

KIC 007456455

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})
007456455-01	OBS	No	0.780080	131.857763	39.4	3.334	8.8	9.8	0.70	4902	0.53	1183.79
007456455-02	OBS	No	213.866106	161.871649	559.7	6.193	15.5	7.3	0.70	4902	1.83	0.67
007456455-03	OBS	No	311.182685	329.648414	394.2	12.500	9.5	-1.0	0.70	4902	1.34	0.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007456455-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
007456455-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007456455-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST

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

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

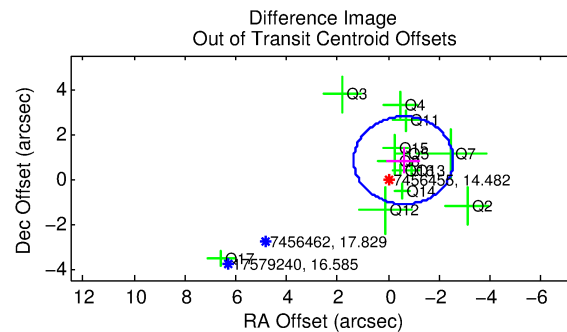
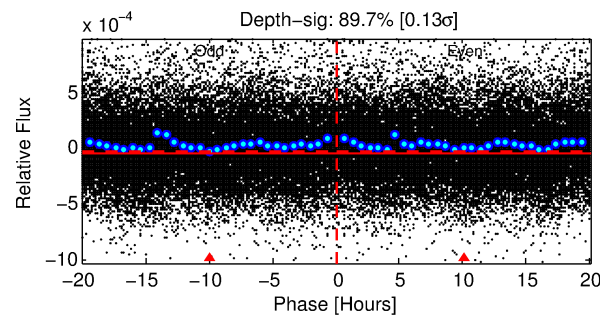
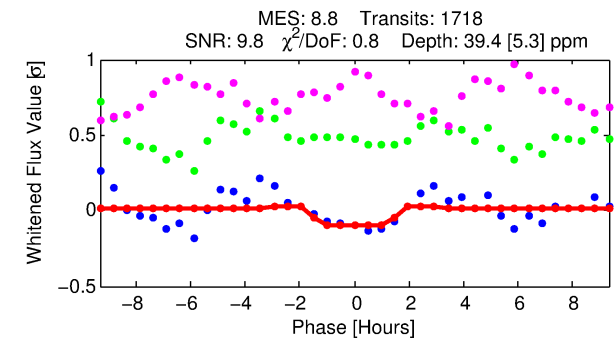
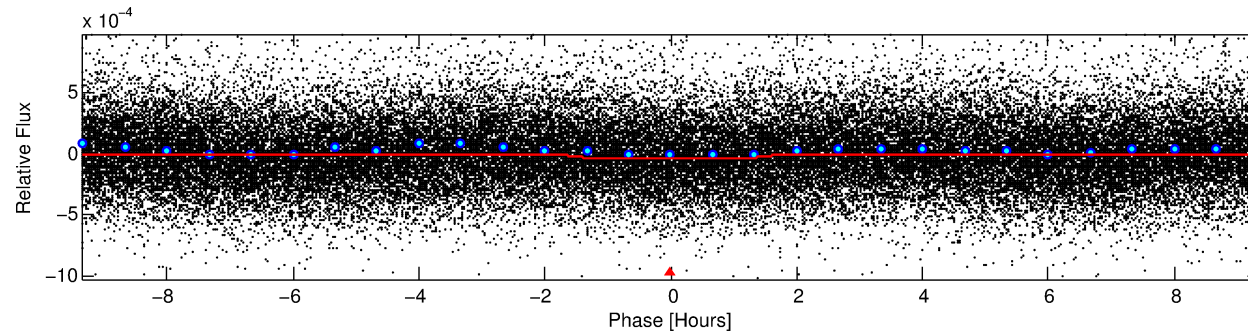
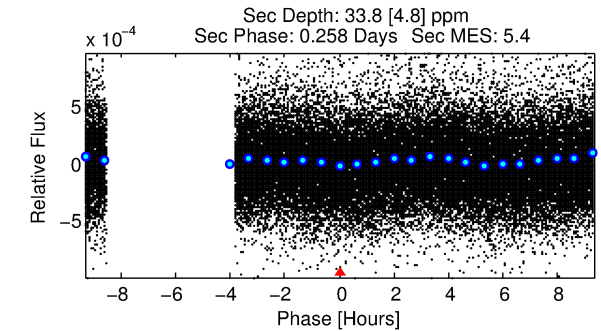
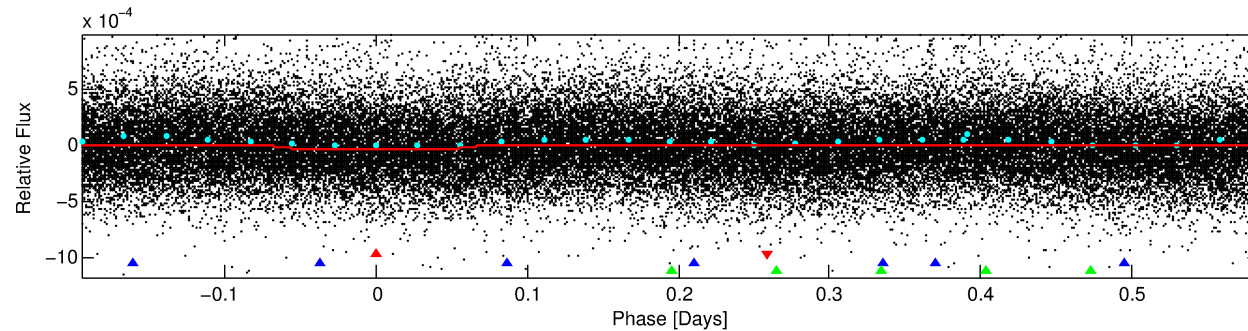
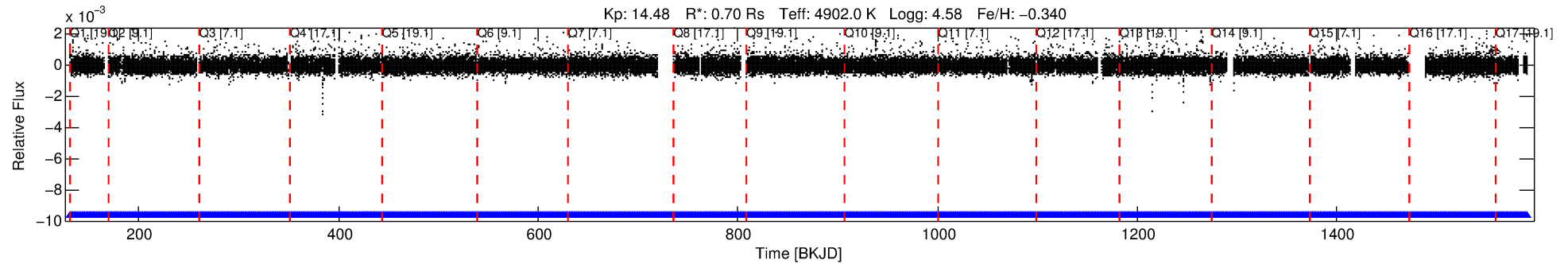
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007456455-01

No Significant Match Found

DV One-Page Summary

KIC: 7456455 Candidate: 1 of 3 Period: 0.780 d



DV Fit Results:

Period = 0.78008 [0.00001] d
Epoch = 131.8578 [0.0032] BKJD
Rp/R* = 0.0070 [0.0037]
a/R* = 1.24 [0.92]
b = 0.90 [0.47]
Seff = 1183.79 [199.47]
Teq = 1496 [63] K
Rp = 0.53 [0.28] Re
a = 0.0145 [0.0012] AU
Ag = 13.91 [14.83] [0.87σ]
Teffp = 4466 [1191] K [2.49σ]

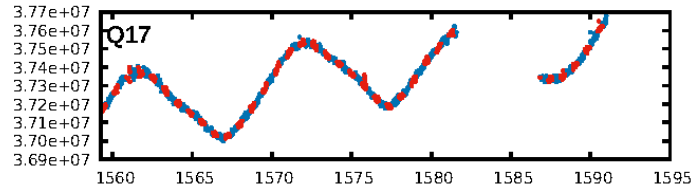
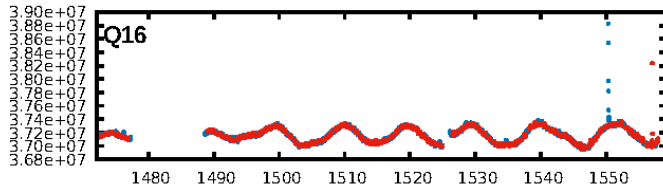
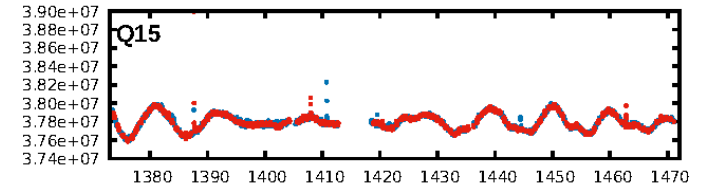
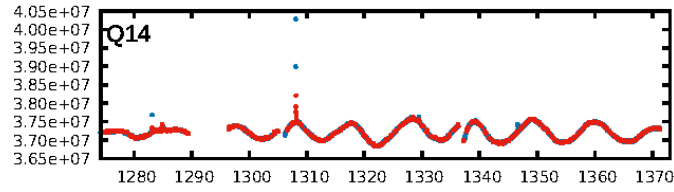
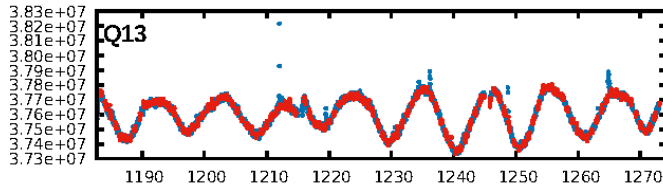
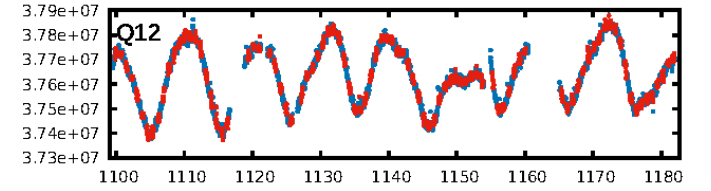
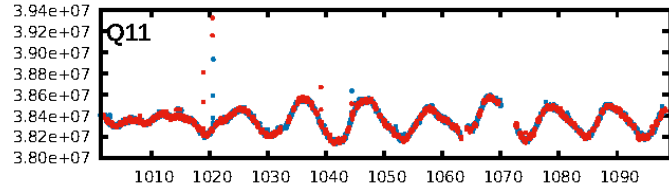
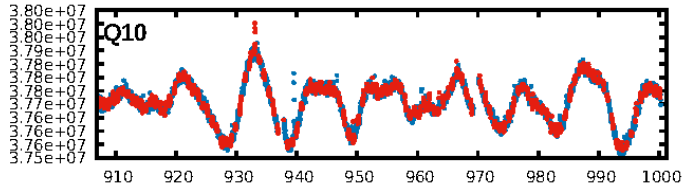
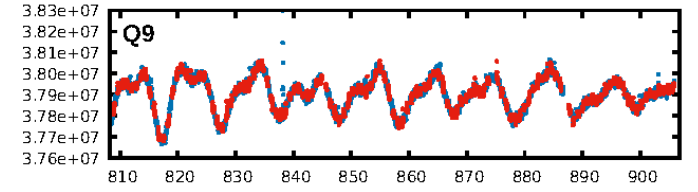
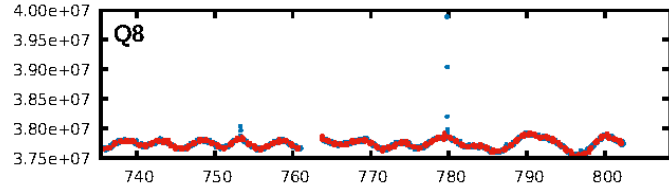
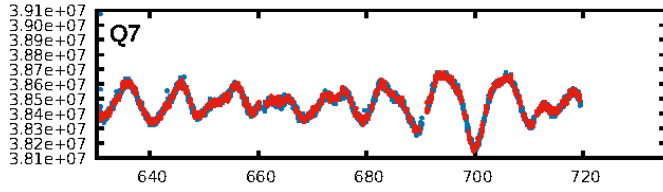
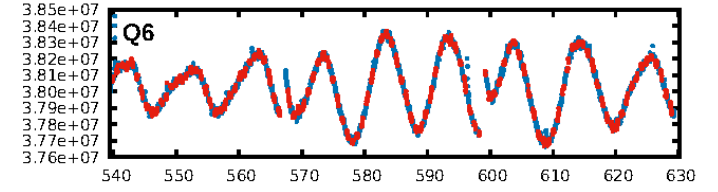
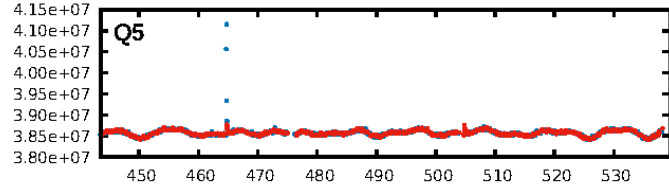
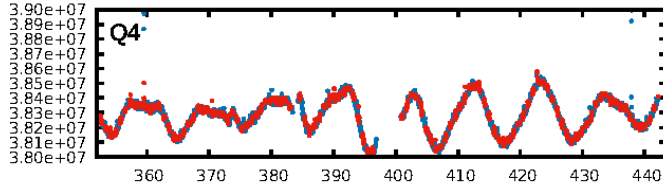
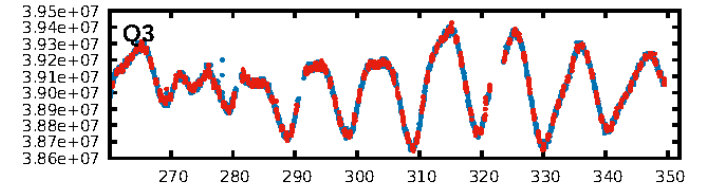
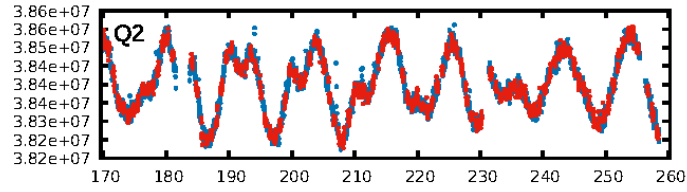
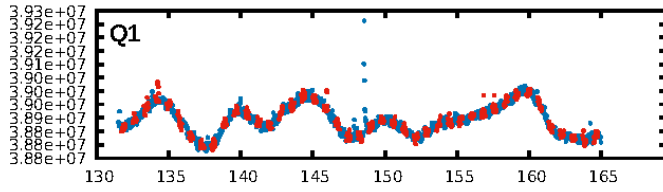
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [727.15σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.23e-16
RollingBand-fgt: 1.00 [1641/1641]
GhostDiagnostic-chr: 1.242
Centroid-sig: 64.4%
Centroid-so: 0.320 arcsec [0.34σ]
OotOffset-rm: 1.020 arcsec [1.57σ]
KicOffset-rm: 1.045 arcsec [1.75σ]
OotOffset-st: 2/4/4/3 [13]
KicOffset-st: 2/4/4/3 [13]
DiffImageQuality-fgm: 0.69 [9/13]
DiffImageOverlap-fno: 1.00 [17/17]

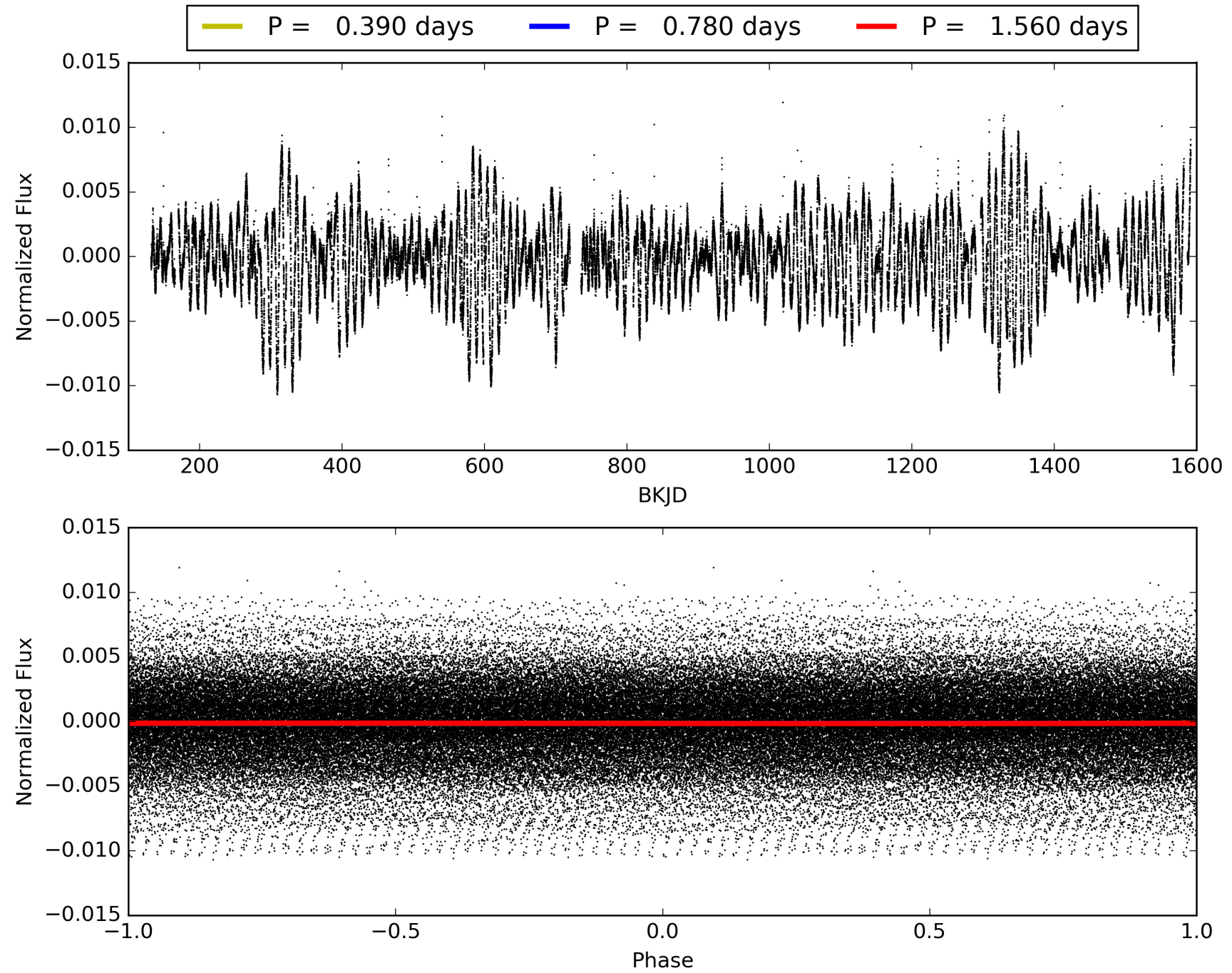
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:14:25 Z

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

TCE 007456455-01, PDC Light Curves

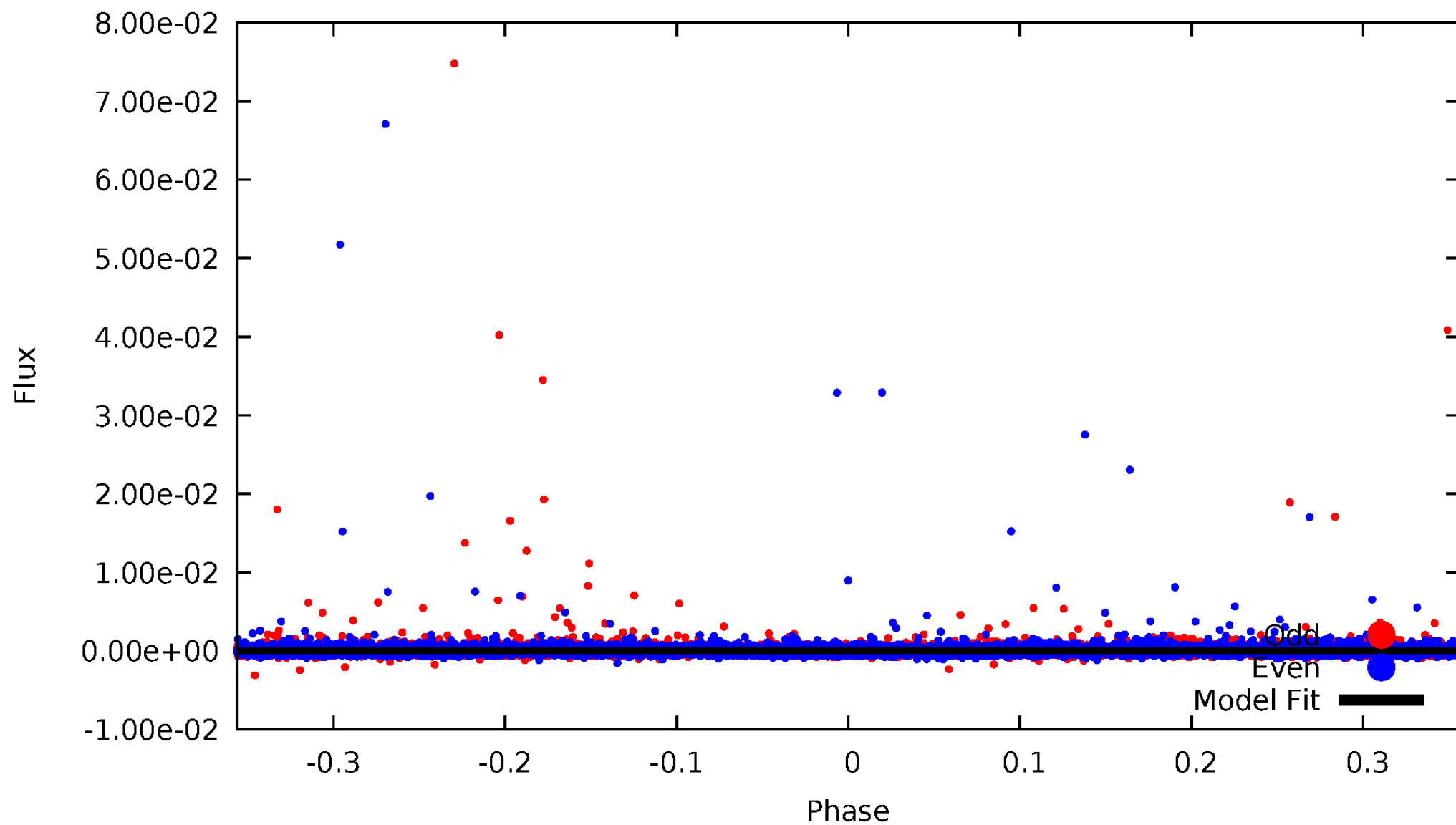


TCE 007456455-01



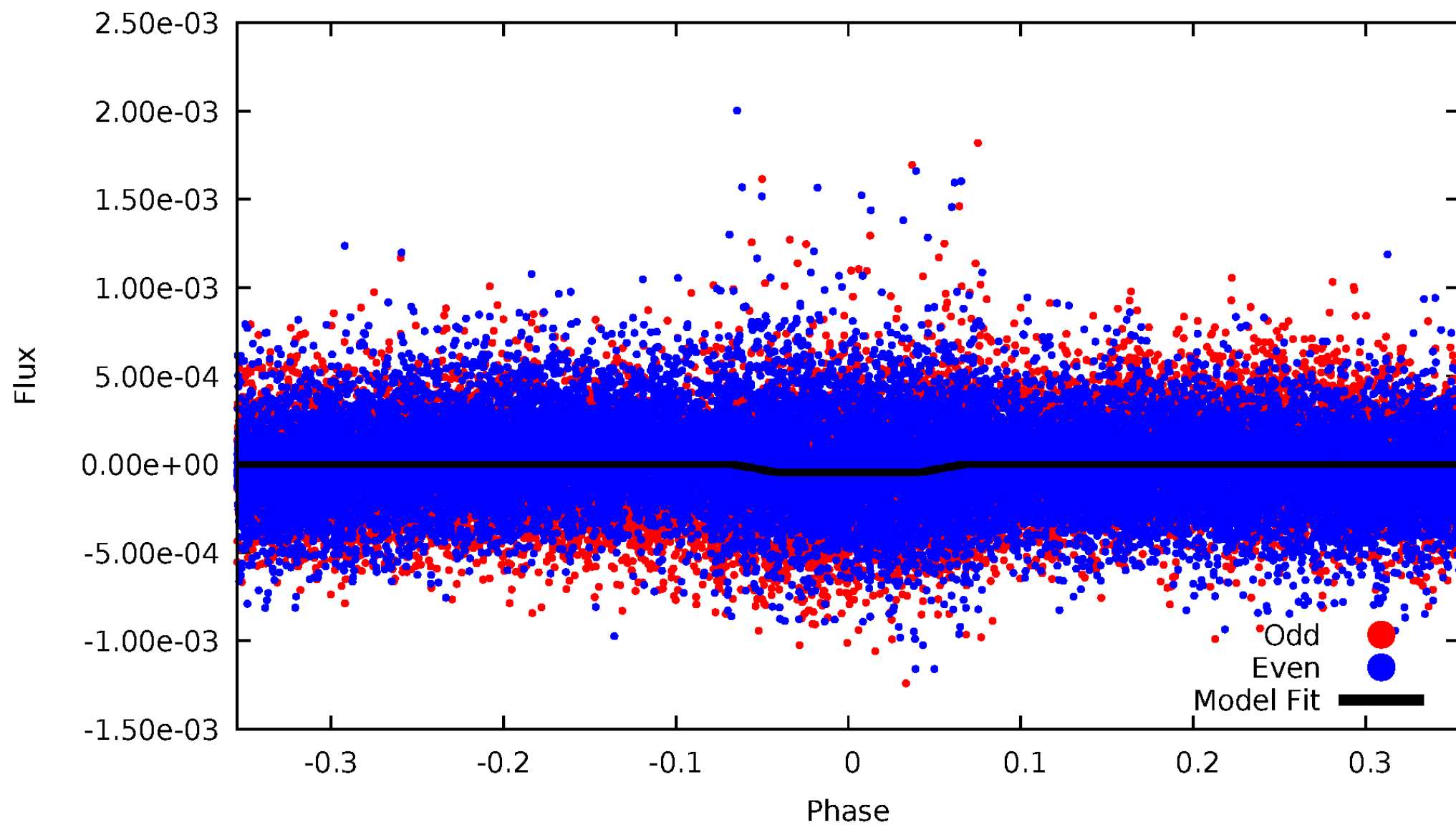
DV Odd/Even

TCE 007456455-01



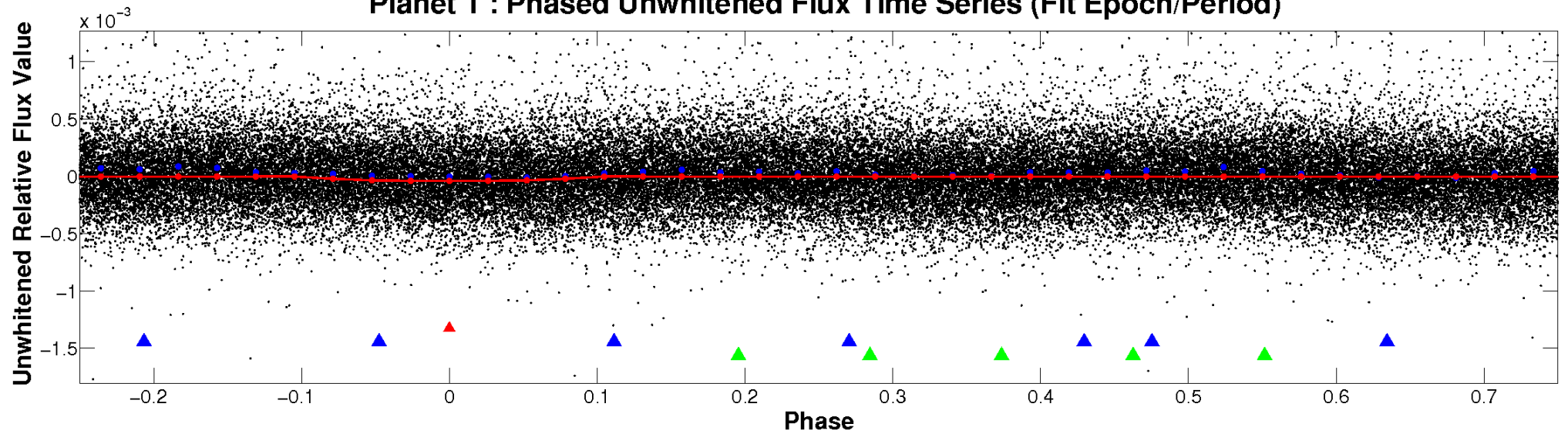
ALT Odd/Even

TCE 007456455-01

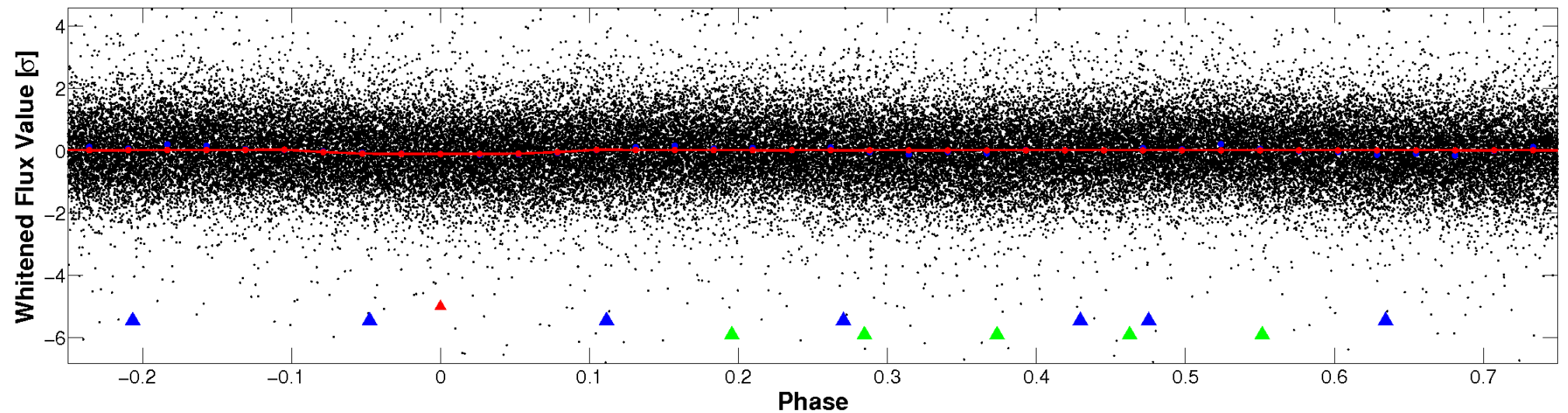


Non-Whitened Vs. Whitened Light Curve

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

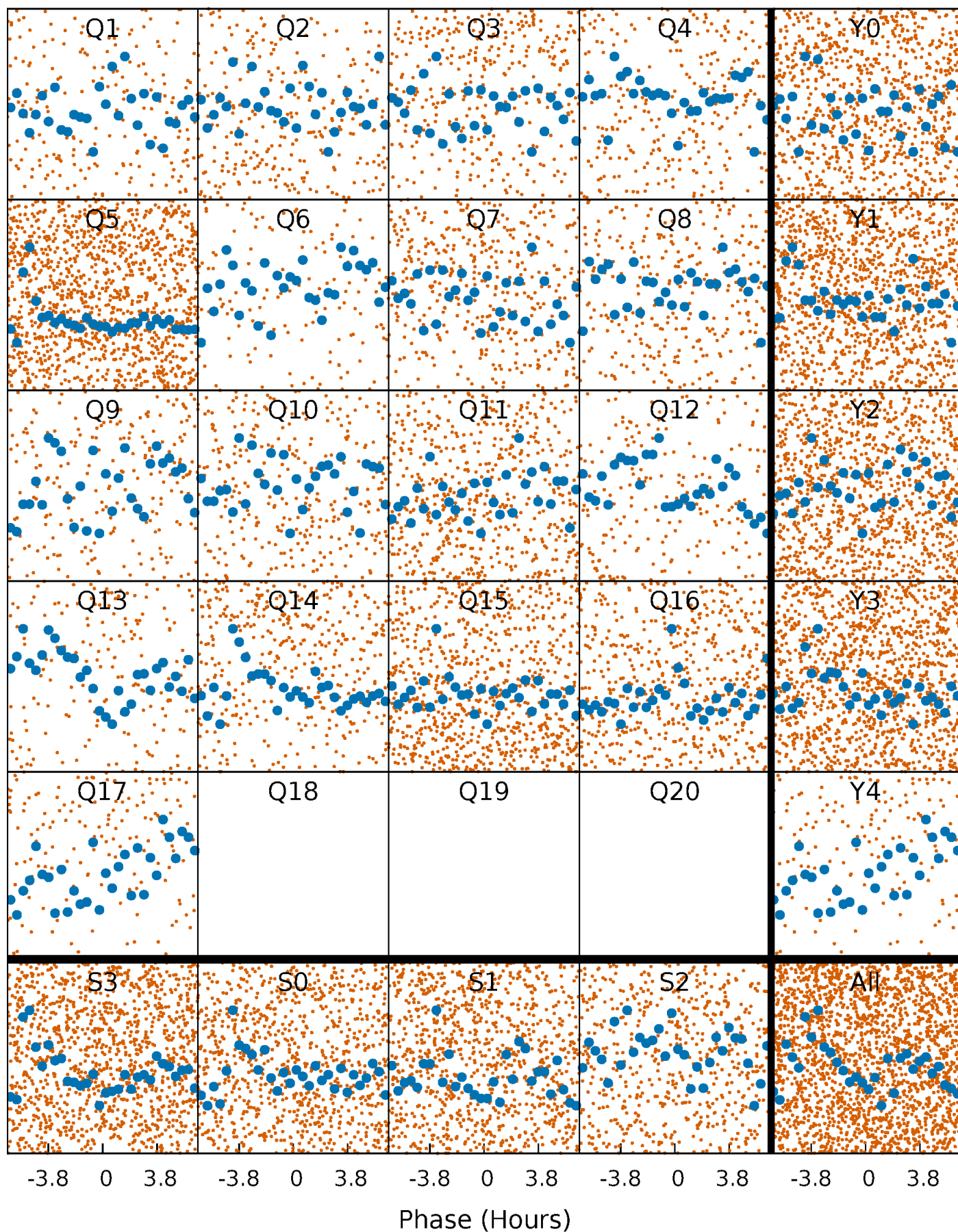


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



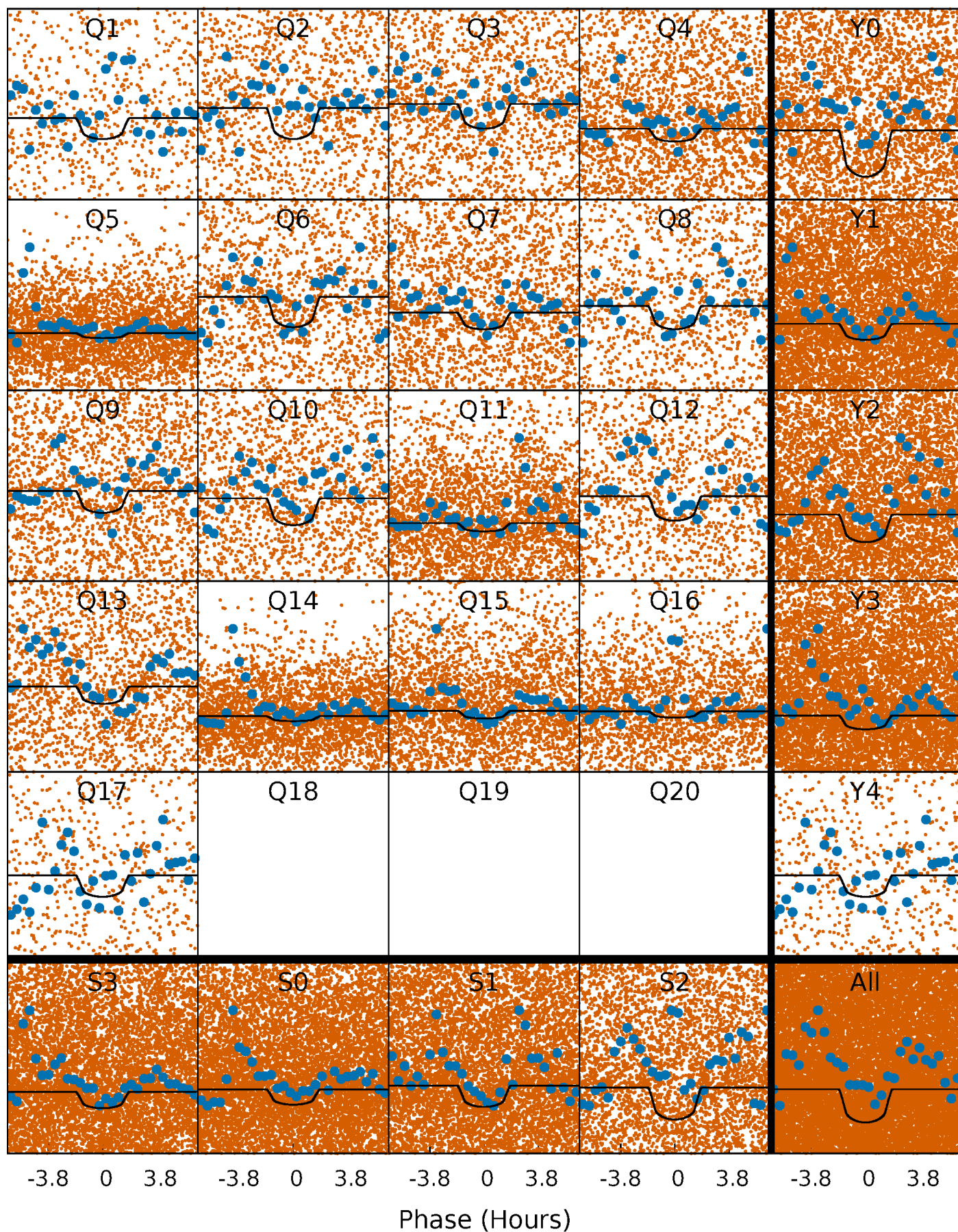
PDC Quarter-Phased Transit Curves

TCE 007456455-01 P= 0.780080 Days $T_0=131.857763$ (BKJD)



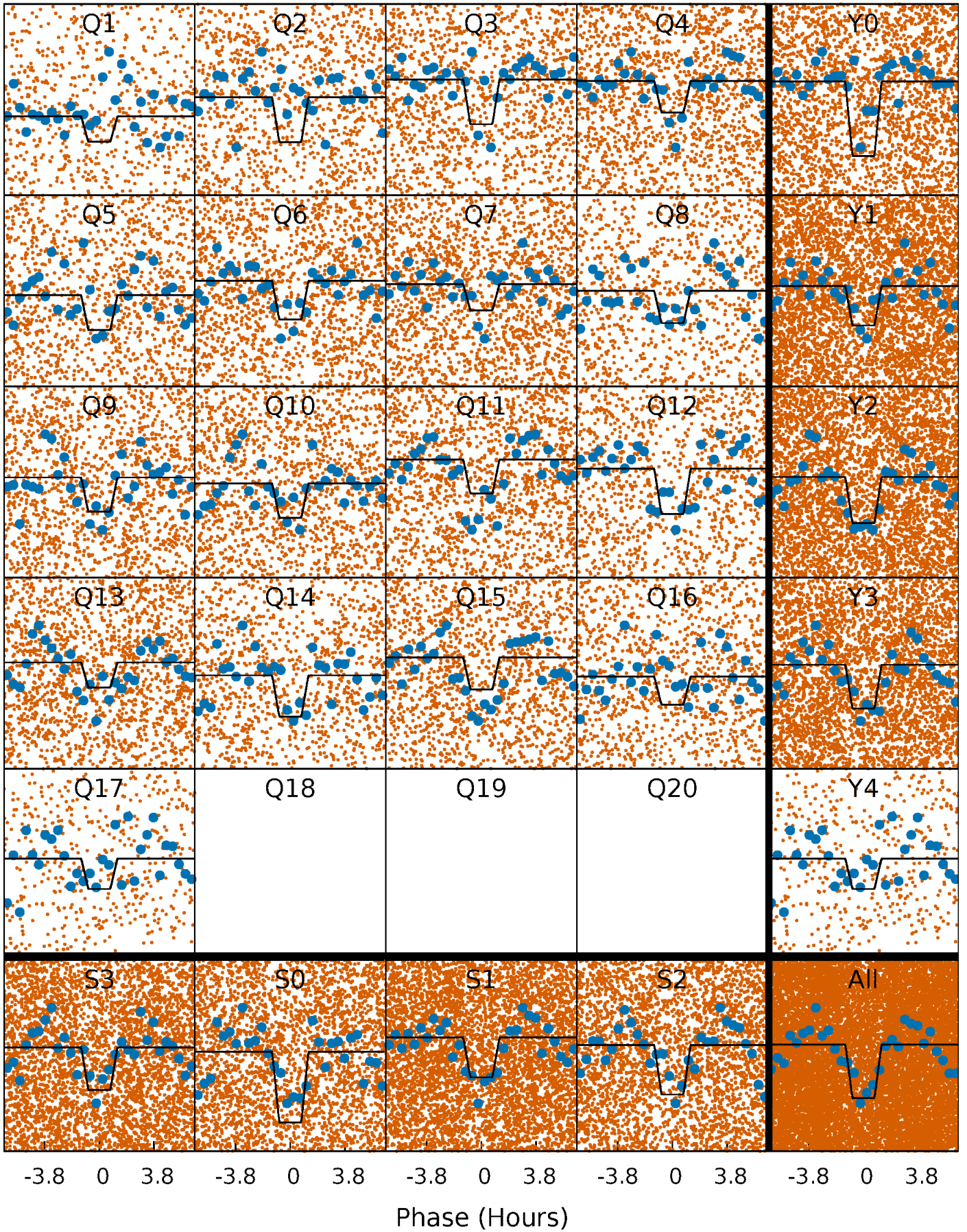
DV Quarter-Phased Transit Curves

TCE 007456455-01 P= 0.780080 Days $T_0=131.857763$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

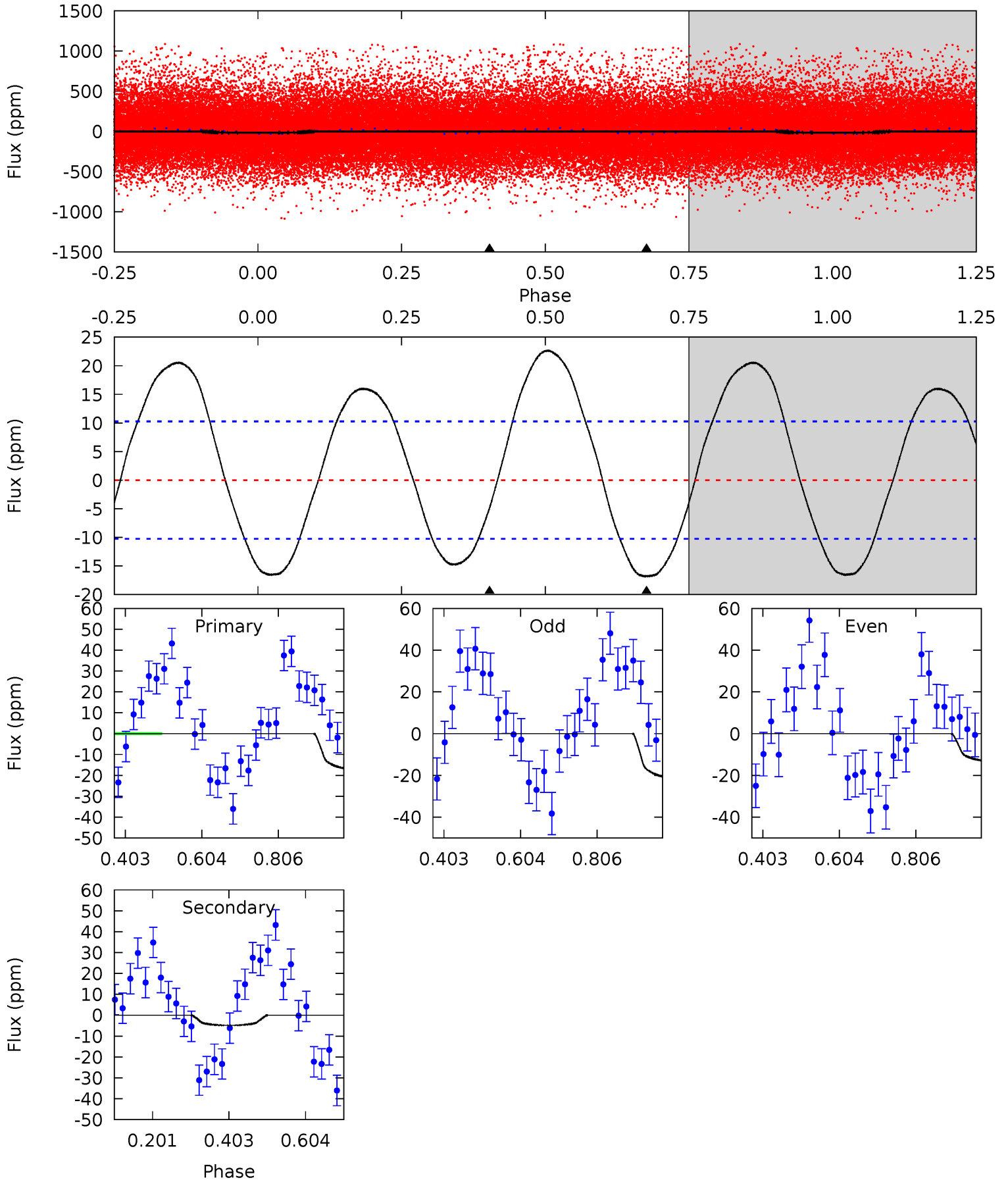
TCE 007456455-01 P= 0.780093 Days $T_0=131.859007$ (BKJD)



DV Model-Shift Uniqueness Test

007456455-01, P = 0.780080 Days, E = 131.077683 Days

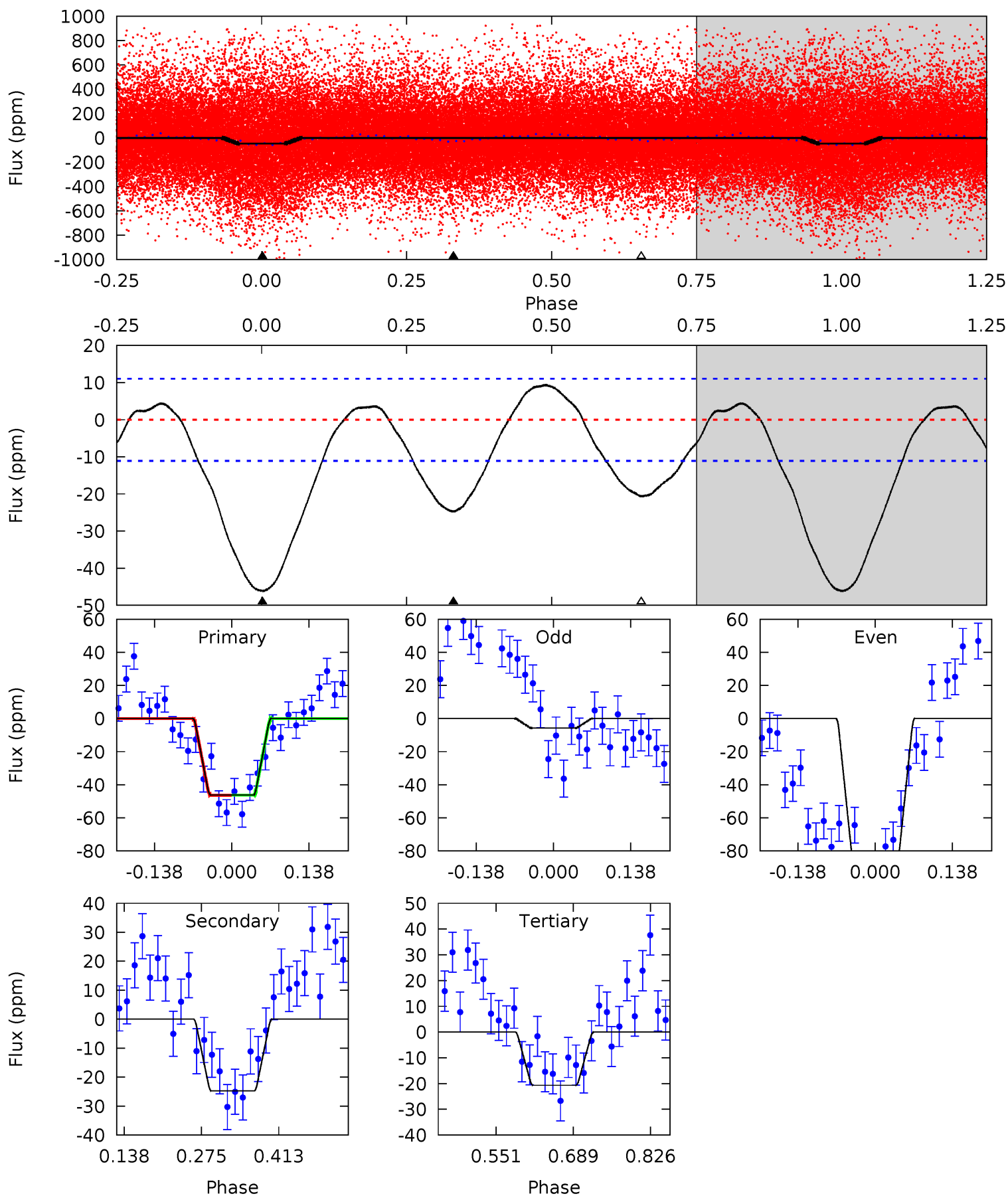
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.24	2.10	0	0	4.42	1.28	5.32	7.24	7.24	2.10	2.10	1.70	0.07	0.57	4.14



Alt Model-Shift Uniqueness Test

007456455-01, P = 0.780093 Days, E = 131.078914 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.8	10.1	8.40	0	4.50	1.48	3.92	10.4	18.8	1.67	10.1	15.8	0.91	0.17	0.01



Stellar Parameters For KIC 007456455

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4902^{+146}_{-146}	$4.582^{+0.065}_{-0.035}$	$-0.340^{+0.300}_{-0.300}$	$0.696^{+0.062}_{-0.068}$	$0.674^{+0.088}_{-0.047}$	$2.822^{+0.799}_{-0.432}$
	+3%/-3%	+1%/-1%	+88%/-88%	+9%/-10%	+13%/-7%	+28%/-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 007456455-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-5 ± 2	$0.53^{+0.28}_{-0.26}$	2075^{+79}_{-72}	3169^{+867}_{-596}	$1.923^{+6.001}_{-1.232}$
Alt.	-25 ± 2	$0.52^{+0.27}_{-0.25}$	2076^{+70}_{-74}	4301^{+1382}_{-614}	11^{+31}_{-6}

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

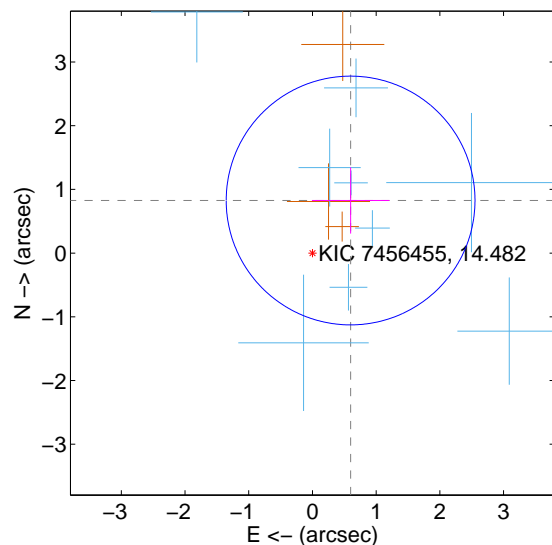
Supplemental centroid analysis for 007456455-01. Kepler magnitude: 14.48. Transit SNR 9.79

There are 9 quarters with good PRF difference image offsets

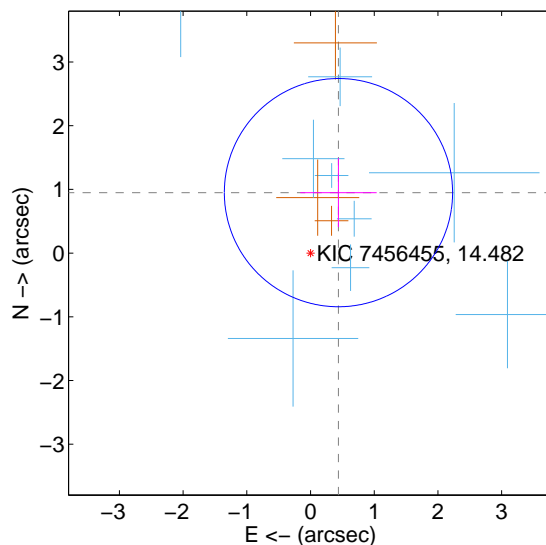
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.020 ± 0.651	1.57	-0.599 ± 0.608	0.825 ± 0.519
PRF-fit source offset from KIC position	1.045 ± 0.597	1.75	-0.438 ± 0.599	0.949 ± 0.541
photometric centroid source offset	0.32 ± 0.95	0.34	-0.05 ± 0.88	-0.32 ± 0.95

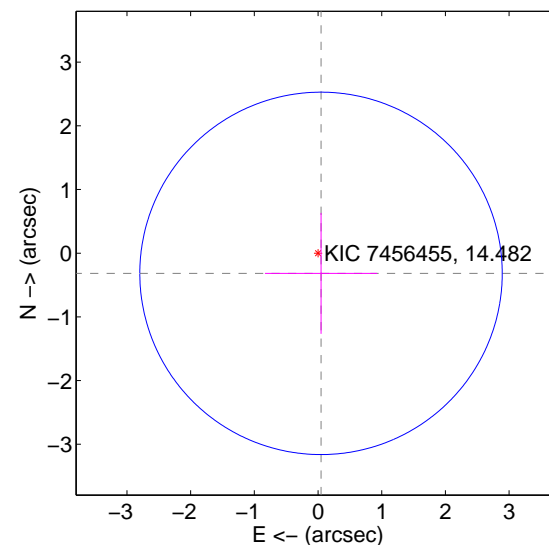
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

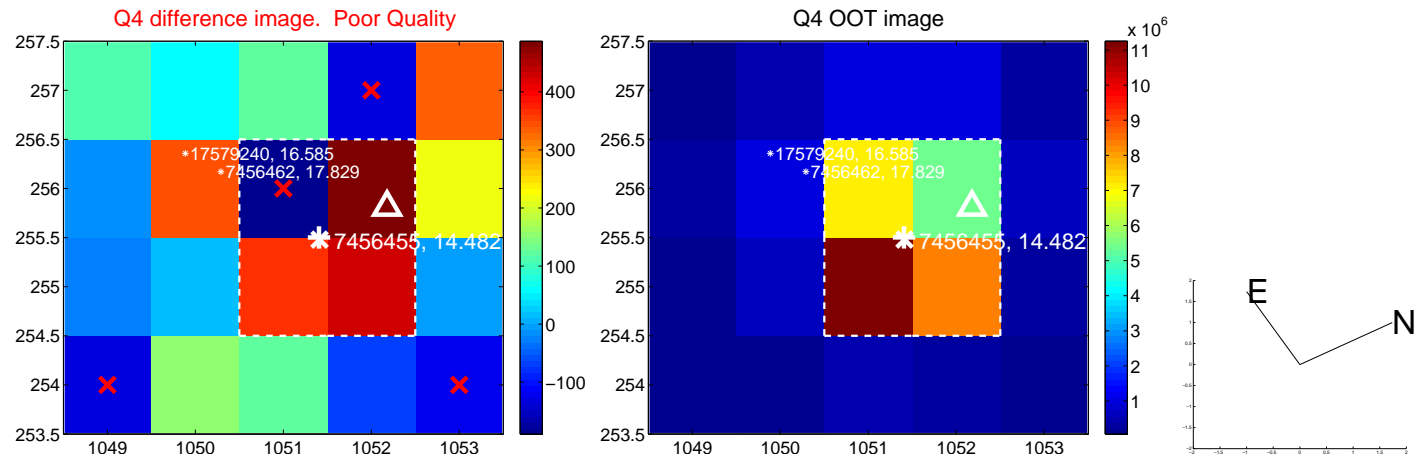
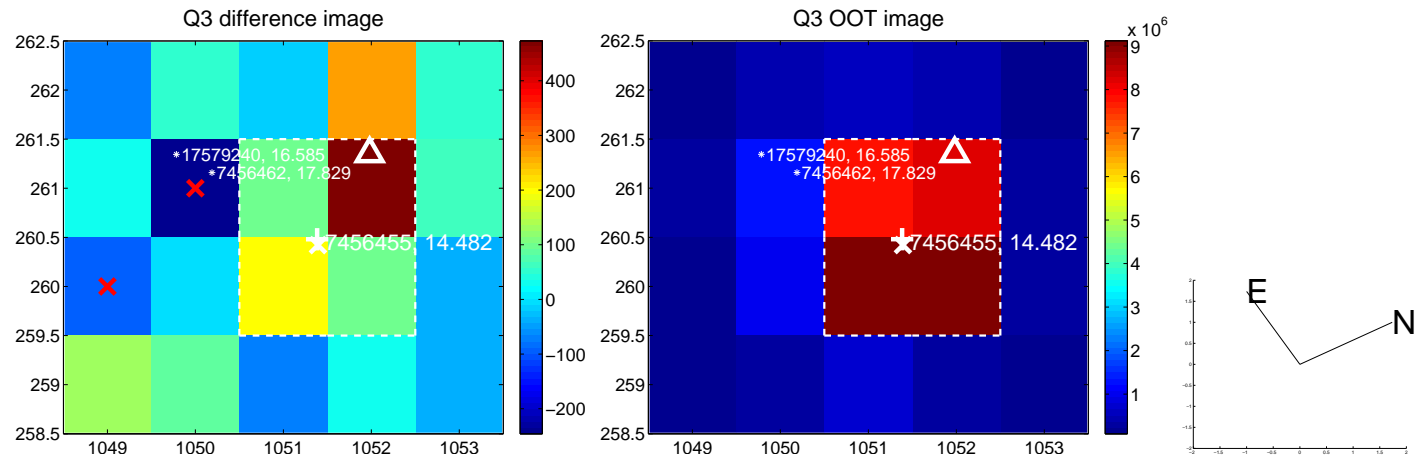
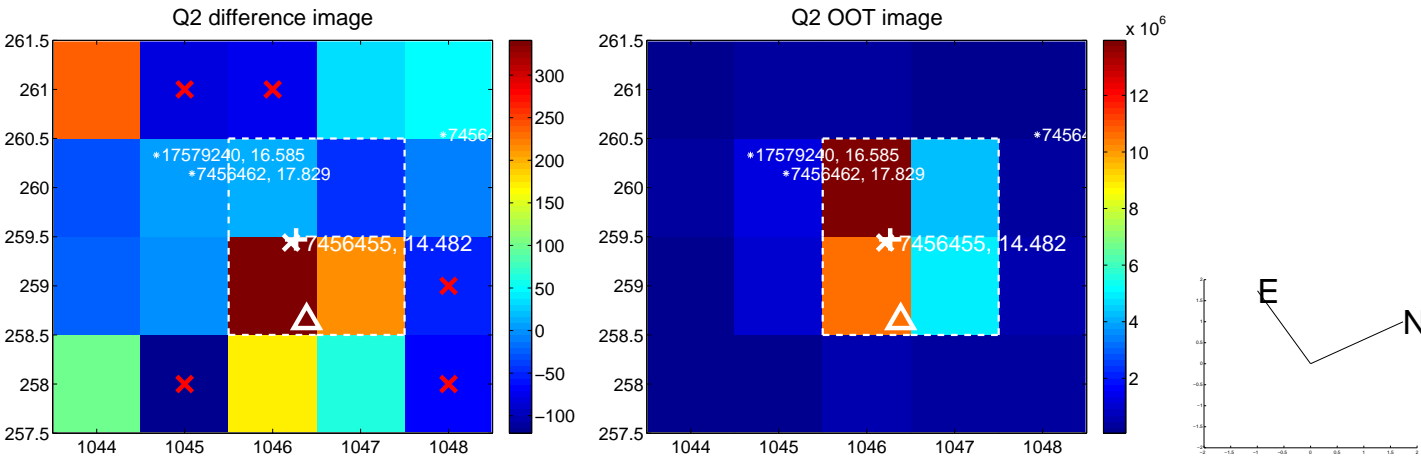
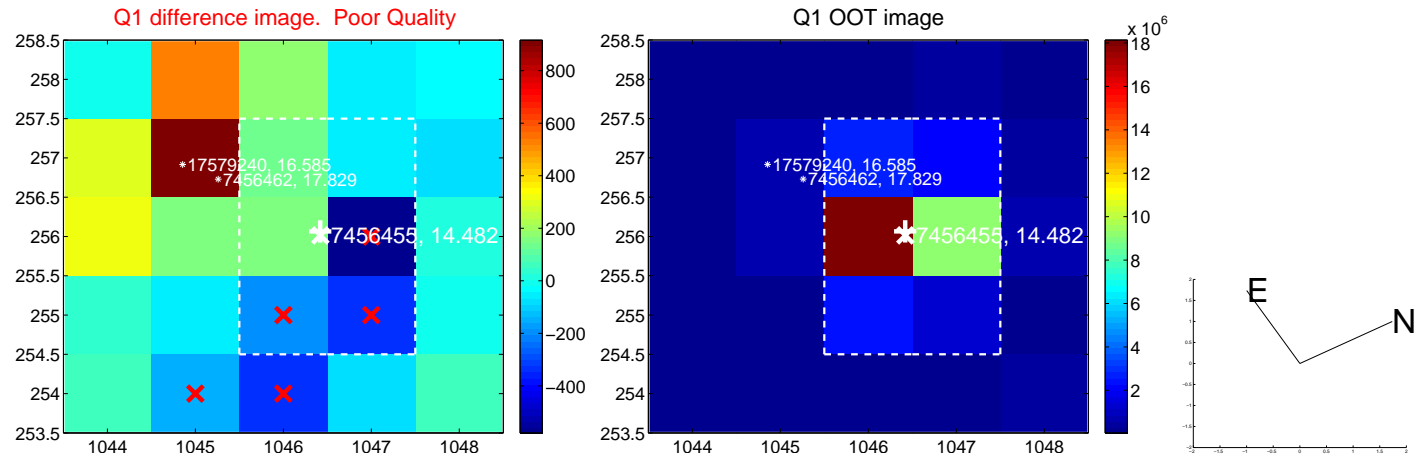


offset from photometric centroids

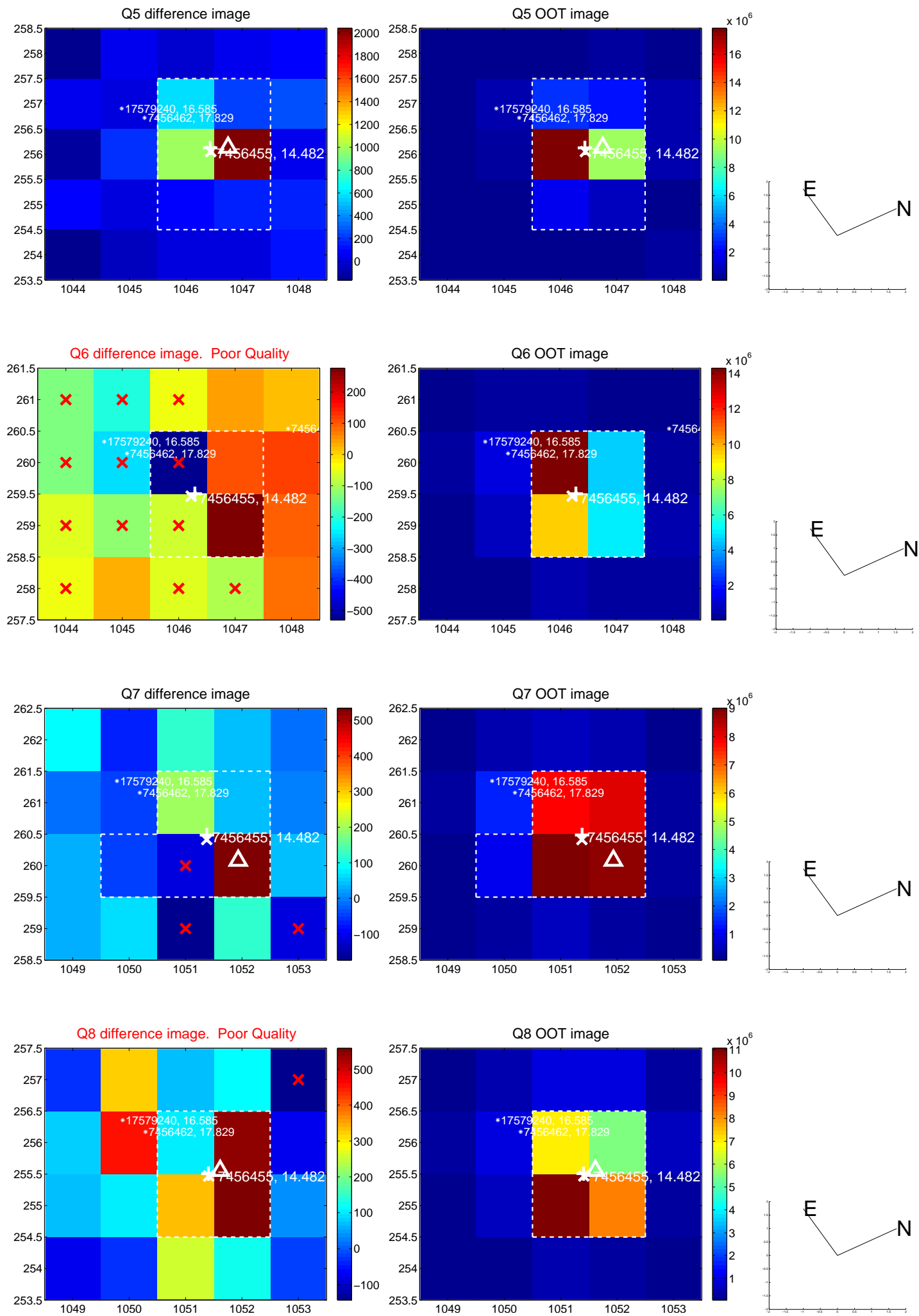


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

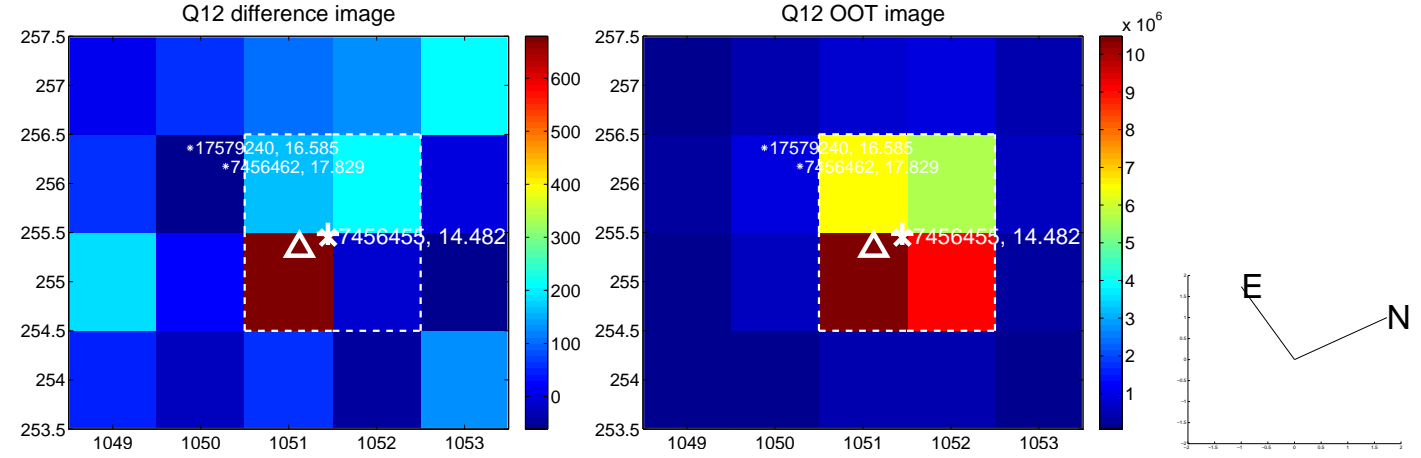
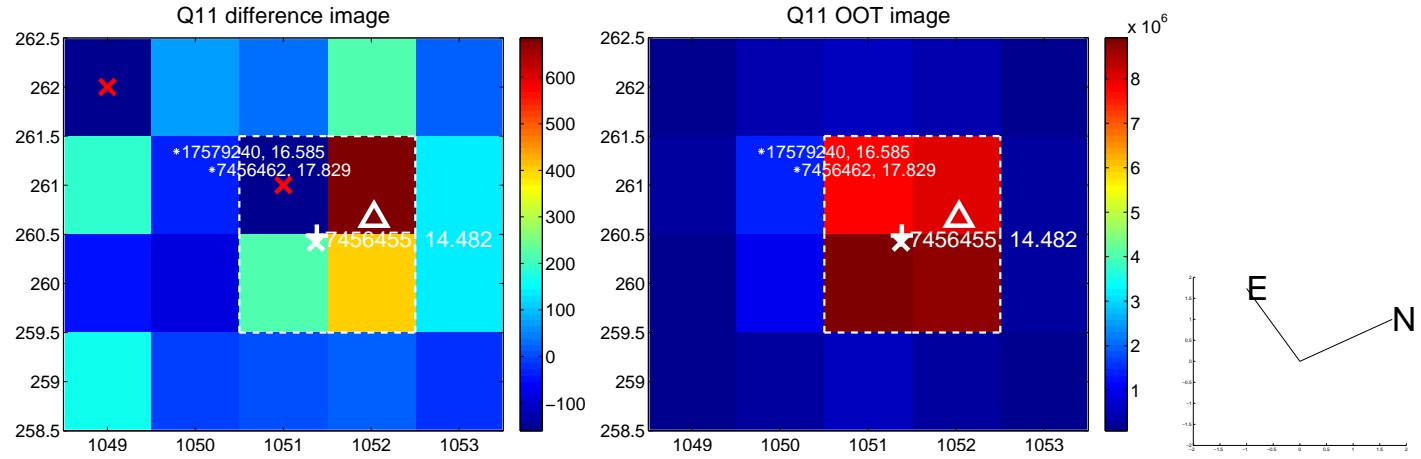
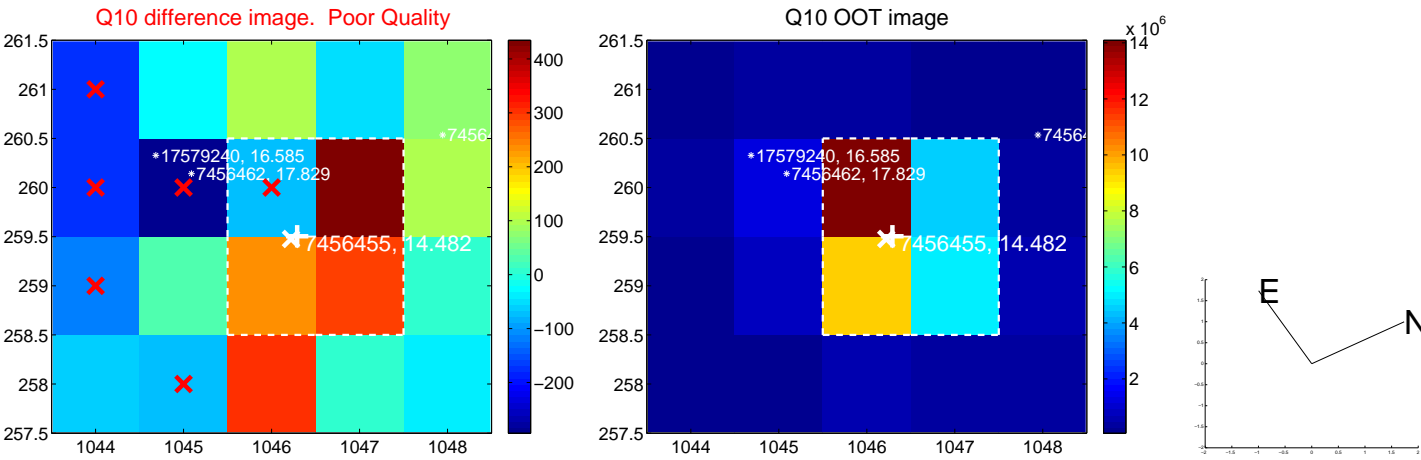
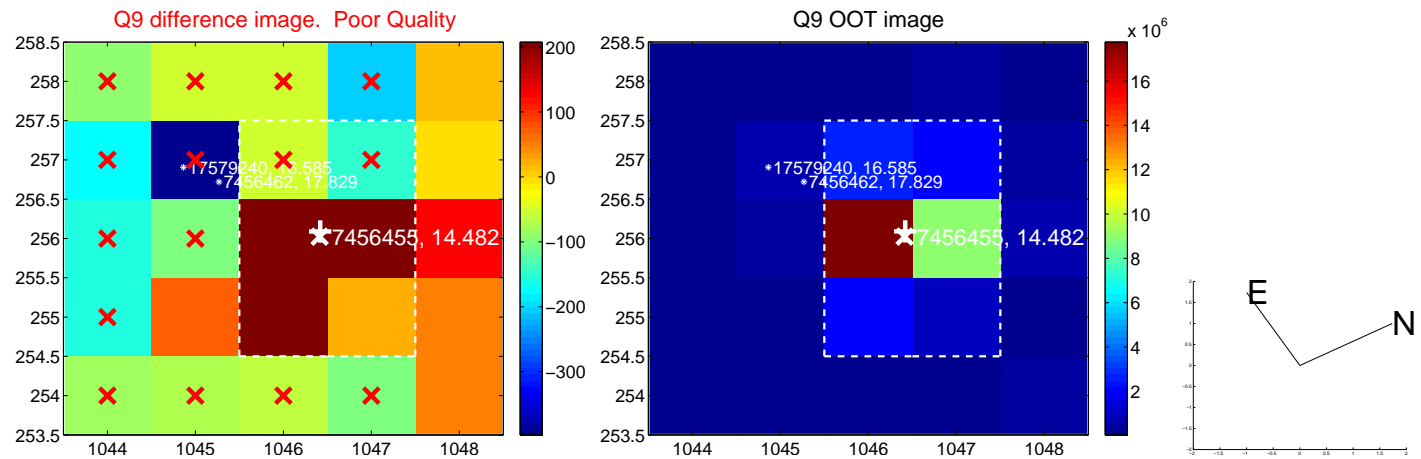
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



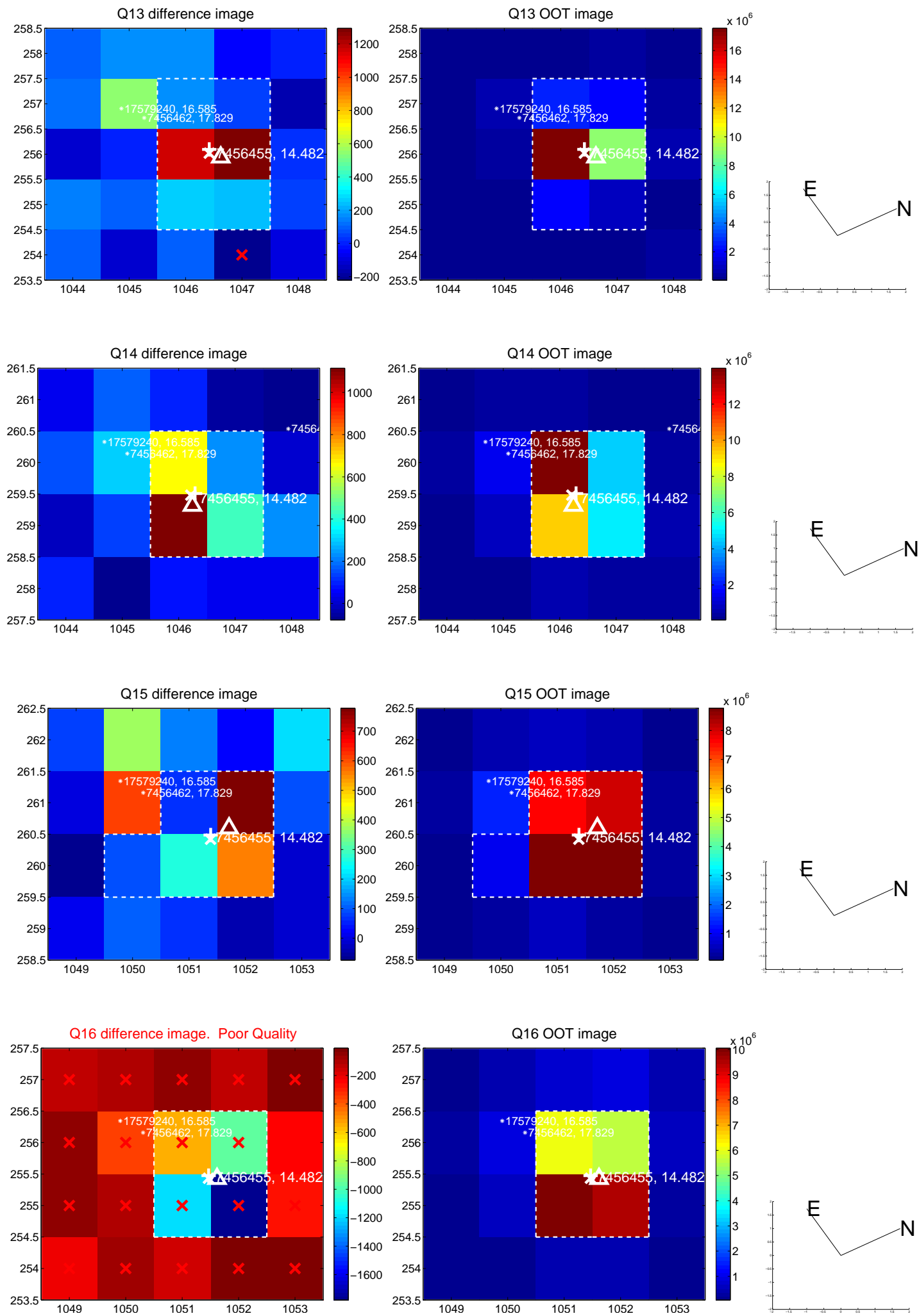
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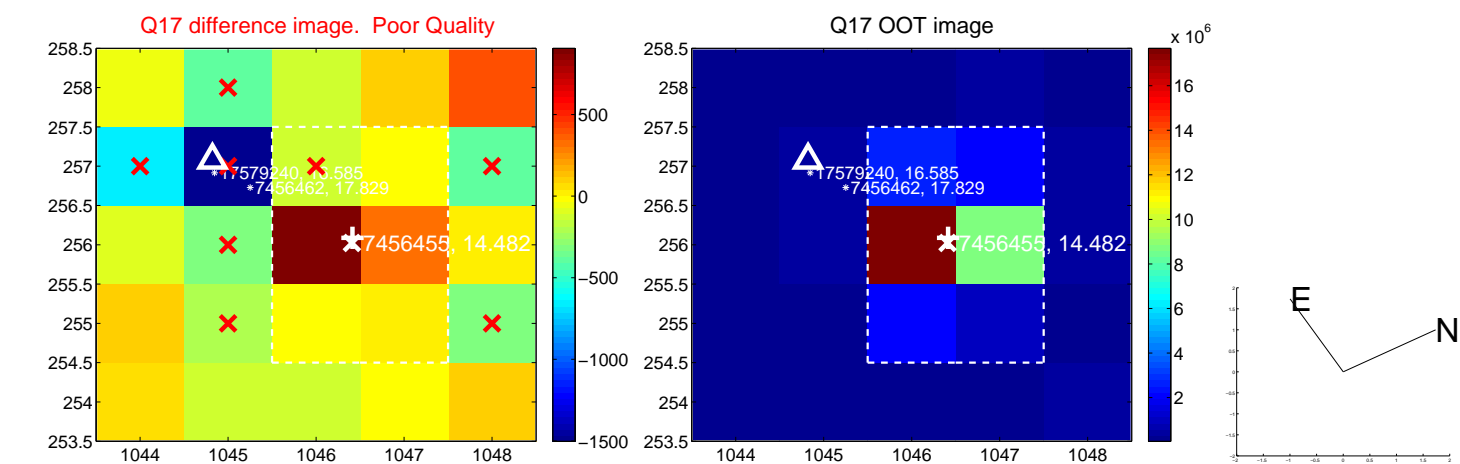
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



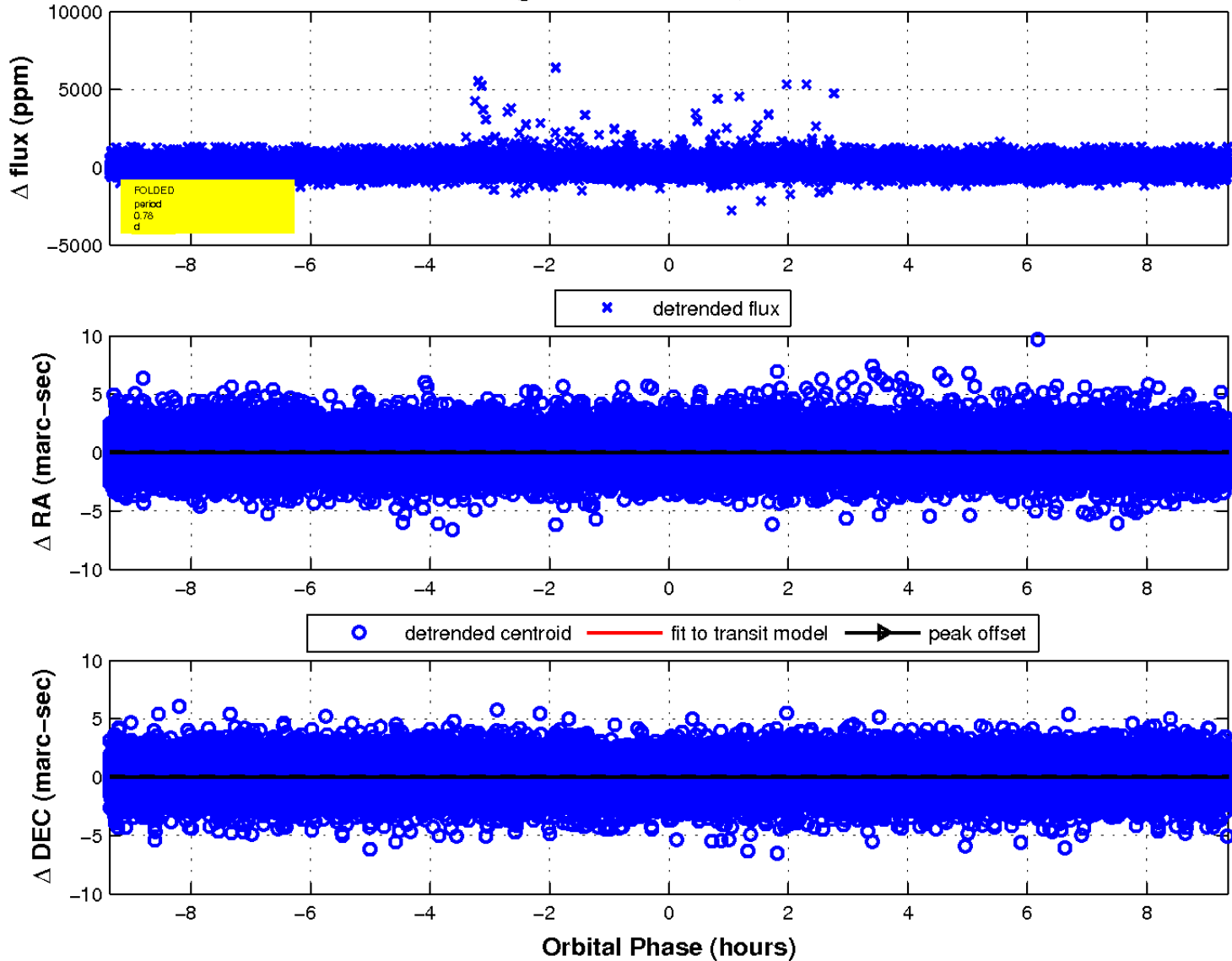
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

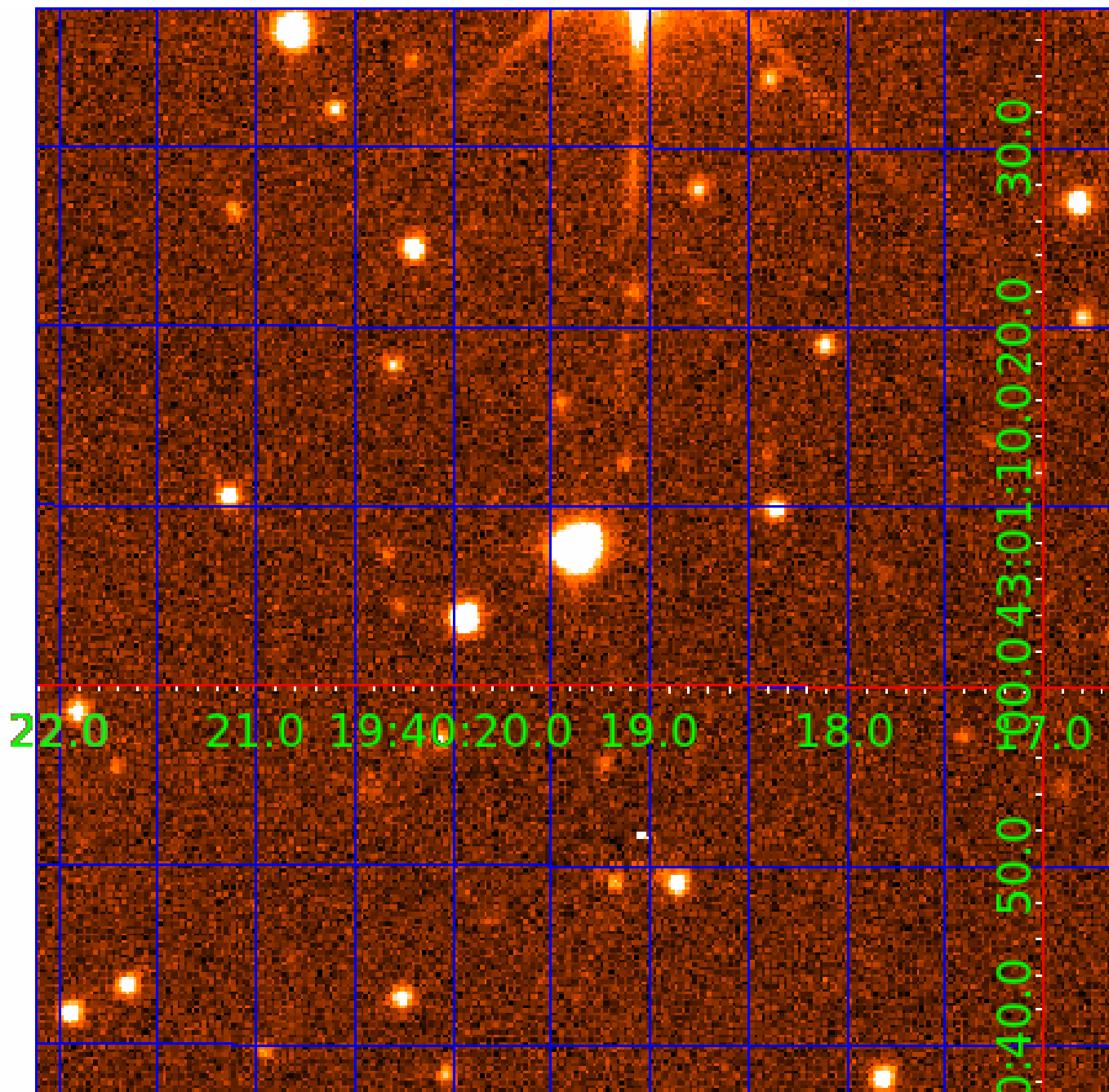


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 007456455

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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Robovetter Results

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007456455-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007456455-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST

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

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

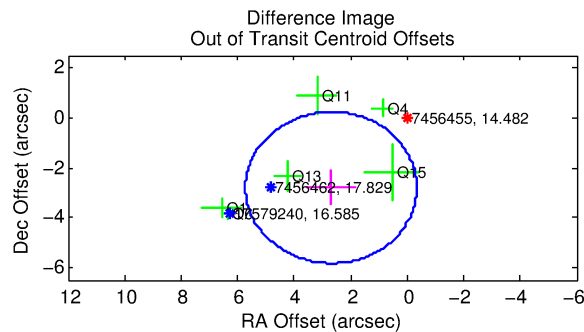
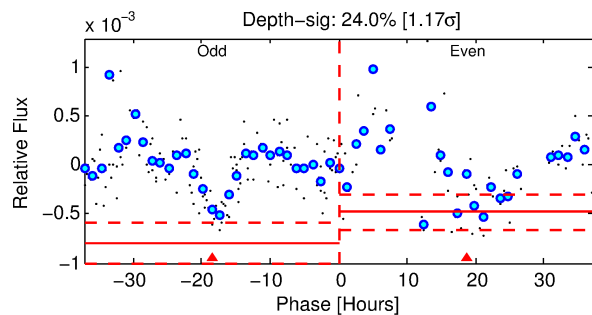
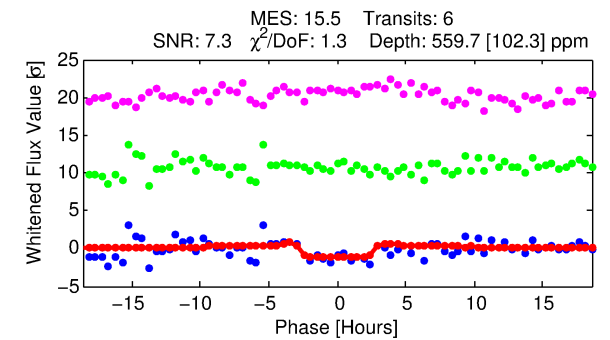
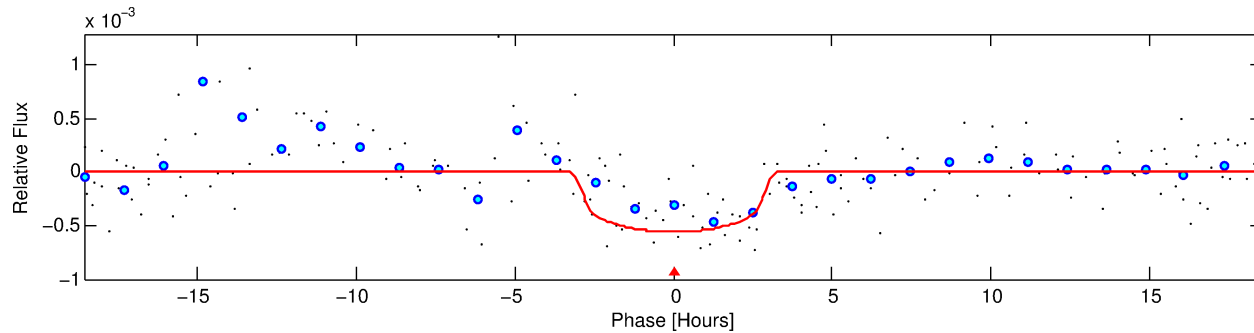
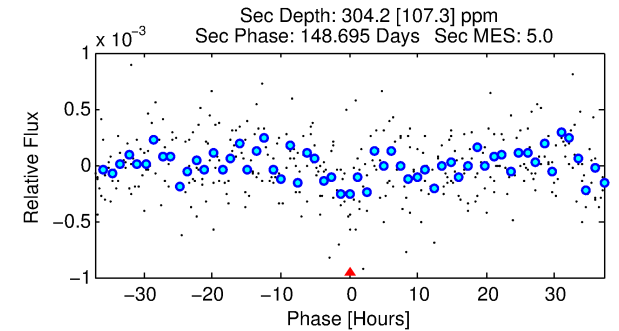
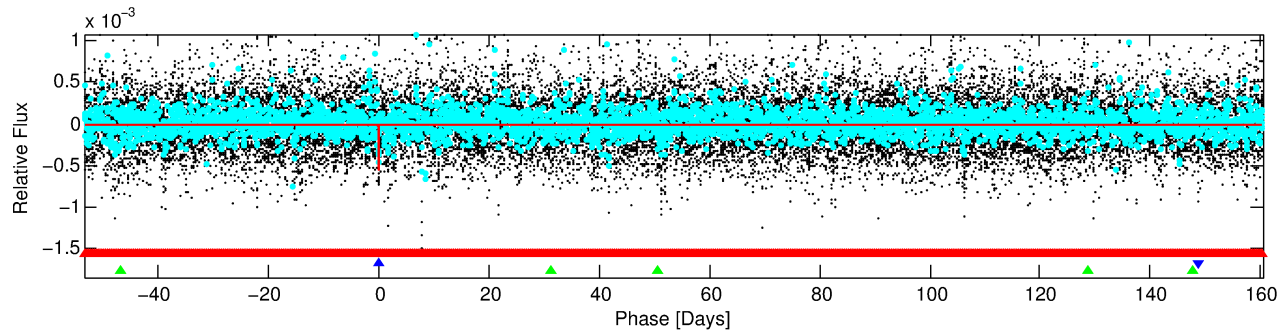
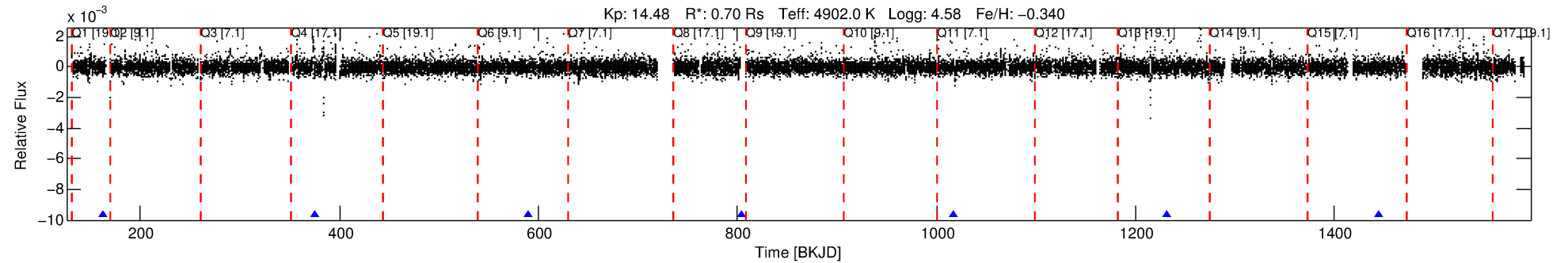
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007456455-02

No Significant Match Found

DV One-Page Summary

KIC: 7456455 Candidate: 2 of 3 Period: 213.866 d



DV Fit Results:

Period = 213.86611 [0.00385] d
Epoch = 161.8716 [0.0124] BKJD
Rp/R* = 0.0241 [0.0164]
a/R* = 173.09 [413.51]
b = 0.79 [1.19]
Seff = 0.66 [0.11]
Teff = 230 [10] K
Rp = 1.83 [1.26] Re
a = 0.6140 [0.0504] AU
Ag = 18878.29 [26657.99] [0.71σ]
Teffp = 4173 [1473] K [2.68σ]

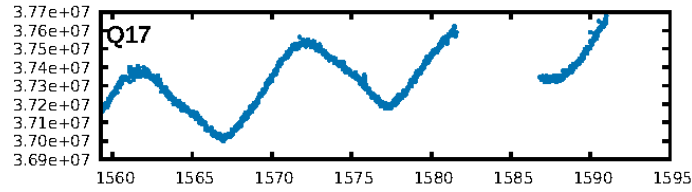
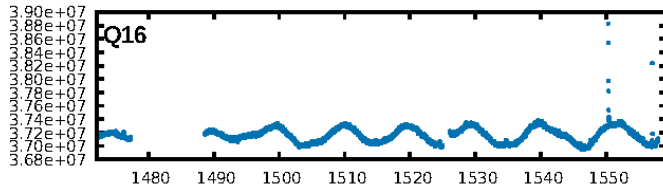
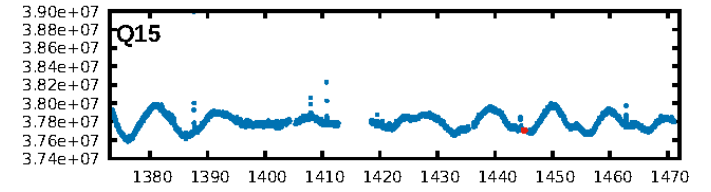
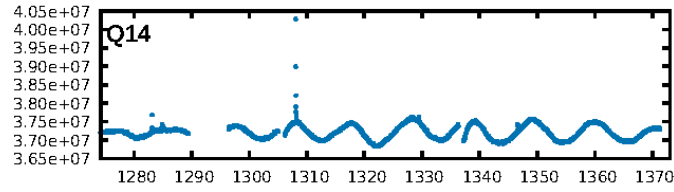
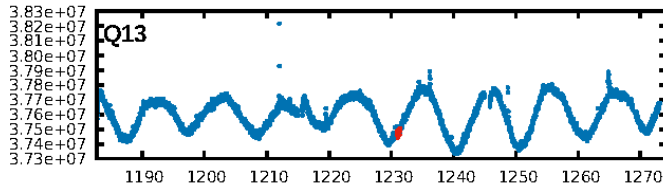
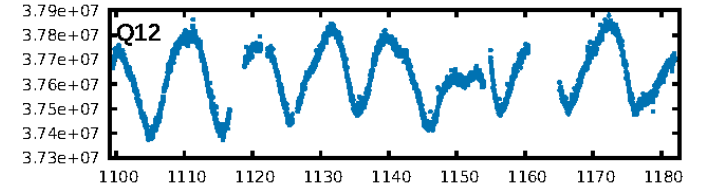
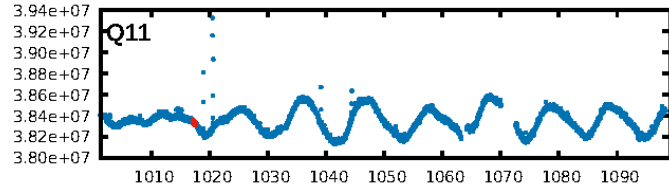
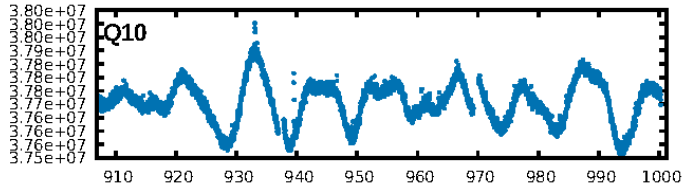
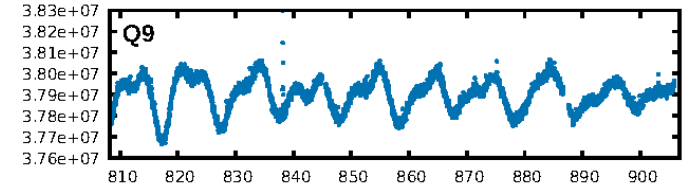
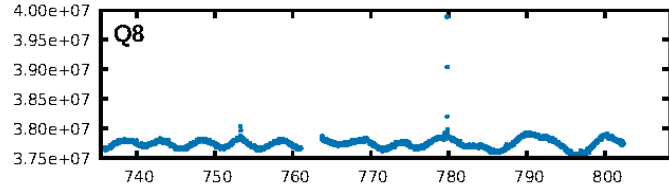
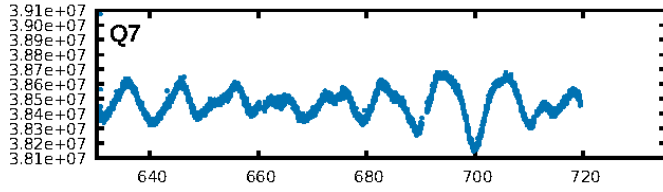
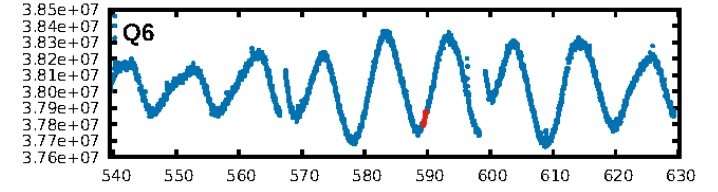
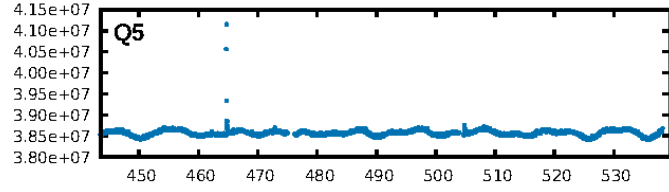
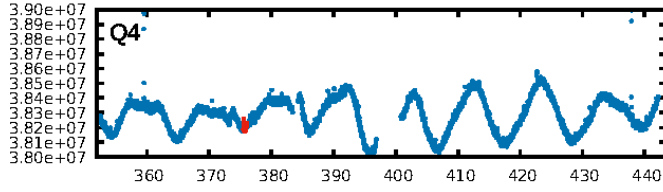
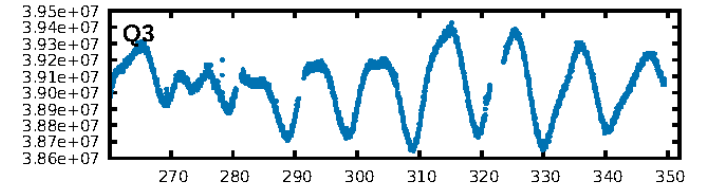
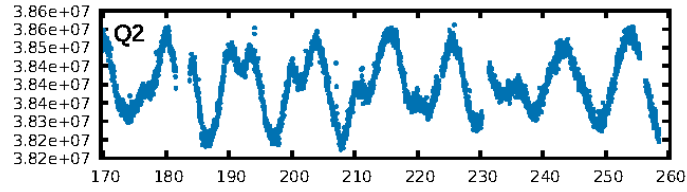
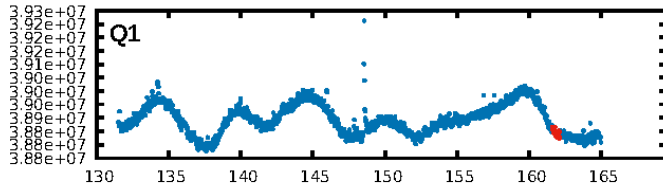
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [727.15σ]
LongPeriod-sig: 100.0% [167.43σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.66e-22
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 1.173
Centroid-sig: 55.5%
Centroid-so: 0.577 arcsec [0.67σ]
OotOffset-rm: 3.885 arcsec [3.85σ]
KicOffset-rm: 3.853 arcsec [3.51σ]
OotOffset-st: 1/2/1/2 [6]
KicOffset-st: 1/2/1/2 [6]
DiffImageQuality-fgm: 0.33 [2/6]
DiffImageOverlap-fno: 0.00 [0/6]

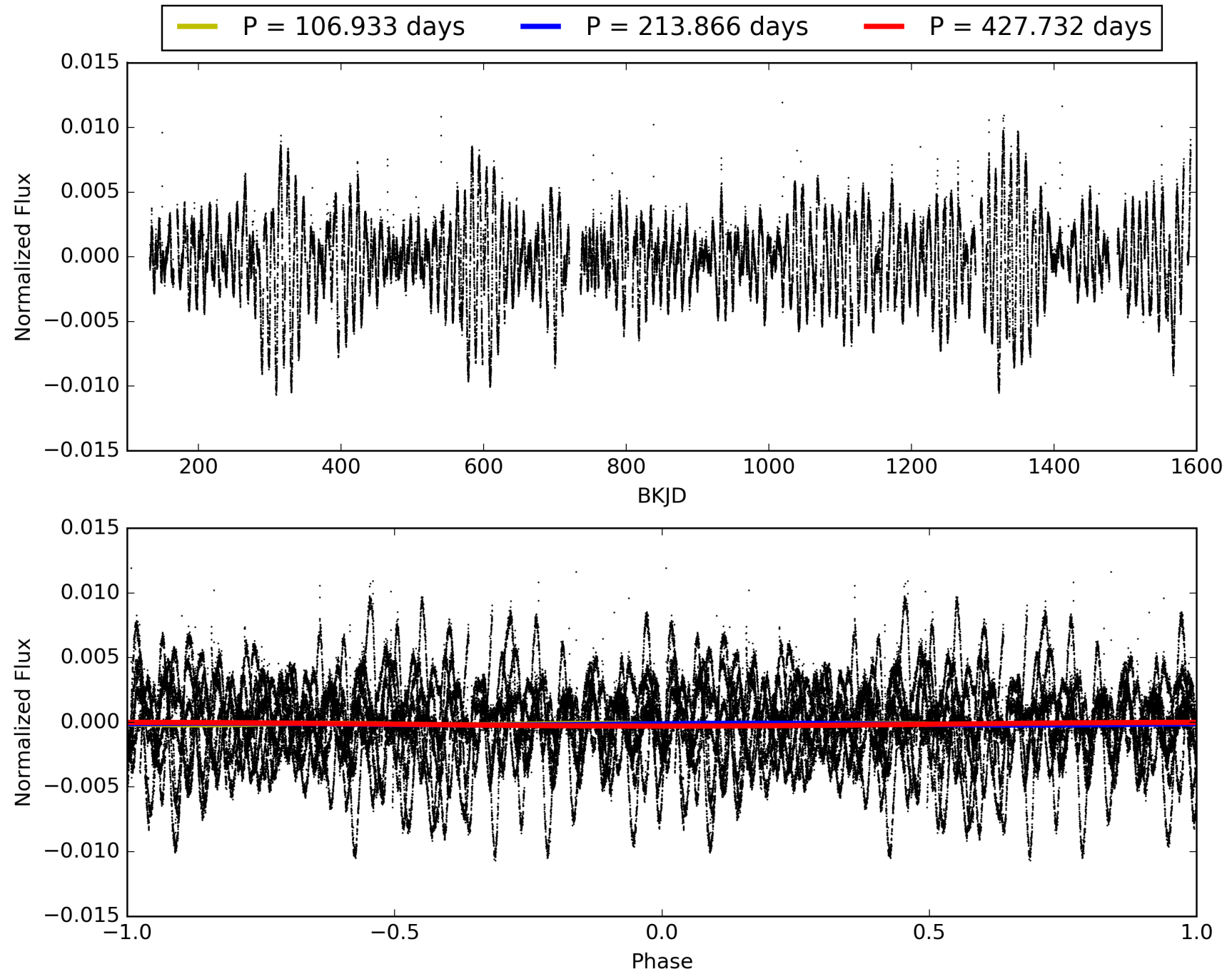
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:14:37 Z

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

TCE 007456455-02, PDC Light Curves

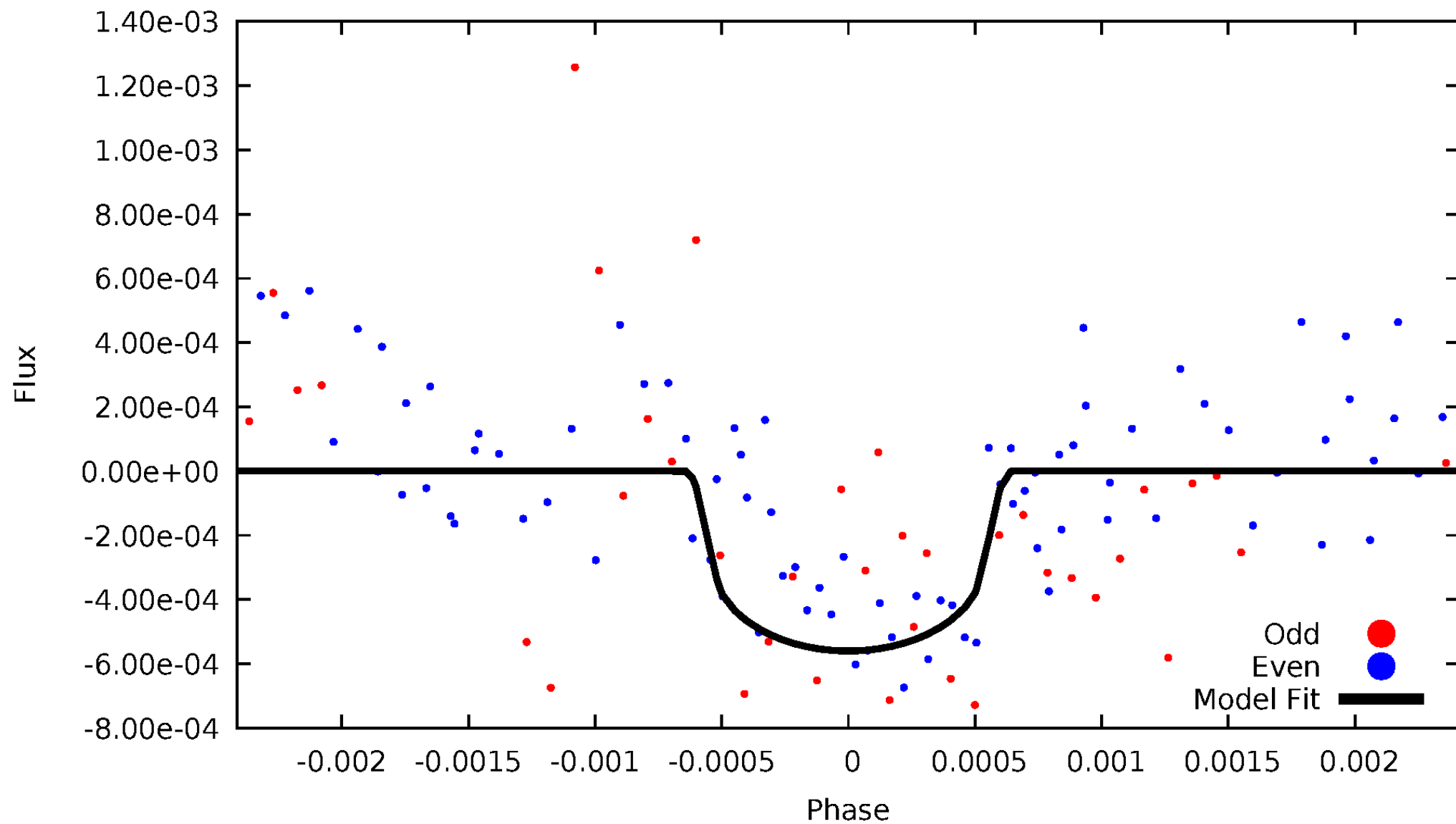


TCE 007456455-02



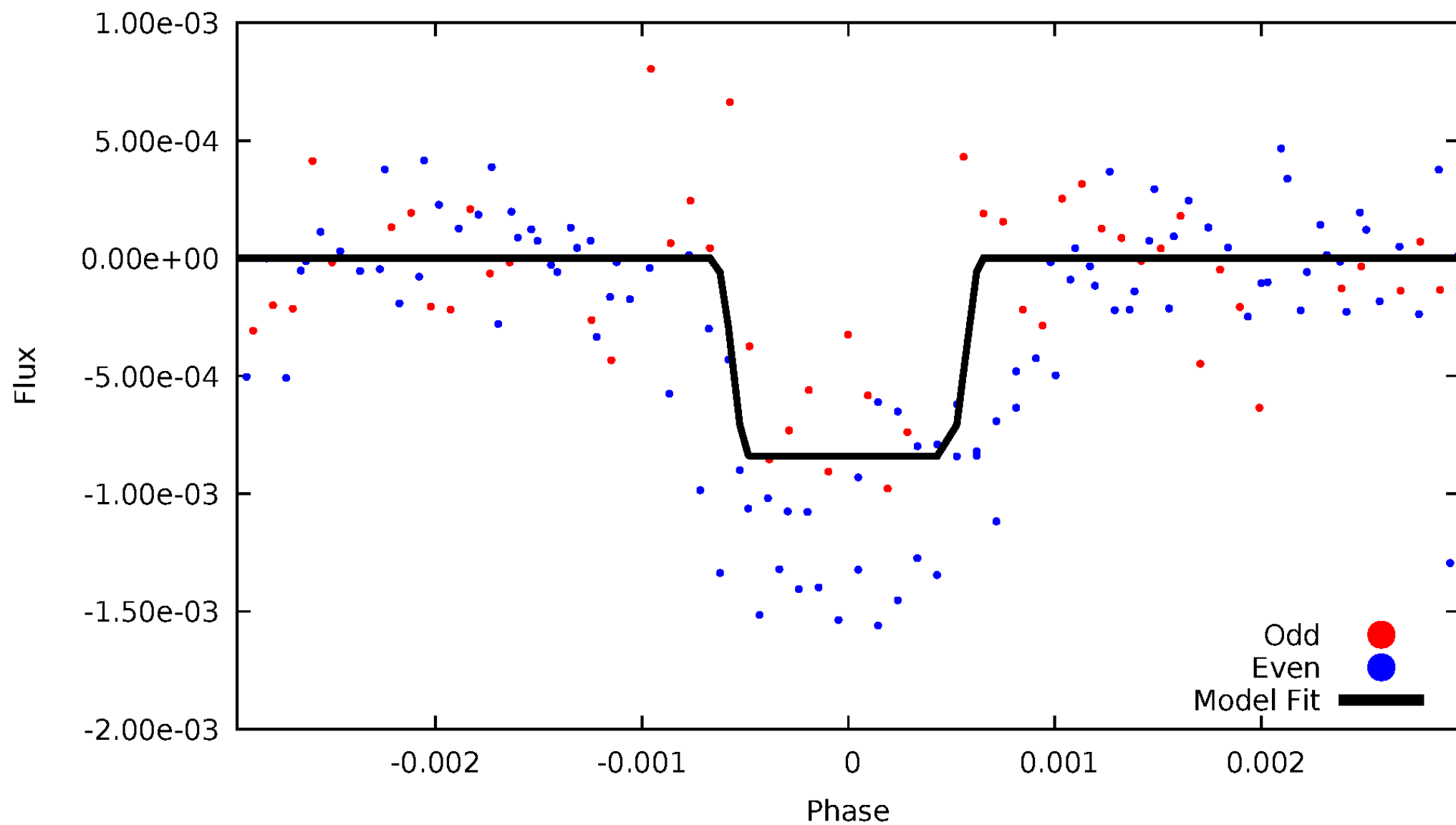
DV Odd/Even

TCE 007456455-02



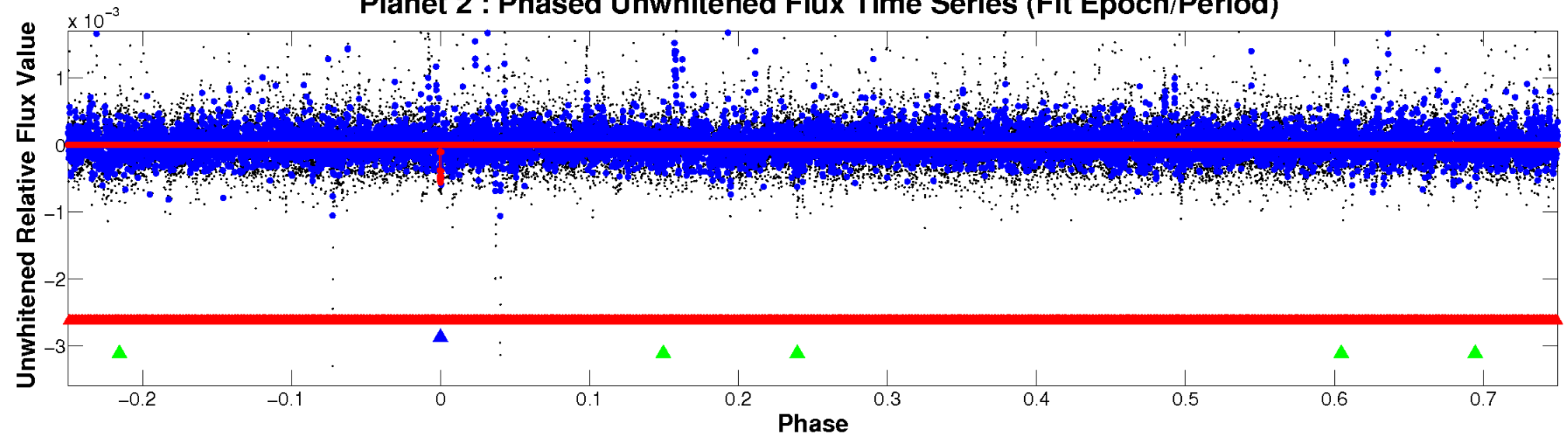
ALT Odd/Even

TCE 007456455-02

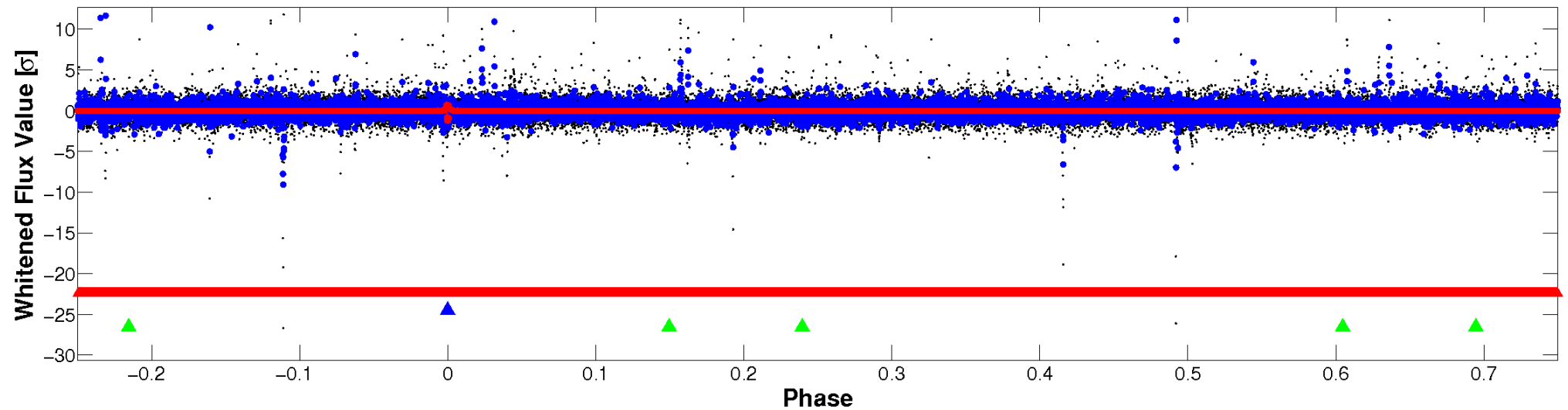


Non-Whitened Vs. Whitened Light Curve

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

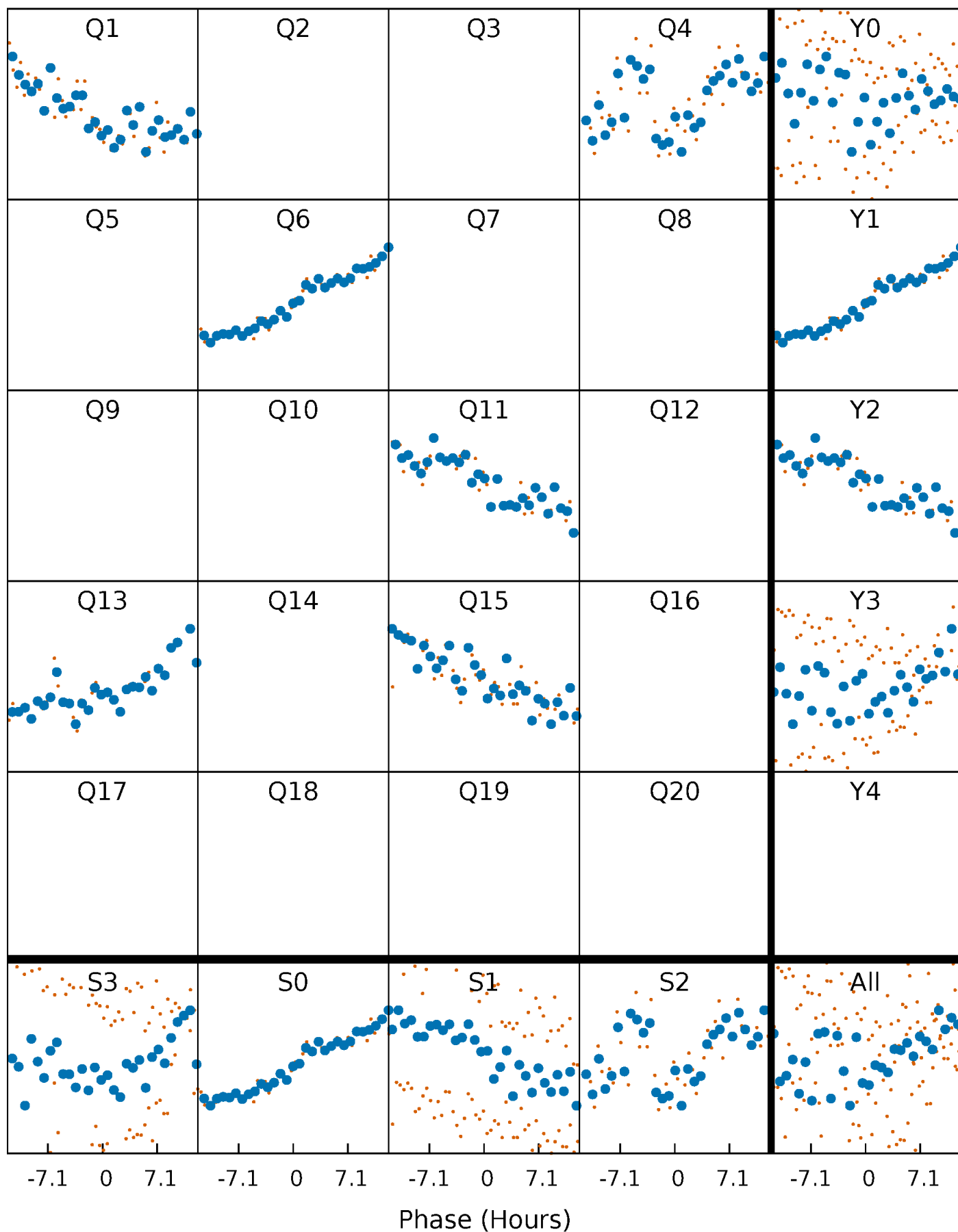


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



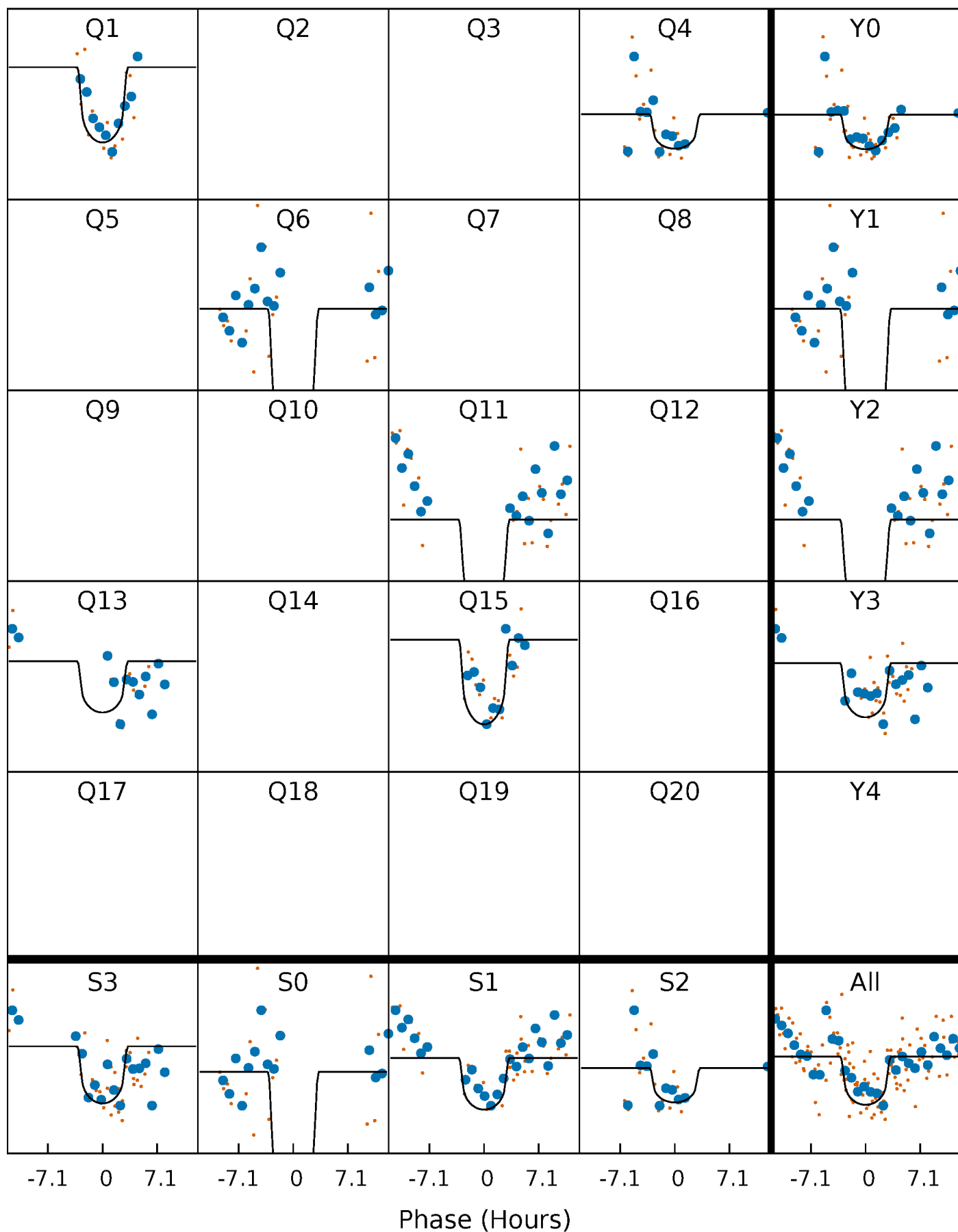
PDC Quarter-Phased Transit Curves

TCE 007456455-02 P=213.866106 Days $T_0=161.871649$ (BKJD)



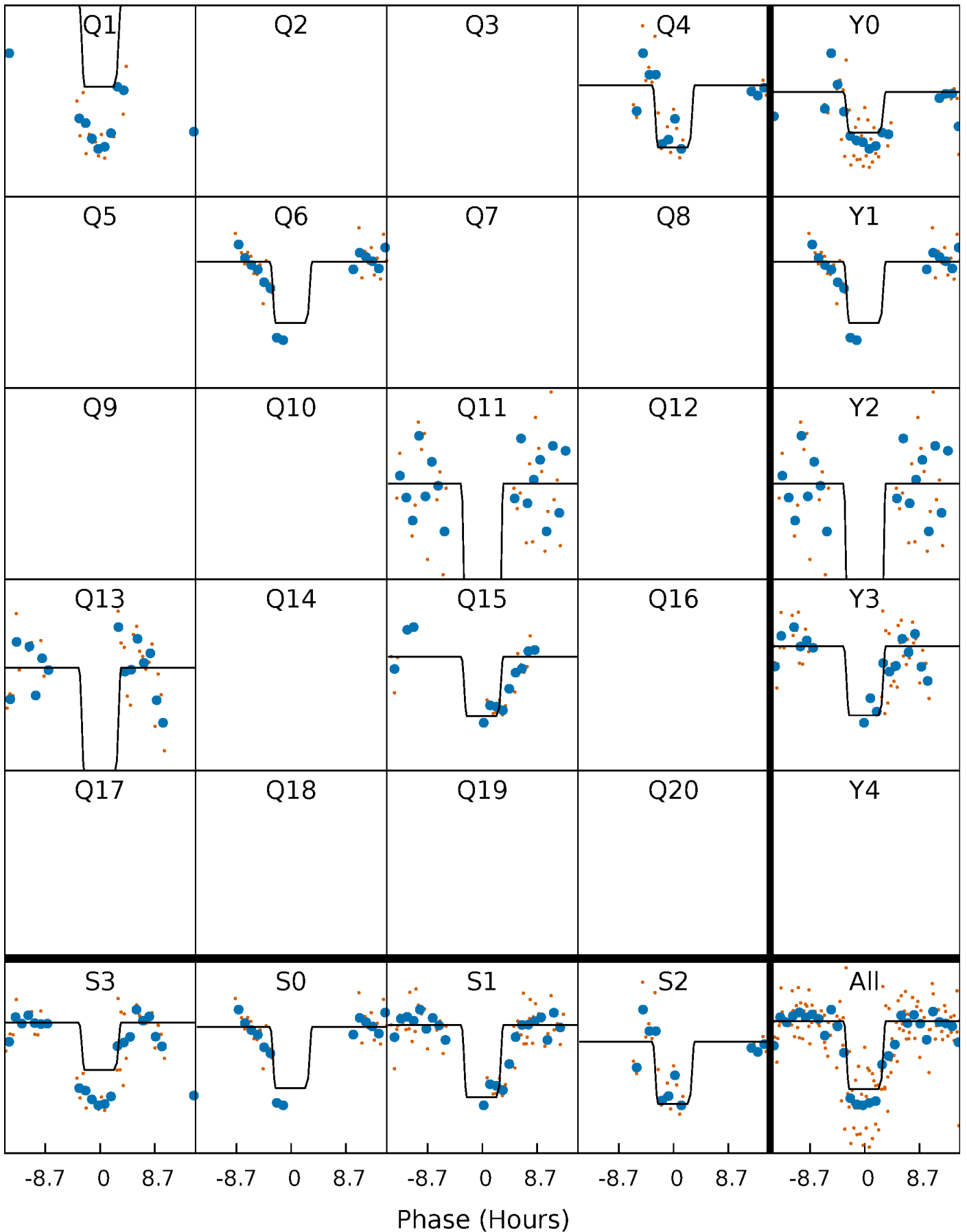
DV Quarter-Phased Transit Curves

TCE 007456455-02 P=213.866106 Days $T_0=161.871649$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

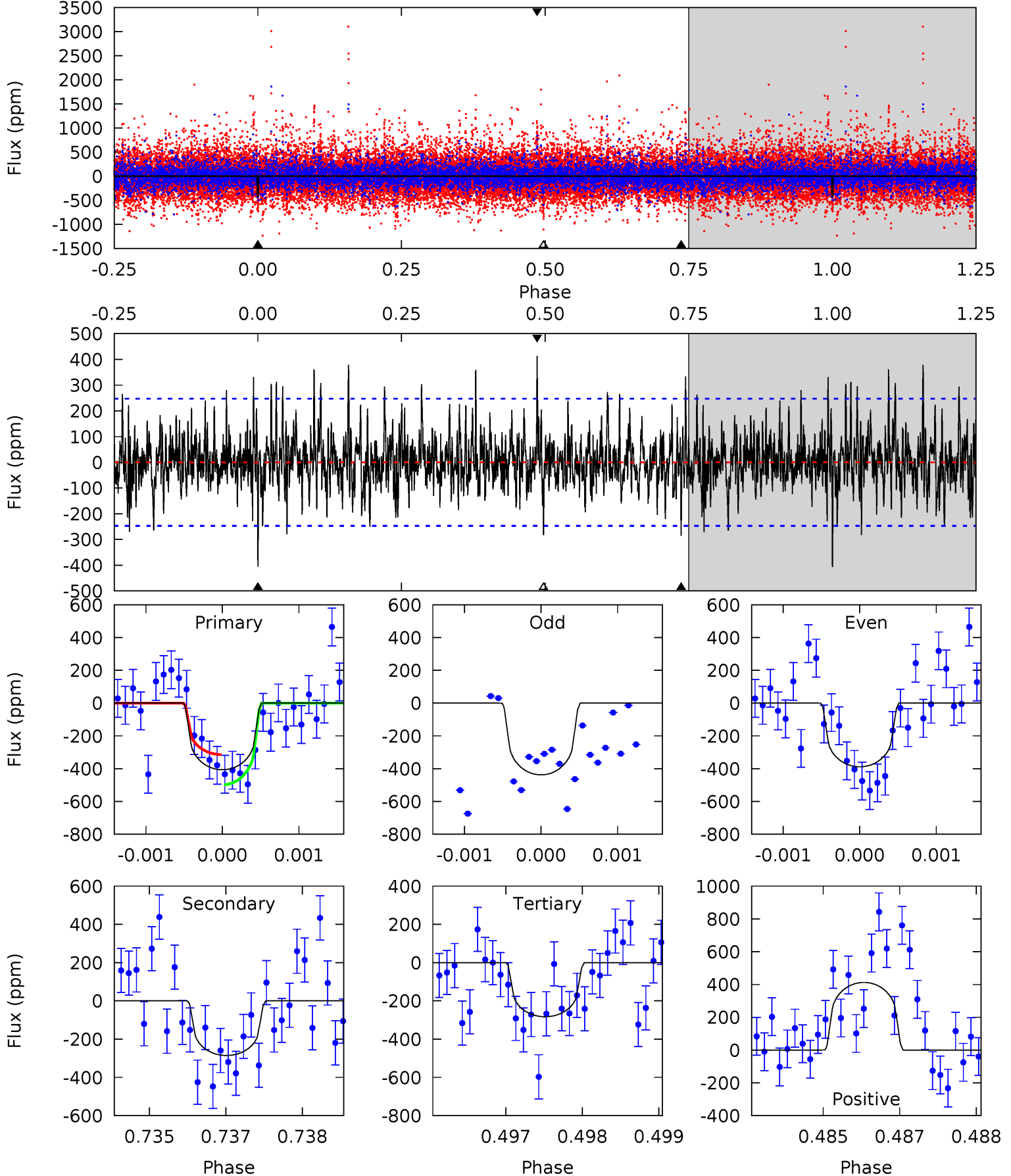
TCE 007456455-02 P=213.844017 Days $T_0=161.887881$ (BKJD)



DV Model-Shift Uniqueness Test

007456455-02, P = 213.866106 Days, E = 161.871649 Days

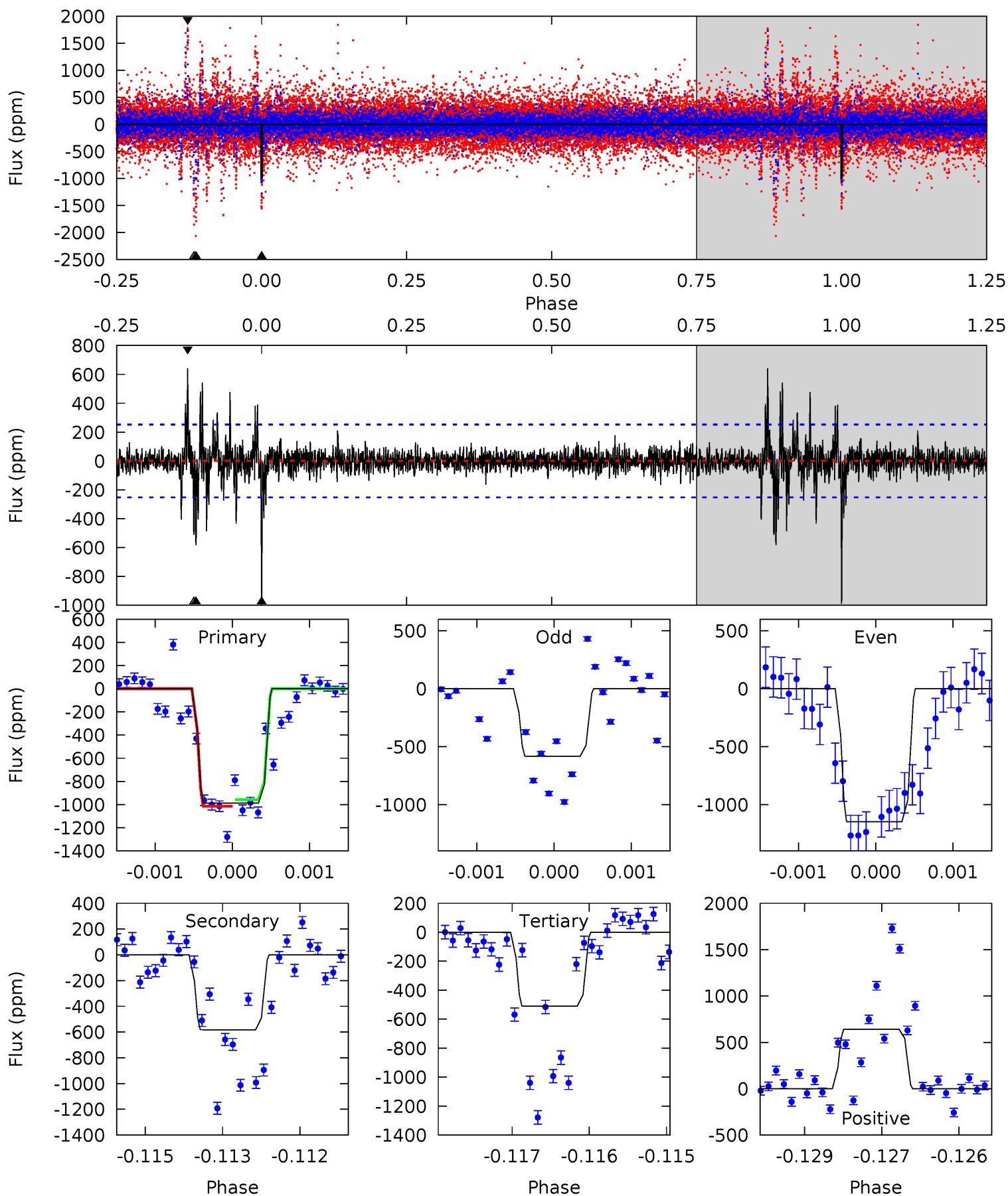
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.90	6.25	6.19	9.03	5.41	3.23	1.89	2.70	-0.13	0.06	-2.78	0.38	0.85	0.50	2.03



Alt Model-Shift Uniqueness Test

007456455-02, P = 213.844017 Days, E = 161.887881 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.2	12.5	10.9	13.8	5.41	3.22	1.50	10.2	7.40	1.54	-1.29	5.57	1.05	0.39	0.61



Stellar Parameters For KIC 007456455

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4902^{+146}_{-146}	$4.582^{+0.065}_{-0.035}$	$-0.340^{+0.300}_{-0.300}$	$0.696^{+0.062}_{-0.068}$	$0.674^{+0.088}_{-0.047}$	$2.822^{+0.799}_{-0.432}$
	+3%/-3%	+1%/-1%	+88%/-88%	+9%/-10%	+13%/-7%	+28%/-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 007456455-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-285 ± 46	$1.93^{+1.07}_{-1.10}$	320^{+11}_{-12}	4194^{+1624}_{-655}	15823^{+69737}_{-9755}
Alt.	-582 ± 47	$2.24^{+1.24}_{-1.18}$	320^{+11}_{-12}	4525^{+1756}_{-698}	24186^{+87552}_{-14241}

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

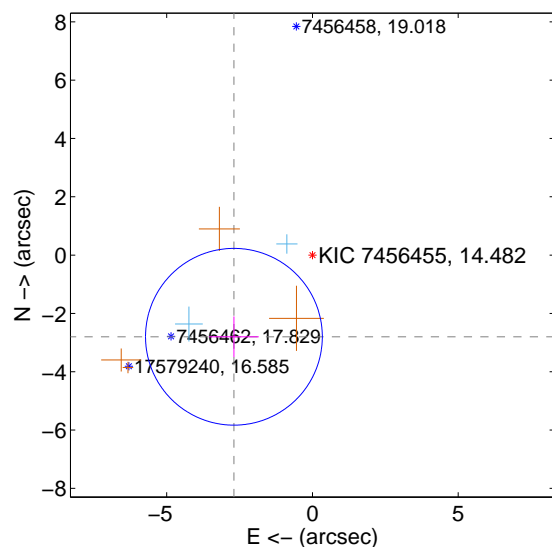
Supplemental centroid analysis for 007456455-02. Kepler magnitude: 14.48. Transit SNR 7.34

There are 2 quarters with good PRF difference image offsets

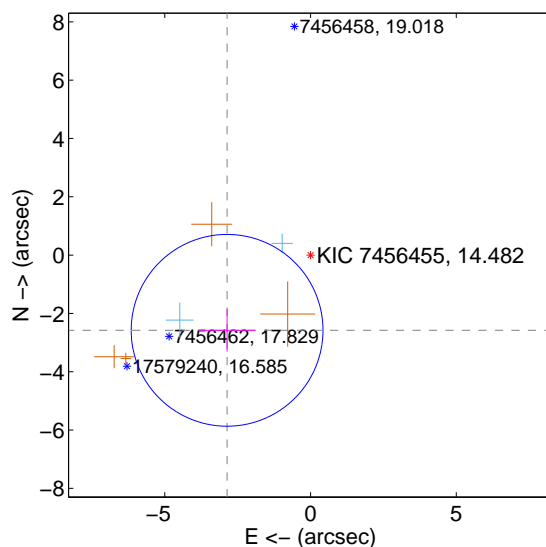
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.885 ± 1.010	3.85	2.692 ± 0.852	-2.801 ± 0.697
PRF-fit source offset from KIC position	3.853 ± 1.096	3.51	2.861 ± 0.970	-2.580 ± 0.728
photometric centroid source offset	0.58 ± 0.86	0.67	-0.21 ± 0.82	0.54 ± 0.87

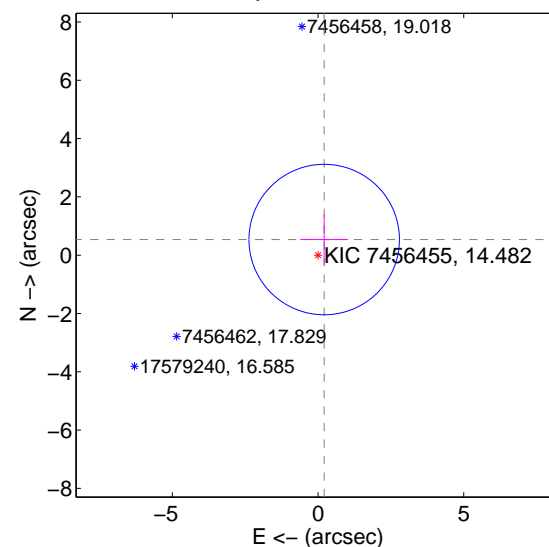
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

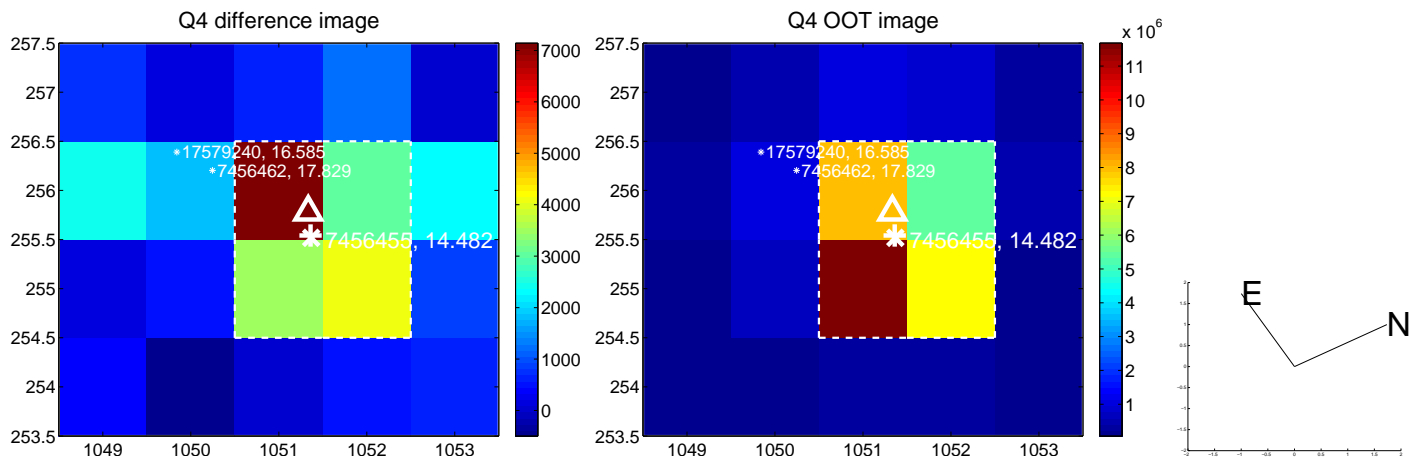
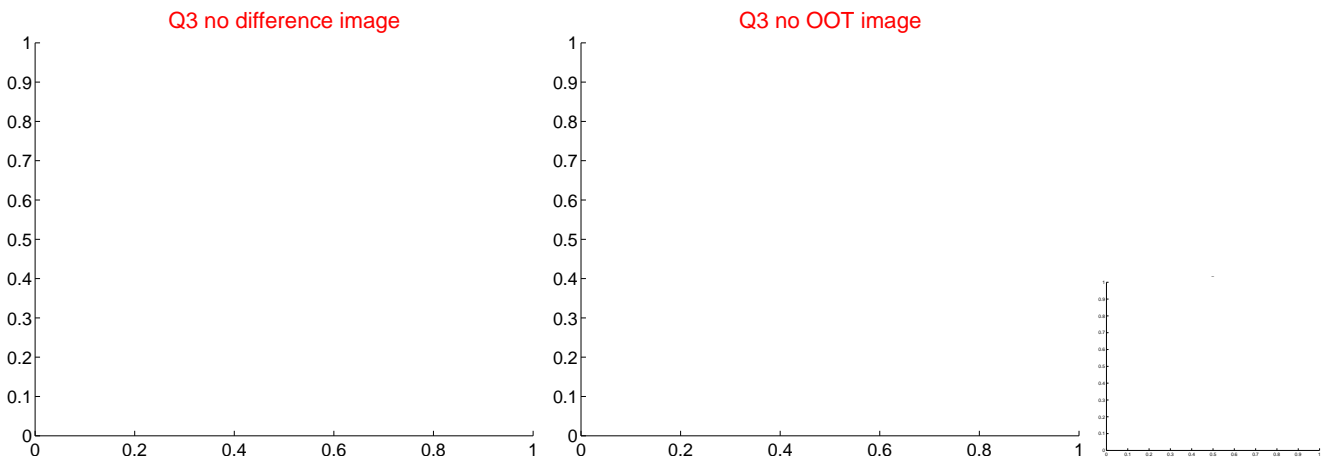
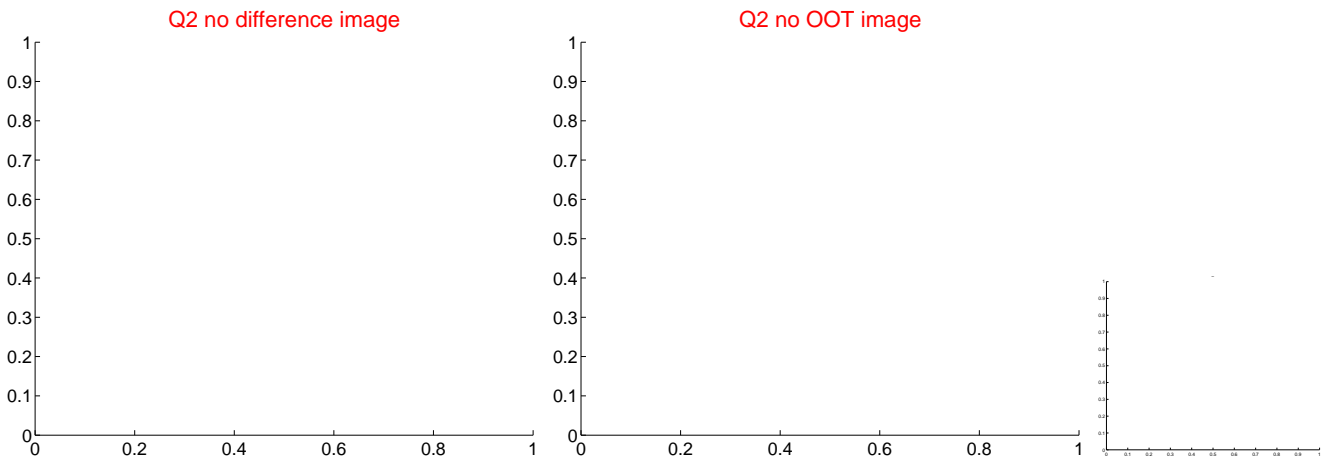
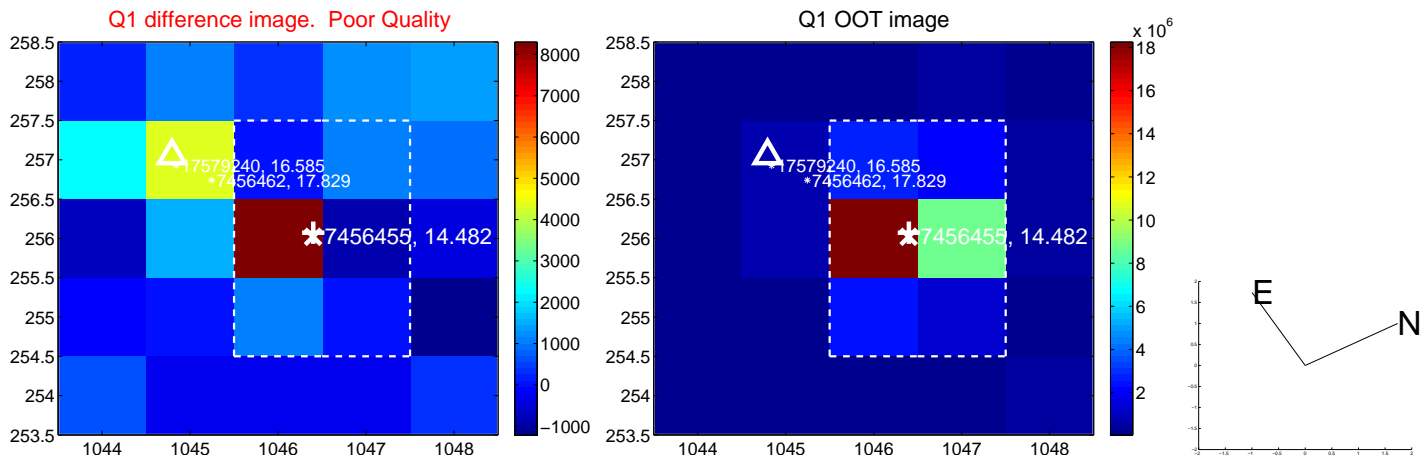


offset from photometric centroids



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

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



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

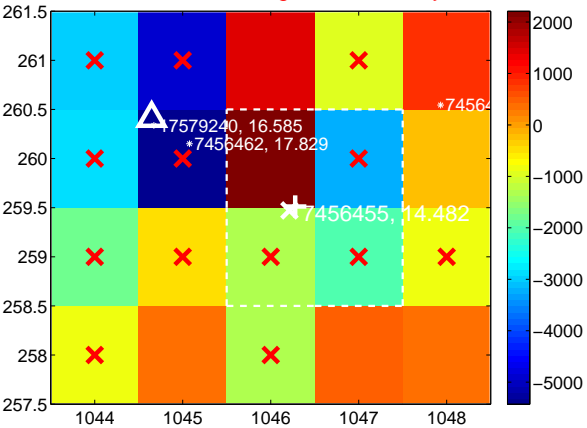
Q5 no difference image



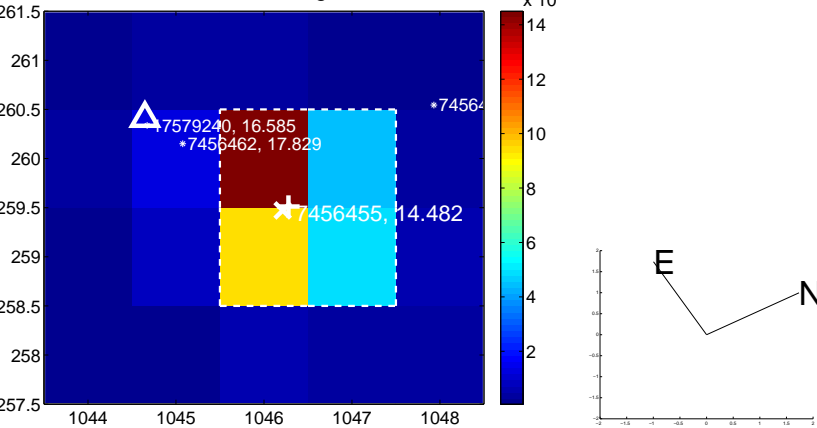
Q5 no OOT image



Q6 difference image. Poor Quality



Q6 OOT image



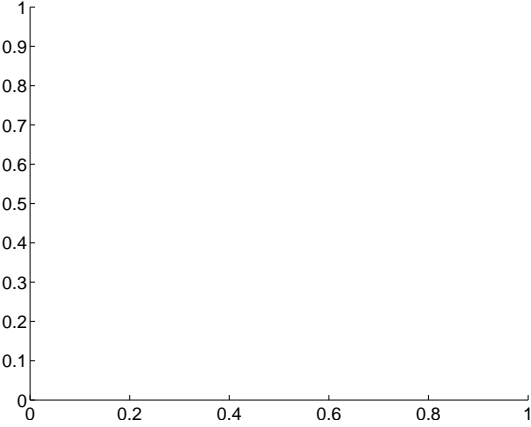
Q7 no difference image



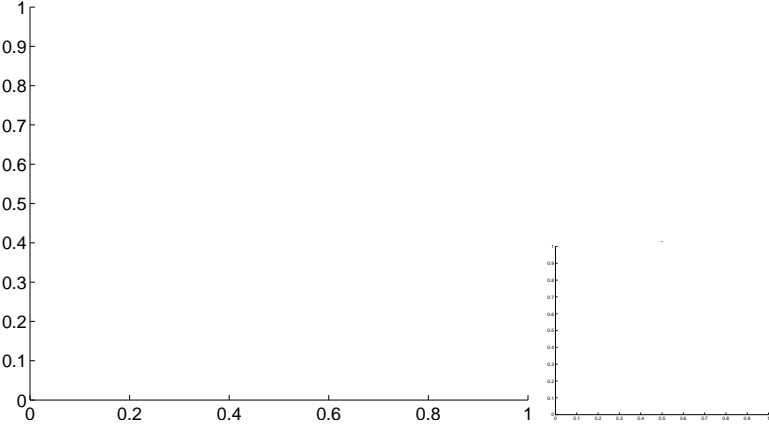
Q7 no OOT image



Q8 no difference image



Q8 no OOT image



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

Q9 no difference image



Q9 no OOT image



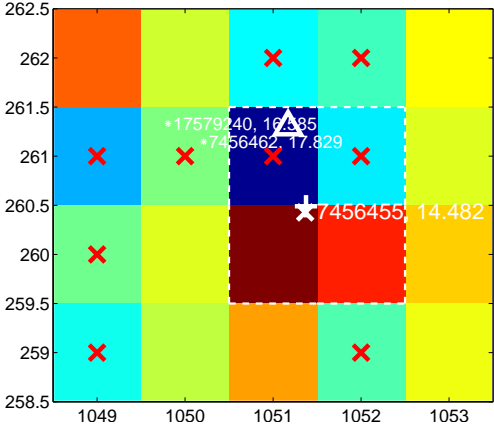
Q10 no difference image



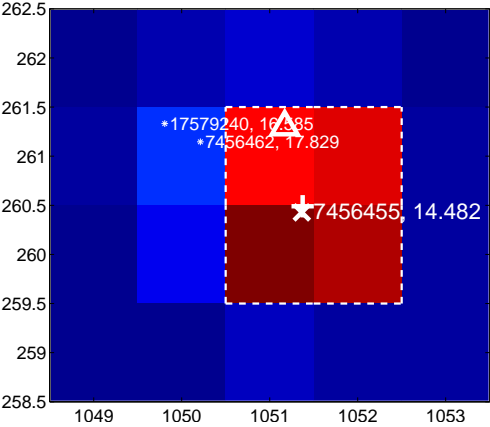
Q10 no OOT image



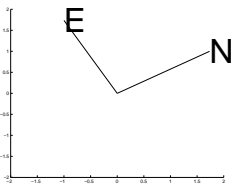
Q11 difference image. Poor Quality



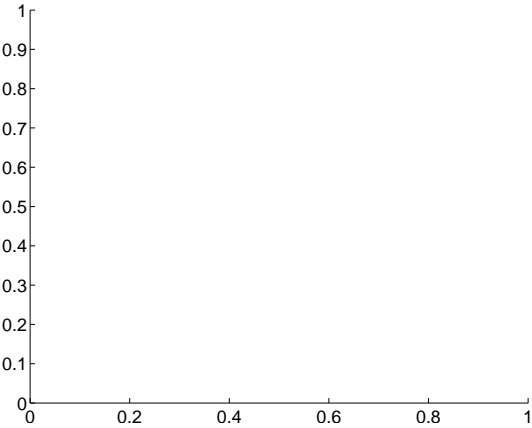
Q11 OOT image



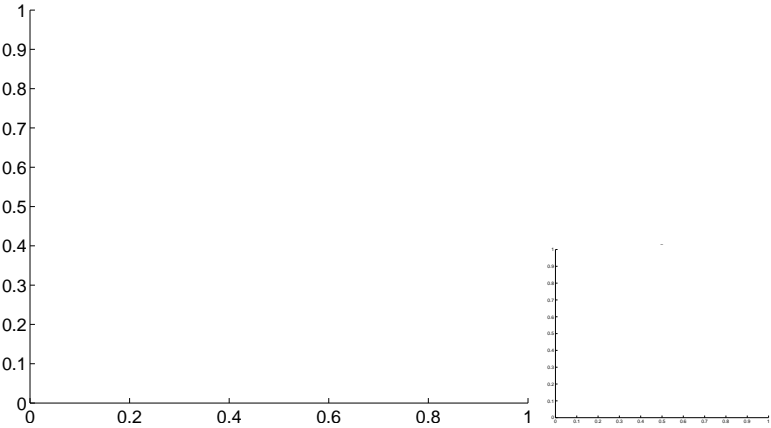
$\times 10^6$



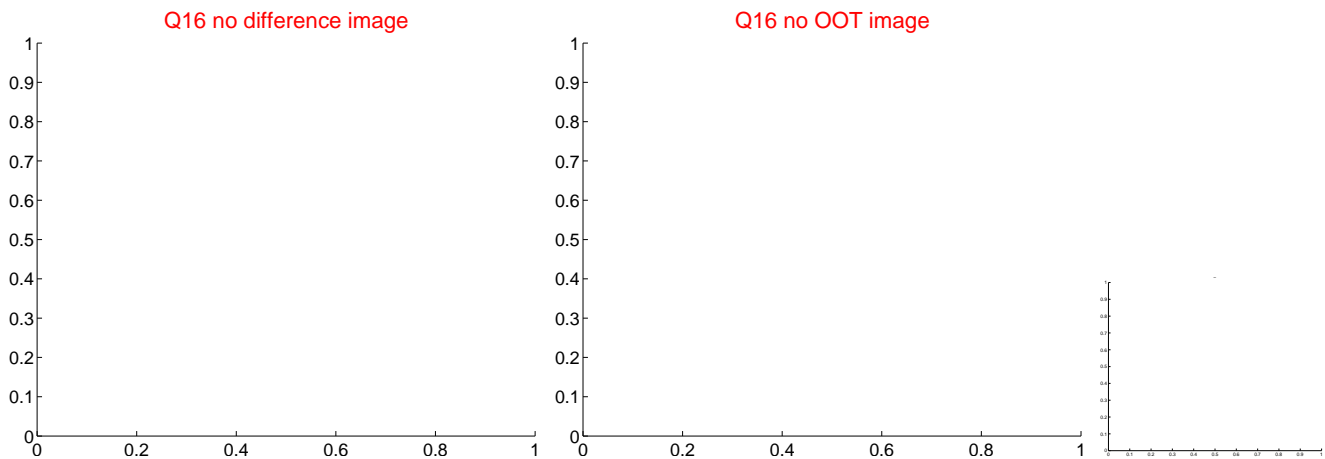
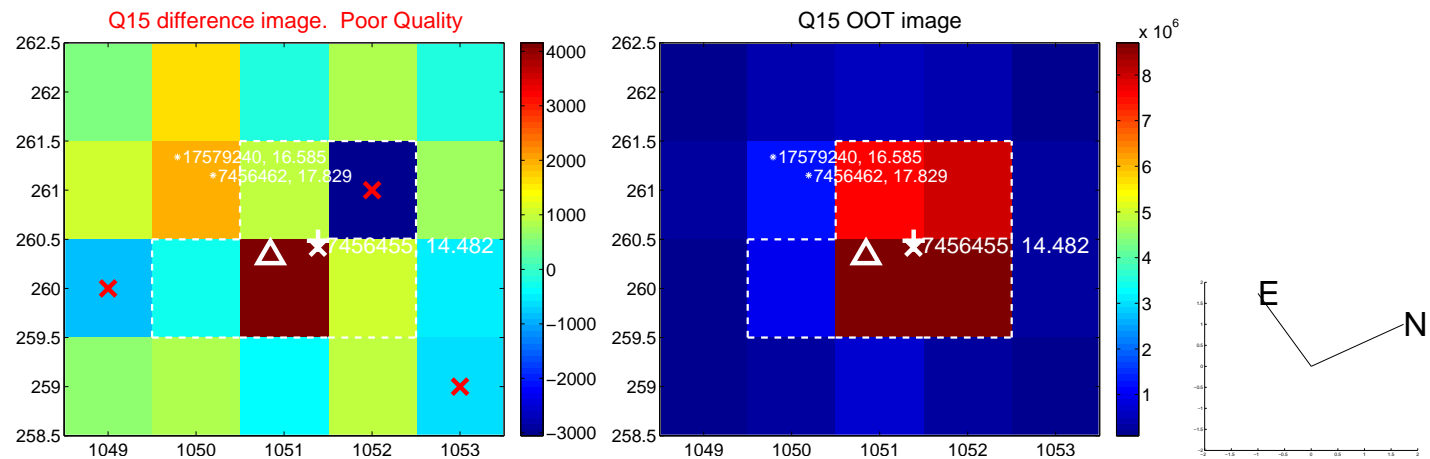
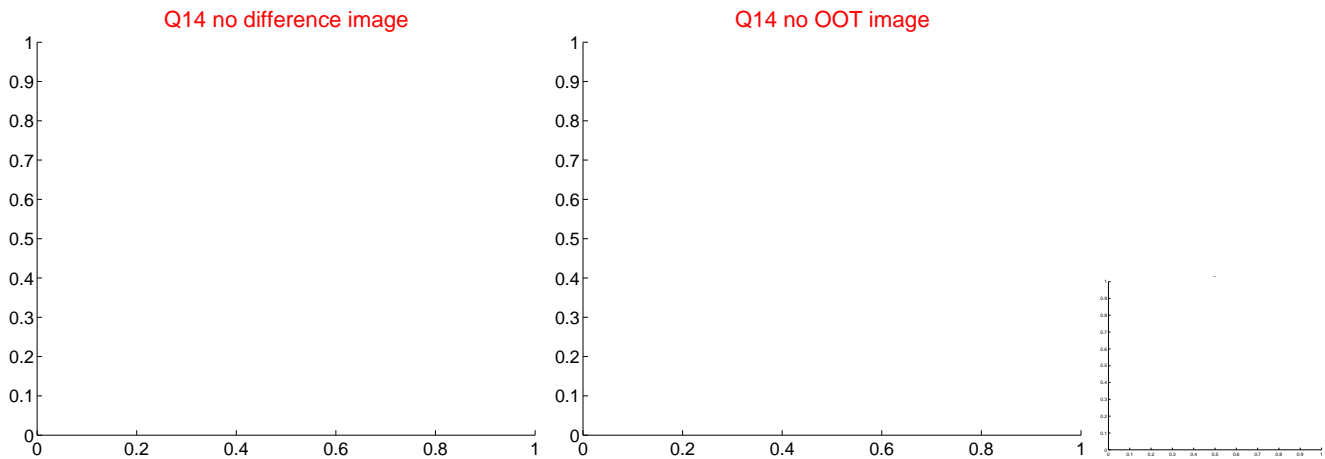
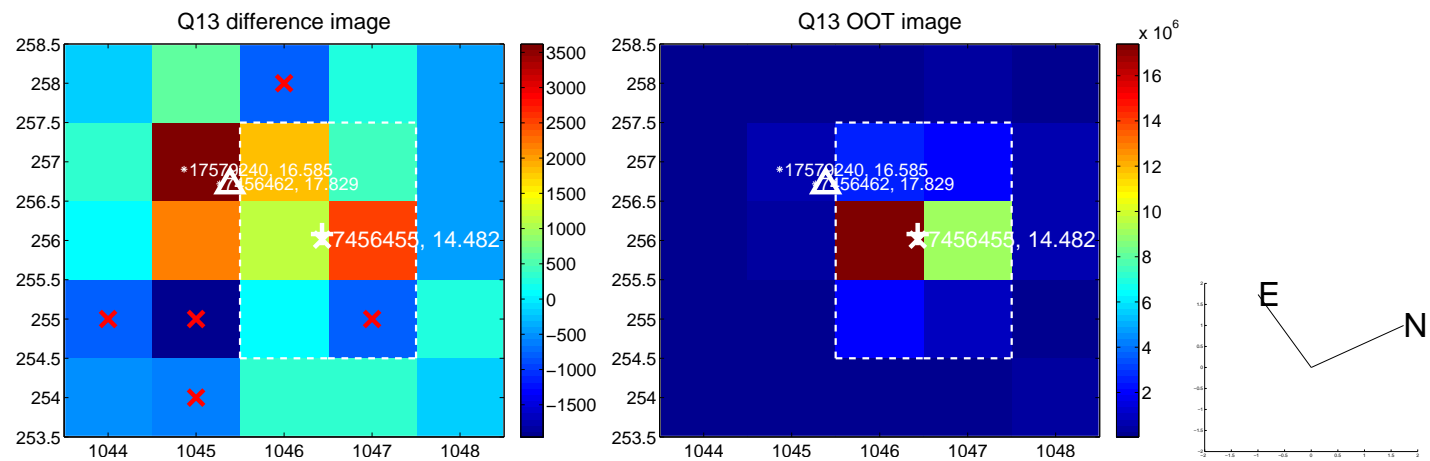
Q12 no difference image



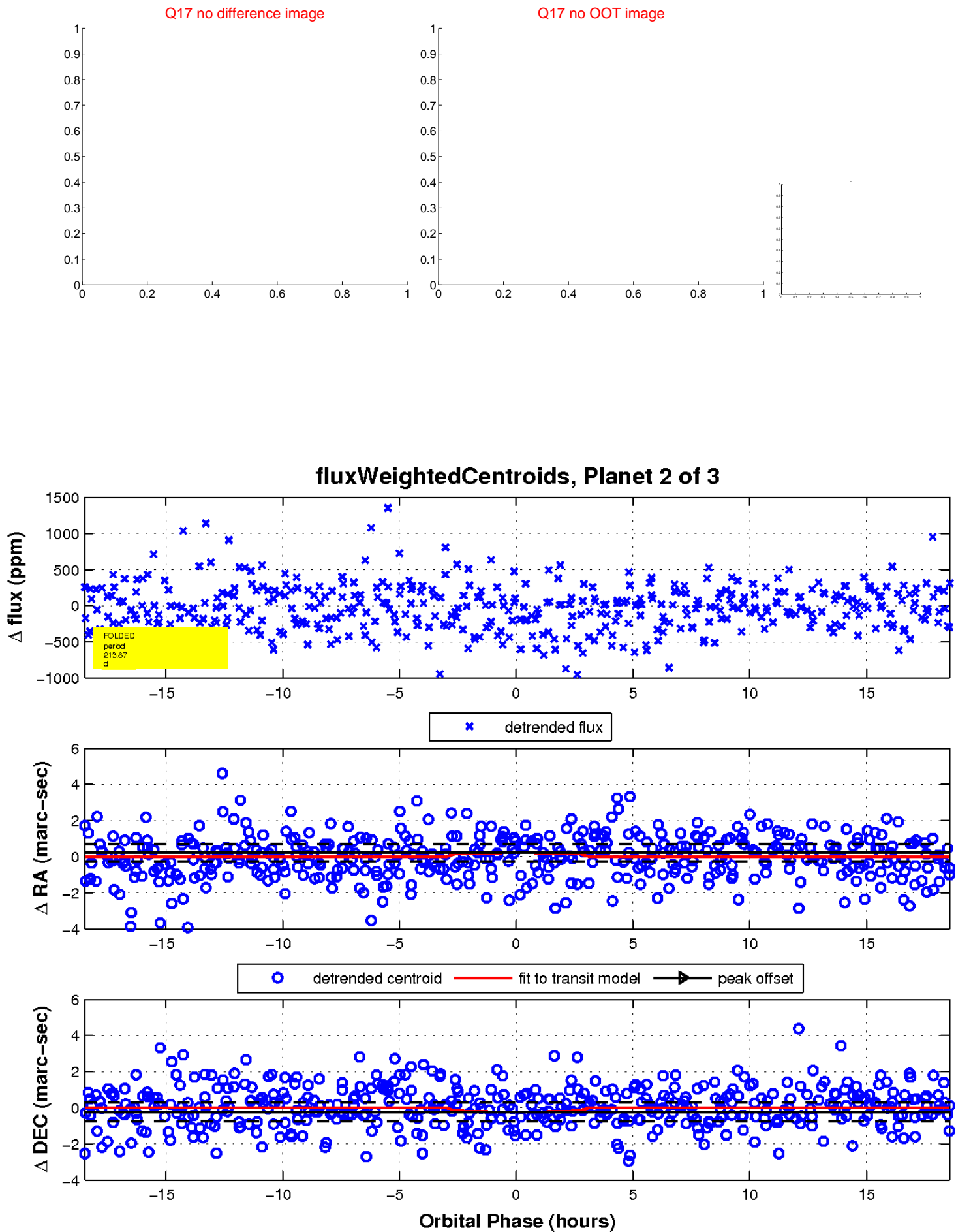
Q12 no OOT image



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

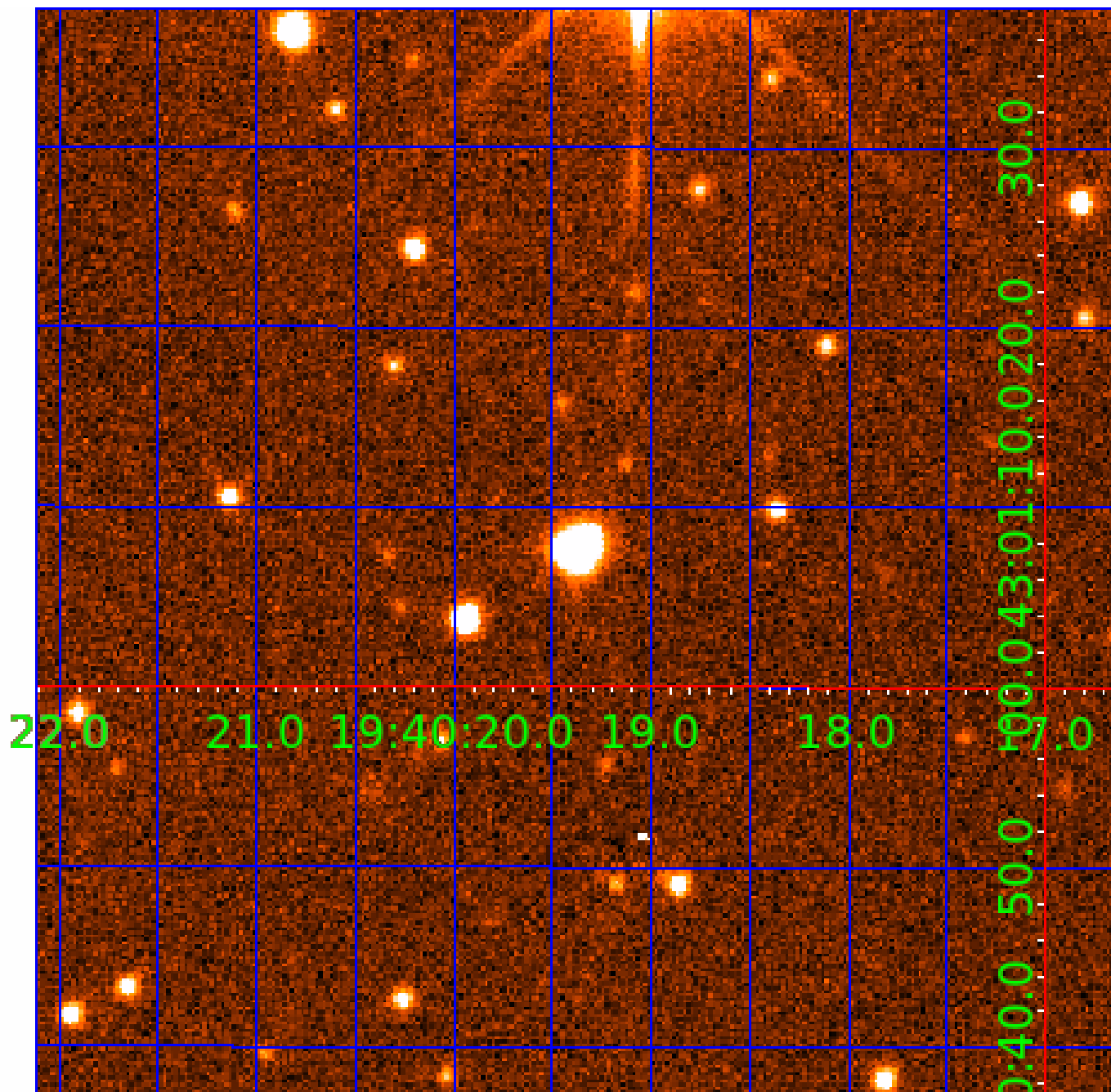


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007456455

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})
007456455-01	OBS	No	0.780080	131.857763	39.4	3.334	8.8	9.8	0.70	4902	0.53	1183.79
007456455-02	OBS	No	213.866106	161.871649	559.7	6.193	15.5	7.3	0.70	4902	1.83	0.67
007456455-03	OBS	No	311.182685	329.648414	394.2	12.500	9.5	-1.0	0.70	4902	1.34	0.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007456455-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
007456455-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007456455-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST

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

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

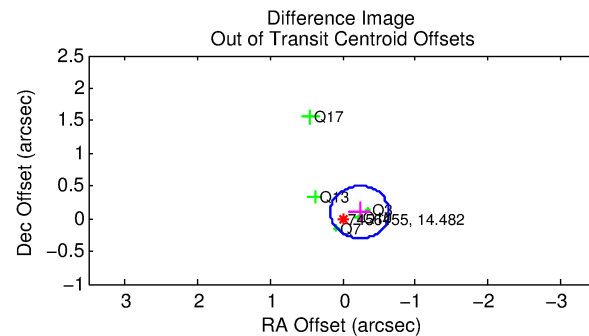
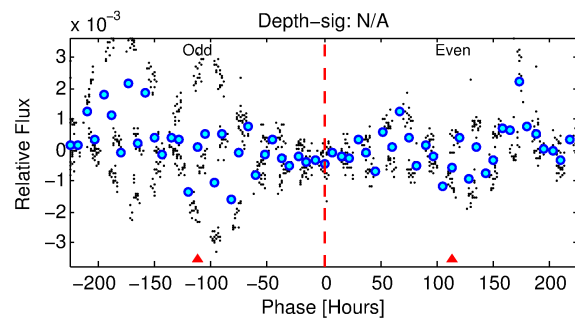
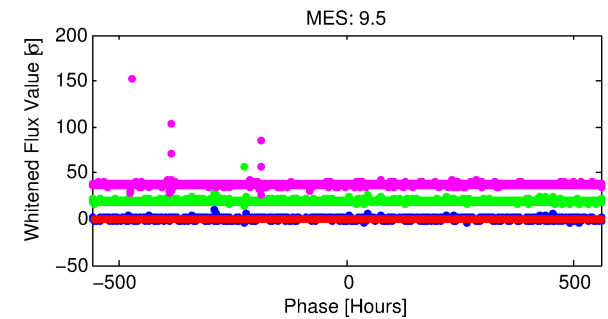
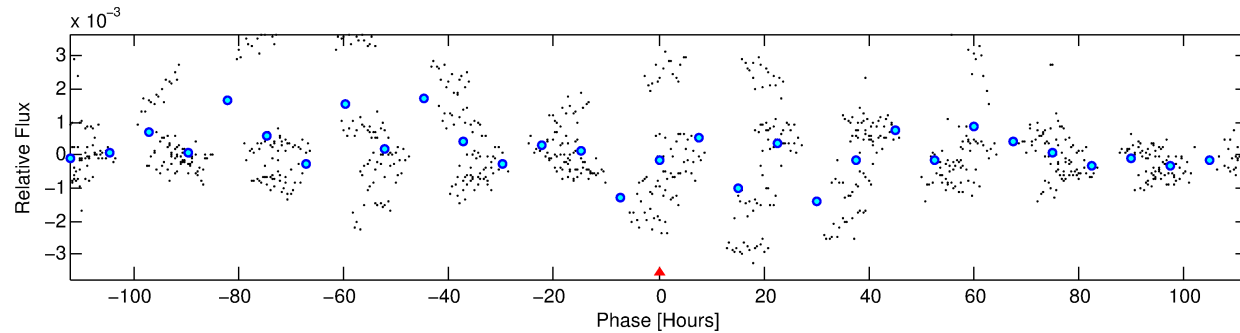
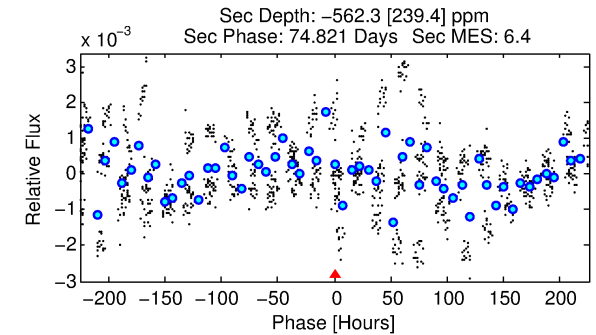
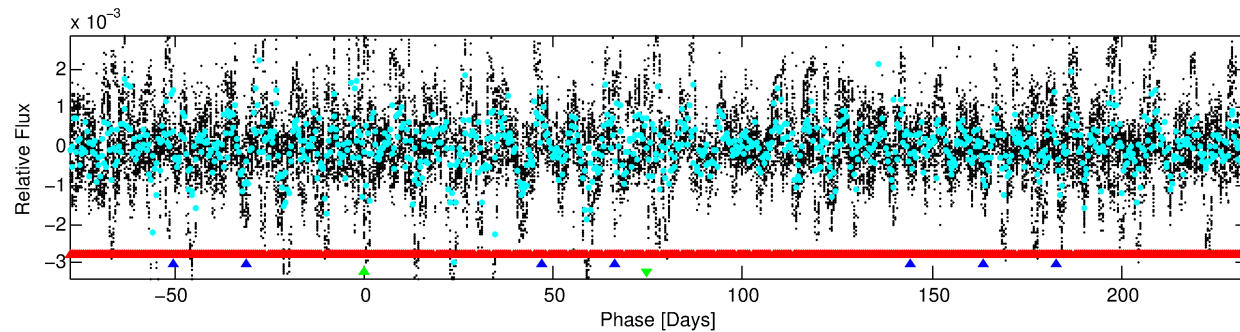
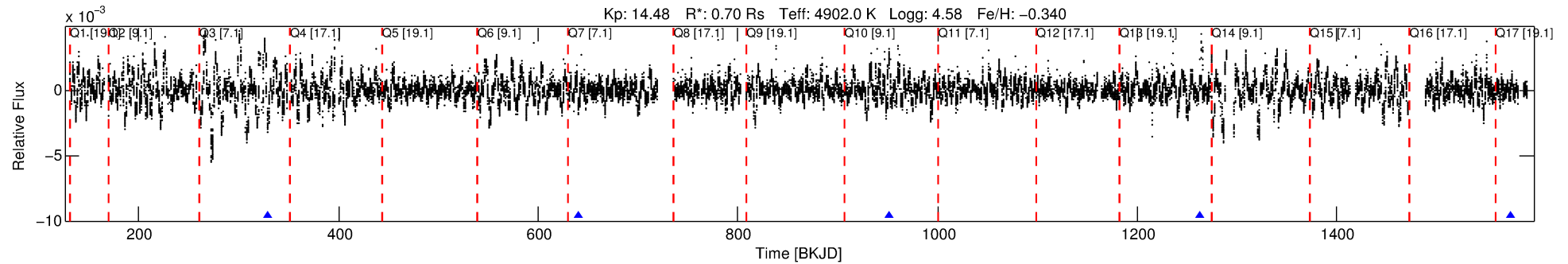
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007456455-03

No Significant Match Found

DV One-Page Summary

KIC: 7456455 Candidate: 3 of 3 Period: 311.183 d



TPS TCE Results:

Period = 311.18269 d
Epoch = 329.6484 BKJD

DV fit results are unavailable

DV Diagnostic Results:

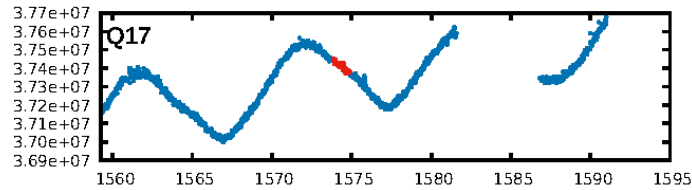
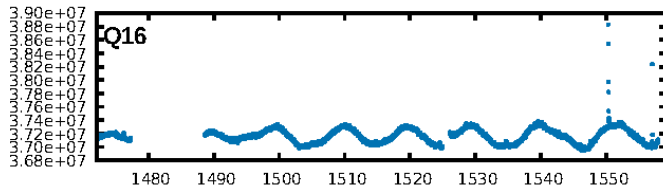
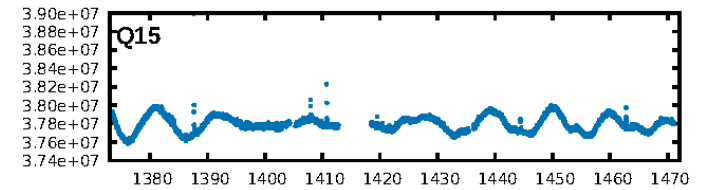
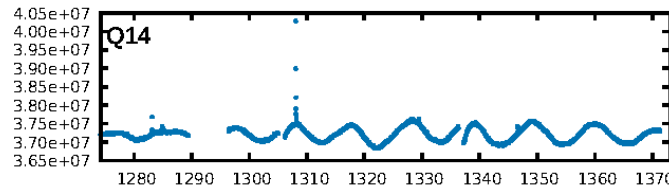
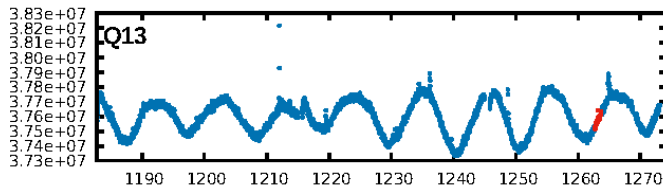
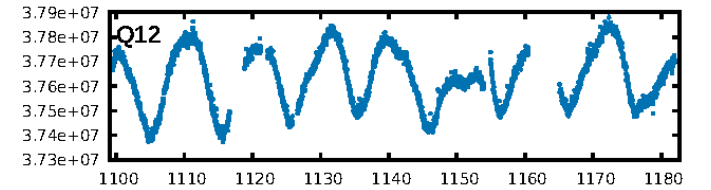
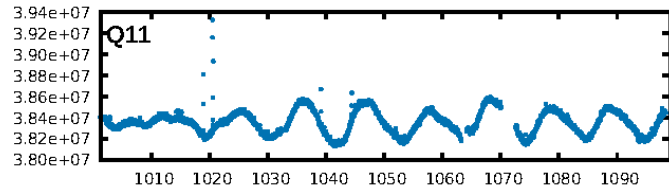
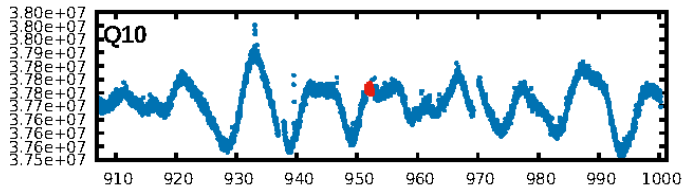
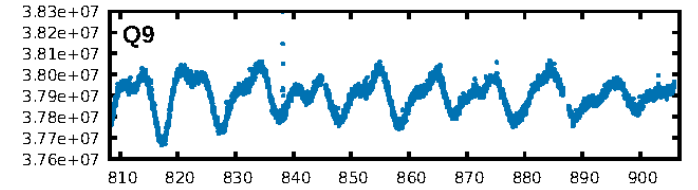
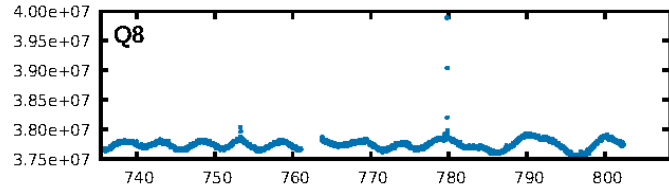
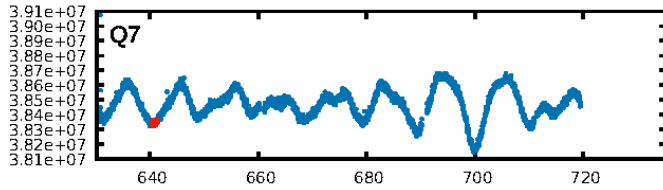
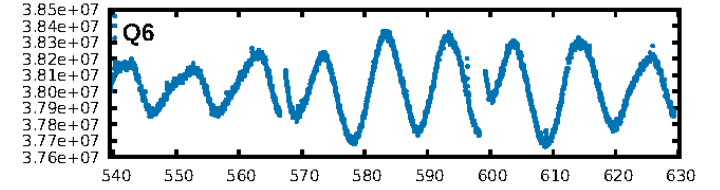
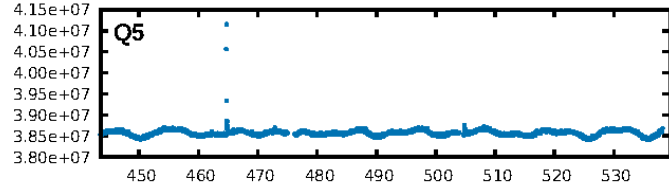
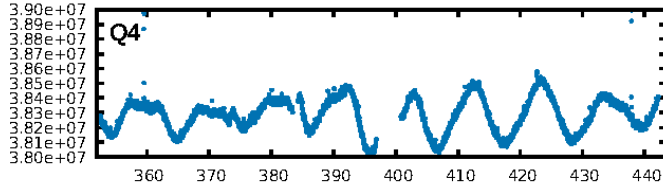
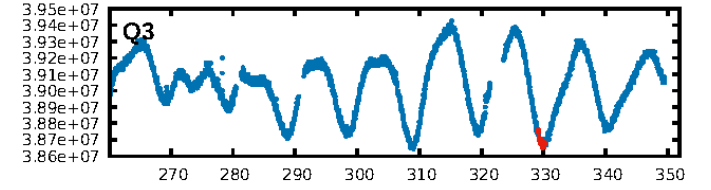
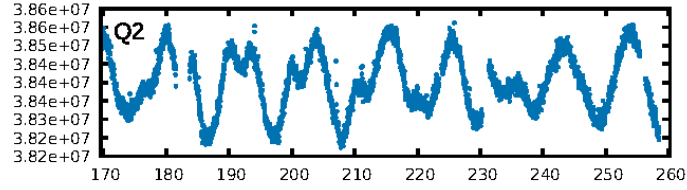
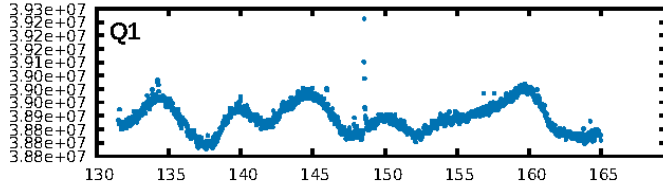
ShortPeriod-sig: 100.0% [167.43σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.56e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.2095

Centroid-sig: 97.6%
Centroid-so: 0.574 arcsec [0.23σ]
OotOffset-rm: 0.253 arcsec [1.88σ]
KicOffset-rm: 0.256 arcsec [1.19σ]
OotOffset-st: 1/2/0/2 [5]
KicOffset-st: 1/2/0/2 [5]
DiffImageQuality-fgm: 0.60 [3/5]
DiffImageOverlap-fno: 0.00 [0/5]

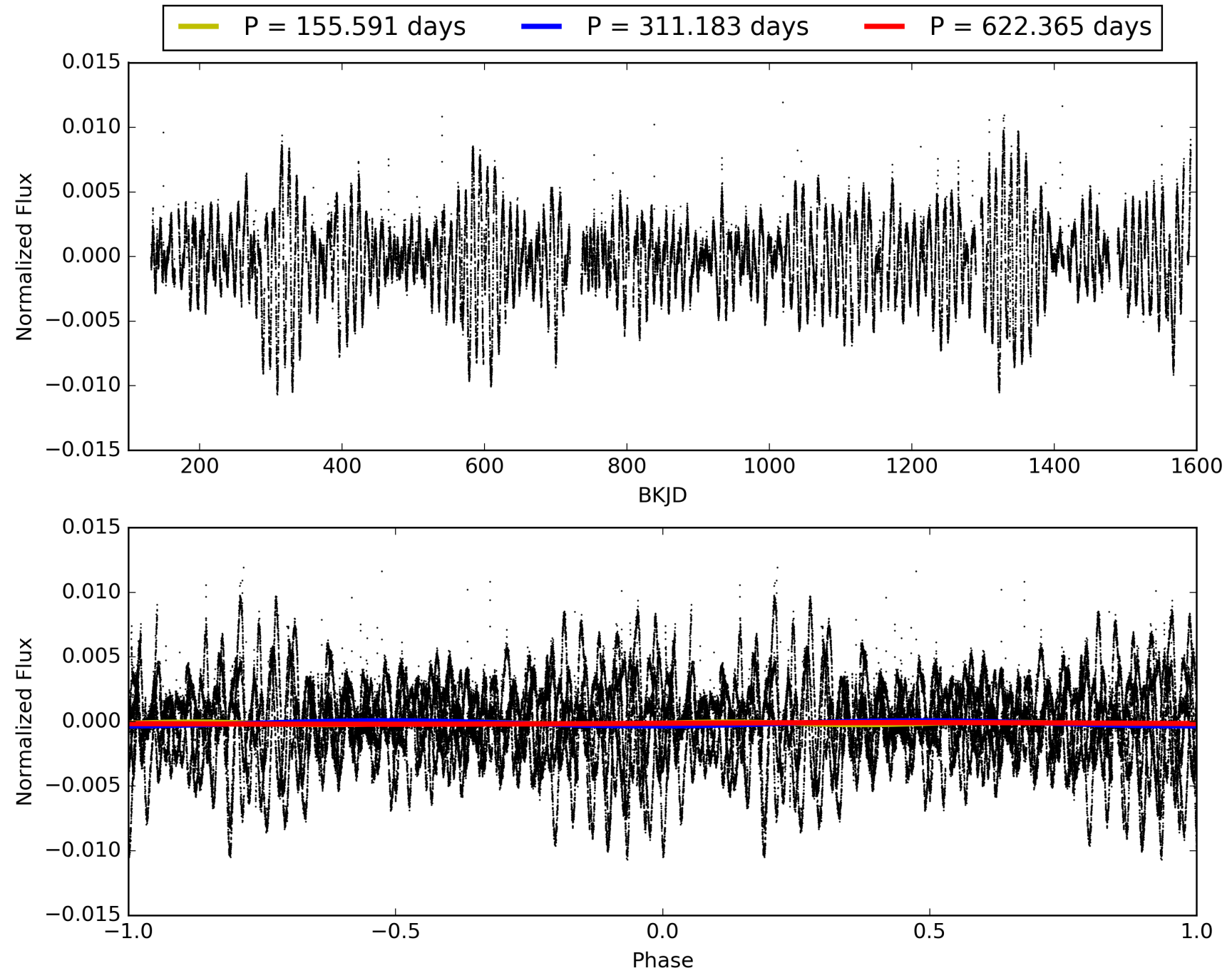
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:14:42 Z

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

TCE 007456455-03, PDC Light Curves

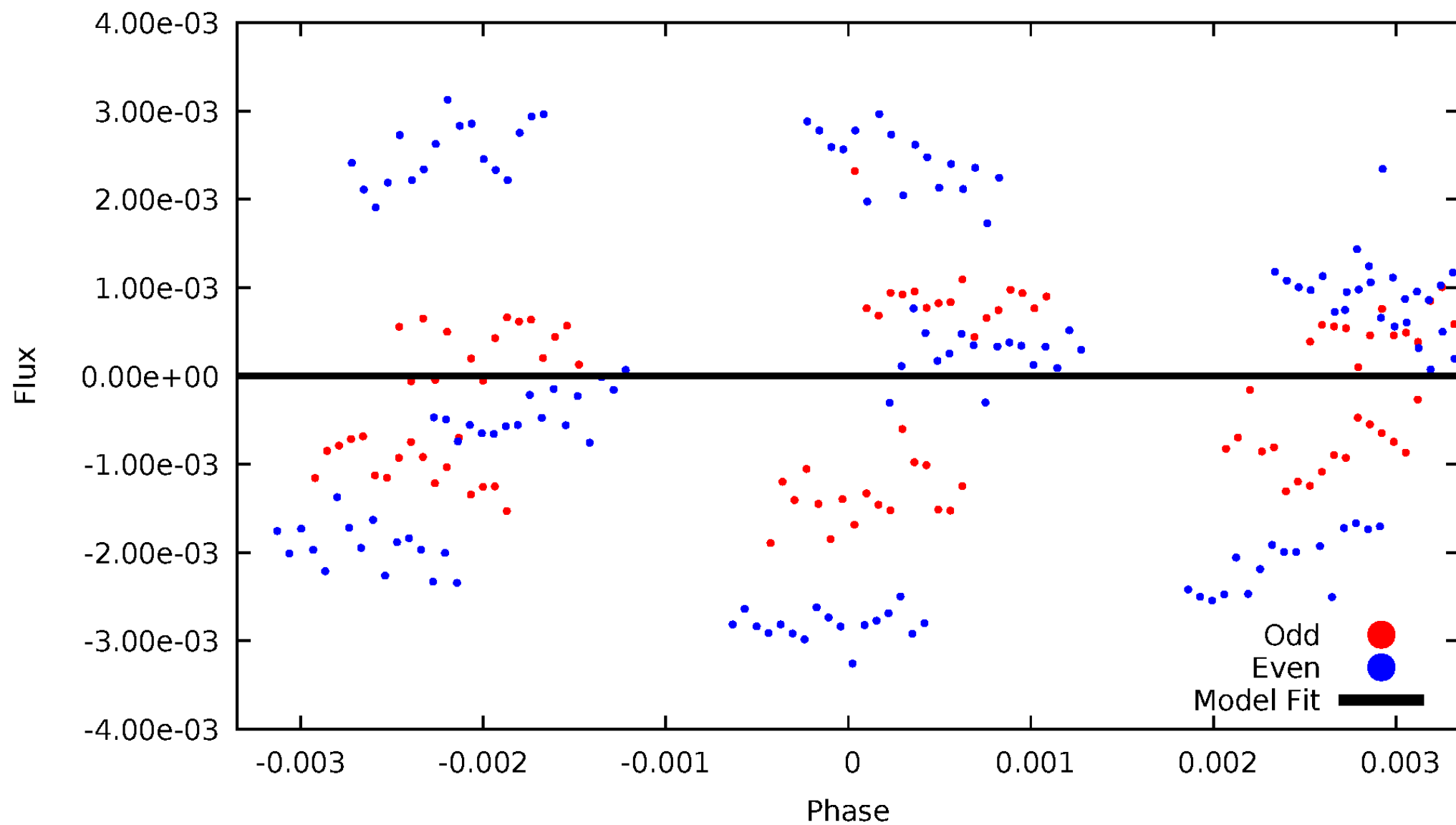


TCE 007456455-03



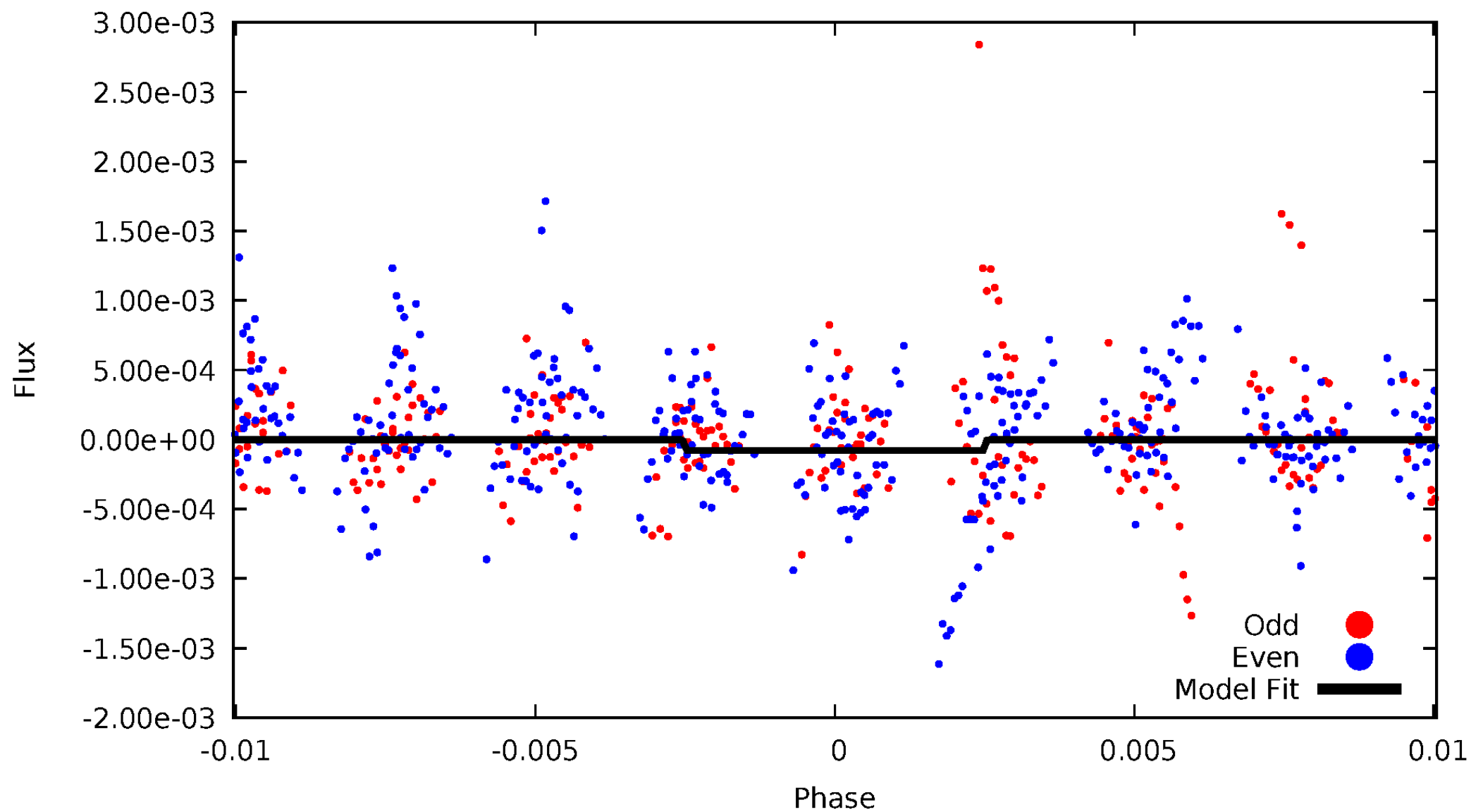
DV Odd/Even

TCE 007456455-03



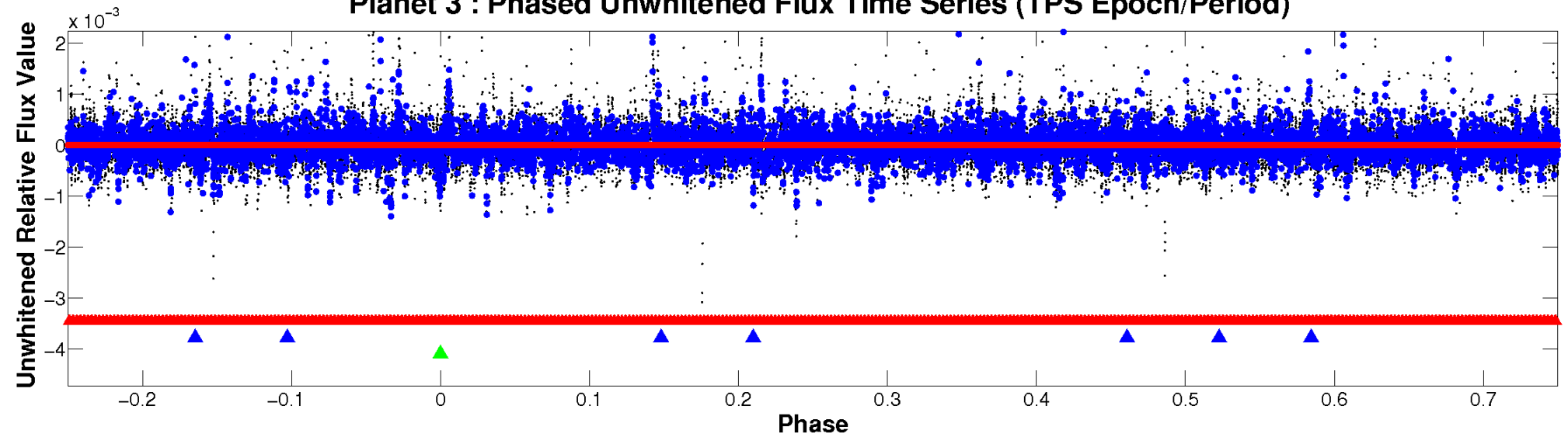
ALT Odd/Even

TCE 007456455-03

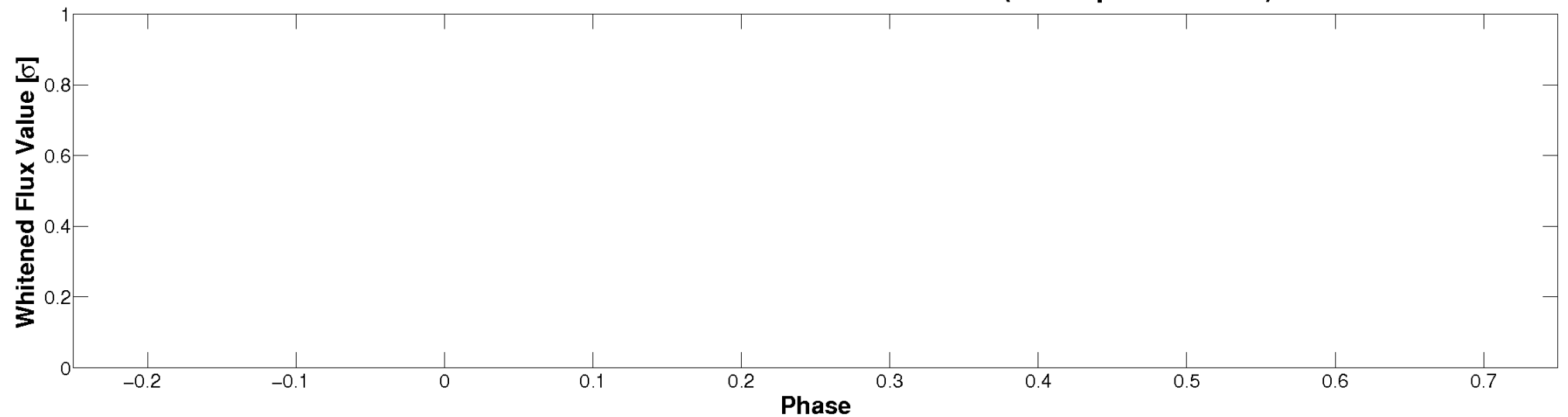


Non-Whitened Vs. Whitened Light Curve

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

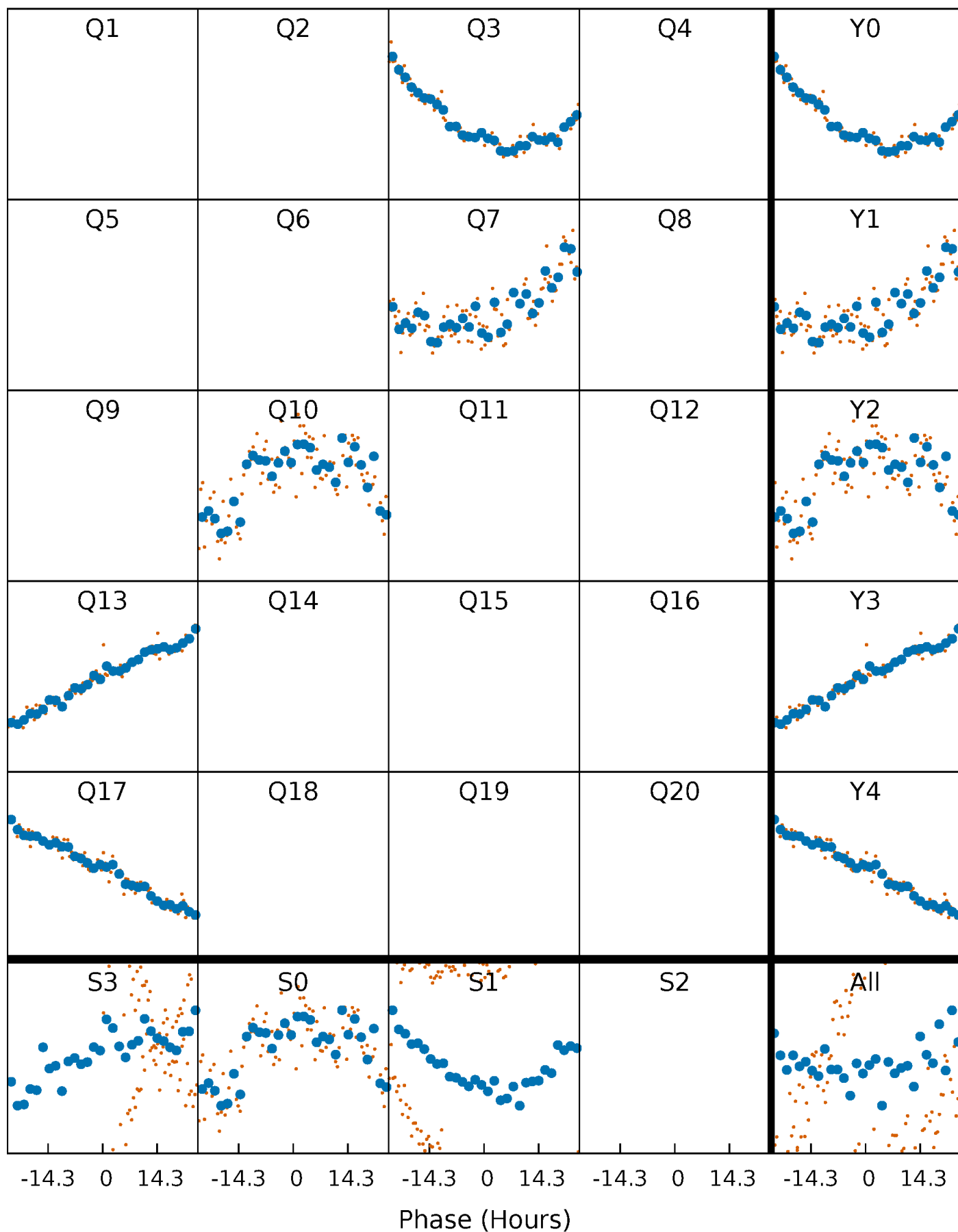


Planet 3 : Phased Whitened Flux Time Series (TPS Epoch/Period)



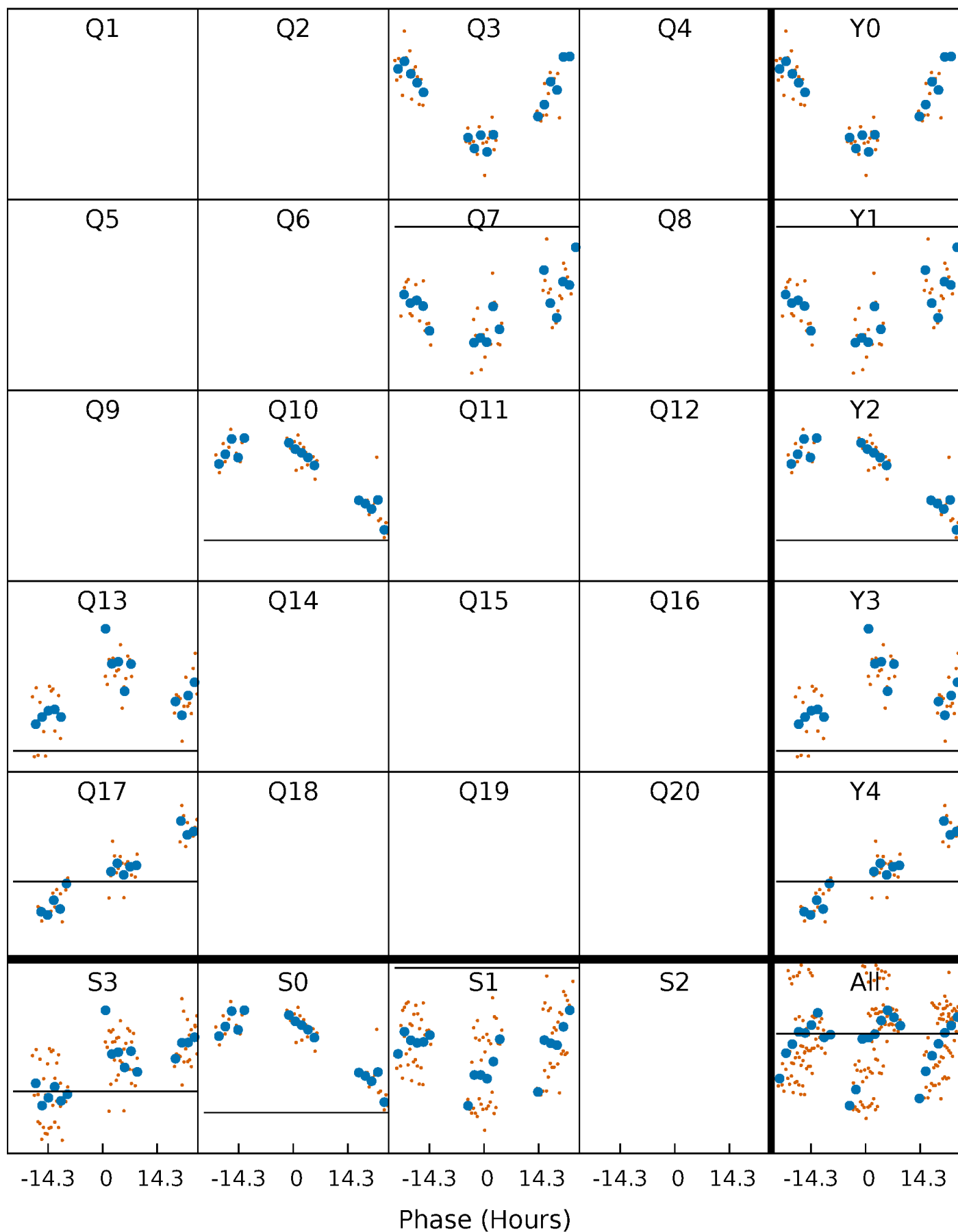
PDC Quarter-Phased Transit Curves

TCE 007456455-03 P=311.182685 Days $T_0=329.648414$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007456455-03 $P=311.182685$ Days $T_0=329.648414$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

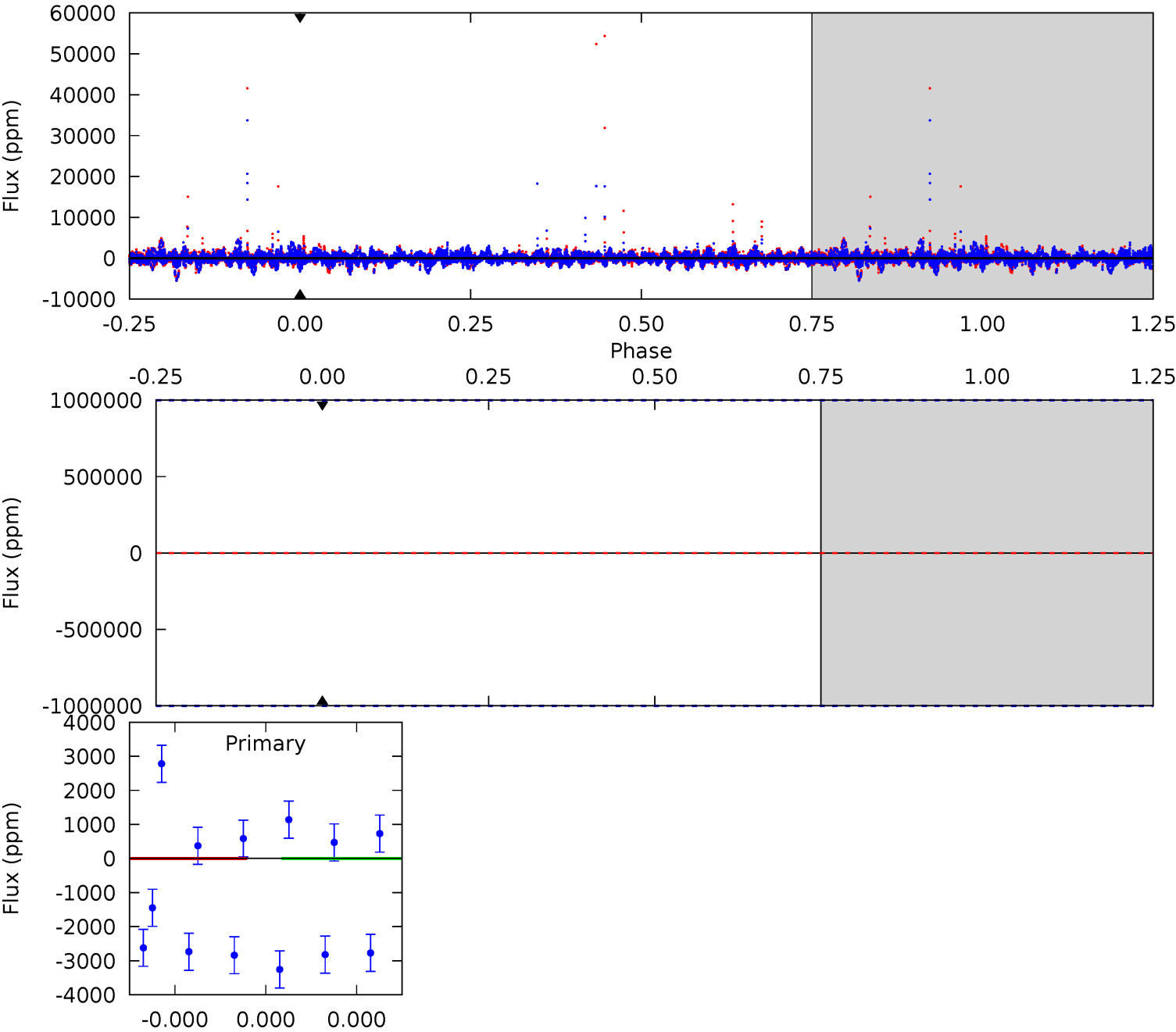
TCE 007456455-03 $P=311.182685$ Days $T_0=328.911105$ (BKJD)



DV Model-Shift Uniqueness Test

007456455-03, P = 311.182685 Days, E = 18.465729 Days

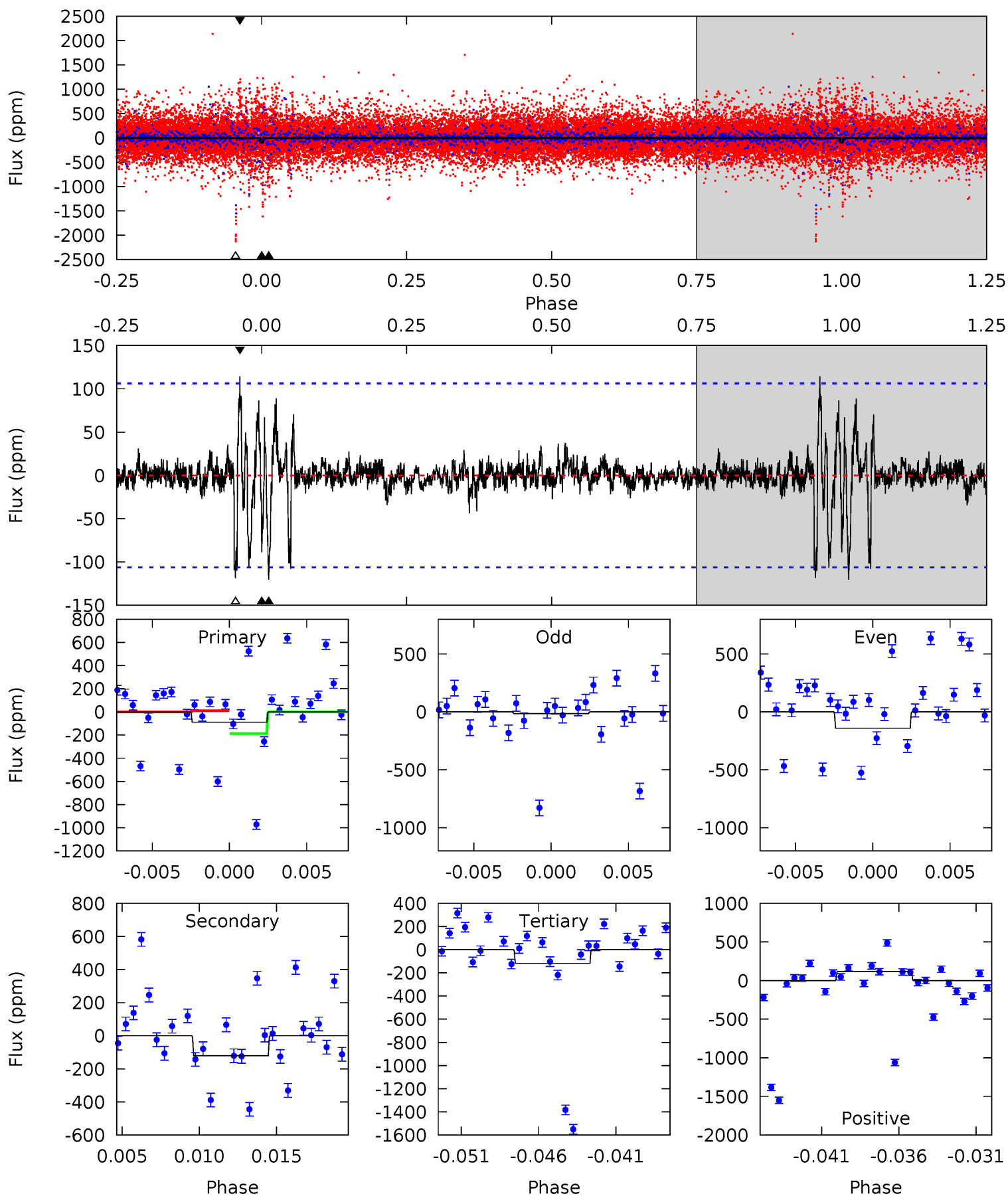
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007456455-03, P = 311.182685 Days, E = 17.728420 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.30	5.84	5.75	5.54	5.15	2.80	0.90	-1.45	-1.24	0.08	0.29	3.00	2.07	0.49	4.35



Stellar Parameters For KIC 007456455

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4902^{+146}_{-146}	$4.582^{+0.065}_{-0.035}$	$-0.340^{+0.300}_{-0.300}$	$0.696^{+0.062}_{-0.068}$	$0.674^{+0.088}_{-0.047}$	$2.822^{+0.799}_{-0.432}$
	+3%/-3%	+1%/-1%	+88%/-88%	+9%/-10%	+13%/-7%	+28%/-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 007456455-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$5.95^{+5.74}_{-4.02}$	282^{+10}_{-10}	-2860^{+17694}_{-9356}	$-2409.307^{+1976624.214}_{-1401405.330}$
Alt.	-120 ± 21	$5.47^{+5.38}_{-3.77}$	283^{+10}_{-11}	2644^{+1083}_{-392}	1323^{+12703}_{-981}

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

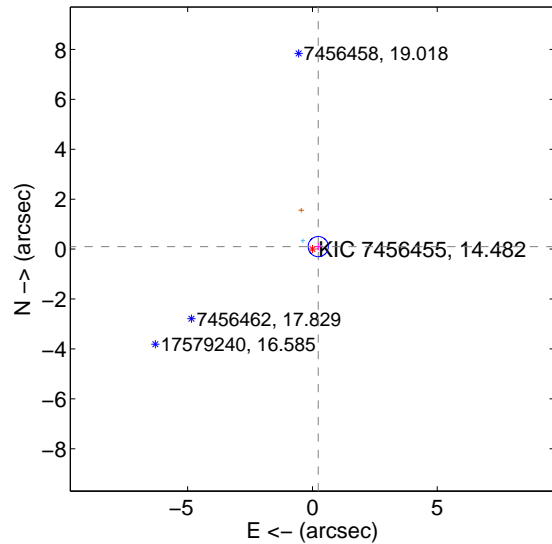
Supplemental centroid analysis for 007456455-03. Kepler magnitude: 14.48. Transit SNR -1.00

There are 3 quarters with good PRF difference image offsets

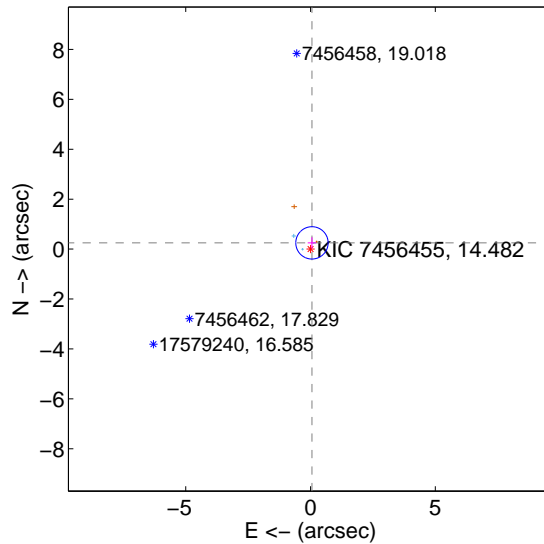
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.253 ± 0.135	1.88	-0.233 ± 0.132	0.100 ± 0.148
PRF-fit source offset from KIC position	0.256 ± 0.216	1.19	-0.057 ± 0.169	0.250 ± 0.224
photometric centroid source offset	0.57 ± 2.50	0.23	0.47 ± 2.57	0.32 ± 2.36

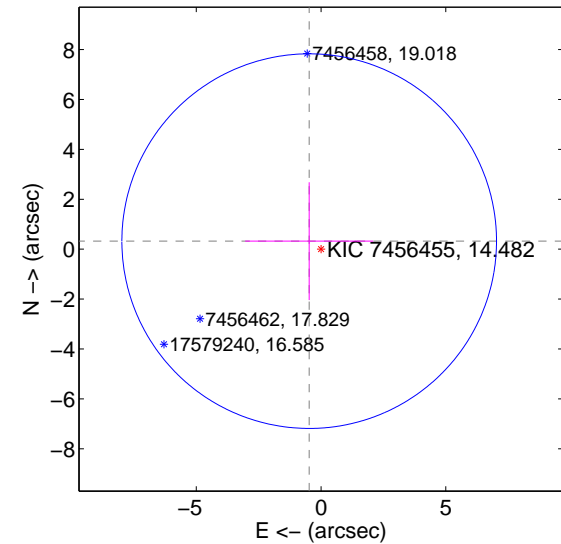
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

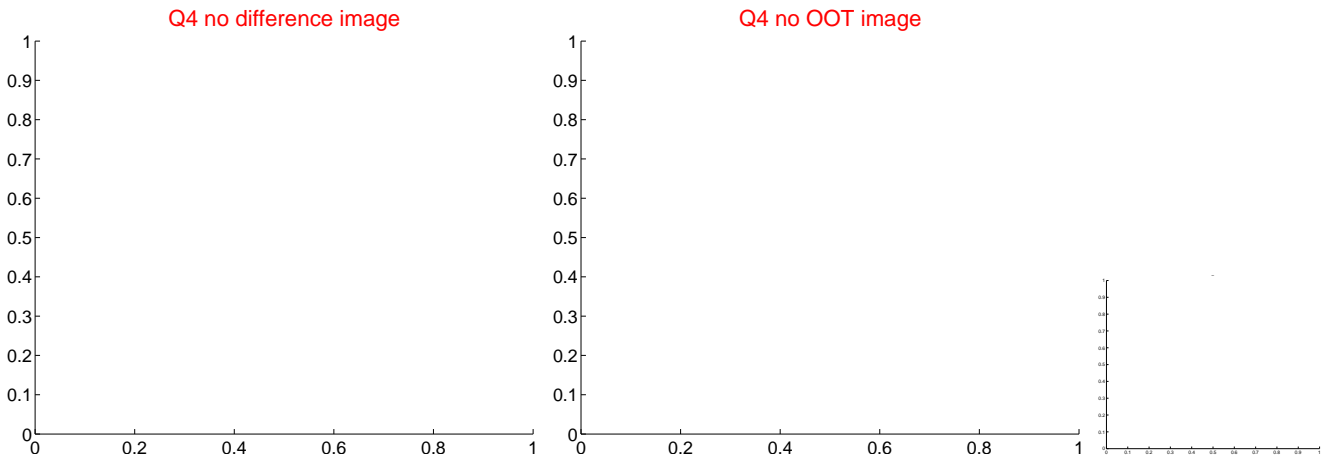
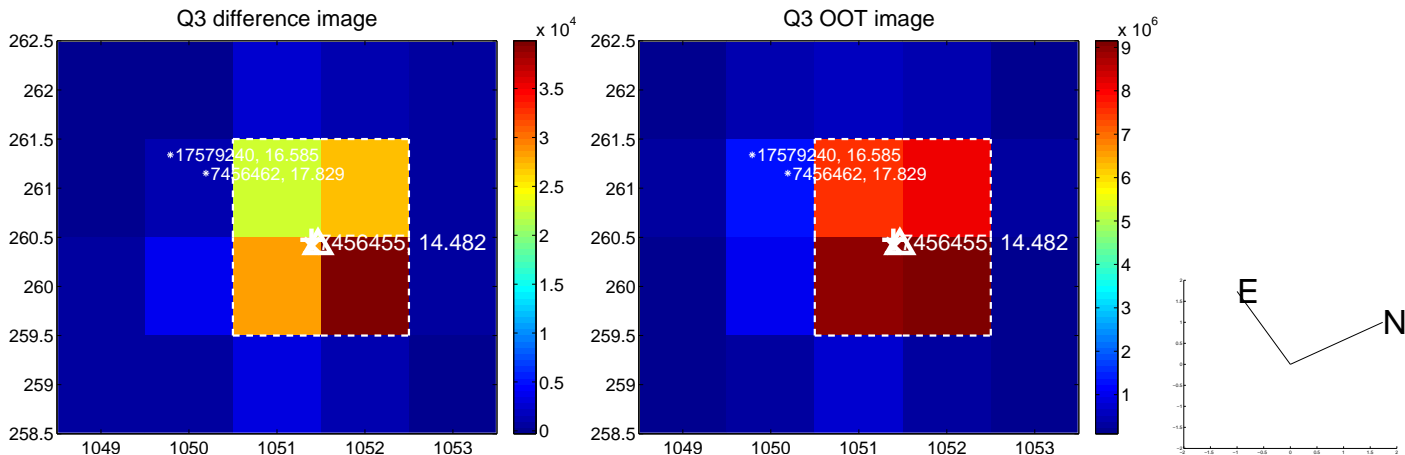
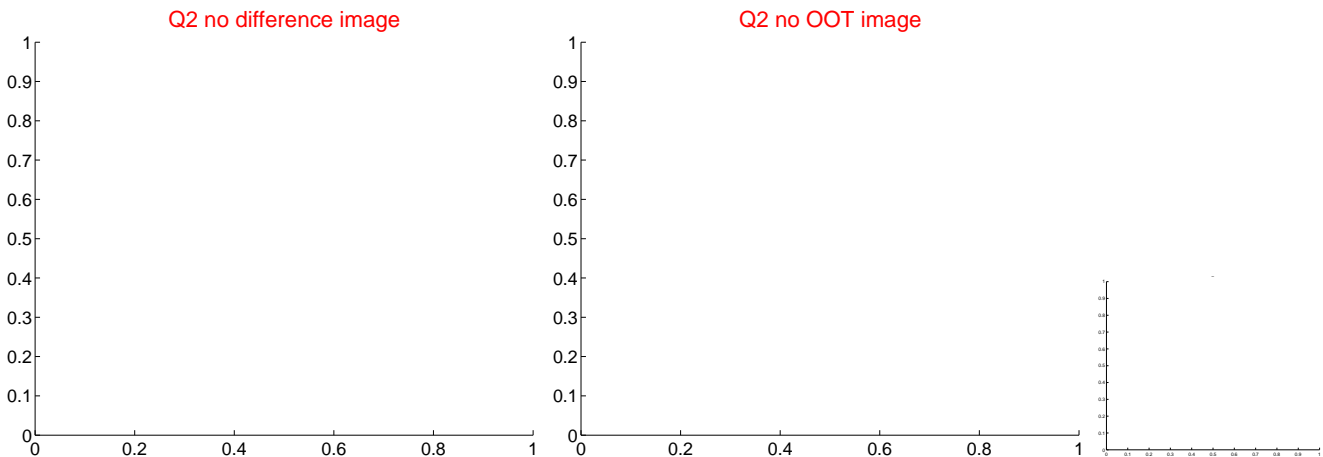


offset from photometric centroids



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

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



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

Q5 no difference image



Q5 no OOT image



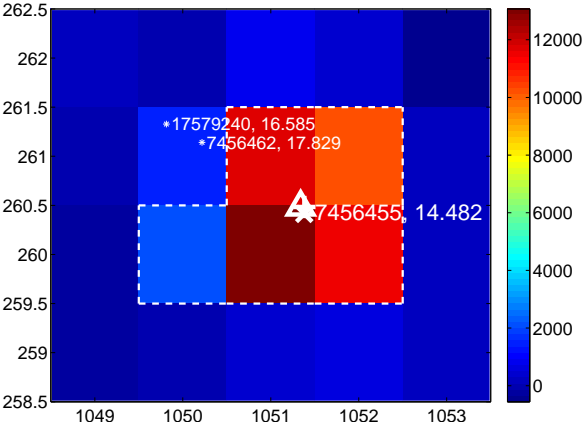
Q6 no difference image



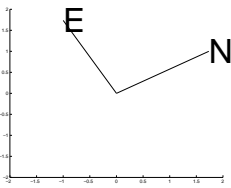
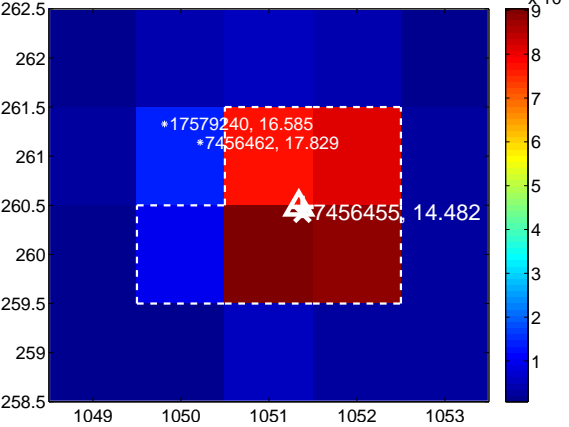
Q6 no OOT image



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.

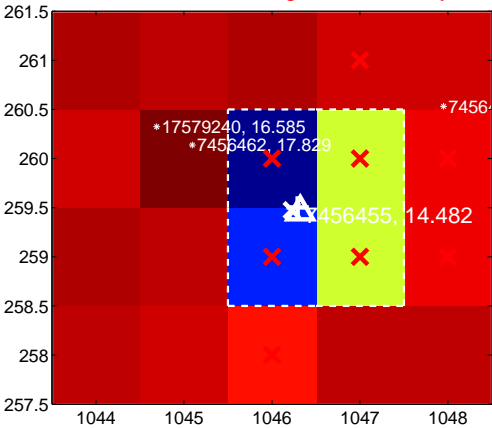
Q9 no difference image



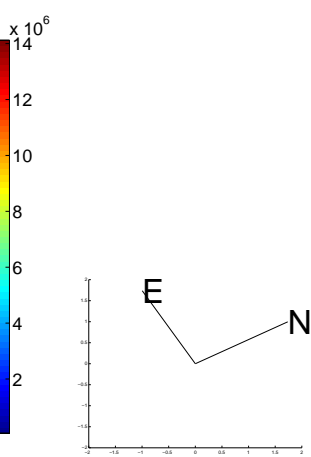
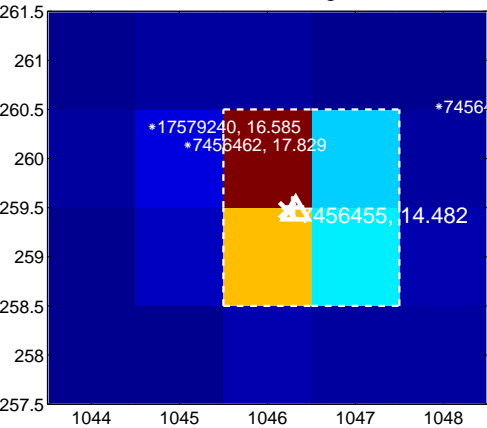
Q9 no OOT image



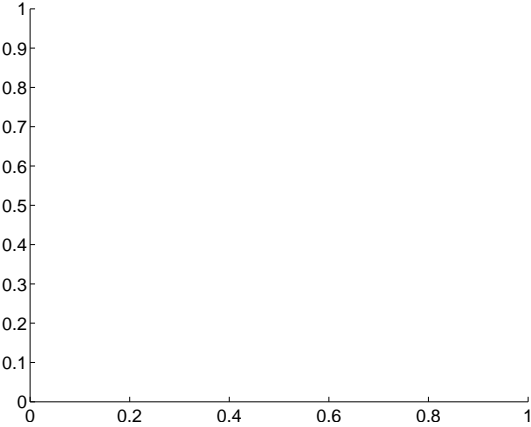
Q10 difference image. Poor Quality



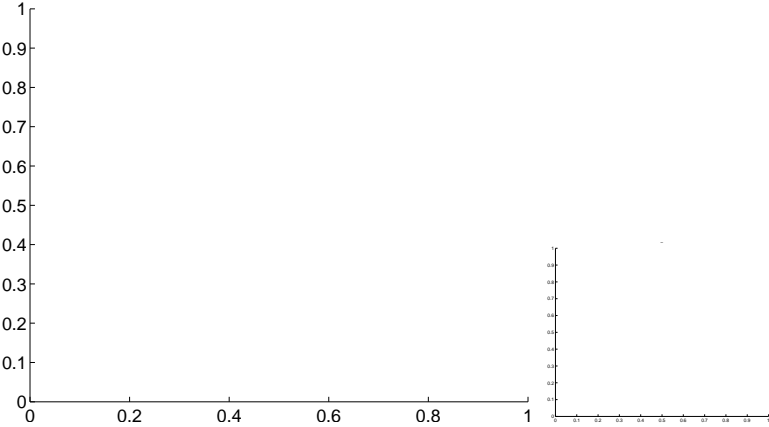
Q10 OOT image



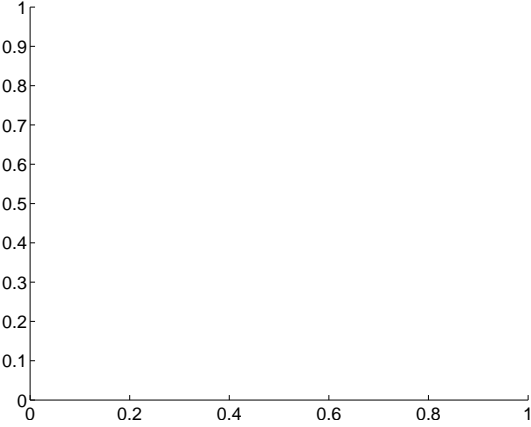
Q11 no difference image



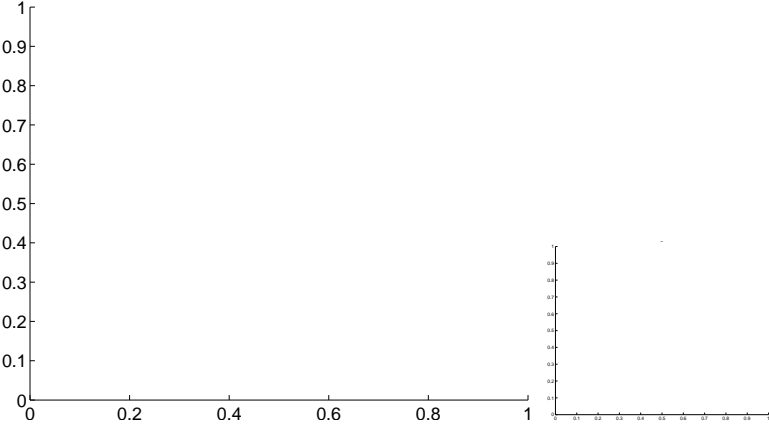
Q11 no OOT image



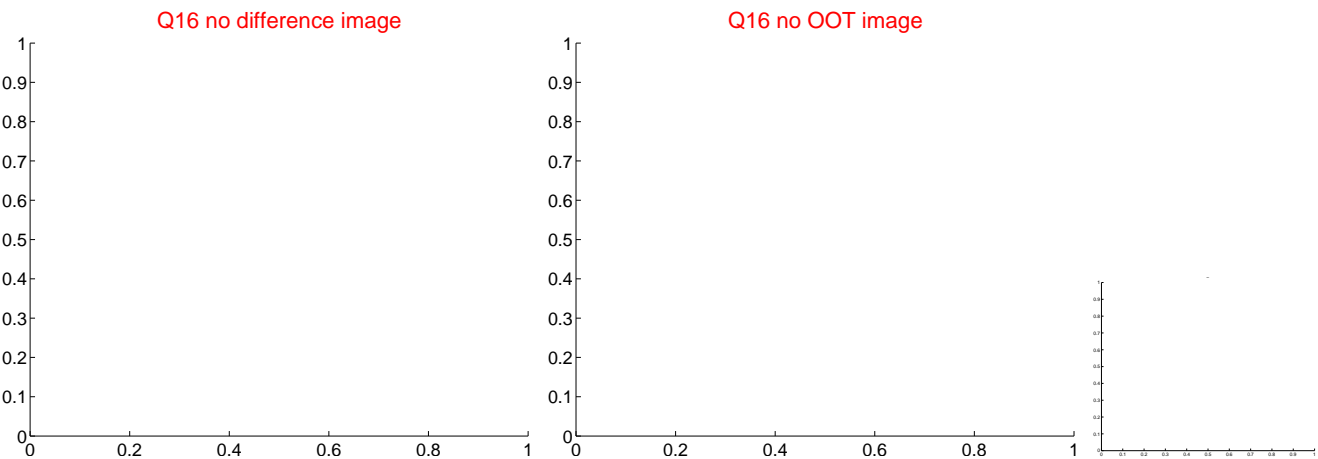
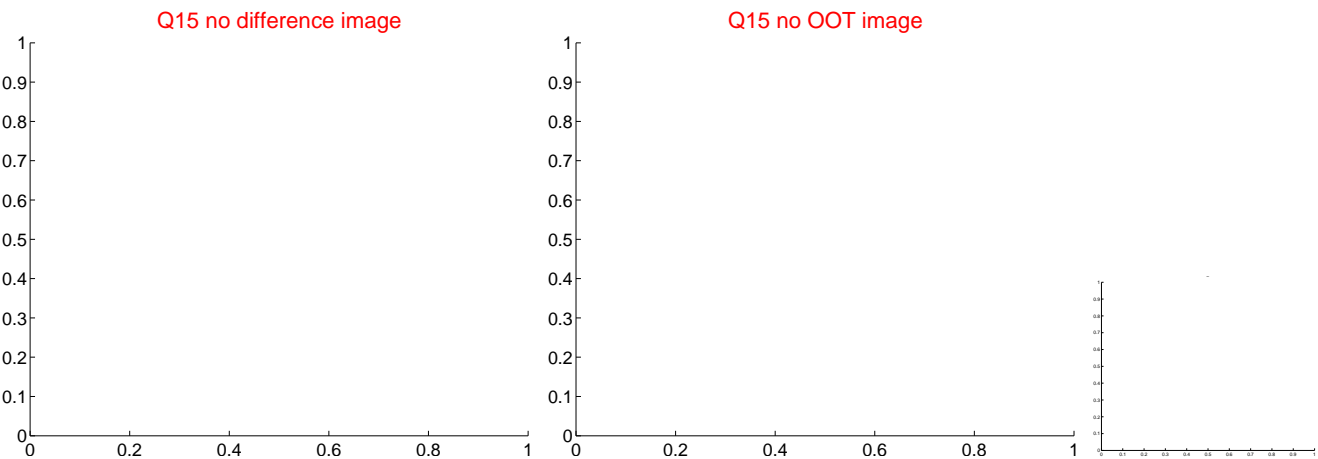
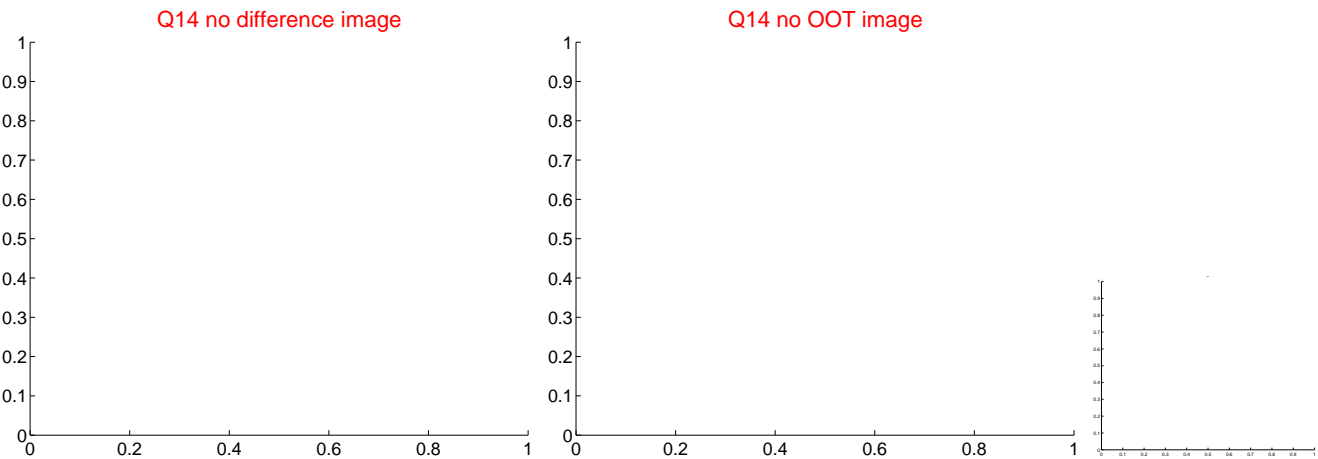
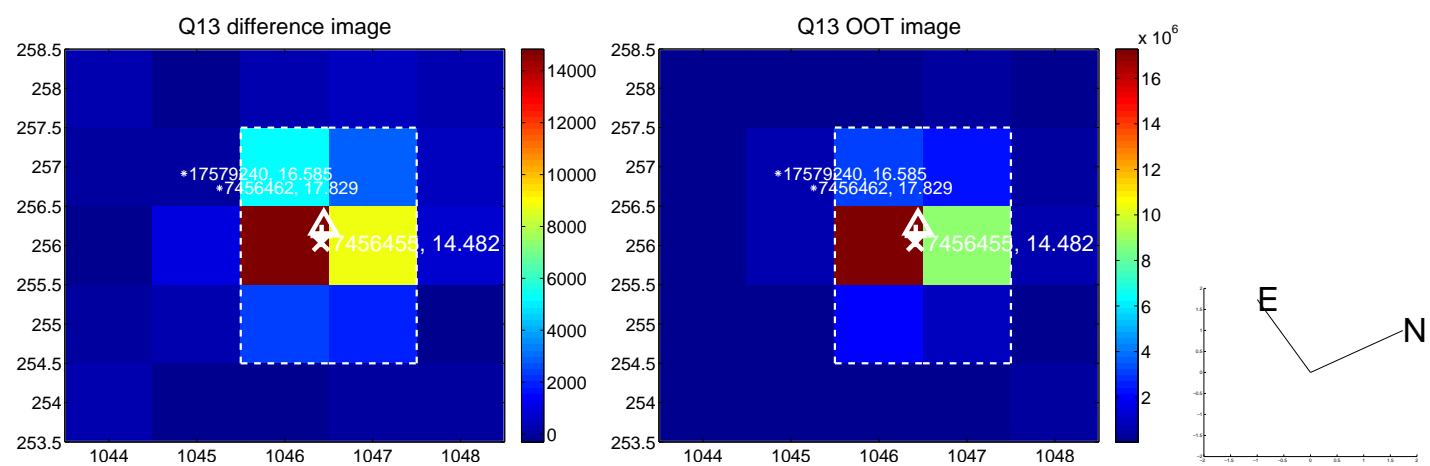
Q12 no difference image



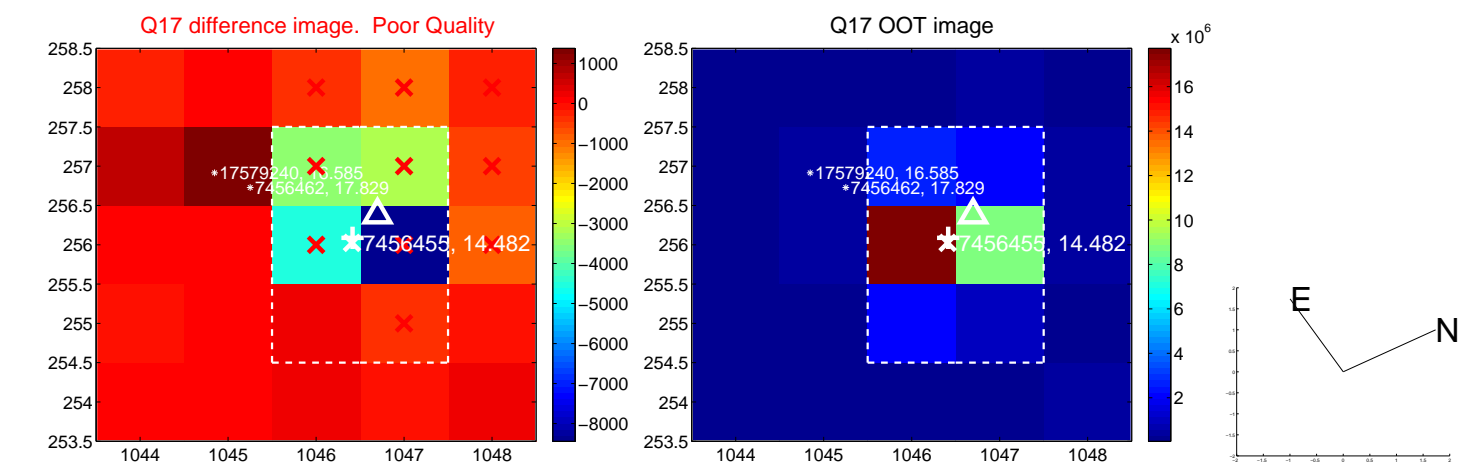
Q12 no OOT image



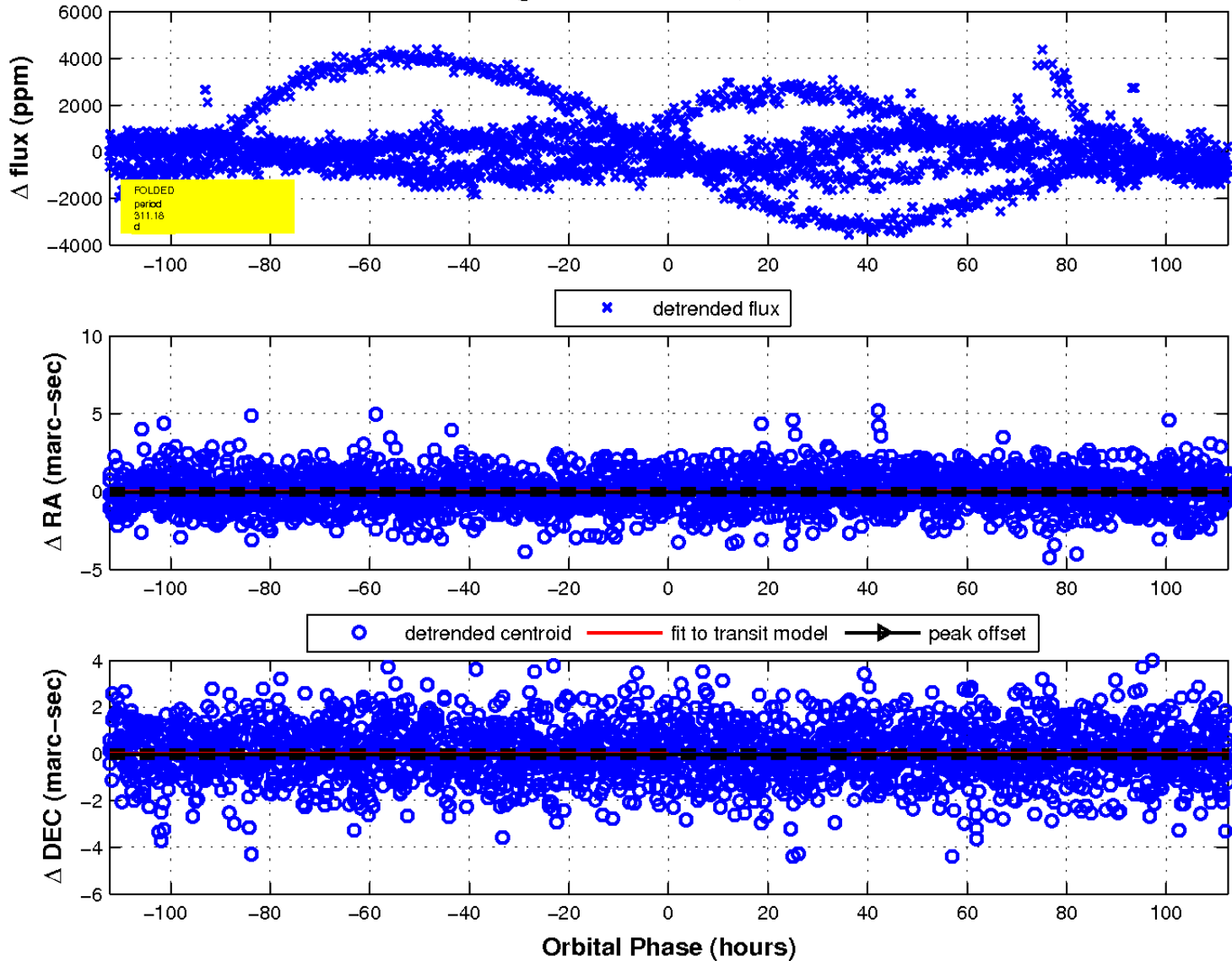
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

