

KIC 002283308

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})
002283308-01	OBS	No	1.206858	132.396448	383.0	3.500	8.9	-1.0	1.47	6697	2.90	6886.91
002283308-02	OBS	No	1.206705	132.029495	23.6	2.871	8.2	6.1	1.47	6697	0.72	6888.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002283308-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
002283308-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

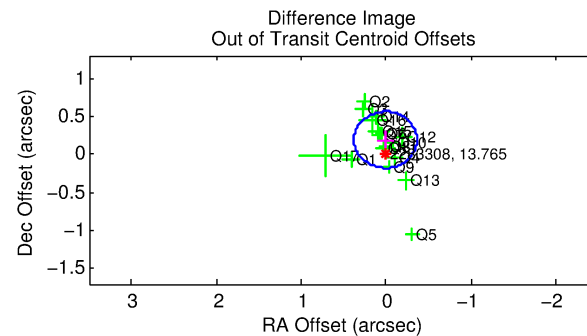
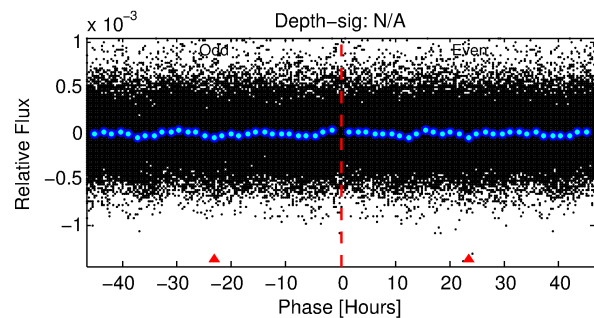
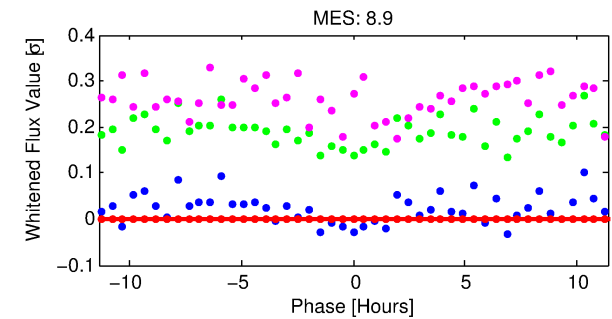
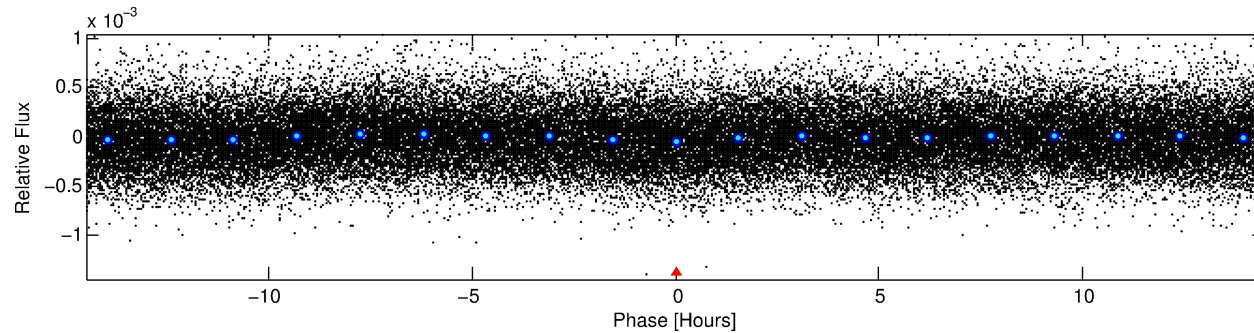
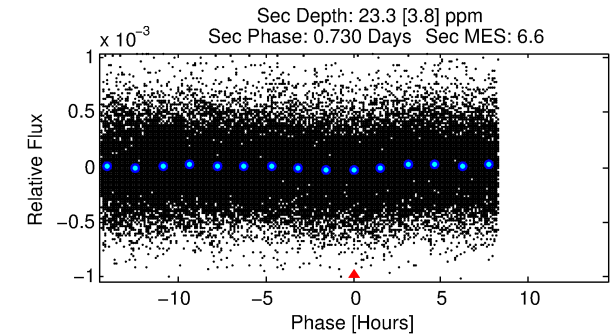
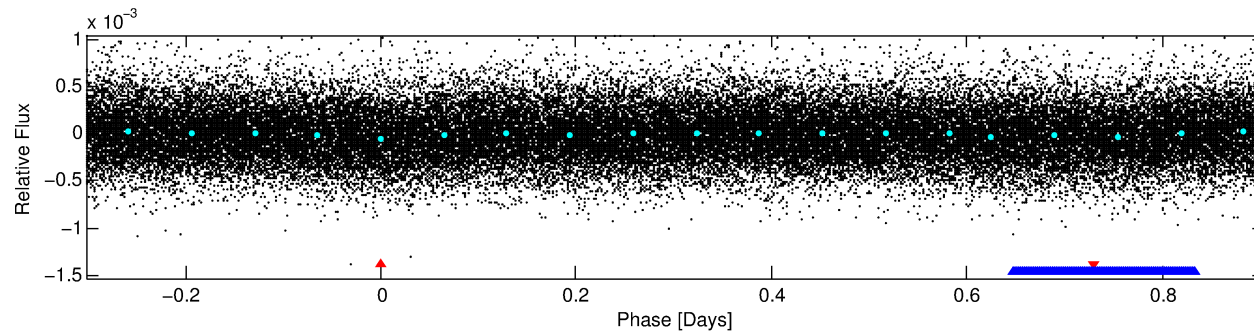
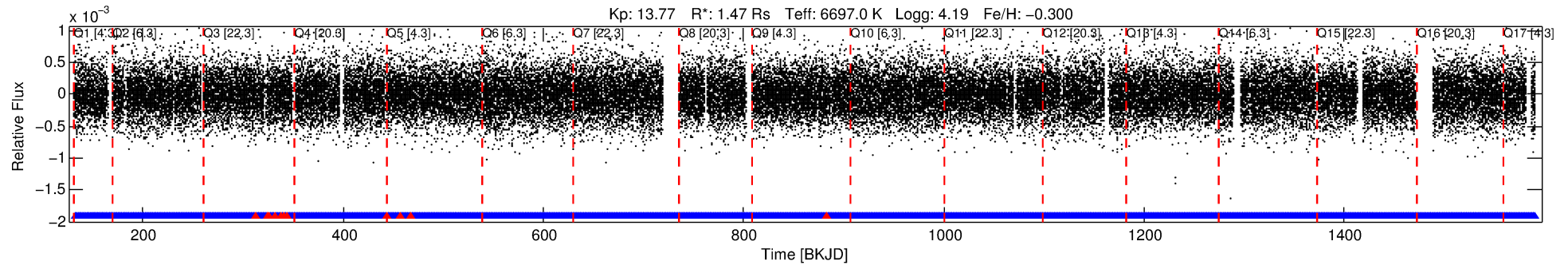
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002283308-01

No Significant Match Found

DV One-Page Summary

KIC: 2283308 Candidate: 1 of 2 Period: 1.207 d



TPS TCE Results:

Period = 1.20686 d
Epoch = 132.3964 BKJD

DV fit results are unavailable

DV Diagnostic Results:

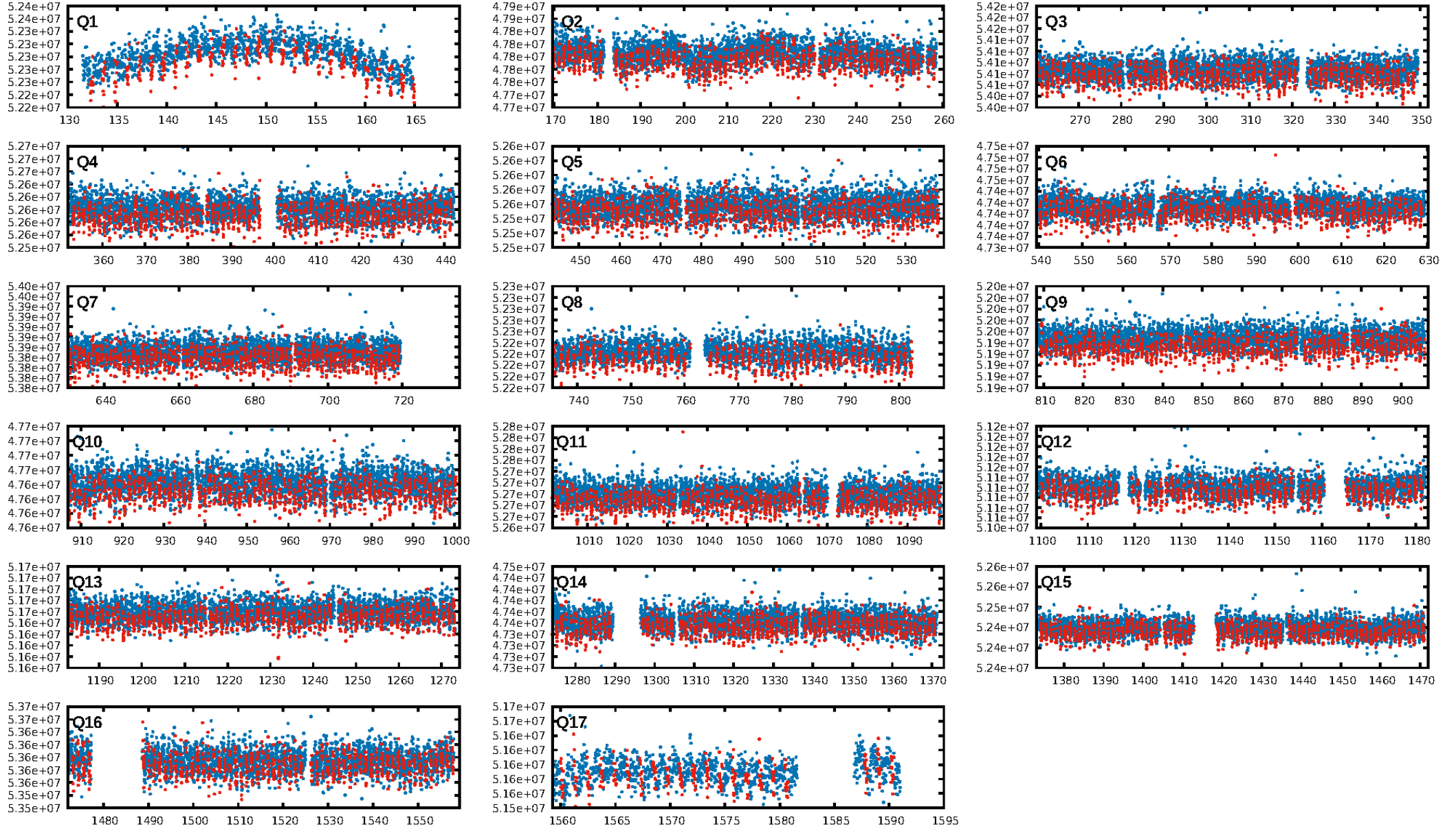
ShortPeriod-sig: 0.1% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.37e-20
RollingBand-fgt: 0.99 [1061/1073]
GhostDiagnostic-chr: 0.9259

Centroid-sig: 0.0%
Centroid-so: 0.641 arcsec [6.35 σ]
OotOffset-rm: 0.193 arcsec [1.56 σ]
KicOffset-rm: 0.035 arcsec [0.33 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

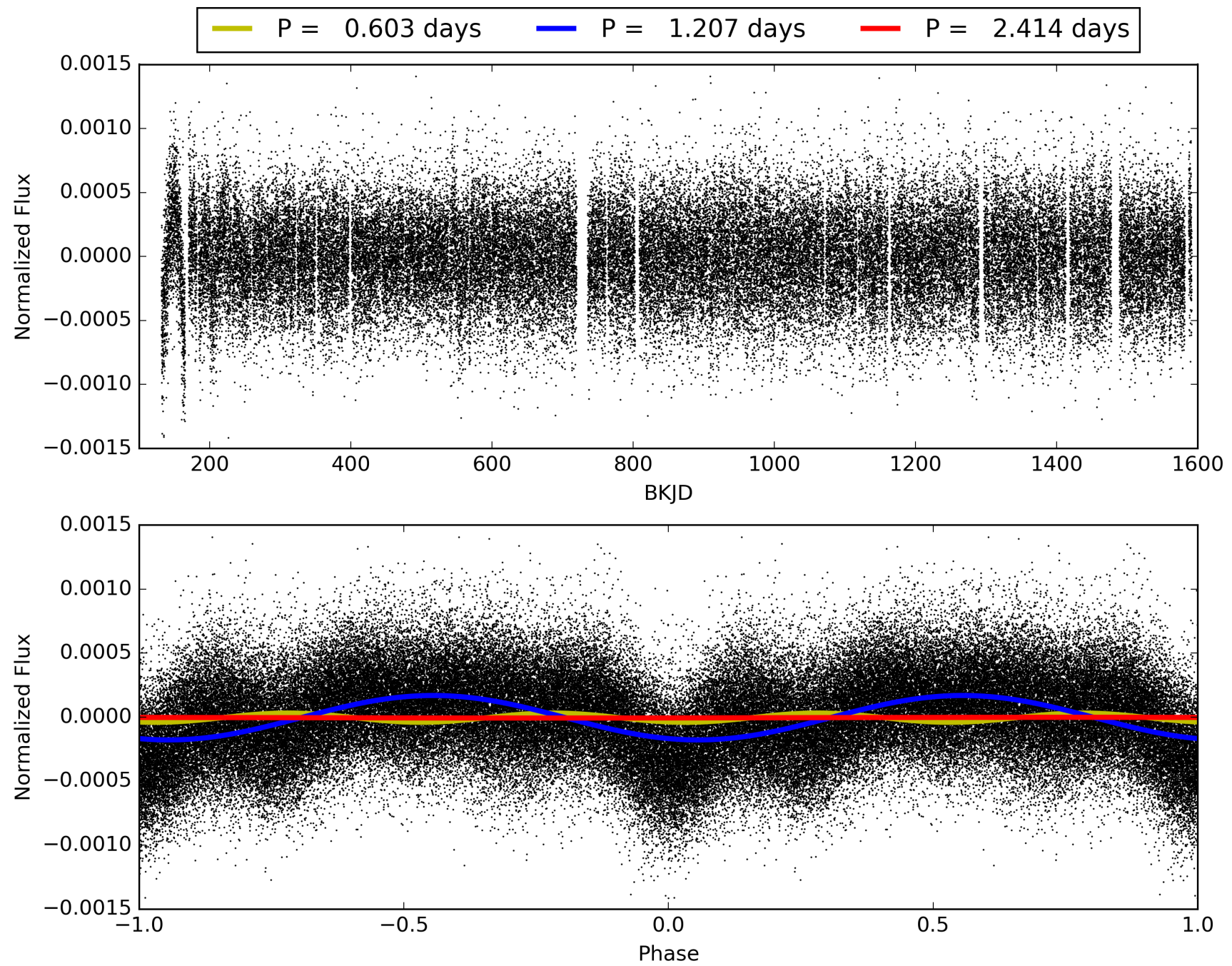
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 04:53:36 Z

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

TCE 002283308-01, PDC Light Curves

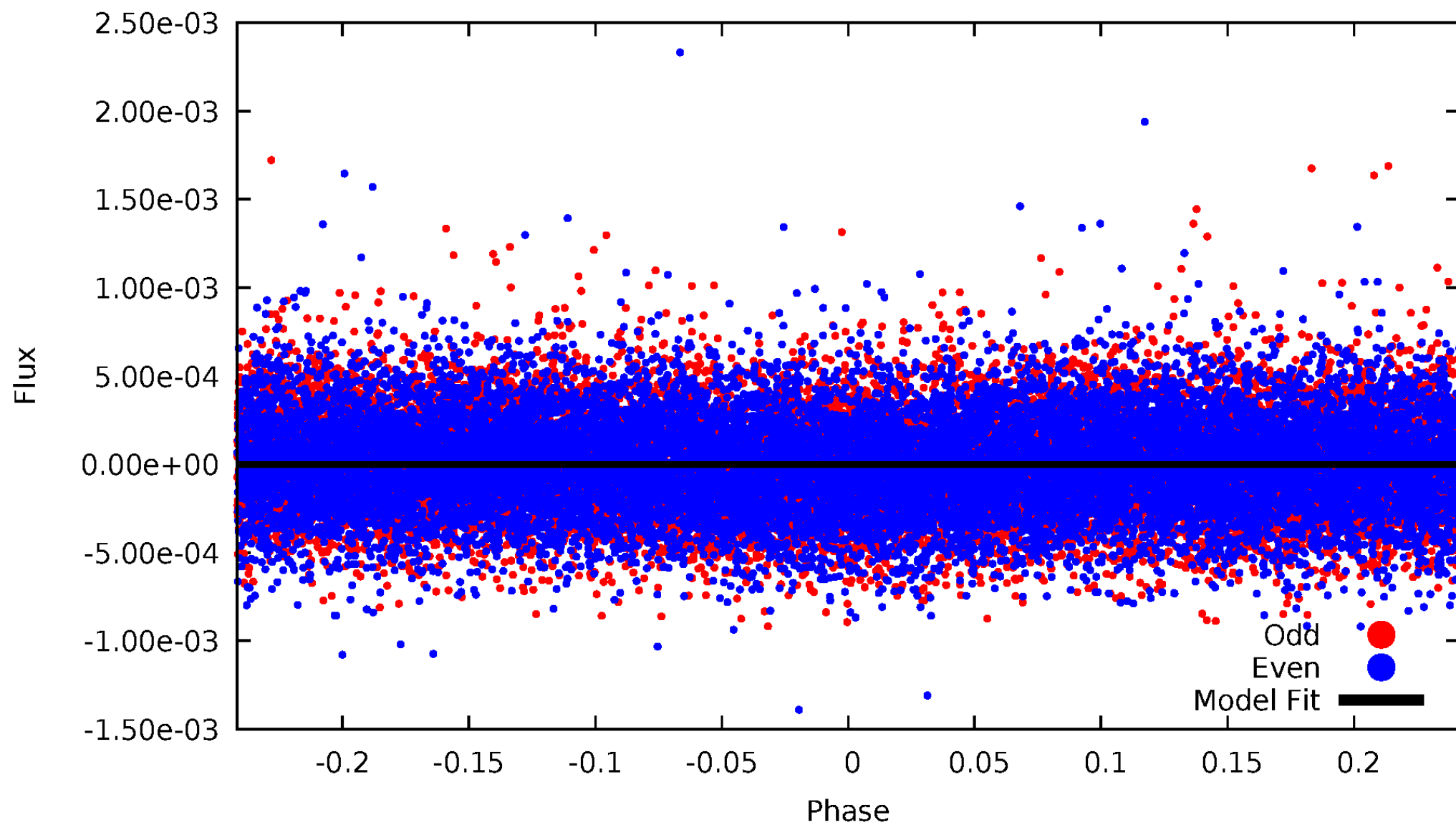


TCE 002283308-01



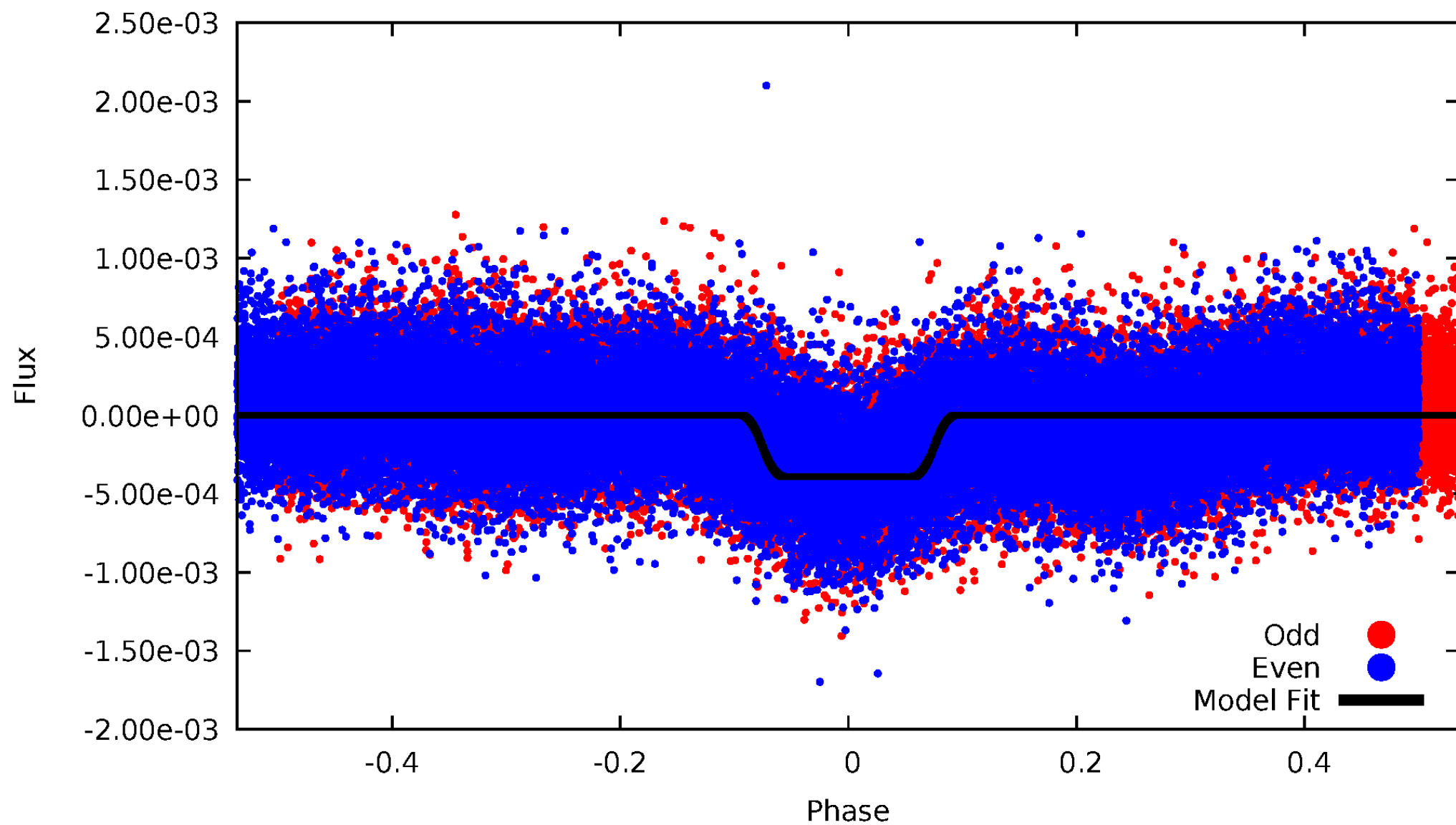
DV Odd/Even

TCE 002283308-01

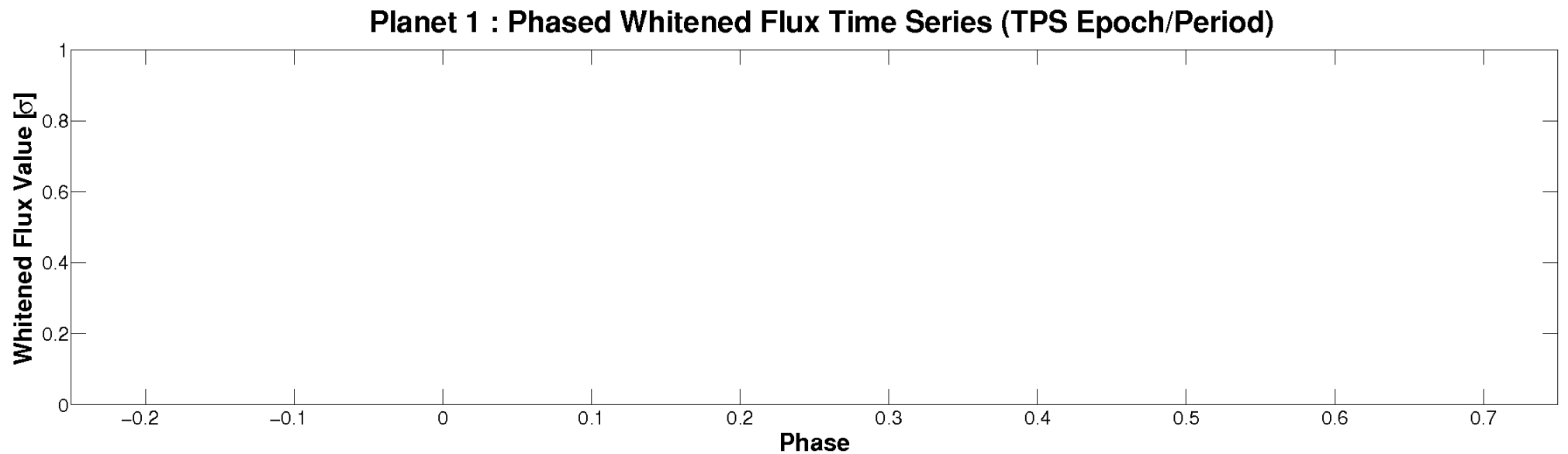
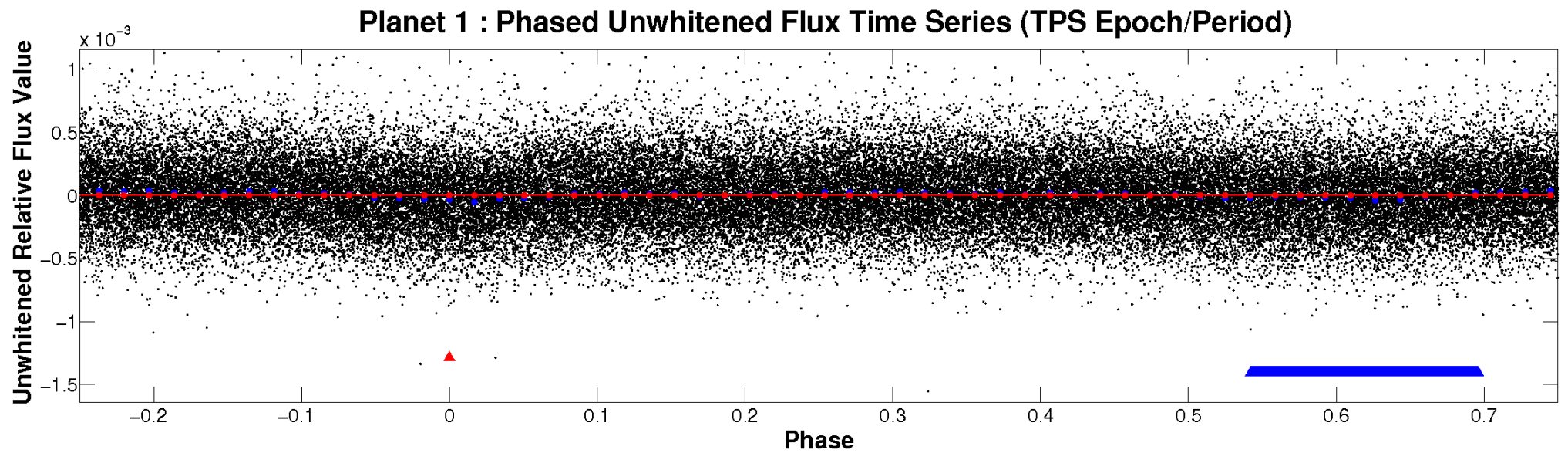


ALT Odd/Even

TCE 002283308-01

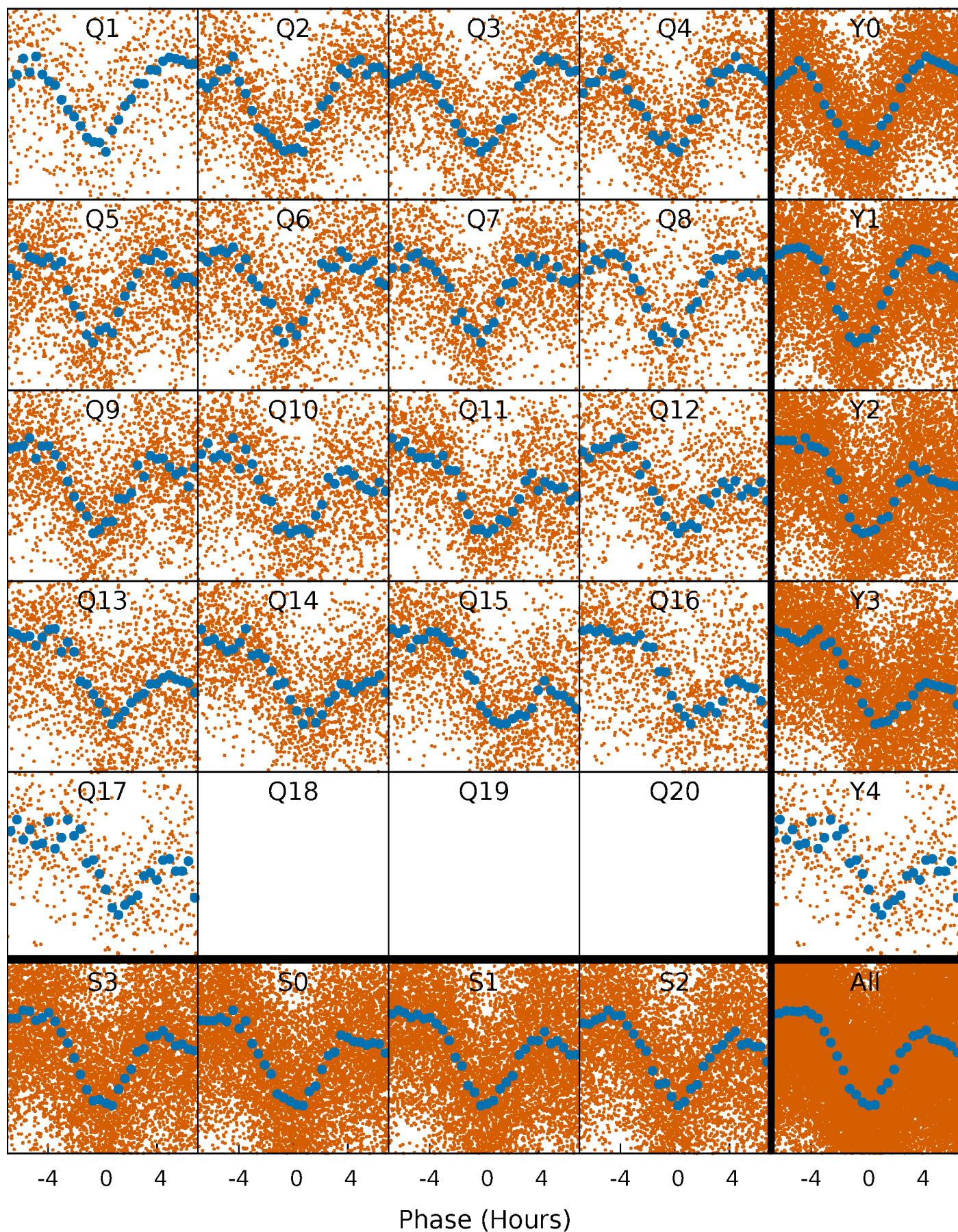


Non-Whitened Vs. Whitened Light Curve



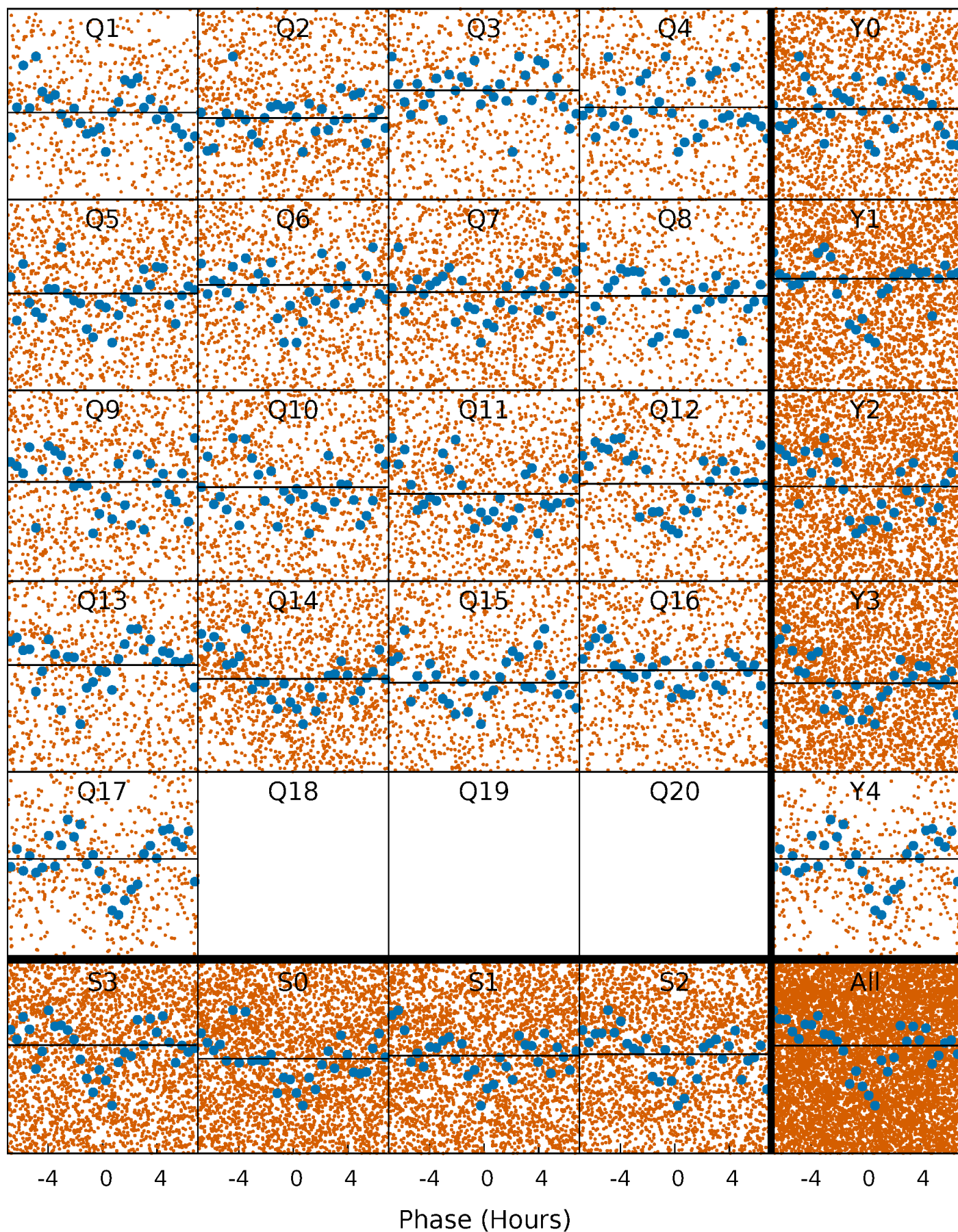
PDC Quarter-Phased Transit Curves

TCE 002283308-01 P= 1.206858 Days $T_0=132.396448$ (BKJD)



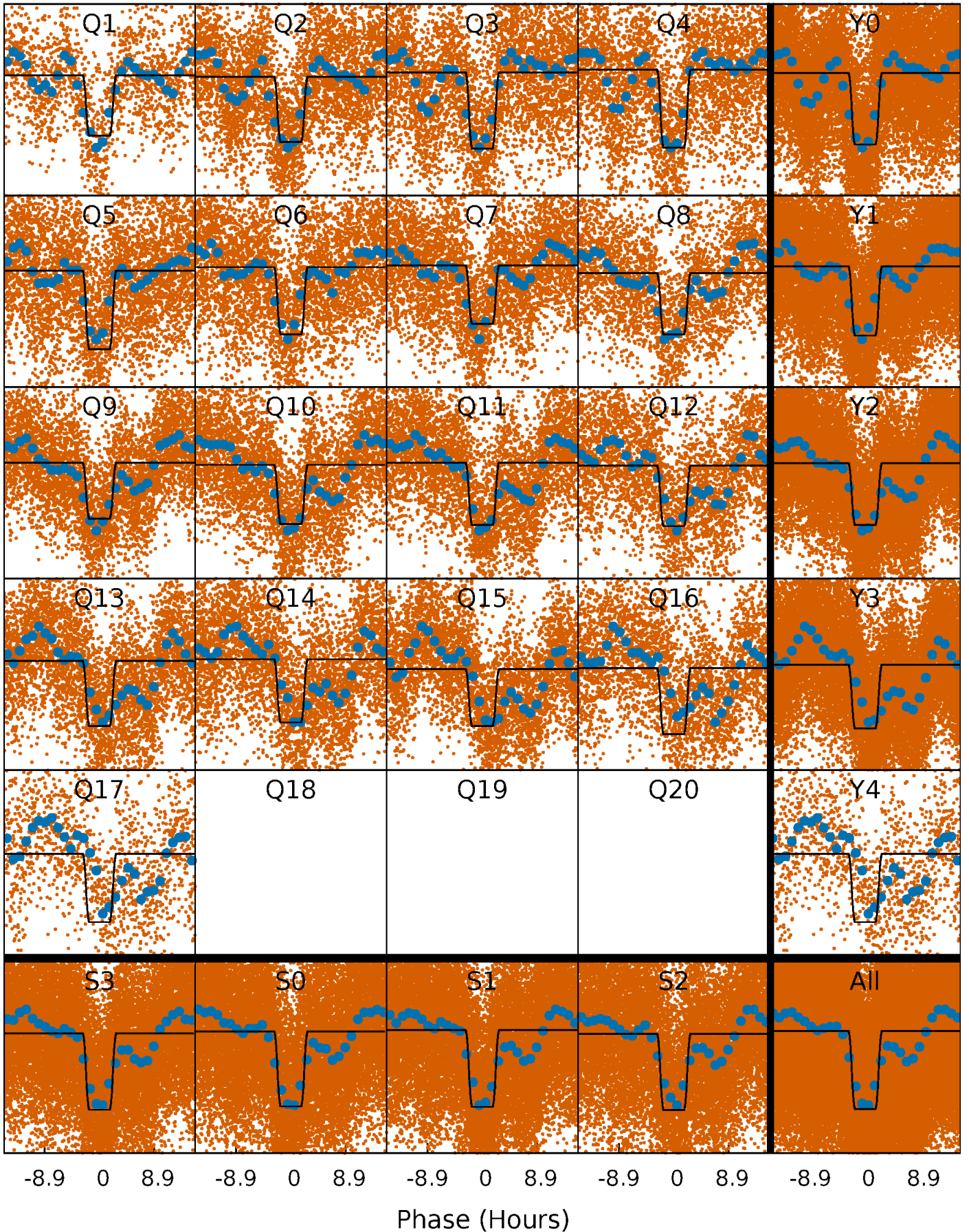
DV Quarter-Phased Transit Curves

TCE 002283308-01 P= 1.206858 Days $T_0=132.396448$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

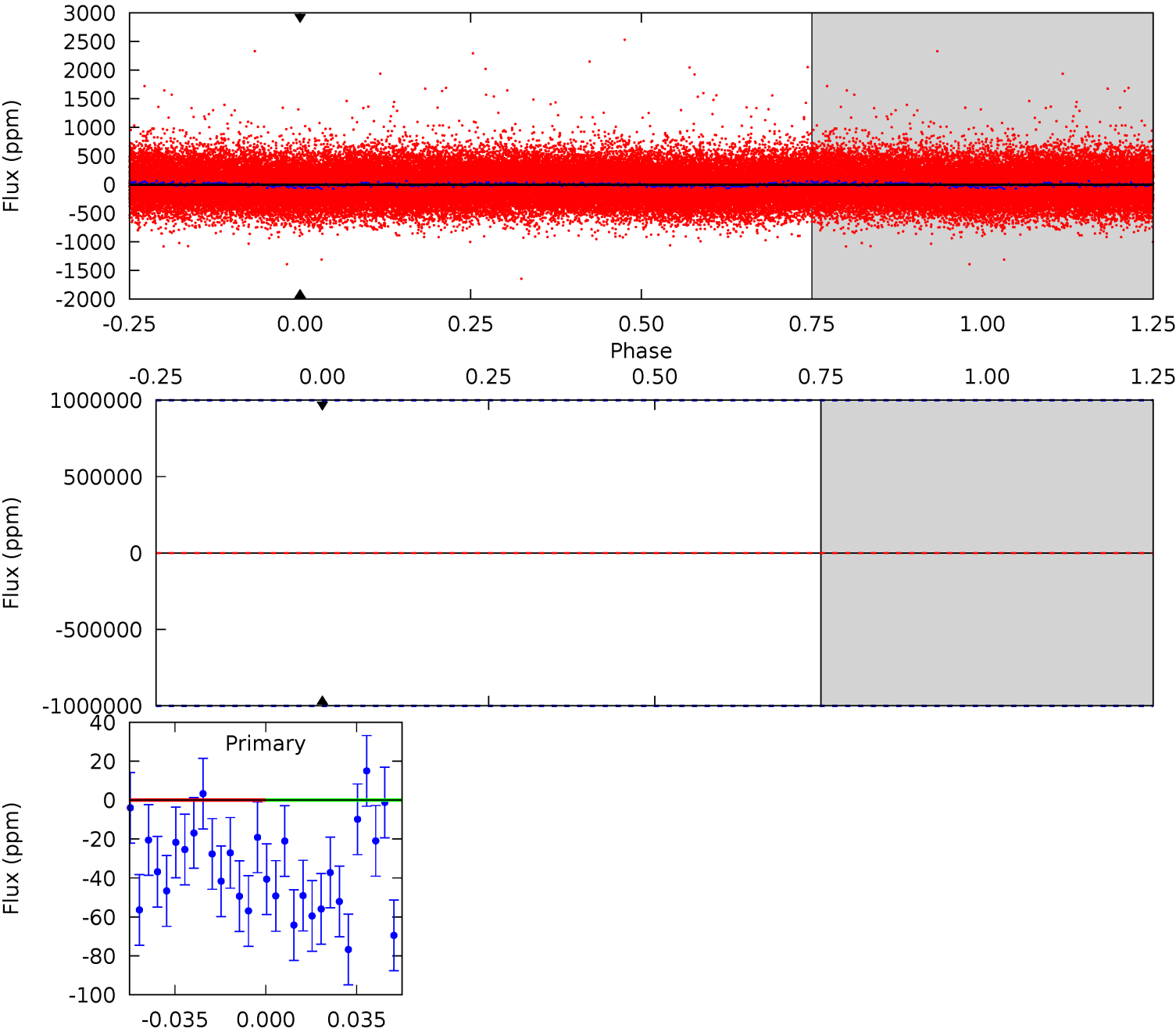
TCE 002283308-01 P= 1.206858 Days $T_0=132.403020$ (BKJD)



DV Model-Shift Uniqueness Test

002283308-01, P = 1.206858 Days, E = 131.189590 Days

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



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 002283308

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6697^{+189}_{-260}	$4.193^{+0.175}_{-0.175}$	$-0.300^{+0.250}_{-0.300}$	$1.468^{+0.410}_{-0.336}$	$1.235^{+0.170}_{-0.208}$	$0.549^{+0.532}_{-0.273}$
	+3%/-4%	+4%/-4%	+83%/-100%	+28%/-23%	+14%/-17%	+97%/-50%
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 002283308-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$11.92^{+13.30}_{-8.55}$	3235^{+248}_{-217}	4643^{+28641}_{-34121}	$3.010^{+480.702}_{-374.364}$
Alt.	17 ± 3	$11.62^{+12.32}_{-8.04}$	3239^{+252}_{-218}	-3341^{+168}_{-385}	$-0.039^{+0.030}_{-0.373}$

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

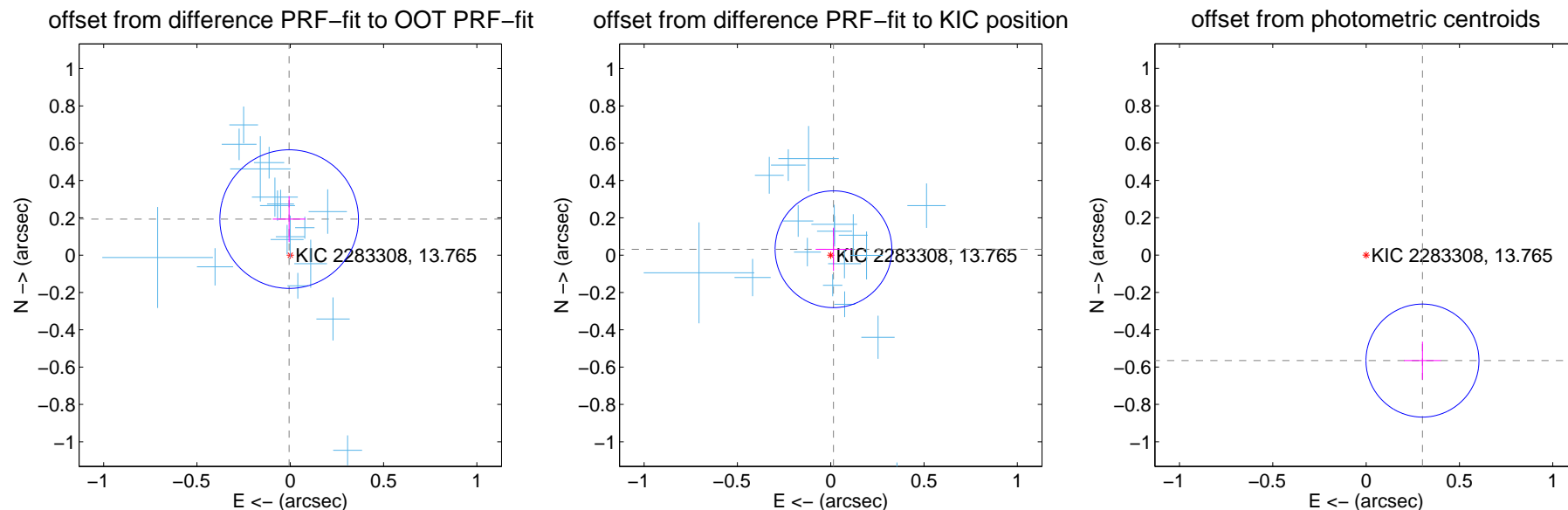
DV Centroid Data

Supplemental centroid analysis for 002283308-01. Kepler magnitude: 13.77. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

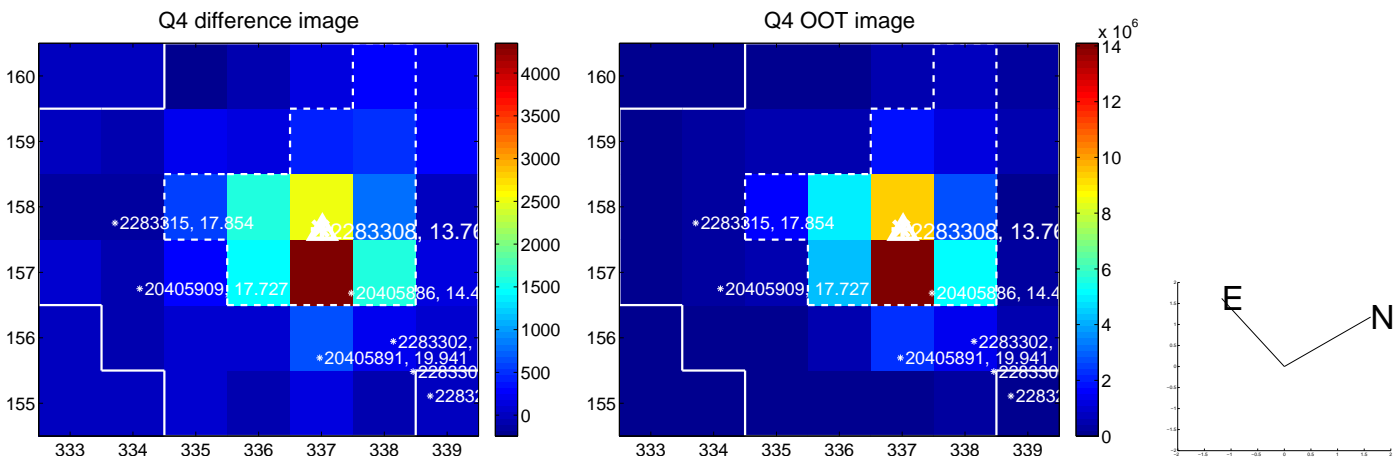
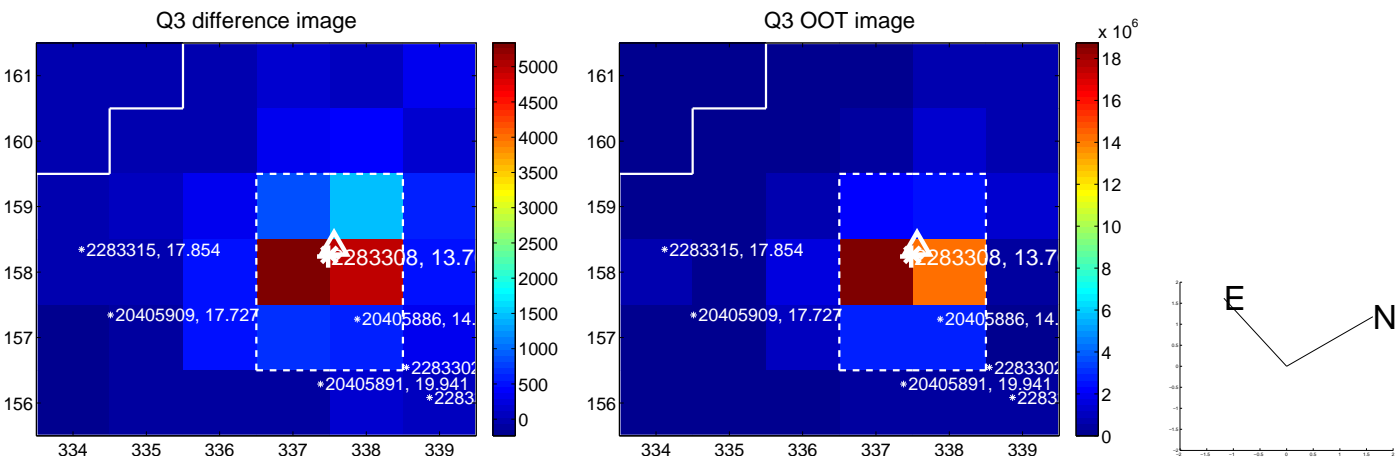
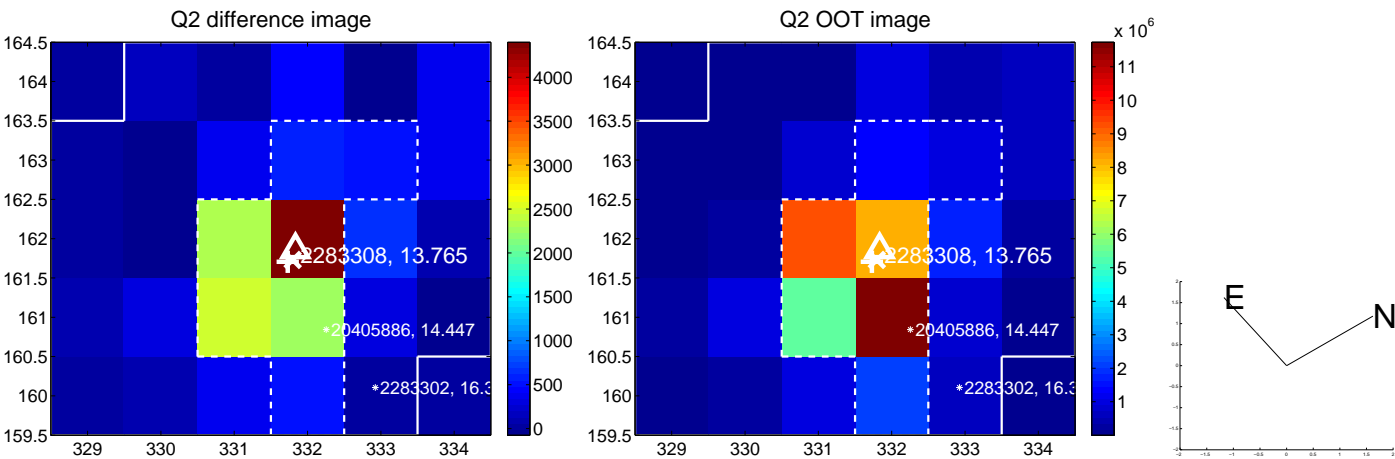
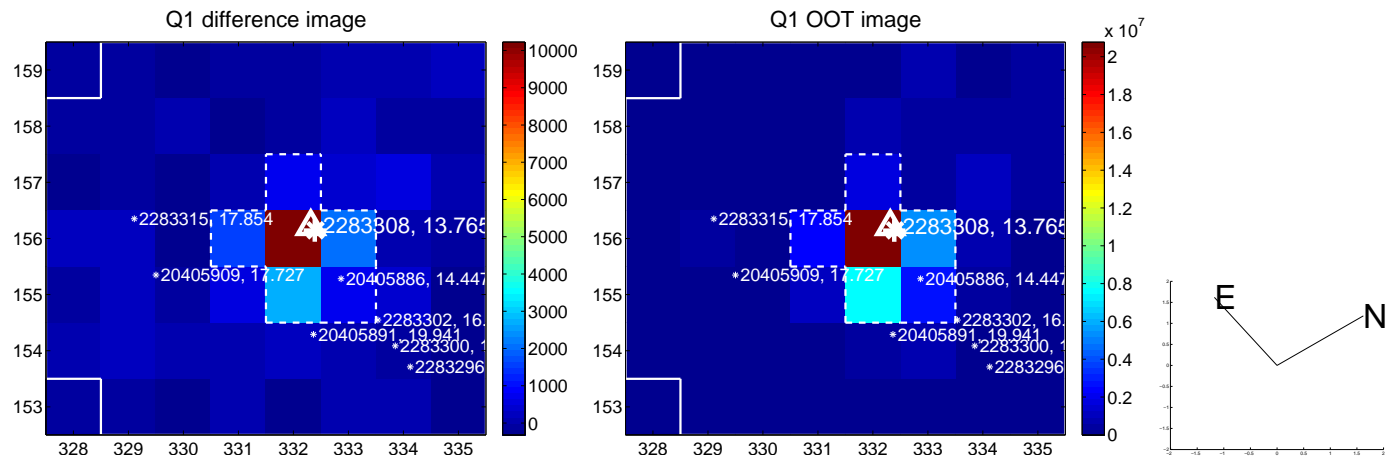
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.193 ± 0.124	1.56	0.006 ± 0.088	0.193 ± 0.123
PRF-fit source offset from KIC position	0.035 ± 0.104	0.33	-0.015 ± 0.095	0.032 ± 0.116
photometric centroid source offset	0.64 ± 0.10	6.35	-0.30 ± 0.10	-0.57 ± 0.10

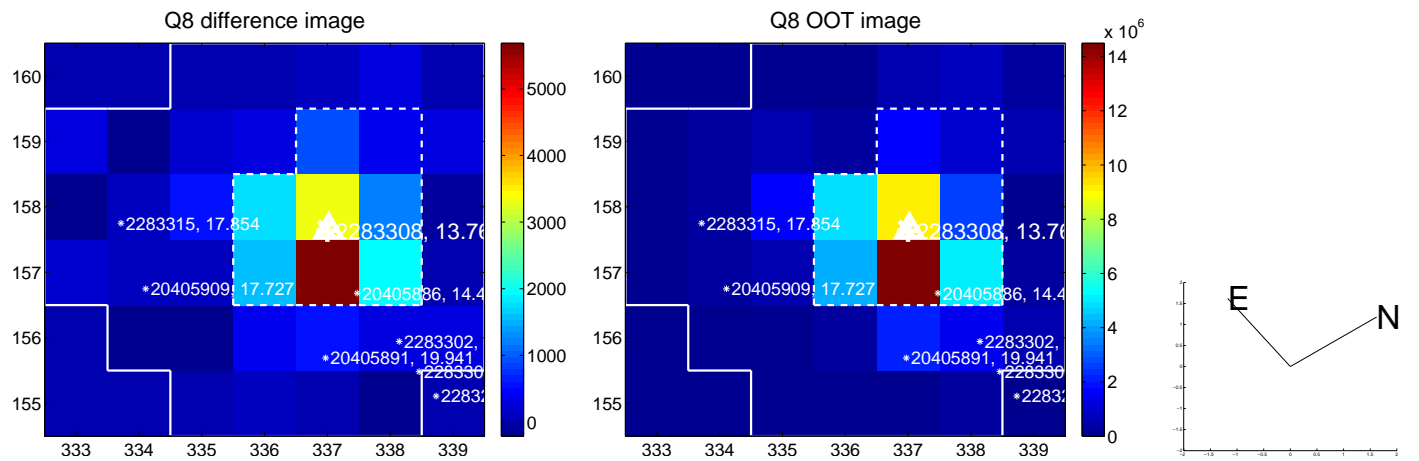
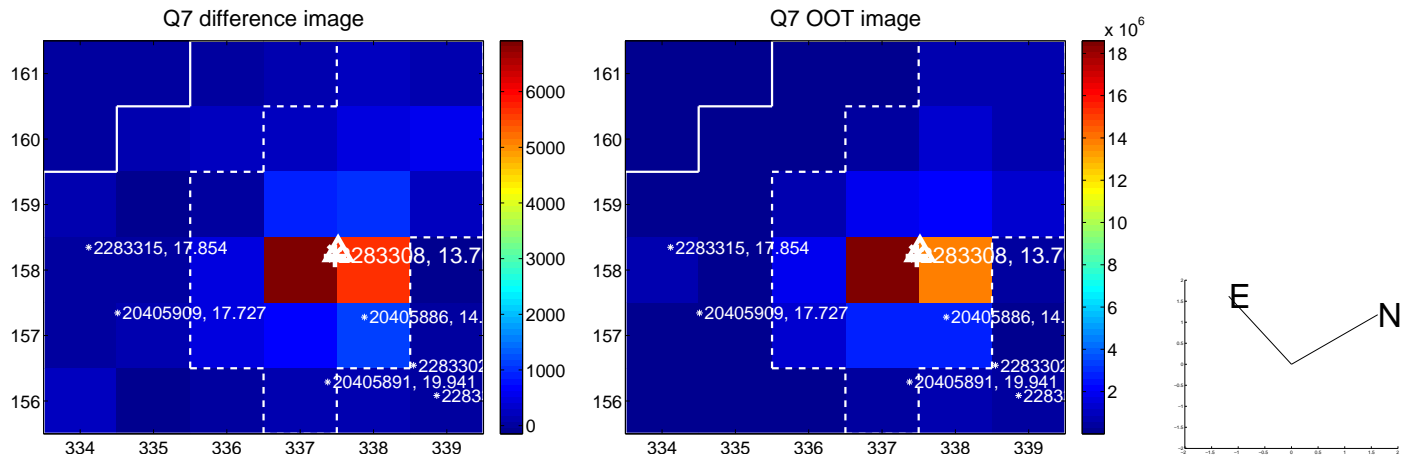
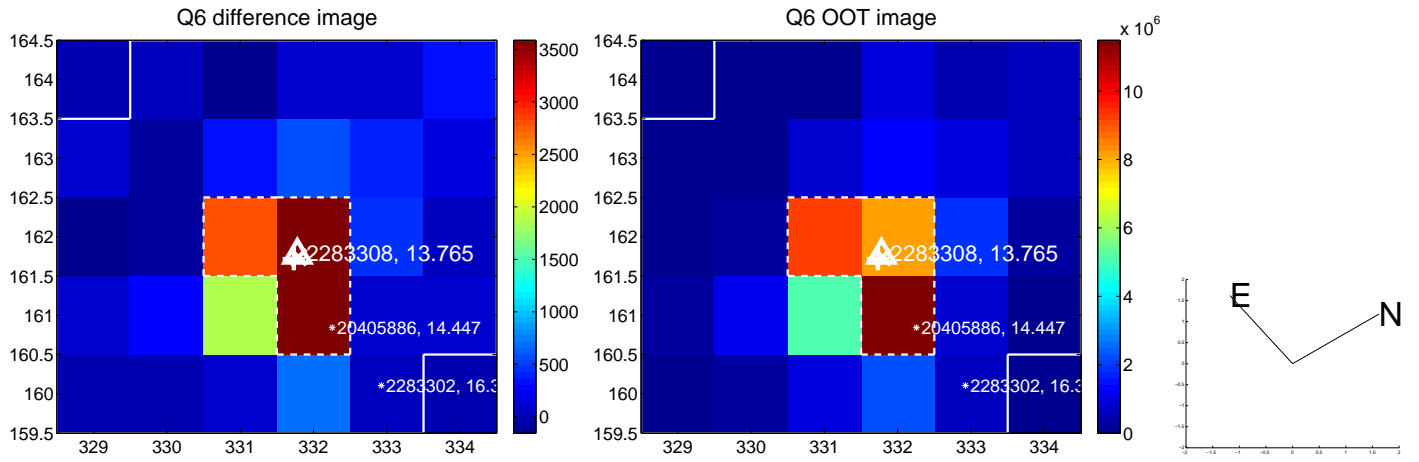
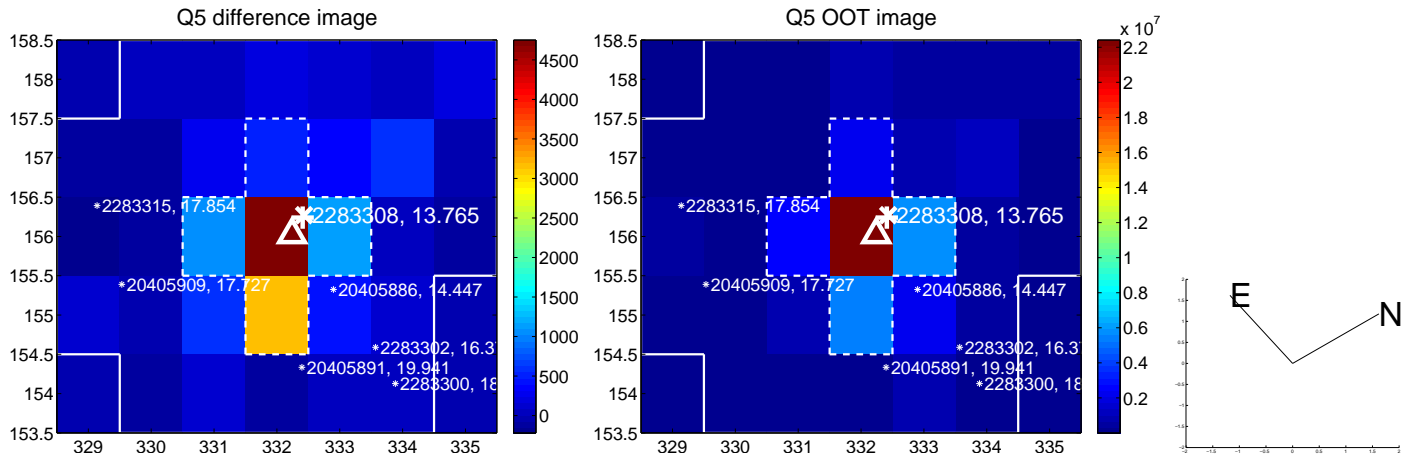


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

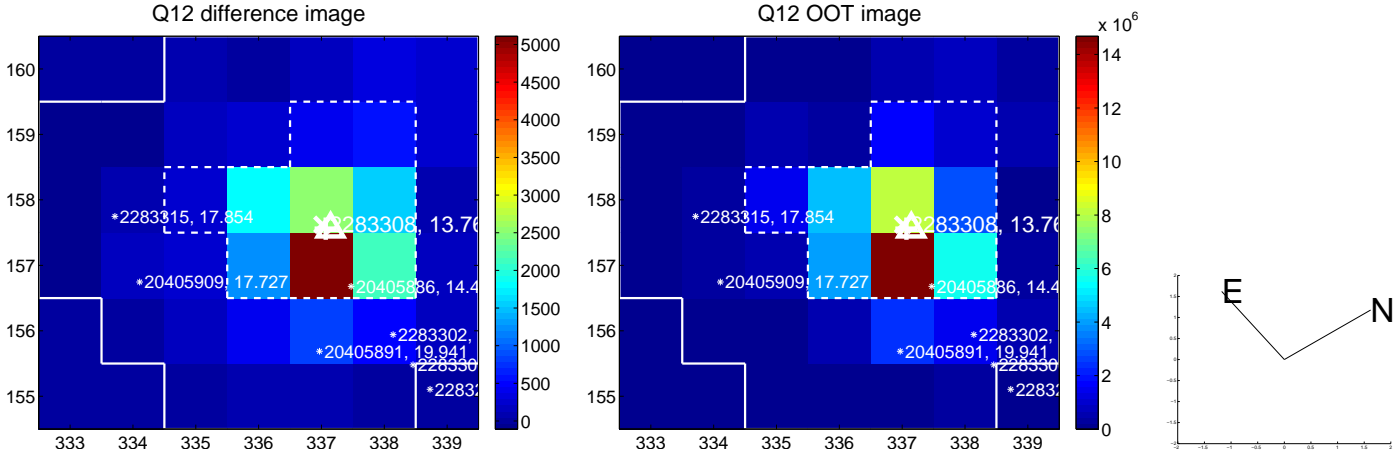
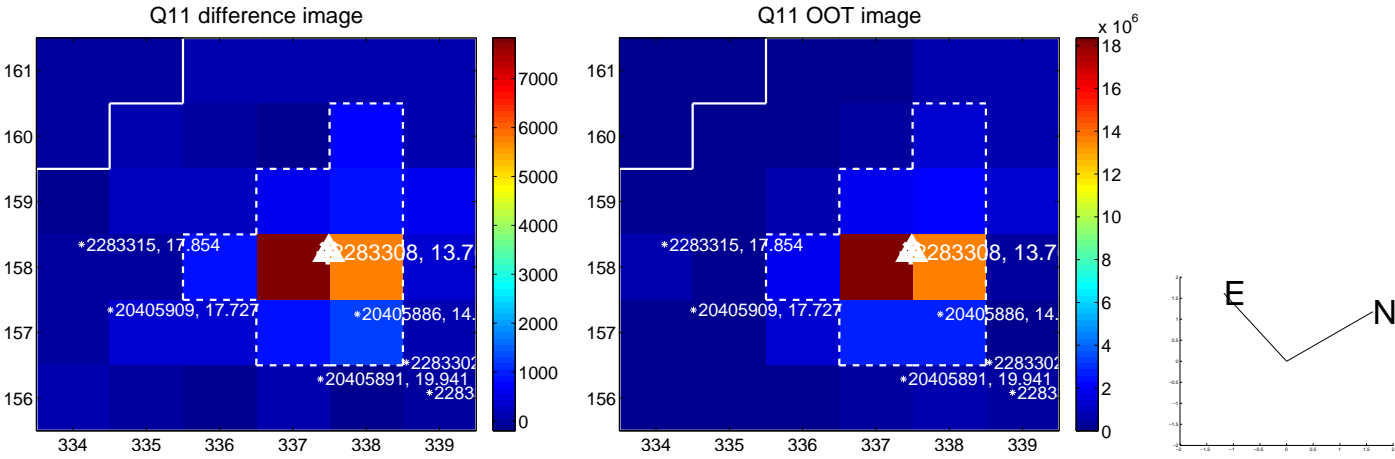
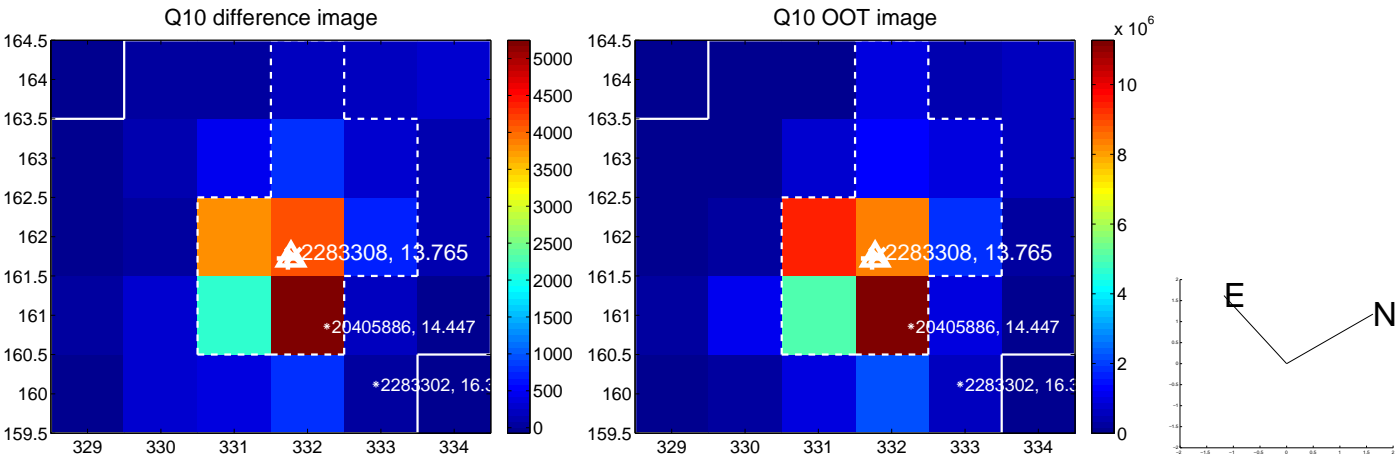
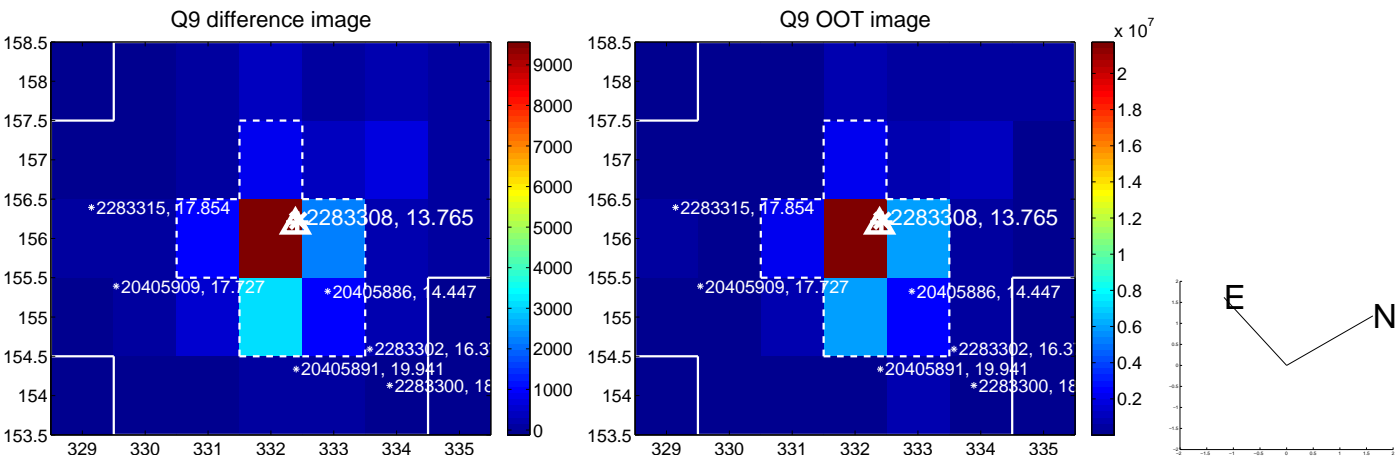
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



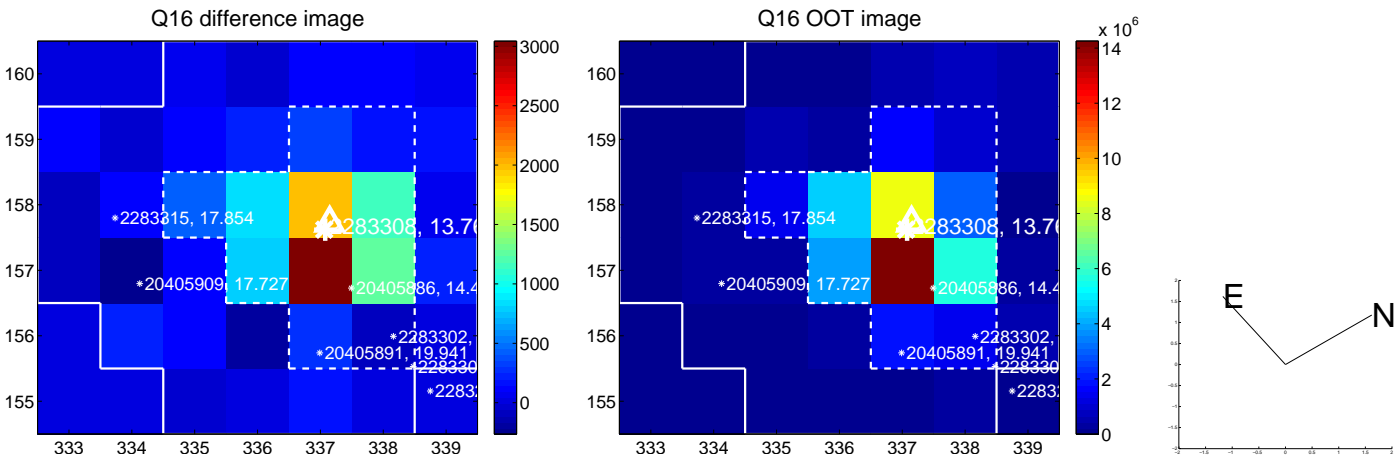
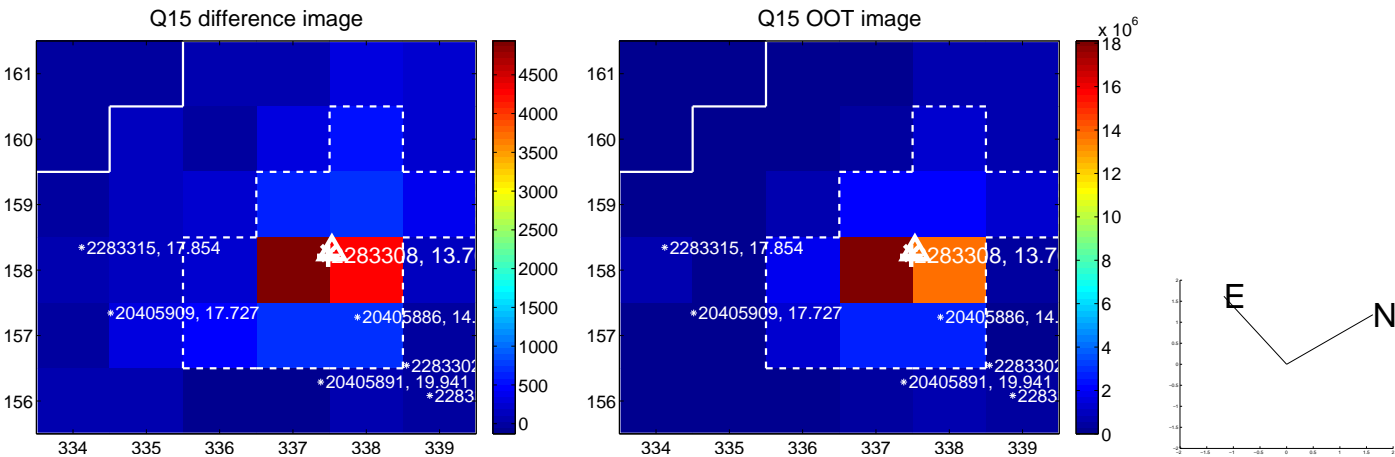
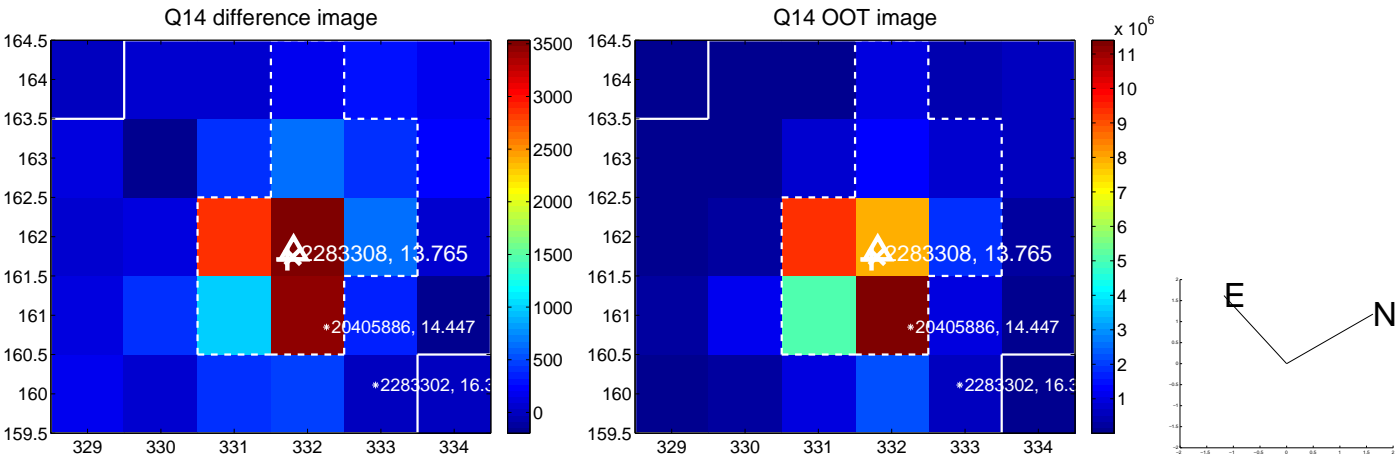
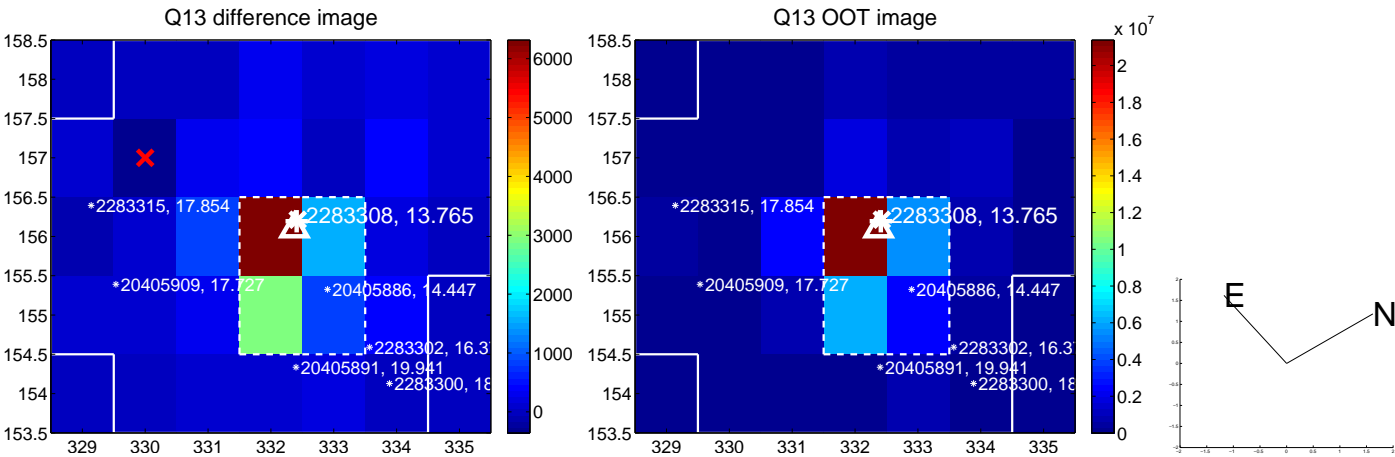
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



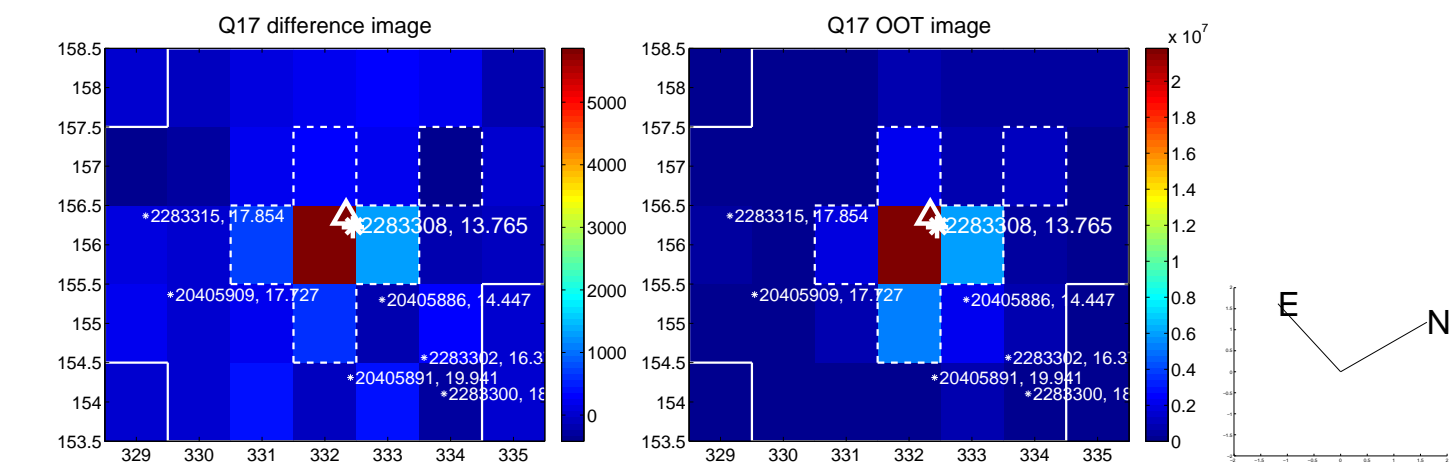
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



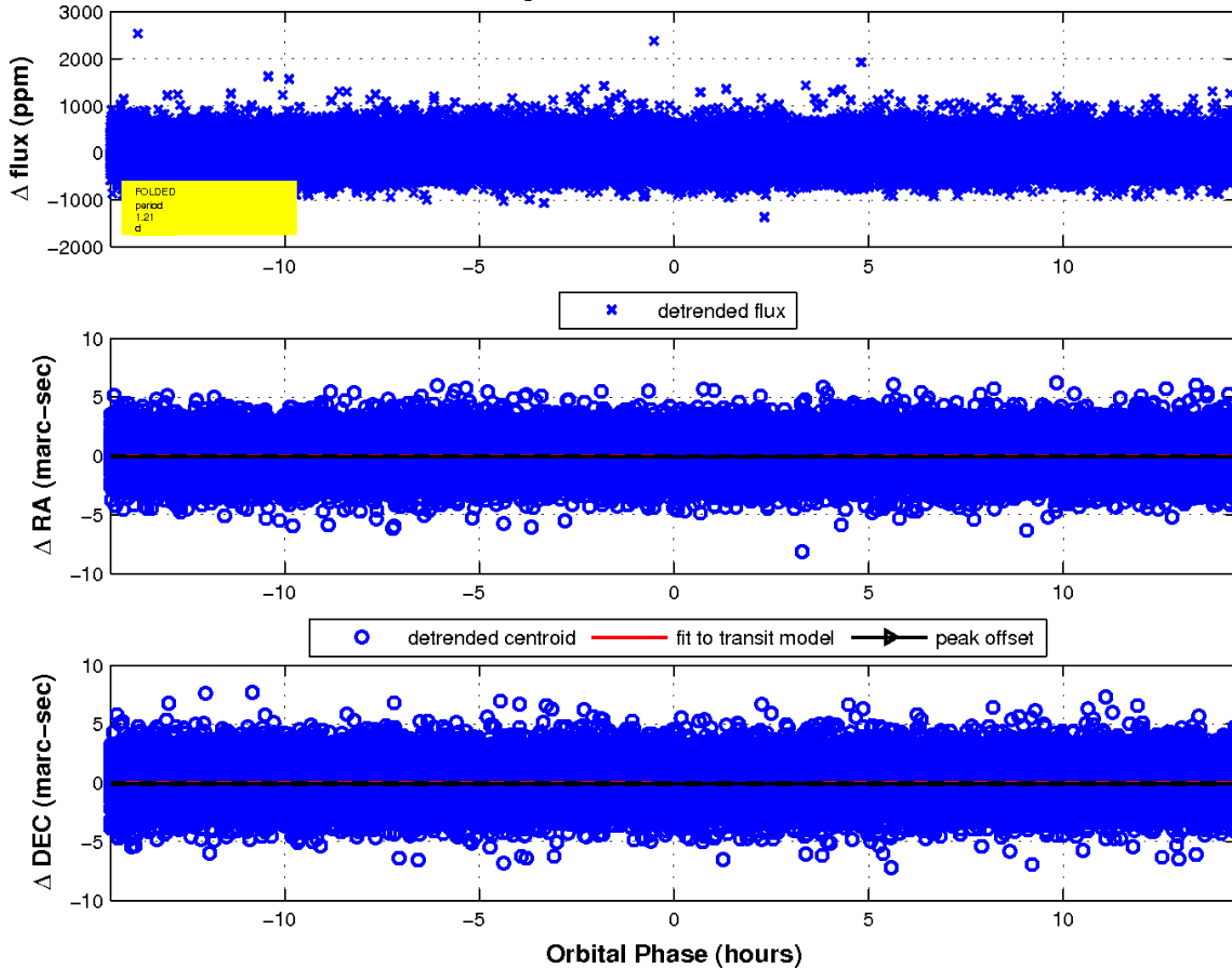
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

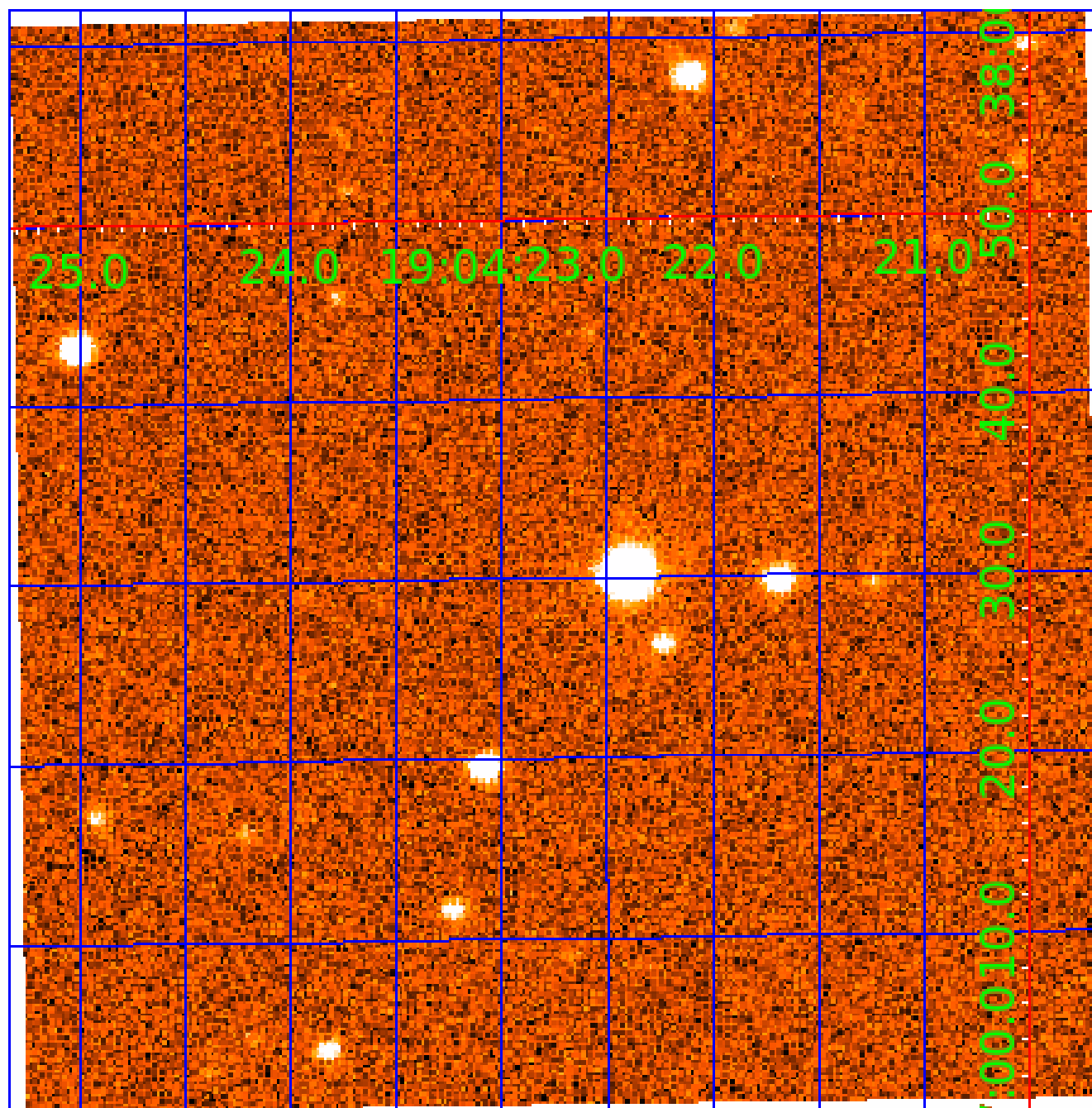


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 002283308

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})
002283308-01	OBS	No	1.206858	132.396448	383.0	3.500	8.9	-1.0	1.47	6697	2.90	6886.91
002283308-02	OBS	No	1.206705	132.029495	23.6	2.871	8.2	6.1	1.47	6697	0.72	6888.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002283308-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
002283308-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

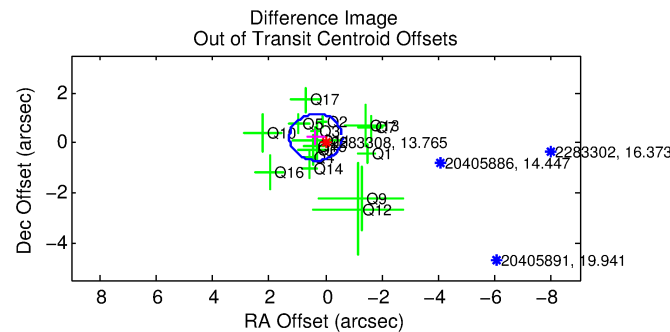
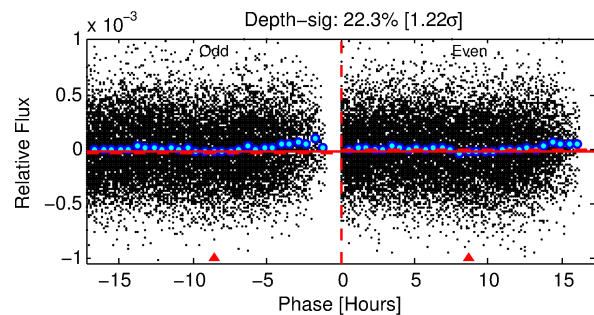
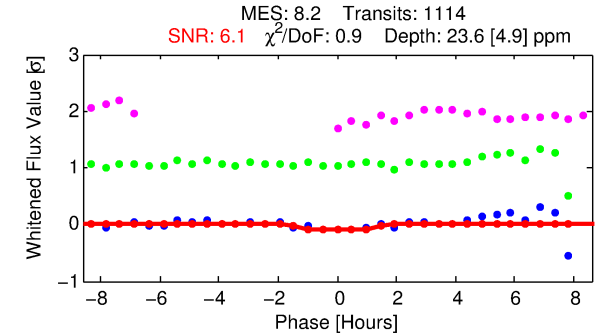
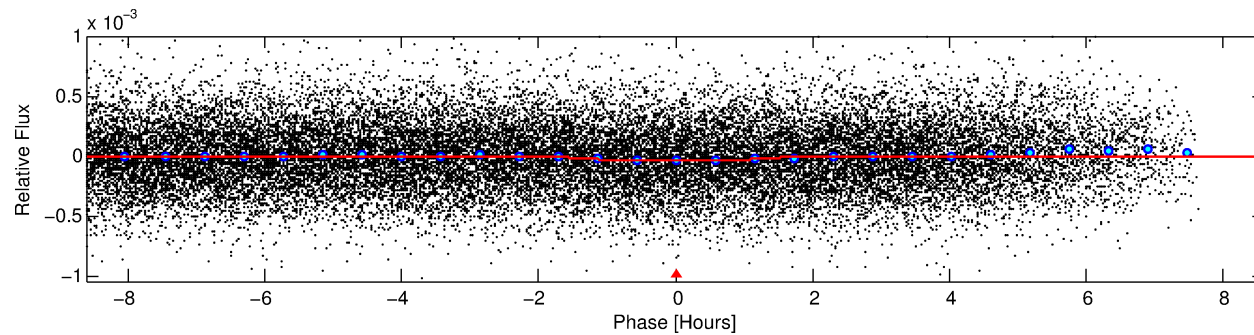
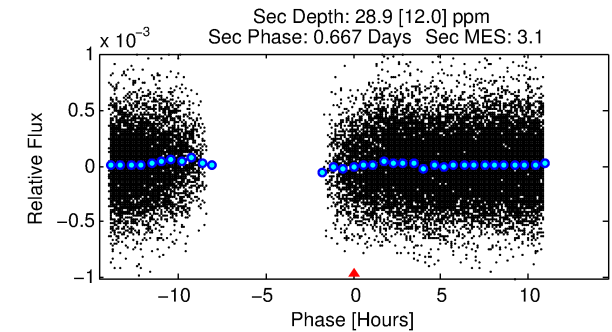
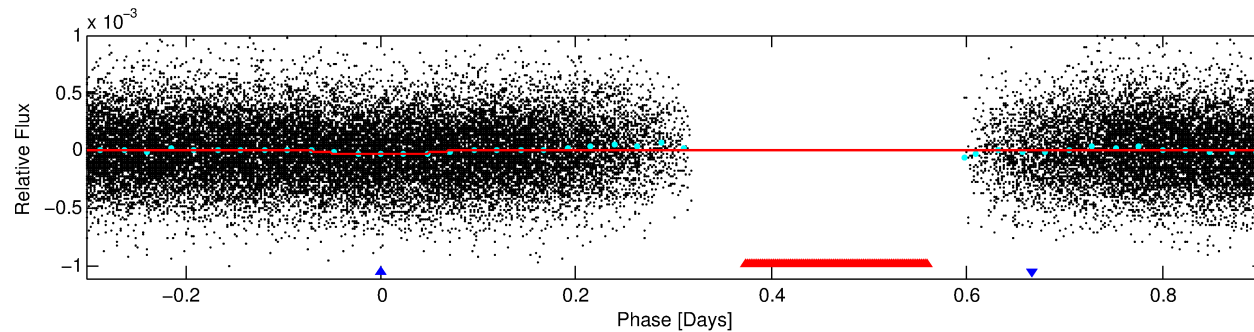
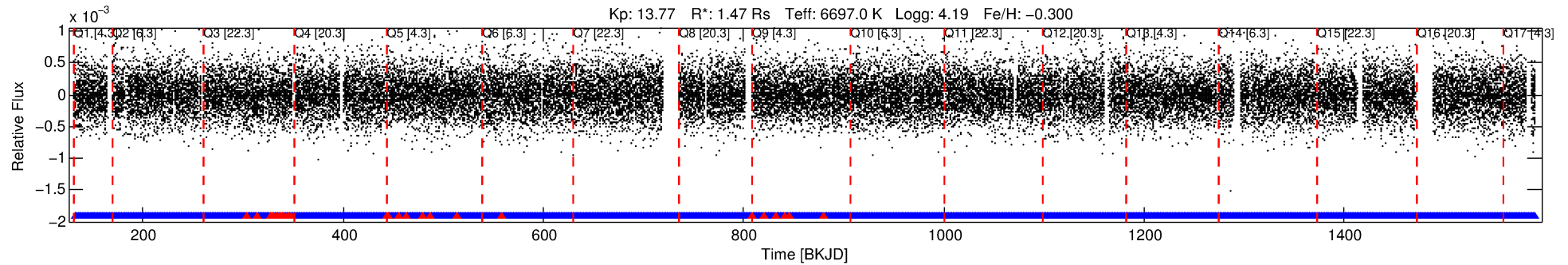
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002283308-02

No Significant Match Found

DV One-Page Summary

KIC: 2283308 Candidate: 2 of 2 Period: 1.207 d



DV Fit Results:

Period = 1.20670 [0.00002] d
Epoch = 132.0295 [0.0064] BKJD
Rp/R* = 0.0045 [0.0043]
a/R* = 3.15 [14.90]
b = 0.30 [16.33]
Seff = 6888.08 [2492.58]
Teq = 2323 [210] K
Rp = 0.72 [0.72] Re
a = 0.0237 [0.0055] AU
Ag = 17.07 [33.78] [0.48 σ]
Teff = 7300 [3573] K [1.39 σ]

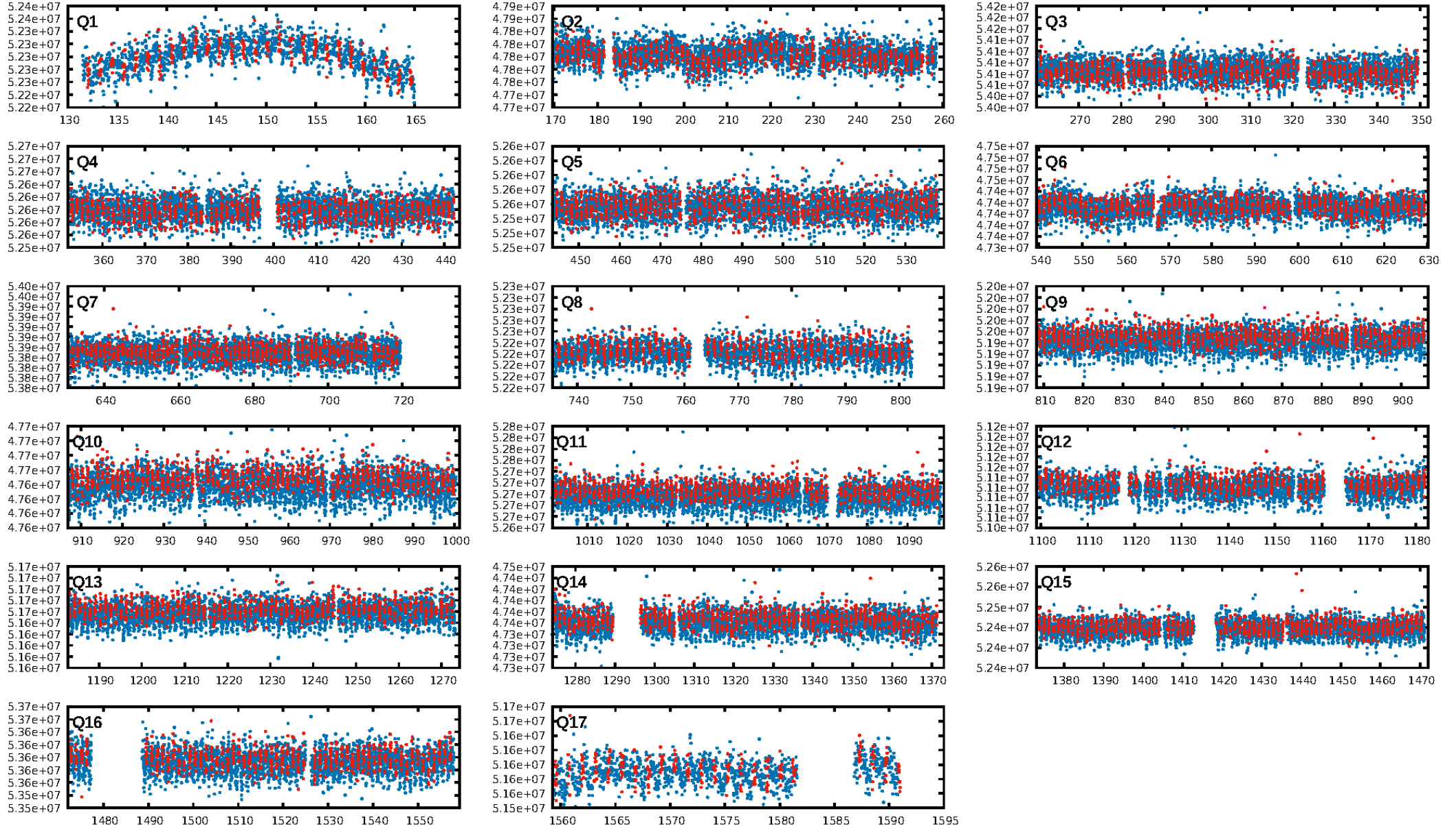
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.1% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.01e-16
RollingBand-fgt: 0.98 [1037/1063]
GhostDiagnostic-chr: 2.043
Centroid-sig: 3.3%
Centroid-so: 3.130 arcsec [1.43 σ]
OotOffset-rm: 0.402 arcsec [1.29 σ]
KicOffset-rm: 0.356 arcsec [1.26 σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.69 [11/16]
DiffImageOverlap-fno: 0.53 [9/17]

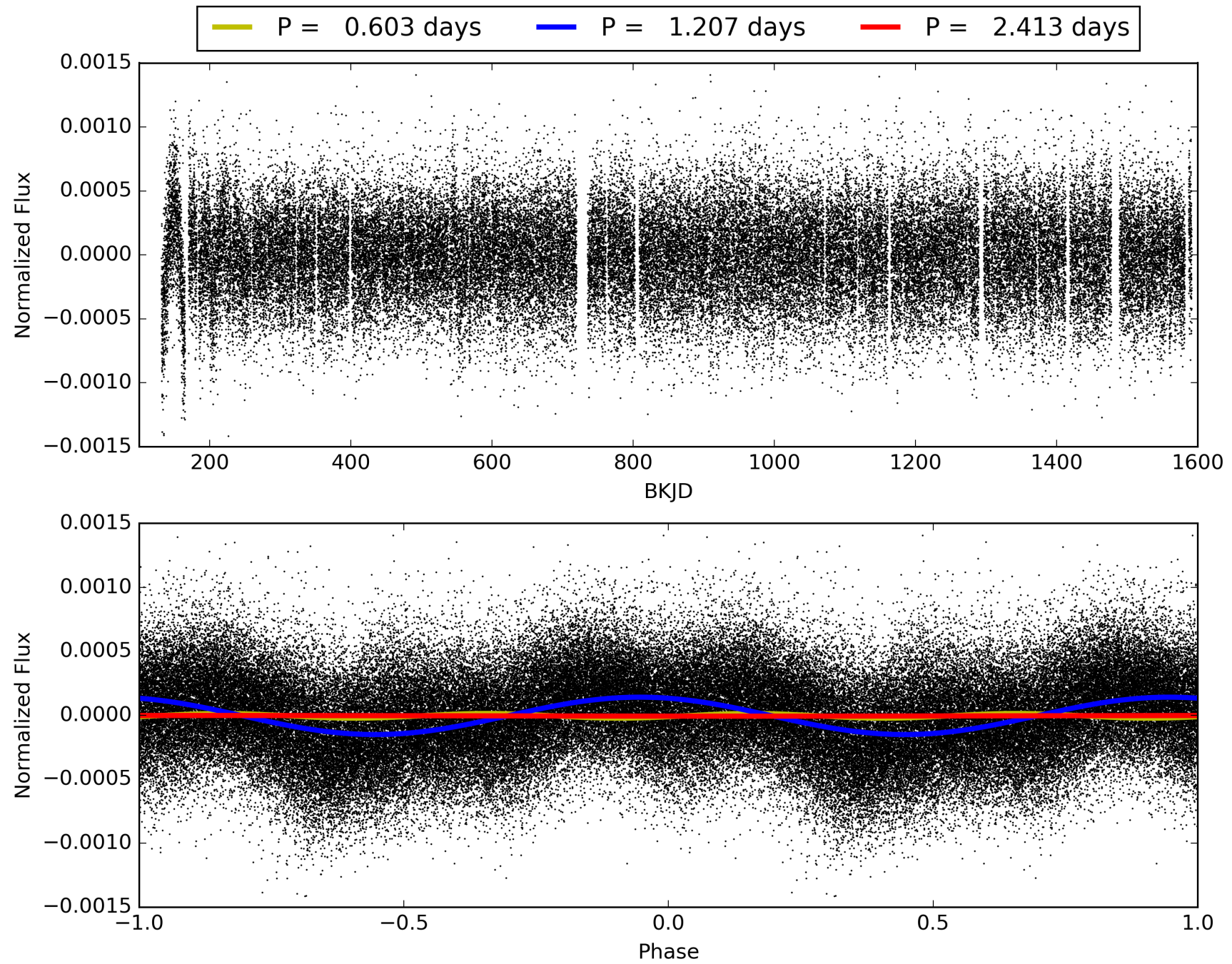
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 04:53:48 Z

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

TCE 002283308-02, PDC Light Curves

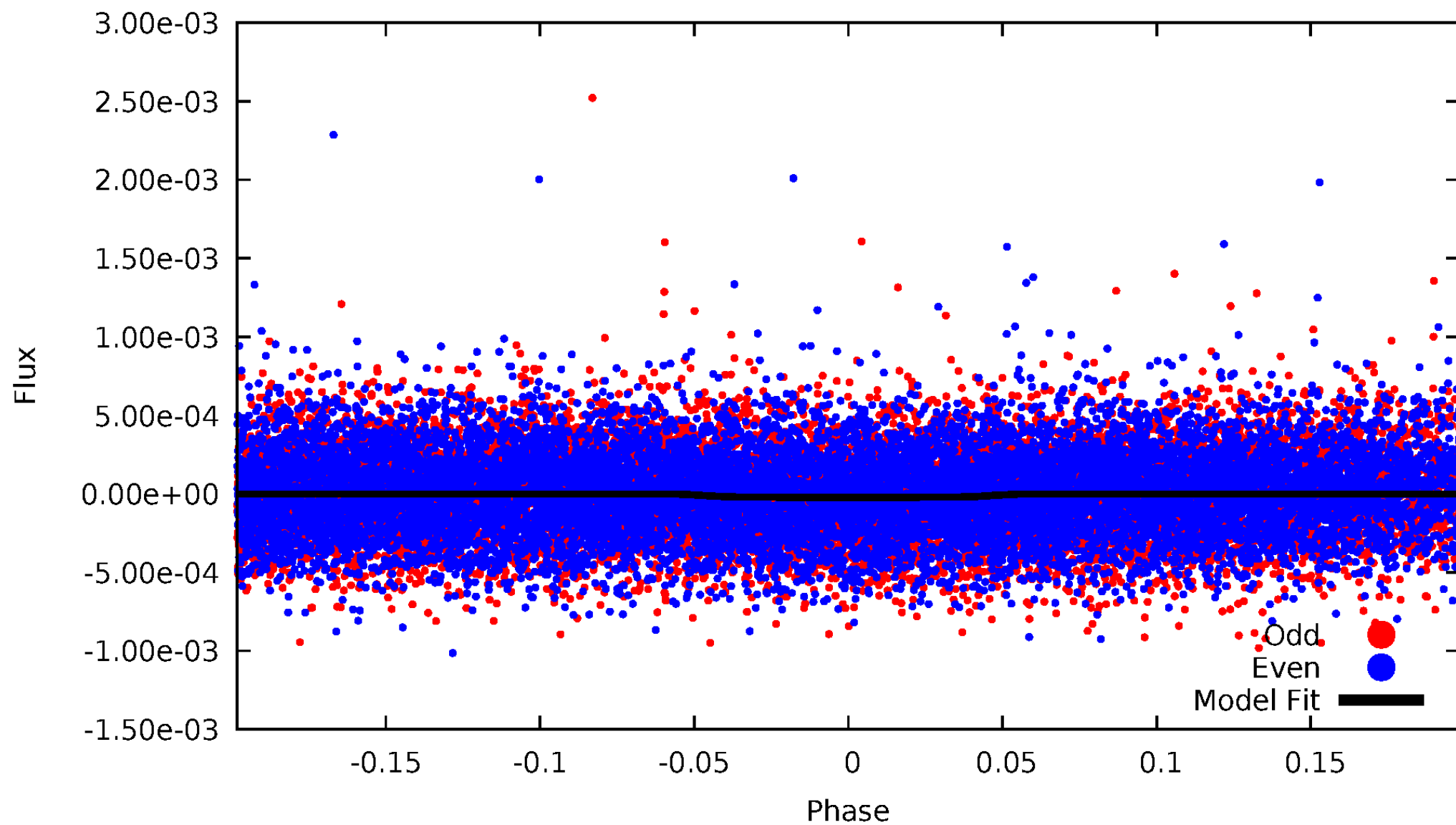


TCE 002283308-02



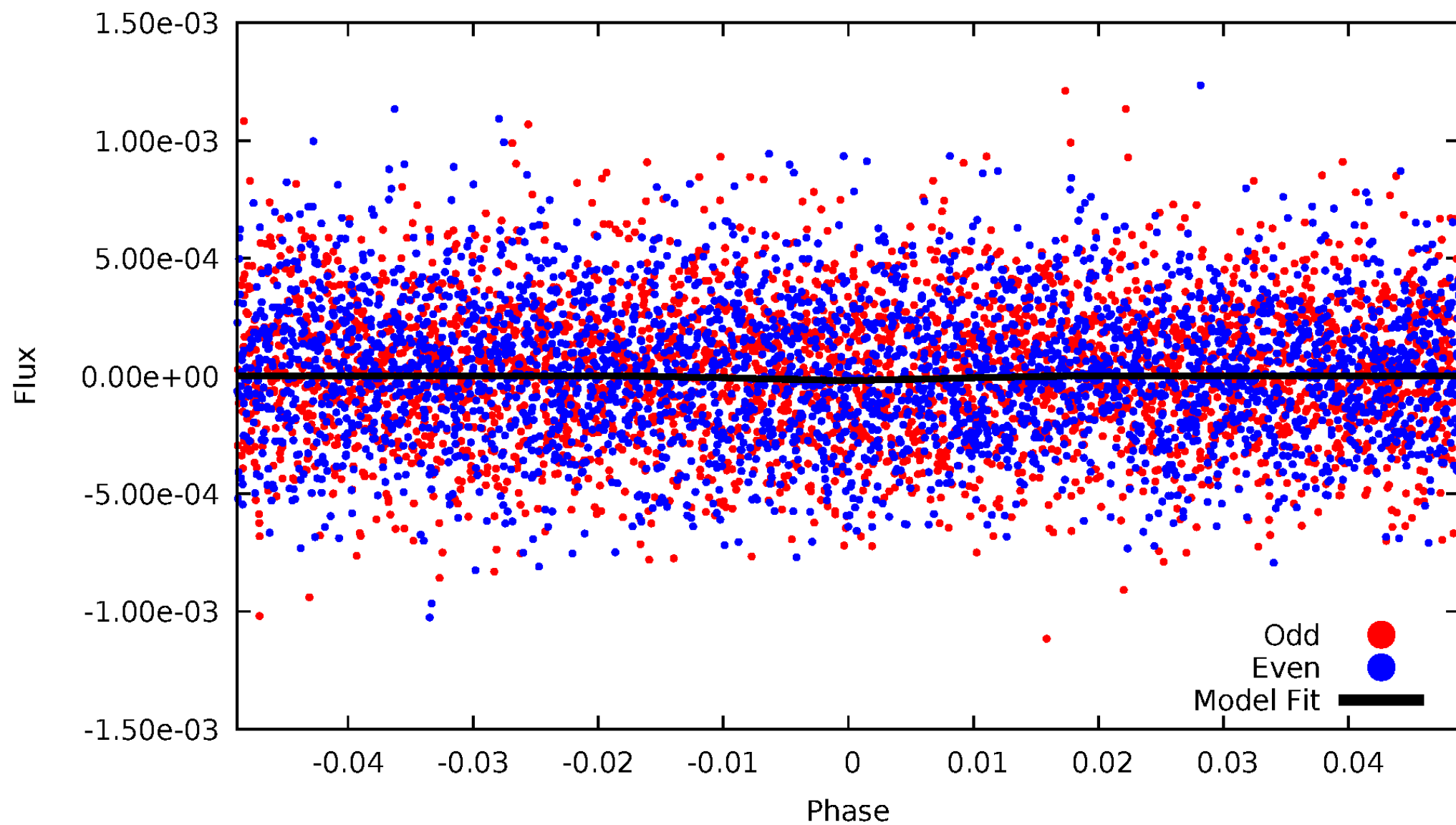
DV Odd/Even

TCE 002283308-02



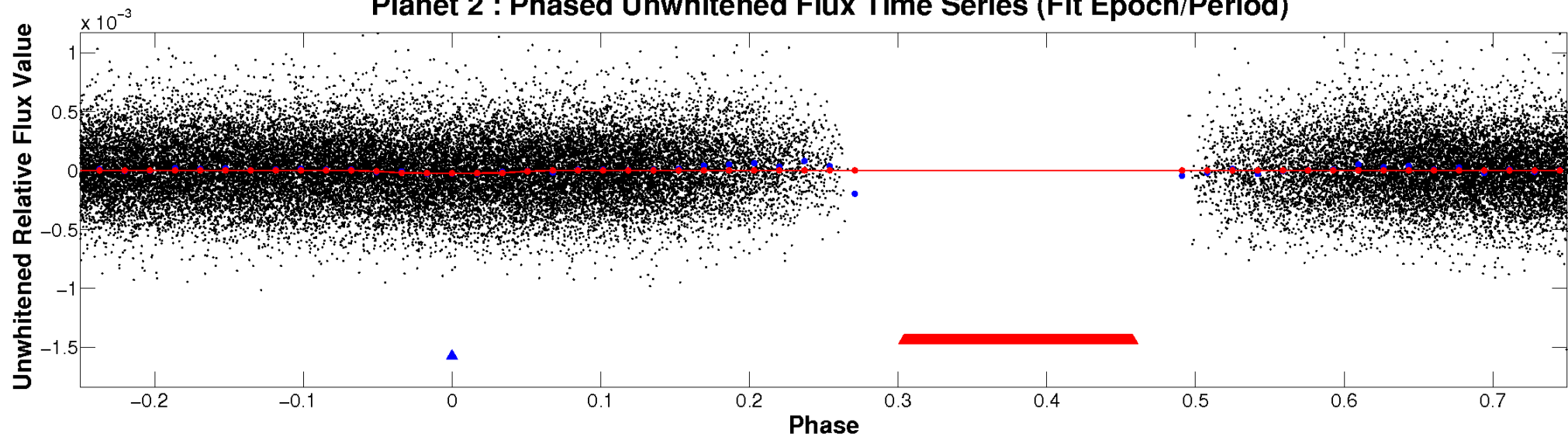
ALT Odd/Even

TCE 002283308-02

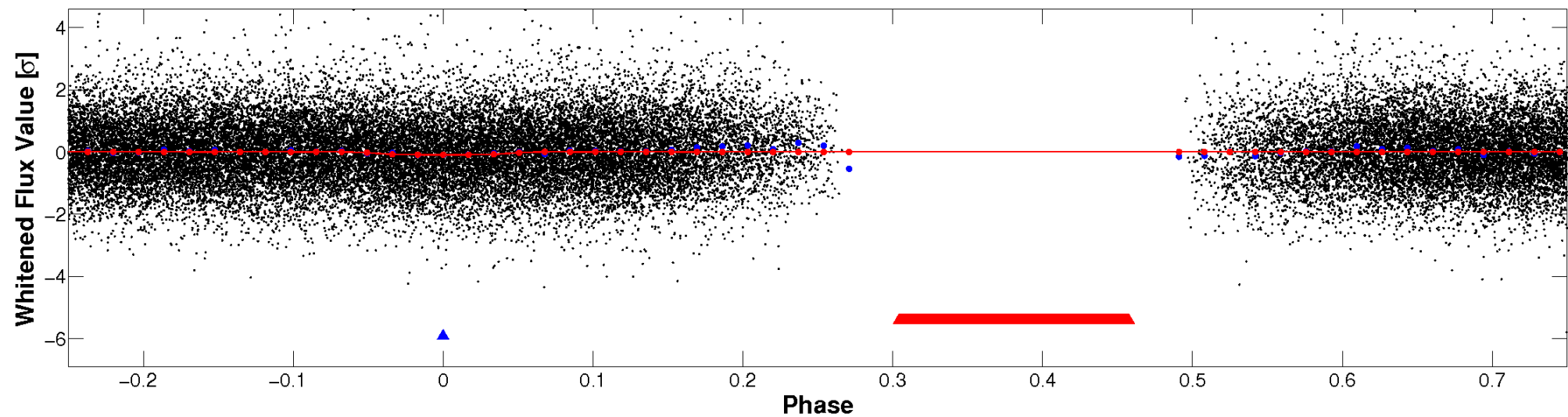


Non-Whitened Vs. Whitened Light Curve

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

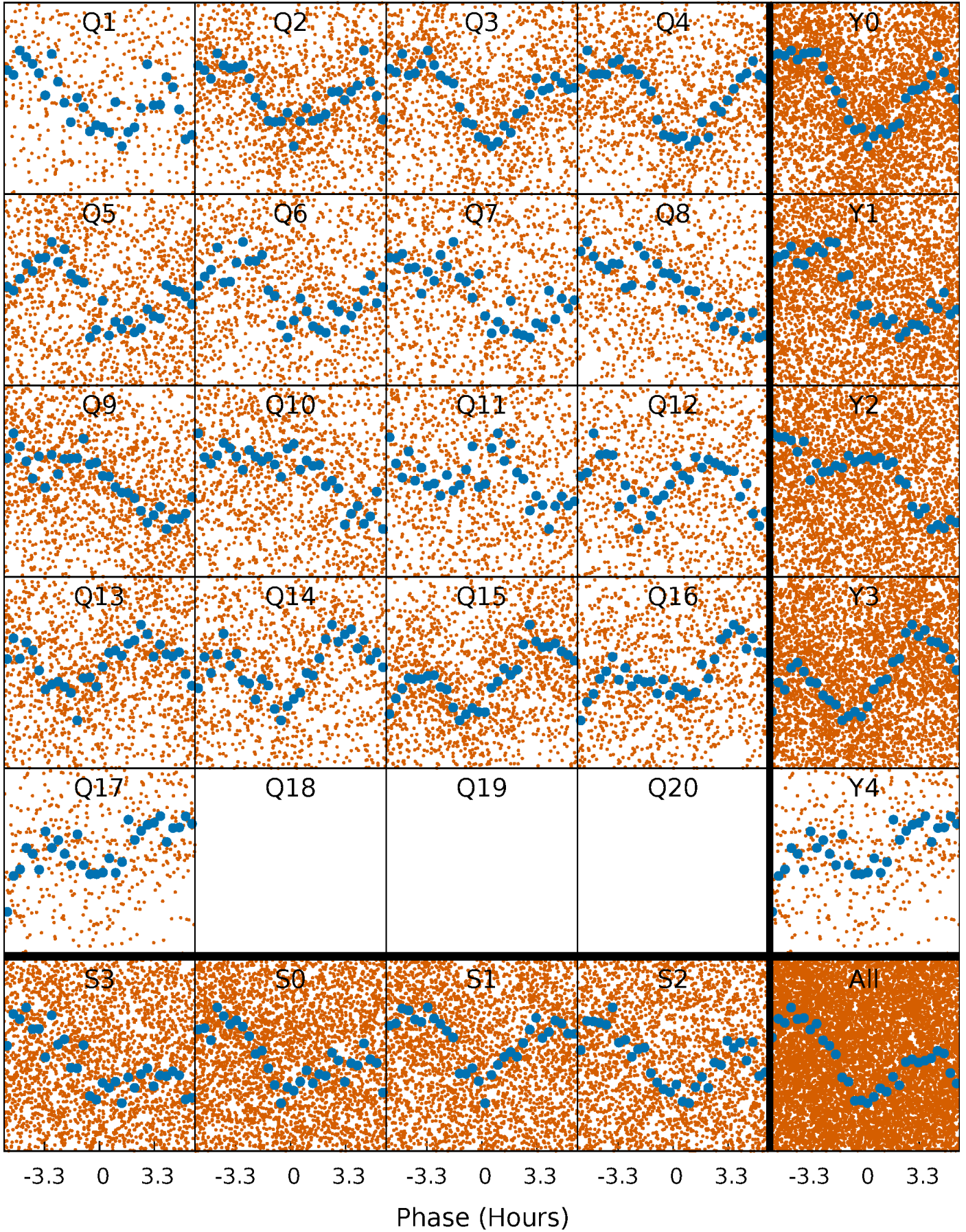


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



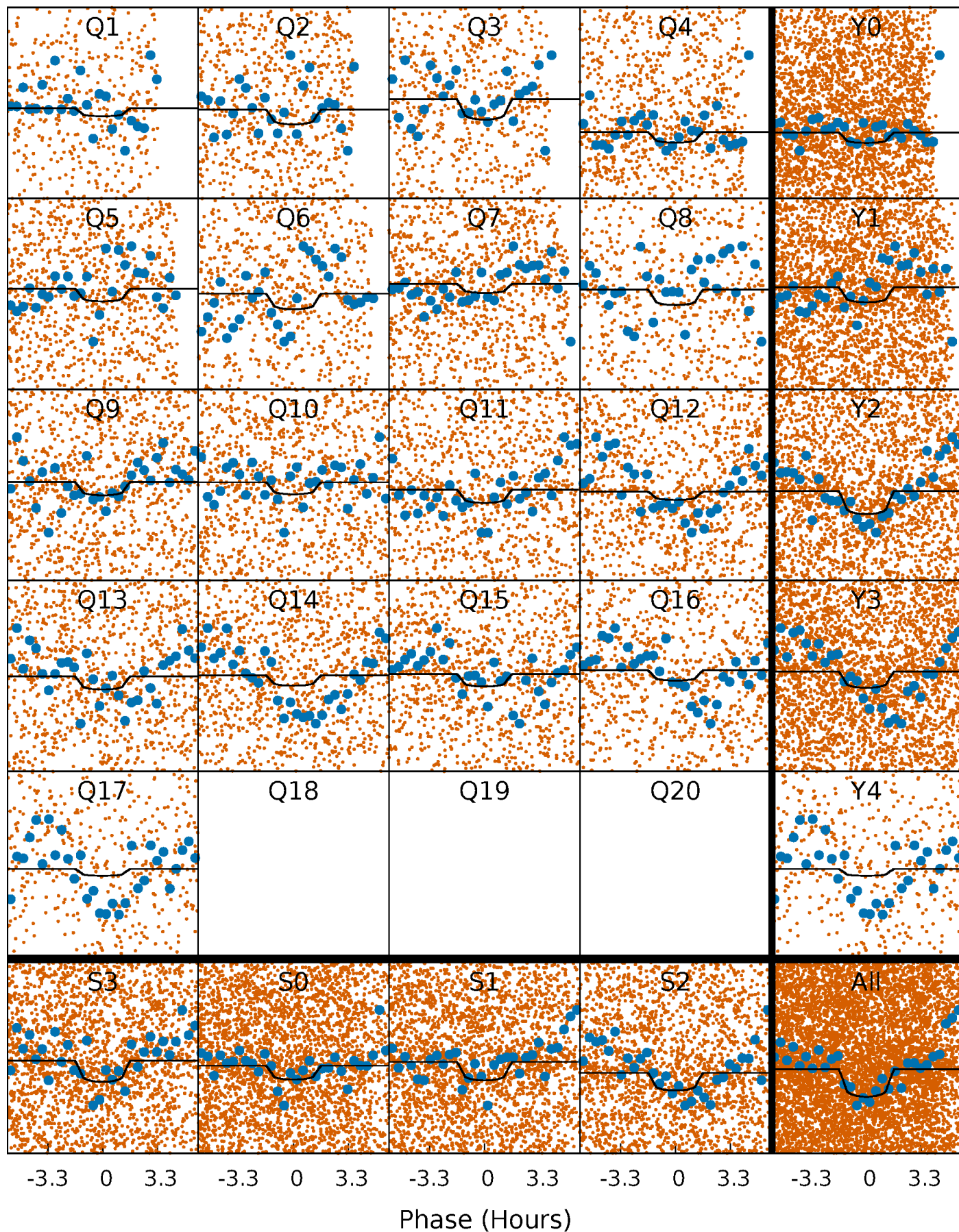
PDC Quarter-Phased Transit Curves

TCE 002283308-02 P= 1.206705 Days $T_0=132.029495$ (BKJD)



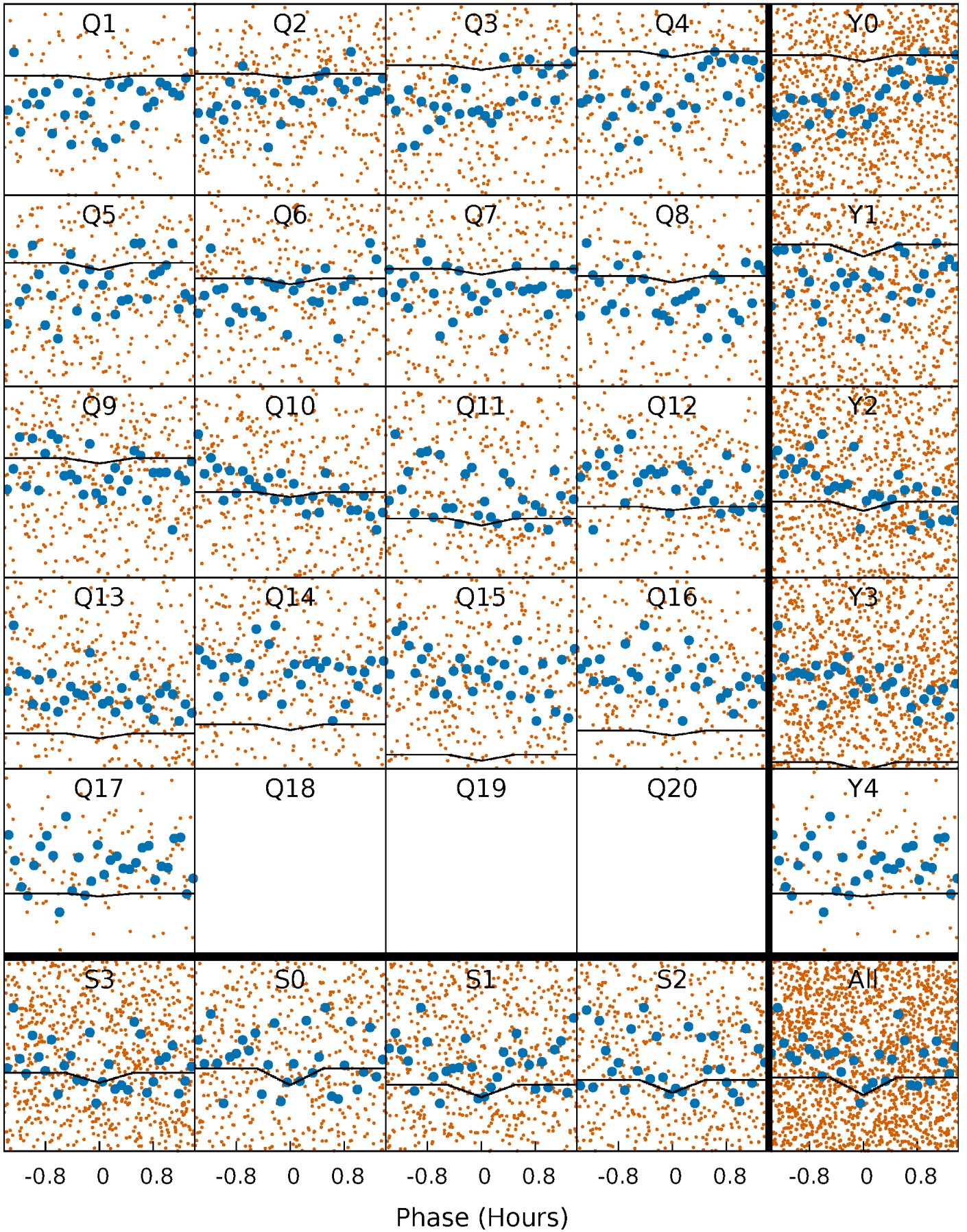
DV Quarter-Phased Transit Curves

TCE 002283308-02 P= 1.206705 Days $T_0=132.029495$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

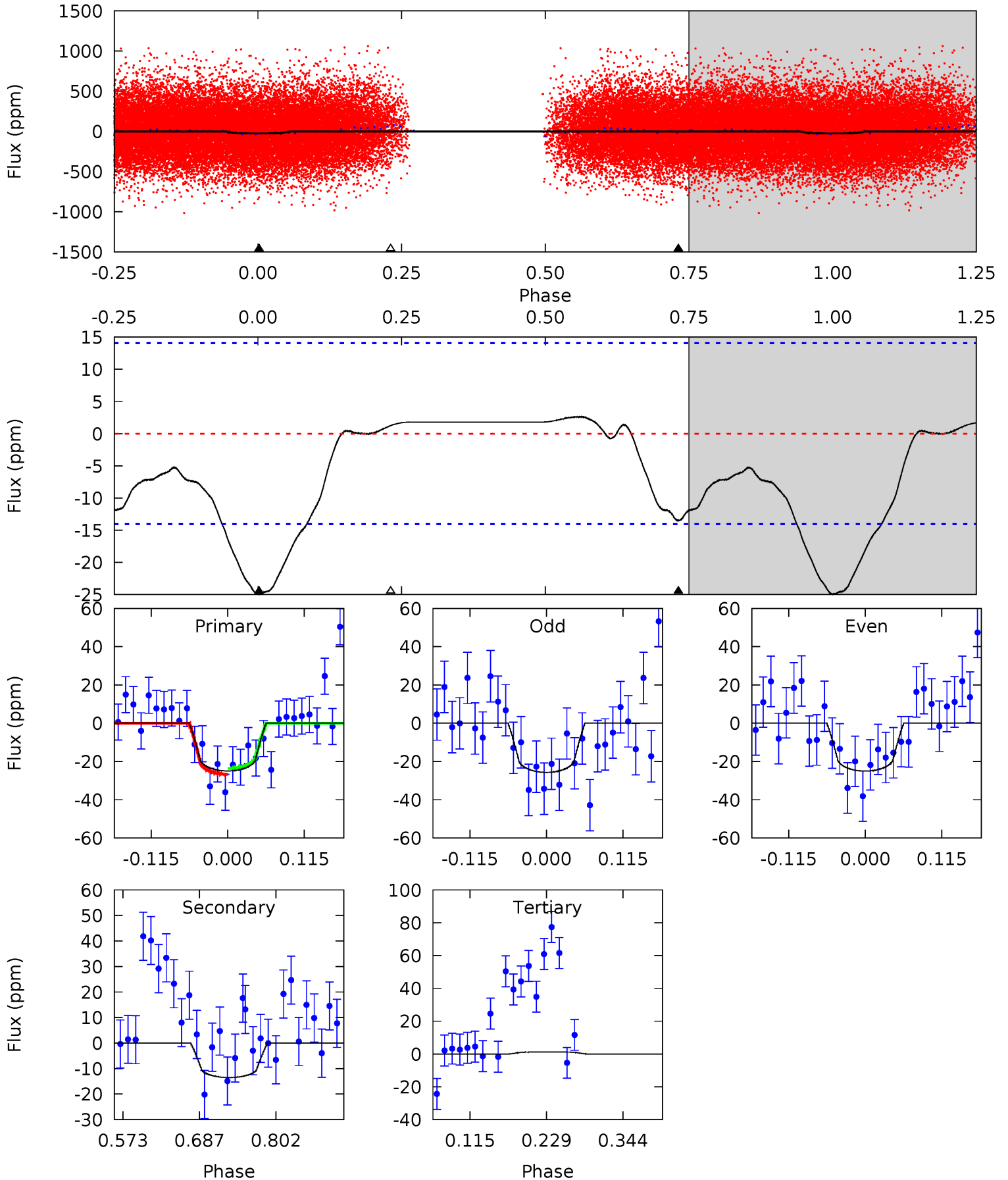
TCE 002283308-02 P= 1.206811 Days $T_0=132.087550$ (BKJD)



DV Model-Shift Uniqueness Test

002283308-02, P = 1.206705 Days, E = 130.822790 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.06	4.36	-0.40	0	4.54	1.58	1.09	8.46	8.06	4.76	4.36	0.11	1.06	0.10	0.50



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 002283308

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	6697^{+189}_{-260}	$4.193^{+0.175}_{-0.175}$	$-0.300^{+0.250}_{-0.300}$	$1.468^{+0.410}_{-0.336}$	$1.235^{+0.170}_{-0.208}$	$0.549^{+0.532}_{-0.273}$
	+3%/-4%	+4%/-4%	+83%/-100%	+28%/-23%	+14%/-17%	+97%/-50%
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 002283308-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-14 ± 3	$0.86^{+0.66}_{-0.56}$	3238^{+256}_{-214}	5432^{+4491}_{-1292}	$5.750^{+37.665}_{-4.093}$
Alt.	-31 ± 6	$0.85^{+0.64}_{-0.52}$	3236^{+226}_{-215}	6693^{+7044}_{-1601}	13^{+79}_{-9}

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 $A_{obs} \gg 1.0$

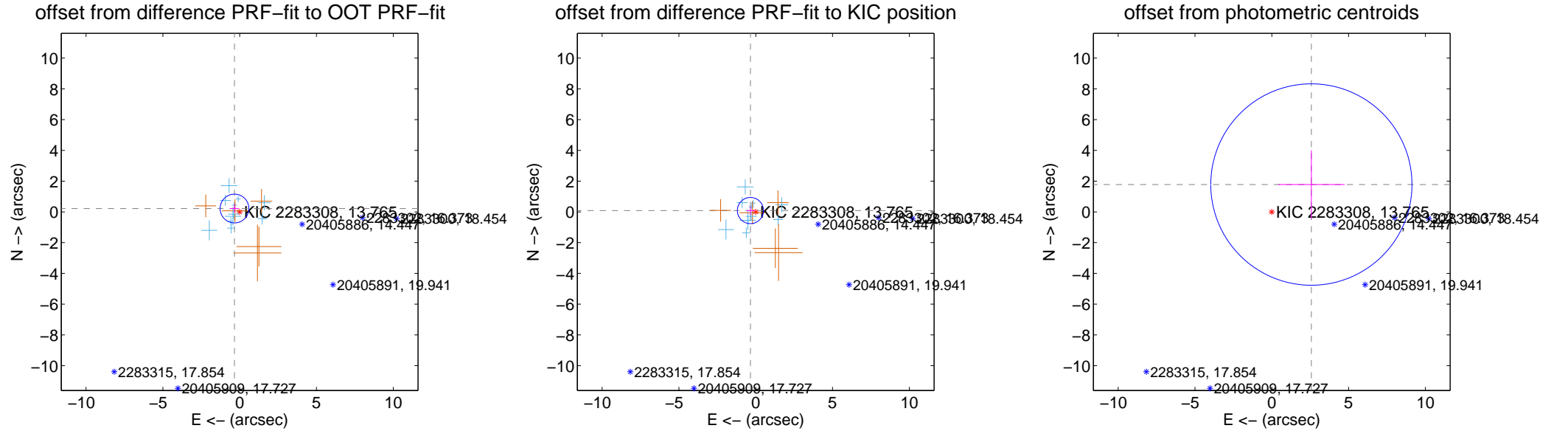
DV Centroid Data

Supplemental centroid analysis for 002283308-02. Kepler magnitude: 13.77. Transit SNR 6.12

There are 11 quarters with good PRF difference image offsets

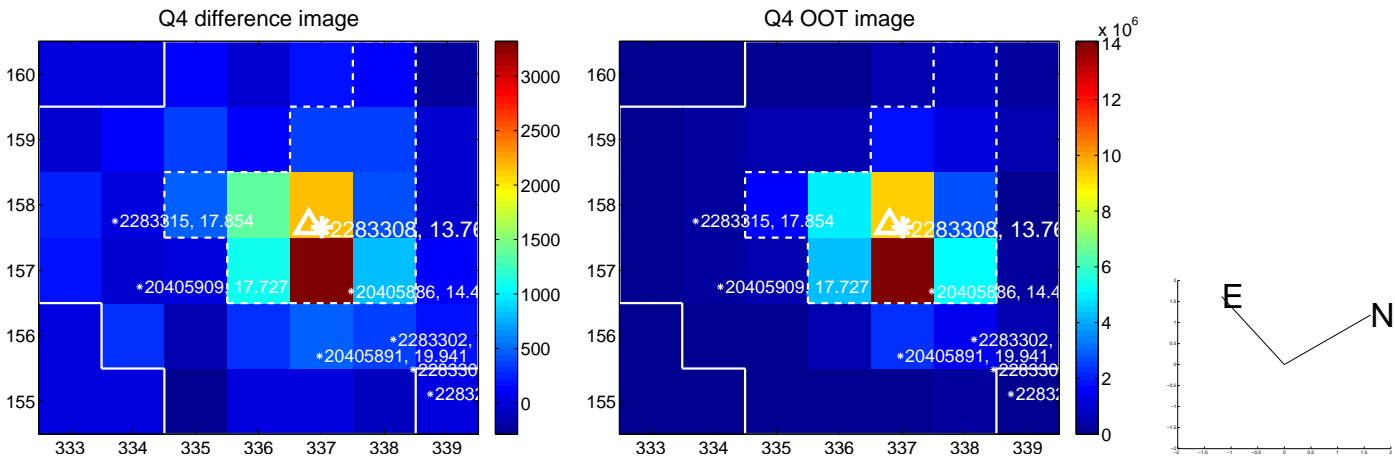
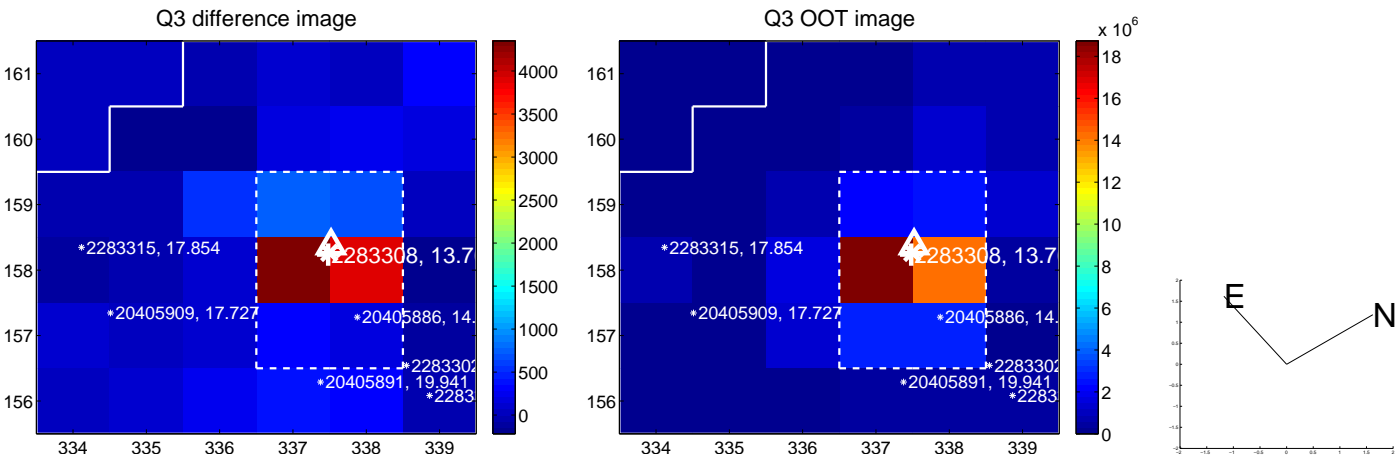
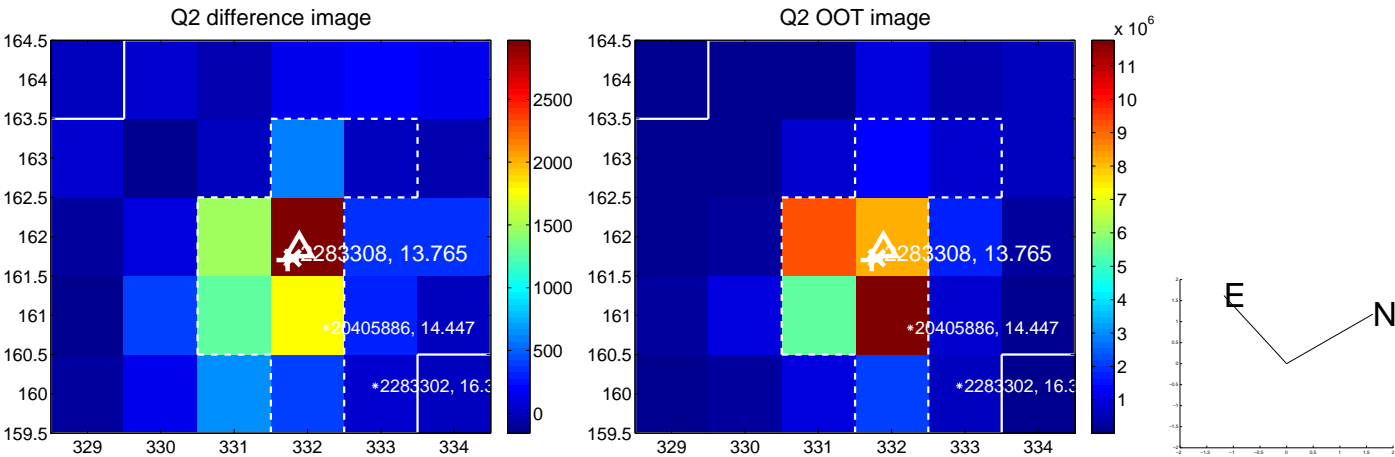
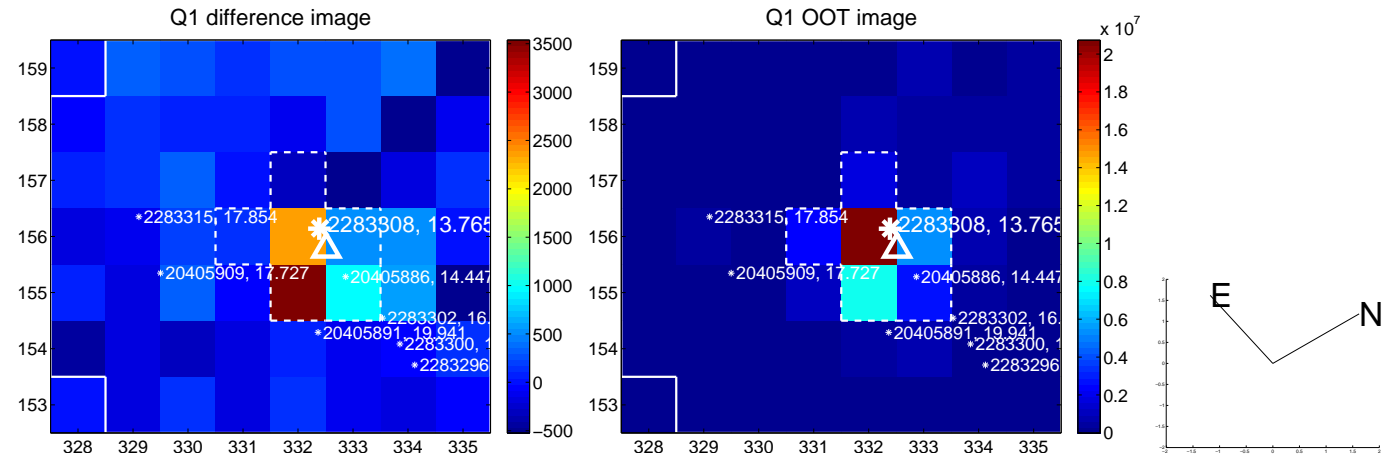
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.402 ± 0.312	1.29	0.338 ± 0.301	0.219 ± 0.281
PRF-fit source offset from KIC position	0.356 ± 0.283	1.26	0.346 ± 0.274	0.087 ± 0.270
photometric centroid source offset	3.13 ± 2.18	1.43	-2.58 ± 2.16	1.78 ± 2.22

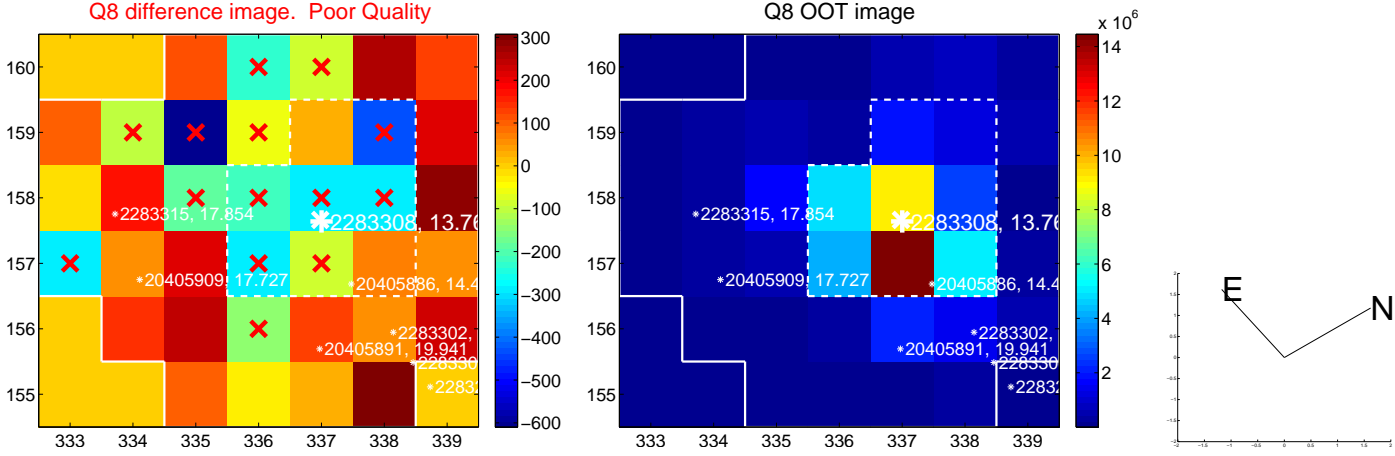
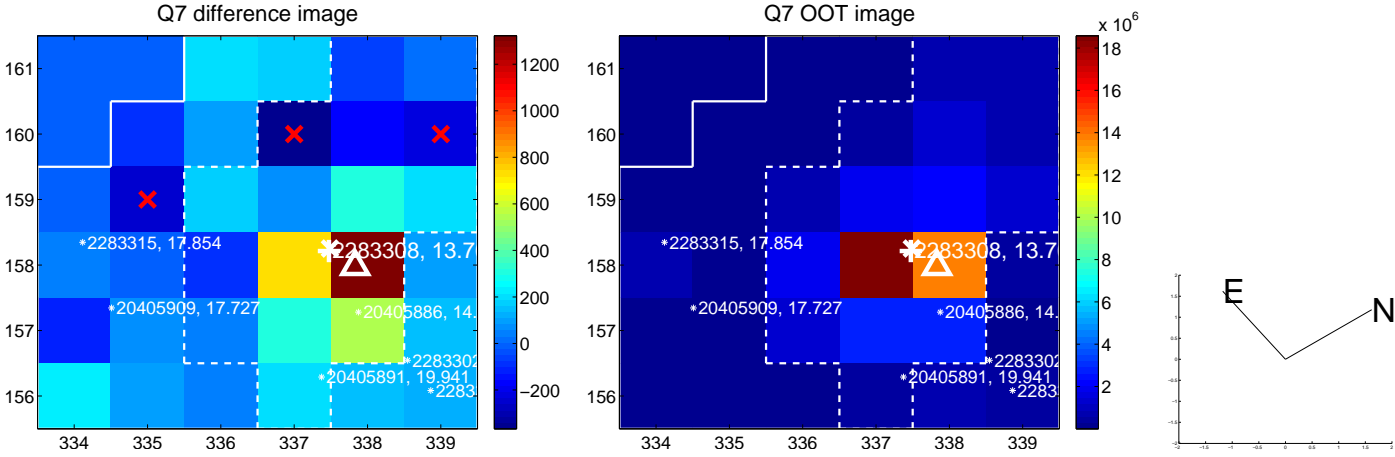
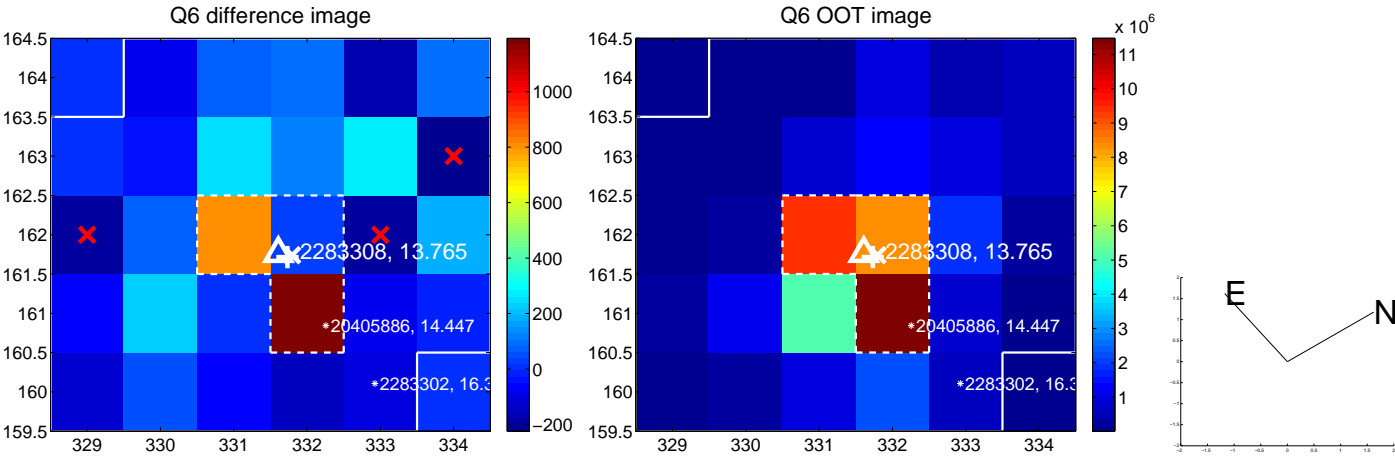
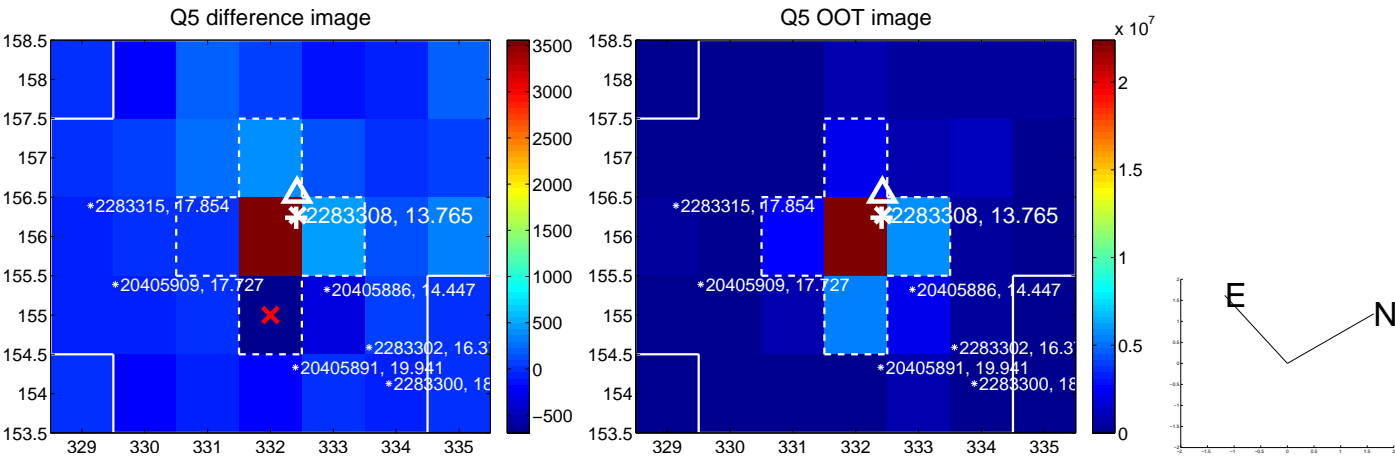


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

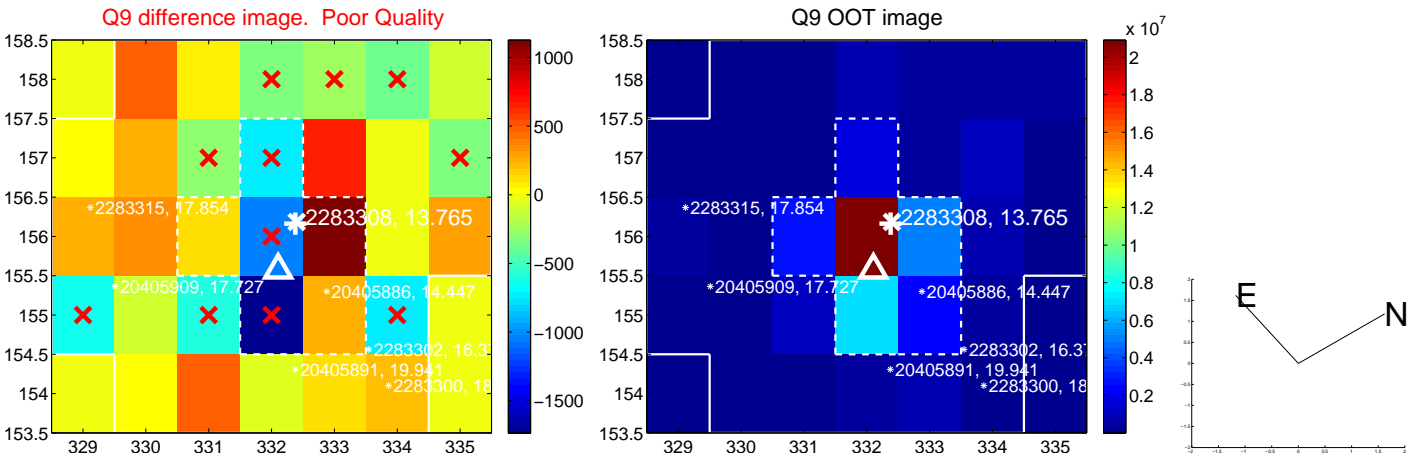
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



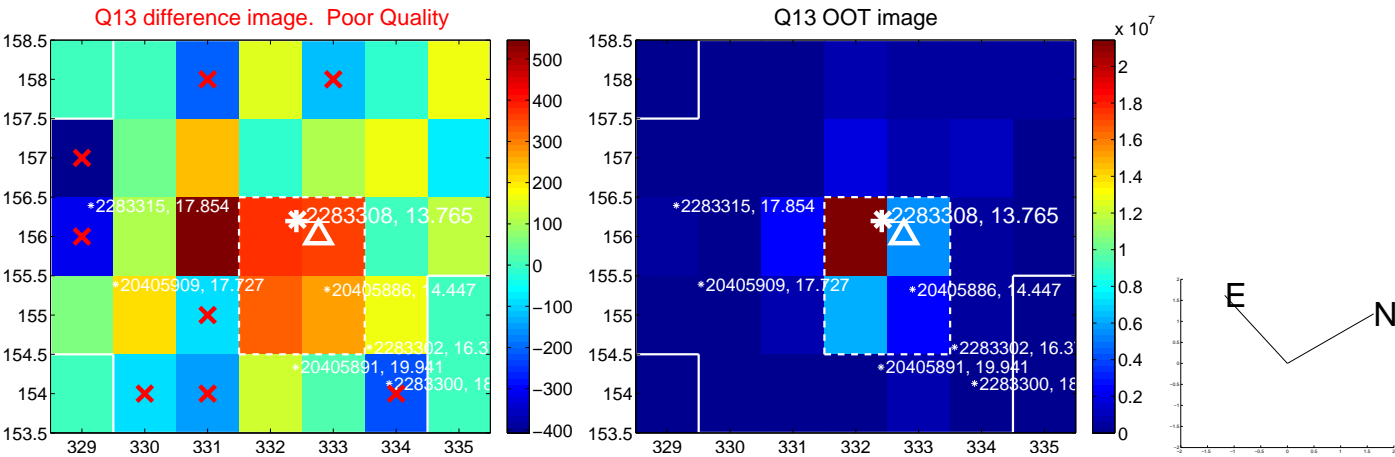
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



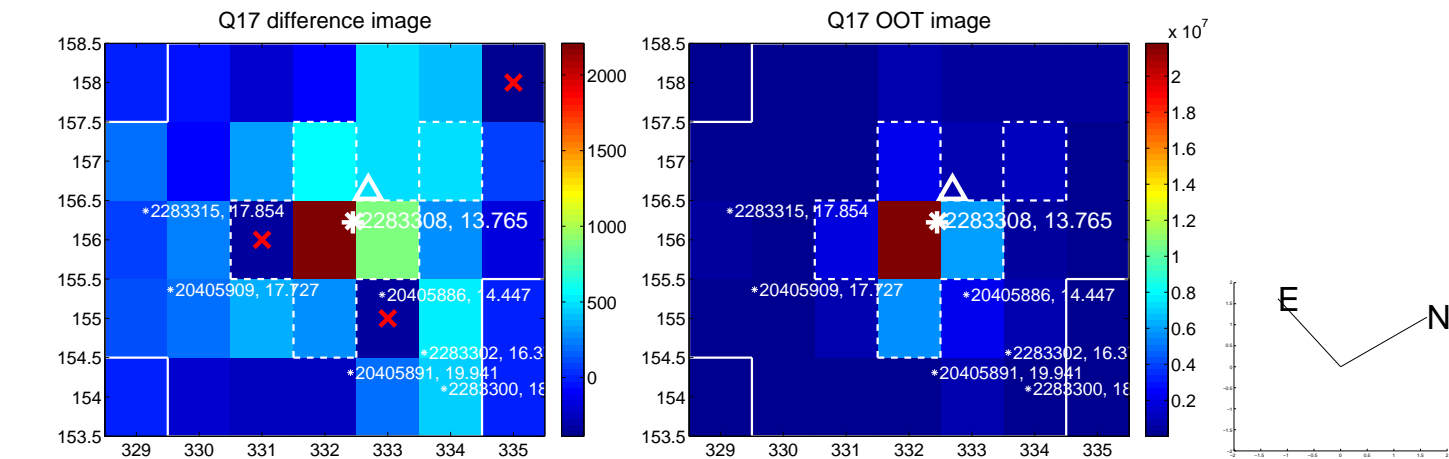
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



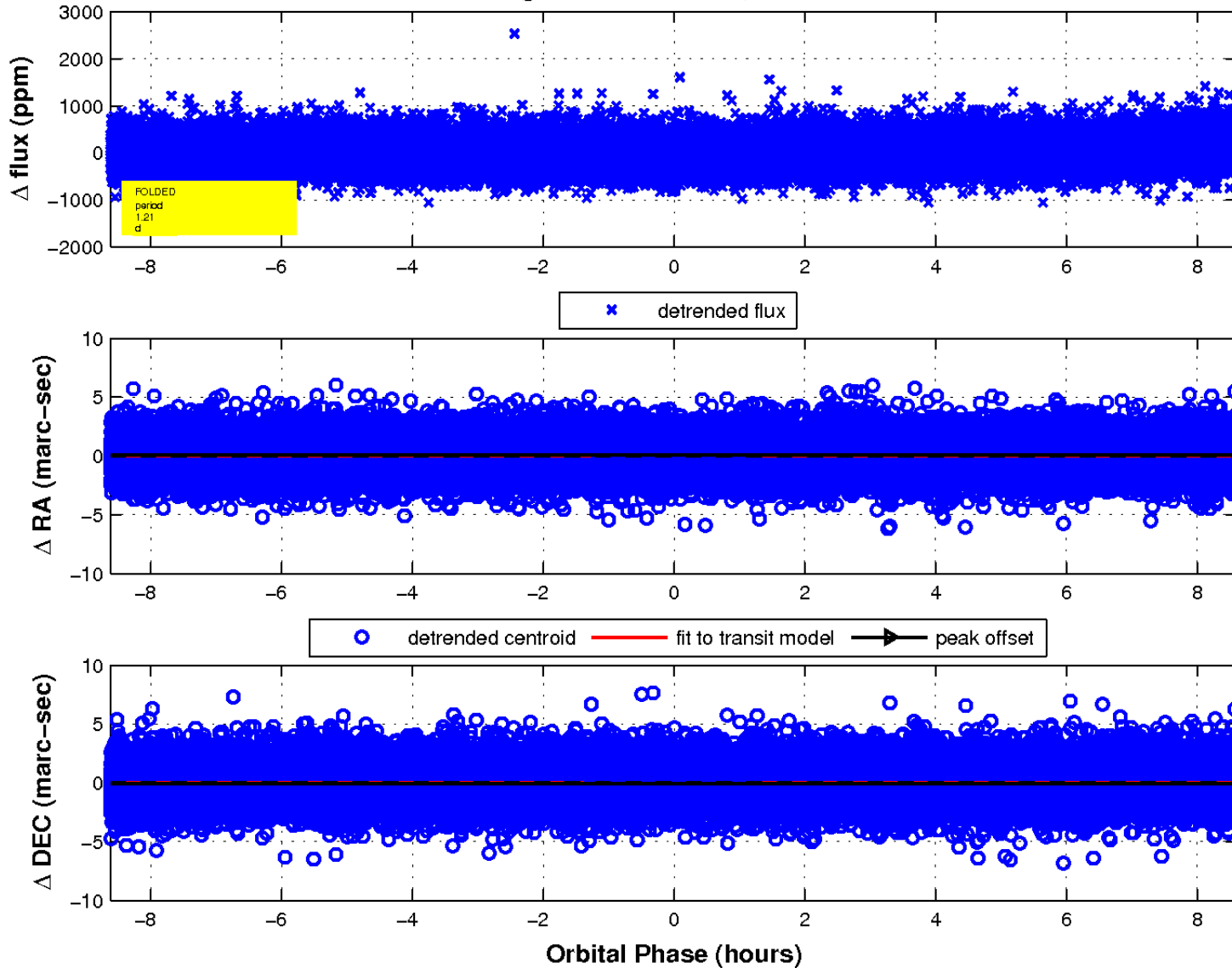
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

