

KIC 003122556

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})
003122556-01	OBS	No	0.683680	131.955587	55.2	4.401	11.6	9.6	0.95	6103	0.83	4758.18
003122556-02	OBS	No	60.343025	191.329035	1572.9	1.184	9.9	8.9	0.95	6103	3.81	12.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003122556-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET
003122556-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS

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

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

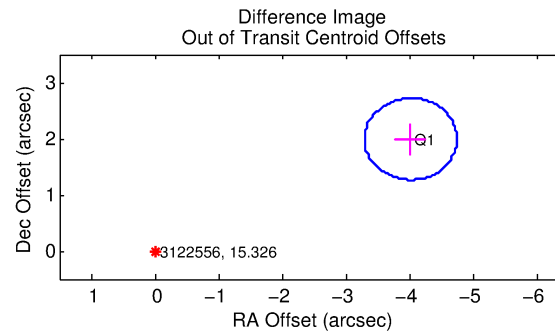
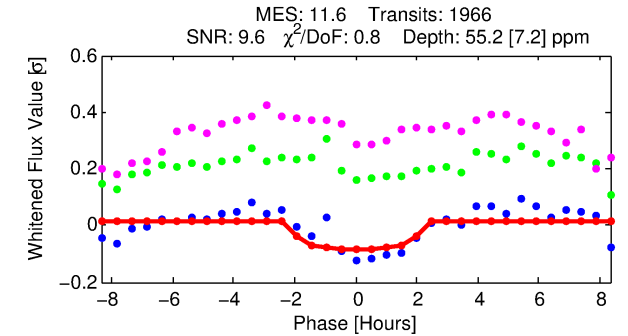
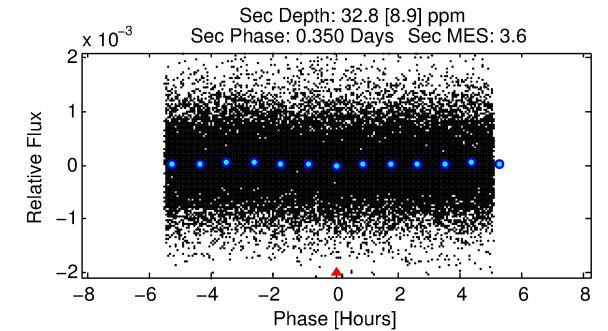
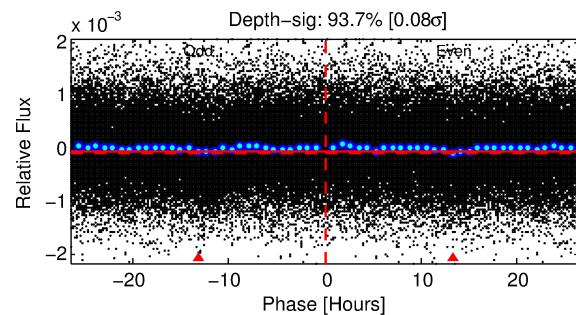
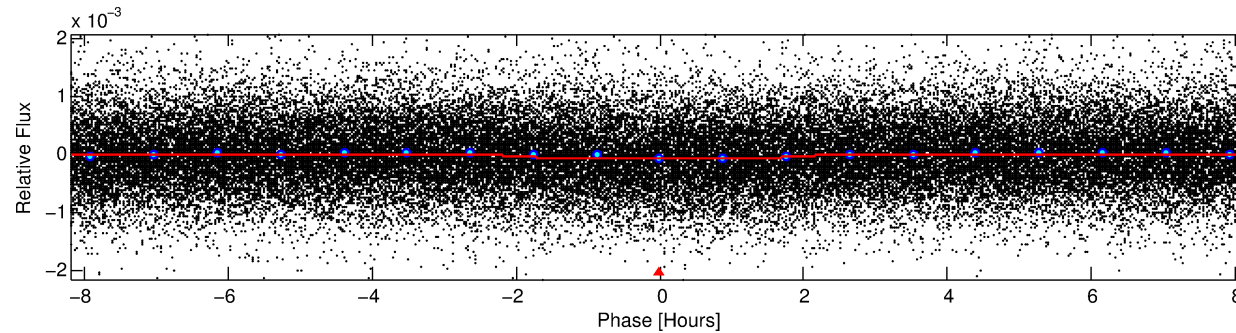
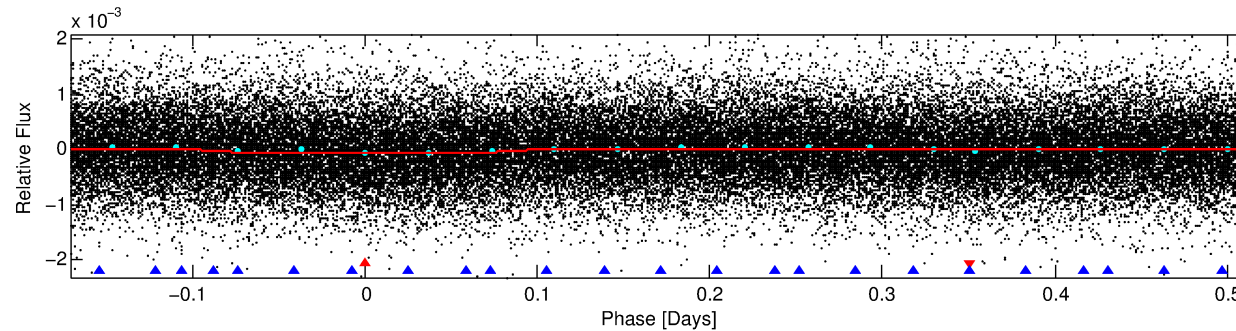
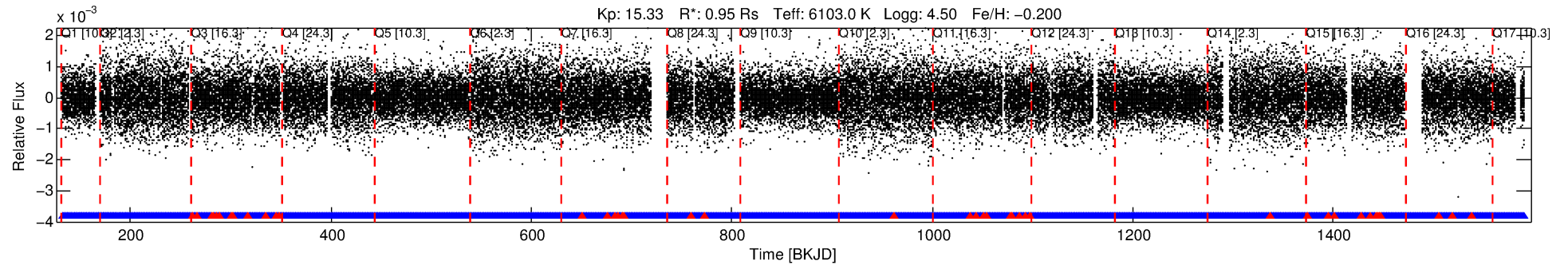
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003122556-01

No Significant Match Found

DV One-Page Summary

KIC: 3122556 Candidate: 1 of 2 Period: 0.684 d



DV Fit Results:

Period = 0.68368 [0.00001] d
Epoch = 131.9556 [0.0046] BKJD
Rp/R* = 0.0080 [0.0047]
a/R* = 1.09 [0.52]
b = 0.90 [0.68]
Seff = 4758.18 [1872.60]
Teq = 2118 [208] K
Rp = 0.83 [0.55] Re
a = 0.0153 [0.0039] AU
Ag = 6.17 [7.83] [0.66 σ]
Teff = 5161 [1576] K [1.91 σ]

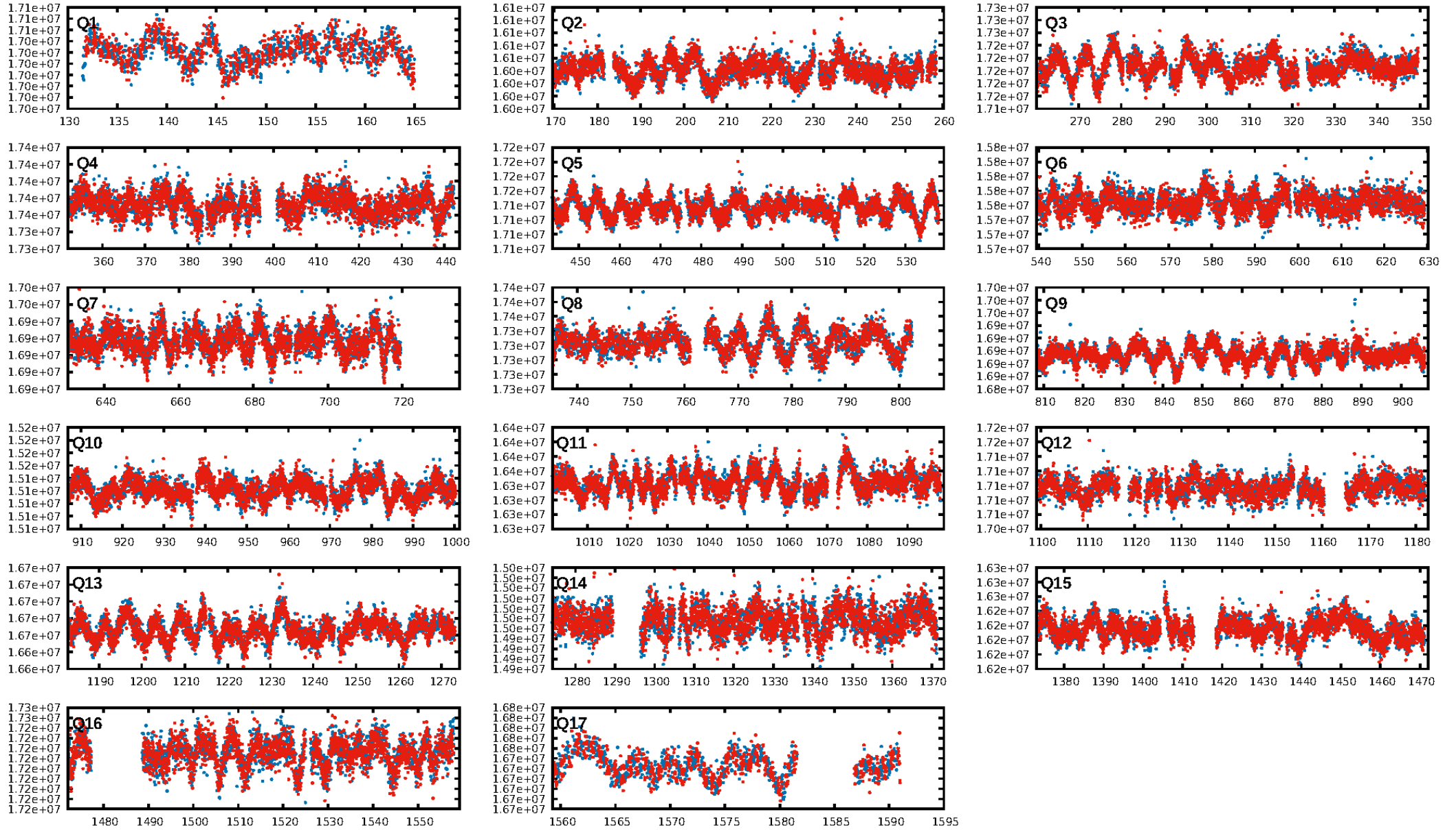
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [314.14 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 5.66e-19
RollingBand-fgt: 0.98 [1832/1877]
GhostDiagnostic-chr: -0.5723
Centroid-sig: N/A
Centroid-so: 4.409 arcsec [3.70 σ]
OotOffset-rm: 4.487 arcsec [18.53 σ]
KicOffset-rm: 4.554 arcsec [18.78 σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [17/17]

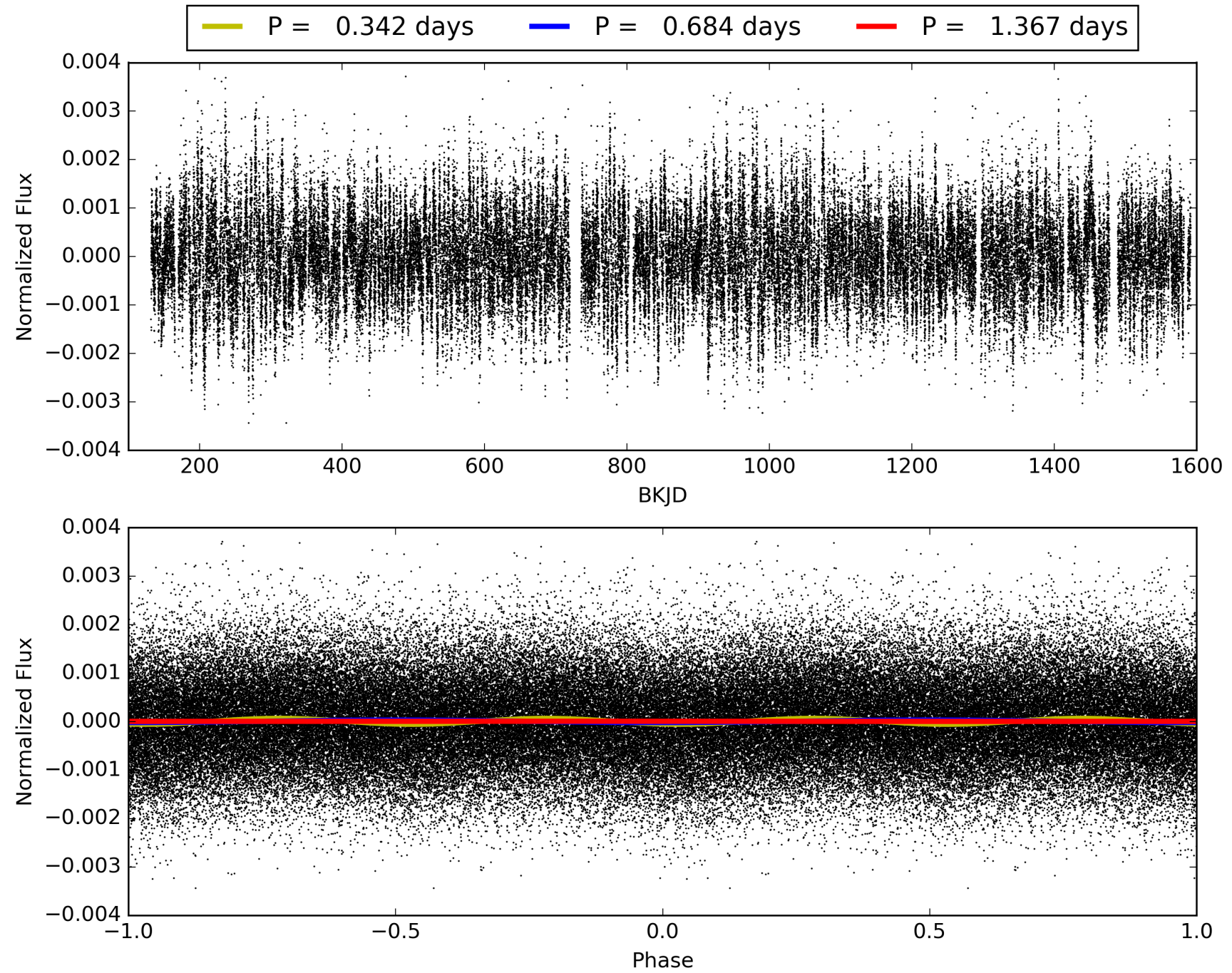
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:27:51 Z

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

TCE 003122556-01, PDC Light Curves

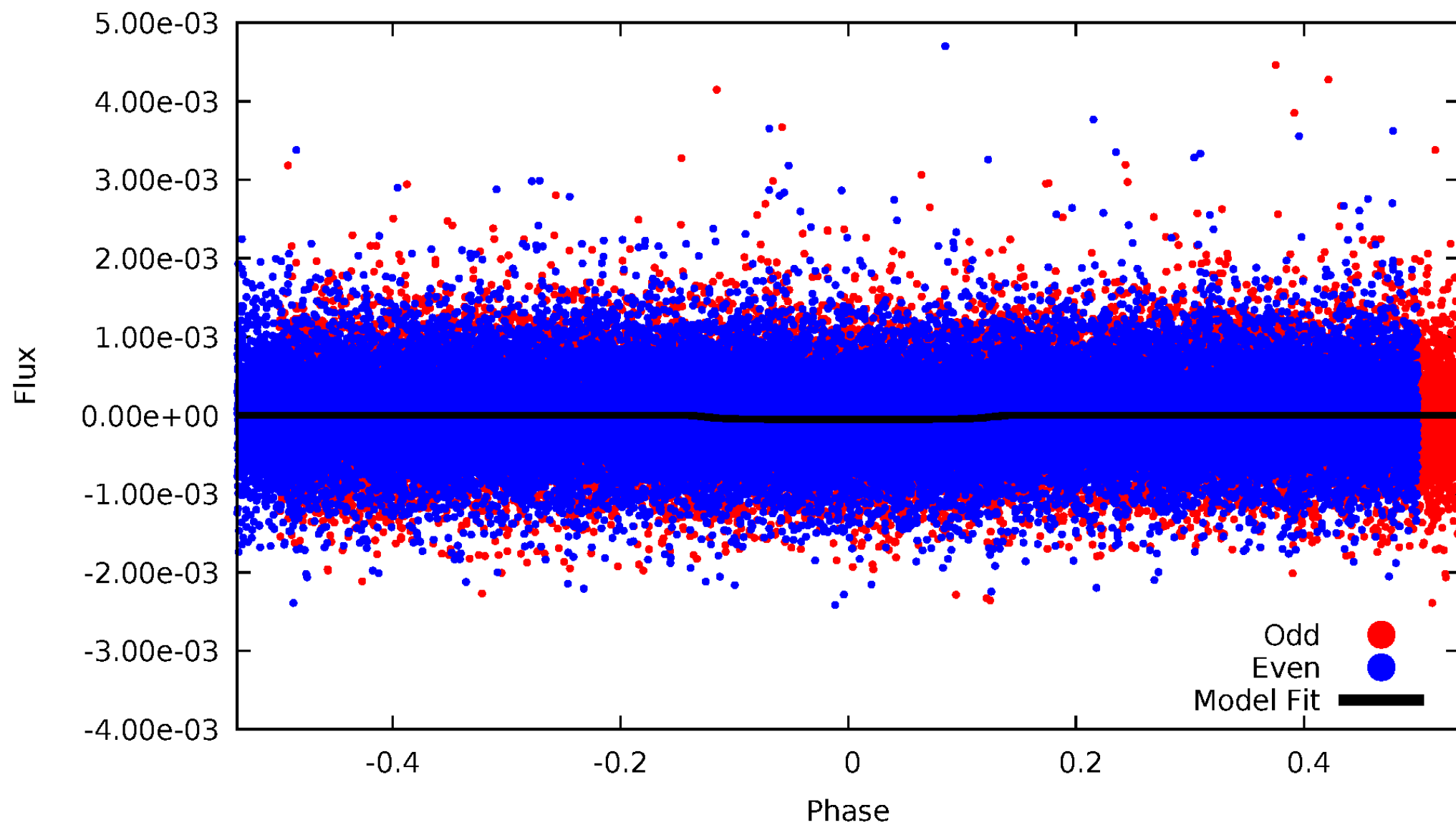


TCE 003122556-01



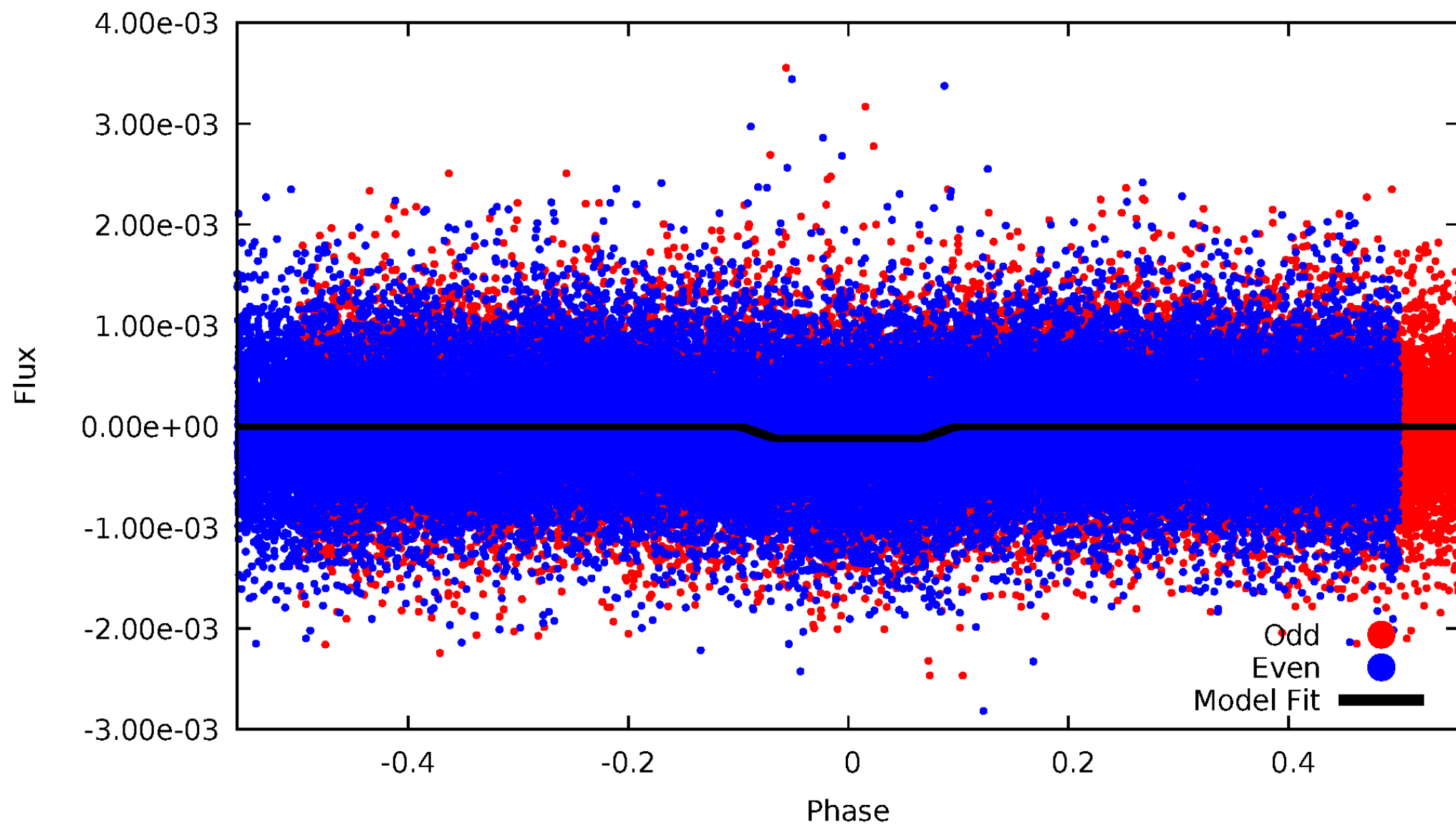
DV Odd/Even

TCE 003122556-01



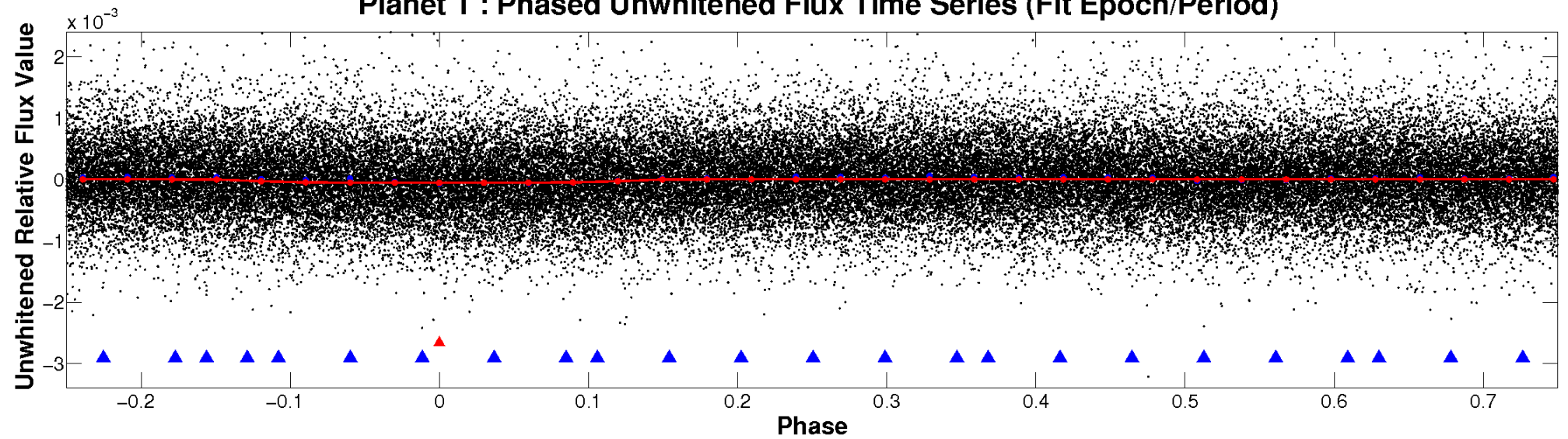
ALT Odd/Even

TCE 003122556-01

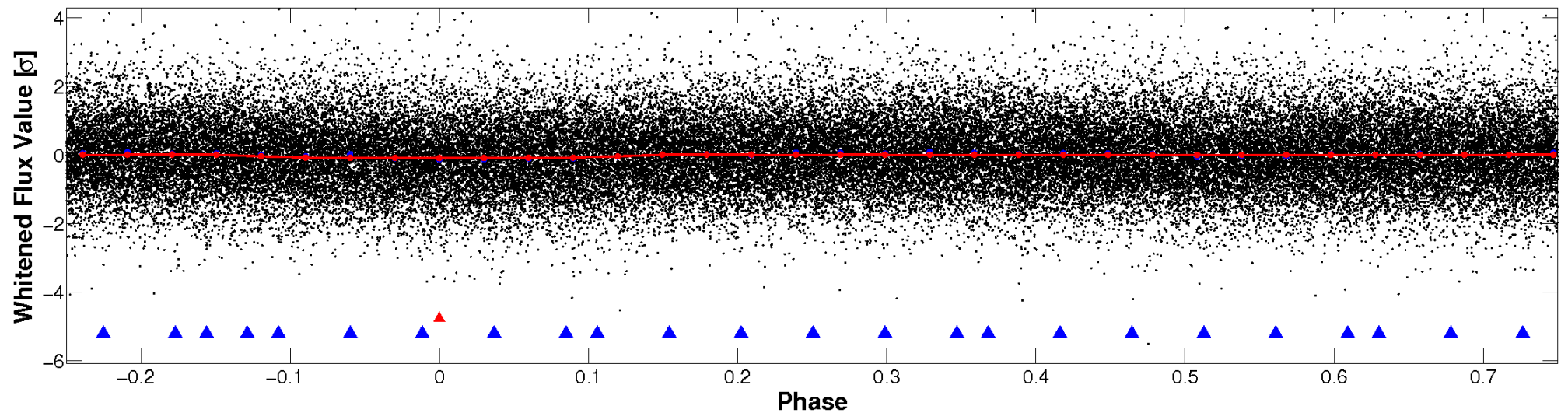


Non-Whitened Vs. Whitened Light Curve

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

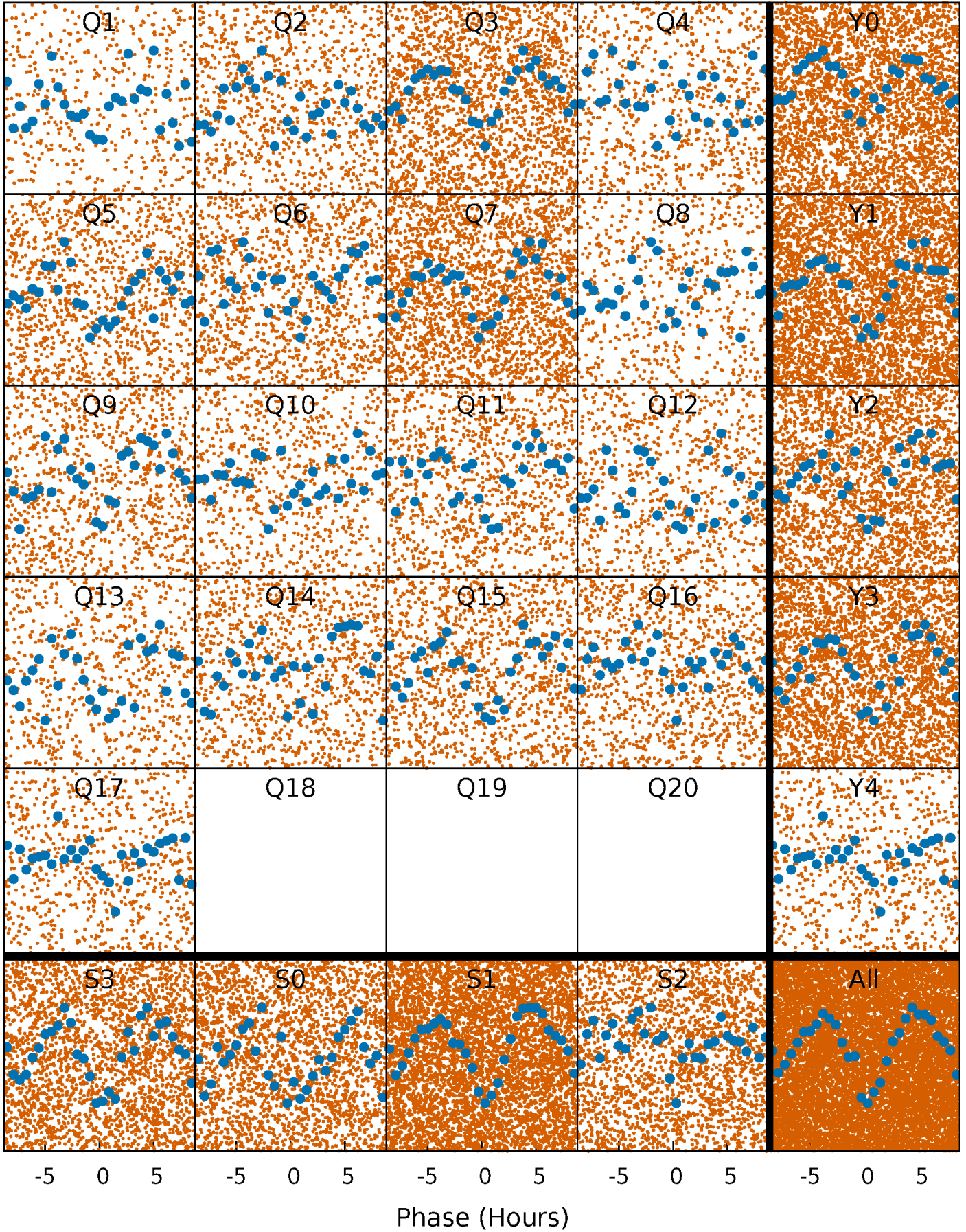


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



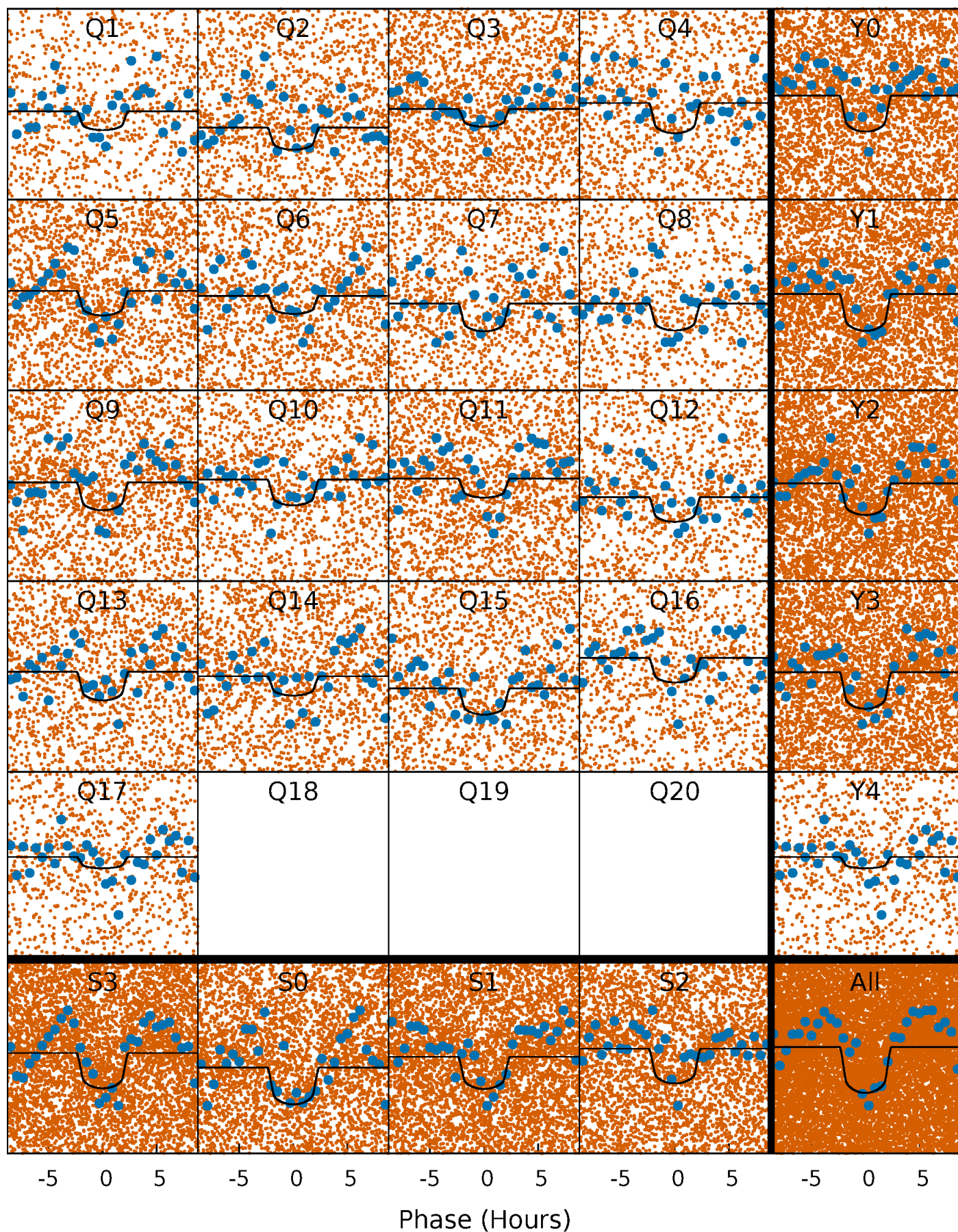
PDC Quarter-Phased Transit Curves

TCE 003122556-01 P= 0.683680 Days $T_0=131.955587$ (BKJD)



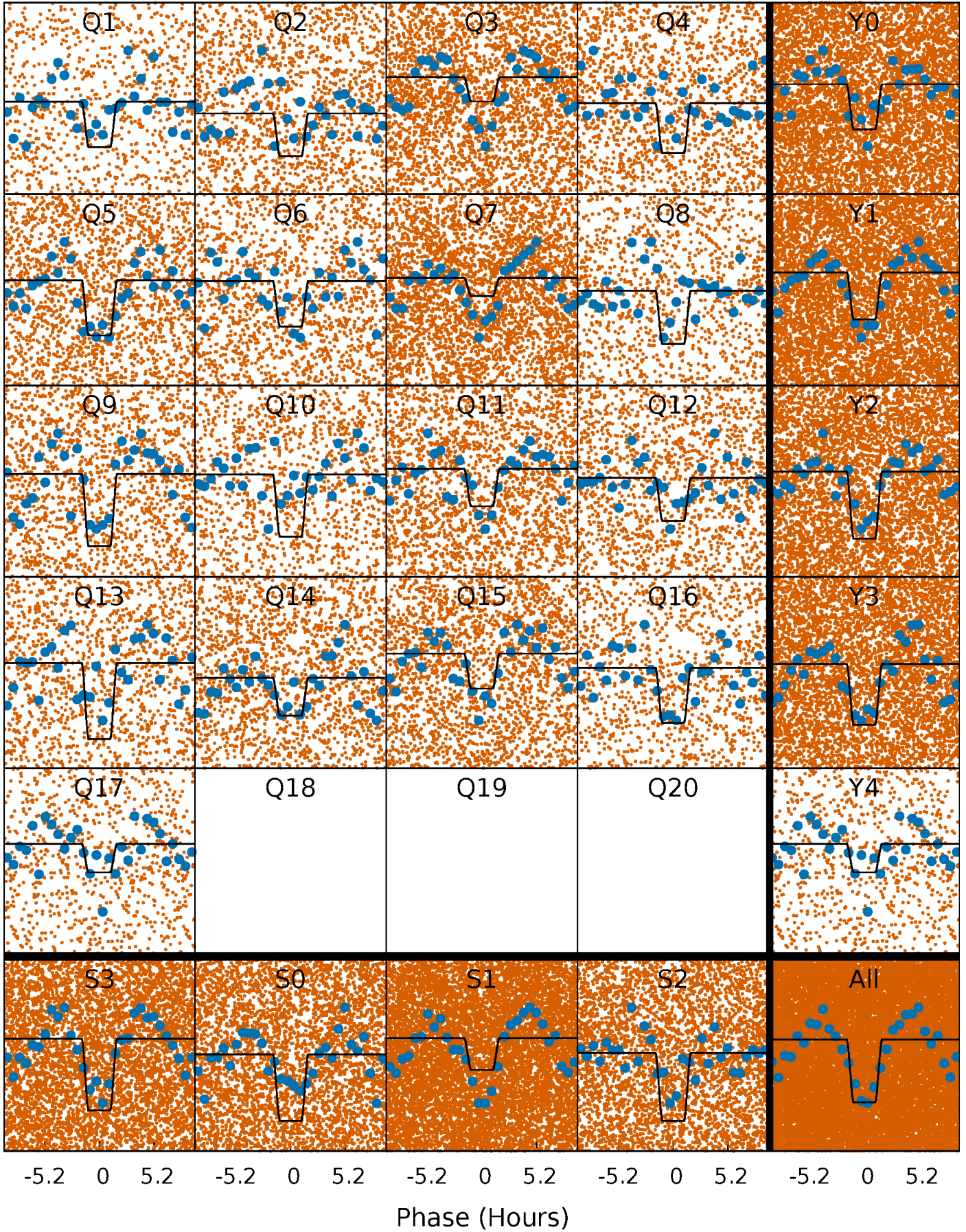
DV Quarter-Phased Transit Curves

TCE 003122556-01 P= 0.683680 Days $T_0=131.955587$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

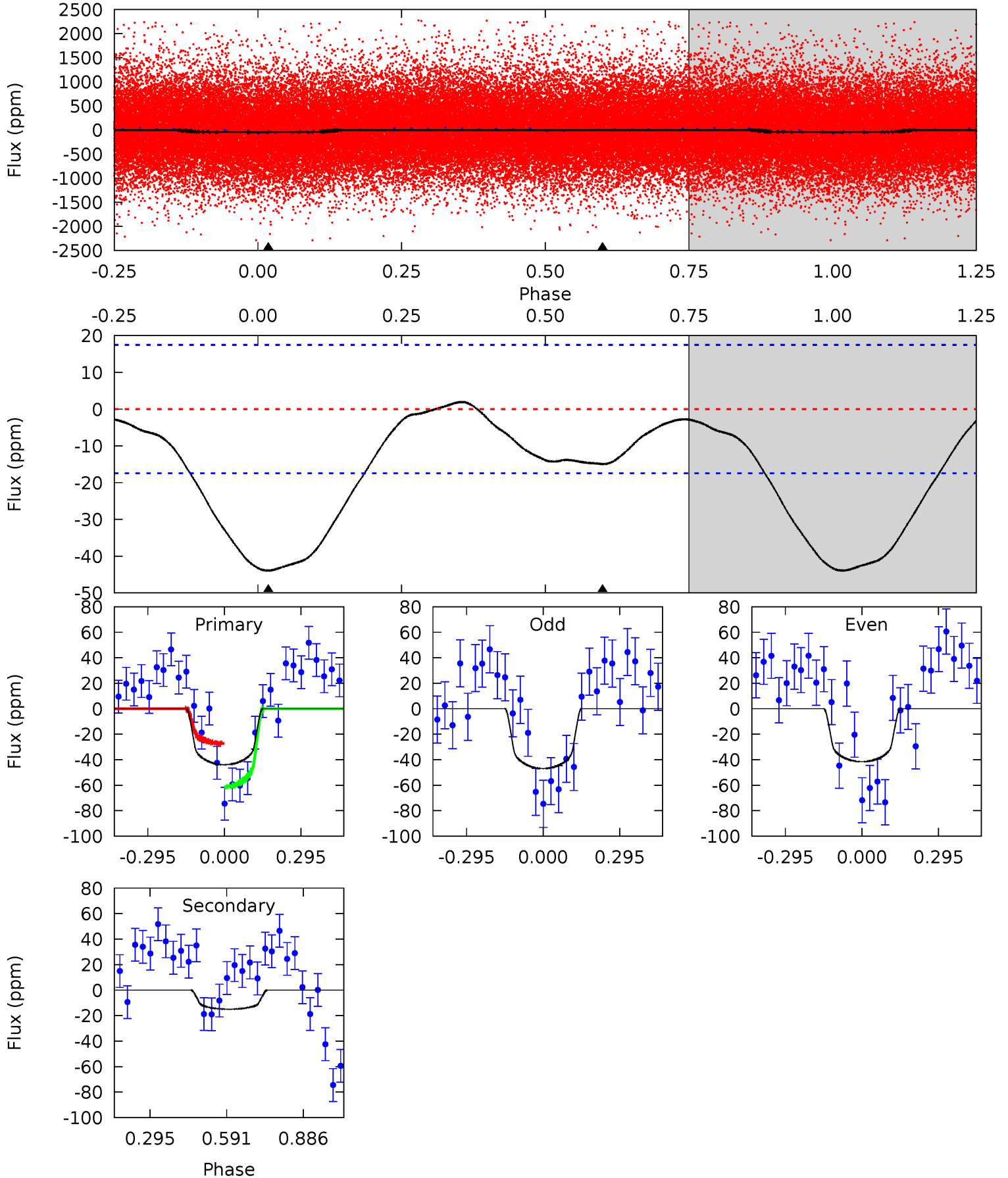
TCE 003122556-01 P= 0.683702 Days $T_0=131.951429$ (BKJD)



DV Model-Shift Uniqueness Test

003122556-01, P = 0.683680 Days, E = 131.271907 Days

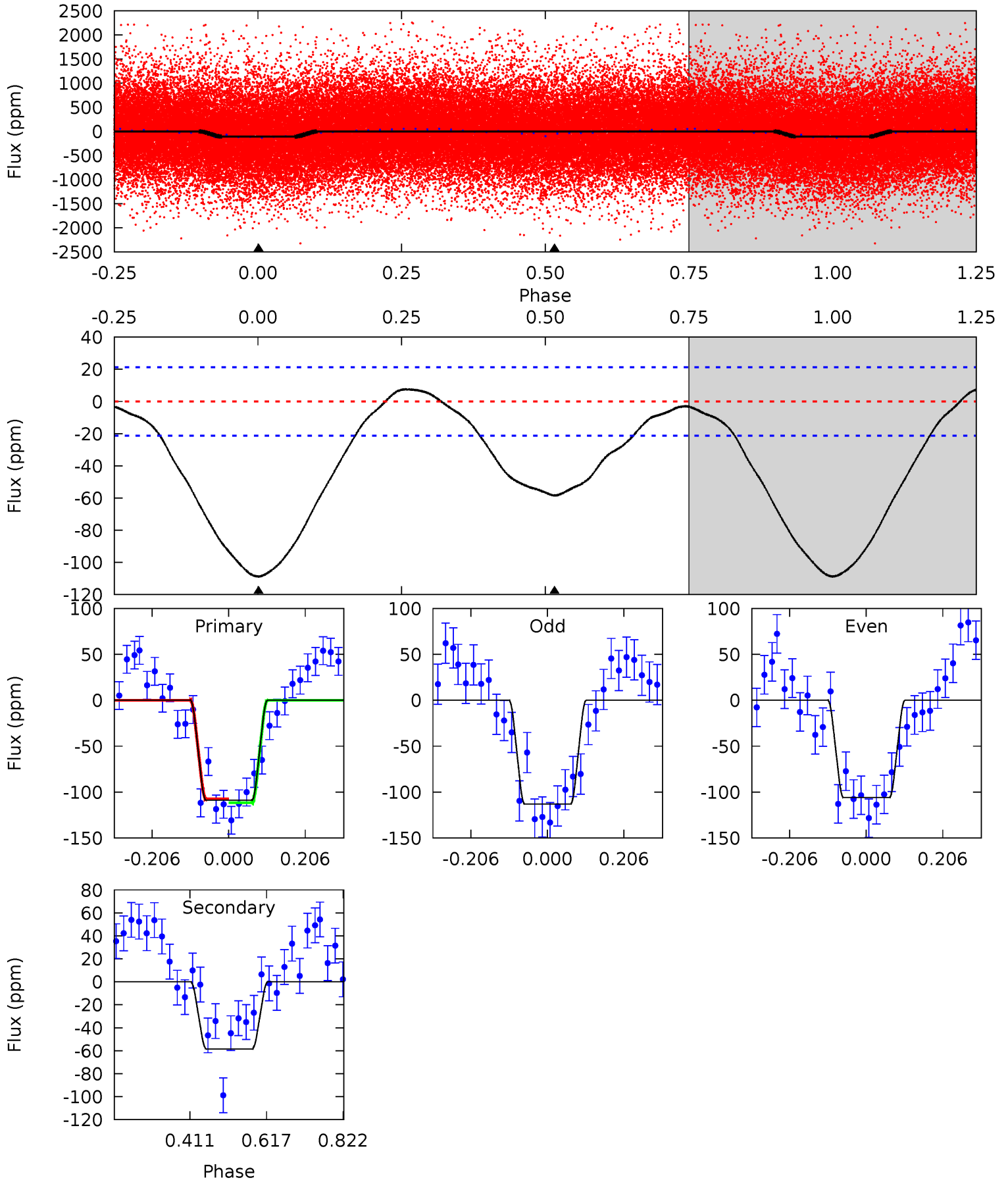
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	3.72	0	0	4.33	1.05	0.31	10.9	10.9	3.72	3.72	0.67	0.86	0.04	4.21



Alt Model-Shift Uniqueness Test

003122556-01, P = 0.683702 Days, E = 131.267727 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.6	12.1	0	0	4.41	1.27	1.19	22.6	22.6	12.1	12.1	0.72	0.96	0.07	0.43



Stellar Parameters For KIC 003122556

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6103^{+190}_{-211}	$4.496^{+0.050}_{-0.200}$	$-0.200^{+0.300}_{-0.300}$	$0.949^{+0.290}_{-0.097}$	$1.028^{+0.140}_{-0.140}$	$1.697^{+0.453}_{-0.902}$
	+3%/-3%	+1%/-4%	+150%/-150%	+31%/-10%	+14%/-14%	+27%/-53%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 003122556-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-15 ± 4	$0.88^{+0.50}_{-0.50}$	3019^{+224}_{-145}	4280^{+2013}_{-793}	$2.422^{+11.018}_{-1.495}$
Alt.	-58 ± 5	$1.19^{+0.54}_{-0.51}$	3029^{+211}_{-146}	5072^{+1558}_{-730}	$5.061^{+10.613}_{-2.583}$

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

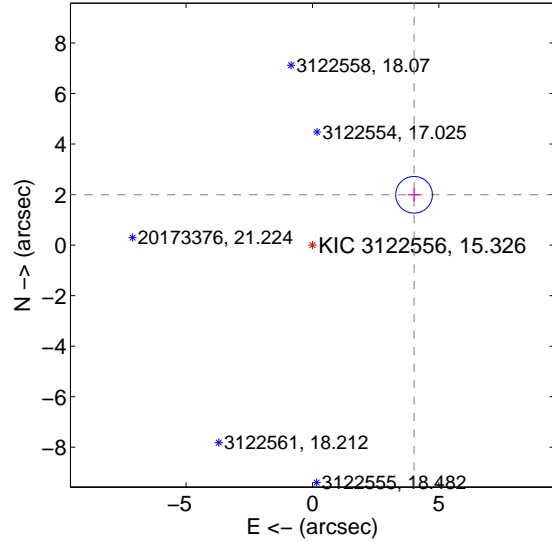
Supplemental centroid analysis for 003122556-01. Kepler magnitude: 15.33. Transit SNR 9.61

There are 0 quarters with good PRF difference image offsets

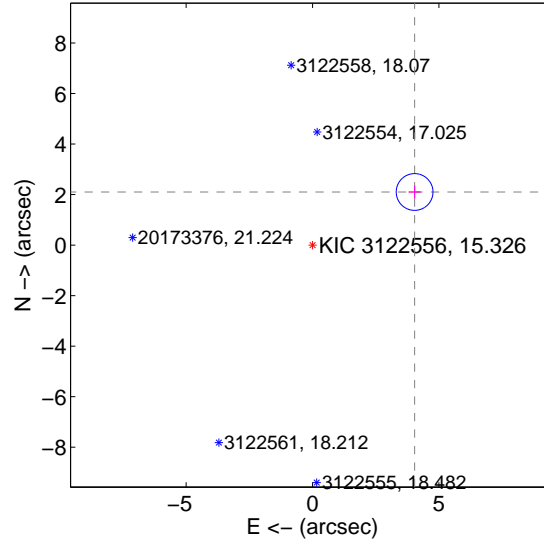
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.487 ± 0.242	18.53	-4.021 ± 0.238	1.991 ± 0.260
PRF-fit source offset from KIC position	4.554 ± 0.242	18.78	-4.040 ± 0.238	2.102 ± 0.260
photometric centroid source offset	4.41 ± 1.19	3.70	-1.70 ± 1.28	-4.07 ± 1.18

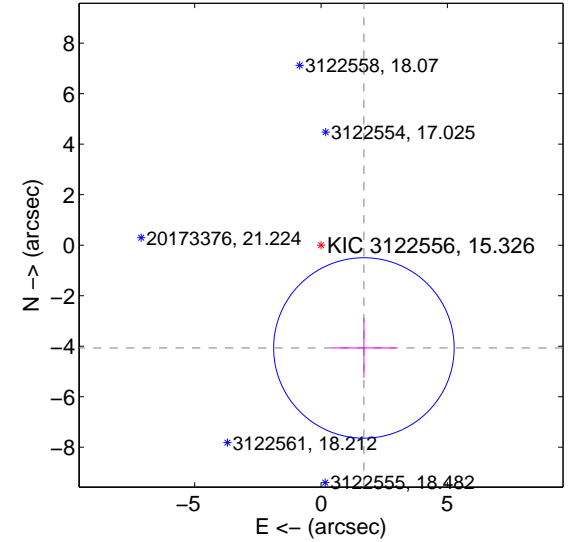
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

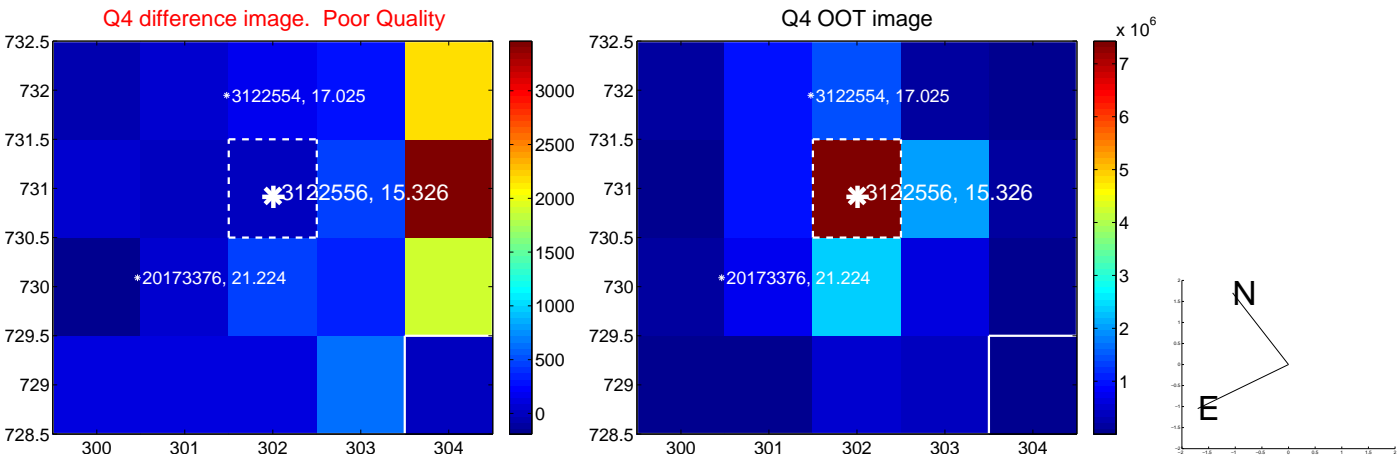
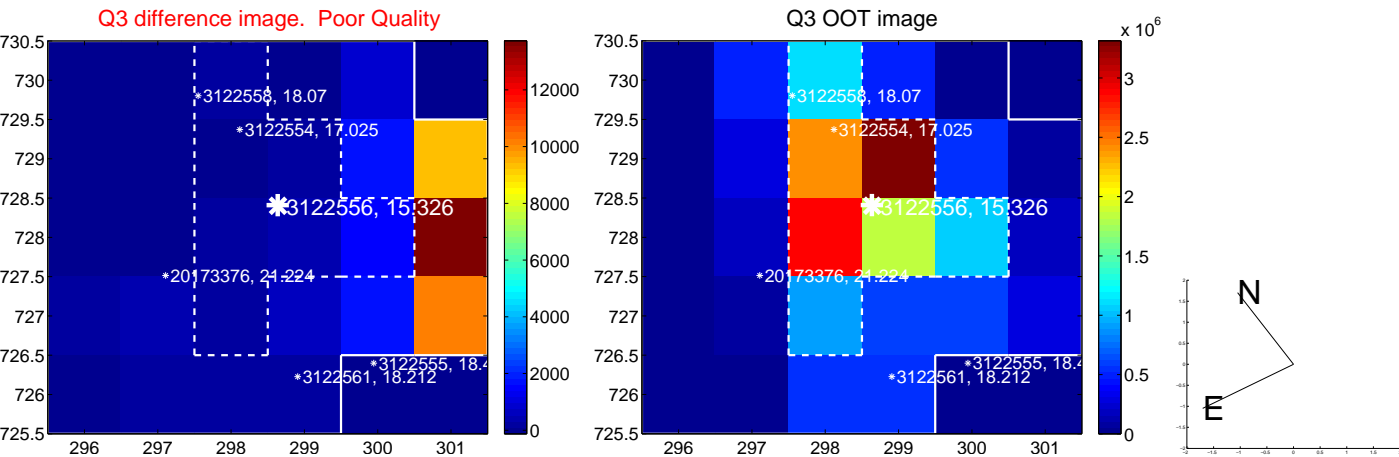
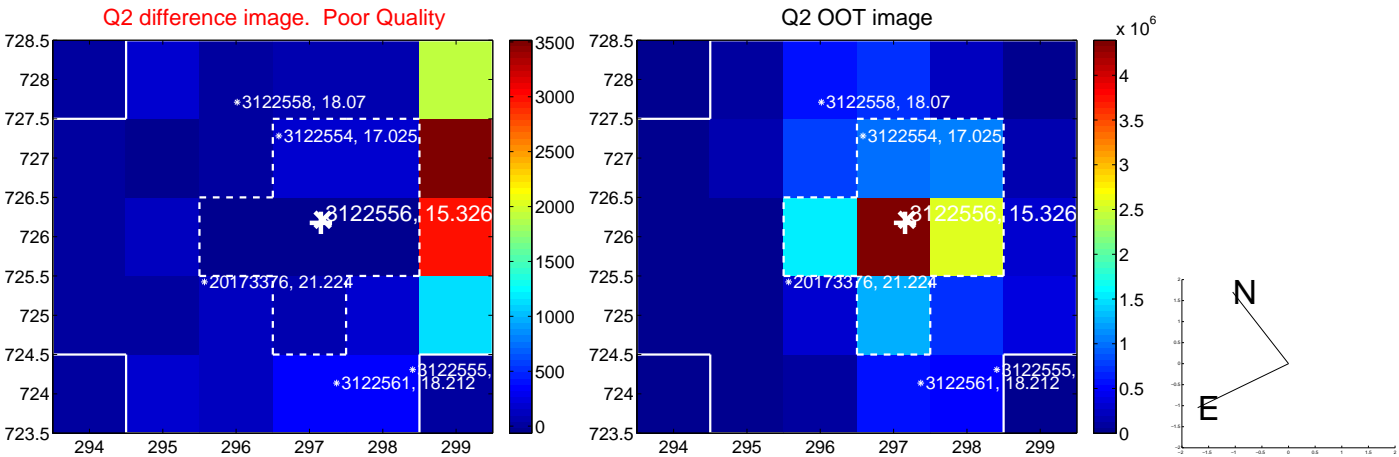
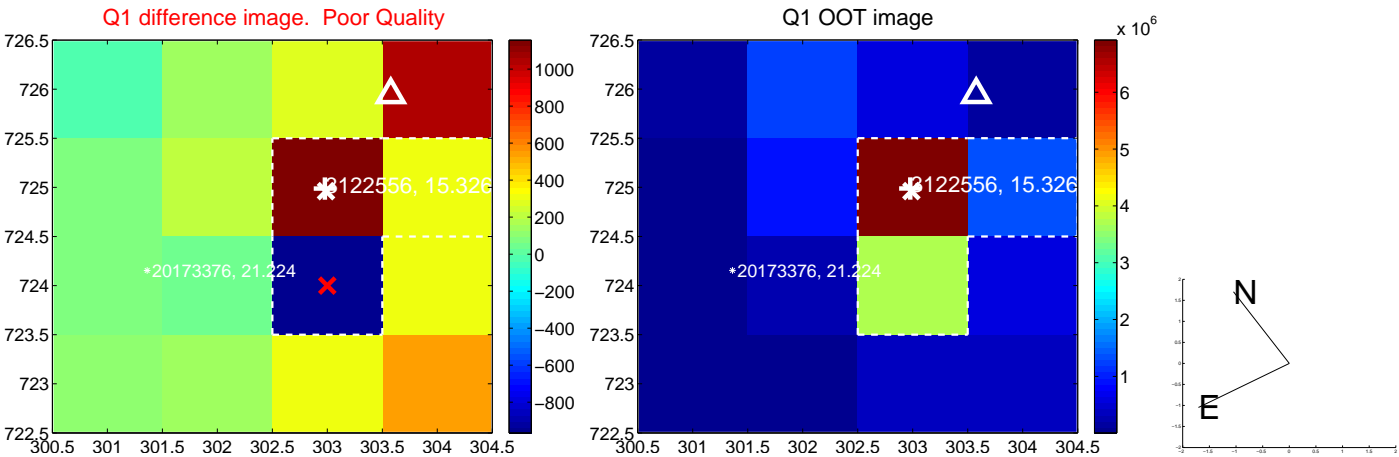


offset from photometric centroids

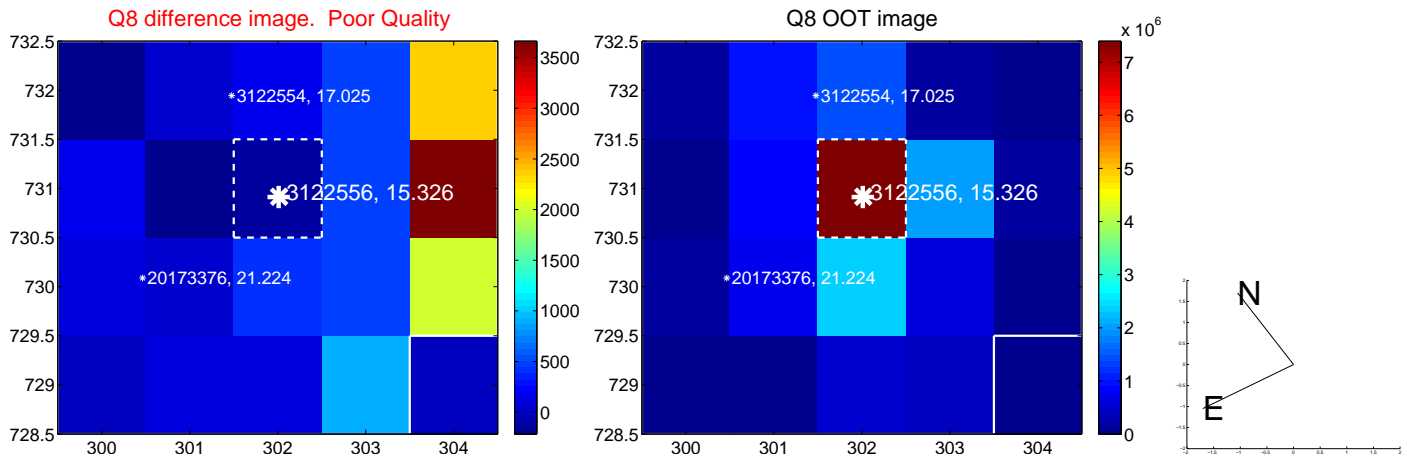
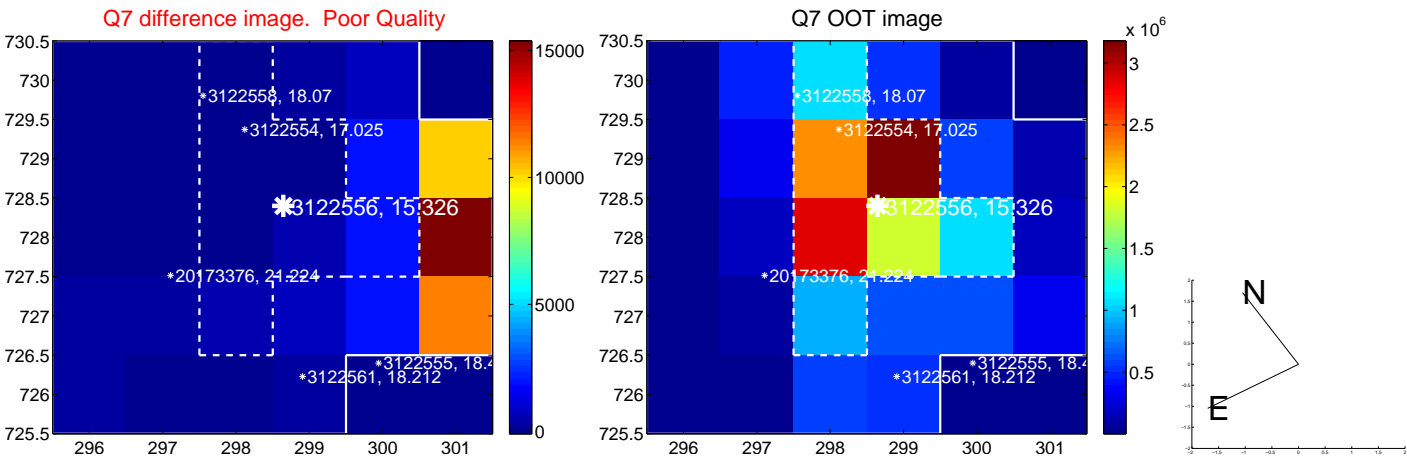
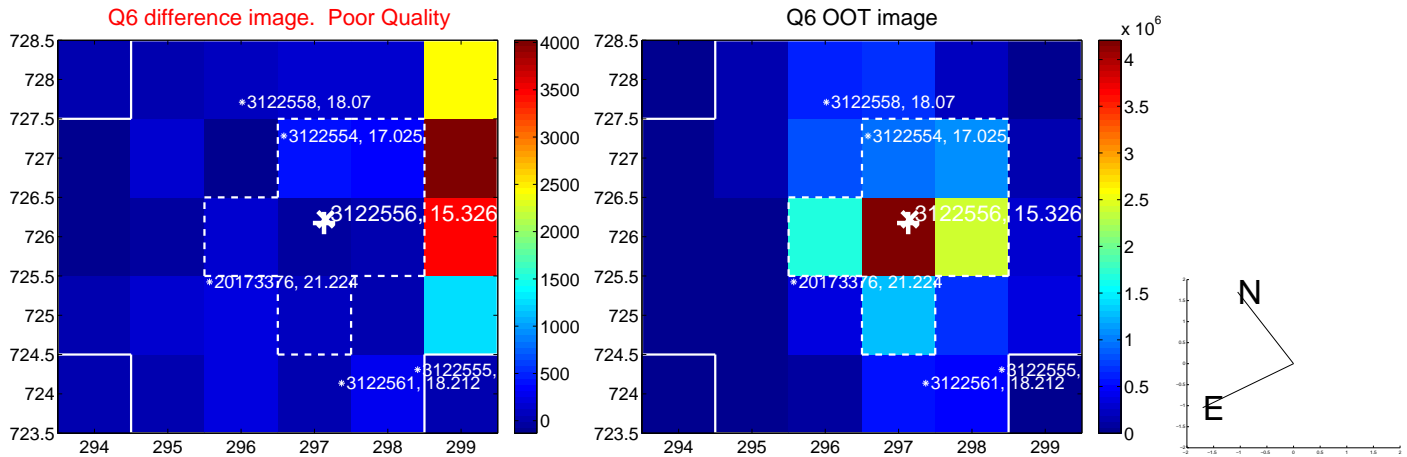
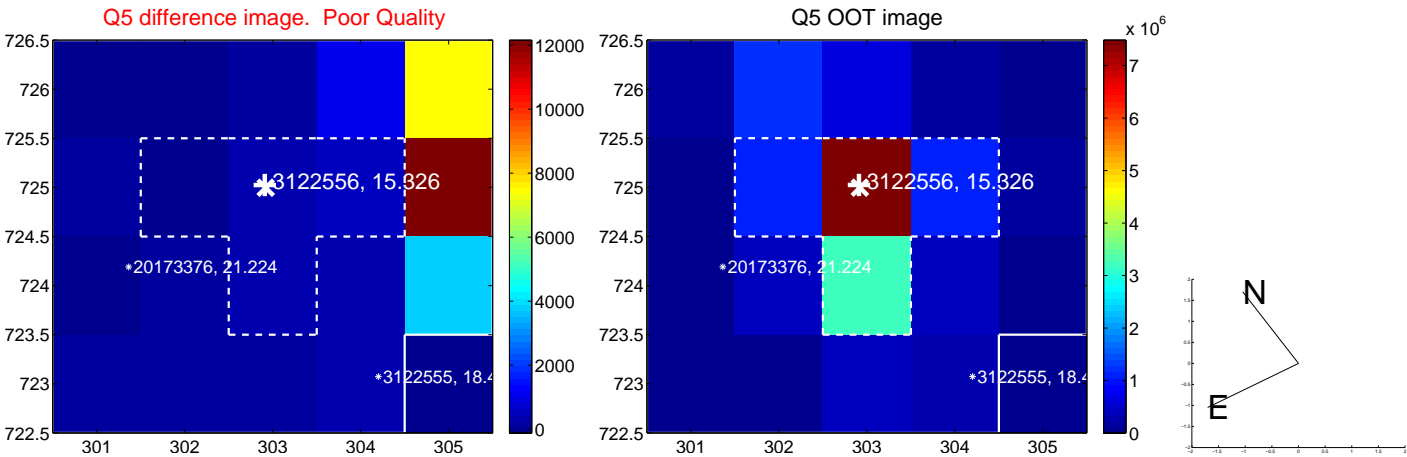


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

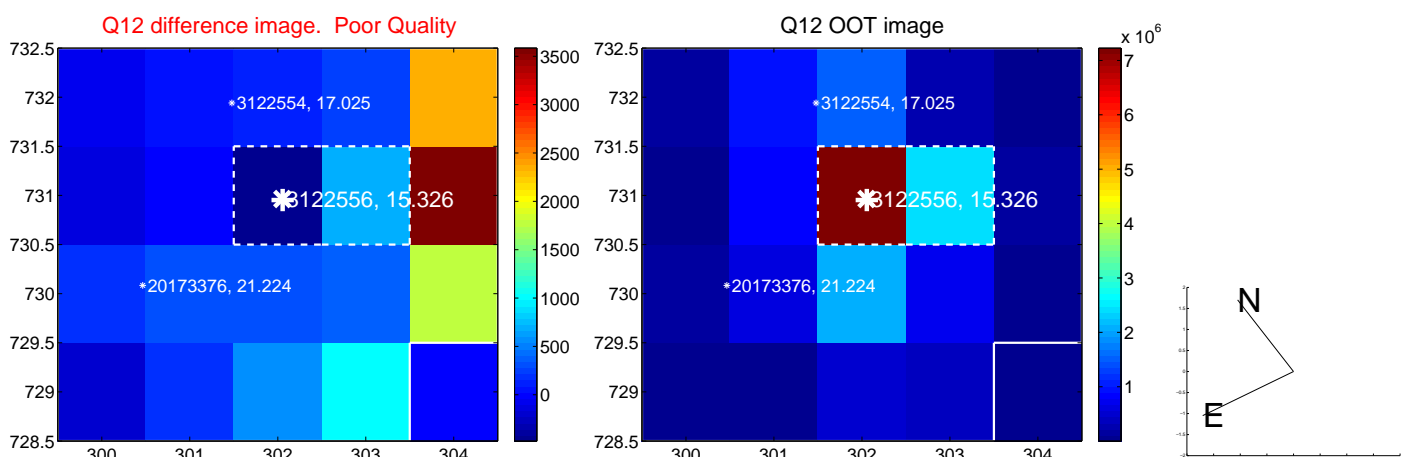
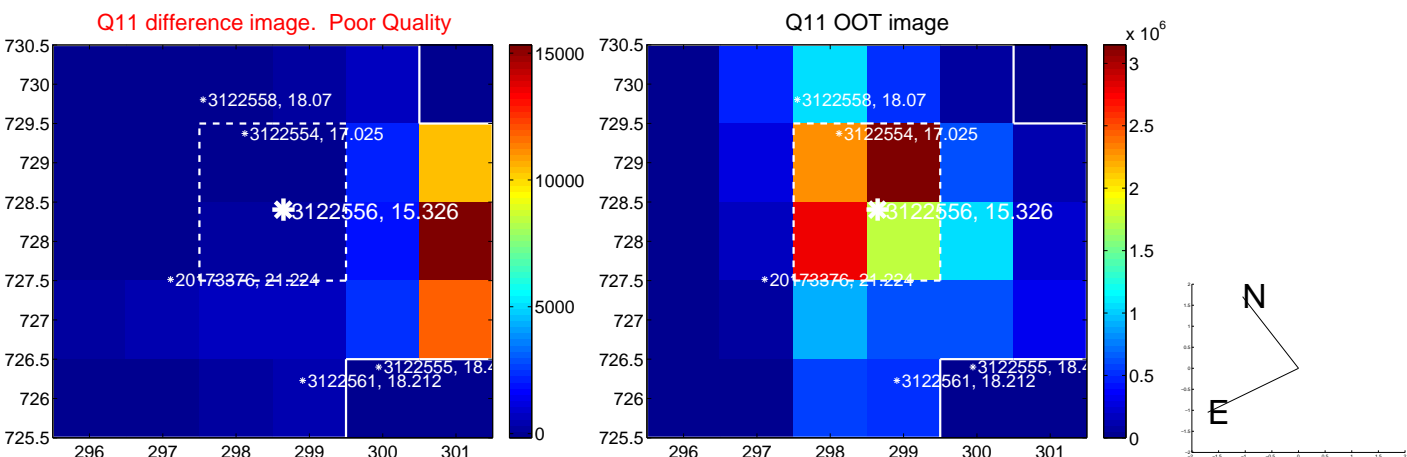
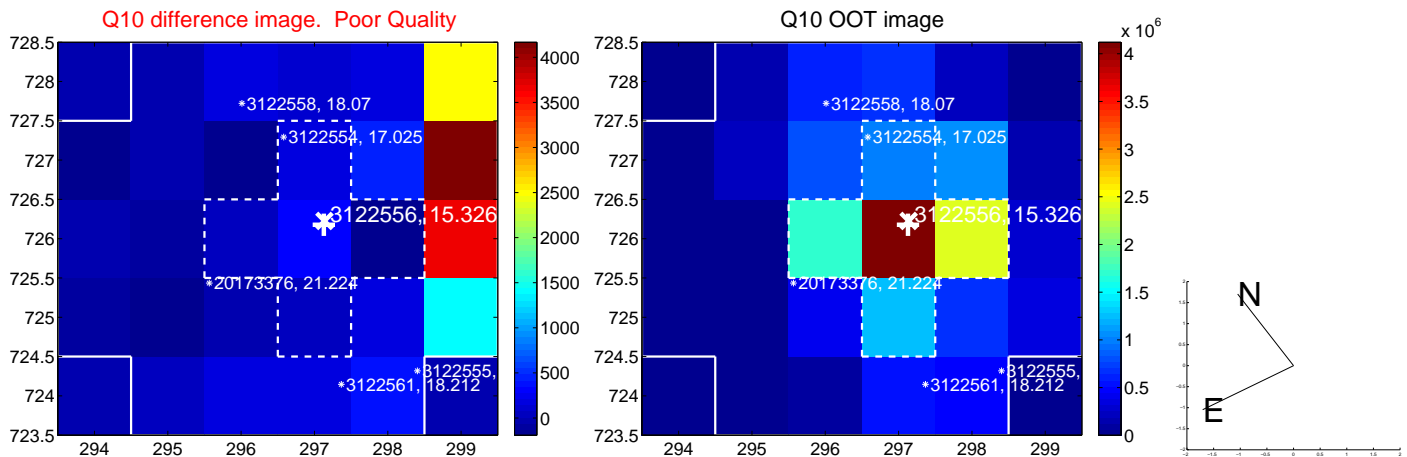
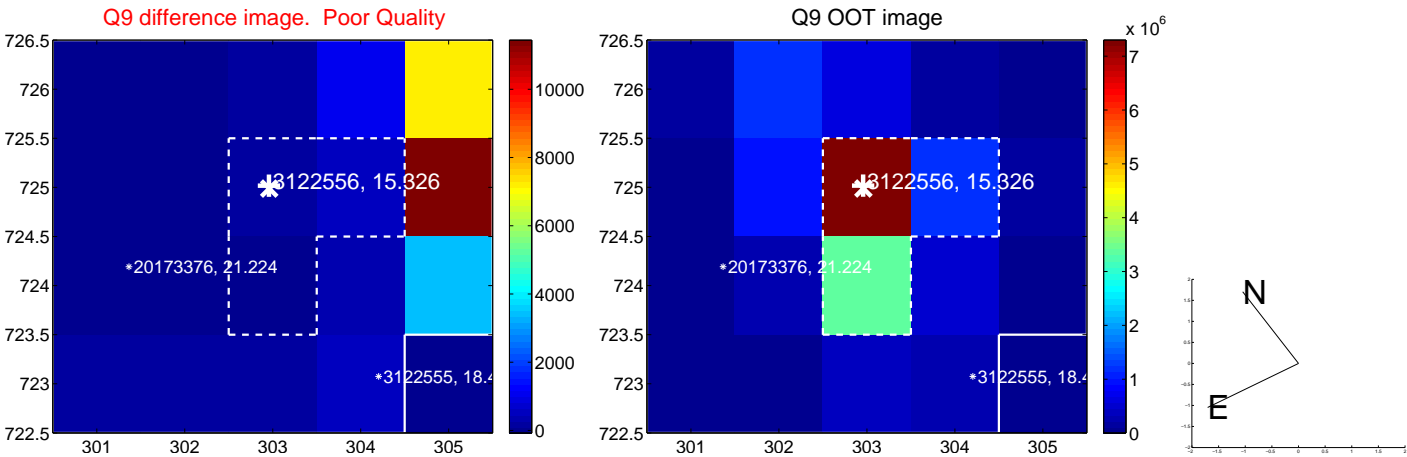
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



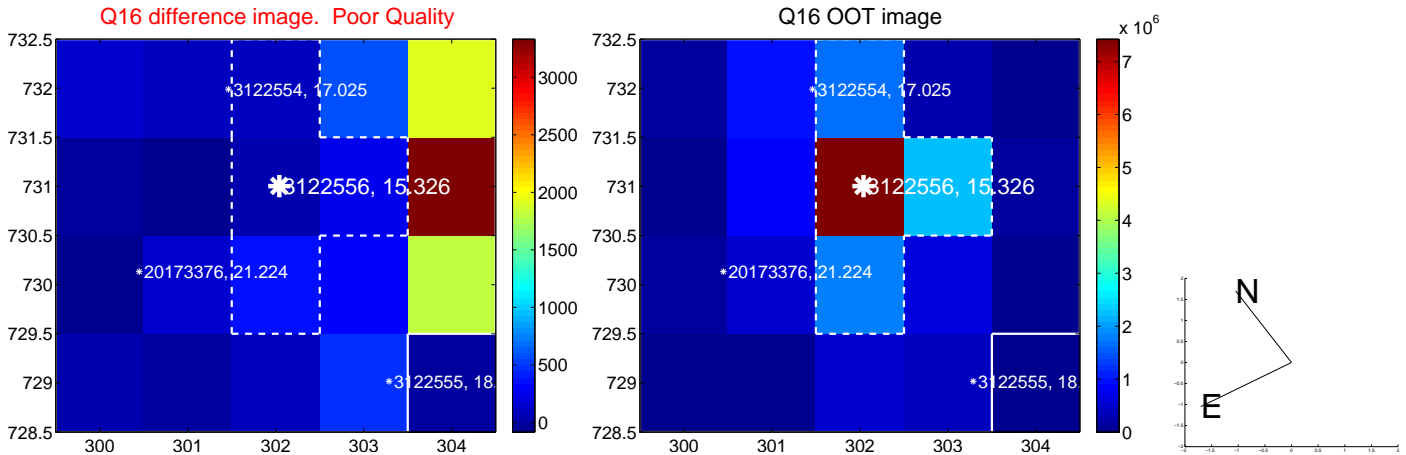
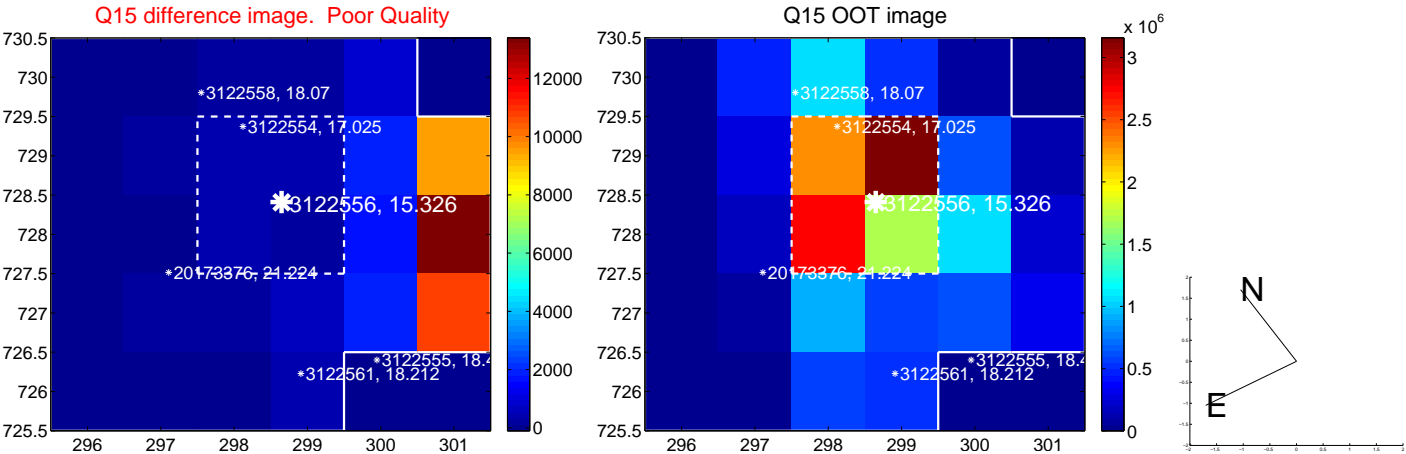
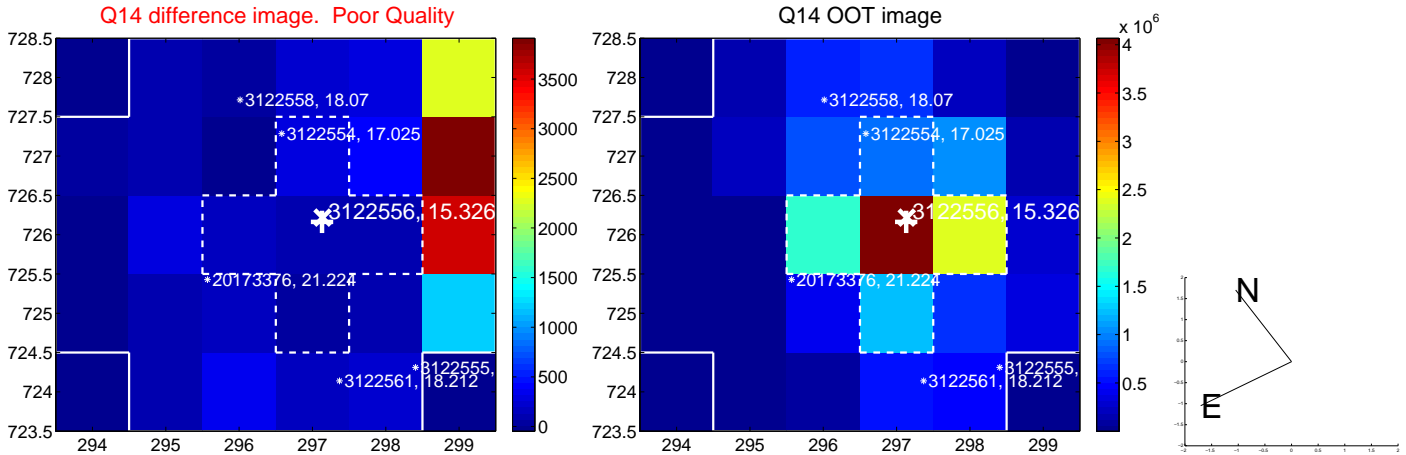
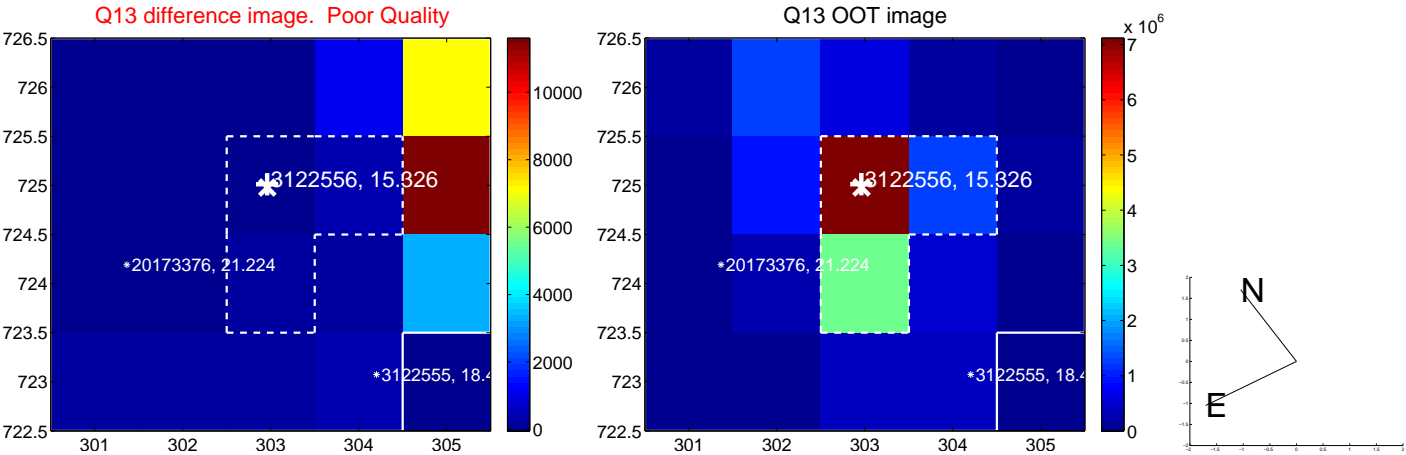
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



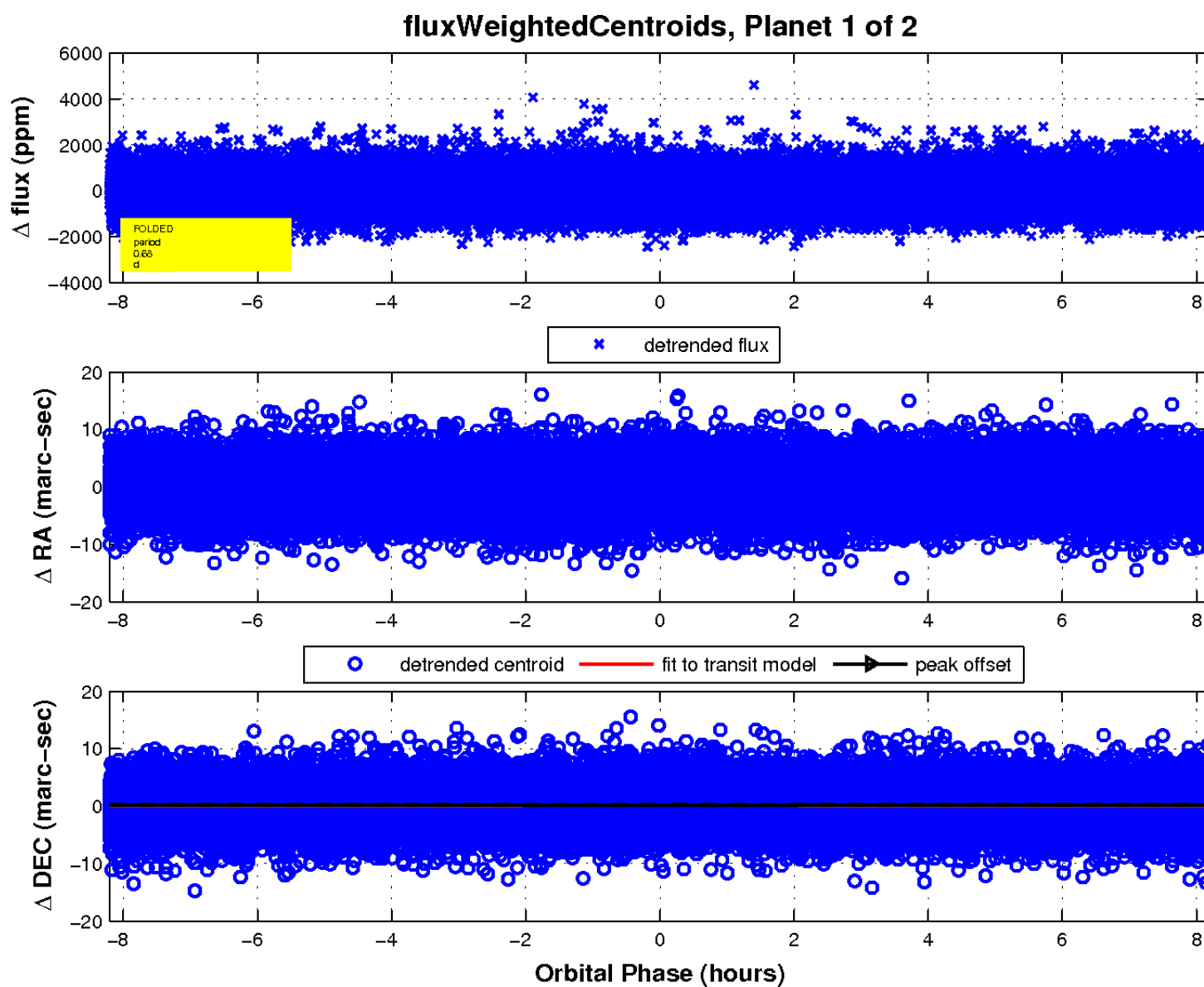
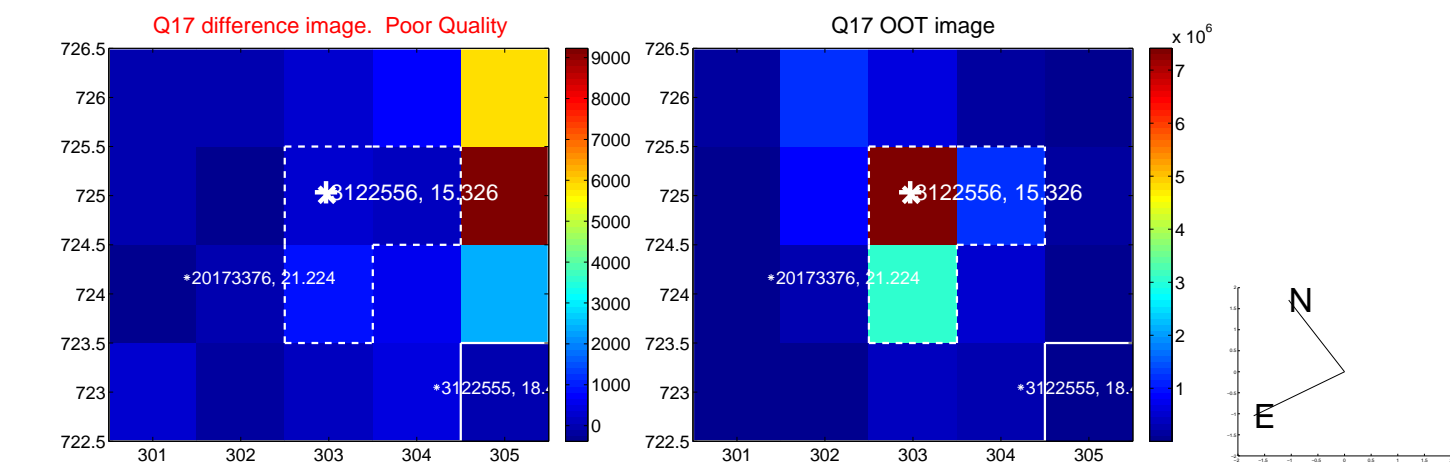
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

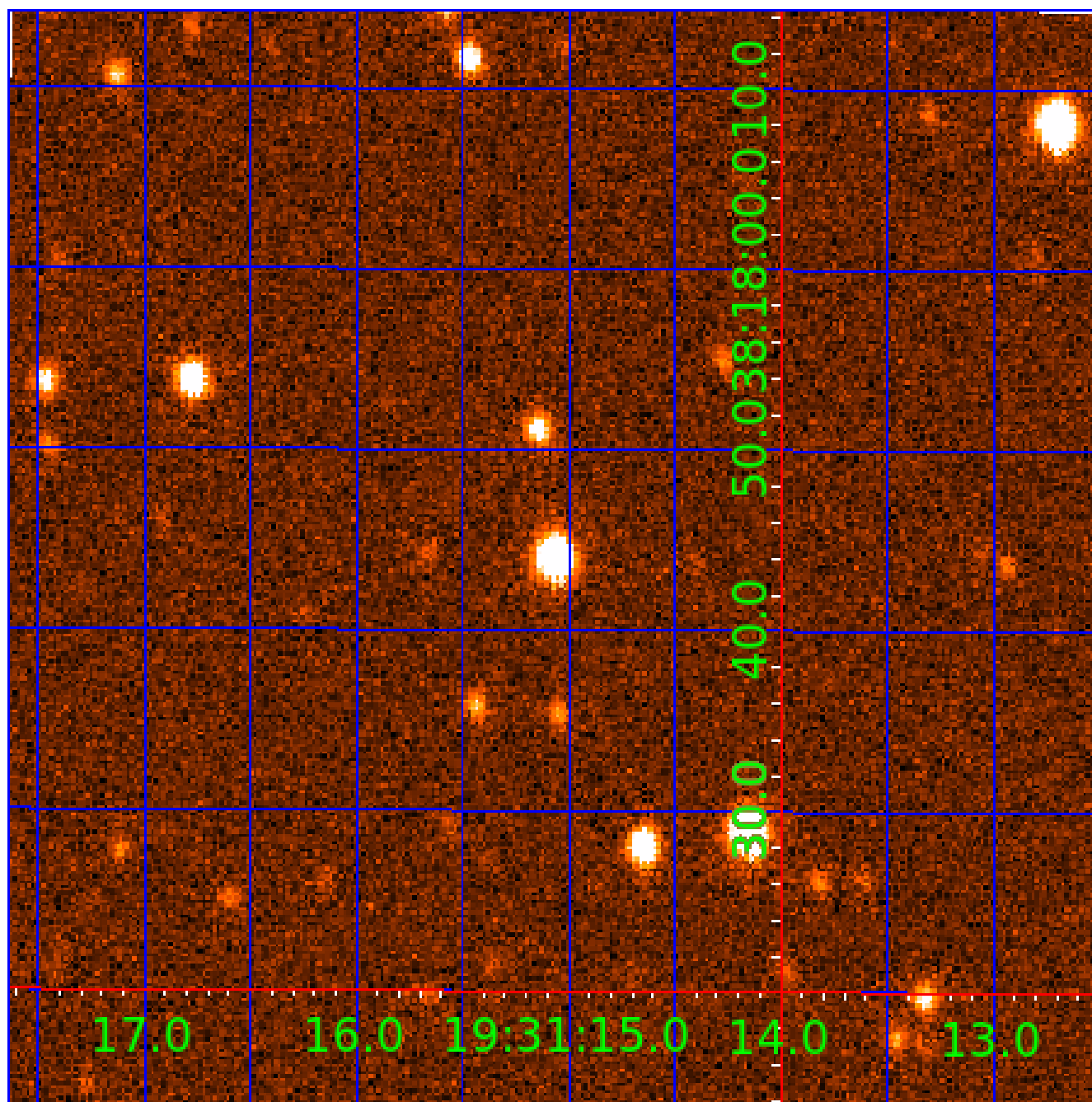


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003122556

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})
003122556-01	OBS	No	0.683680	131.955587	55.2	4.401	11.6	9.6	0.95	6103	0.83	4758.18
003122556-02	OBS	No	60.343025	191.329035	1572.9	1.184	9.9	8.9	0.95	6103	3.81	12.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003122556-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET
003122556-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS

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

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

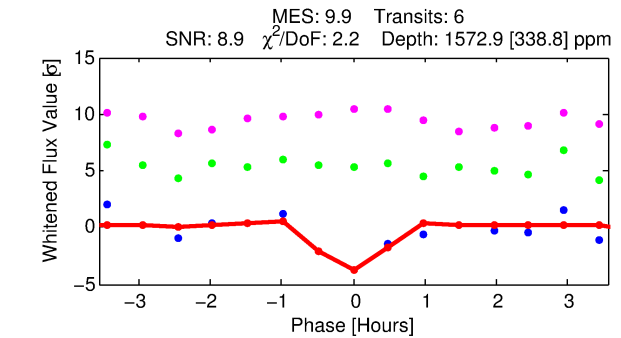
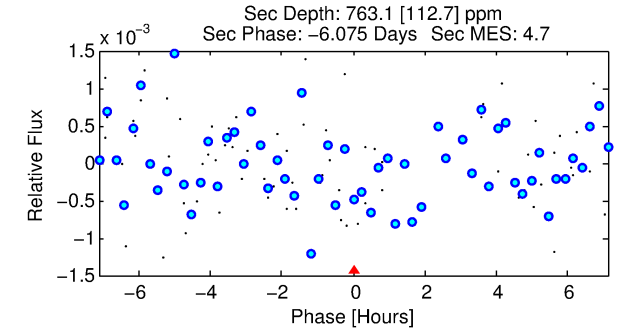
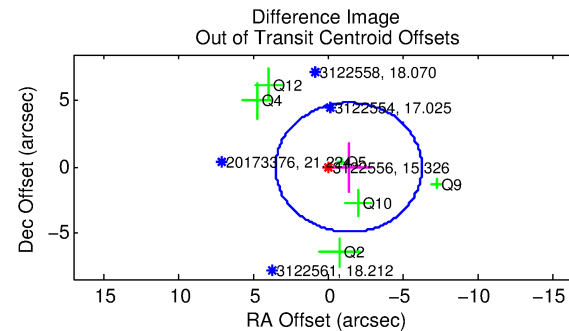
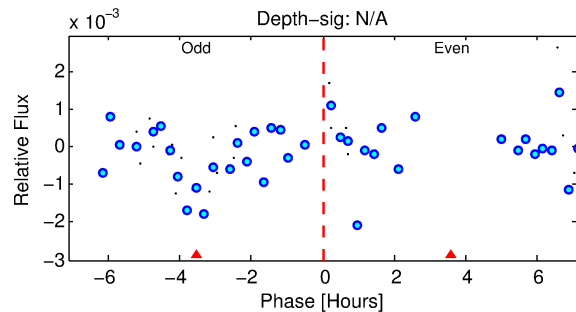
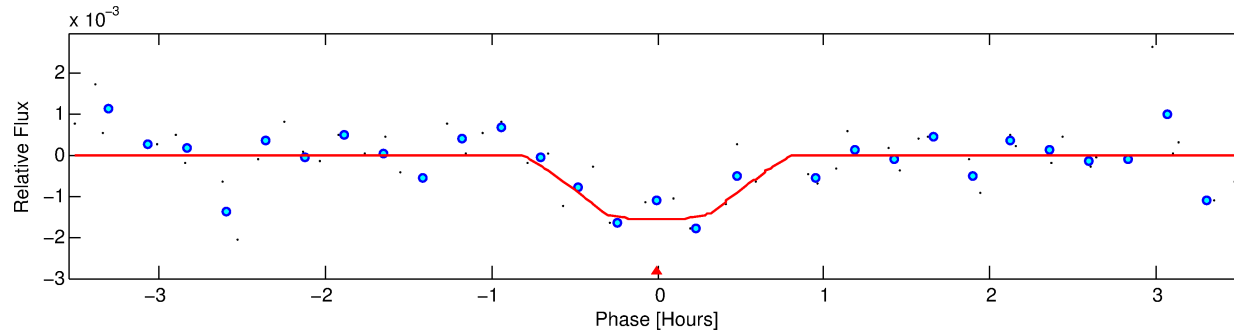
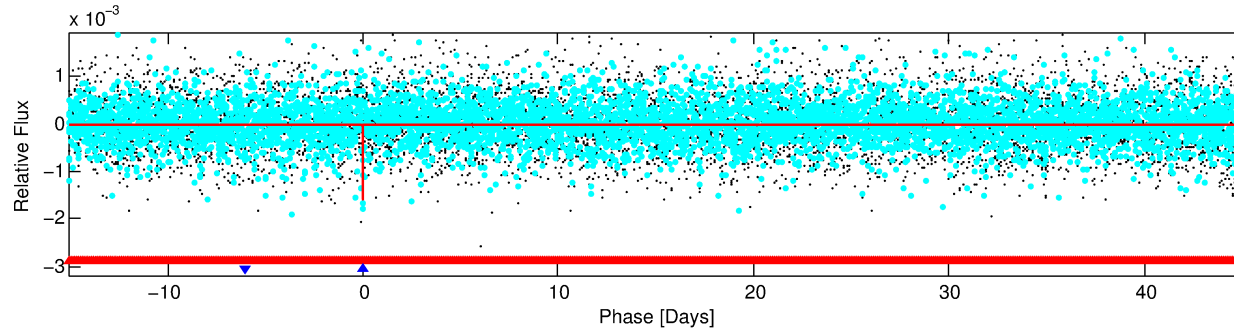
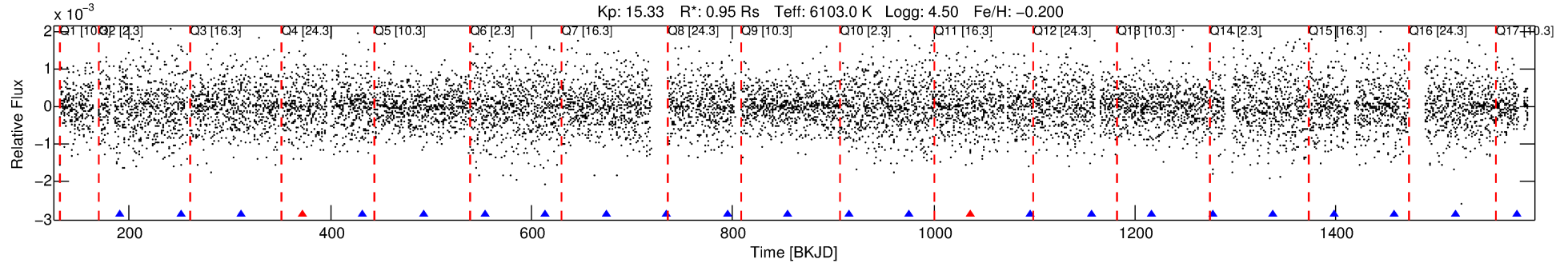
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003122556-02

No Significant Match Found

DV One-Page Summary

KIC: 3122556 Candidate: 2 of 2 Period: 60.343 d



DV Fit Results:

Period = 60.34303 [0.00082] d
Epoch = 191.3290 [0.0106] BKJD
Rp/R* = 0.0368 [0.0585]
a/R* = 389.65 [3083.07]
b = 0.27 [27.01]
Seff = 12.11 [4.77]
Teq = 476 [47] K
Rp = 3.81 [6.17] Re
a = 0.3041 [0.0776] AU
Ag = 2670.76 [8557.09] [0.31σ]
Teffp = 5287 [4211] K [1.14σ]

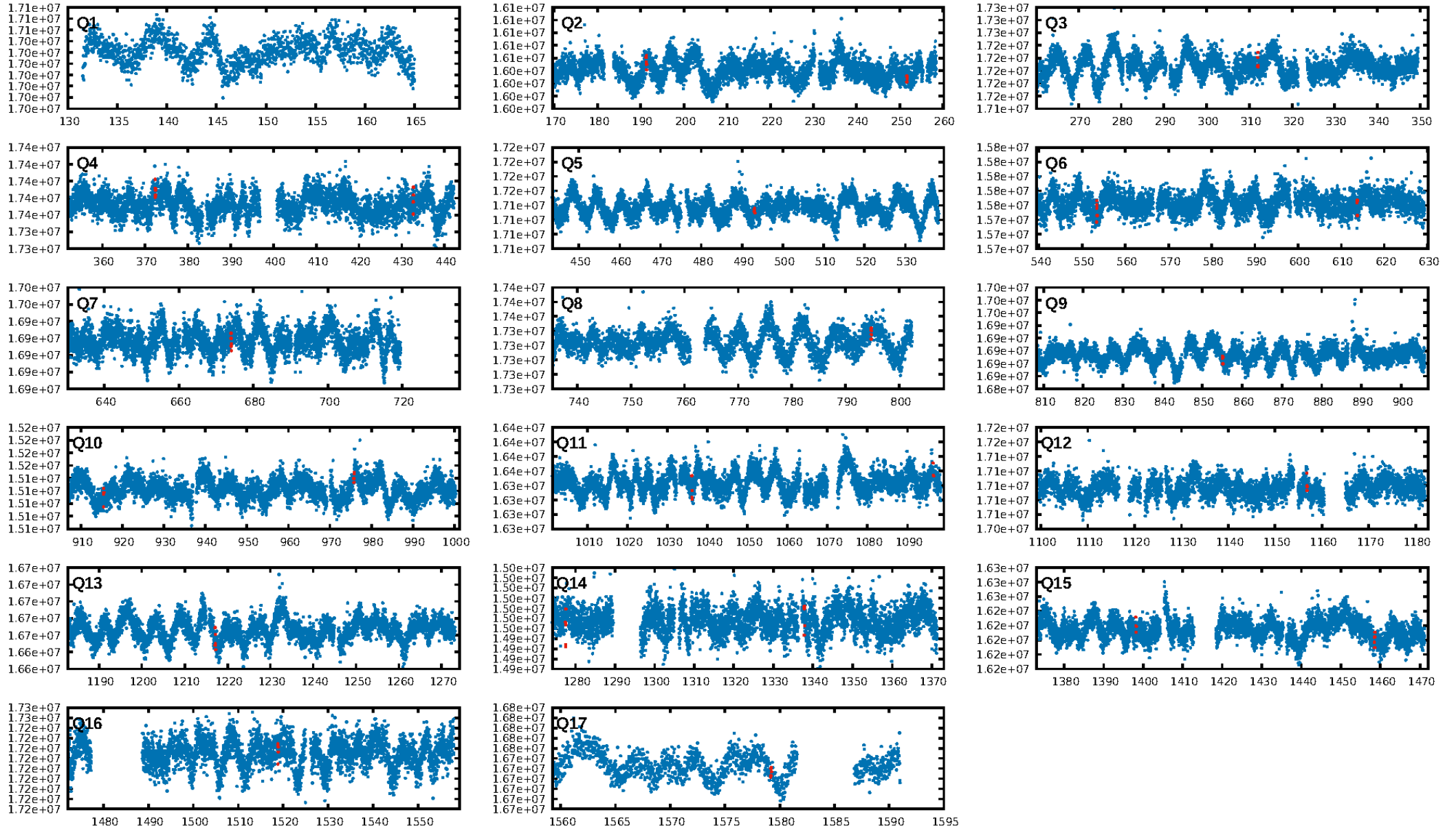
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [314.14σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 6.9%
ModelChiSquareGof-sig: 64.0%
Bootstrap-pfa: 2.44e-14
RollingBand-fgt: 0.67 [4/6]
GhostDiagnostic-chr: 1.485
Centroid-sig: N/A
Centroid-so: 0.259 arcsec [0.31σ]
OotOffset-rm: 1.414 arcsec [0.87σ]
KicOffset-rm: 1.445 arcsec [0.93σ]
OotOffset-st: 2/0/2/2 [6]
KicOffset-st: 2/0/2/2 [6]
DiffImageQuality-fgm: 0.00 [0/6]
DiffImageOverlap-fno: 0.06 [1/16]

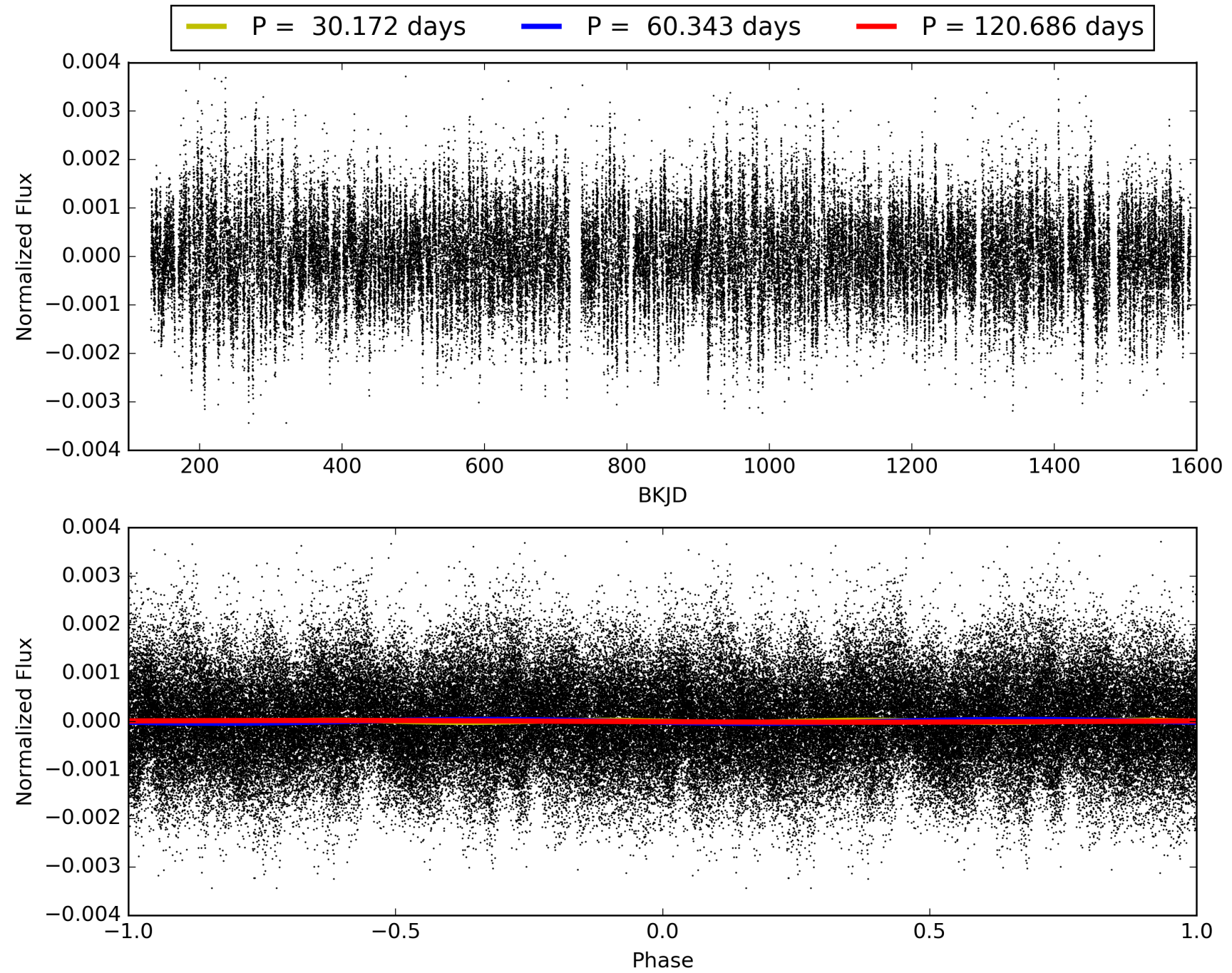
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:28:03 Z

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

TCE 003122556-02, PDC Light Curves

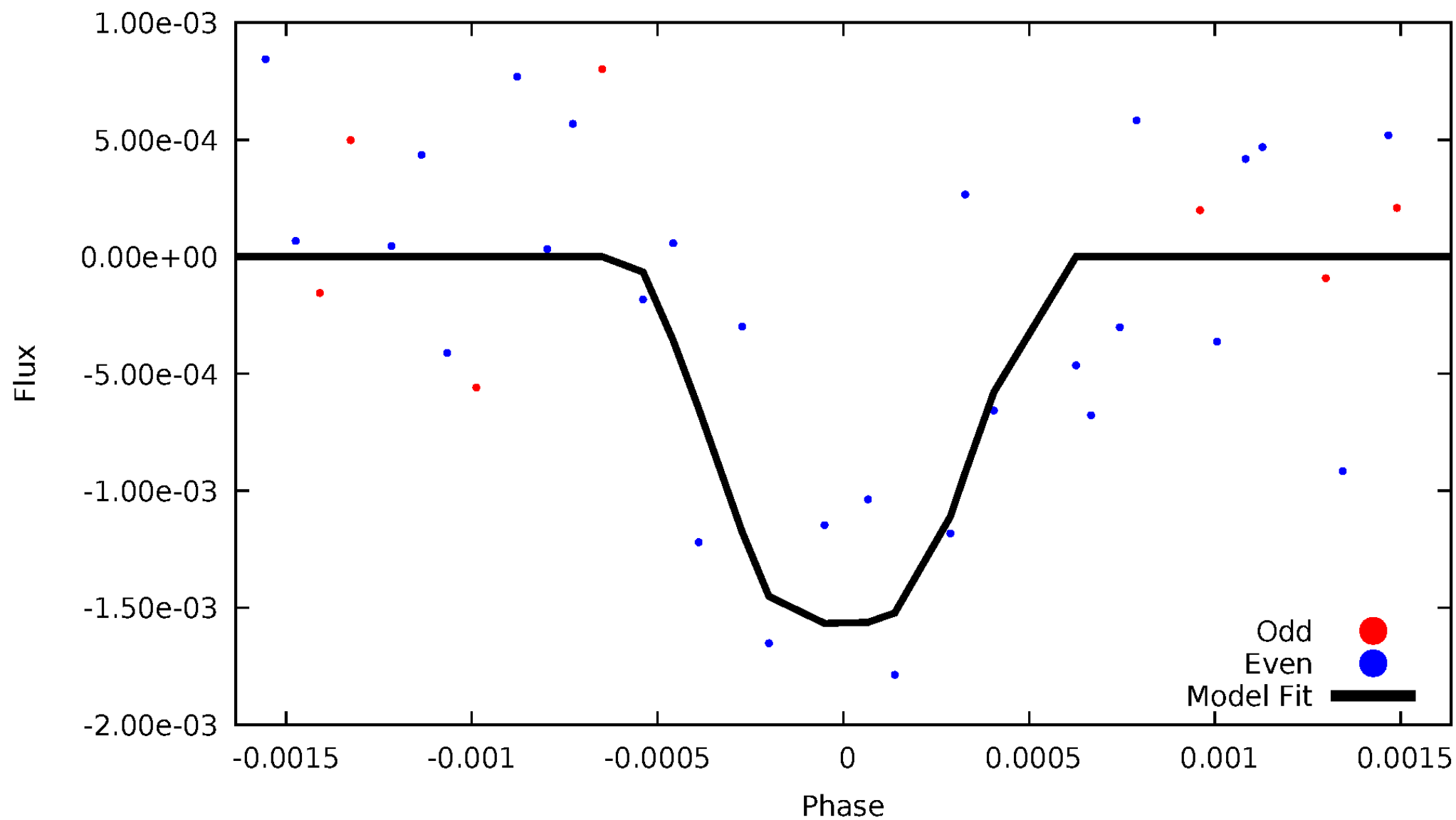


TCE 003122556-02



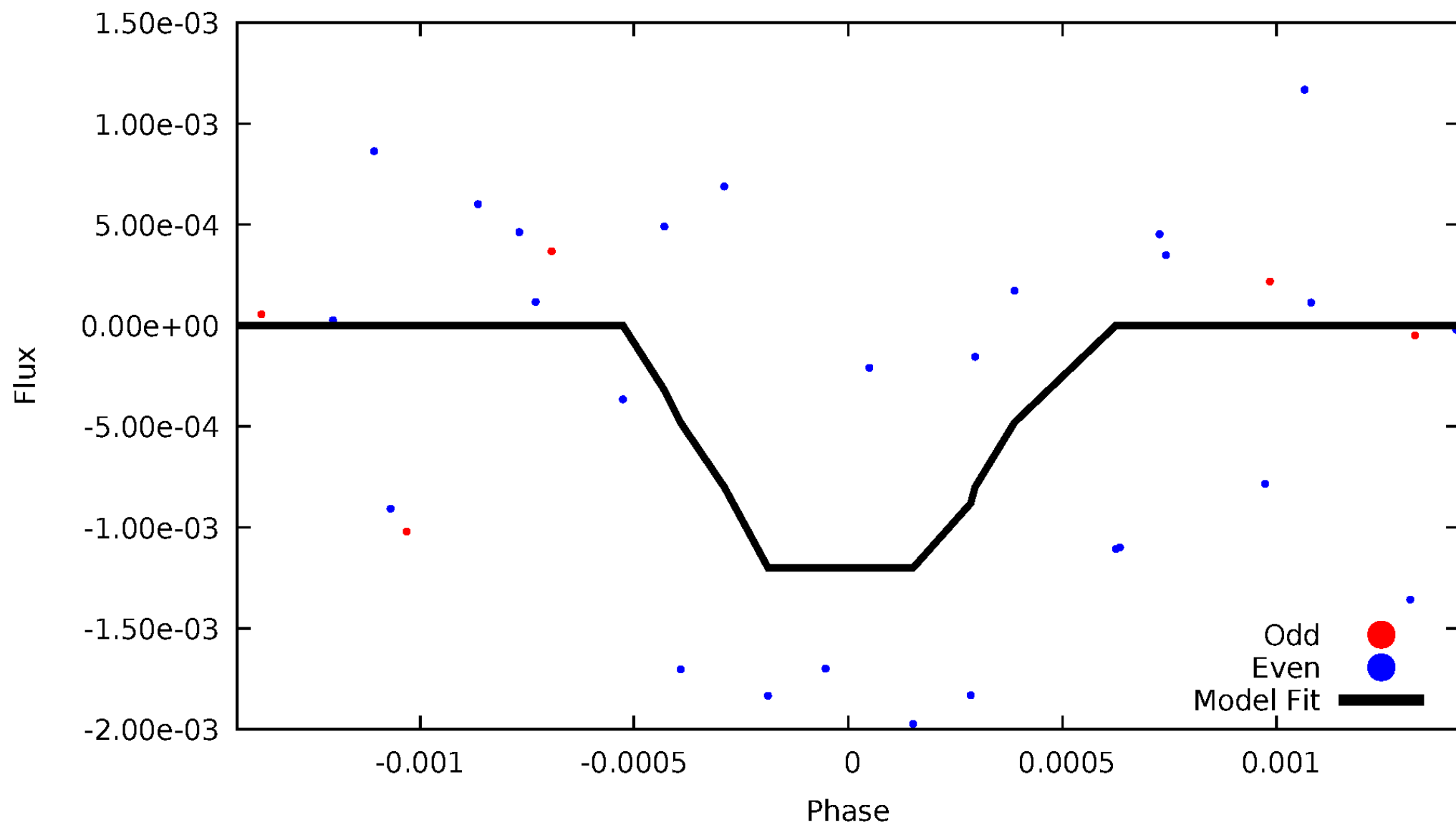
DV Odd/Even

TCE 003122556-02



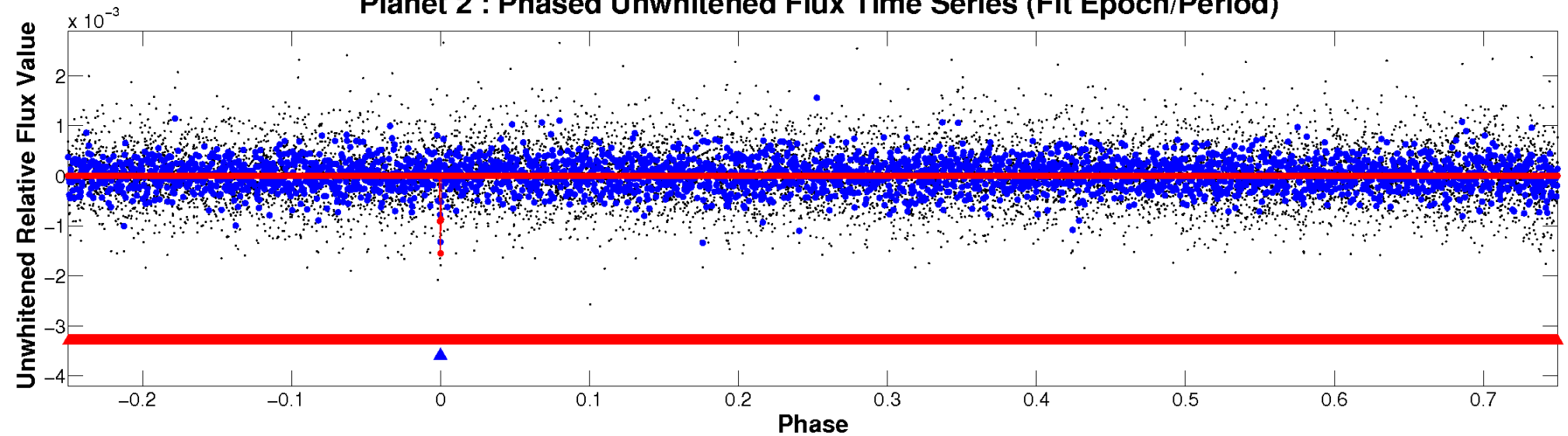
ALT Odd/Even

TCE 003122556-02

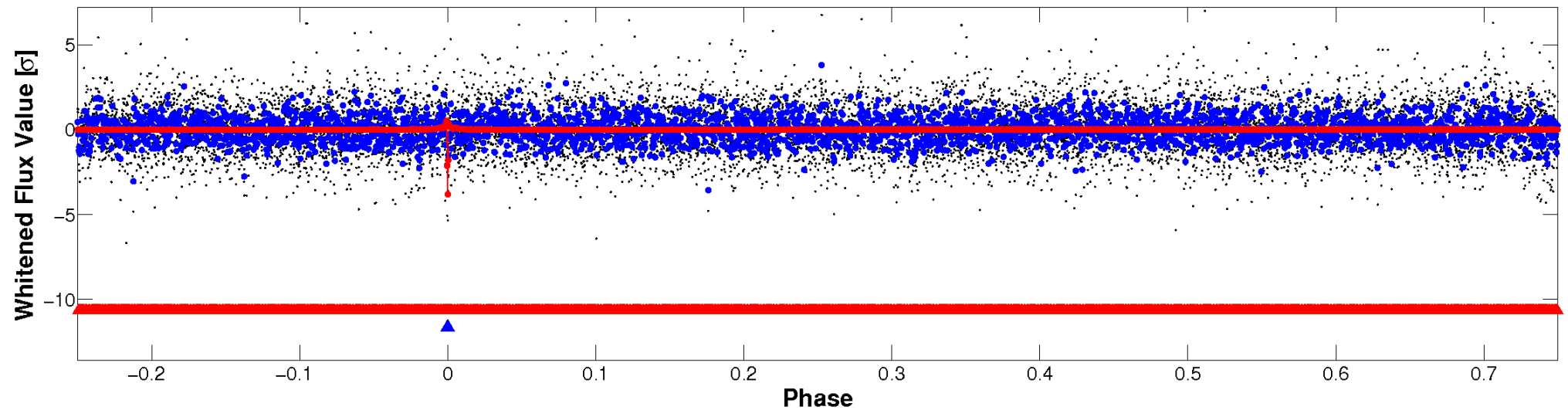


Non-Whitened Vs. Whitened Light Curve

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

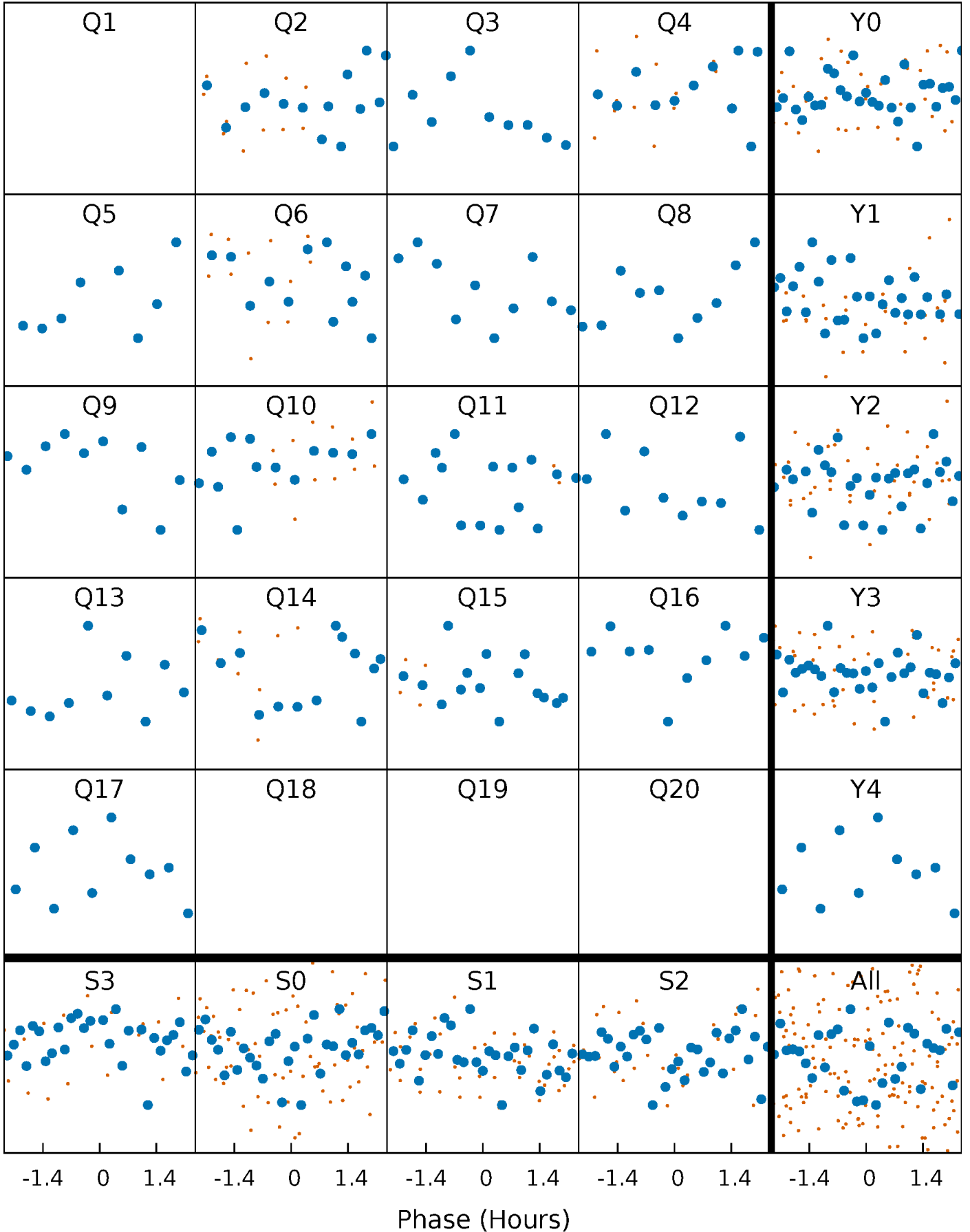


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



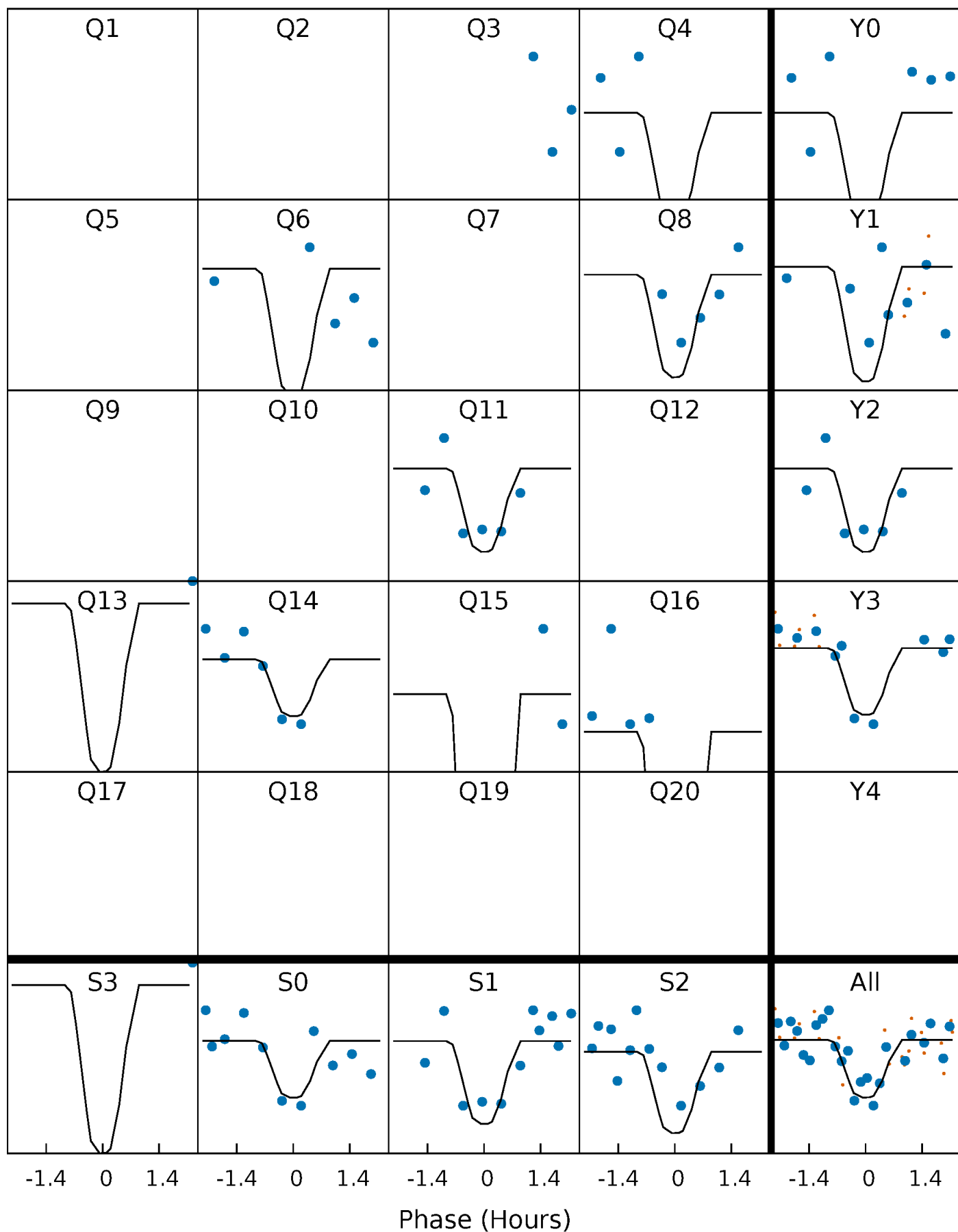
PDC Quarter-Phased Transit Curves

TCE 003122556-02 P= 60.343025 Days $T_0=191.329036$ (BKJD)



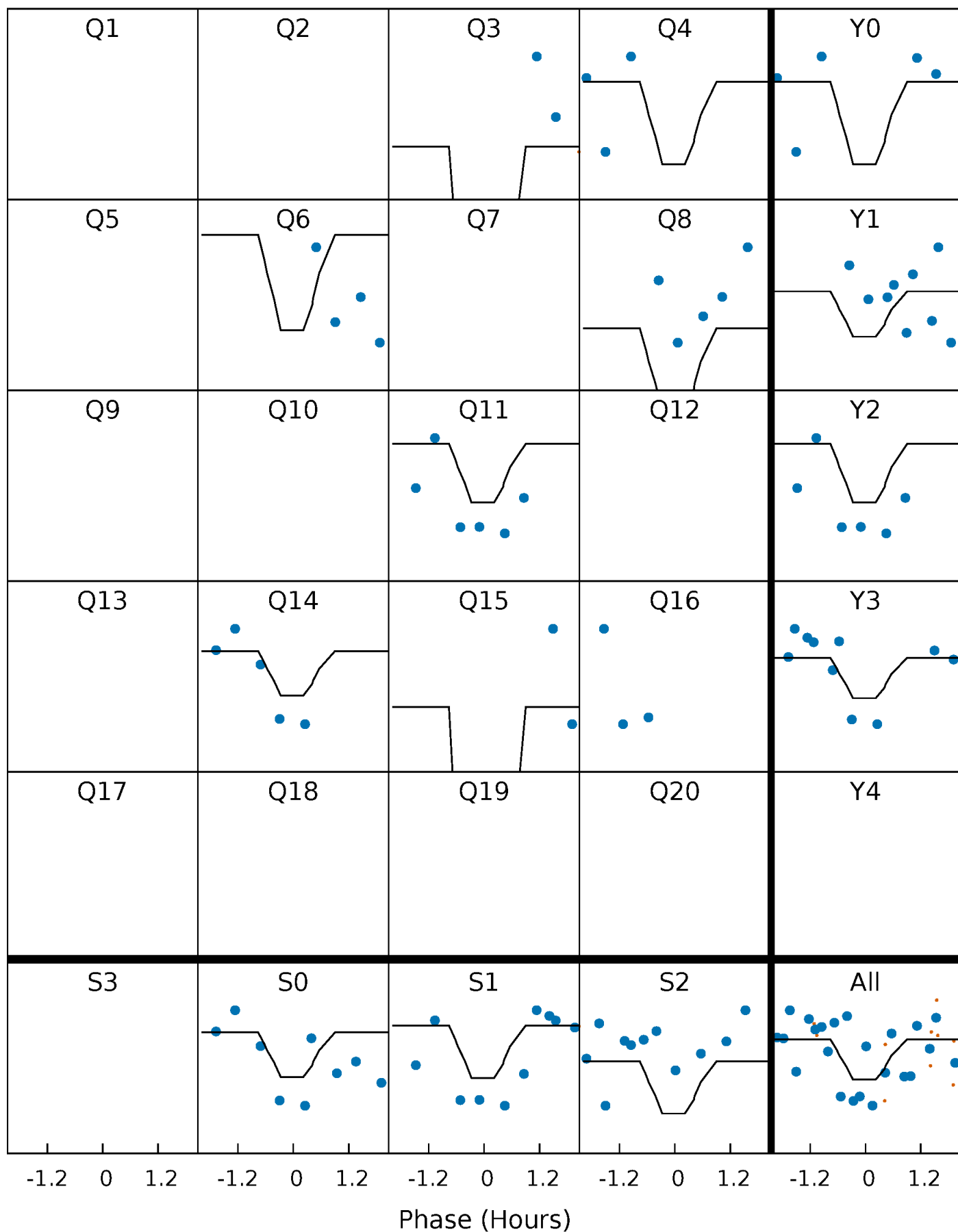
DV Quarter-Phased Transit Curves

TCE 003122556-02 P= 60.343025 Days $T_0=191.329036$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

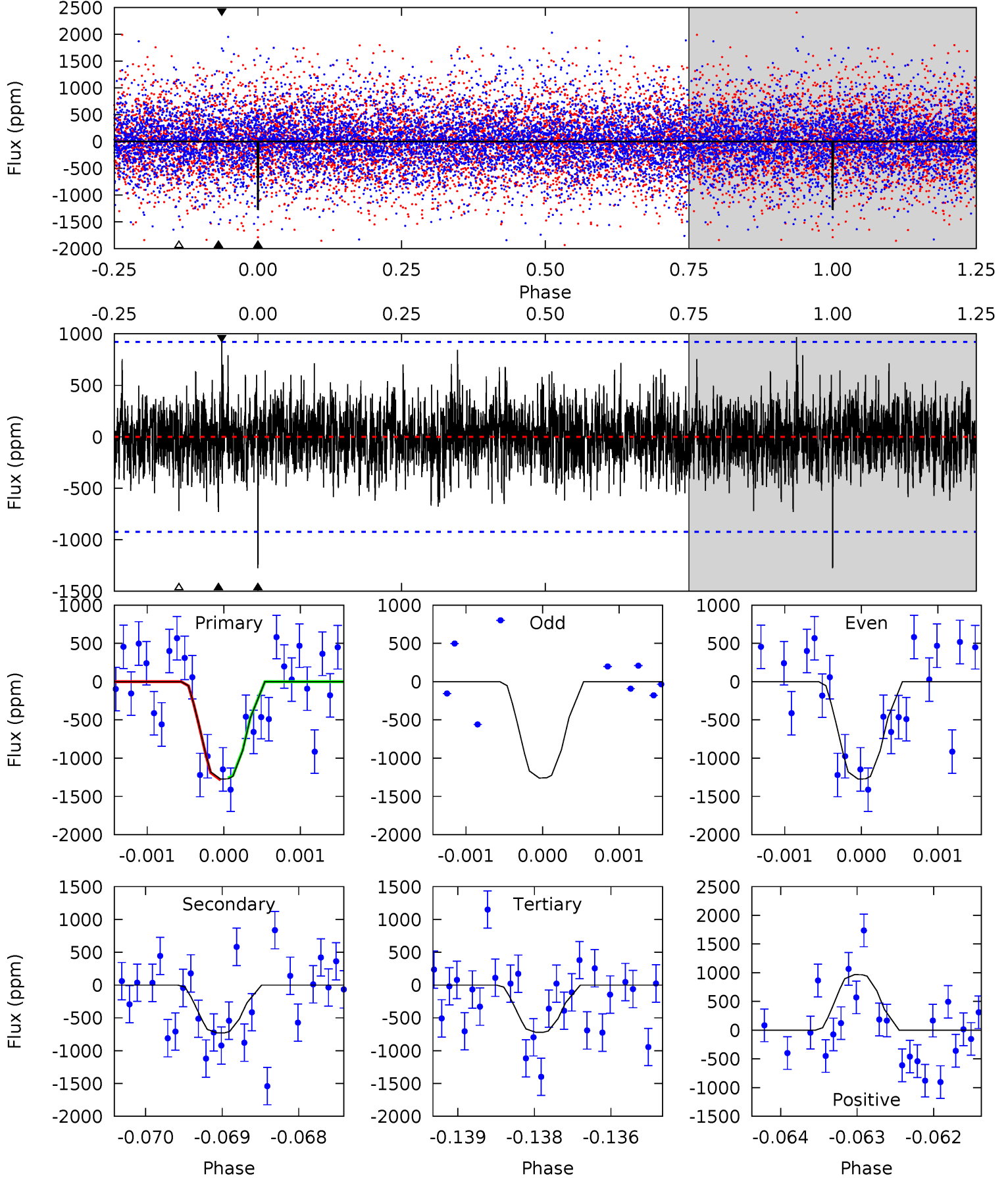
TCE 003122556-02 P= 60.342797 Days $T_0=191.332360$ (BKJD)



DV Model-Shift Uniqueness Test

003122556-02, P = 60.343025 Days, E = 130.986011 Days

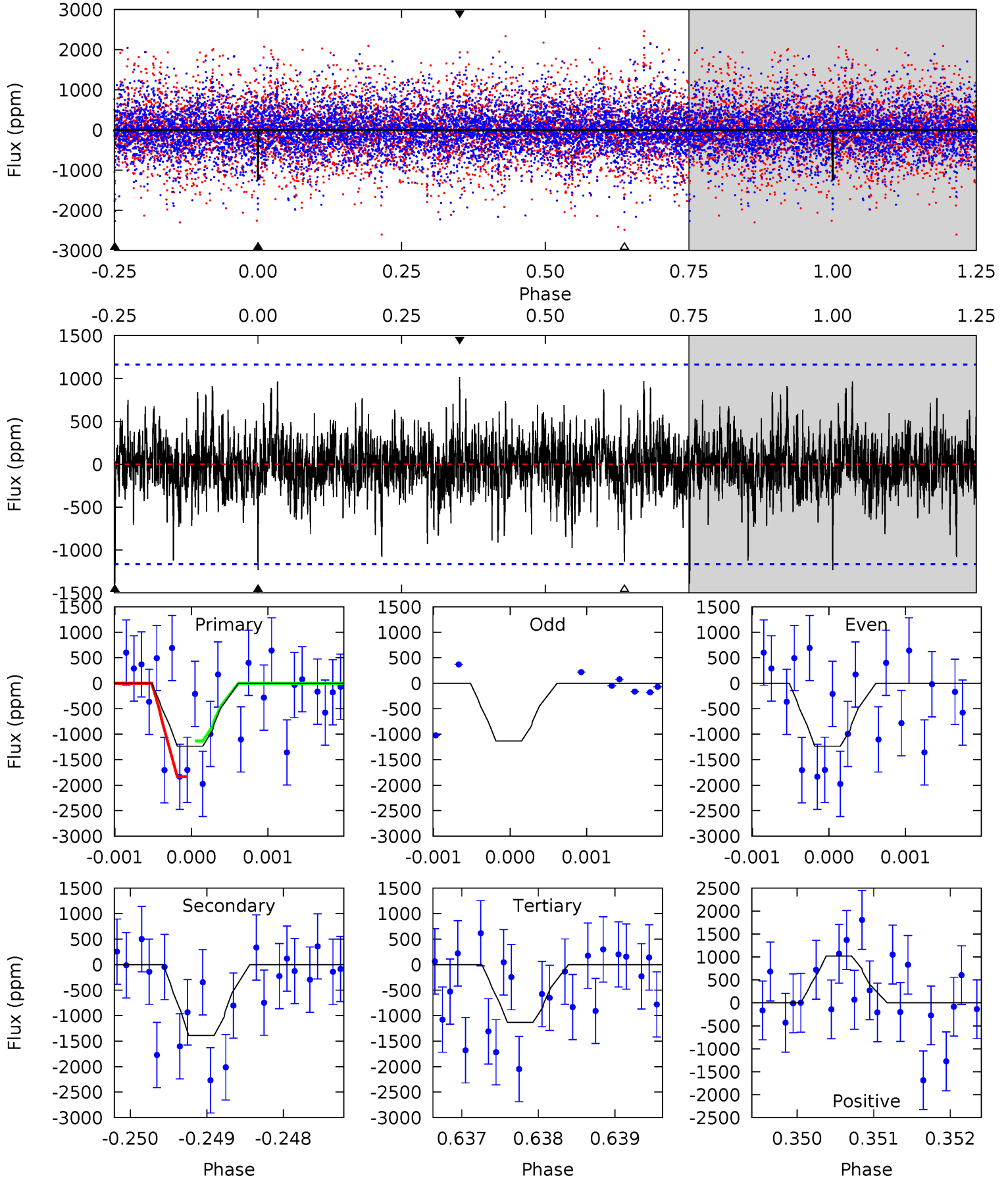
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.49	4.29	4.24	5.69	5.42	3.25	1.30	3.25	1.80	0.05	-1.40	0.05	0.94	0.43	0.07



Alt Model-Shift Uniqueness Test

003122556-02, P = 60.342797 Days, E = 130.989563 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.78	6.50	5.31	4.77	5.45	3.29	1.25	0.47	1.01	1.19	1.73	0.30	0.68	0.42	1.39



Stellar Parameters For KIC 003122556

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6103^{+190}_{-211}	$4.496^{+0.050}_{-0.200}$	$-0.200^{+0.300}_{-0.300}$	$0.949^{+0.290}_{-0.097}$	$1.028^{+0.140}_{-0.140}$	$1.697^{+0.453}_{-0.902}$
	+3%/-3%	+1%/-4%	+150%/-150%	+31%/-10%	+14%/-14%	+27%/-53%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 003122556-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-729 ± 170	$6.25^{+5.11}_{-4.02}$	678^{+48}_{-33}	4397^{+2572}_{-846}	934^{+6722}_{-662}
Alt.	-1388 ± 214	$6.11^{+5.63}_{-4.14}$	679^{+48}_{-33}	5034^{+4211}_{-1108}	1813^{+16061}_{-1309}

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 $A_{obs} \gg 1.0$

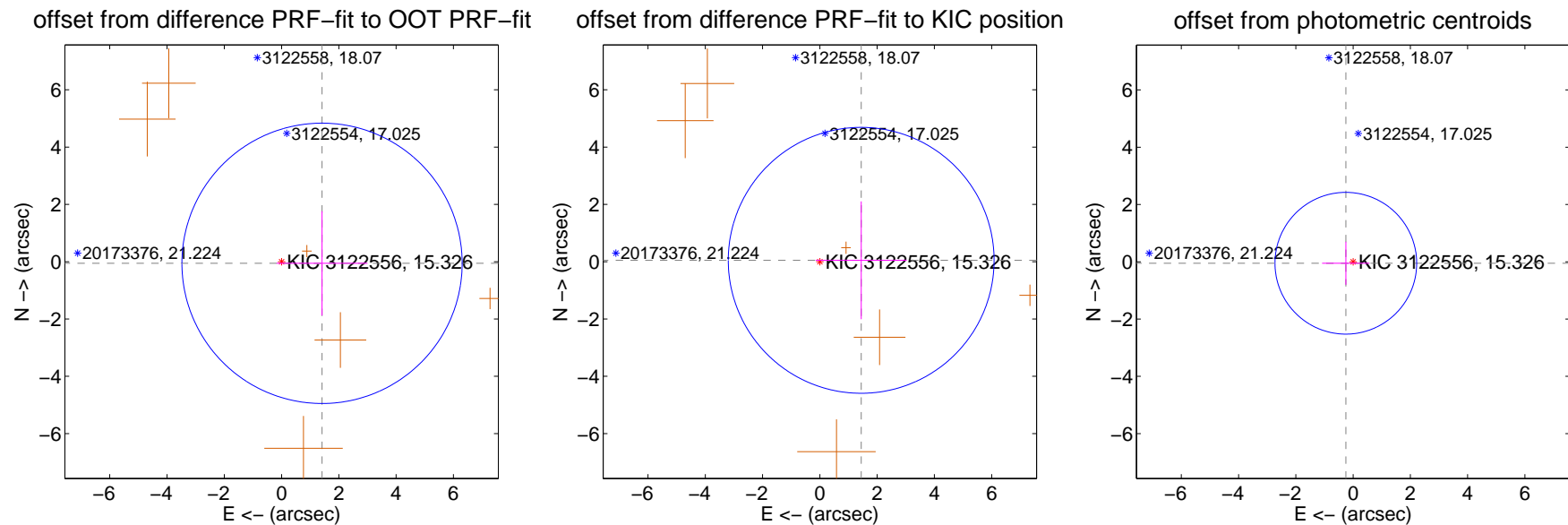
DV Centroid Data

Supplemental centroid analysis for 003122556-02. Kepler magnitude: 15.33. Transit SNR 8.87

There are 0 quarters with good PRF difference image offsets

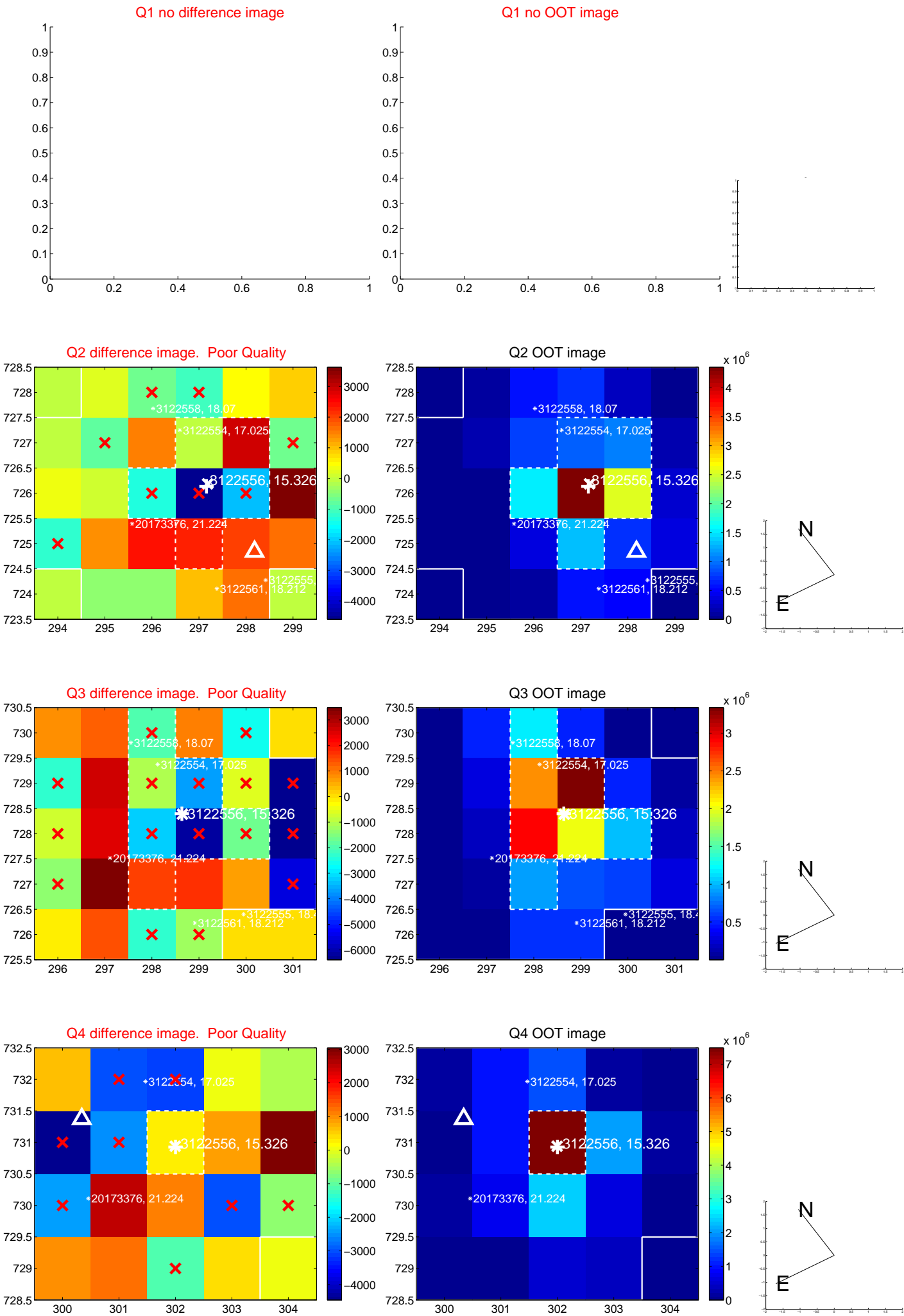
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.414 ± 1.631	0.87	-1.413 ± 1.587	-0.057 ± 1.821
PRF-fit source offset from KIC position	1.445 ± 1.547	0.93	-1.444 ± 1.588	0.048 ± 2.056
photometric centroid source offset	0.26 ± 0.82	0.31	0.25 ± 0.83	-0.05 ± 0.75

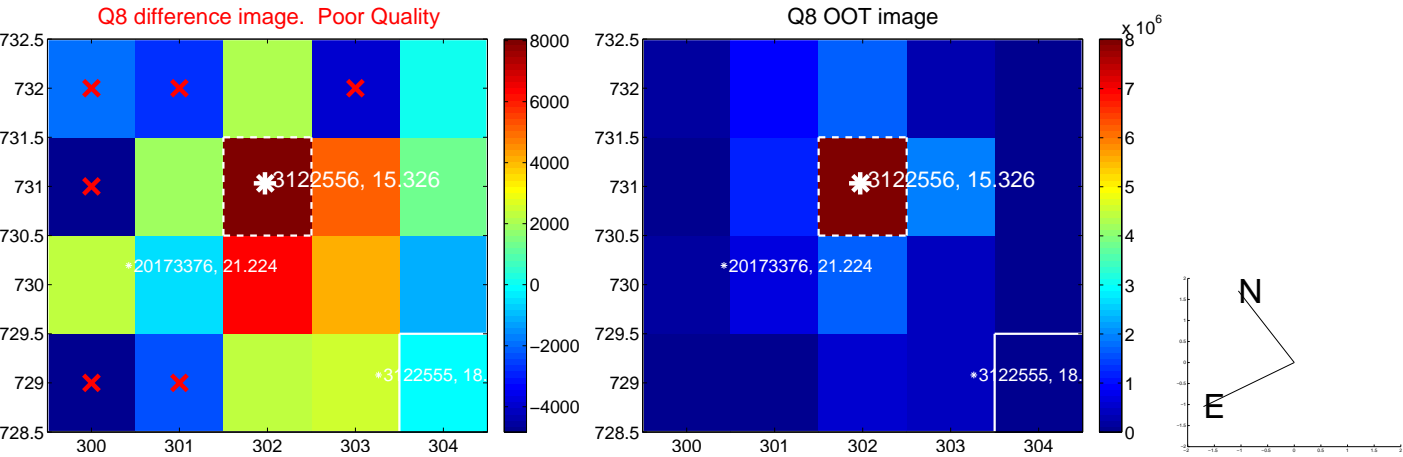
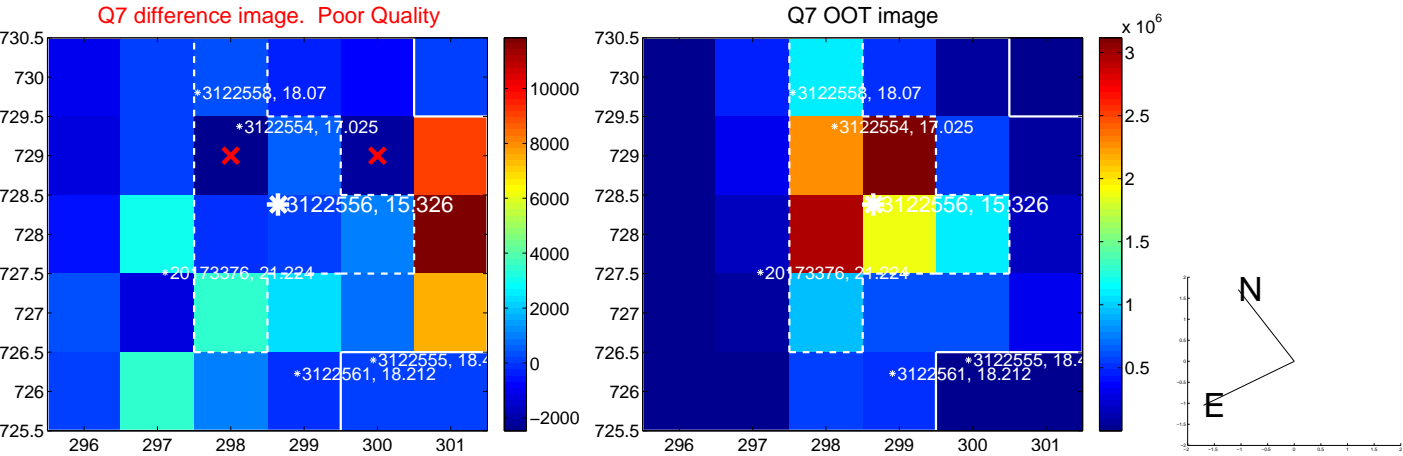
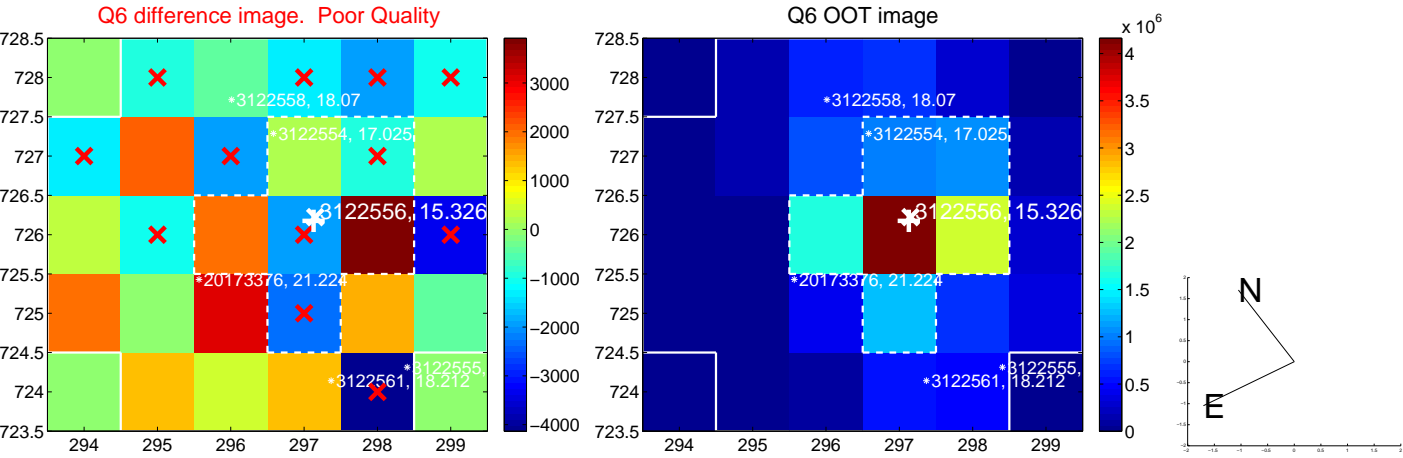
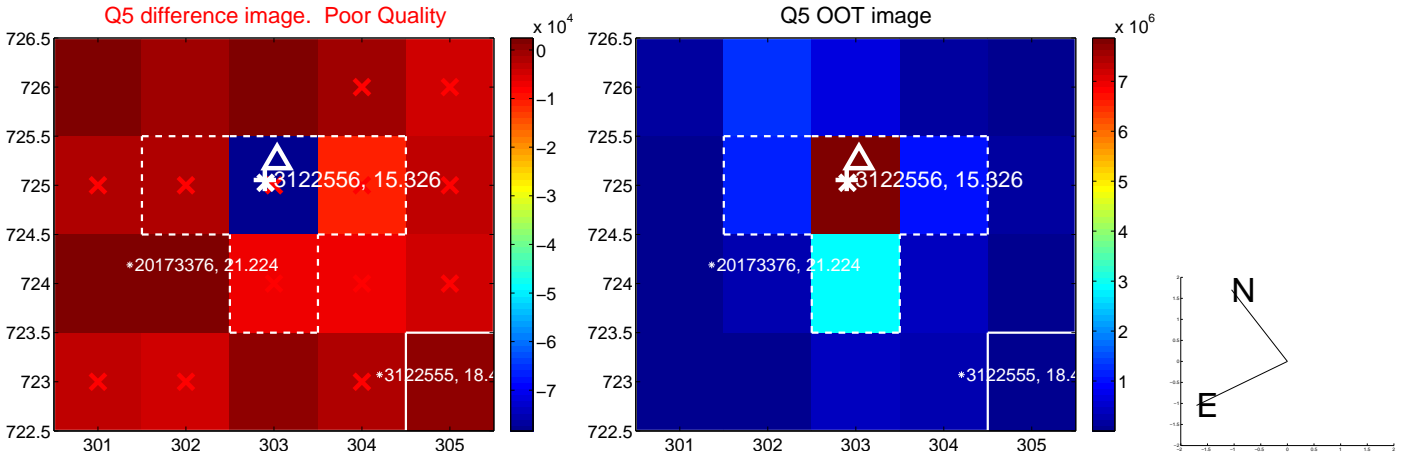


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

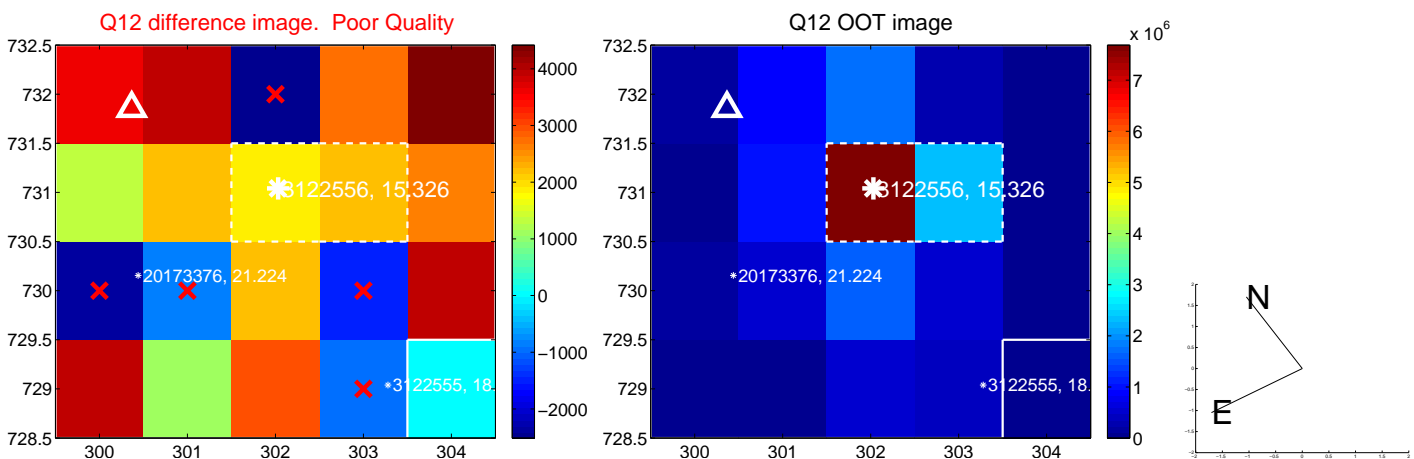
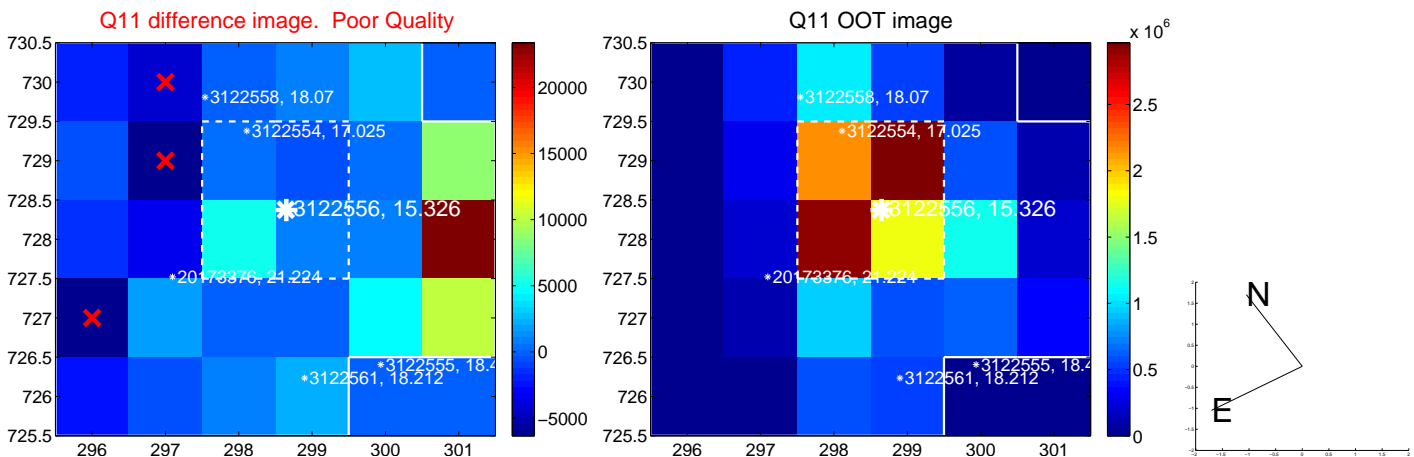
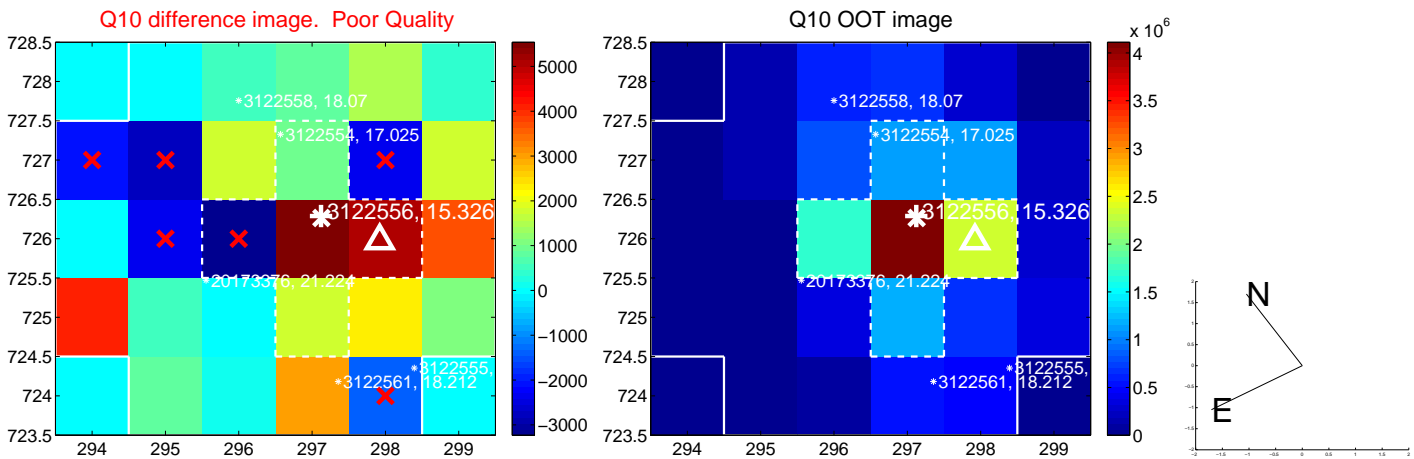
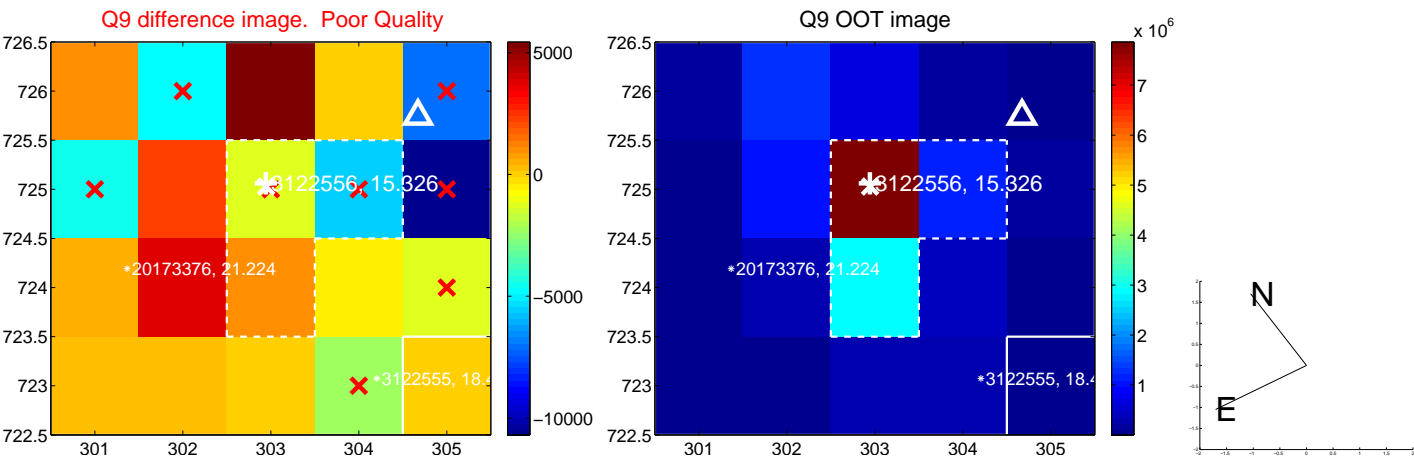
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



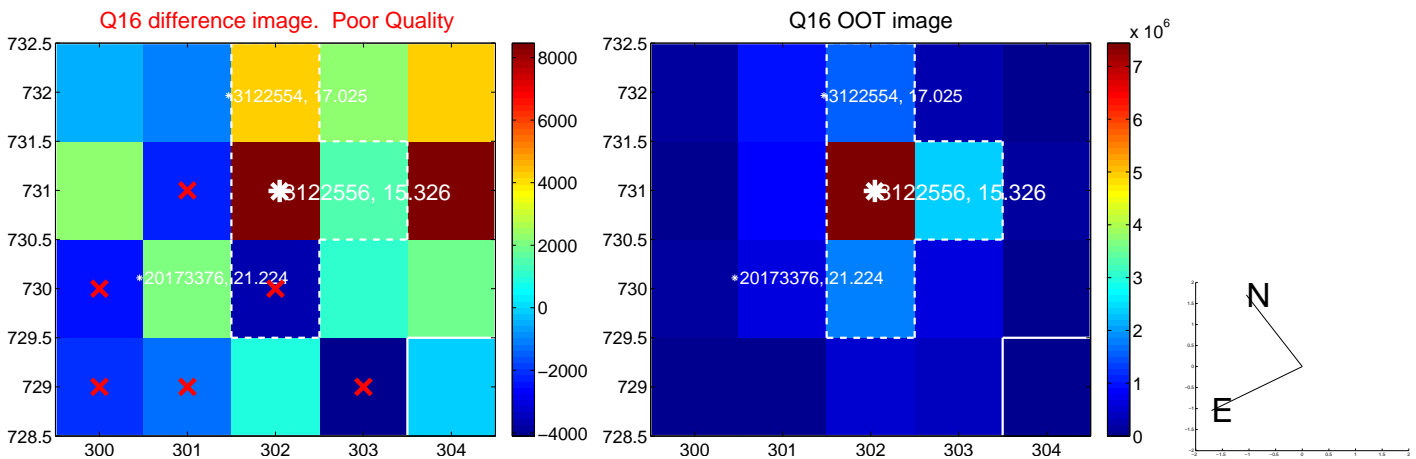
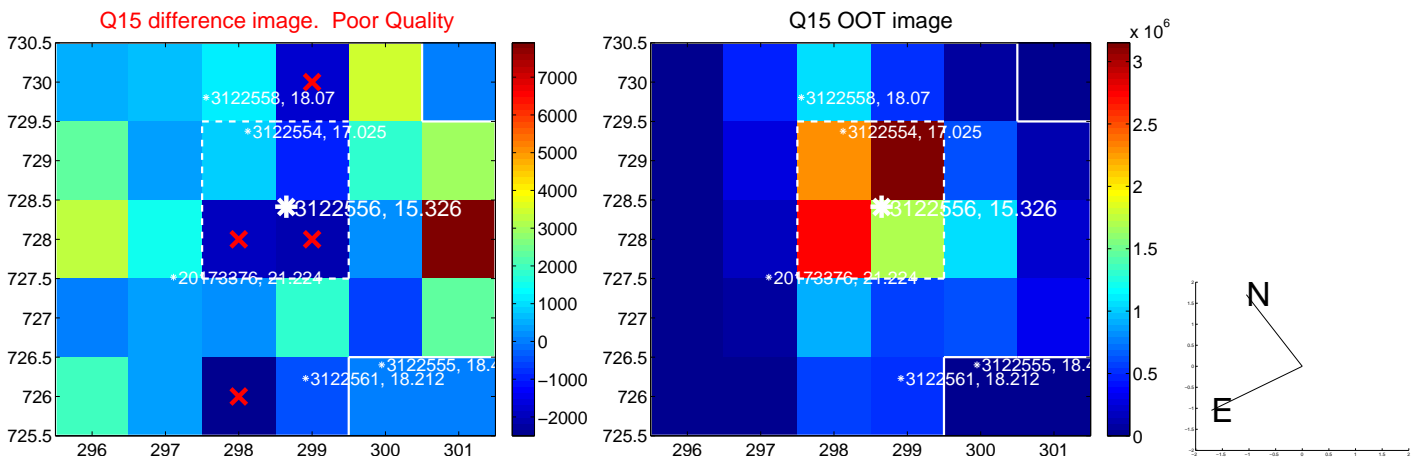
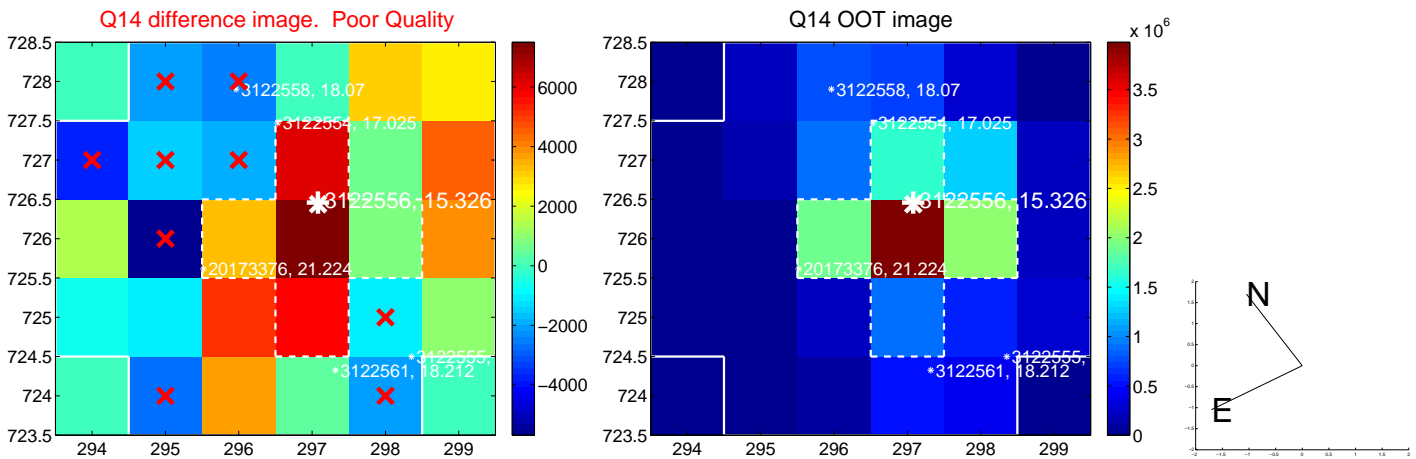
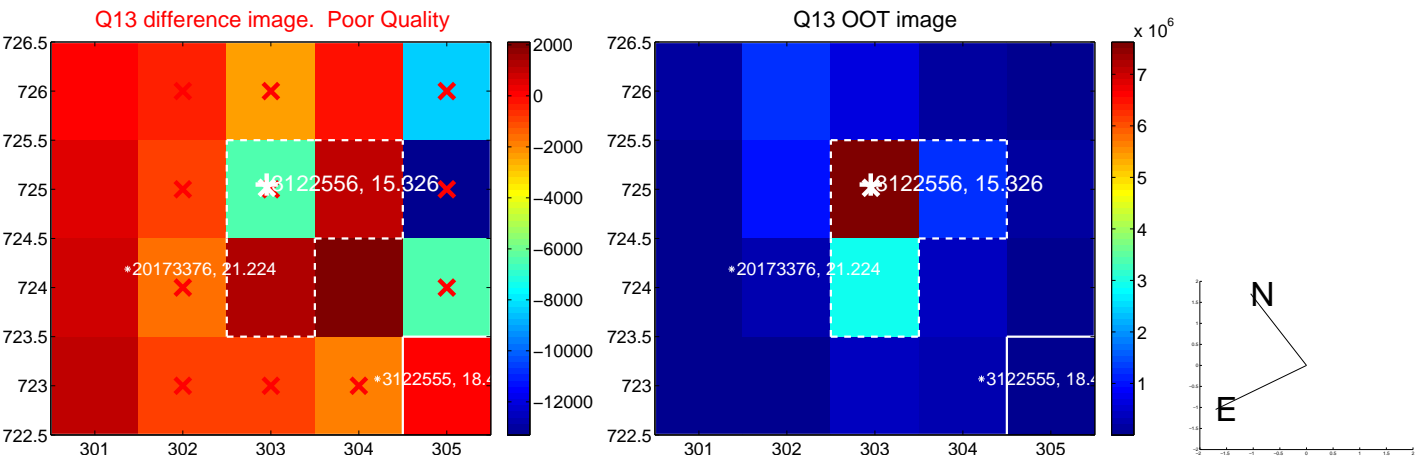
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



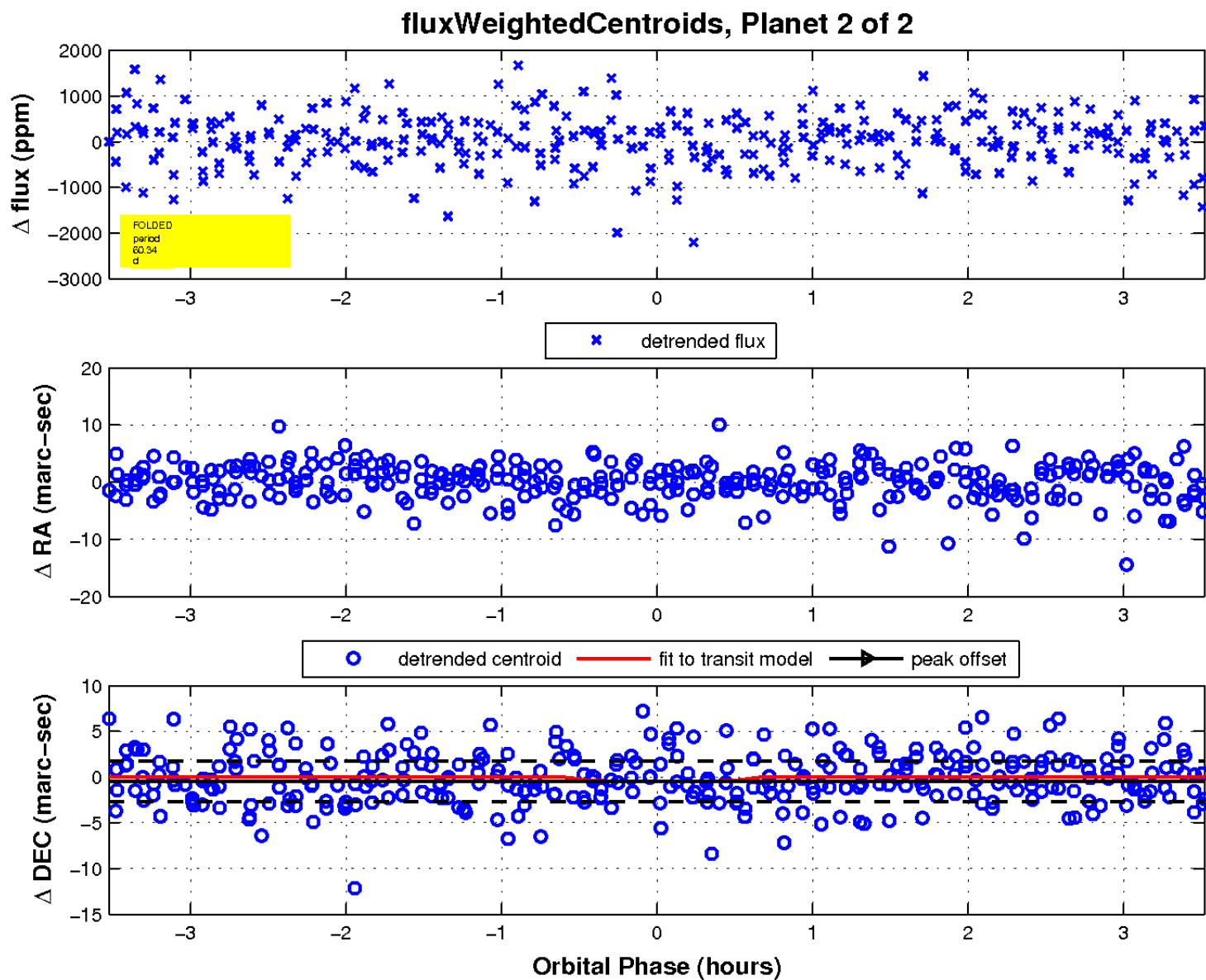
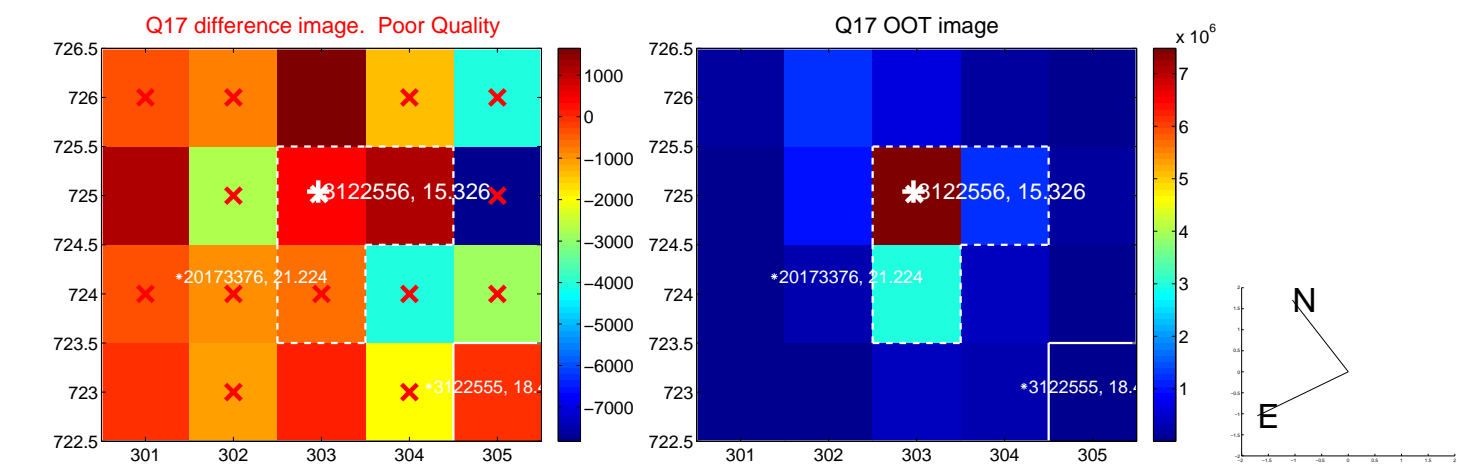
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

