

KIC 011619189

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})
011619189-01	OBS	No	524.096211	213.649155	1532.5	6.120	13.3	7.4	0.61	5038	2.43	0.19
011619189-02	OBS	No	345.888355	198.766374	1620.2	5.050	11.2	8.4	0.61	5038	2.49	0.33
011619189-03	OBS	No	485.832748	148.908024	1410.6	8.359	10.4	7.1	0.61	5038	2.31	0.21
011619189-04	OBS	No	648.076237	208.917482	1704.6	5.671	12.2	7.5	0.61	5038	3.08	0.14
011619189-05	OBS	No	719.196285	150.626539	1721.9	10.465	9.7	6.4	0.61	5038	2.54	0.12
011619189-06	OBS	No	328.447007	182.769647	1928.3	7.367	8.9	10.3	0.61	5038	2.69	0.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011619189-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011619189-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011619189-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011619189-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
011619189-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
011619189-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

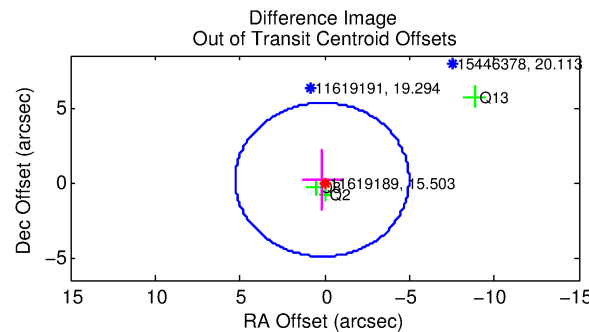
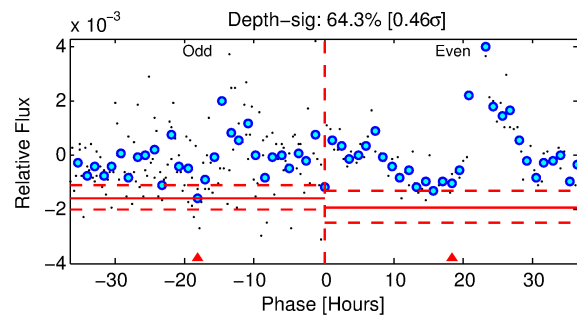
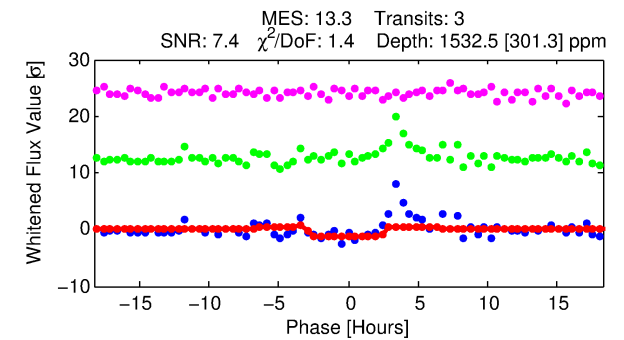
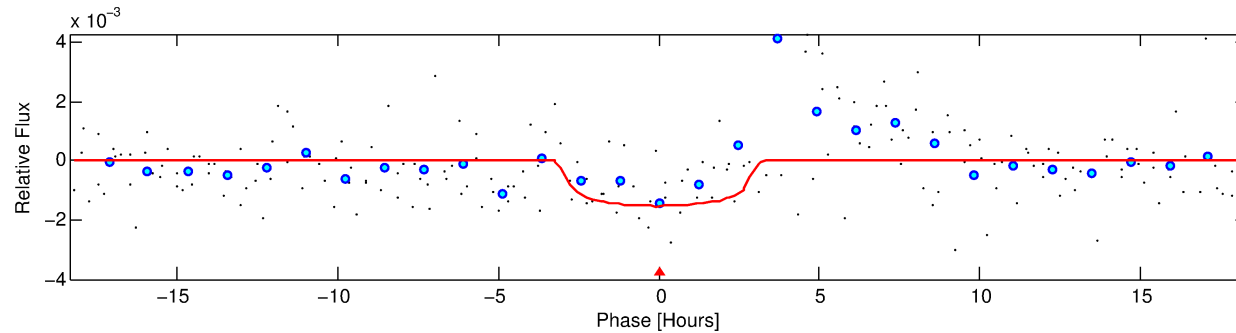
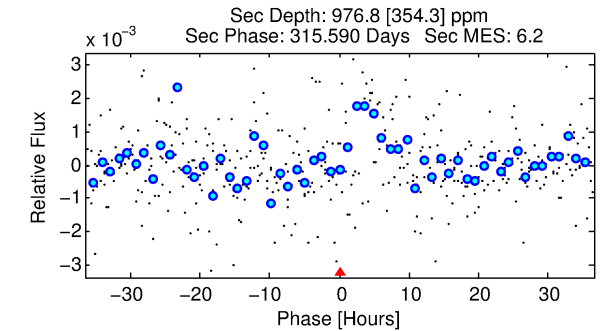
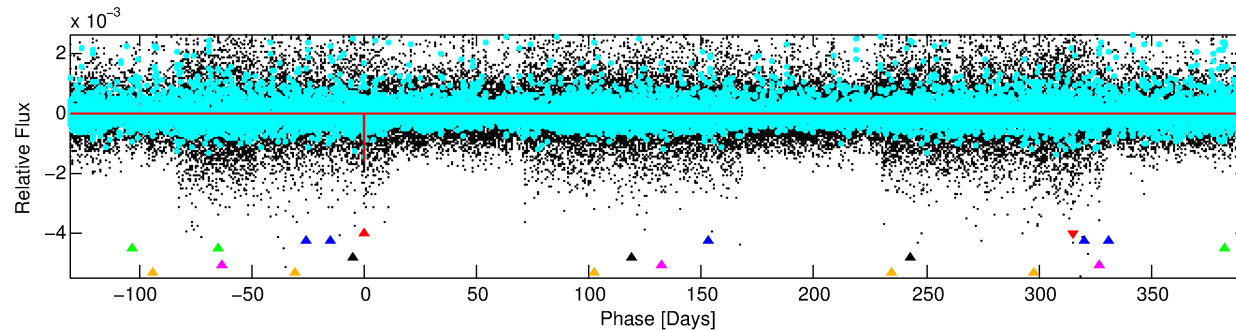
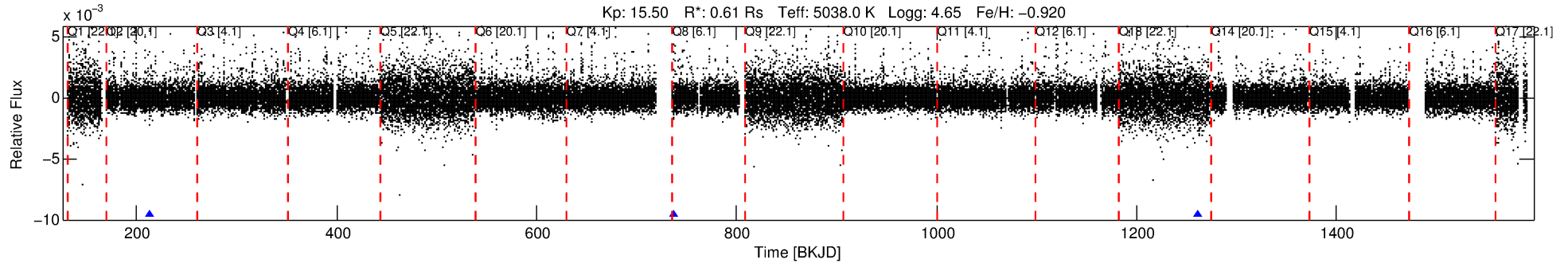
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011619189-01

No Significant Match Found

DV One-Page Summary

KIC: 11619189 Candidate: 1 of 6 Period: 524.096 d



DV Fit Results:

Period = 524.09621 [0.01196] d
Epoch = 213.6492 [0.0124] BKJD
Rp/R* = 0.0364 [0.0357]
a/R* = 599.57 [2308.05]
b = 0.48 [6.13]
Seff = 0.19 [0.03]
Teq = 168 [7] K
Rp = 2.43 [2.40] Re
a = 1.0772 [0.0750] AU
Ag = 105292.69 [210616.30] [0.50]
Teffp = 4670 [2336] K [1.93 σ]

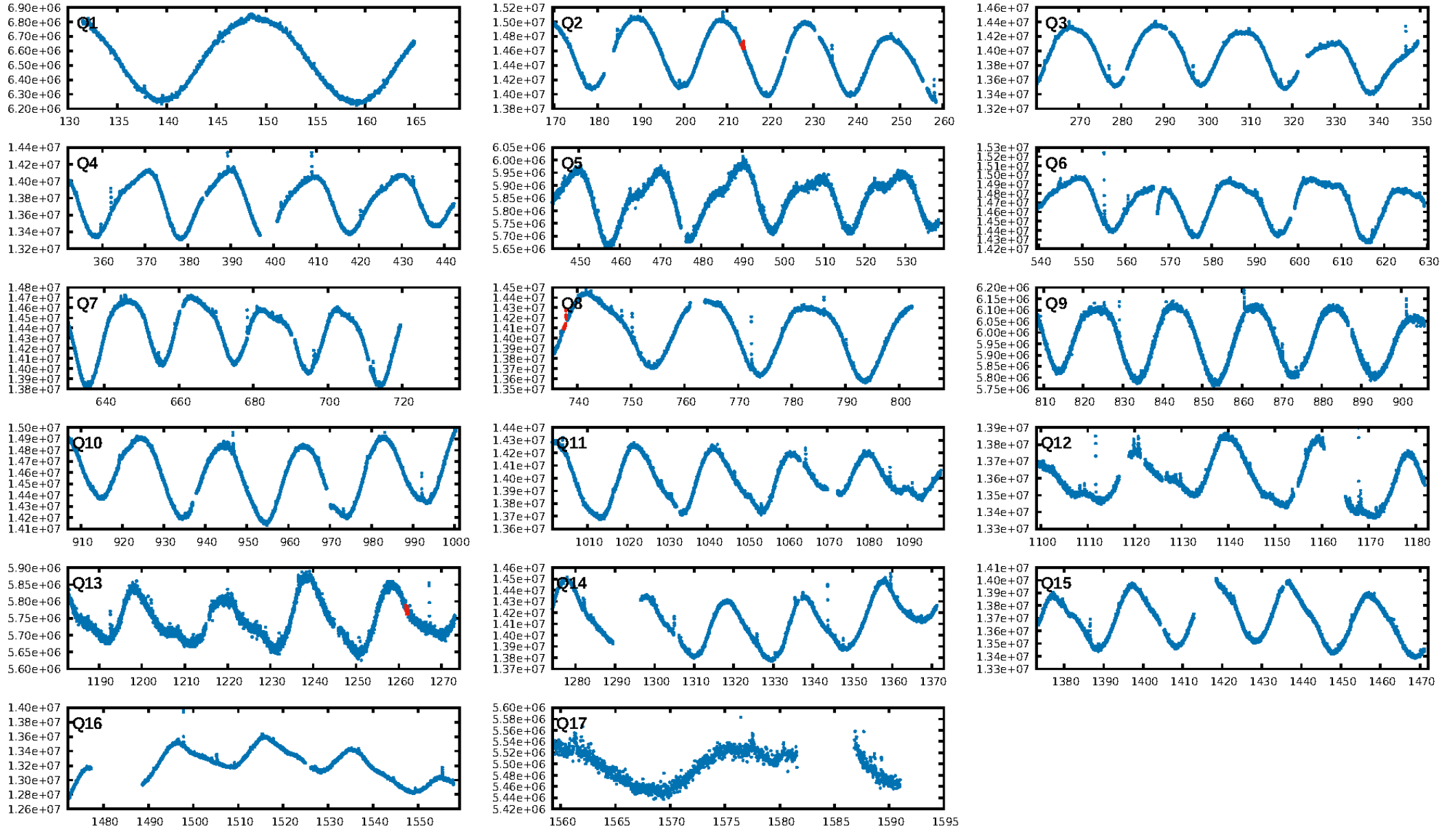
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [88.64 σ]
LongPeriod-sig: 100.0% [356.64 σ]
ModelChiSquare2-sig: 2.1%
ModelChiSquareGof-sig: 93.2%
Bootstrap-pfa: 3.14e-15
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.435
Centroid-sig: 37.4%
Centroid-so: 1.057 arcsec [0.81 σ]
OotOffset-rm: 0.239 arcsec [0.14 σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-rm: 0.223 arcsec [0.15 σ]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

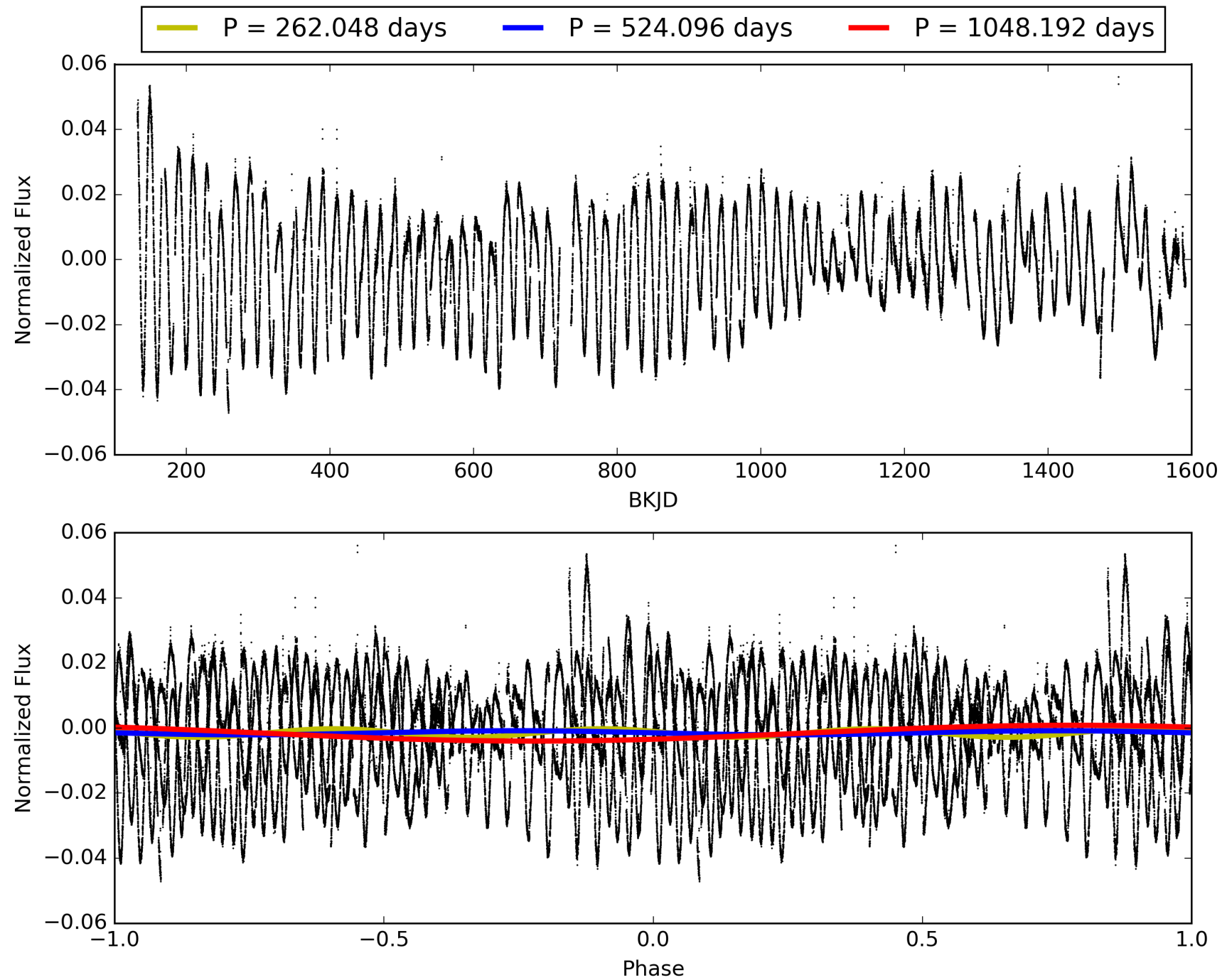
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:27:36 Z

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

TCE 011619189-01, PDC Light Curves

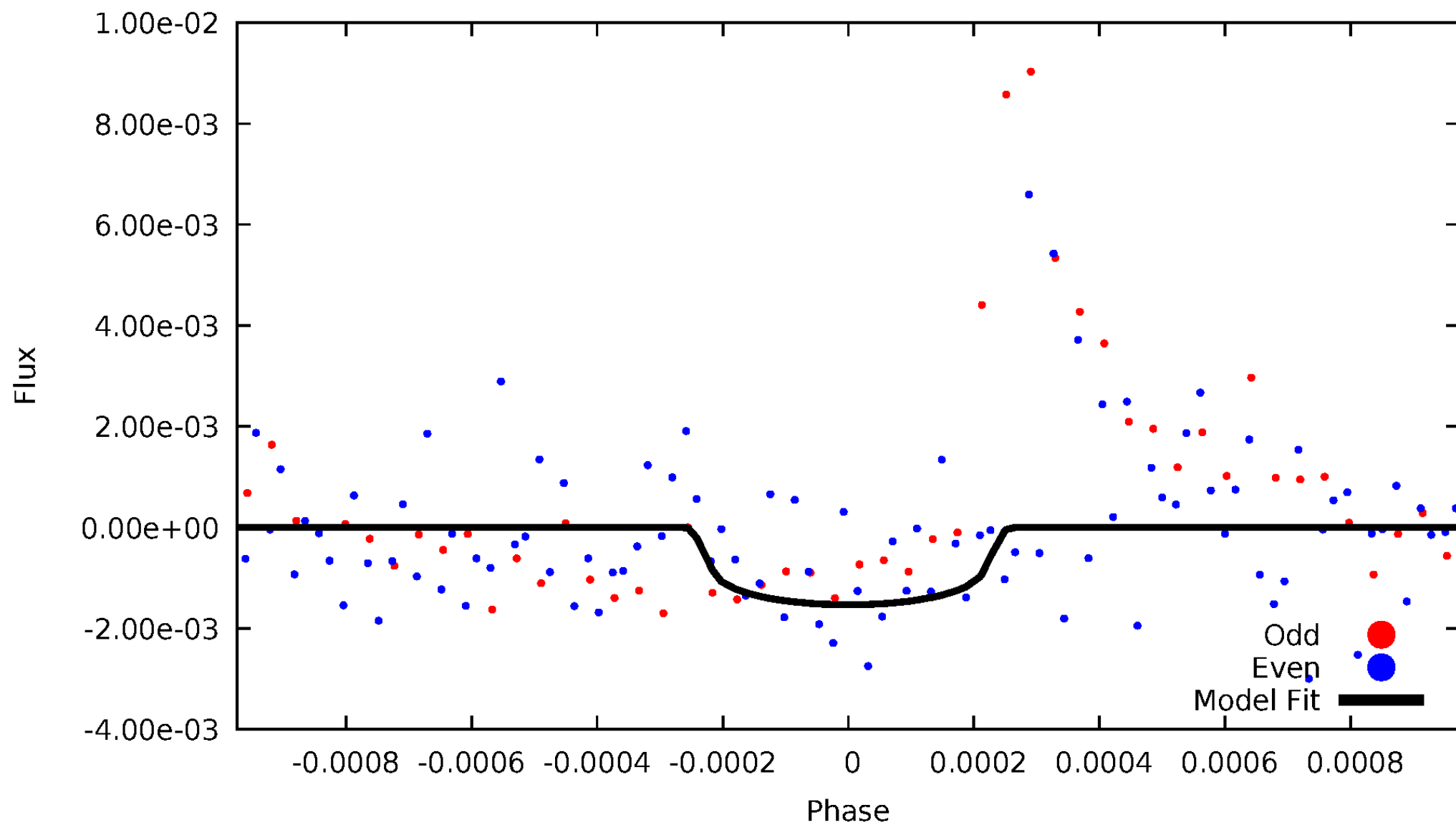


TCE 011619189-01



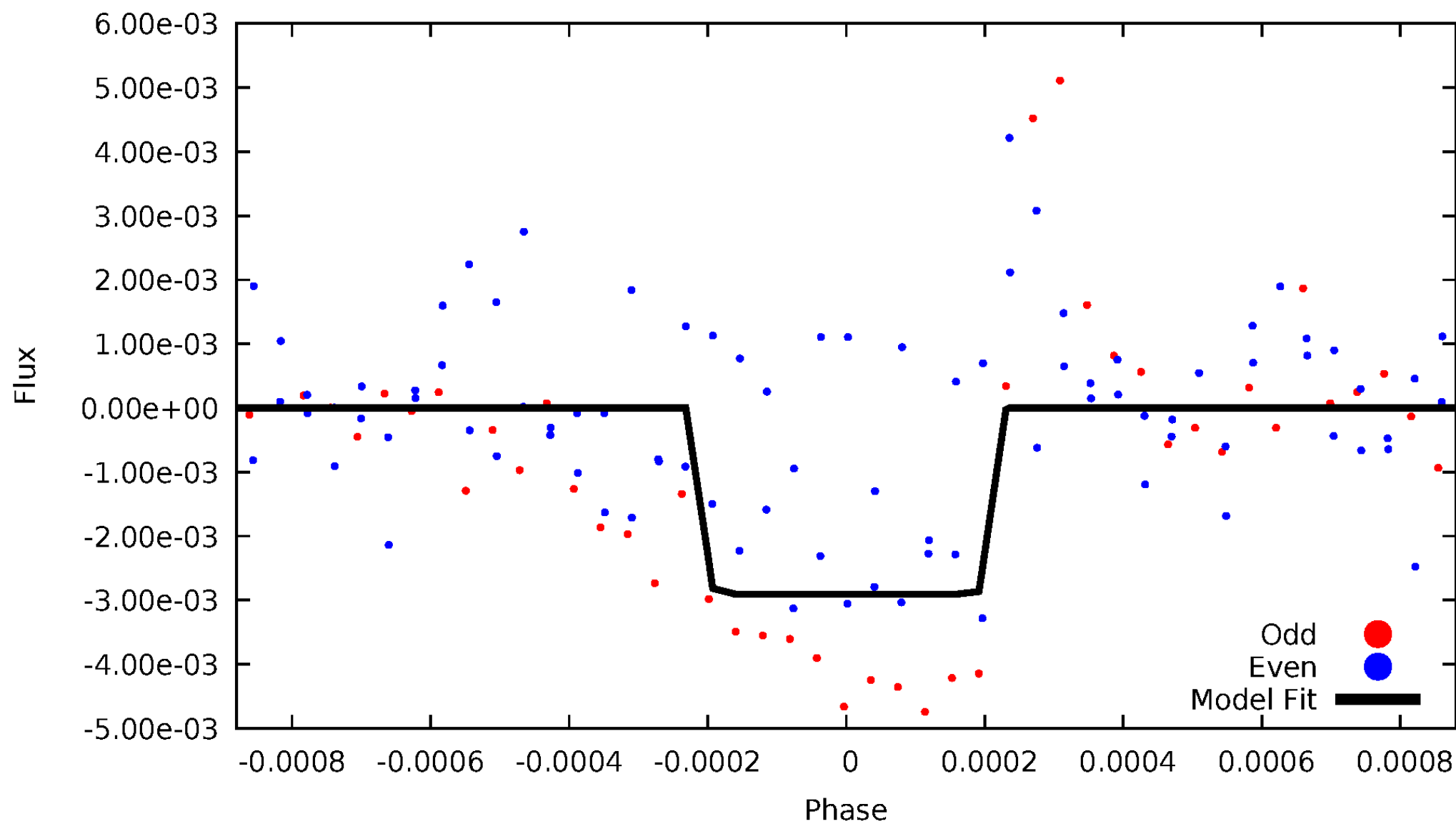
DV Odd/Even

TCE 011619189-01

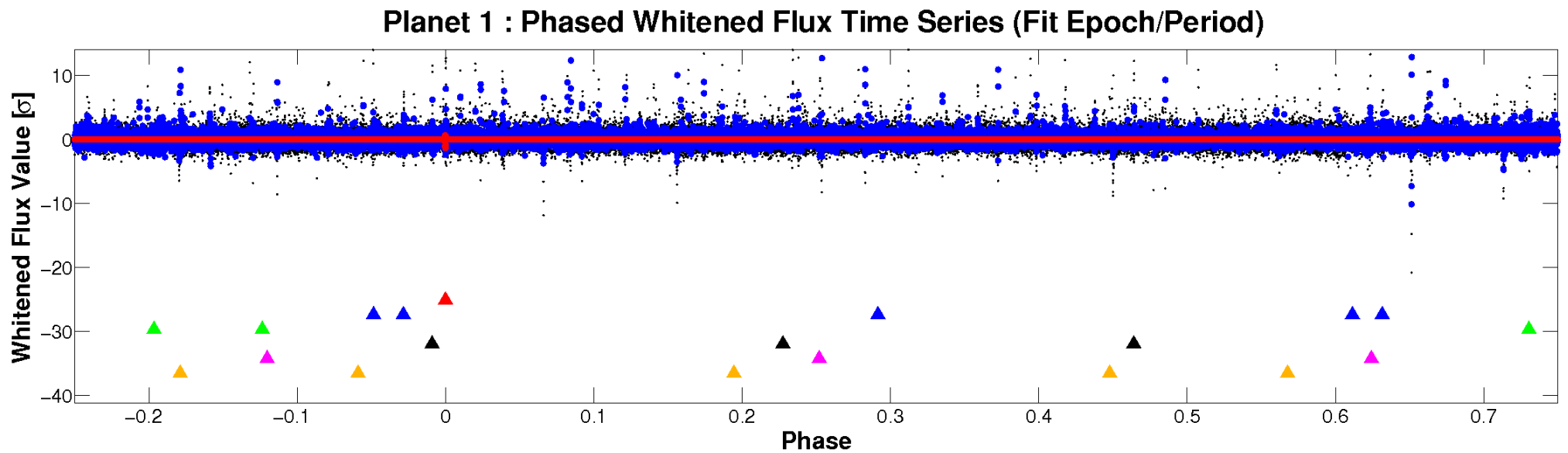
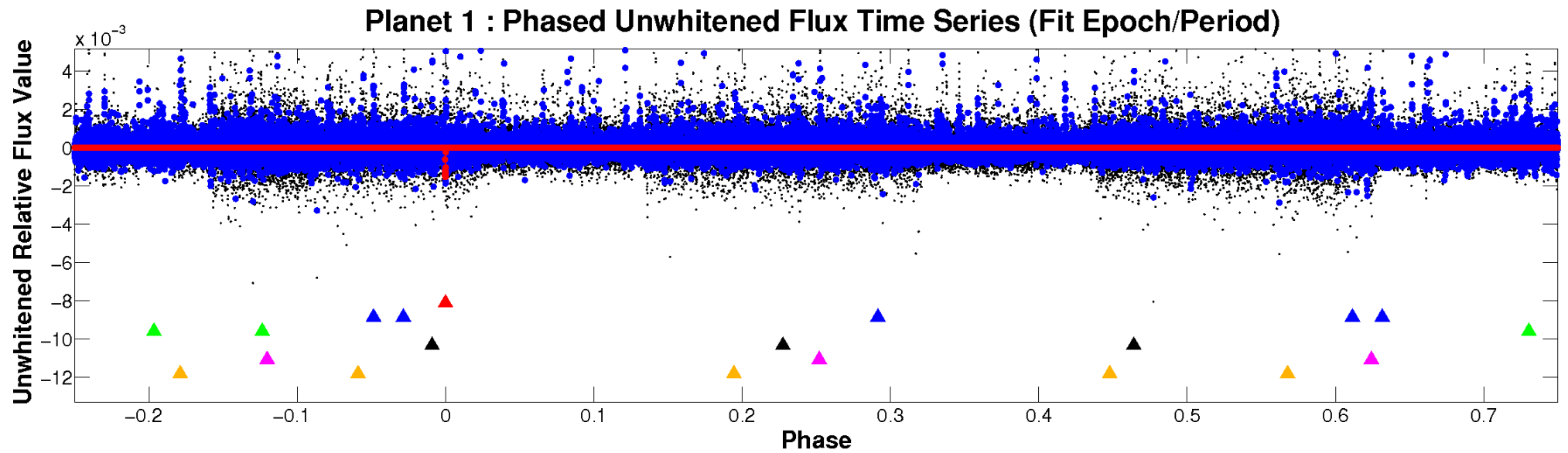


ALT Odd/Even

TCE 011619189-01

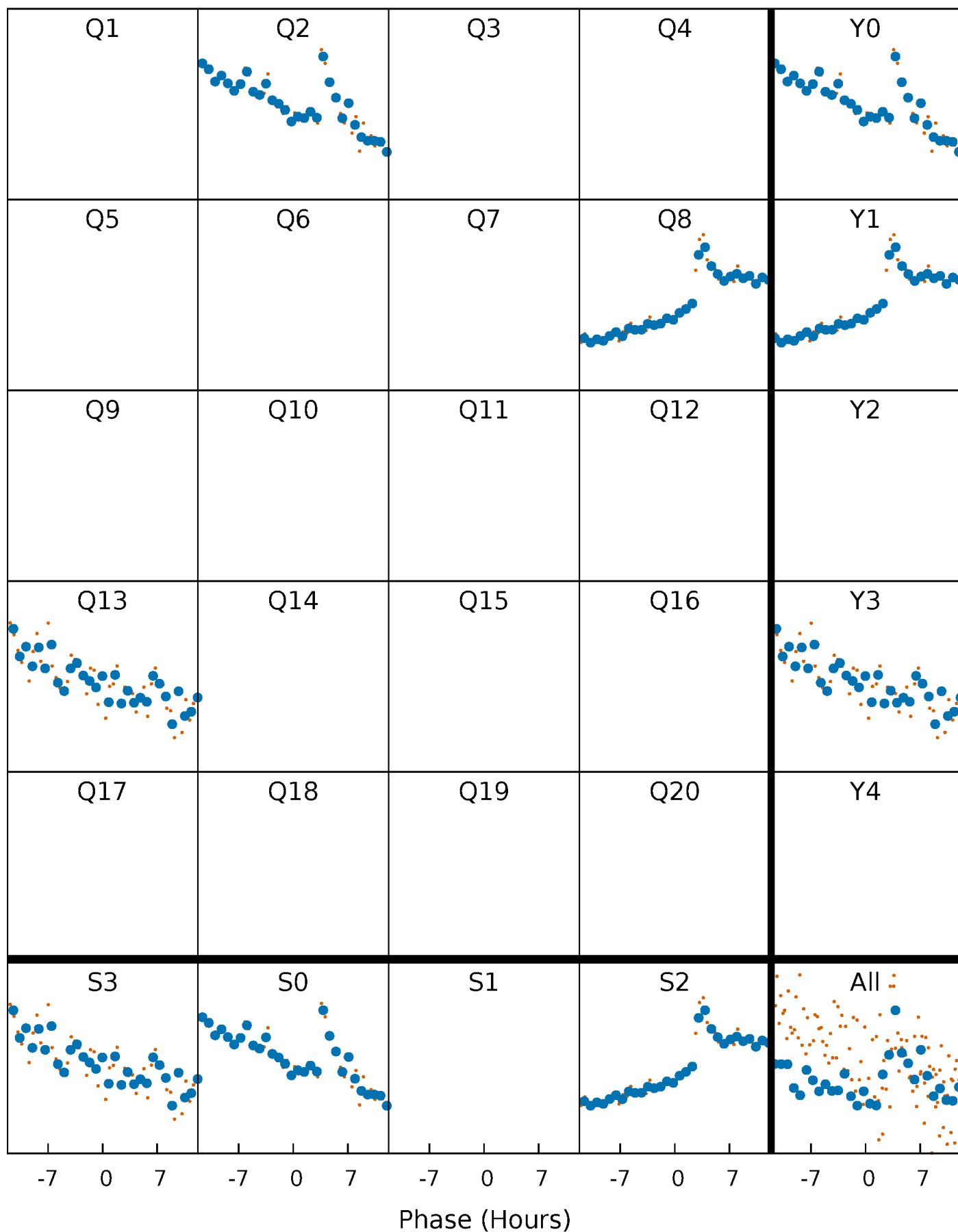


Non-Whitened Vs. Whitened Light Curve



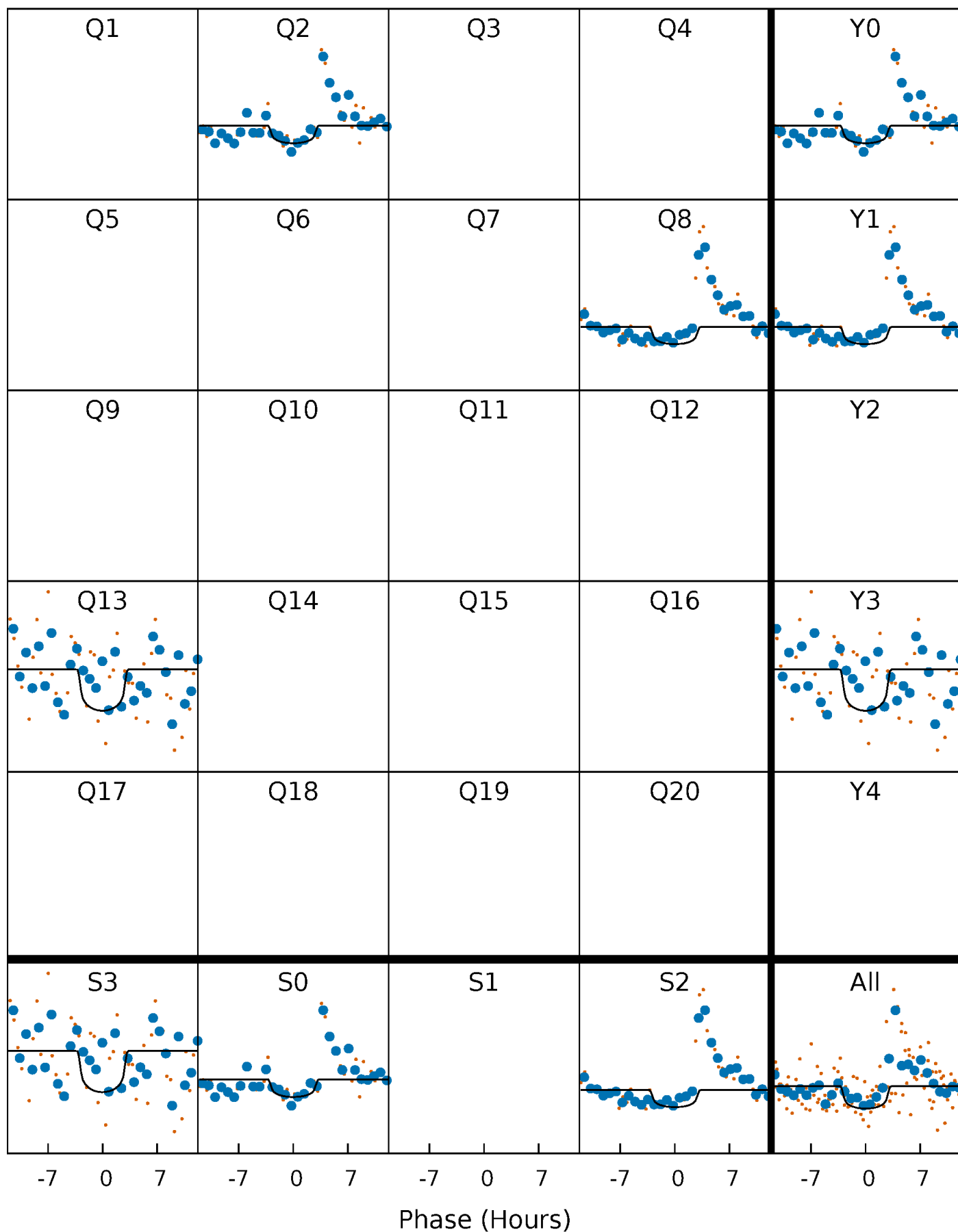
PDC Quarter-Phased Transit Curves

TCE 011619189-01 P=524.096211 Days $T_0=213.649155$ (BKJD)



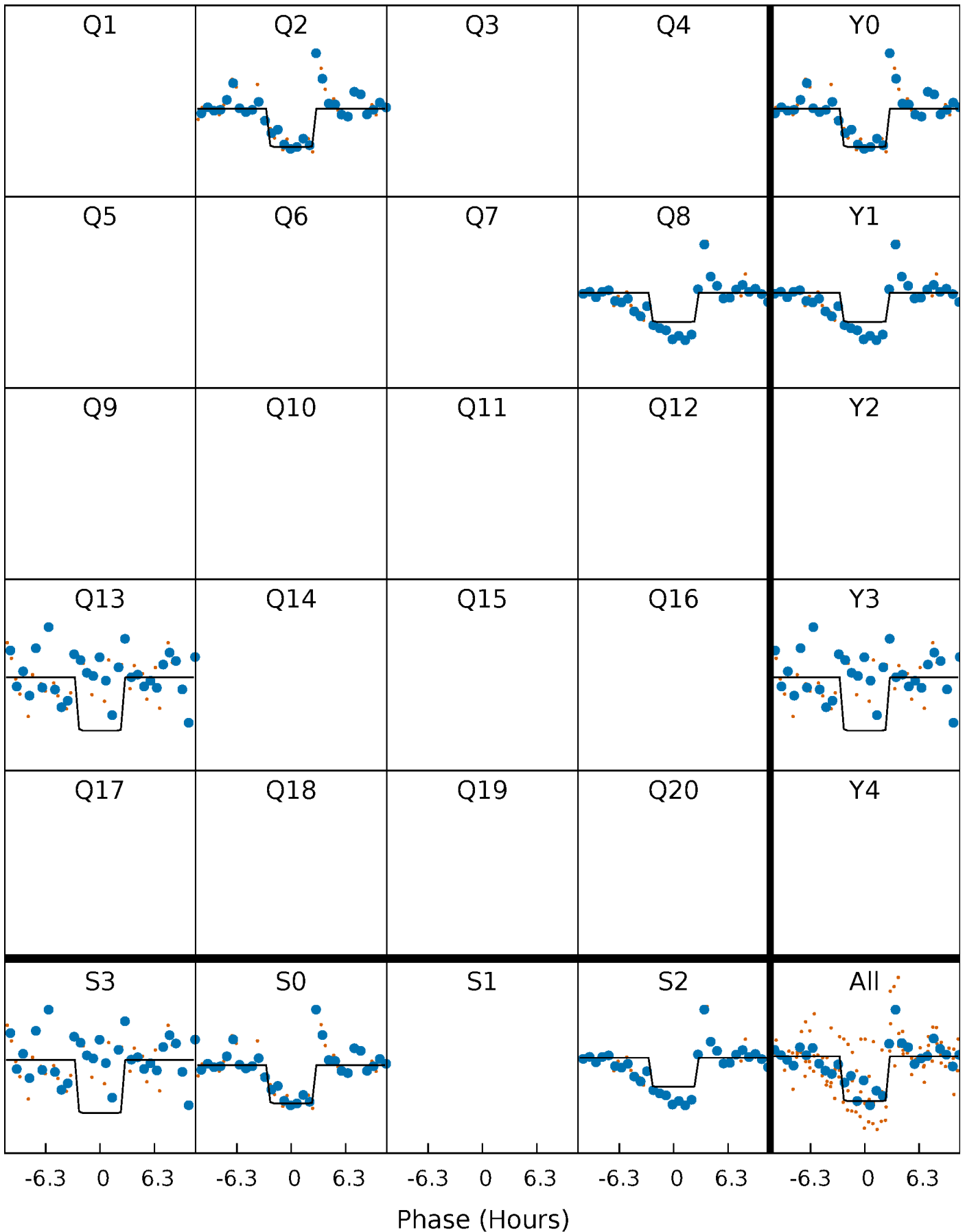
DV Quarter-Phased Transit Curves

TCE 011619189-01 P=524.096211 Days $T_0=213.649155$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

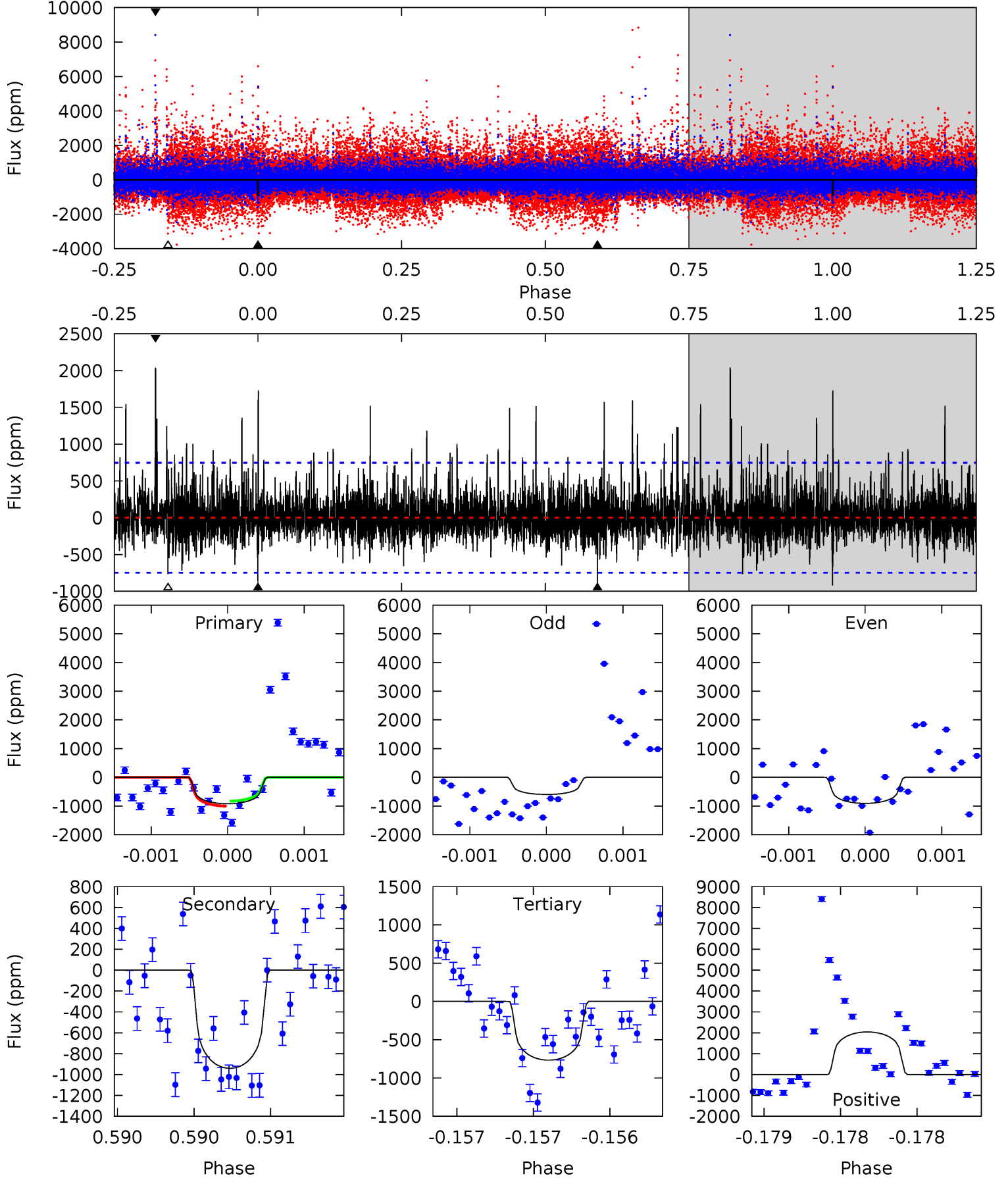
TCE 011619189-01 P=524.059513 Days $T_0=213.676504$ (BKJD)



DV Model-Shift Uniqueness Test

011619189-01, P = 524.096211 Days, E = 213.649155 Days

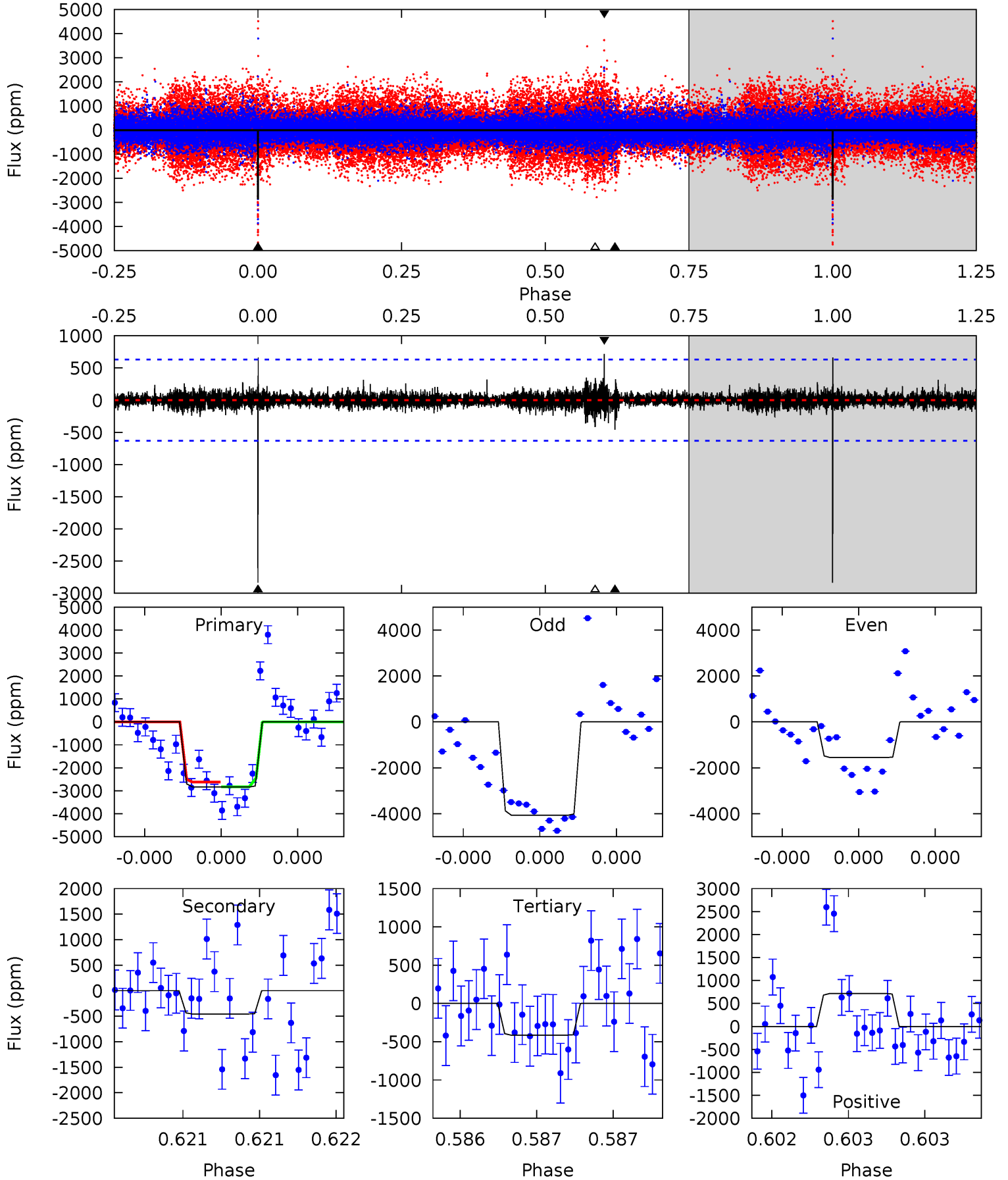
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.86	7.00	5.71	15.2	5.57	3.48	1.84	1.15	-8.33	1.29	-8.18	0.83	1.34	0.68	0.65



Alt Model-Shift Uniqueness Test

011619189-01, P = 524.059513 Days, E = 213.676504 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.1	4.05	3.67	6.35	5.60	3.52	0.55	21.5	18.8	0.38	-2.30	10.6	0.84	0.20	0.86



Stellar Parameters For KIC 011619189

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5038^{+150}_{-150}	$4.646^{+0.060}_{-0.040}$	$-0.920^{+0.300}_{-0.300}$	$0.613^{+0.048}_{-0.048}$	$0.607^{+0.056}_{-0.026}$	$3.709^{+0.910}_{-0.562}$
	+3%/-3%	+1%/-1%	+33%/-33%	+8%/-8%	+9%/-4%	+25%/-15%
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 011619189-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-940 ± 134	$3.03^{+2.16}_{-1.90}$	233^{+9}_{-9}	4313^{+2363}_{-744}	$66688^{+407129}_{-44528}$
Alt.	-456 ± 113	$3.86^{+2.30}_{-2.08}$	234^{+8}_{-9}	3486^{+1074}_{-462}	19453^{+67271}_{-11894}

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

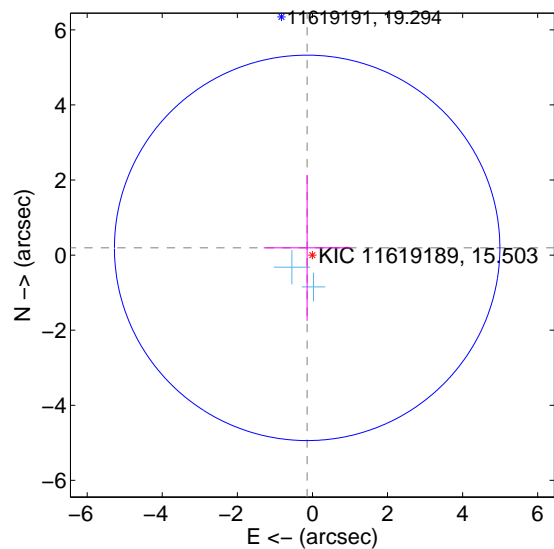
Supplemental centroid analysis for 011619189-01. Kepler magnitude: 15.50. Transit SNR 7.41

There are 2 quarters with good PRF difference image offsets

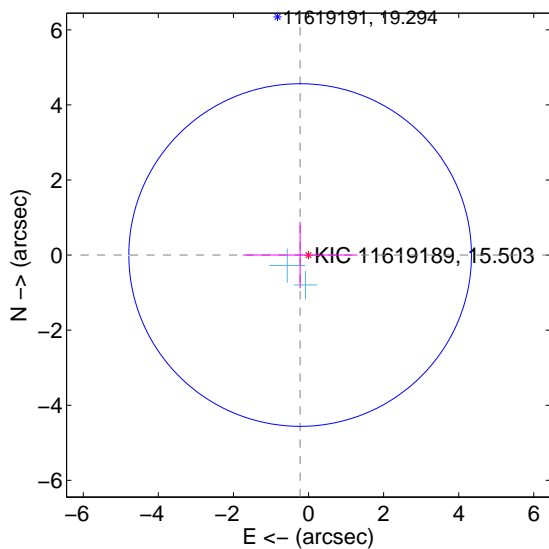
The OOT PRF centroid is offset from the target star catalog position by about 2.49 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.239 ± 1.711	0.14	0.141 ± 1.156	0.193 ± 1.943
PRF-fit source offset from KIC position	0.223 ± 1.521	0.15	0.223 ± 1.527	0.002 ± 0.886
photometric centroid source offset	1.06 ± 1.30	0.81	-0.05 ± 1.27	1.06 ± 1.30

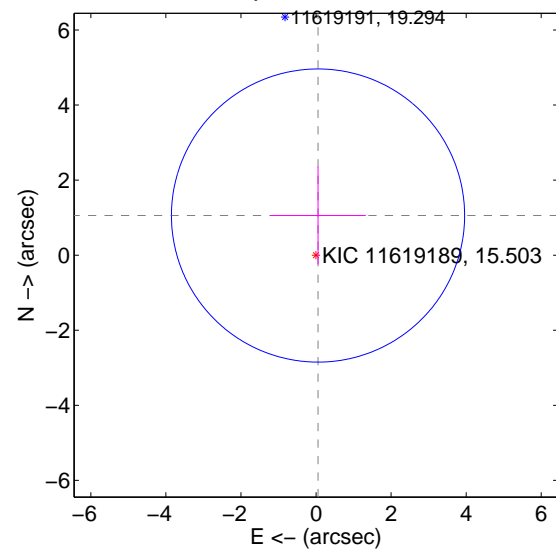
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



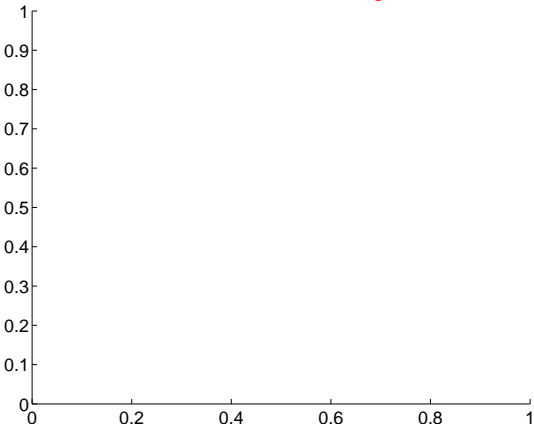
offset from photometric centroids



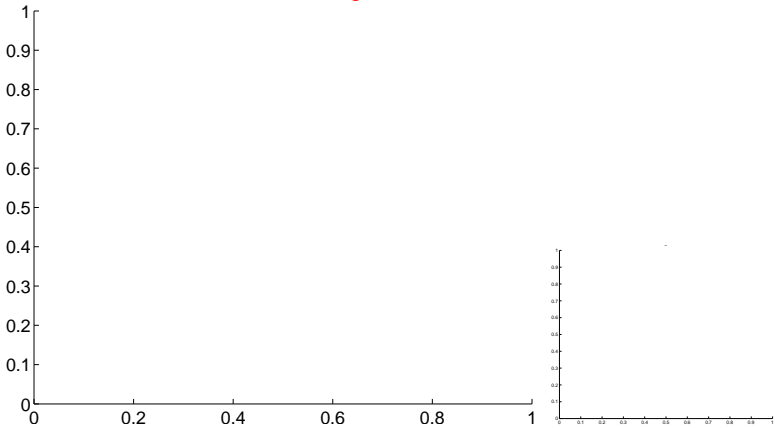
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

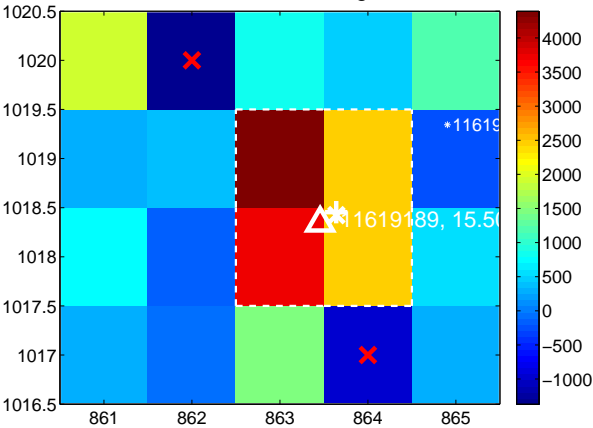
Q1 no difference image



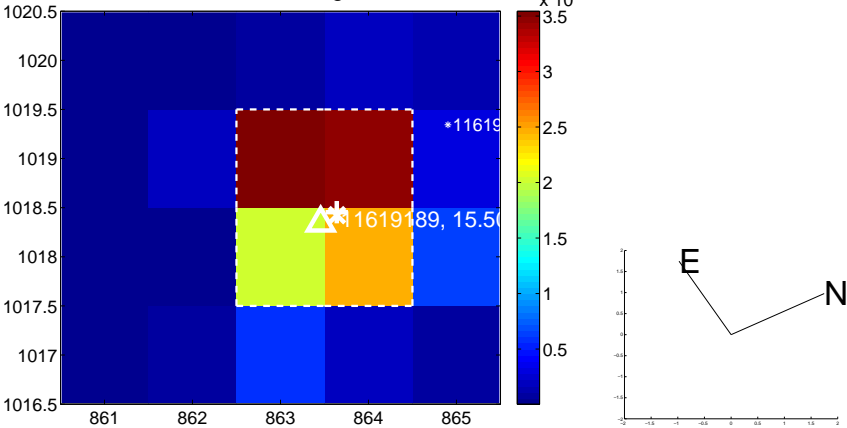
Q1 no OOT image



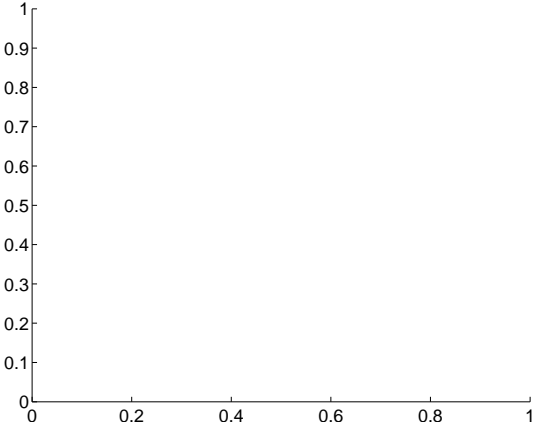
Q2 difference image



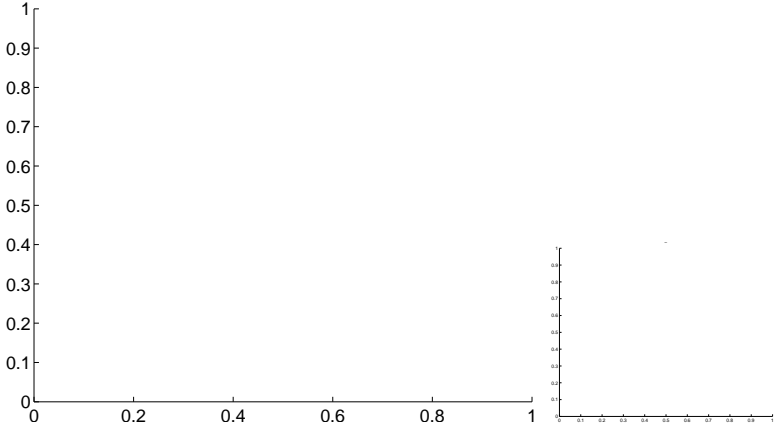
Q2 OOT image



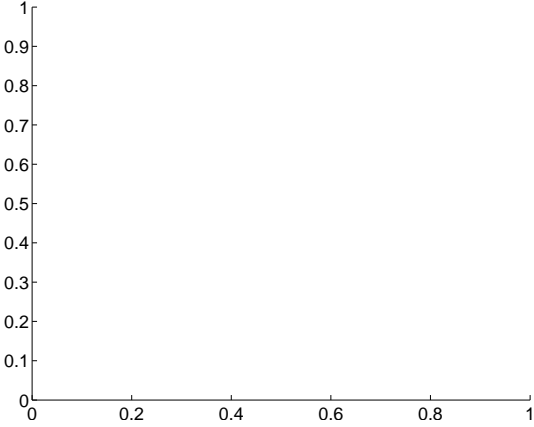
Q3 no difference image



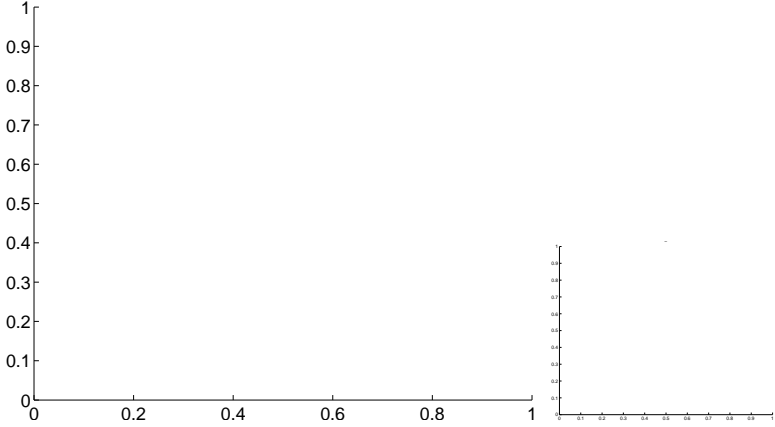
Q3 no OOT image



Q4 no difference image

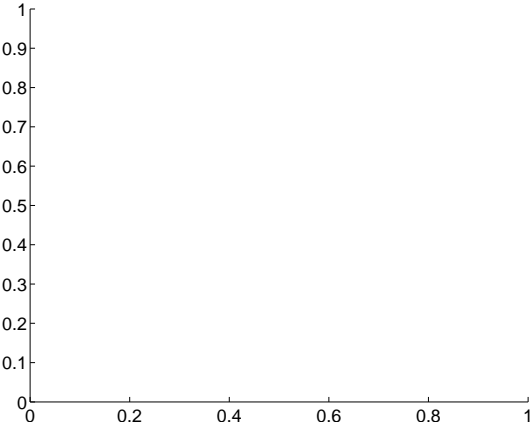


Q4 no OOT image

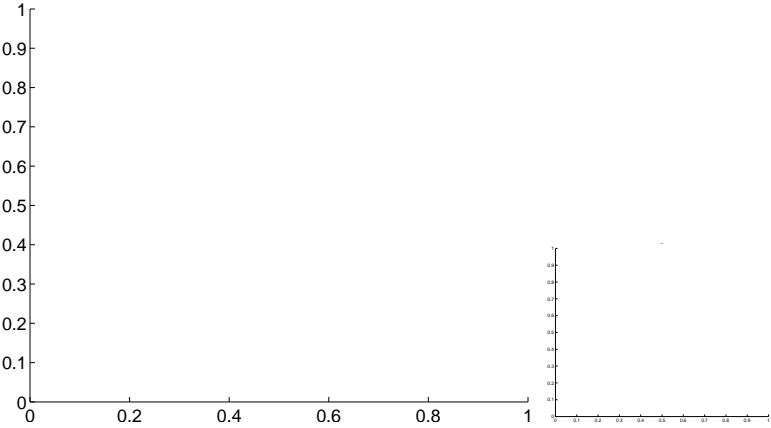


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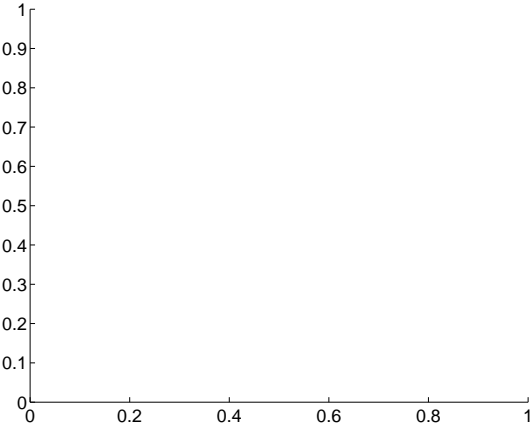
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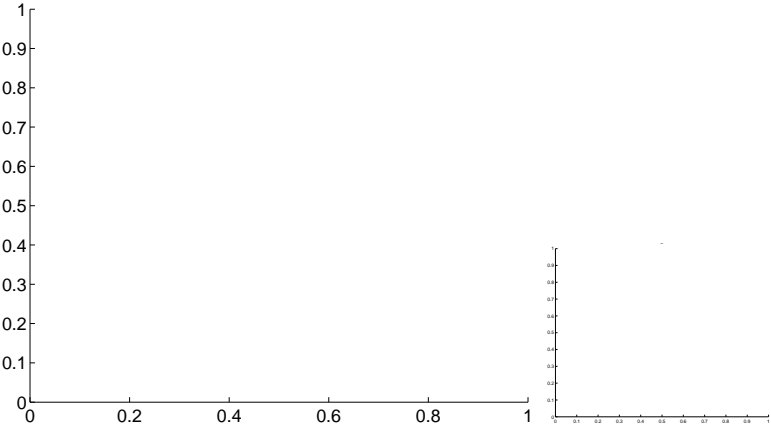
Q5 no OOT image



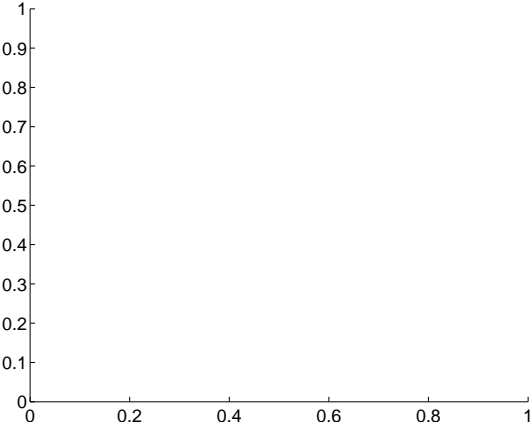
Q6 no difference image



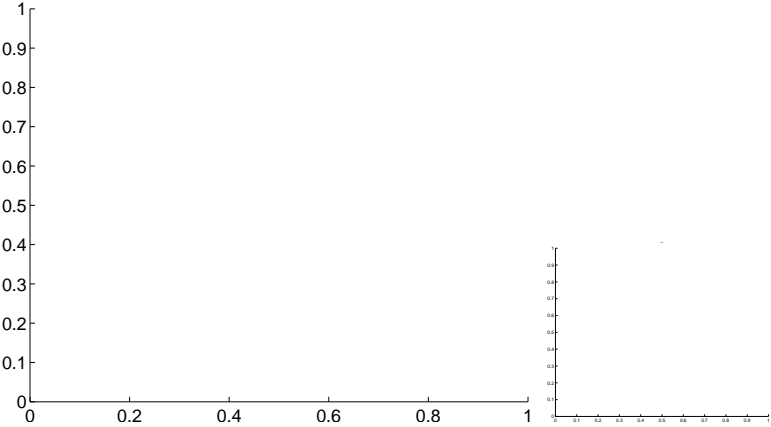
Q6 no OOT image



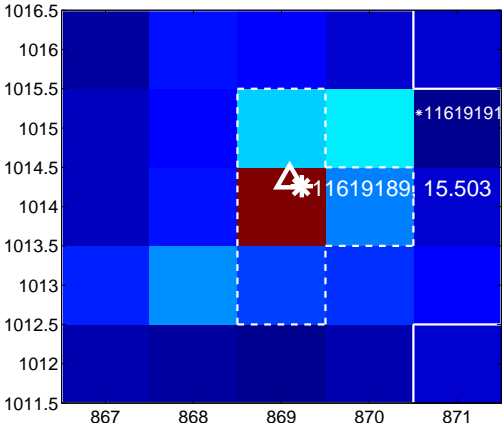
Q7 no difference image



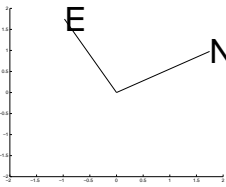
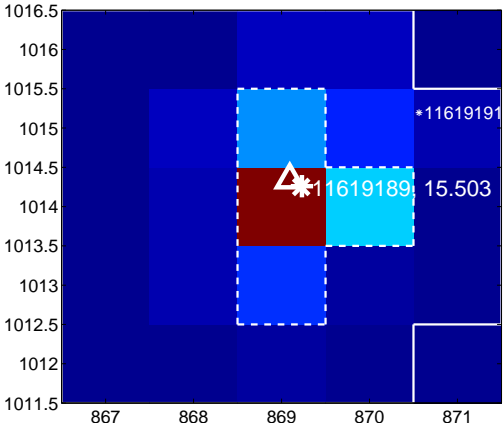
Q7 no OOT image



Q8 difference image



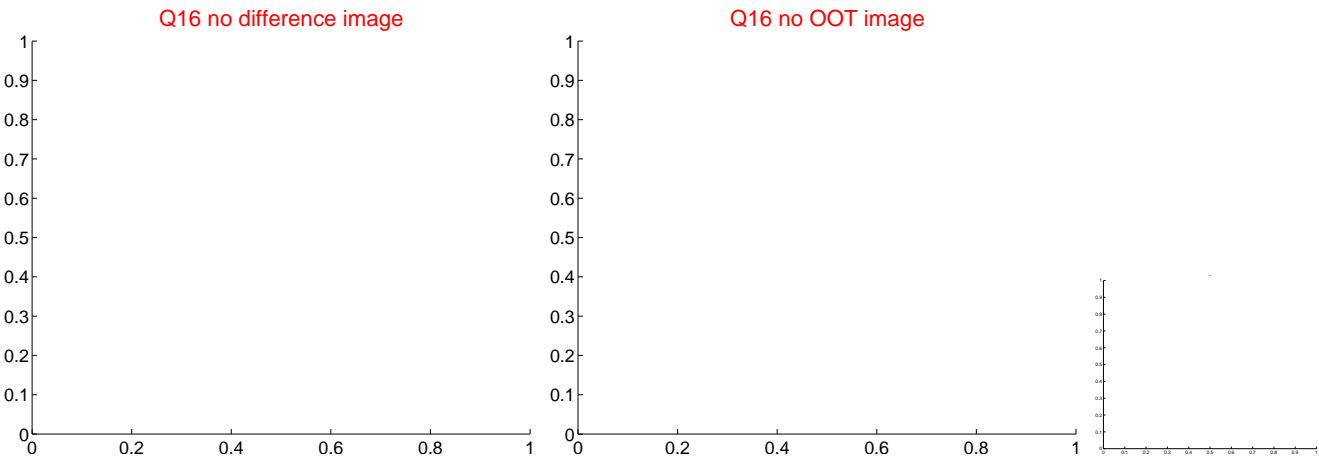
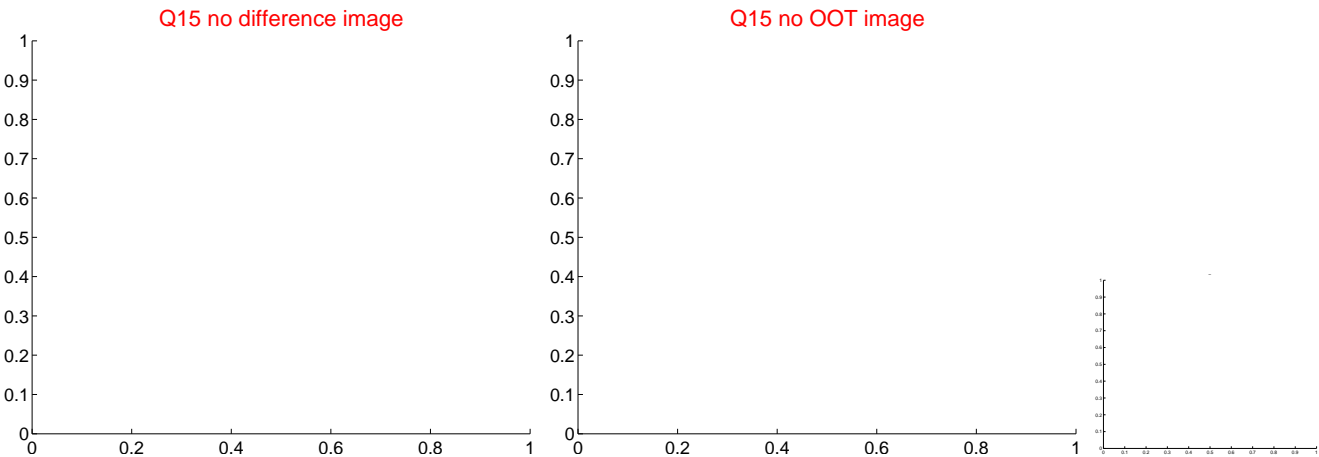
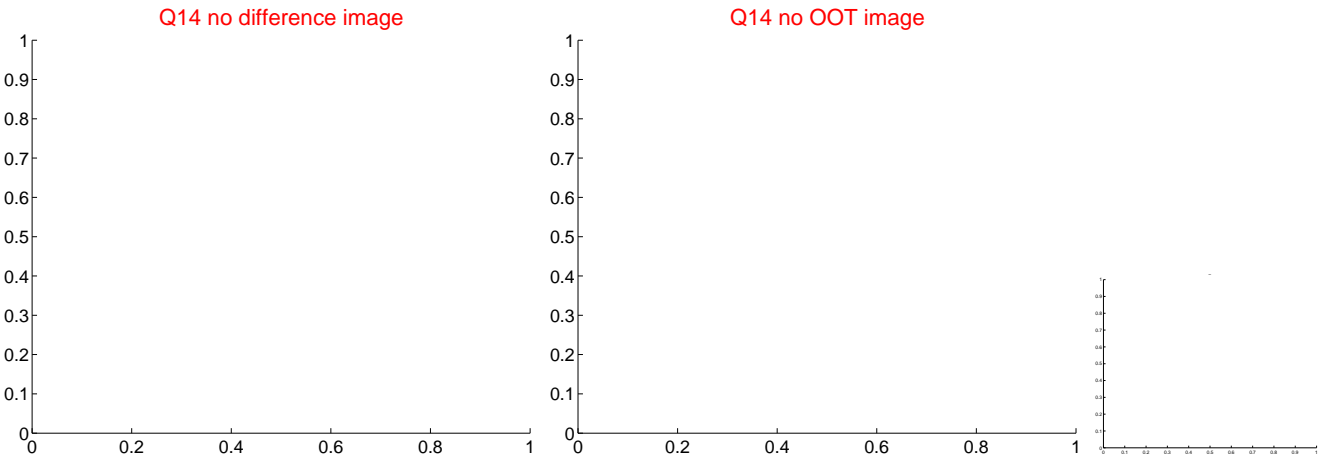
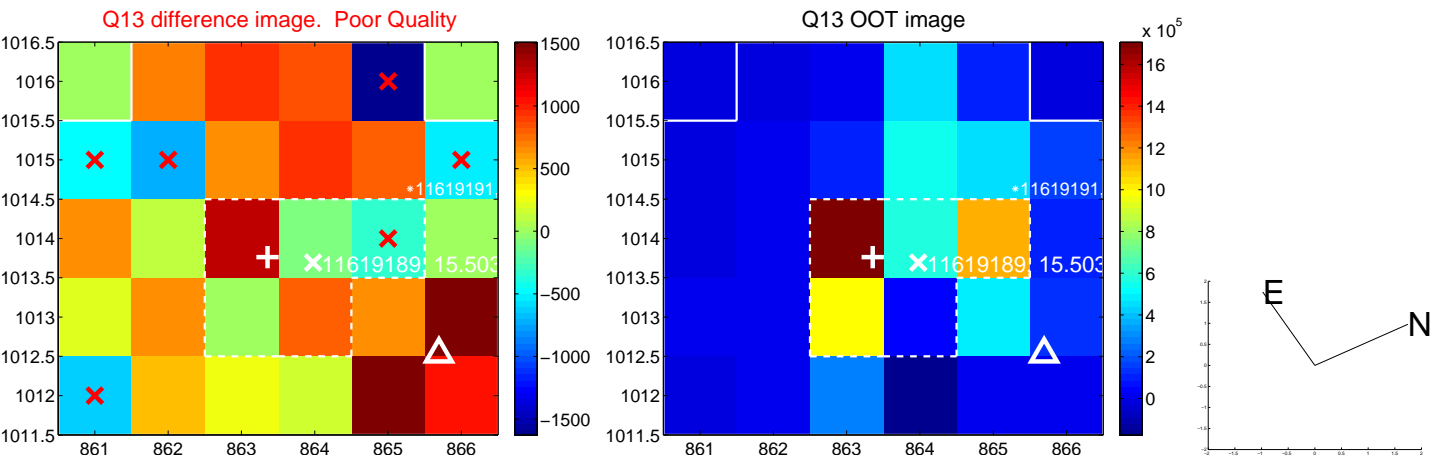
Q8 OOT image



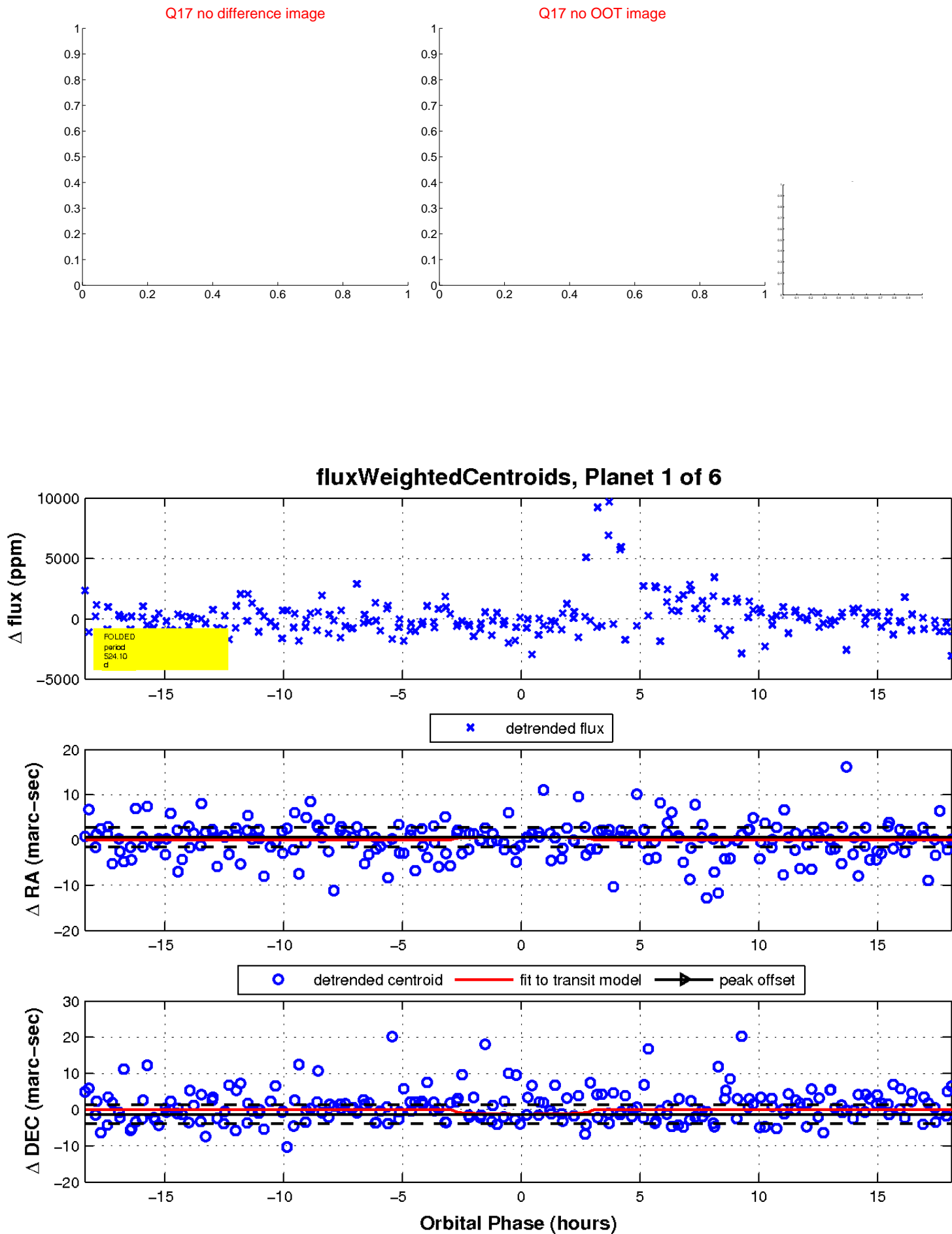
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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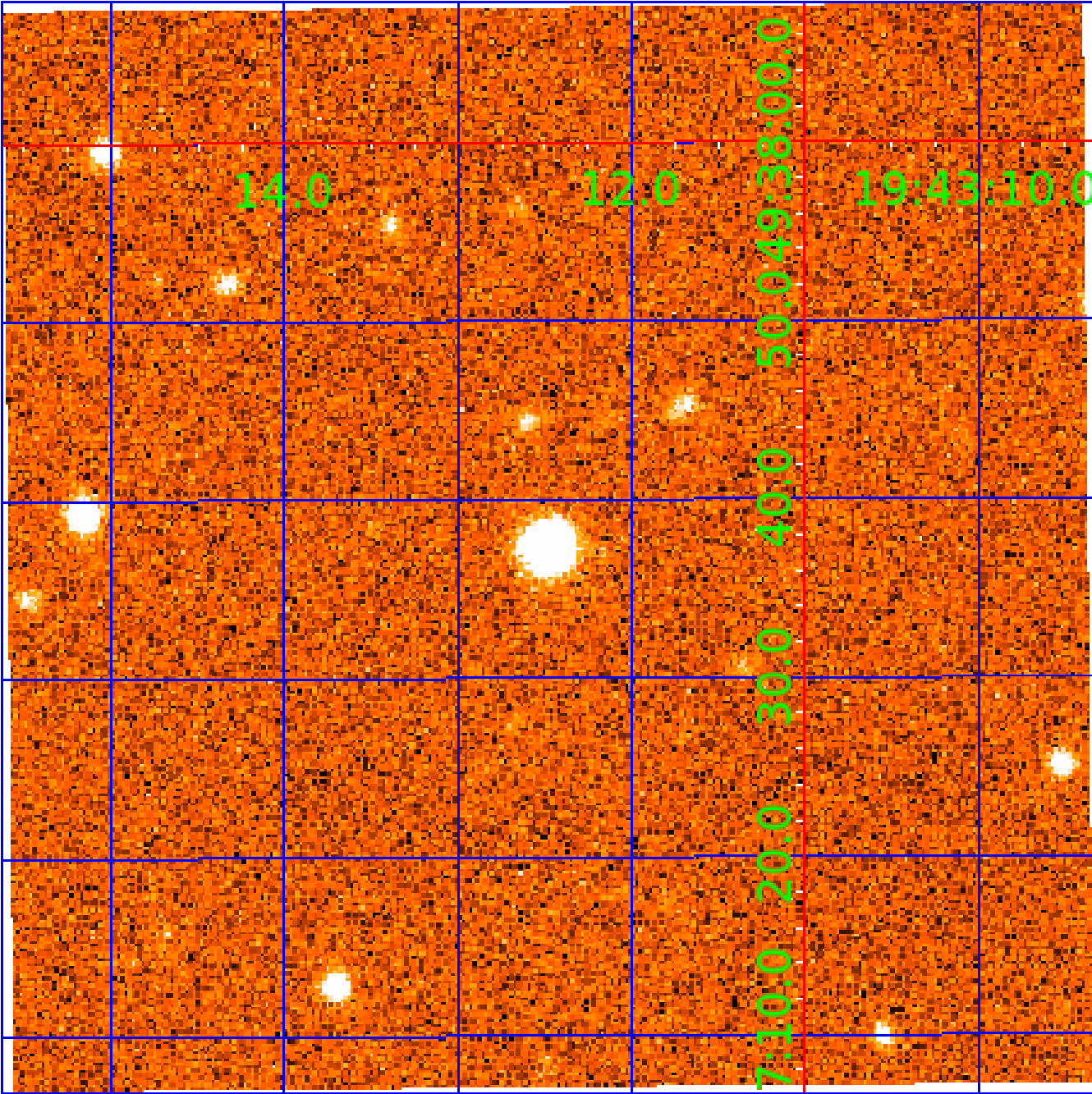


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UKIRT Image

Declination



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011619189-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
011619189-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
011619189-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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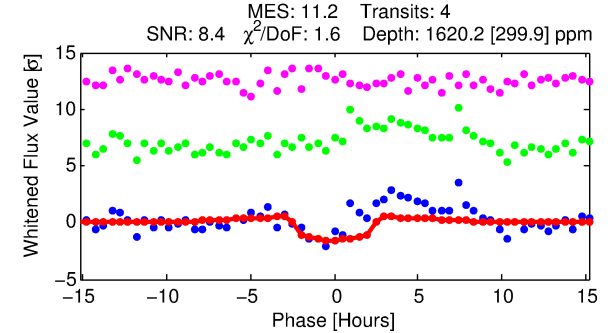
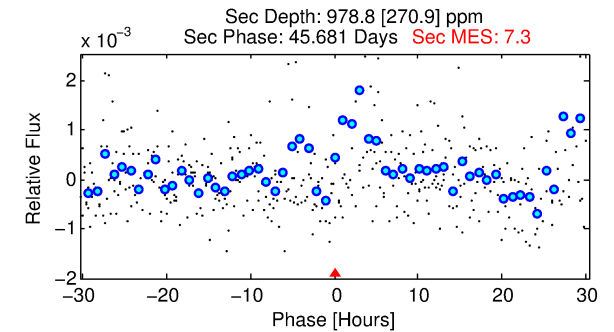
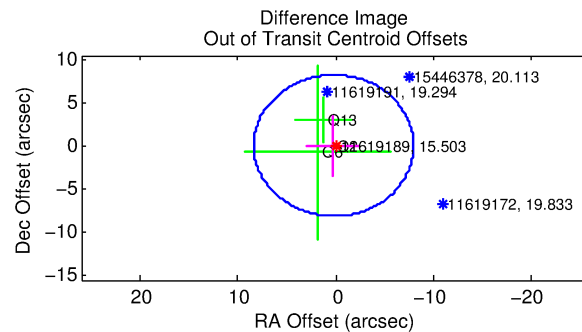
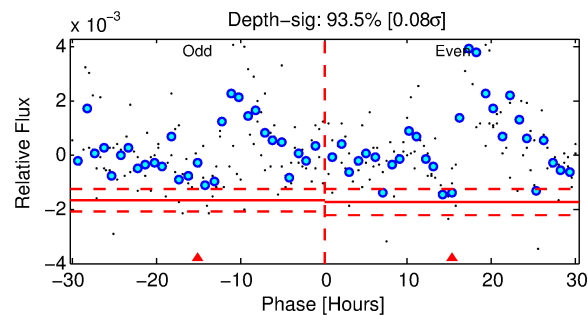
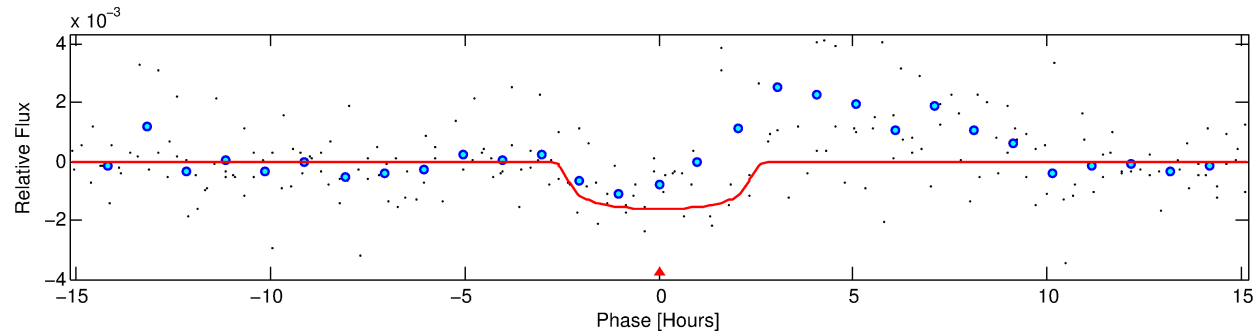
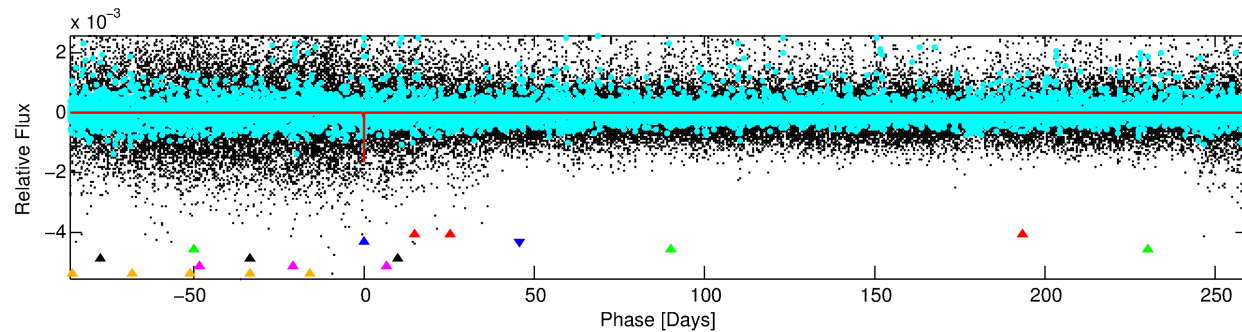
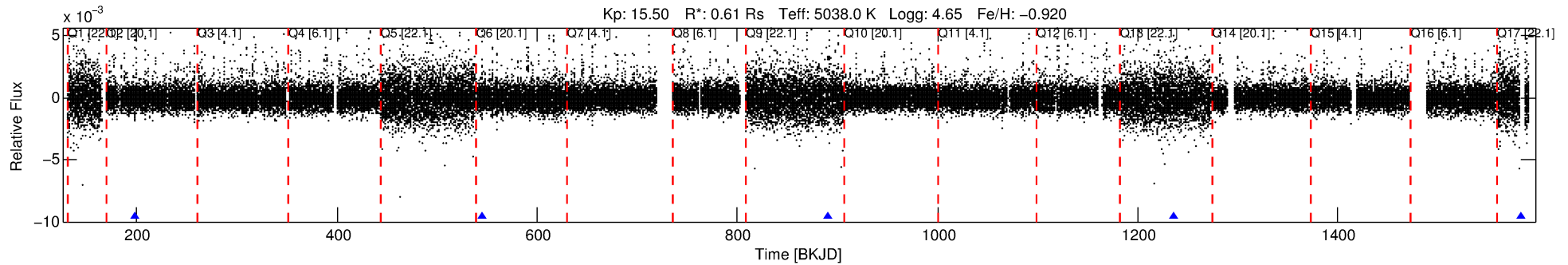
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011619189-02

No Significant Match Found

DV One-Page Summary

KIC: 11619189 Candidate: 2 of 6 Period: 345.888 d



DV Fit Results:

Period = 345.88836 [0.00727] d
Epoch = 198.7664 [0.0102] BKJD
Rp/R* = 0.0373 [0.0818]
a/R* = 485.80 [4215.08]
b = 0.46 [14.95]
Seff = 0.33 [0.05]
Teq = 193 [8] K
Rp = 2.49 [5.48] Re
a = 0.8165 [0.0568] AU
Ag = 57701.10 [253806.19] [0.23 σ]
Teffp = 4615 [5075] K [0.87 σ]

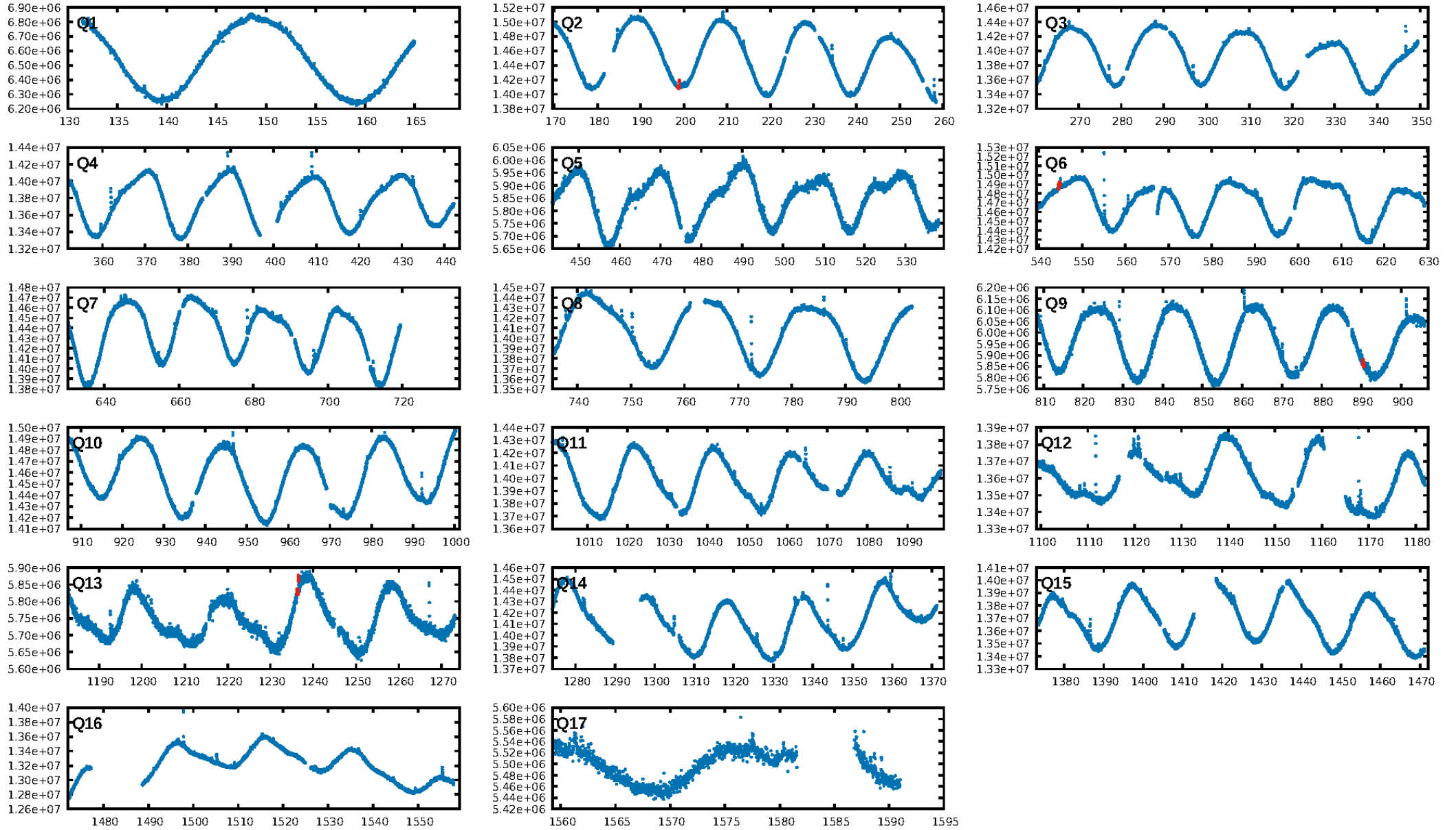
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [46.87 σ]
LongPeriod-sig: 100.0% [343.91 σ]
ModelChiSquare2-sig: 7.5%
ModelChiSquareGof-sig: 79.8%
Bootstrap-pfa: 3.89e-14
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.408
Centroid-sig: 11.7%
Centroid-so: 1.319 arcsec [1.16 σ]
OotOffset-rm: 0.216 arcsec [0.08 σ]
KicOffset-rm: 0.346 arcsec [0.13 σ]
OotOffset-st: 2/0/0/1 [3]
KicOffset-st: 2/0/0/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [4/4]

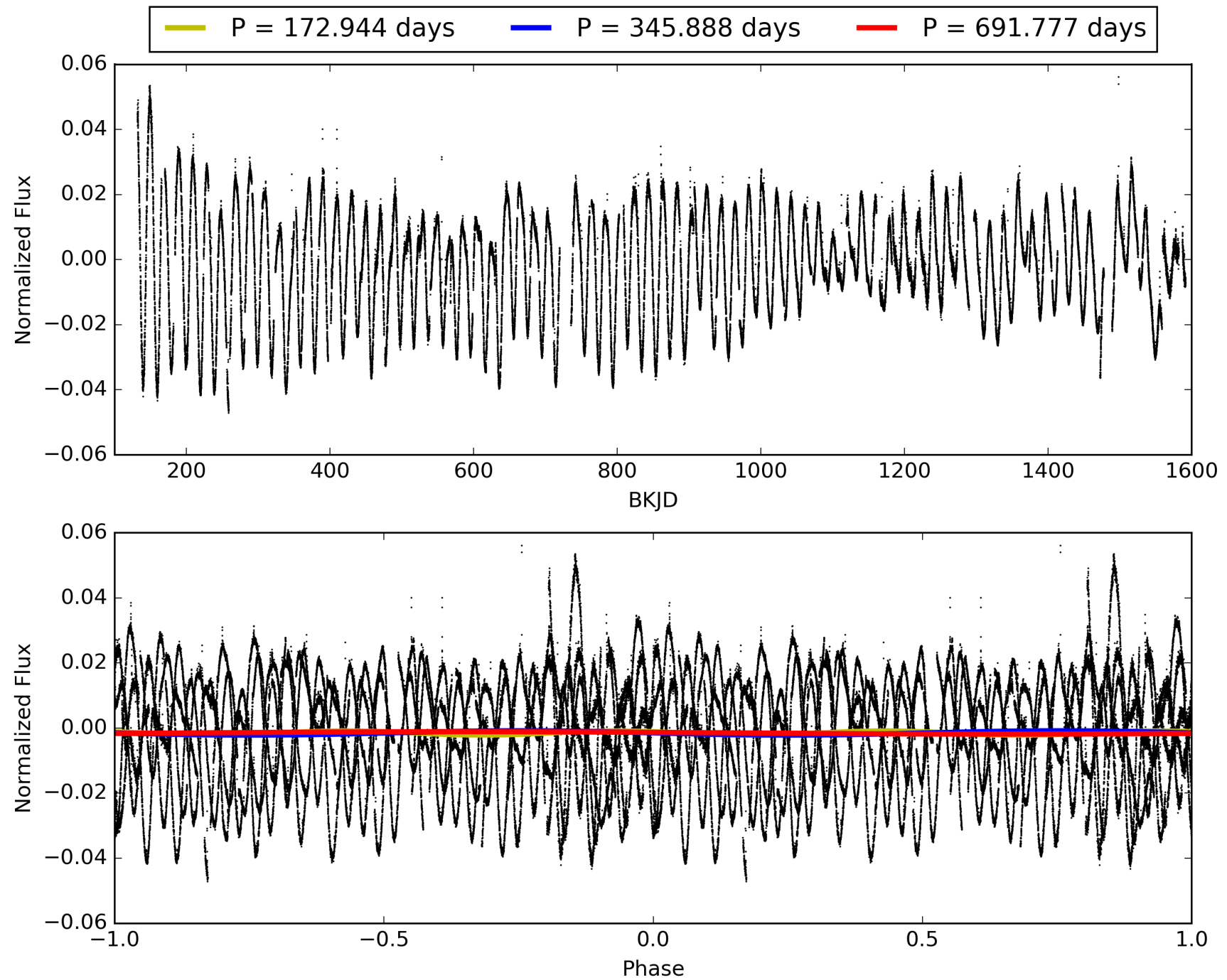
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:27:48 Z

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

TCE 011619189-02, PDC Light Curves

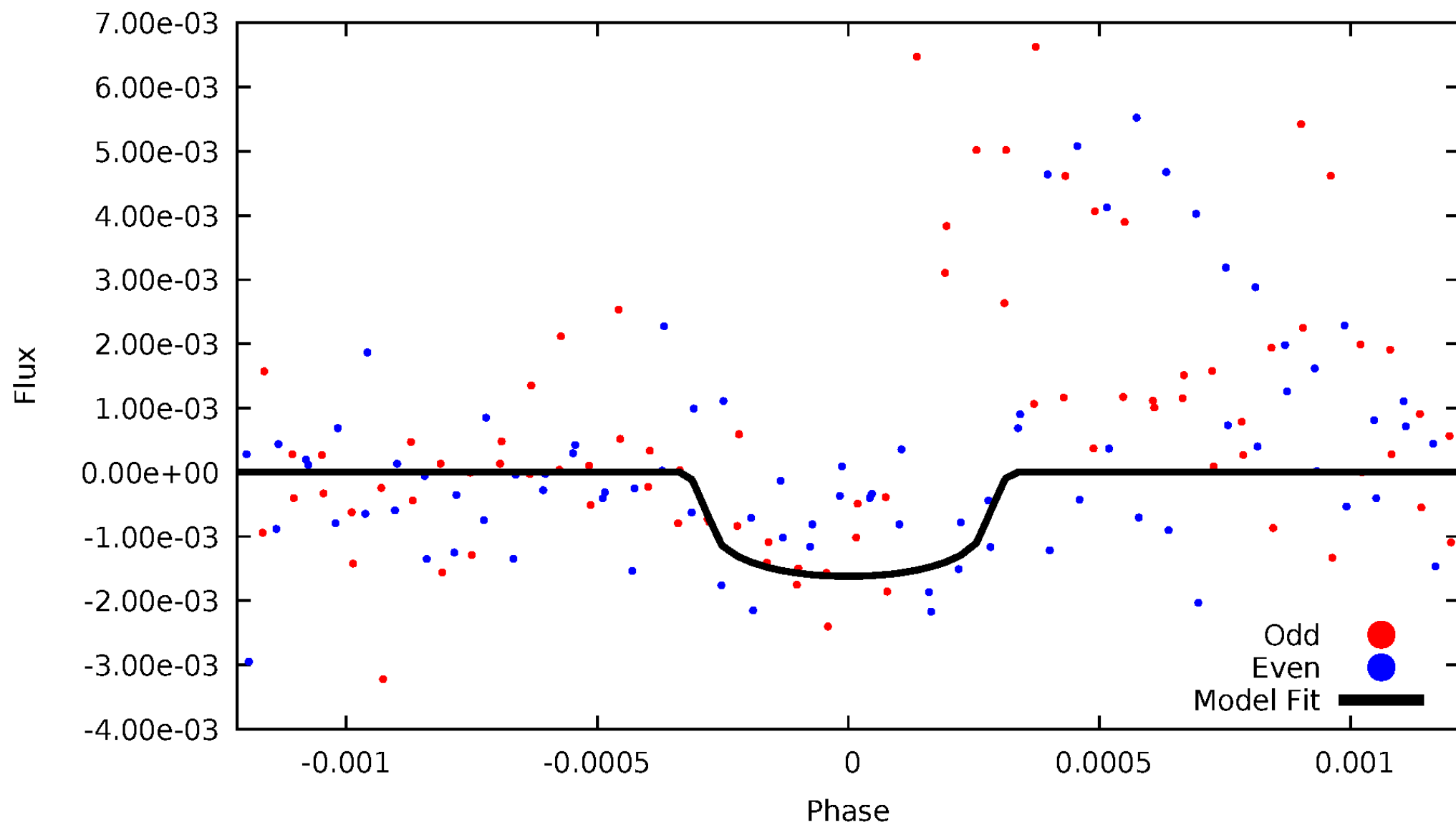


TCE 011619189-02



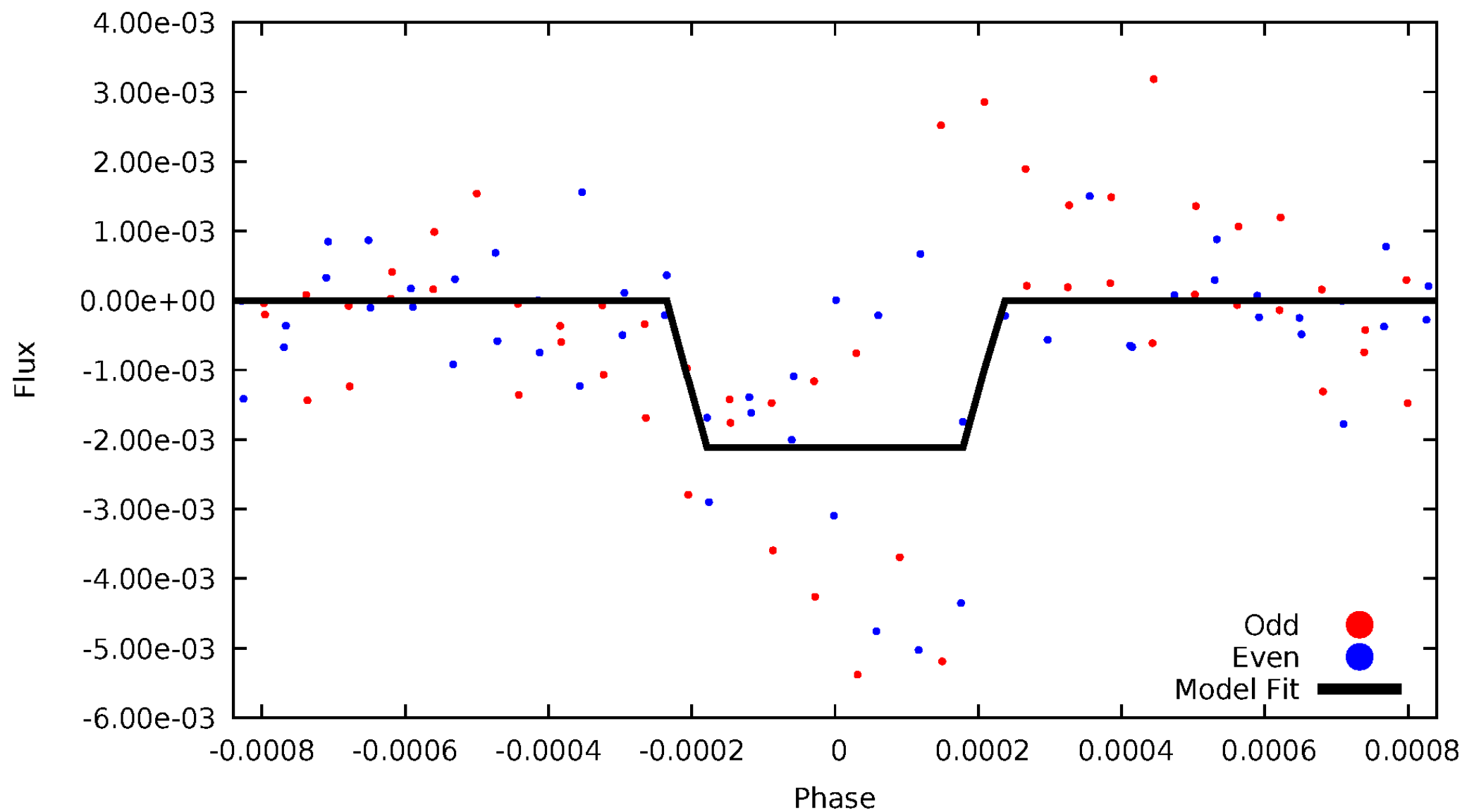
DV Odd/Even

TCE 011619189-02



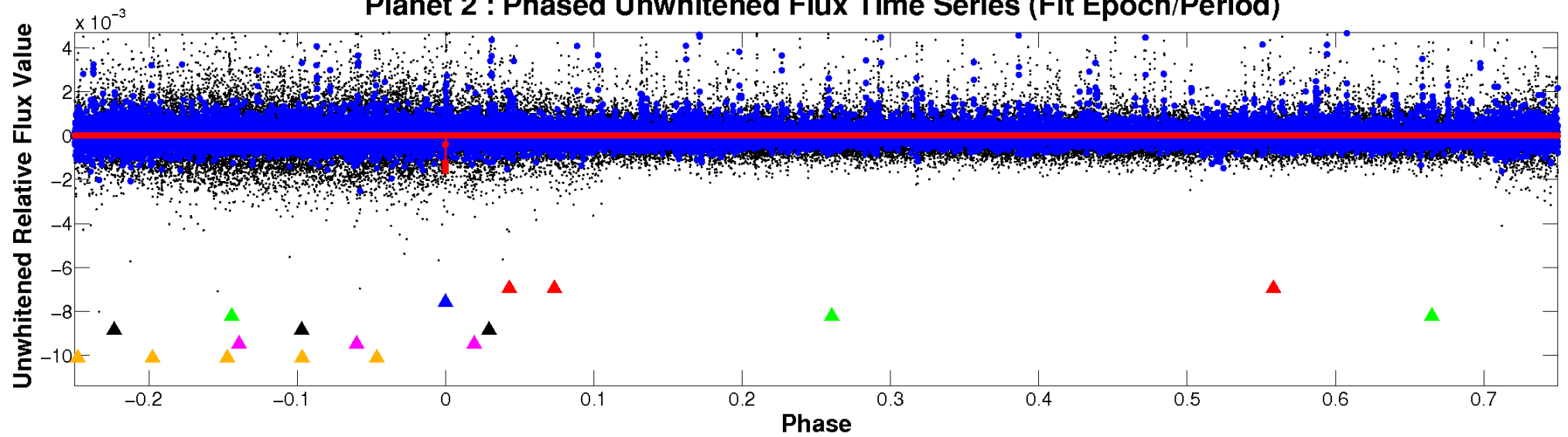
ALT Odd/Even

TCE 011619189-02

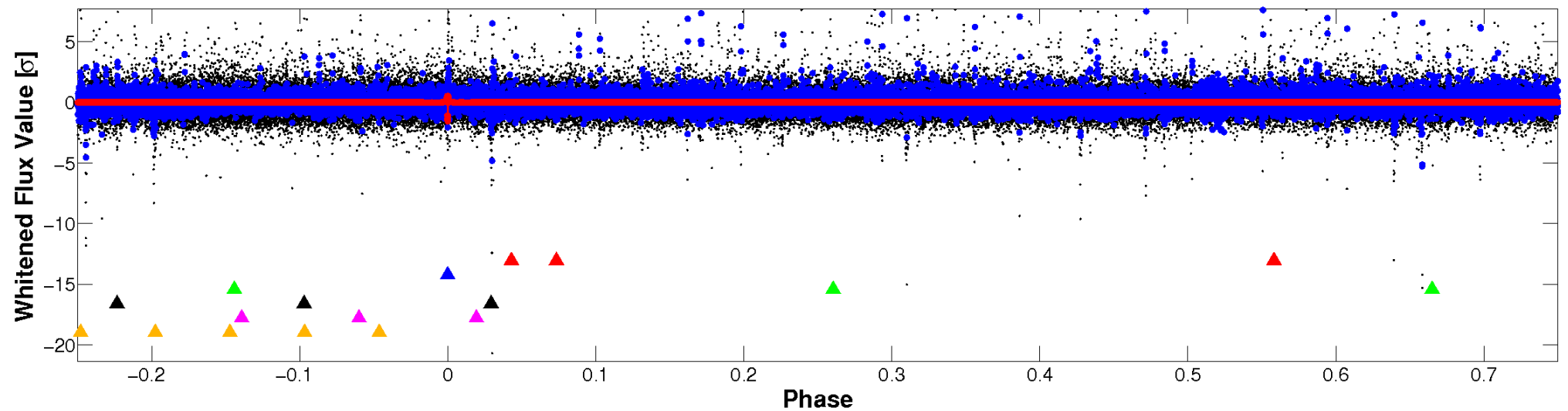


Non-Whitened Vs. Whitened Light Curve

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

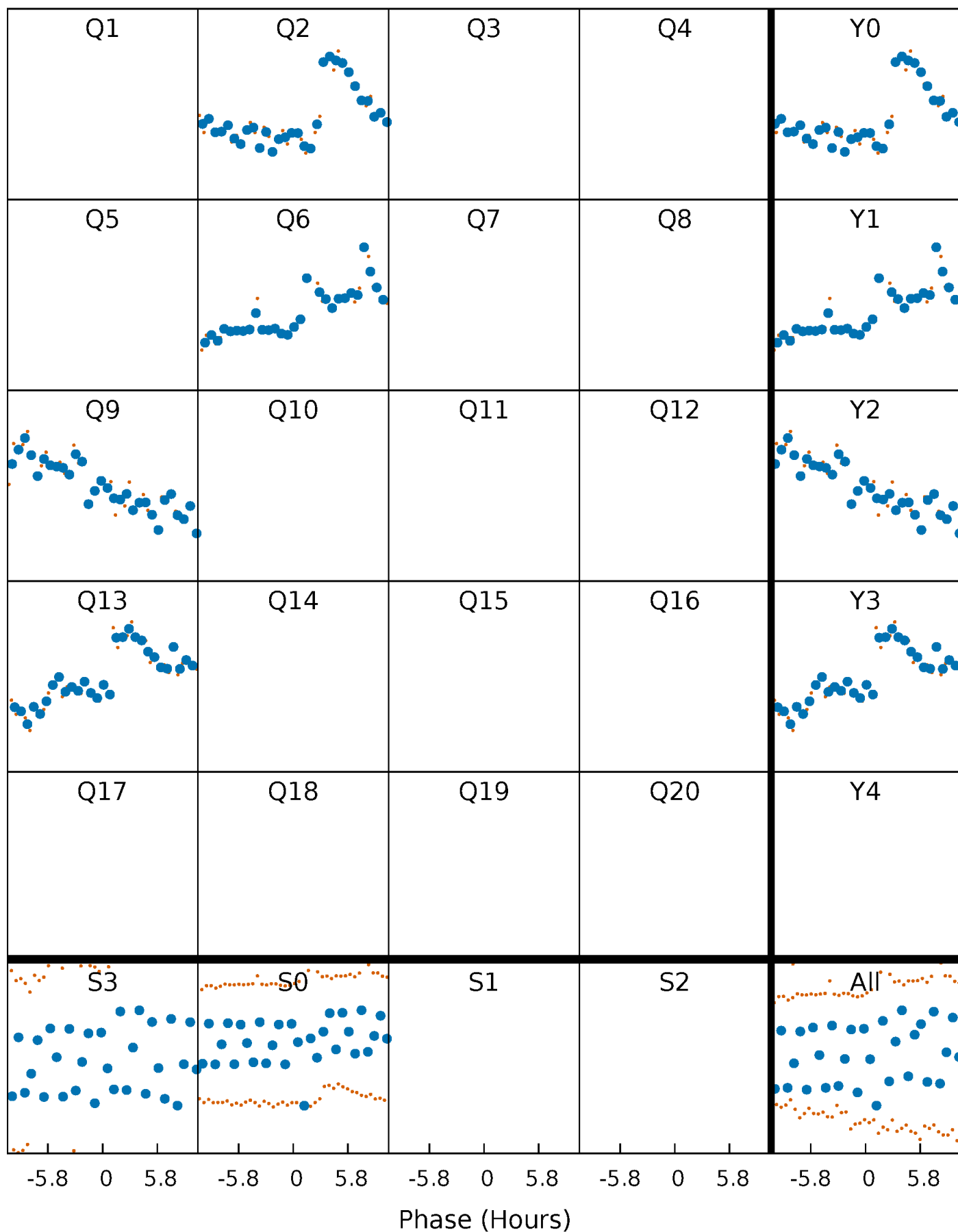


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



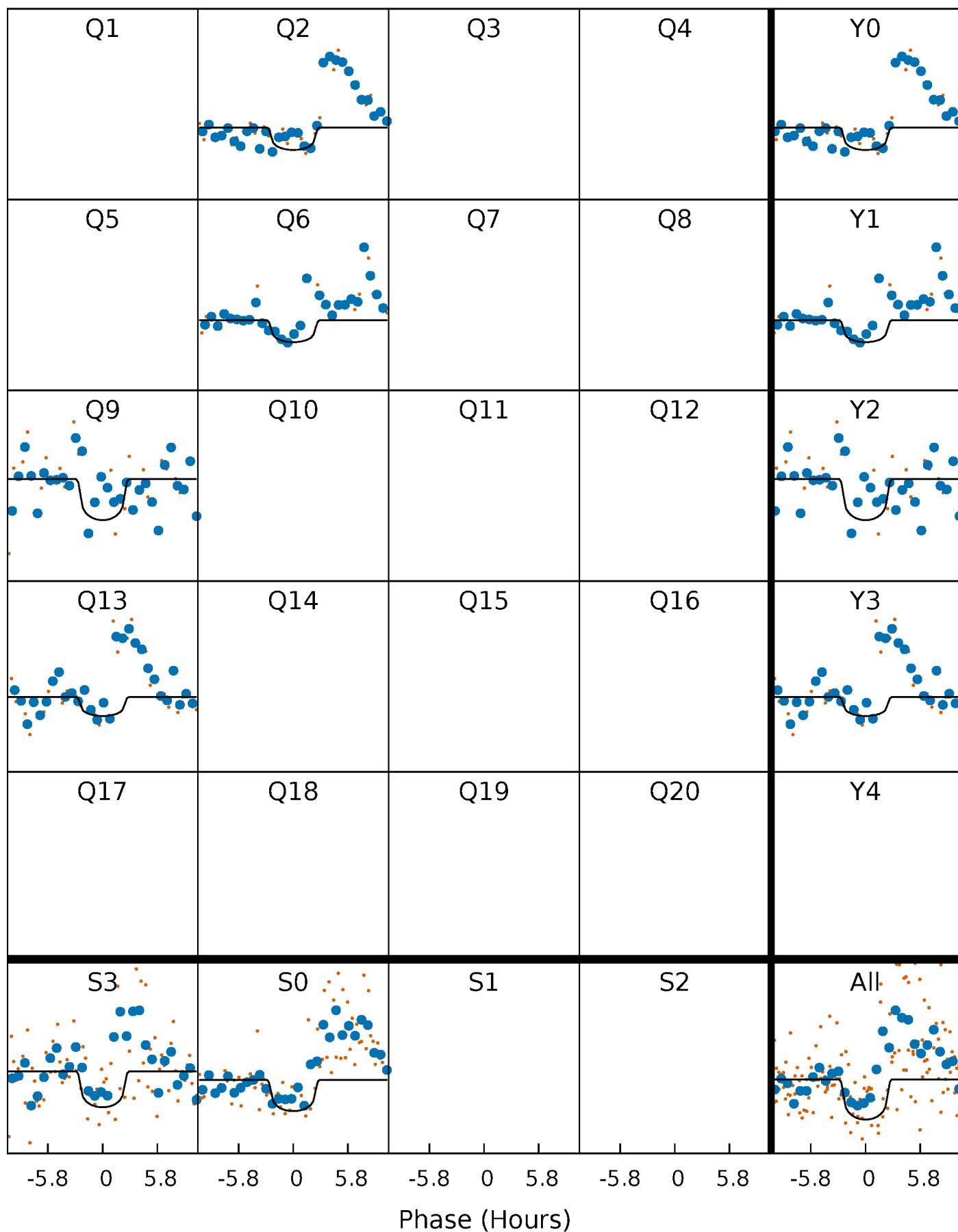
PDC Quarter-Phased Transit Curves

TCE 011619189-02 $P=345.888355$ Days $T_0=198.766374$ (BKJD)



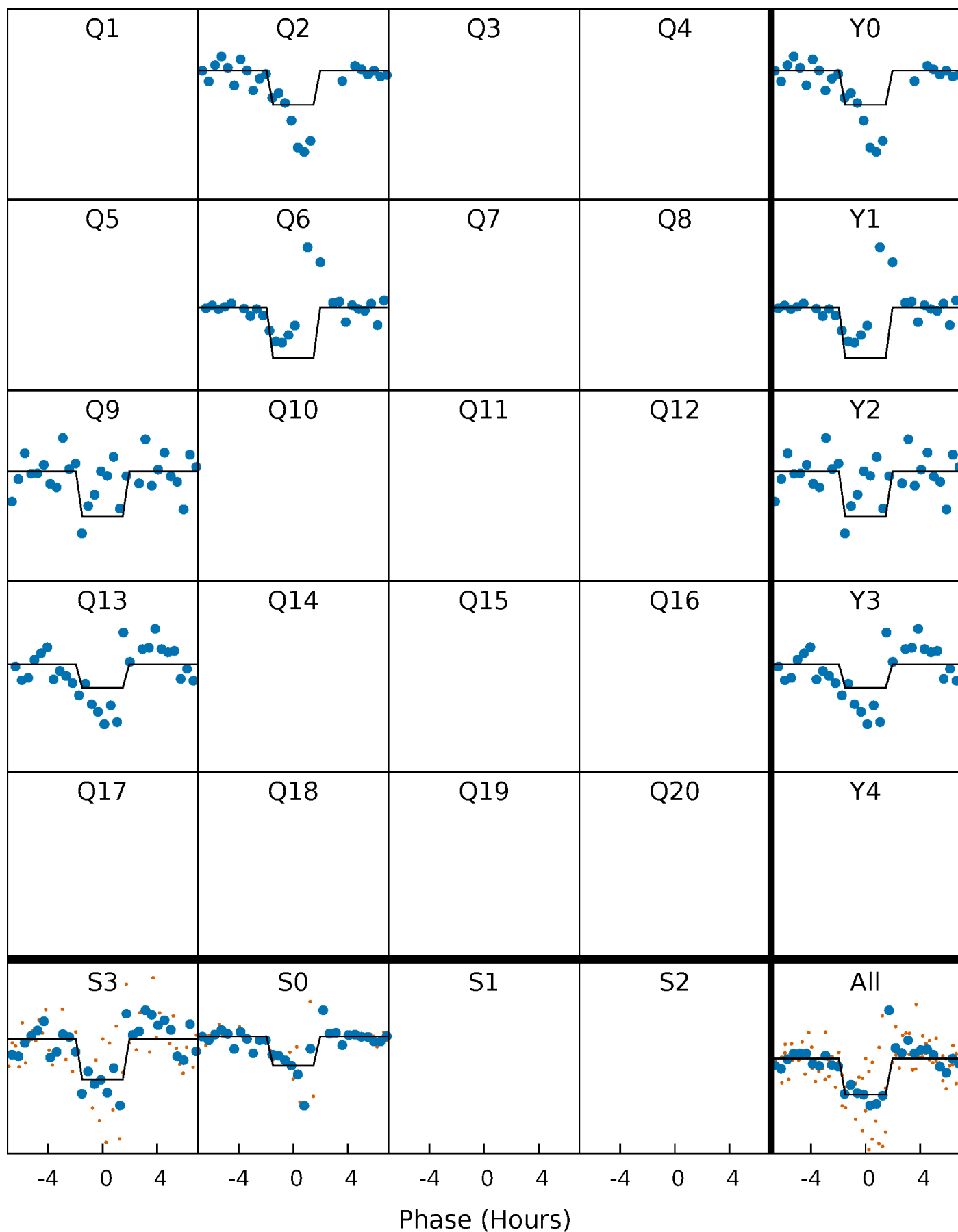
DV Quarter-Phased Transit Curves

TCE 011619189-02 P=345.888355 Days $T_0=198.766374$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

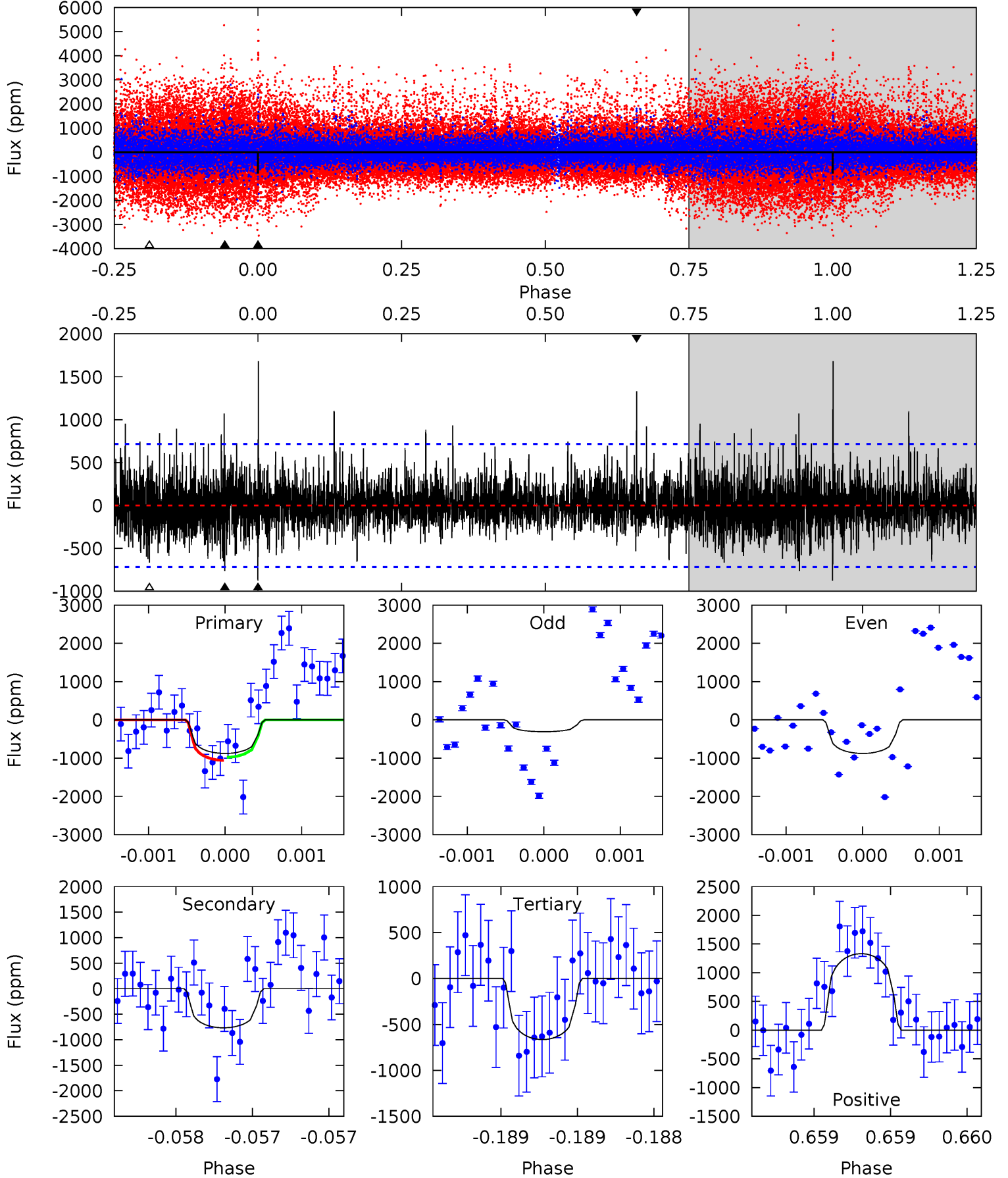
TCE 011619189-02 P=345.868182 Days $T_0=198.801991$ (BKJD)



DV Model-Shift Uniqueness Test

011619189-02, P = 345.888355 Days, E = 198.766374 Days

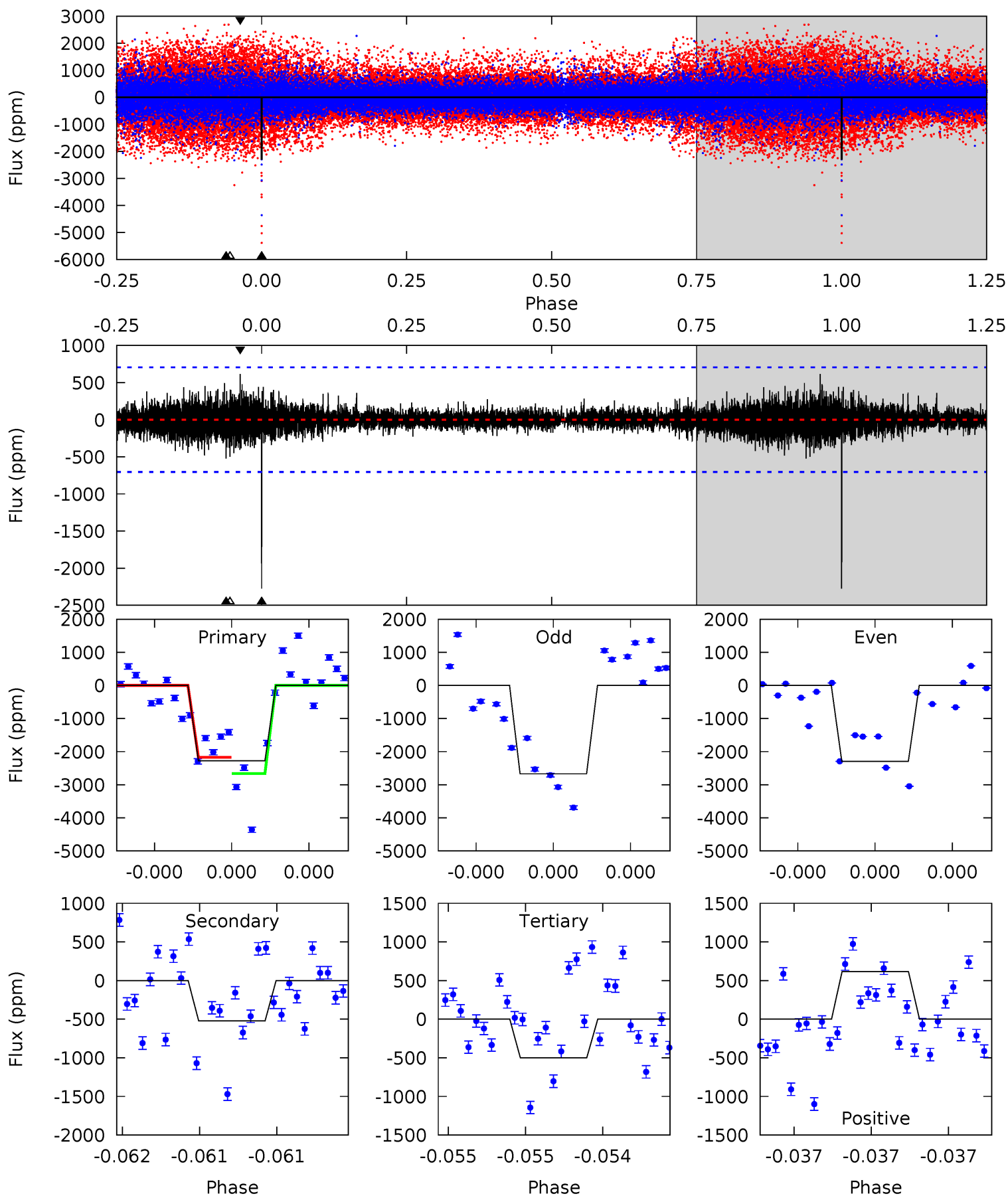
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.77	5.92	5.13	10.3	5.53	3.41	1.59	1.64	-3.51	0.79	-4.36	2.06	0.58	0.66	0.31



Alt Model-Shift Uniqueness Test

011619189-02, P = 345.868182 Days, E = 198.801991 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.1	4.15	3.97	4.89	5.61	3.53	0.73	14.1	13.2	0.18	-0.74	1.53	1.01	0.21	1.85



Stellar Parameters For KIC 011619189

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5038^{+150}_{-150}	$4.646^{+0.060}_{-0.040}$	$-0.920^{+0.300}_{-0.300}$	$0.613^{+0.048}_{-0.048}$	$0.607^{+0.056}_{-0.026}$	$3.709^{+0.910}_{-0.562}$
	+3%/-3%	+1%/-1%	+33%/-33%	+8%/-8%	+9%/-4%	+25%/-15%
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 011619189-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-766 ± 130	$4.79^{+4.34}_{-3.34}$	268^{+9}_{-10}	3570^{+2038}_{-679}	$12728^{+121635}_{-9527}$
Alt.	-522 ± 126	$5.11^{+4.49}_{-3.20}$	268^{+9}_{-9}	3271^{+1336}_{-551}	7234^{+45915}_{-5249}

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 $A_{obs} \gg 1.0$

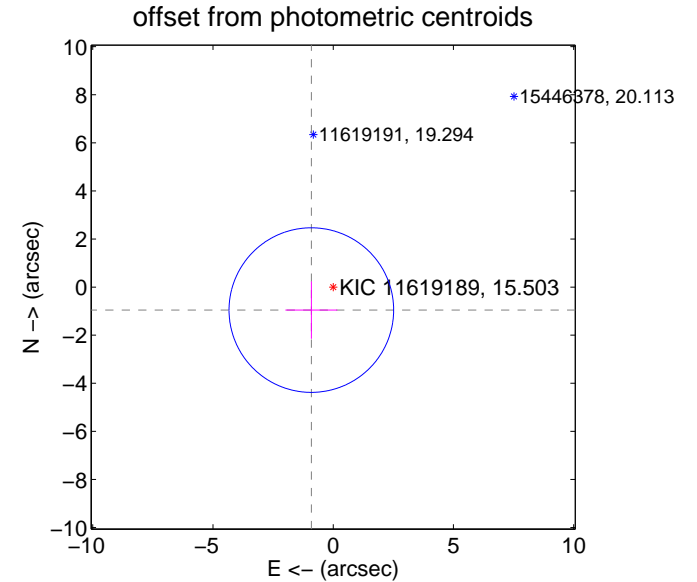
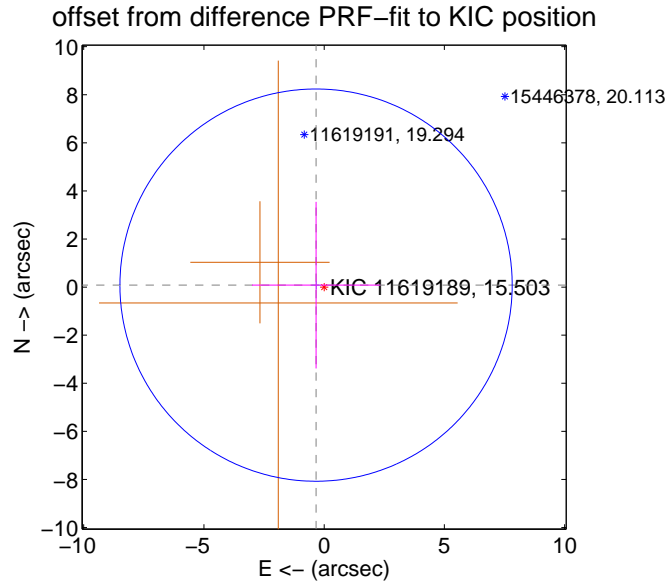
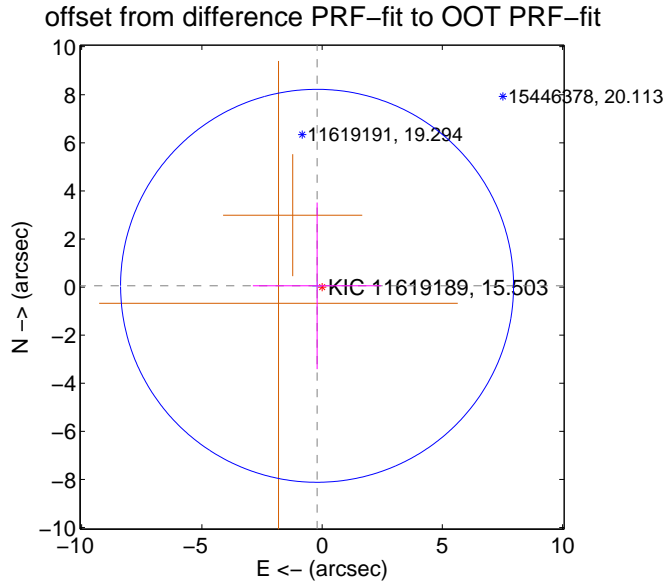
DV Centroid Data

Supplemental centroid analysis for 011619189-02. Kepler magnitude: 15.50. Transit SNR 8.36

There are 1 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 2.44 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

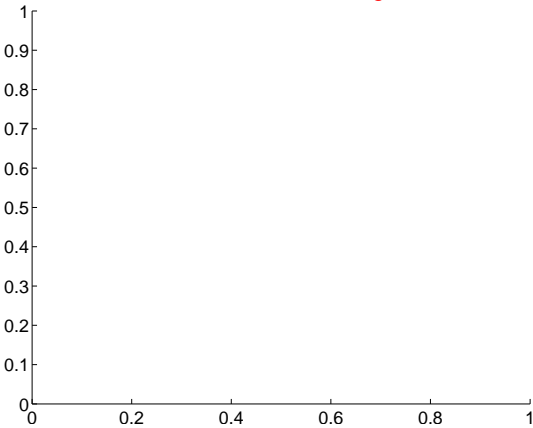
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.216 ± 2.724	0.08	0.209 ± 2.668	0.054 ± 3.465
PRF-fit source offset from KIC position	0.346 ± 2.719	0.13	0.336 ± 2.668	0.082 ± 3.465
photometric centroid source offset	1.32 ± 1.14	1.16	0.91 ± 1.08	-0.96 ± 1.19



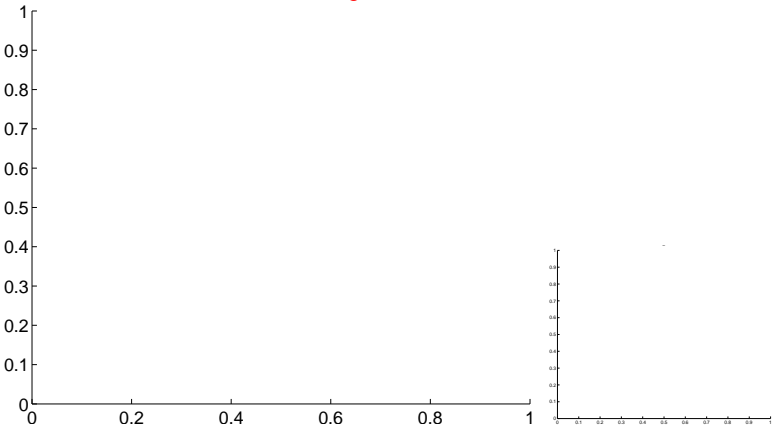
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

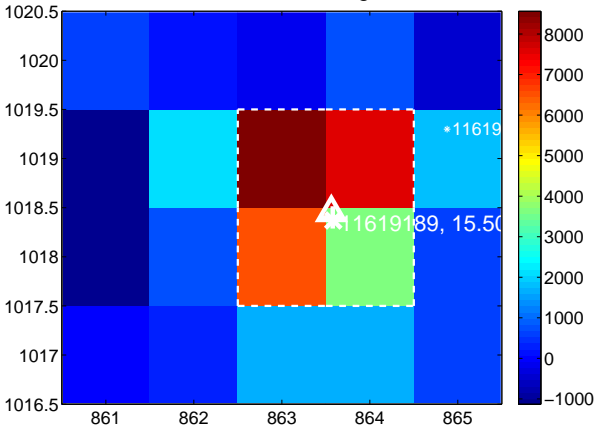
Q1 no difference image



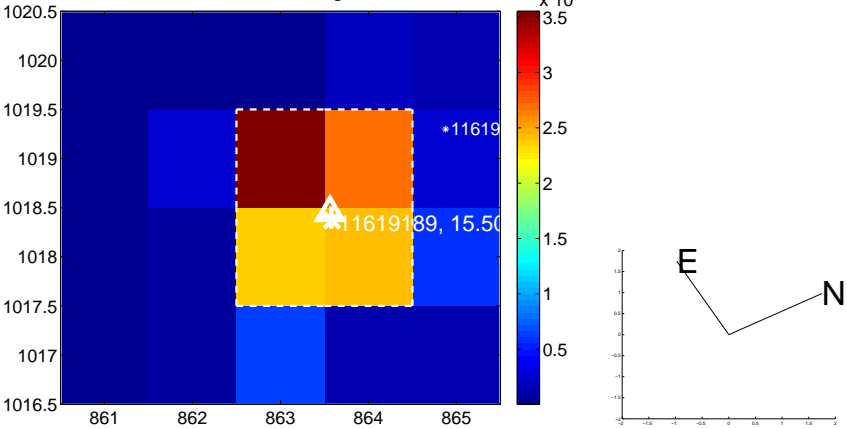
Q1 no OOT image



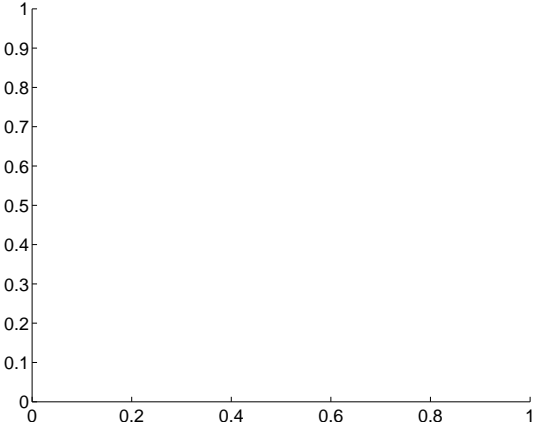
Q2 difference image



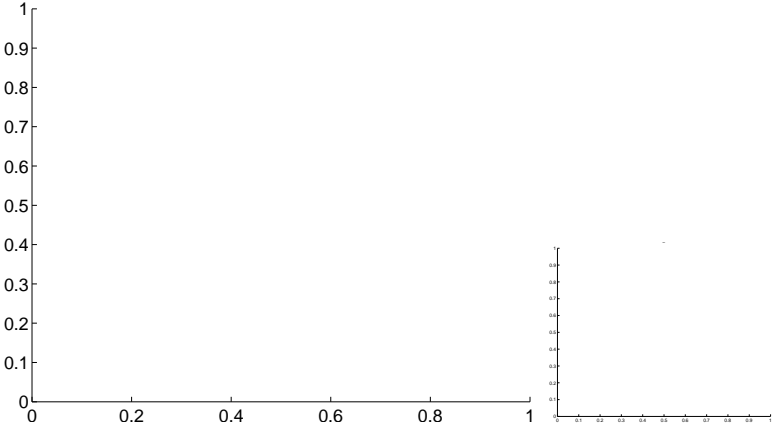
Q2 OOT image



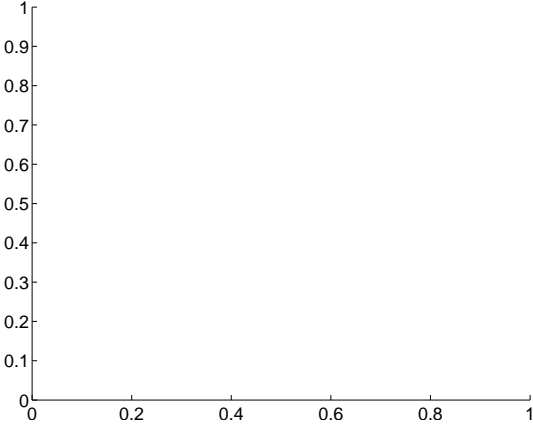
Q3 no difference image



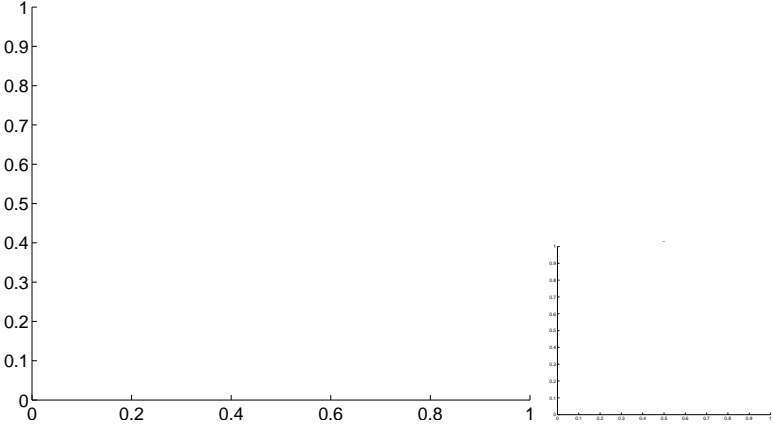
Q3 no OOT image



Q4 no difference image

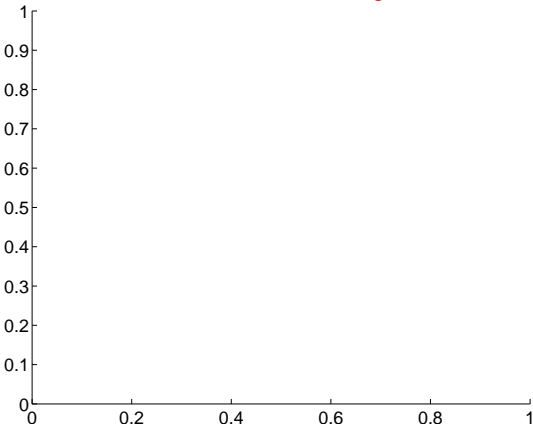


Q4 no OOT image

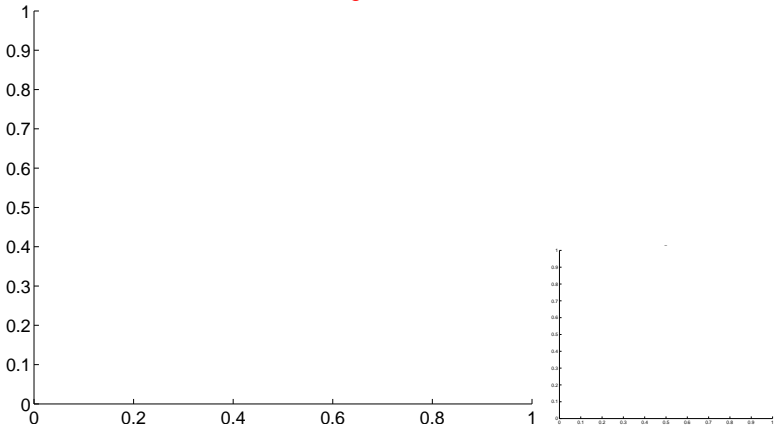


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

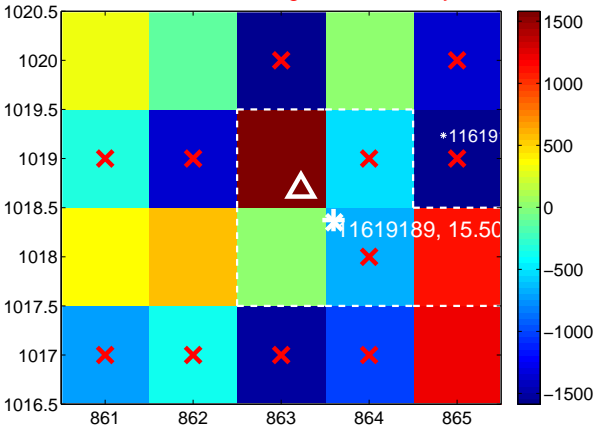
Q5 no difference image



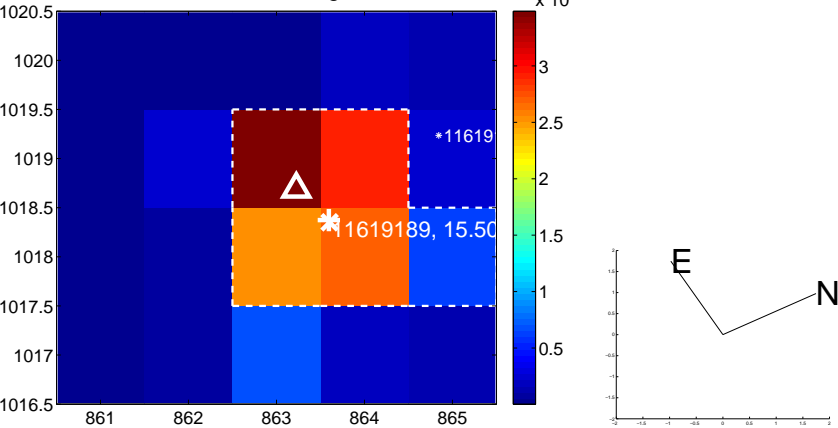
Q5 no OOT image



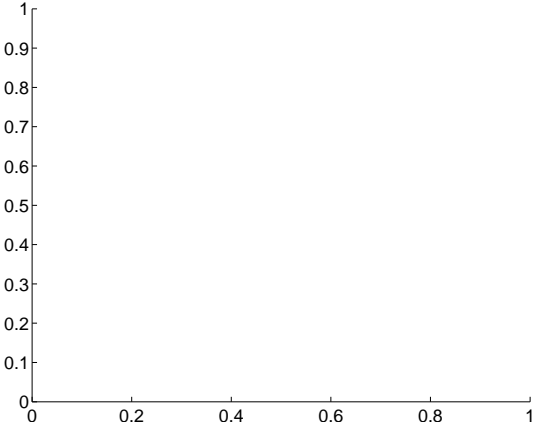
Q6 difference image. Poor Quality



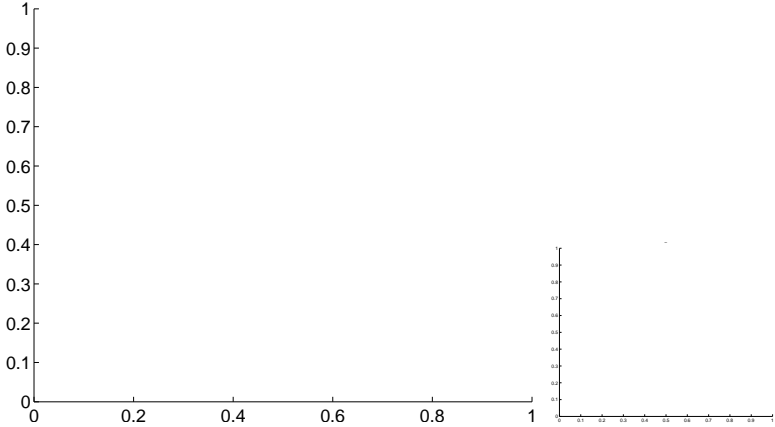
Q6 OOT image



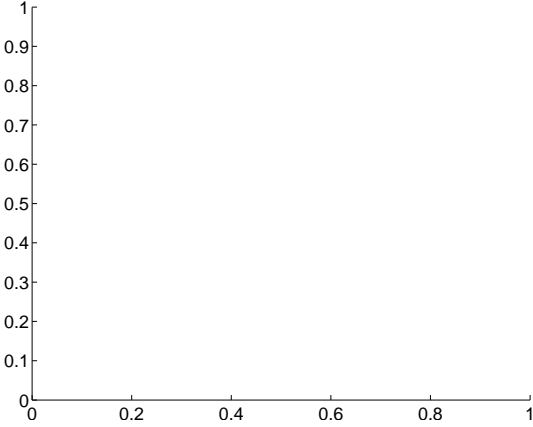
Q7 no difference image



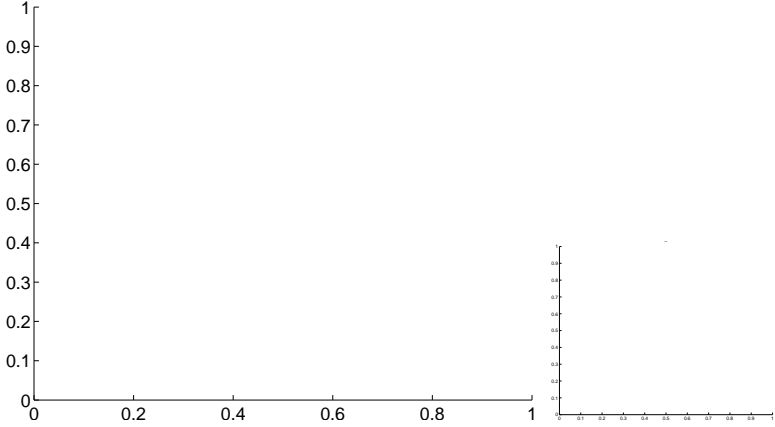
Q7 no OOT image



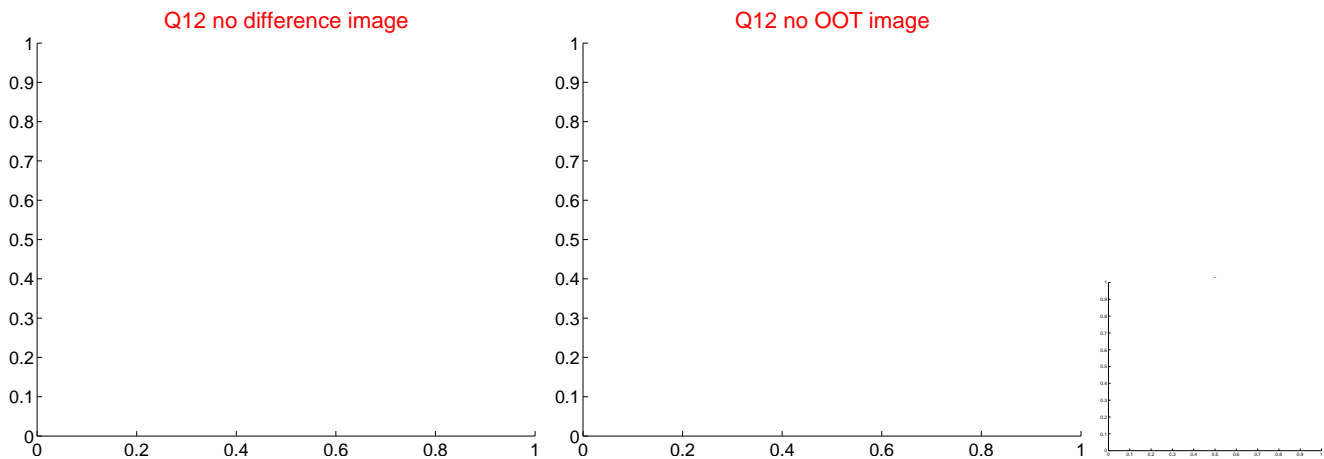
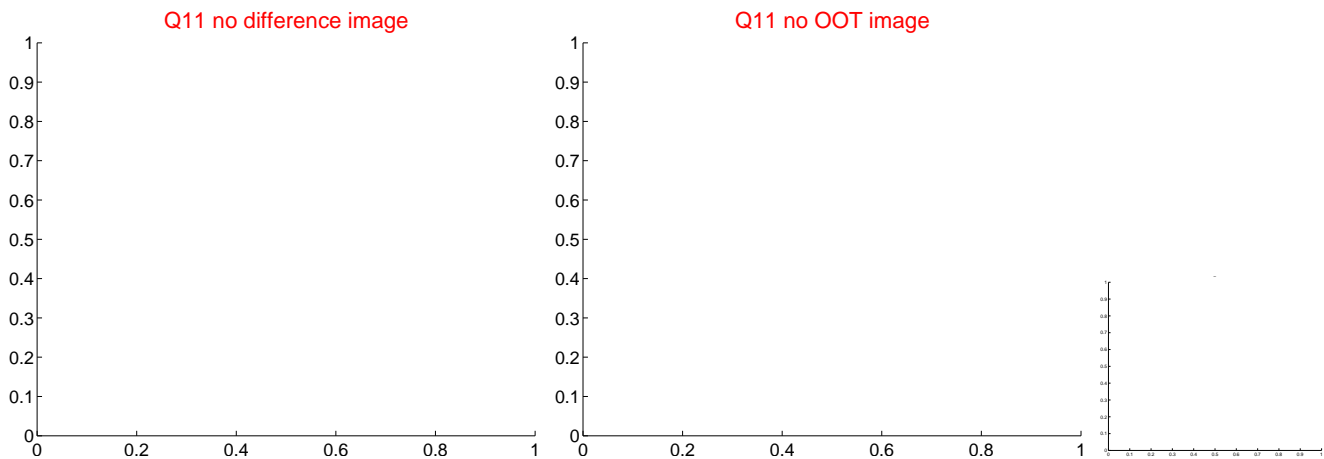
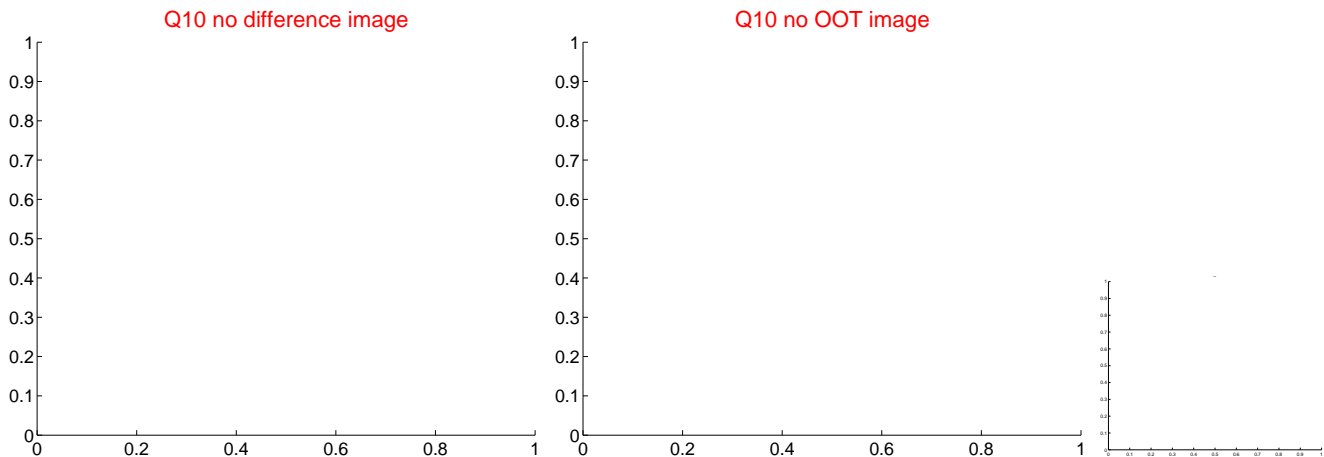
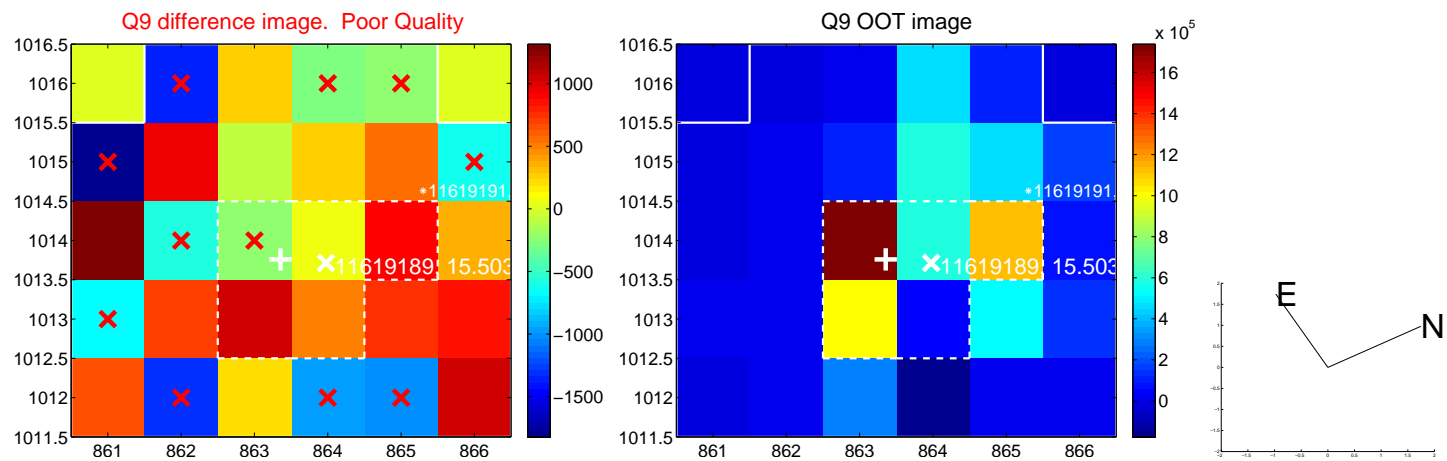
Q8 no difference image



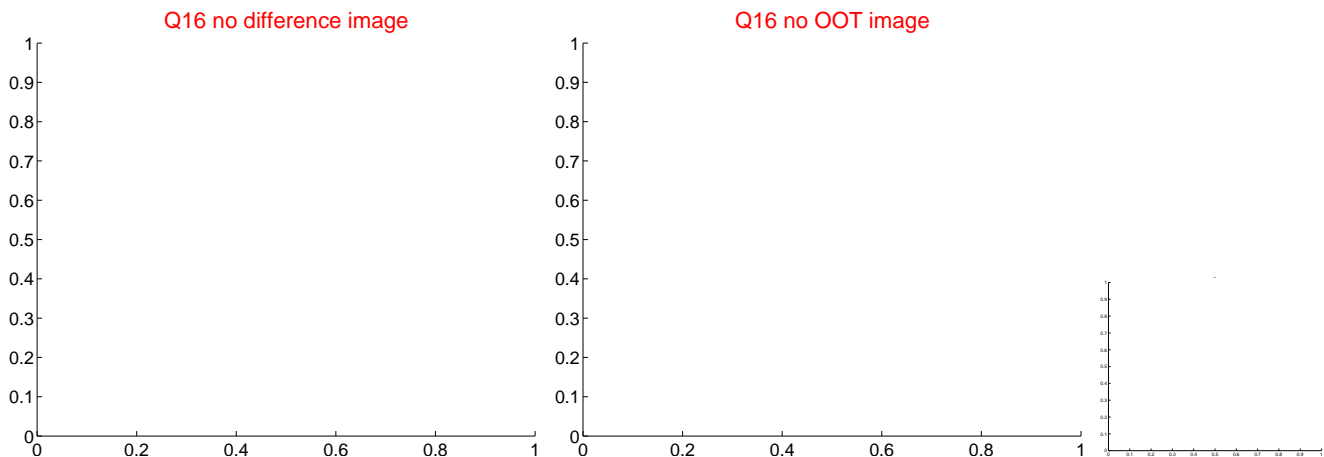
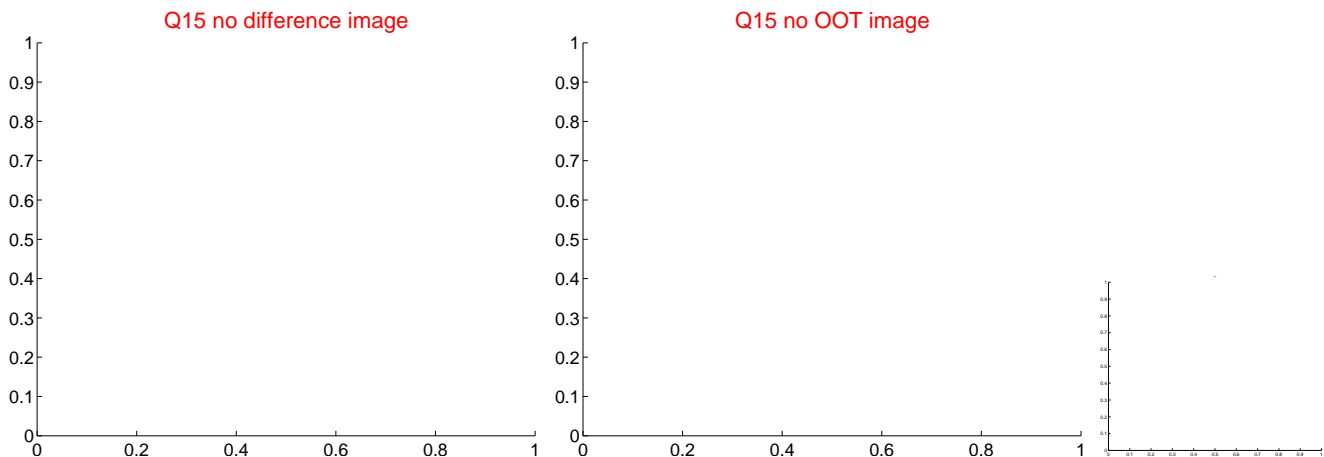
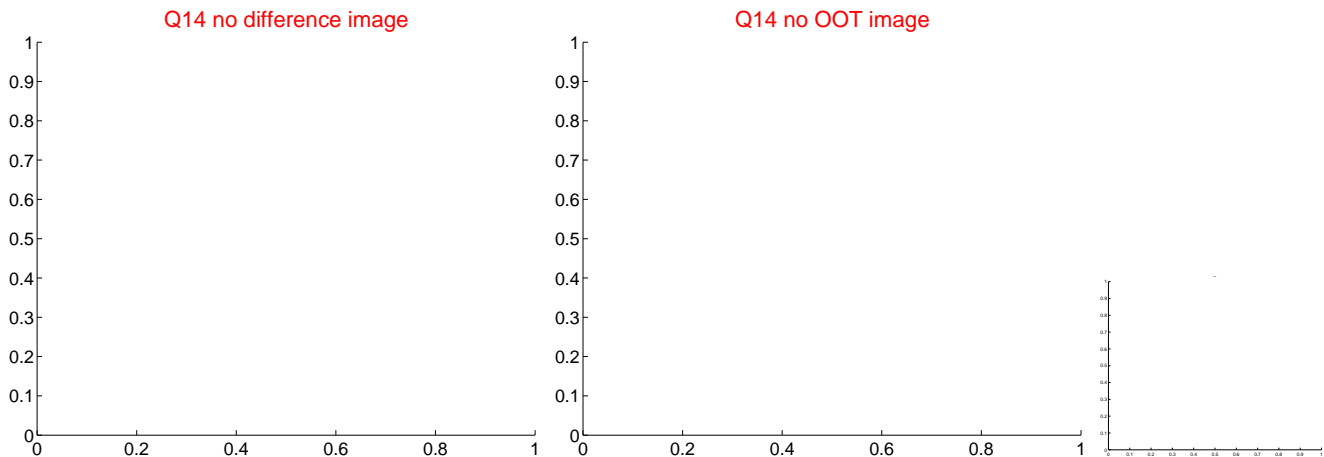
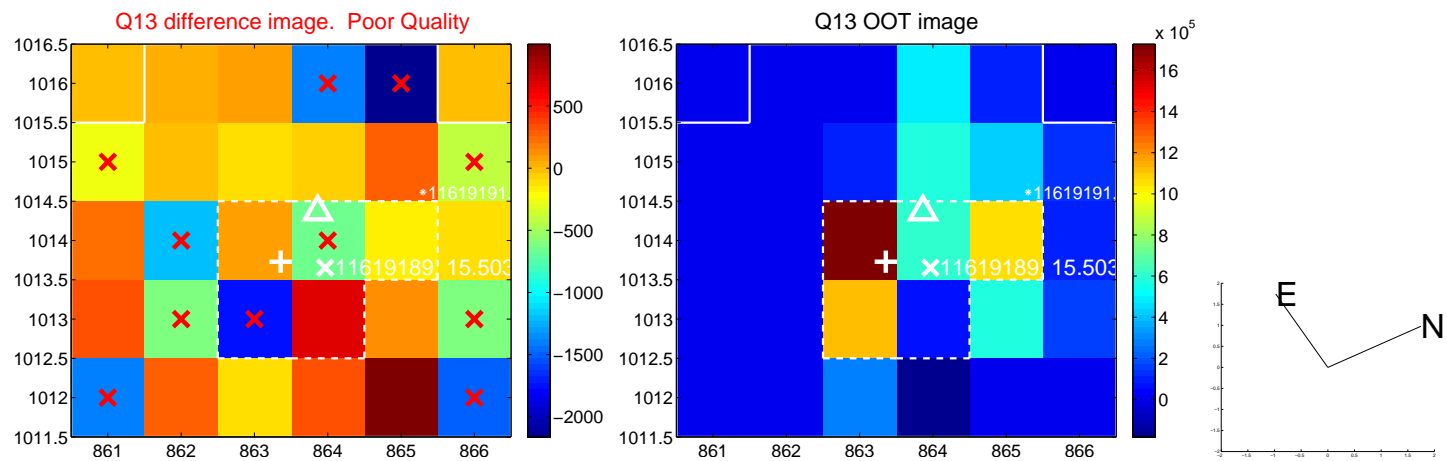
Q8 no OOT image



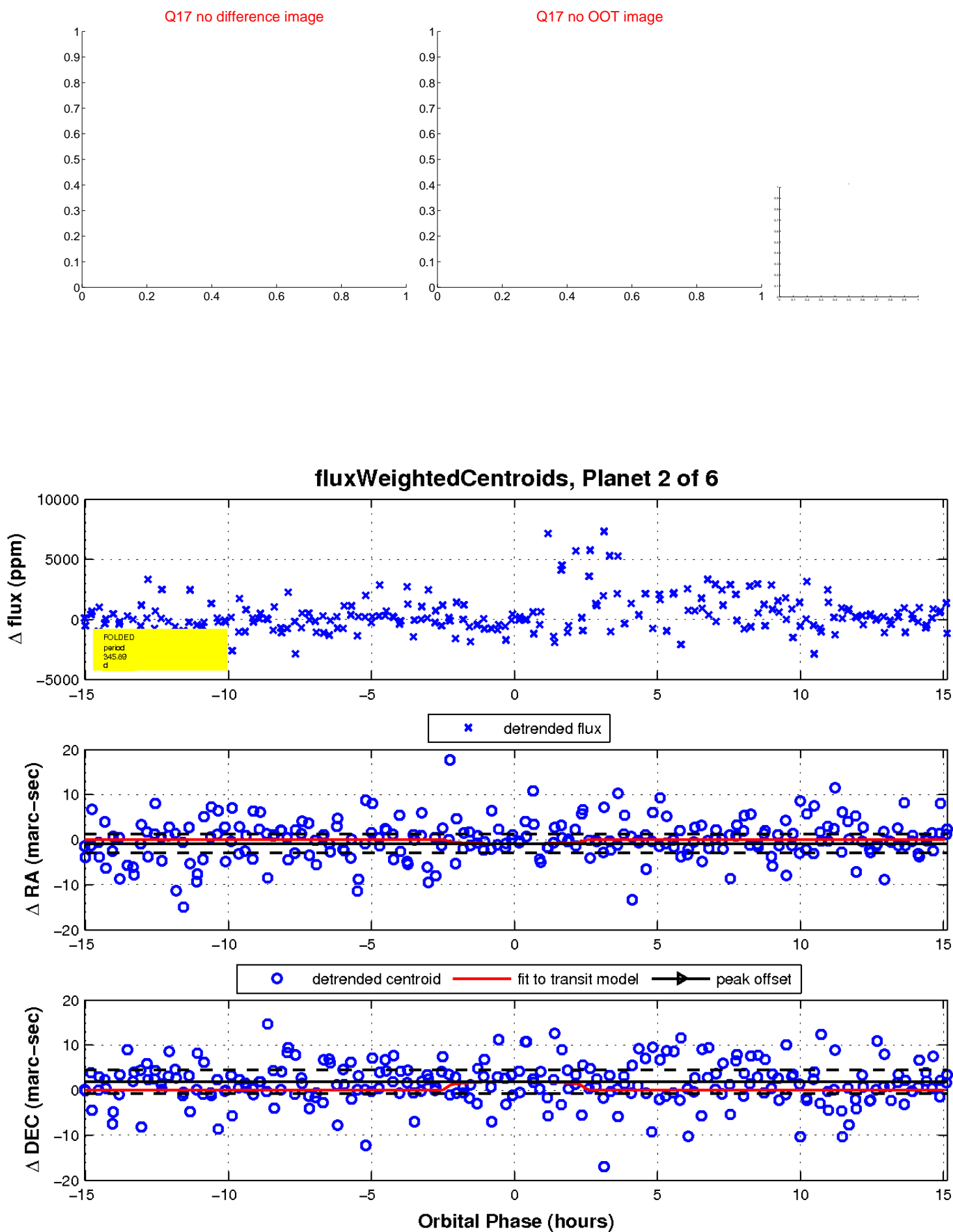
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

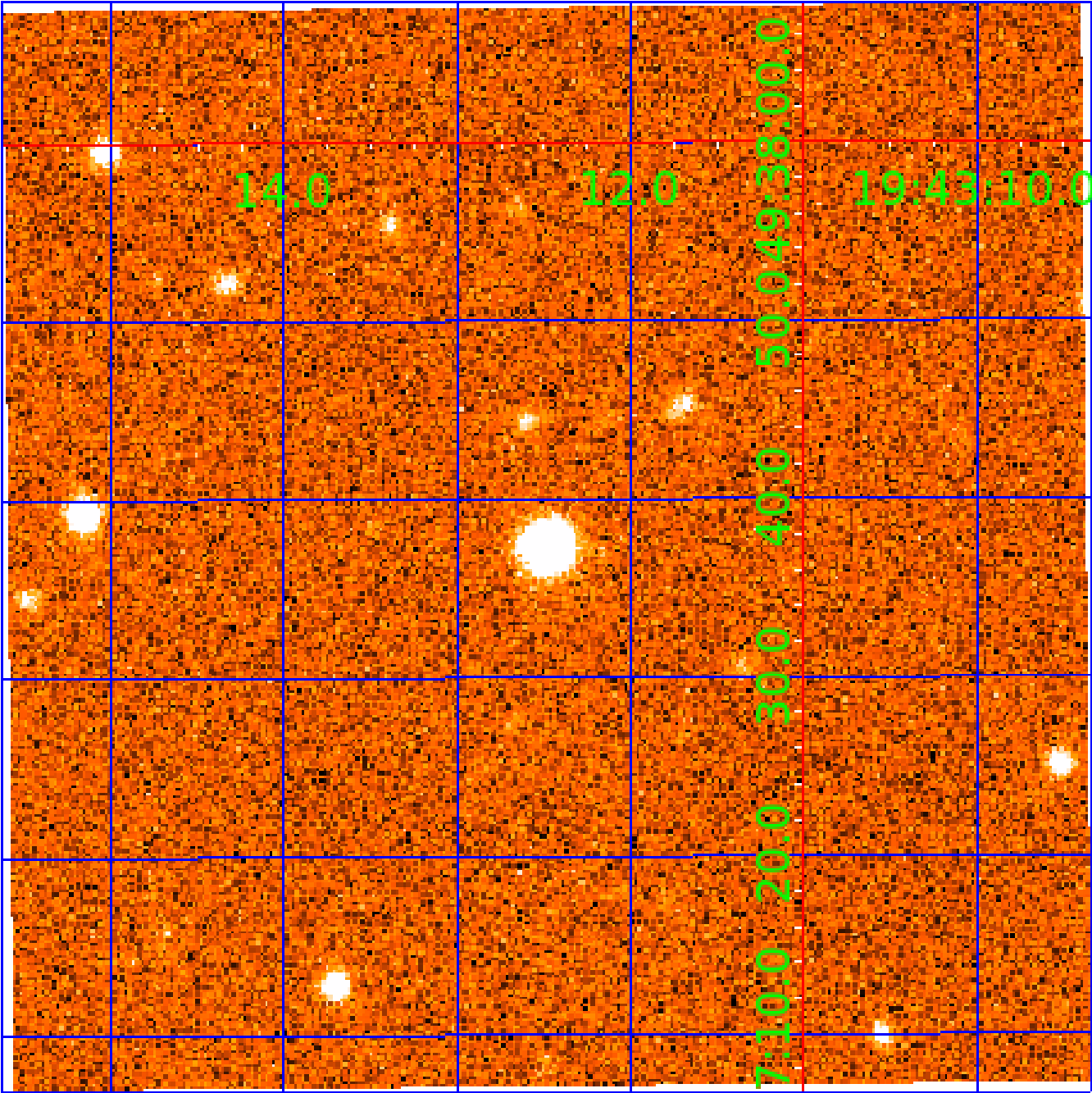


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011619189

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})
011619189-01	OBS	No	524.096211	213.649155	1532.5	6.120	13.3	7.4	0.61	5038	2.43	0.19
011619189-02	OBS	No	345.888355	198.766374	1620.2	5.050	11.2	8.4	0.61	5038	2.49	0.33
011619189-03	OBS	No	485.832748	148.908024	1410.6	8.359	10.4	7.1	0.61	5038	2.31	0.21
011619189-04	OBS	No	648.076237	208.917482	1704.6	5.671	12.2	7.5	0.61	5038	3.08	0.14
011619189-05	OBS	No	719.196285	150.626539	1721.9	10.465	9.7	6.4	0.61	5038	2.54	0.12
011619189-06	OBS	No	328.447007	182.769647	1928.3	7.367	8.9	10.3	0.61	5038	2.69	0.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011619189-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011619189-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011619189-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011619189-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
011619189-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
011619189-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

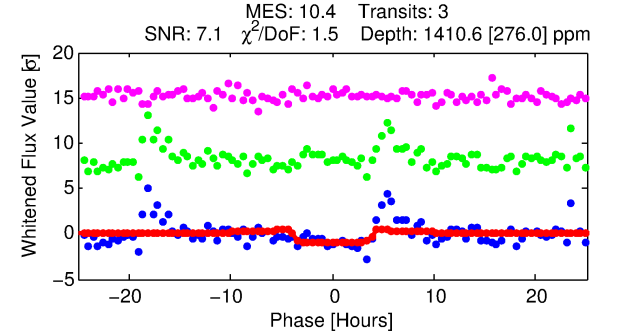
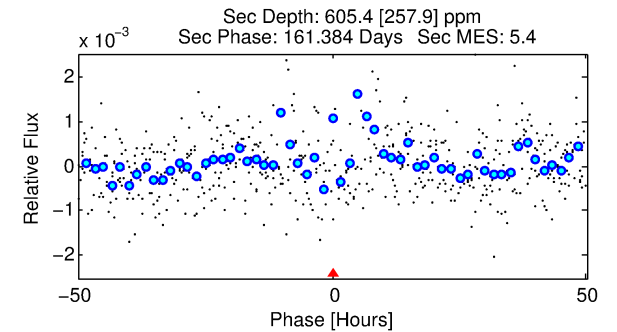
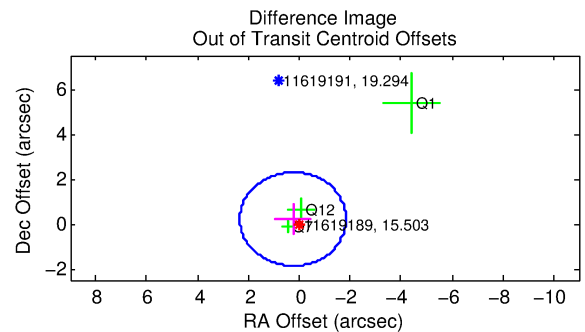
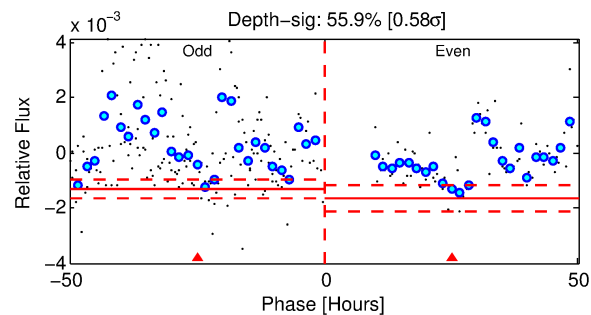
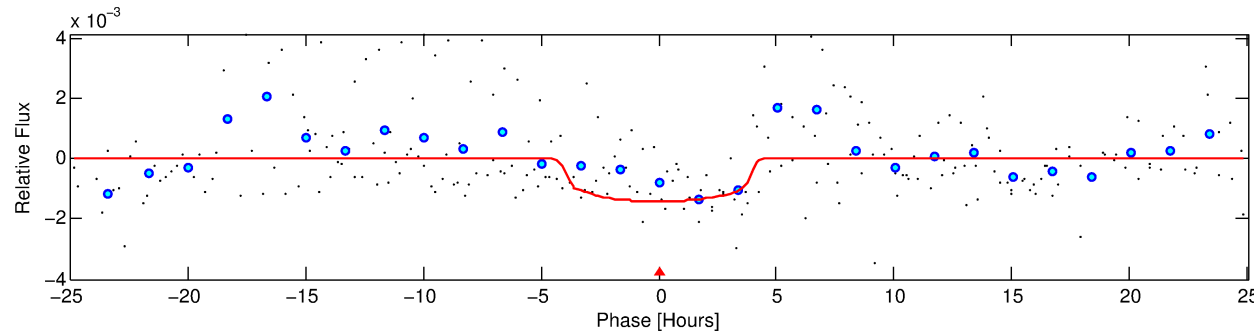
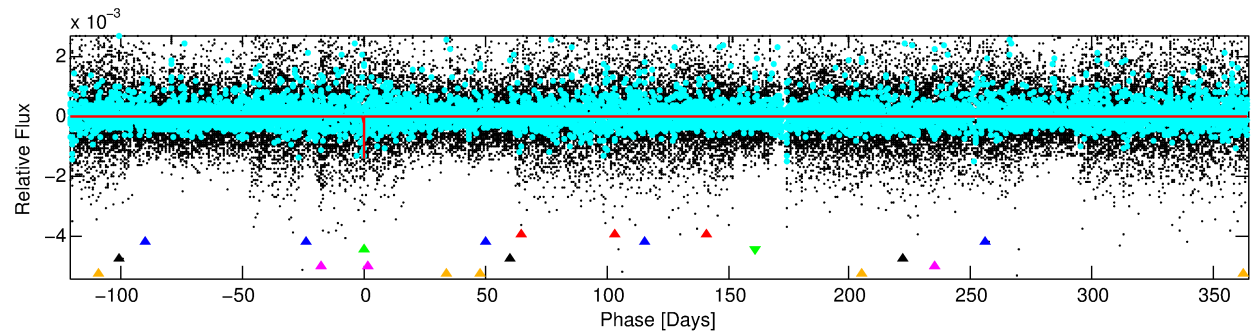
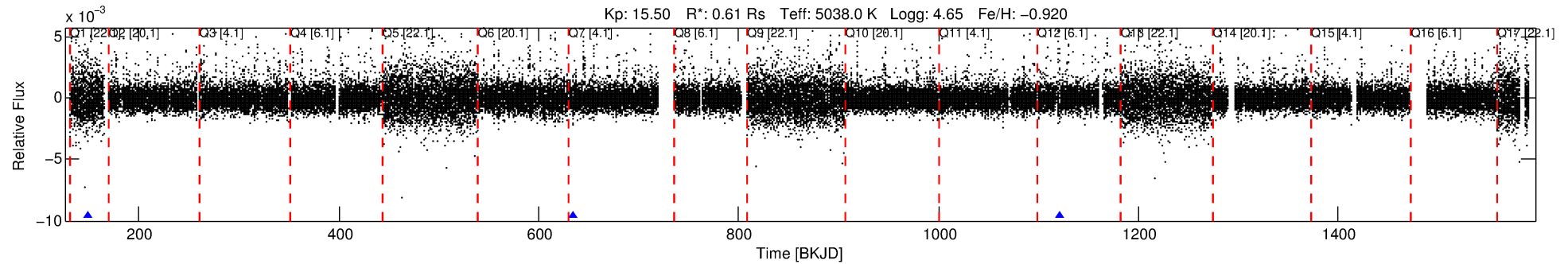
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011619189-03

No Significant Match Found

DV One-Page Summary

KIC: 11619189 Candidate: 3 of 6 Period: 485.833 d



DV Fit Results:

Period = 485.83275 [0.01553] d
Epoch = 148.9080 [0.0248] BKJD
Rp/R* = 0.0345 [0.0366]
a/R* = 422.20 [1766.73]
b = 0.41 [8.63]
Seff = 0.21 [0.03]
Teq = 172 [7] K
Rp = 2.31 [2.46] Re
a = 1.0241 [0.0713] AU
Ag = 65466.17 [141737.47] [0.46σ]
Teffp = 4253 [2303] K [1.77σ]

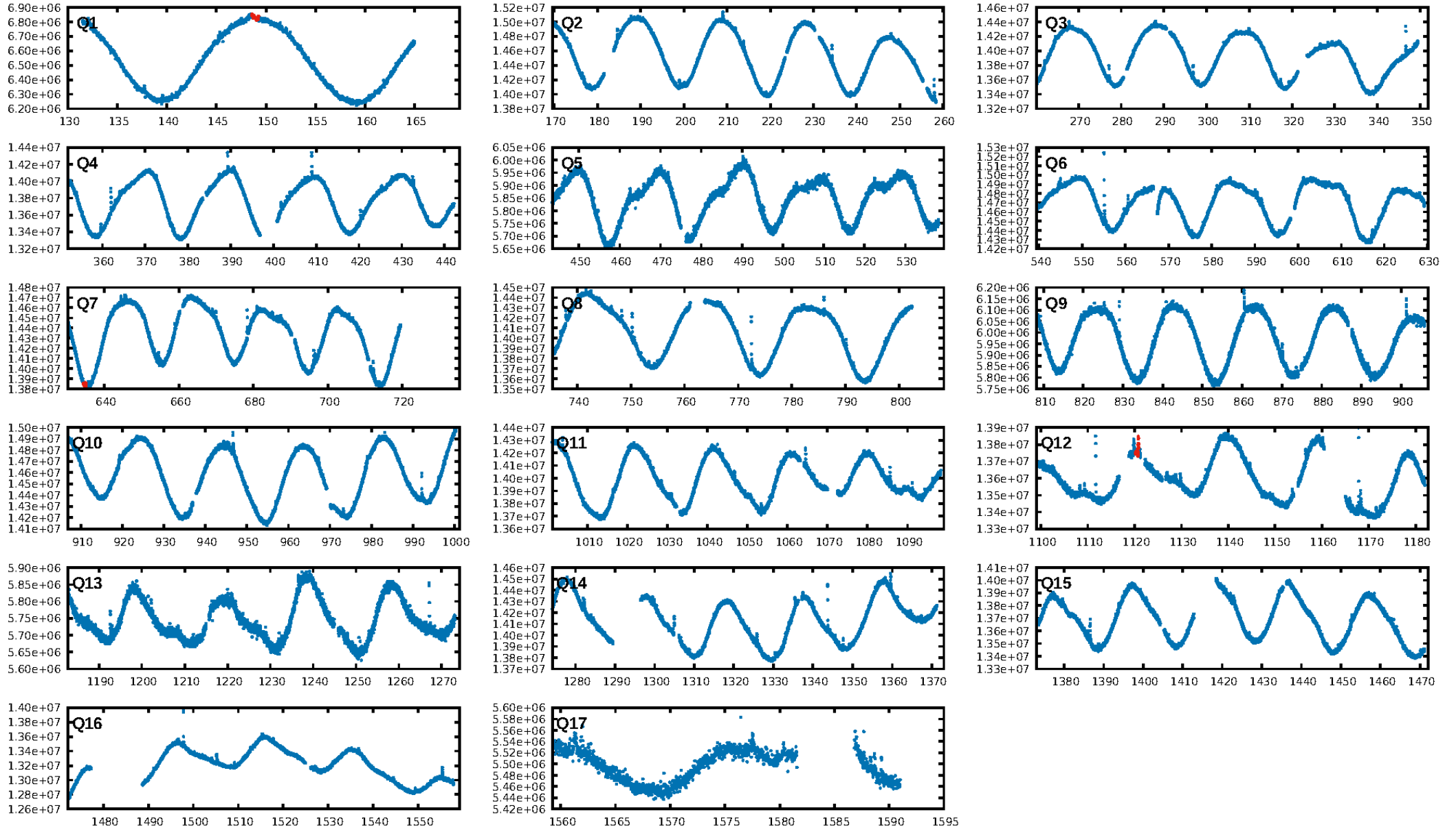
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [343.91σ]
LongPeriod-sig: 100.0% [88.64σ]
ModelChiSquare2-sig: 4.8%
ModelChiSquareGof-sig: 77.0%
Bootstrap-pfa: 2.08e-09
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 9.16
Centroid-sig: 91.0%
Centroid-so: 0.752 arcsec [0.66σ]
OotOffset-rm: 0.321 arcsec [0.46σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-rm: 0.498 arcsec [1.00σ]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

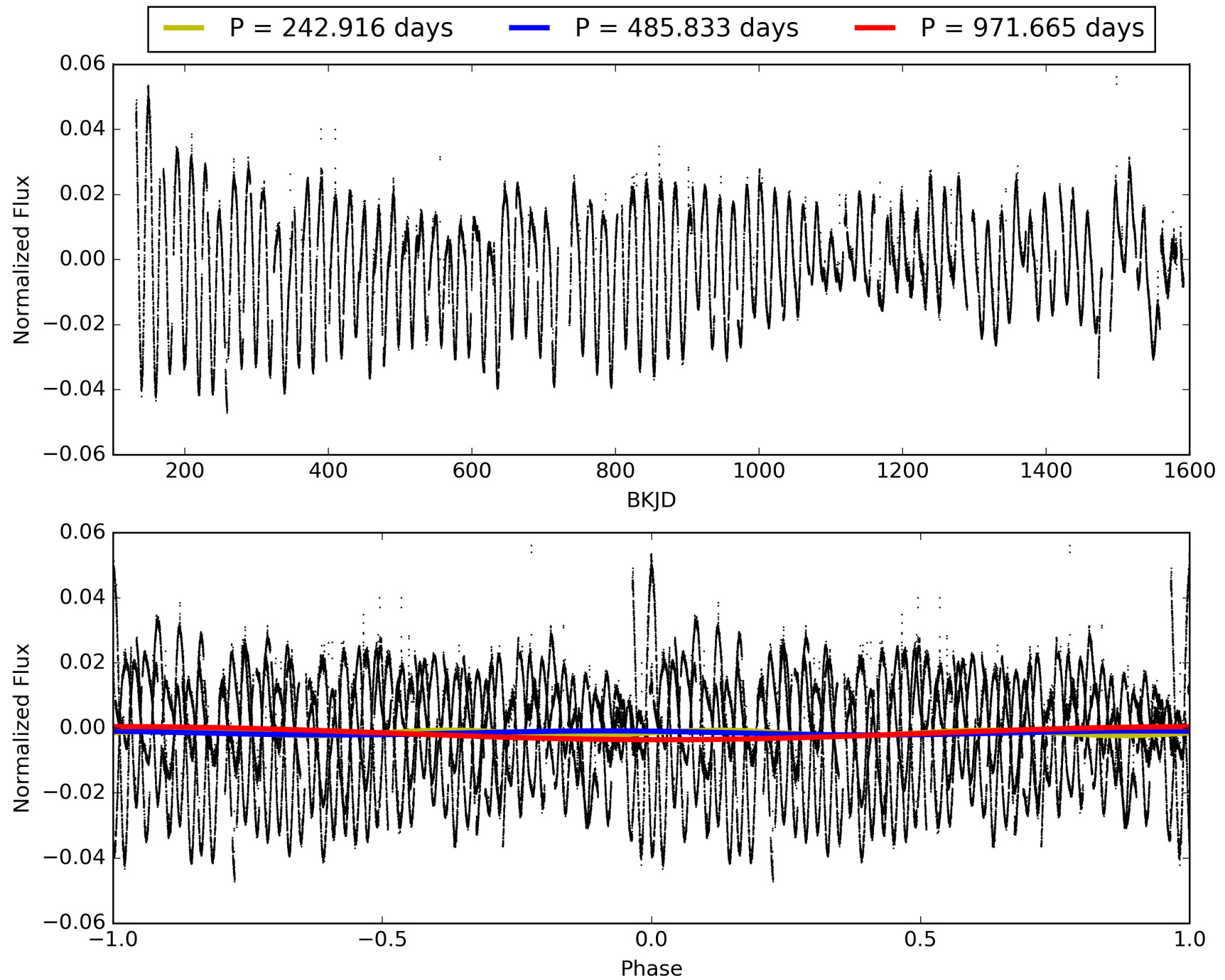
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:28:00 Z

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

TCE 011619189-03, PDC Light Curves

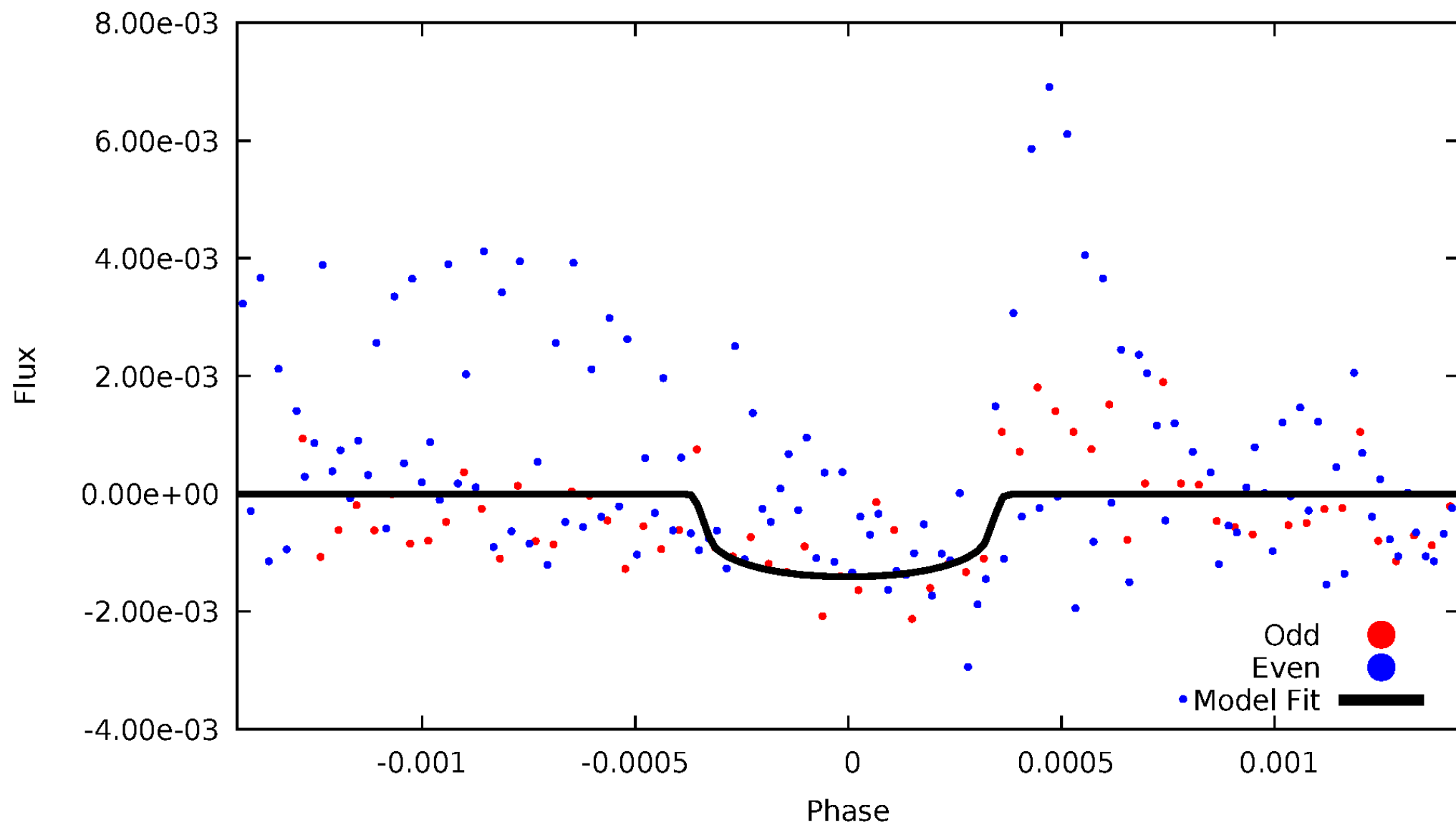


TCE 011619189-03



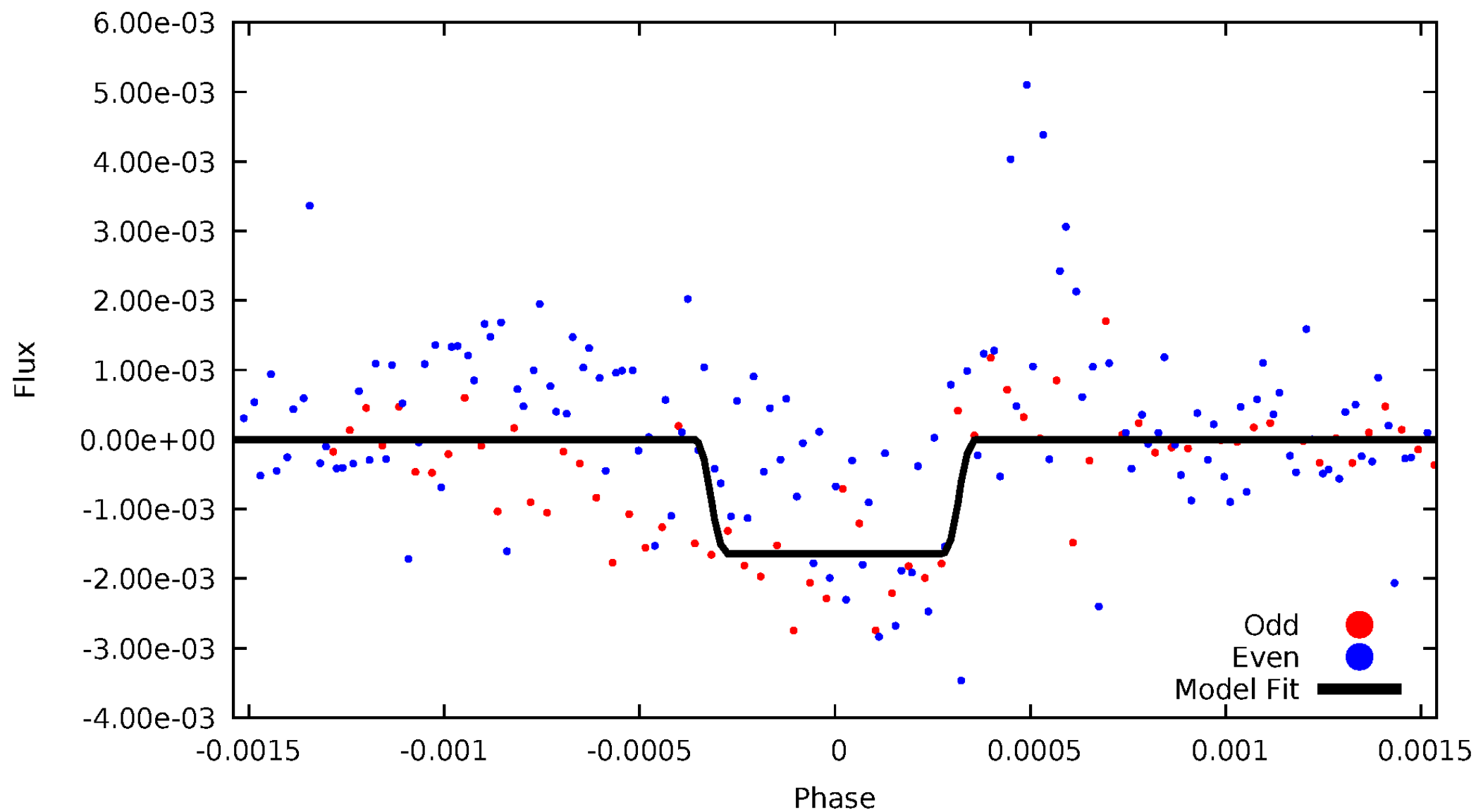
DV Odd/Even

TCE 011619189-03



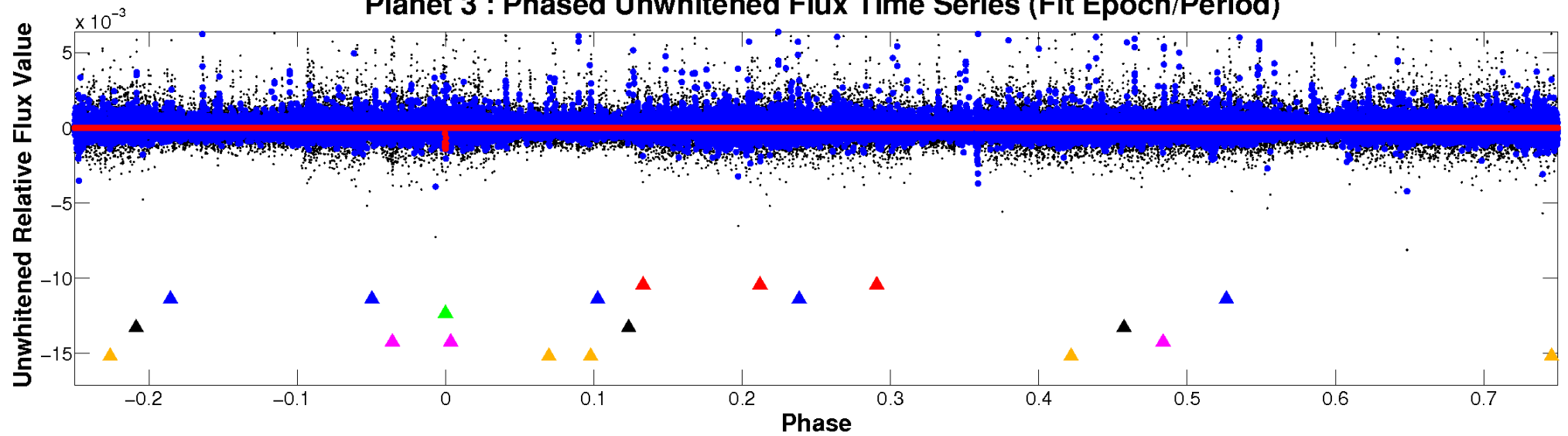
ALT Odd/Even

TCE 011619189-03

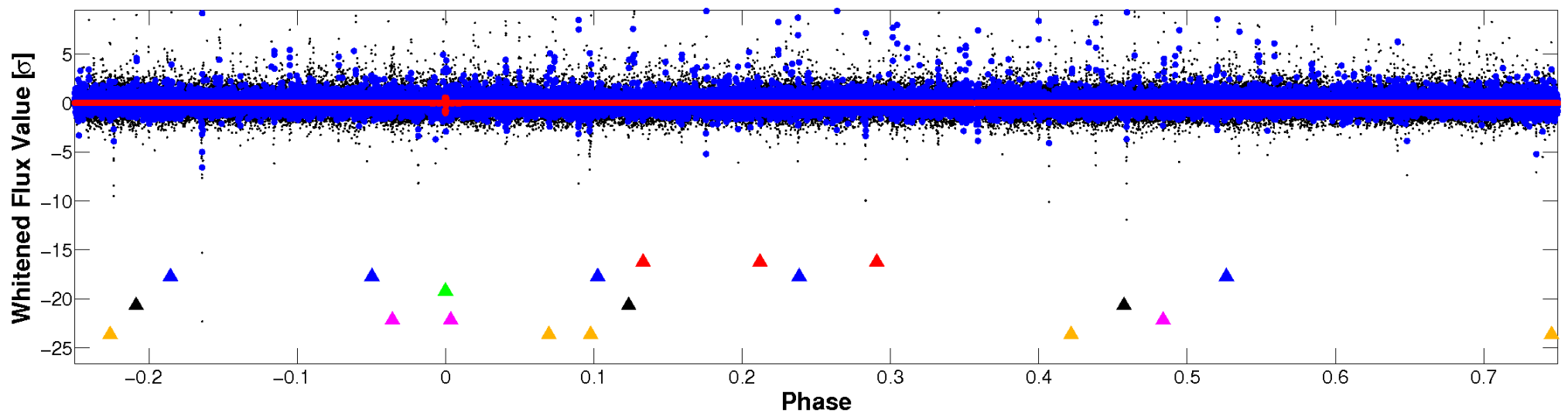


Non-Whitened Vs. Whitened Light Curve

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

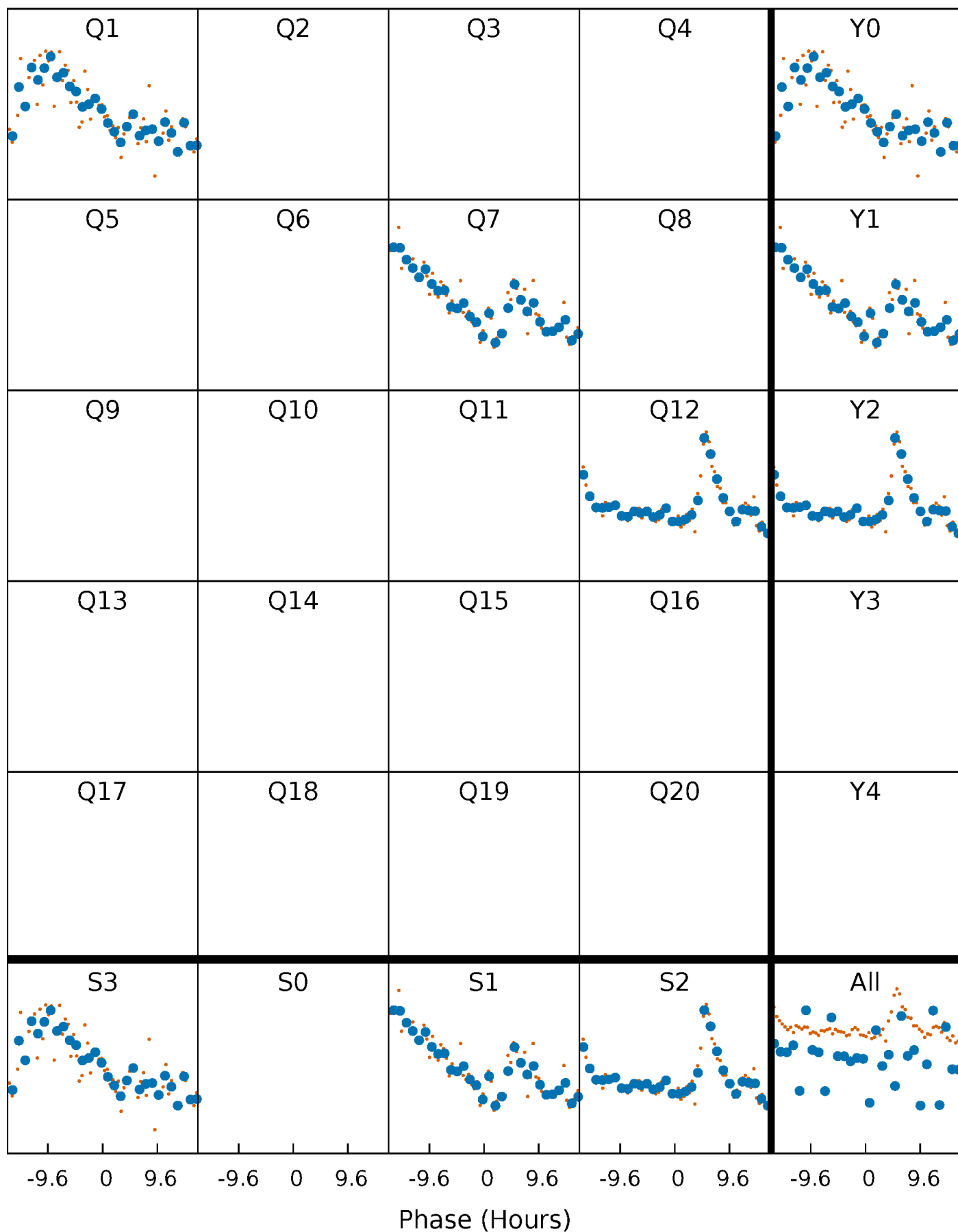


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



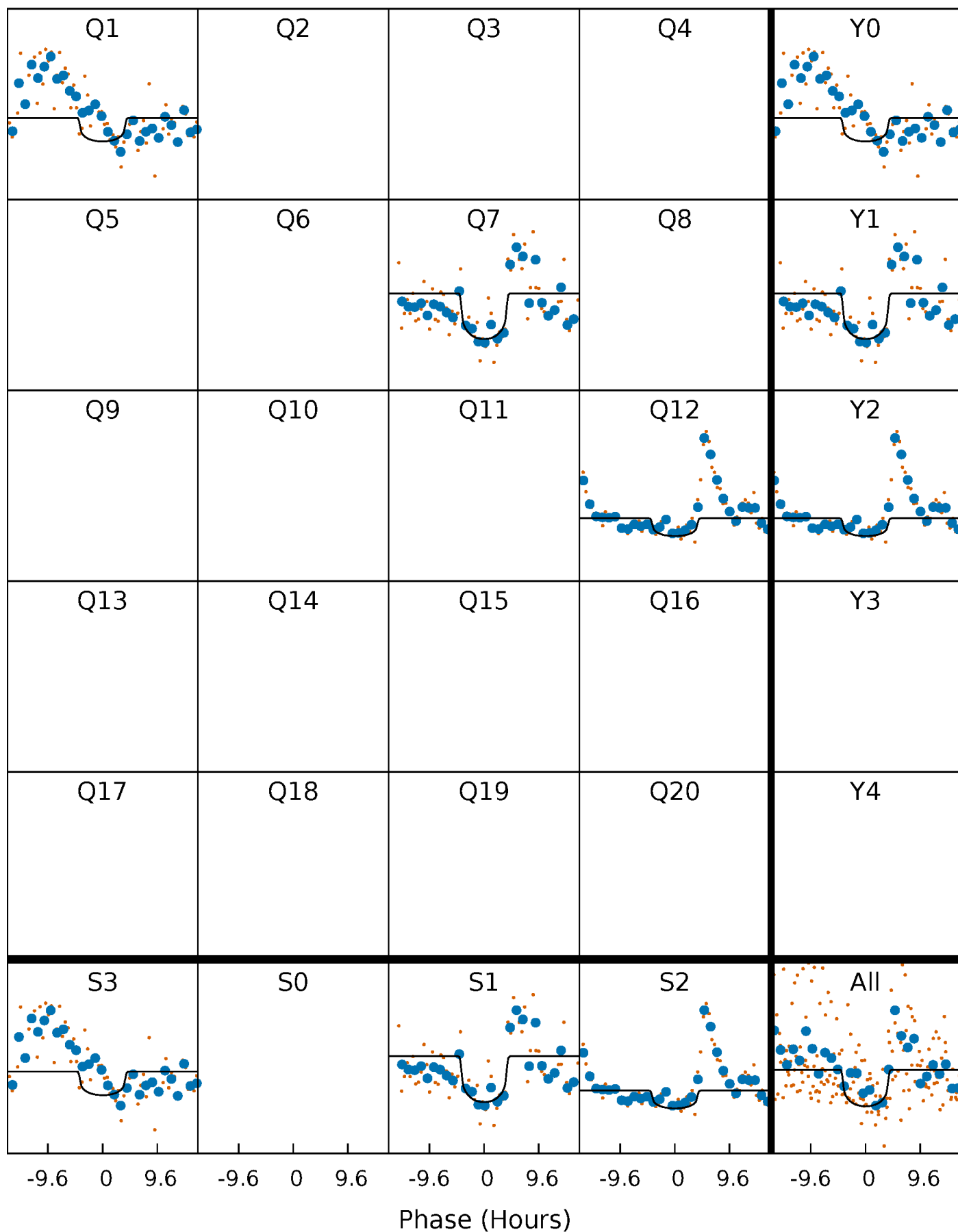
PDC Quarter-Phased Transit Curves

TCE 011619189-03 P=485.832748 Days $T_0=148.908024$ (BKJD)



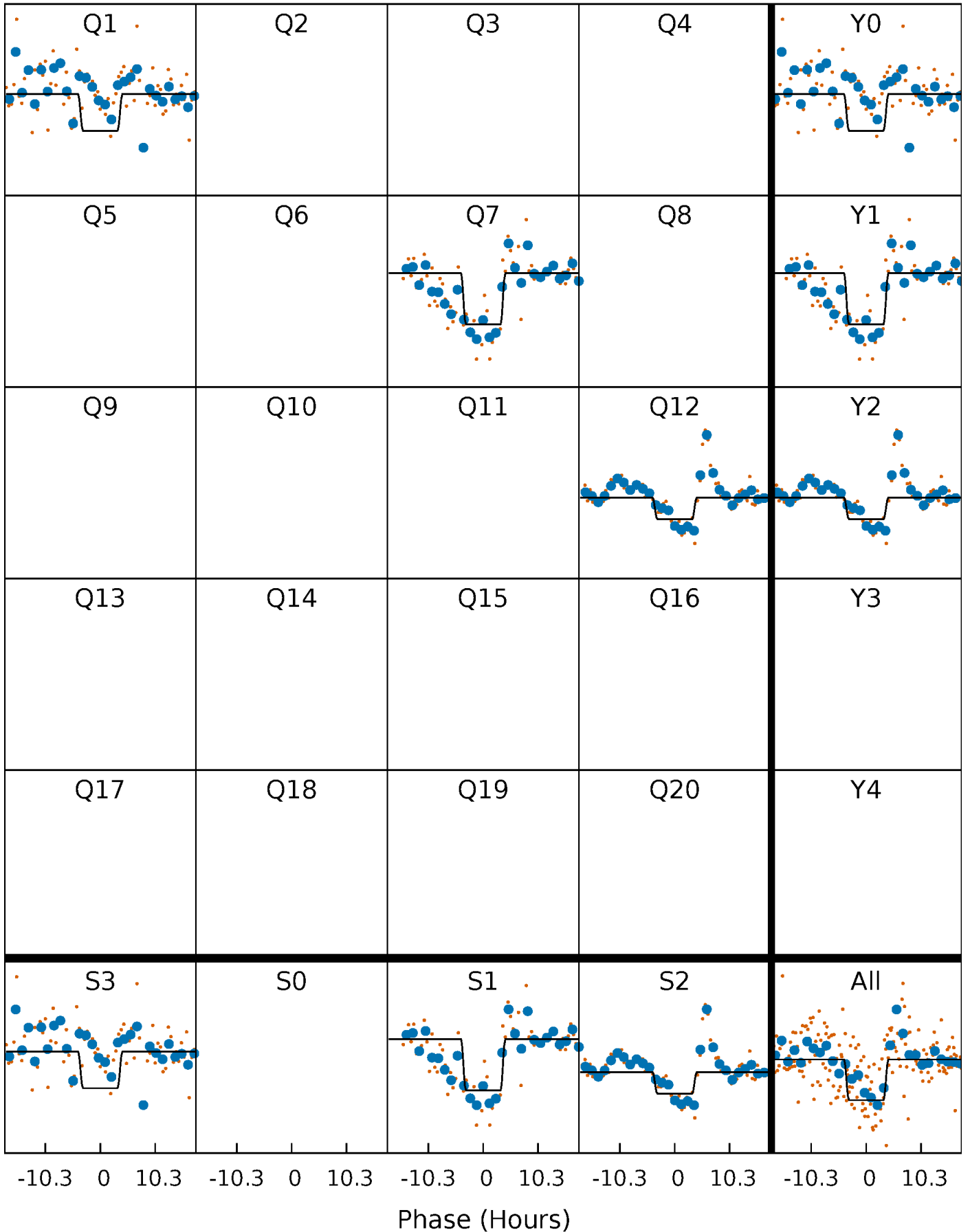
DV Quarter-Phased Transit Curves

TCE 011619189-03 $P=485.832748$ Days $T_0=148.908024$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

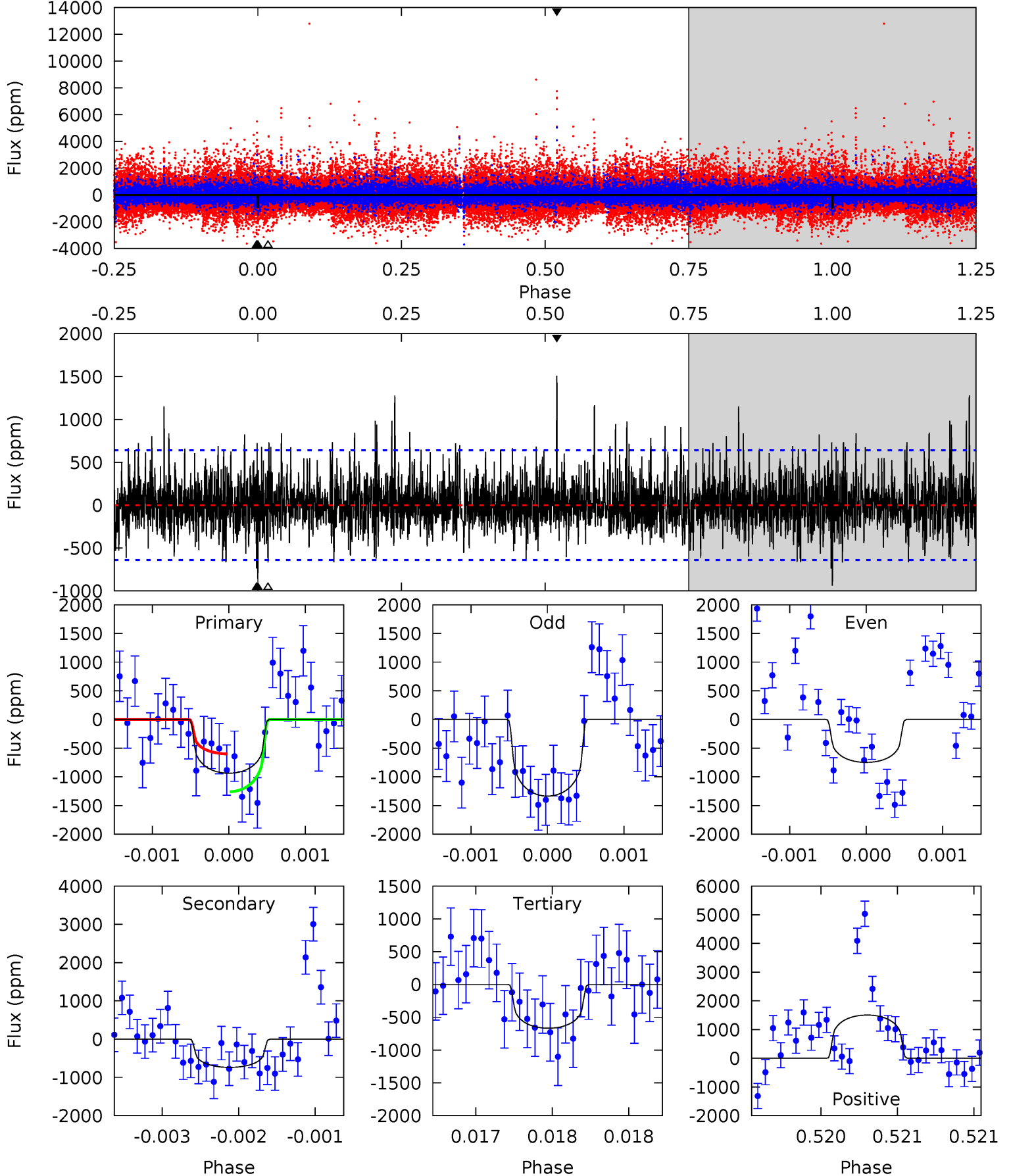
TCE 011619189-03 $P=485.801078$ Days $T_0=148.961710$ (BKJD)



DV Model-Shift Uniqueness Test

011619189-03, P = 485.832748 Days, E = 148.908024 Days

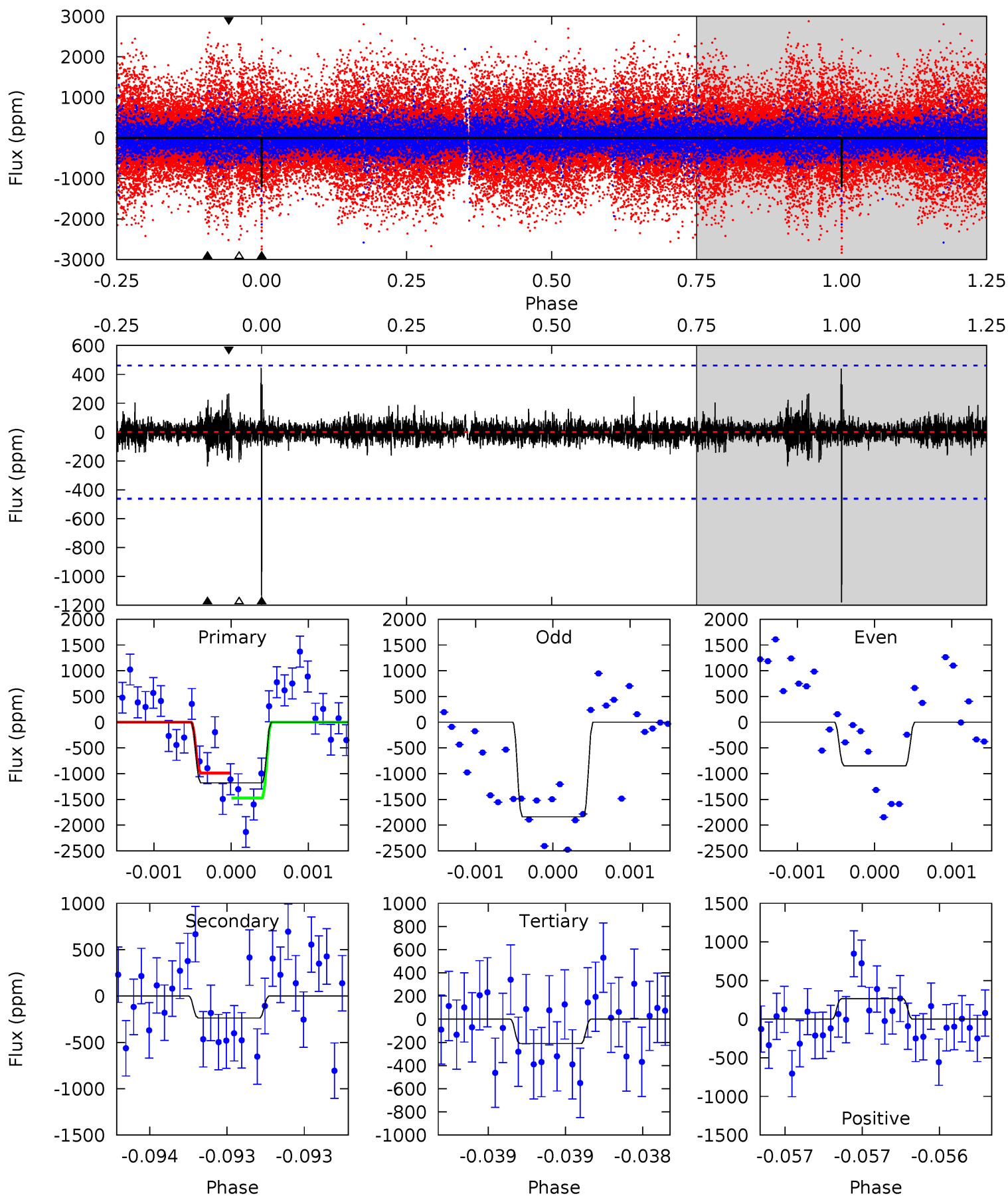
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.07	6.36	5.74	13.0	5.51	3.38	1.97	2.32	-4.90	0.61	-6.61	2.09	0.91	0.62	2.86



Alt Model-Shift Uniqueness Test

011619189-03, P = 485.801078 Days, E = 148.961710 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.1	2.84	2.51	3.19	5.52	3.39	0.51	11.6	10.9	0.33	-0.36	5.47	0.71	0.27	2.87



Stellar Parameters For KIC 011619189

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5038^{+150}_{-150}	$4.646^{+0.060}_{-0.040}$	$-0.920^{+0.300}_{-0.300}$	$0.613^{+0.048}_{-0.048}$	$0.607^{+0.056}_{-0.026}$	$3.709^{+0.910}_{-0.562}$
	+3%/-3%	+1%/-1%	+33%/-33%	+8%/-8%	+9%/-4%	+25%/-15%
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 011619189-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-738 ± 116	$2.93^{+2.21}_{-1.80}$	240^{+8}_{-9}	4189^{+2277}_{-756}	$52085^{+302923}_{-36555}$
Alt.	-237 ± 84	$3.20^{+2.14}_{-1.89}$	240^{+9}_{-10}	3354^{+1225}_{-525}	13293^{+67729}_{-9149}

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 $A_{obs} \gg 1.0$

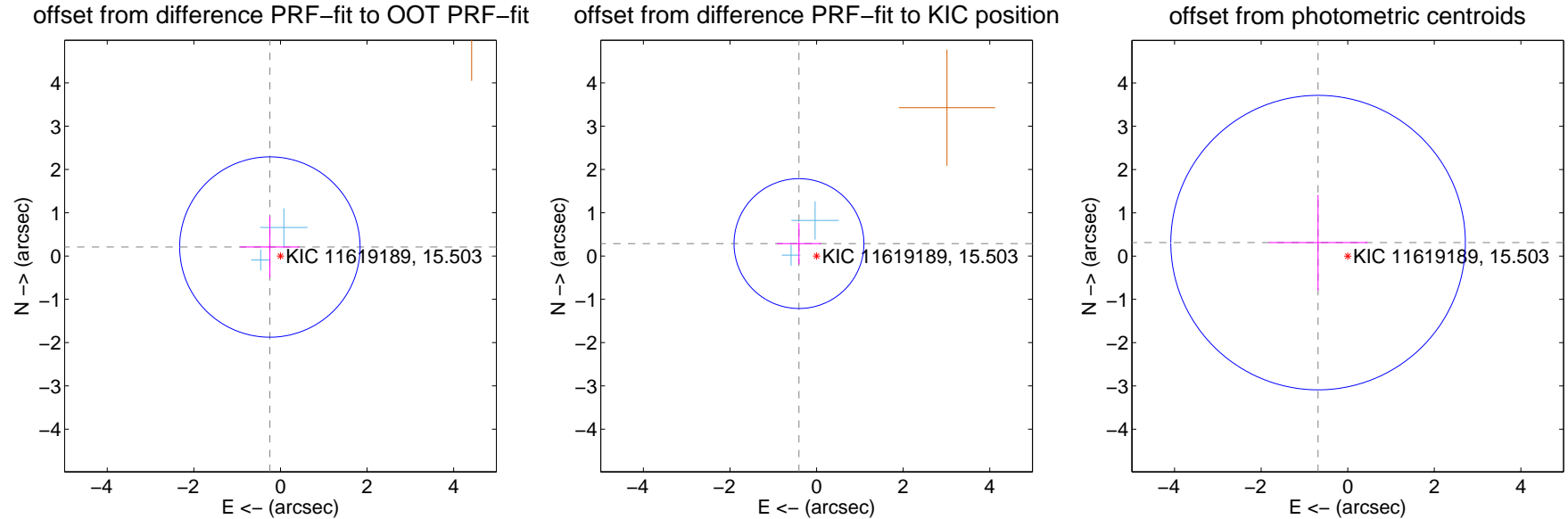
DV Centroid Data

Supplemental centroid analysis for 011619189-03. Kepler magnitude: 15.50. Transit SNR 7.11

There are 2 quarters with good PRF difference image offsets

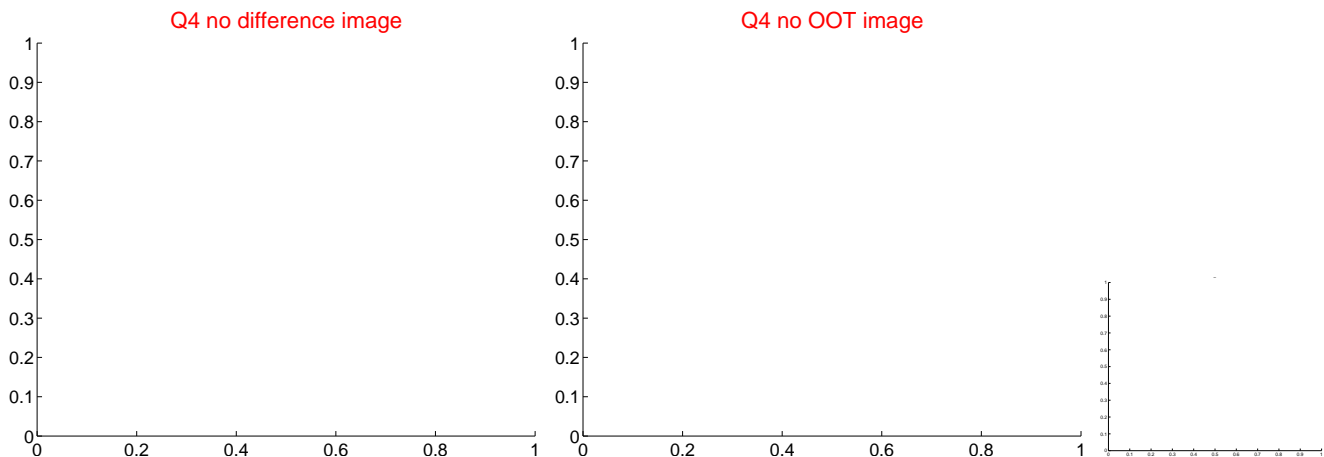
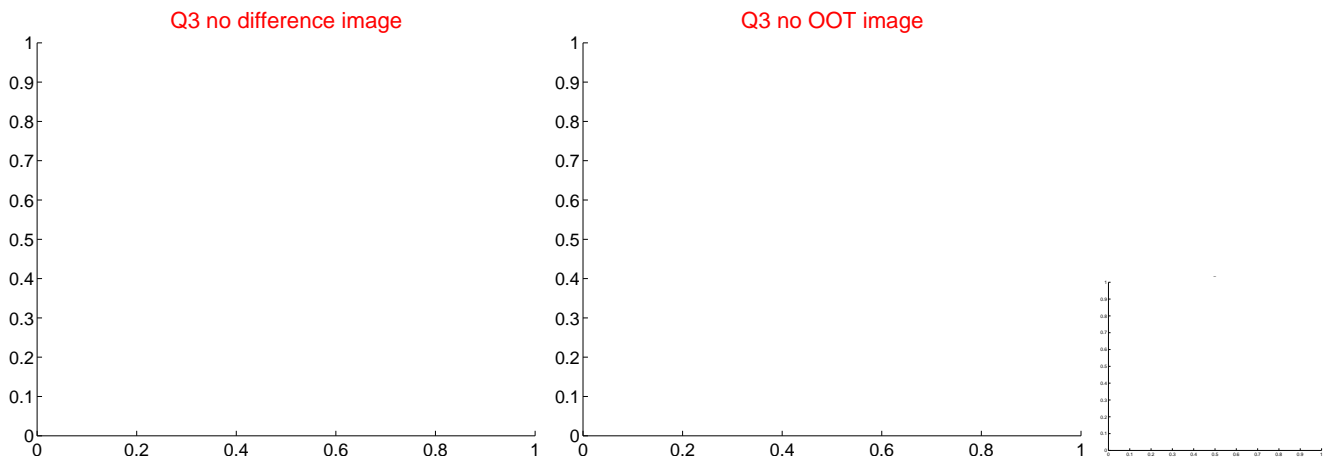
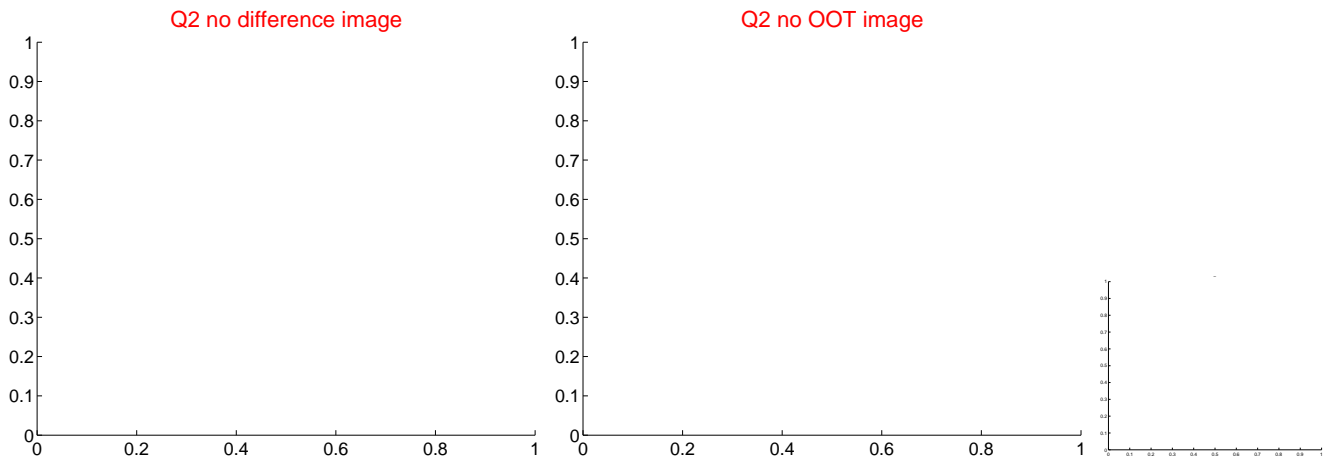
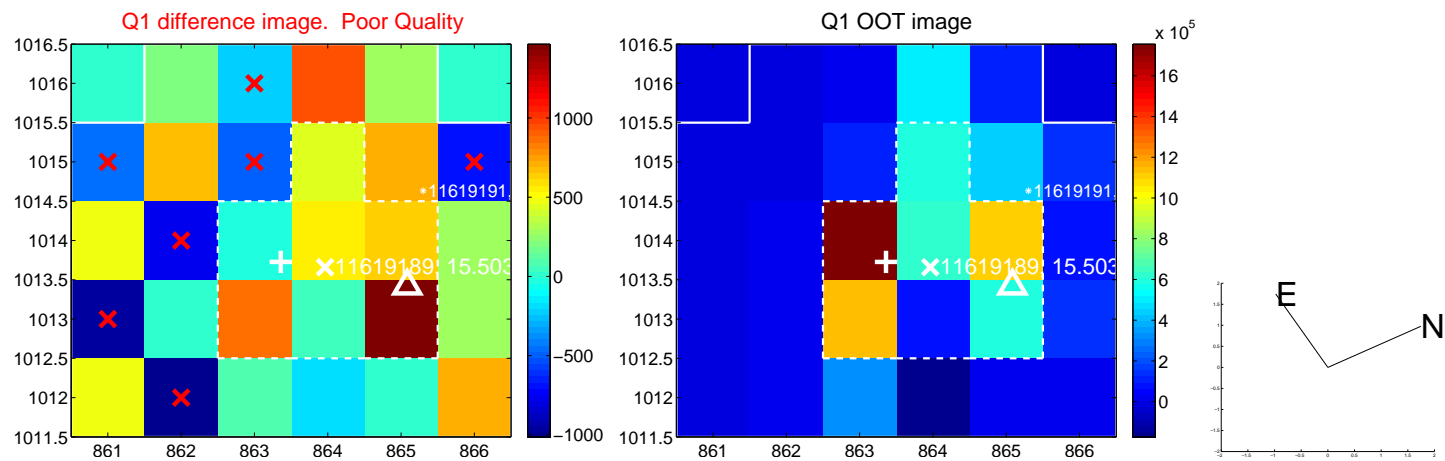
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.321 ± 0.695	0.46	0.245 ± 0.686	0.208 ± 0.707
PRF-fit source offset from KIC position	0.498 ± 0.500	1.00	0.407 ± 0.511	0.288 ± 0.476
photometric centroid source offset	0.75 ± 1.13	0.66	0.68 ± 1.14	0.31 ± 1.10



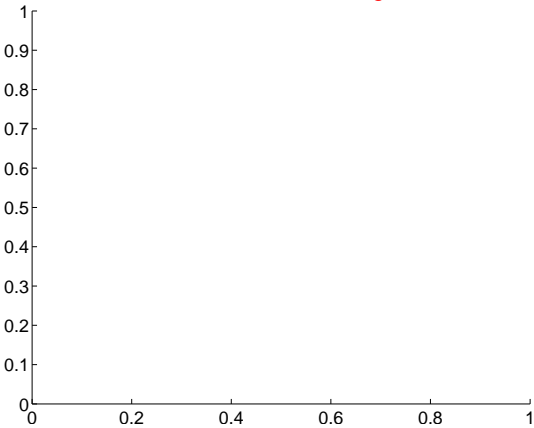
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

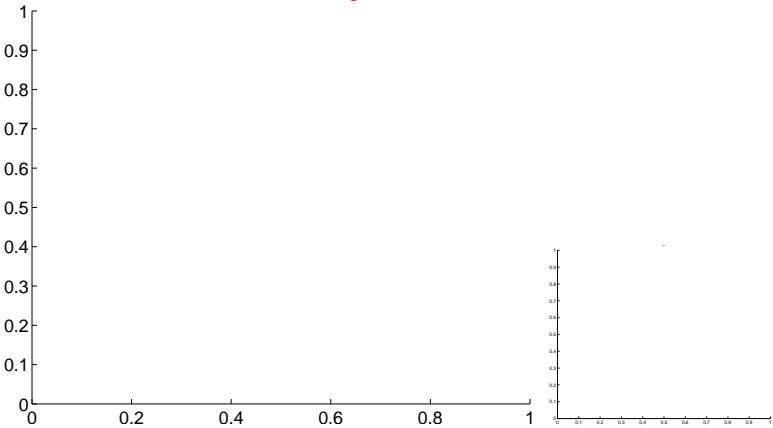


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

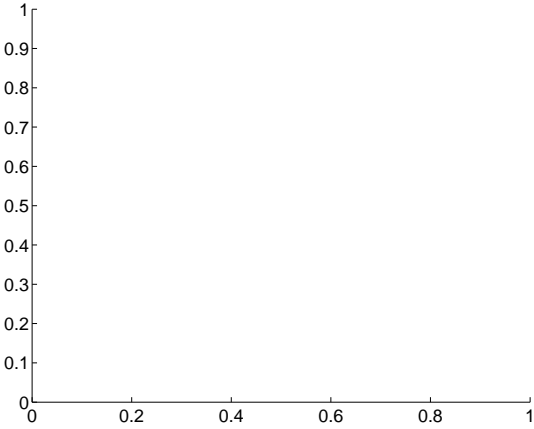
Q5 no difference image



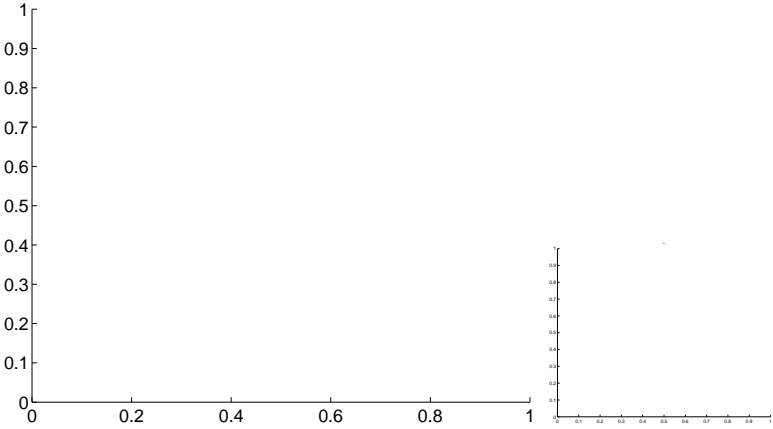
Q5 no OOT image



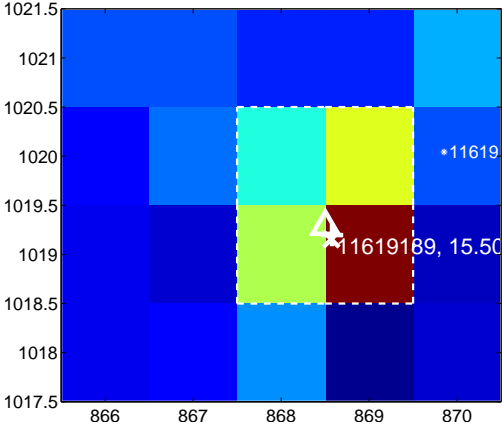
Q6 no difference image



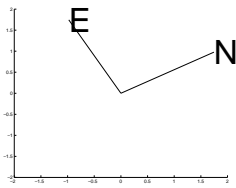
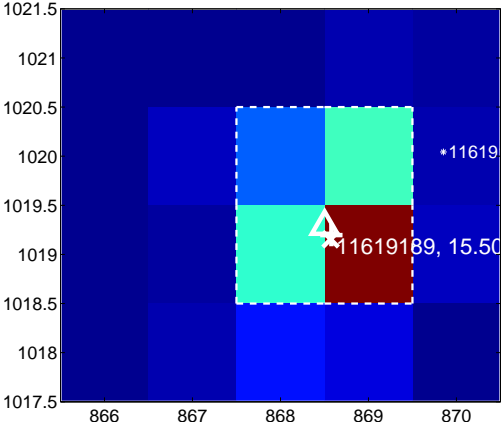
Q6 no OOT image



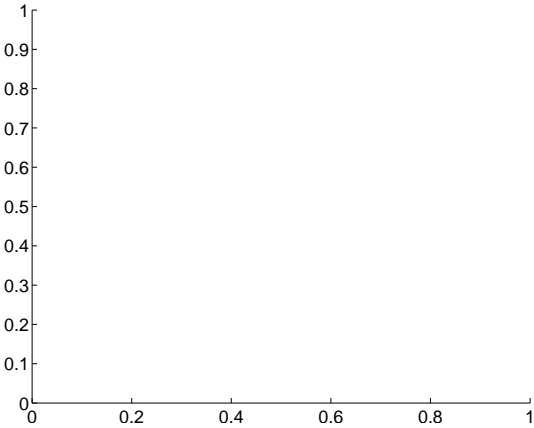
Q7 difference image



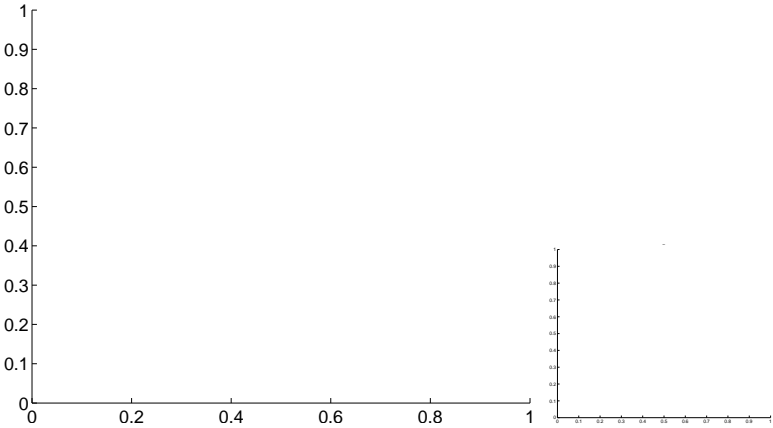
Q7 OOT image



Q8 no difference image

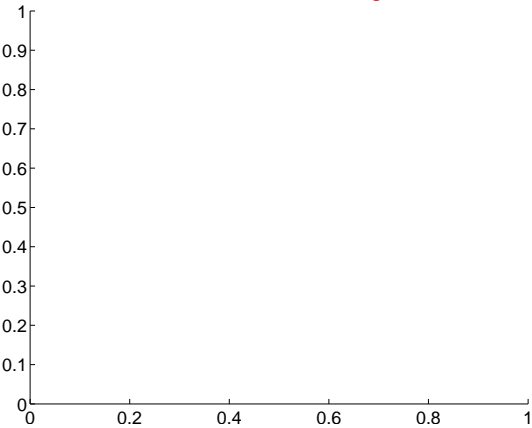


Q8 no OOT image

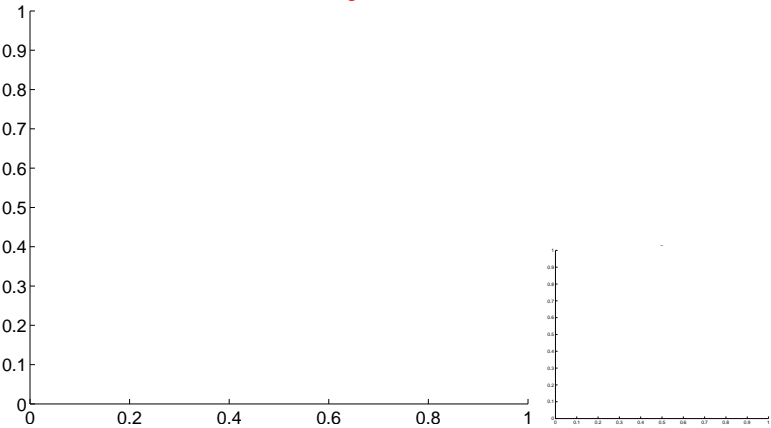


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

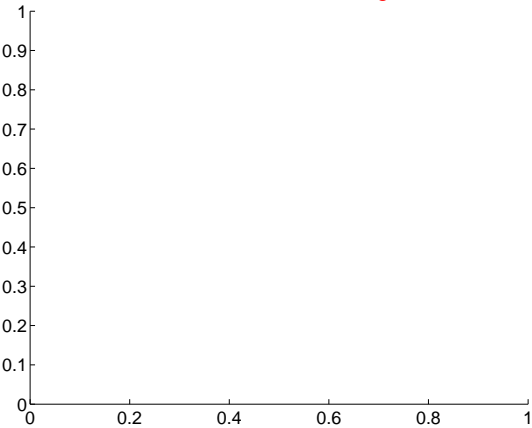
Q9 no difference image



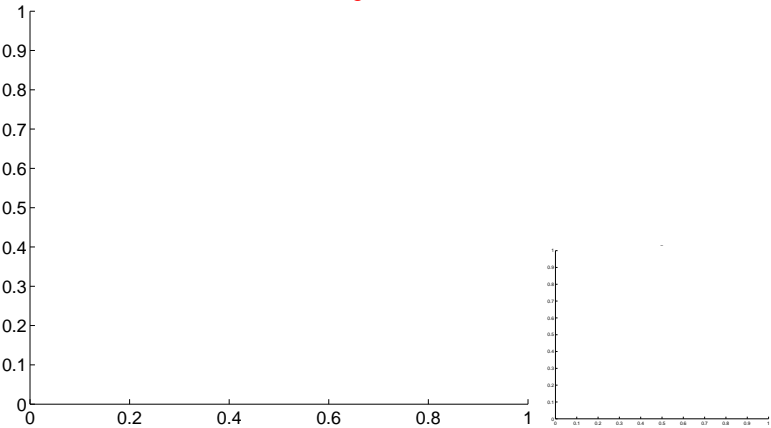
Q9 no OOT image



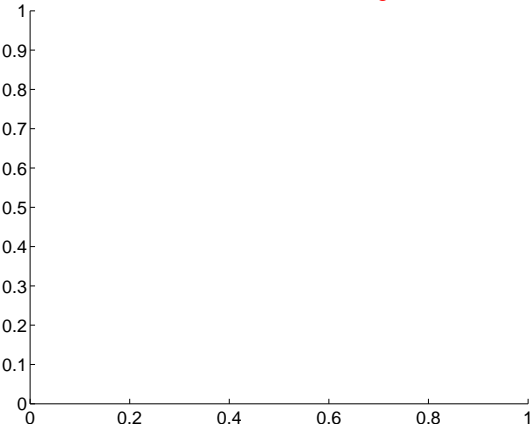
Q10 no difference image



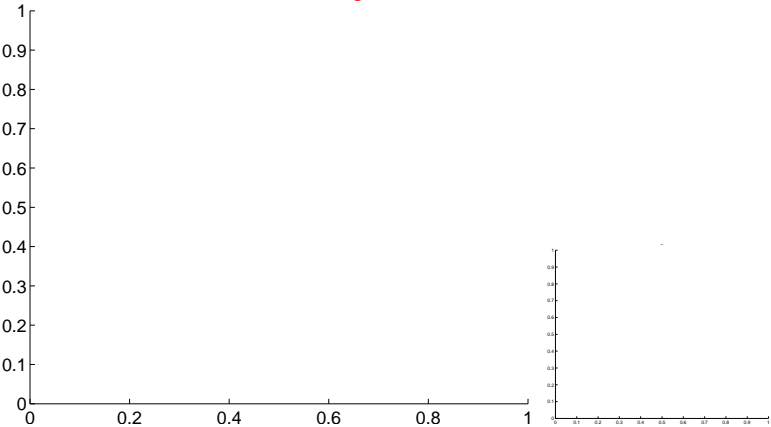
Q10 no OOT image



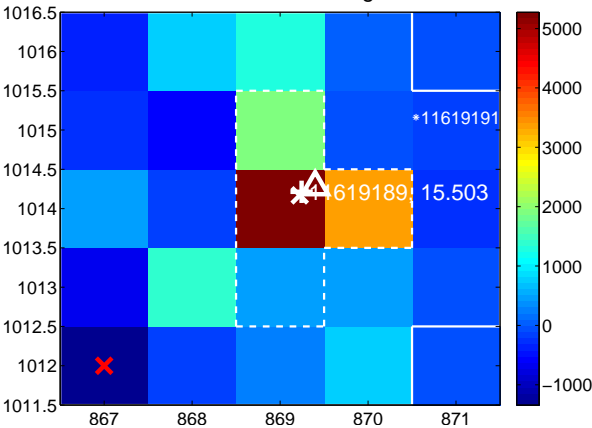
Q11 no difference image



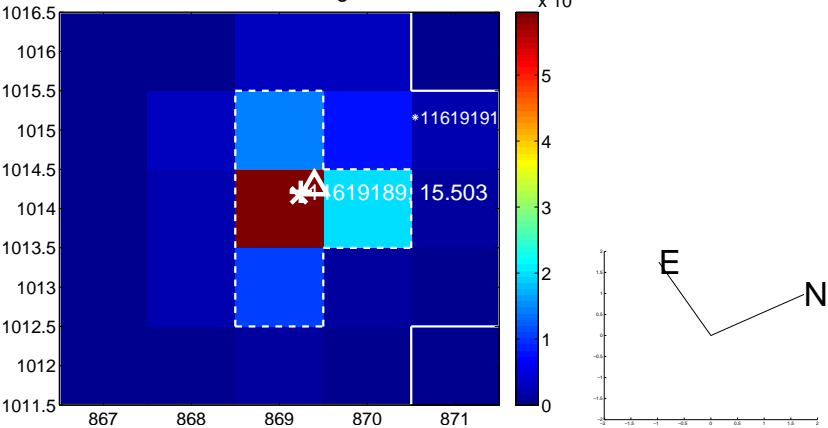
Q11 no OOT image



Q12 difference image



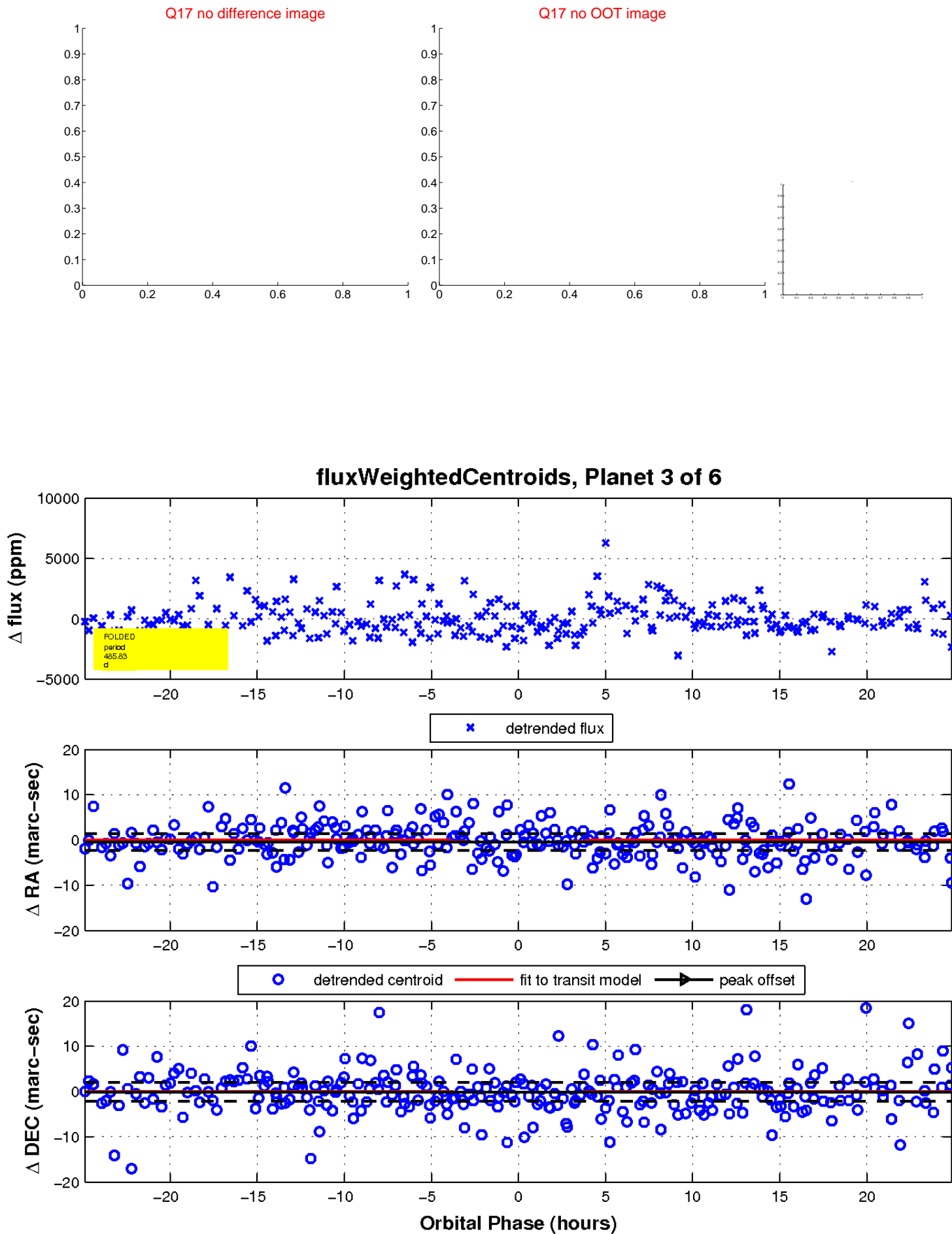
Q12 OOT image



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

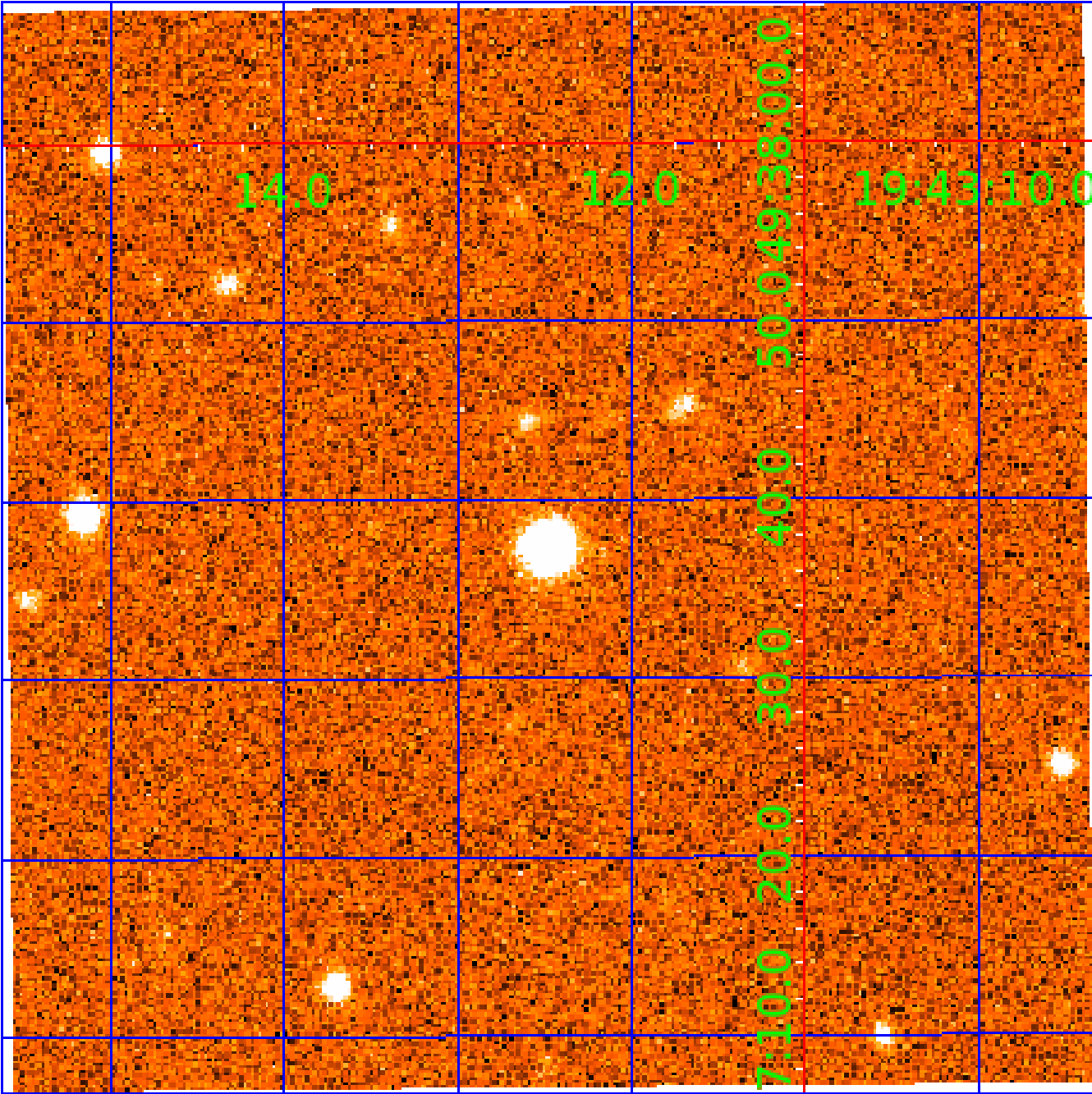


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011619189

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})
011619189-01	OBS	No	524.096211	213.649155	1532.5	6.120	13.3	7.4	0.61	5038	2.43	0.19
011619189-02	OBS	No	345.888355	198.766374	1620.2	5.050	11.2	8.4	0.61	5038	2.49	0.33
011619189-03	OBS	No	485.832748	148.908024	1410.6	8.359	10.4	7.1	0.61	5038	2.31	0.21
011619189-04	OBS	No	648.076237	208.917482	1704.6	5.671	12.2	7.5	0.61	5038	3.08	0.14
011619189-05	OBS	No	719.196285	150.626539	1721.9	10.465	9.7	6.4	0.61	5038	2.54	0.12
011619189-06	OBS	No	328.447007	182.769647	1928.3	7.367	8.9	10.3	0.61	5038	2.69	0.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011619189-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011619189-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011619189-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011619189-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
011619189-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
011619189-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

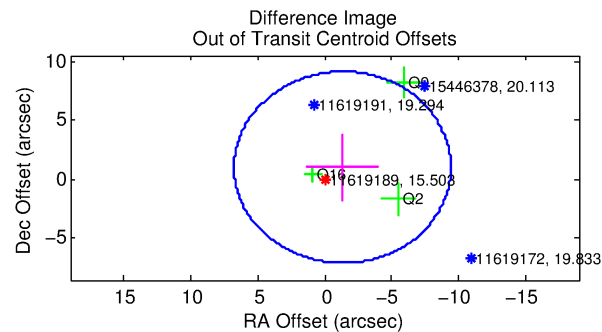
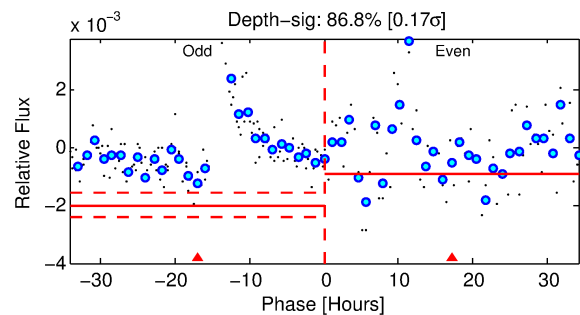
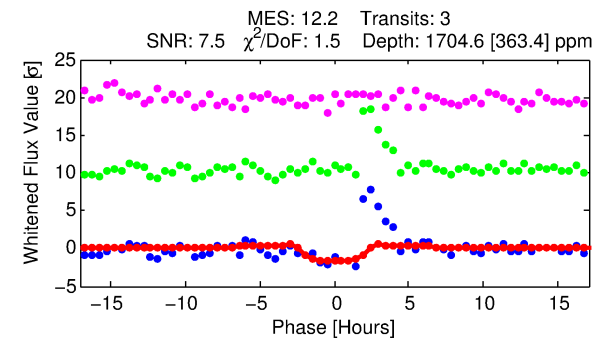
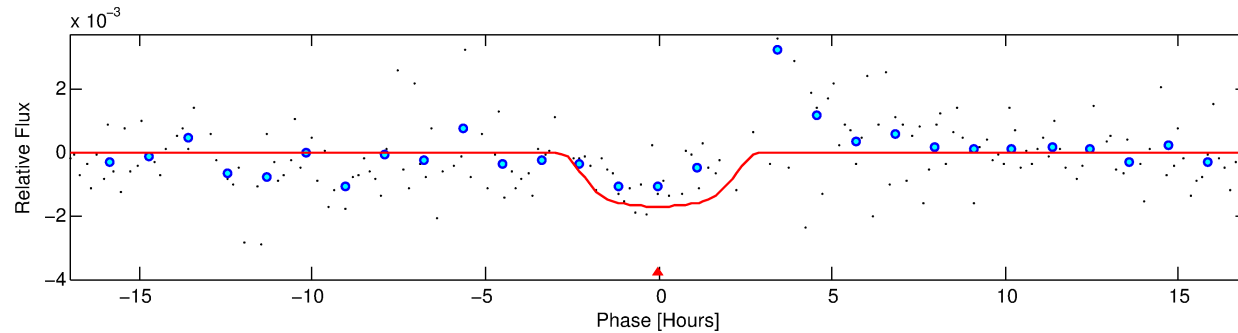
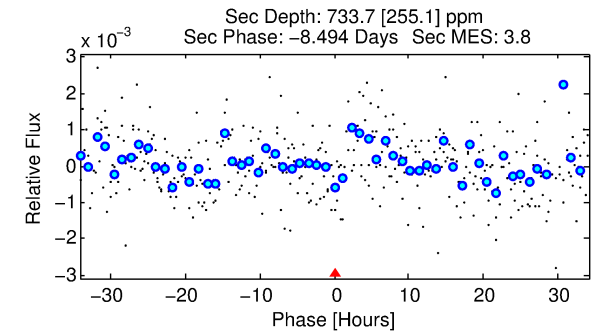
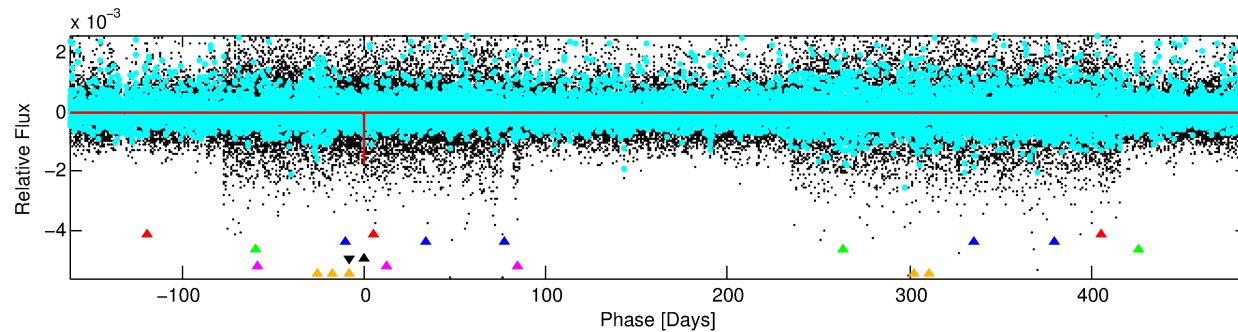
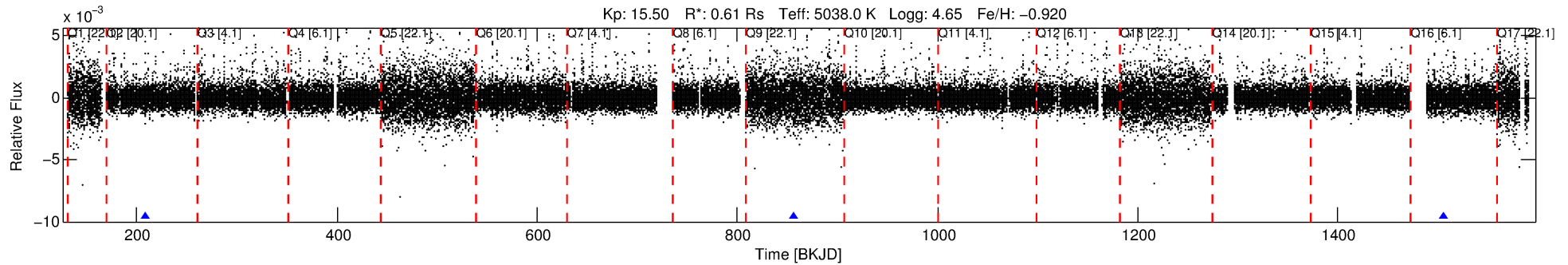
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011619189-04

No Significant Match Found

DV One-Page Summary

KIC: 11619189 Candidate: 4 of 6 Period: 648.076 d



DV Fit Results:

Period = 648.07624 [0.01050] d
Epoch = 208.9175 [0.0153] BKJD
Rp/R* = 0.0461 [0.0081]
a/R* = 448.92 [211.53]
b = 0.91 [0.09]
Seff = 0.14 [0.02]
Teq = 156 [6] K
Rp = 3.08 [0.60] Re
a = 1.2410 [0.0864] AU
Ag = 65442.75 [33171.55] [1.97σ]
Teffp = 3863 [492] K [7.53σ]

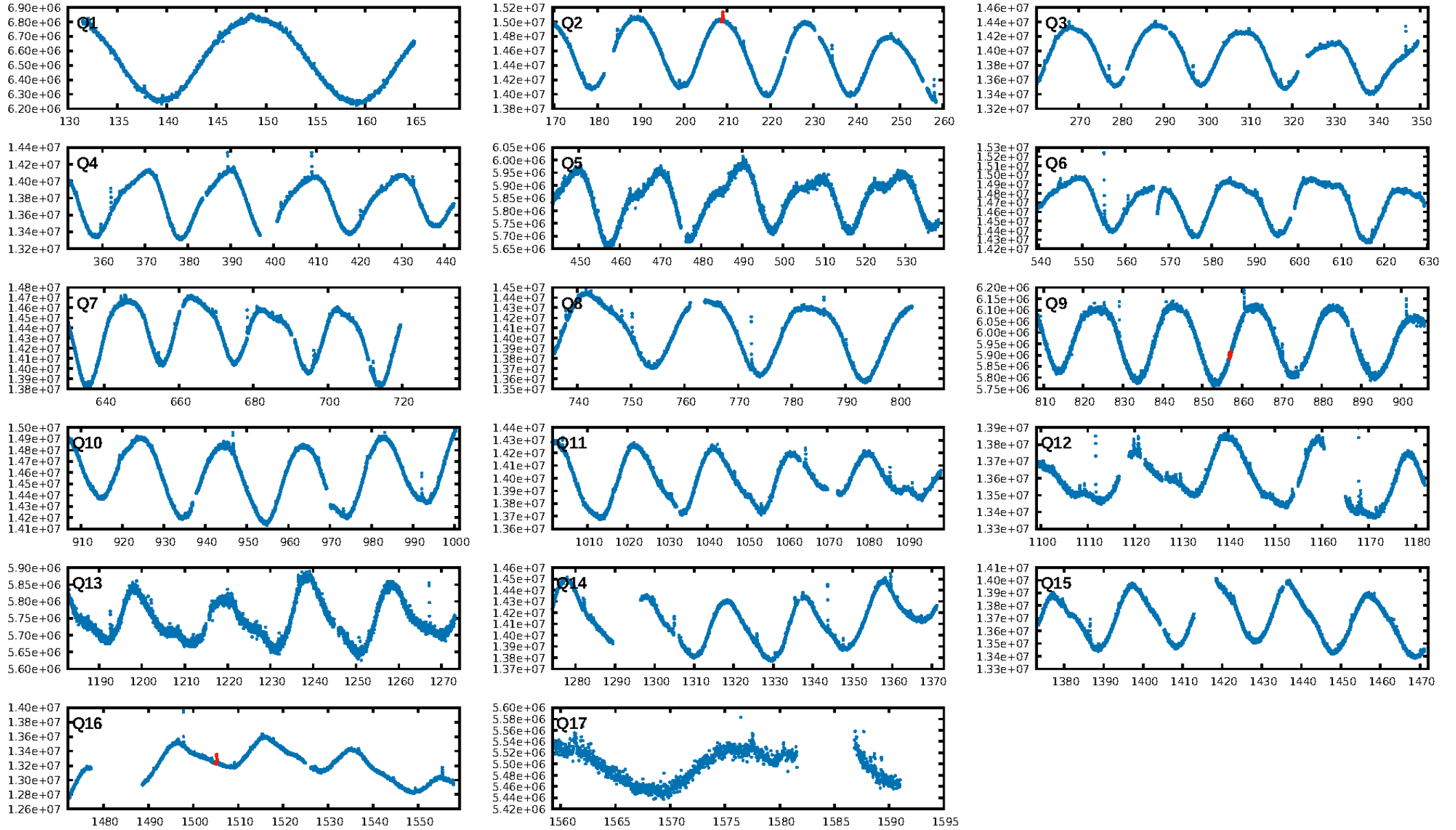
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [356.64σ]
LongPeriod-sig: 100.0% [143.40σ]
ModelChiSquare2-sig: 0.4%
ModelChiSquareGof-sig: 77.6%
Bootstrap-pfa: 4.37e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 4.489
Centroid-sig: 45.4%
Centroid-so: 0.690 arcsec [0.74σ]
OotOffset-rm: 1.688 arcsec [0.63σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-rm: 1.458 arcsec [0.69σ]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

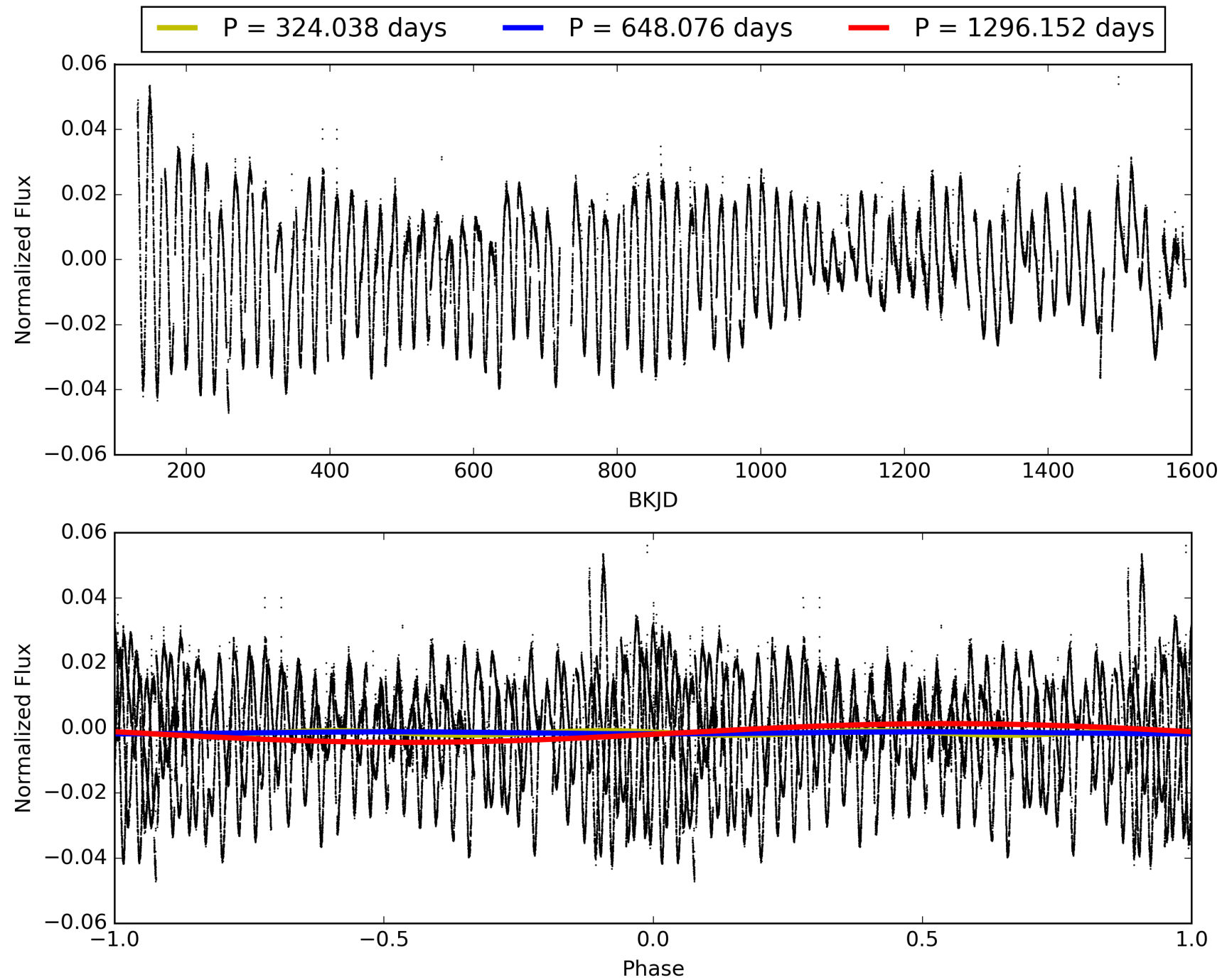
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:28:17 Z

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

TCE 011619189-04, PDC Light Curves

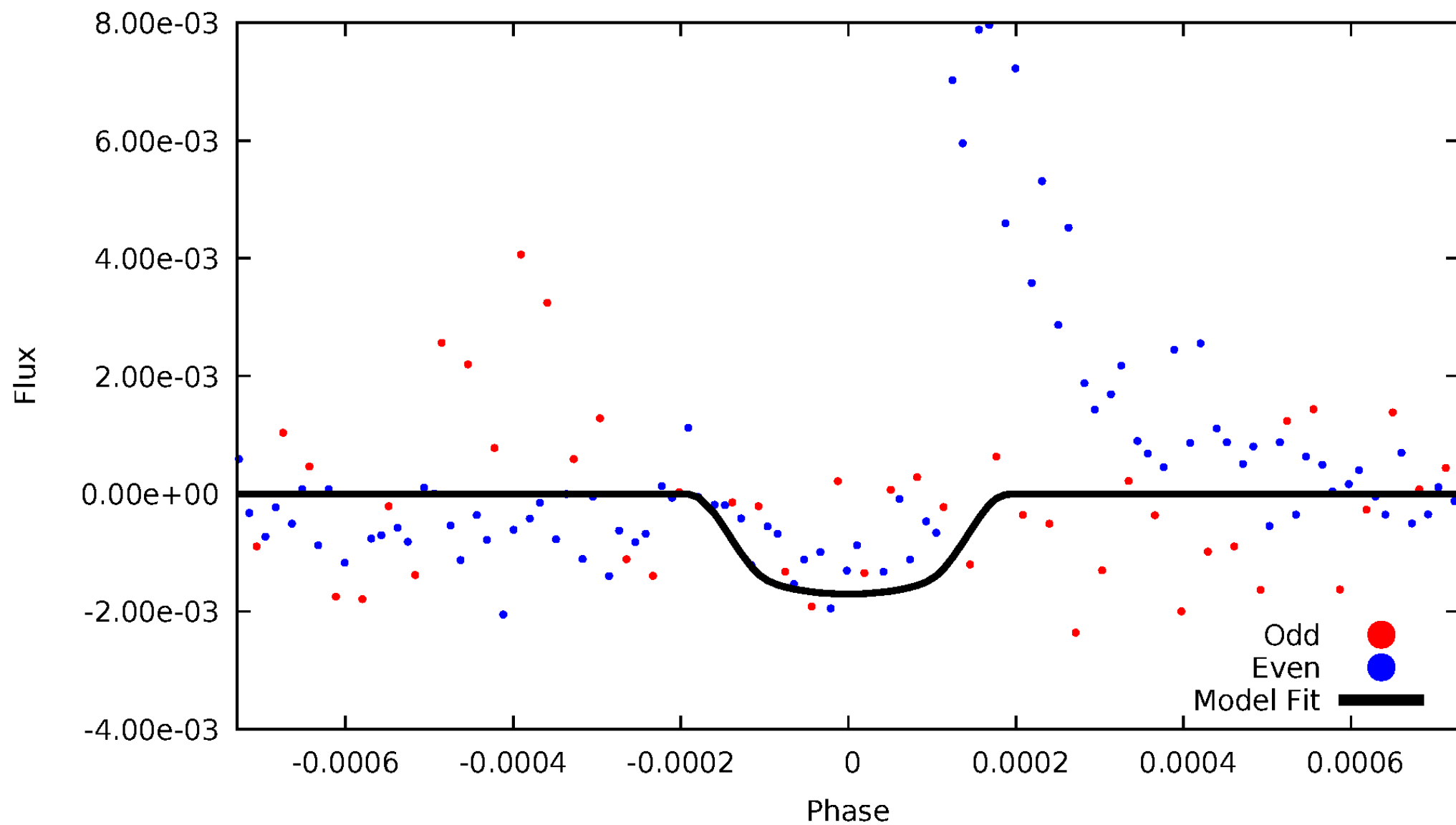


TCE 011619189-04



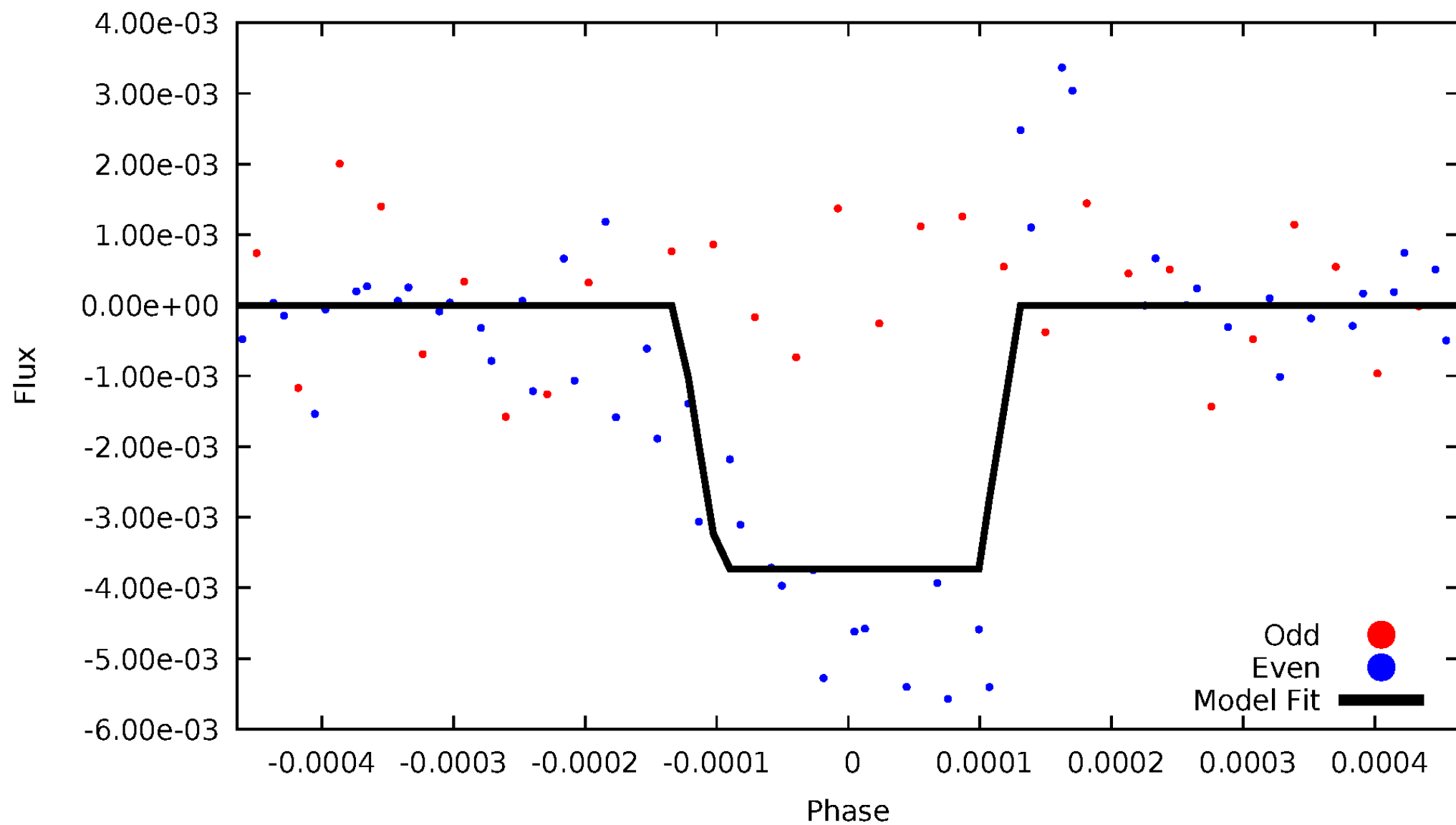
DV Odd/Even

TCE 011619189-04



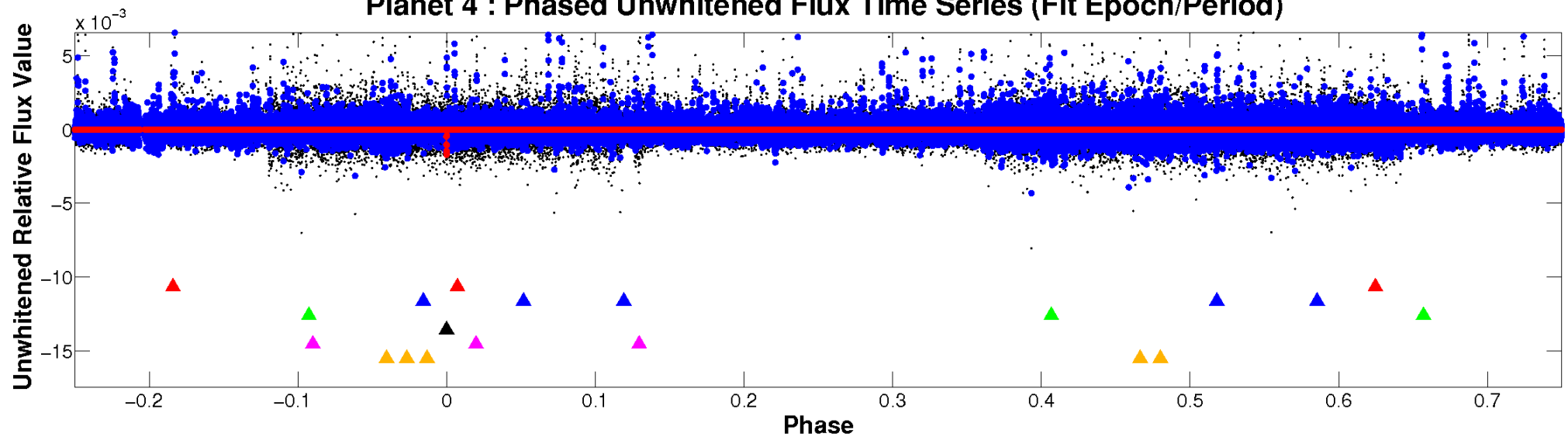
ALT Odd/Even

TCE 011619189-04

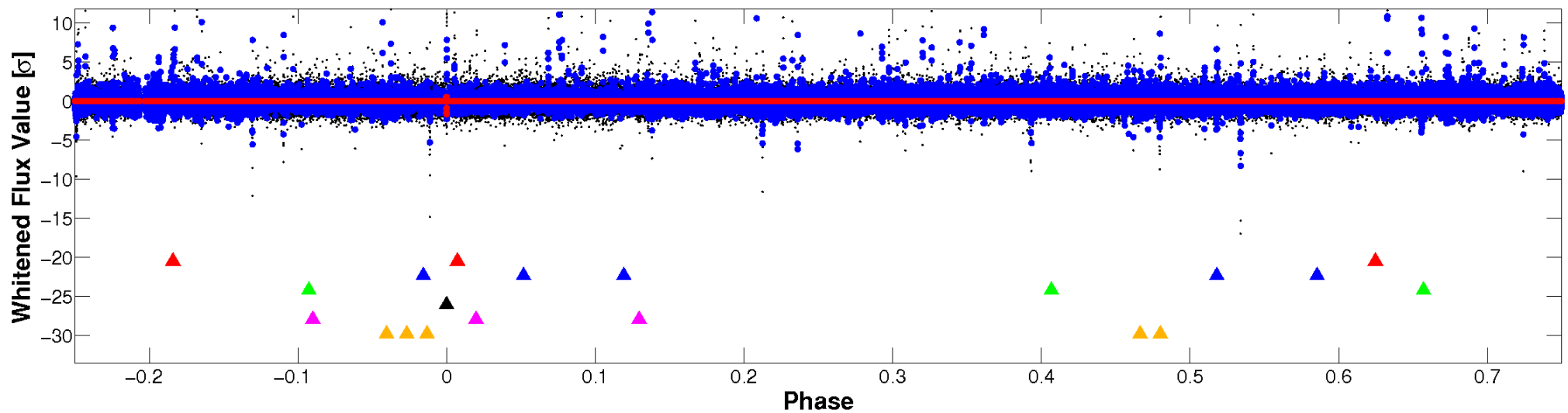


Non-Whitened Vs. Whitened Light Curve

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

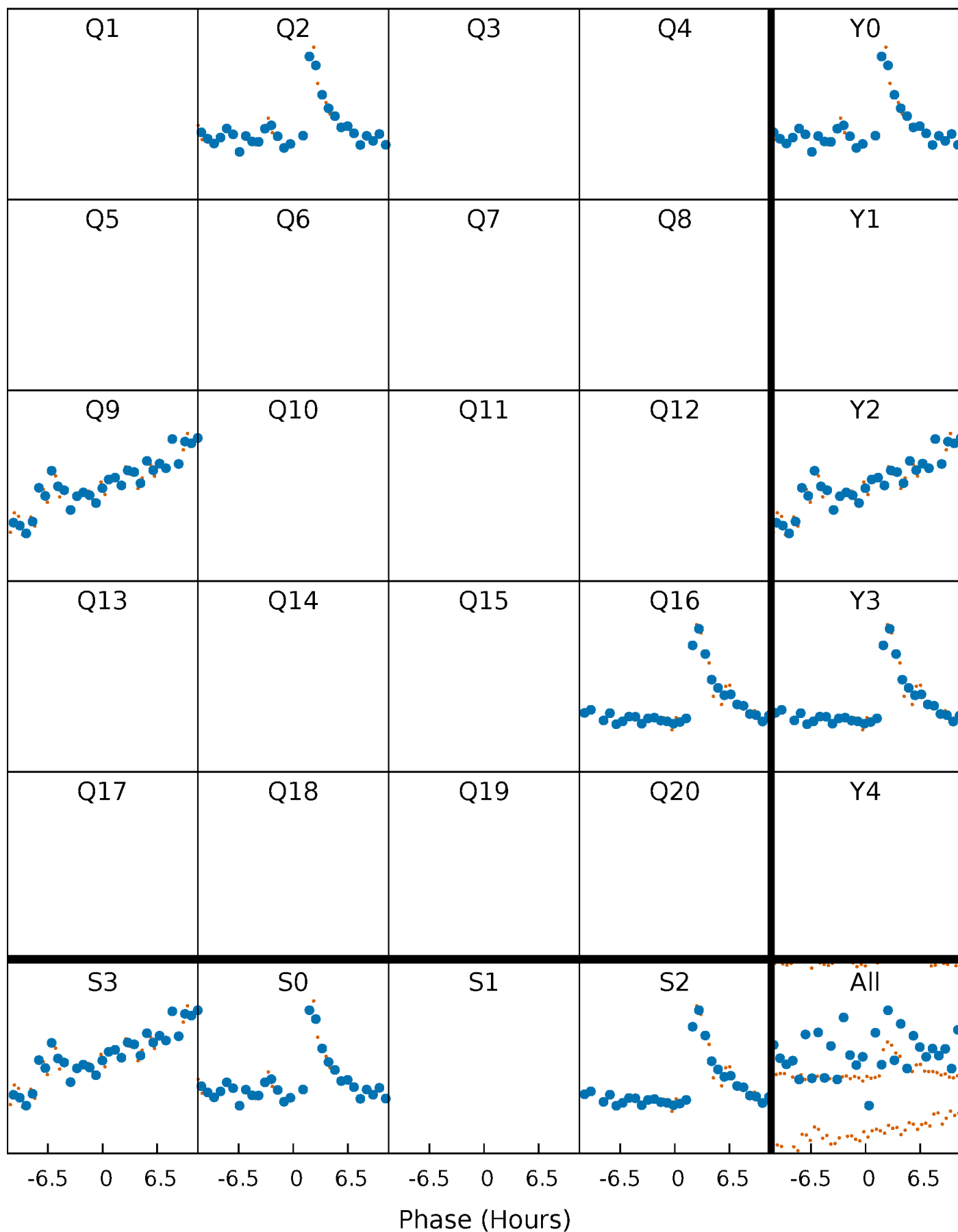


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



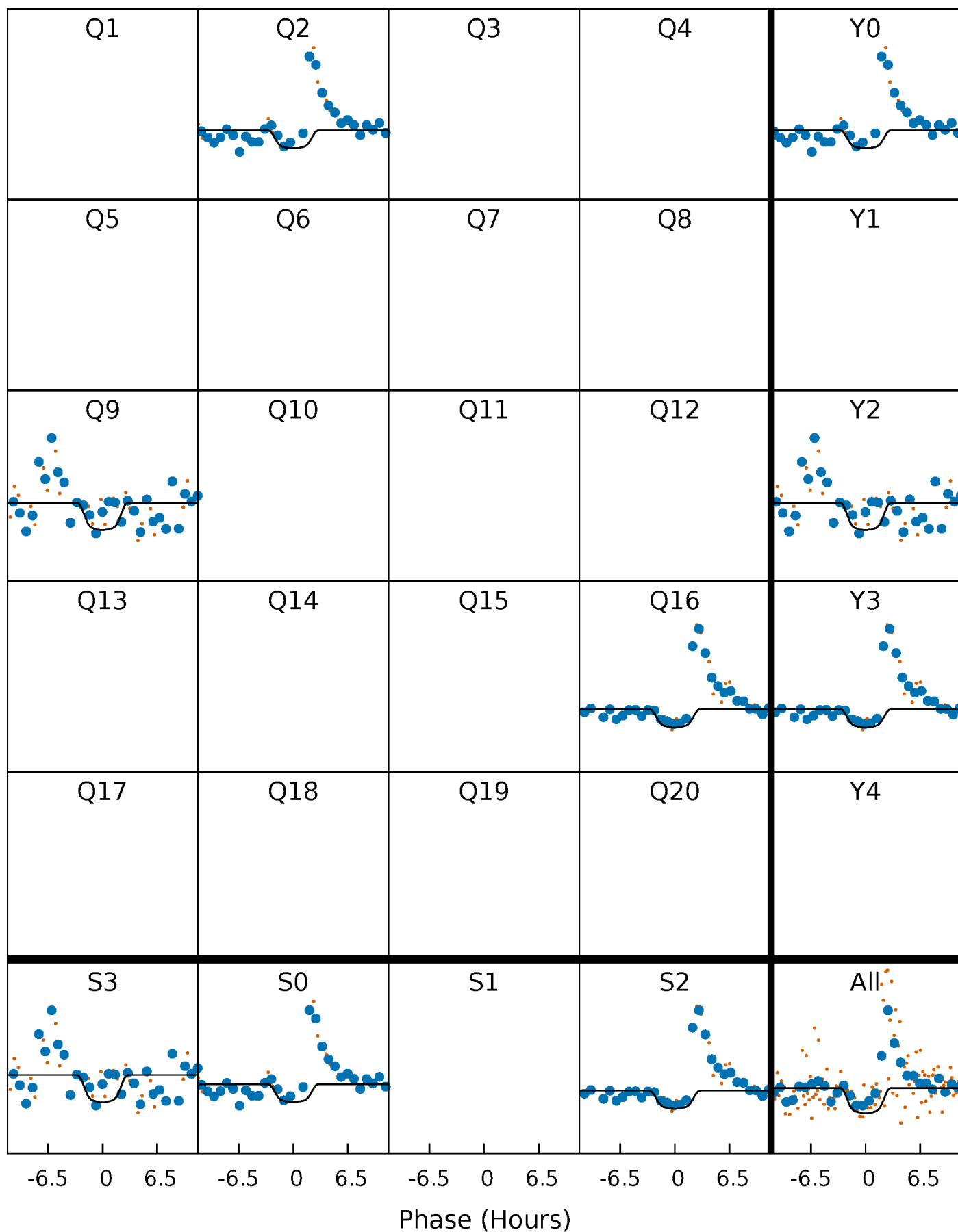
PDC Quarter-Phased Transit Curves

TCE 011619189-04 P=648.076237 Days $T_0=208.917482$ (BKJD)



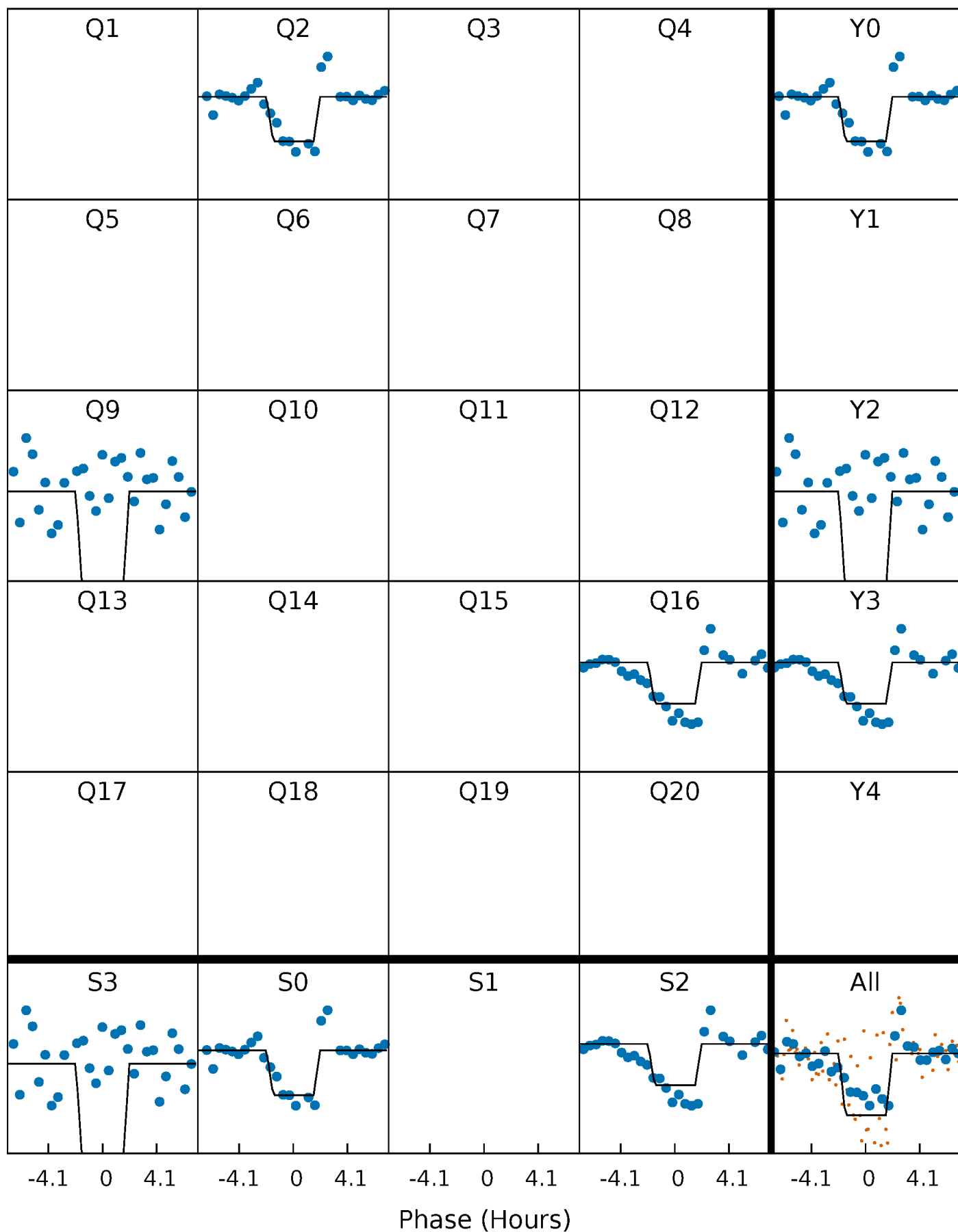
DV Quarter-Phased Transit Curves

TCE 011619189-04 P=648.076237 Days $T_0=208.917482$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

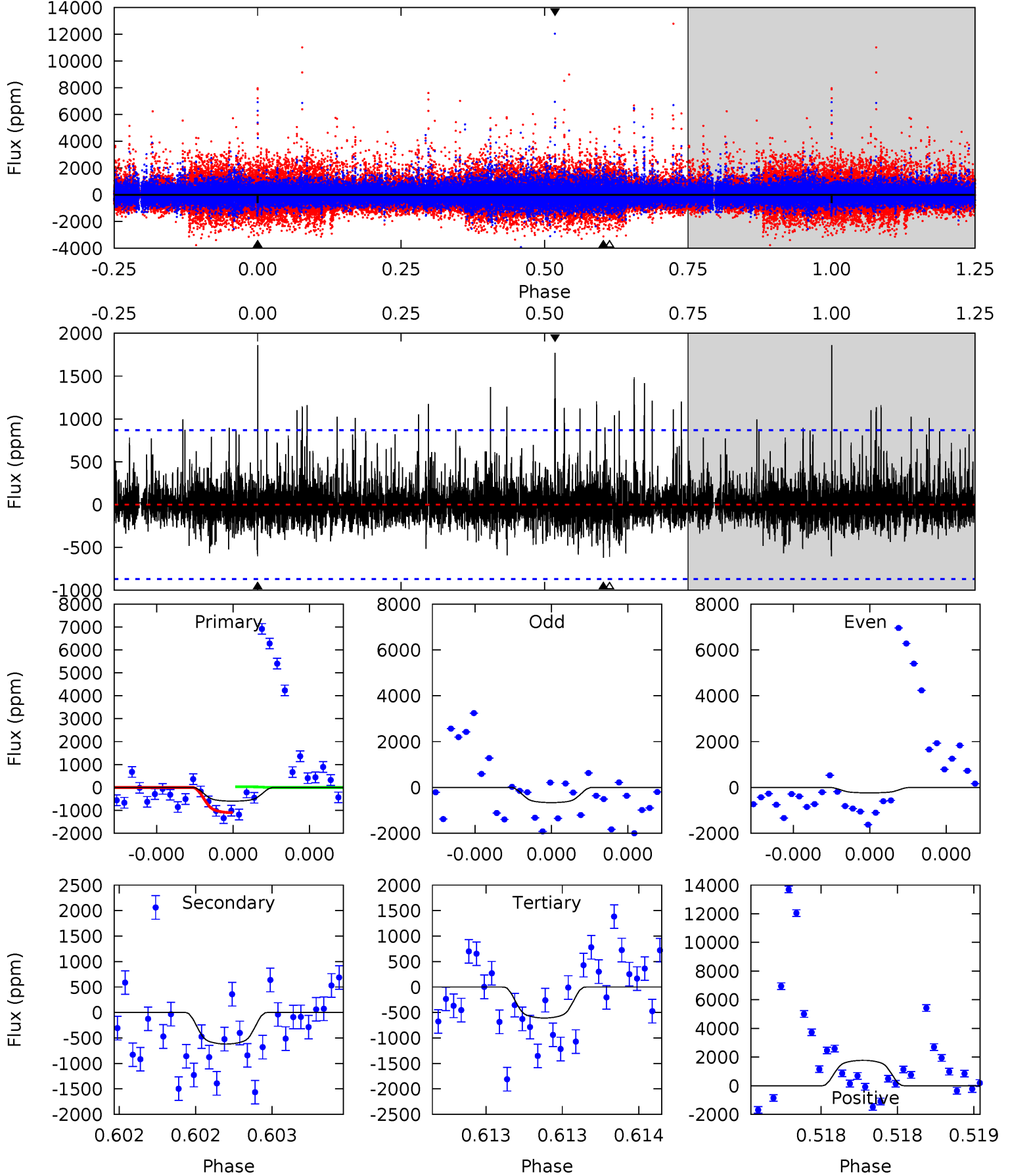
TCE 011619189-04 P=648.077600 Days $T_0=208.913264$ (BKJD)



DV Model-Shift Uniqueness Test

011619189-04, P = 648.076237 Days, E = 208.917482 Days

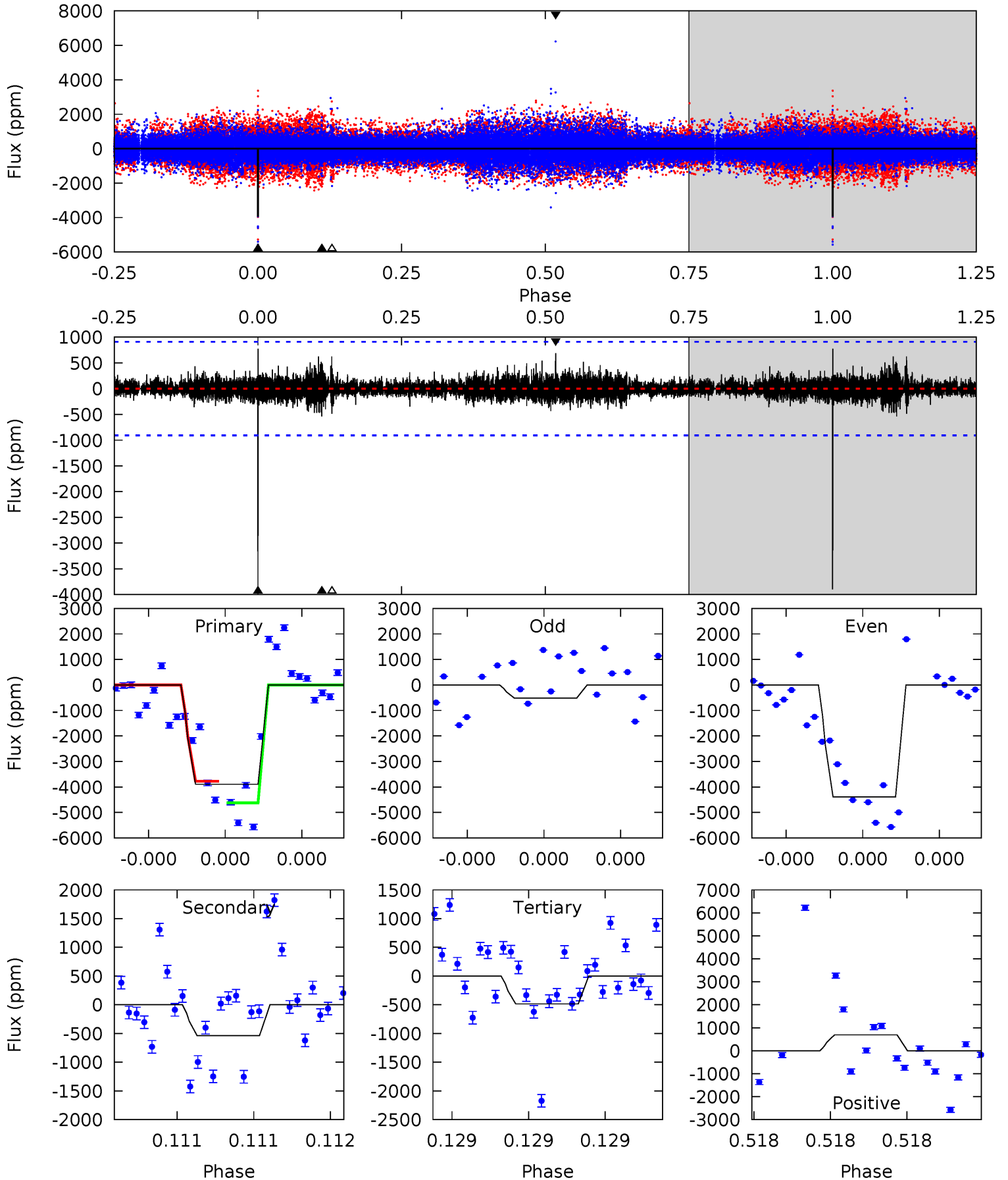
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.89	4.02	3.95	11.5	5.63	3.56	1.29	-0.06	-7.59	0.07	-7.47	1.09	0.56	0.75	3.50



Alt Model-Shift Uniqueness Test

011619189-04, P = 648.077600 Days, E = 208.913264 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.5	3.37	3.05	4.33	5.71	3.68	0.61	21.4	20.1	0.32	-0.96	14.5	0.72	0.17	0



Stellar Parameters For KIC 011619189

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5038^{+150}_{-150}	$4.646^{+0.060}_{-0.040}$	$-0.920^{+0.300}_{-0.300}$	$0.613^{+0.048}_{-0.048}$	$0.607^{+0.056}_{-0.026}$	$3.709^{+0.910}_{-0.562}$
	+3%/-3%	+1%/-1%	+33%/-33%	+8%/-8%	+9%/-4%	+25%/-15%
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 011619189-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-620 ± 154	$3.05^{+0.56}_{-0.57}$	218^{+7}_{-7}	3967^{+386}_{-291}	55864^{+35733}_{-20701}
Alt.	-536 ± 159	$4.08^{+0.61}_{-0.54}$	217^{+8}_{-7}	3527^{+244}_{-257}	27706^{+13889}_{-10251}

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

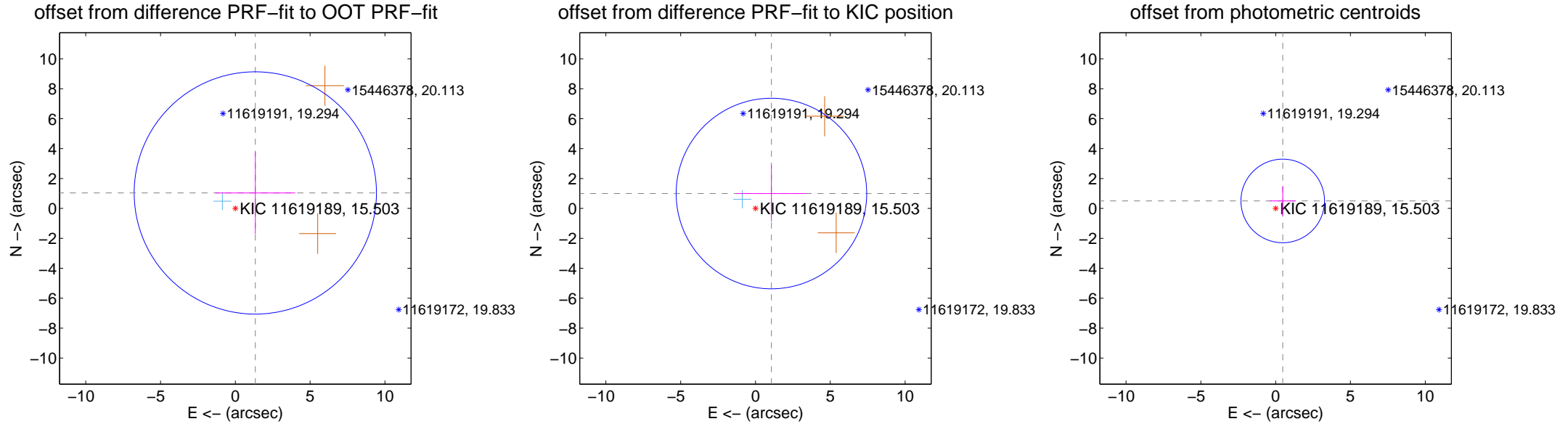
DV Centroid Data

Supplemental centroid analysis for 011619189-04. Kepler magnitude: 15.50. Transit SNR 7.51

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

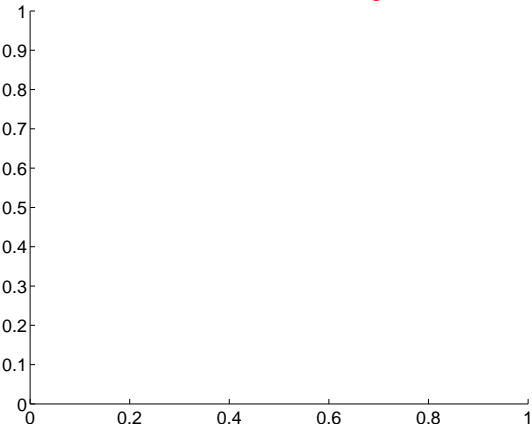
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.688 ± 2.698	0.63	-1.335 ± 2.672	1.034 ± 2.740
PRF-fit source offset from KIC position	1.458 ± 2.122	0.69	-1.065 ± 2.317	0.996 ± 1.874
photometric centroid source offset	0.69 ± 0.93	0.74	-0.47 ± 0.86	0.50 ± 0.99



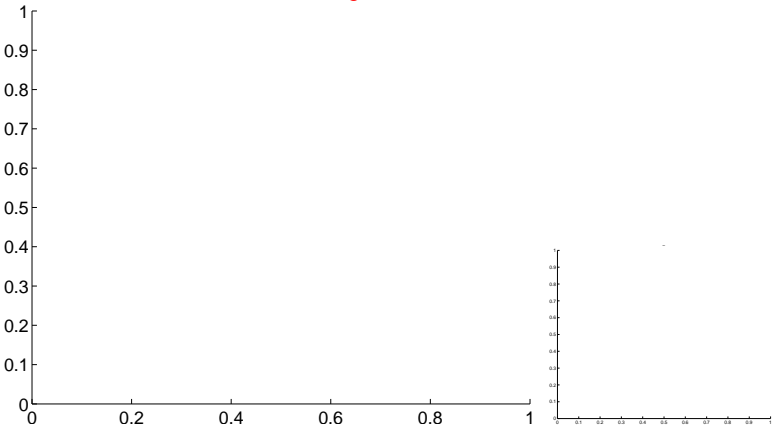
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

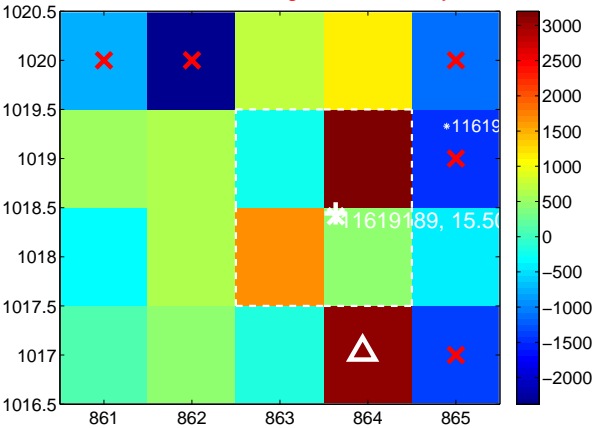
Q1 no difference image



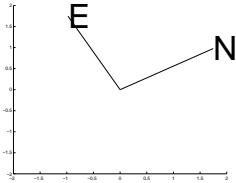
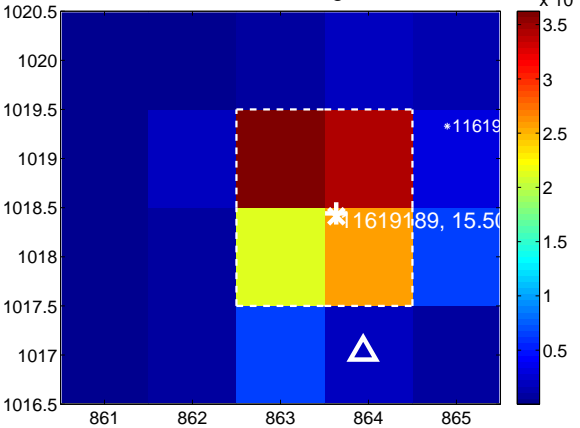
Q1 no OOT image



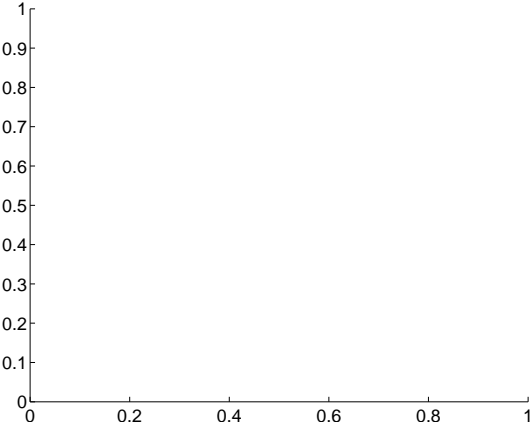
Q2 difference image. Poor Quality



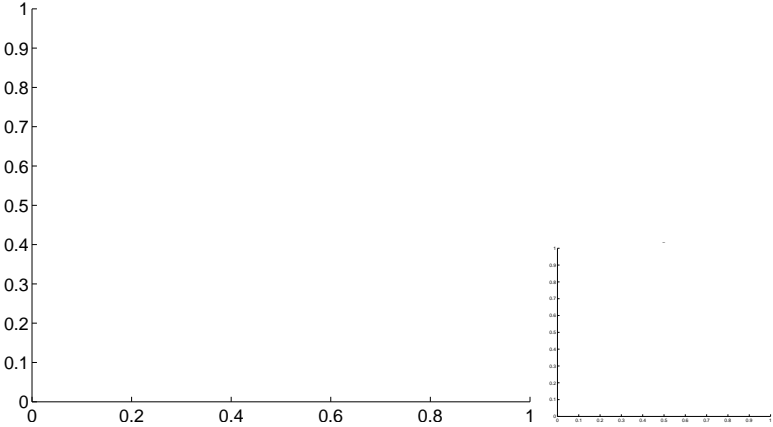
Q2 OOT image



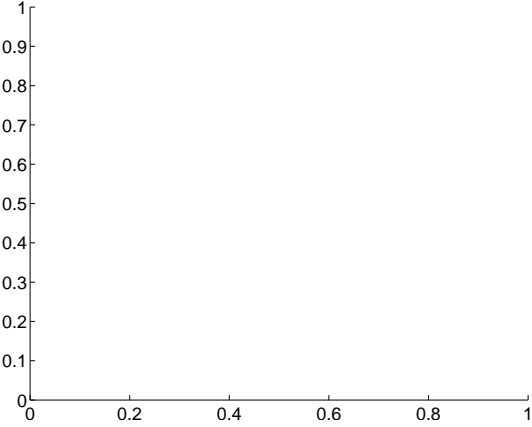
Q3 no difference image



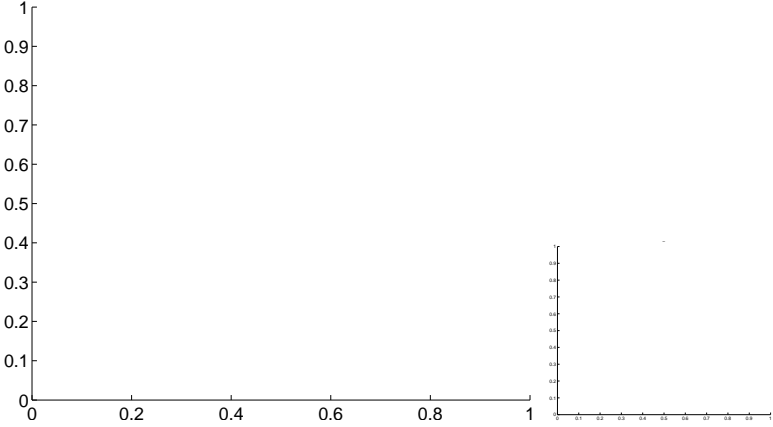
Q3 no OOT image



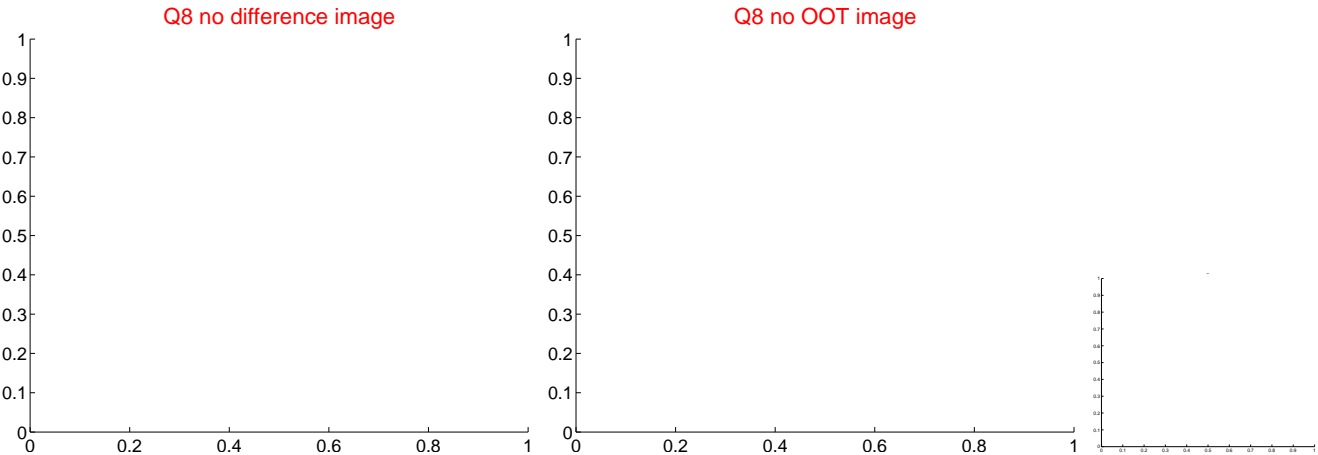
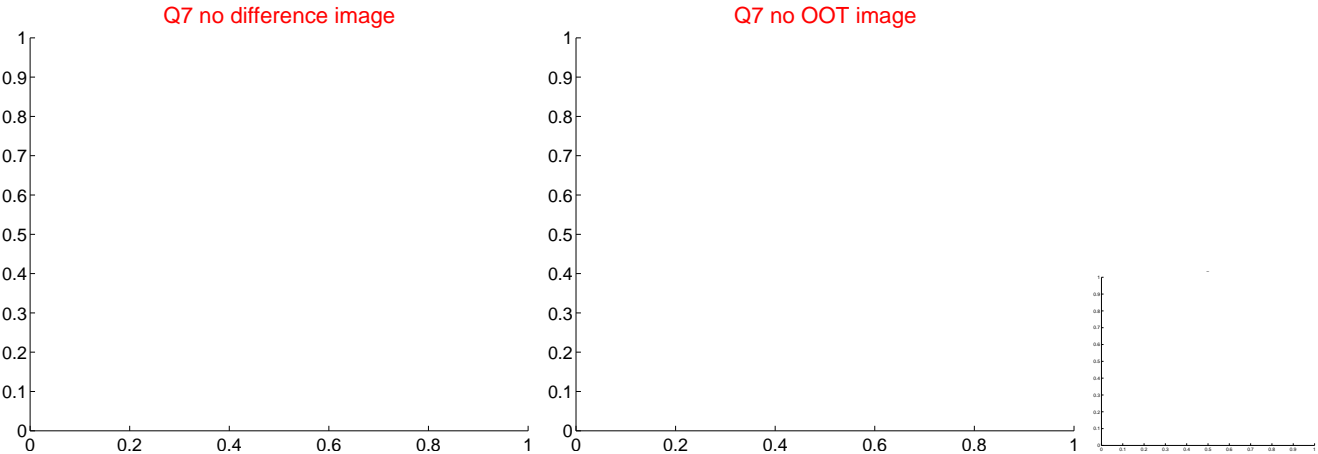
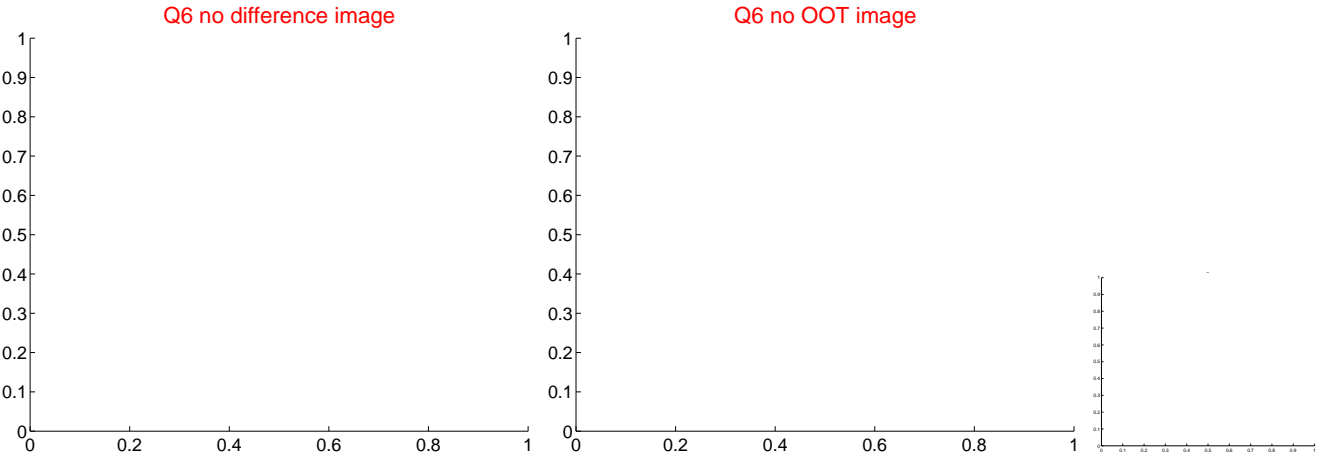
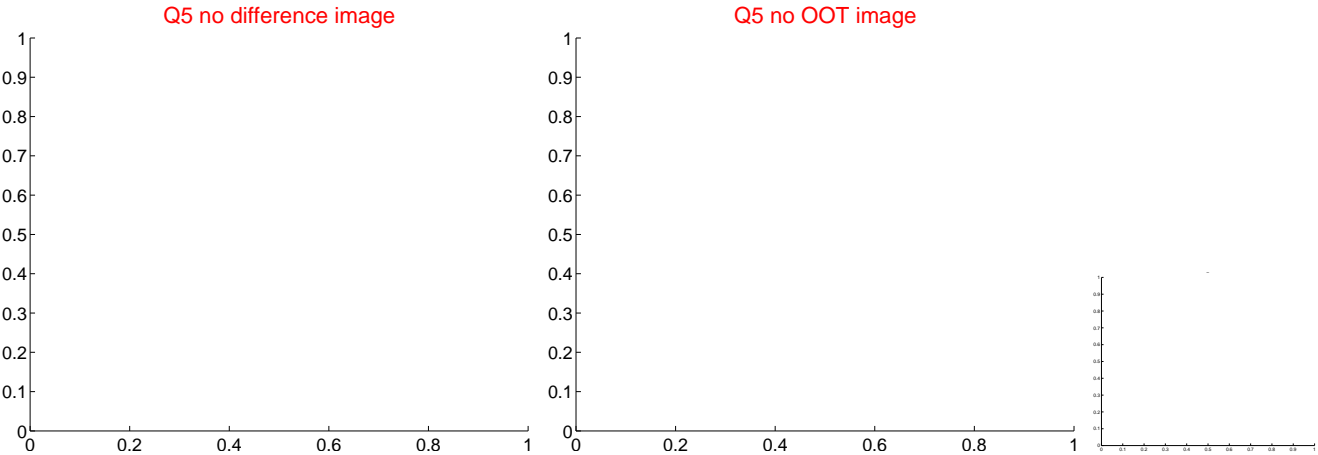
Q4 no difference image



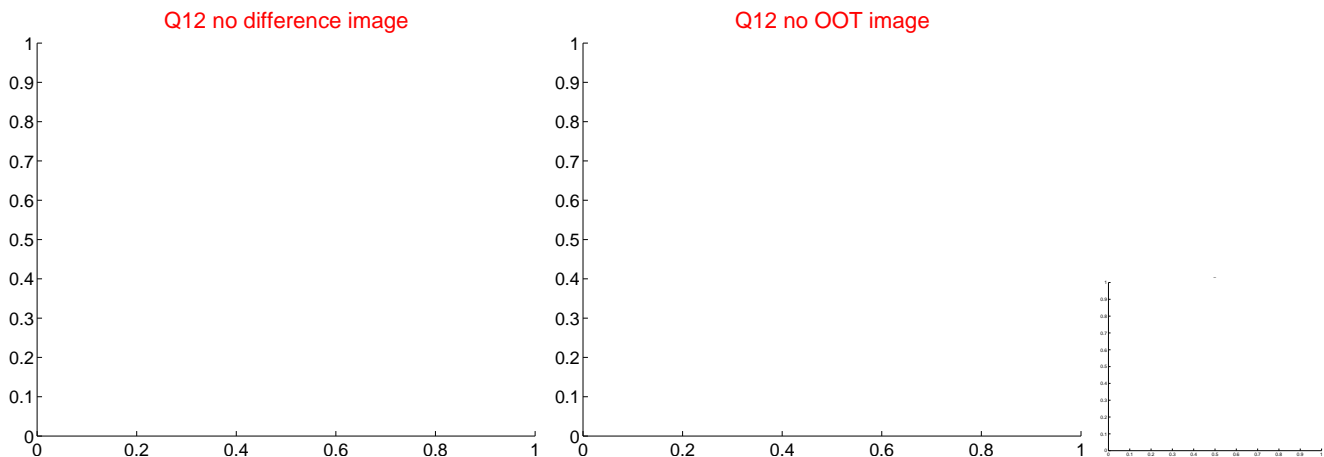
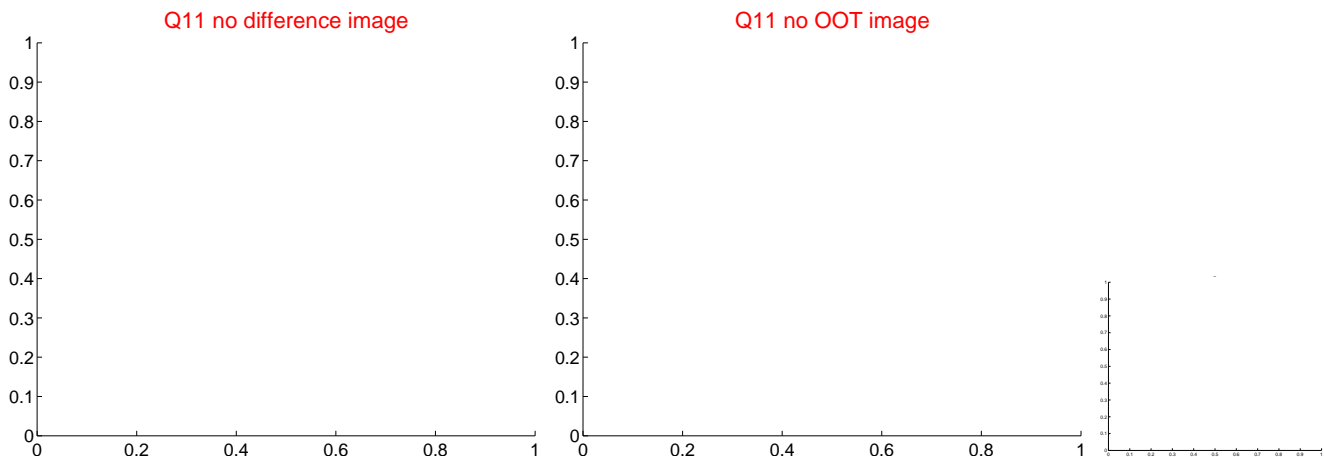
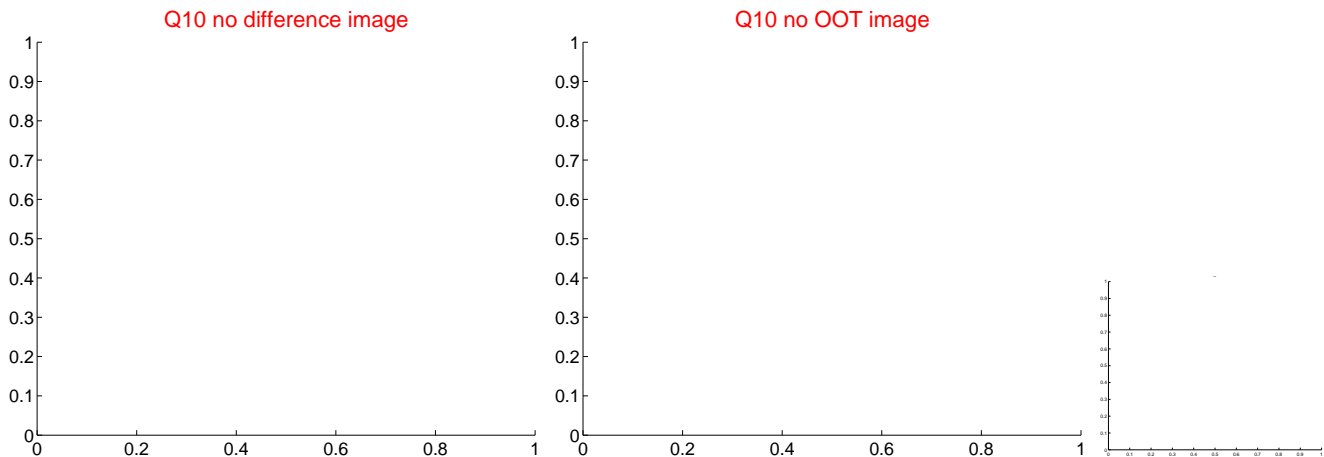
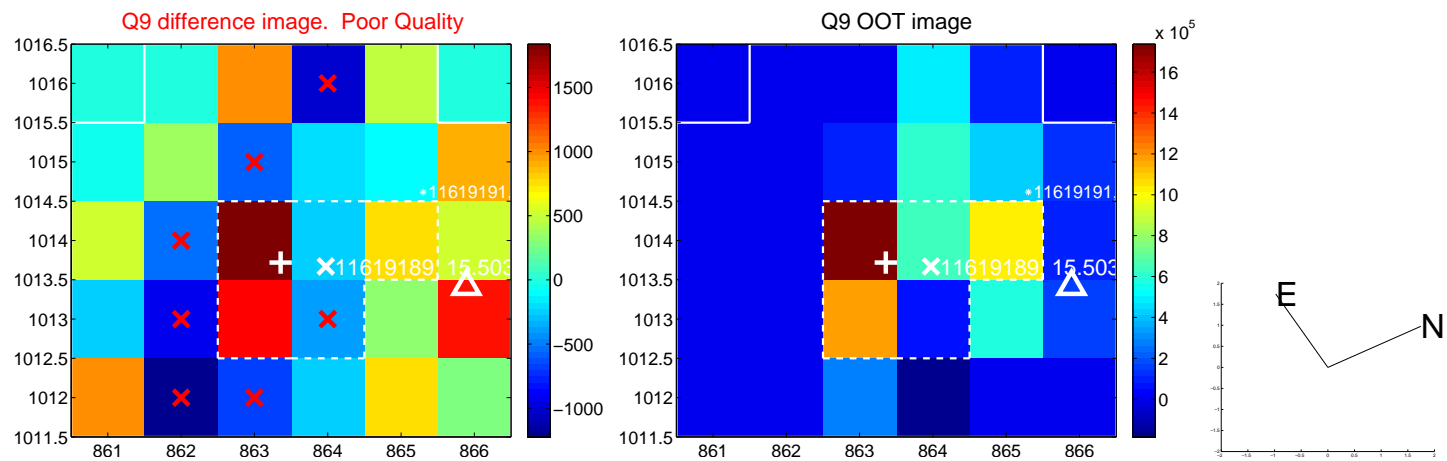
Q4 no OOT image



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

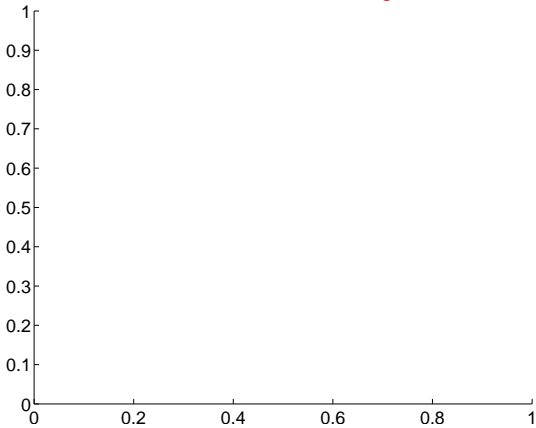


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

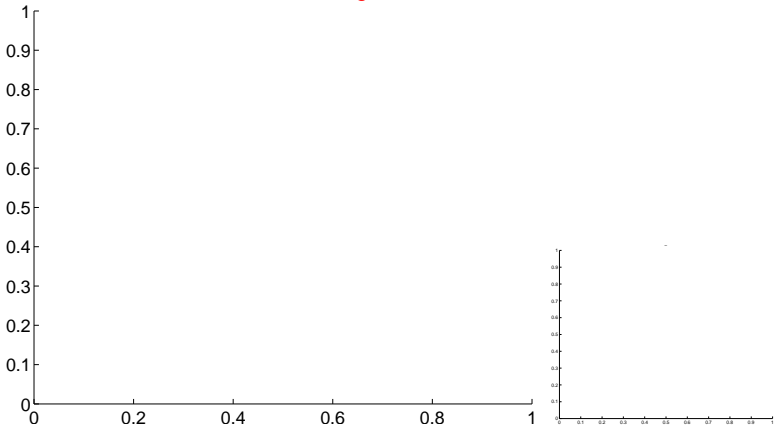


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

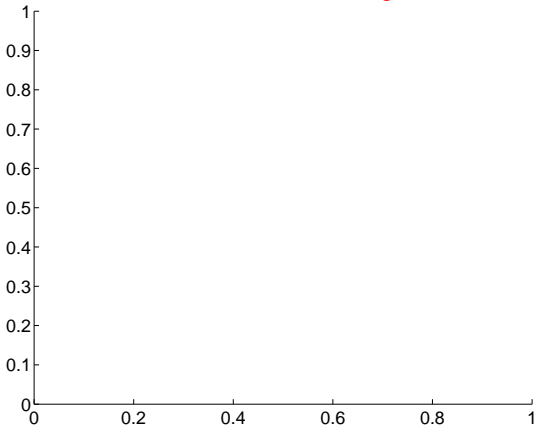
Q13 no difference image



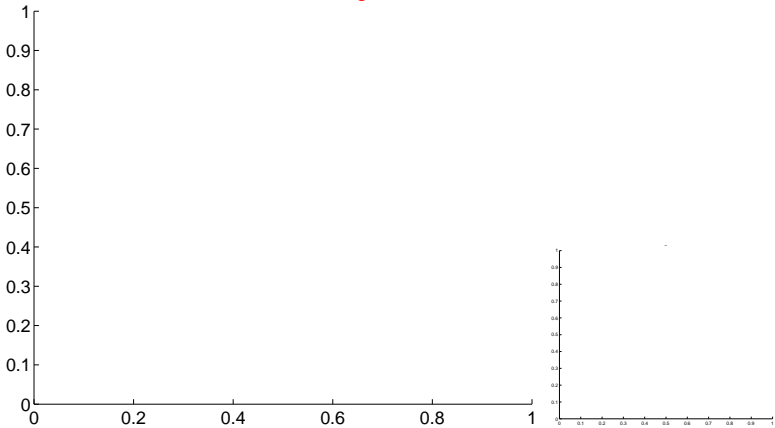
Q13 no OOT image



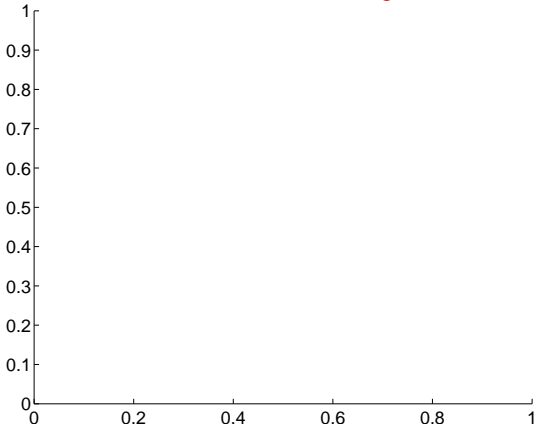
Q14 no difference image



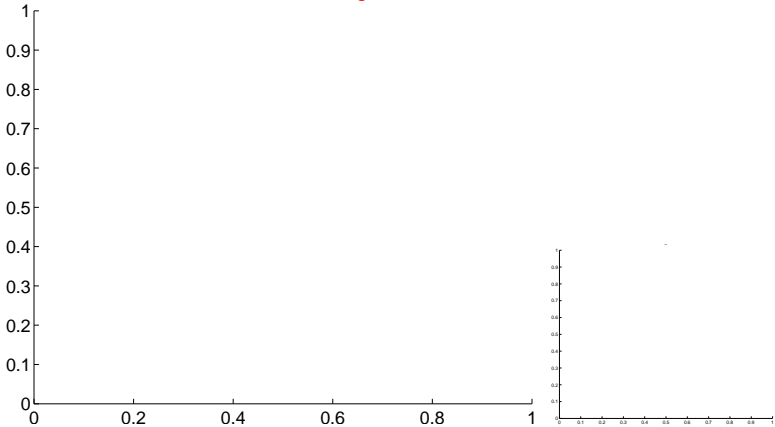
Q14 no OOT image



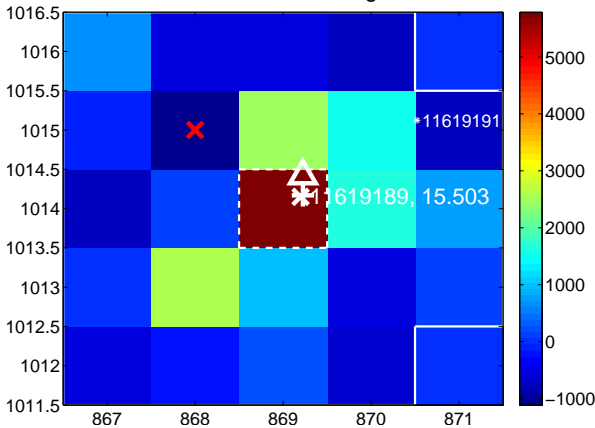
Q15 no difference image



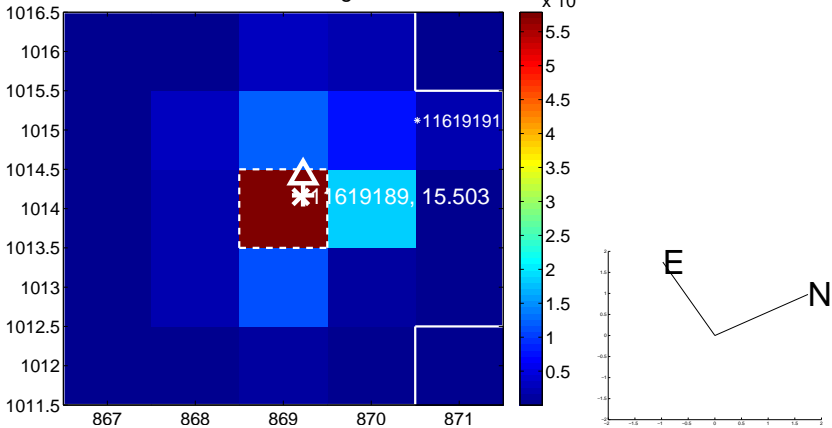
Q15 no OOT image



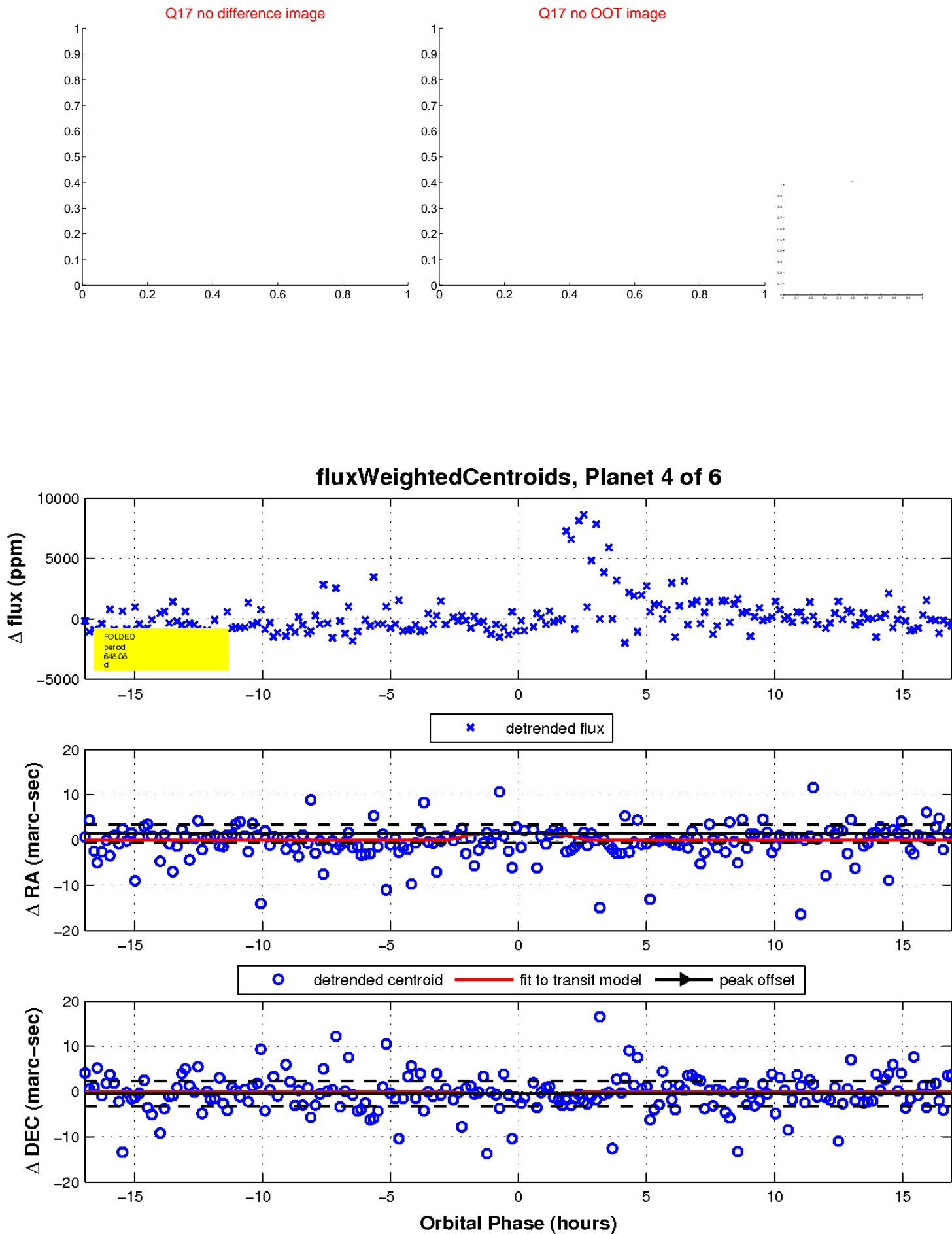
Q16 difference image



Q16 OOT image

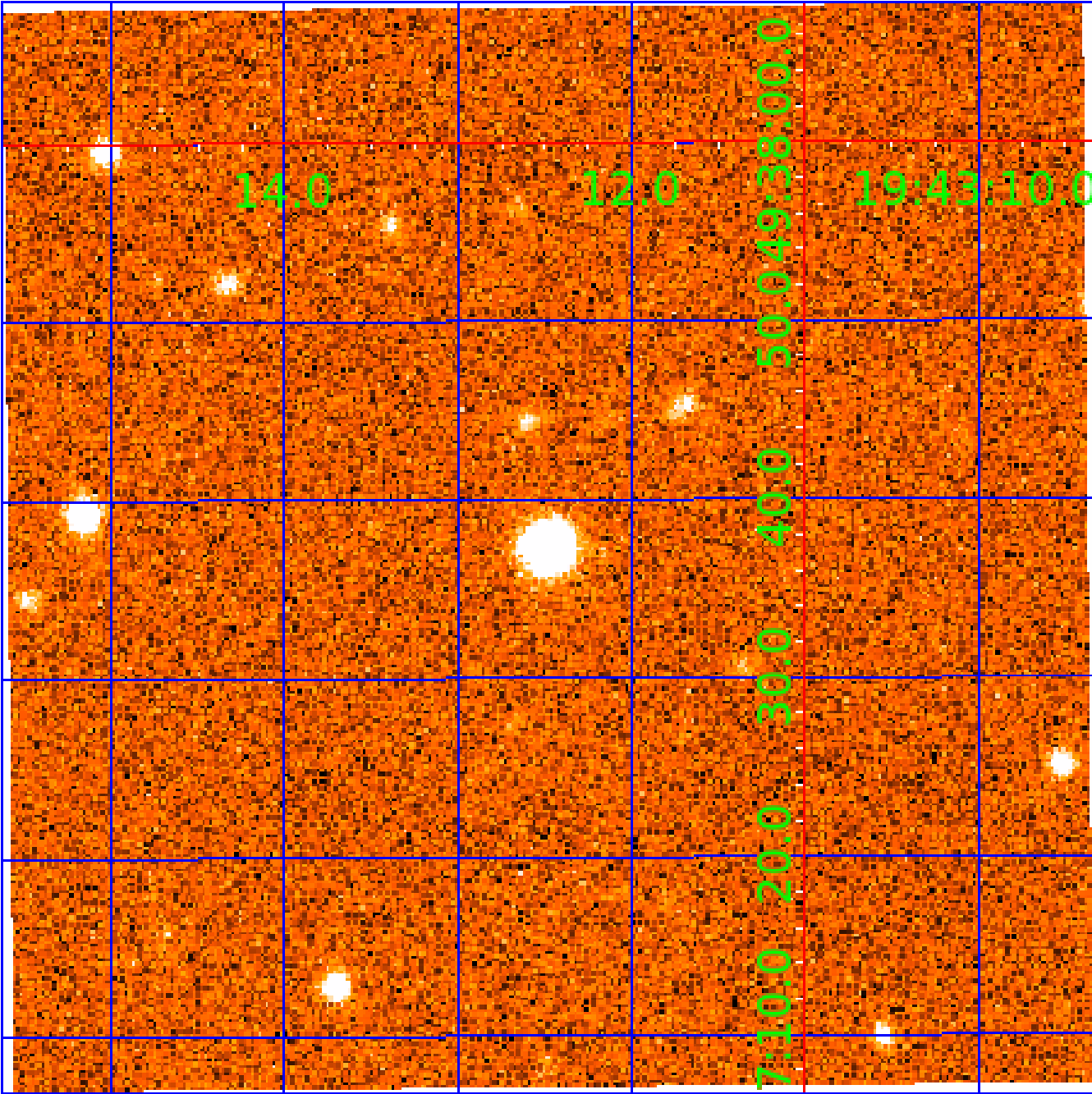


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011619189

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})
011619189-01	OBS	No	524.096211	213.649155	1532.5	6.120	13.3	7.4	0.61	5038	2.43	0.19
011619189-02	OBS	No	345.888355	198.766374	1620.2	5.050	11.2	8.4	0.61	5038	2.49	0.33
011619189-03	OBS	No	485.832748	148.908024	1410.6	8.359	10.4	7.1	0.61	5038	2.31	0.21
011619189-04	OBS	No	648.076237	208.917482	1704.6	5.671	12.2	7.5	0.61	5038	3.08	0.14
011619189-05	OBS	No	719.196285	150.626539	1721.9	10.465	9.7	6.4	0.61	5038	2.54	0.12
011619189-06	OBS	No	328.447007	182.769647	1928.3	7.367	8.9	10.3	0.61	5038	2.69	0.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011619189-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011619189-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011619189-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011619189-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
011619189-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
011619189-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

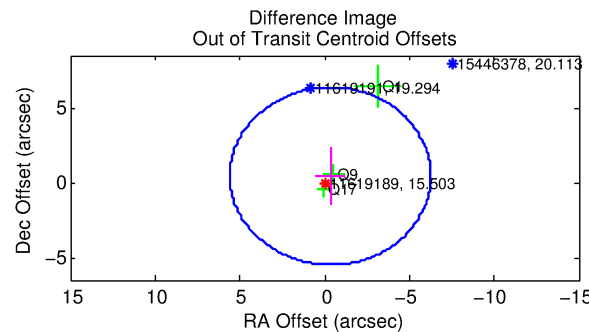
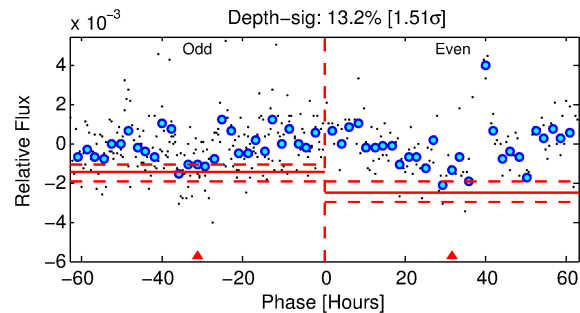
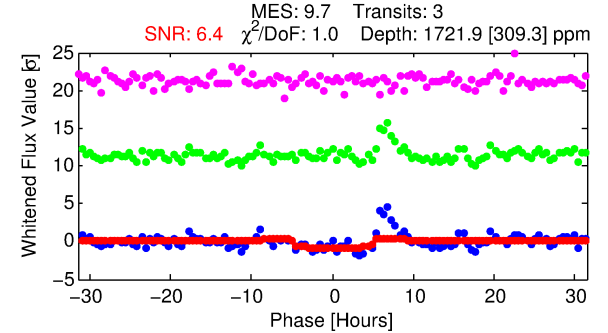
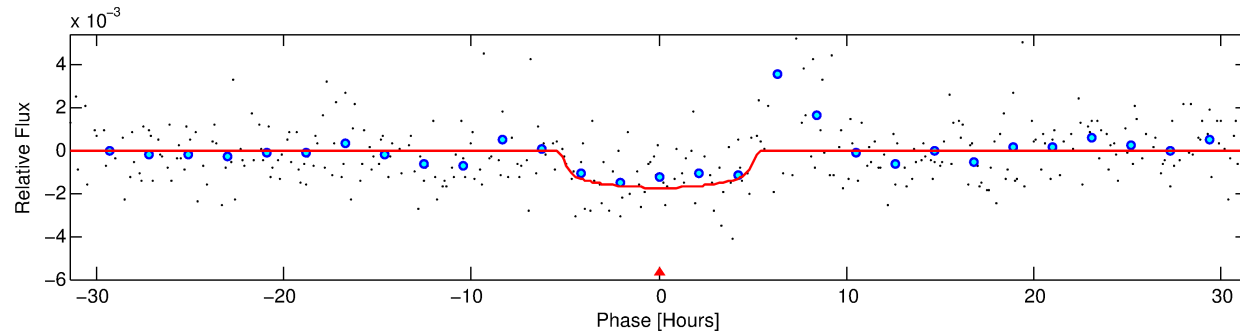
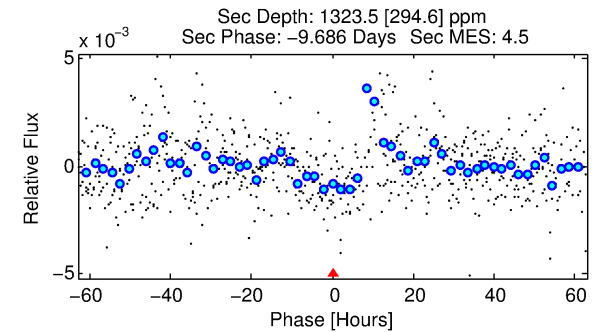
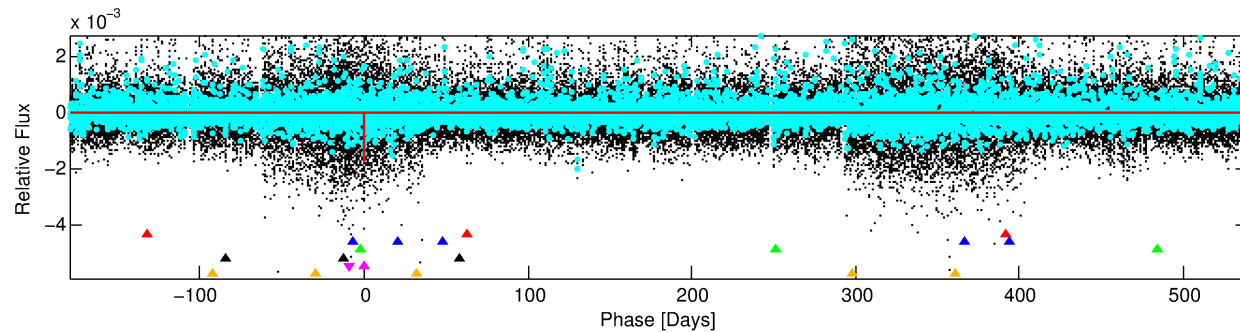
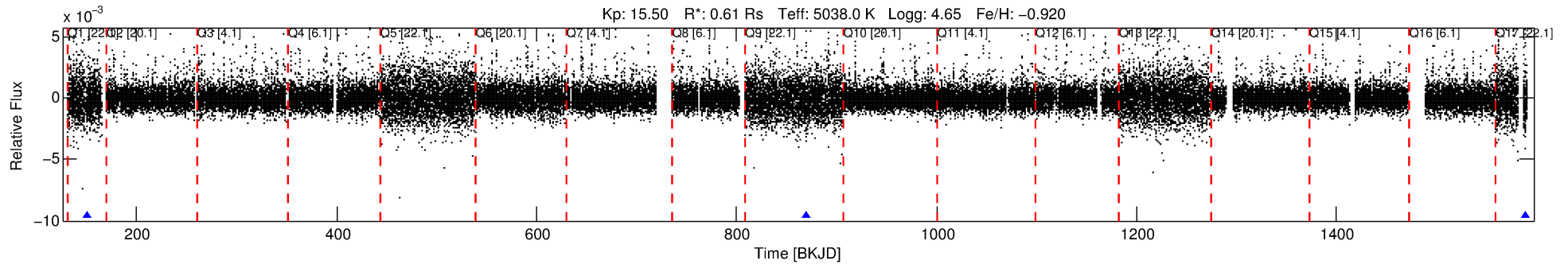
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011619189-05

No Significant Match Found

DV One-Page Summary

KIC: 11619189 Candidate: 5 of 6 Period: 719.196 d



DV Fit Results:

Period = 719.19628 [0.01540] d
Epoch = 150.6265 [0.0209] BKJD
Rp/R* = 0.0379 [0.0340]
a/R* = 512.71 [1820.24]
b = 0.35 [8.92]
Seff = 0.12 [0.02]
Teq = 151 [6] K
Rp = 2.54 [2.28] Re
a = 1.3302 [0.0926] AU
Ag = 200260.51 [362348.25] [0.55 σ]
Teffp = 4935 [2233] K [2.14 σ]

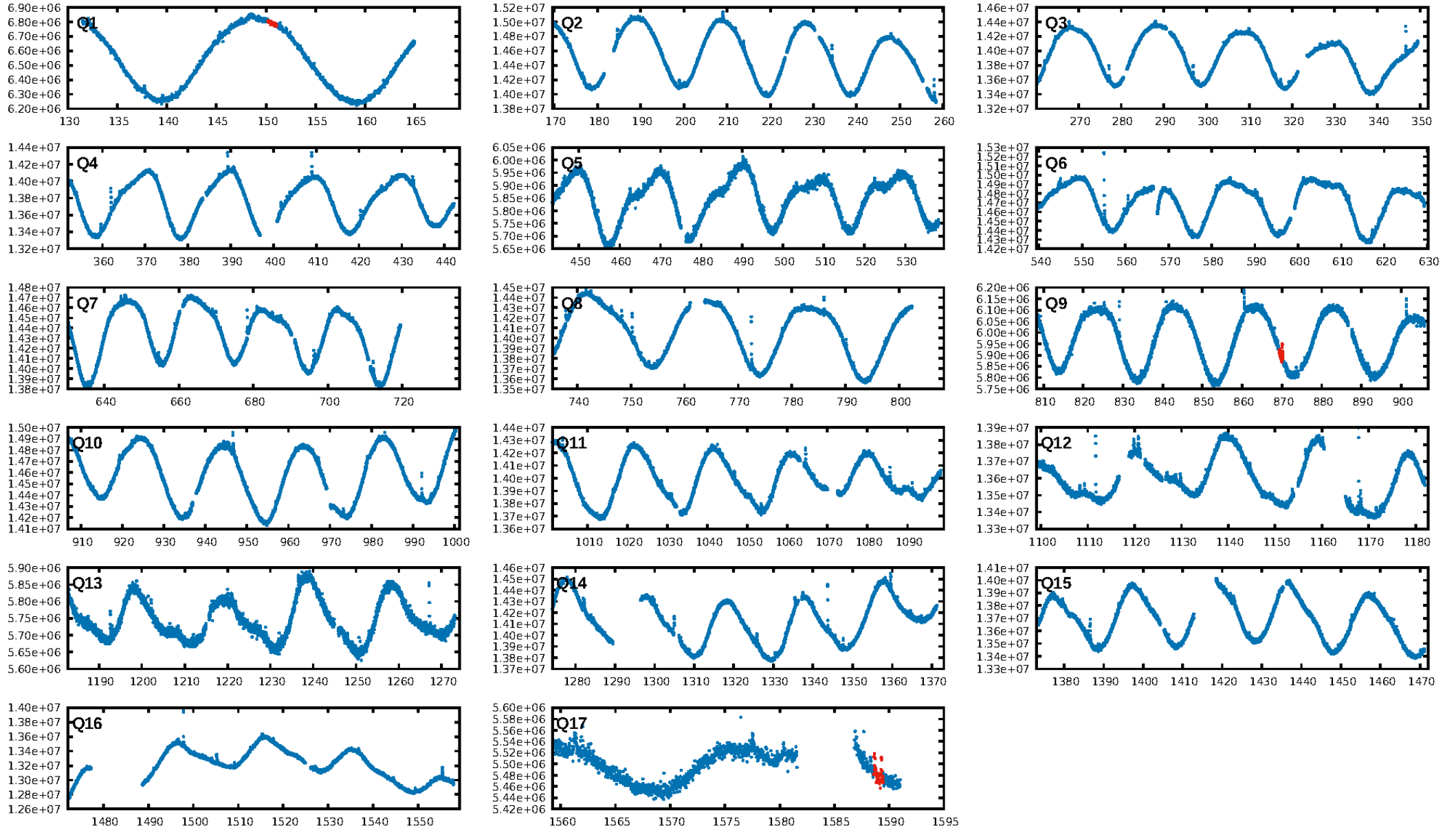
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [143.40 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 19.8%
ModelChiSquareGof-sig: 93.8%
Bootstrap-pfa: 1.79e-09
RollingBand-fgt: 1.00 [1/1]
GhostDiagnostic-chr: 0.01056
Centroid-sig: 30.1%
Centroid-so: 1.453 arcsec [1.07 σ]
OotOffset-rm: 0.548 arcsec [0.28 σ]
OotOffset-st: 0/0/0/3 [3]
KicOffset-rm: 1.921 arcsec [0.98 σ]
KicOffset-st: 0/0/0/3 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

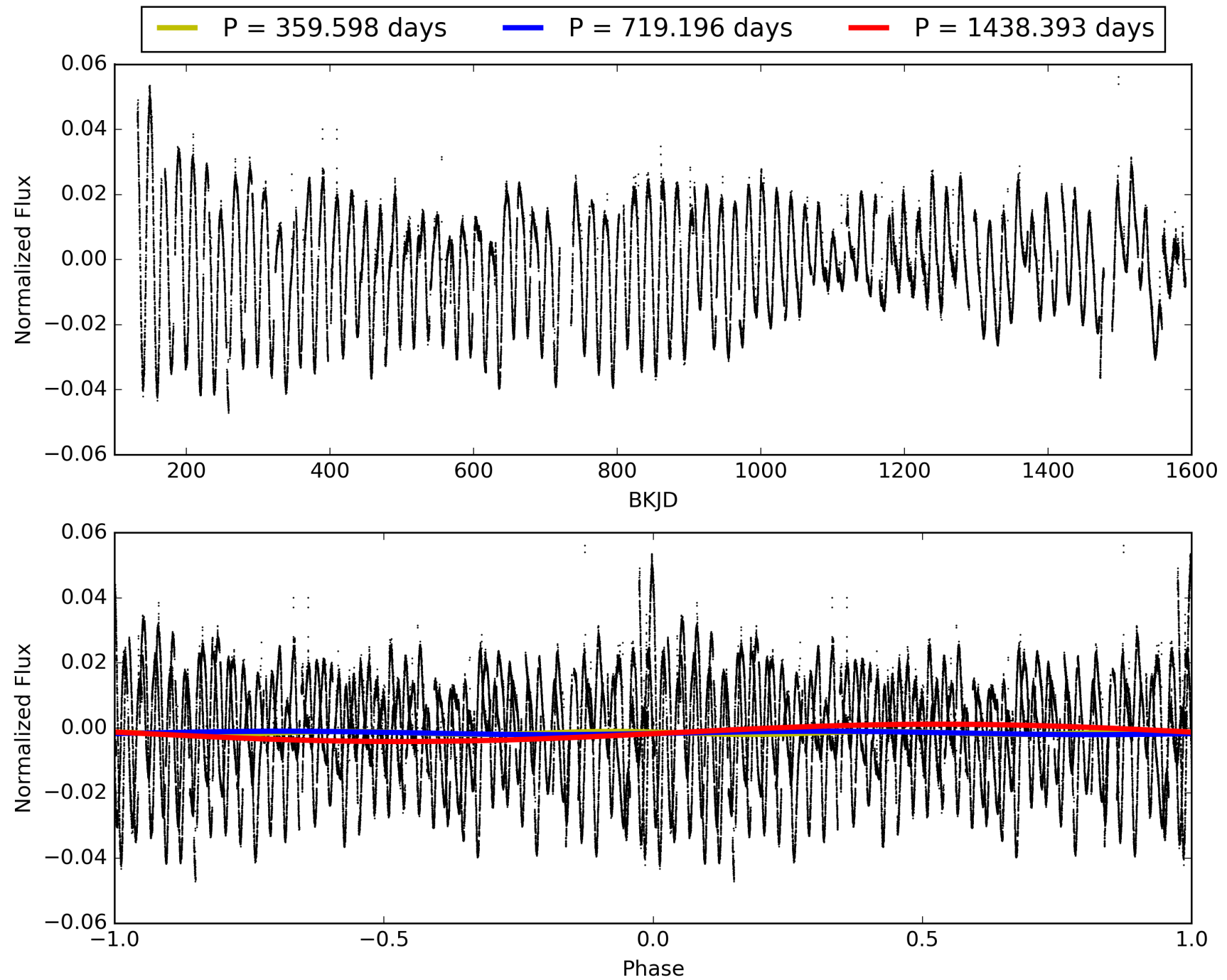
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:28:30 Z

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

TCE 011619189-05, PDC Light Curves

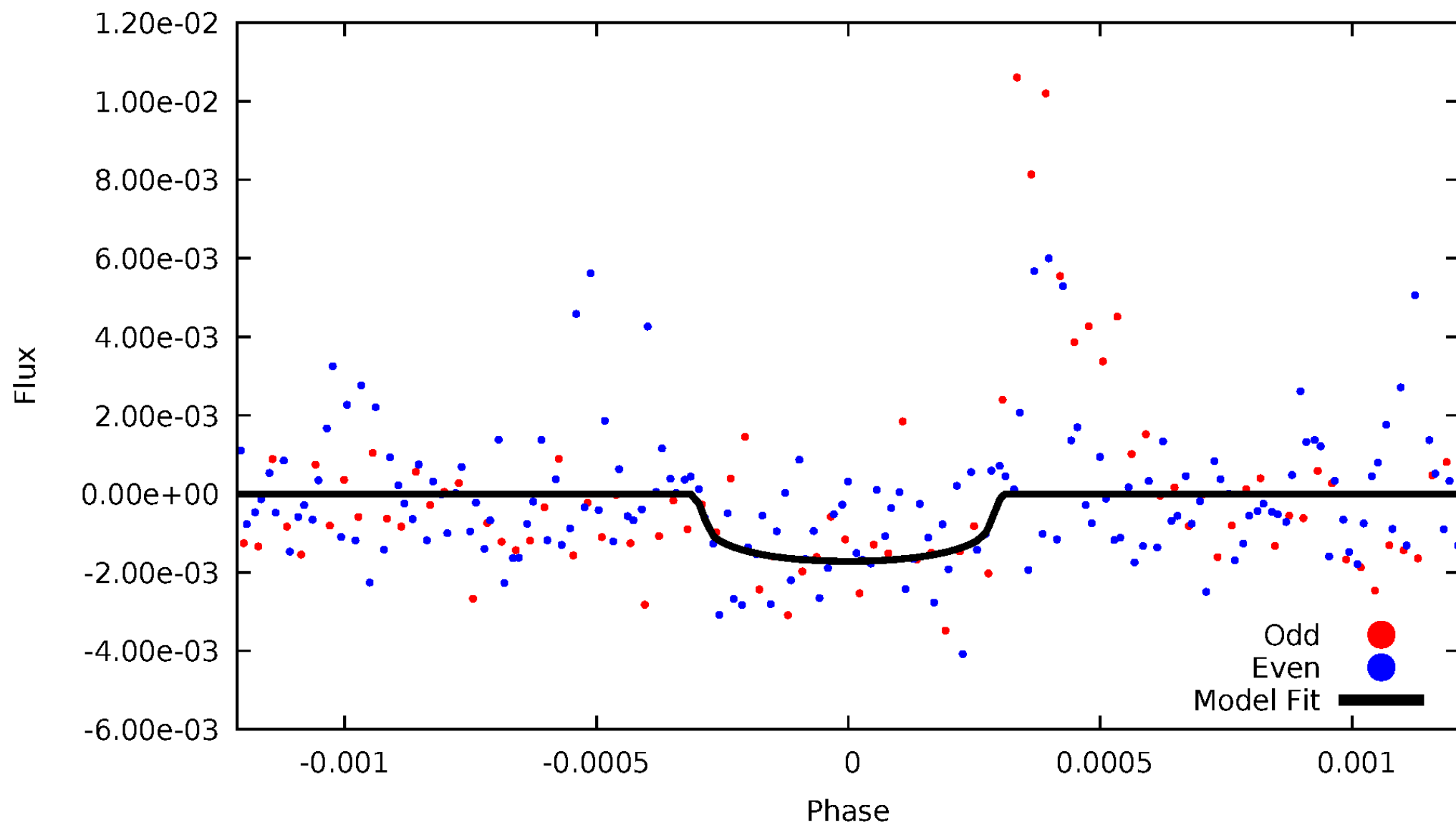


TCE 011619189-05



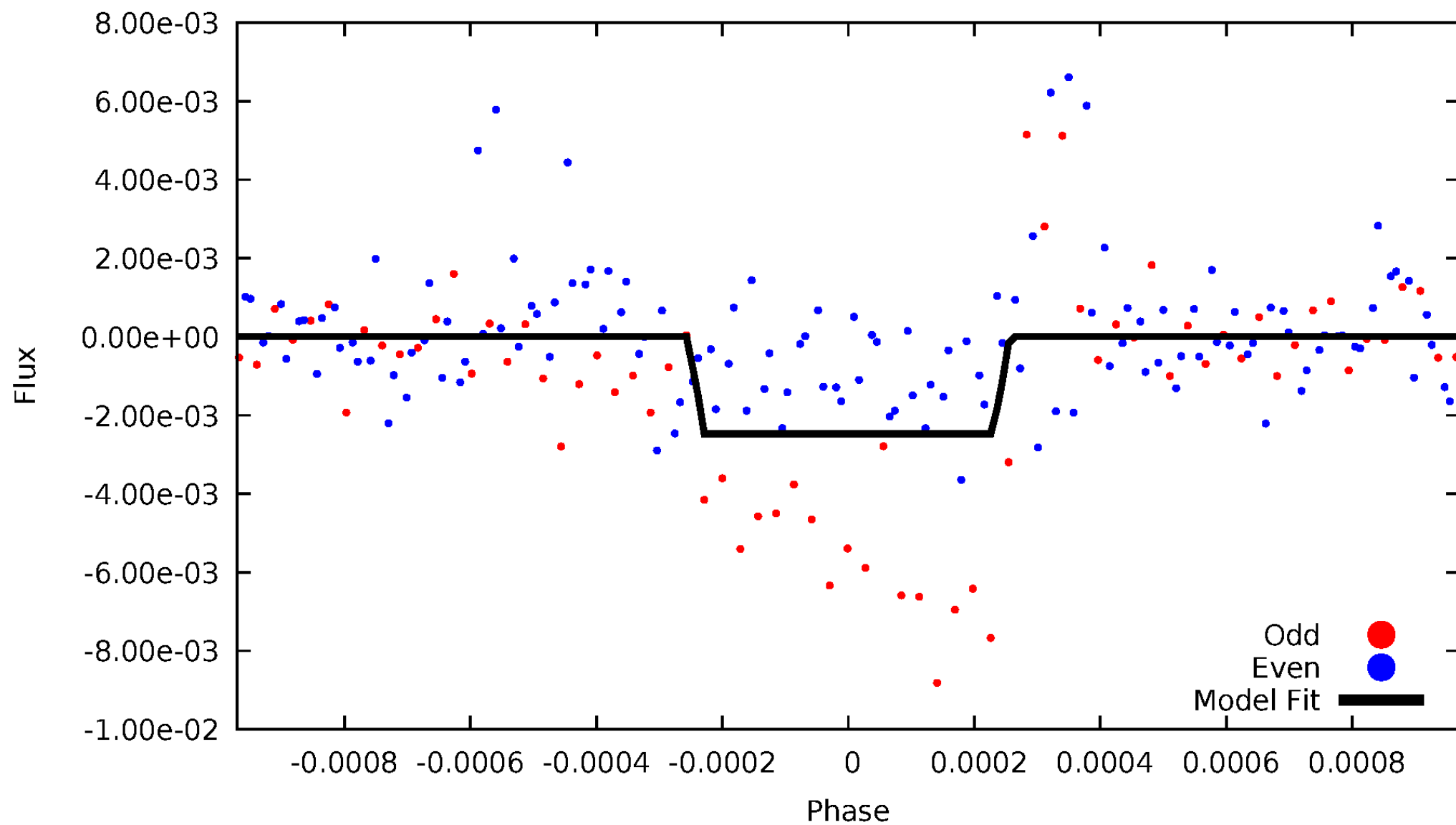
DV Odd/Even

TCE 011619189-05



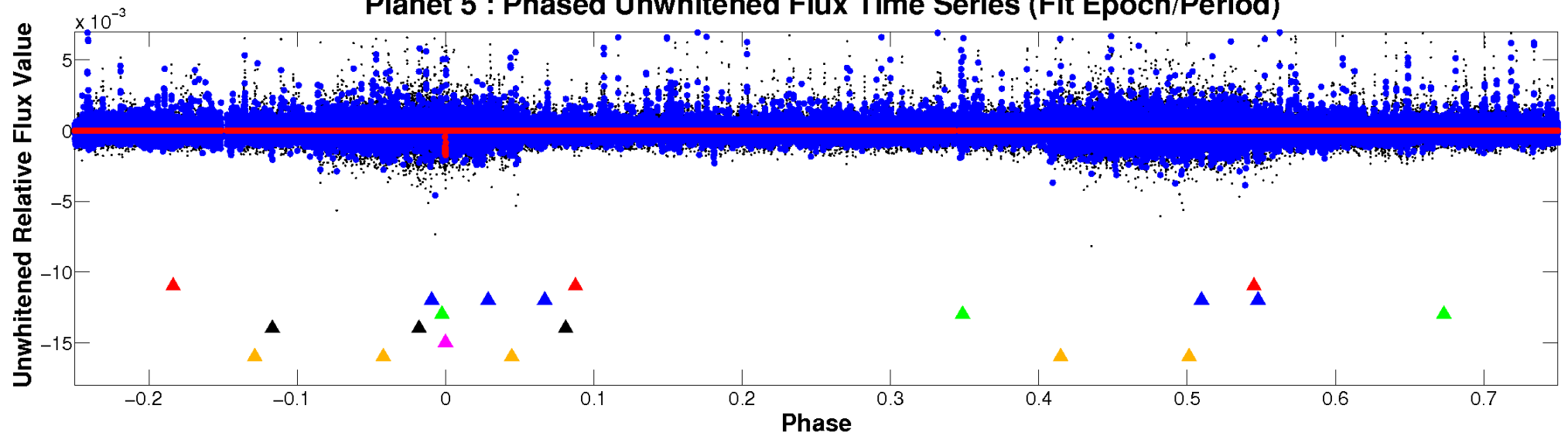
ALT Odd/Even

TCE 011619189-05

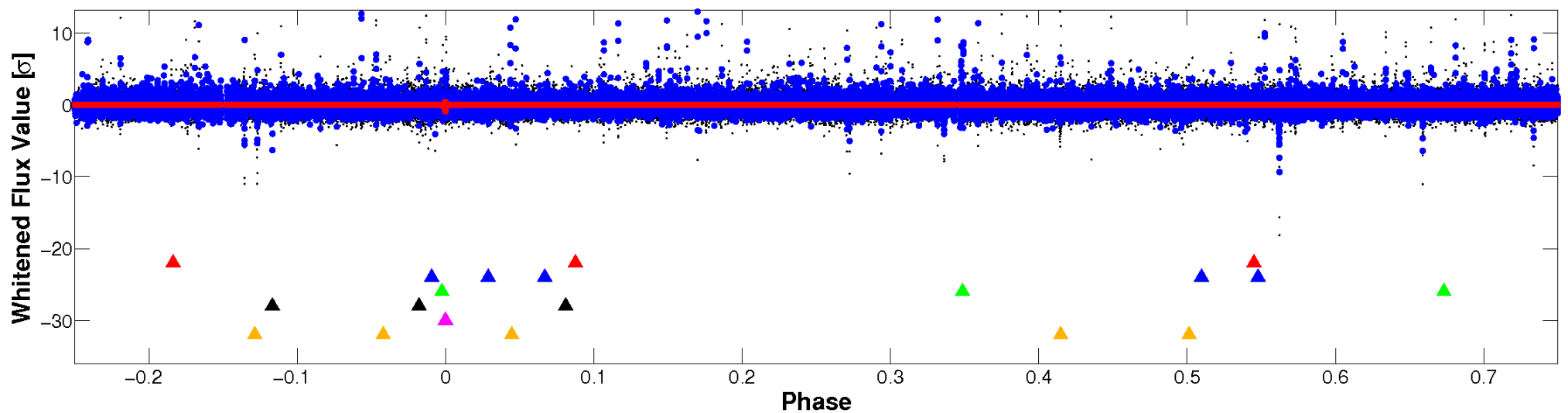


Non-Whitened Vs. Whitened Light Curve

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

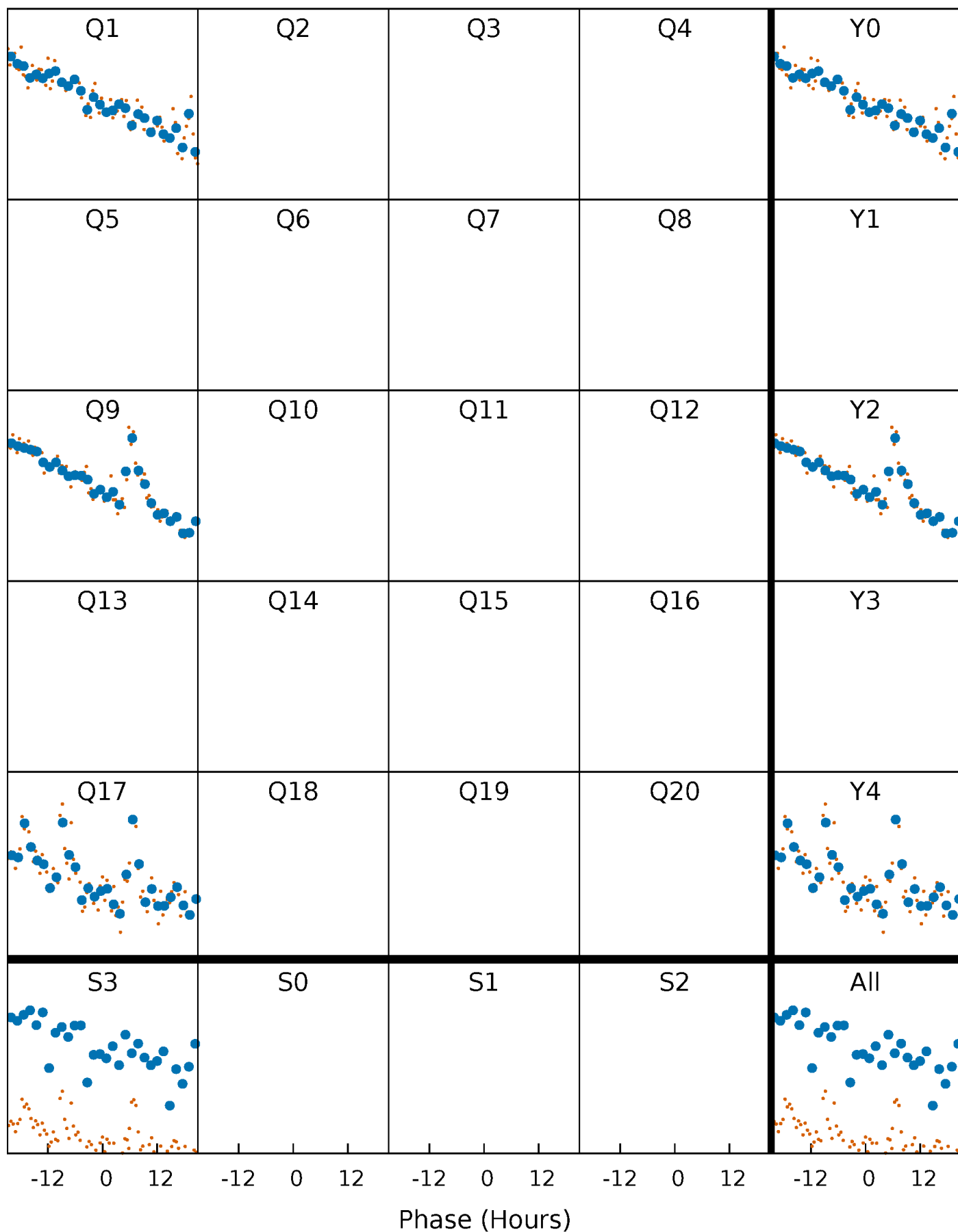


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



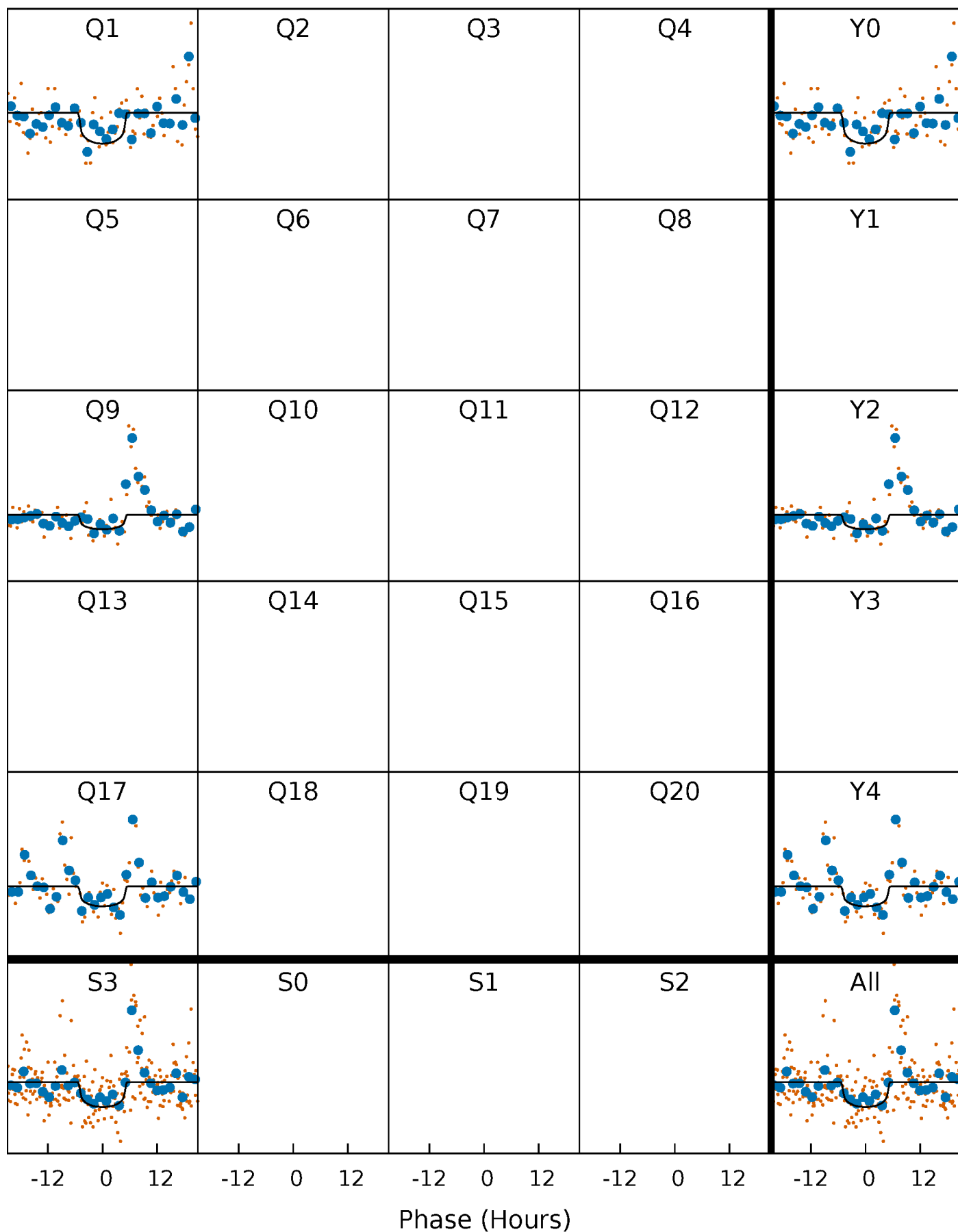
PDC Quarter-Phased Transit Curves

TCE 011619189-05 $P=719.196285$ Days $T_0=150.626539$ (BKJD)



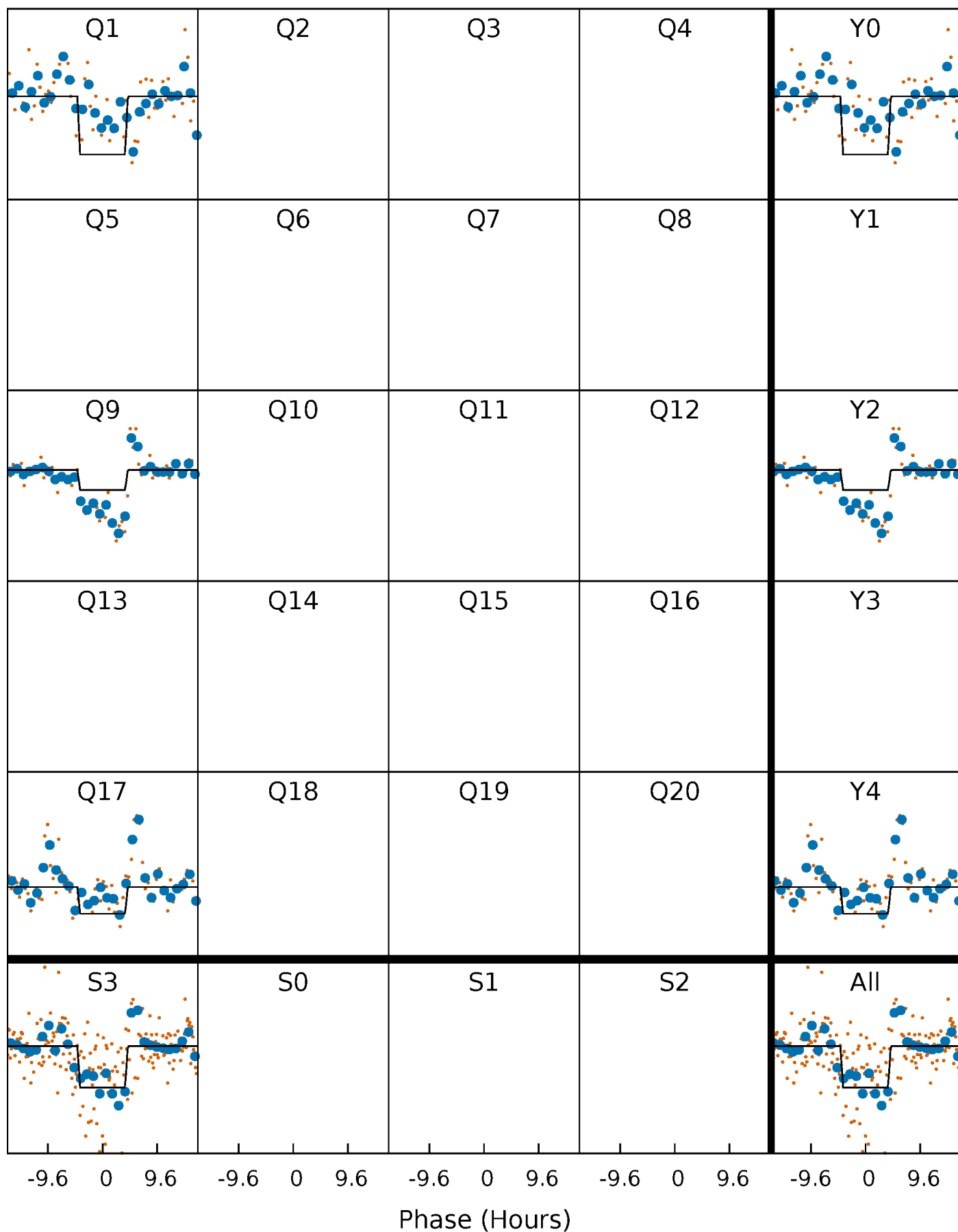
DV Quarter-Phased Transit Curves

TCE 011619189-05 $P=719.196285$ Days $T_0=150.626539$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

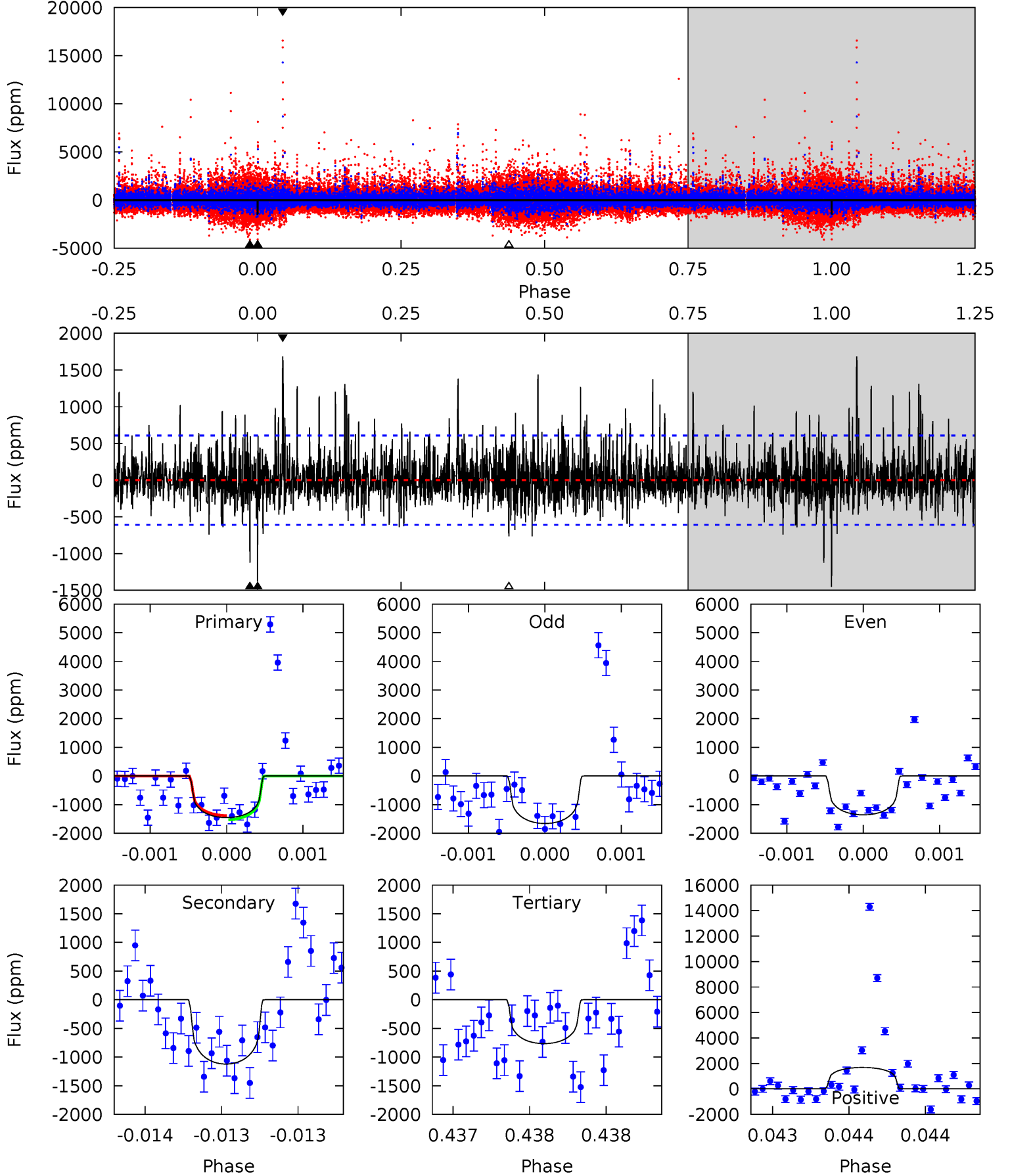
TCE 011619189-05 $P=719.193200$ Days $T_0=150.666952$ (BKJD)



DV Model-Shift Uniqueness Test

011619189-05, P = 719.196285 Days, E = 150.626539 Days

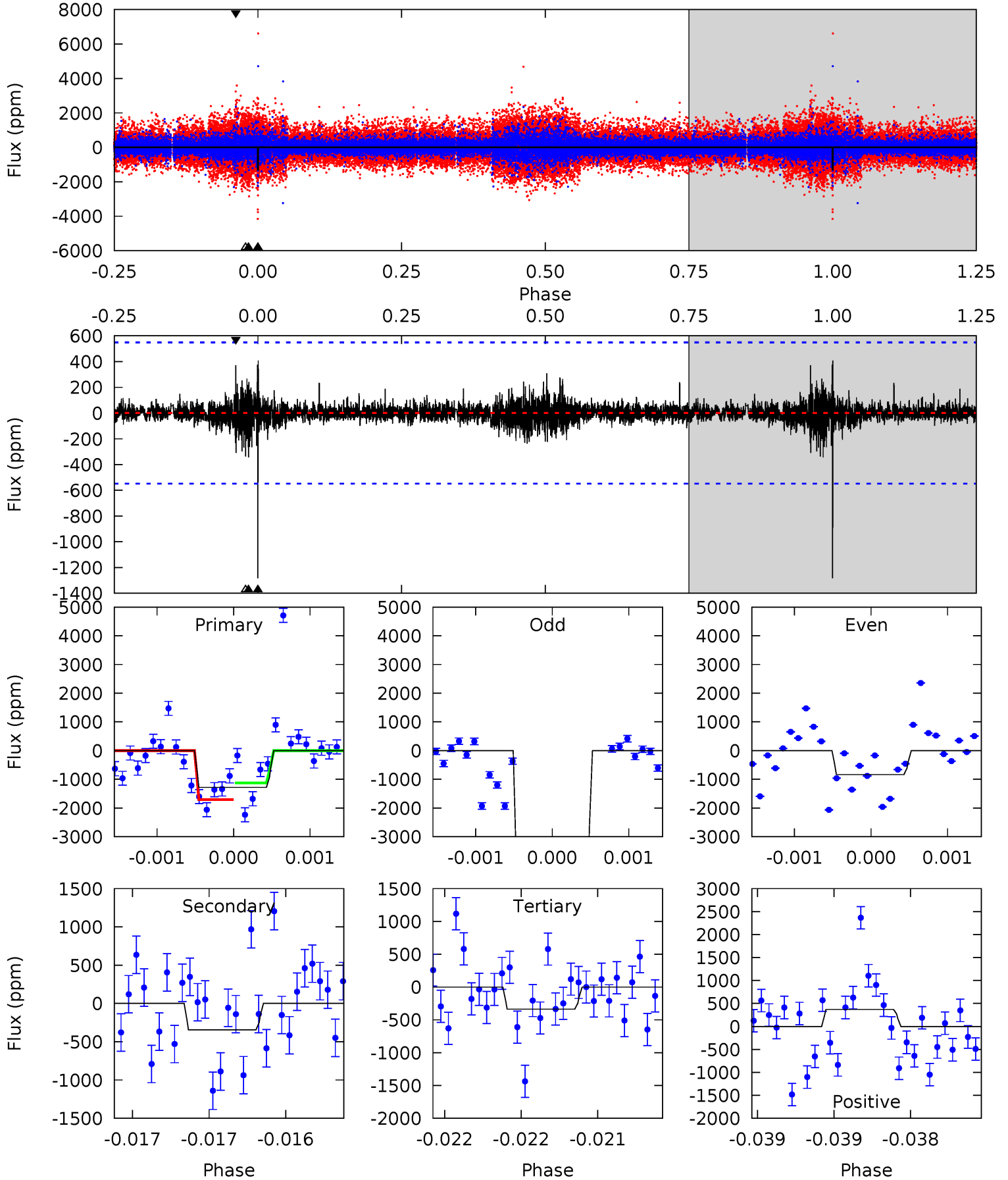
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.2	10.2	6.96	15.3	5.53	3.41	2.36	6.25	-2.11	3.24	-5.12	1.02	0.96	0.54	0.69



Alt Model-Shift Uniqueness Test

011619189-05, P = 719.193200 Days, E = 150.666952 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	3.48	3.42	3.77	5.57	3.48	0.49	9.62	9.27	0.07	-0.28	28.1	2.42	0.24	2.96



Stellar Parameters For KIC 011619189

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5038^{+150}_{-150}	$4.646^{+0.060}_{-0.040}$	$-0.920^{+0.300}_{-0.300}$	$0.613^{+0.048}_{-0.048}$	$0.607^{+0.056}_{-0.026}$	$3.709^{+0.910}_{-0.562}$
	+3%/-3%	+1%/-1%	+33%/-33%	+8%/-8%	+9%/-4%	+25%/-15%
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 011619189-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1122 ± 110	$2.84^{+1.95}_{-1.82}$	210^{+8}_{-7}	4596^{+2879}_{-858}	$142141^{+888100}_{-94637}$
Alt.	-343 ± 98	$3.55^{+2.16}_{-2.02}$	210^{+8}_{-8}	3434^{+1269}_{-495}	$26470^{+122482}_{-16837}$

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

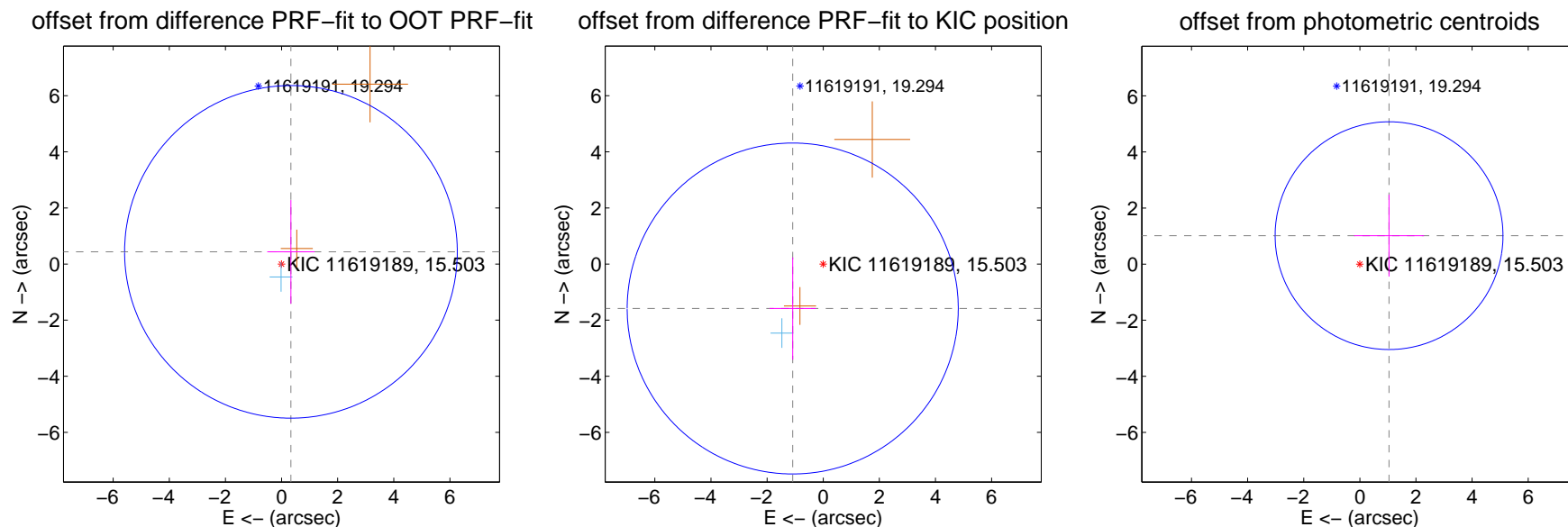
DV Centroid Data

Supplemental centroid analysis for 011619189-05. Kepler magnitude: 15.50. Transit SNR 6.35

There are 1 quarters with good PRF difference image offsets

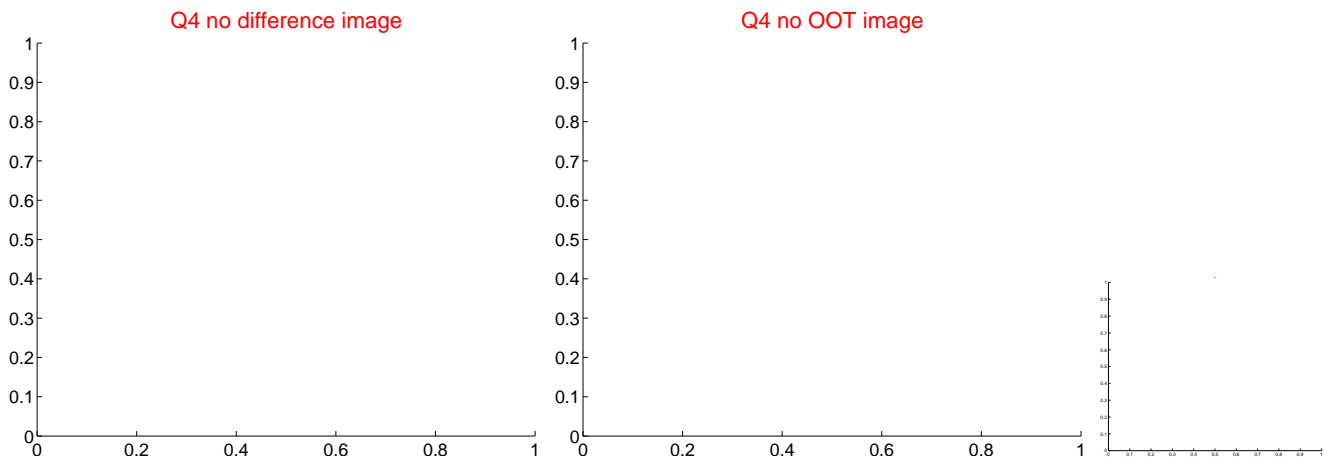
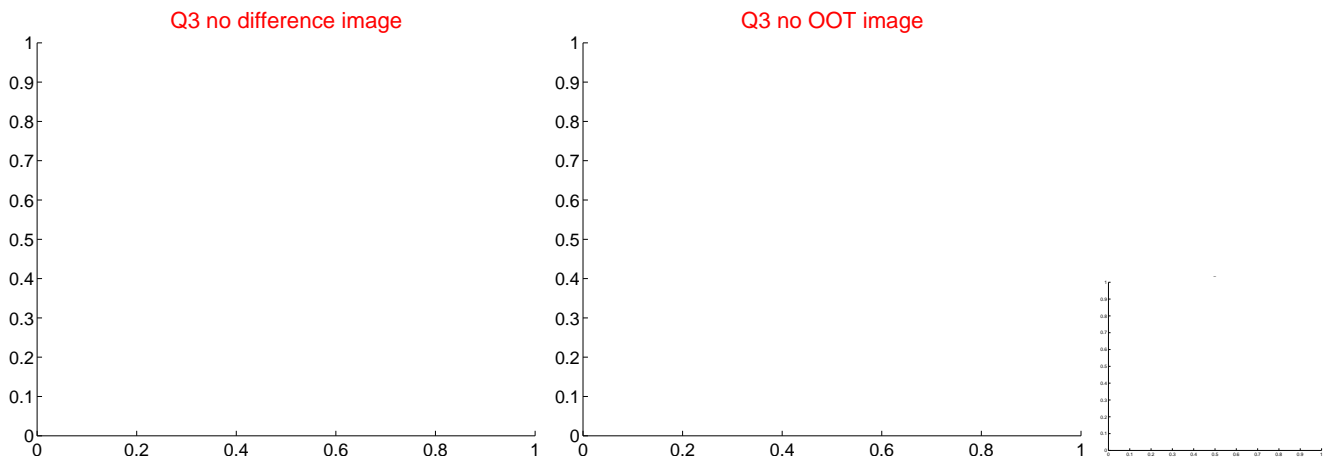
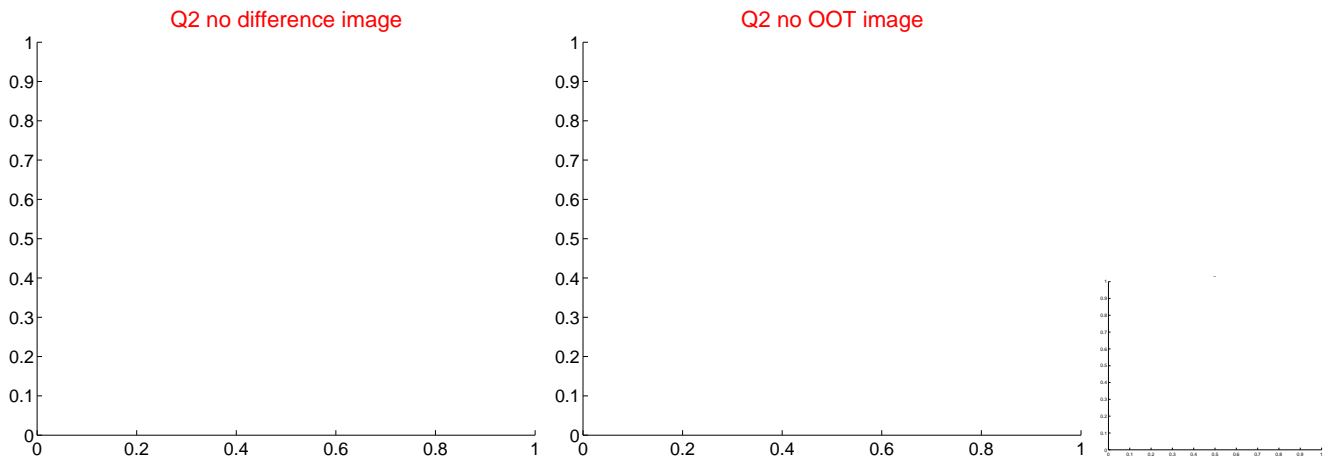
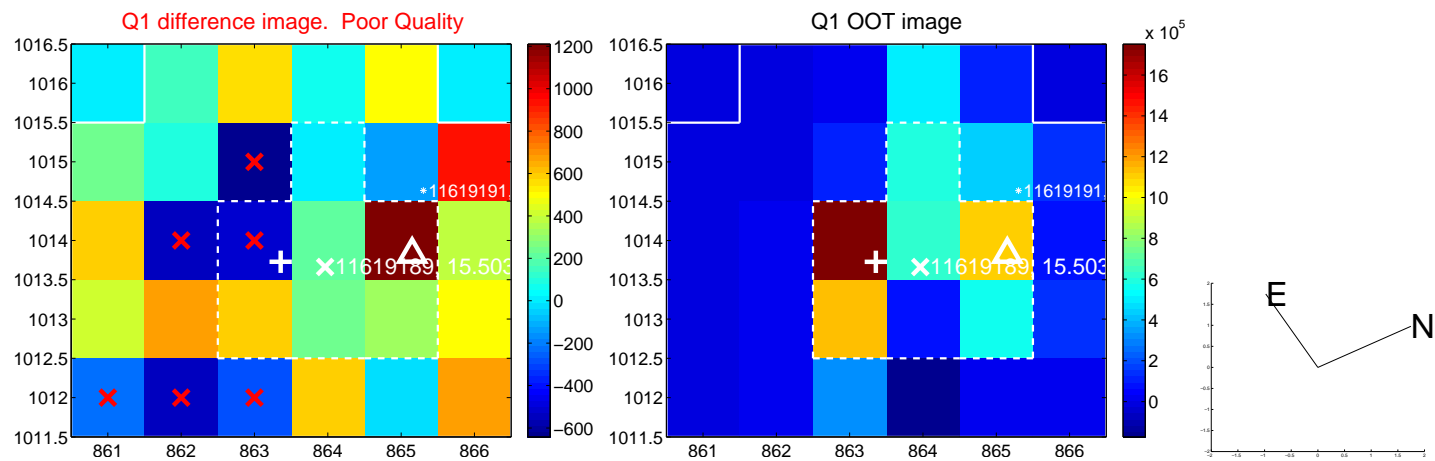
The OOT PRF centroid is offset from the target star catalog position by about 2.47 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.548 ± 1.975	0.28	-0.334 ± 0.843	0.434 ± 1.846
PRF-fit source offset from KIC position	1.921 ± 1.966	0.98	1.087 ± 0.823	-1.585 ± 1.822
photometric centroid source offset	1.45 ± 1.35	1.07	-1.04 ± 1.25	1.01 ± 1.46

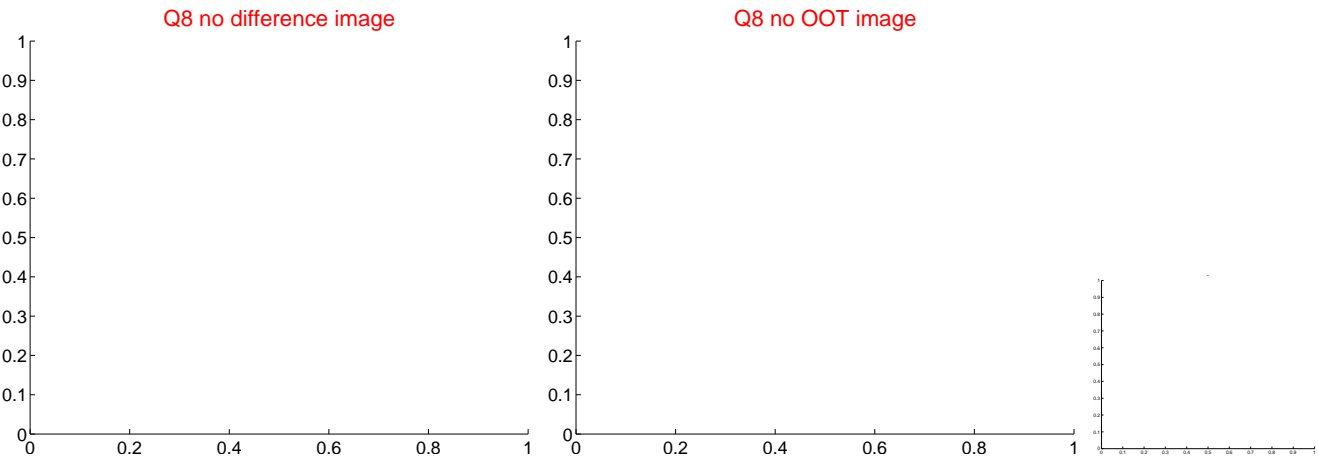
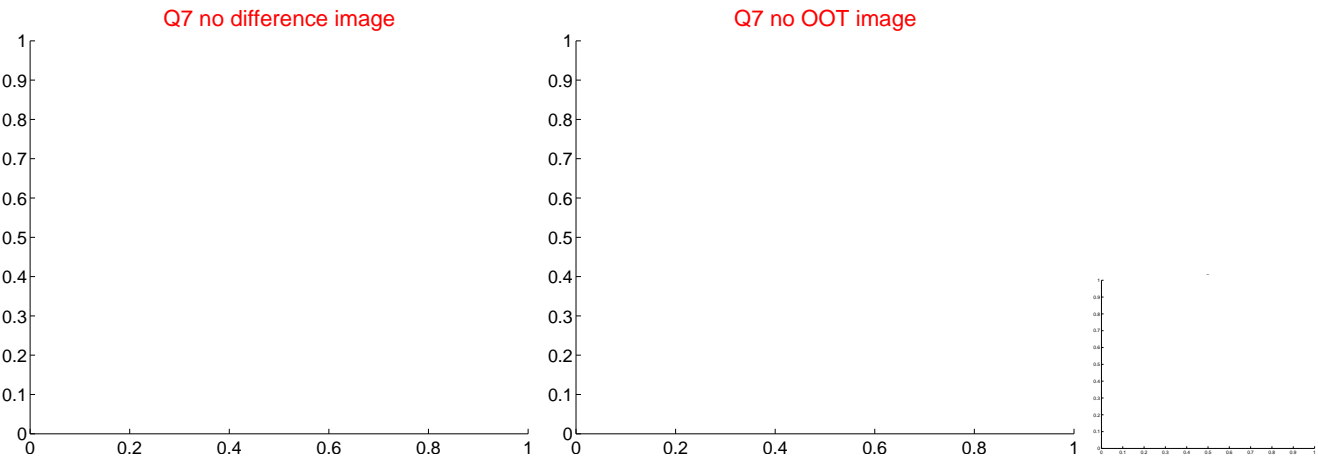
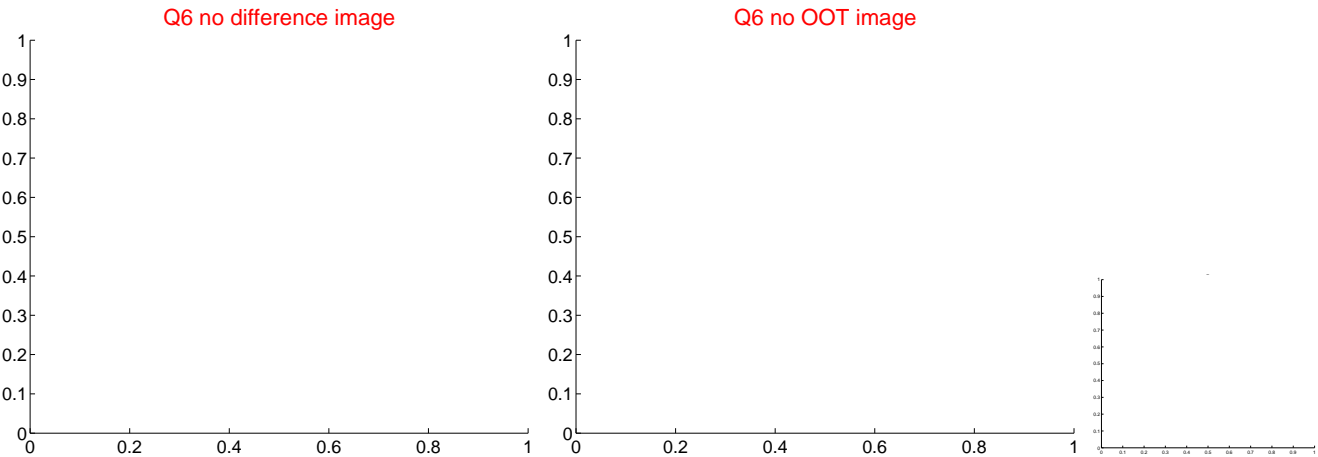
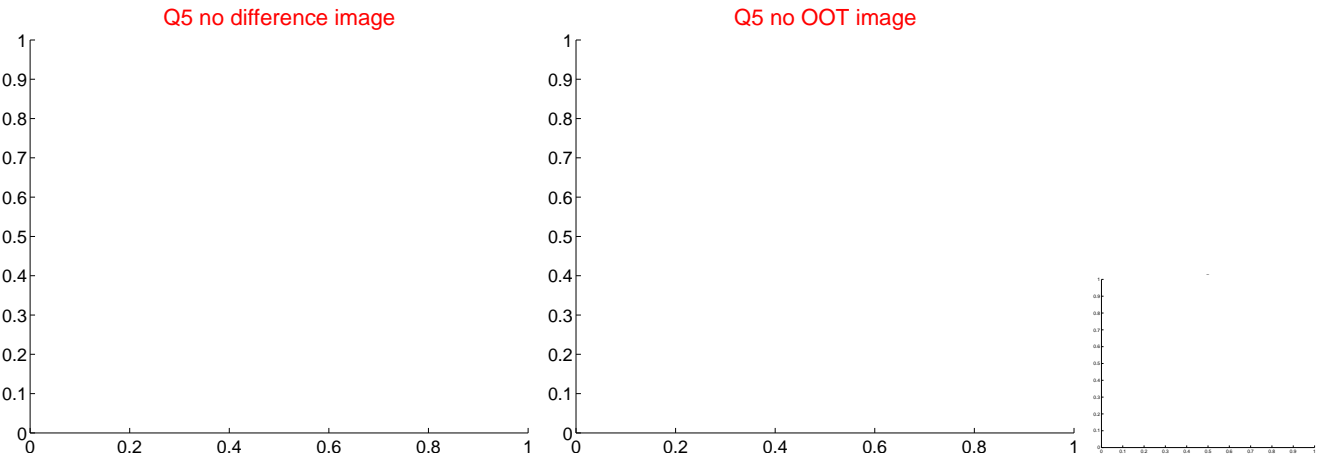


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

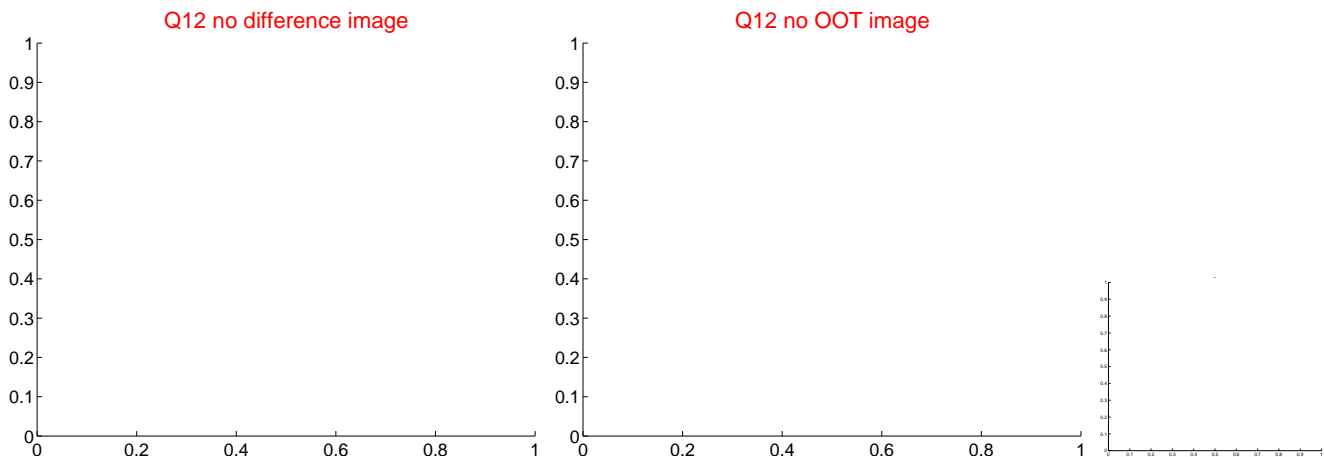
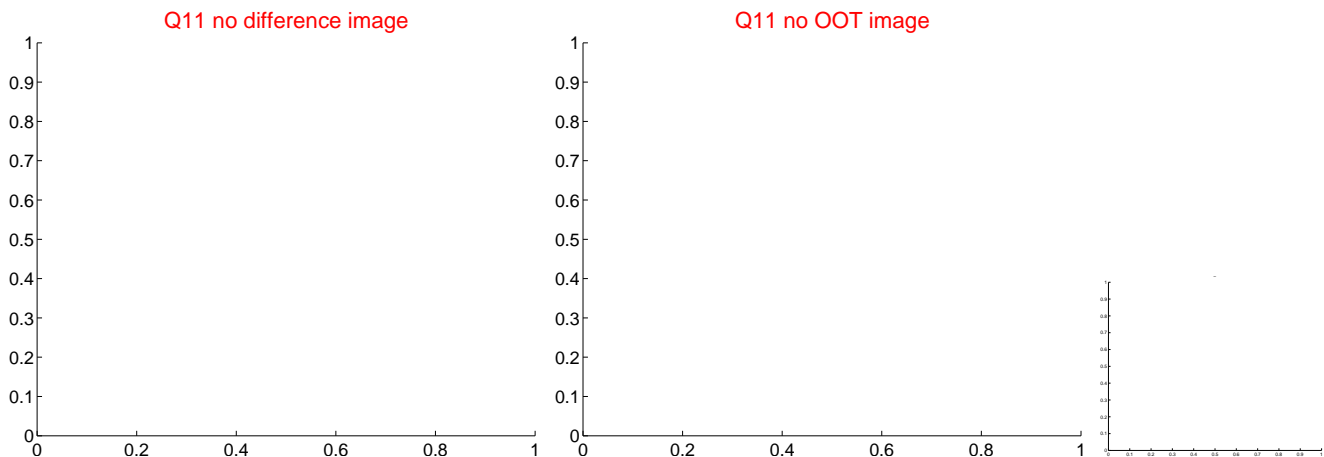
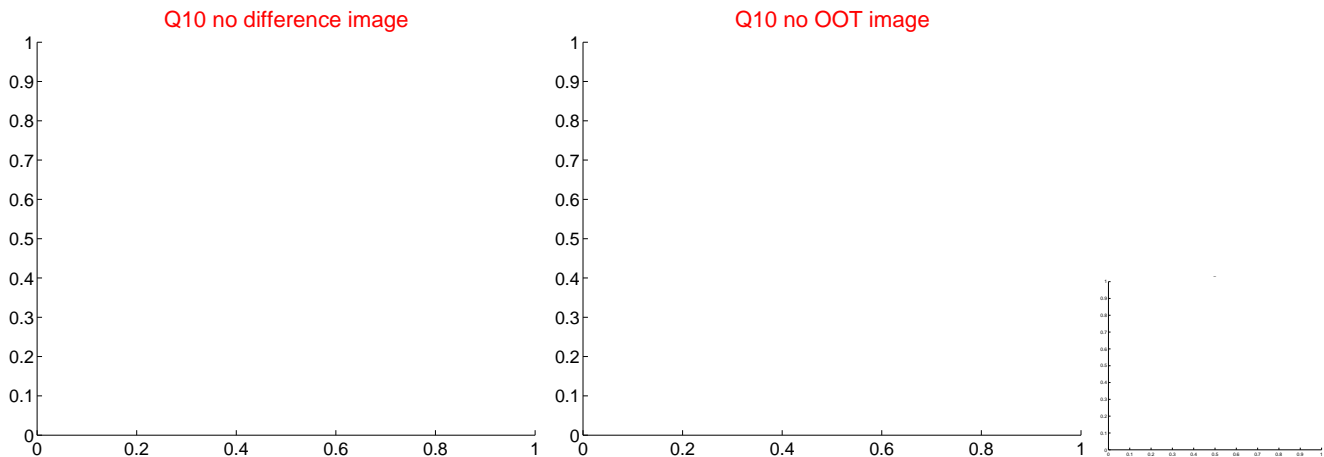
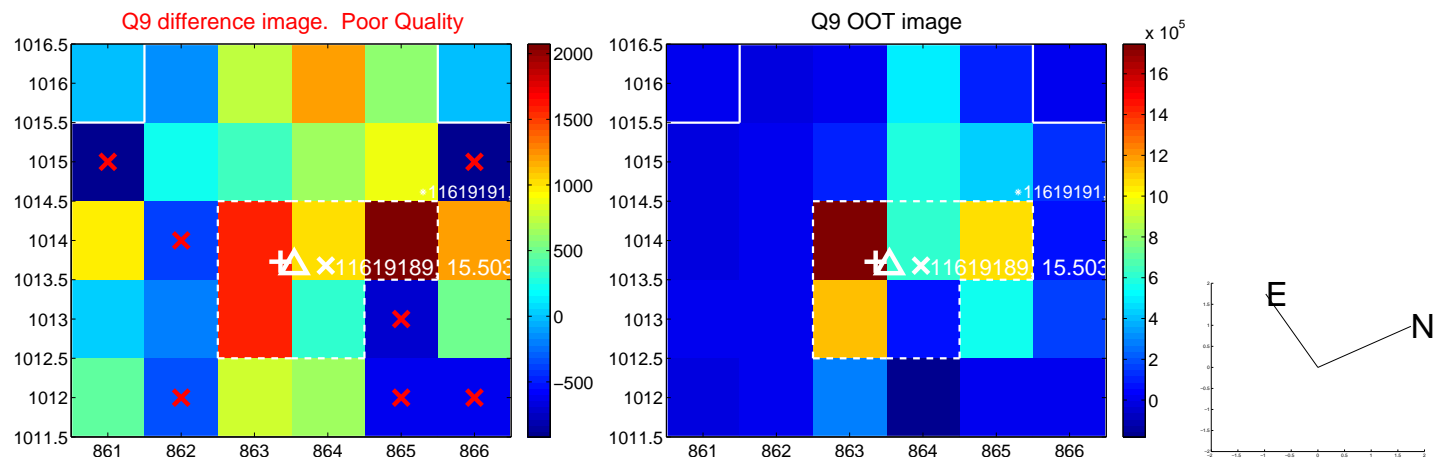
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



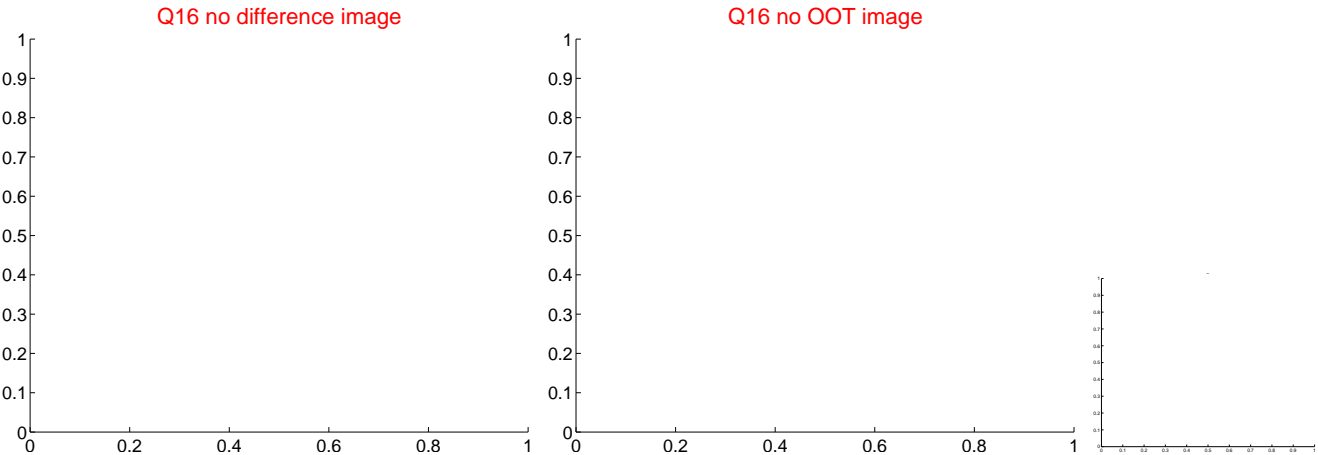
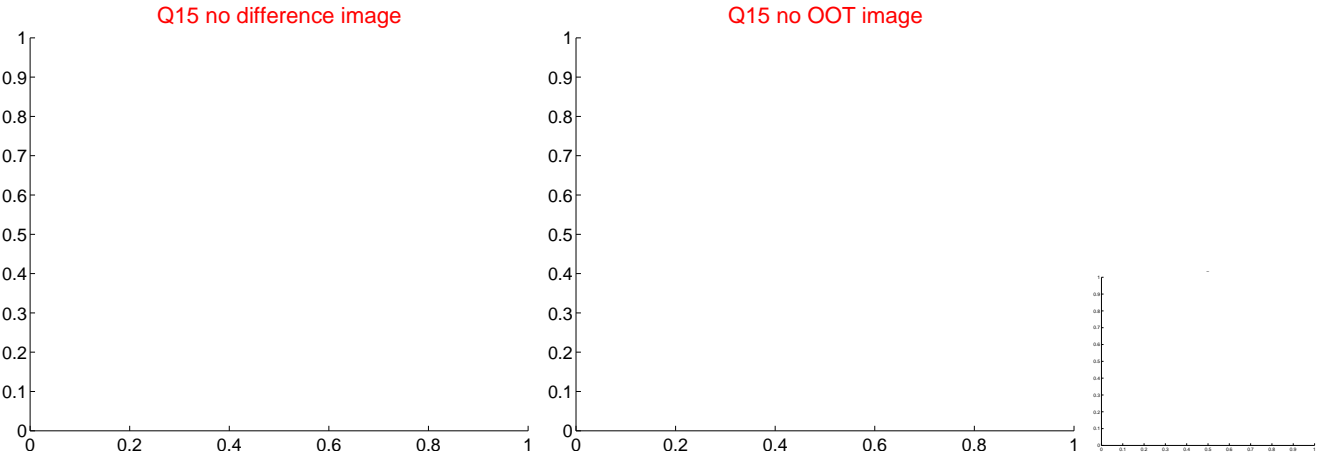
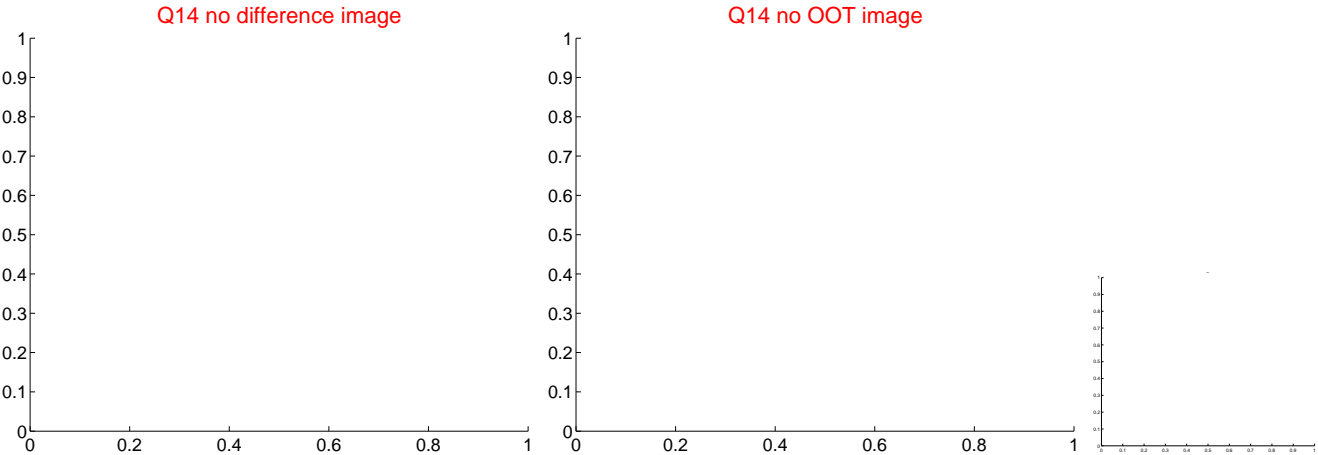
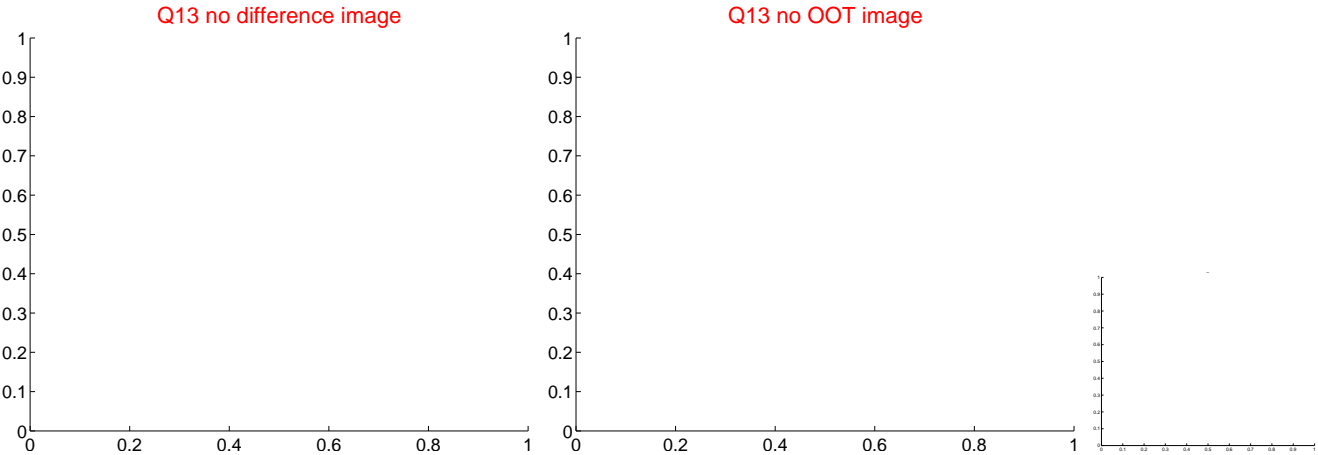
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



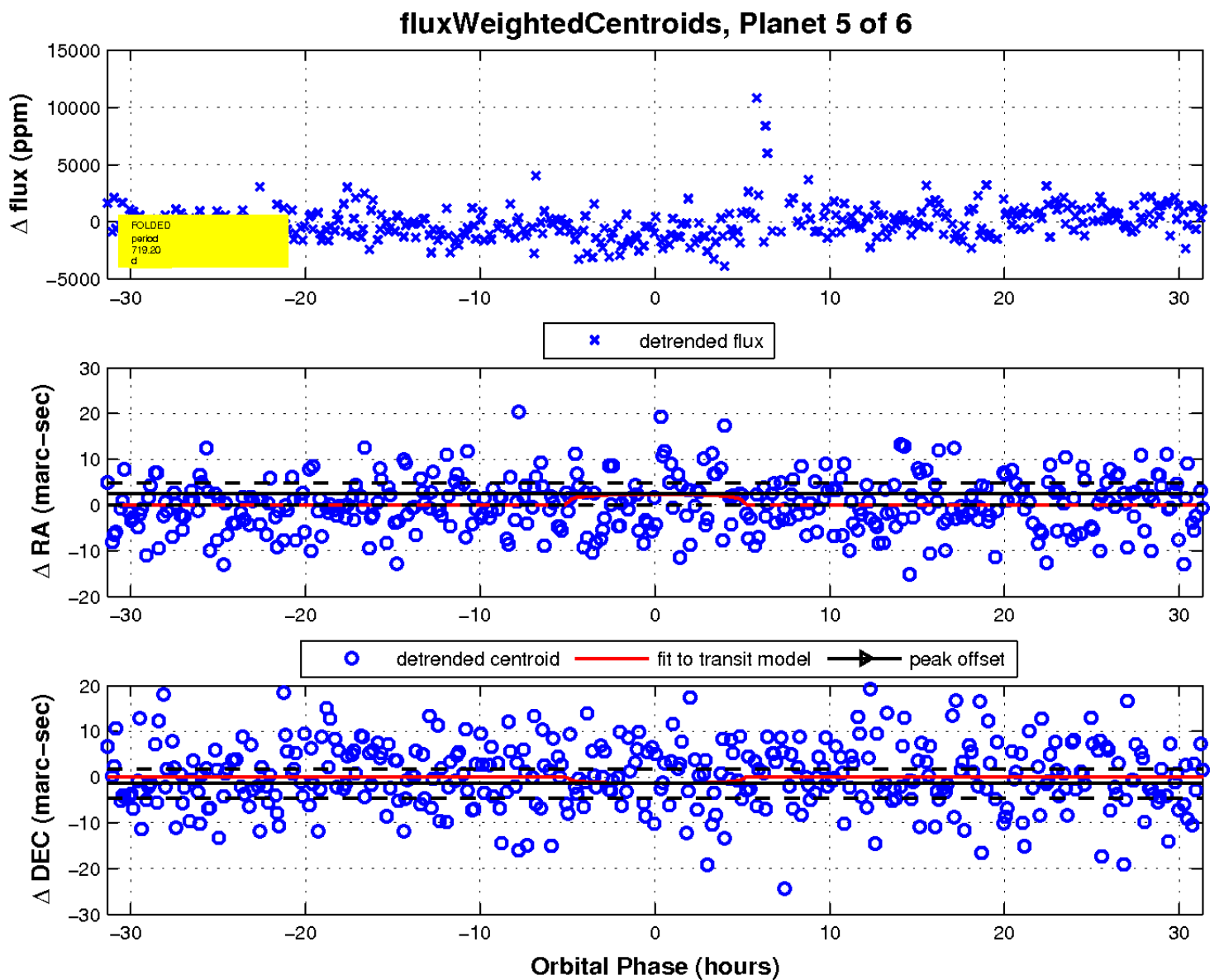
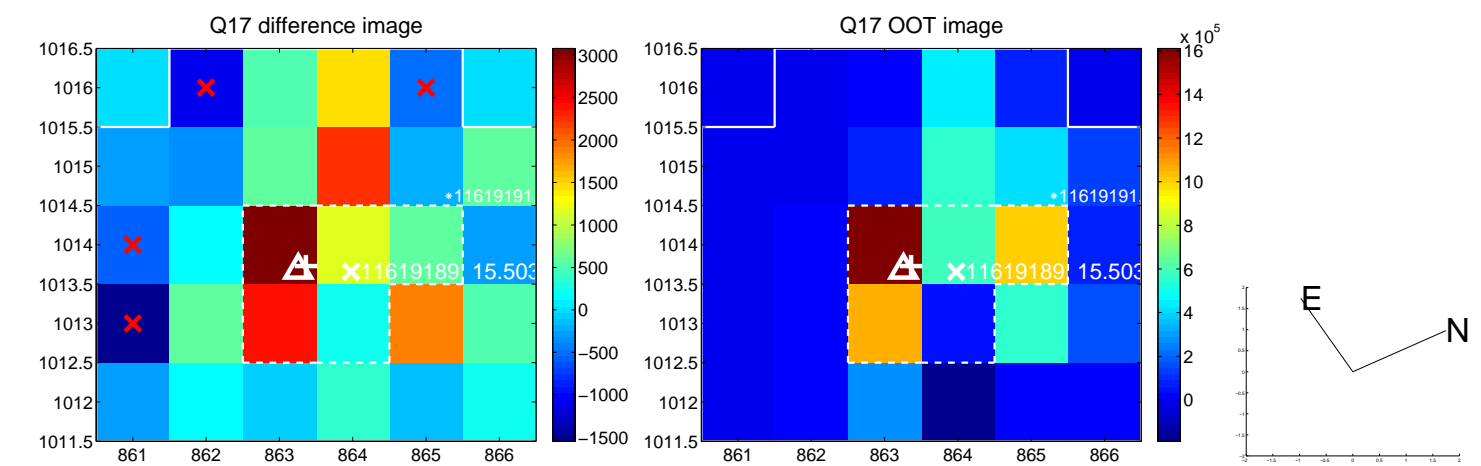
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

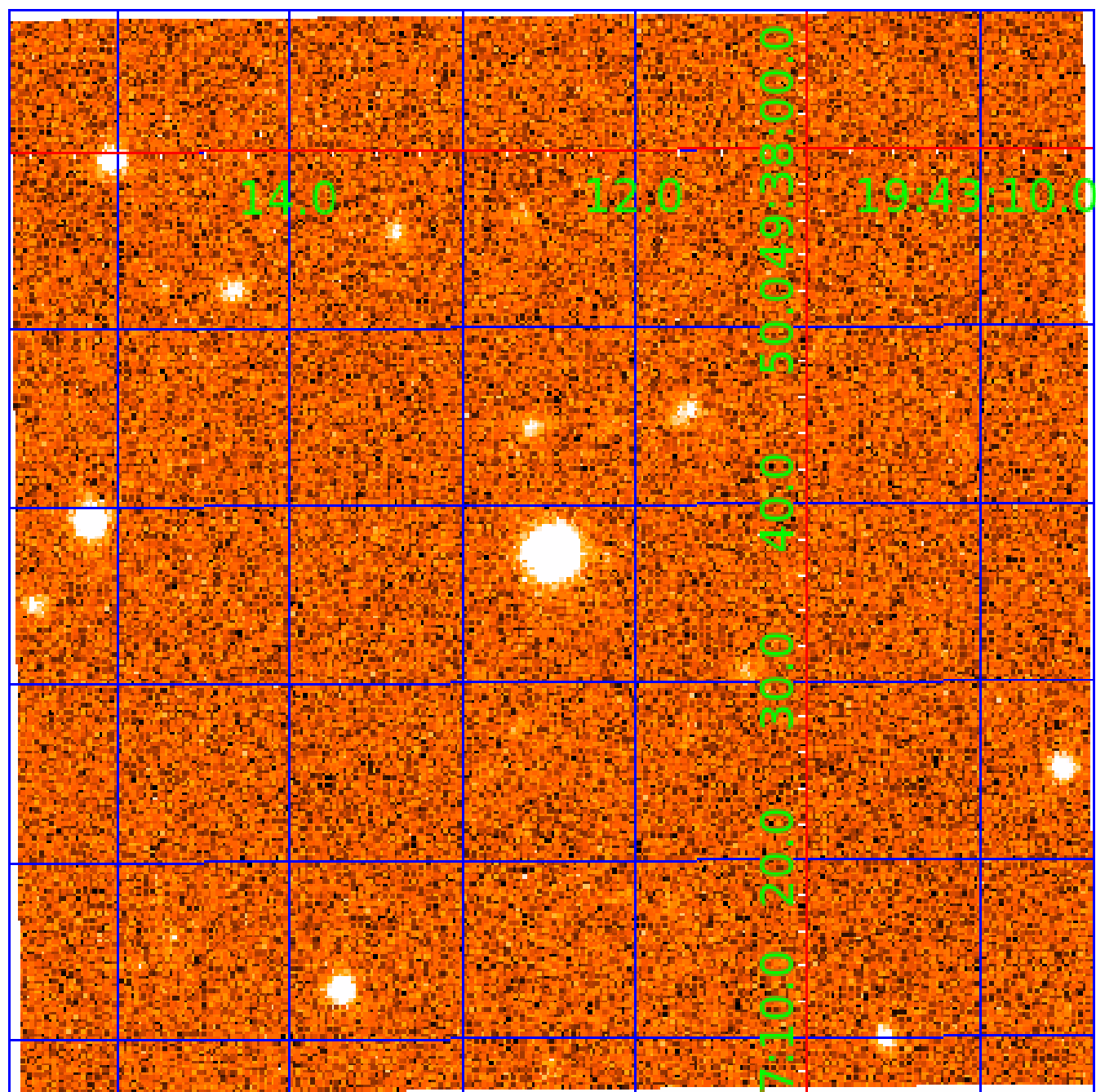


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011619189

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})
011619189-01	OBS	No	524.096211	213.649155	1532.5	6.120	13.3	7.4	0.61	5038	2.43	0.19
011619189-02	OBS	No	345.888355	198.766374	1620.2	5.050	11.2	8.4	0.61	5038	2.49	0.33
011619189-03	OBS	No	485.832748	148.908024	1410.6	8.359	10.4	7.1	0.61	5038	2.31	0.21
011619189-04	OBS	No	648.076237	208.917482	1704.6	5.671	12.2	7.5	0.61	5038	3.08	0.14
011619189-05	OBS	No	719.196285	150.626539	1721.9	10.465	9.7	6.4	0.61	5038	2.54	0.12
011619189-06	OBS	No	328.447007	182.769647	1928.3	7.367	8.9	10.3	0.61	5038	2.69	0.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011619189-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011619189-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011619189-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011619189-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
011619189-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
011619189-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

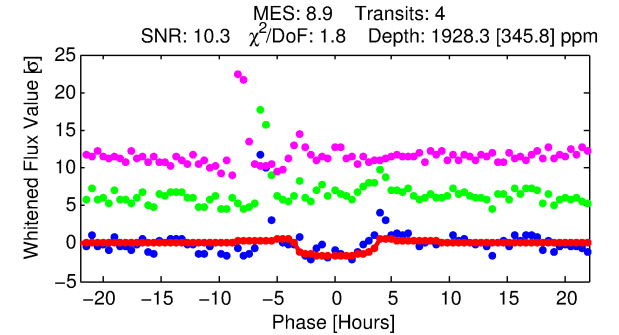
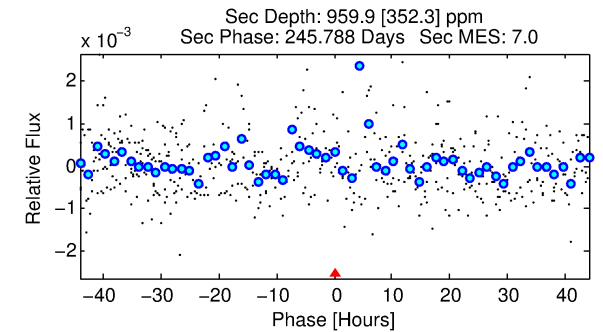
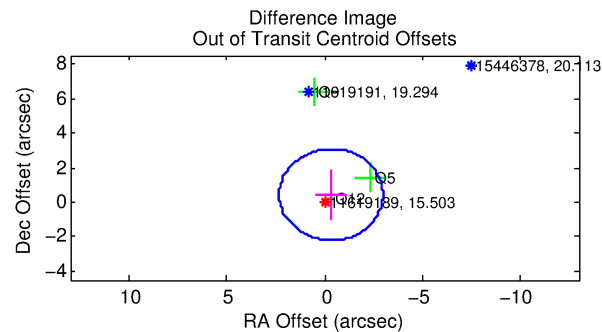
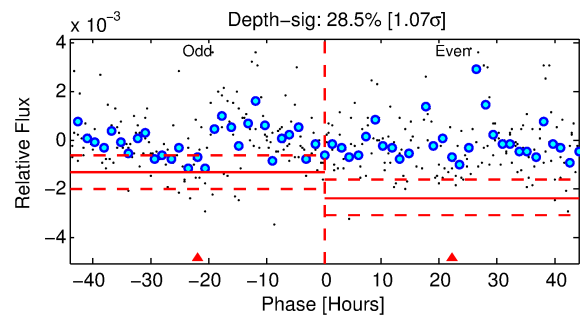
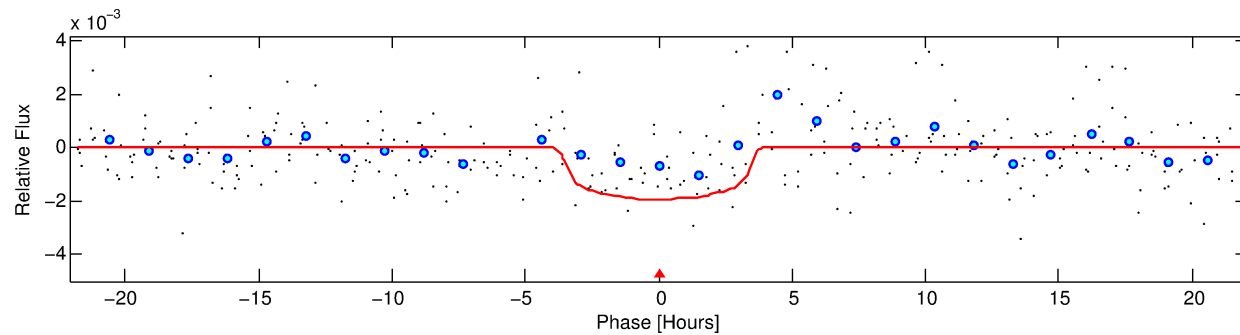
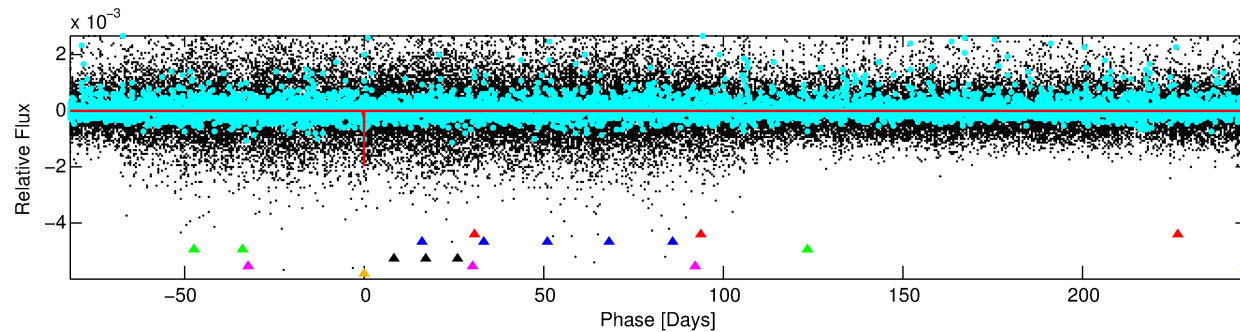
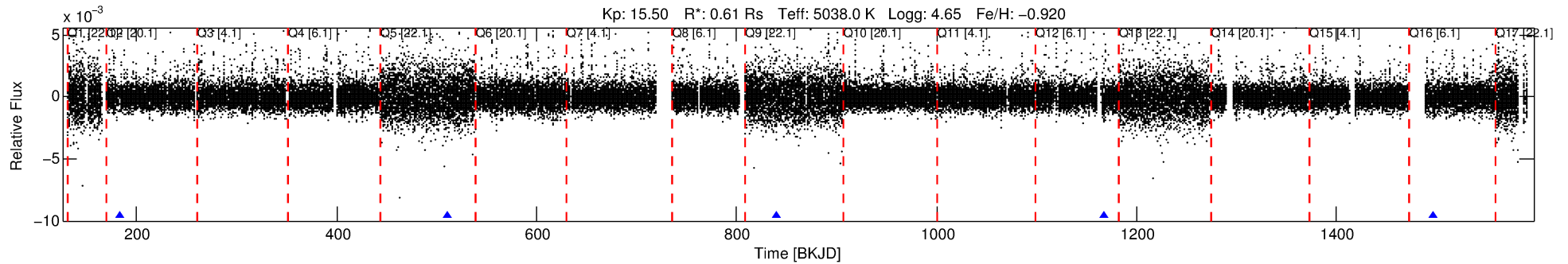
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011619189-06

No Significant Match Found

DV One-Page Summary

KIC: 11619189 Candidate: 6 of 6 Period: 328.447 d



DV Fit Results:

Period = 328.44701 [0.01033] d
Epoch = 182.7696 [0.0314] BKJD
Rp/R* = 0.0403 [0.0563]
a/R* = 329.52 [1841.32]
b = 0.38 [12.53]
Seff = 0.35 [0.06]
Teq = 196 [8] K
Rp = 2.69 [3.77] Re
a = 0.7888 [0.0549] AU
Ag = 45309.87 [127813.43] [0.35 σ]
Teffp = 4420 [3117] K [1.35 σ]

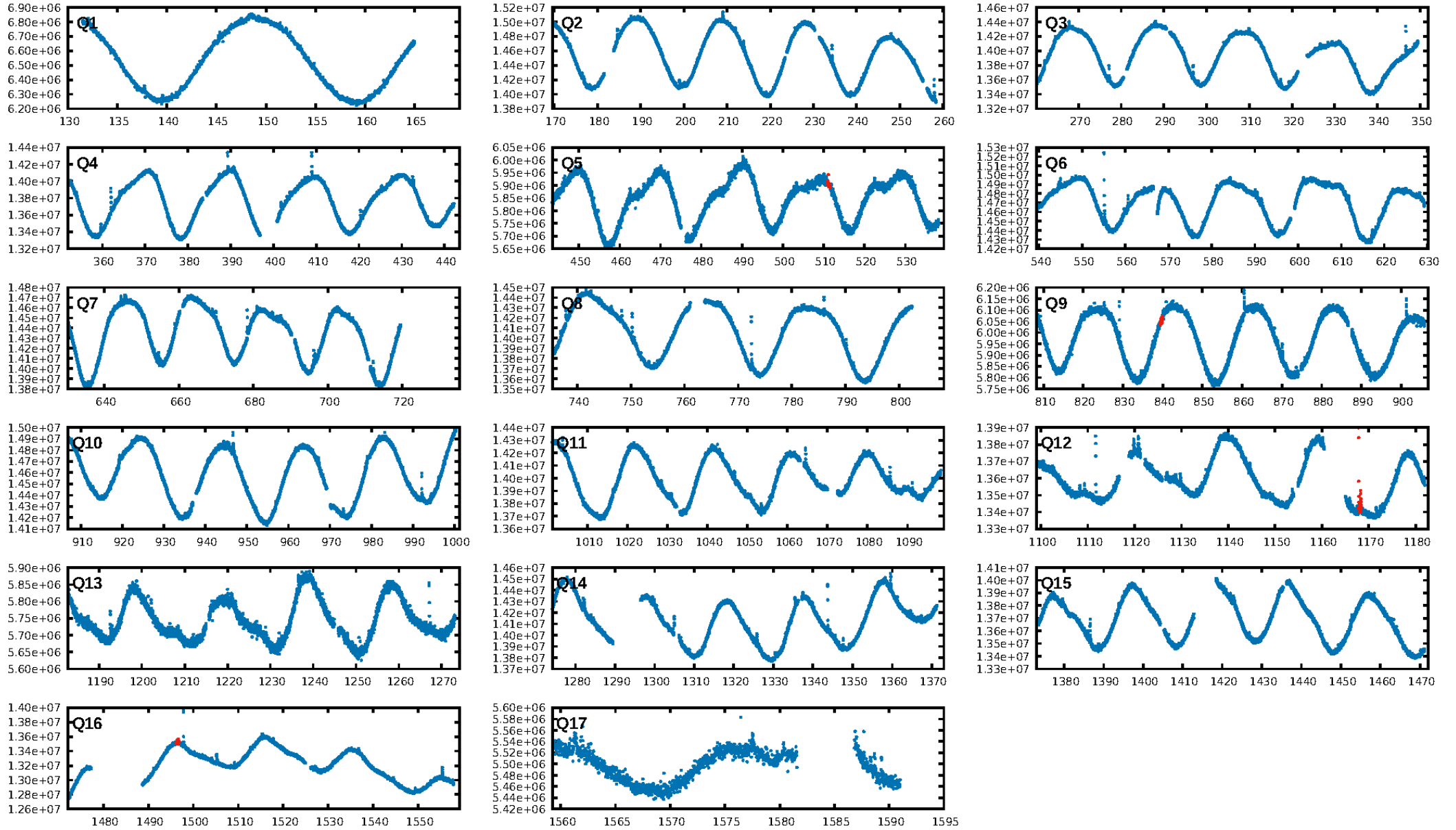
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [46.87 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 18.6%
Bootstrap-pfa: 3.89e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 5.693
Centroid-sig: 23.7%
Centroid-so: 1.109 arcsec [1.80 σ]
OotOffset-rm: 0.545 arcsec [0.62 σ]
OotOffset-st: 0/0/1/2 [3]
KicOffset-rm: 0.493 arcsec [0.71 σ]
KicOffset-st: 0/0/1/2 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [4/4]

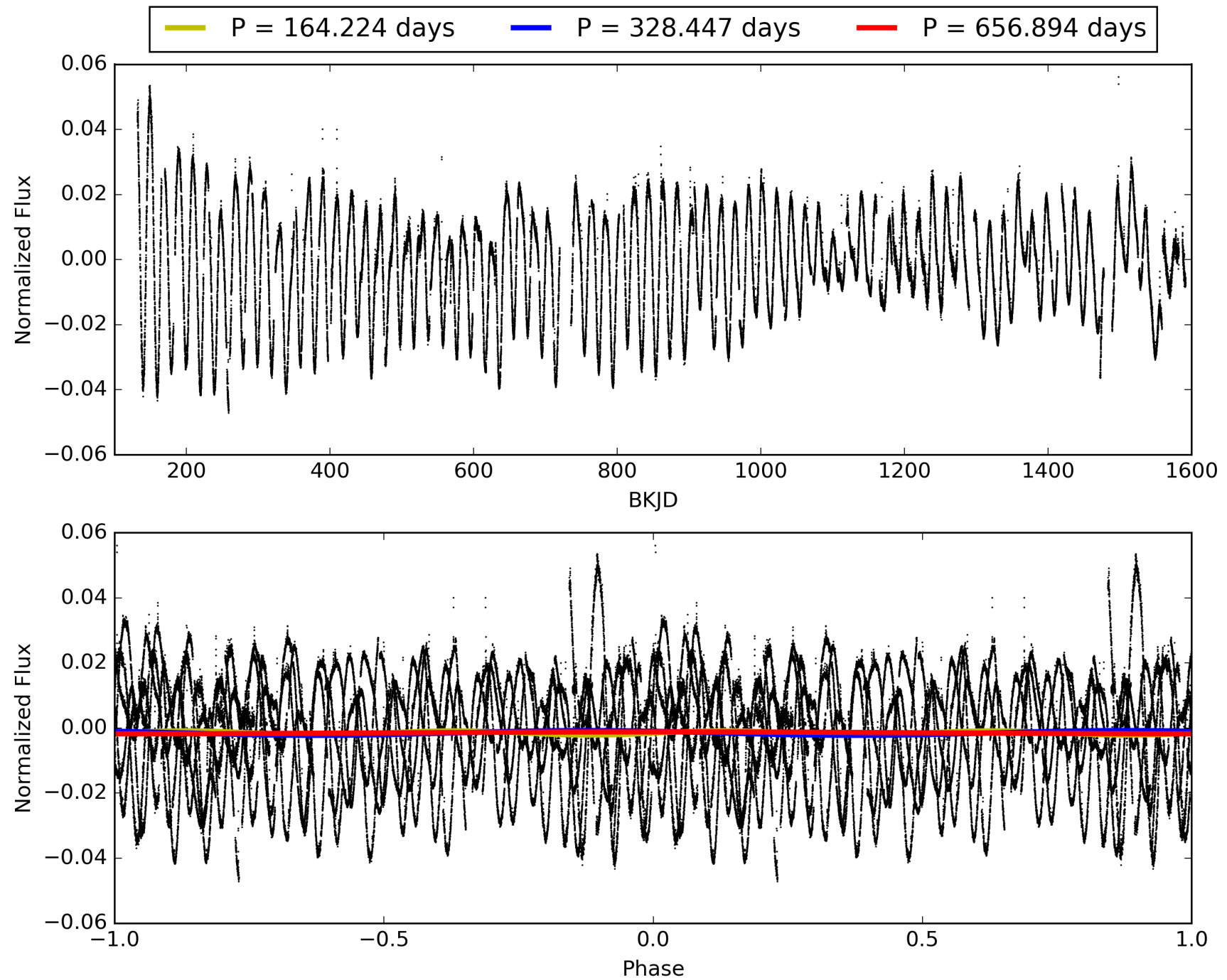
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:28:41 Z

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

TCE 011619189-06, PDC Light Curves

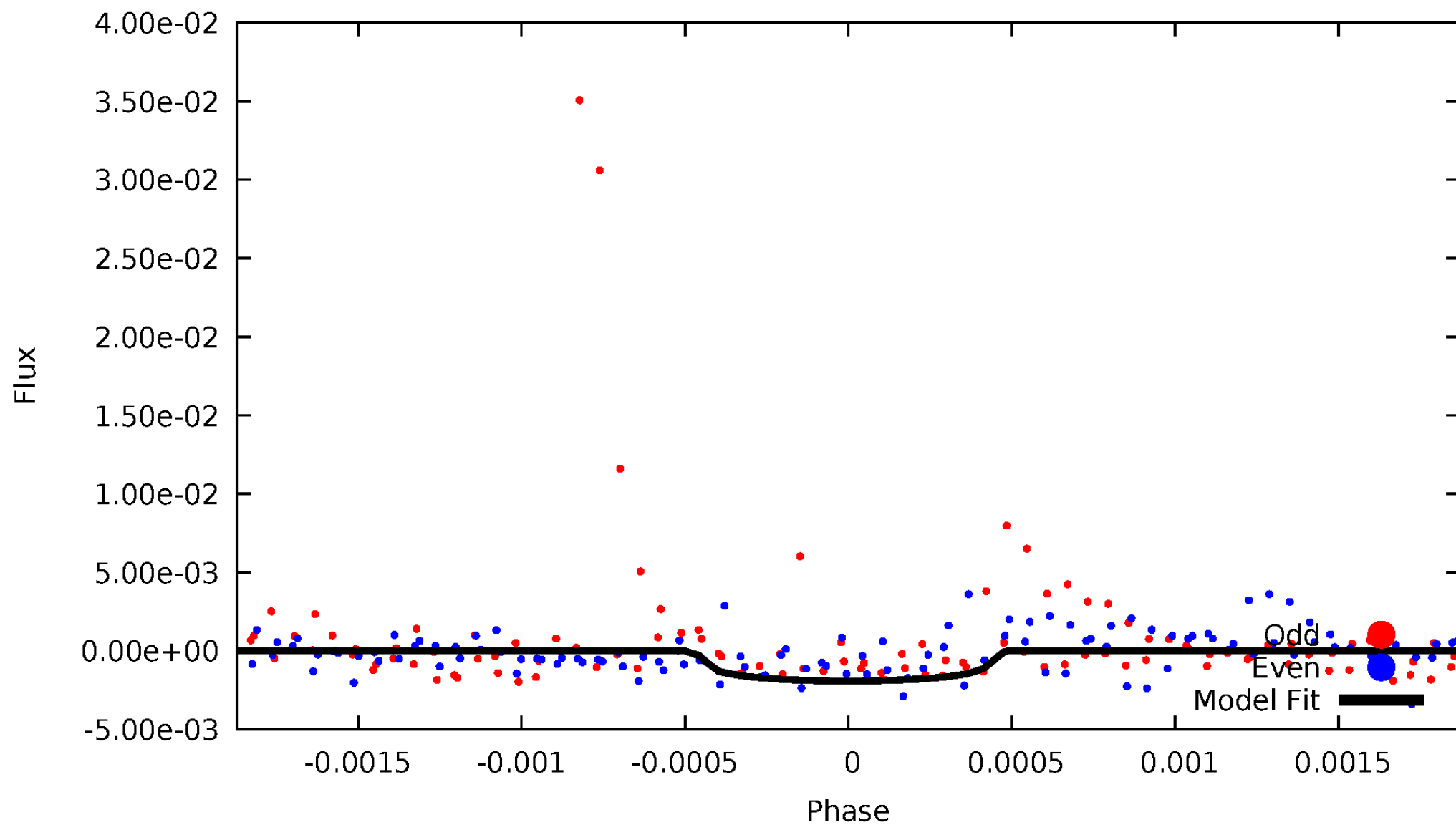


TCE 011619189-06



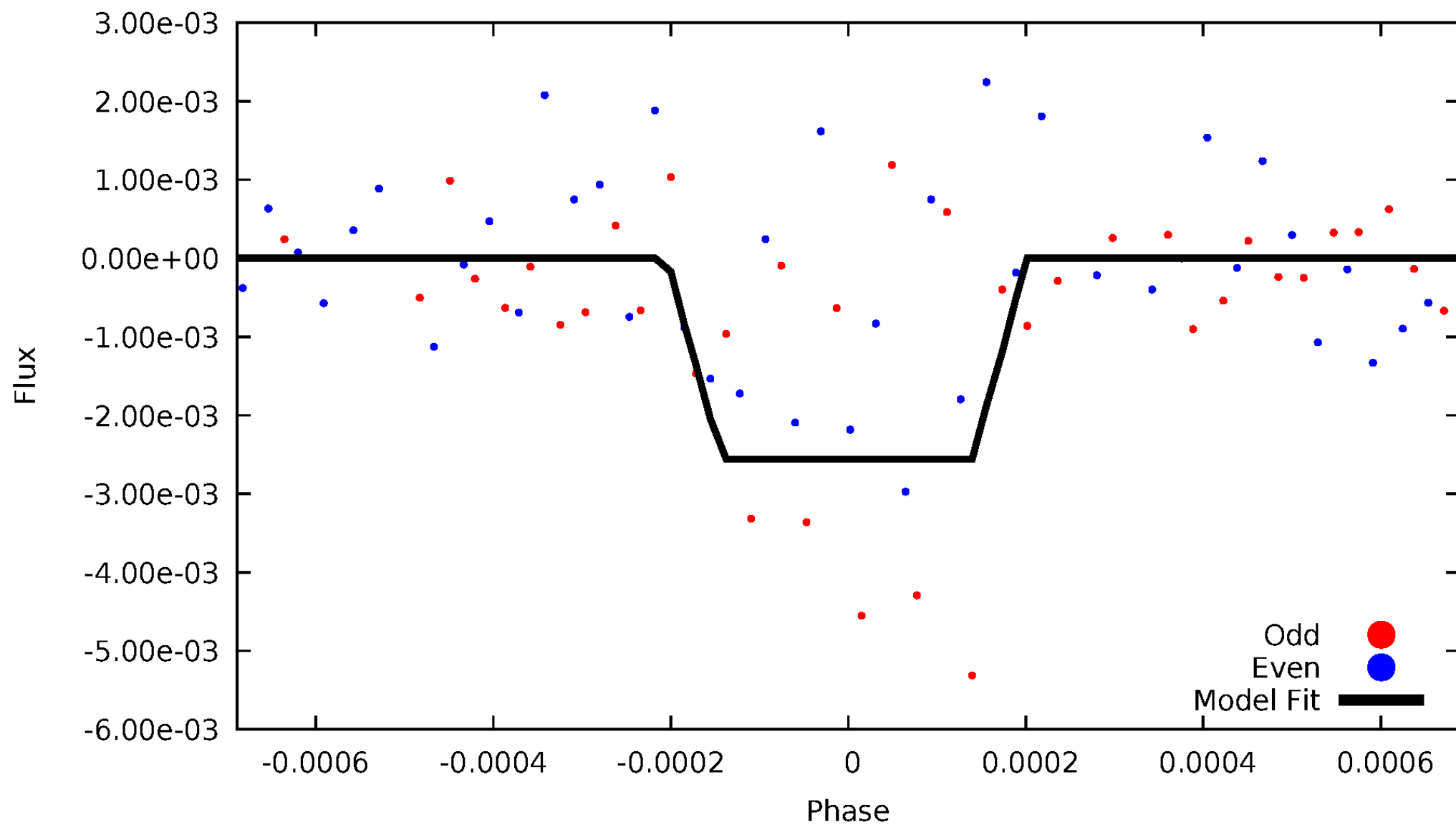
DV Odd/Even

TCE 011619189-06



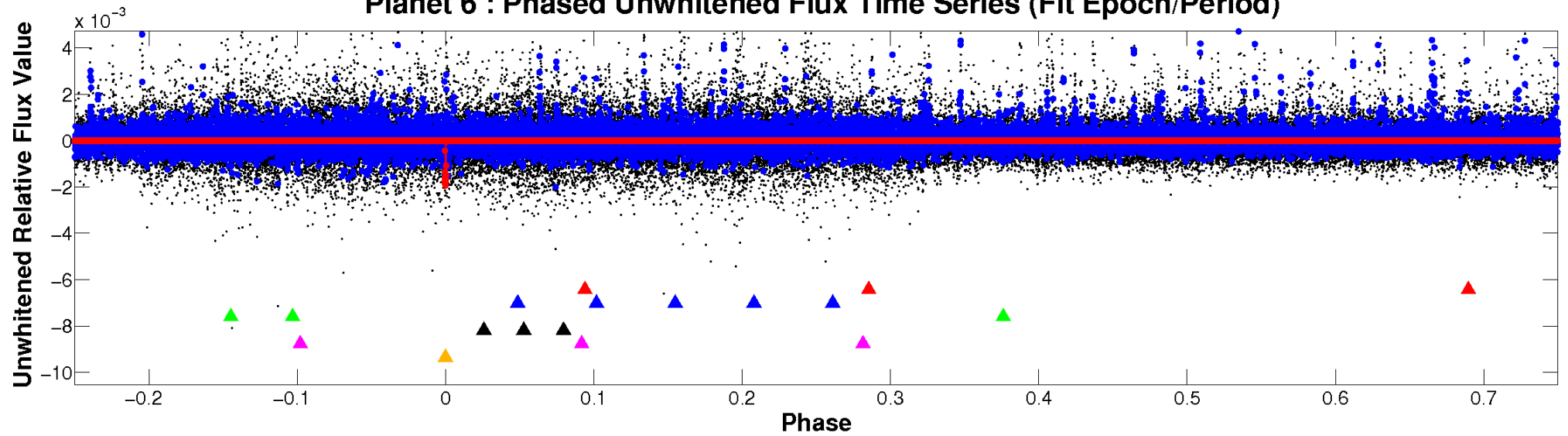
ALT Odd/Even

TCE 011619189-06

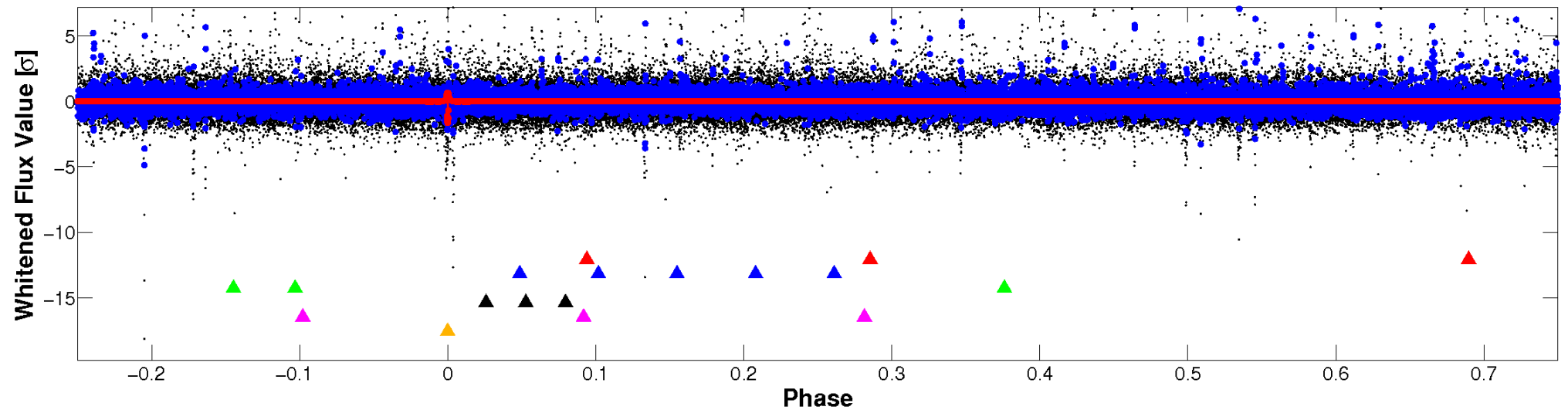


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

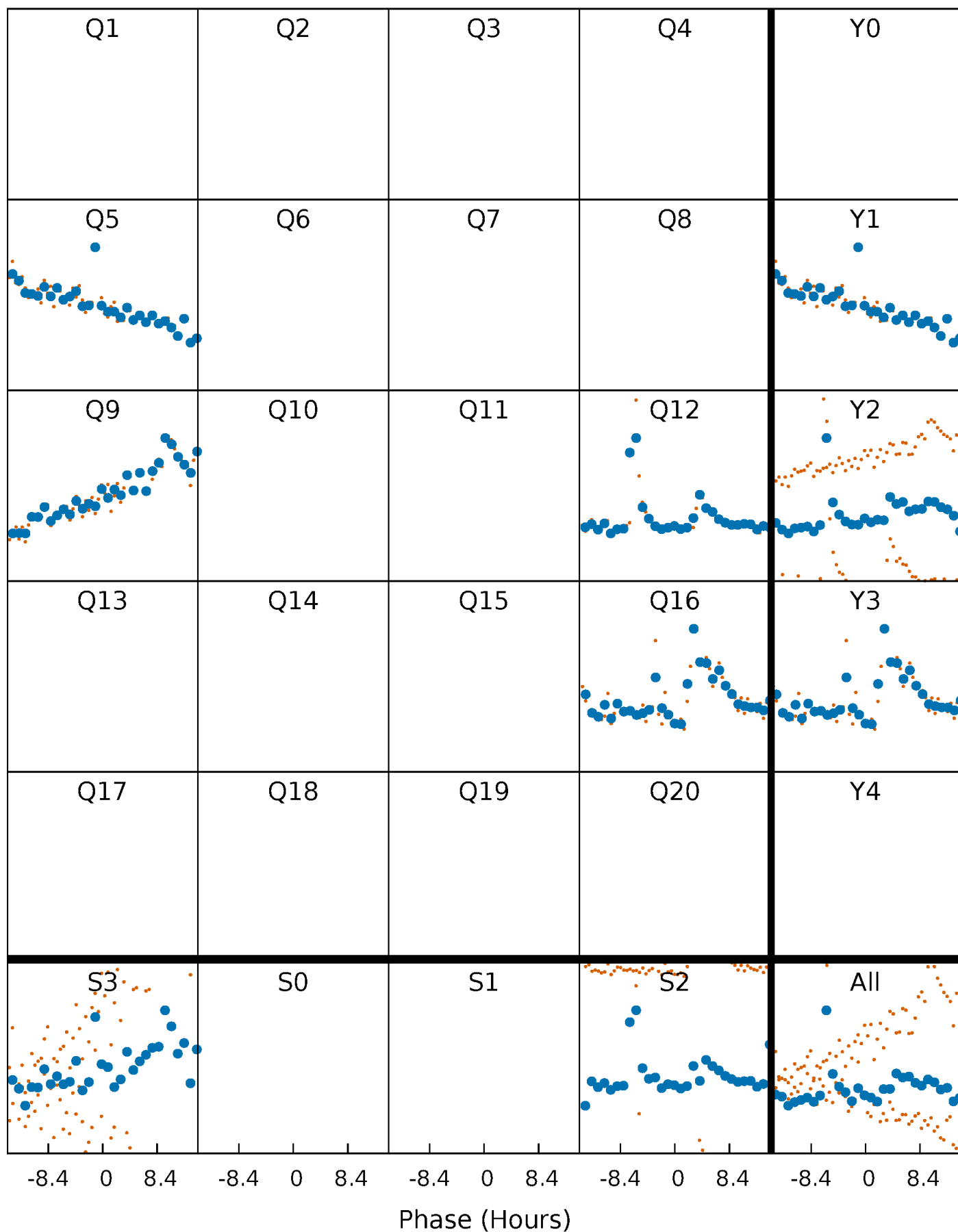


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



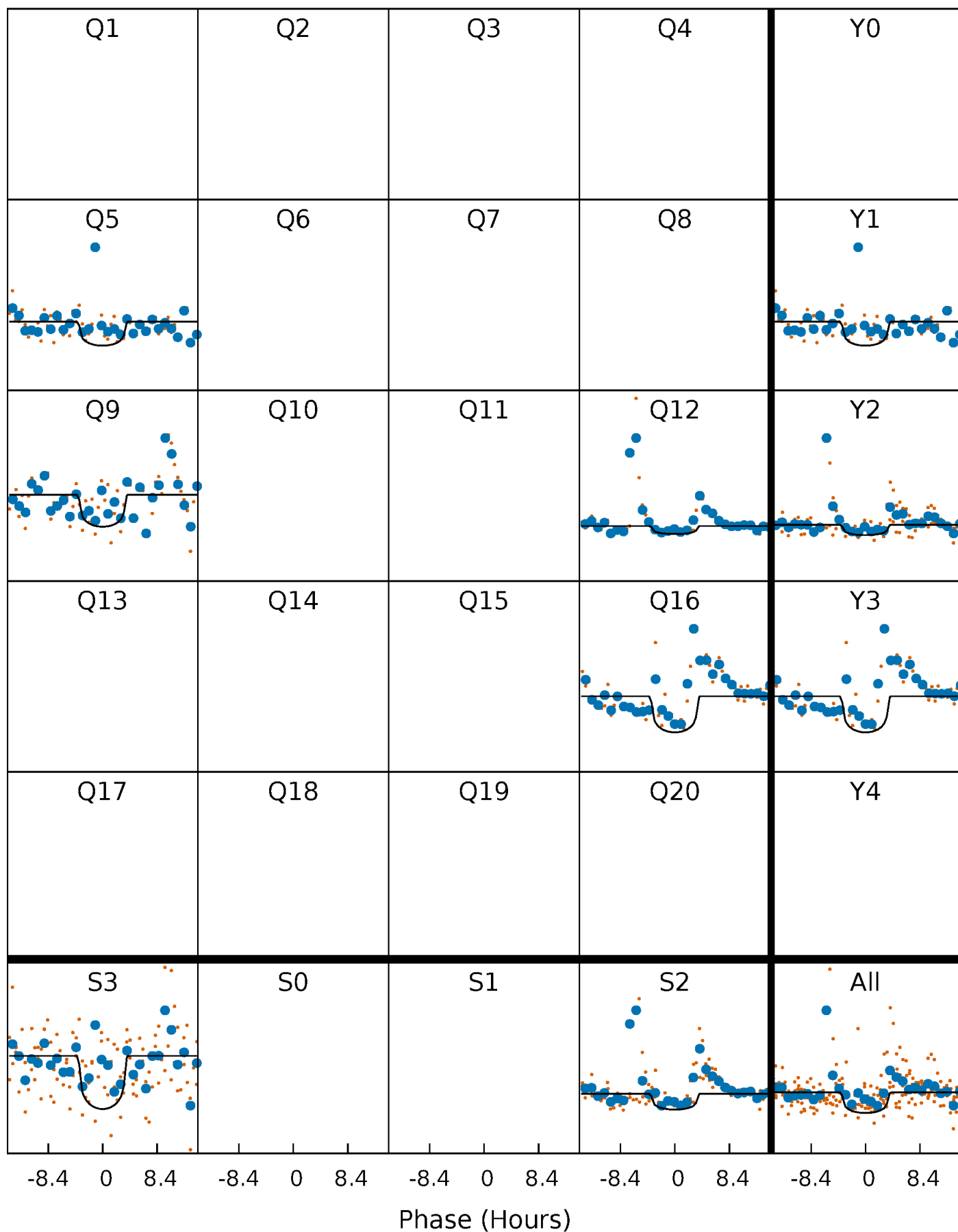
PDC Quarter-Phased Transit Curves

TCE 011619189-06 P=328.447007 Days $T_0=182.769647$ (BKJD)



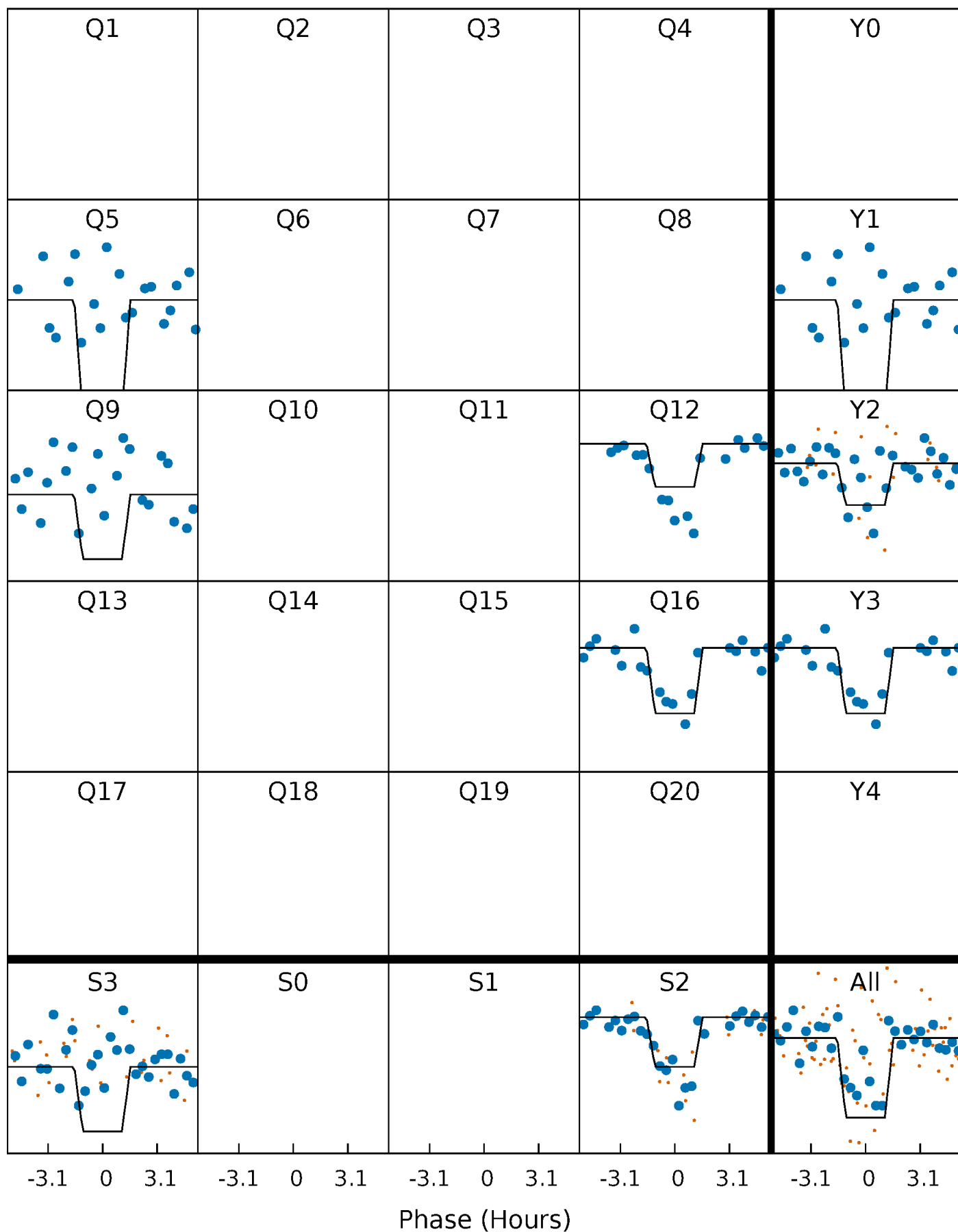
DV Quarter-Phased Transit Curves

TCE 011619189-06 $P=328.447007$ Days $T_0=182.769647$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

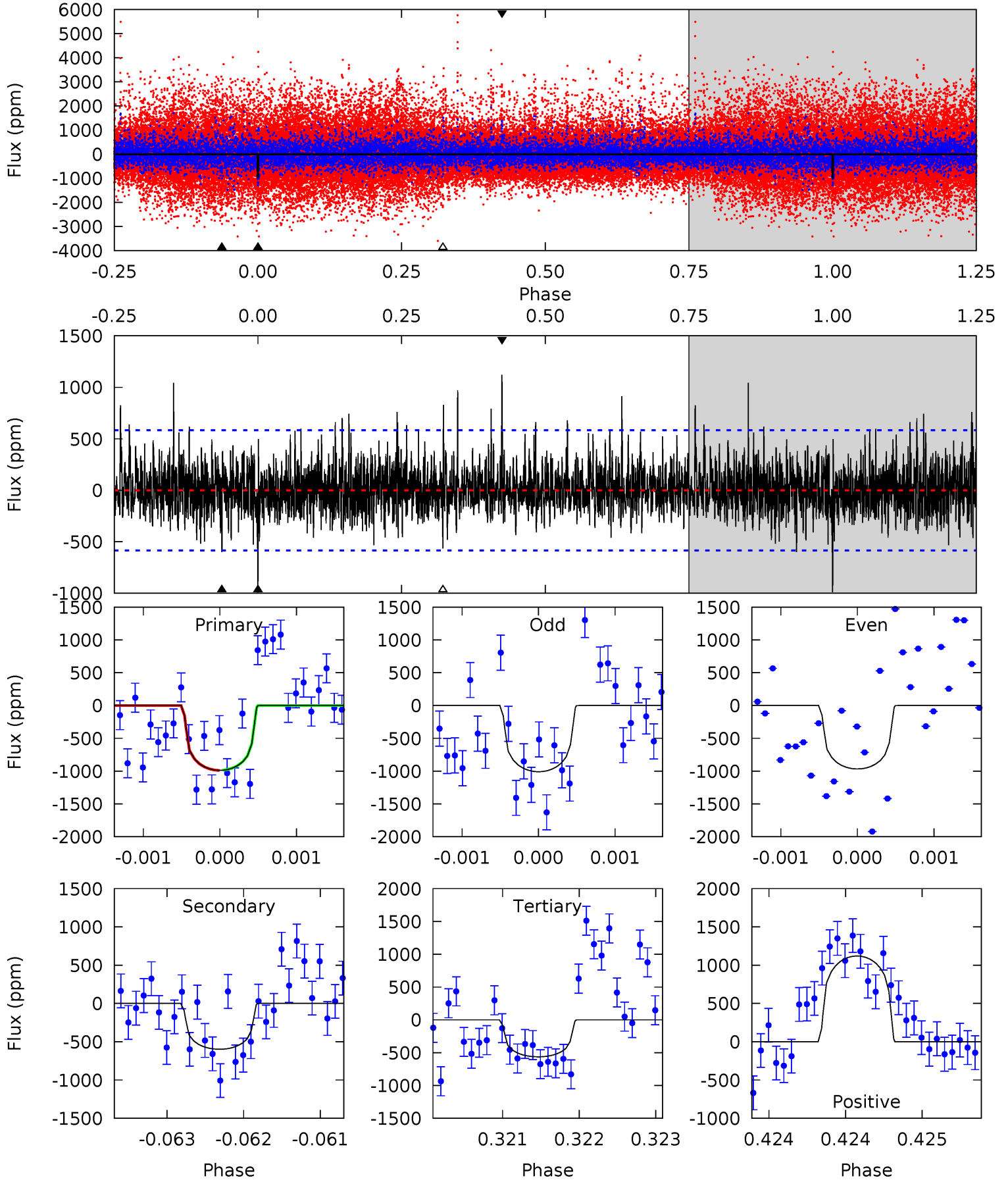
TCE 011619189-06 P=328.413178 Days $T_0=182.943425$ (BKJD)



DV Model-Shift Uniqueness Test

011619189-06, P = 328.447007 Days, E = 182.769647 Days

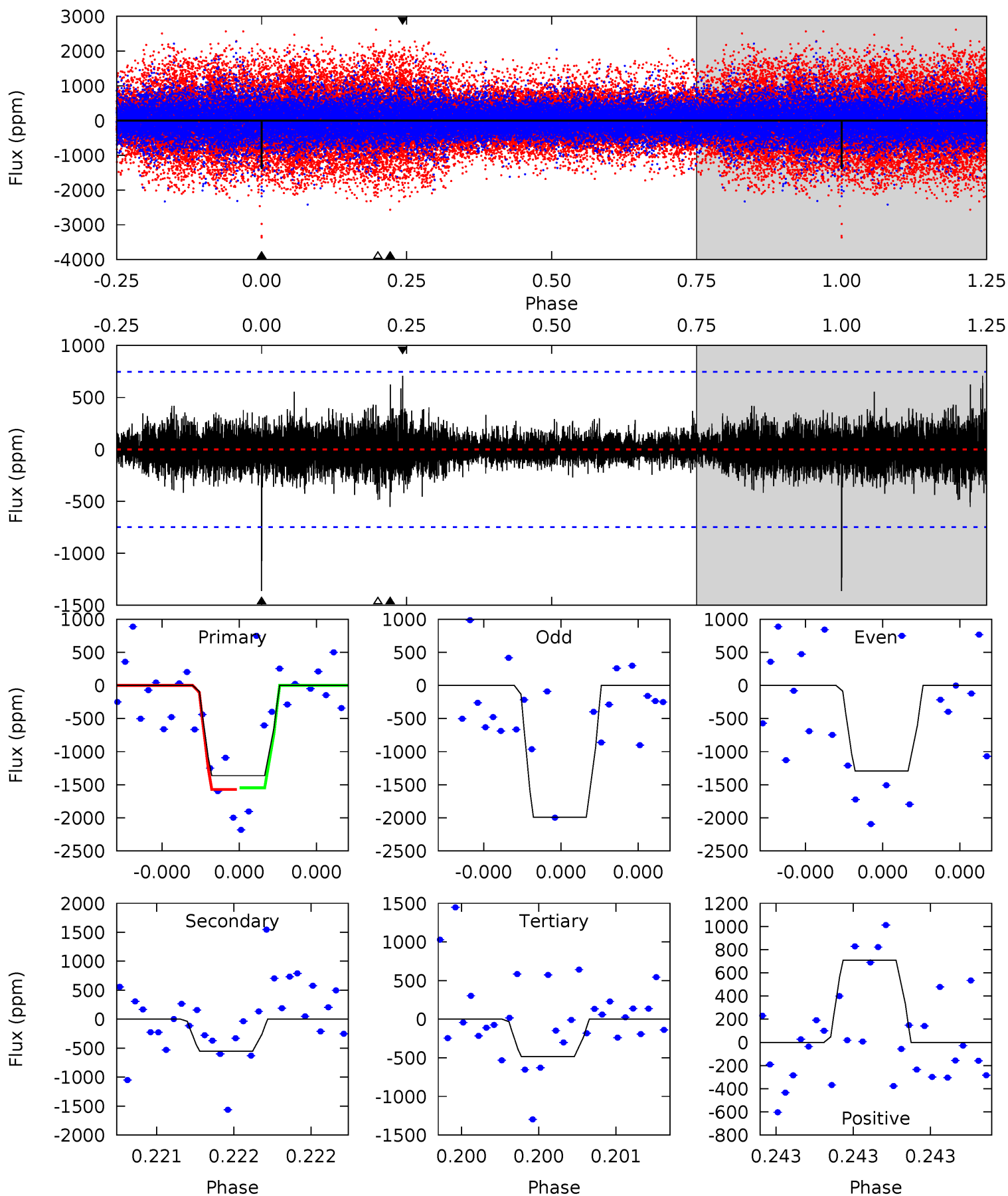
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.22	5.58	5.26	10.4	5.45	3.29	1.74	3.96	-1.23	0.33	-4.86	0.18	0.90	0.53	0.02



Alt Model-Shift Uniqueness Test

011619189-06, P = 328.413178 Days, E = 182.943425 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	4.15	3.65	5.33	5.62	3.55	0.79	6.61	4.92	0.50	-1.19	2.74	1.35	0.34	0.09



Stellar Parameters For KIC 011619189

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5038^{+150}_{-150}	$4.646^{+0.060}_{-0.040}$	$-0.920^{+0.300}_{-0.300}$	$0.613^{+0.048}_{-0.048}$	$0.607^{+0.056}_{-0.026}$	$3.709^{+0.910}_{-0.562}$
	+3%/-3%	+1%/-1%	+33%/-33%	+8%/-8%	+9%/-4%	+25%/-15%
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 011619189-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-598 ± 107	$3.66^{+3.28}_{-2.50}$	273^{+9}_{-10}	3736^{+2059}_{-686}	$15404^{+137506}_{-10991}$
Alt.	-551 ± 133	$4.24^{+3.38}_{-2.65}$	273^{+10}_{-9}	3458^{+1648}_{-543}	10024^{+74310}_{-6820}

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 $A_{obs} \gg 1.0$

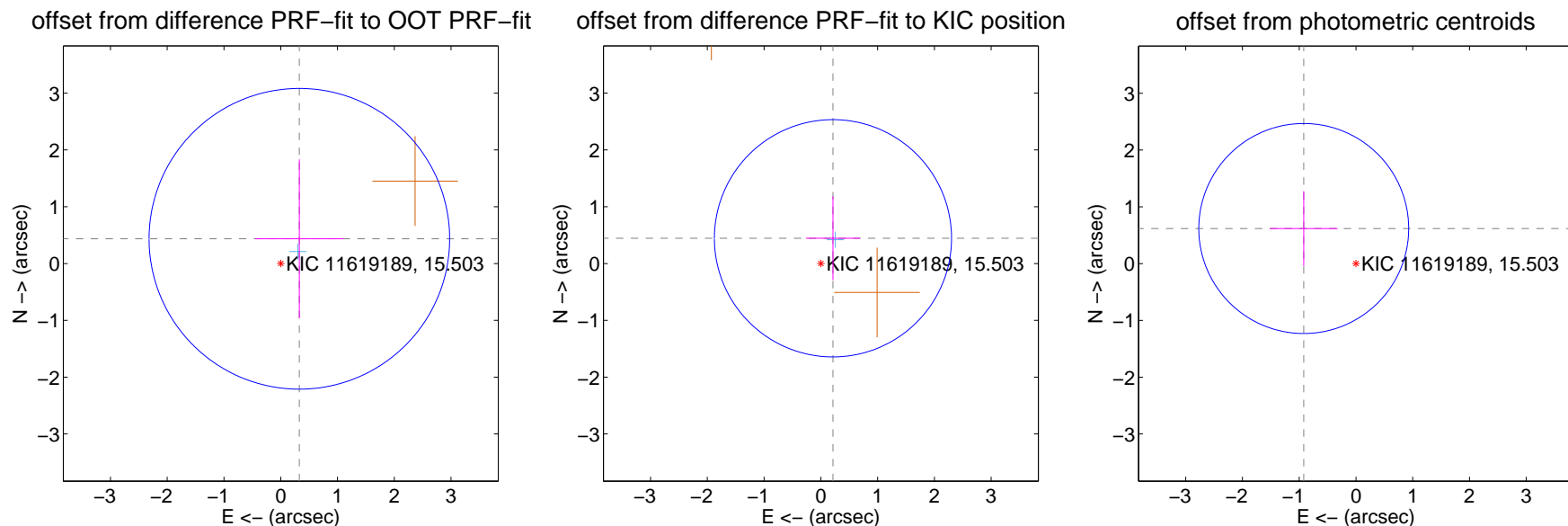
DV Centroid Data

Supplemental centroid analysis for 011619189-06. Kepler magnitude: 15.50. Transit SNR 10.32

There are 1 quarters with good PRF difference image offsets

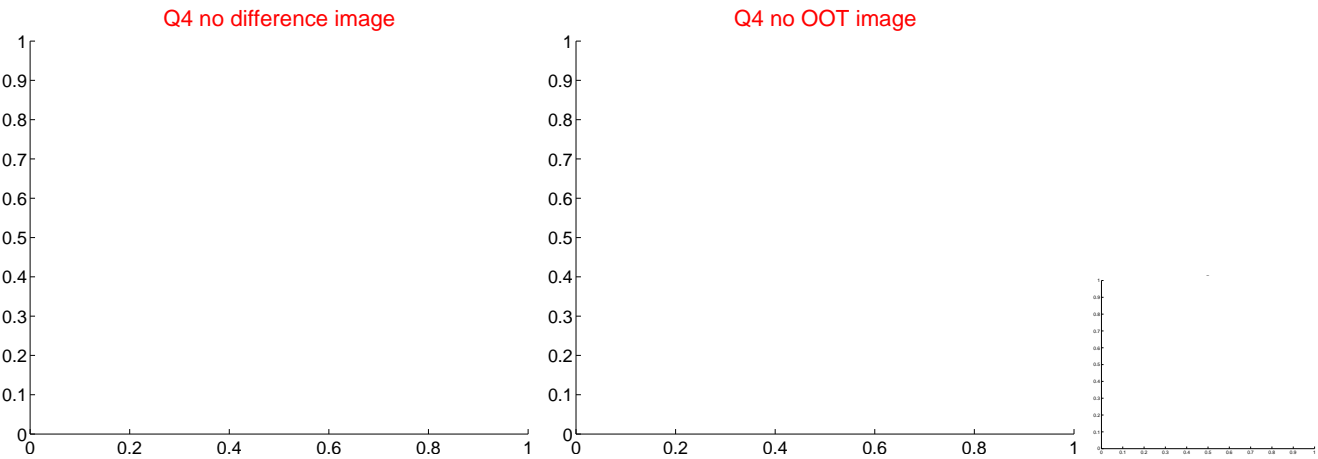
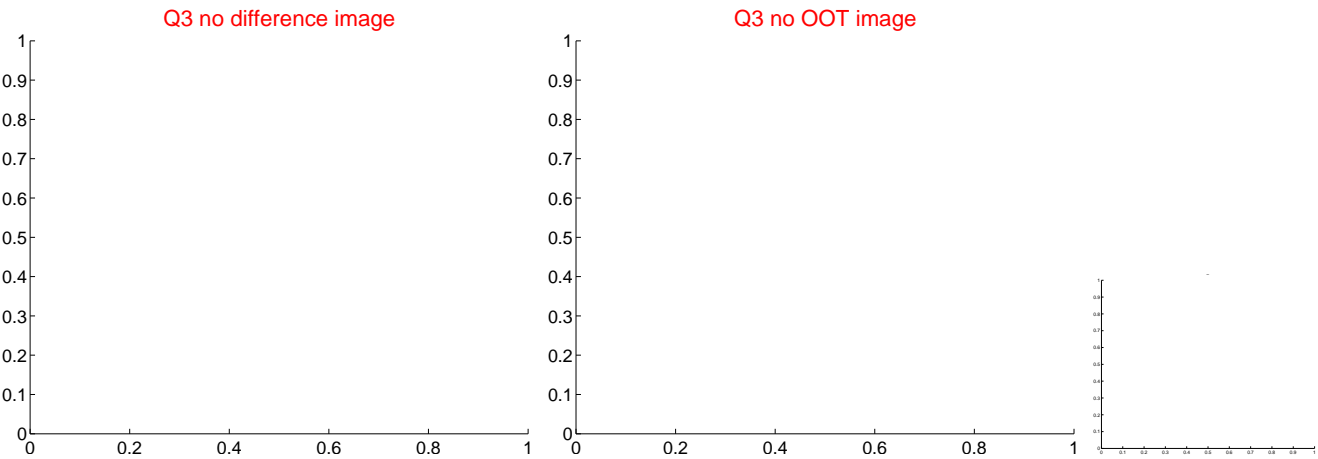
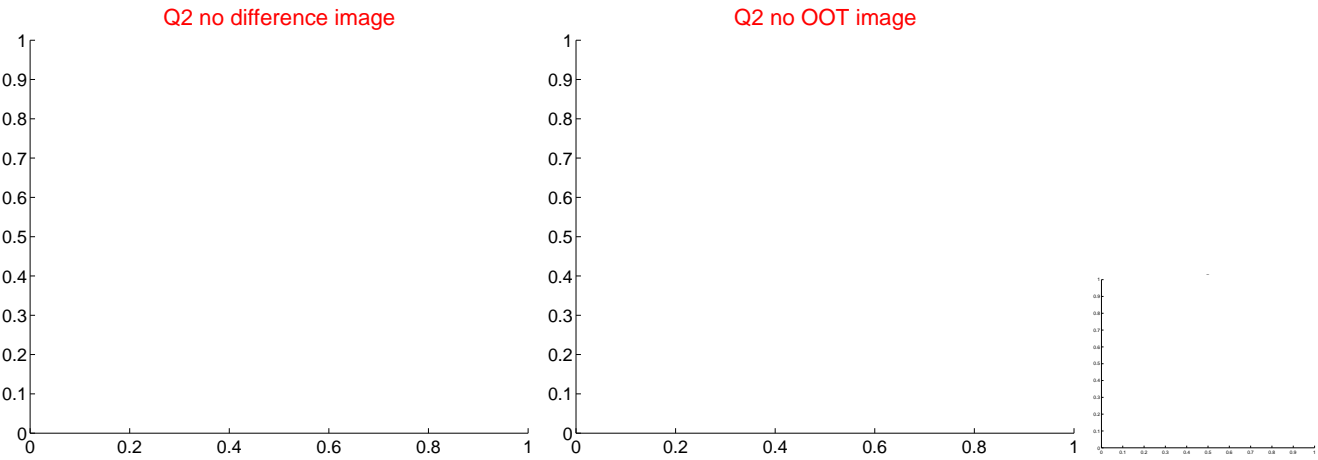
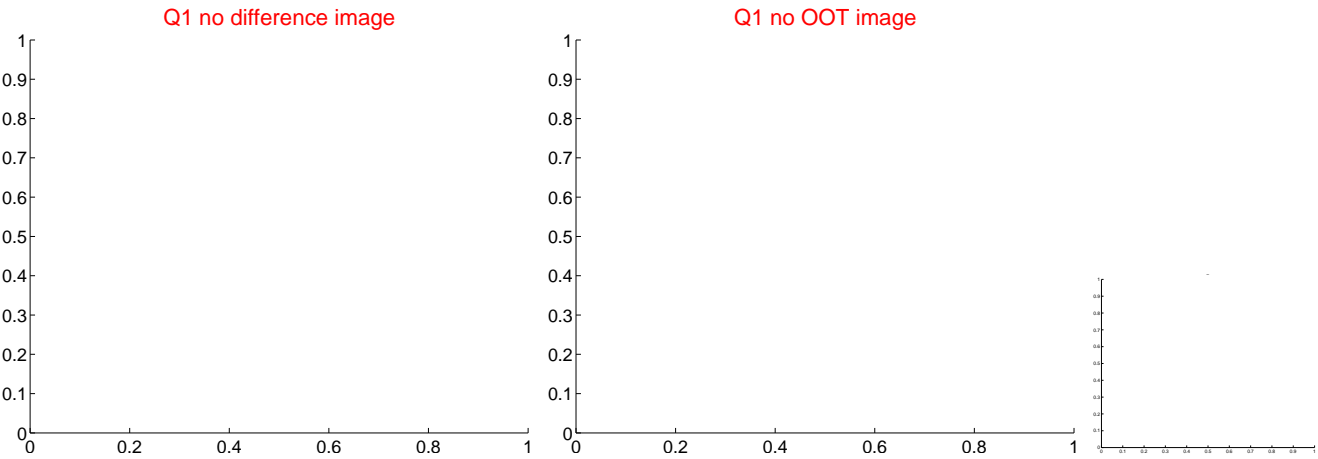
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.545 ± 0.882	0.62	-0.328 ± 0.776	0.436 ± 1.399
PRF-fit source offset from KIC position	0.493 ± 0.696	0.71	-0.213 ± 0.477	0.445 ± 0.738
photometric centroid source offset	1.11 ± 0.62	1.80	0.92 ± 0.60	0.62 ± 0.66

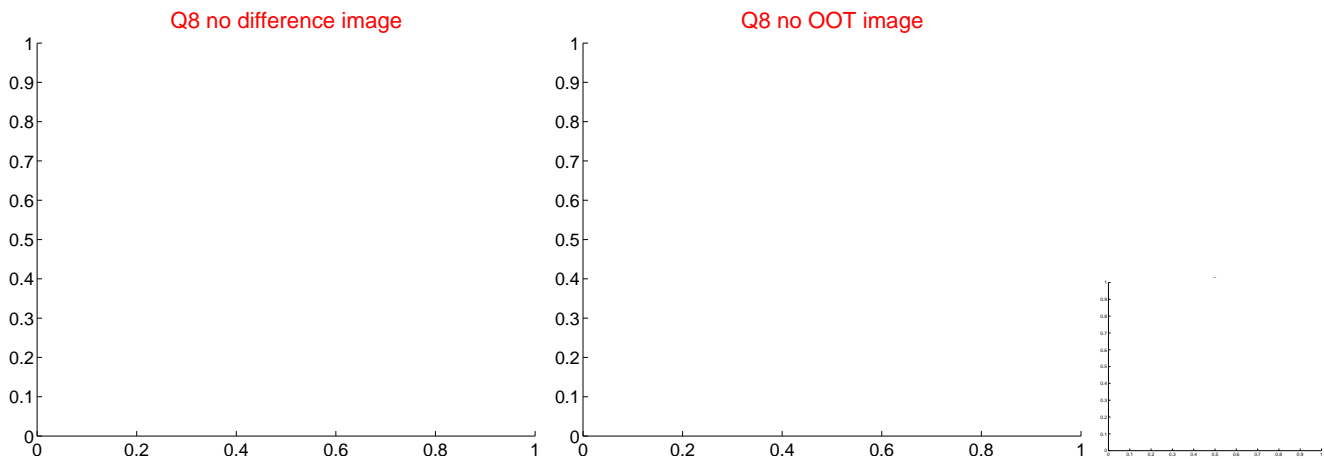
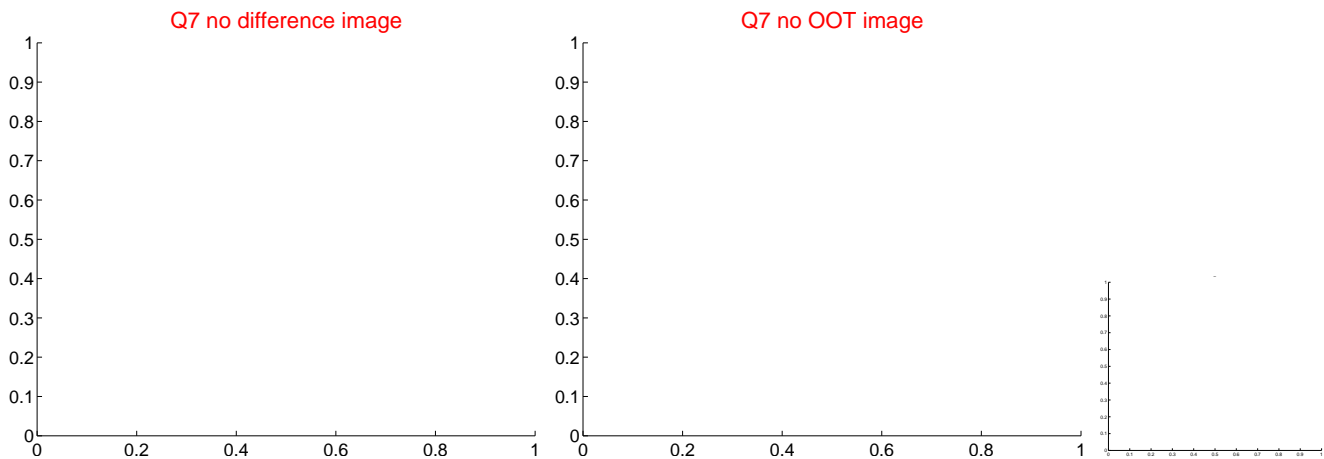
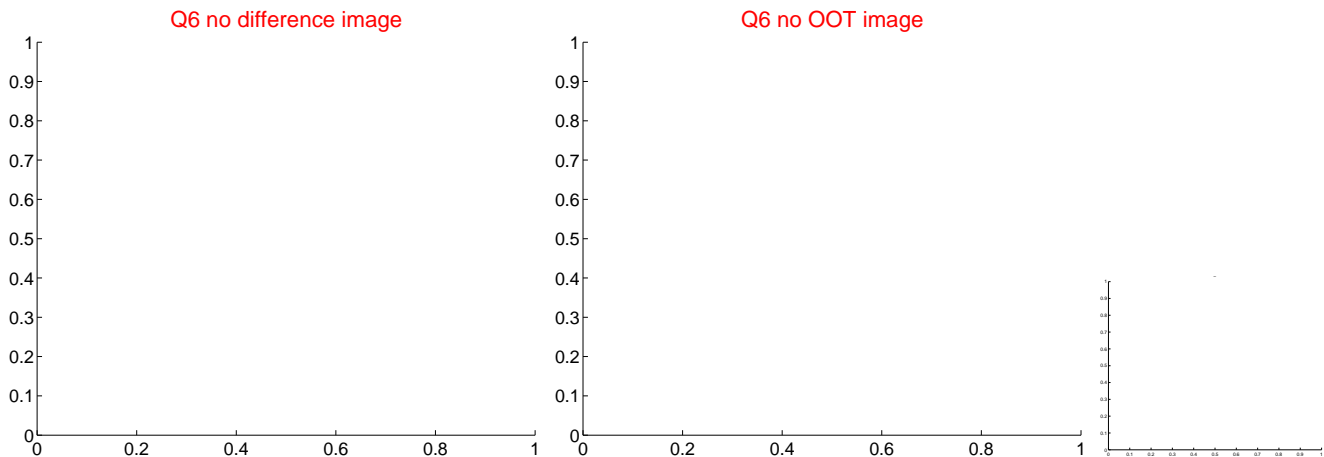
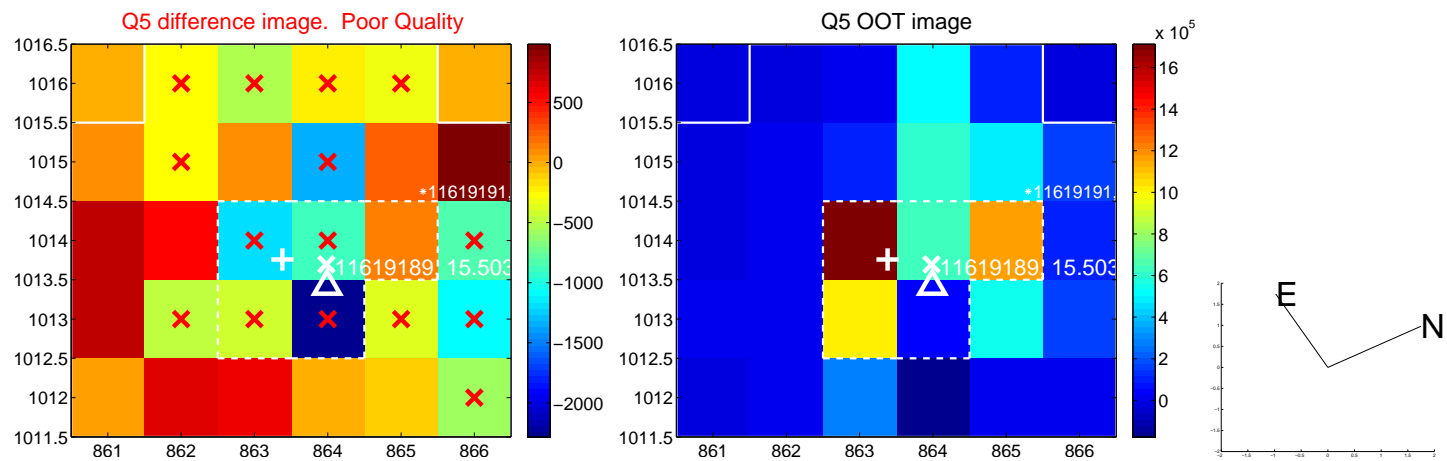


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

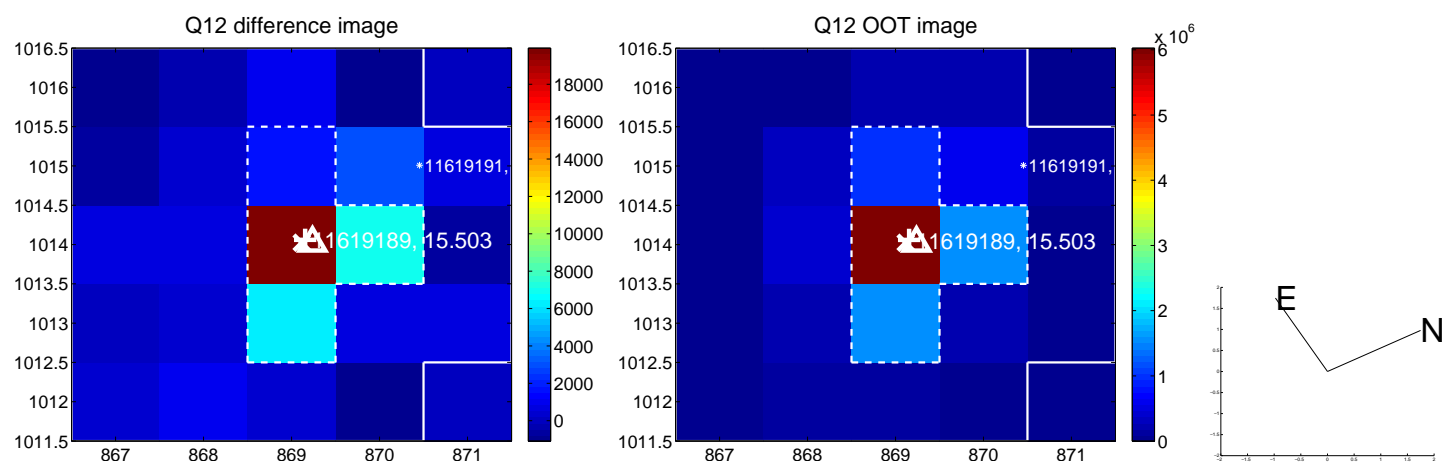
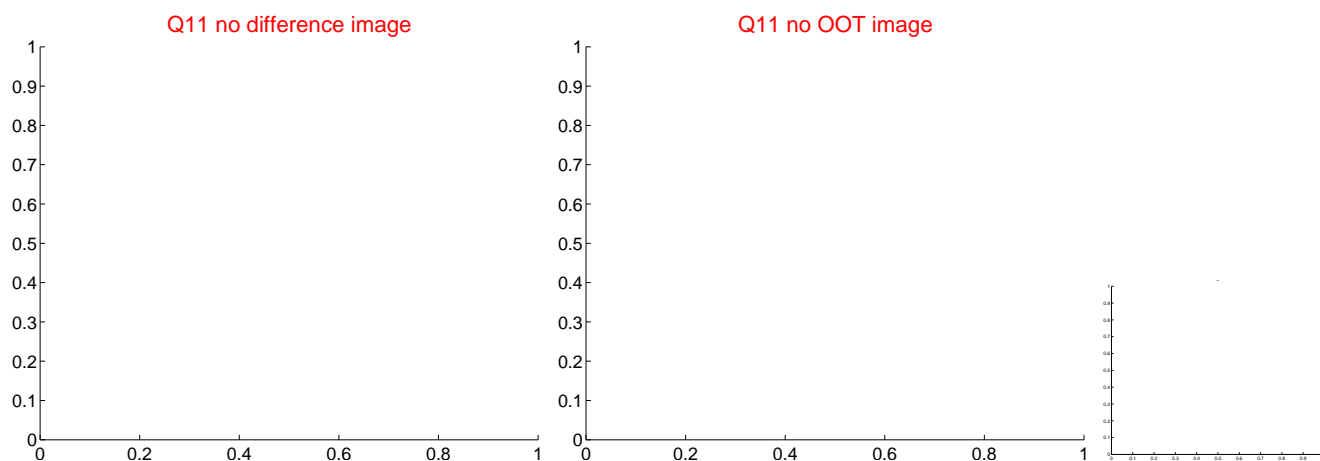
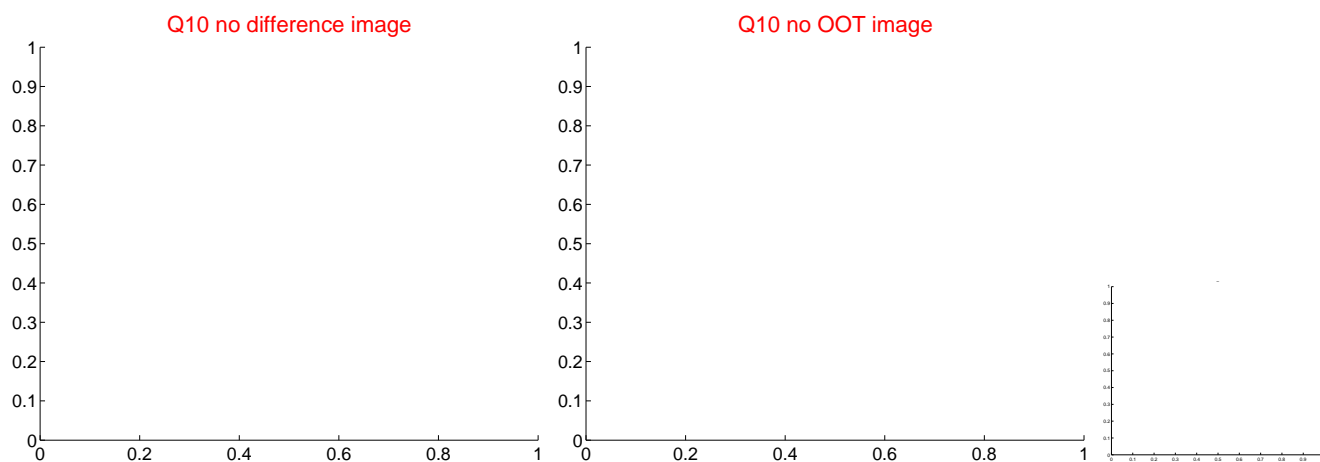
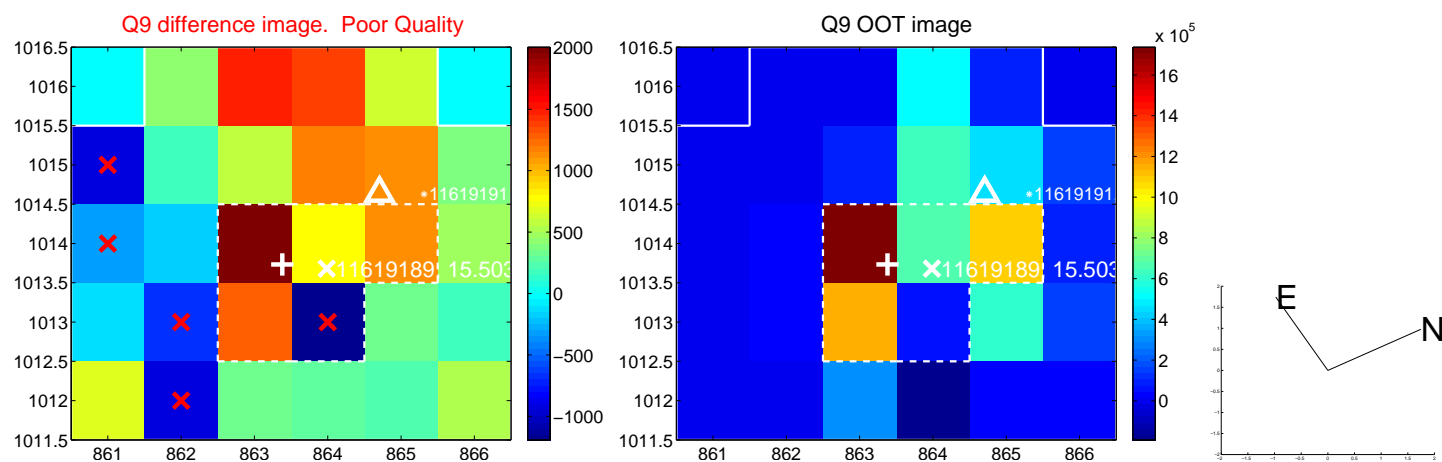
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



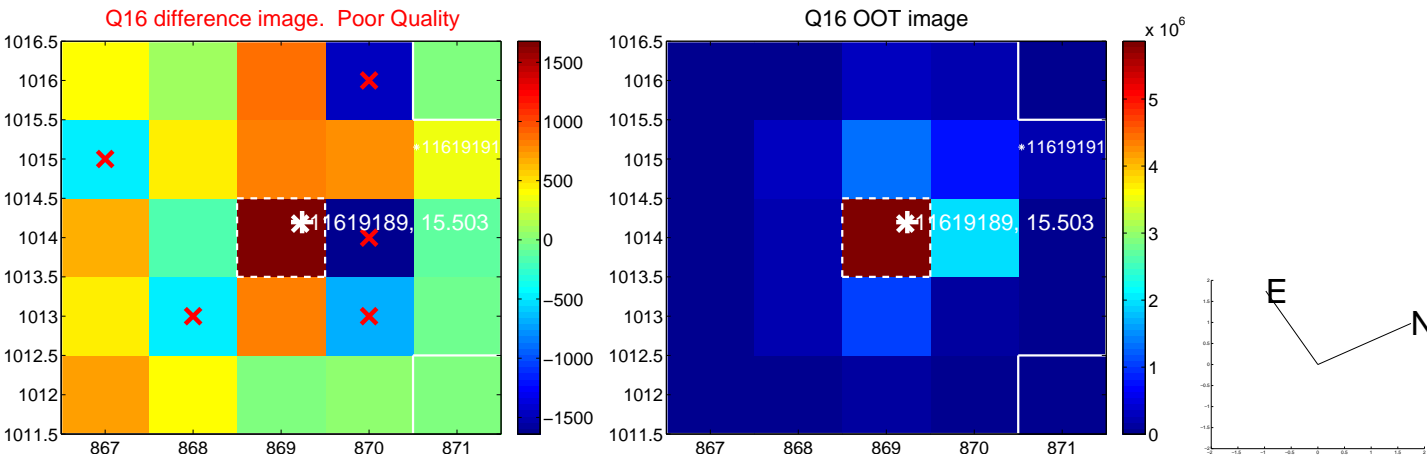
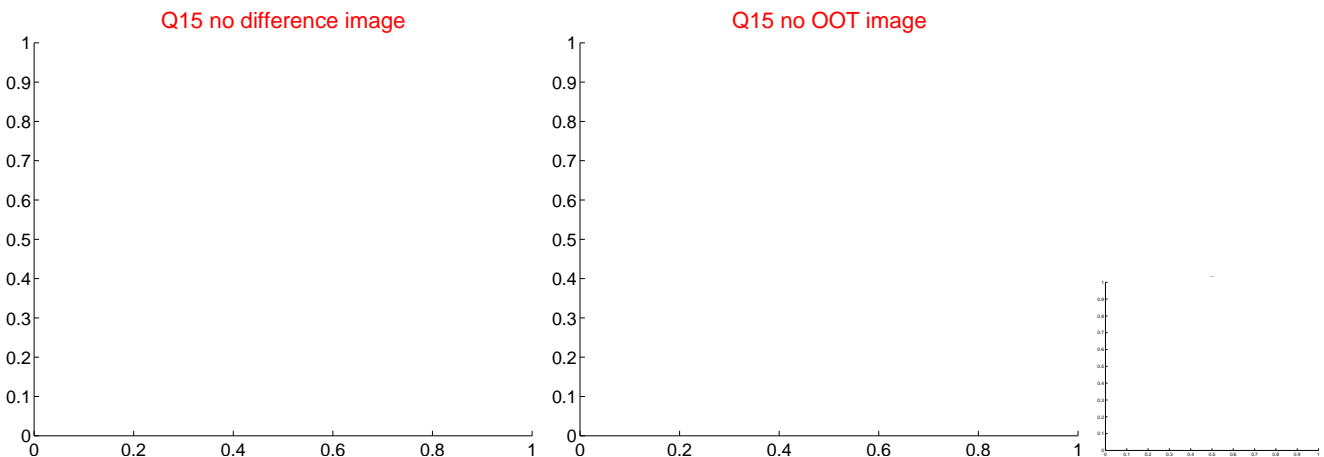
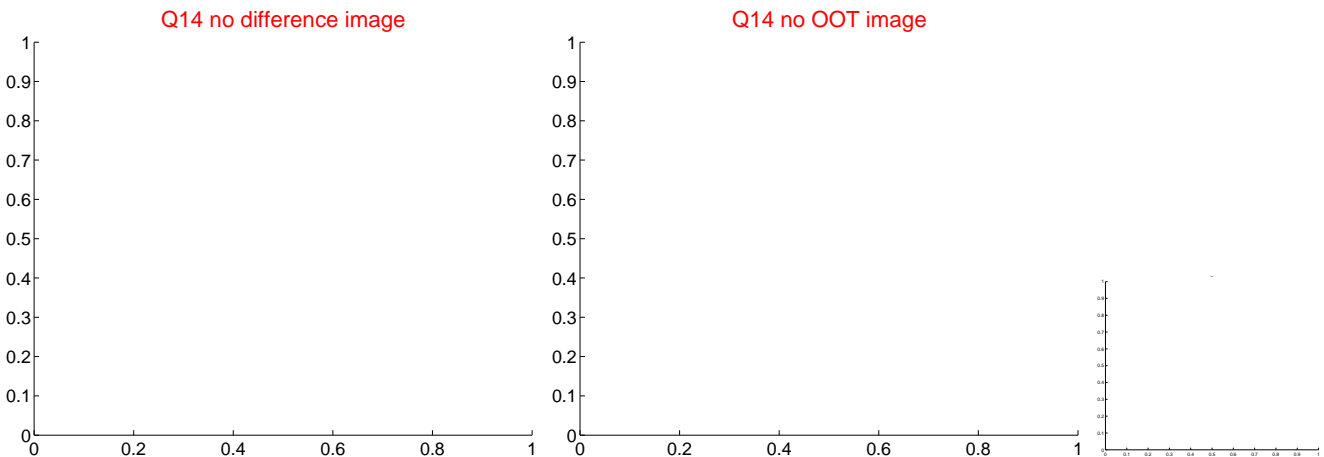
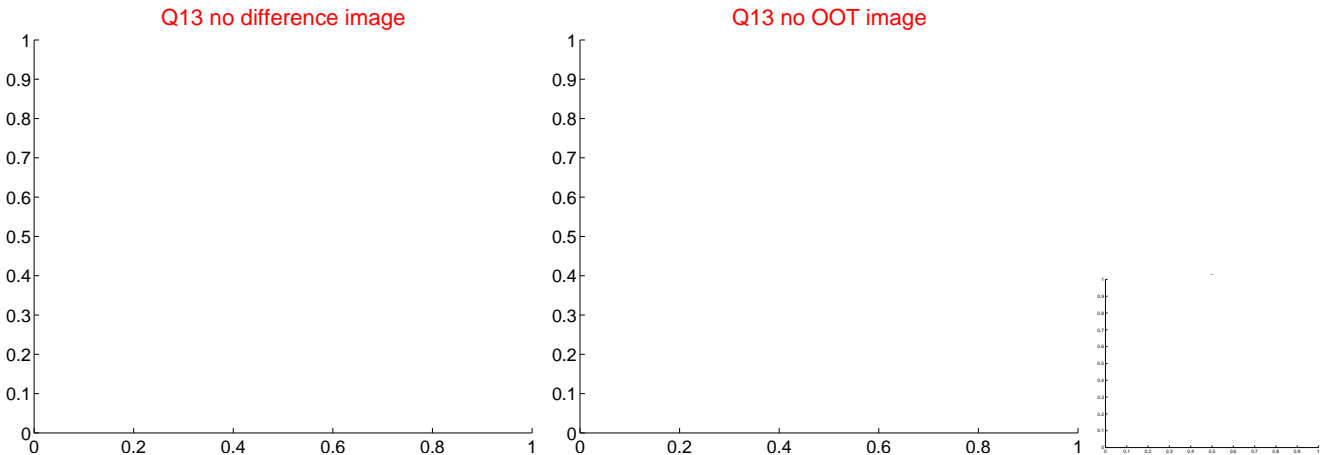
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



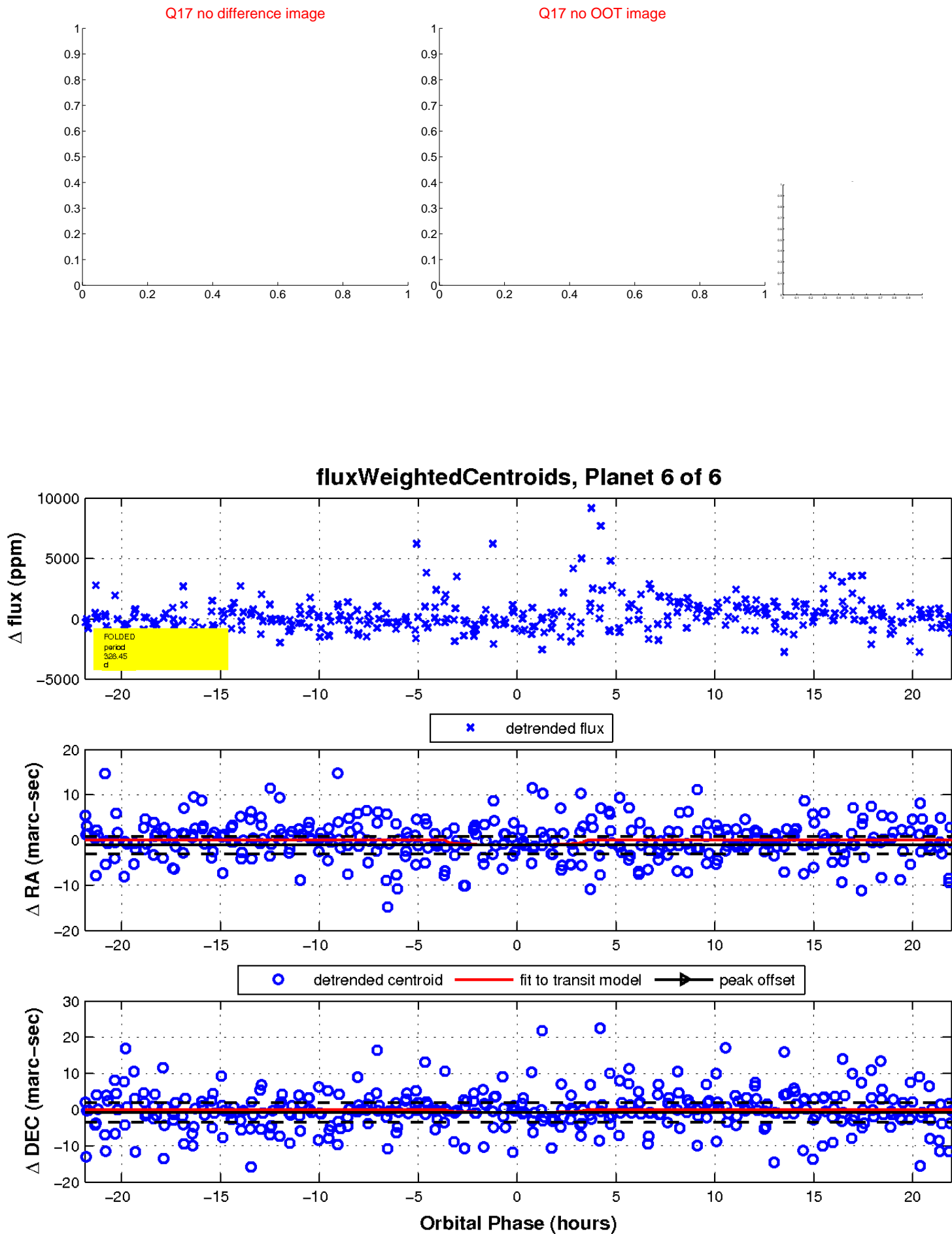
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



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



UKIRT Image

Declination

