

KIC 011153259

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})
011153259-01	OBS	No	0.982378	132.153660	56.1	5.833	9.6	3.5	2.32	7615	1.77	29918.84
011153259-02	OBS	No	1.637211	132.932555	283.0	2.655	9.4	8.3	2.32	7615	4.54	15141.77
011153259-03	OBS	No	85.218204	154.449359	1769.5	2.450	9.0	7.9	2.32	7615	10.60	77.91
011153259-04	OBS	No	28.535344	150.347362	1716.4	1.796	8.5	8.0	2.32	7615	10.39	335.07
011153259-05	OBS	No	20.727248	135.481597	1621.0	1.698	8.5	8.7	2.32	7615	13.53	513.17
011153259-06	OBS	No	9.263085	140.563860	812.9	3.691	8.9	9.0	2.32	7615	7.76	1501.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011153259-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
011153259-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
011153259-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011153259-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011153259-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011153259-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—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.

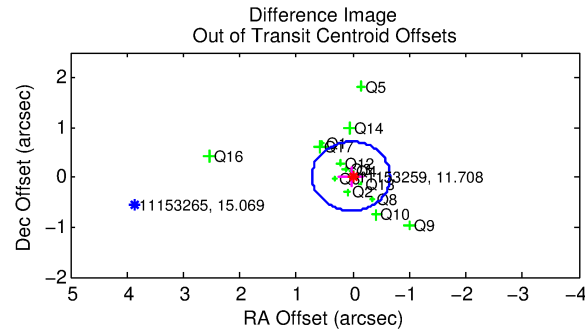
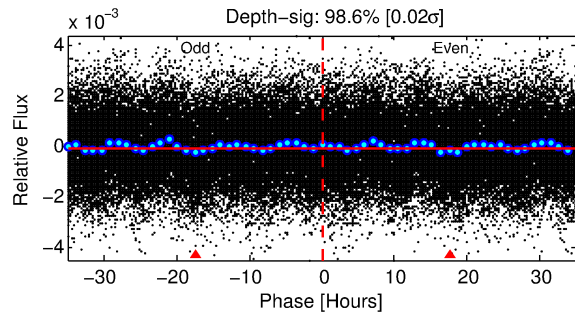
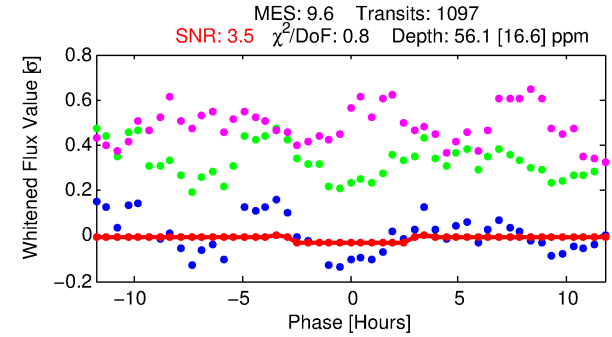
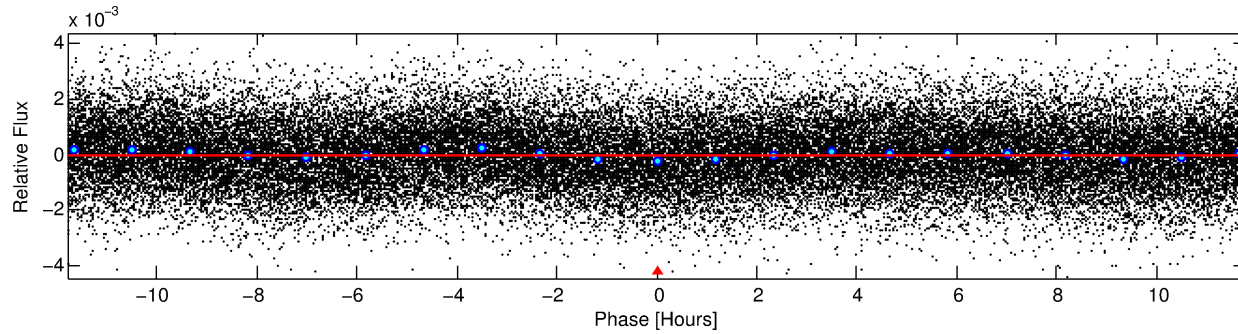
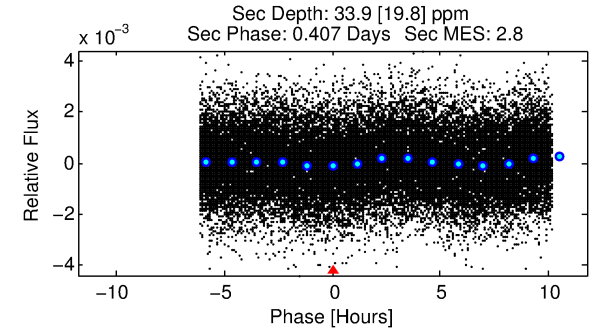
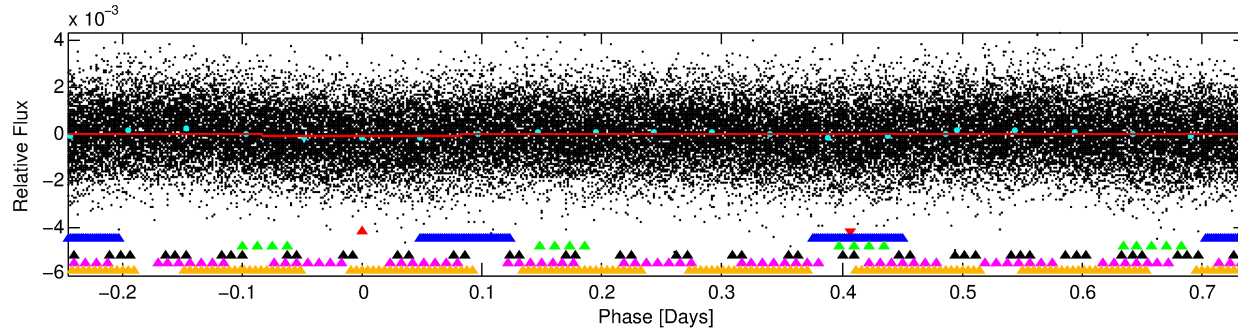
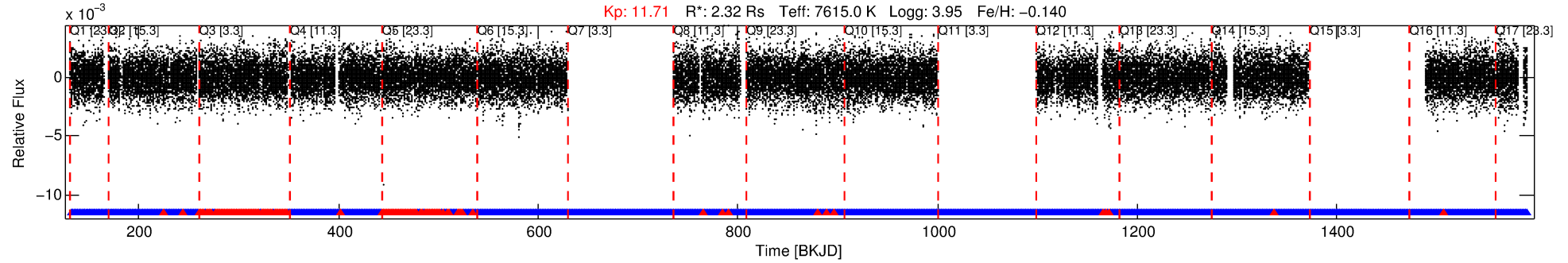
Ephemeris Match Information For 011153259-01

No Significant Match Found

DV One-Page Summary

KIC: 11153259 Candidate: 1 of 6 Period: 0.982 d

KOI: K03200 Corr: No Ephemeris Match



DV Fit Results:

Period = 0.98238 [0.00004] d
Epoch = 132.1537 [0.0099] BKJD
 R_p/R^* = 0.0070 [0.0133]
 a/R^* = 1.40 [7.37]
 b = 0.31 [31.42]
 S_{eff} = 29918.84 [7743.49]
 T_{eq} = 3354 [217] K
 R_p = 1.77 [3.37] R_e
 a = 0.0233 [0.0040] AU
 A_g = 3.23 [12.45] [0.18σ]
 T_{effp} = 6953 [6679] K [0.54σ]

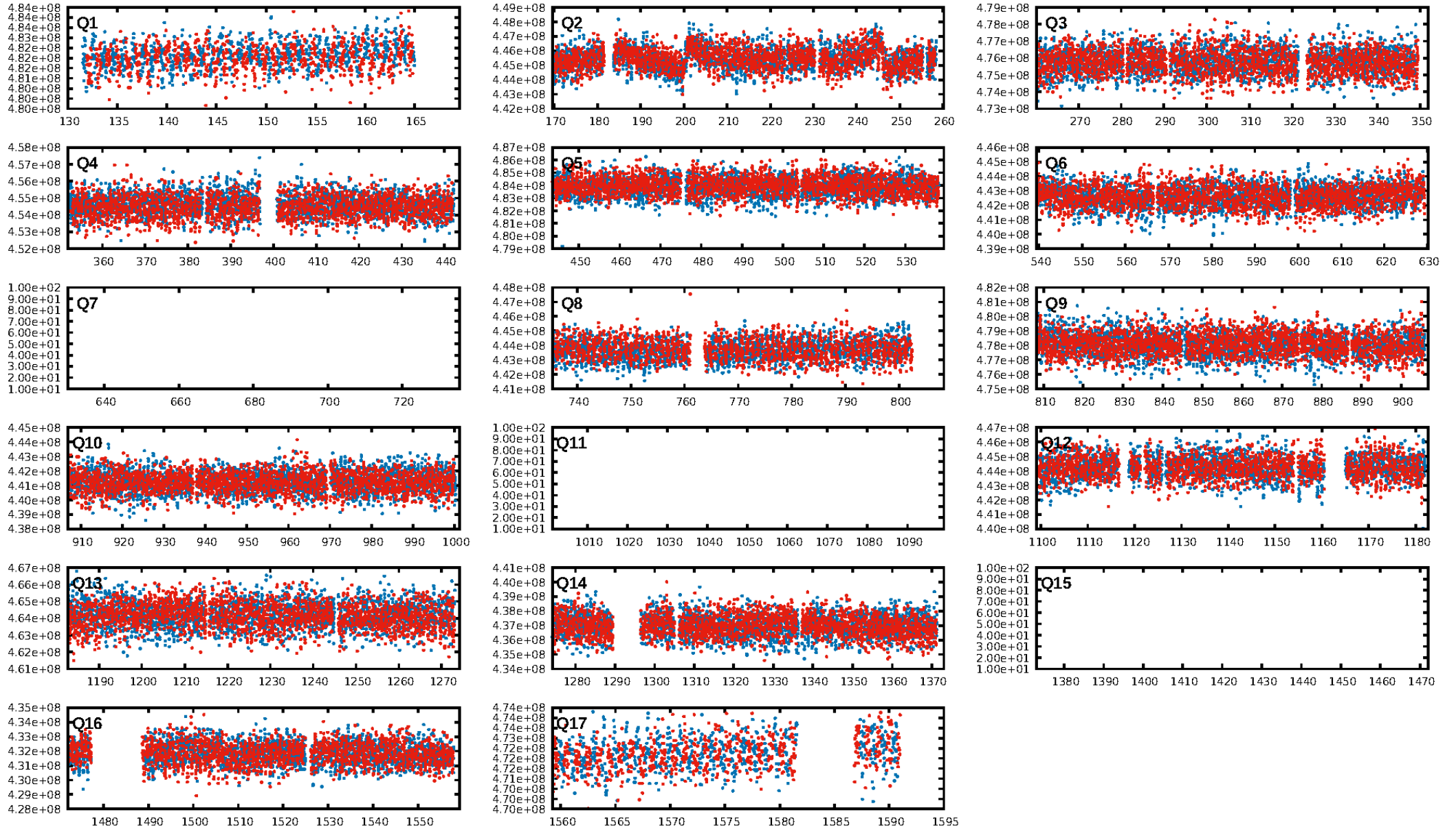
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 98.6% [2.45σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.83e-16
RollingBand-fgt: 0.86 [892/1035]
GhostDiagnostic-chr: 3.262
Centroid-sig: N/A
Centroid-so: 1.200 arcsec [3.85σ]
OotOffset-rm: 0.038 arcsec [0.16σ]
KicOffset-rm: 0.073 arcsec [0.41σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 0.71 [10/14]
DiffImageOverlap-fno: 1.00 [14/14]

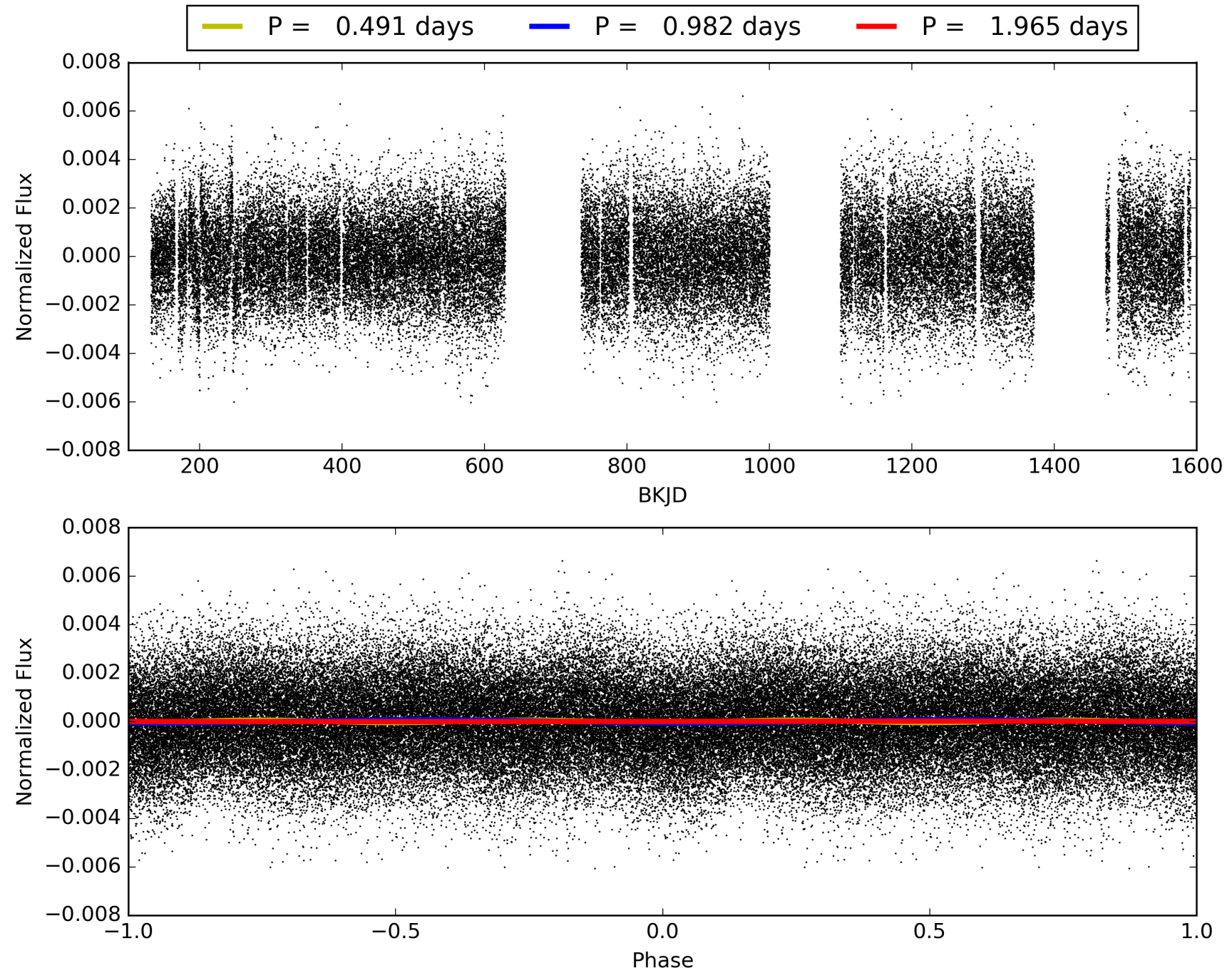
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:49:34 Z

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

TCE 011153259-01, PDC Light Curves

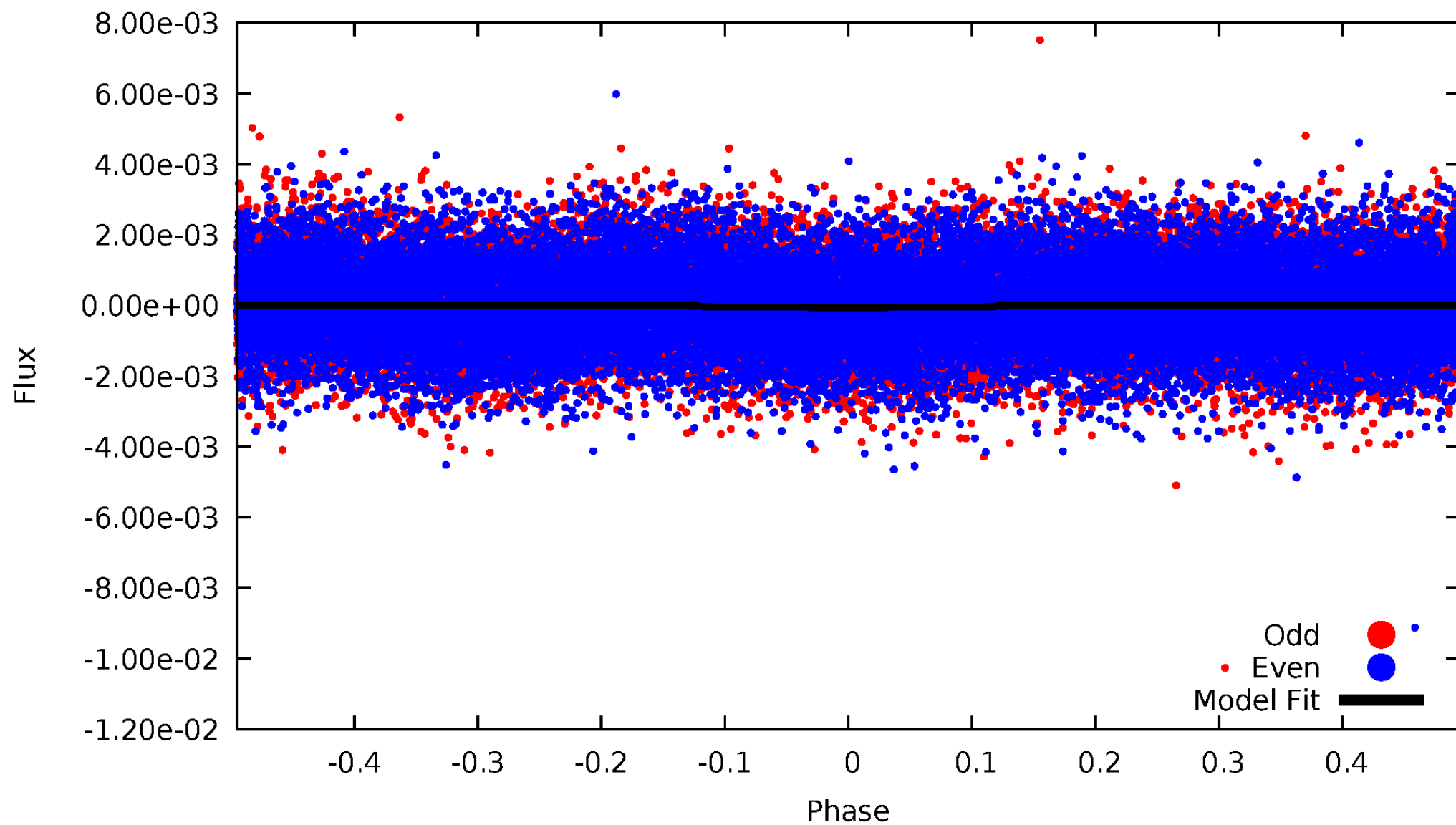


TCE 011153259-01



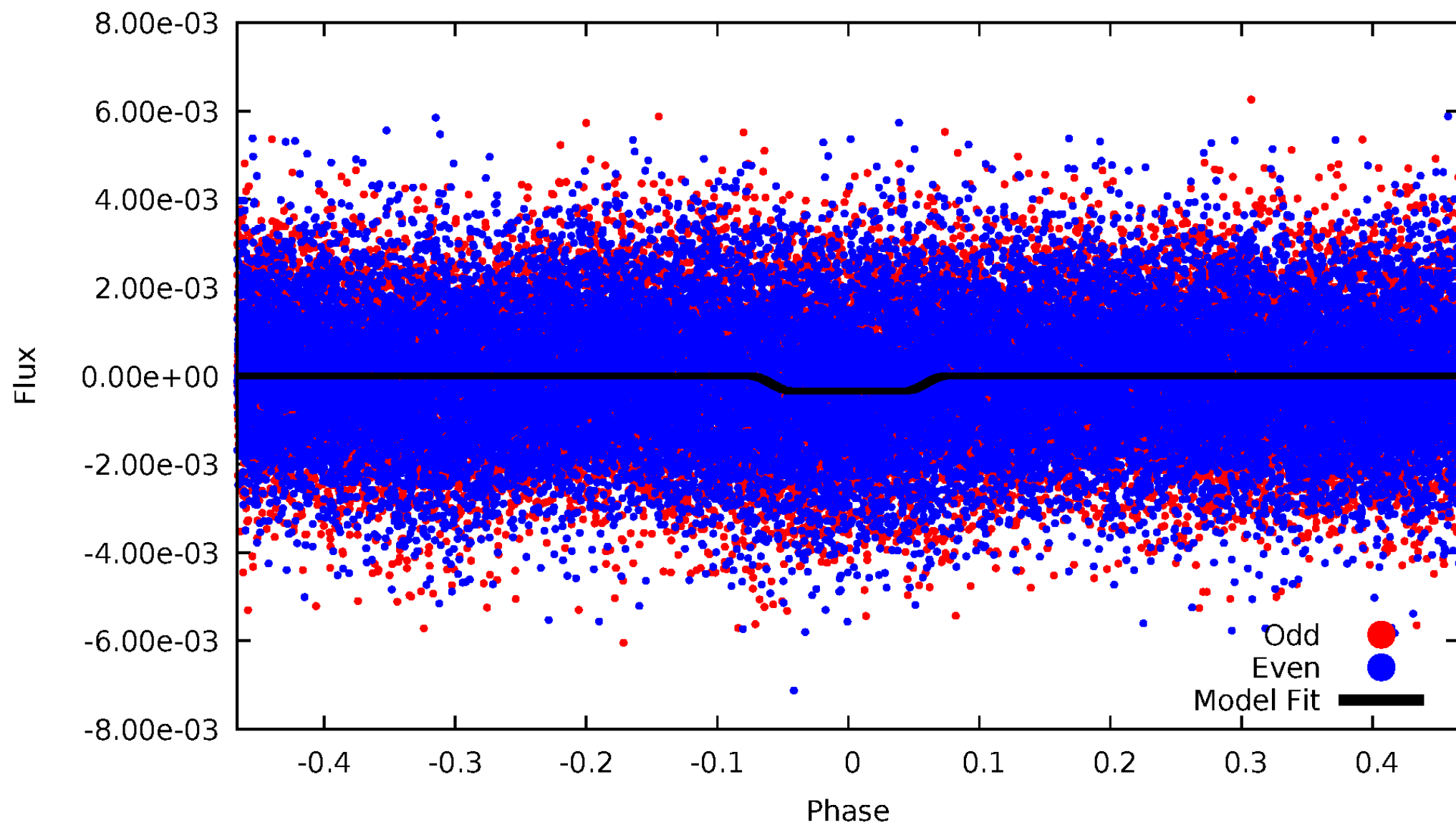
DV Odd/Even

TCE 011153259-01

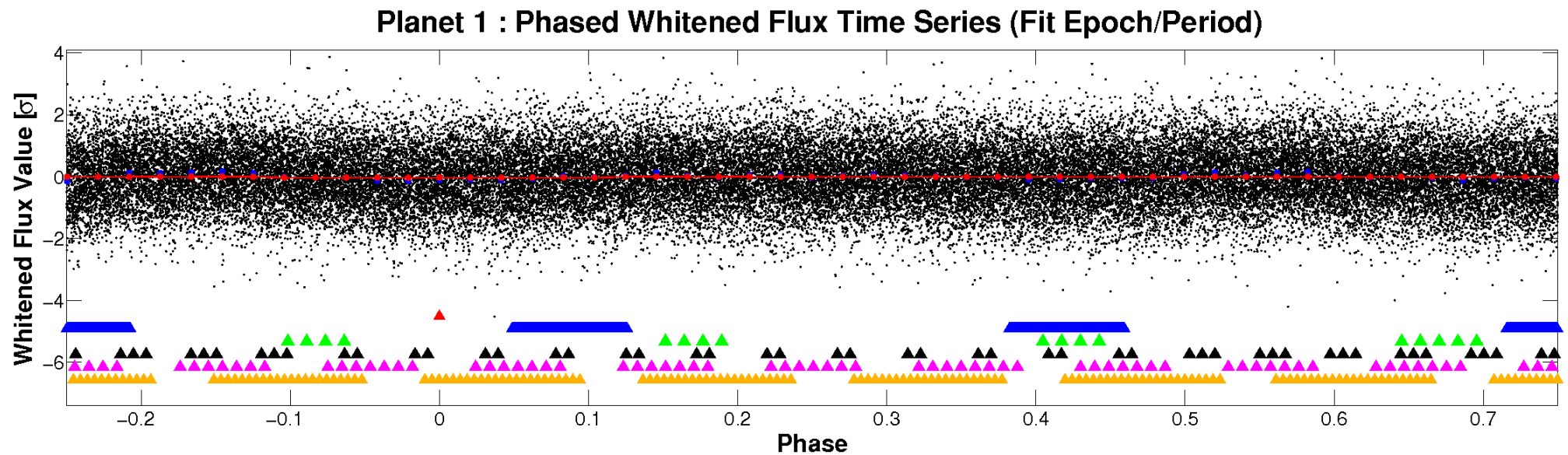
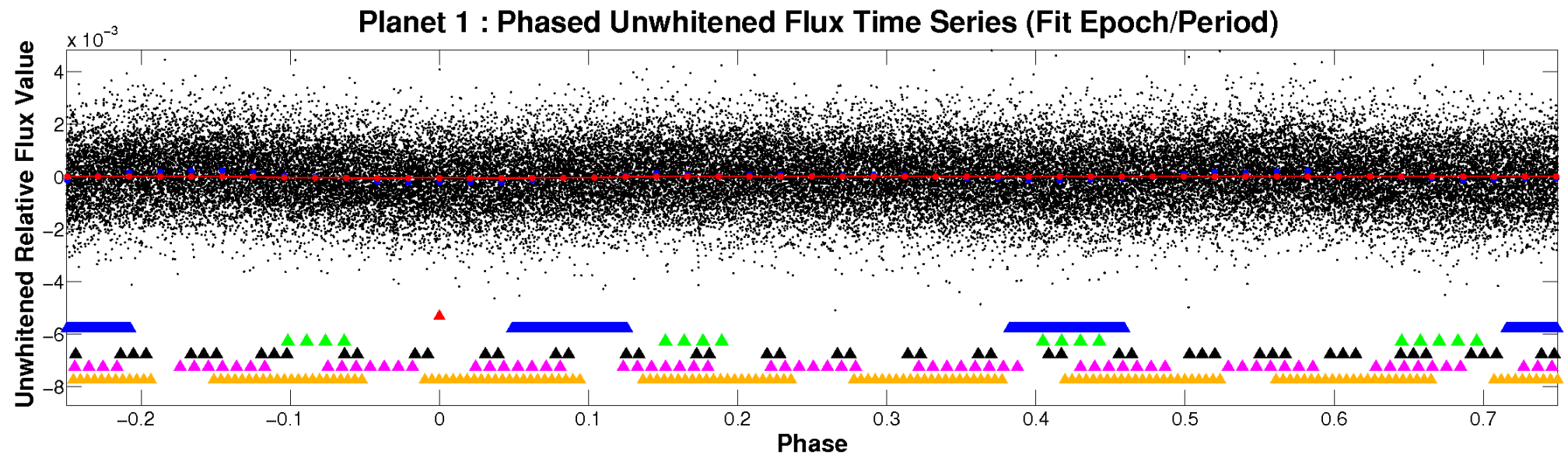


ALT Odd/Even

TCE 011153259-01

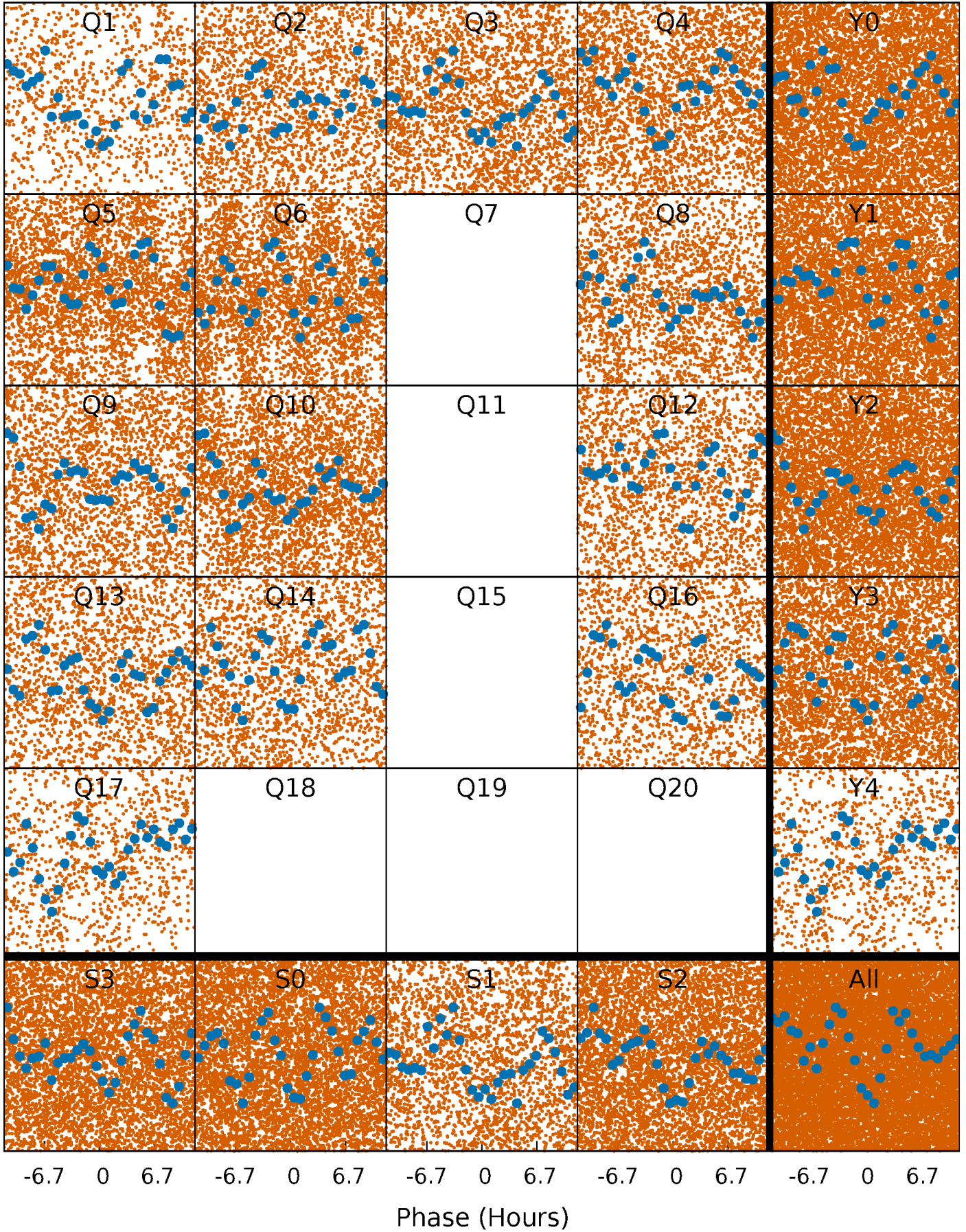


Non-Whitened Vs. Whitened Light Curve



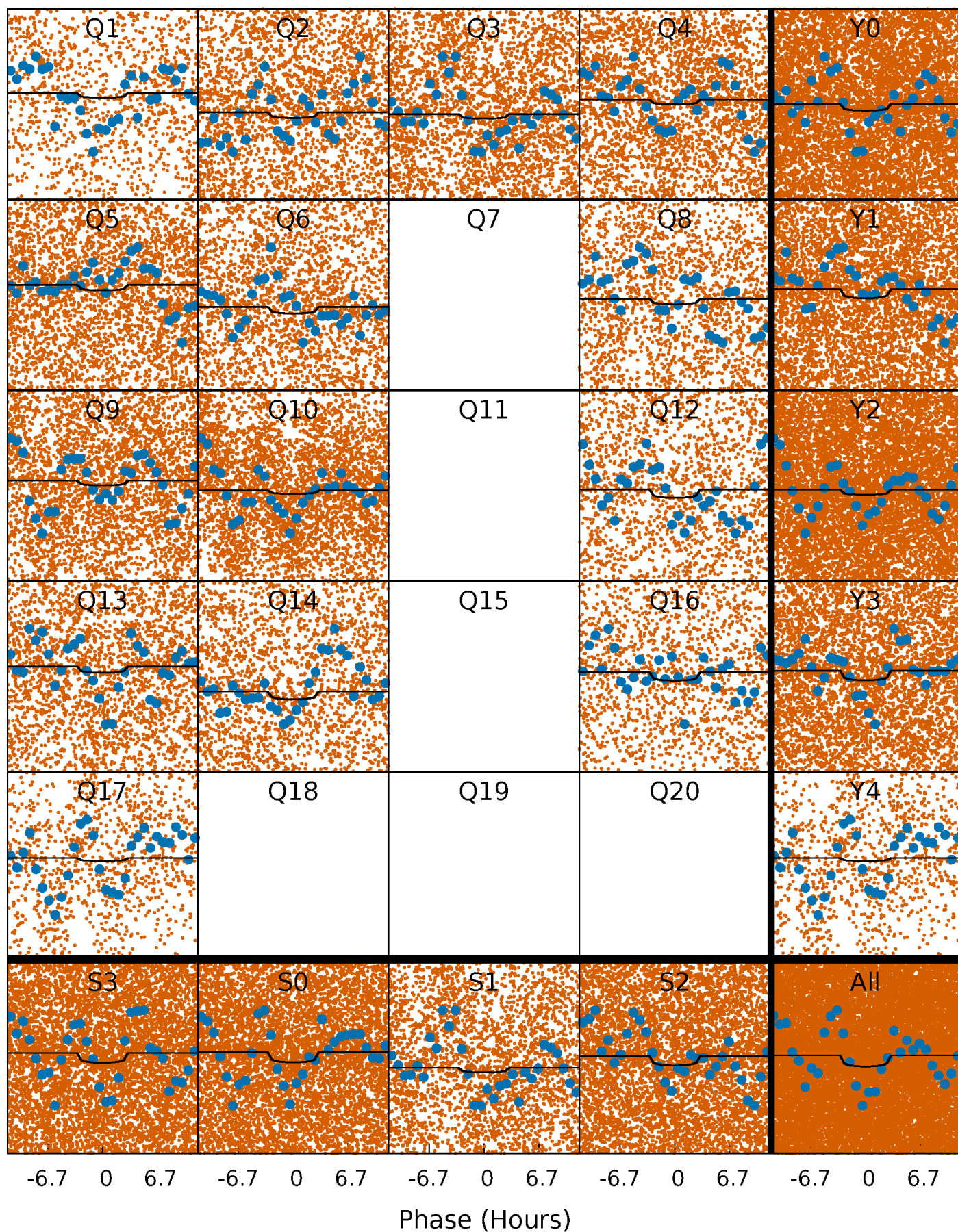
PDC Quarter-Phased Transit Curves

TCE 011153259-01 P= 0.982378 Days $T_0=132.153660$ (BKJD)



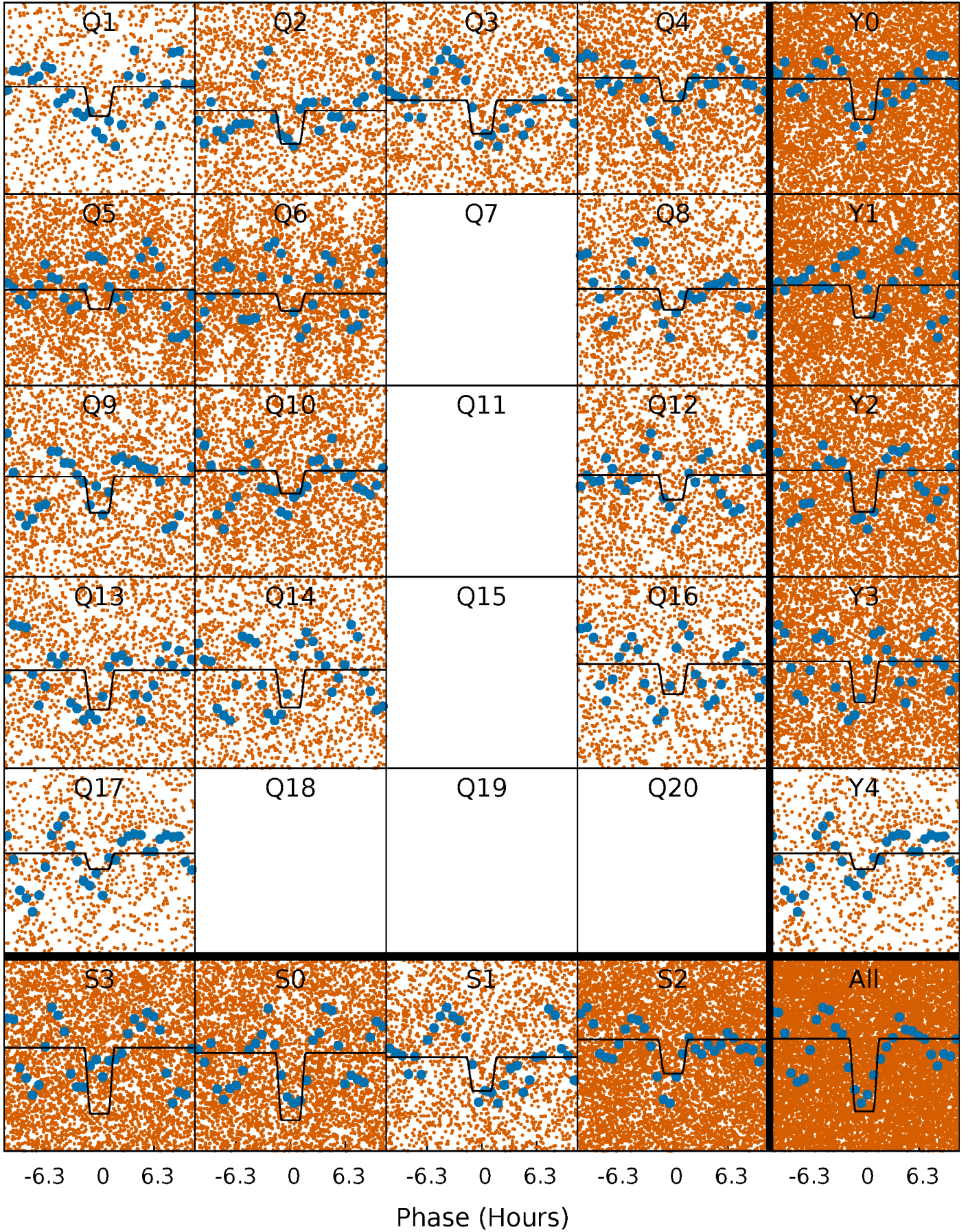
DV Quarter-Phased Transit Curves

TCE 011153259-01 P= 0.982378 Days $T_0=132.153660$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

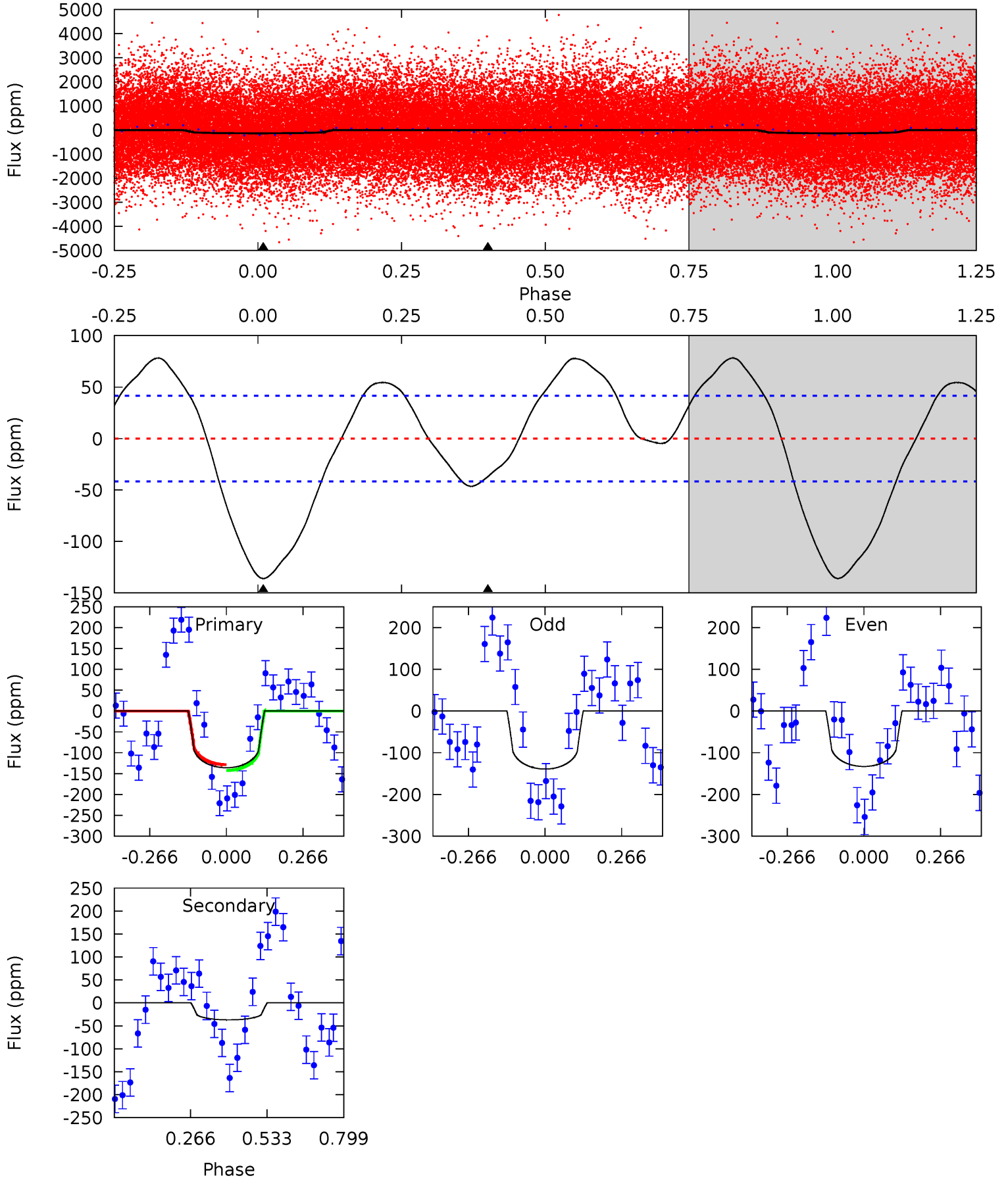
TCE 011153259-01 P= 0.982463 Days $T_0=132.112581$ (BKJD)



DV Model-Shift Uniqueness Test

011153259-01, P = 0.982378 Days, E = 131.171282 Days

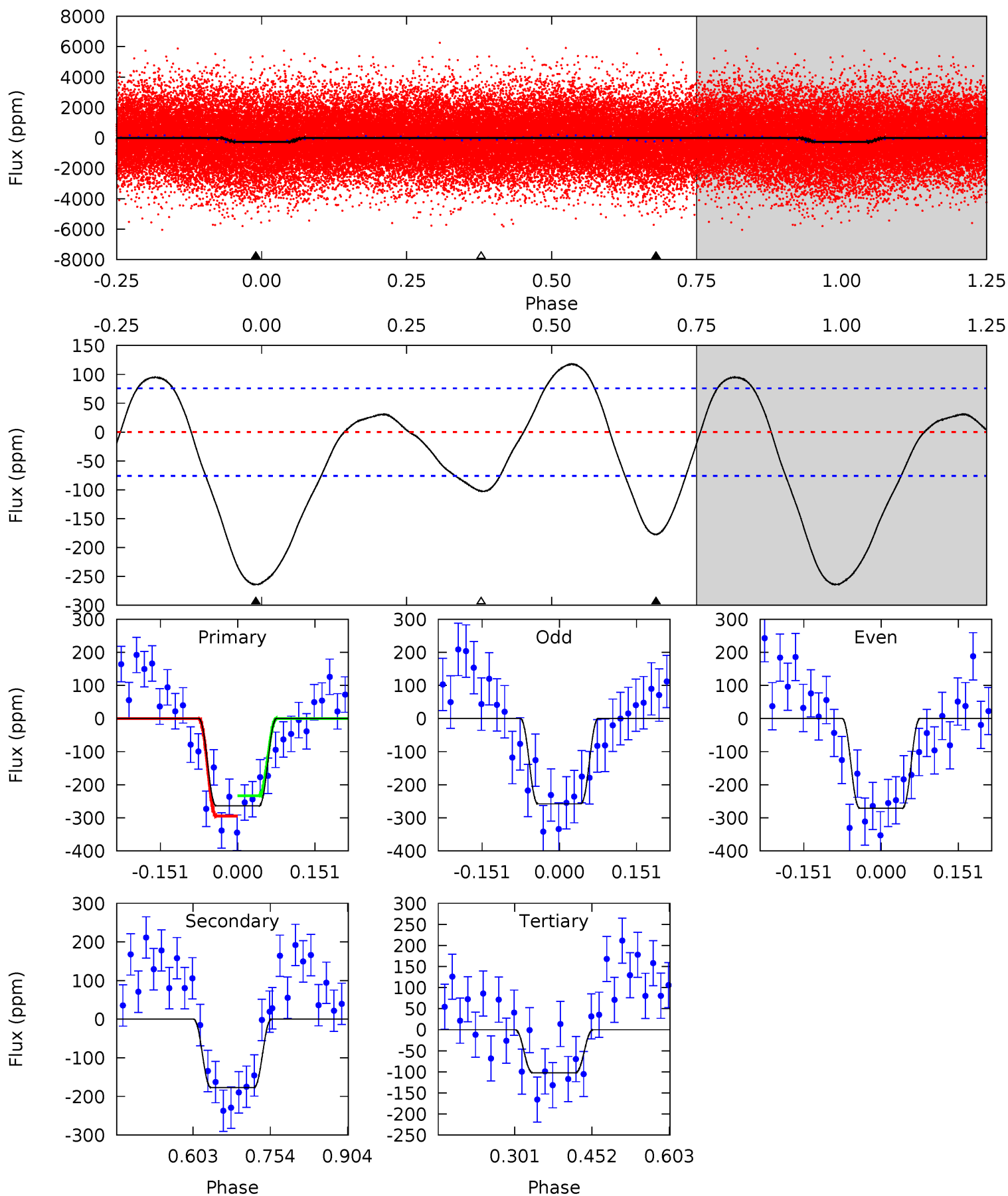
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	3.87	0	0	4.35	1.11	1.23	14.2	14.2	3.87	3.87	0.33	1.10	0.37	0.74



Alt Model-Shift Uniqueness Test

011153259-01, P = 0.982463 Days, E = 131.130118 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.6	10.5	6.05	0	4.48	1.44	3.61	9.59	15.6	4.44	10.5	0.39	1.06	0.31	1.82



Stellar Parameters For KIC 011153259

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7615^{+76}_{-83}	$3.948^{+0.143}_{-0.117}$	$-0.140^{+0.200}_{-0.150}$	$2.318^{+0.452}_{-0.452}$	$1.739^{+0.207}_{-0.156}$	$0.197^{+0.140}_{-0.070}$
	+1%/-1%	+4%/-3%	+143%/-107%	+19%/-19%	+12%/-9%	+71%/-36%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 011153259-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-37 ± 10	$3.08^{+2.96}_{-2.07}$	4672^{+222}_{-223}	4893^{+4489}_{-7328}	$1.110^{+8.479}_{-0.819}$
Alt.	-177 ± 17	$5.10^{+2.94}_{-2.71}$	4678^{+226}_{-238}	5825^{+3409}_{-1296}	$2.088^{+7.474}_{-1.286}$

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 $A_{obs} \gg 1.0$

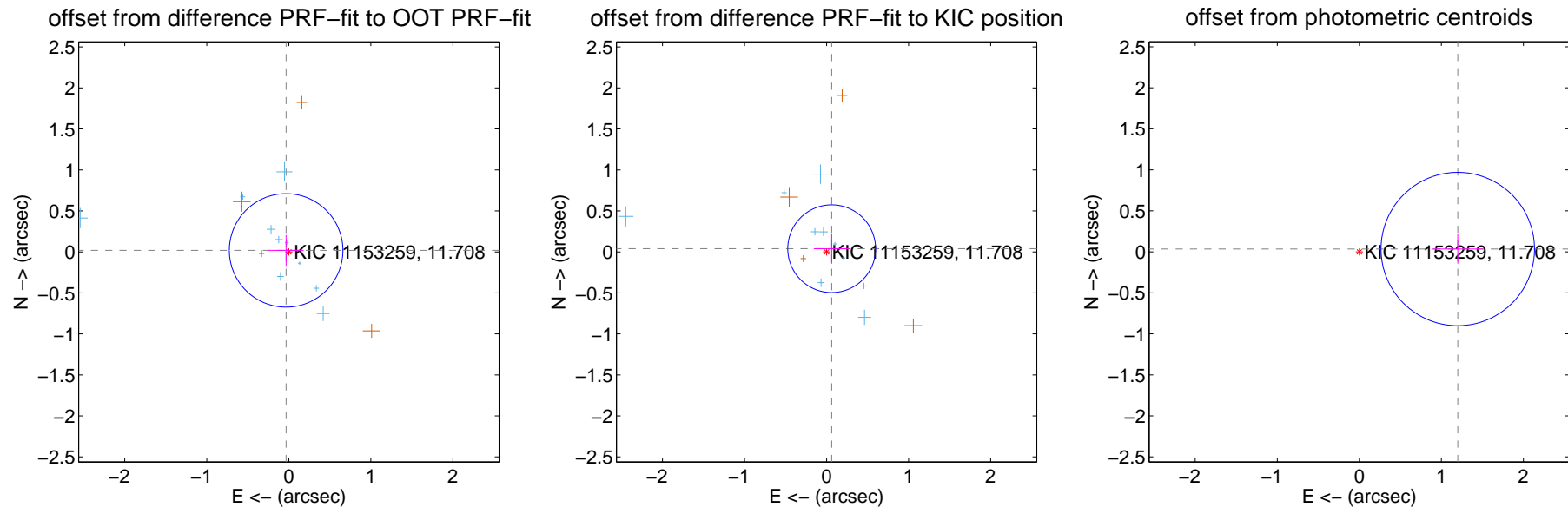
DV Centroid Data

Supplemental centroid analysis for 011153259-01. **Kepler magnitude: 11.71.** Transit SNR 3.45

There are 10 quarters with good PRF difference image offsets

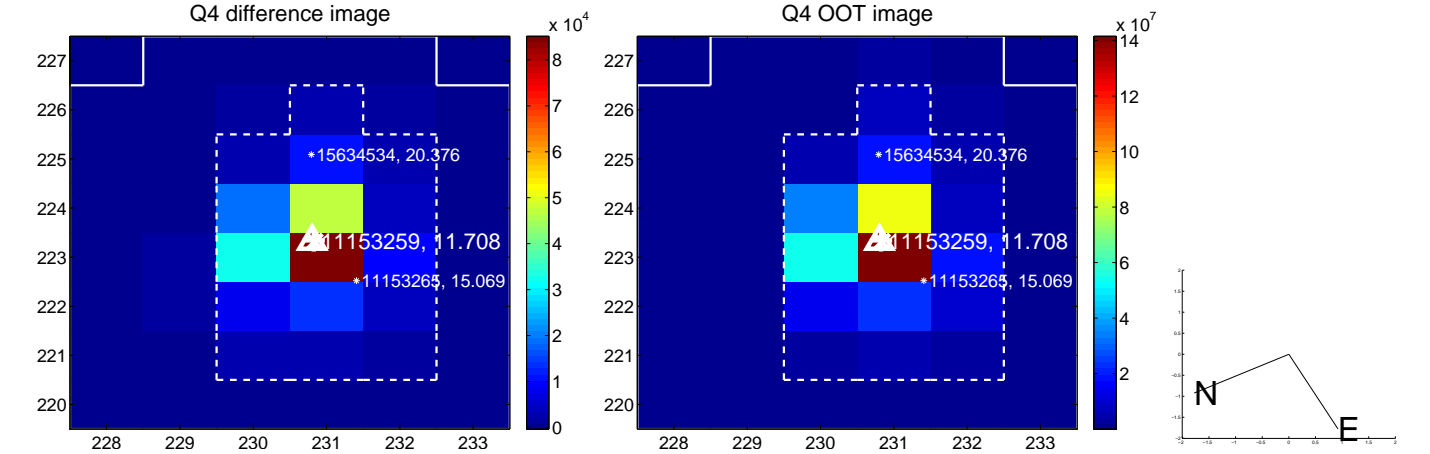
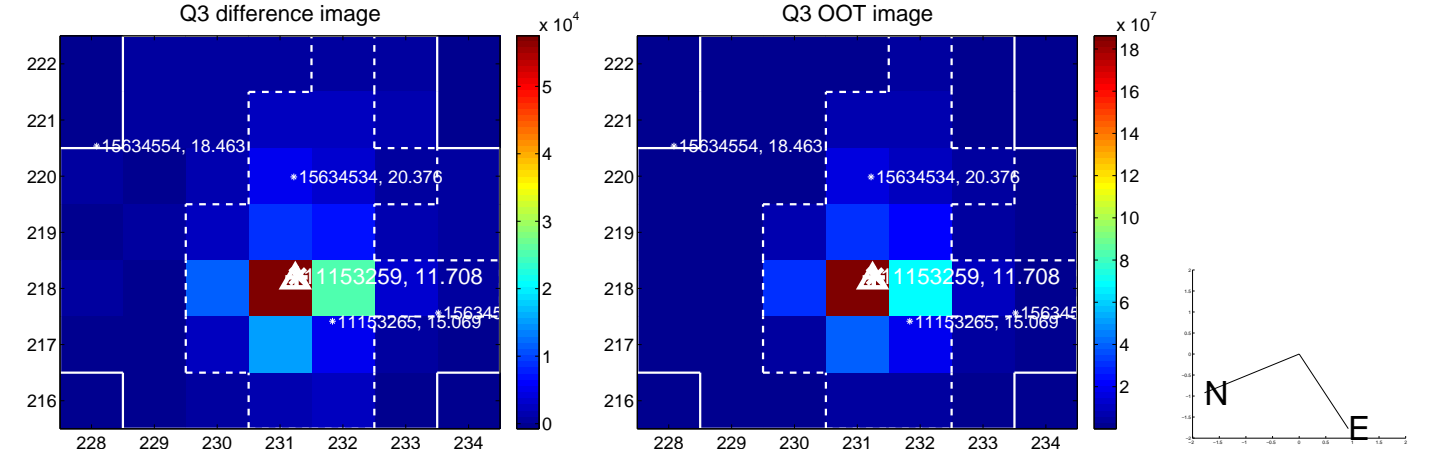
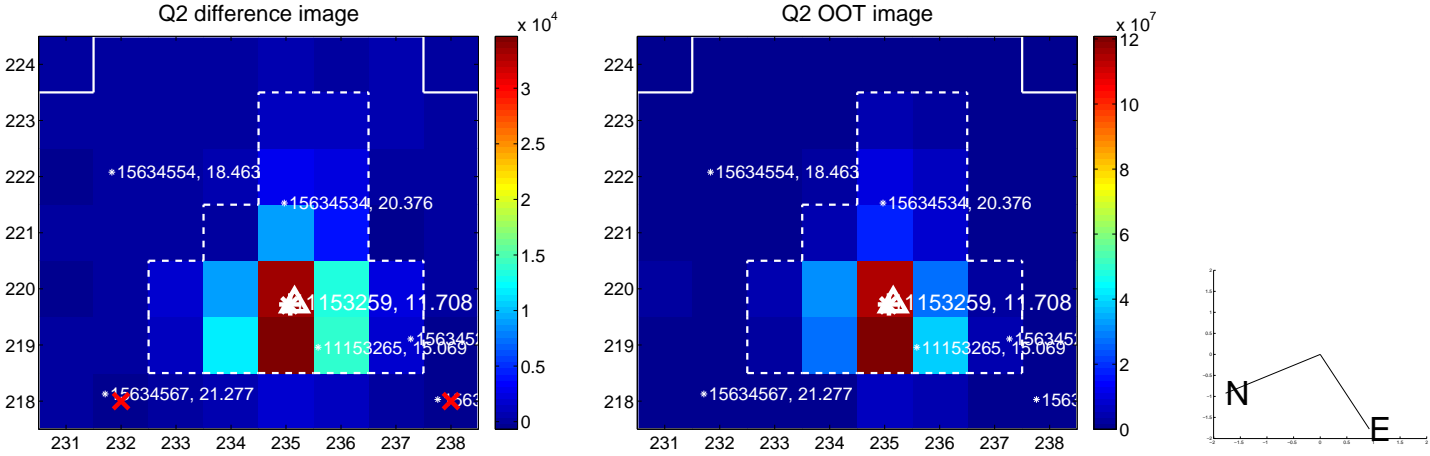
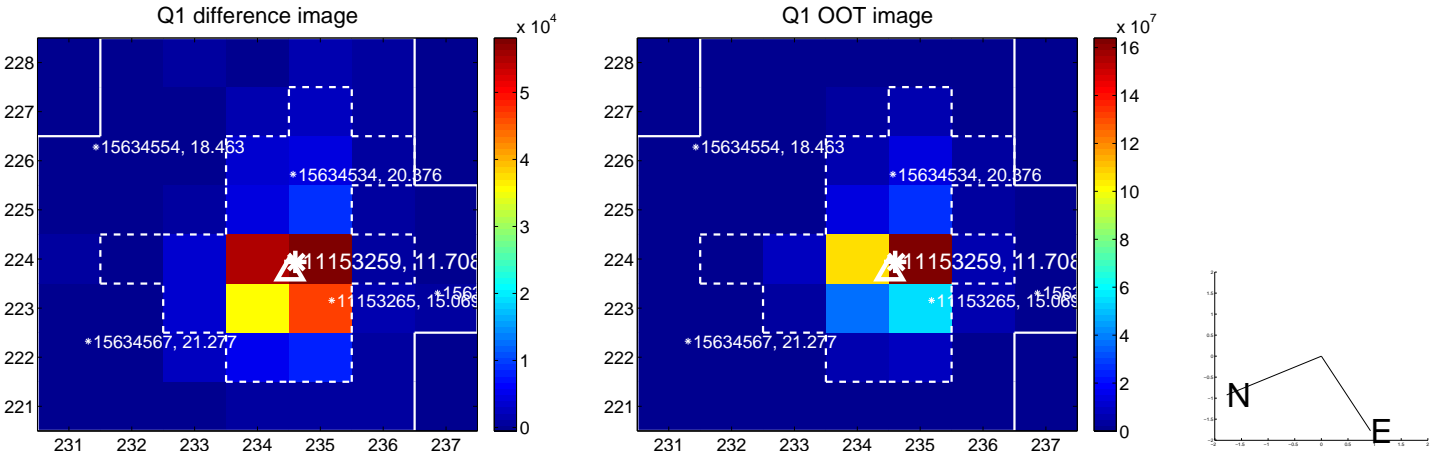
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.038 ± 0.231	0.16	0.033 ± 0.214	0.018 ± 0.188
PRF-fit source offset from KIC position	0.073 ± 0.178	0.41	-0.062 ± 0.217	0.039 ± 0.183
photometric centroid source offset	1.20 ± 0.31	3.85	-1.20 ± 0.31	0.03 ± 0.18

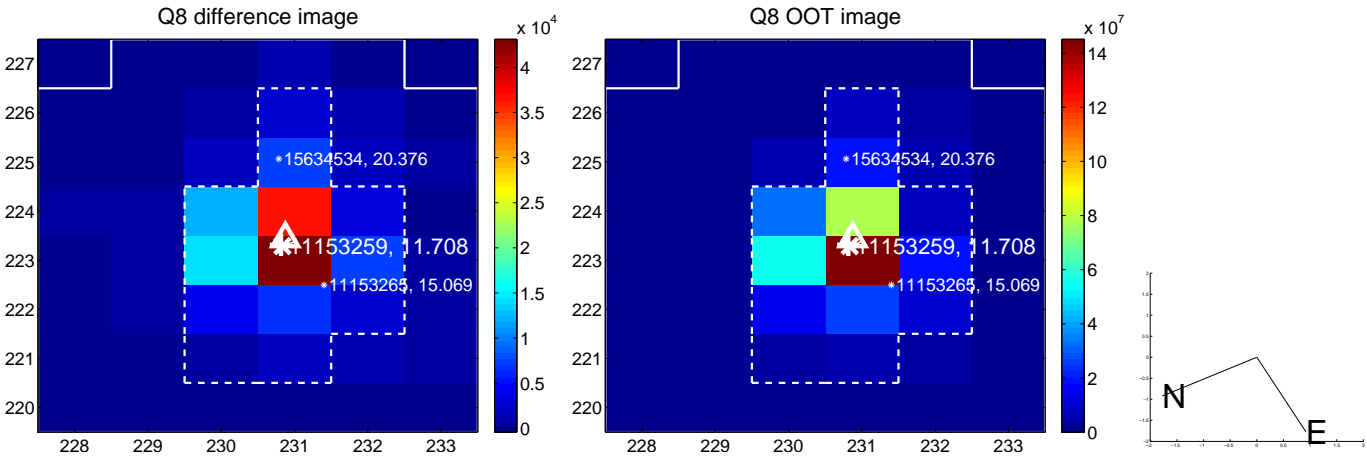
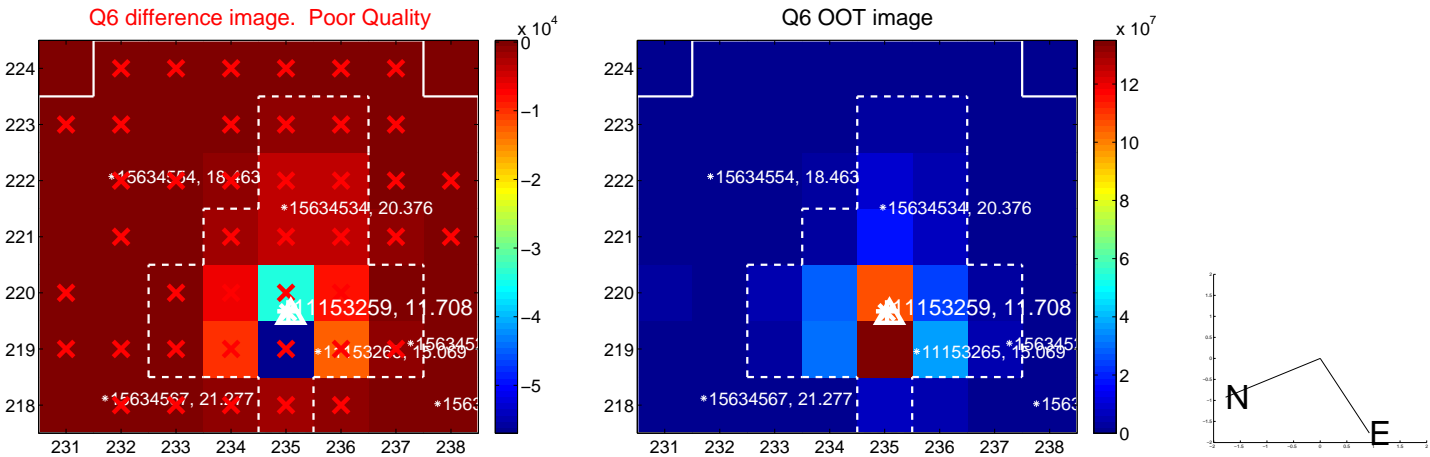
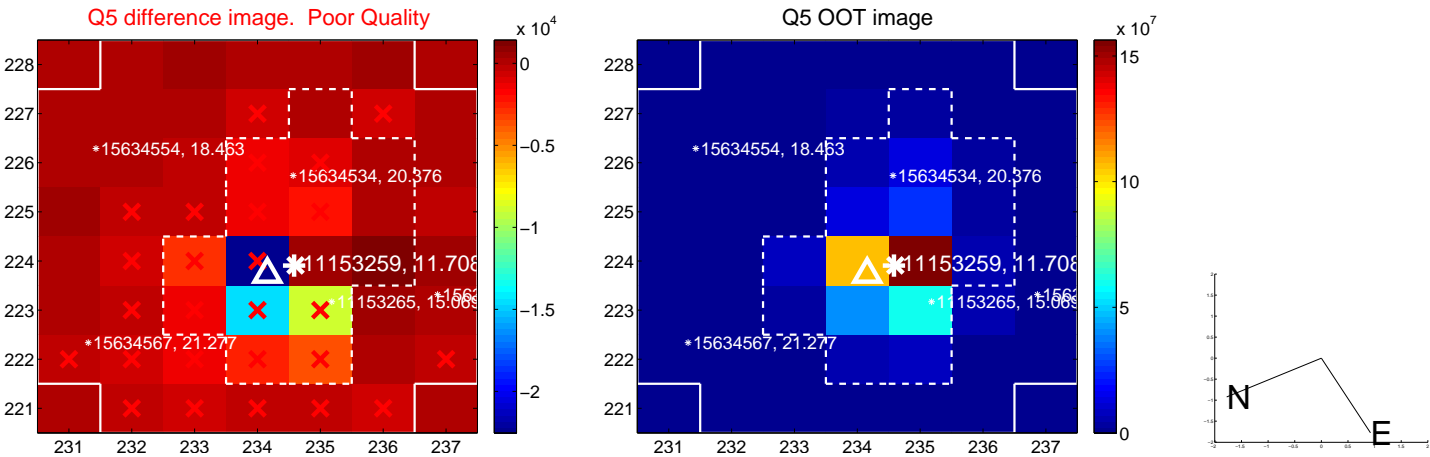


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

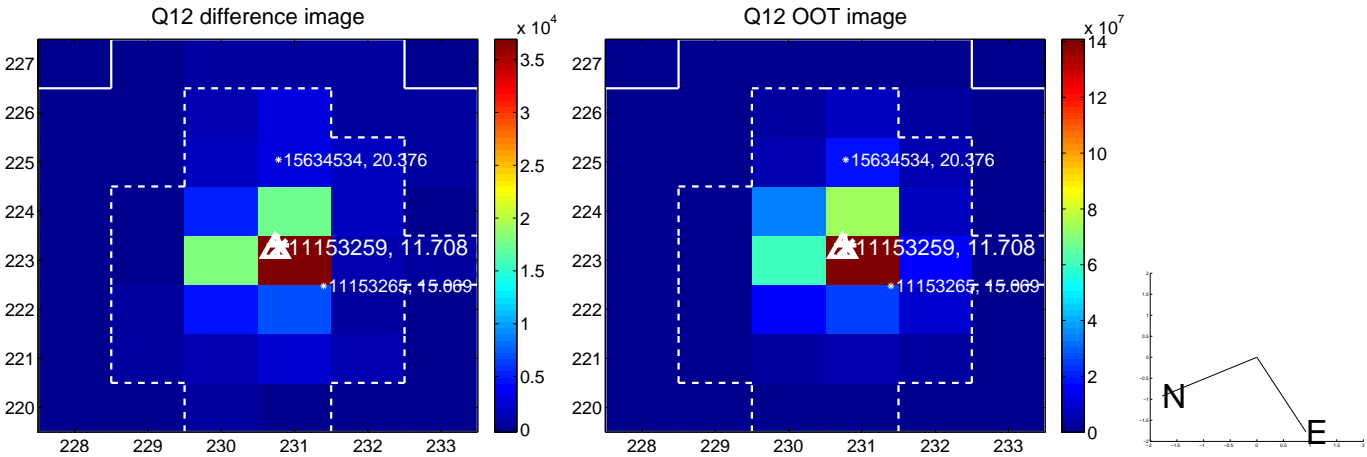
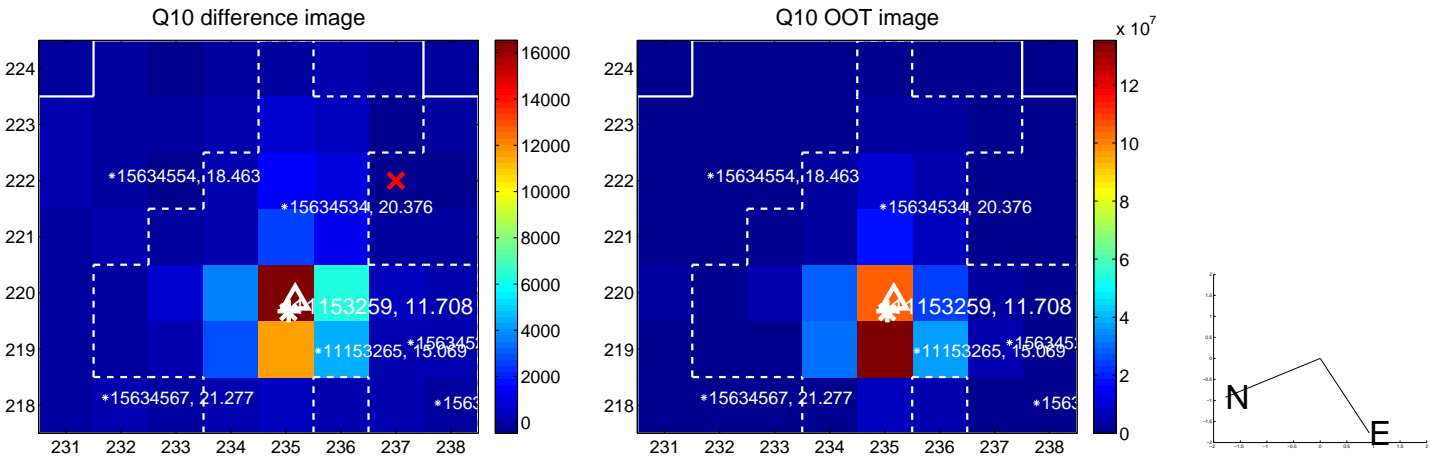
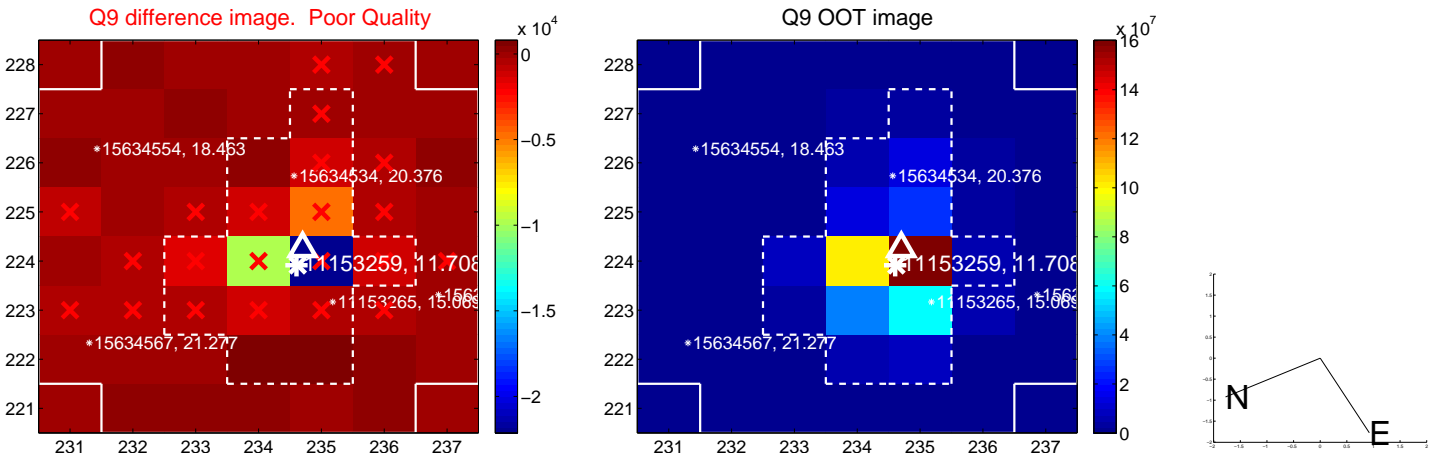
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



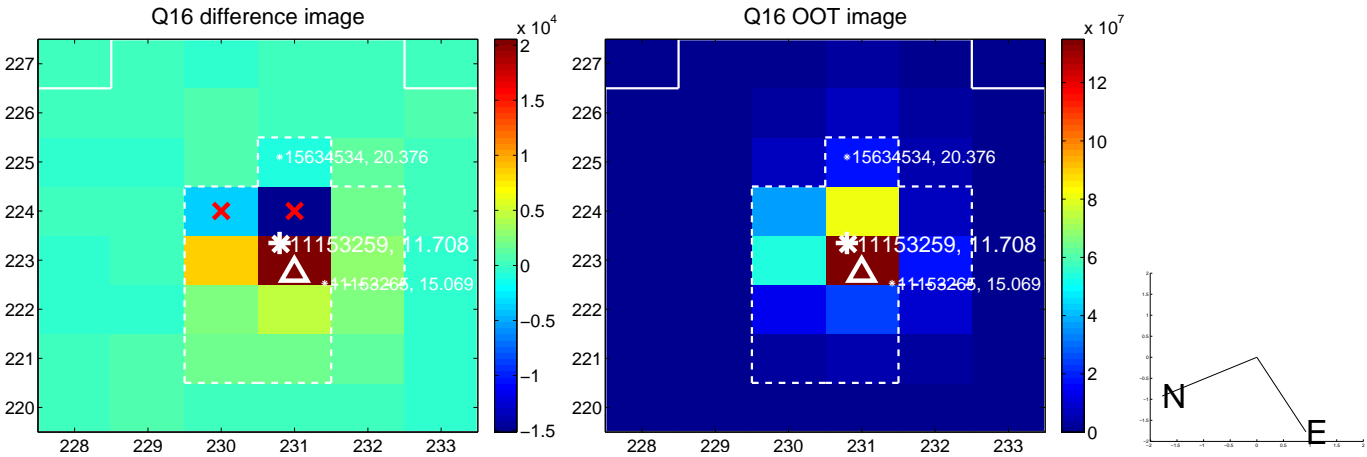
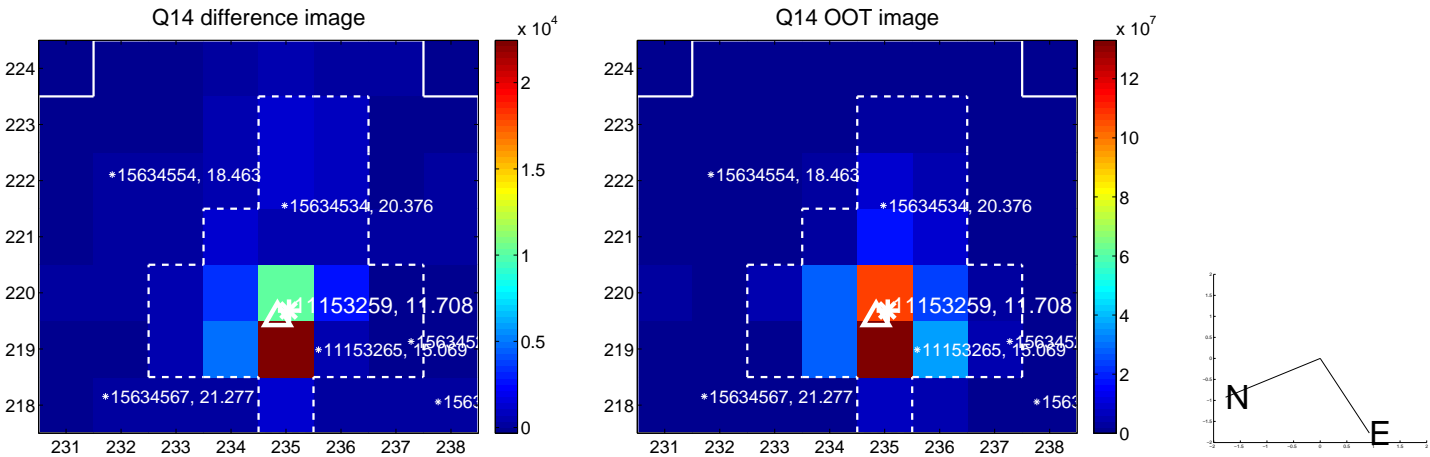
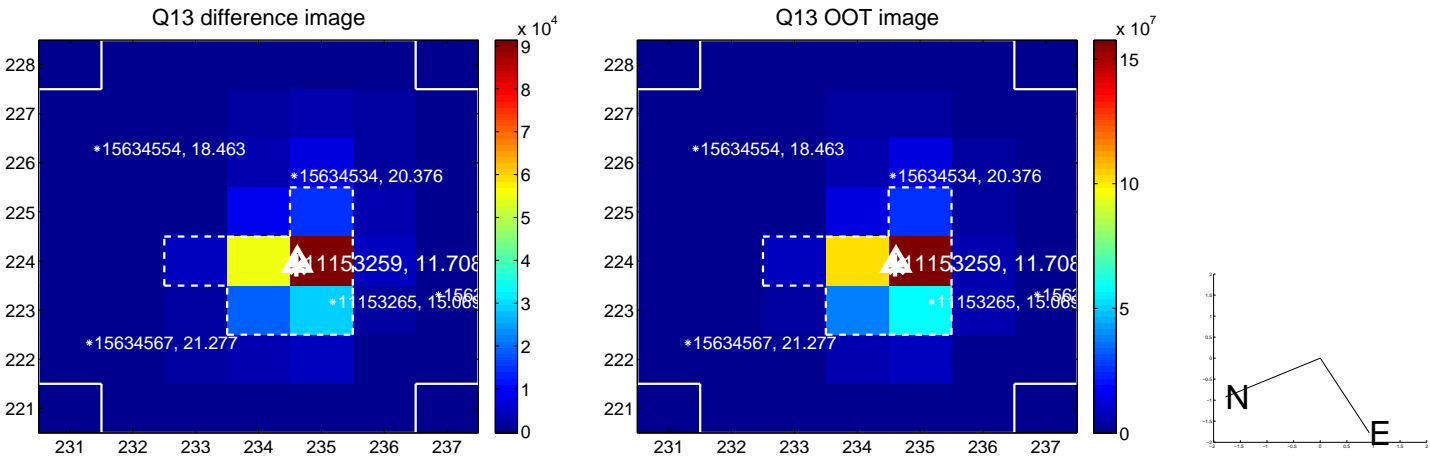
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



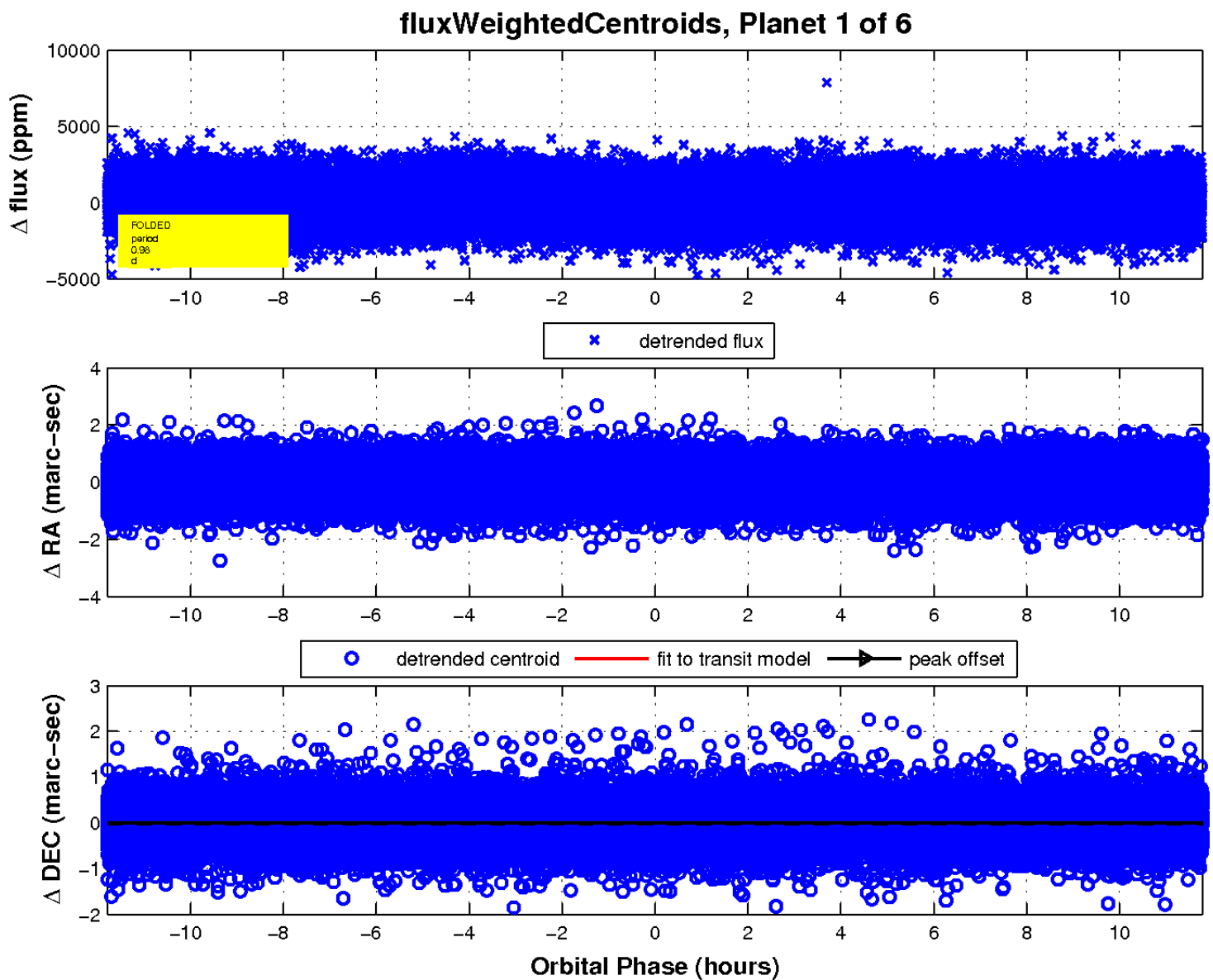
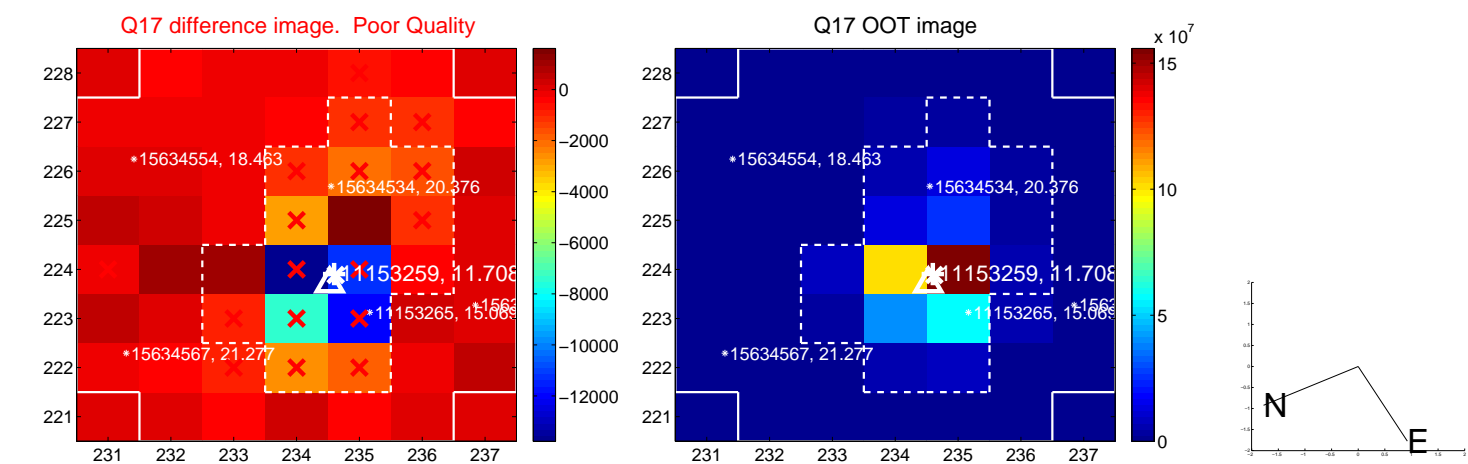
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

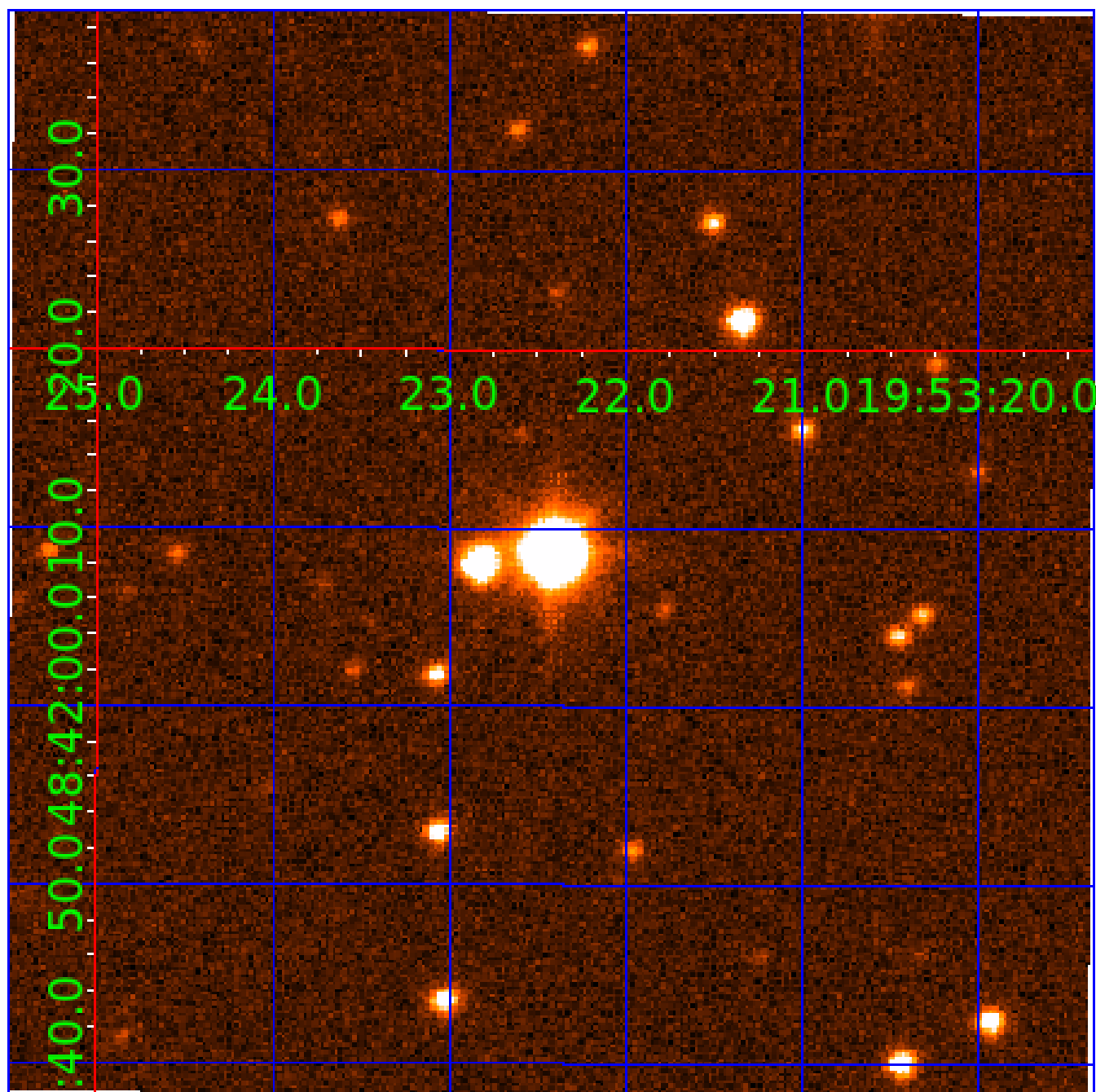


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011153259

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})
011153259-01	OBS	No	0.982378	132.153660	56.1	5.833	9.6	3.5	2.32	7615	1.77	29918.84
011153259-02	OBS	No	1.637211	132.932555	283.0	2.655	9.4	8.3	2.32	7615	4.54	15141.77
011153259-03	OBS	No	85.218204	154.449359	1769.5	2.450	9.0	7.9	2.32	7615	10.60	77.91
011153259-04	OBS	No	28.535344	150.347362	1716.4	1.796	8.5	8.0	2.32	7615	10.39	335.07
011153259-05	OBS	No	20.727248	135.481597	1621.0	1.698	8.5	8.7	2.32	7615	13.53	513.17
011153259-06	OBS	No	9.263085	140.563860	812.9	3.691	8.9	9.0	2.32	7615	7.76	1501.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011153259-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
011153259-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
011153259-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011153259-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011153259-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011153259-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—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.

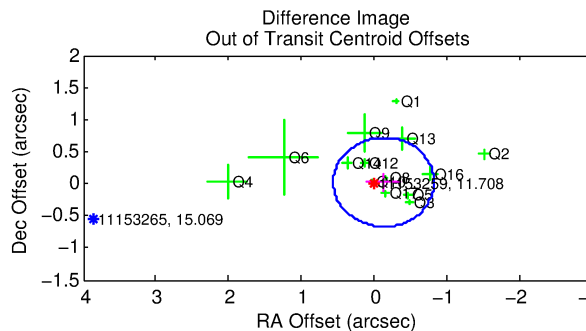
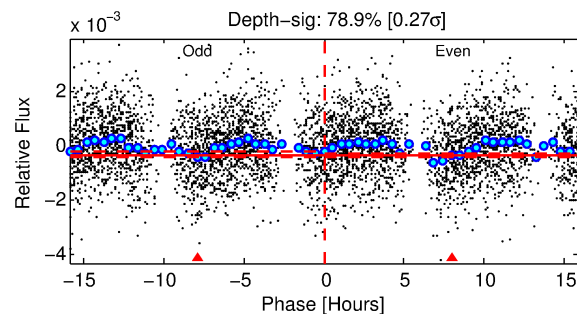
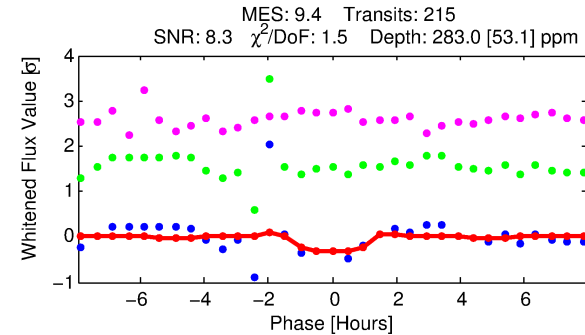
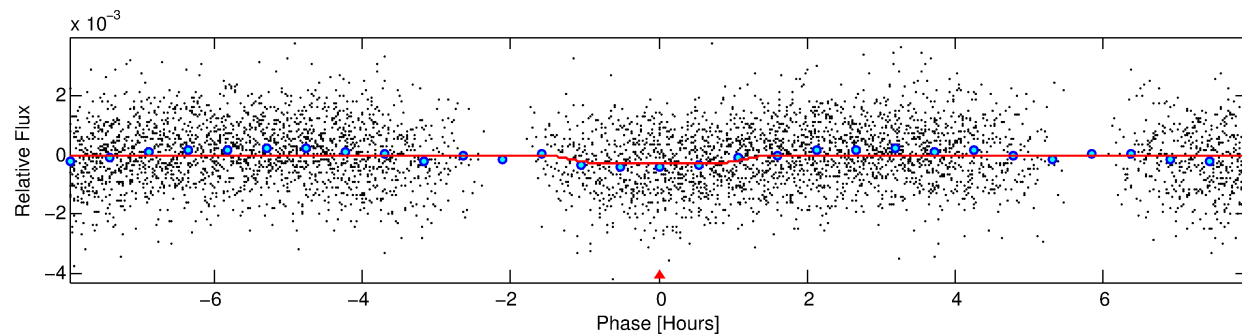
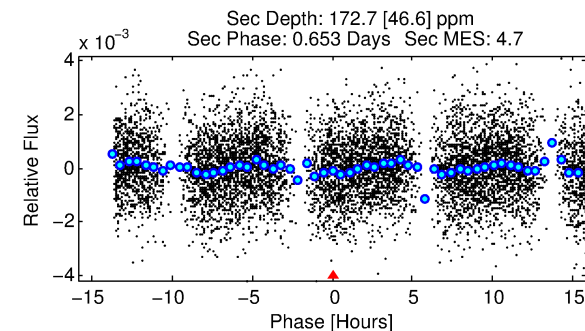
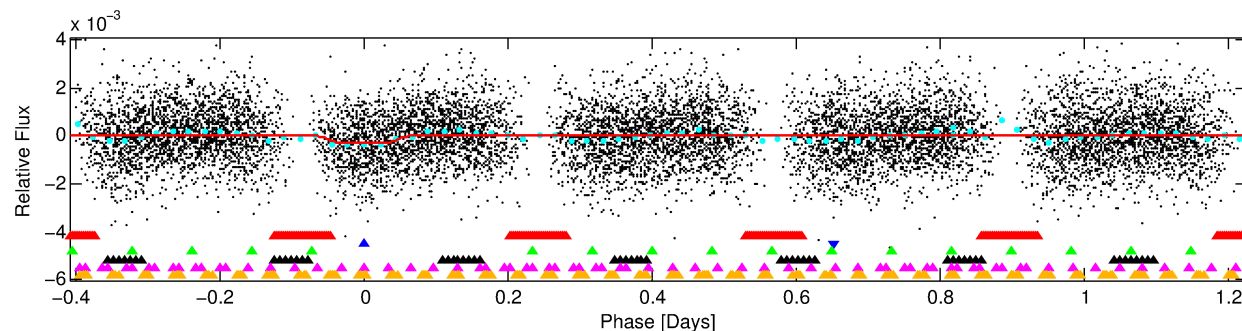
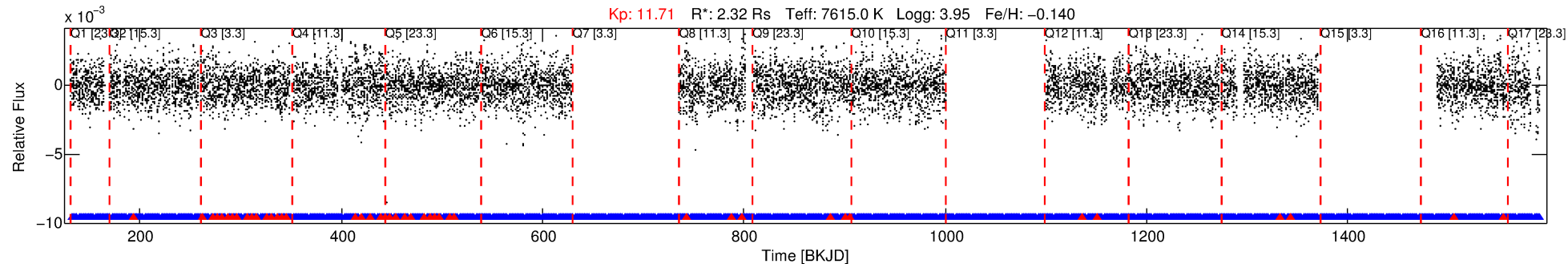
Ephemeris Match Information For 011153259-02

No Significant Match Found

DV One-Page Summary

KIC: 11153259 Candidate: 2 of 6 Period: 1.637 d
KOI: K03200 Corr: No Ephemeris Match

Kp: 11.71 R*: 2.32 Rs Teff: 7615.0 K Logg: 3.95 Fe/H: -0.140



DV Fit Results:

Period = 1.63721 [0.00002] d
Epoch = 132.9326 [0.0053] BKJD
Rp/R* = 0.0180 [0.0094]
a/R* = 2.44 [6.32]
b = 0.90 [0.67]
Seff = 15141.77 [3918.94]
Teq = 2829 [183] K
Rp = 4.54 [2.55] Re
a = 0.0327 [0.0056] AU
Ag = 4.93 [5.50] [0.71σ]
Teffp = 6515 [1771] K [2.07σ]

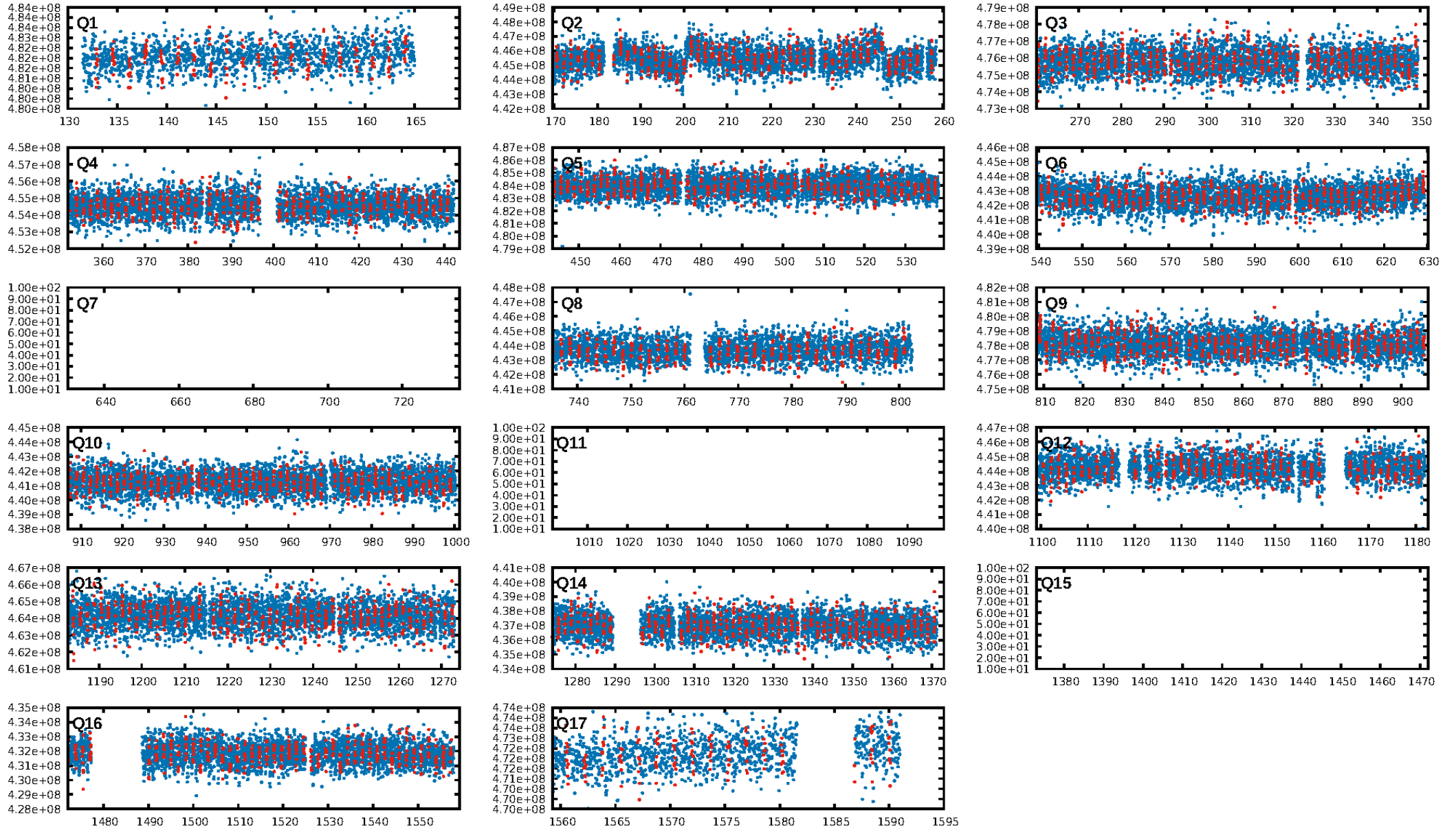
DV Diagnostic Results:

ShortPeriod-sig: 98.6% [2.45σ]
LongPeriod-sig: 100.0% [40.26σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.79e-14
RollingBand-fgt: 0.79 [160/203]
GhostDiagnostic-chr: 0.6579
Centroid-sig: N/A
Centroid-so: 0.329 arcsec [3.21σ]
OotOffset-rm: 0.135 arcsec [0.58σ]
KicOffset-rm: 0.212 arcsec [0.87σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 0.71 [10/14]
DiffImageOverlap-fno: 0.57 [8/14]

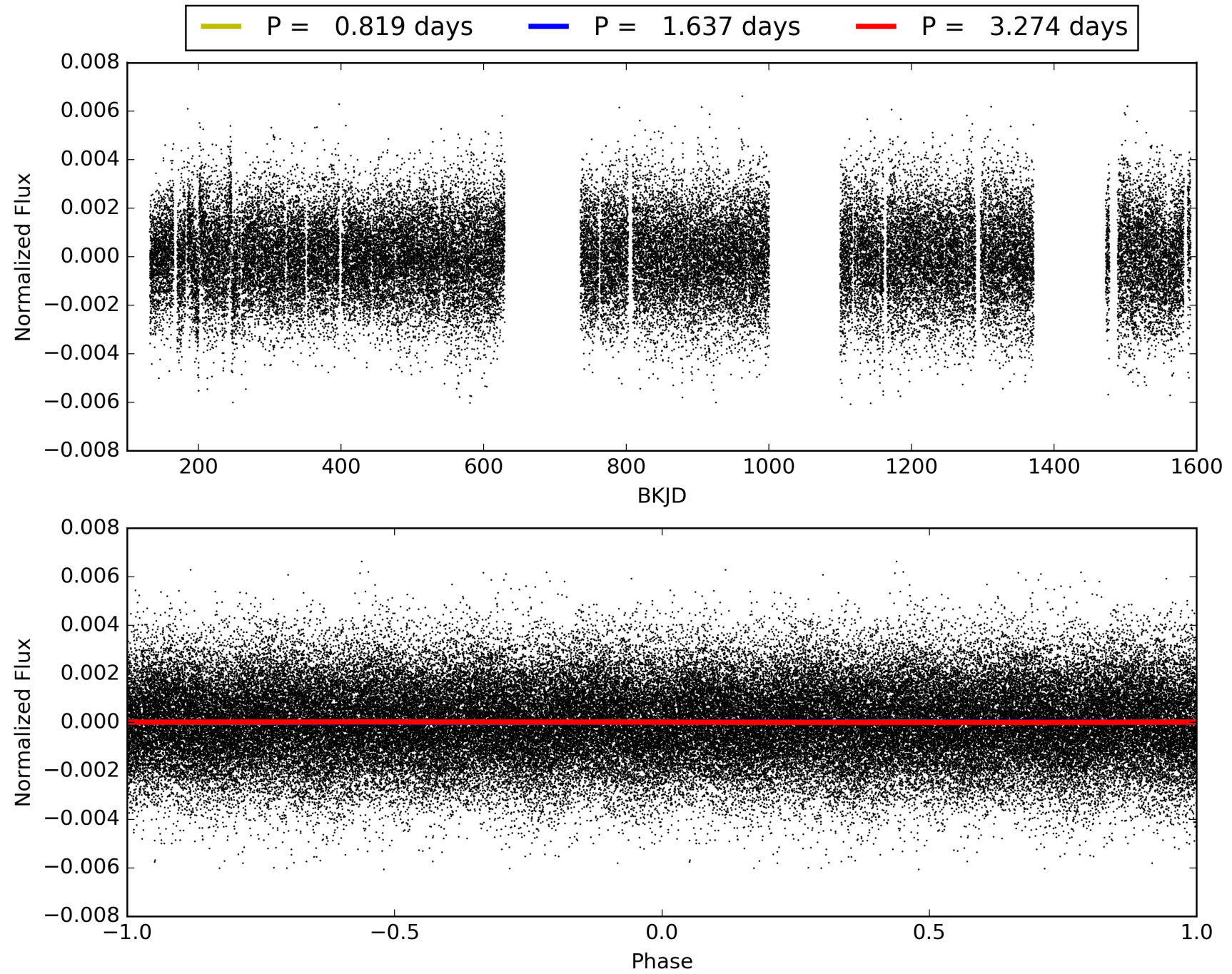
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:49:44 Z

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

TCE 011153259-02, PDC Light Curves

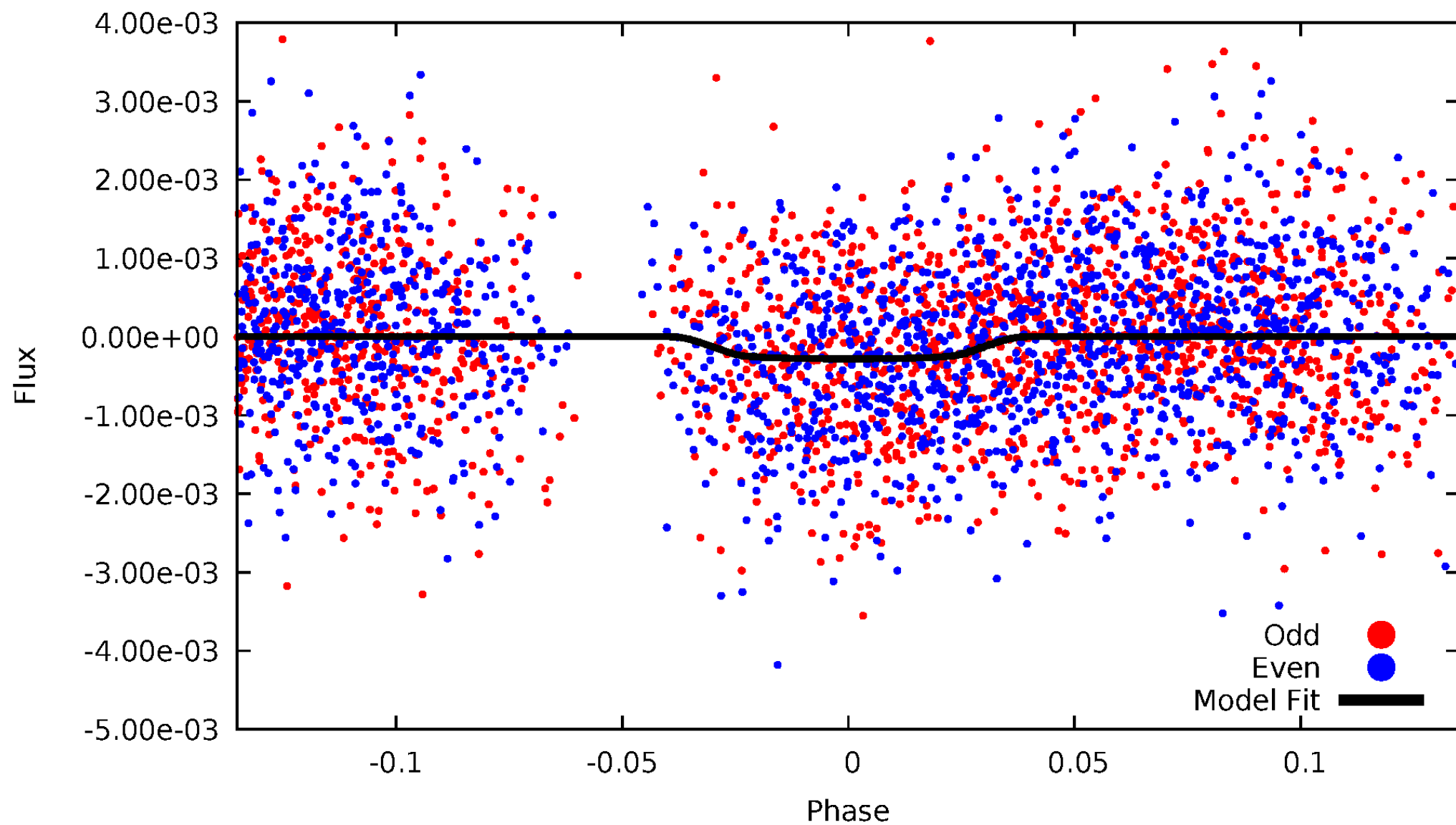


TCE 011153259-02



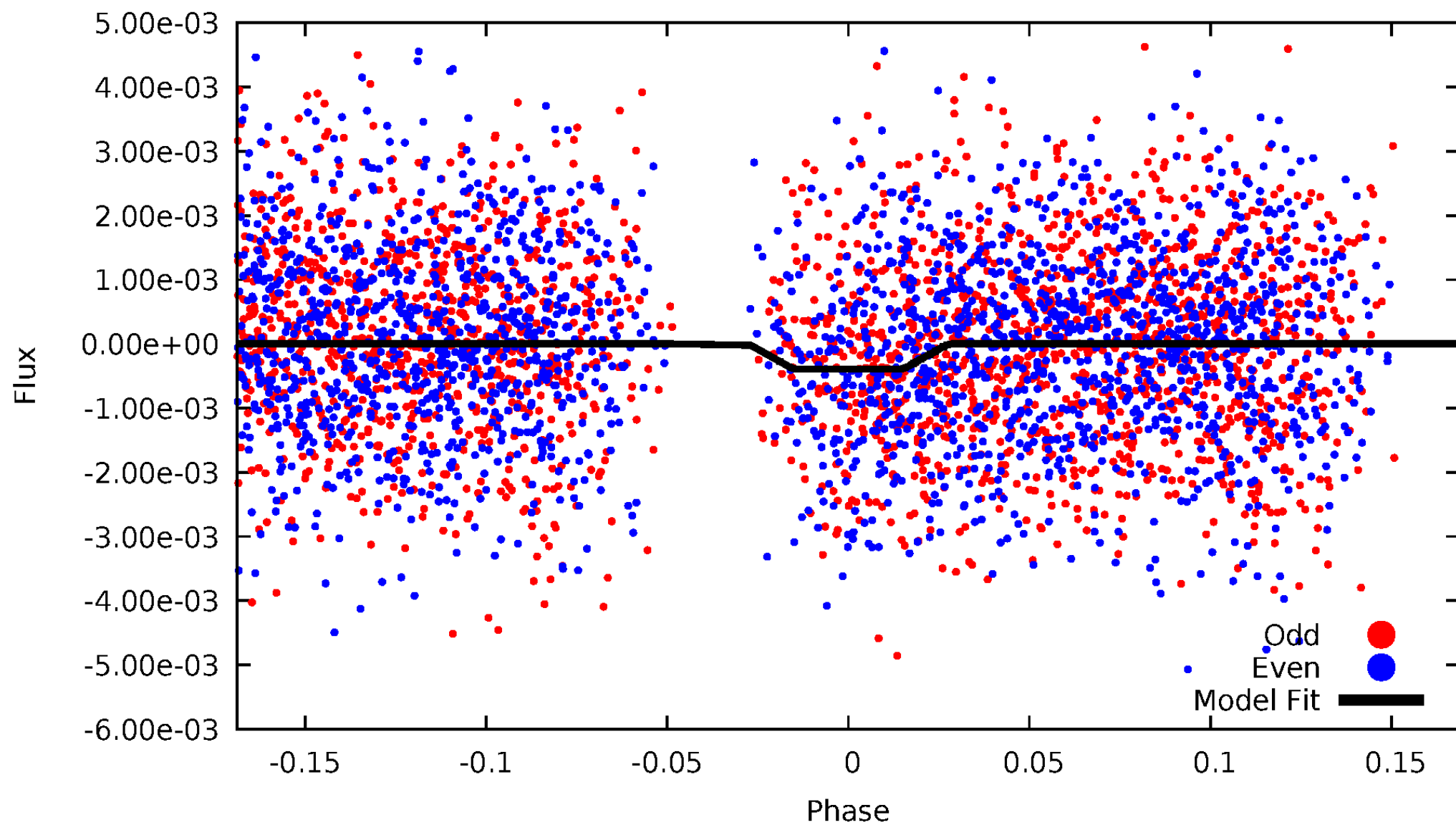
DV Odd/Even

TCE 011153259-02



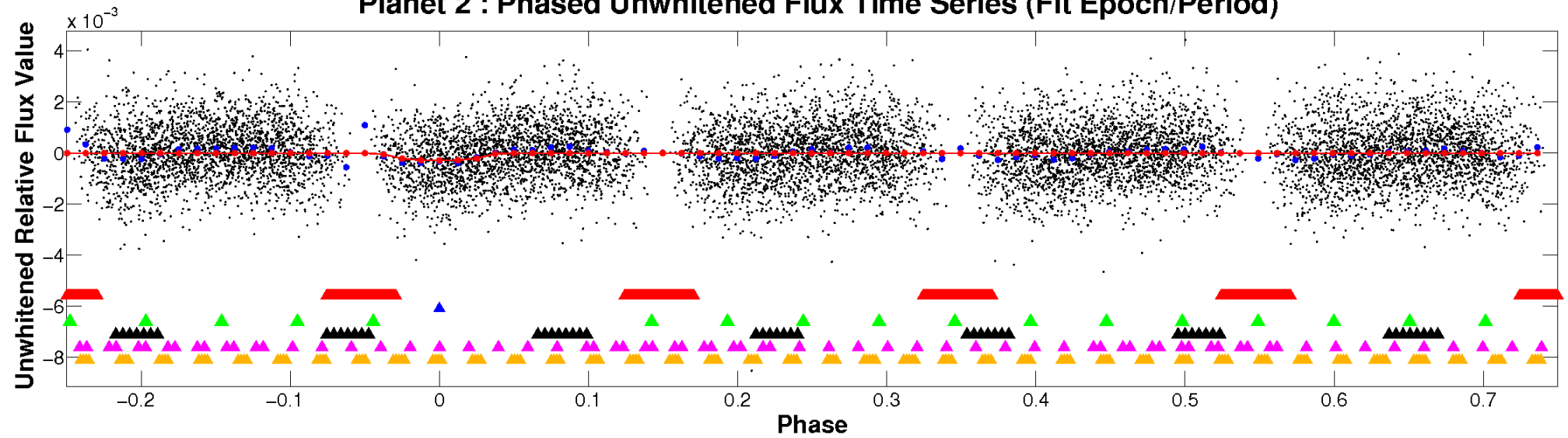
ALT Odd/Even

TCE 011153259-02

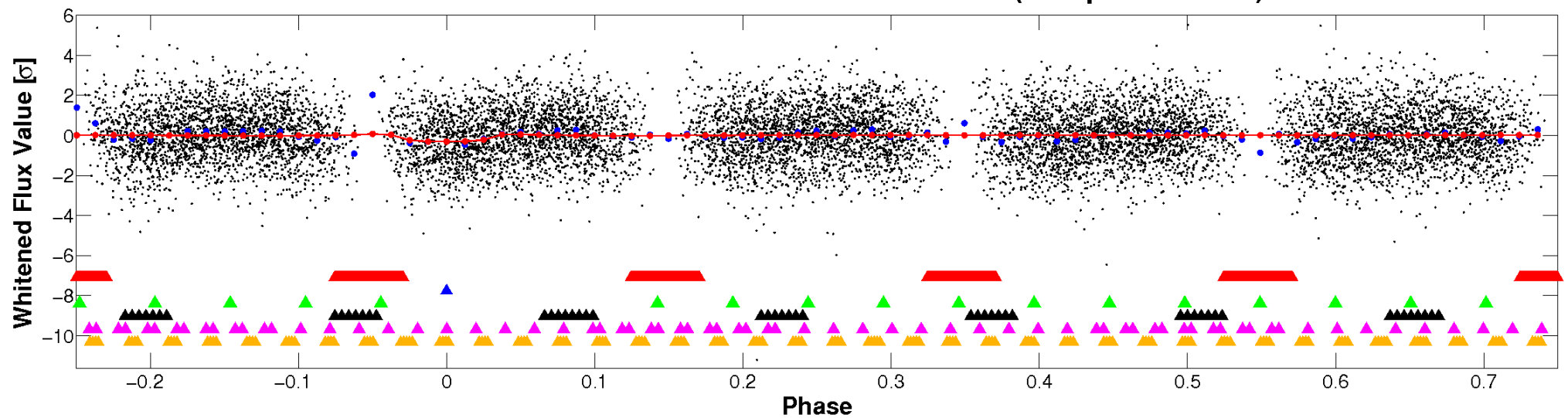


Non-Whitened Vs. Whitened Light Curve

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

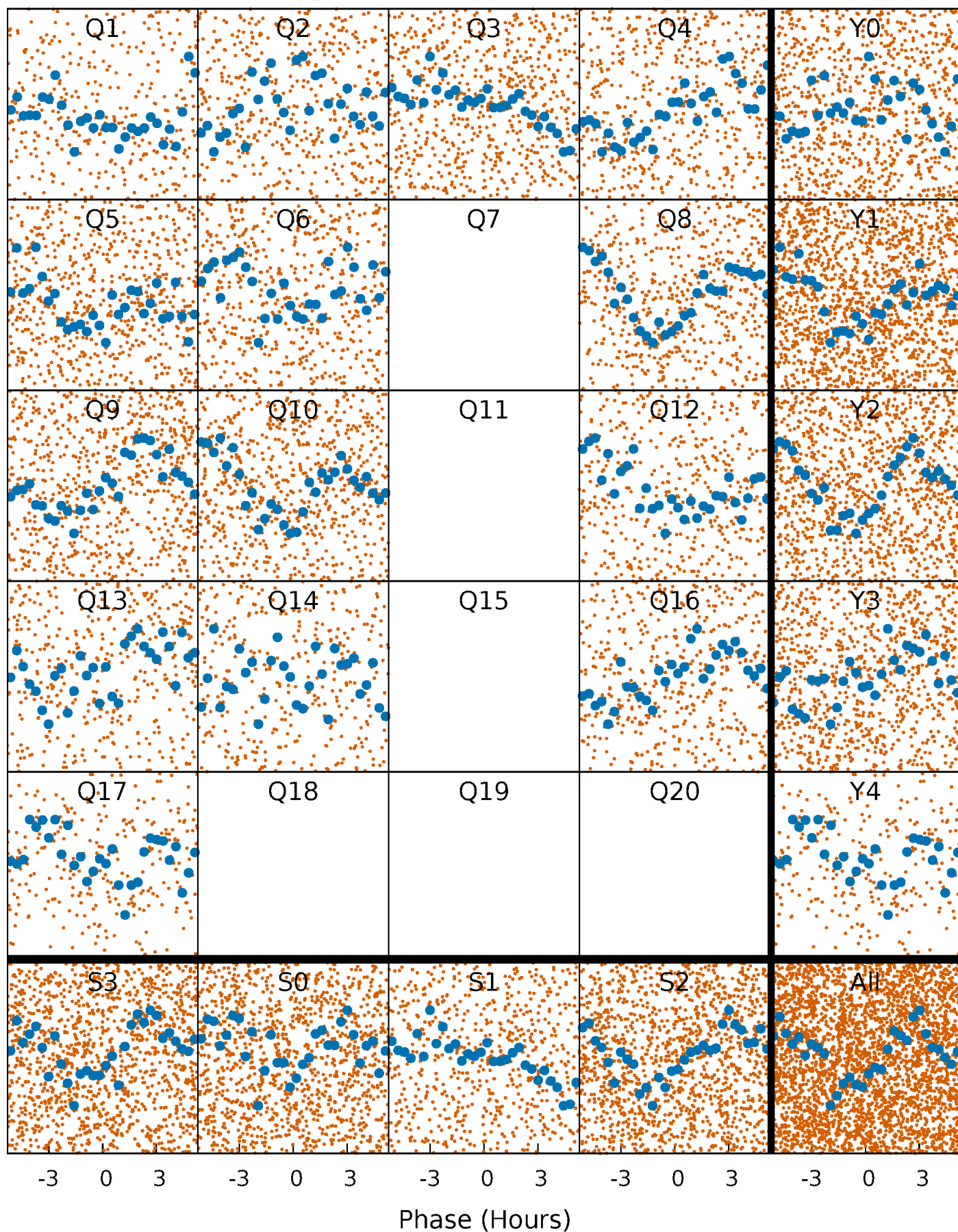


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



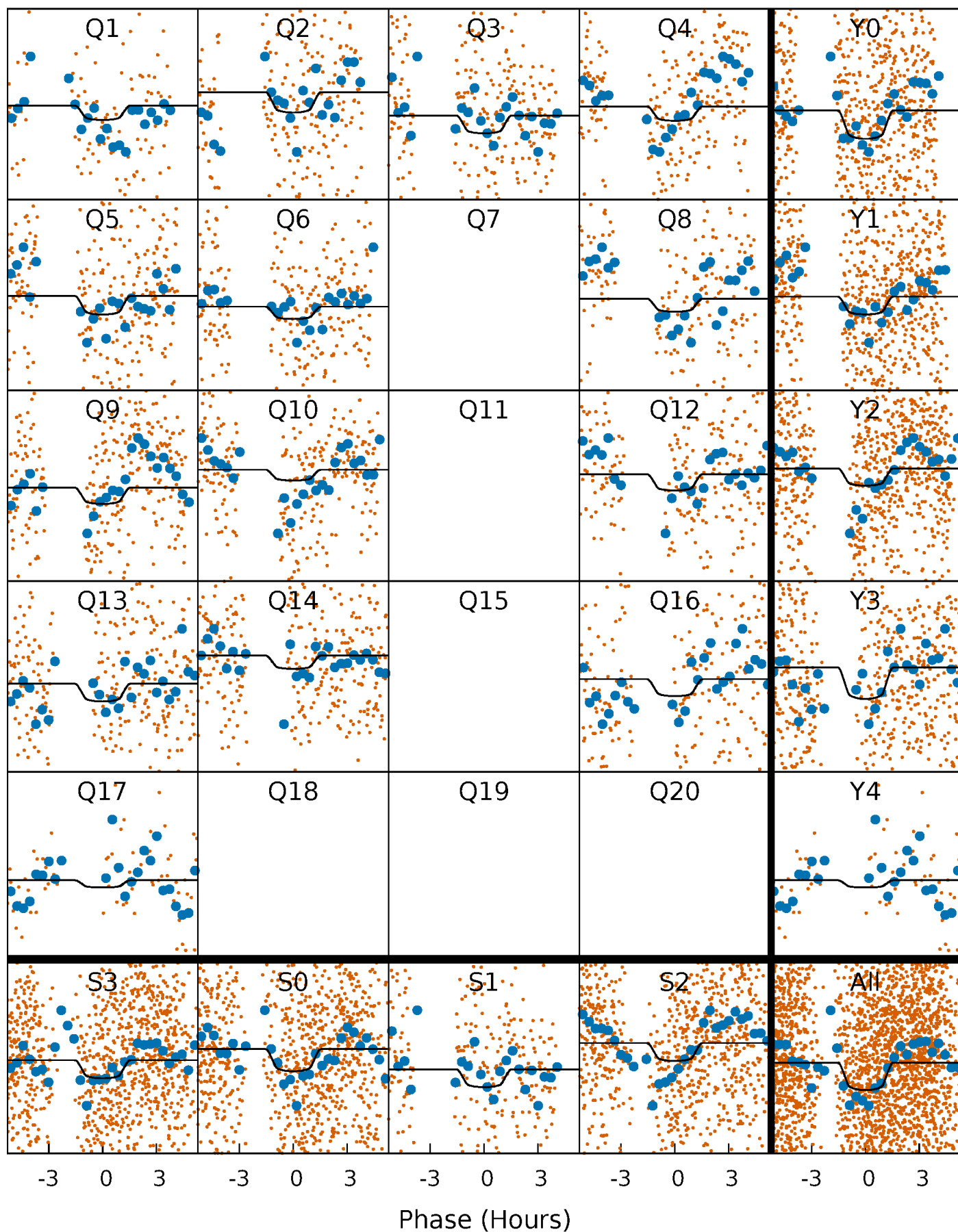
PDC Quarter-Phased Transit Curves

TCE 011153259-02 P= 1.637211 Days $T_0=132.932555$ (BKJD)



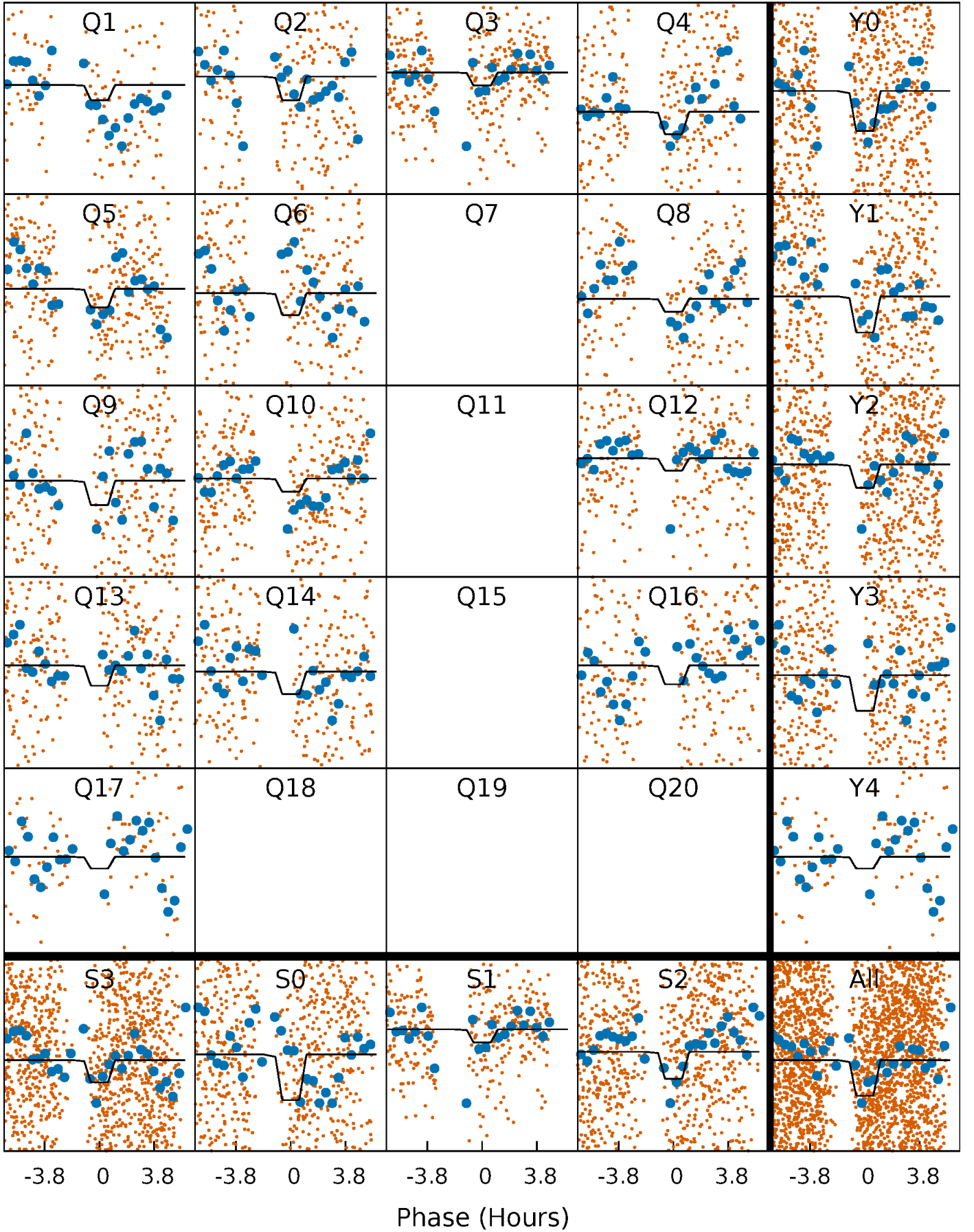
DV Quarter-Phased Transit Curves

TCE 011153259-02 P= 1.637211 Days $T_0=132.932555$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

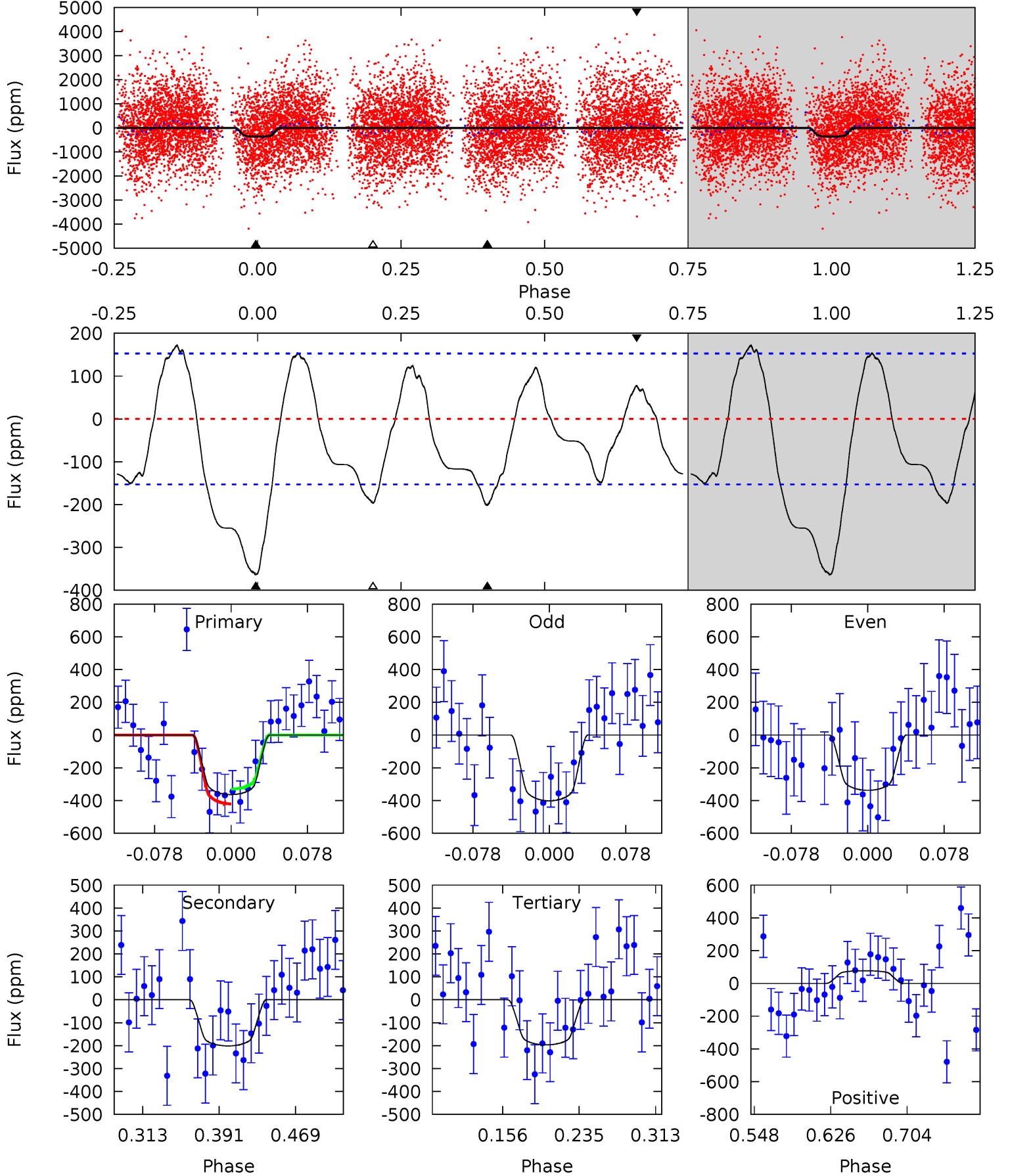
TCE 011153259-02 P= 1.637225 Days $T_0=132.902204$ (BKJD)



DV Model-Shift Uniqueness Test

011153259-02, P = 1.637211 Days, E = 131.295344 Days

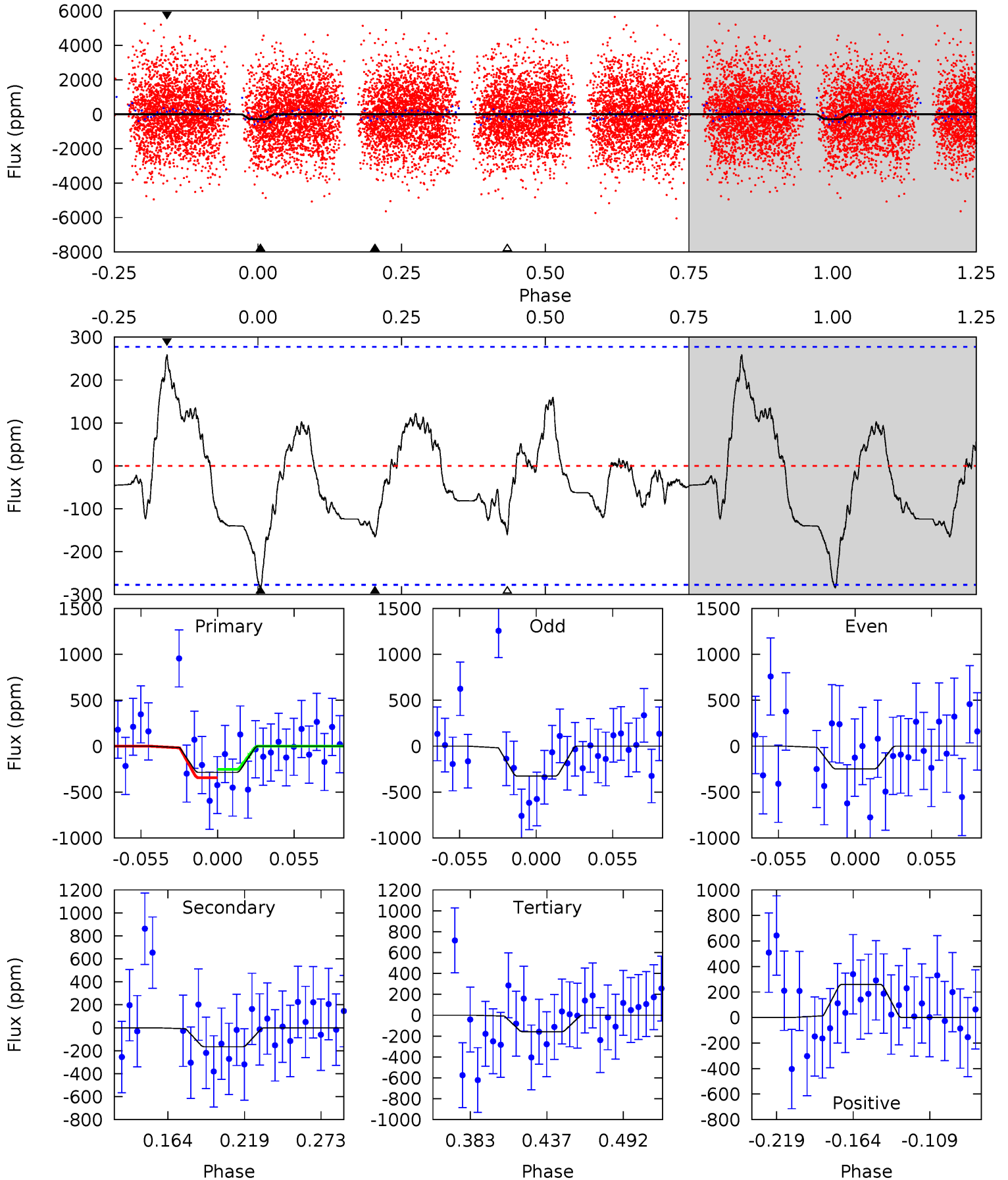
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	6.09	5.95	2.33	4.62	1.76	3.10	5.05	8.66	0.14	3.75	0.97	1.09	0.32	1.32



Alt Model-Shift Uniqueness Test

011153259-02, P = 1.637225 Days, E = 131.264979 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.82	2.80	2.69	4.39	4.69	1.92	1.51	2.13	0.44	0.11	-1.59	0.65	0.86	0.48	0.70



Stellar Parameters For KIC 011153259

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7615^{+76}_{-83}	$3.948^{+0.143}_{-0.117}$	$-0.140^{+0.200}_{-0.150}$	$2.318^{+0.452}_{-0.452}$	$1.739^{+0.207}_{-0.156}$	$0.197^{+0.140}_{-0.070}$
	+1%/-1%	+4%/-3%	+143%/-107%	+19%/-19%	+12%/-9%	+71%/-36%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 011153259-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-201 ± 33	$4.75^{+2.46}_{-2.39}$	3952^{+189}_{-204}	6472^{+3288}_{-1300}	$5.391^{+15.623}_{-3.169}$
Alt.	-165 ± 59	$5.02^{+2.60}_{-2.35}$	3947^{+170}_{-200}	5791^{+2585}_{-1178}	$3.620^{+10.090}_{-2.163}$

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 $A_{obs} \gg 1.0$

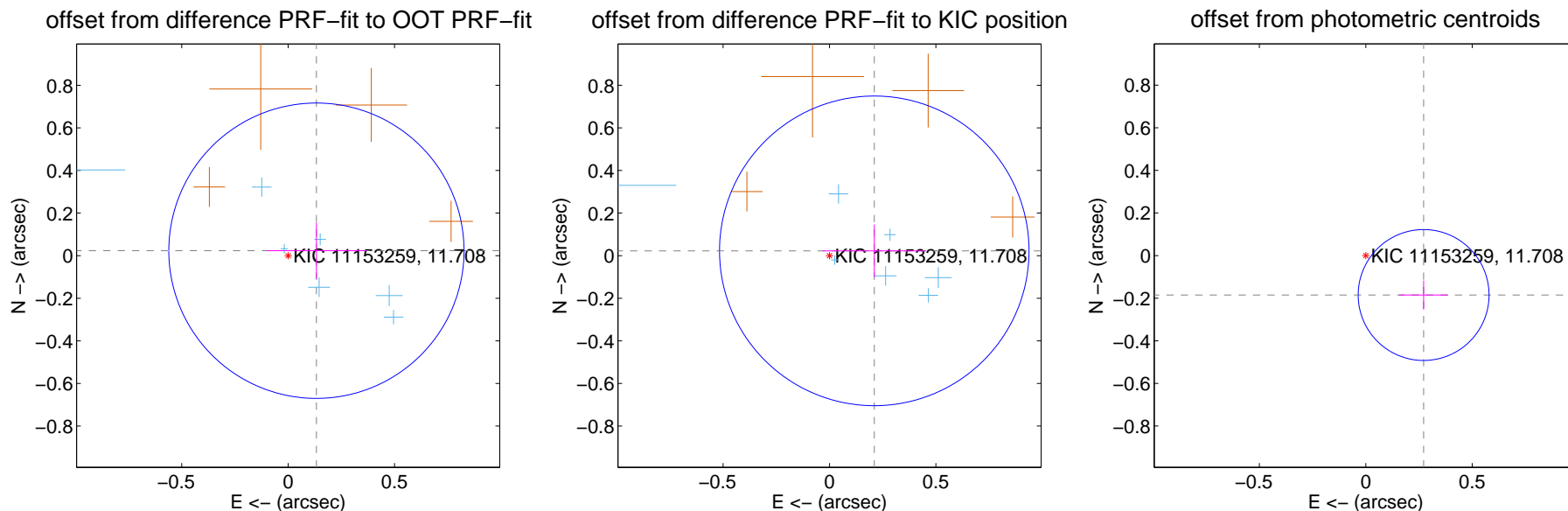
DV Centroid Data

Supplemental centroid analysis for 011153259-02. **Kepler magnitude: 11.71.** Transit SNR 8.29

There are 10 quarters with good PRF difference image offsets

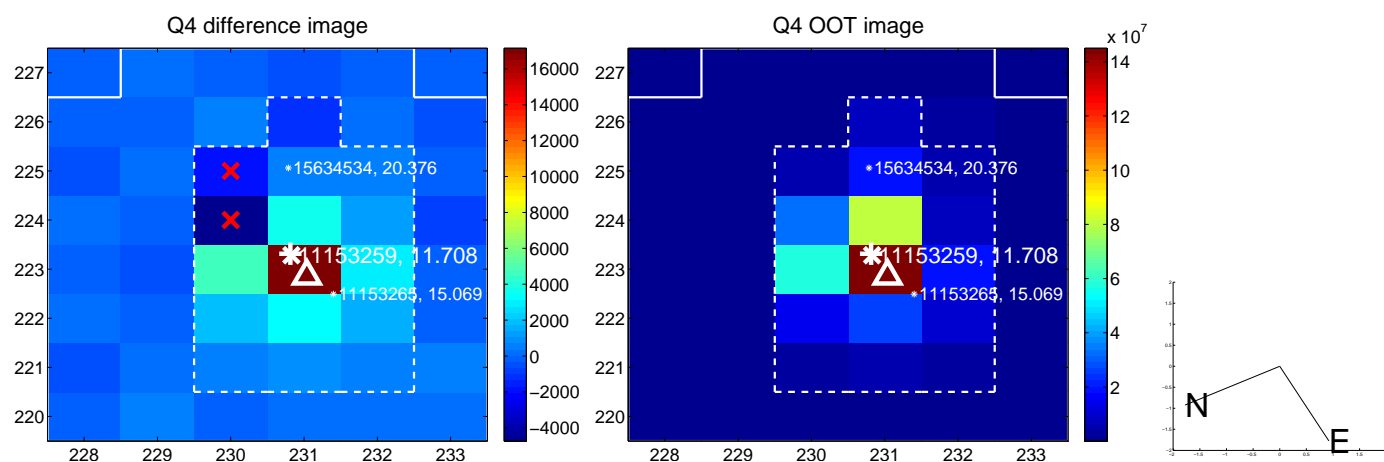
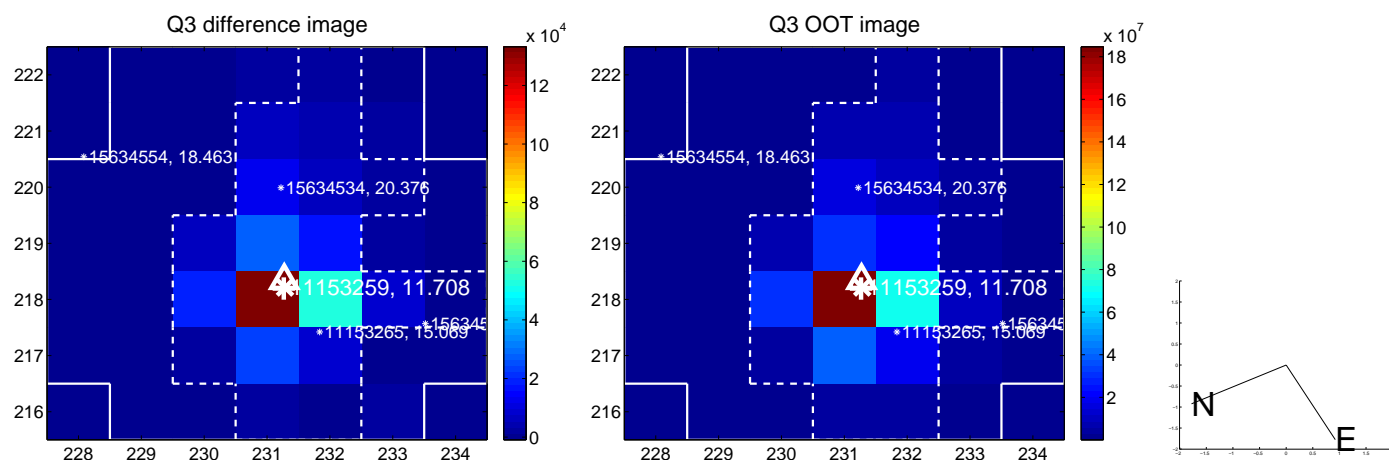
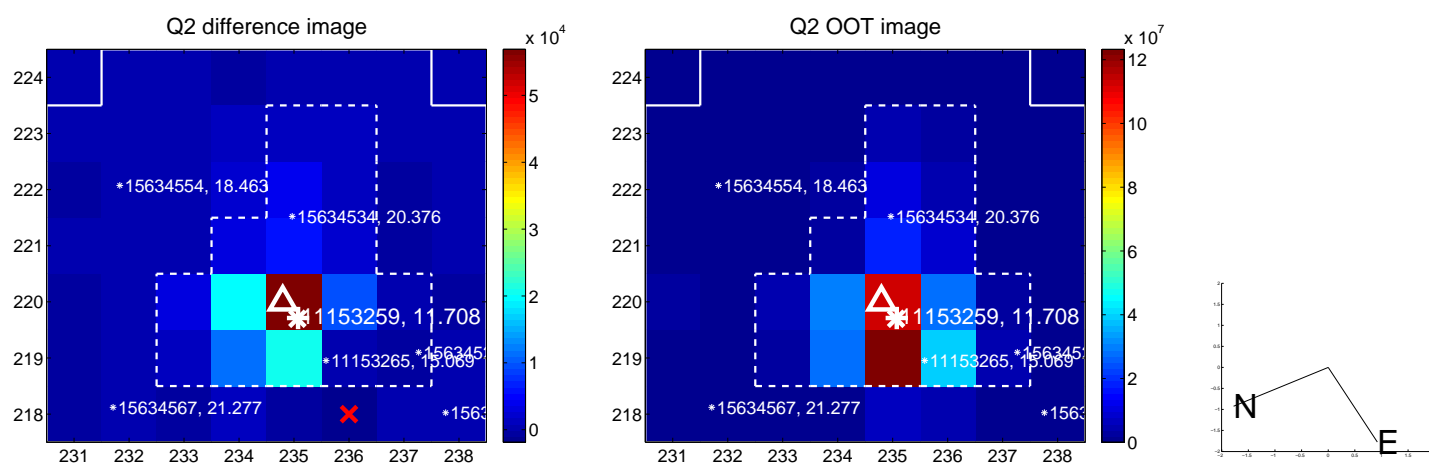
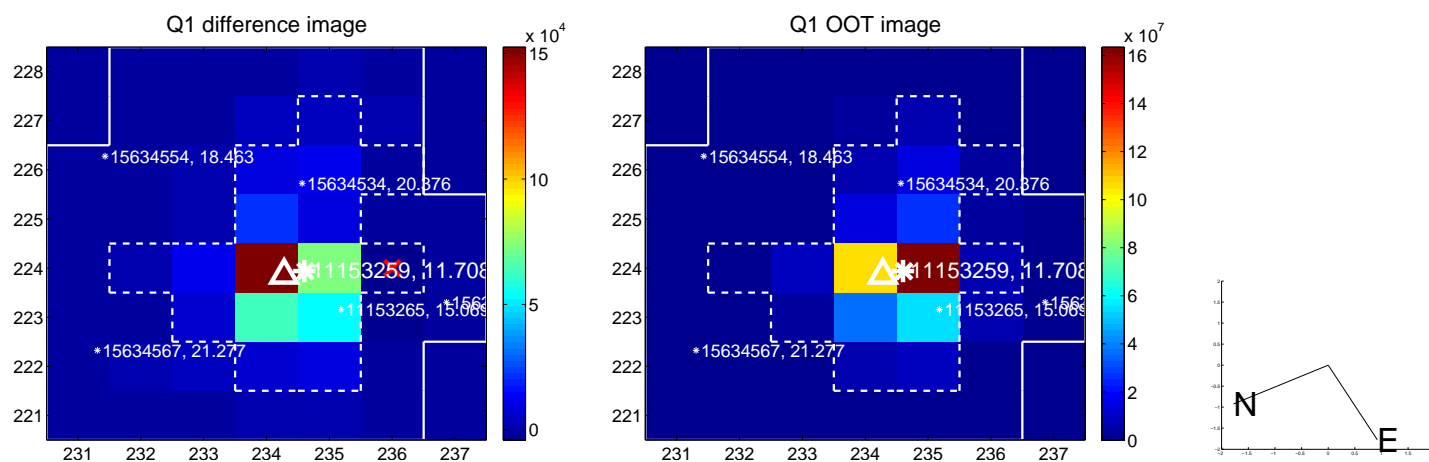
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.135 ± 0.231	0.58	-0.133 ± 0.233	0.023 ± 0.132
PRF-fit source offset from KIC position	0.212 ± 0.242	0.87	-0.210 ± 0.242	0.023 ± 0.124
photometric centroid source offset	0.33 ± 0.10	3.21	-0.27 ± 0.11	-0.19 ± 0.07

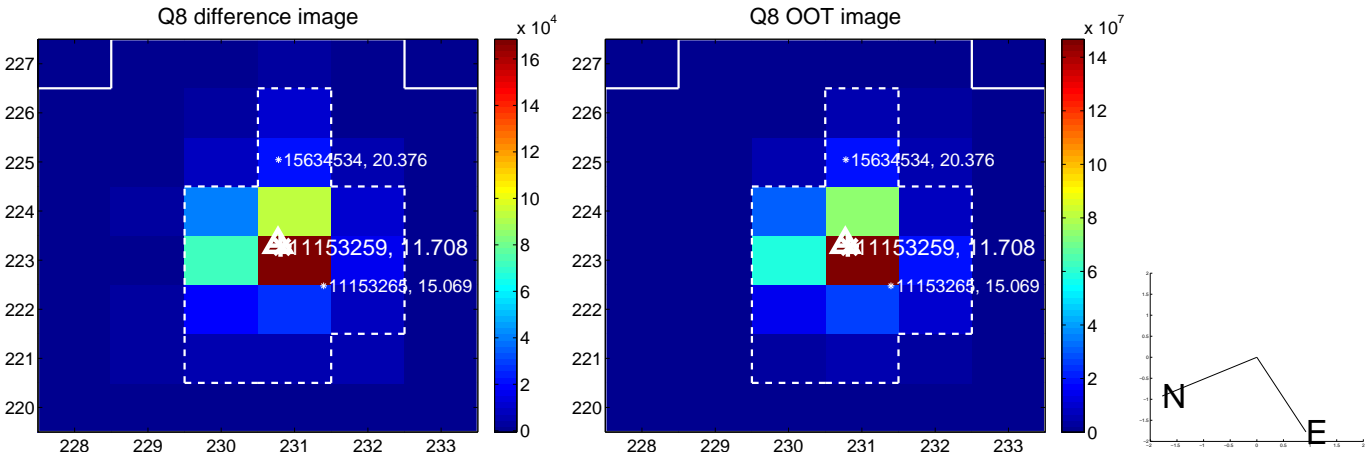
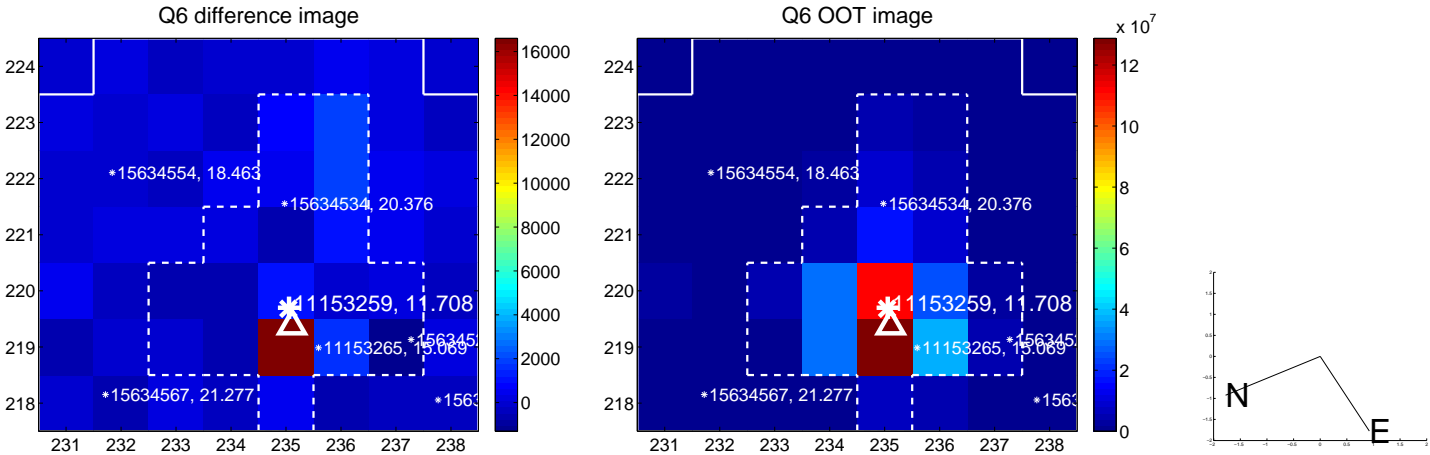
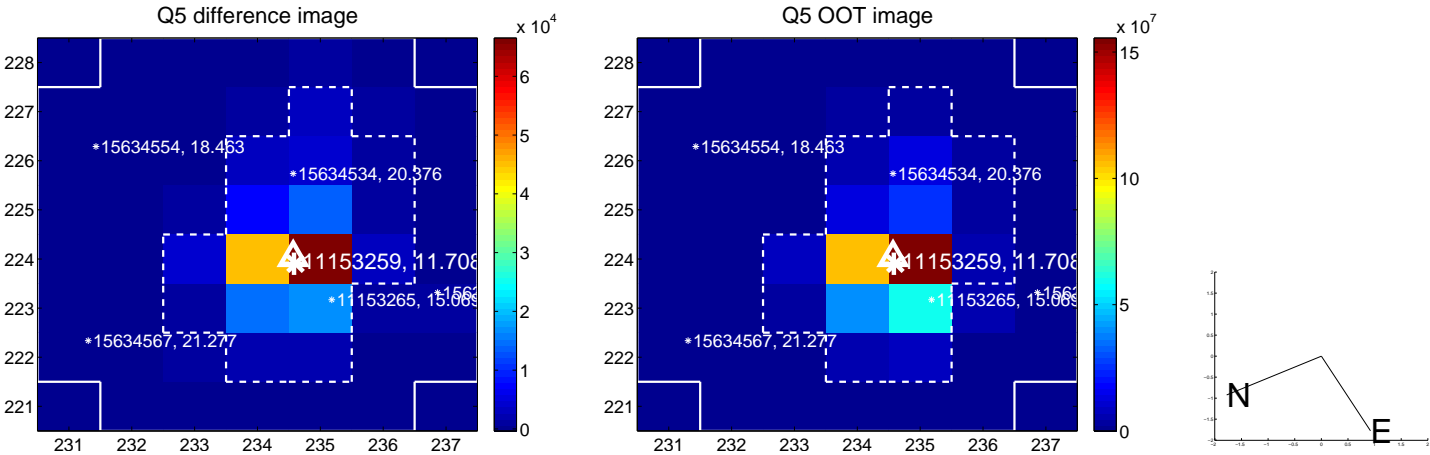


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

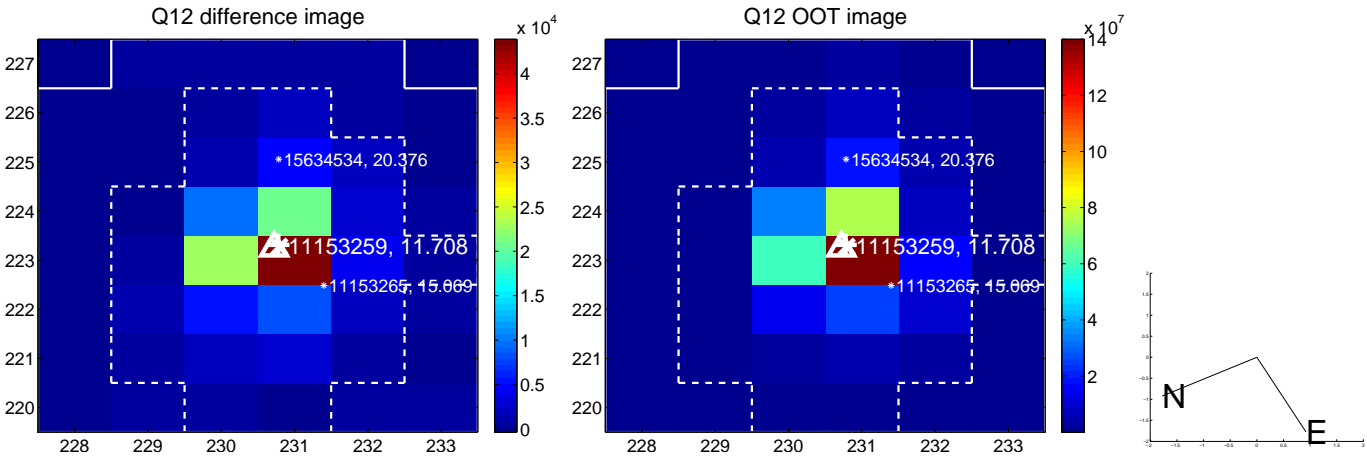
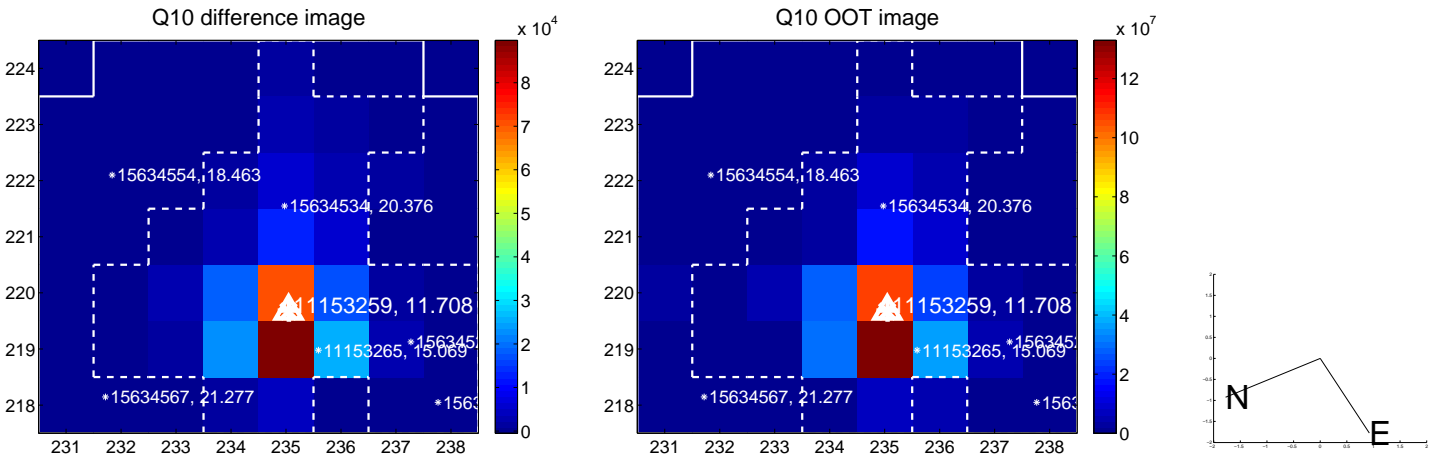
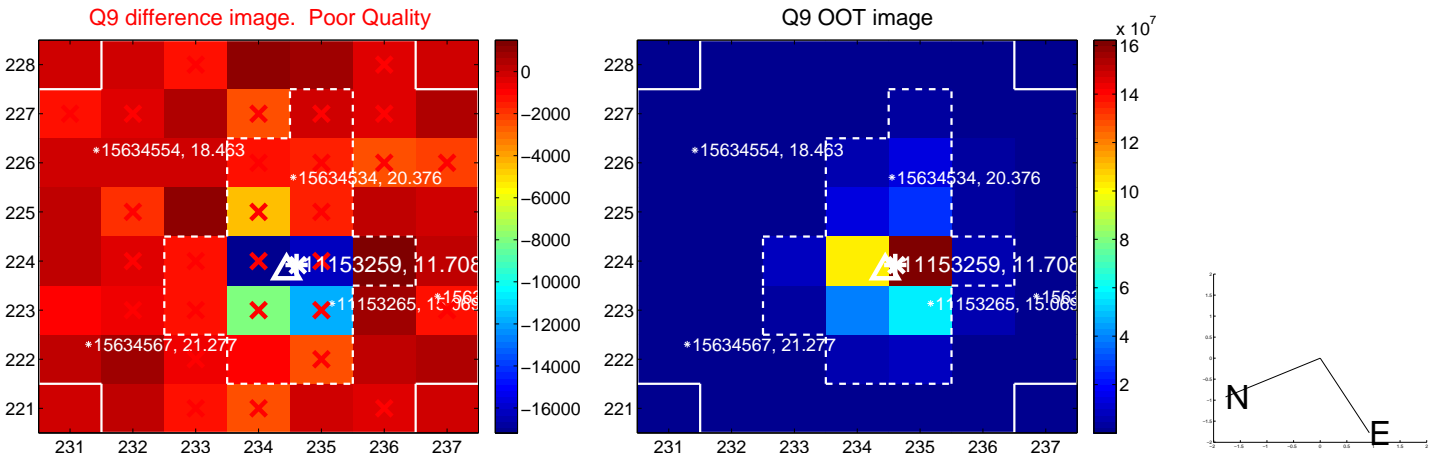
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



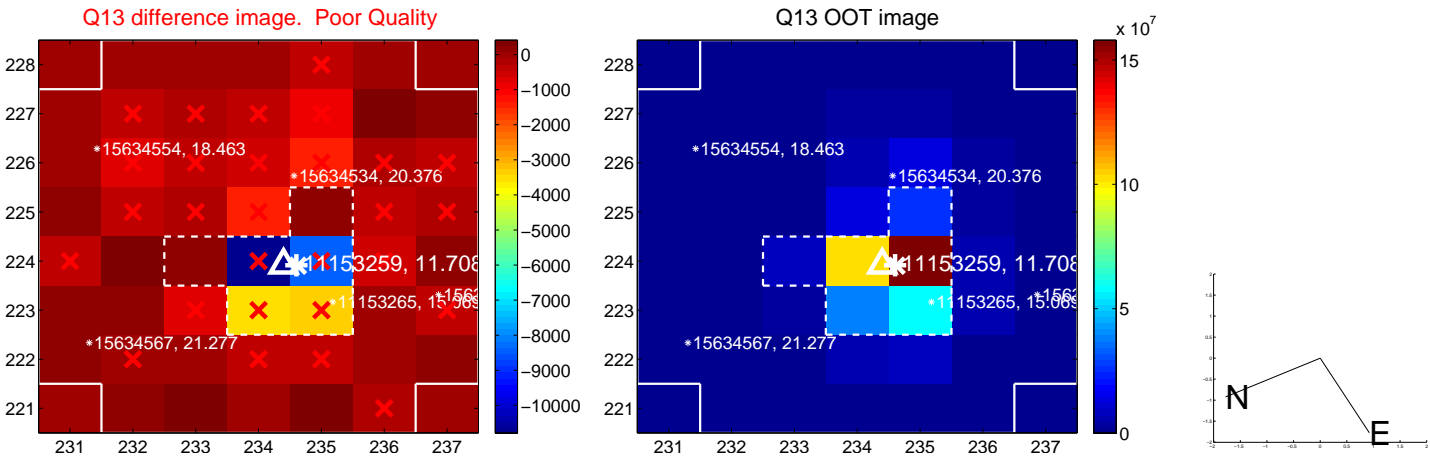
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



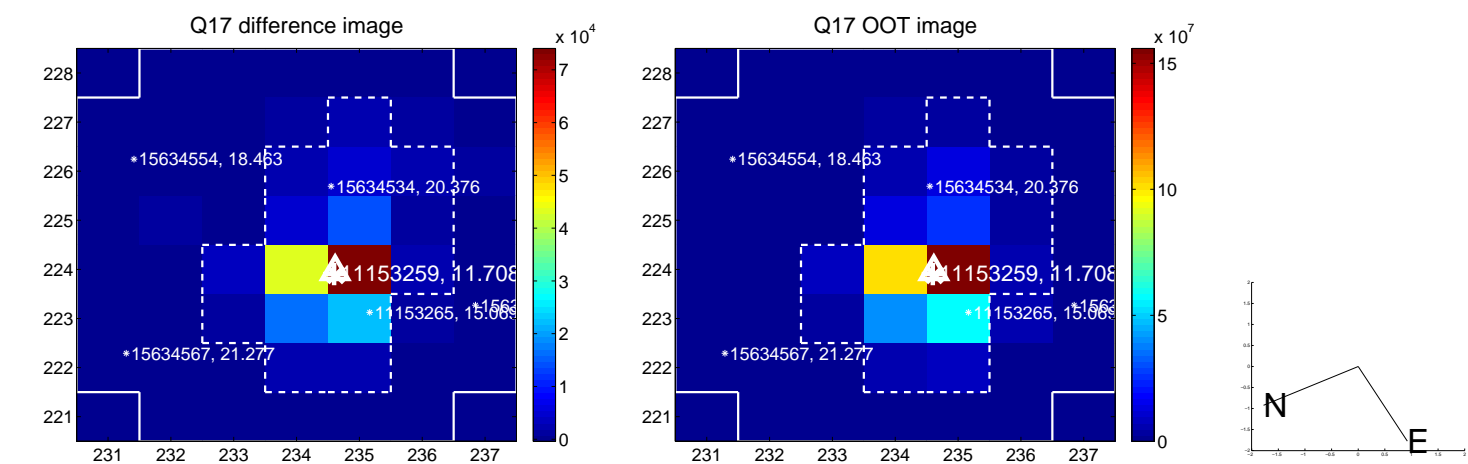
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



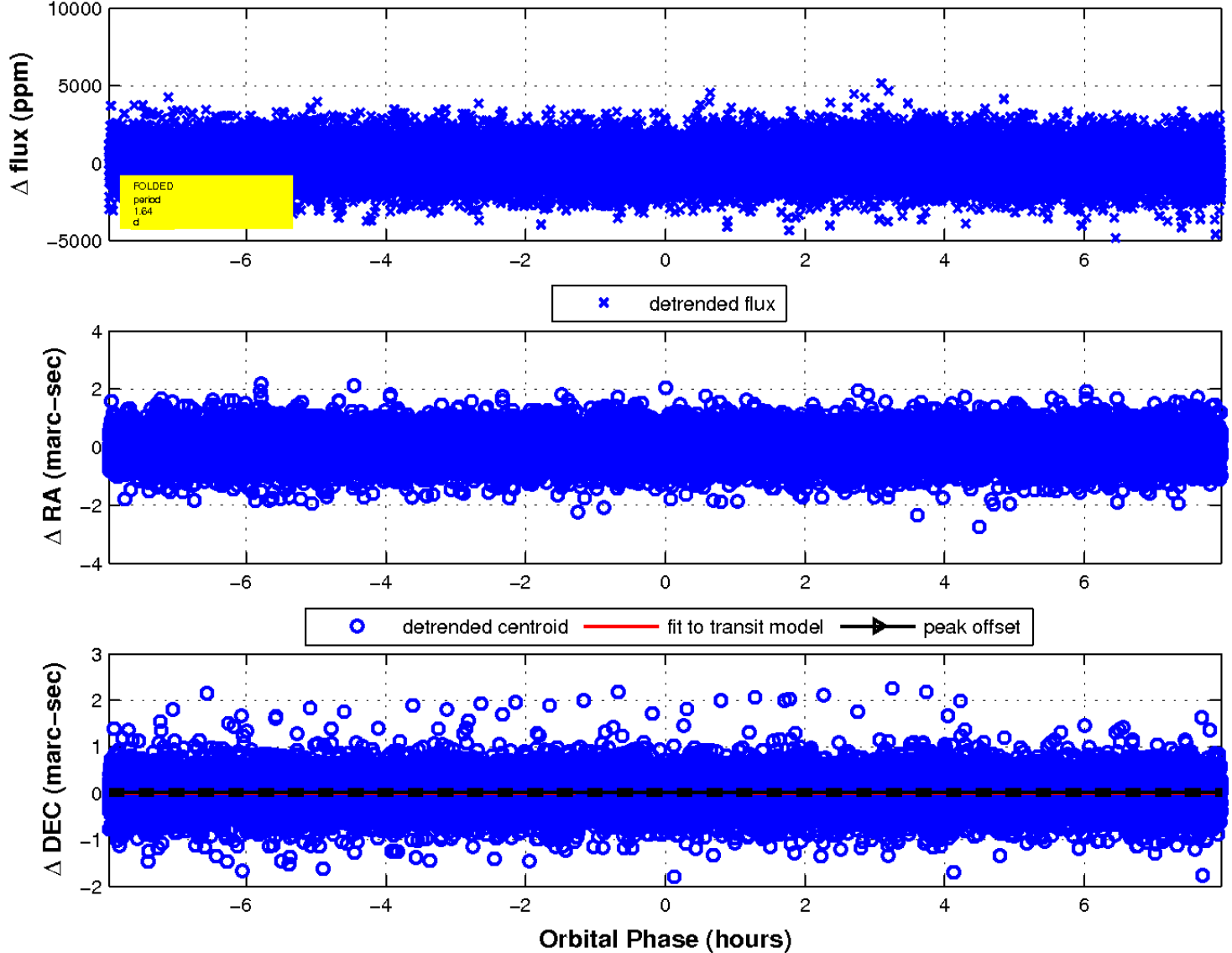
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

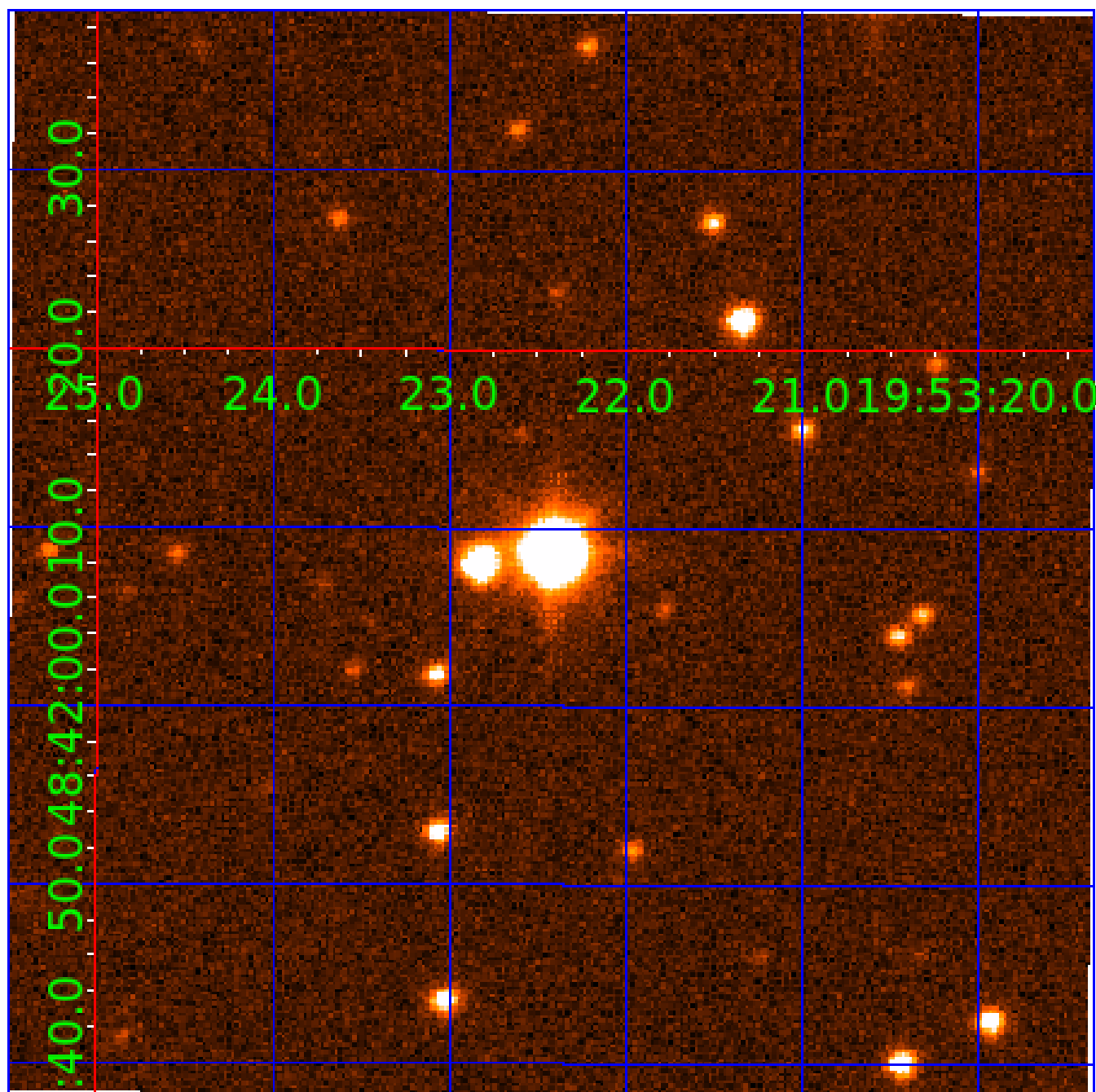


fluxWeightedCentroids, Planet 2 of 6



UKIRT Image

Declination



KIC 011153259

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})
011153259-01	OBS	No	0.982378	132.153660	56.1	5.833	9.6	3.5	2.32	7615	1.77	29918.84
011153259-02	OBS	No	1.637211	132.932555	283.0	2.655	9.4	8.3	2.32	7615	4.54	15141.77
011153259-03	OBS	No	85.218204	154.449359	1769.5	2.450	9.0	7.9	2.32	7615	10.60	77.91
011153259-04	OBS	No	28.535344	150.347362	1716.4	1.796	8.5	8.0	2.32	7615	10.39	335.07
011153259-05	OBS	No	20.727248	135.481597	1621.0	1.698	8.5	8.7	2.32	7615	13.53	513.17
011153259-06	OBS	No	9.263085	140.563860	812.9	3.691	8.9	9.0	2.32	7615	7.76	1501.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011153259-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
011153259-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
011153259-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011153259-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011153259-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011153259-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—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 011153259-03

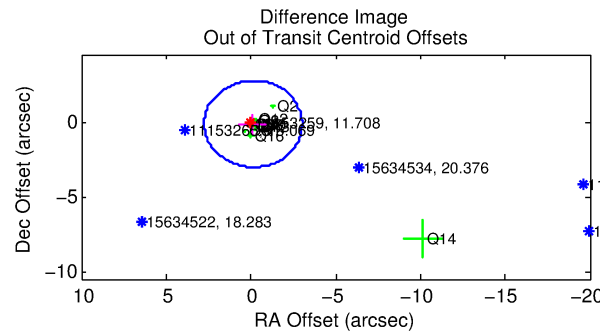
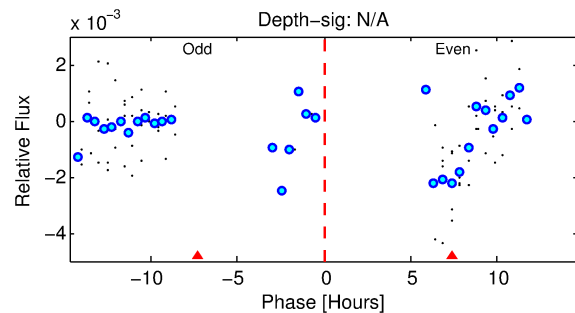
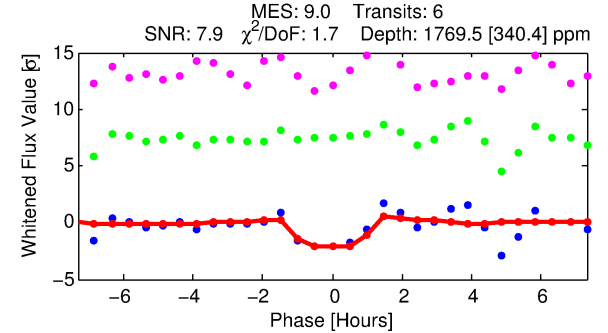
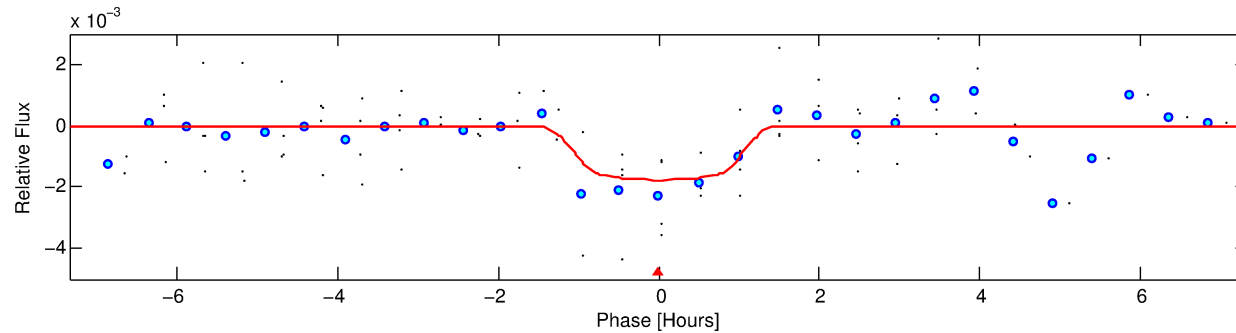
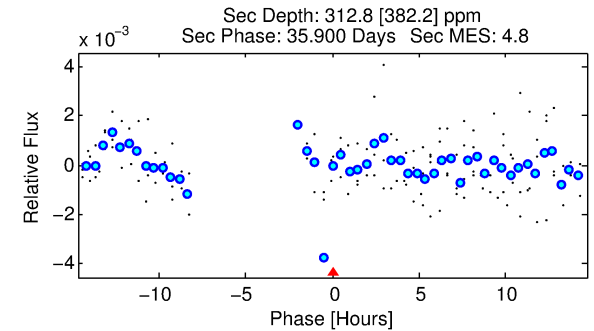
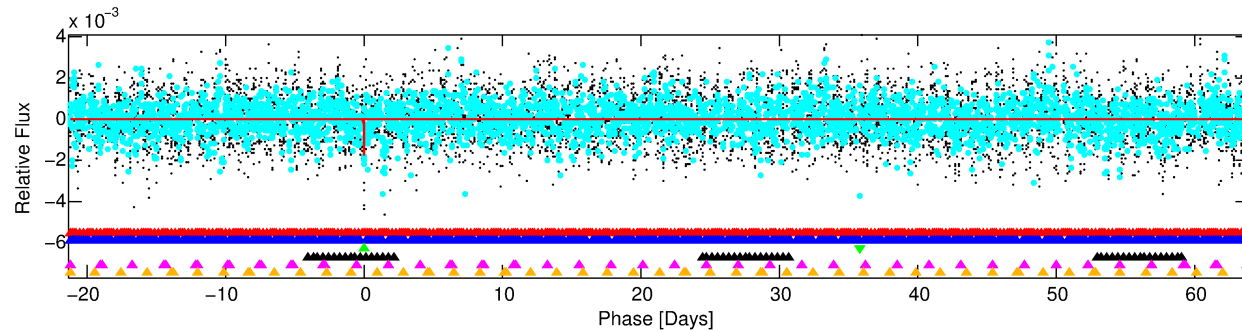
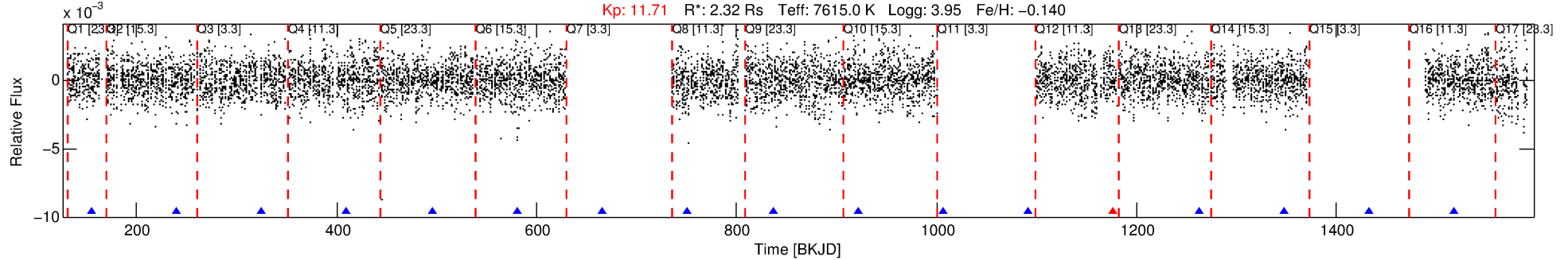
No Significant Match Found

DV One-Page Summary

KIC: 11153259 Candidate: 3 of 6 Period: 85.218 d

KOI: K03200 Corr: No Ephemeris Match

Kp: 11.71 R*: 2.32 Rs Teff: 7615.0 K Logg: 3.95 Fe/H: -0.140



DV Fit Results:

Period = 85.21820 [0.00091] d
Epoch = 154.4494 [0.0084] BKJD
Rp/R* = 0.0419 [0.0807]
a/R* = 192.30 [2086.64]
b = 0.75 [6.40]
Seff = 77.91 [20.17]
Teq = 758 [49] K
Rp = 10.60 [20.53] Re
a = 0.4558 [0.0776] AU
Ag = 318.33 [1289.49] [0.25σ]
Teffp = 4948 [5001] K [0.84σ]

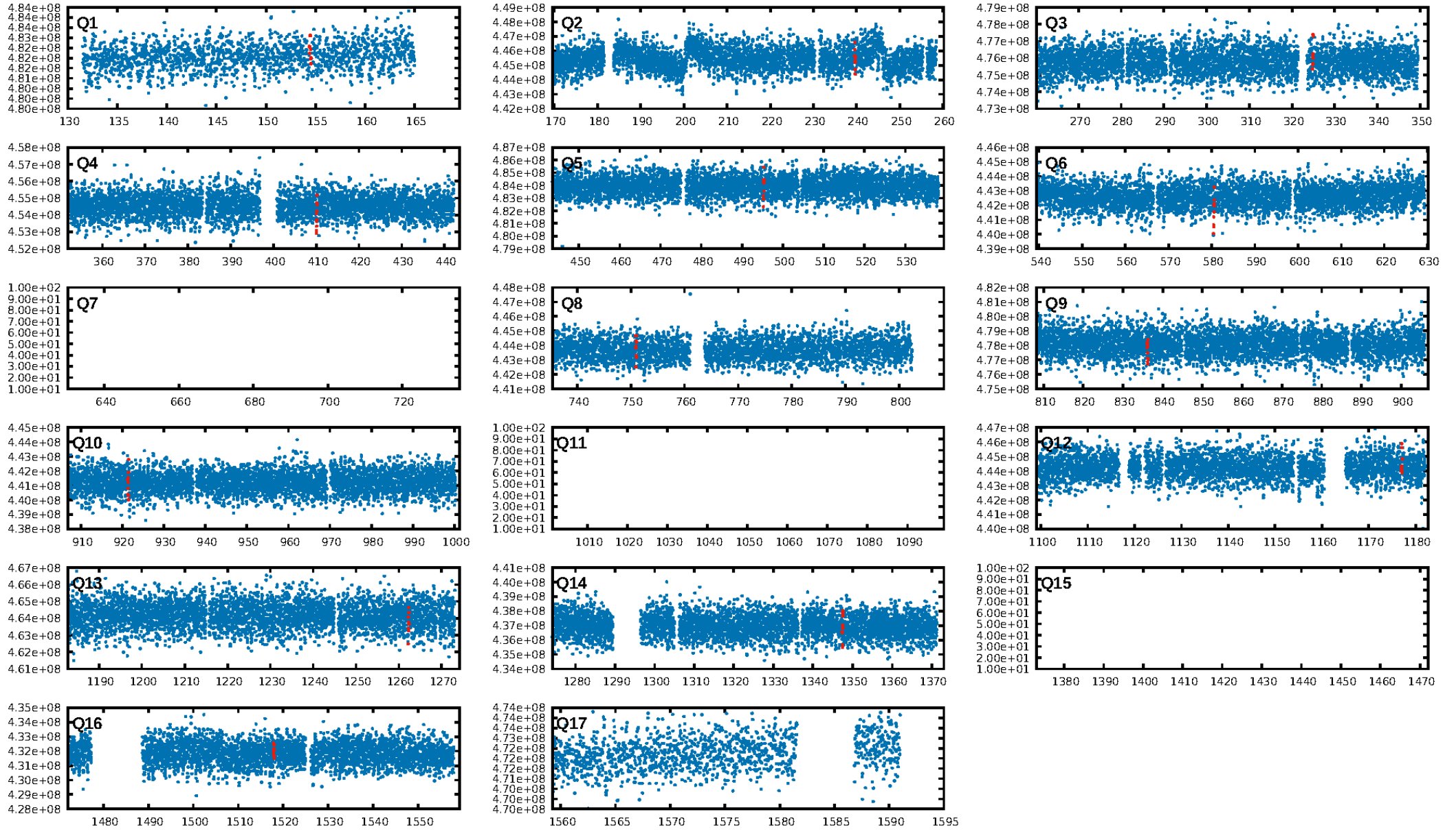
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [447.88σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 15.4%
ModelChiSquareGof-sig: 80.0%
Bootstrap-pfa: 7.14e-10
RollingBand-fgt: 0.83 [5/6]
GhostDiagnostic-chr: 1.854
Centroid-sig: N/A
Centroid-so: 0.165 arcsec [1.50σ]
OotOffset-rm: 0.202 arcsec [0.21σ]
KicOffset-rm: 0.241 arcsec [0.26σ]
OotOffset-st: 4/1/4/4 [13]
KicOffset-st: 4/1/4/4 [13]
DiffImageQuality-fgm: 0.46 [6/13]
DiffImageOverlap-fno: 0.08 [1/13]

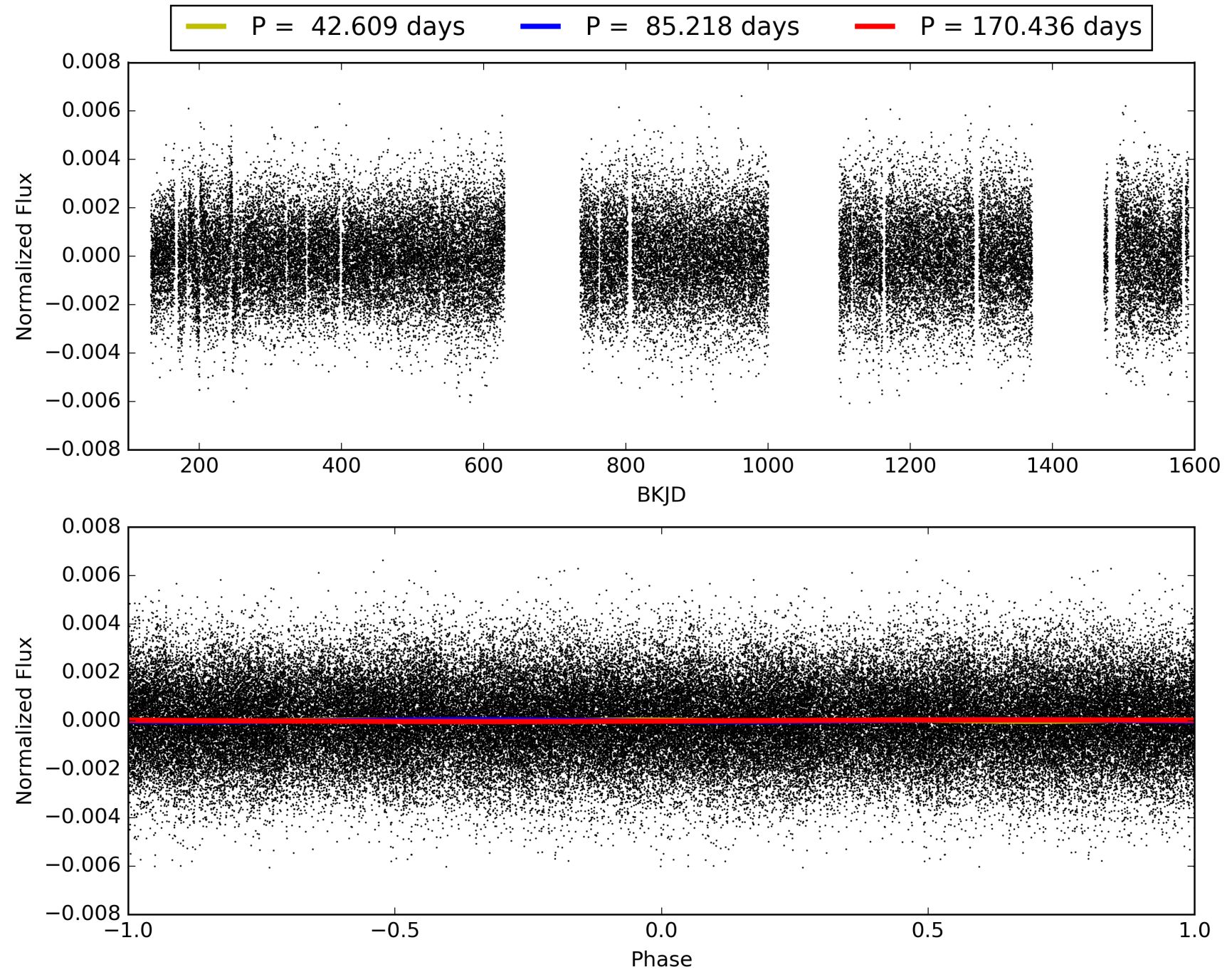
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:49:49 Z

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

TCE 011153259-03, PDC Light Curves

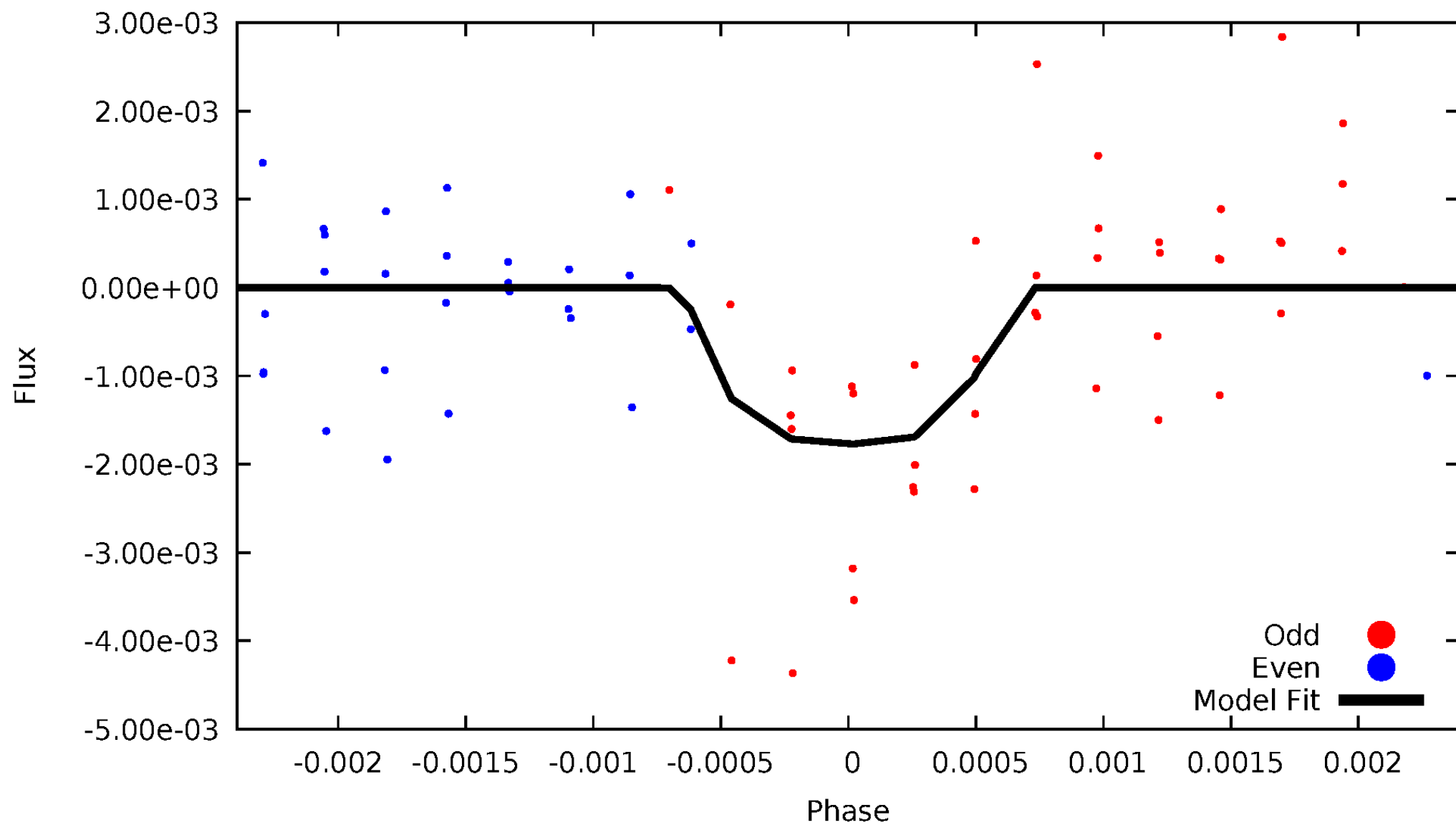


TCE 011153259-03



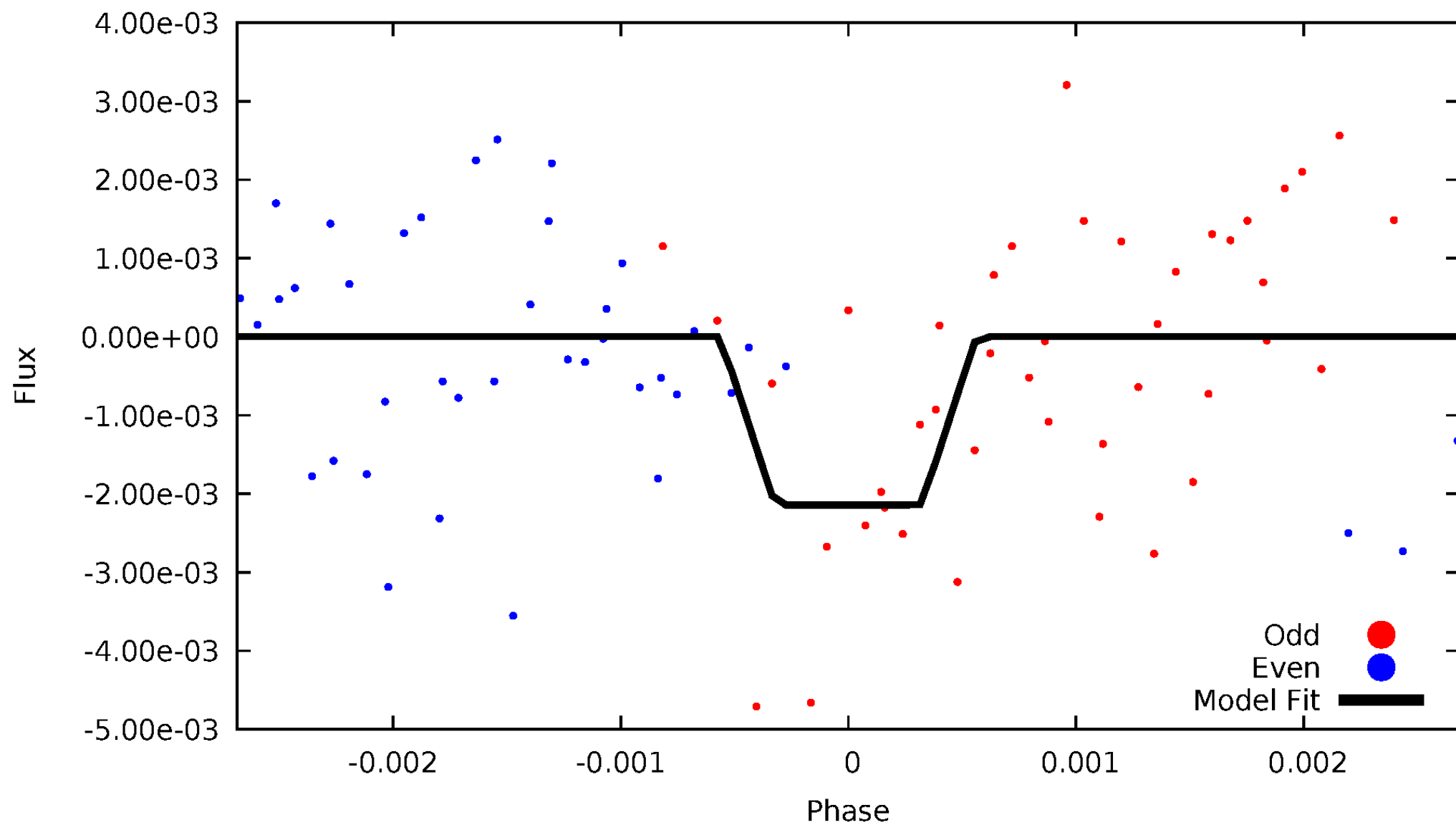
DV Odd/Even

TCE 011153259-03

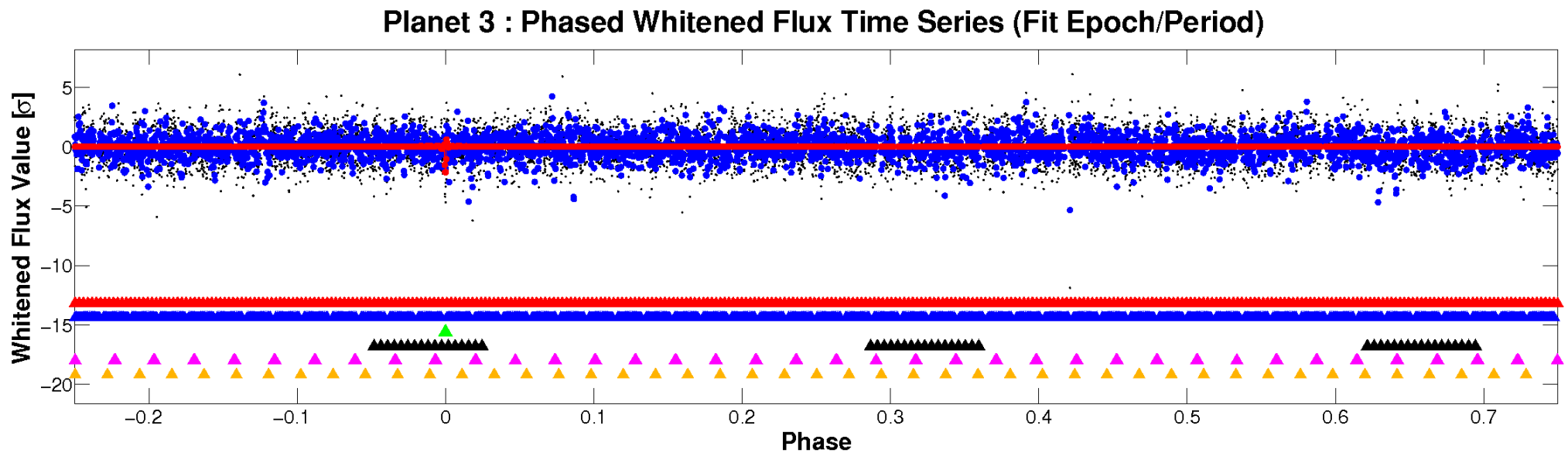
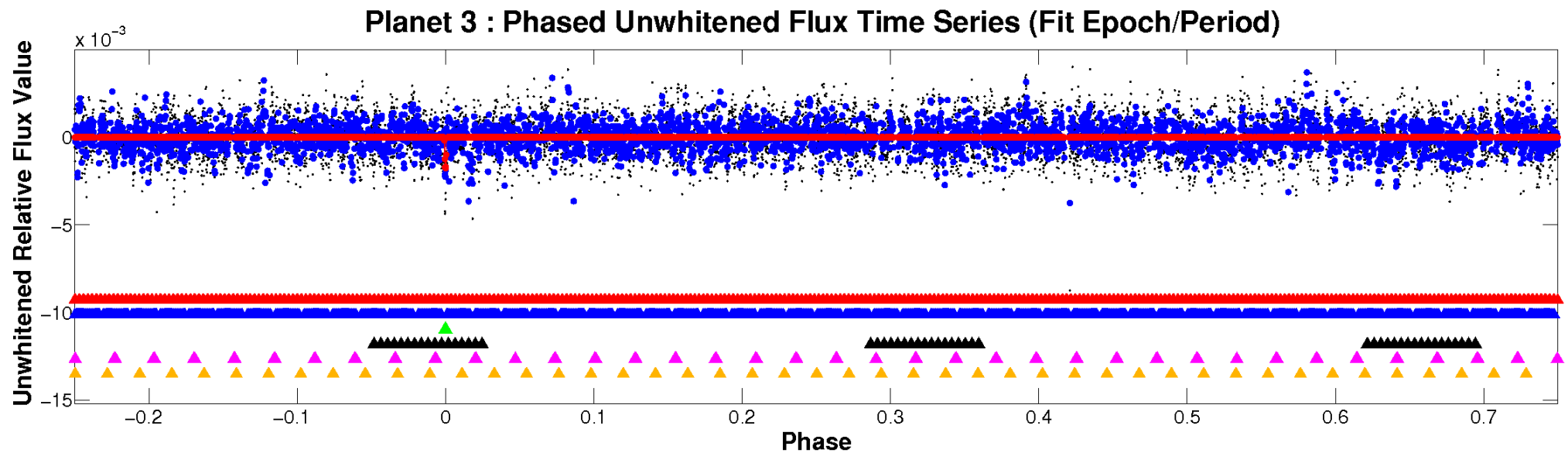


ALT Odd/Even

TCE 011153259-03

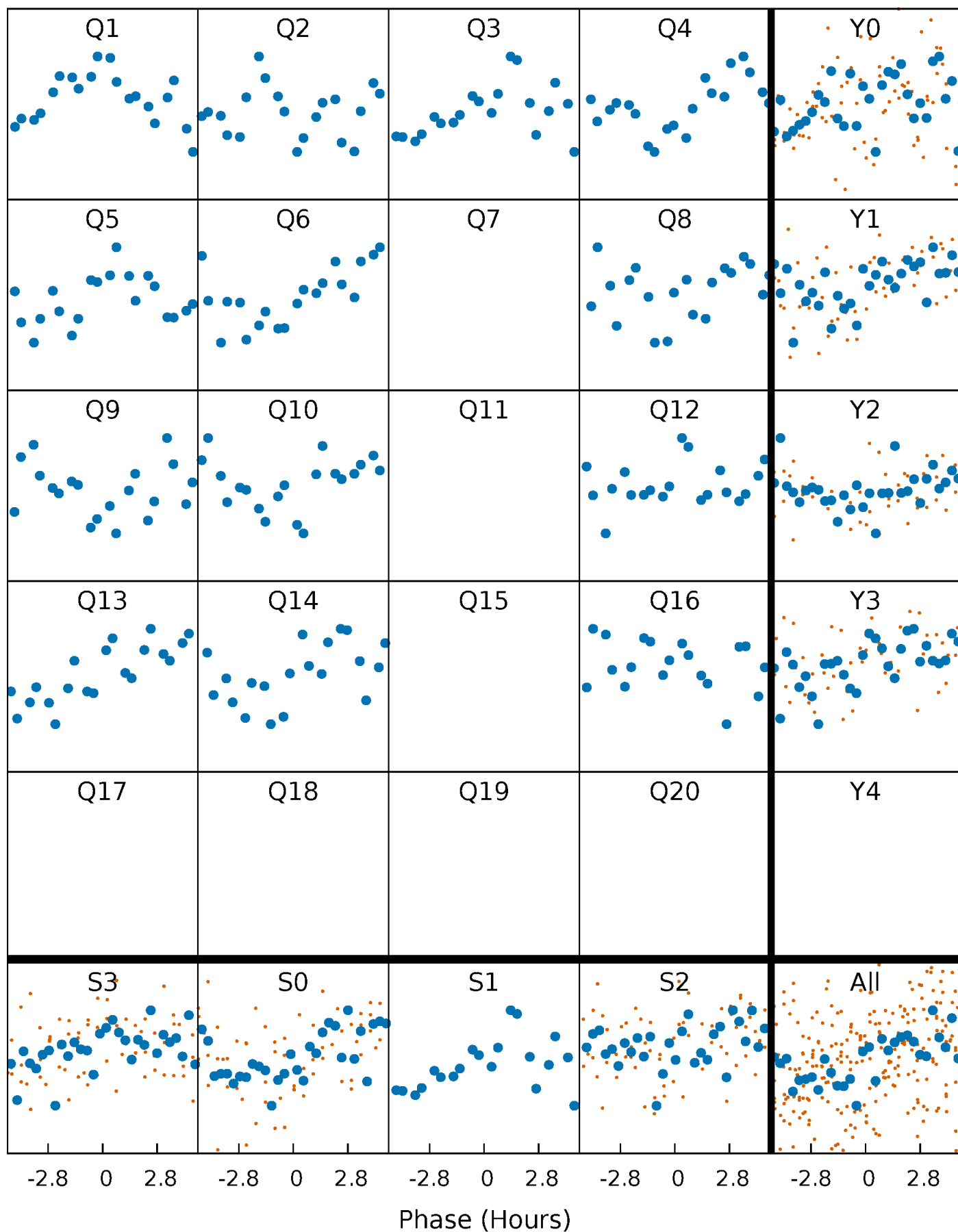


Non-Whitened Vs. Whitened Light Curve



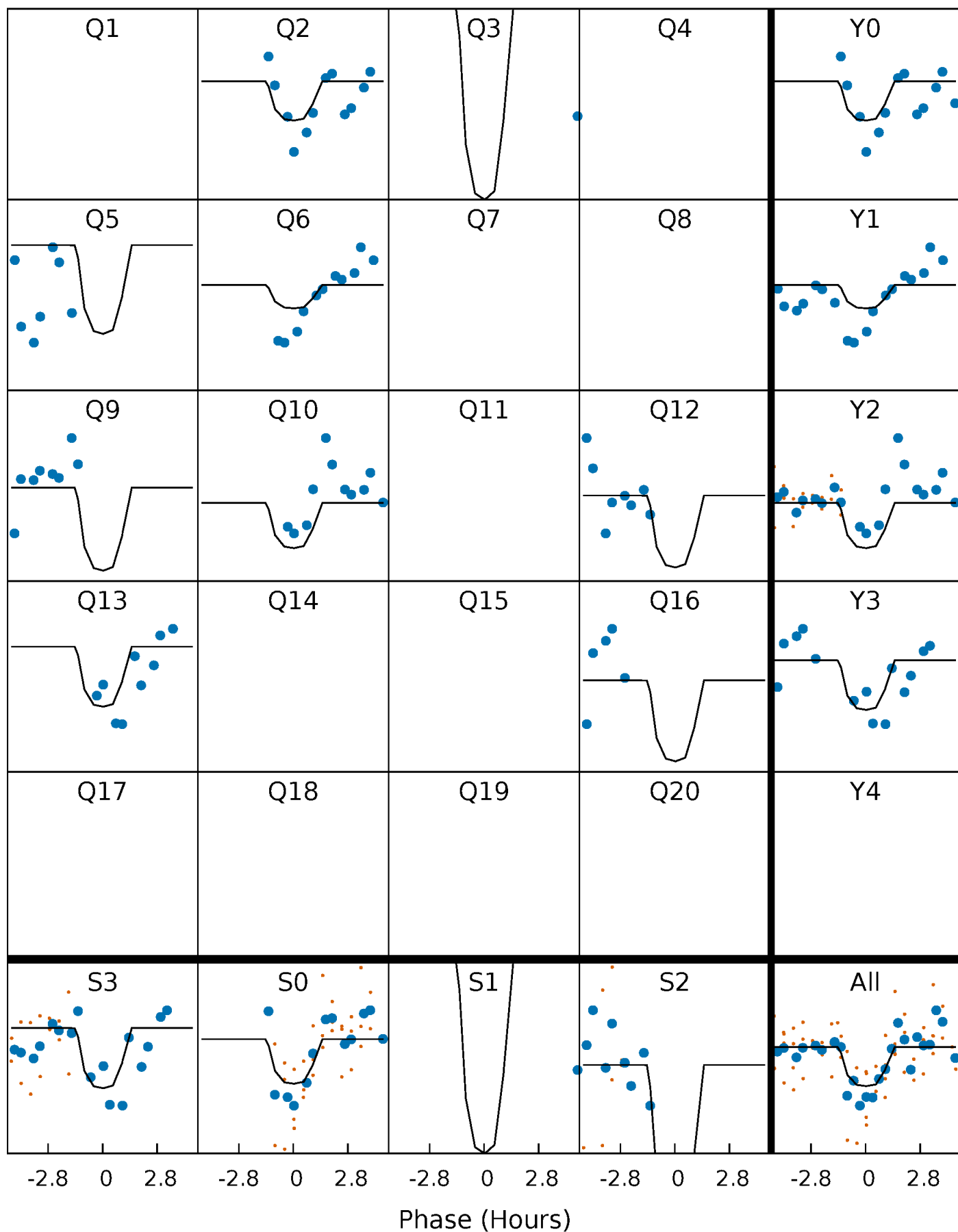
PDC Quarter-Phased Transit Curves

TCE 011153259-03 P= 85.218204 Days $T_0=154.449359$ (BKJD)



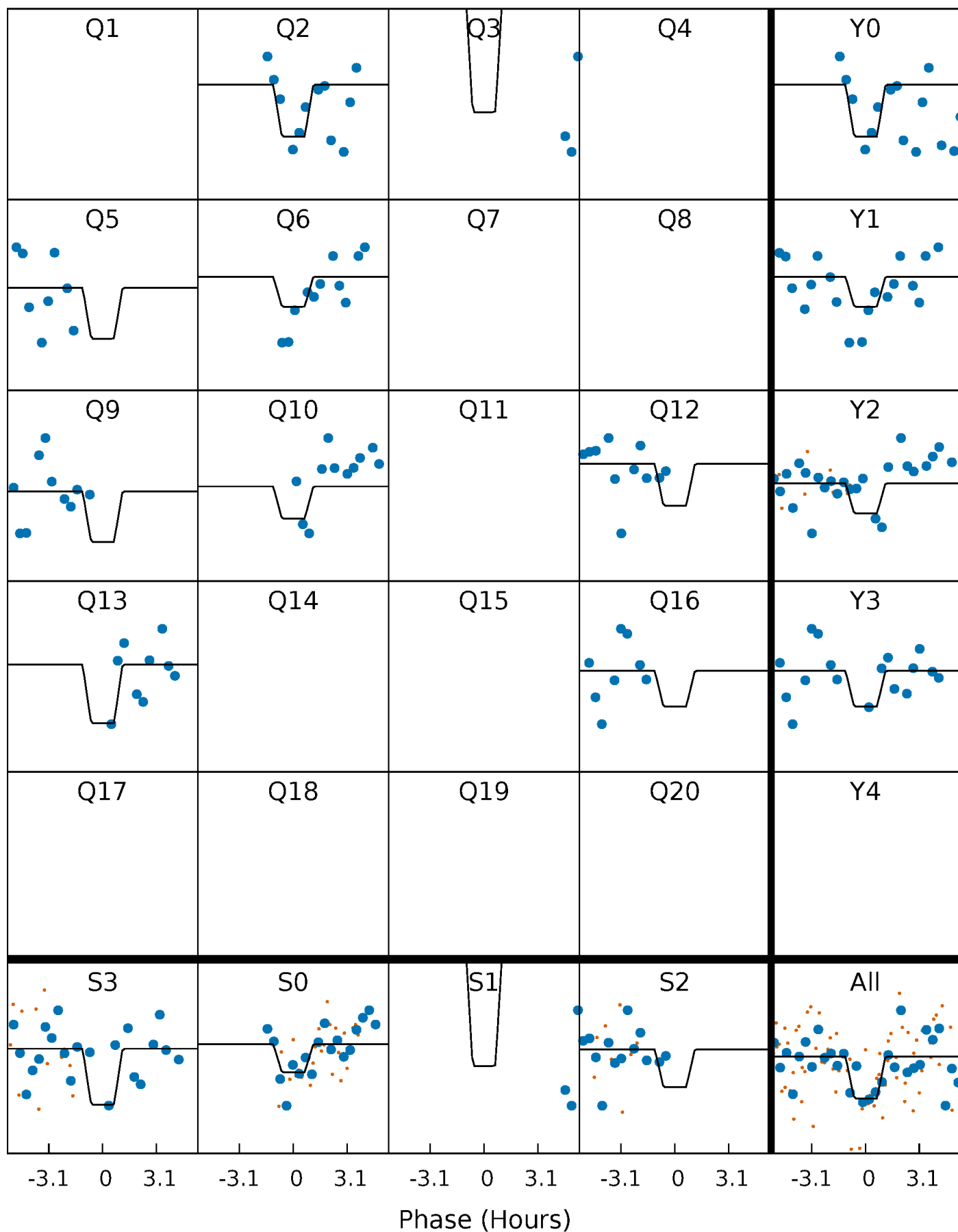
DV Quarter-Phased Transit Curves

TCE 011153259-03 P= 85.218204 Days $T_0=154.449359$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

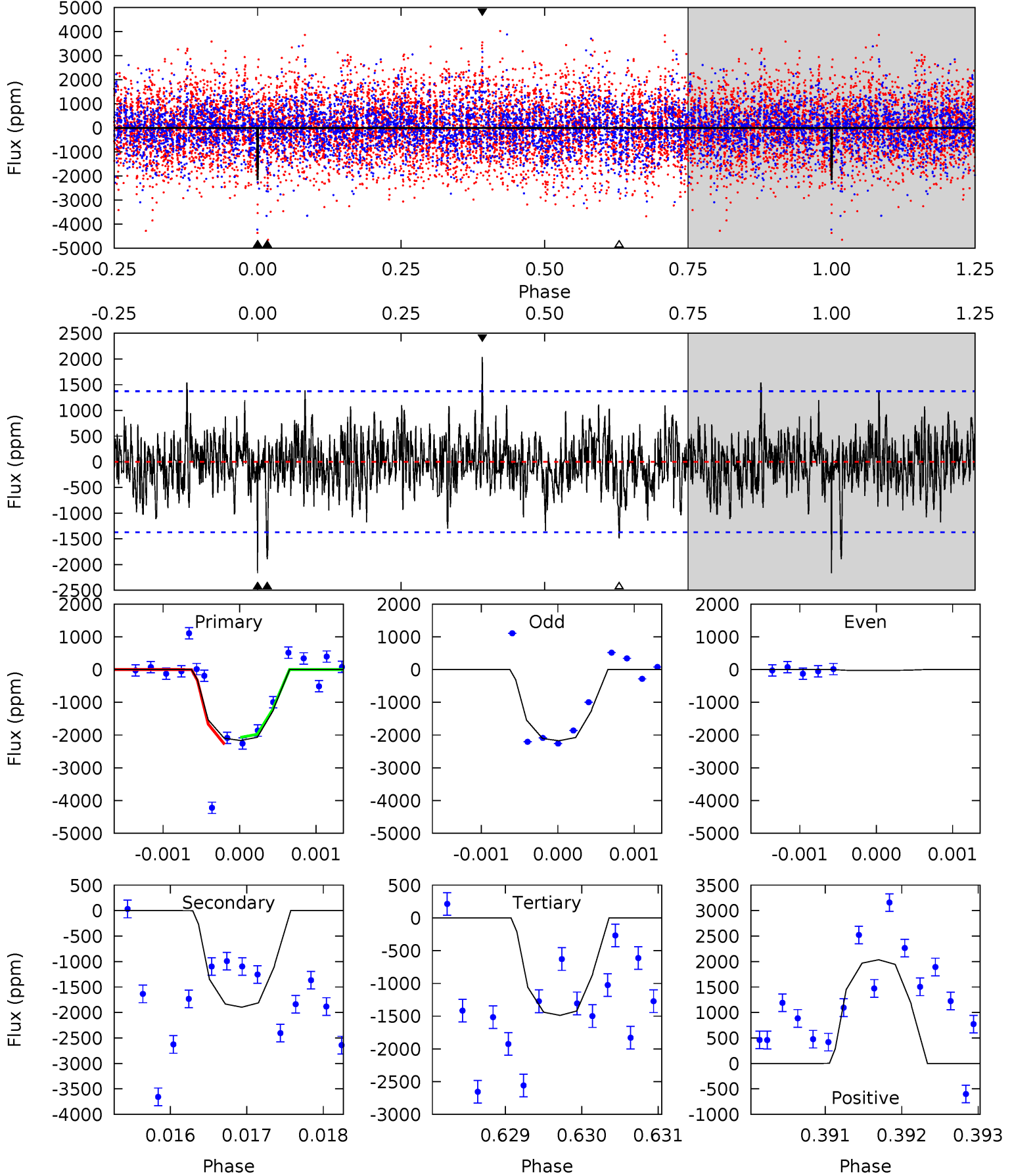
TCE 011153259-03 P= 85.214662 Days $T_0=154.462531$ (BKJD)



DV Model-Shift Uniqueness Test

011153259-03, P = 85.218204 Days, E = 69.231155 Days

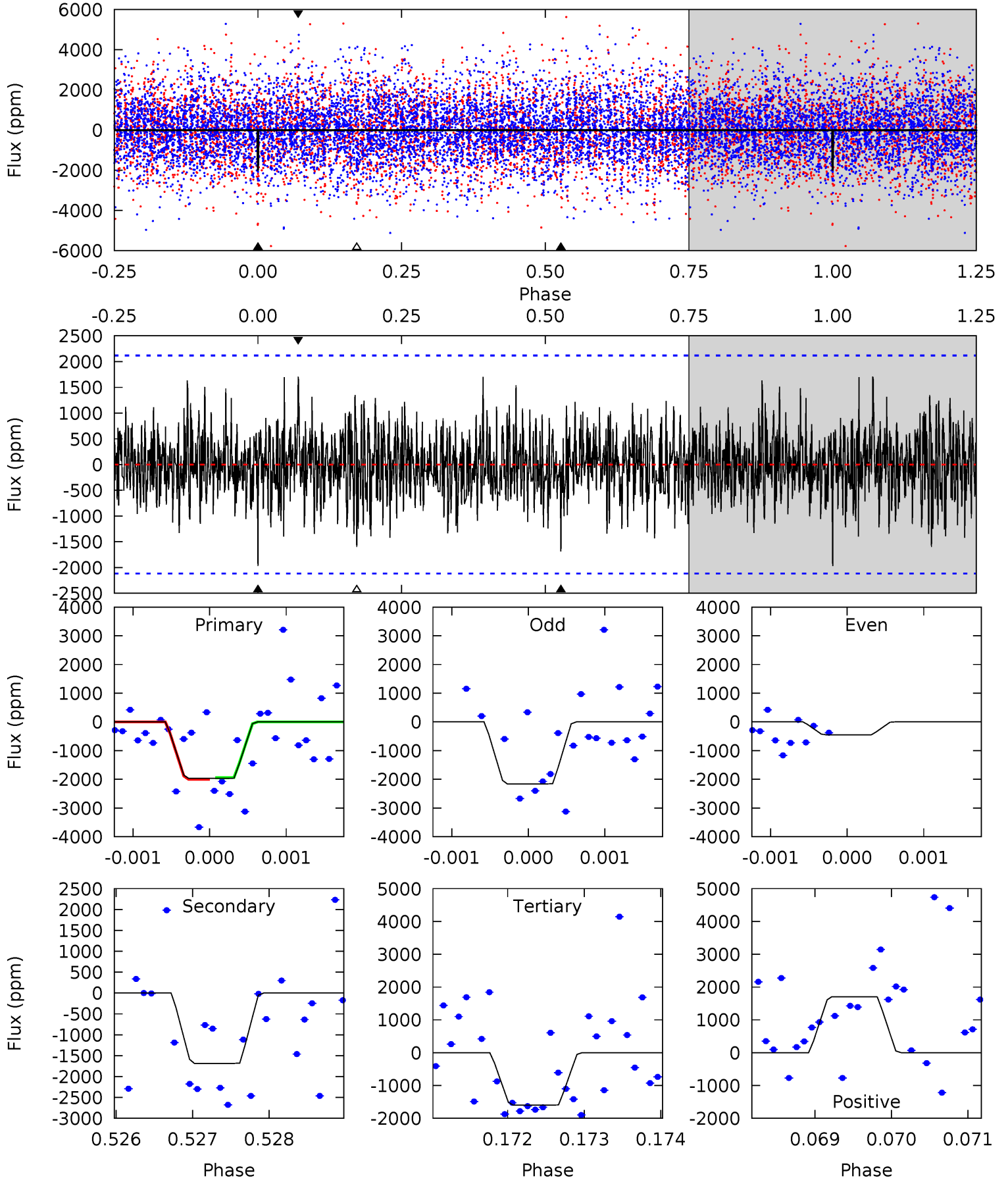
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.58	7.51	5.89	8.06	5.43	3.26	1.64	2.69	0.52	1.62	-0.55	1.97	1.05	0.48	0.40



Alt Model-Shift Uniqueness Test

011153259-03, P = 85.214662 Days, E = 69.247869 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.08	4.34	4.12	4.40	5.45	3.29	1.31	0.95	0.68	0.22	-0.05	1.57	1.11	0.46	0.07



Stellar Parameters For KIC 011153259

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7615^{+76}_{-83}	$3.948^{+0.143}_{-0.117}$	$-0.140^{+0.200}_{-0.150}$	$2.318^{+0.452}_{-0.452}$	$1.739^{+0.207}_{-0.156}$	$0.197^{+0.140}_{-0.070}$
	+1%/-1%	+4%/-3%	+143%/-107%	+19%/-19%	+12%/-9%	+71%/-36%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 011153259-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1895 ± 252	$18.15^{+17.71}_{-11.98}$	1055^{+50}_{-50}	5748^{+5424}_{-1398}	639^{+5031}_{-474}
Alt.	-1685 ± 388	$19.57^{+16.17}_{-13.30}$	1055^{+51}_{-55}	5493^{+5038}_{-1231}	516^{+4453}_{-370}

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 $A_{obs} \gg 1.0$

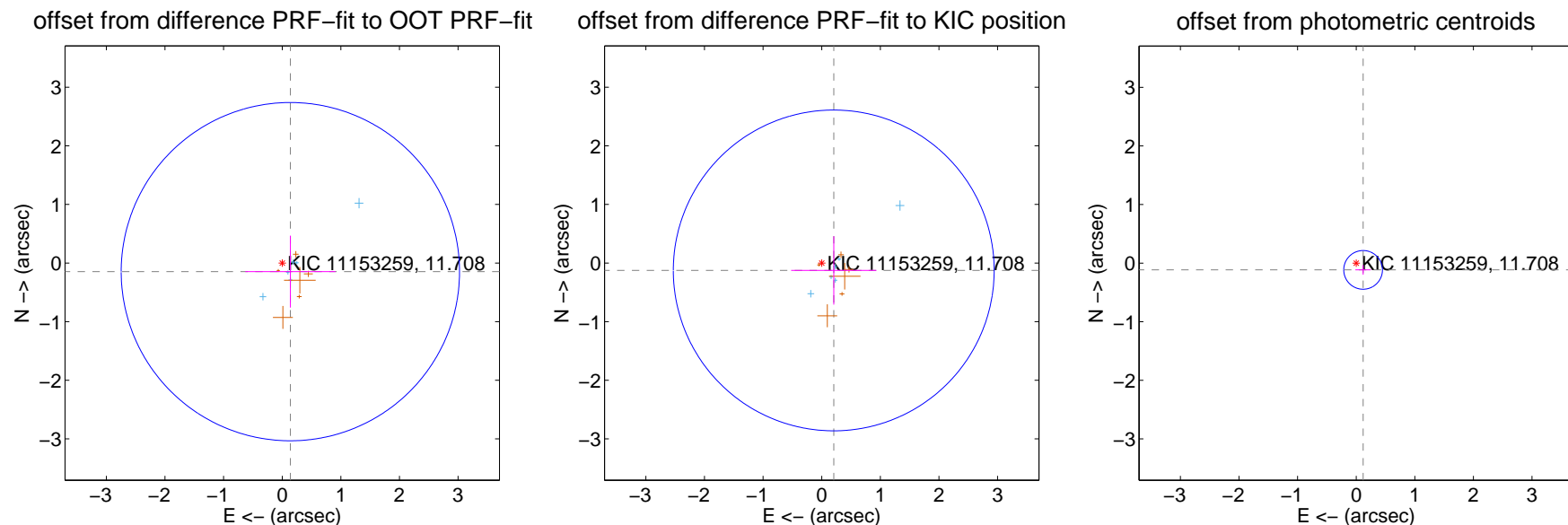
DV Centroid Data

Supplemental centroid analysis for 011153259-03. **Kepler magnitude: 11.71.** Transit SNR 7.91

There are 6 quarters with good PRF difference image offsets

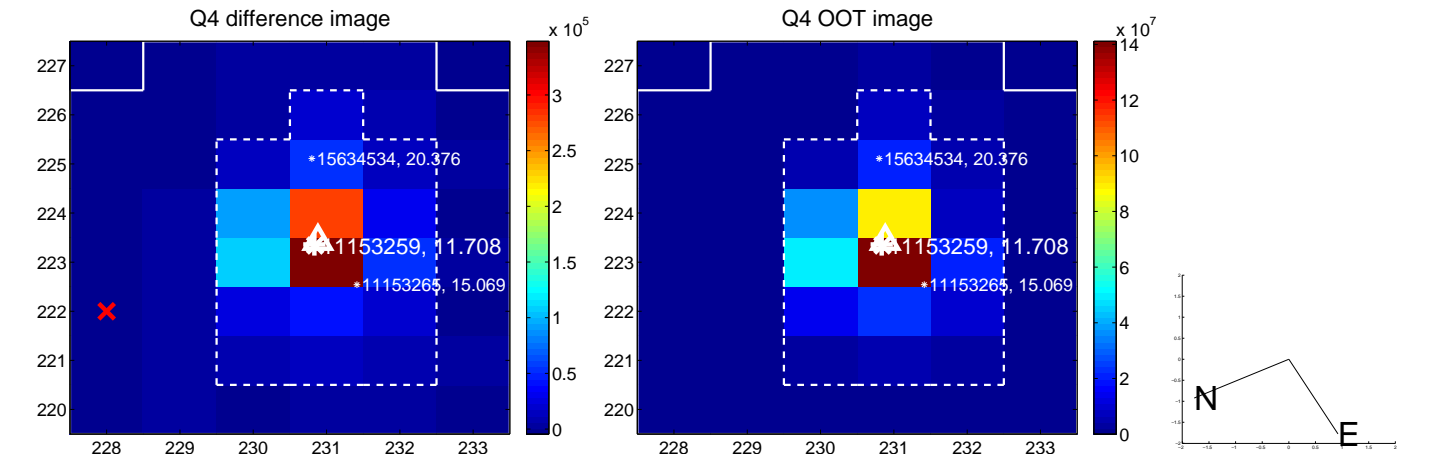
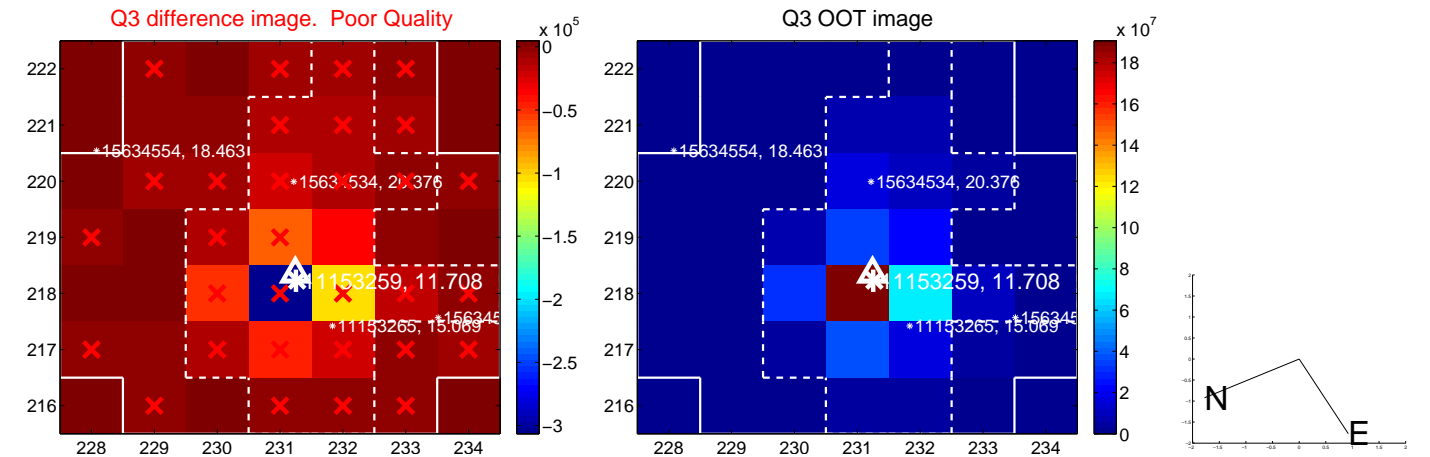
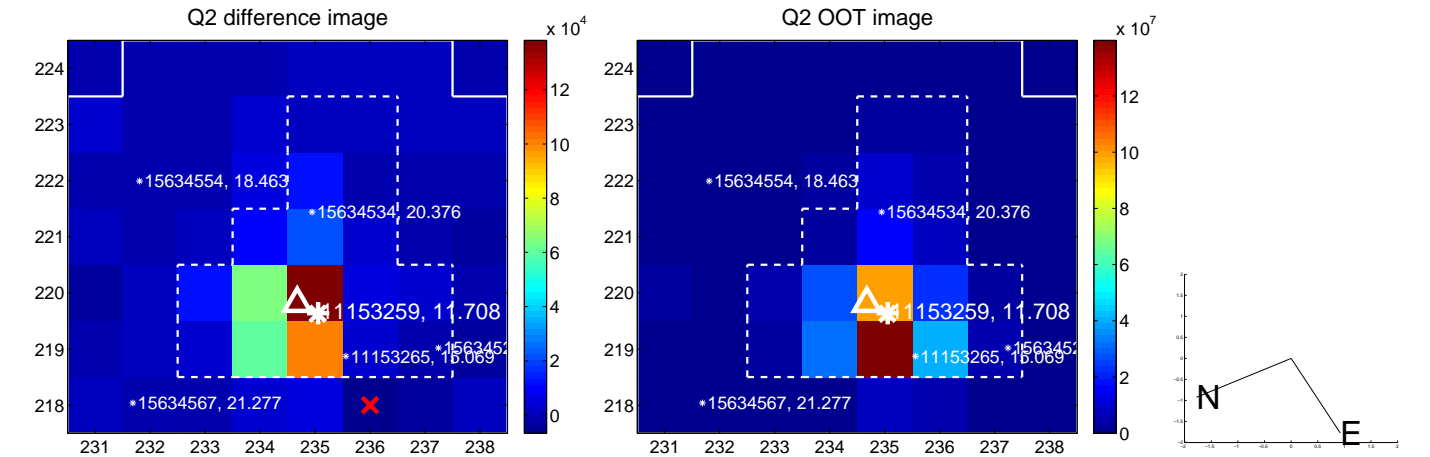
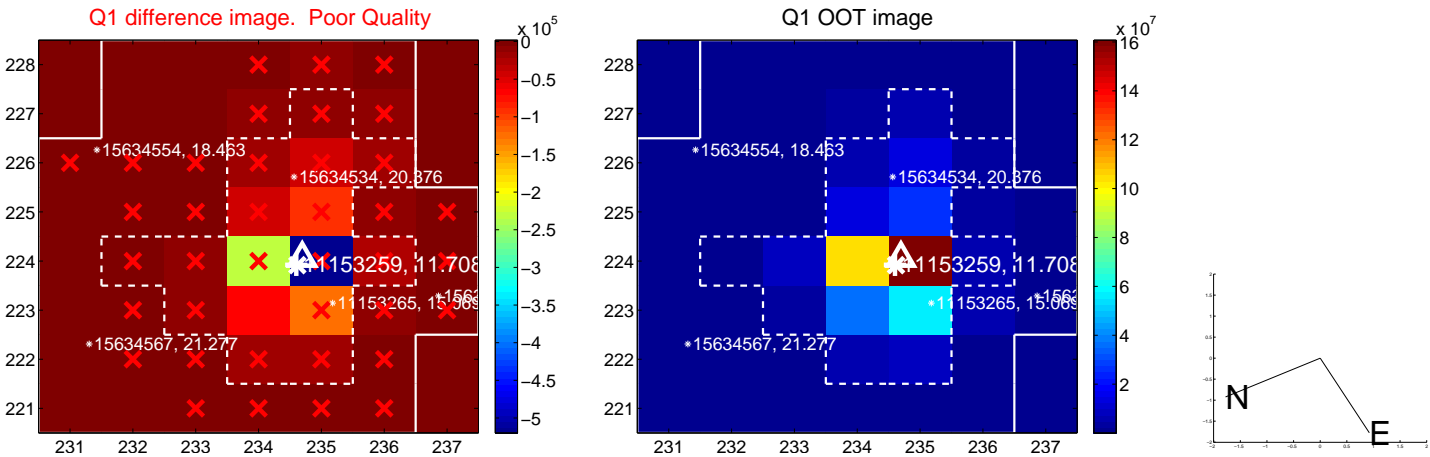
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.202 ± 0.962	0.21	-0.139 ± 0.770	-0.147 ± 0.614
PRF-fit source offset from KIC position	0.241 ± 0.913	0.26	-0.205 ± 0.726	-0.126 ± 0.583
photometric centroid source offset	0.16 ± 0.11	1.50	-0.12 ± 0.13	-0.12 ± 0.08

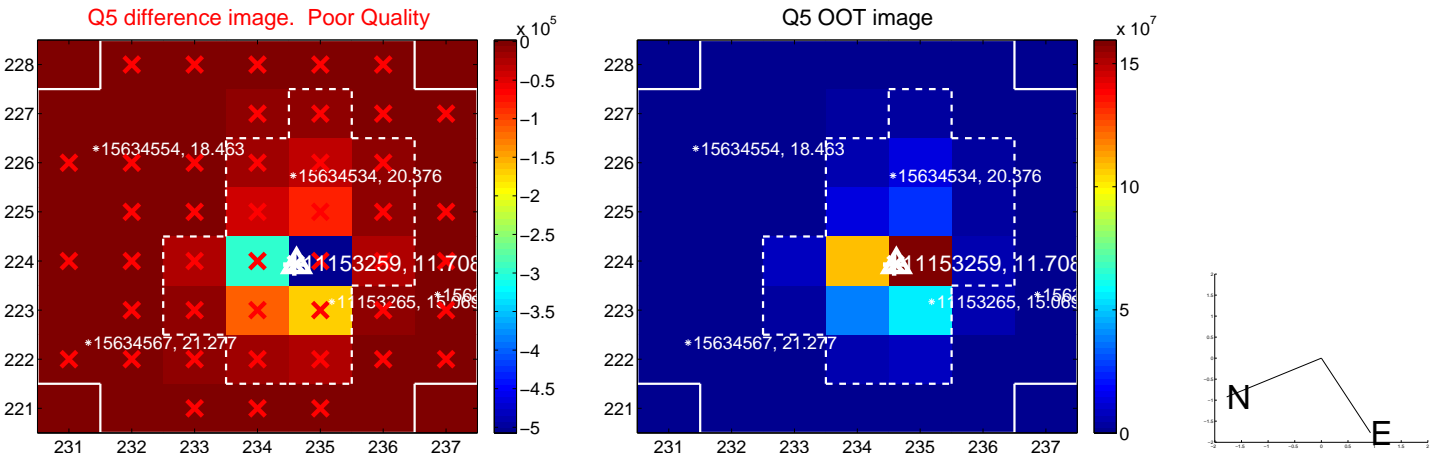


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

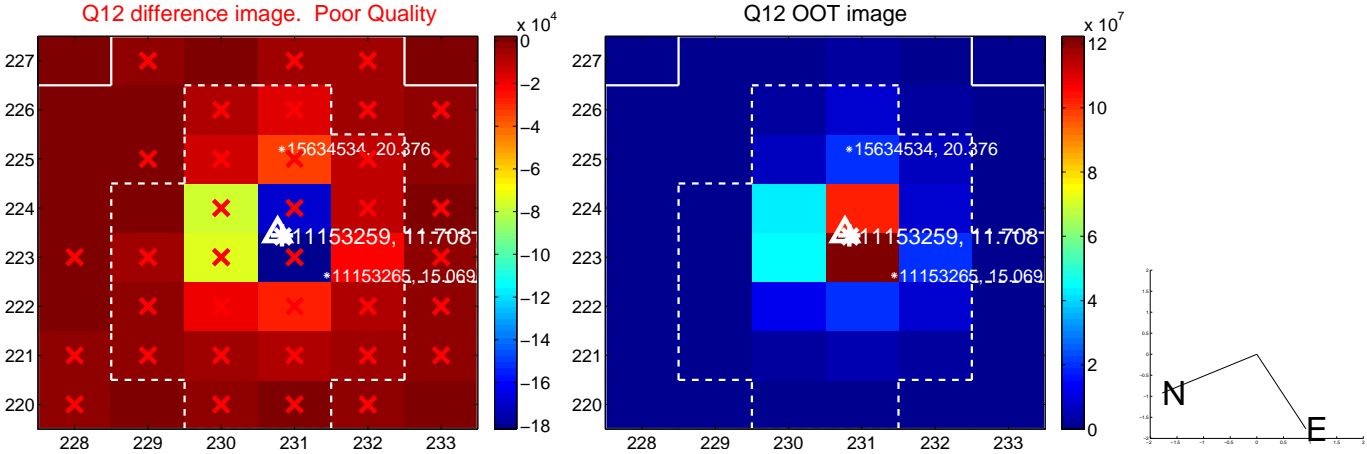
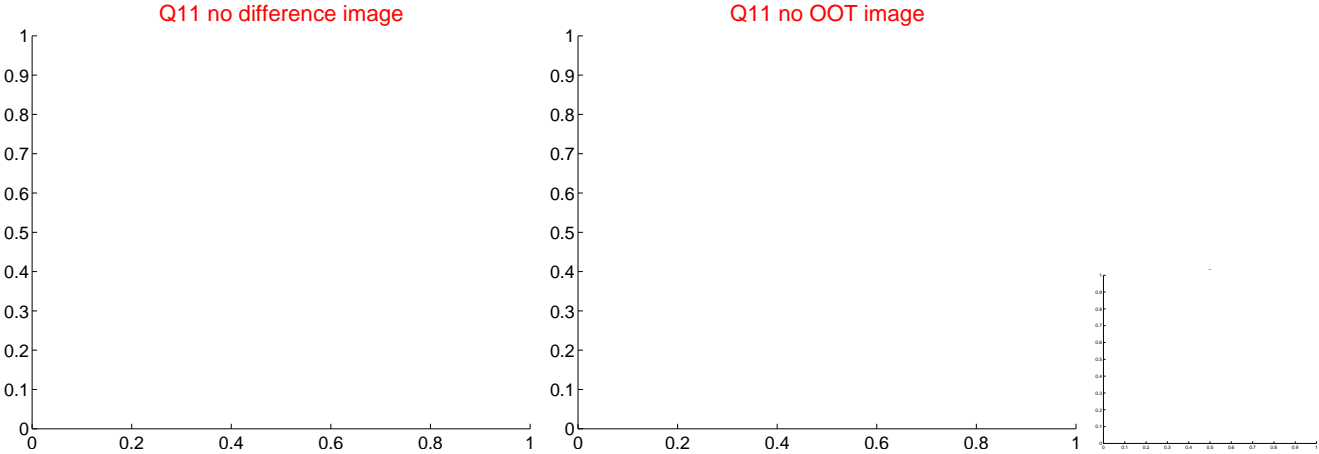
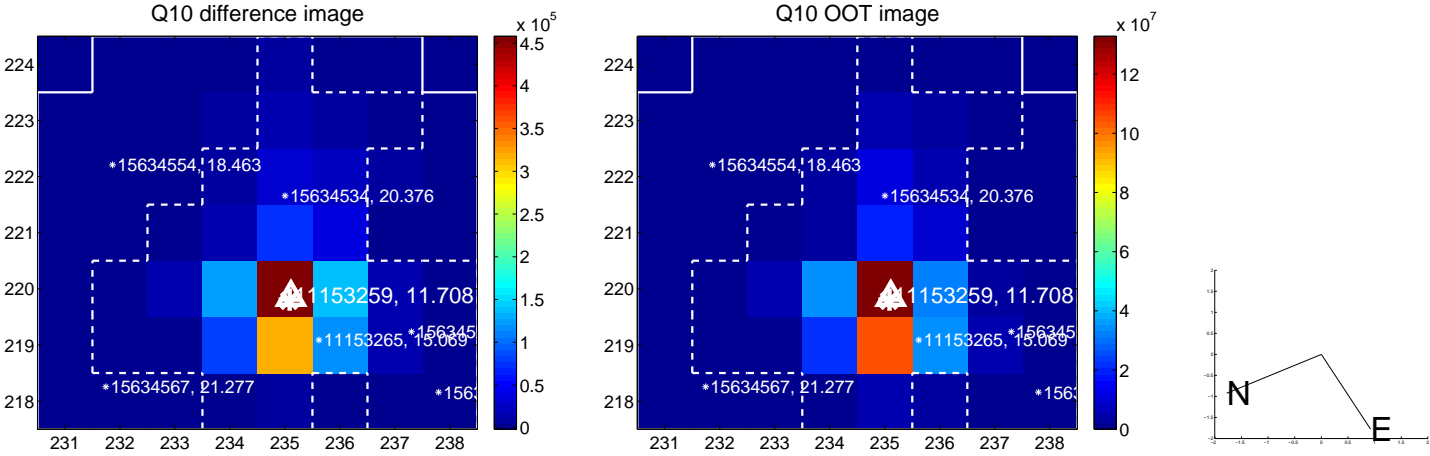
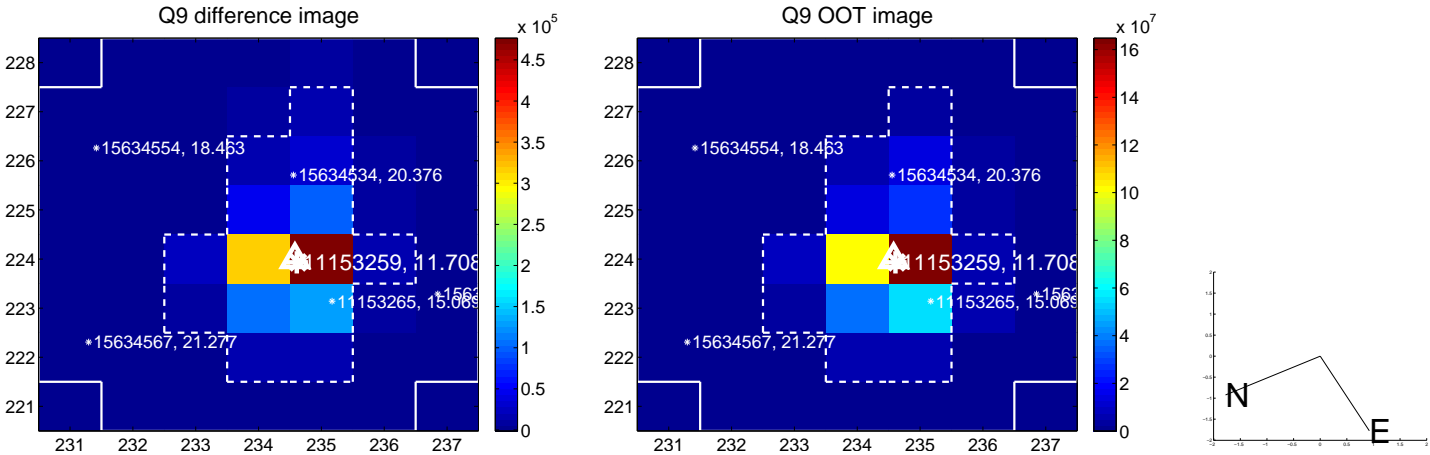
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



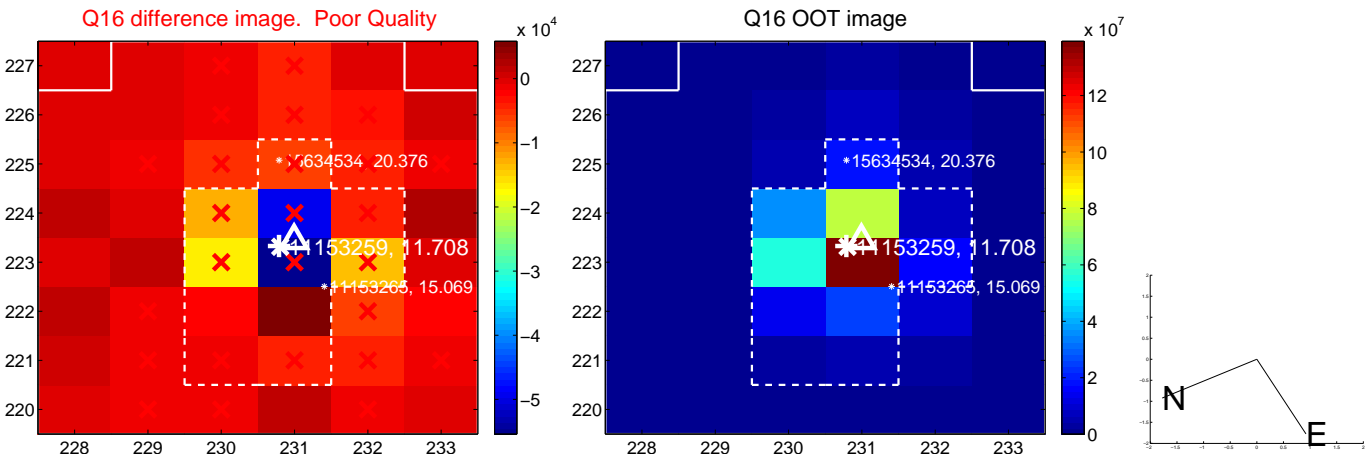
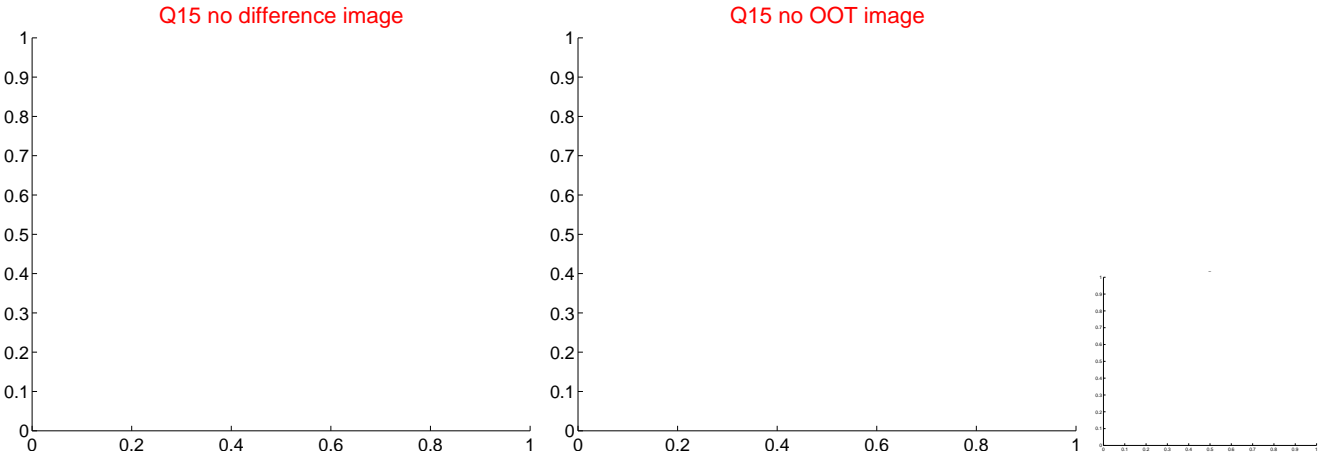
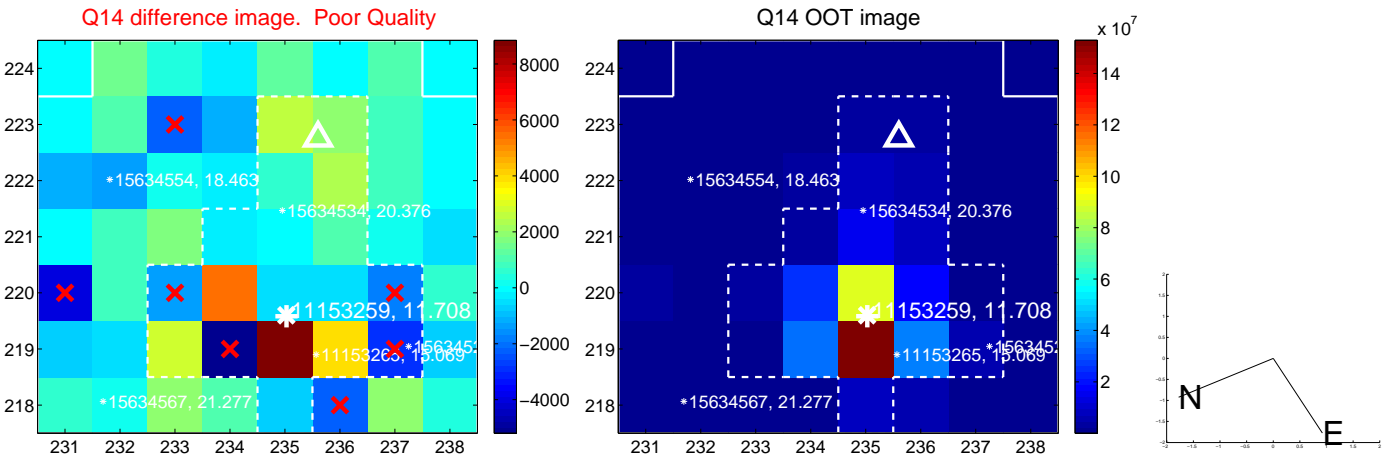
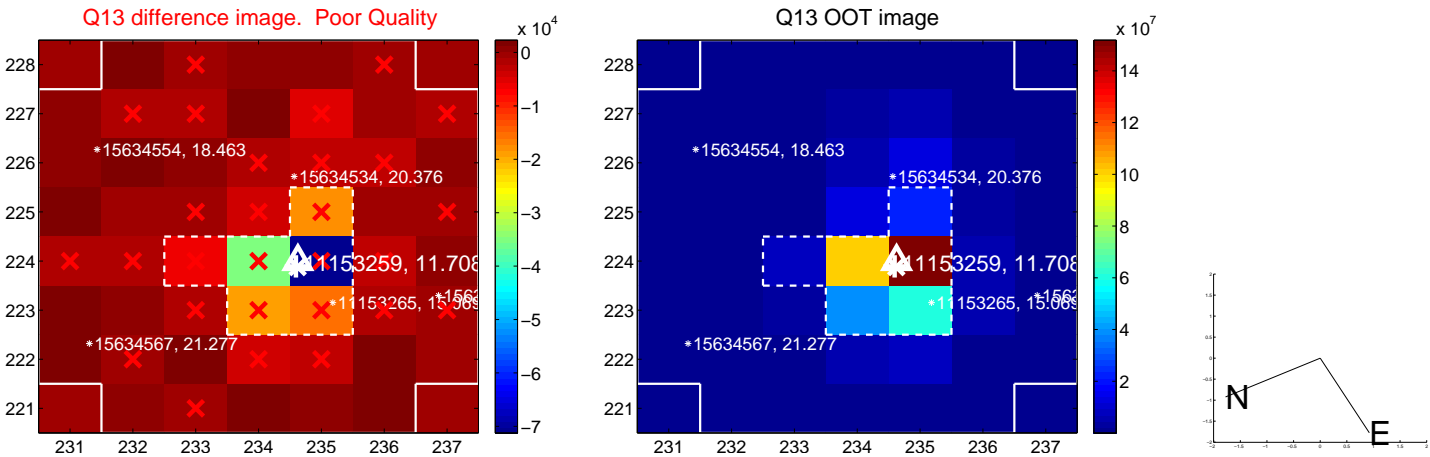
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



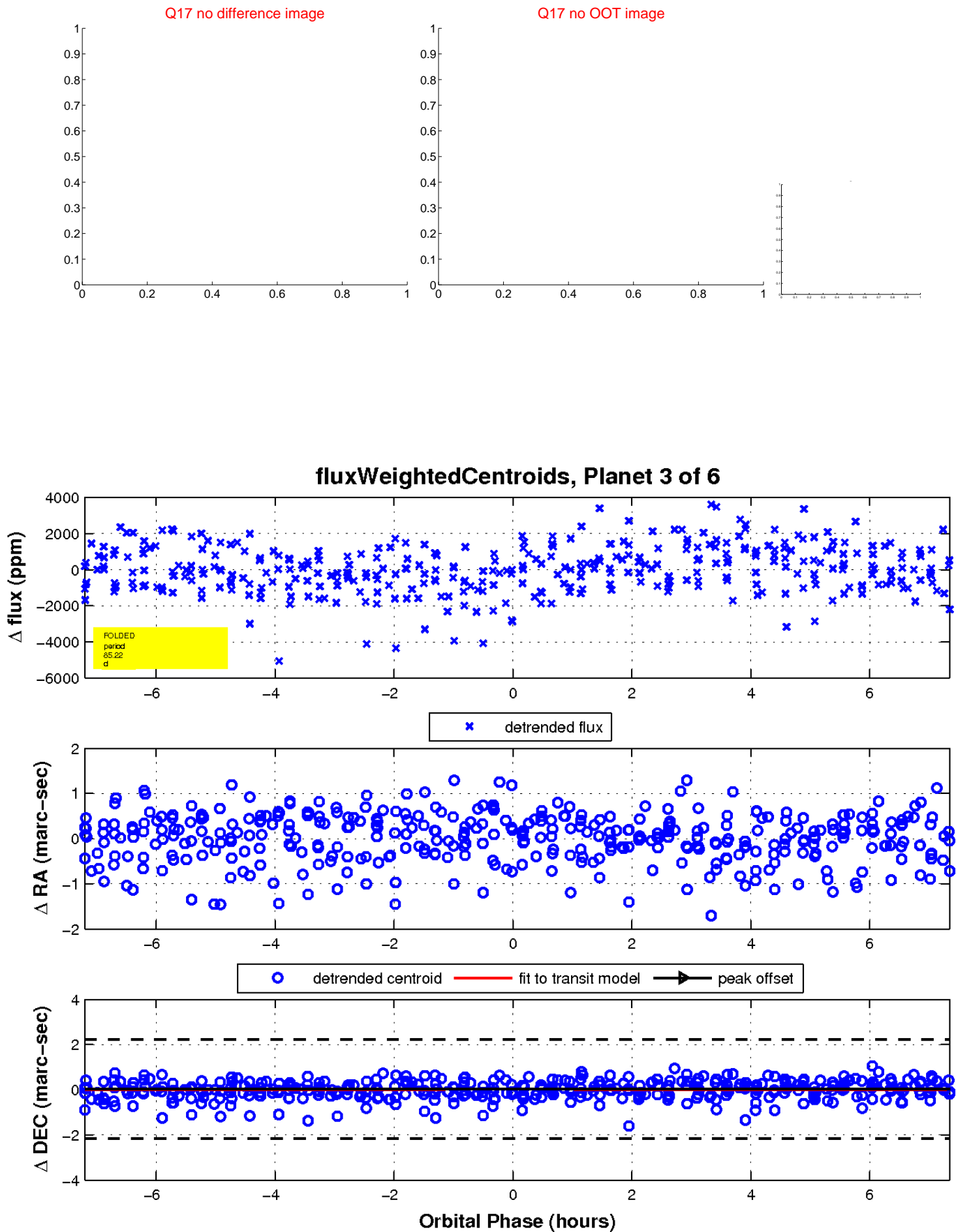
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

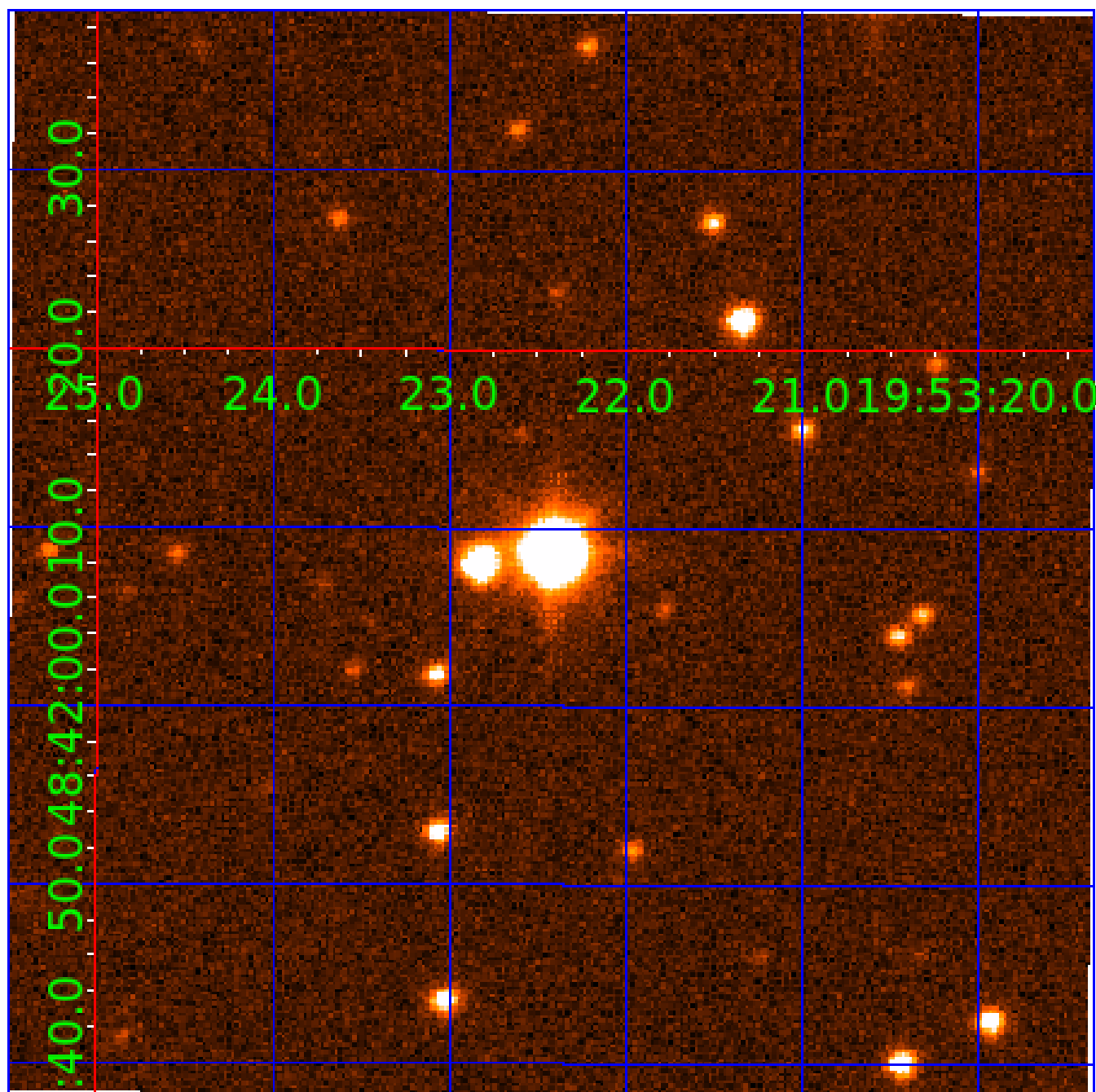


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011153259

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})
011153259-01	OBS	No	0.982378	132.153660	56.1	5.833	9.6	3.5	2.32	7615	1.77	29918.84
011153259-02	OBS	No	1.637211	132.932555	283.0	2.655	9.4	8.3	2.32	7615	4.54	15141.77
011153259-03	OBS	No	85.218204	154.449359	1769.5	2.450	9.0	7.9	2.32	7615	10.60	77.91
011153259-04	OBS	No	28.535344	150.347362	1716.4	1.796	8.5	8.0	2.32	7615	10.39	335.07
011153259-05	OBS	No	20.727248	135.481597	1621.0	1.698	8.5	8.7	2.32	7615	13.53	513.17
011153259-06	OBS	No	9.263085	140.563860	812.9	3.691	8.9	9.0	2.32	7615	7.76	1501.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011153259-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
011153259-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
011153259-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011153259-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011153259-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011153259-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—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.

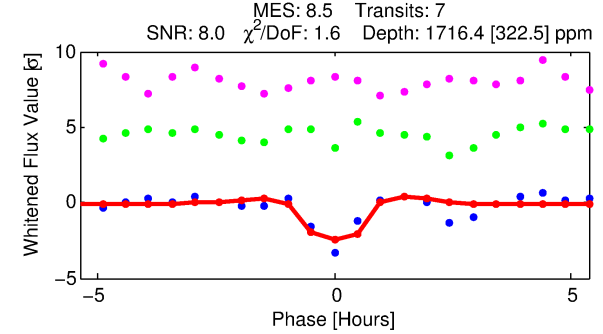
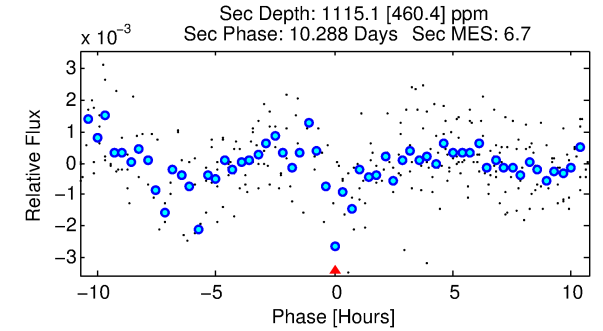
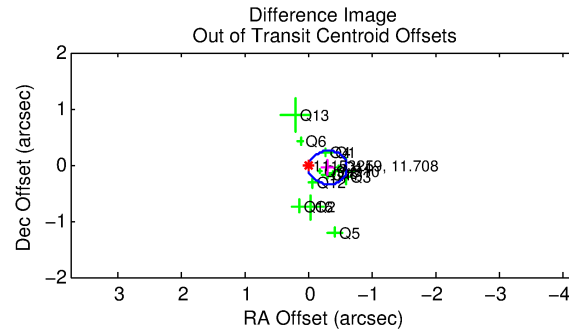
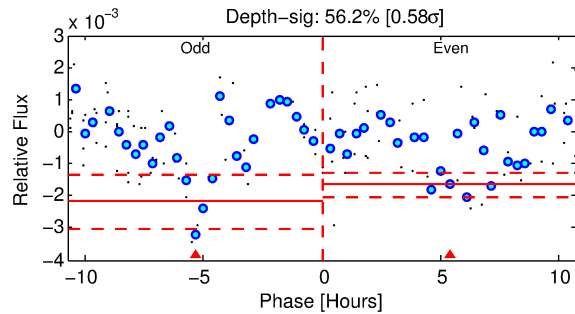
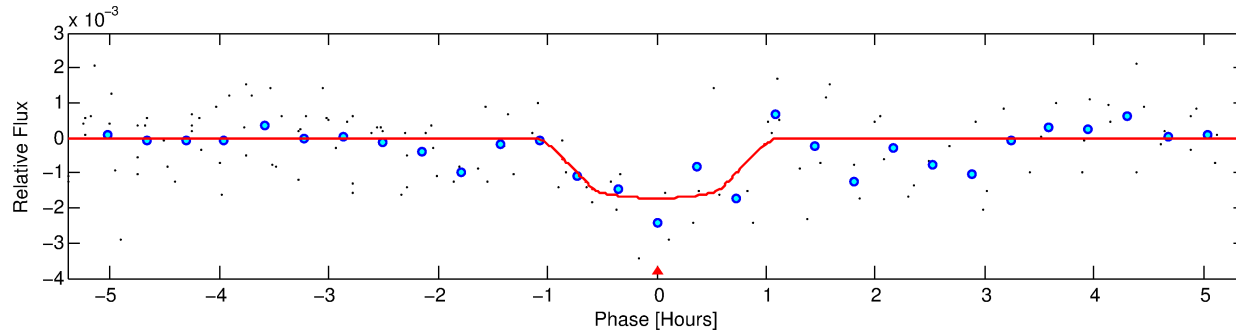
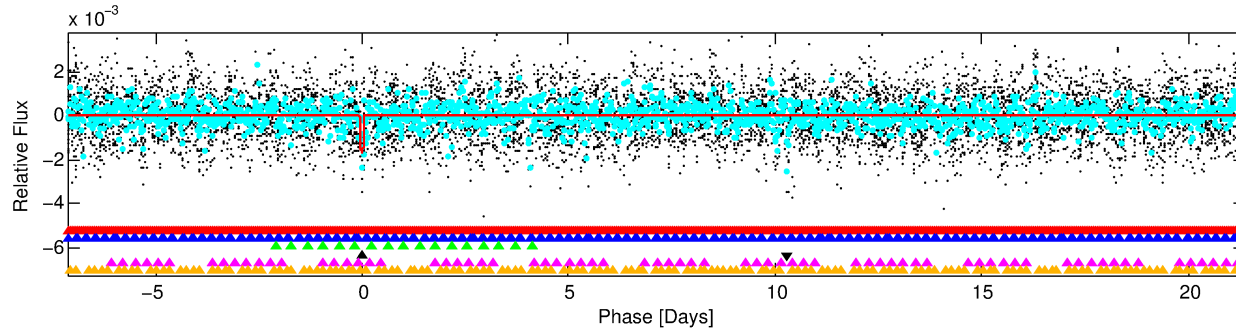
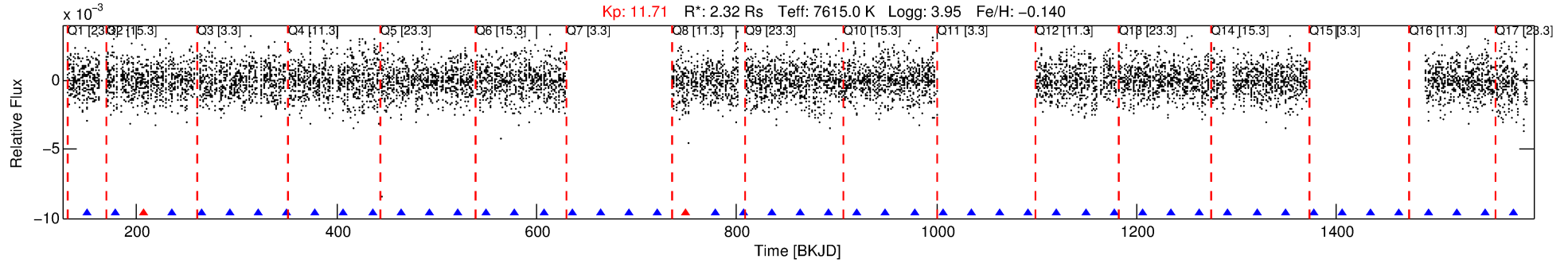
Ephemeris Match Information For 011153259-04

No Significant Match Found

DV One-Page Summary

KIC: 11153259 Candidate: 4 of 6 Period: 28.535 d

KOI: K03200 Corr: No Ephemeris Match



DV Fit Results:

Period = 28.53534 [0.00023] d
Epoch = 150.3474 [0.0077] BKJD
 $R_p/R^* = 0.0411$ [0.0447]
 $a/R^* = 90.12$ [537.73]
 $b = 0.73$ [3.87]
 $S_{\text{eff}} = 335.07$ [86.72]
 $T_{\text{eq}} = 1091$ [71] K
 $R_p = 10.39$ [11.49] R_e
 $a = 0.2198$ [0.0374] AU
 $A_g = 274.41$ [611.72] [0.45 σ]
 $T_{\text{eff}} = 6865$ [3802] K [1.52 σ]

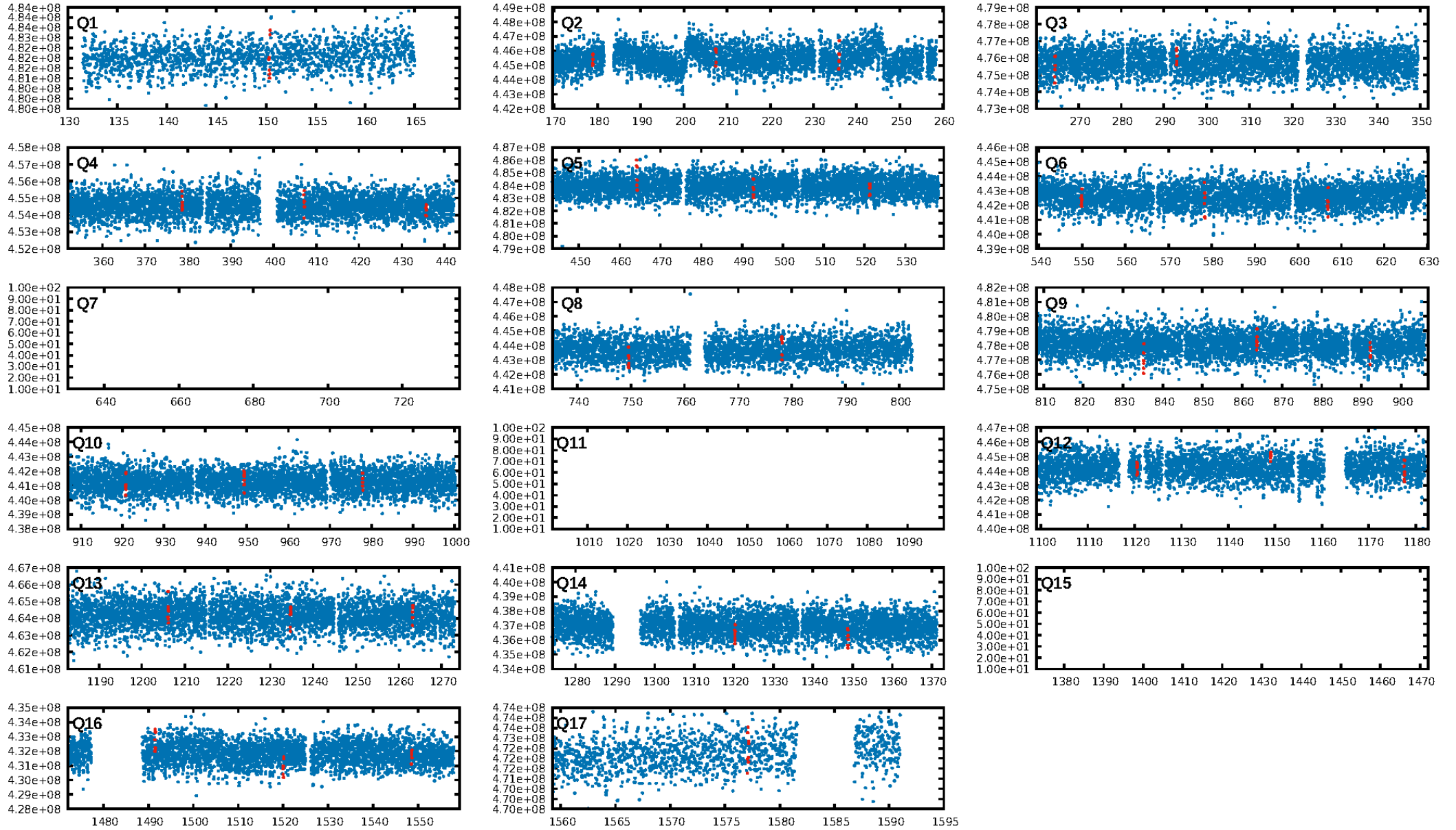
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [75.82 σ]
LongPeriod-sig: 100.0% [447.88 σ]
ModelChiSquare2-sig: 19.0%
ModelChiSquareGof-sig: 88.4%
Bootstrap-pfa: 1.18e-09
RollingBand-fgt: 0.67 [4/6]
GhostDiagnostic-chr: 4.707
Centroid-sig: N/A
Centroid-so: 0.294 arcsec [3.32 σ]
OotOffset-rm: 0.306 arcsec [3.06 σ]
KicOffset-rm: 0.355 arcsec [3.78 σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 0.57 [8/14]
DiffImageOverlap-fno: 0.29 [4/14]

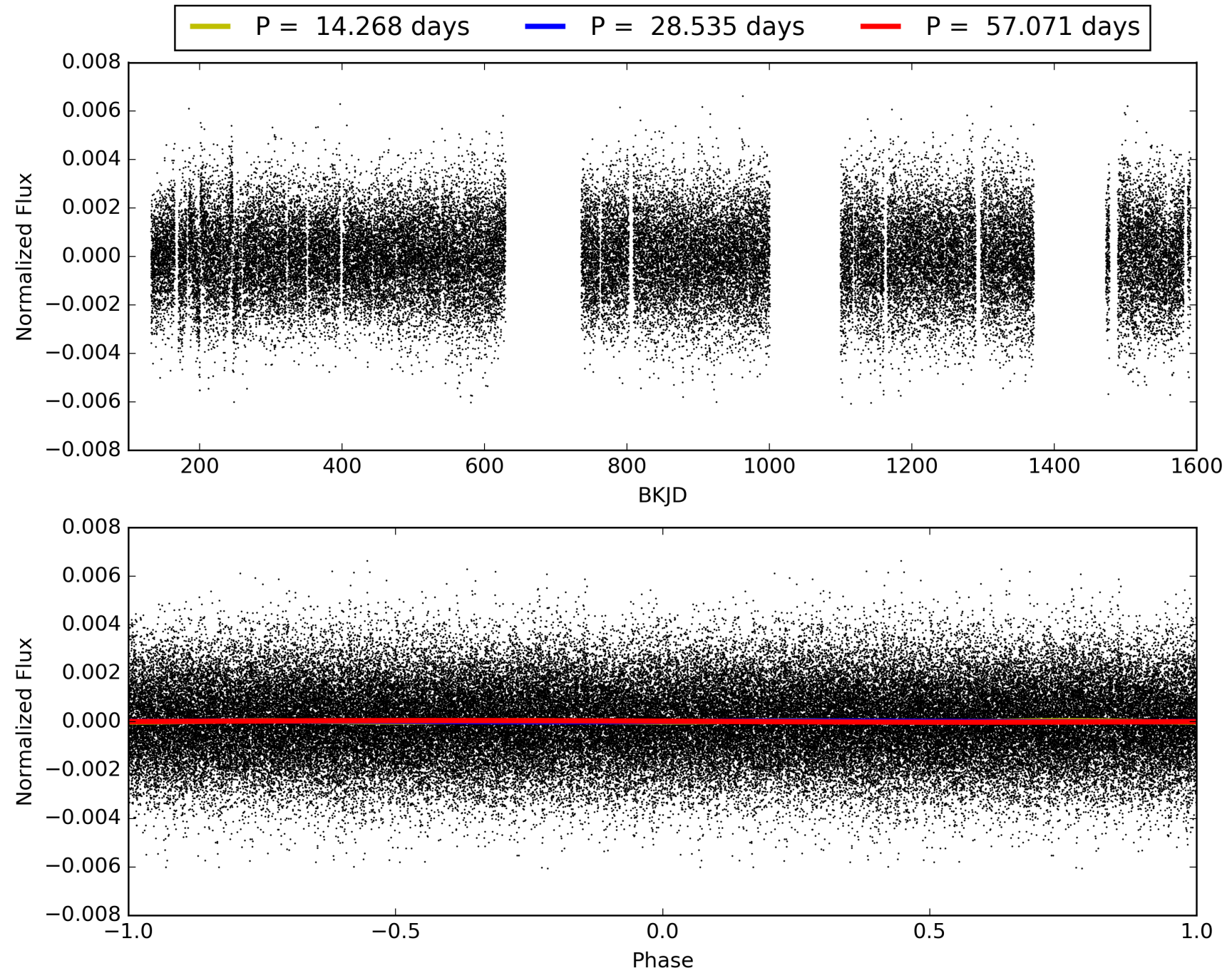
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:49:52 Z

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

TCE 011153259-04, PDC Light Curves

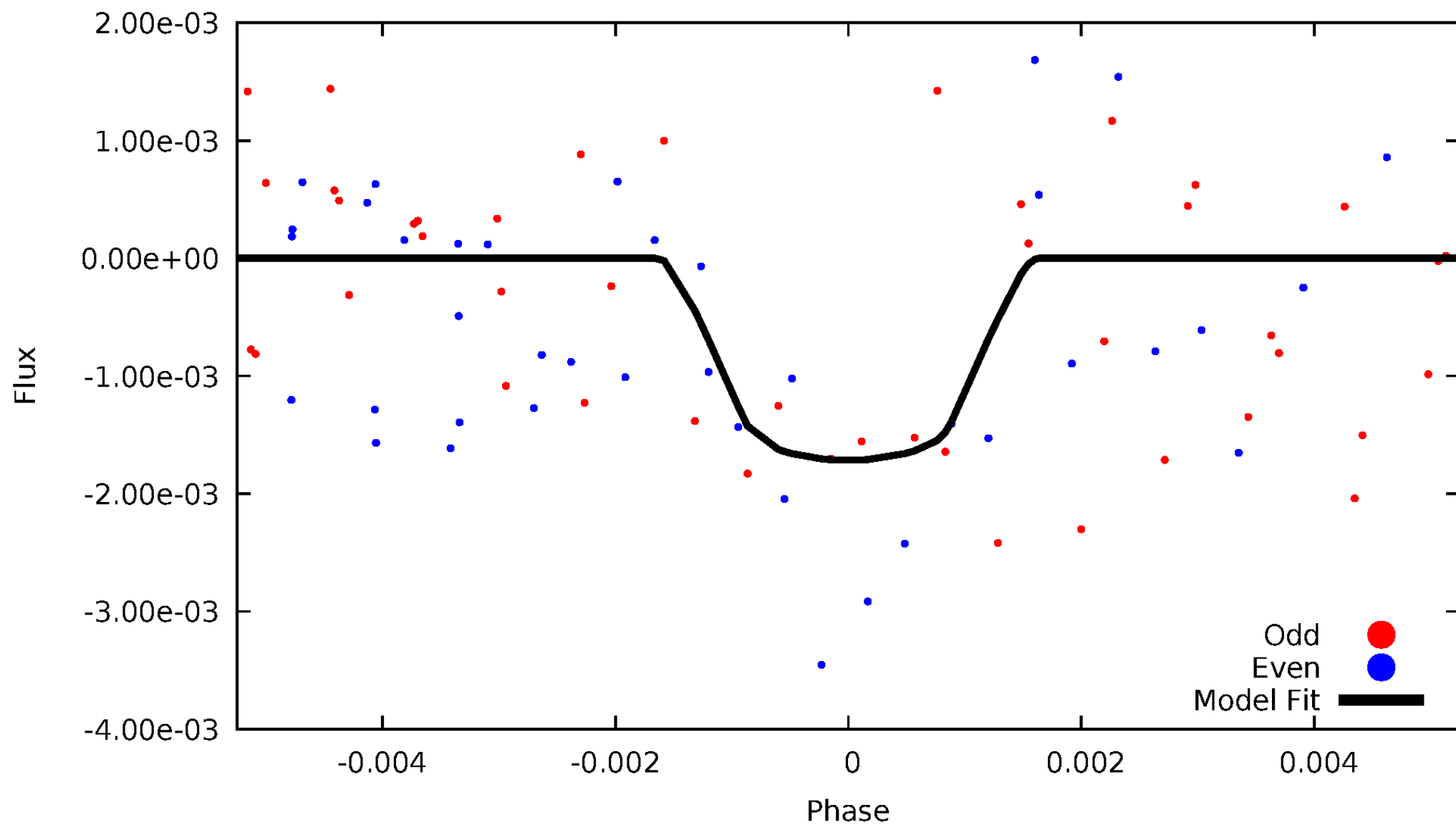


TCE 011153259-04



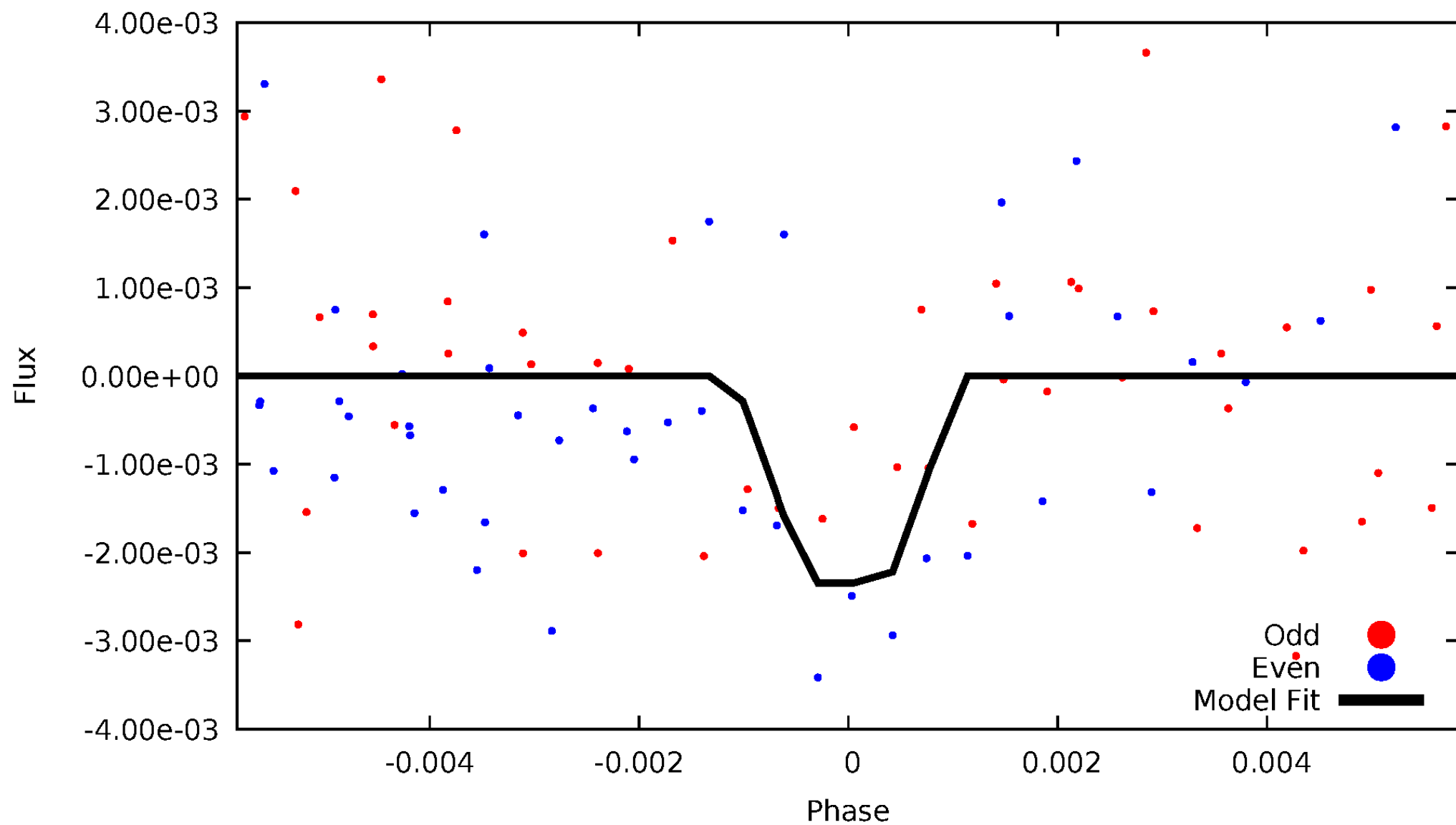
DV Odd/Even

TCE 011153259-04



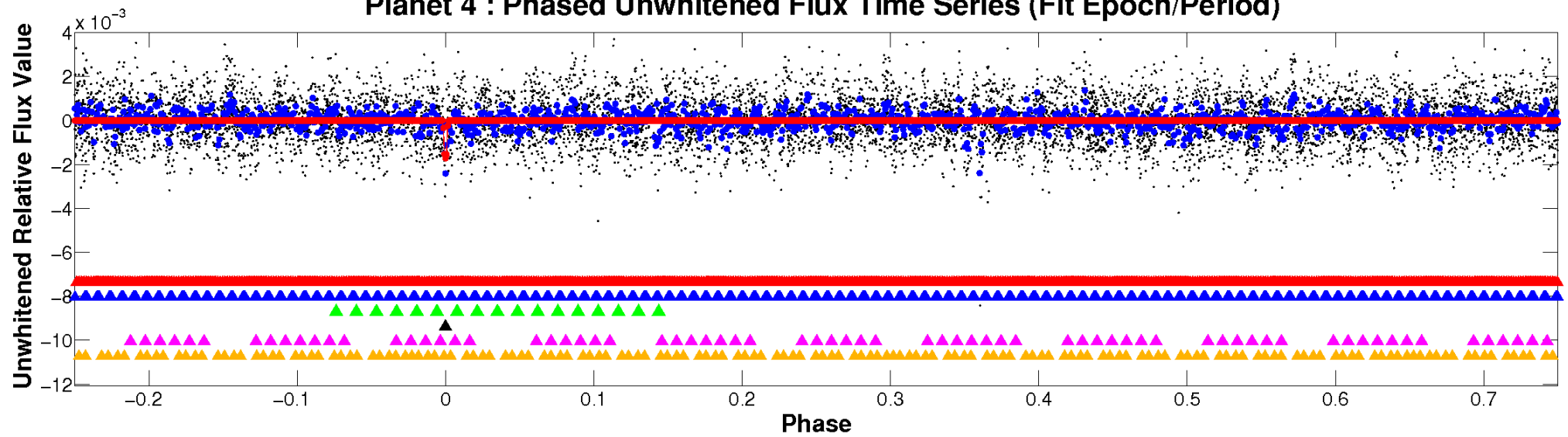
ALT Odd/Even

TCE 011153259-04

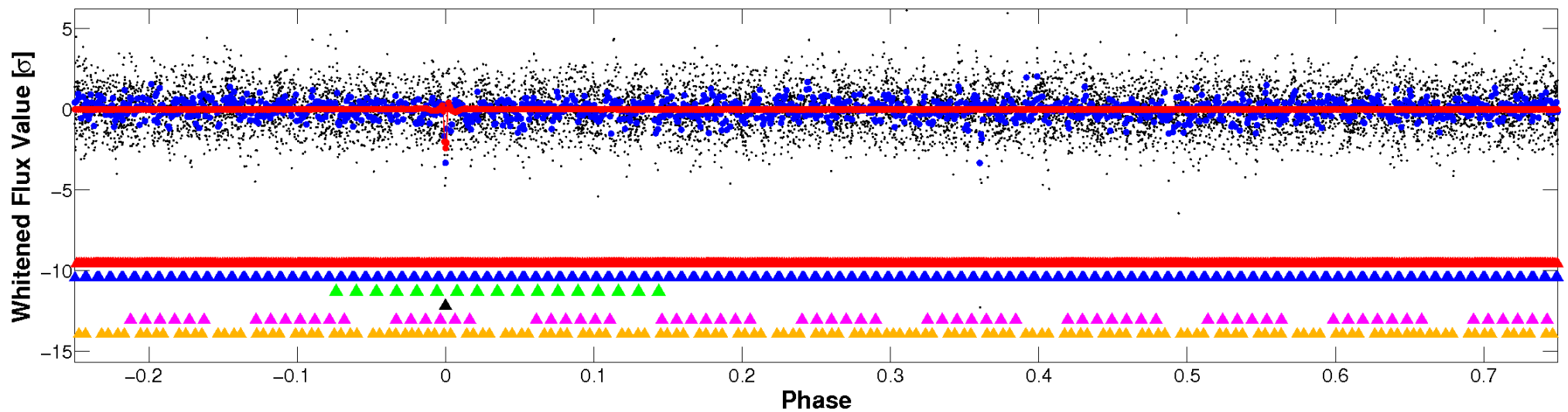


Non-Whitened Vs. Whitened Light Curve

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

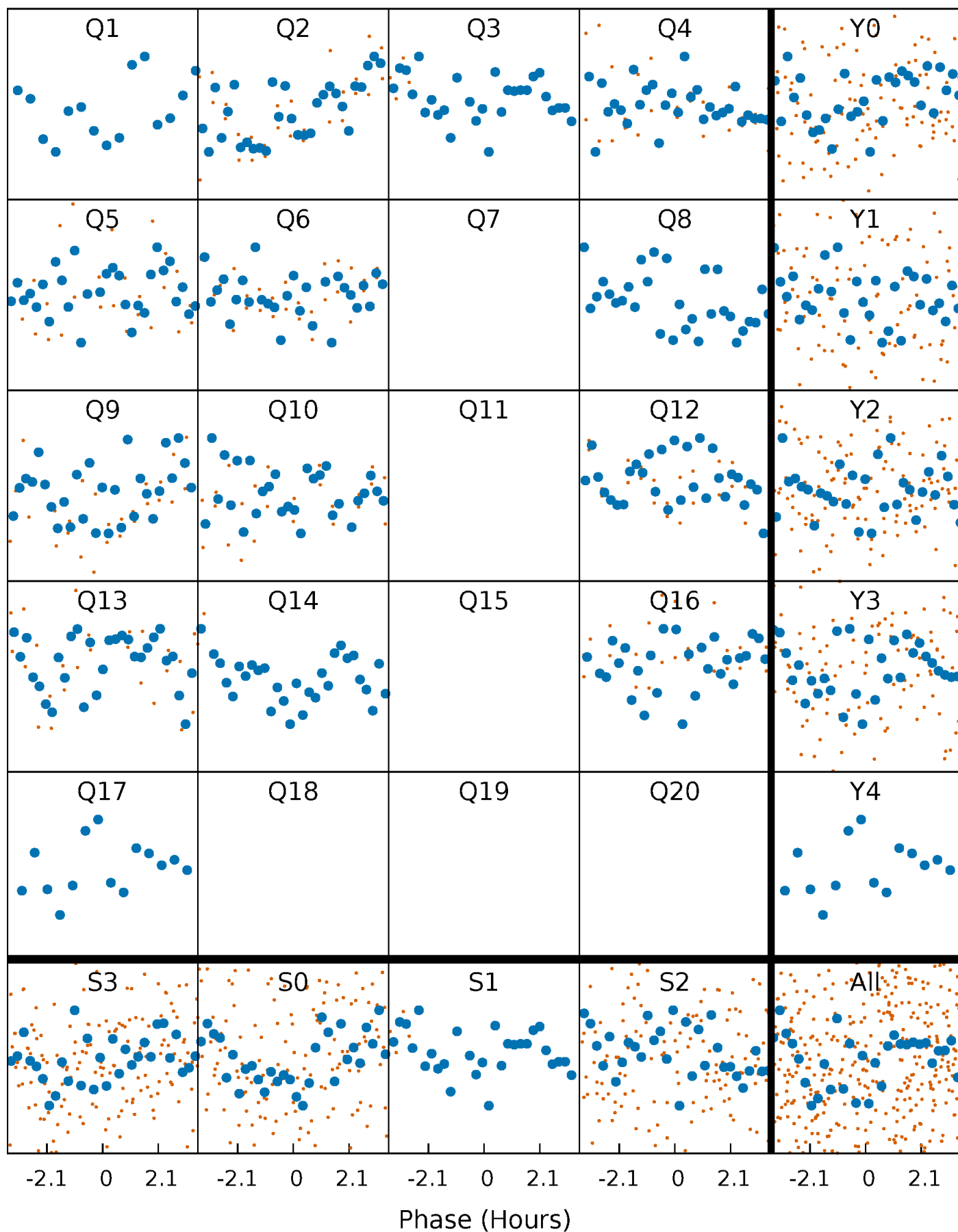


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



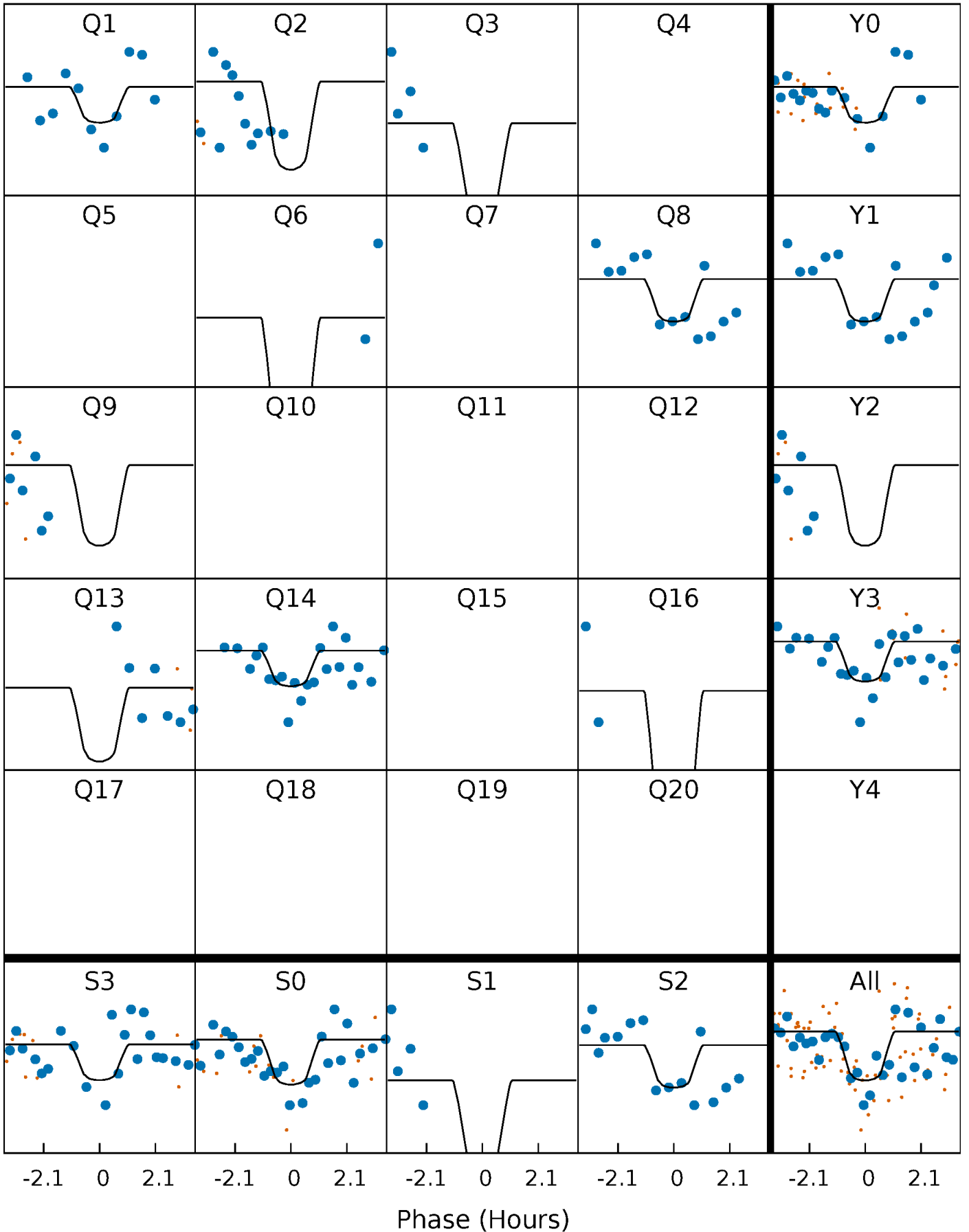
PDC Quarter-Phased Transit Curves

TCE 011153259-04 P= 28.535344 Days $T_0=150.347362$ (BKJD)



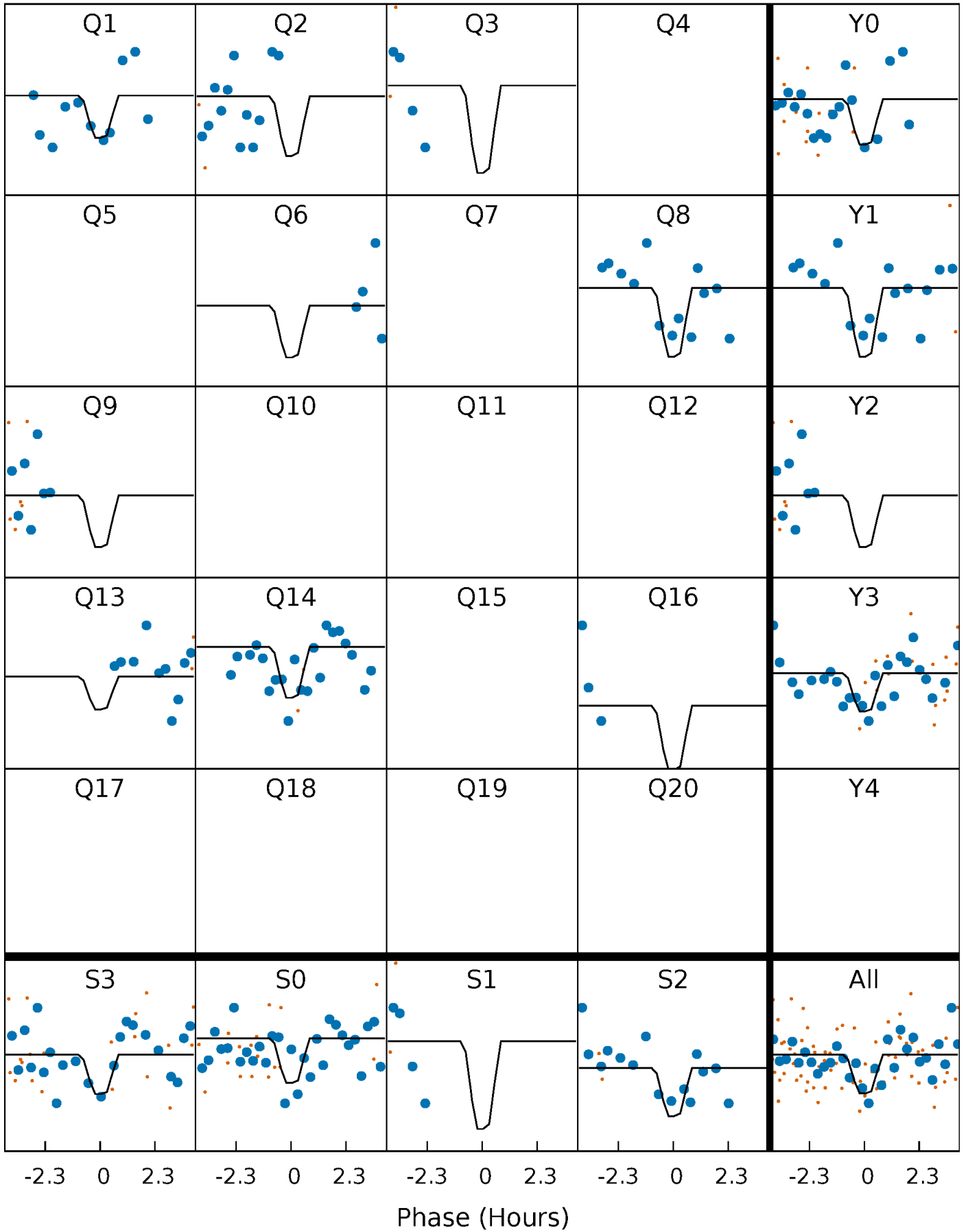
DV Quarter-Phased Transit Curves

TCE 011153259-04 P= 28.535344 Days $T_0=150.347362$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

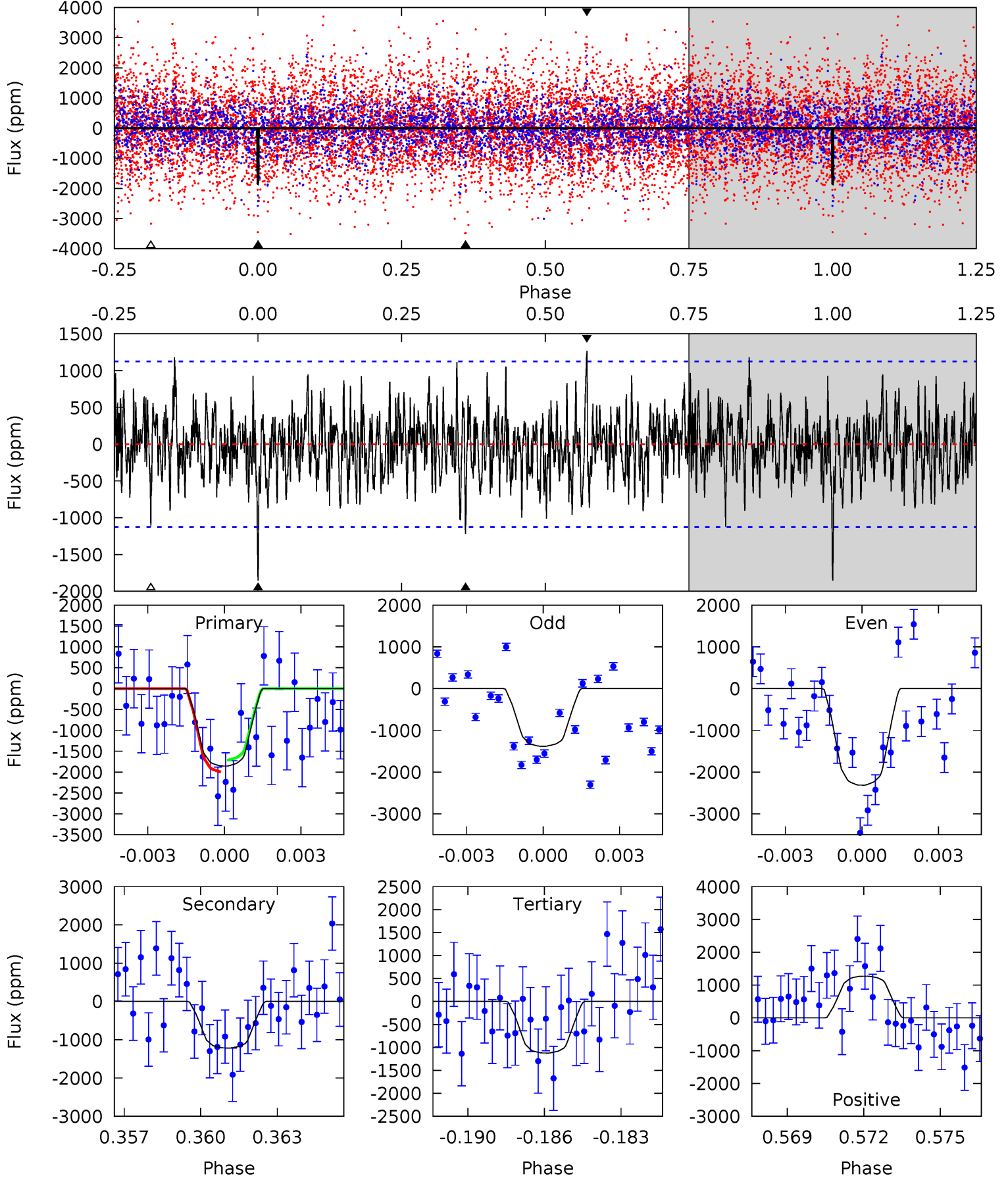
TCE 011153259-04 P= 28.535294 Days $T_0=150.351226$ (BKJD)



DV Model-Shift Uniqueness Test

011153259-04, P = 28.535344 Days, E = 121.812018 Days

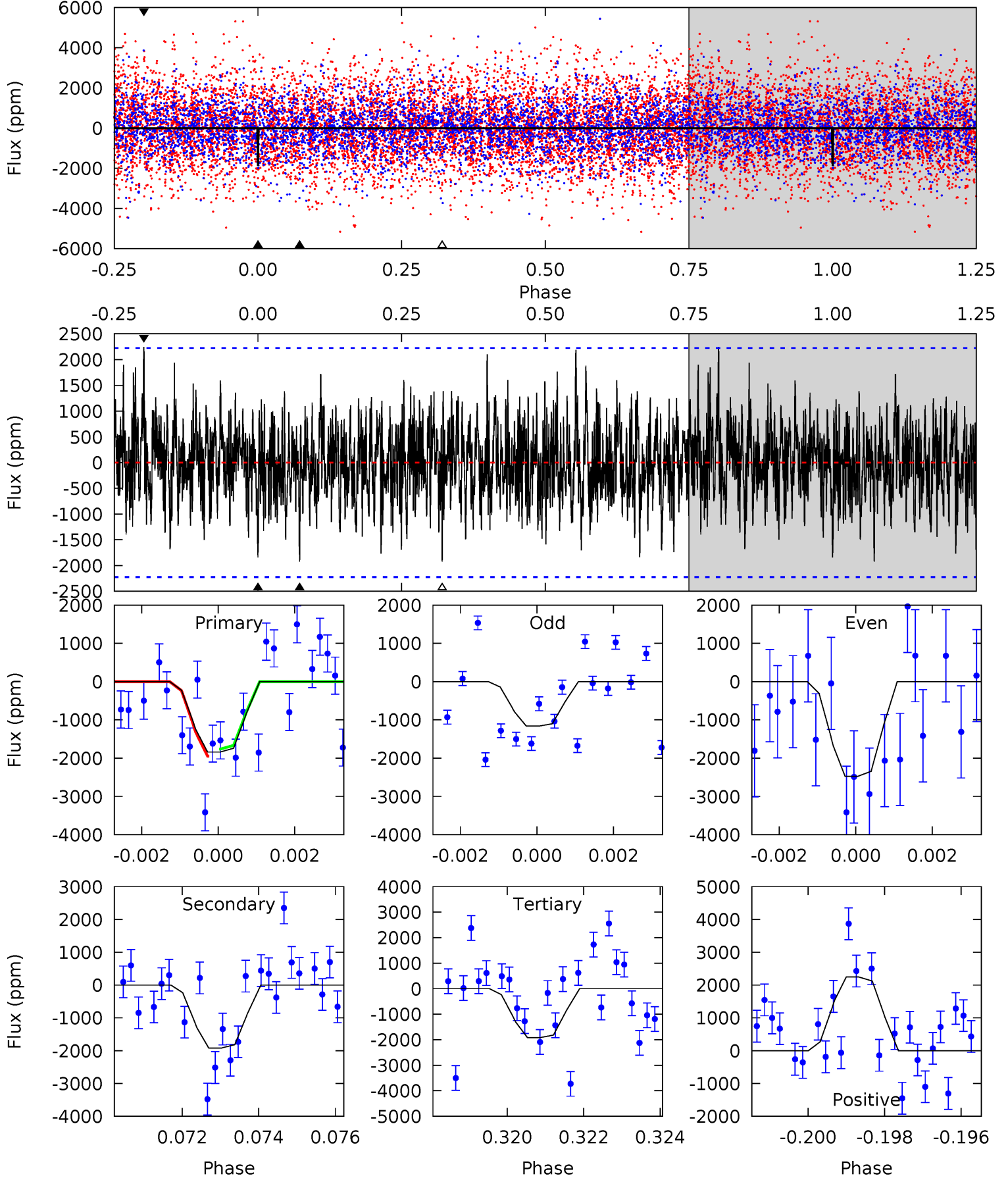
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.65	5.66	5.23	5.92	5.24	2.95	1.66	3.42	2.73	0.43	-0.25	2.23	0.76	0.41	0.65



Alt Model-Shift Uniqueness Test

011153259-04, P = 28.535294 Days, E = 121.815932 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.40	4.59	4.59	5.37	5.32	3.08	1.52	-0.19	-0.97	0.00	-0.77	1.57	1.02	0.54	0.22



Stellar Parameters For KIC 011153259

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7615^{+76}_{-83}	$3.948^{+0.143}_{-0.117}$	$-0.140^{+0.200}_{-0.150}$	$2.318^{+0.452}_{-0.452}$	$1.739^{+0.207}_{-0.156}$	$0.197^{+0.140}_{-0.070}$
	+1%/-1%	+4%/-3%	+143%/-107%	+19%/-19%	+12%/-9%	+71%/-36%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 011153259-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1215±215	$13.14^{+10.25}_{-8.09}$	1519^{+70}_{-76}	6082^{+5166}_{-1337}	184^{+1092}_{-125}
Alt.	-1921±418	$14.43^{+10.28}_{-9.32}$	1517^{+74}_{-75}	6590^{+6527}_{-1529}	250^{+1607}_{-167}

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 $A_{obs} \gg 1.0$

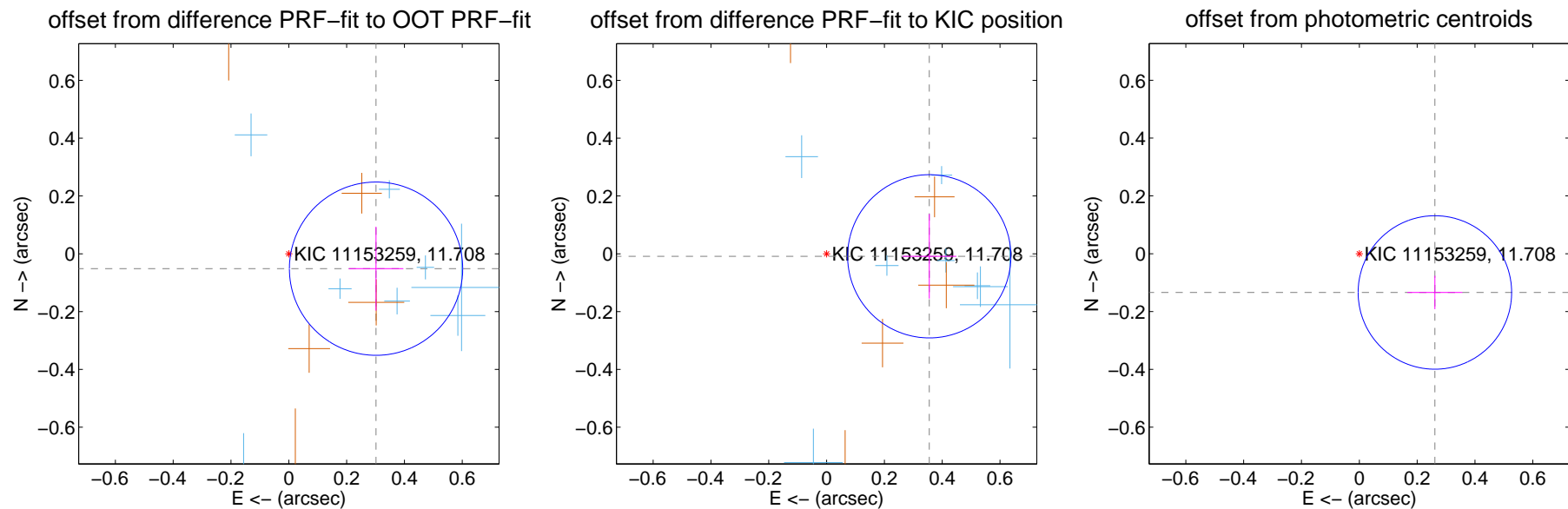
DV Centroid Data

Supplemental centroid analysis for 011153259-04. **Kepler magnitude: 11.71.** Transit SNR 8.05

There are 8 quarters with good PRF difference image offsets

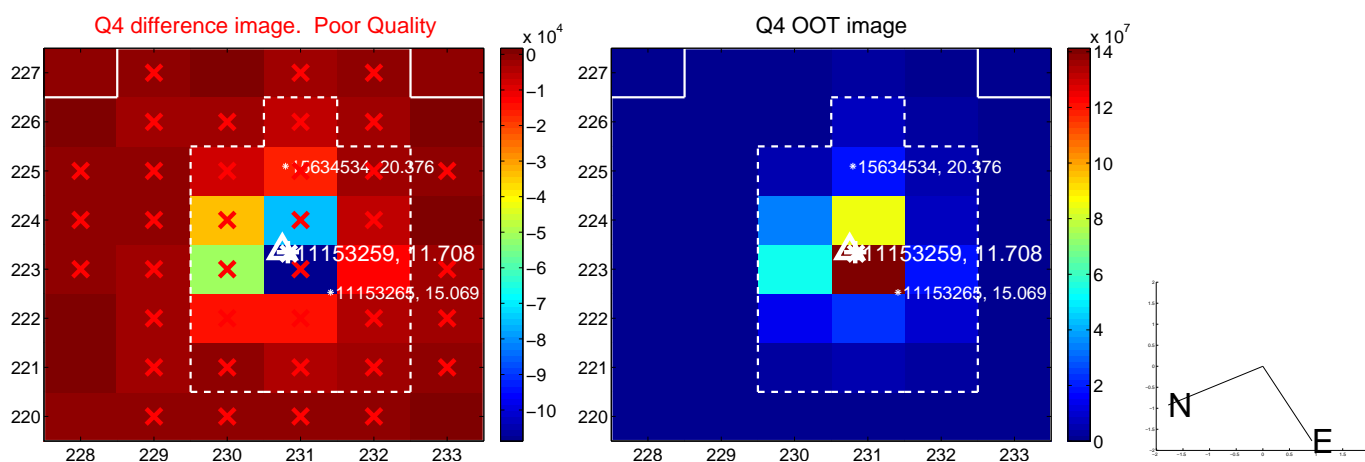
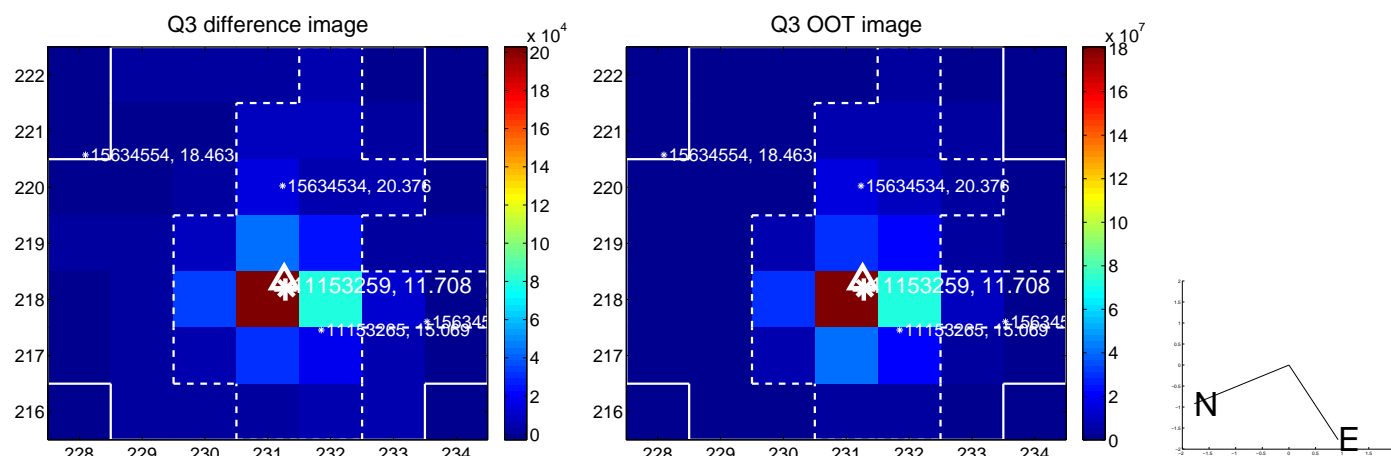
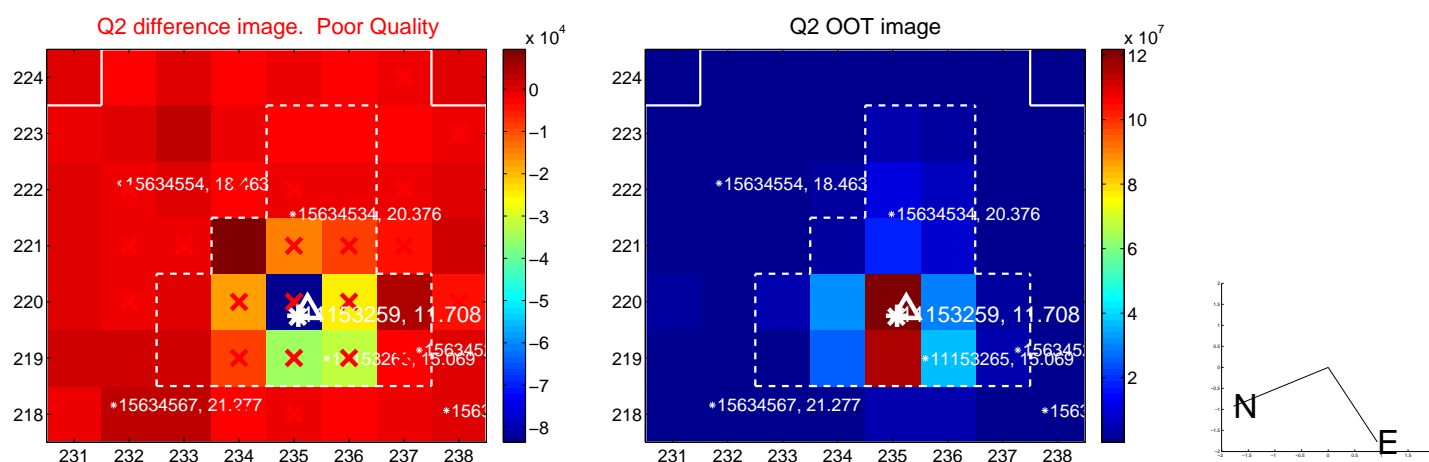
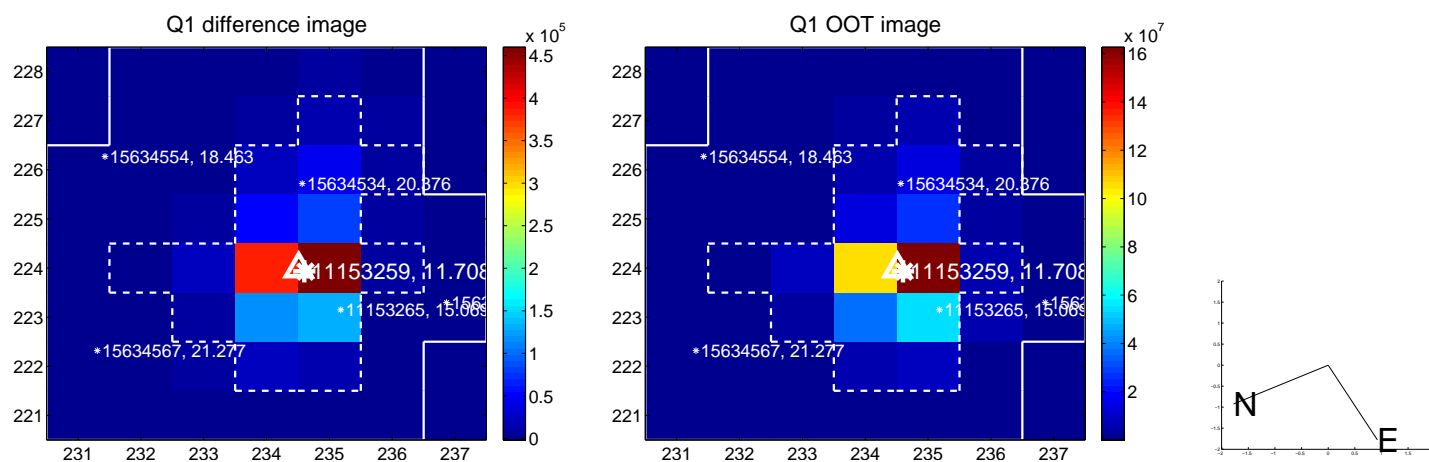
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.306 ± 0.100	3.06	-0.302 ± 0.095	-0.052 ± 0.145
PRF-fit source offset from KIC position	0.355 ± 0.094	3.78	-0.355 ± 0.094	-0.009 ± 0.146
photometric centroid source offset	0.29 ± 0.09	3.32	-0.26 ± 0.09	-0.13 ± 0.06

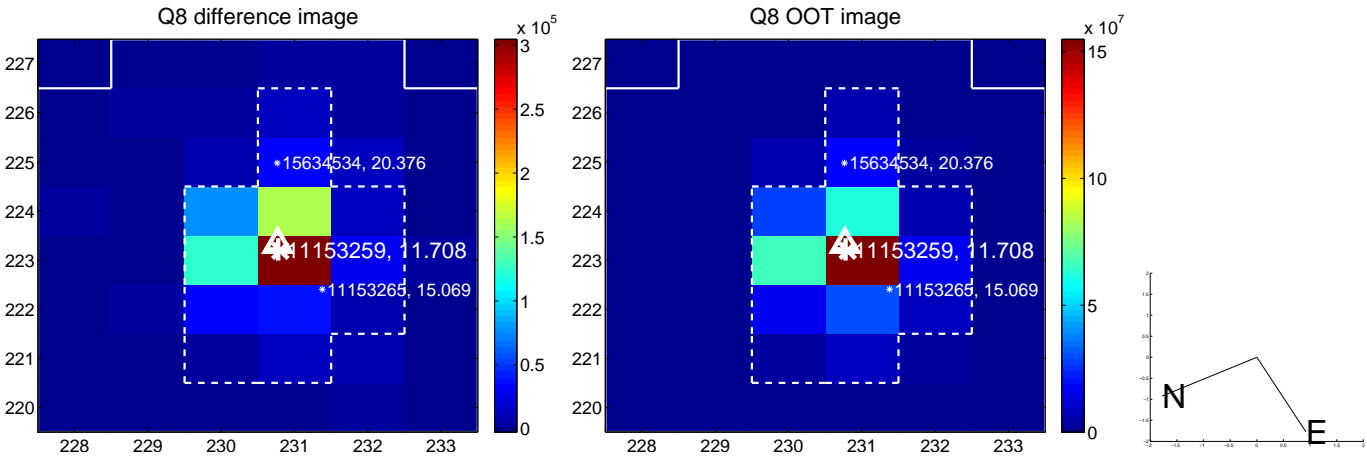
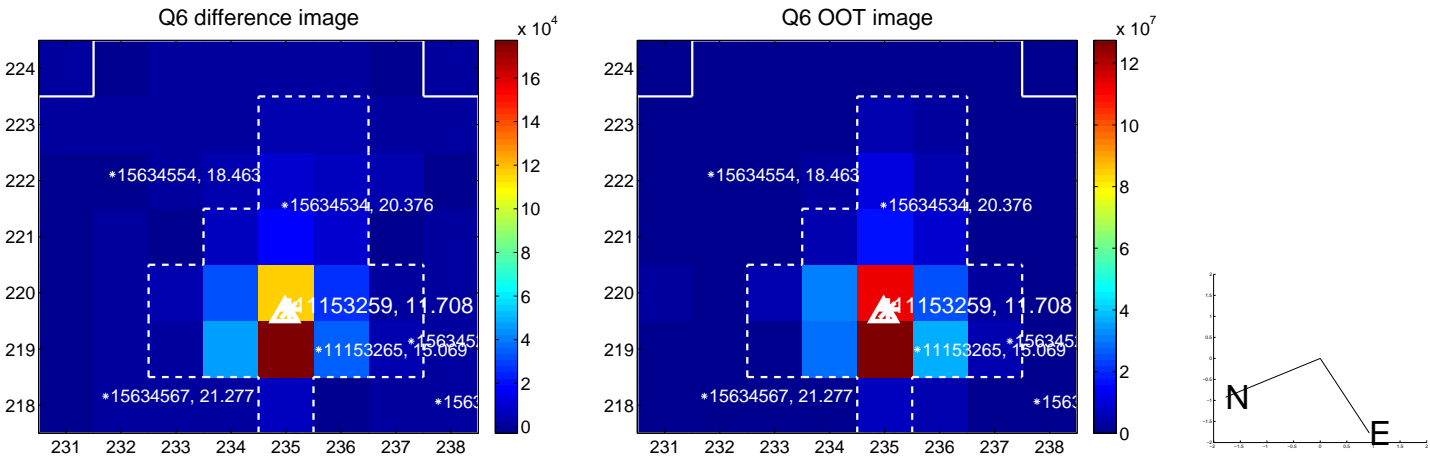
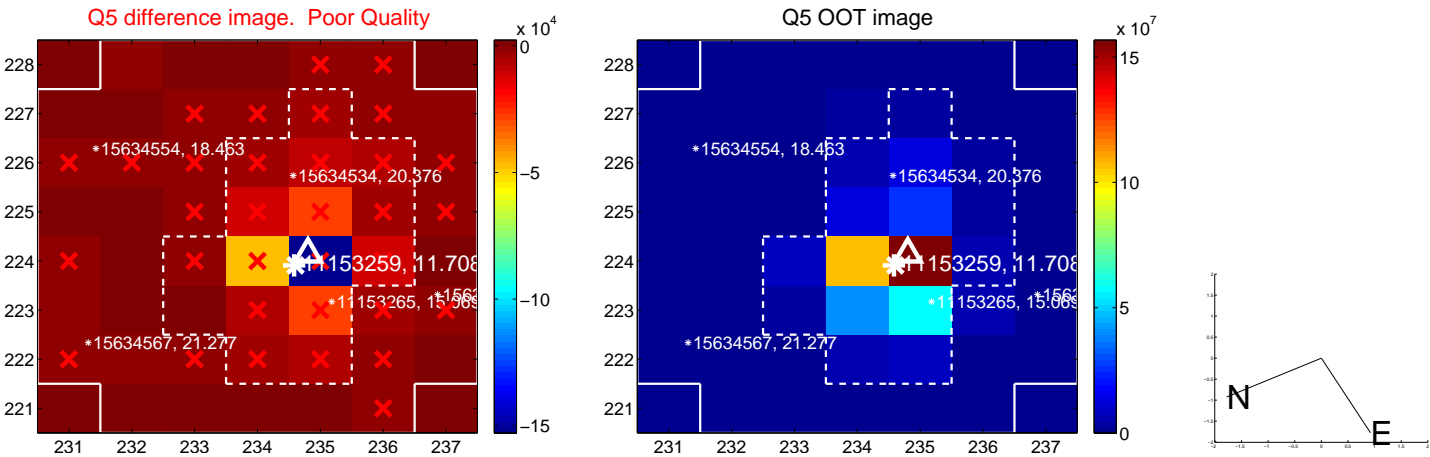


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

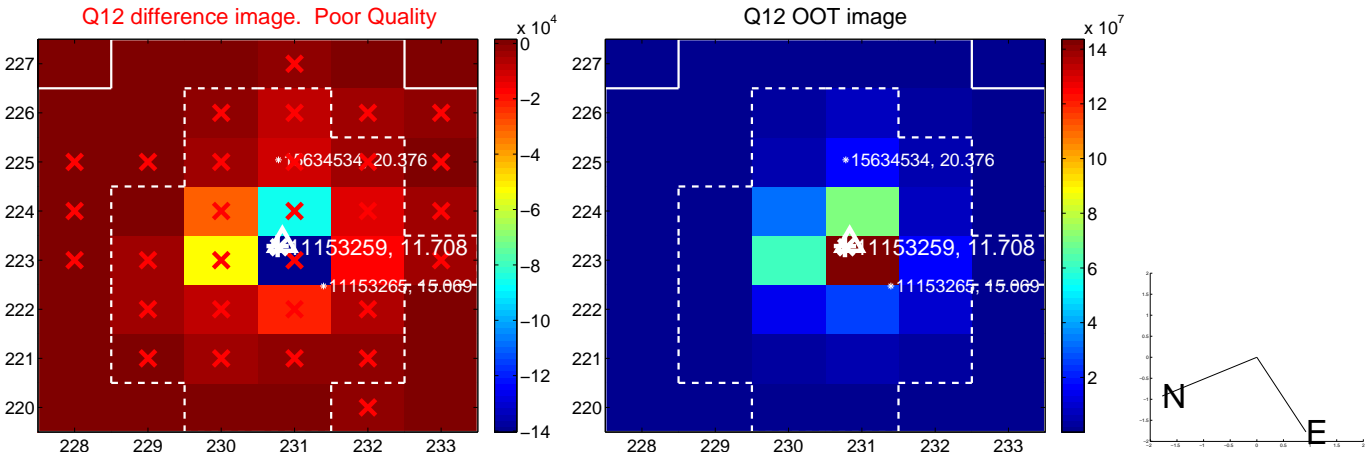
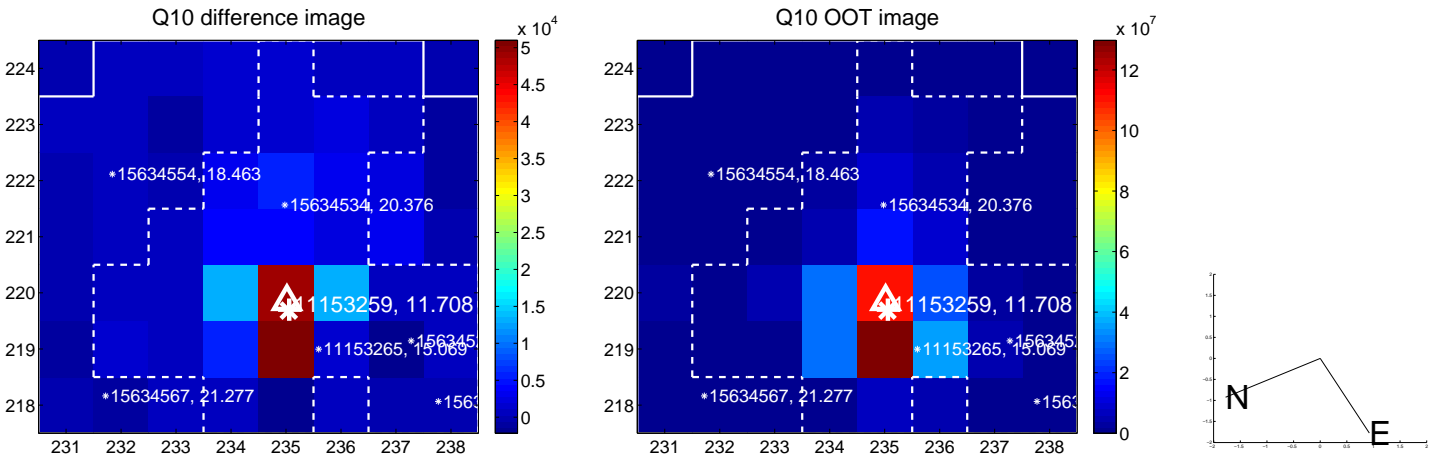
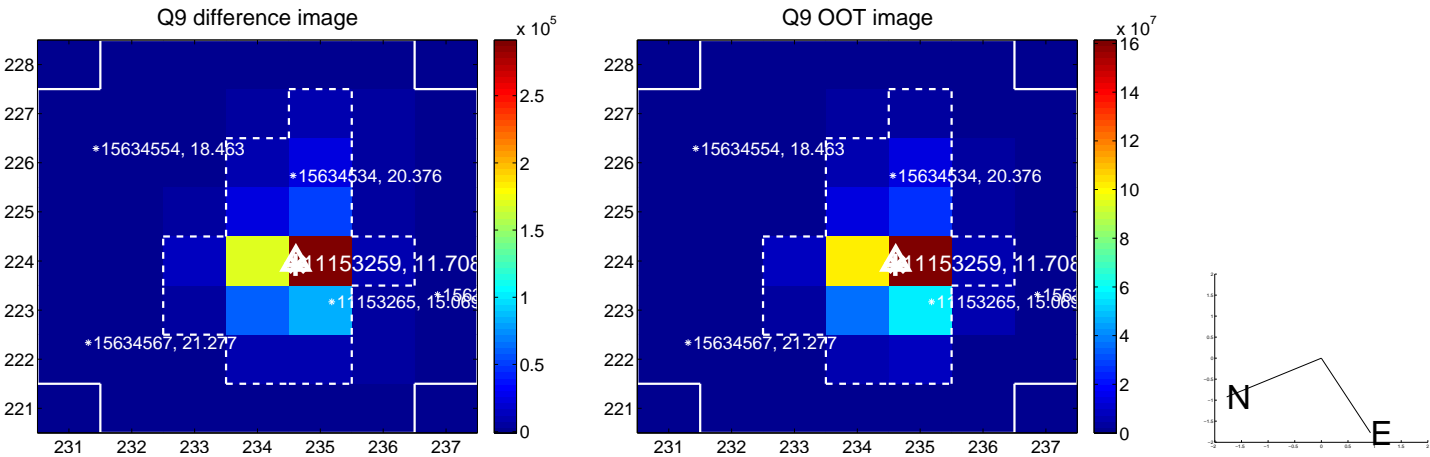
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



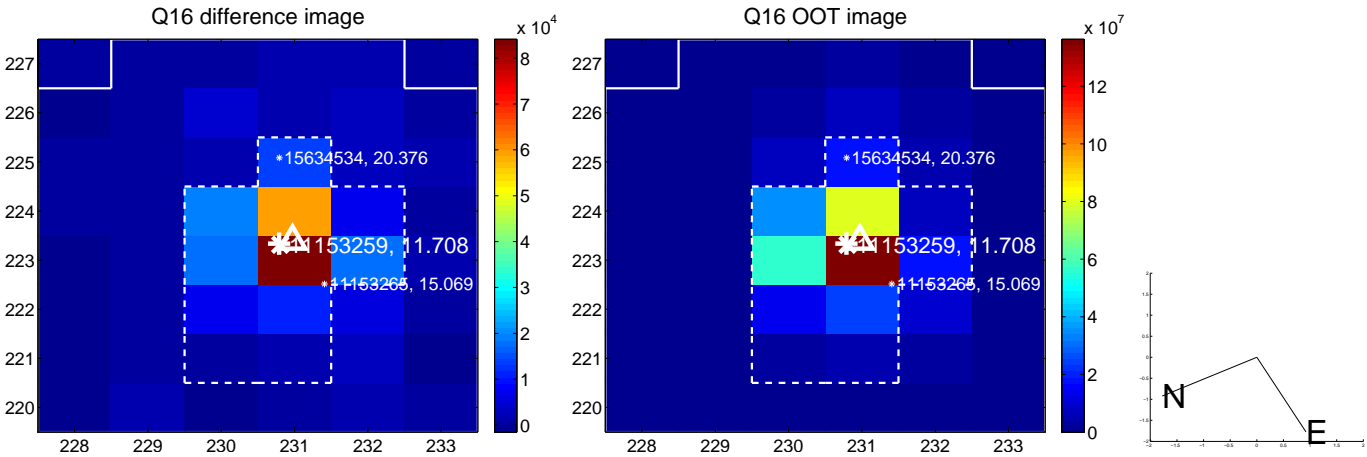
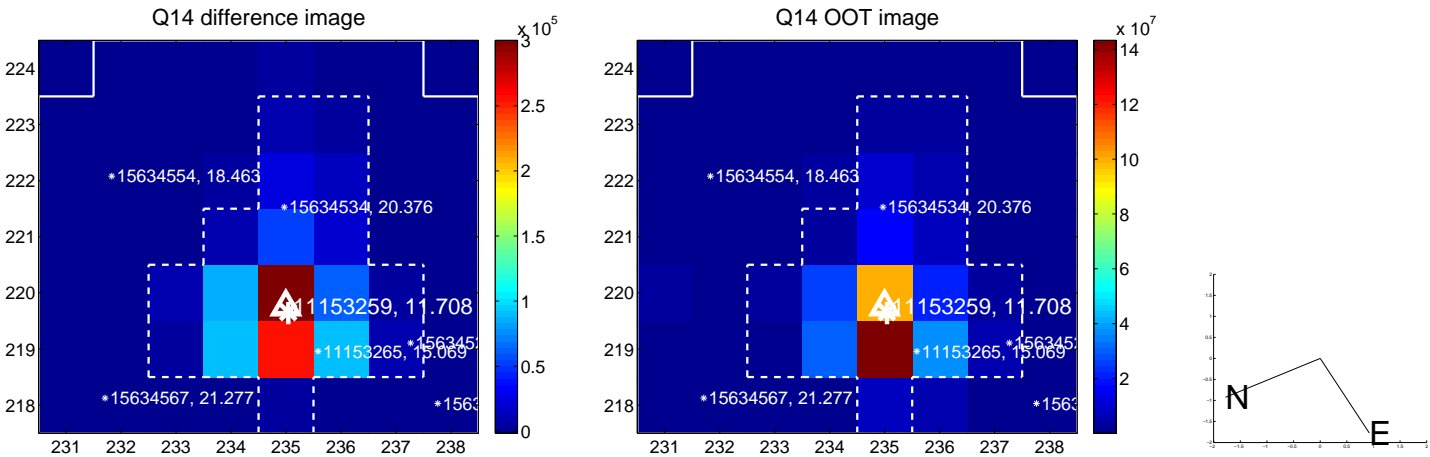
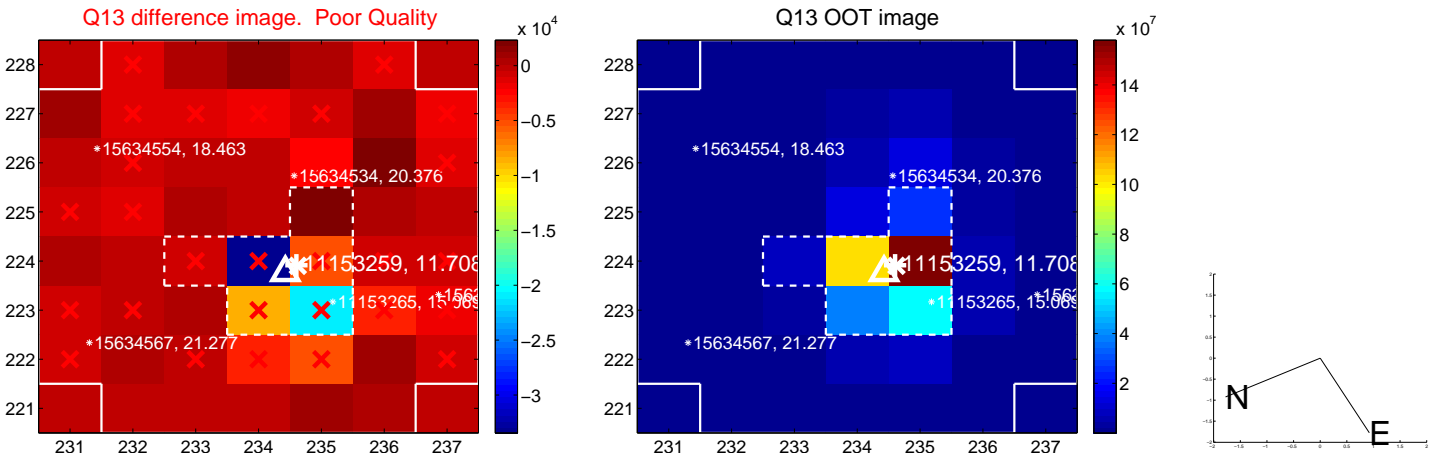
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



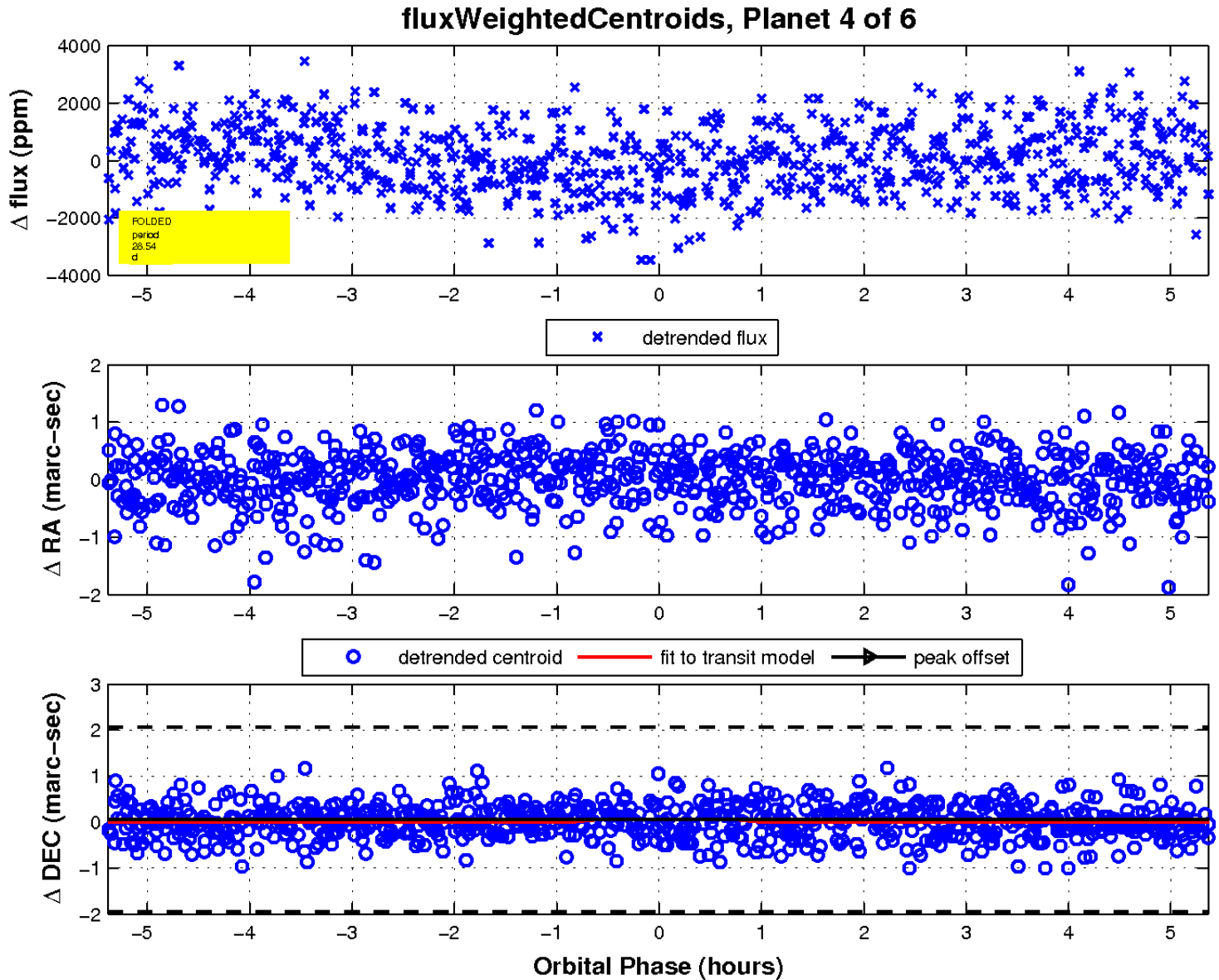
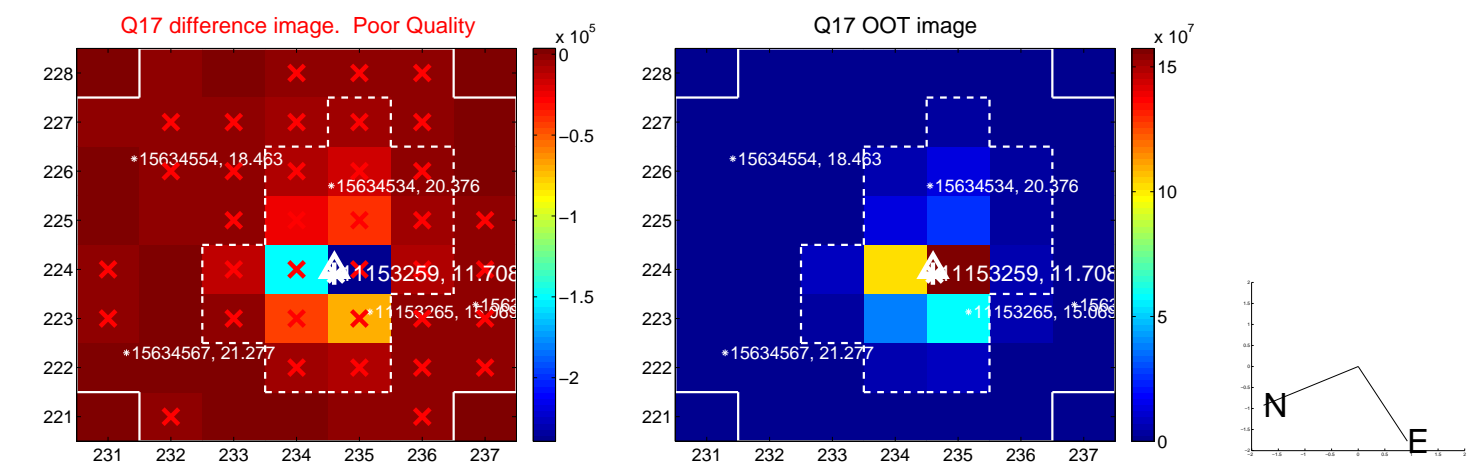
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

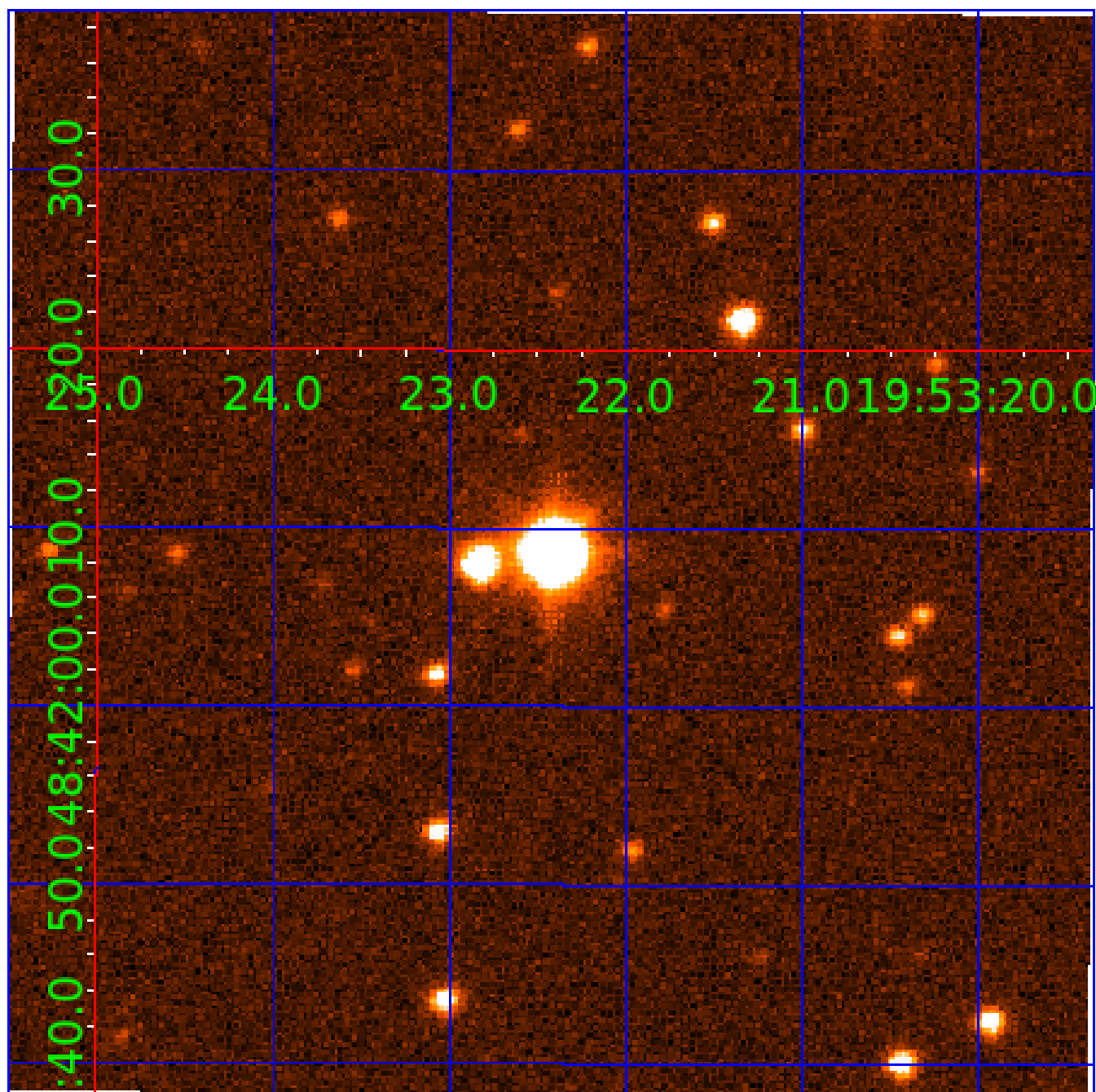


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011153259

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})
011153259-01	OBS	No	0.982378	132.153660	56.1	5.833	9.6	3.5	2.32	7615	1.77	29918.84
011153259-02	OBS	No	1.637211	132.932555	283.0	2.655	9.4	8.3	2.32	7615	4.54	15141.77
011153259-03	OBS	No	85.218204	154.449359	1769.5	2.450	9.0	7.9	2.32	7615	10.60	77.91
011153259-04	OBS	No	28.535344	150.347362	1716.4	1.796	8.5	8.0	2.32	7615	10.39	335.07
011153259-05	OBS	No	20.727248	135.481597	1621.0	1.698	8.5	8.7	2.32	7615	13.53	513.17
011153259-06	OBS	No	9.263085	140.563860	812.9	3.691	8.9	9.0	2.32	7615	7.76	1501.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011153259-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
011153259-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
011153259-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011153259-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011153259-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011153259-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—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.

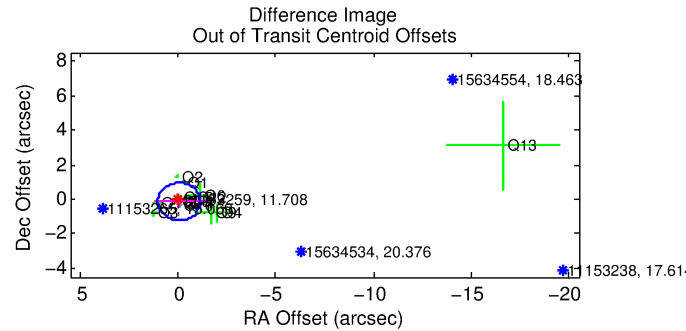
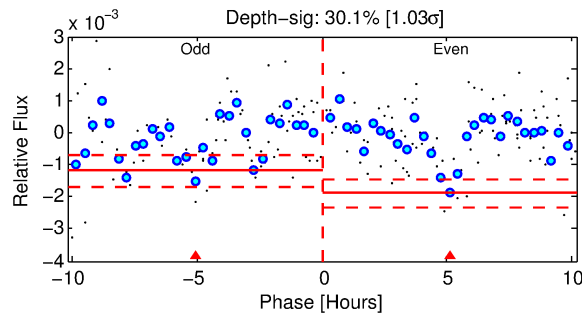
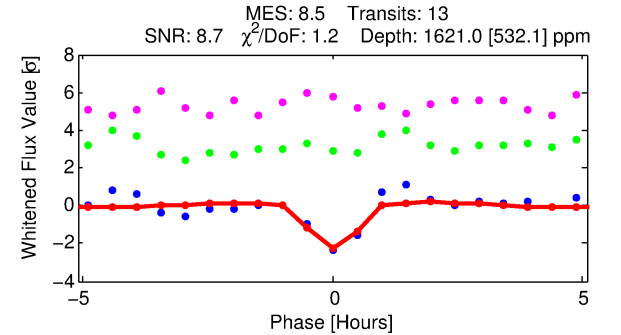
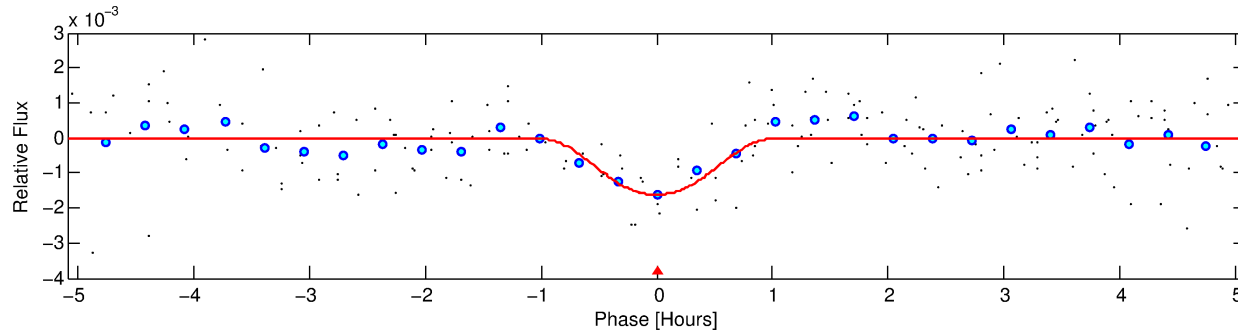
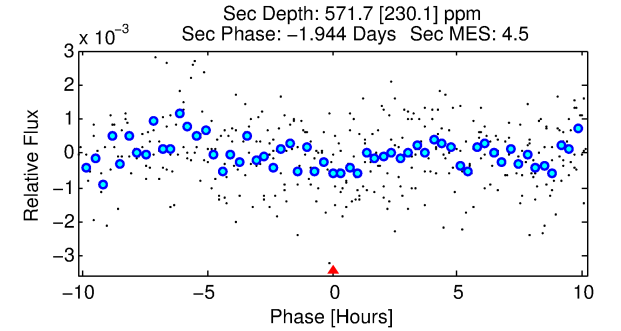
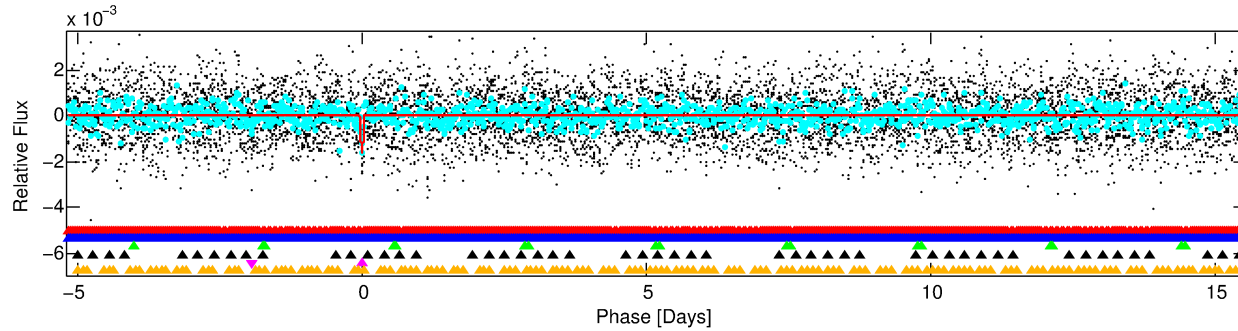
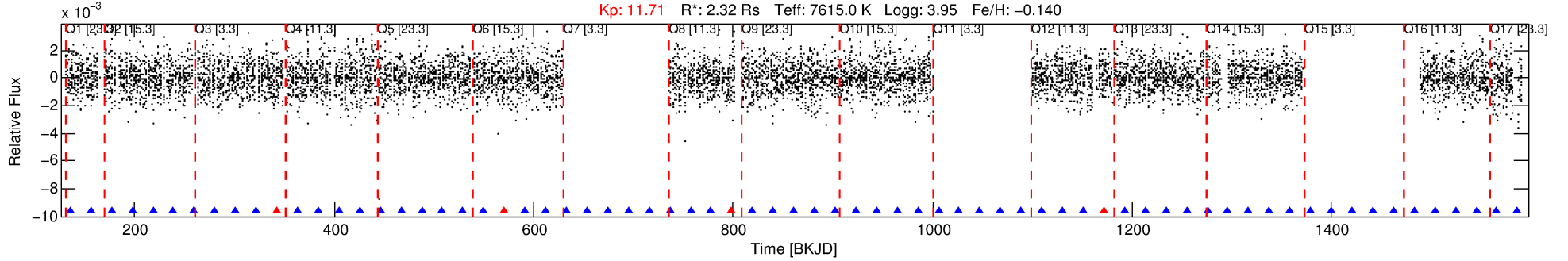
Ephemeris Match Information For 011153259-05

No Significant Match Found

DV One-Page Summary

KIC: 11153259 Candidate: 5 of 6 Period: 20.727 d

KOI: K03200 Corr: No Ephemeris Match



DV Fit Results:

Period = 20.72725 [0.00016] d
Epoch = 135.4816 [0.0049] BKJD
 $R_p/R^* = 0.0535$ [0.1634]
 $a/R^* = 37.55$ [47.81]
 $b = 0.97$ [0.33]
 $S_{\text{eff}} = 513.17$ [132.82]
 $T_{\text{eq}} = 1214$ [79] K
 $R_p = 13.53$ [41.42] R_e
 $a = 0.1776$ [0.0302] AU
 $A_g = 54.22$ [332.30] [0.16σ]
 $T_{\text{eff}} = 5092$ [7796] K [0.50σ]

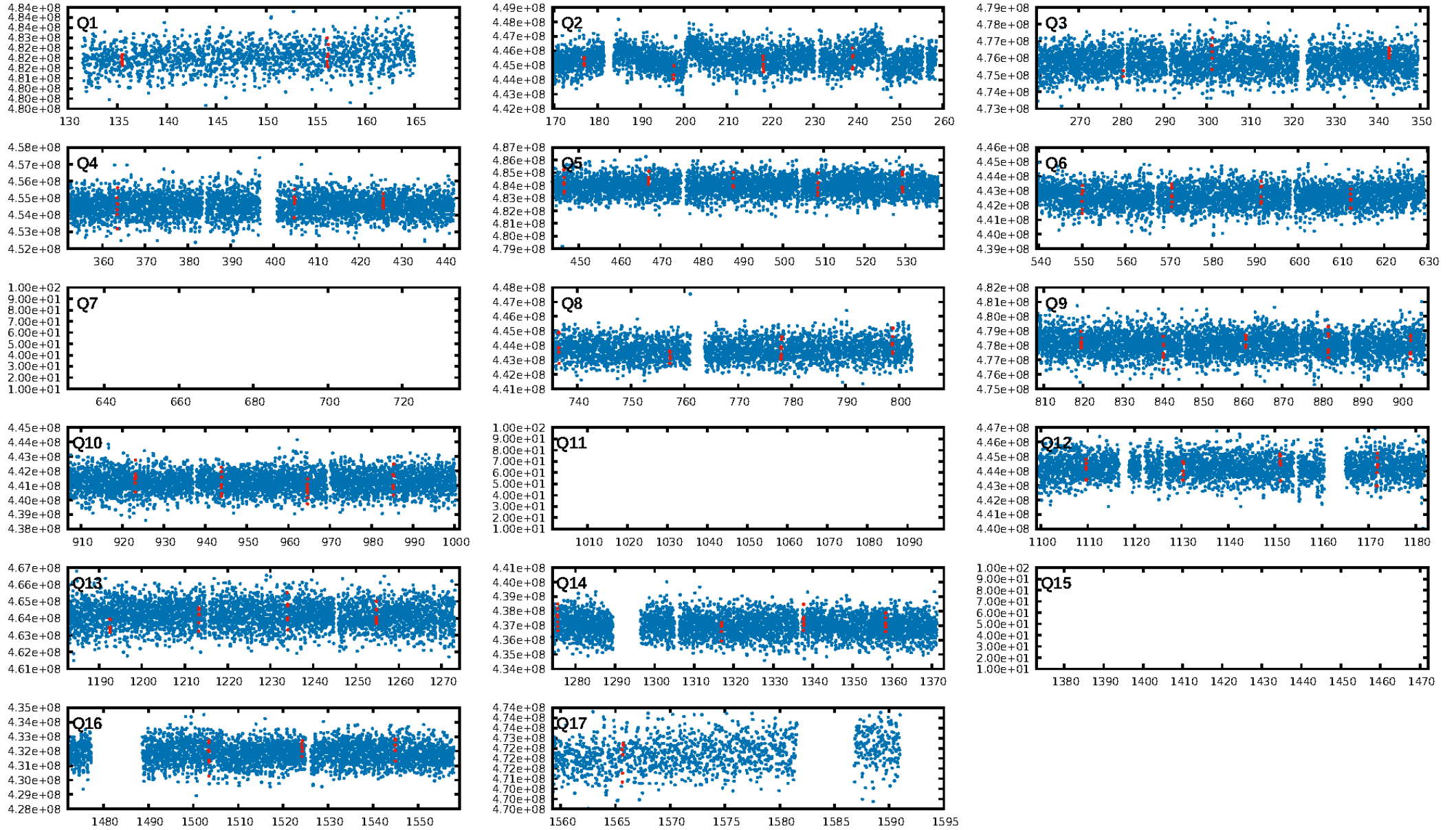
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [67.72σ]
LongPeriod-sig: 100.0% [75.82σ]
ModelChiSquare2-sig: 20.3%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 6.17e-10
RollingBand-fgt: 0.64 [7/11]
GhostDiagnostic-chr: 1.711
Centroid-sig: N/A
Centroid-so: 0.143 arcsec [1.58σ]
OotOffset-rm: 0.152 arcsec [0.42σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-rm: 0.087 arcsec [0.13σ]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 0.36 [5/14]
DiffImageOverlap-fno: 0.29 [4/14]

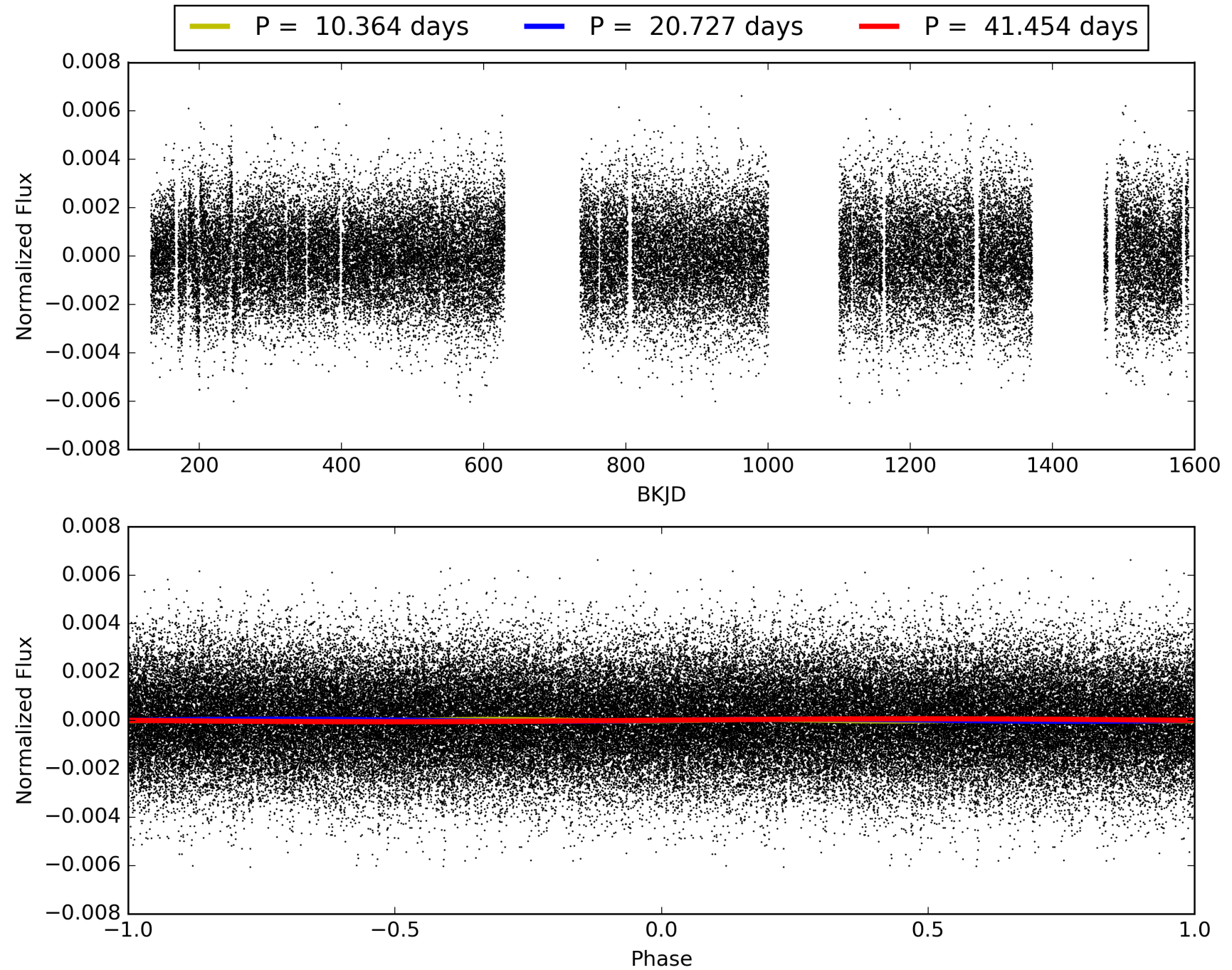
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:49:56 Z

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

TCE 011153259-05, PDC Light Curves

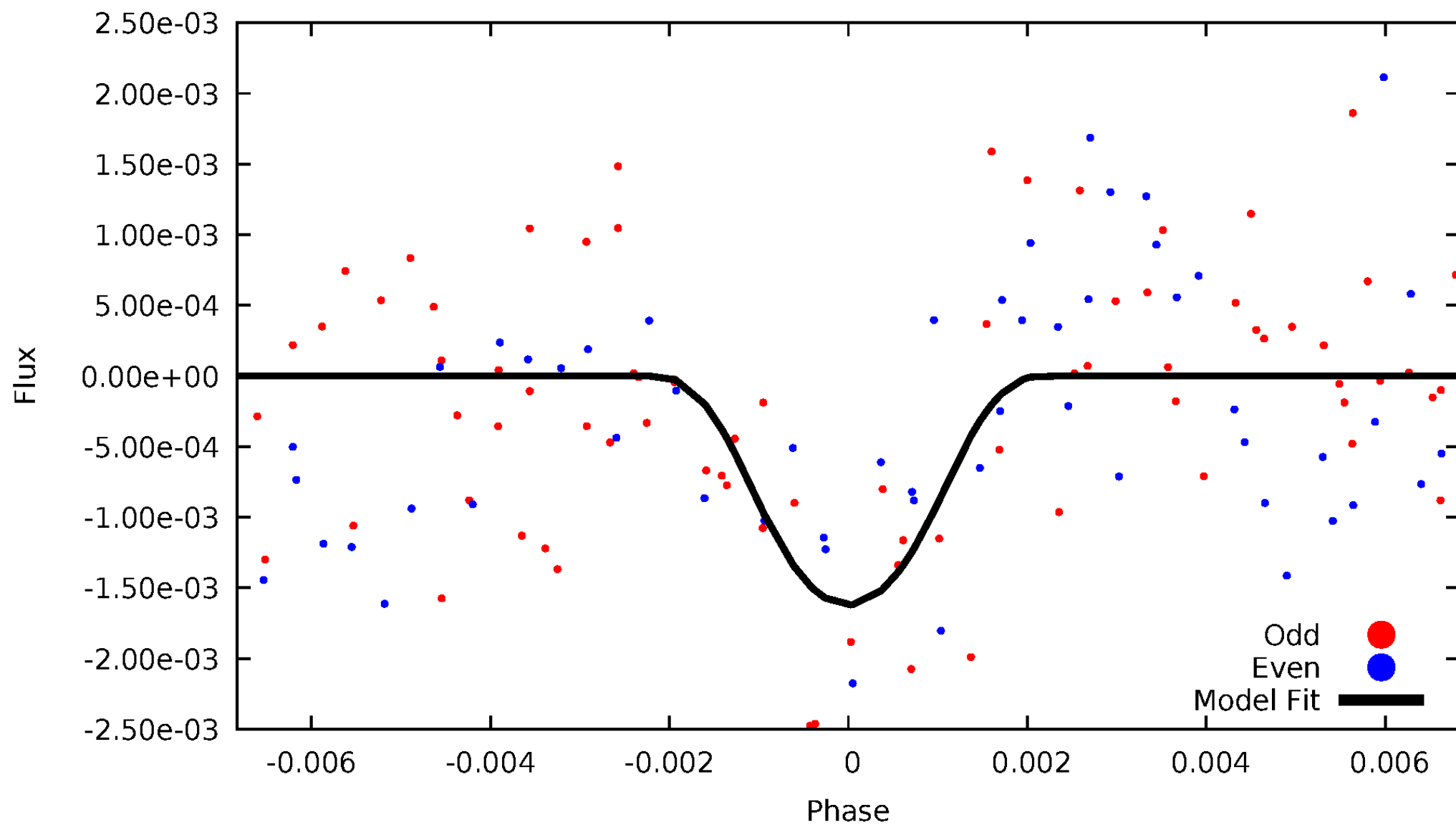


TCE 011153259-05



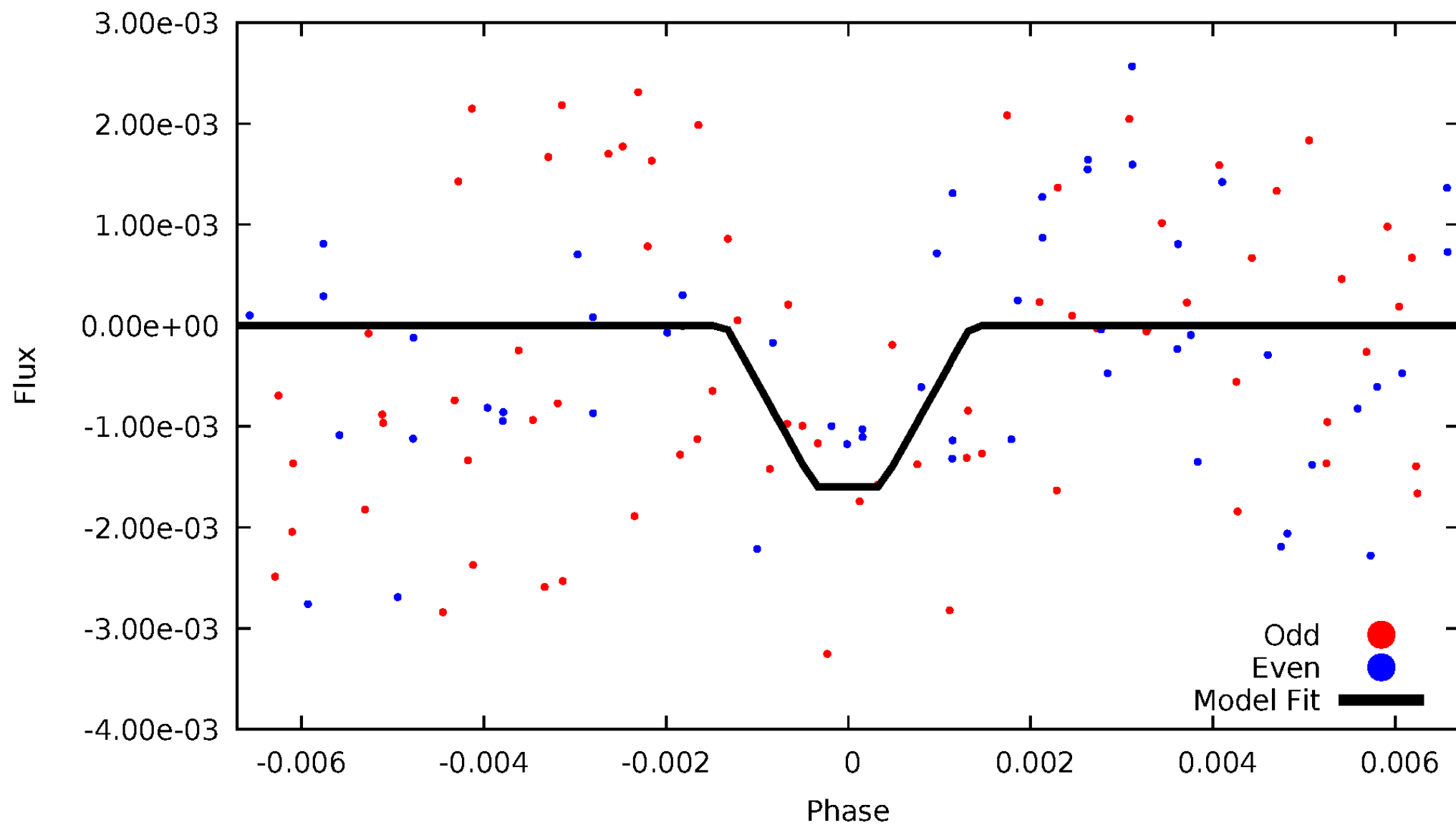
DV Odd/Even

TCE 011153259-05

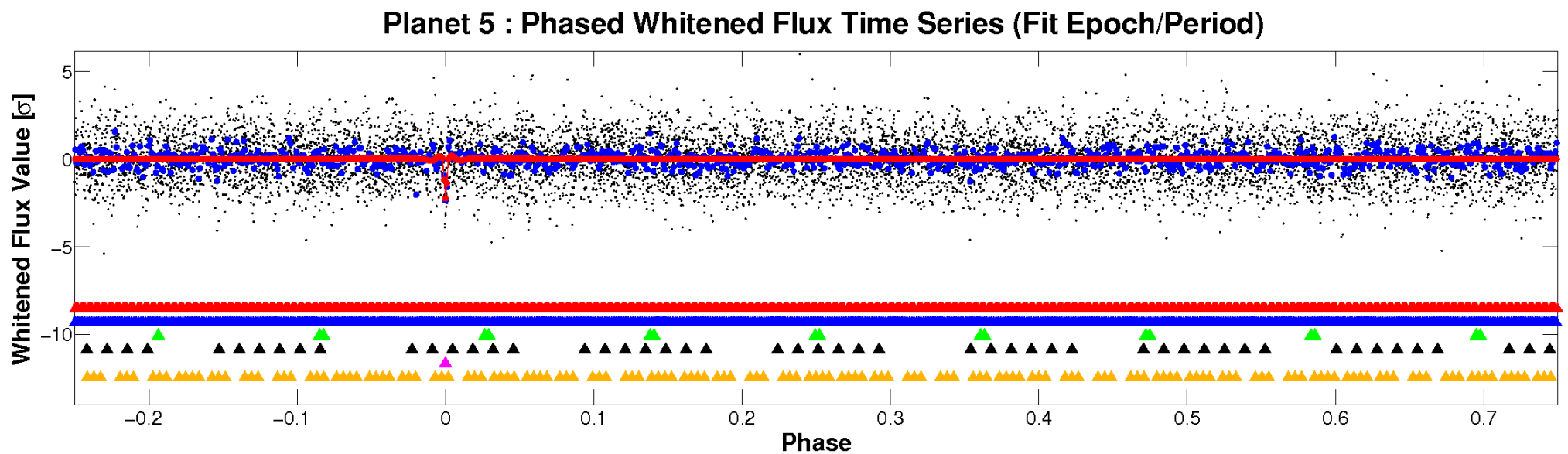
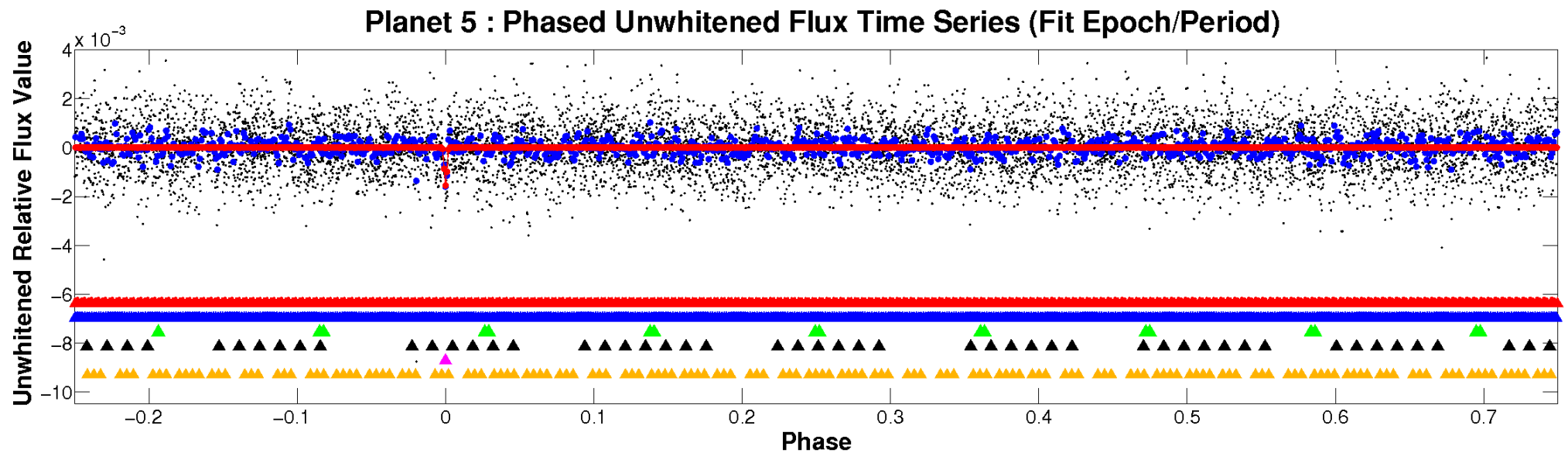


ALT Odd/Even

TCE 011153259-05

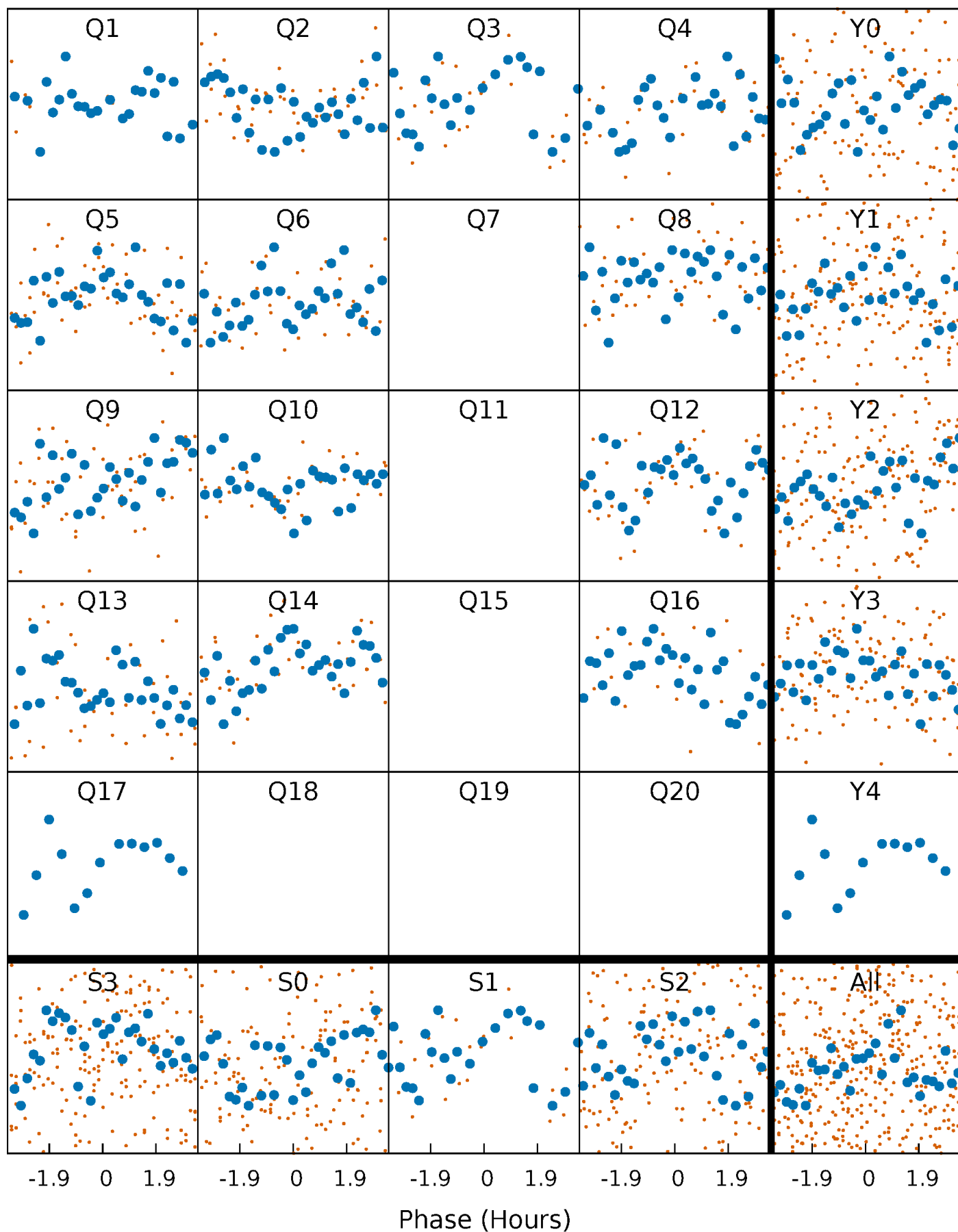


Non-Whitened Vs. Whitened Light Curve



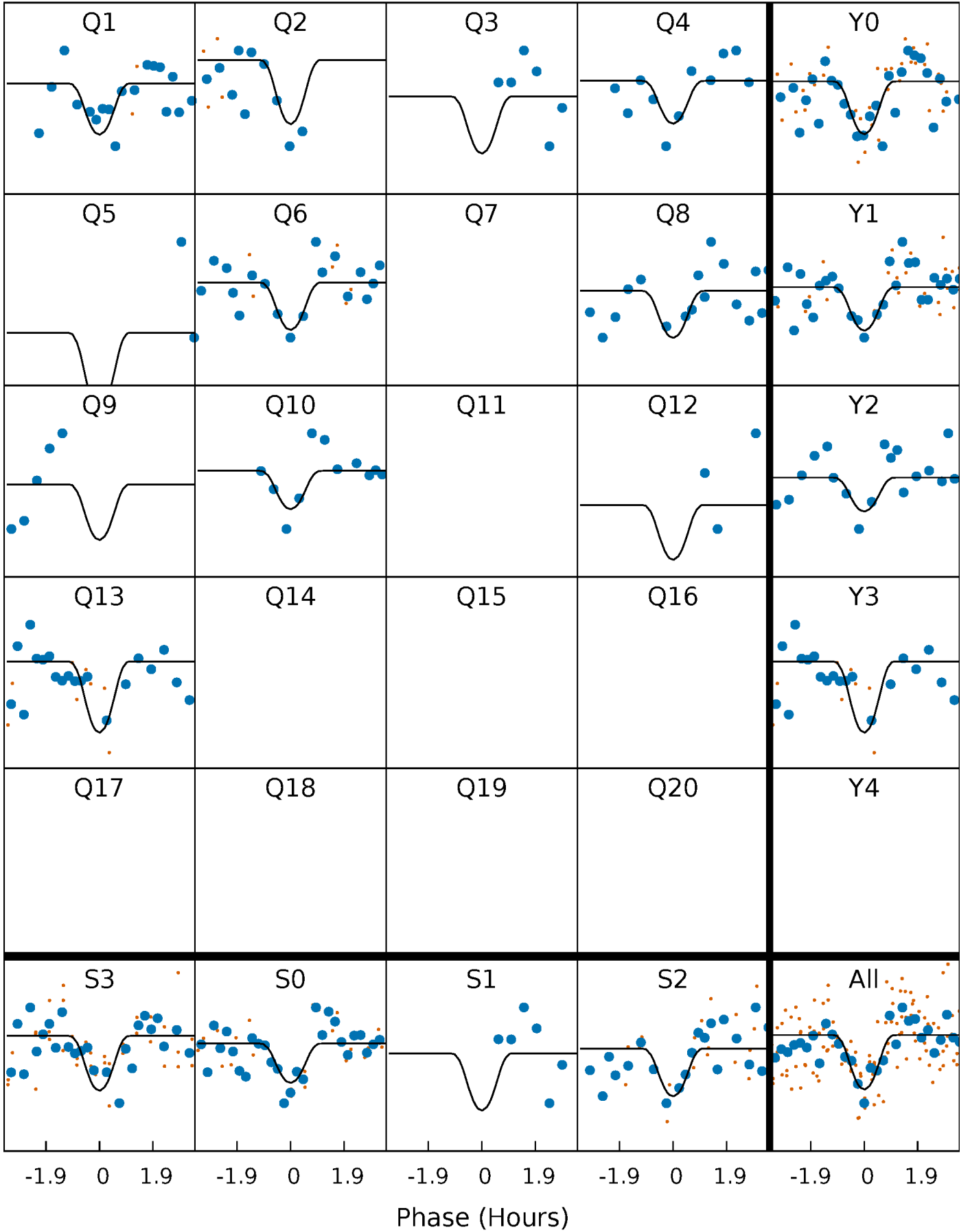
PDC Quarter-Phased Transit Curves

TCE 011153259-05 $P = 20.727248$ Days $T_0 = 135.481597$ (BKJD)



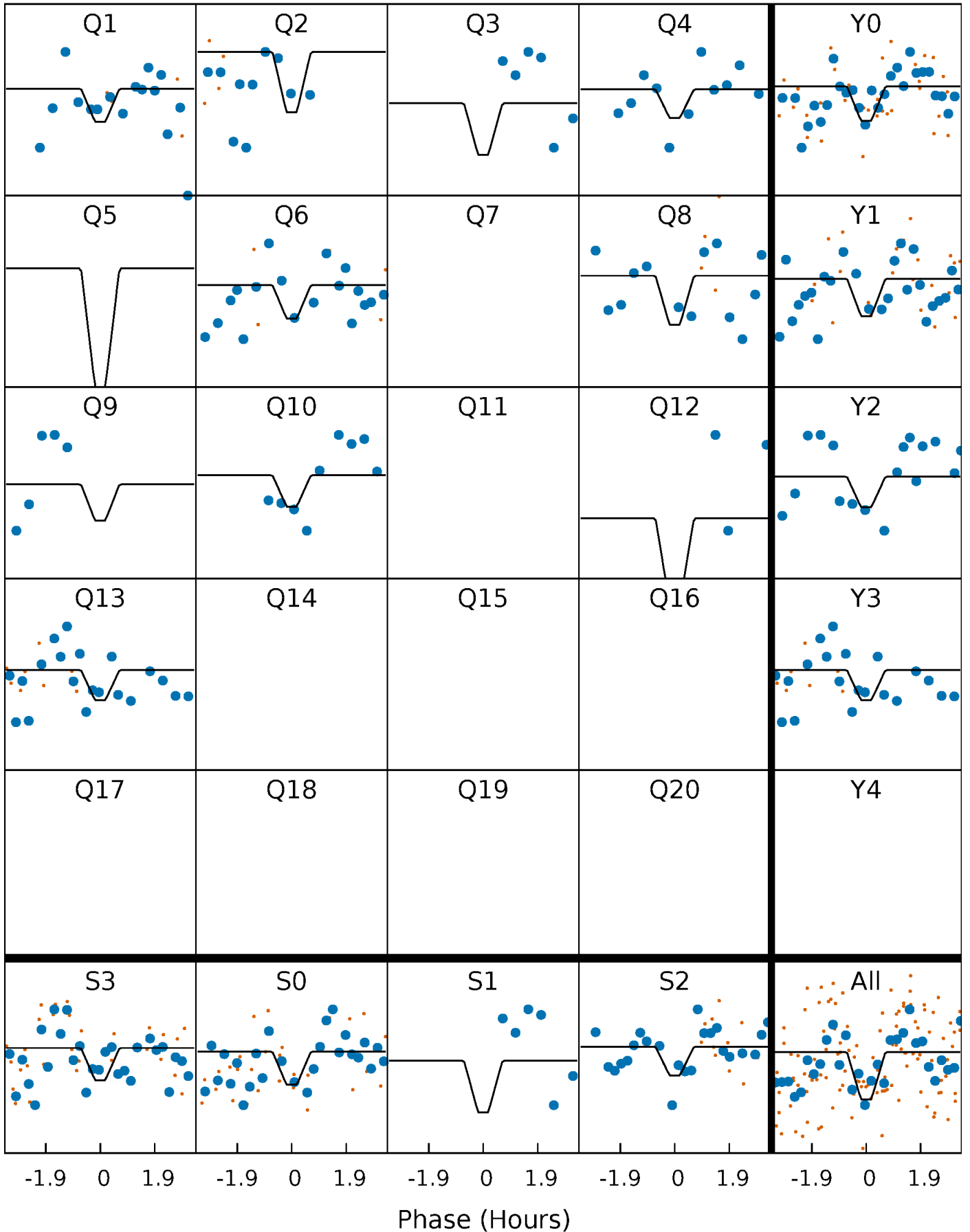
DV Quarter-Phased Transit Curves

TCE 011153259-05 $P = 20.727248$ Days $T_0 = 135.481597$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

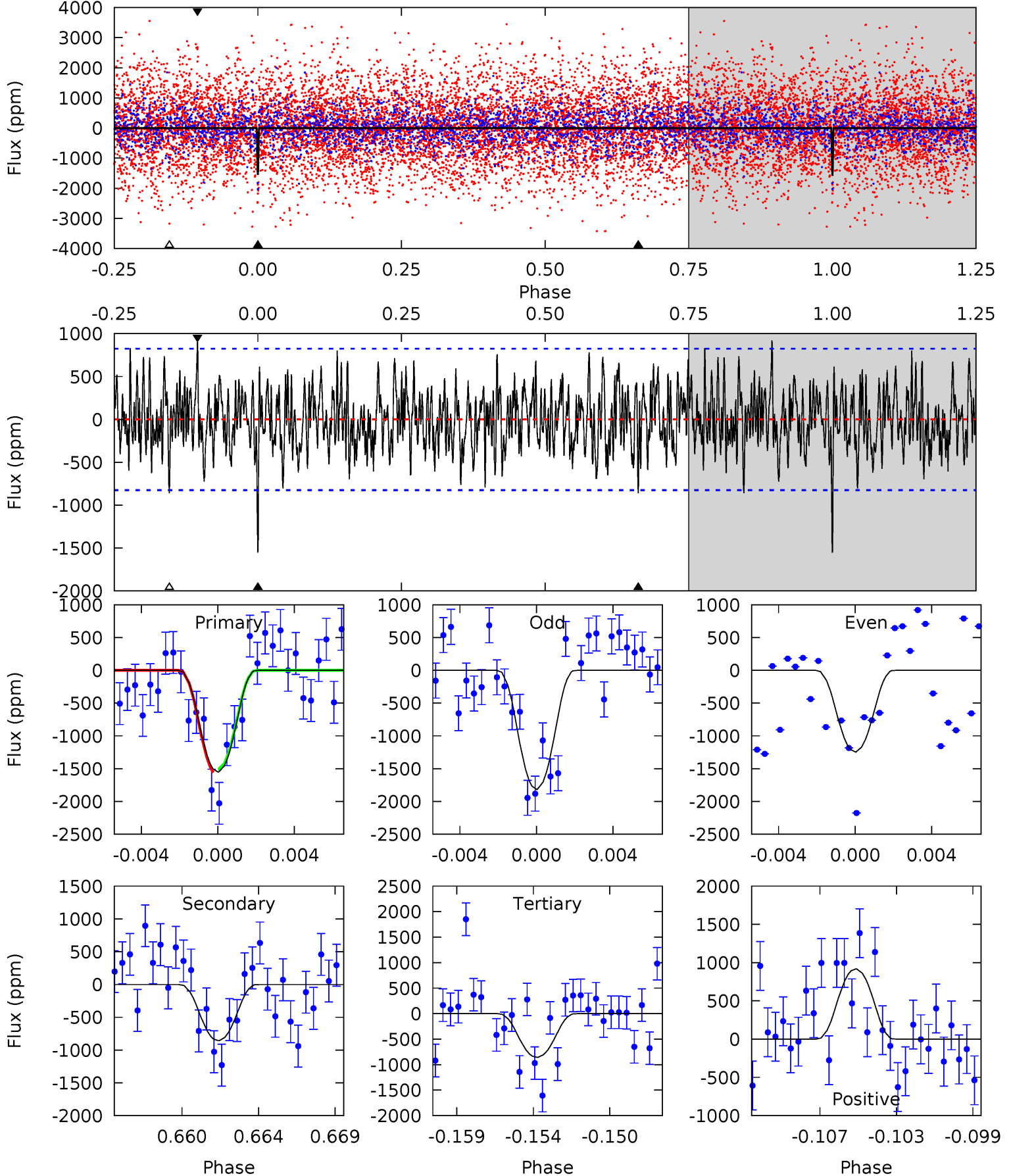
TCE 011153259-05 P= 20.727042 Days $T_0=135.479760$ (BKJD)



DV Model-Shift Uniqueness Test

011153259-05, P = 20.727248 Days, E = 114.754349 Days

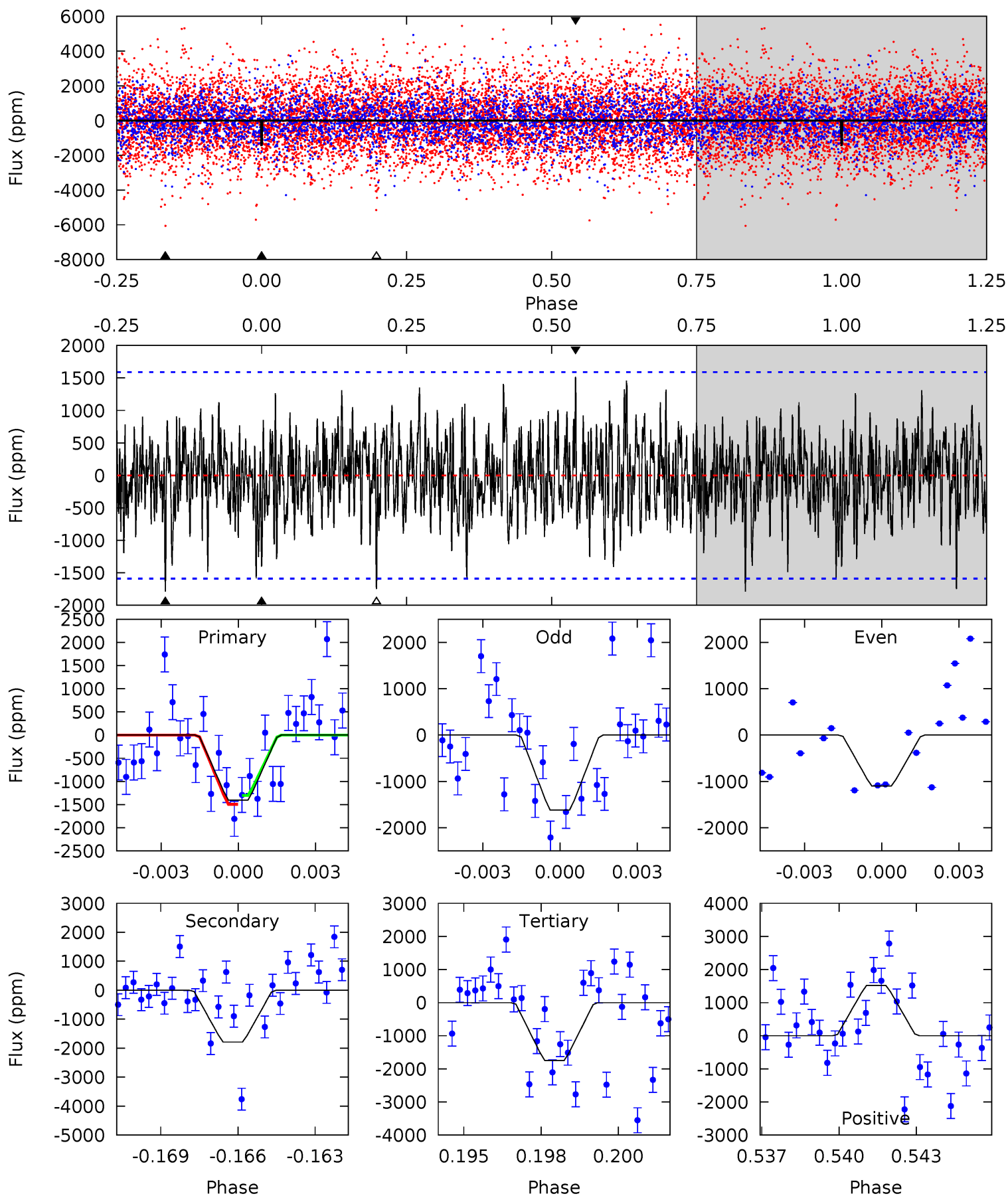
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.77	5.40	5.40	5.78	5.19	2.86	1.89	4.37	3.99	0.01	-0.38	1.79	1.05	0.37	0.14



Alt Model-Shift Uniqueness Test

011153259-05, P = 20.727042 Days, E = 114.752718 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.67	5.94	5.80	5.04	5.28	3.01	1.62	-1.14	-0.38	0.14	0.89	0.86	1.20	0.46	0.32



Stellar Parameters For KIC 011153259

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7615^{+76}_{-83}	$3.948^{+0.143}_{-0.117}$	$-0.140^{+0.200}_{-0.150}$	$2.318^{+0.452}_{-0.452}$	$1.739^{+0.207}_{-0.156}$	$0.197^{+0.140}_{-0.070}$
	+1%/-1%	+4%/-3%	+143%/-107%	+19%/-19%	+12%/-9%	+71%/-36%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 011153259-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-859 ± 159	$31.59^{+34.44}_{-20.81}$	1693^{+83}_{-84}	3937^{+2427}_{-863}	15^{+125}_{-12}
Alt.	-1788 ± 301	$29.58^{+32.48}_{-21.18}$	1693^{+83}_{-73}	4653^{+4194}_{-1110}	34^{+390}_{-26}

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 $A_{obs} \gg 1.0$

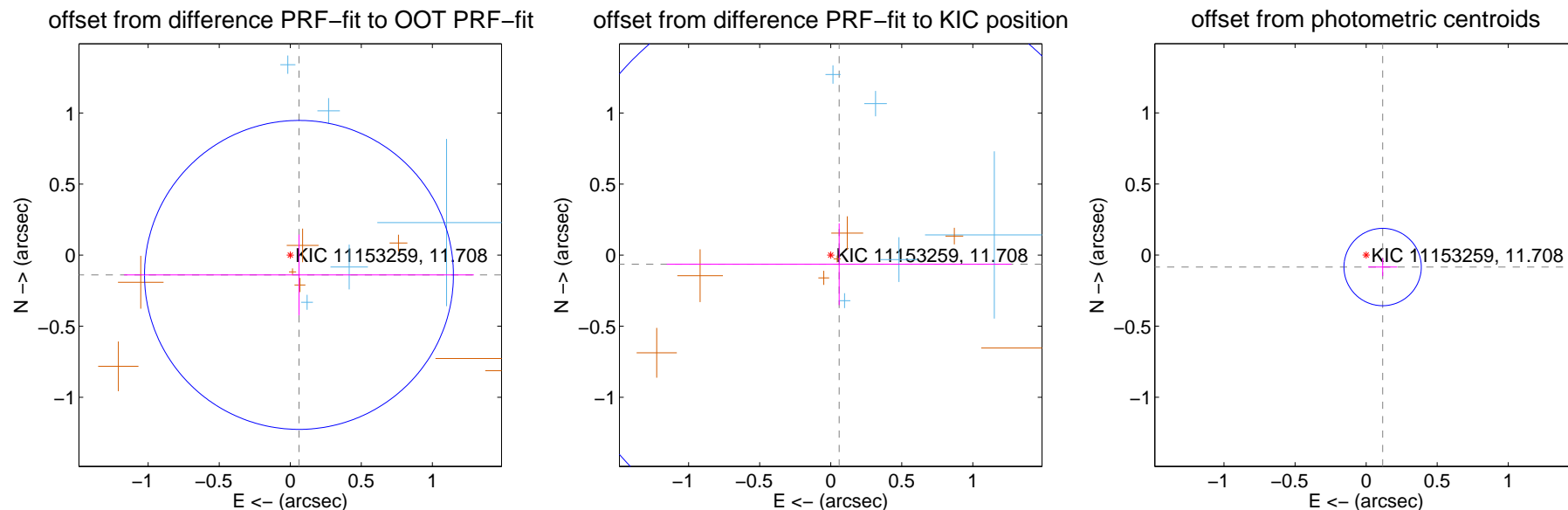
DV Centroid Data

Supplemental centroid analysis for 011153259-05. **Kepler magnitude: 11.71.** Transit SNR 8.72

There are 5 quarters with good PRF difference image offsets

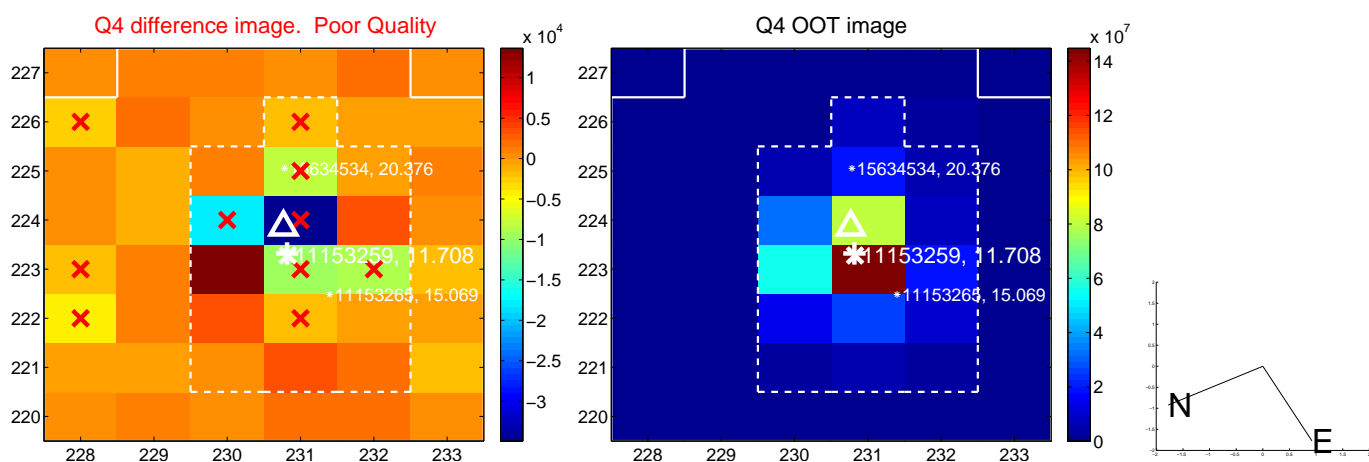
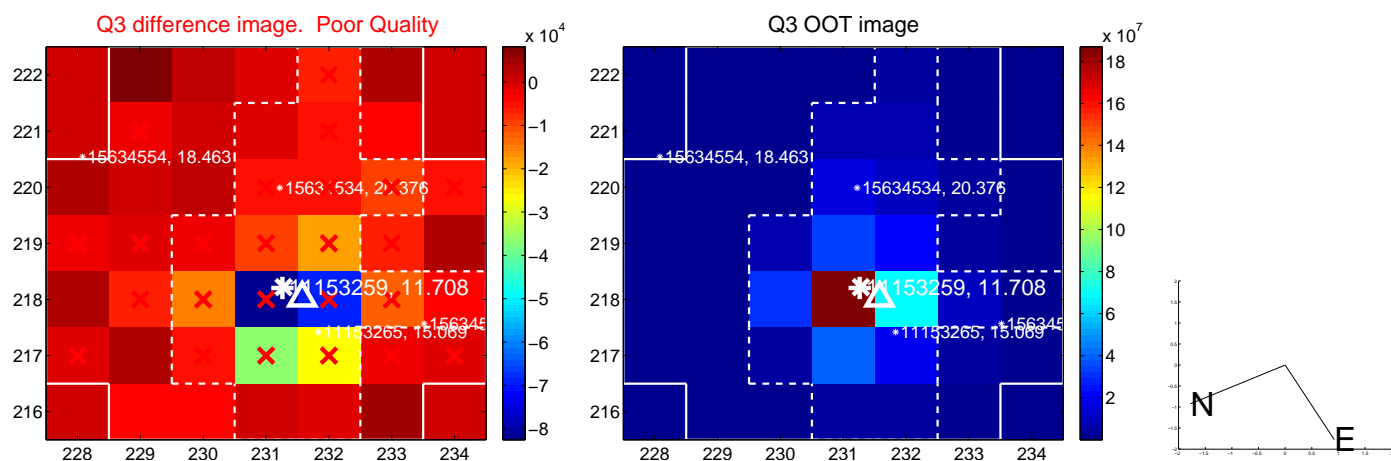
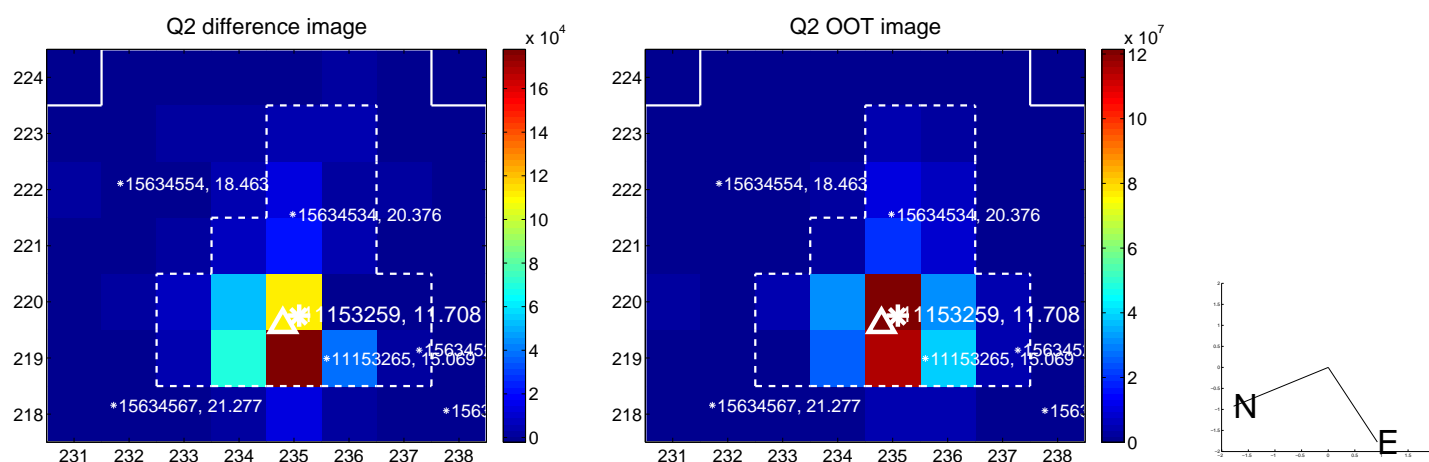
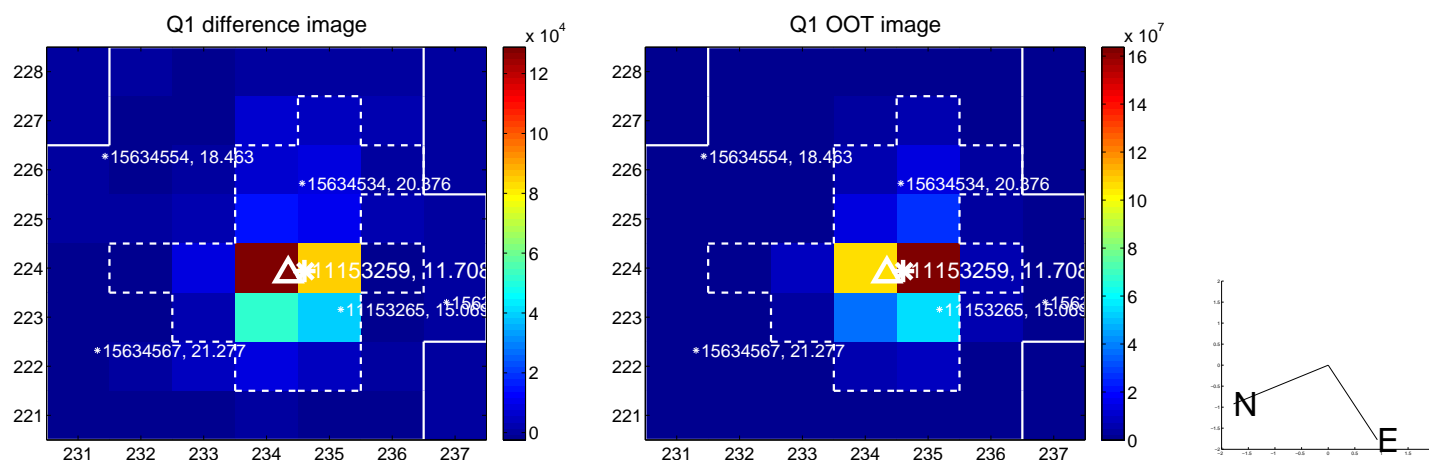
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.152 ± 0.362	0.42	-0.061 ± 1.231	-0.139 ± 0.284
PRF-fit source offset from KIC position	0.087 ± 0.682	0.13	-0.059 ± 1.213	-0.064 ± 0.288
photometric centroid source offset	0.14 ± 0.09	1.58	-0.12 ± 0.10	-0.08 ± 0.06

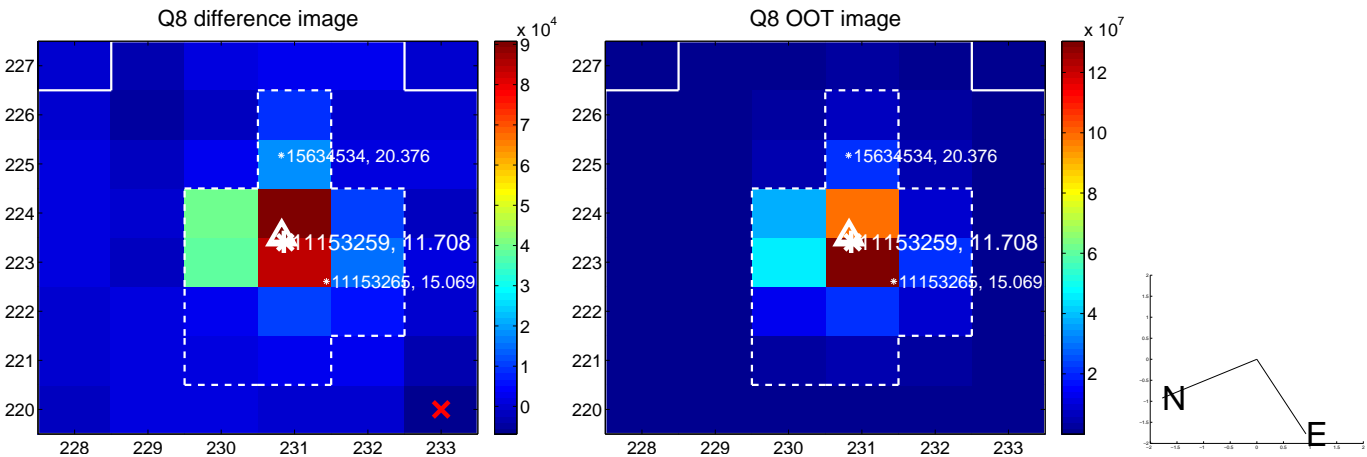
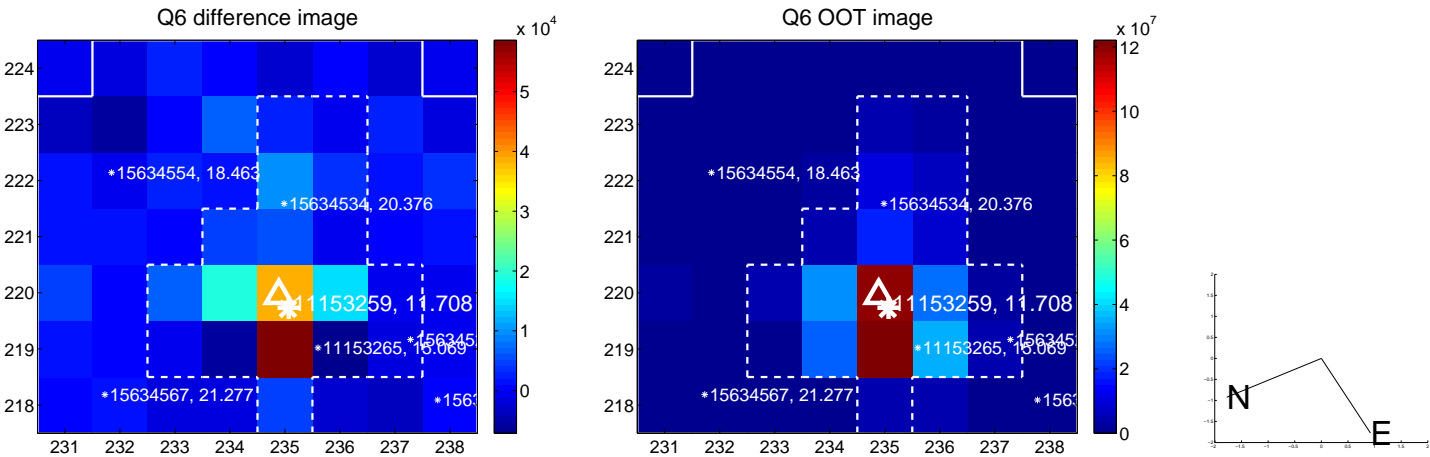
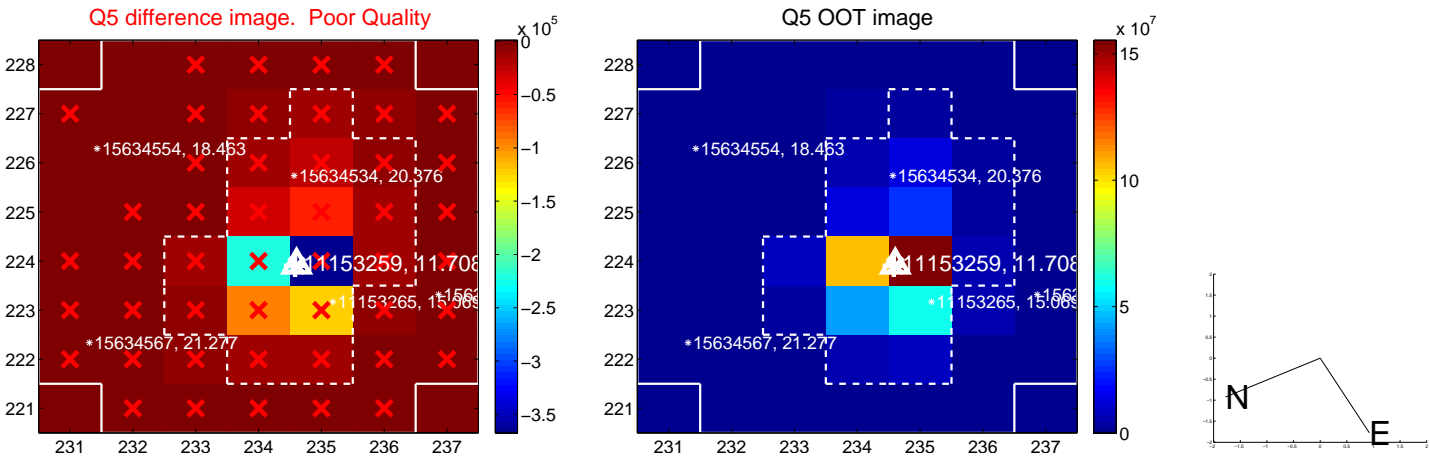


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

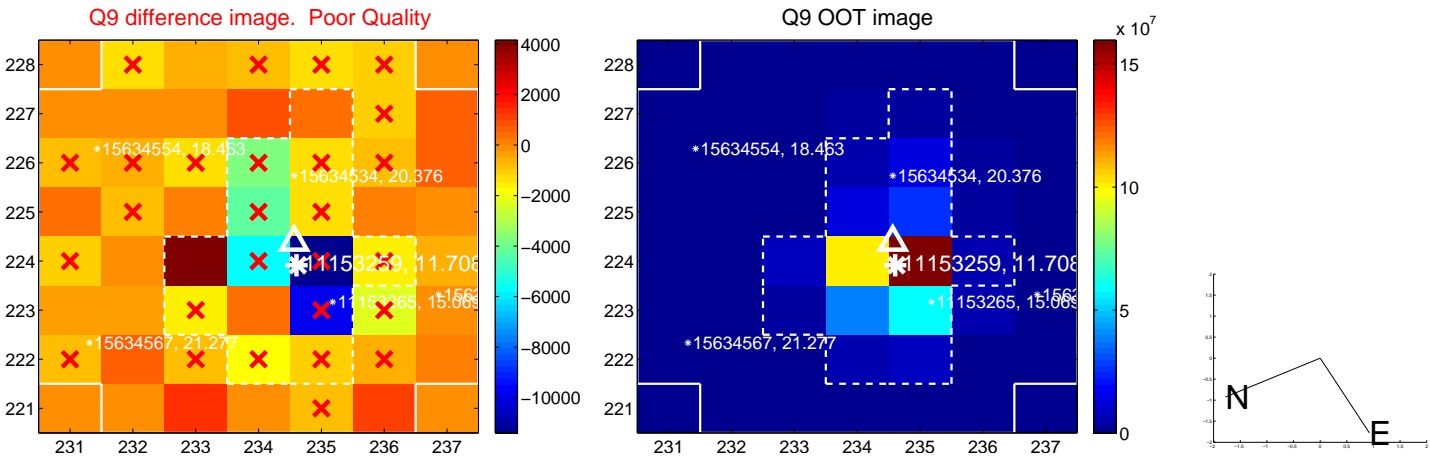
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



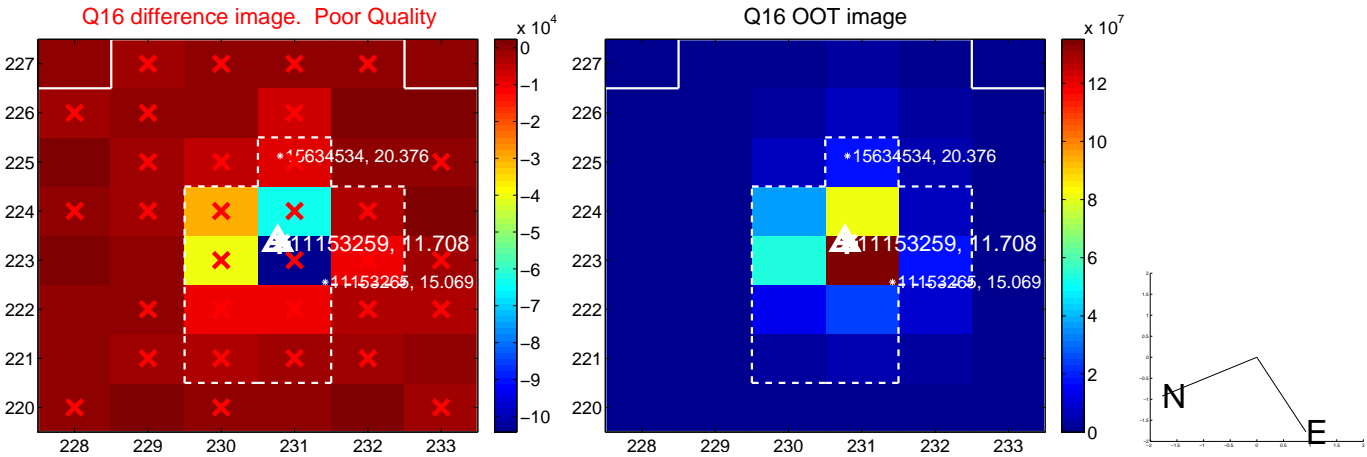
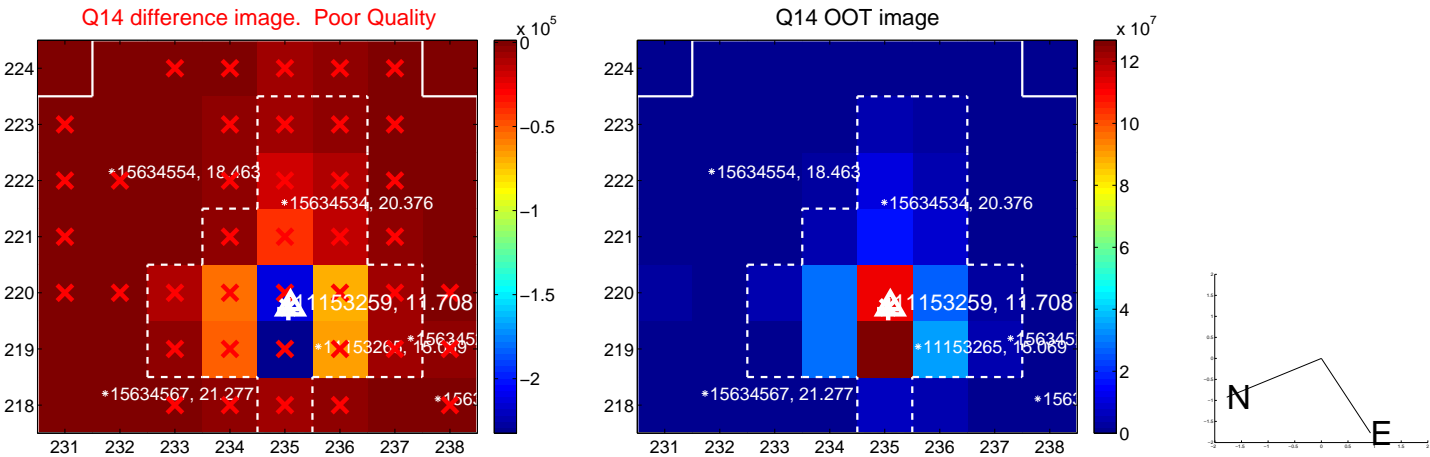
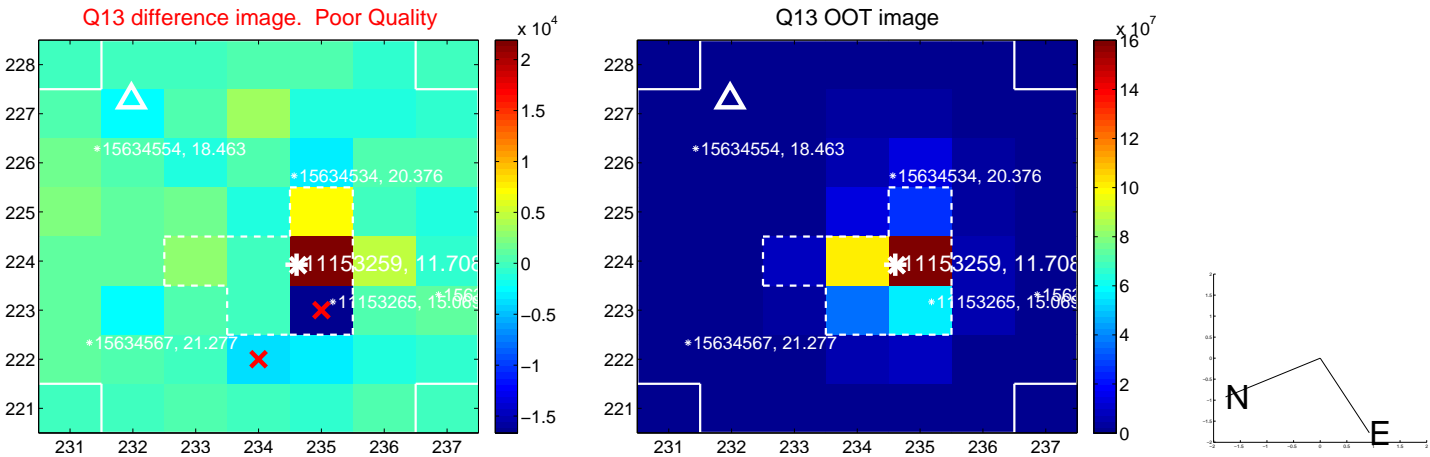
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



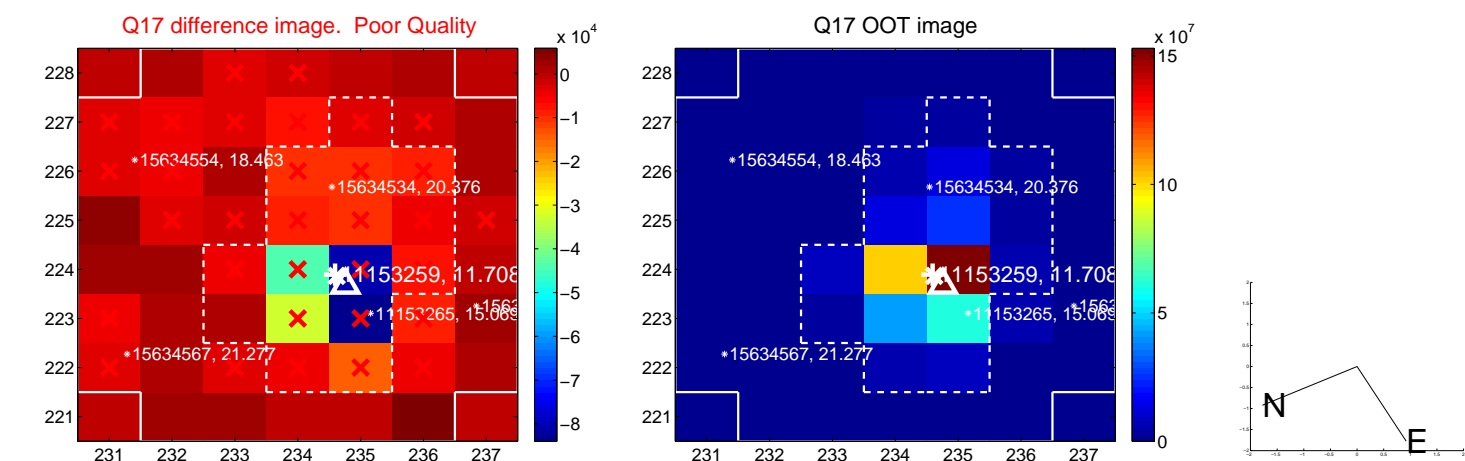
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



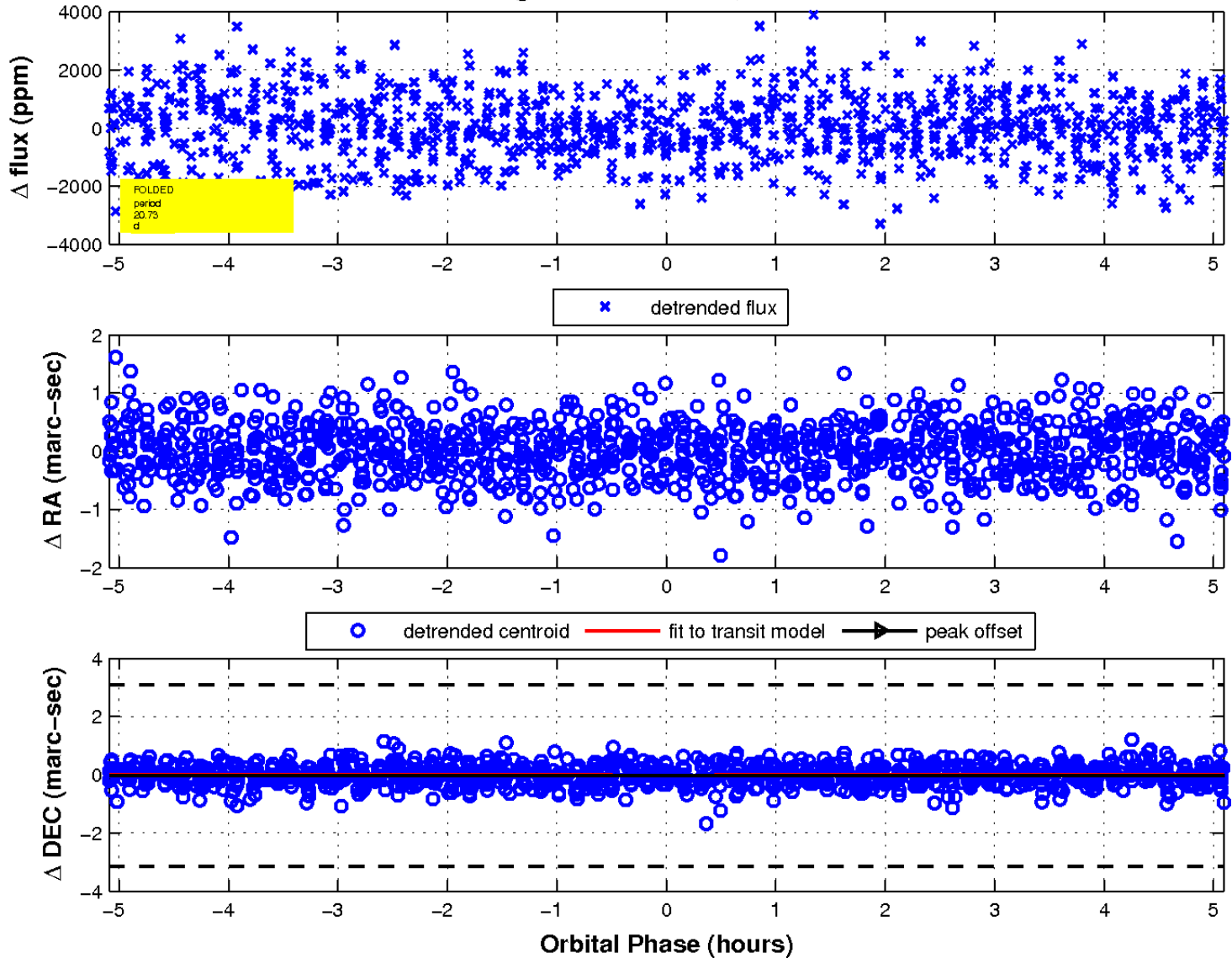
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

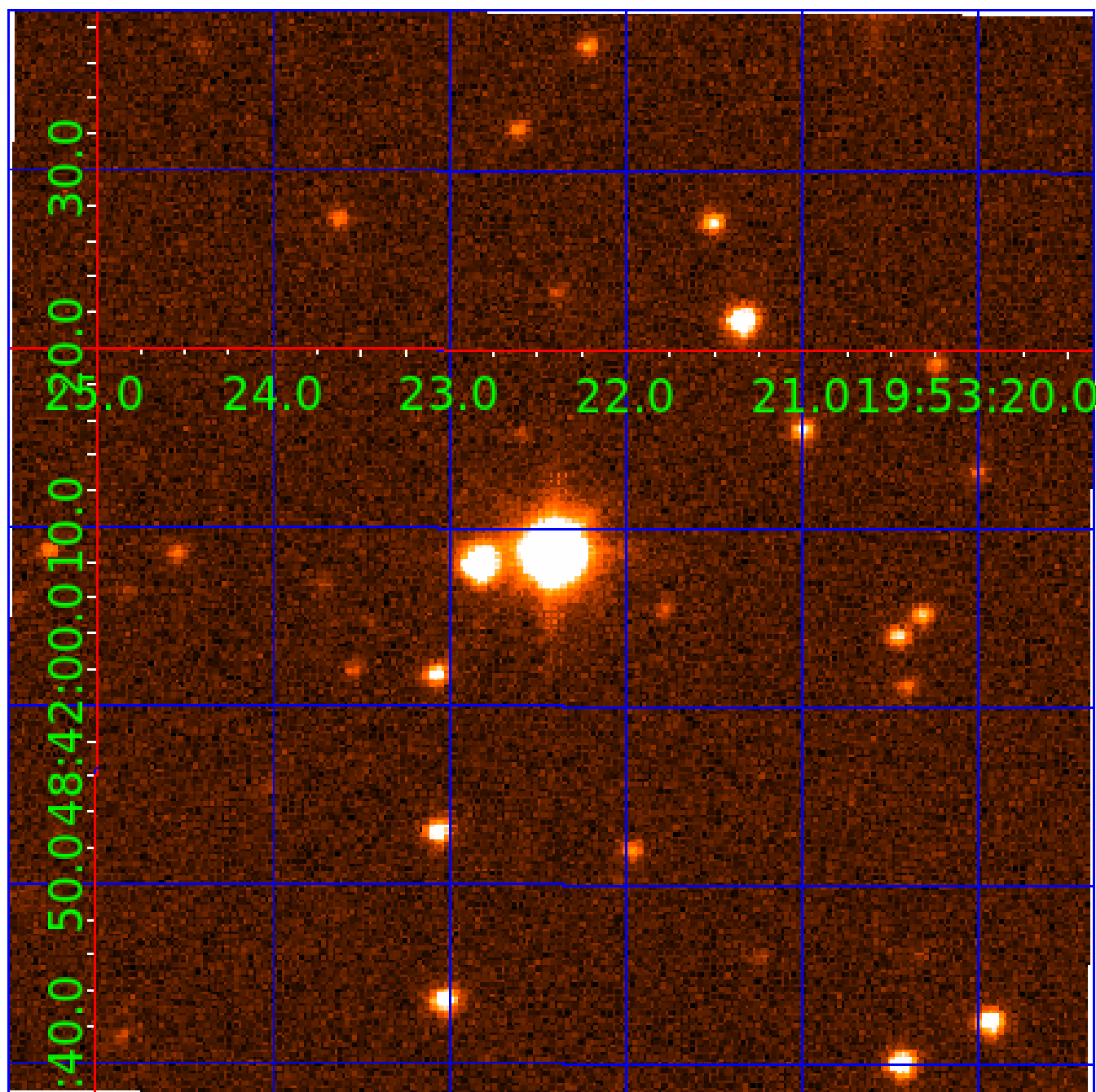


fluxWeightedCentroids, Planet 5 of 6



UKIRT Image

Declination



KIC 011153259

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})
011153259-01	OBS	No	0.982378	132.153660	56.1	5.833	9.6	3.5	2.32	7615	1.77	29918.84
011153259-02	OBS	No	1.637211	132.932555	283.0	2.655	9.4	8.3	2.32	7615	4.54	15141.77
011153259-03	OBS	No	85.218204	154.449359	1769.5	2.450	9.0	7.9	2.32	7615	10.60	77.91
011153259-04	OBS	No	28.535344	150.347362	1716.4	1.796	8.5	8.0	2.32	7615	10.39	335.07
011153259-05	OBS	No	20.727248	135.481597	1621.0	1.698	8.5	8.7	2.32	7615	13.53	513.17
011153259-06	OBS	No	9.263085	140.563860	812.9	3.691	8.9	9.0	2.32	7615	7.76	1501.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011153259-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
011153259-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
011153259-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011153259-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011153259-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011153259-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—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 011153259-06

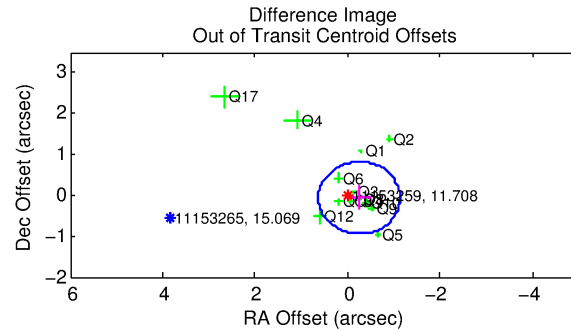
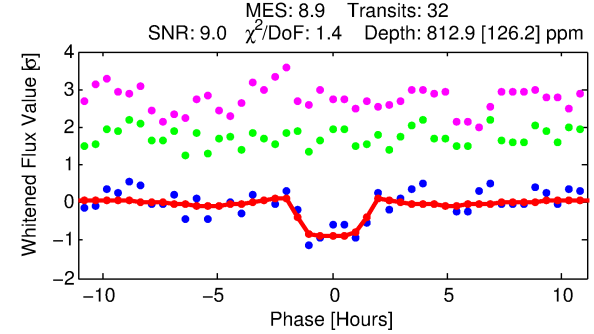
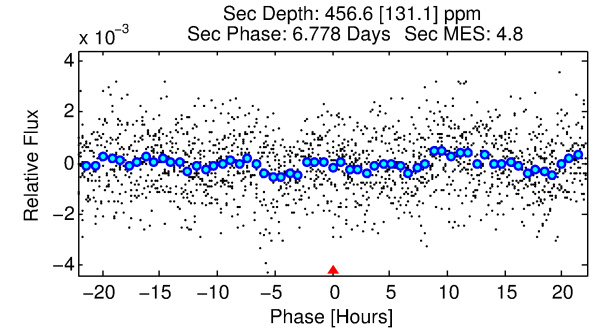
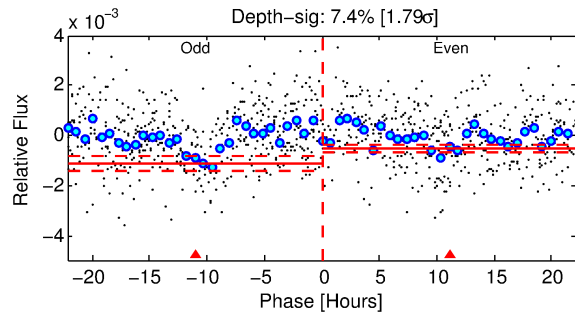
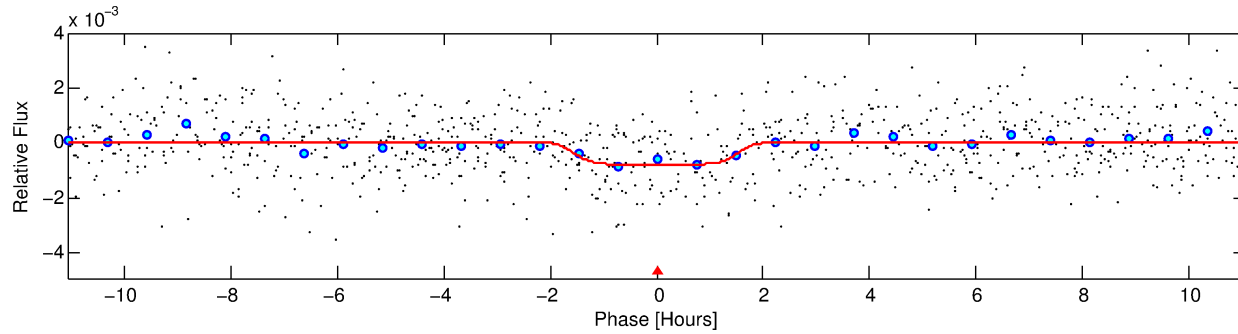
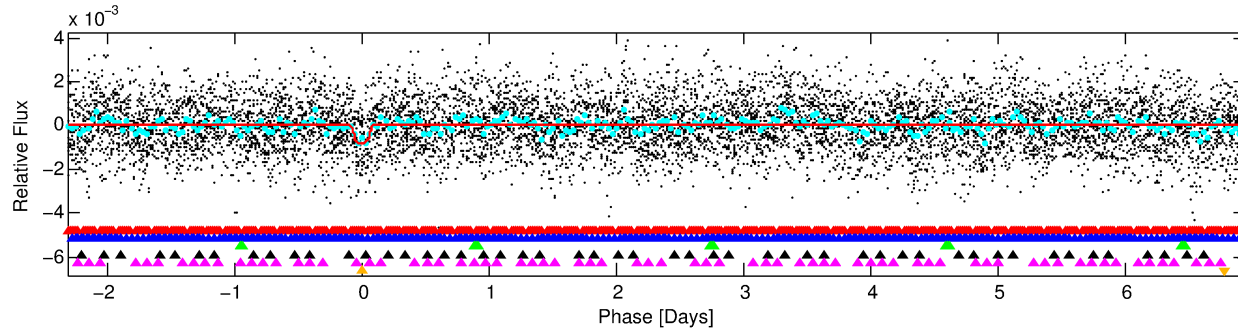
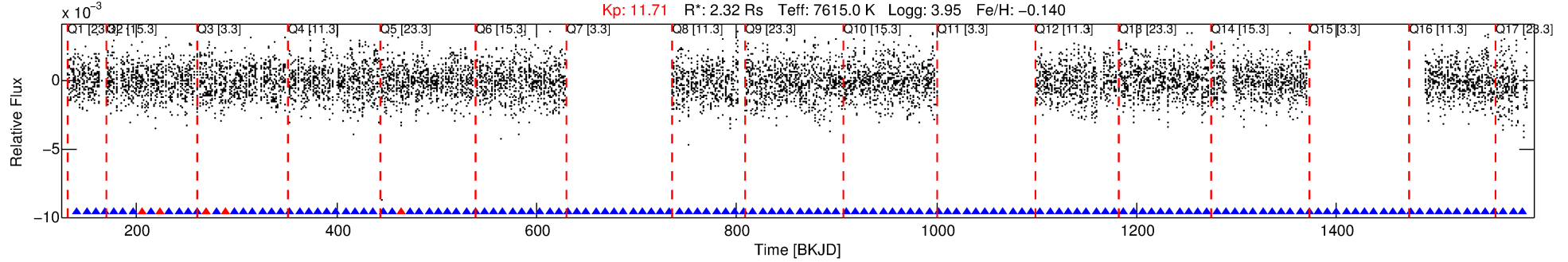
No Significant Match Found

DV One-Page Summary

KIC: 11153259 Candidate: 6 of 6 Period: 9.263 d

KOI: K03200 Corr: No Ephemeris Match

Kp: 11.71 R*: 2.32 Rs Teff: 7615.0 K Logg: 3.95 Fe/H: -0.140



DV Fit Results:

Period = 9.26308 [0.00012] d
Epoch = 140.5639 [0.0100] BKJD
Rp/R* = 0.0307 [0.0054]
a/R* = 9.36 [7.89]
b = 0.91 [0.17]
Seff = 1501.90 [388.72]
Teq = 1587 [103] K
Rp = 7.76 [2.04] Re
a = 0.1038 [0.0177] AU
Ag = 44.95 [23.39] [1.88σ]
Teffp = 6355 [724] K [6.52σ]

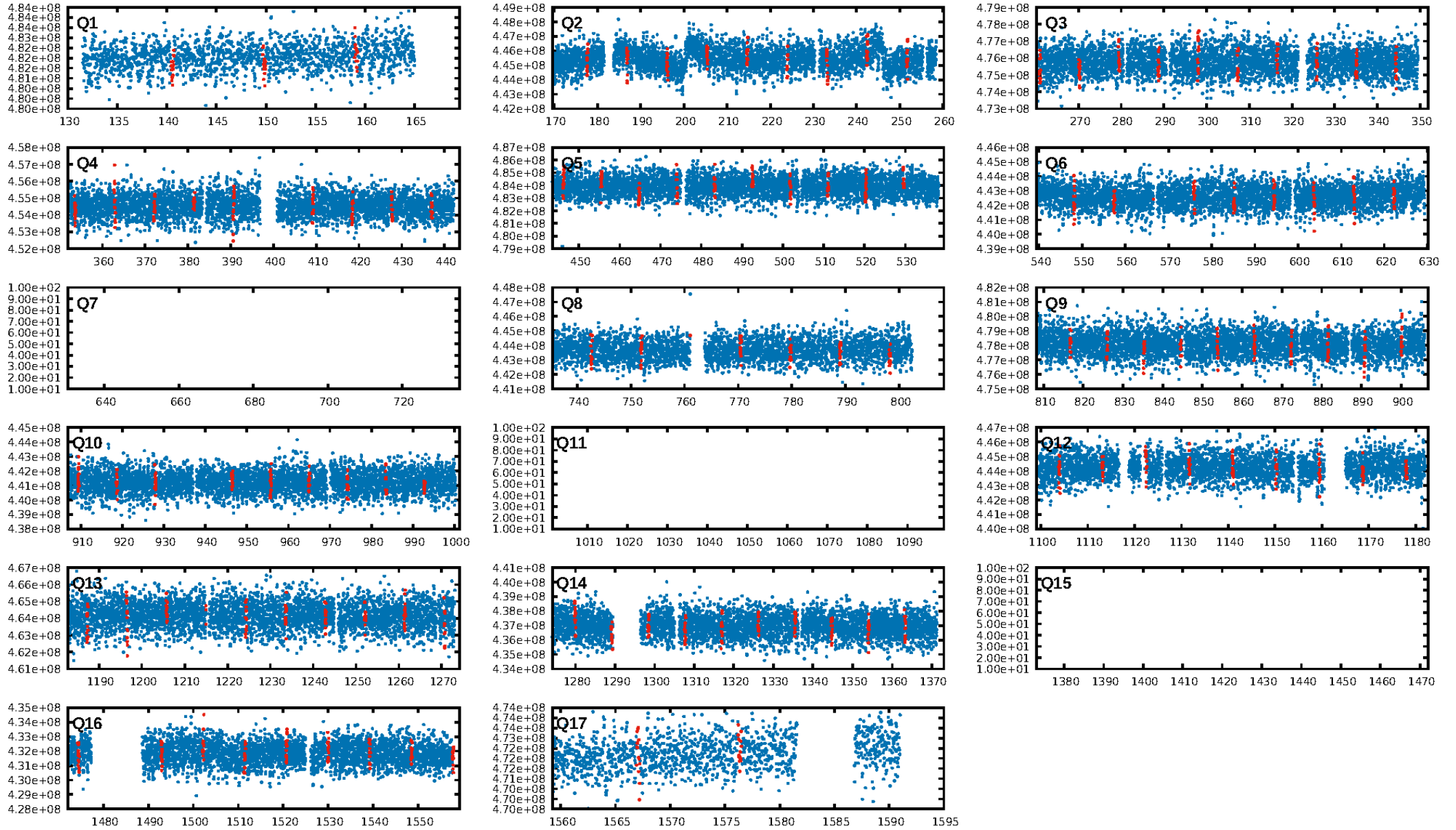
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [40.26σ]
LongPeriod-sig: 100.0% [67.72σ]
ModelChiSquare2-sig: 0.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.01e-11
RollingBand-fgt: 0.84 [26/31]
GhostDiagnostic-chr: 0.05775
Centroid-sig: N/A
Centroid-so: 0.202 arcsec [2.33σ]
OotOffset-rm: 0.254 arcsec [0.86σ]
KicOffset-rm: 0.320 arcsec [1.13σ]
OotOffset-st: 4/1/3/5 [13]
KicOffset-st: 4/1/3/5 [13]
DiffImageQuality-fgm: 0.62 [8/13]
DiffImageOverlap-fno: 0.07 [1/14]

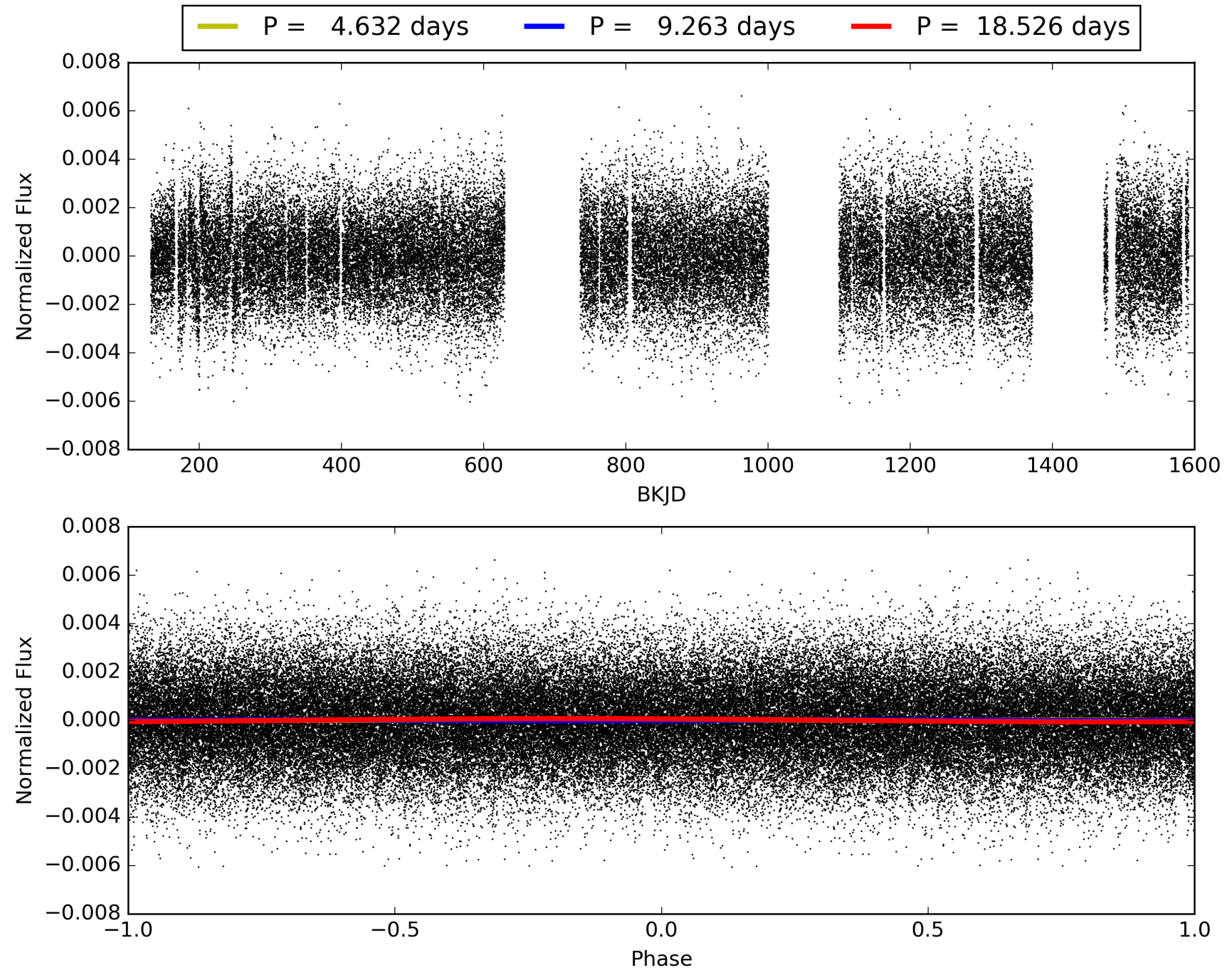
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:49:59 Z

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

TCE 011153259-06, PDC Light Curves

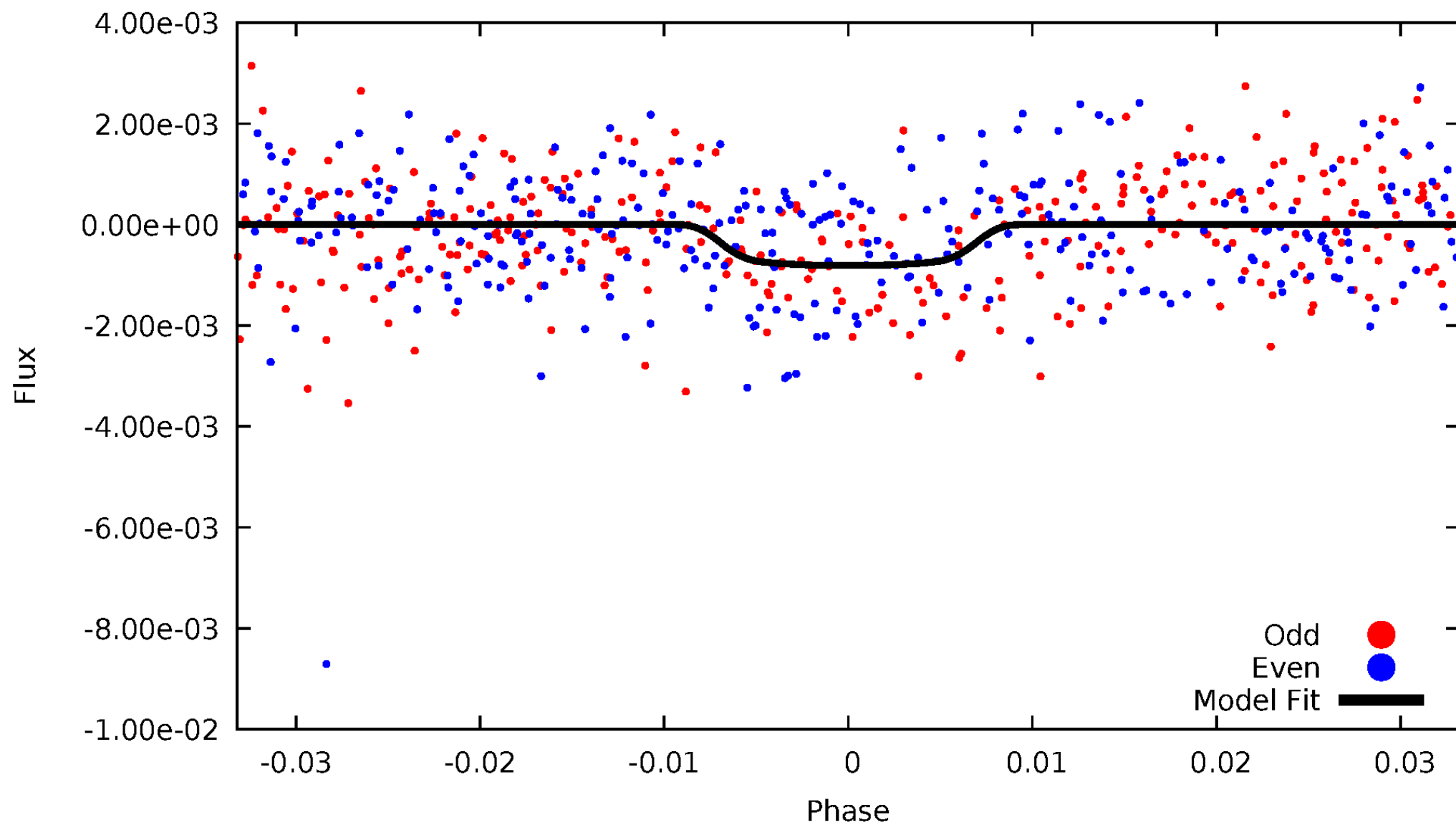


TCE 011153259-06



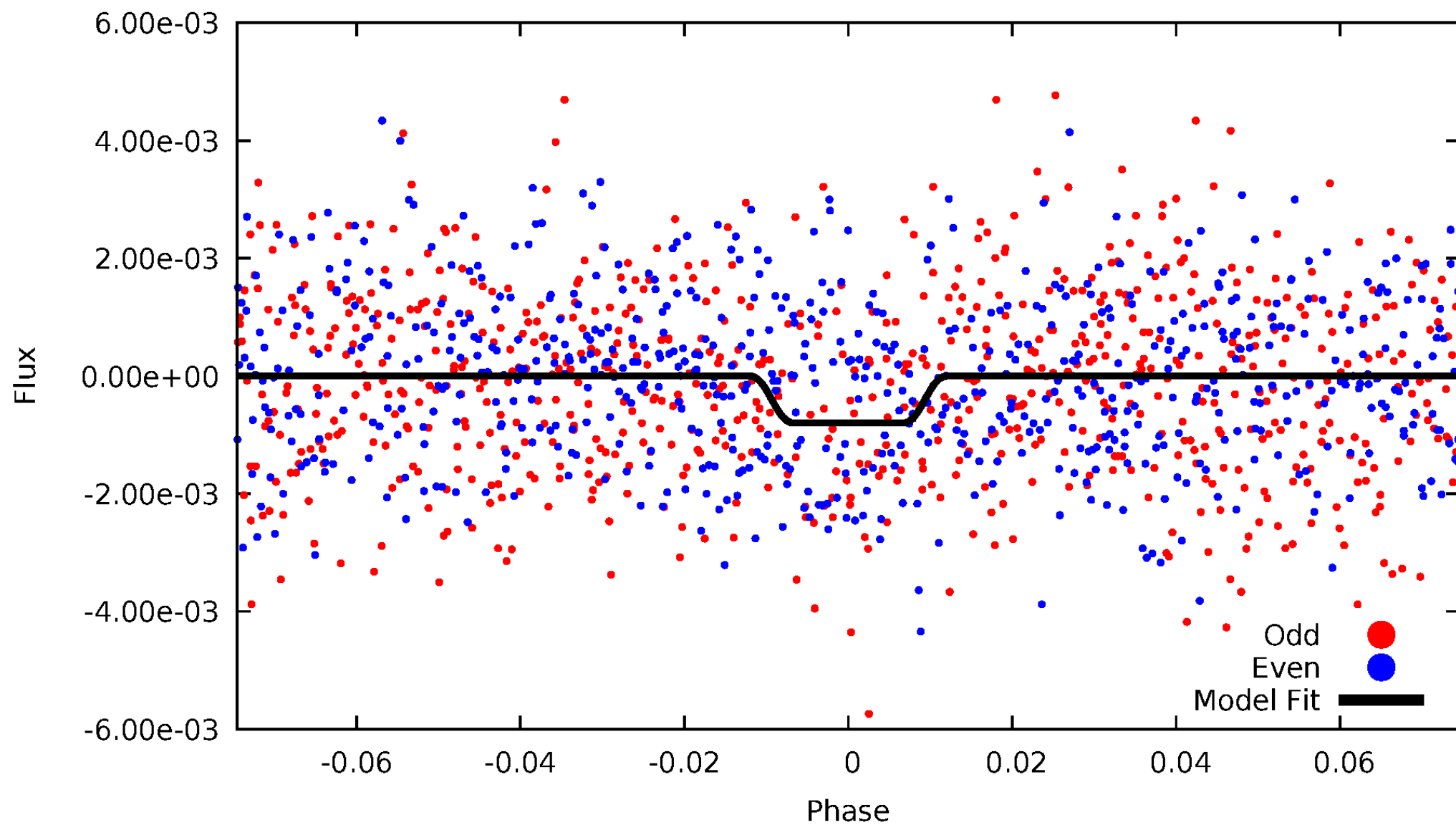
DV Odd/Even

TCE 011153259-06



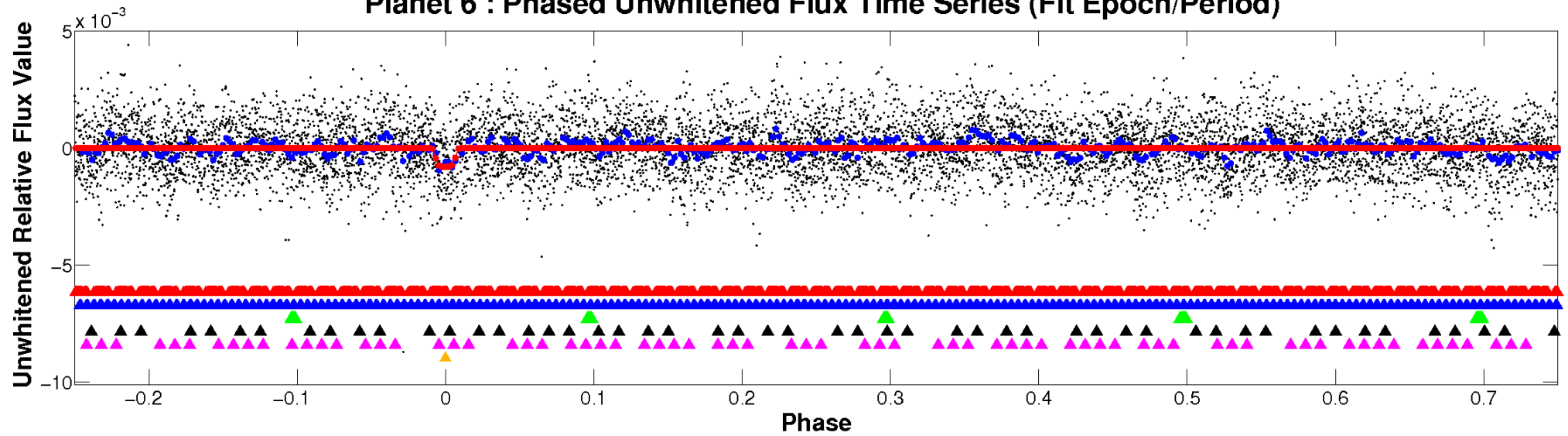
ALT Odd/Even

TCE 011153259-06

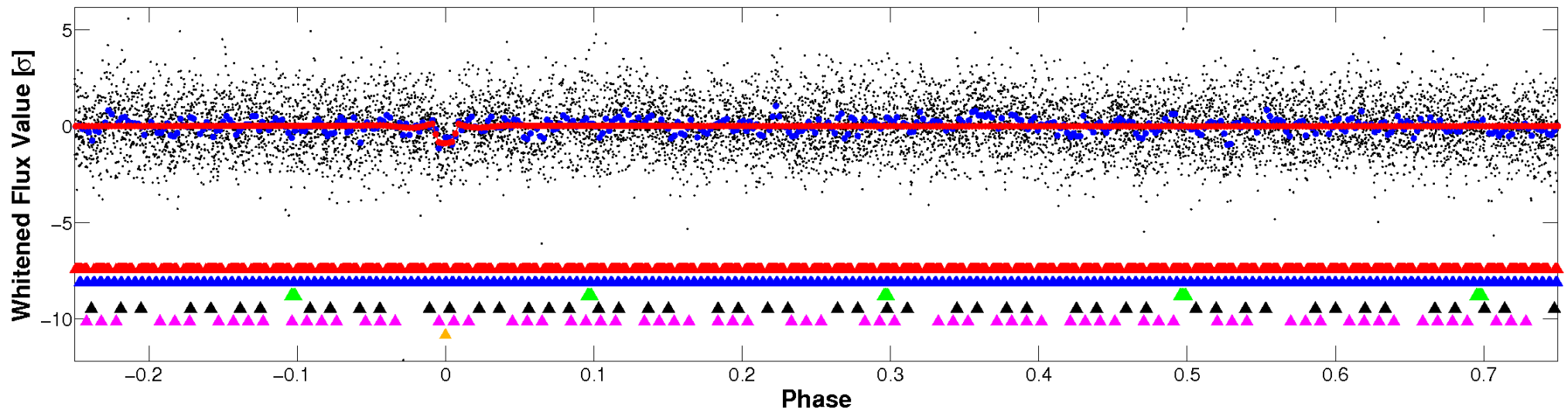


Non-Whitened Vs. Whitened Light Curve

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

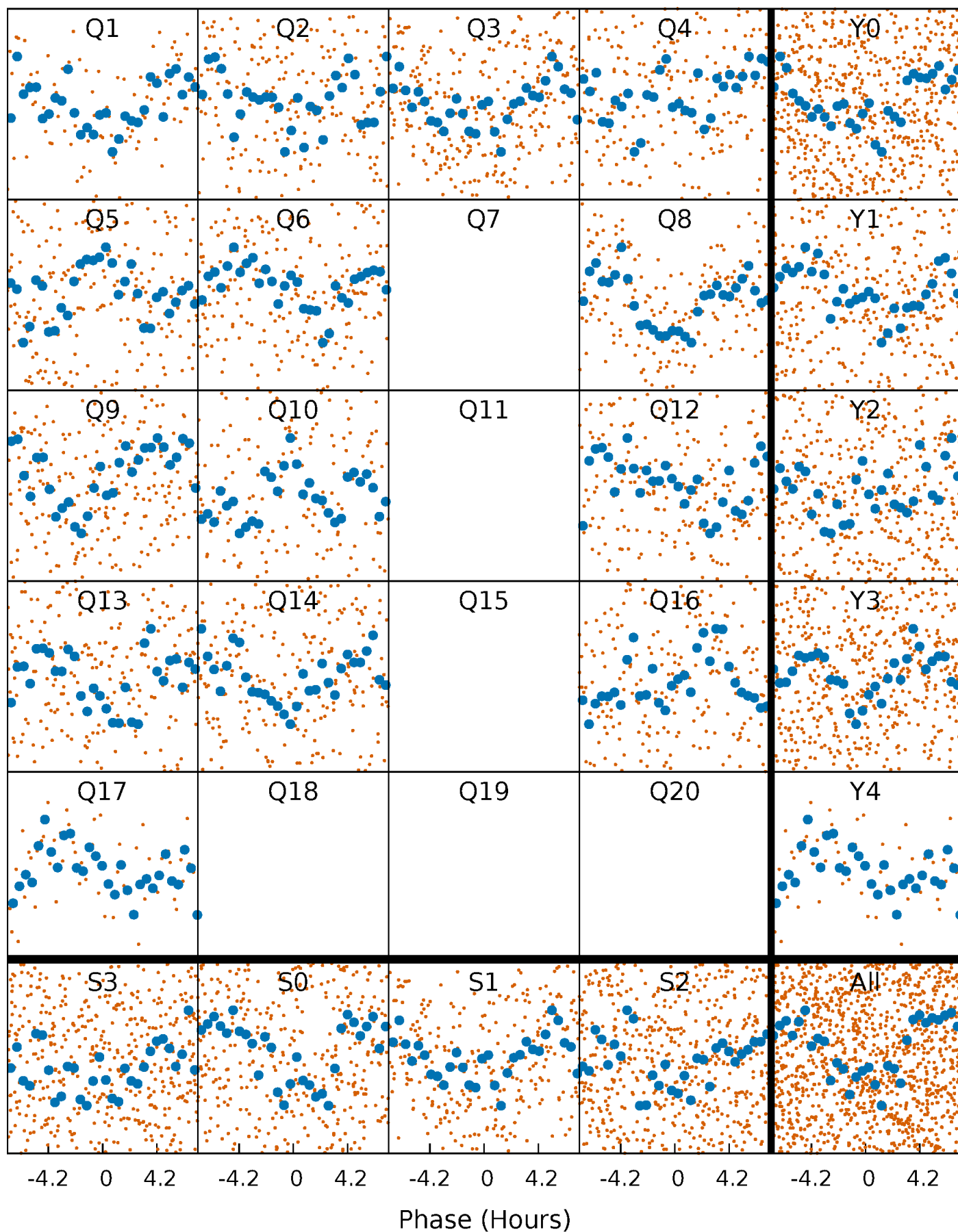


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



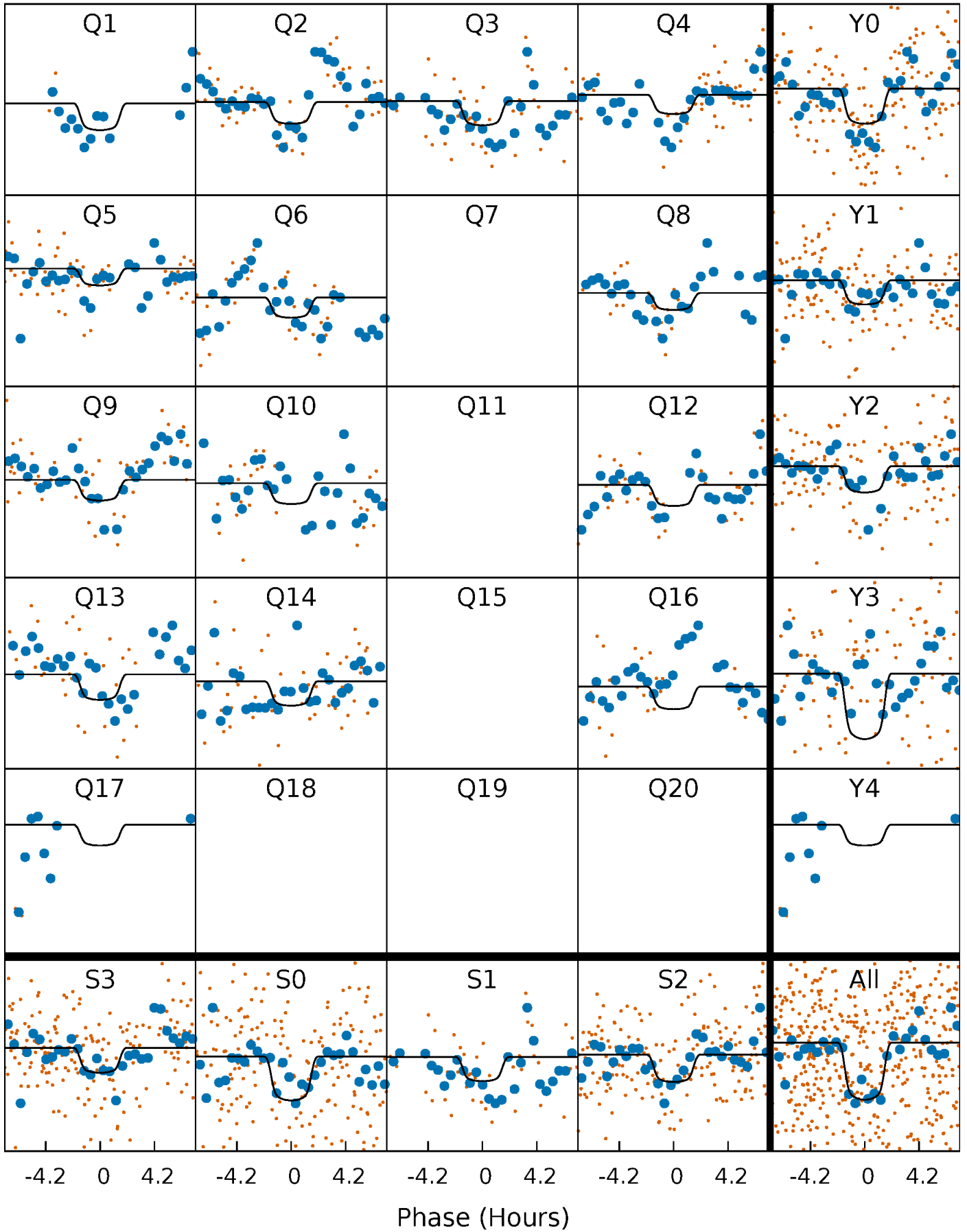
PDC Quarter-Phased Transit Curves

TCE 011153259-06 P= 9.263085 Days $T_0=140.563860$ (BKJD)



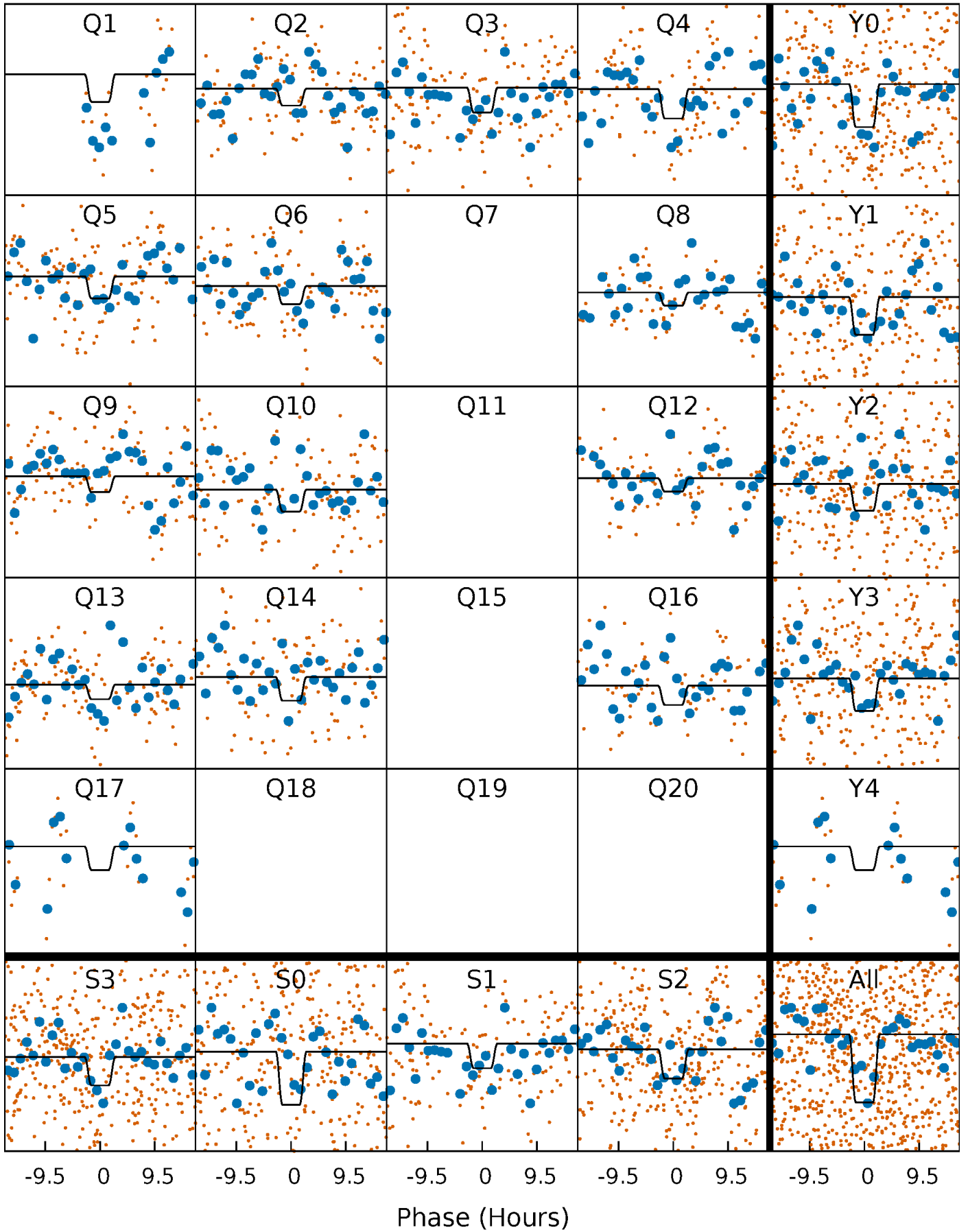
DV Quarter-Phased Transit Curves

TCE 011153259-06 P= 9.263085 Days $T_0=140.563860$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

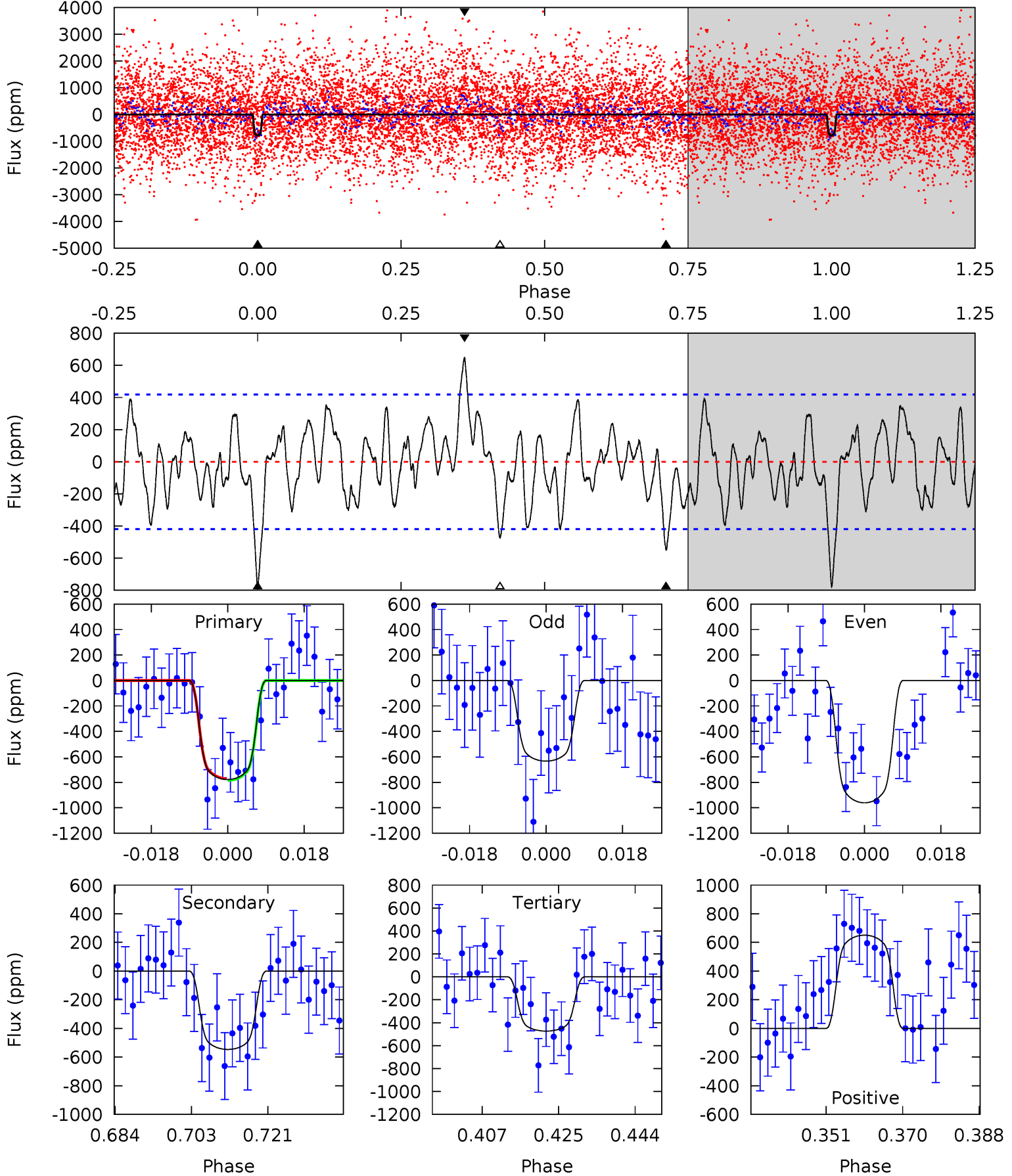
TCE 011153259-06 P= 9.264102 Days $T_0=140.521278$ (BKJD)



DV Model-Shift Uniqueness Test

011153259-06, P = 9.263085 Days, E = 131.300775 Days

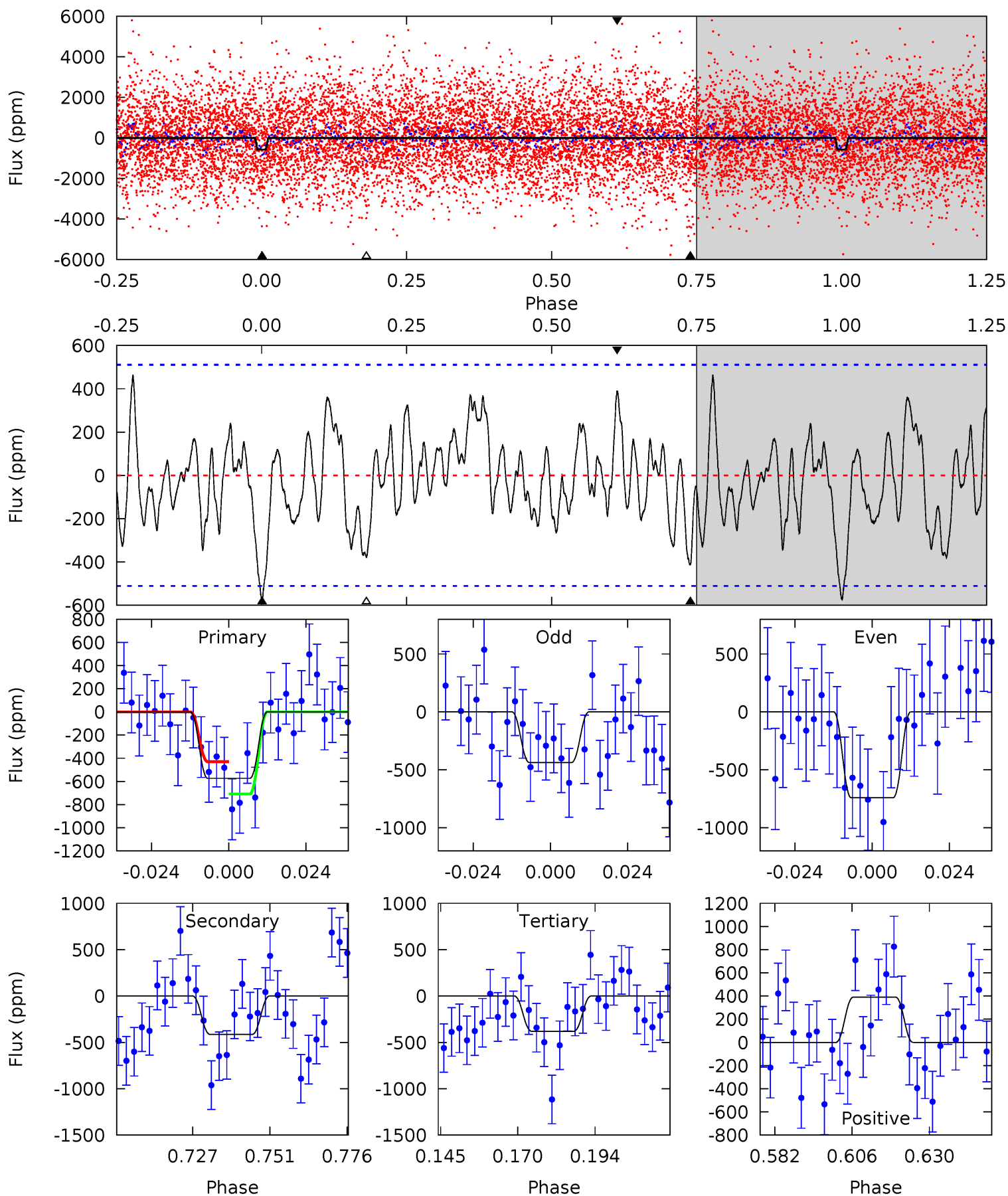
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.11	6.40	5.55	7.62	4.91	2.36	2.24	3.57	1.49	0.86	-1.22	1.91	0.96	0.46	0.07



Alt Model-Shift Uniqueness Test

011153259-06, P = 9.264102 Days, E = 131.257176 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.45	3.94	3.61	3.71	4.85	2.25	1.57	1.84	1.74	0.33	0.23	1.43	2.17	0.45	1.32



Stellar Parameters For KIC 011153259

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7615^{+76}_{-83}	$3.948^{+0.143}_{-0.117}$	$-0.140^{+0.200}_{-0.150}$	$2.318^{+0.452}_{-0.452}$	$1.739^{+0.207}_{-0.156}$	$0.197^{+0.140}_{-0.070}$
	+1%/-1%	+4%/-3%	+143%/-107%	+19%/-19%	+12%/-9%	+71%/-36%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 011153259-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-547 ± 85	$7.64^{+1.87}_{-1.53}$	2211^{+102}_{-105}	6523^{+803}_{-605}	55^{+31}_{-20}
Alt.	-415 ± 105	$7.17^{+1.62}_{-1.55}$	2212^{+108}_{-108}	6354^{+828}_{-699}	49^{+32}_{-20}

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 $A_{obs} \gg 1.0$

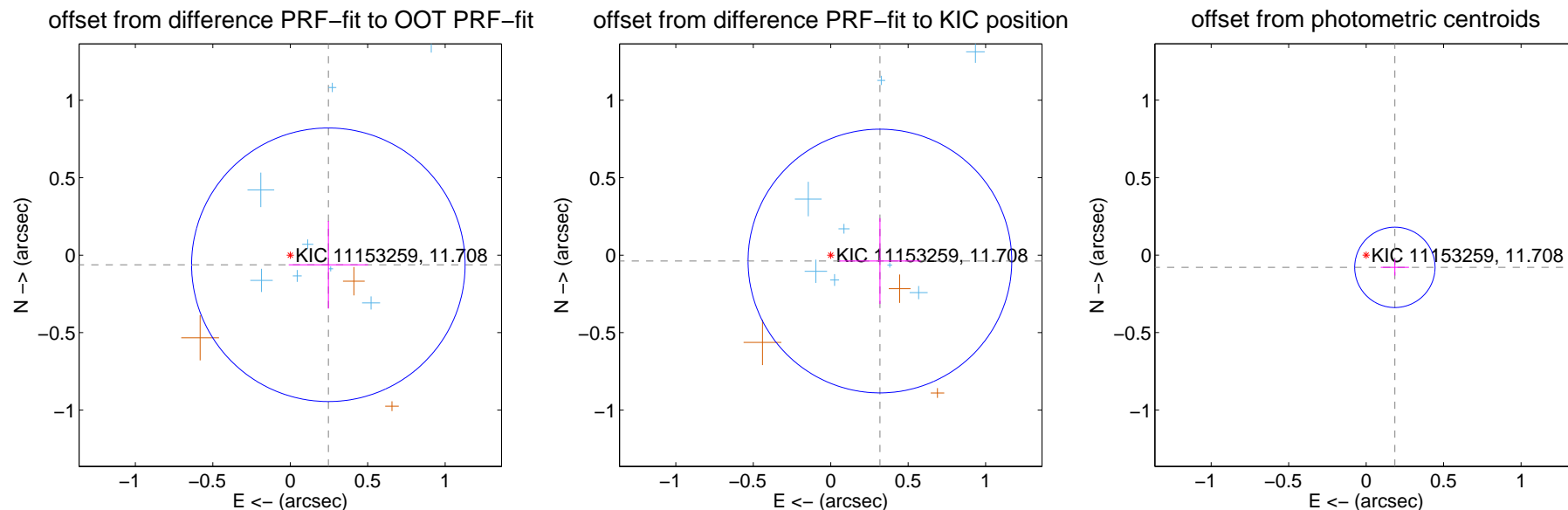
DV Centroid Data

Supplemental centroid analysis for 011153259-06. **Kepler magnitude: 11.71.** Transit SNR 9.01

There are 8 quarters with good PRF difference image offsets

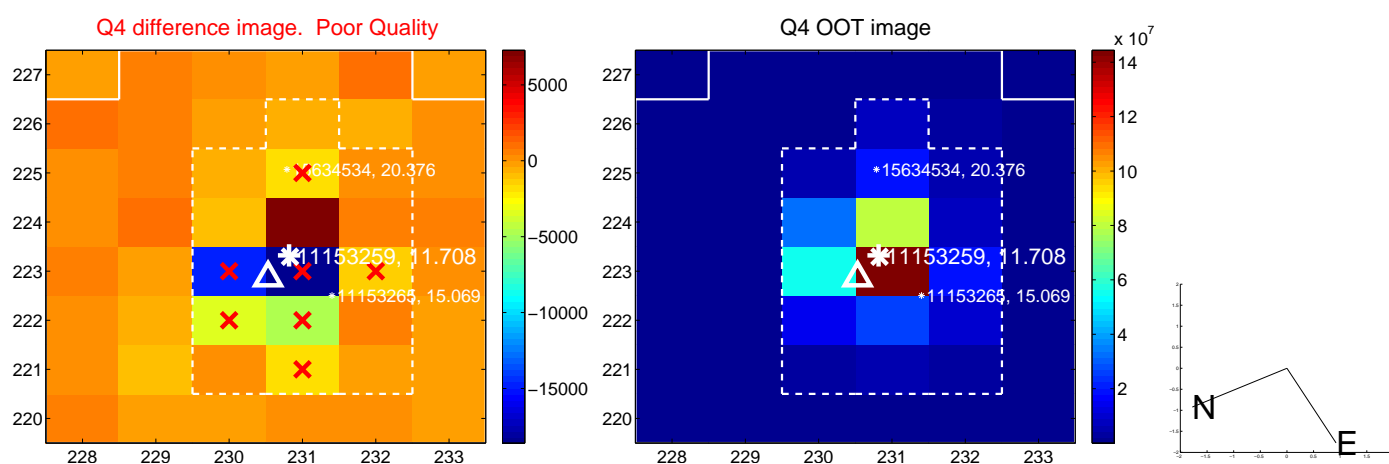
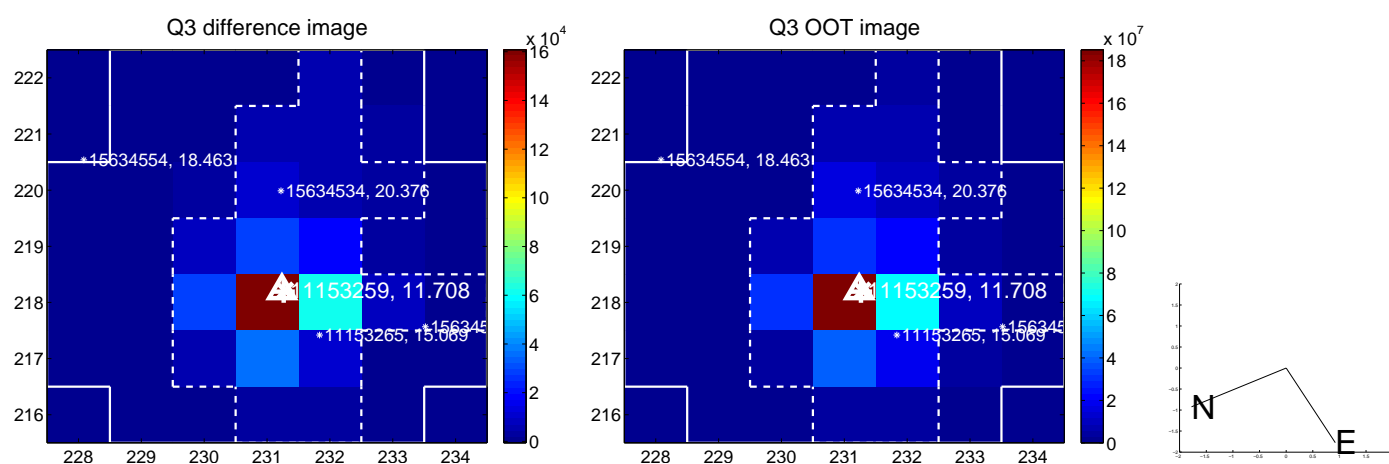
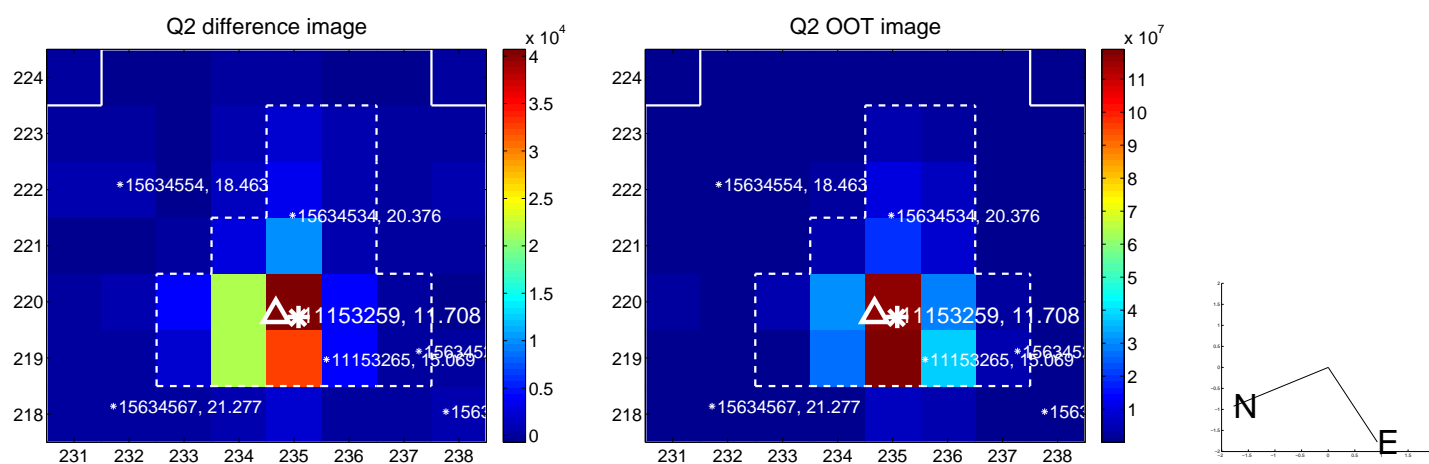
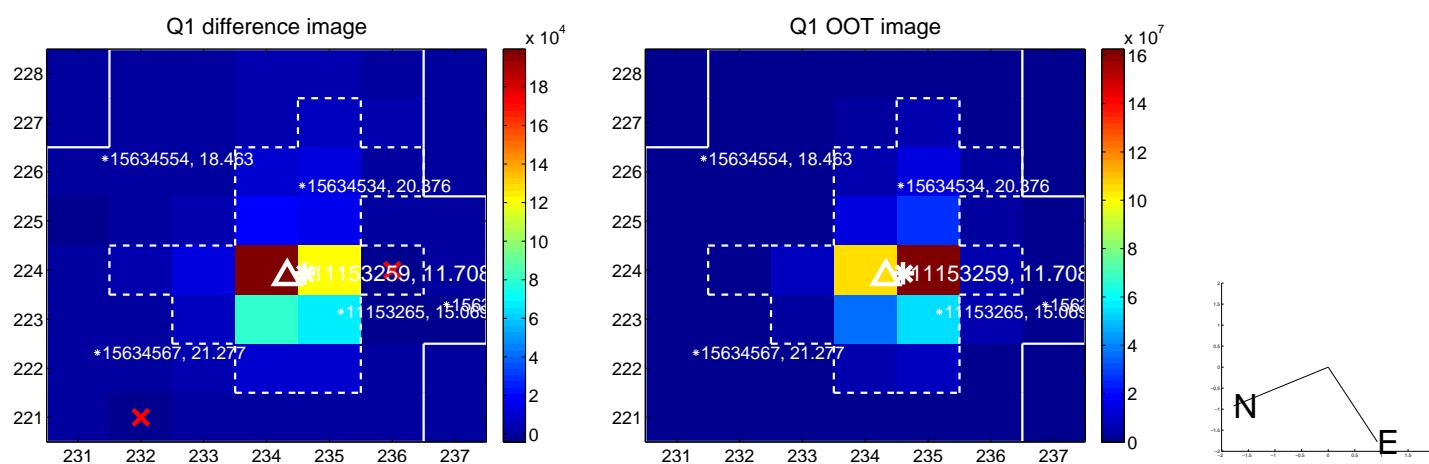
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.254 ± 0.294	0.86	-0.246 ± 0.256	-0.062 ± 0.283
PRF-fit source offset from KIC position	0.320 ± 0.284	1.13	-0.318 ± 0.263	-0.038 ± 0.276
photometric centroid source offset	0.20 ± 0.09	2.33	-0.19 ± 0.09	-0.08 ± 0.05

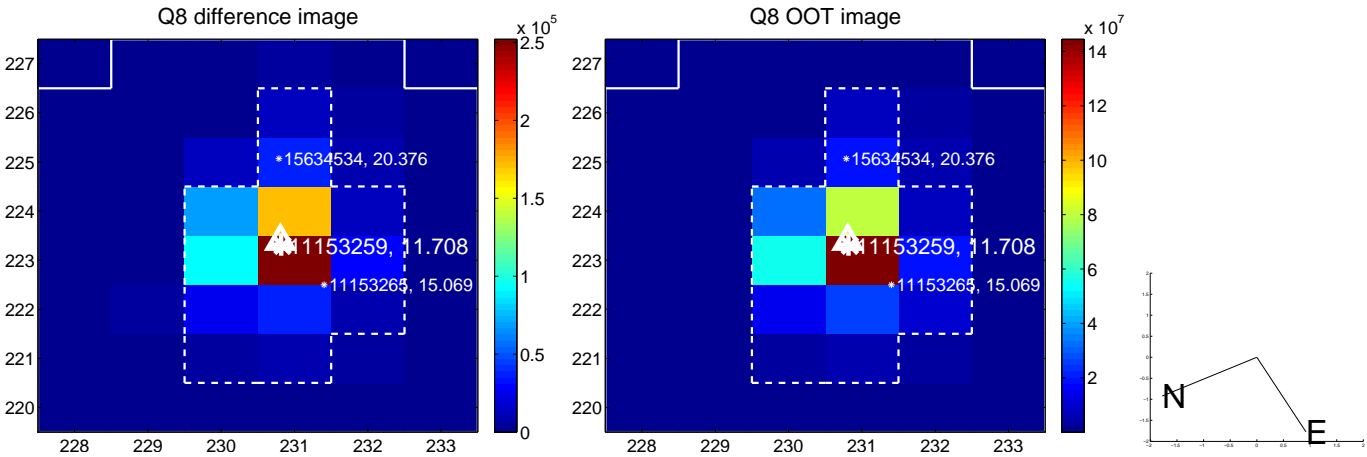
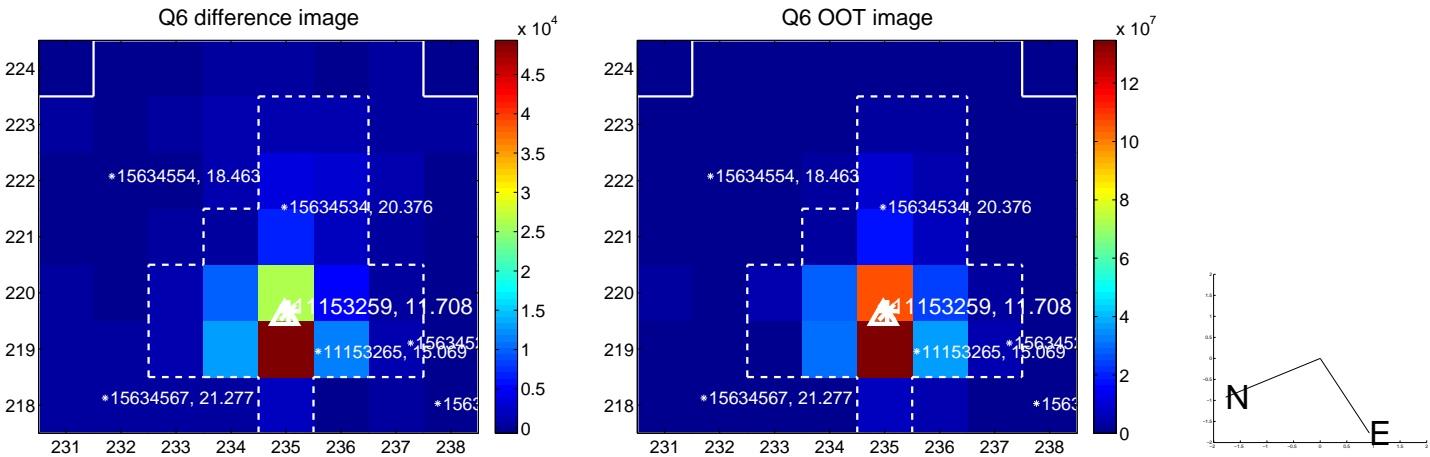
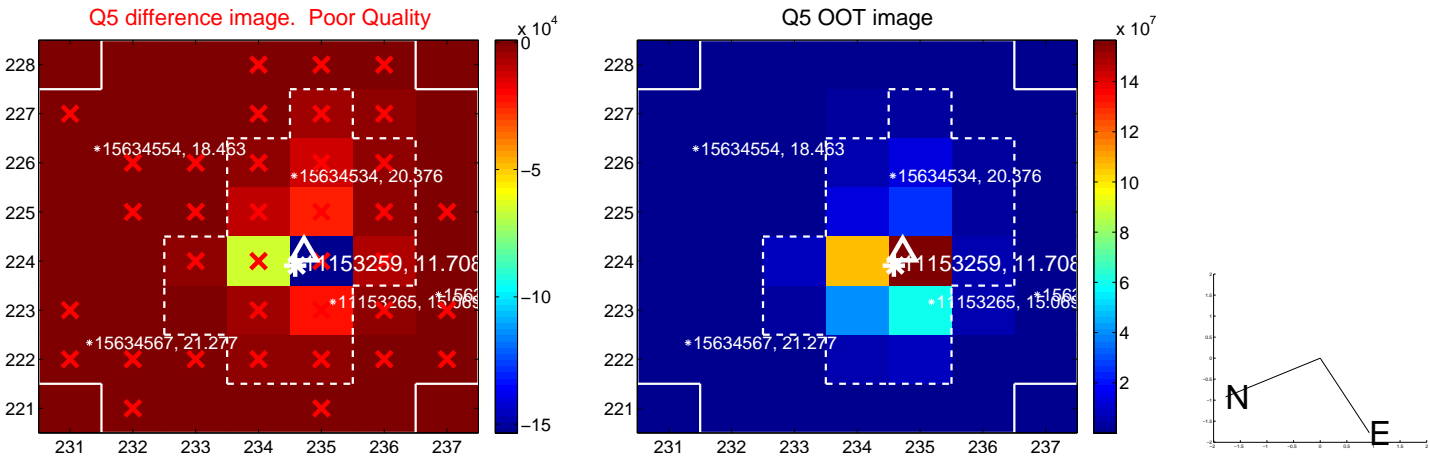


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

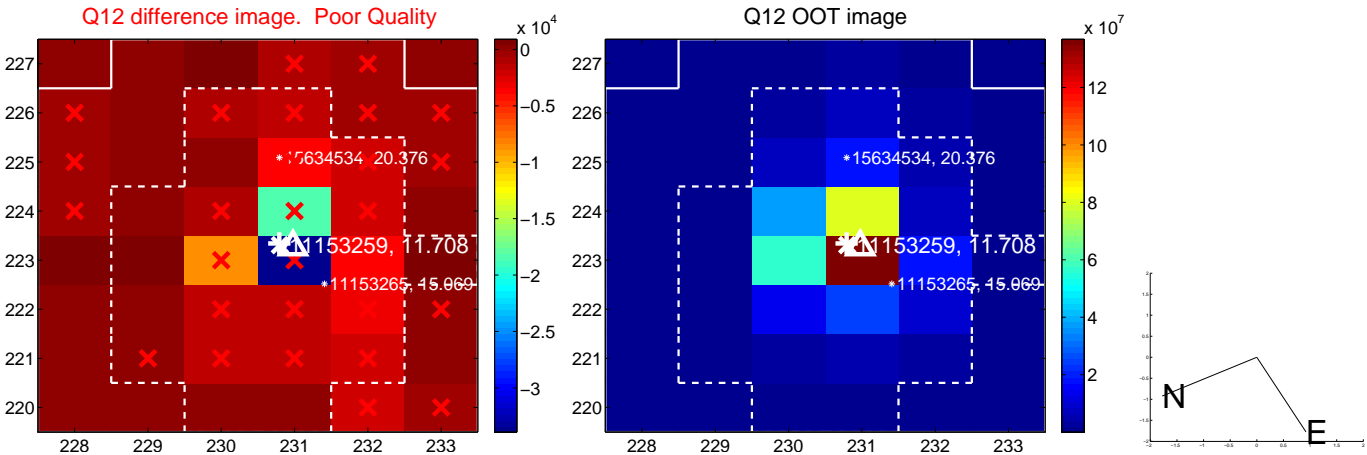
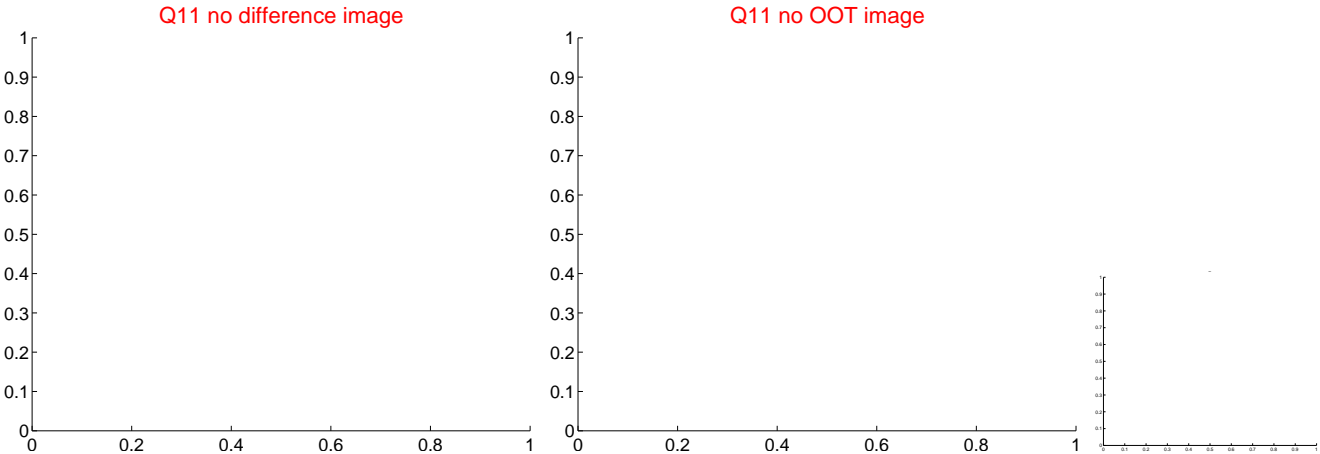
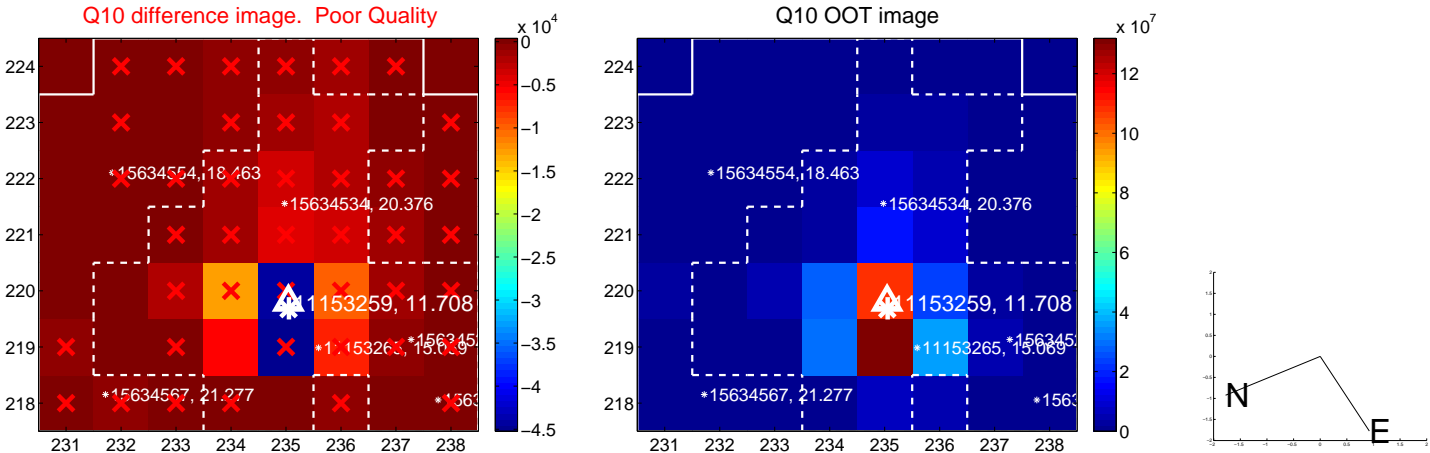
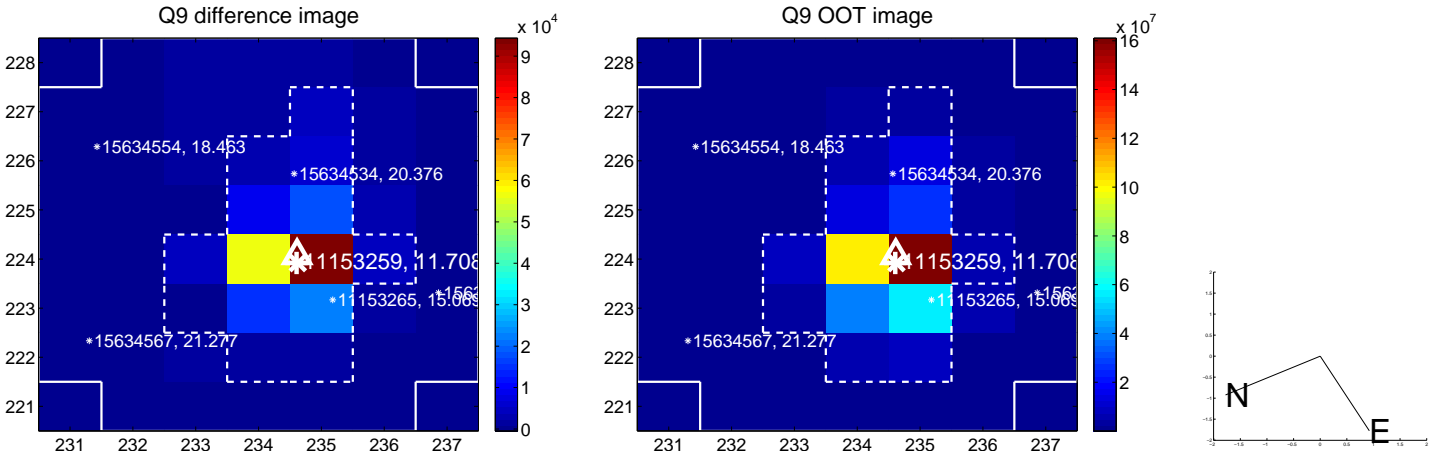
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



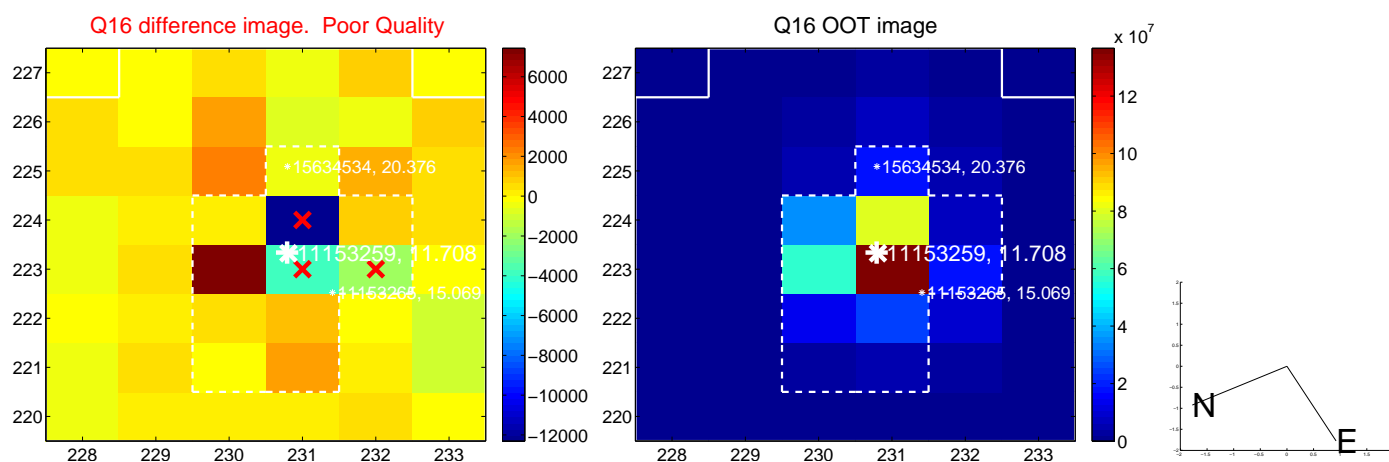
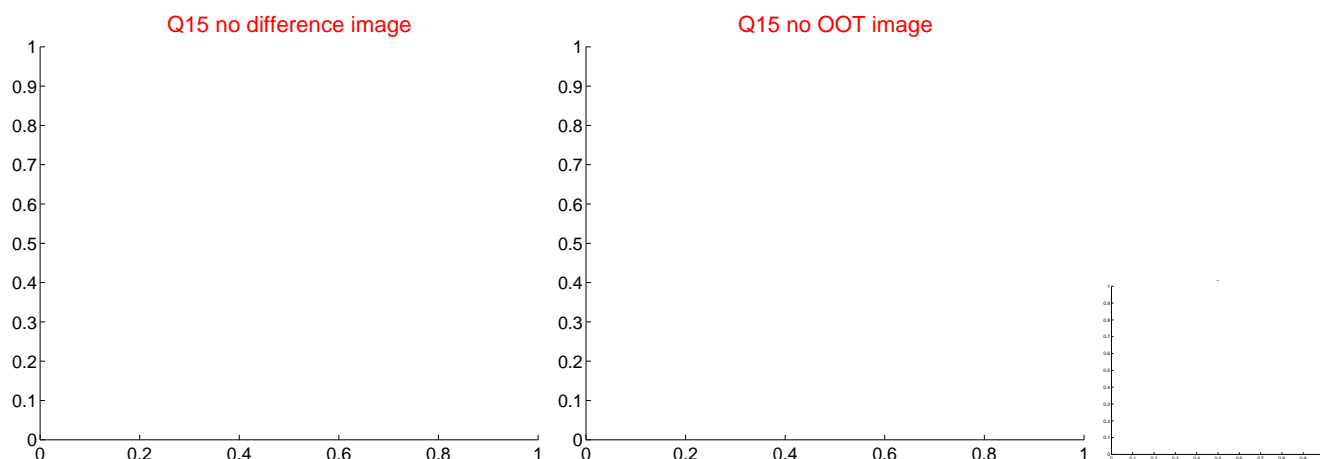
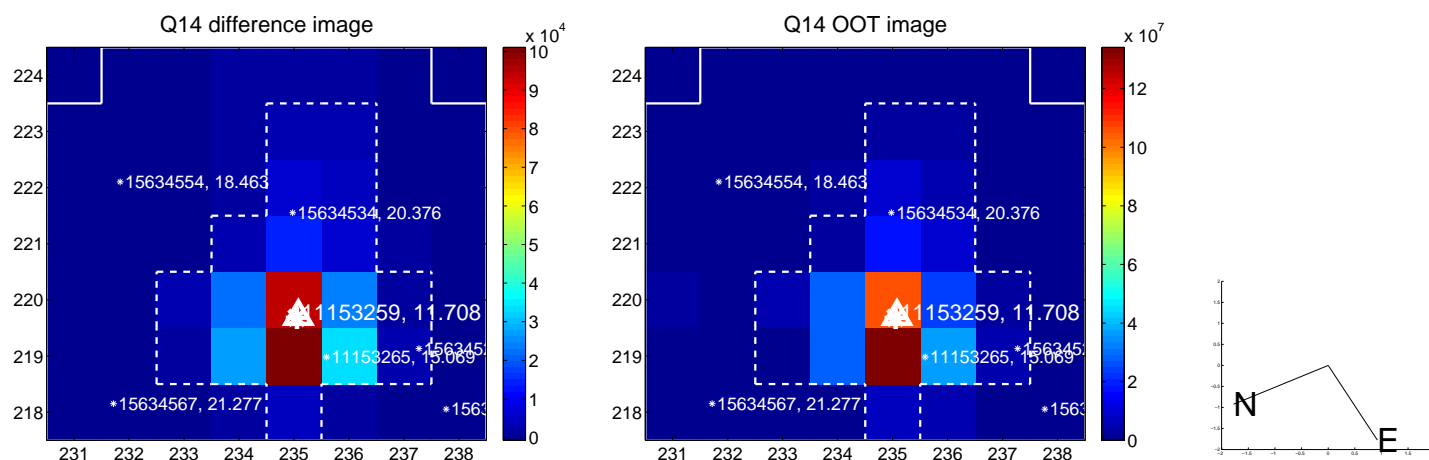
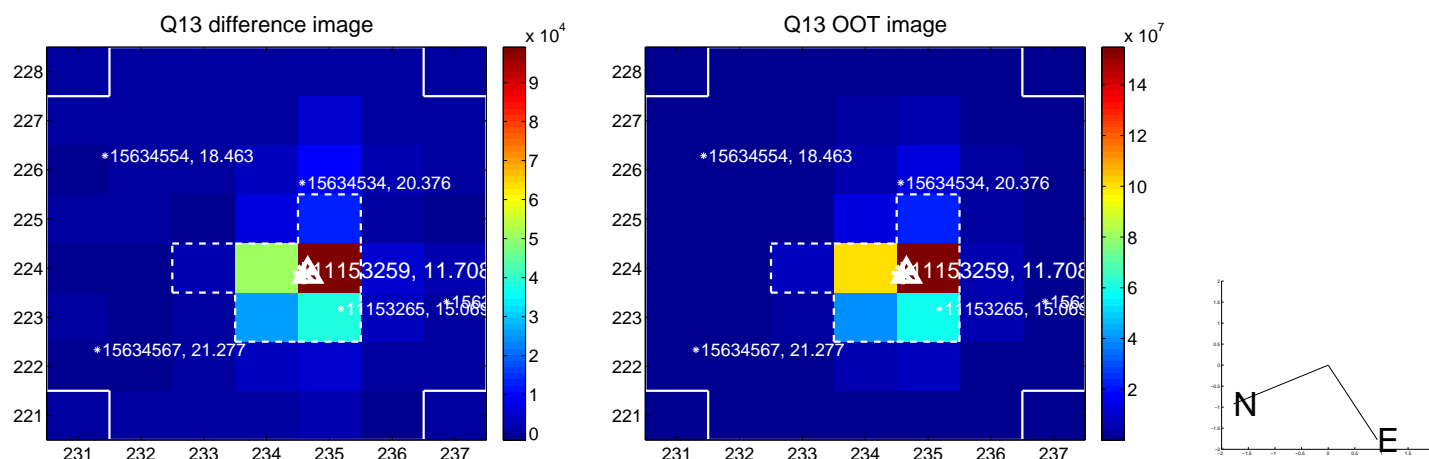
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



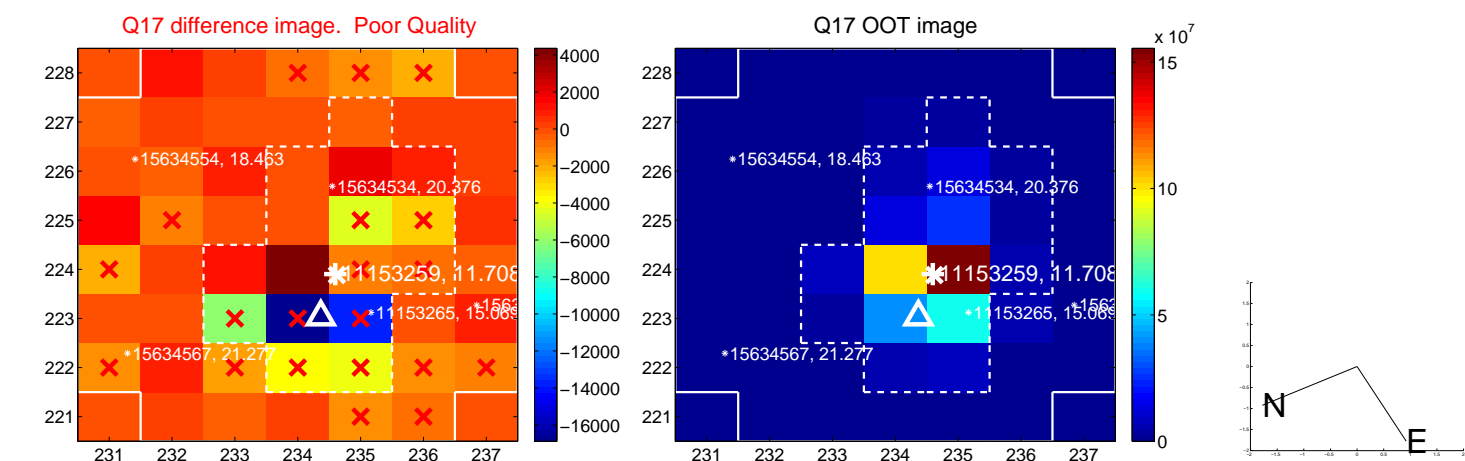
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



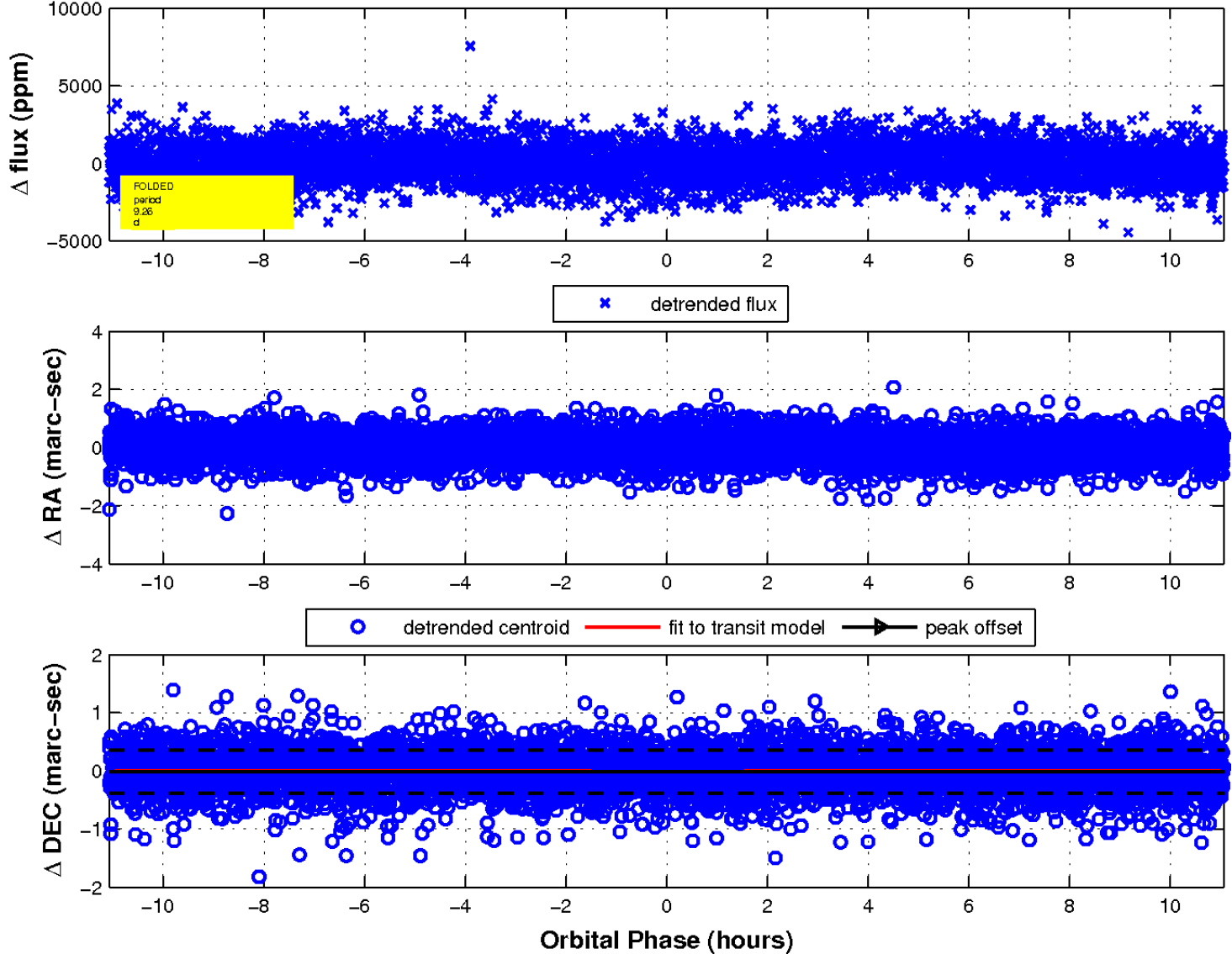
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 6 of 6



UKIRT Image

Declination

