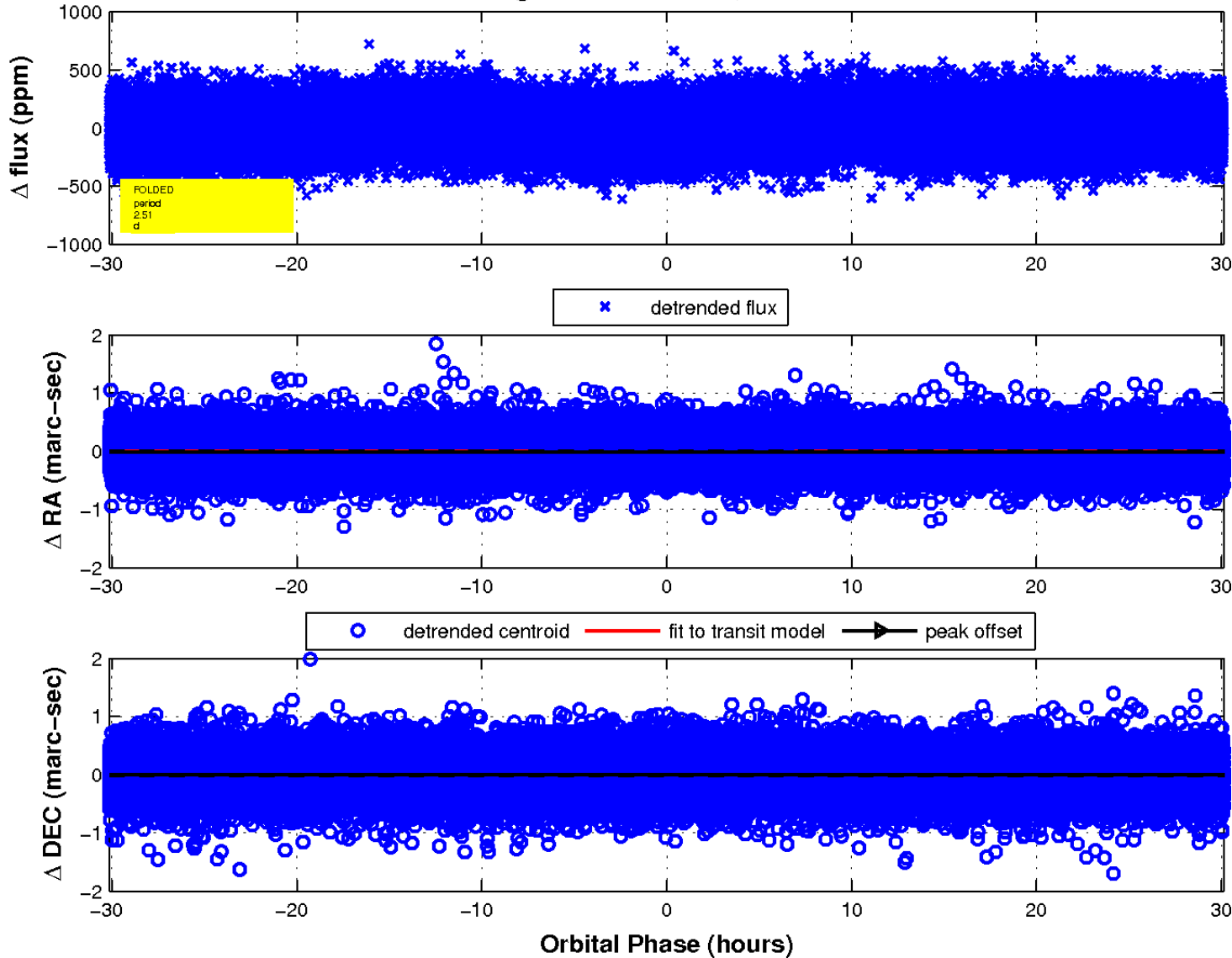
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

