

KIC 007199010

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})
007199010-01	OBS	No	0.566813	131.874847	2.6	0.626	128.4	0.1	0.76	5445	0.13	2852.48
007199010-02	OBS	No	0.566785	131.689633	654.0	3.345	32.8	65.2	0.76	5445	2.05	2852.67

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007199010-01	OBS	FP	0.00	1	0	0	1	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—EPHEM_MATCH
007199010-02	OBS	FP	0.00	1	0	0	1	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS—EPHEM_MATCH

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.

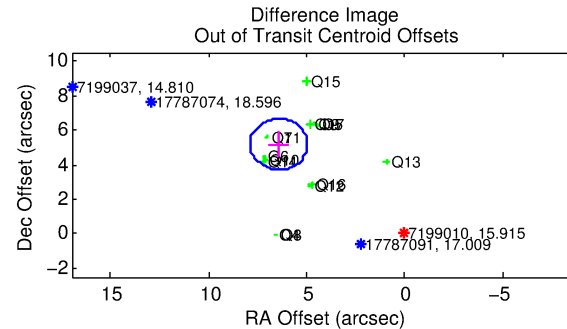
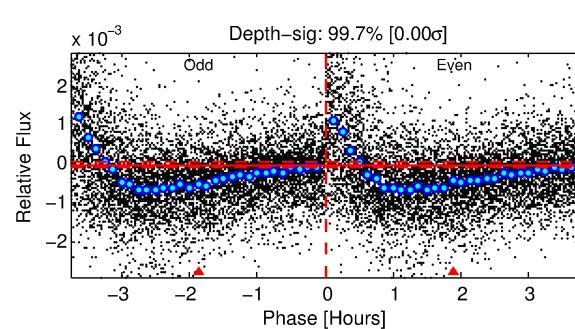
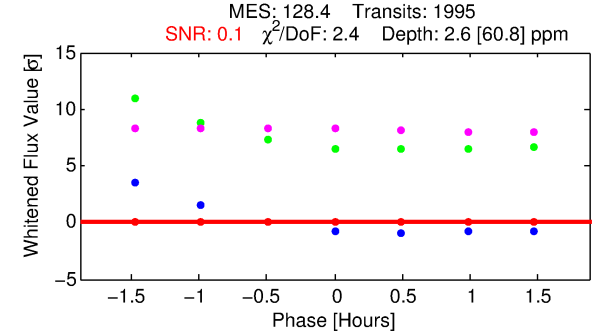
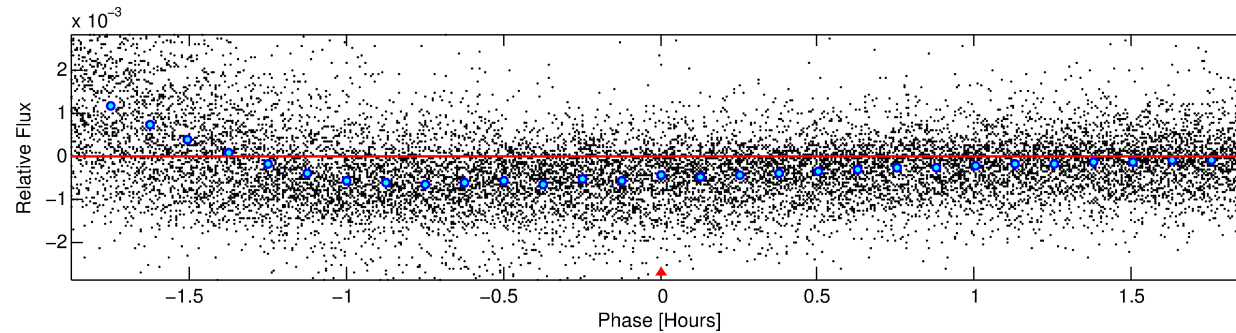
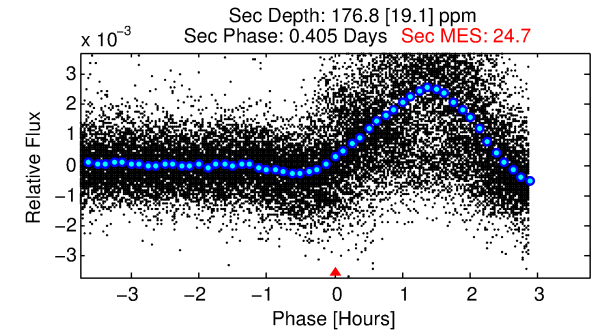
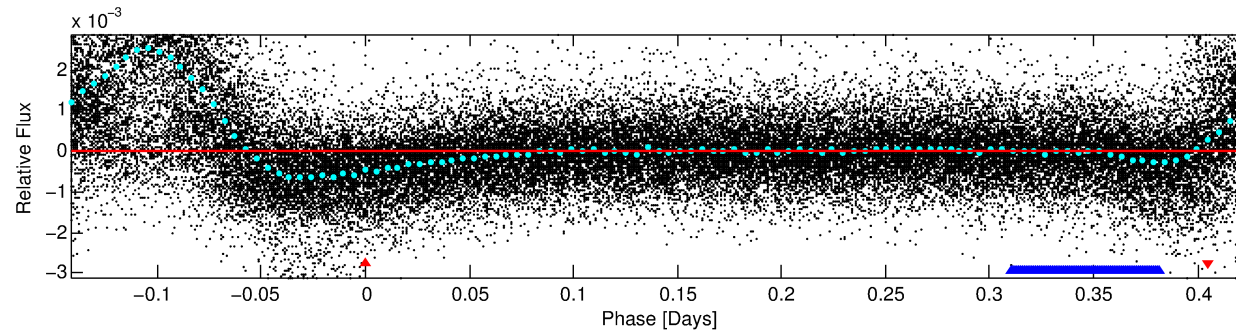
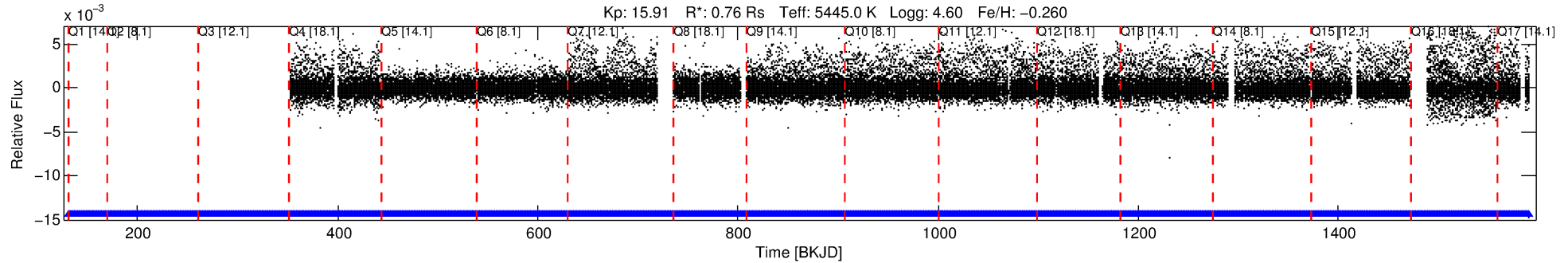
Ephemeris Match Information For 007199010-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
007199010-01	7199010	RR-Lyr-pri	7198959	1:1	63.5	15	-5	7.86	15.91	207770.00	Direct-PRF	0	2.99	20.83

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 7199010 Candidate: 1 of 2 Period: 0.567 d



DV Fit Results:

Period = 0.56681 [0.00167] d
Epoch = 131.8748 [0.1932] BKJD
Rp/R* = 0.0016 [0.0260]
a/R* = 5.58 [259.75]
b = 0.60 [50.91]
Seff = 2852.48 [791.83]
Teq = 1864 [129] K
Rp = 0.13 [2.16] Re
a = 0.0126 [0.0021] AU
Ag = 892.19 [29148.45] [0.03σ]
Teffp = 15747 [128619] K [0.11σ]

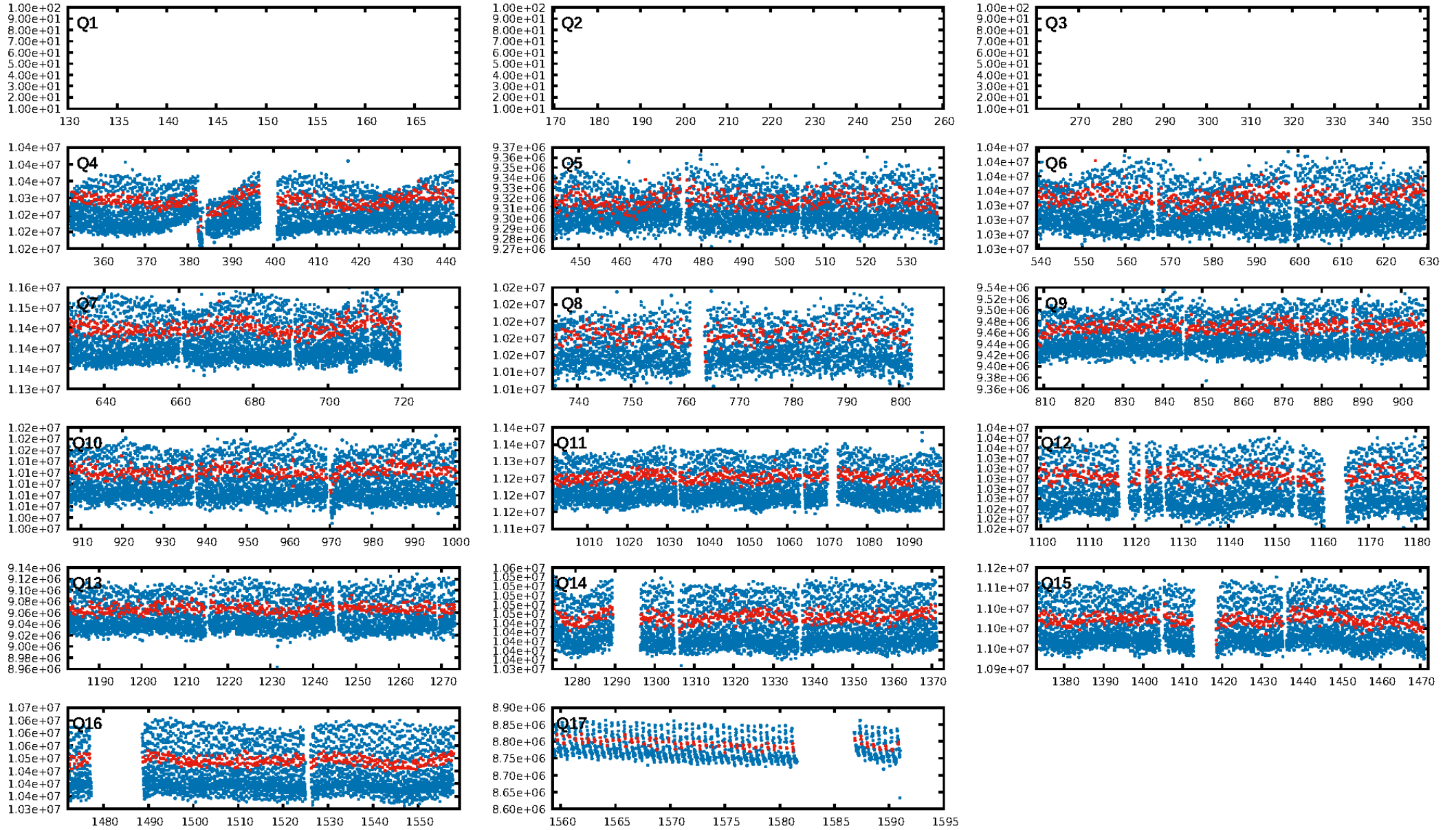
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1948/1948]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 8.256 arcsec [16.88σ]
KicOffset-rm: 1.535 arcsec [3.22σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 0.00 [0/14]
DiffImageOverlap-fno: 0.00 [0/14]

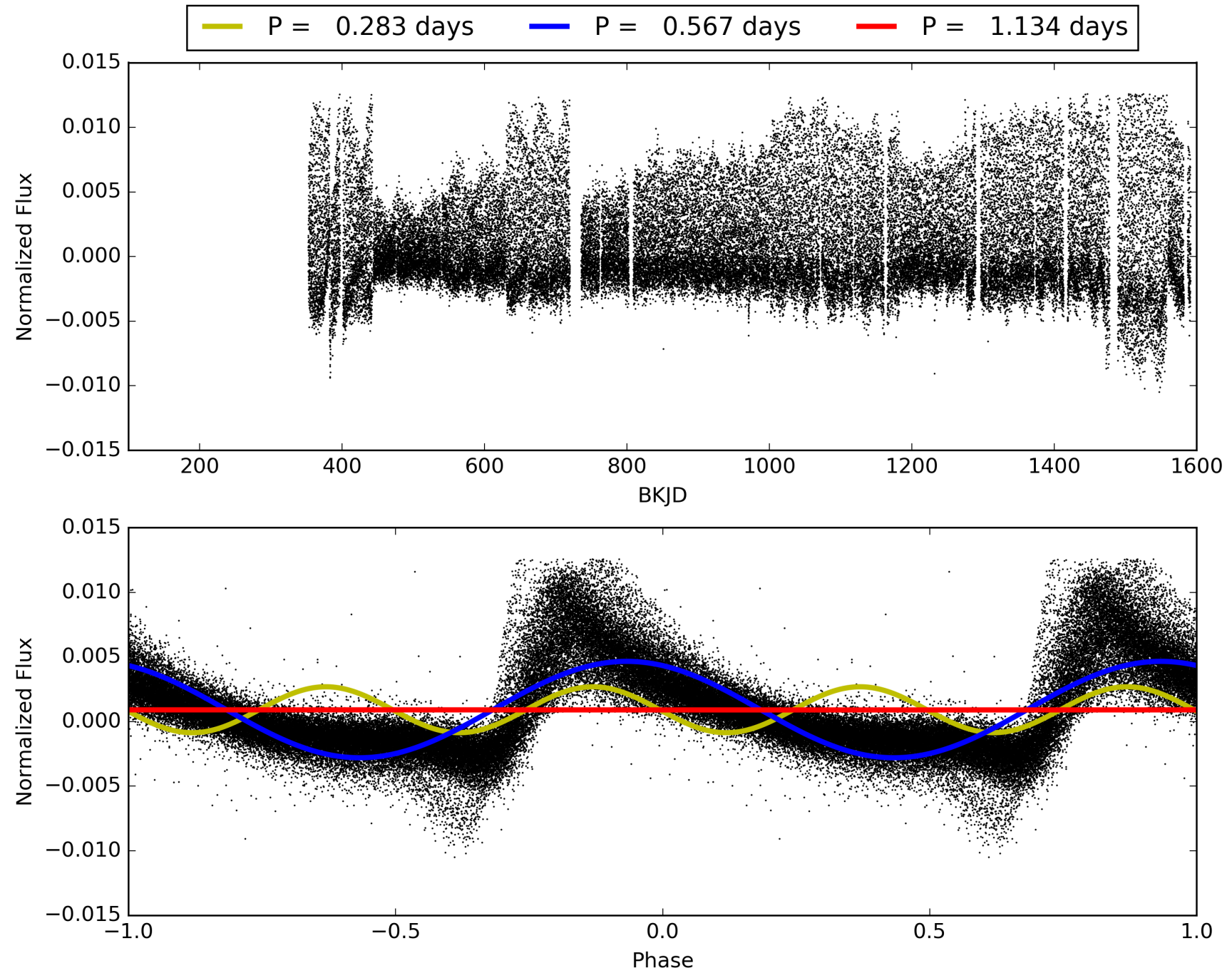
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:05:35 Z

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

TCE 007199010-01, PDC Light Curves

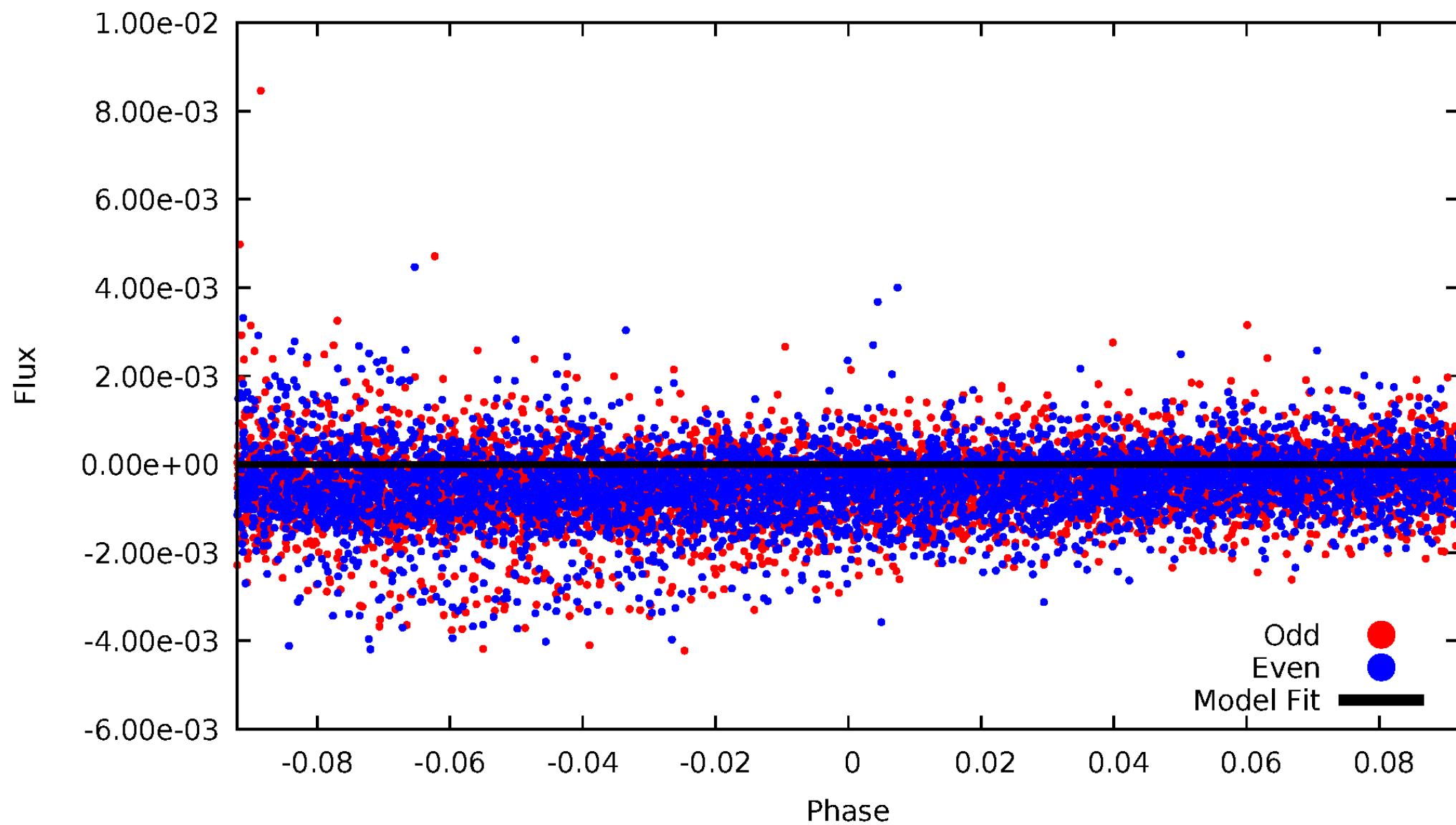


TCE 007199010-01



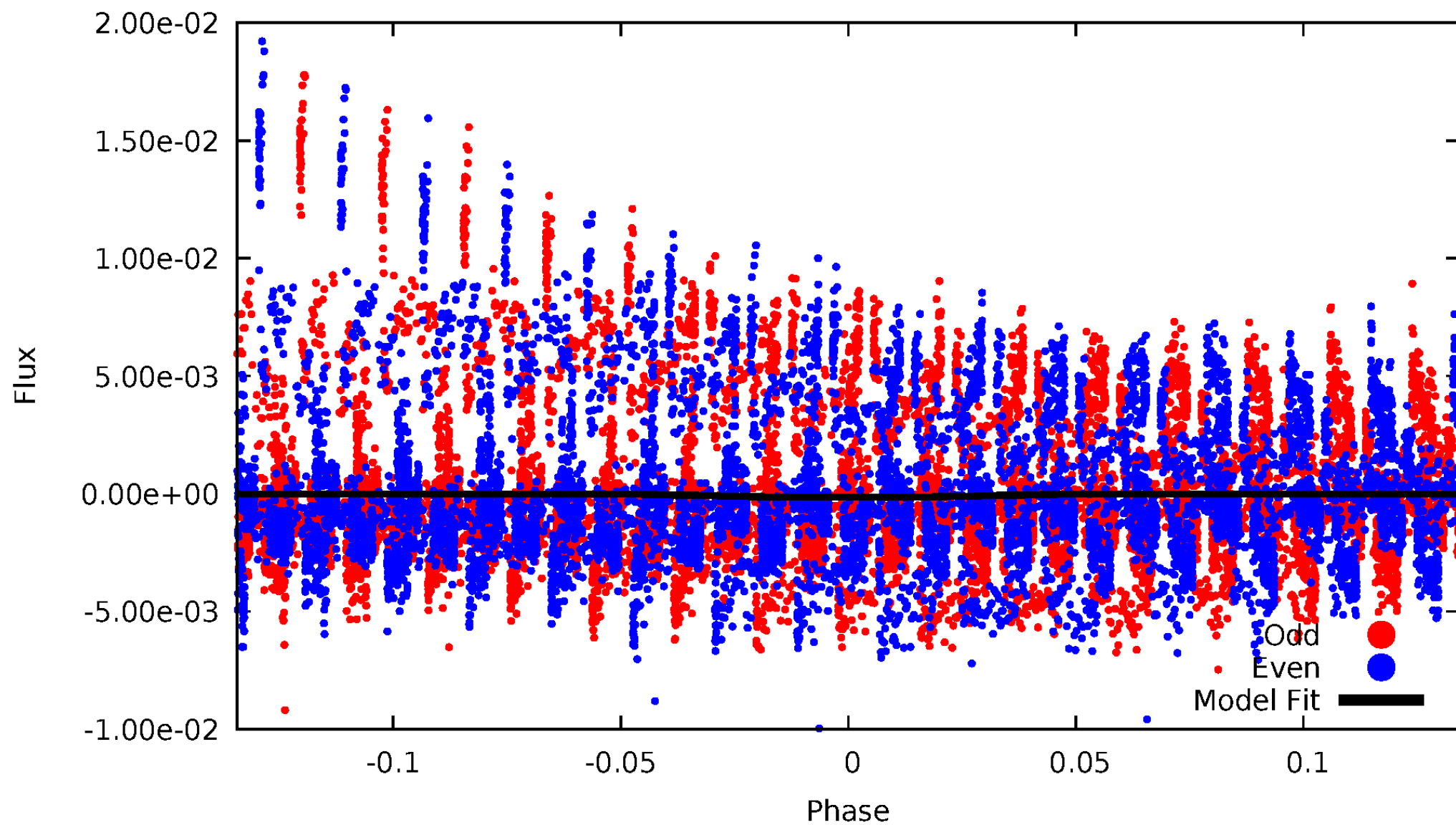
DV Odd/Even

TCE 007199010-01



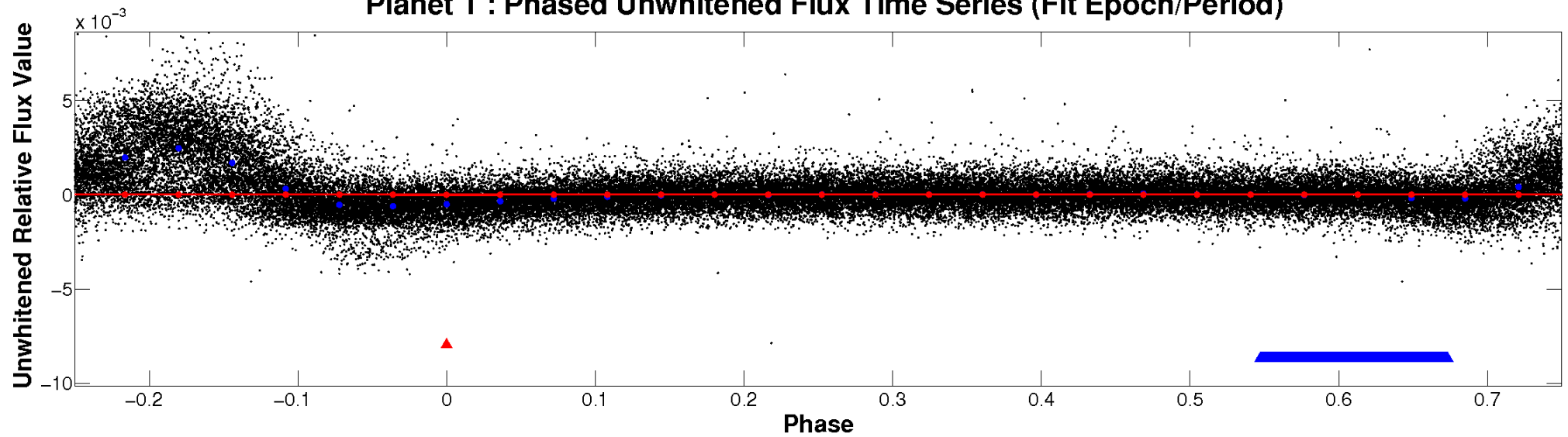
ALT Odd/Even

TCE 007199010-01

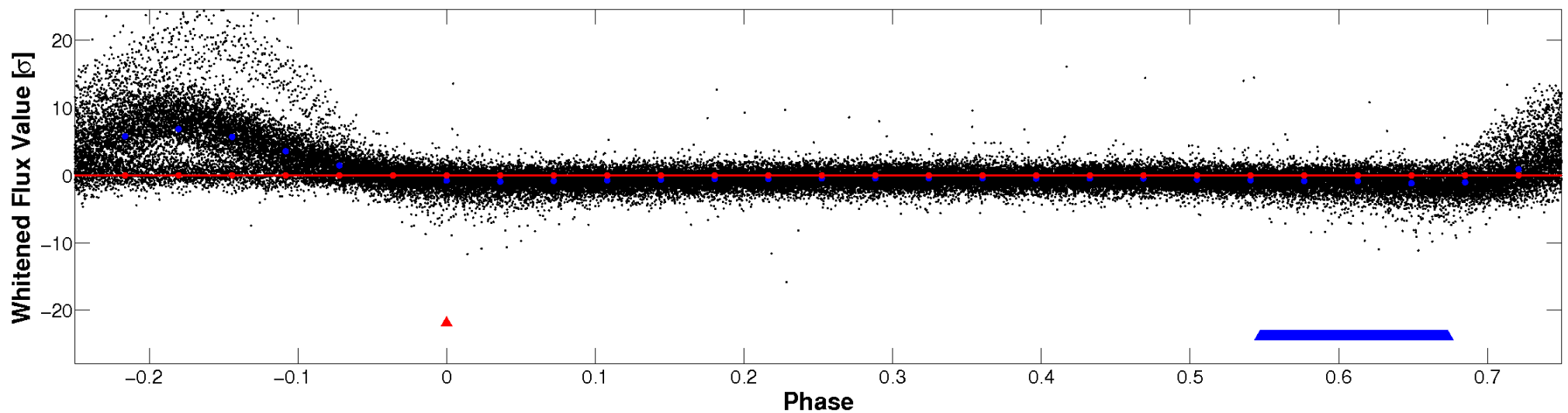


Non-Whitened Vs. Whitened Light Curve

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

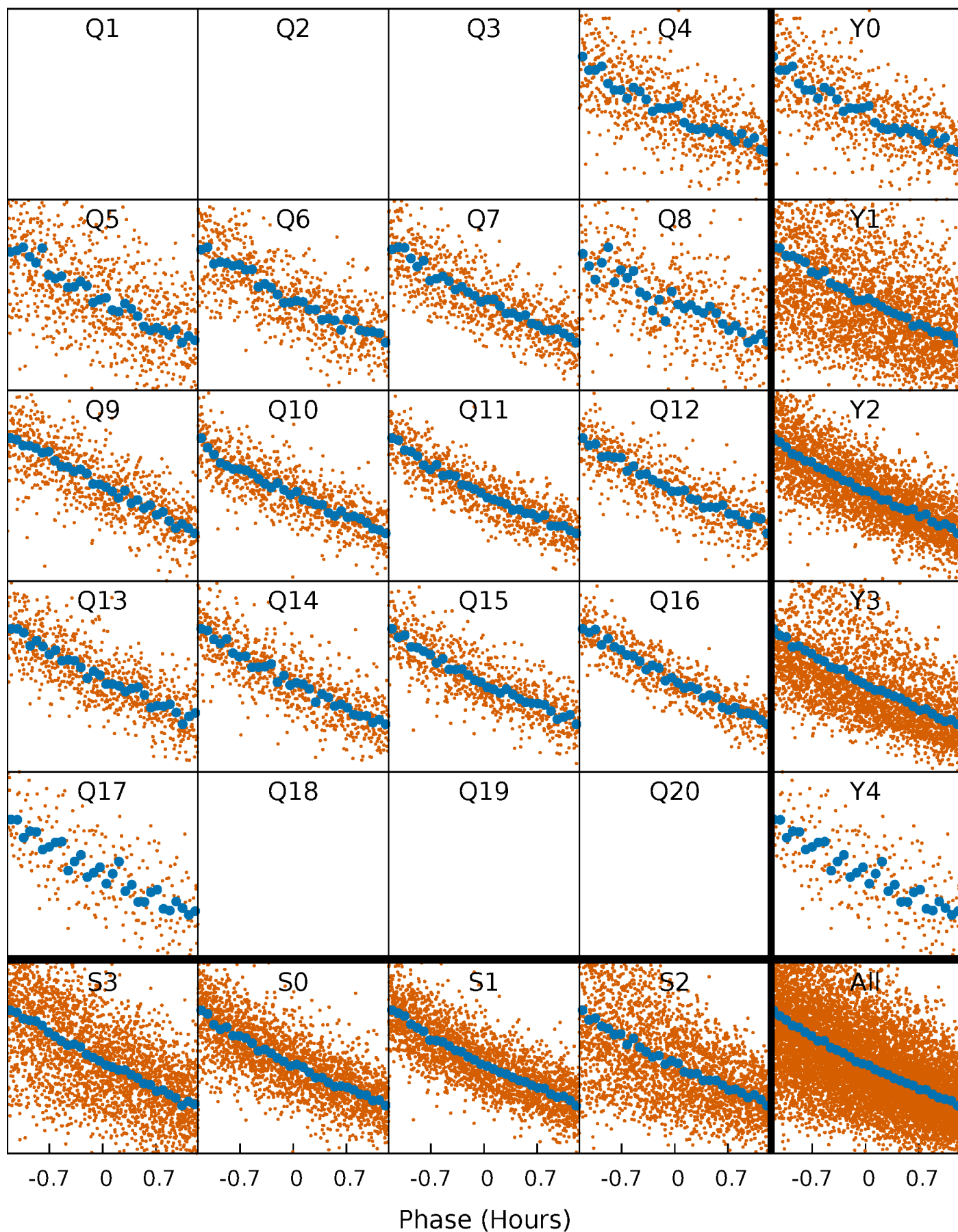


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



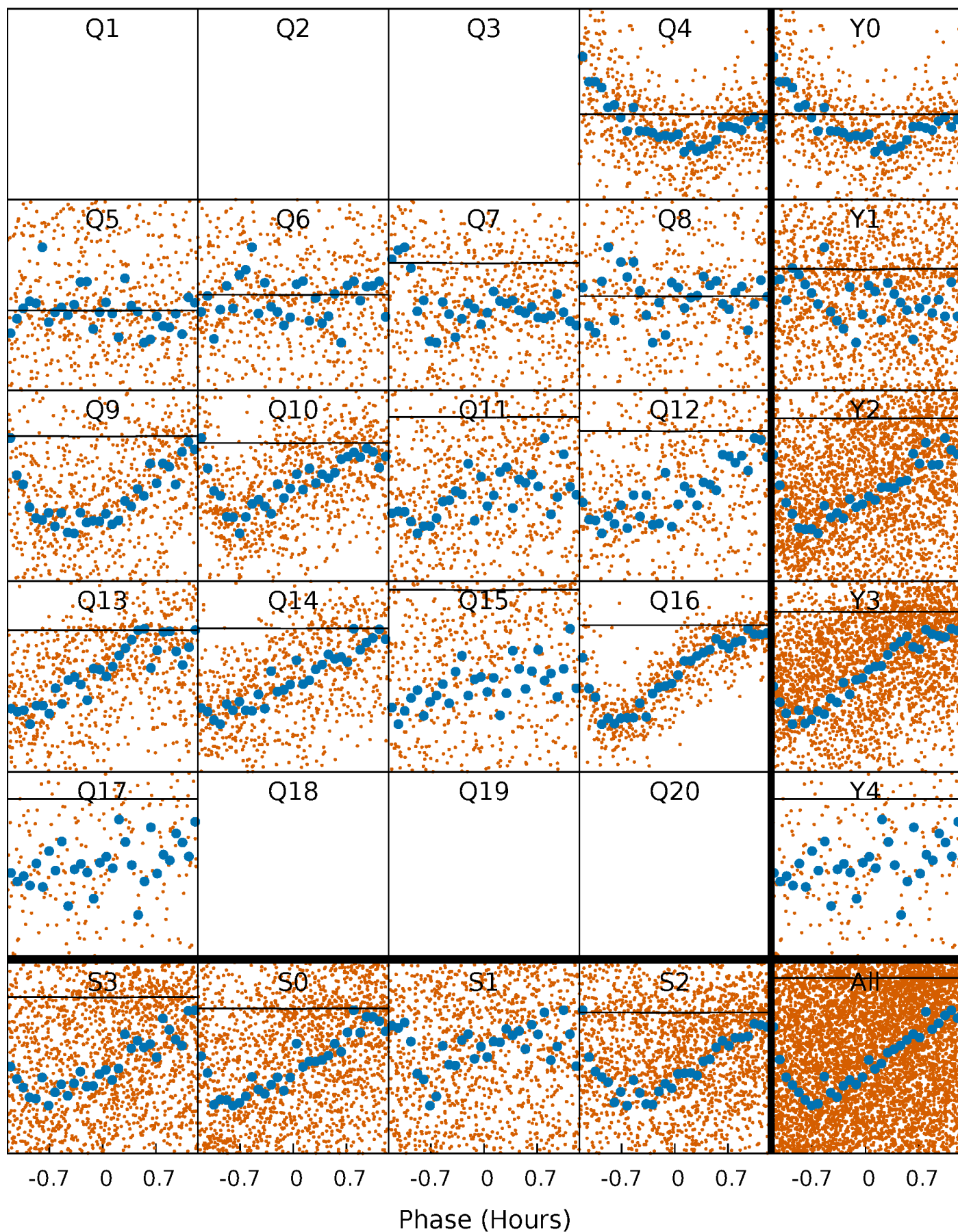
PDC Quarter-Phased Transit Curves

TCE 007199010-01 P= 0.566813 Days $T_0=131.874847$ (BKJD)



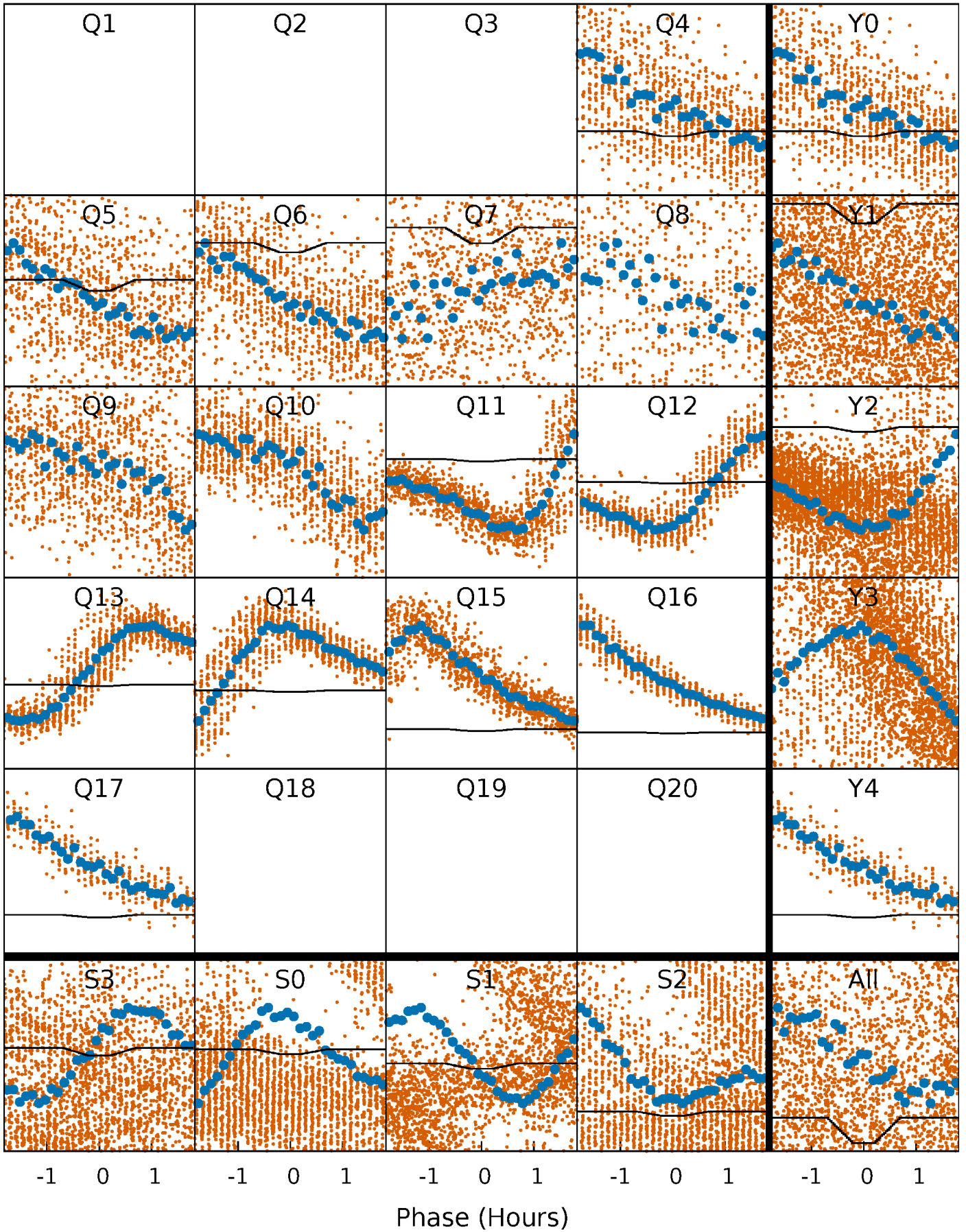
DV Quarter-Phased Transit Curves

TCE 007199010-01 P= 0.566813 Days $T_0=131.874847$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

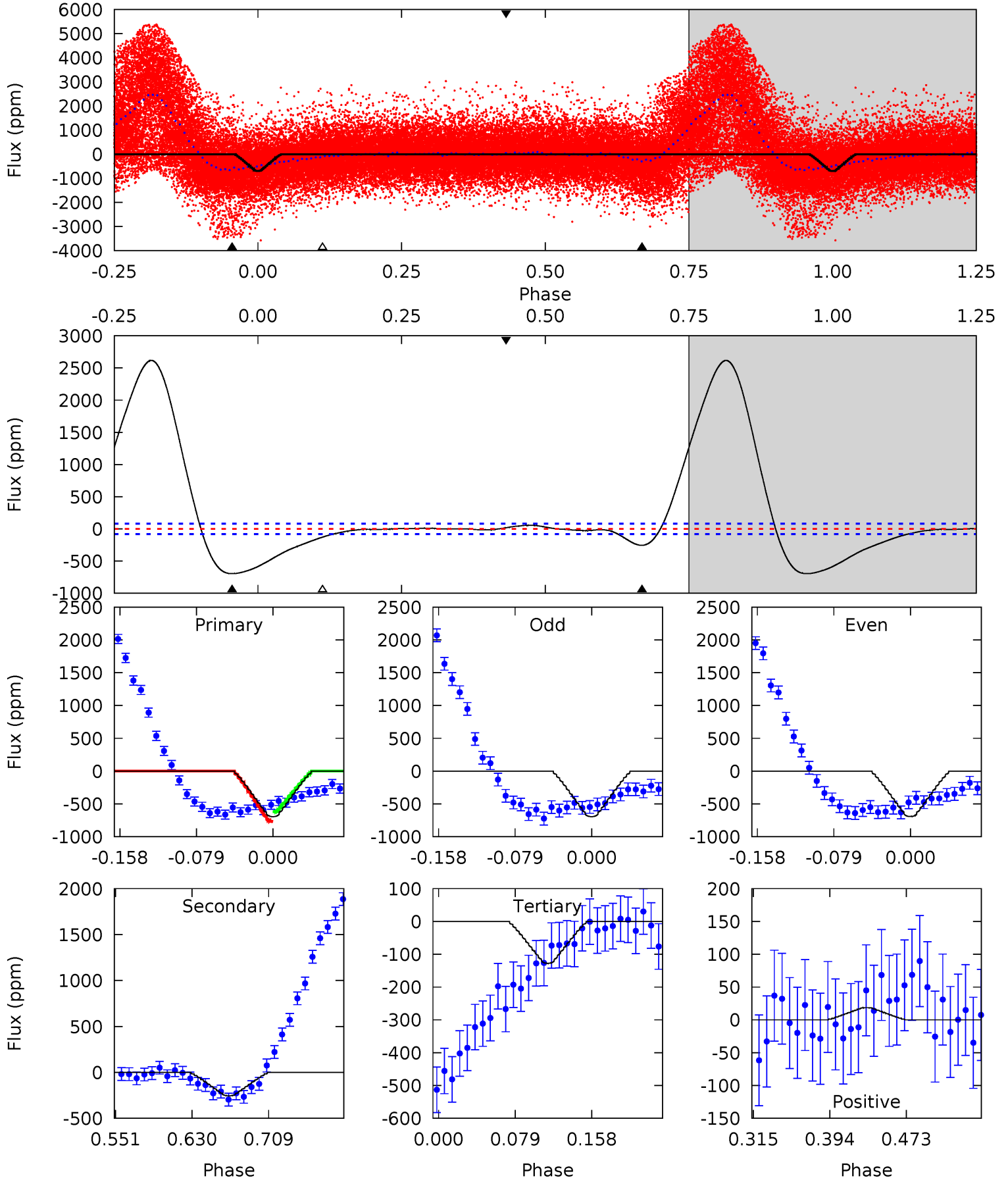
TCE 007199010-01 P= 0.567041 Days $T_0=131.862520$ (BKJD)



DV Model-Shift Uniqueness Test

007199010-01, P = 0.566813 Days, E = 131.874847 Days

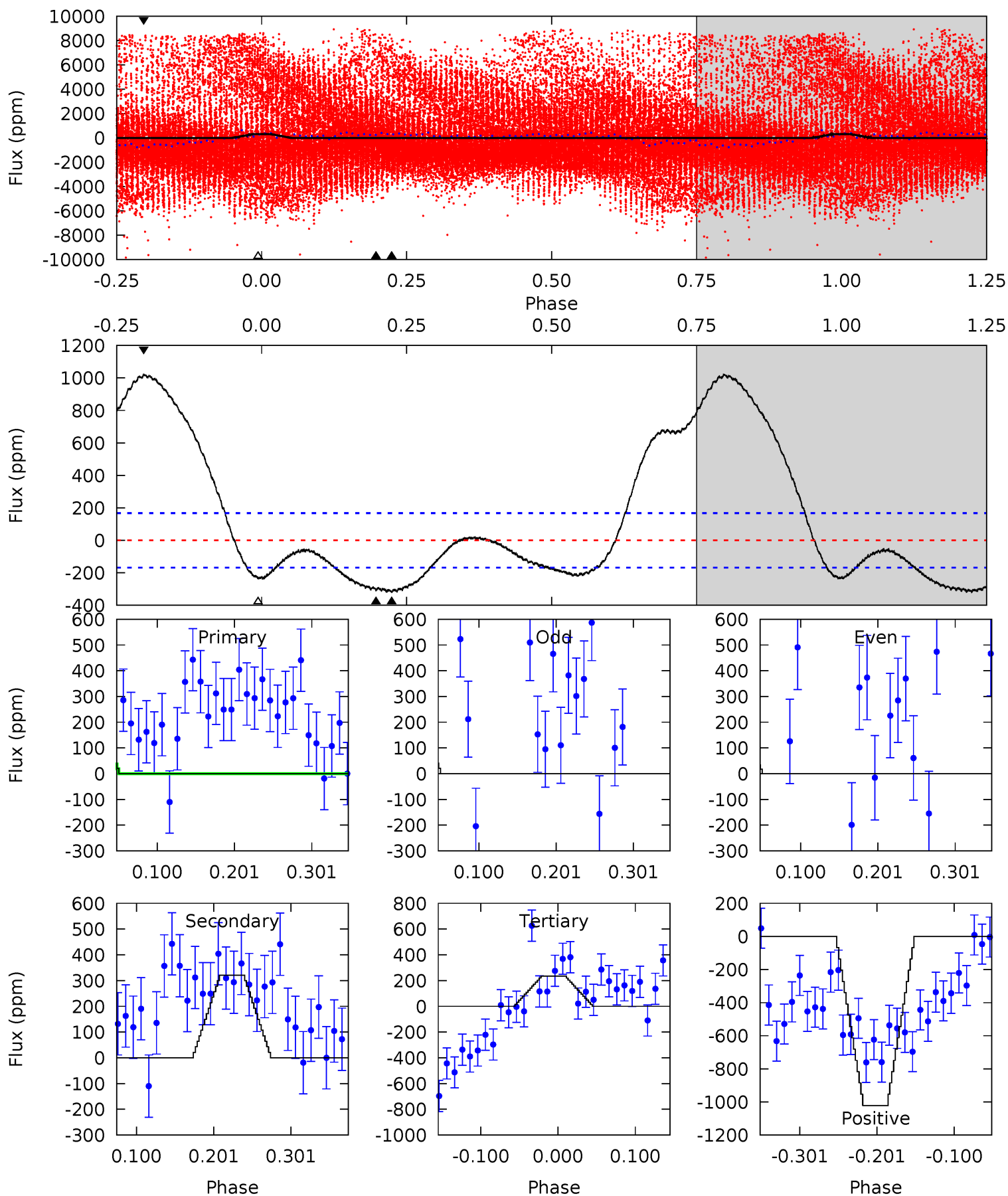
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.3	14.4	7.22	1.05	4.61	1.76	46.1	32.1	38.3	7.20	13.4	0.06	1.10	0.79	3.66



Alt Model-Shift Uniqueness Test

007199010-01, P = 0.567041 Days, E = 131.862520 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.40	8.73	6.39	27.8	4.56	1.64	11.3	2.02	-19.4	2.34	-19.1	0.70	-0.60	0.76	0.17



Stellar Parameters For KIC 007199010

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5445^{+189}_{-189}	$4.599^{+0.032}_{-0.128}$	$-0.260^{+0.300}_{-0.300}$	$0.761^{+0.158}_{-0.068}$	$0.846^{+0.088}_{-0.098}$	$2.700^{+0.475}_{-1.042}$
	+3%/-3%	+1%/-3%	+115%/-115%	+21%/-9%	+10%/-12%	+18%/-39%
Source	KIC0	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 007199010-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-255 ± 18	$1.53^{+1.59}_{-1.08}$	2653^{+139}_{-121}	5203^{+4841}_{-1349}	$9.568^{+98.843}_{-7.224}$
Alt.	-321 ± 37	$2.07^{+1.93}_{-1.37}$	2669^{+134}_{-124}	4761^{+3461}_{-1105}	$6.437^{+50.191}_{-4.719}$

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 $A_{obs} \gg 1.0$

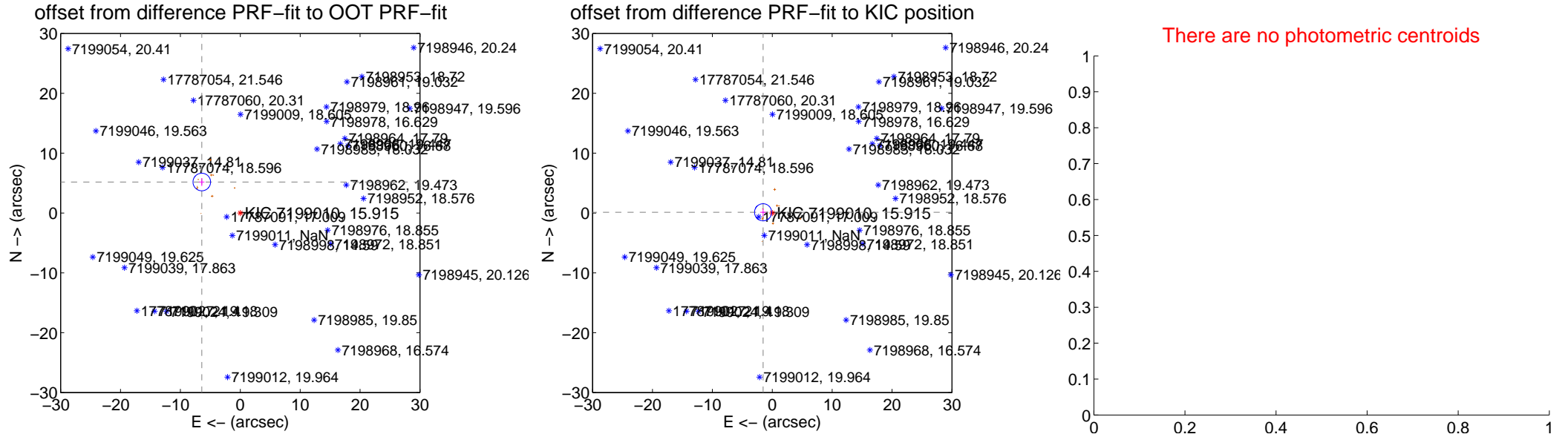
DV Centroid Data

Supplemental centroid analysis for 007199010-01. Kepler magnitude: 15.91. Transit SNR 0.11

There are 0 quarters with good PRF difference image offsets

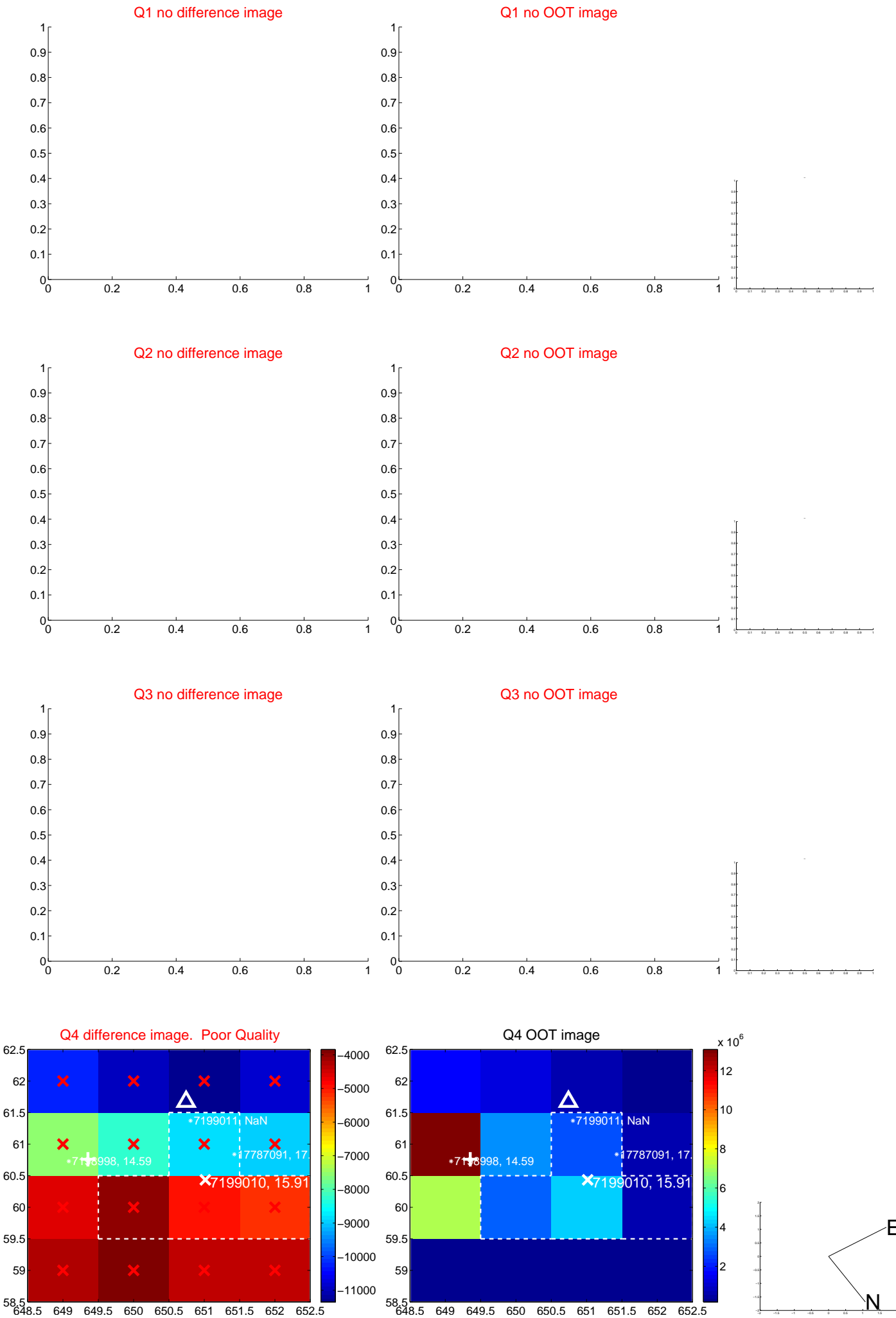
The OOT PRF centroid is offset from the target star catalog position by about 7.60 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.256 \pm 0.489	16.88	6.429 \pm 0.444	5.179 \pm 0.665
PRF-fit source offset from KIC position	1.535 \pm 0.476	3.22	1.530 \pm 0.493	0.122 \pm 0.629
photometric centroid source offset	—	—	—	—

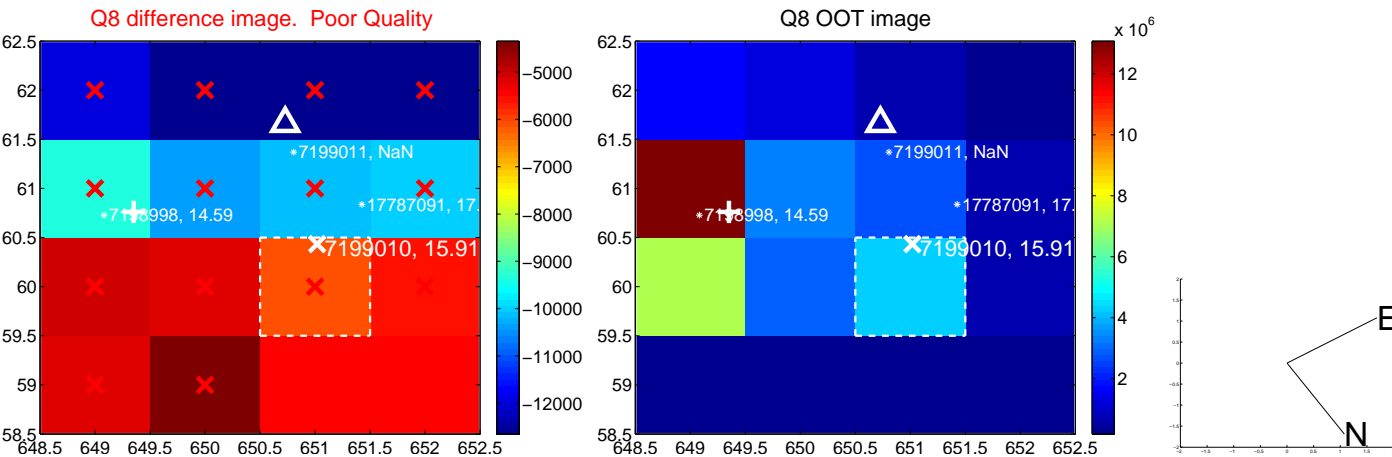
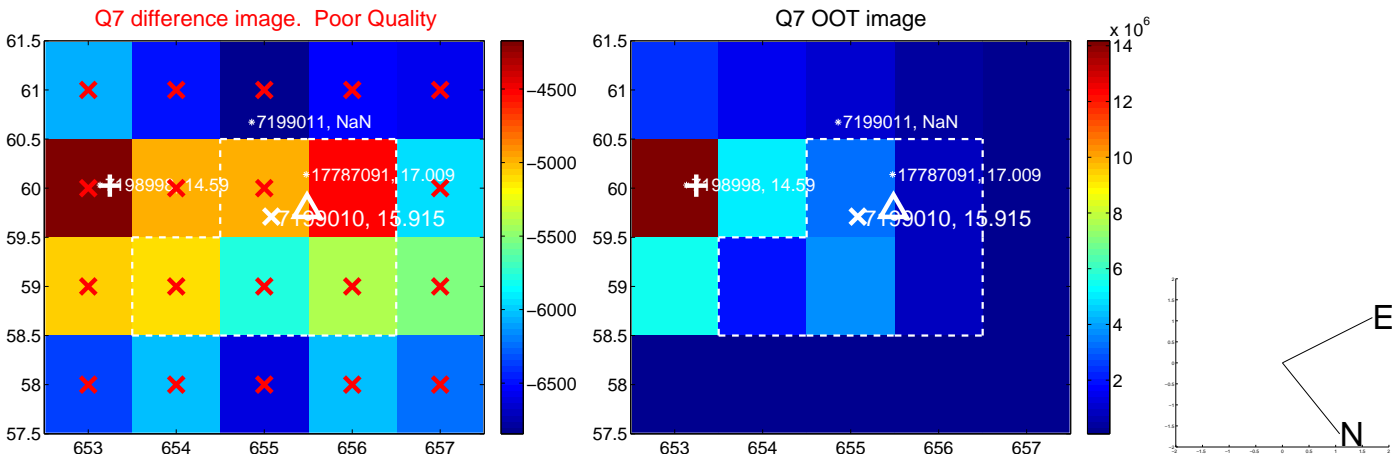
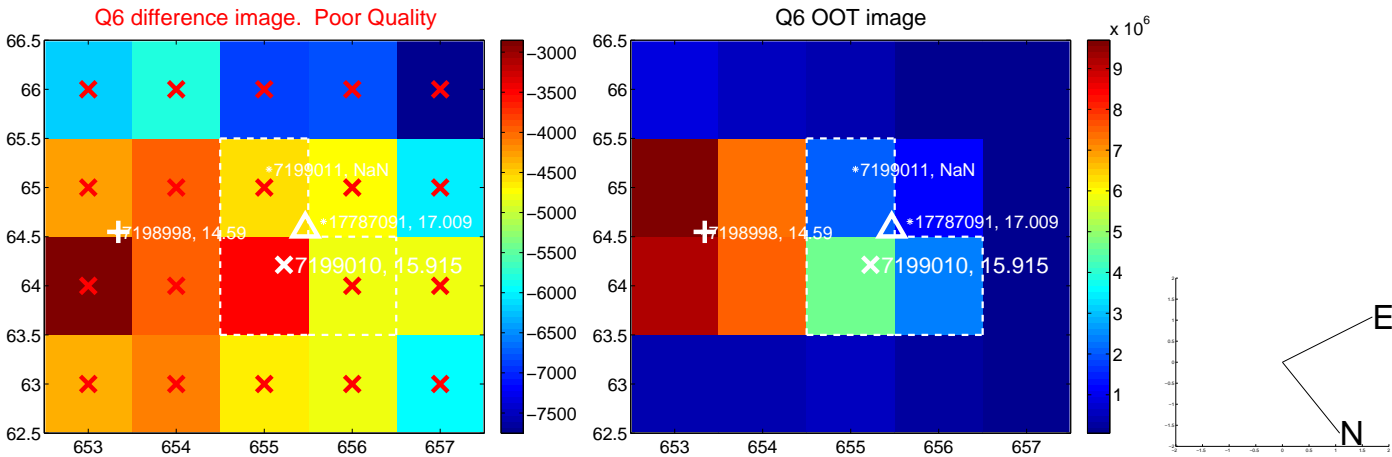
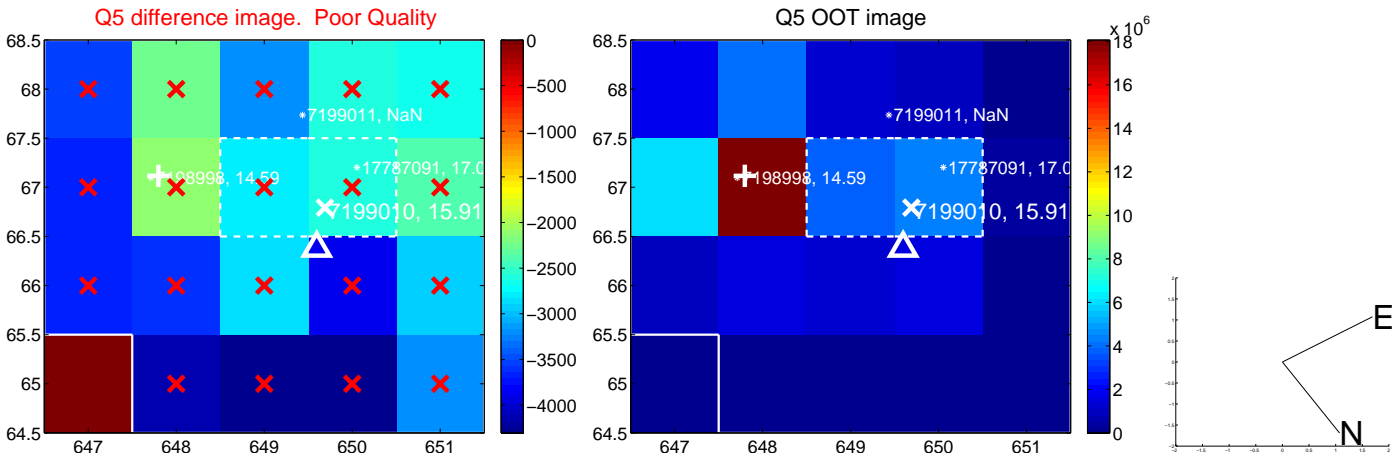


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

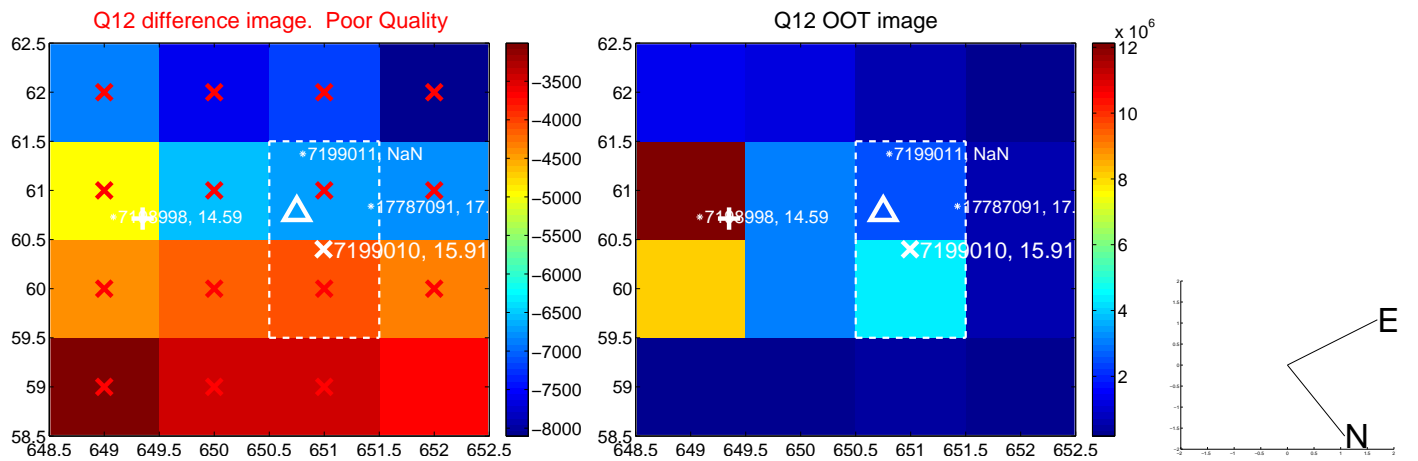
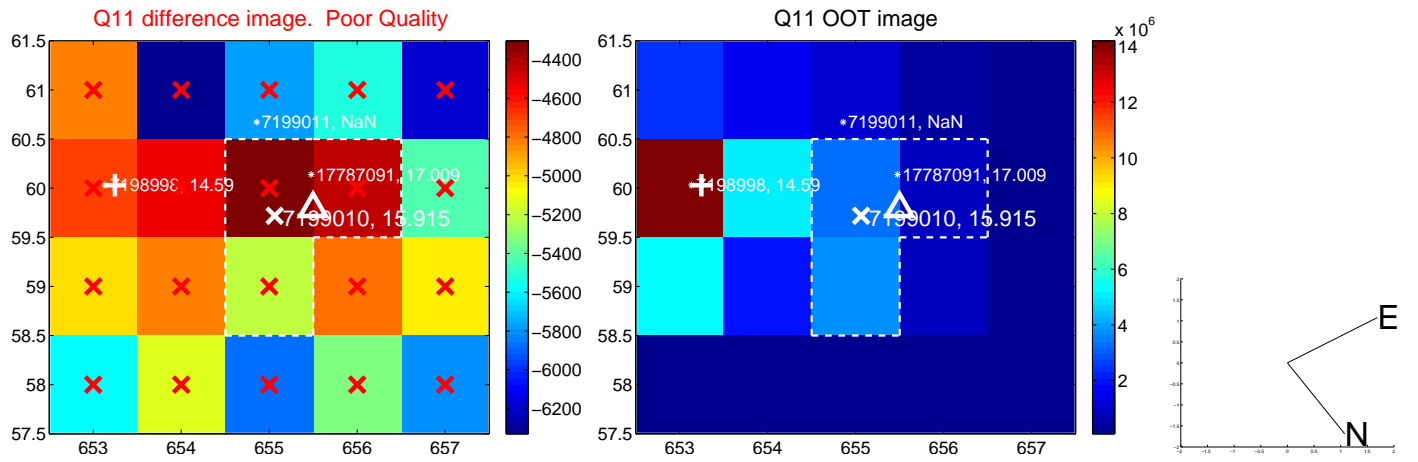
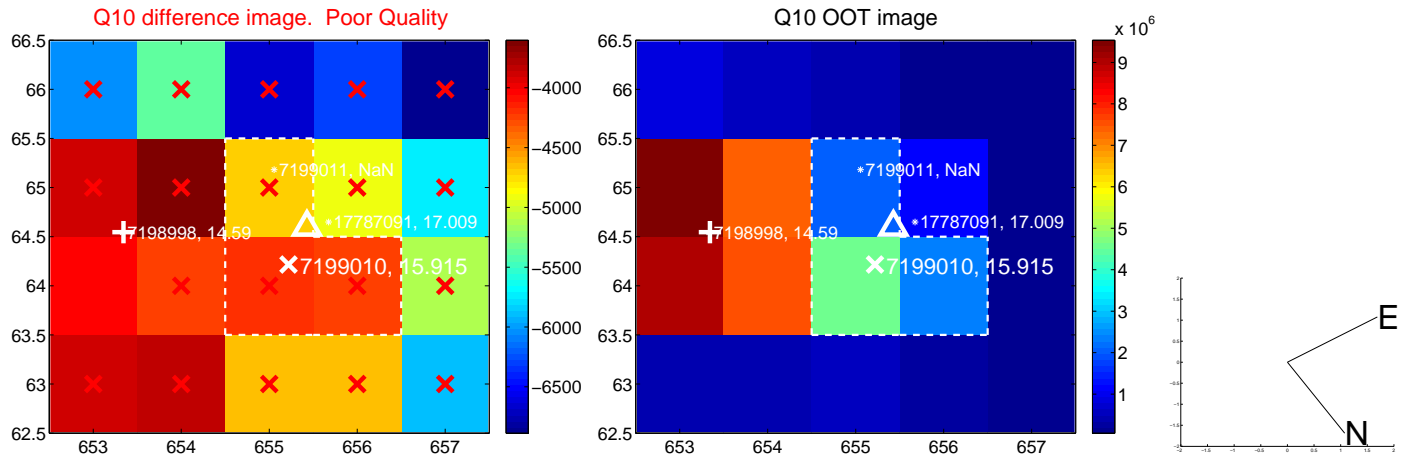
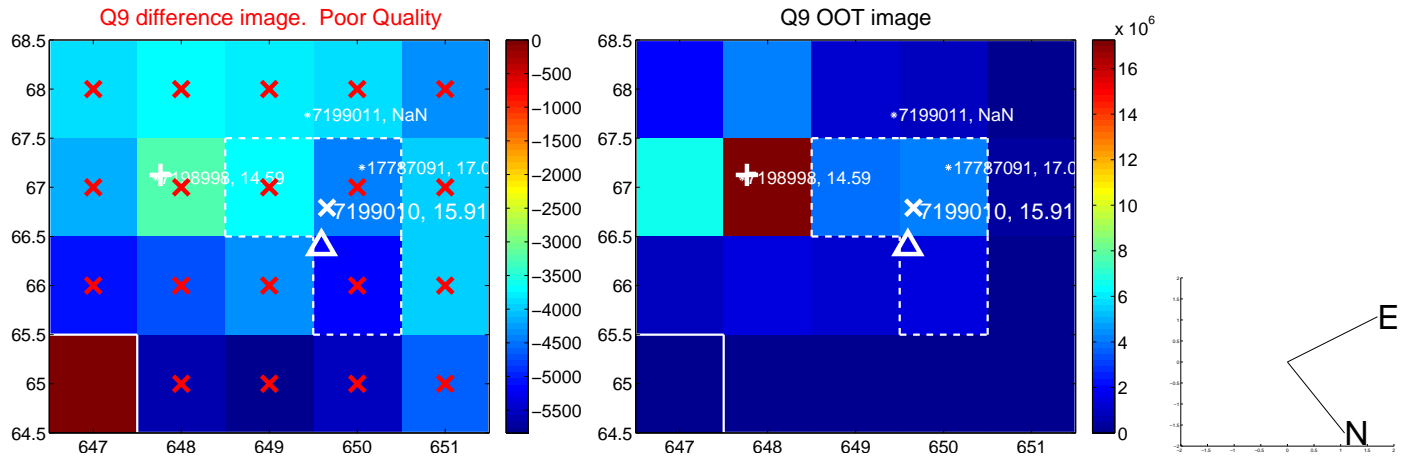
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



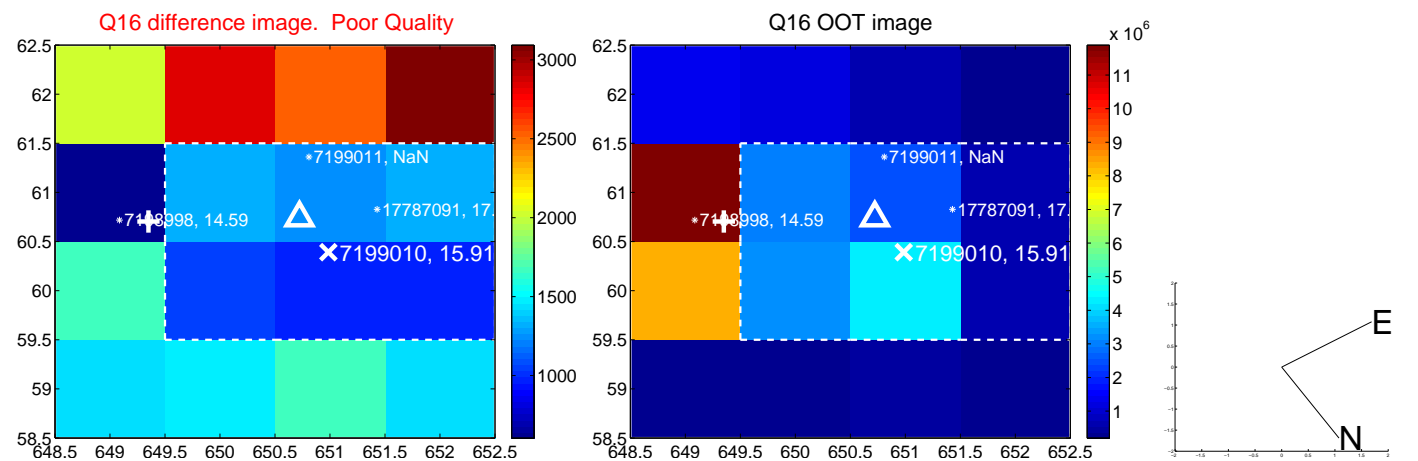
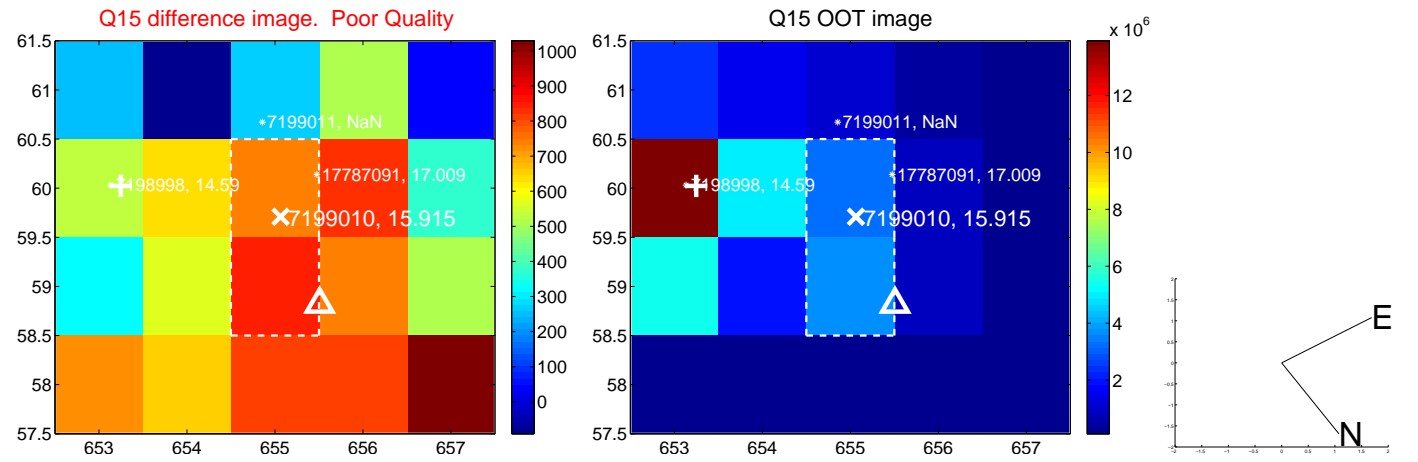
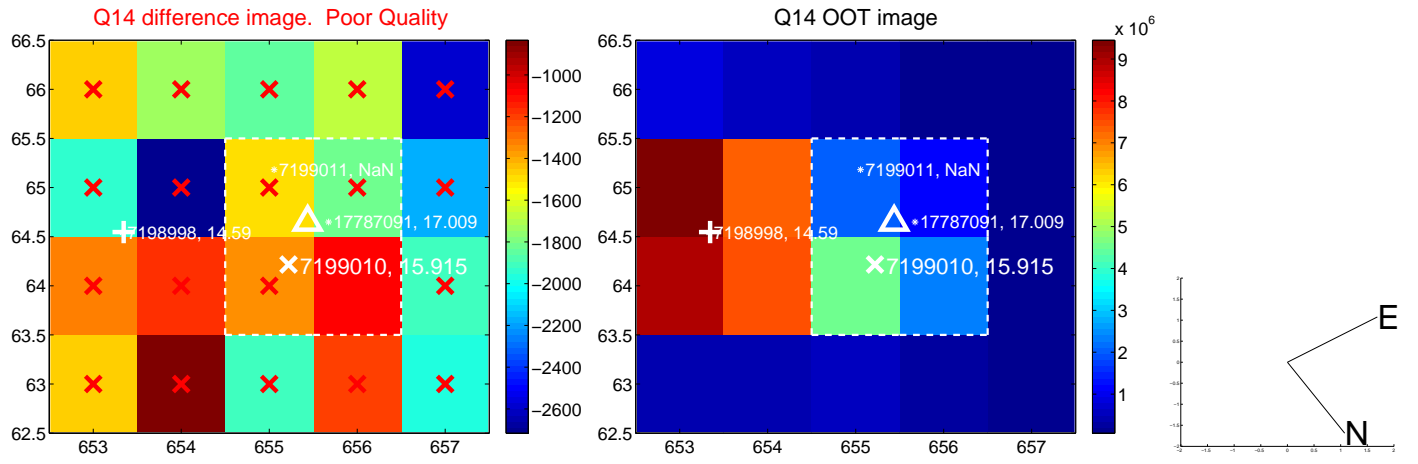
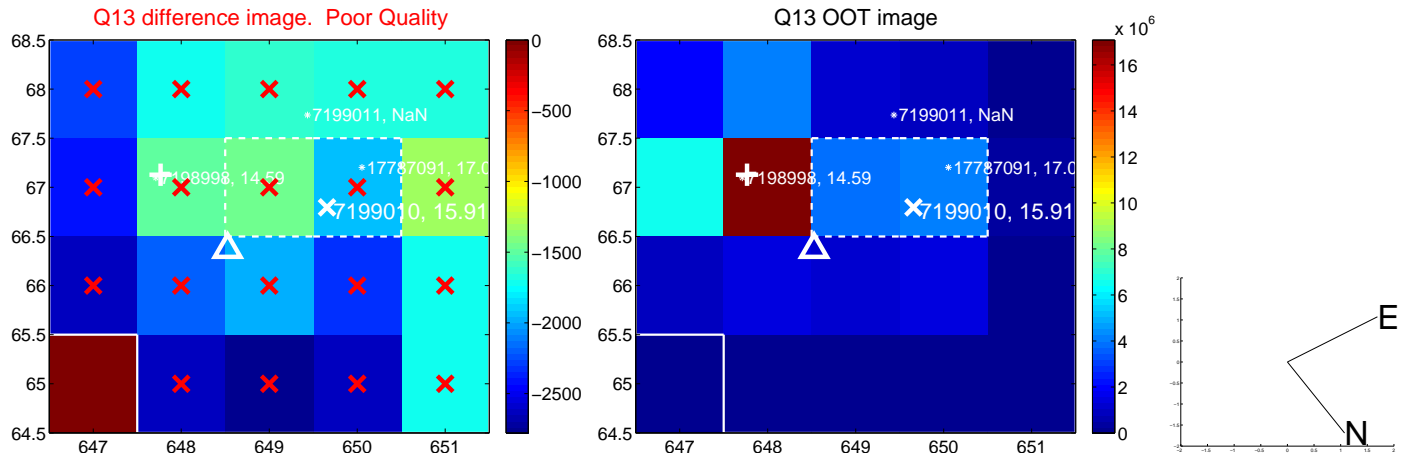
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



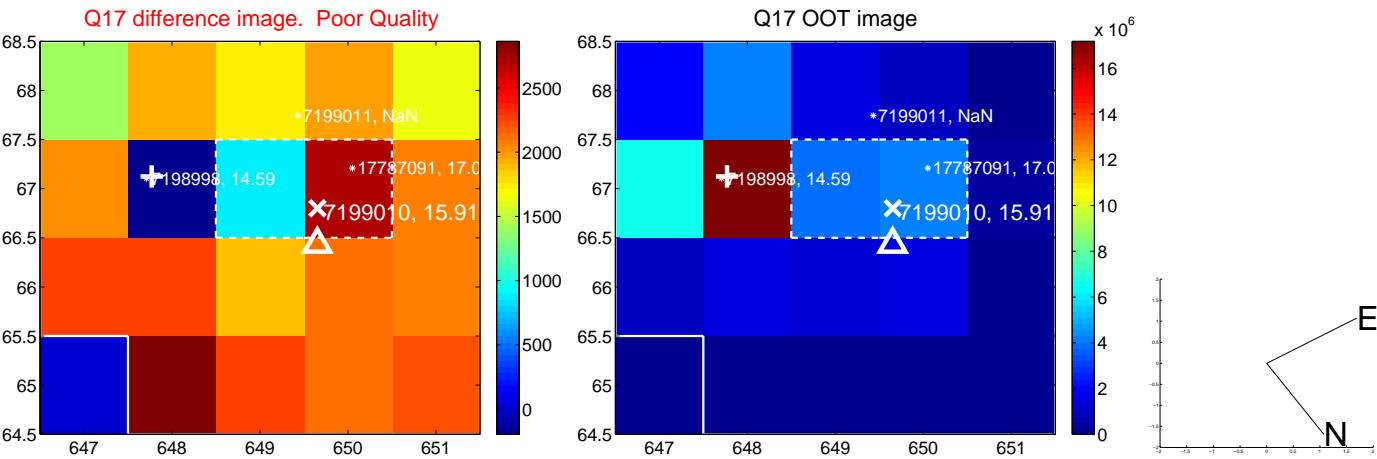
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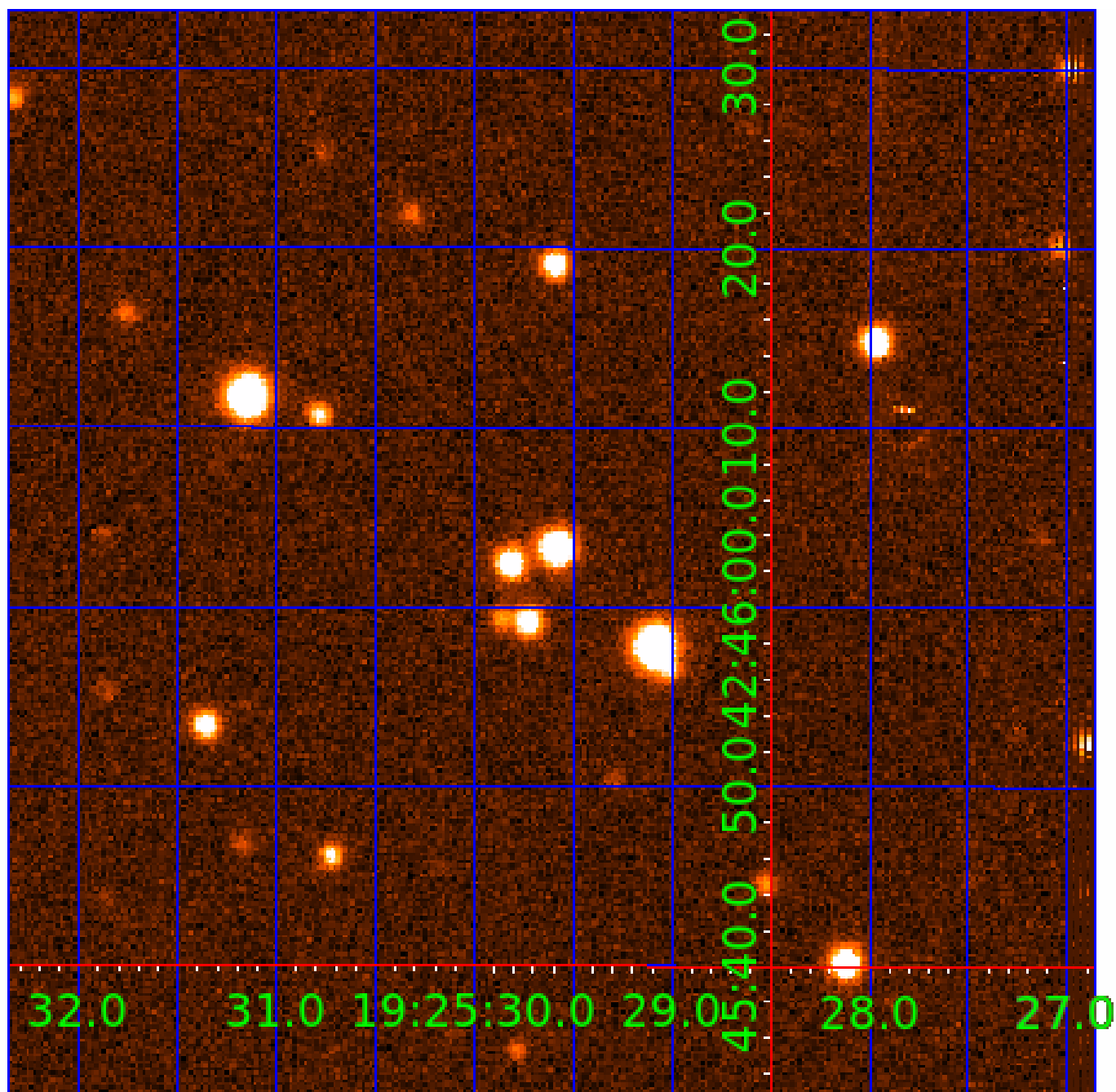
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 007199010

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})
007199010-01	OBS	No	0.566813	131.874847	2.6	0.626	128.4	0.1	0.76	5445	0.13	2852.48
007199010-02	OBS	No	0.566785	131.689633	654.0	3.345	32.8	65.2	0.76	5445	2.05	2852.67

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007199010-01	OBS	FP	0.00	1	0	0	1	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—EPHEM_MATCH
007199010-02	OBS	FP	0.00	1	0	0	1	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS—EPHEM_MATCH

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.

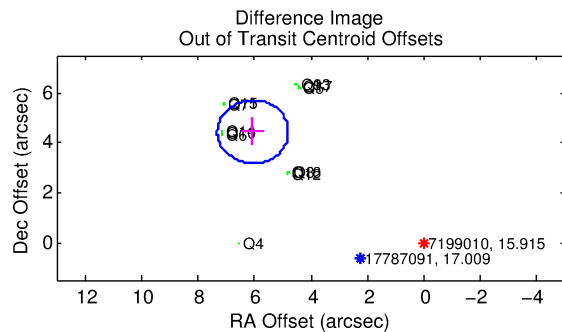
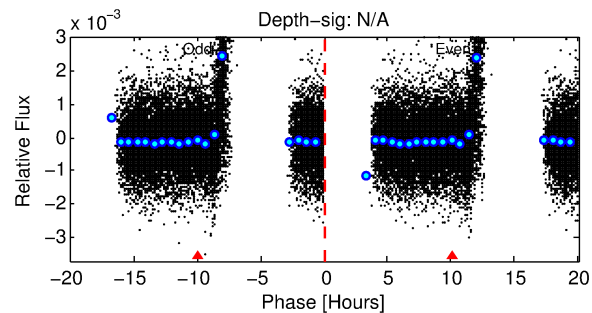
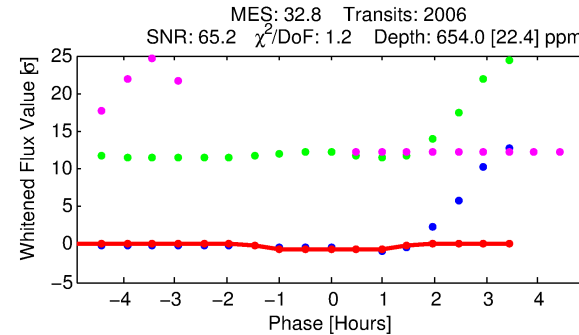
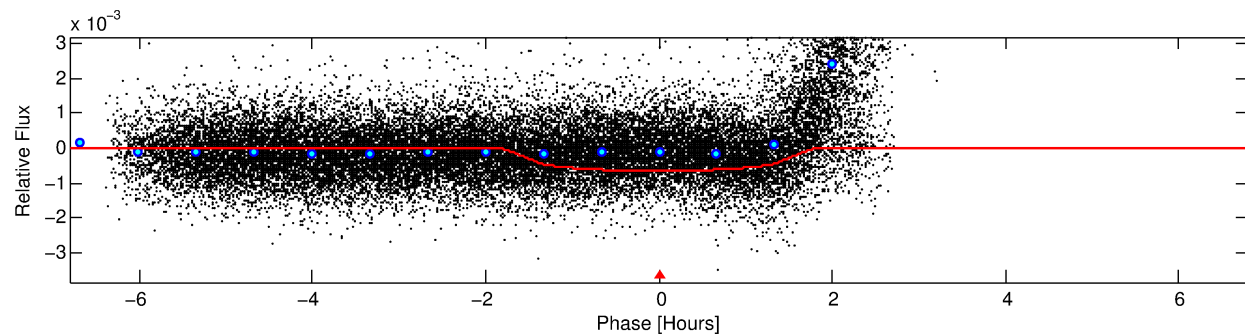
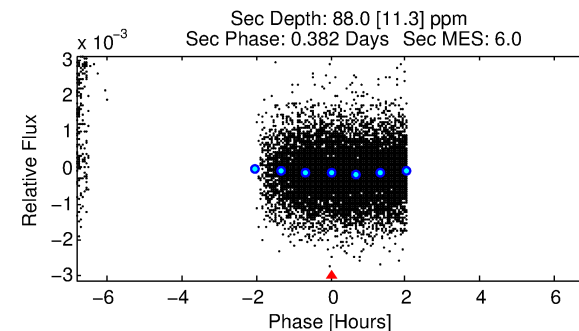
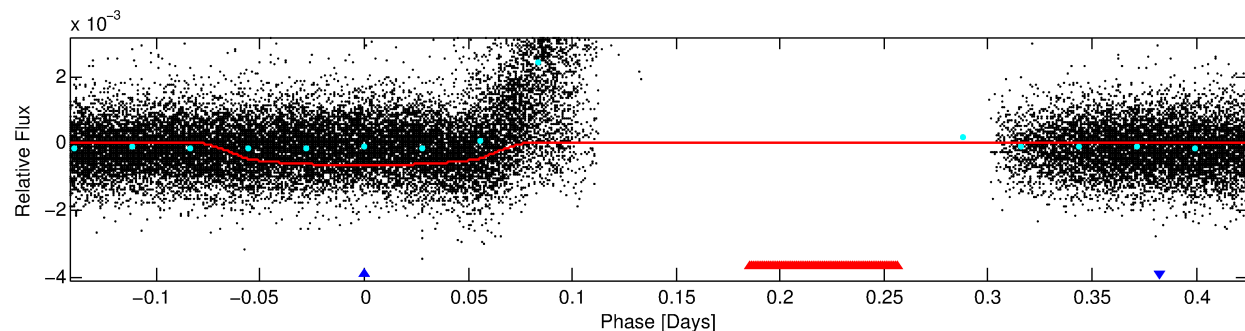
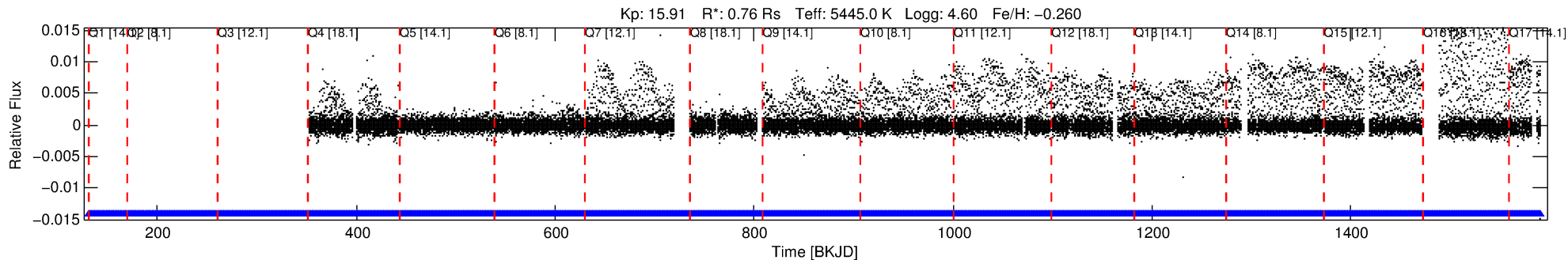
Ephemeris Match Information For 007199010-02

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
007199010-02	7199010	RR-Lyr-pri	7198959	1:1	63.5	15	-5	7.86	15.91	953.05	Direct-PRF	0	2.54	19.64

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 7199010 Candidate: 2 of 2 Period: 0.567 d



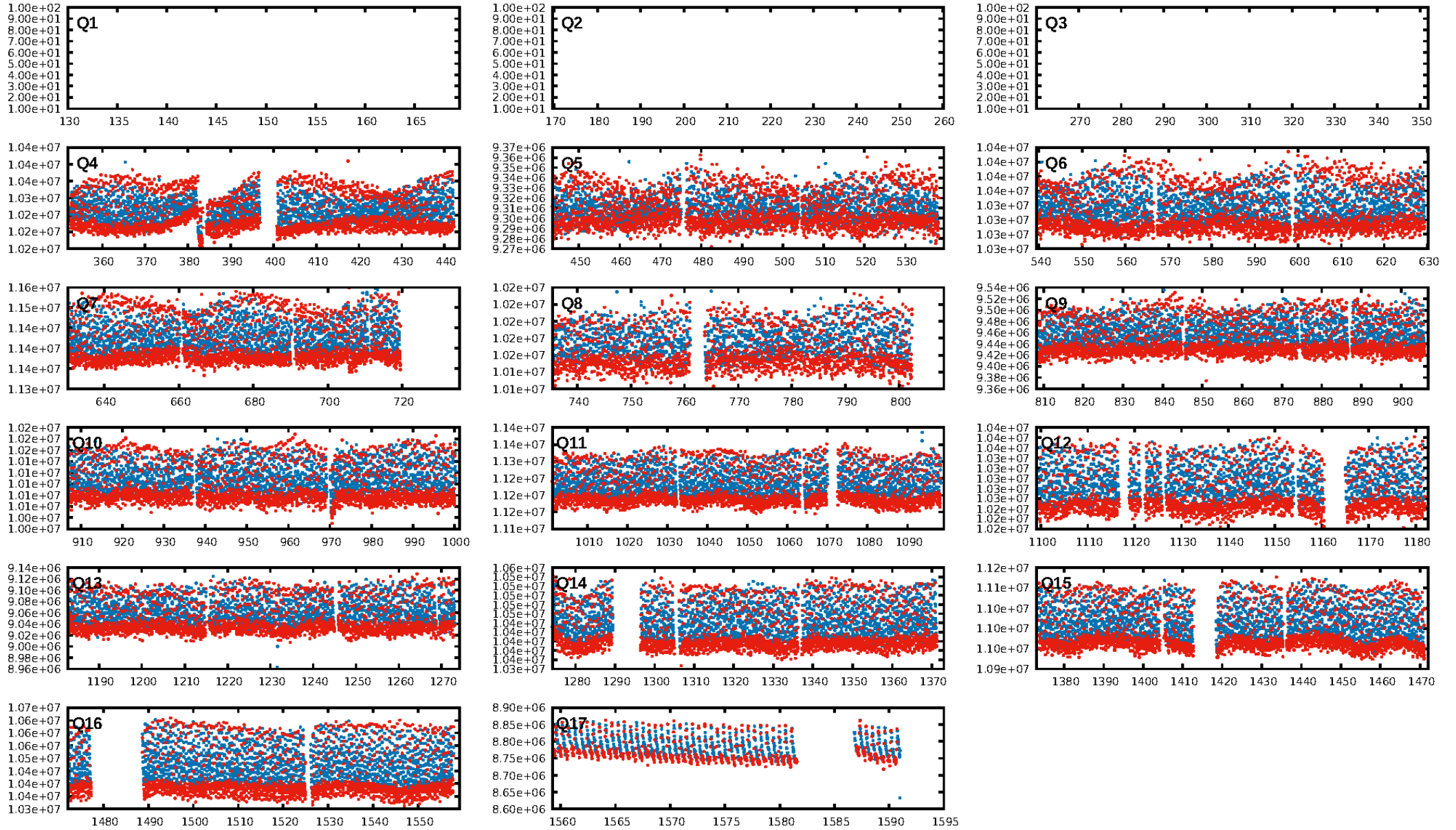
DV Fit Results:

Period = 0.56679 [0.00000] d
Epoch = 131.6896 [0.0006] BKJD
Rp/R* = 0.0246 [0.0052]
a/R* = 1.31 [0.47]
b = 0.65 [0.79]
Seff = 2852.67 [791.80]
Teff = 1864 [129] K
Rp = 2.05 [0.61] Re
a = 0.0126 [0.0021] AU
Ag = 1.85 [0.93] [0.91σ]
Teffp = 3360 [389] K [3.65σ]

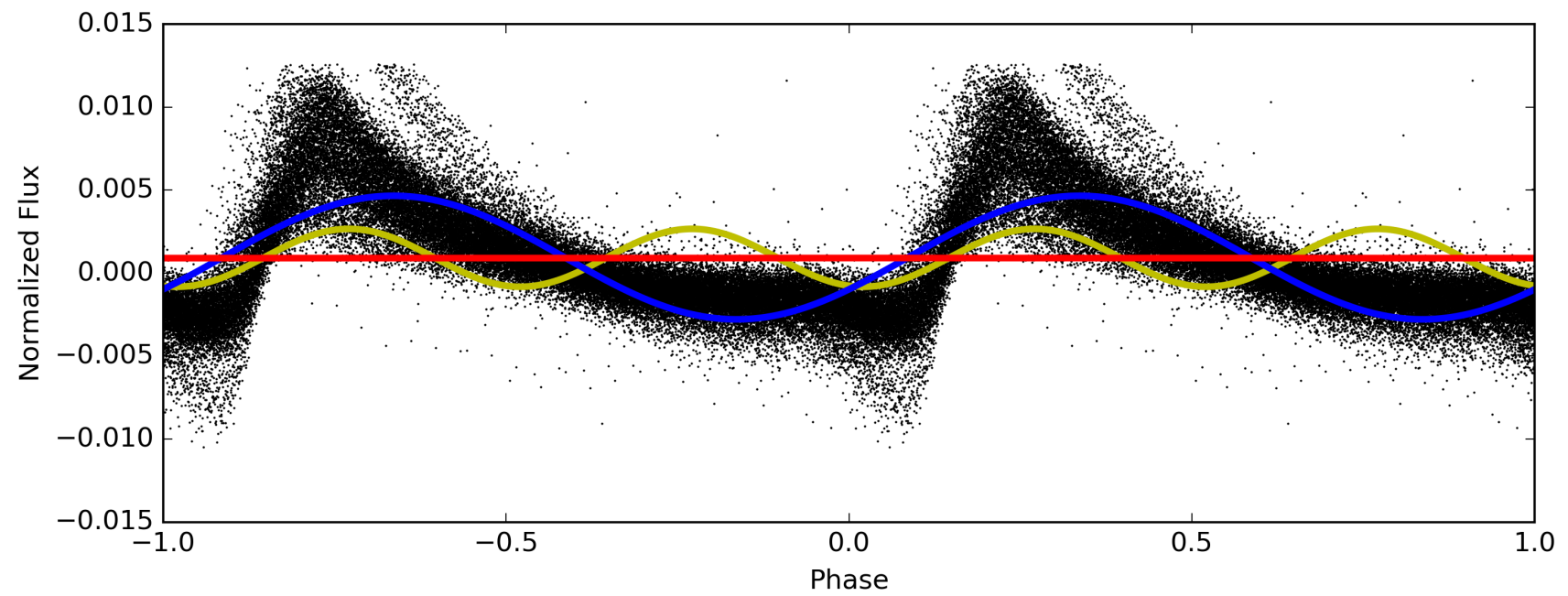
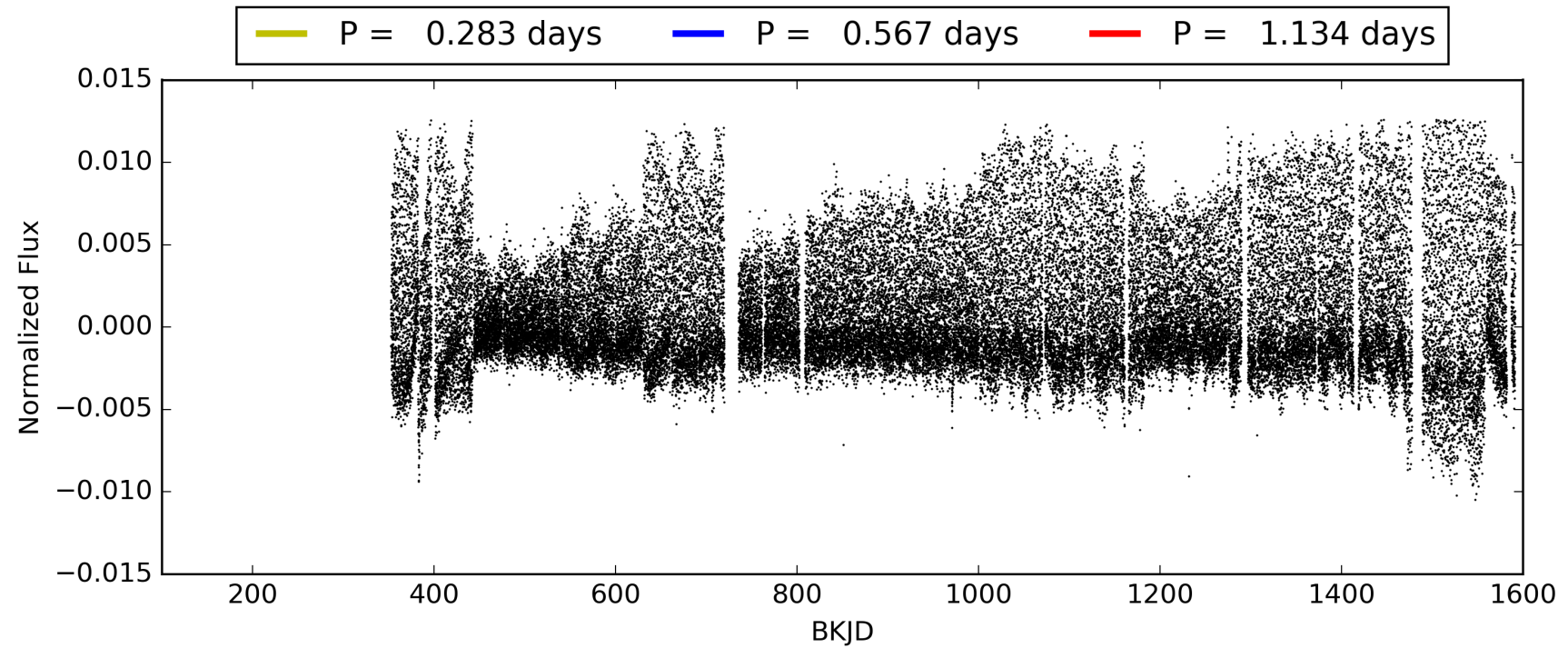
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1959/1959]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 7.507 arcsec [17.87σ]
KicOffset-rm: 0.885 arcsec [2.24σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 0.00 [0/14]
DiffImageOverlap-fno: 0.00 [0/14]

TCE 007199010-02, PDC Light Curves

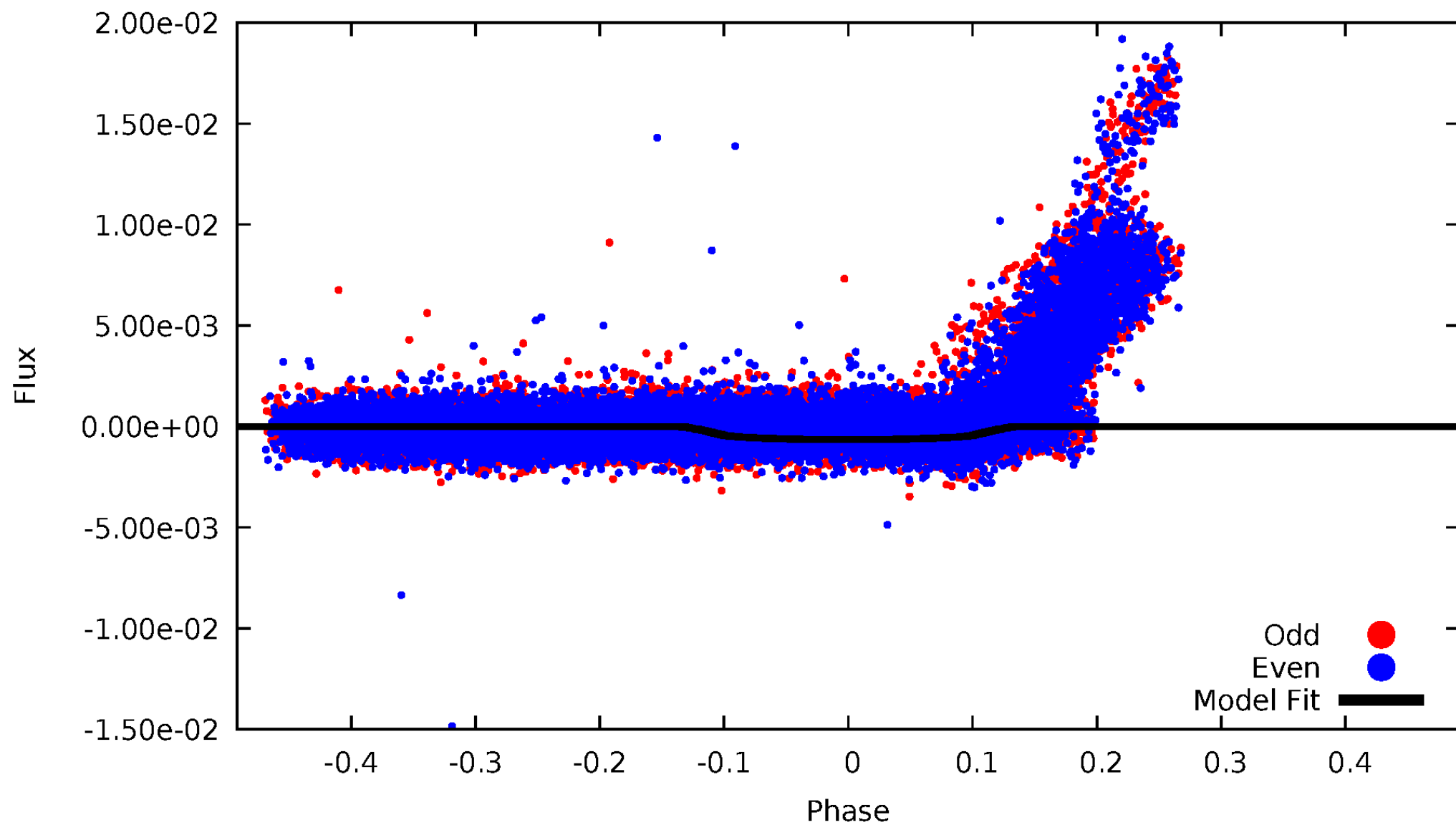


TCE 007199010-02



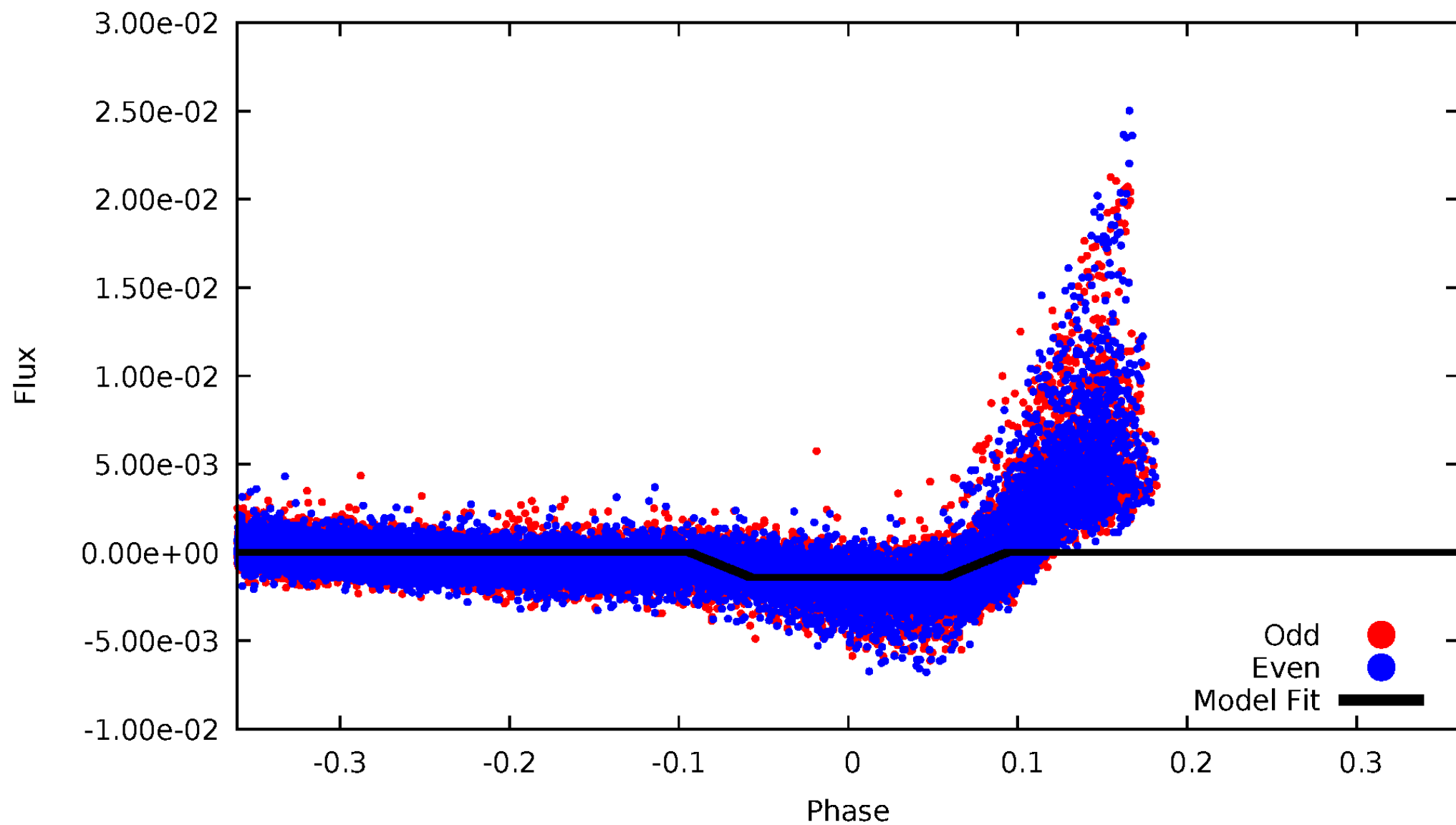
DV Odd/Even

TCE 007199010-02



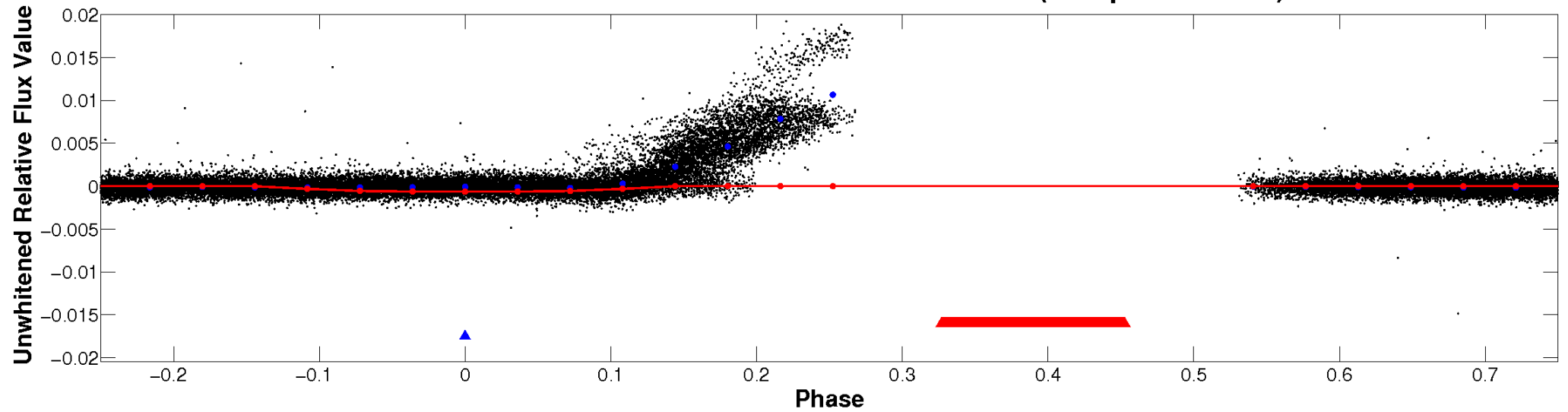
ALT Odd/Even

TCE 007199010-02

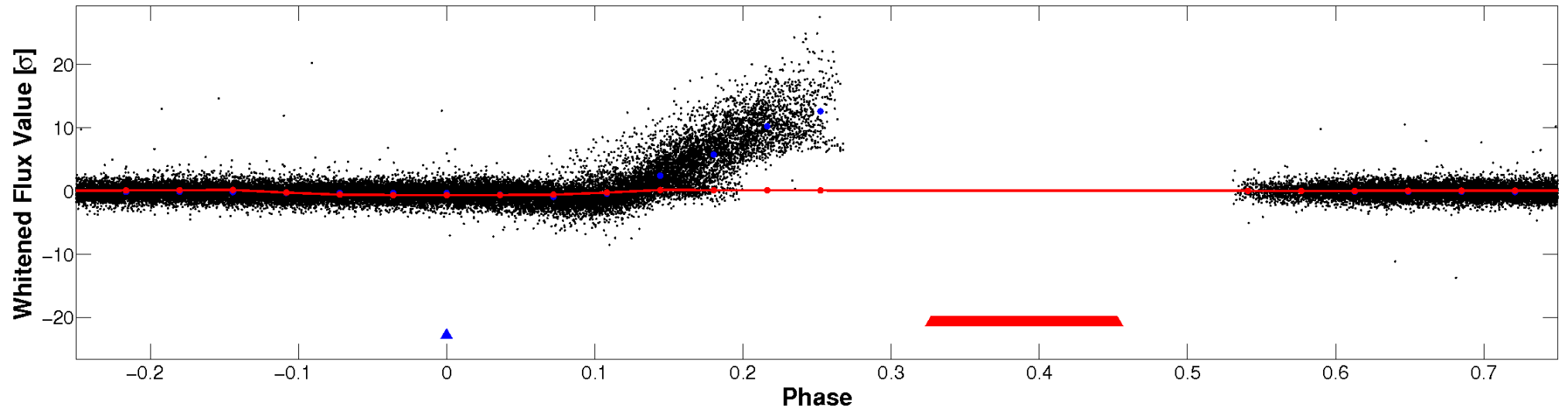


Non-Whitened Vs. Whitened Light Curve

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

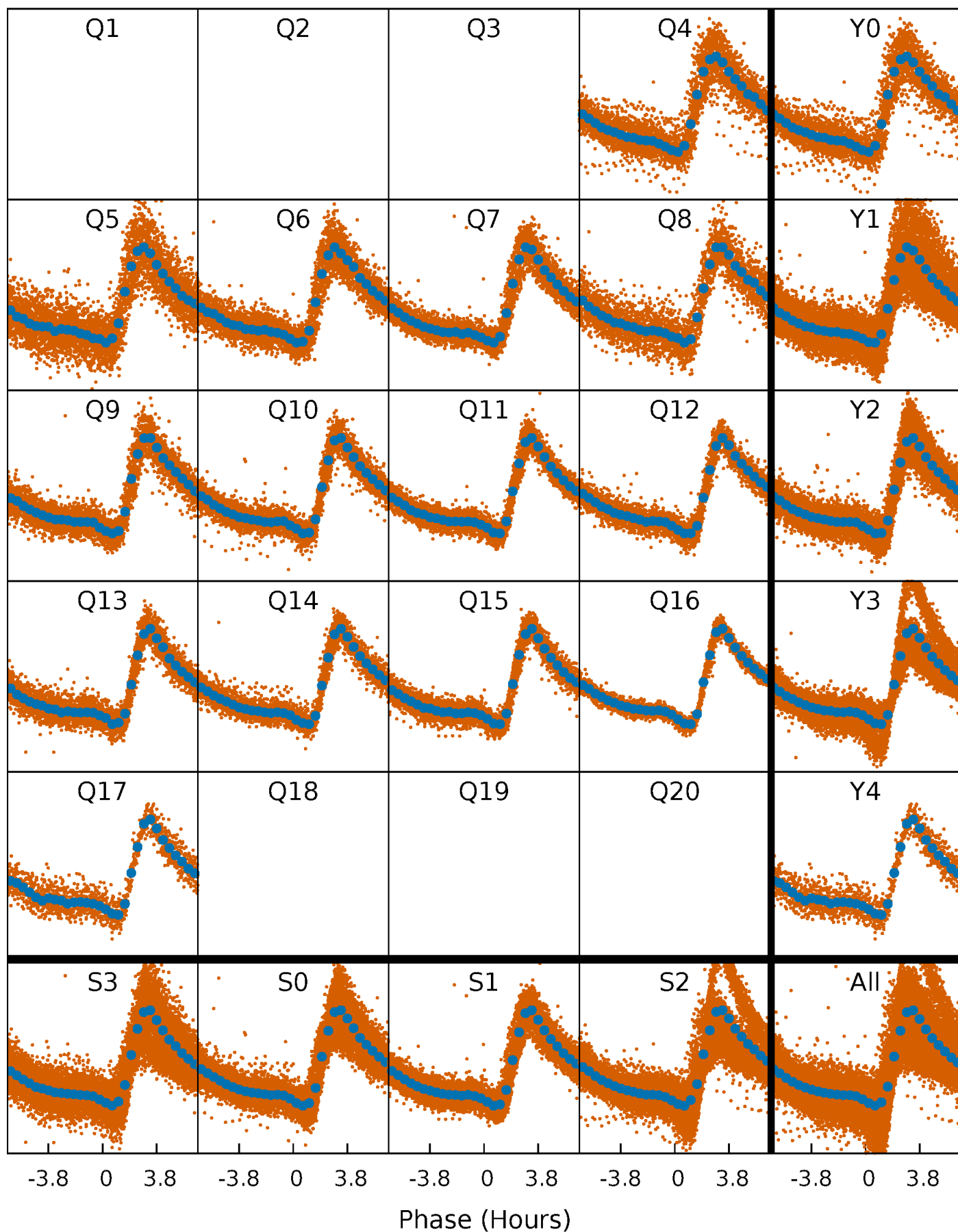


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



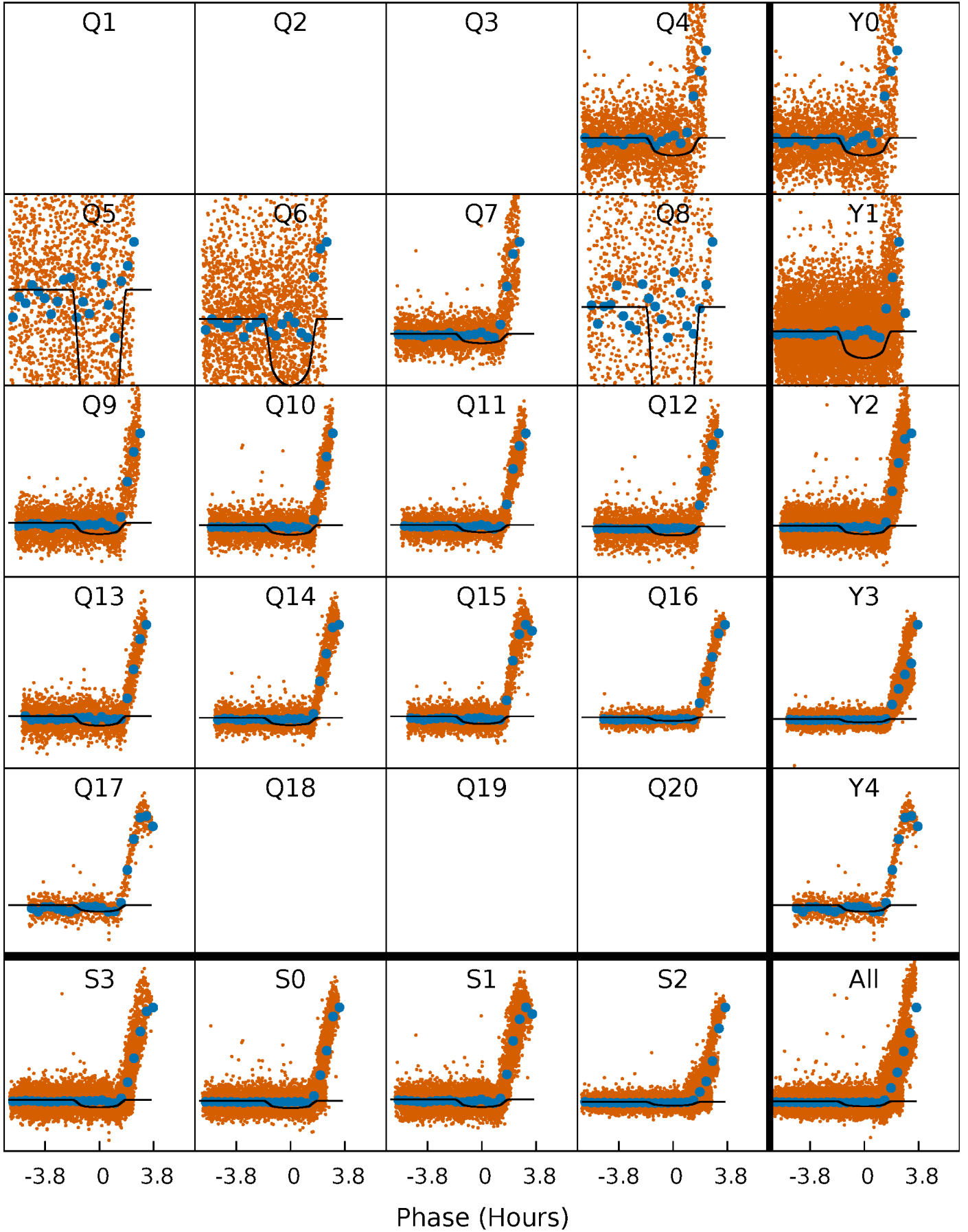
PDC Quarter-Phased Transit Curves

TCE 007199010-02 P= 0.566785 Days $T_0=131.689633$ (BKJD)



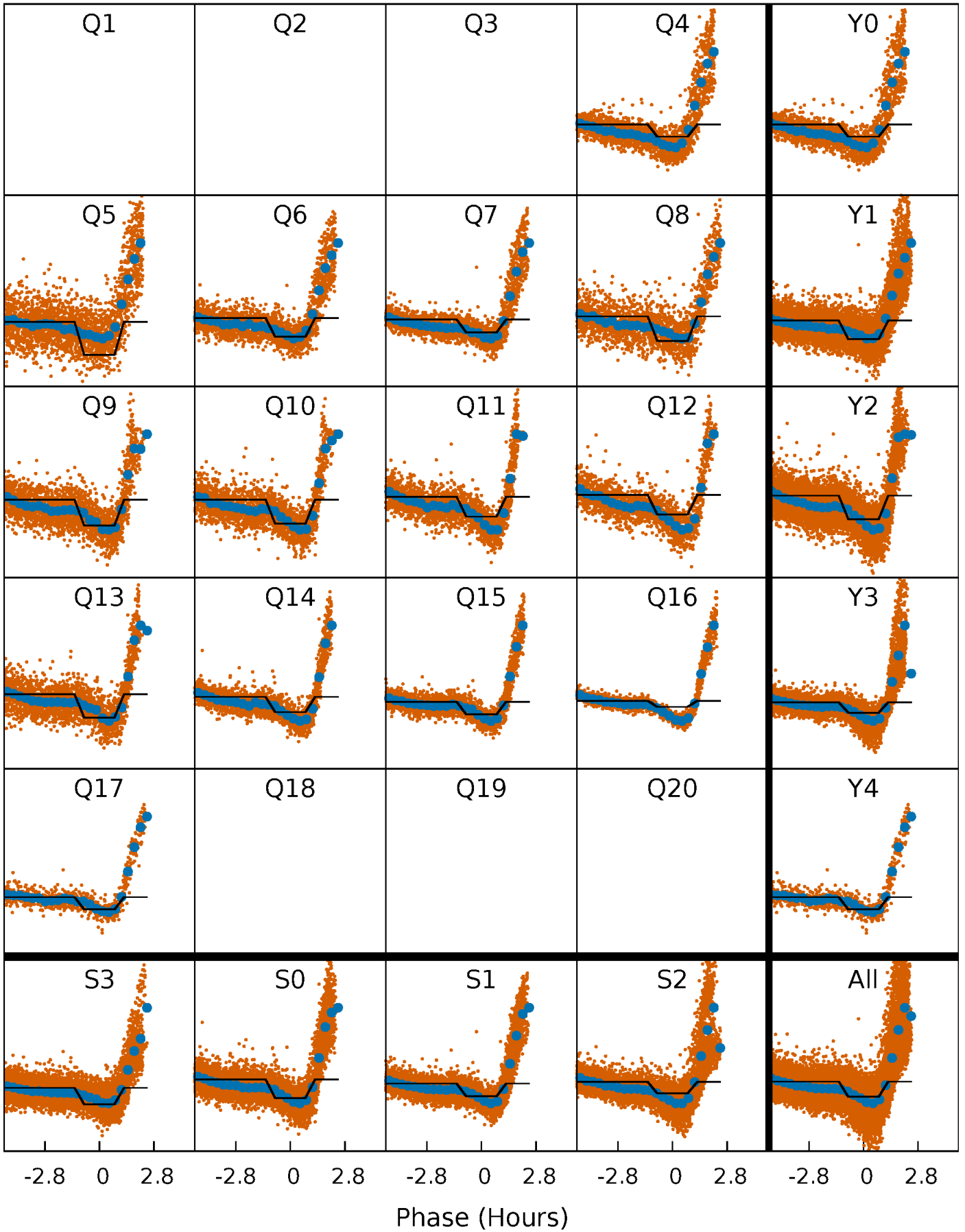
DV Quarter-Phased Transit Curves

TCE 007199010-02 P= 0.566785 Days $T_0=131.689633$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

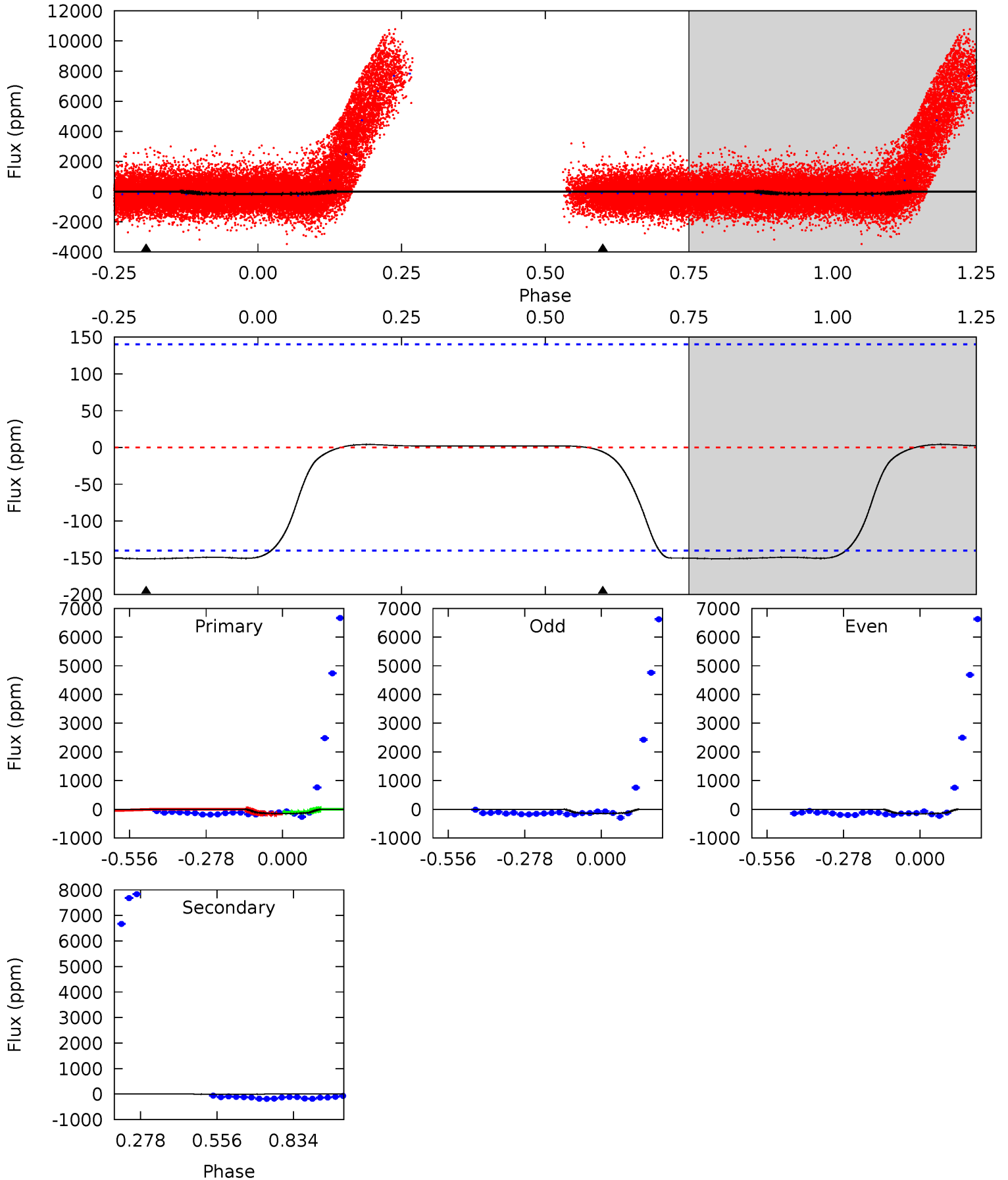
TCE 007199010-02 P= 0.566794 Days $T_0=131.690033$ (BKJD)



DV Model-Shift Uniqueness Test

007199010-02, P = 0.566785 Days, E = 131.689633 Days

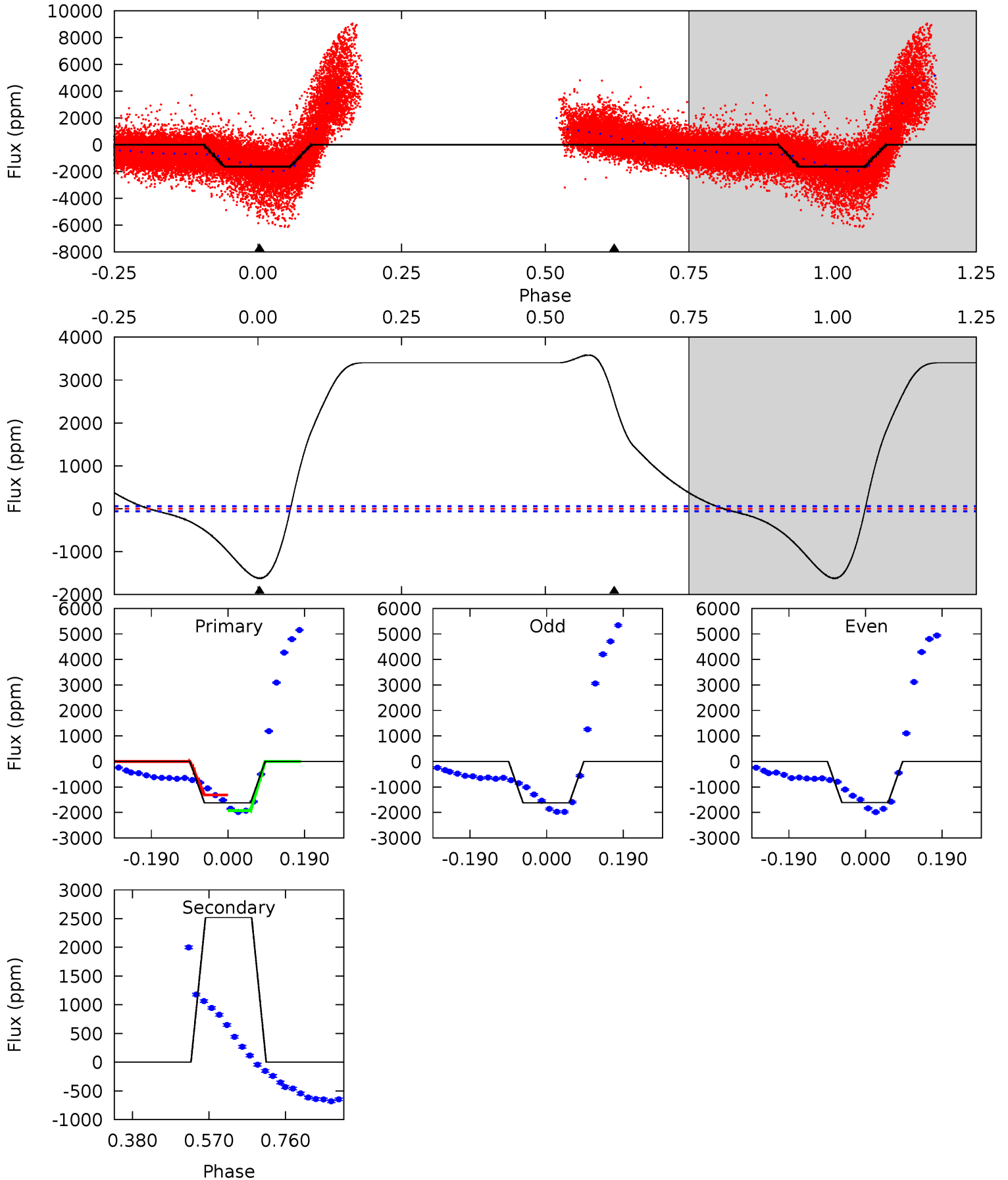
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.69	0.18	0	0	4.35	1.08	0.35	4.69	4.69	0.18	0.18	0.11	0.94	0.03	0.69



Alt Model-Shift Uniqueness Test

007199010-02, P = 0.566794 Days, E = 131.690033 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
121.7	-189.1	0	0	4.43	1.31	45.6	121.7	121.7	-189.1	-189.1	0.55	1.07	0.69	7.27



Stellar Parameters For KIC 007199010

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5445^{+189}_{-189}	$4.599^{+0.032}_{-0.128}$	$-0.260^{+0.300}_{-0.300}$	$0.761^{+0.158}_{-0.068}$	$0.846^{+0.088}_{-0.098}$	$2.700^{+0.475}_{-1.042}$
	+3%/-3%	+1%/-3%	+115%/-115%	+21%/-9%	+10%/-12%	+18%/-39%
Source	KIC0	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 007199010-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-6 ± 32	$2.11^{+0.46}_{-0.47}$	2645^{+128}_{-121}	-2735^{+5813}_{-646}	$0.090^{+0.699}_{-0.711}$
Alt.	2518 ± 13	$3.25^{+0.52}_{-0.53}$	2645^{+136}_{-117}	-6237^{+420}_{-582}	$-20.814^{+5.226}_{-8.332}$

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

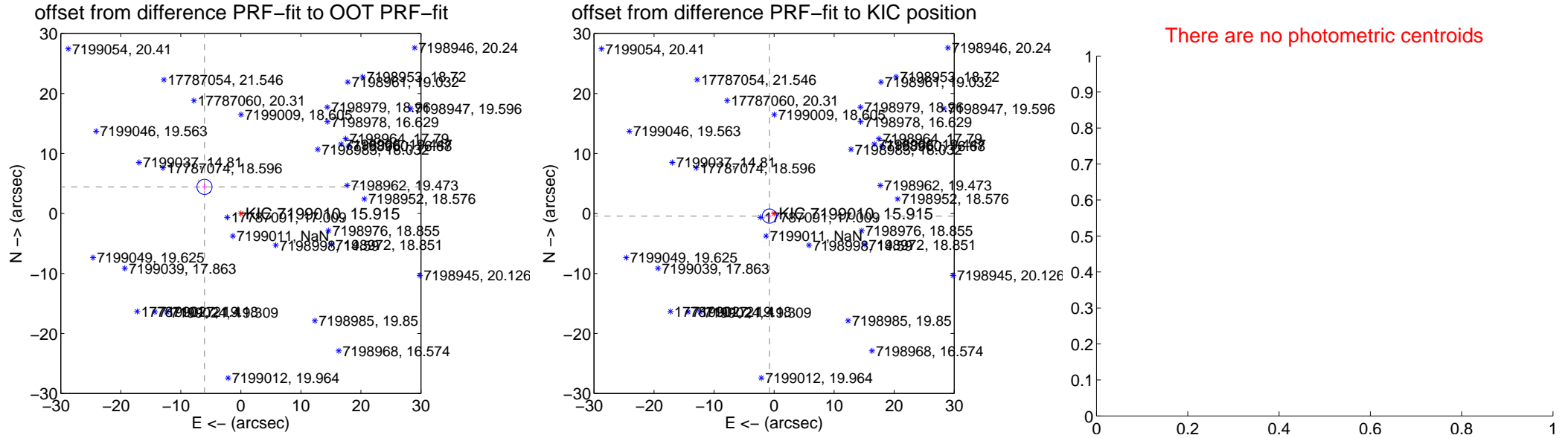
DV Centroid Data

Supplemental centroid analysis for 007199010-02. Kepler magnitude: 15.91. Transit SNR 65.24

There are 0 quarters with good PRF difference image offsets

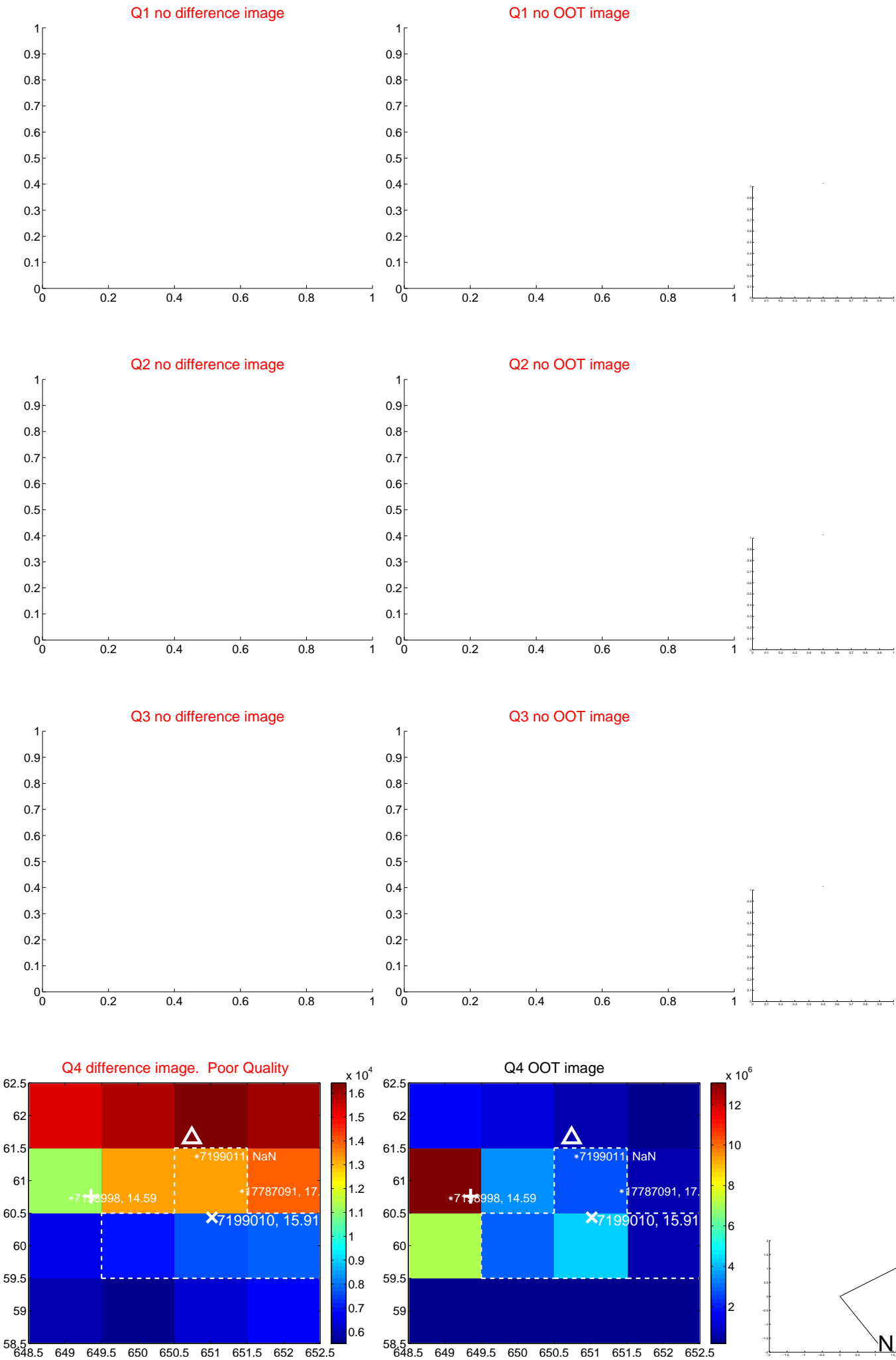
The OOT PRF centroid is offset from the target star catalog position by about 7.60 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.507 ± 0.420	17.87	6.055 ± 0.360	4.438 ± 0.514
PRF-fit source offset from KIC position	0.885 ± 0.395	2.24	0.774 ± 0.312	-0.430 ± 0.461
photometric centroid source offset	—	—	—	—

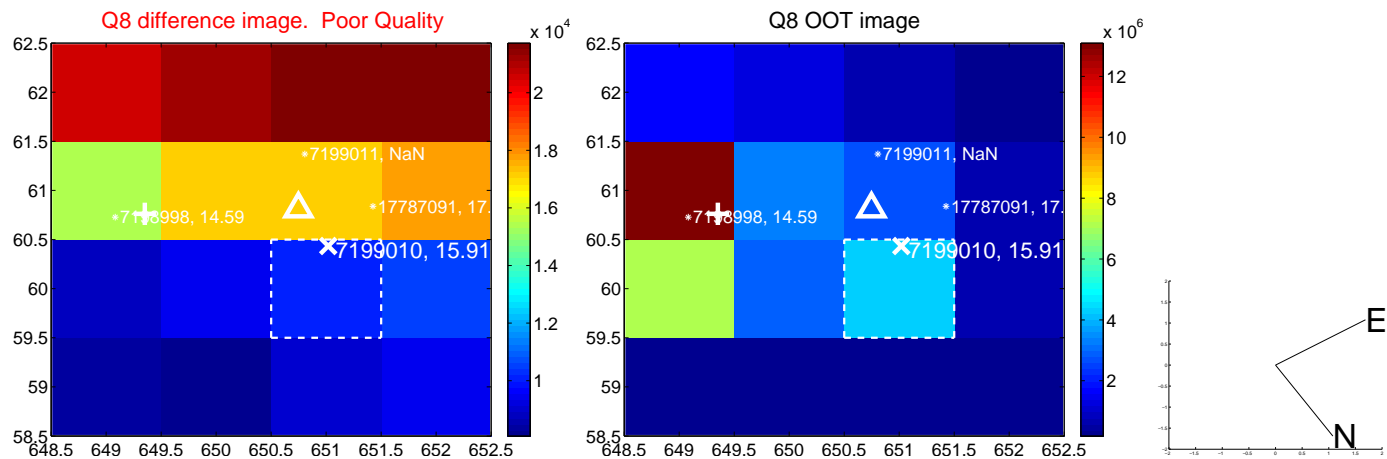
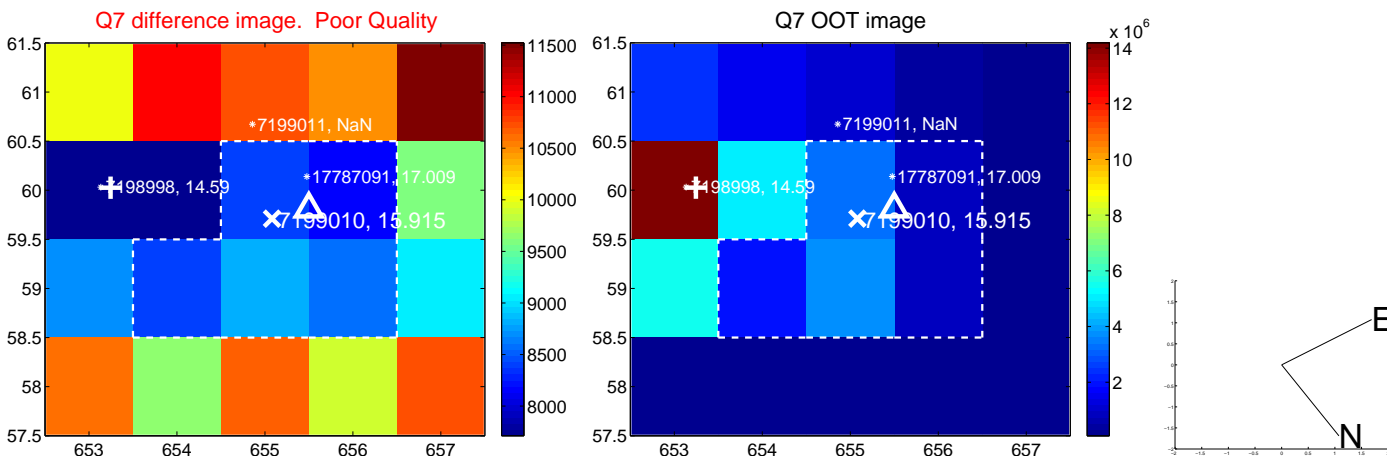
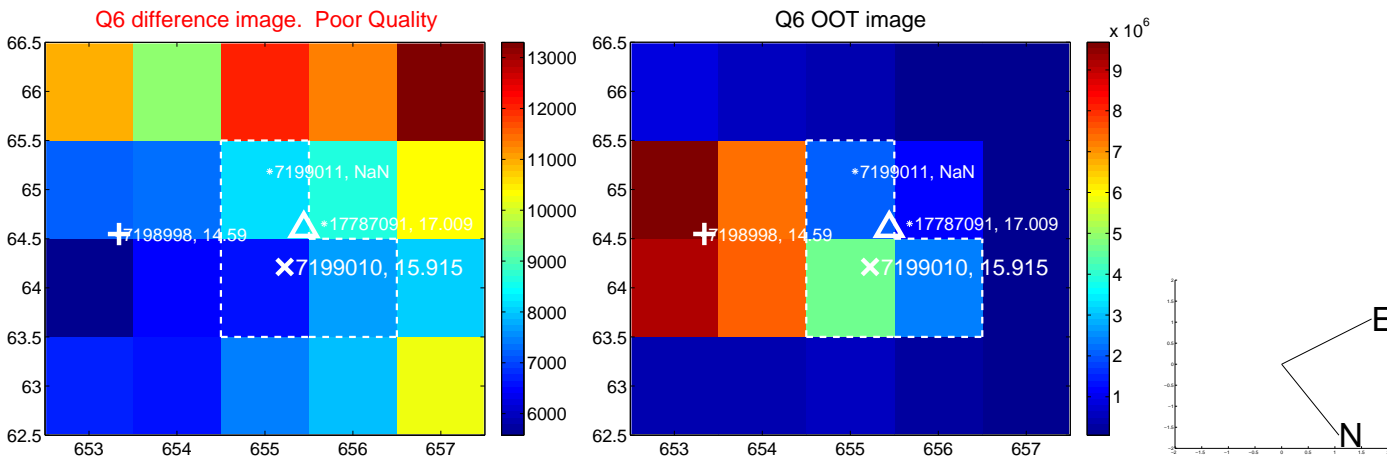
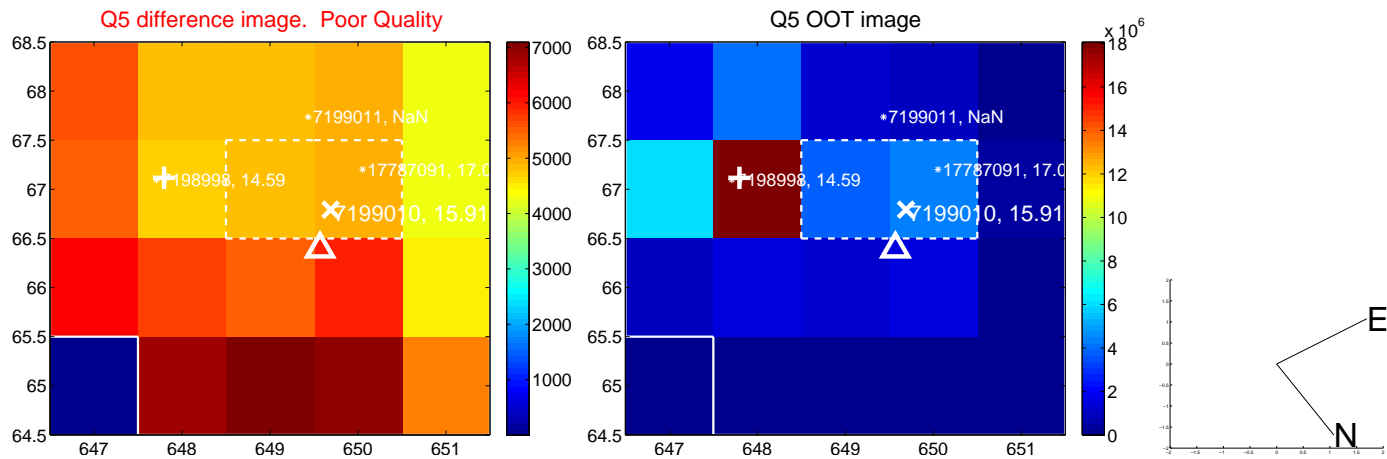


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

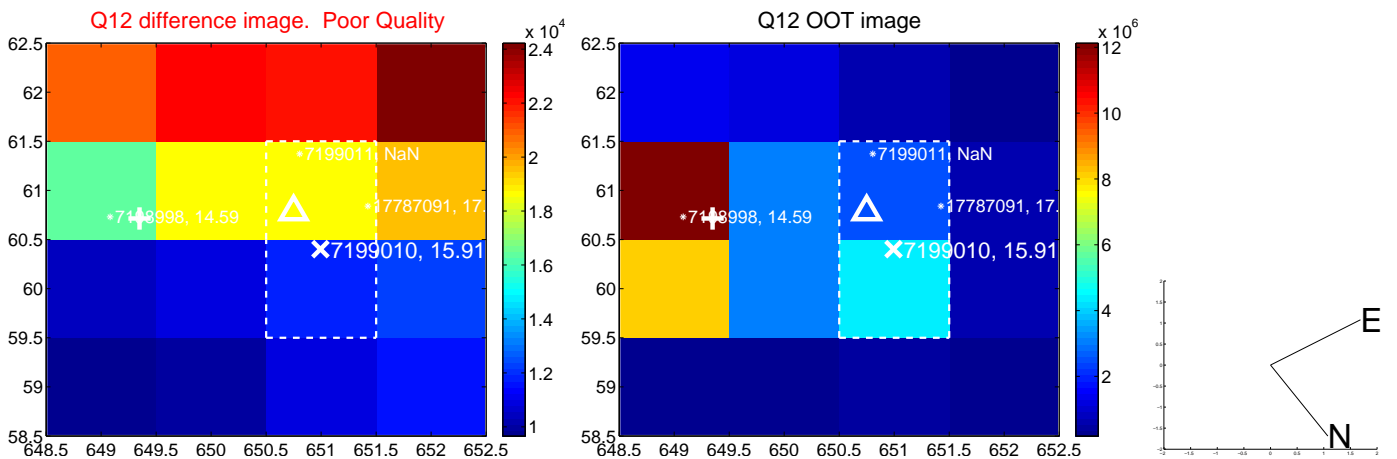
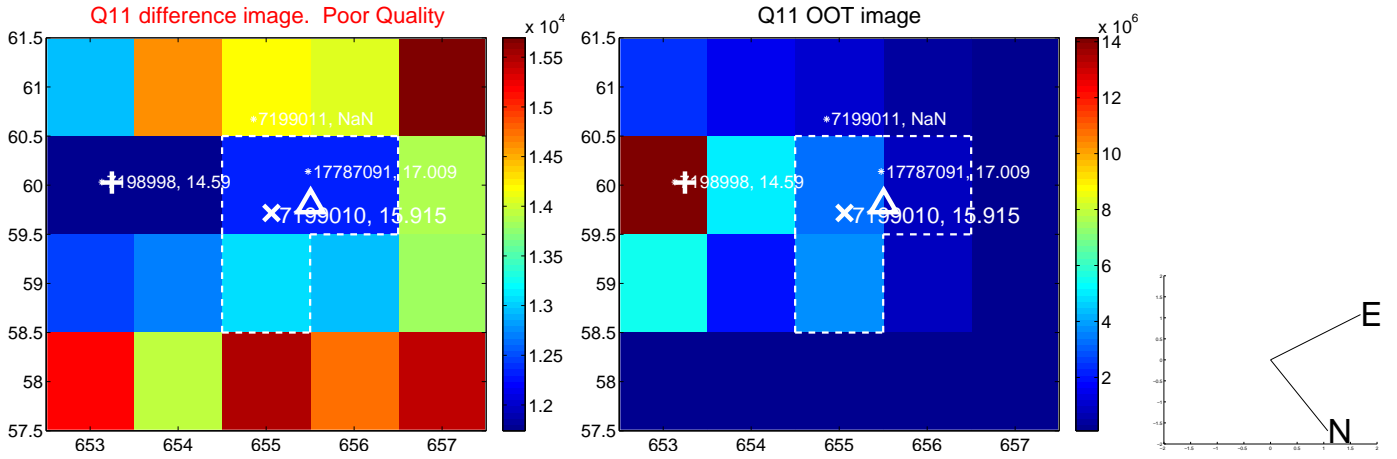
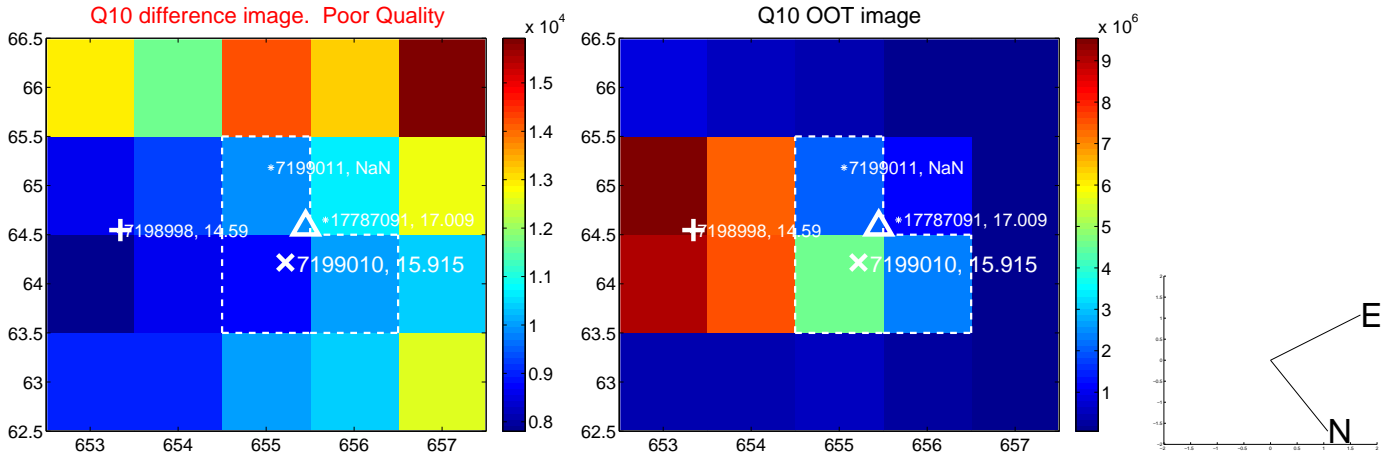
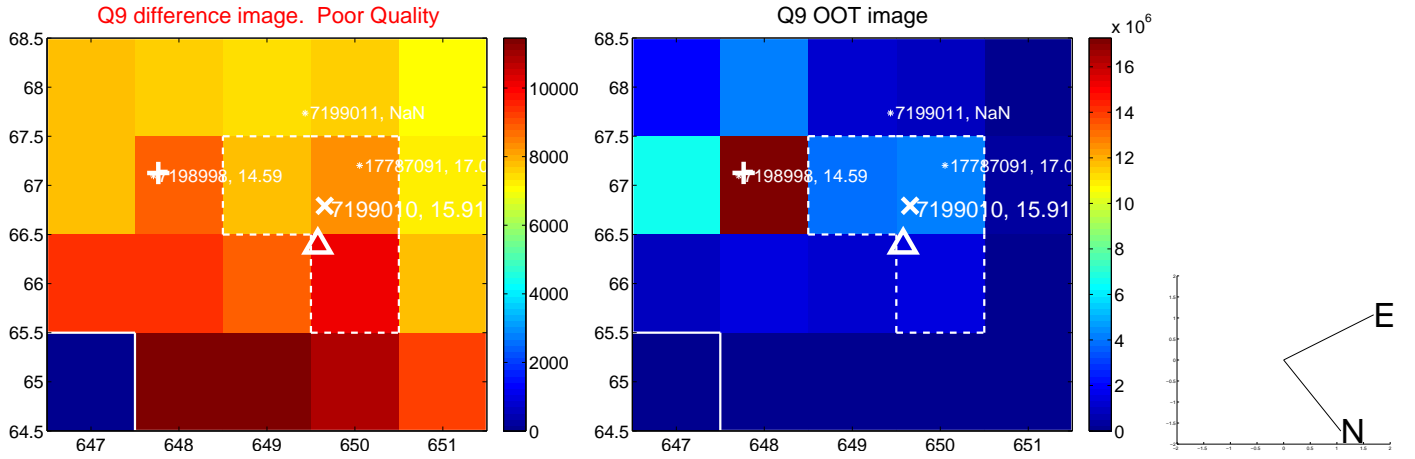
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



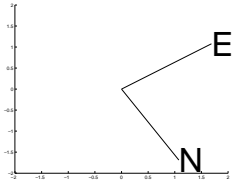
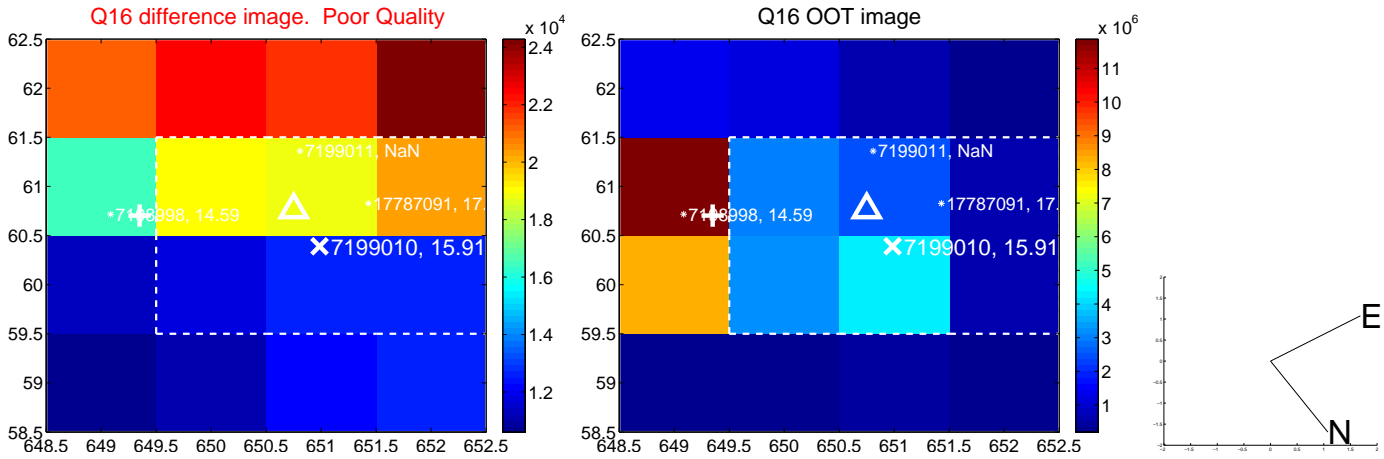
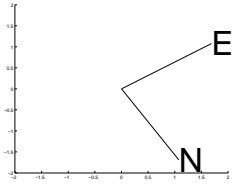
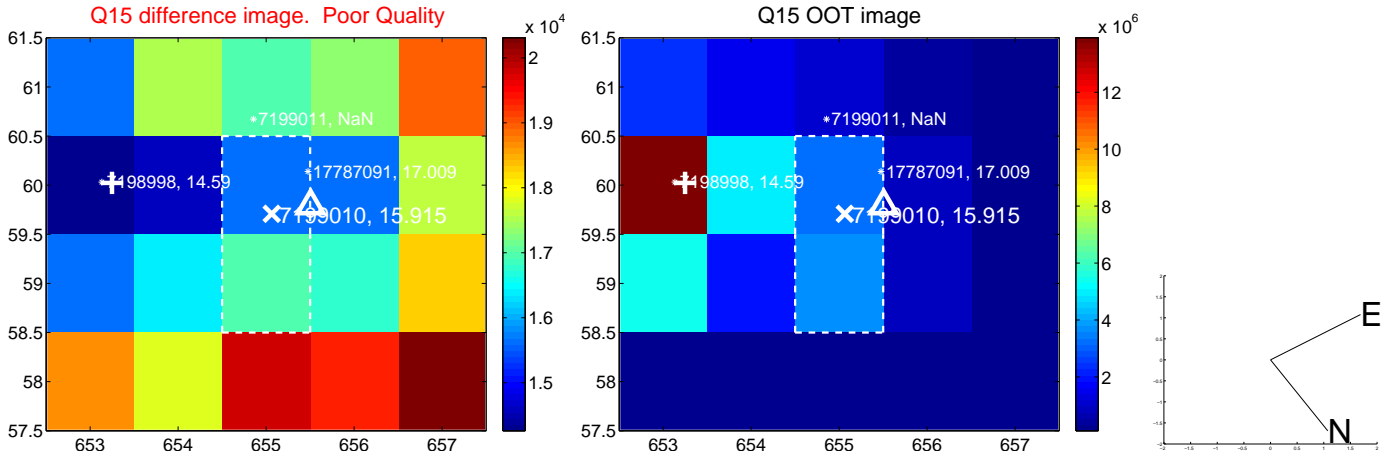
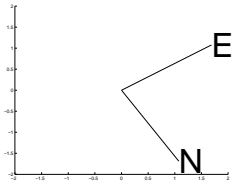
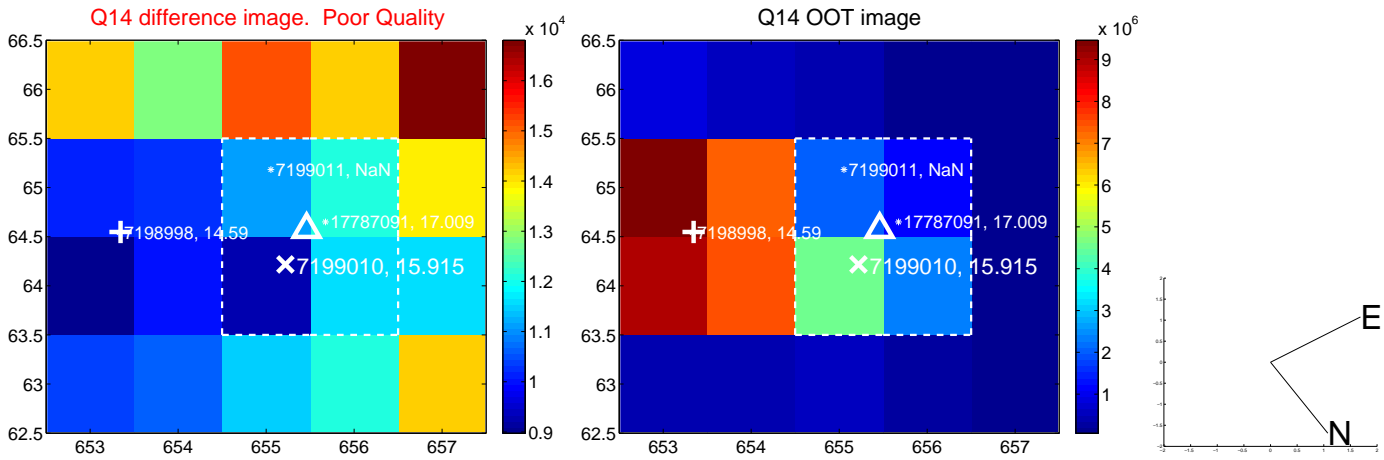
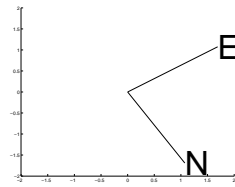
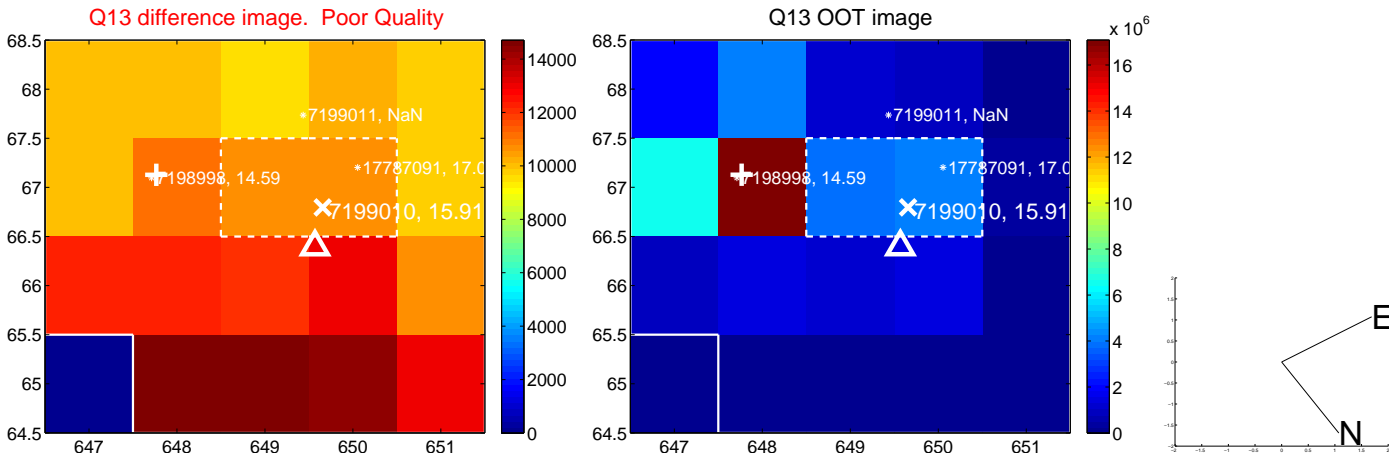
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



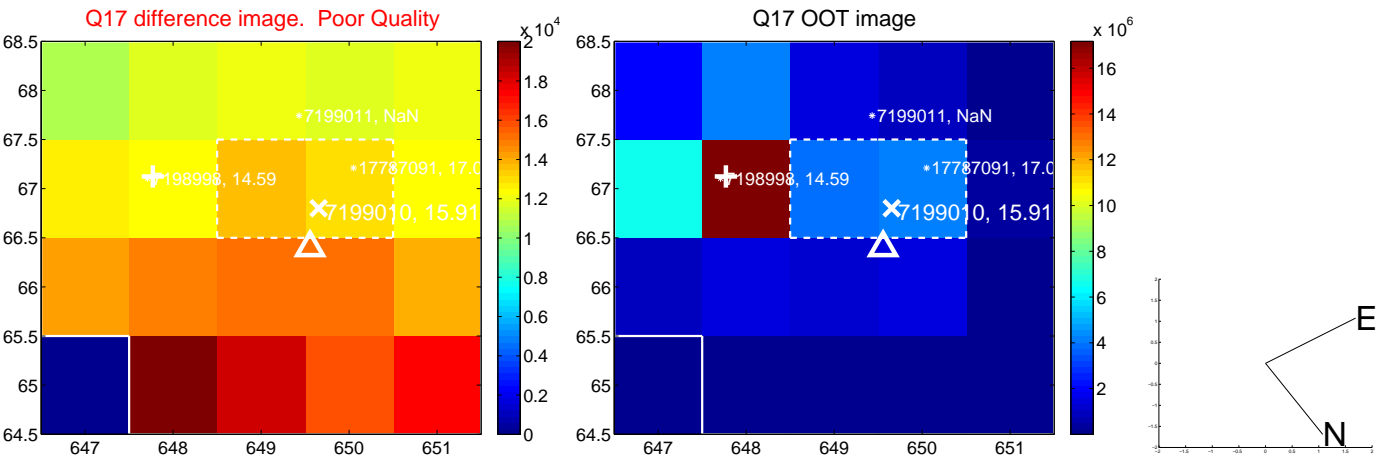
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination

