

KIC 007303287

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})
007303287-01	OBS	1353.01	125.865537	236.660530	12545.5	9.052	167.6	274.3	1.11	5933	12.63	5.72
007303287-02	OBS	1353.02	34.543937	132.685922	428.8	3.458	18.7	20.7	1.11	5933	2.64	32.09
007303287-03	OBS	1353.03	330.065837	341.000996	748.7	6.276	8.5	9.0	1.11	5933	4.41	1.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007303287-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007303287-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007303287-03	OBS	PC	0.34	0	0	0	0	NO_COMMENT

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.

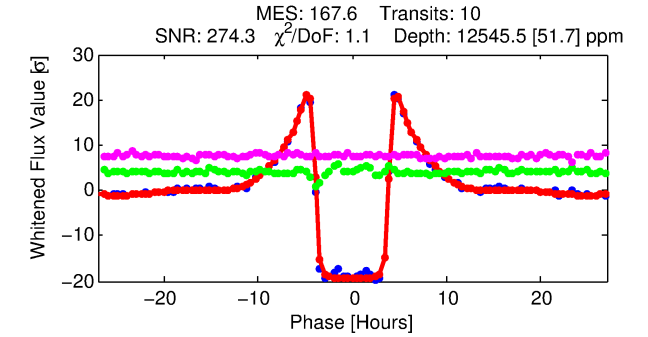
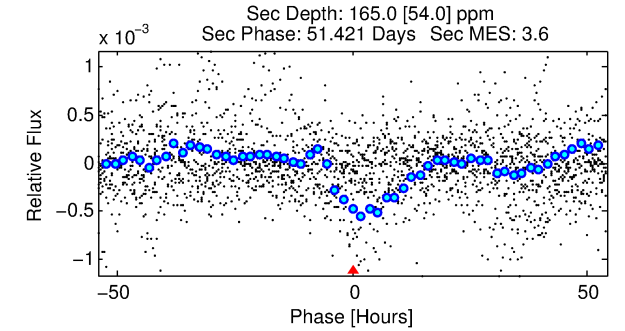
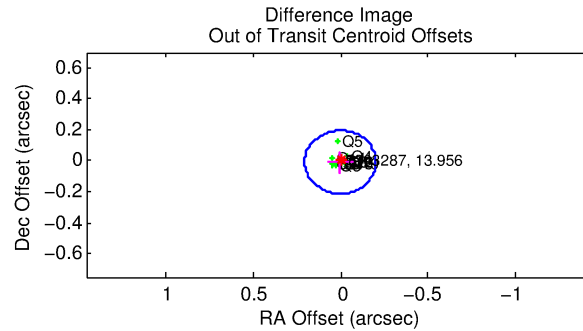
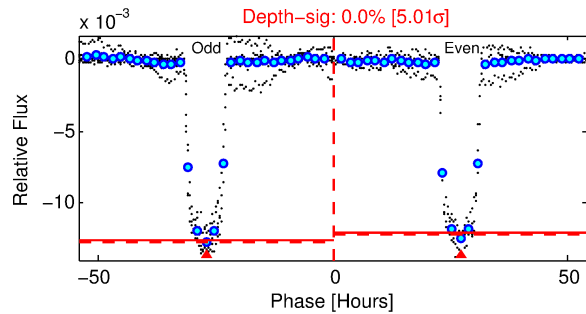
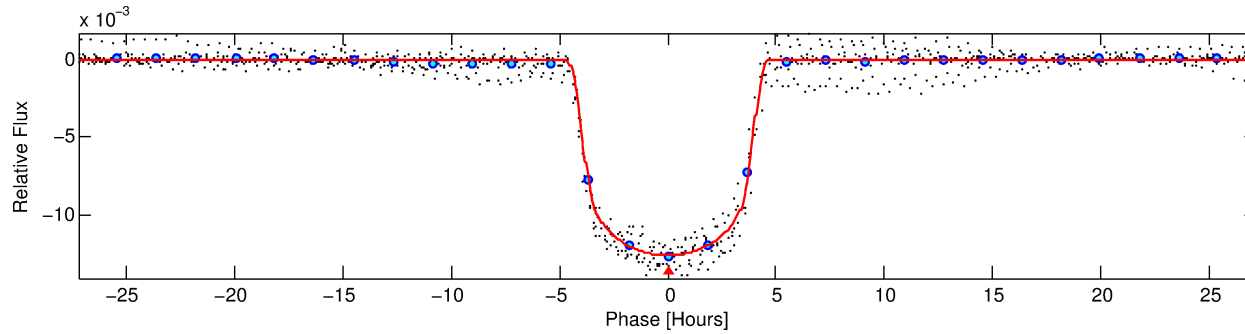
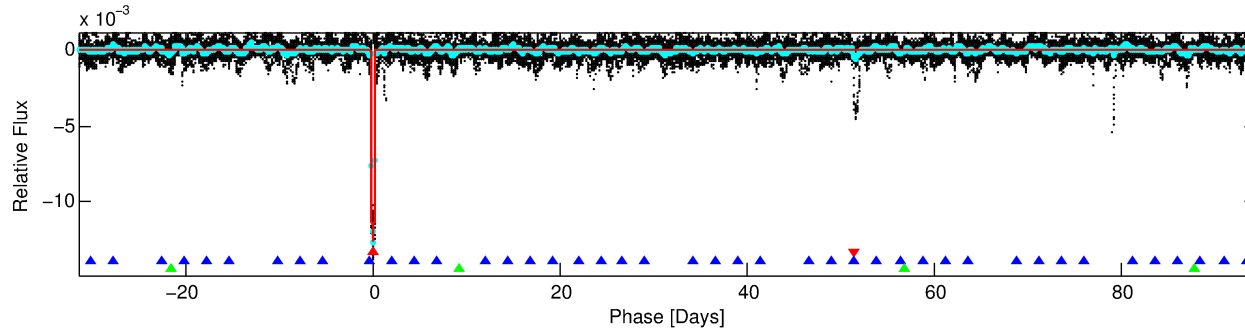
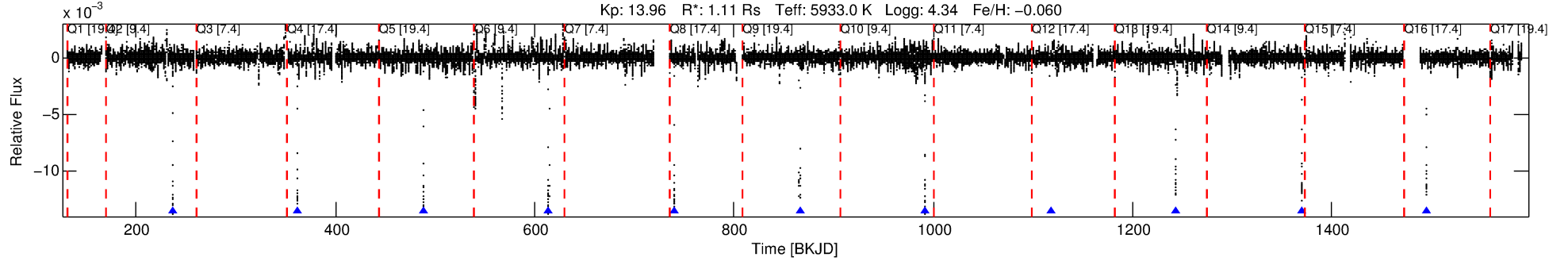
Ephemeris Match Information For 007303287-01

No Significant Match Found

DV One-Page Summary

KIC: 7303287 Candidate: 1 of 3 Period: 125.866 d
KOI: K01353.01 Name: Kepler-289c Corr: 0.996

Kp: 13.96 R*: 1.11 Rs Teff: 5933.0 K Logg: 4.34 Fe/H: -0.060



DV Fit Results:

Period = 125.86554 [0.00006] d
Epoch = 236.6605 [0.0004] BKJD
Rp/R* = 0.1038 [0.0004]
a/R* = 109.89 [1.42]
b = 0.39 [0.03]
Seff = 5.72 [1.26]
Teq = 394 [22] K
Rp = 12.64 [1.97] Re
a = 0.4911 [0.0670] AU
Ag = 137.09 [52.92] [2.57σ]
Teffp = 2087 [176] K [9.56σ]

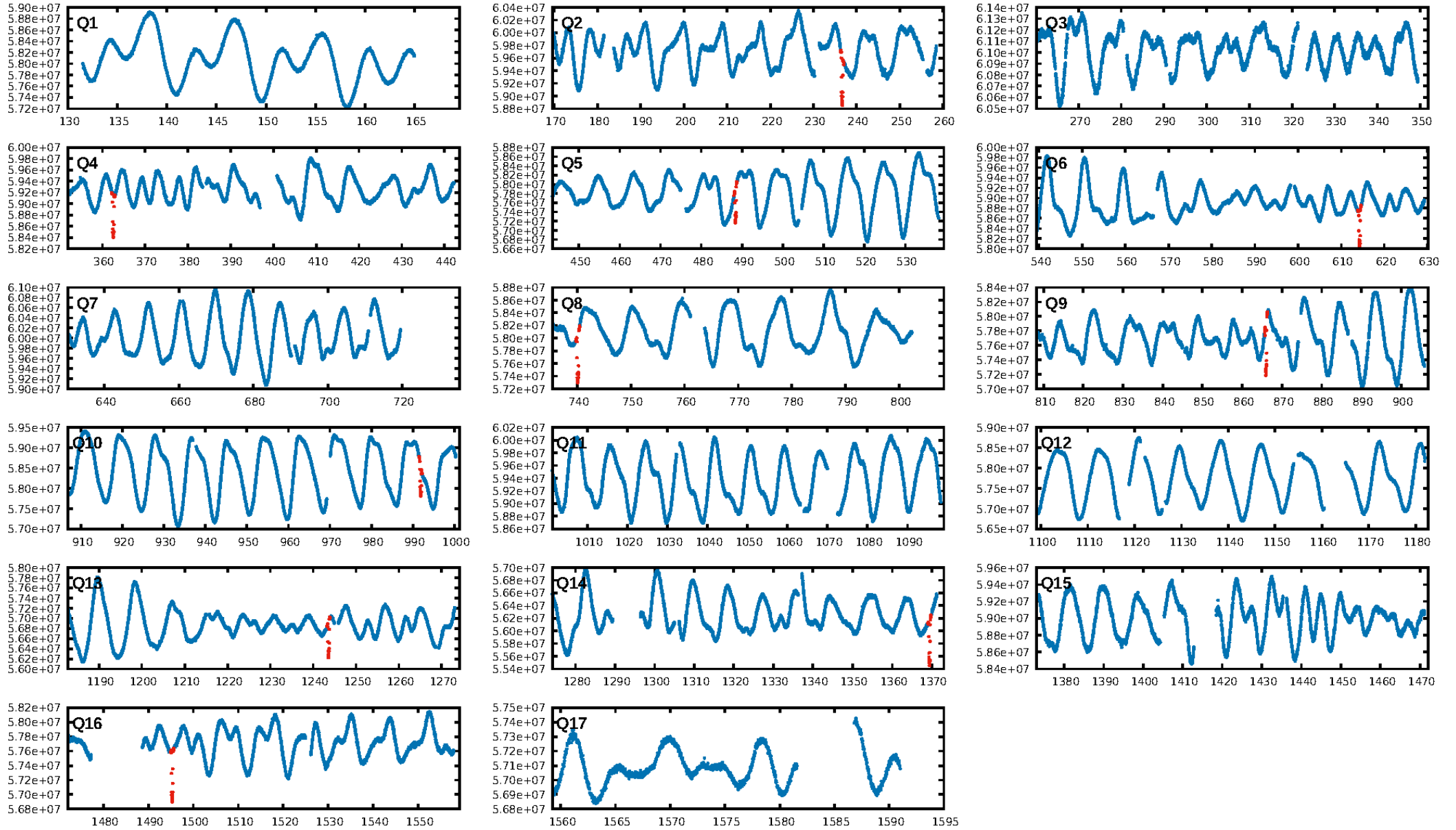
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [226.18σ]
LongPeriod-sig: 100.0% [444.92σ]
ModelChiSquare2-sig: 0.2%
ModelChiSquareGof-sig: 42.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [10/10]
GhostDiagnostic-chr: 1.784
Centroid-sig: 0.0%
Centroid-so: 0.067 arcsec [3.65σ]
OotOffset-rm: 0.009 arcsec [0.14σ]
KicOffset-rm: 0.079 arcsec [1.15σ]
OotOffset-st: 4/0/3/3 [10]
KicOffset-st: 4/0/3/3 [10]
DiffImageQuality-fgm: 1.00 [10/10]
DiffImageOverlap-fno: 0.90 [9/10]

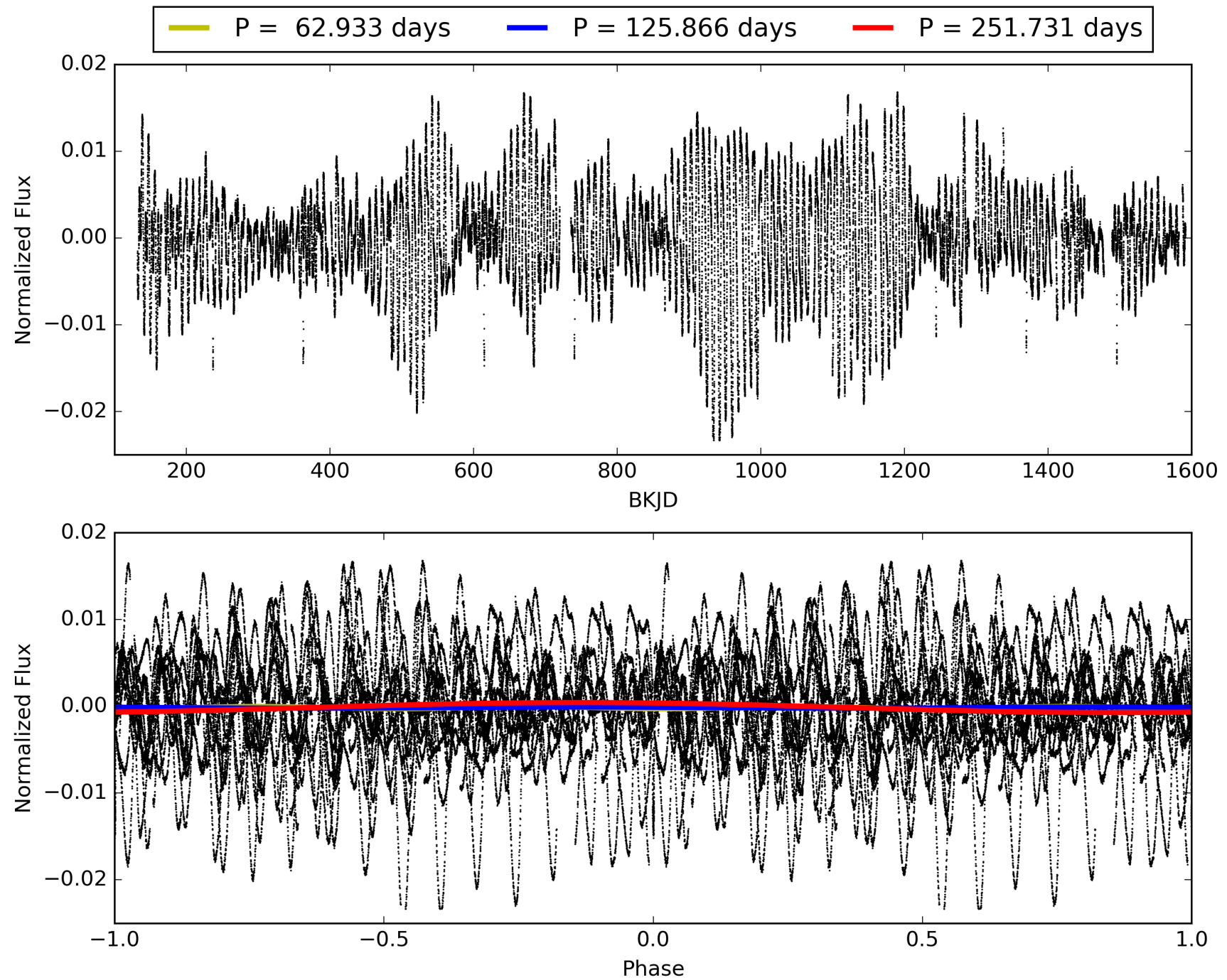
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:09:49 Z

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

TCE 007303287-01, PDC Light Curves

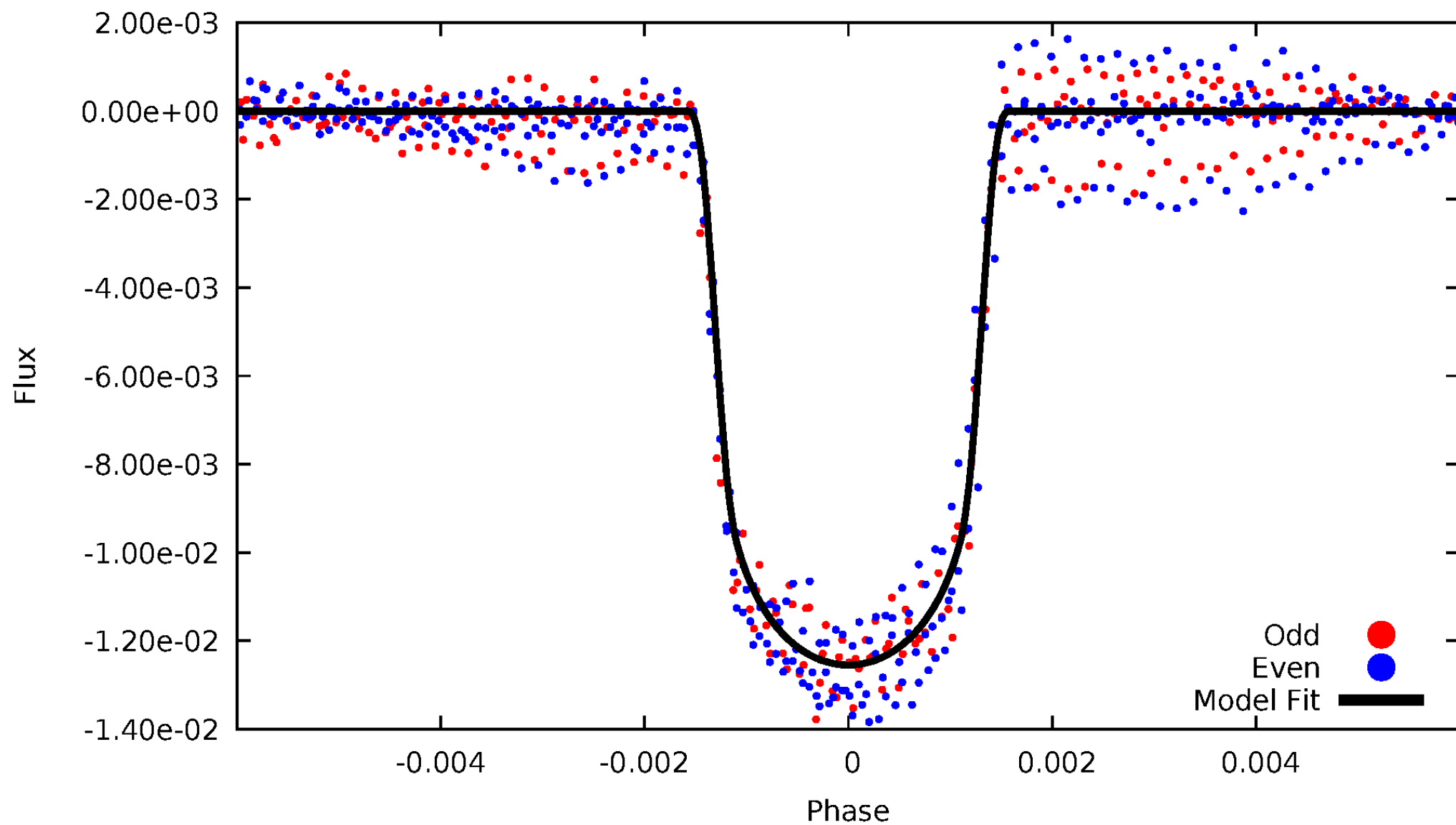


TCE 007303287-01



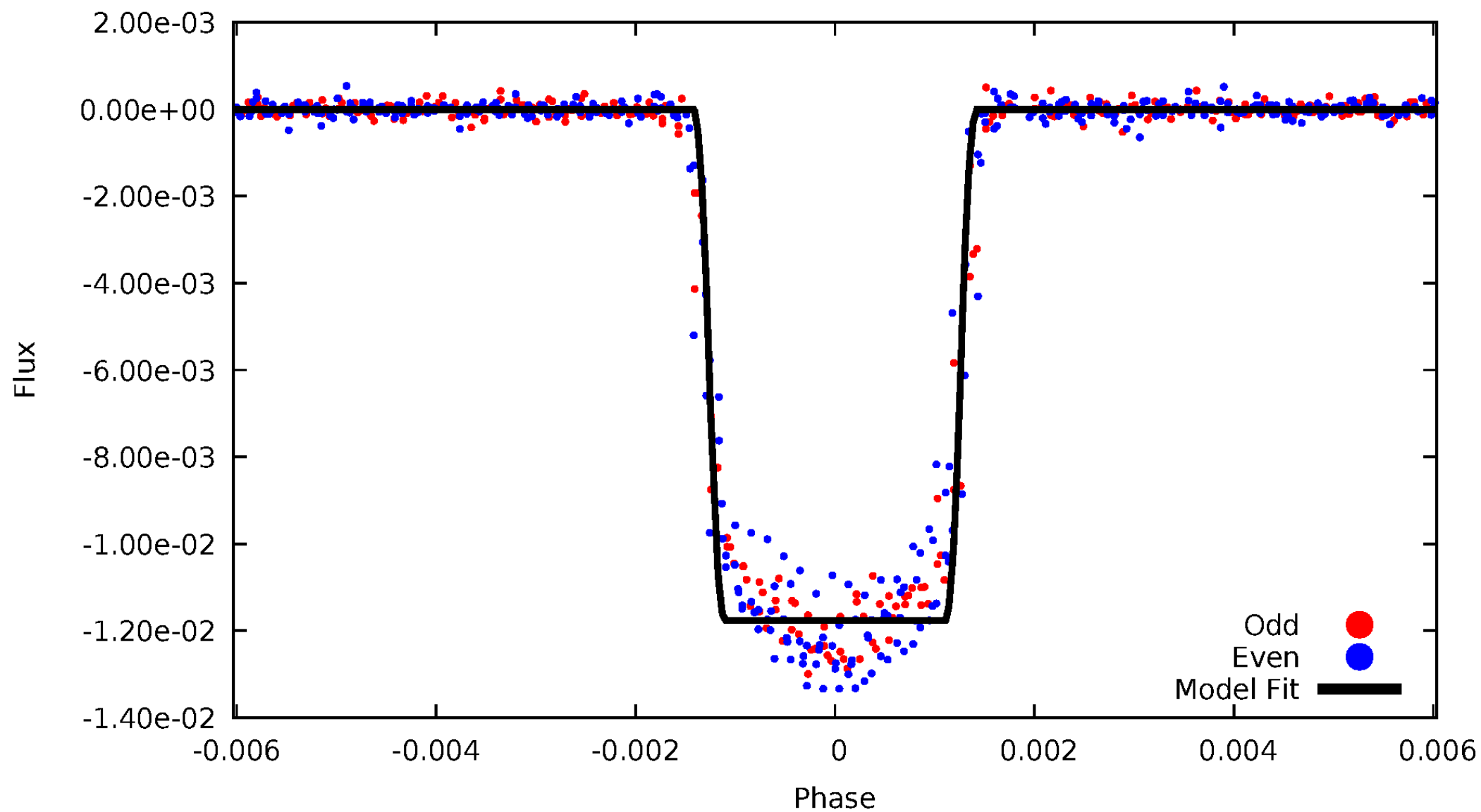
DV Odd/Even

TCE 007303287-01



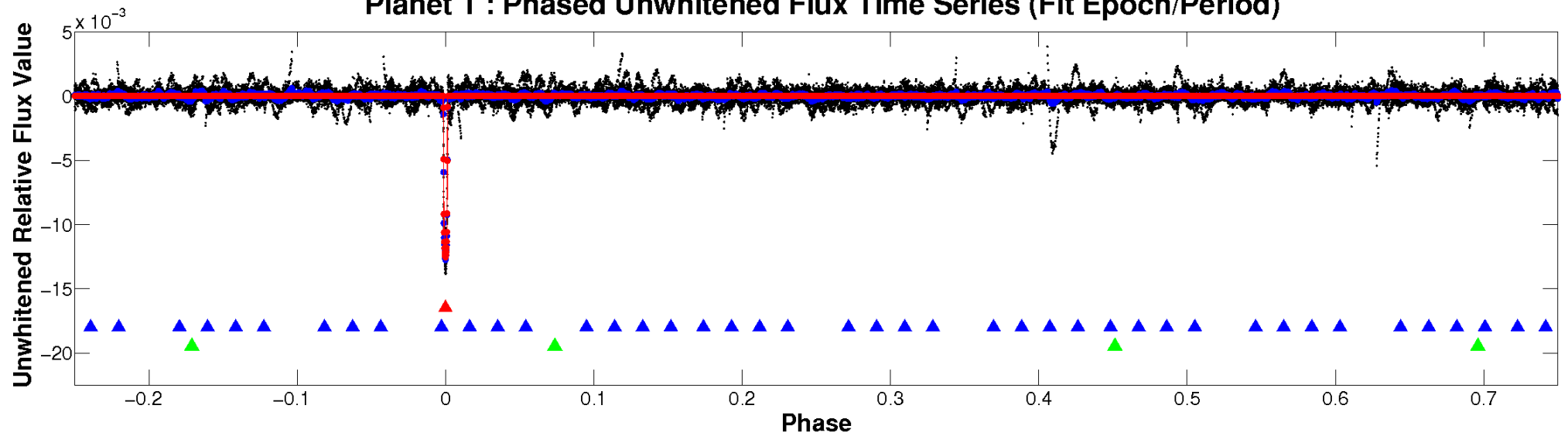
ALT Odd/Even

TCE 007303287-01

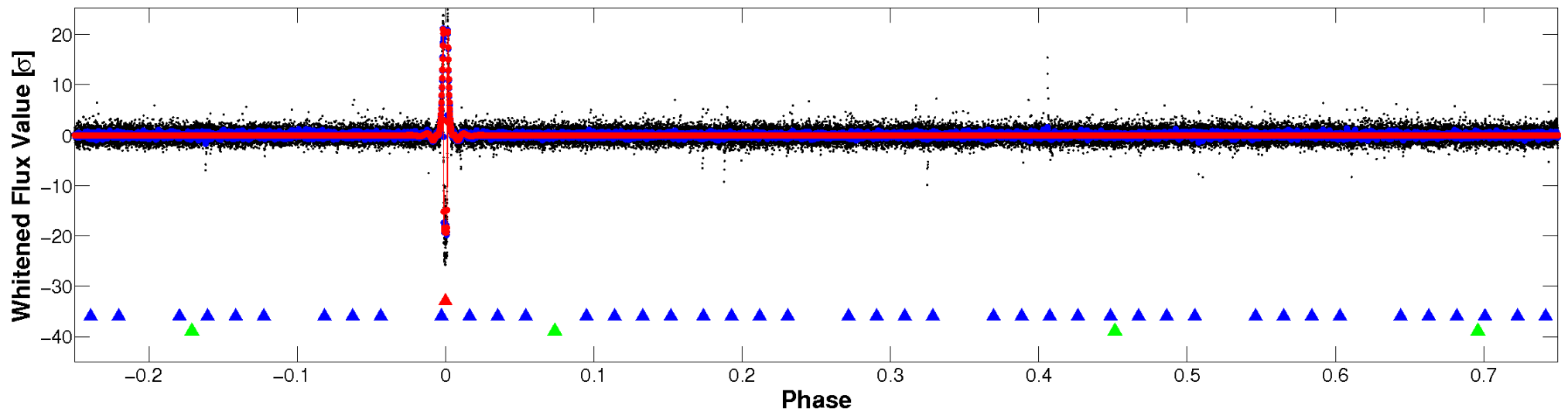


Non-Whitened Vs. Whitened Light Curve

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

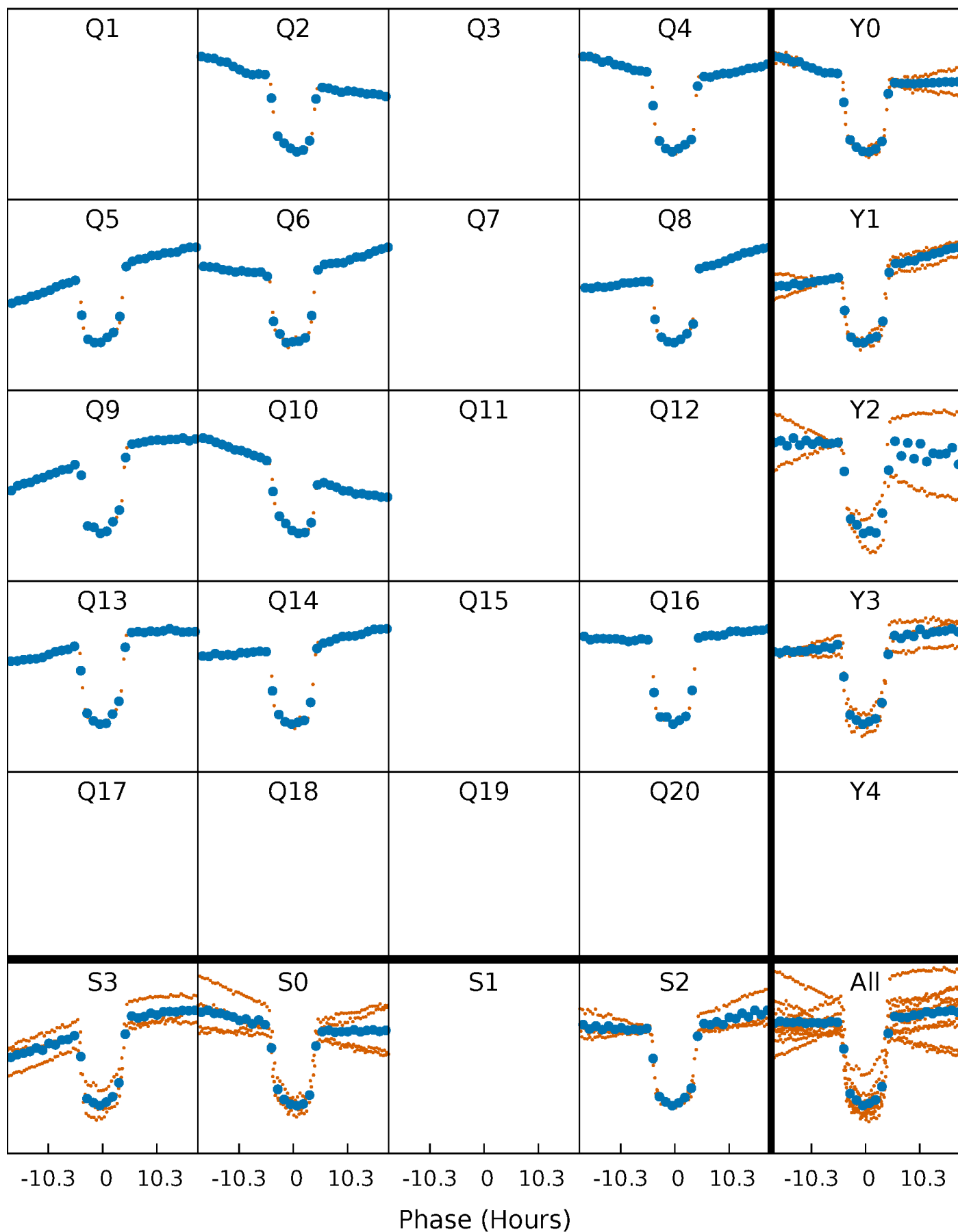


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



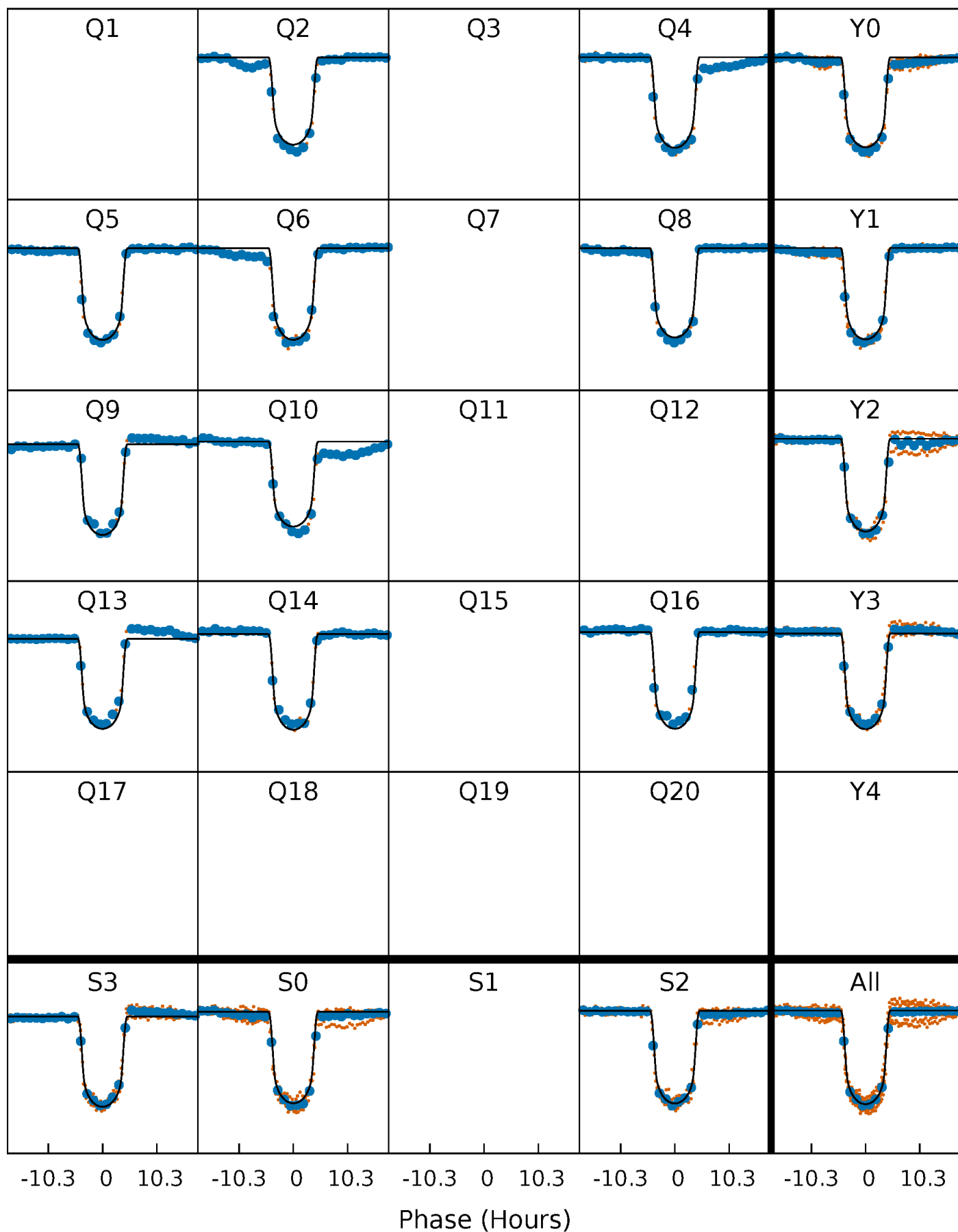
PDC Quarter-Phased Transit Curves

TCE 007303287-01 P=125.865537 Days $T_0=236.660530$ (BKJD)



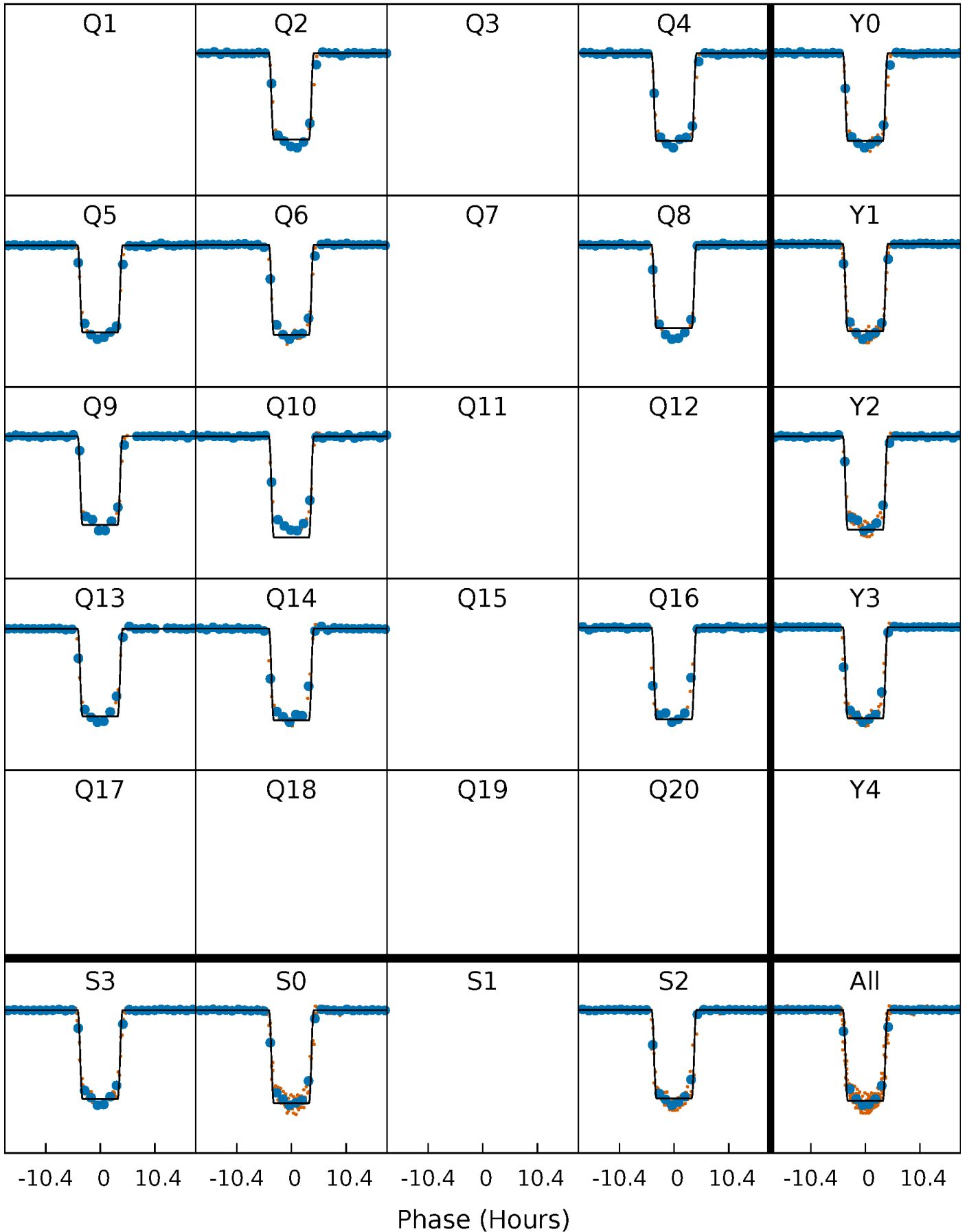
DV Quarter-Phased Transit Curves

TCE 007303287-01 P=125.865537 Days $T_0=236.660530$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

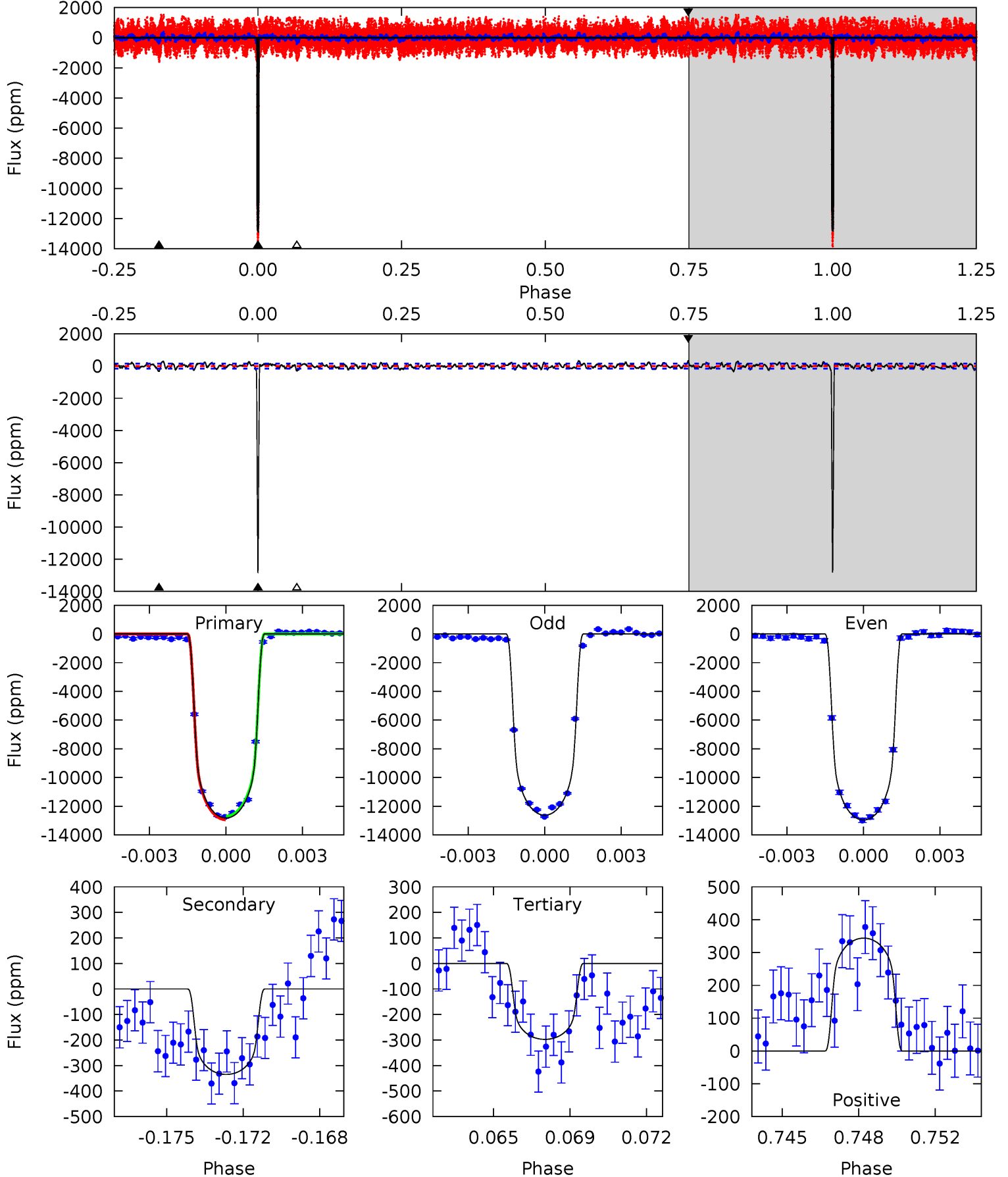
TCE 007303287-01 P=125.867521 Days $T_0=236.648771$ (BKJD)



DV Model-Shift Uniqueness Test

007303287-01, P = 125.865537 Days, E = 110.794993 Days

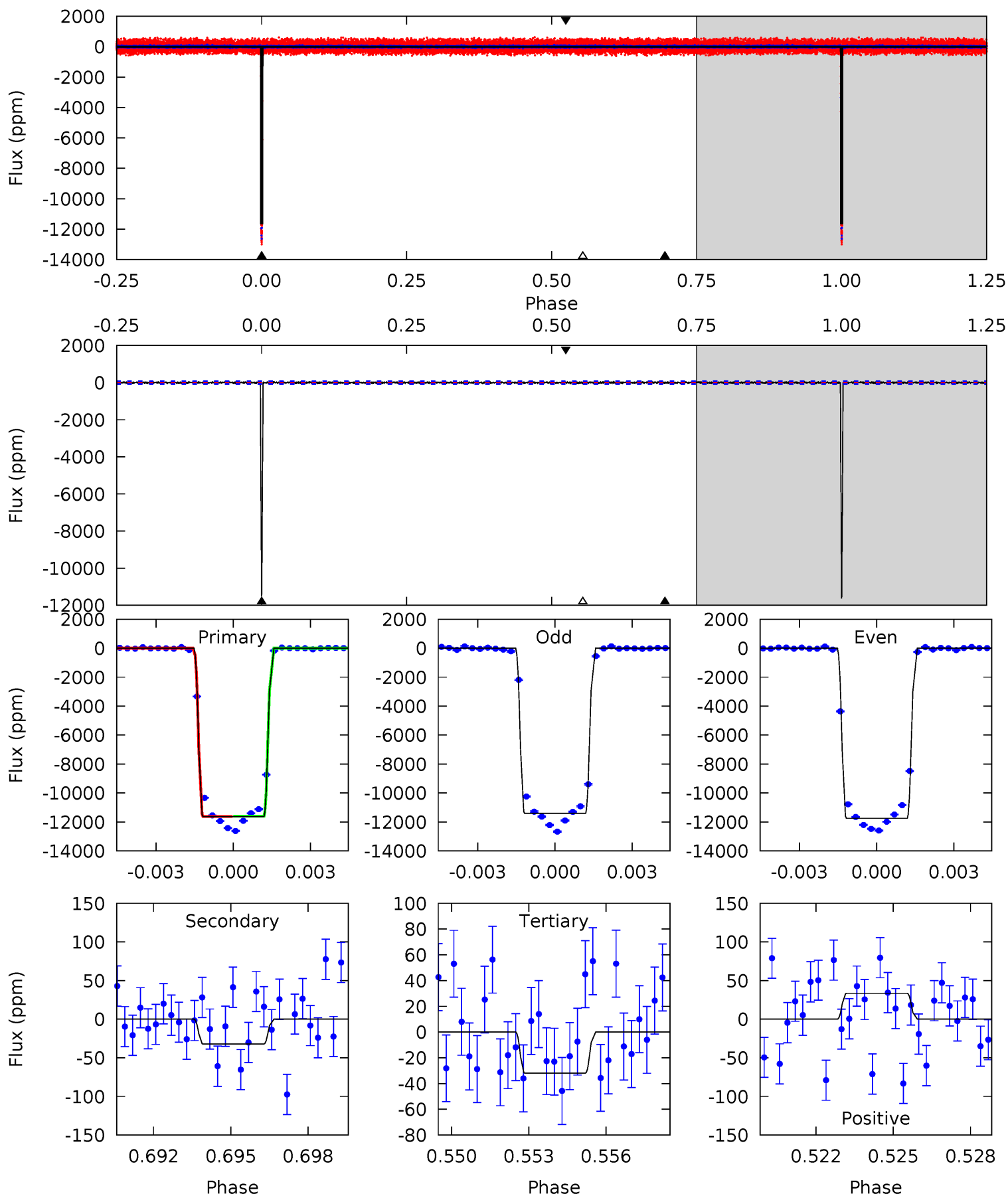
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
427.8	11.2	9.93	11.5	5.25	2.96	3.30	417.9	416.4	1.25	-0.30	5.68	0.97	0.03	4.19



Alt Model-Shift Uniqueness Test

007303287-01, P = 125.867521 Days, E = 110.781250 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
769.2	2.13	2.11	2.21	5.27	2.99	0.55	767.0	766.9	0.02	-0.08	11.4	0.99	0.00	0



Stellar Parameters For KIC 007303287

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5933^{+107}_{-119}	$4.342^{+0.115}_{-0.115}$	$-0.060^{+0.150}_{-0.150}$	$1.115^{+0.174}_{-0.142}$	$0.998^{+0.081}_{-0.066}$	$1.013^{+0.449}_{-0.341}$
	+2%/-2%	+3%/-3%	+250%/-250%	+16%/-13%	+8%/-7%	+44%/-34%
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 007303287-01 / KOI 1353.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-335 ± 30	$12.60^{+1.15}_{-1.01}$	549^{+25}_{-24}	3113^{+53}_{-54}	281^{+54}_{-52}
Alt.	-32 ± 15	$13.17^{+1.25}_{-1.01}$	551^{+25}_{-25}	2284^{+104}_{-153}	25^{+12}_{-12}

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 $A_{obs} \gg 1.0$

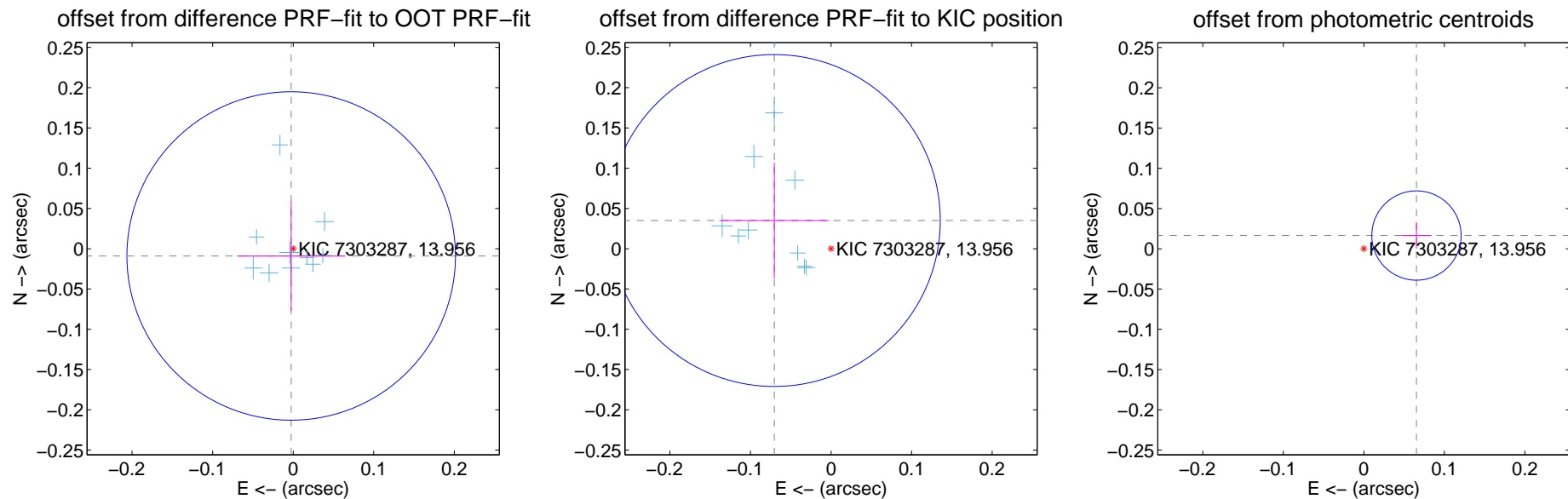
DV Centroid Data

Supplemental centroid analysis for 007303287-01. Kepler magnitude: 13.96. Transit SNR 274.33

There are 10 quarters with good PRF difference image offsets

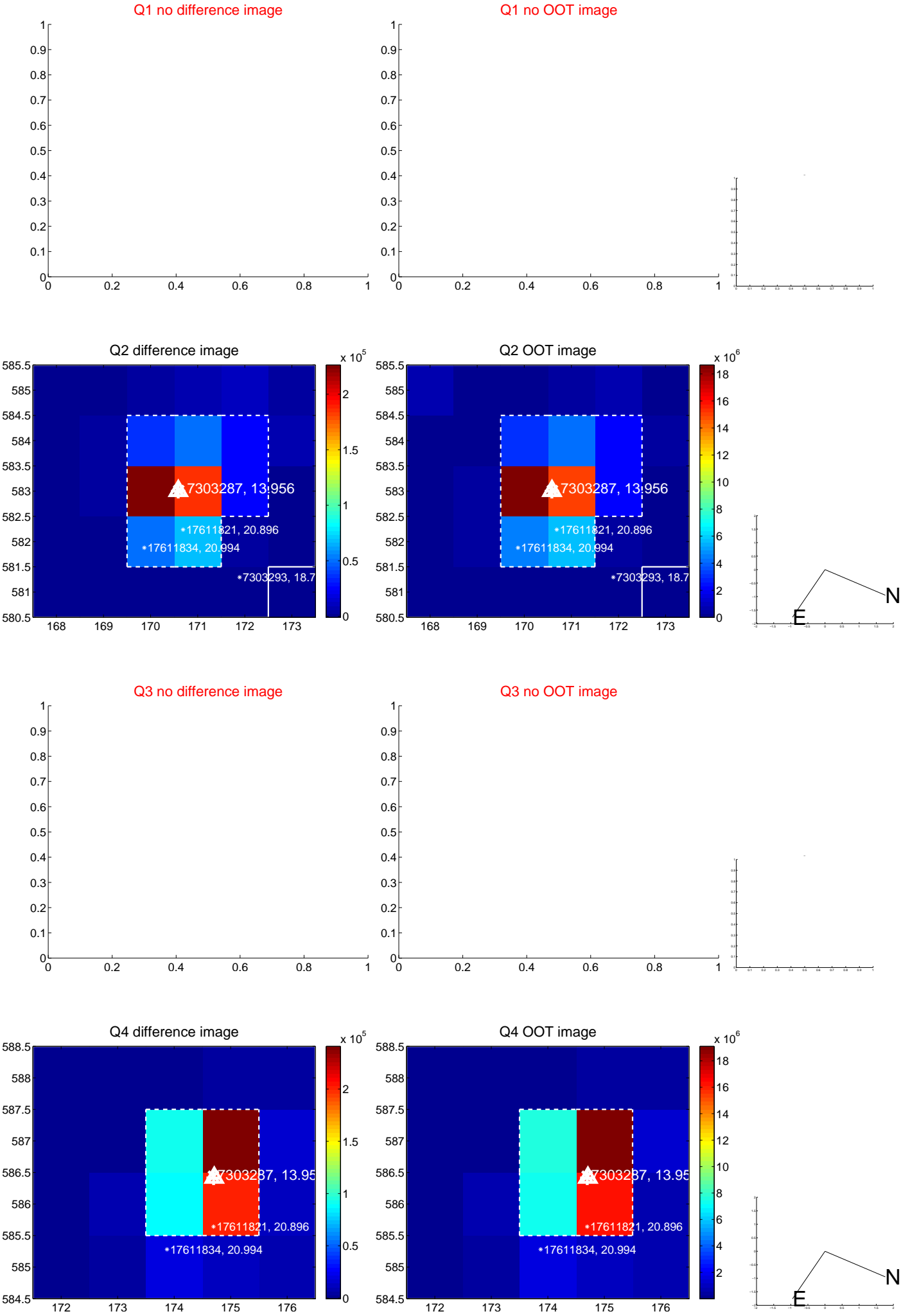
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.009 ± 0.068	0.14	0.002 ± 0.067	-0.009 ± 0.068
PRF-fit source offset from KIC position	0.079 ± 0.069	1.15	0.070 ± 0.068	0.035 ± 0.072
photometric centroid source offset	0.07 ± 0.02	3.65	-0.07 ± 0.02	0.02 ± 0.02

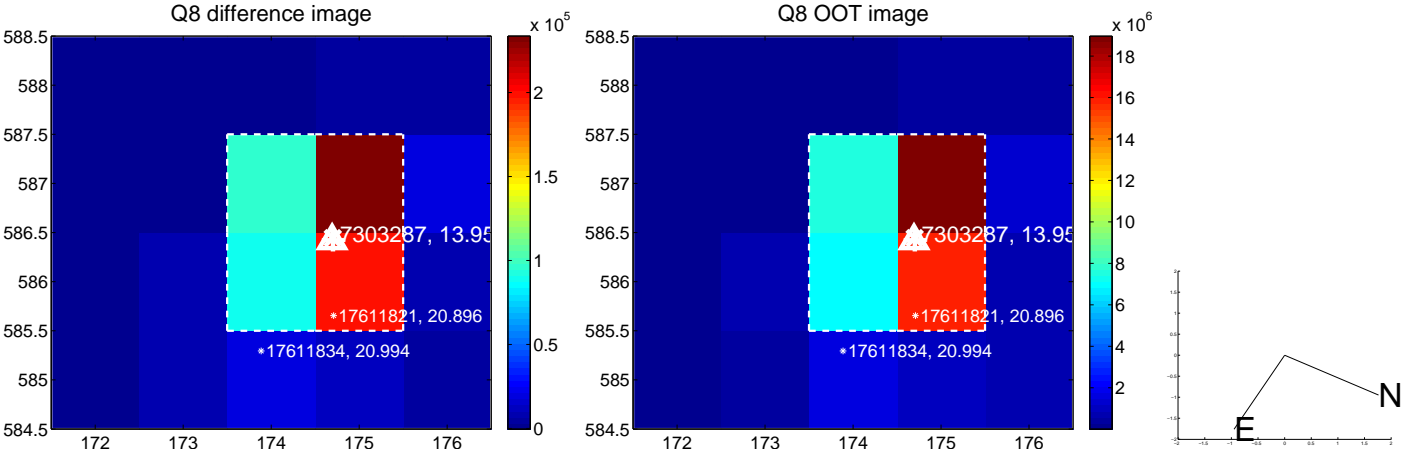
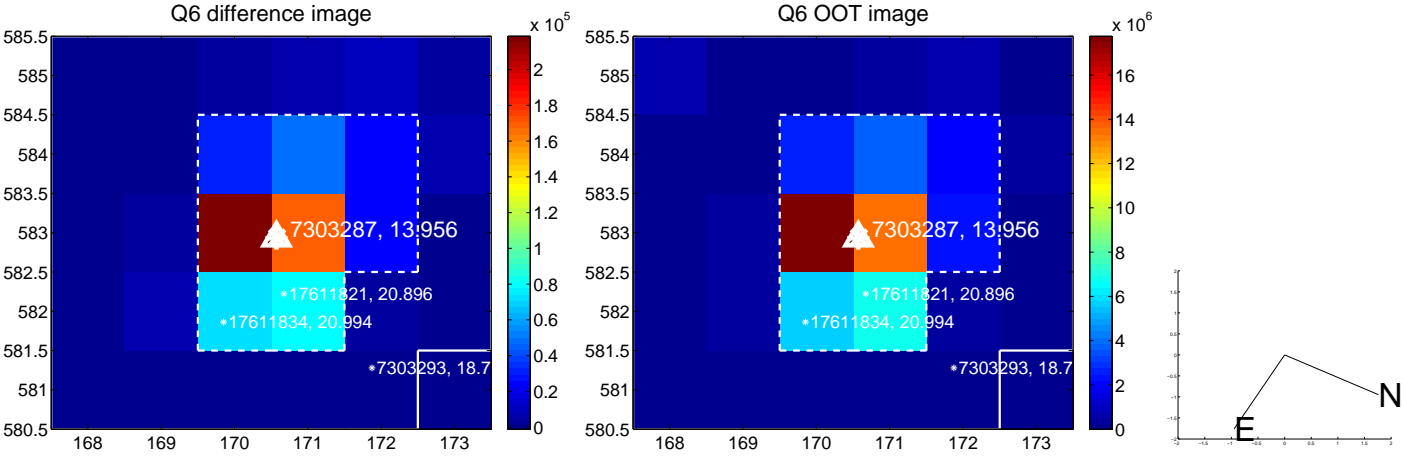
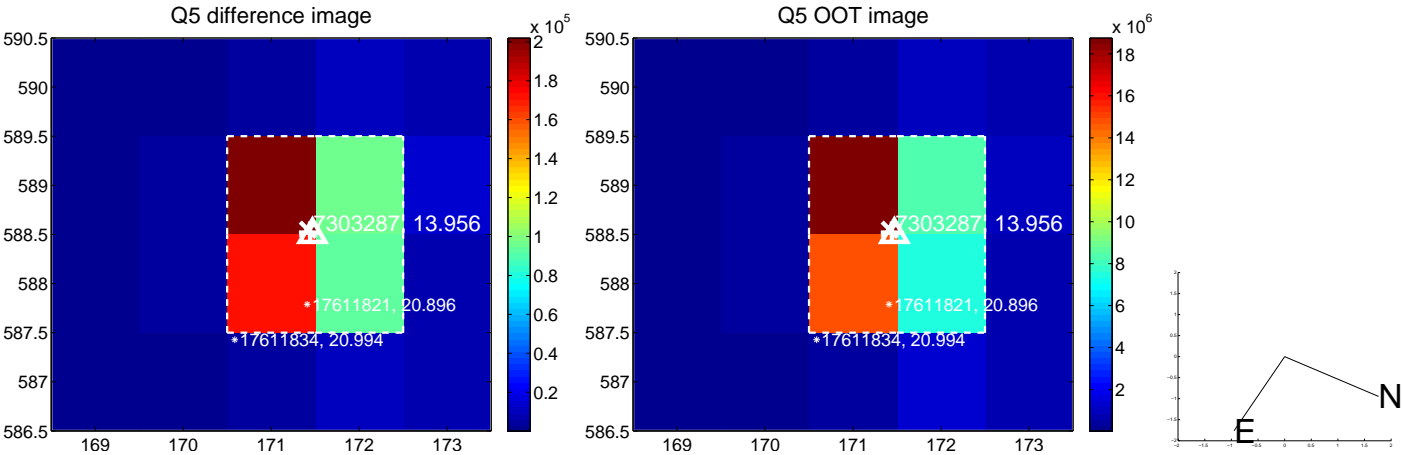


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

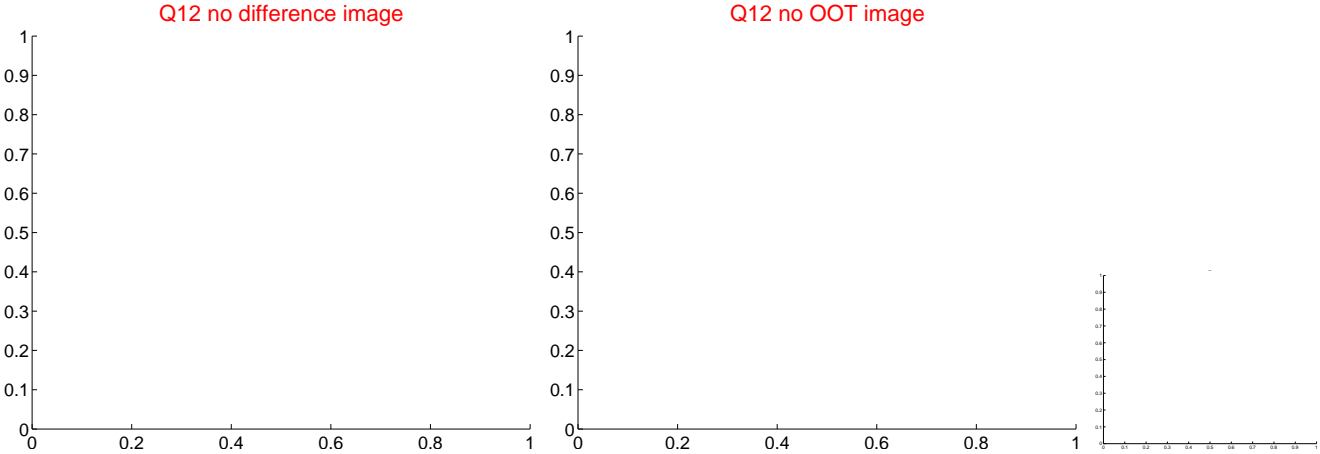
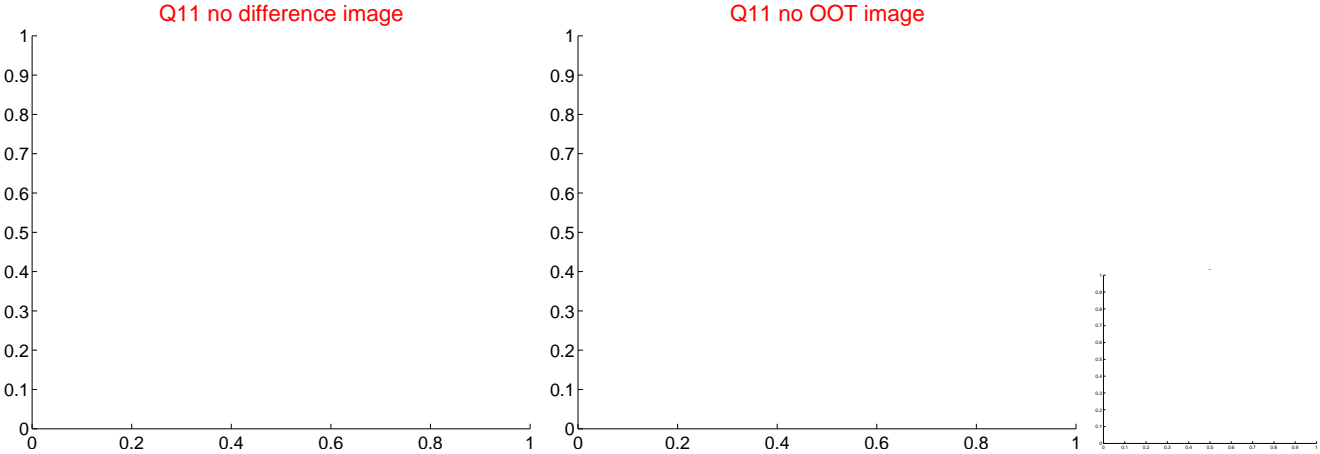
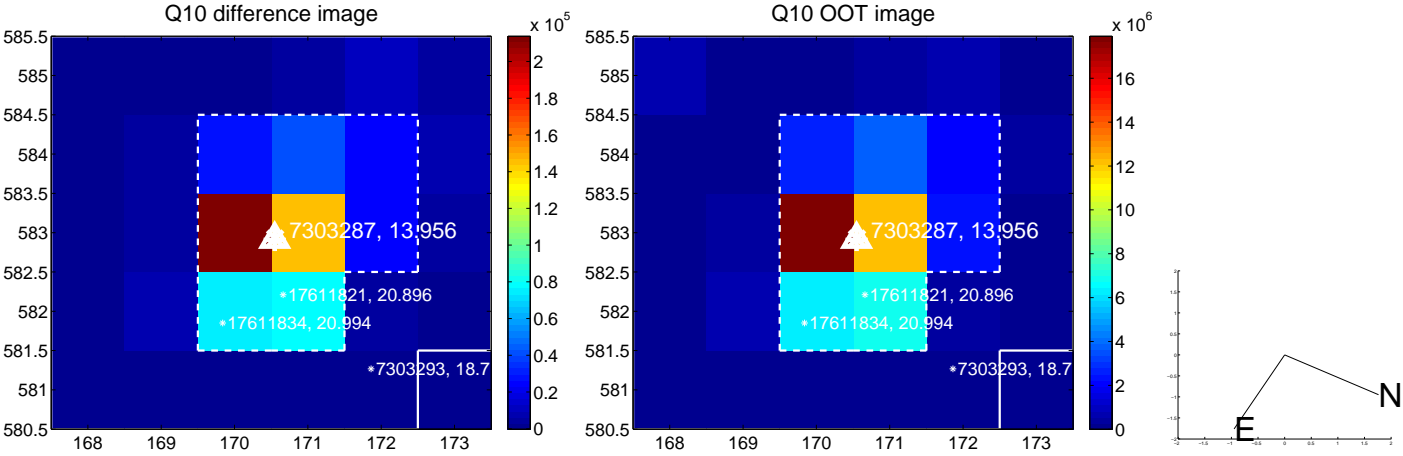
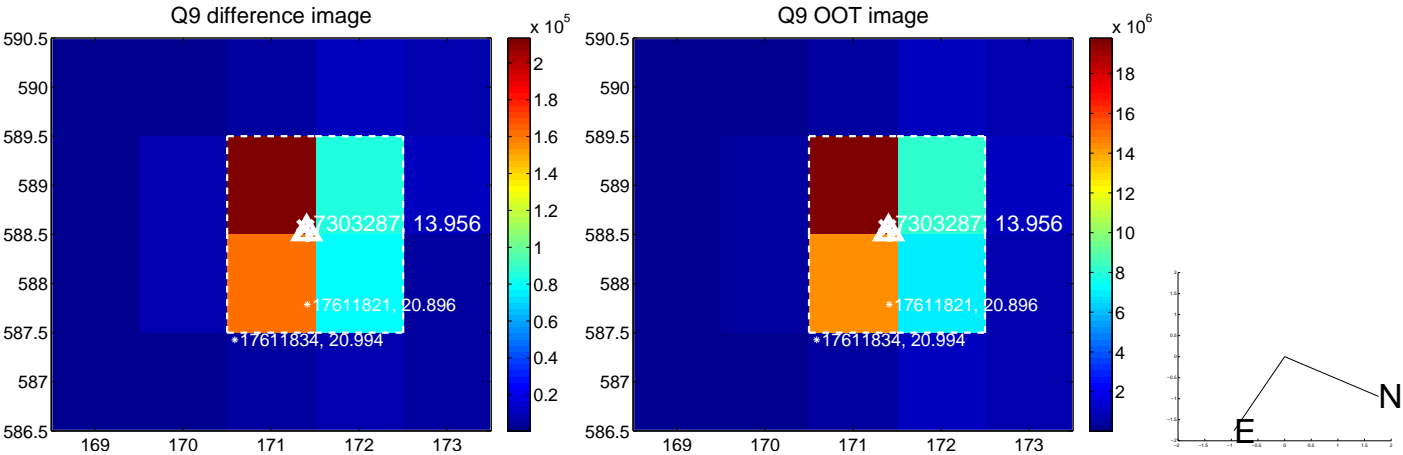
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



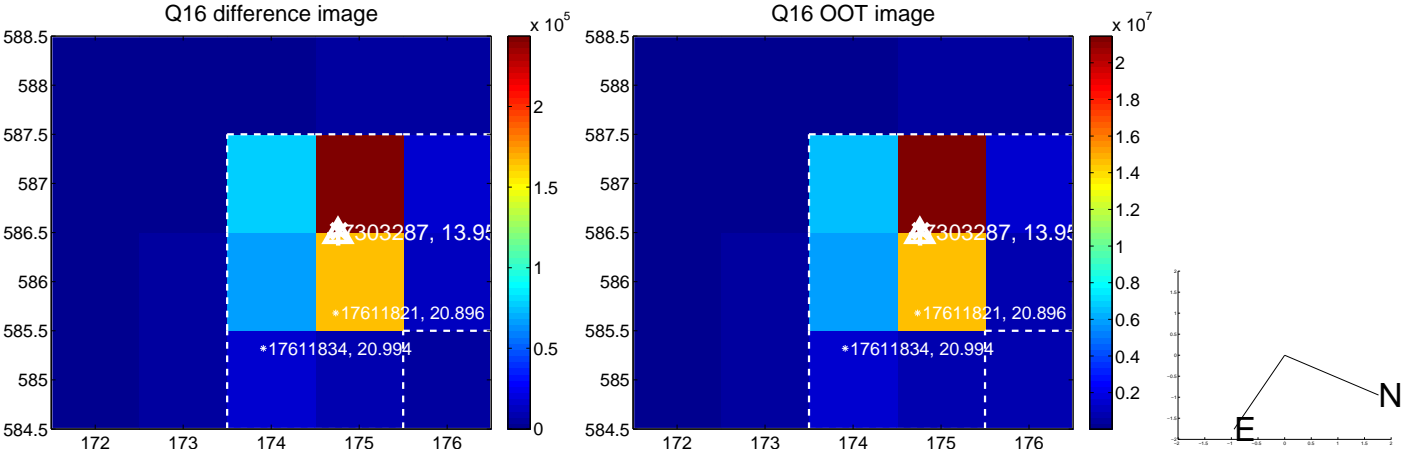
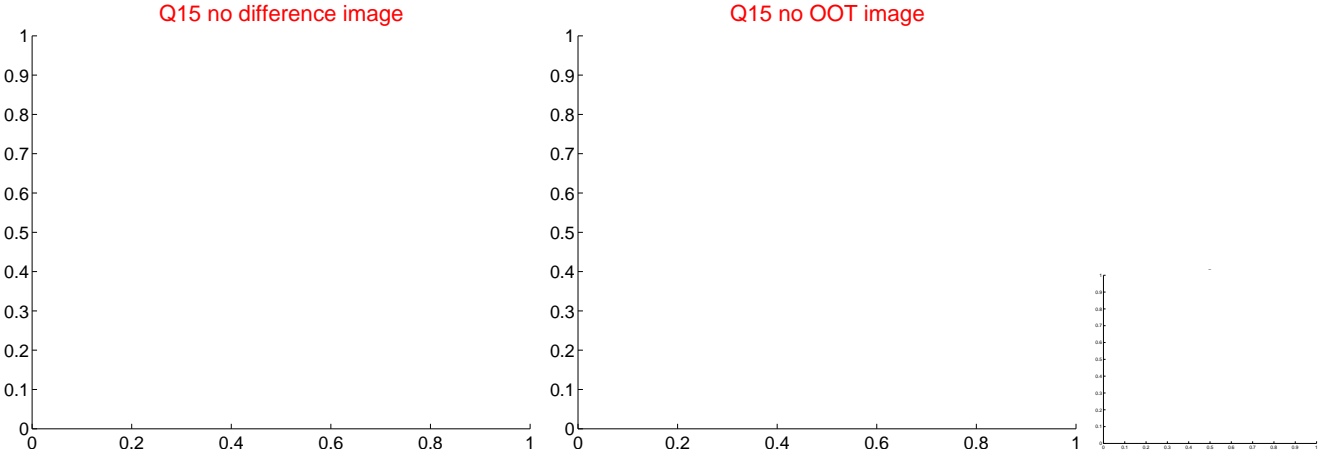
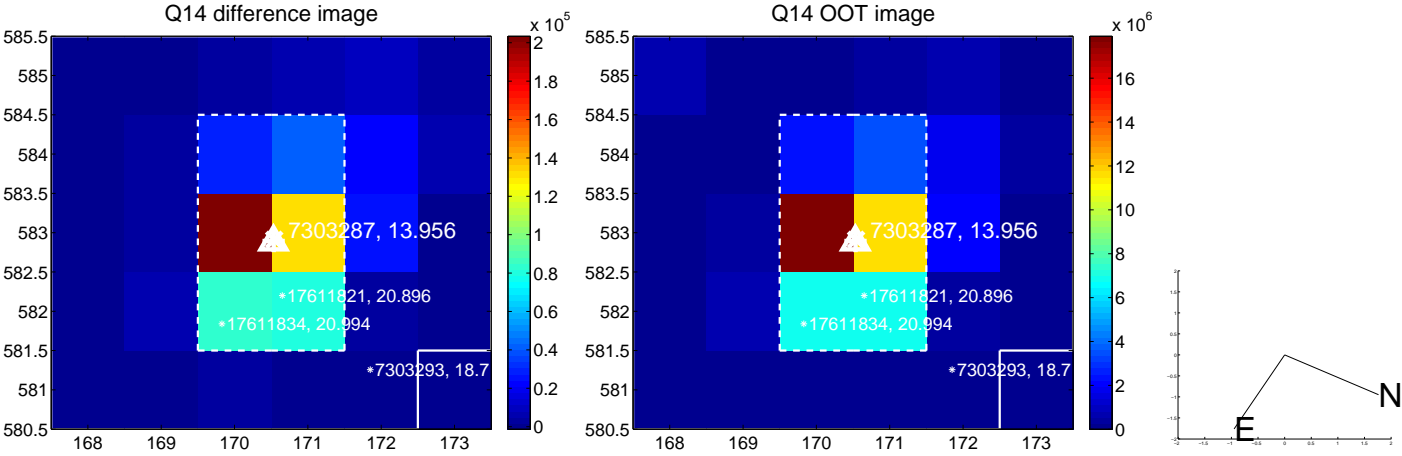
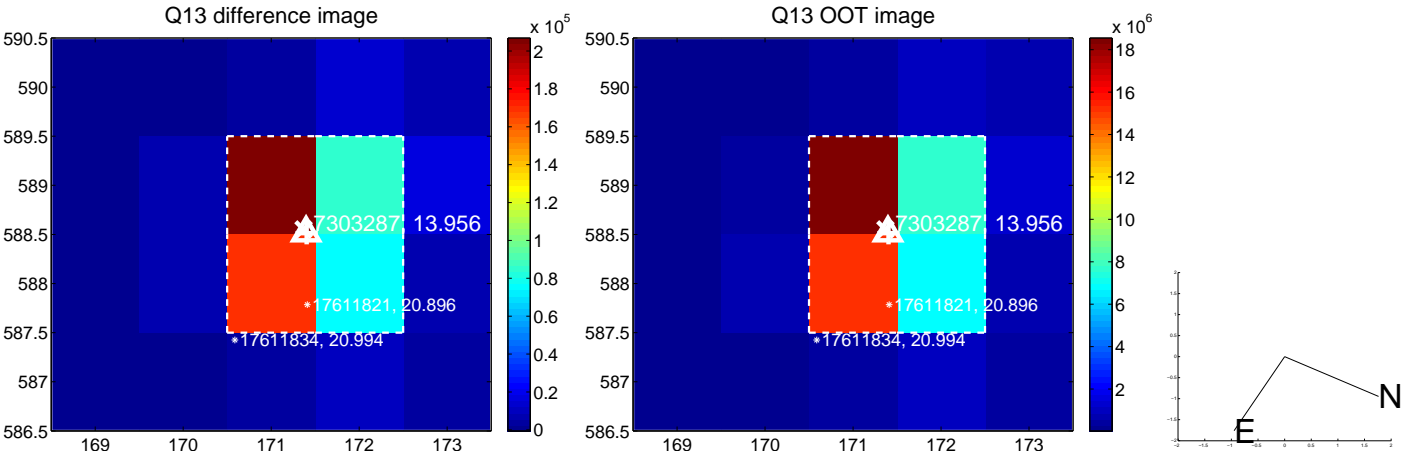
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white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

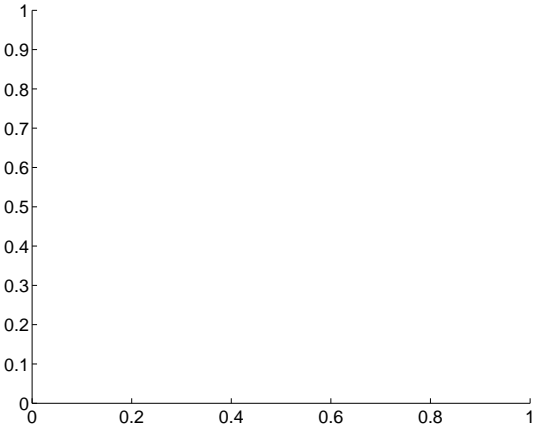


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

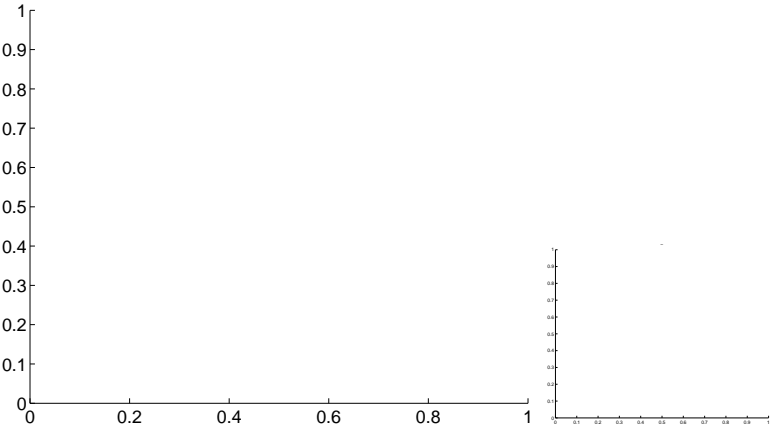


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

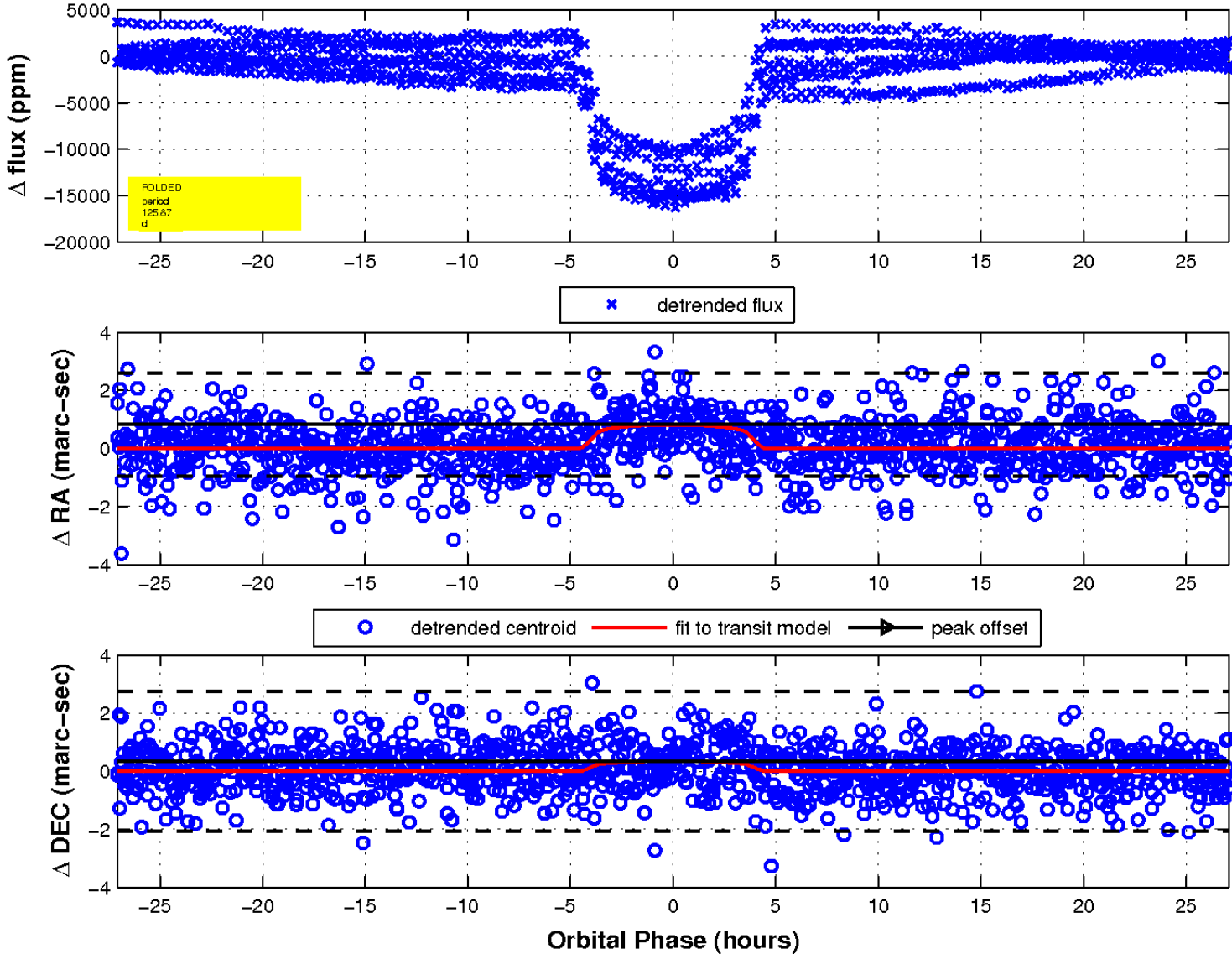
Q17 no difference image



Q17 no OOT image

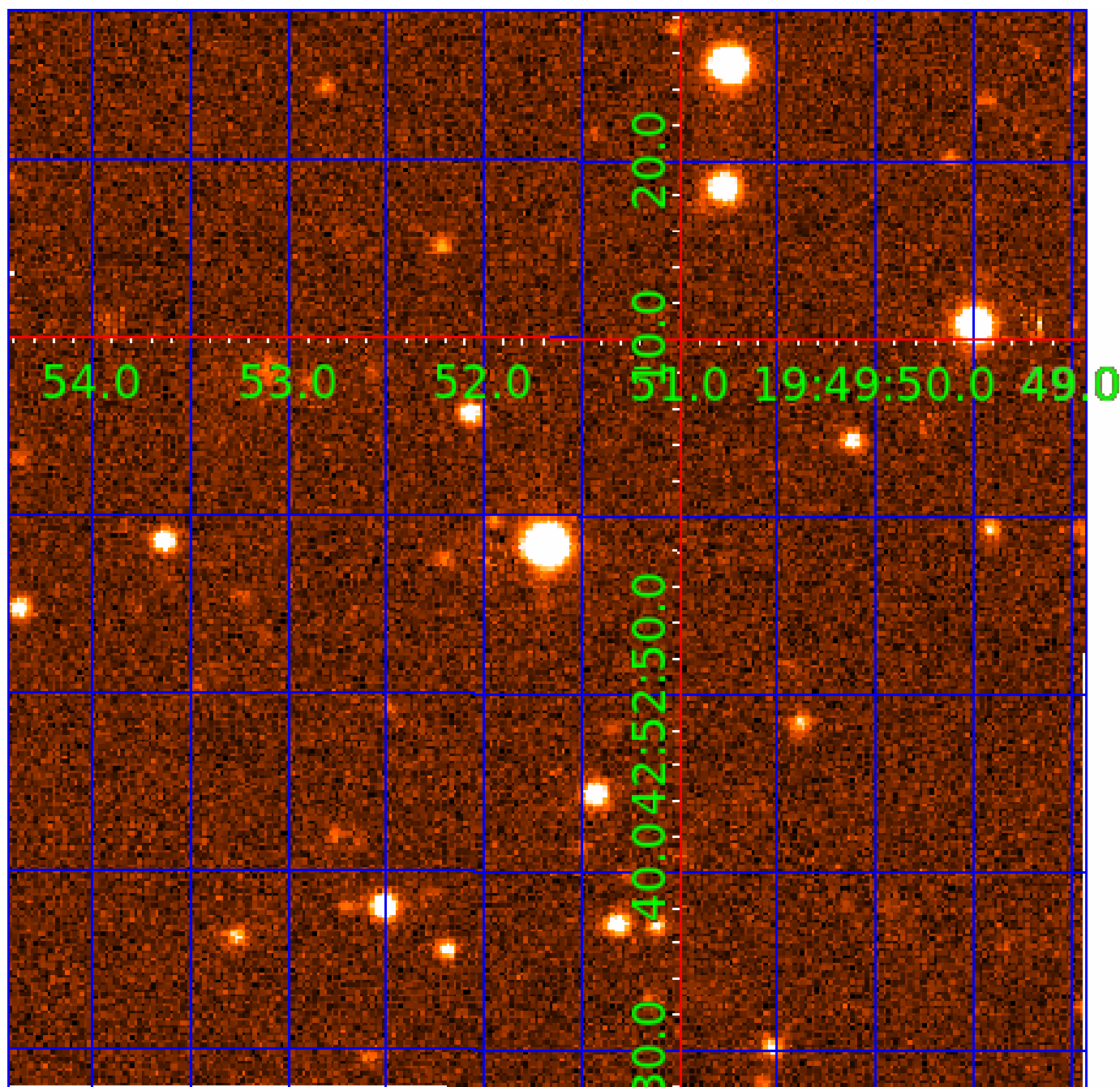


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 007303287

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})
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007303287-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007303287-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007303287-03	OBS	PC	0.34	0	0	0	0	NO_COMMENT

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

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

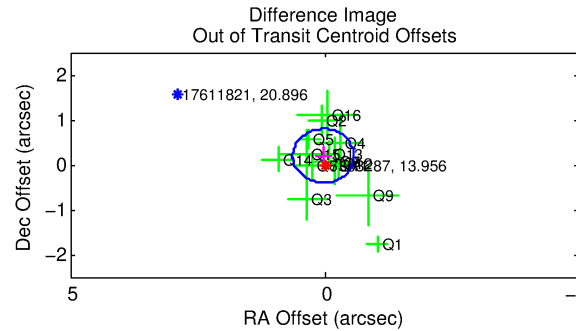
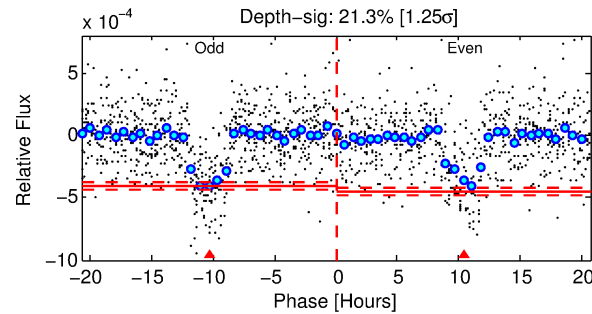
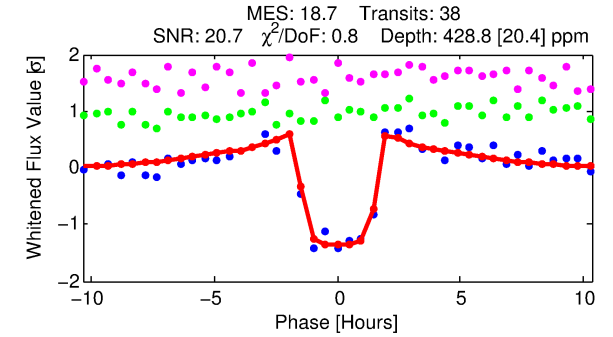
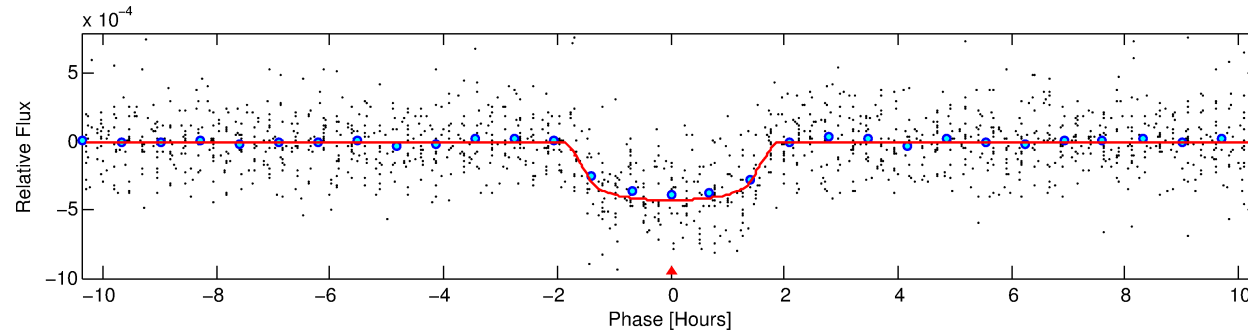
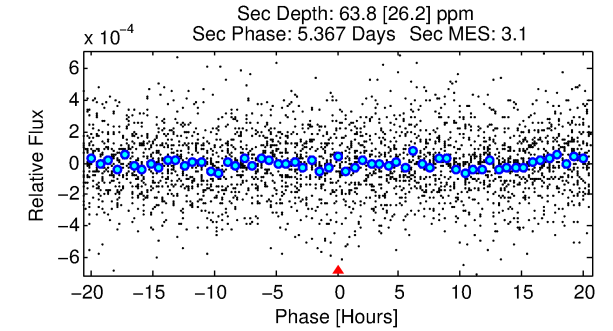
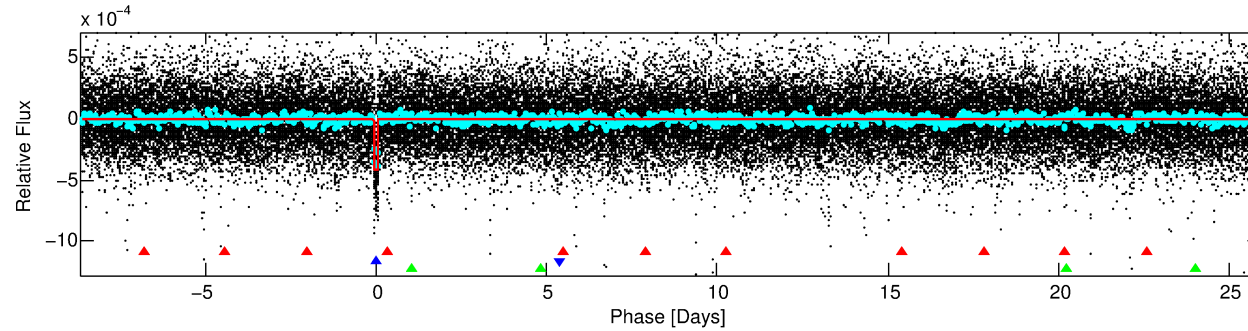
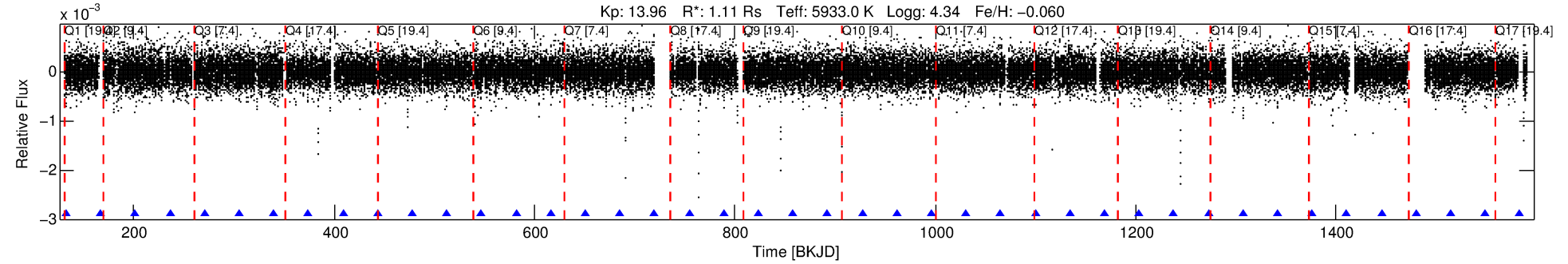
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007303287-02

No Significant Match Found

DV One-Page Summary

KIC: 7303287 Candidate: 2 of 3 Period: 34.544 d
KOI: K01353.02 Name: Kepler-289b Corr: 0.980



DV Fit Results:

Period = 34.54394 [0.00013] d
Epoch = 132.6859 [0.0030] BKJD
Rp/R* = 0.0217 [0.0051]
a/R* = 42.75 [48.31]
b = 0.85 [0.36]
Seff = 32.09 [7.06]
Teq = 607 [33] K
Rp = 2.64 [0.75] Re
a = 0.2074 [0.0283] AU
Ag = 216.92 [143.15] [1.51σ]
Teffp = 3601 [569] K [5.25σ]

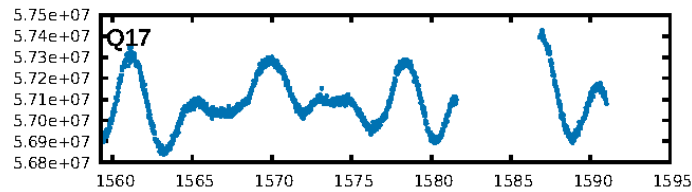
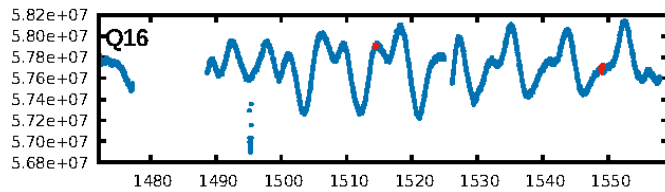
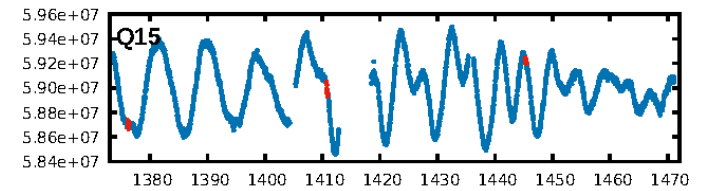
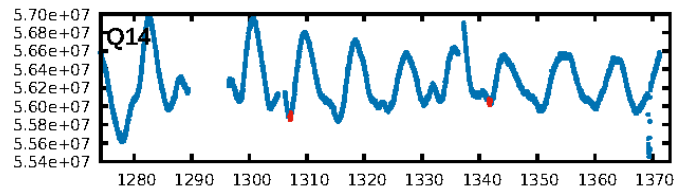
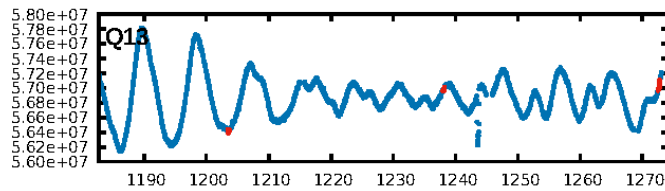
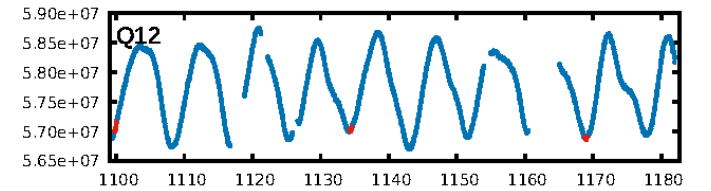
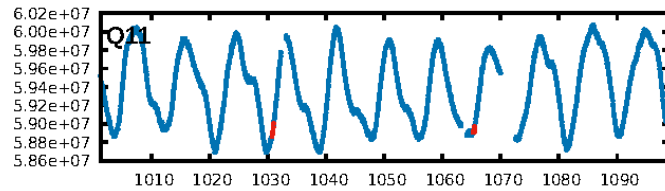
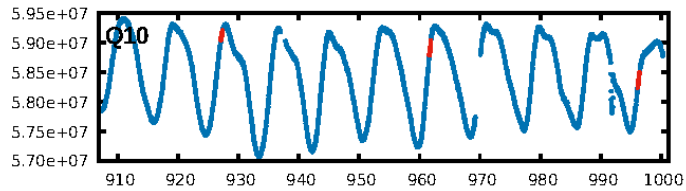
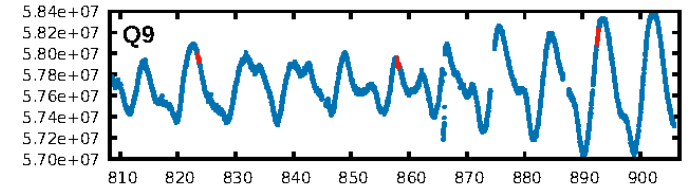
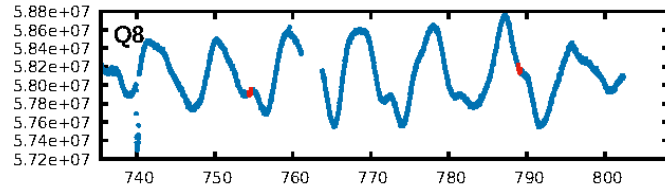
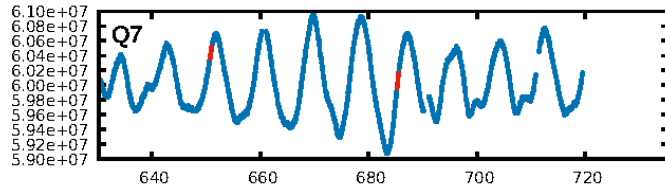
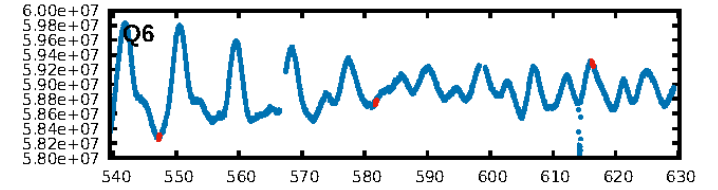
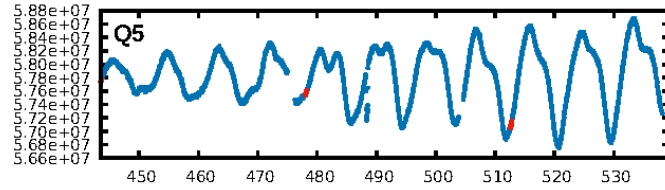
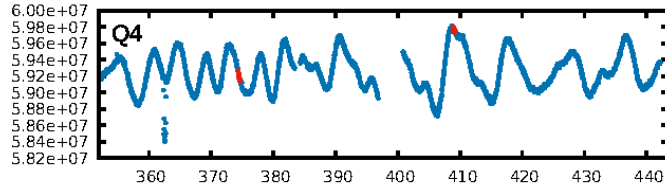
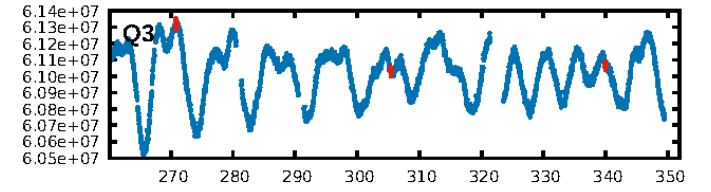
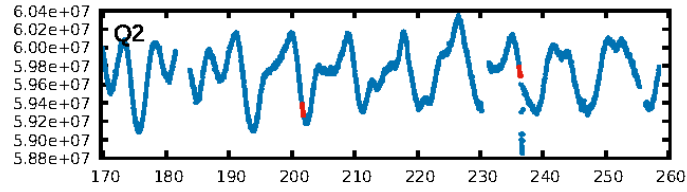
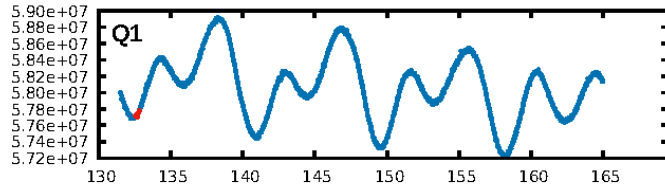
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [226.18σ]
ModelChiSquare2-sig: 93.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.21e-51
RollingBand-fgt: 1.00 [37/37]
GhostDiagnostic-chr: 1.725
Centroid-sig: 66.4%
Centroid-so: 0.139 arcsec [0.36σ]
OotOffset-rm: 0.198 arcsec [0.99σ]
KicOffset-rm: 0.304 arcsec [1.53σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 1.00 [15/15]
DiffImageOverlap-fno: 1.00 [16/16]

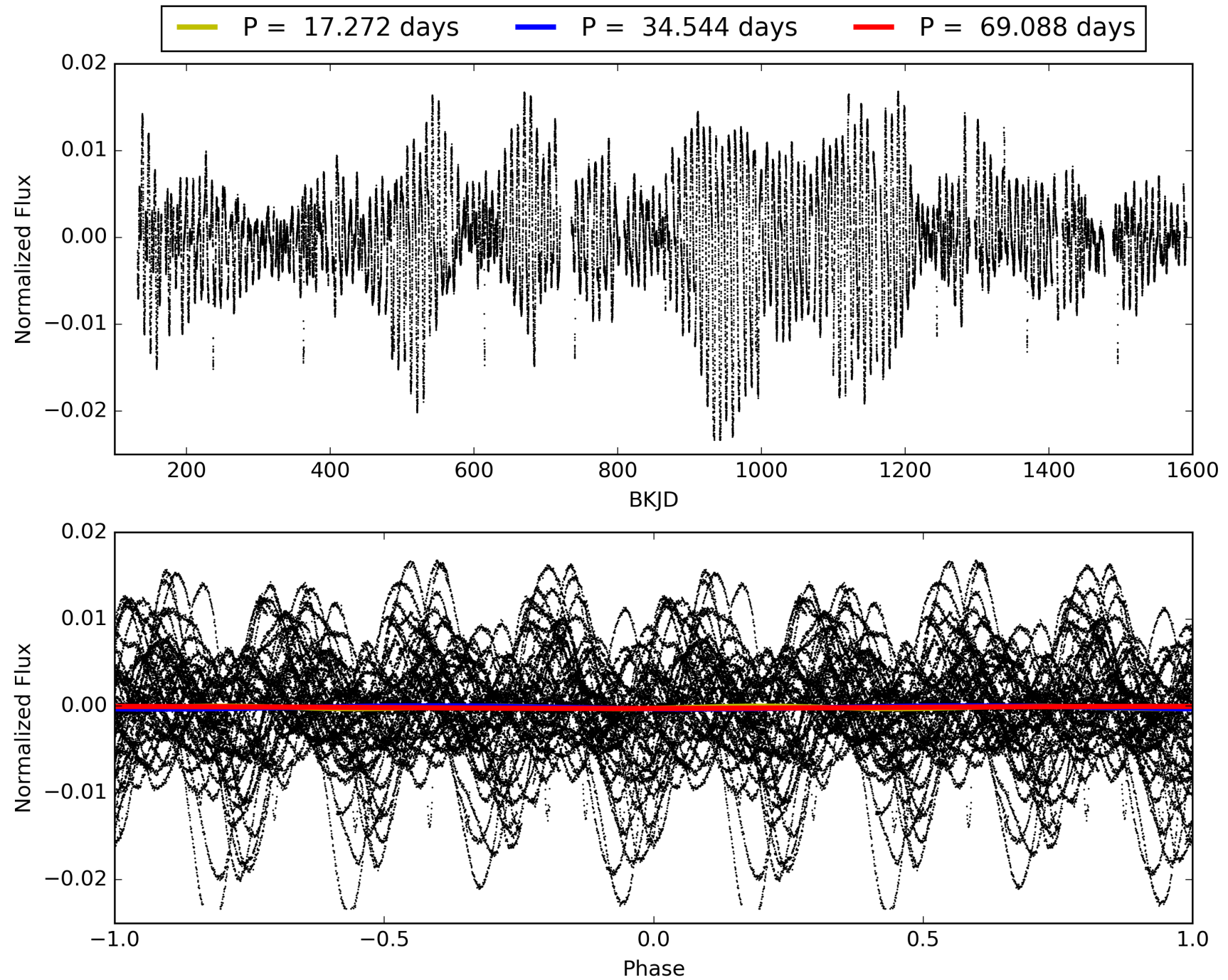
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:09:55 Z

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

TCE 007303287-02, PDC Light Curves

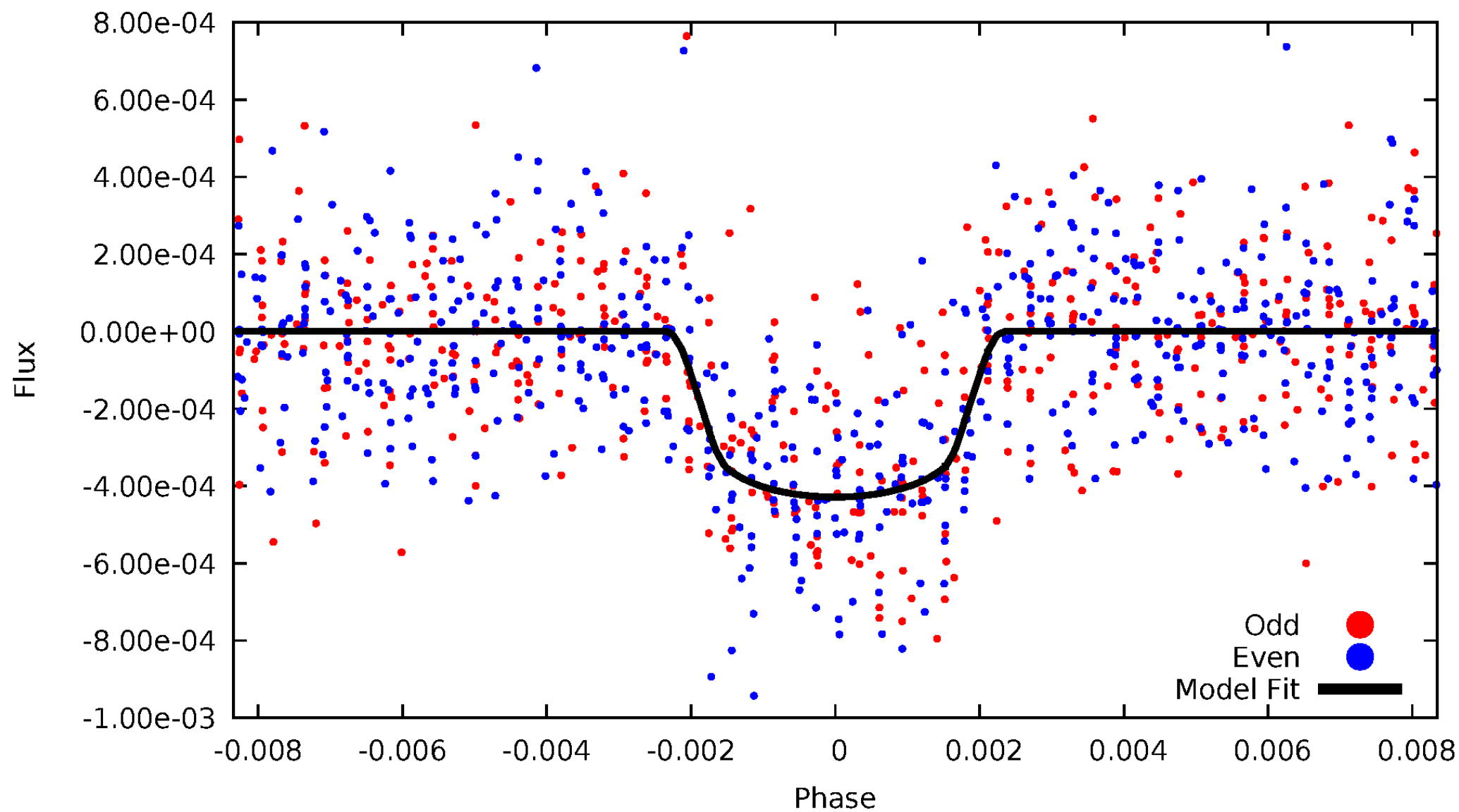


TCE 007303287-02



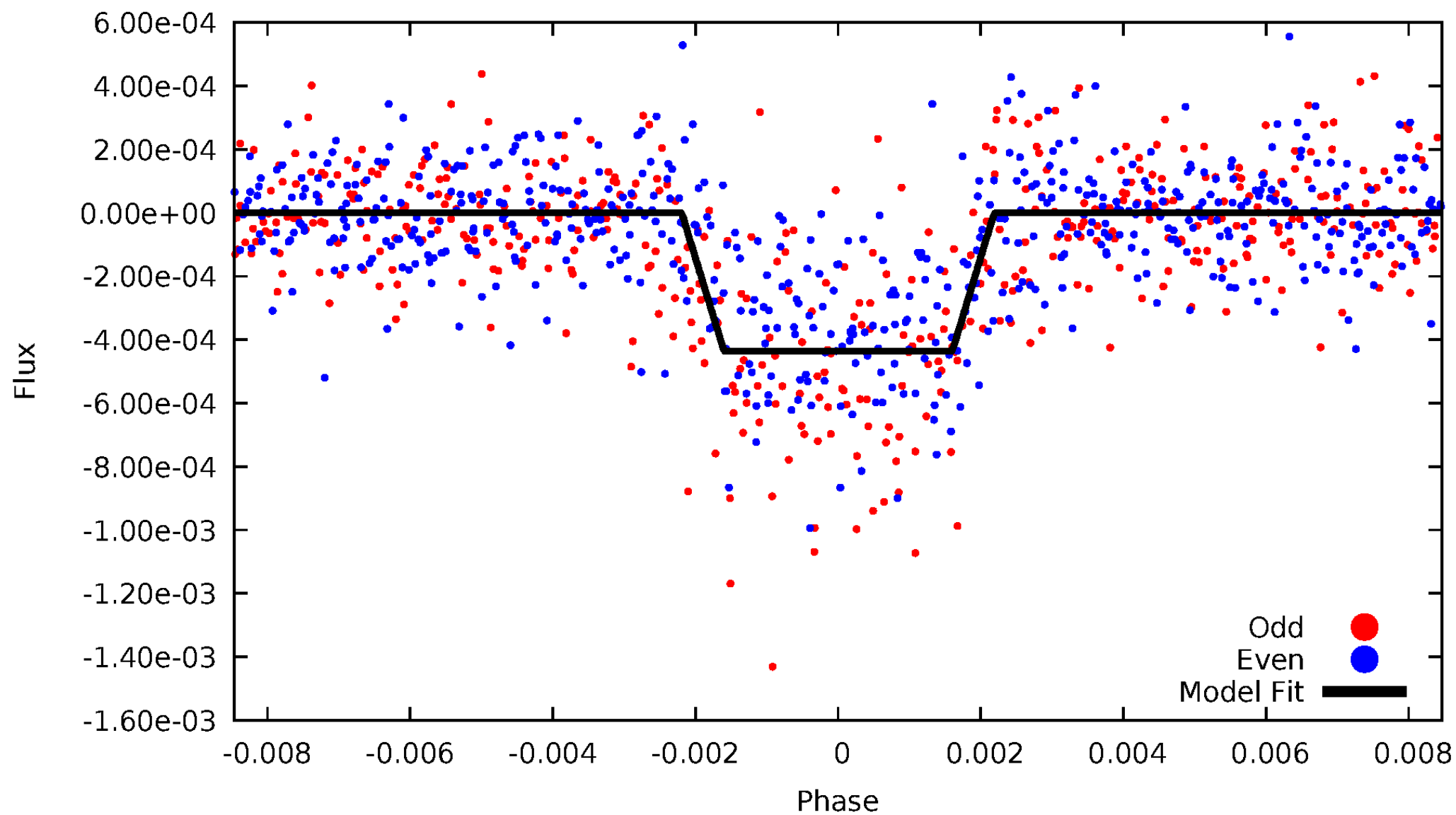
DV Odd/Even

TCE 007303287-02



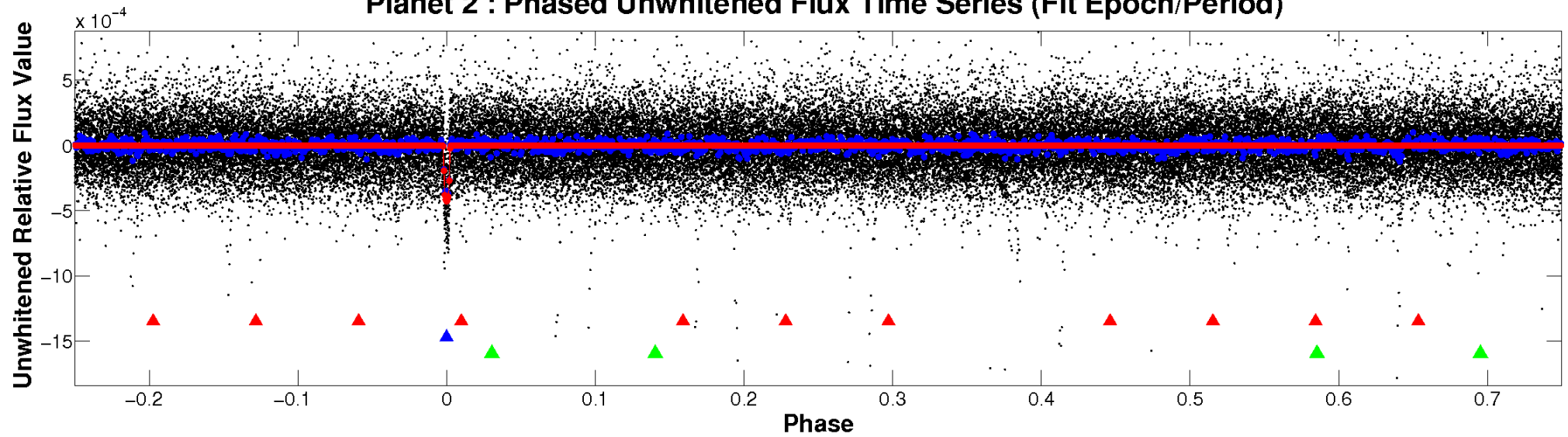
ALT Odd/Even

TCE 007303287-02

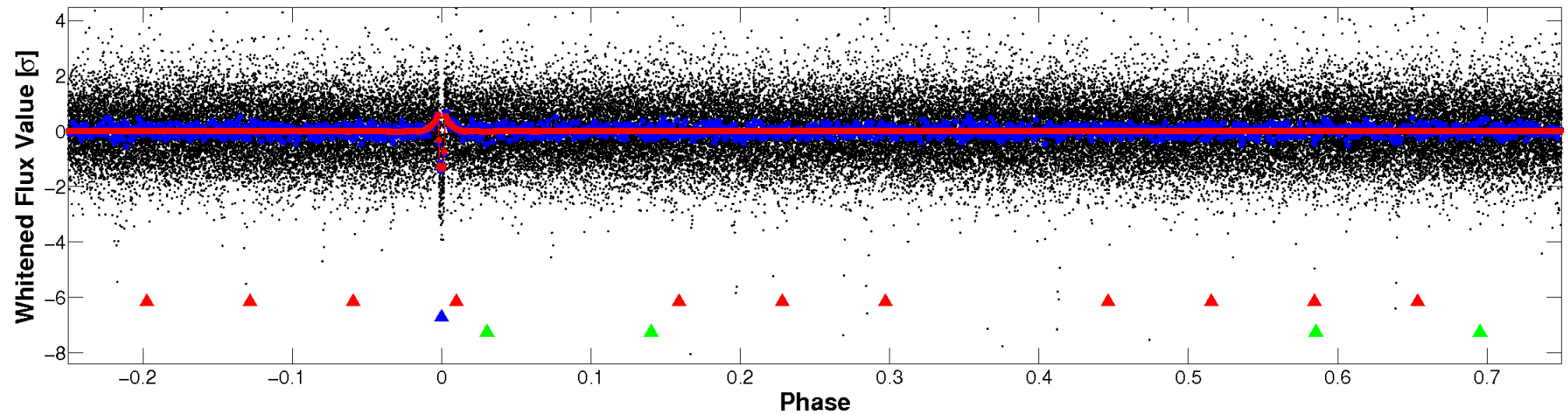


Non-Whitened Vs. Whitened Light Curve

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

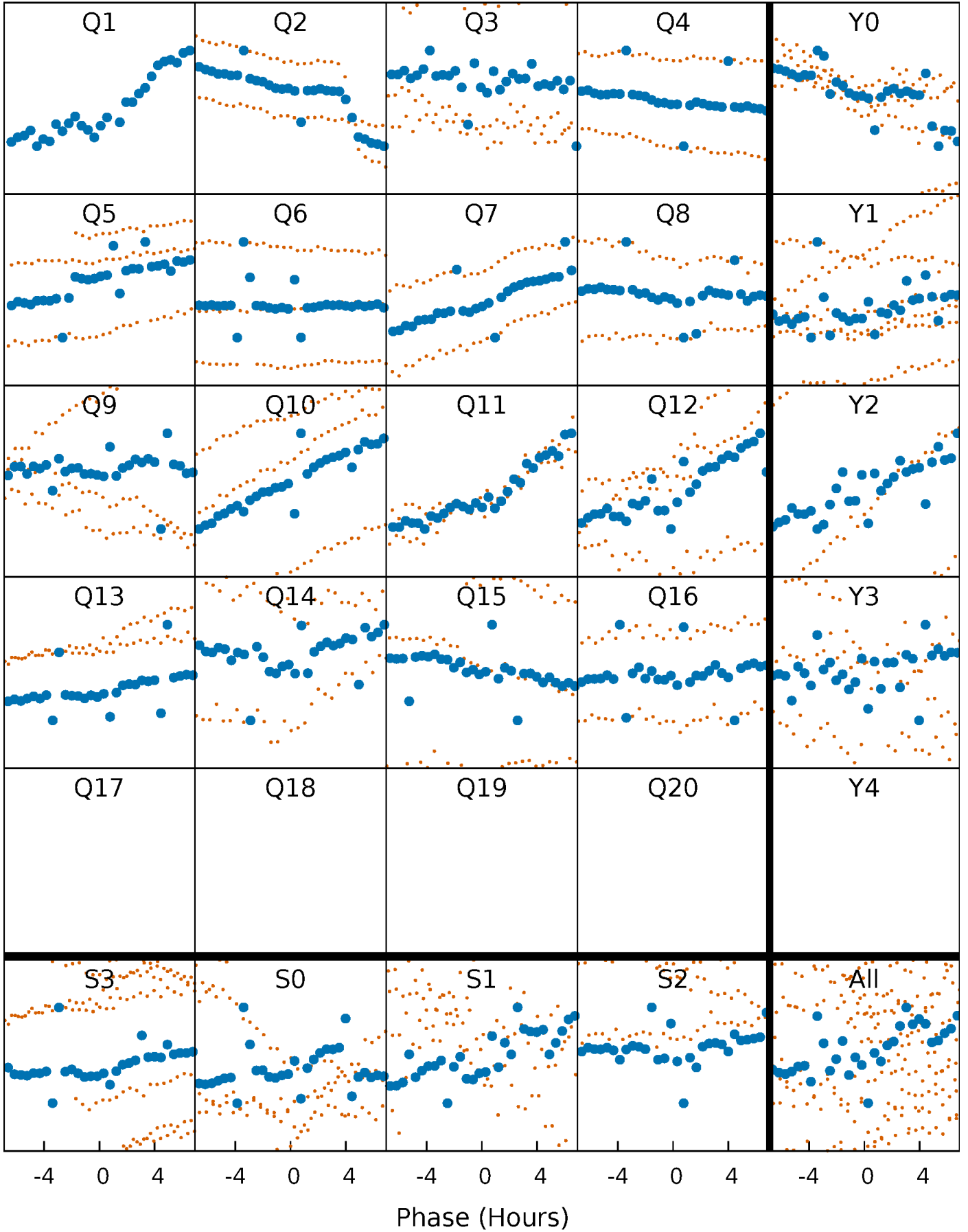


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



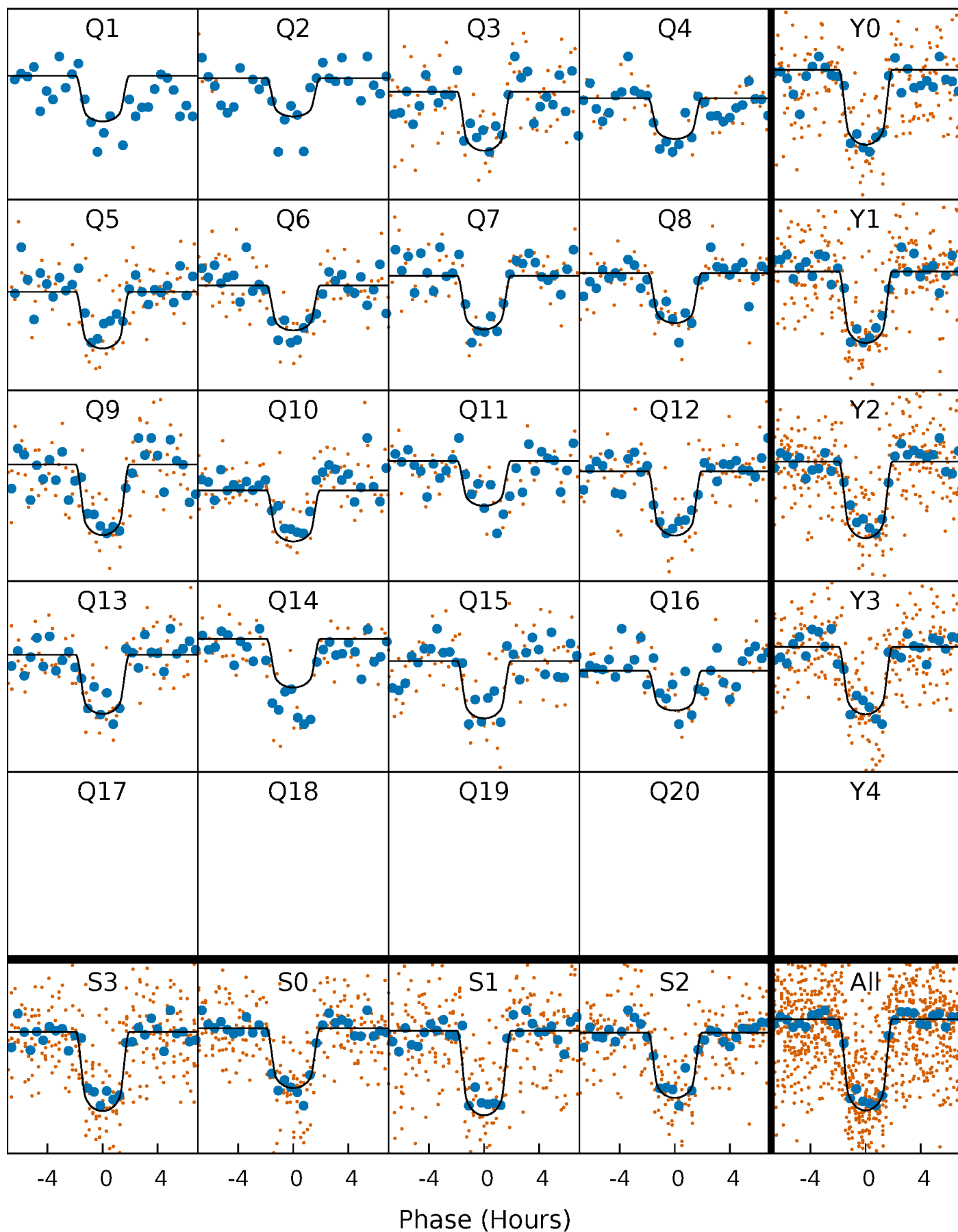
PDC Quarter-Phased Transit Curves

TCE 007303287-02 P= 34.543937 Days $T_0=132.685922$ (BKJD)



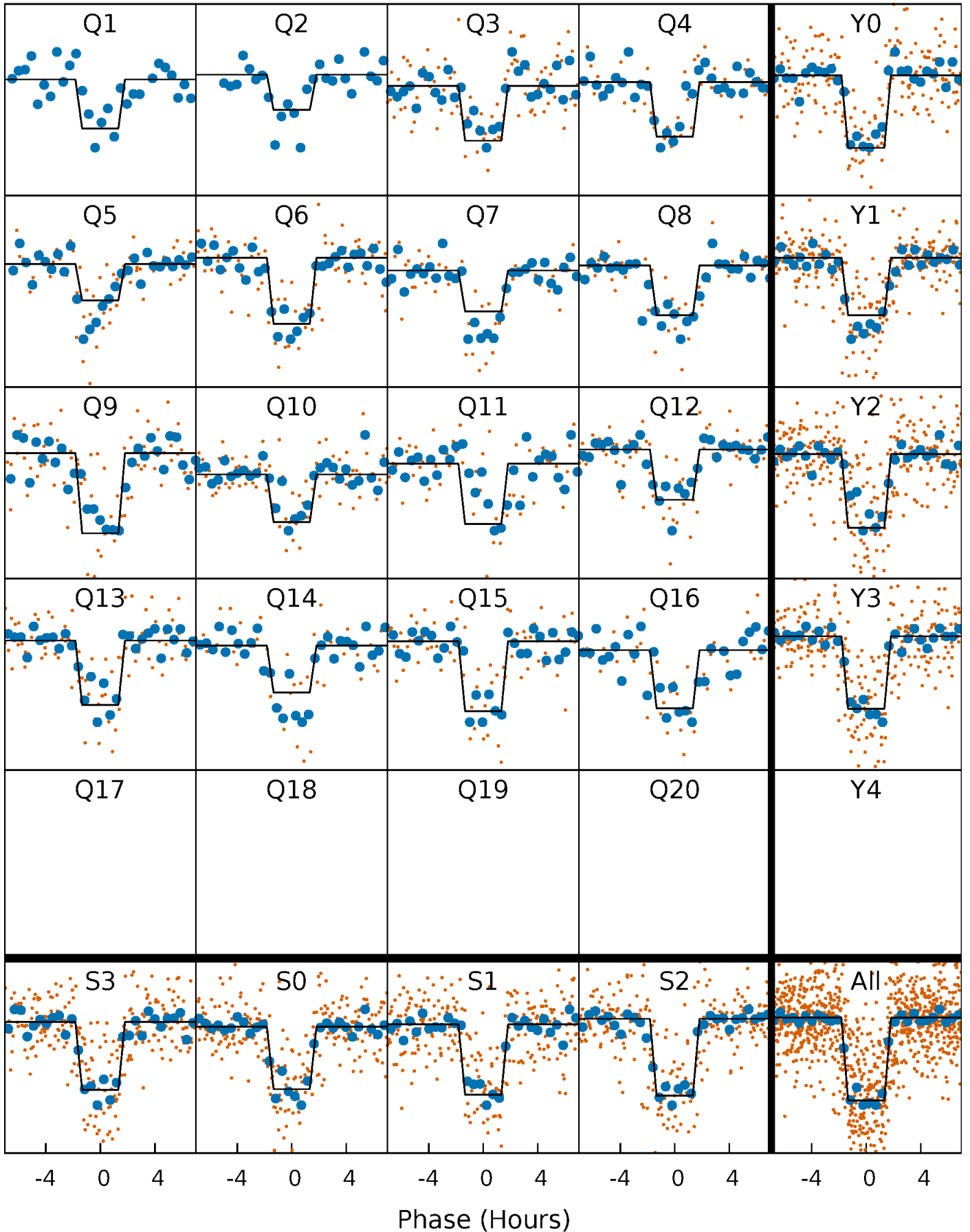
DV Quarter-Phased Transit Curves

TCE 007303287-02 P= 34.543937 Days $T_0=132.685922$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

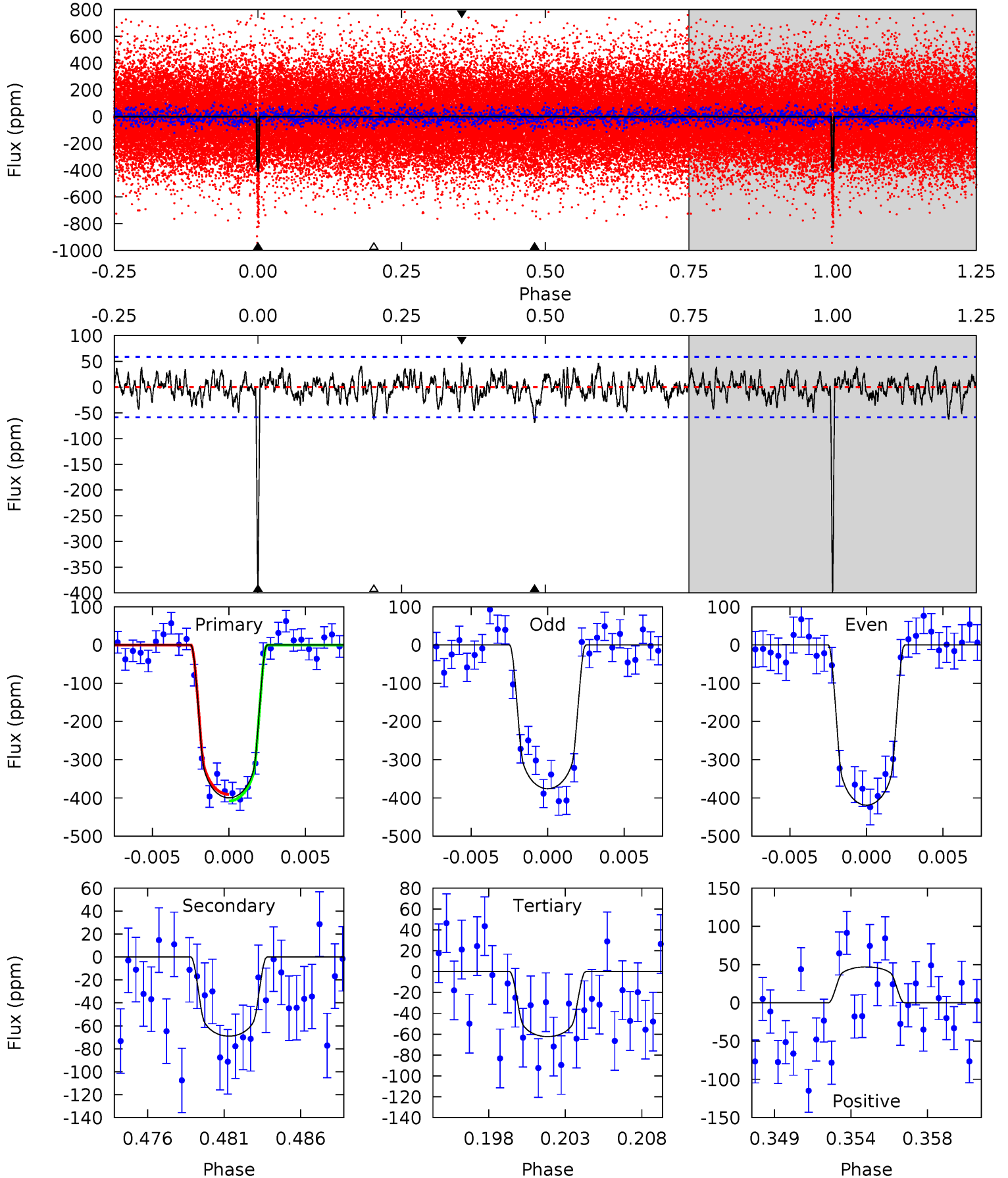
TCE 007303287-02 $P = 34.543674$ Days $T_0 = 132.689687$ (BKJD)



DV Model-Shift Uniqueness Test

007303287-02, P = 34.543937 Days, E = 98.141985 Days

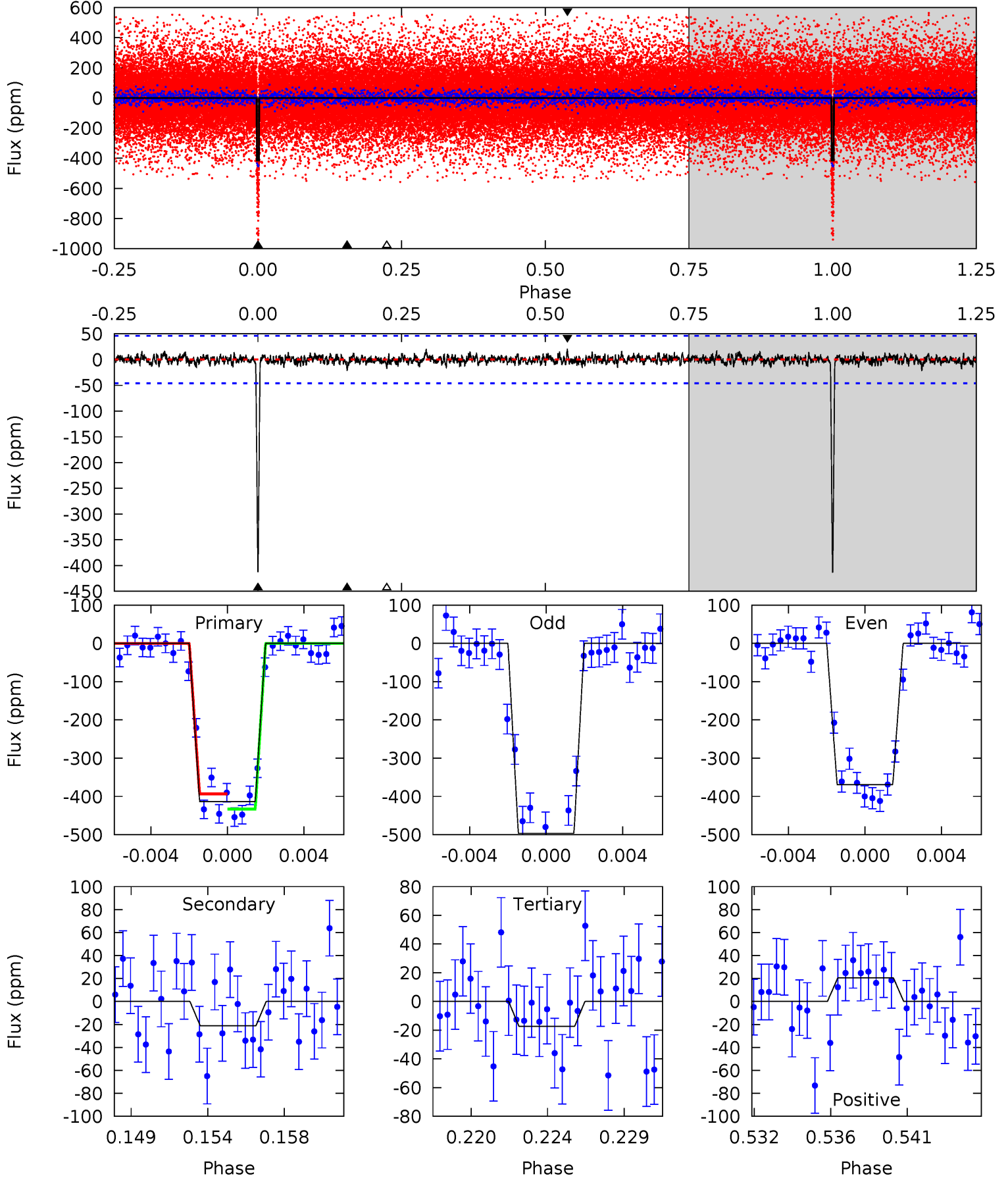
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.1	6.07	5.48	4.13	5.17	2.83	1.56	29.7	31.0	0.58	1.93	1.88	0.99	0.11	0.75



Alt Model-Shift Uniqueness Test

007303287-02, P = 34.543674 Days, E = 98.146013 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
46.4	2.38	1.95	2.30	5.18	2.85	0.59	44.4	44.1	0.43	0.08	7.12	1.06	0.05	2.23



Stellar Parameters For KIC 007303287

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5933^{+107}_{-119}	$4.342^{+0.115}_{-0.115}$	$-0.060^{+0.150}_{-0.150}$	$1.115^{+0.174}_{-0.142}$	$0.998^{+0.081}_{-0.066}$	$1.013^{+0.449}_{-0.341}$
	+2%/-2%	+3%/-3%	+250%/-250%	+16%/-13%	+8%/-7%	+44%/-34%
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 007303287-02 / KOI 1353.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-69 ± 11	$2.64^{+0.68}_{-0.62}$	849^{+39}_{-36}	3996^{+442}_{-317}	237^{+173}_{-96}
Alt.	-21 ± 9	$2.57^{+0.68}_{-0.67}$	847^{+40}_{-34}	3309^{+392}_{-326}	74^{+75}_{-38}

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 $A_{obs} \gg 1.0$

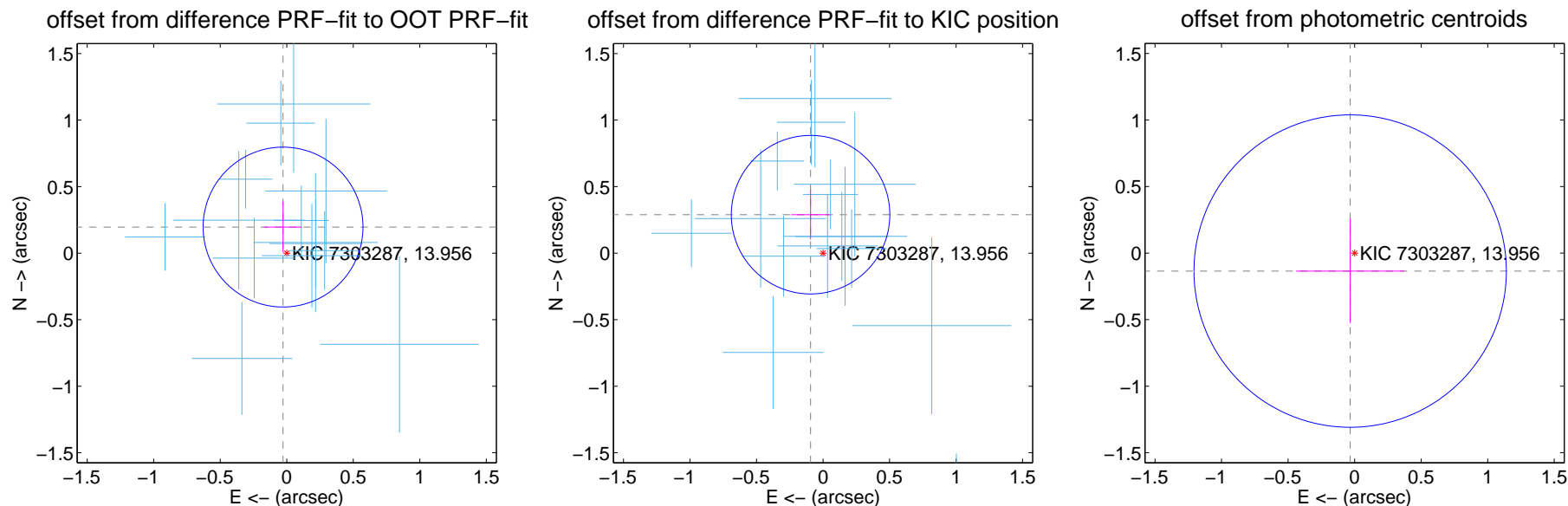
DV Centroid Data

Supplemental centroid analysis for 007303287-02. Kepler magnitude: 13.96. Transit SNR 20.74

There are 15 quarters with good PRF difference image offsets

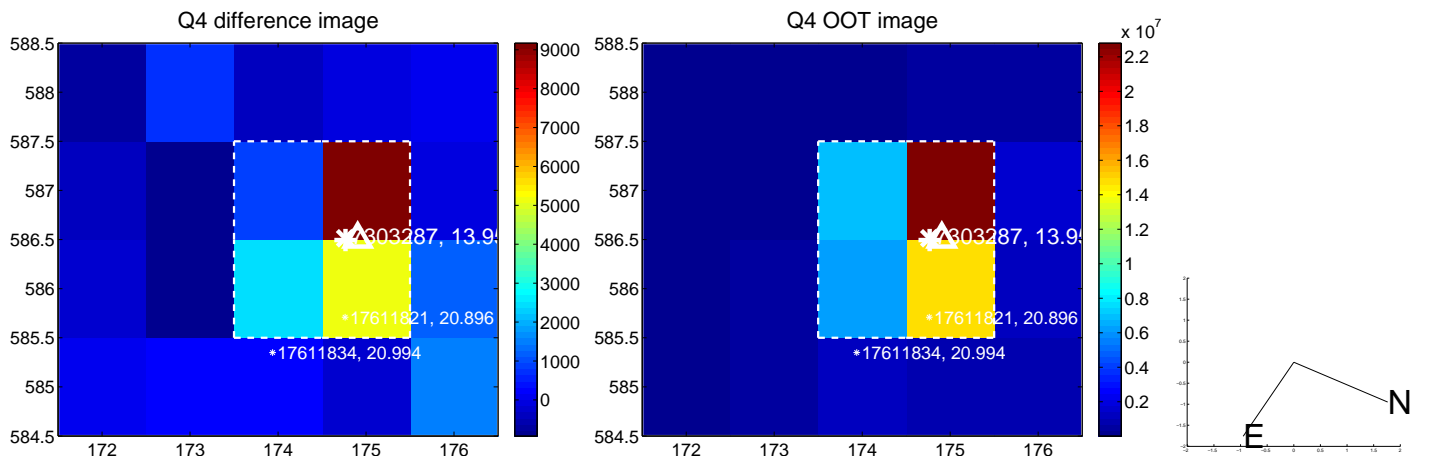
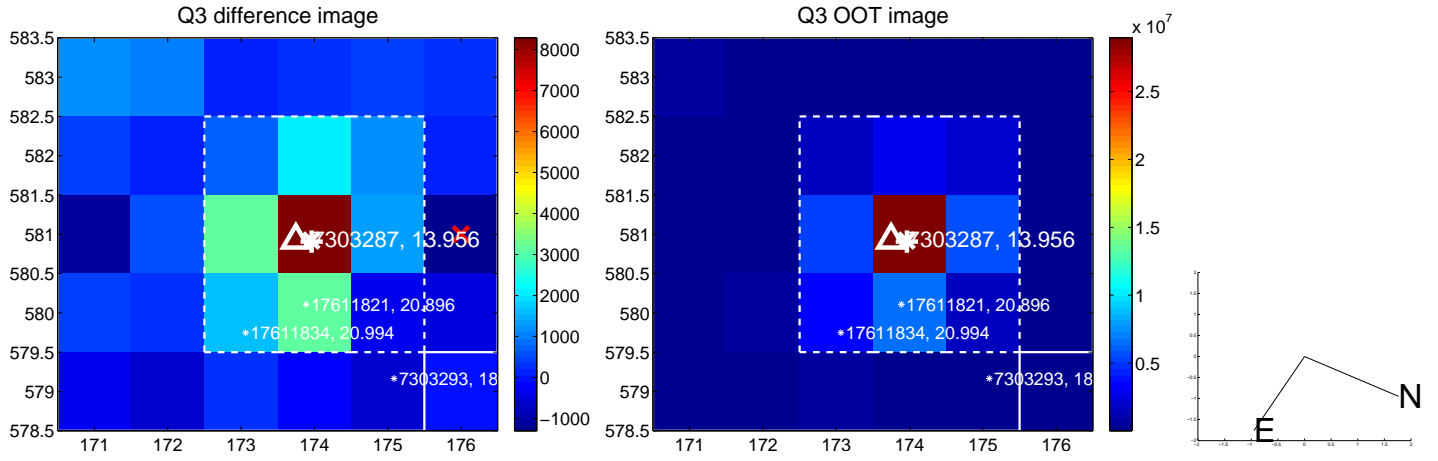
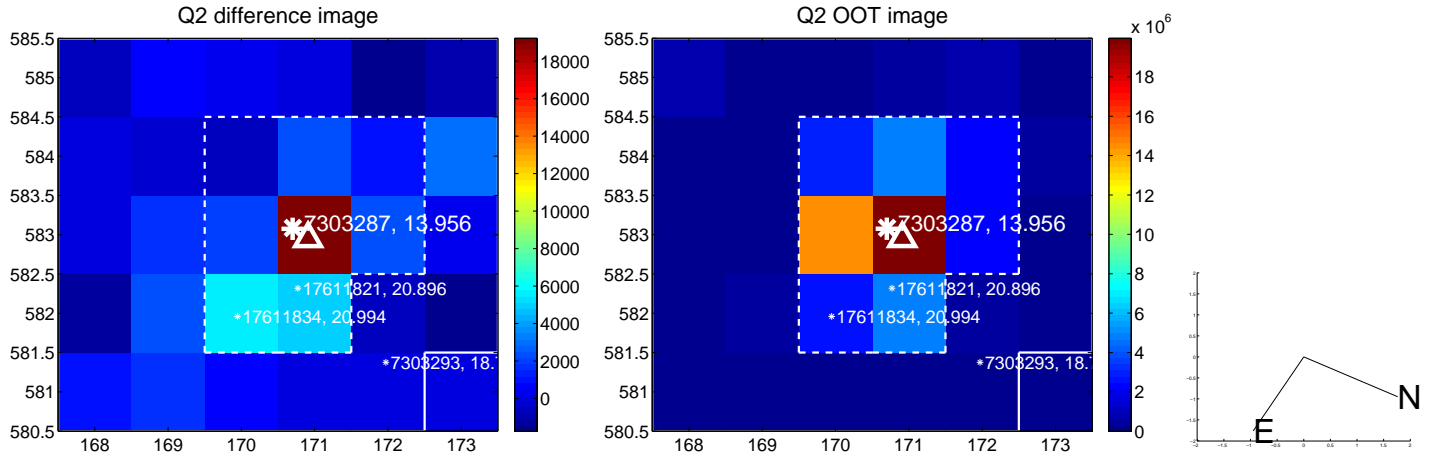
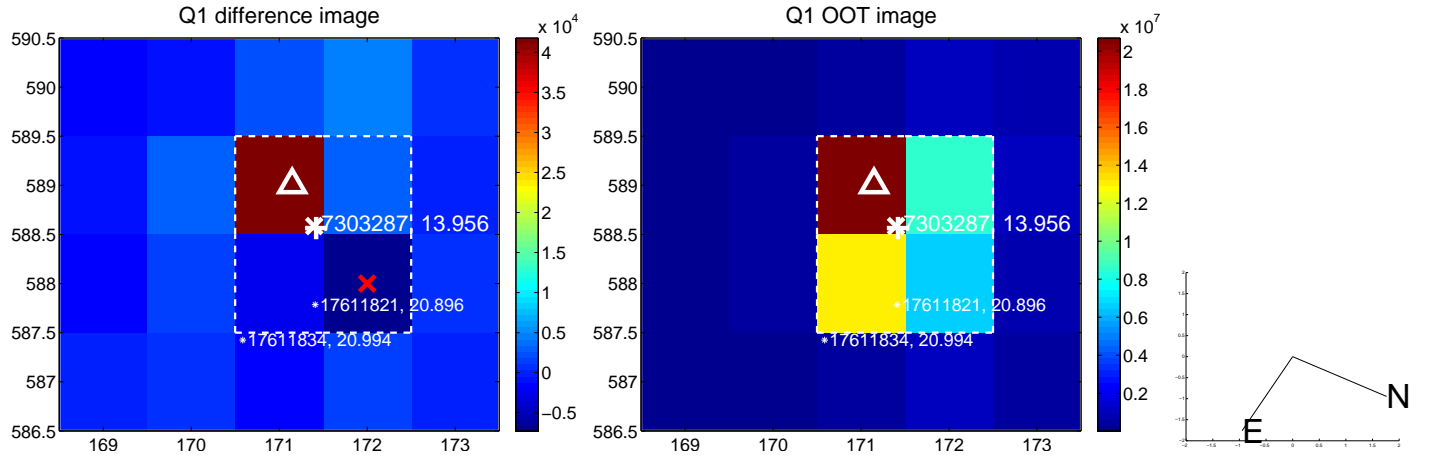
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.198 ± 0.200	0.99	0.028 ± 0.142	0.196 ± 0.192
PRF-fit source offset from KIC position	0.304 ± 0.199	1.53	0.094 ± 0.146	0.289 ± 0.186
photometric centroid source offset	0.14 ± 0.39	0.36	0.03 ± 0.41	-0.14 ± 0.39

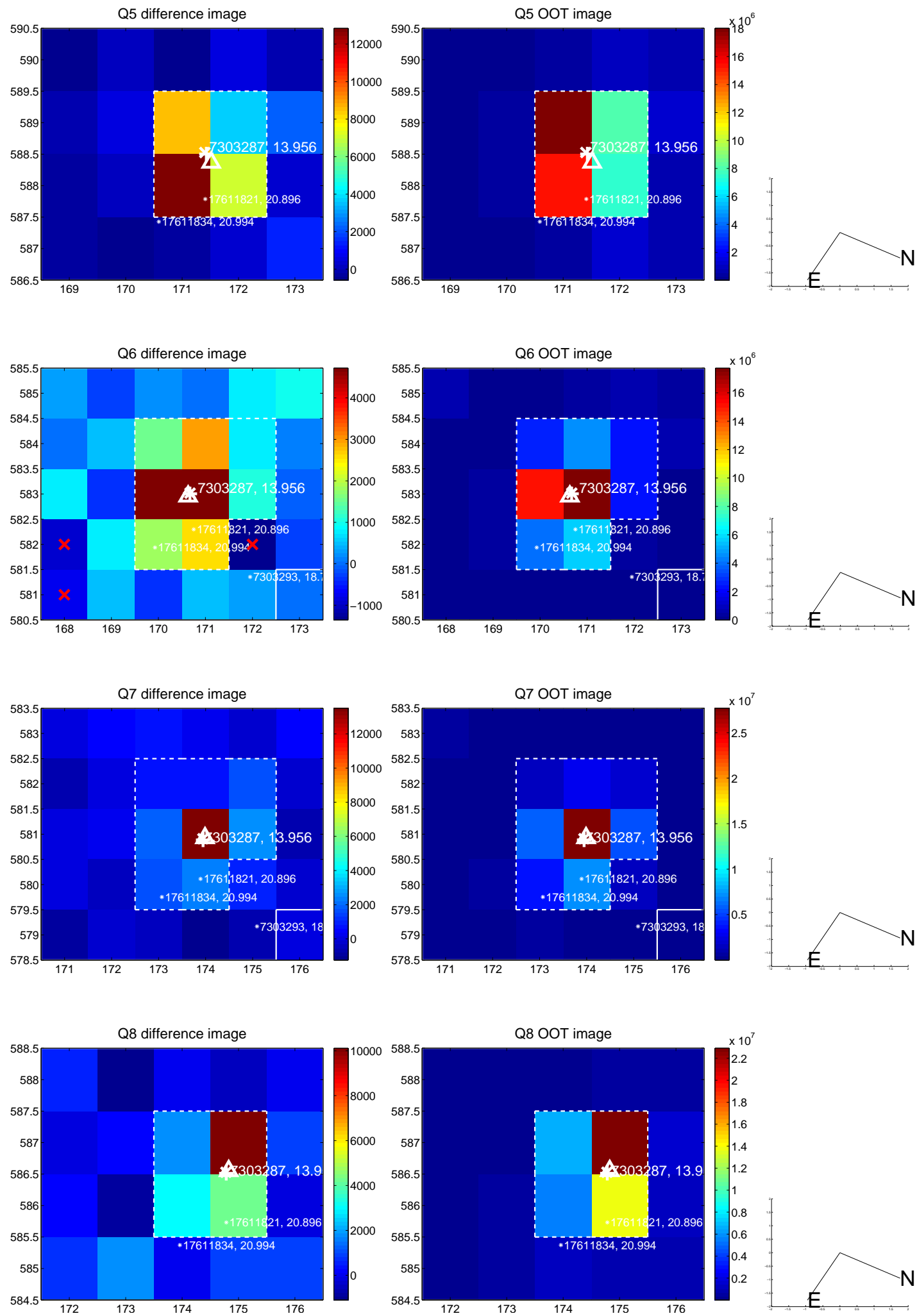


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

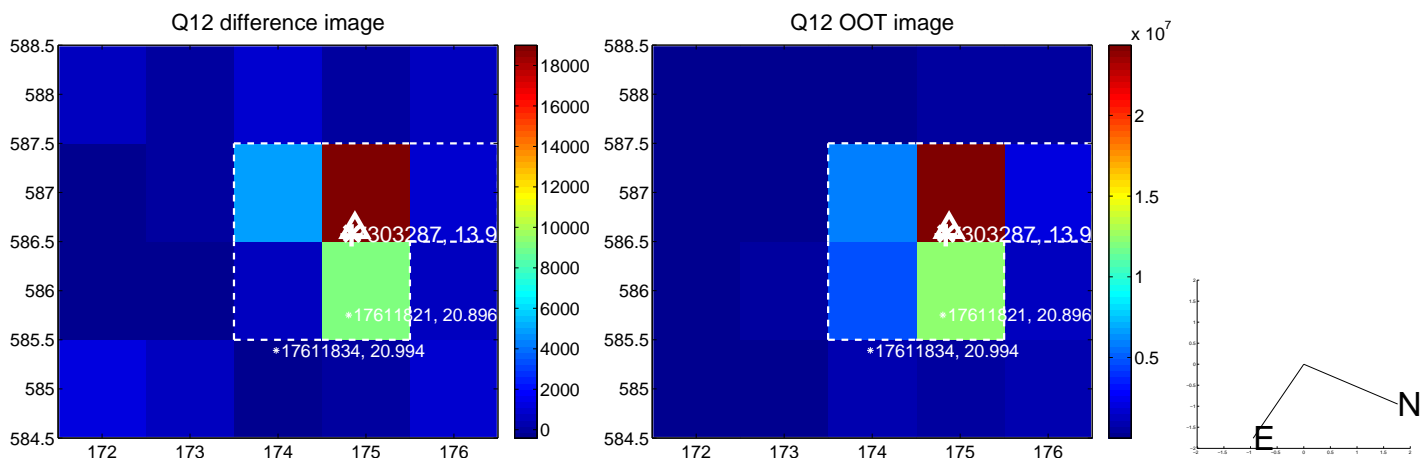
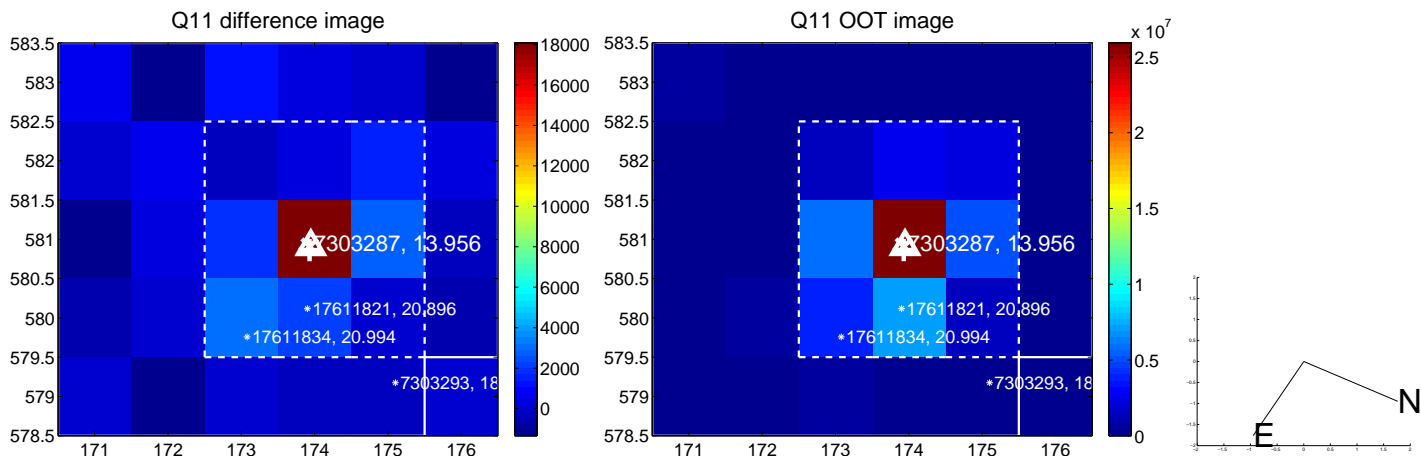
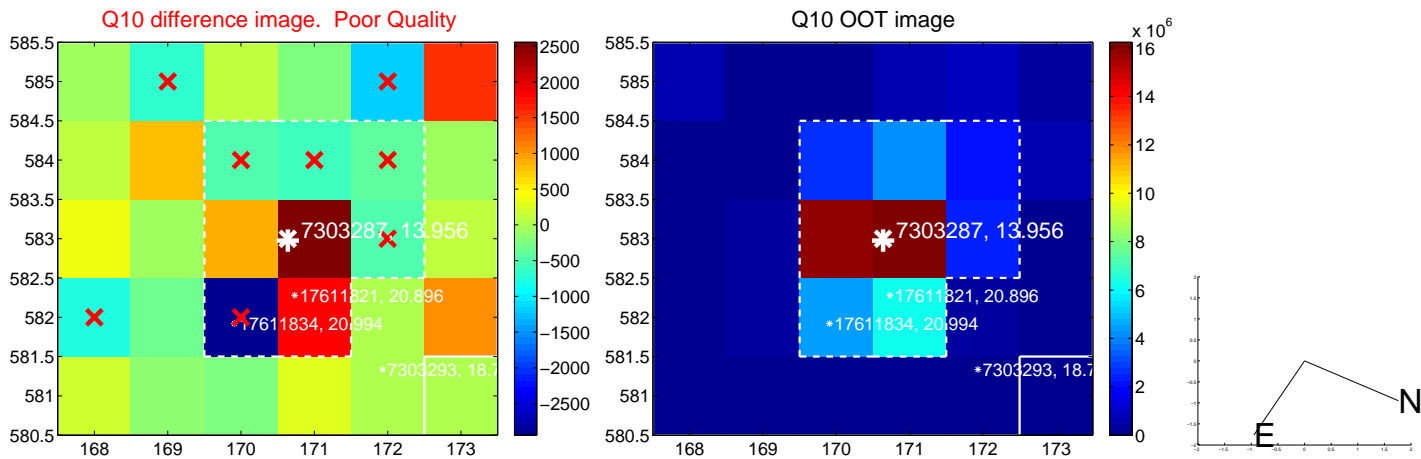
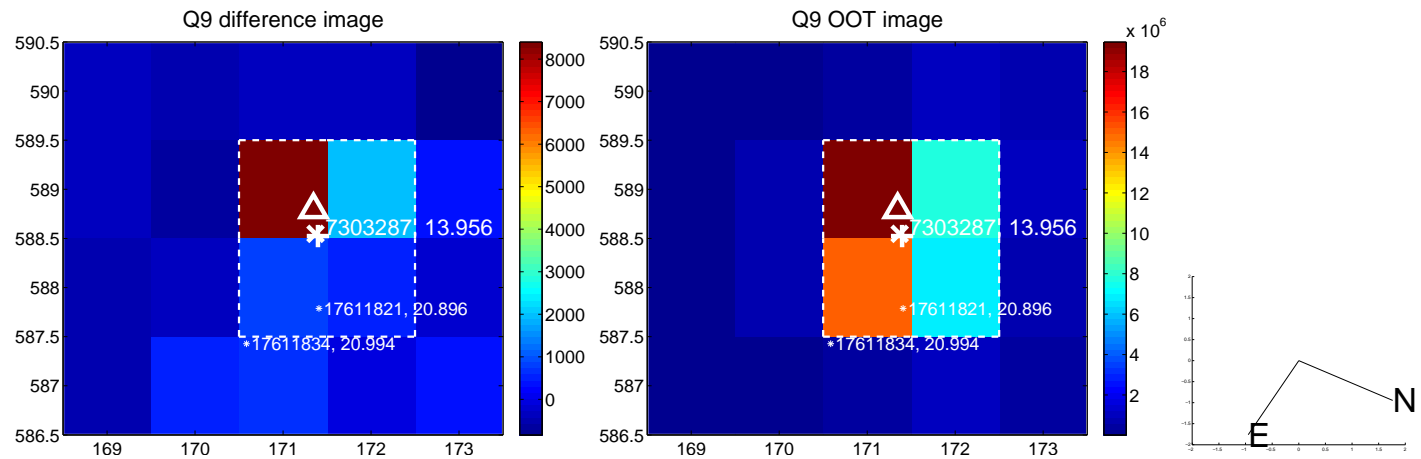
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



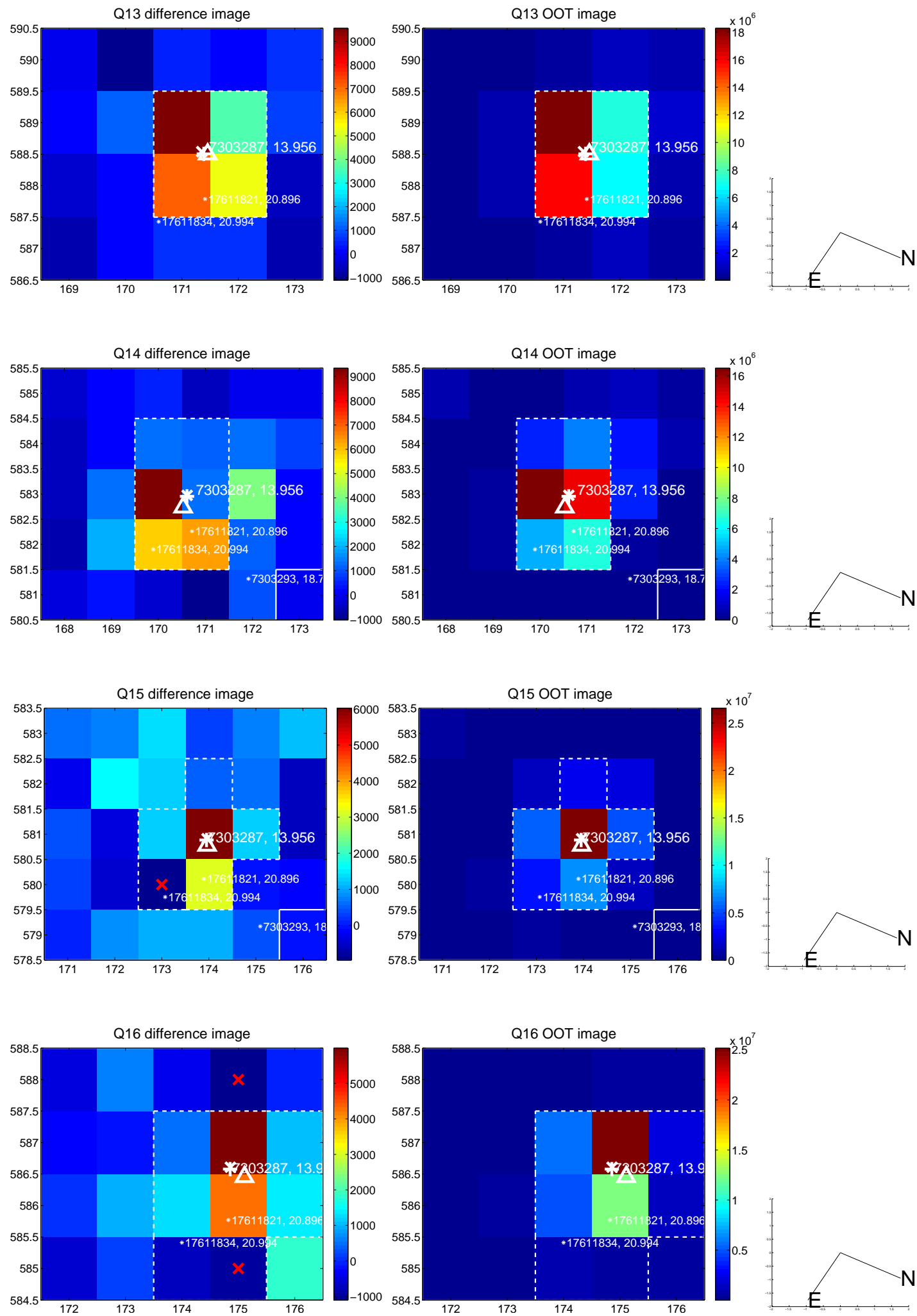
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



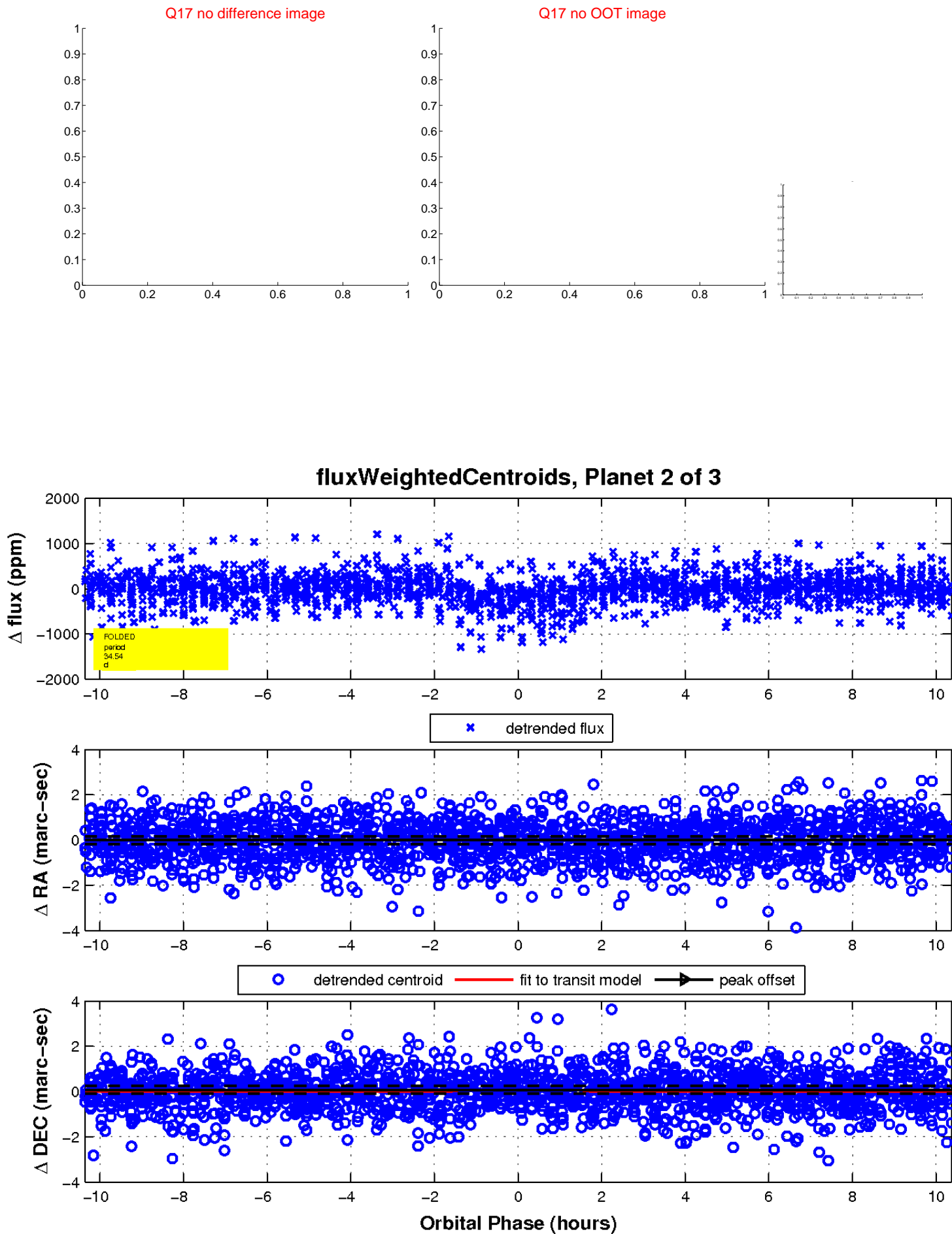
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

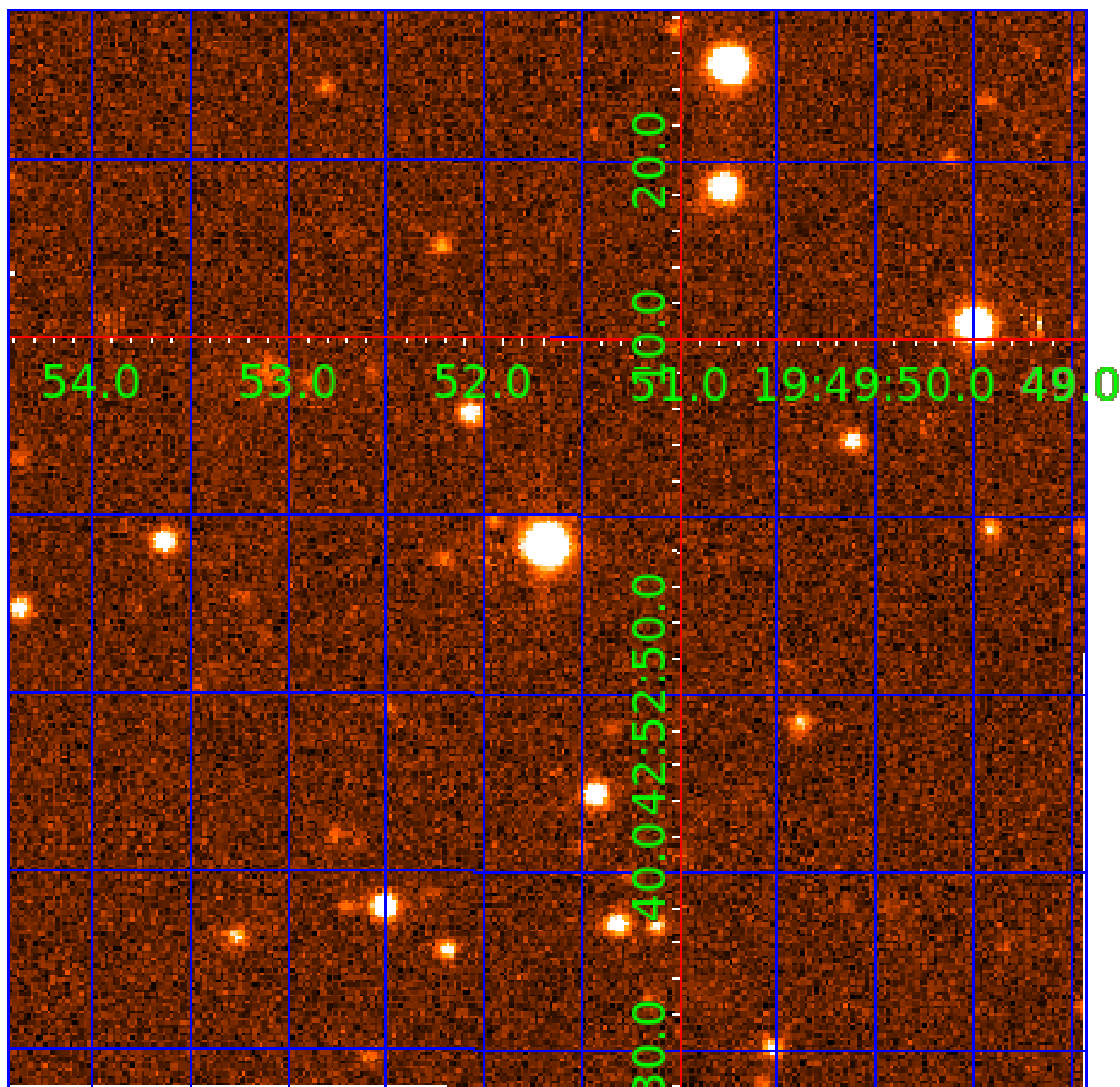


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007303287

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})
007303287-01	OBS	1353.01	125.865537	236.660530	12545.5	9.052	167.6	274.3	1.11	5933	12.63	5.72
007303287-02	OBS	1353.02	34.543937	132.685922	428.8	3.458	18.7	20.7	1.11	5933	2.64	32.09
007303287-03	OBS	1353.03	330.065837	341.000996	748.7	6.276	8.5	9.0	1.11	5933	4.41	1.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007303287-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007303287-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007303287-03	OBS	PC	0.34	0	0	0	0	NO_COMMENT

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.

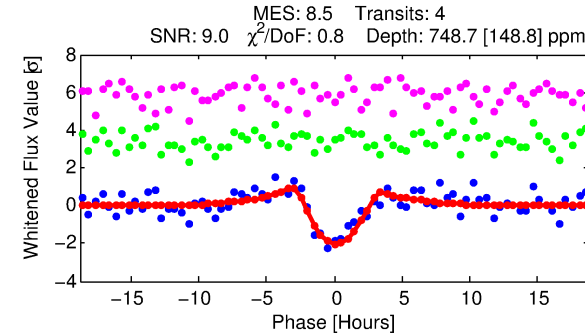
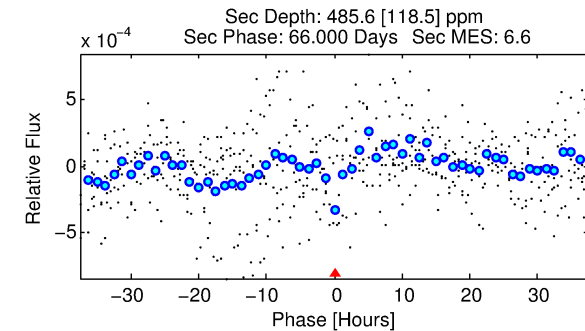
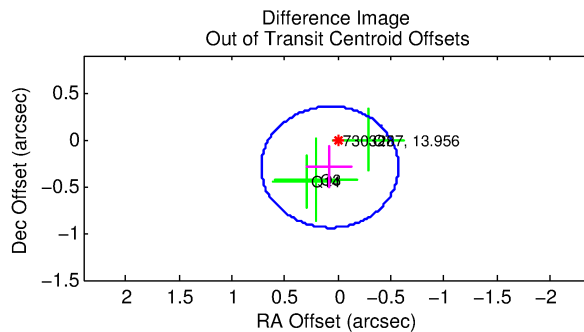
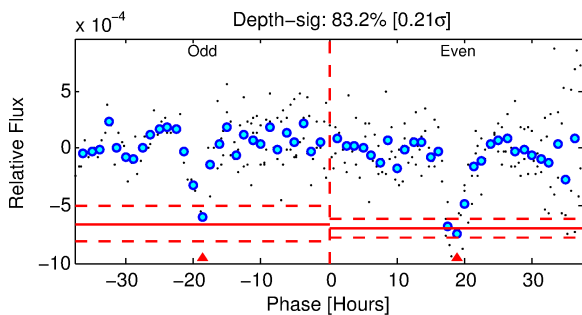
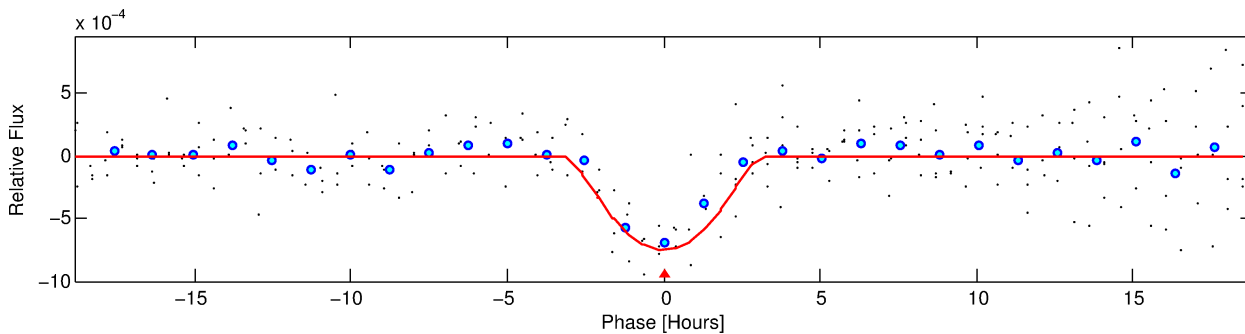
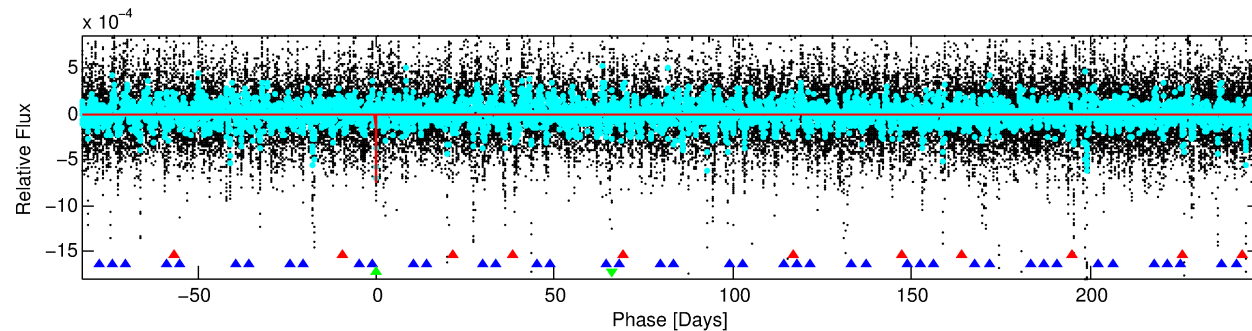
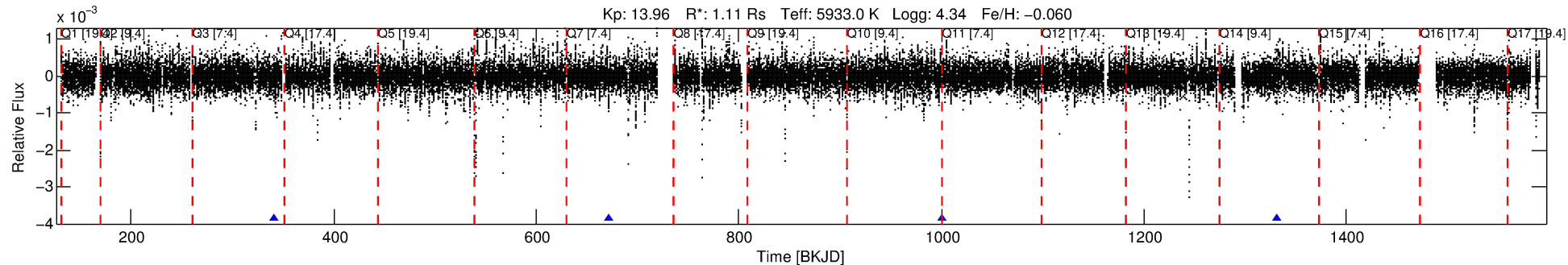
Ephemeris Match Information For 007303287-03

No Significant Match Found

DV One-Page Summary

KIC: 7303287 Candidate: 3 of 3 Period: 330.066 d
KOI: K01353 Name: Kepler-289 Corr: No Ephemeris Match

Kp: 13.96 R*: 1.11 Rs Teff: 5933.0 K Logg: 4.34 Fe/H: -0.060



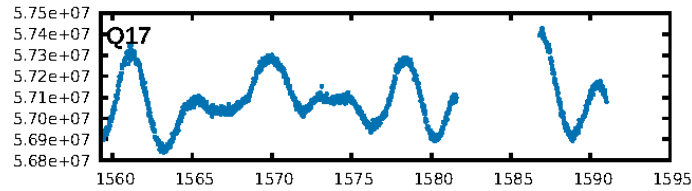
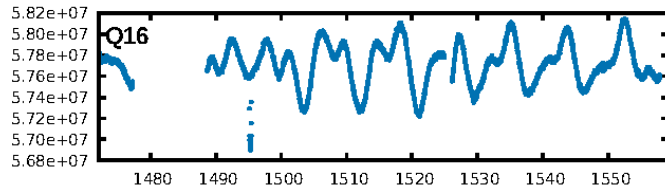
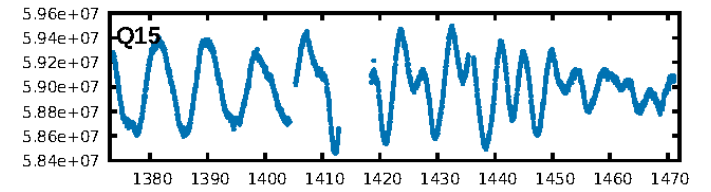
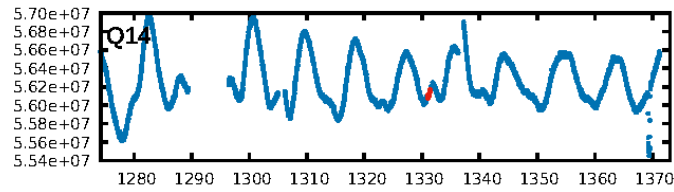
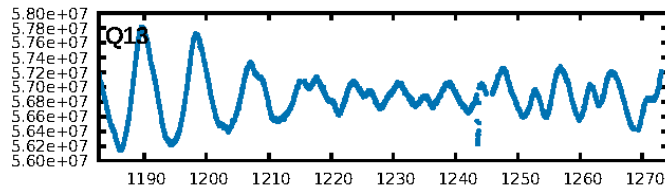
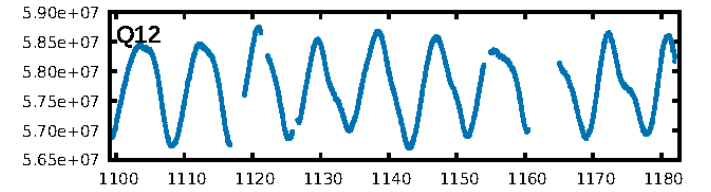
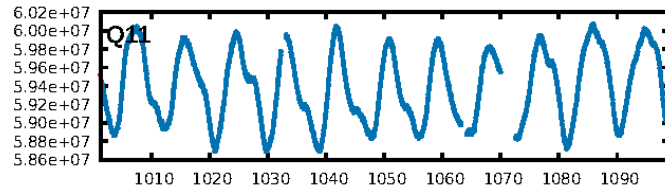
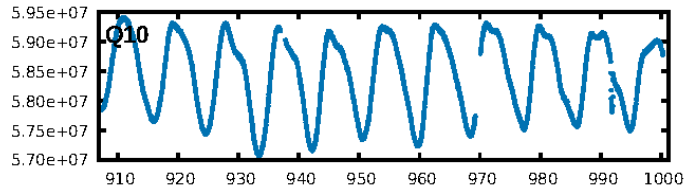
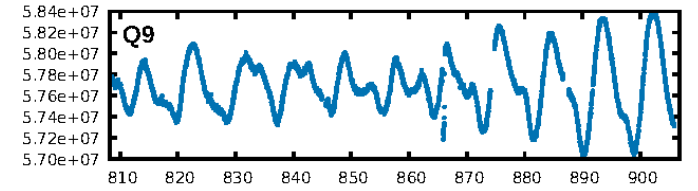
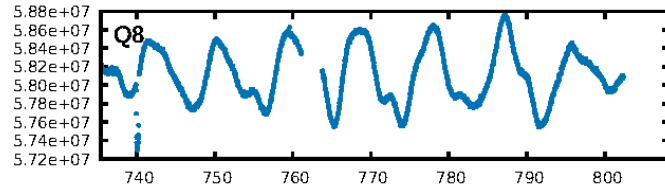
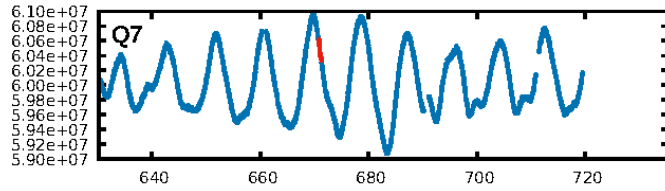
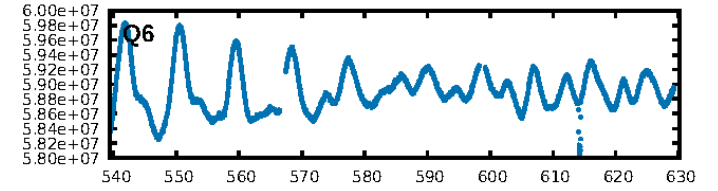
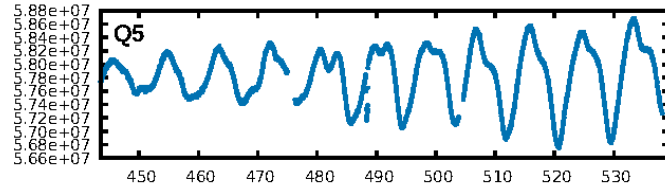
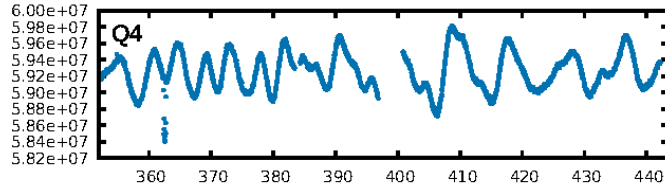
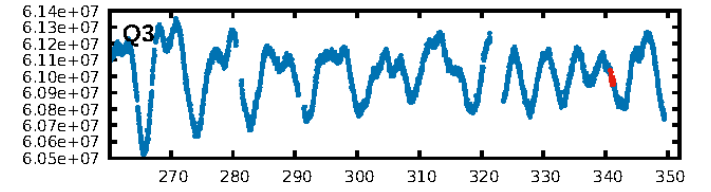
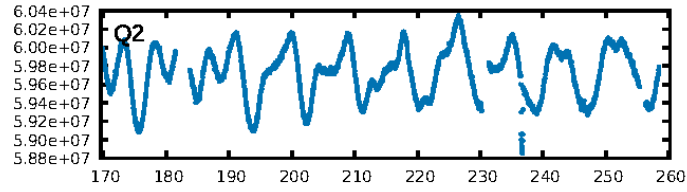
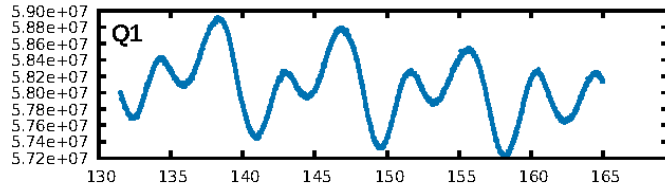
DV Fit Results:

Period = 330.06584 [0.00486] d
Epoch = 341.0010 [0.0096] BKJD
Rp/R* = 0.0362 [0.0225]
a/R* = 138.30 [43.09]
b = 0.98 [0.05]
Seff = 1.58 [0.35]
Teq = 286 [16] K
Rp = 4.41 [2.83] Re
a = 0.9339 [0.1274] AU
Ag = 11993.24 [15405.11] [0.78σ]
Teffp = 4627 [1470] K [2.95σ]

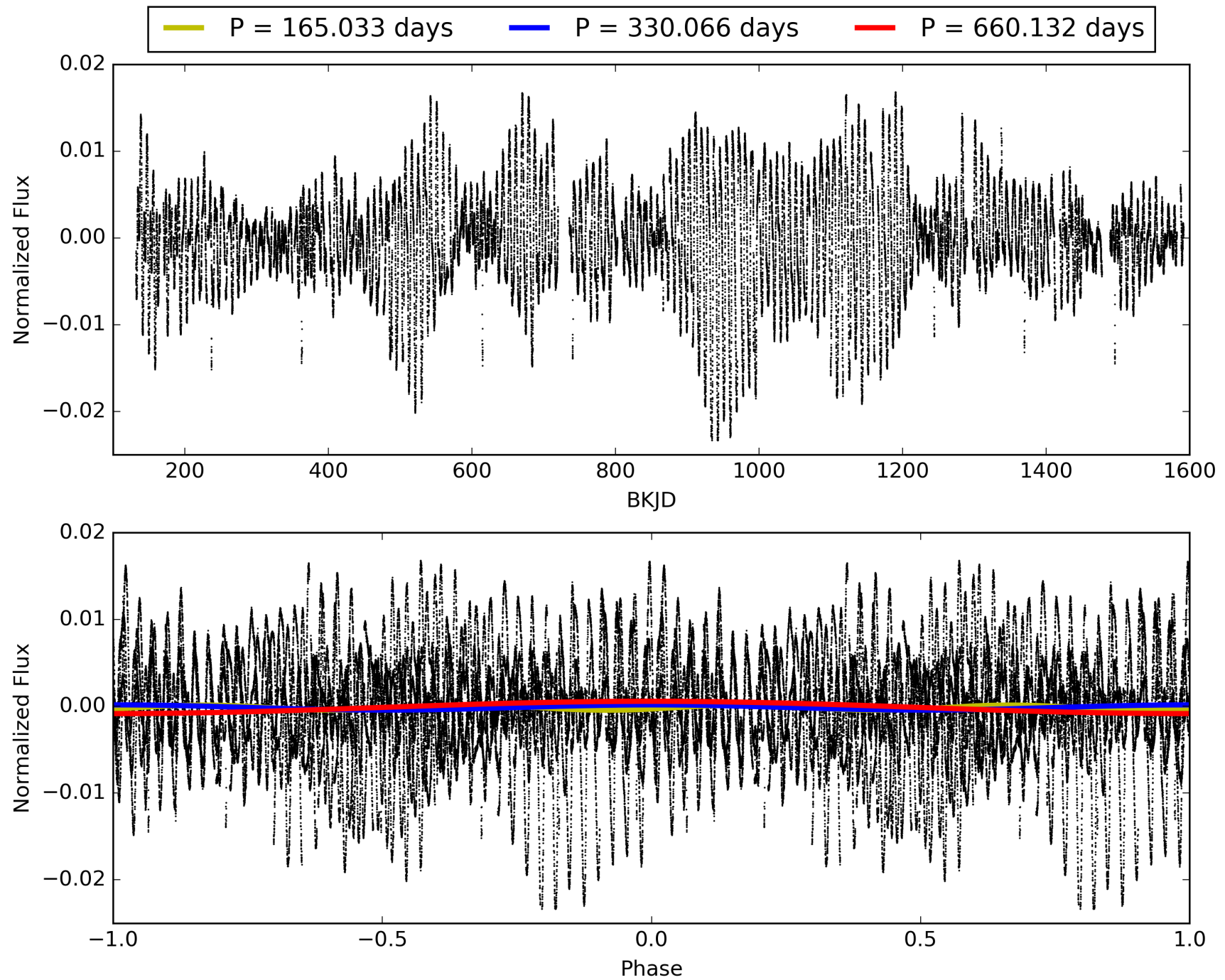
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [444.92σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 86.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.45e-07
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 5.529
Centroid-sig: 29.6%
Centroid-so: 0.871 arcsec [1.01σ]
OotOffset-rm: 0.303 arcsec [1.41σ]
OotOffset-st: 1/2/0/0 [3]
KicOffset-rm: 0.290 arcsec [1.35σ]
KicOffset-st: 1/2/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 007303287-03, PDC Light Curves

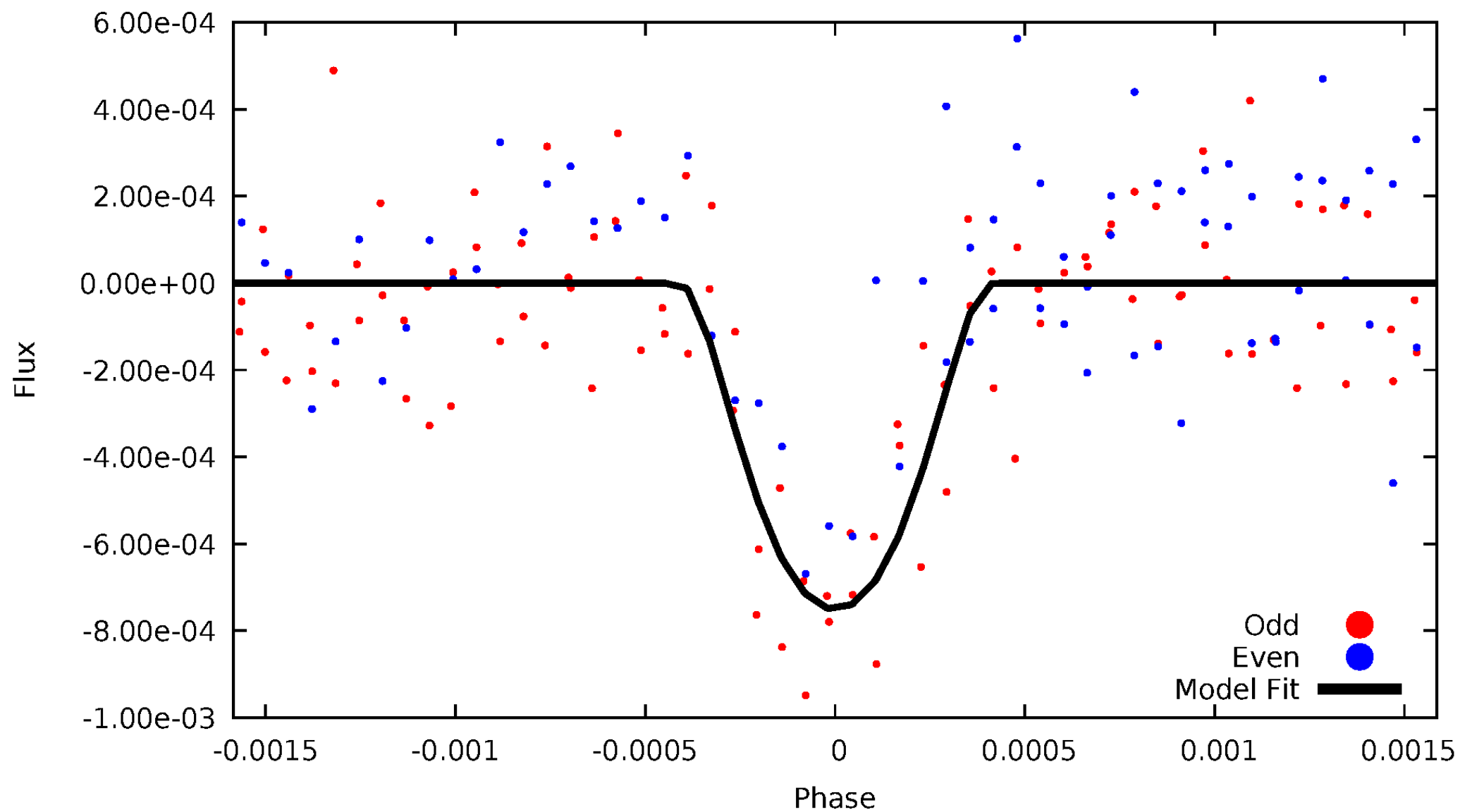


TCE 007303287-03



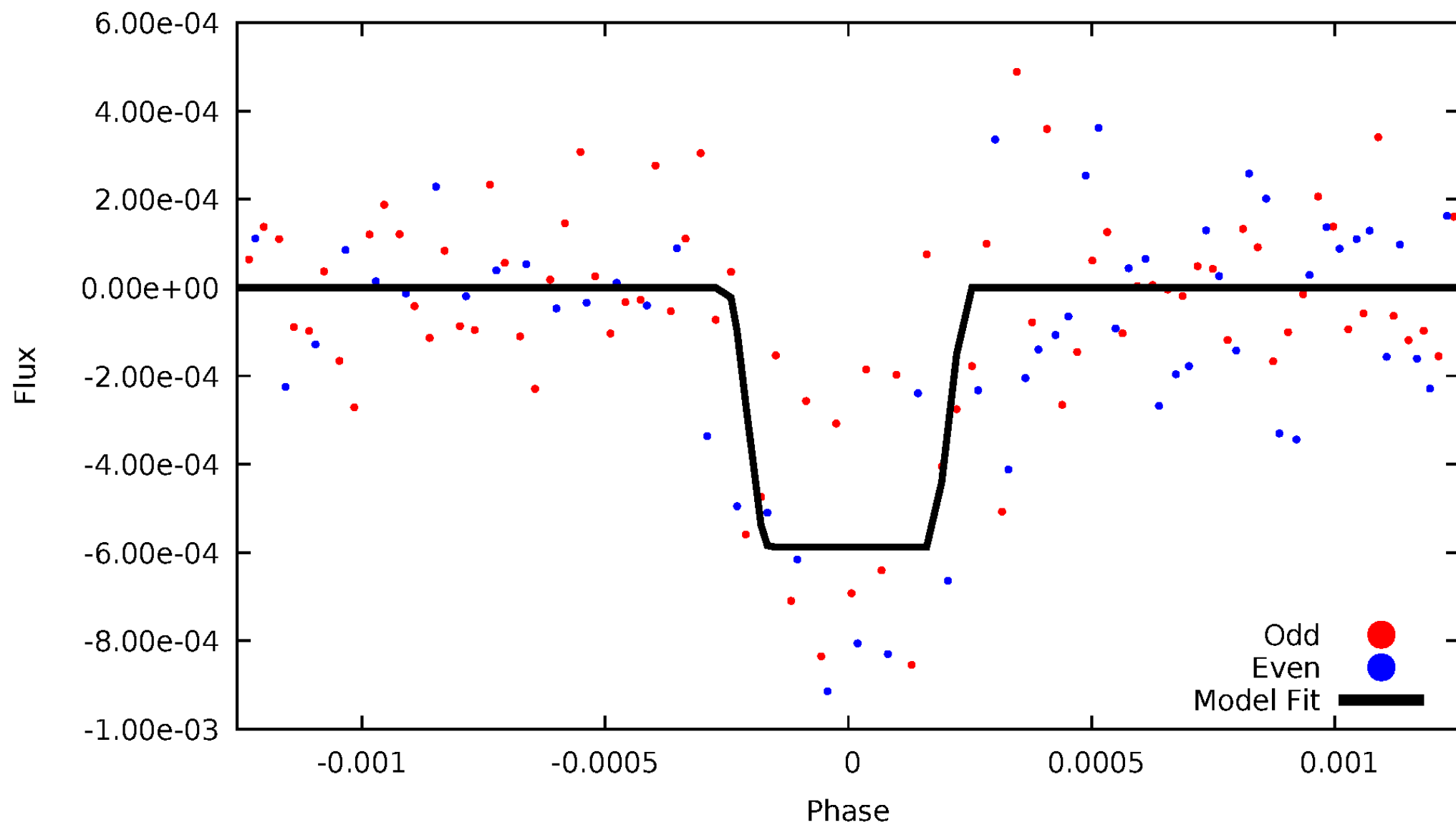
DV Odd/Even

TCE 007303287-03



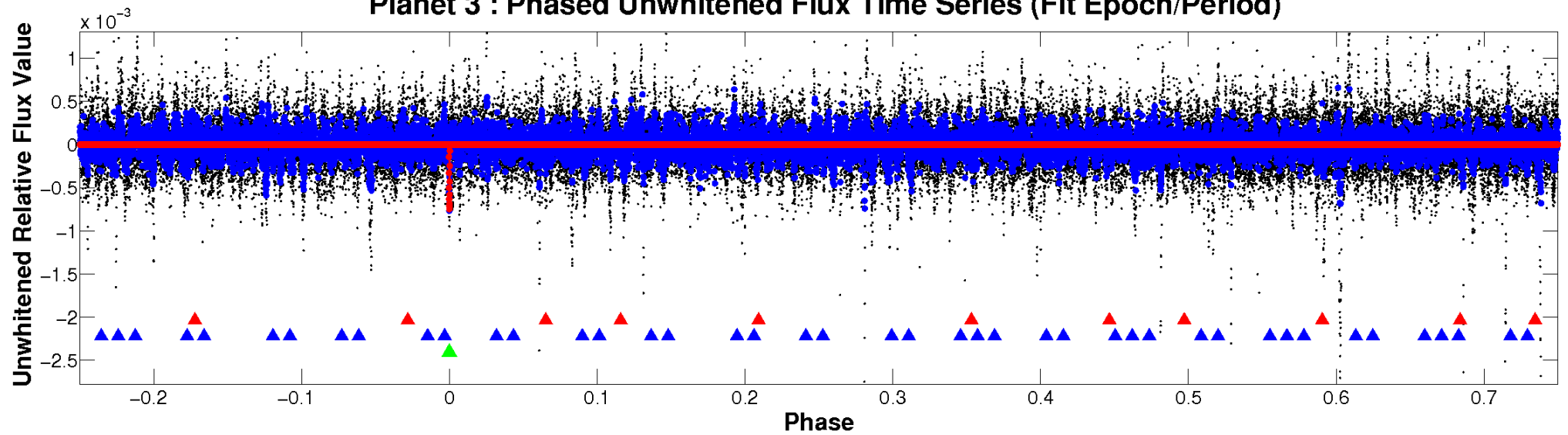
ALT Odd/Even

TCE 007303287-03

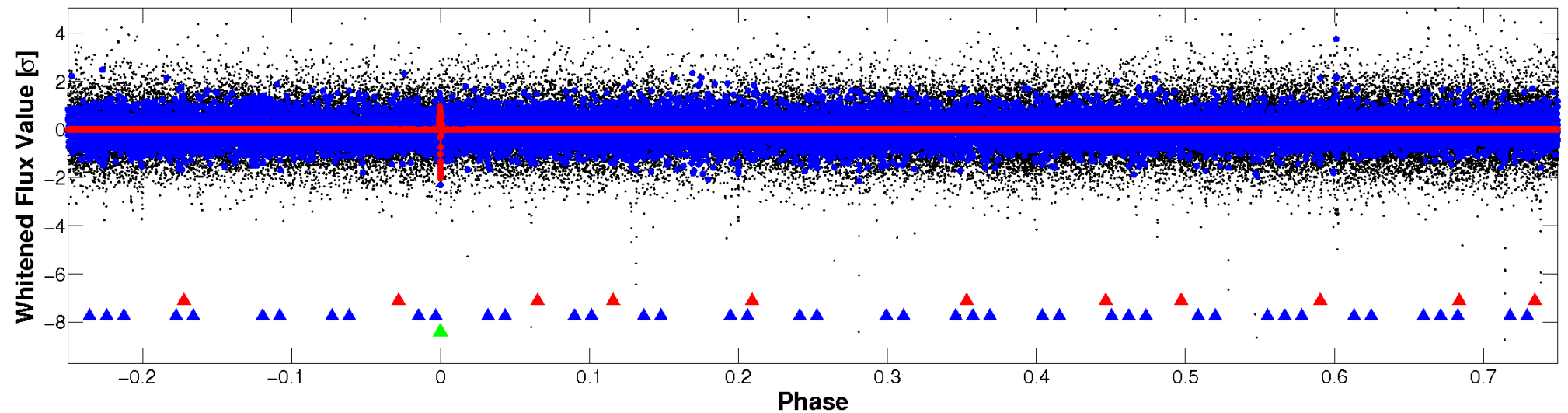


Non-Whitened Vs. Whitened Light Curve

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

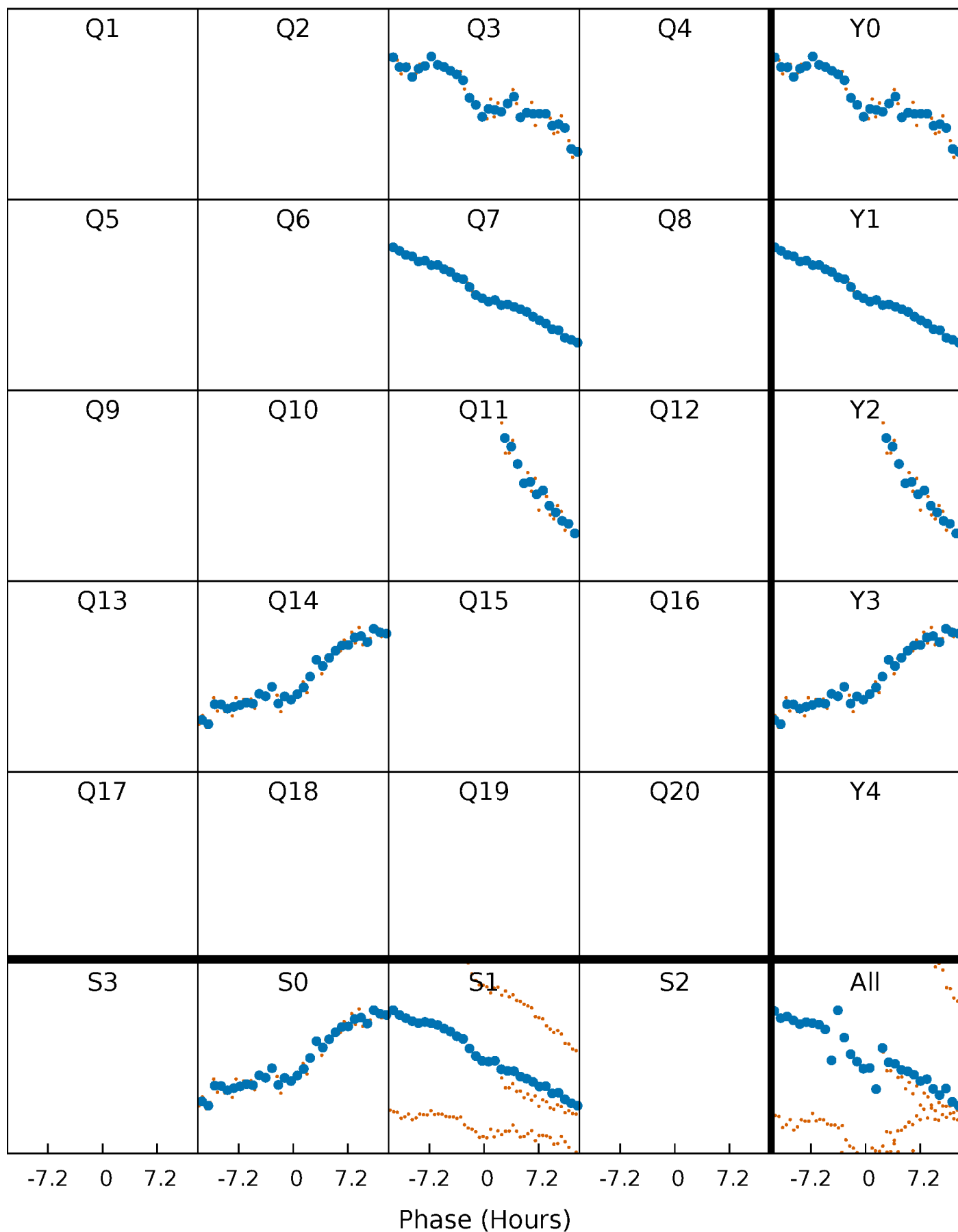


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



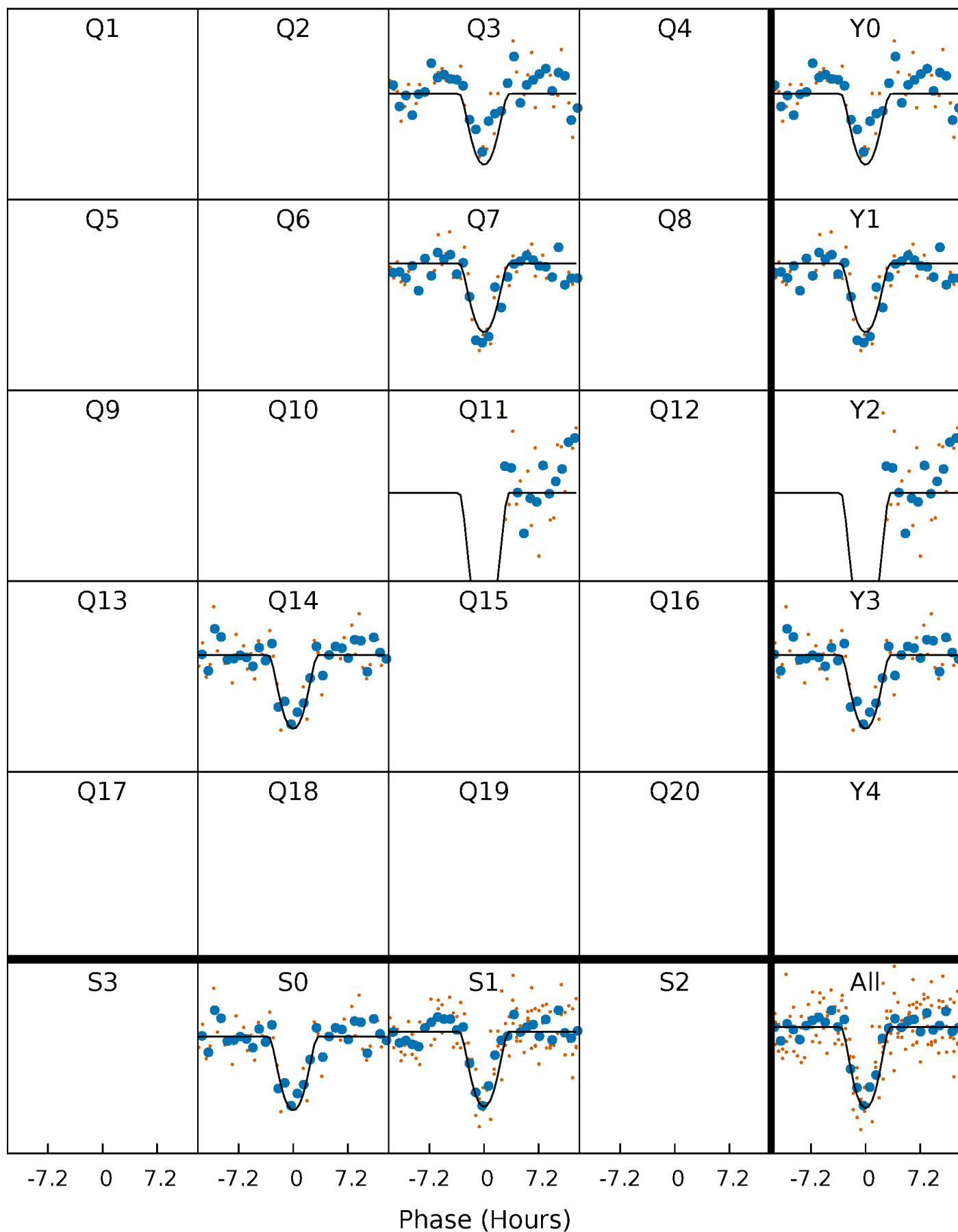
PDC Quarter-Phased Transit Curves

TCE 007303287-03 $P=330.065837$ Days $T_0=341.000996$ (BKJD)



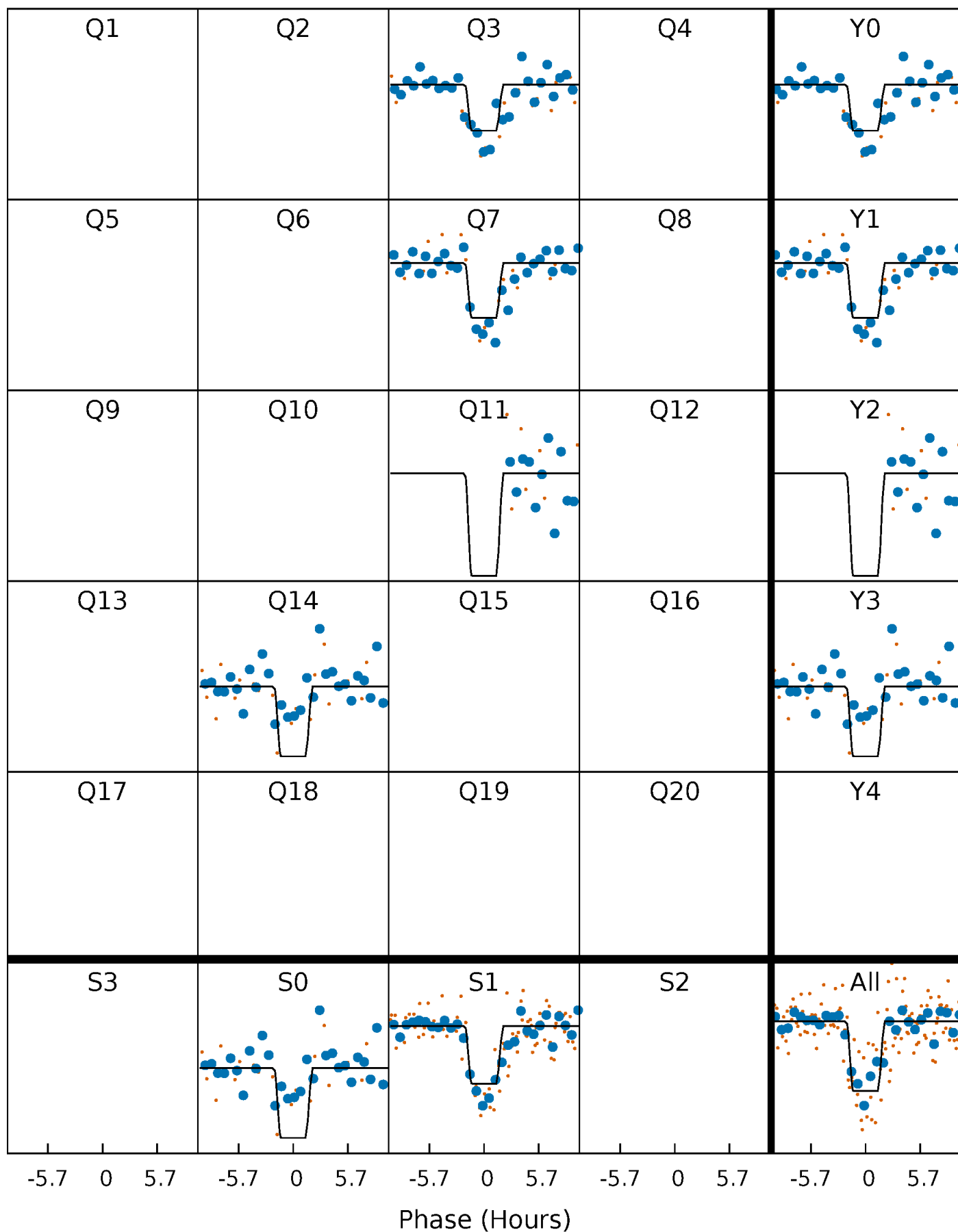
DV Quarter-Phased Transit Curves

TCE 007303287-03 $P=330.065837$ Days $T_0=341.000996$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

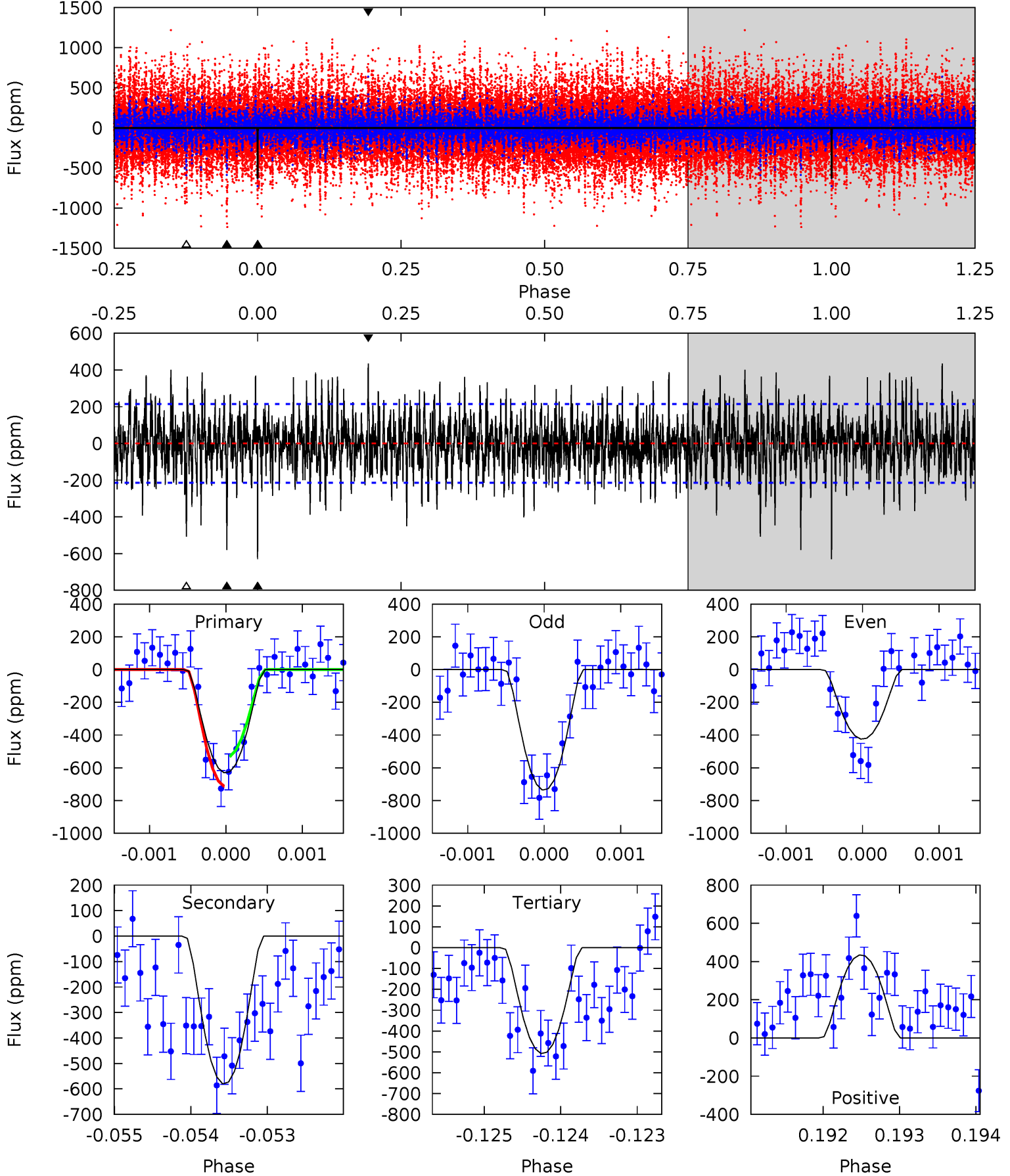
TCE 007303287-03 $P=330.070106$ Days $T_0=340.989508$ (BKJD)



DV Model-Shift Uniqueness Test

007303287-03, $P = 330.065837$ Days, $E = 10.935159$ Days

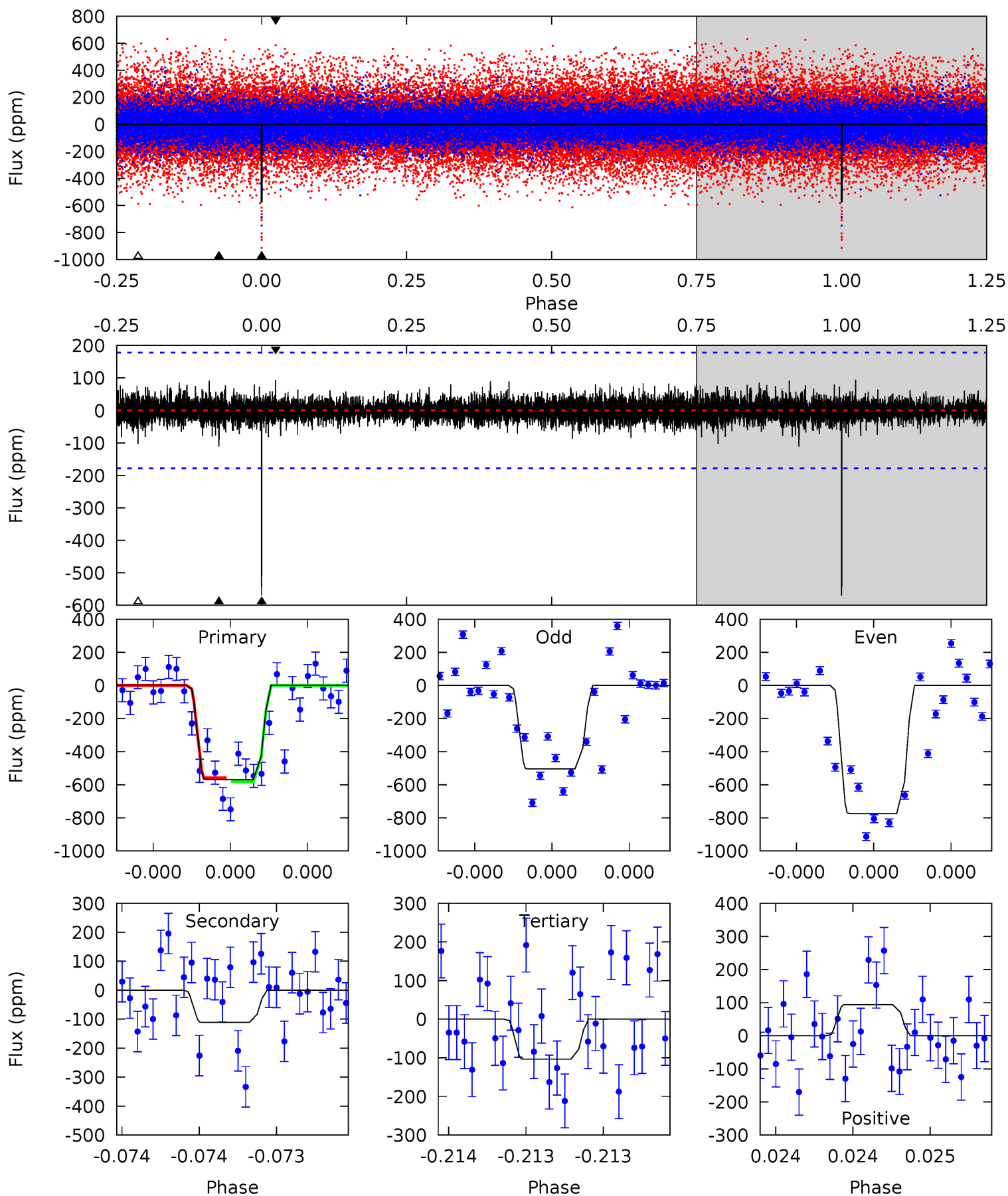
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.1	14.8	13.0	11.1	5.49	3.35	3.02	3.14	5.02	1.84	3.71	3.75	0.39	0.41	2.32



Alt Model-Shift Uniqueness Test

007303287-03, $P = 330.070106$ Days, $E = 10.919402$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.9	3.48	3.24	2.95	5.58	3.49	0.65	14.6	14.9	0.24	0.54	3.73	0.77	0.14	0.34



Stellar Parameters For KIC 007303287

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5933^{+107}_{-119}	$4.342^{+0.115}_{-0.115}$	$-0.060^{+0.150}_{-0.150}$	$1.115^{+0.174}_{-0.142}$	$0.998^{+0.081}_{-0.066}$	$1.013^{+0.449}_{-0.341}$
	+2%/-2%	+3%/-3%	+250%/-250%	+16%/-13%	+8%/-7%	+44%/-34%
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 007303287-03 / KOI 1353.03

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-580 ± 39	$4.58^{+2.73}_{-2.36}$	398^{+18}_{-16}	4846^{+1996}_{-768}	13165^{+43769}_{-7938}
Alt.	-111 ± 32	$3.36^{+2.72}_{-2.11}$	400^{+18}_{-17}	3974^{+1934}_{-683}	4635^{+28767}_{-3182}

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

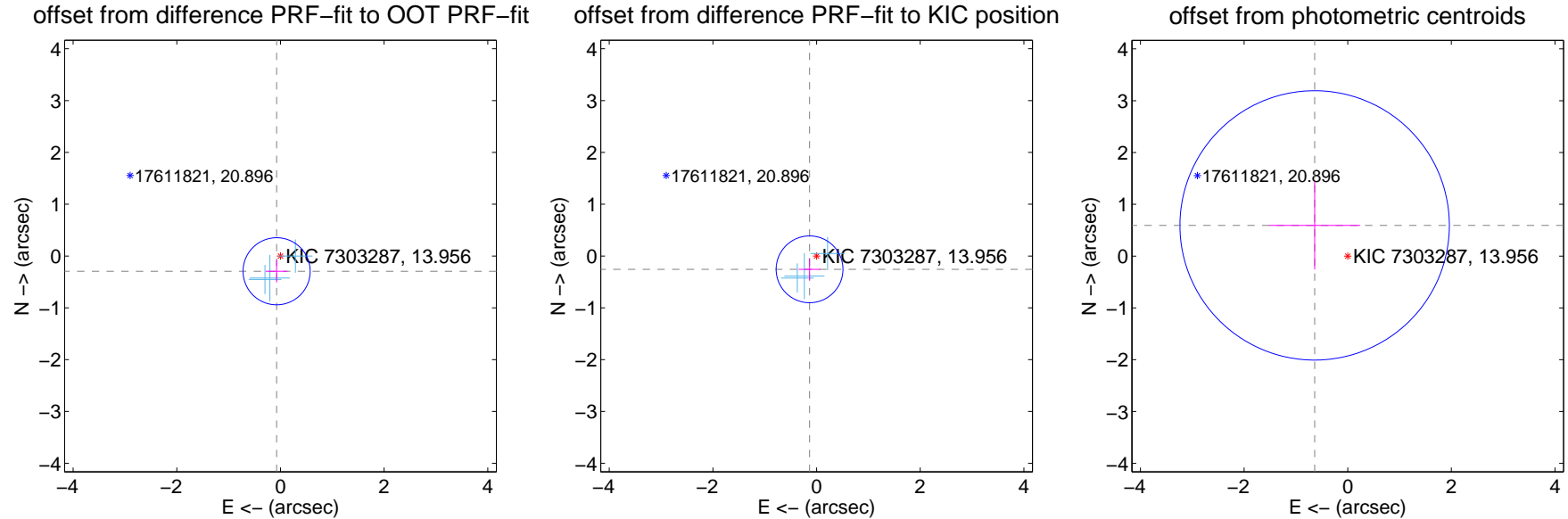
DV Centroid Data

Supplemental centroid analysis for 007303287-03. Kepler magnitude: 13.96. Transit SNR 8.98

There are 3 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.303 ± 0.216	1.41	0.074 ± 0.210	-0.294 ± 0.216
PRF-fit source offset from KIC position	0.290 ± 0.215	1.35	0.135 ± 0.210	-0.257 ± 0.216
photometric centroid source offset	0.87 ± 0.87	1.01	0.64 ± 0.88	0.59 ± 0.85



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.

Q1 no difference image



Q1 no OOT image



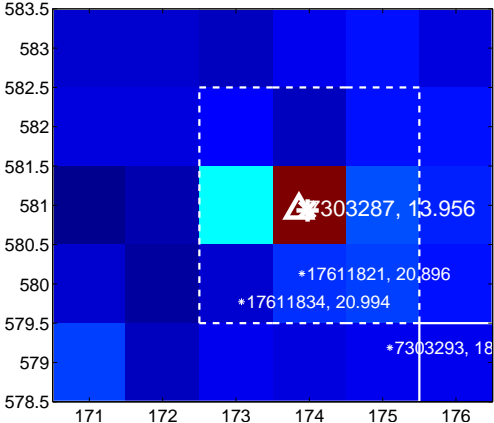
Q2 no difference image



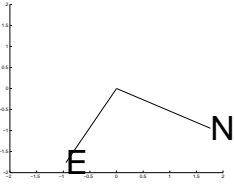
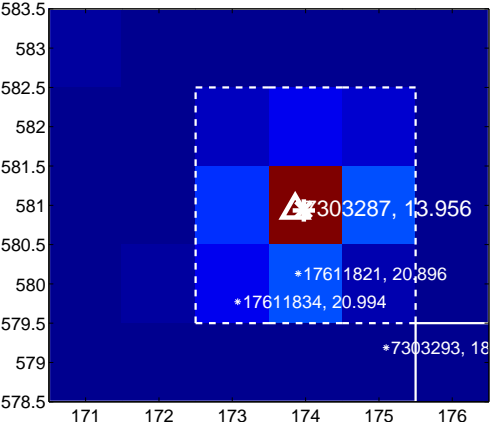
Q2 no OOT image



Q3 difference image



Q3 OOT image



Q4 no difference image



Q4 no OOT image



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

Q5 no difference image



Q5 no OOT image



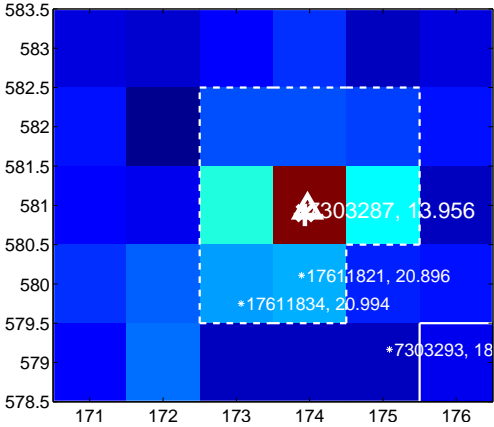
Q6 no difference image



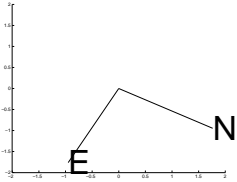
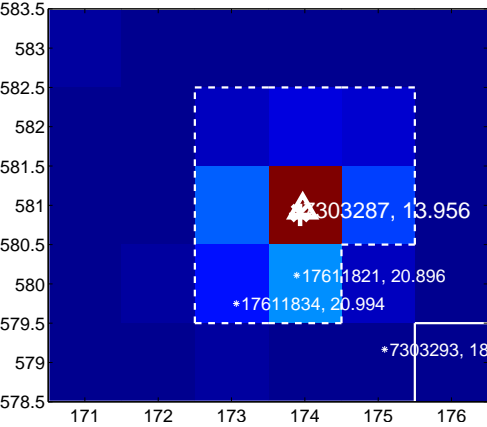
Q6 no OOT image



Q7 difference image



Q7 OOT image



Q8 no difference image



Q8 no OOT image



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.

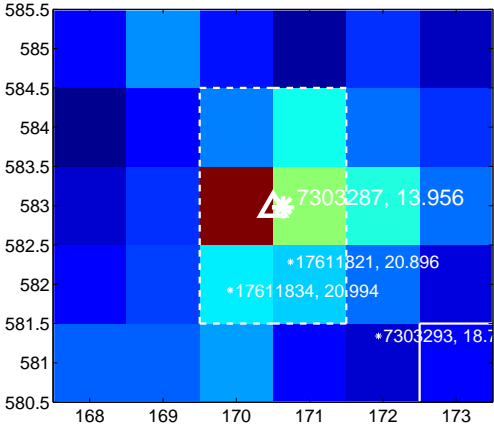
Q13 no difference image



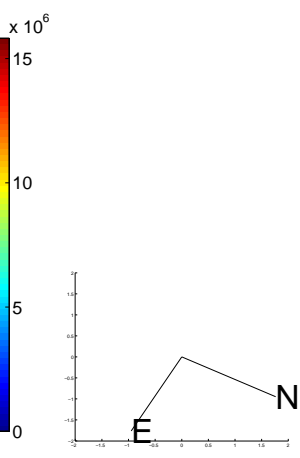
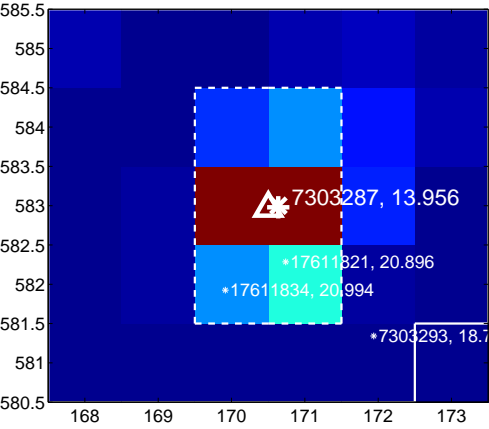
Q13 no OOT image



Q14 difference image



Q14 OOT image



Q15 no difference image



Q15 no OOT image



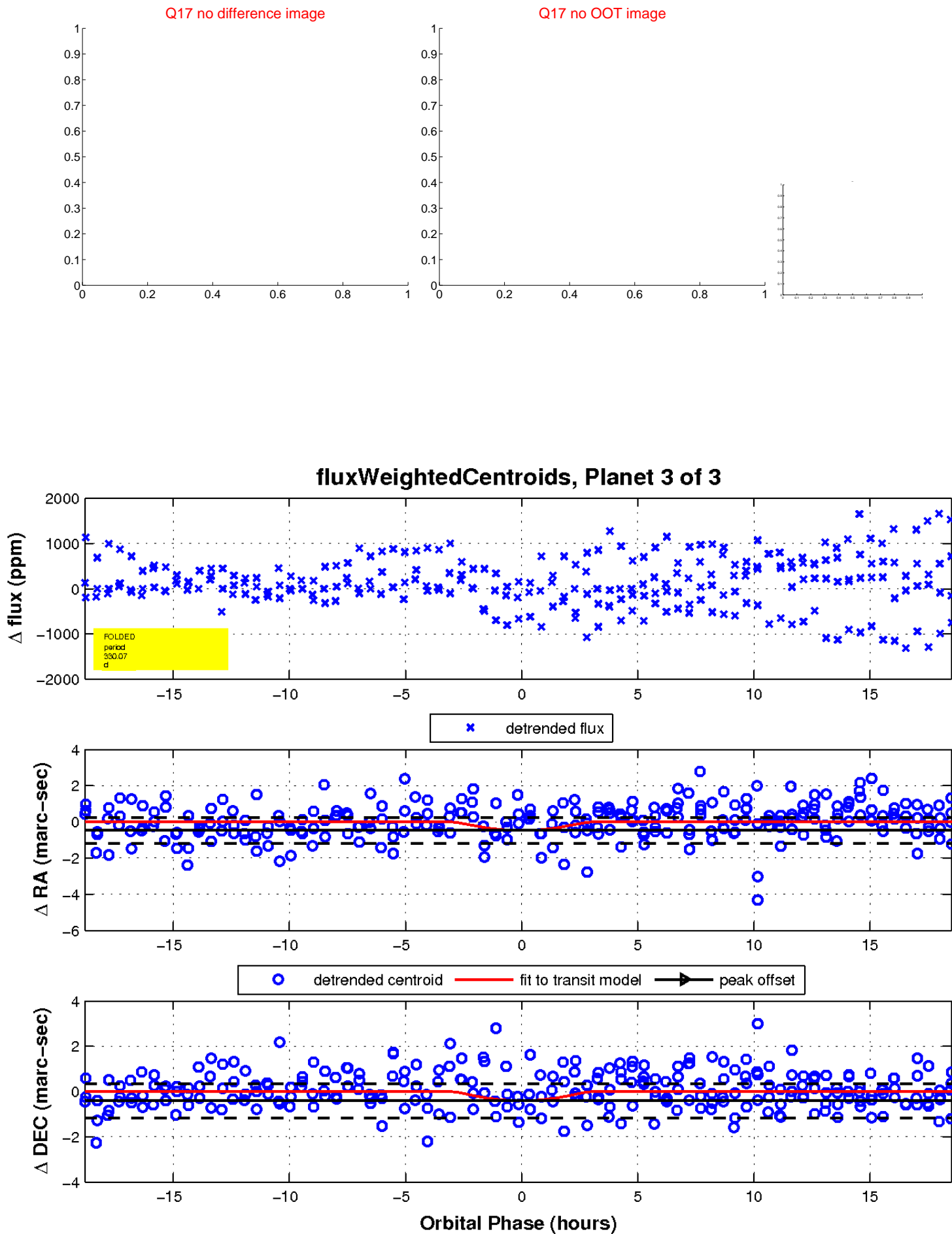
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

