

KIC 005351250

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})
005351250-01	OBS	0408.01	7.381986	136.162331	1433.6	3.349	87.6	91.7	0.91	5559	3.95	139.30
005351250-02	OBS	0408.02	12.560941	141.674568	910.6	3.895	44.6	47.6	0.91	5559	3.02	68.57
005351250-03	OBS	0408.03	30.825977	153.018963	737.0	5.844	25.8	25.9	0.91	5559	3.17	20.71
005351250-04	OBS	0408.04	3.428044	132.367171	189.5	2.582	15.8	17.1	0.91	5559	1.50	387.36
005351250-05	OBS	0408.05	93.804278	170.555862	546.2	3.439	7.9	8.9	0.91	5559	2.48	4.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005351250-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005351250-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005351250-03	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005351250-04	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005351250-05	OBS	FP	0.01	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE

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.

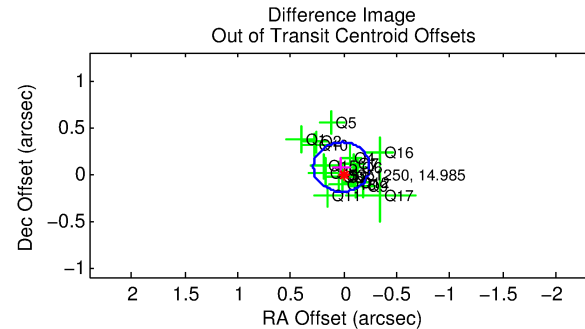
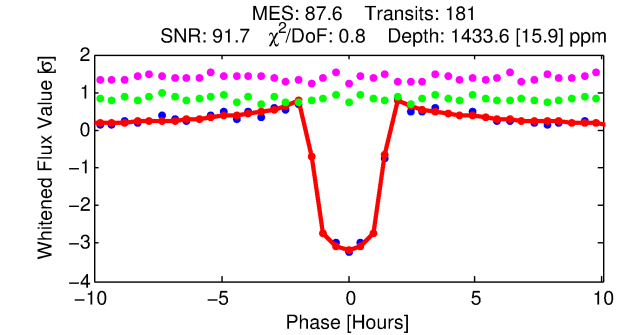
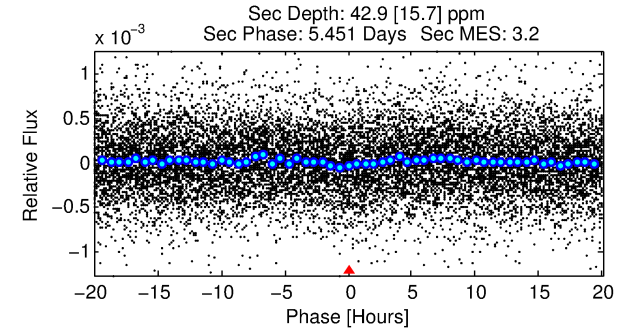
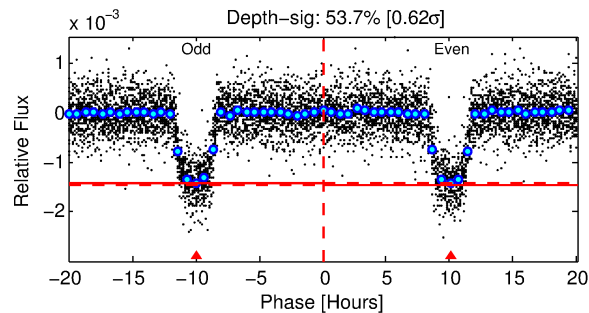
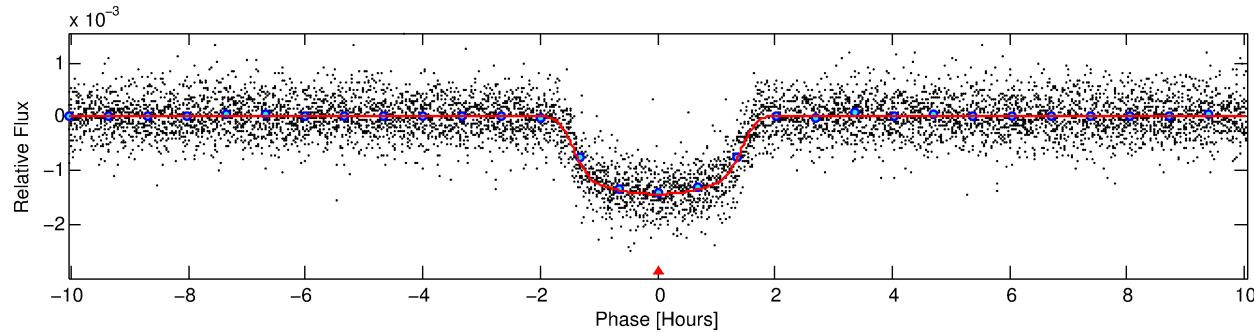
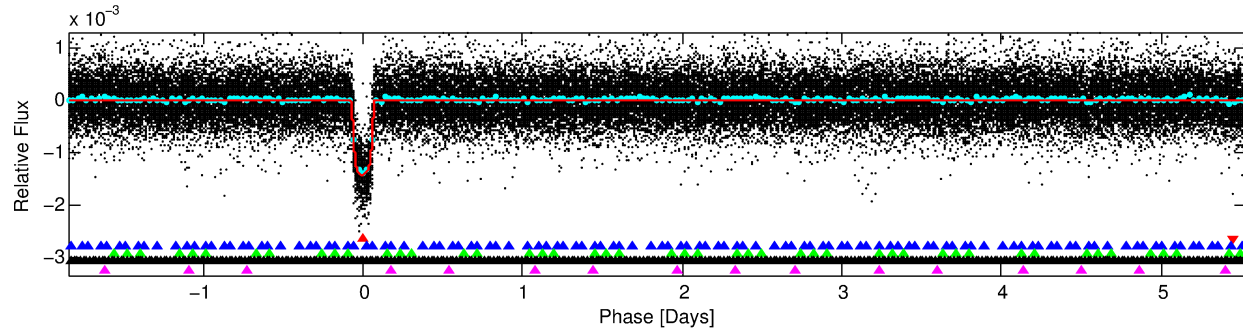
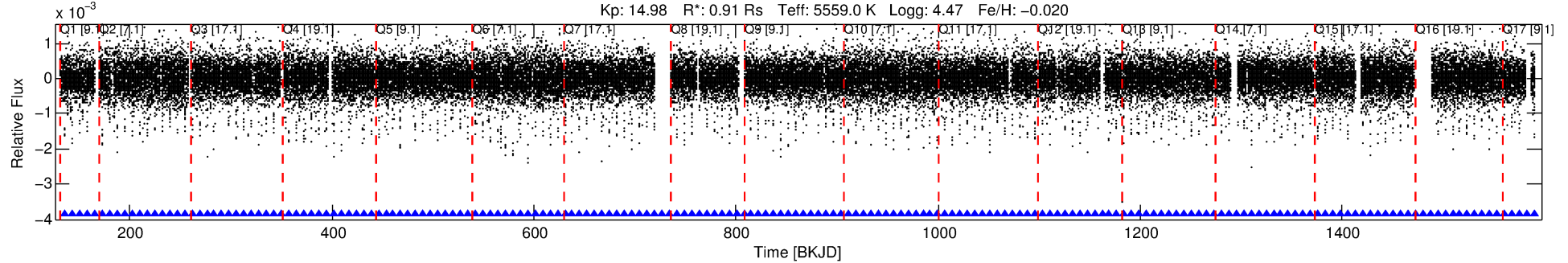
Ephemeris Match Information For 005351250-01

No Significant Match Found

DV One-Page Summary

KIC: 5351250 Candidate: 1 of 5 Period: 7.382 d
KOI: K00408.01 Name: Kepler-150c Corr: 0.966

Kp: 14.98 R*: 0.91 Rs Teff: 5559.0 K Logg: 4.47 Fe/H: -0.020



DV Fit Results:

Period = 7.38199 [0.00001] d
Epoch = 136.1623 [0.0006] BKJD
Rp/R* = 0.0396 [0.0012]
a/R* = 10.31 [1.22]
b = 0.84 [0.04]
Seff = 139.30 [26.87]
Teq = 876 [42] K
Rp = 3.95 [0.49] Re
a = 0.0716 [0.0080] AU
Ag = 7.75 [3.18] [2.12σ]
Teff = 2260 [214] K [6.34σ]

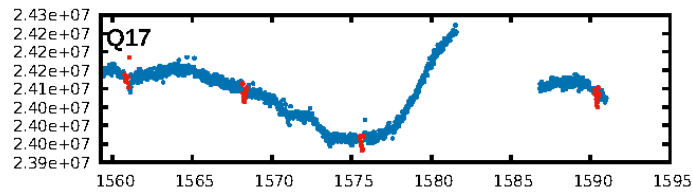
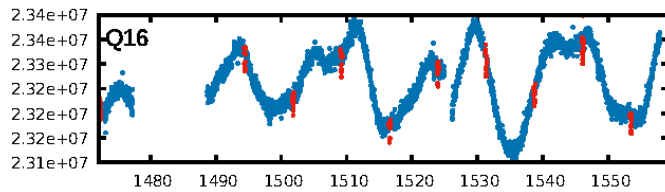
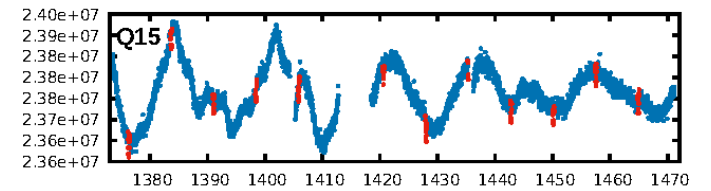
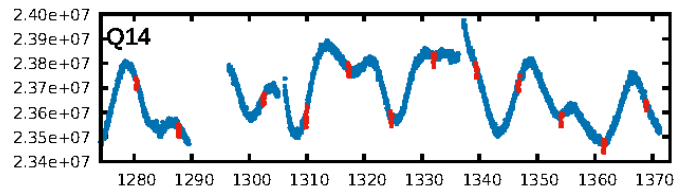
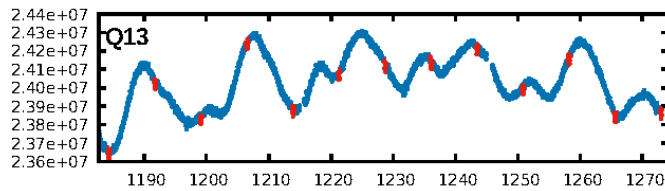
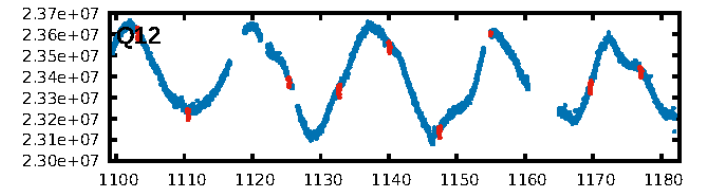
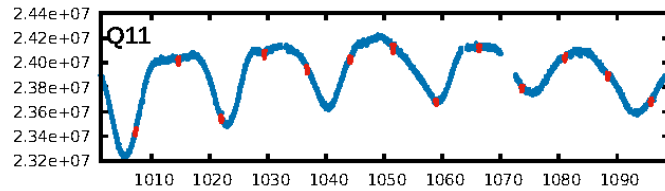
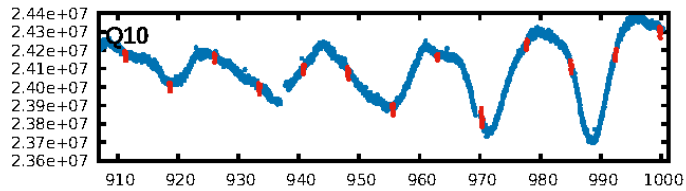
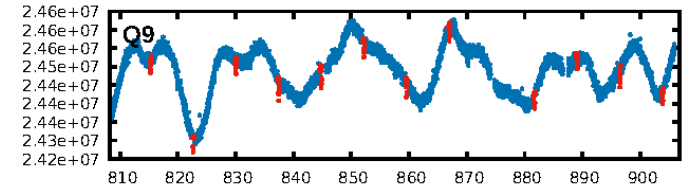
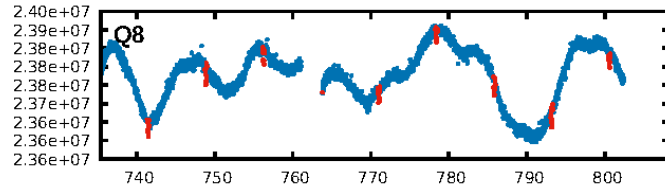
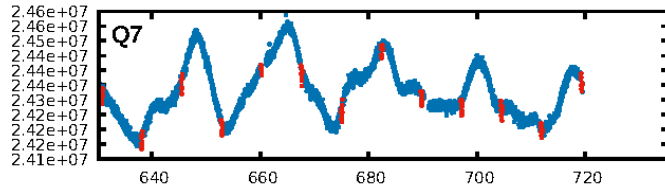
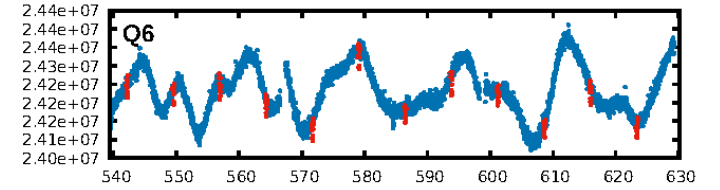
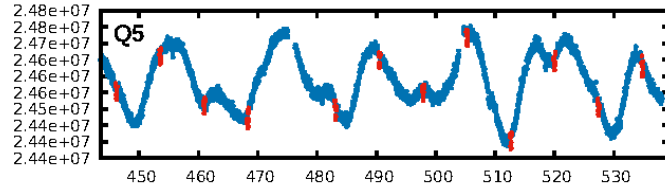
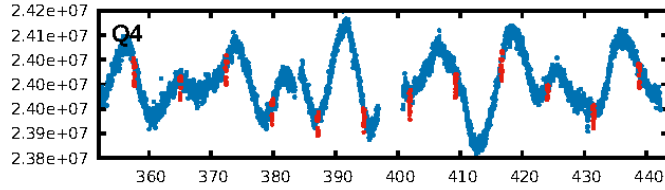
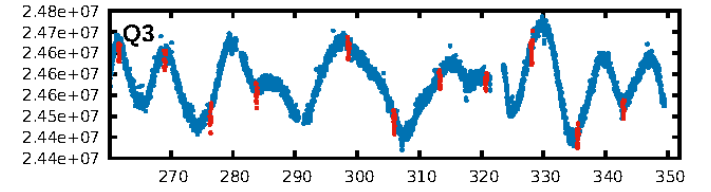
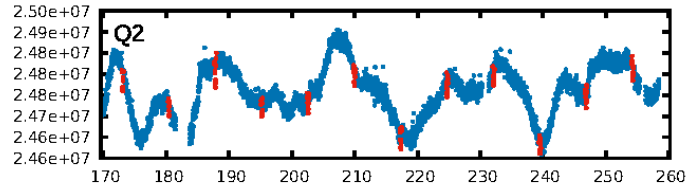
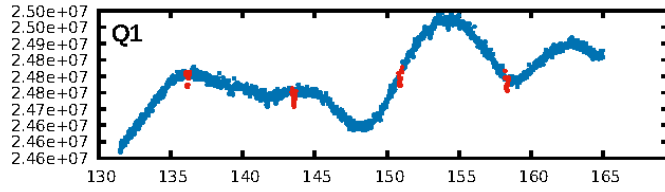
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [22.44σ]
LongPeriod-sig: 100.0% [24.20σ]
ModelChiSquare2-sig: 99.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [173/173]
GhostDiagnostic-chr: 3.971
Centroid-sig: 0.0%
Centroid-so: 0.278 arcsec [2.49σ]
OotOffset-rm: 0.078 arcsec [0.88σ]
KicOffset-rm: 0.101 arcsec [1.10σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

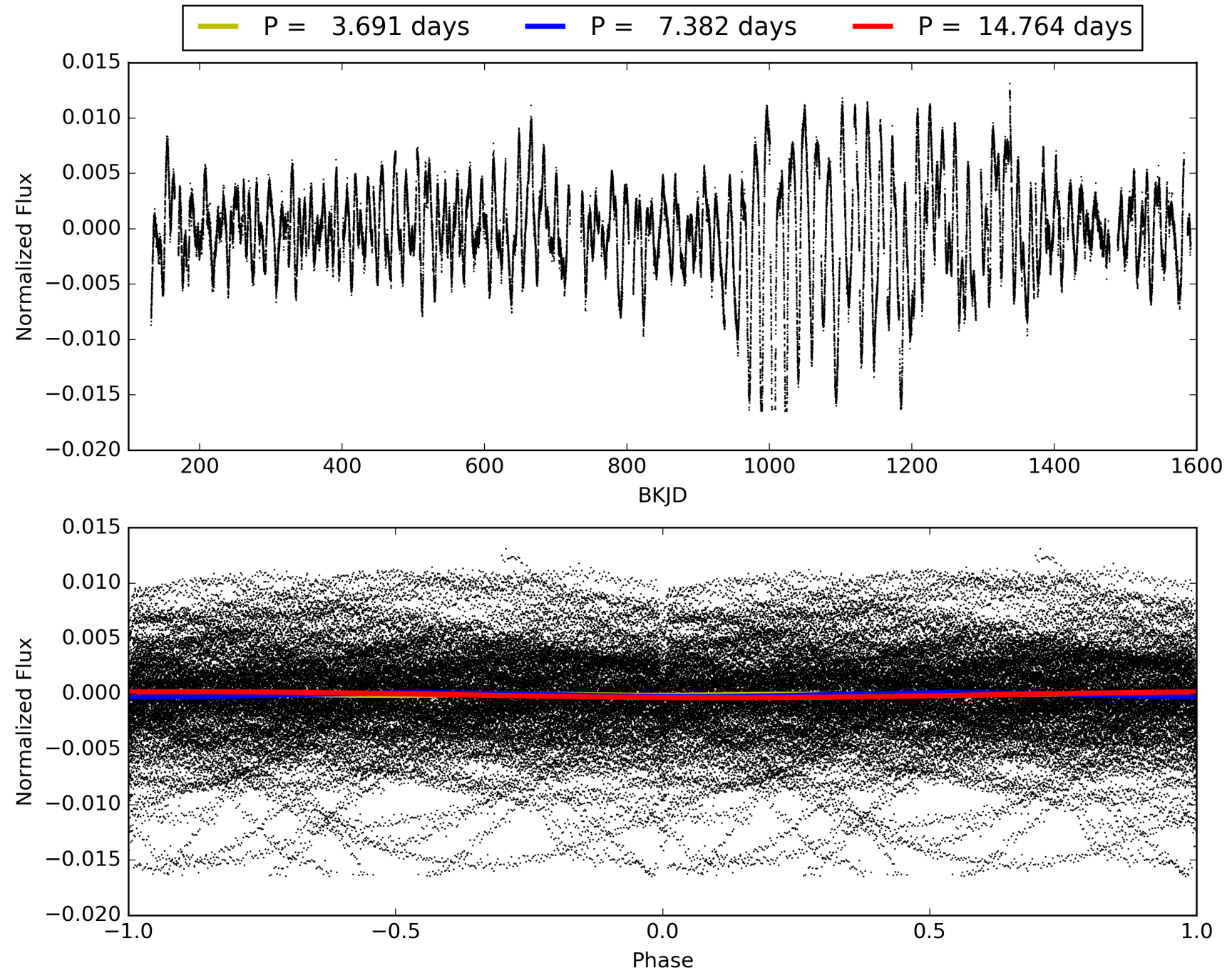
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005351250-01, PDC Light Curves

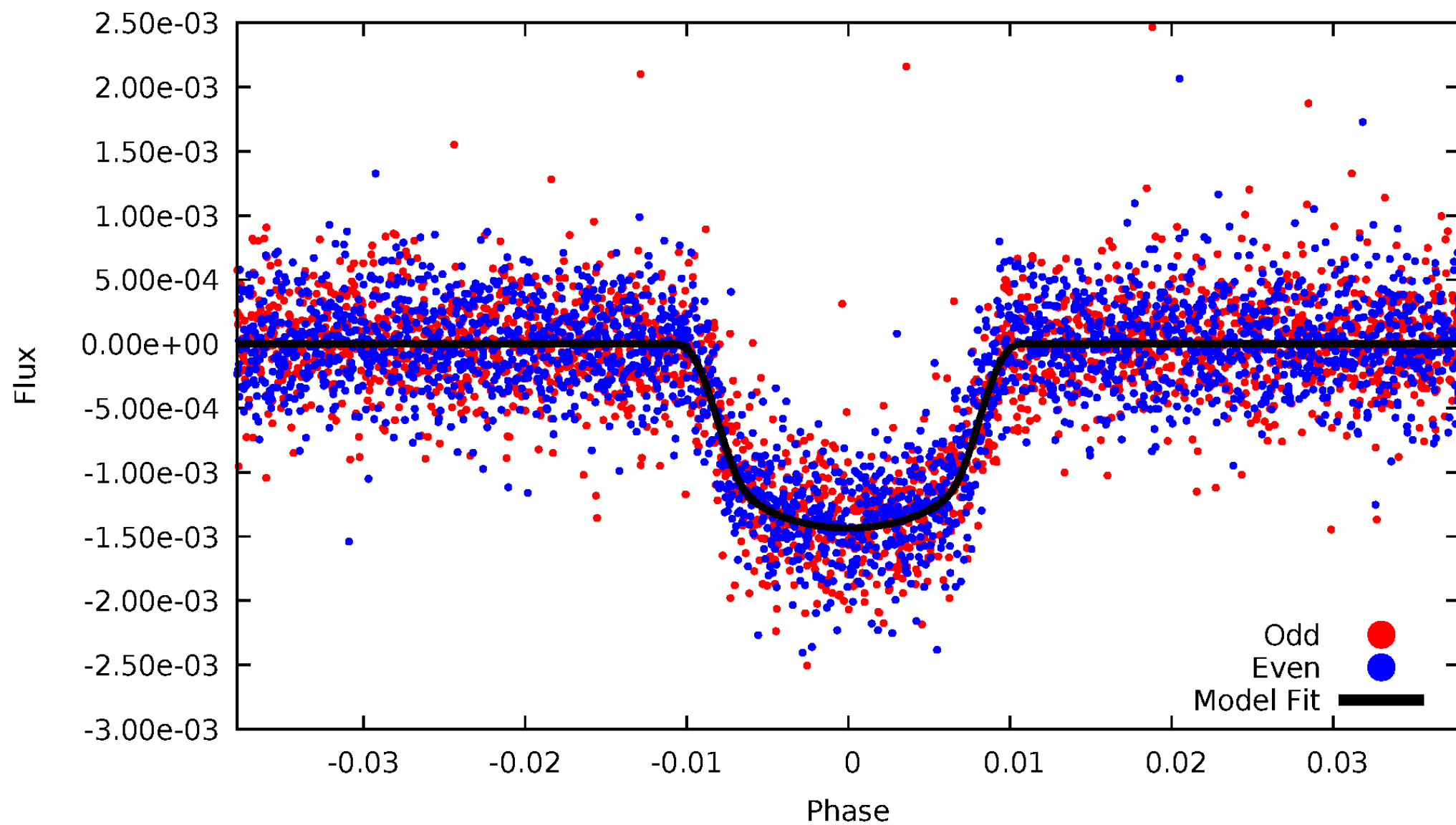


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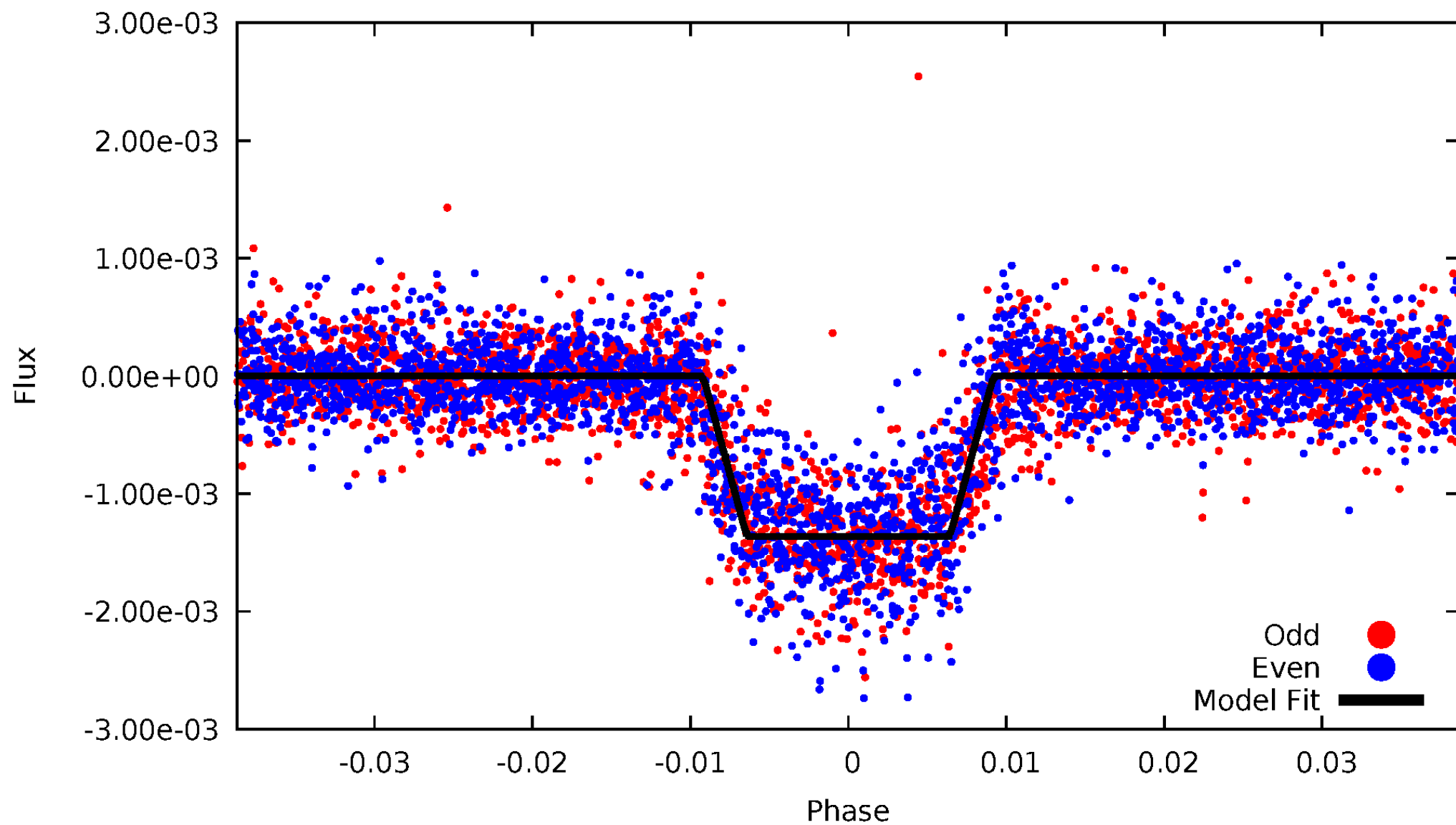
DV Odd/Even

TCE 005351250-01



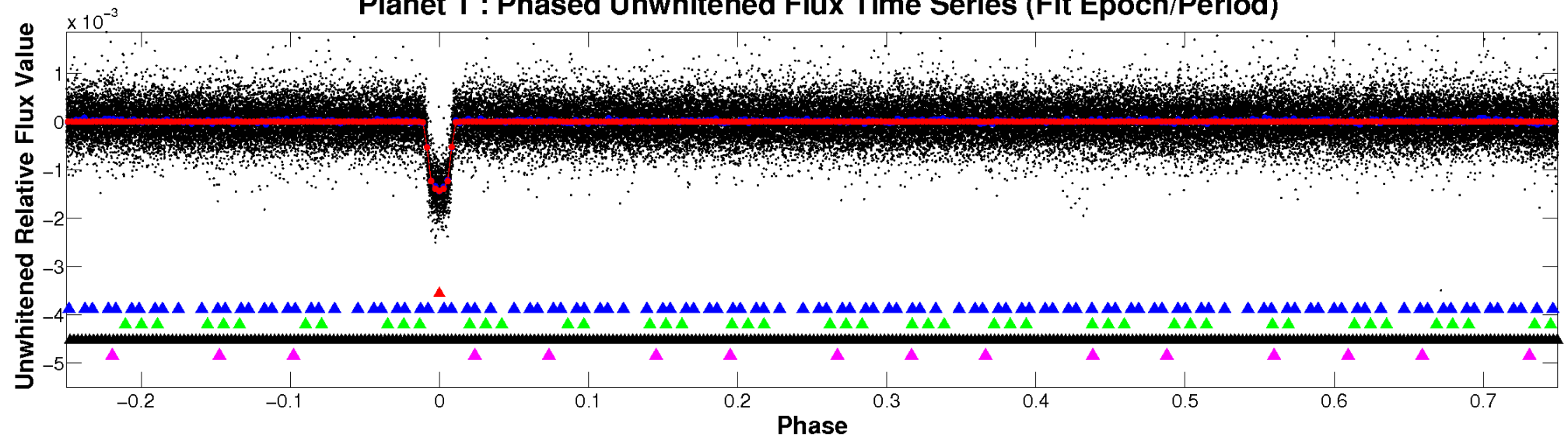
ALT Odd/Even

TCE 005351250-01

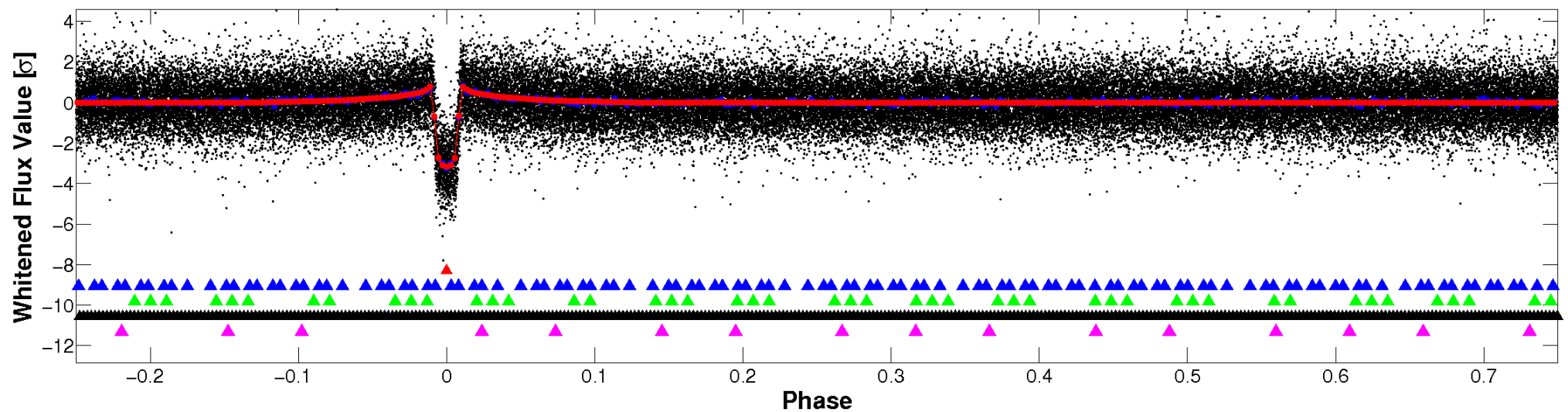


Non-Whitened Vs. Whitened Light Curve

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

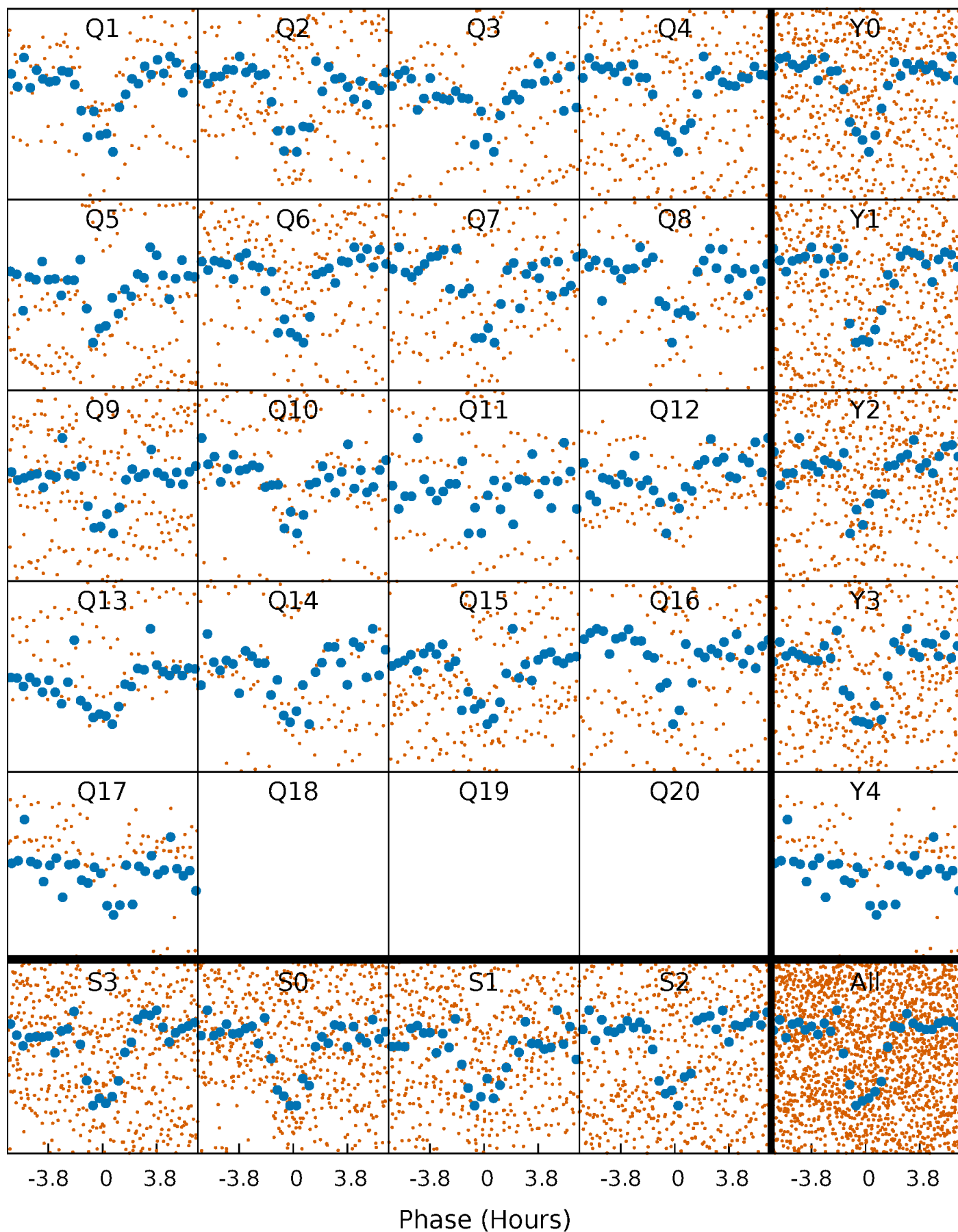


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



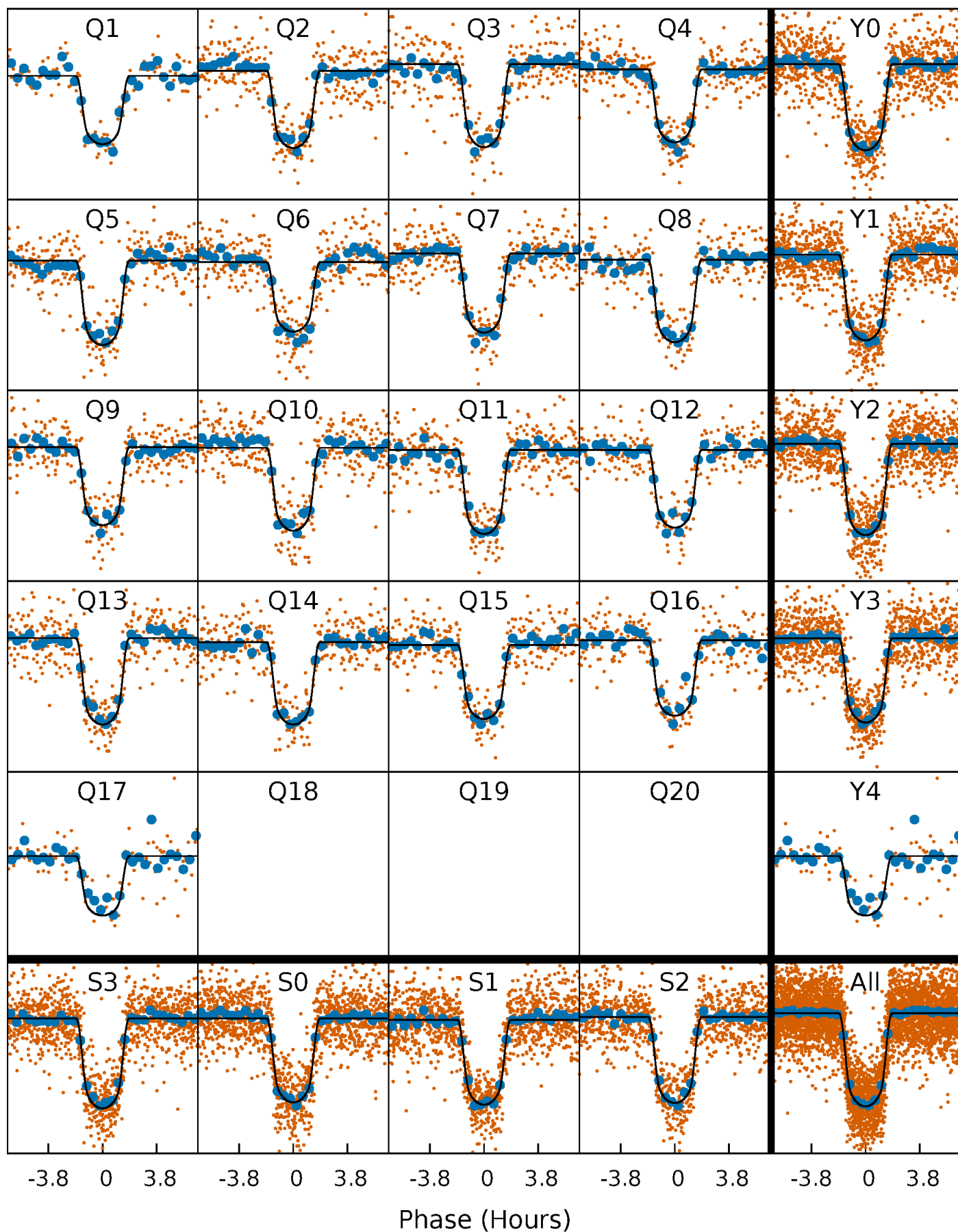
PDC Quarter-Phased Transit Curves

TCE 005351250-01 P= 7.381986 Days $T_0=136.162331$ (BKJD)



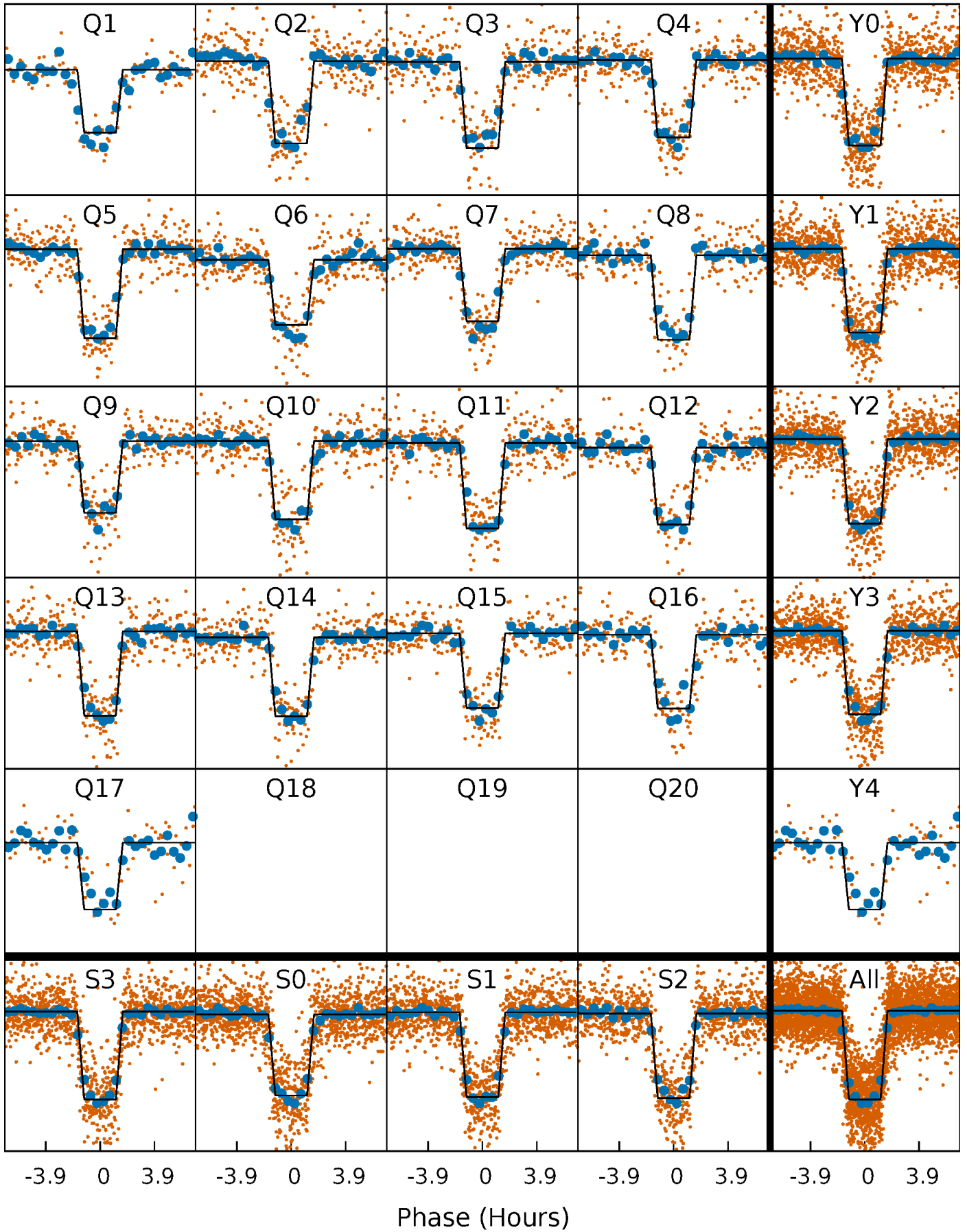
DV Quarter-Phased Transit Curves

TCE 005351250-01 P= 7.381986 Days $T_0=136.162331$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

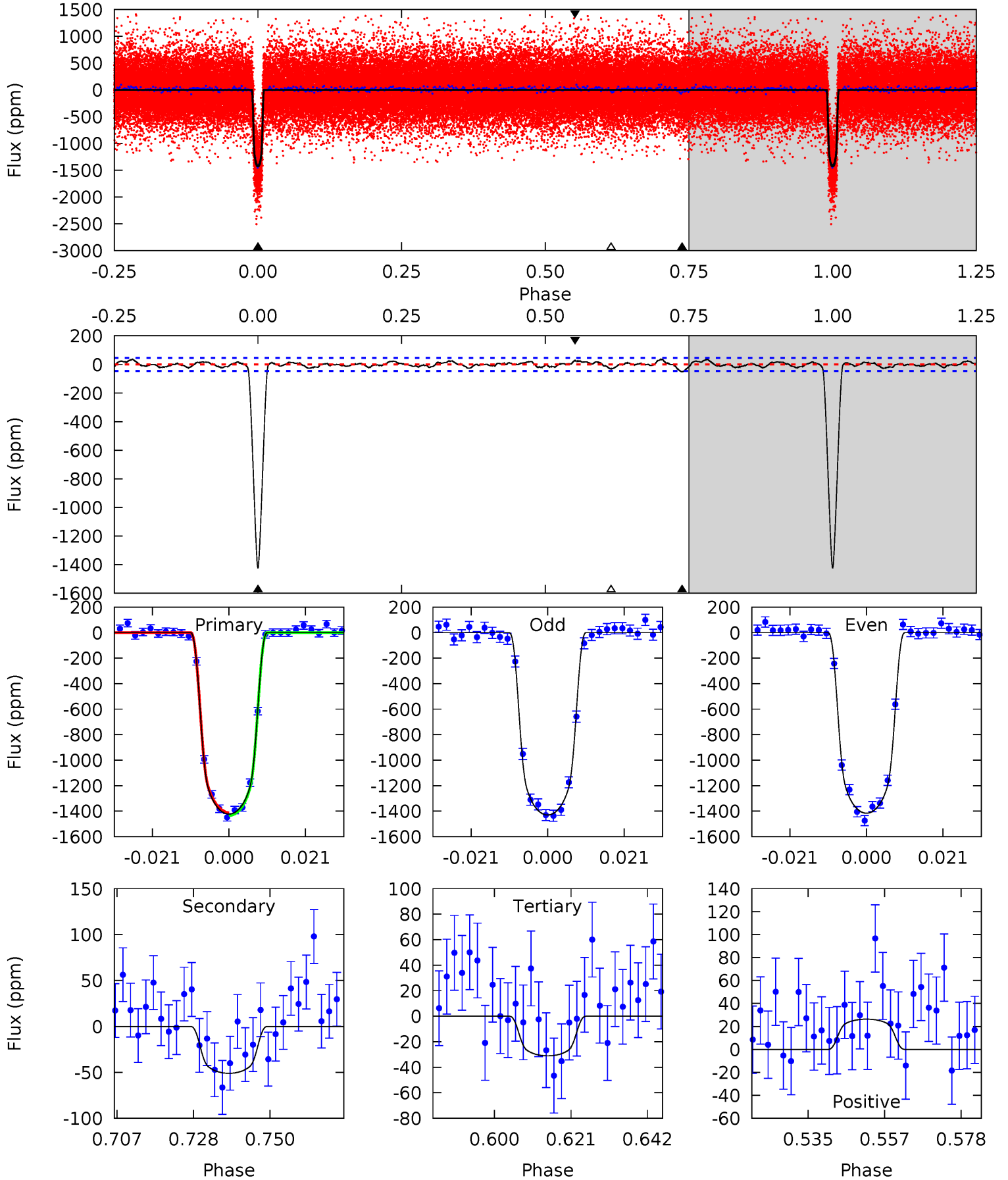
TCE 005351250-01 P= 7.381913 Days $T_0=136.170056$ (BKJD)



DV Model-Shift Uniqueness Test

005351250-01, P = 7.381986 Days, E = 128.780345 Days

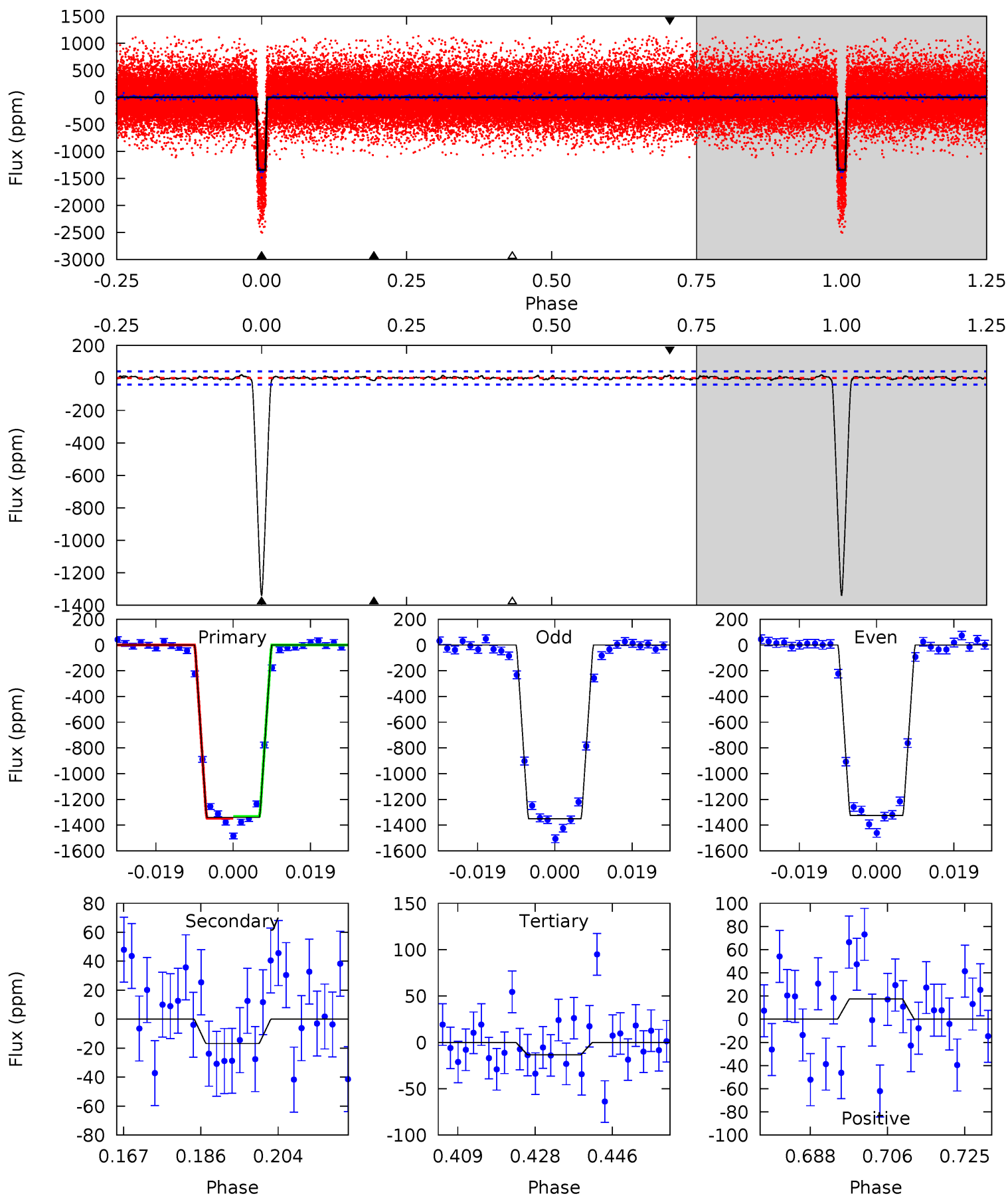
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
152.1	5.46	3.32	2.82	4.88	2.30	1.41	148.8	149.3	2.14	2.64	0.75	1.01	0.02	1.11



Alt Model-Shift Uniqueness Test

005351250-01, P = 7.381913 Days, E = 128.788143 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
161.3	2.03	1.62	2.11	4.91	2.35	0.69	159.6	159.2	0.41	-0.08	1.47	1.02	0.01	0.80



Stellar Parameters For KIC 005351250

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5559^{+110}_{-110}	$4.470^{+0.068}_{-0.102}$	$-0.020^{+0.150}_{-0.150}$	$0.914^{+0.110}_{-0.070}$	$0.899^{+0.061}_{-0.050}$	$1.657^{+0.426}_{-0.480}$
	+2%/-2%	+2%/-2%	+750%/-750%	+12%/-8%	+7%/-6%	+26%/-29%
Source	SPE58	SPE58	SPE58	DSEP		

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

Secondary Eclipse Parameters for KIC 005351250-01 / KOI 0408.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-51 ± 9	$3.99^{+0.31}_{-0.24}$	1231^{+44}_{-42}	2999^{+91}_{-94}	$8.884^{+2.238}_{-1.798}$
Alt.	-17 ± 8	$3.71^{+0.29}_{-0.21}$	1231^{+45}_{-42}	2618^{+152}_{-233}	$3.424^{+1.686}_{-1.692}$

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 $A_{obs} \gg 1.0$

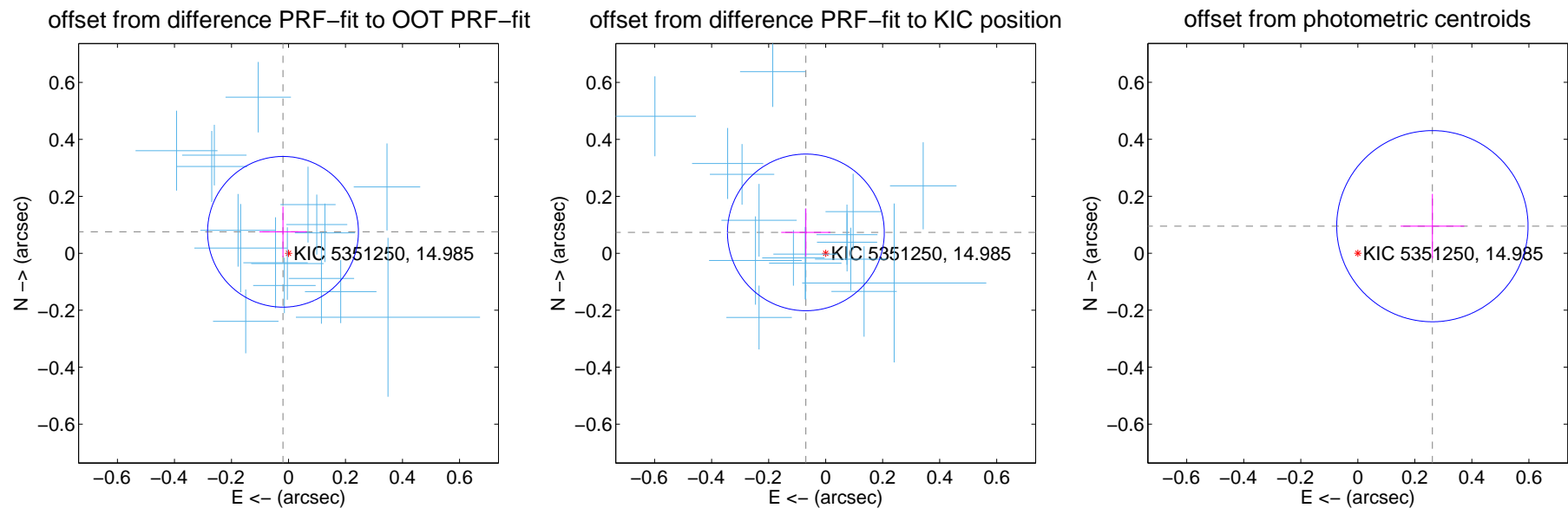
DV Centroid Data

Supplemental centroid analysis for 005351250-01. Kepler magnitude: 14.98. Transit SNR 91.73

There are 17 quarters with good PRF difference image offsets

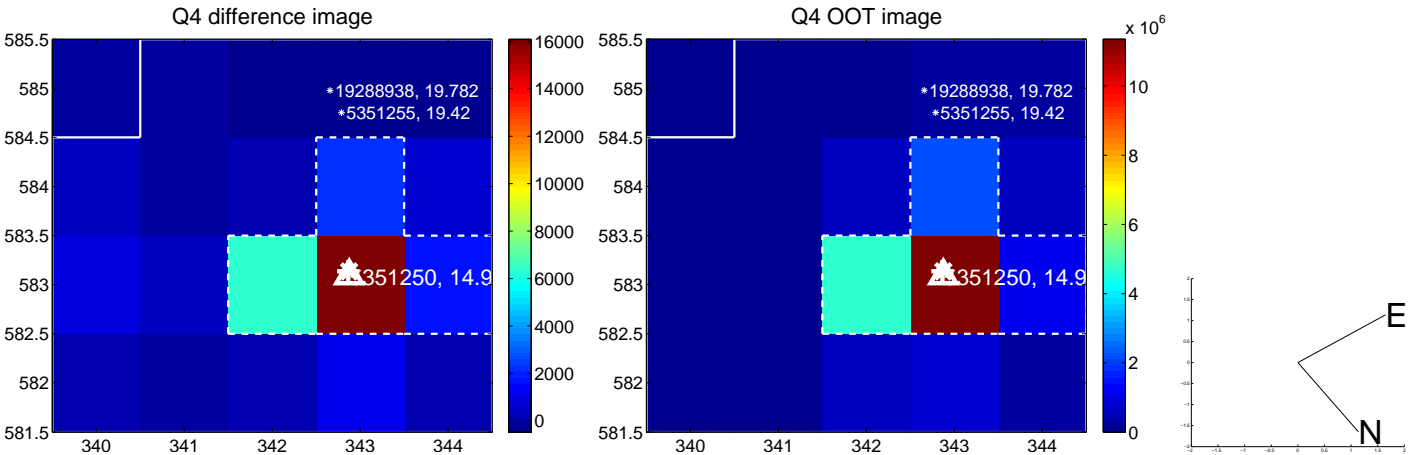
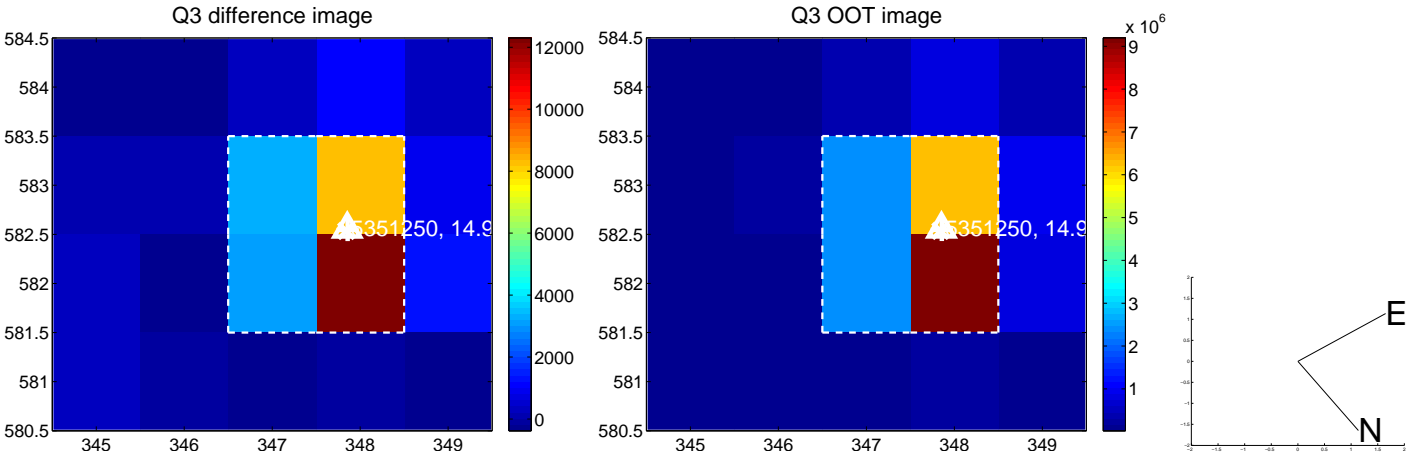
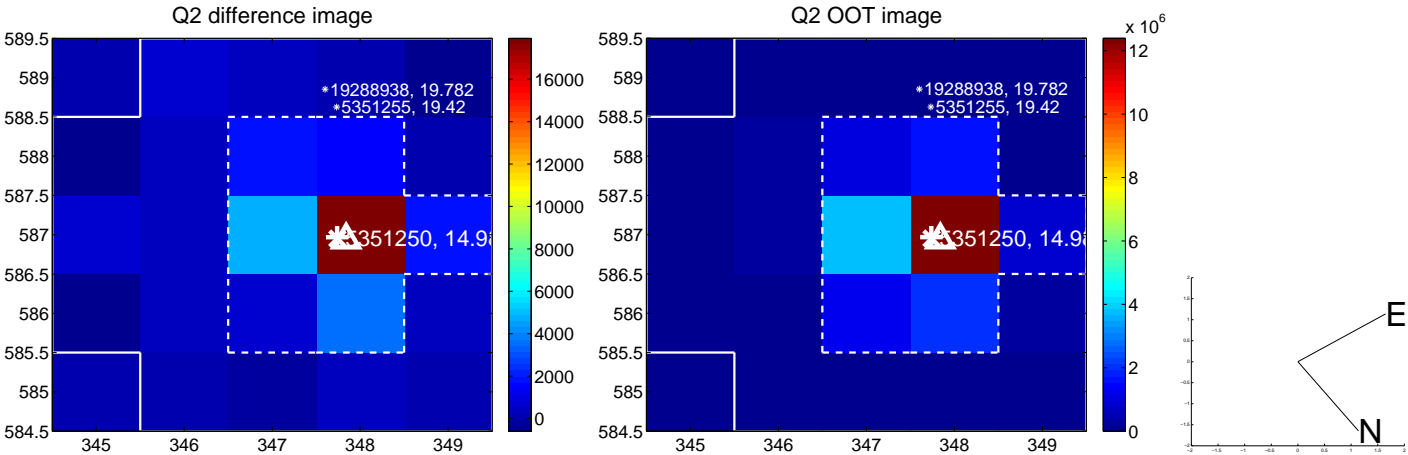
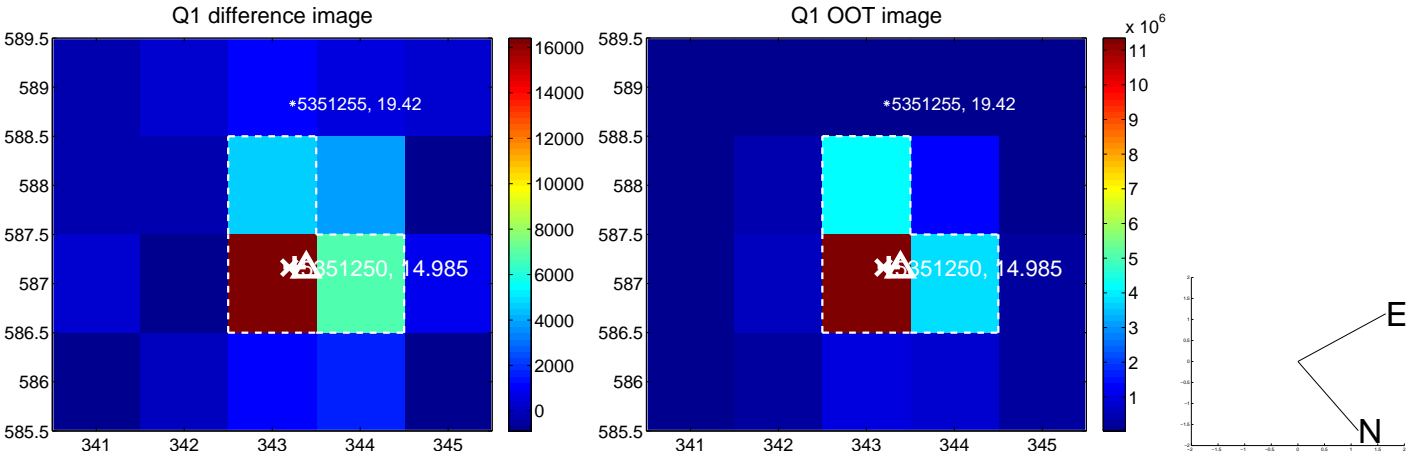
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.078 ± 0.088	0.88	0.019 ± 0.083	0.075 ± 0.089
PRF-fit source offset from KIC position	0.101 ± 0.092	1.10	0.069 ± 0.086	0.073 ± 0.084
photometric centroid source offset	0.28 ± 0.11	2.49	-0.26 ± 0.11	0.09 ± 0.11

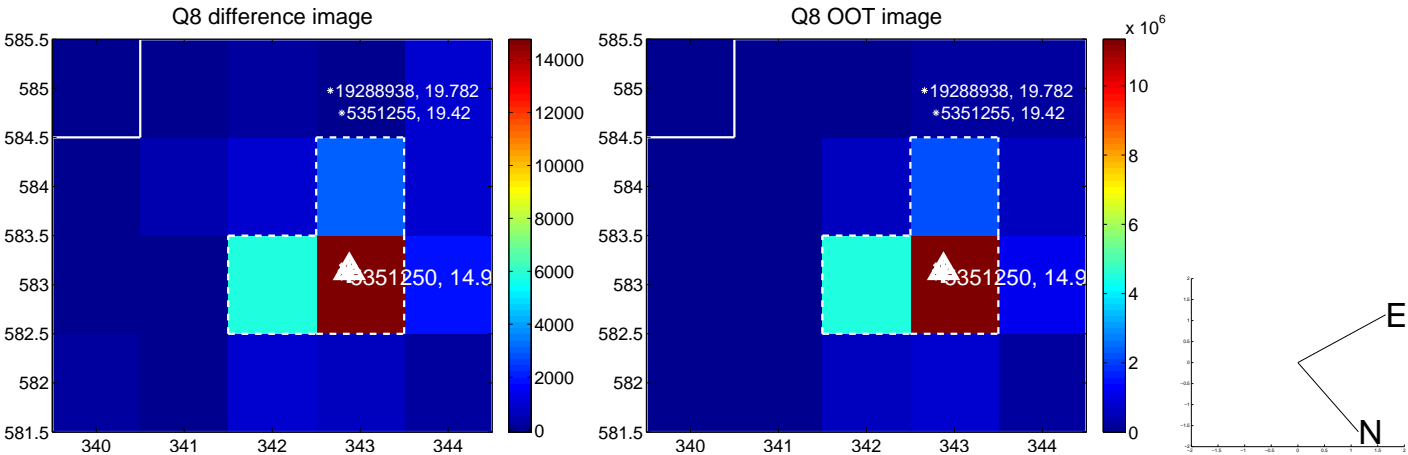
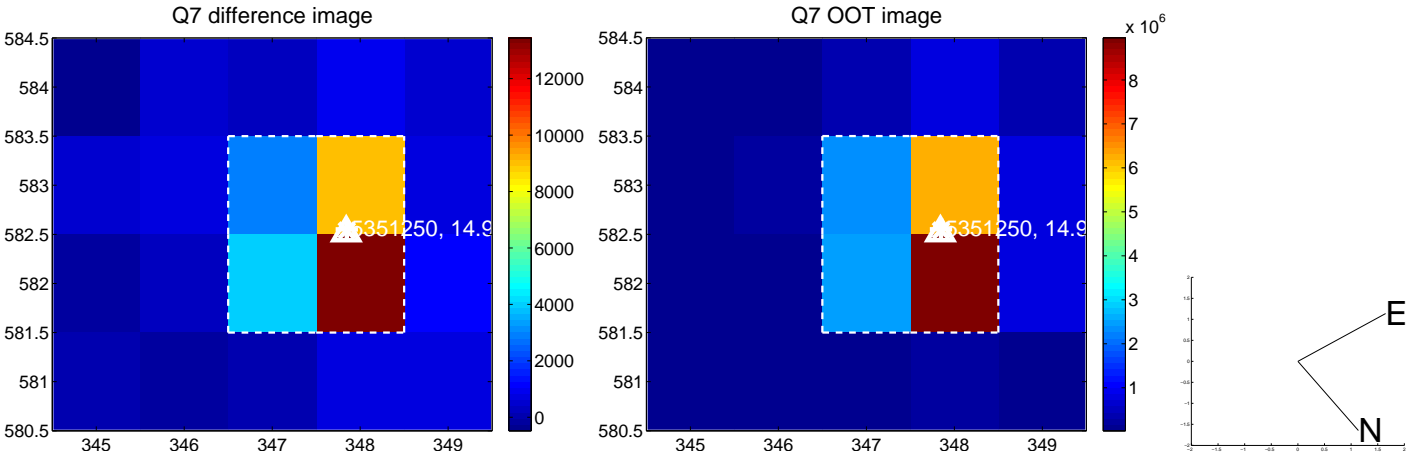
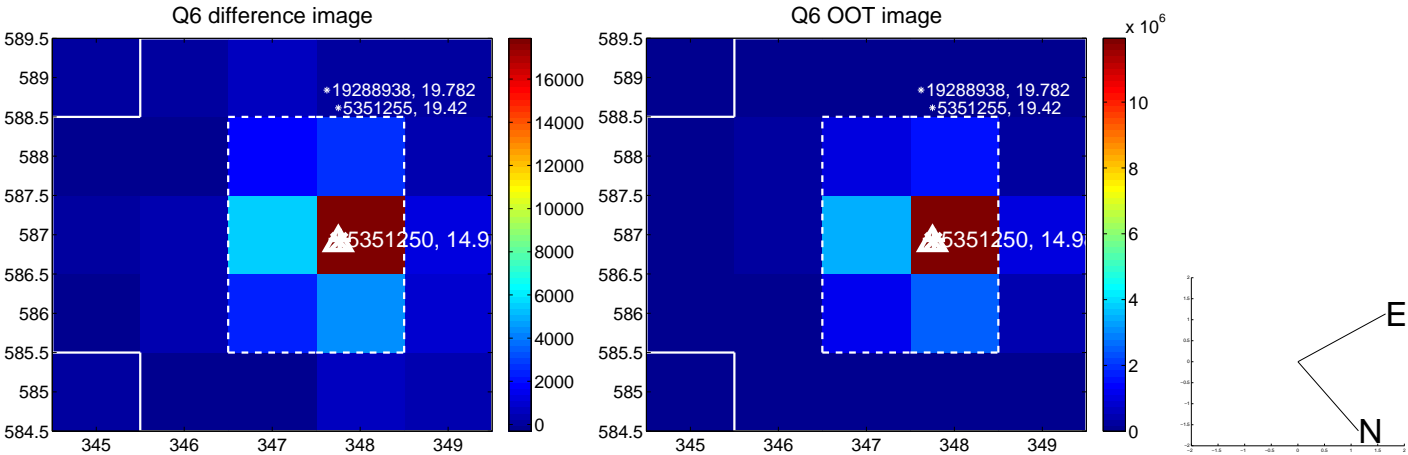
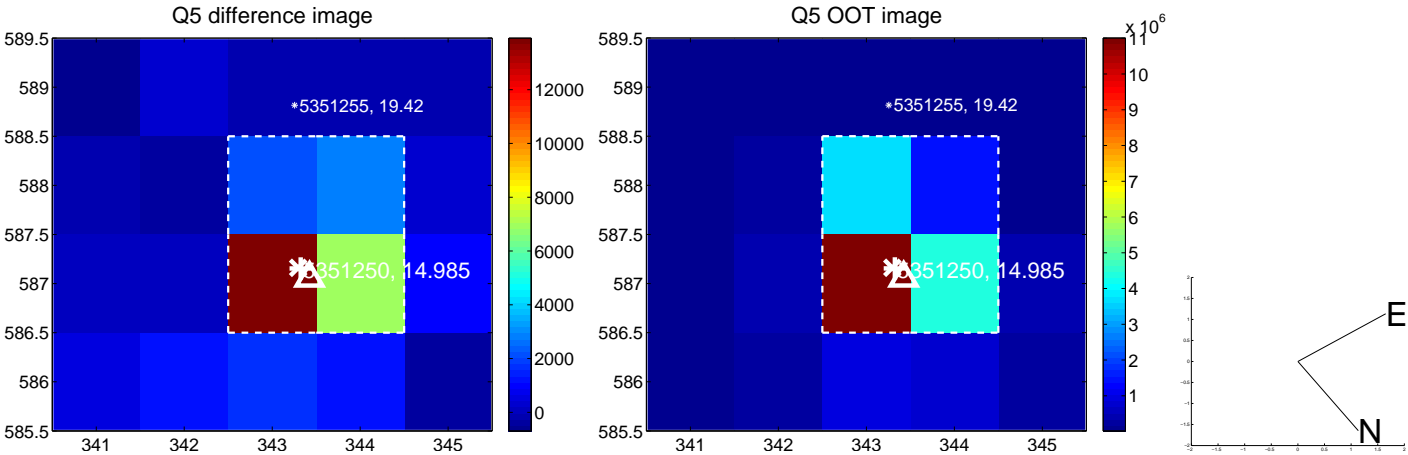


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

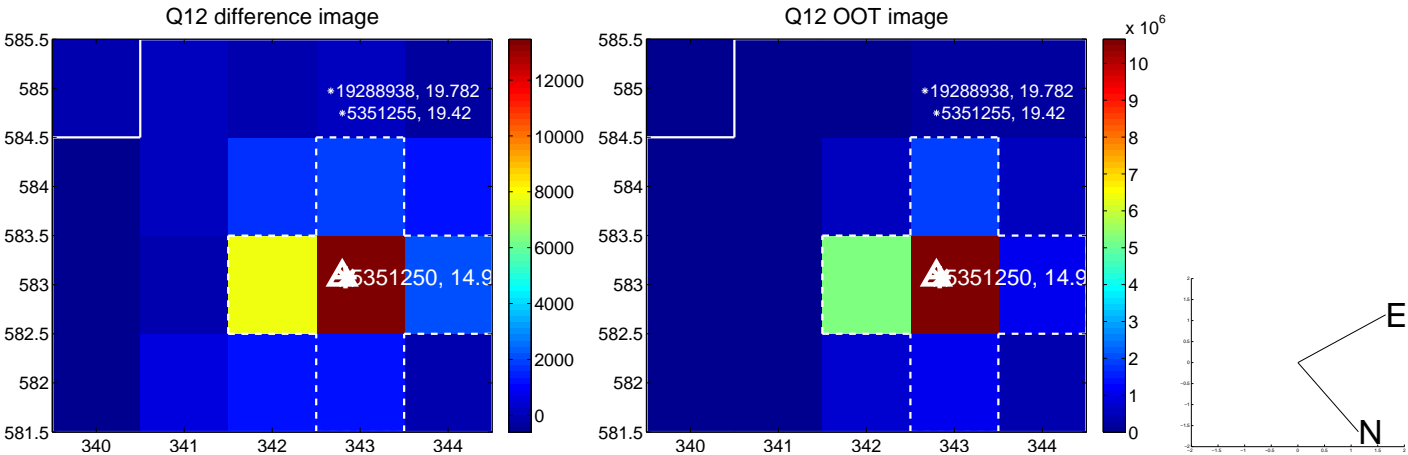
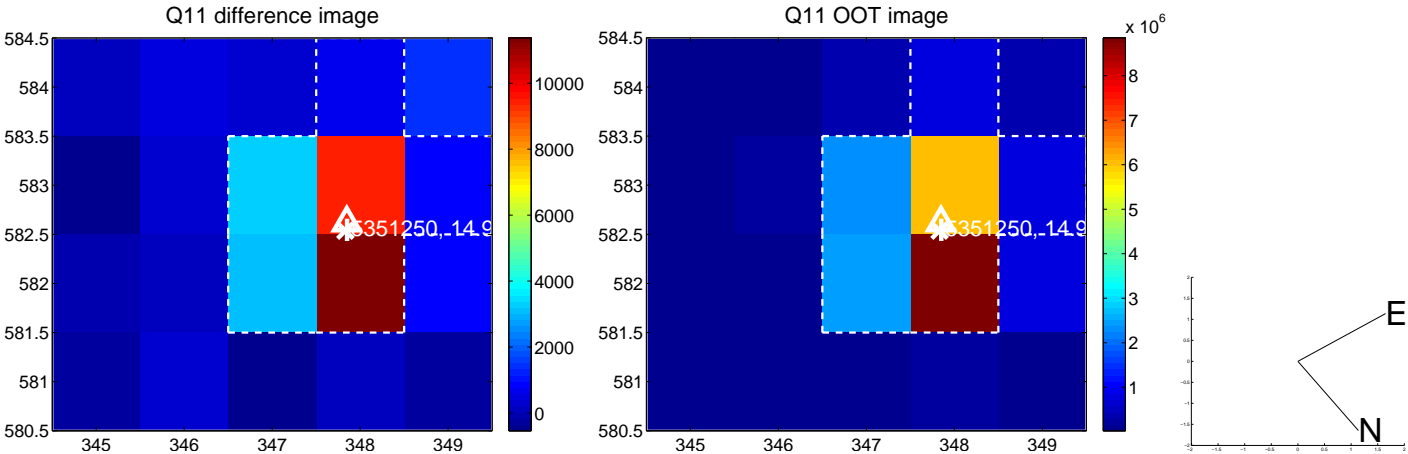
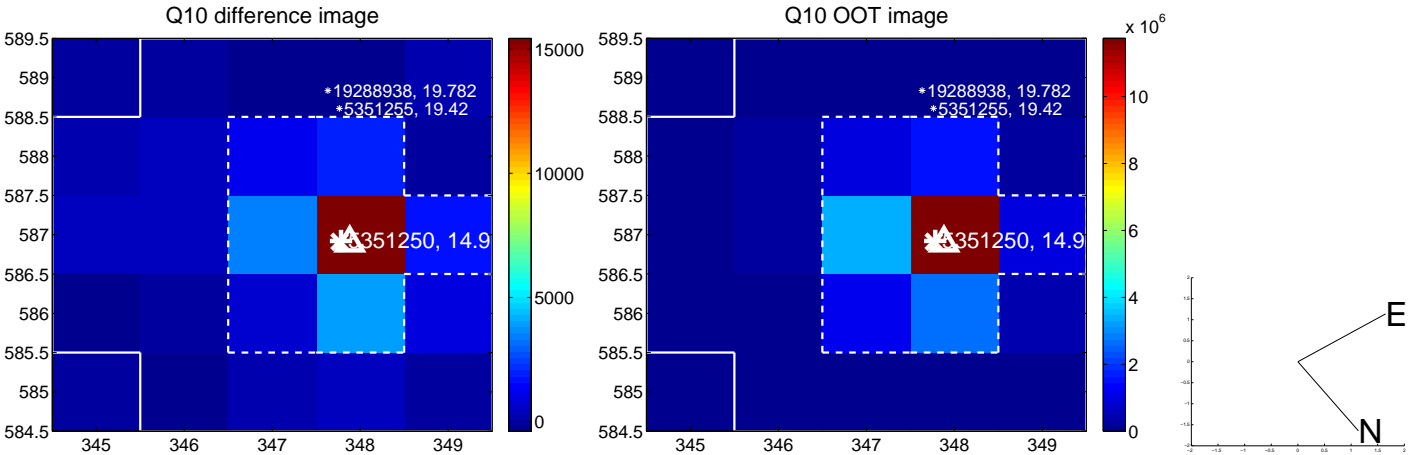
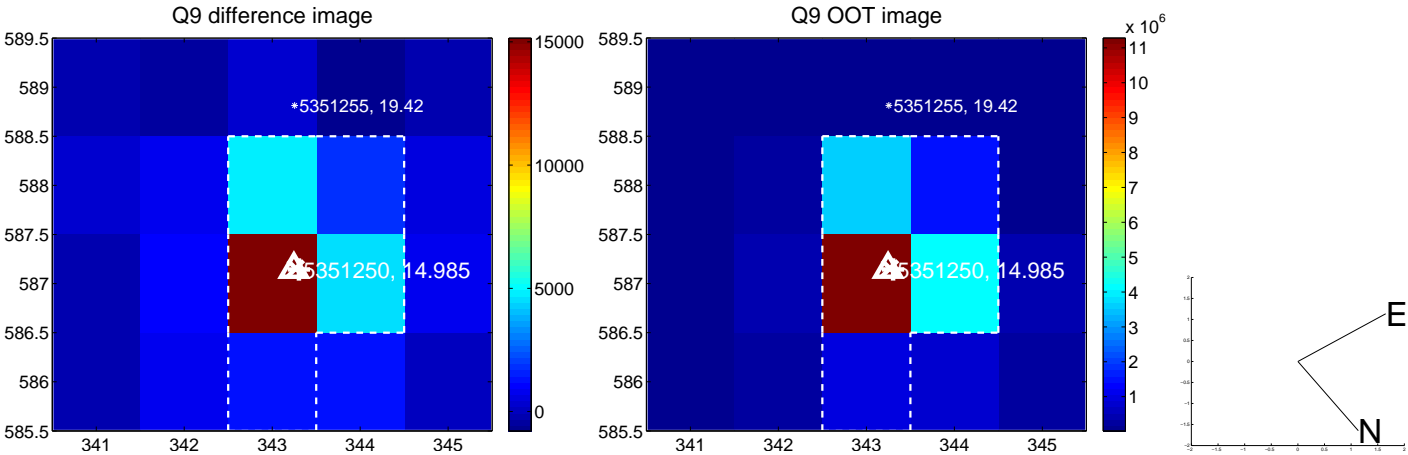
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



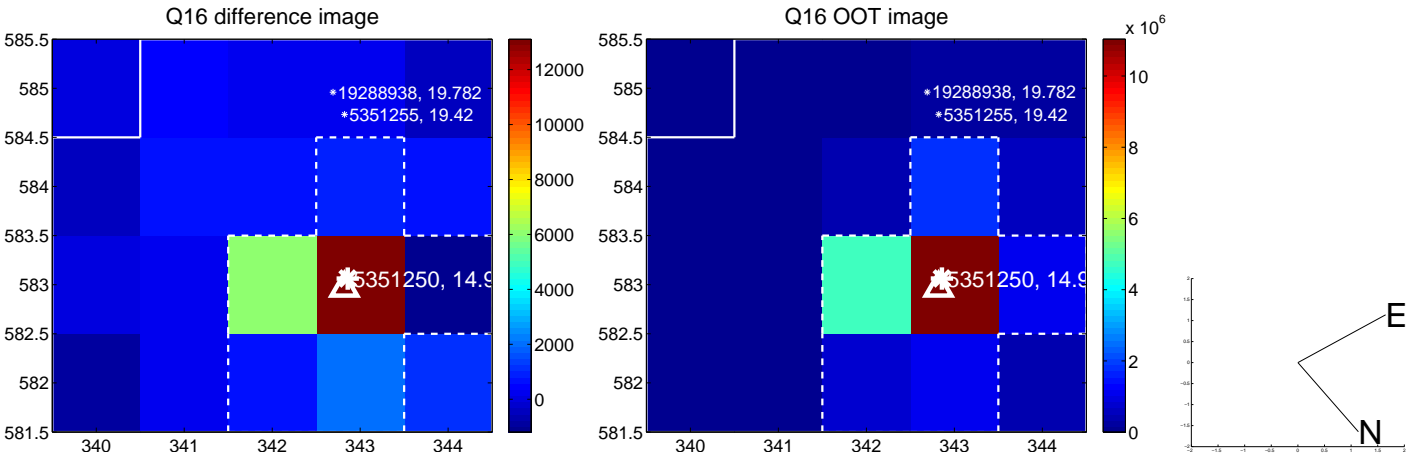
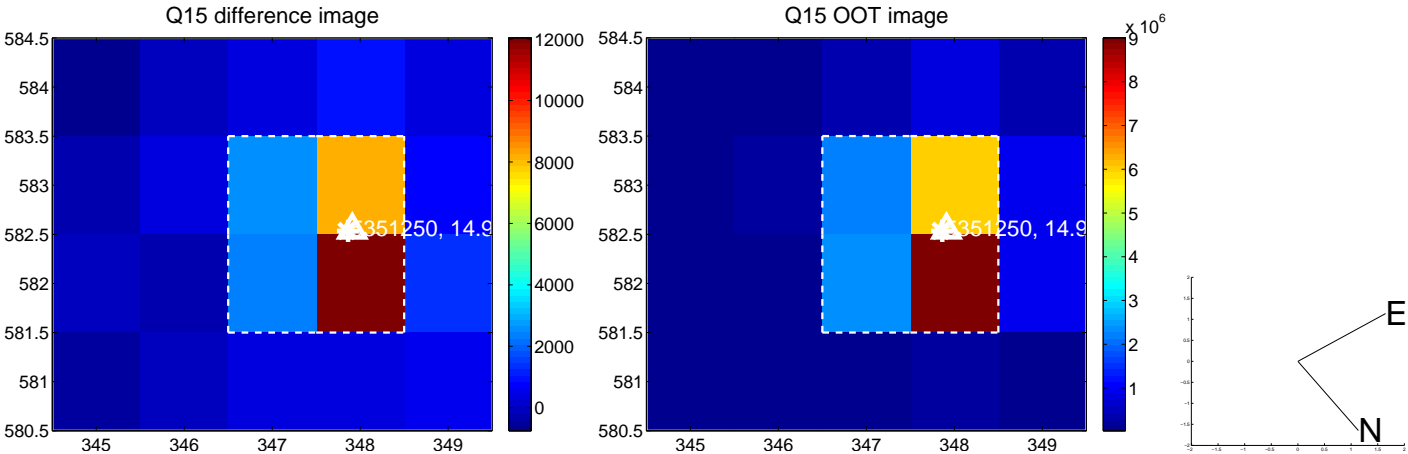
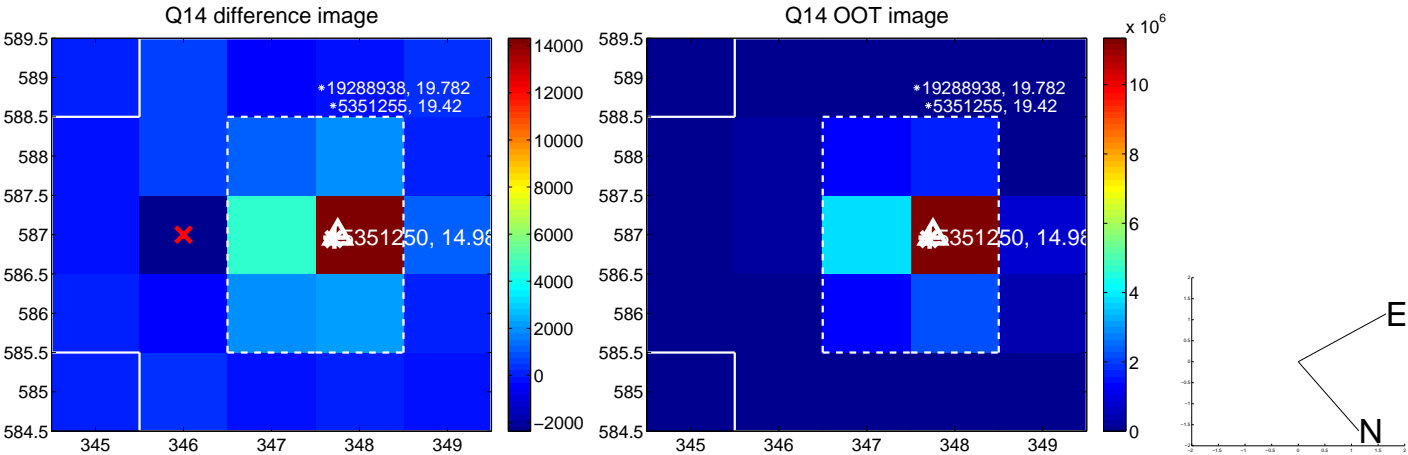
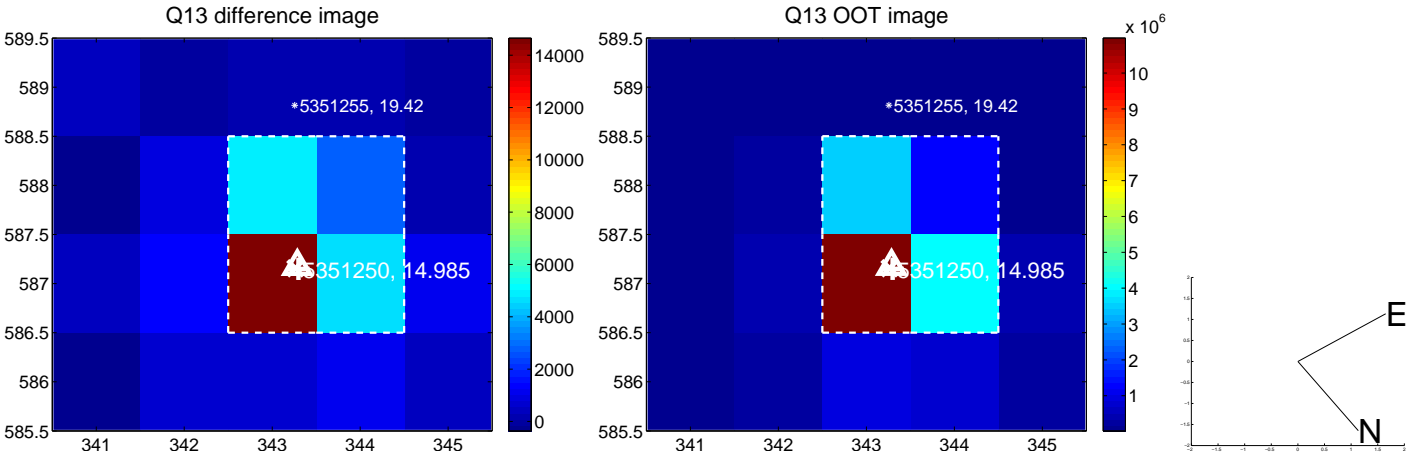
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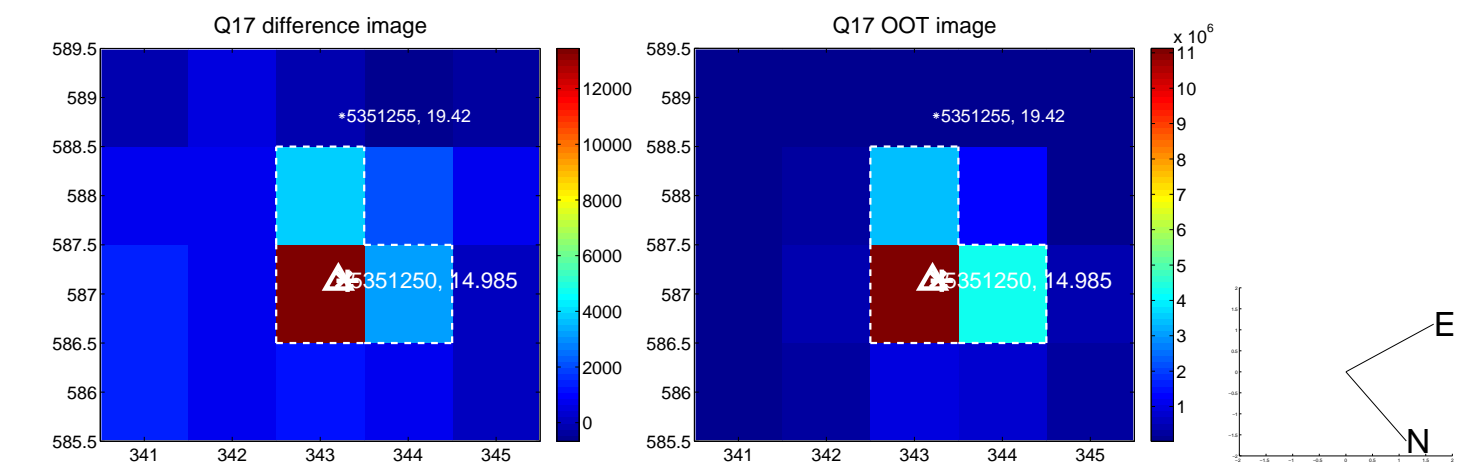
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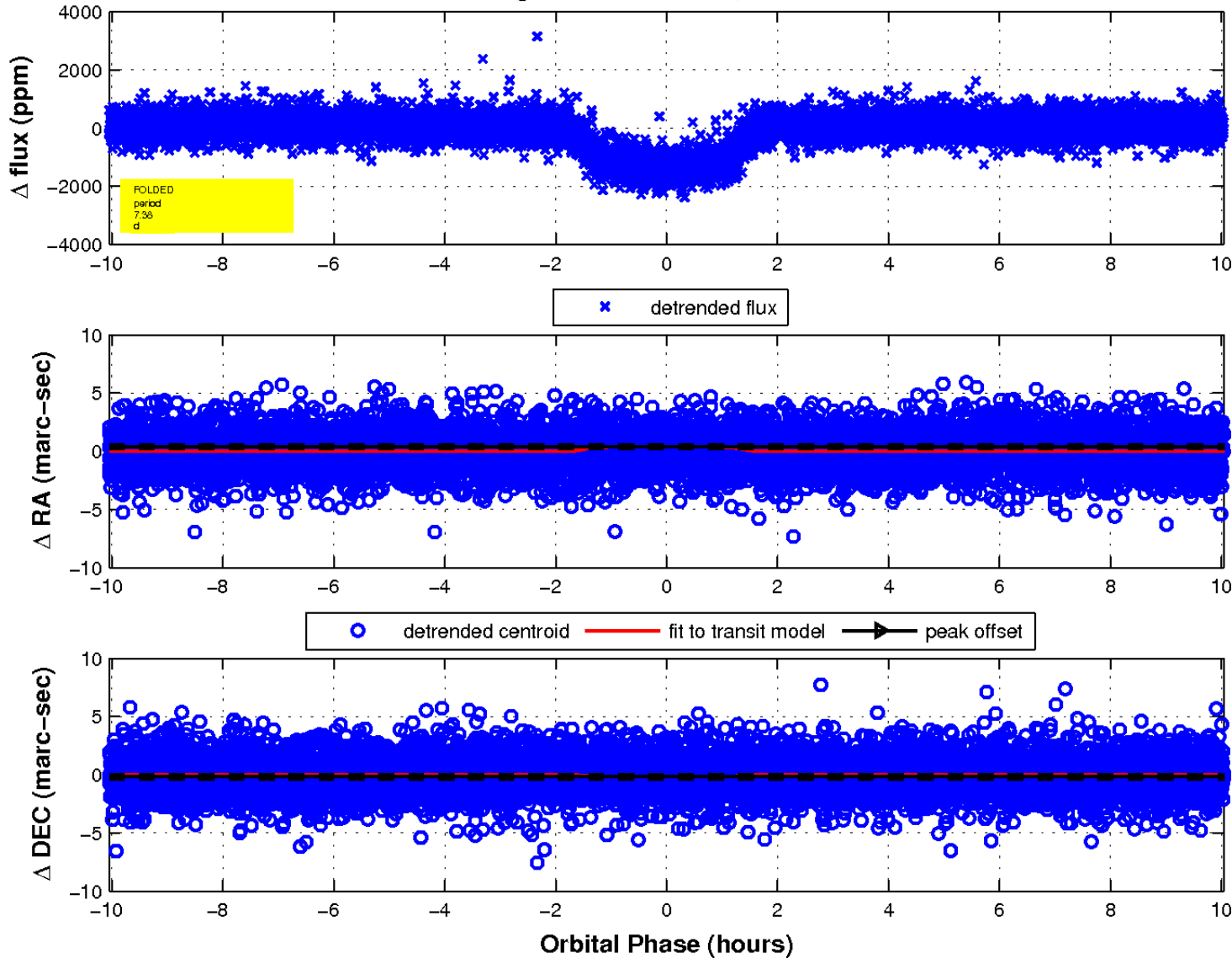
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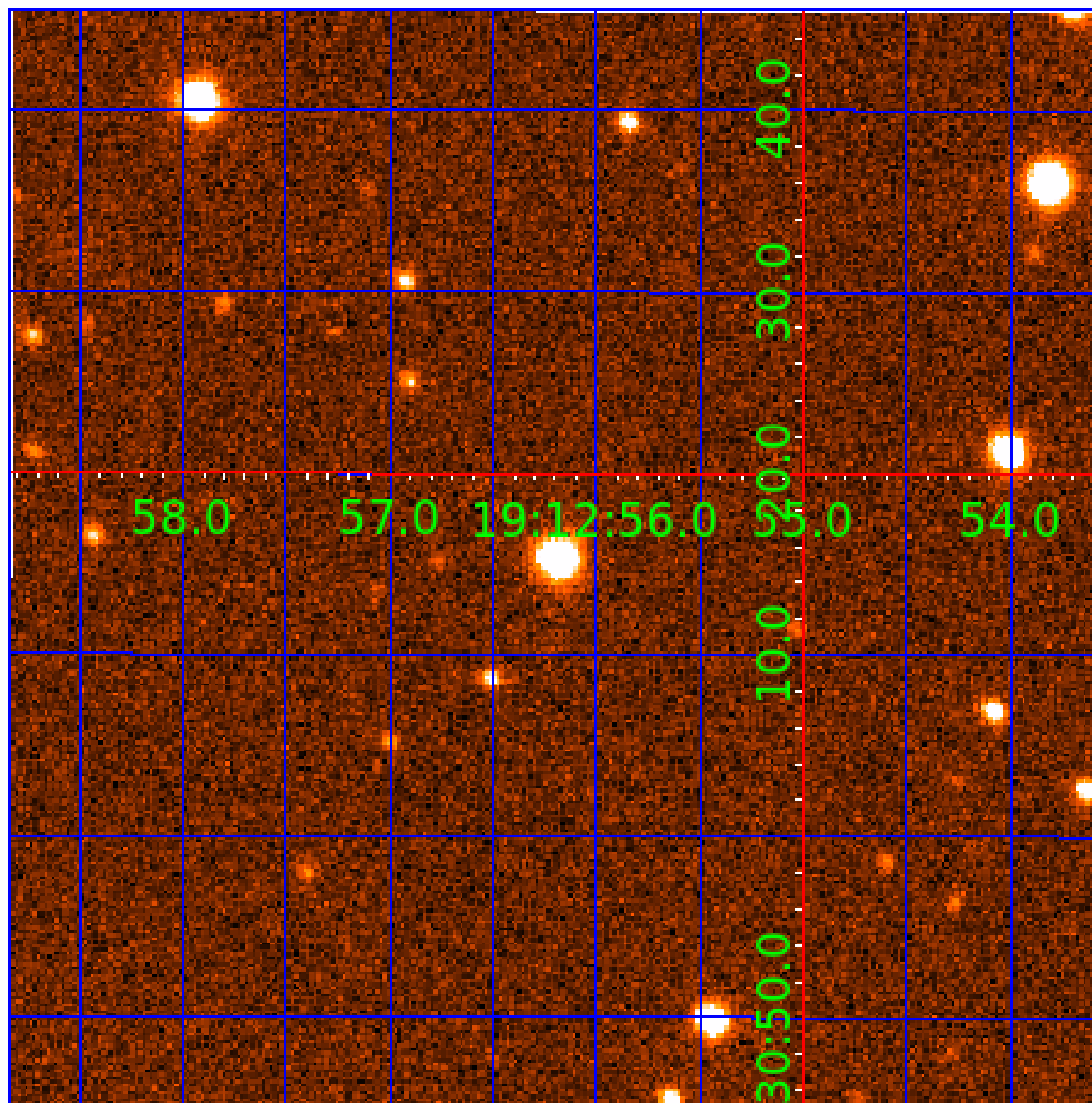


fluxWeightedCentroids, Planet 1 of 5



UKIRT Image

Declination



KIC 005351250

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.

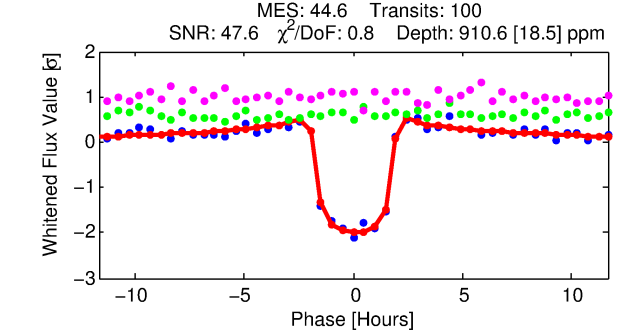
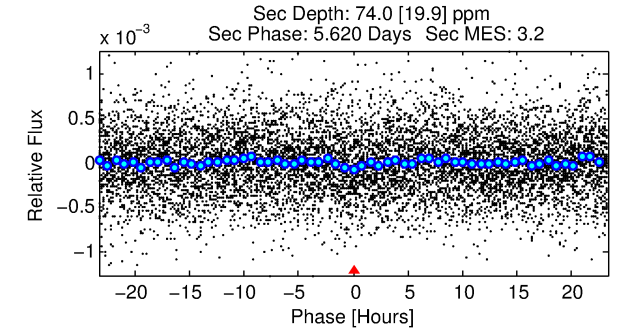
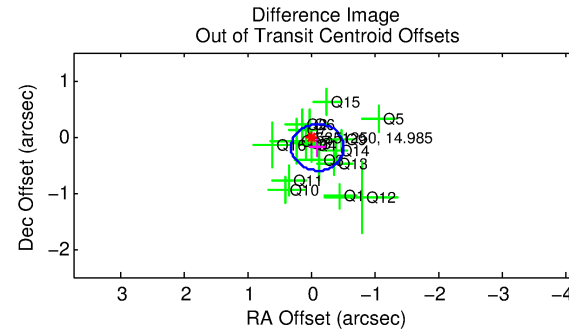
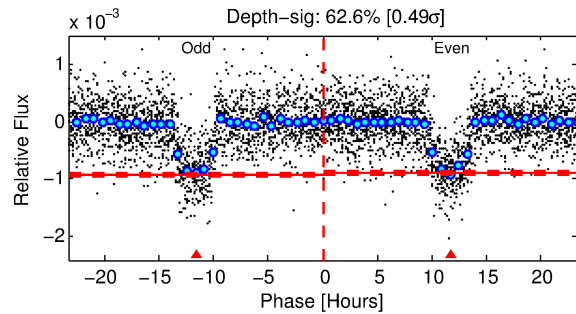
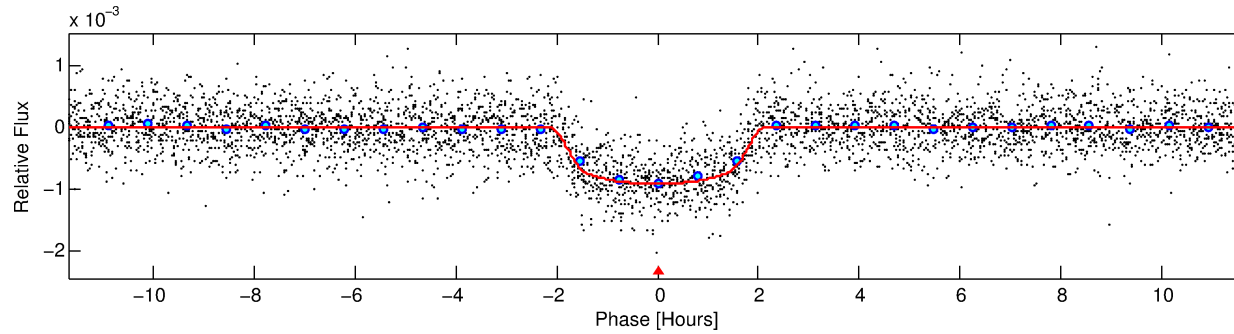
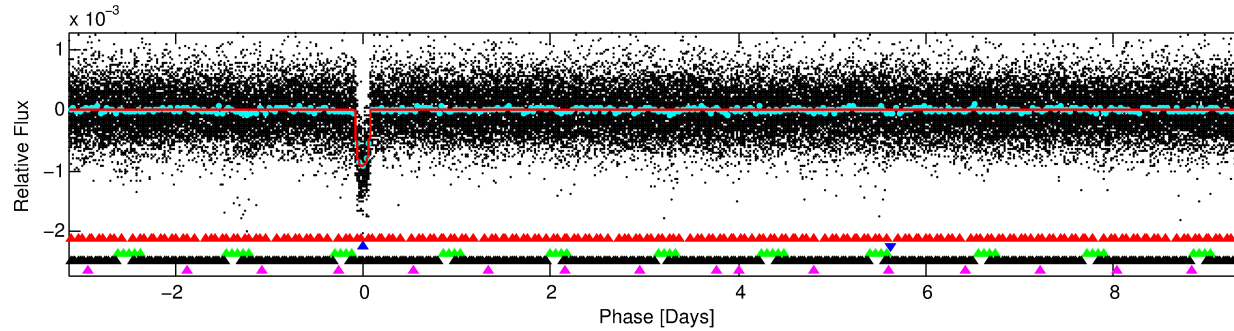
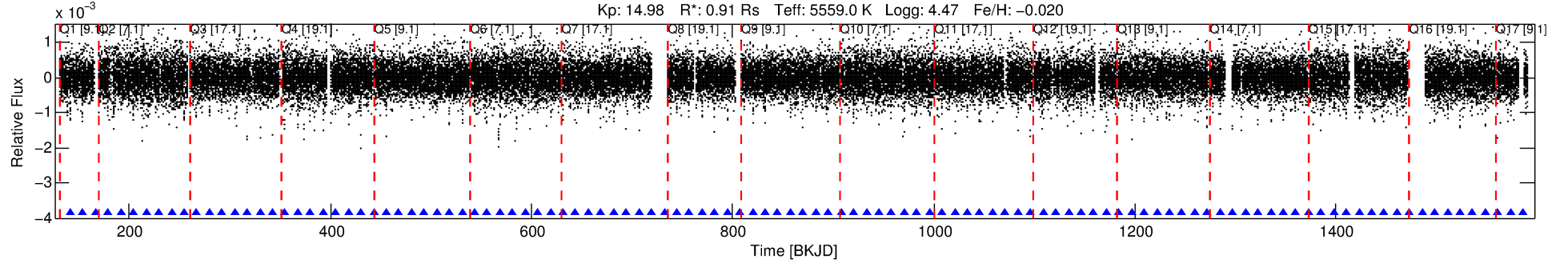
Ephemeris Match Information For 005351250-02

No Significant Match Found

DV One-Page Summary

KIC: 5351250 Candidate: 2 of 5 Period: 12.561 d
KOI: K00408.02 Name: Kepler-150d Corr: 0.977

Kp: 14.98 R*: 0.91 Rs Teff: 5559.0 K Logg: 4.47 Fe/H: -0.020



DV Fit Results:

Period = 12.56094 [0.00002] d
Epoch = 141.6746 [0.0014] BKJD
Rp/R* = 0.0302 [0.0037]
a/R* = 17.06 [8.43]
b = 0.76 [0.28]
Seff = 68.57 [13.23]
Teq = 734 [35] K
Rp = 3.02 [0.51] Re
a = 0.1021 [0.0114] AU
Ag = 46.62 [18.74] [2.43σ]
Teffp = 2964 [274] K [8.07σ]

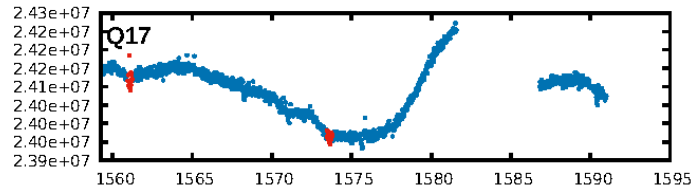
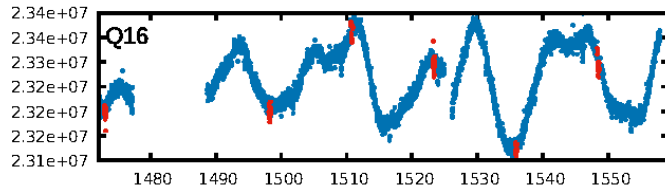
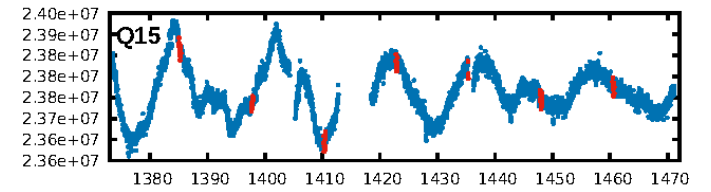
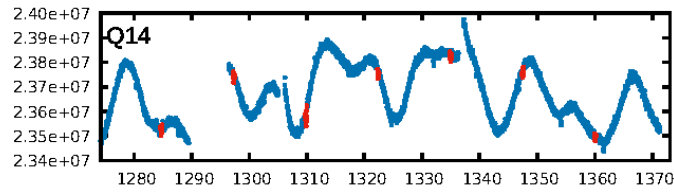
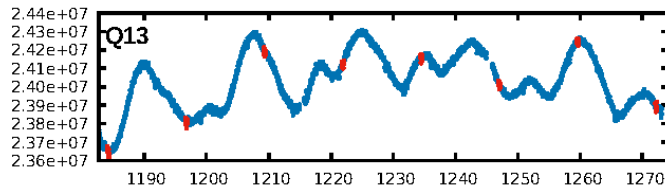
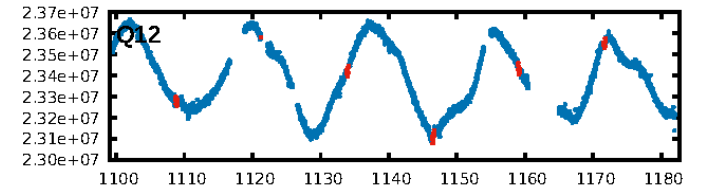
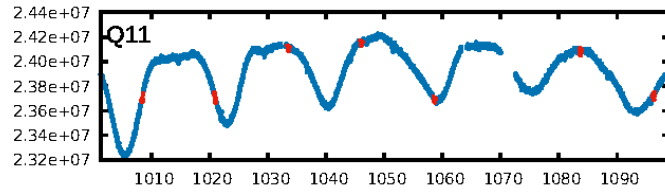
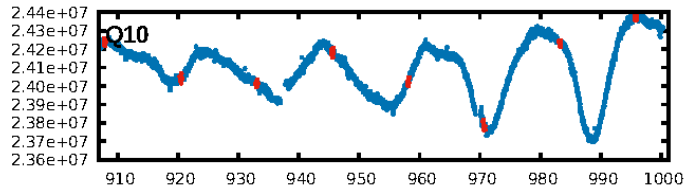
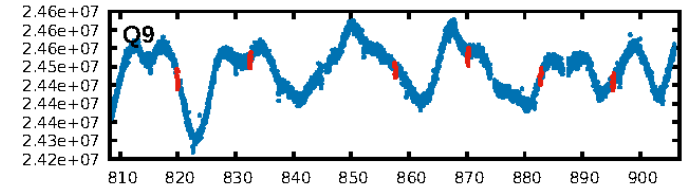
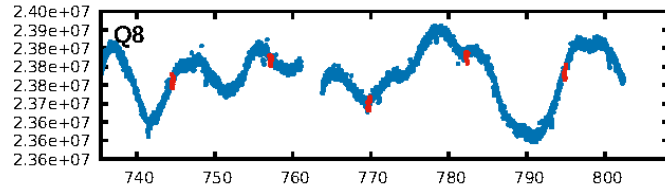
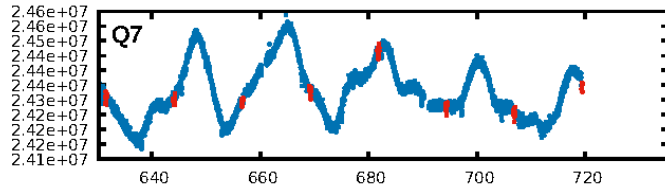
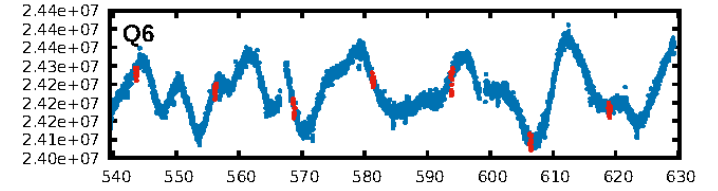
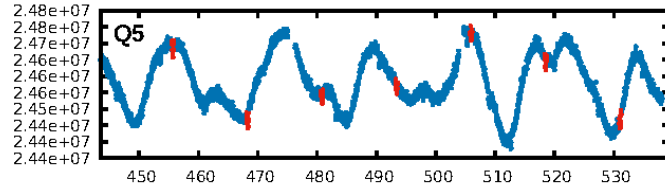
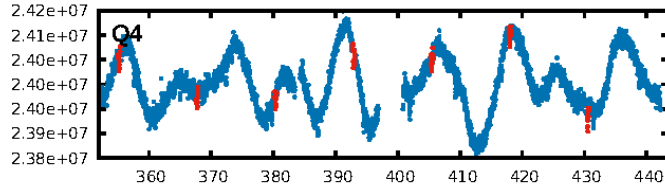
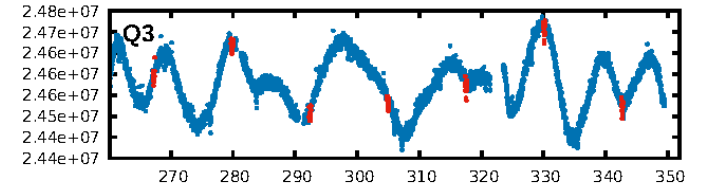
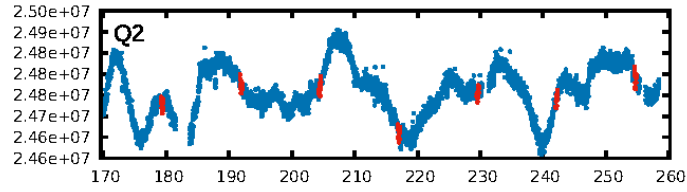
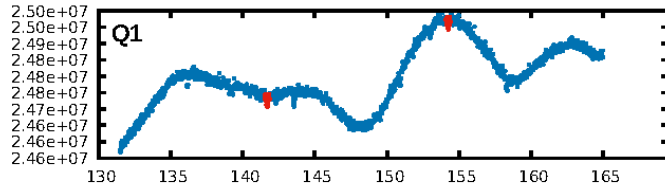
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [24.20σ]
LongPeriod-sig: 100.0% [62.42σ]
ModelChiSquare2-sig: 98.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [96/96]
GhostDiagnostic-chr: 3.018
Centroid-sig: 36.4%
Centroid-so: 0.158 arcsec [0.75σ]
OotOffset-rm: 0.213 arcsec [1.54σ]
KicOffset-rm: 0.153 arcsec [1.07σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

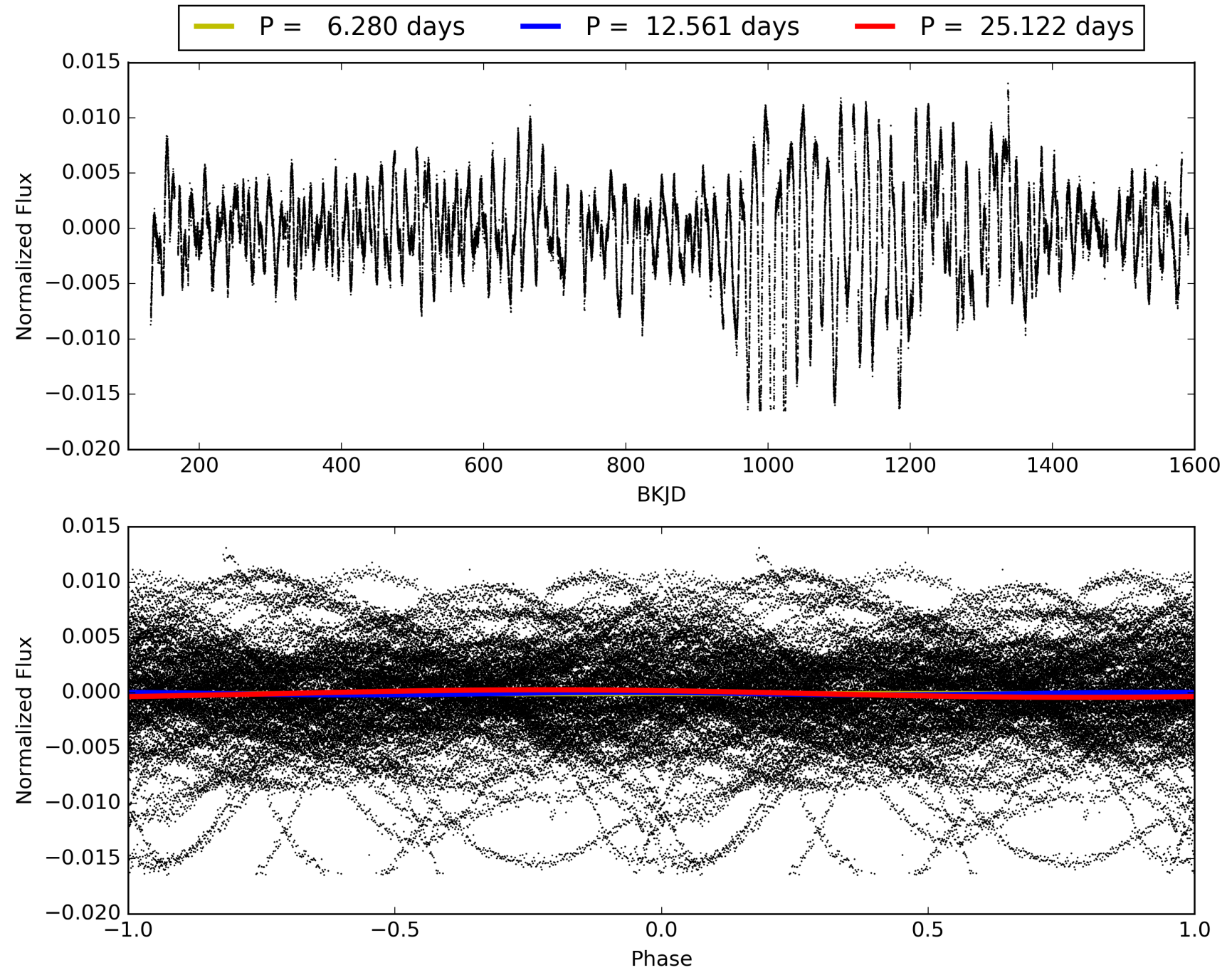
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 11:49:19 Z

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

TCE 005351250-02, PDC Light Curves

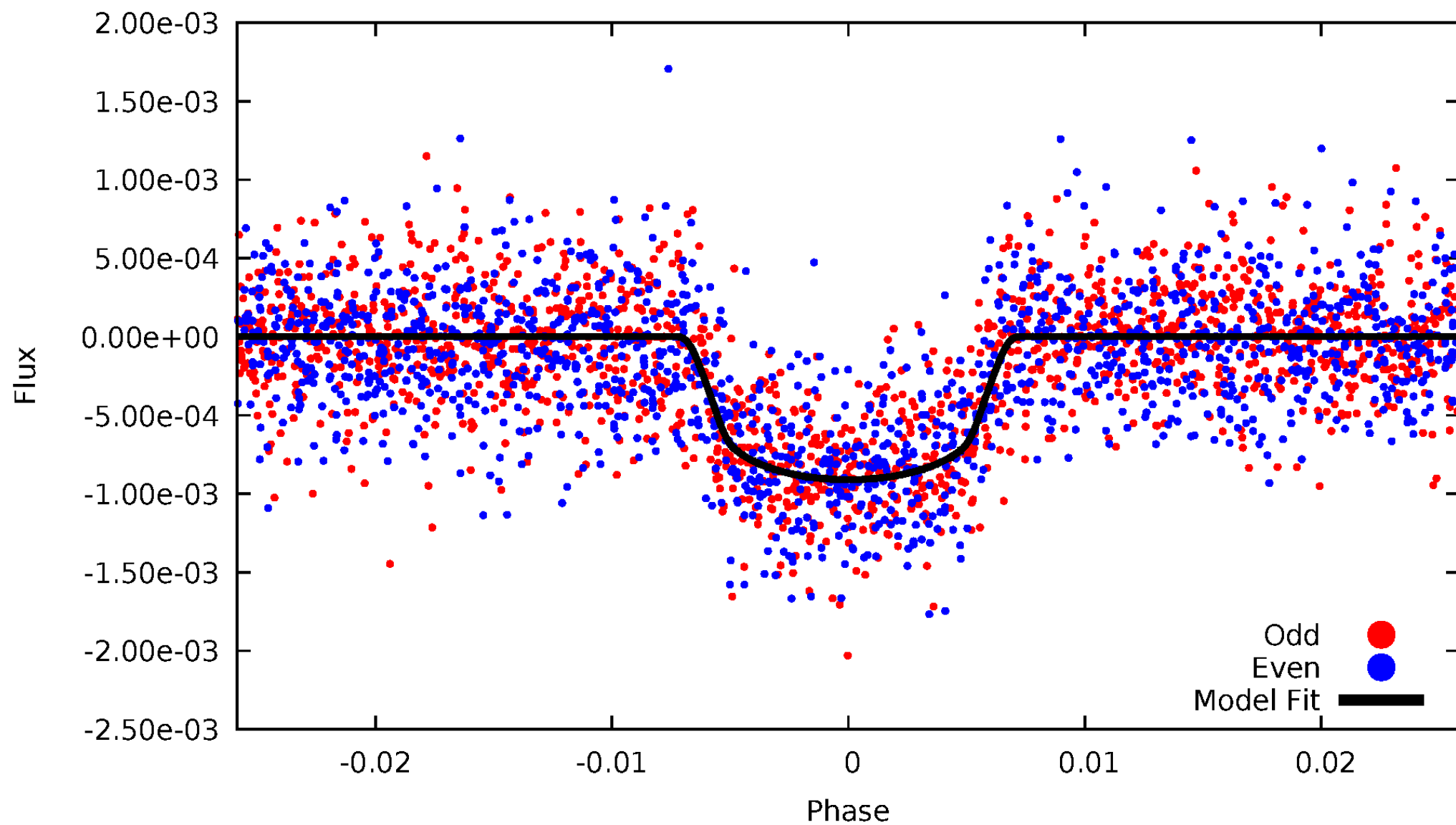


TCE 005351250-02



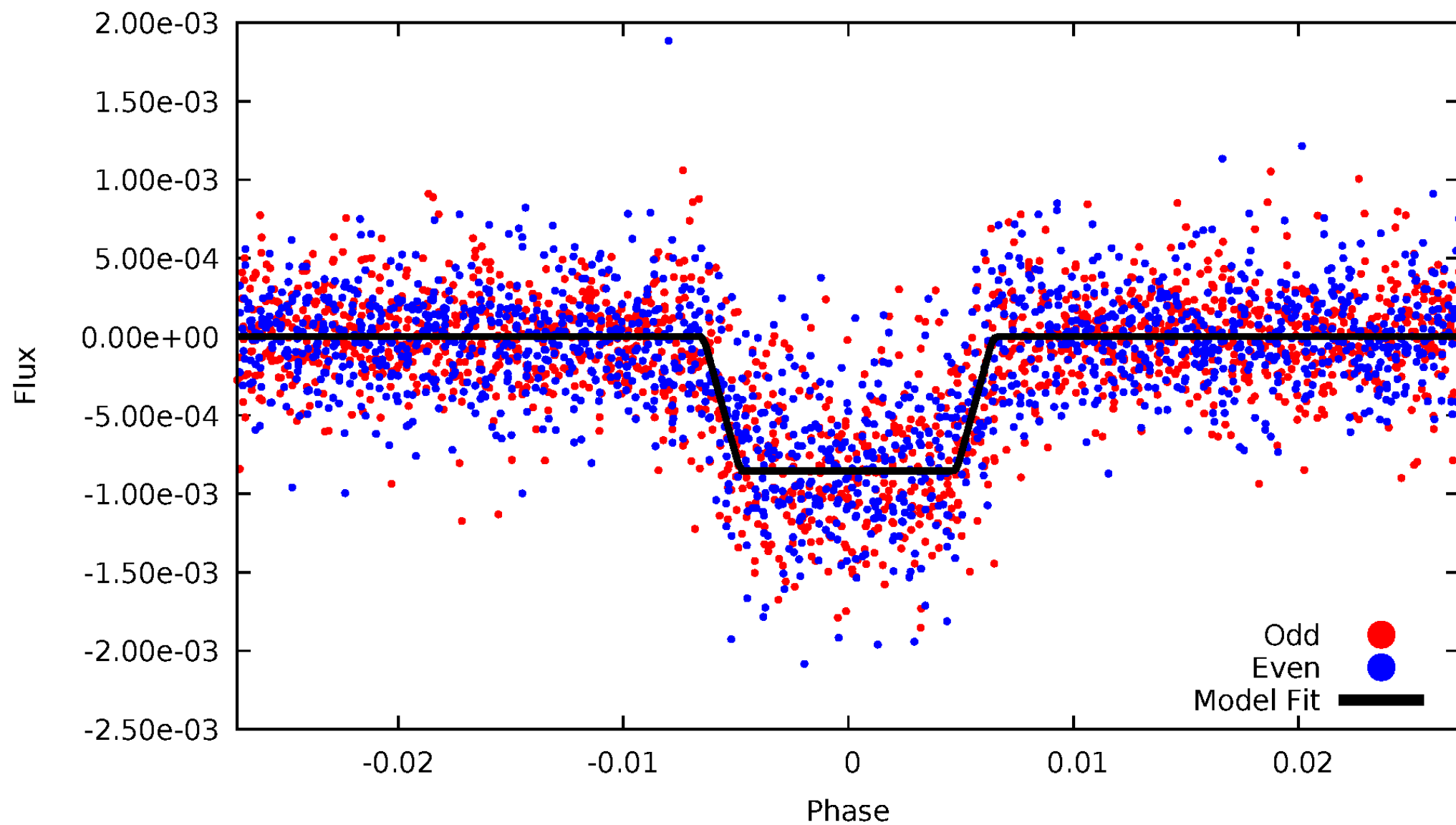
DV Odd/Even

TCE 005351250-02



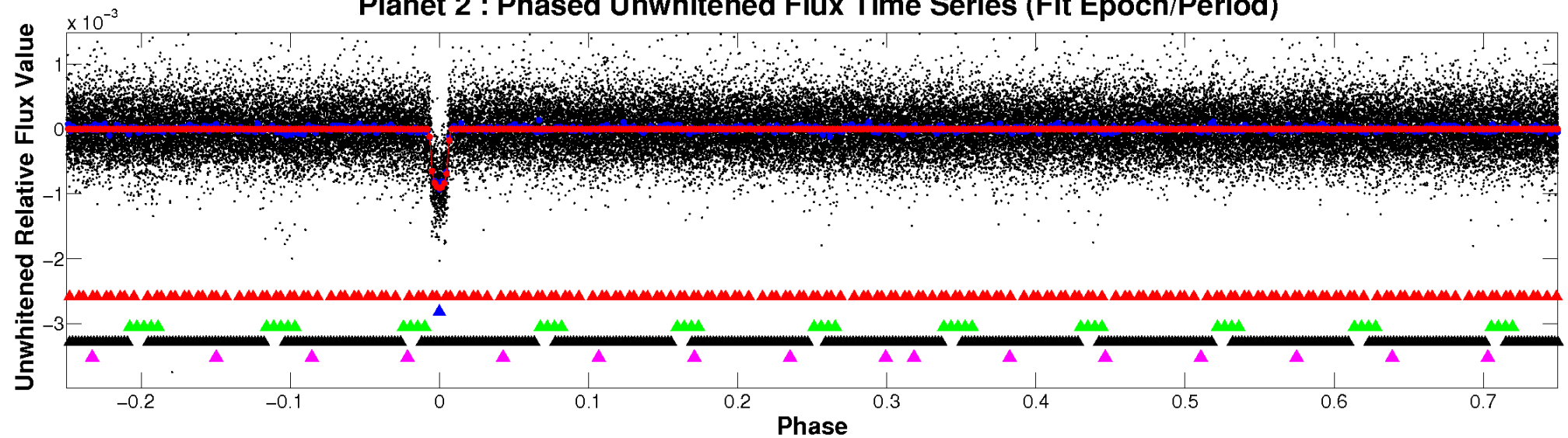
ALT Odd/Even

TCE 005351250-02

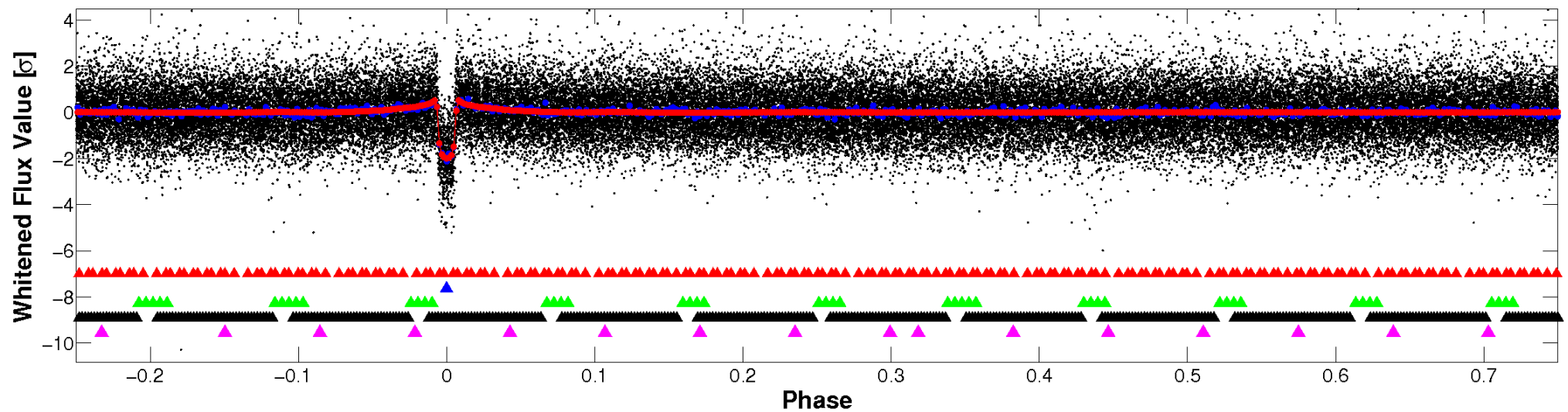


Non-Whitened Vs. Whitened Light Curve

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

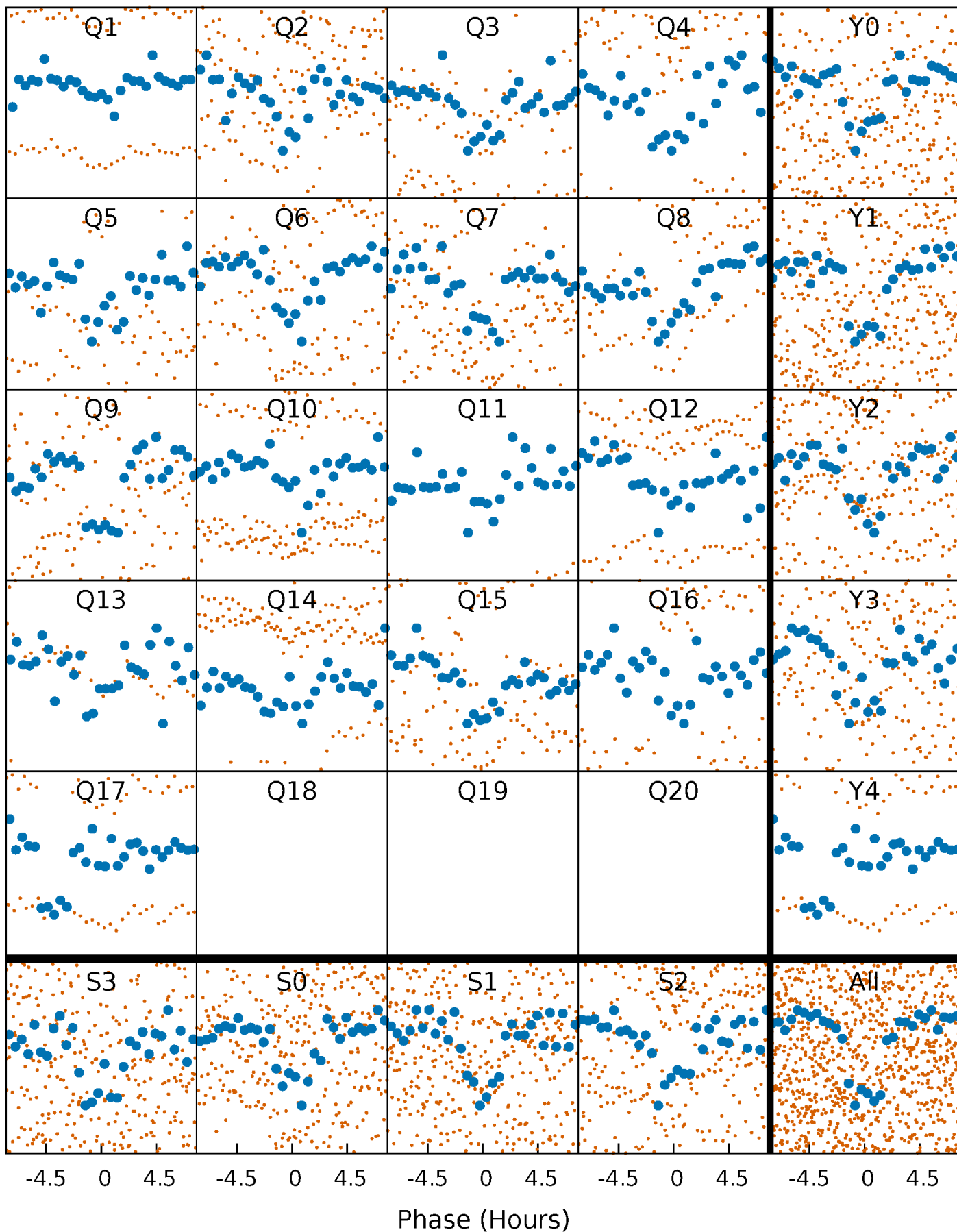


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



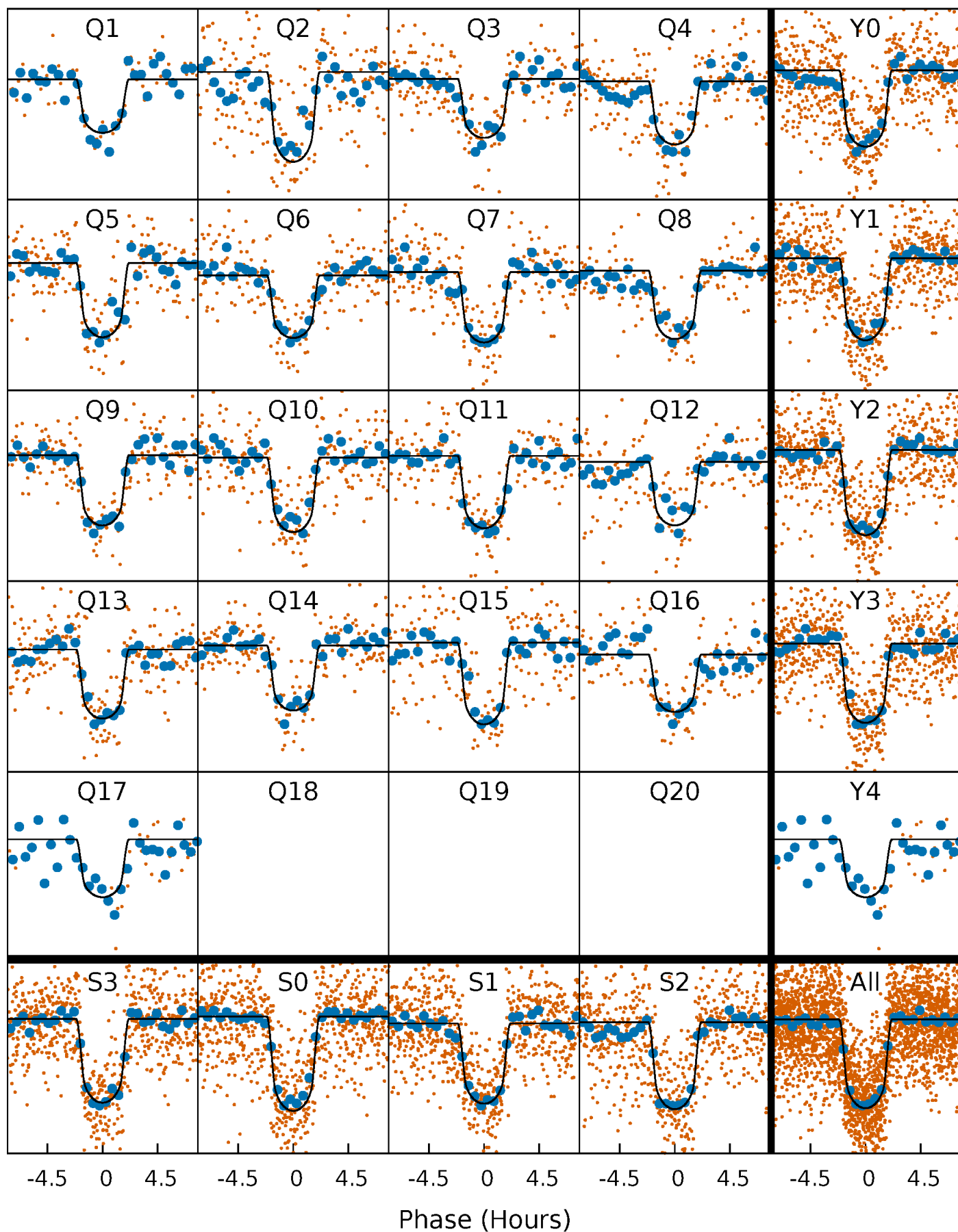
PDC Quarter-Phased Transit Curves

TCE 005351250-02 P= 12.560941 Days $T_0=141.674568$ (BKJD)



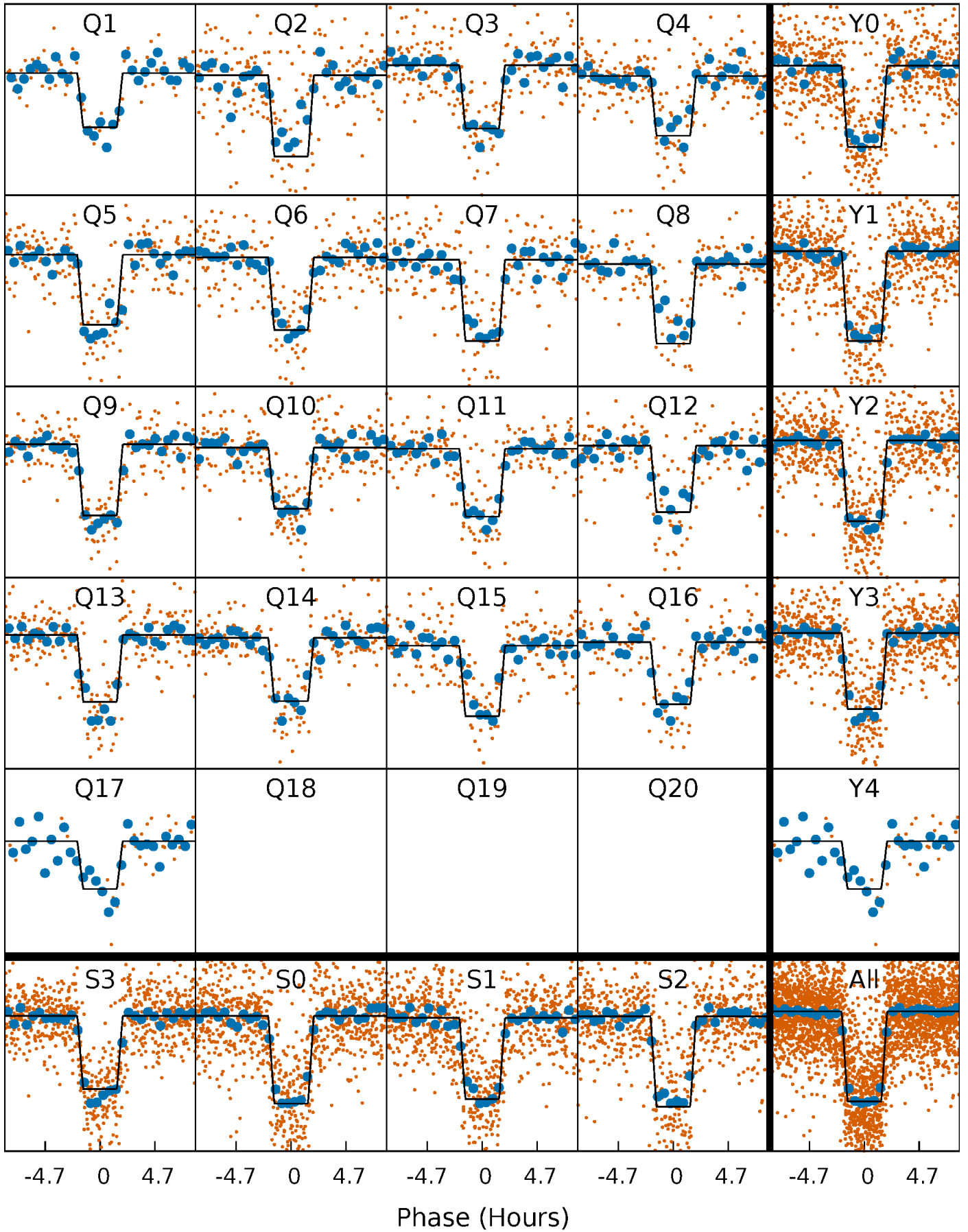
DV Quarter-Phased Transit Curves

TCE 005351250-02 P= 12.560941 Days $T_0=141.674568$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

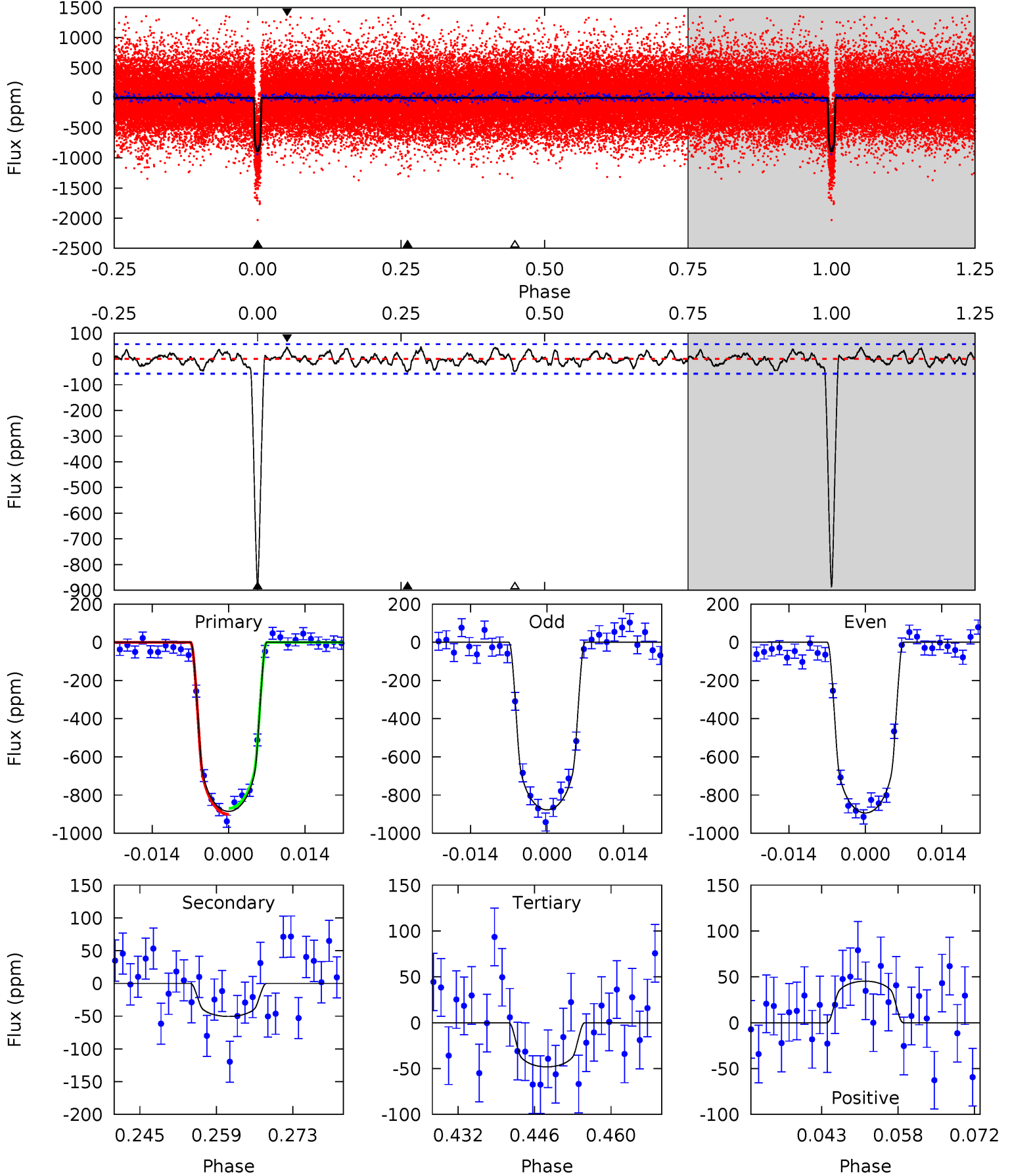
TCE 005351250-02 P= 12.561024 Days $T_0=141.669987$ (BKJD)



DV Model-Shift Uniqueness Test

005351250-02, $P = 12.560941$ Days, $E = 129.113627$ Days

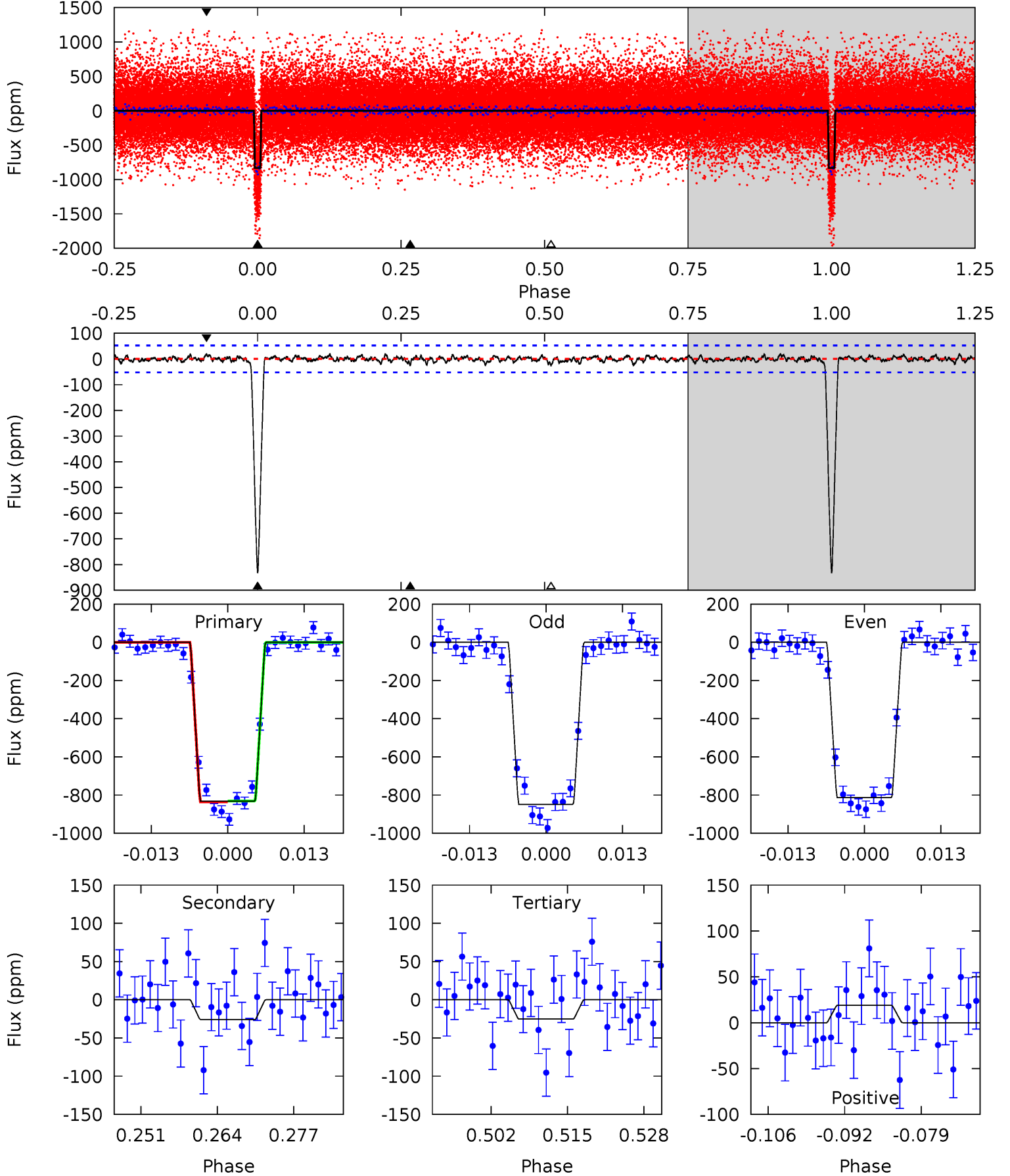
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
76.1	4.33	4.14	3.89	4.96	2.45	1.55	72.0	72.2	0.19	0.44	0.72	0.99	0.05	1.35



Alt Model-Shift Uniqueness Test

005351250-02, $P = 12.561024$ Days, $E = 129.108963$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
79.4	2.48	2.41	1.80	4.97	2.48	0.71	77.0	77.6	0.08	0.68	1.68	1.01	0.02	0.20



Stellar Parameters For KIC 005351250

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5559^{+110}_{-110}	$4.470^{+0.068}_{-0.102}$	$-0.020^{+0.150}_{-0.150}$	$0.914^{+0.110}_{-0.070}$	$0.899^{+0.061}_{-0.050}$	$1.657^{+0.426}_{-0.480}$
	+2%/-2%	+2%/-2%	+750%/-750%	+12%/-8%	+7%/-6%	+26%/-29%
Source	SPE58	SPE58	SPE58	DSEP		

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

Secondary Eclipse Parameters for KIC 005351250-02 / KOI 0408.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-50 ± 12	$3.05^{+0.38}_{-0.40}$	1030^{+36}_{-32}	3248^{+174}_{-163}	31^{+13}_{-9}
Alt.	-26 ± 10	$2.95^{+0.38}_{-0.42}$	1029^{+41}_{-32}	2977^{+213}_{-225}	17^{+11}_{-7}

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 $A_{obs} \gg 1.0$

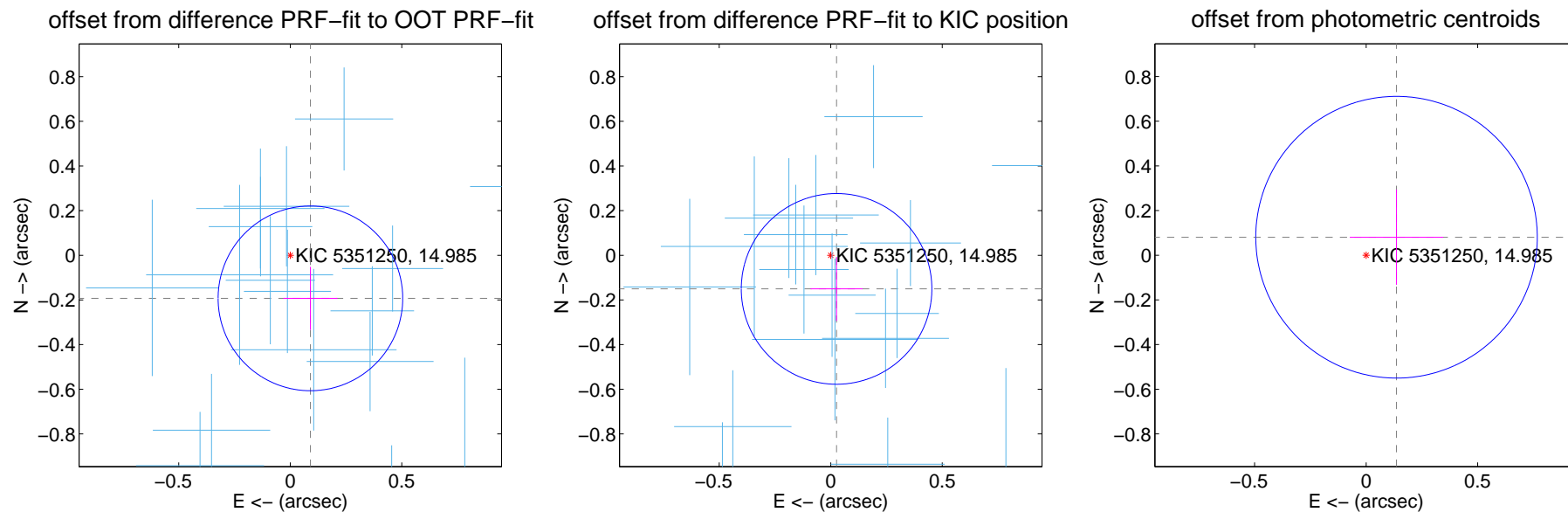
DV Centroid Data

Supplemental centroid analysis for 005351250-02. Kepler magnitude: 14.98. Transit SNR 47.58

There are 17 quarters with good PRF difference image offsets

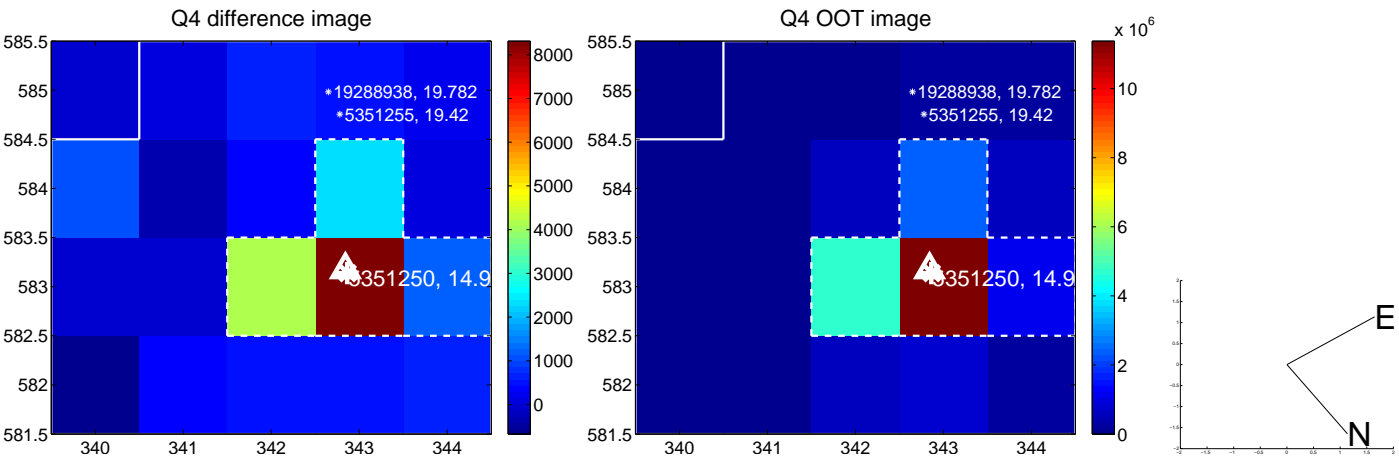
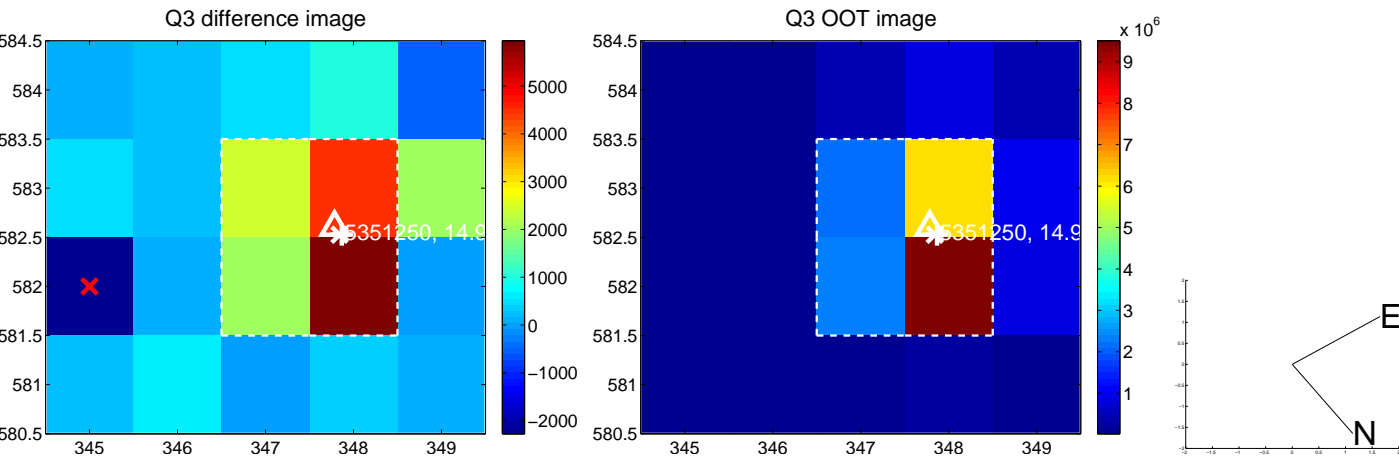
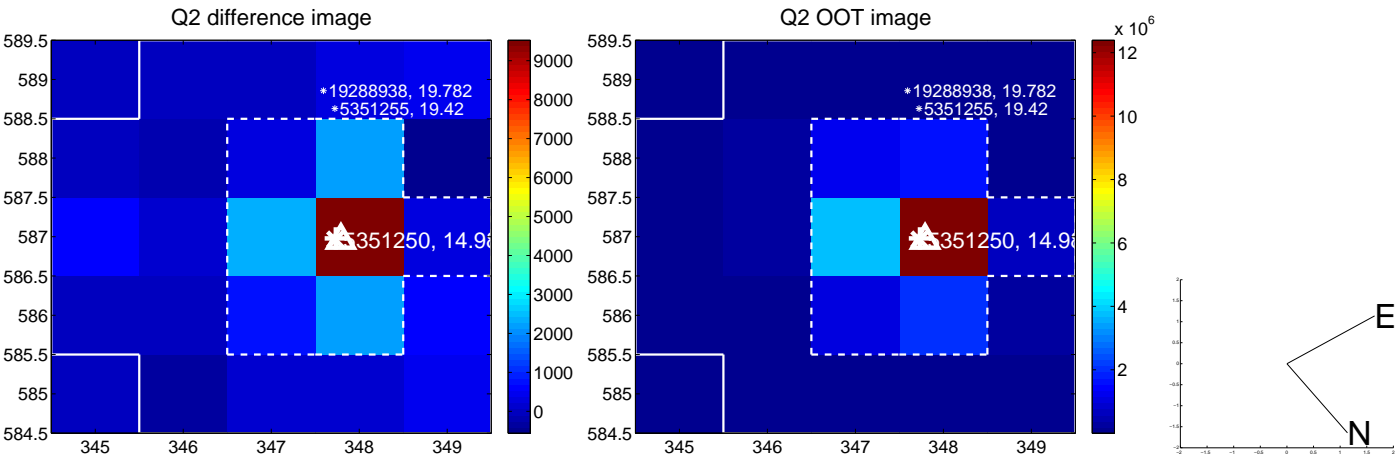
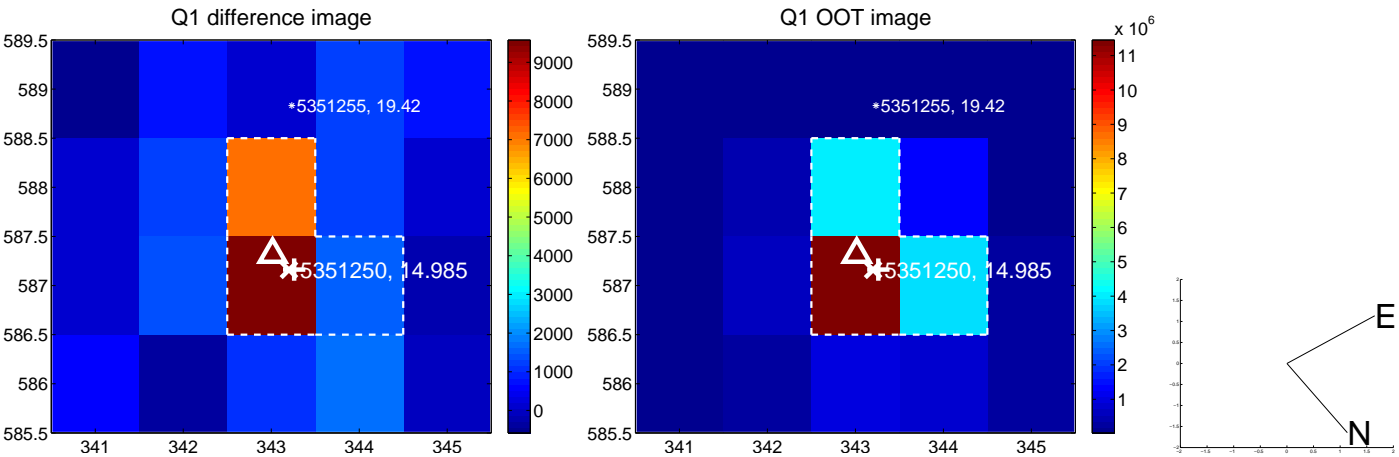
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.213 ± 0.138	1.54	-0.090 ± 0.121	-0.193 ± 0.141
PRF-fit source offset from KIC position	0.153 ± 0.142	1.07	-0.026 ± 0.117	-0.151 ± 0.143
photometric centroid source offset	0.16 ± 0.21	0.75	-0.14 ± 0.21	0.08 ± 0.21

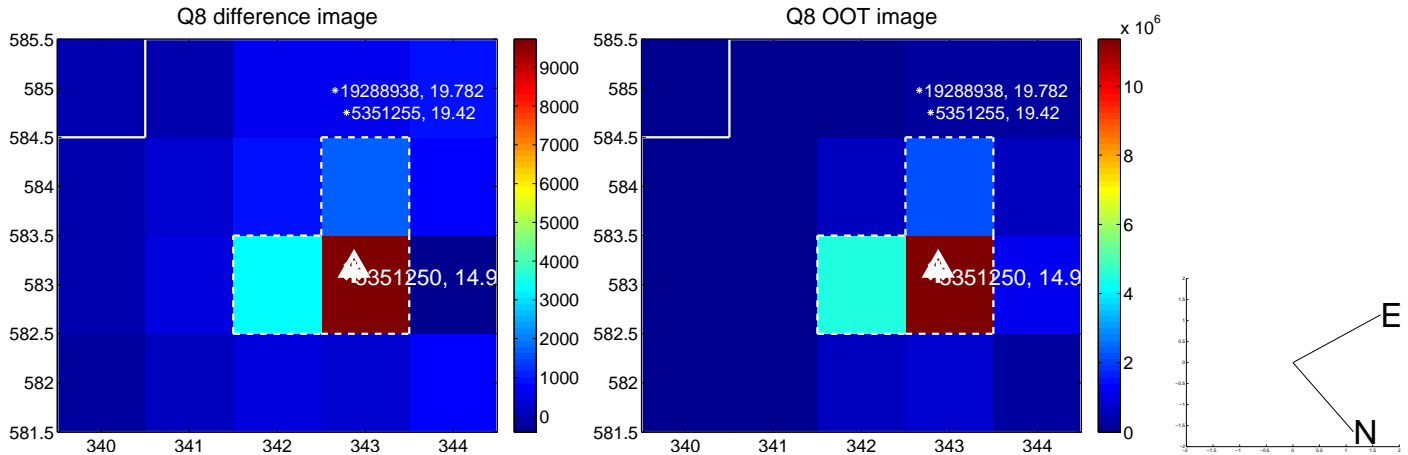
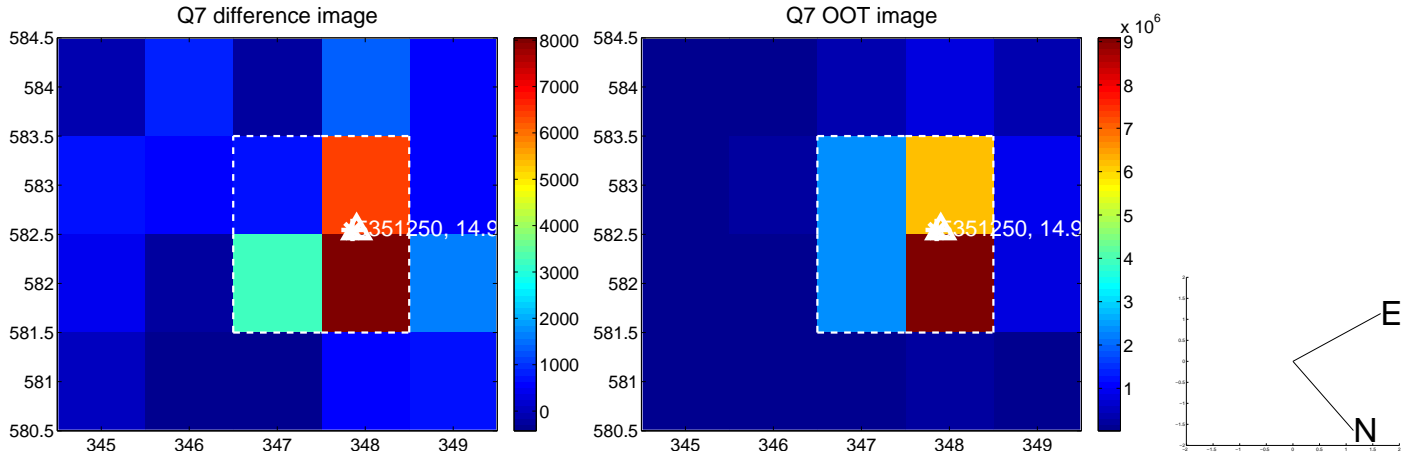
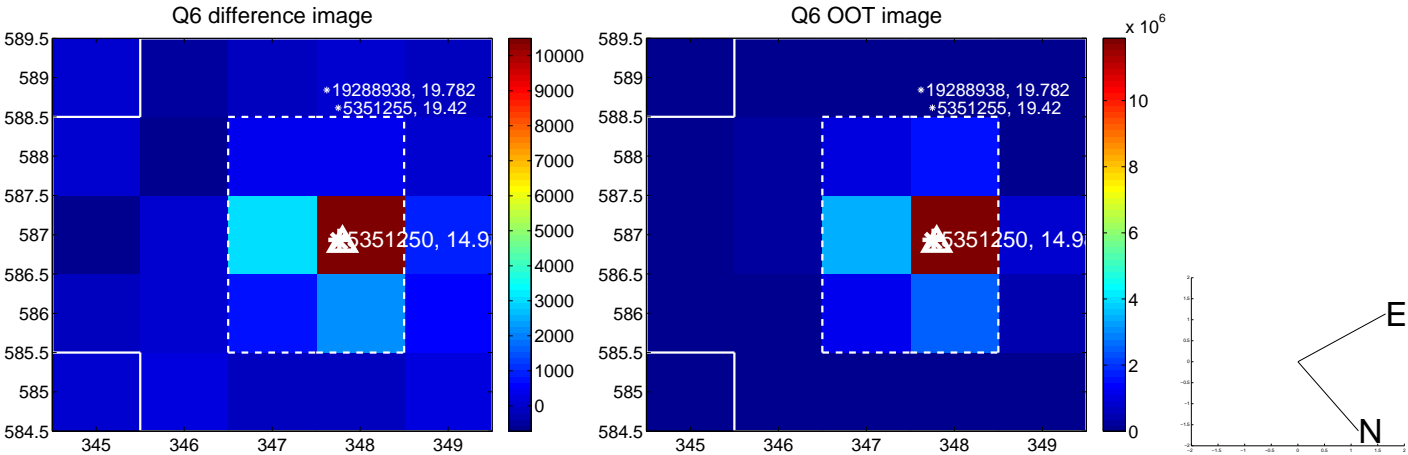
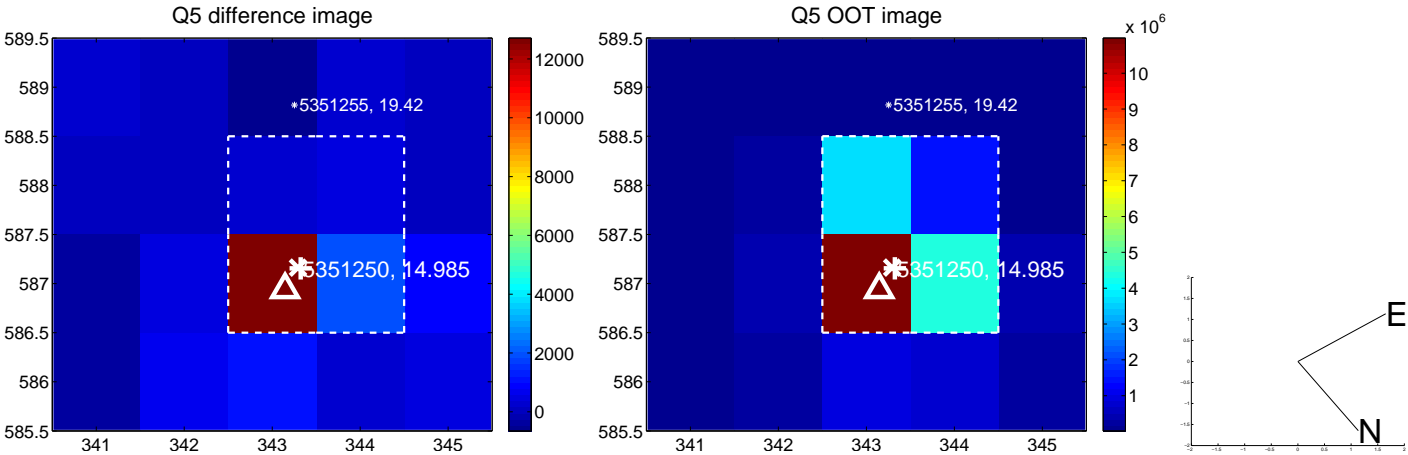


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

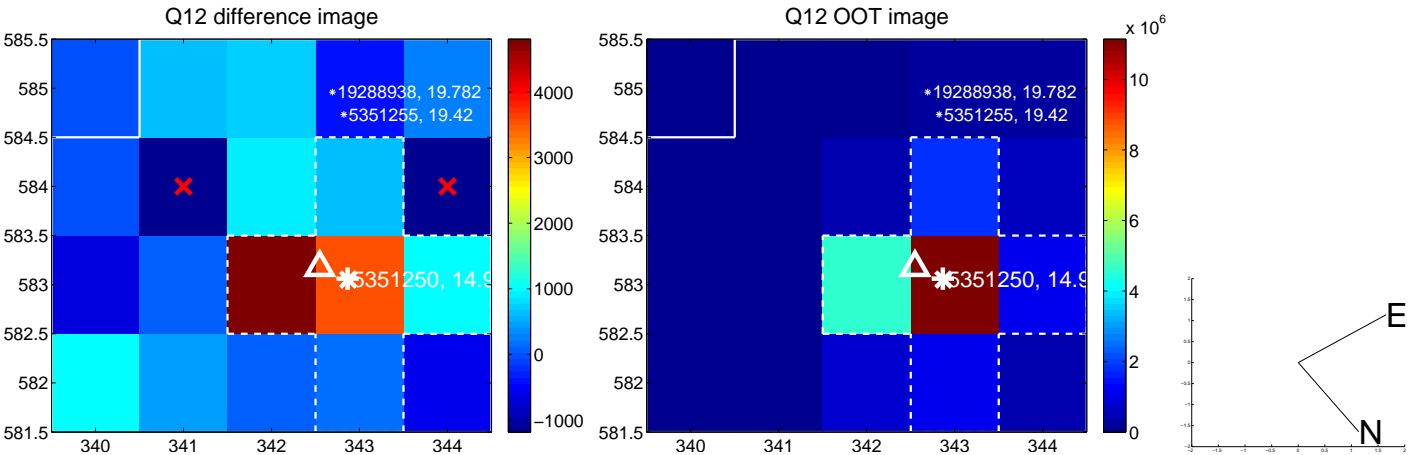
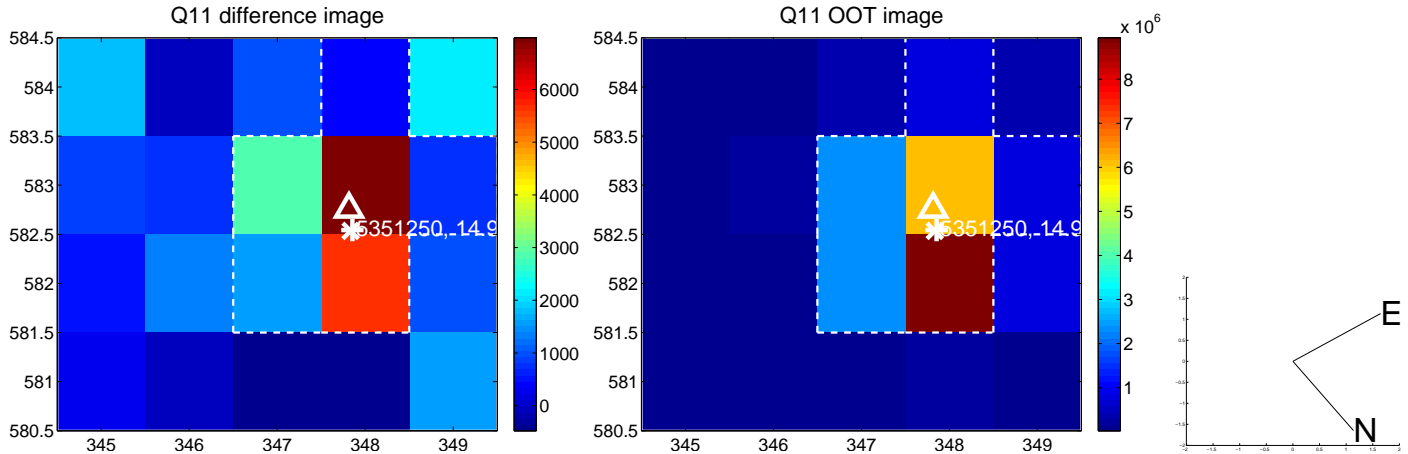
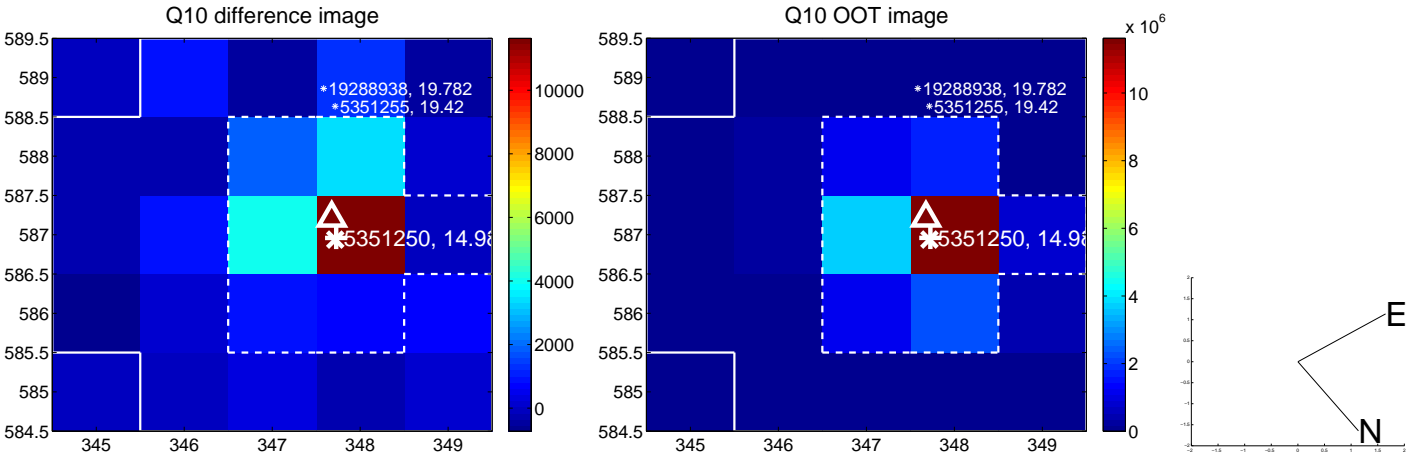
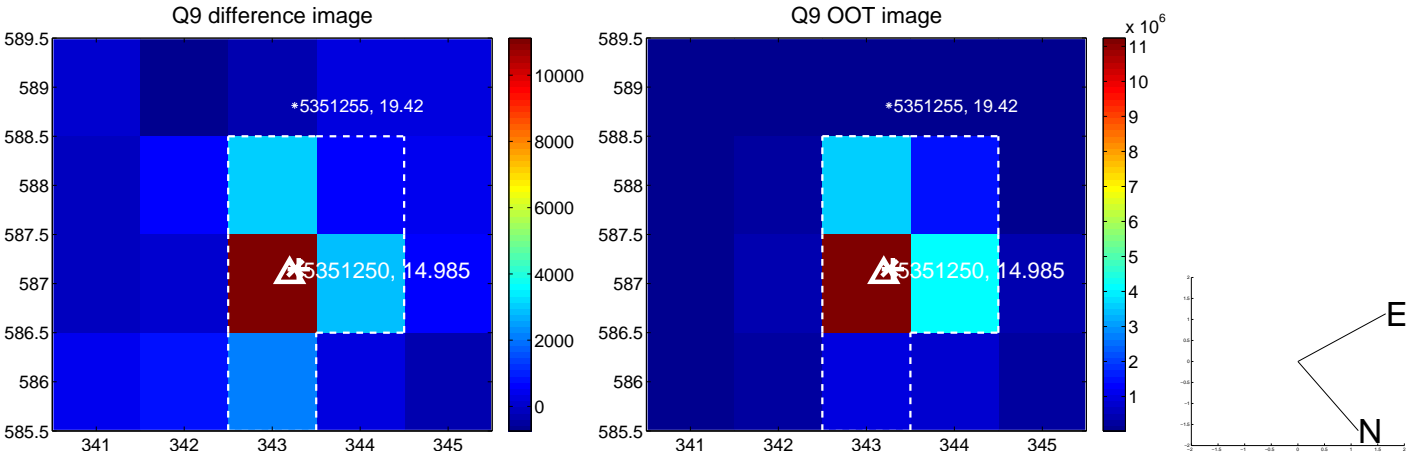
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



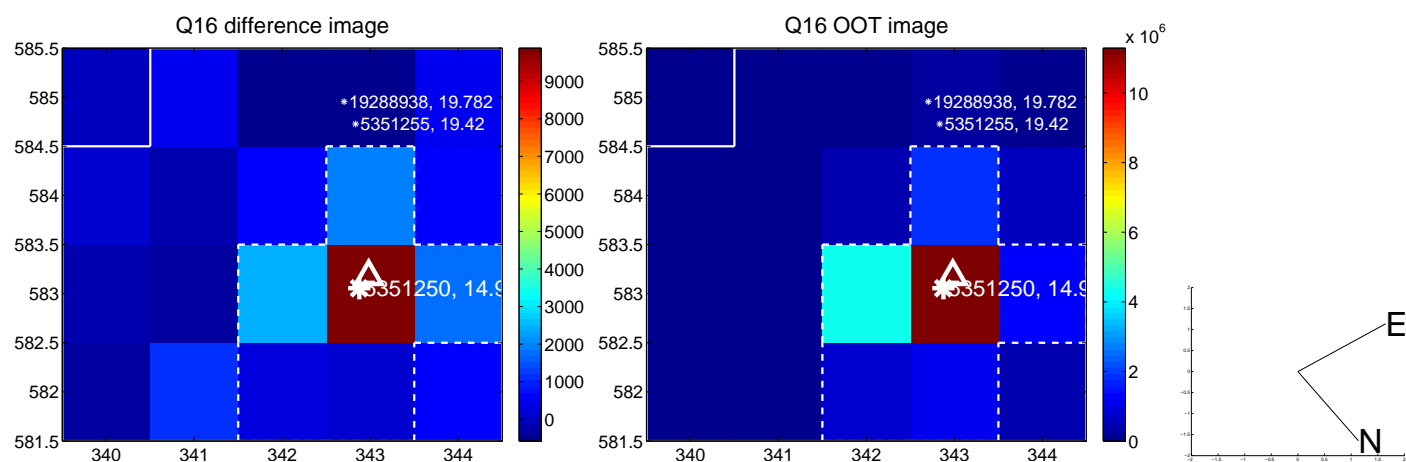
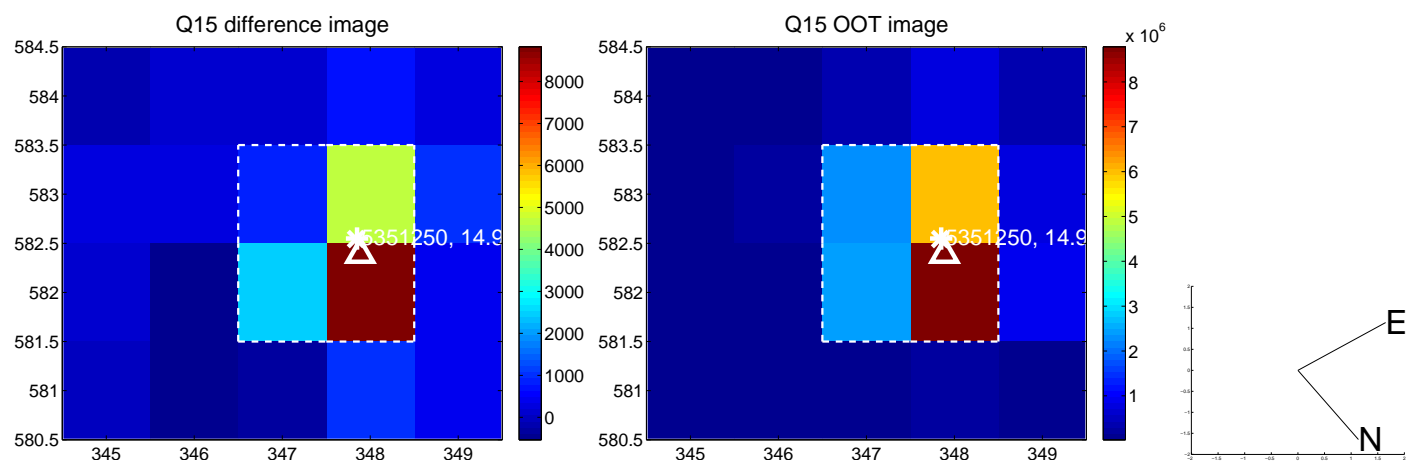
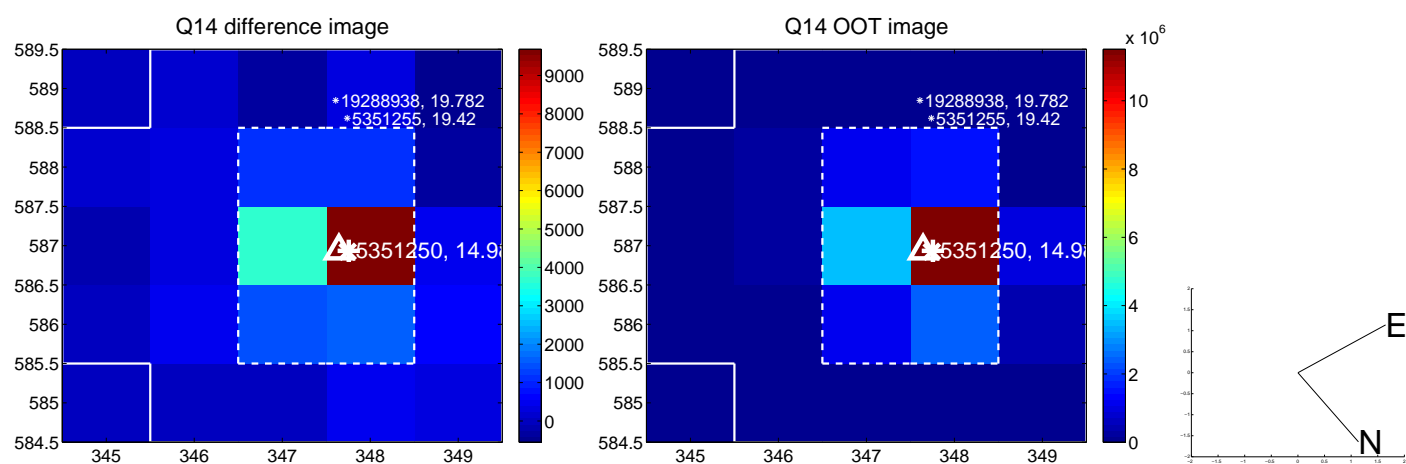
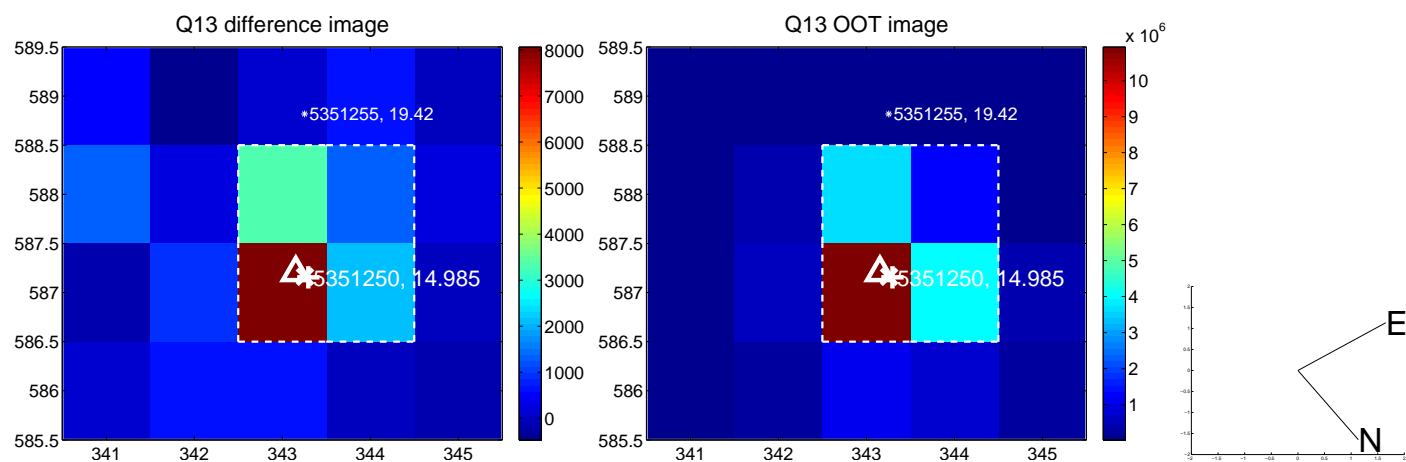
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



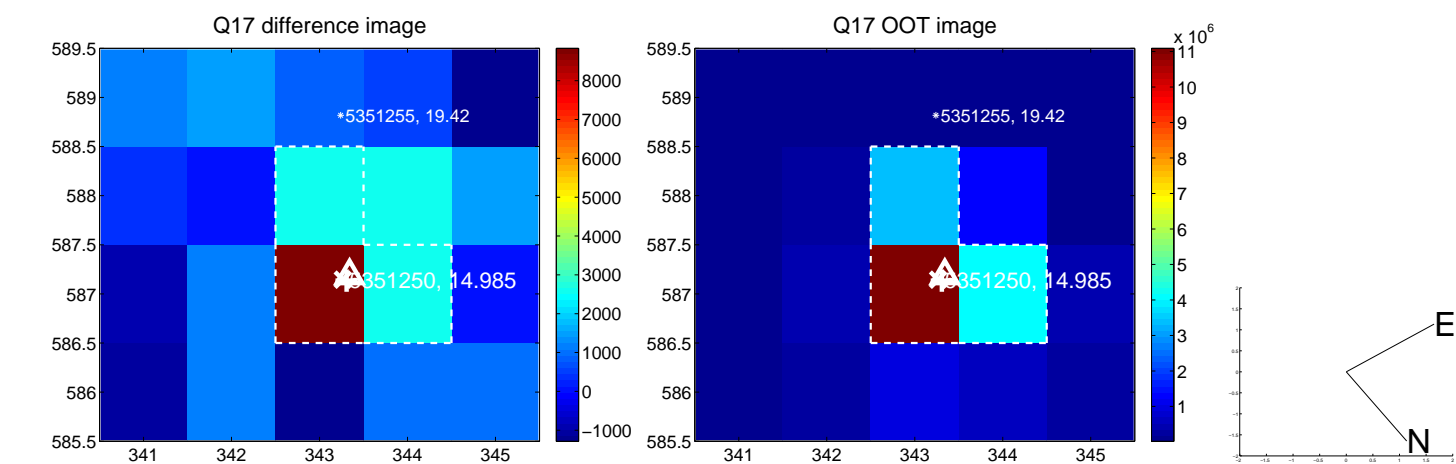
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



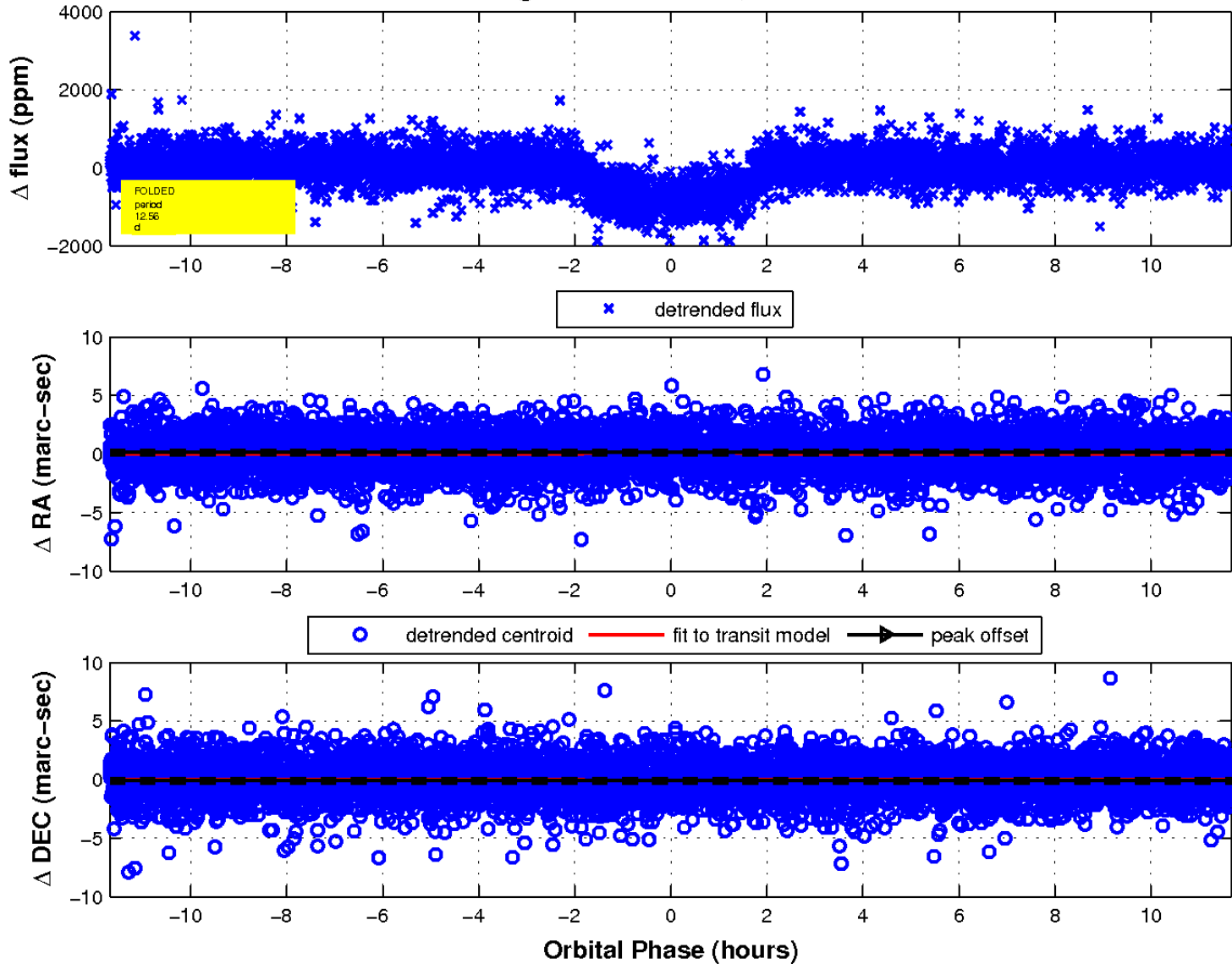
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

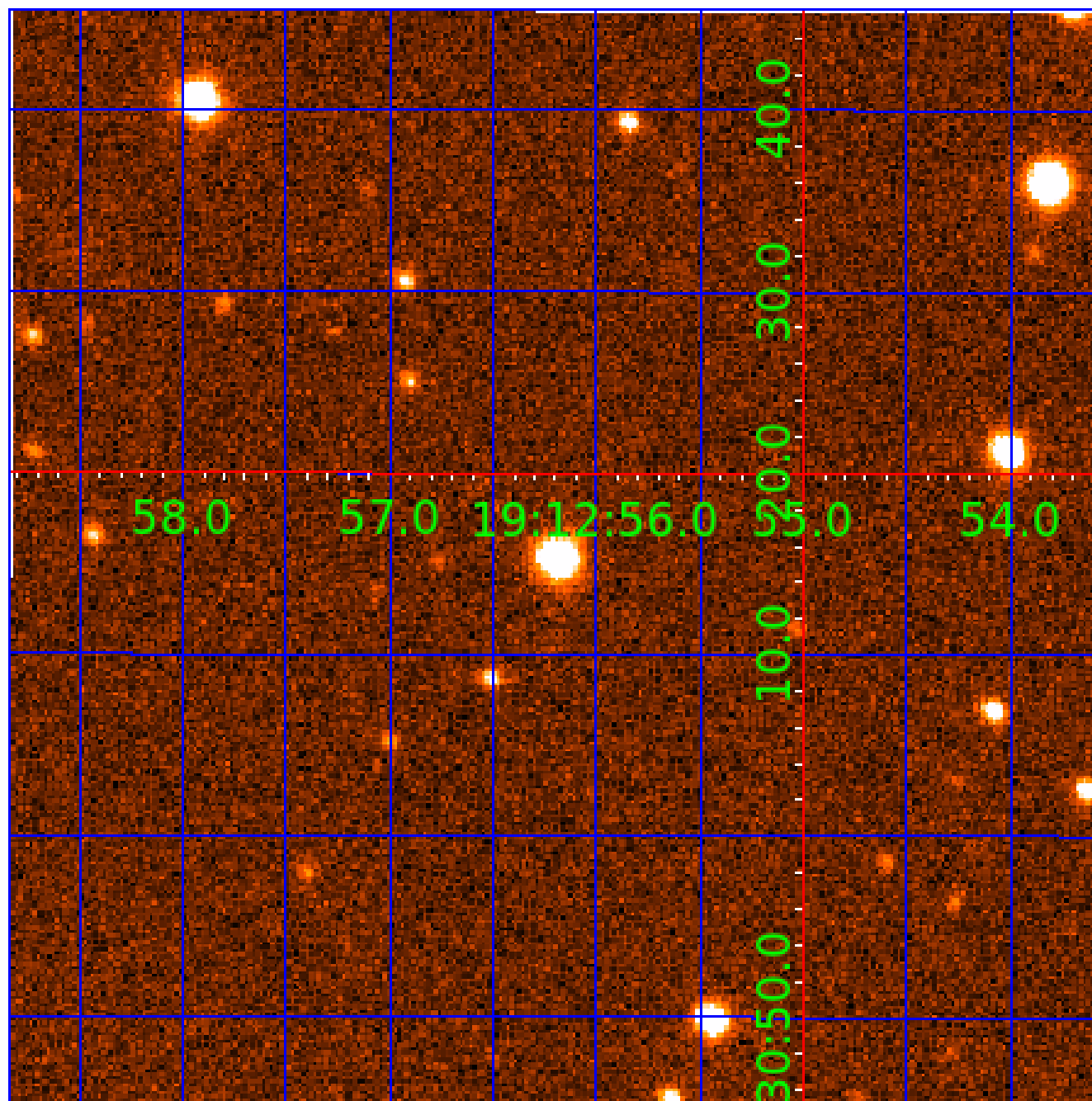


fluxWeightedCentroids, Planet 2 of 5



UKIRT Image

Declination



KIC 005351250

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})
005351250-01	OBS	0408.01	7.381986	136.162331	1433.6	3.349	87.6	91.7	0.91	5559	3.95	139.30
005351250-02	OBS	0408.02	12.560941	141.674568	910.6	3.895	44.6	47.6	0.91	5559	3.02	68.57
005351250-03	OBS	0408.03	30.825977	153.018963	737.0	5.844	25.8	25.9	0.91	5559	3.17	20.71
005351250-04	OBS	0408.04	3.428044	132.367171	189.5	2.582	15.8	17.1	0.91	5559	1.50	387.36
005351250-05	OBS	0408.05	93.804278	170.555862	546.2	3.439	7.9	8.9	0.91	5559	2.48	4.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005351250-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005351250-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005351250-03	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005351250-04	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005351250-05	OBS	FP	0.01	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE

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.

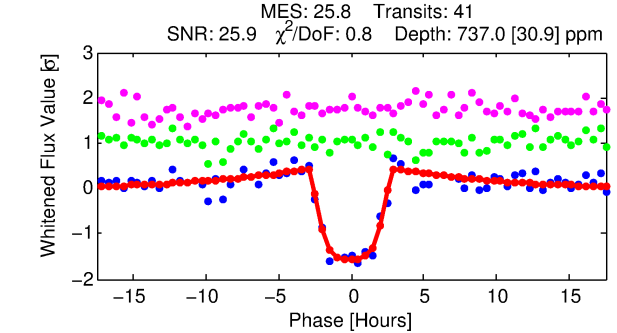
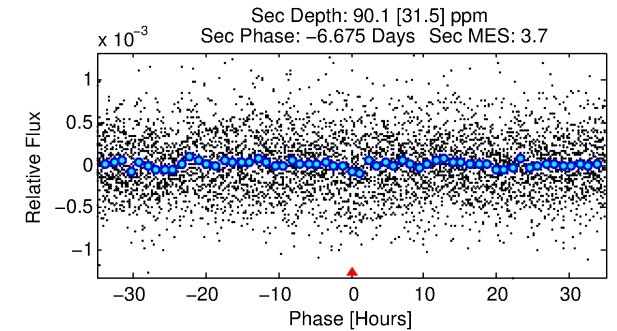
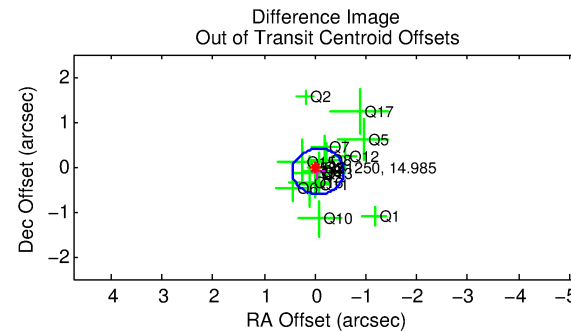
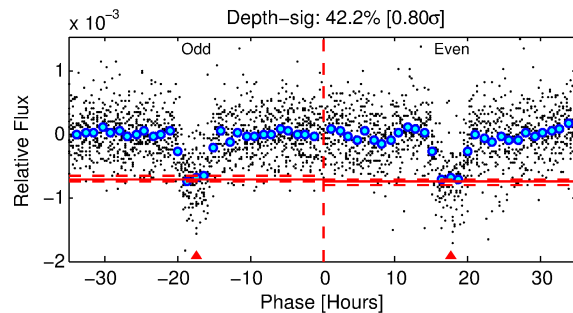
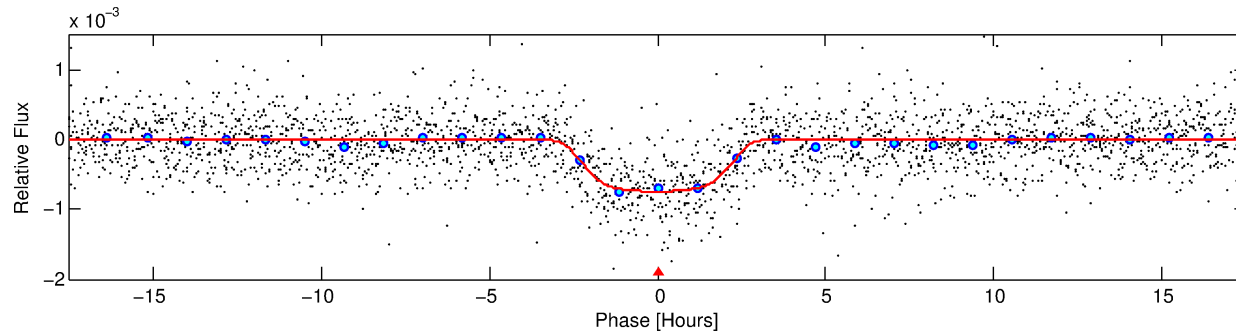
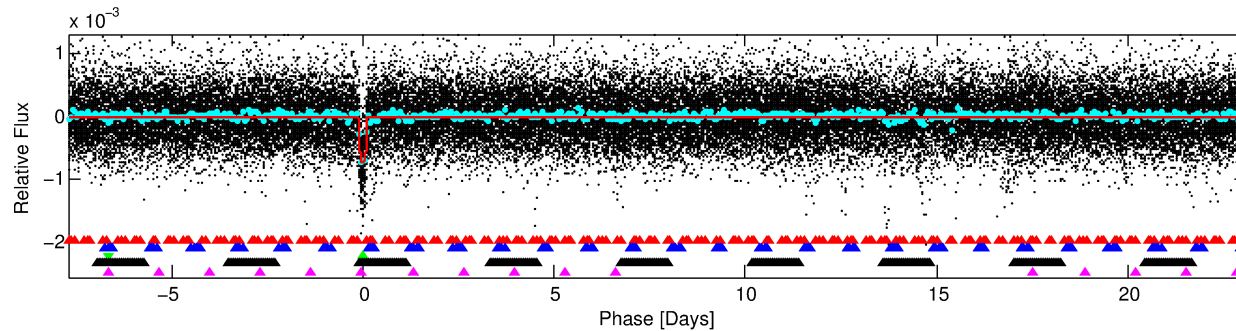
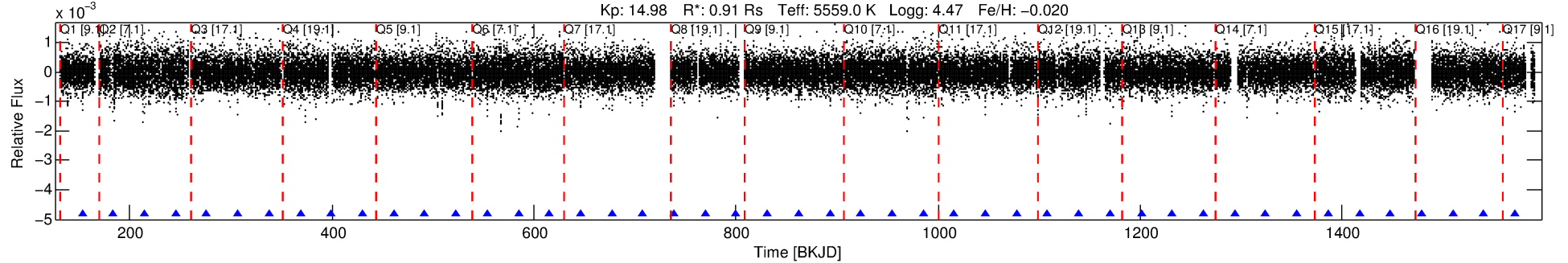
Ephemeris Match Information For 005351250-03

No Significant Match Found

DV One-Page Summary

KIC: 5351250 Candidate: 3 of 5 Period: 30.826 d
KOI: K00408.03 Name: Kepler-150e Corr: 0.921

Kp: 14.98 R*: 0.91 Rs Teff: 5559.0 K Logg: 4.47 Fe/H: -0.020



DV Fit Results:

Period = 30.82598 [0.00017] d
Epoch = 153.0190 [0.0045] BKJD
Rp/R* = 0.0317 [0.0011]
a/R* = 16.61 [1.63]
b = 0.95 [0.01]
Seff = 20.72 [4.00]
Teq = 544 [26] K
Rp = 3.16 [0.40] Re
a = 0.1858 [0.0208] AU
Ag = 170.74 [67.88] [2.50σ]
Teffp = 3040 [278] K [8.95σ]

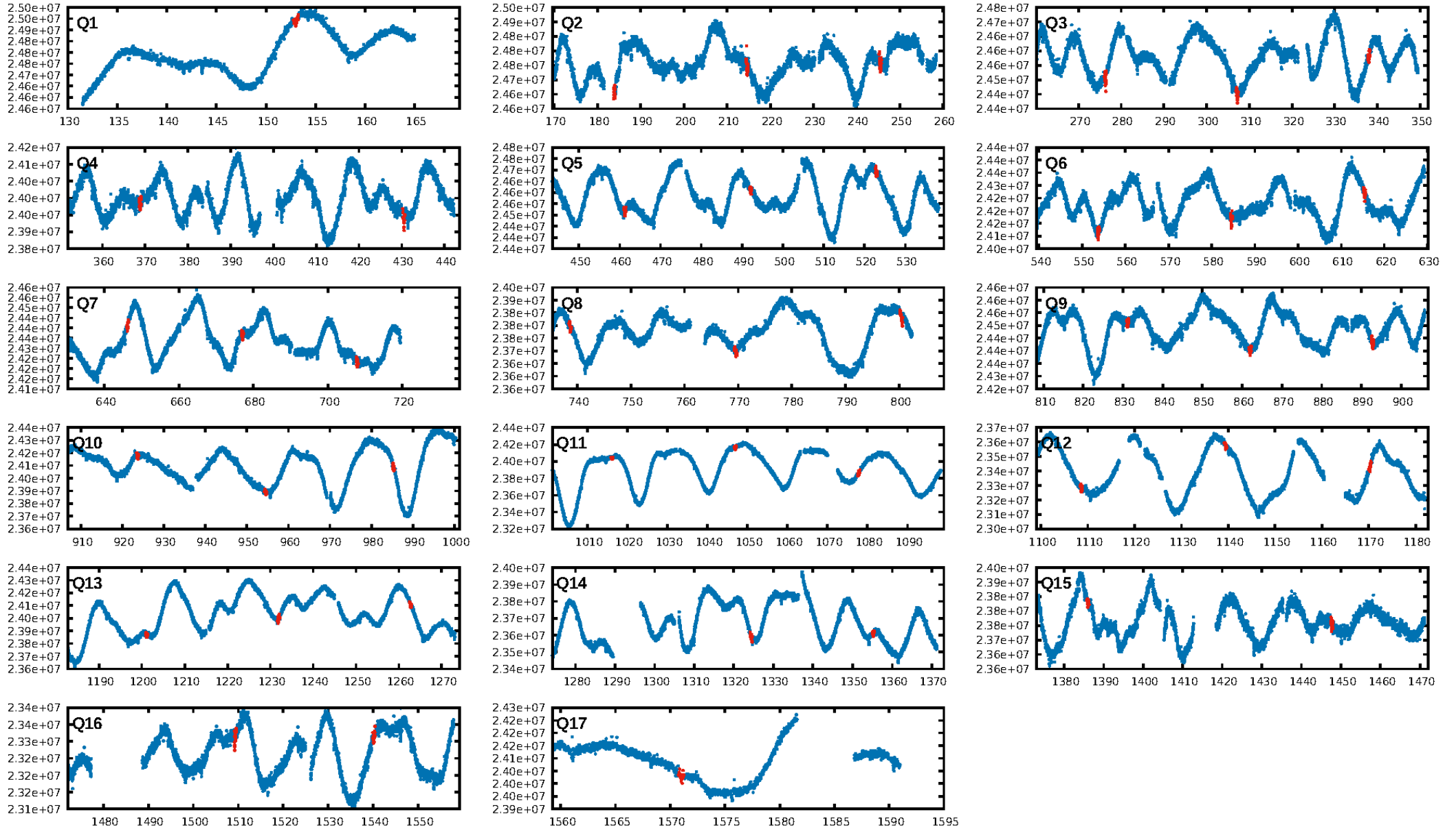
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [62.42σ]
LongPeriod-sig: 100.0% [222.92σ]
ModelChiSquare2-sig: 71.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.08e-112
RollingBand-fgt: 1.00 [39/39]
GhostDiagnostic-chr: 2.158
Centroid-sig: 0.6%
Centroid-so: 0.728 arcsec [2.01σ]
OotOffset-rm: 0.124 arcsec [0.73σ]
KicOffset-rm: 0.087 arcsec [0.47σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 0.47 [8/17]

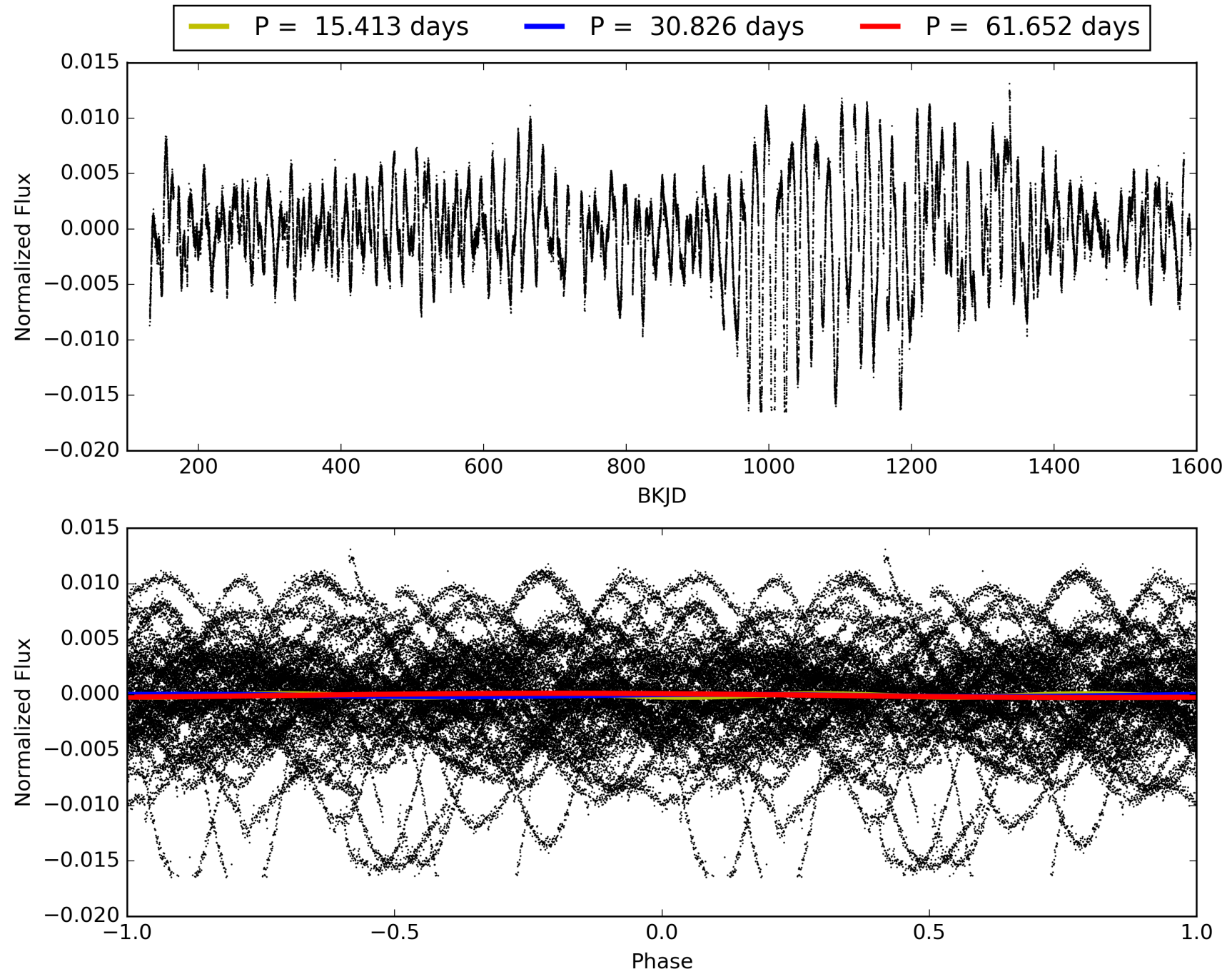
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 11:49:26 Z

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

TCE 005351250-03, PDC Light Curves

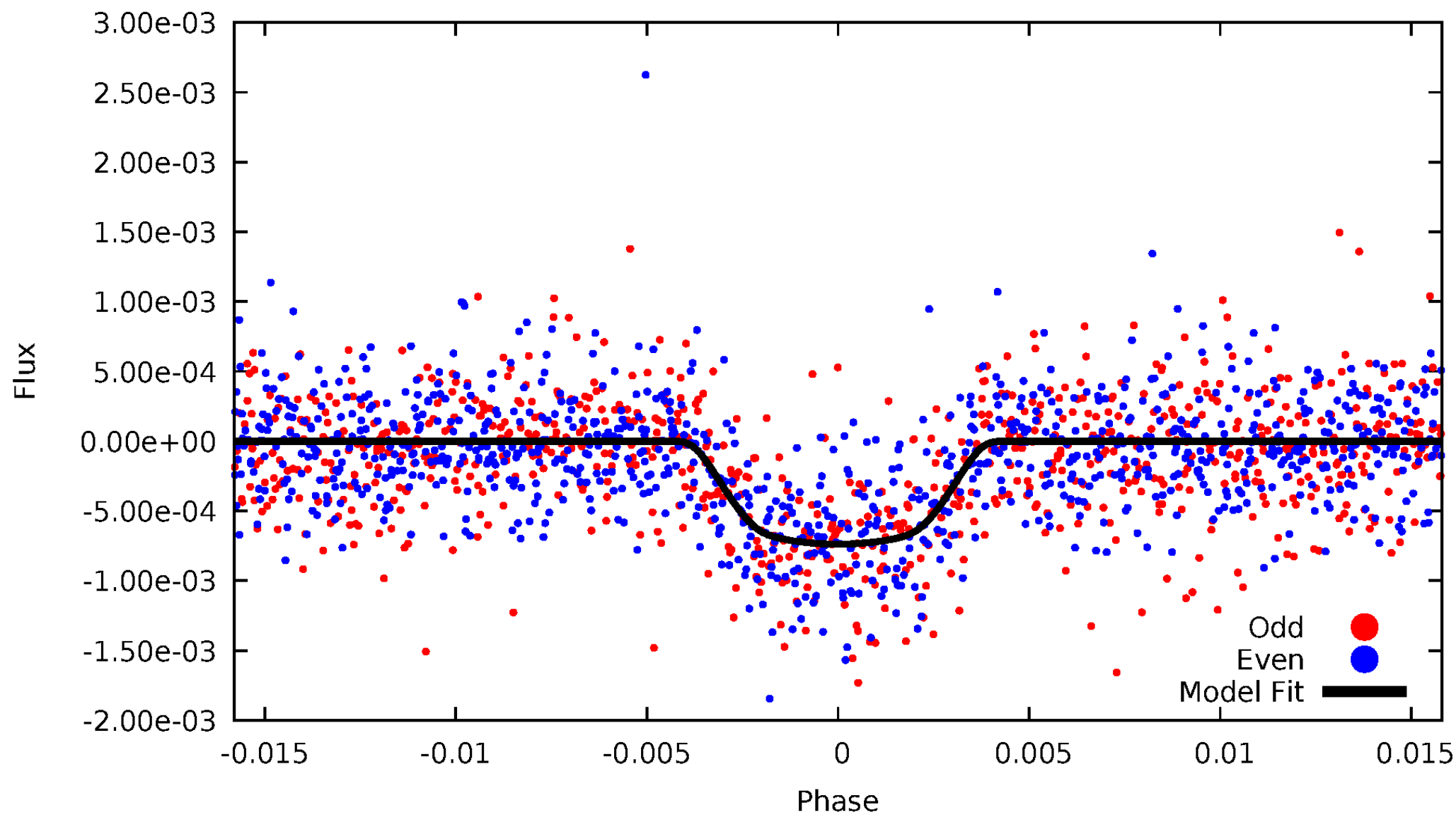


TCE 005351250-03



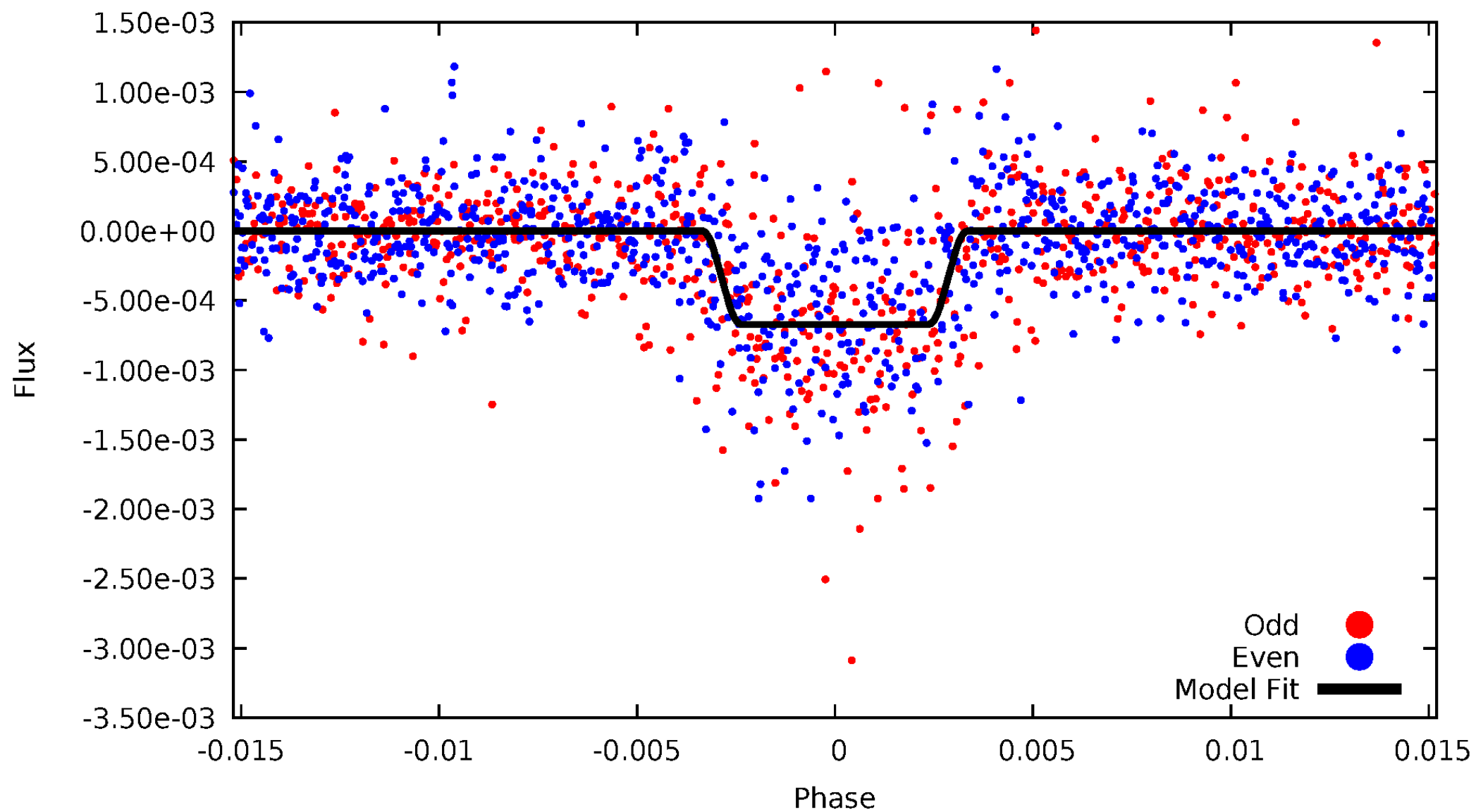
DV Odd/Even

TCE 005351250-03



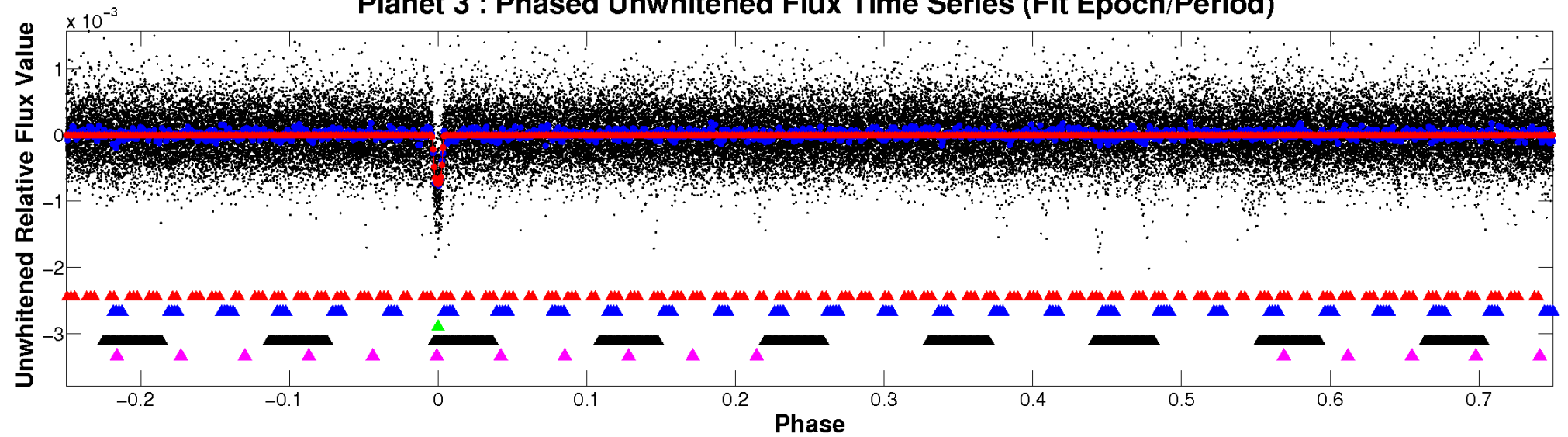
ALT Odd/Even

TCE 005351250-03

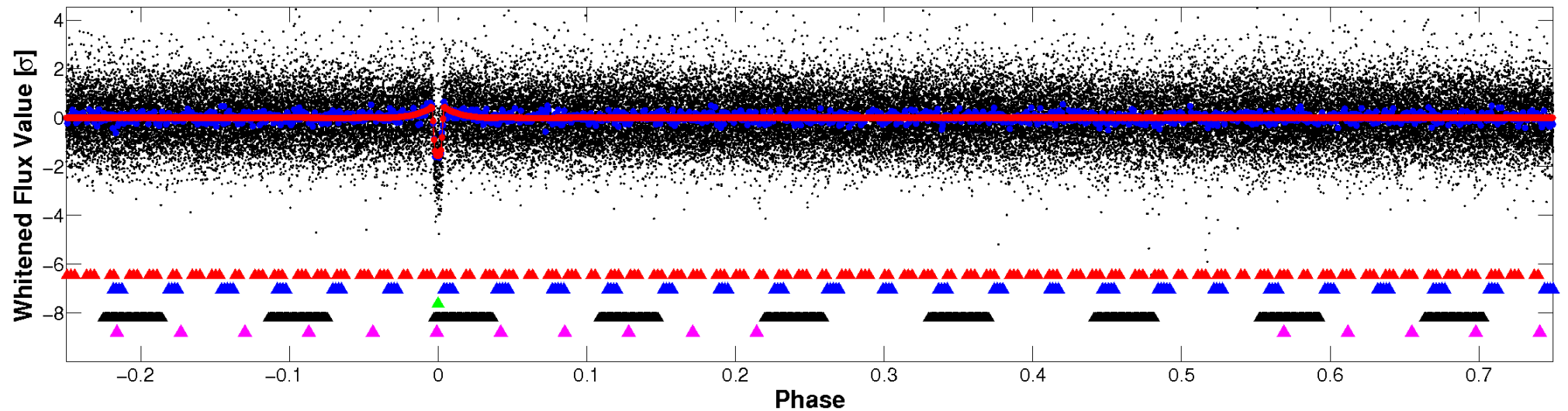


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

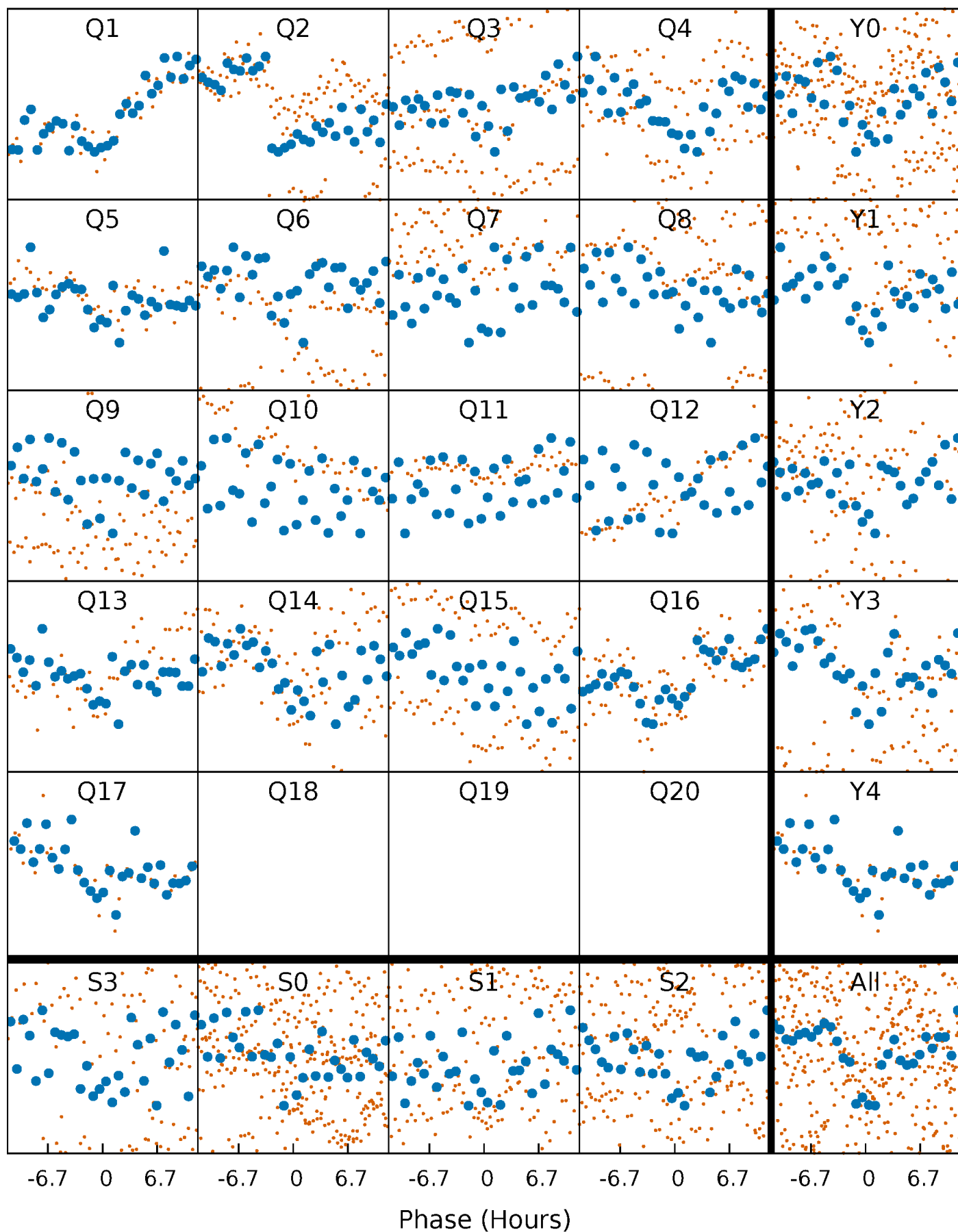


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



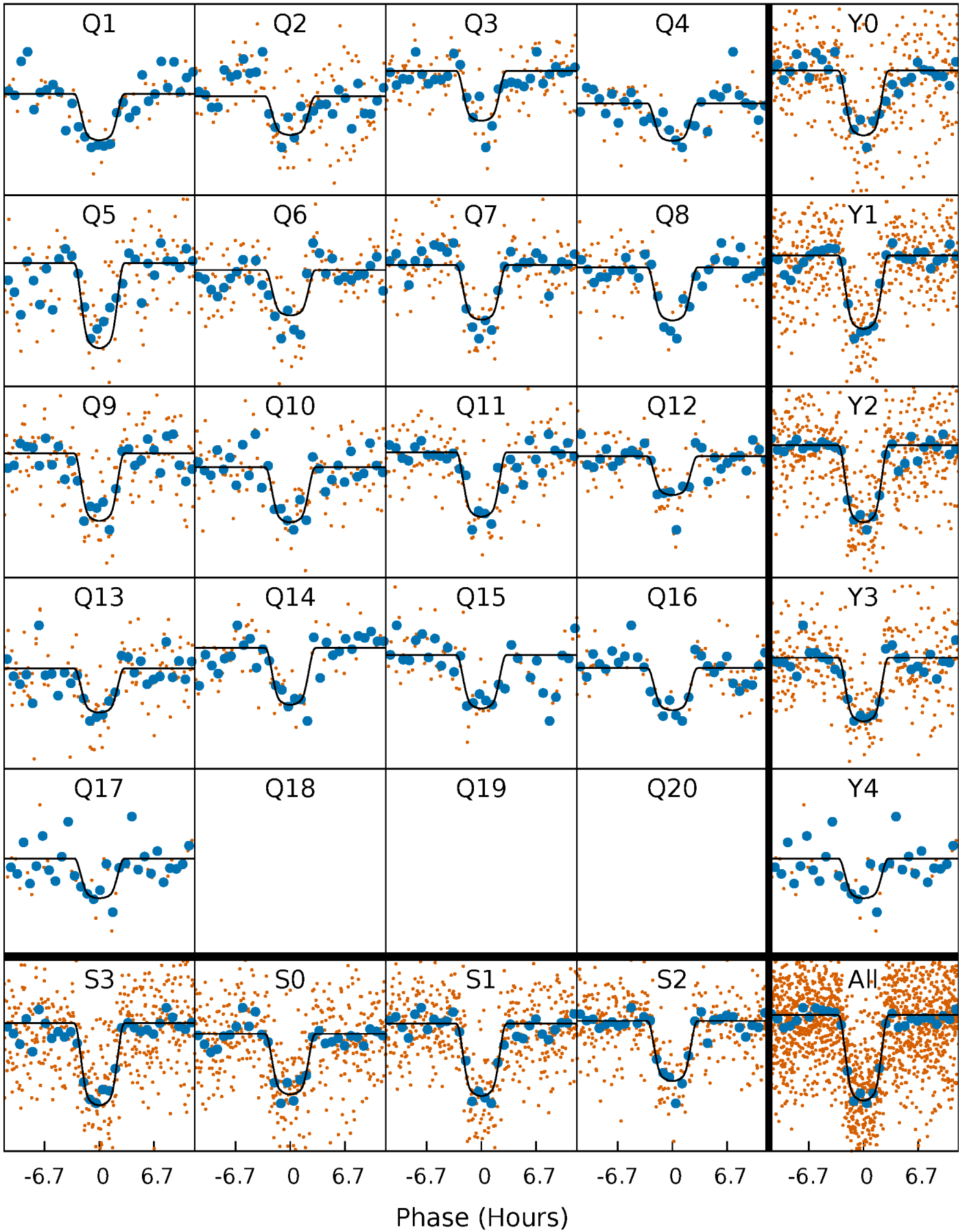
PDC Quarter-Phased Transit Curves

TCE 005351250-03 P= 30.825977 Days $T_0=153.018963$ (BKJD)



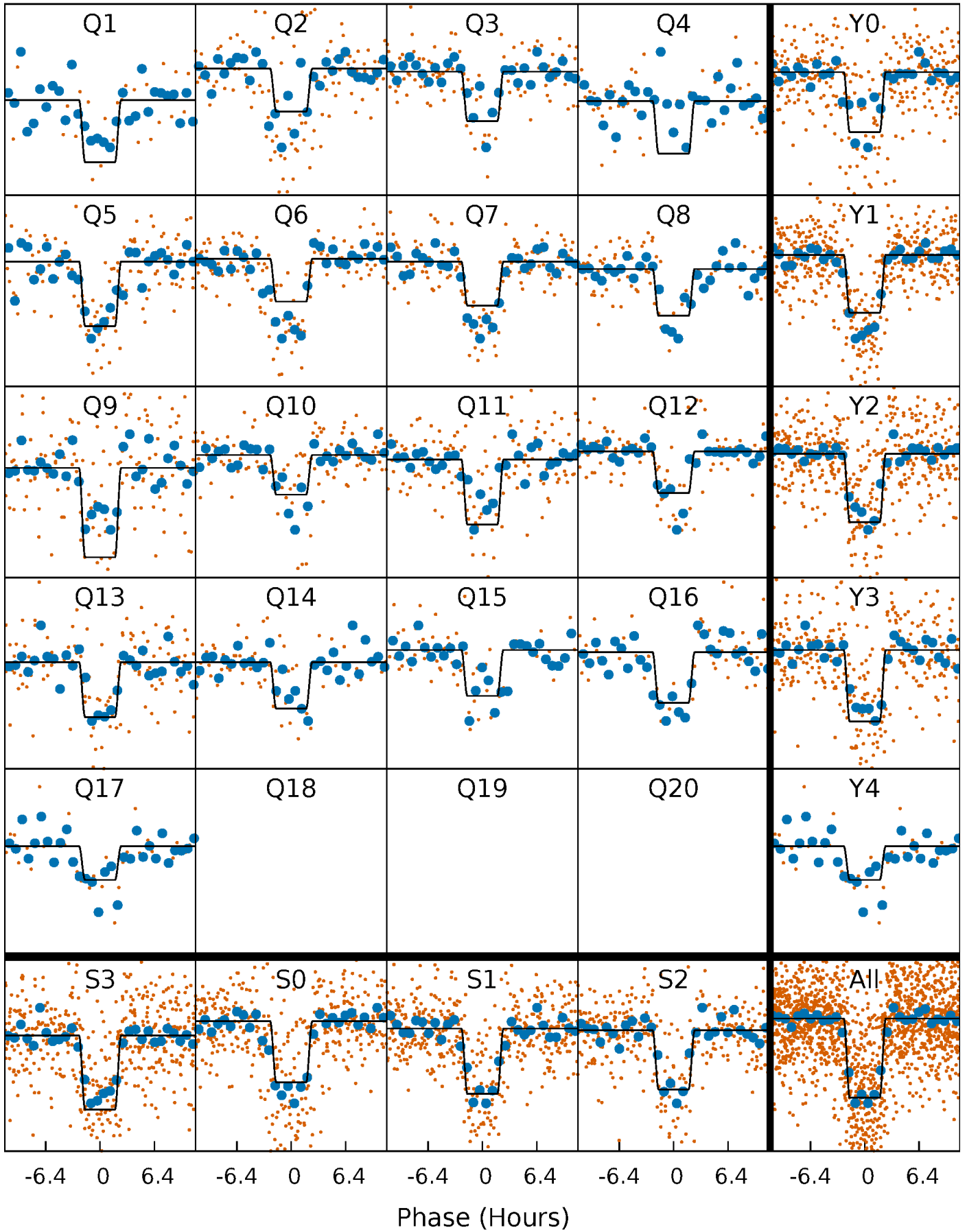
DV Quarter-Phased Transit Curves

TCE 005351250-03 P= 30.825977 Days $T_0=153.018963$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

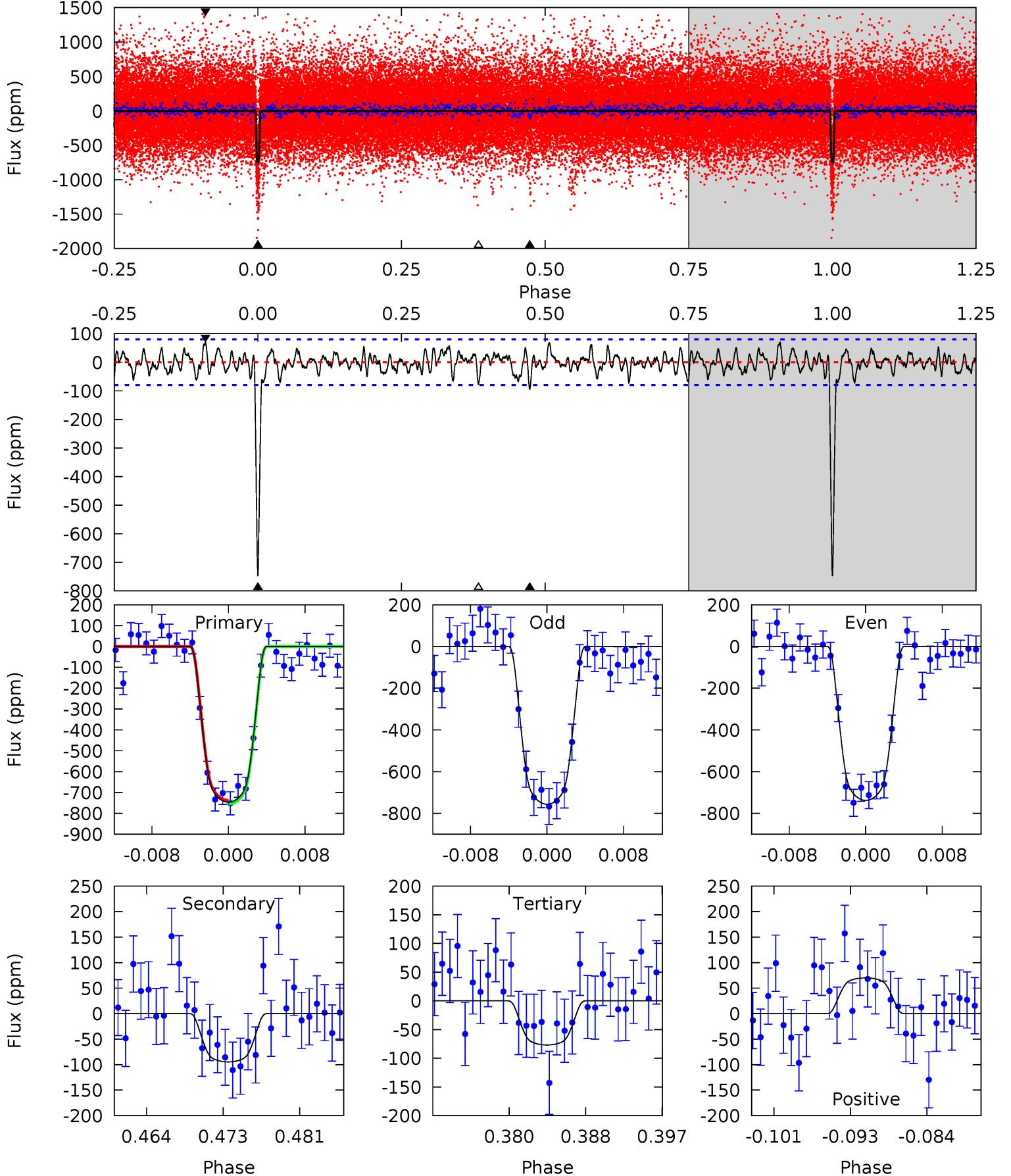
TCE 005351250-03 P= 30.825663 Days $T_0=153.026161$ (BKJD)



DV Model-Shift Uniqueness Test

005351250-03, $P = 30.825977$ Days, $E = 122.192986$ Days

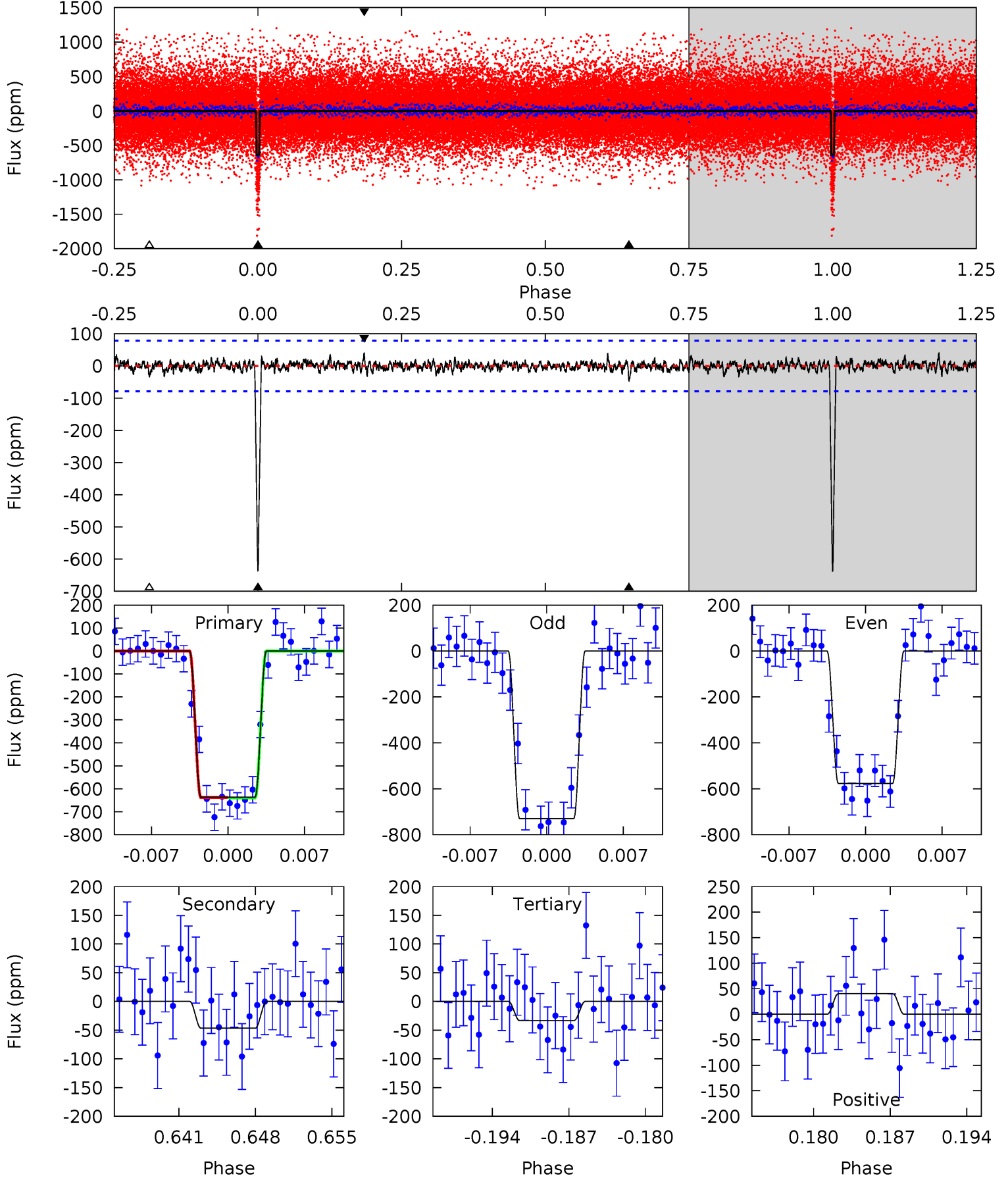
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
47.0	5.96	4.84	4.41	5.06	2.63	1.63	42.2	42.6	1.12	1.55	0.58	0.96	0.09	0.55



Alt Model-Shift Uniqueness Test

005351250-03, P = 30.825663 Days, E = 122.200498 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.2	3.02	2.15	2.61	5.10	2.71	0.65	39.0	38.6	0.86	0.41	4.94	0.97	0.06	0.07



Stellar Parameters For KIC 005351250

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5559^{+110}_{-110}	$4.470^{+0.068}_{-0.102}$	$-0.020^{+0.150}_{-0.150}$	$0.914^{+0.110}_{-0.070}$	$0.899^{+0.061}_{-0.050}$	$1.657^{+0.426}_{-0.480}$
	+2%/-2%	+2%/-2%	+750%/-750%	+12%/-8%	+7%/-6%	+26%/-29%
Source	SPE58	SPE58	SPE58	DSEP		

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

Secondary Eclipse Parameters for KIC 005351250-03 / KOI 0408.03

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-95 ± 16	$3.17^{+0.25}_{-0.19}$	760^{+31}_{-24}	3540^{+111}_{-124}	177^{+41}_{-37}
Alt.	-47 ± 15	$2.59^{+0.22}_{-0.17}$	764^{+26}_{-26}	3365^{+178}_{-208}	130^{+47}_{-48}

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

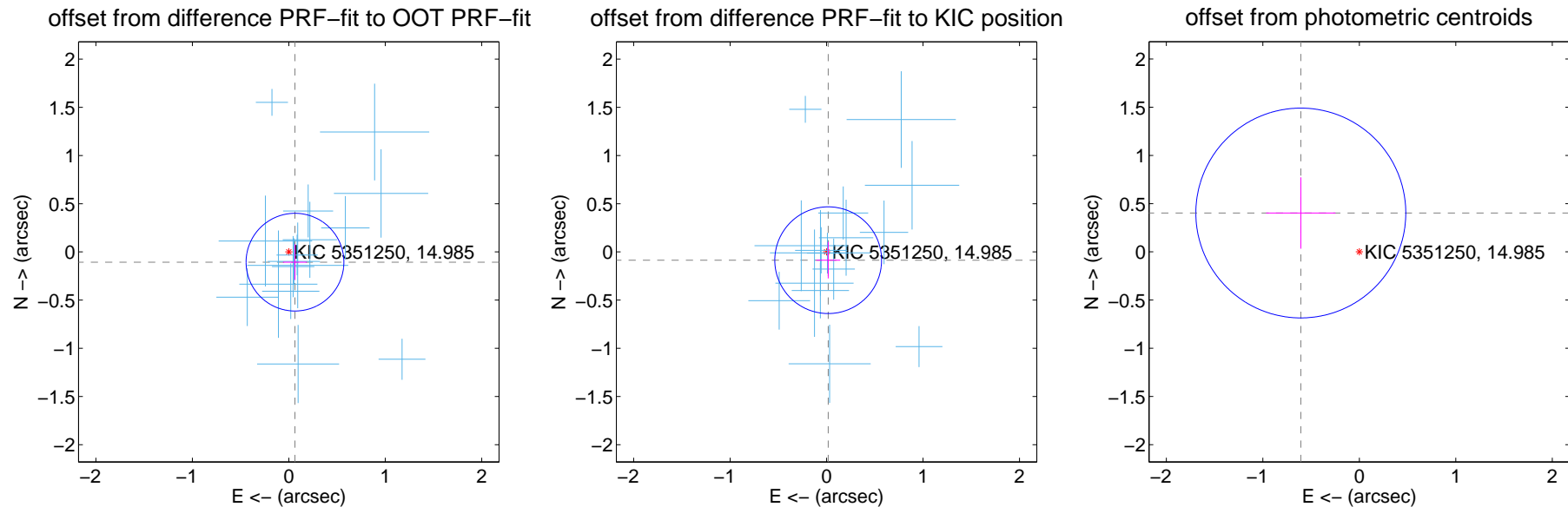
DV Centroid Data

Supplemental centroid analysis for 005351250-03. Kepler magnitude: 14.98. Transit SNR 25.91

There are 16 quarters with good PRF difference image offsets

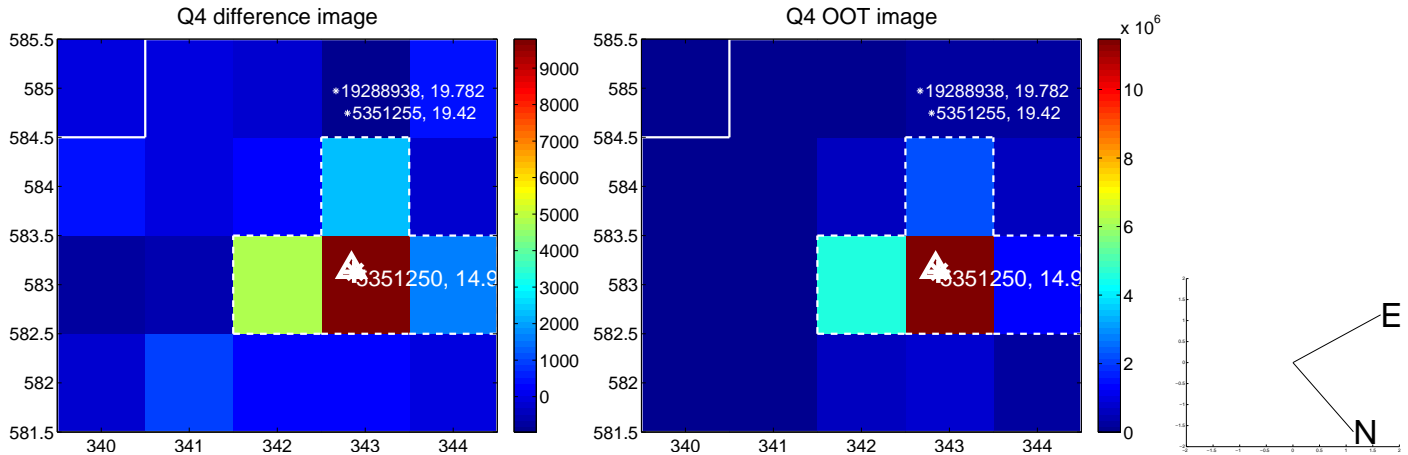
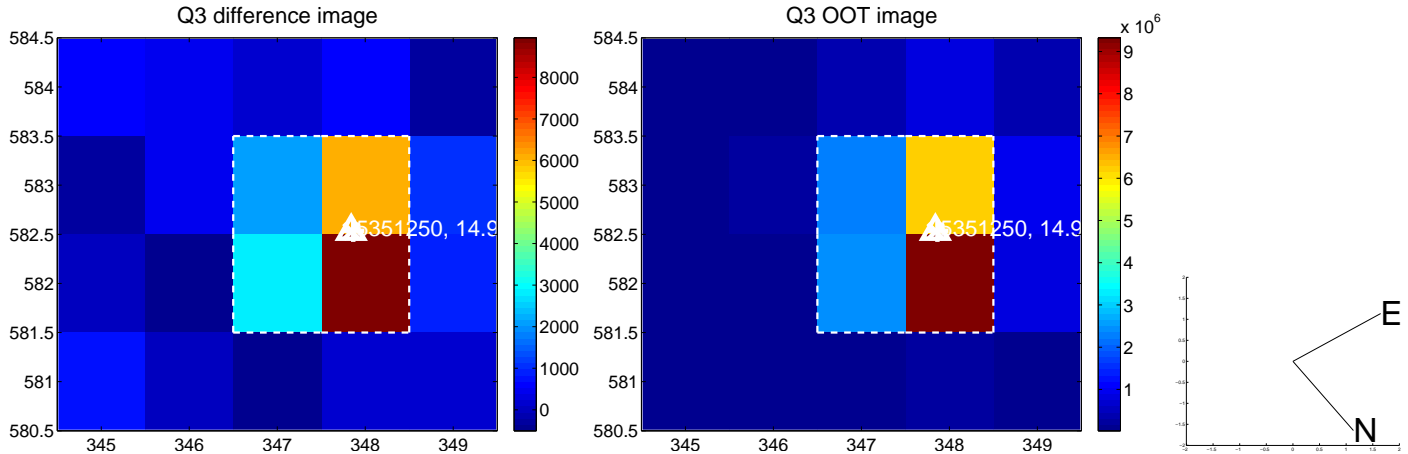
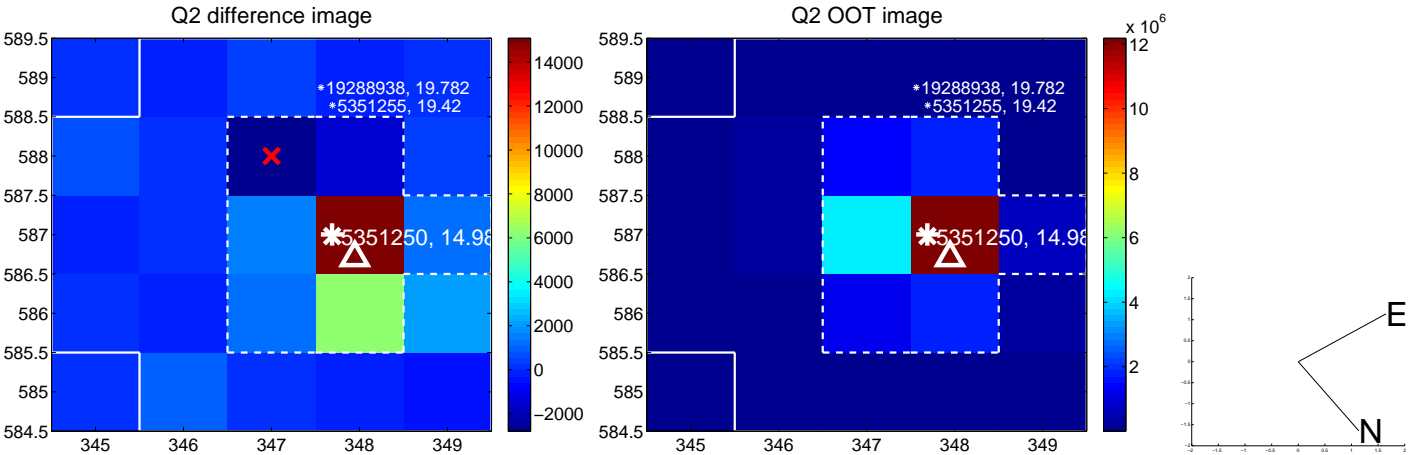
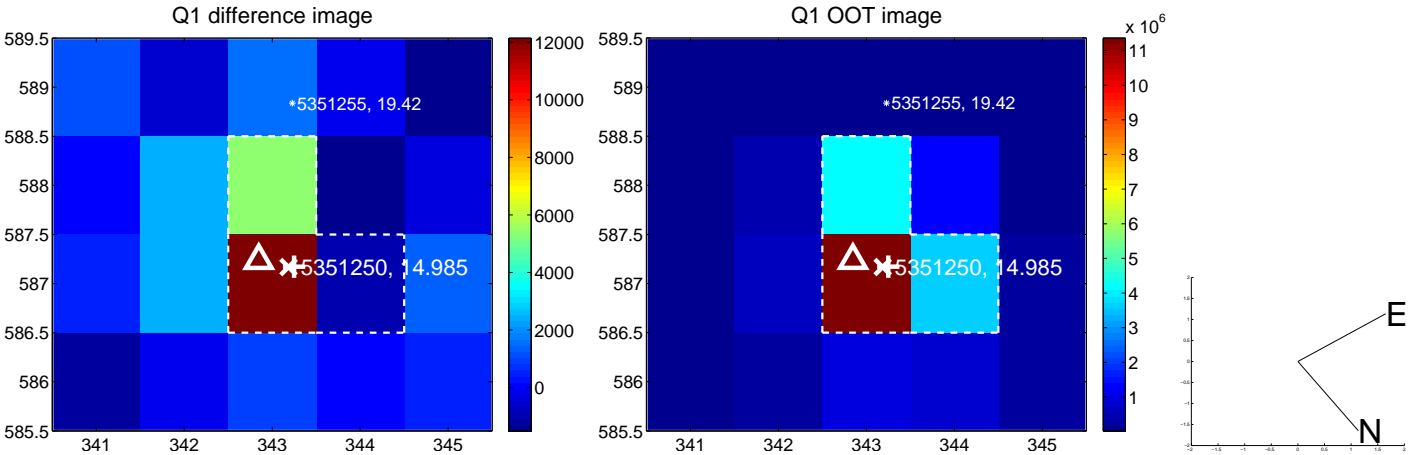
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.124 ± 0.169	0.73	-0.064 ± 0.124	-0.106 ± 0.185
PRF-fit source offset from KIC position	0.087 ± 0.185	0.47	-0.017 ± 0.125	-0.086 ± 0.189
photometric centroid source offset	0.73 ± 0.36	2.01	0.61 ± 0.36	0.40 ± 0.37

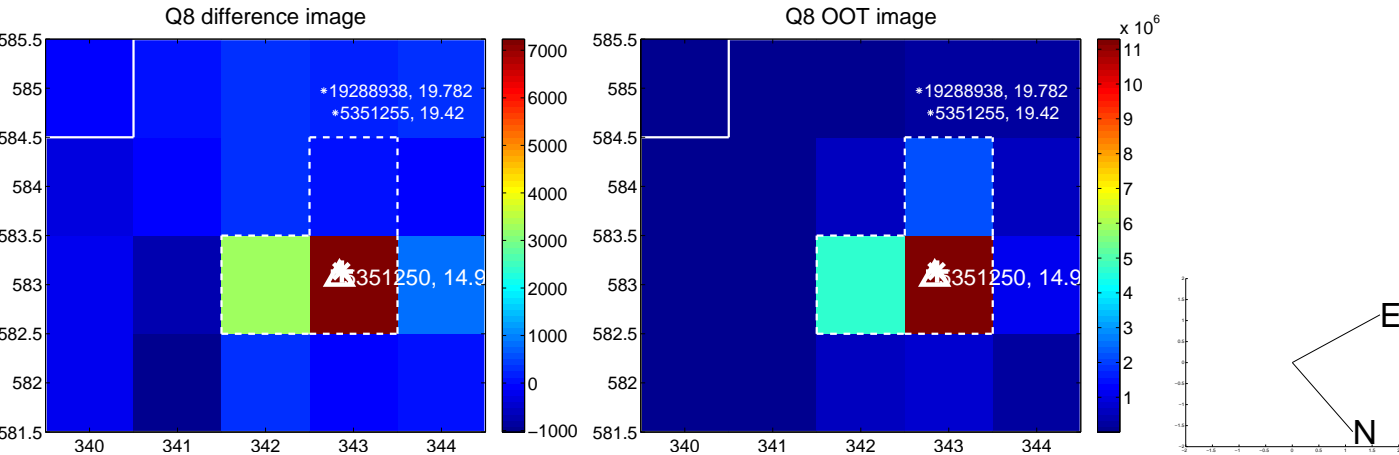
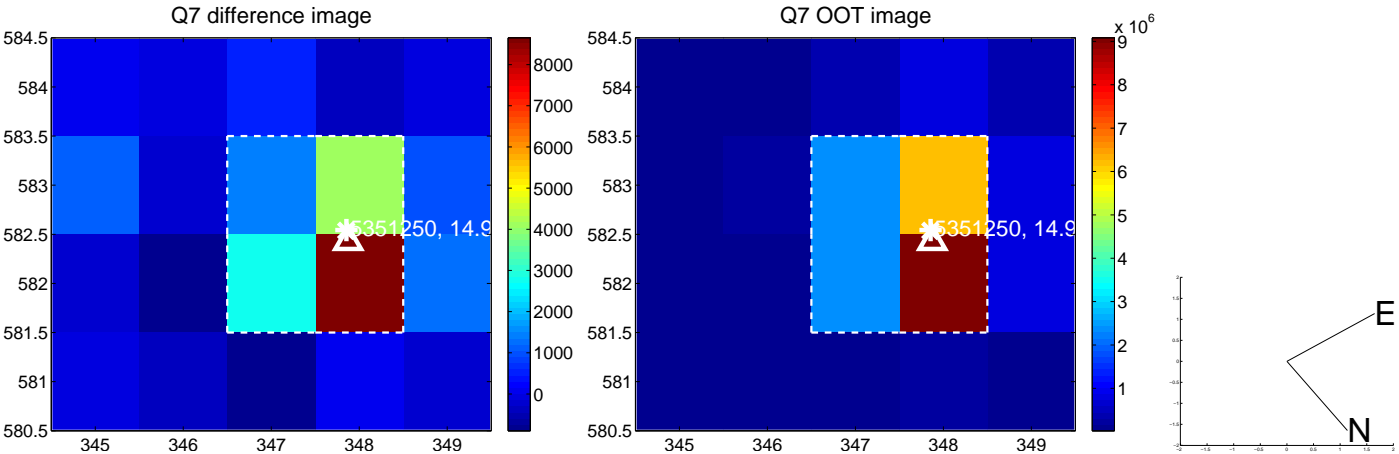
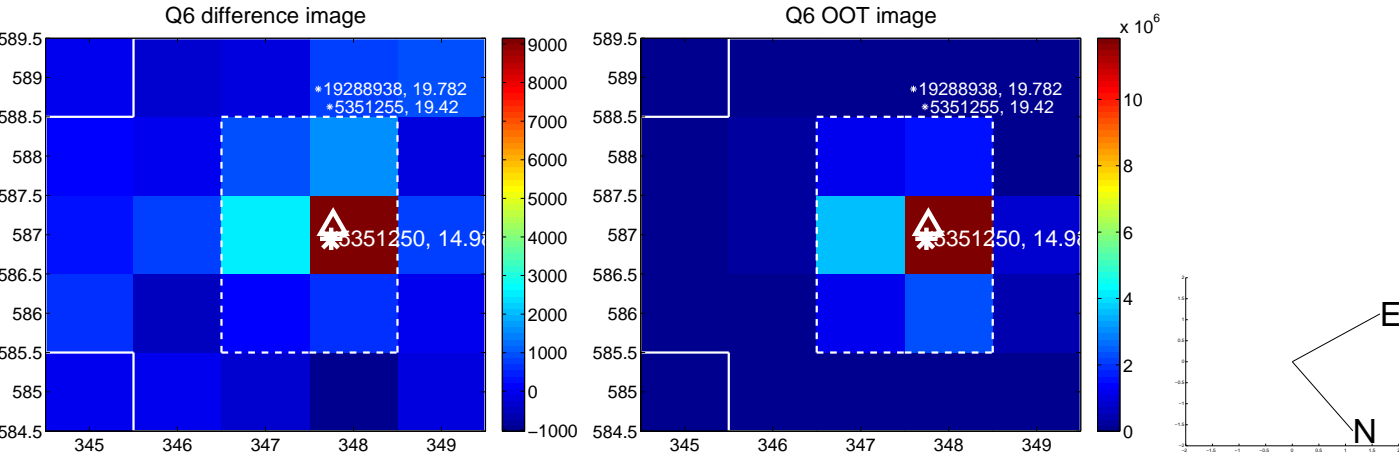
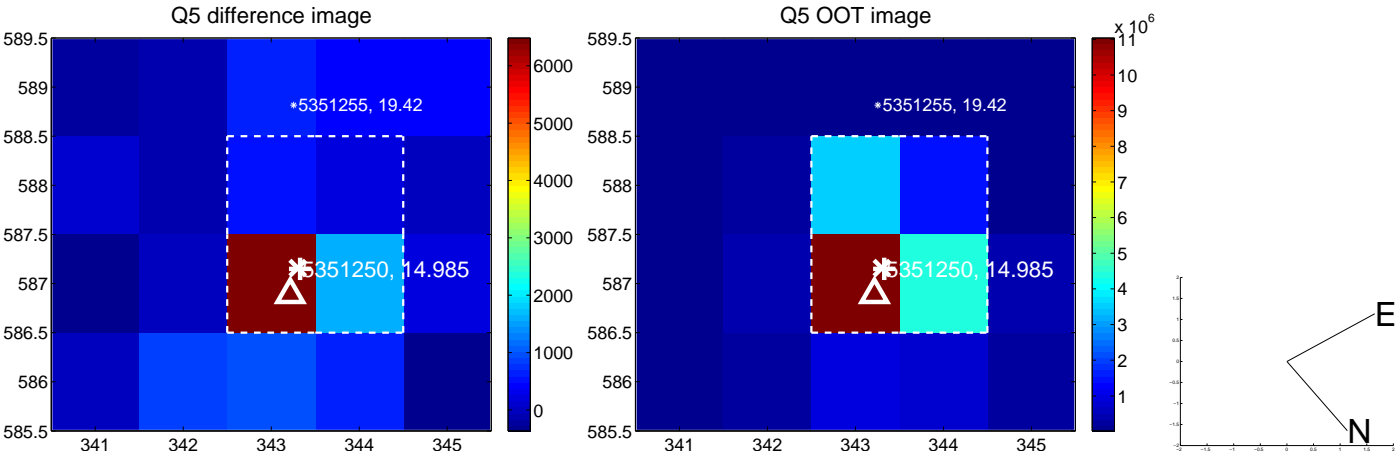


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

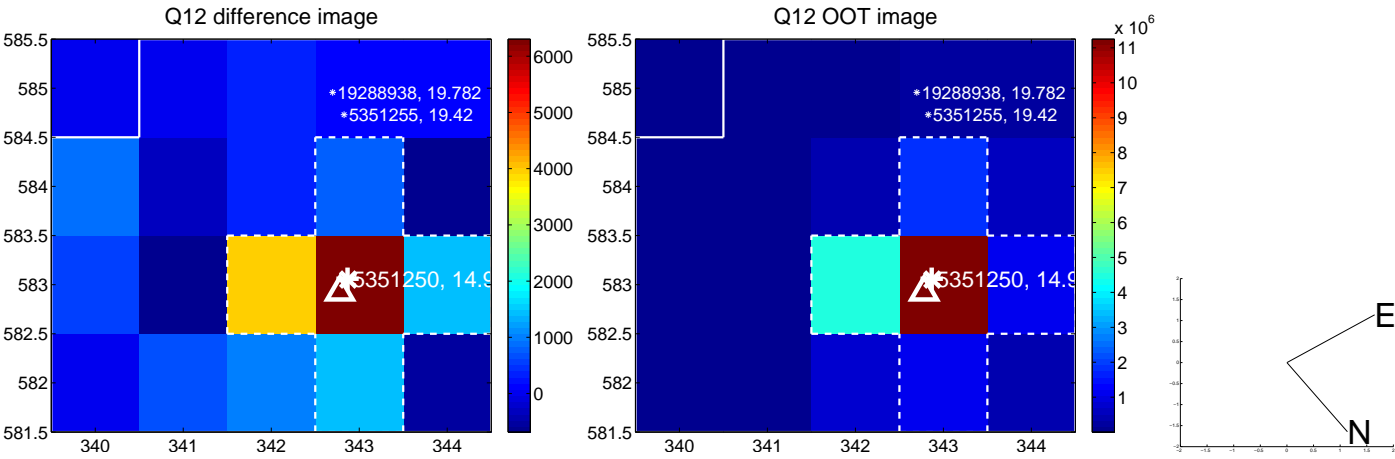
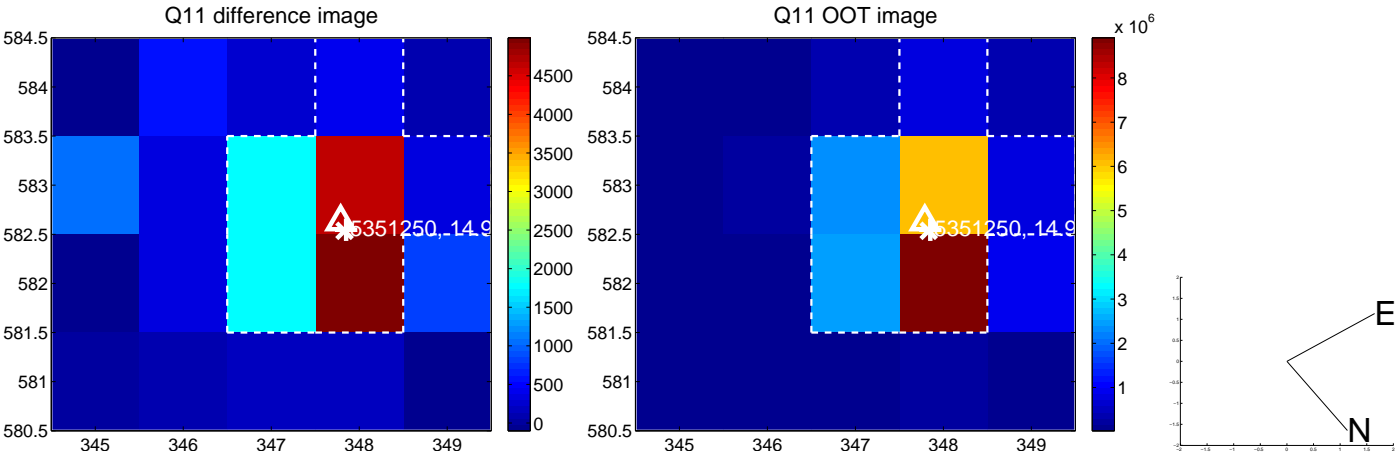
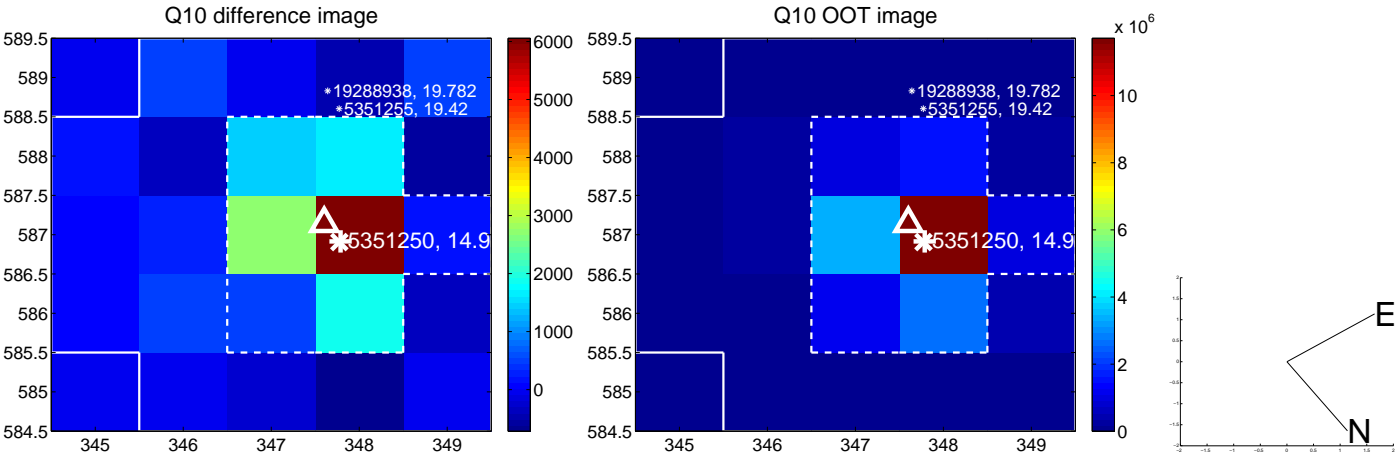
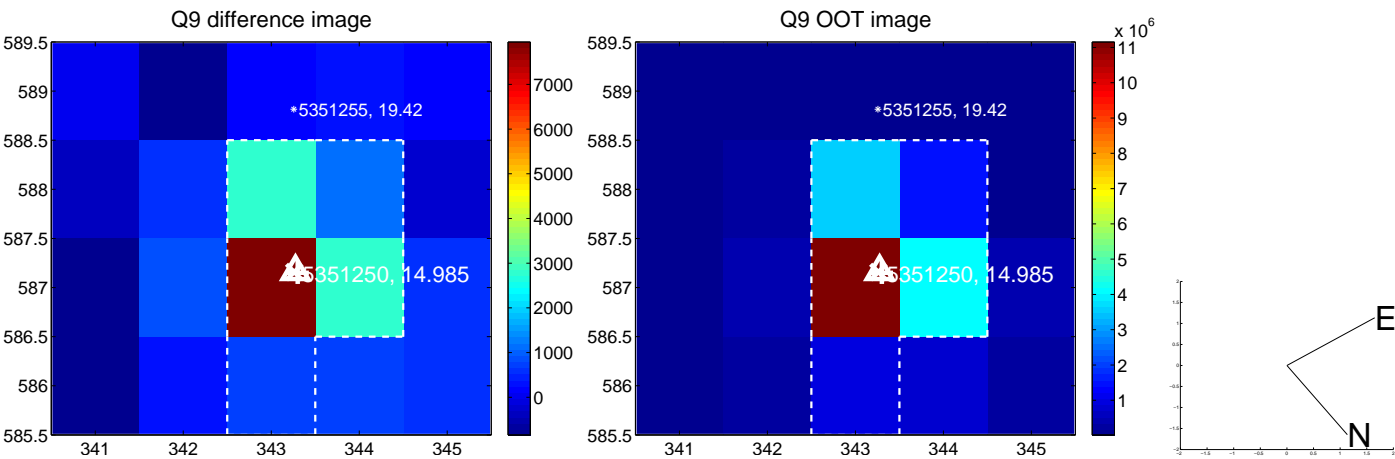
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



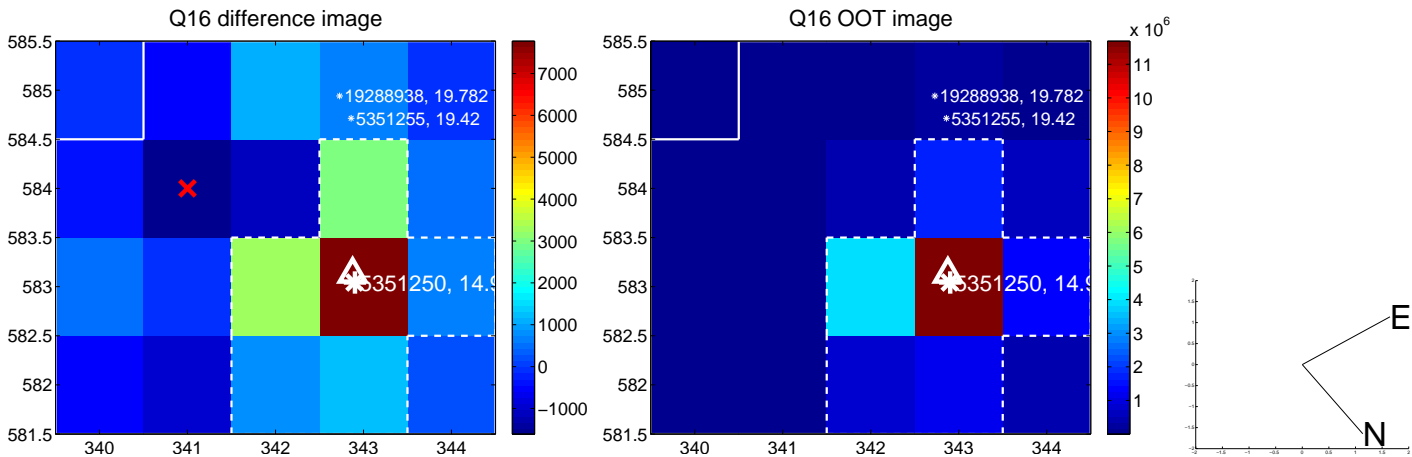
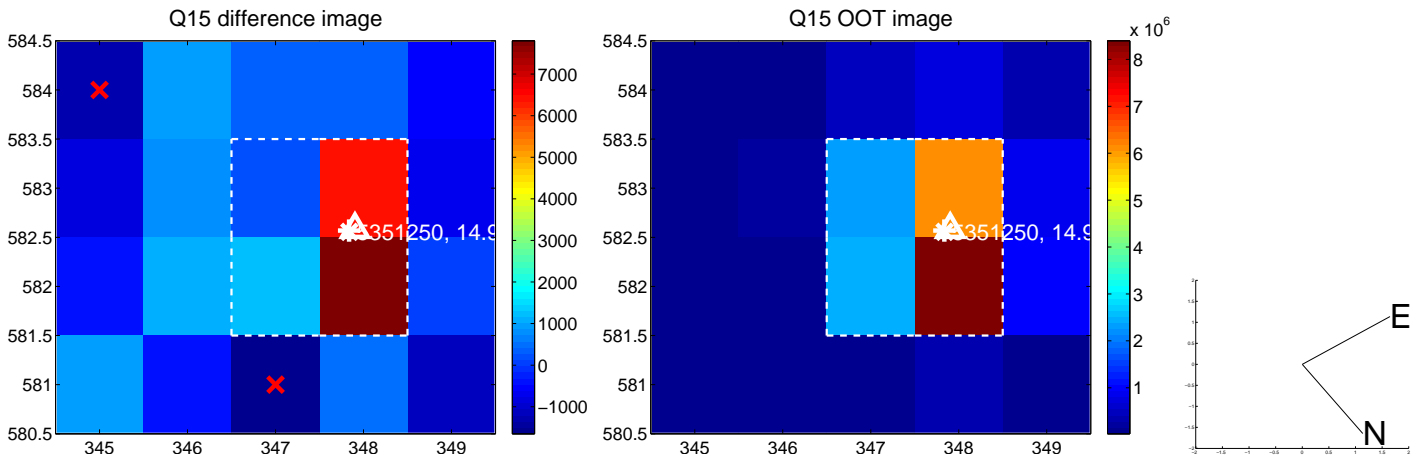
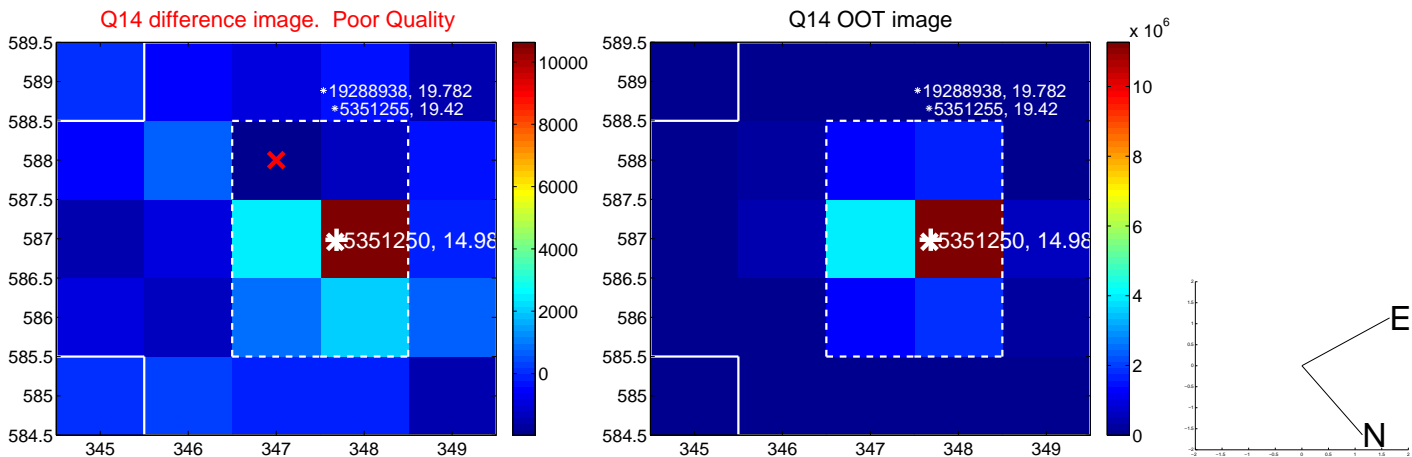
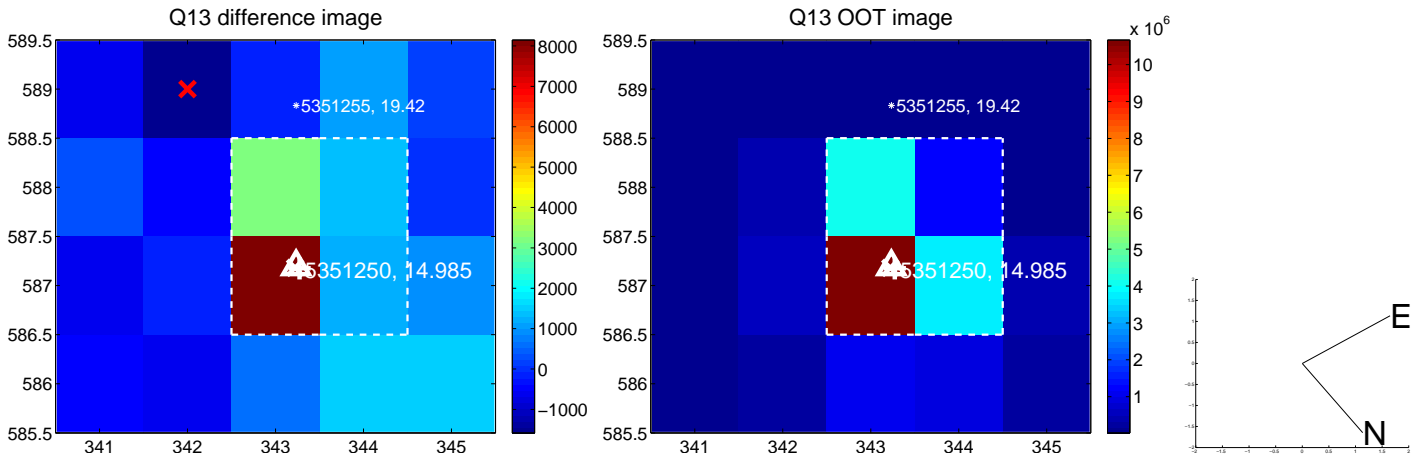
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



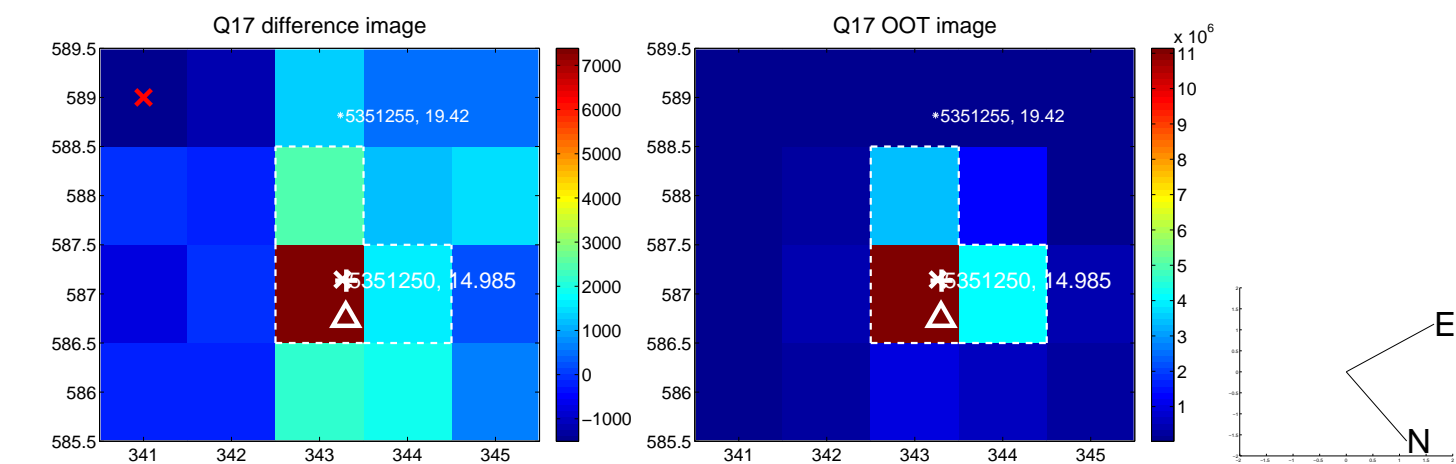
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



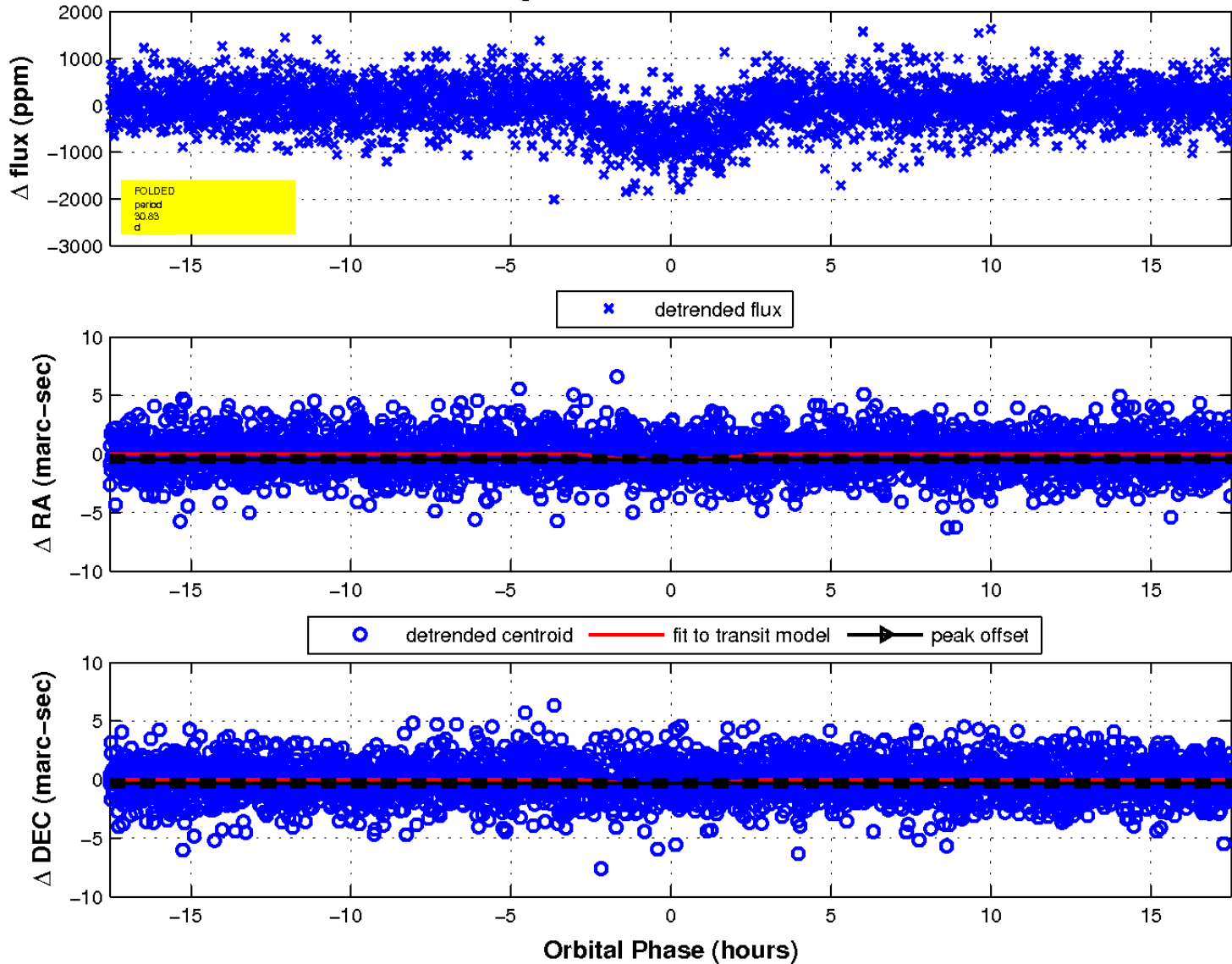
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

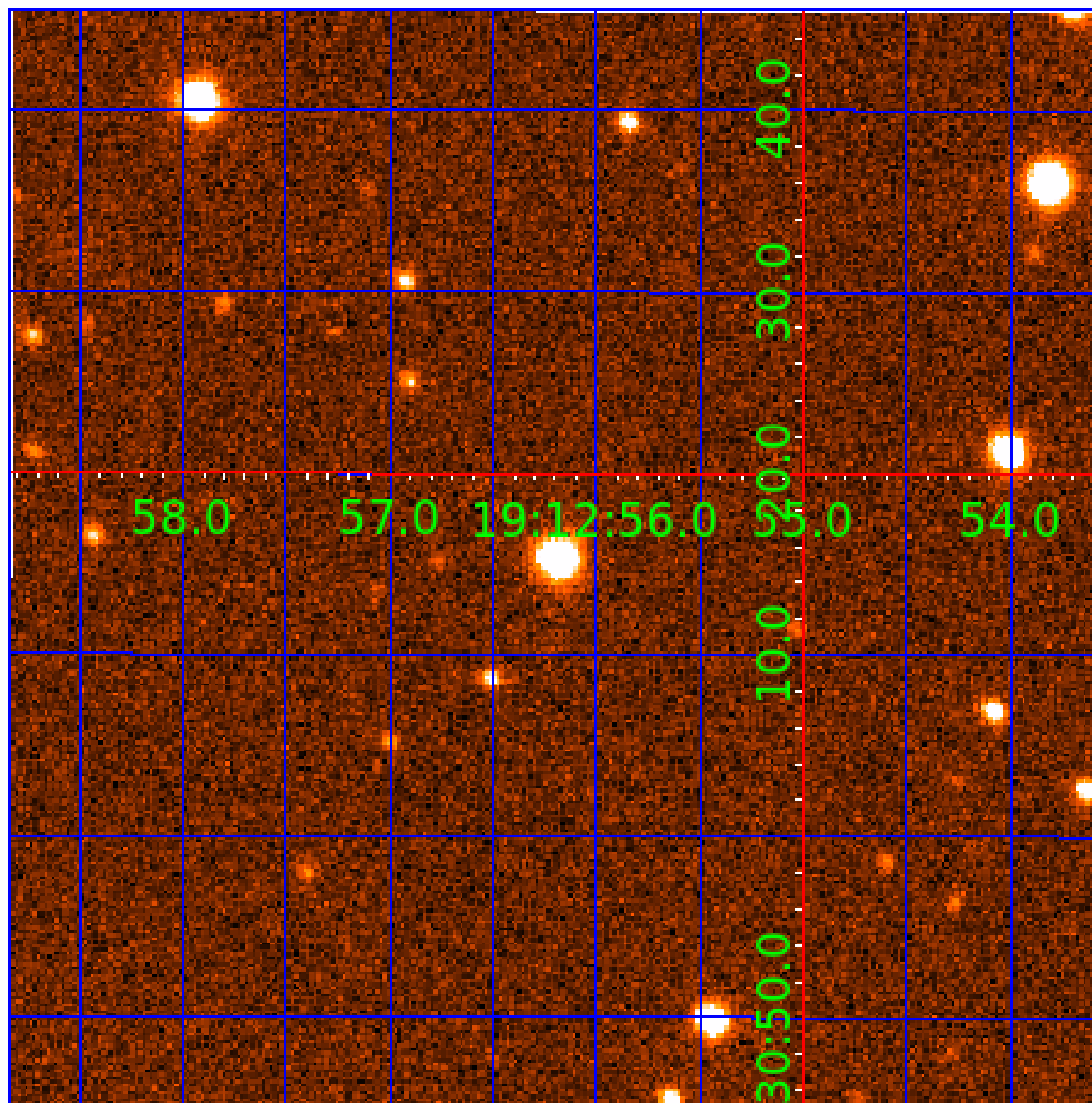


fluxWeightedCentroids, Planet 3 of 5



UKIRT Image

Declination



KIC 005351250

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})
005351250-01	OBS	0408.01	7.381986	136.162331	1433.6	3.349	87.6	91.7	0.91	5559	3.95	139.30
005351250-02	OBS	0408.02	12.560941	141.674568	910.6	3.895	44.6	47.6	0.91	5559	3.02	68.57
005351250-03	OBS	0408.03	30.825977	153.018963	737.0	5.844	25.8	25.9	0.91	5559	3.17	20.71
005351250-04	OBS	0408.04	3.428044	132.367171	189.5	2.582	15.8	17.1	0.91	5559	1.50	387.36
005351250-05	OBS	0408.05	93.804278	170.555862	546.2	3.439	7.9	8.9	0.91	5559	2.48	4.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005351250-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005351250-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005351250-03	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005351250-04	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005351250-05	OBS	FP	0.01	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE

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

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

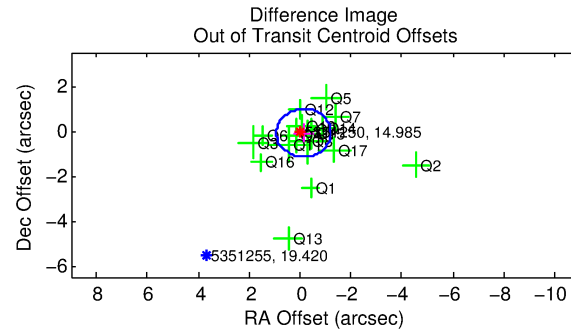
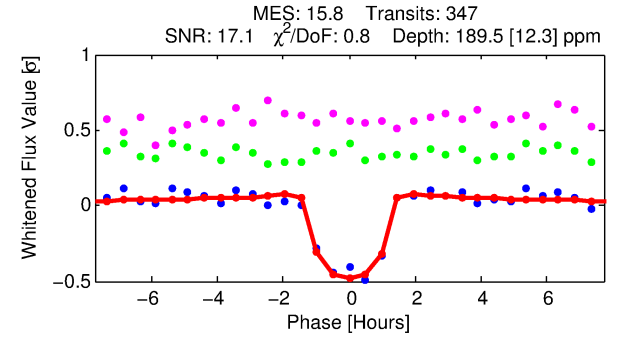
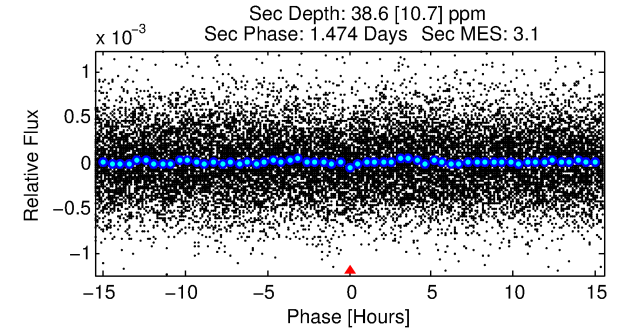
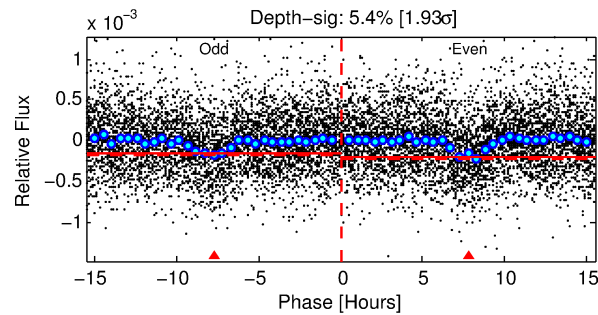
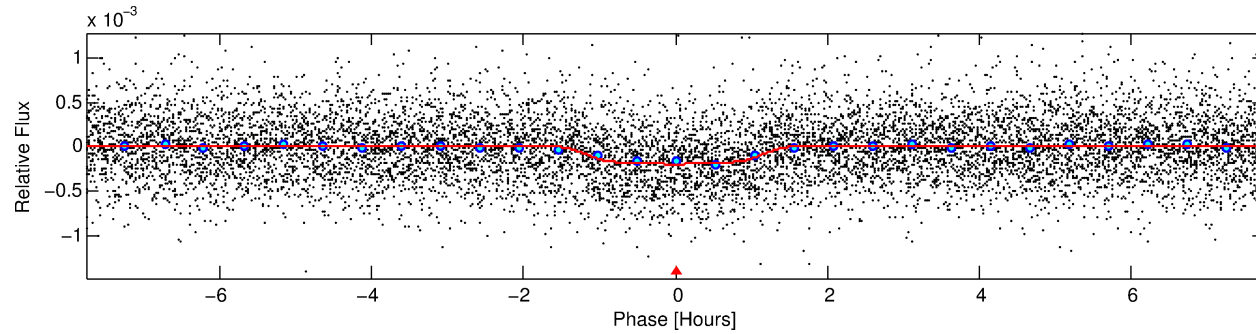
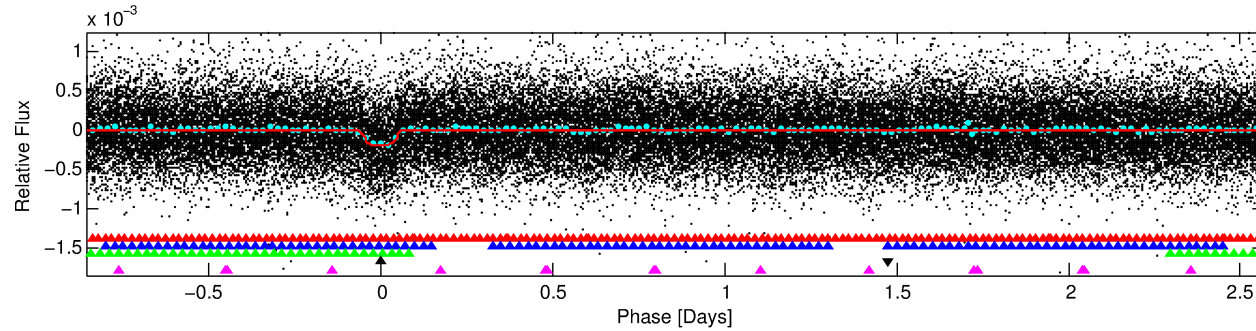
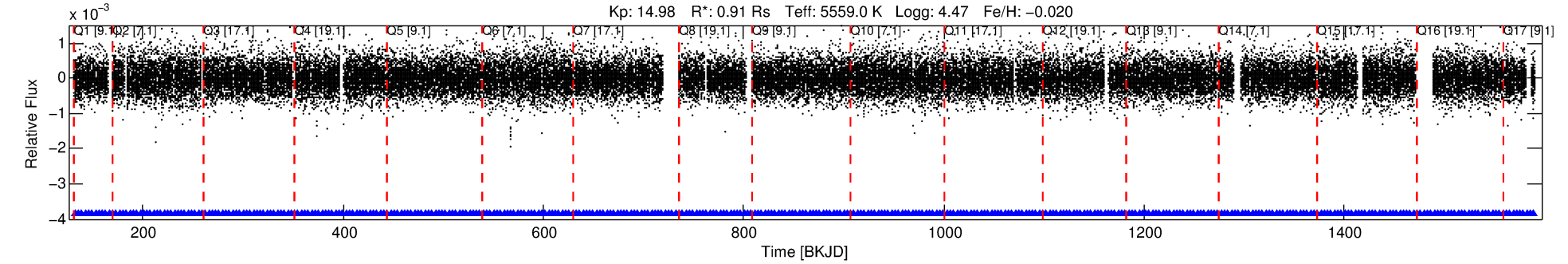
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005351250-04

No Significant Match Found

DV One-Page Summary

KIC: 5351250 Candidate: 4 of 5 Period: 3.428 d
KOI: K00408.04 Name: Kepler-150b Corr: 0.957



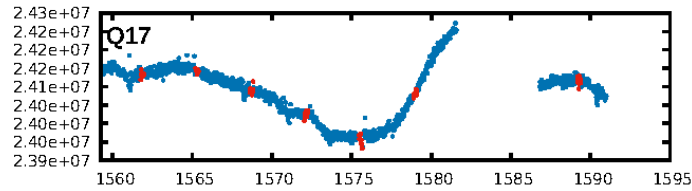
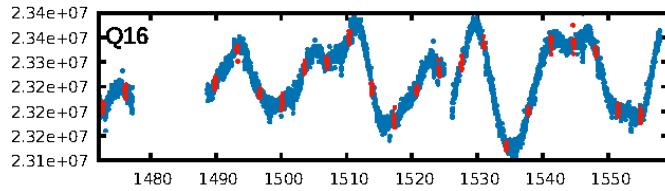
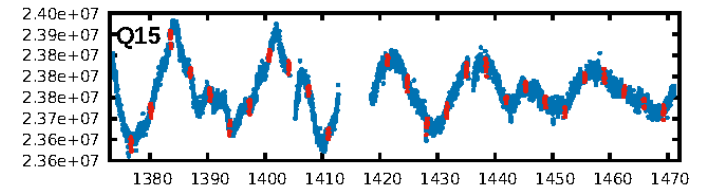
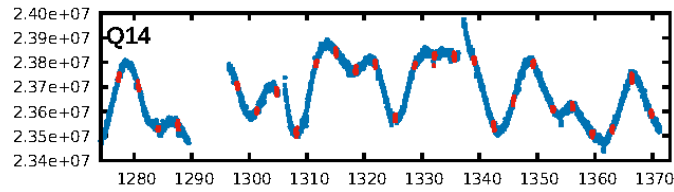
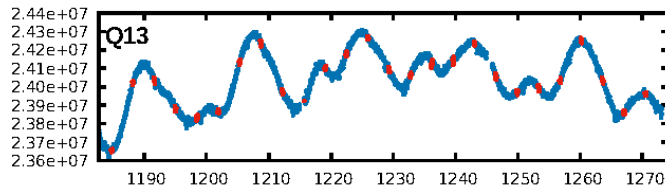
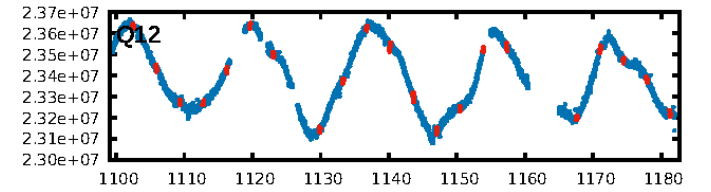
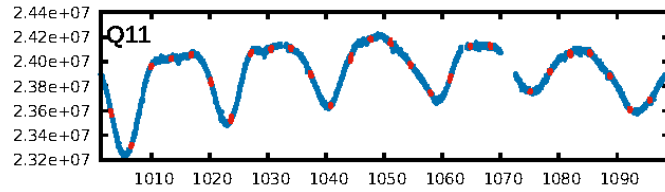
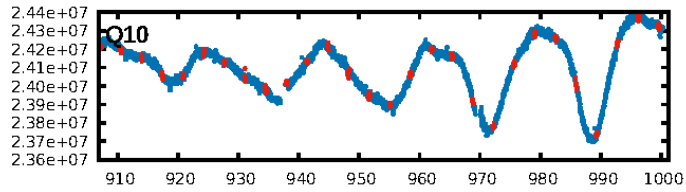
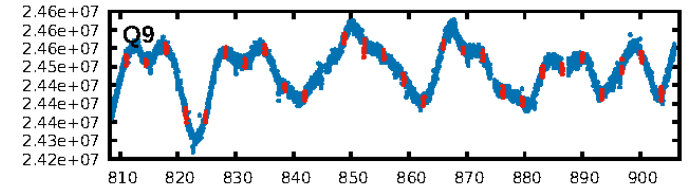
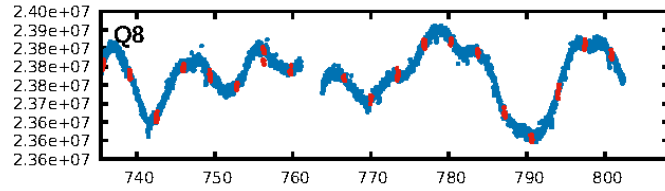
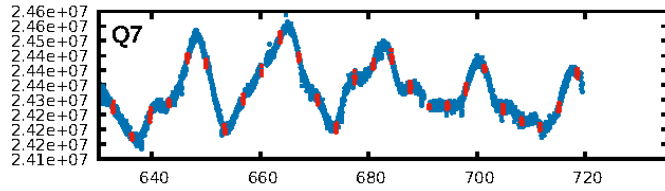
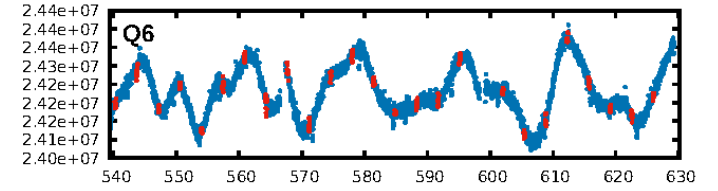
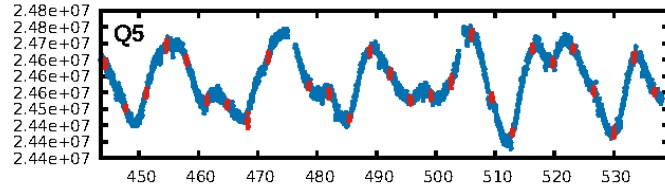
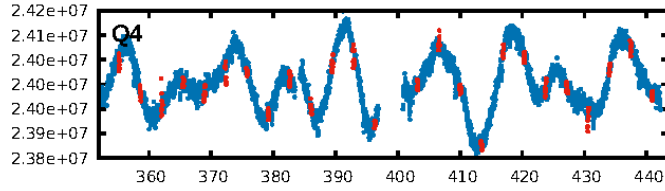
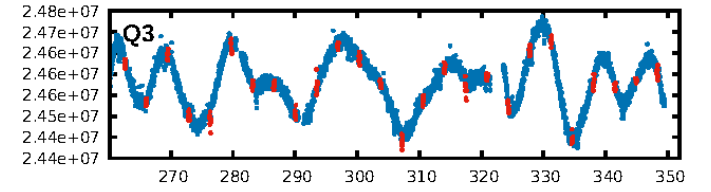
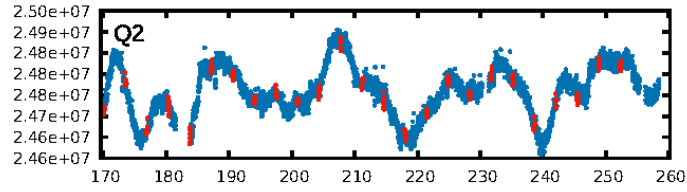
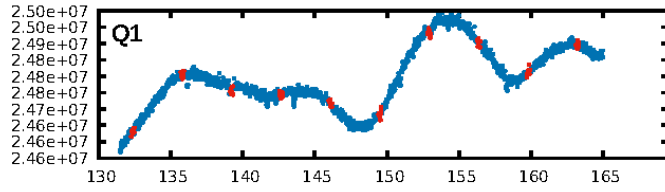
DV Fit Results:

Period = 3.42804 [0.00001] d
Epoch = 132.3672 [0.0023] BKJD
Rp/R* = 0.0150 [0.0057]
a/R* = 4.93 [8.12]
b = 0.90 [0.39]
Seff = 387.36 [74.73]
Teff = 1131 [55] K
Rp = 1.50 [0.60] Re
a = 0.0430 [0.0048] AU
Ag = 17.41 [14.44] [1.14σ]
Teffp = 3572 [728] K [3.35σ]

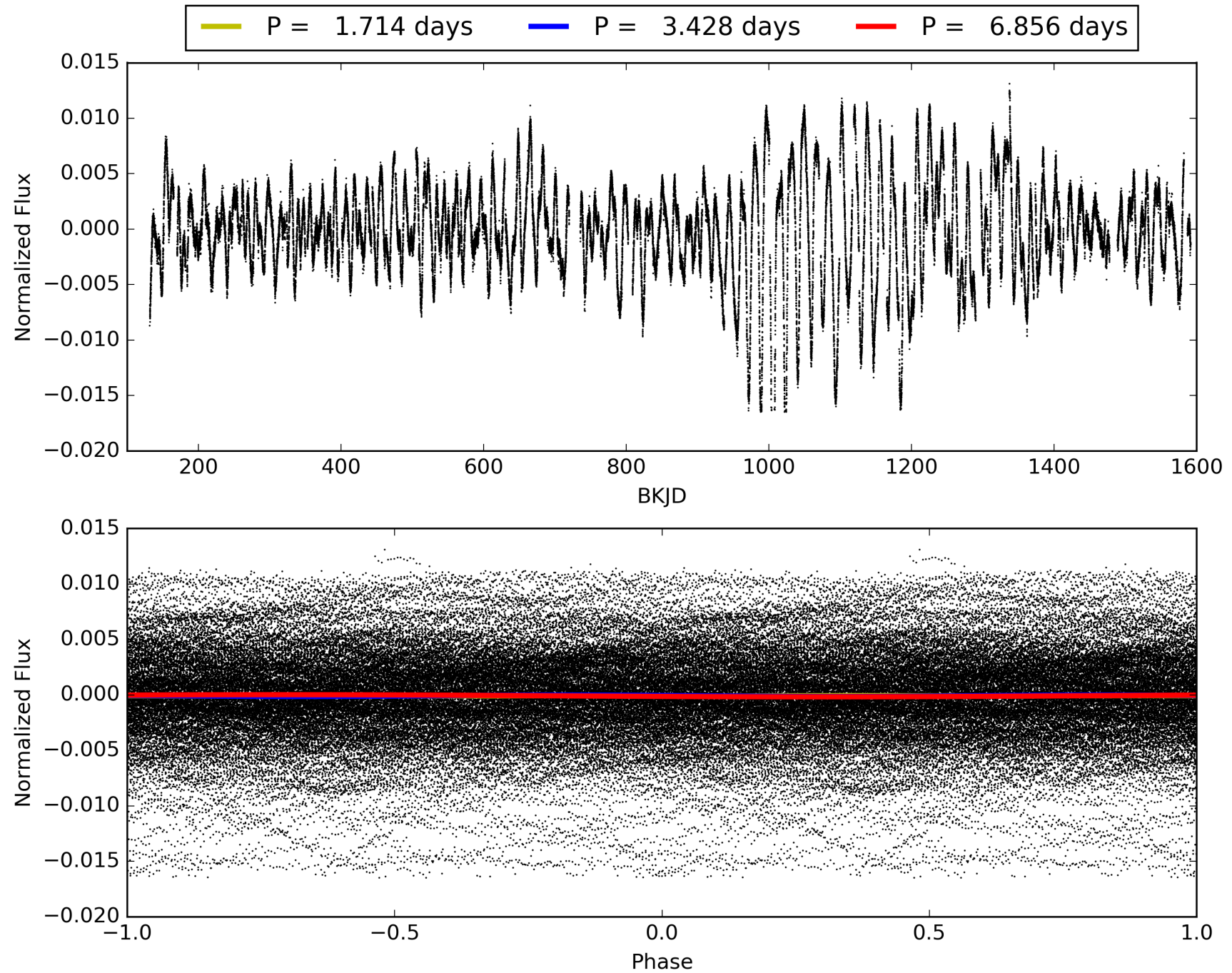
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [22.44σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.68e-53
RollingBand-fgt: 1.00 [332/332]
GhostDiagnostic-chr: 3.058
Centroid-sig: 1.4%
Centroid-so: 1.032 arcsec [1.64σ]
OotOffset-rm: 0.161 arcsec [0.45σ]
KicOffset-rm: 0.082 arcsec [0.26σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.88 [15/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005351250-04, PDC Light Curves

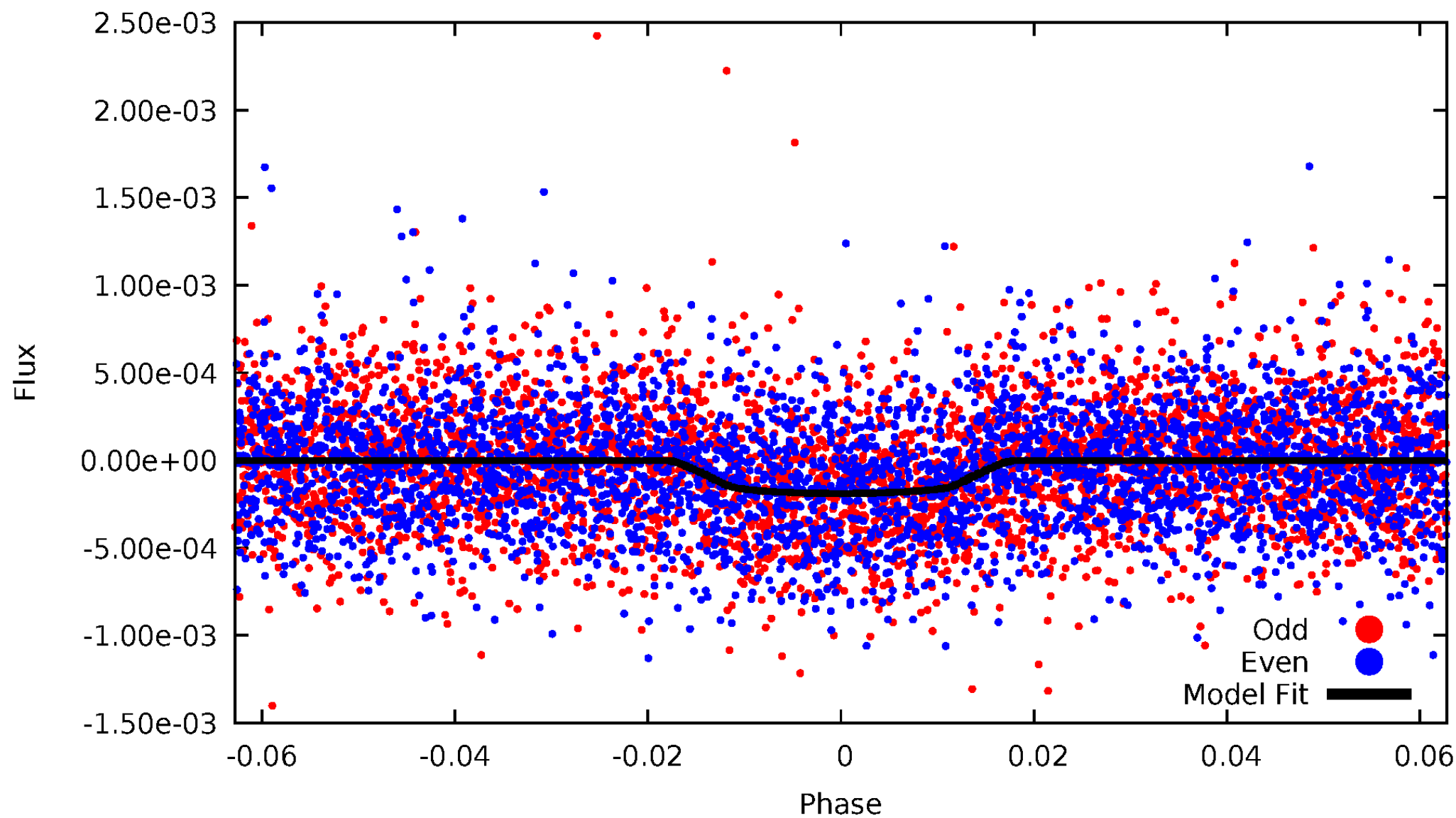


TCE 005351250-04



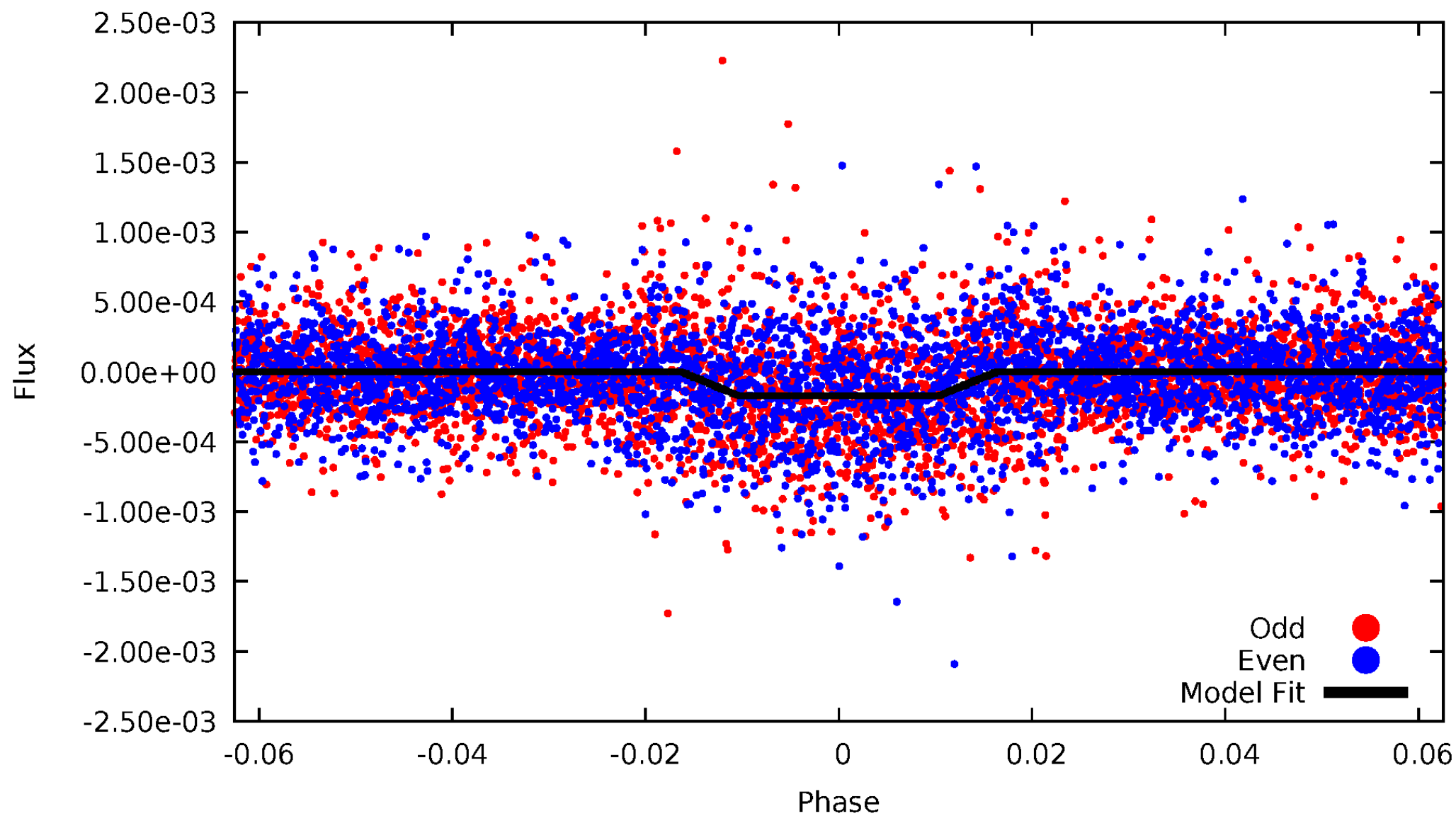
DV Odd/Even

TCE 005351250-04



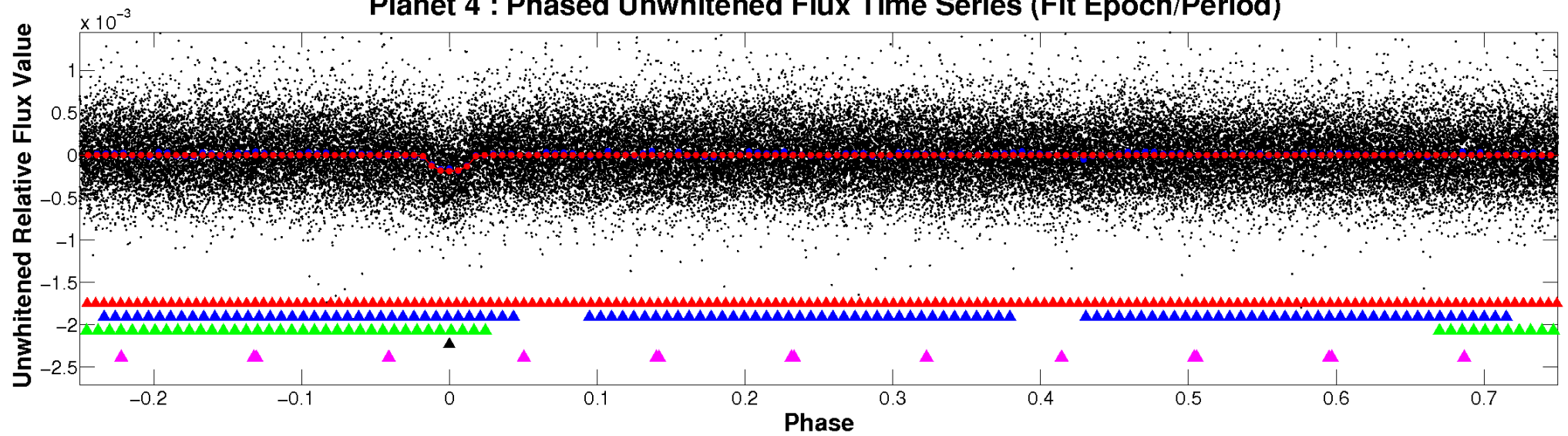
ALT Odd/Even

TCE 005351250-04

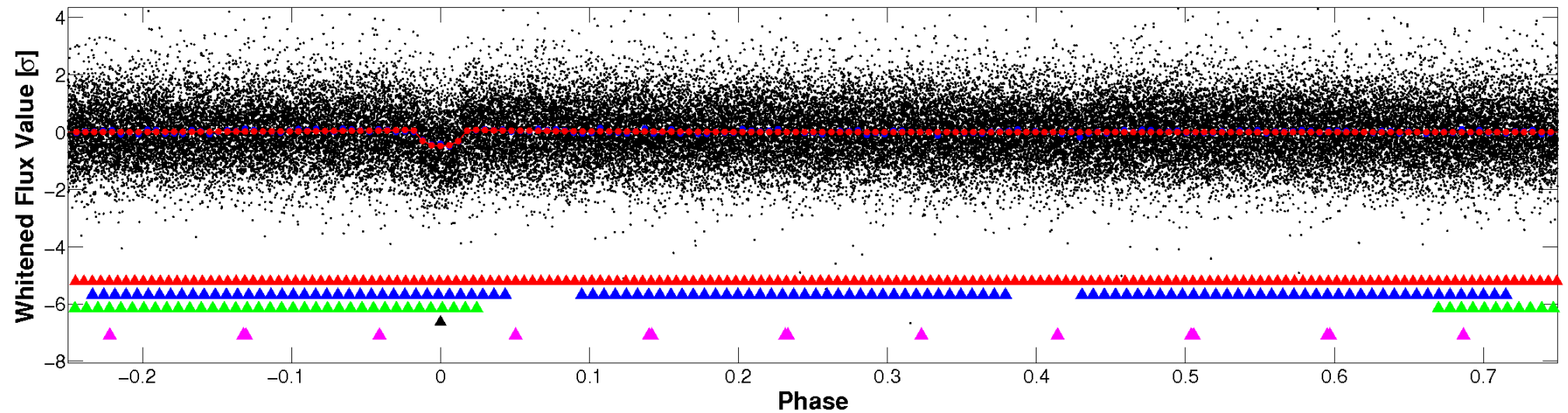


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

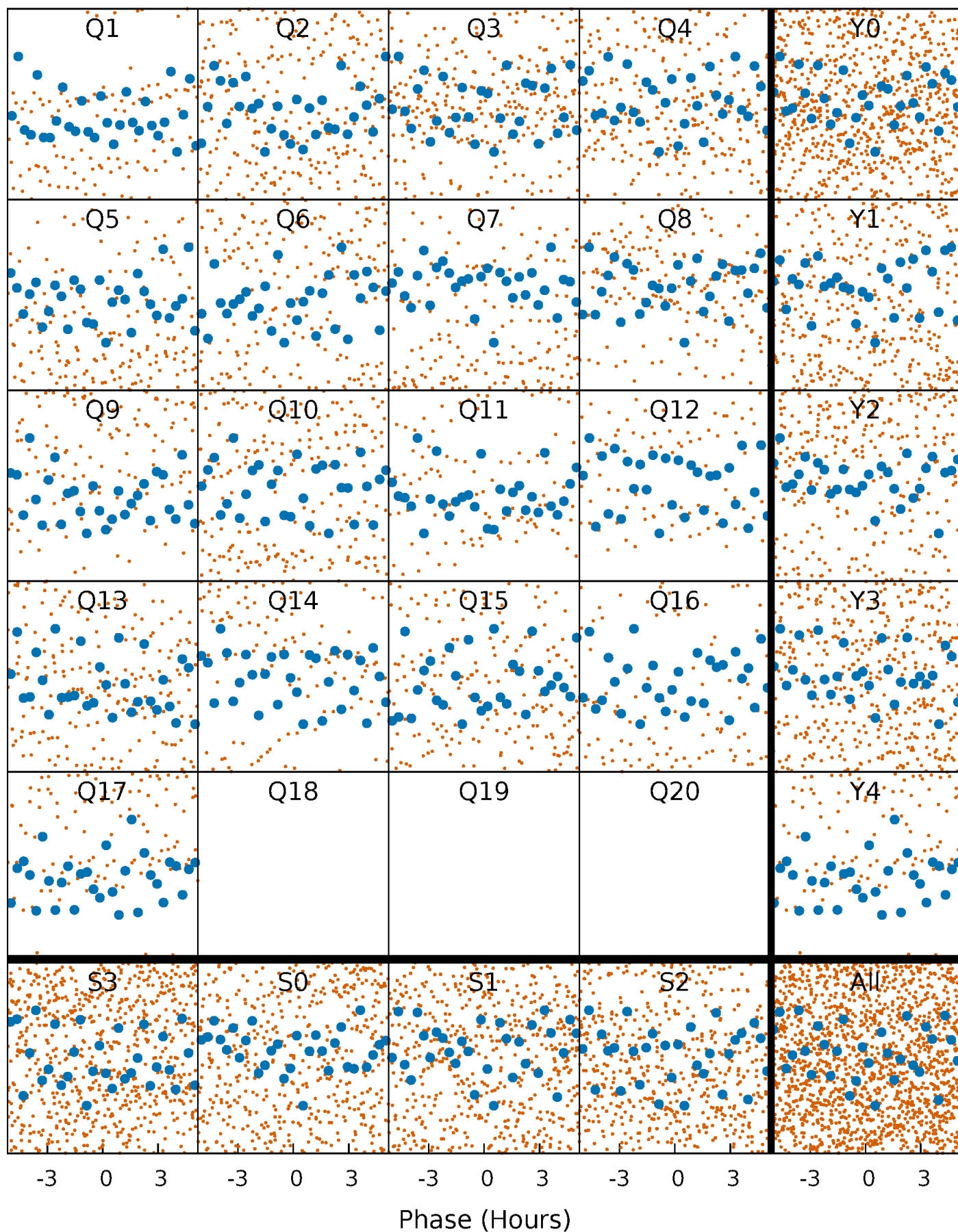


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



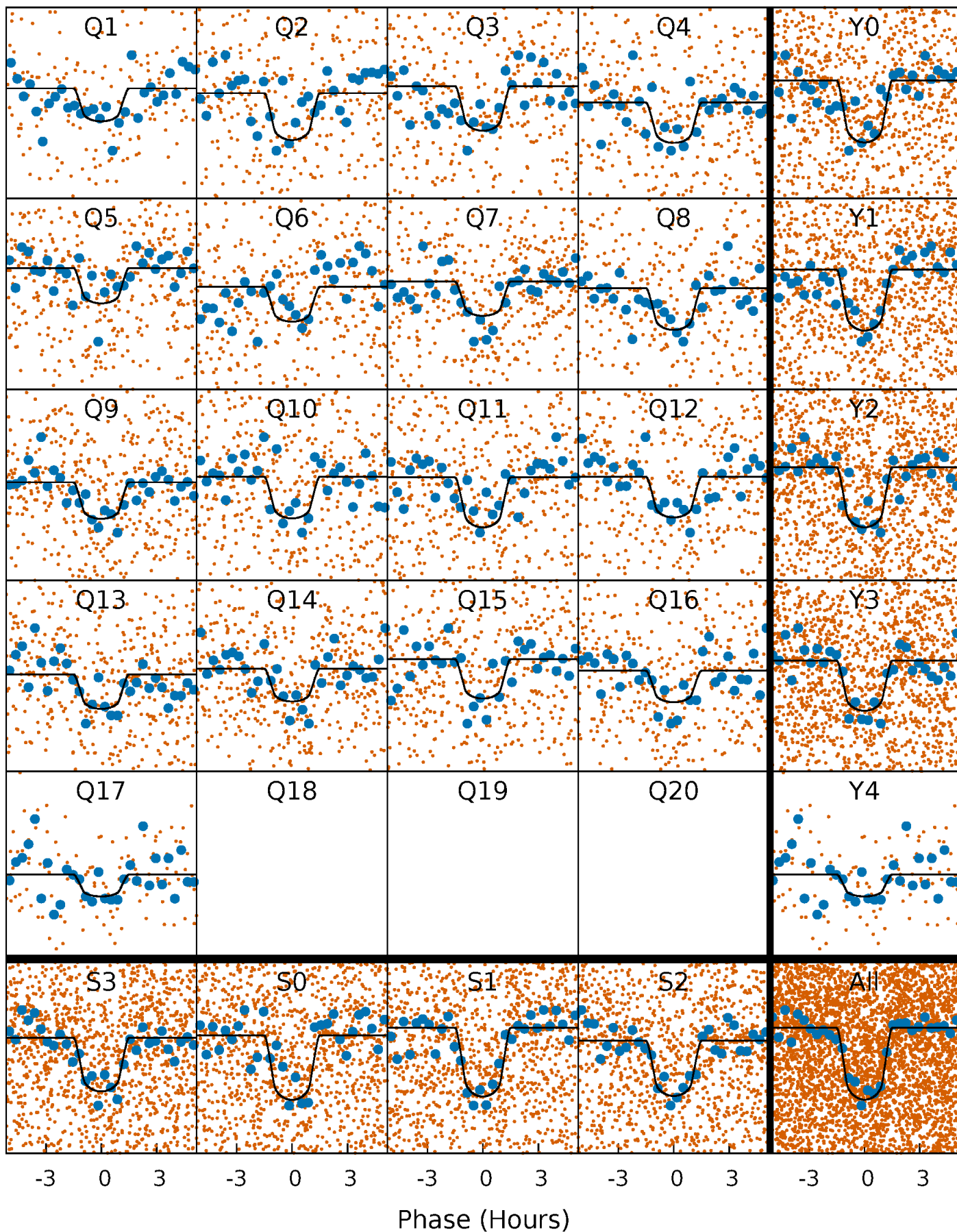
PDC Quarter-Phased Transit Curves

TCE 005351250-04 P= 3.428044 Days $T_0=132.367171$ (BKJD)



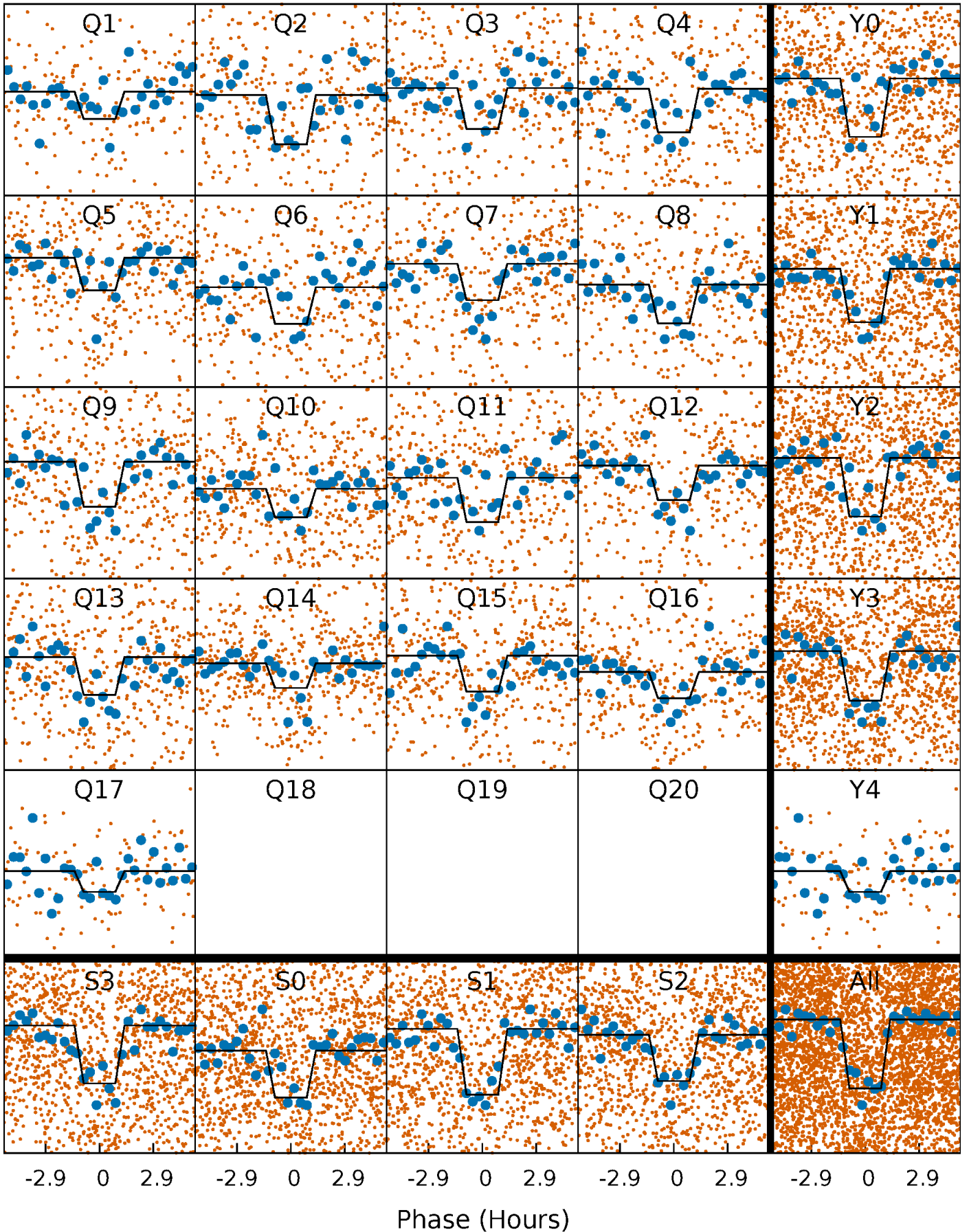
DV Quarter-Phased Transit Curves

TCE 005351250-04 P= 3.428044 Days $T_0=132.367171$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

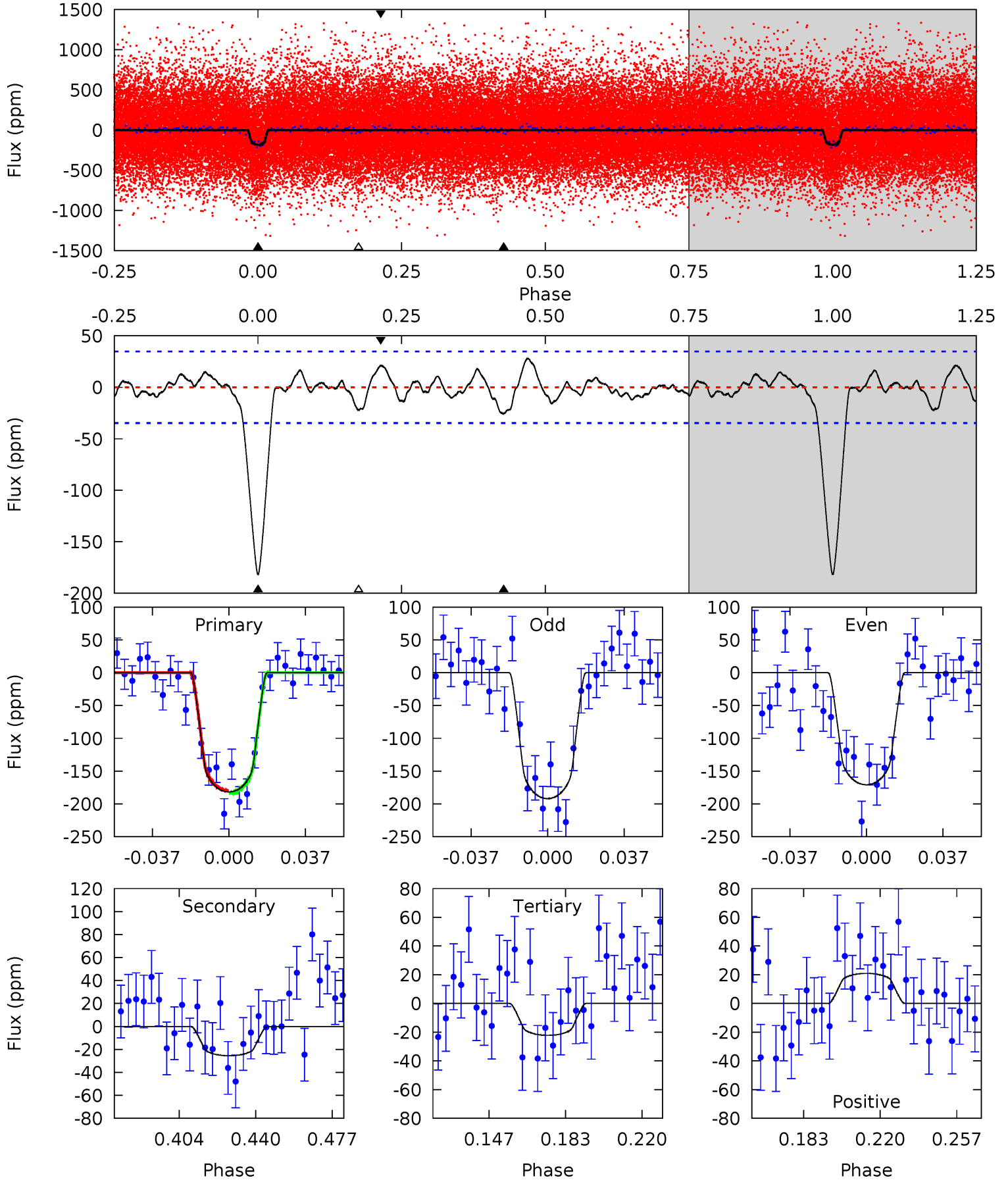
TCE 005351250-04 $P = 3.428039$ Days $T_0 = 132.368903$ (BKJD)



DV Model-Shift Uniqueness Test

005351250-04, P = 3.428044 Days, E = 128.939127 Days

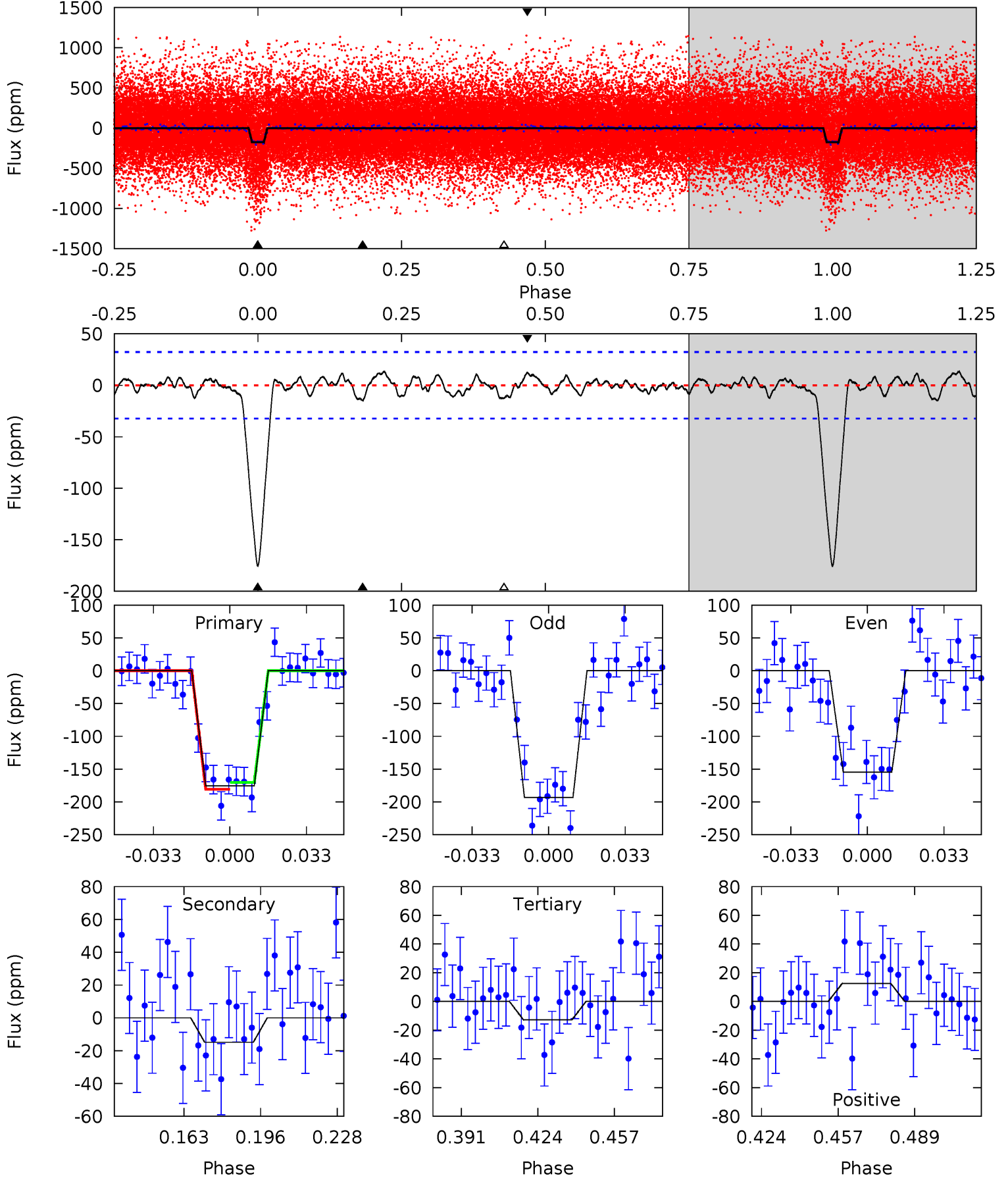
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.0	3.51	3.05	2.87	4.77	2.09	1.20	21.9	22.1	0.46	0.63	1.46	0.98	0.13	0.27



Alt Model-Shift Uniqueness Test

005351250-04, P = 3.428039 Days, E = 128.940864 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.0	2.21	1.90	1.86	4.79	2.14	0.82	24.1	24.2	0.31	0.35	2.88	0.96	0.07	0.79



Stellar Parameters For KIC 005351250

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5559^{+110}_{-110}	$4.470^{+0.068}_{-0.102}$	$-0.020^{+0.150}_{-0.150}$	$0.914^{+0.110}_{-0.070}$	$0.899^{+0.061}_{-0.050}$	$1.657^{+0.426}_{-0.480}$
	+2%/-2%	+2%/-2%	+750%/-750%	+12%/-8%	+7%/-6%	+26%/-29%
Source	SPE58	SPE58	SPE58	DSEP		

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

Secondary Eclipse Parameters for KIC 005351250-04 / KOI 0408.04

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-26 ± 7	$1.53^{+0.57}_{-0.58}$	1591^{+58}_{-54}	3633^{+650}_{-394}	11^{+18}_{-6}
Alt.	-15 ± 7	$1.31^{+0.60}_{-0.55}$	1589^{+63}_{-52}	3452^{+796}_{-471}	$8.323^{+18.400}_{-5.120}$

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

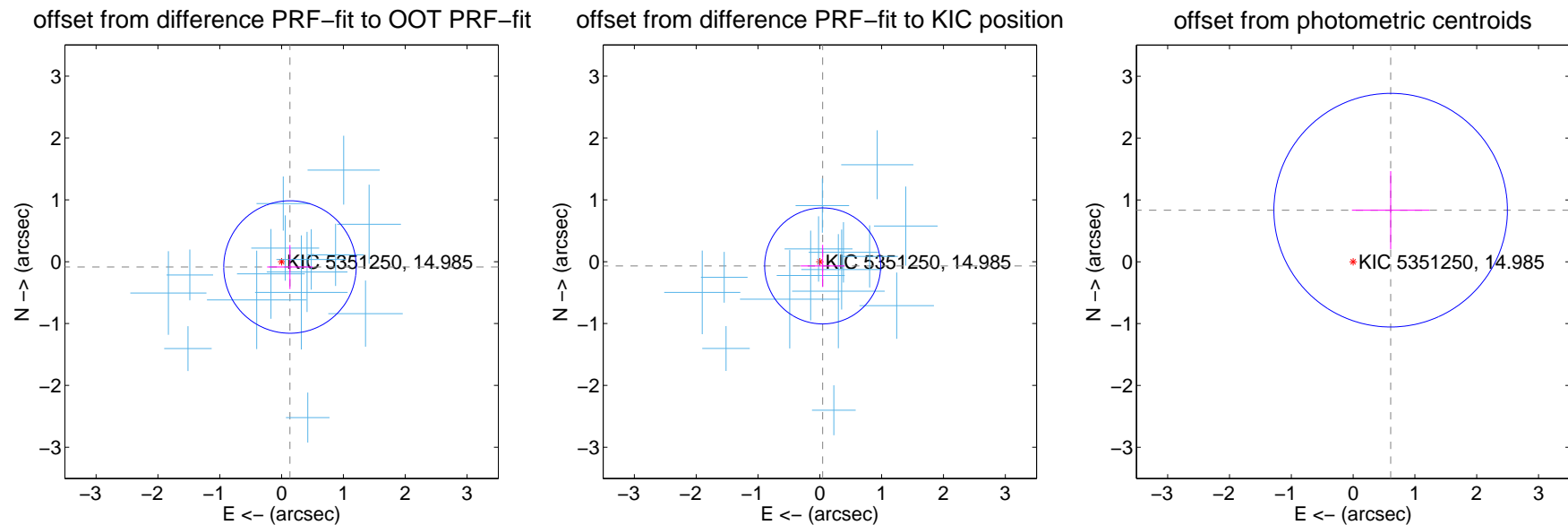
DV Centroid Data

Supplemental centroid analysis for 005351250-04. Kepler magnitude: 14.98. Transit SNR 17.11

There are 15 quarters with good PRF difference image offsets

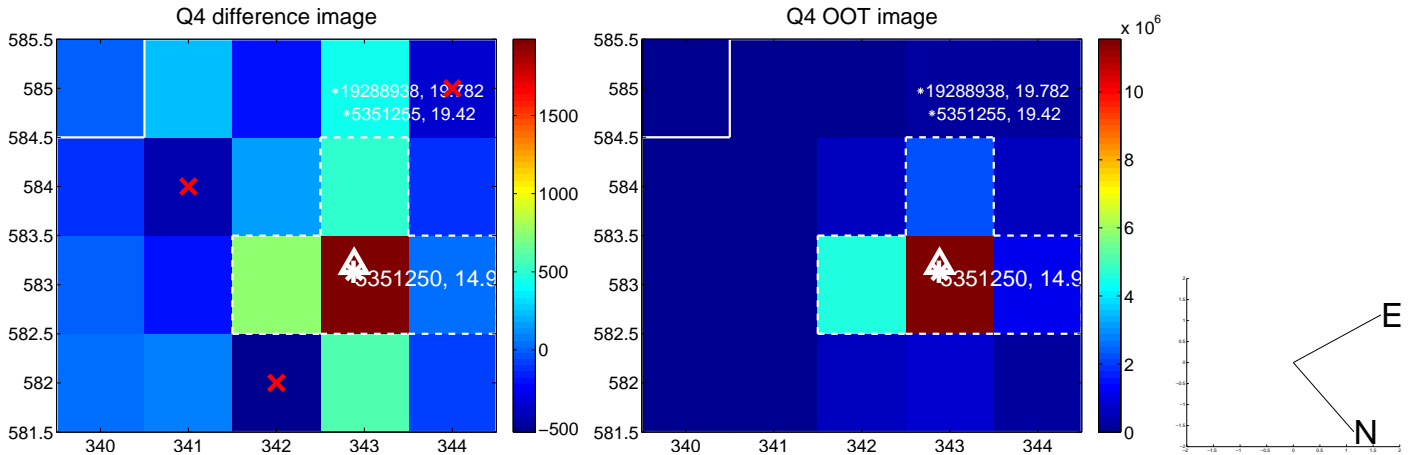
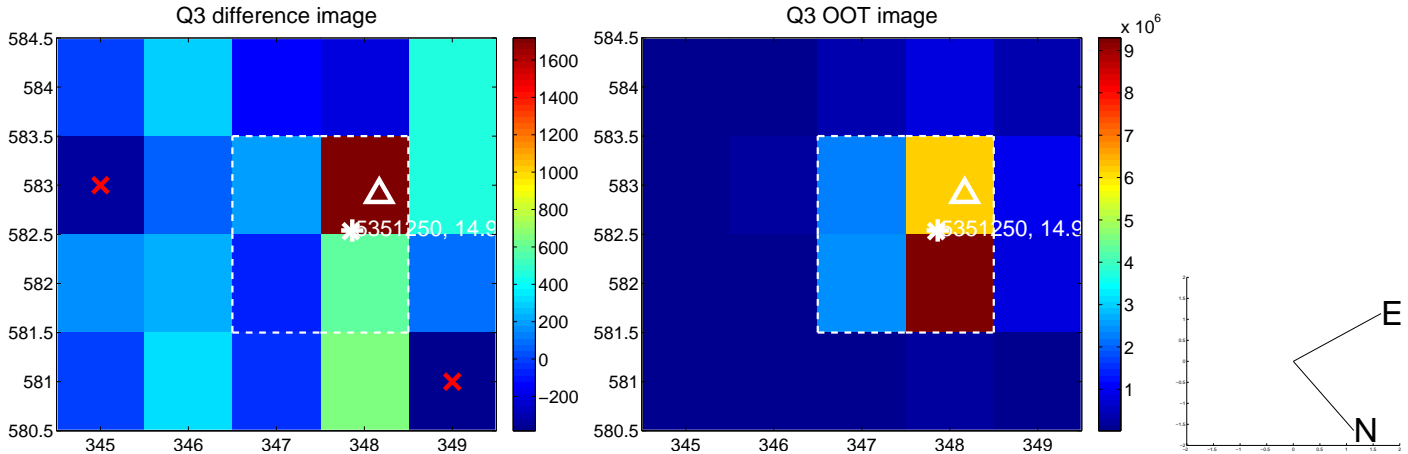
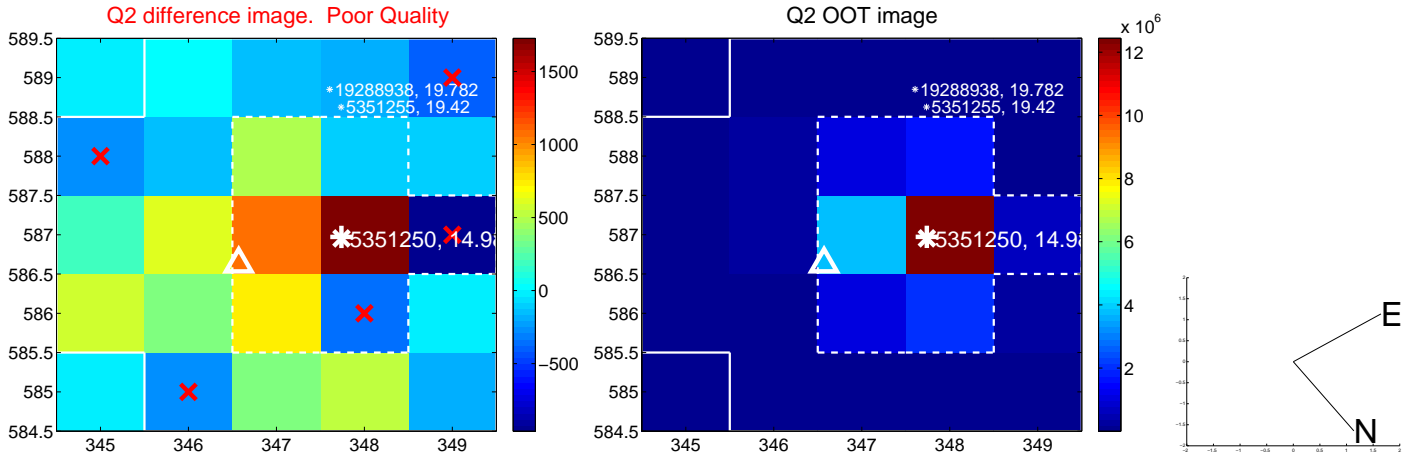
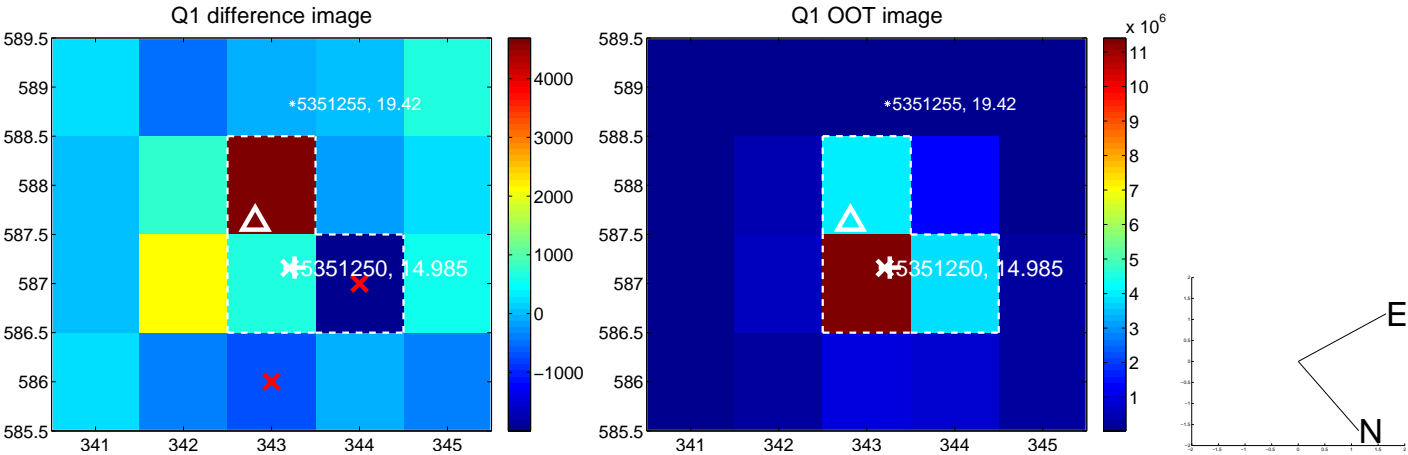
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.161 ± 0.357	0.45	-0.136 ± 0.369	-0.086 ± 0.356
PRF-fit source offset from KIC position	0.082 ± 0.313	0.26	-0.045 ± 0.354	-0.068 ± 0.341
photometric centroid source offset	1.03 ± 0.63	1.64	-0.61 ± 0.63	0.83 ± 0.63

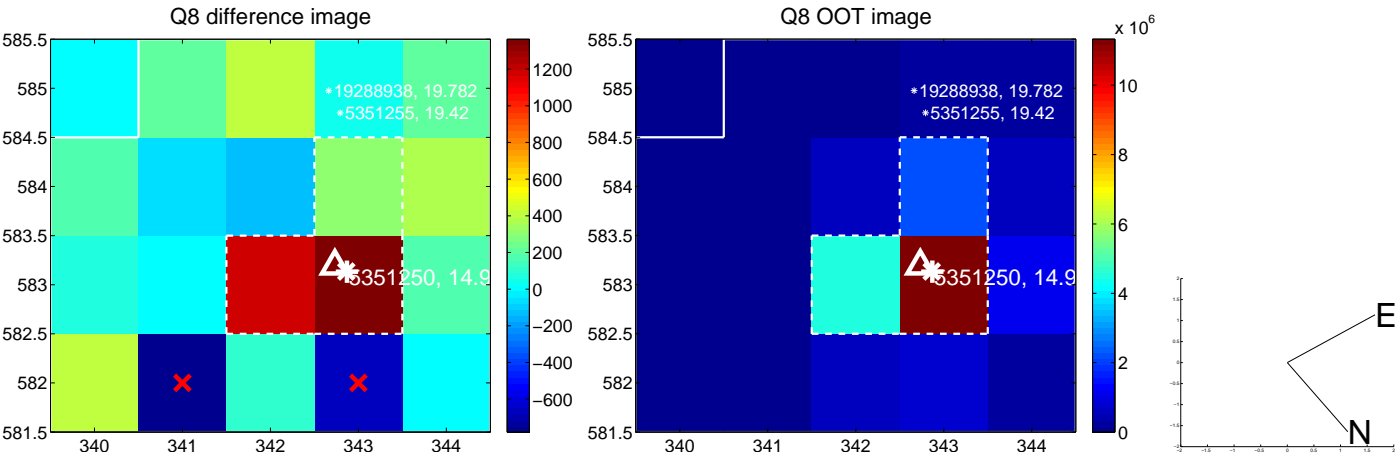
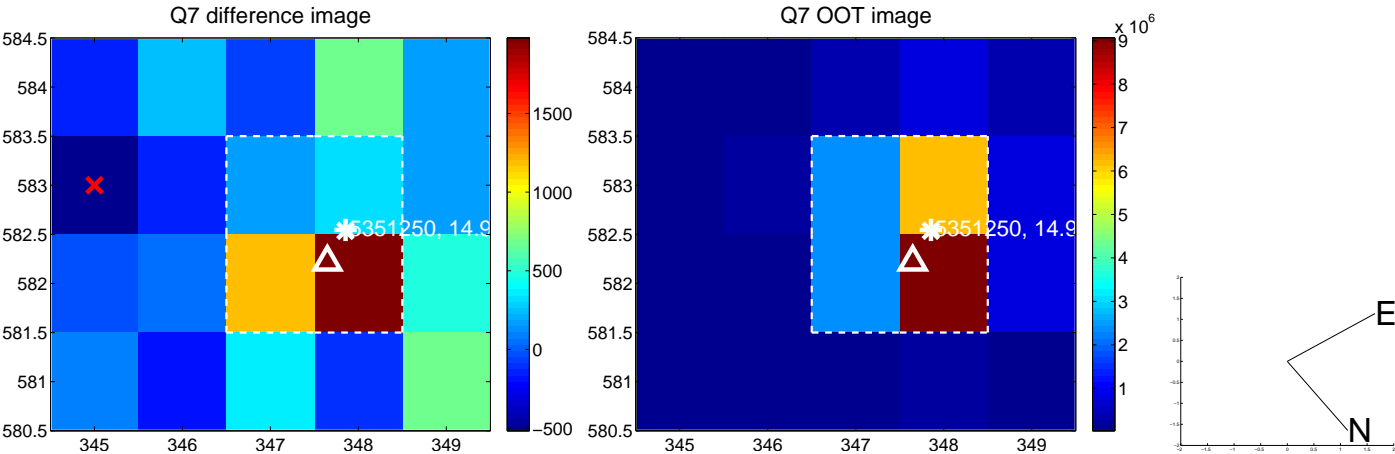
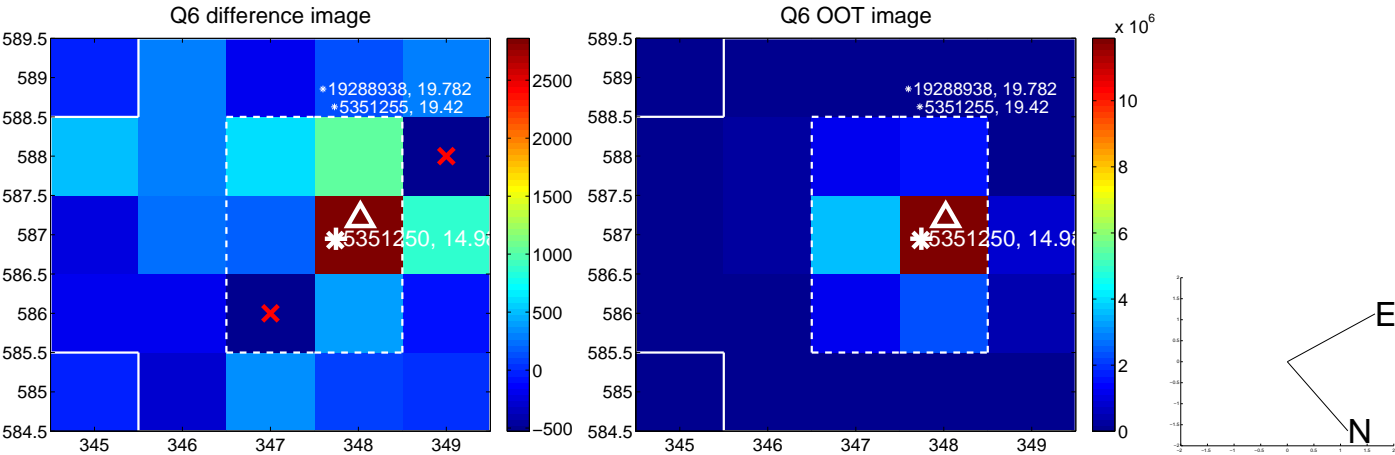
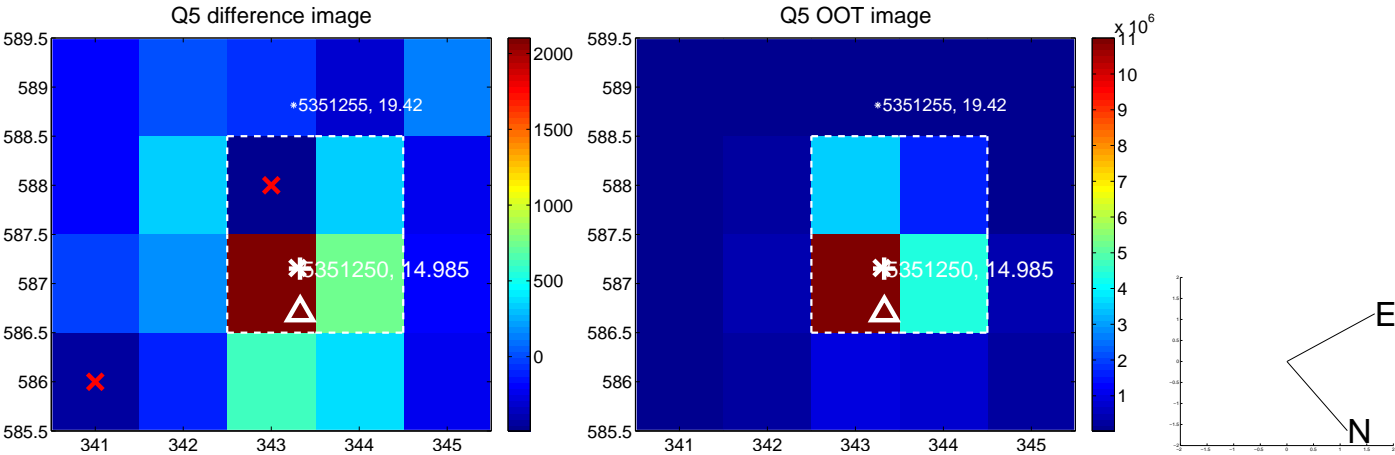


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

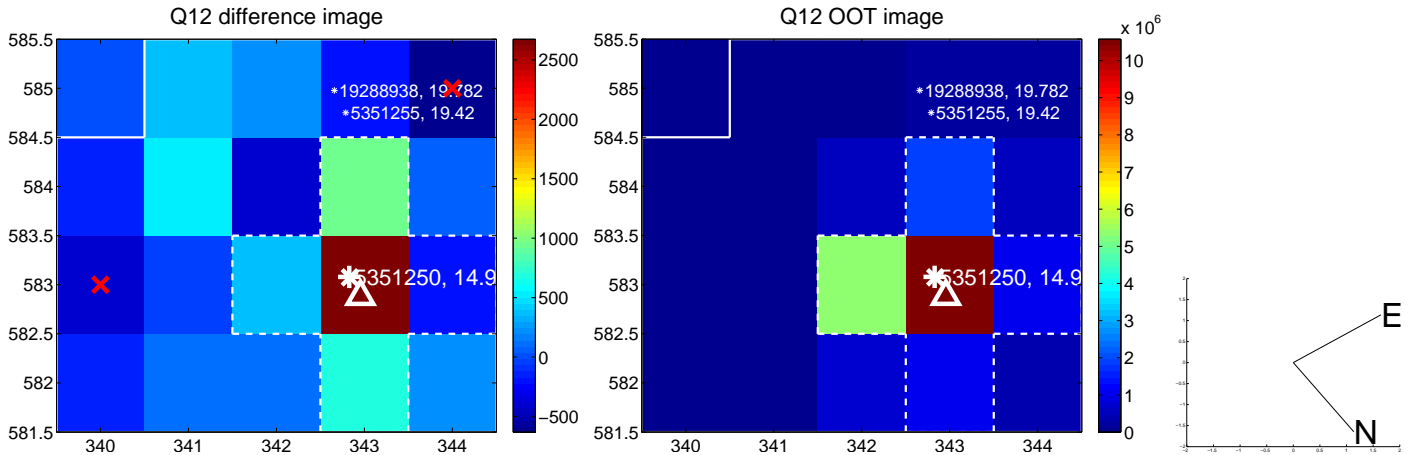
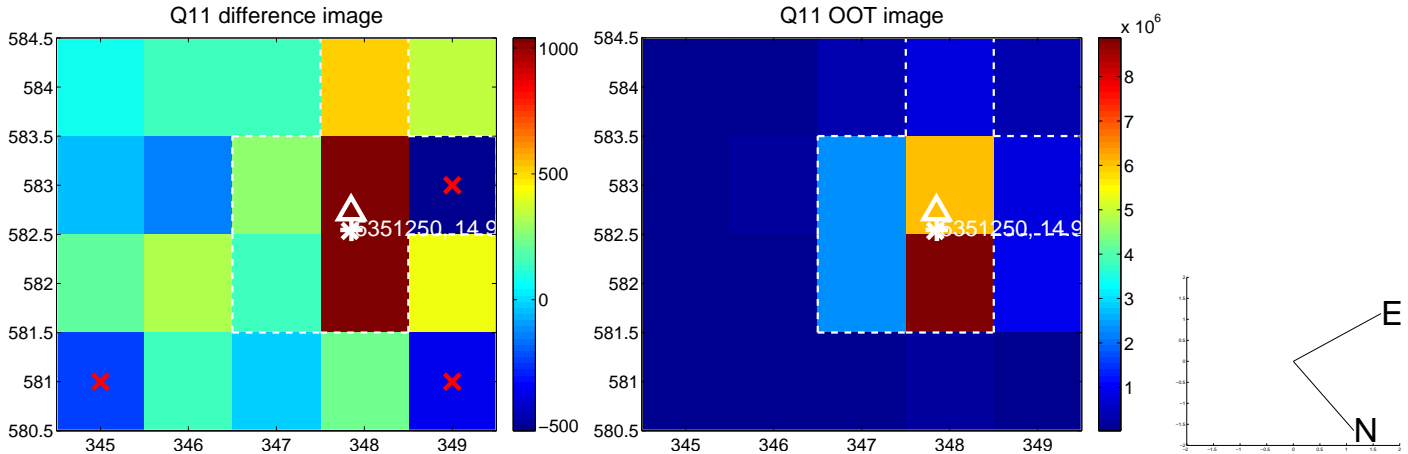
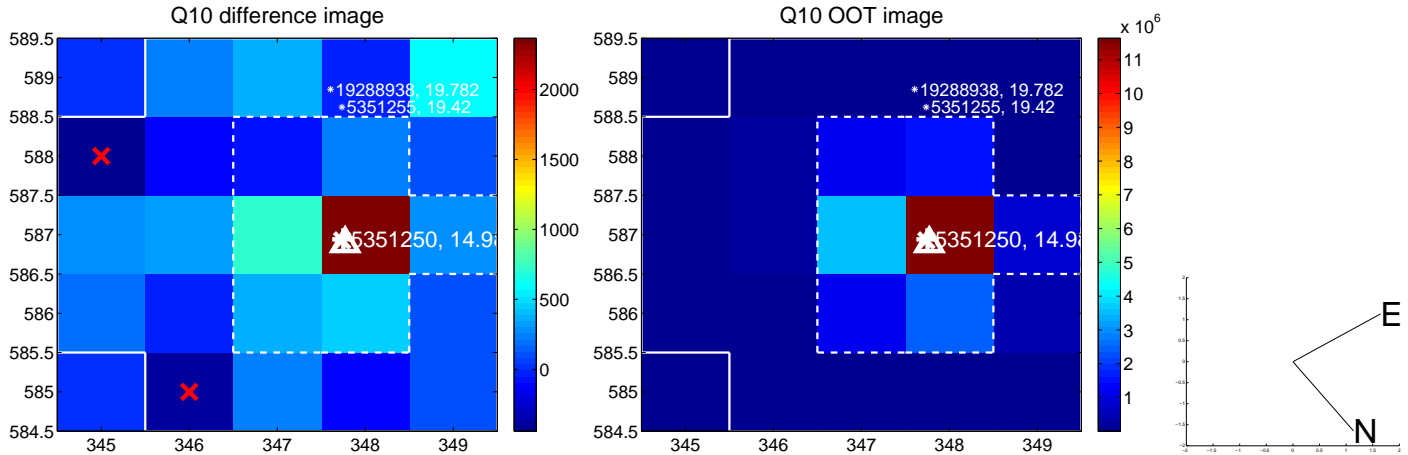
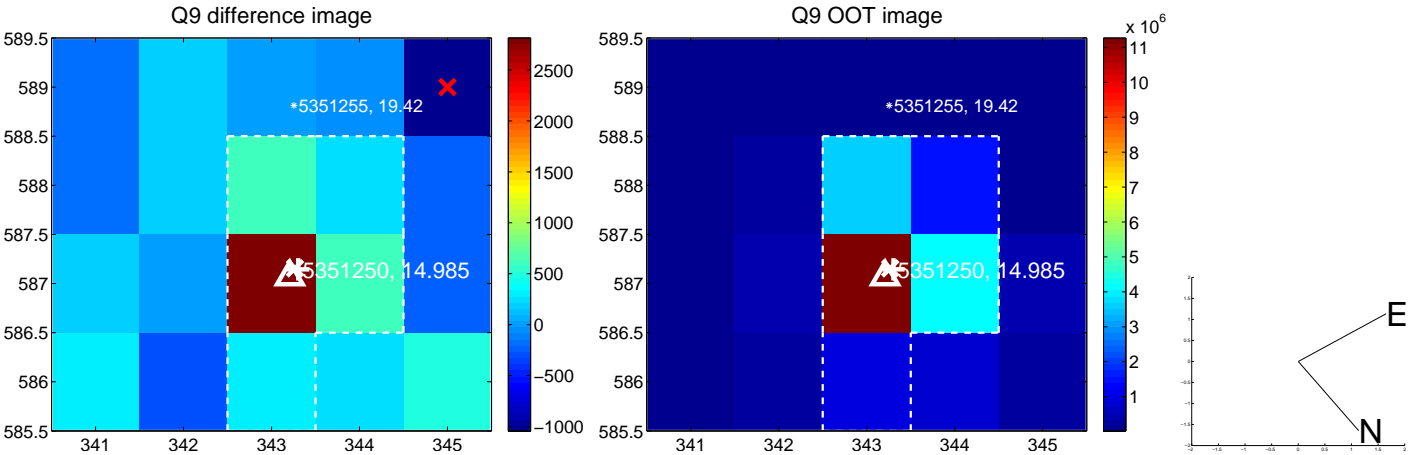
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



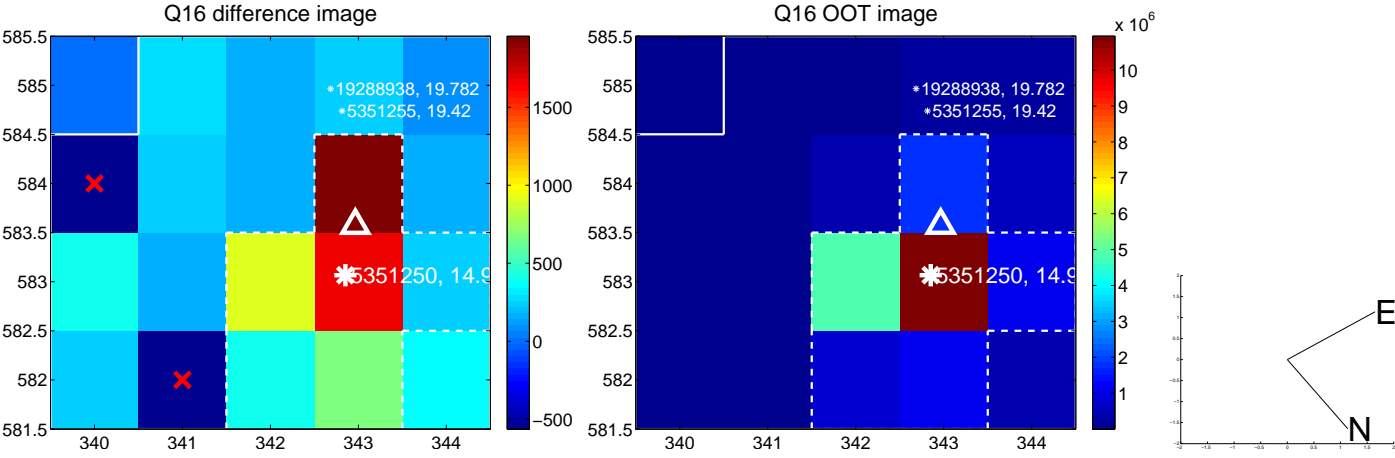
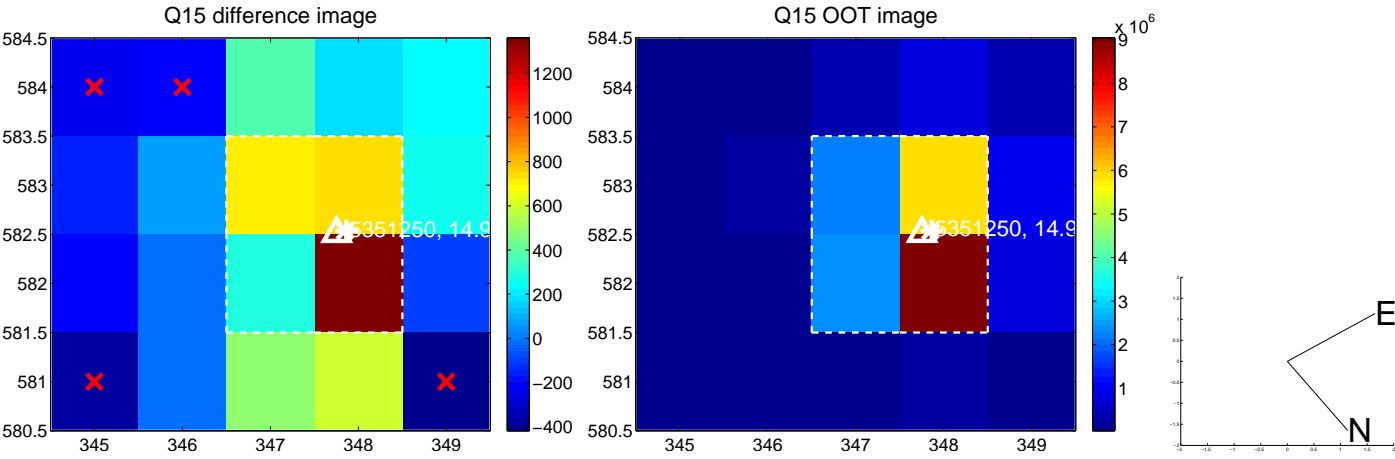
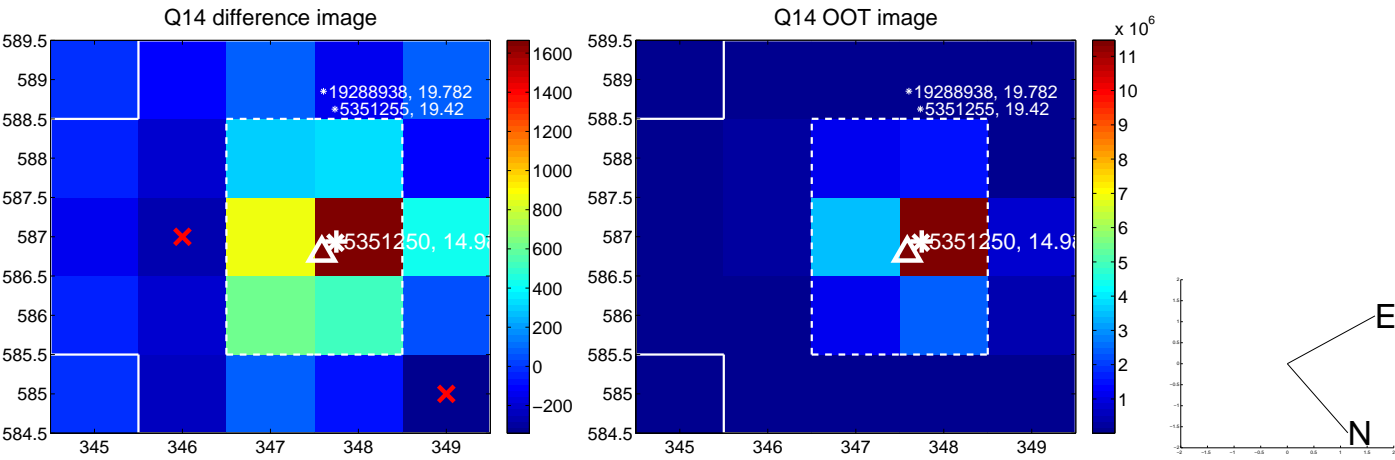
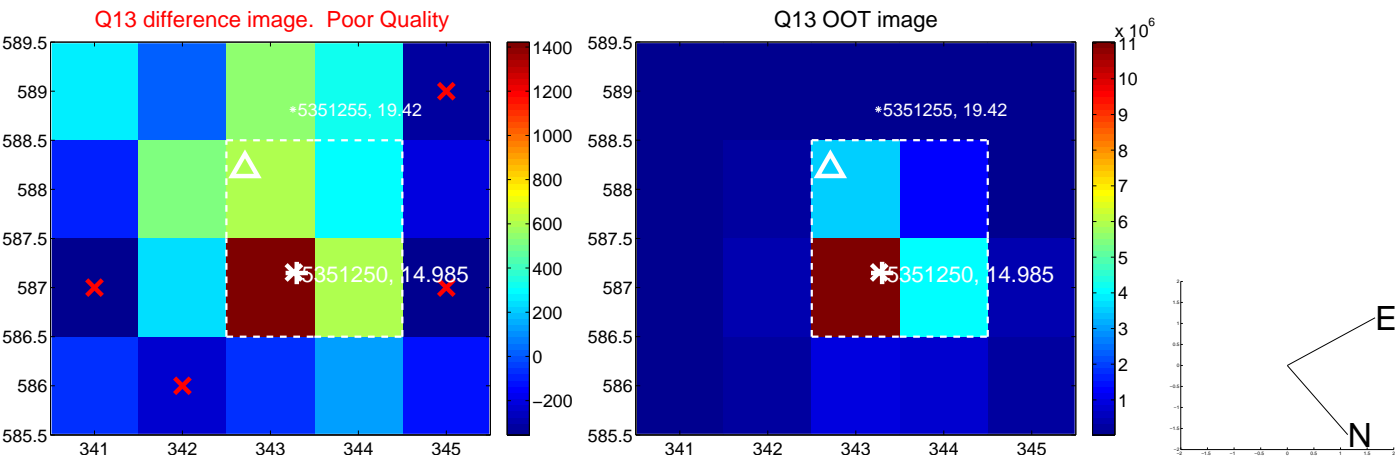
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

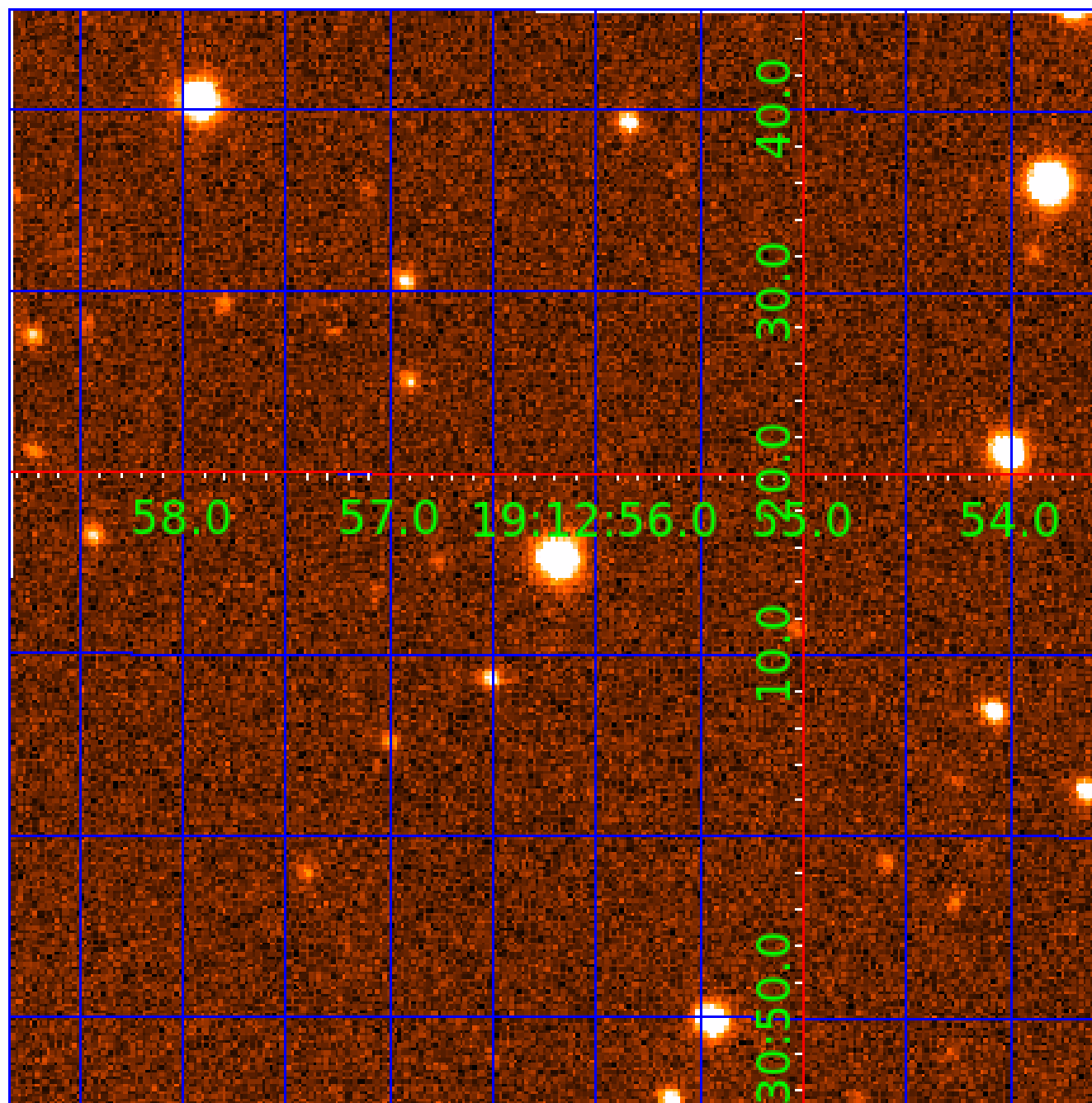


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005351250

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})
005351250-01	OBS	0408.01	7.381986	136.162331	1433.6	3.349	87.6	91.7	0.91	5559	3.95	139.30
005351250-02	OBS	0408.02	12.560941	141.674568	910.6	3.895	44.6	47.6	0.91	5559	3.02	68.57
005351250-03	OBS	0408.03	30.825977	153.018963	737.0	5.844	25.8	25.9	0.91	5559	3.17	20.71
005351250-04	OBS	0408.04	3.428044	132.367171	189.5	2.582	15.8	17.1	0.91	5559	1.50	387.36
005351250-05	OBS	0408.05	93.804278	170.555862	546.2	3.439	7.9	8.9	0.91	5559	2.48	4.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005351250-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005351250-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005351250-03	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005351250-04	OBS	PC	1.00	0	0	0	0	NO_COMMENT
005351250-05	OBS	FP	0.01	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE

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

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

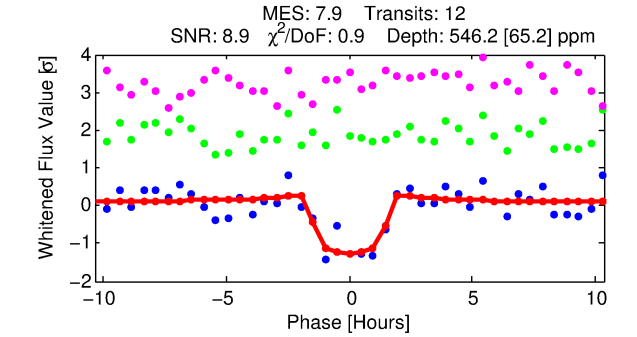
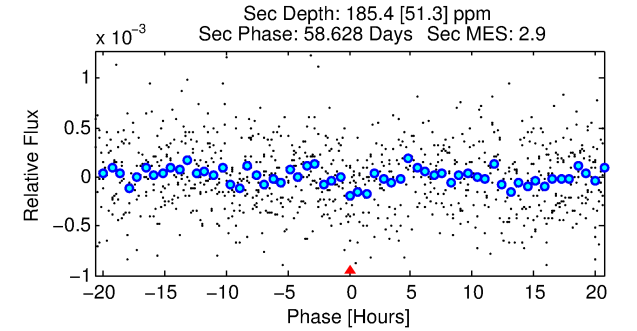
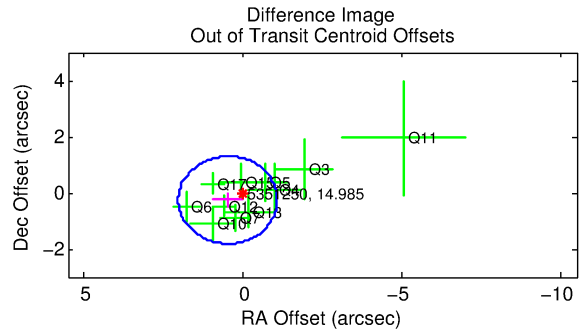
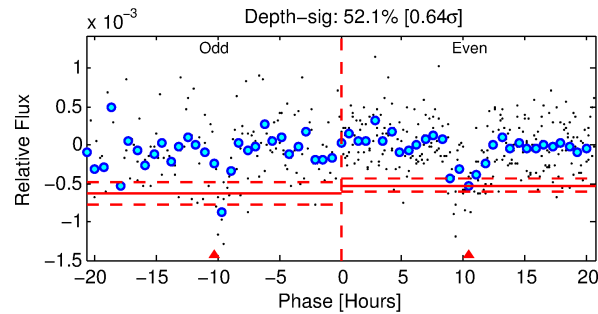
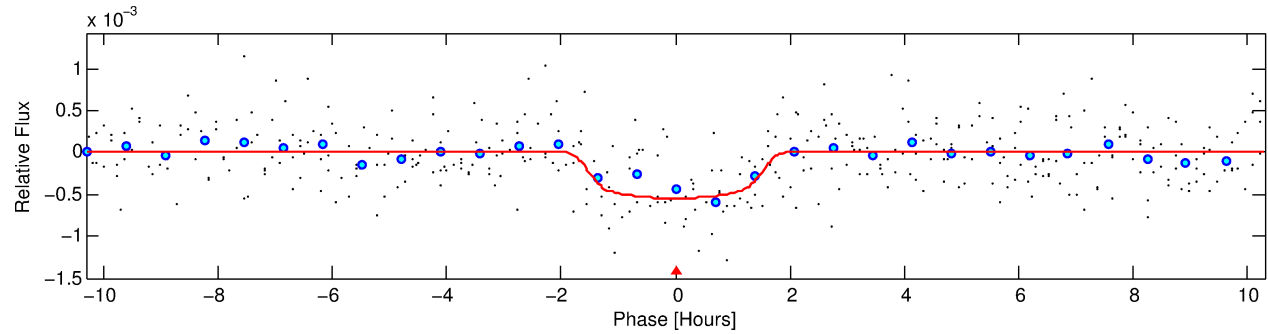
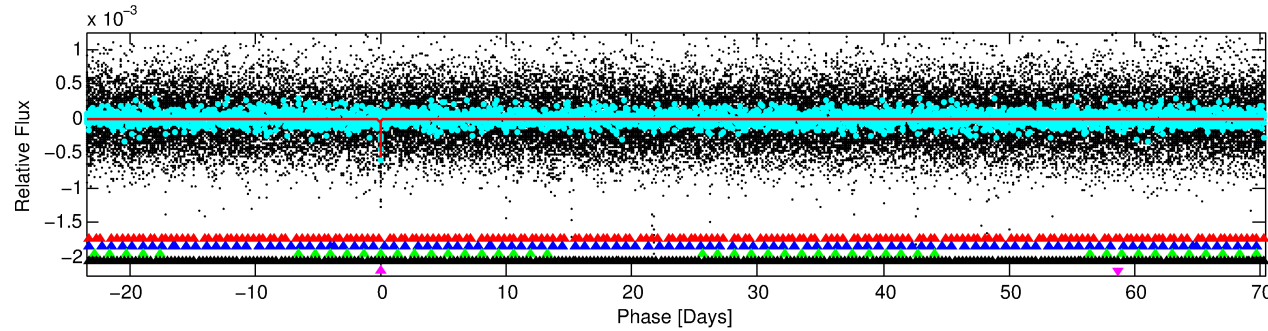
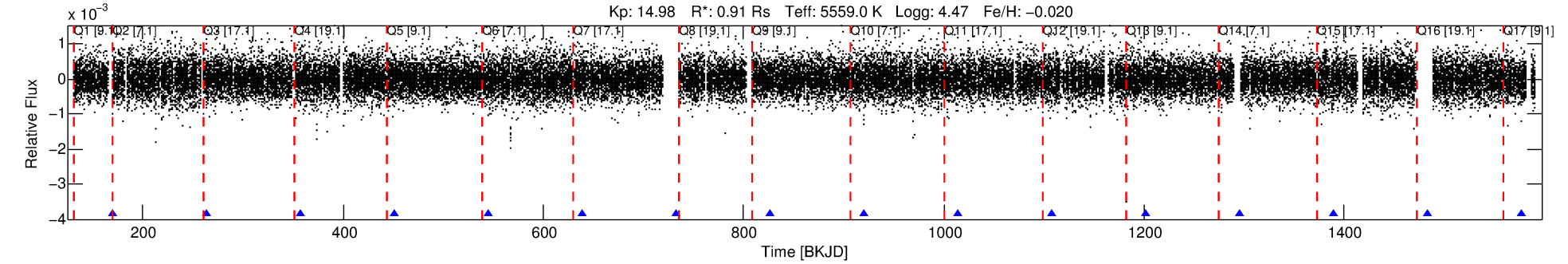
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005351250-05

No Significant Match Found

DV One-Page Summary

KIC: 5351250 Candidate: 5 of 5 Period: 93.804 d
KOI: K00408 Name: Kepler-150 Corr: No Ephemeris Match



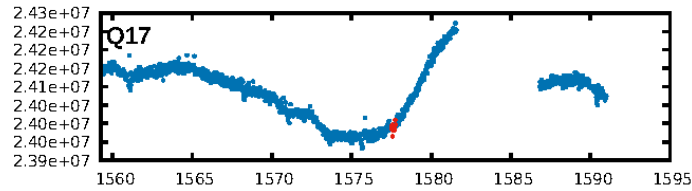
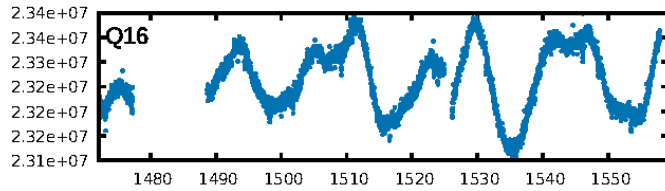
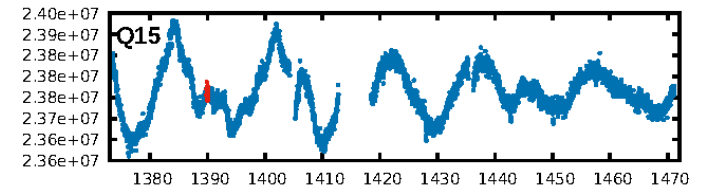
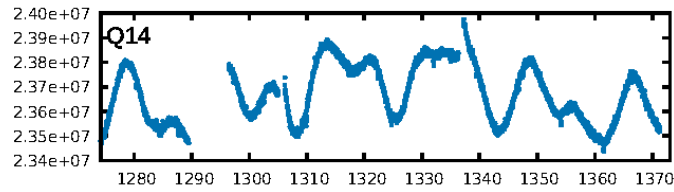
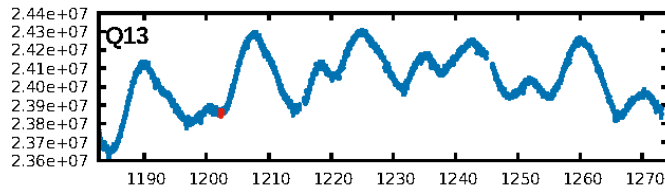
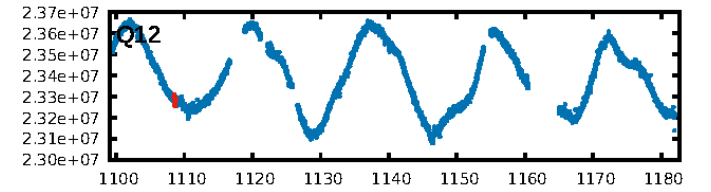
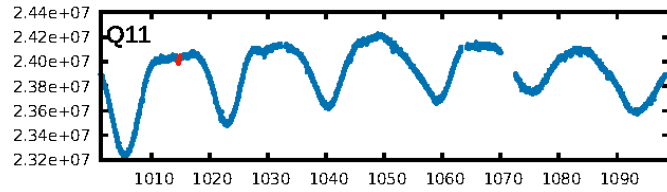
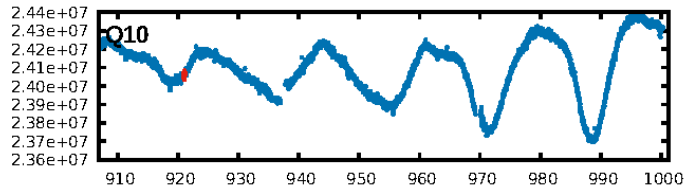
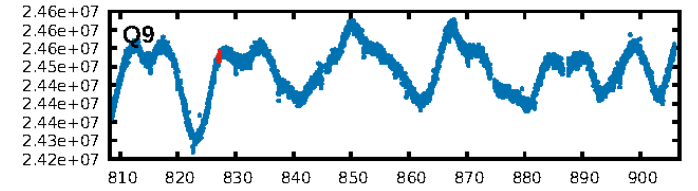
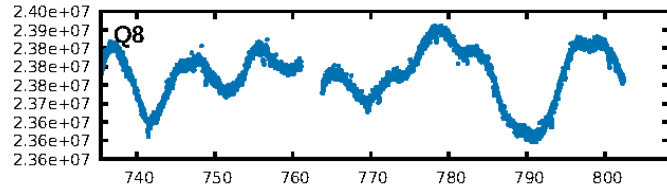
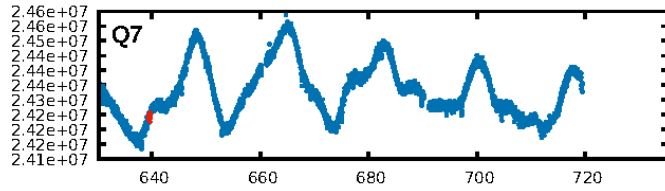
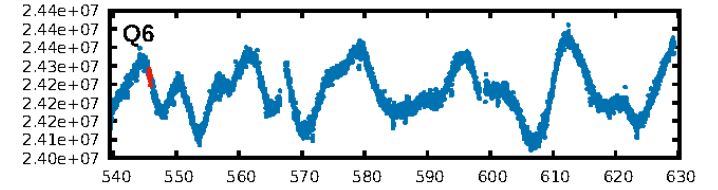
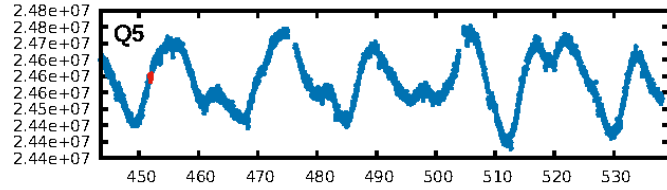
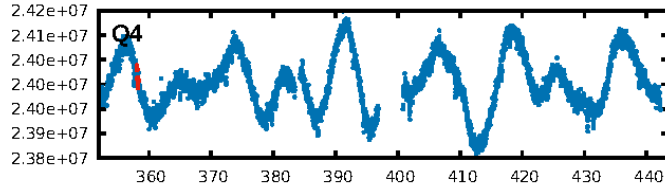
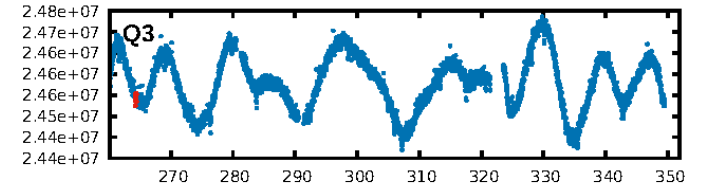
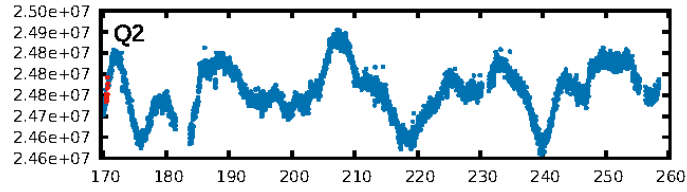
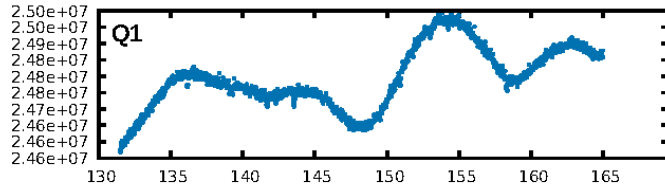
DV Fit Results:

Period = 93.80428 [0.00082] d
Epoch = 170.5559 [0.0070] BKJD
Rp/R* = 0.0248 [0.0109]
a/R* = 114.52 [214.09]
b = 0.87 [0.56]
Seff = 4.70 [0.91]
Teff = 375 [18] K
Rp = 2.48 [1.13] Re
a = 0.3901 [0.0437] AU
Ag = 2527.19 [2374.64] [1.06 σ]
Teffp = 4115 [953] K [3.92 σ]

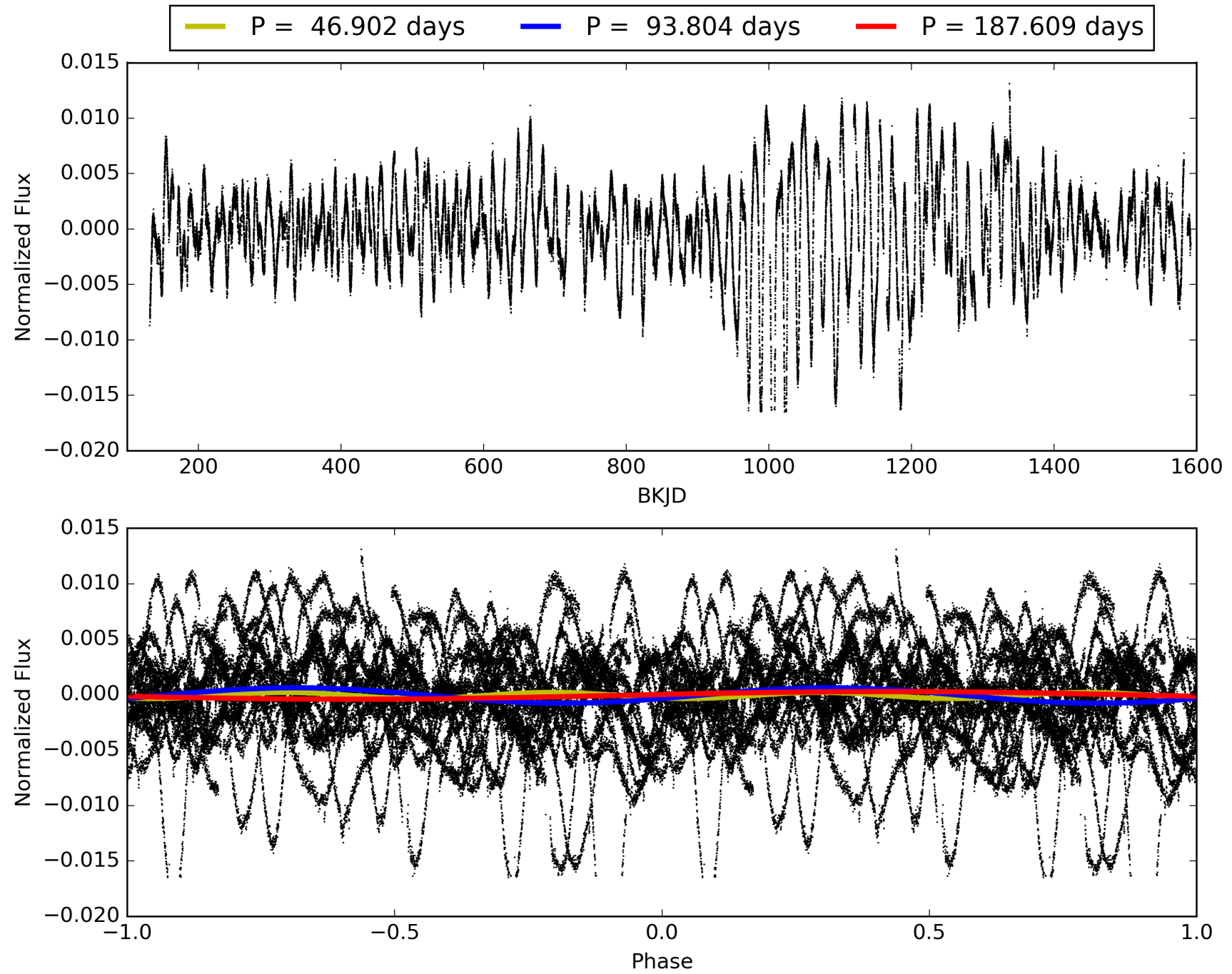
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [222.92 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 7.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.29e-13
RollingBand-fgt: 1.00 [11/11]
GhostDiagnostic-chr: 0.8701
Centroid-sig: 0.2%
Centroid-so: 2.499 arcsec [2.44 σ]
OotOffset-rm: 0.546 arcsec [1.05 σ]
KicOffset-rm: 0.573 arcsec [1.17 σ]
OotOffset-st: 2/4/2/3 [11]
KicOffset-st: 2/4/2/3 [11]
DiffImageQuality-fgm: 0.82 [9/11]
DiffImageOverlap-fno: 0.67 [8/12]

TCE 005351250-05, PDC Light Curves

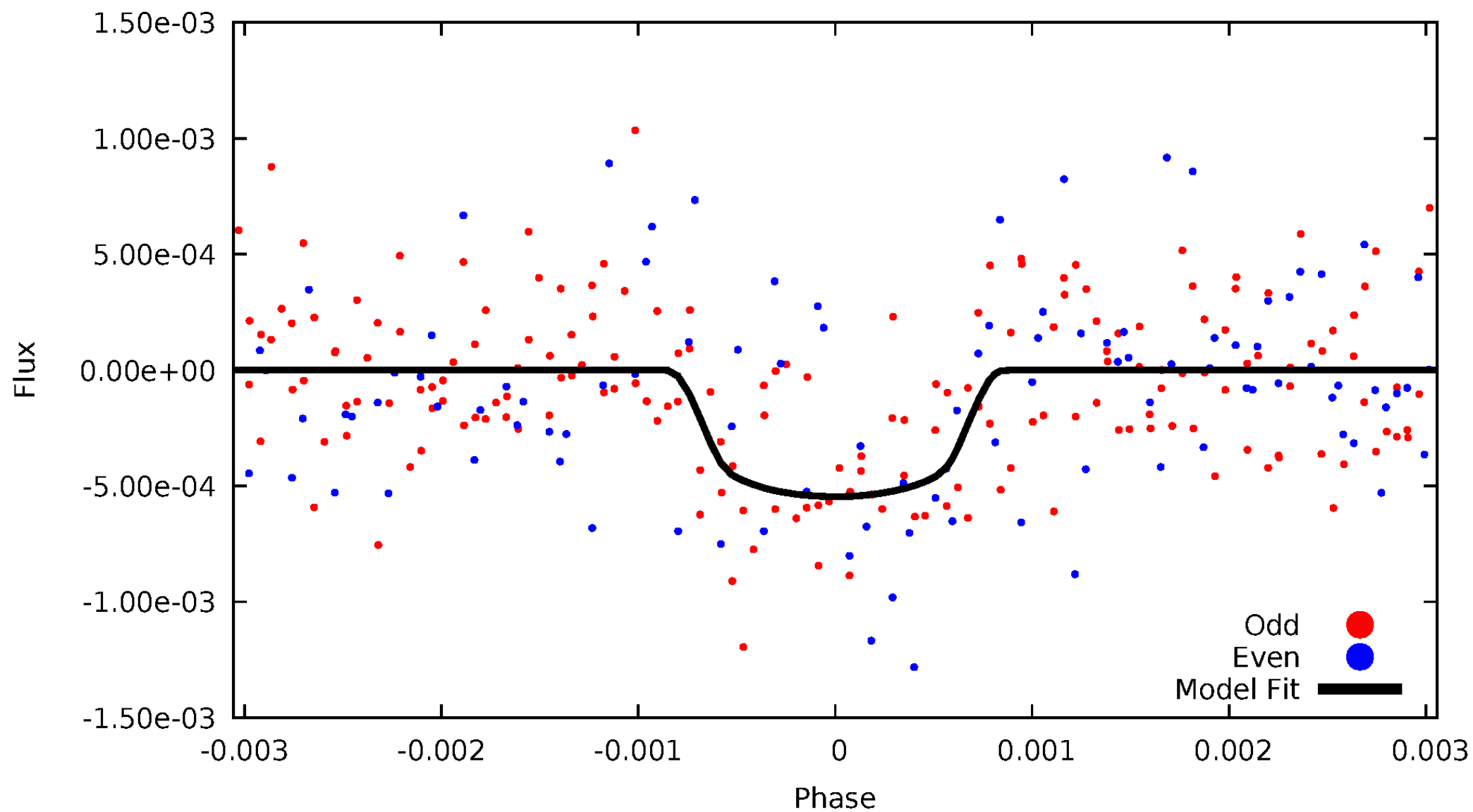


TCE 005351250-05



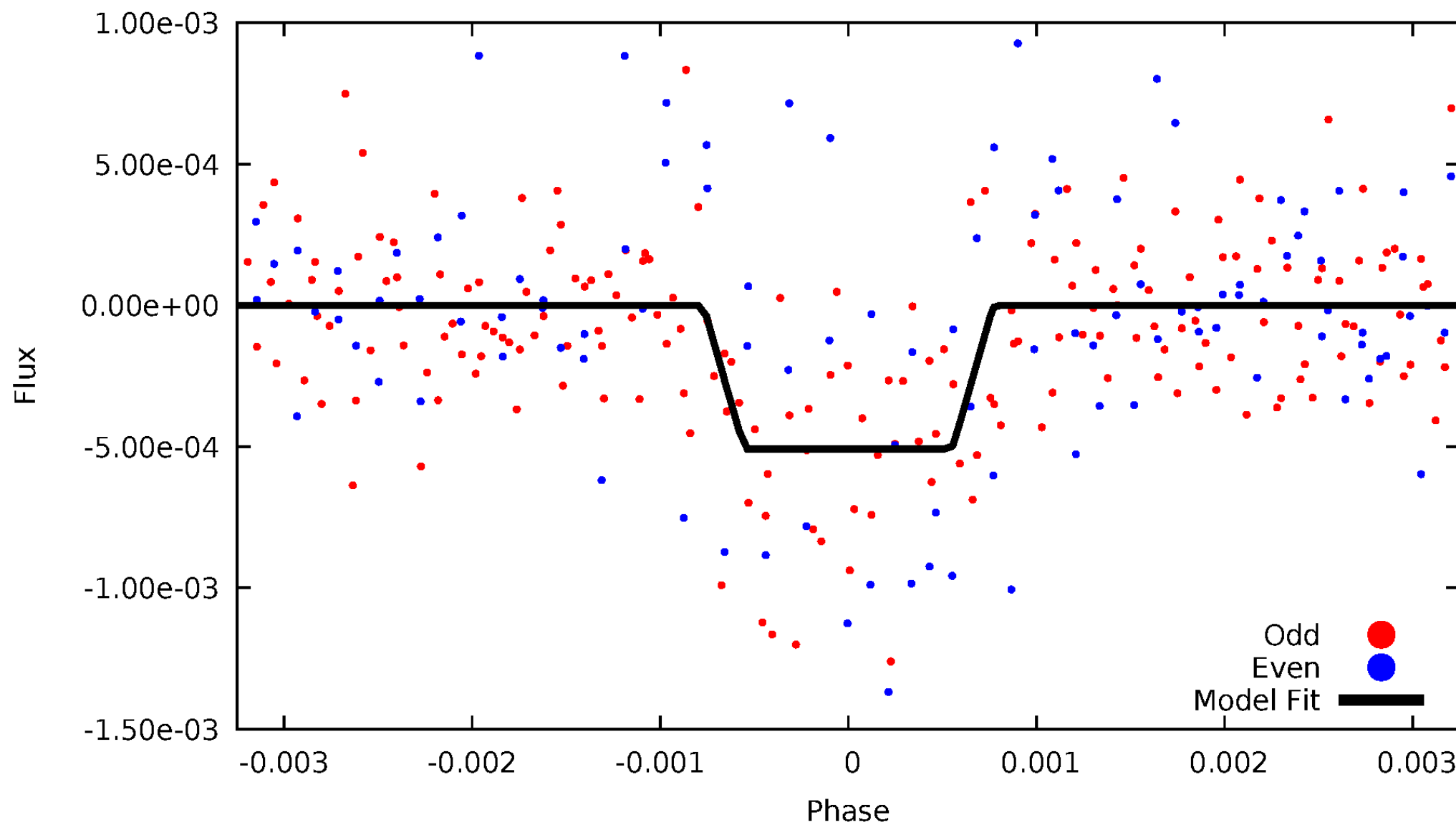
DV Odd/Even

TCE 005351250-05



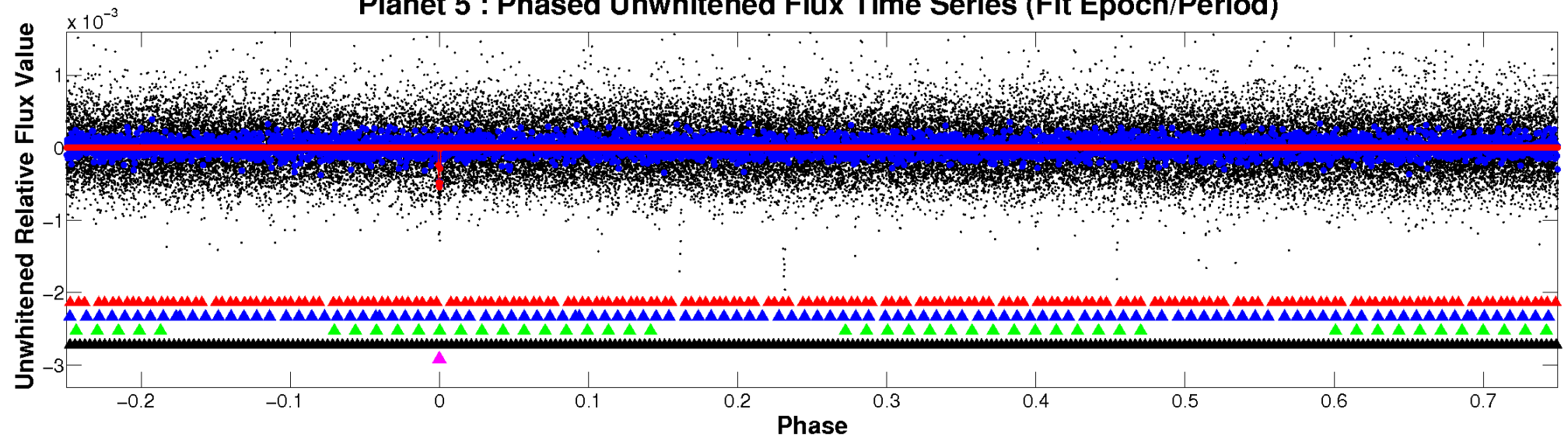
ALT Odd/Even

TCE 005351250-05

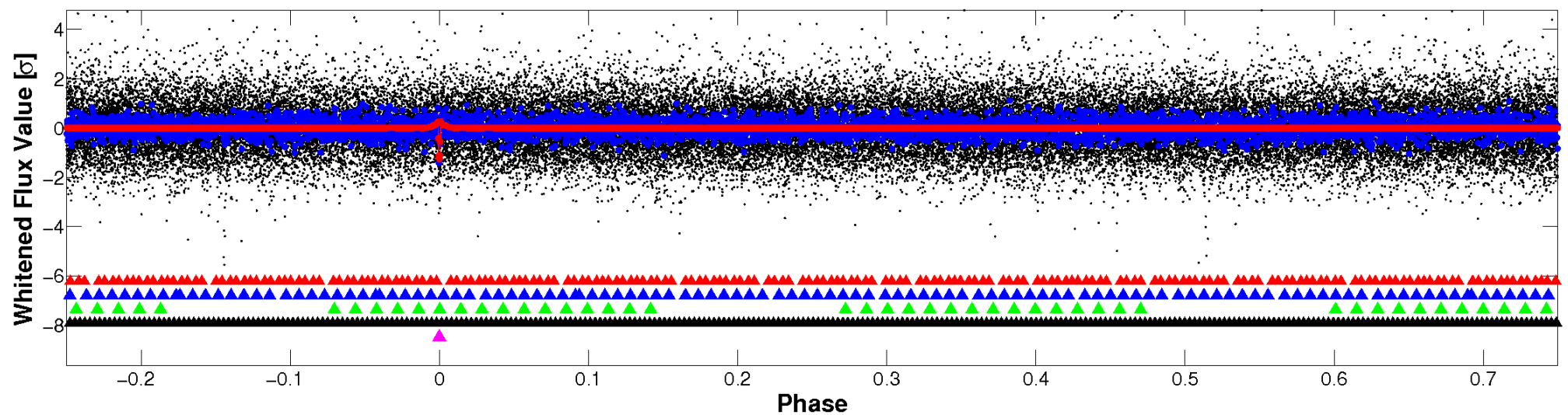


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

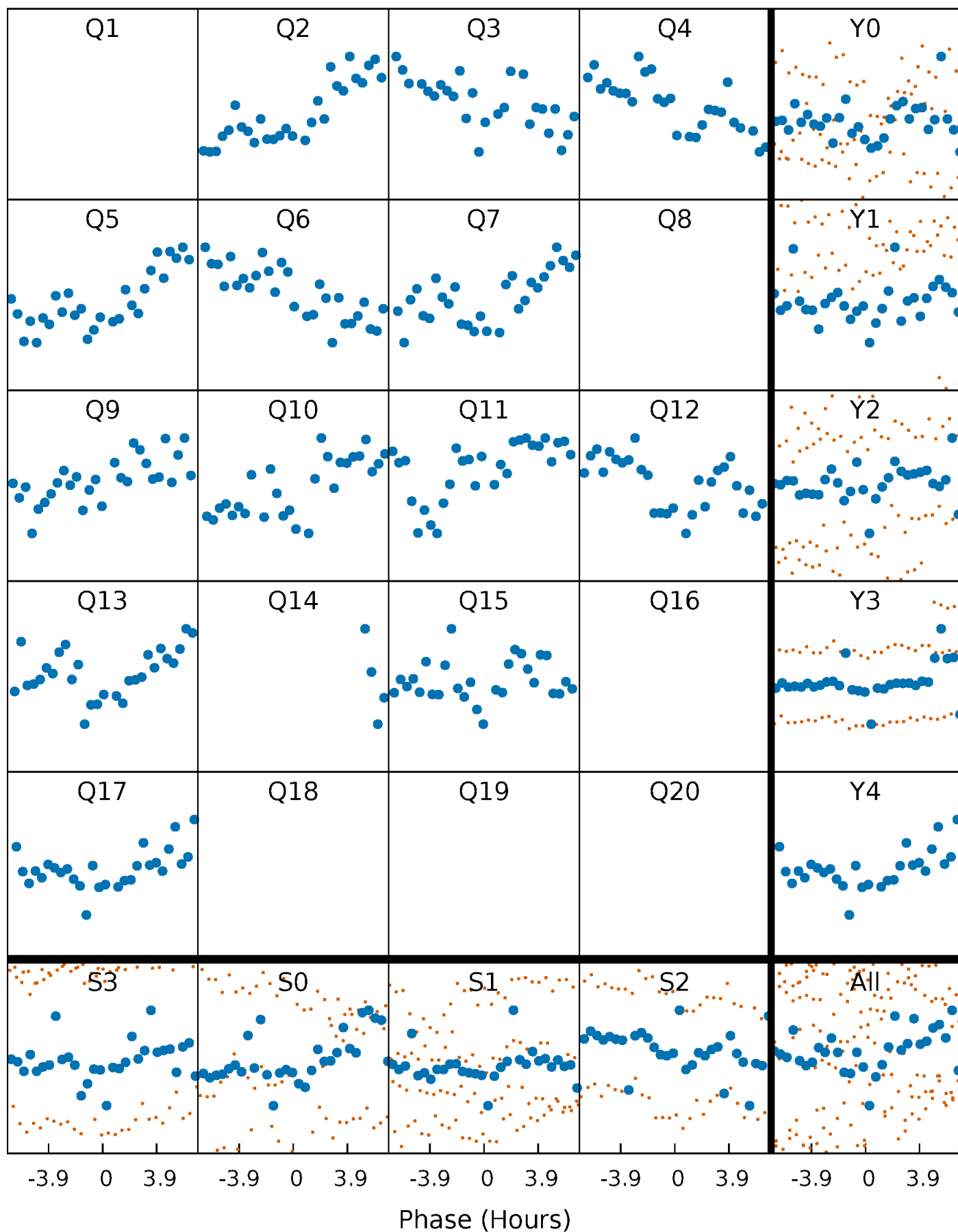


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



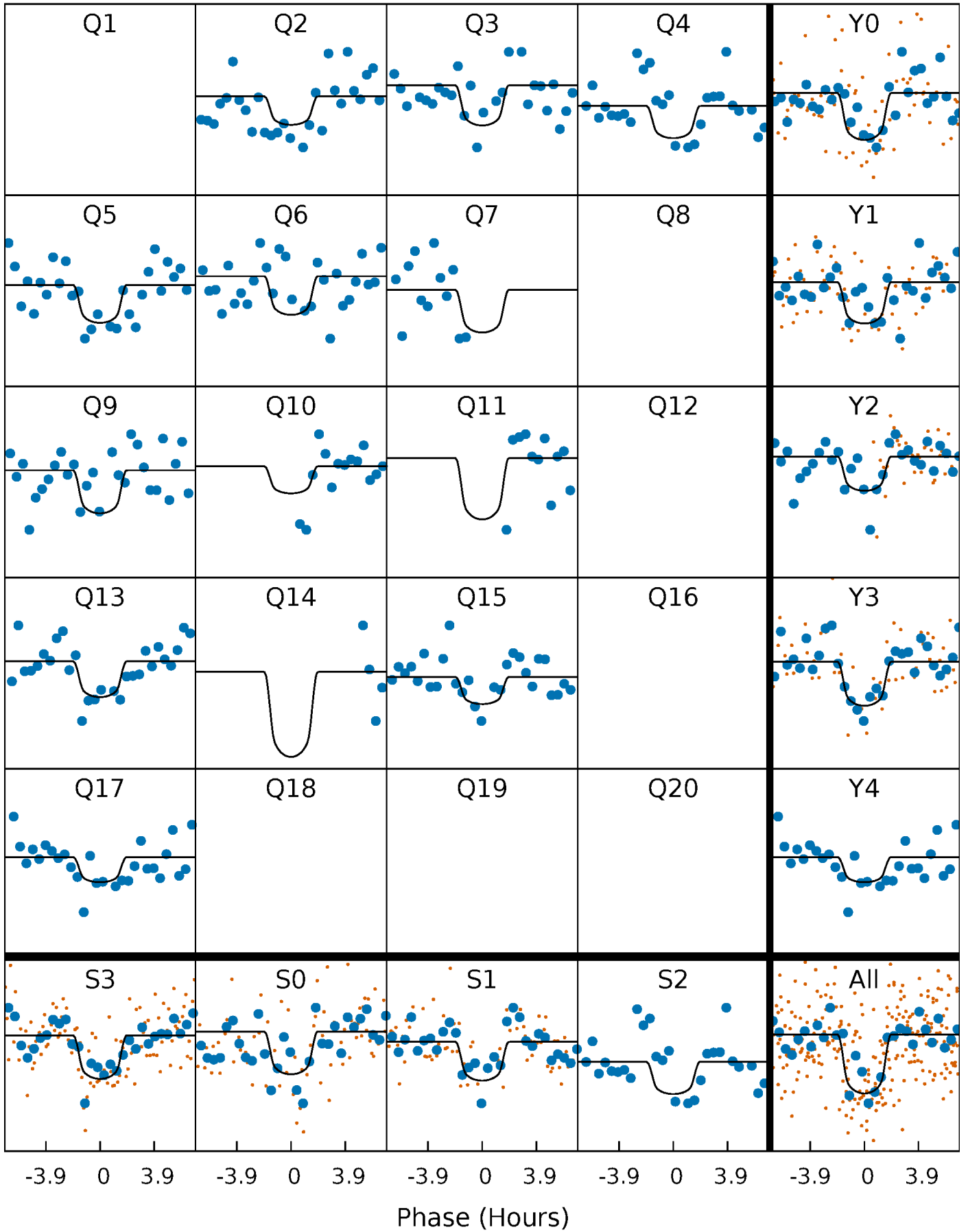
PDC Quarter-Phased Transit Curves

TCE 005351250-05 $P = 93.804278$ Days $T_0 = 170.555861$ (BKJD)



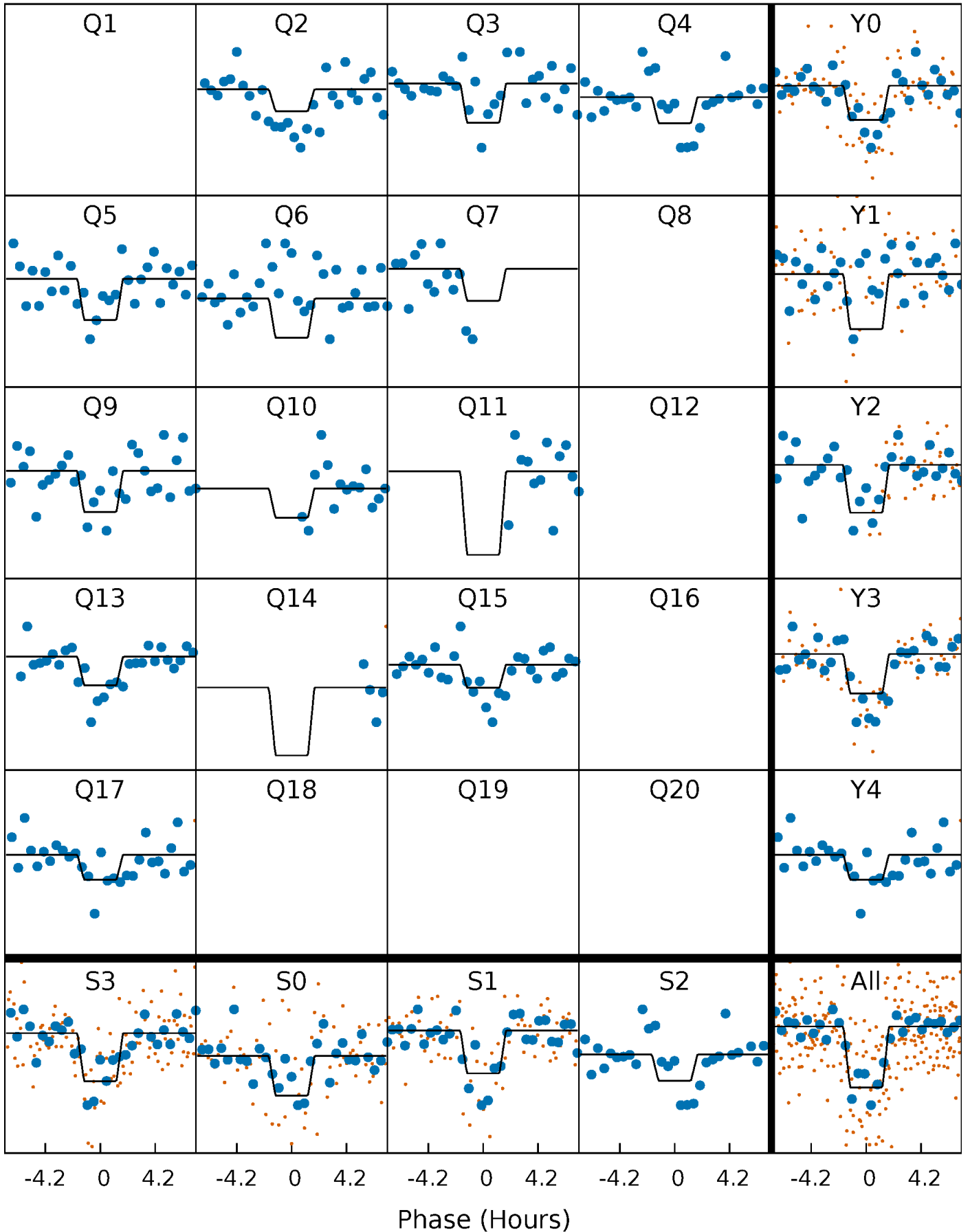
DV Quarter-Phased Transit Curves

TCE 005351250-05 P= 93.804278 Days $T_0=170.555861$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

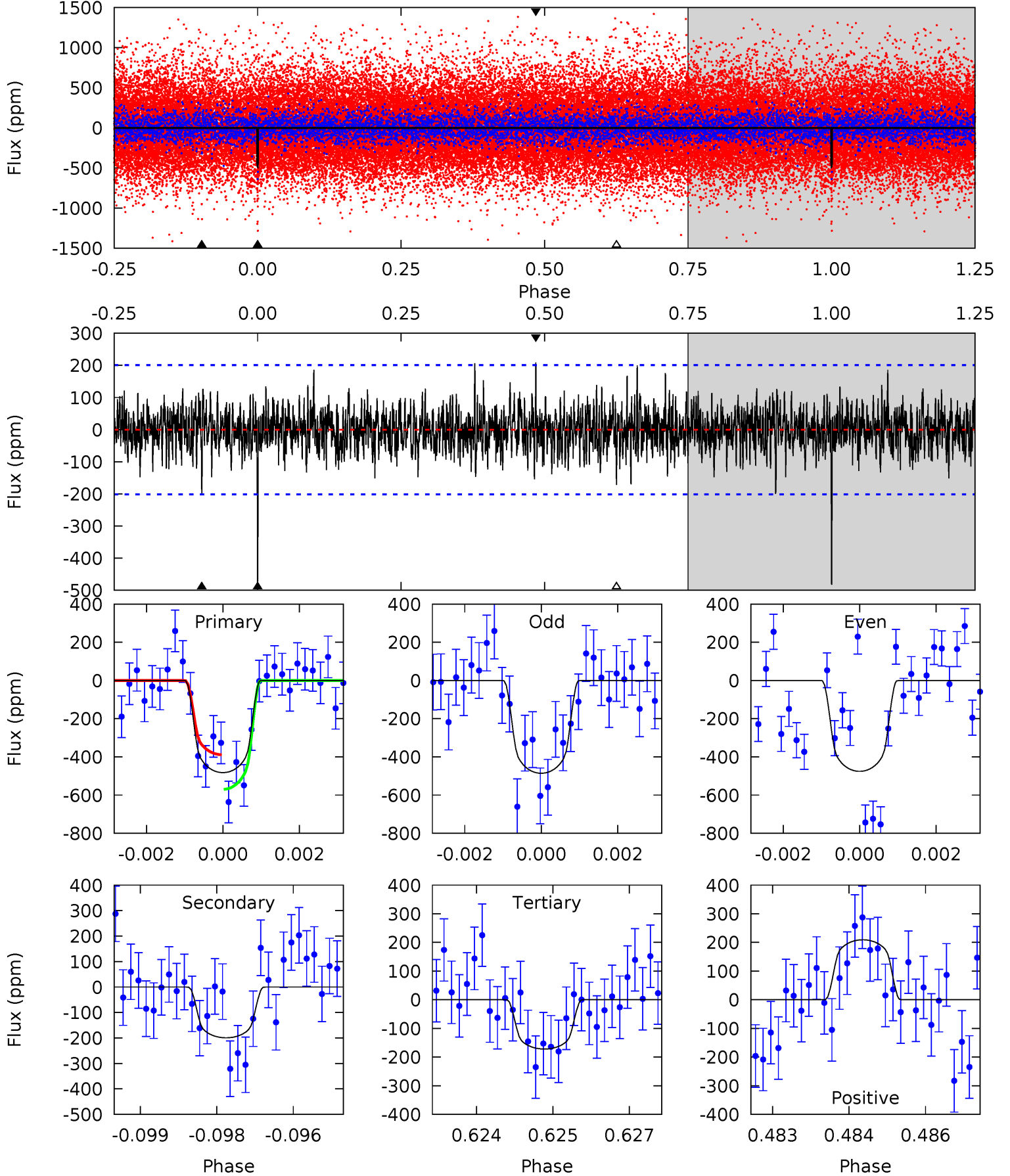
TCE 005351250-05 $P = 93.802619$ Days $T_0 = 170.563098$ (BKJD)



DV Model-Shift Uniqueness Test

005351250-05, P = 93.804278 Days, E = 76.751583 Days

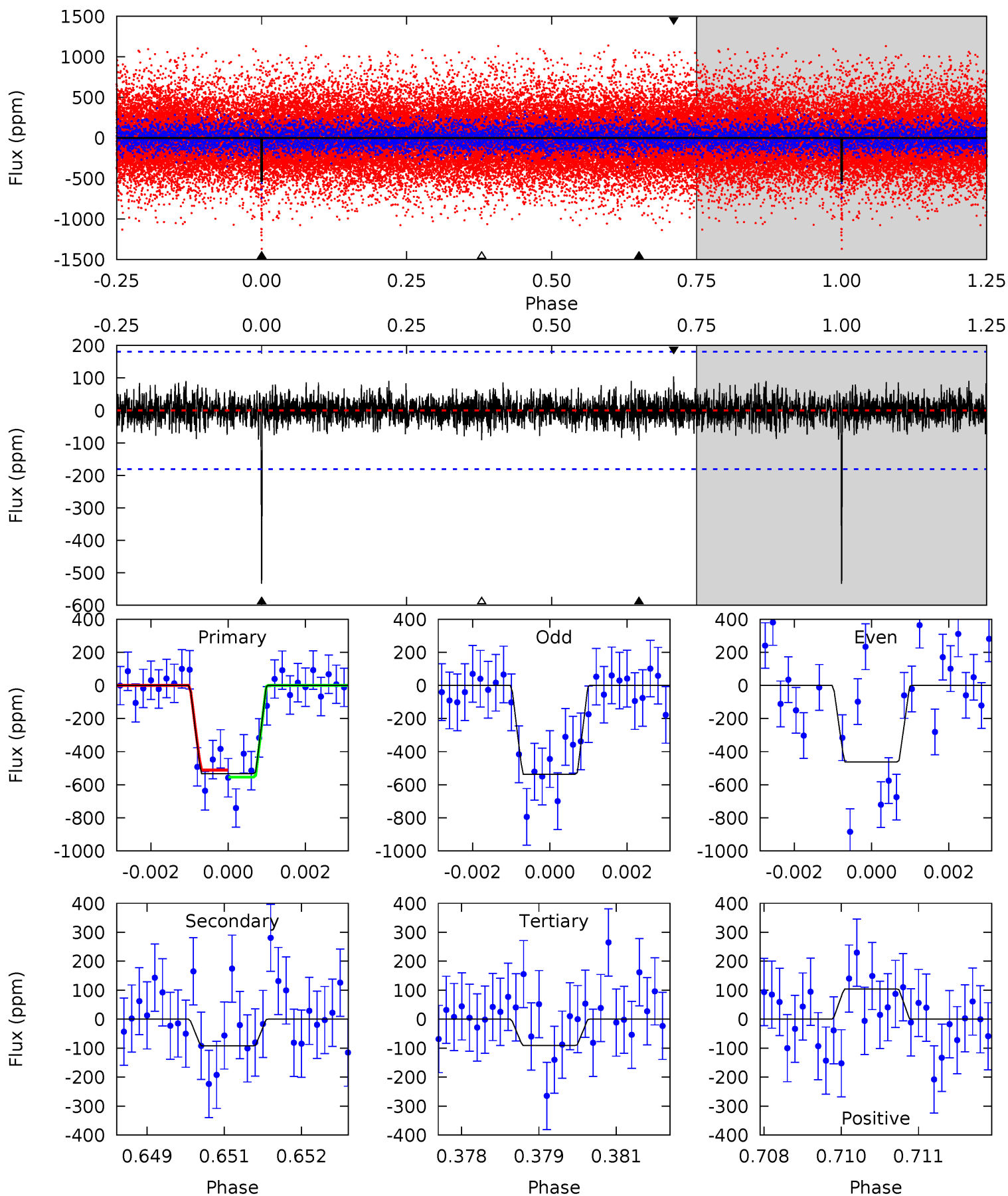
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	5.30	4.57	5.56	5.35	3.13	1.38	8.26	7.27	0.73	-0.26	0.13	0.91	0.30	2.40



Alt Model-Shift Uniqueness Test

005351250-05, P = 93.802619 Days, E = 76.760479 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.9	2.74	2.70	3.10	5.37	3.16	0.80	13.2	12.8	0.05	-0.35	1.06	1.05	0.16	0.64



Stellar Parameters For KIC 005351250

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5559^{+110}_{-110}	$4.470^{+0.068}_{-0.102}$	$-0.020^{+0.150}_{-0.150}$	$0.914^{+0.110}_{-0.070}$	$0.899^{+0.061}_{-0.050}$	$1.657^{+0.426}_{-0.480}$
	+2%/-2%	+2%/-2%	+750%/-750%	+12%/-8%	+7%/-6%	+26%/-29%
Source	SPE58	SPE58	SPE58	DSEP		

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

Secondary Eclipse Parameters for KIC 005351250-05 / KOI 0408.05

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-199 ± 38	$2.56^{+1.09}_{-1.06}$	528^{+19}_{-17}	4321^{+1151}_{-487}	2478^{+4886}_{-1293}
Alt.	-92 ± 34	$2.33^{+1.10}_{-1.12}$	527^{+21}_{-16}	3897^{+1076}_{-499}	1389^{+3735}_{-811}

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

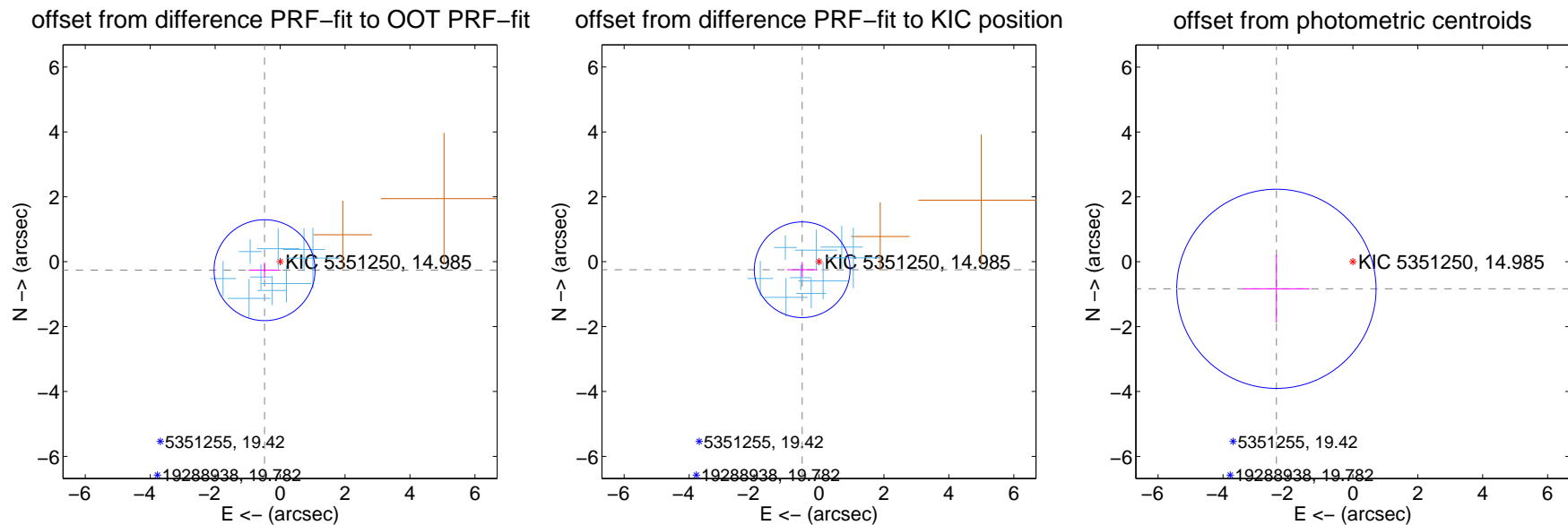
DV Centroid Data

Supplemental centroid analysis for 005351250-05. Kepler magnitude: 14.98. Transit SNR 8.92

There are 9 quarters with good PRF difference image offsets

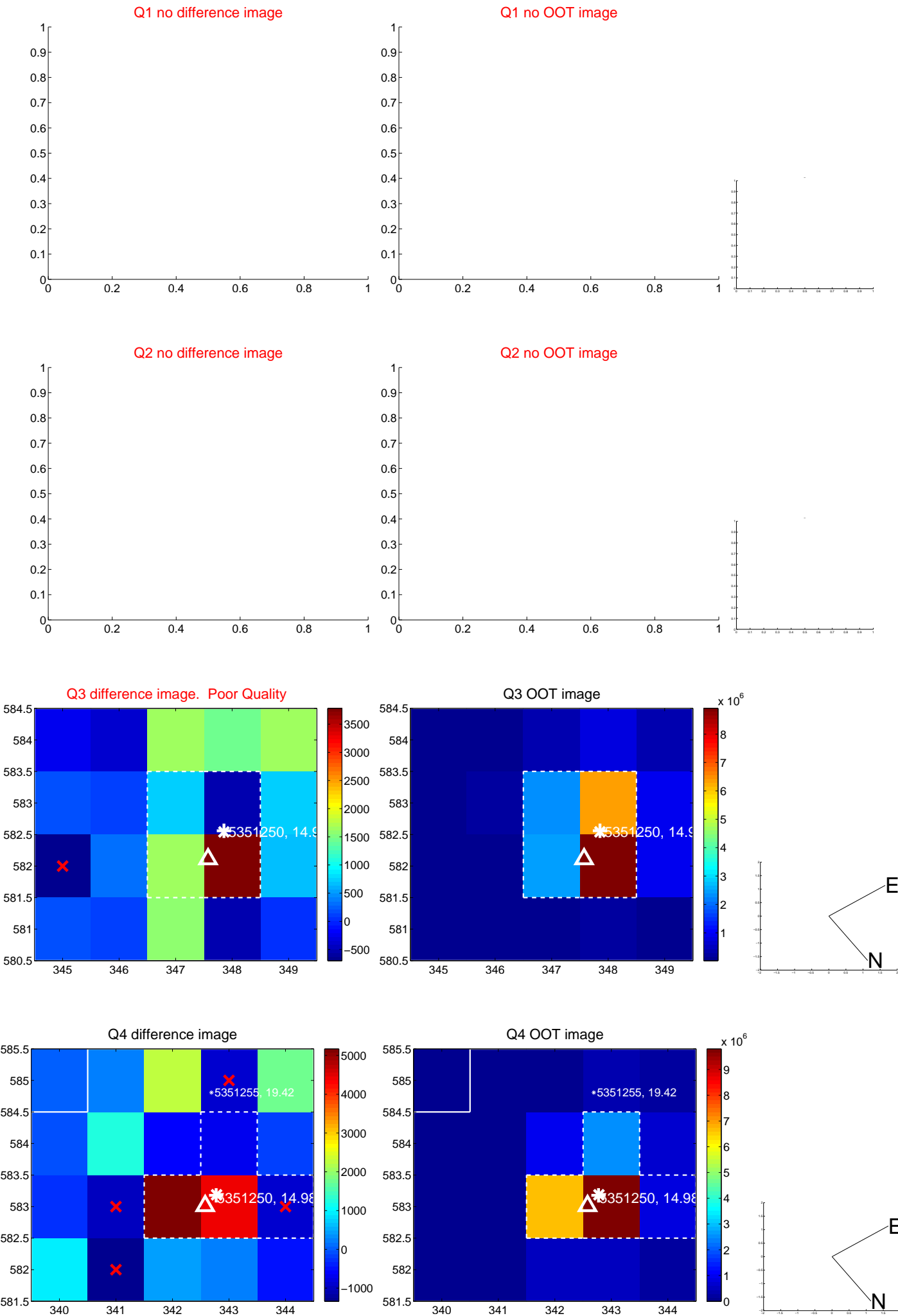
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.546 ± 0.519	1.05	0.479 ± 0.489	-0.262 ± 0.237
PRF-fit source offset from KIC position	0.573 ± 0.491	1.17	0.517 ± 0.461	-0.248 ± 0.237
photometric centroid source offset	2.50 ± 1.02	2.44	2.36 ± 1.02	-0.83 ± 1.05

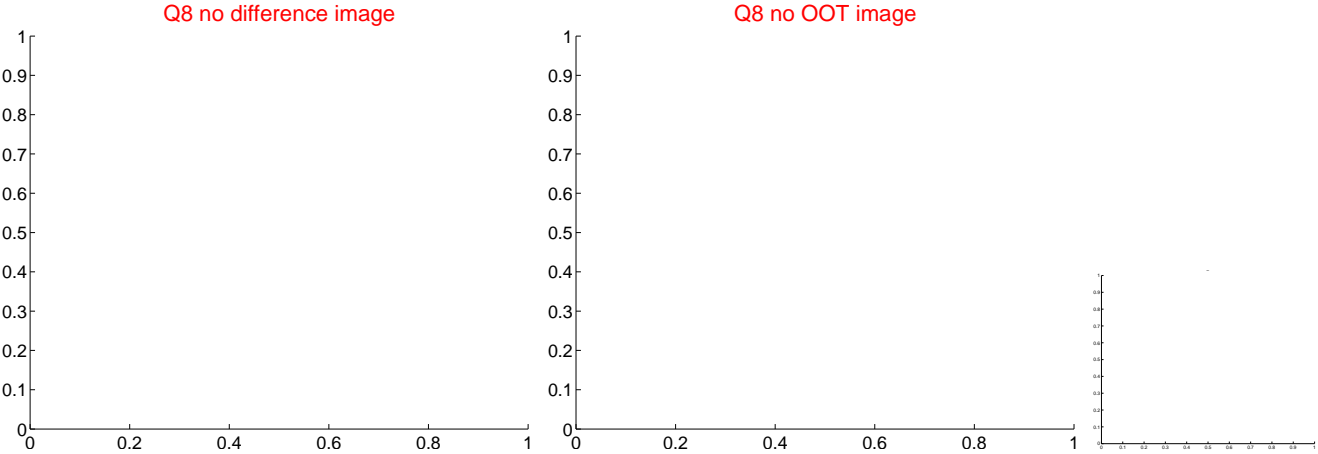
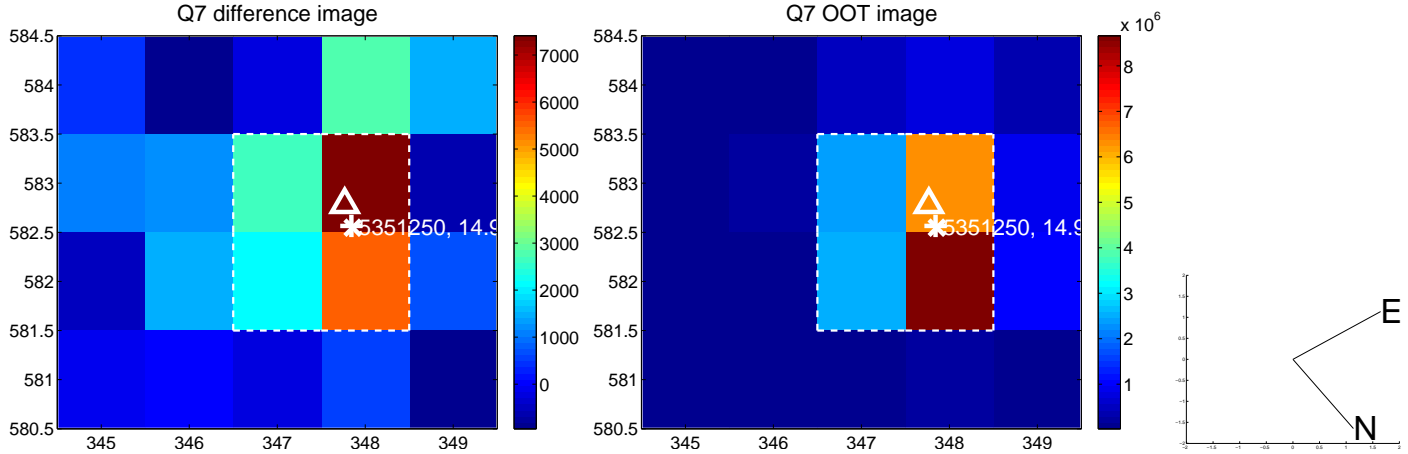
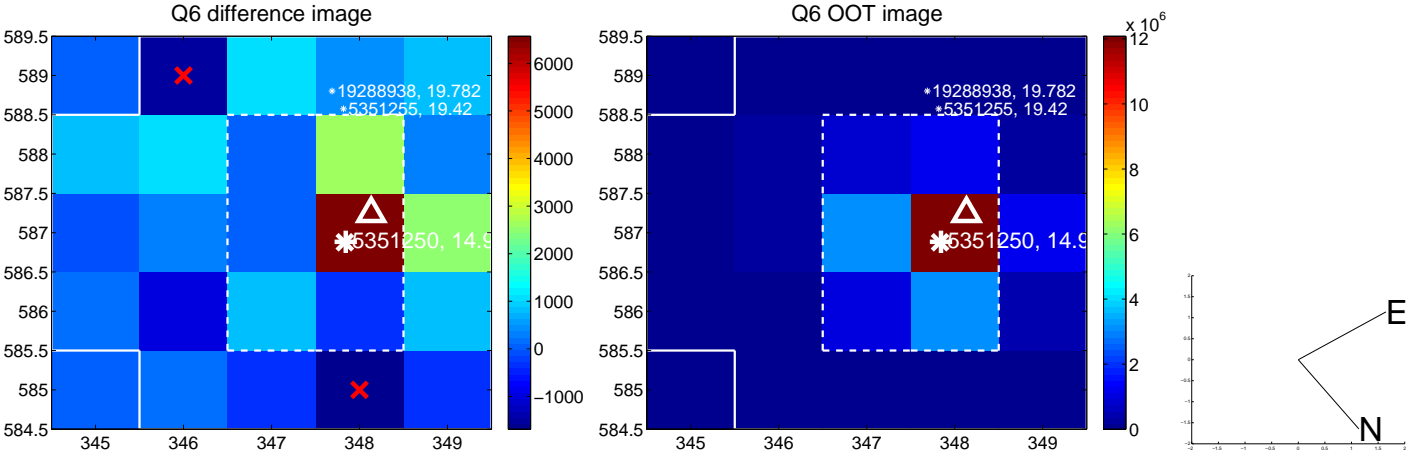
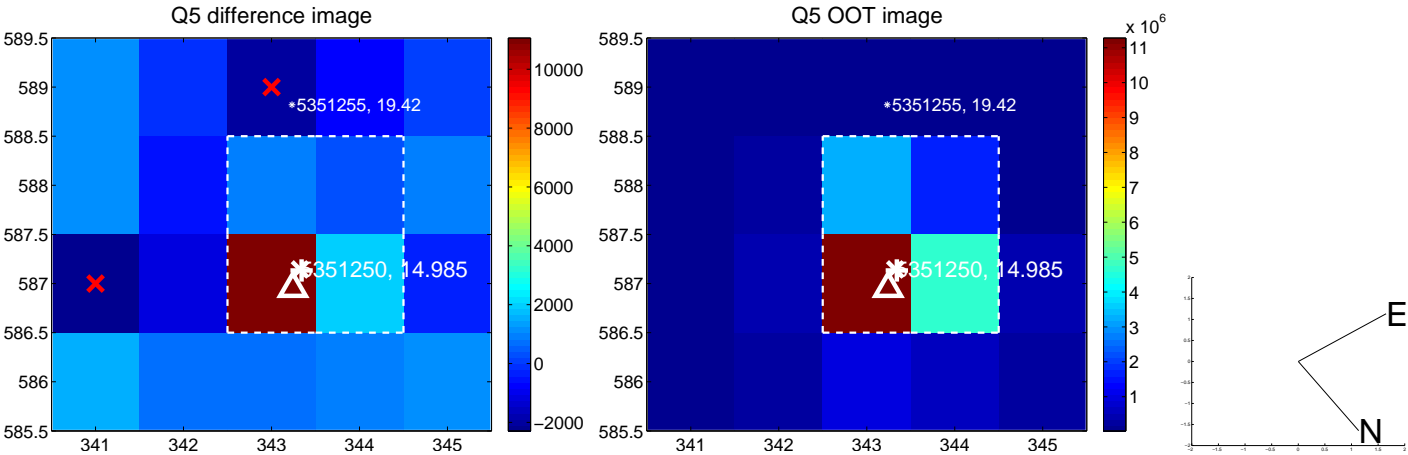


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

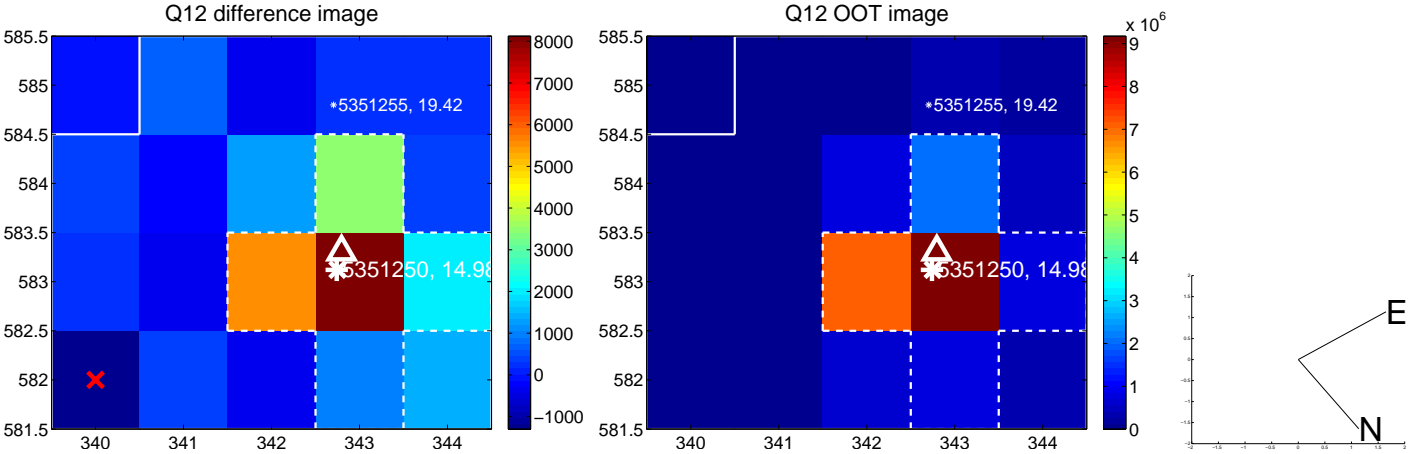
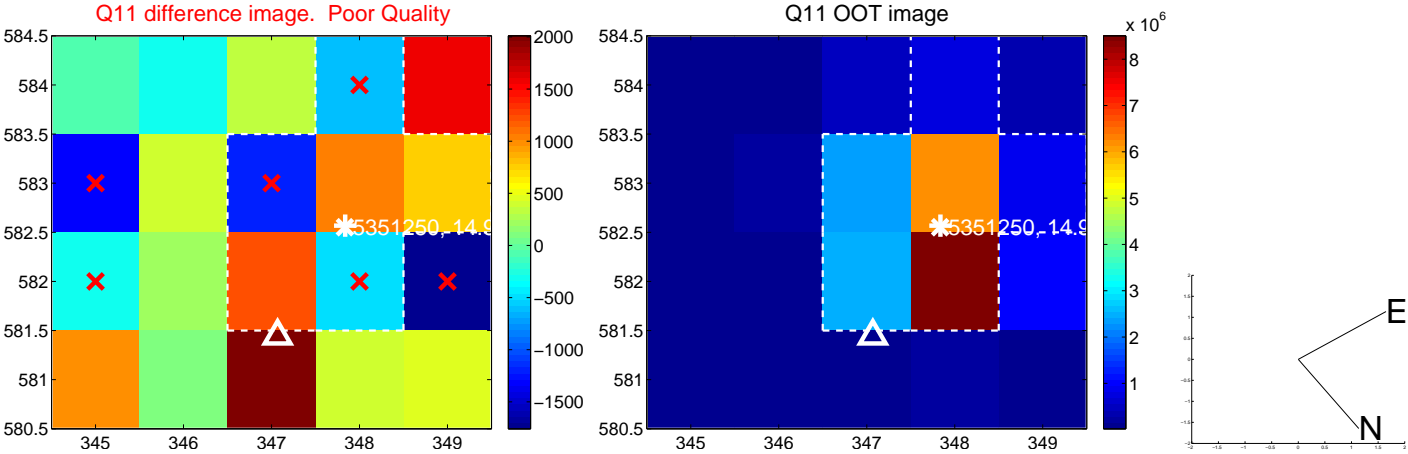
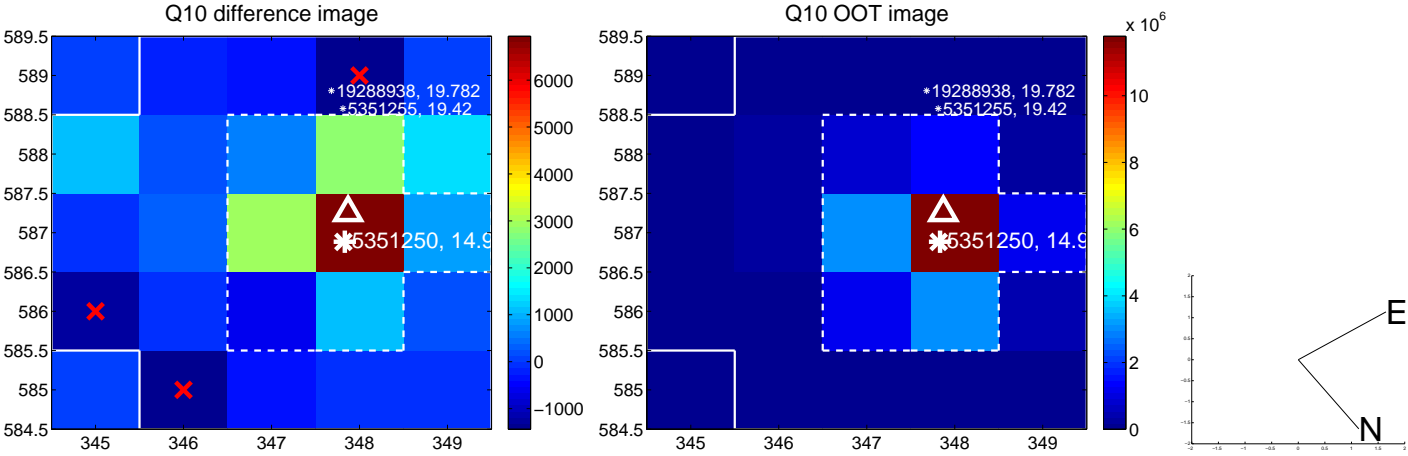
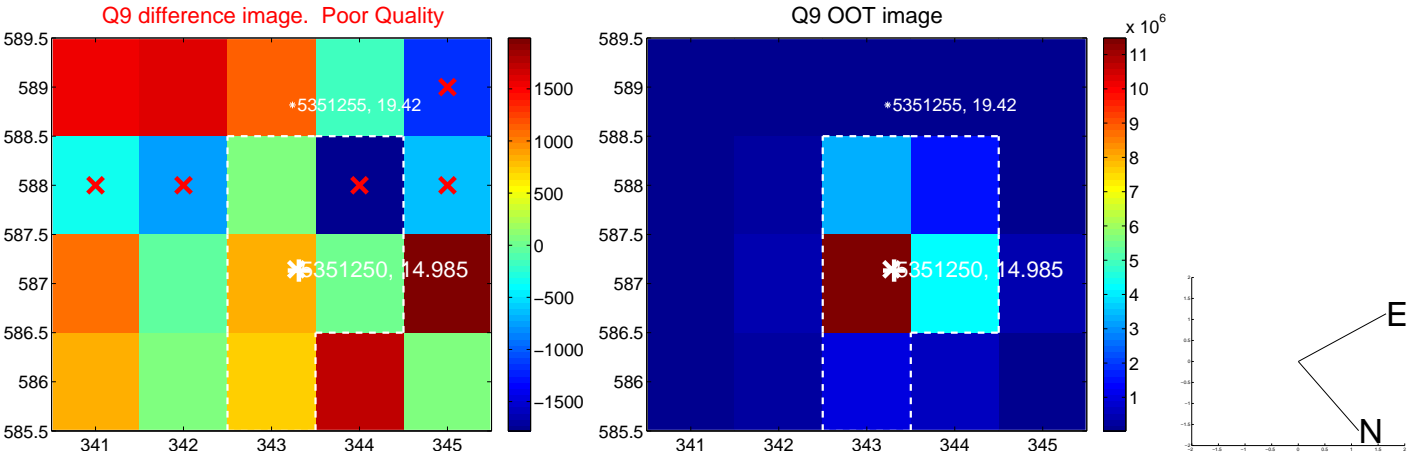
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



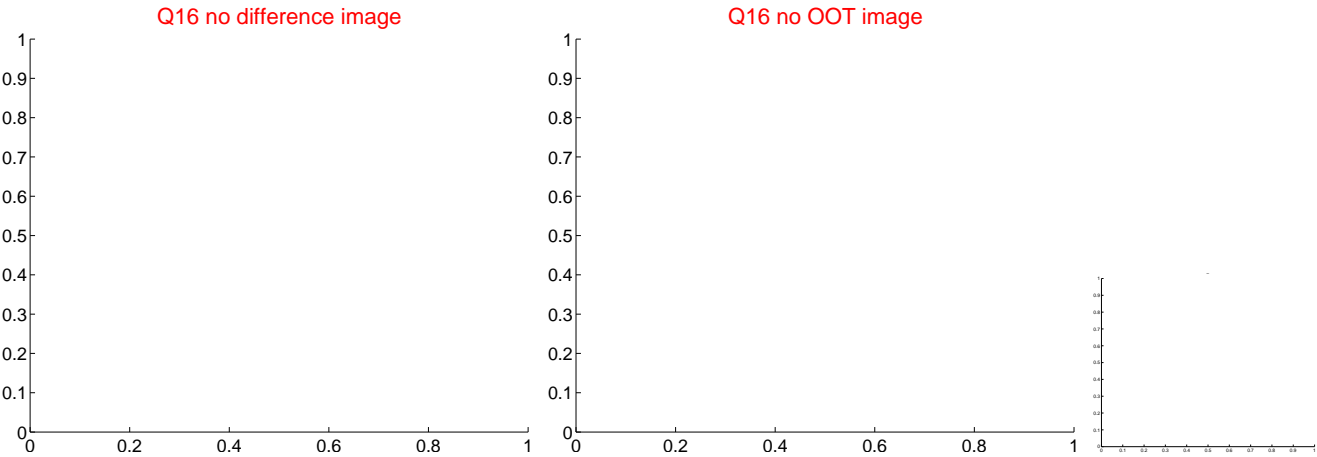
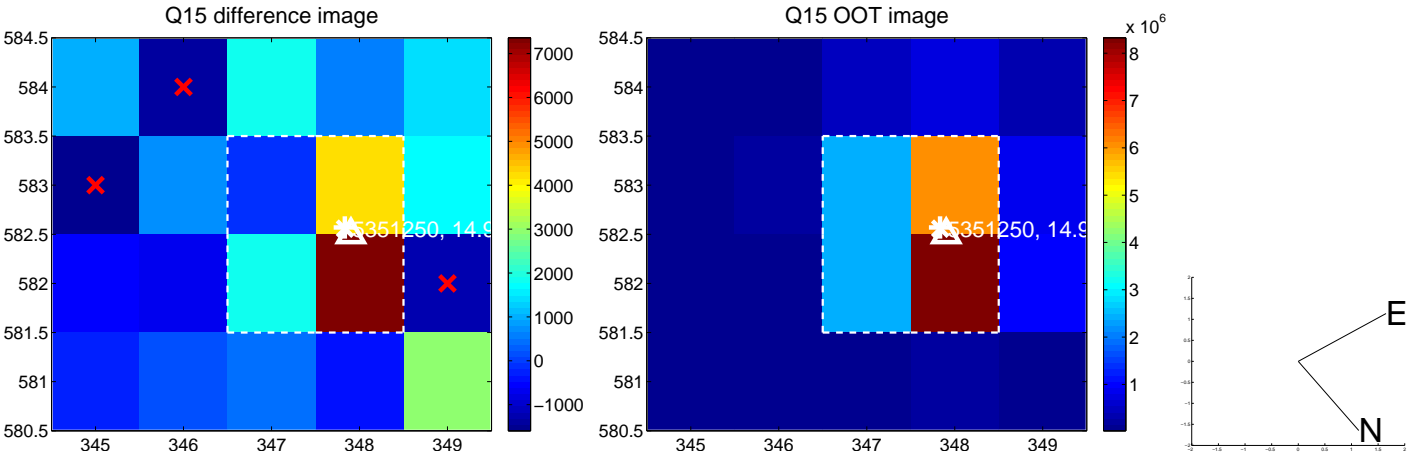
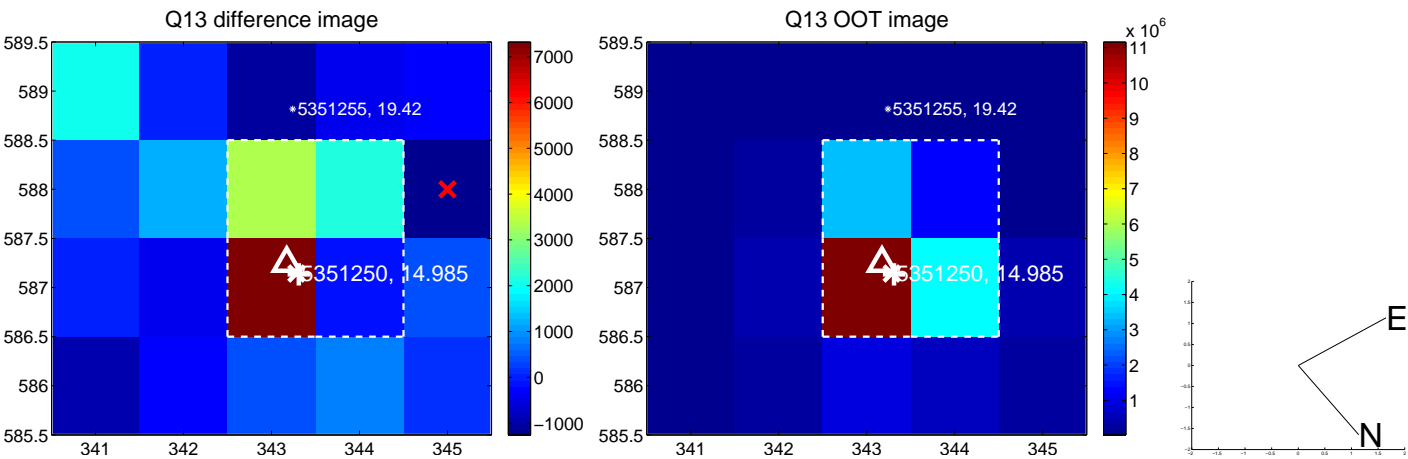
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



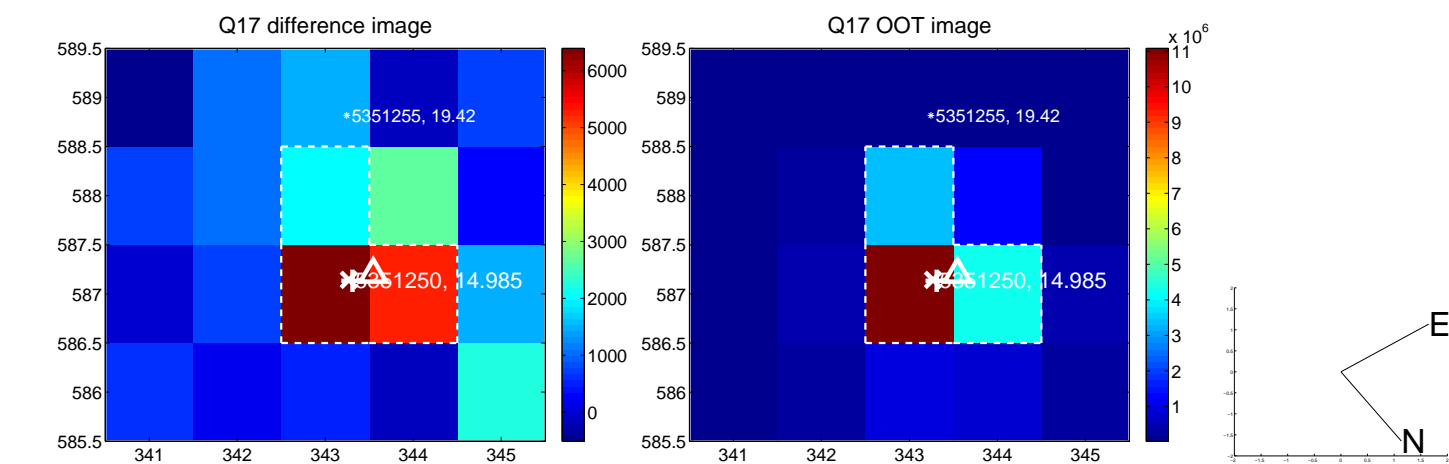
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



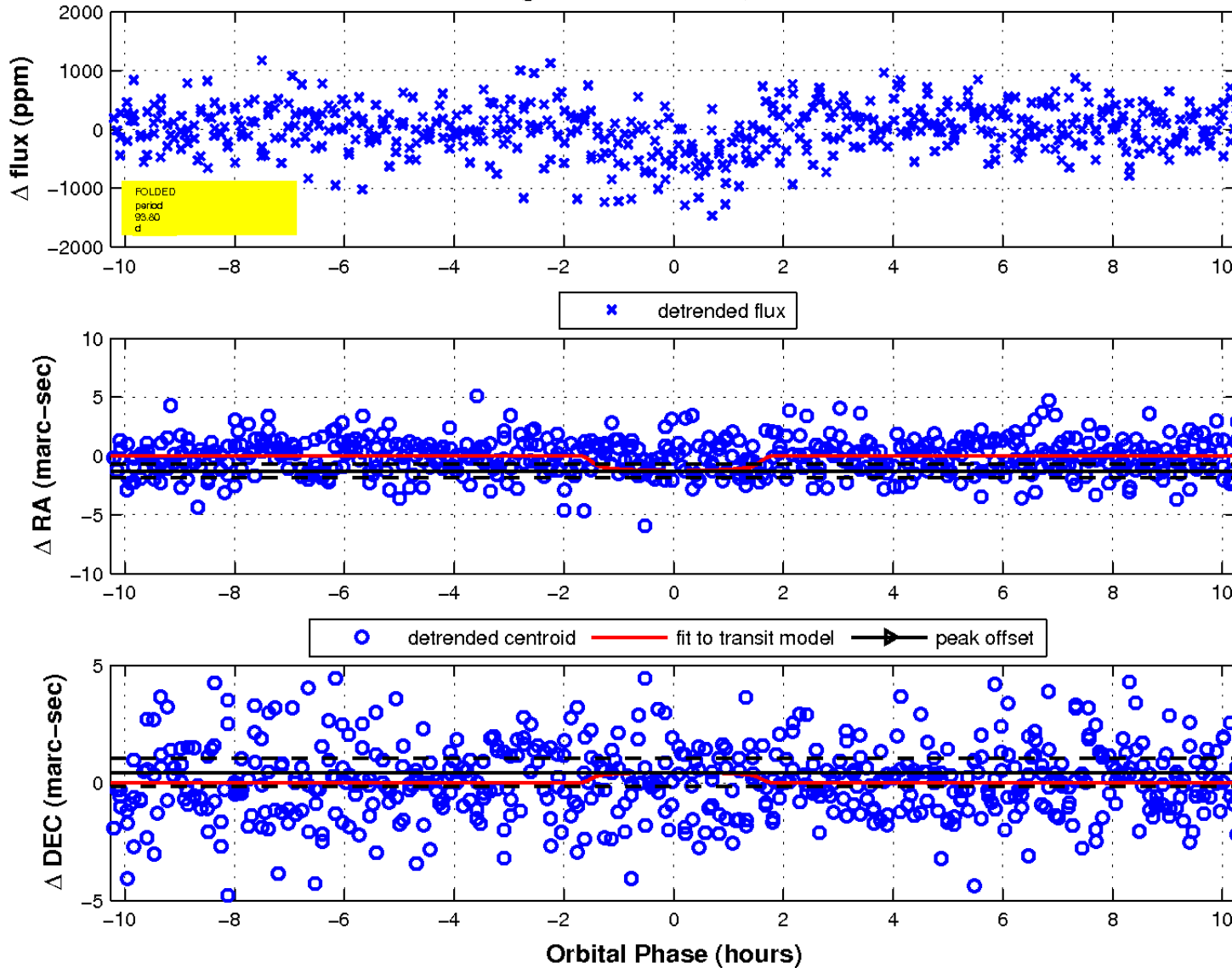
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 5 of 5



UKIRT Image

Declination

