

KIC 006542751

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})
006542751-01	OBS	No	0.726154	132.125483	44.0	3.092	14.6	12.4	2.81	6068	2.19	32353.49
006542751-02	OBS	No	0.726145	131.623736	34.8	2.037	9.3	7.7	2.81	6068	1.85	32354.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006542751-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
006542751-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD

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

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

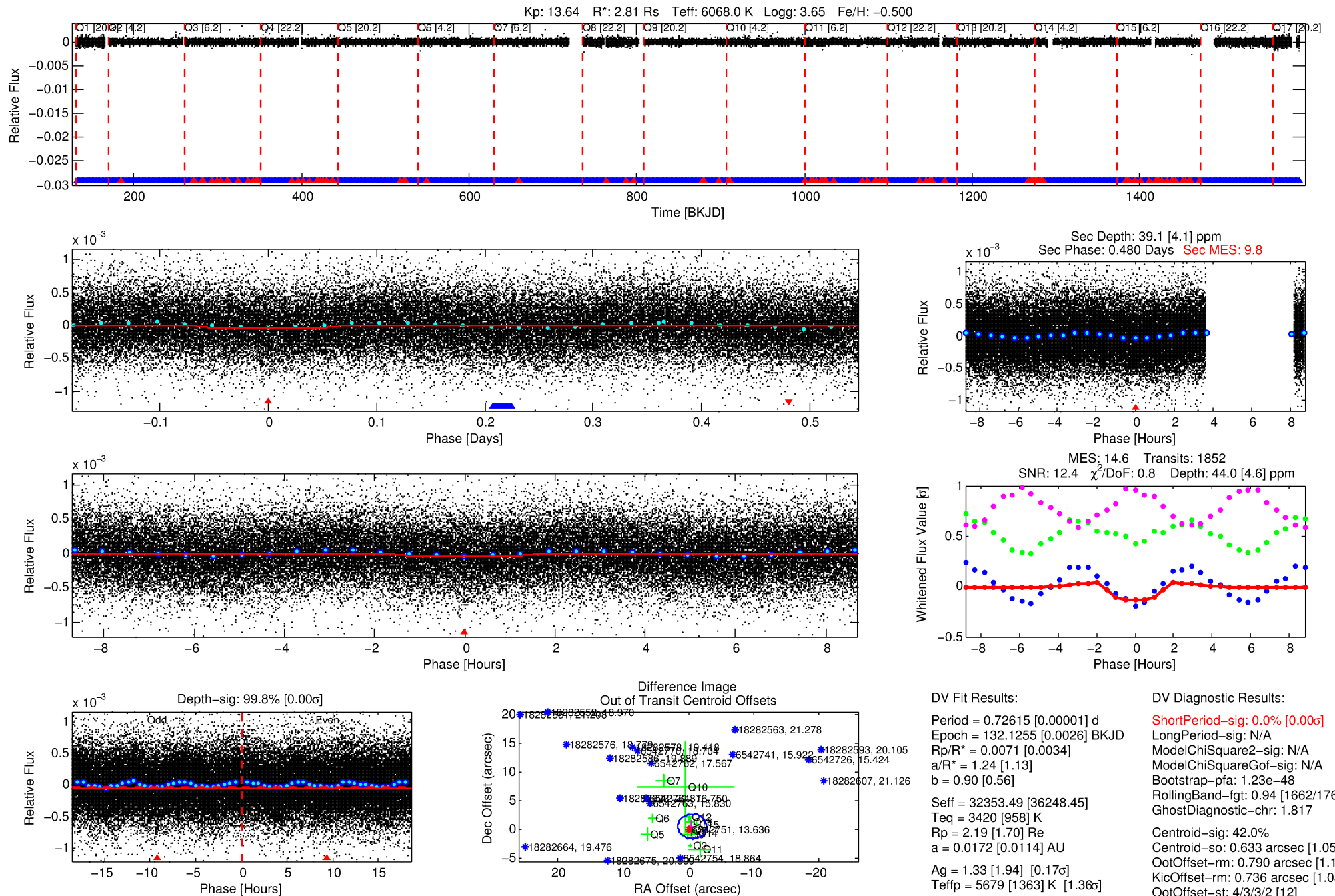
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006542751-01

No Significant Match Found

DV One-Page Summary

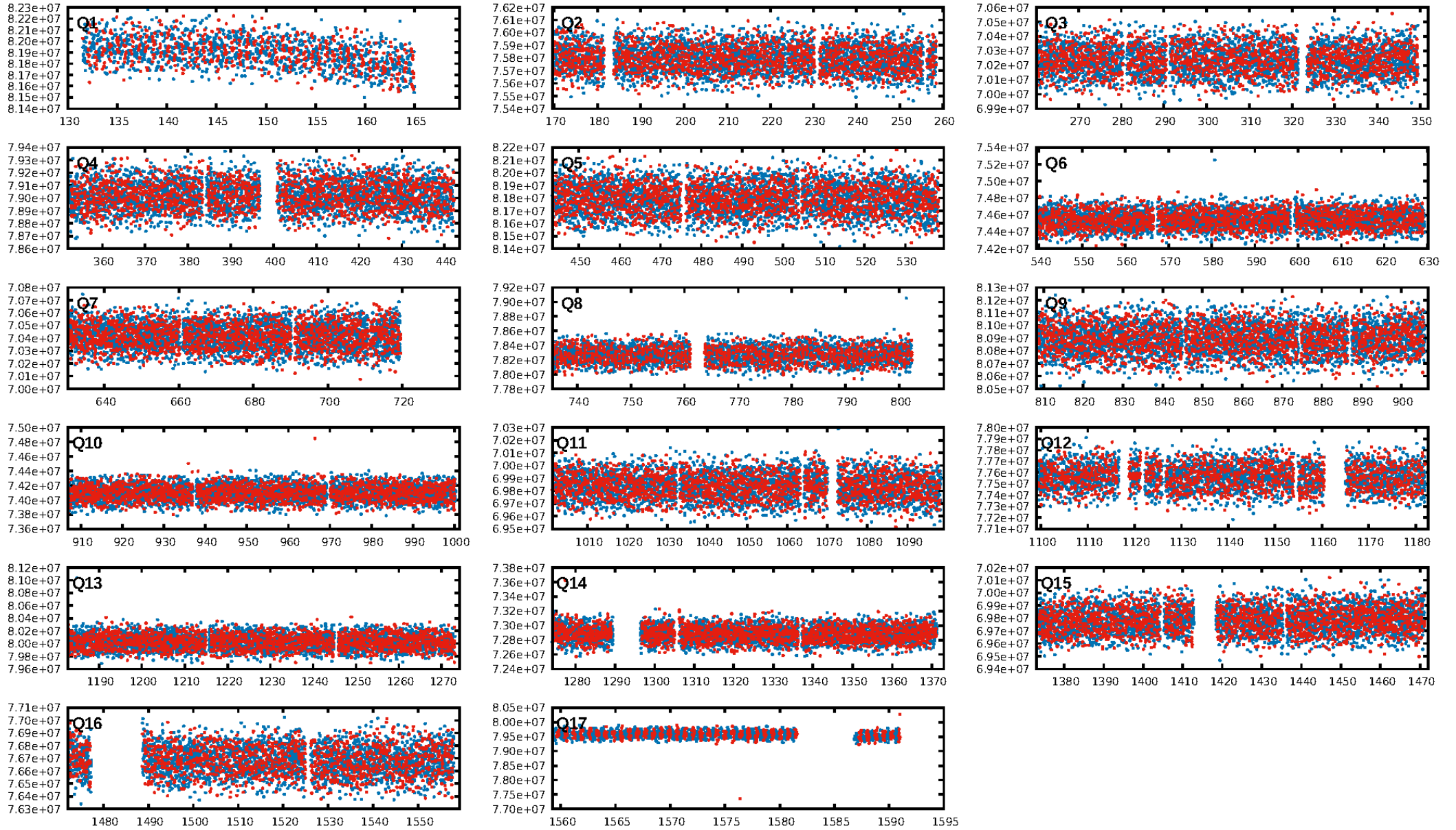
KIC: 6542751 Candidate: 1 of 2 Period: 0.726 d



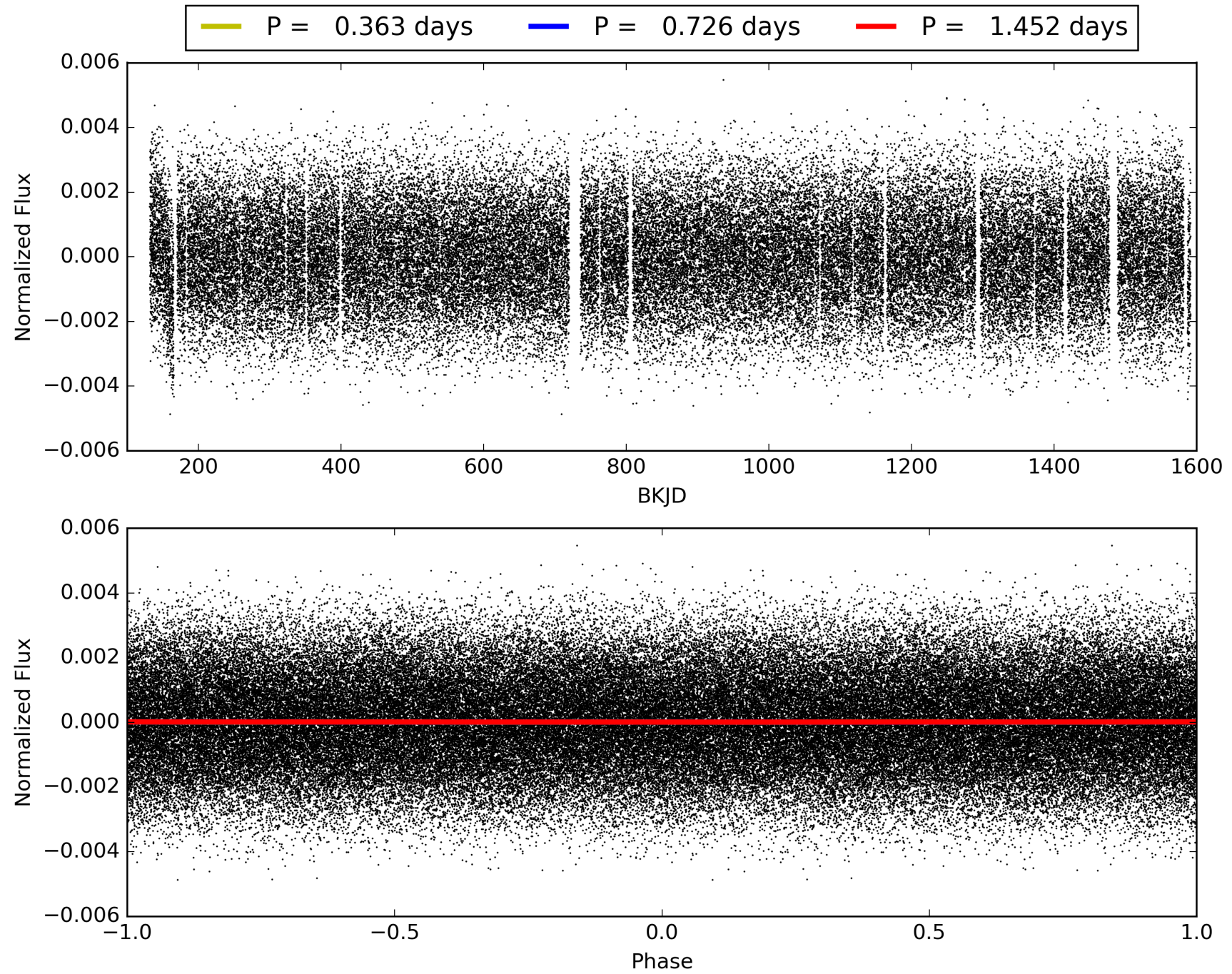
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:13:35 Z

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

TCE 006542751-01, PDC Light Curves

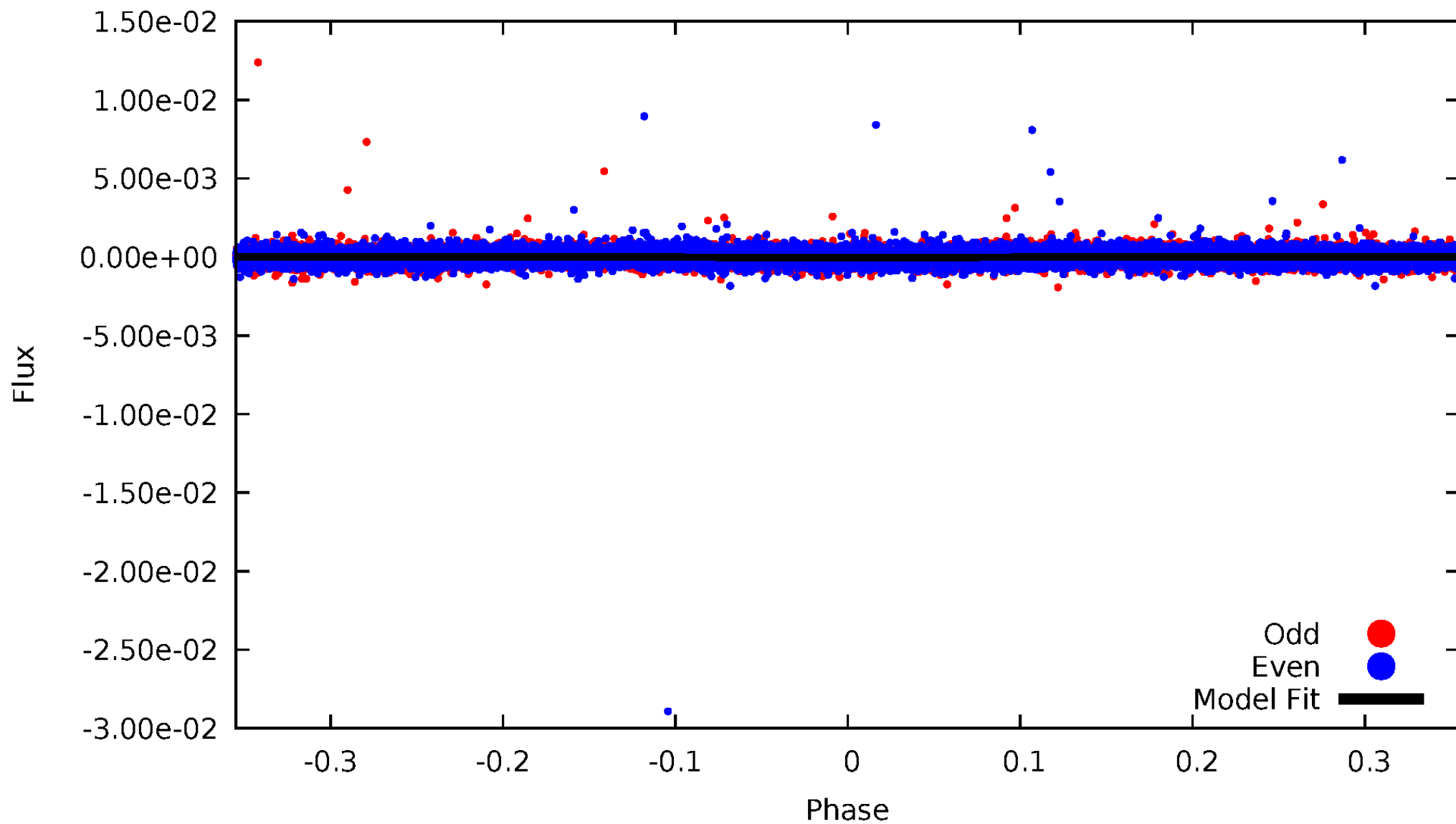


TCE 006542751-01



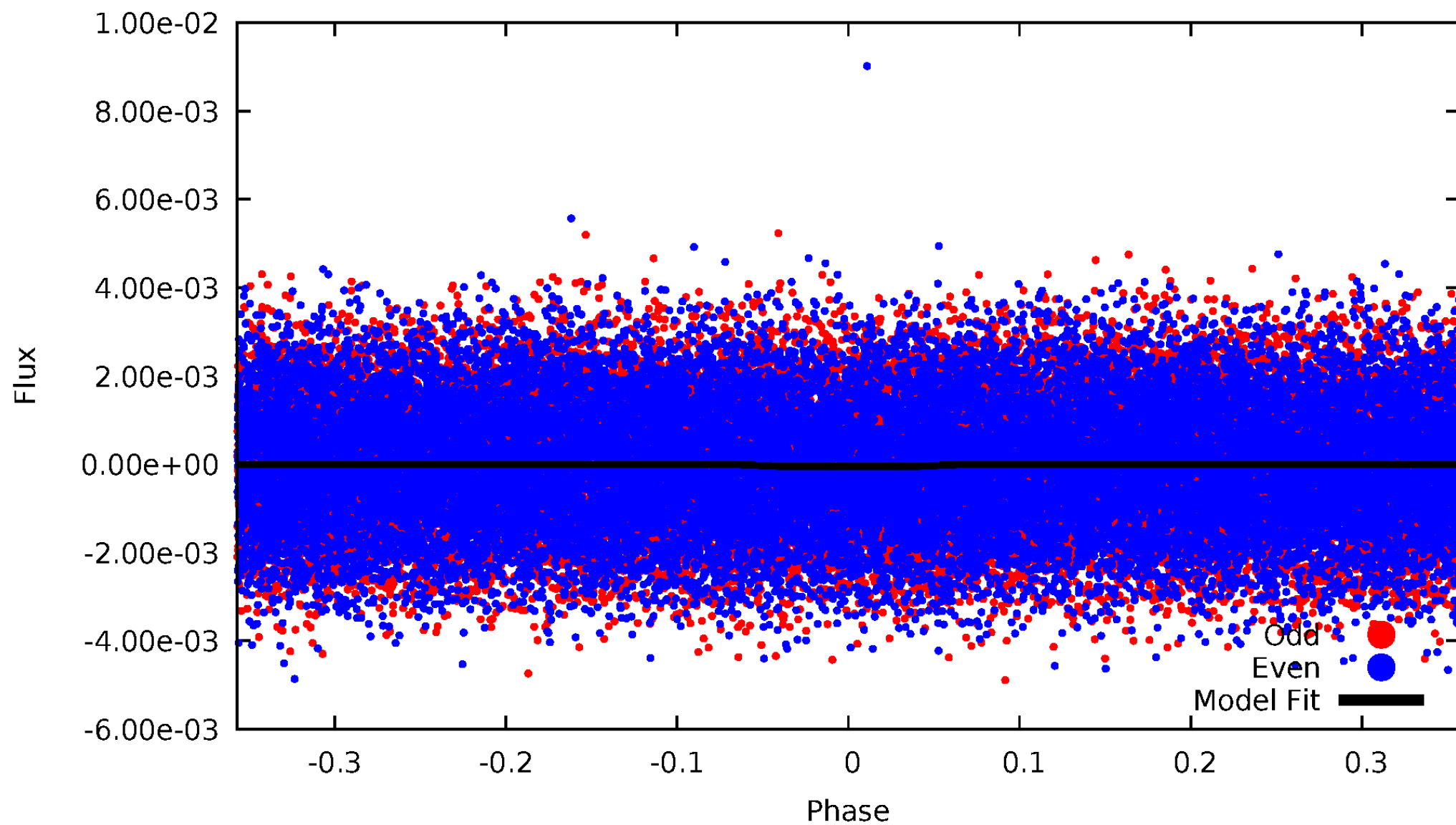
DV Odd/Even

TCE 006542751-01



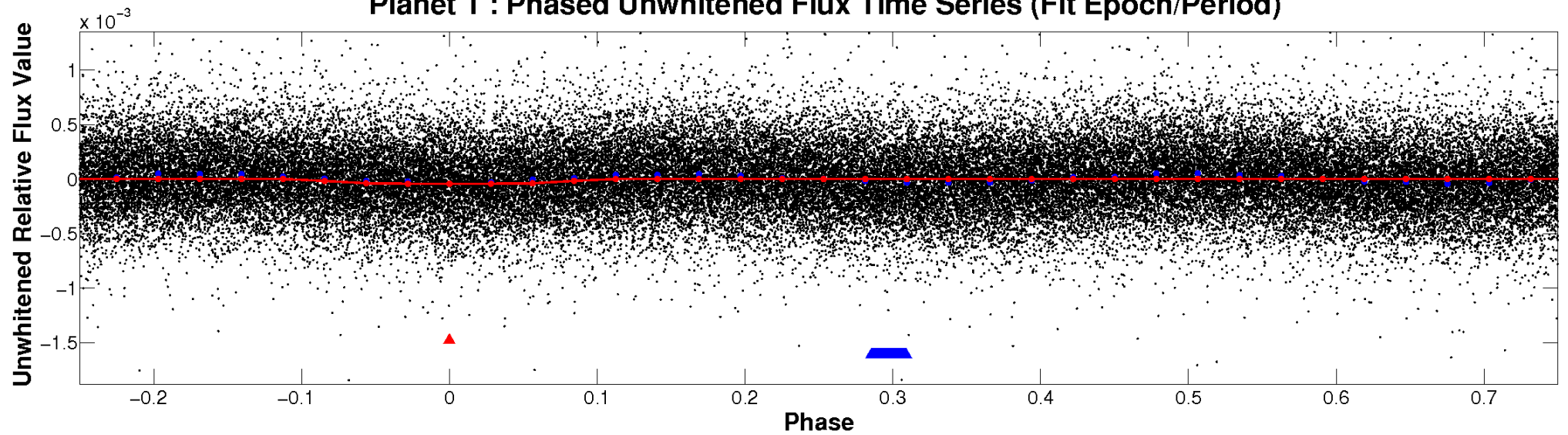
ALT Odd/Even

TCE 006542751-01

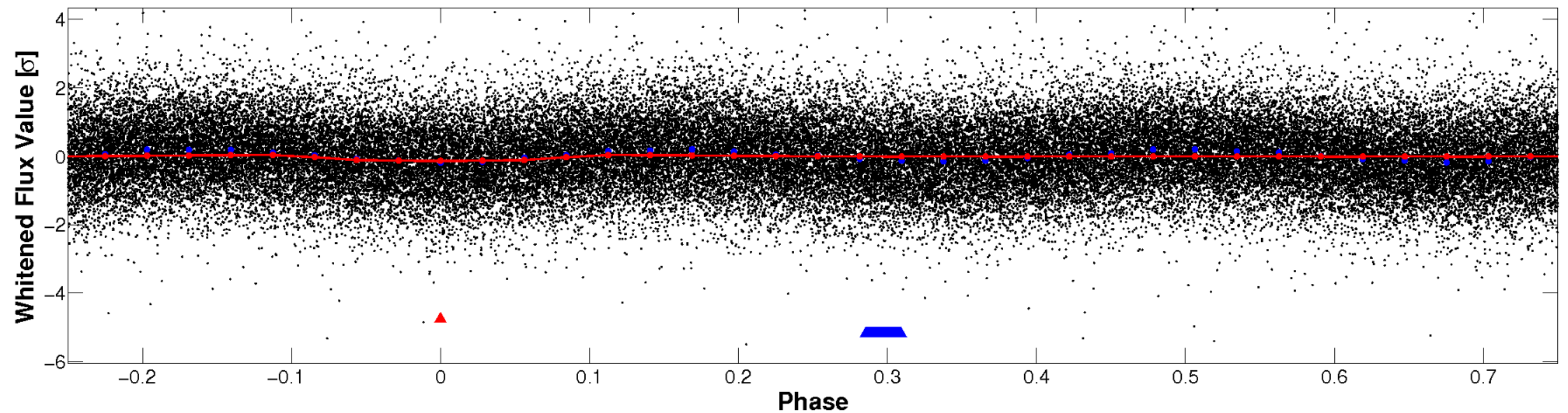


Non-Whitened Vs. Whitened Light Curve

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

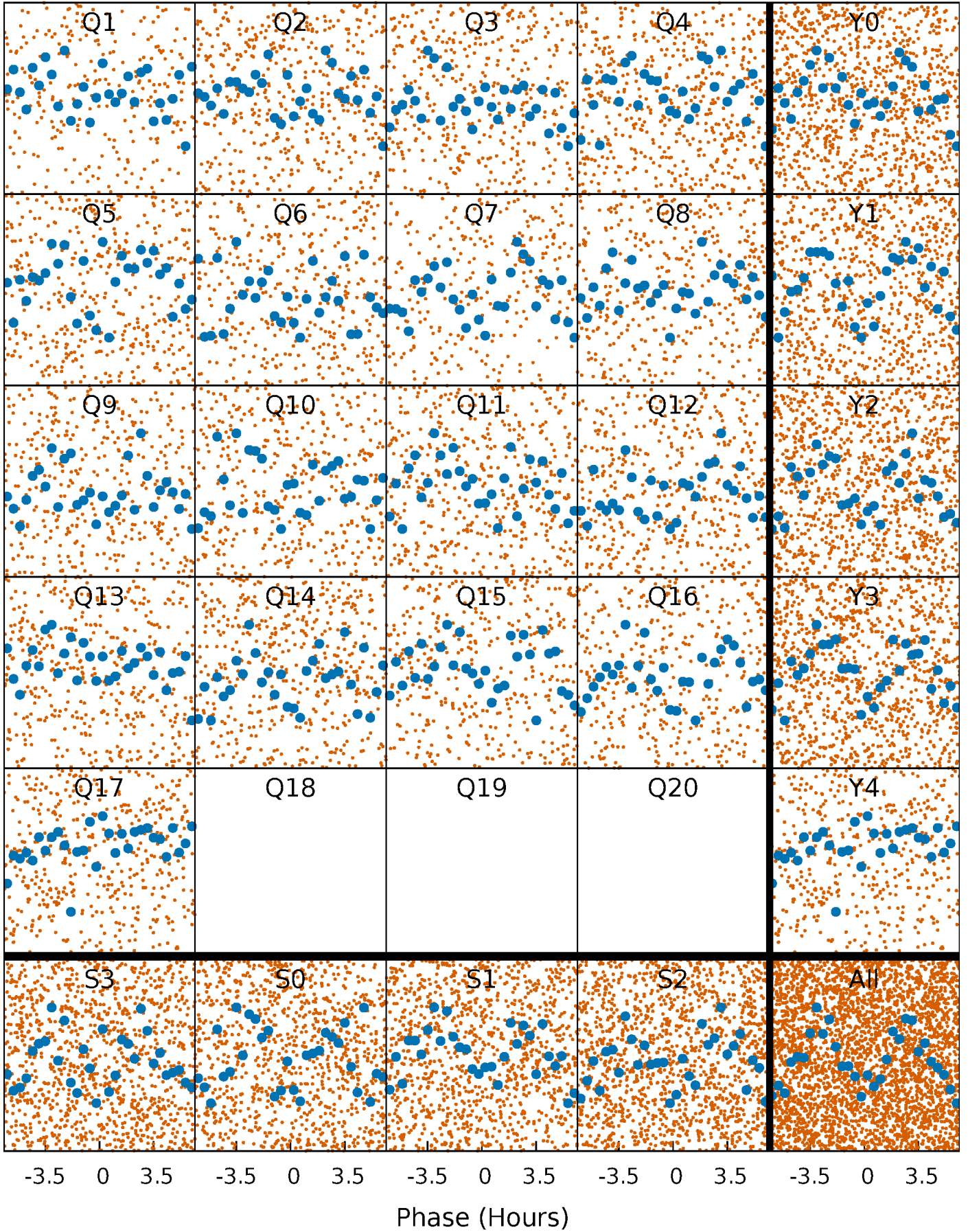


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



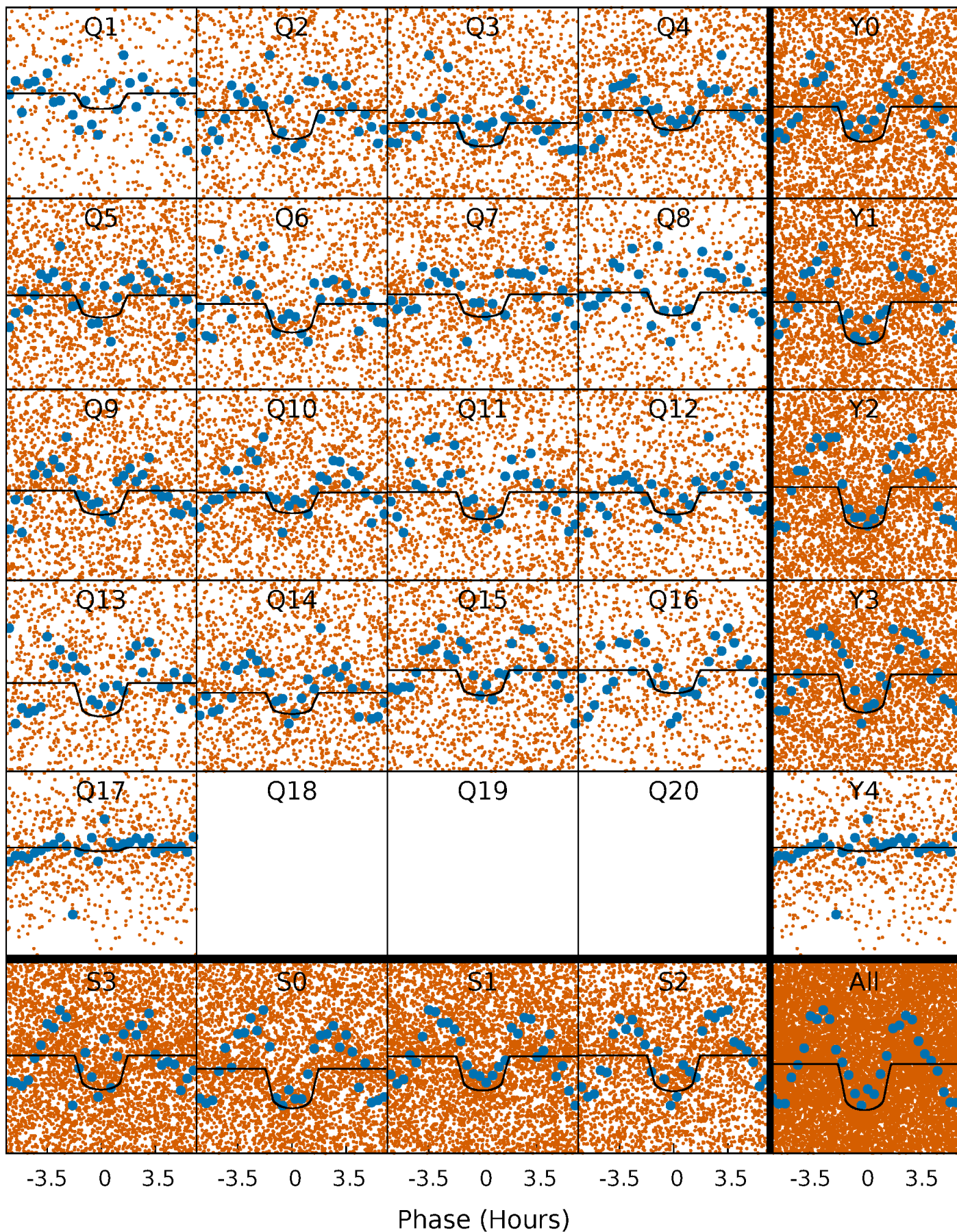
PDC Quarter-Phased Transit Curves

TCE 006542751-01 P= 0.726154 Days $T_0=132.125484$ (BKJD)



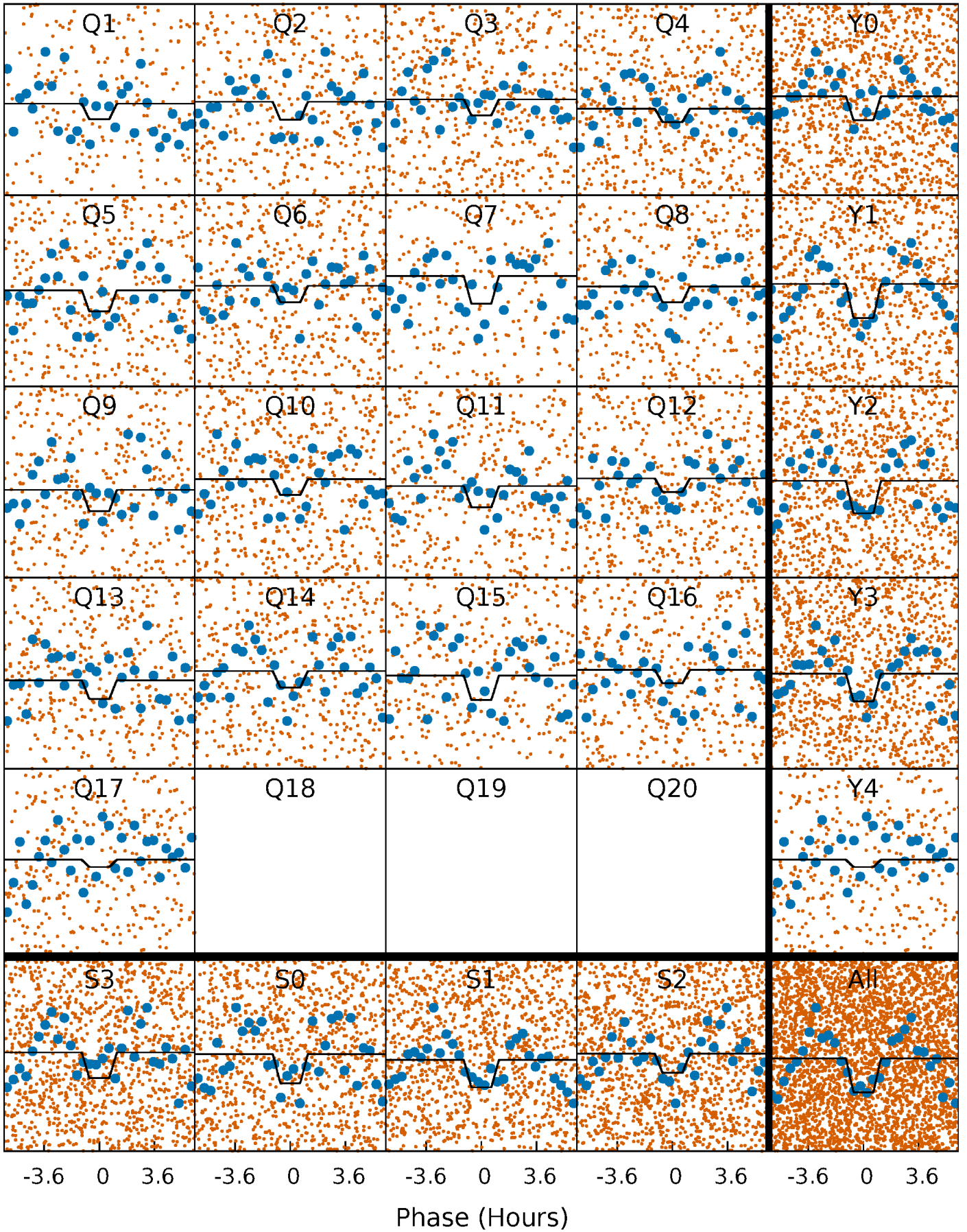
DV Quarter-Phased Transit Curves

TCE 006542751-01 P= 0.726154 Days $T_0=132.125484$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

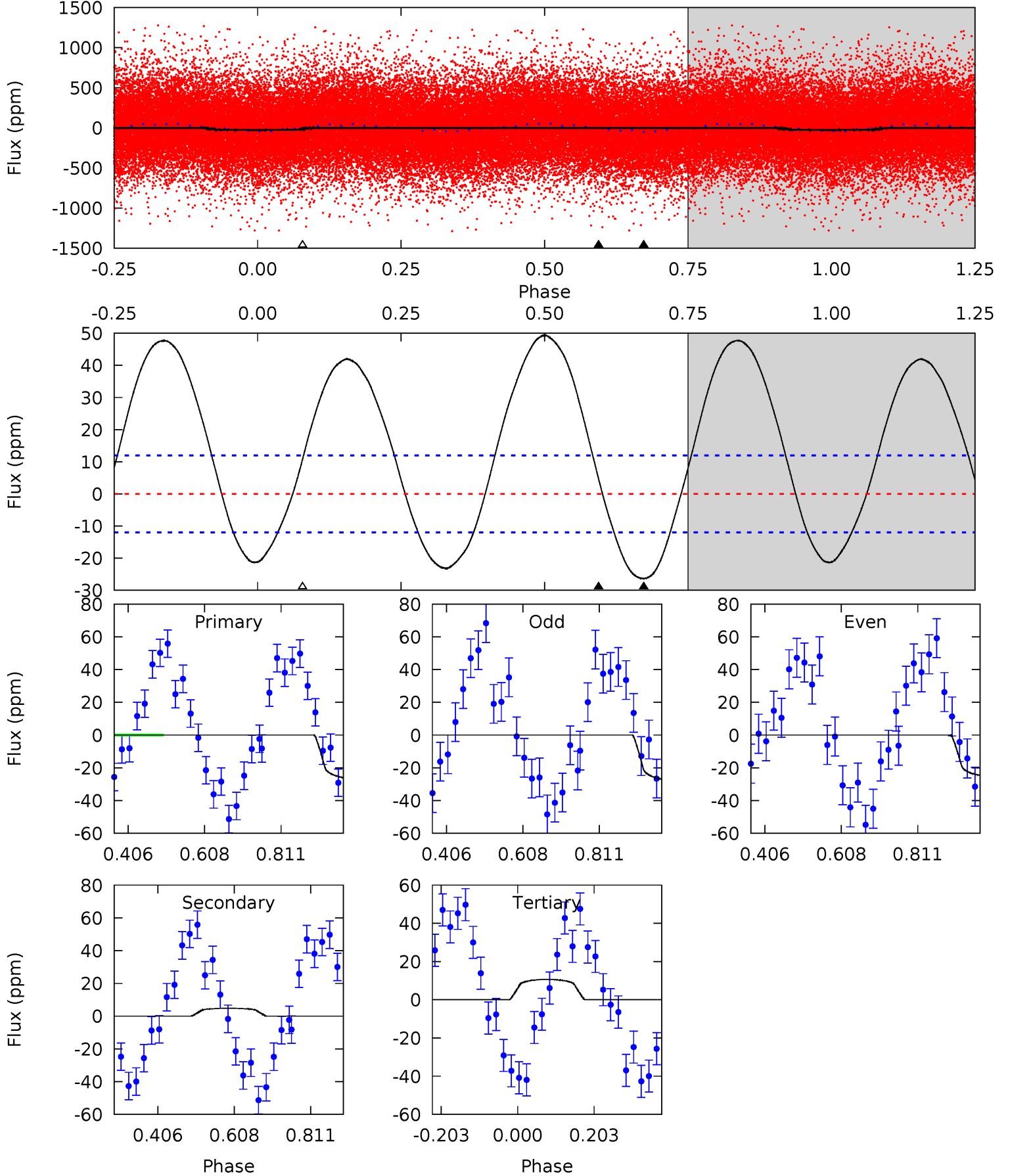
TCE 006542751-01 P= 0.726156 Days $T_0=132.125658$ (BKJD)



DV Model-Shift Uniqueness Test

006542751-01, P = 0.726154 Days, E = 131.399330 Days

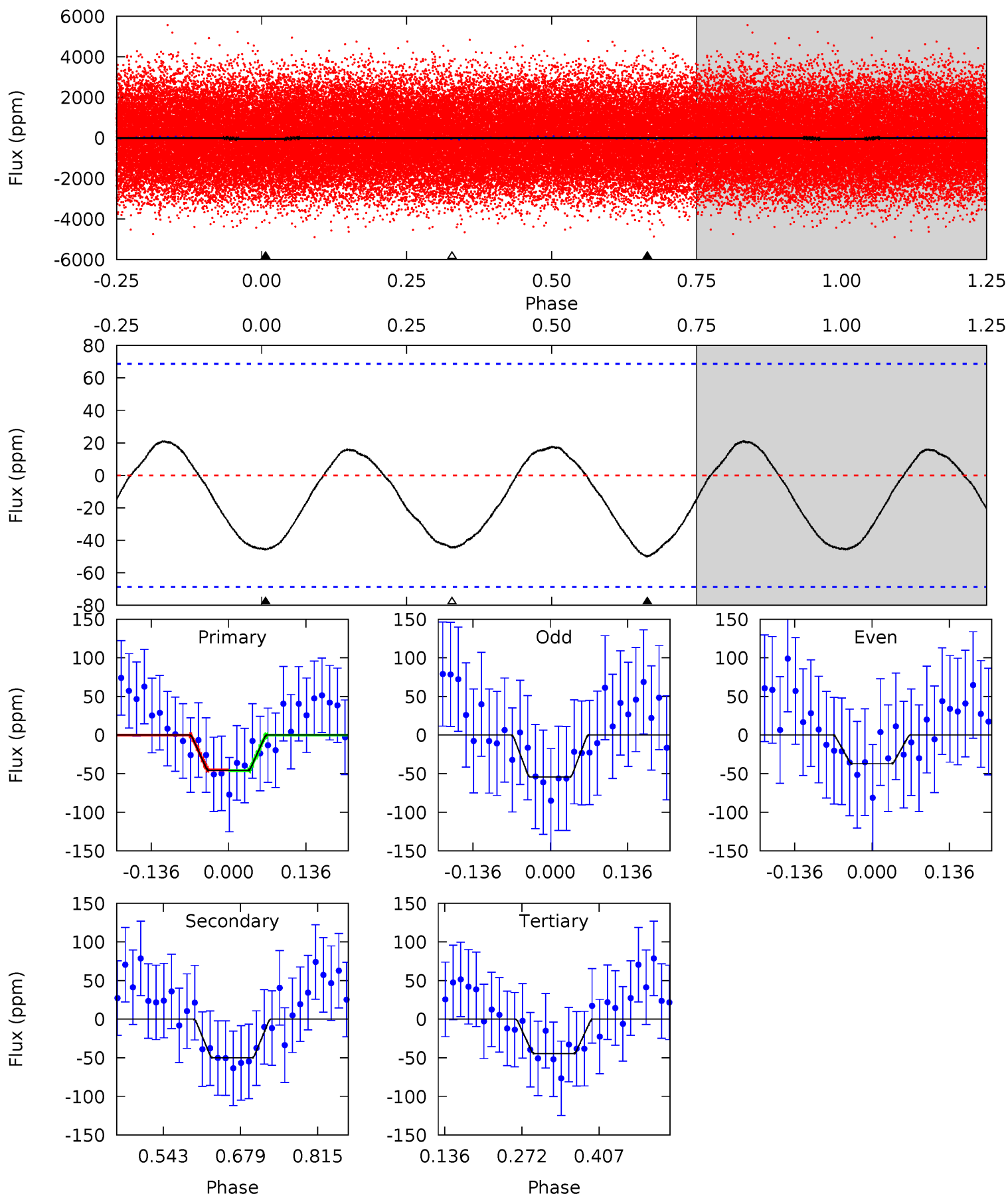
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.72	-1.76	-3.92	0	4.41	1.27	8.25	13.6	9.72	2.16	-1.76	0.44	0.80	0.65	0.56



Alt Model-Shift Uniqueness Test

006542751-01, P = 0.726156 Days, E = 131.399502 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.99	3.28	2.92	0	4.50	1.49	1.50	0.08	2.99	0.36	3.28	0.57	1.09	0.30	0.03



Stellar Parameters For KIC 006542751

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6068^{+220}_{-183}	$3.652^{+0.672}_{-0.126}$	$-0.500^{+0.300}_{-0.250}$	$2.814^{+0.622}_{-1.741}$	$1.296^{+0.178}_{-0.416}$	$0.082^{+1.032}_{-0.035}$
	+4%/-3%	+18%/-3%	+60%/-50%	+22%/-62%	+14%/-32%	+1260%/-43%
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 006542751-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	5 ± 3	$1.89^{+1.18}_{-0.99}$	4637^{+424}_{-753}	-4494^{+419}_{-657}	$-0.195^{+0.141}_{-0.762}$
Alt.	-50 ± 15	$1.93^{+1.24}_{-0.97}$	4684^{+380}_{-705}	5785^{+2540}_{-1268}	$2.177^{+6.043}_{-1.385}$

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)
 A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

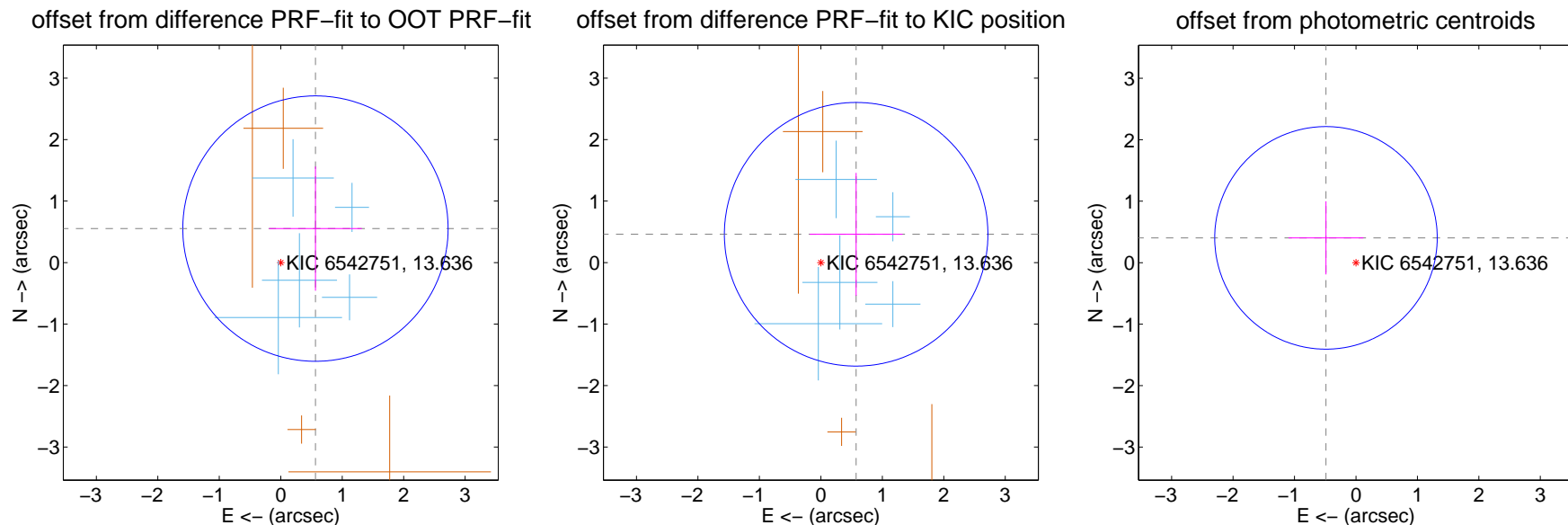
DV Centroid Data

Supplemental centroid analysis for 006542751-01. Kepler magnitude: 13.64. Transit SNR 12.44

There are 5 quarters with good PRF difference image offsets

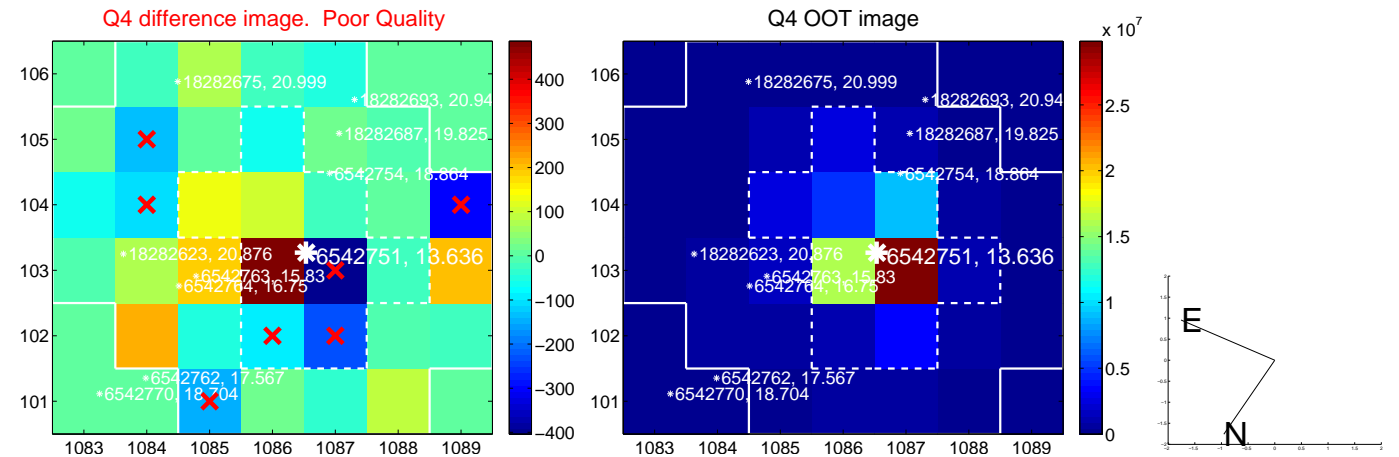
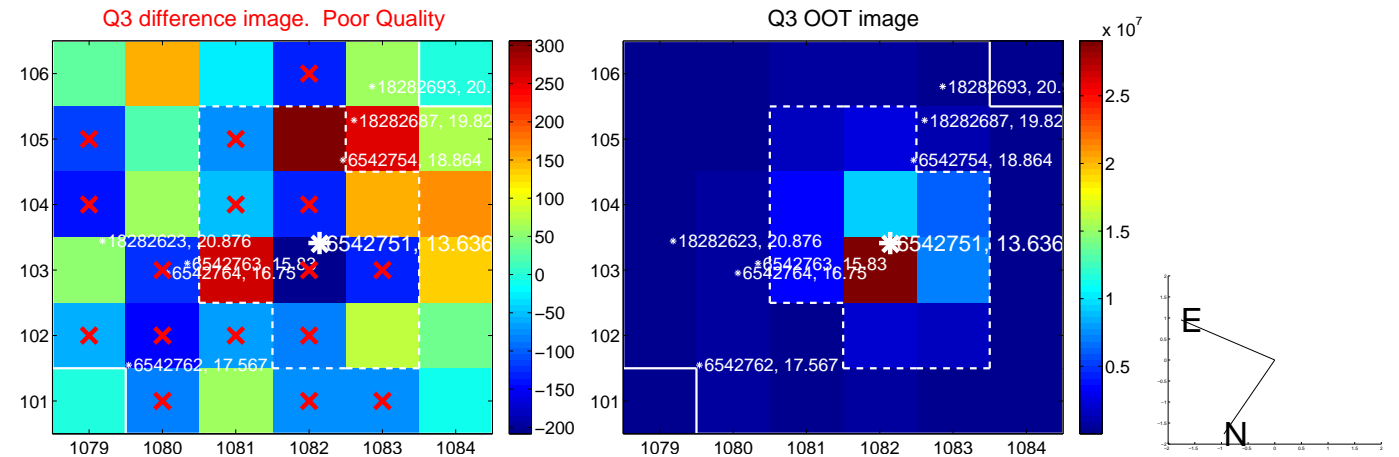
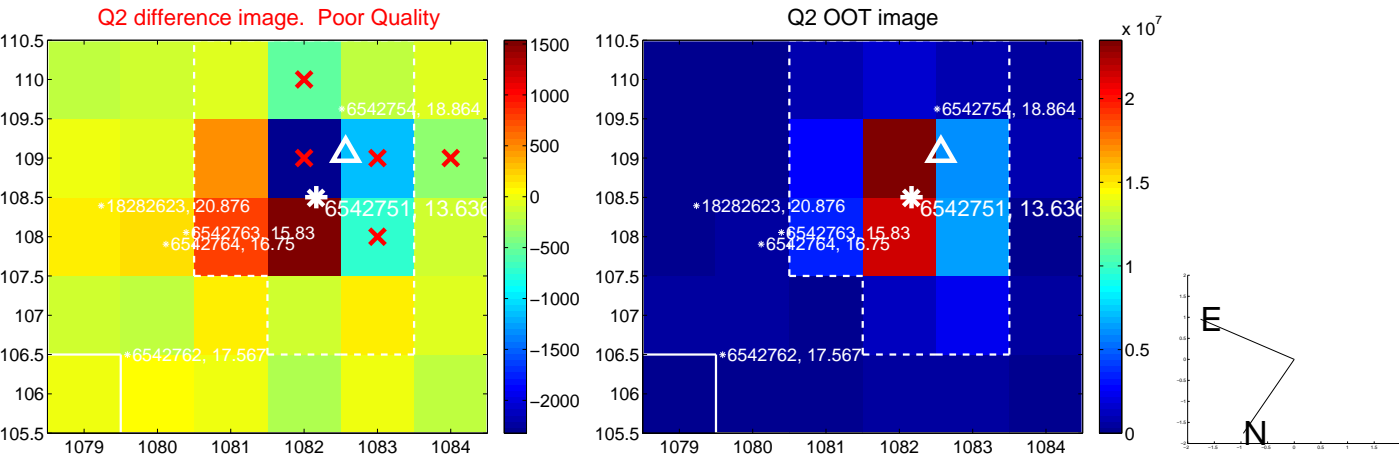
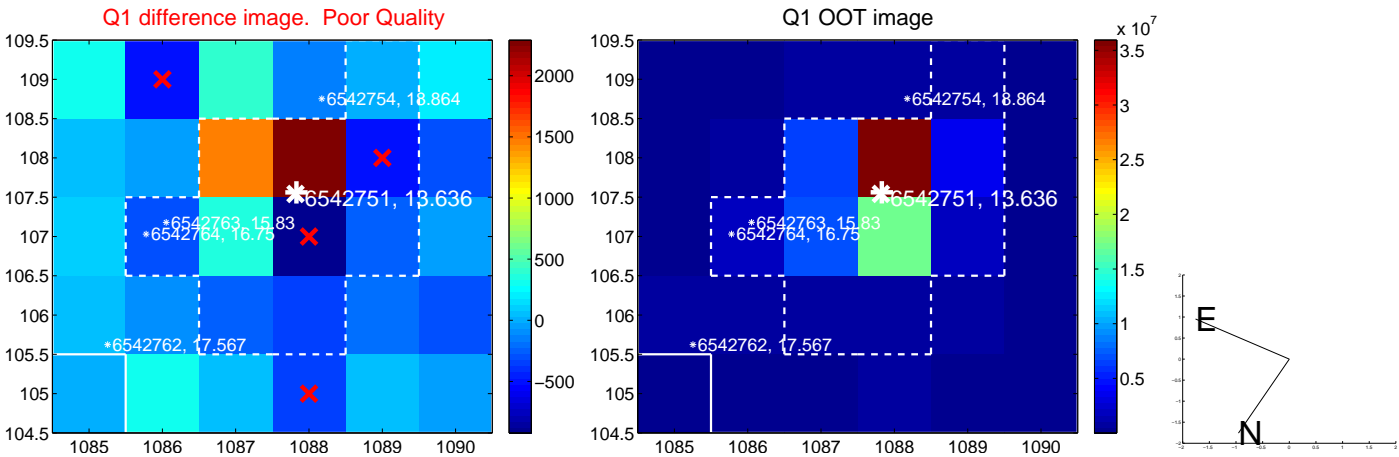
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.790 ± 0.719	1.10	-0.565 ± 0.754	0.553 ± 1.011
PRF-fit source offset from KIC position	0.736 ± 0.715	1.03	-0.574 ± 0.754	0.461 ± 0.999
photometric centroid source offset	0.63 ± 0.60	1.05	0.49 ± 0.61	0.40 ± 0.60

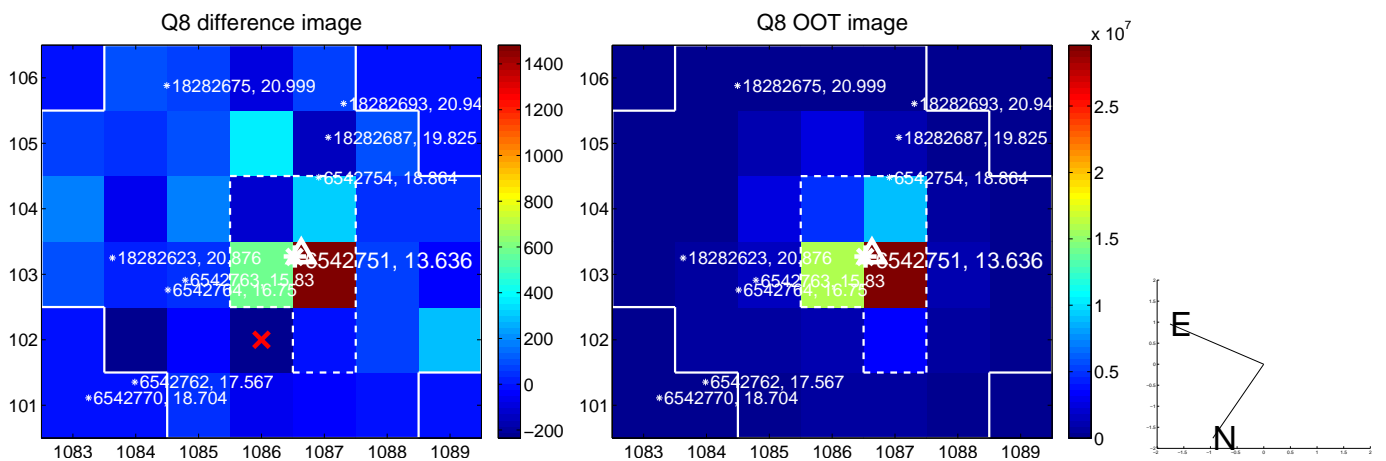
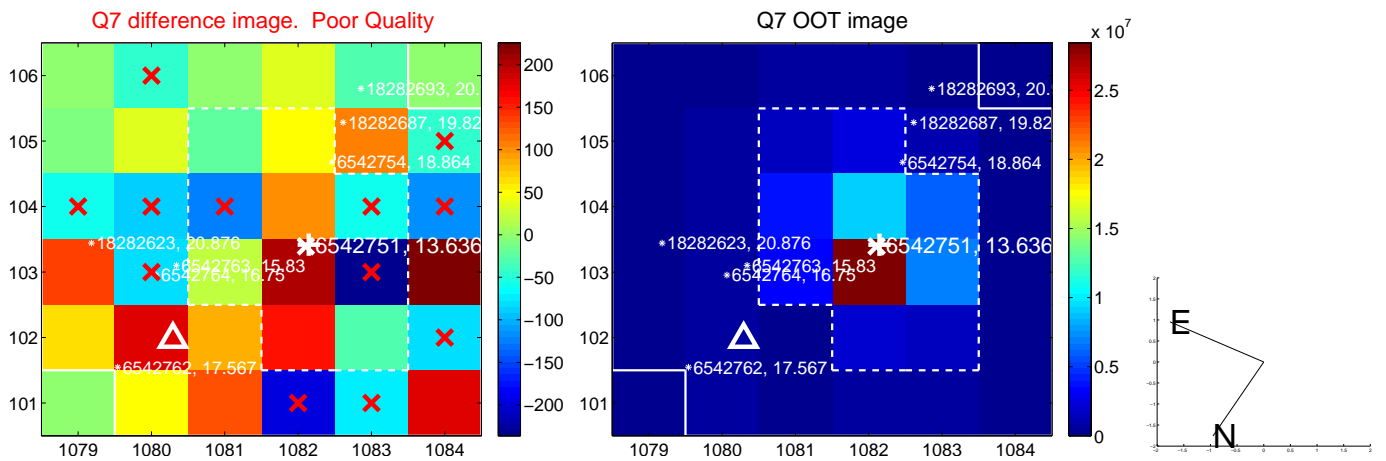
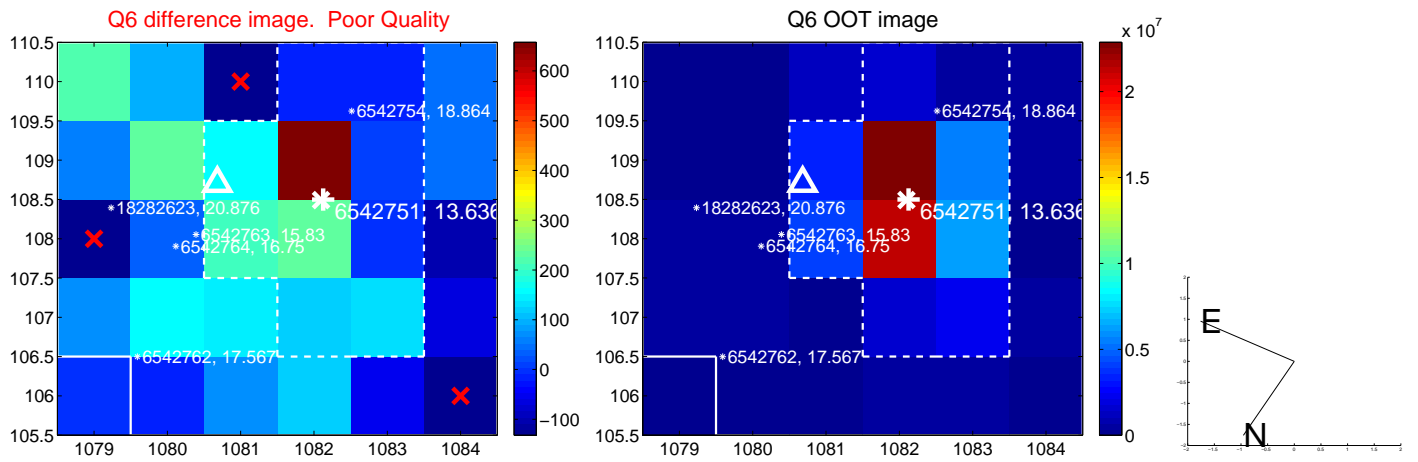
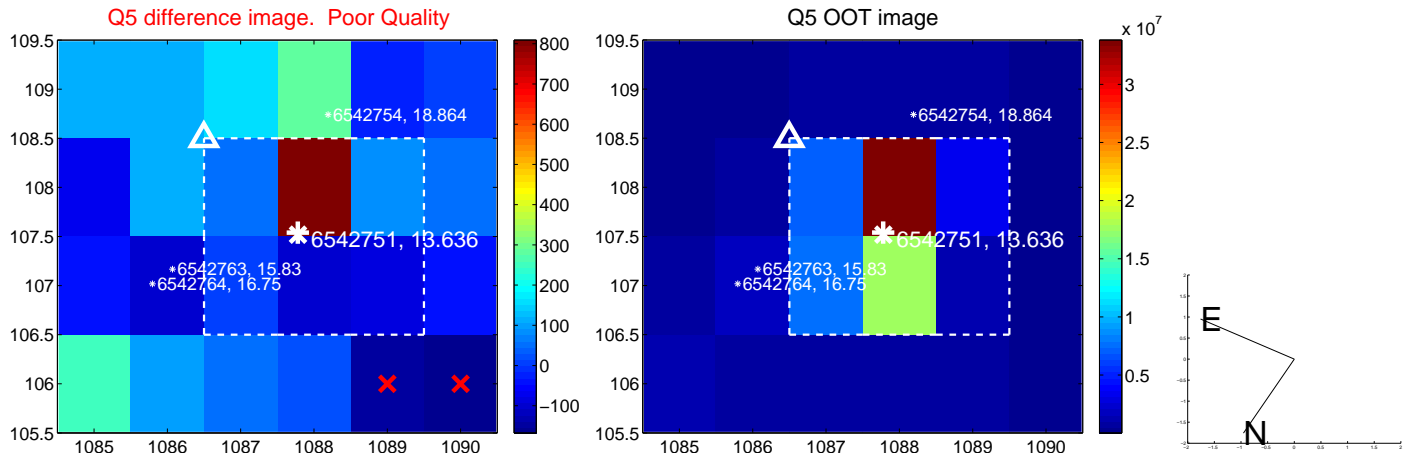


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

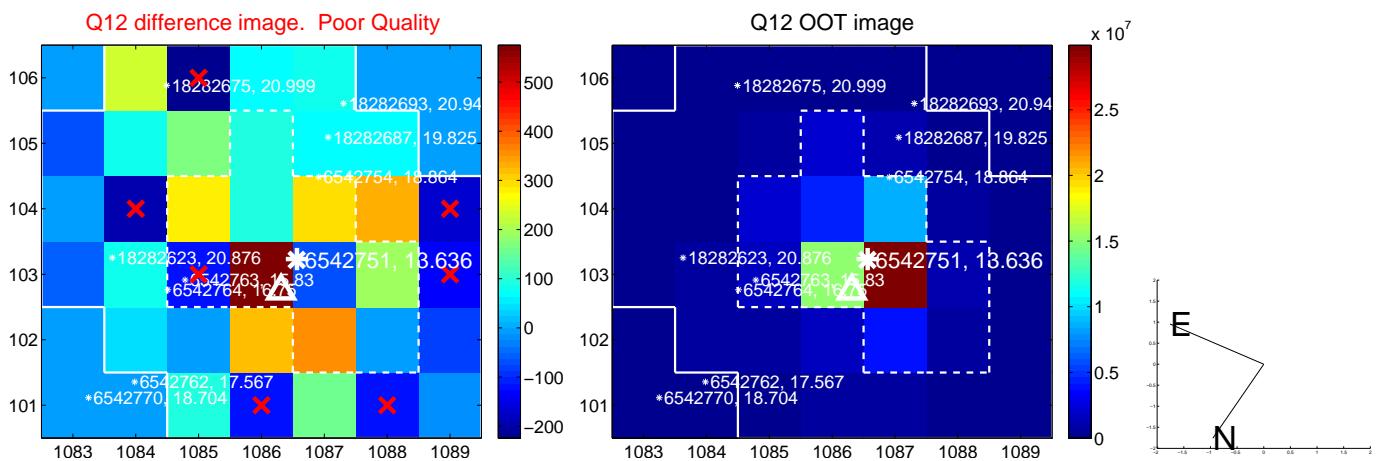
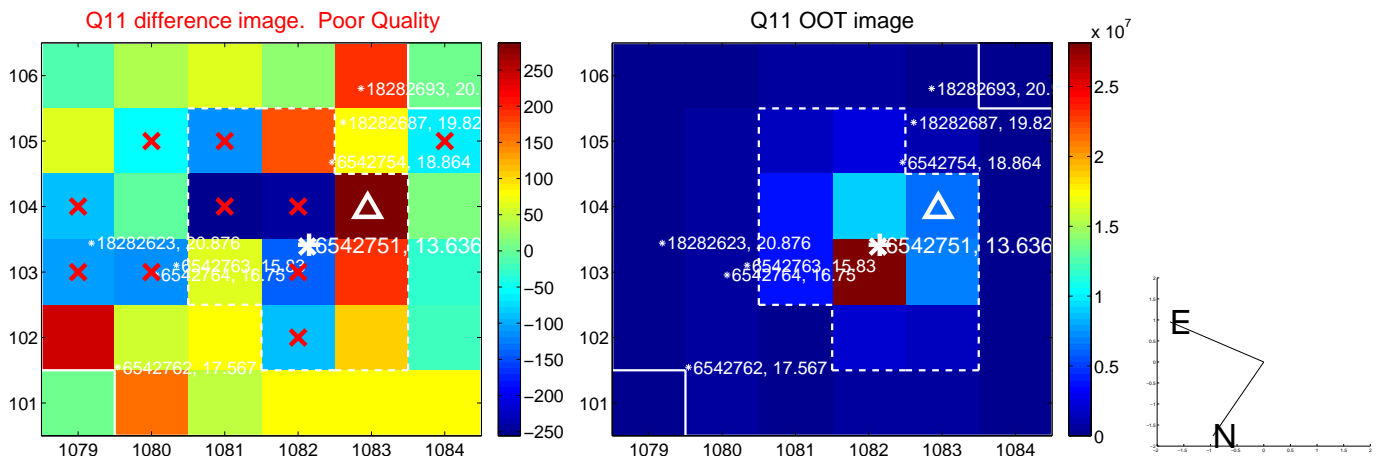
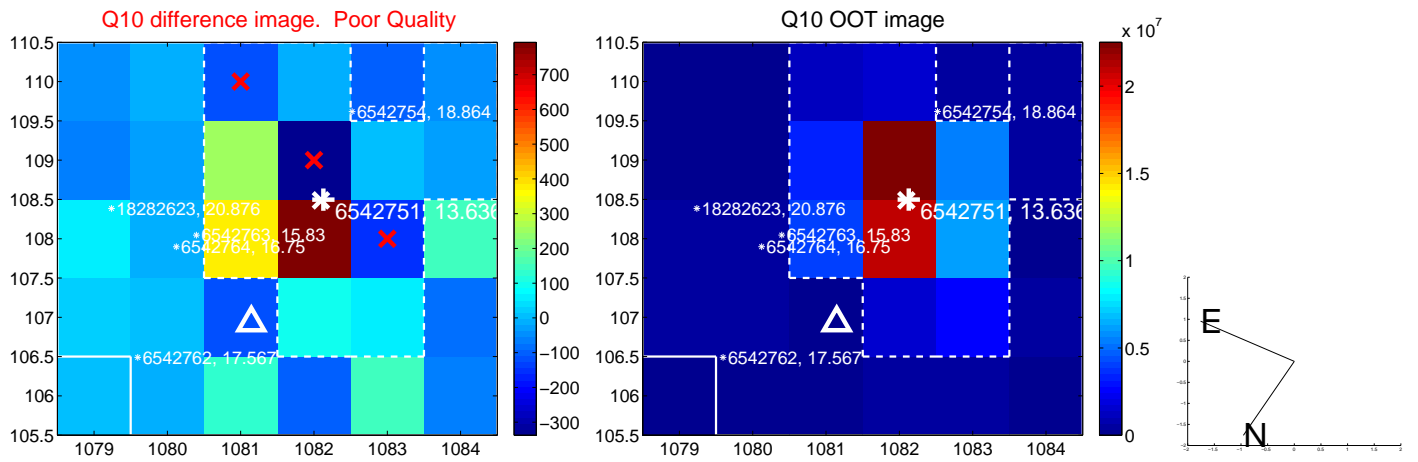
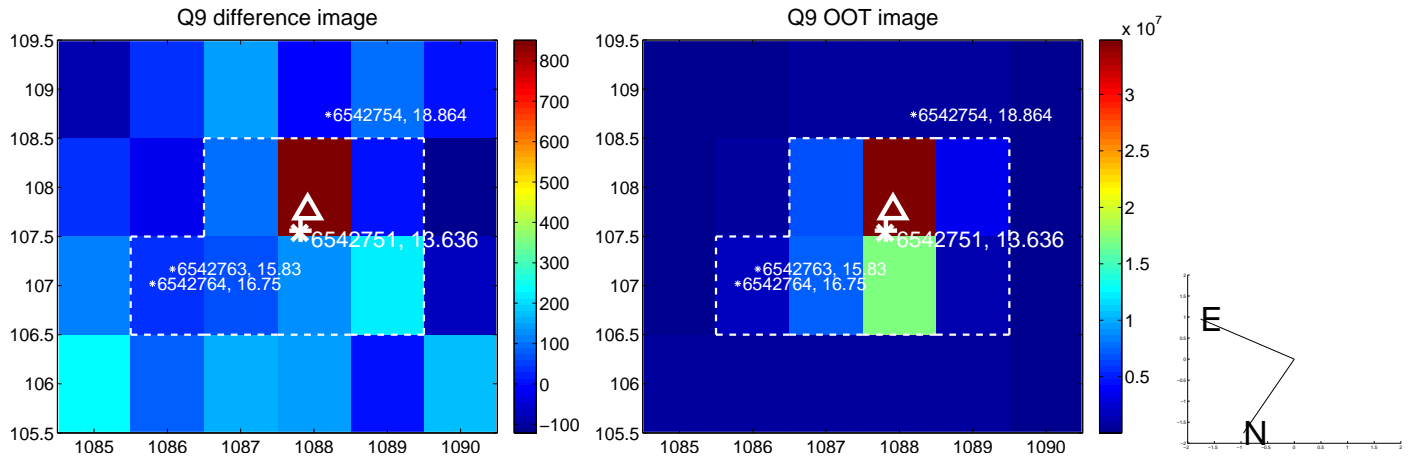
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



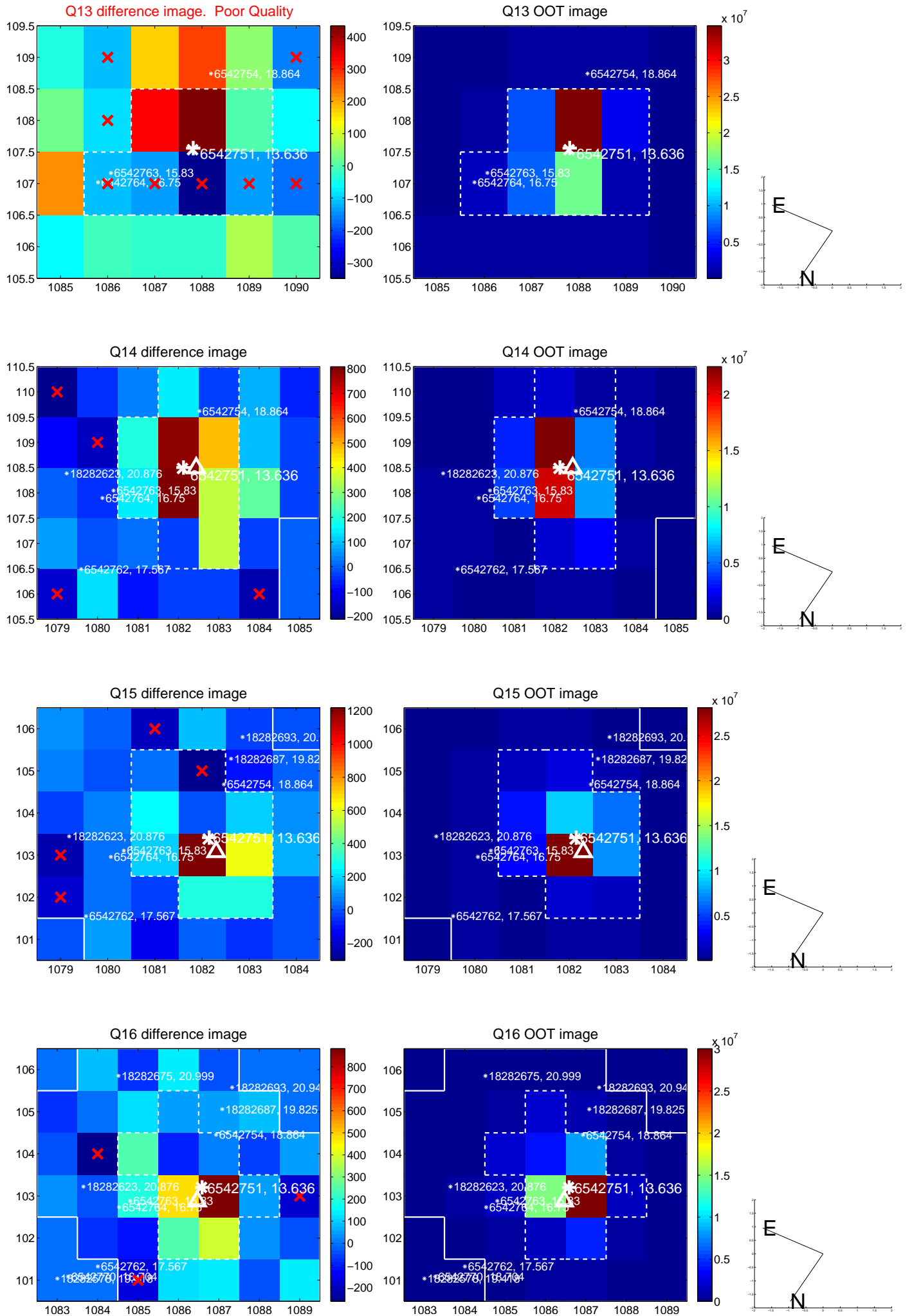
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

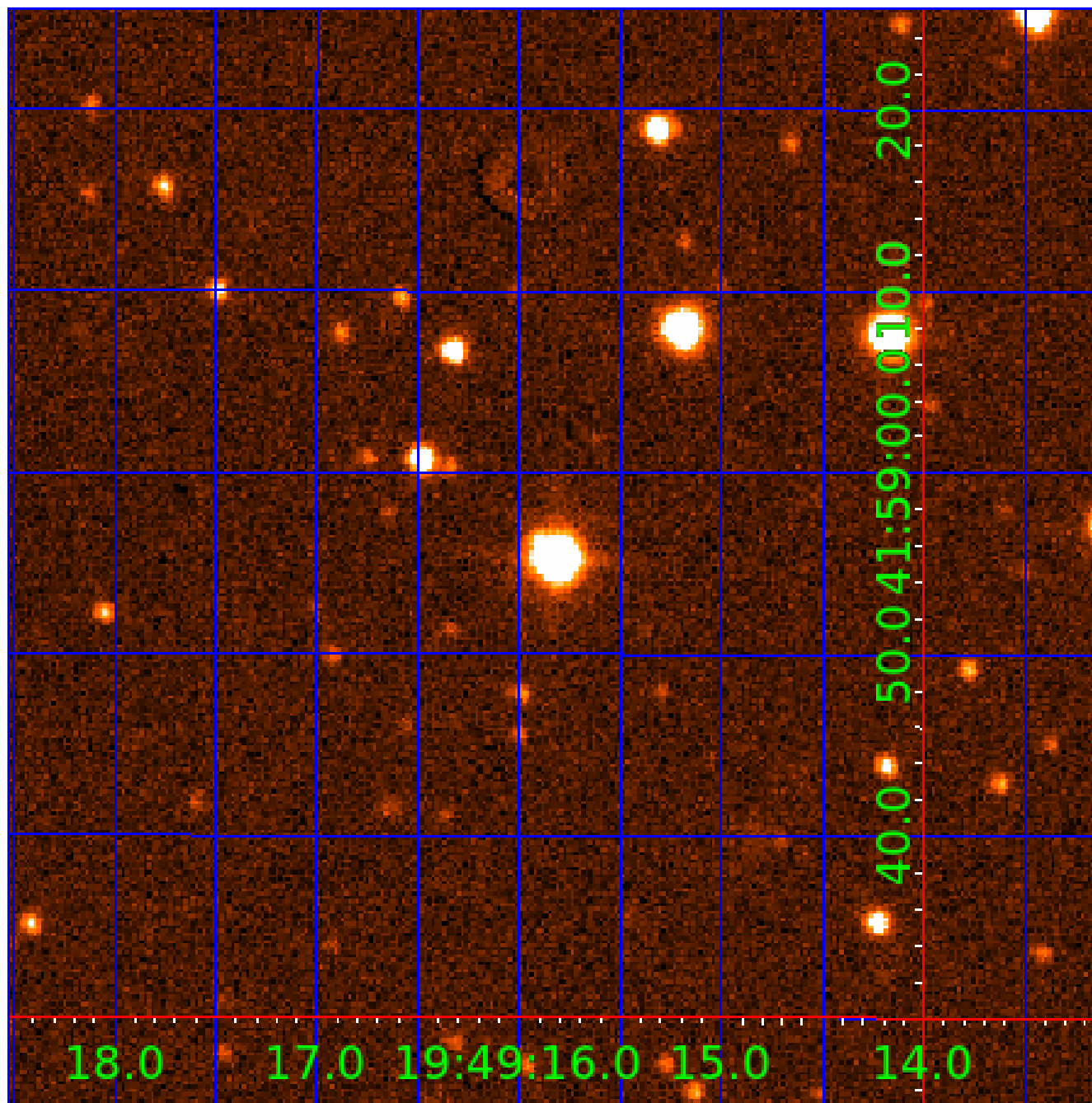


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006542751

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})
006542751-01	OBS	No	0.726154	132.125483	44.0	3.092	14.6	12.4	2.81	6068	2.19	32353.49
006542751-02	OBS	No	0.726145	131.623736	34.8	2.037	9.3	7.7	2.81	6068	1.85	32354.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006542751-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
006542751-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD

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

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

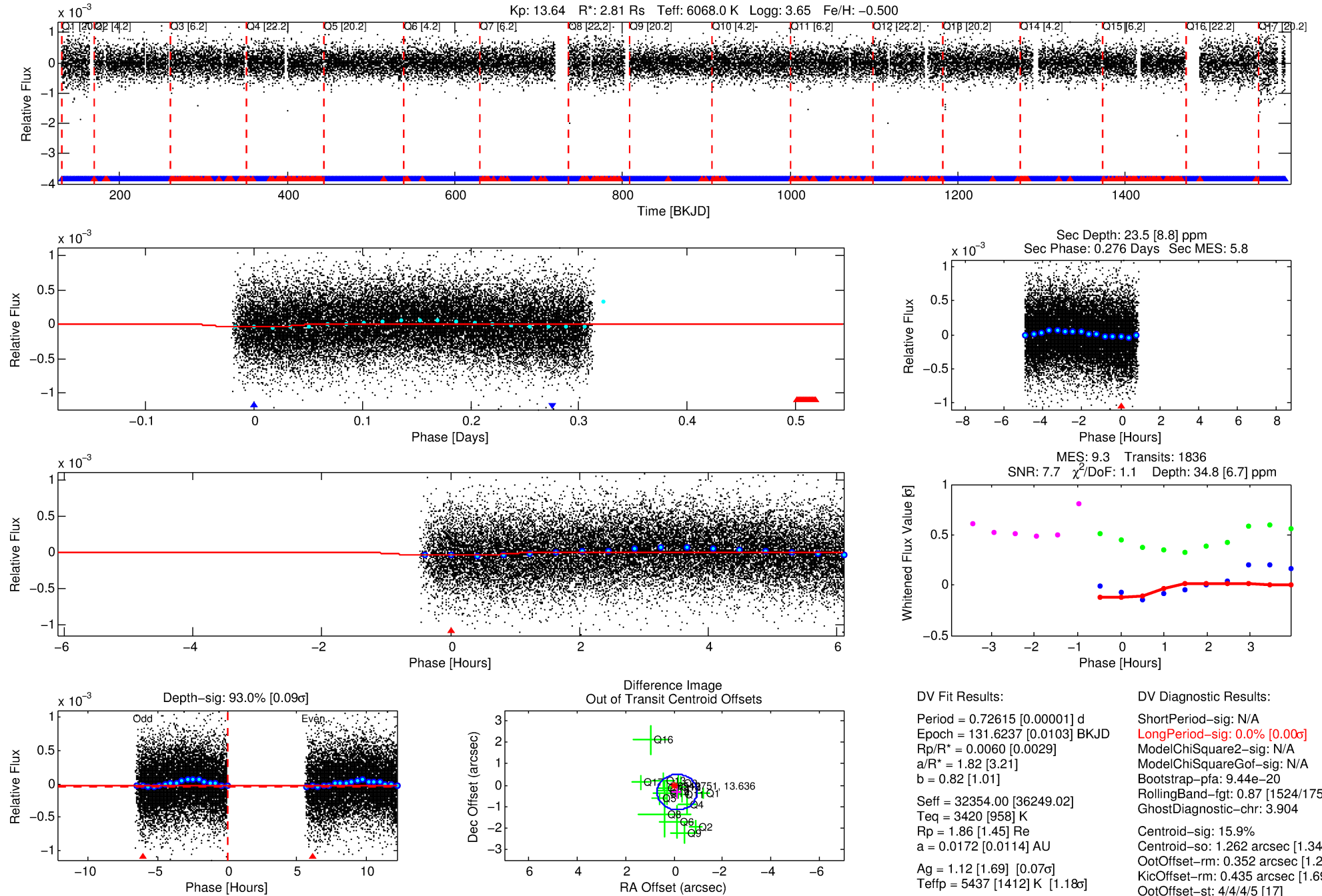
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006542751-02

No Significant Match Found

DV One-Page Summary

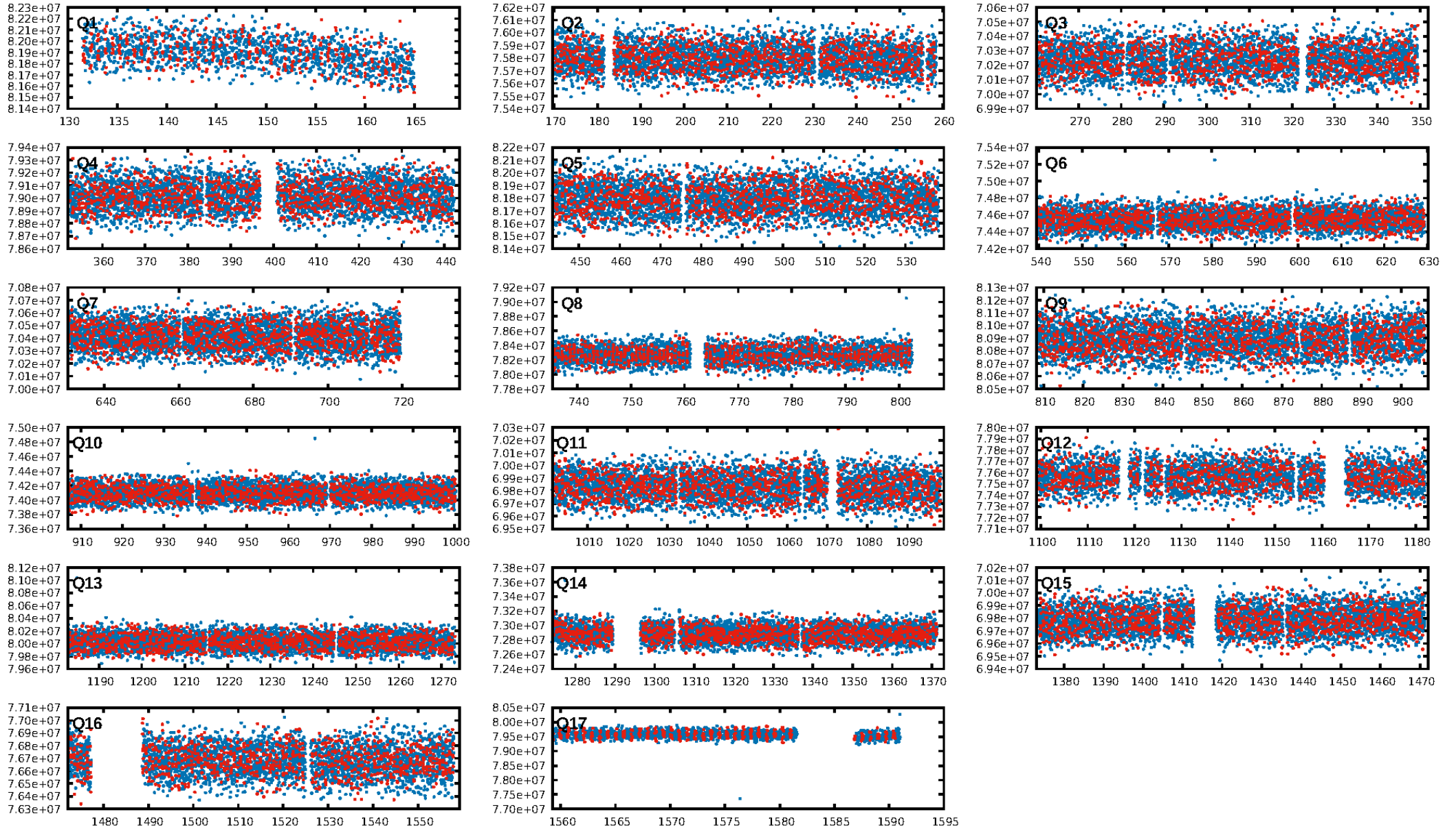
KIC: 6542751 Candidate: 2 of 2 Period: 0.726 d



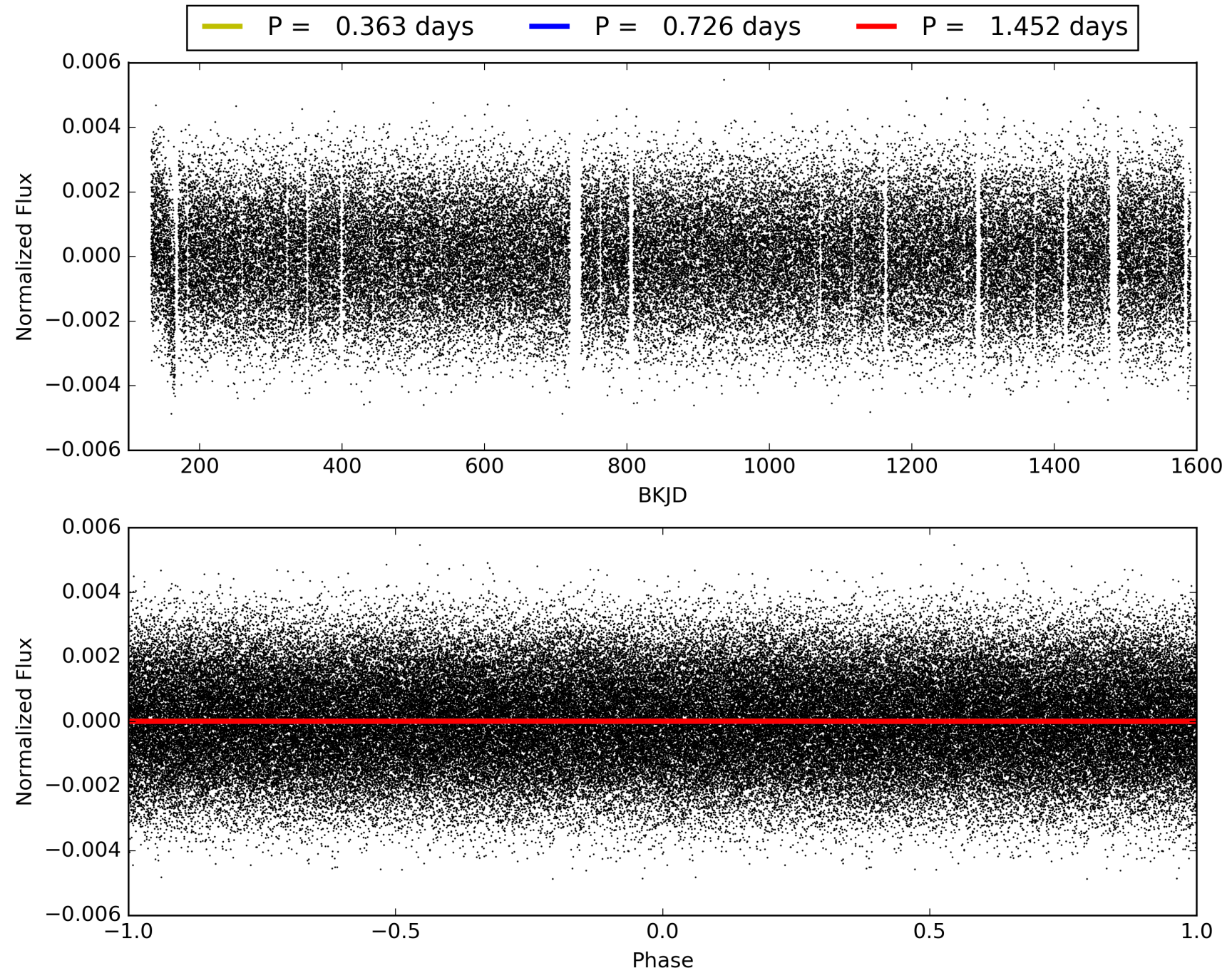
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:13:46 Z

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

TCE 006542751-02, PDC Light Curves

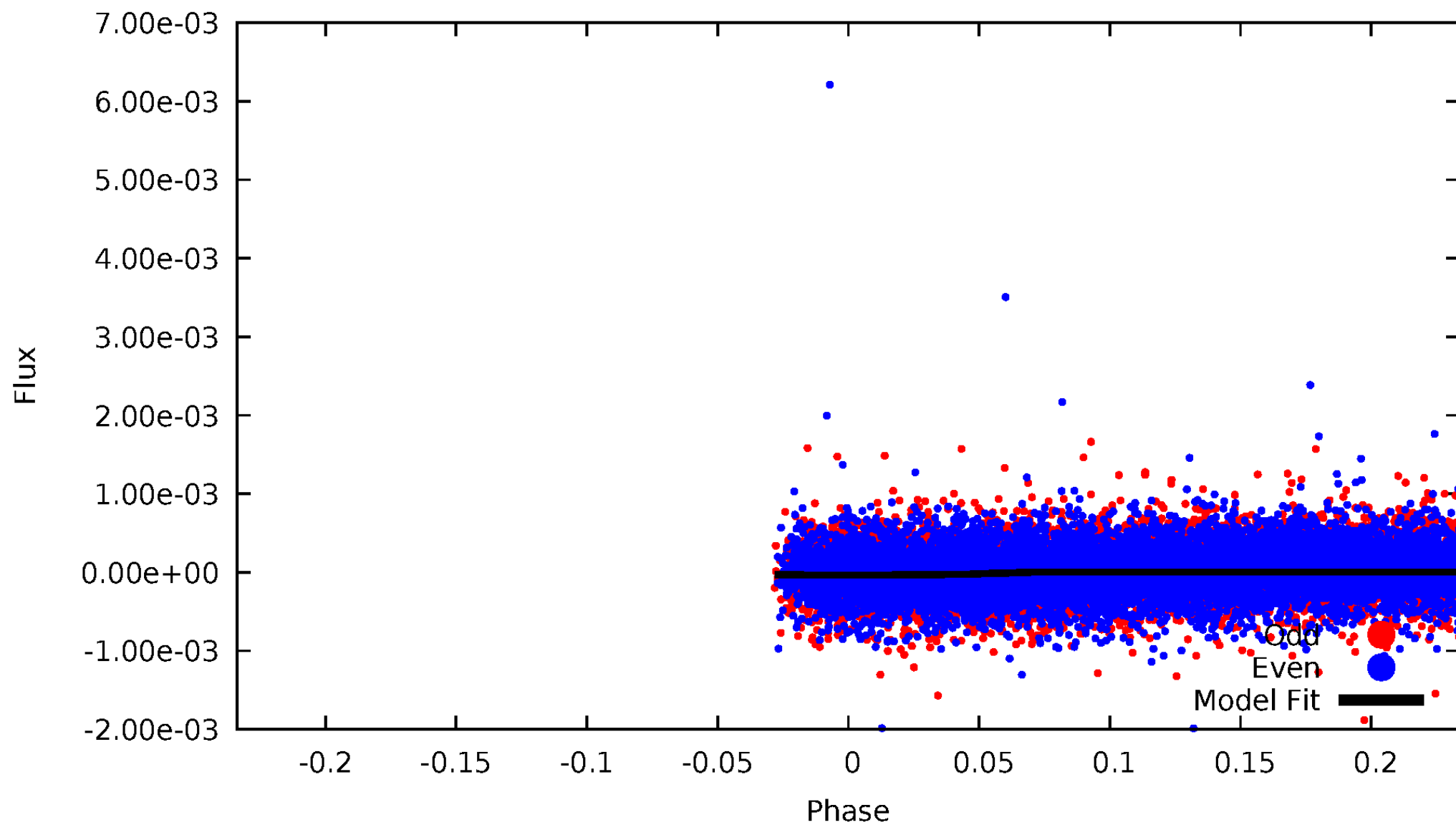


TCE 006542751-02



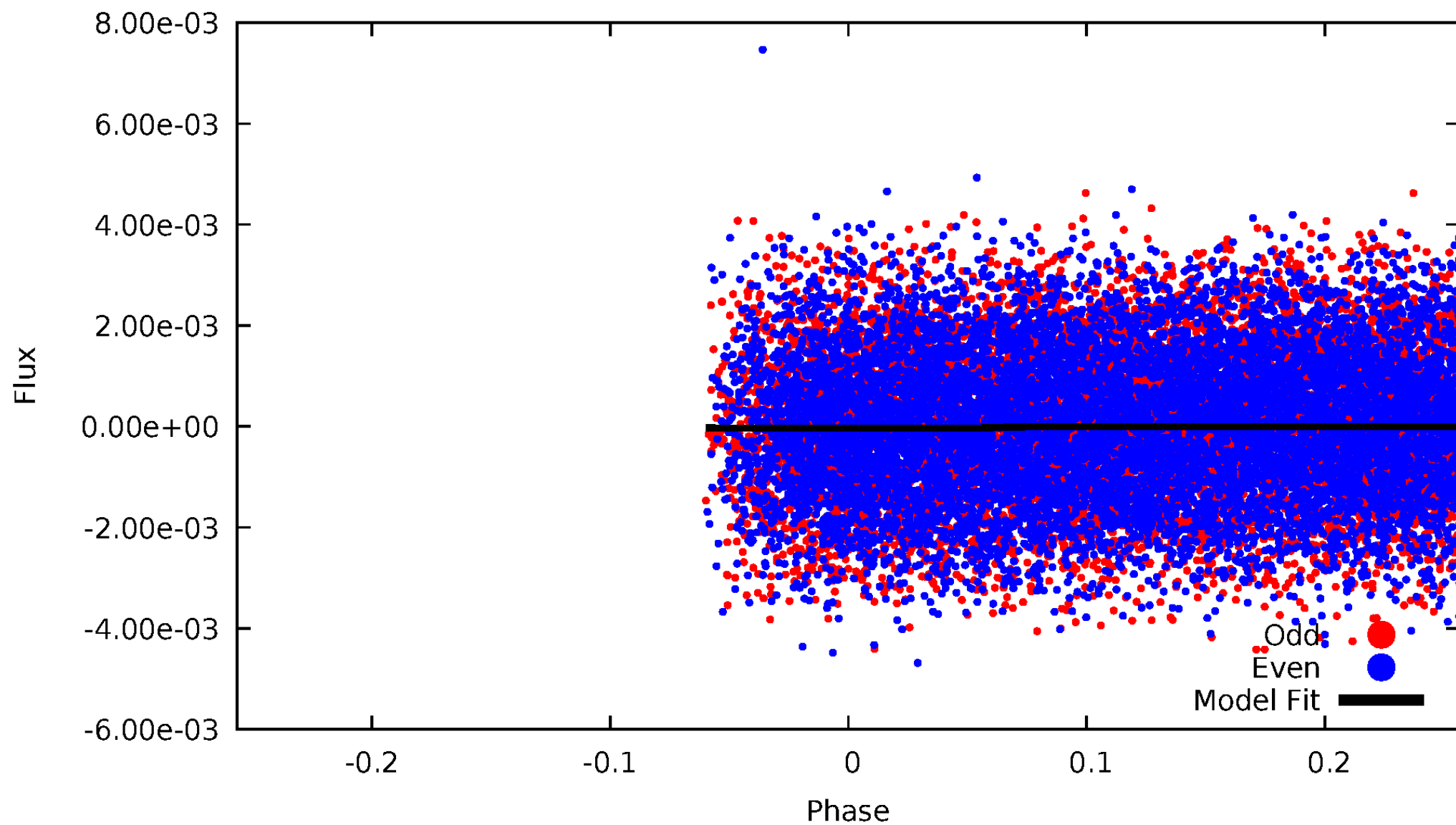
DV Odd/Even

TCE 006542751-02



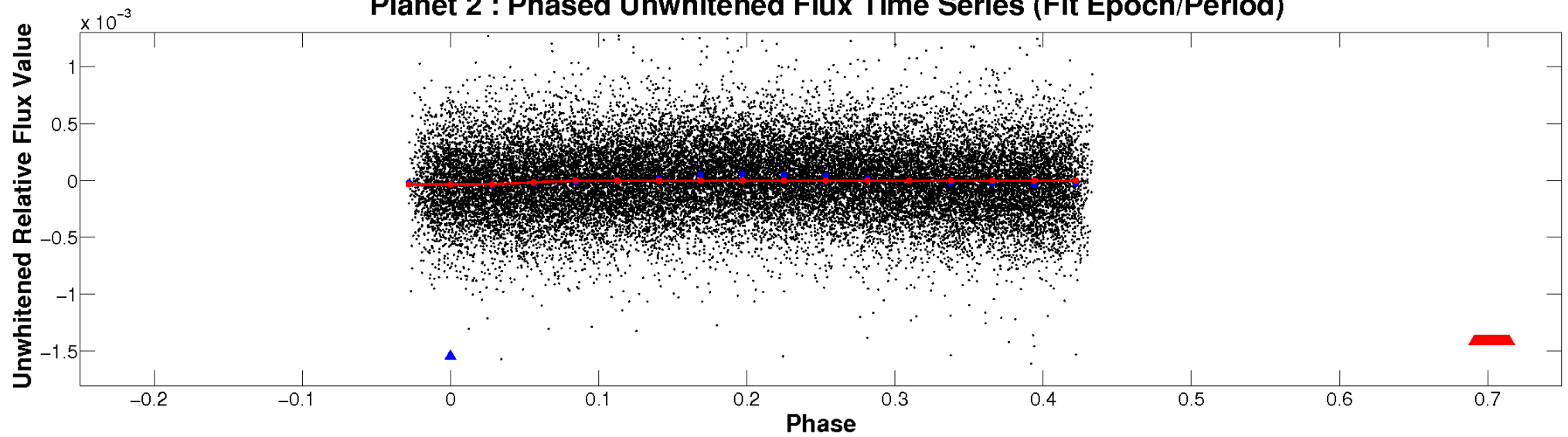
ALT Odd/Even

TCE 006542751-02

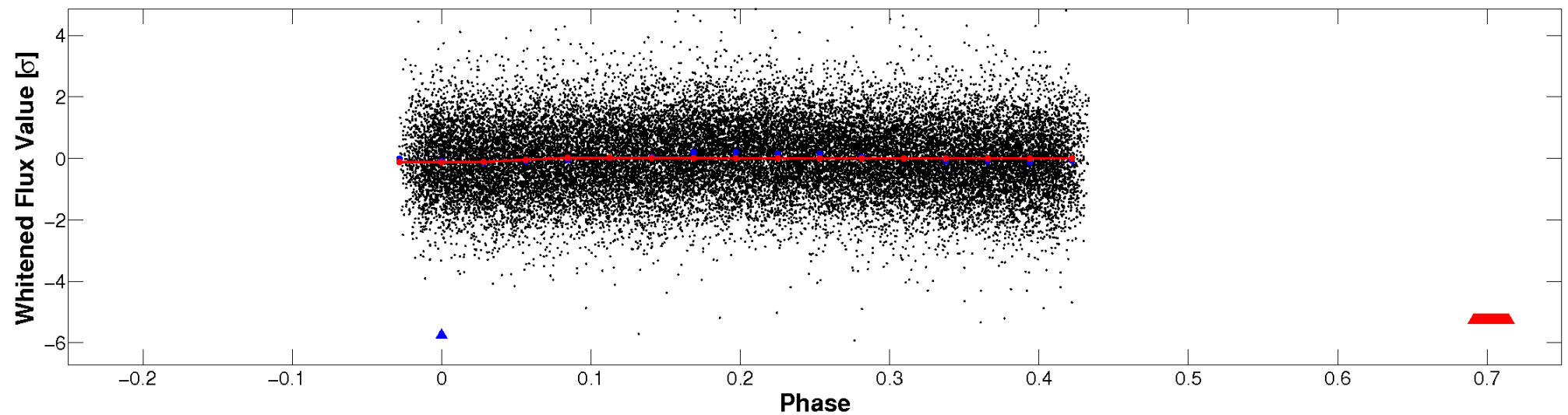


Non-Whitened Vs. Whitened Light Curve

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

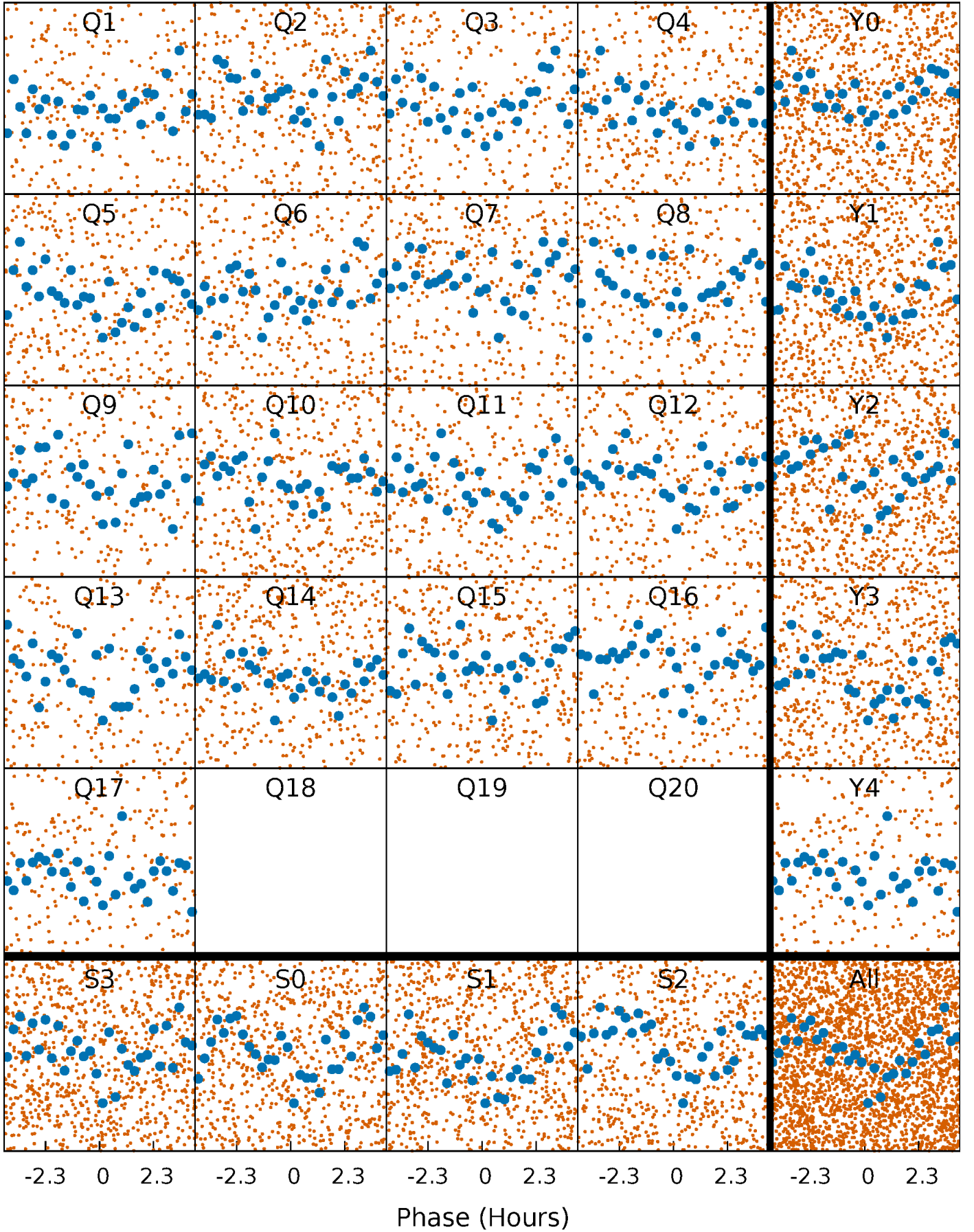


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



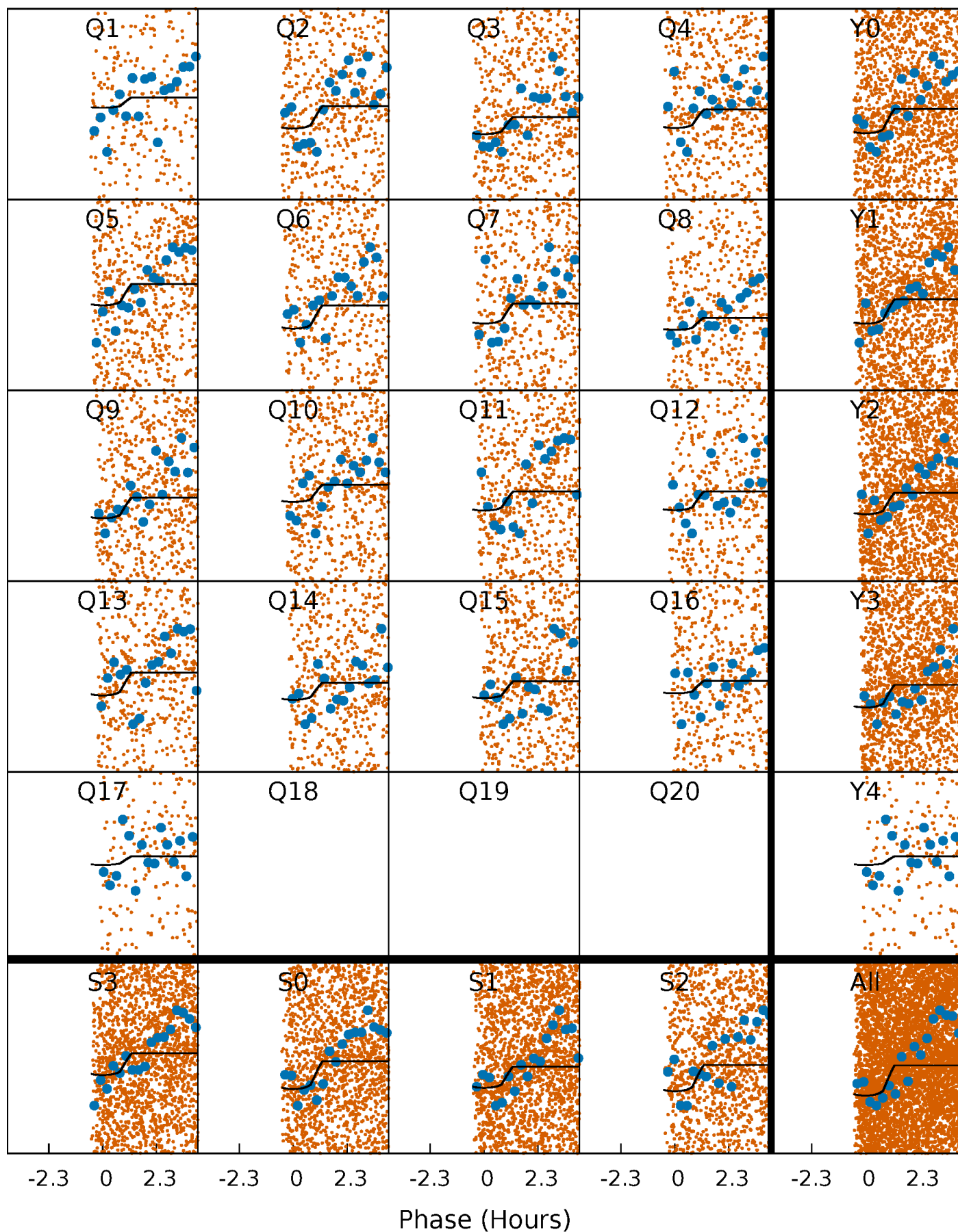
PDC Quarter-Phased Transit Curves

TCE 006542751-02 P= 0.726145 Days $T_0=131.623736$ (BKJD)



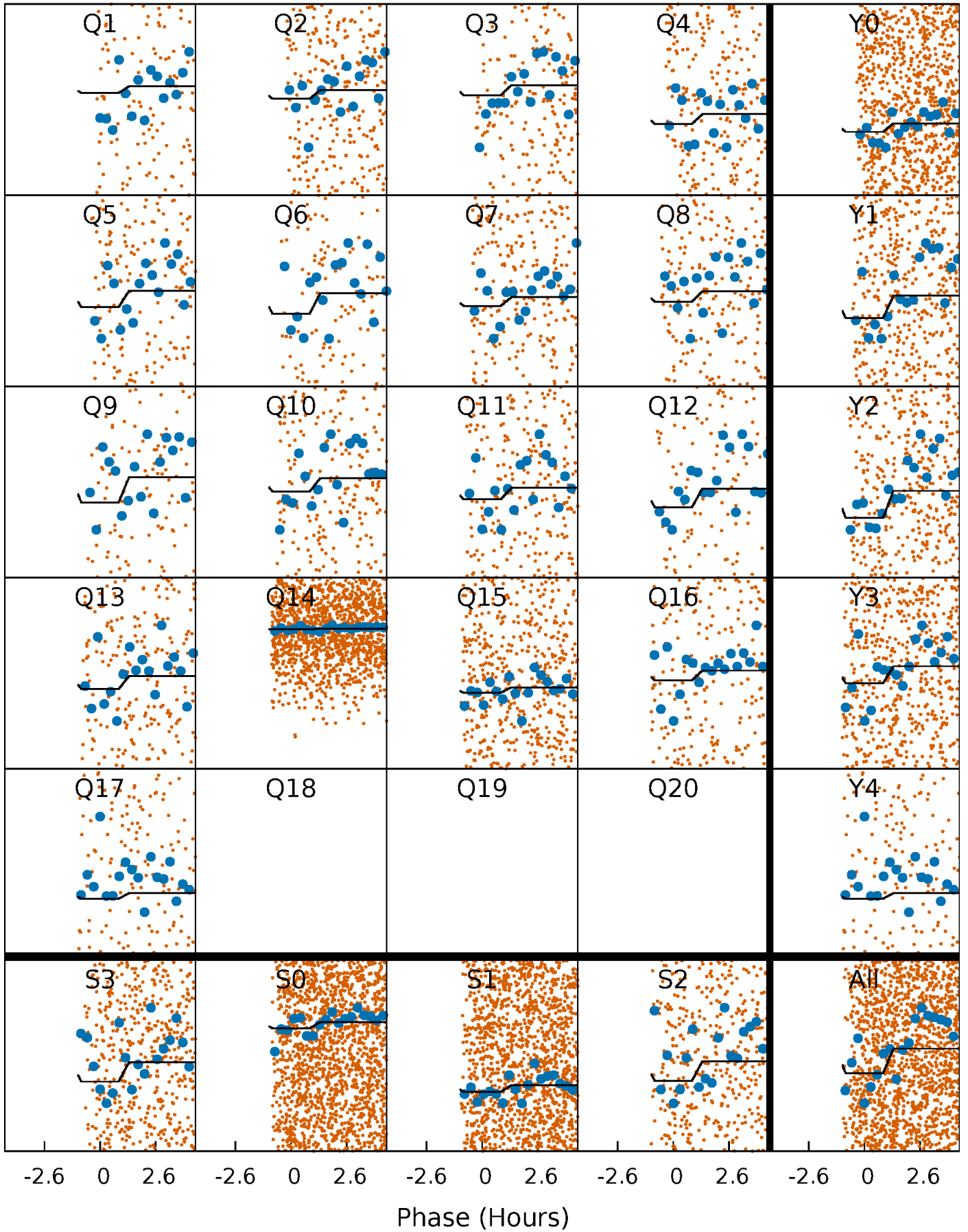
DV Quarter-Phased Transit Curves

TCE 006542751-02 P= 0.726145 Days $T_0=131.623736$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

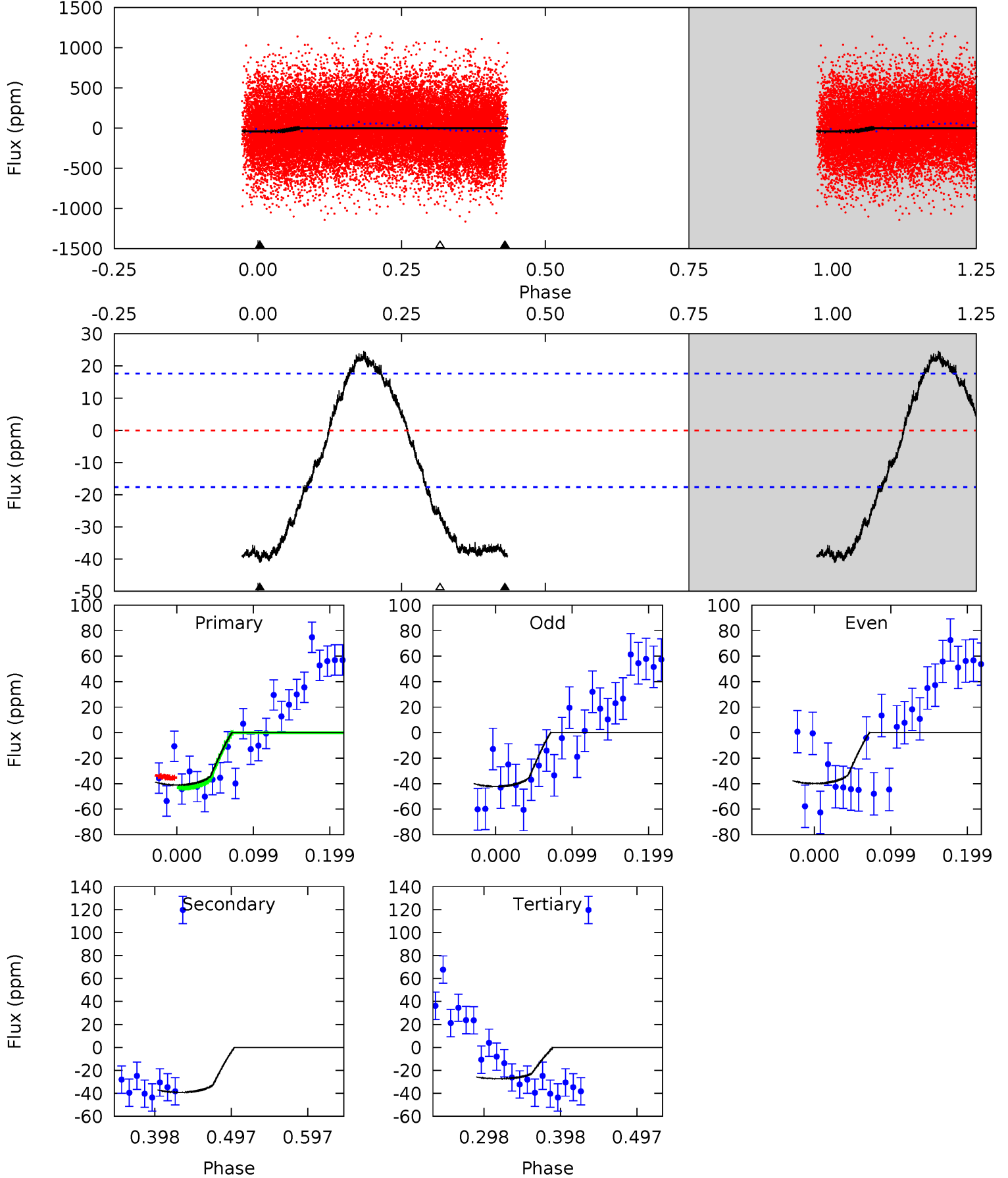
TCE 006542751-02 P= 0.726173 Days $T_0=131.609403$ (BKJD)



DV Model-Shift Uniqueness Test

006542751-02, P = 0.726145 Days, E = 130.897591 Days

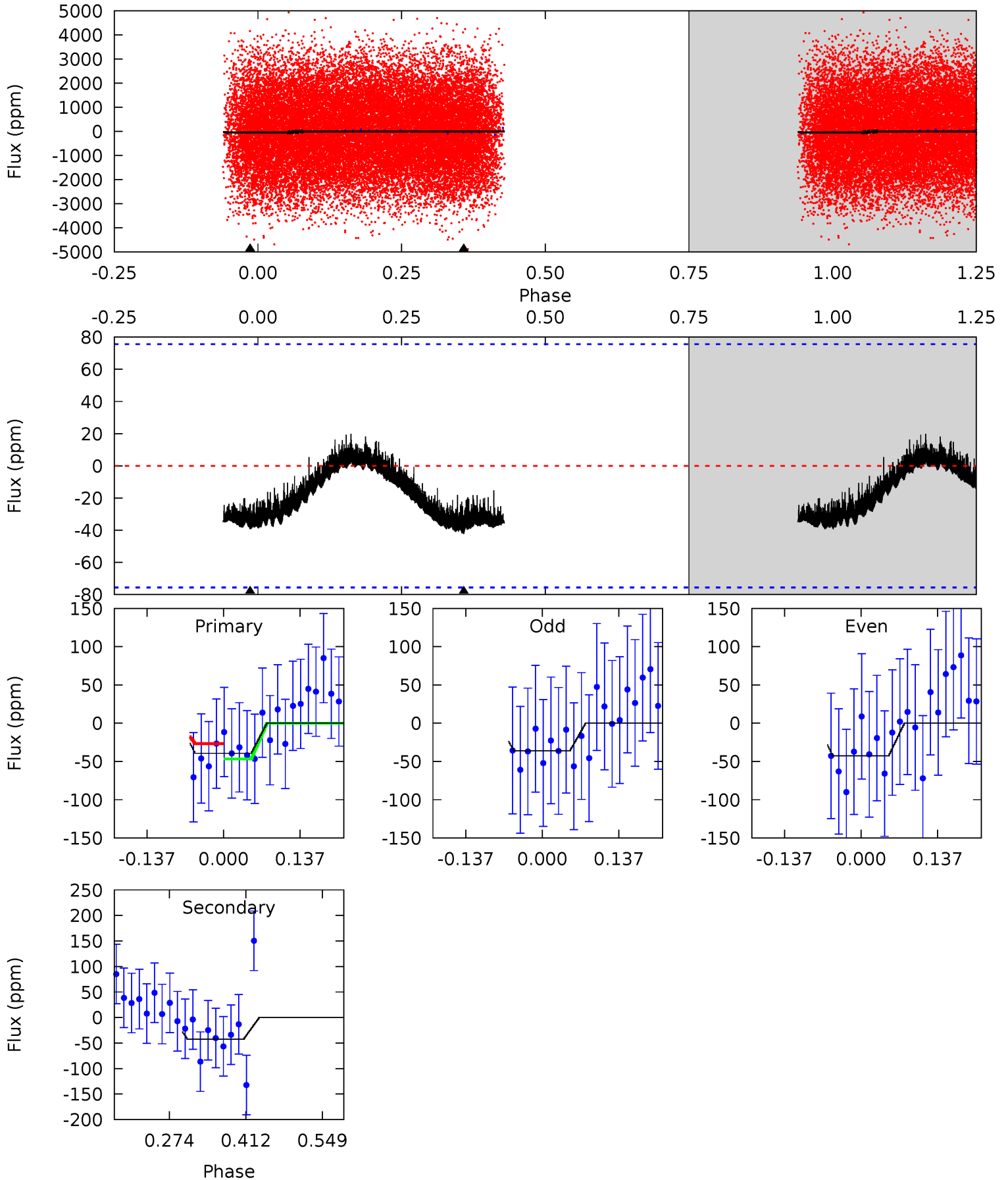
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.6	10.1	7.07	0	4.57	1.65	5.69	3.55	10.6	3.08	10.1	0.31	0.88	0.38	0.84



Alt Model-Shift Uniqueness Test

006542751-02, P = 0.726173 Days, E = 131.609403 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.33	2.52	0	0	4.50	1.49	0.25	2.33	2.33	2.52	2.52	0.19	0.94	0.32	0.54



Stellar Parameters For KIC 006542751

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6068^{+220}_{-183}	$3.652^{+0.672}_{-0.126}$	$-0.500^{+0.300}_{-0.250}$	$2.814^{+0.622}_{-1.741}$	$1.296^{+0.178}_{-0.416}$	$0.082^{+1.032}_{-0.035}$
	+4%/-3%	+18%/-3%	+60%/-50%	+22%/-62%	+14%/-32%	+1260%/-43%
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 006542751-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-39 ± 4	$1.59^{+0.85}_{-0.83}$	4631^{+403}_{-749}	6021^{+2621}_{-1144}	$2.531^{+7.632}_{-1.462}$
Alt.	-42 ± 17	$1.63^{+0.99}_{-0.83}$	4627^{+422}_{-707}	5952^{+2768}_{-1369}	$2.359^{+8.312}_{-1.541}$

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 $A_{obs} \gg 1.0$

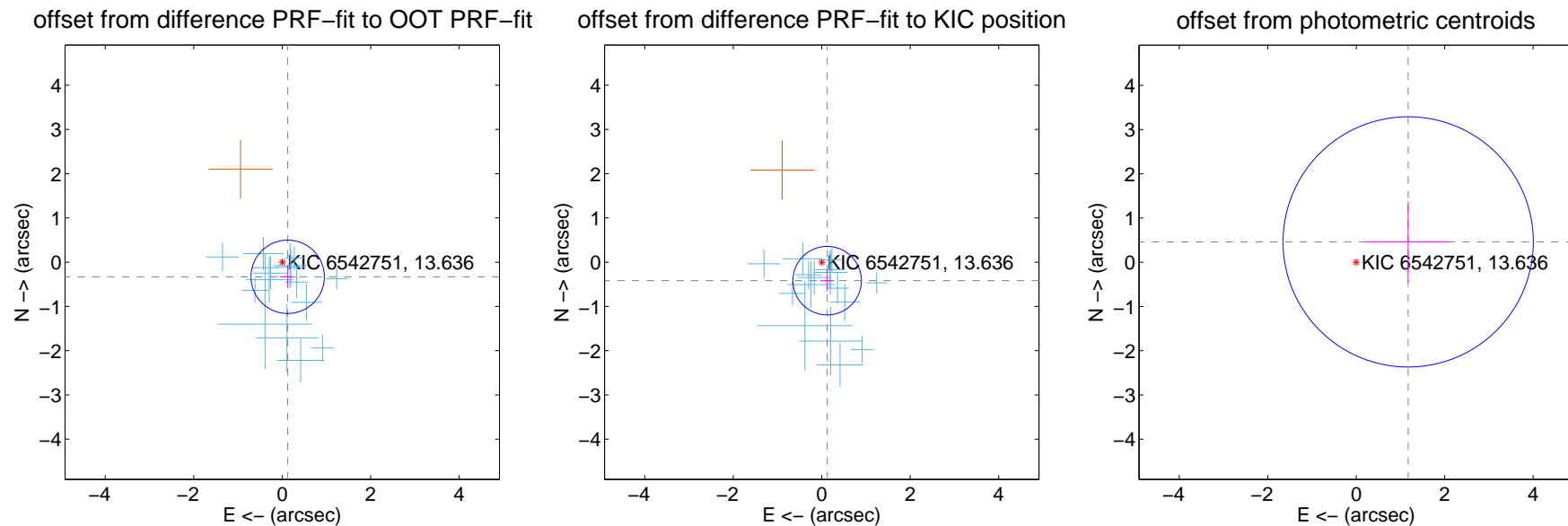
DV Centroid Data

Supplemental centroid analysis for 006542751-02. Kepler magnitude: 13.64. Transit SNR 7.65

There are 16 quarters with good PRF difference image offsets

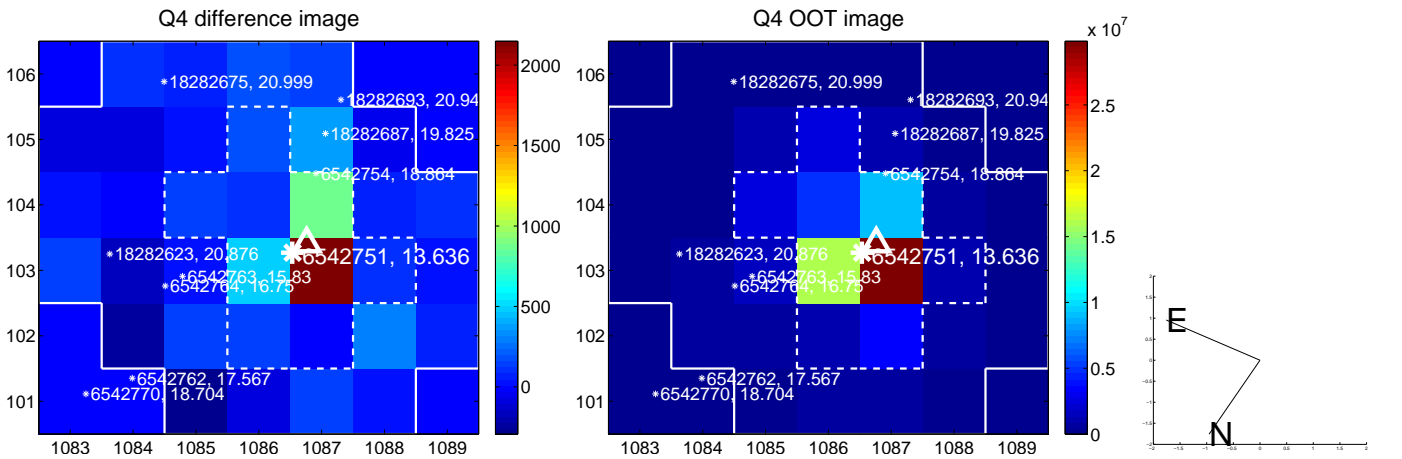
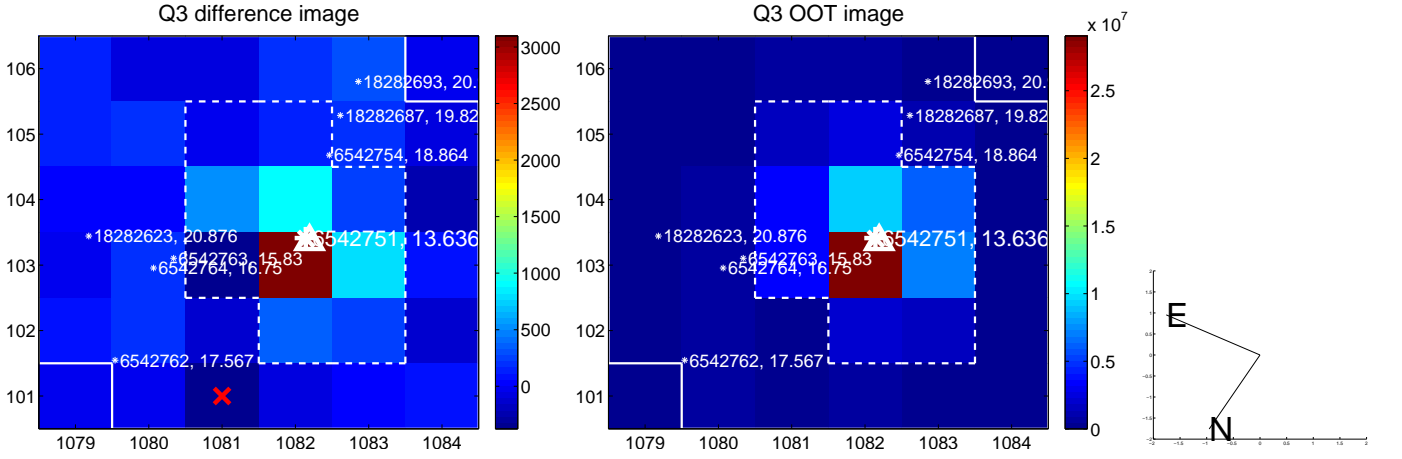
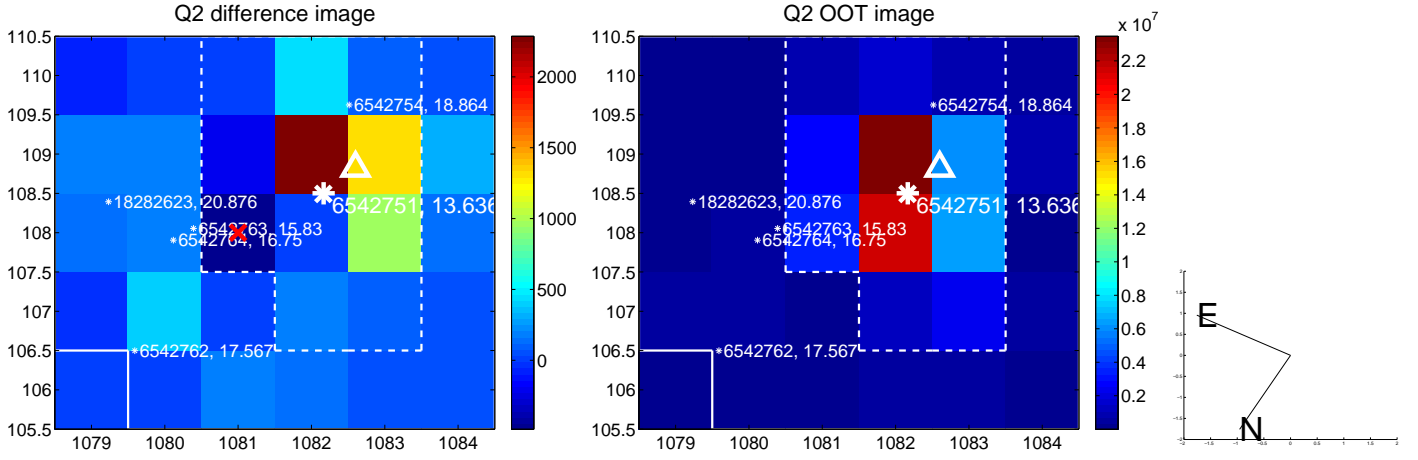
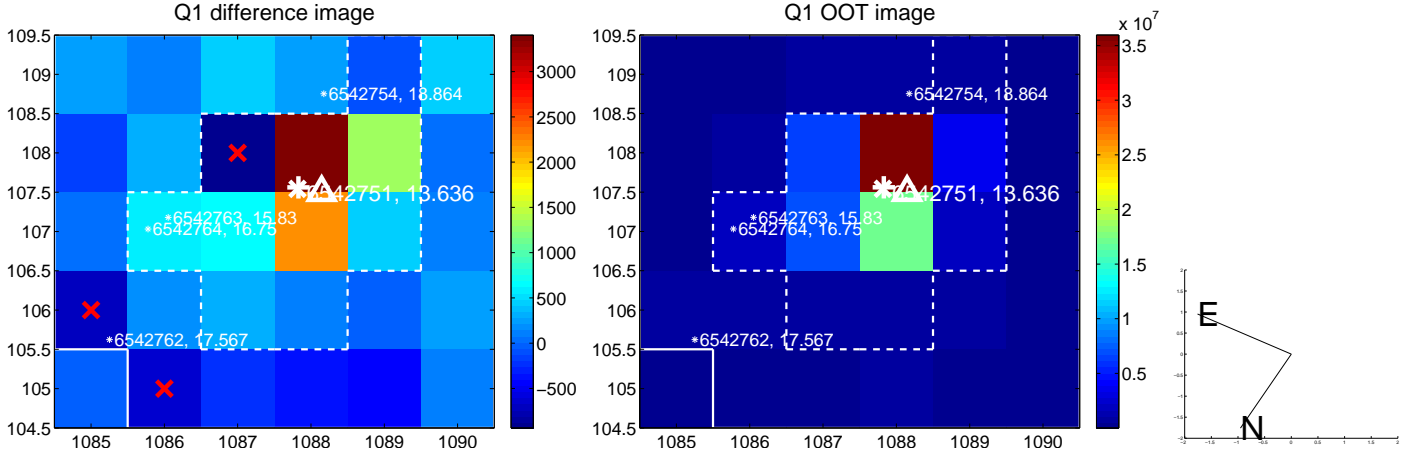
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.352 ± 0.276	1.27	-0.123 ± 0.176	-0.330 ± 0.255
PRF-fit source offset from KIC position	0.435 ± 0.258	1.69	-0.123 ± 0.162	-0.417 ± 0.244
photometric centroid source offset	1.26 ± 0.94	1.34	-1.18 ± 0.95	0.46 ± 0.92

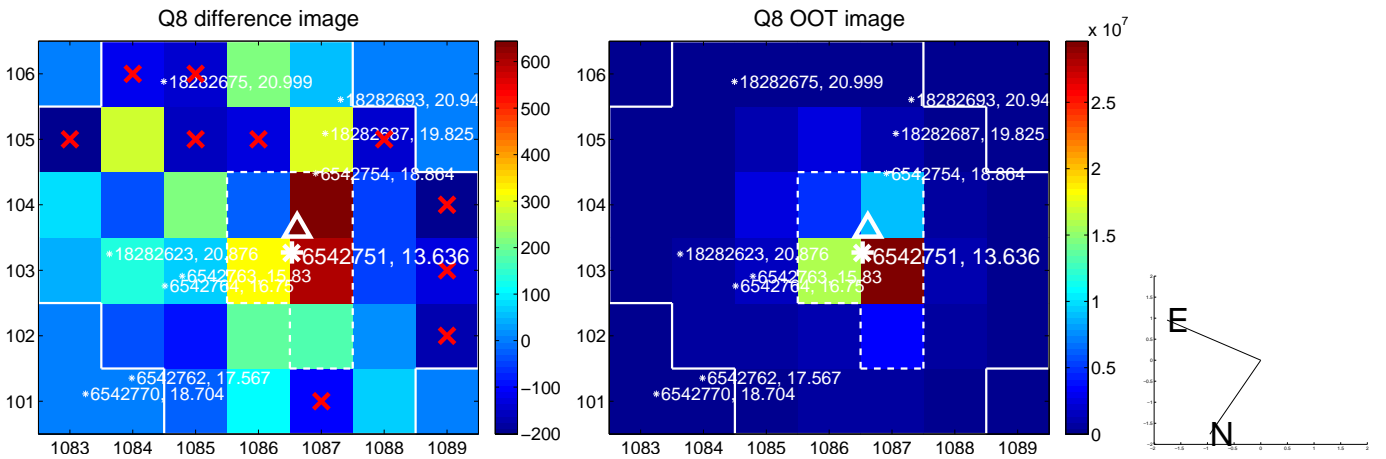
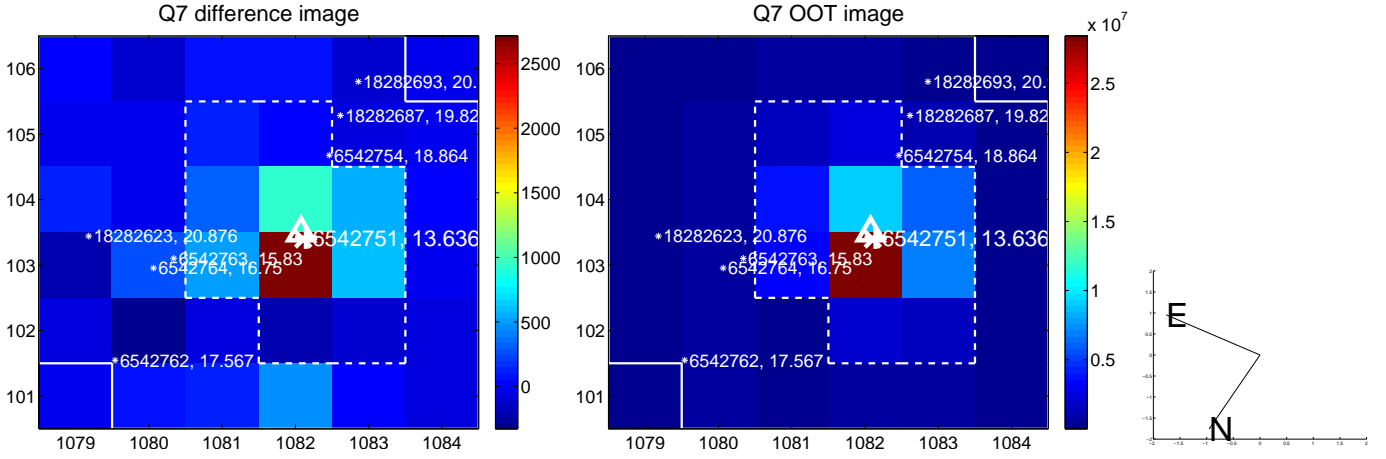
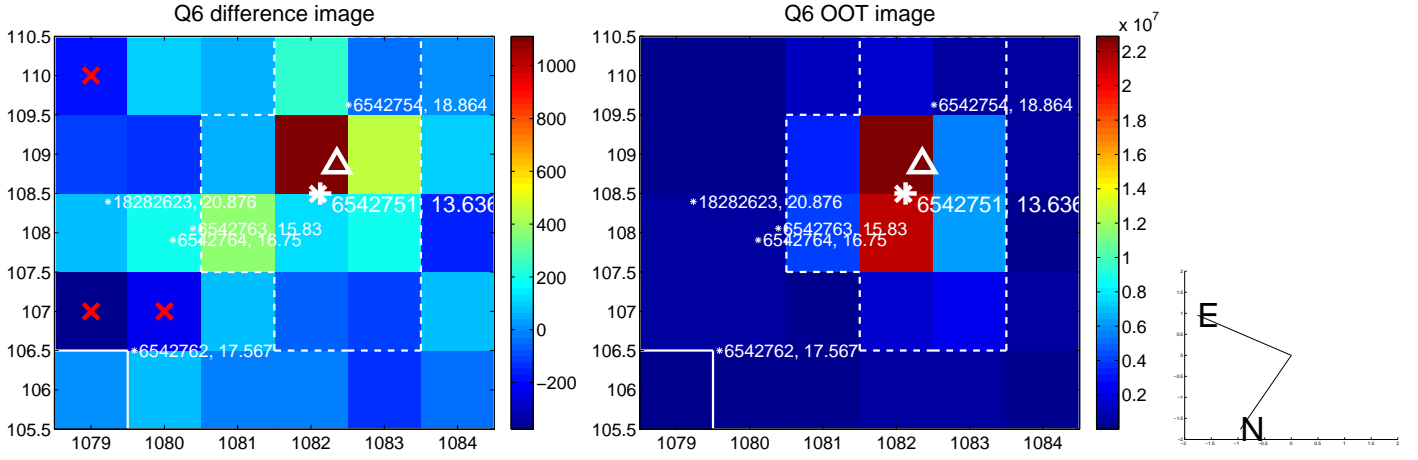
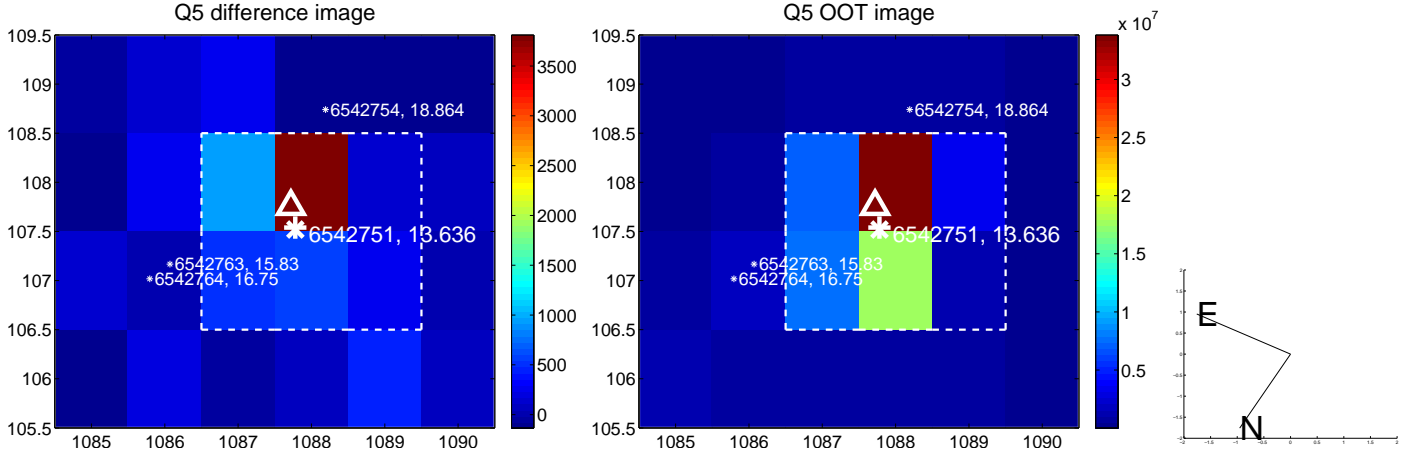


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

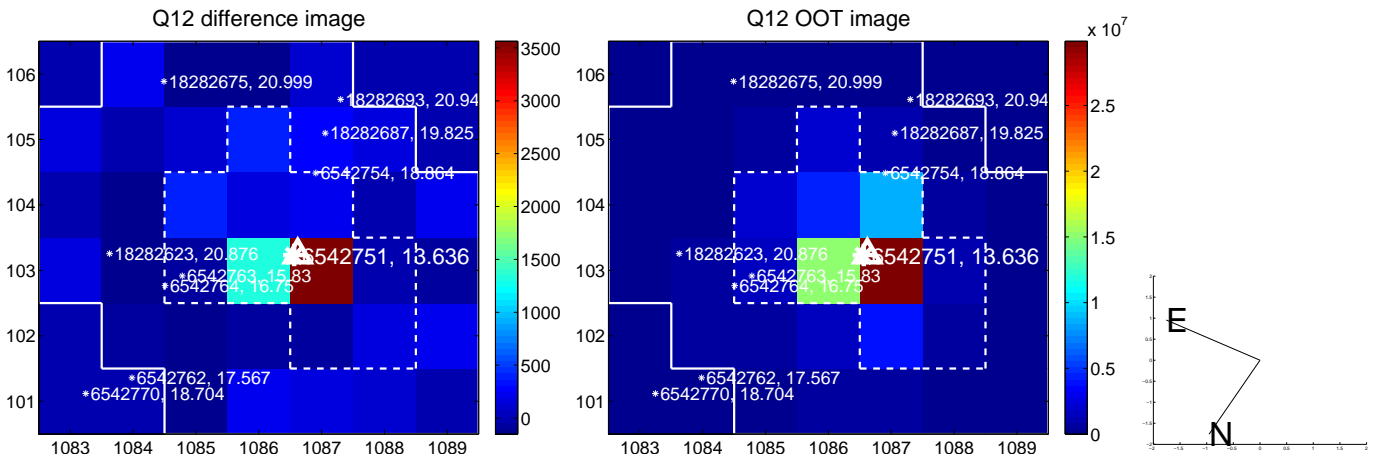
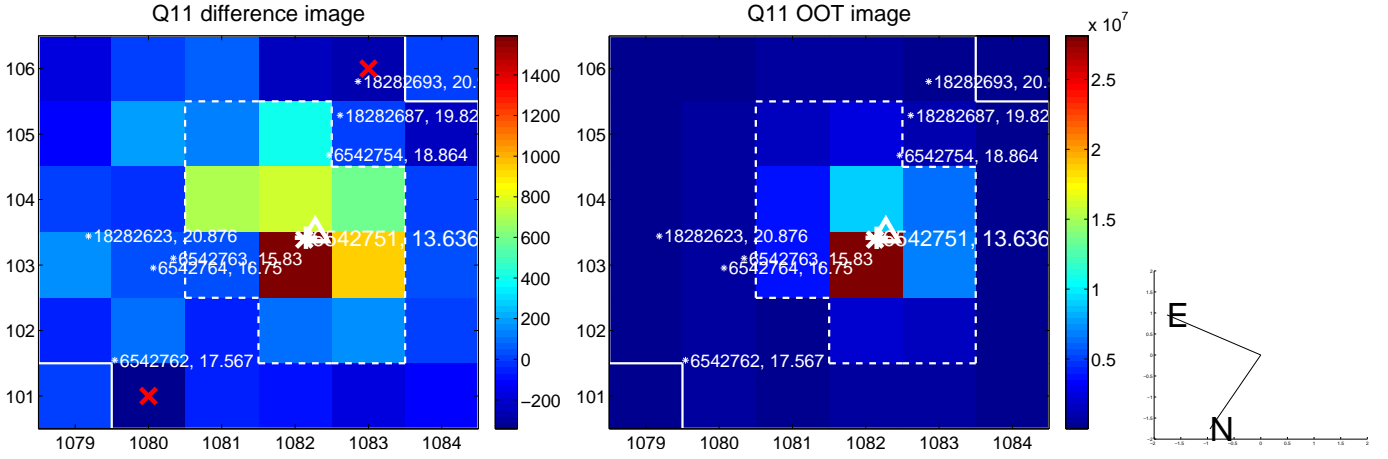
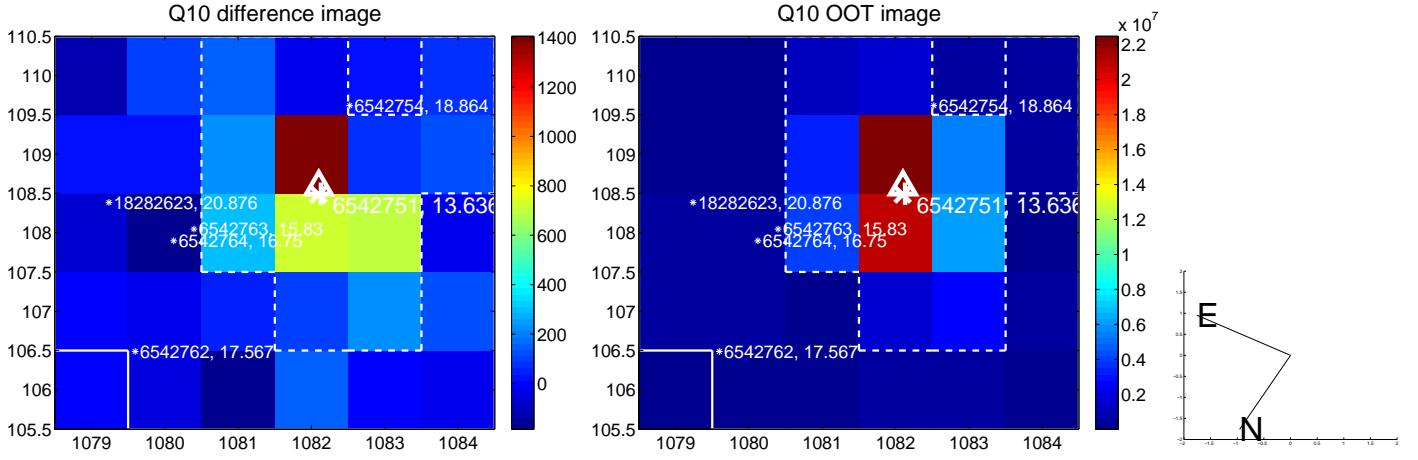
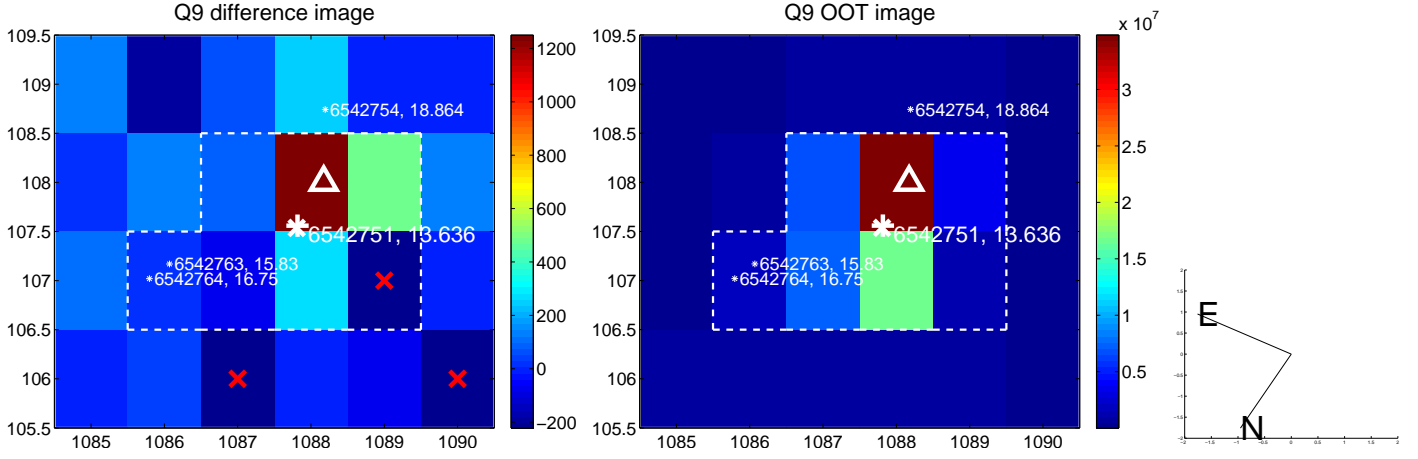
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



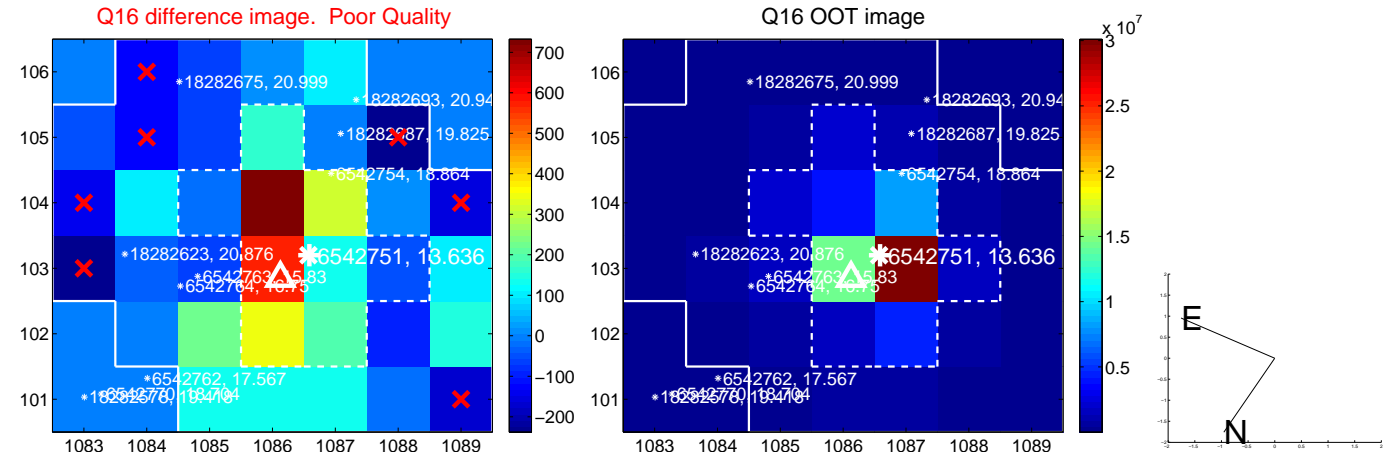
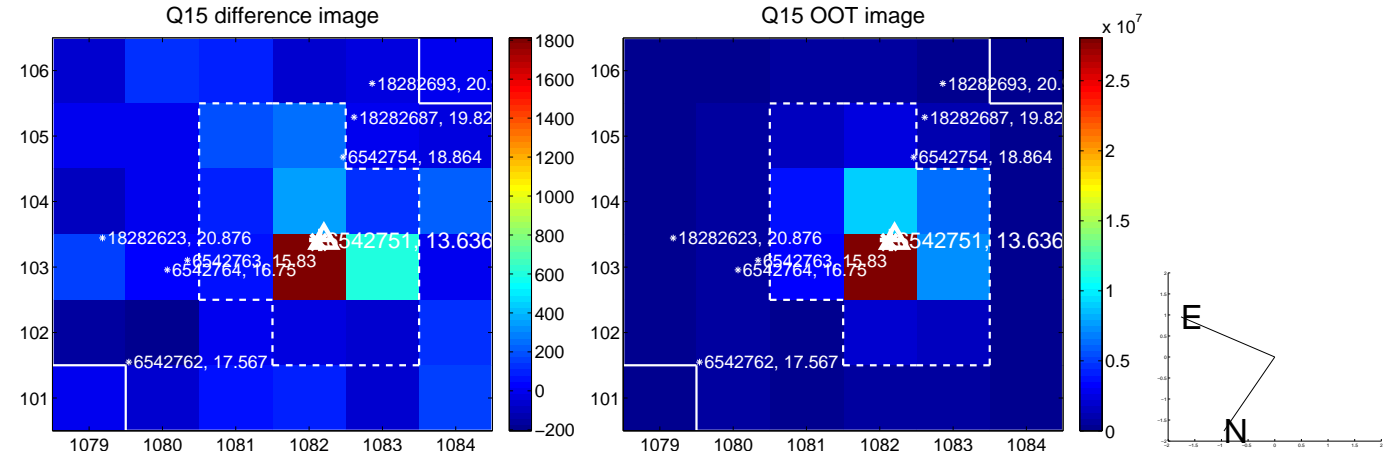
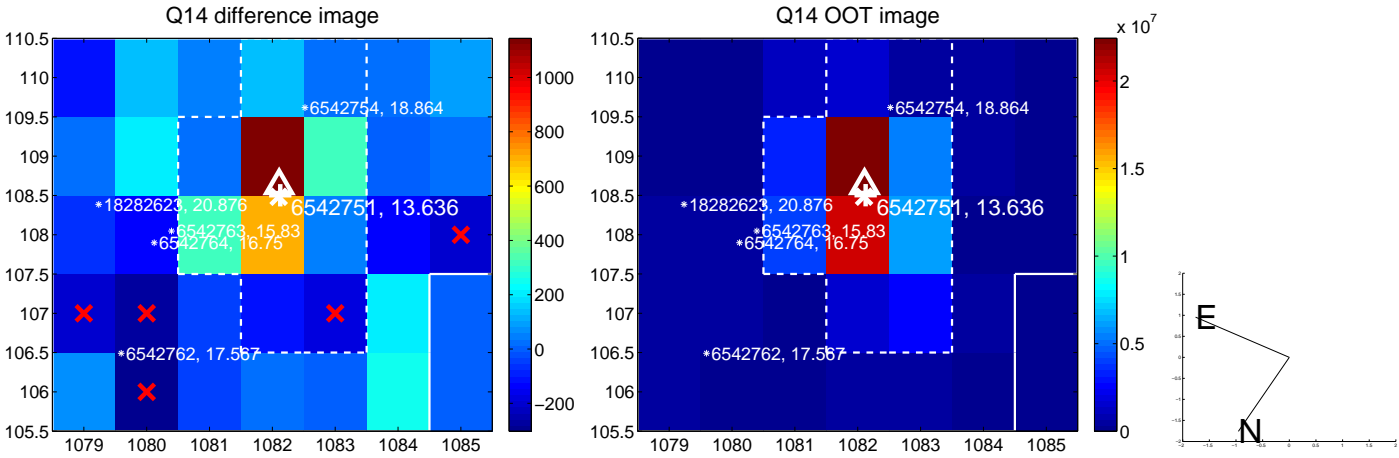
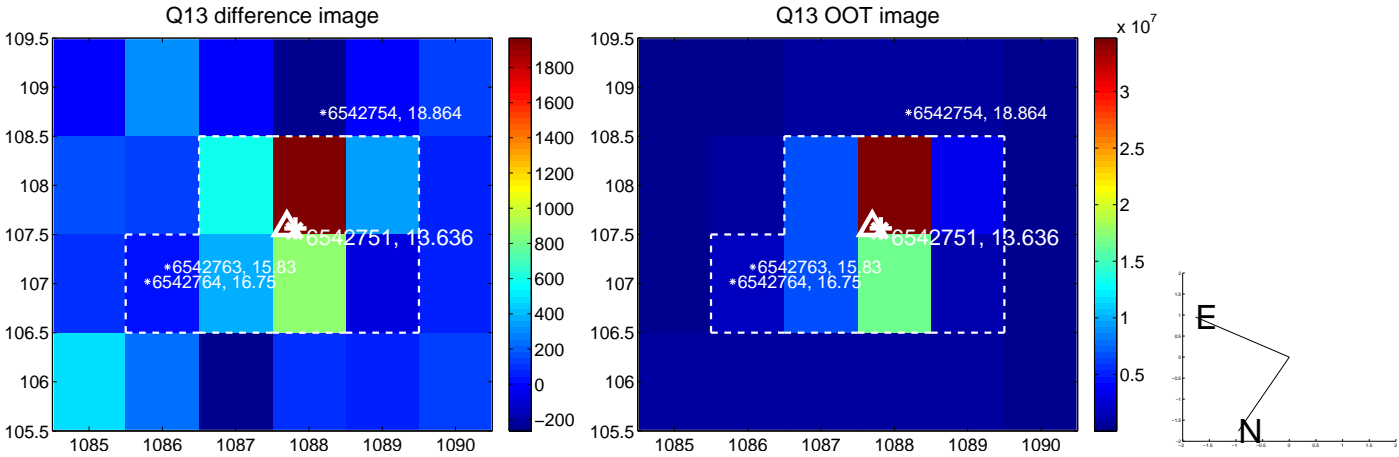
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



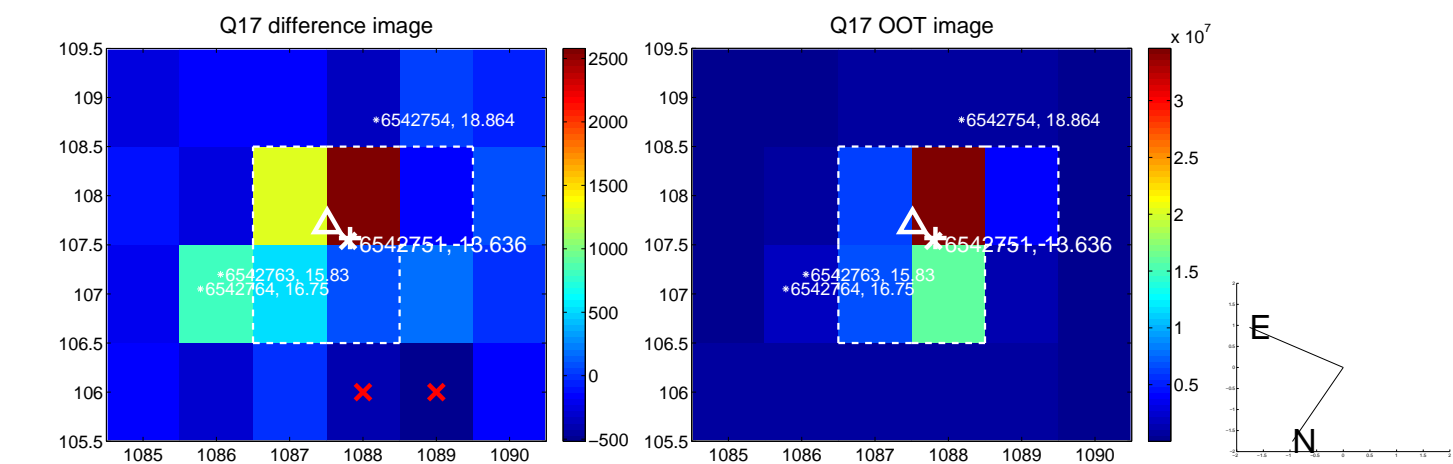
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



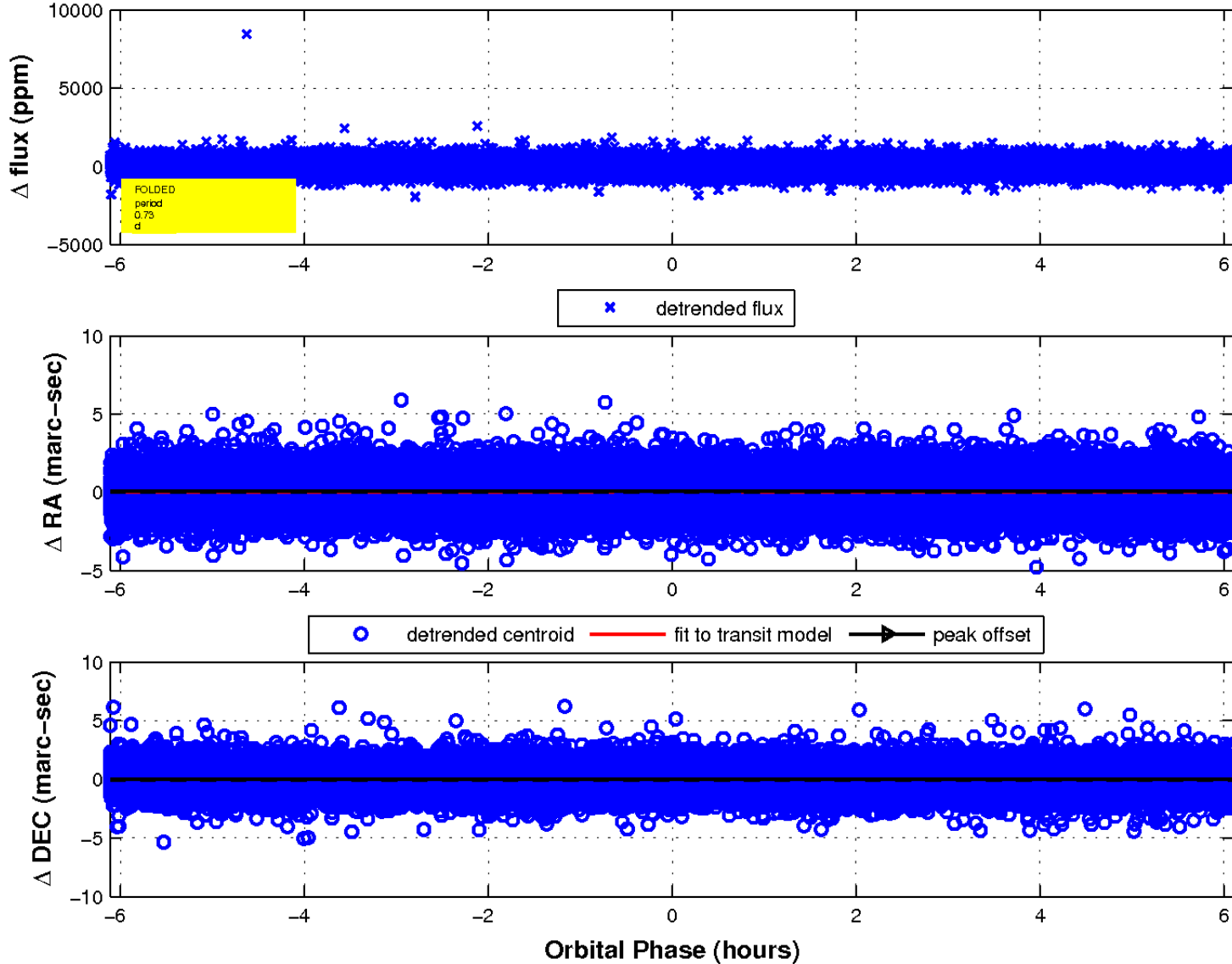
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

