

KIC 005285359

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})
005285359-01	OBS	No	0.556953	132.053248	17.9	2.387	8.0	8.2	2.14	5616	0.89	21257.71
005285359-02	OBS	No	145.914371	253.235507	279.1	6.254	9.4	6.4	2.14	5616	4.22	12.68

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005285359-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_KIC_POS
005285359-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

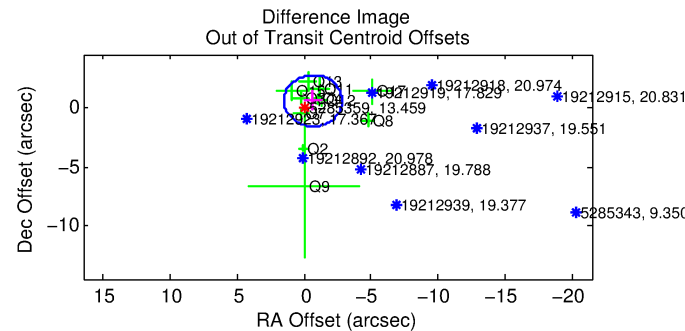
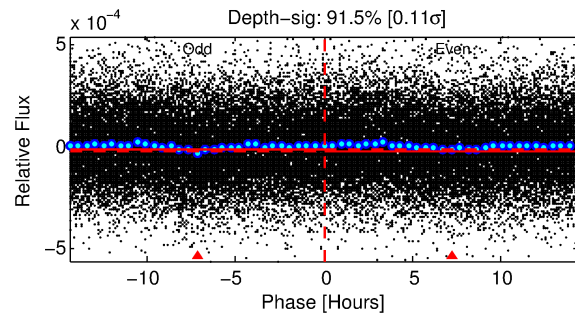
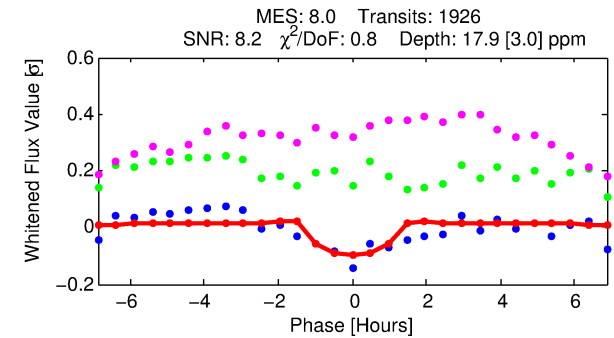
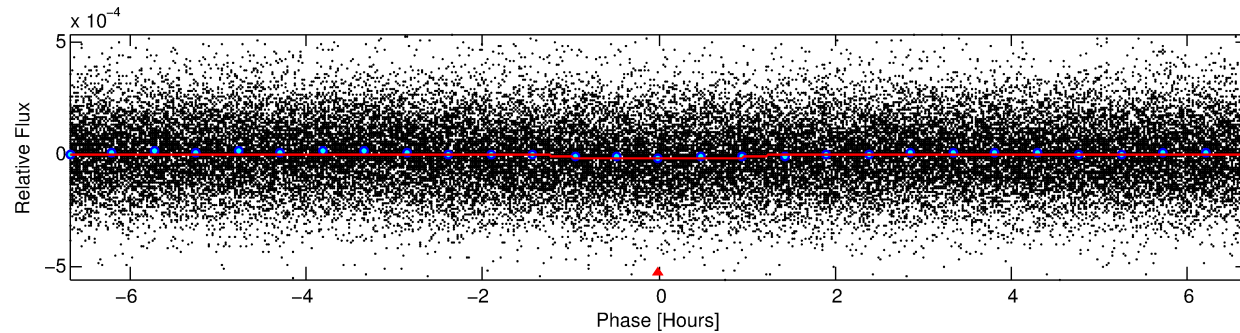
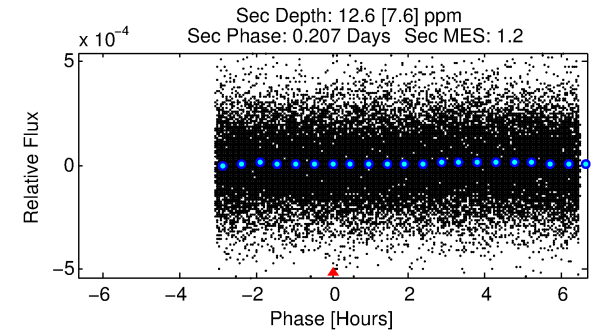
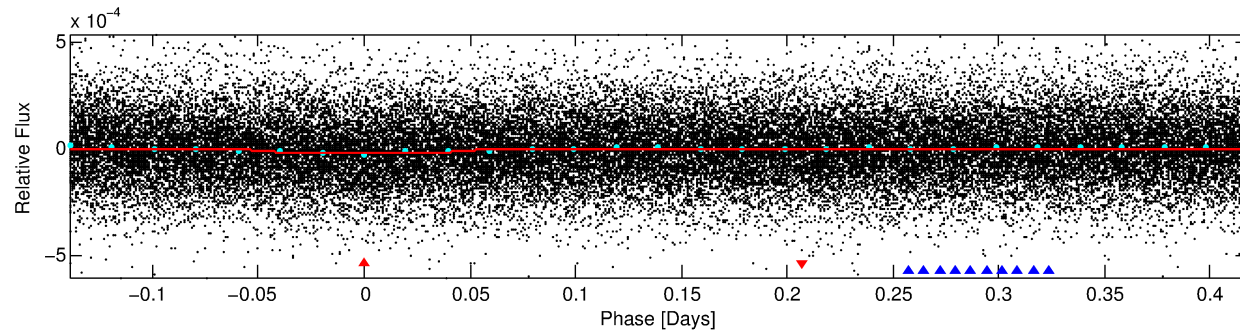
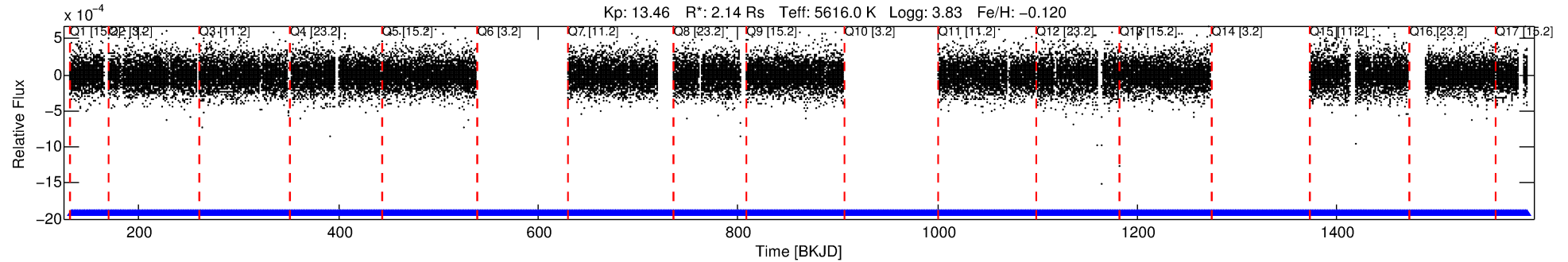
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005285359-01

No Significant Match Found

DV One-Page Summary

KIC: 5285359 Candidate: 1 of 2 Period: 0.557 d



DV Fit Results:

Period = 0.55695 [0.00001] d
Epoch = 132.0532 [0.0034] BKJD
Rp/R* = 0.0038 [0.0070]
a/R* = 1.89 [10.74]
b = 0.01 [1513.97]
Seff = 21257.71 [21125.56]
Teff = 3079 [765] K
Rp = 0.89 [1.71] Re
a = 0.0138 [0.0080] AU
Ag = 1.67 [6.41] [0.10σ]
Teffp = 5409 [5034] K [0.46σ]

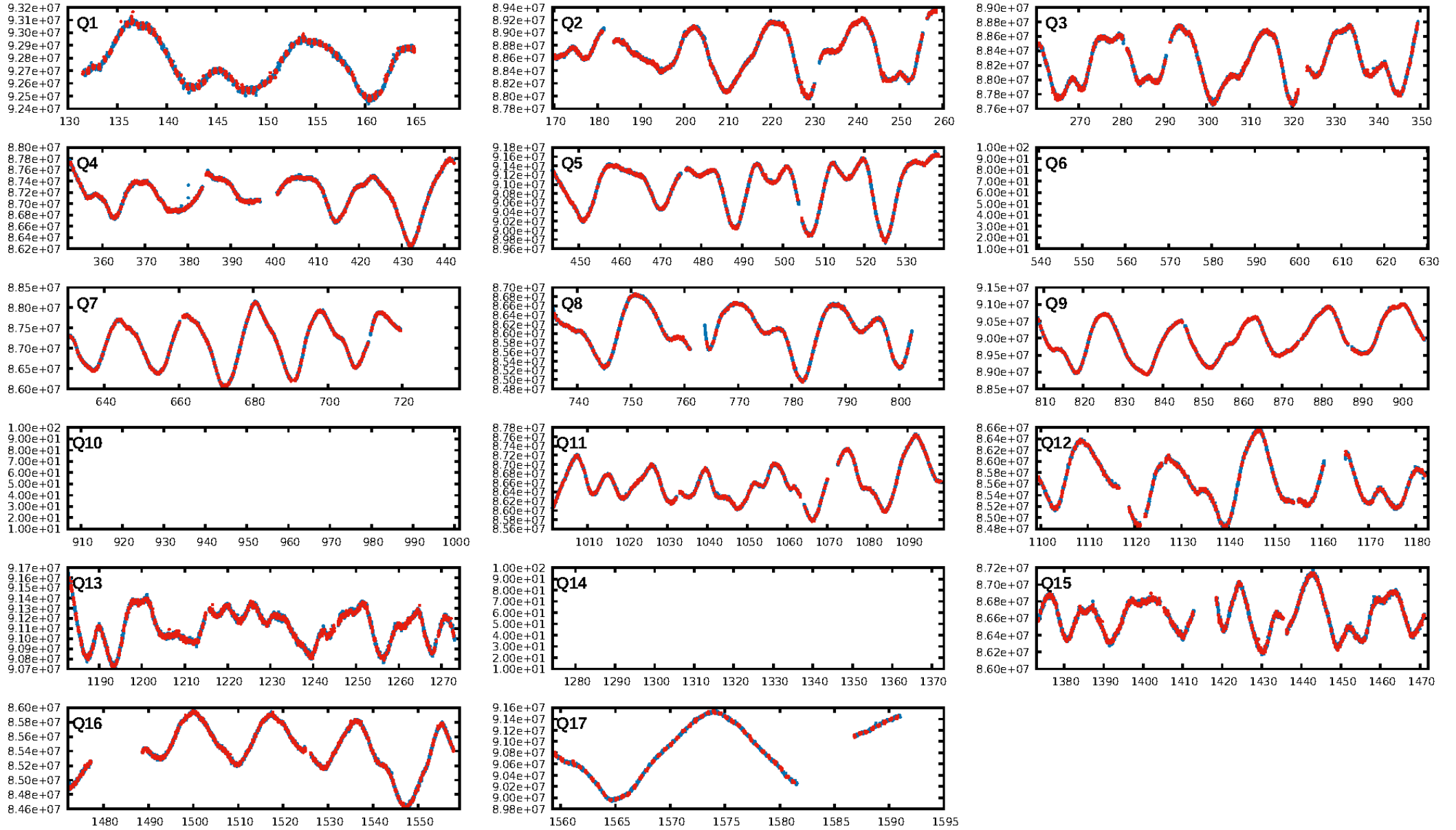
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [521.14σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.98e-14
RollingBand-fgt: 1.00 [1817/1817]
GhostDiagnostic-chr: 0.7001
Centroid-sig: 0.0%
Centroid-so: 2.883 arcsec [2.26σ]
OotOffset-rm: 0.869 arcsec [1.20σ]
KicOffset-rm: 0.947 arcsec [1.52σ]
OotOffset-st: 1/4/3/3 [11]
KicOffset-st: 1/4/3/3 [11]
DiffImageQuality-fgm: 0.64 [7/11]
DiffImageOverlap-fno: 1.00 [14/14]

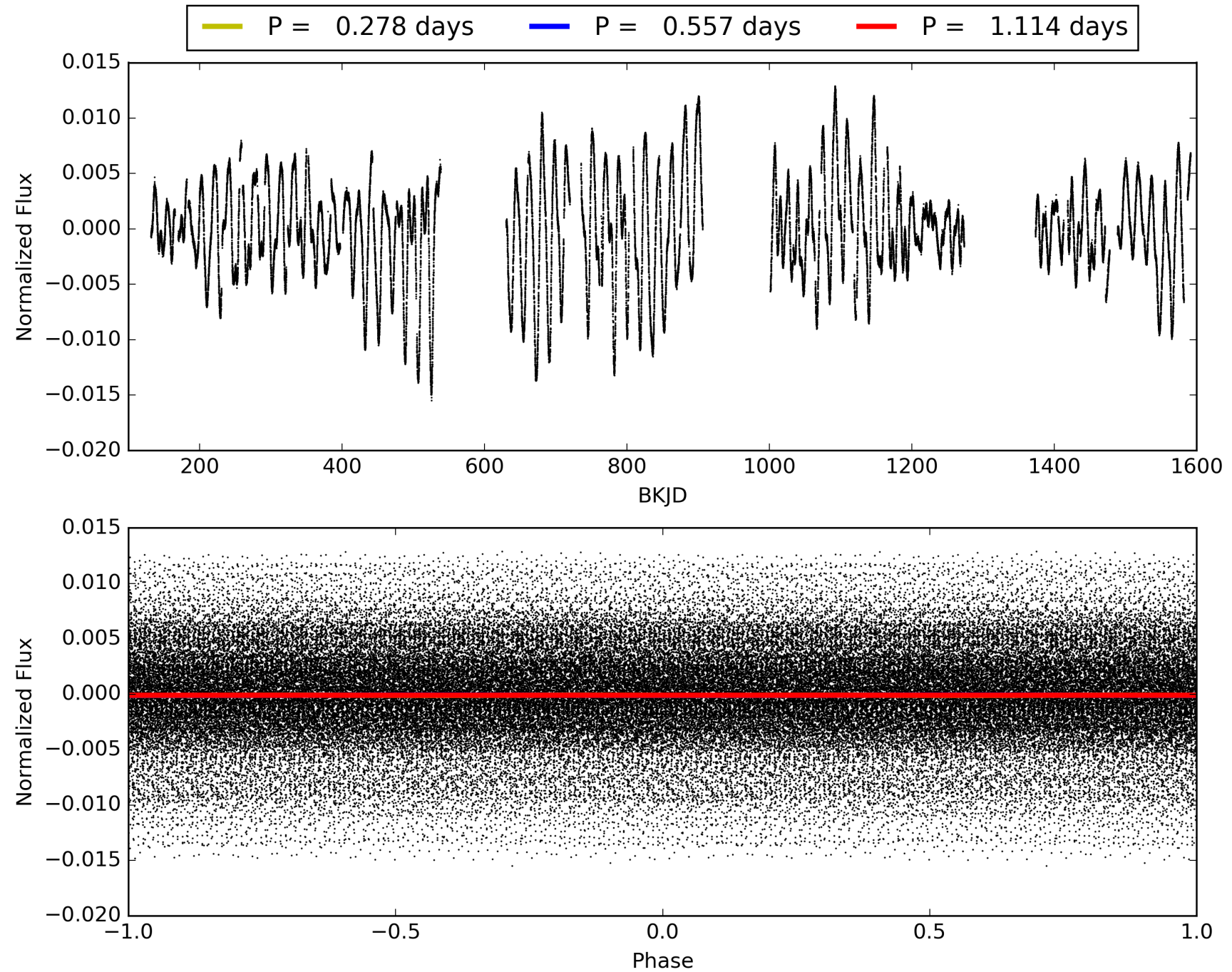
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 08:37:21 Z

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

TCE 005285359-01, PDC Light Curves

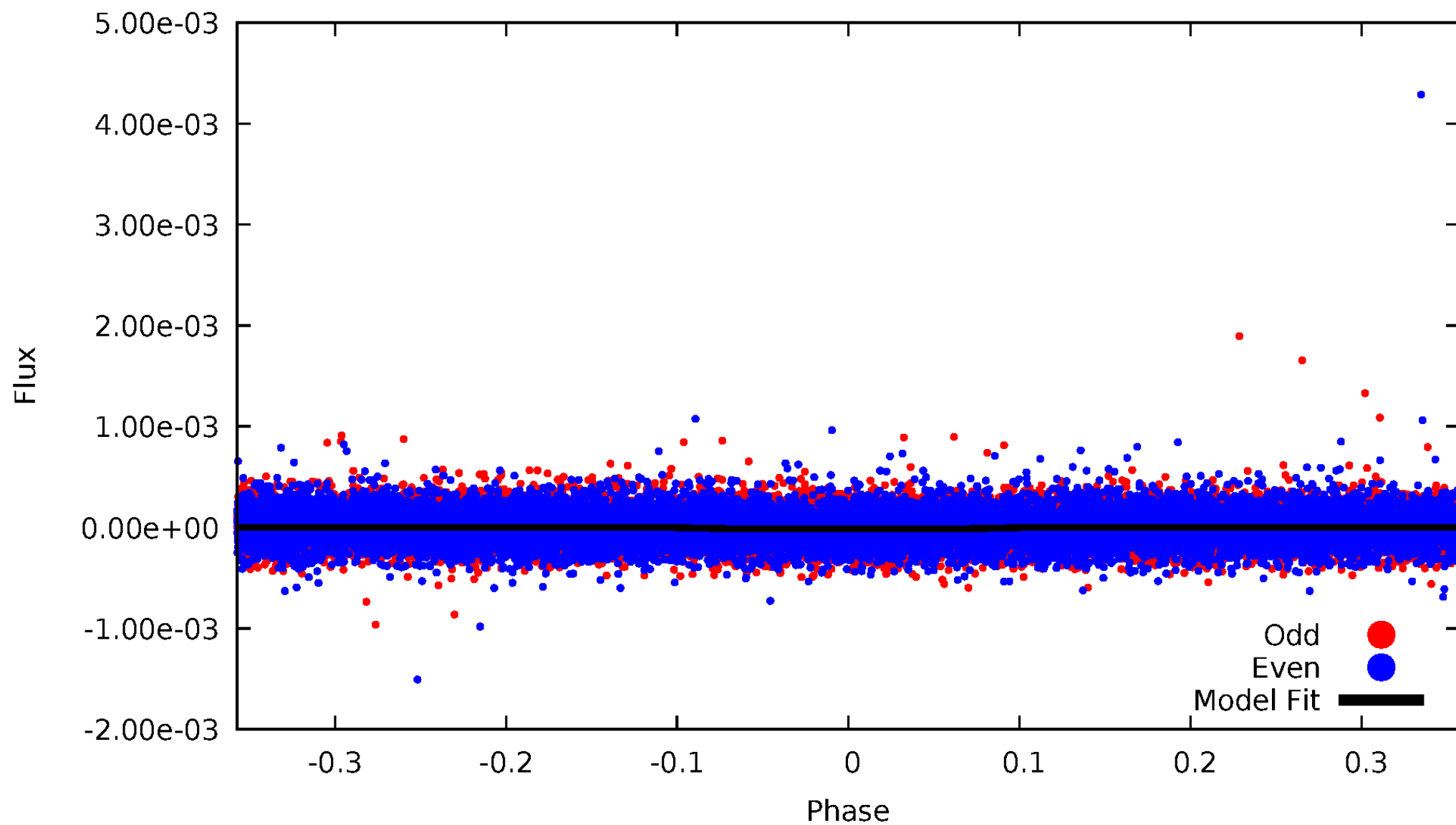


TCE 005285359-01



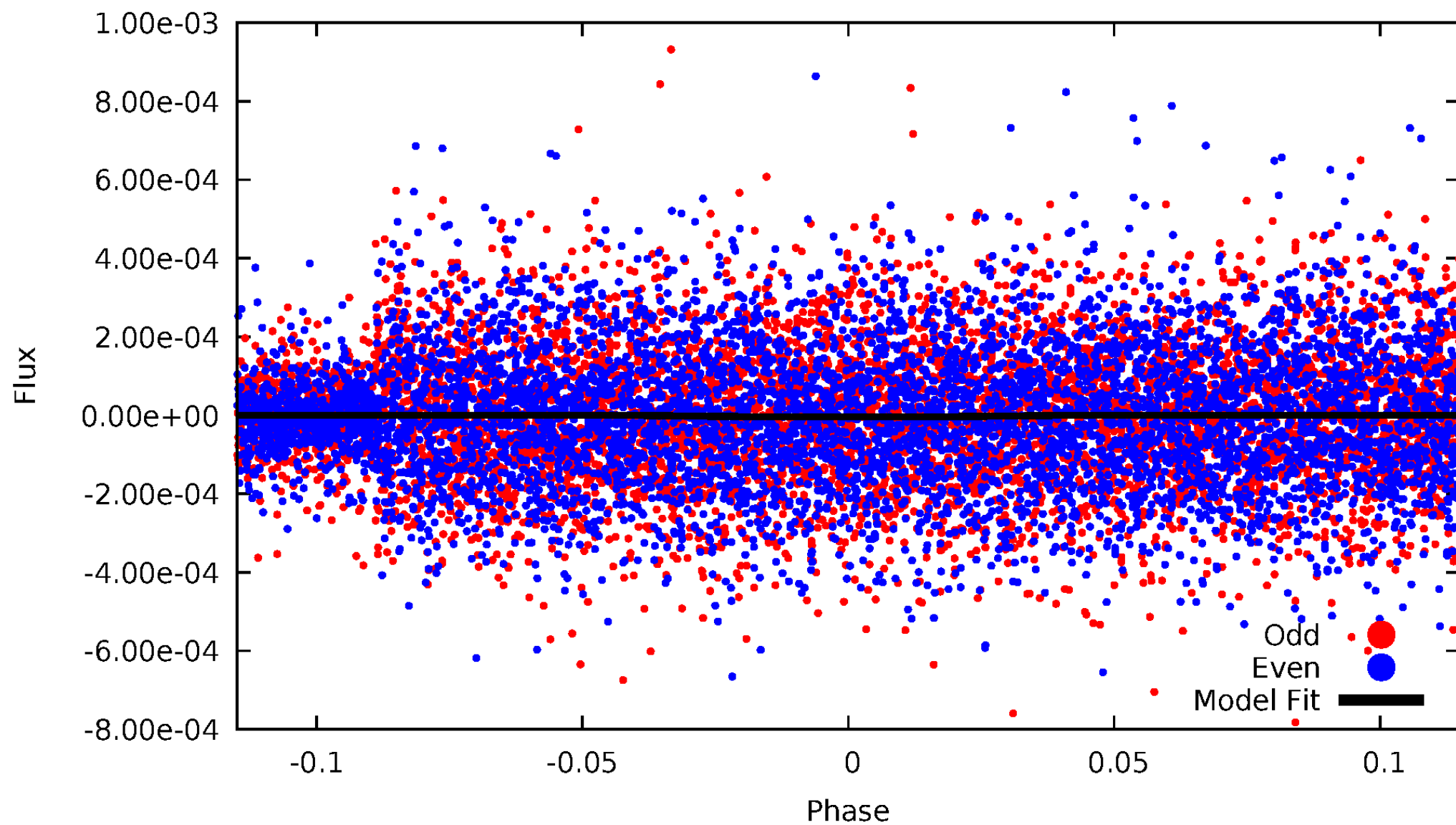
DV Odd/Even

TCE 005285359-01



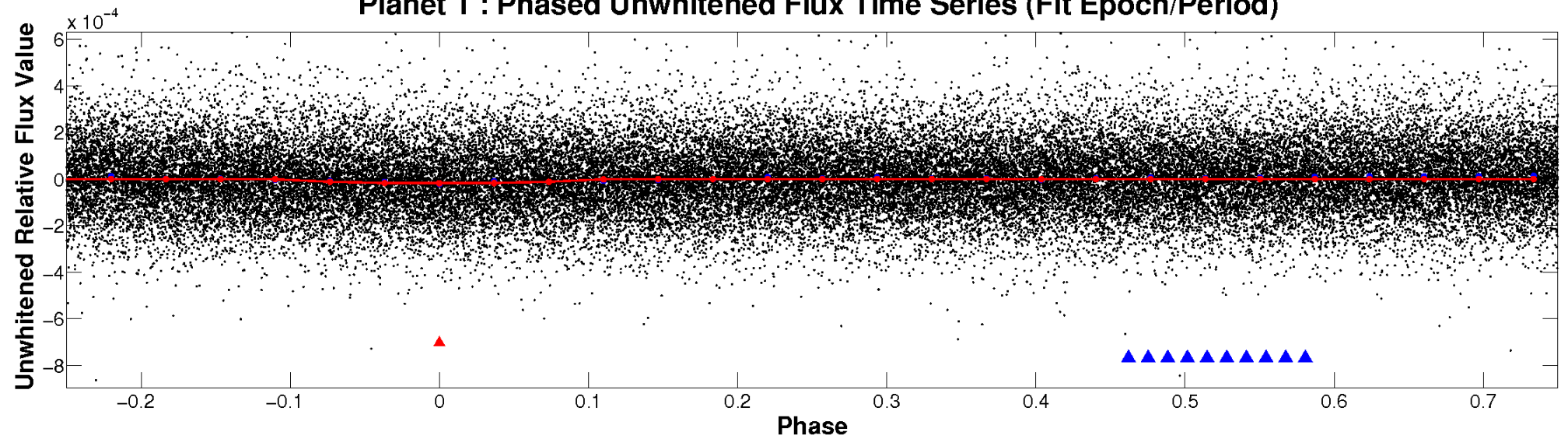
ALT Odd/Even

TCE 005285359-01

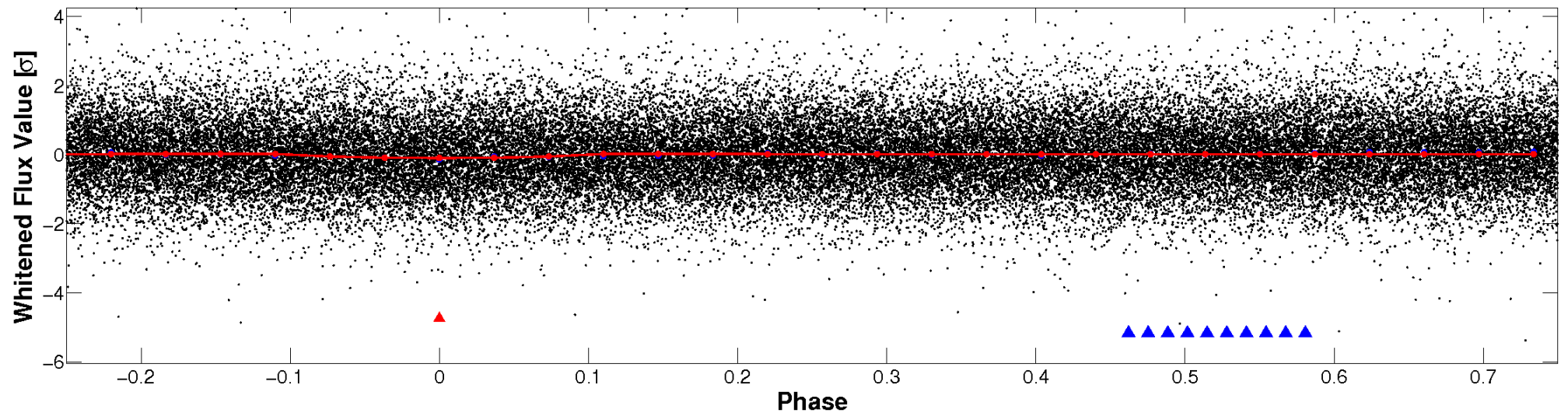


Non-Whitened Vs. Whitened Light Curve

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

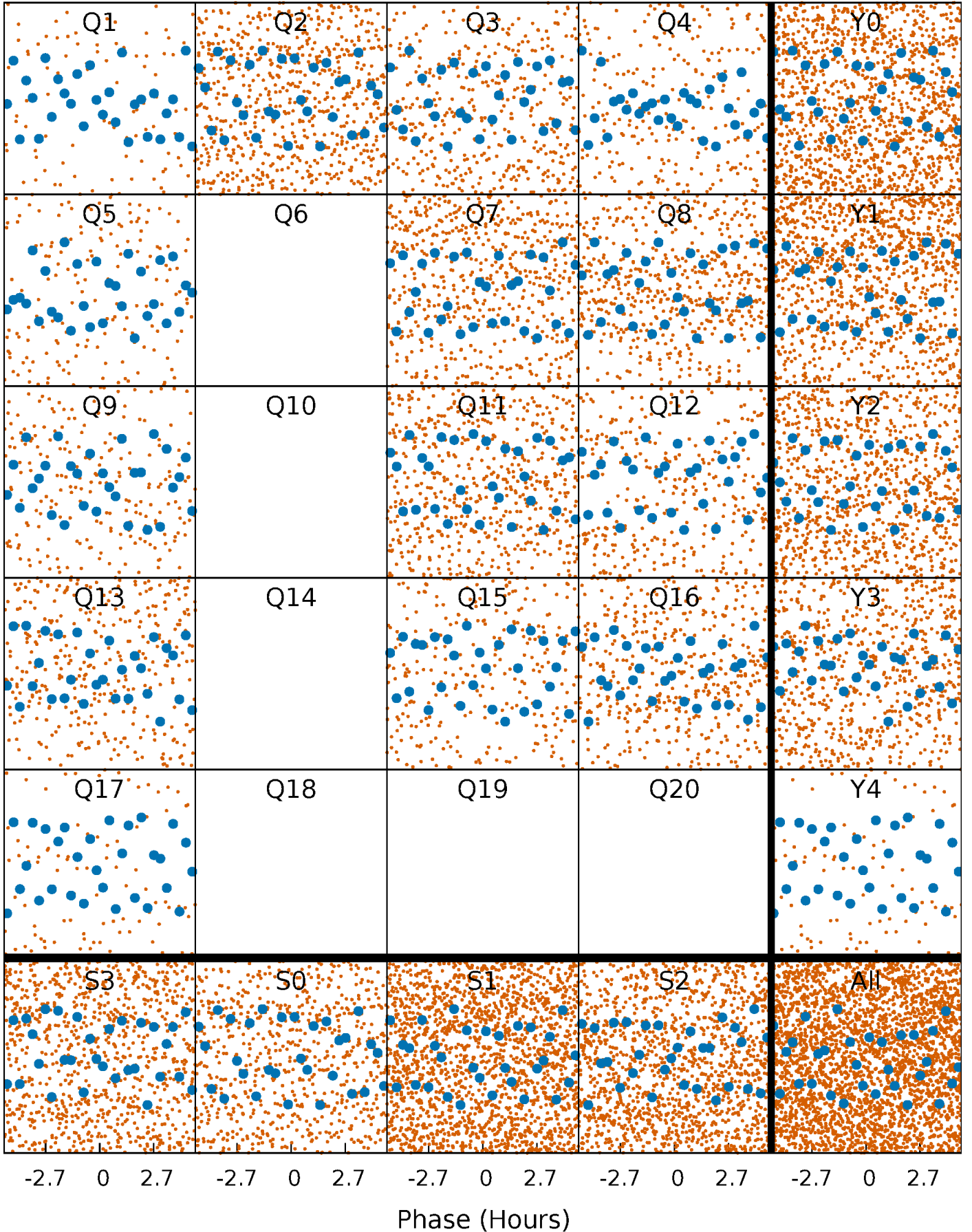


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



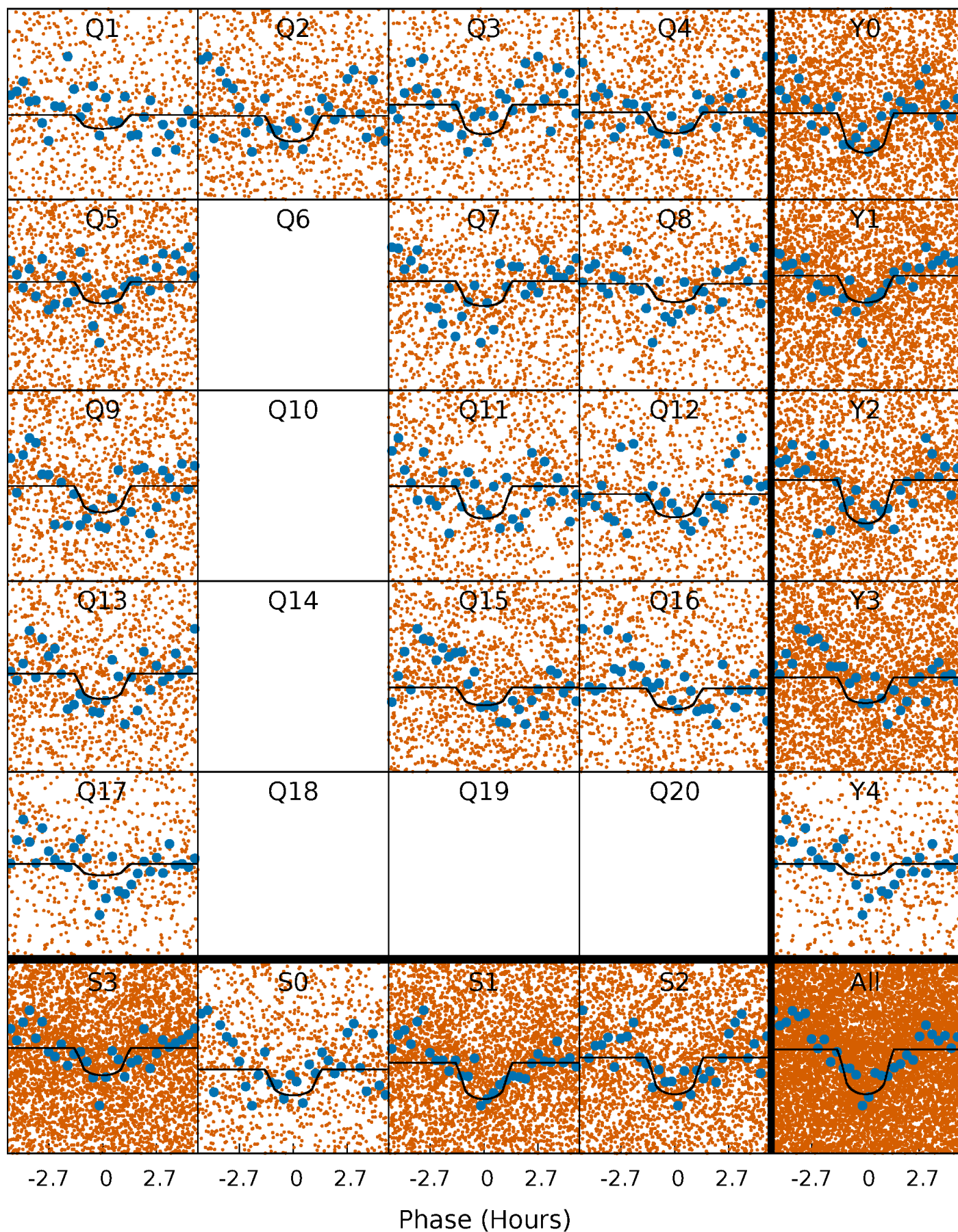
PDC Quarter-Phased Transit Curves

TCE 005285359-01 P= 0.556953 Days $T_0=132.053248$ (BKJD)



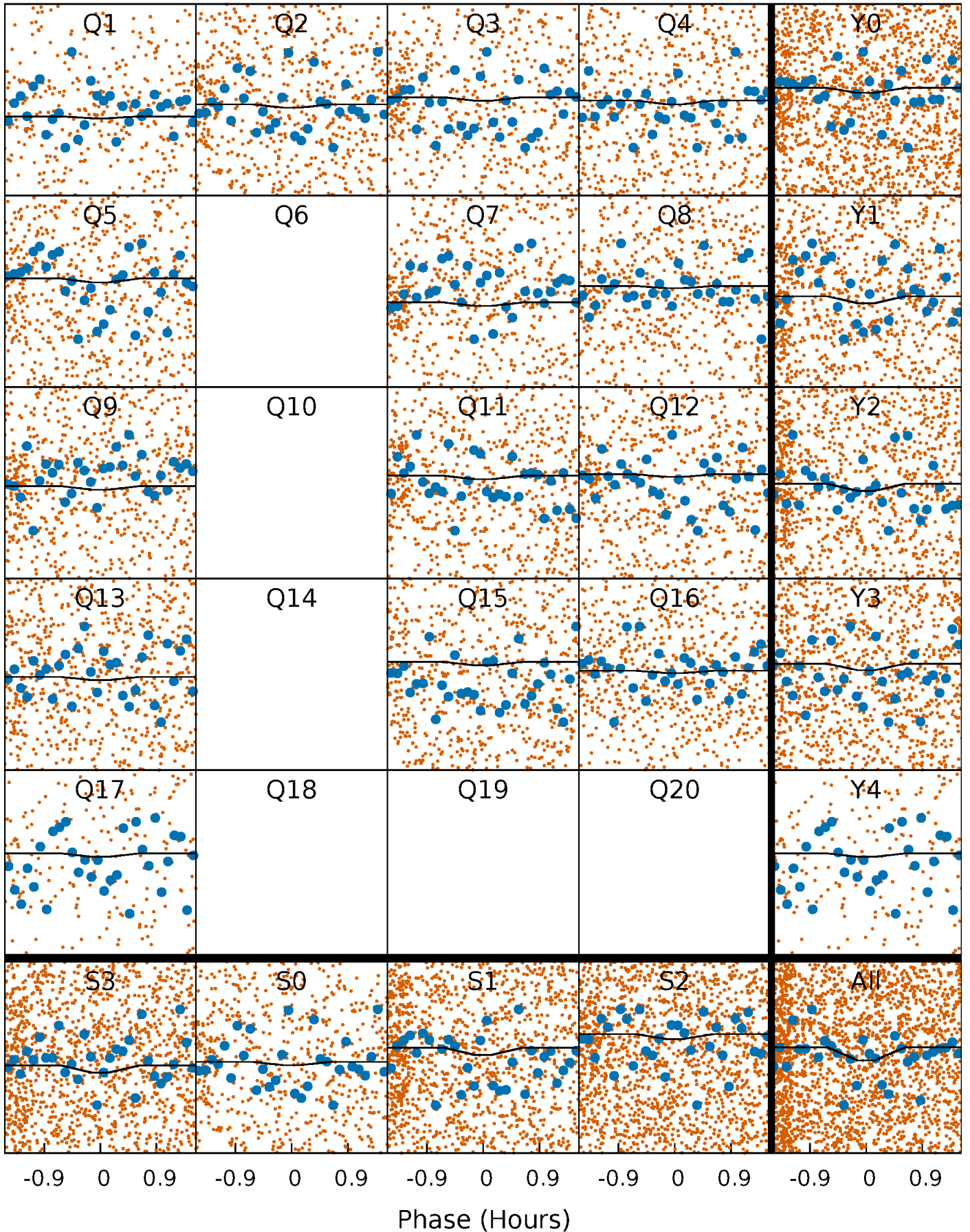
DV Quarter-Phased Transit Curves

TCE 005285359-01 P= 0.556953 Days $T_0=132.053248$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

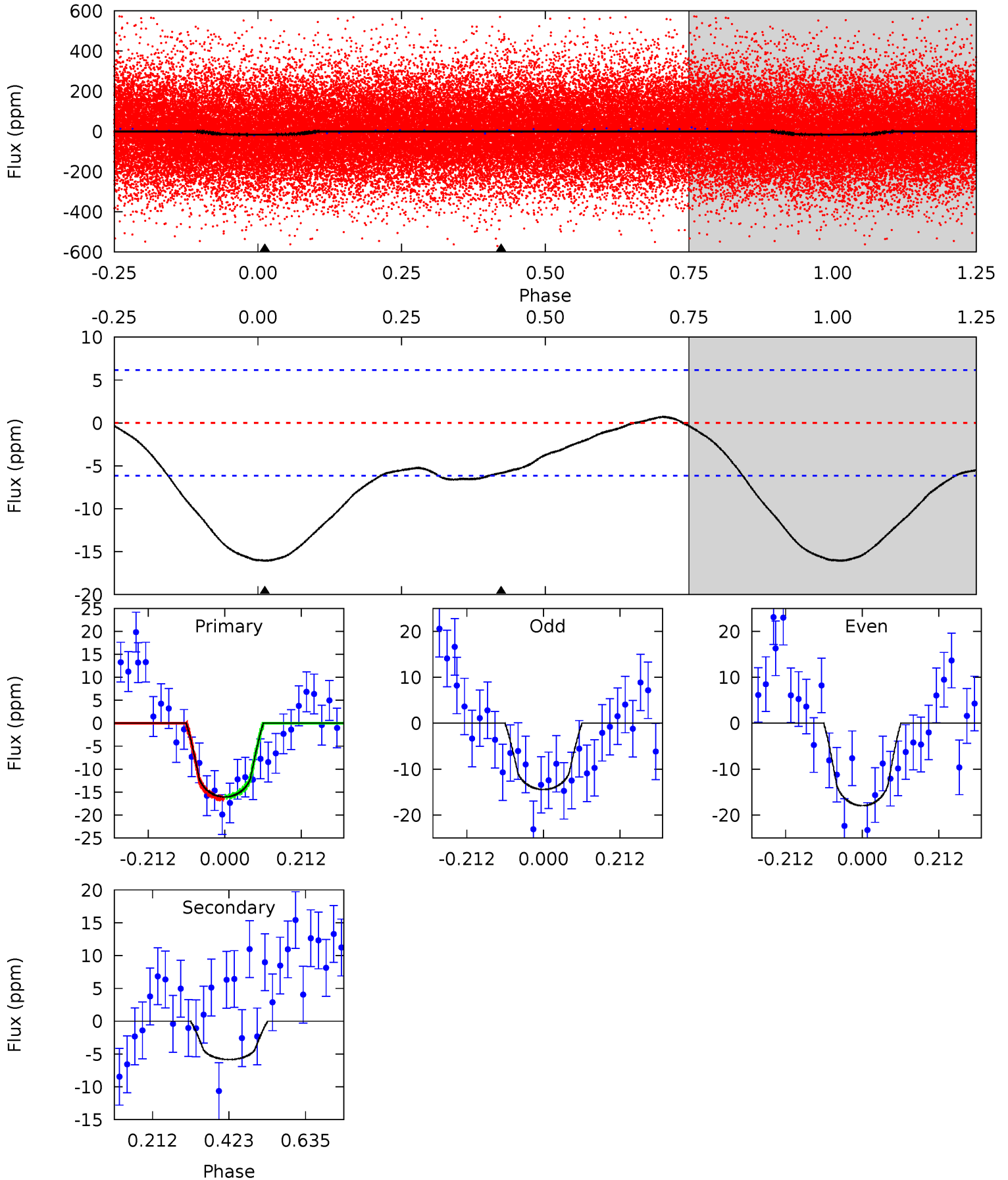
TCE 005285359-01 P= 0.556980 Days $T_0=132.030660$ (BKJD)



DV Model-Shift Uniqueness Test

005285359-01, P = 0.556953 Days, E = 131.496295 Days

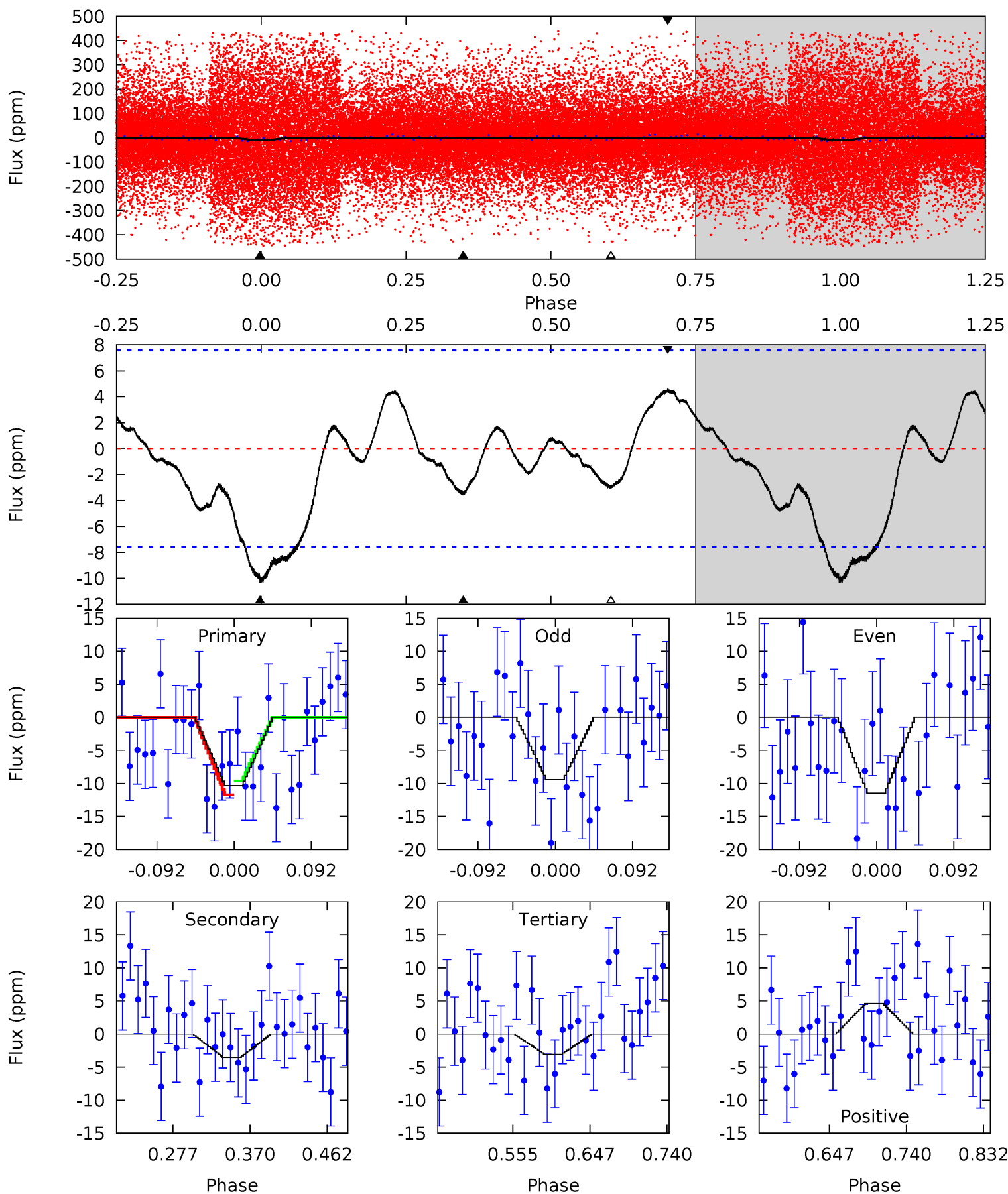
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	4.18	0	0	4.41	1.25	0.64	11.5	11.5	4.18	4.18	1.26	1.12	0.04	0.14



Alt Model-Shift Uniqueness Test

005285359-01, P = 0.556980 Days, E = 131.473680 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.25	2.16	1.86	2.80	4.58	1.68	1.41	4.39	3.45	0.30	-0.63	0.62	0.67	0.31	0.64



Stellar Parameters For KIC 005285359

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5616^{+169}_{-152}	$3.835^{+0.600}_{-0.150}$	$-0.120^{+0.300}_{-0.250}$	$2.138^{+0.523}_{-1.133}$	$1.141^{+0.146}_{-0.250}$	$0.164^{+1.411}_{-0.073}$
	+3%/-3%	+16%/-4%	+250%/-208%	+24%/-53%	+13%/-22%	+858%/-44%
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 005285359-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-6 ± 1	$1.30^{+1.33}_{-0.91}$	4191^{+391}_{-621}	2928^{+3084}_{-6582}	$0.368^{+3.835}_{-0.288}$
Alt.	-4 ± 2	$1.24^{+1.31}_{-0.84}$	4191^{+361}_{-576}	-2974^{+8148}_{-800}	$0.216^{+1.799}_{-0.172}$

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

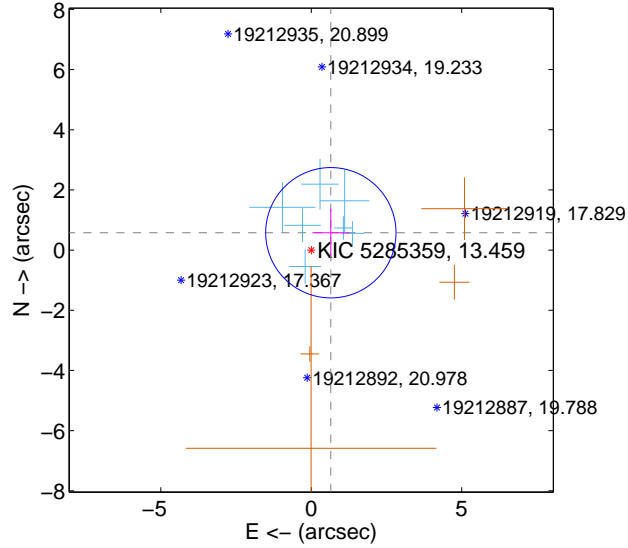
Supplemental centroid analysis for 005285359-01. Kepler magnitude: 13.46. Transit SNR 8.16

There are 7 quarters with good PRF difference image offsets

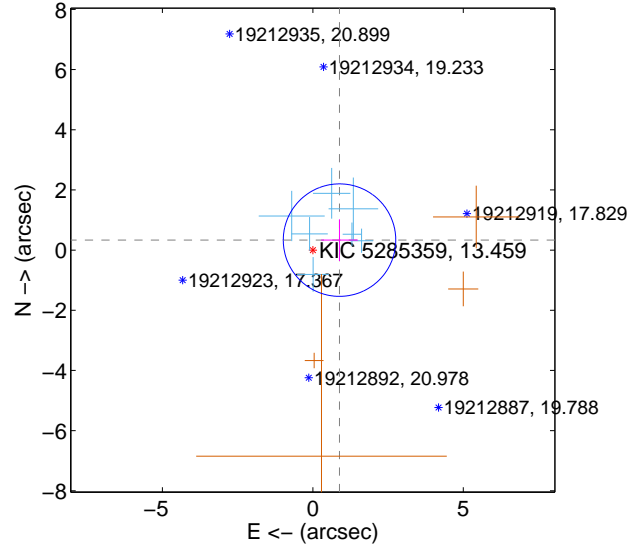
The direct PRF centroid is offset from the target star catalog position by about 0.43 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.869 ± 0.722	1.20	-0.650 ± 0.613	0.577 ± 0.799
PRF-fit source offset from KIC position	0.947 ± 0.623	1.52	-0.887 ± 0.610	0.332 ± 0.691
photometric centroid source offset	2.88 ± 1.27	2.26	-0.60 ± 1.46	2.82 ± 1.26

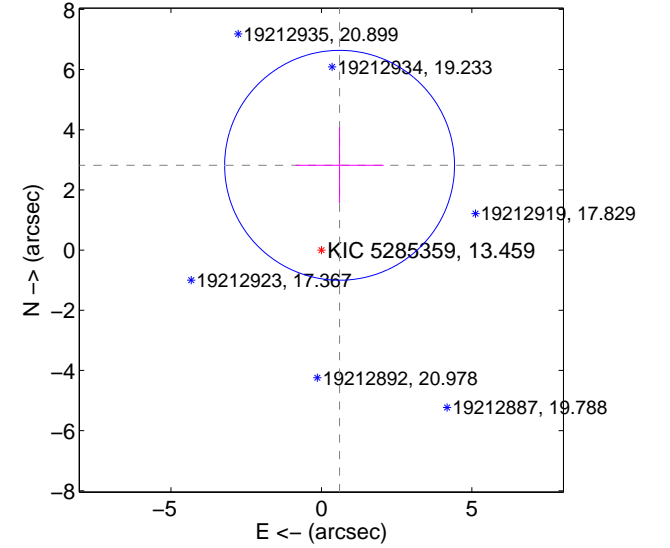
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

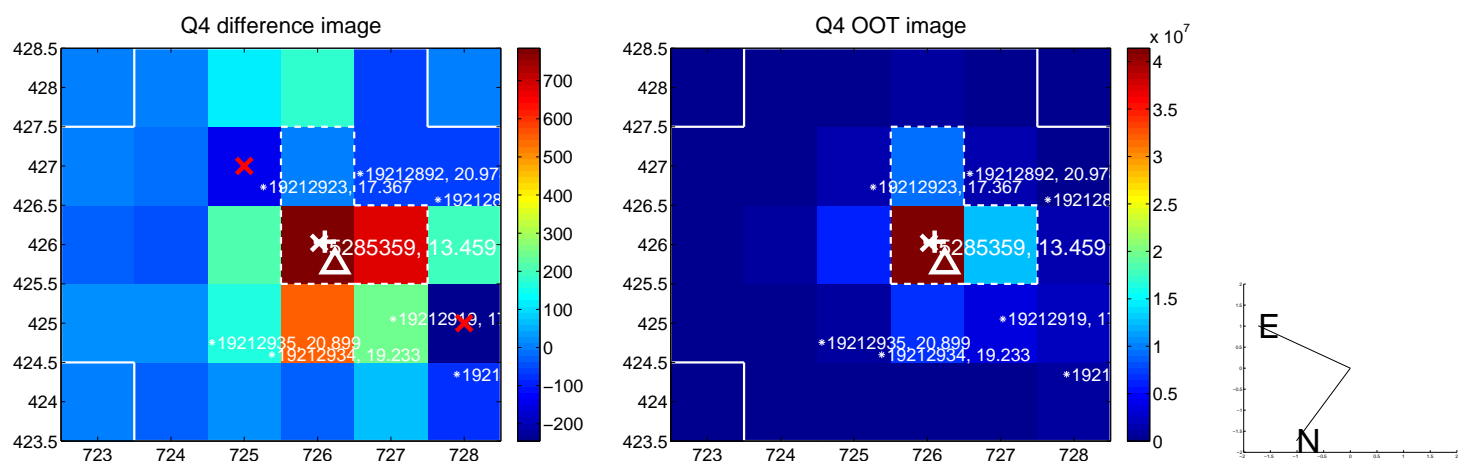
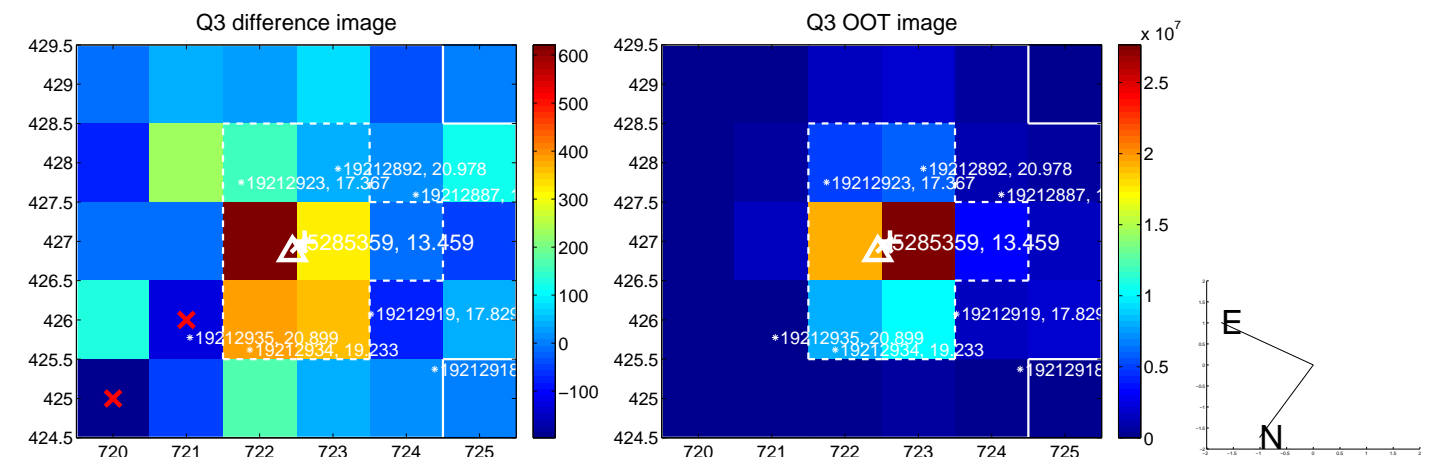
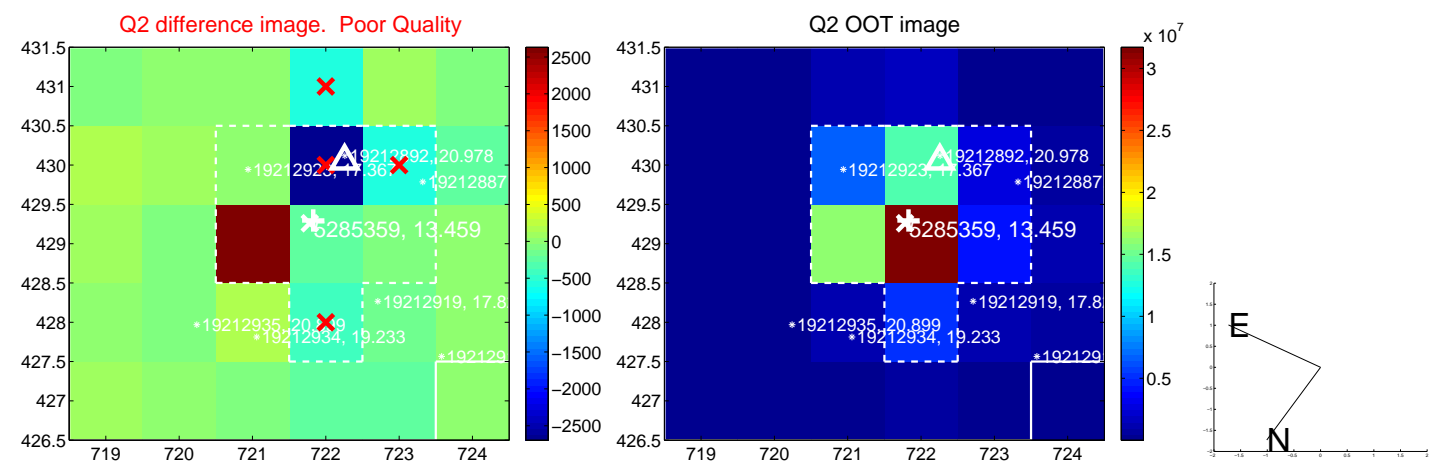
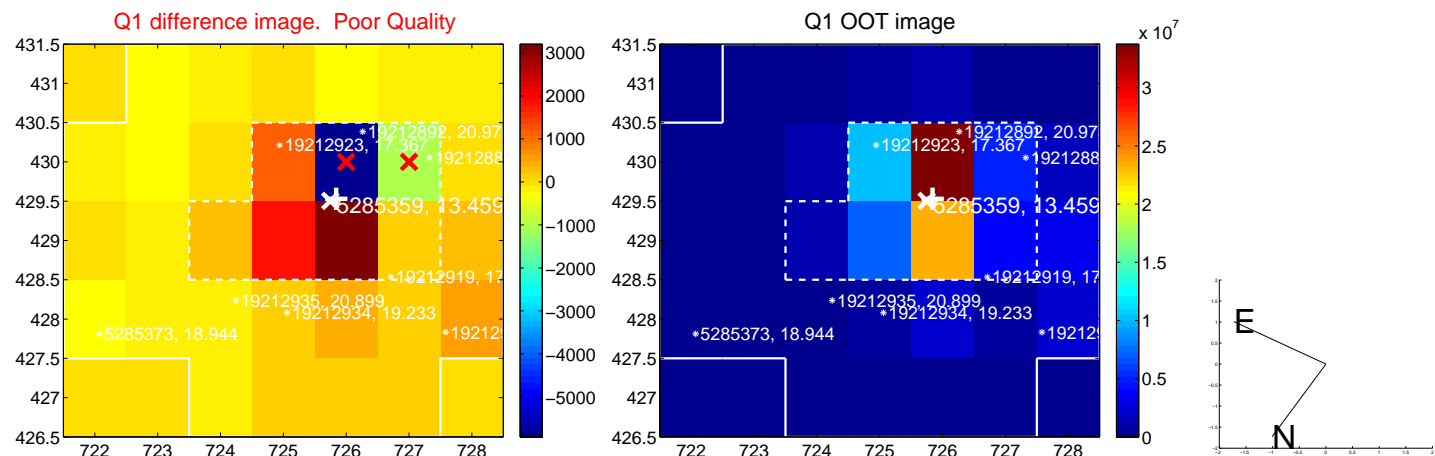


offset from photometric centroids

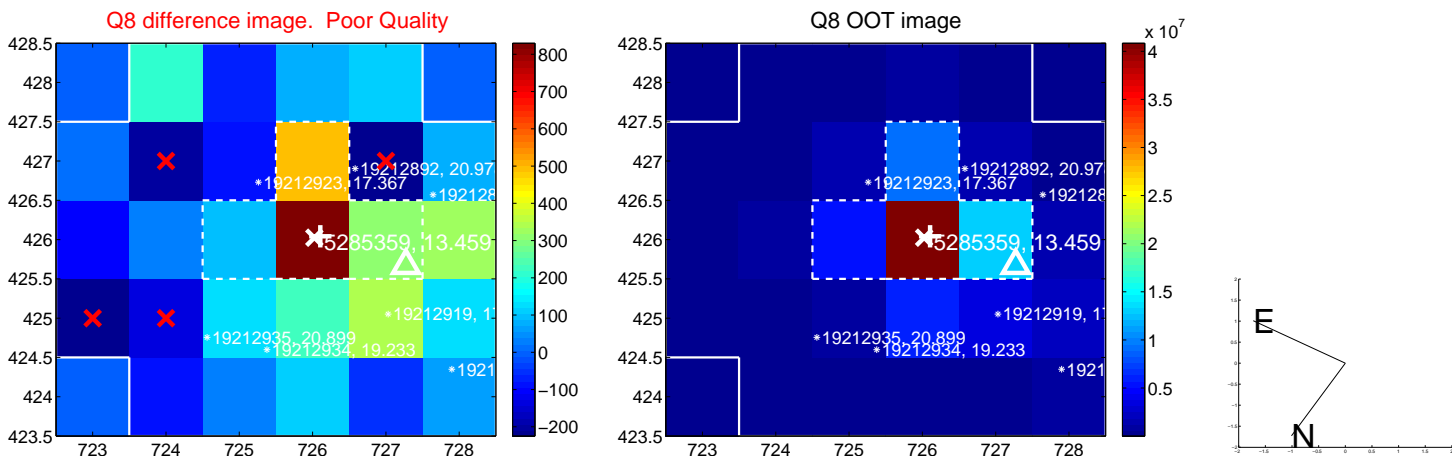
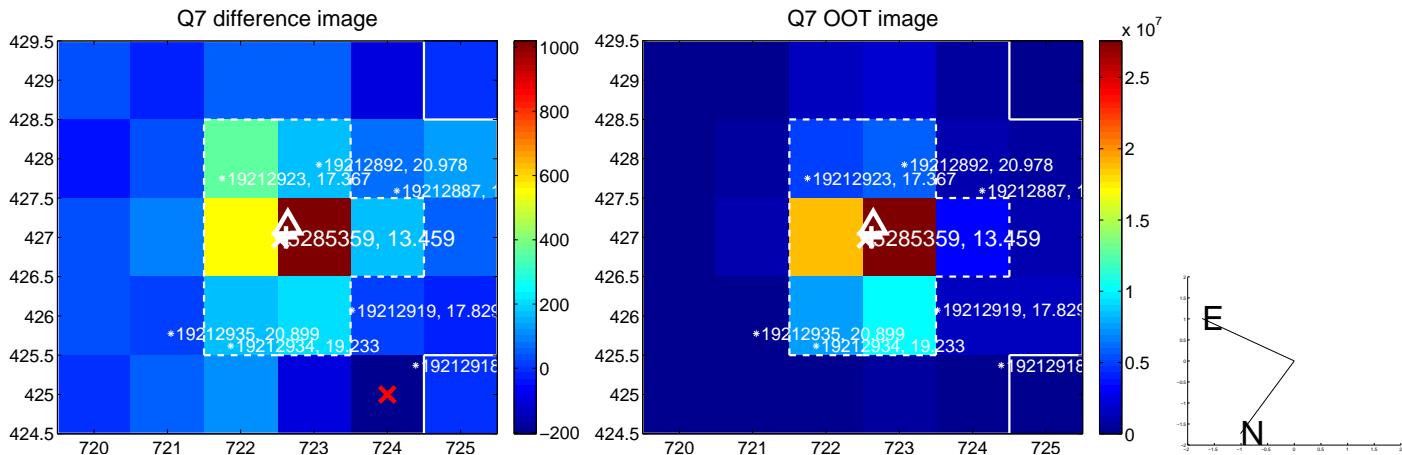
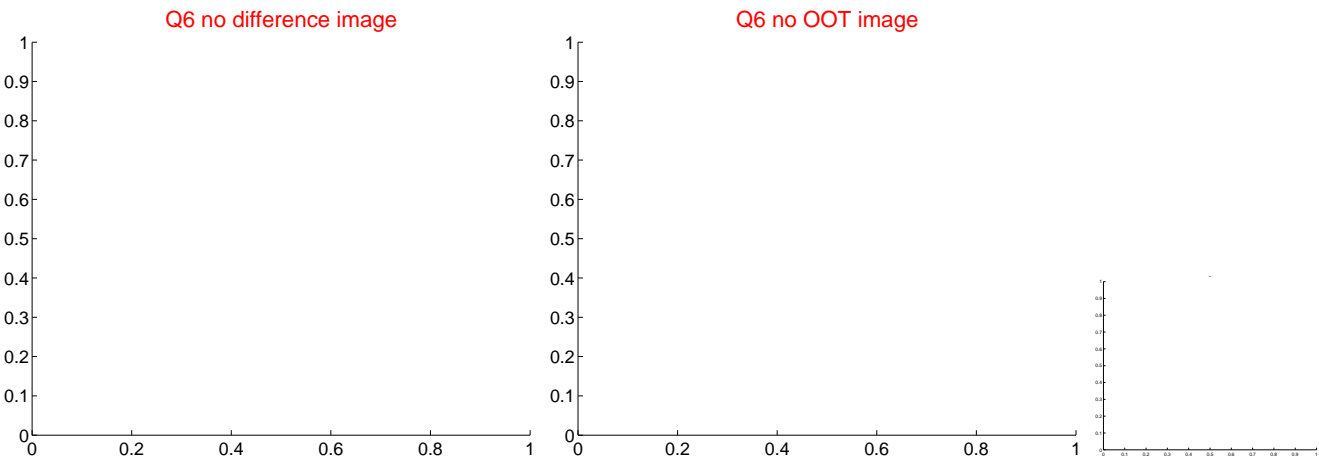
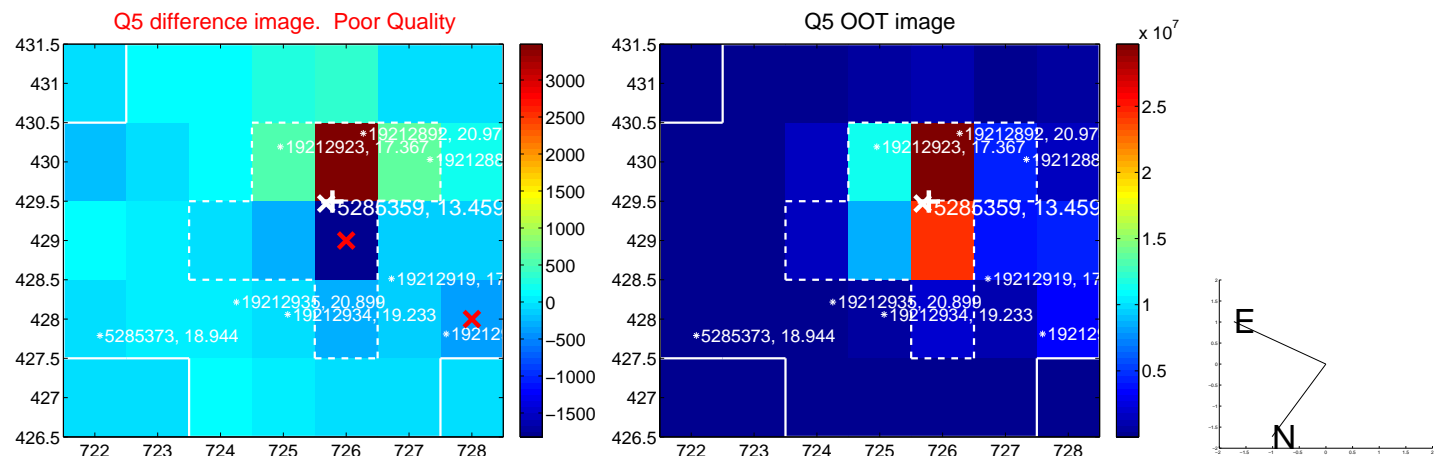


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

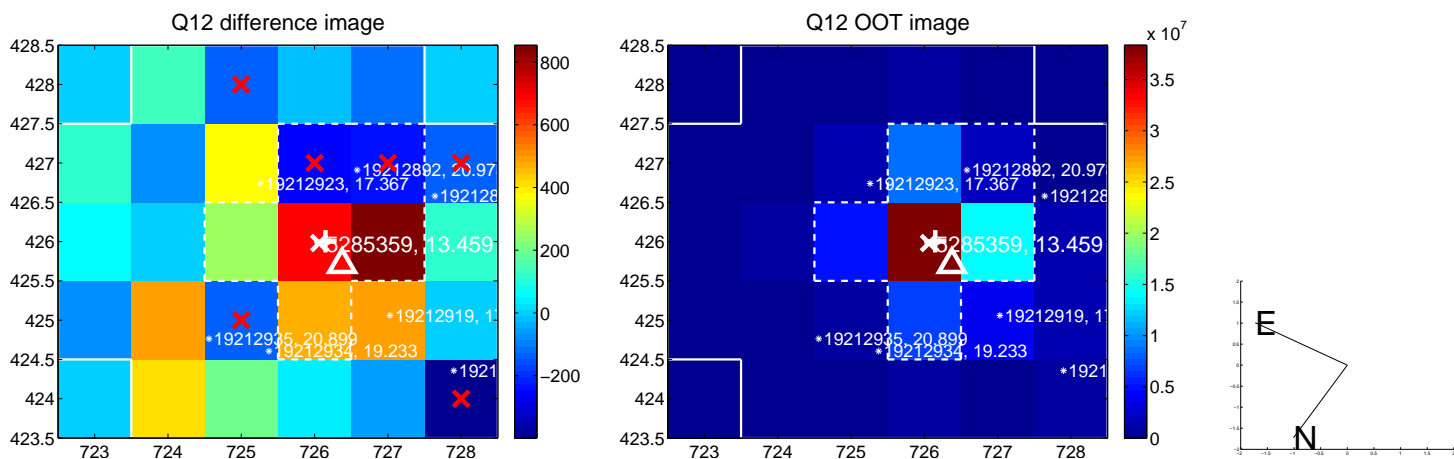
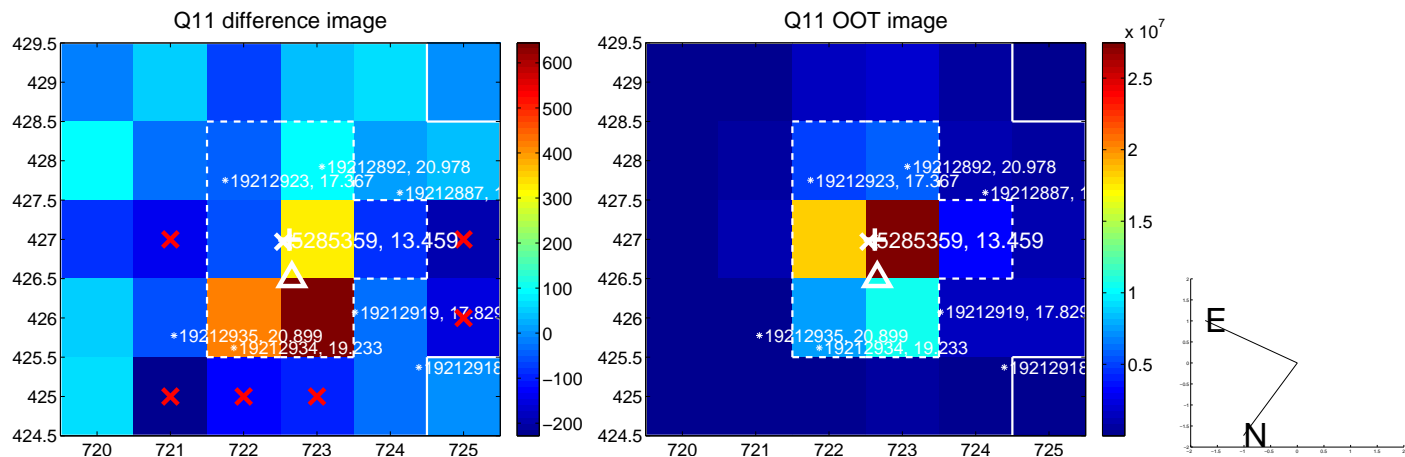
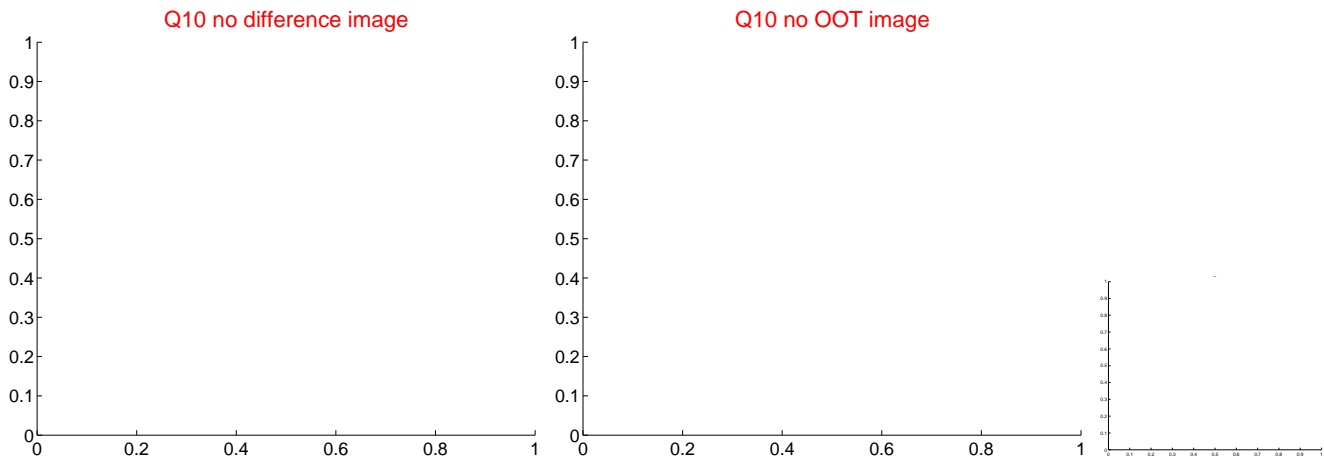
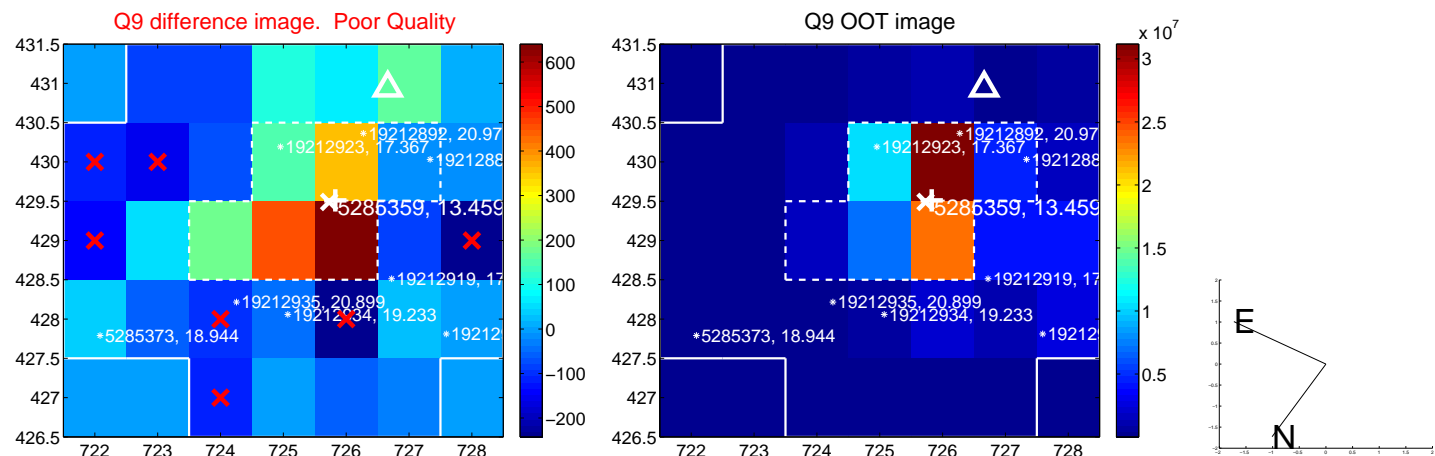
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



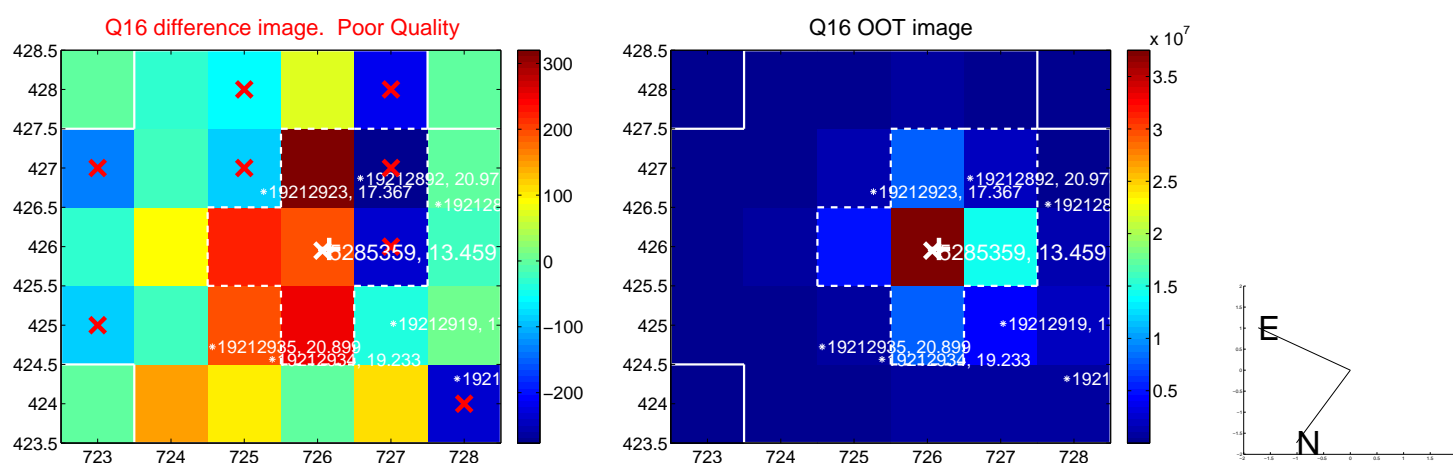
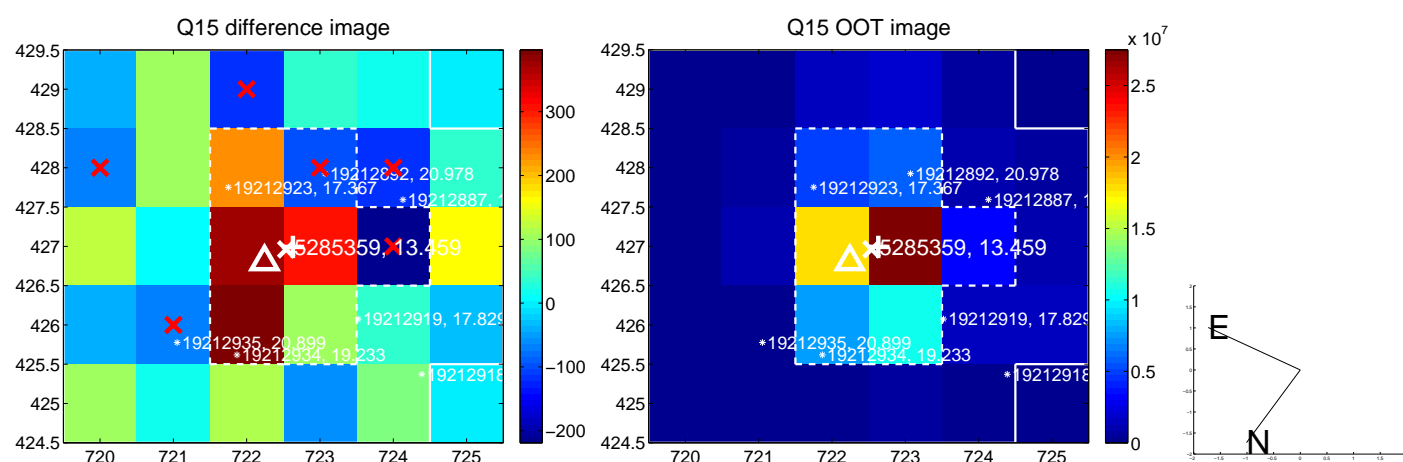
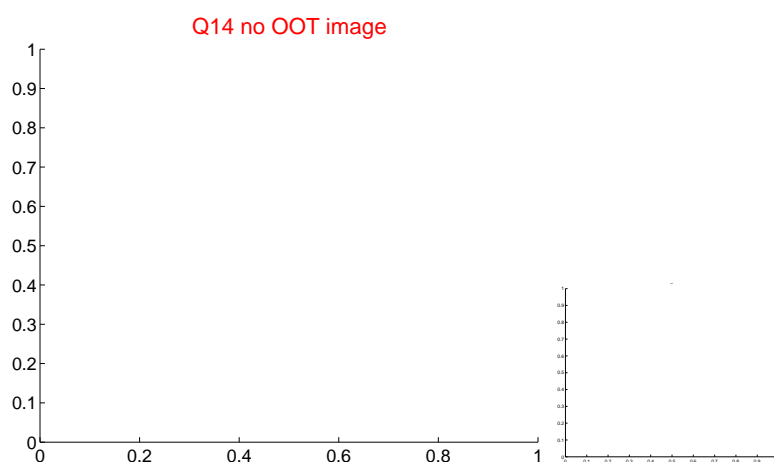
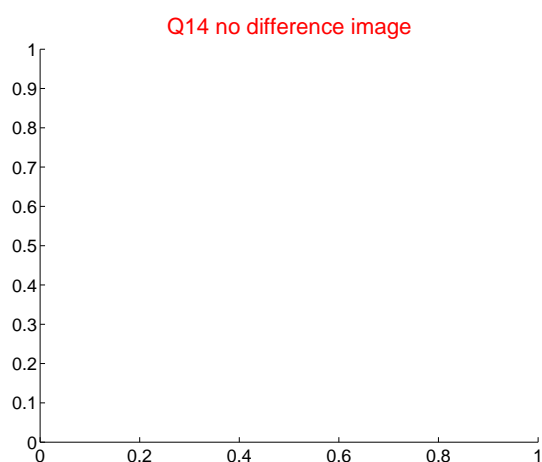
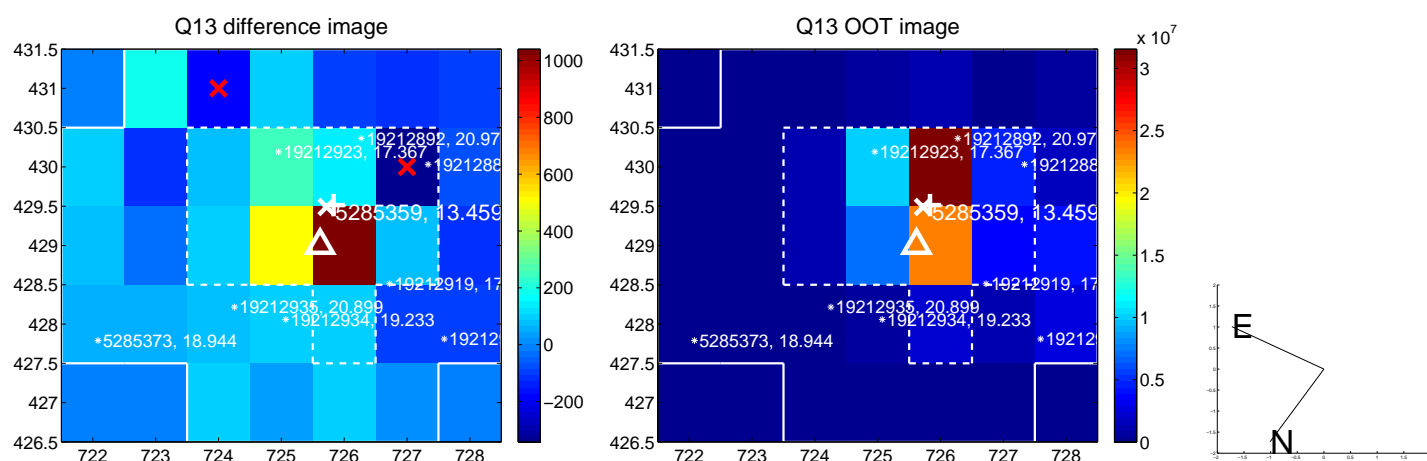
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



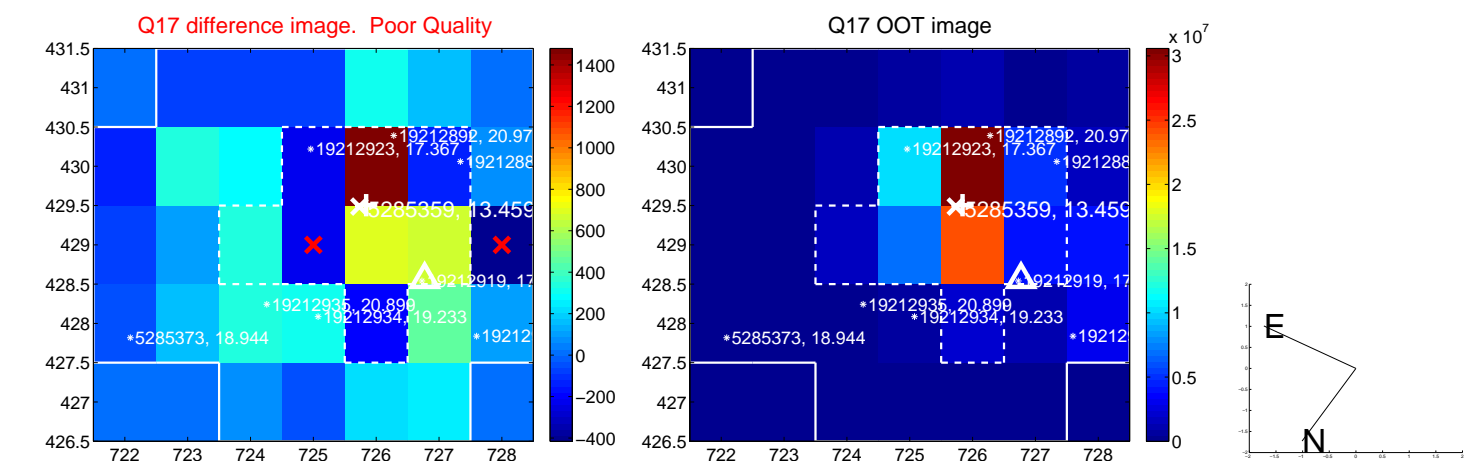
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



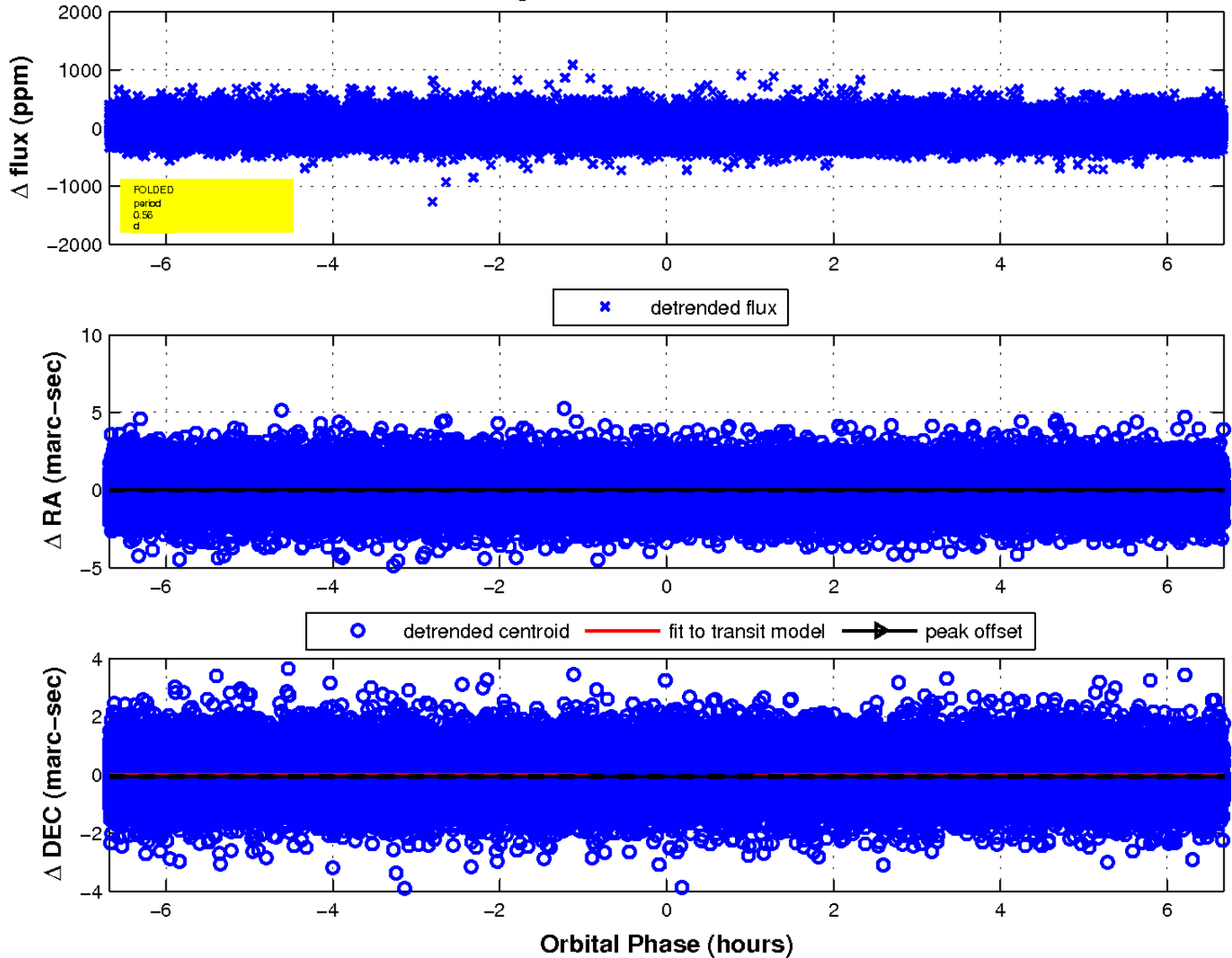
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

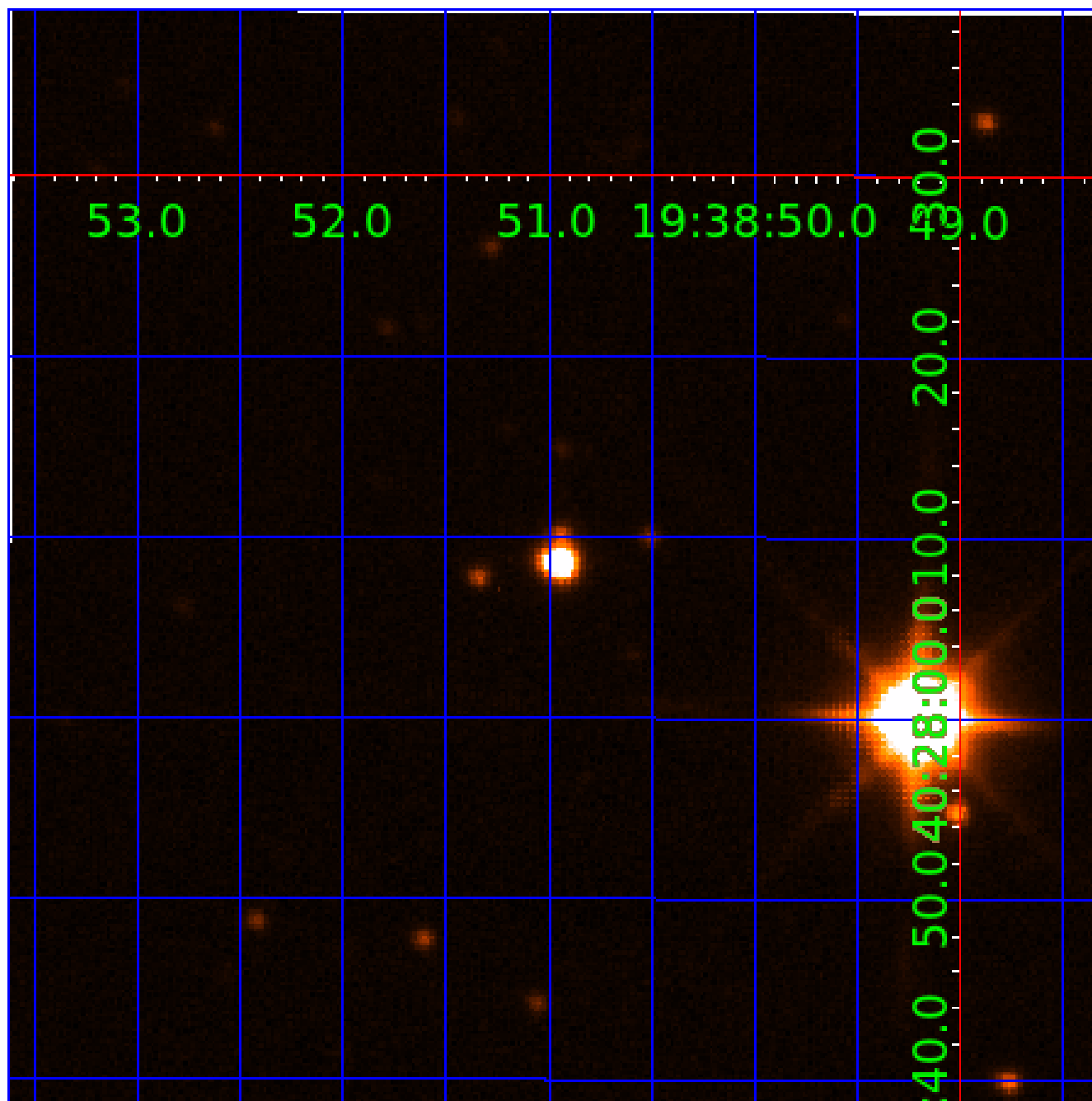


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 005285359

Q1-17 DR25 TCE Parameters

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

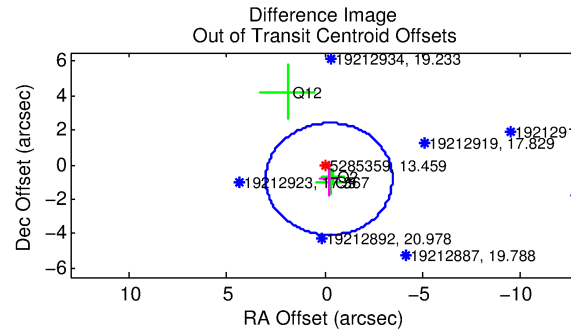
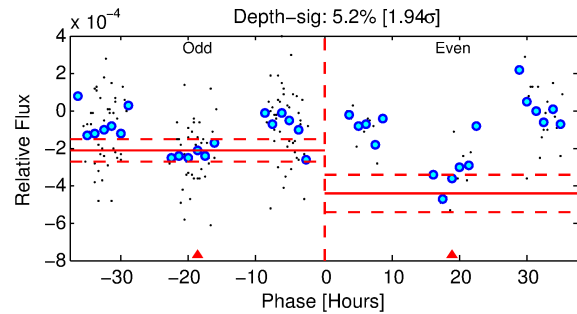
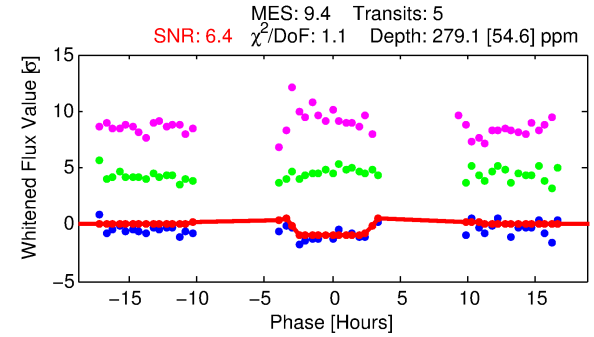
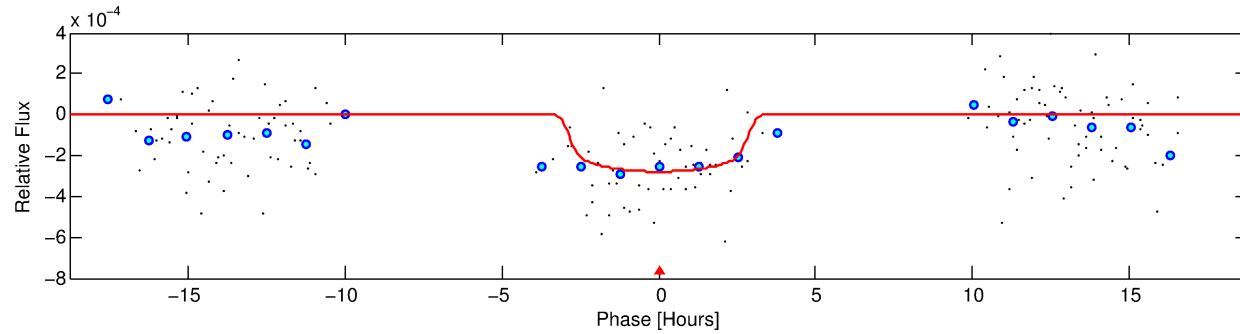
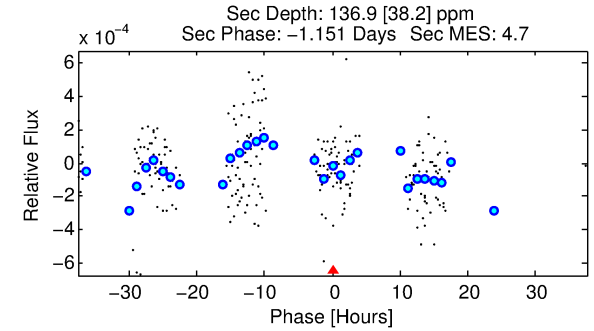
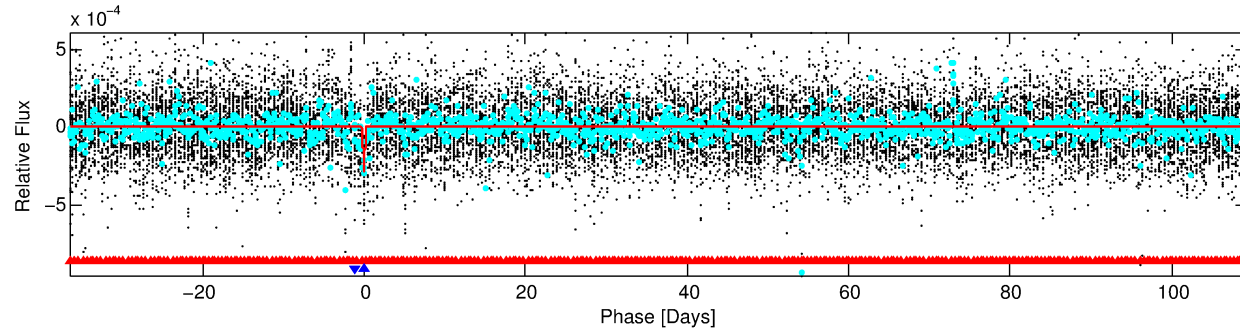
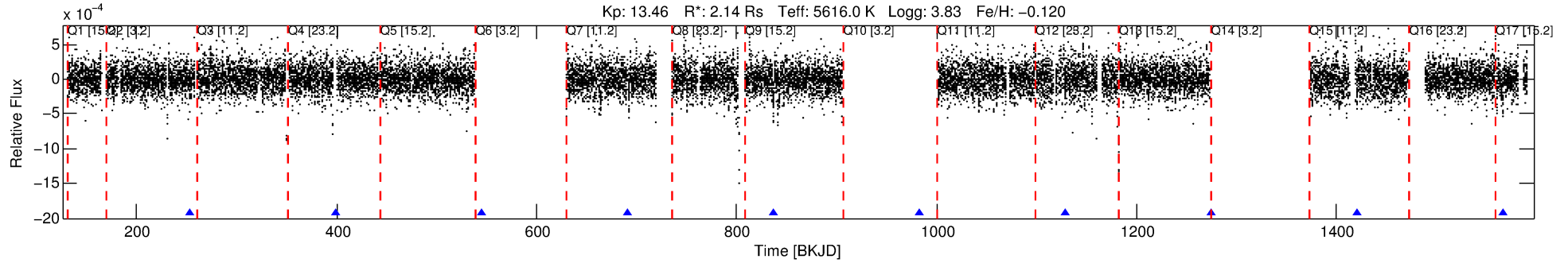
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005285359-02

No Significant Match Found

DV One-Page Summary

KIC: 5285359 Candidate: 2 of 2 Period: 145.914 d



DV Fit Results:

Period = 145.91437 [0.00572] d
Epoch = 253.2355 [0.0352] BKJD
Rp/R* = 0.0181 [0.0151]
a/R* = 87.47 [342.56]
b = 0.89 [0.88]
Seff = 12.68 [12.60]
Teff = 481 [120] K
Rp = 4.22 [4.17] Re
a = 0.5668 [0.3290] AU
Ag = 1358.41 [2661.59] [0.51σ]
Teffp = 4517 [1916] K [2.10σ]

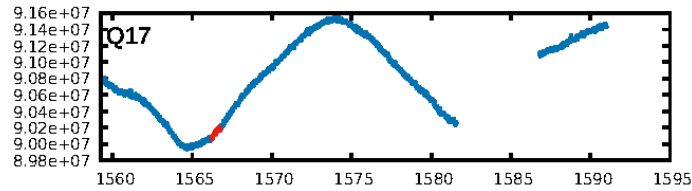
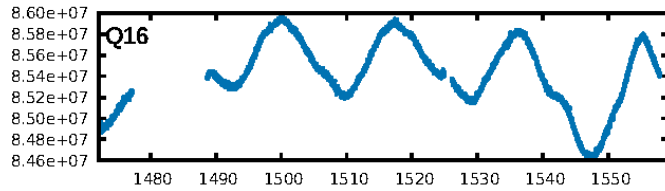
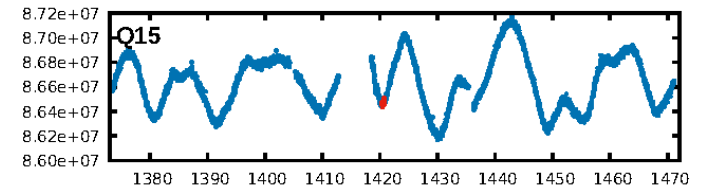
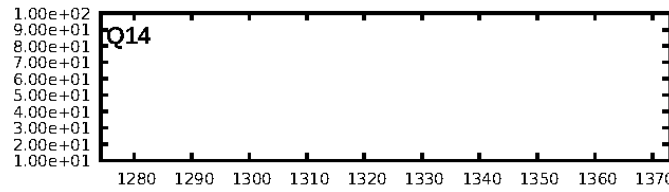
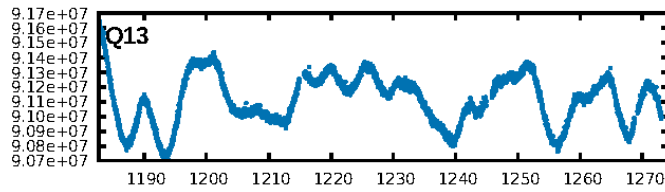
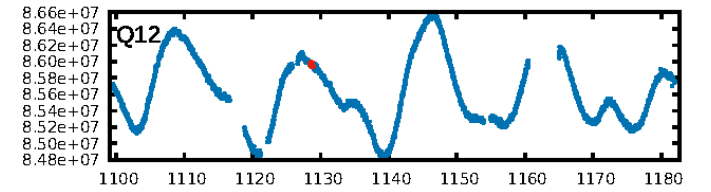
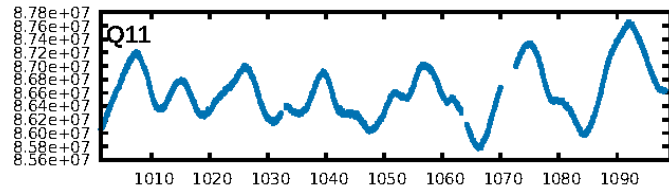
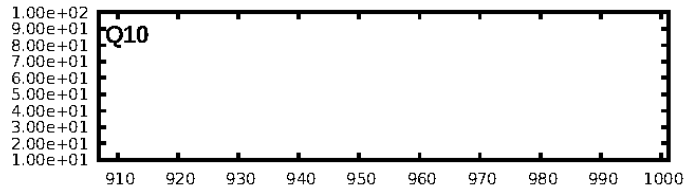
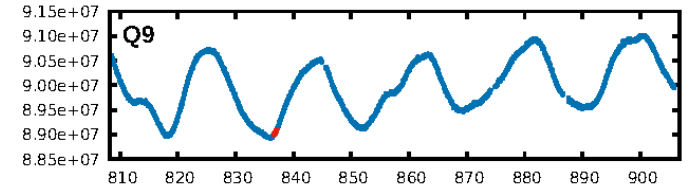
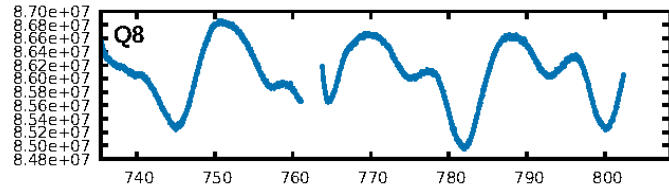
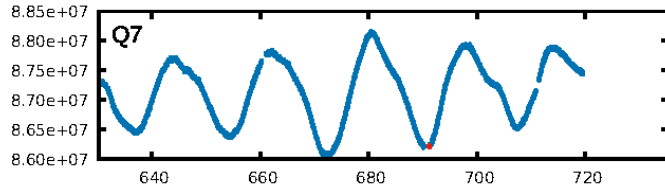
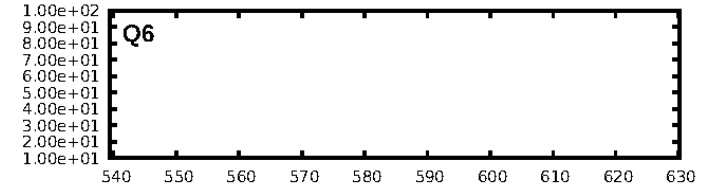
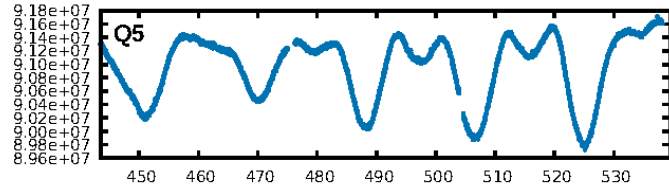
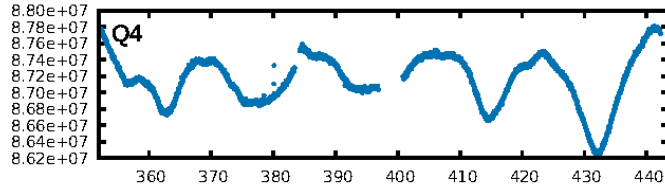
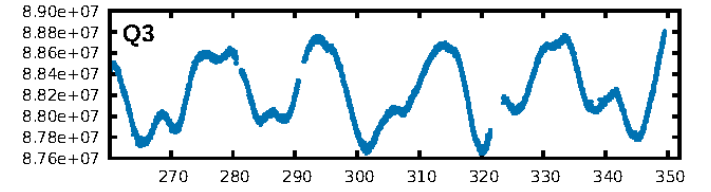
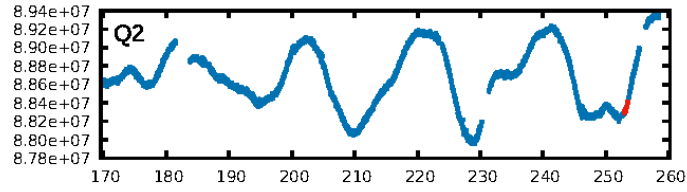
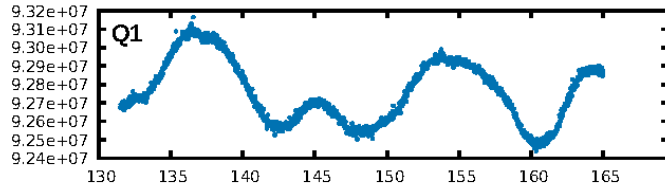
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [521.14σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 3.5%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 1.22e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.358
Centroid-sig: 84.2%
Centroid-so: 0.701 arcsec [0.46σ]
OotOffset-rm: 0.860 arcsec [0.80σ]
KicOffset-rm: 1.180 arcsec [0.69σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.00 [0/5]

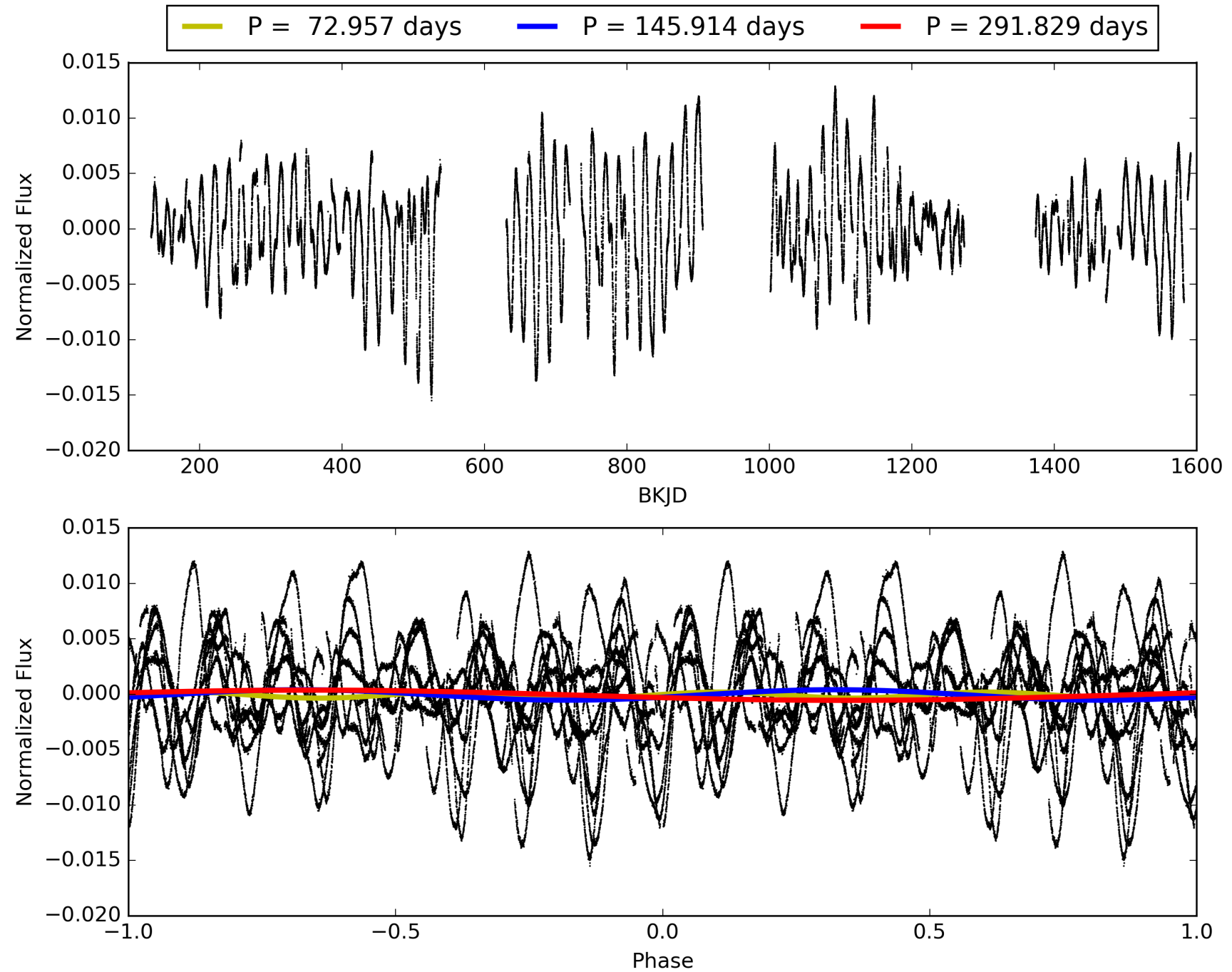
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 08:37:30 Z

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

TCE 005285359-02, PDC Light Curves

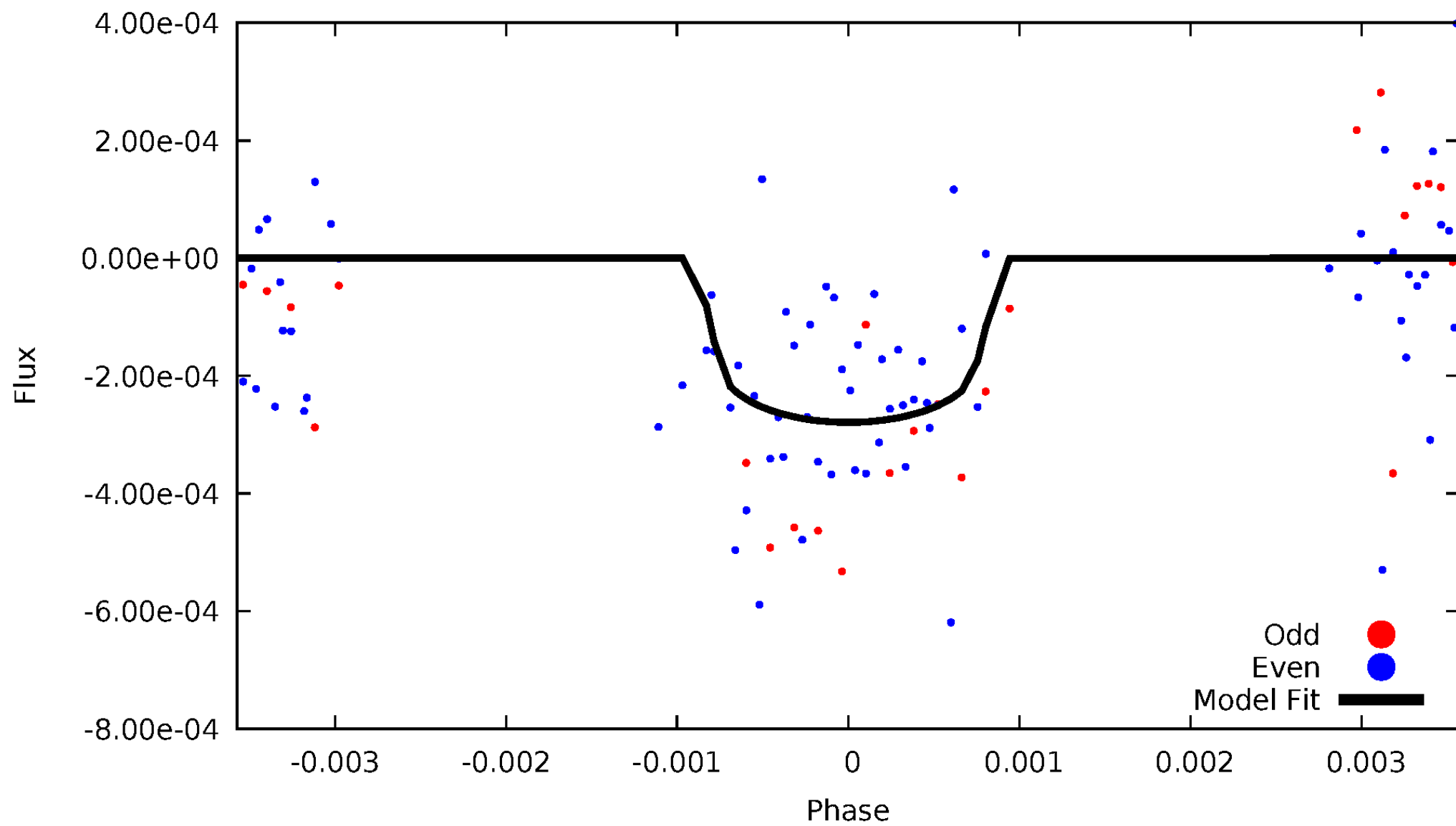


TCE 005285359-02



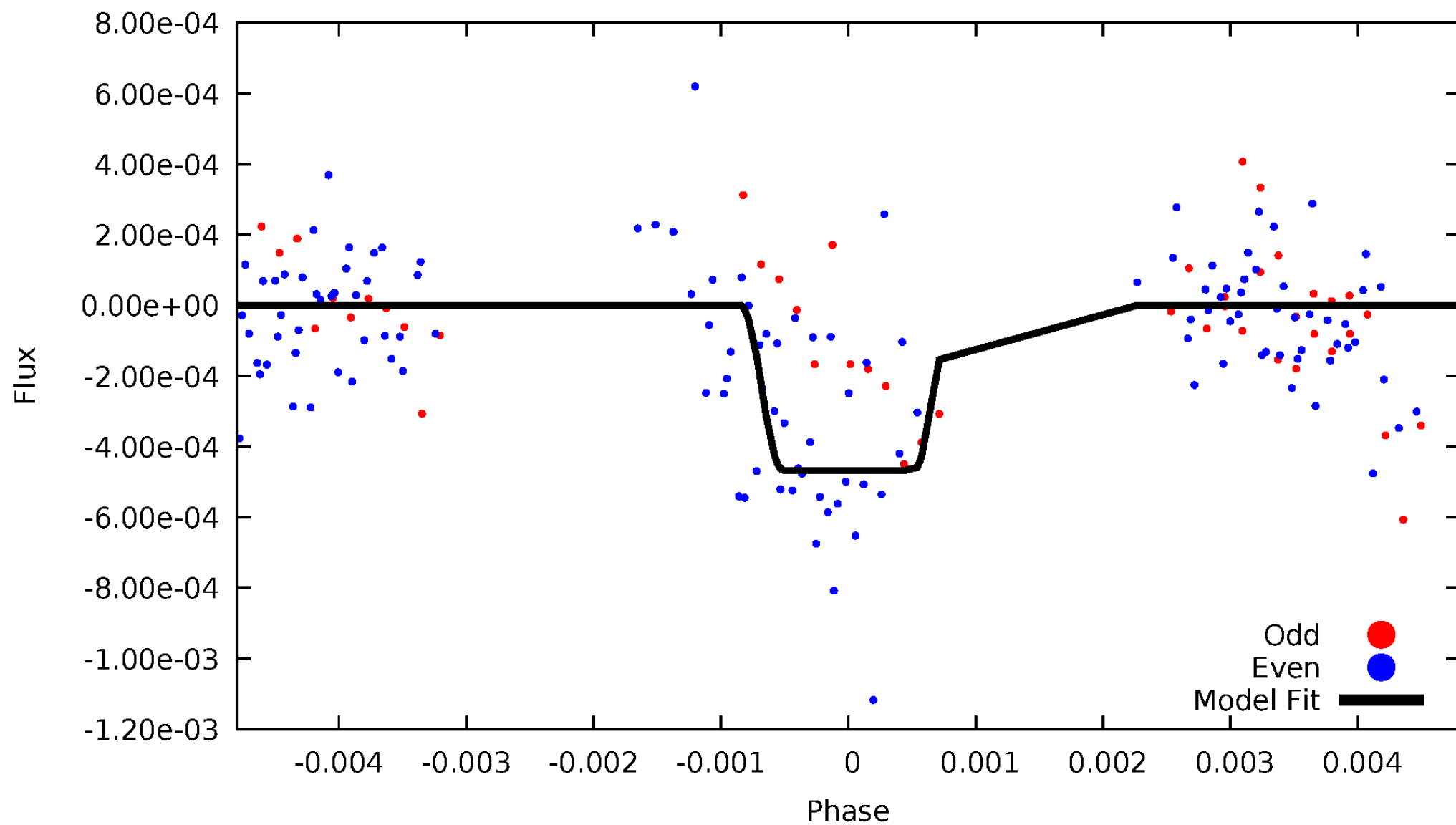
DV Odd/Even

TCE 005285359-02



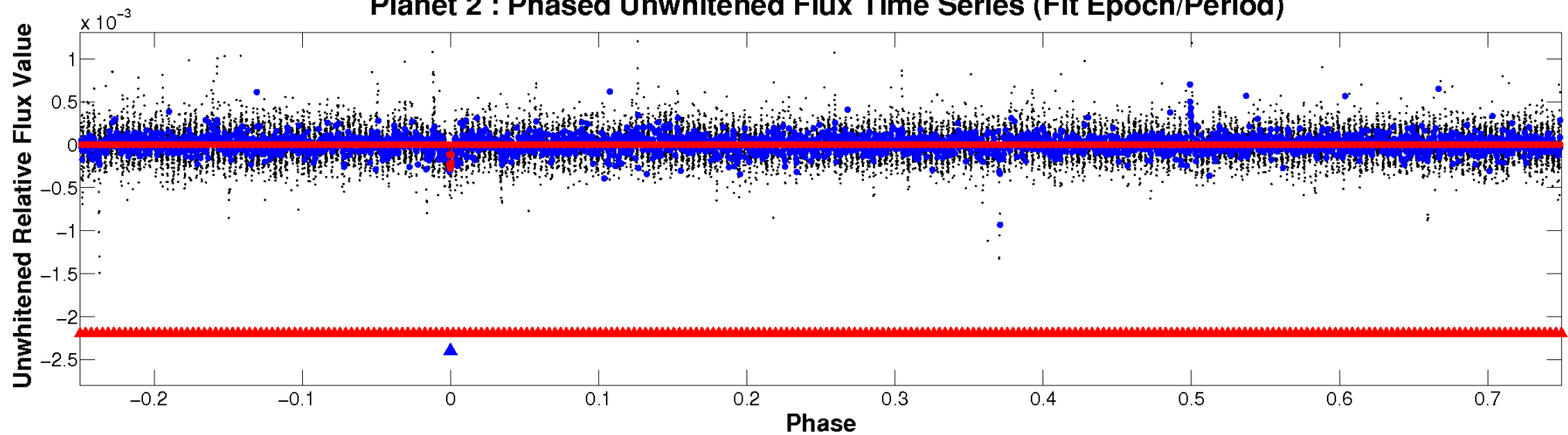
ALT Odd/Even

TCE 005285359-02

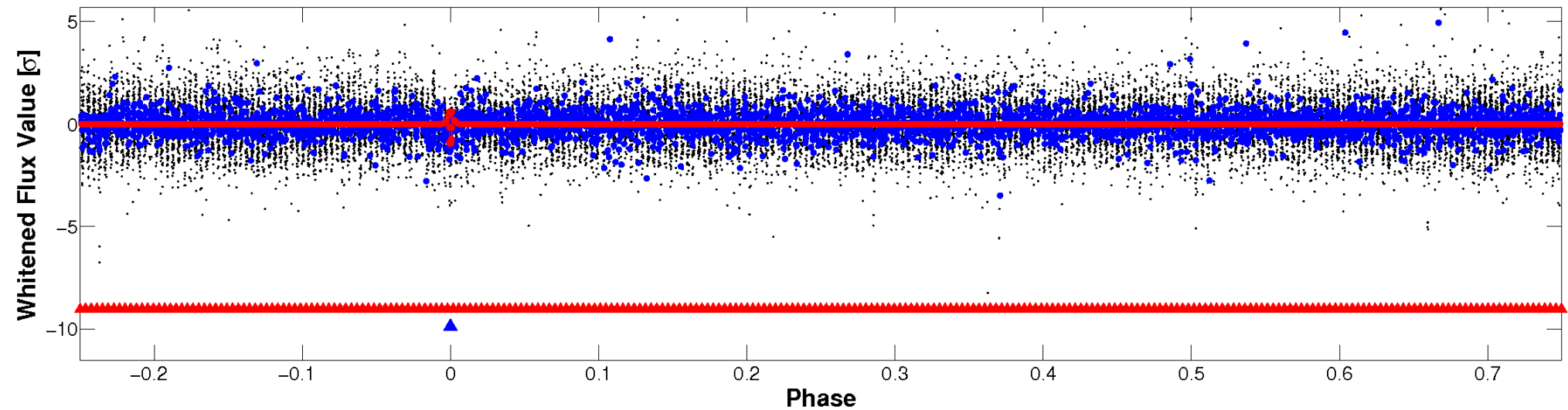


Non-Whitened Vs. Whitened Light Curve

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

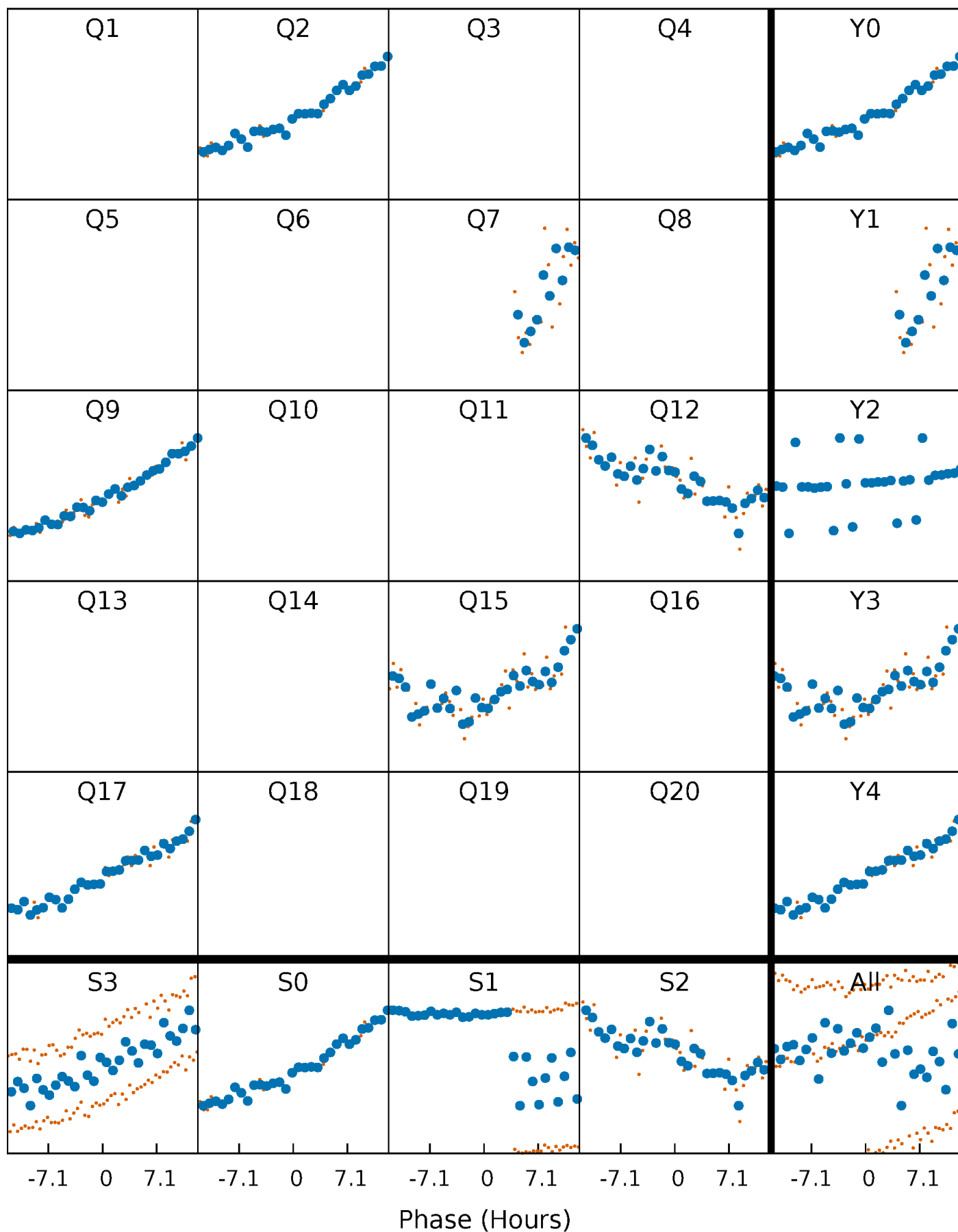


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



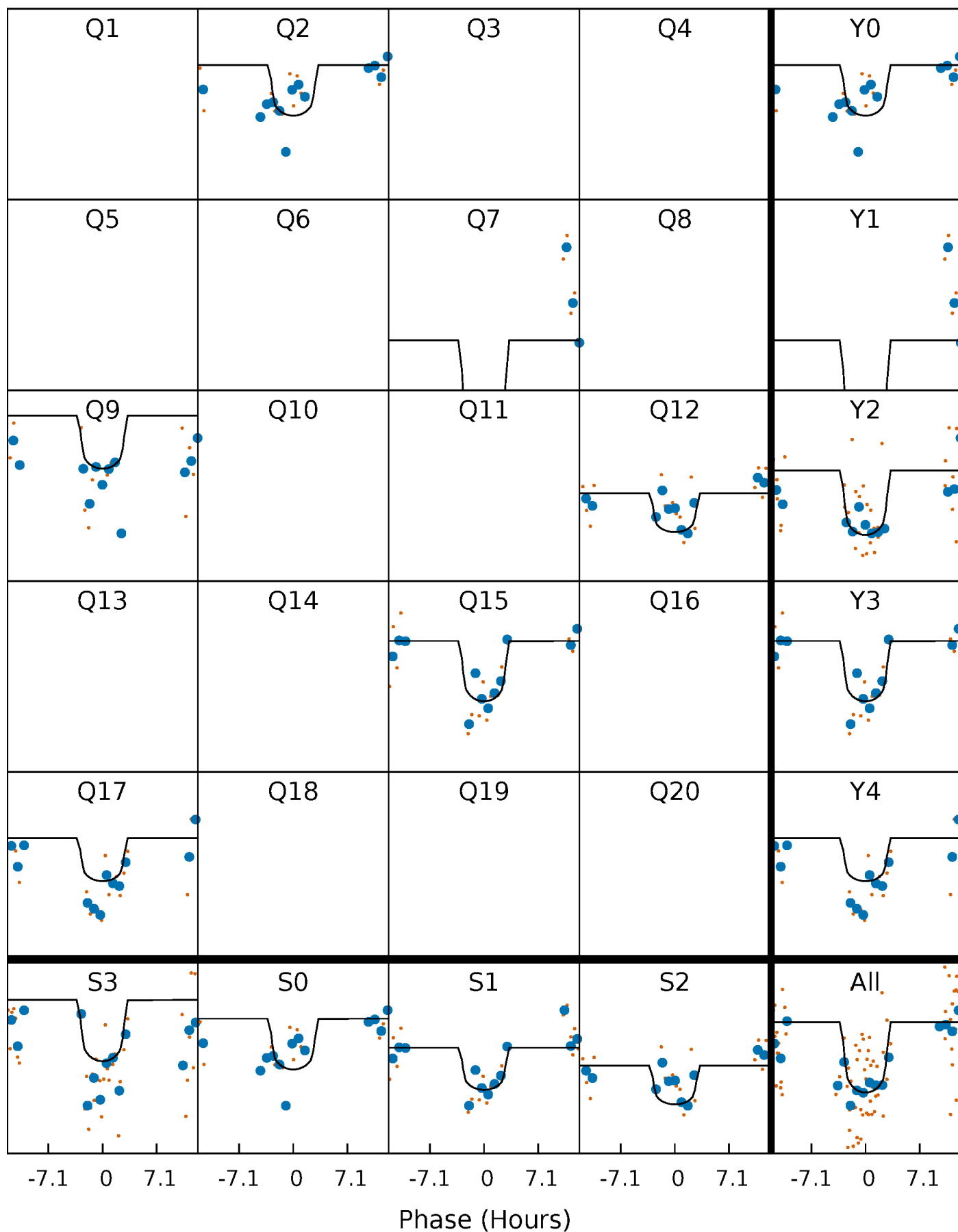
PDC Quarter-Phased Transit Curves

TCE 005285359-02 P=145.914371 Days $T_0=253.235507$ (BKJD)



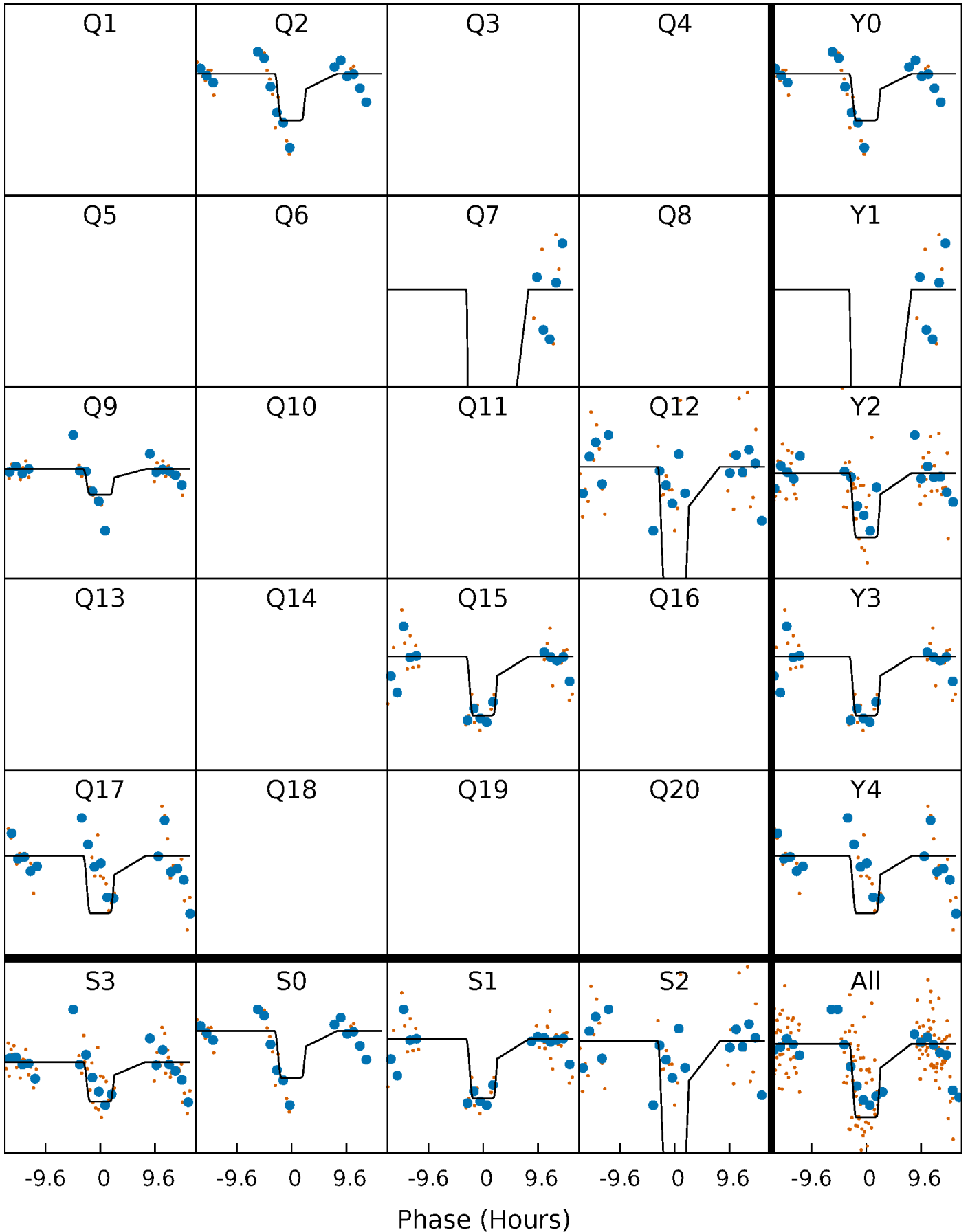
DV Quarter-Phased Transit Curves

TCE 005285359-02 P=145.914371 Days $T_0=253.235507$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

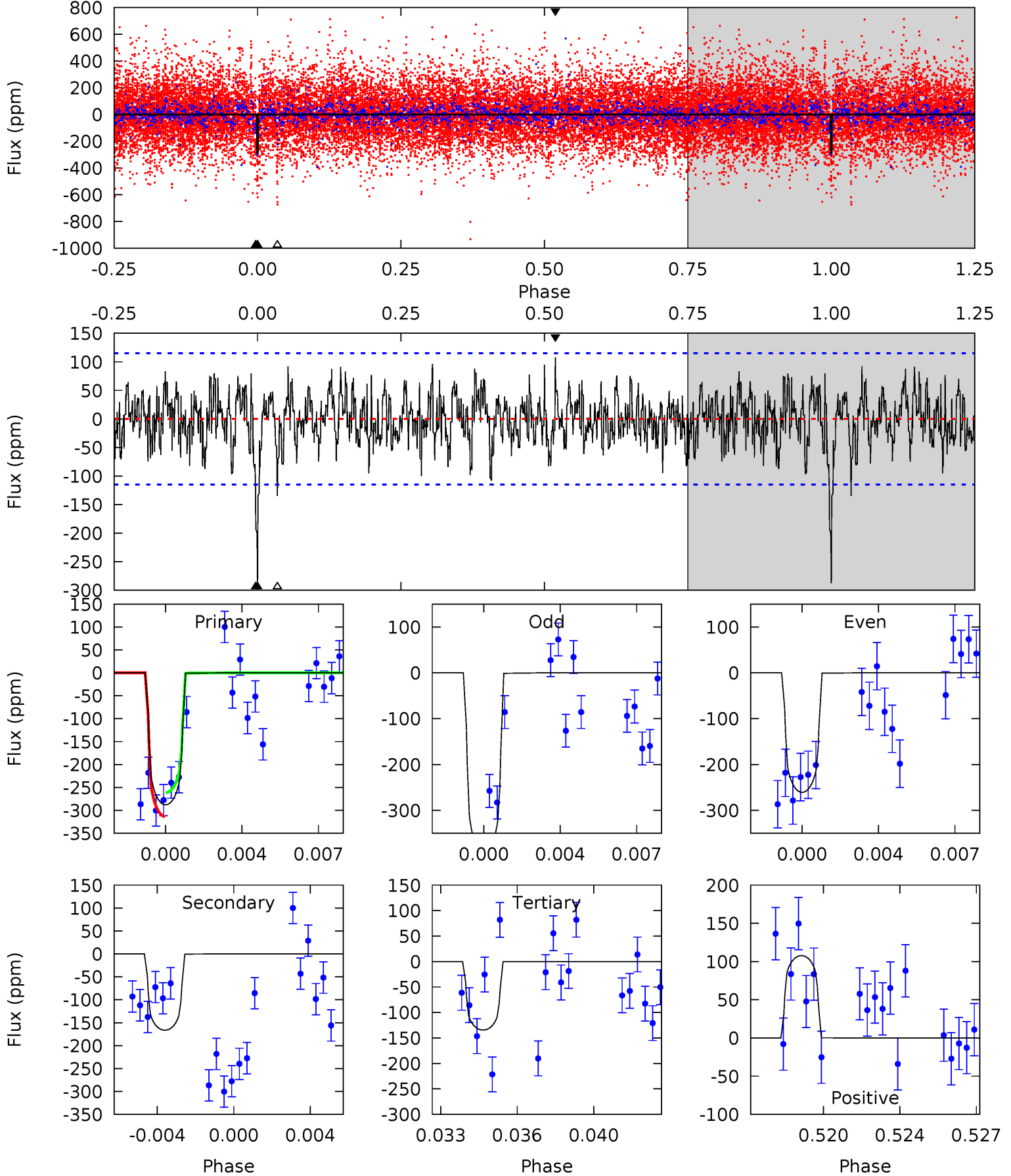
TCE 005285359-02 P=145.909241 Days $T_0=253.314909$ (BKJD)



DV Model-Shift Uniqueness Test

005285359-02, P = 145.914371 Days, E = 107.321136 Days

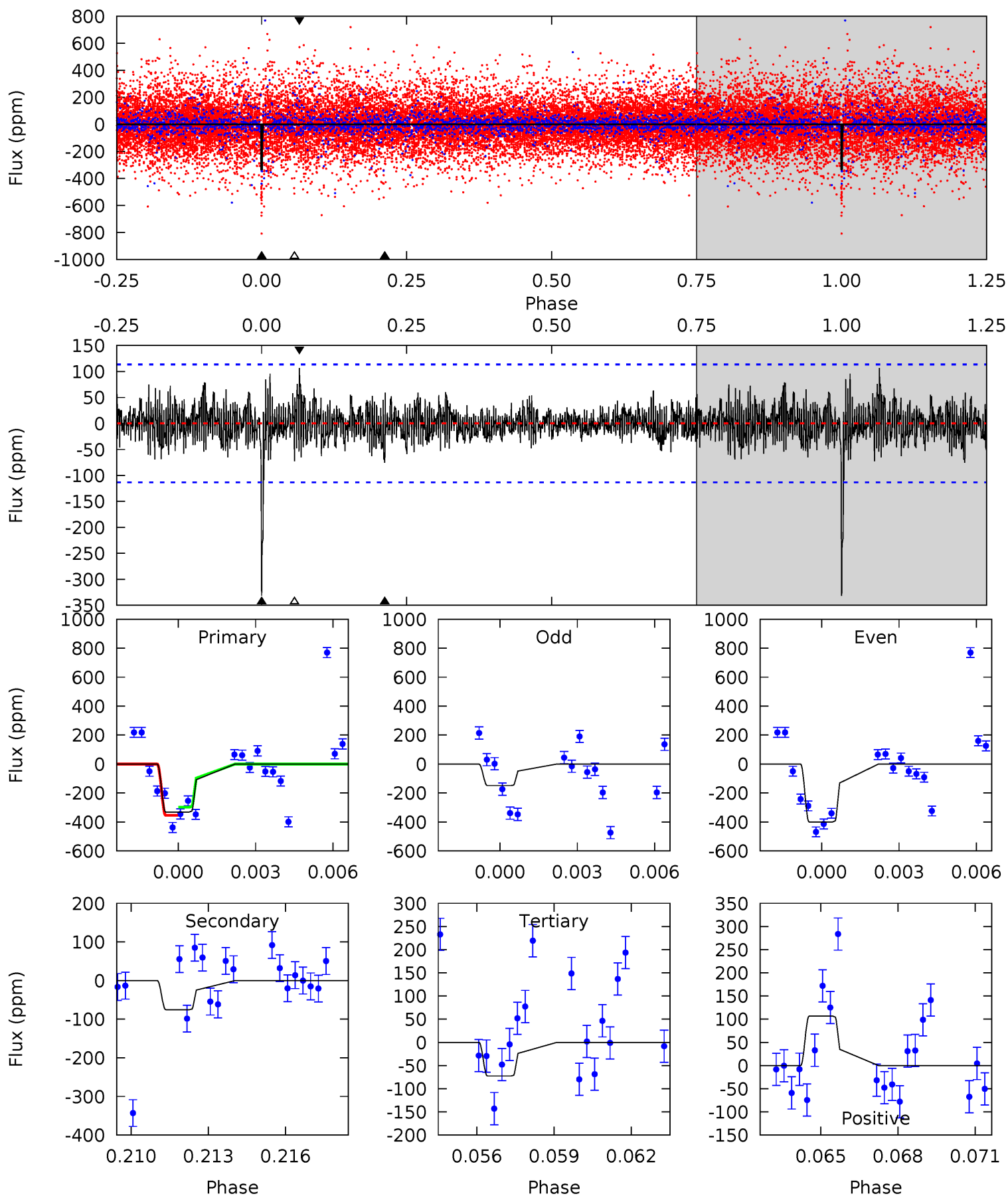
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.1	7.55	6.10	4.89	5.22	2.91	1.57	6.95	8.16	1.45	2.66	2.57	1.03	0.27	1.19



Alt Model-Shift Uniqueness Test

005285359-02, P = 145.909241 Days, E = 107.405668 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.3	3.48	3.35	4.93	5.25	2.96	0.98	12.0	10.4	0.13	-1.44	5.27	0.80	0.24	1.22



Stellar Parameters For KIC 005285359

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5616^{+169}_{-152}	$3.835^{+0.600}_{-0.150}$	$-0.120^{+0.300}_{-0.250}$	$2.138^{+0.523}_{-1.133}$	$1.141^{+0.146}_{-0.250}$	$0.164^{+1.411}_{-0.073}$
	+3%/-3%	+16%/-4%	+250%/-208%	+24%/-53%	+13%/-22%	+858%/-44%
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 005285359-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-166 ± 22	$4.27^{+3.60}_{-2.76}$	658^{+55}_{-90}	4577^{+2658}_{-812}	1563^{+10596}_{-1108}
Alt.	-75 ± 22	$4.93^{+3.53}_{-2.93}$	662^{+55}_{-96}	3783^{+1328}_{-562}	520^{+2669}_{-352}

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 $A_{obs} \gg 1.0$

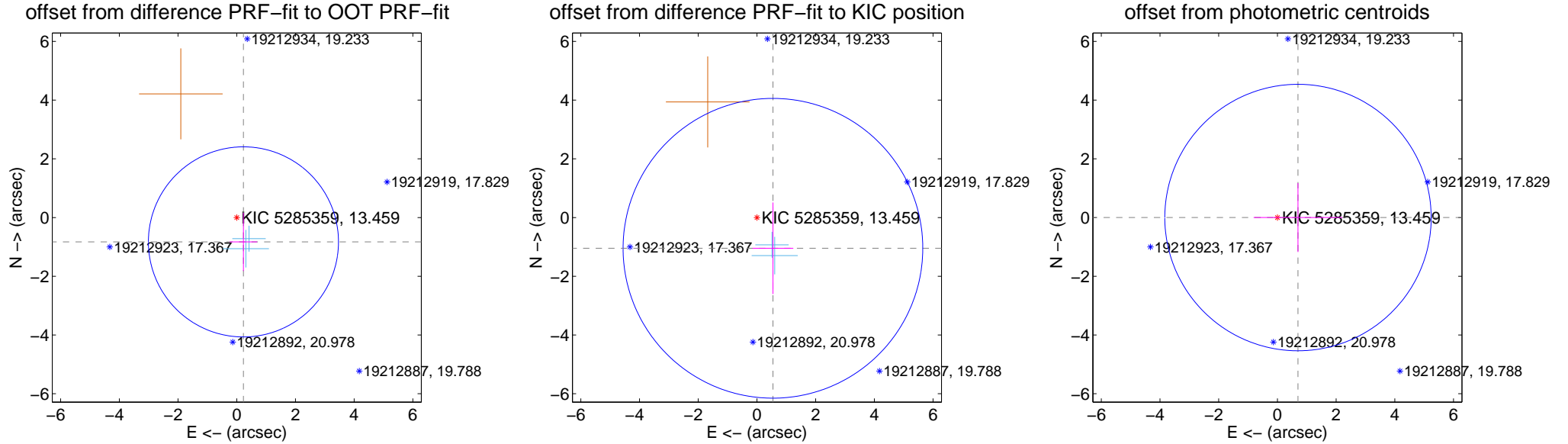
DV Centroid Data

Supplemental centroid analysis for 005285359-02. Kepler magnitude: 13.46. Transit SNR 6.38

There are 2 quarters with good PRF difference image offsets

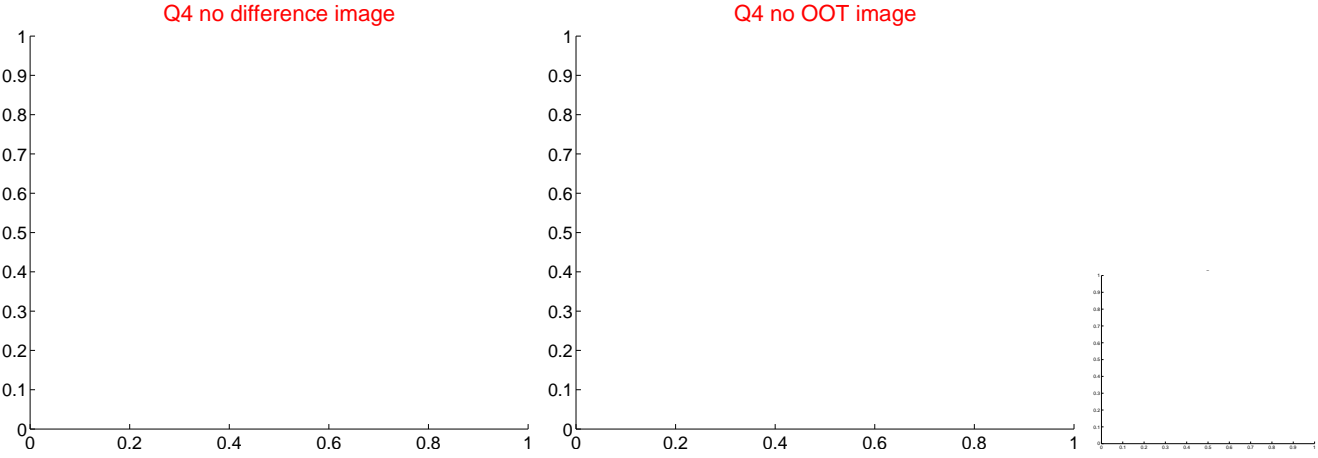
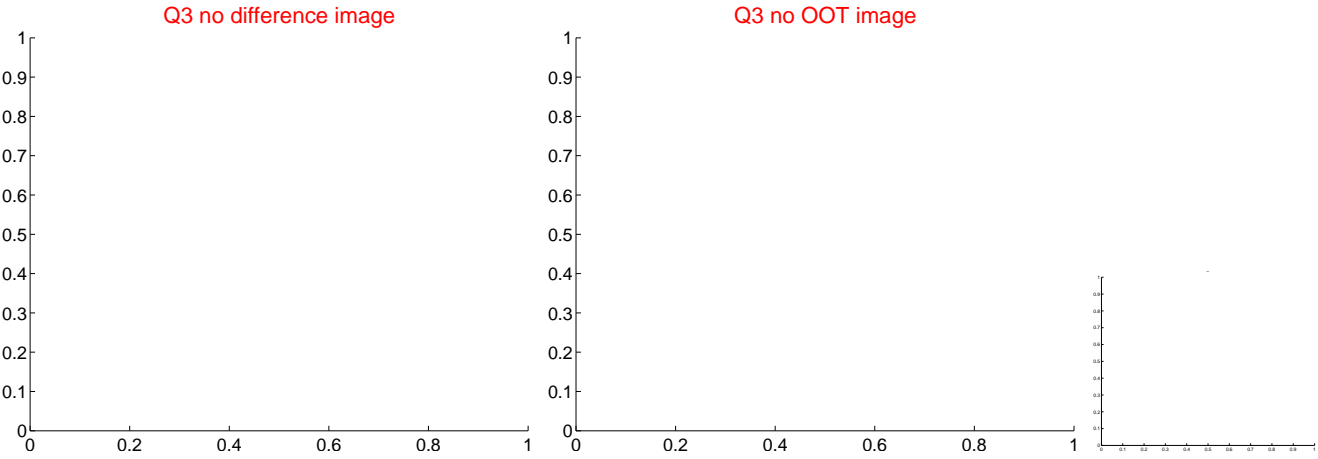
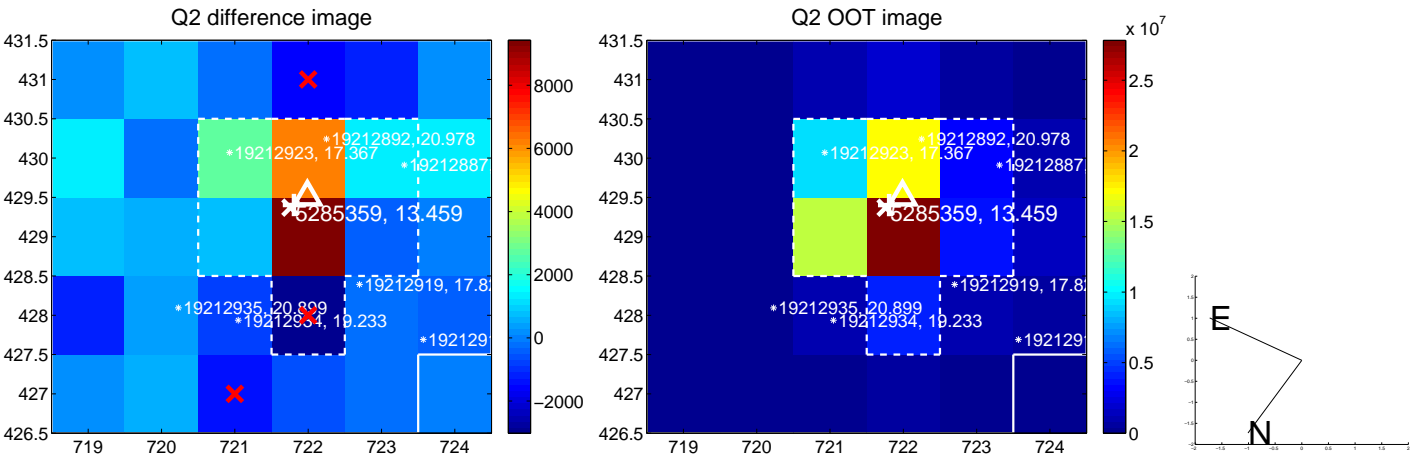
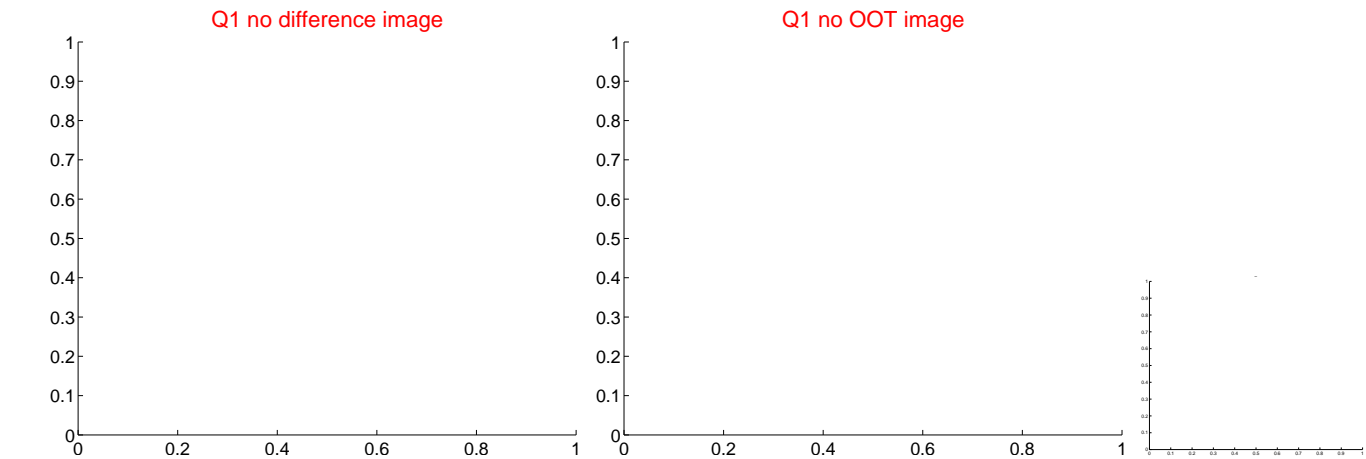
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.860 ± 1.079	0.80	-0.228 ± 0.471	-0.829 ± 0.992
PRF-fit source offset from KIC position	1.180 ± 1.702	0.69	-0.545 ± 0.694	-1.047 ± 1.559
photometric centroid source offset	0.70 ± 1.51	0.46	-0.70 ± 1.51	0.00 ± 1.17



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.

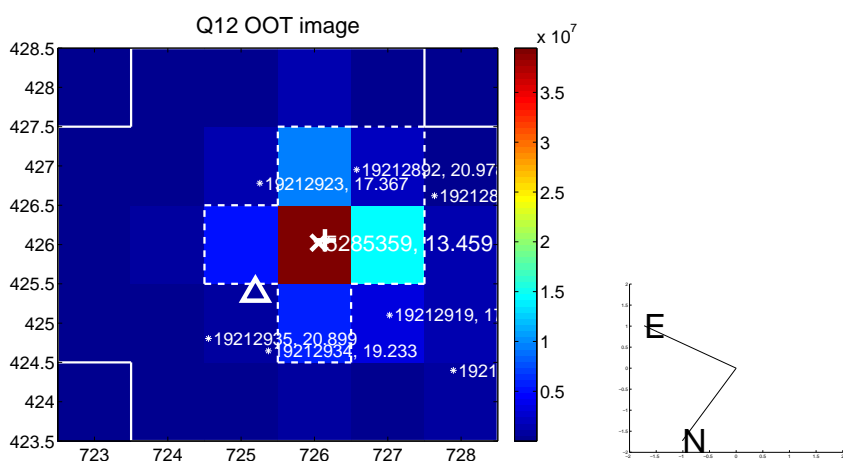
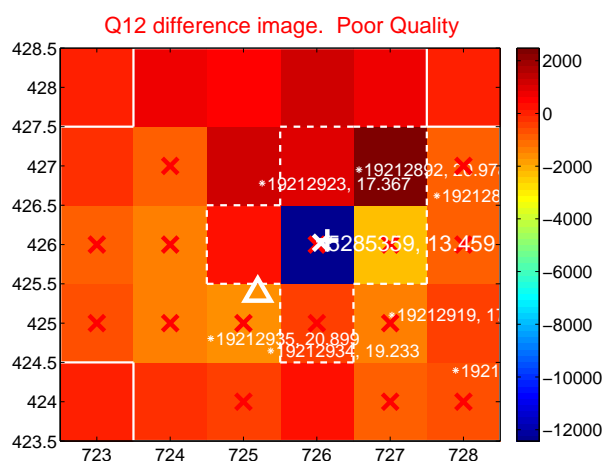
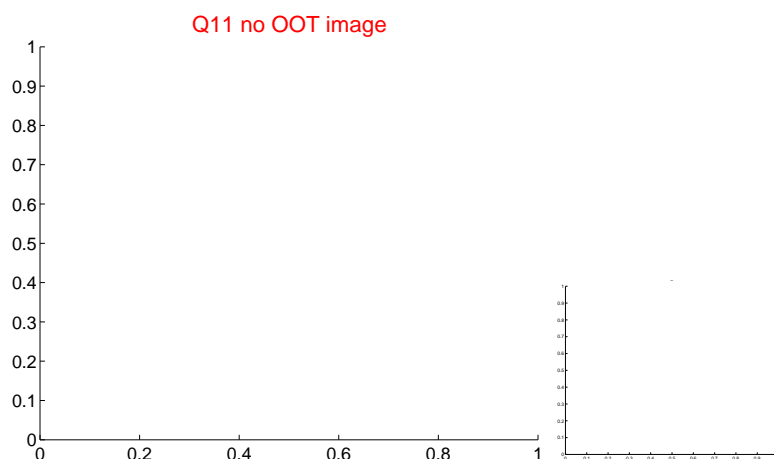
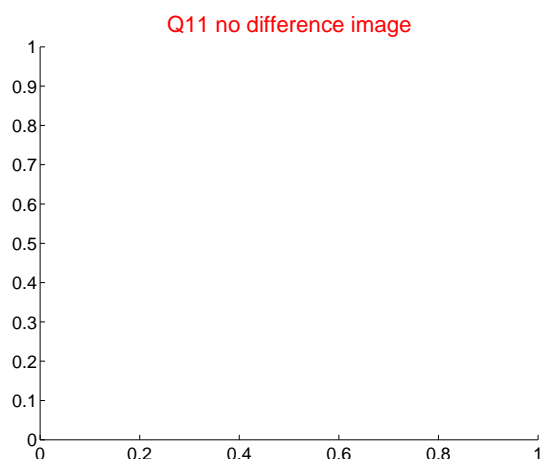
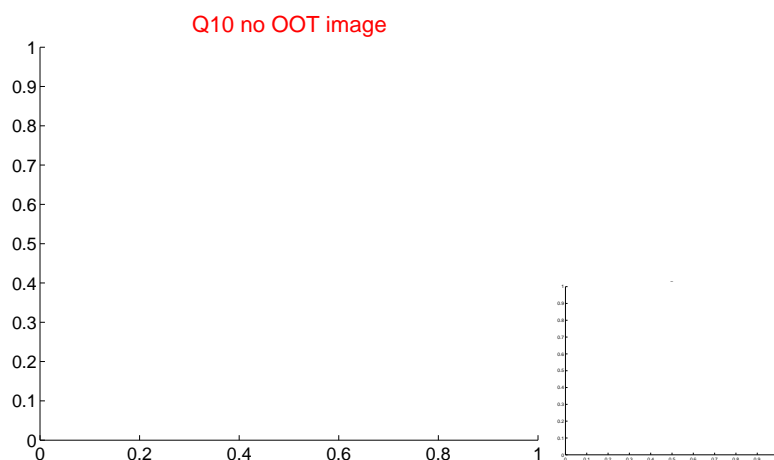
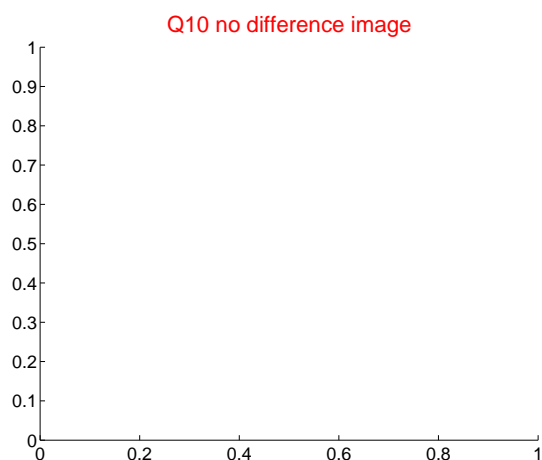
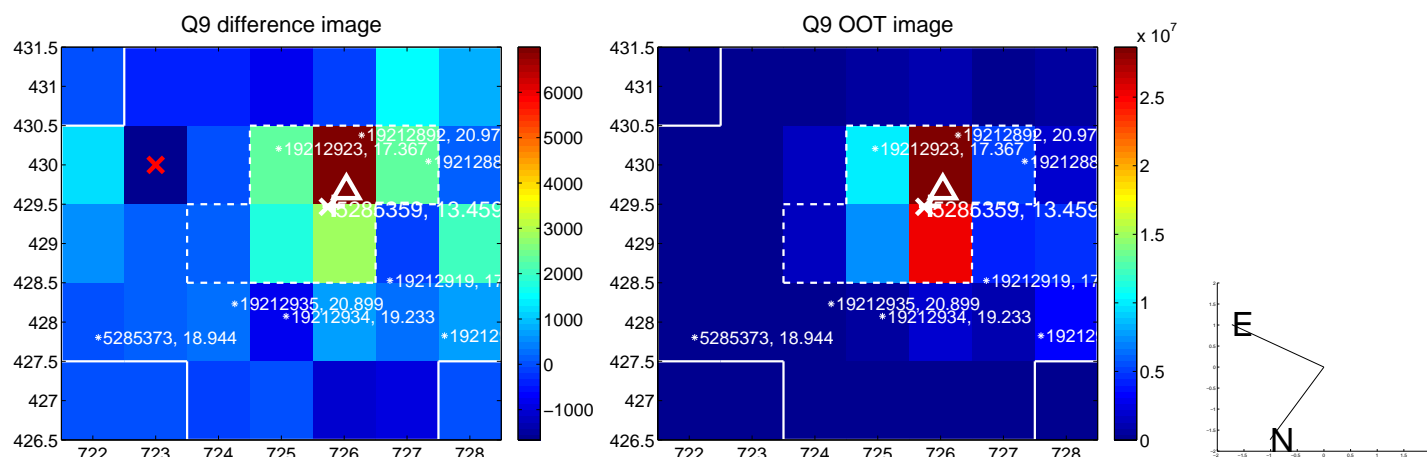
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



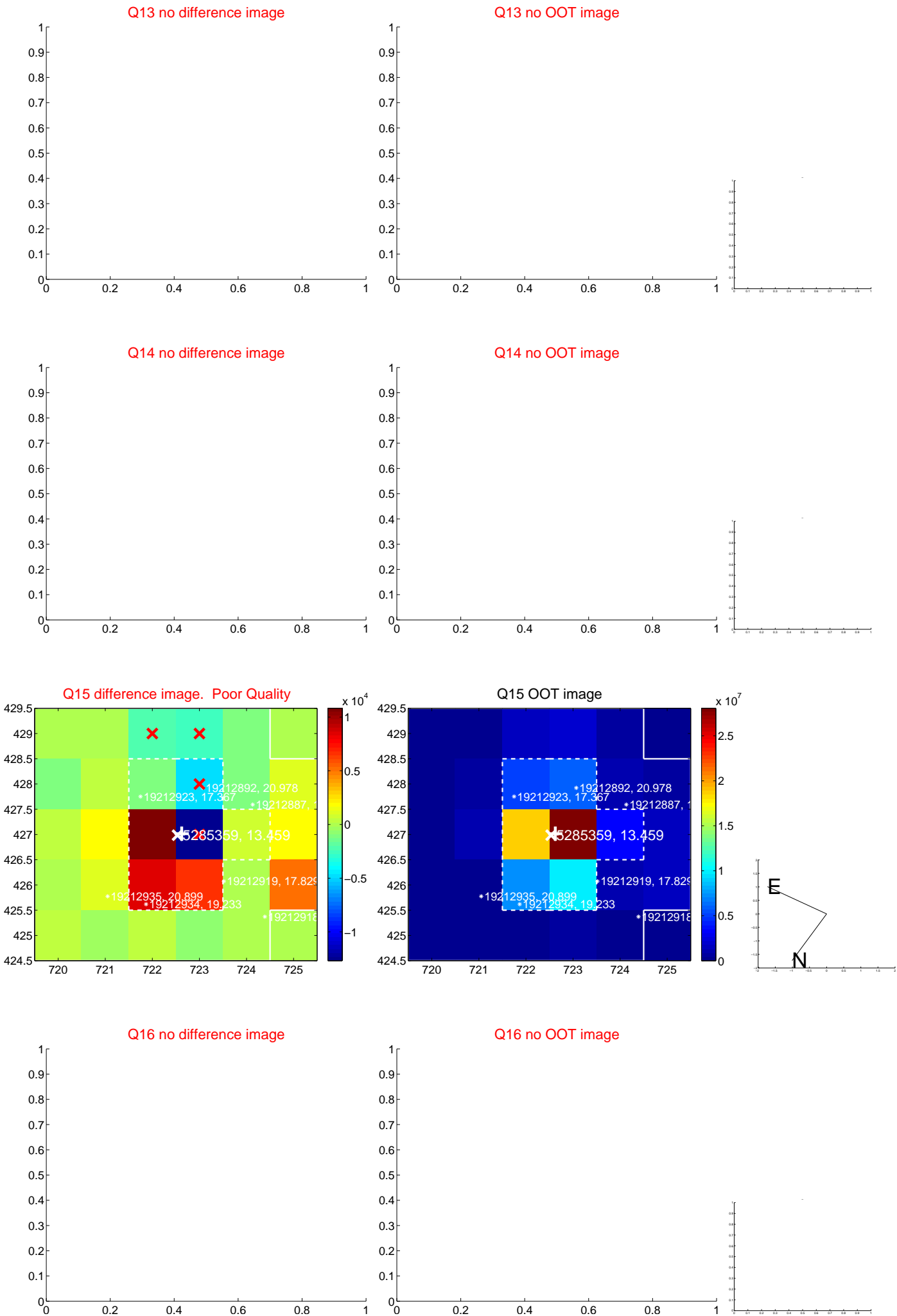
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



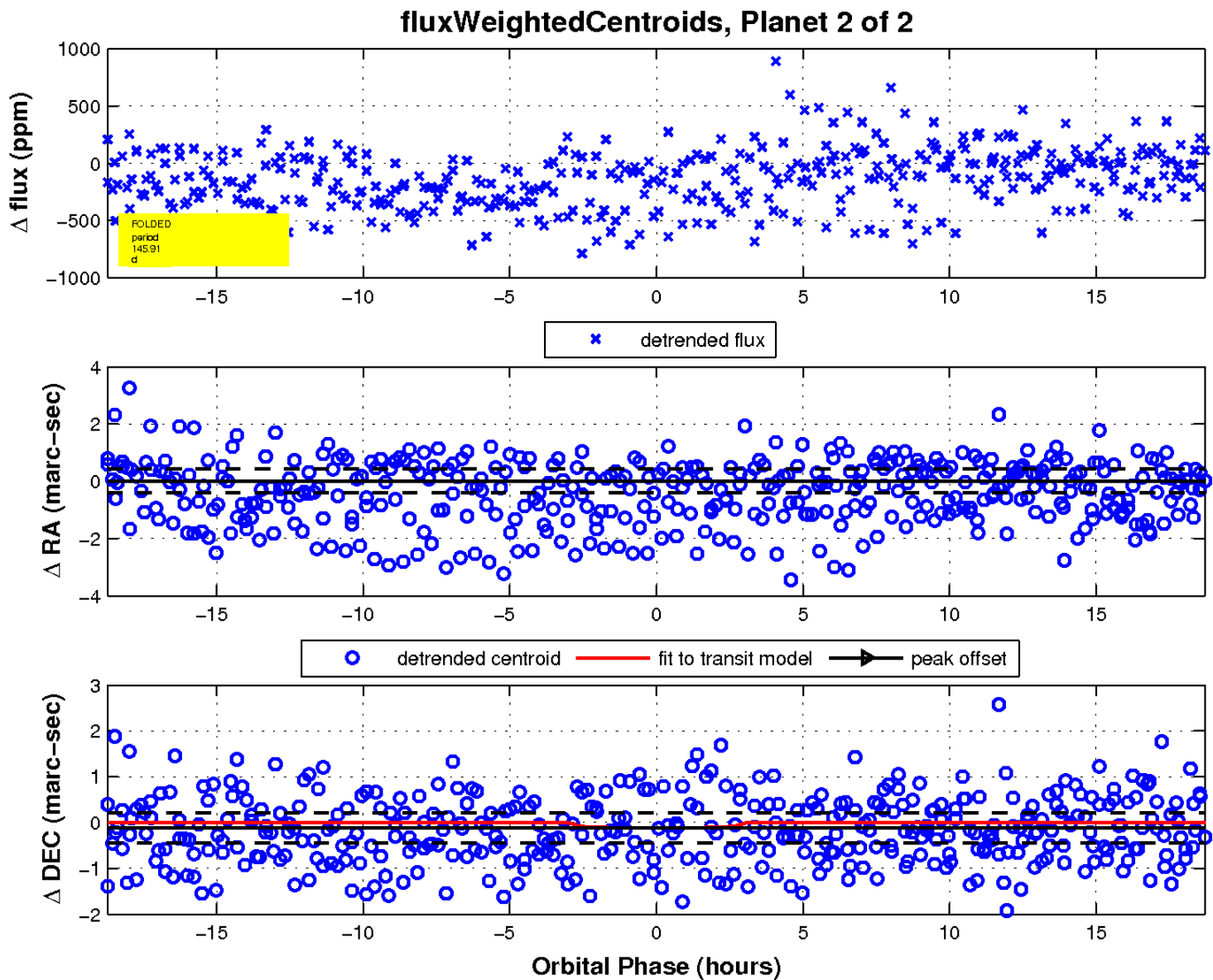
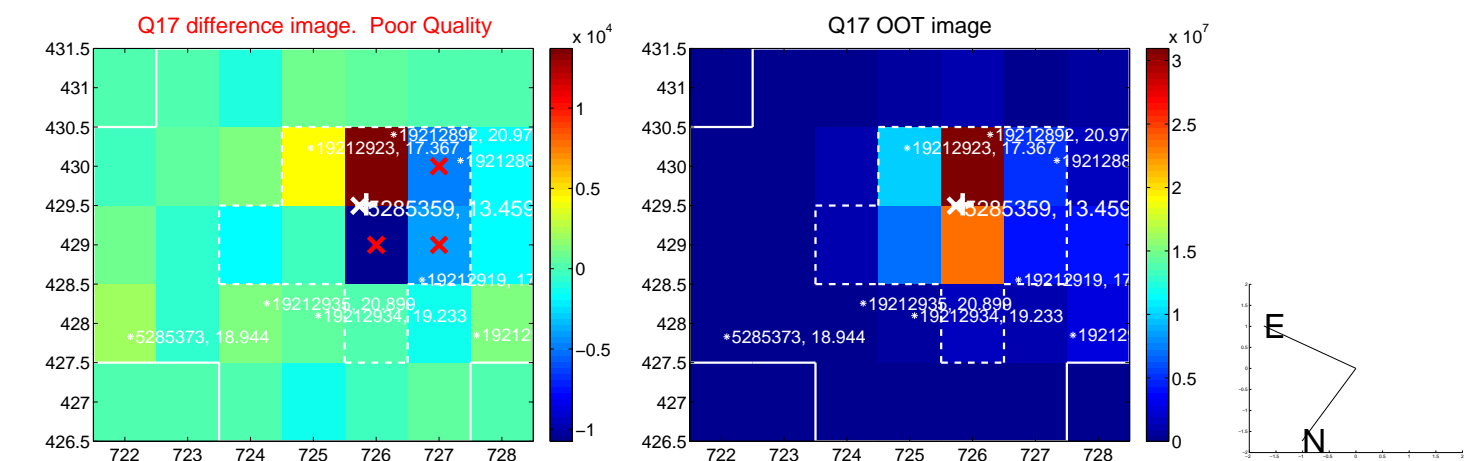
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: 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

Declination

