

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})
002556639-01	OBS	No	2.481583	132.823046	87.7	17.056	10.5	11.4	10.67	4838	10.02	0.00
002556639-02	OBS	No	429.720278	453.938785	7145.3	38.419	62.8	49.1	10.67	4838	170.27	29.34
002556639-03	OBS	No	60.844901	153.558562	330.8	4.302	19.2	4.2	10.67	4838	20.78	397.55
002556639-04	OBS	No	61.929579	153.843236	715.6	17.592	17.8	13.5	10.67	4838	35.86	388.30
002556639-05	OBS	No	124.313425	186.359040	967.3	0.572	17.5	2.6	10.67	4838	41.18	153.34
002556639-06	OBS	No	449.089597	206.154973	619.1	10.364	15.6	11.5	10.67	4838	30.29	27.66
002556639-07	OBS	No	86.635232	134.529984	735.2	6.378	12.6	12.0	10.67	4838	38.10	248.18
002556639-08	OBS	No	60.973922	137.494019	811.6	3.503	12.8	12.4	10.67	4838	31.86	396.43
002556639-09	OBS	No	21.744036	140.229270	724.0	4.469	12.3	11.5	10.67	4838	59.43	1567.62
002556639-10	OBS	No	71.789406	152.216780	763.5	2.777	12.9	12.7	10.67	4838	28.90	318.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002556639-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET
002556639-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002556639-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
002556639-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
002556639-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
002556639-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
002556639-09	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-10	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET

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

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

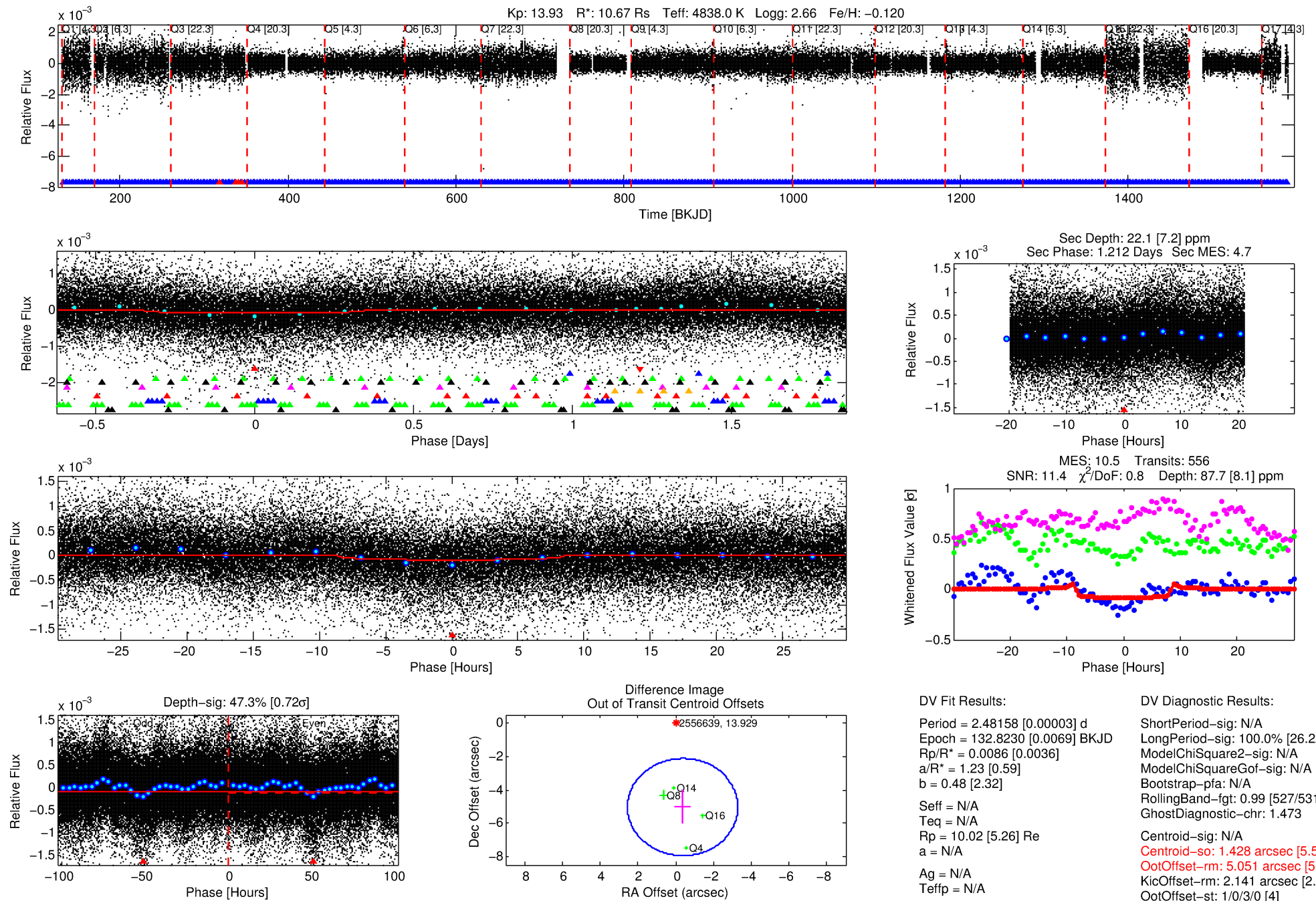
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002556639-01

No Significant Match Found

DV One-Page Summary

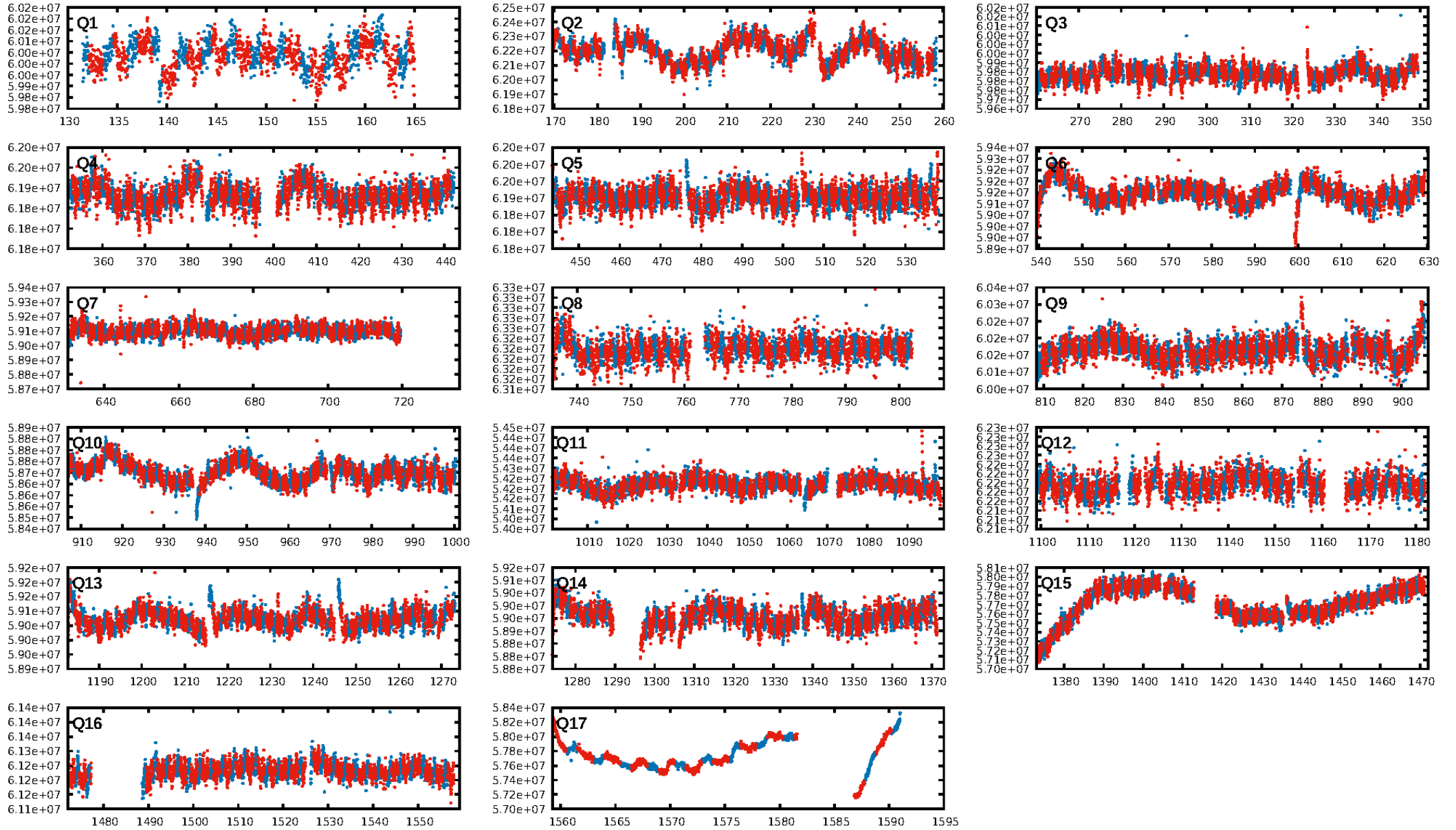
KIC: 2556639 Candidate: 1 of 10 Period: 2.482 d



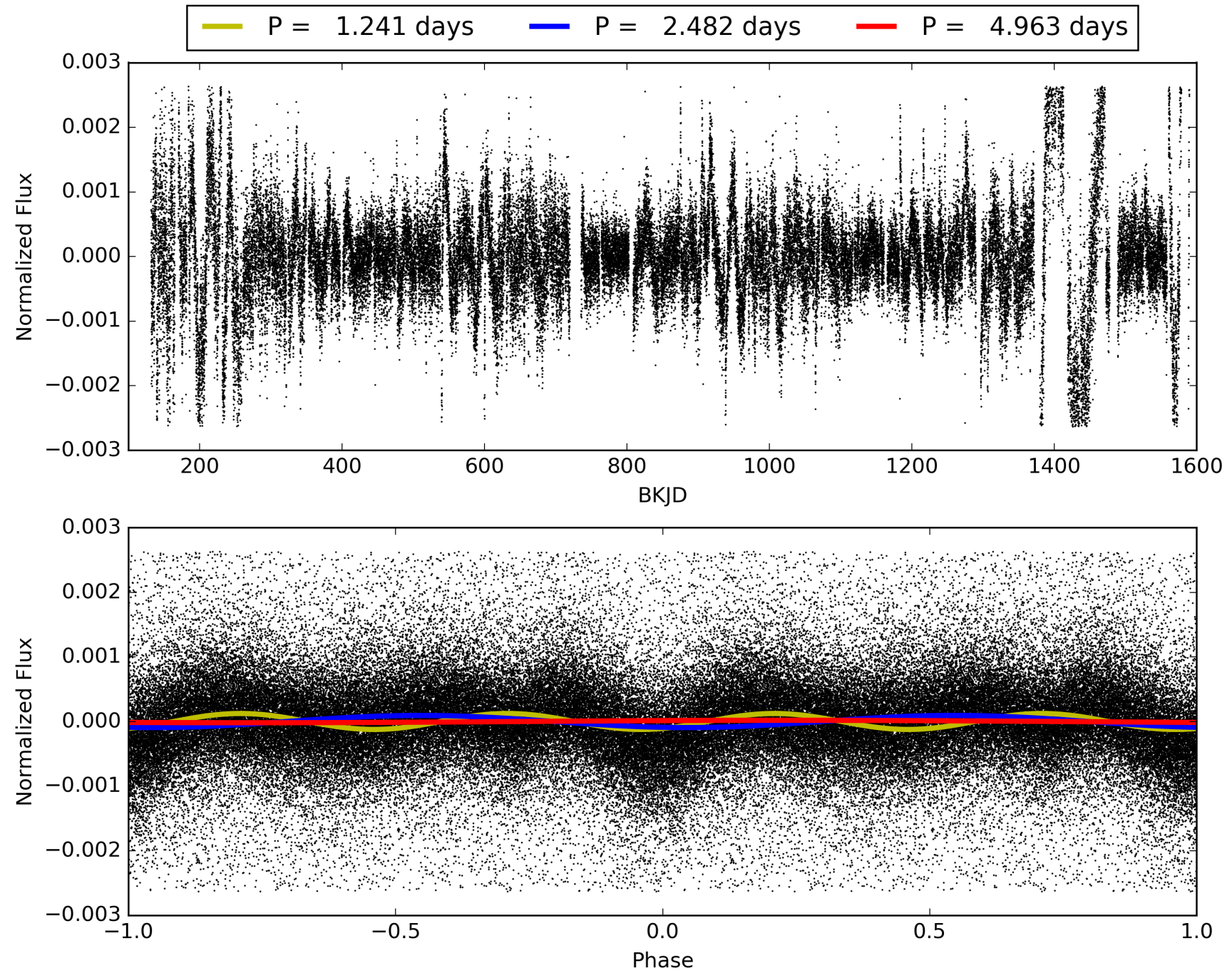
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 002556639-01, PDC Light Curves

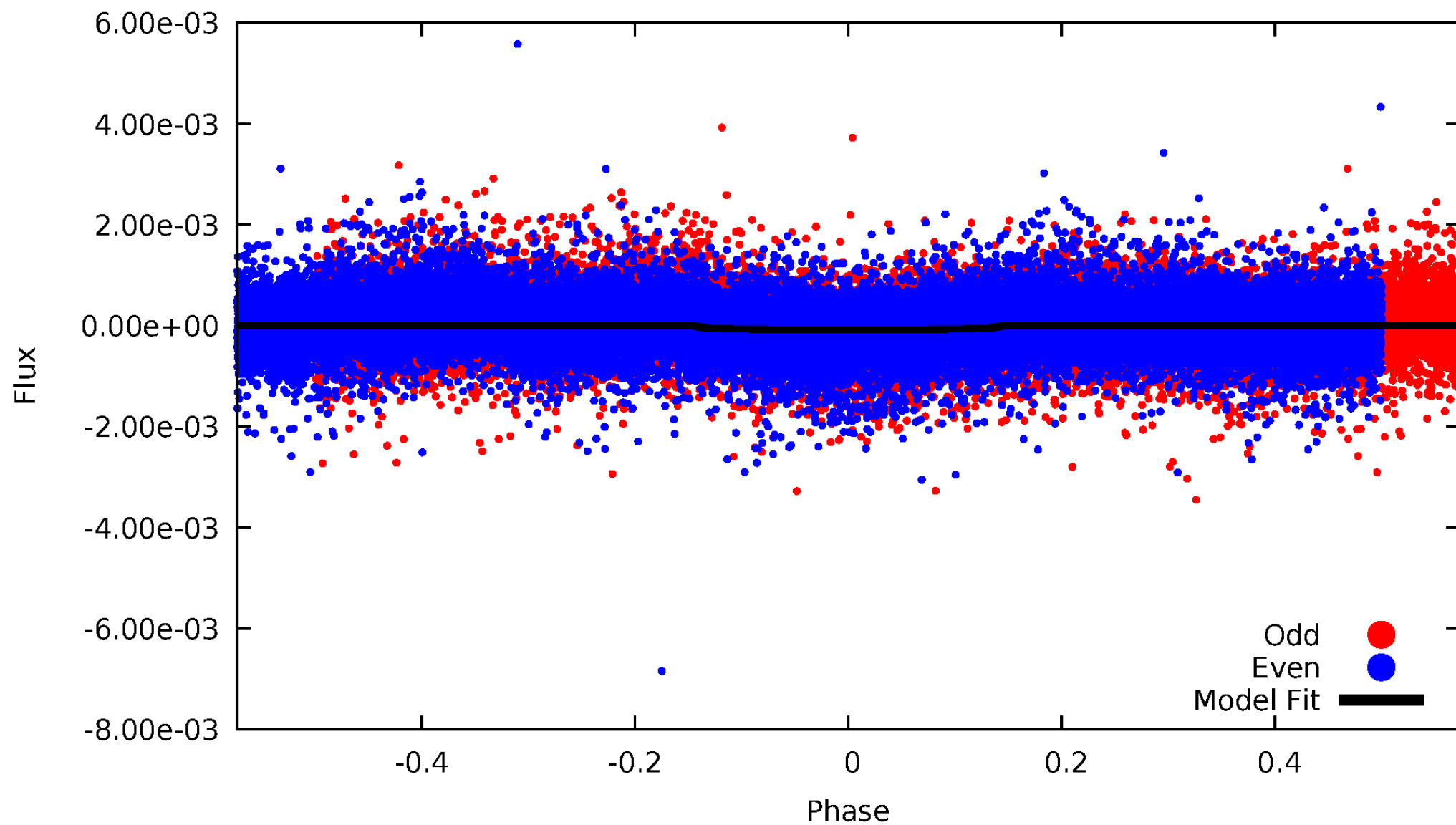


TCE 002556639-01



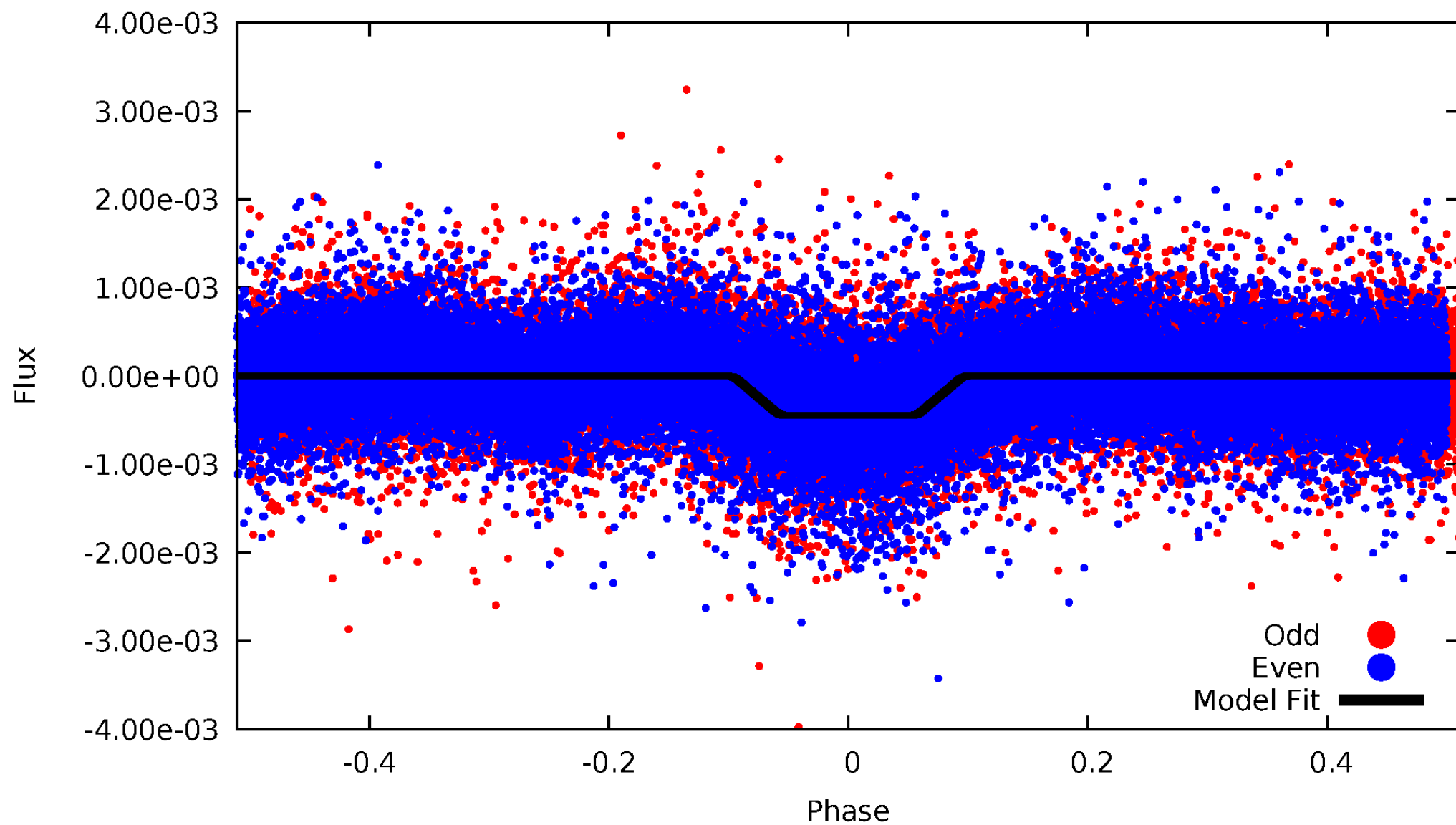
DV Odd/Even

TCE 002556639-01



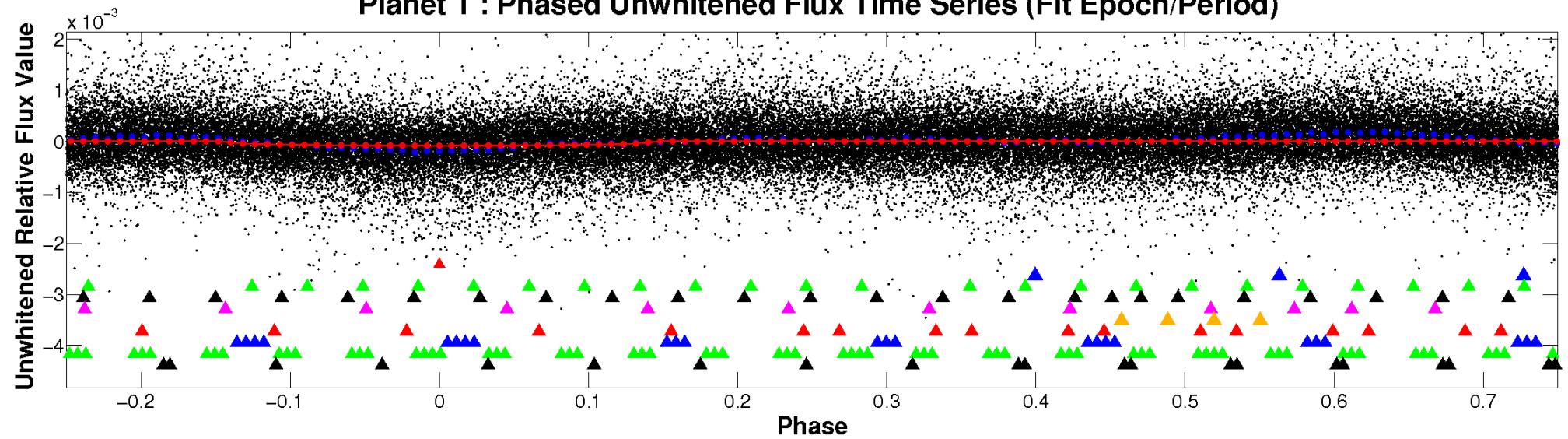
ALT Odd/Even

TCE 002556639-01

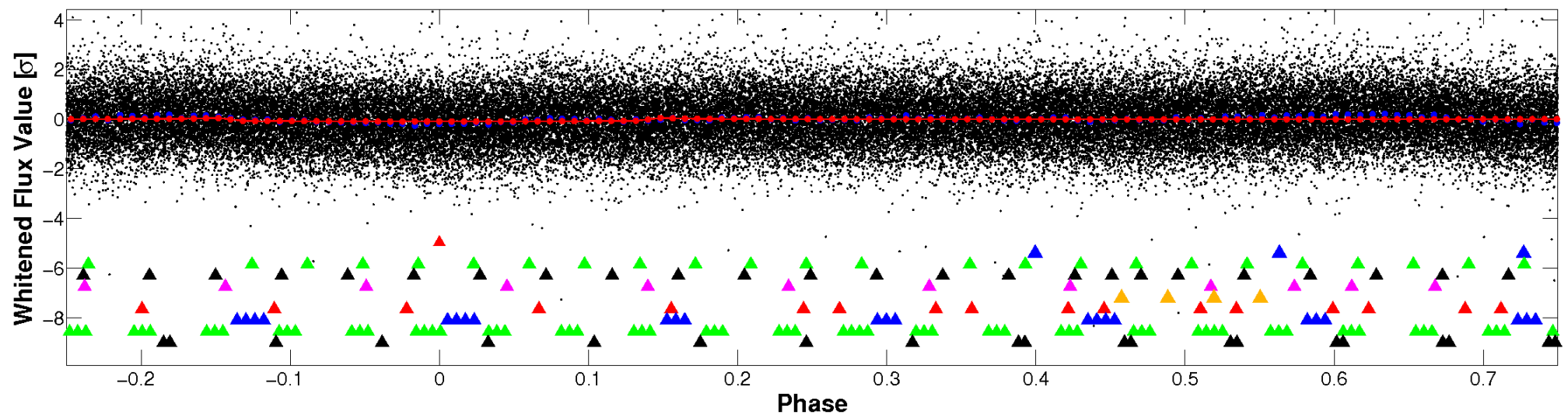


Non-Whitened Vs. Whitened Light Curve

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

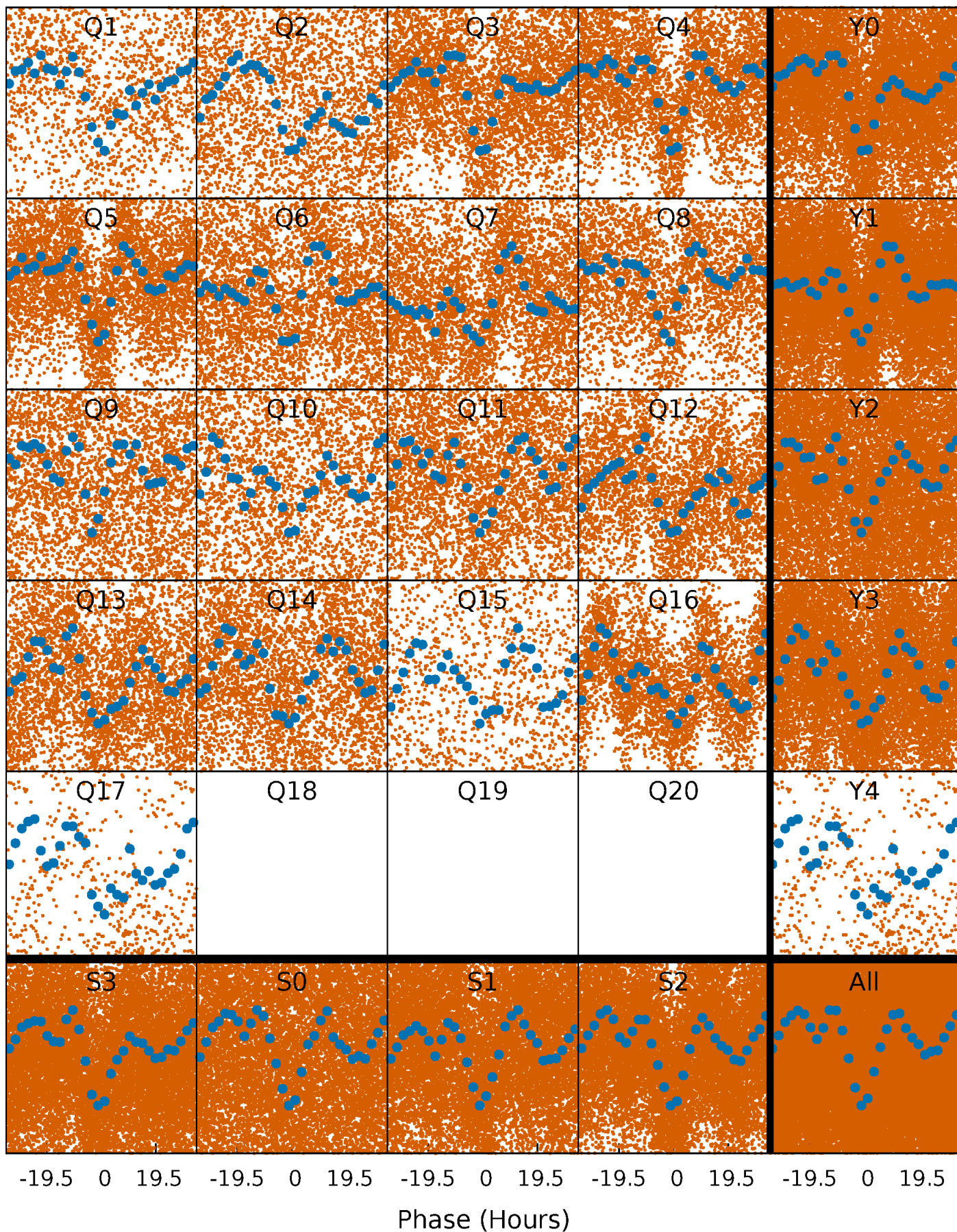


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



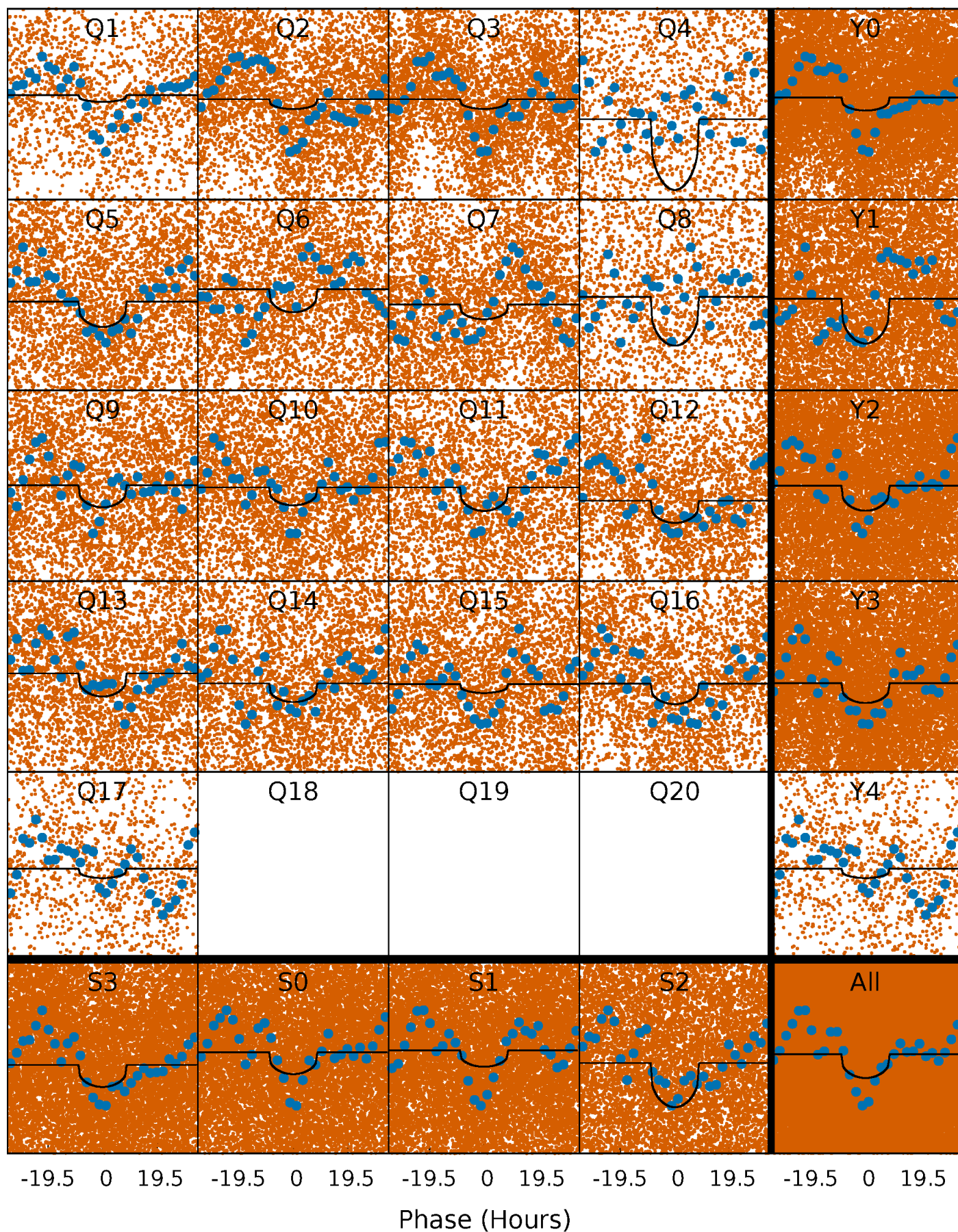
PDC Quarter-Phased Transit Curves

TCE 002556639-01 P= 2.481583 Days $T_0=132.823046$ (BKJD)



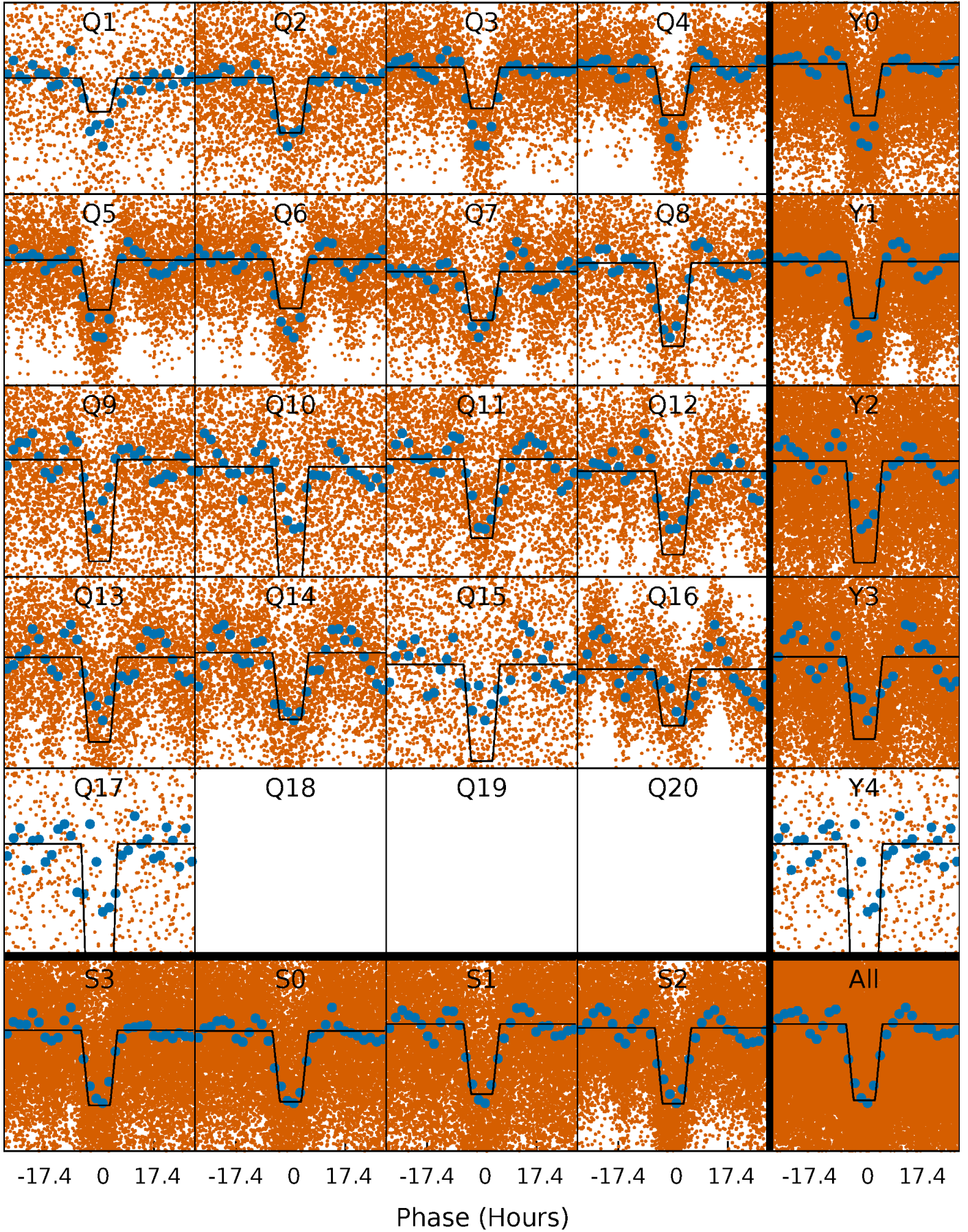
DV Quarter-Phased Transit Curves

TCE 002556639-01 P= 2.481583 Days $T_0=132.823046$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

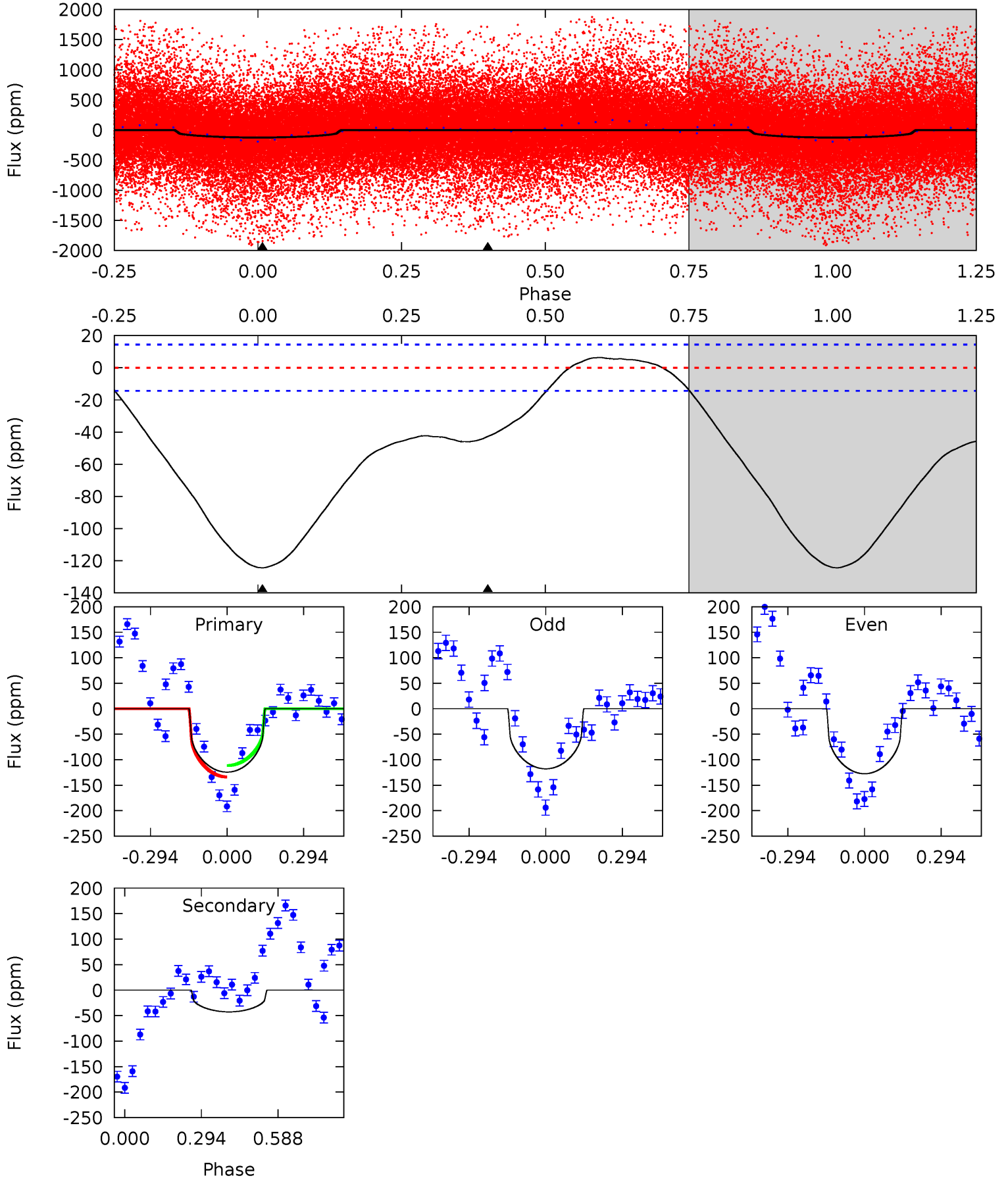
TCE 002556639-01 P= 2.481457 Days $T_0=132.808298$ (BKJD)



DV Model-Shift Uniqueness Test

002556639-01, P = 2.481583 Days, E = 130.341463 Days

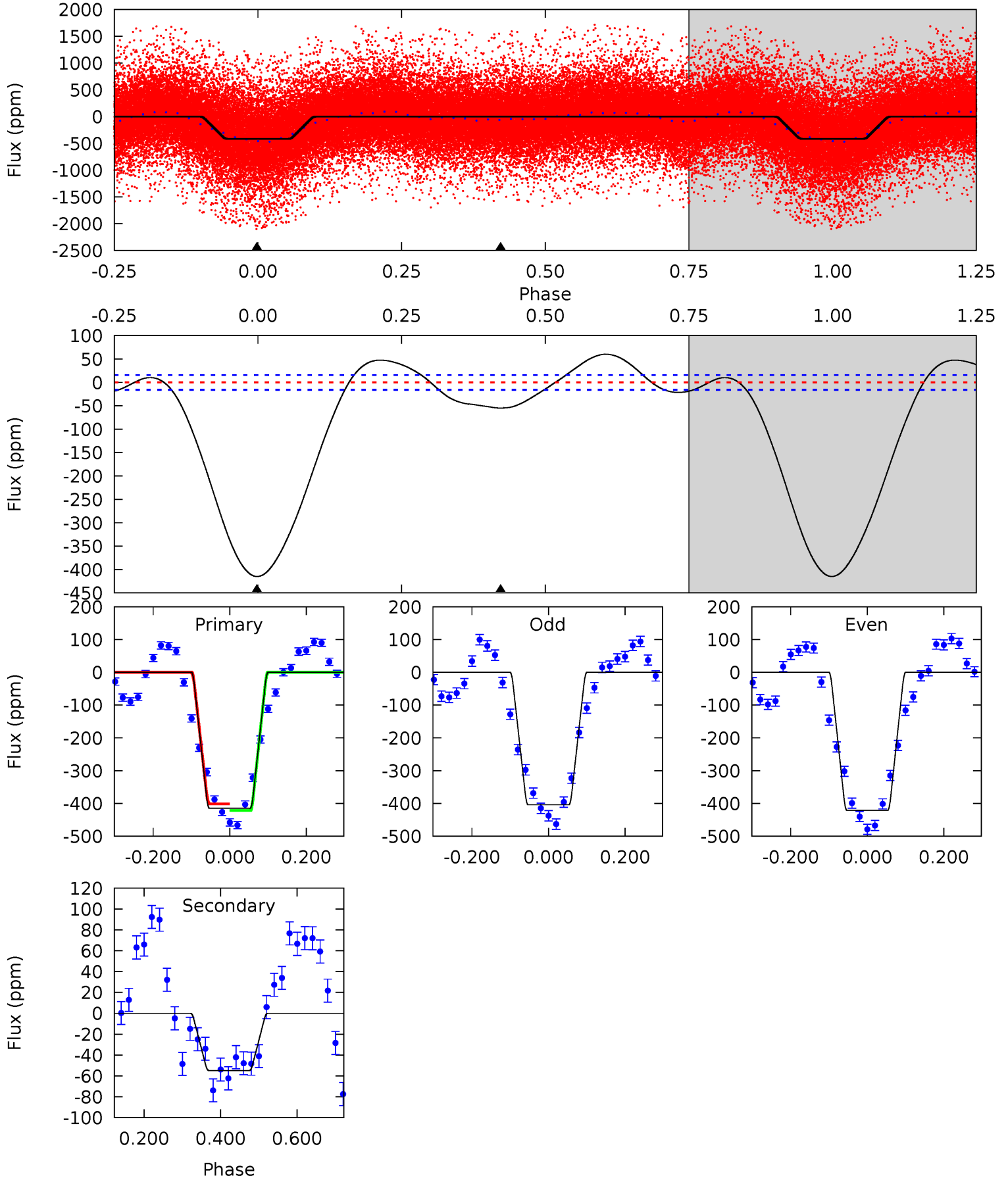
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.5	12.9	0	0	4.33	1.05	1.83	37.5	37.5	12.9	12.9	1.45	1.30	0.05	3.34



Alt Model-Shift Uniqueness Test

002556639-01, P = 2.481457 Days, E = 130.326841 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
117.2	15.5	0	0	4.42	1.28	7.55	117.2	117.2	15.5	15.5	2.40	1.11	0.13	2.80



Stellar Parameters For KIC 002556639

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4838^{+50}_{-93}	$2.660^{+0.180}_{-0.120}$	$-0.120^{+0.100}_{-0.150}$	$10.671^{+1.463}_{-3.414}$	$1.899^{+0.185}_{-0.740}$	$0.002^{+0.003}_{-0.001}$
	+1%/-2%	+7%/-5%	+83%/-125%	+14%/-32%	+10%/-39%	+123%/-29%
Source	SPE74	SPE74	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 002556639-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-43 ± 3	$9.73^{+4.40}_{-4.06}$	4627^{+205}_{-287}	3616^{+1506}_{-6867}	$0.476^{+0.949}_{-0.259}$
Alt.	-55 ± 4	$23.71^{+5.76}_{-4.90}$	4607^{+204}_{-271}	-3703^{+295}_{-203}	$0.104^{+0.058}_{-0.034}$

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

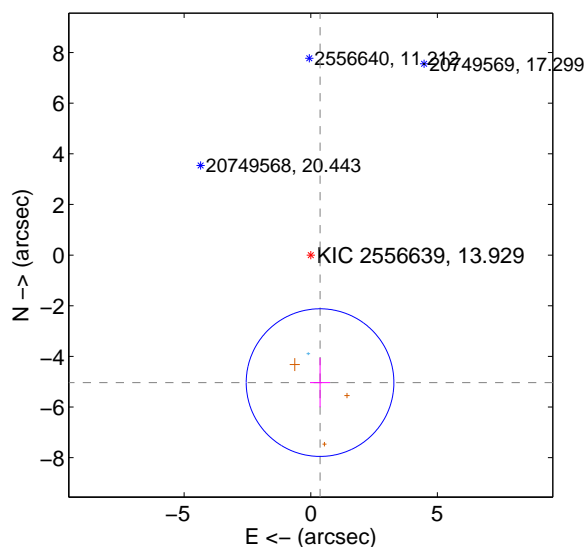
Supplemental centroid analysis for 002556639-01. Kepler magnitude: 13.93. Transit SNR 11.40

There are 2 quarters with good PRF difference image offsets

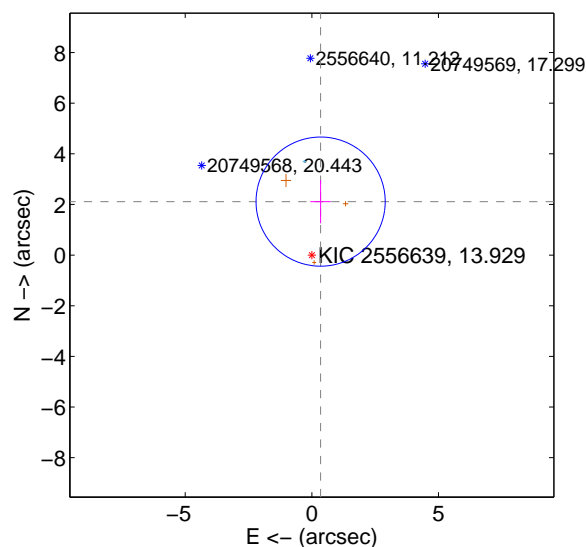
The OOT PRF centroid is offset from the target star catalog position by about 7.58 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.051 ± 0.972	5.20	-0.367 ± 0.395	-5.037 ± 0.974
PRF-fit source offset from KIC position	2.141 ± 0.850	2.52	-0.347 ± 0.402	2.113 ± 0.859
photometric centroid source offset	1.43 ± 0.26	5.56	0.07 ± 0.12	1.43 ± 0.26

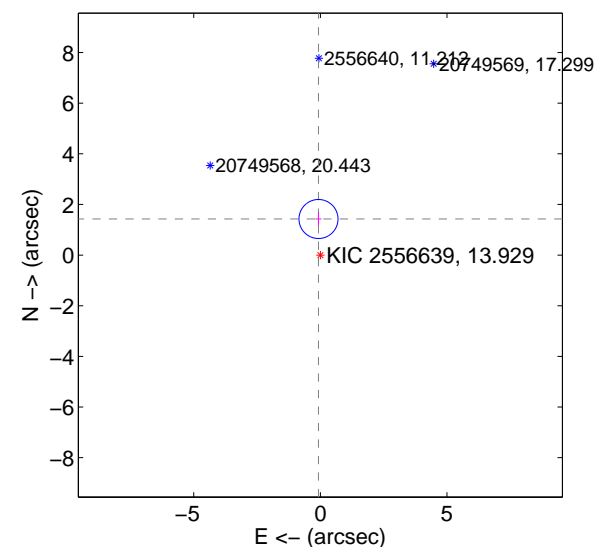
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

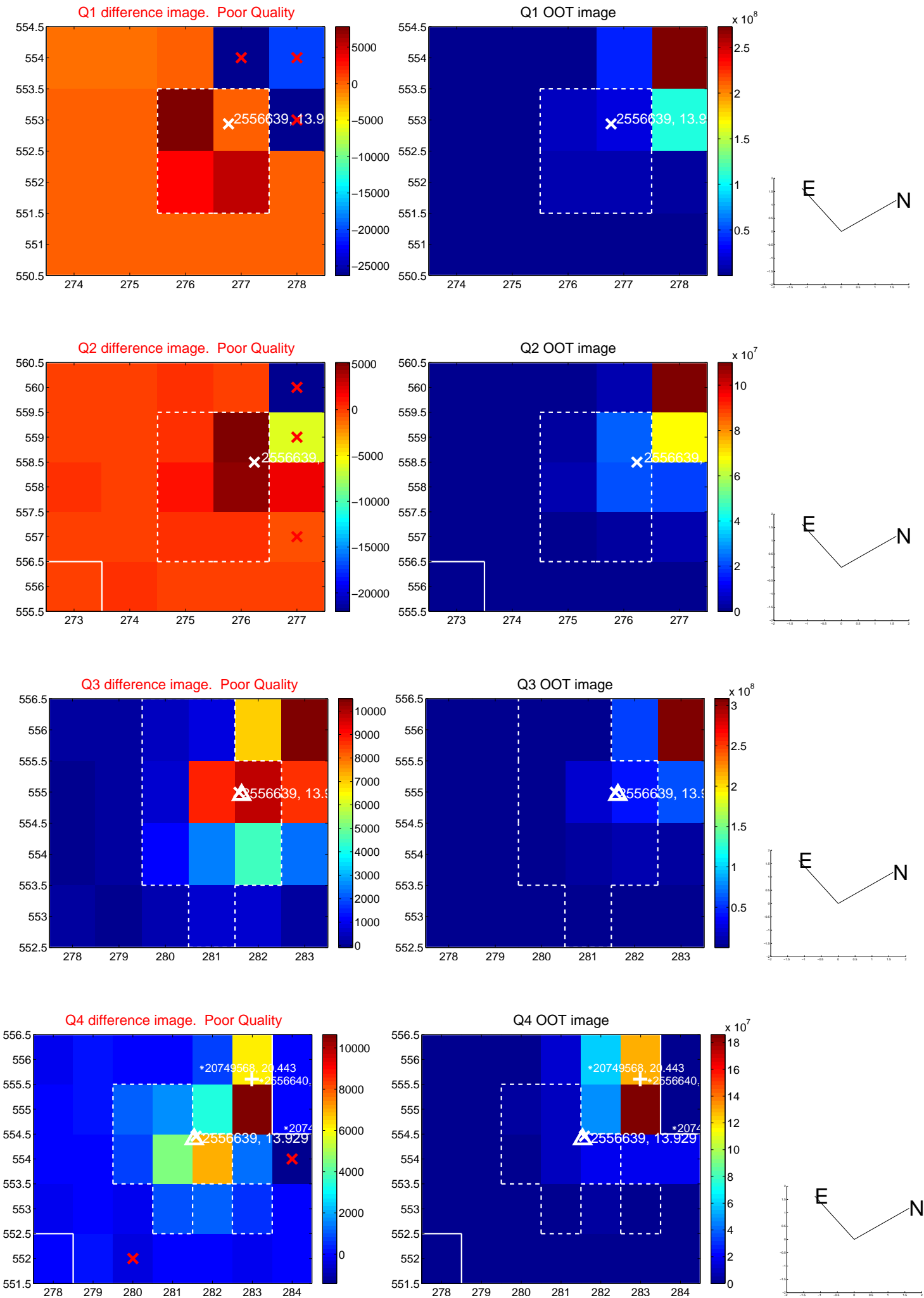


offset from photometric centroids

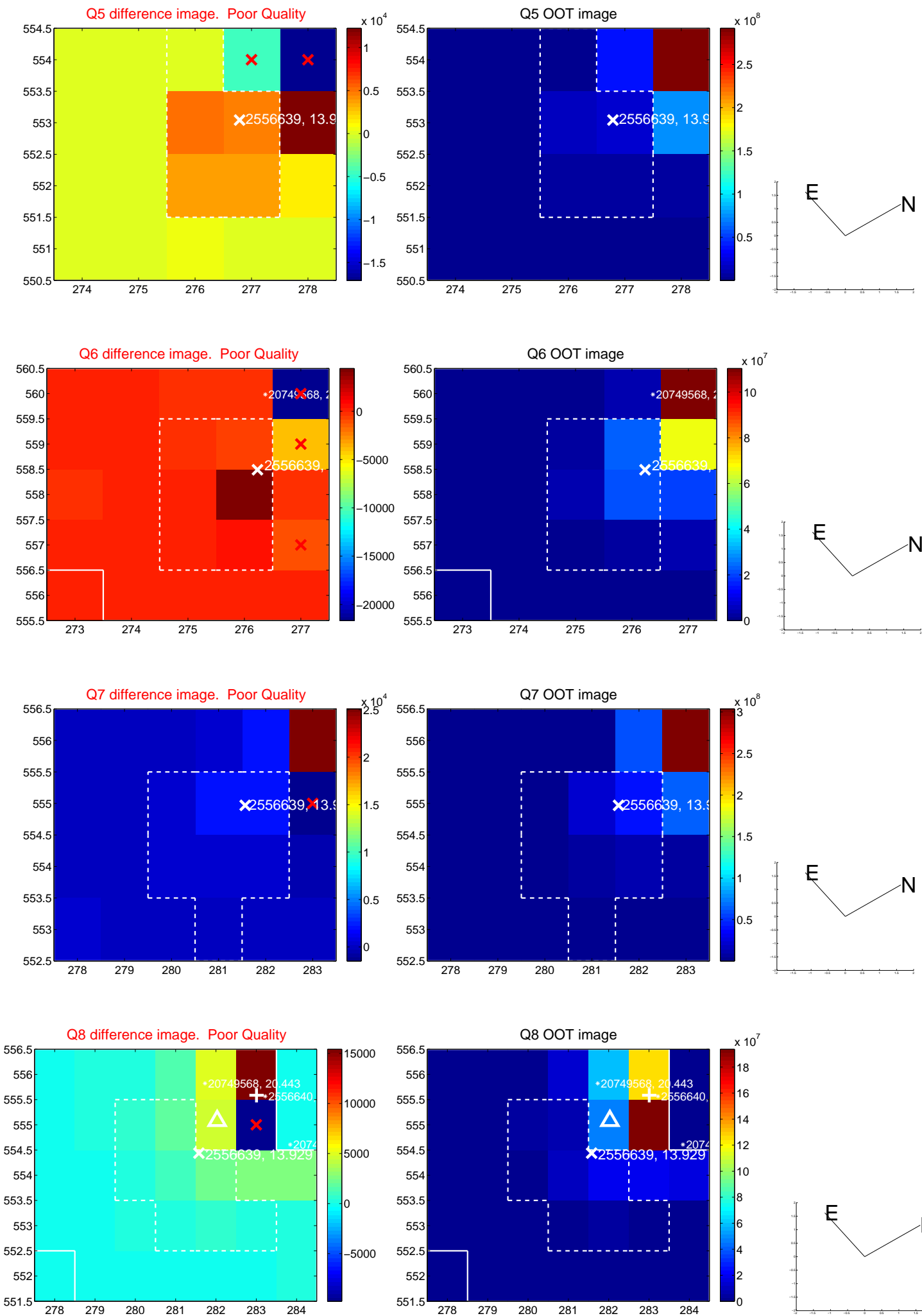


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

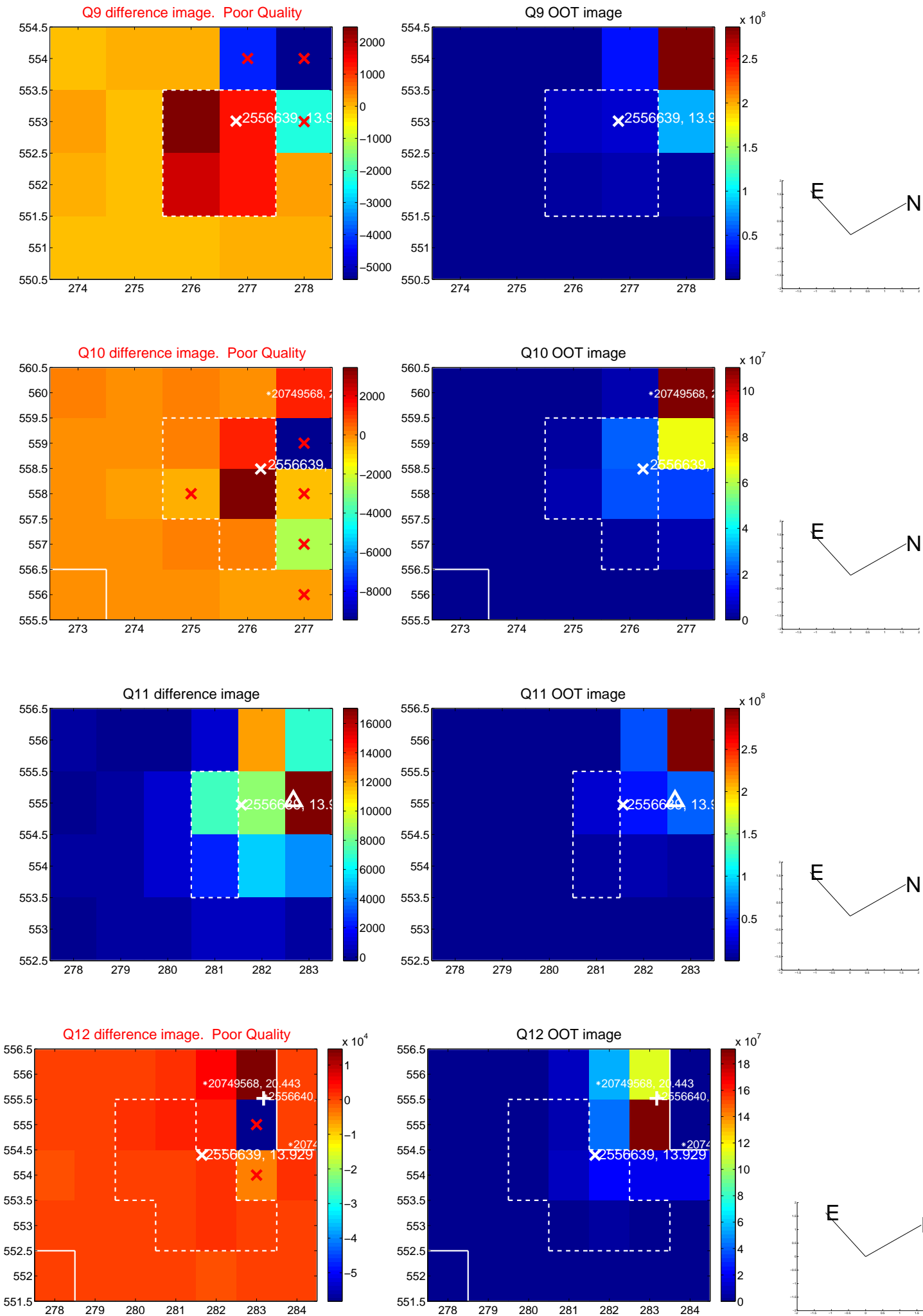
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



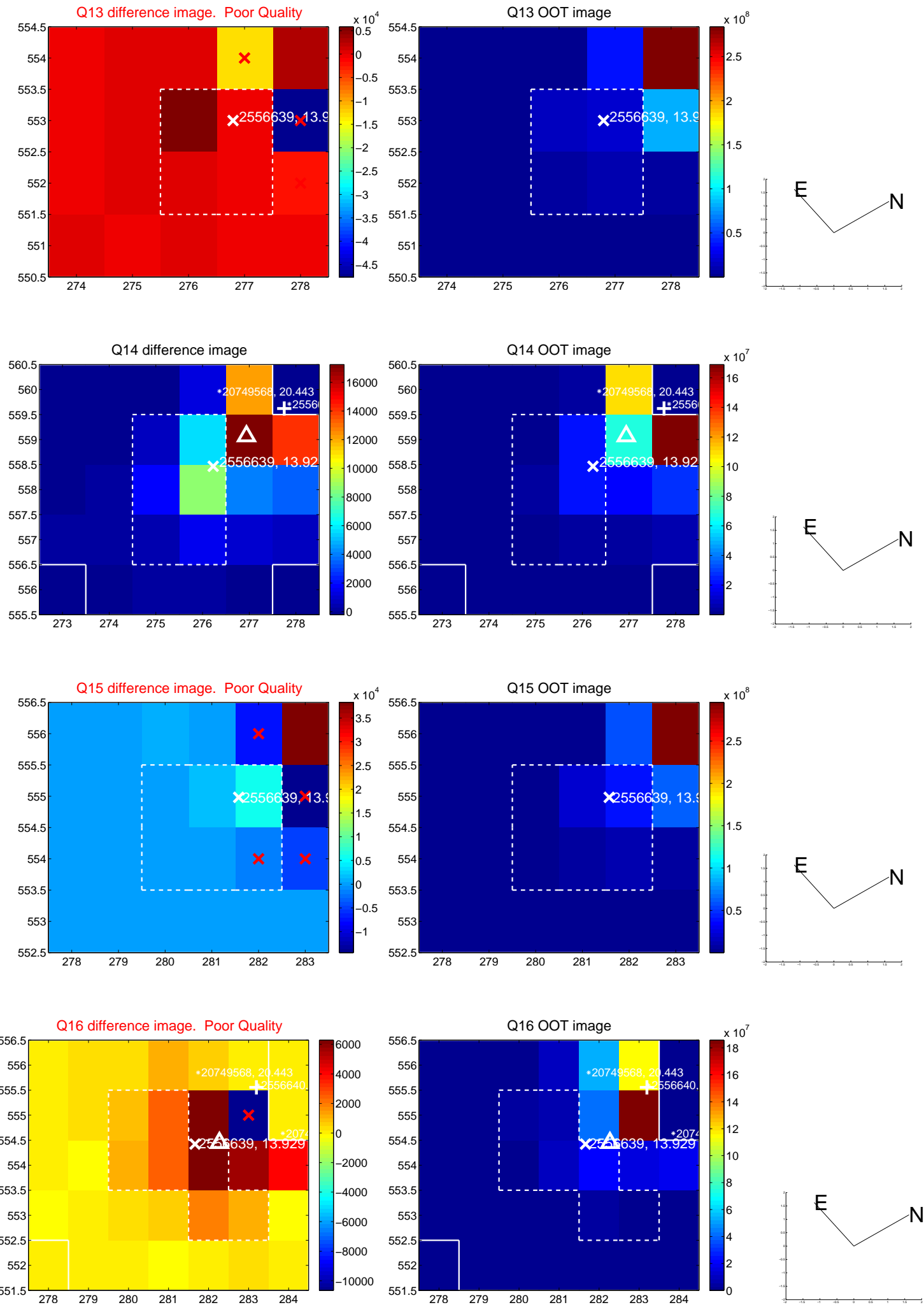
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



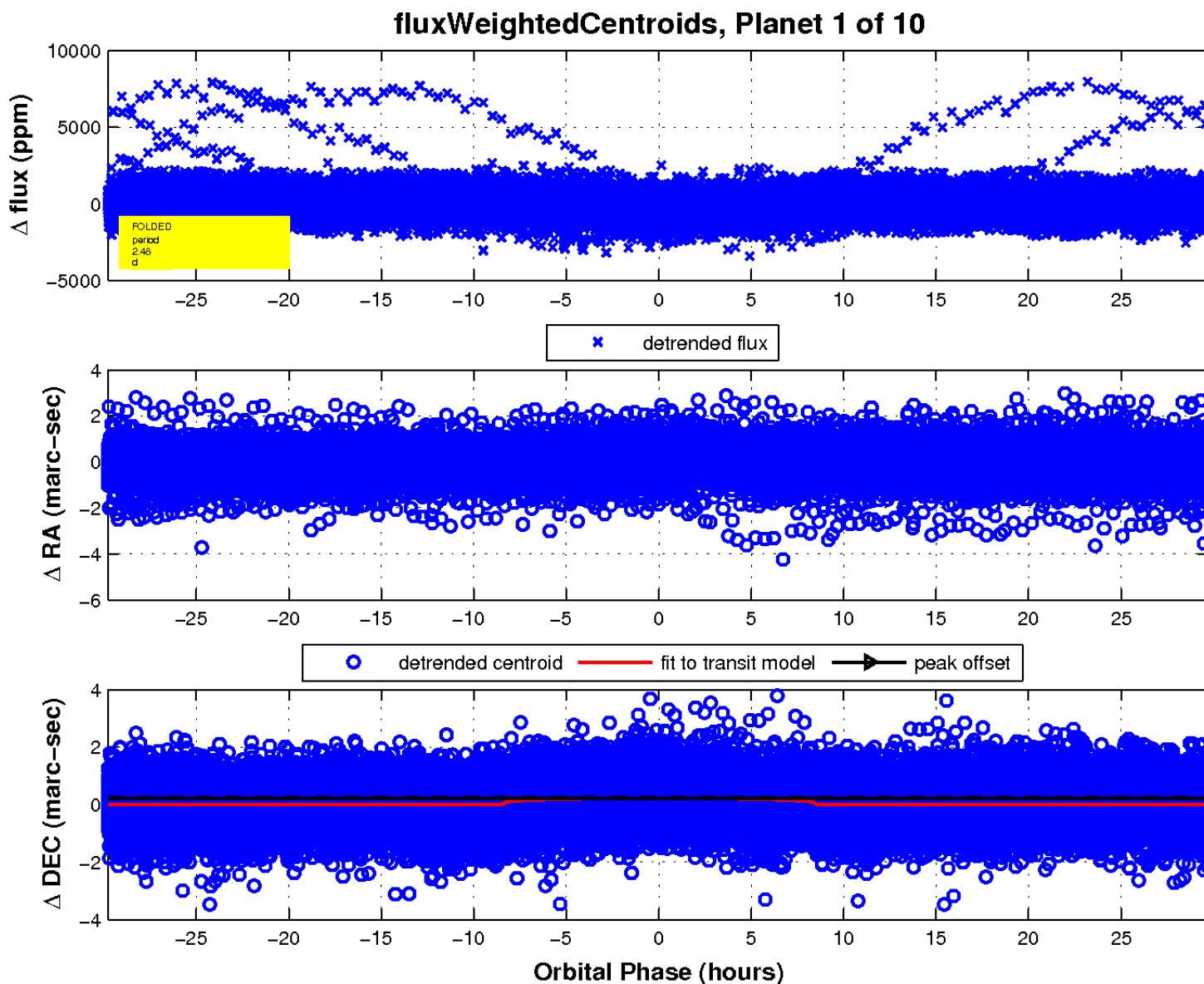
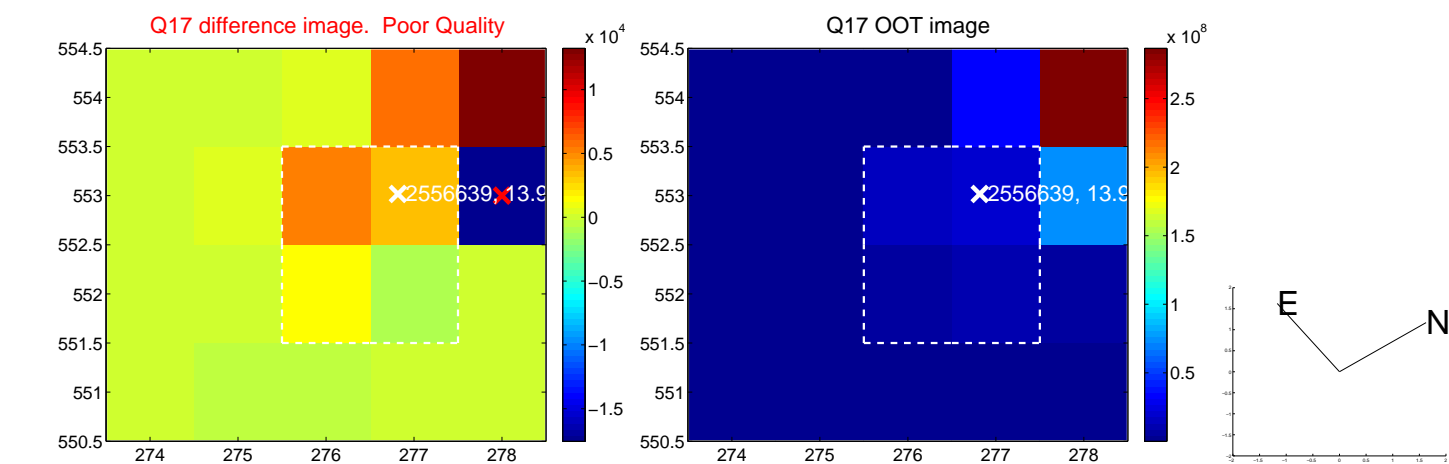
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



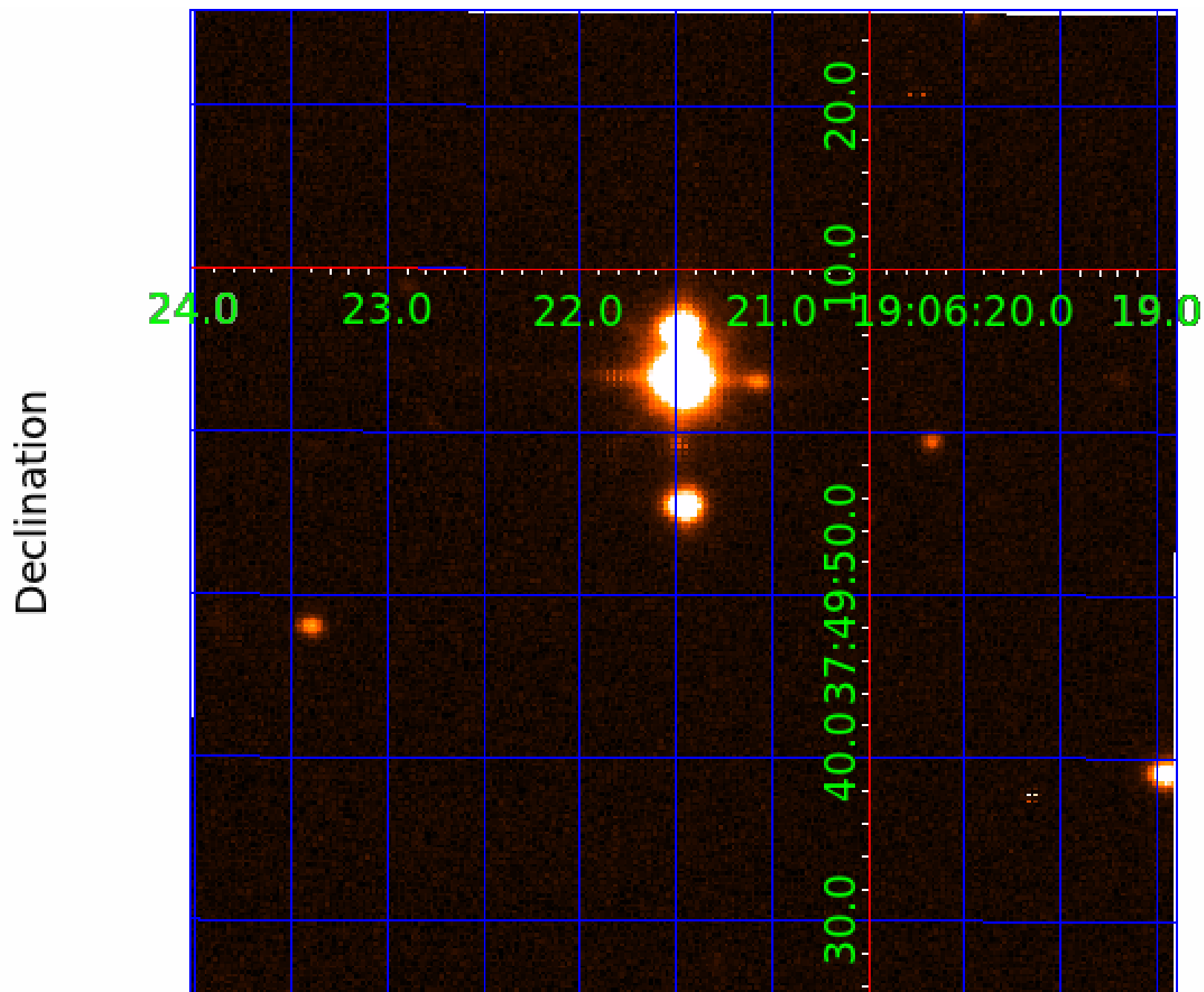
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



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})
002556639-01	OBS	No	2.481583	132.823046	87.7	17.056	10.5	11.4	10.67	4838	10.02	0.00
002556639-02	OBS	No	429.720278	453.938785	7145.3	38.419	62.8	49.1	10.67	4838	170.27	29.34
002556639-03	OBS	No	60.844901	153.558562	330.8	4.302	19.2	4.2	10.67	4838	20.78	397.55
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002556639-10	OBS	No	71.789406	152.216780	763.5	2.777	12.9	12.7	10.67	4838	28.90	318.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002556639-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET
002556639-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002556639-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
002556639-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
002556639-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
002556639-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
002556639-09	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-10	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET

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

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

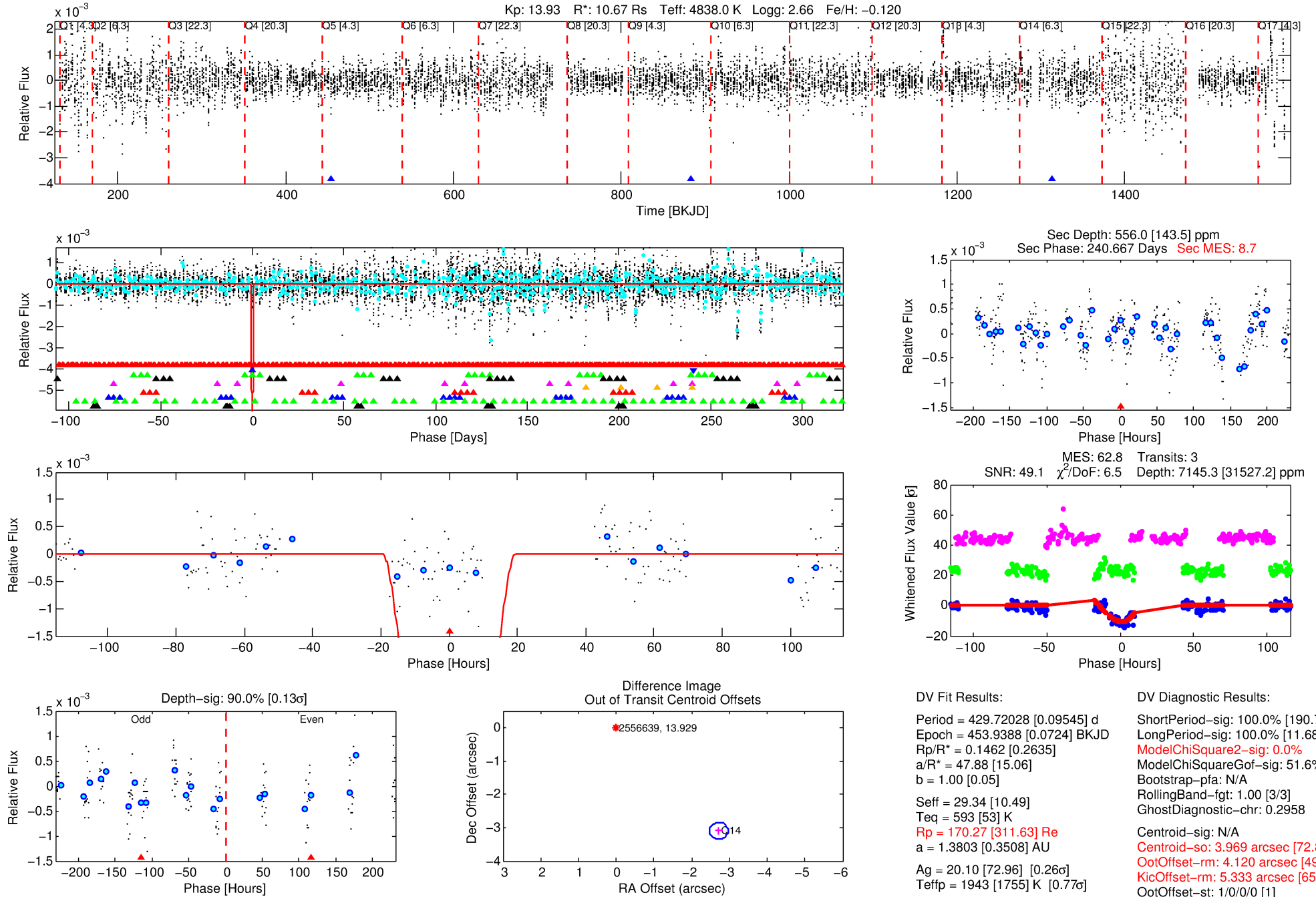
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002556639-02

No Significant Match Found

DV One-Page Summary

KIC: 2556639 Candidate: 2 of 10 Period: 429.720 d



DV Fit Results:

Period = 429.72028 [0.09545] d
Epoch = 453.9388 [0.0724] BKJD
Rp/R* = 0.1462 [0.2635]
a/R* = 47.88 [15.06]
b = 1.00 [0.05]
Seff = 29.34 [10.49]
Teq = 593 [53] K
Rp = 170.27 [311.63] Re
a = 1.3803 [0.3508] AU
Ag = 20.10 [72.96] [0.26σ]
Teffp = 1943 [1755] K [0.77σ]

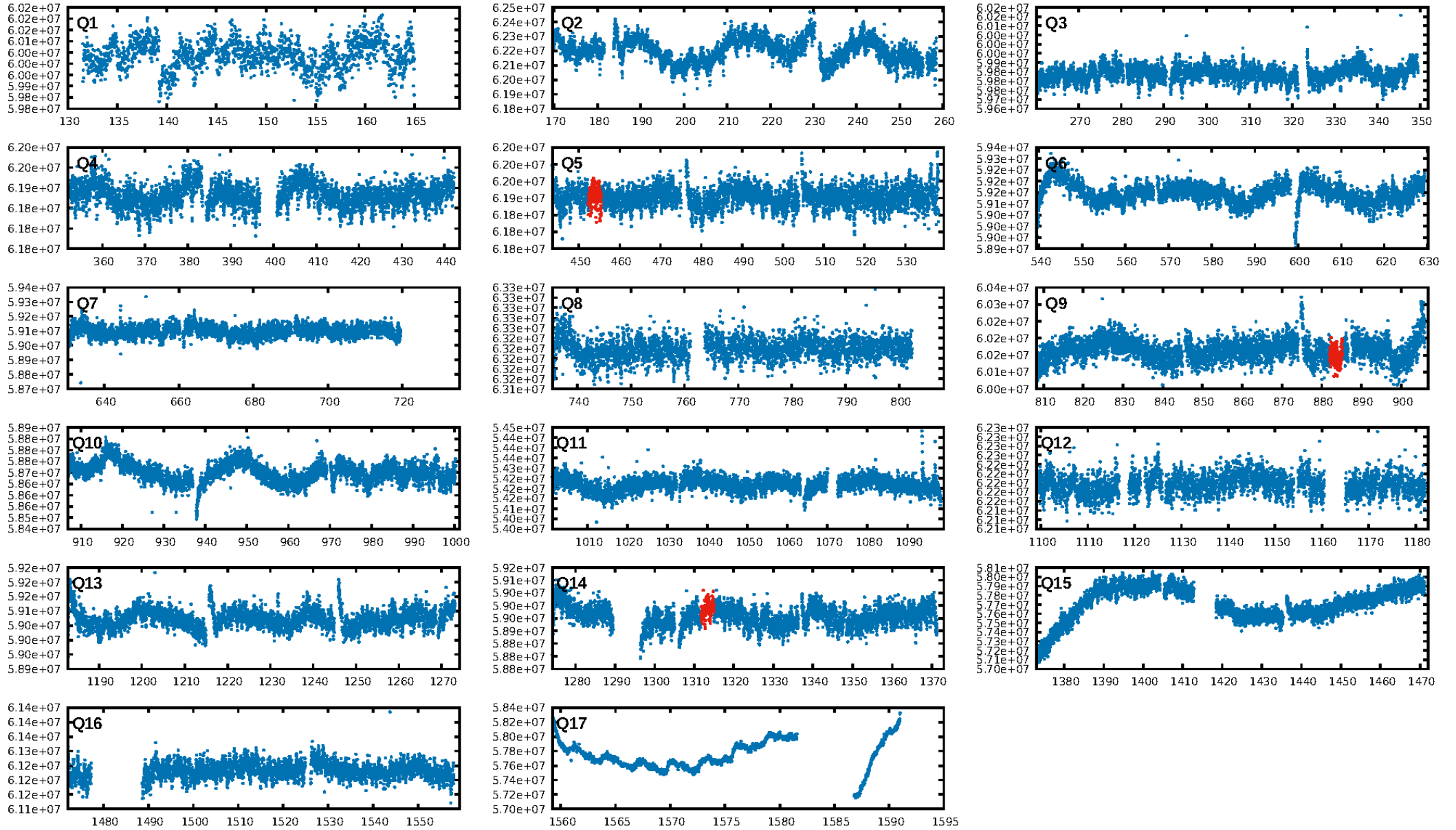
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [190.76σ]
LongPeriod-sig: 100.0% [11.68σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 51.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.2958
Centroid-sig: N/A
Centroid-so: 3.969 arcsec [72.89σ]
OotOffset-rm: 4.120 arcsec [49.46σ]
KicOffset-rm: 5.333 arcsec [65.01σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 0.00 [0/3]

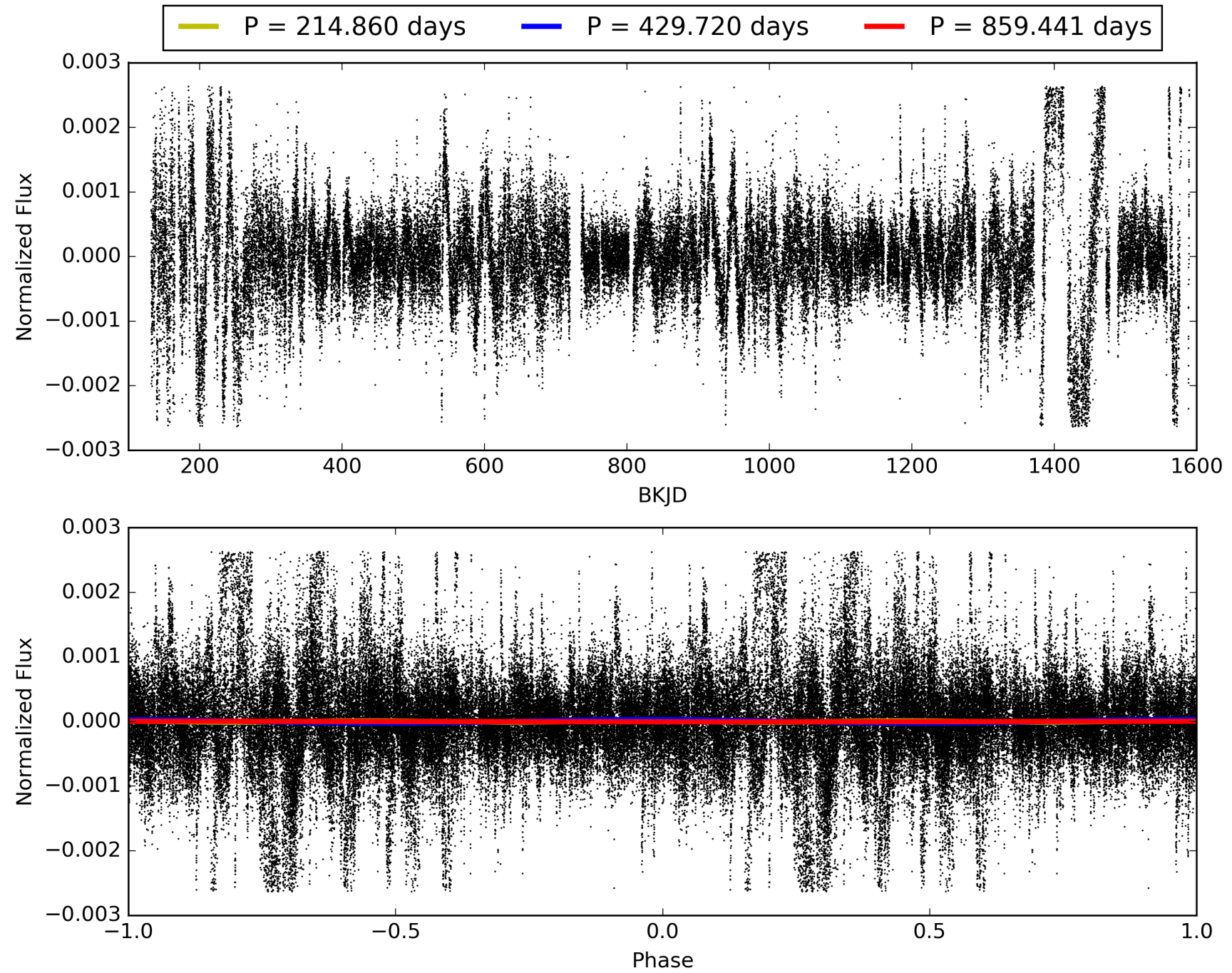
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:49:38 Z

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

TCE 002556639-02, PDC Light Curves

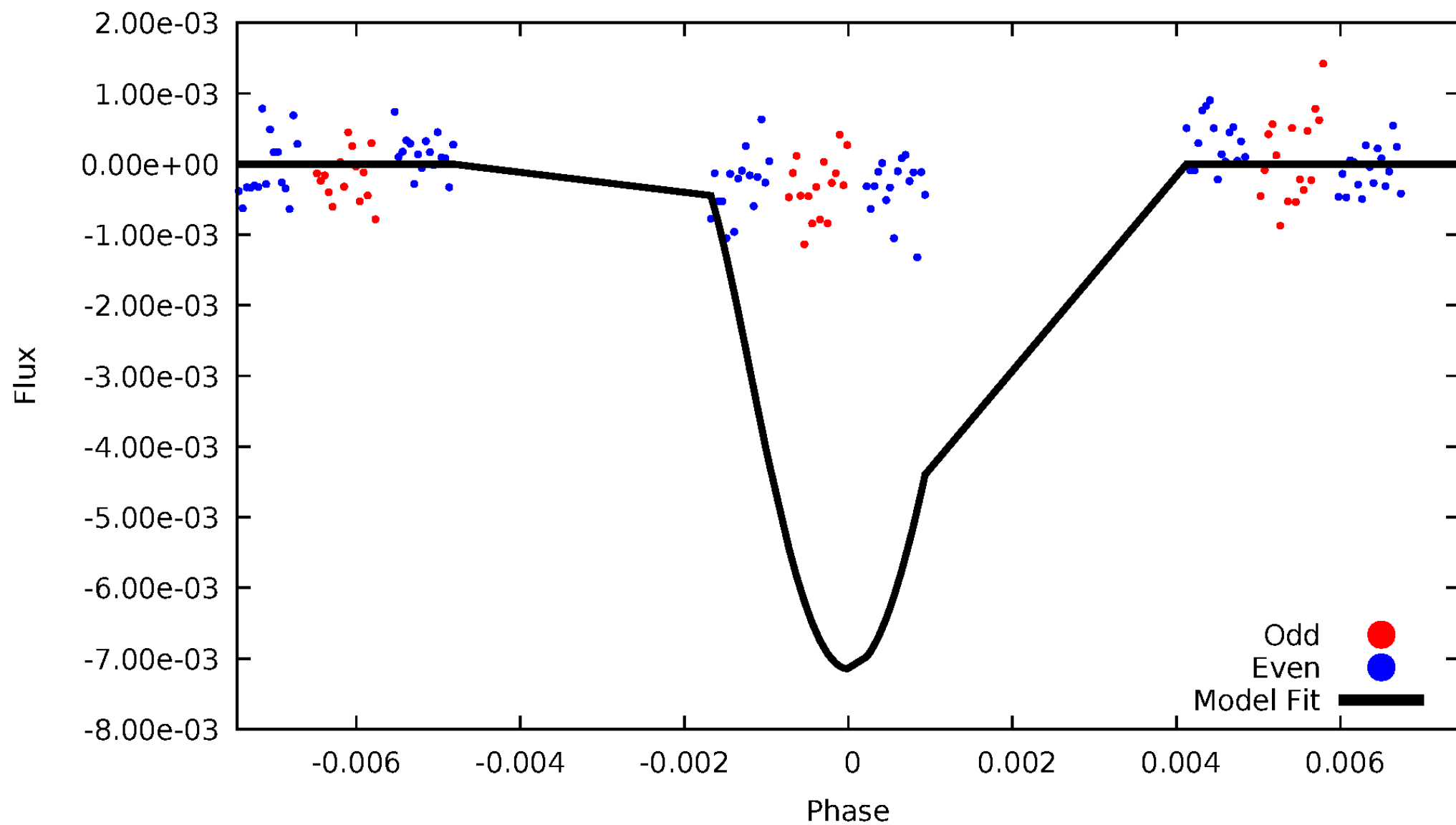


TCE 002556639-02



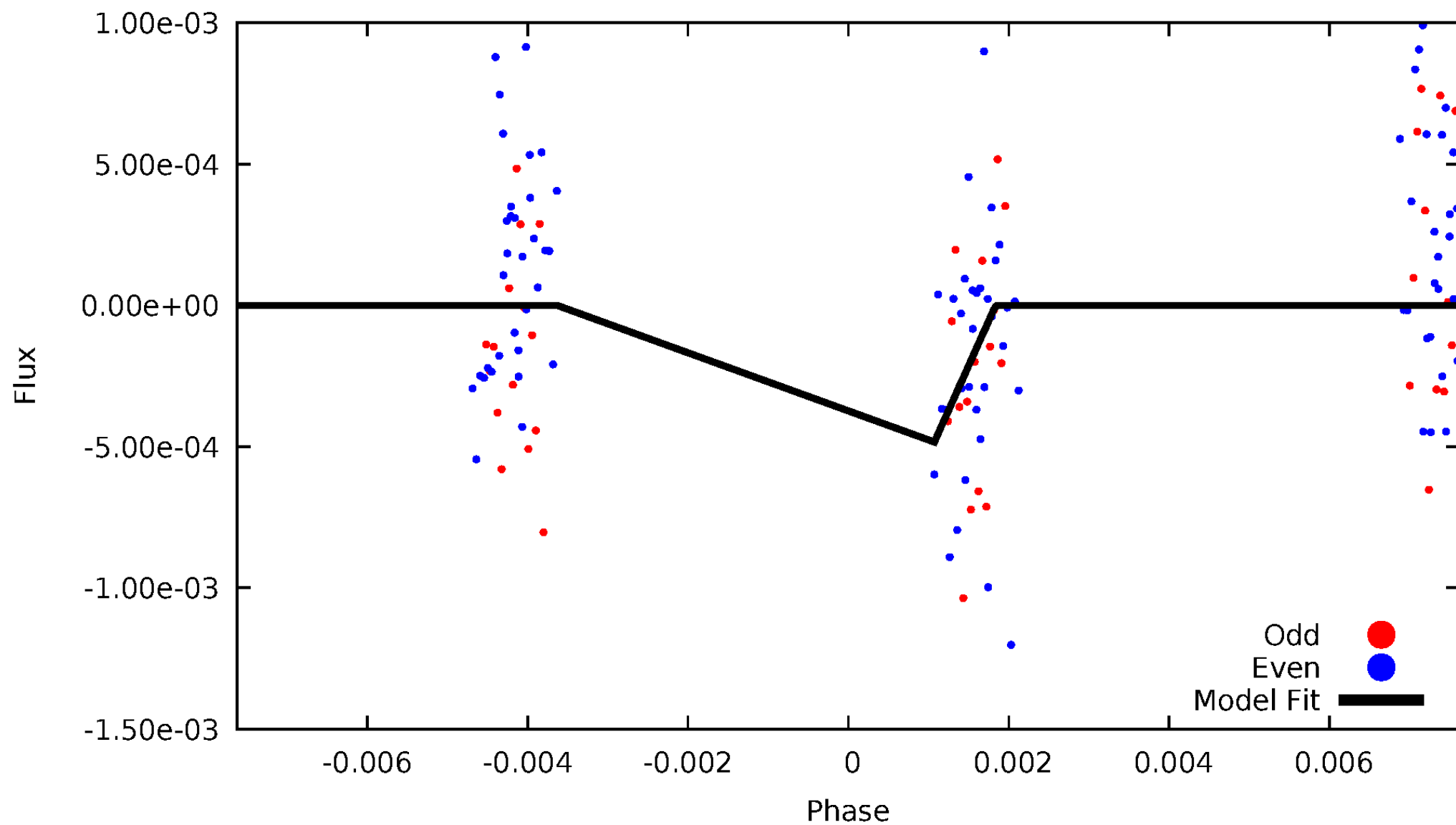
DV Odd/Even

TCE 002556639-02



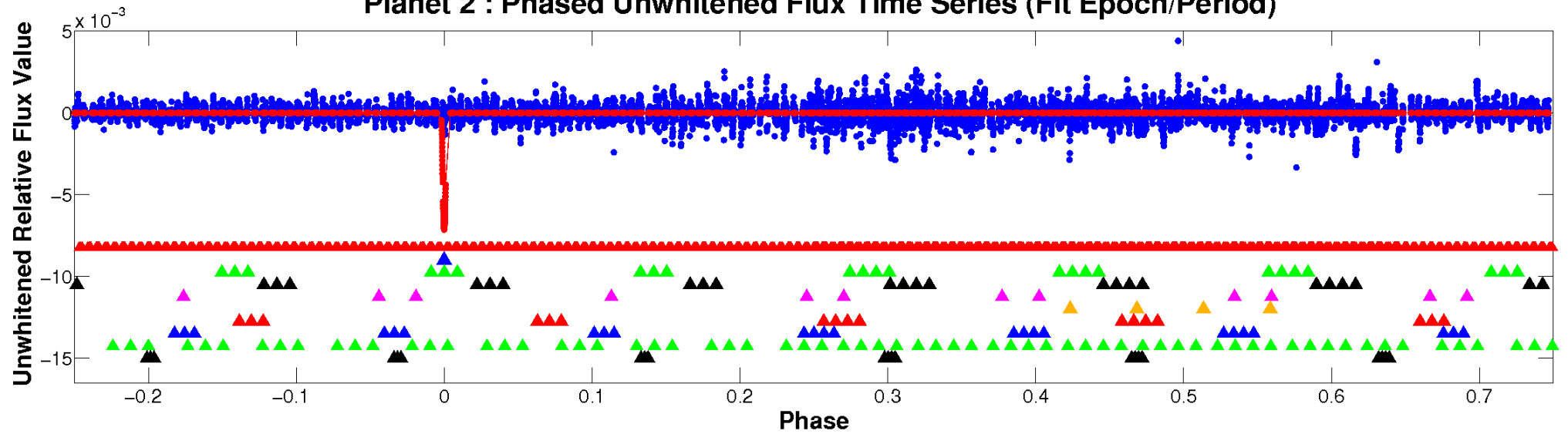
ALT Odd/Even

TCE 002556639-02

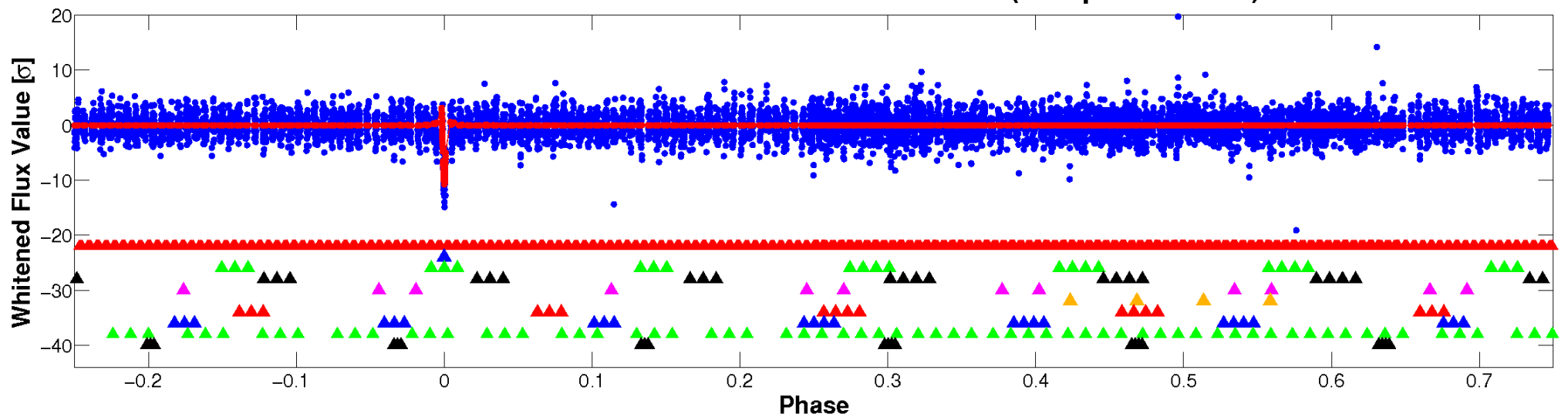


Non-Whitened Vs. Whitened Light Curve

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

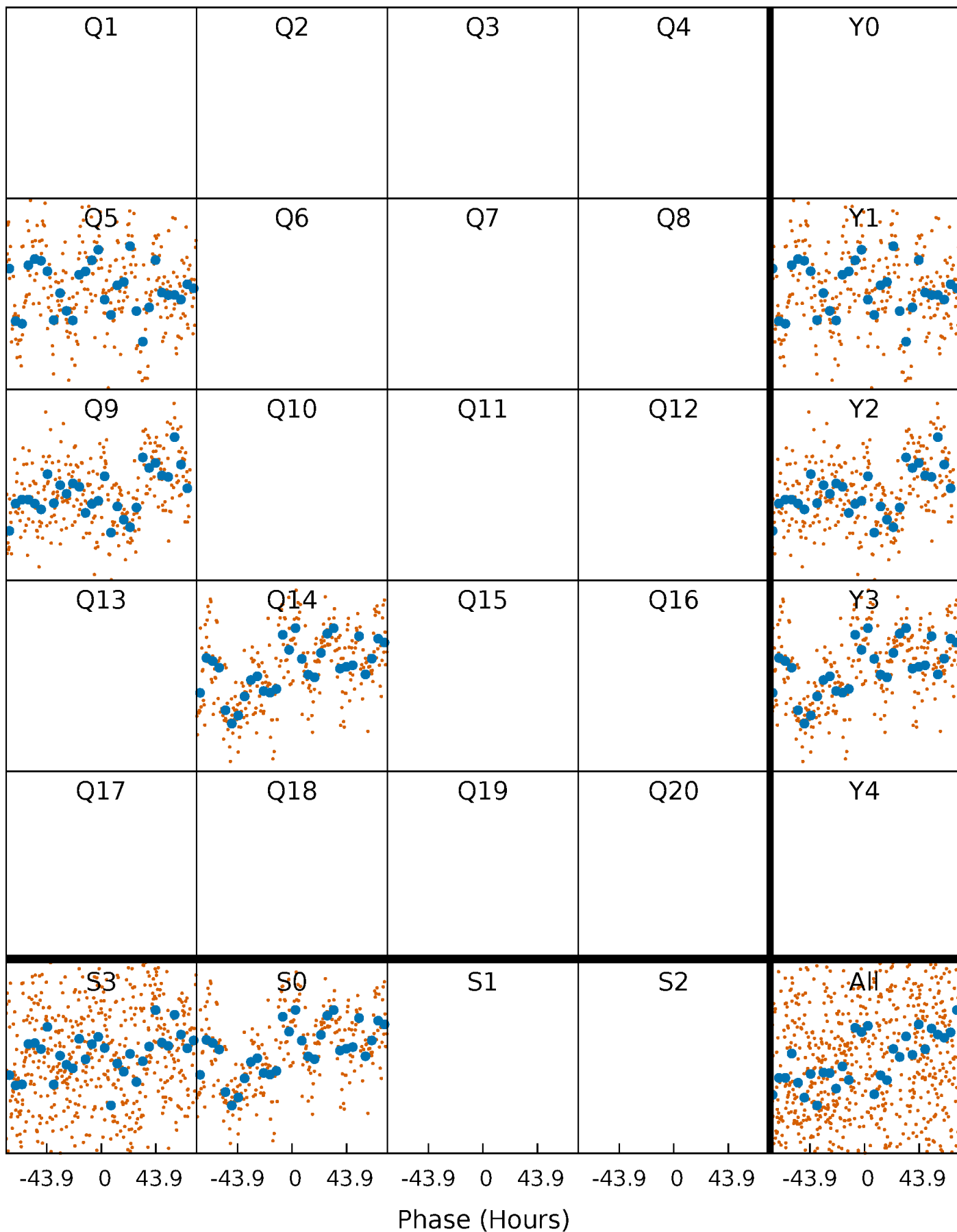


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



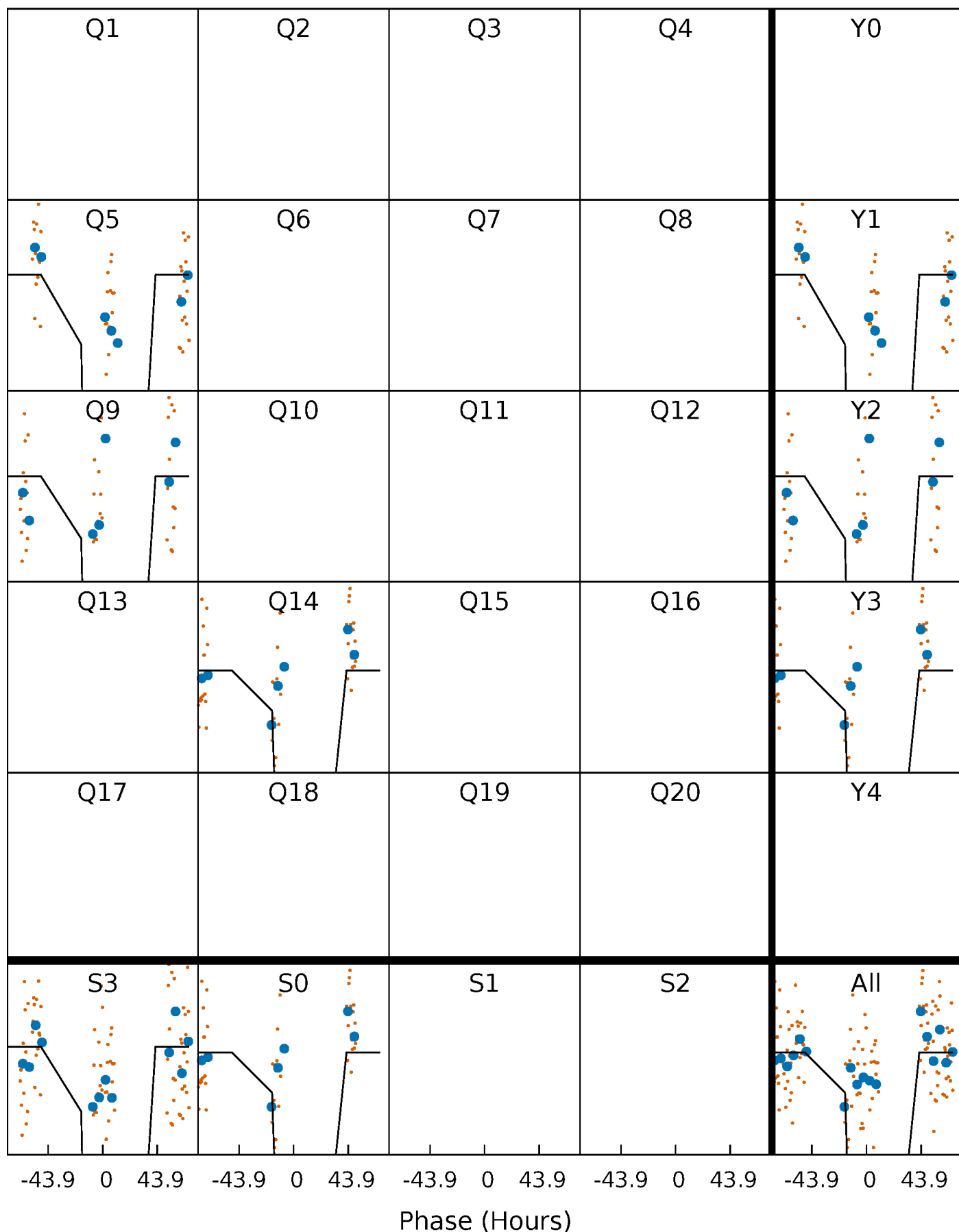
PDC Quarter-Phased Transit Curves

TCE 002556639-02 $P=429.720278$ Days $T_0=453.938785$ (BKJD)



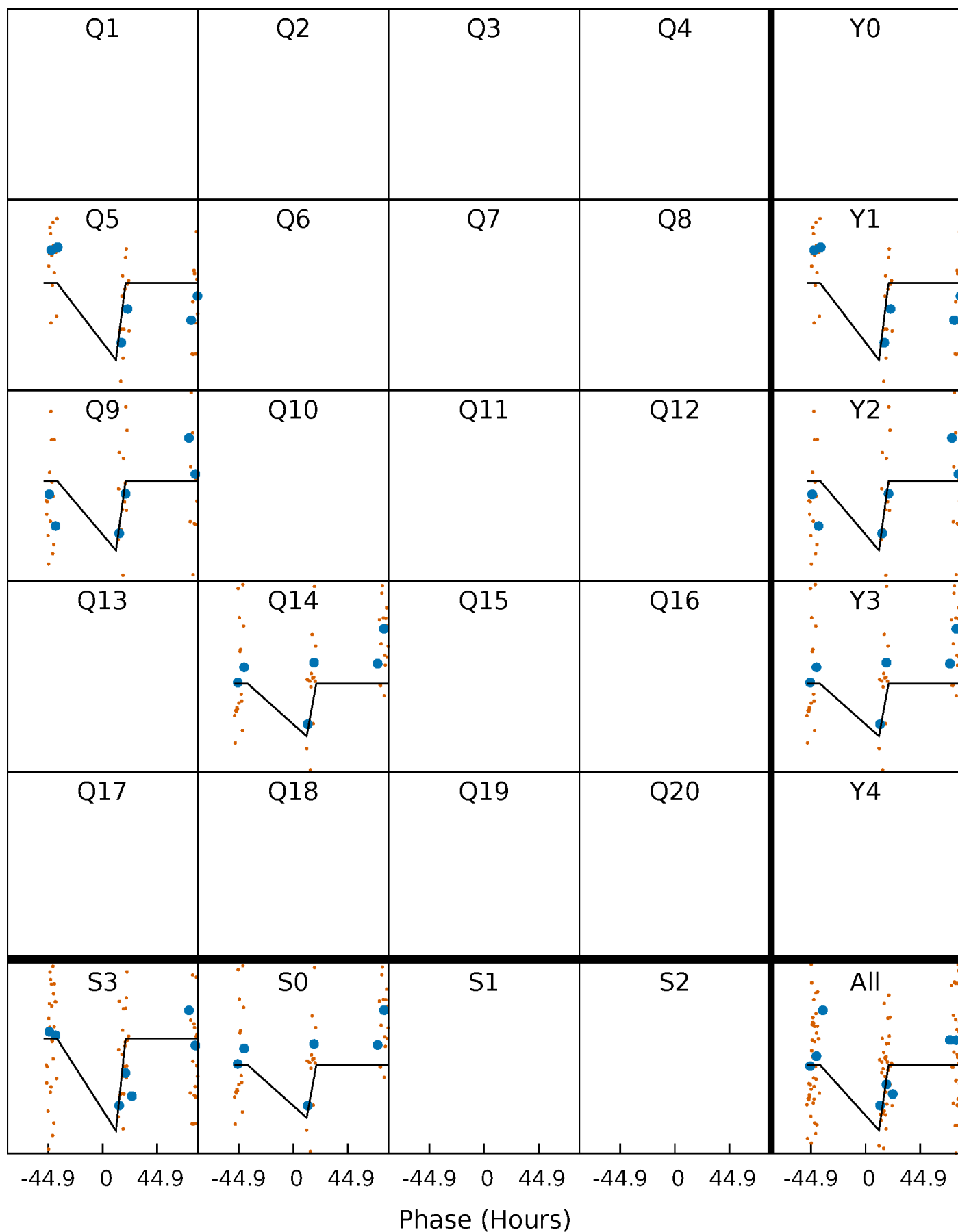
DV Quarter-Phased Transit Curves

TCE 002556639-02 P=429.720278 Days $T_0=453.938785$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

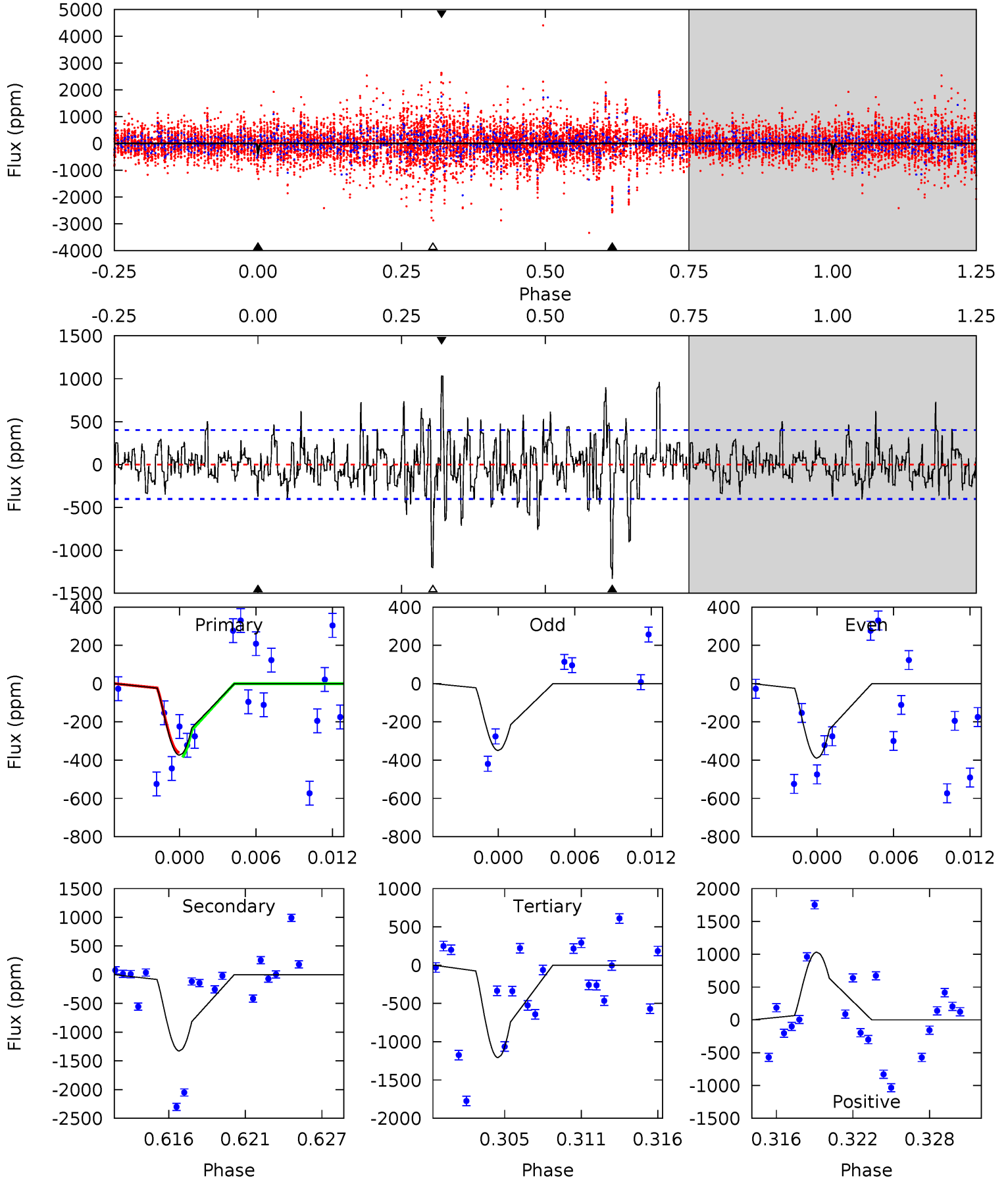
TCE 002556639-02 P=429.384398 Days $T_0=453.429136$ (BKJD)



DV Model-Shift Uniqueness Test

002556639-02, P = 429.720278 Days, E = 24.218507 Days

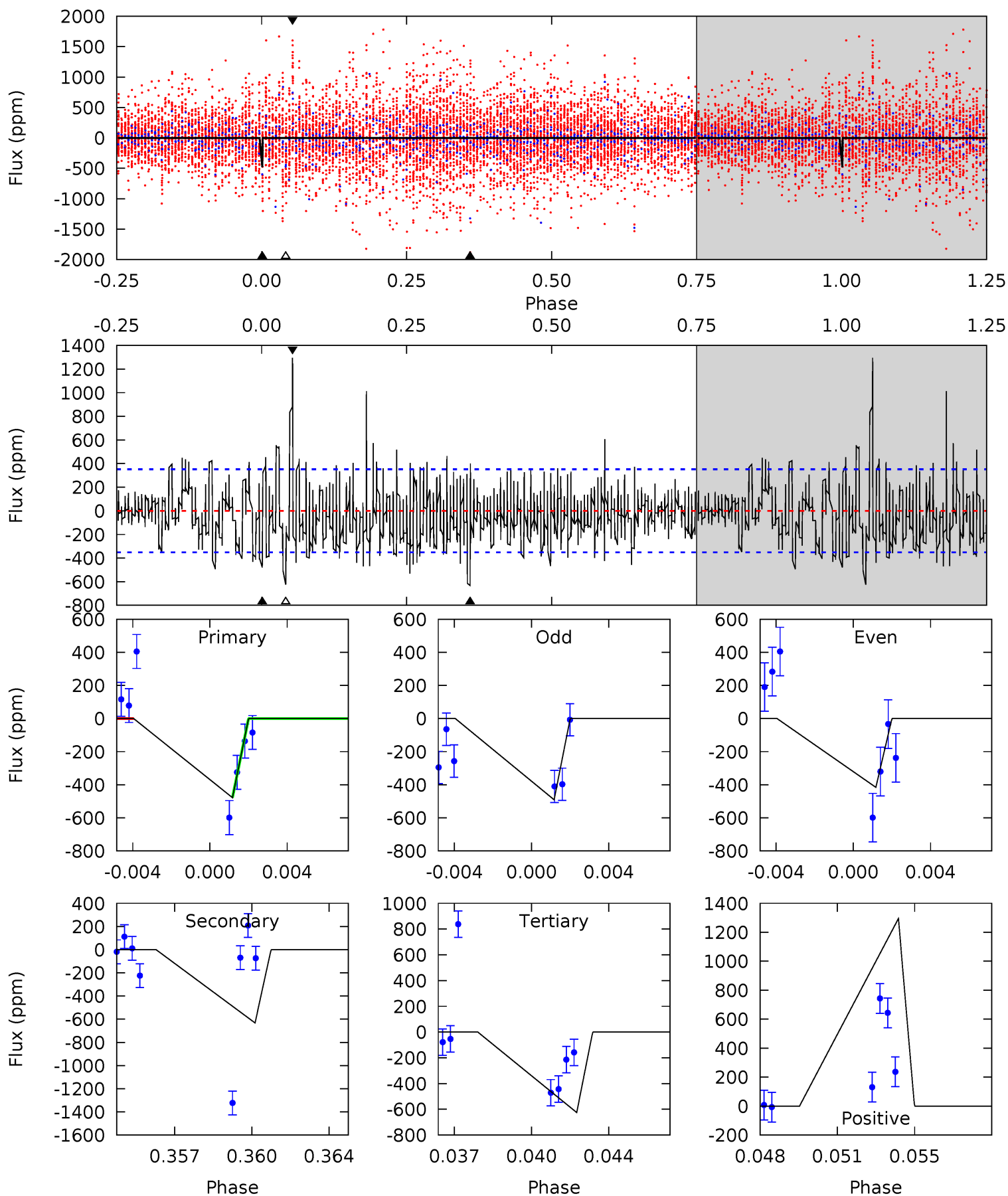
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.77	16.9	15.4	13.2	5.13	2.76	3.16	-10.6	-8.39	1.54	3.78	0.24	0.99	0.44	0.15



Alt Model-Shift Uniqueness Test

002556639-02, P = 429.384398 Days, E = 24.044738 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.09	9.38	9.27	19.2	5.21	2.90	2.75	-2.18	-12.1	0.11	-9.82	0.53	0.95	0.67	0



Stellar Parameters For KIC 002556639

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4838^{+50}_{-93}	$2.660^{+0.180}_{-0.120}$	$-0.120^{+0.100}_{-0.150}$	$10.671^{+1.463}_{-3.414}$	$1.899^{+0.185}_{-0.740}$	$0.002^{+0.003}_{-0.001}$
	+1%/-2%	+7%/-5%	+83%/-125%	+14%/-32%	+10%/-39%	+123%/-29%
Source	SPE74	SPE74	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 002556639-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1328 ± 78	$277.95^{+245.98}_{-183.26}$	828^{+36}_{-51}	2637^{+905}_{-390}	18^{+137}_{-13}
Alt.	-632 ± 67	$226.87^{+208.30}_{-158.59}$	828^{+38}_{-51}	2499^{+1006}_{-366}	12^{+124}_{-9}

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

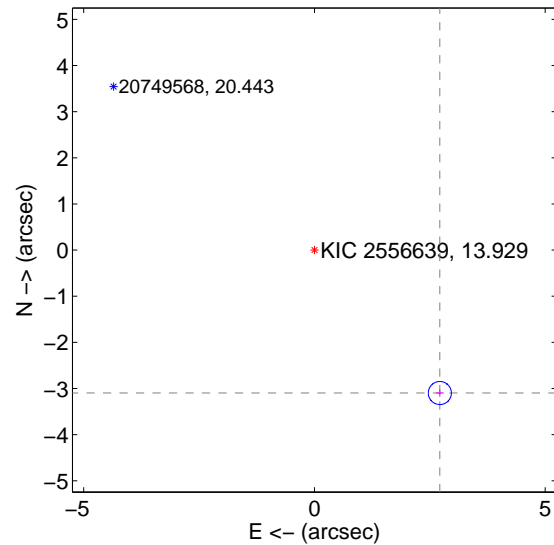
Supplemental centroid analysis for 002556639-02. Kepler magnitude: 13.93. Transit SNR 49.07

There are 1 quarters with good PRF difference image offsets

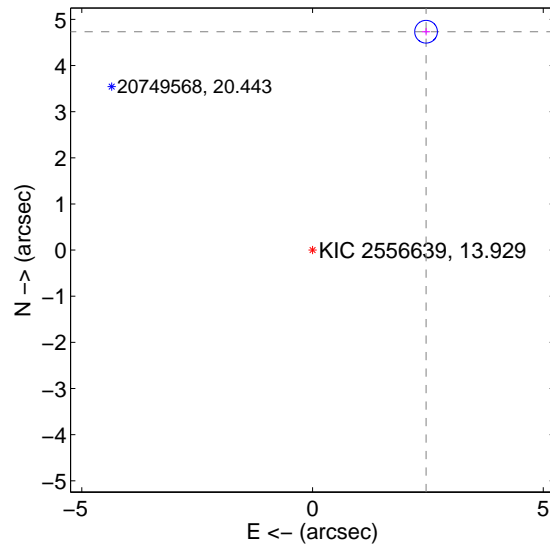
The OOT PRF centroid is offset from the target star catalog position by about 7.83 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.120 ± 0.083	49.46	-2.717 ± 0.086	-3.097 ± 0.081
PRF-fit source offset from KIC position	5.333 ± 0.082	65.01	-2.460 ± 0.086	4.732 ± 0.081
photometric centroid source offset	3.97 ± 0.05	72.89	0.09 ± 0.04	3.97 ± 0.05

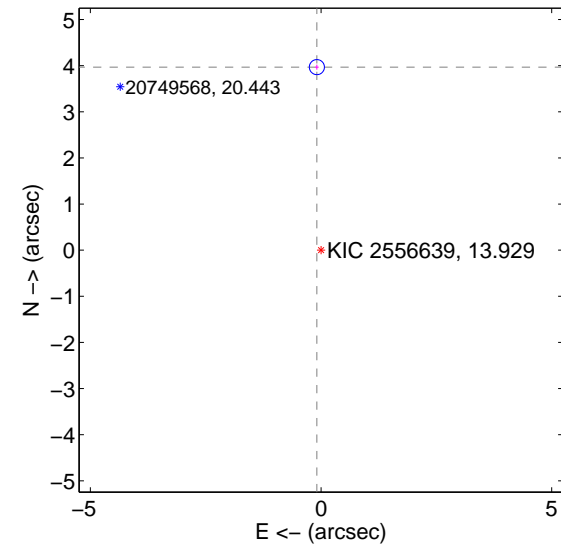
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

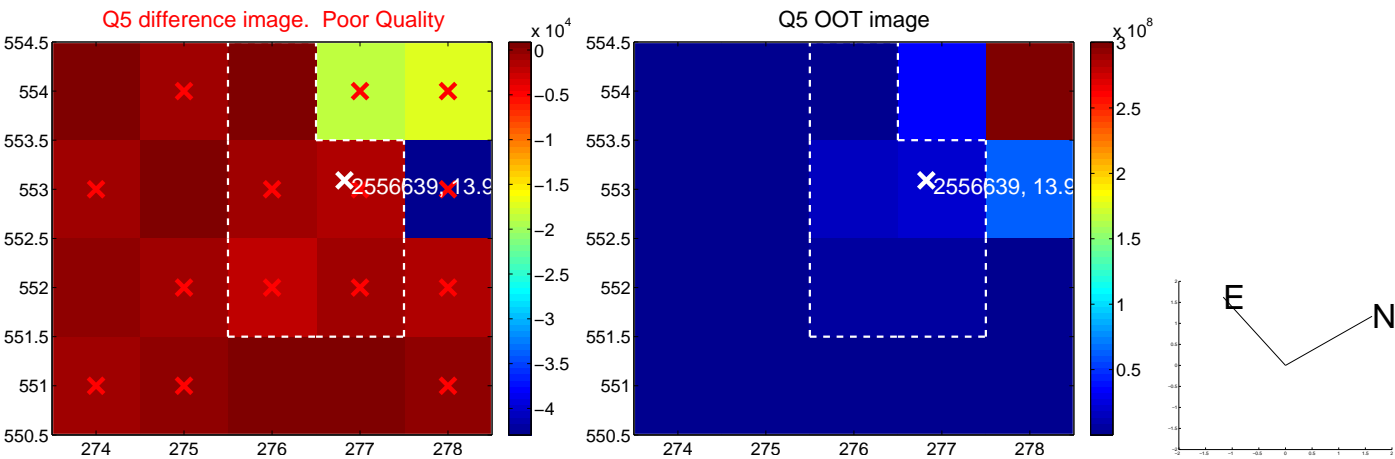


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

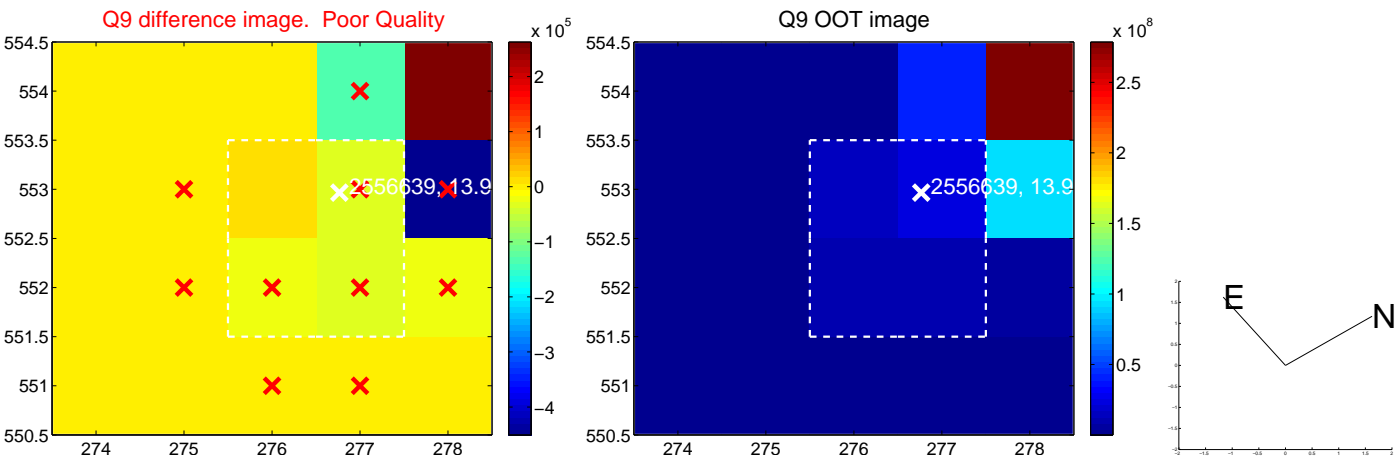
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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

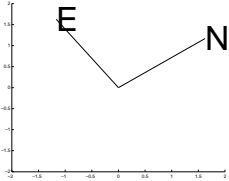
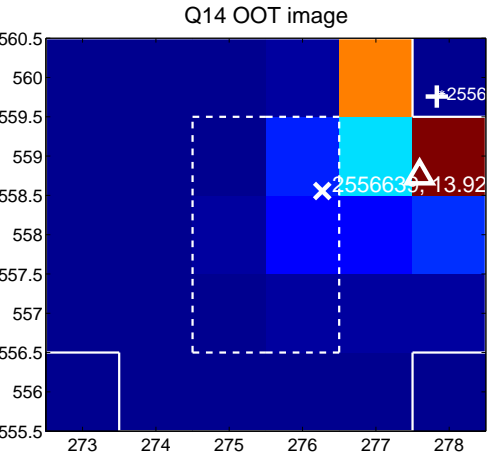
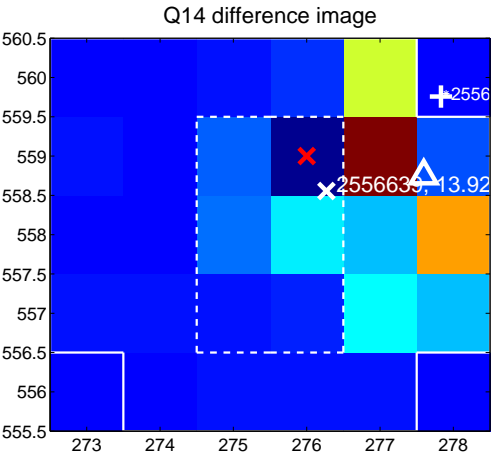


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

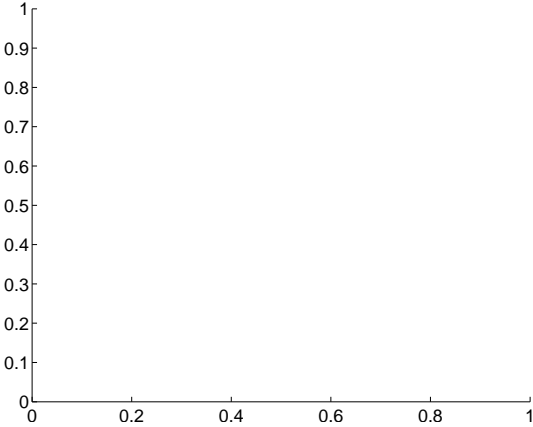
Q13 no difference image



Q13 no OOT image



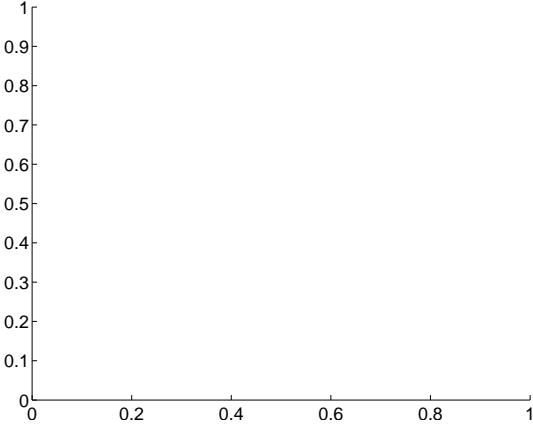
Q15 no difference image



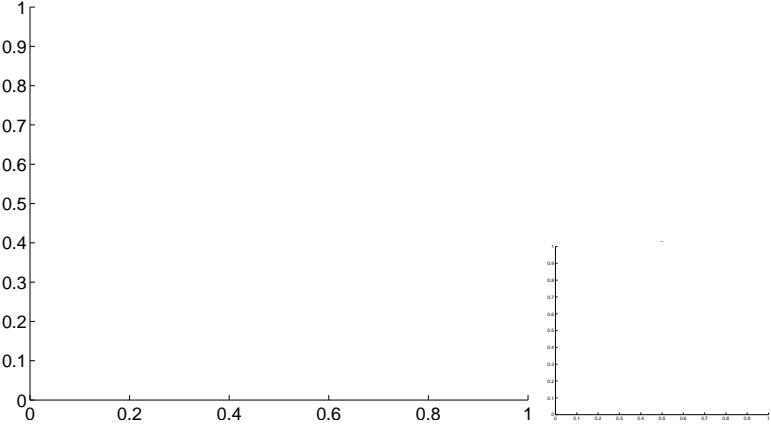
Q15 no OOT image



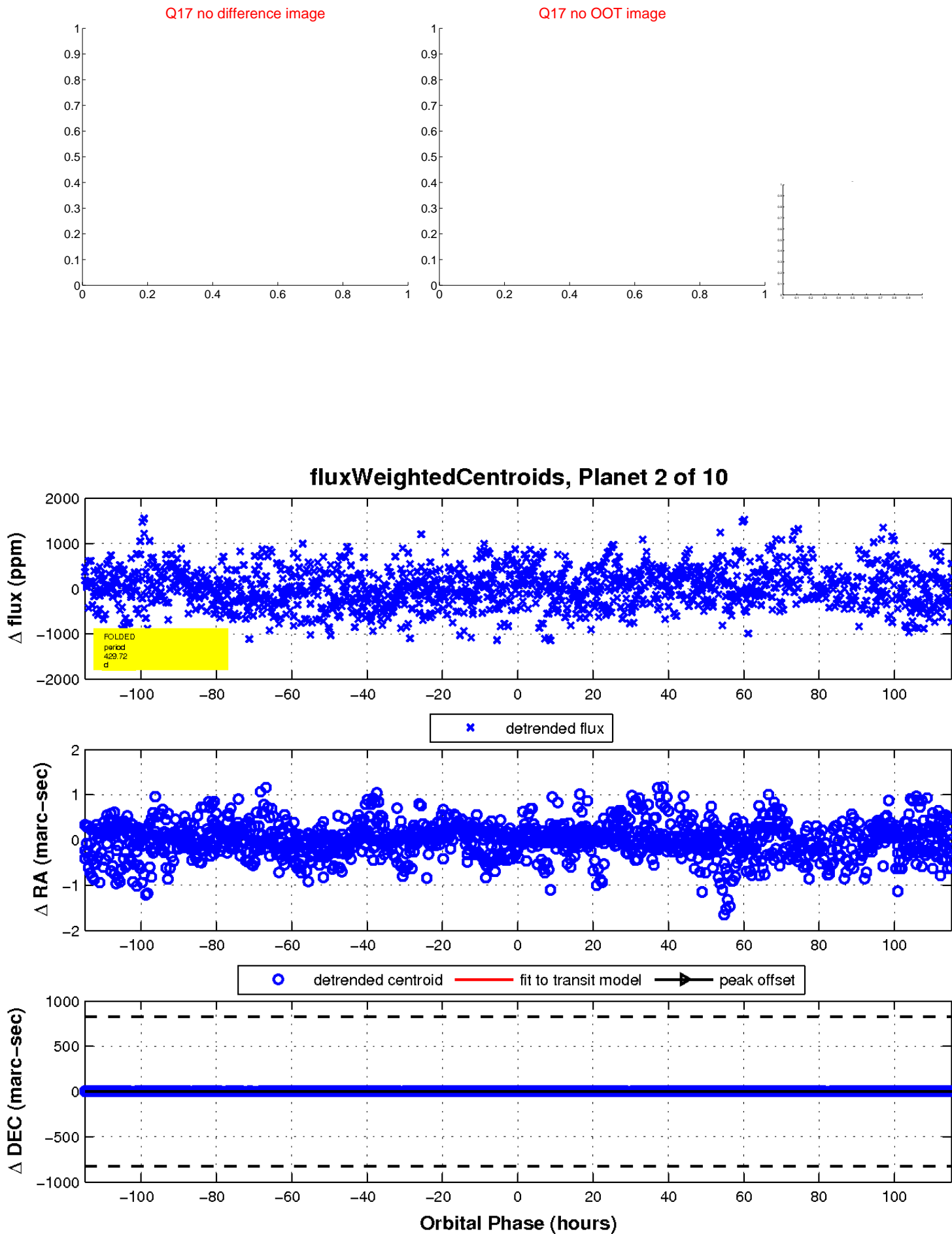
Q16 no difference image



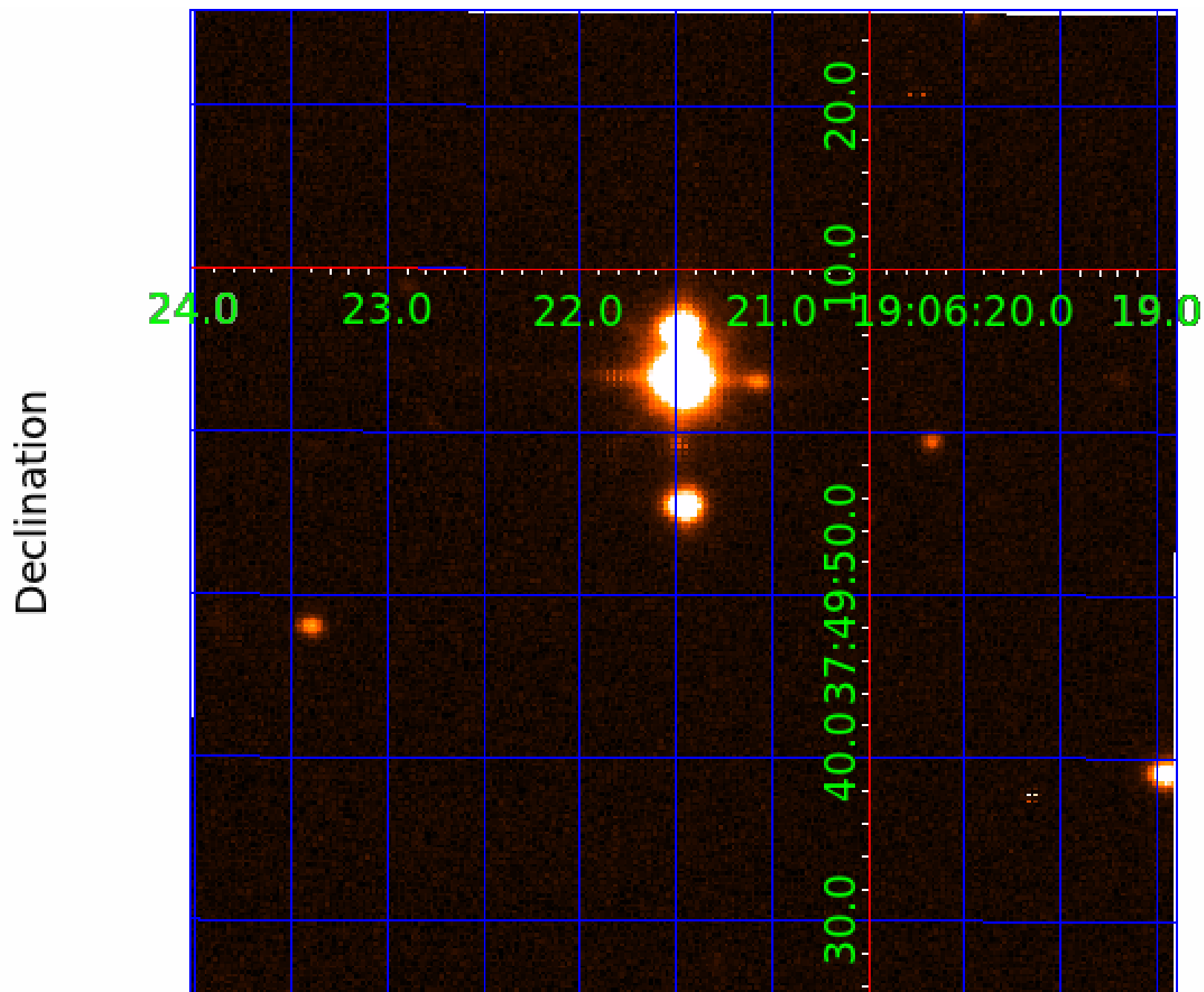
Q16 no OOT image



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



UKIRT Image



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})
002556639-01	OBS	No	2.481583	132.823046	87.7	17.056	10.5	11.4	10.67	4838	10.02	0.00
002556639-02	OBS	No	429.720278	453.938785	7145.3	38.419	62.8	49.1	10.67	4838	170.27	29.34
002556639-03	OBS	No	60.844901	153.558562	330.8	4.302	19.2	4.2	10.67	4838	20.78	397.55
002556639-04	OBS	No	61.929579	153.843236	715.6	17.592	17.8	13.5	10.67	4838	35.86	388.30
002556639-05	OBS	No	124.313425	186.359040	967.3	0.572	17.5	2.6	10.67	4838	41.18	153.34
002556639-06	OBS	No	449.089597	206.154973	619.1	10.364	15.6	11.5	10.67	4838	30.29	27.66
002556639-07	OBS	No	86.635232	134.529984	735.2	6.378	12.6	12.0	10.67	4838	38.10	248.18
002556639-08	OBS	No	60.973922	137.494019	811.6	3.503	12.8	12.4	10.67	4838	31.86	396.43
002556639-09	OBS	No	21.744036	140.229270	724.0	4.469	12.3	11.5	10.67	4838	59.43	1567.62
002556639-10	OBS	No	71.789406	152.216780	763.5	2.777	12.9	12.7	10.67	4838	28.90	318.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002556639-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET
002556639-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002556639-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
002556639-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
002556639-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
002556639-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
002556639-09	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-10	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET

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

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

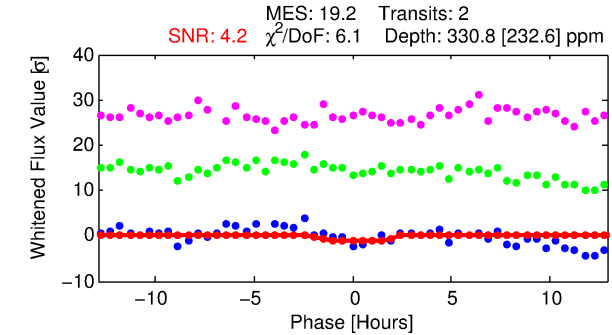
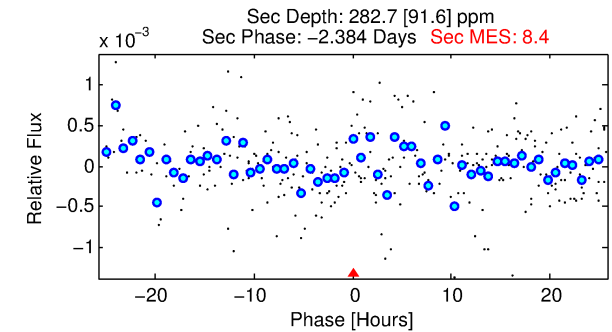
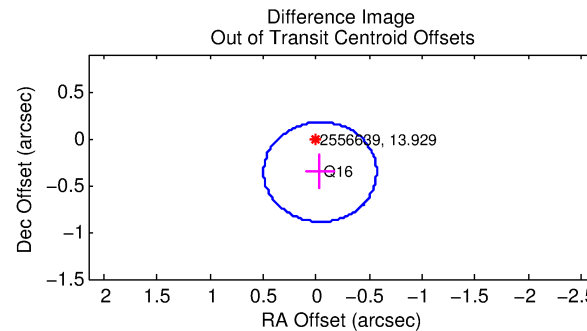
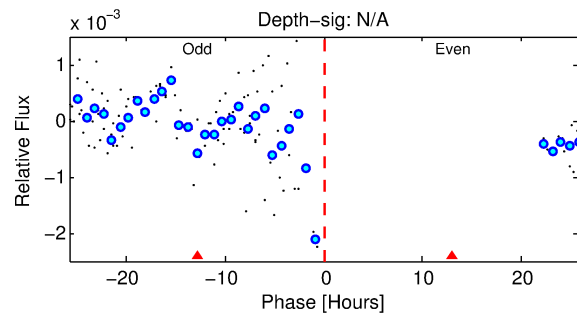
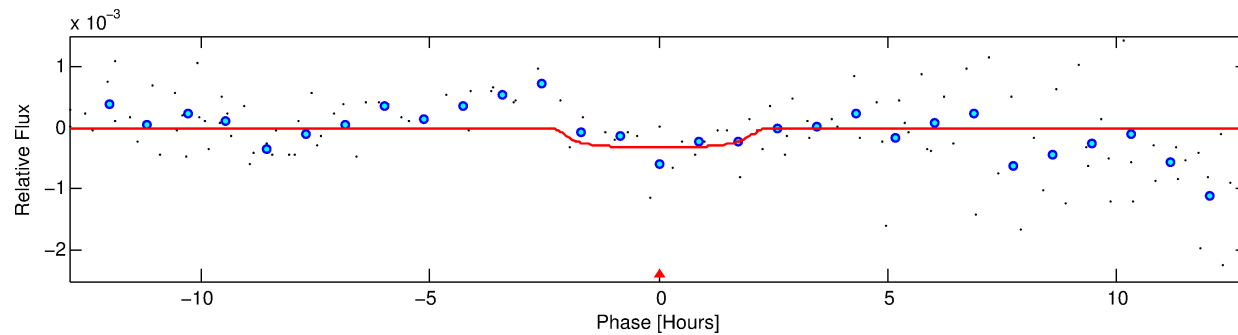
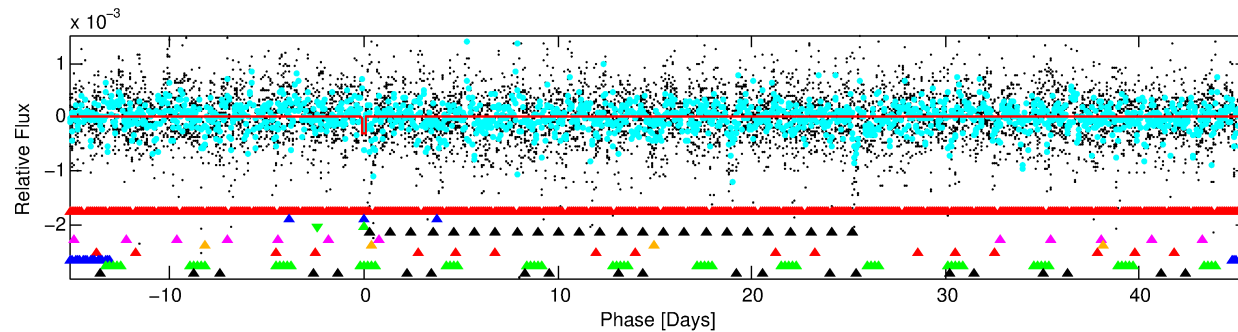
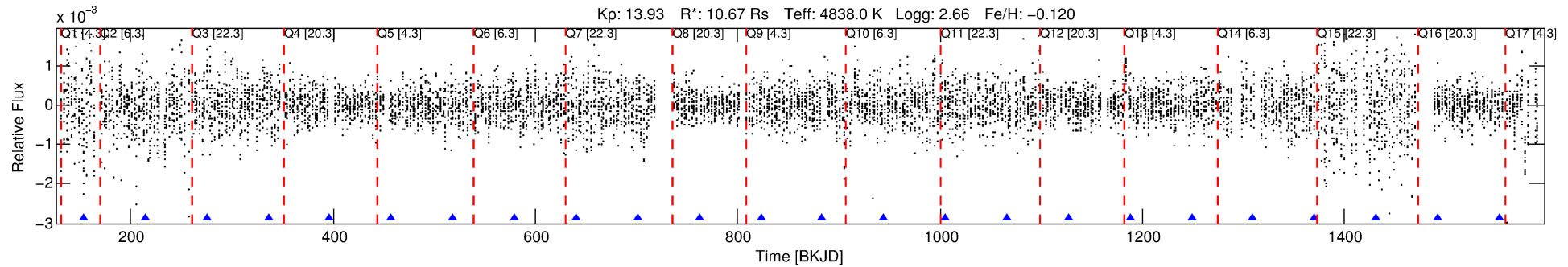
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002556639-03

No Significant Match Found

DV One-Page Summary

KIC: 2556639 Candidate: 3 of 10 Period: 60.845 d



DV Fit Results:

Period = 60.84490 [0.02759] d
Epoch = 153.5586 [0.1867] BKJD
Rp/R* = 0.0178 [0.1488]
a/R* = 78.86 [2260.06]
b = 0.71 [20.56]
Seff = 397.55 [142.10]
Teq = 1139 [102] K
Rp = 20.78 [173.37] Re
a = 0.3750 [0.0953] AU
Ag = 50.65 [844.95] [0.06σ]
Teff = 4696 [19582] K [0.18σ]

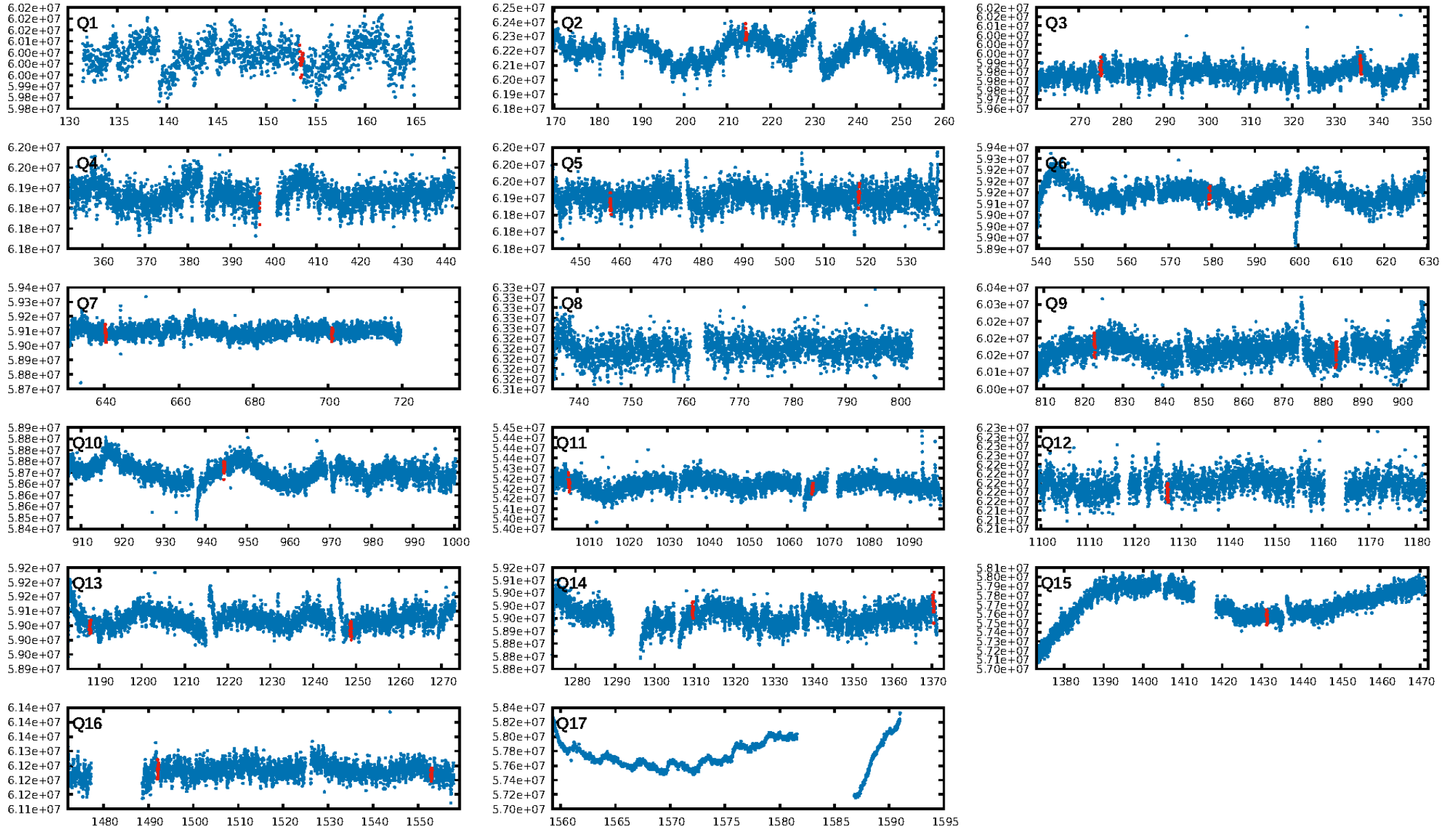
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [151.27σ]
LongPeriod-sig: 42.3% [0.56σ]
ModelChiSquare2-sig: 1.2%
ModelChiSquareGof-sig: 1.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -0.8017
Centroid-sig: N/A
Centroid-so: 4.179 arcsec [8.58σ]
OotOffset-rm: 0.359 arcsec [2.03σ]
KicOffset-rm: 7.248 arcsec [40.75σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 0.23 [3/13]

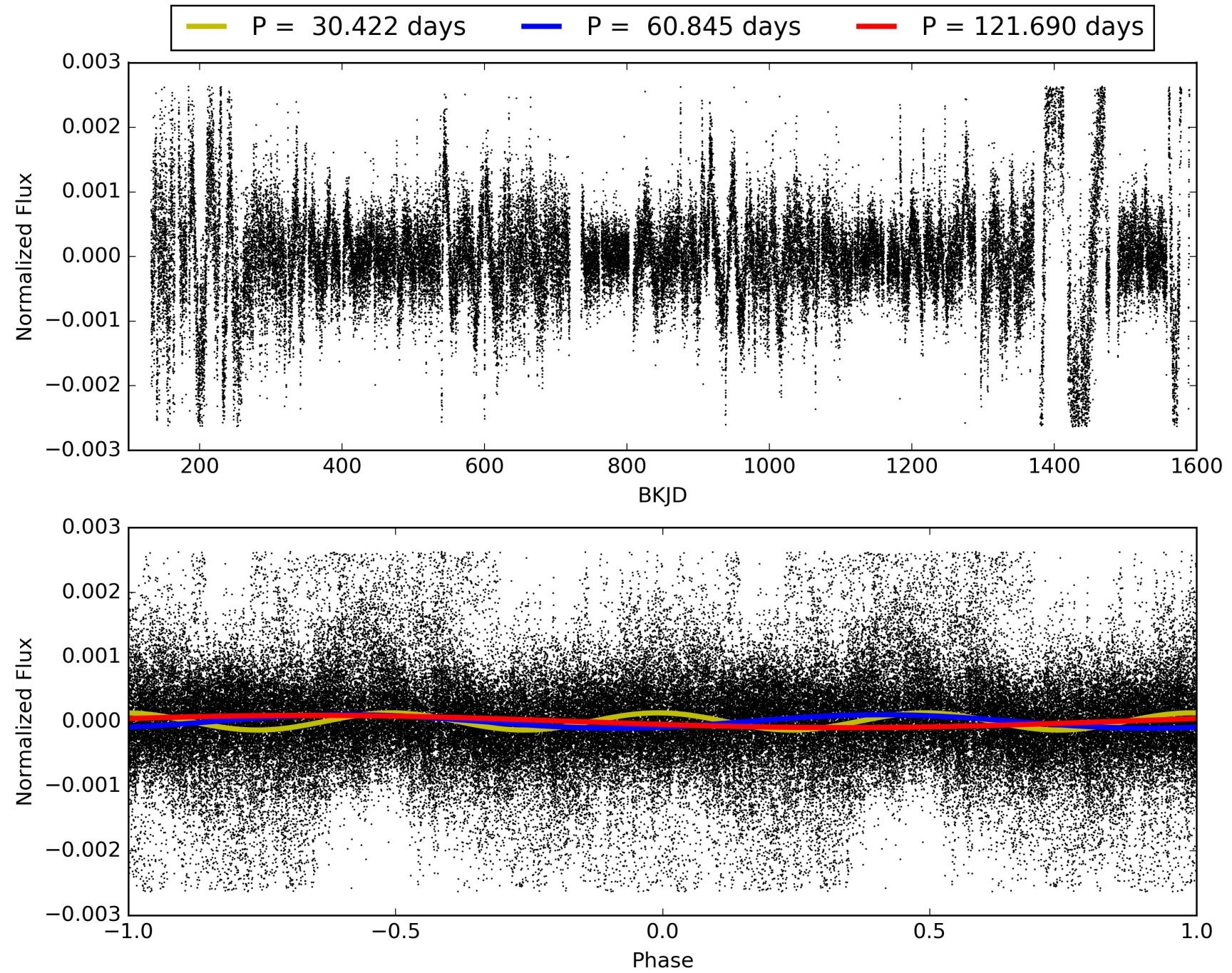
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:49:41 Z

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

TCE 002556639-03, PDC Light Curves

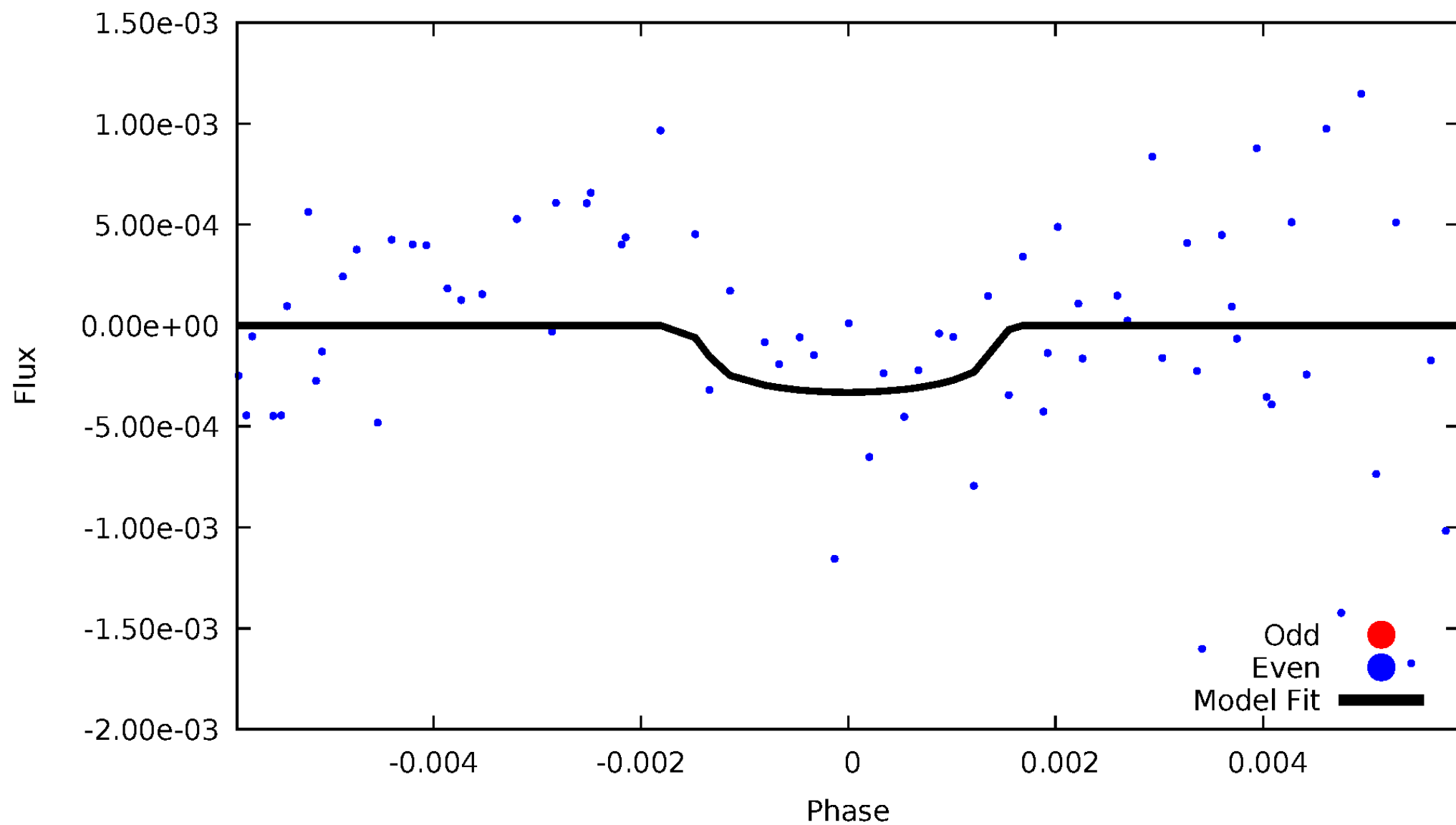


TCE 002556639-03



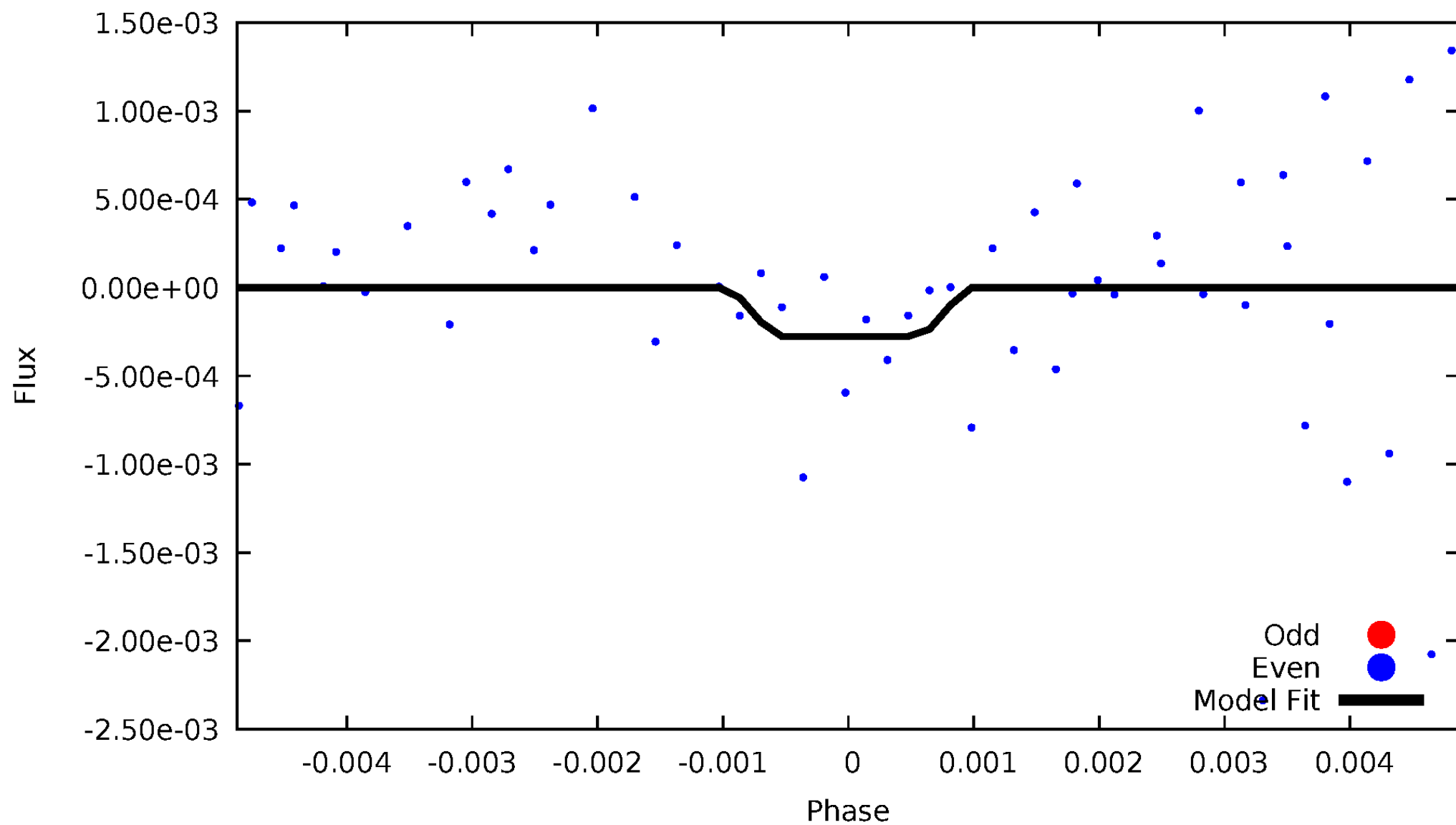
DV Odd/Even

TCE 002556639-03



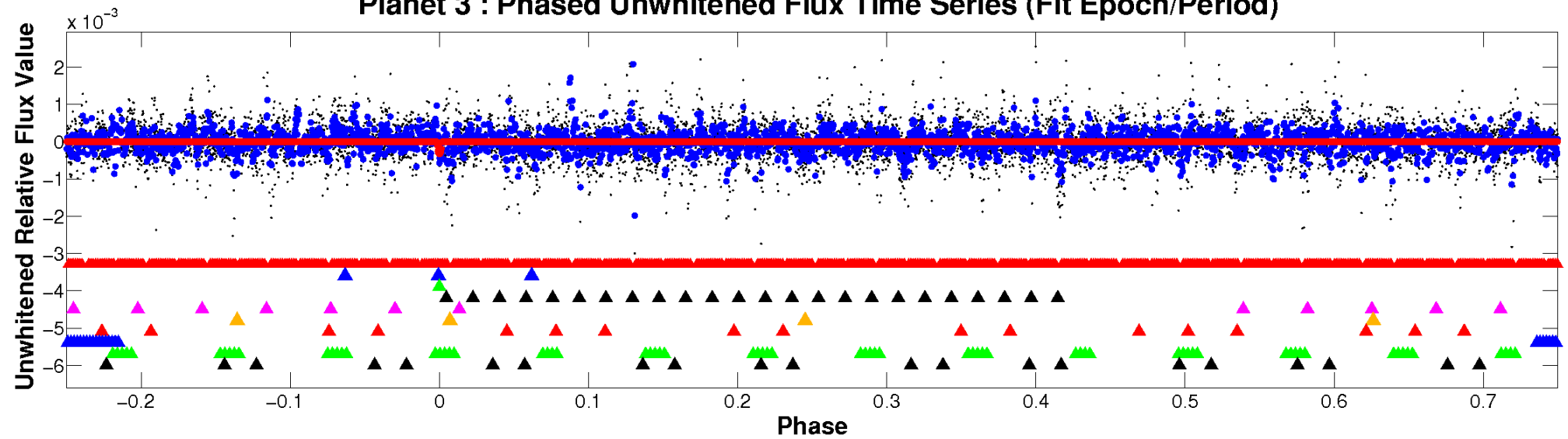
ALT Odd/Even

TCE 002556639-03

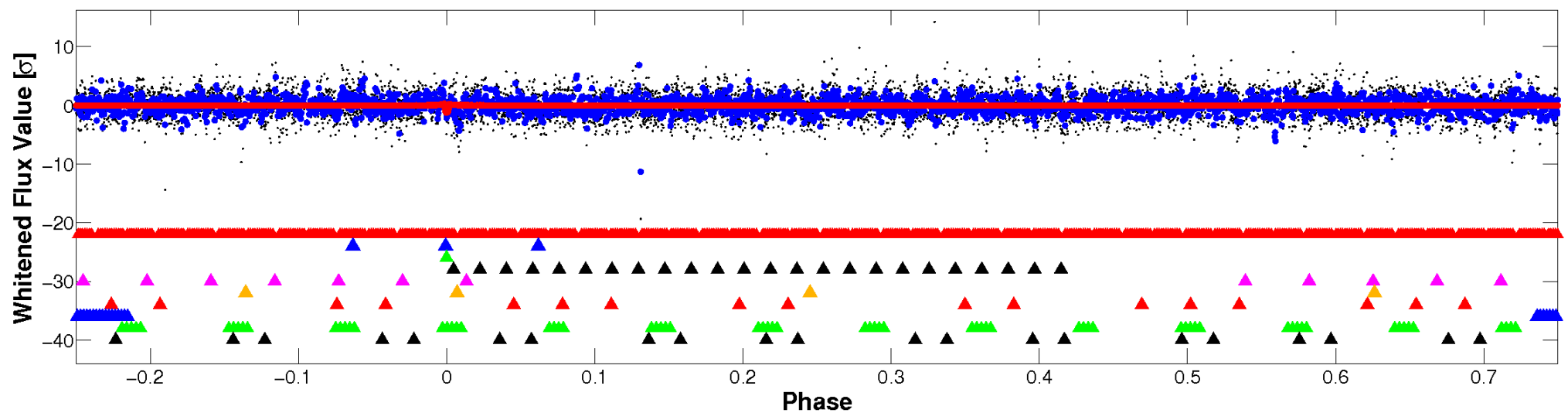


Non-Whitened Vs. Whitened Light Curve

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

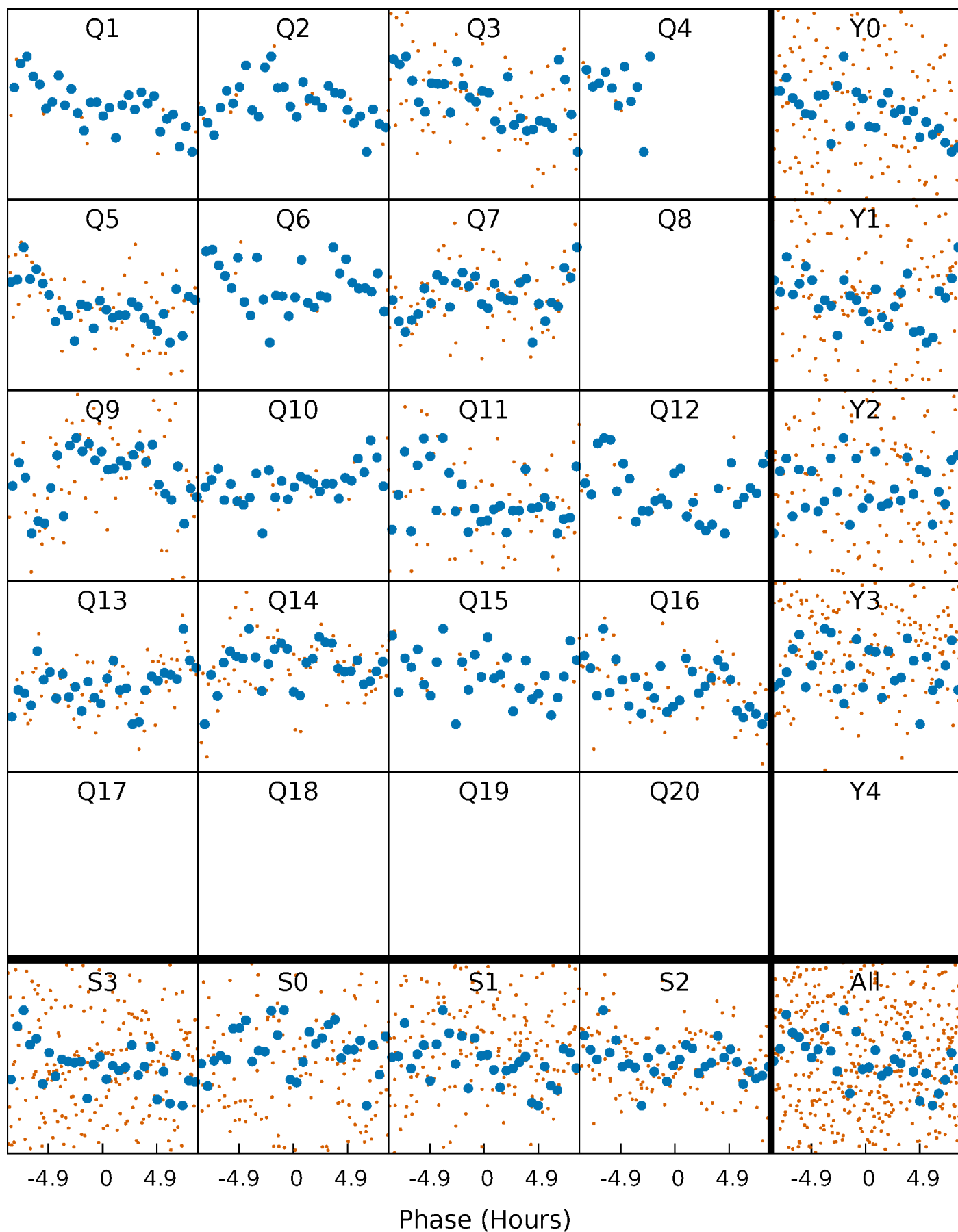


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



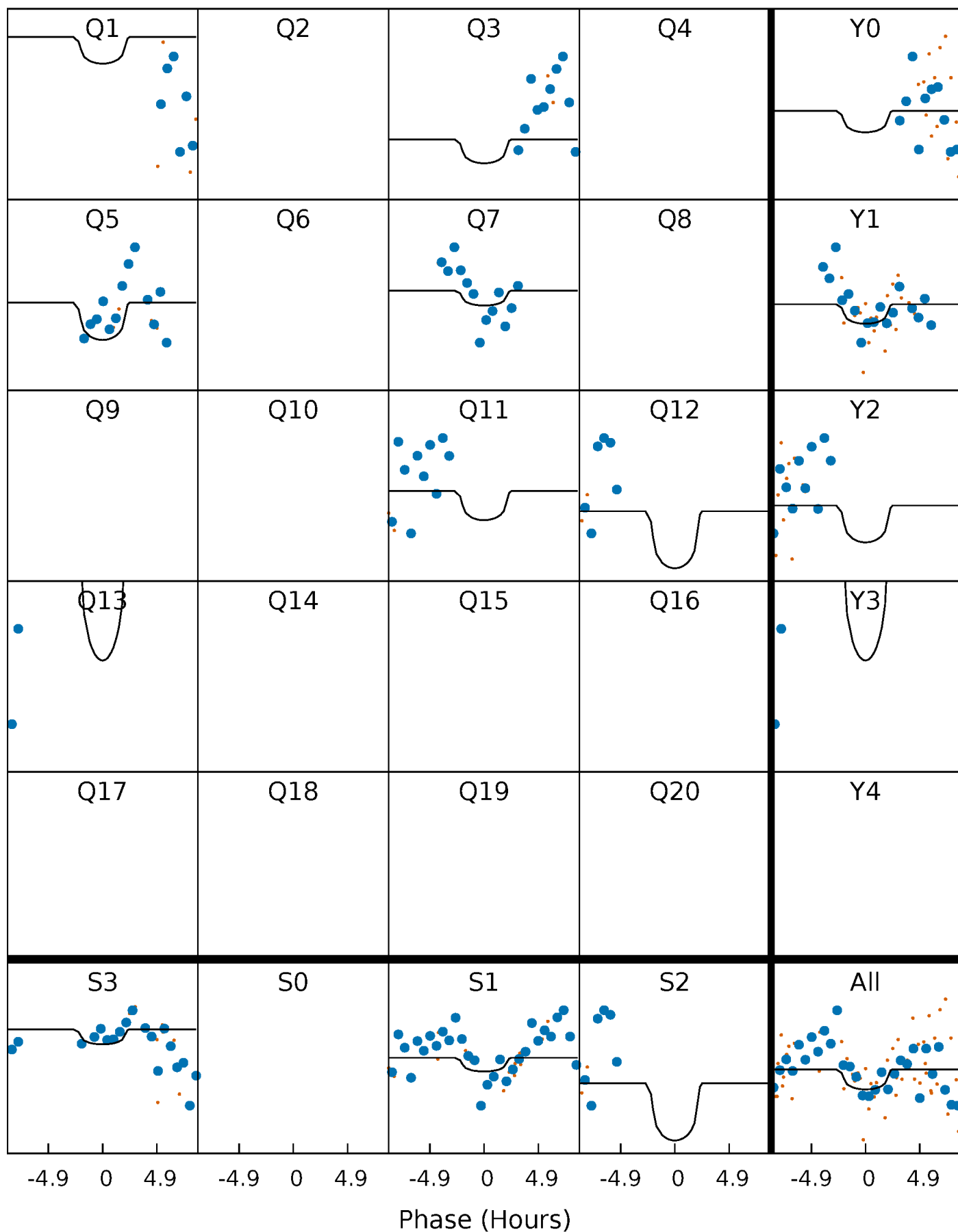
PDC Quarter-Phased Transit Curves

TCE 002556639-03 P= 60.844901 Days $T_0=153.558562$ (BKJD)



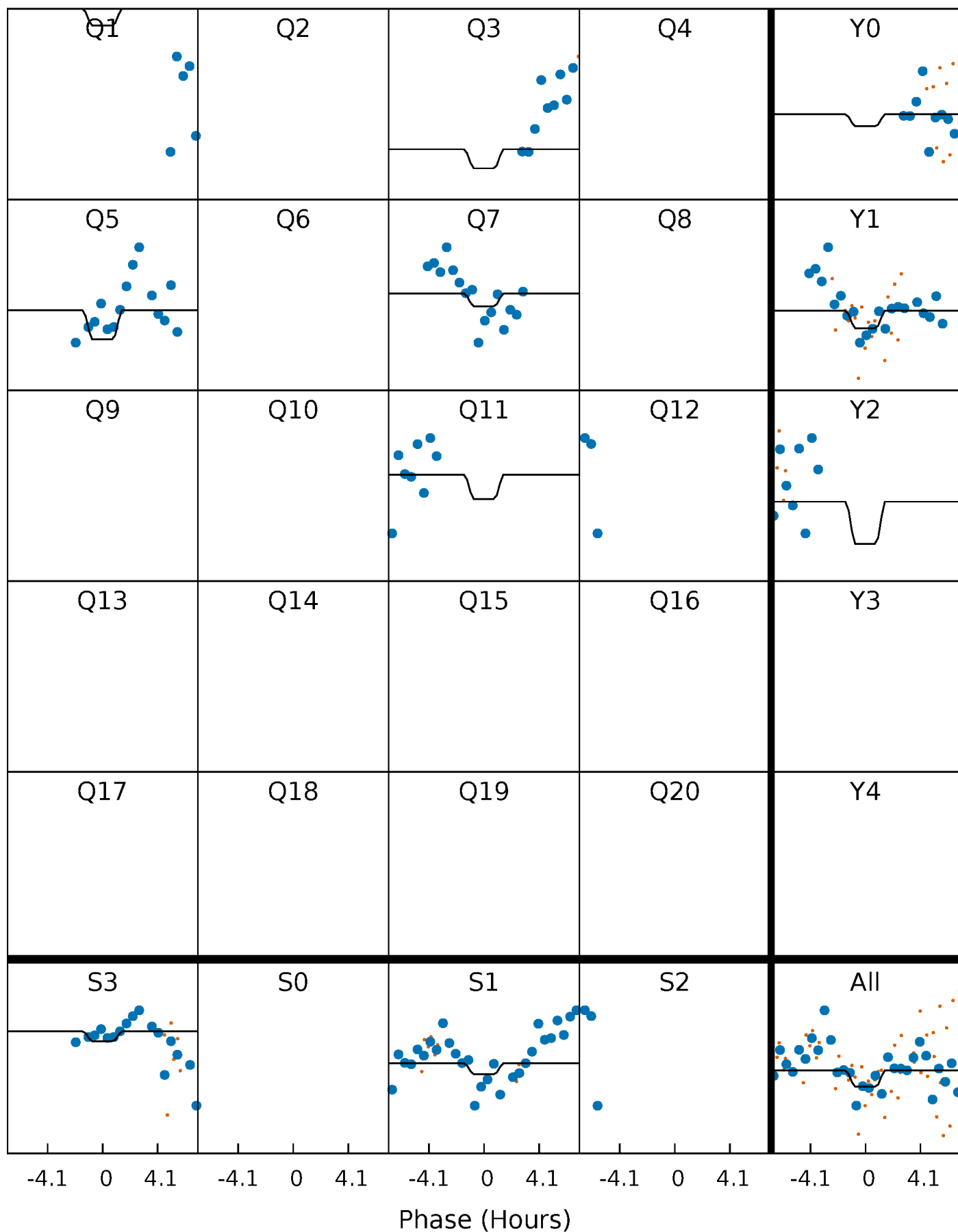
DV Quarter-Phased Transit Curves

TCE 002556639-03 P= 60.844901 Days $T_0=153.558562$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

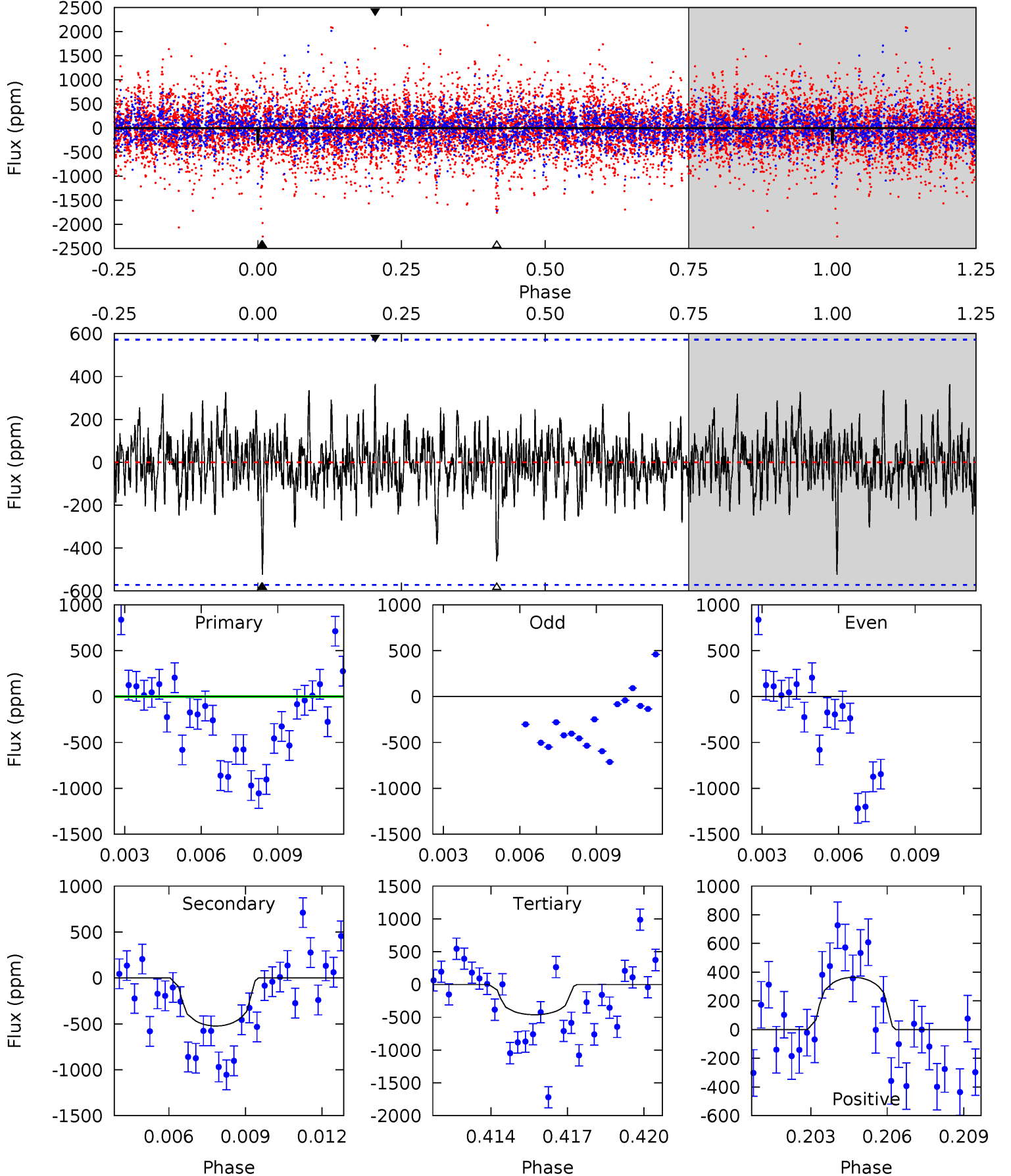
TCE 002556639-03 P= 60.845837 Days $T_0=153.564933$ (BKJD)



DV Model-Shift Uniqueness Test

002556639-03, P = 60.844901 Days, E = 92.713661 Days

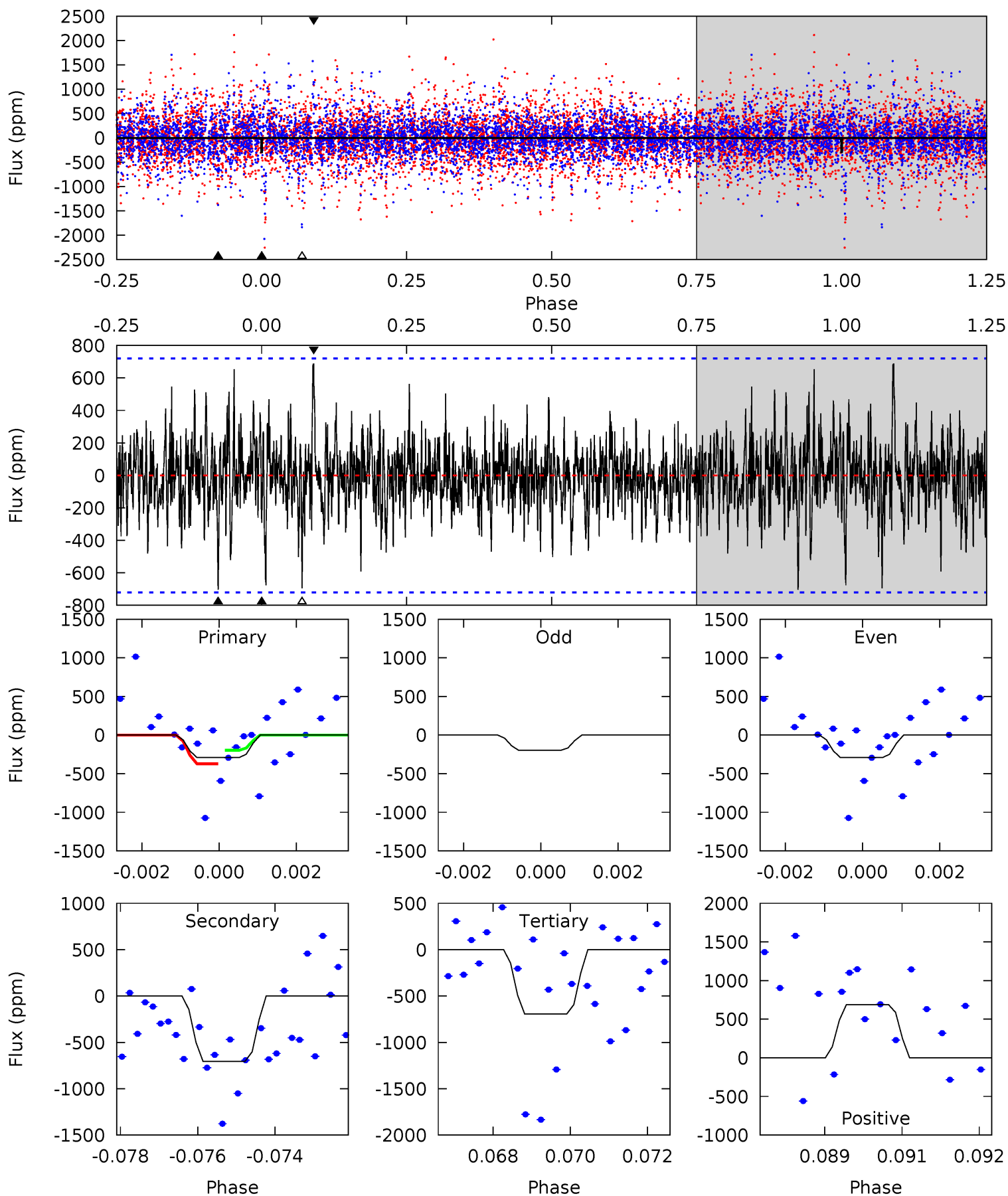
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.73	4.81	4.24	3.35	5.25	2.97	0.95	-1.51	-0.61	0.57	1.47	0.05	1.00	0.41	0.09



Alt Model-Shift Uniqueness Test

002556639-03, P = 60.845837 Days, E = 92.719096 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.16	5.22	5.15	5.10	5.34	3.11	1.22	-2.99	-2.94	0.08	0.12	0.40	1.00	0.49	0.66



Stellar Parameters For KIC 002556639

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4838^{+50}_{-93}	$2.660^{+0.180}_{-0.120}$	$-0.120^{+0.100}_{-0.150}$	$10.671^{+1.463}_{-3.414}$	$1.899^{+0.185}_{-0.740}$	$0.002^{+0.003}_{-0.001}$
	+1%/-2%	+7%/-5%	+83%/-125%	+14%/-32%	+10%/-39%	+123%/-29%
Source	SPE74	SPE74	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 002556639-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-524 ± 109	$118.23^{+128.01}_{-77.83}$	1589^{+74}_{-102}	2874^{+1208}_{-653}	$2.862^{+22.325}_{-2.239}$
Alt.	-705 ± 135	$119.03^{+128.55}_{-77.79}$	1590^{+66}_{-99}	2948^{+1276}_{-580}	$3.427^{+28.331}_{-2.580}$

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 $A_{obs} \gg 1.0$

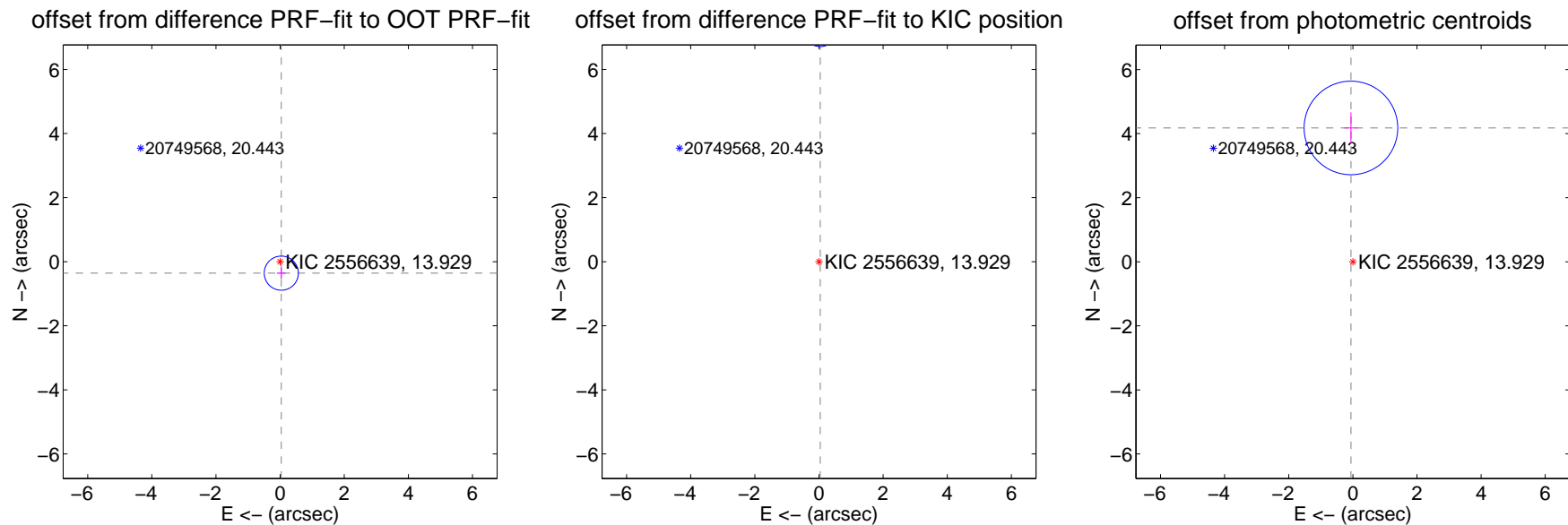
DV Centroid Data

Supplemental centroid analysis for 002556639-03. Kepler magnitude: 13.93. Transit SNR 4.24

There are 1 quarters with good PRF difference image offsets

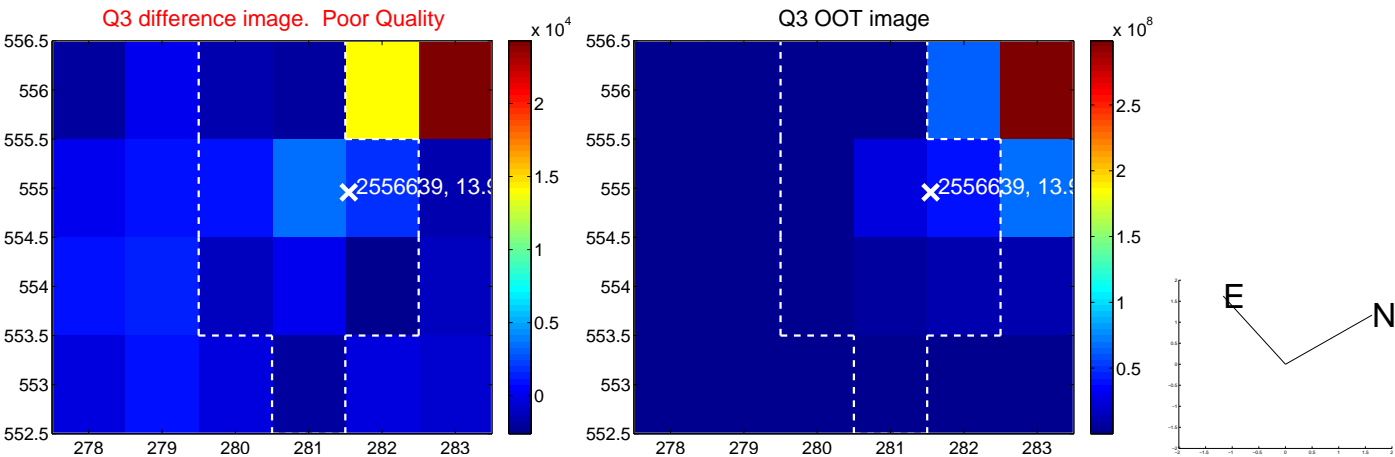
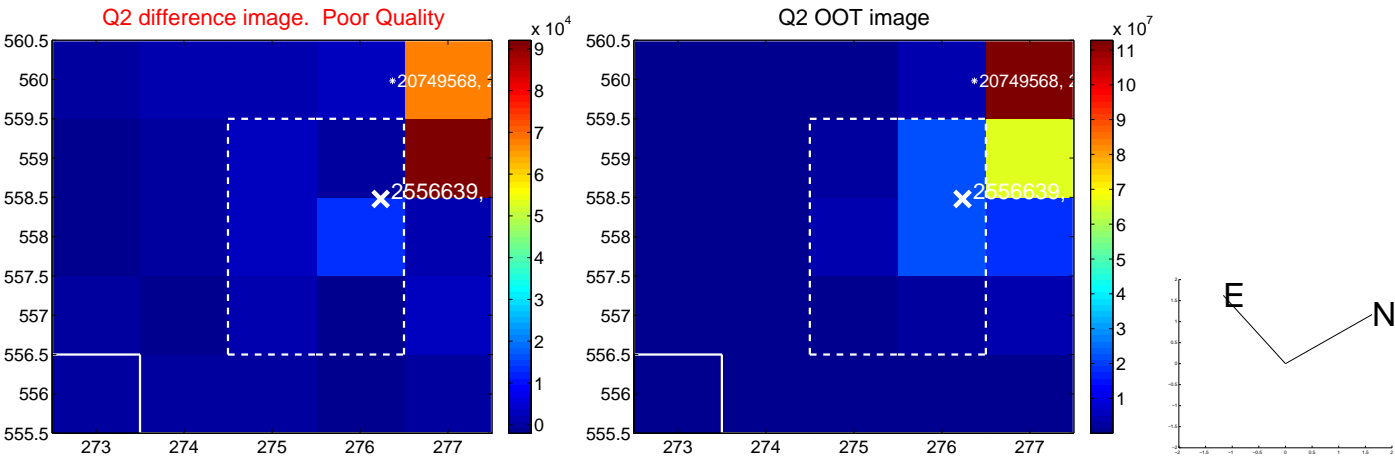
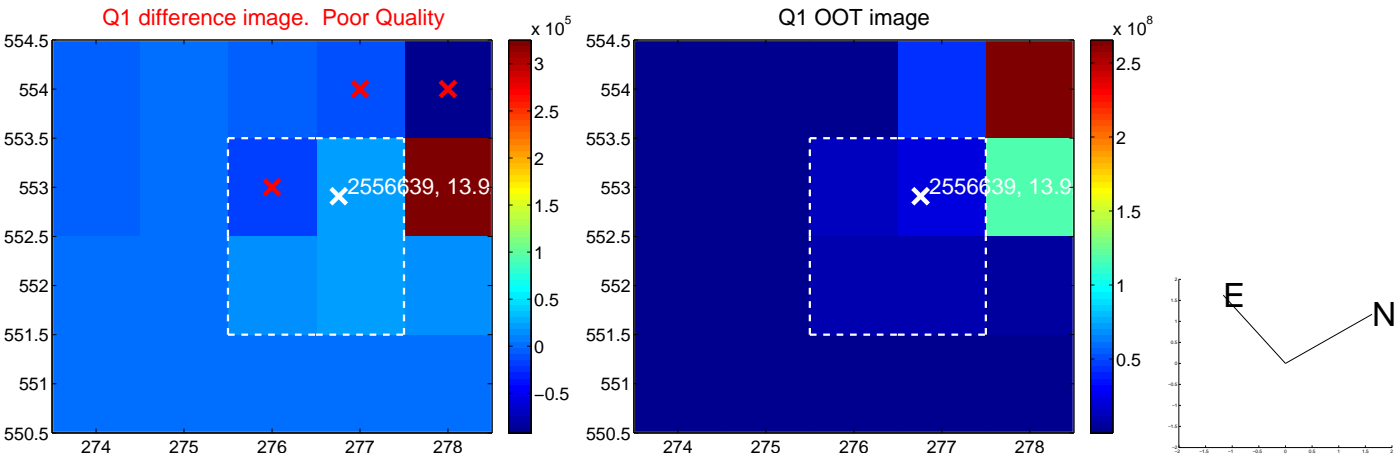
The OOT PRF centroid is offset from the target star catalog position by about 7.60 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.359 ± 0.177	2.03	-0.038 ± 0.136	-0.357 ± 0.178
PRF-fit source offset from KIC position	7.248 ± 0.178	40.75	-0.041 ± 0.136	7.248 ± 0.178
photometric centroid source offset	4.18 ± 0.49	8.58	0.06 ± 0.20	4.18 ± 0.49

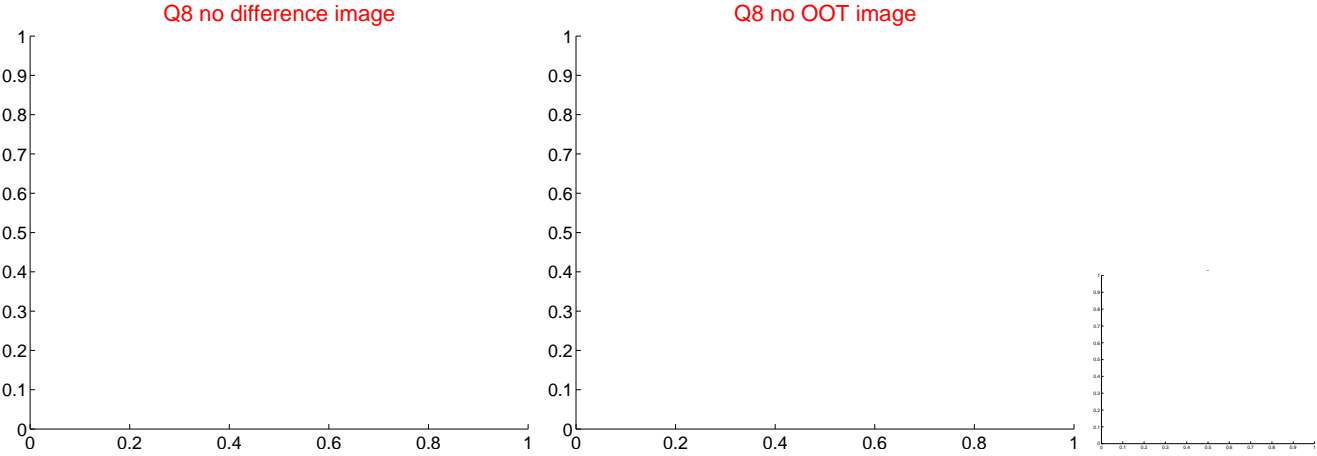
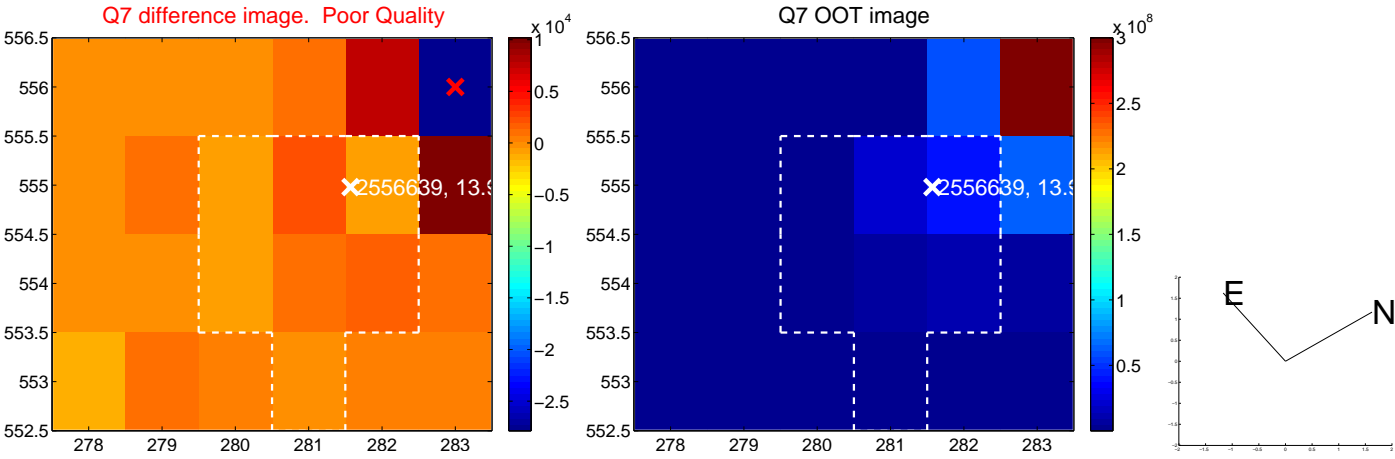
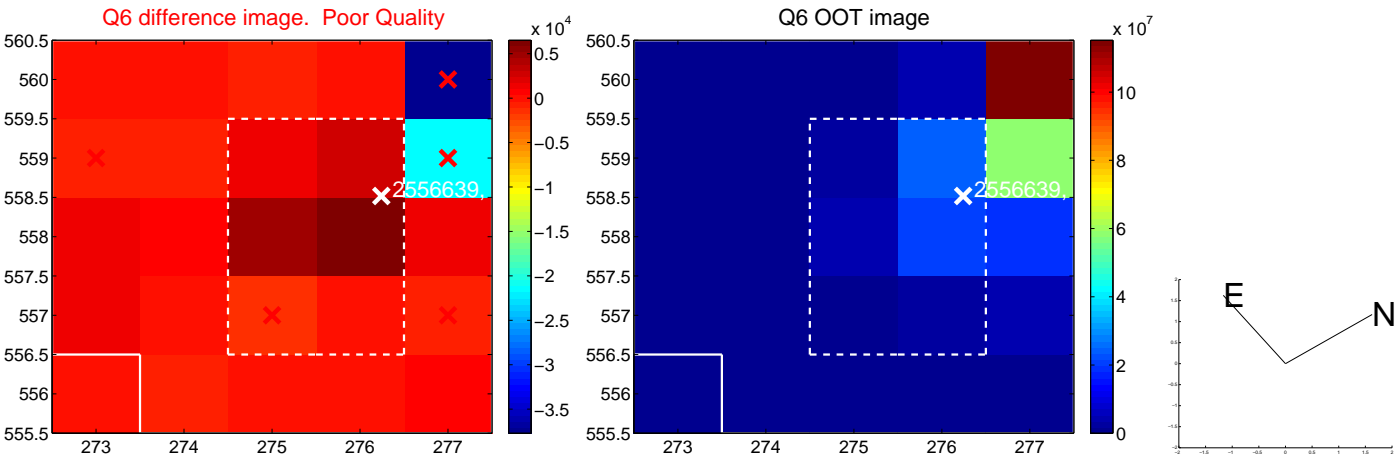
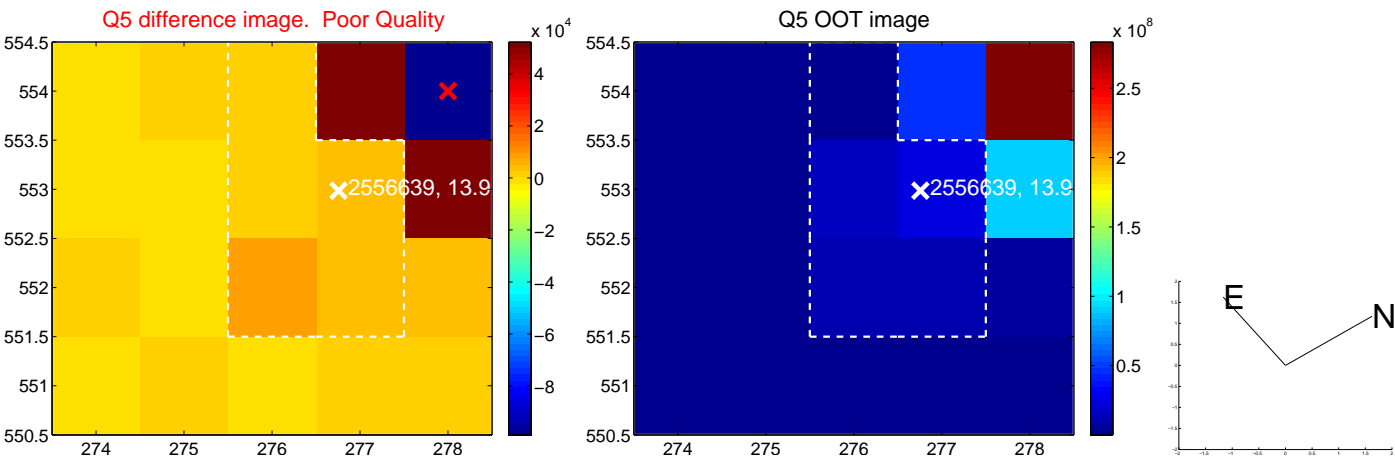


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

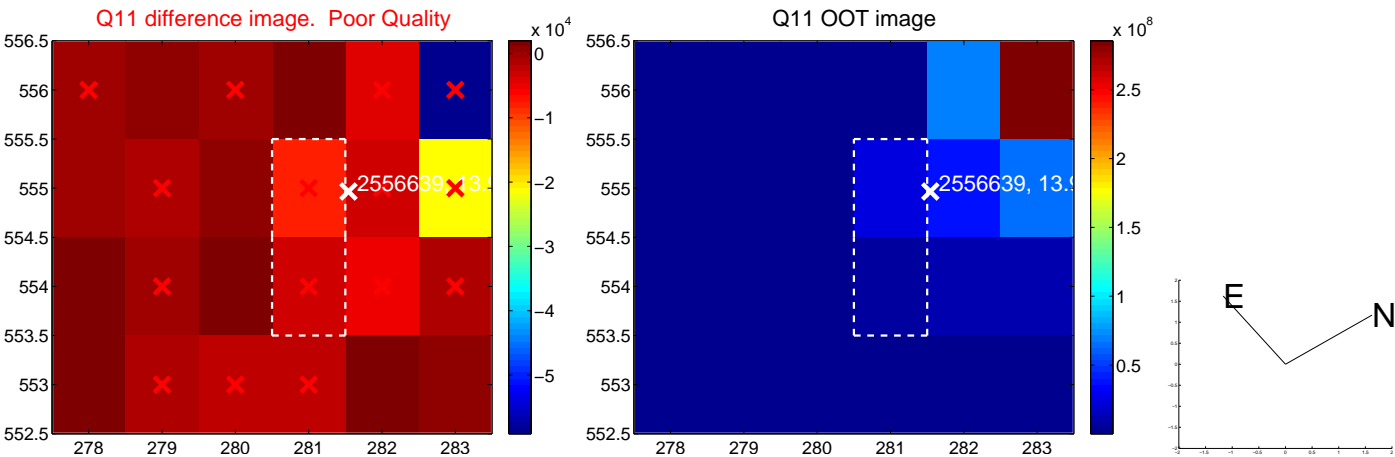
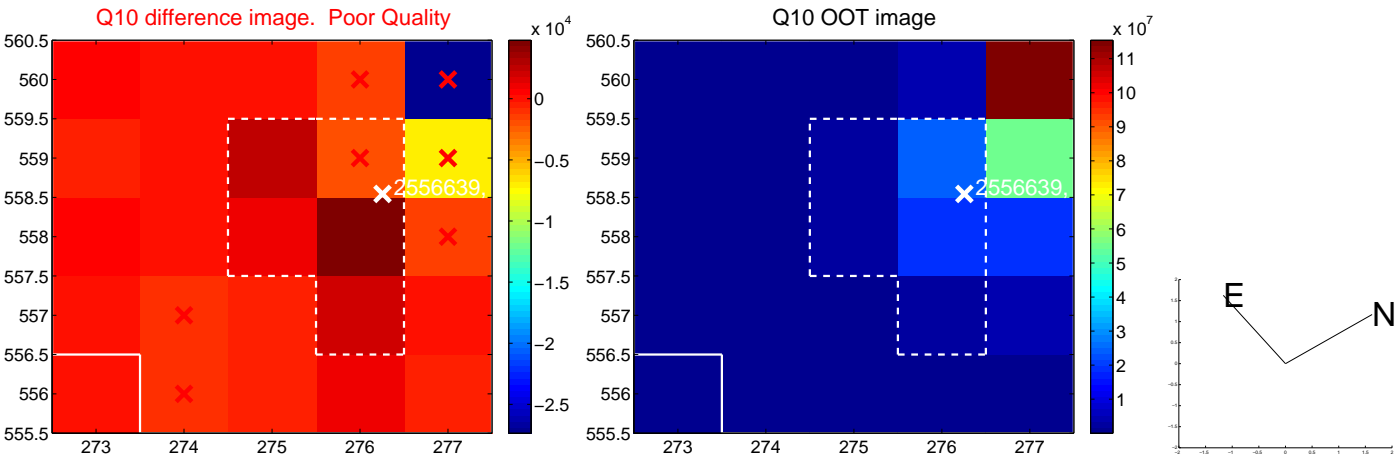
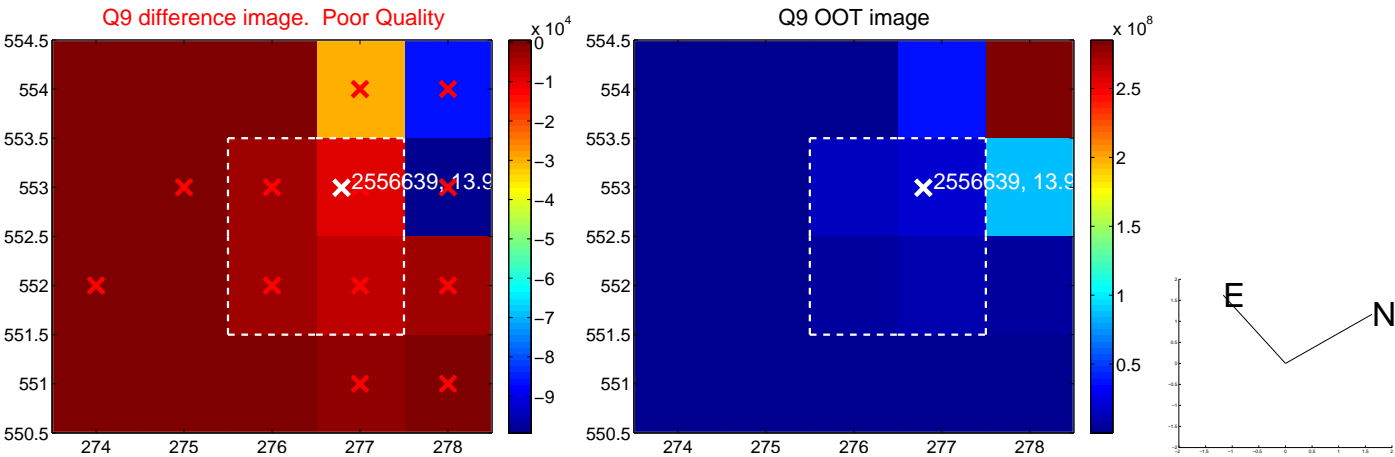
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



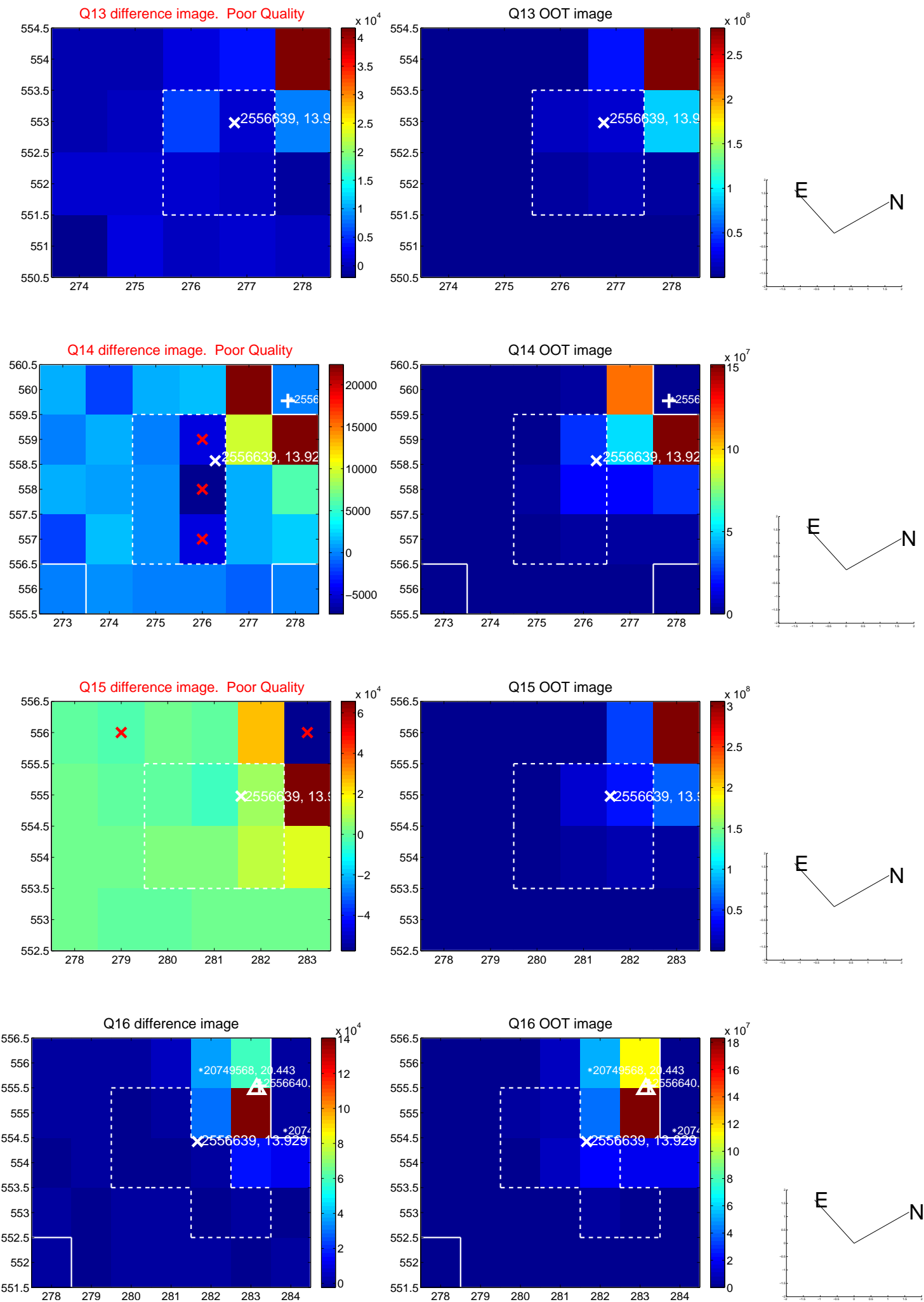
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



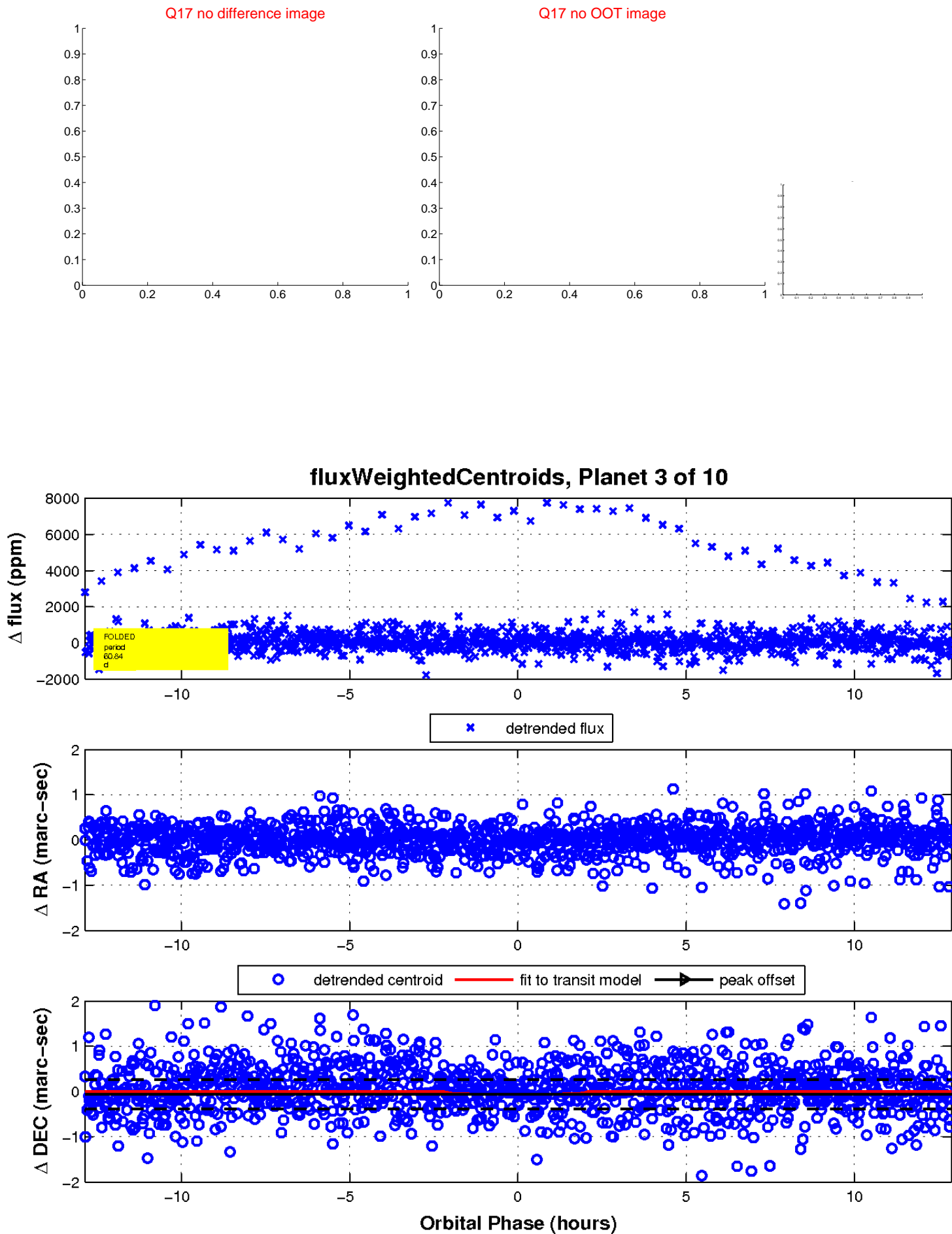
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



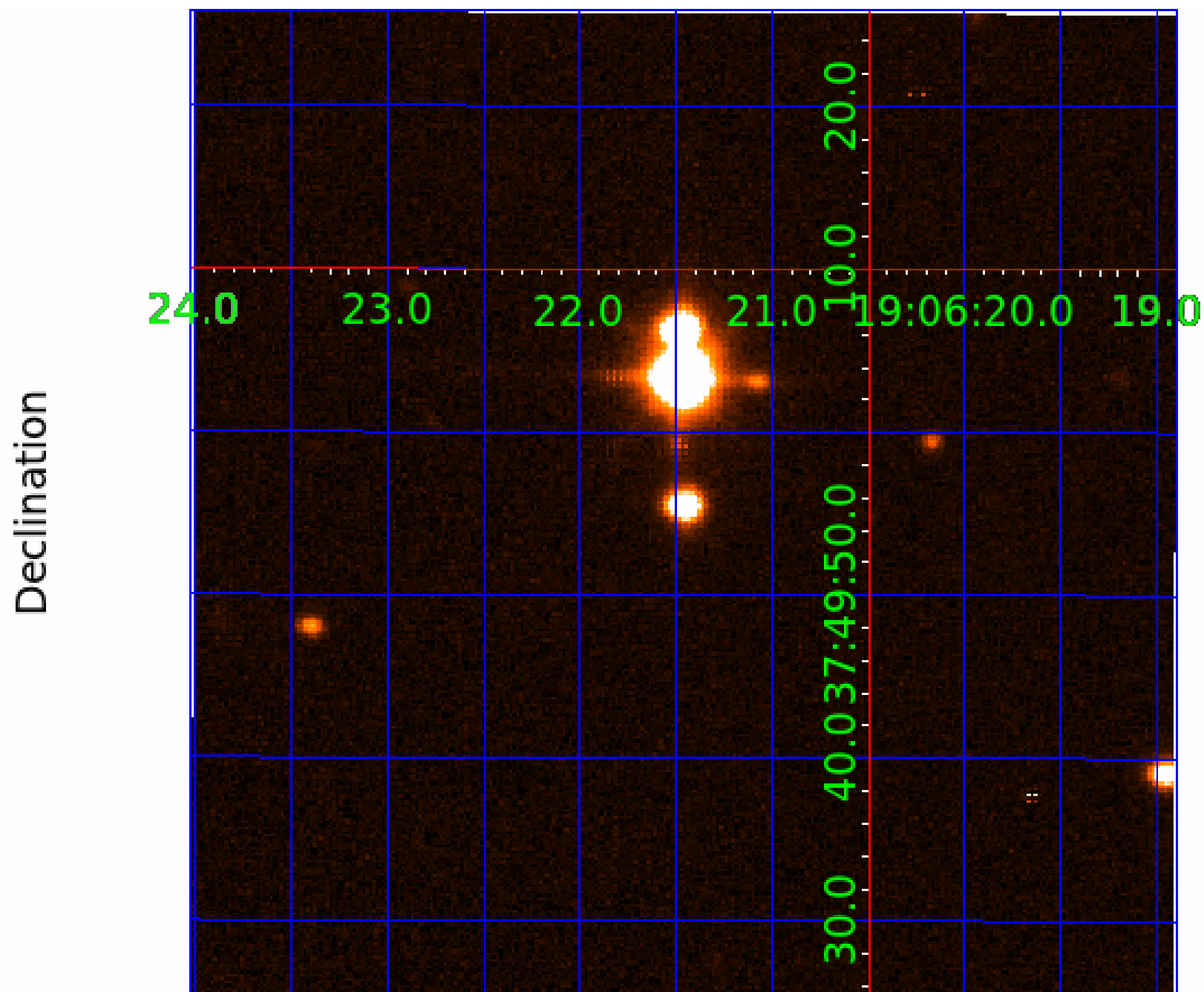
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



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})
002556639-01	OBS	No	2.481583	132.823046	87.7	17.056	10.5	11.4	10.67	4838	10.02	0.00
002556639-02	OBS	No	429.720278	453.938785	7145.3	38.419	62.8	49.1	10.67	4838	170.27	29.34
002556639-03	OBS	No	60.844901	153.558562	330.8	4.302	19.2	4.2	10.67	4838	20.78	397.55
002556639-04	OBS	No	61.929579	153.843236	715.6	17.592	17.8	13.5	10.67	4838	35.86	388.30
002556639-05	OBS	No	124.313425	186.359040	967.3	0.572	17.5	2.6	10.67	4838	41.18	153.34
002556639-06	OBS	No	449.089597	206.154973	619.1	10.364	15.6	11.5	10.67	4838	30.29	27.66
002556639-07	OBS	No	86.635232	134.529984	735.2	6.378	12.6	12.0	10.67	4838	38.10	248.18
002556639-08	OBS	No	60.973922	137.494019	811.6	3.503	12.8	12.4	10.67	4838	31.86	396.43
002556639-09	OBS	No	21.744036	140.229270	724.0	4.469	12.3	11.5	10.67	4838	59.43	1567.62
002556639-10	OBS	No	71.789406	152.216780	763.5	2.777	12.9	12.7	10.67	4838	28.90	318.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002556639-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET
002556639-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002556639-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
002556639-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
002556639-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
002556639-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
002556639-09	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-10	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET

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

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

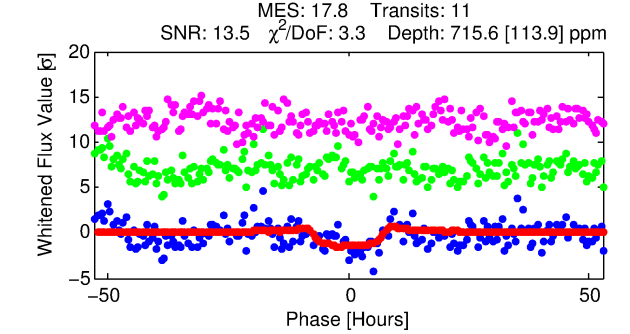
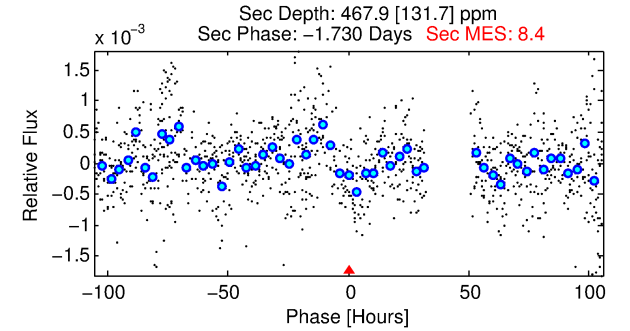
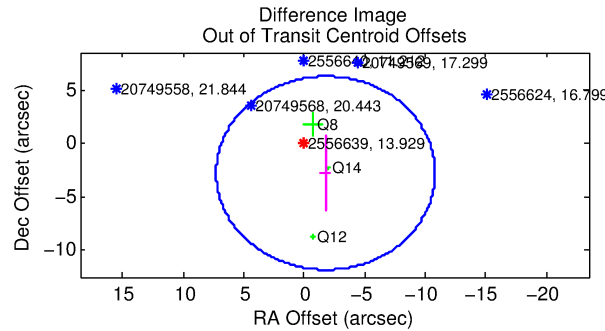
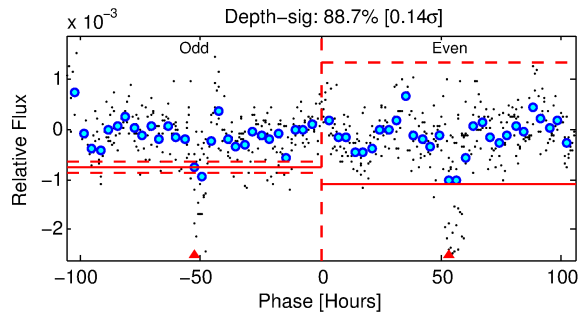
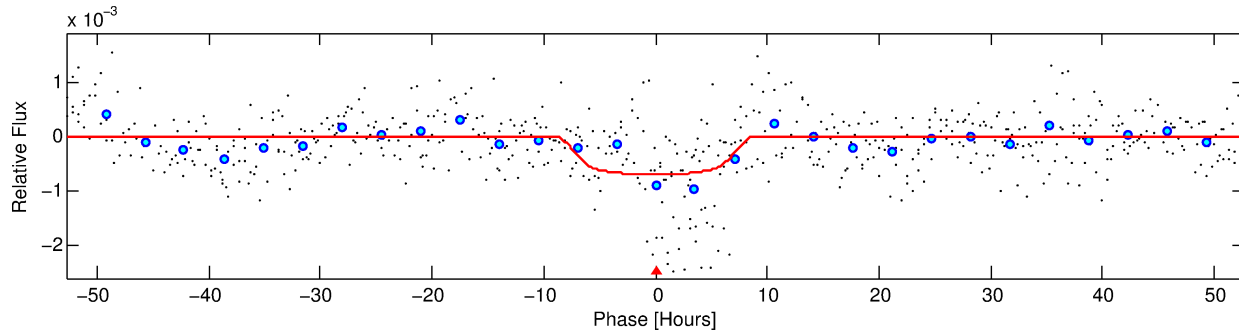
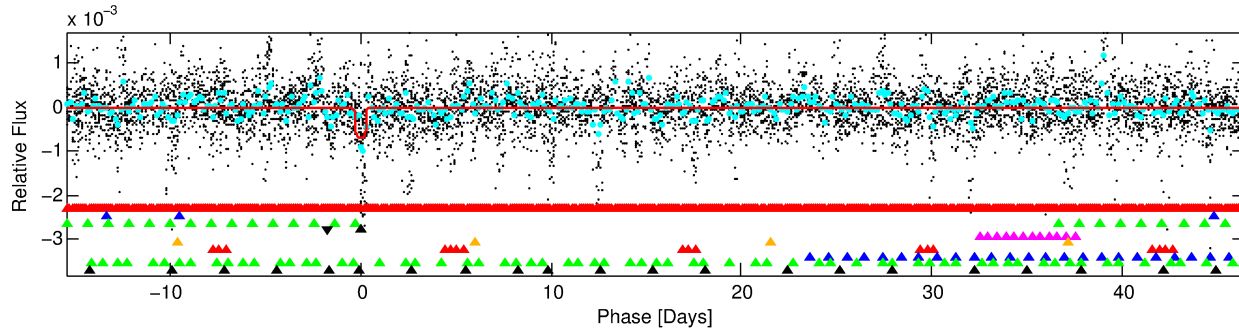
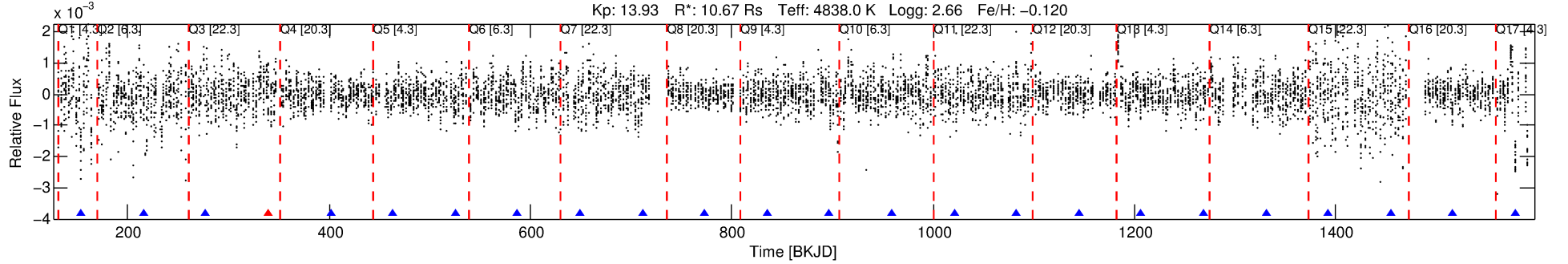
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002556639-04

No Significant Match Found

DV One-Page Summary

KIC: 2556639 Candidate: 4 of 10 Period: 61.930 d



DV Fit Results:

Period = 61.92958 [0.00574] d
Epoch = 153.8432 [0.0658] BKJD
Rp/R* = 0.0308 [0.0040]
a/R* = 12.46 [5.04]
b = 0.92 [0.06]
Seff = 388.30 [138.79]
Teq = 1132 [101] K
Rp = 35.86 [12.40] Re
a = 0.3794 [0.0964] AU
Ag = 28.82 [14.97] [1.86 σ]
Teffp = 4055 [398] K [7.12 σ]

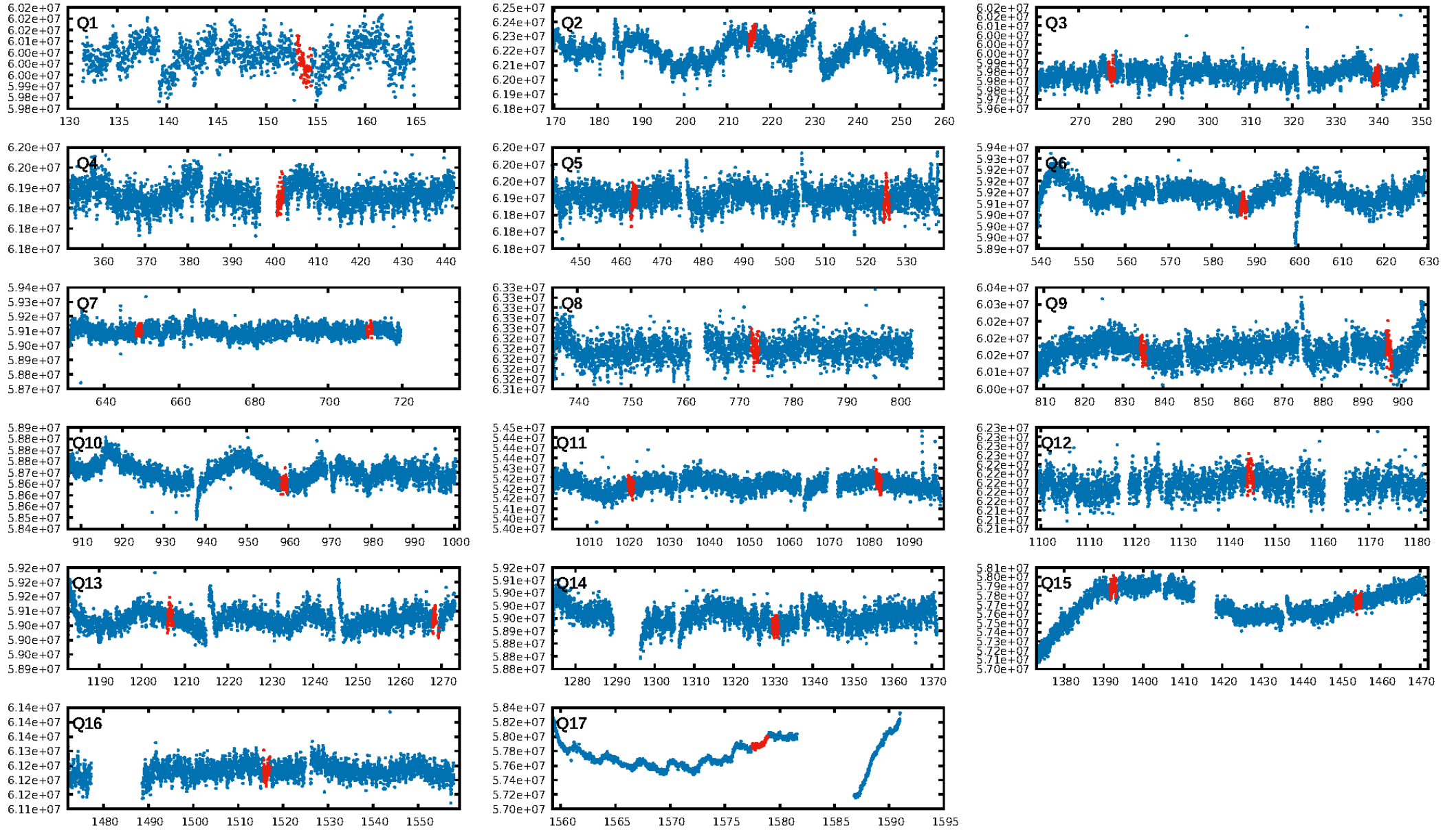
DV Diagnostic Results:

ShortPeriod-sig: 79.9% [1.28 σ]
LongPeriod-sig: 100.0% [13.29 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.89 [8/9]
GhostDiagnostic-chr: 5.042
Centroid-sig: N/A
Centroid-so: 3.973 arcsec [22.39 σ]
OotOffset-rm: 3.299 arcsec [1.09 σ]
KicOffset-rm: 4.727 arcsec [2.47 σ]
OotOffset-st: 1/0/2/0 [3]
KicOffset-st: 1/1/2/1 [5]
DiffImageQuality-fgm: 0.40 [2/5]
DiffImageOverlap-fno: 0.00 [0/13]

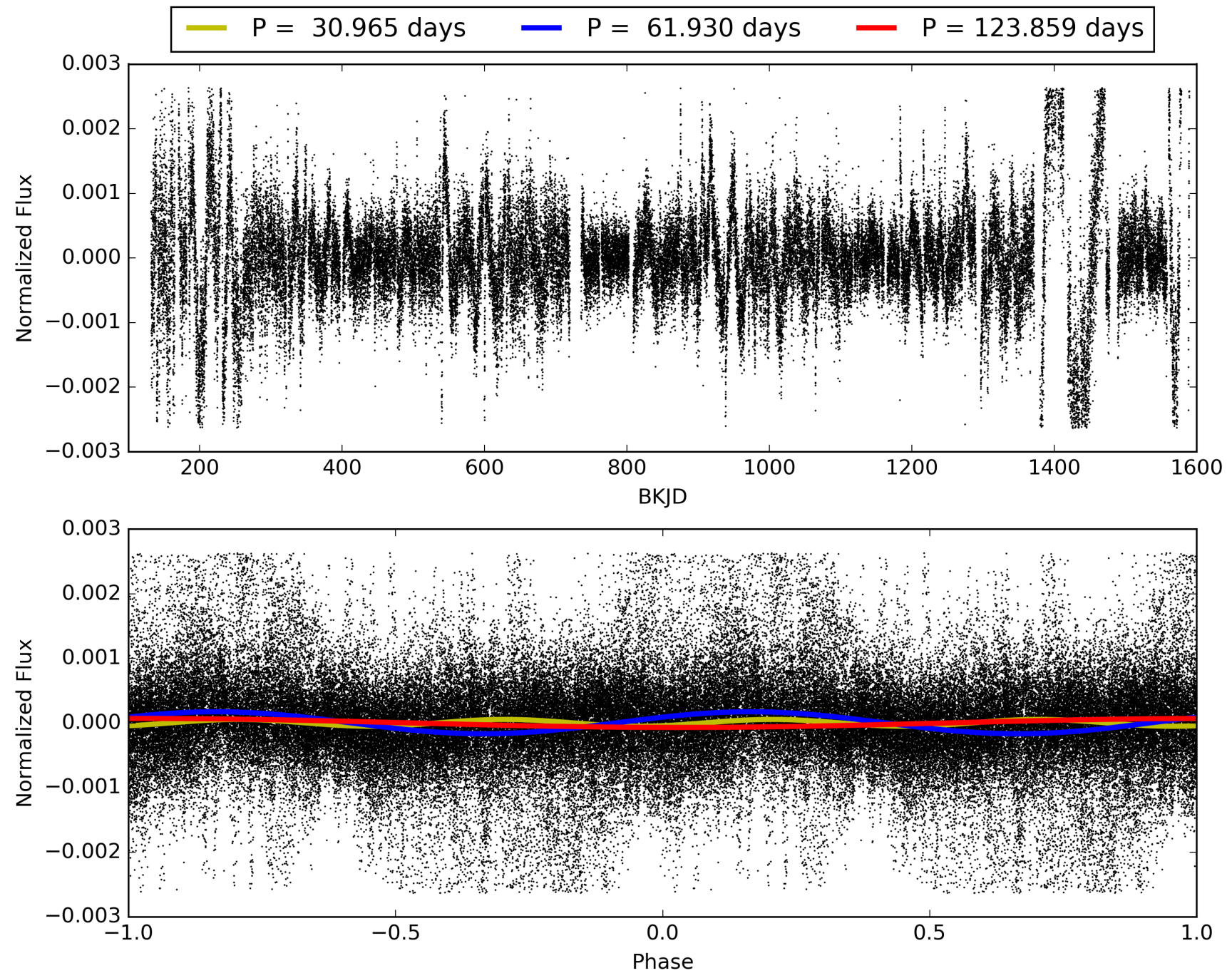
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:49:45 Z

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

TCE 002556639-04, PDC Light Curves

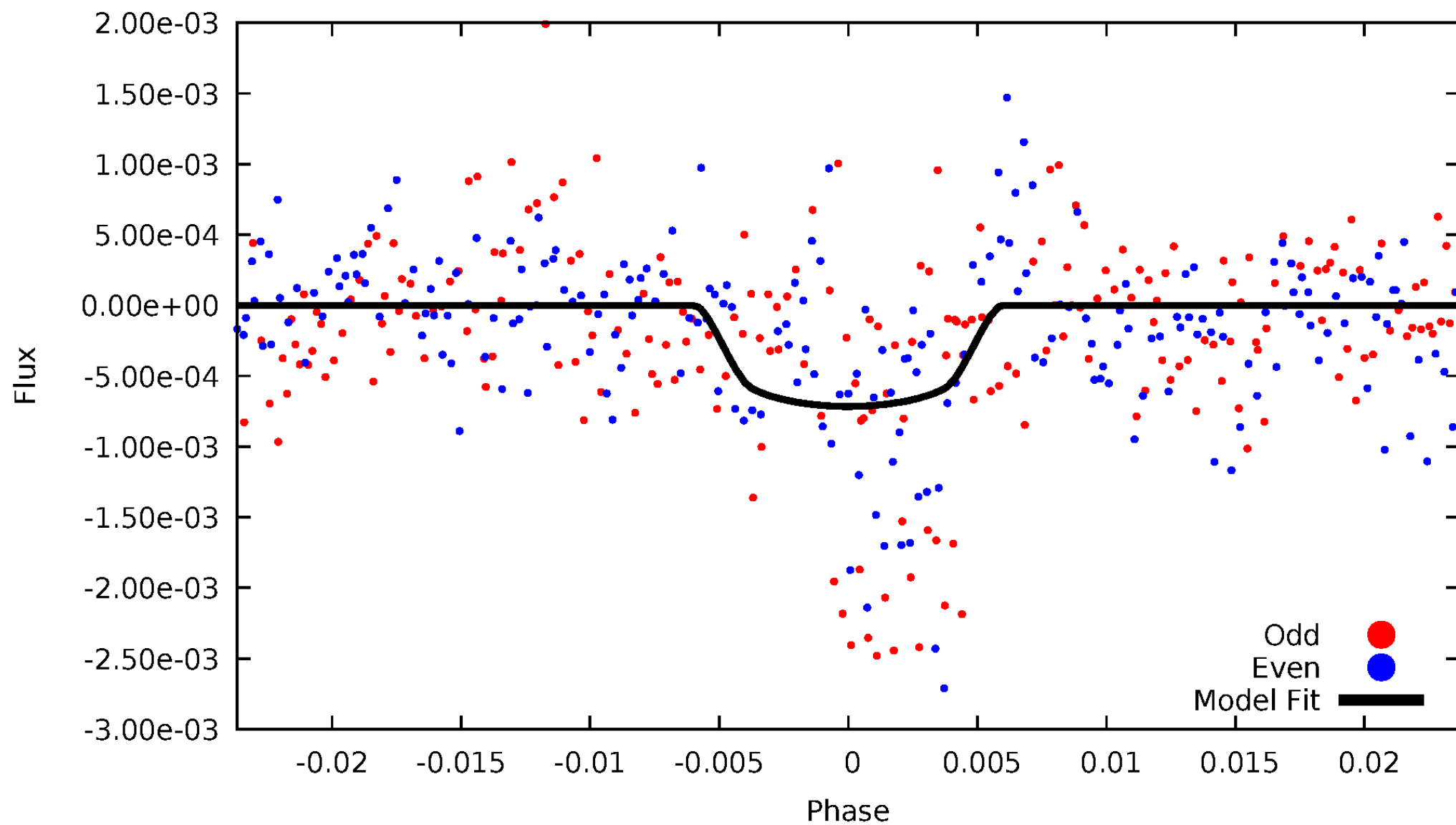


TCE 002556639-04



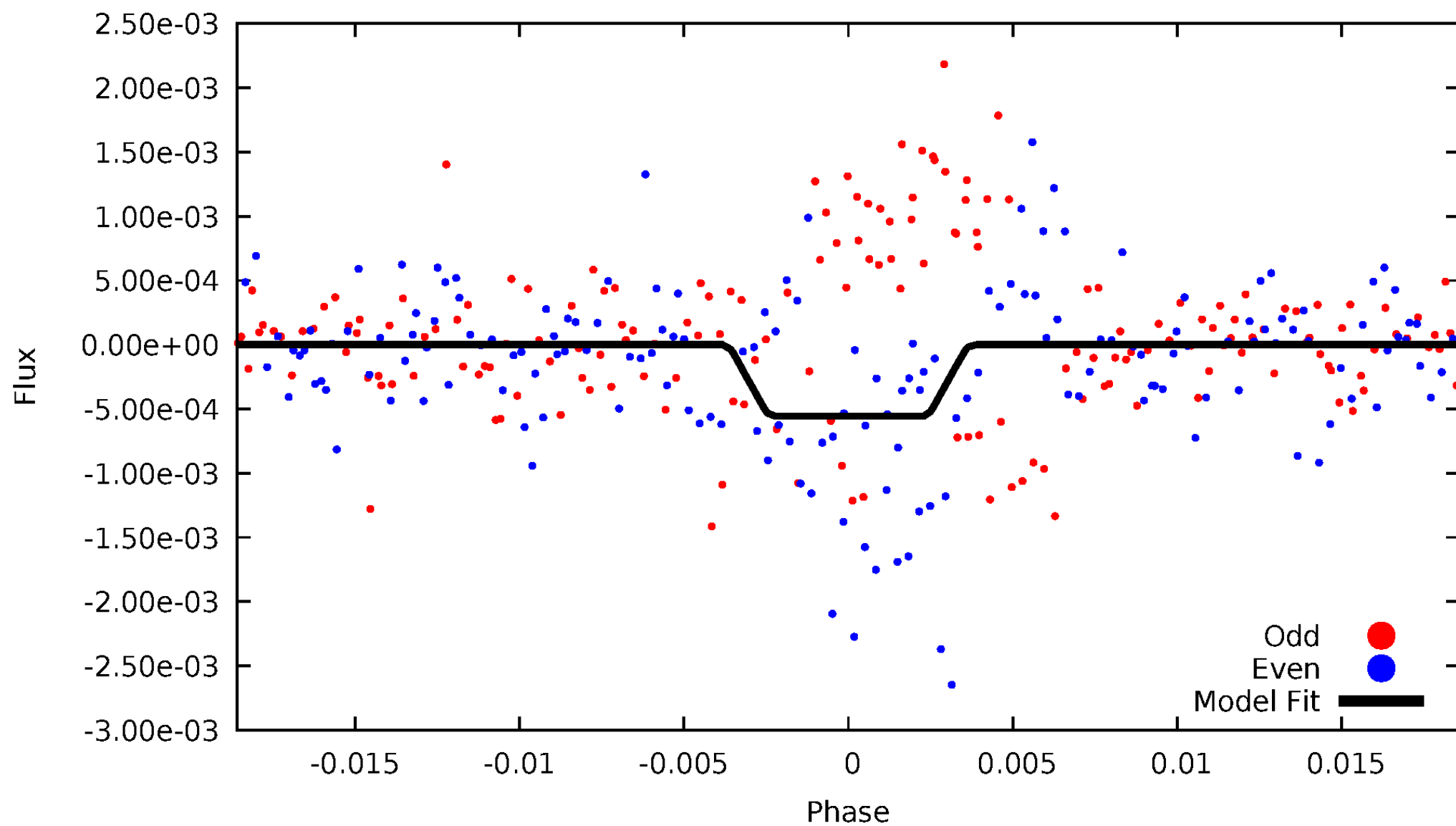
DV Odd/Even

TCE 002556639-04



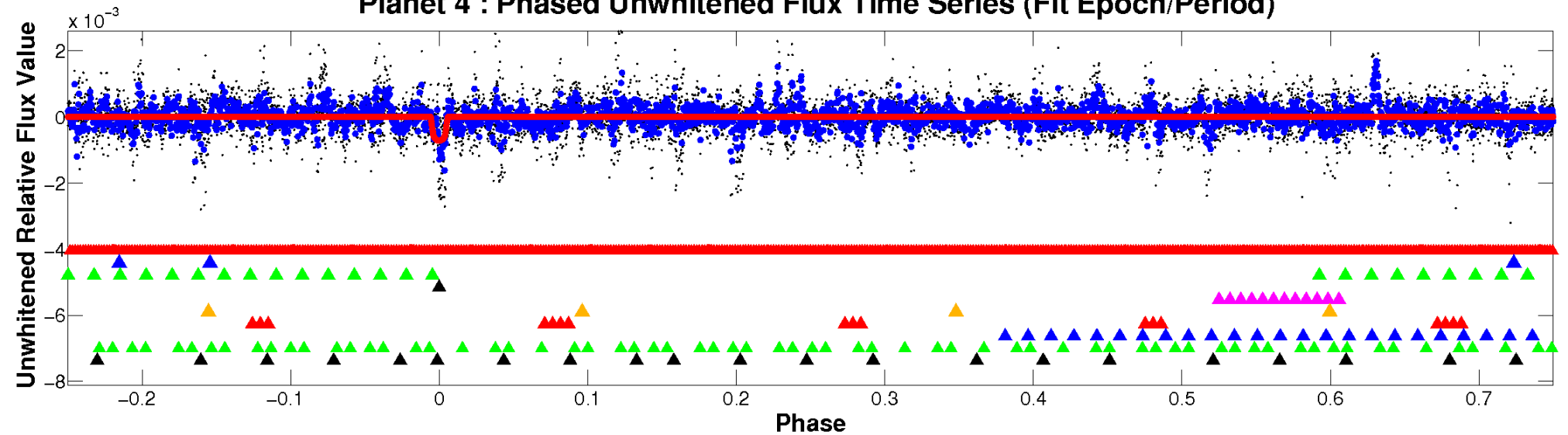
ALT Odd/Even

TCE 002556639-04

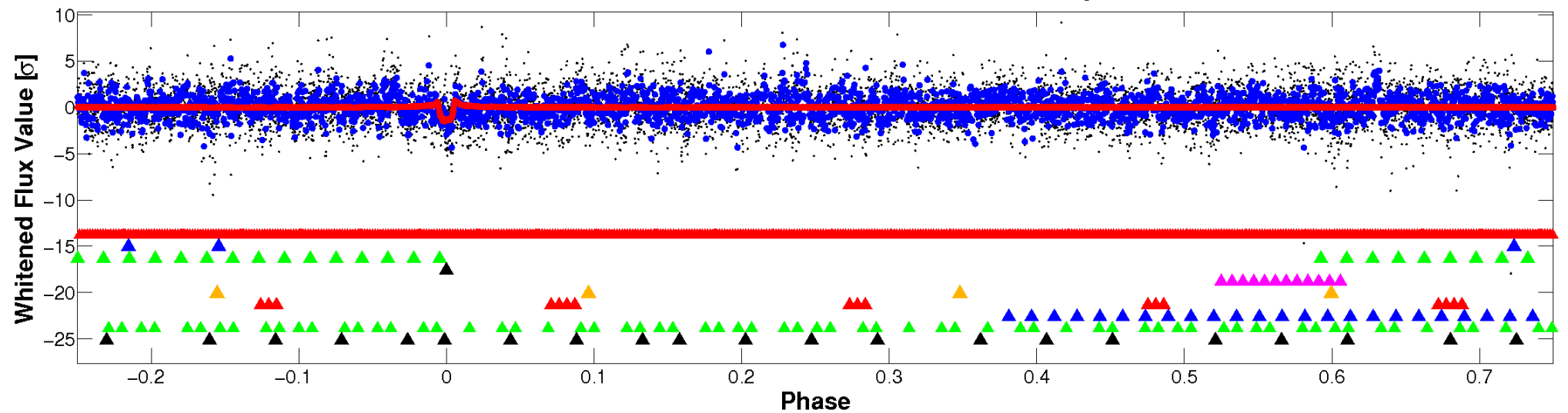


Non-Whitened Vs. Whitened Light Curve

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

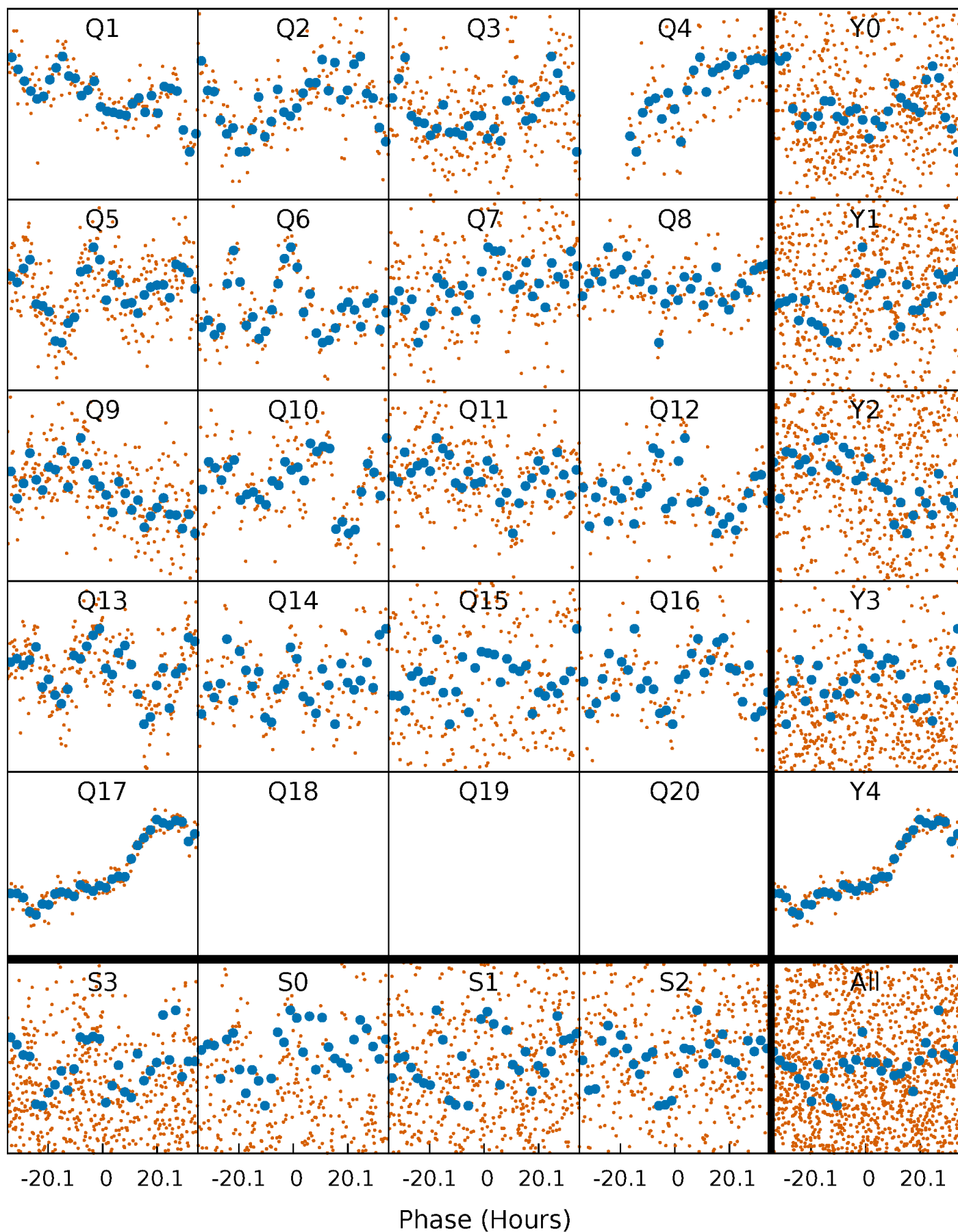


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



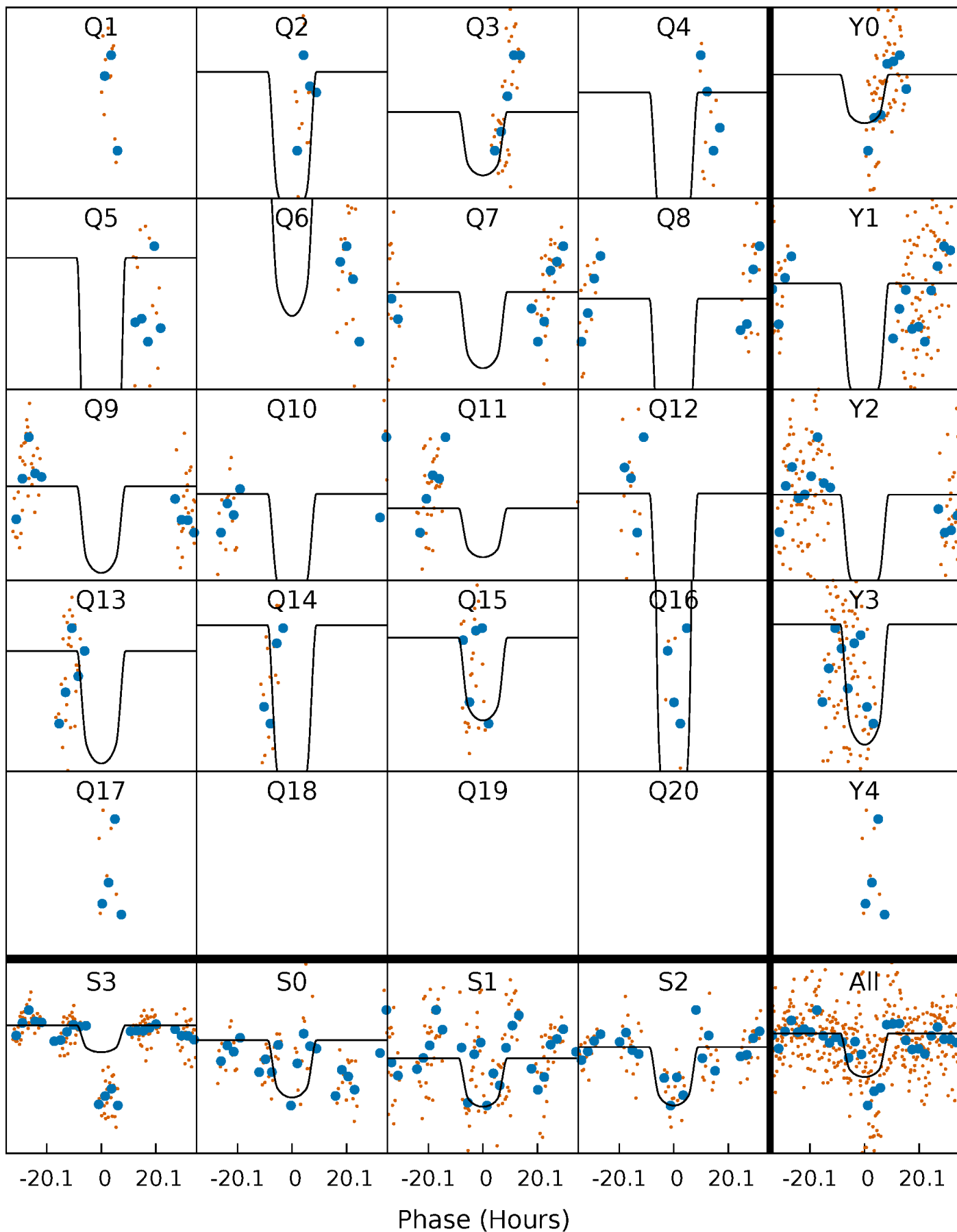
PDC Quarter-Phased Transit Curves

TCE 002556639-04 P= 61.929579 Days $T_0=153.843236$ (BKJD)



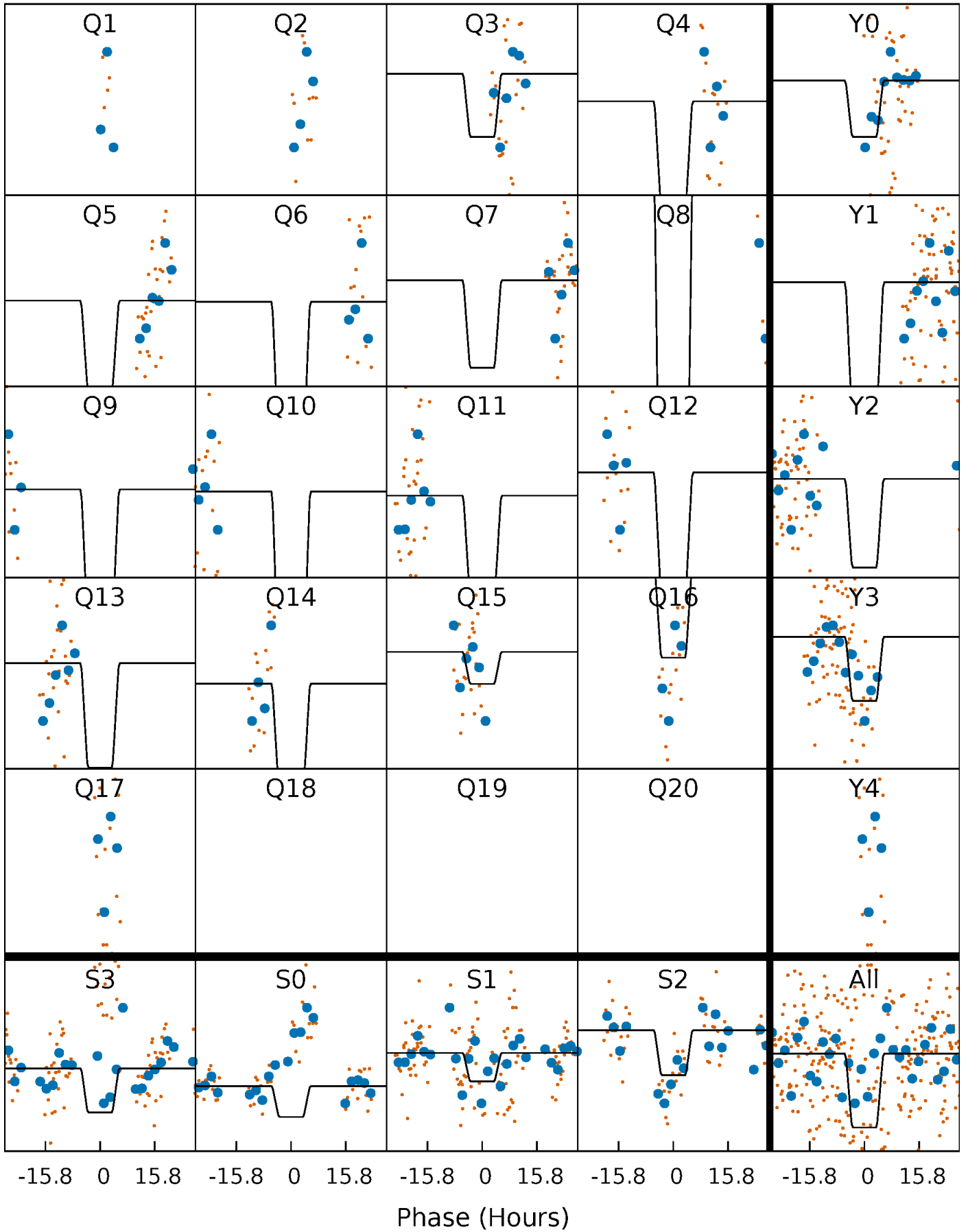
DV Quarter-Phased Transit Curves

TCE 002556639-04 P= 61.929579 Days $T_0=153.843236$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

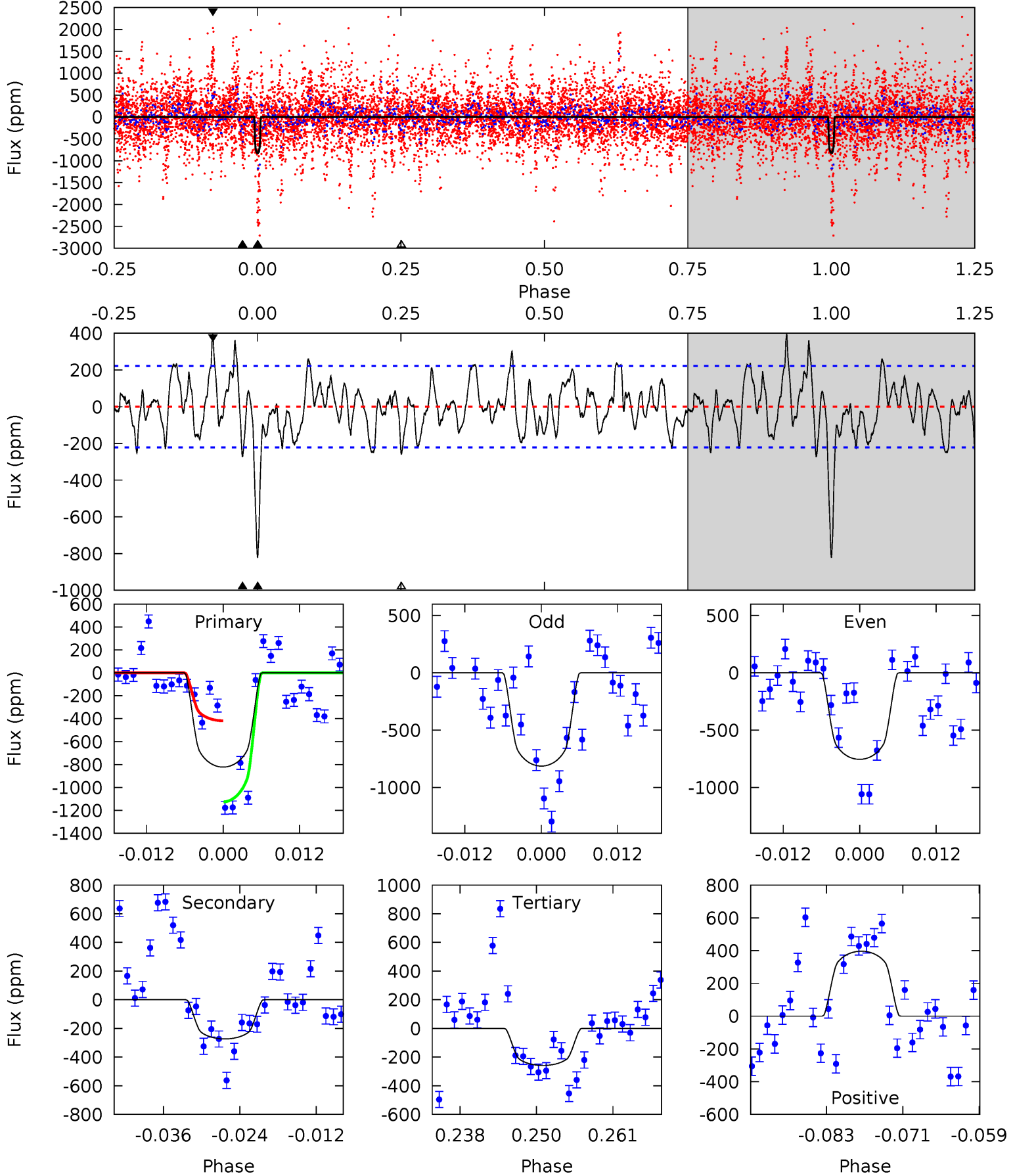
TCE 002556639-04 P= 61.929314 Days $T_0=153.877767$ (BKJD)



DV Model-Shift Uniqueness Test

002556639-04, P = 61.929579 Days, E = 91.913657 Days

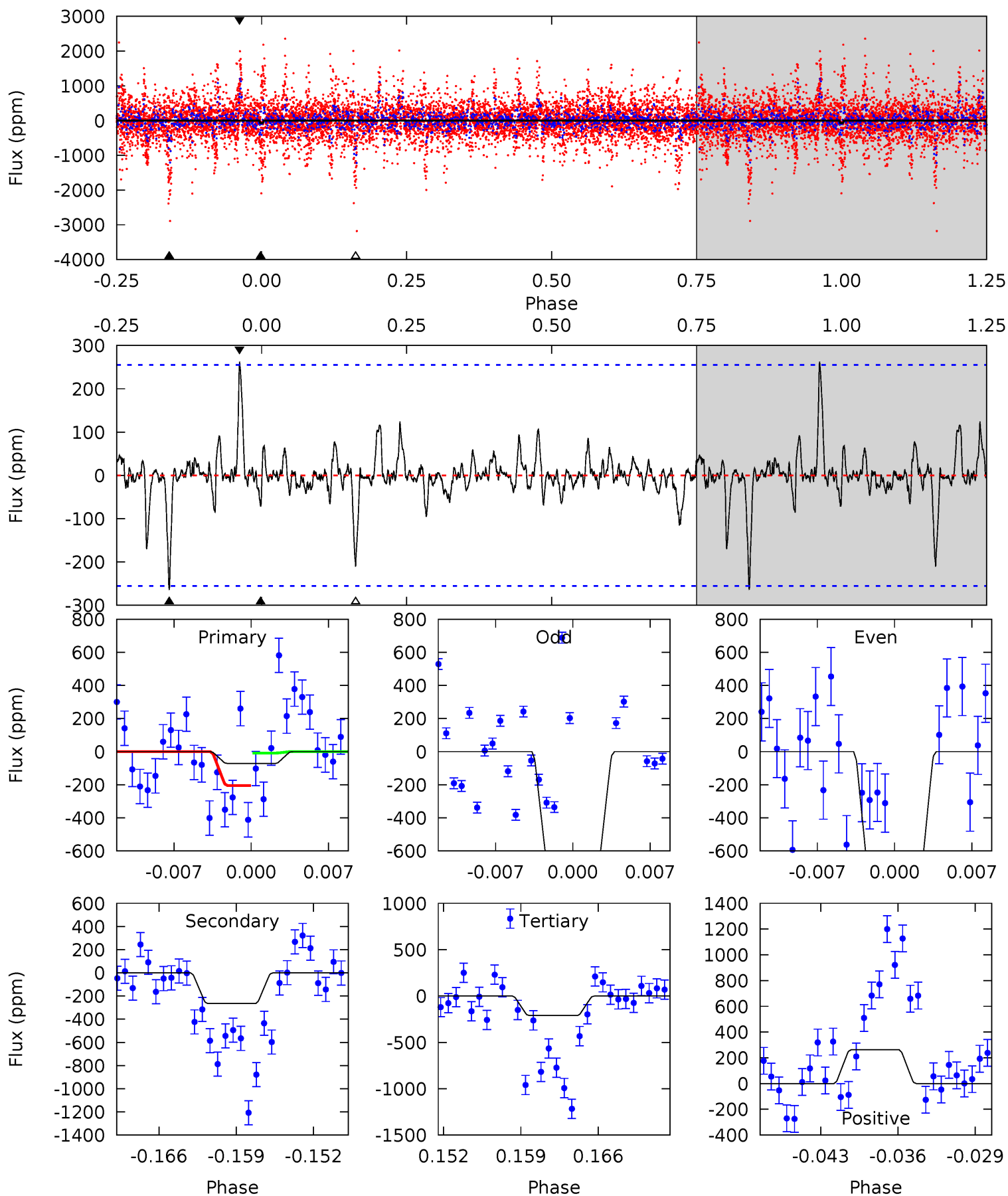
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.5	6.15	5.81	8.92	4.99	2.52	2.62	12.7	9.58	0.33	-2.77	0.66	2.02	0.33	7.81



Alt Model-Shift Uniqueness Test

002556639-04, P = 61.929314 Days, E = 91.948453 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.43	5.27	4.19	5.22	5.09	2.69	0.83	-2.76	-3.79	1.08	0.05	0.80	0.72	0.50	1.95



Stellar Parameters For KIC 002556639

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4838^{+50}_{-93}	$2.660^{+0.180}_{-0.120}$	$-0.120^{+0.100}_{-0.150}$	$10.671^{+1.463}_{-3.414}$	$1.899^{+0.185}_{-0.740}$	$0.002^{+0.003}_{-0.001}$
	+1%/-2%	+7%/-5%	+83%/-125%	+14%/-32%	+10%/-39%	+123%/-29%
Source	SPE74	SPE74	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 002556639-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-273 ± 44	$35.37^{+6.43}_{-7.46}$	1581^{+72}_{-101}	3815^{+232}_{-200}	17^{+9}_{-5}
Alt.	-264 ± 50	$26.92^{+5.94}_{-5.78}$	1577^{+68}_{-103}	4151^{+290}_{-260}	28^{+16}_{-10}

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

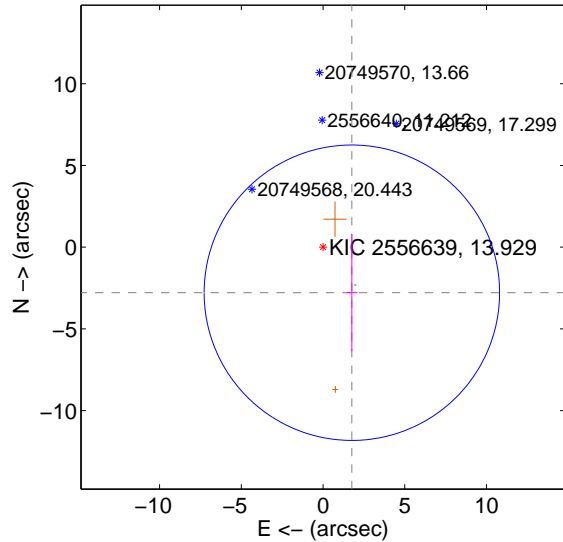
Supplemental centroid analysis for 002556639-04. Kepler magnitude: 13.93. Transit SNR 13.53

There are 2 quarters with good PRF difference image offsets

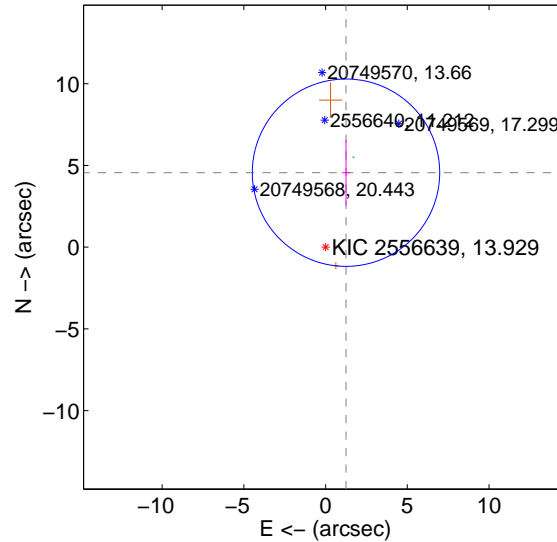
The OOT PRF centroid is offset from the target star catalog position by about 7.82 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.299 ± 3.013	1.09	-1.764 ± 0.349	-2.787 ± 3.582
PRF-fit source offset from KIC position	4.727 ± 1.911	2.47	-1.249 ± 0.253	4.559 ± 1.994
photometric centroid source offset	3.97 ± 0.18	22.39	0.06 ± 0.08	3.97 ± 0.18

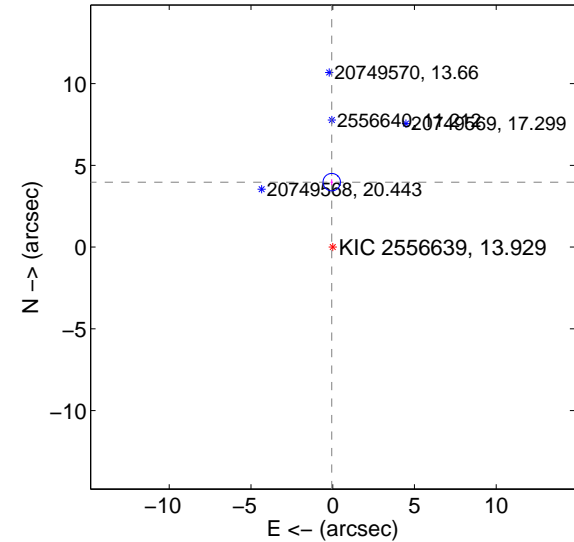
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

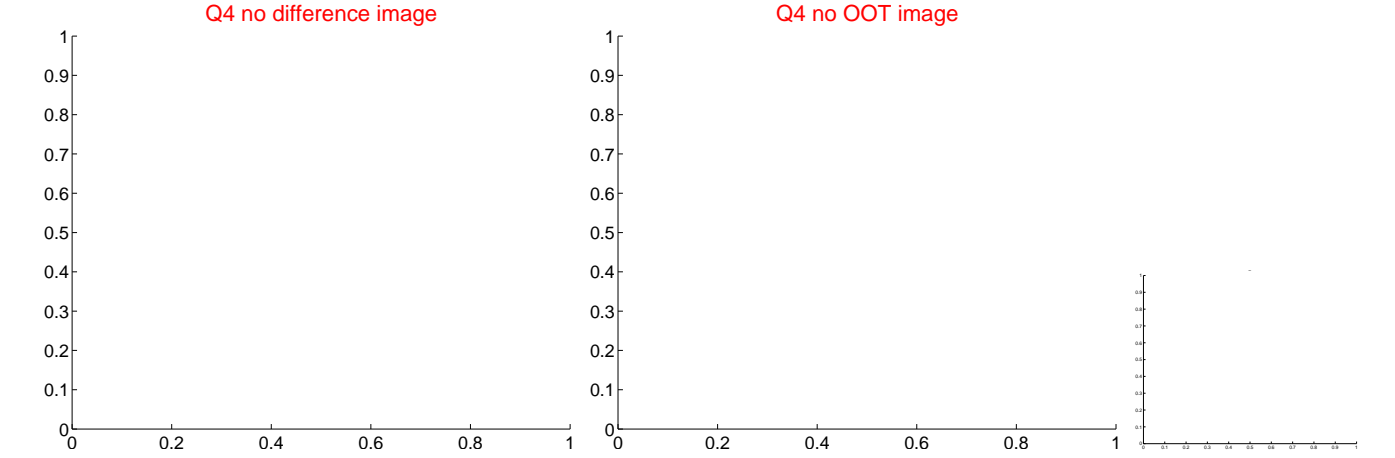
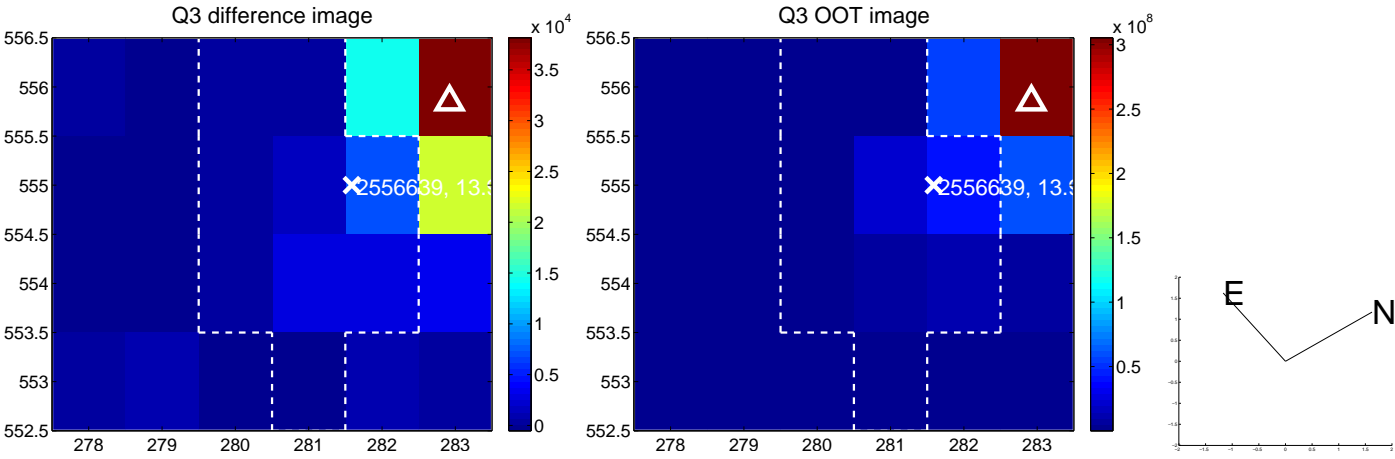
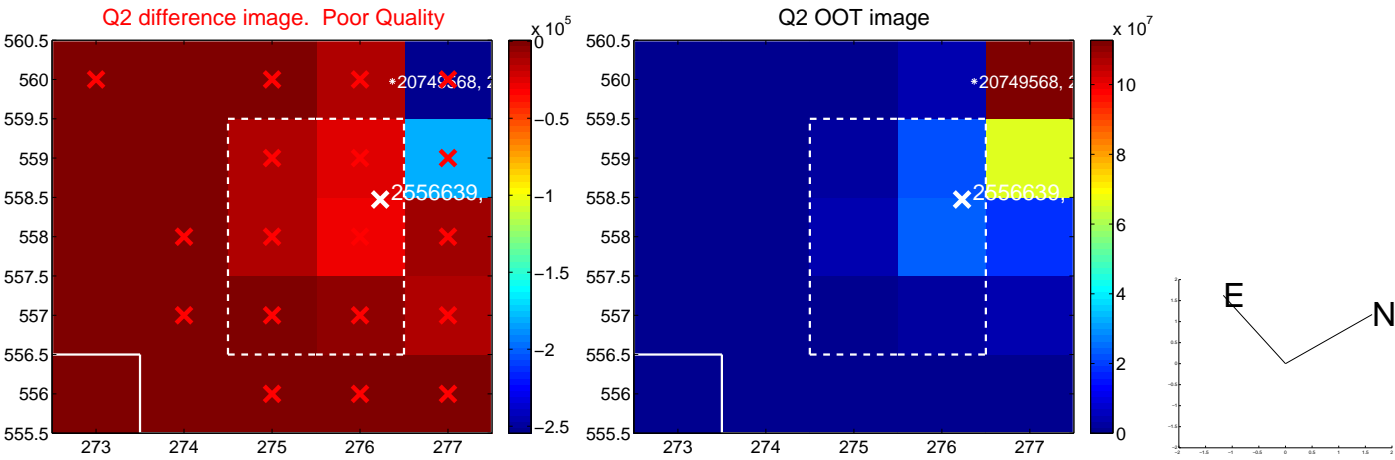
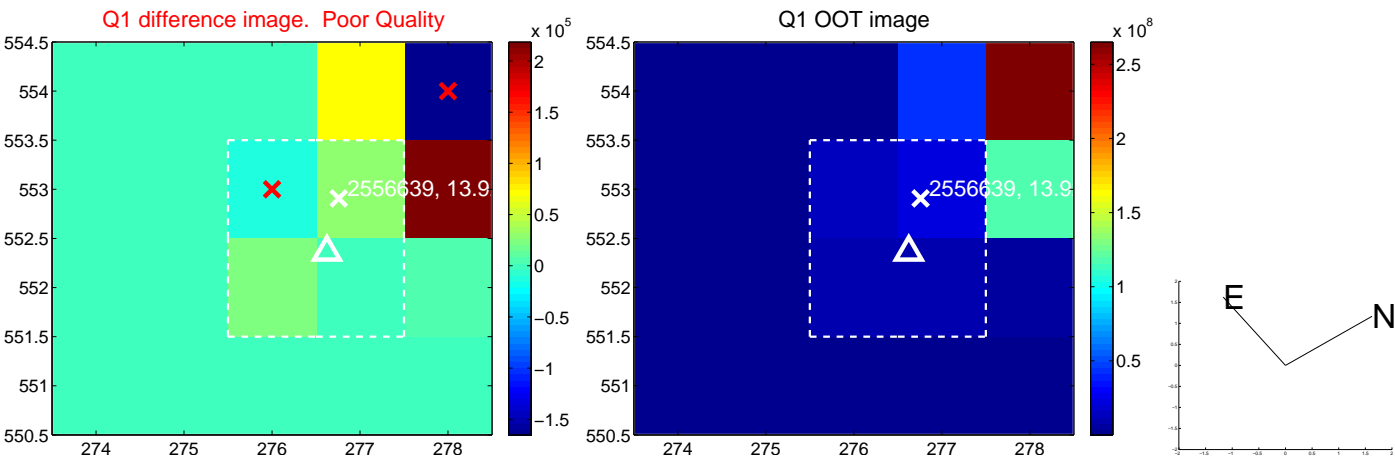


offset from photometric centroids

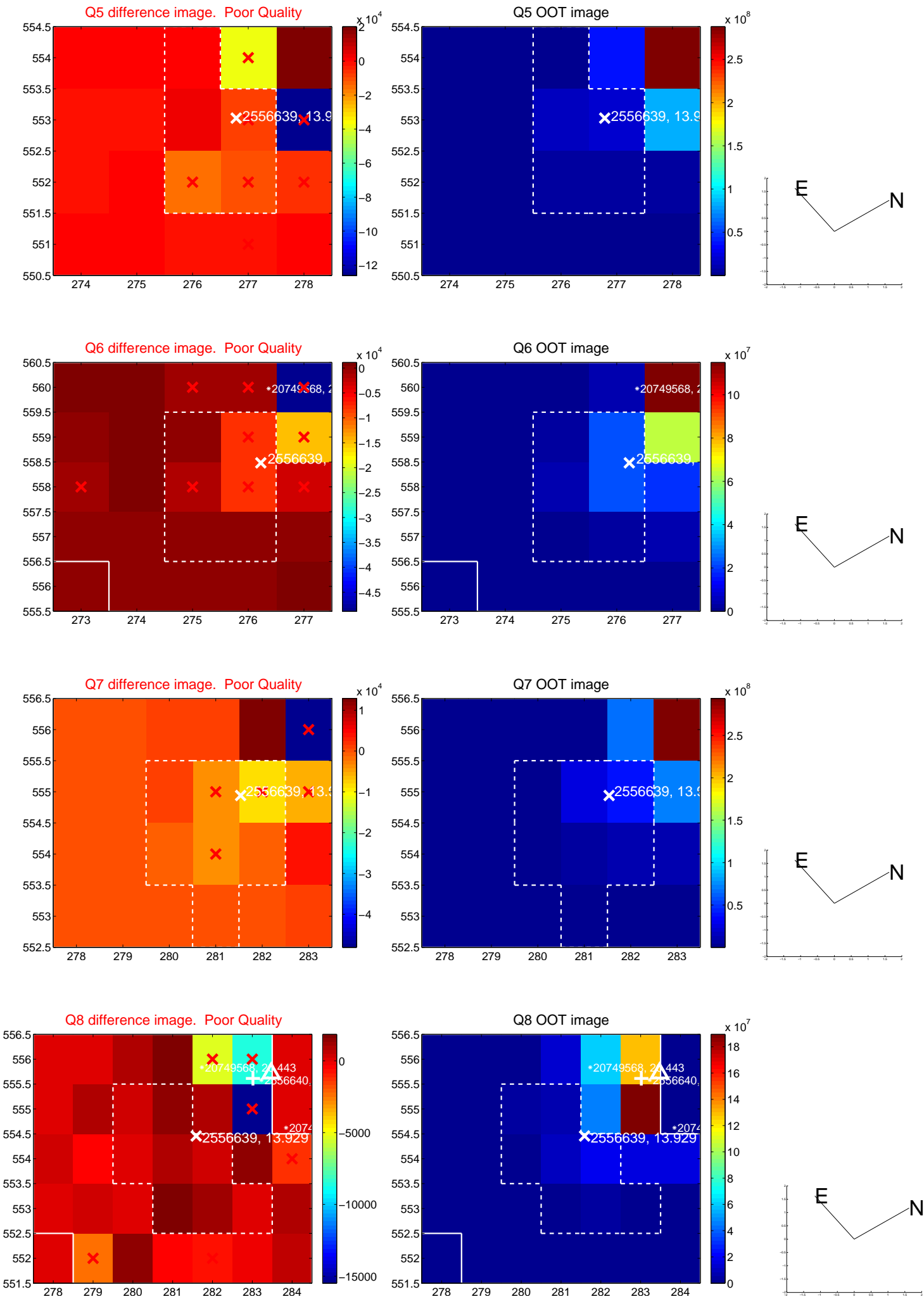


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

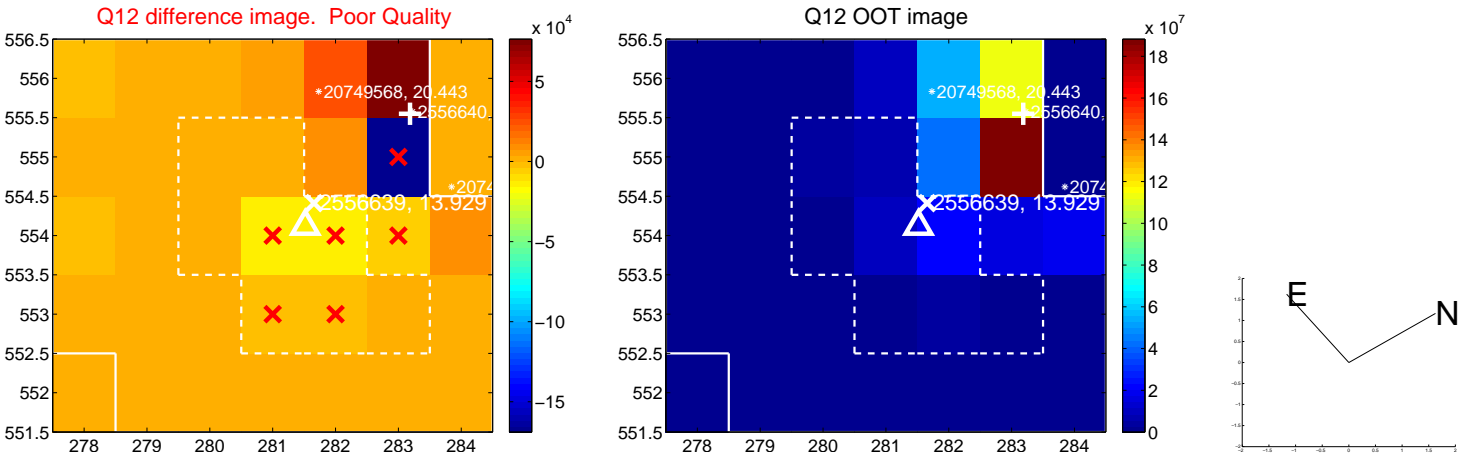
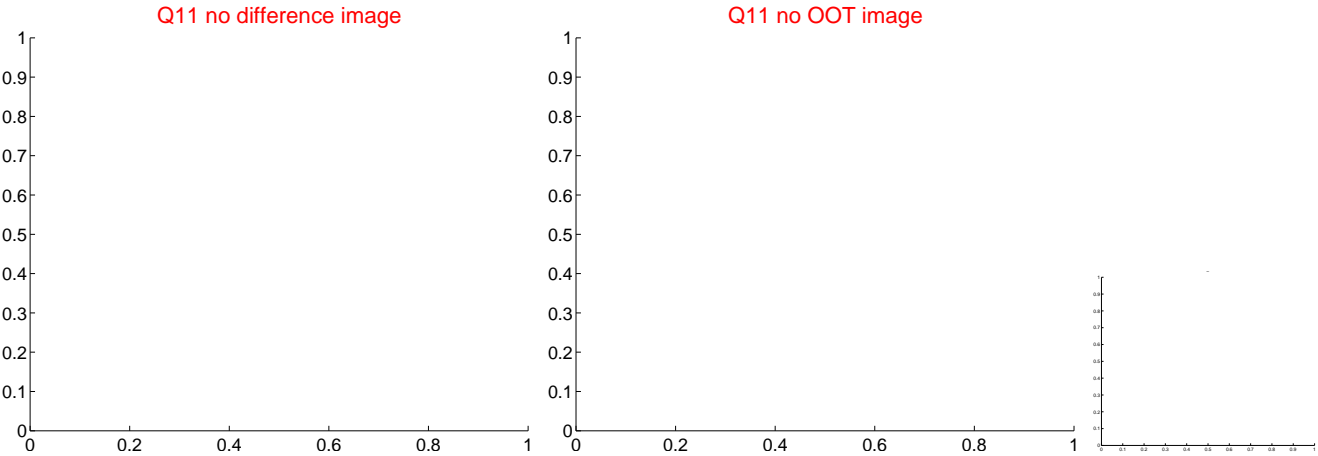
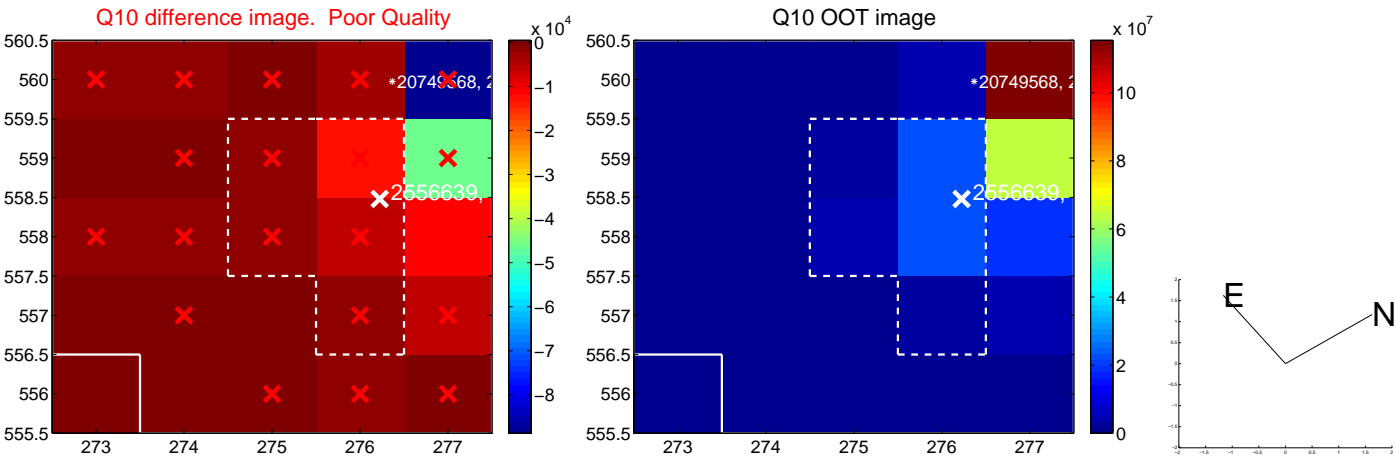
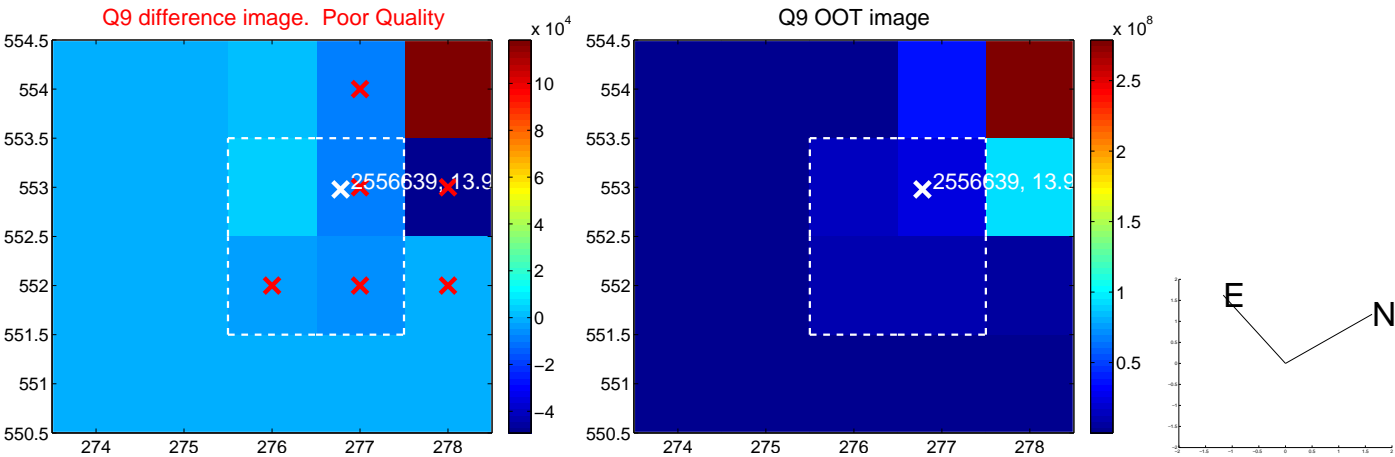
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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

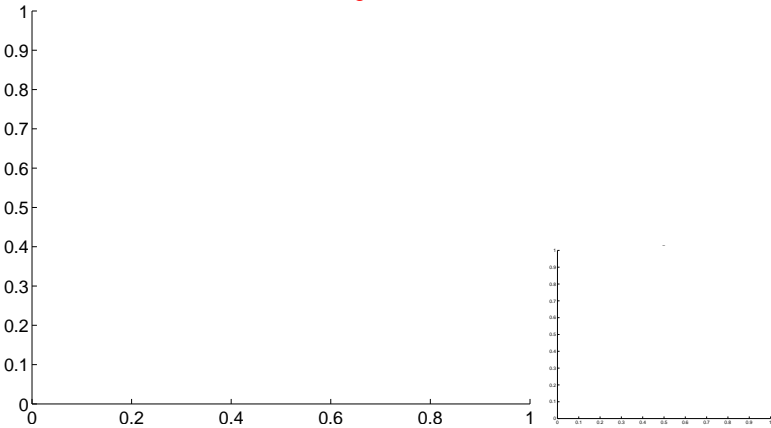


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

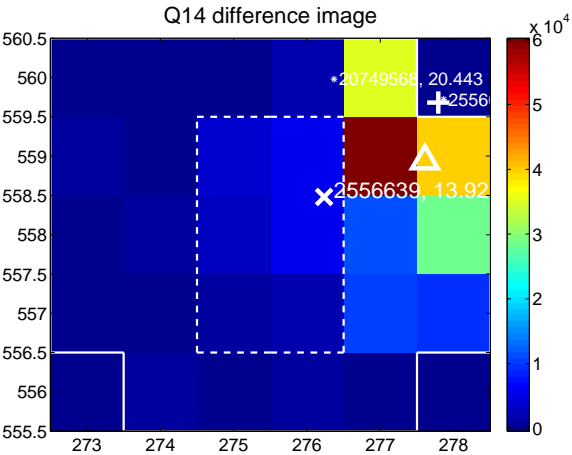
Q13 no difference image



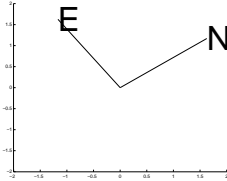
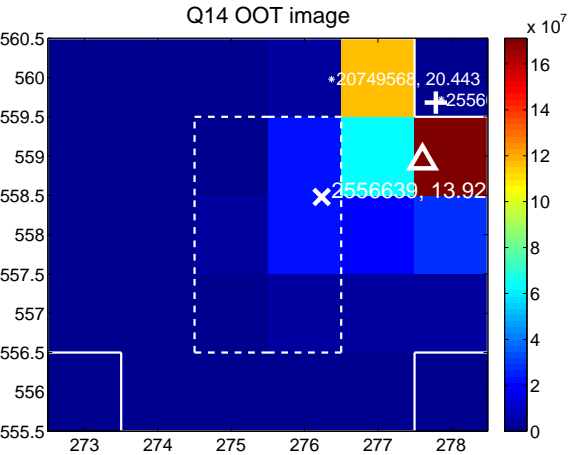
Q13 no OOT image



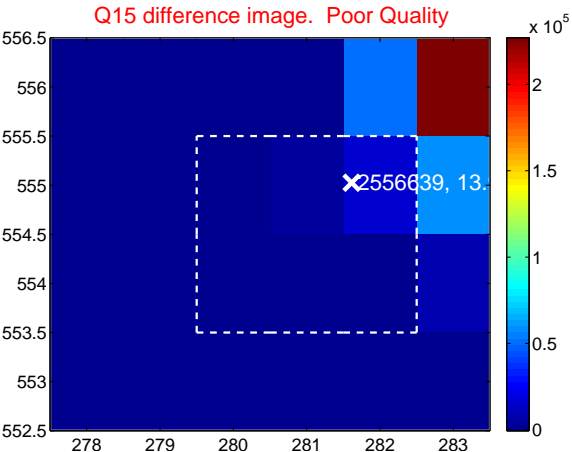
Q14 difference image



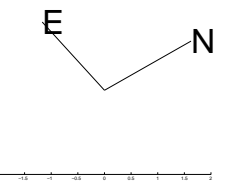
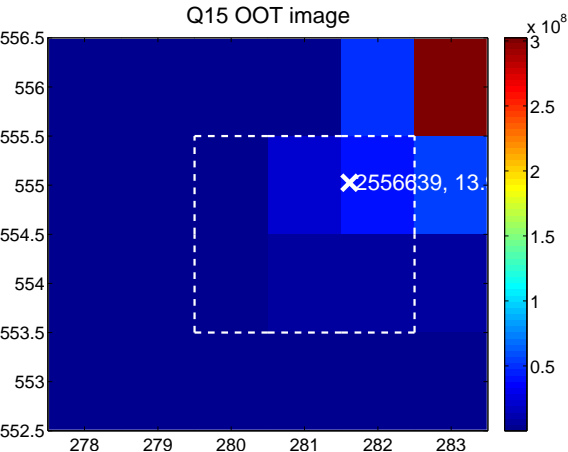
Q14 OOT image



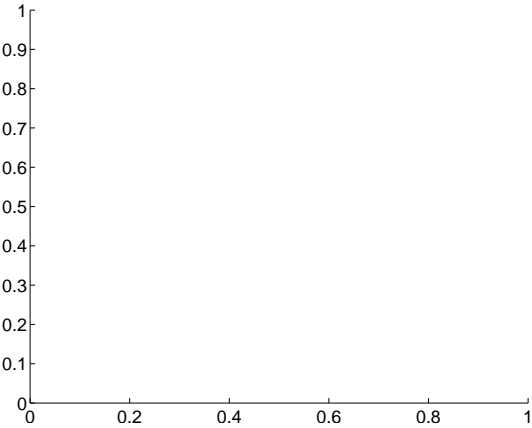
Q15 difference image. Poor Quality



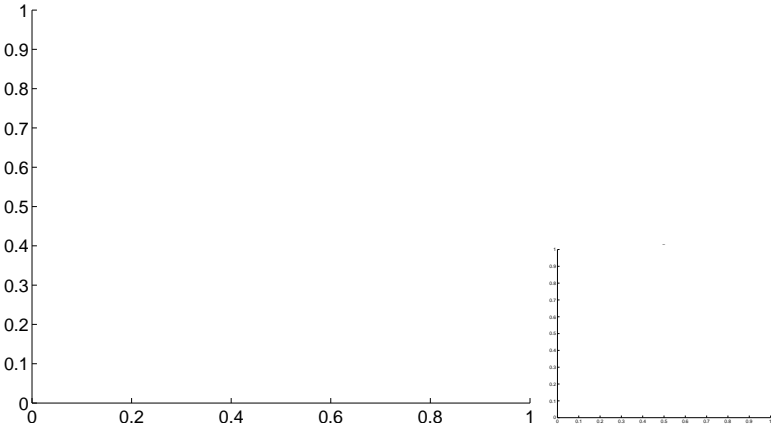
Q15 OOT image



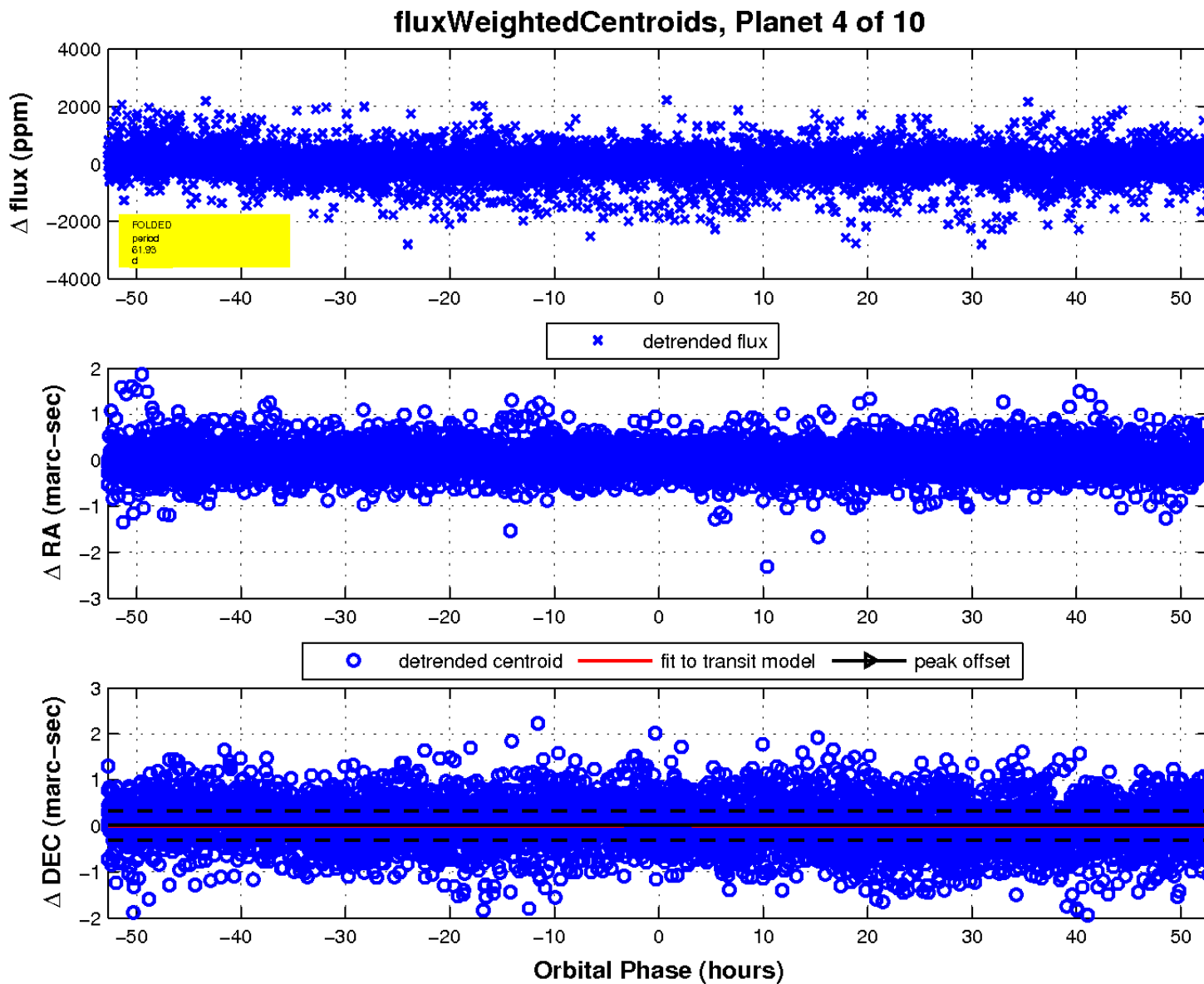
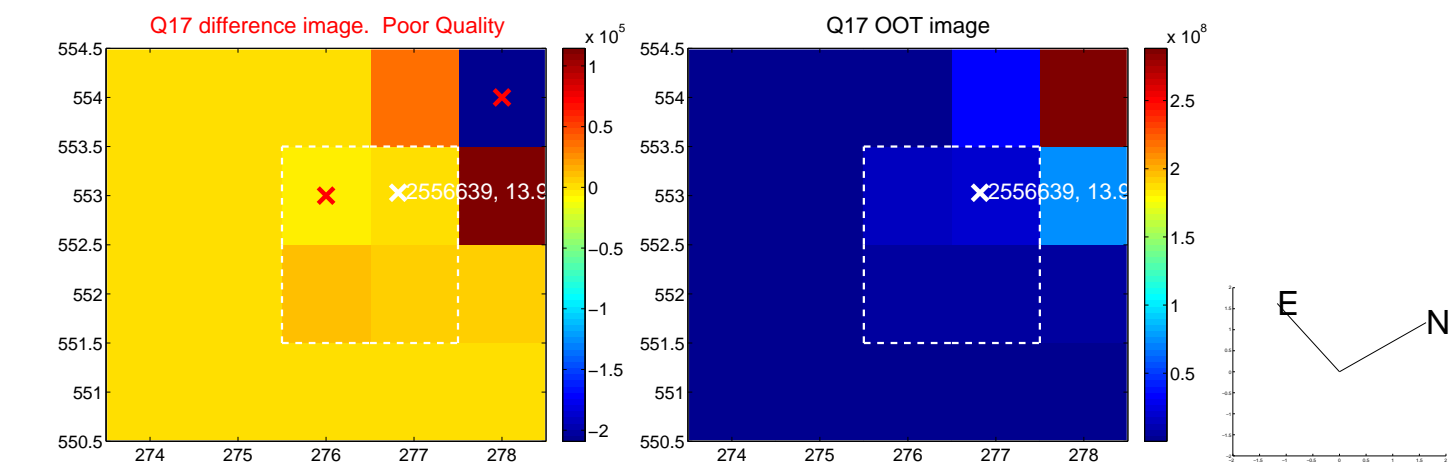
Q16 no difference image



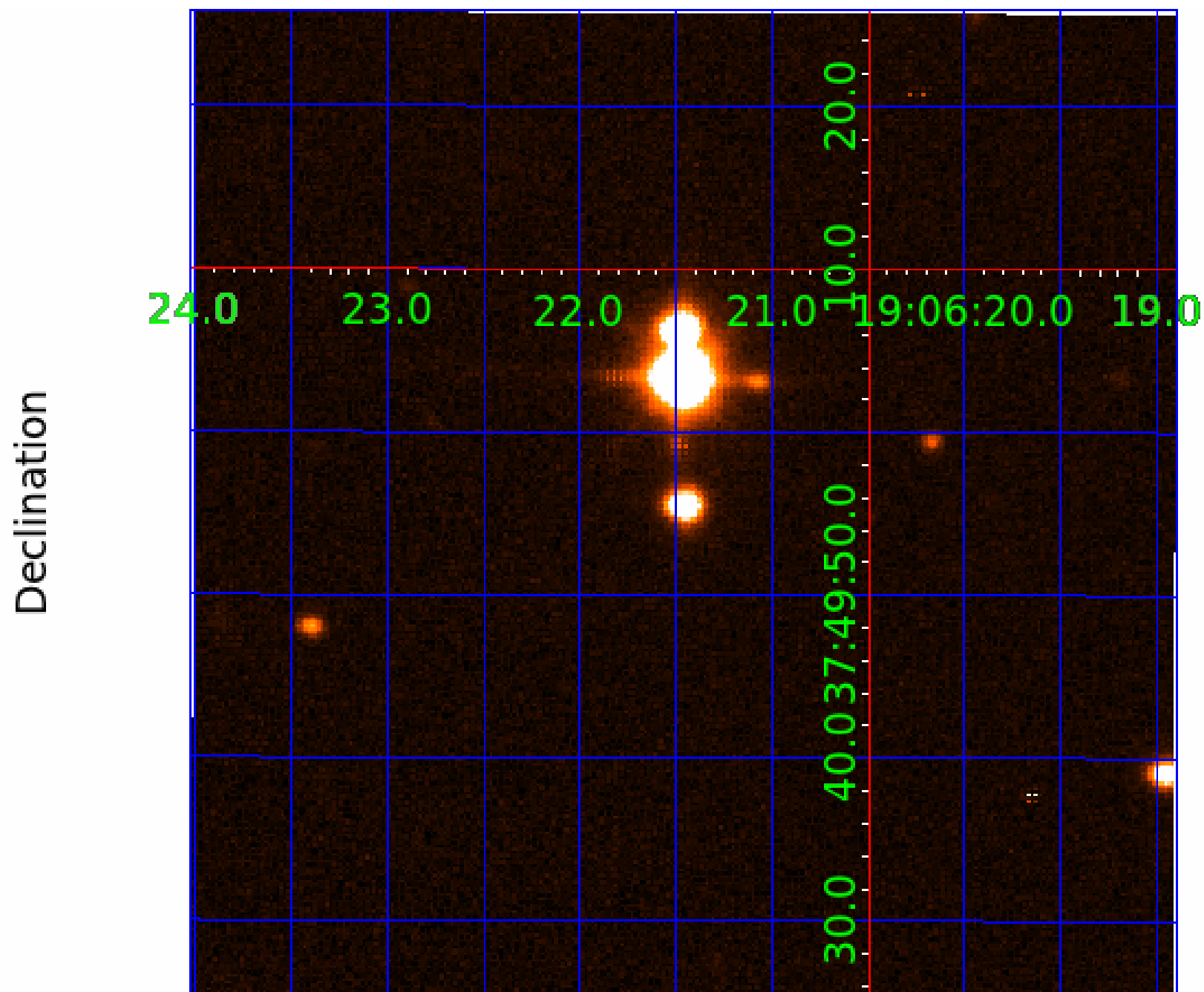
Q16 no OOT image



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



UKIRT Image



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})
002556639-01	OBS	No	2.481583	132.823046	87.7	17.056	10.5	11.4	10.67	4838	10.02	0.00
002556639-02	OBS	No	429.720278	453.938785	7145.3	38.419	62.8	49.1	10.67	4838	170.27	29.34
002556639-03	OBS	No	60.844901	153.558562	330.8	4.302	19.2	4.2	10.67	4838	20.78	397.55
002556639-04	OBS	No	61.929579	153.843236	715.6	17.592	17.8	13.5	10.67	4838	35.86	388.30
002556639-05	OBS	No	124.313425	186.359040	967.3	0.572	17.5	2.6	10.67	4838	41.18	153.34
002556639-06	OBS	No	449.089597	206.154973	619.1	10.364	15.6	11.5	10.67	4838	30.29	27.66
002556639-07	OBS	No	86.635232	134.529984	735.2	6.378	12.6	12.0	10.67	4838	38.10	248.18
002556639-08	OBS	No	60.973922	137.494019	811.6	3.503	12.8	12.4	10.67	4838	31.86	396.43
002556639-09	OBS	No	21.744036	140.229270	724.0	4.469	12.3	11.5	10.67	4838	59.43	1567.62
002556639-10	OBS	No	71.789406	152.216780	763.5	2.777	12.9	12.7	10.67	4838	28.90	318.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002556639-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET
002556639-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002556639-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
002556639-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
002556639-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
002556639-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
002556639-09	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-10	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET

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

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

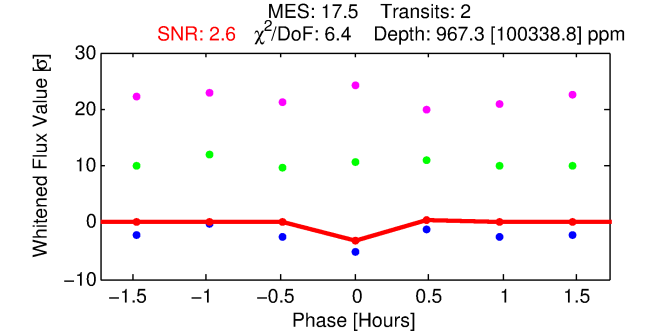
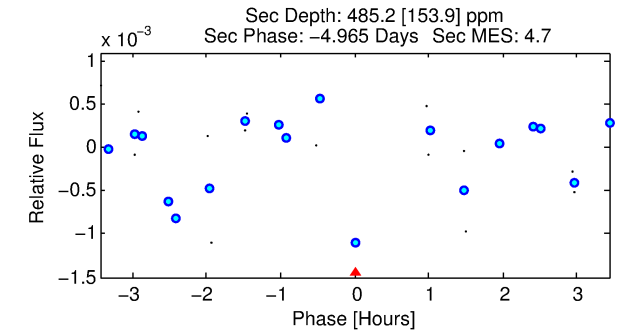
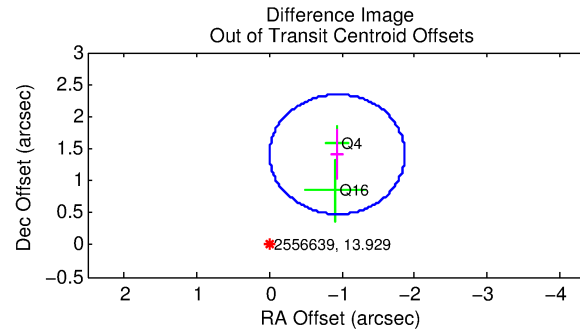
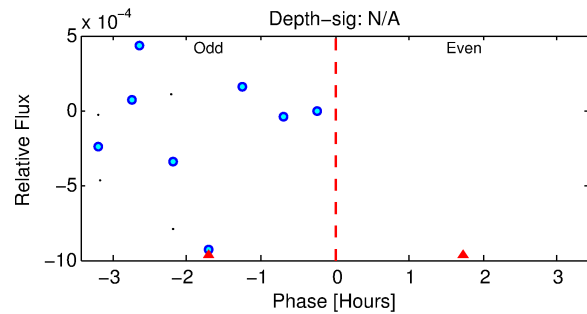
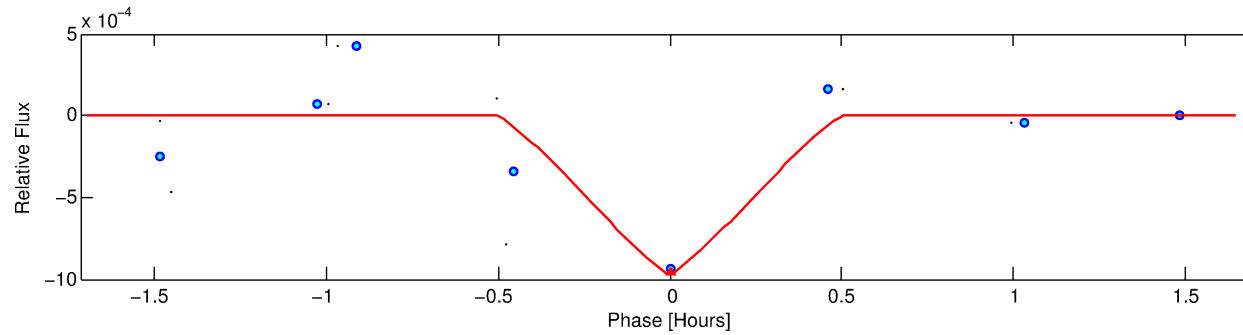
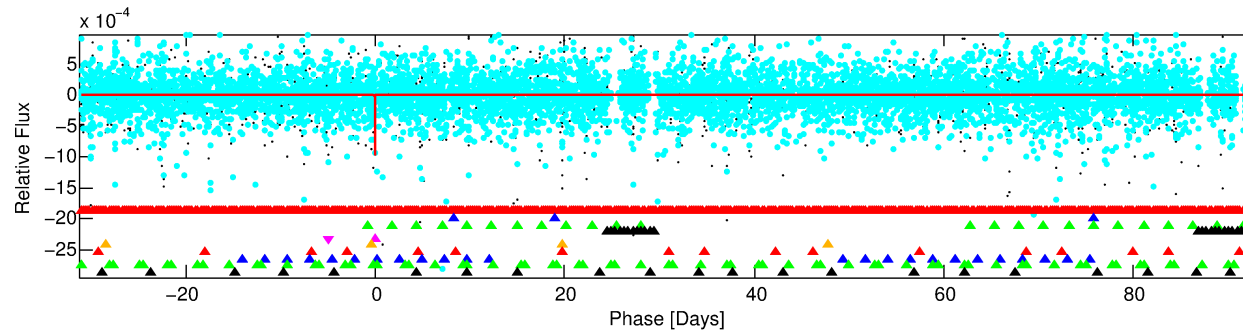
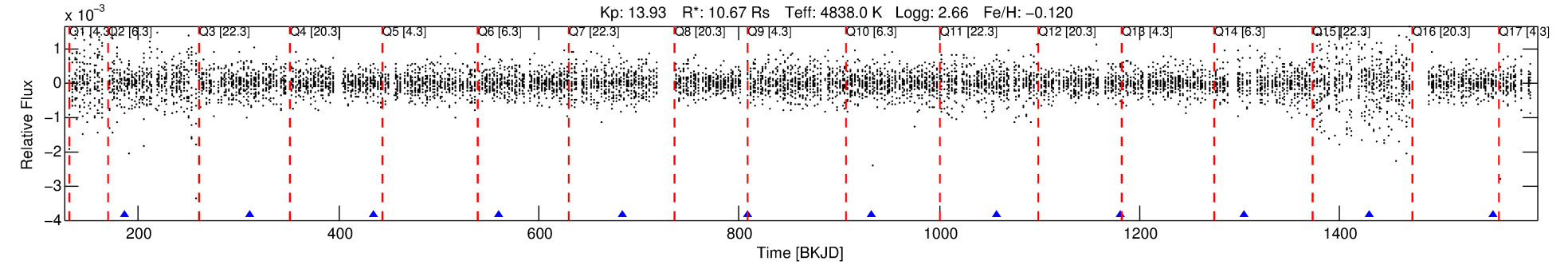
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002556639-05

No Significant Match Found

DV One-Page Summary

KIC: 2556639 Candidate: 5 of 10 Period: 124.313 d



DV Fit Results:

Period = 124.31343 [0.16022] d
Epoch = 186.3590 [0.9443] BKJD
Rp/R* = 0.0354 [7.6528]
a/R* = 959.91 [421449.78]
b = 0.86 [179.42]
Seff = 153.35 [54.81]
Teq = 897 [80] K
Rp = 41.18 [8911.30] Re
a = 0.6037 [0.1534] AU
Ag = 57.37 [24831.32] [0.00σ]
Teffp = 3818 [413124] K [0.01σ]

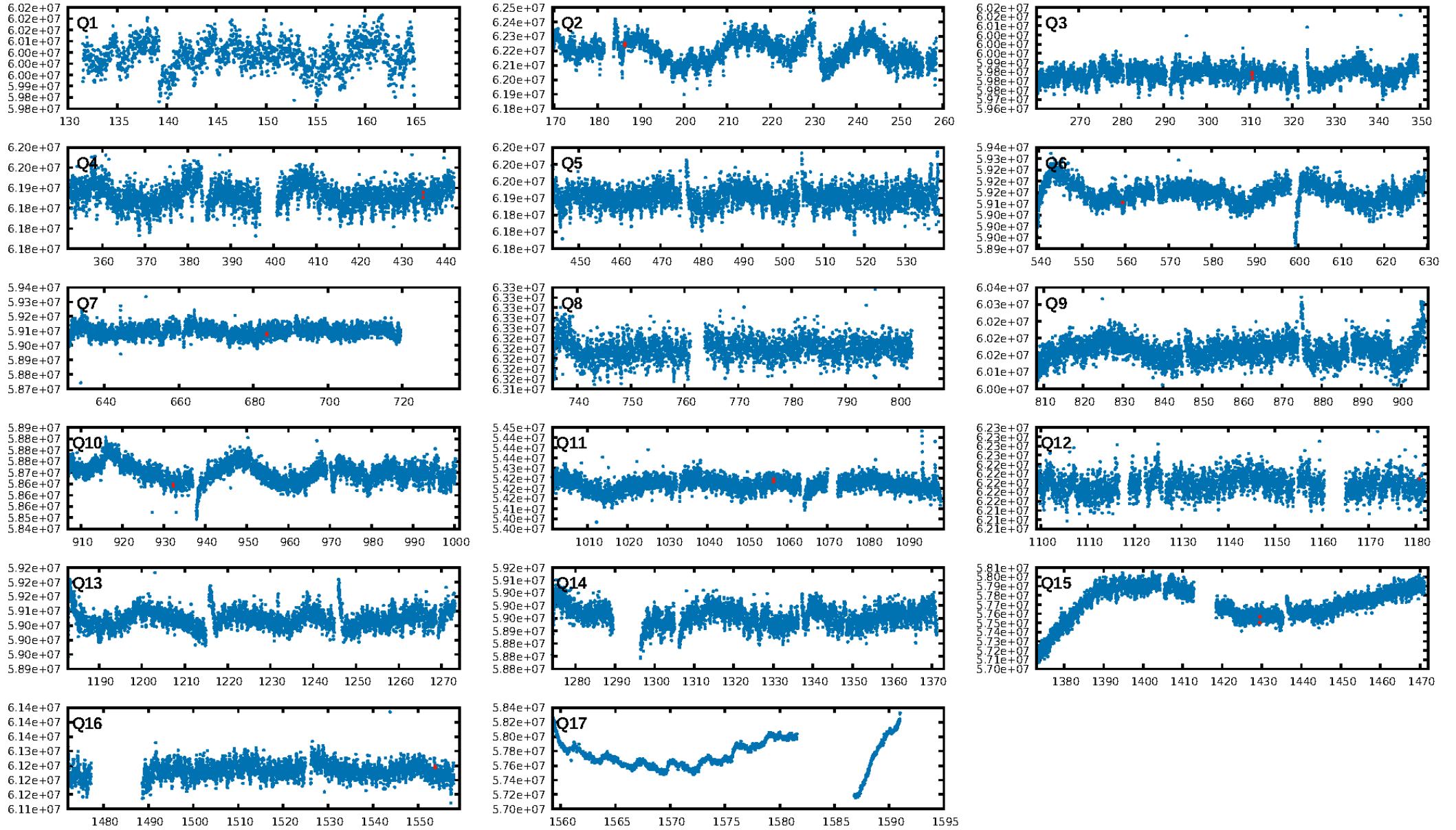
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [141.22σ]
LongPeriod-sig: 100.0% [190.76σ]
ModelChiSquare2-sig: 81.7%
ModelChiSquareGof-sig: 98.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 0.09595
Centroid-sig: N/A
Centroid-so: 4.217 arcsec [9.00σ]
OotOffset-rm: 1.694 arcsec [5.45σ]
KicOffset-rm: 8.635 arcsec [30.73σ]
OotOffset-st: 0/0/2/0 [2]
KicOffset-st: 0/0/2/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.80 [4/5]

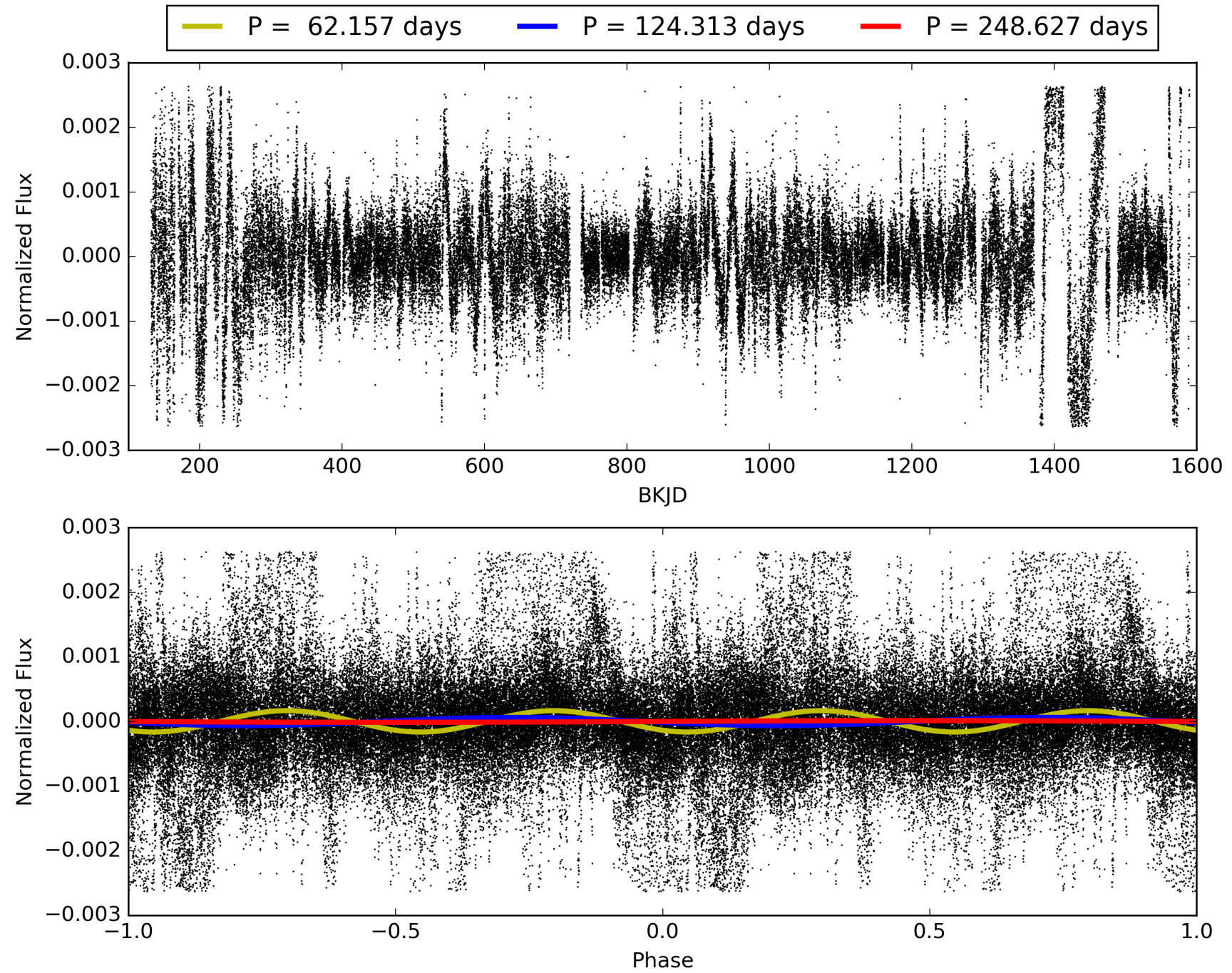
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:49:52 Z

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

TCE 002556639-05, PDC Light Curves

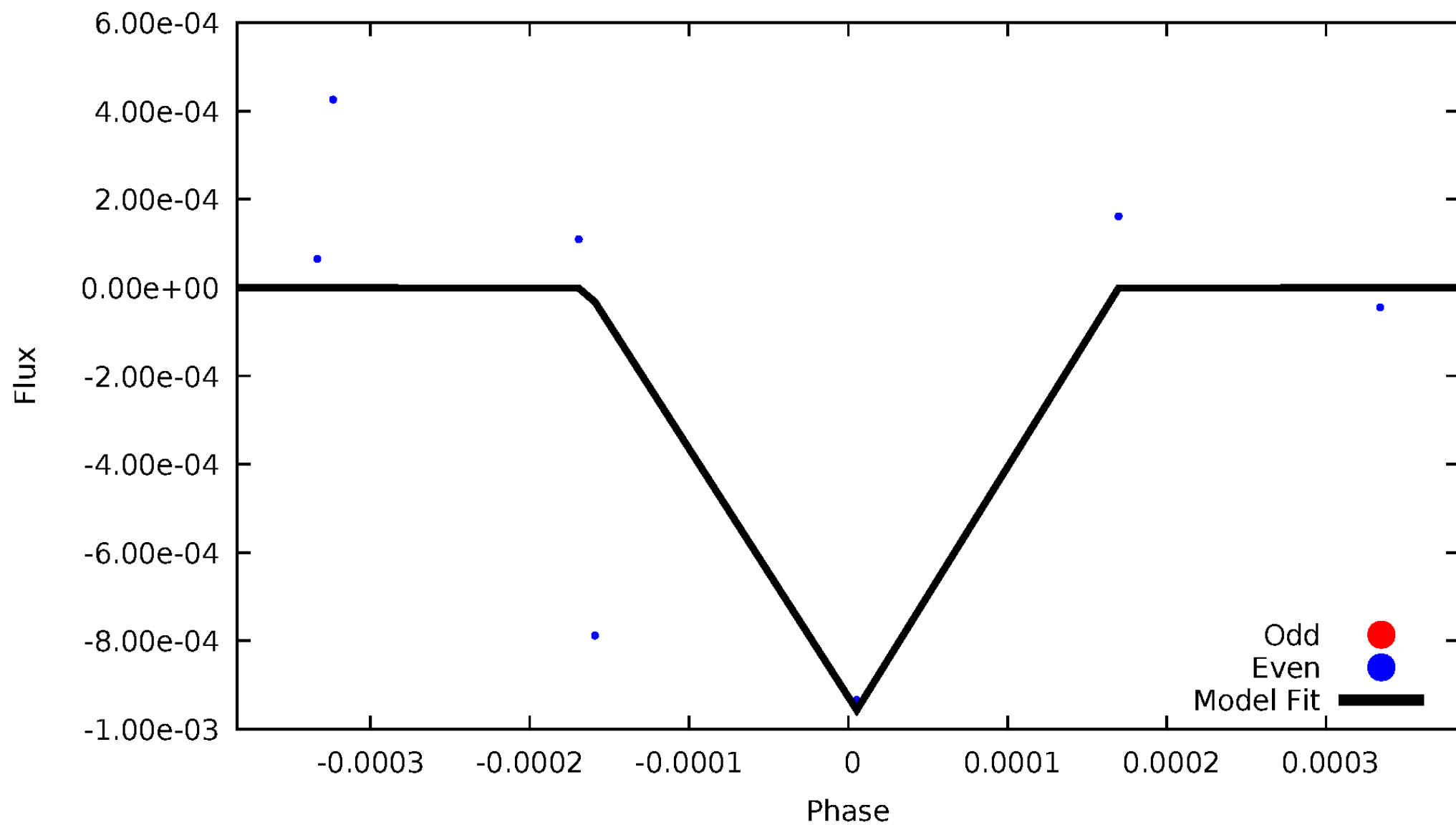


TCE 002556639-05



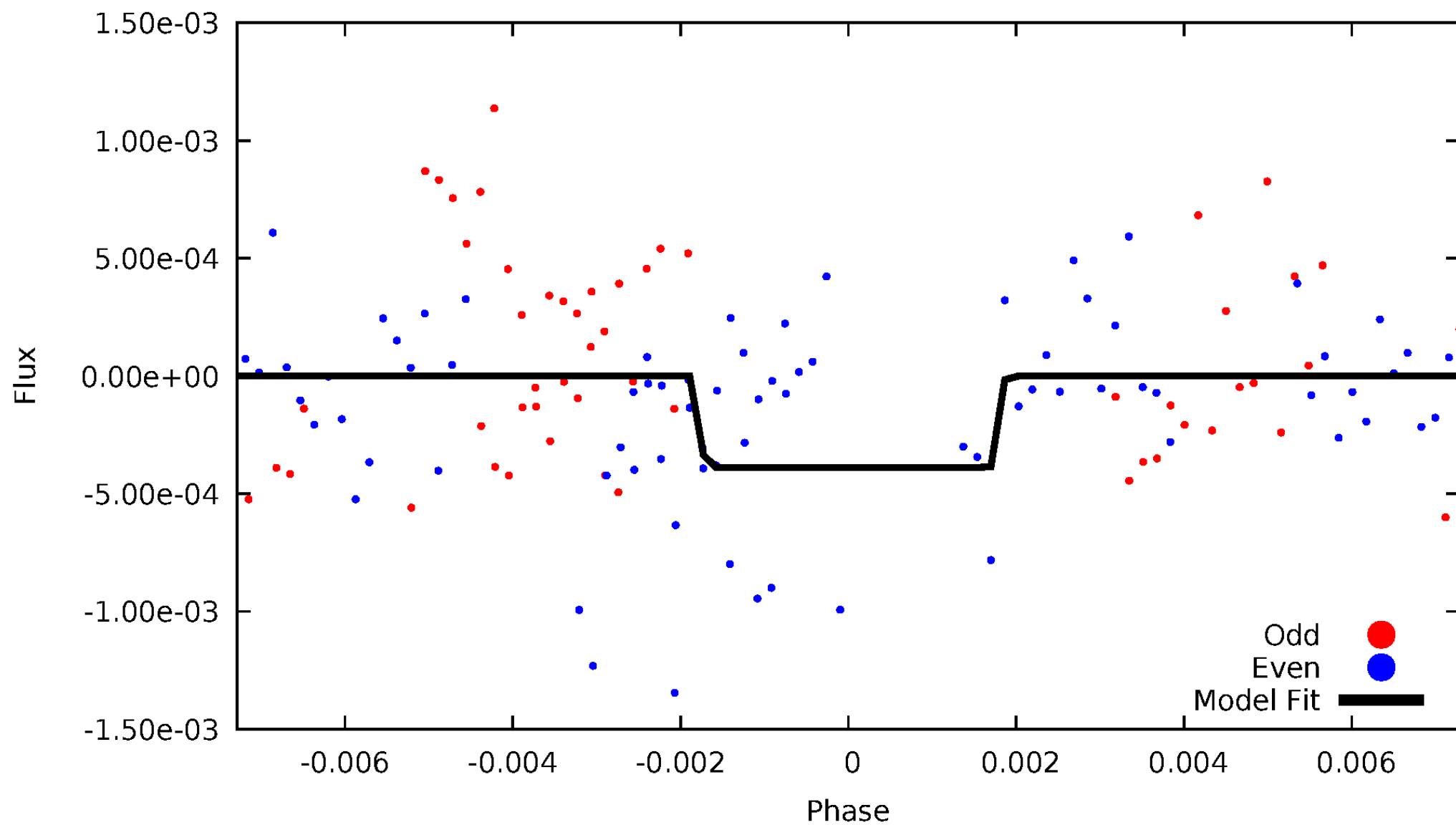
DV Odd/Even

TCE 002556639-05



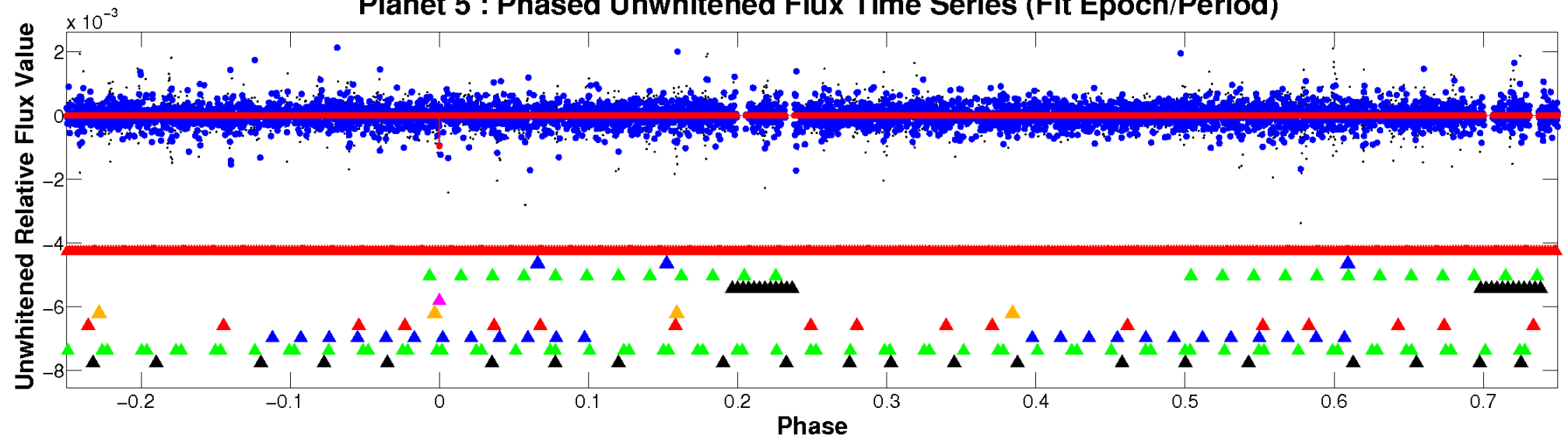
ALT Odd/Even

TCE 002556639-05

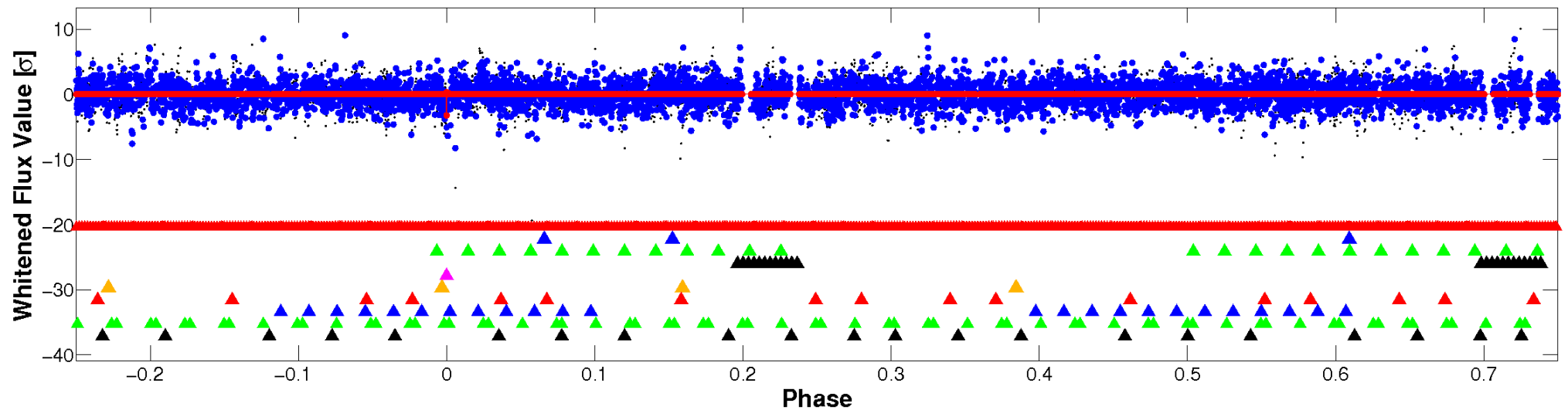


Non-Whitened Vs. Whitened Light Curve

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

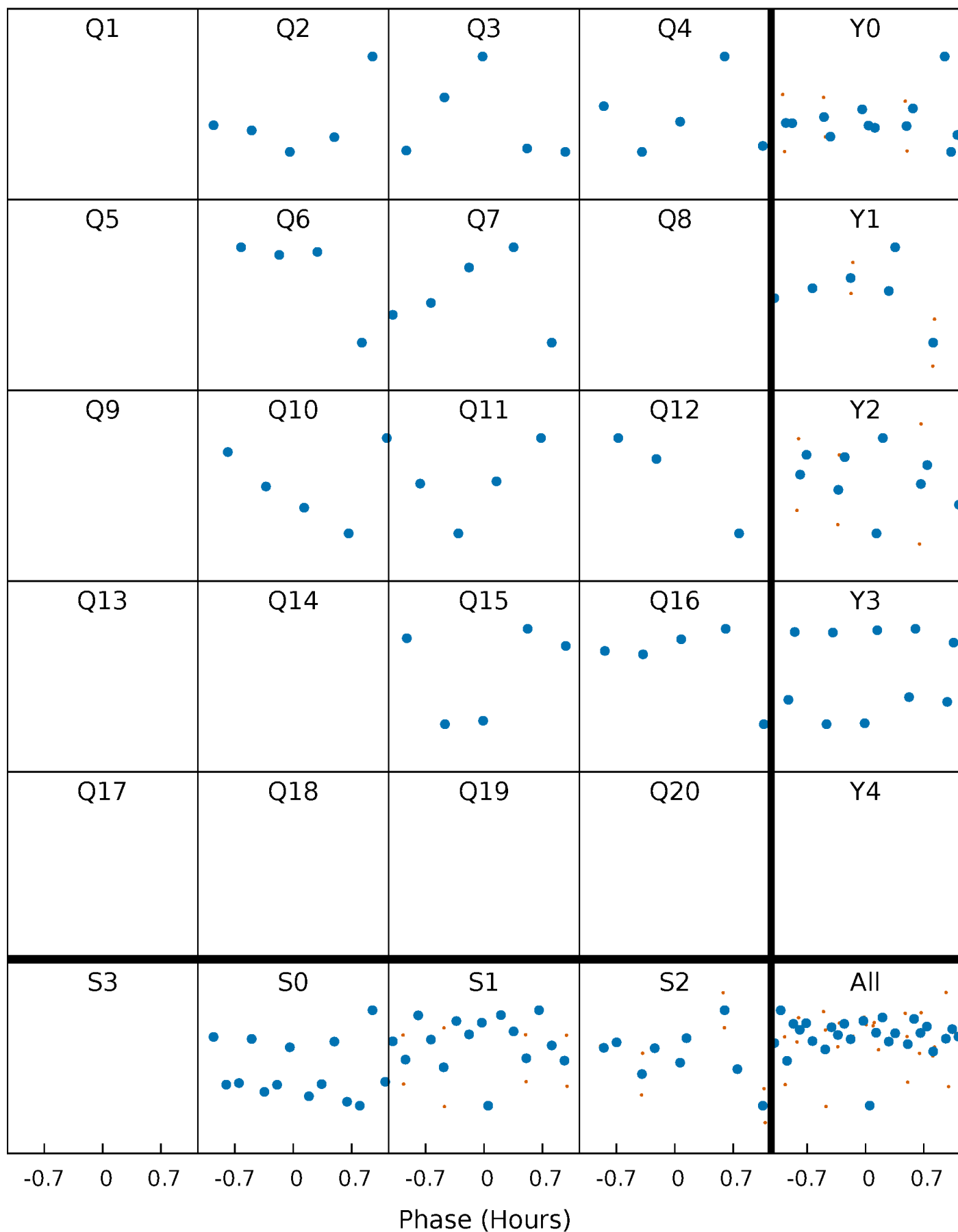


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



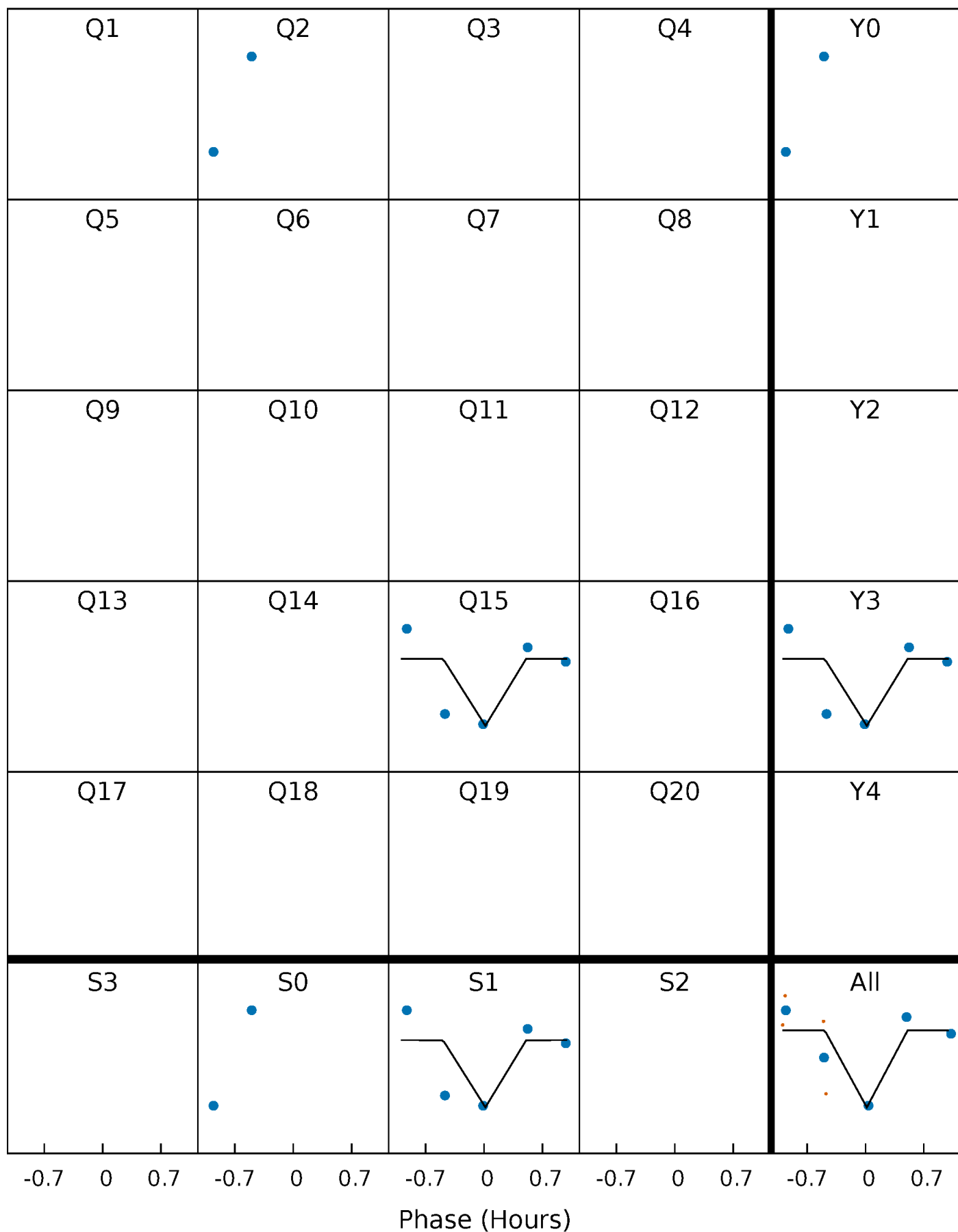
PDC Quarter-Phased Transit Curves

TCE 002556639-05 $P=124.313425$ Days $T_0=186.359040$ (BKJD)



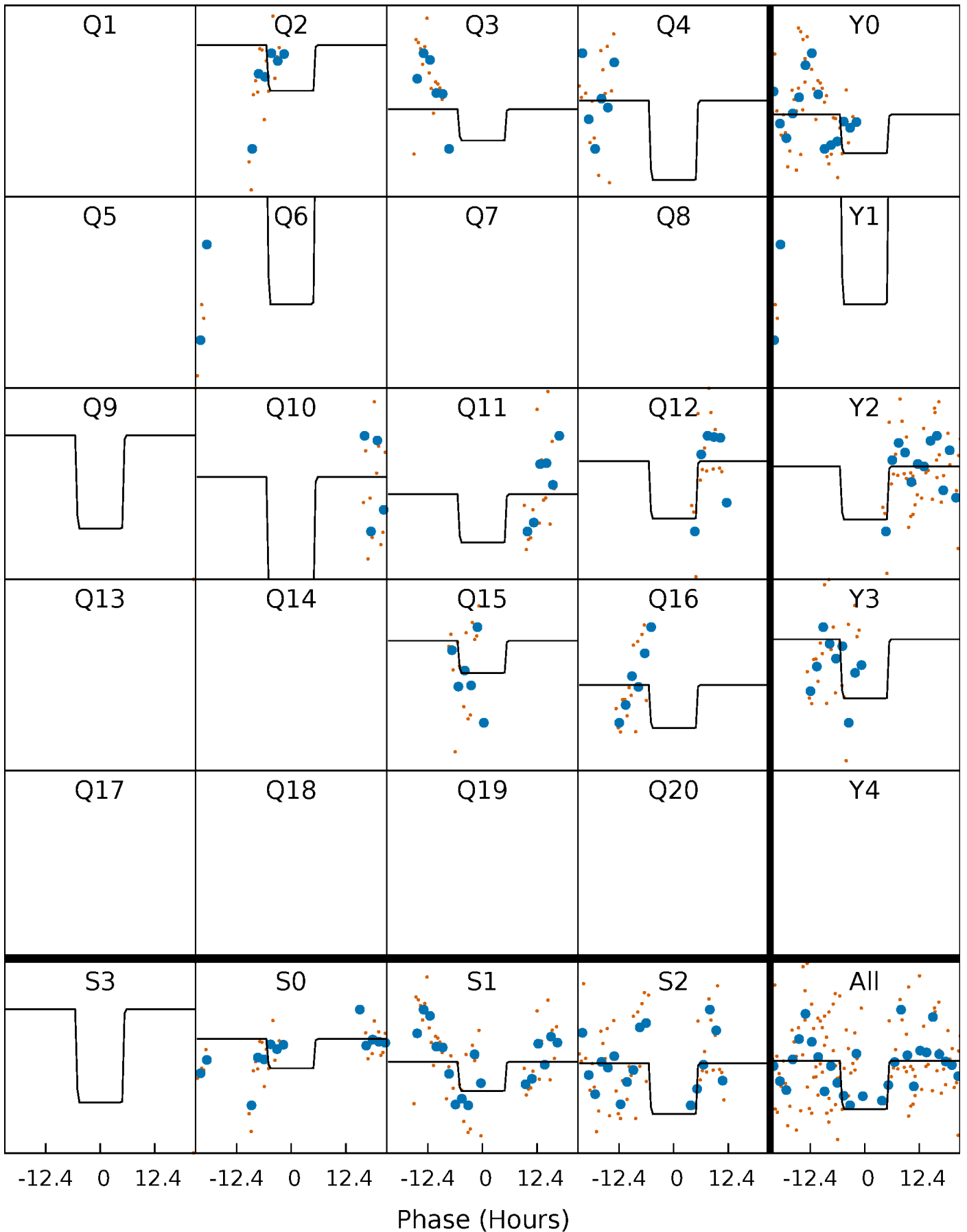
DV Quarter-Phased Transit Curves

TCE 002556639-05 $P=124.313425$ Days $T_0=186.359040$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

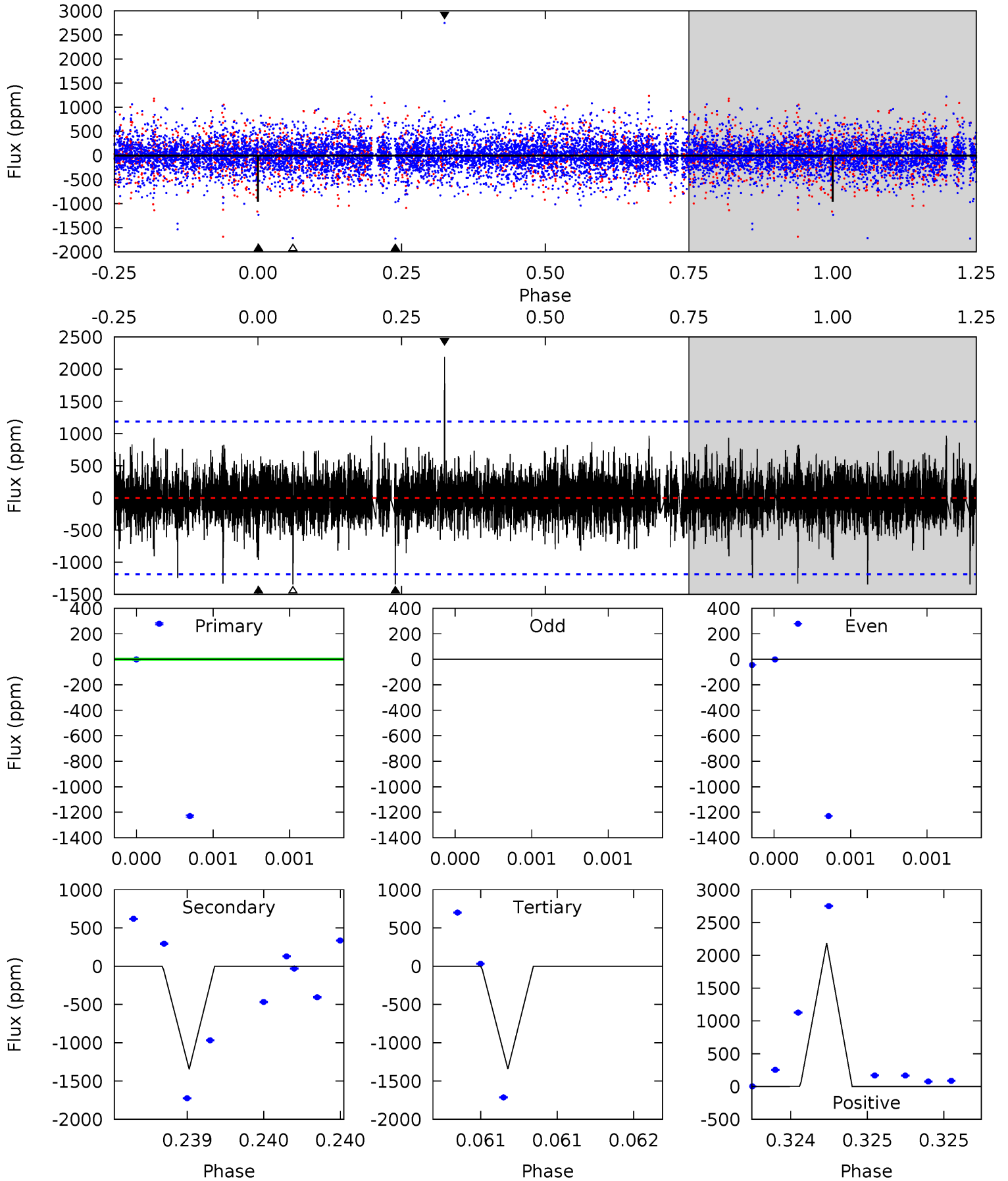
TCE 002556639-05 P=124.317779 Days $T_0=186.430322$ (BKJD)



DV Model-Shift Uniqueness Test

002556639-05, P = 124.313425 Days, E = 62.045615 Days

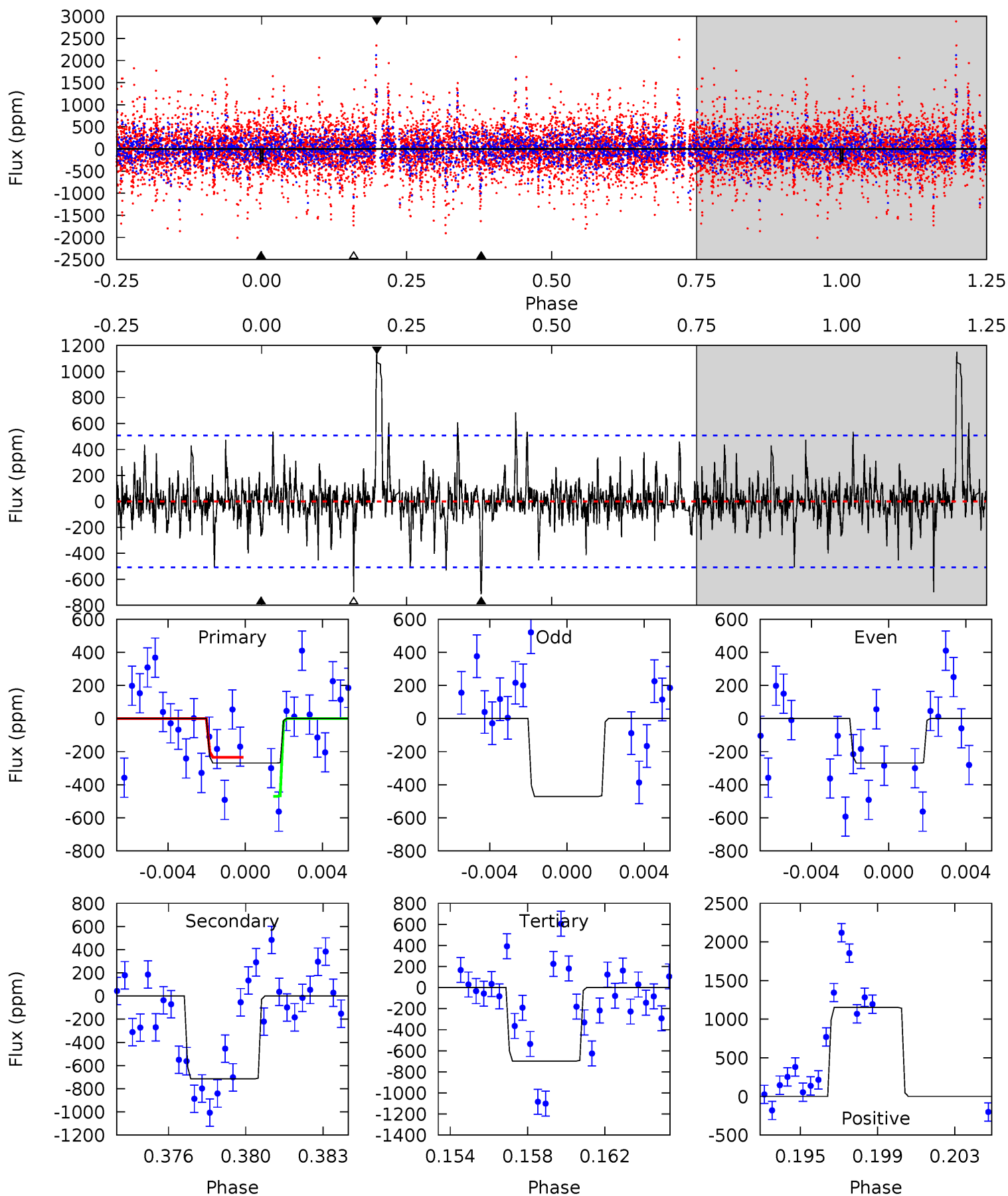
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.51	6.33	6.32	10.3	5.58	3.48	1.11	-1.81	-5.78	0.01	-3.96	0.09	1.00	0.62	0.00



Alt Model-Shift Uniqueness Test

002556639-05, P = 124.317779 Days, E = 62.112543 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.76	7.34	7.16	11.8	5.21	2.90	1.45	-4.40	-9.06	0.18	-4.48	0.83	0.92	0.62	0.98



Stellar Parameters For KIC 002556639

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4838^{+50}_{-93}	$2.660^{+0.180}_{-0.120}$	$-0.120^{+0.100}_{-0.150}$	$10.671^{+1.463}_{-3.414}$	$1.899^{+0.185}_{-0.740}$	$0.002^{+0.003}_{-0.001}$
	+1%/-2%	+7%/-5%	+83%/-125%	+14%/-32%	+10%/-39%	+123%/-29%
Source	SPE74	SPE74	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 002556639-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1346 ± 213	$5957.83^{+6694.49}_{-4233.51}$	1254^{+56}_{-81}	-1987^{+107}_{-45}	$0.007^{+0.082}_{-0.006}$
Alt.	-715 ± 97	$5864.60^{+6574.24}_{-4071.63}$	1253^{+56}_{-86}	-1993^{+93}_{-42}	$0.004^{+0.041}_{-0.003}$

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

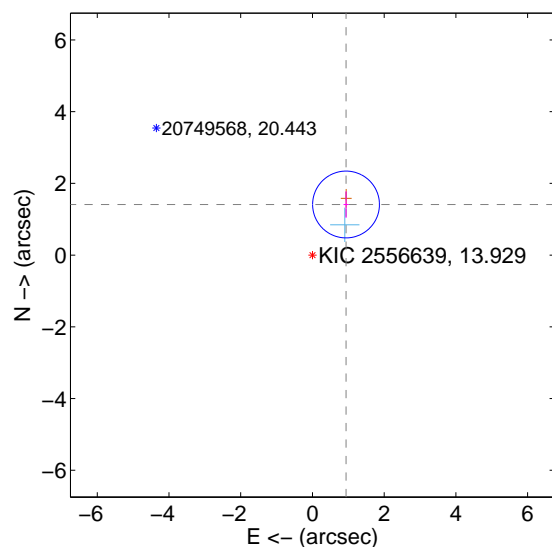
Supplemental centroid analysis for 002556639-05. Kepler magnitude: 13.93. Transit SNR 2.59

There are 1 quarters with good PRF difference image offsets

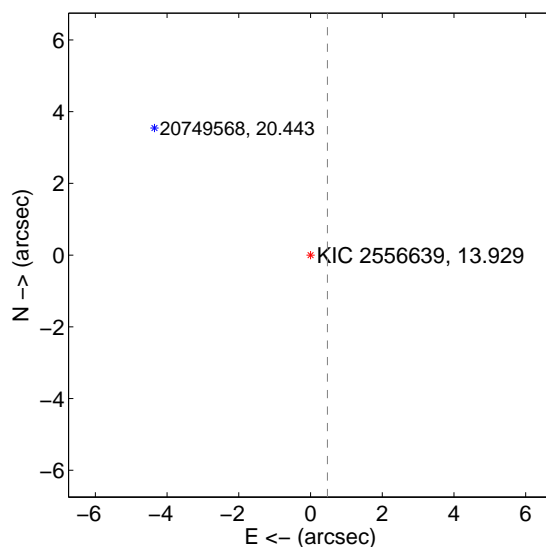
The OOT PRF centroid is offset from the target star catalog position by about 7.47 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.694 ± 0.311	5.45	-0.937 ± 0.068	1.411 ± 0.370
PRF-fit source offset from KIC position	8.635 ± 0.281	30.73	-0.469 ± 0.228	8.622 ± 0.281
photometric centroid source offset	4.22 ± 0.47	9.00	0.18 ± 0.26	4.21 ± 0.47

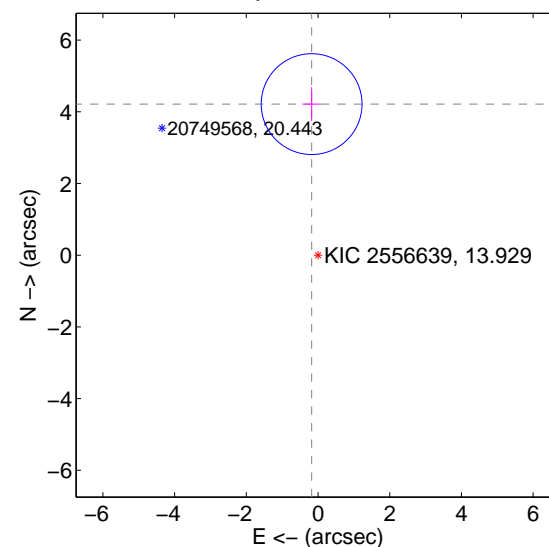
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

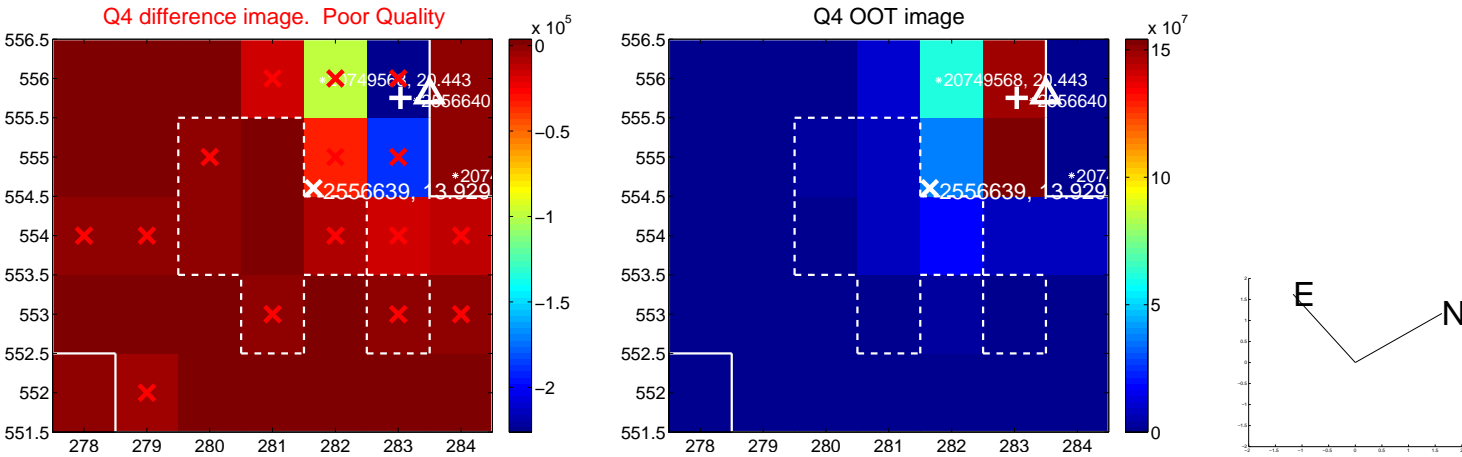
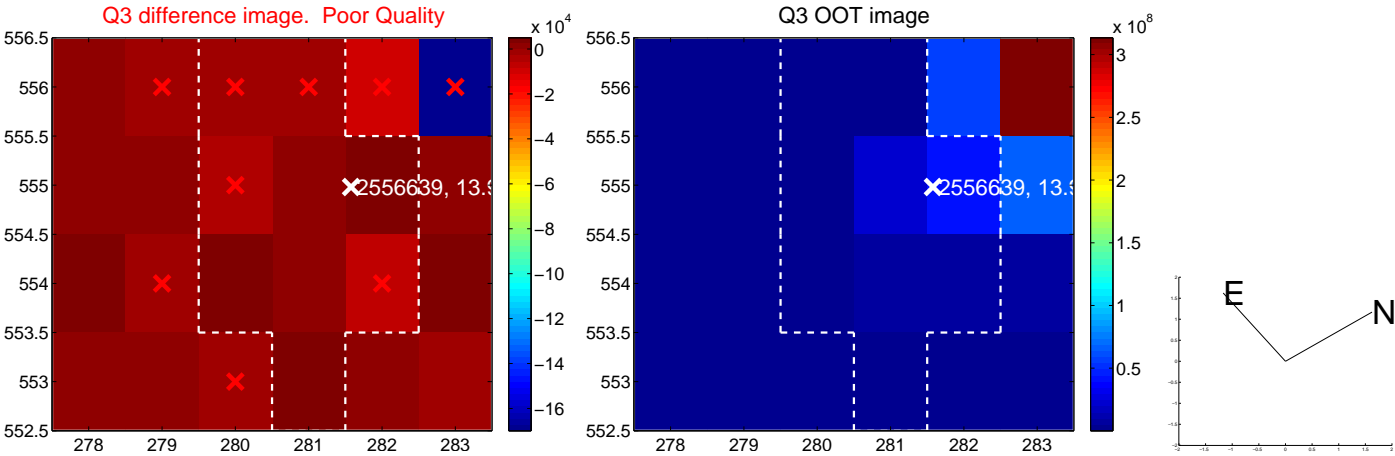
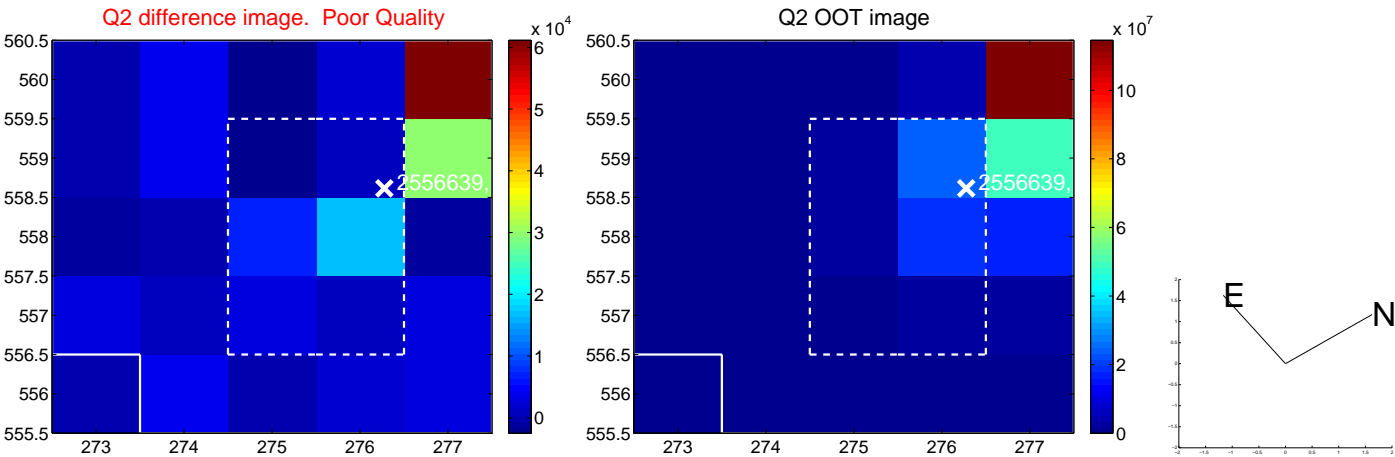
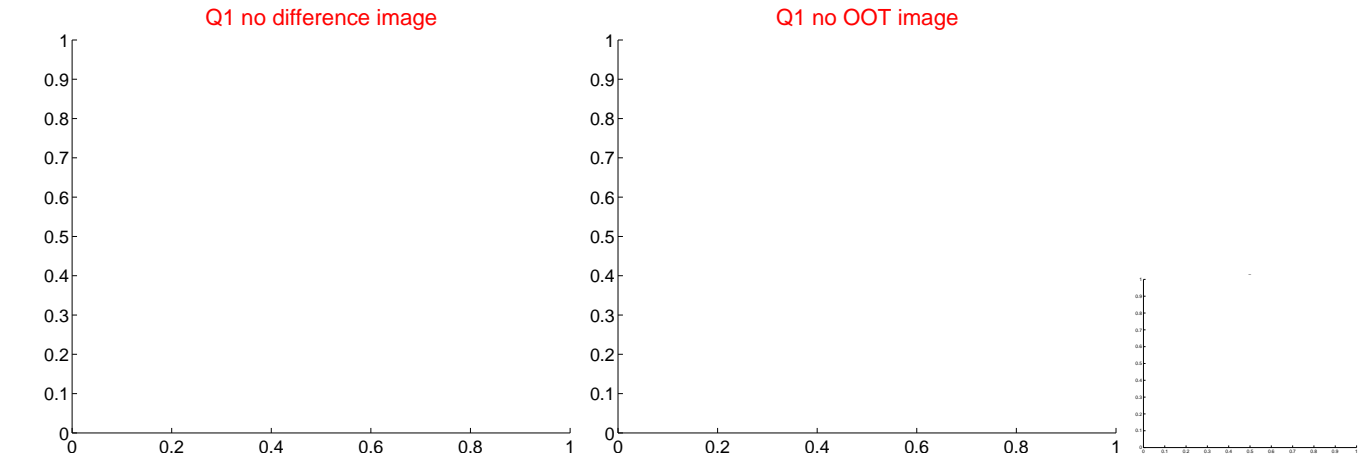


offset from photometric centroids



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

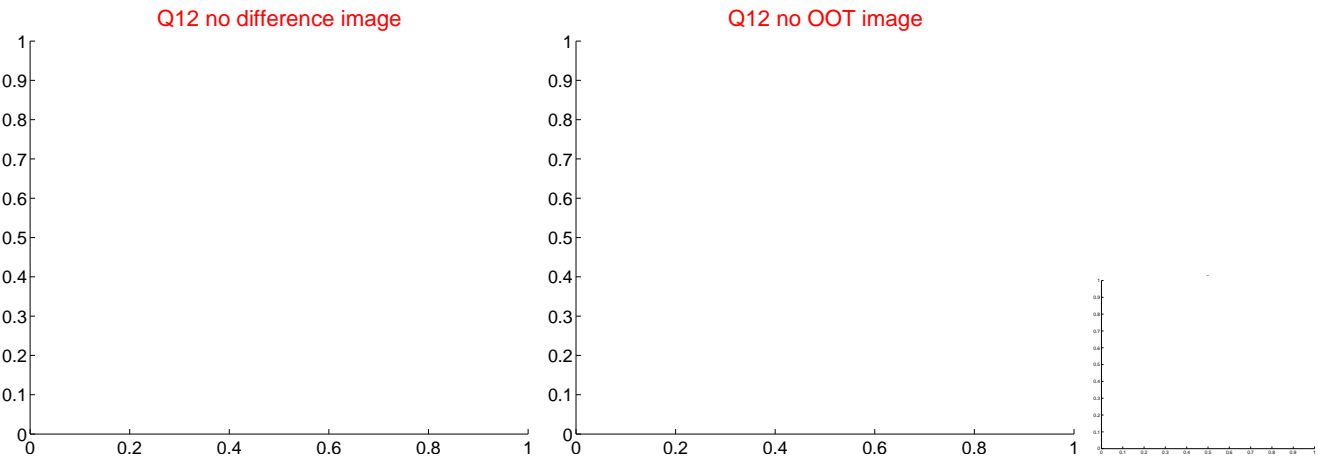
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



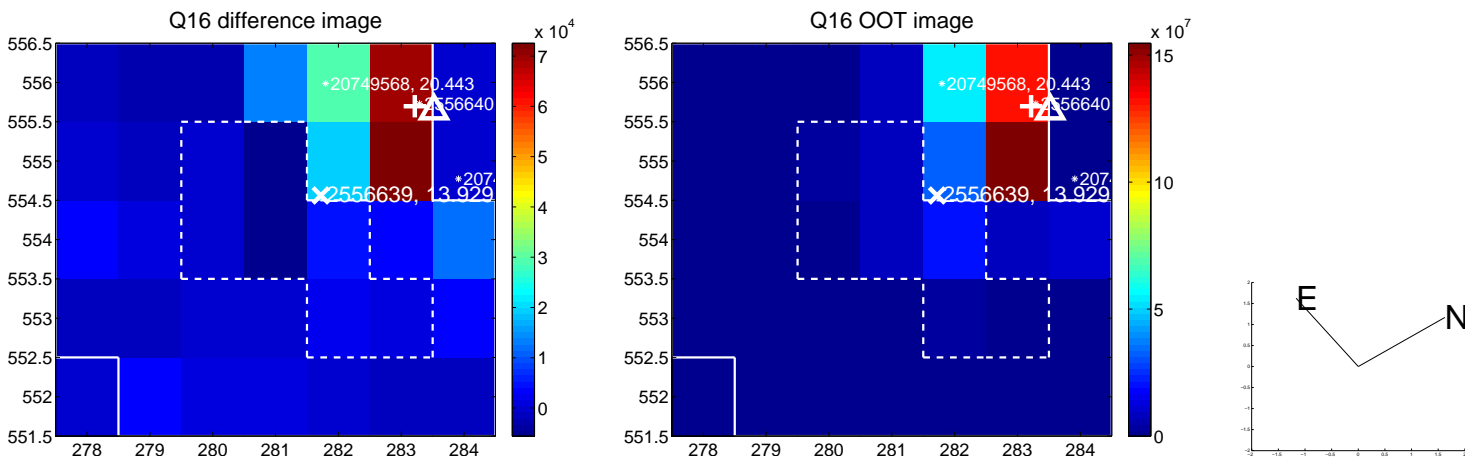
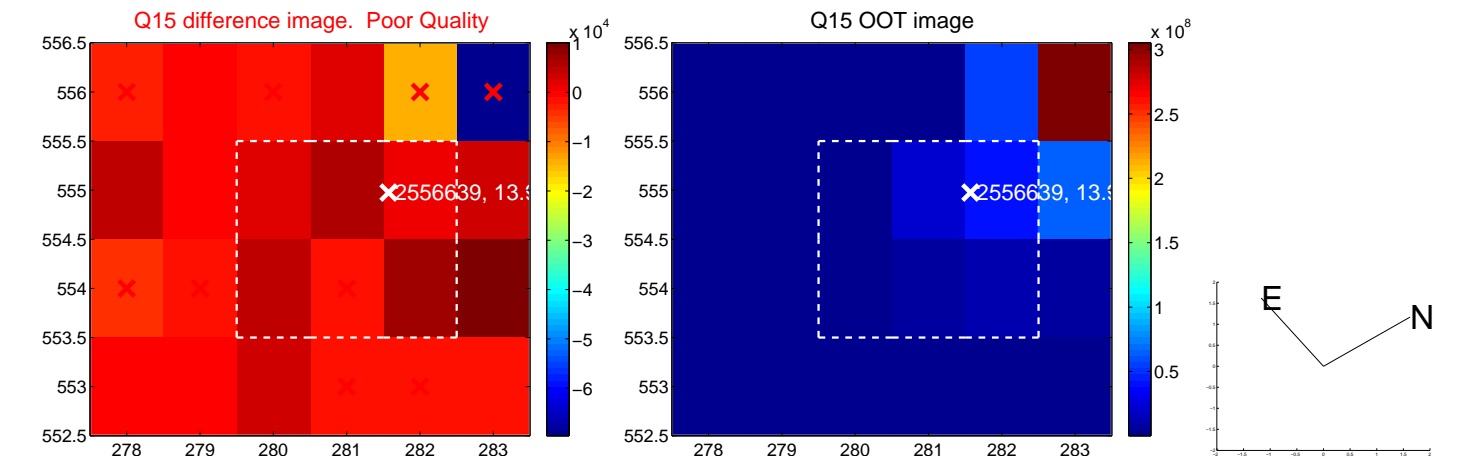
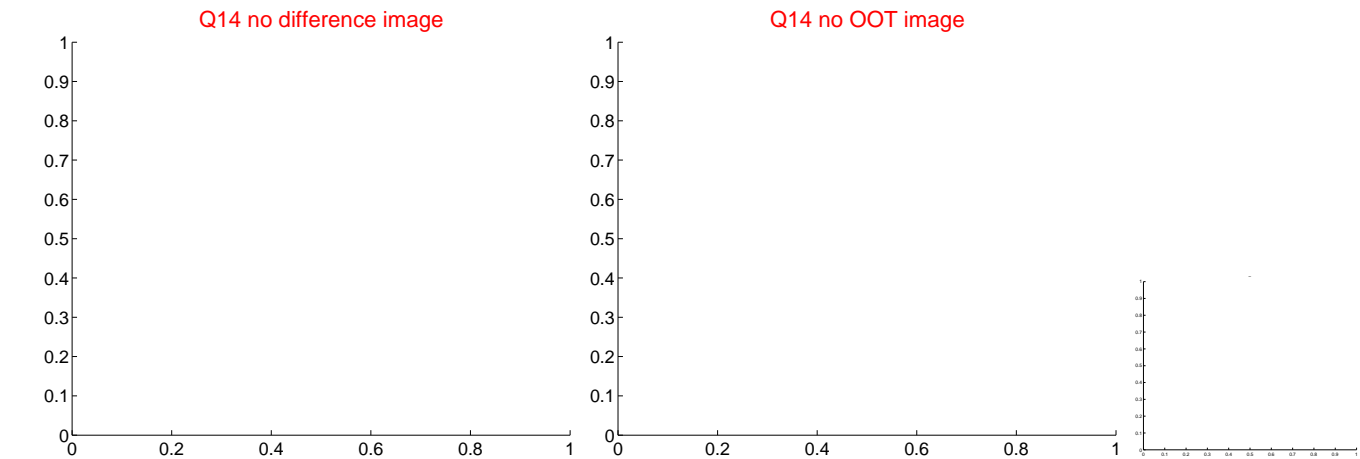
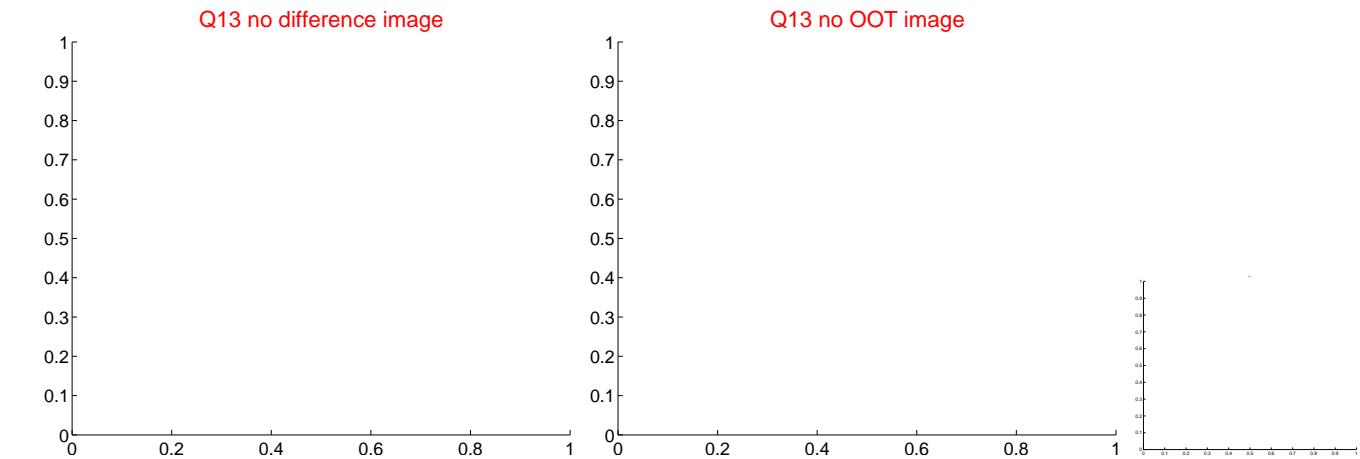
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



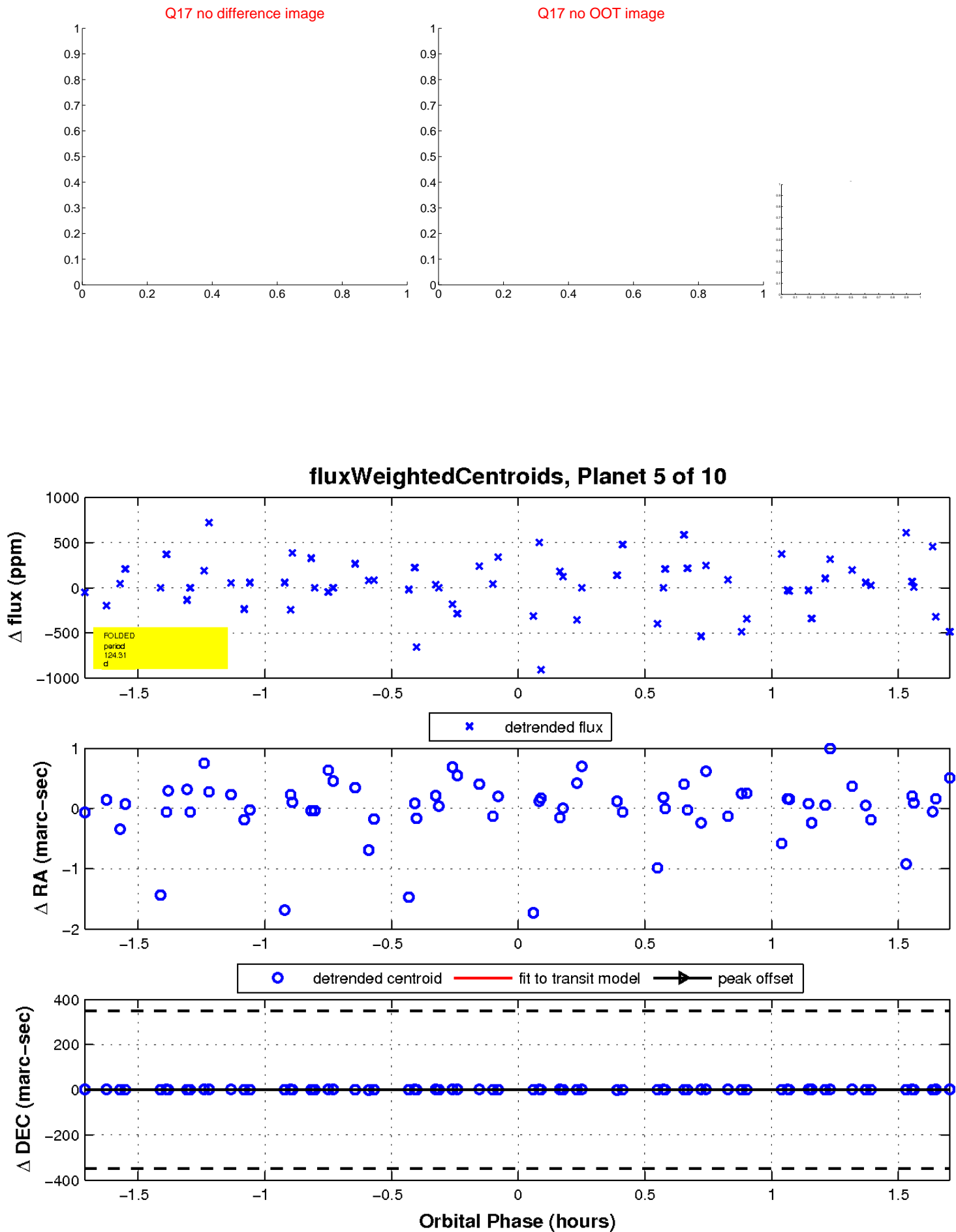
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



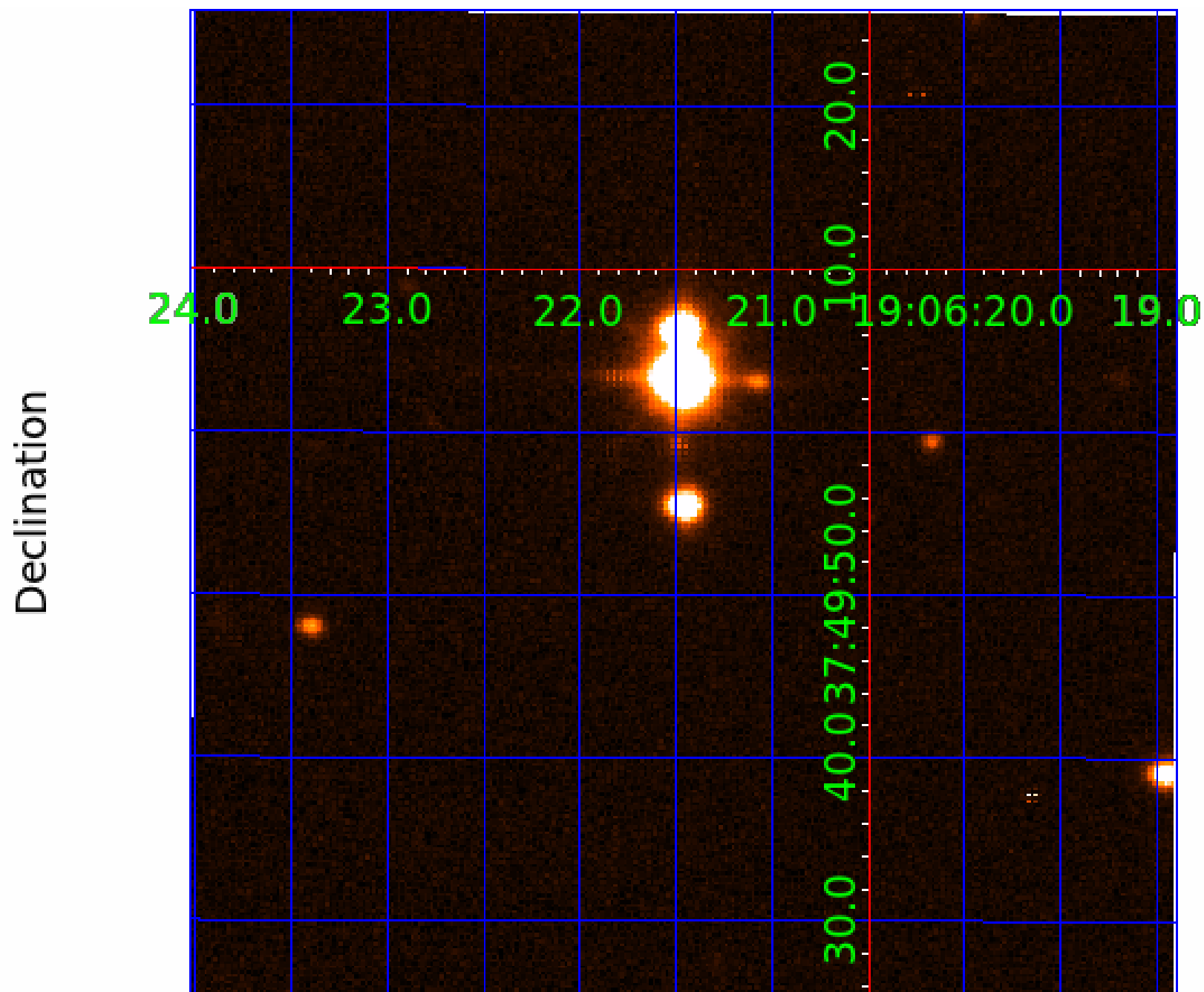
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



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})
002556639-01	OBS	No	2.481583	132.823046	87.7	17.056	10.5	11.4	10.67	4838	10.02	0.00
002556639-02	OBS	No	429.720278	453.938785	7145.3	38.419	62.8	49.1	10.67	4838	170.27	29.34
002556639-03	OBS	No	60.844901	153.558562	330.8	4.302	19.2	4.2	10.67	4838	20.78	397.55
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002556639-07	OBS	No	86.635232	134.529984	735.2	6.378	12.6	12.0	10.67	4838	38.10	248.18
002556639-08	OBS	No	60.973922	137.494019	811.6	3.503	12.8	12.4	10.67	4838	31.86	396.43
002556639-09	OBS	No	21.744036	140.229270	724.0	4.469	12.3	11.5	10.67	4838	59.43	1567.62
002556639-10	OBS	No	71.789406	152.216780	763.5	2.777	12.9	12.7	10.67	4838	28.90	318.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002556639-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET
002556639-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002556639-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
002556639-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
002556639-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
002556639-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
002556639-09	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-10	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET

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

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

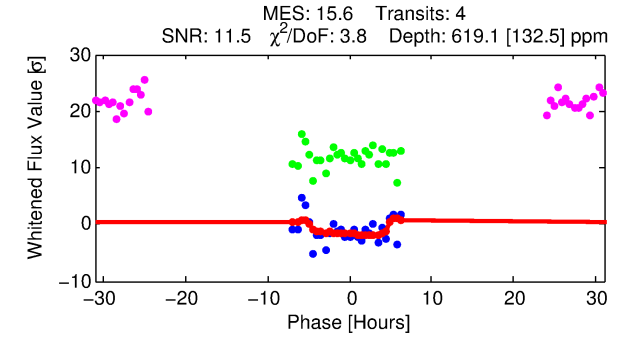
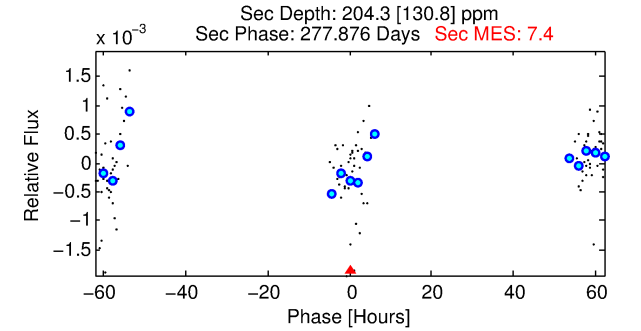
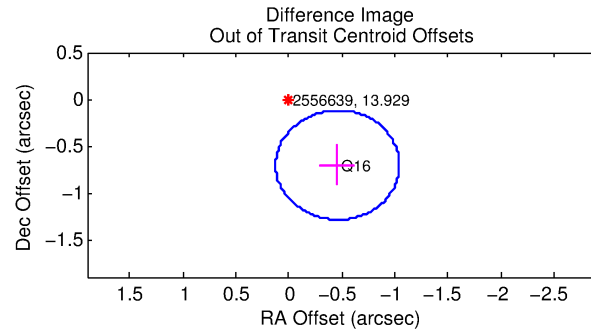
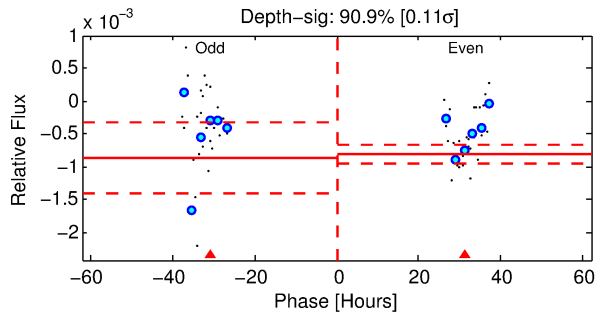
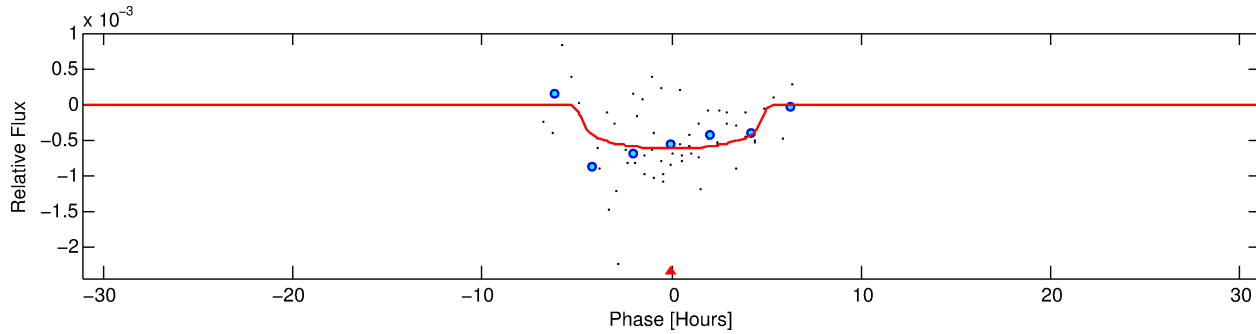
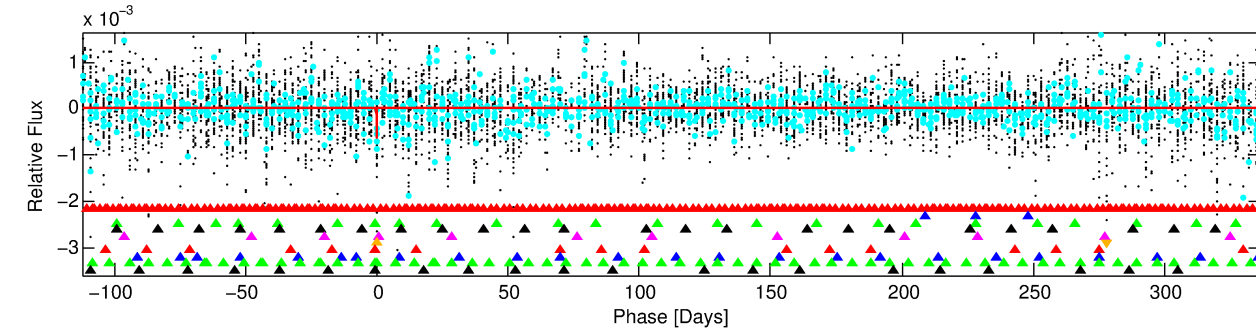
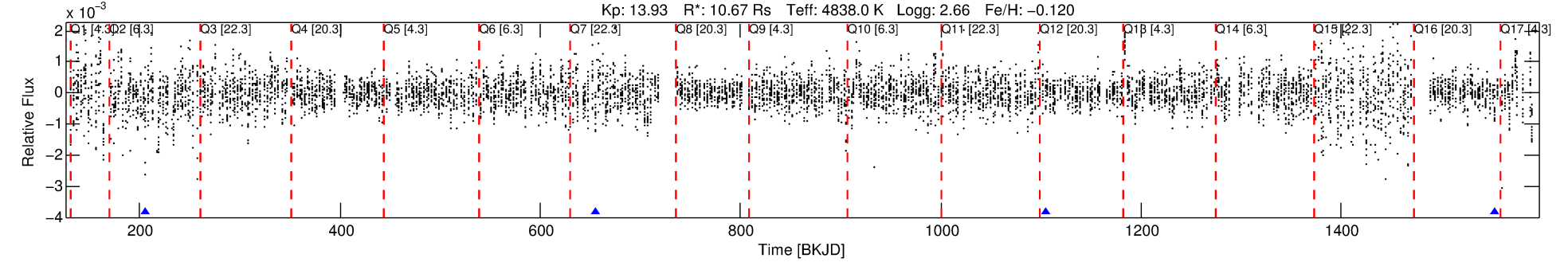
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002556639-06

No Significant Match Found

DV One-Page Summary

KIC: 2556639 Candidate: 6 of 10 Period: 449.090 d



DV Fit Results:

Period = 449.08960 [0.04591] d
Epoch = 206.1550 [0.0872] BKJD
Rp/R* = 0.0260 [0.0112]
a/R* = 200.96 [296.34]
b = 0.83 [0.60]
Seff = 27.66 [9.89]
Teq = 585 [52] K
Rp = 30.29 [16.26] Re
a = 1.4214 [0.3612] AU
Ag = 247.53 [279.38] [0.88σ]
Teffp = 3586 [965] K [3.11σ]

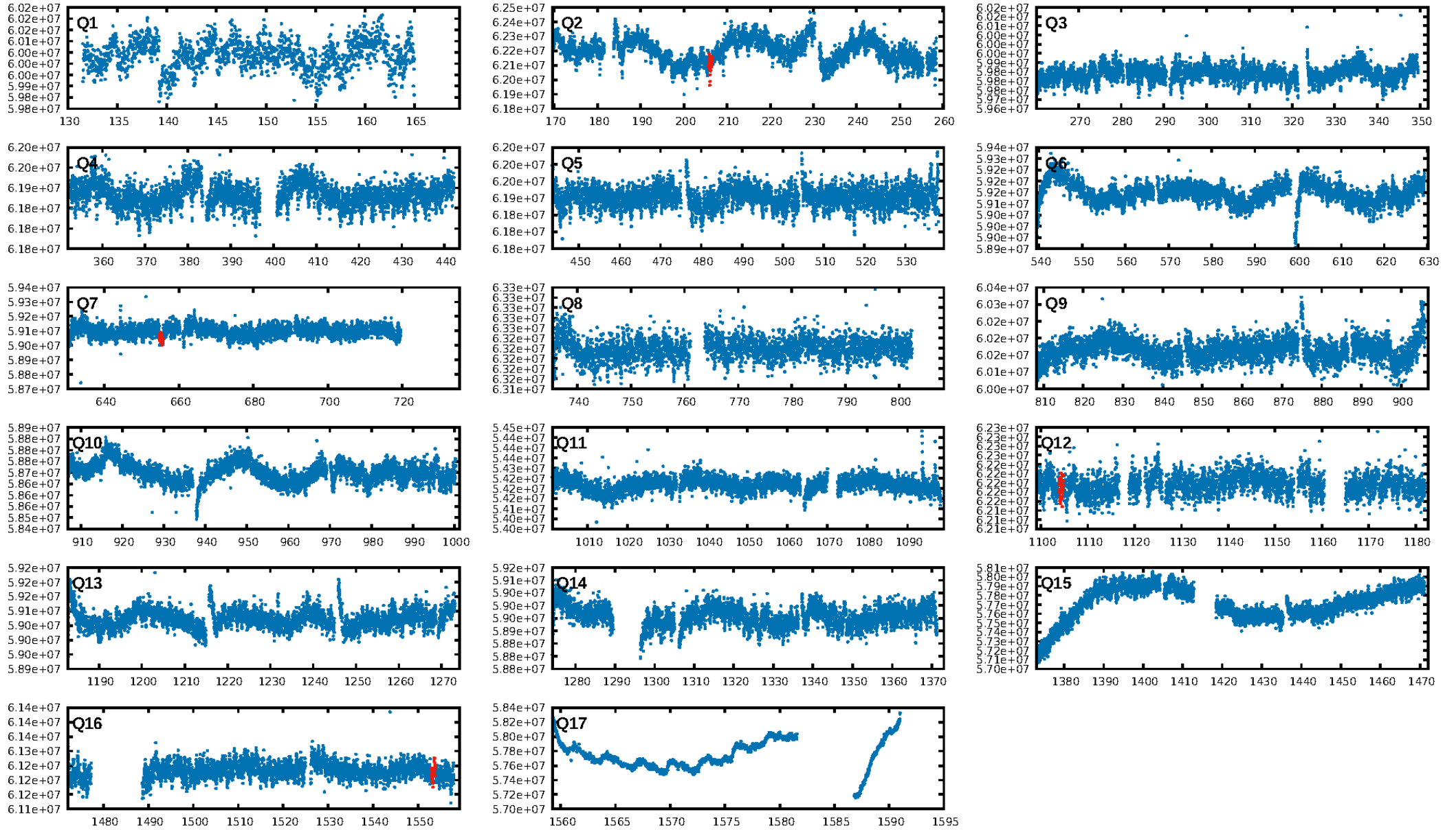
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [11.68σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.1%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -8.683
Centroid-sig: N/A
Centroid-so: 4.204 arcsec [6.10σ]
OotOffset-rm: 0.843 arcsec [4.33σ]
KicOffset-rm: 6.831 arcsec [47.01σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 0.00 [0/3]

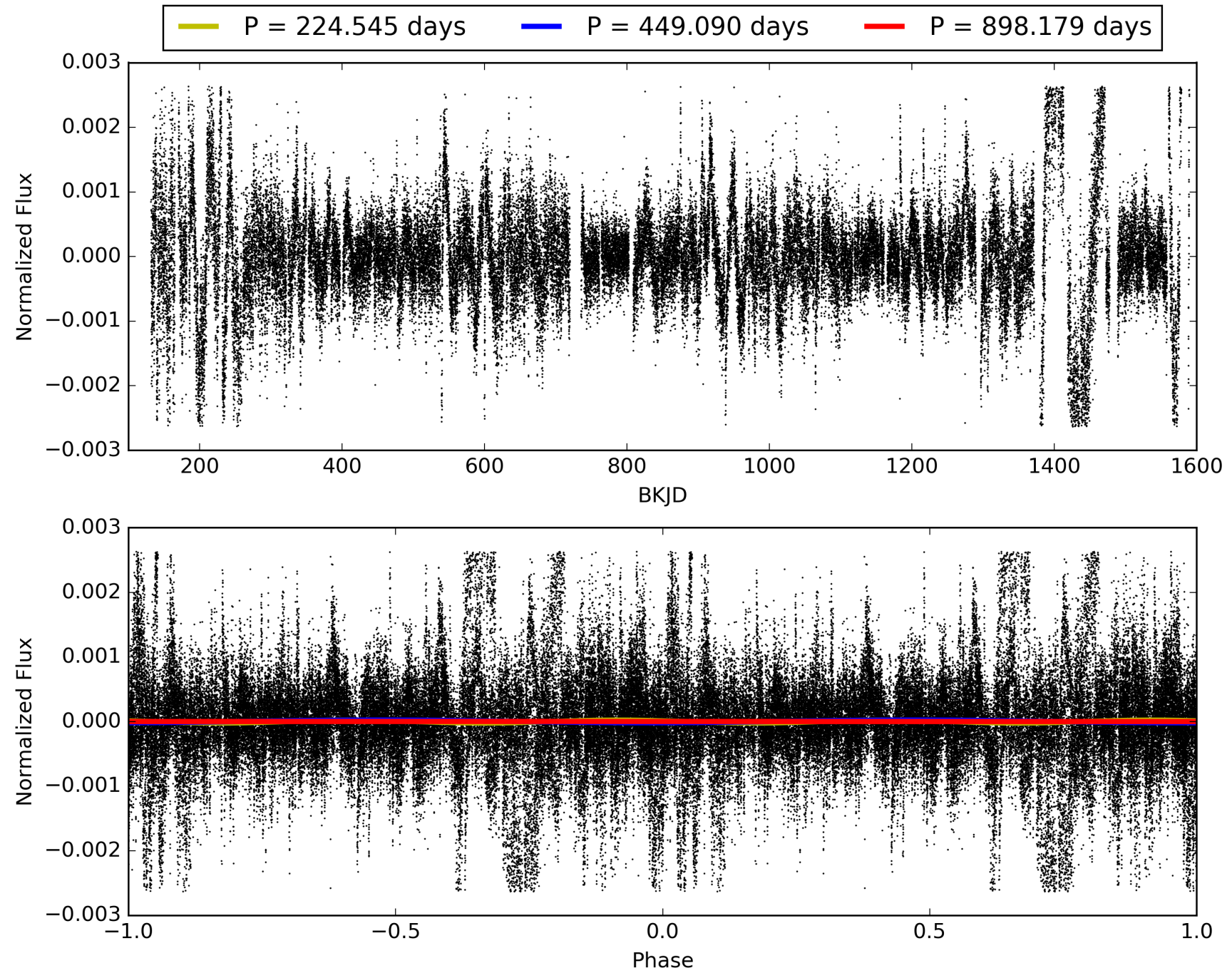
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:49:58 Z

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

TCE 002556639-06, PDC Light Curves

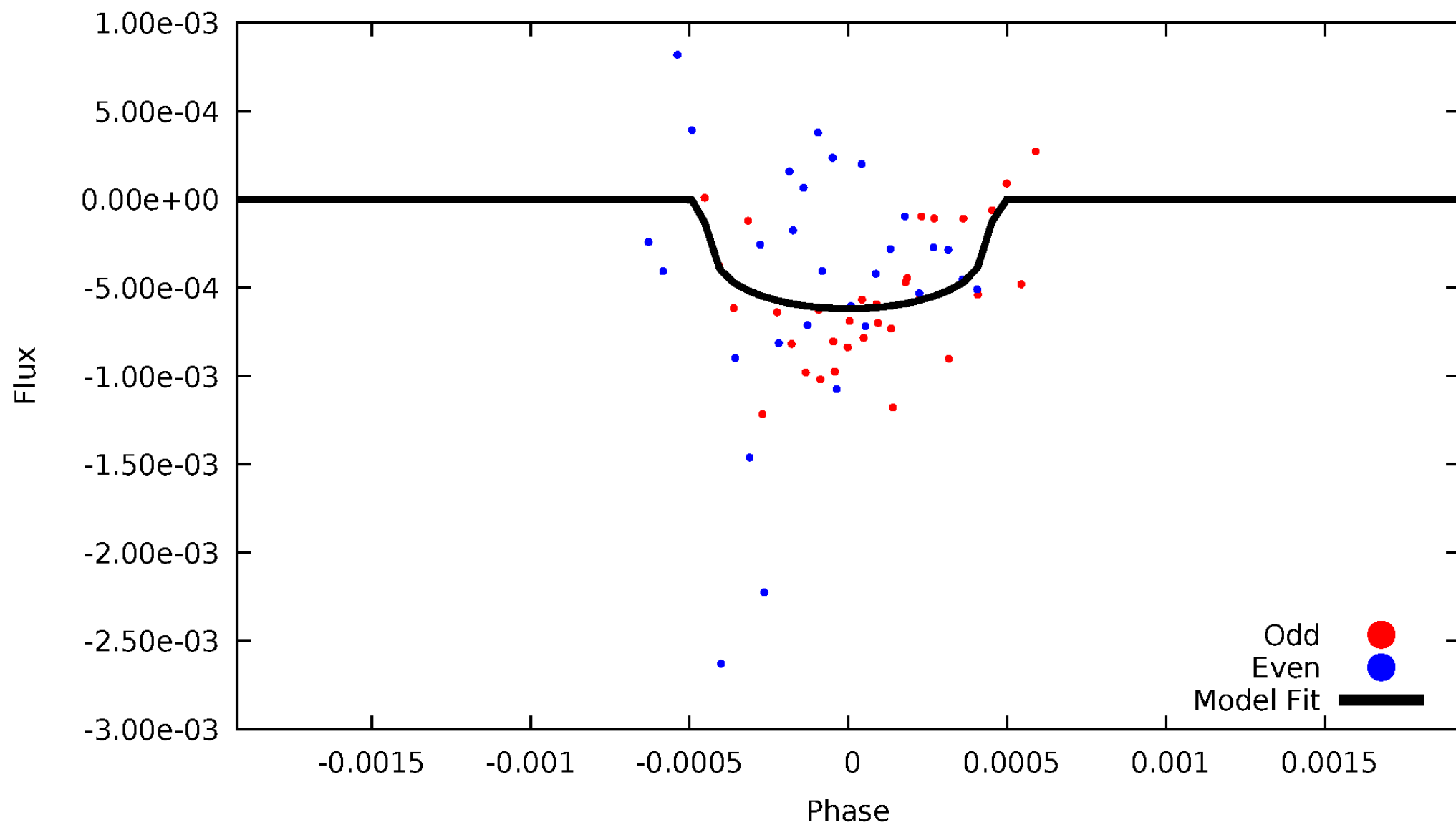


TCE 002556639-06



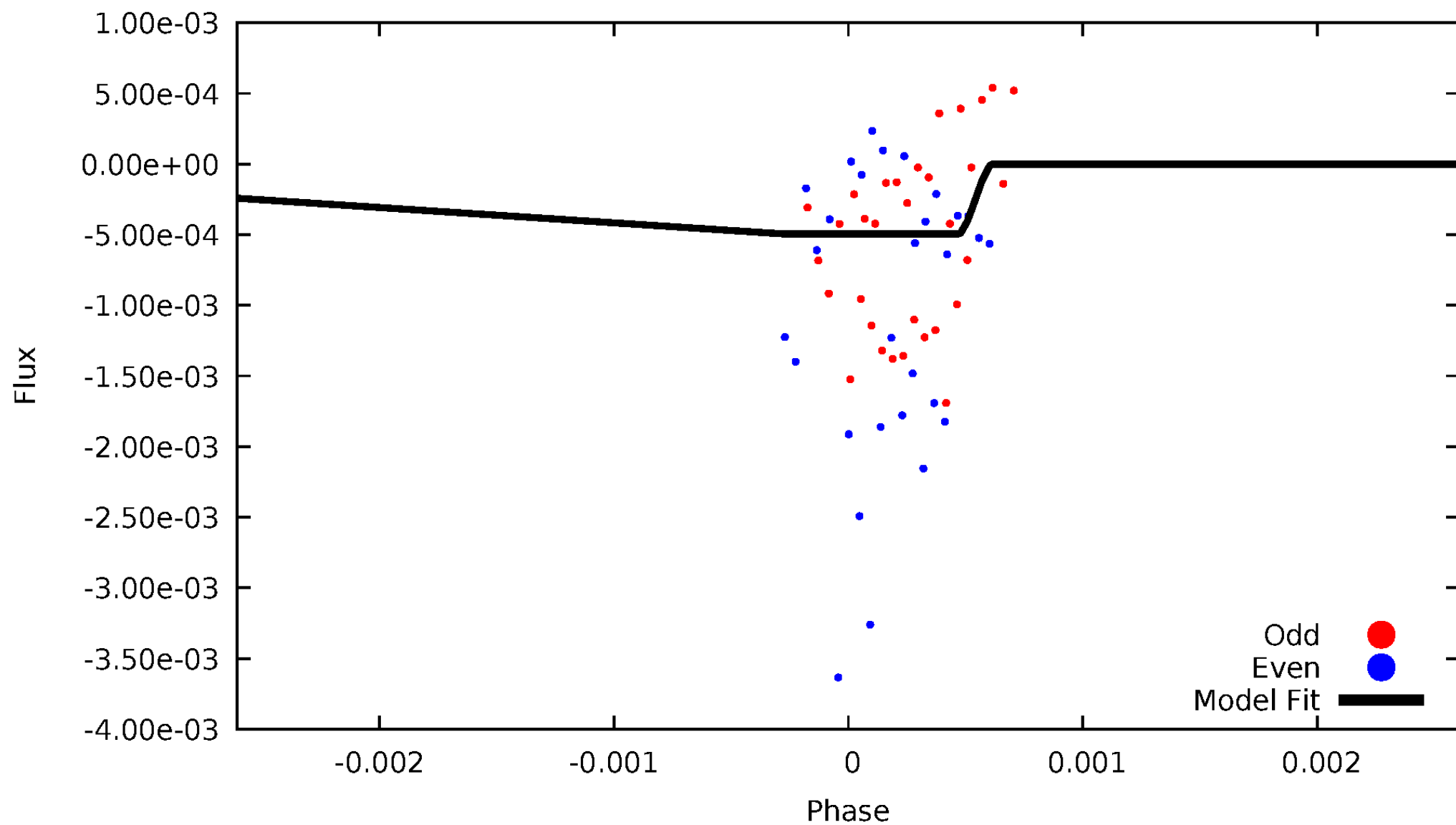
DV Odd/Even

TCE 002556639-06



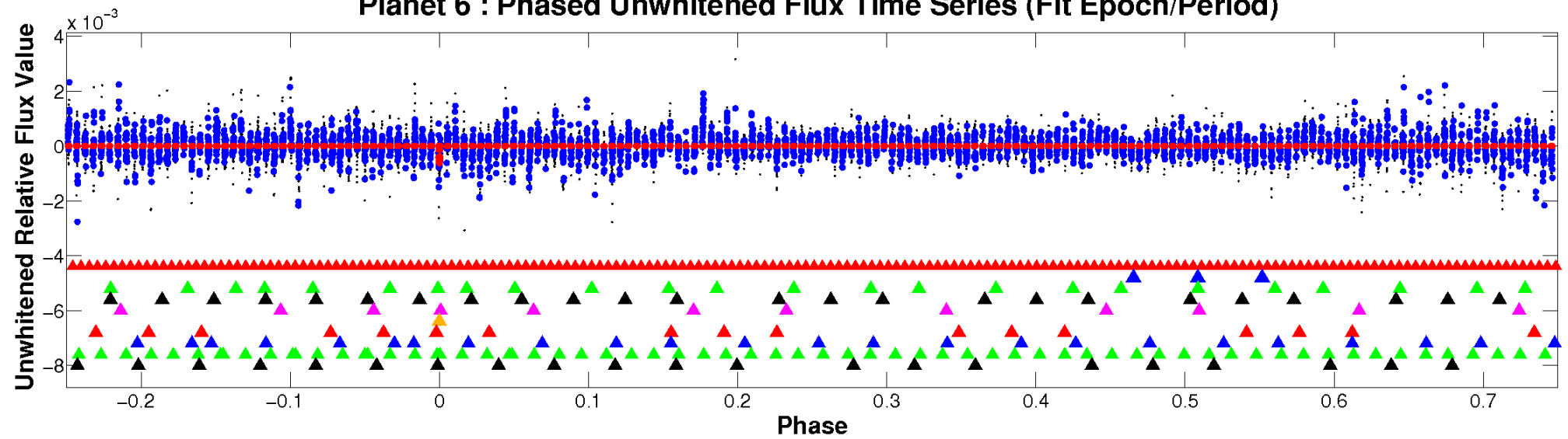
ALT Odd/Even

TCE 002556639-06

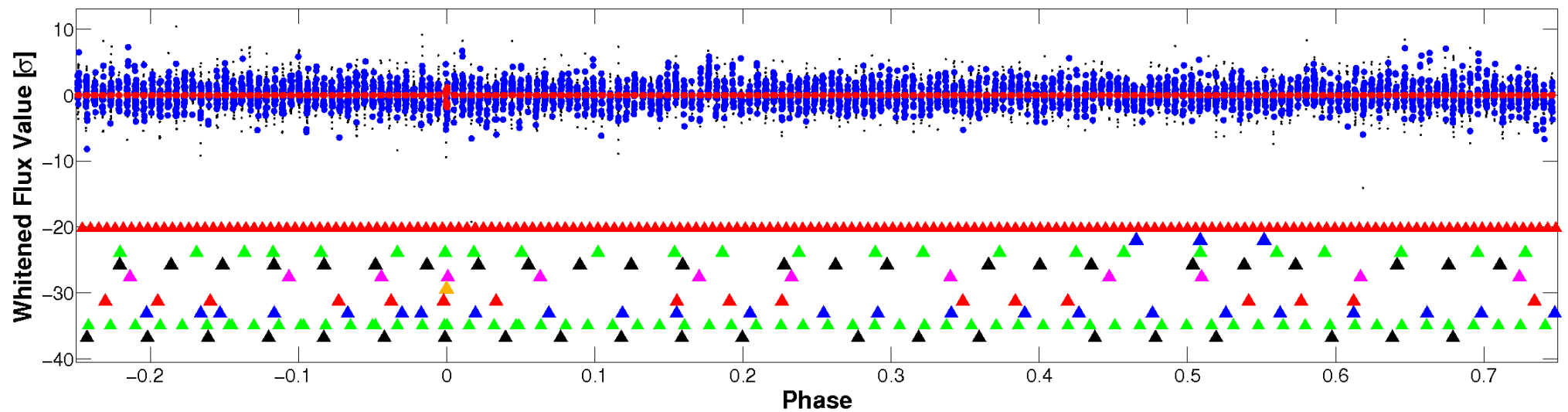


Non-Whitened Vs. Whitened Light Curve

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

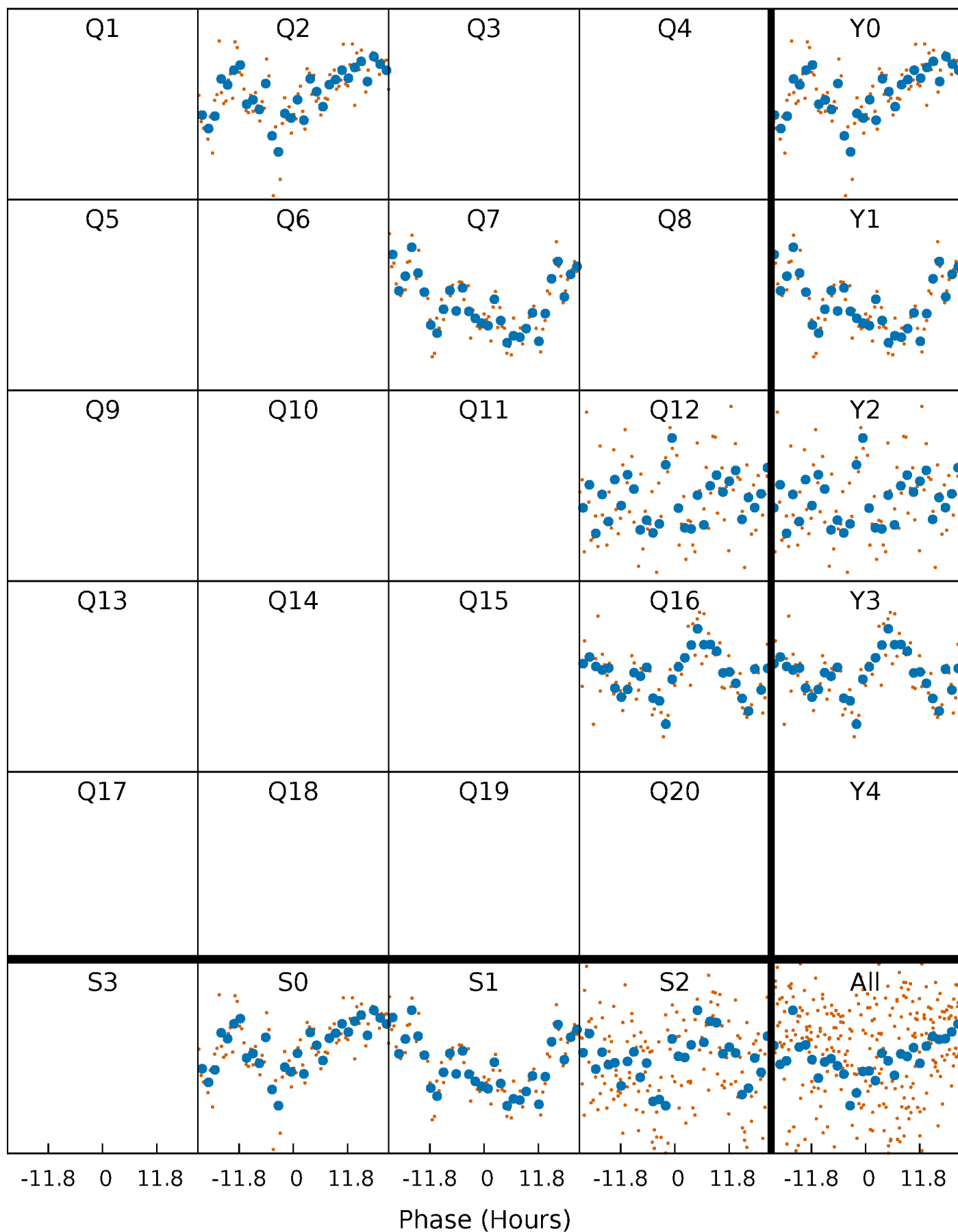


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



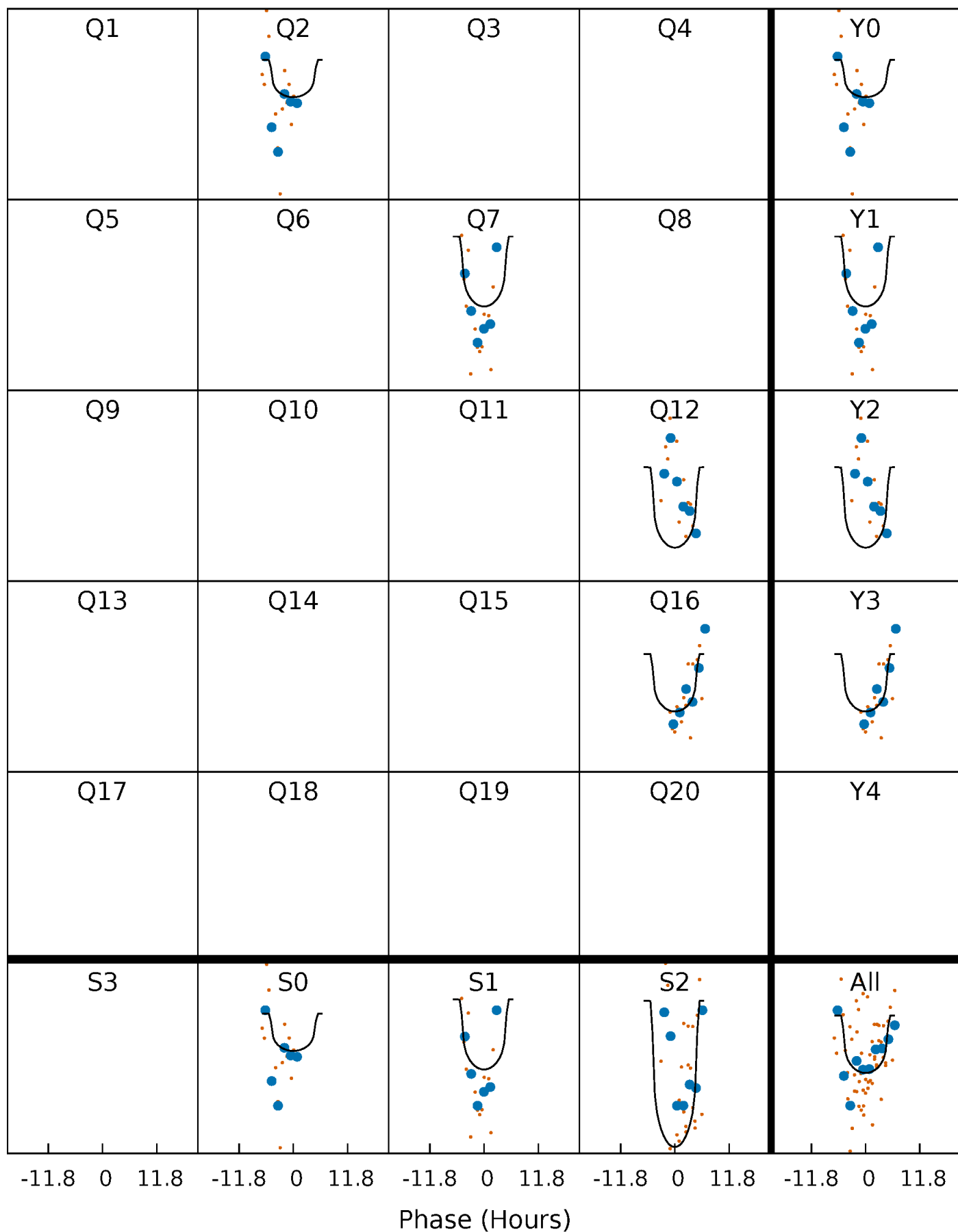
PDC Quarter-Phased Transit Curves

TCE 002556639-06 P=449.089597 Days $T_0=206.154973$ (BKJD)



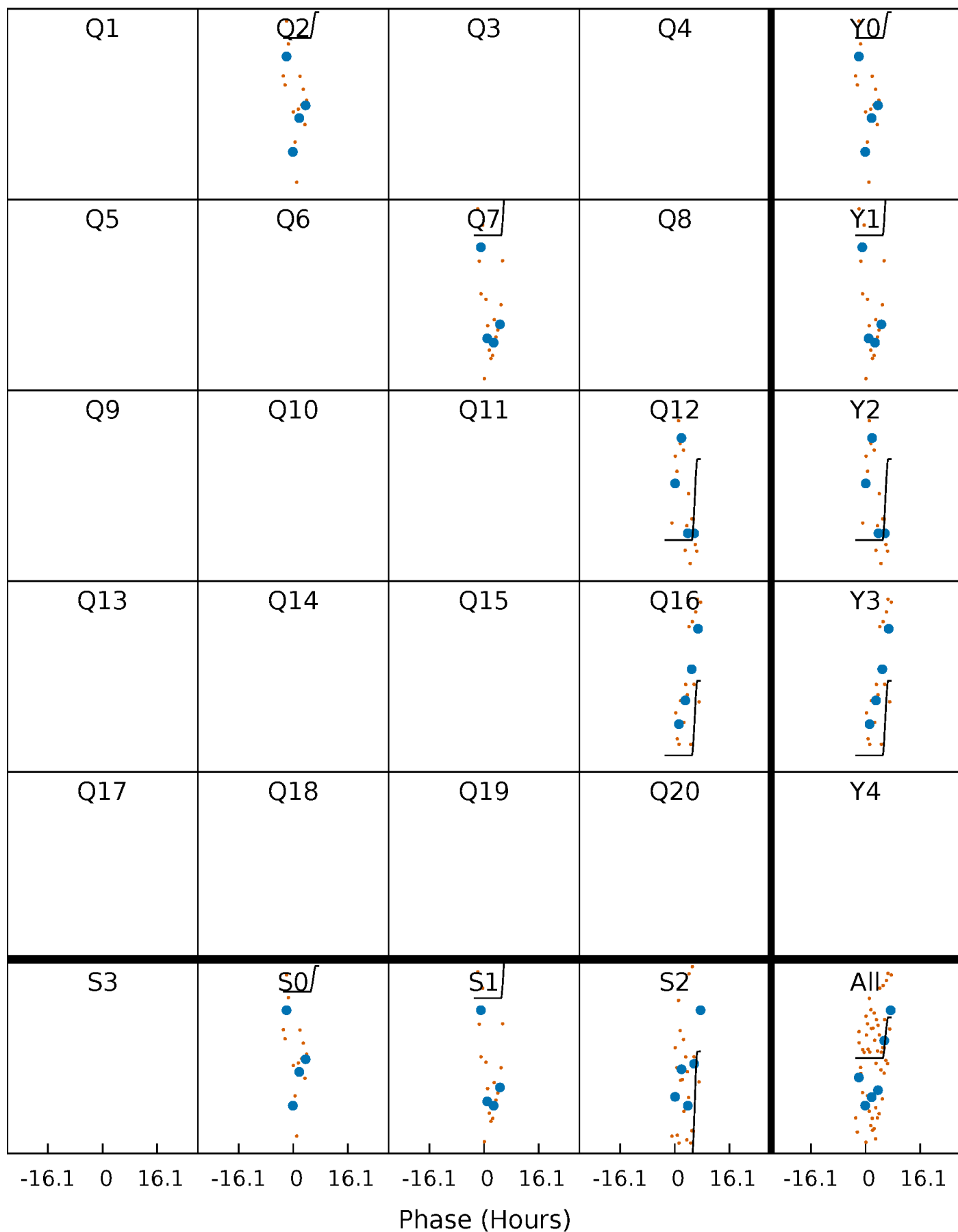
DV Quarter-Phased Transit Curves

TCE 002556639-06 P=449.089597 Days $T_0=206.154973$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

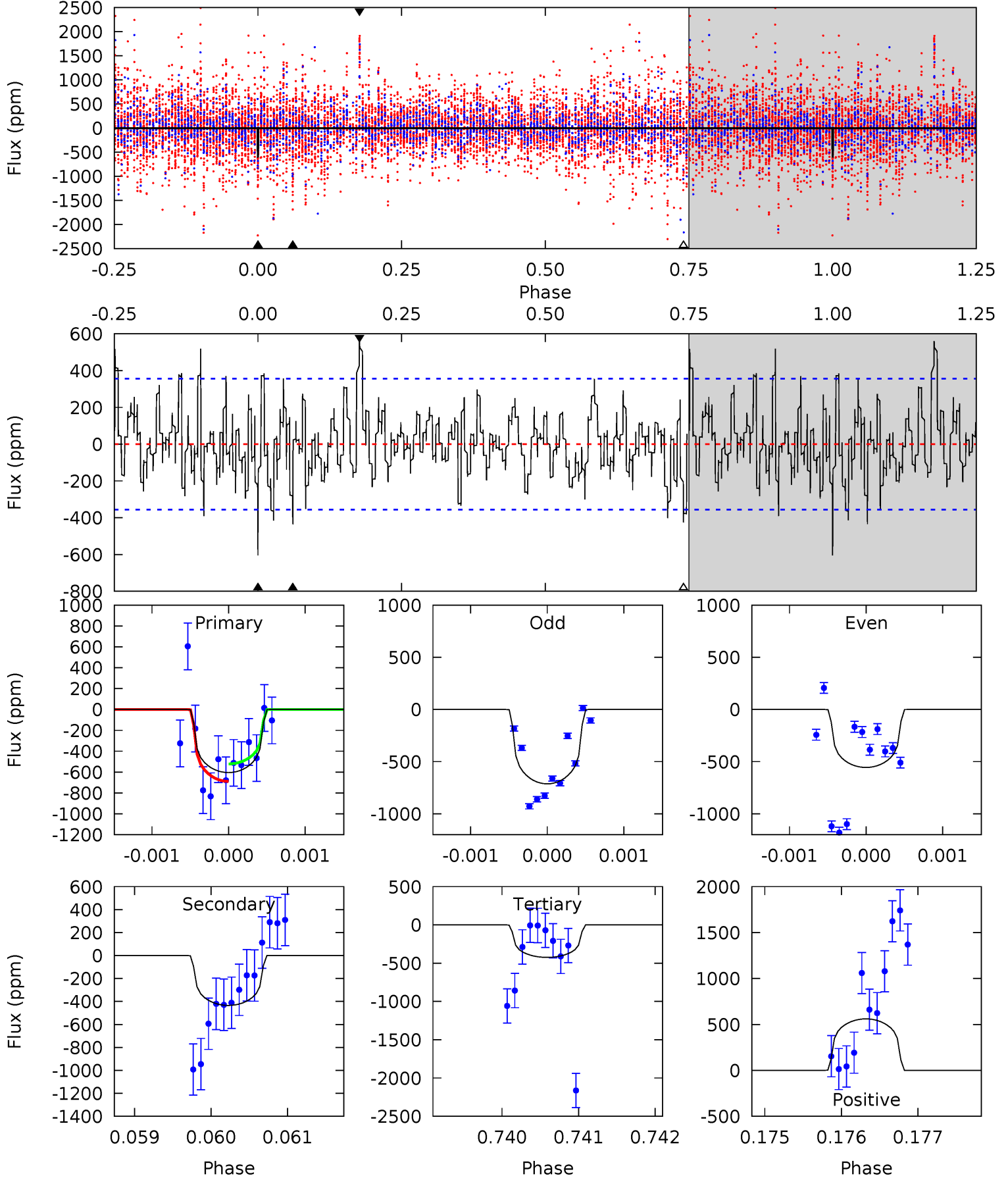
TCE 002556639-06 P=449.125590 Days $T_0=205.994320$ (BKJD)



DV Model-Shift Uniqueness Test

002556639-06, P = 449.089597 Days, E = 206.154973 Days

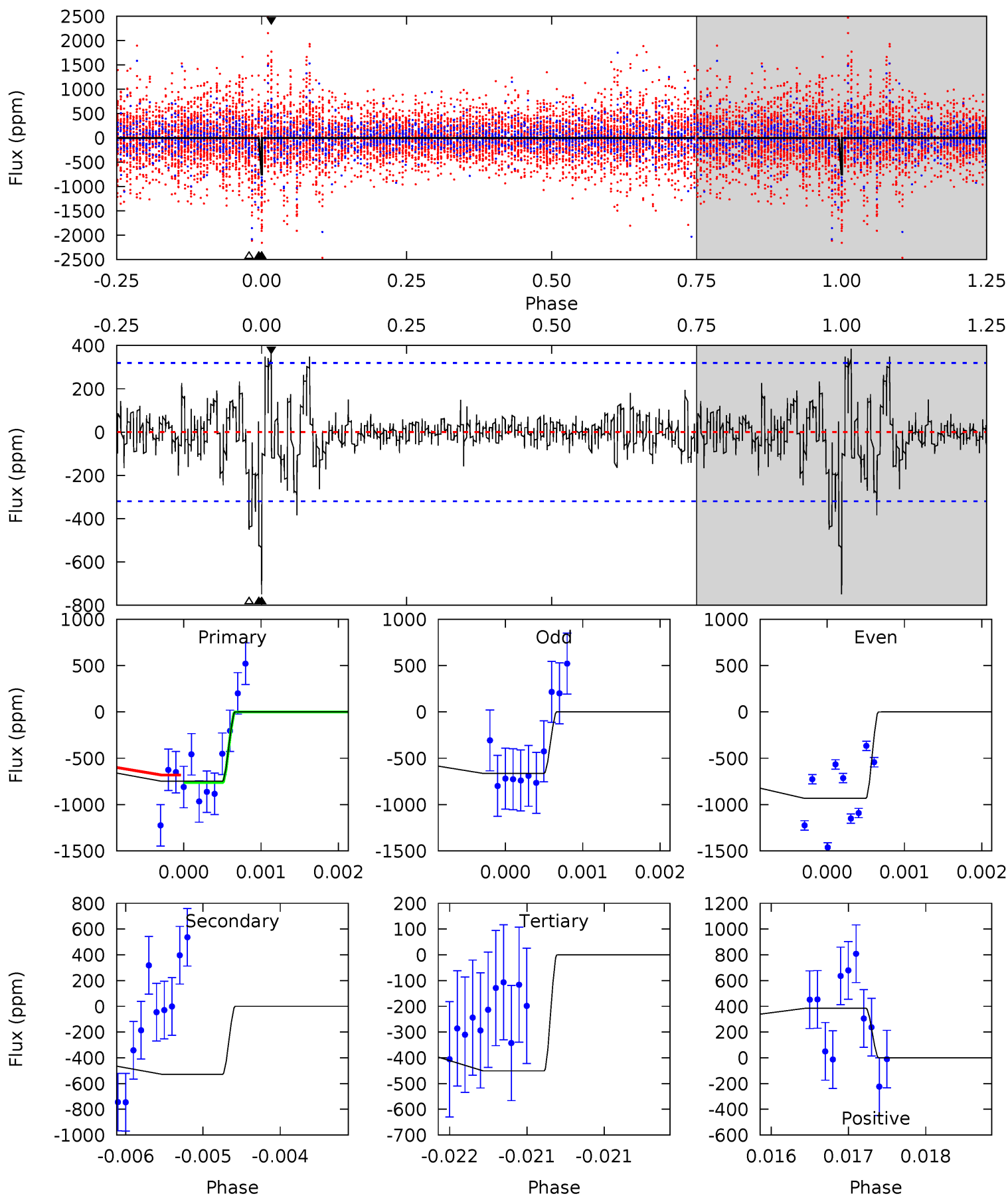
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.25	6.65	6.50	8.57	5.45	3.29	2.32	2.75	0.68	0.15	-1.93	1.20	0.94	0.48	1.28



Alt Model-Shift Uniqueness Test

002556639-06, P = 449.125590 Days, E = 205.994320 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	9.02	7.71	6.57	5.46	3.31	1.57	5.09	6.23	1.31	2.45	2.26	1.23	0.34	0.47



Stellar Parameters For KIC 002556639

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4838^{+50}_{-93}	$2.660^{+0.180}_{-0.120}$	$-0.120^{+0.100}_{-0.150}$	$10.671^{+1.463}_{-3.414}$	$1.899^{+0.185}_{-0.740}$	$0.002^{+0.003}_{-0.001}$
	+1%/-2%	+7%/-5%	+83%/-125%	+14%/-32%	+10%/-39%	+123%/-29%
Source	SPE74	SPE74	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 002556639-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-434 ± 65	$29.34^{+12.83}_{-12.47}$	814^{+37}_{-51}	4383^{+1140}_{-506}	536^{+1185}_{-277}
Alt.	-527 ± 58	$25.40^{+13.44}_{-13.14}$	817^{+38}_{-53}	4871^{+1944}_{-704}	878^{+2816}_{-491}

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

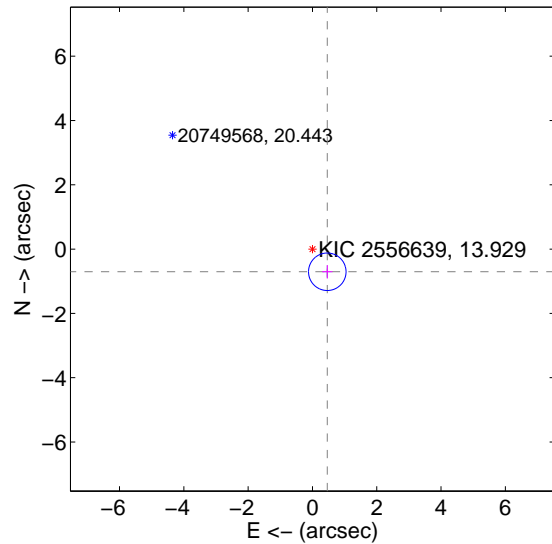
Supplemental centroid analysis for 002556639-06. Kepler magnitude: 13.93. Transit SNR 11.54

There are 2 quarters with good PRF difference image offsets

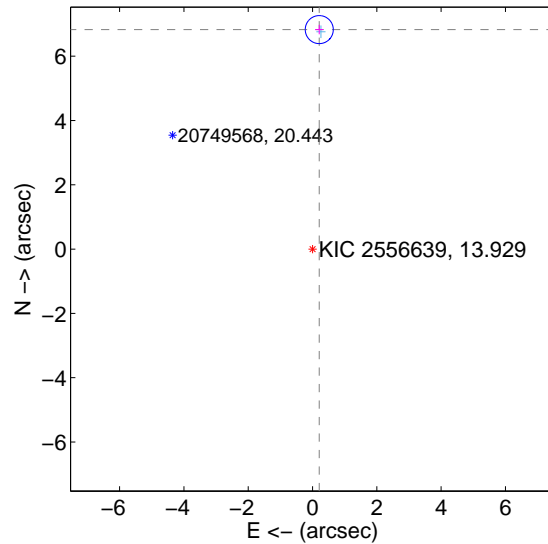
The OOT PRF centroid is offset from the target star catalog position by about 7.47 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.843 ± 0.194	4.33	-0.462 ± 0.159	-0.705 ± 0.208
PRF-fit source offset from KIC position	6.831 ± 0.145	47.01	-0.210 ± 0.125	6.828 ± 0.145
photometric centroid source offset	4.20 ± 0.69	6.10	0.17 ± 0.24	4.20 ± 0.69

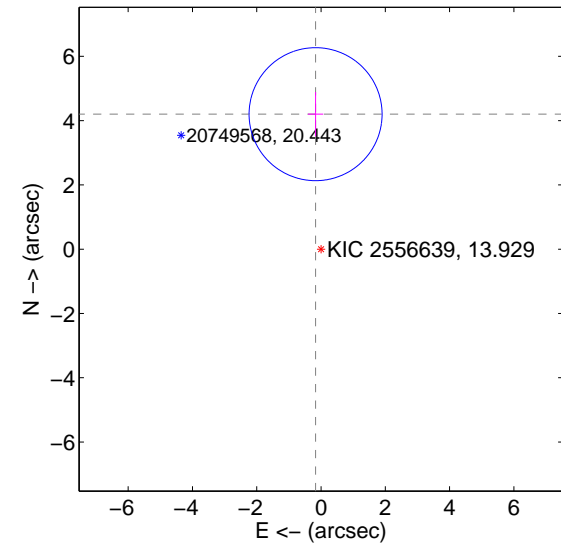
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

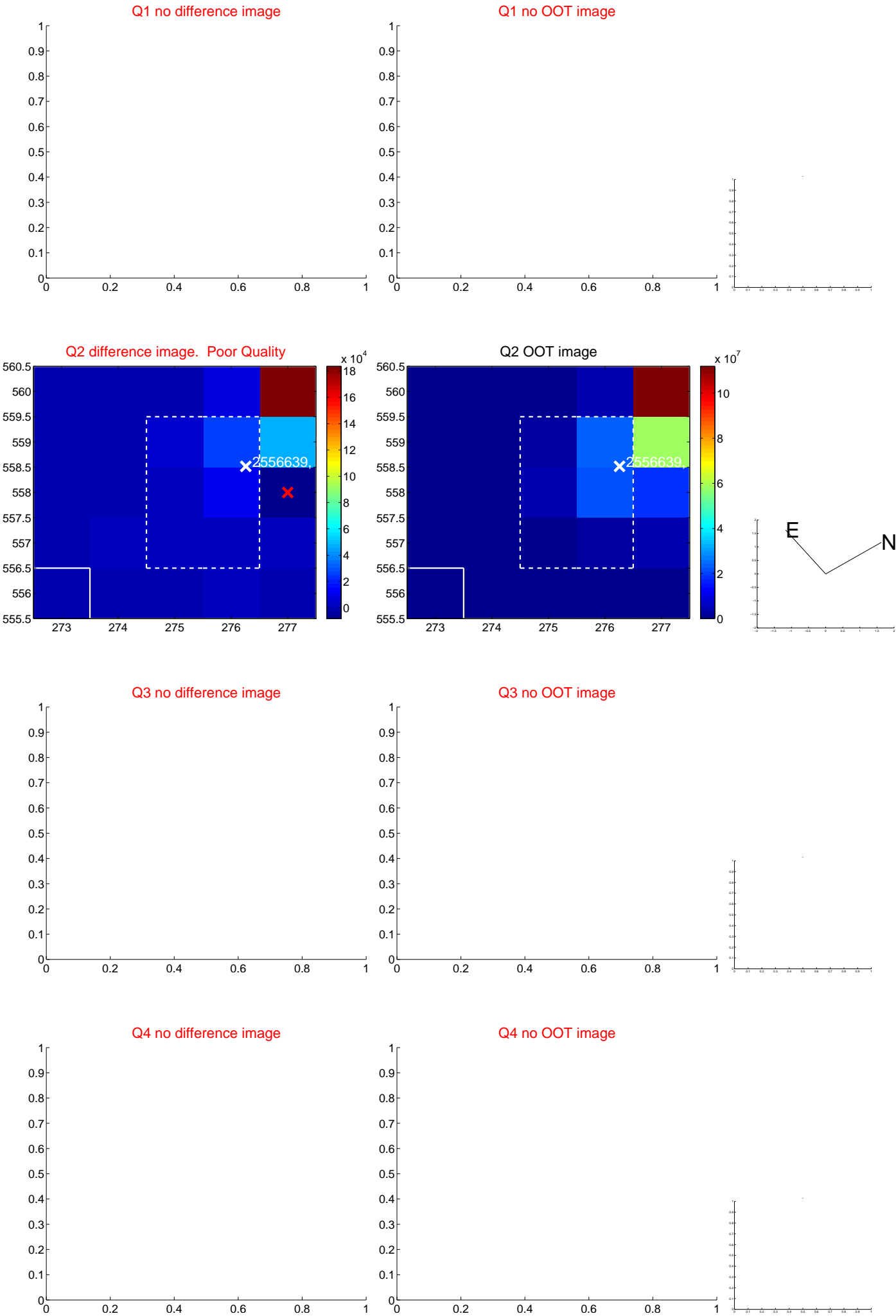


offset from photometric centroids

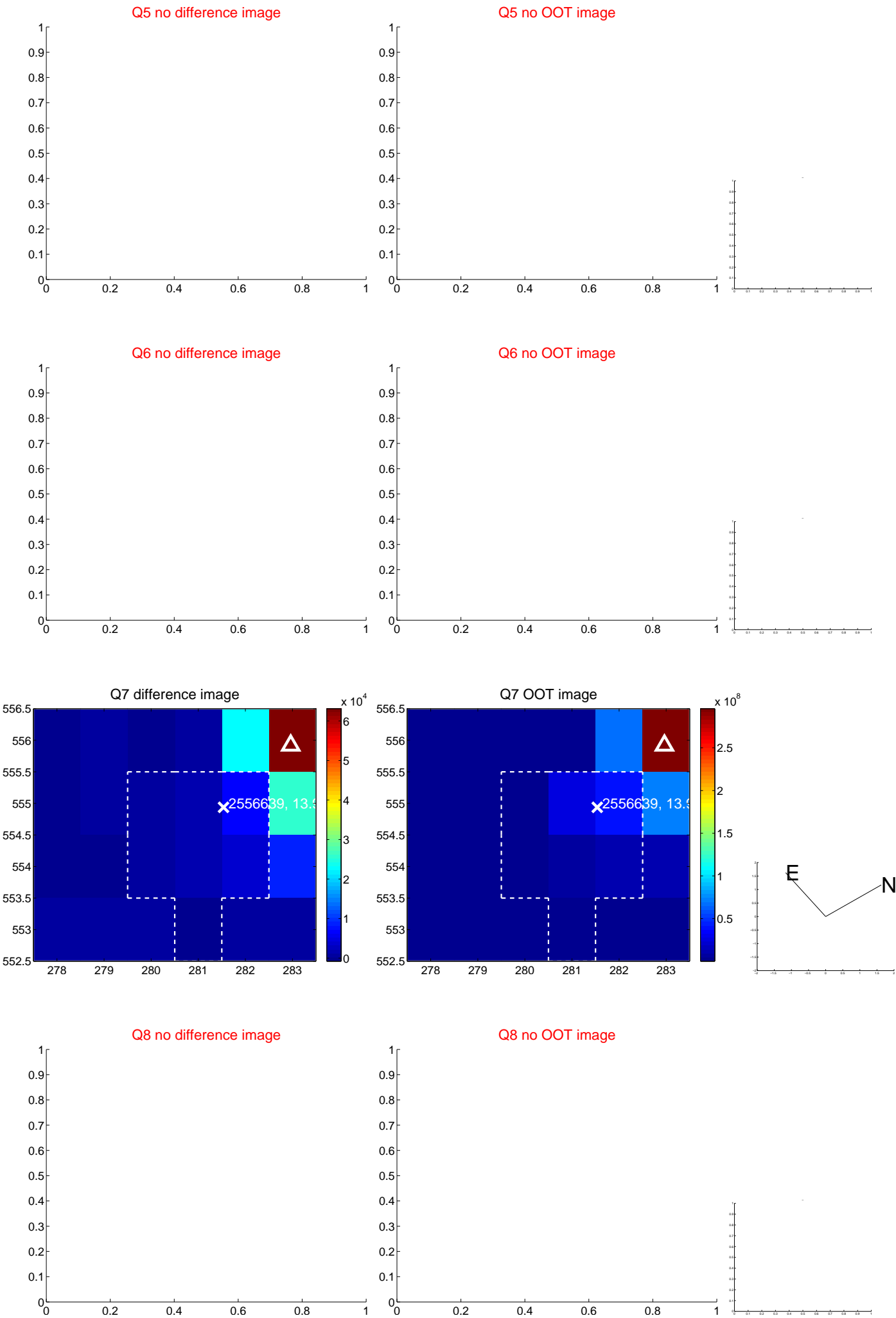


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

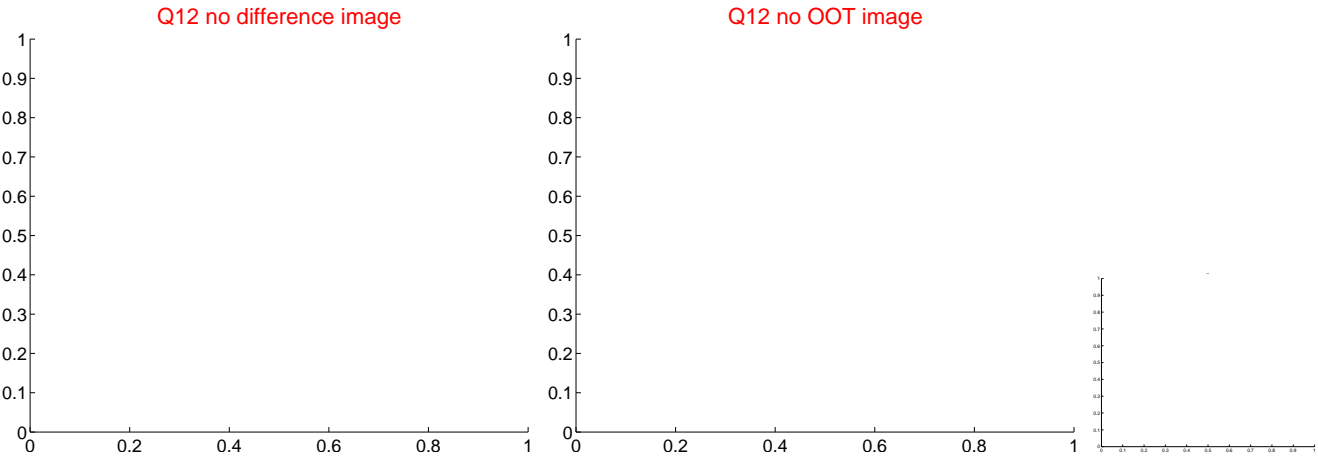
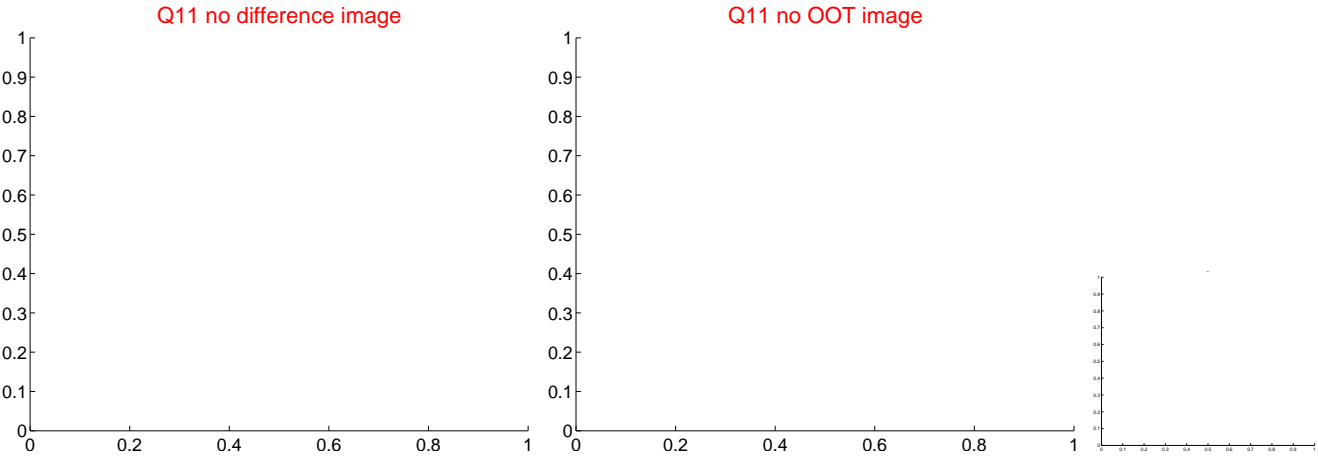
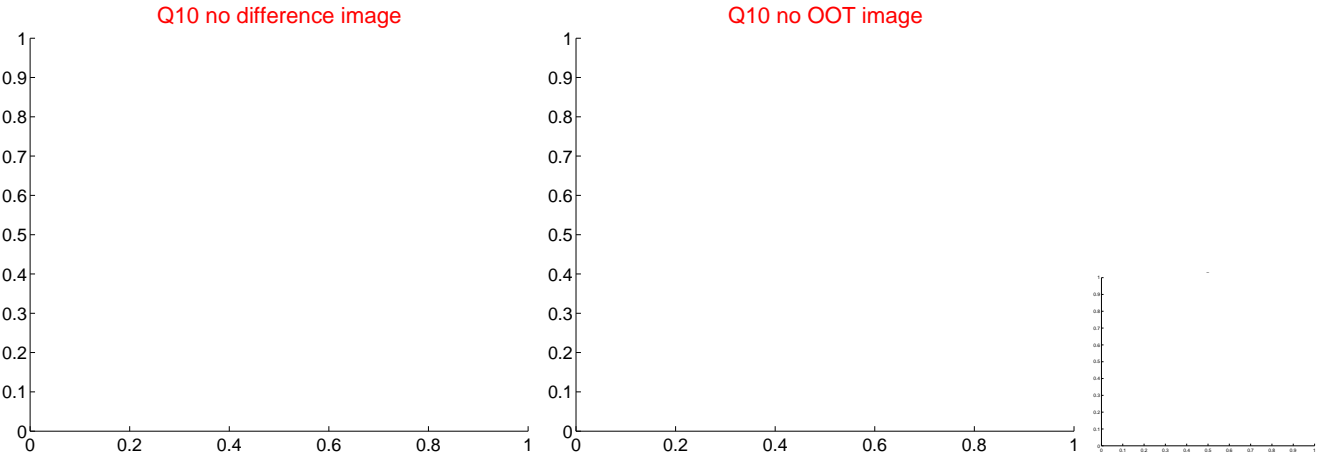
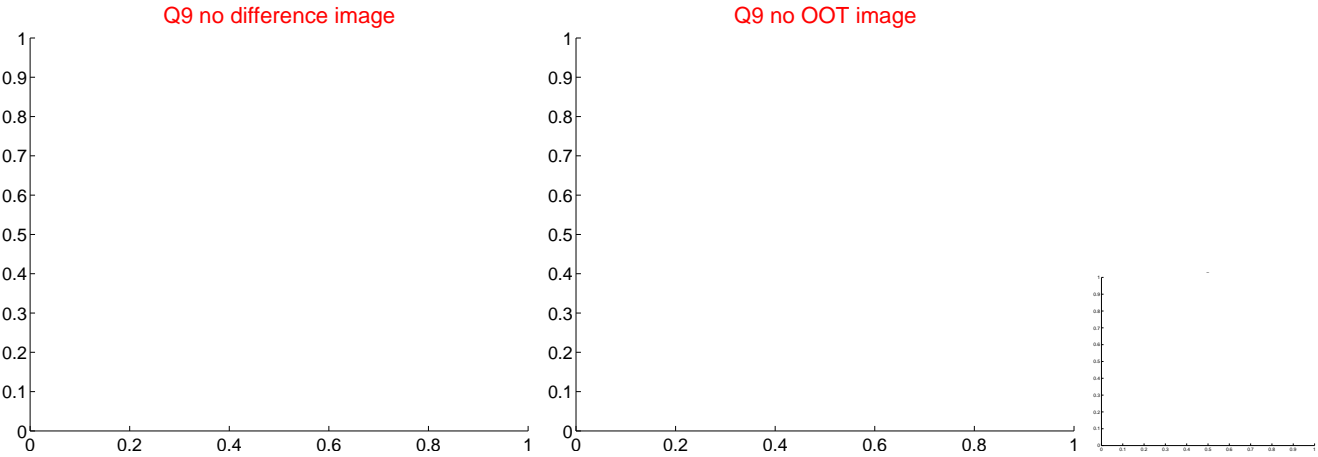
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



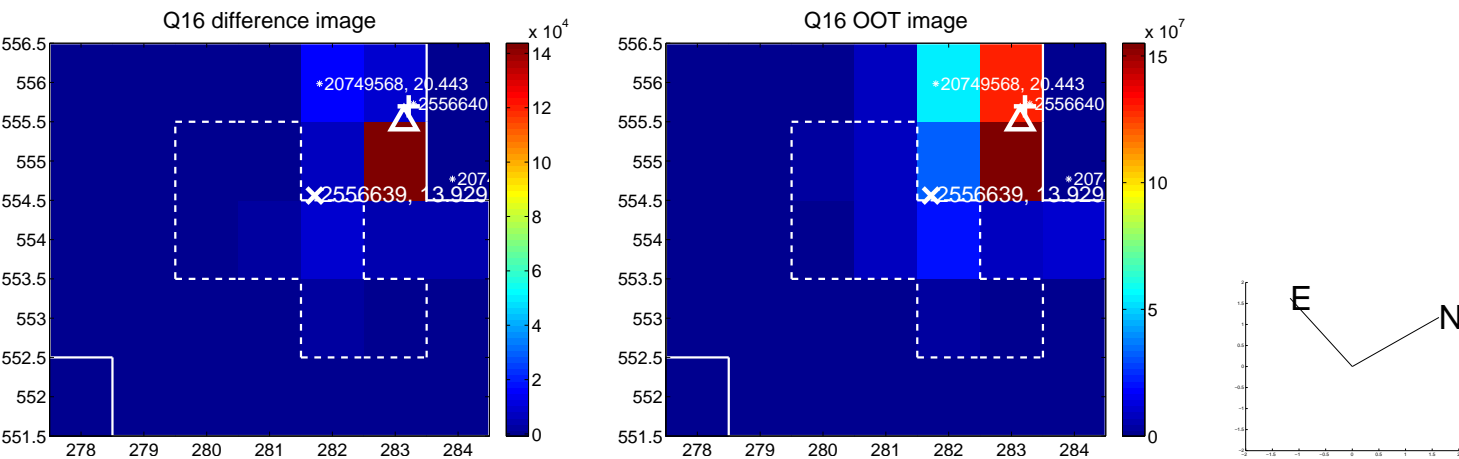
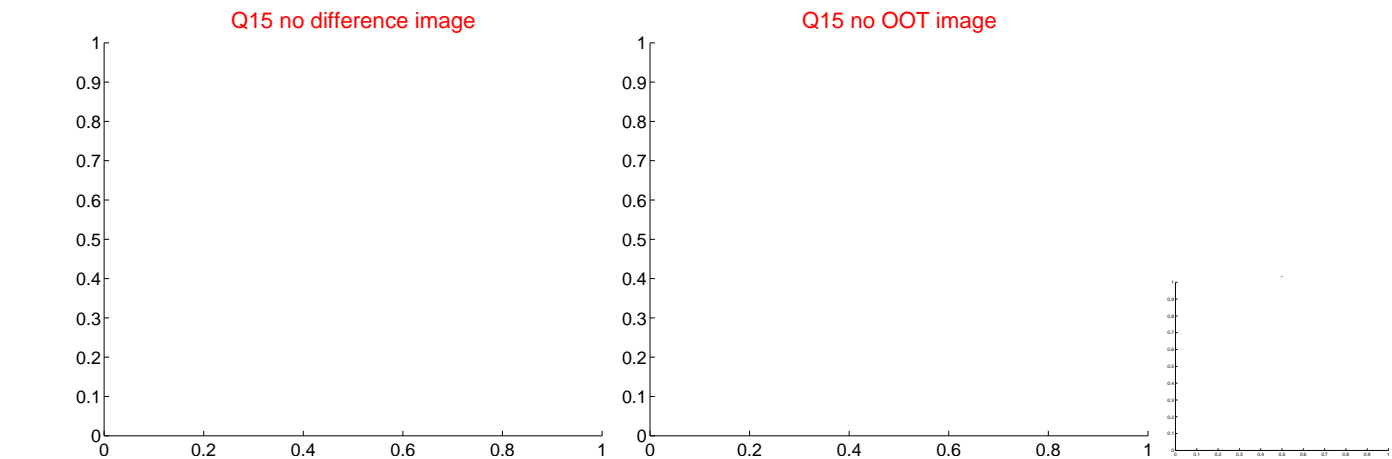
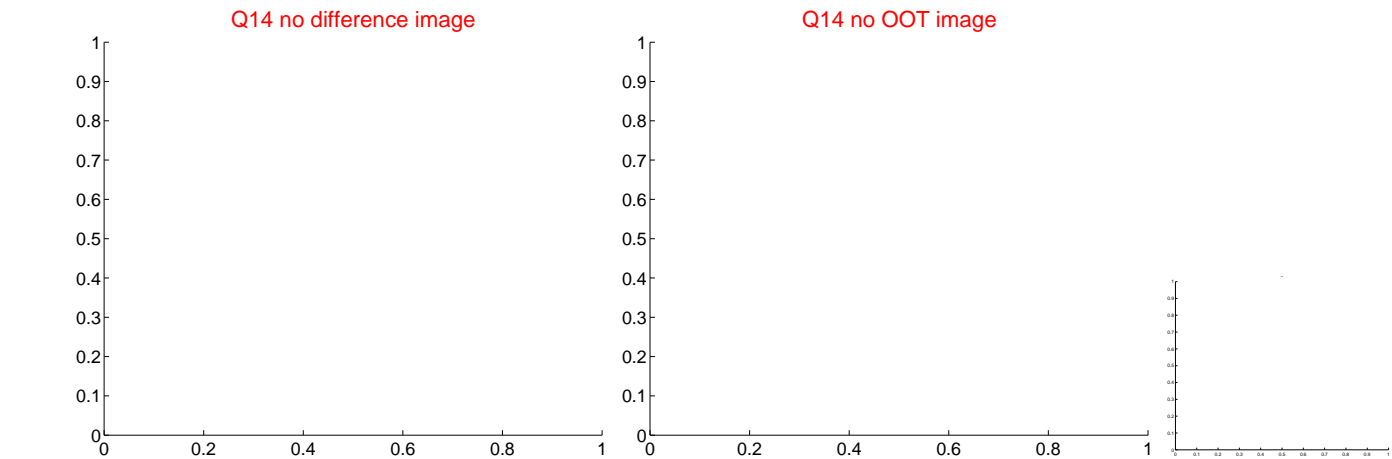
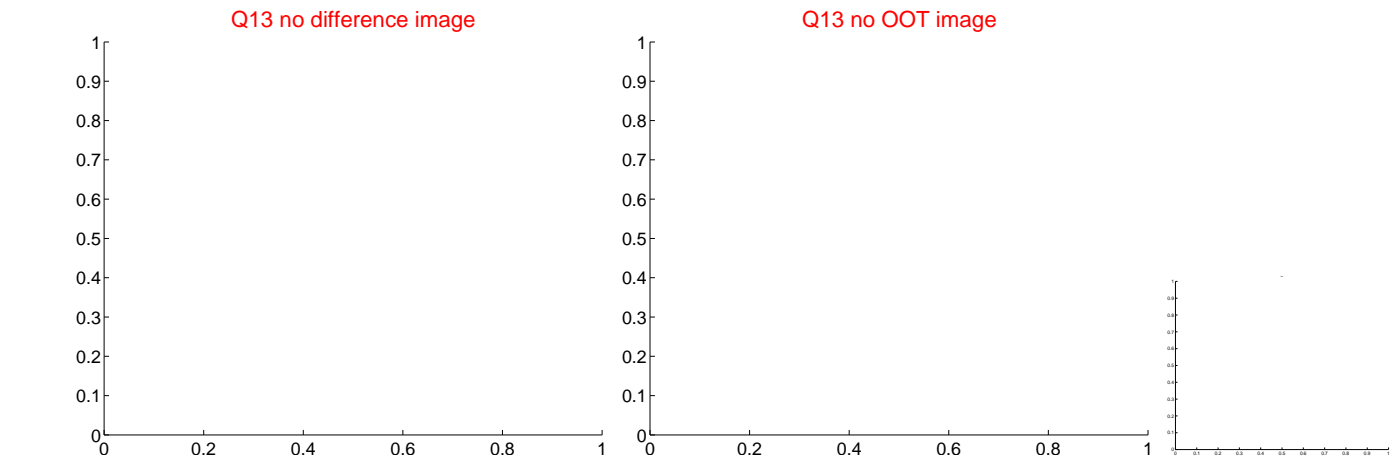
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



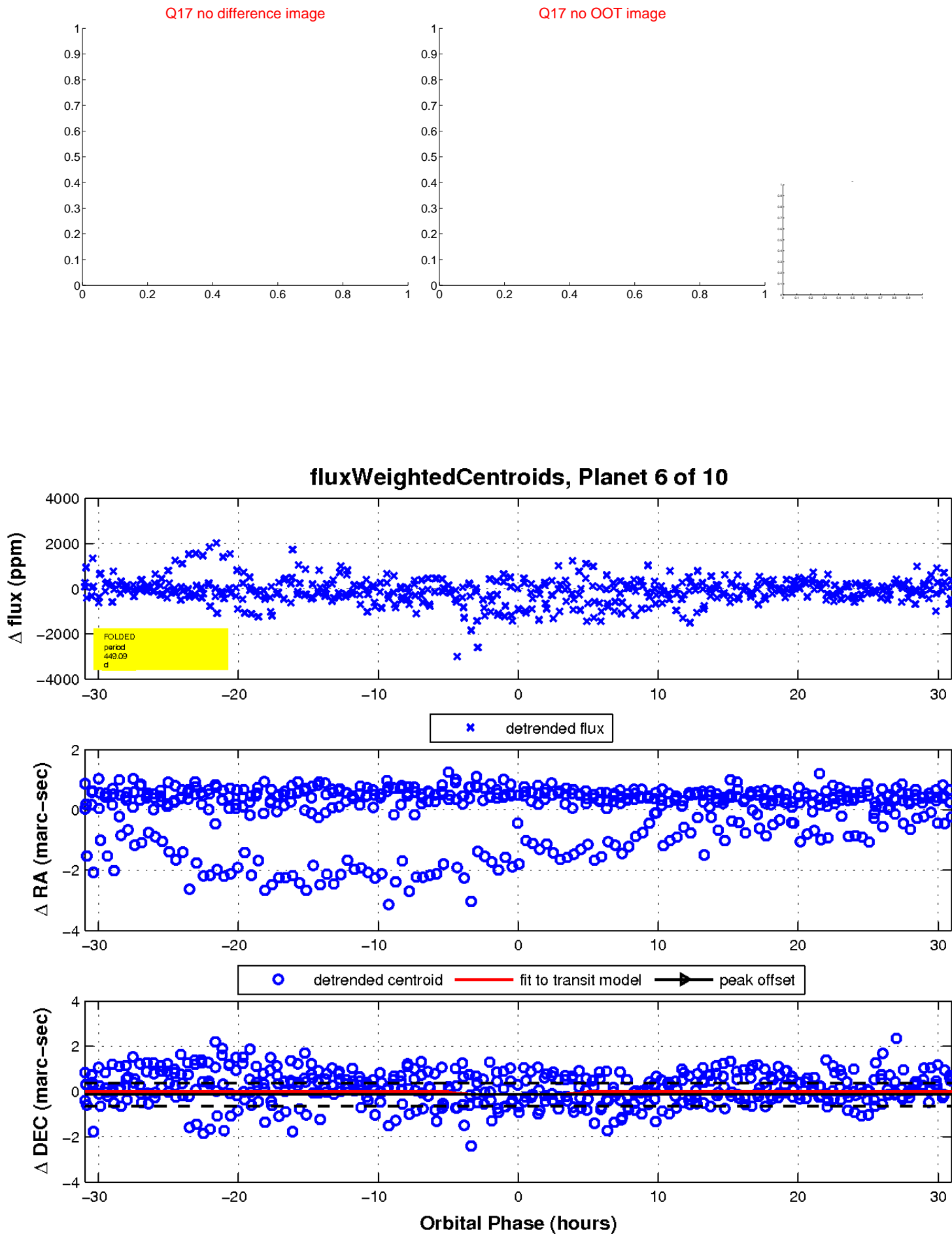
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



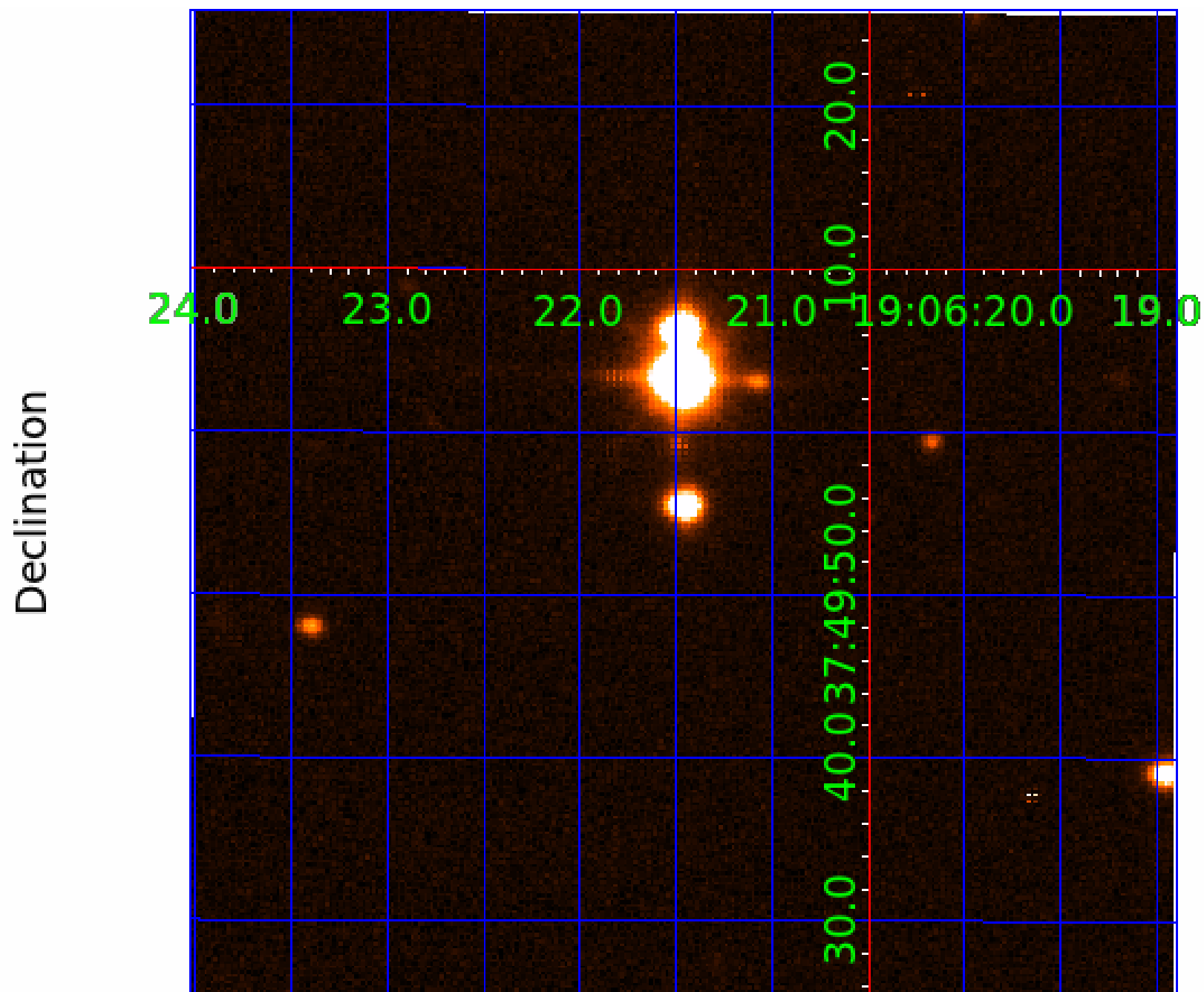
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image



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})
002556639-01	OBS	No	2.481583	132.823046	87.7	17.056	10.5	11.4	10.67	4838	10.02	0.00
002556639-02	OBS	No	429.720278	453.938785	7145.3	38.419	62.8	49.1	10.67	4838	170.27	29.34
002556639-03	OBS	No	60.844901	153.558562	330.8	4.302	19.2	4.2	10.67	4838	20.78	397.55
002556639-04	OBS	No	61.929579	153.843236	715.6	17.592	17.8	13.5	10.67	4838	35.86	388.30
002556639-05	OBS	No	124.313425	186.359040	967.3	0.572	17.5	2.6	10.67	4838	41.18	153.34
002556639-06	OBS	No	449.089597	206.154973	619.1	10.364	15.6	11.5	10.67	4838	30.29	27.66
002556639-07	OBS	No	86.635232	134.529984	735.2	6.378	12.6	12.0	10.67	4838	38.10	248.18
002556639-08	OBS	No	60.973922	137.494019	811.6	3.503	12.8	12.4	10.67	4838	31.86	396.43
002556639-09	OBS	No	21.744036	140.229270	724.0	4.469	12.3	11.5	10.67	4838	59.43	1567.62
002556639-10	OBS	No	71.789406	152.216780	763.5	2.777	12.9	12.7	10.67	4838	28.90	318.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002556639-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET
002556639-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002556639-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
002556639-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
002556639-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
002556639-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
002556639-09	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-10	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET

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

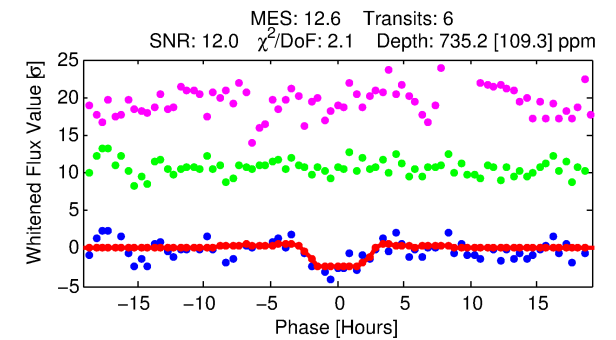
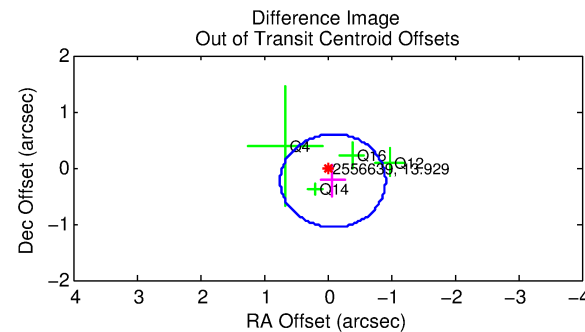
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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

Ephemeris Match Information For 002556639-07

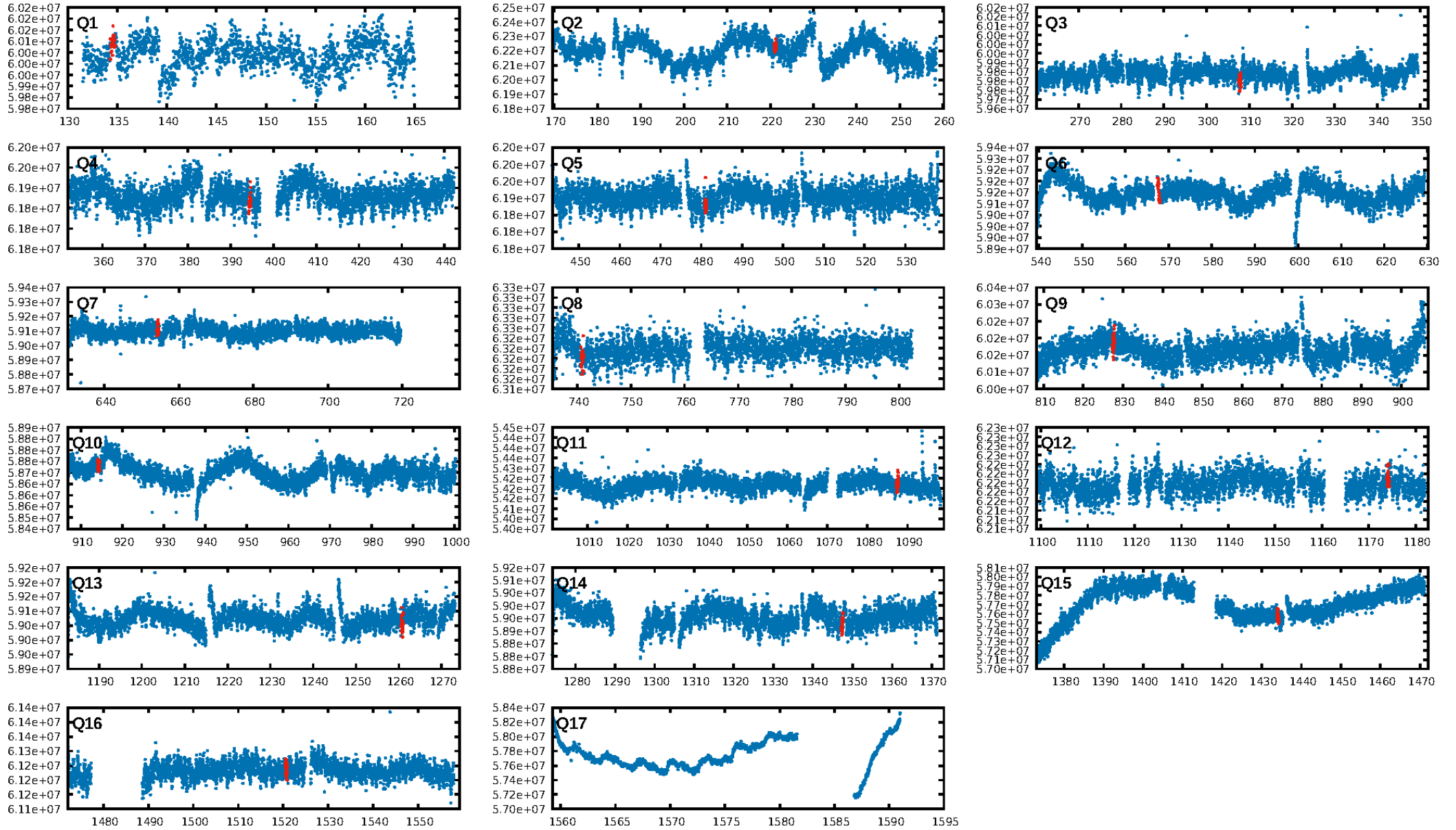
No Significant Match Found

KIC: 2556639 Candidate: 7 of 10 Period: 86.635 d

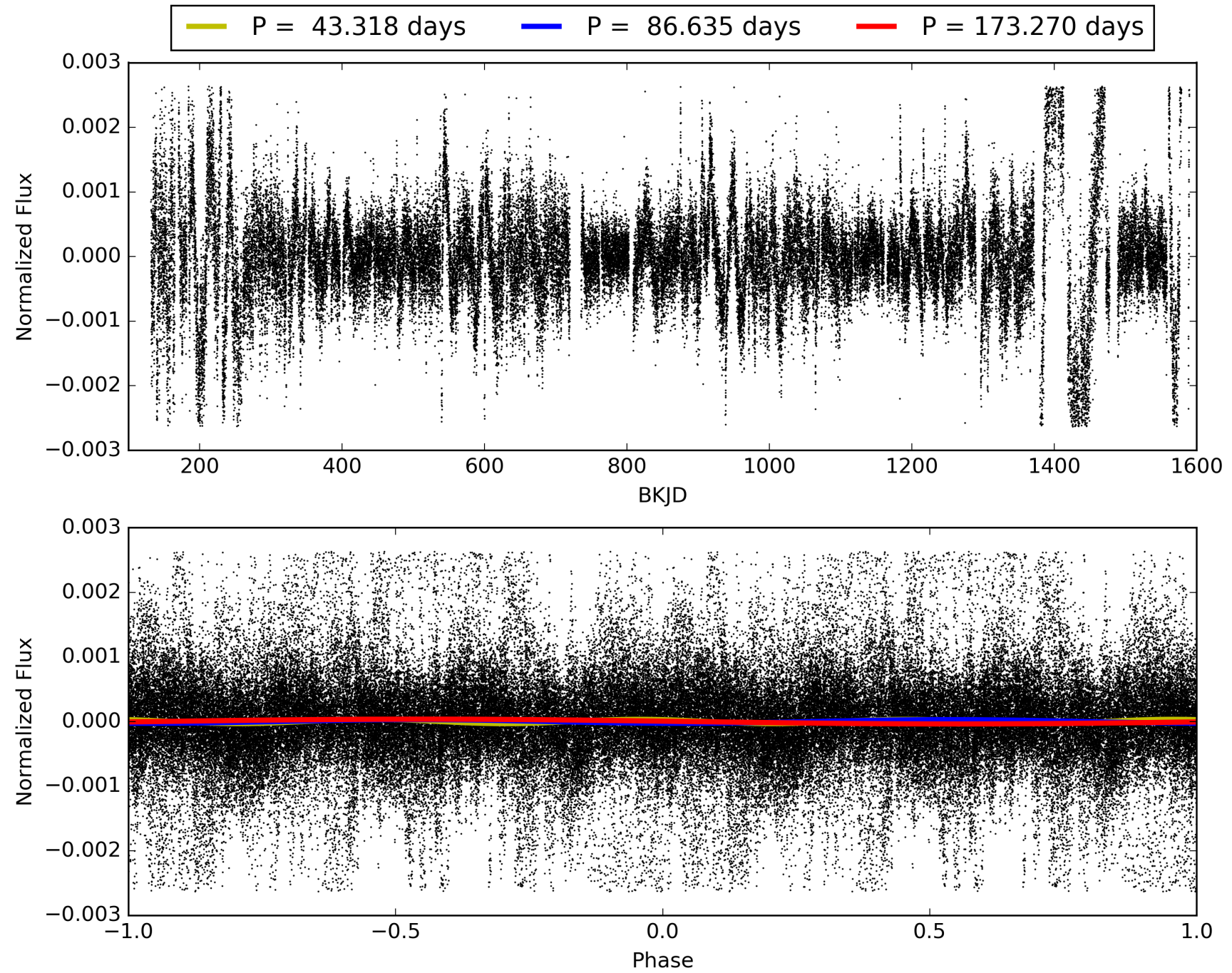


ShortPeriod-sig: 100.0% [51.22σ]
 LongPeriod-sig: 100.0% [141.22σ]
 ModelChiSquare2-sig: 12.8%
 ModelChiSquareGof-sig: 99.7%
 Bootstrap-pfa: N/A
 RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 0.3598
 Centroid-sig: N/A
Centroid-so: 4.192 arcsec [15.76σ]
 OotOffset-rm: 0.249 arcsec [0.90σ]
KicOffset-rm: 7.469 arcsec [6.57σ]
 OotOffset-st: 1/0/3/0 [4]
 KicOffset-st: 1/1/3/0 [5]
 DiffImageQuality-fgm: 0.60 [3/5]
 DiffImageOverlap-fno: 0.40 [6/15]

TCE 002556639-07, PDC Light Curves

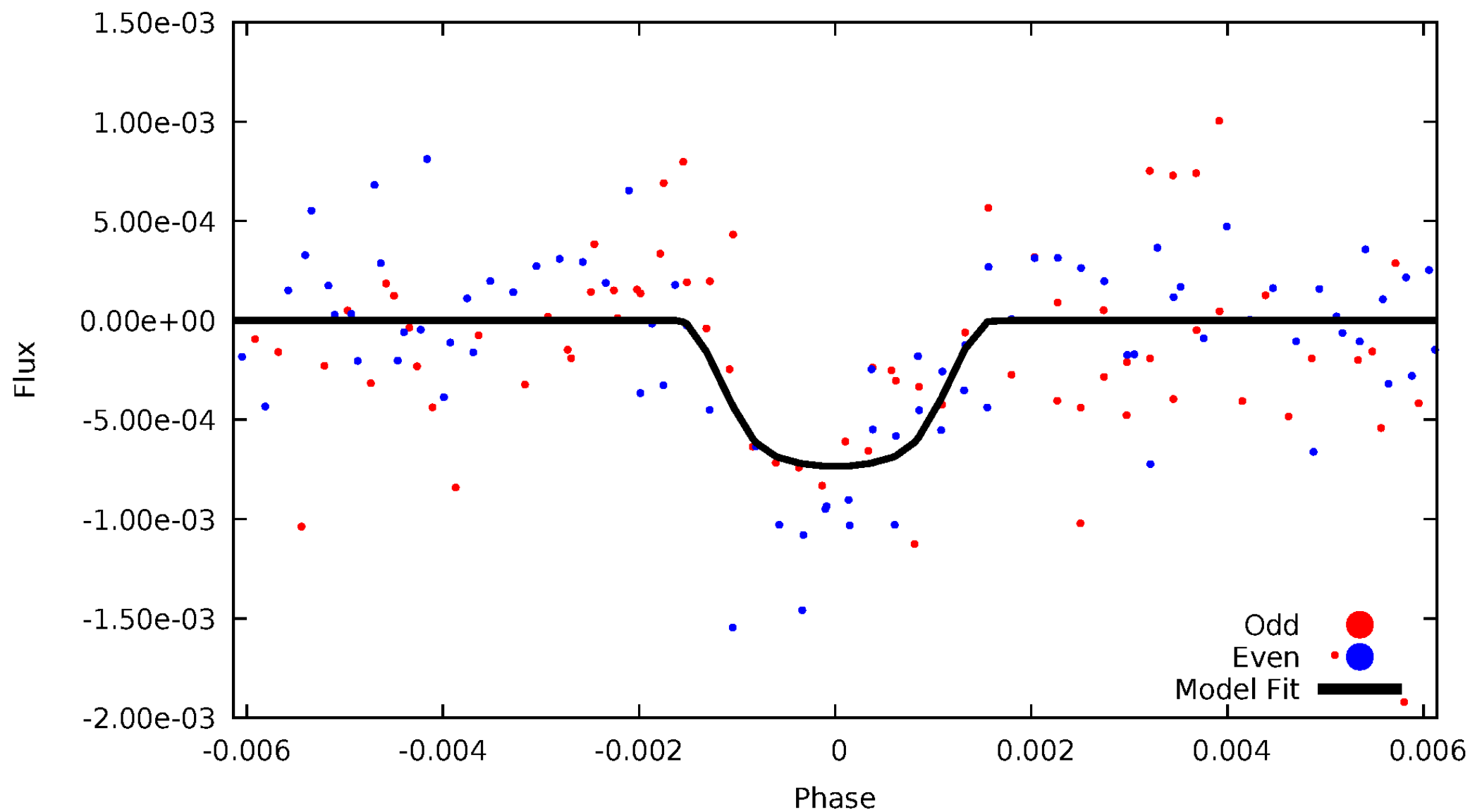


TCE 002556639-07



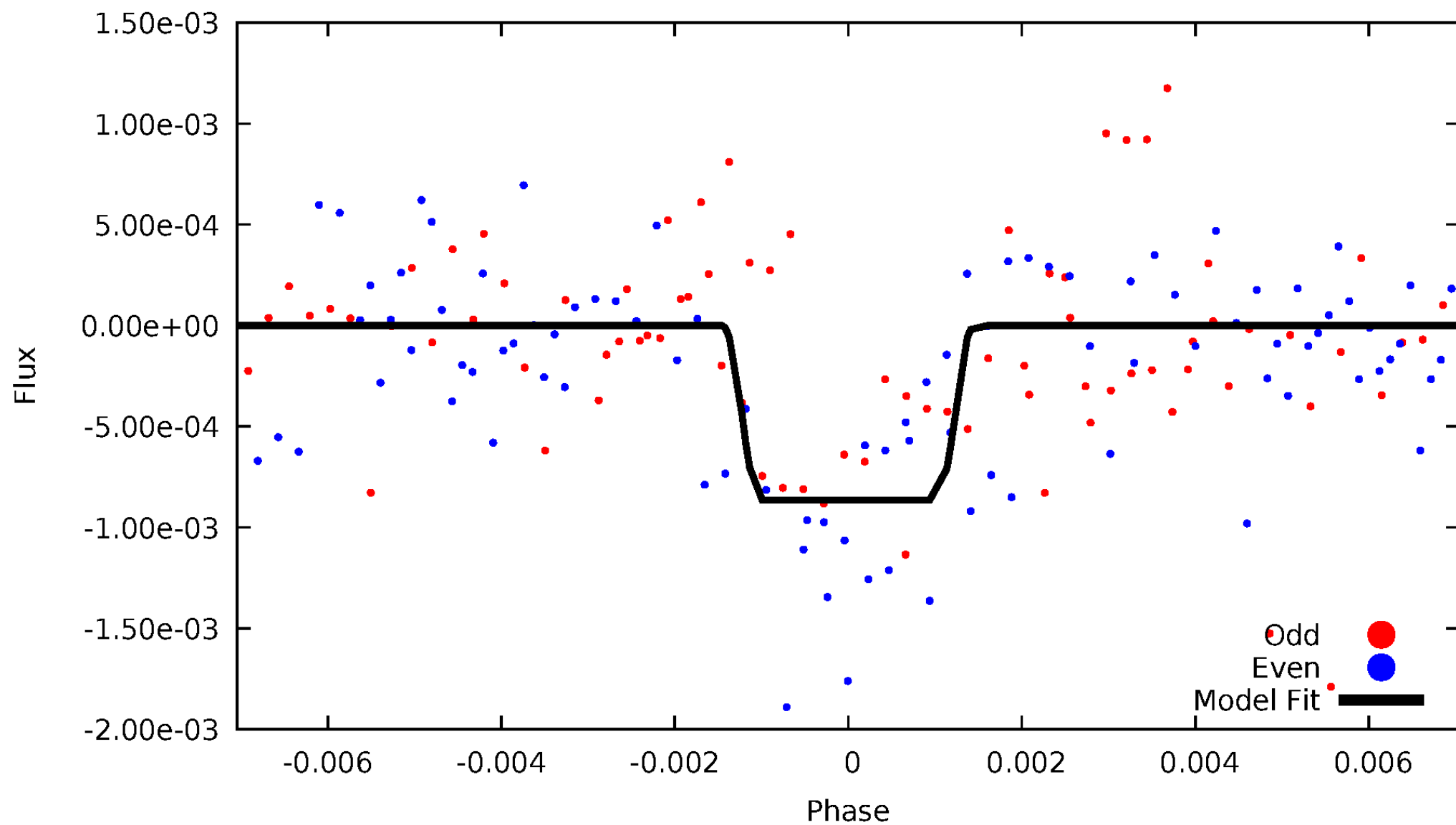
DV Odd/Even

TCE 002556639-07



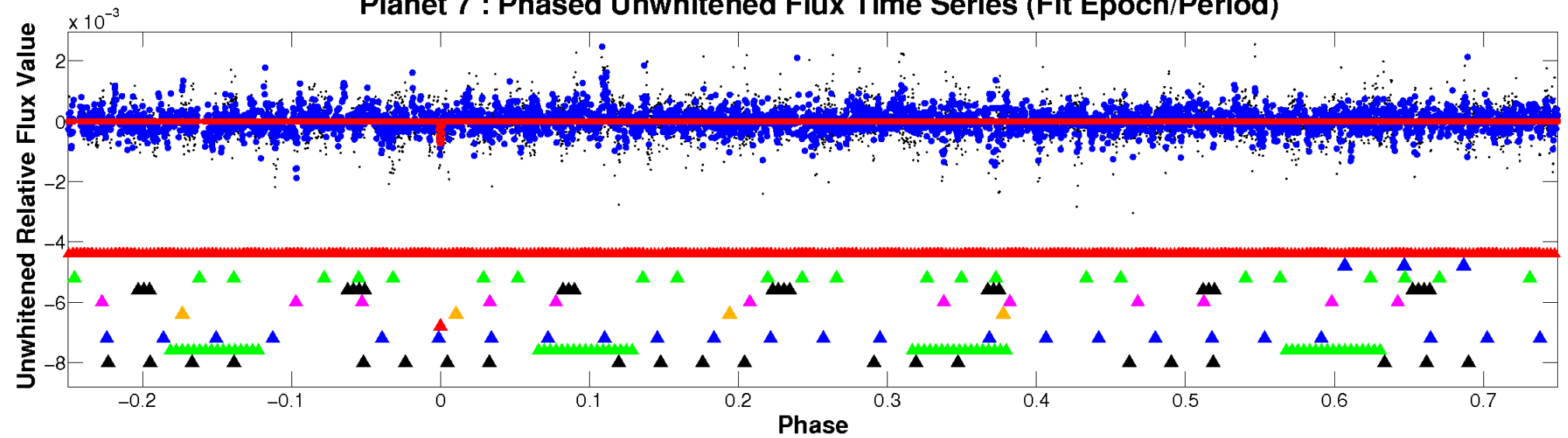
ALT Odd/Even

TCE 002556639-07

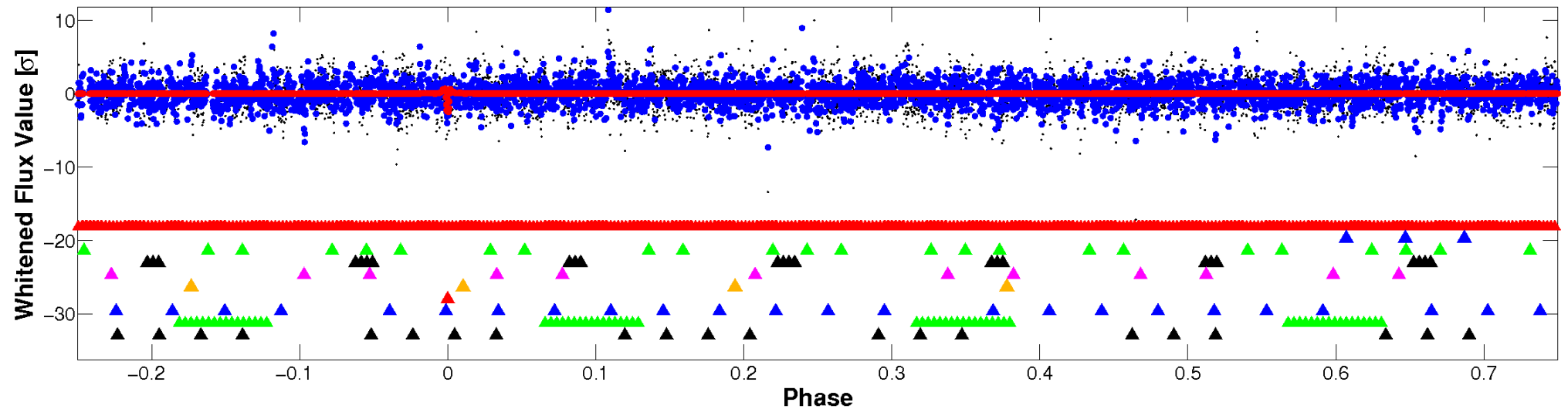


Non-Whitened Vs. Whitened Light Curve

Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

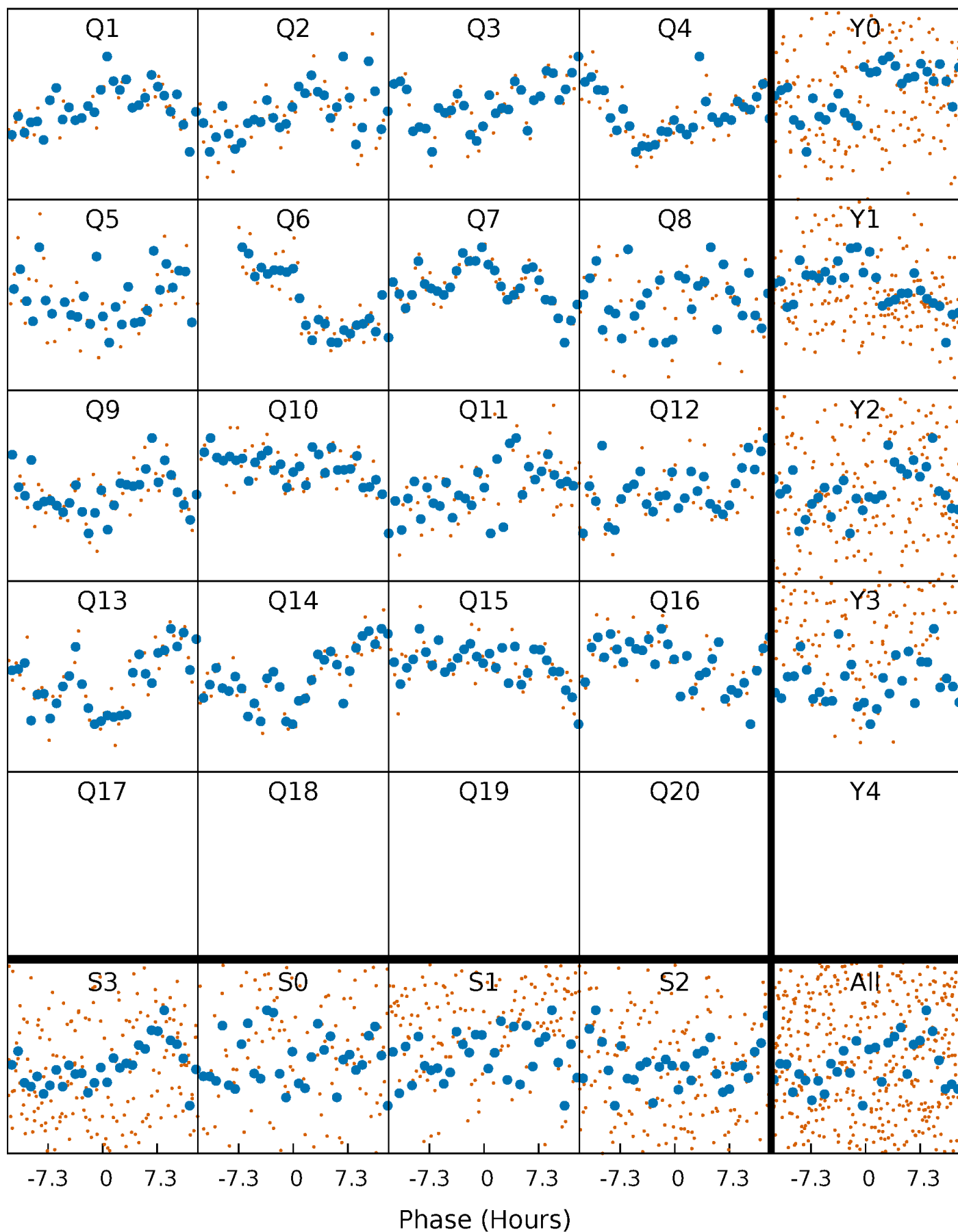


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



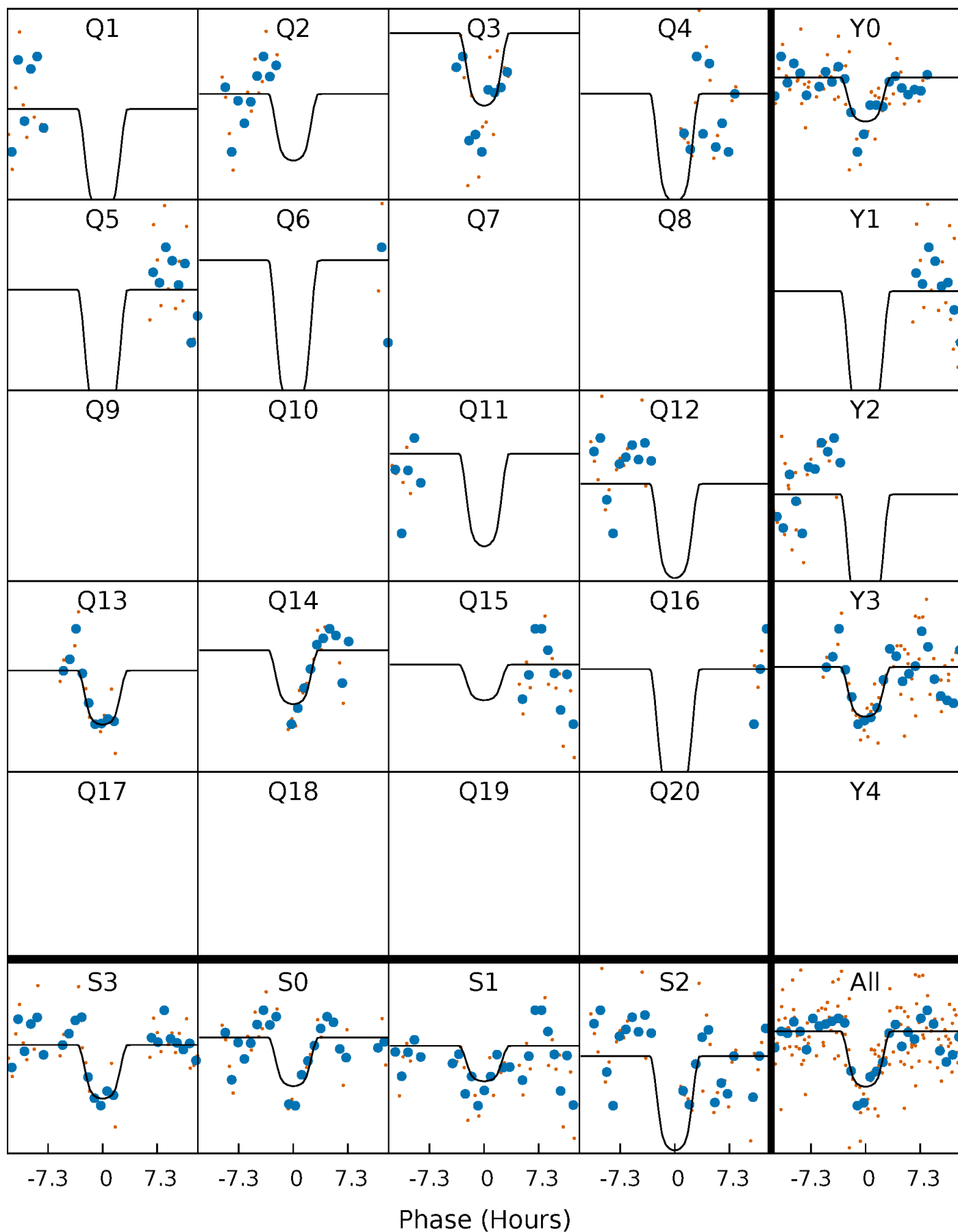
PDC Quarter-Phased Transit Curves

TCE 002556639-07 P= 86.635232 Days $T_0=134.529984$ (BKJD)



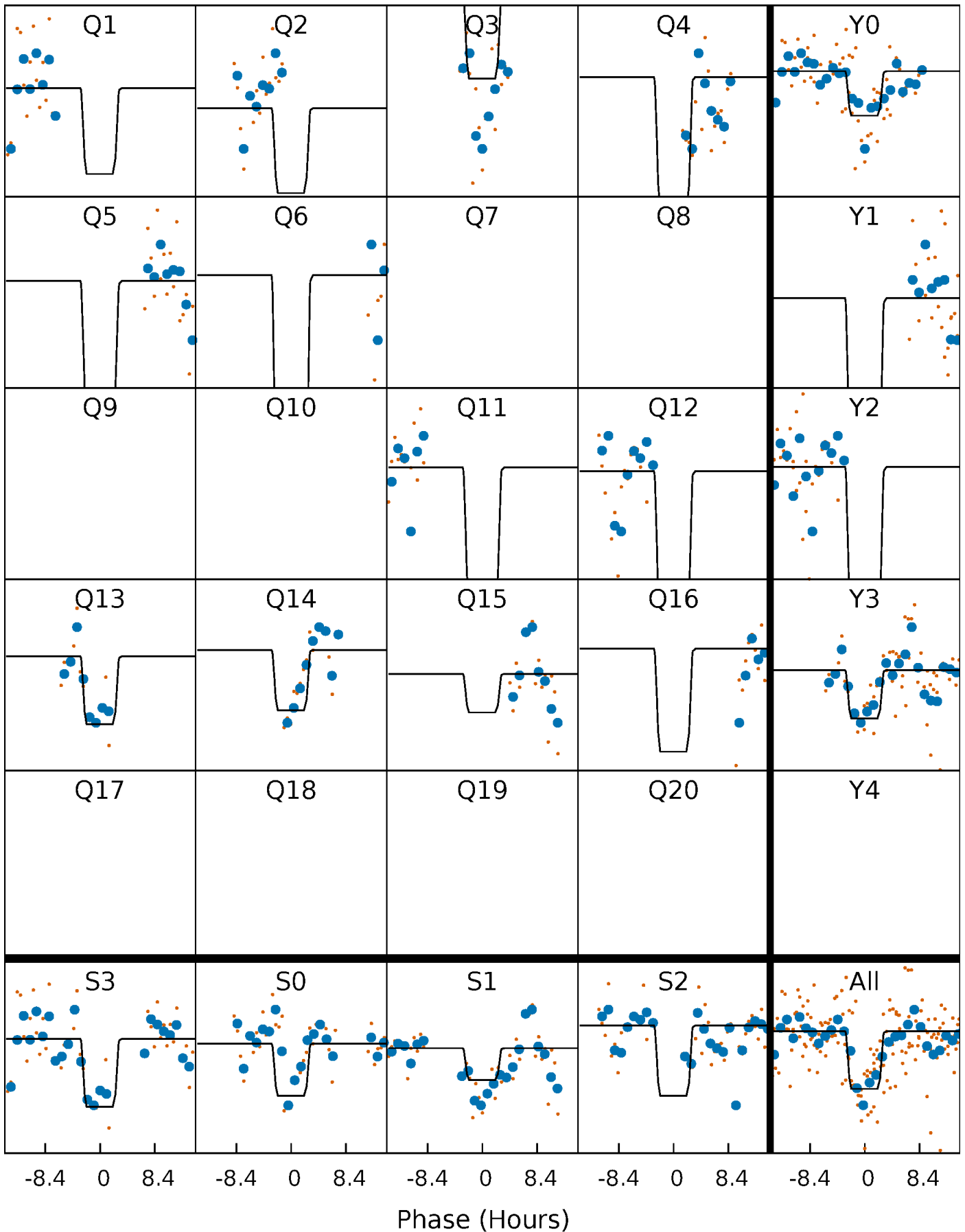
DV Quarter-Phased Transit Curves

TCE 002556639-07 P= 86.635232 Days $T_0=134.529984$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

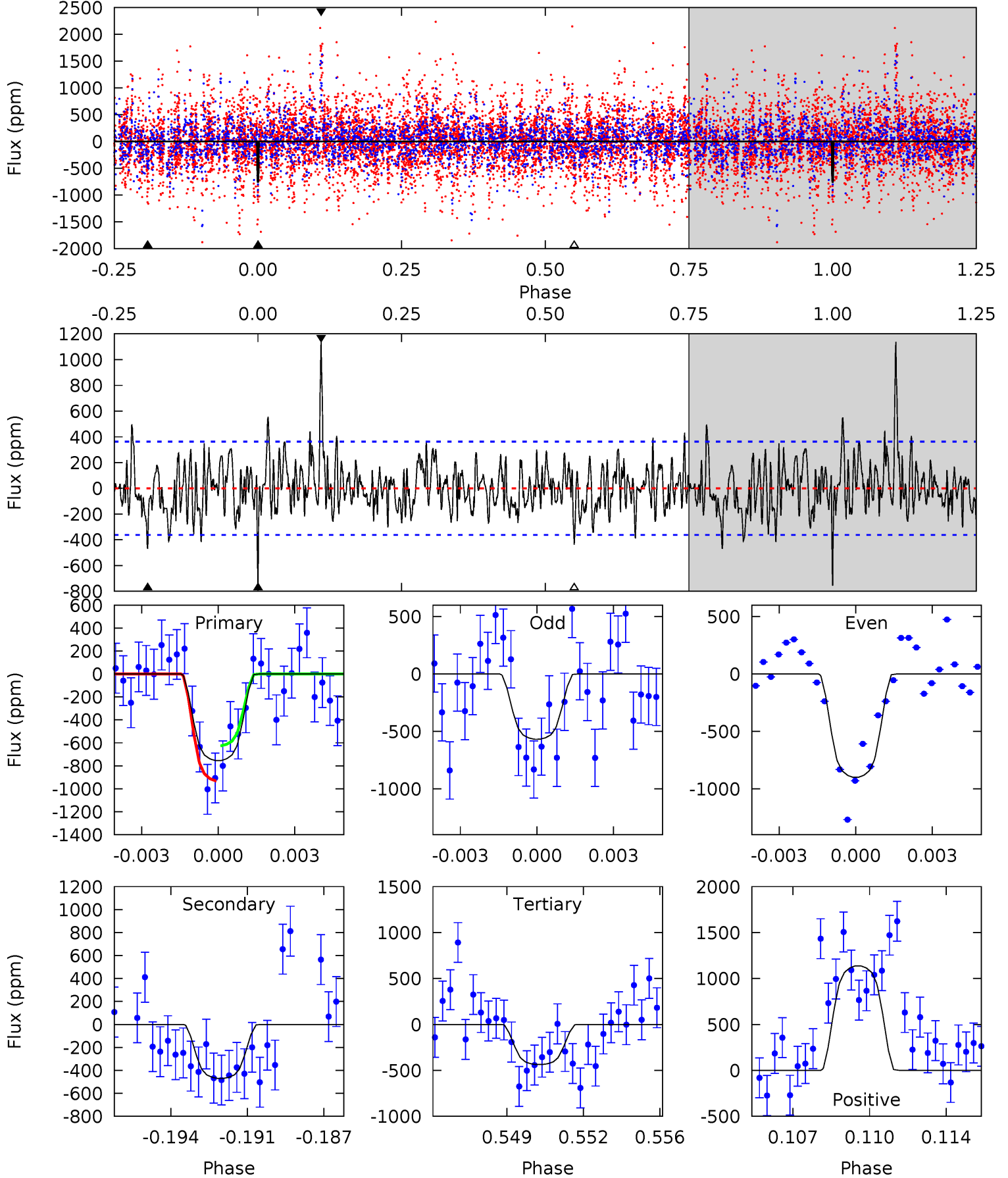
TCE 002556639-07 P= 86.639019 Days $T_0=134.493753$ (BKJD)



DV Model-Shift Uniqueness Test

002556639-07, P = 86.635232 Days, E = 47.894752 Days

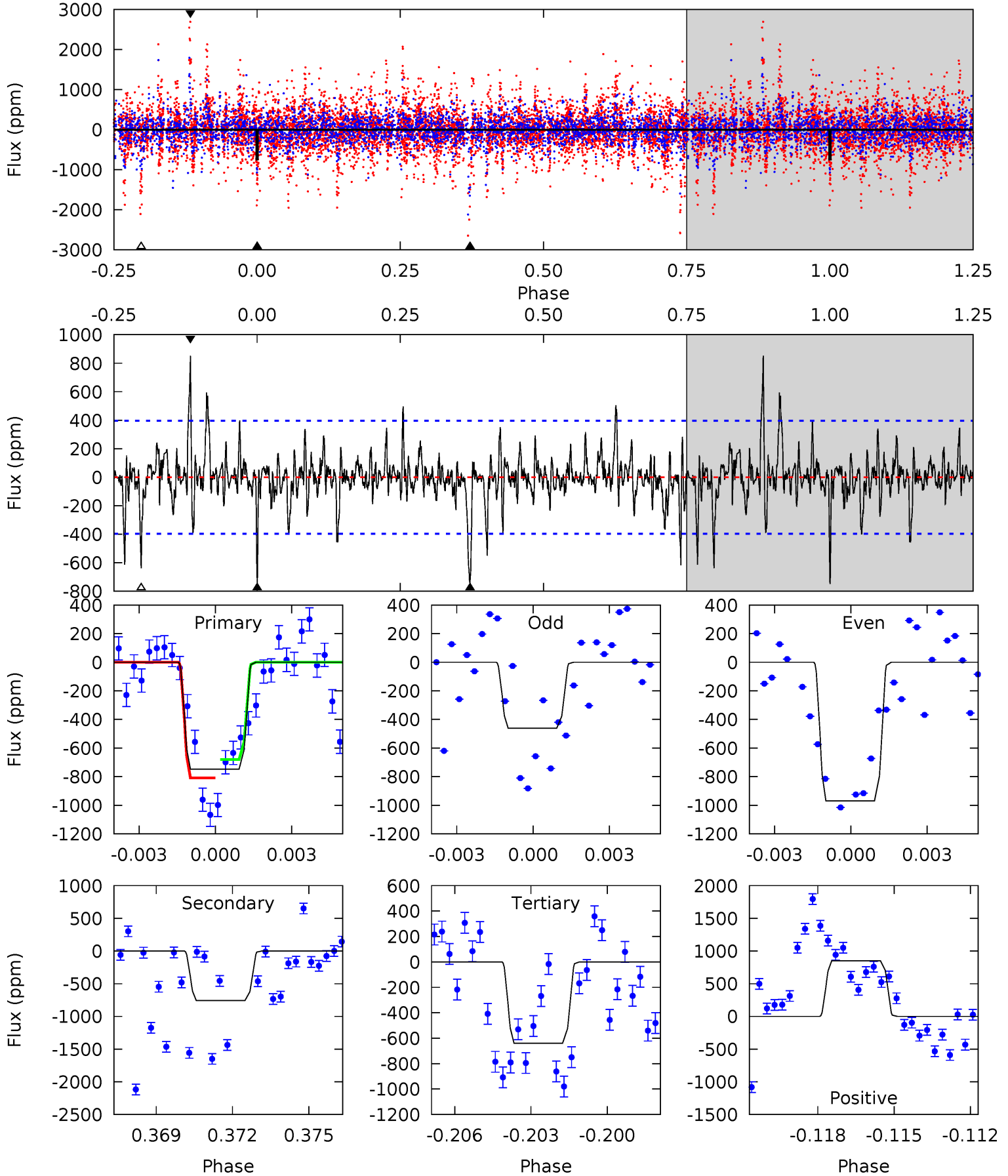
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	6.79	6.31	16.4	5.23	2.93	2.38	4.59	-5.53	0.48	-9.64	2.32	0.59	0.60	2.21



Alt Model-Shift Uniqueness Test

002556639-07, P = 86.639019 Days, E = 47.854734 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.91	10.1	8.47	11.3	5.25	2.97	2.01	1.45	-1.39	1.59	-1.25	3.27	0.78	0.53	0.87



Stellar Parameters For KIC 002556639

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4838^{+50}_{-93}	$2.660^{+0.180}_{-0.120}$	$-0.120^{+0.100}_{-0.150}$	$10.671^{+1.463}_{-3.414}$	$1.899^{+0.185}_{-0.740}$	$0.002^{+0.003}_{-0.001}$
	+1%/-2%	+7%/-5%	+83%/-125%	+14%/-32%	+10%/-39%	+123%/-29%
Source	SPE74	SPE74	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 002556639-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-470 ± 69	$37.80^{+6.99}_{-6.88}$	1414^{+66}_{-94}	4098^{+241}_{-201}	40^{+19}_{-11}
Alt.	-758 ± 75	$33.98^{+5.76}_{-6.63}$	1412^{+63}_{-91}	4671^{+335}_{-250}	80^{+41}_{-21}

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

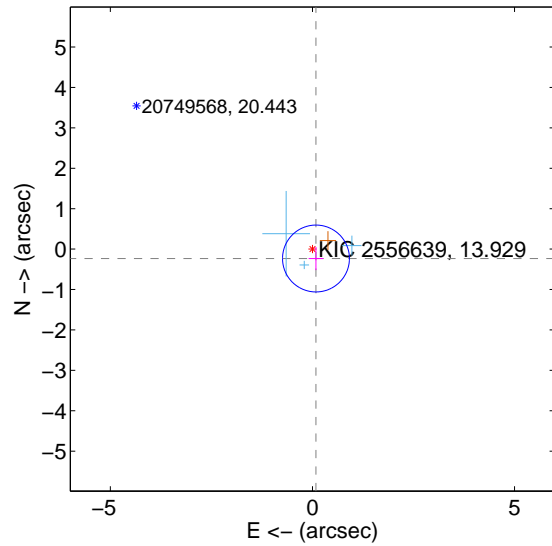
Supplemental centroid analysis for 002556639-07. Kepler magnitude: 13.93. Transit SNR 11.96

There are 3 quarters with good PRF difference image offsets

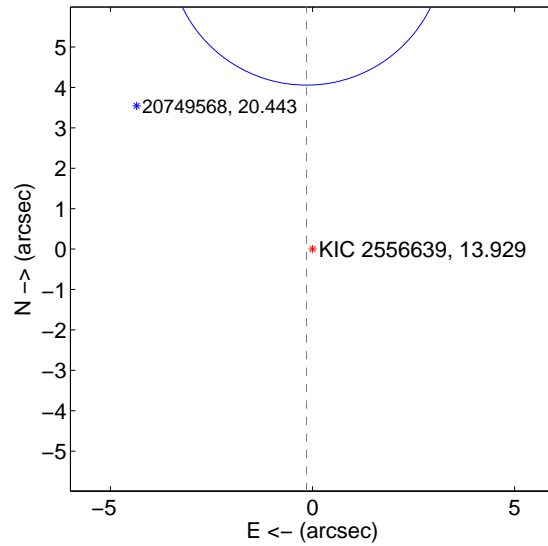
The OOT PRF centroid is offset from the target star catalog position by about 7.56 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.249 ± 0.276	0.90	-0.087 ± 0.182	-0.233 ± 0.287
PRF-fit source offset from KIC position	7.469 ± 1.137	6.57	0.149 ± 0.241	7.467 ± 1.139
photometric centroid source offset	4.19 ± 0.27	15.76	-0.00 ± 0.11	4.19 ± 0.27

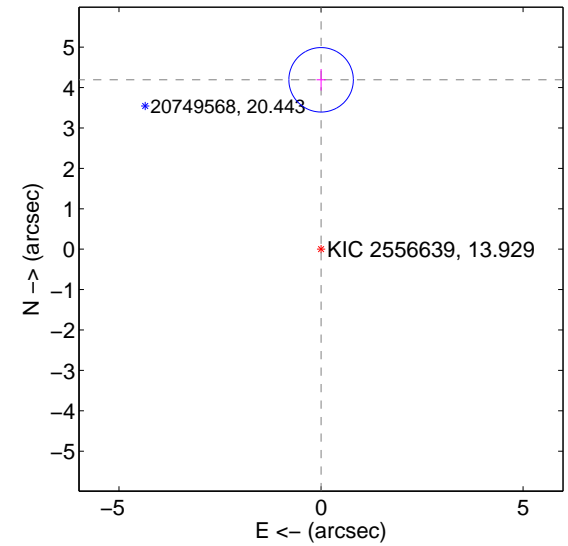
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

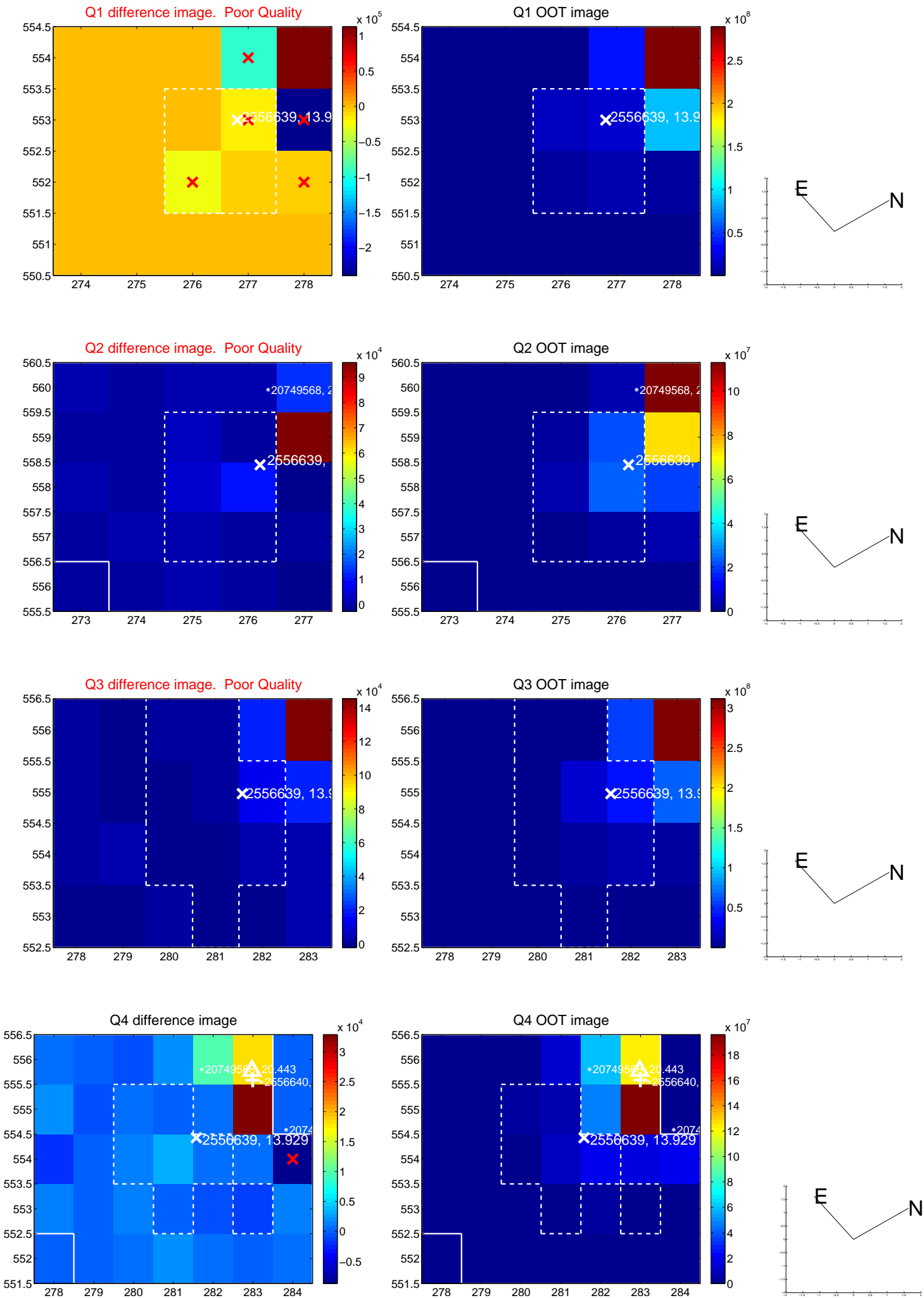


offset from photometric centroids

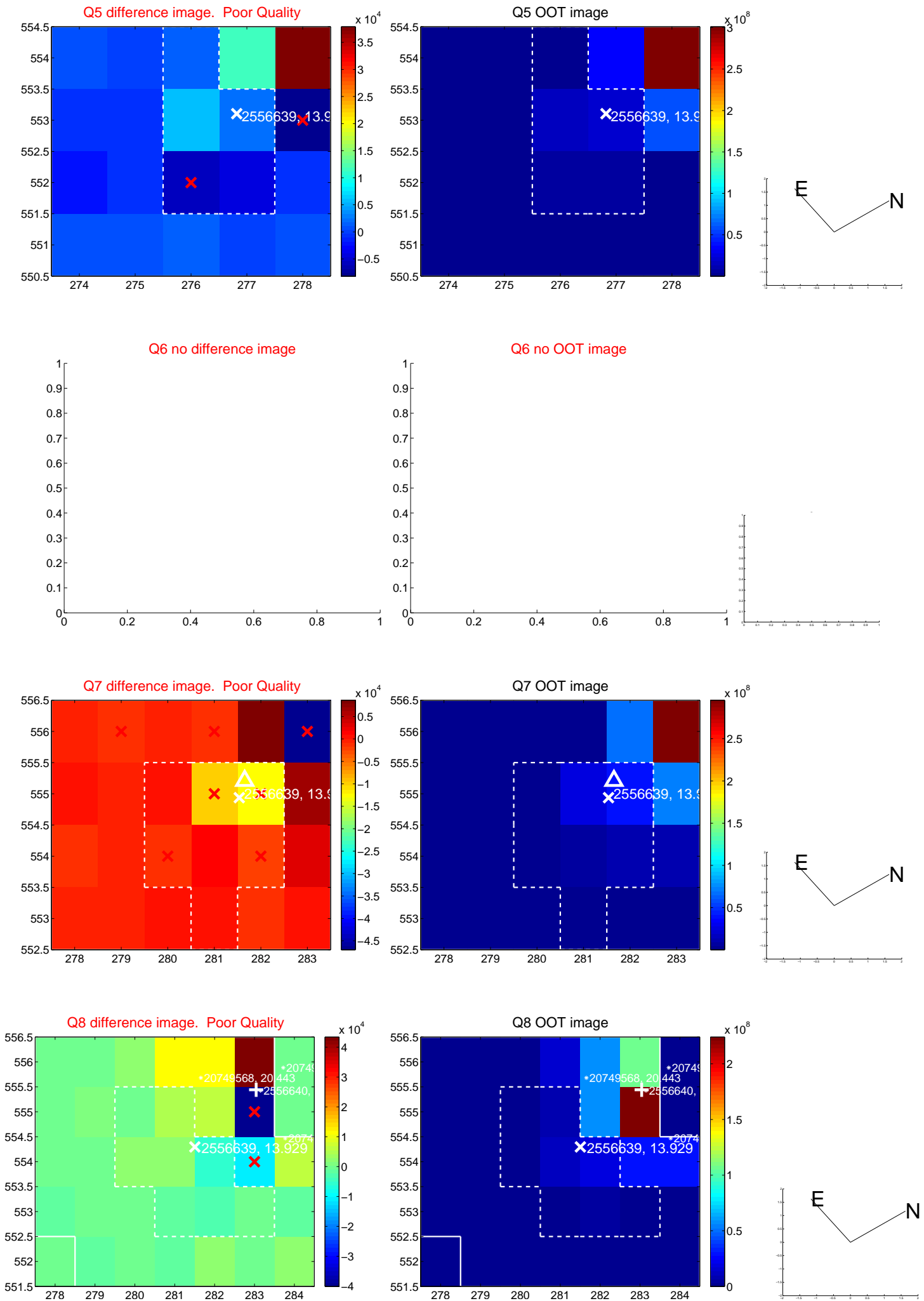


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

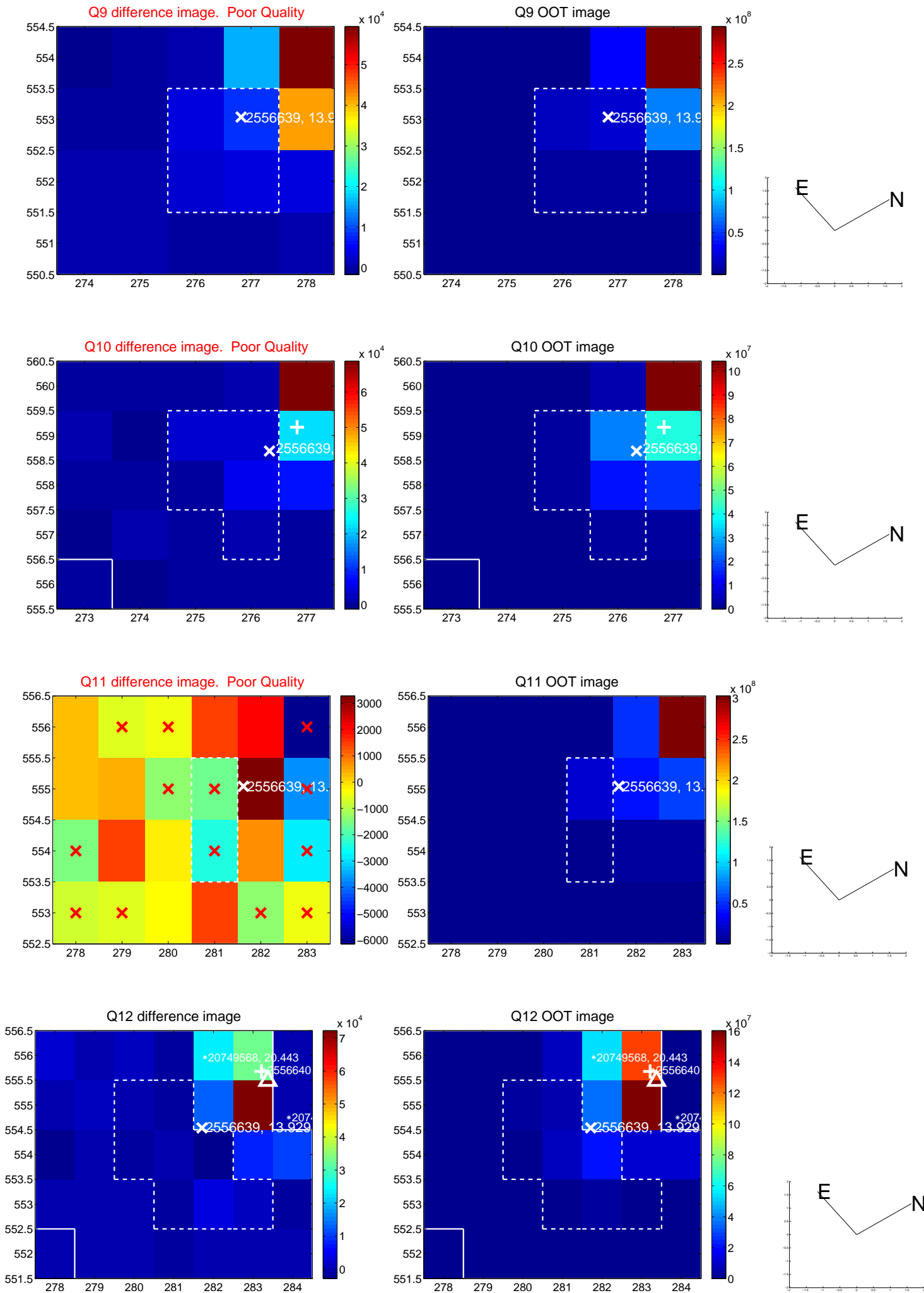
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



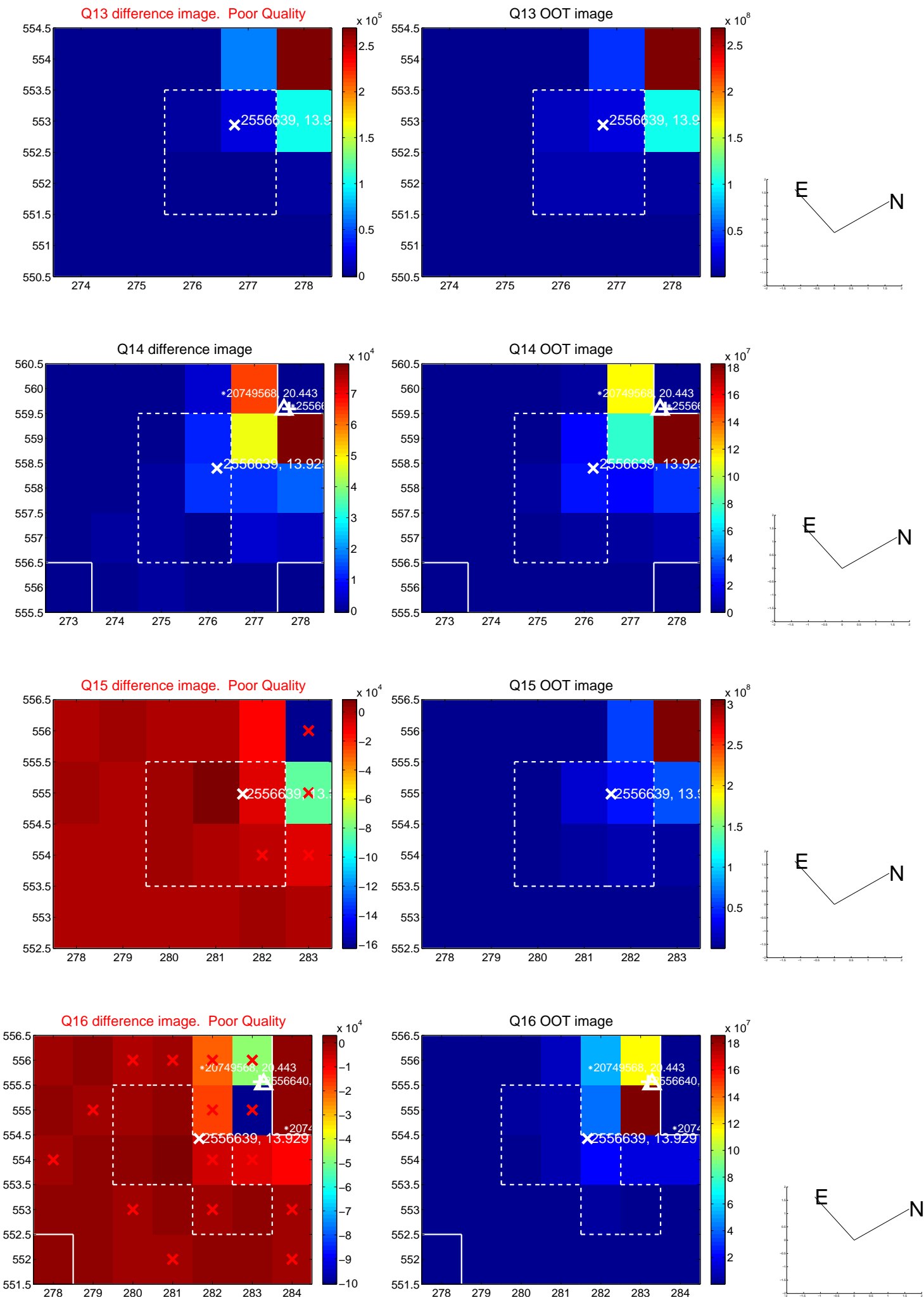
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



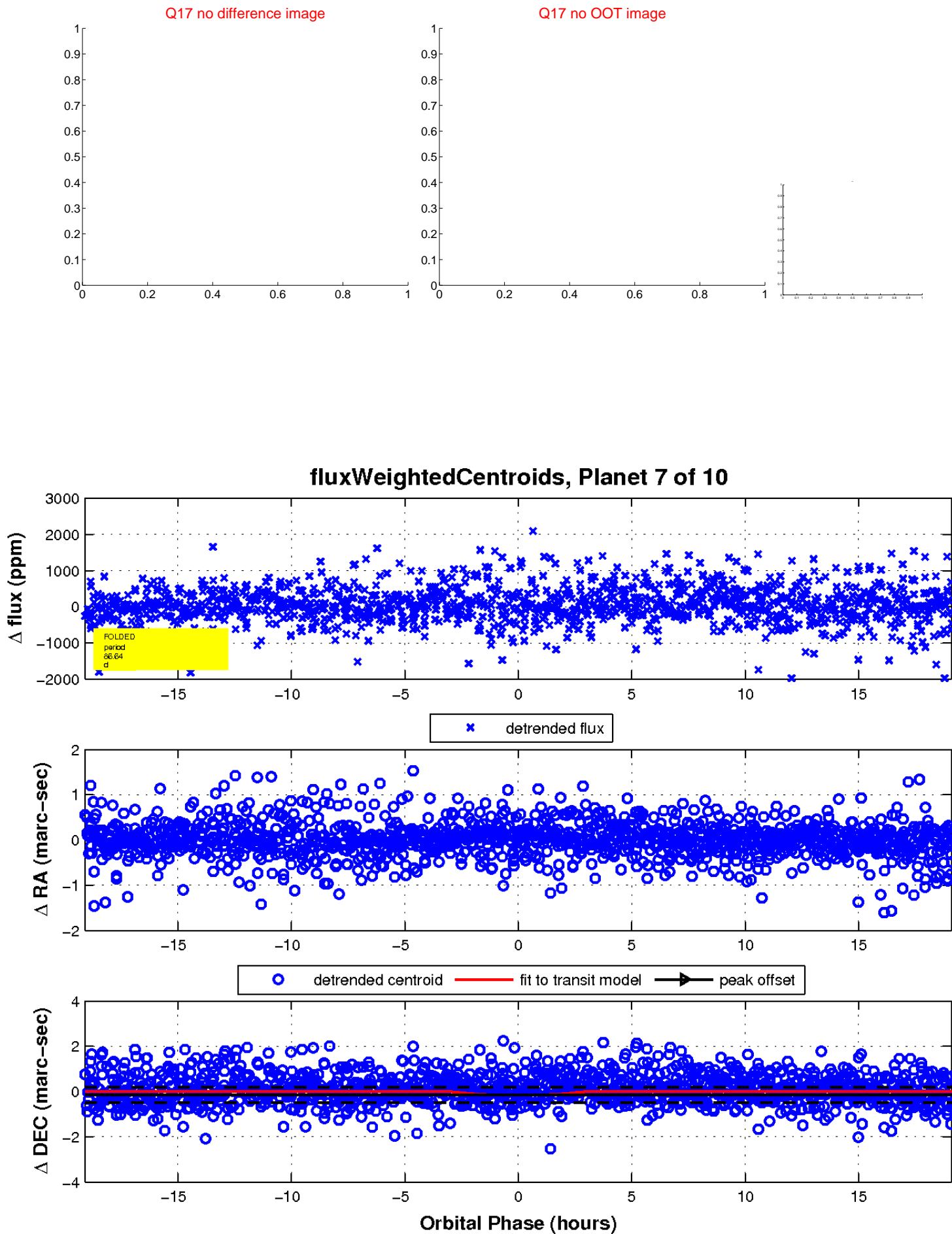
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



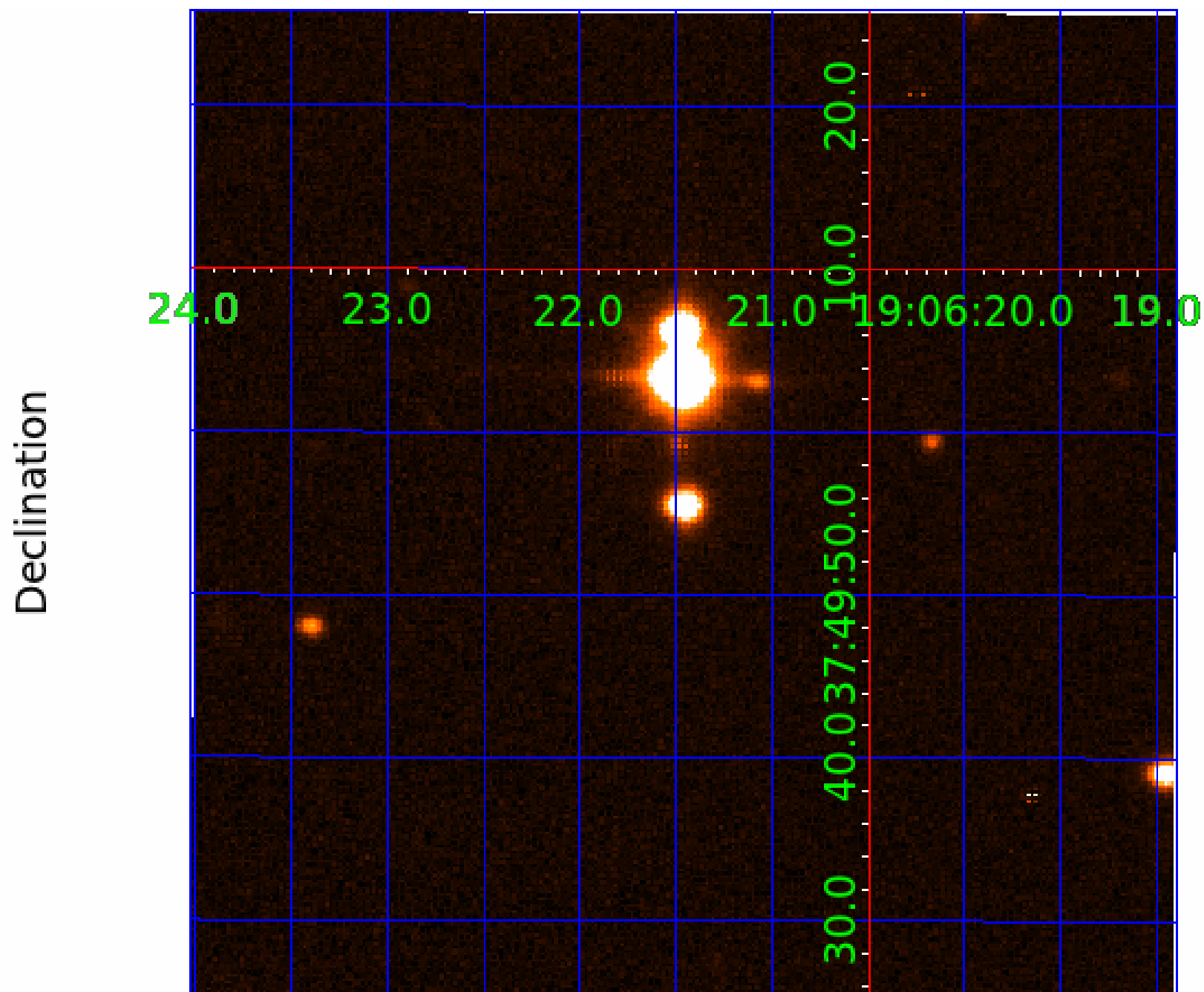
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



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})
002556639-01	OBS	No	2.481583	132.823046	87.7	17.056	10.5	11.4	10.67	4838	10.02	0.00
002556639-02	OBS	No	429.720278	453.938785	7145.3	38.419	62.8	49.1	10.67	4838	170.27	29.34
002556639-03	OBS	No	60.844901	153.558562	330.8	4.302	19.2	4.2	10.67	4838	20.78	397.55
002556639-04	OBS	No	61.929579	153.843236	715.6	17.592	17.8	13.5	10.67	4838	35.86	388.30
002556639-05	OBS	No	124.313425	186.359040	967.3	0.572	17.5	2.6	10.67	4838	41.18	153.34
002556639-06	OBS	No	449.089597	206.154973	619.1	10.364	15.6	11.5	10.67	4838	30.29	27.66
002556639-07	OBS	No	86.635232	134.529984	735.2	6.378	12.6	12.0	10.67	4838	38.10	248.18
002556639-08	OBS	No	60.973922	137.494019	811.6	3.503	12.8	12.4	10.67	4838	31.86	396.43
002556639-09	OBS	No	21.744036	140.229270	724.0	4.469	12.3	11.5	10.67	4838	59.43	1567.62
002556639-10	OBS	No	71.789406	152.216780	763.5	2.777	12.9	12.7	10.67	4838	28.90	318.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002556639-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET
002556639-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002556639-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
002556639-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
002556639-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
002556639-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
002556639-09	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-10	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET

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

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

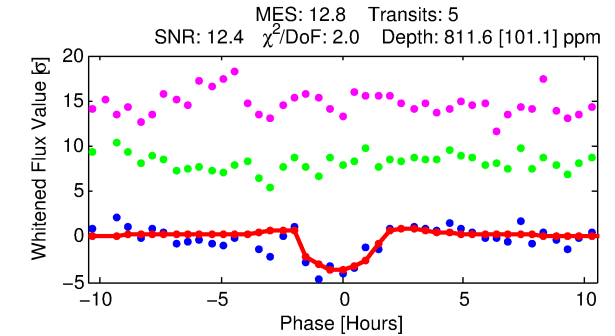
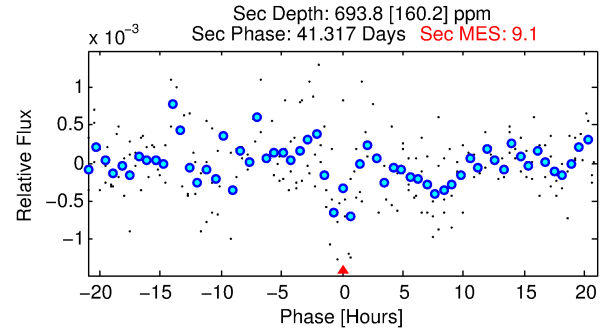
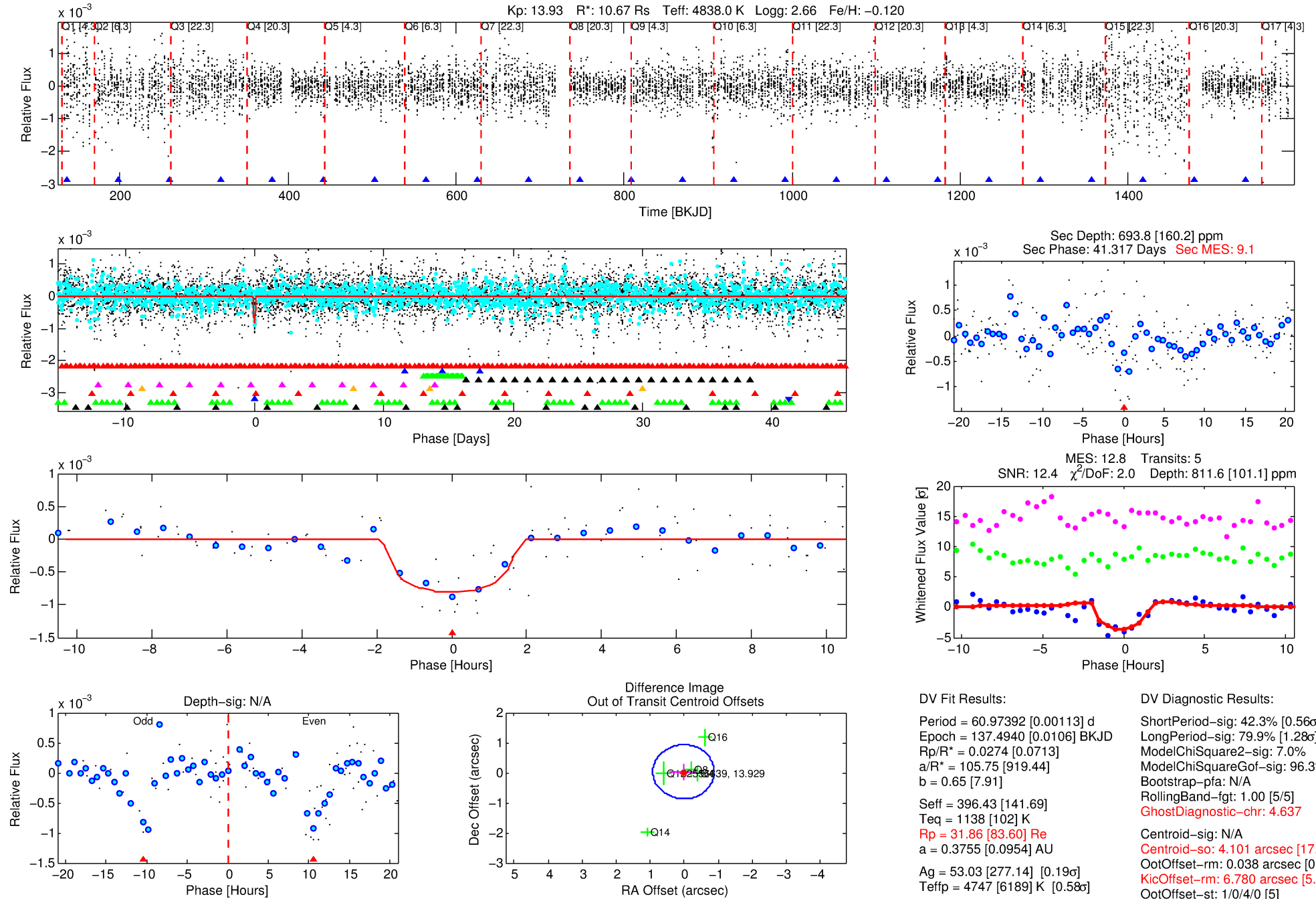
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002556639-08

No Significant Match Found

DV One-Page Summary

KIC: 2556639 Candidate: 8 of 10 Period: 60.974 d



DV Fit Results:

Period = 60.97392 [0.00113] d
Epoch = 137.4940 [0.0106] BKJD
Rp/R* = 0.0274 [0.0713]
a/R* = 105.75 [919.44]
b = 0.65 [7.91]
Seff = 396.43 [141.69]
Teff = 1138 [102] K
Rp = 31.86 [83.60] Re
a = 0.3755 [0.0954] AU
Ag = 53.03 [277.14] [0.19 σ]
Teffp = 4747 [6189] K [0.58 σ]

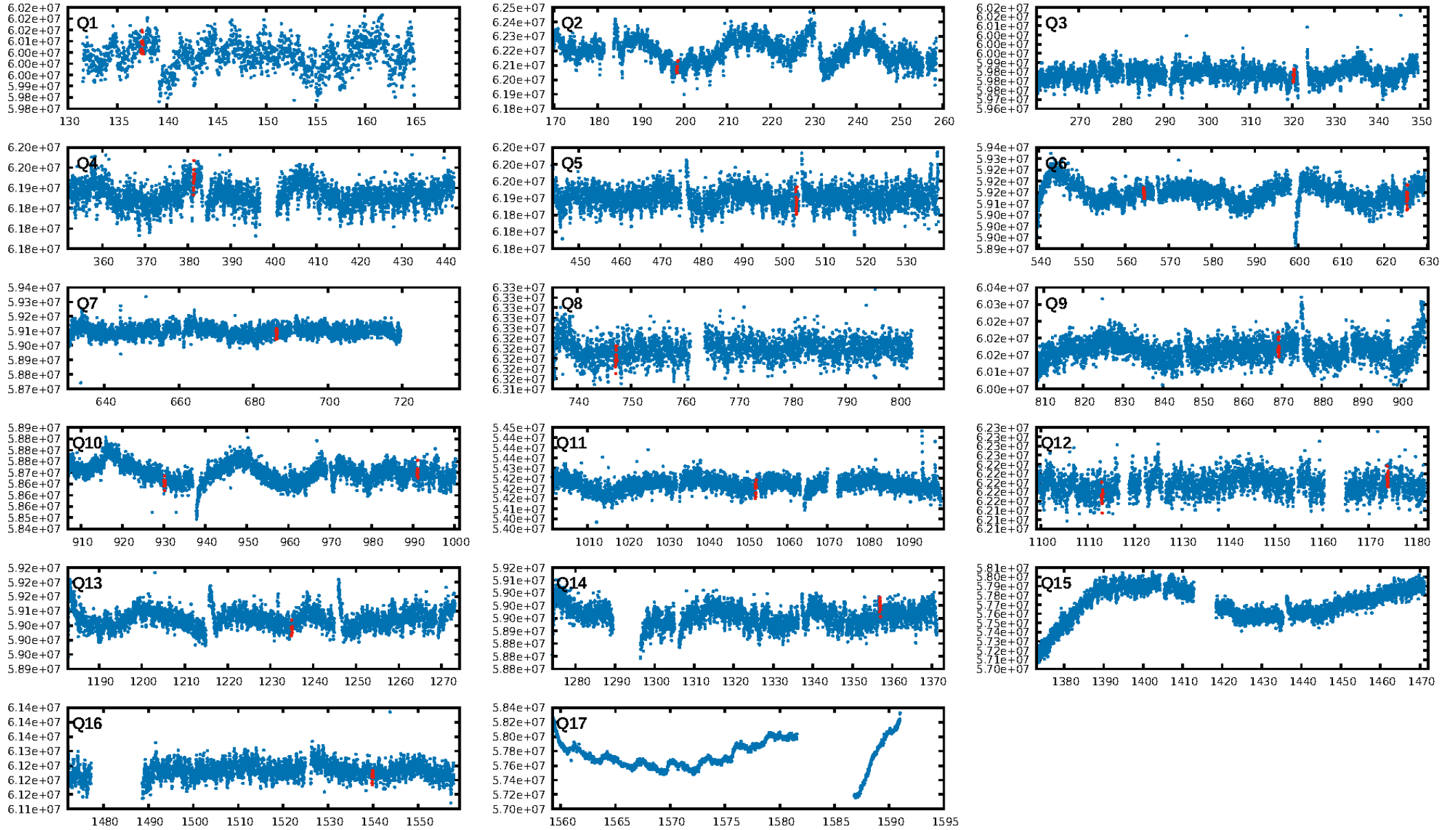
DV Diagnostic Results:

ShortPeriod-sig: 42.3% [0.56 σ]
LongPeriod-sig: 79.9% [1.28 σ]
ModelChiSquare2-sig: 7.0%
ModelChiSquareGof-sig: 96.3%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 4.637
Centroid-sig: N/A
Centroid-so: 4.101 arcsec [17.28 σ]
OotOffset-rm: 0.038 arcsec [0.13 σ]
KicOffset-rm: 6.780 arcsec [5.06 σ]
OotOffset-st: 1/0/4/0 [5]
KicOffset-st: 1/2/4/0 [7]
DiffImageQuality-fgm: 0.43 [3/7]
DiffImageOverlap-fno: 0.47 [7/15]

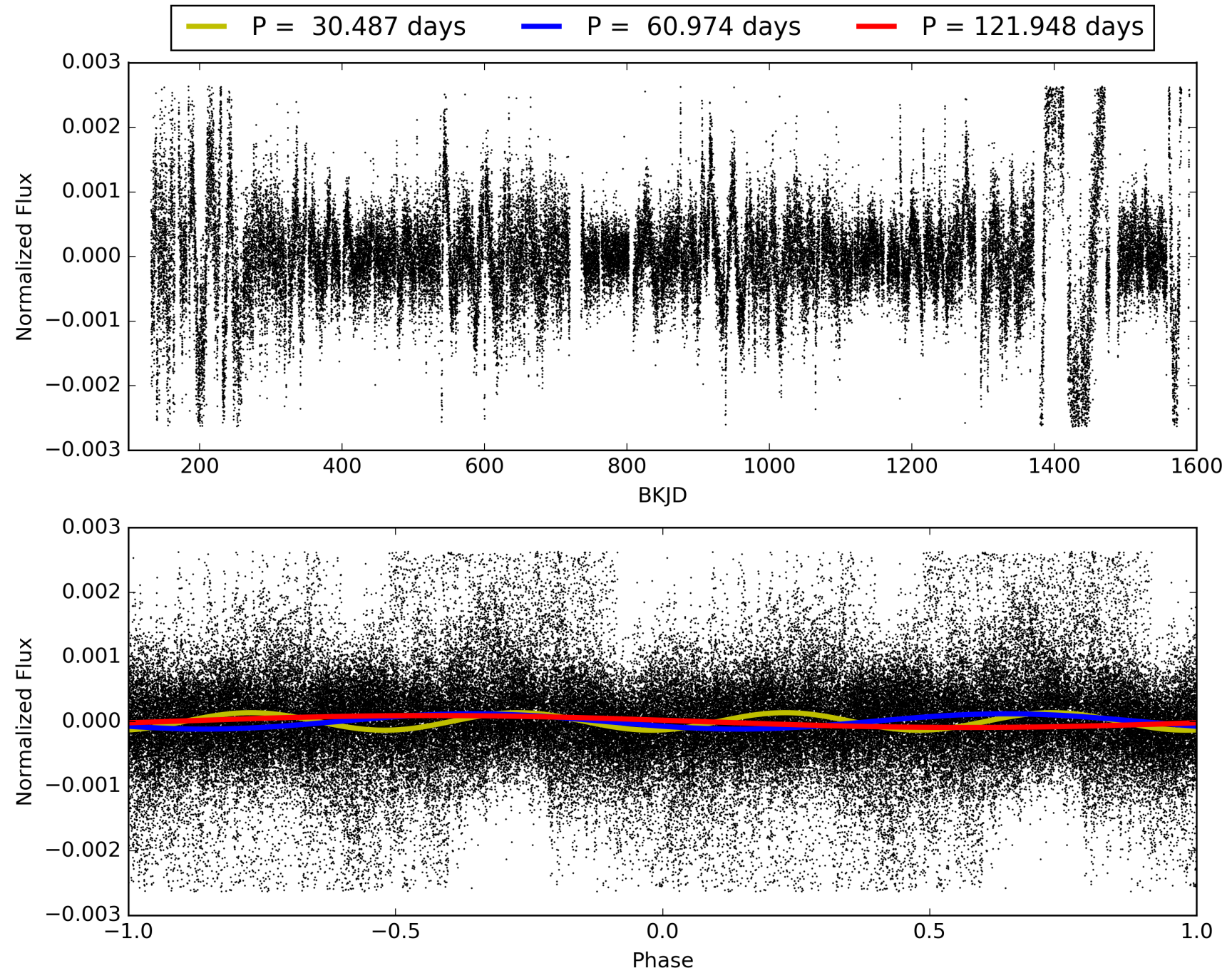
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:50:11 Z

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

TCE 002556639-08, PDC Light Curves

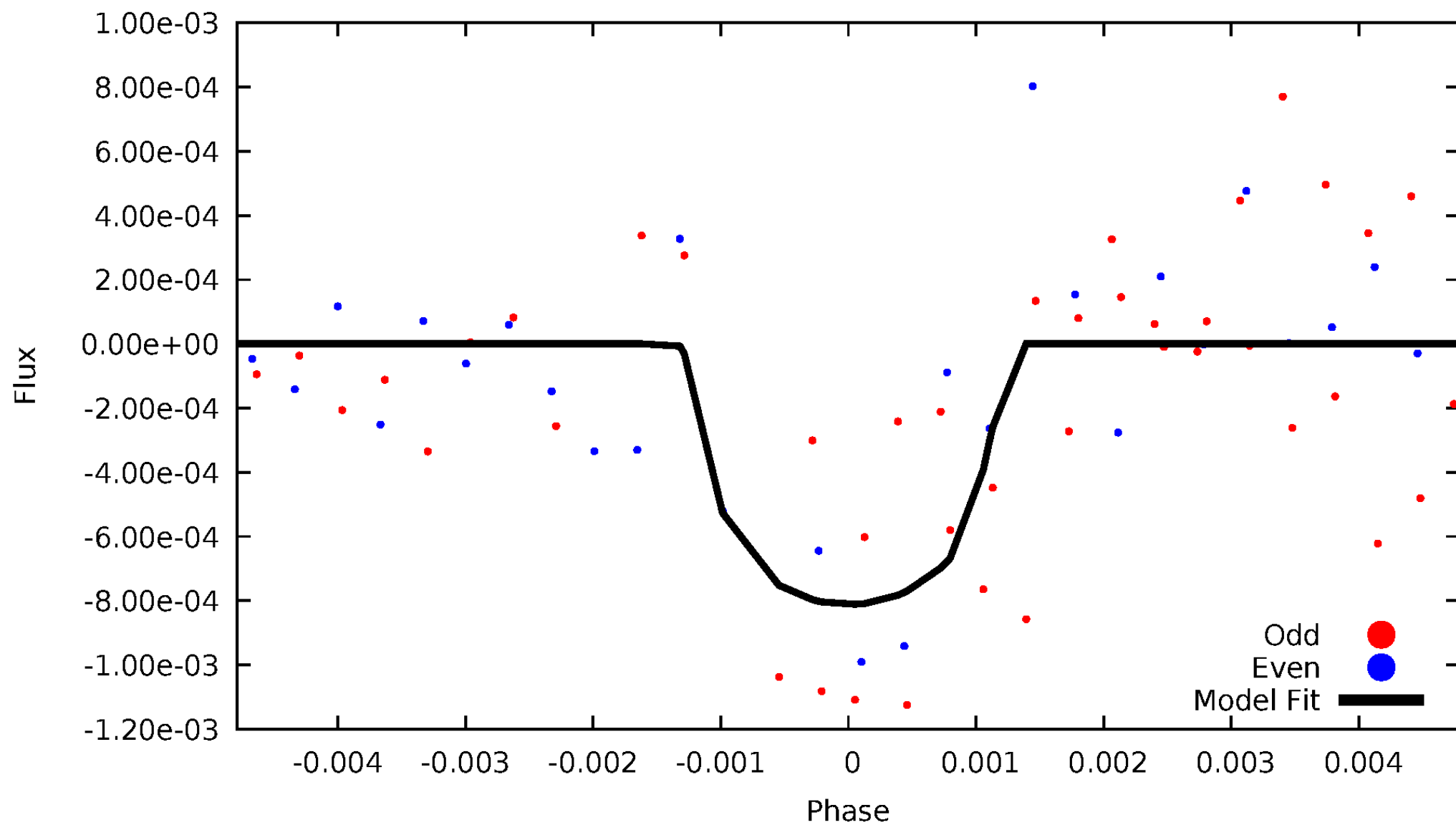


TCE 002556639-08



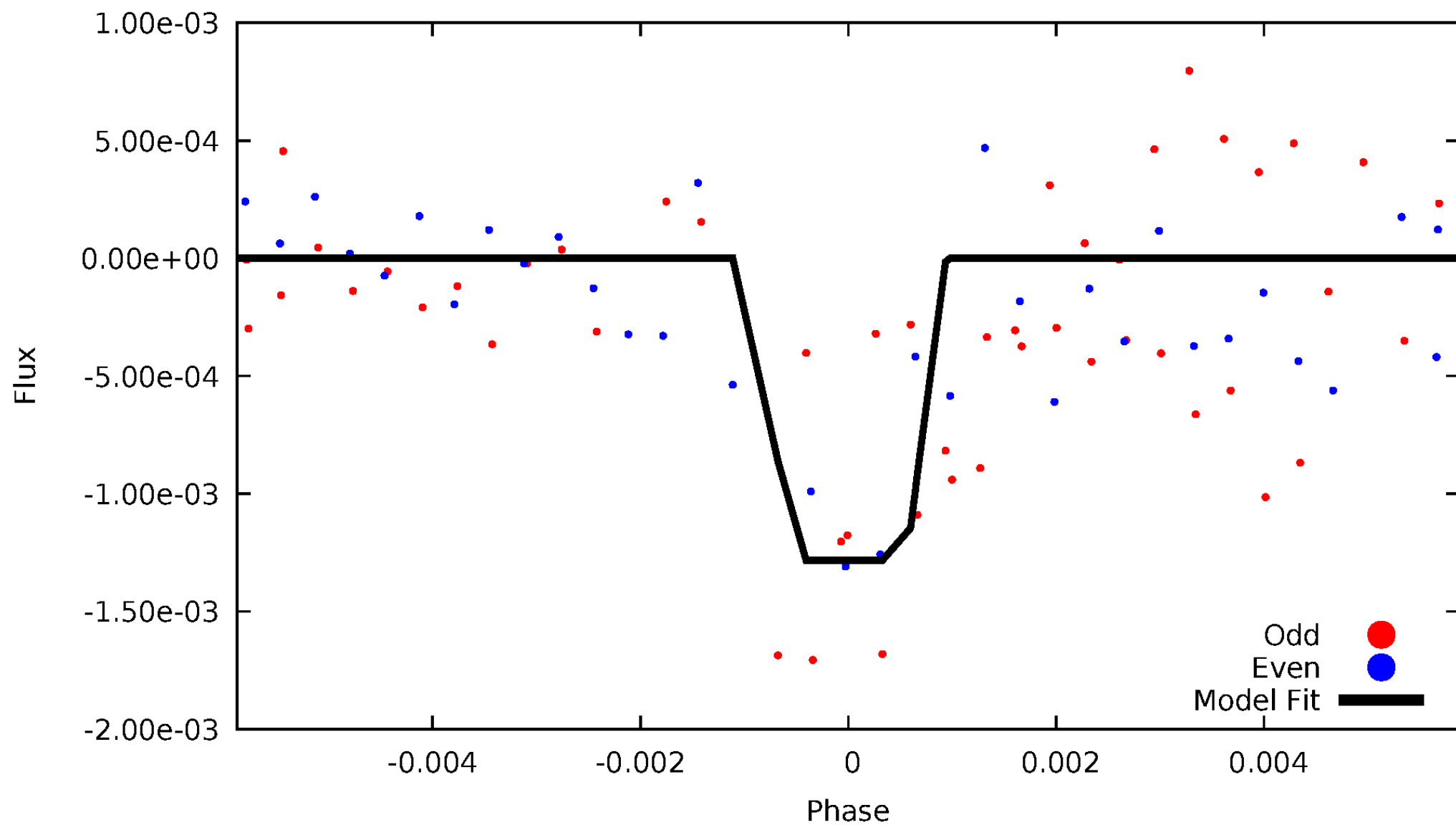
DV Odd/Even

TCE 002556639-08



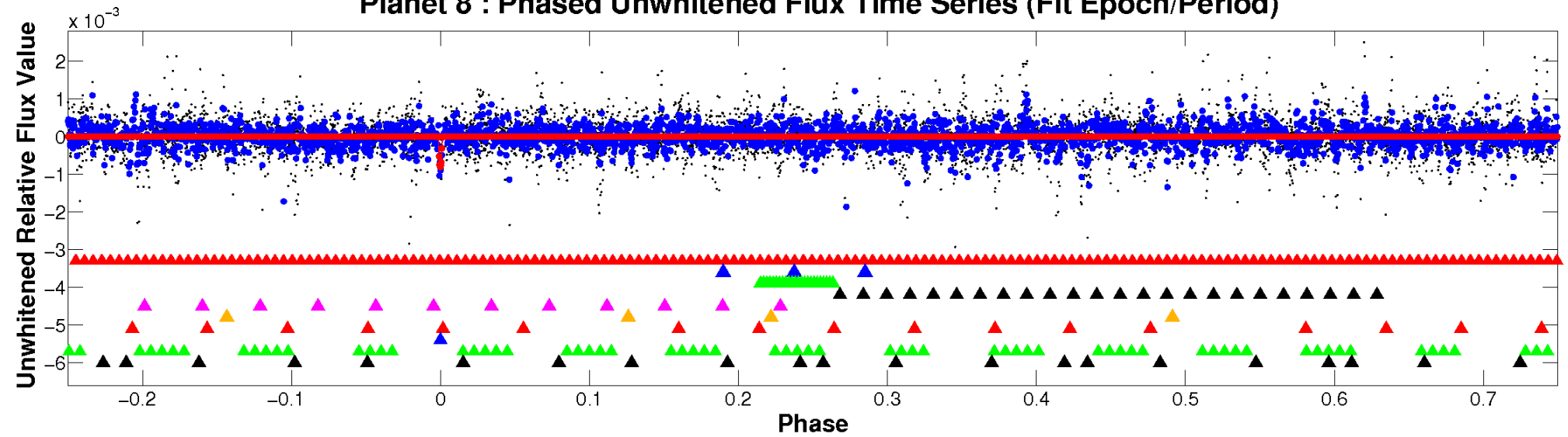
ALT Odd/Even

TCE 002556639-08

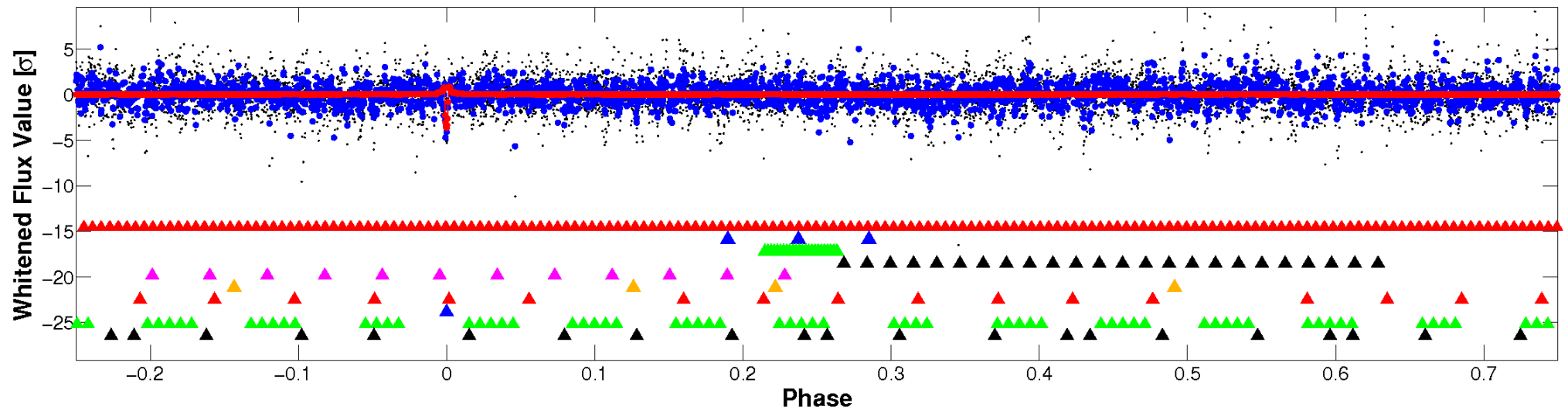


Non-Whitened Vs. Whitened Light Curve

Planet 8 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

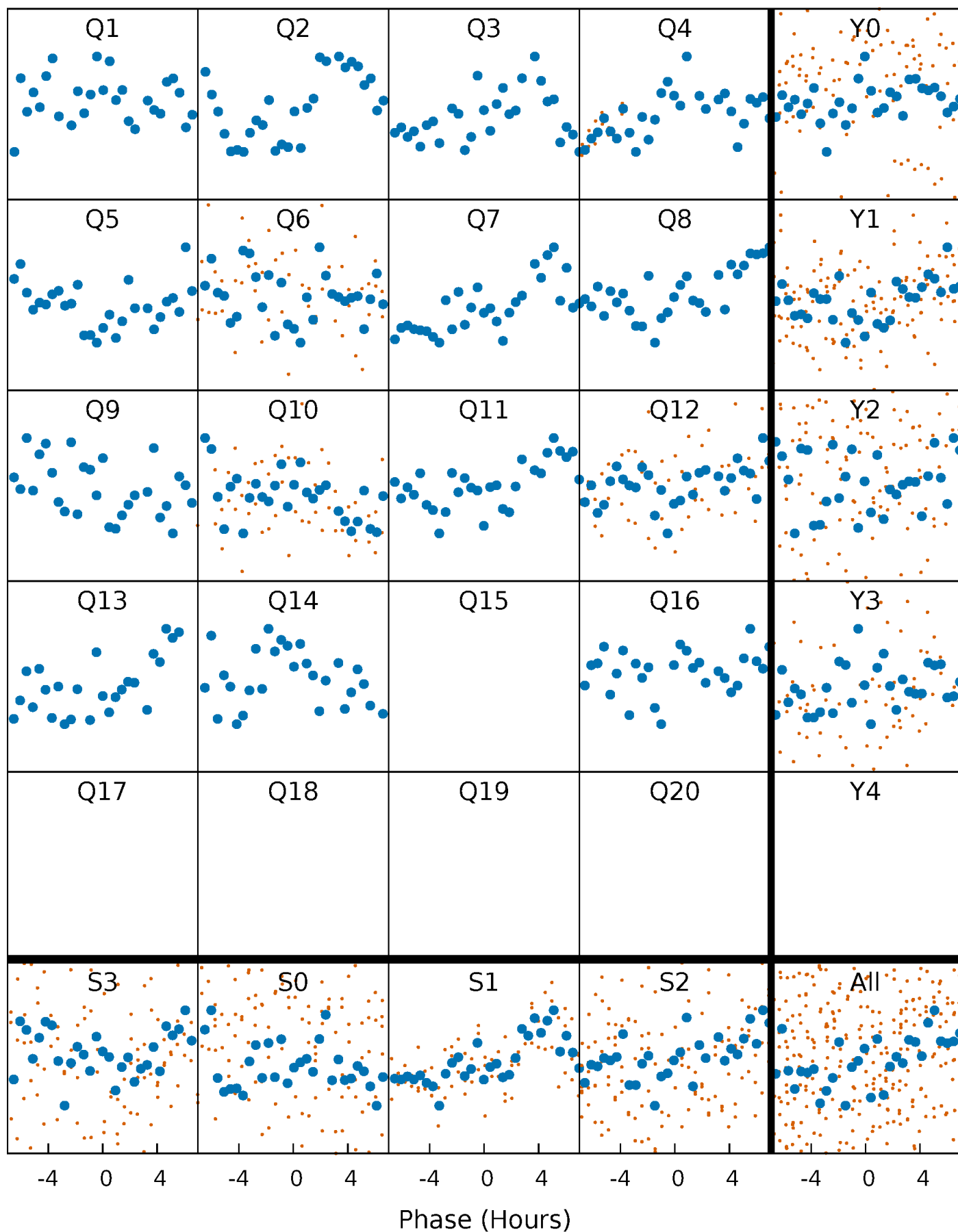


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



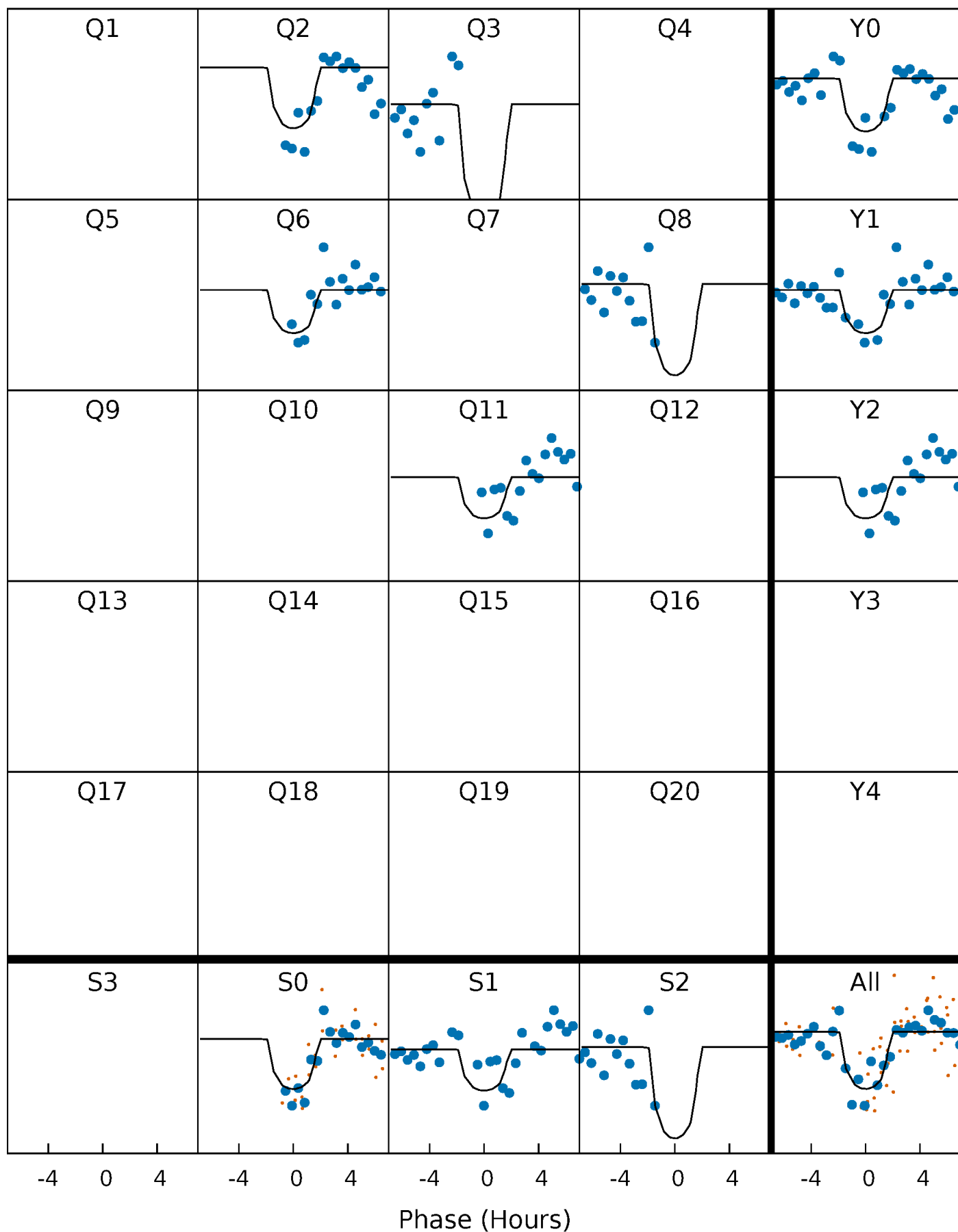
PDC Quarter-Phased Transit Curves

TCE 002556639-08 P= 60.973922 Days $T_0=137.494019$ (BKJD)



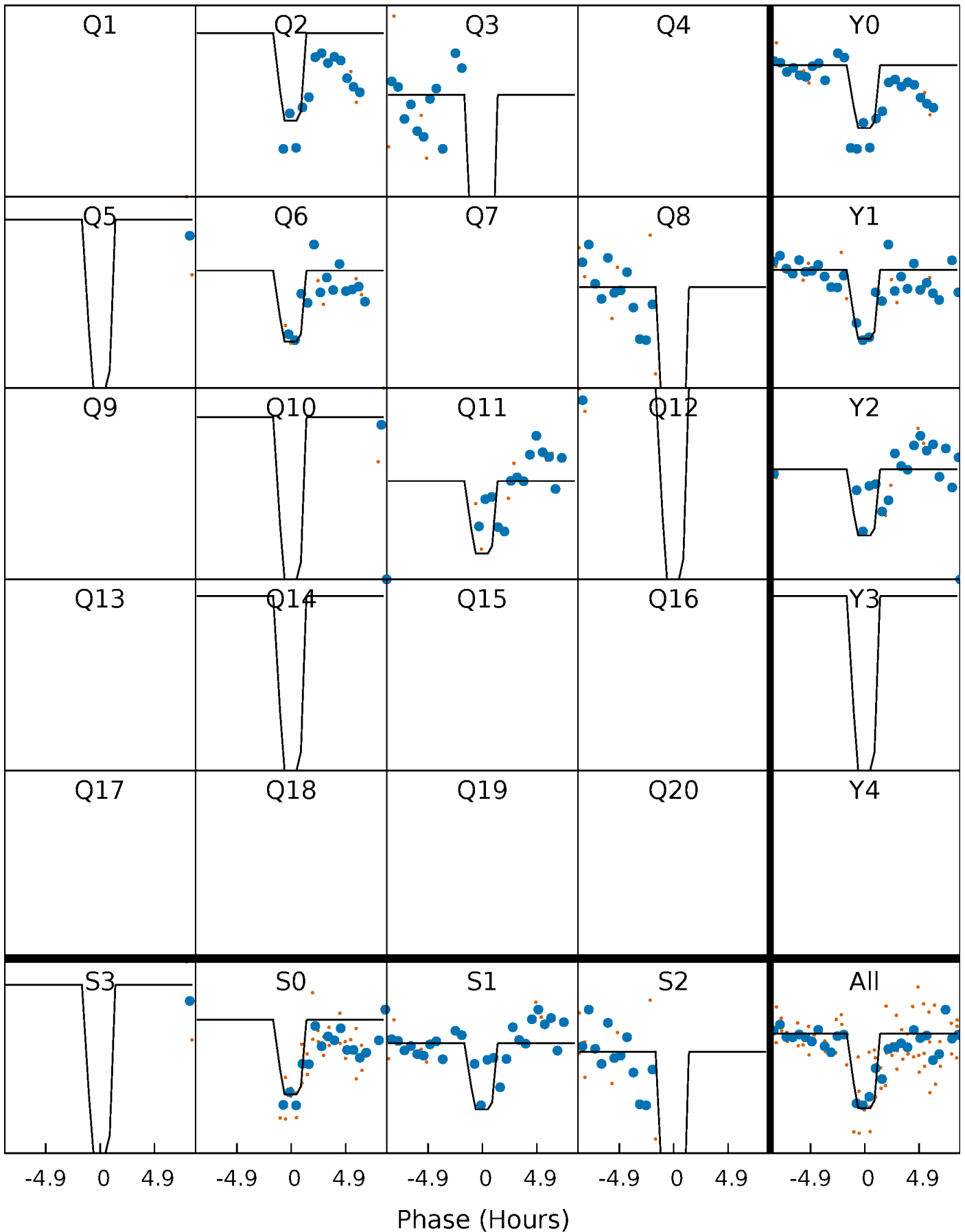
DV Quarter-Phased Transit Curves

TCE 002556639-08 P= 60.973922 Days $T_0=137.494019$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

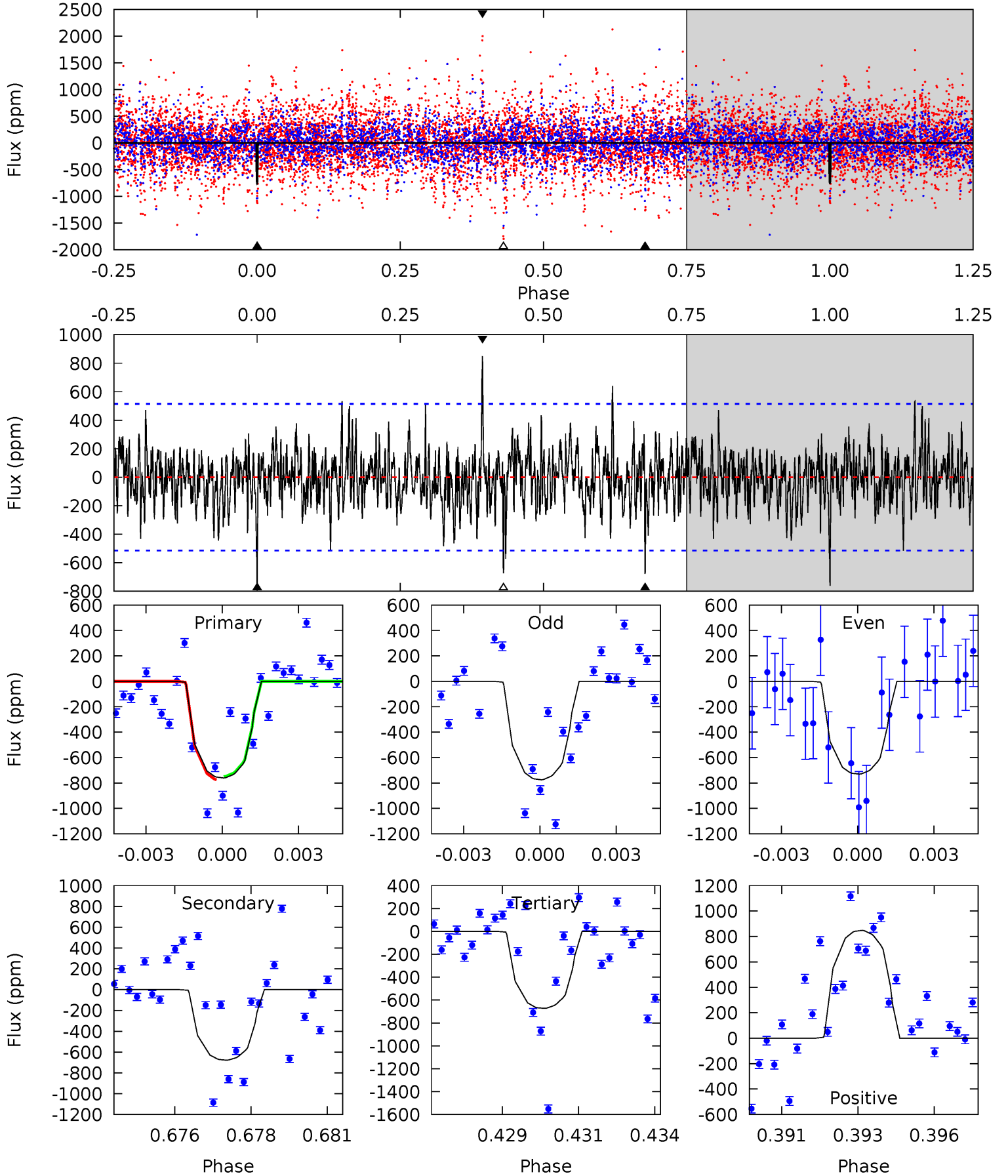
TCE 002556639-08 P= 60.973880 Days $T_0=137.502231$ (BKJD)



DV Model-Shift Uniqueness Test

002556639-08, P = 60.973922 Days, E = 76.520097 Days

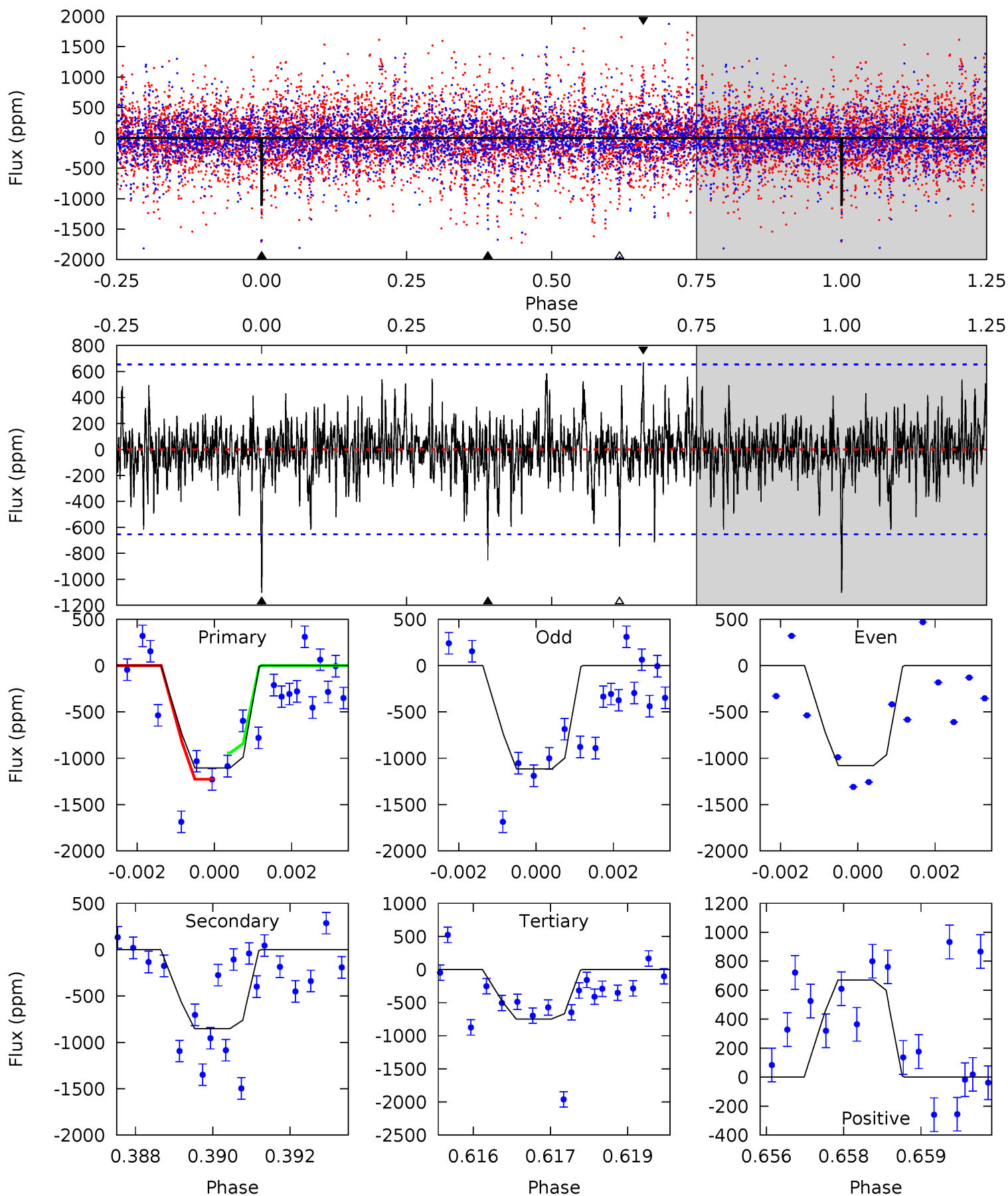
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.79	6.95	6.90	8.69	5.27	3.00	1.69	0.90	-0.90	0.05	-1.75	0.21	1.00	0.53	0.12



Alt Model-Shift Uniqueness Test

002556639-08, P = 60.973880 Days, E = 76.528351 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.07	7.00	6.14	5.51	5.37	3.15	1.42	2.93	3.56	0.87	1.50	0.15	1.02	0.38	1.18



Stellar Parameters For KIC 002556639

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4838^{+50}_{-93}	$2.660^{+0.180}_{-0.120}$	$-0.120^{+0.100}_{-0.150}$	$10.671^{+1.463}_{-3.414}$	$1.899^{+0.185}_{-0.740}$	$0.002^{+0.003}_{-0.001}$
	+1%/-2%	+7%/-5%	+83%/-125%	+14%/-32%	+10%/-39%	+123%/-29%
Source	SPE74	SPE74	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 002556639-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-678 ± 98	$66.22^{+70.07}_{-42.96}$	1585^{+74}_{-104}	3569^{+1714}_{-732}	11^{+76}_{-9}
Alt.	-853 ± 122	$73.36^{+70.34}_{-45.89}$	1587^{+68}_{-102}	3607^{+1626}_{-687}	12^{+77}_{-9}

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 $A_{obs} \gg 1.0$

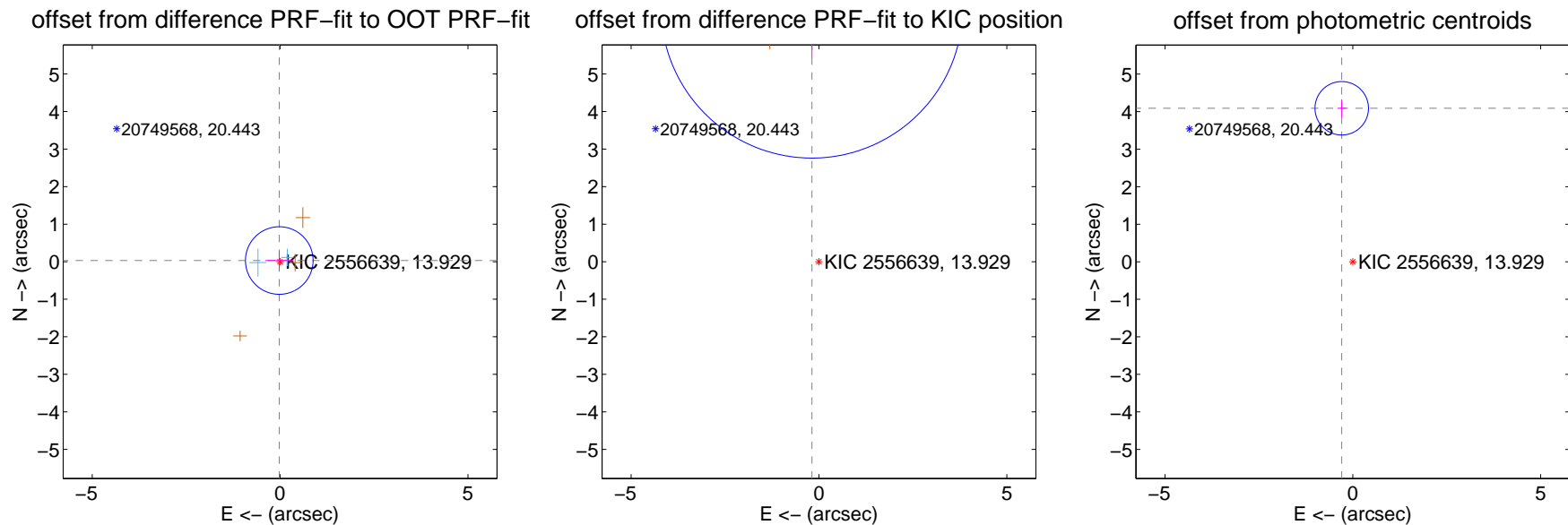
DV Centroid Data

Supplemental centroid analysis for 002556639-08. Kepler magnitude: 13.93. Transit SNR 12.44

There are 3 quarters with good PRF difference image offsets

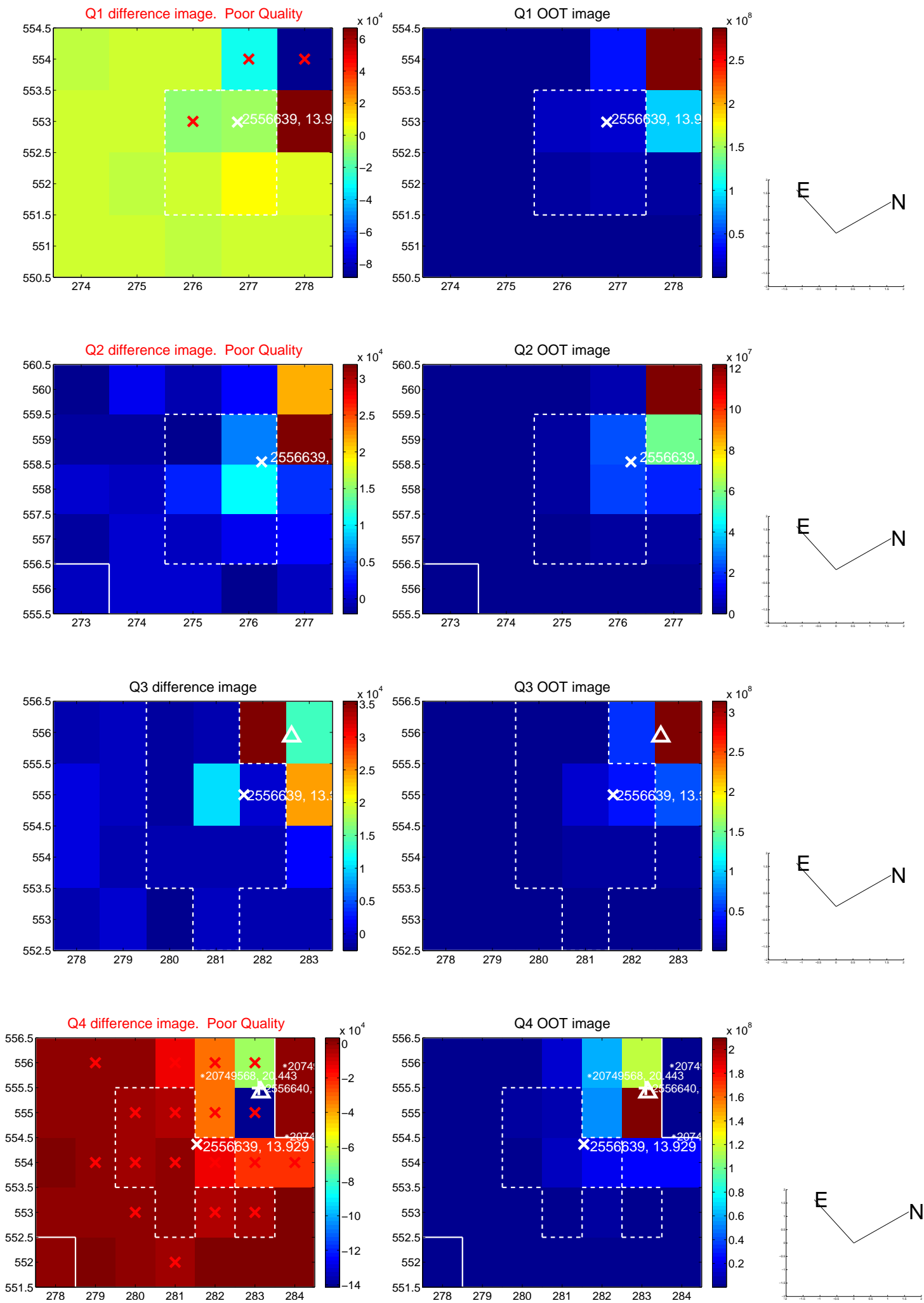
The OOT PRF centroid is offset from the target star catalog position by about 7.49 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.038 ± 0.300	0.13	0.022 ± 0.376	0.031 ± 0.255
PRF-fit source offset from KIC position	6.780 ± 1.339	5.06	0.188 ± 0.254	6.777 ± 1.344
photometric centroid source offset	4.10 ± 0.24	17.28	0.30 ± 0.11	4.09 ± 0.24

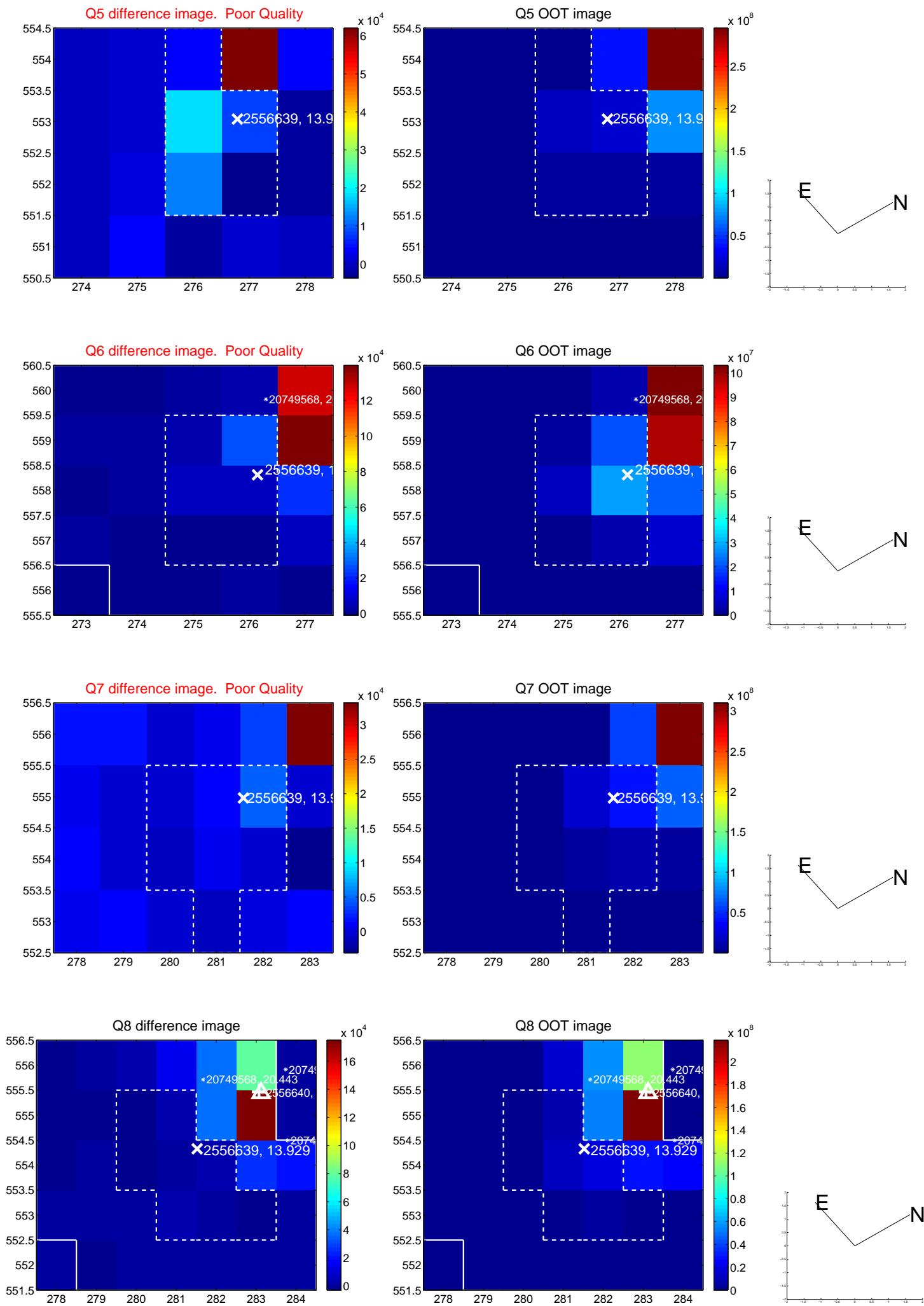


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

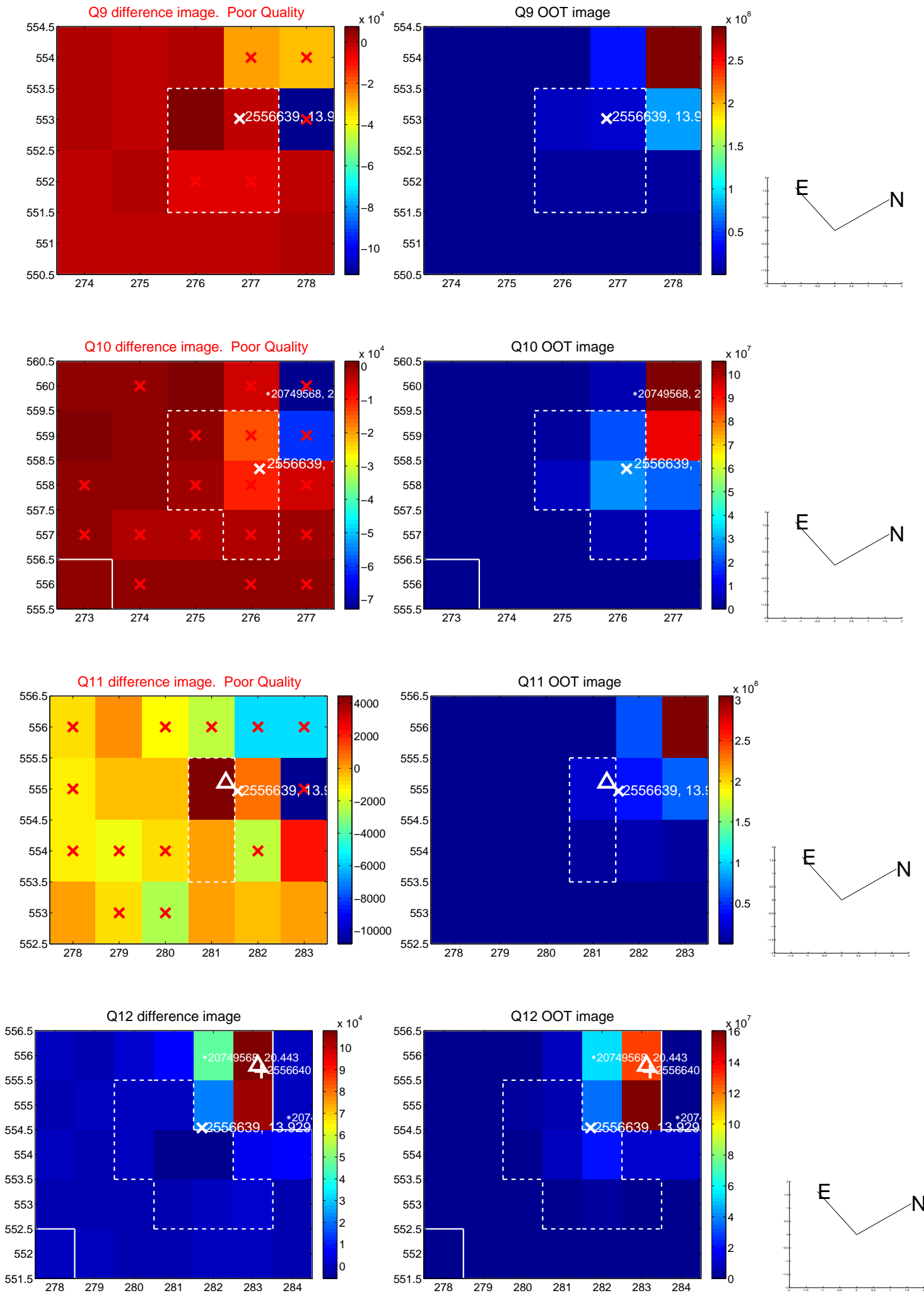
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



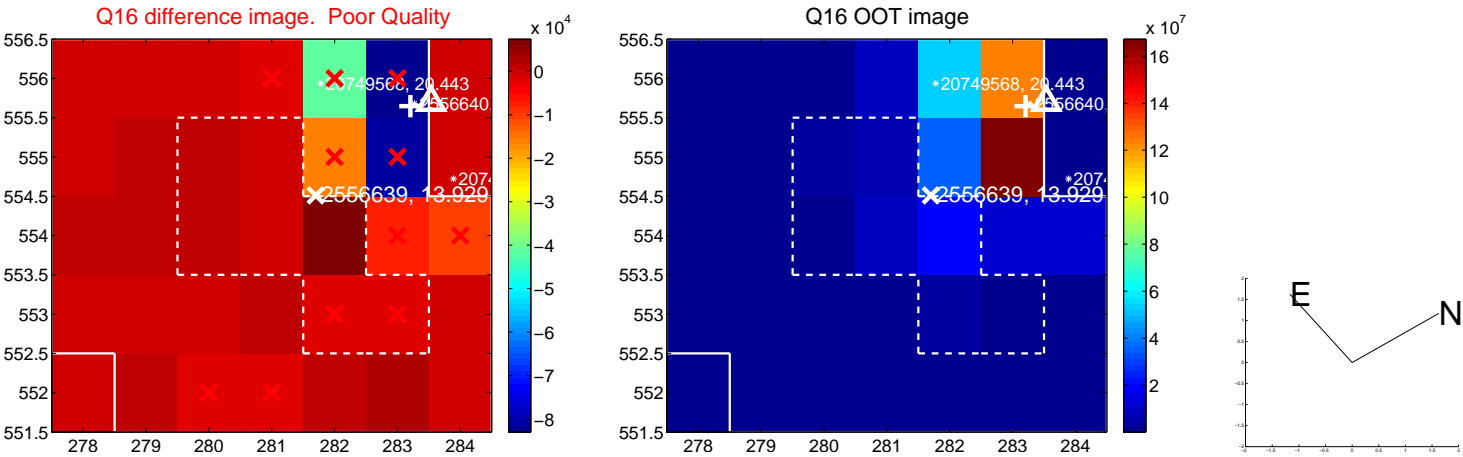
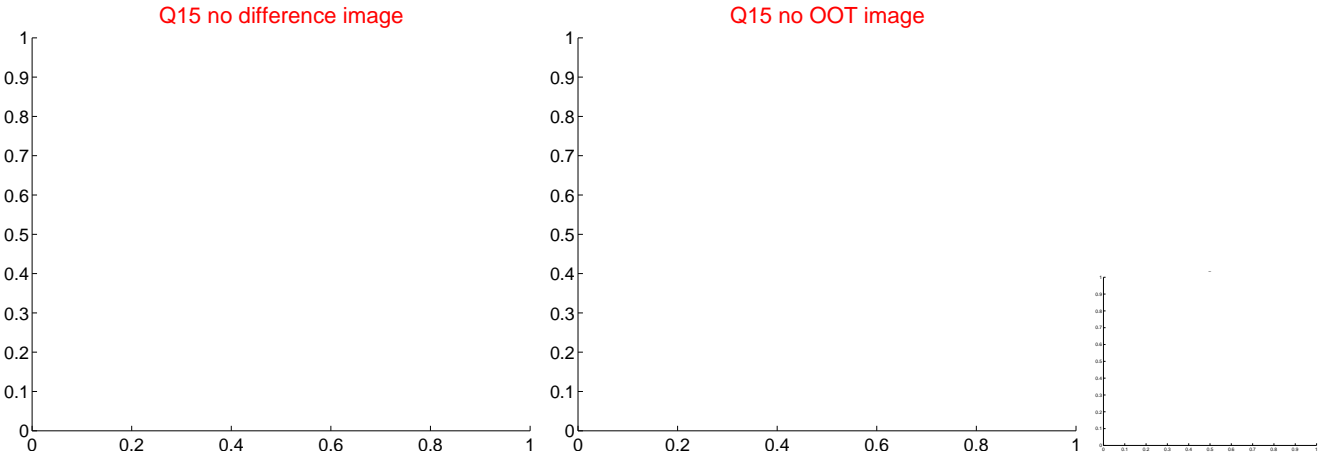
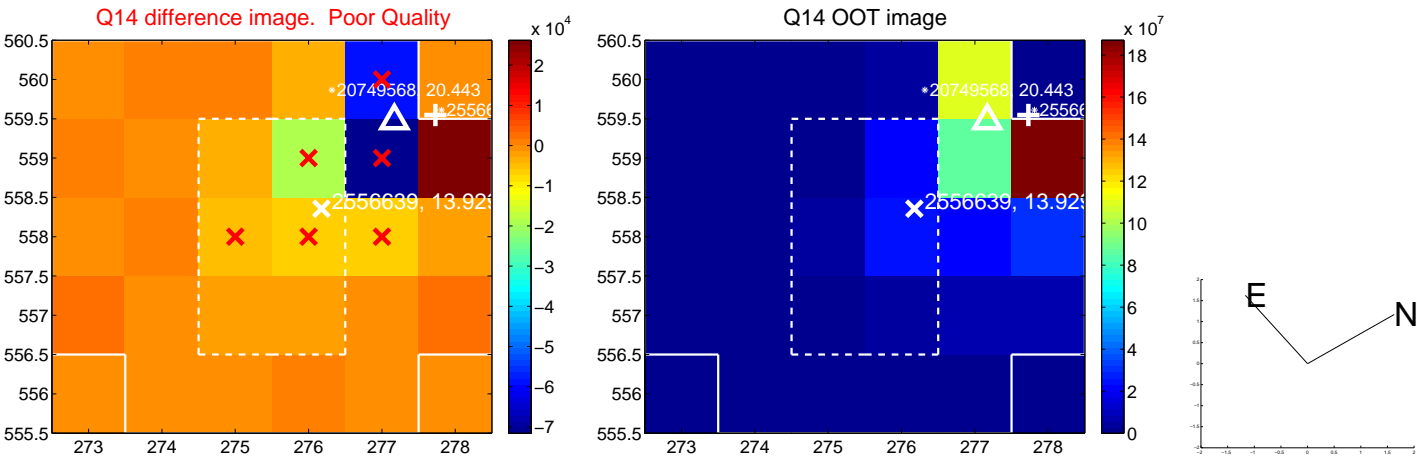
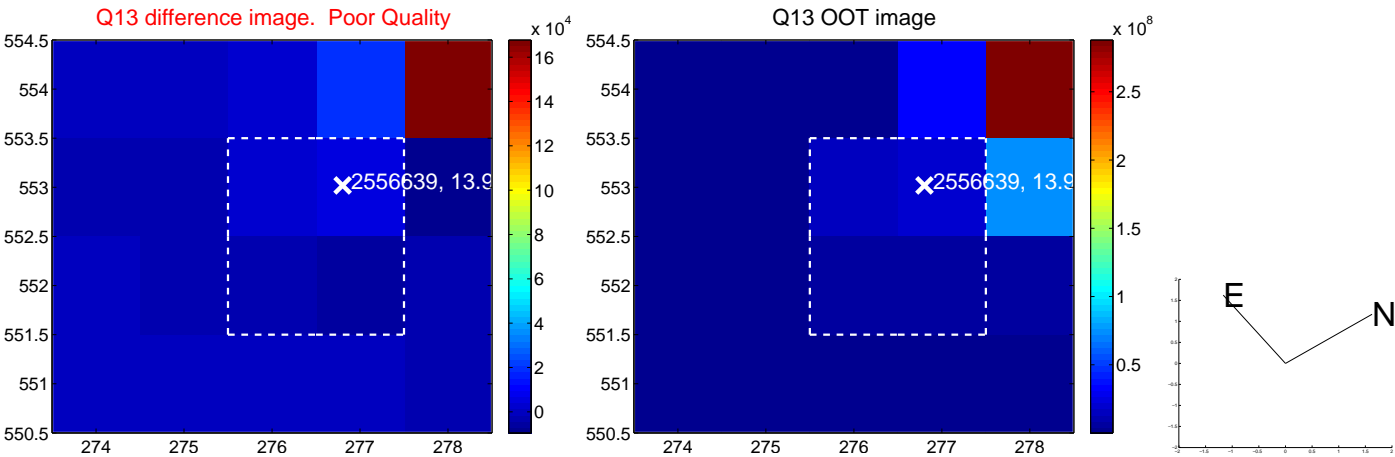
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



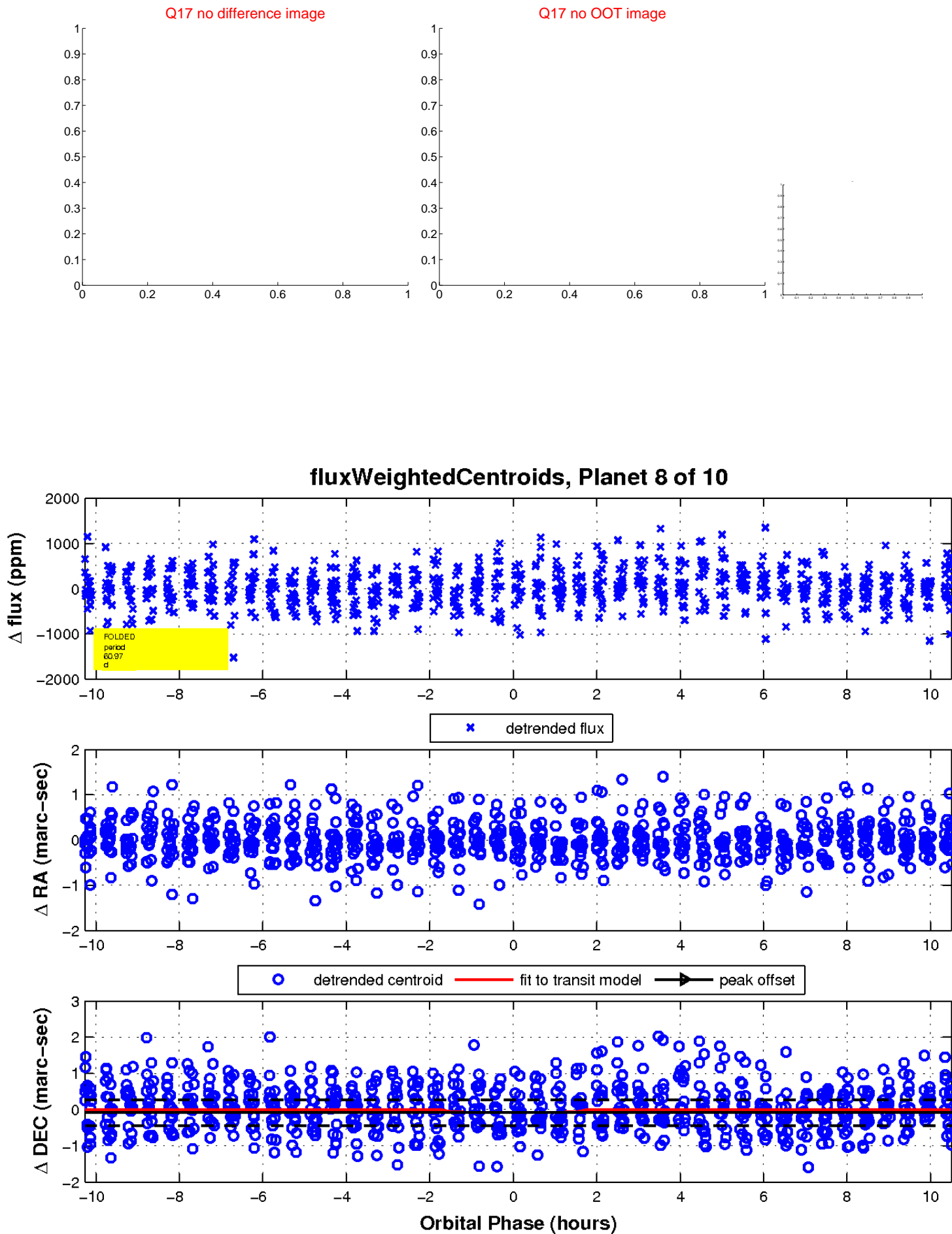
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



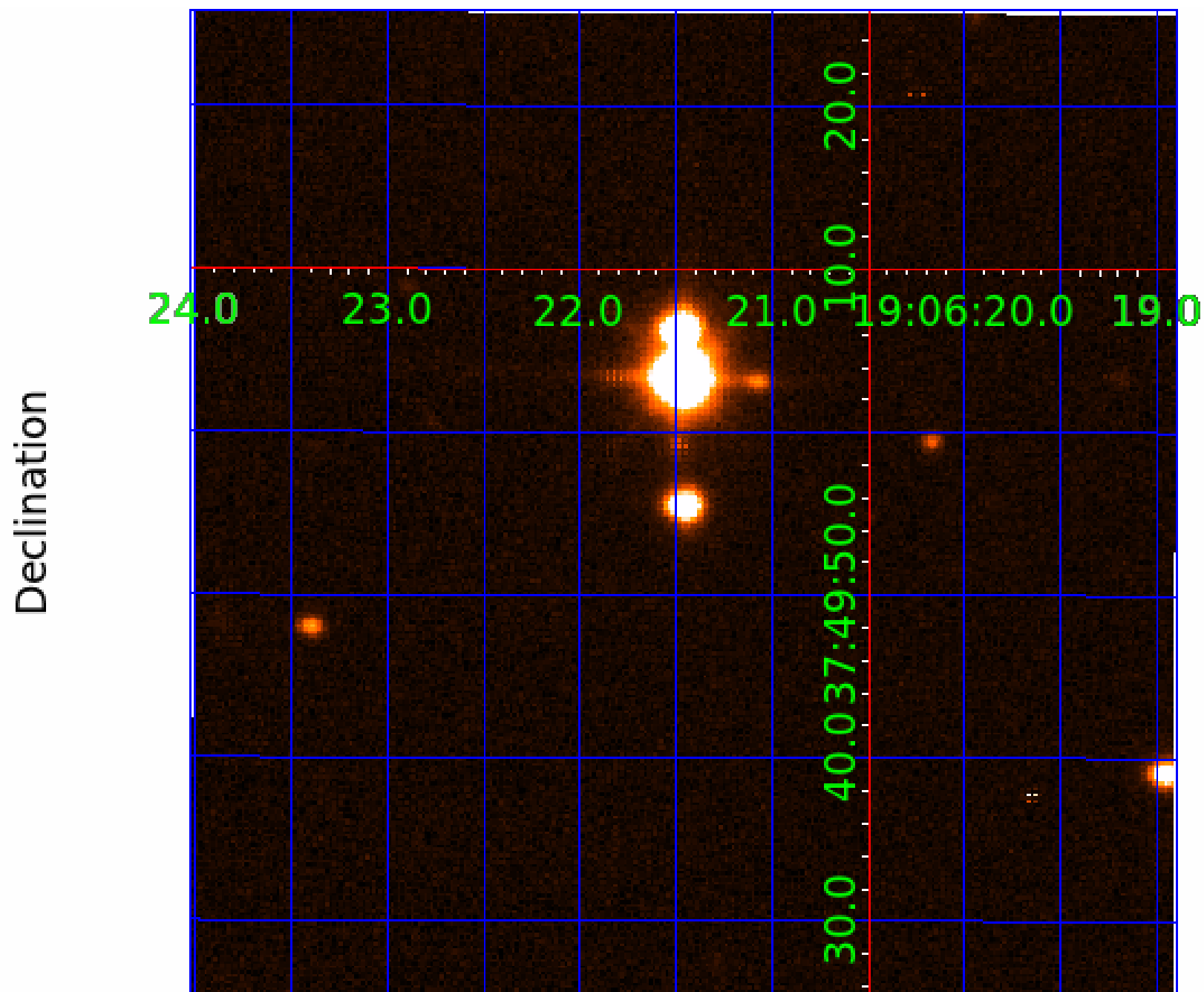
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



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})
002556639-01	OBS	No	2.481583	132.823046	87.7	17.056	10.5	11.4	10.67	4838	10.02	0.00
002556639-02	OBS	No	429.720278	453.938785	7145.3	38.419	62.8	49.1	10.67	4838	170.27	29.34
002556639-03	OBS	No	60.844901	153.558562	330.8	4.302	19.2	4.2	10.67	4838	20.78	397.55
002556639-04	OBS	No	61.929579	153.843236	715.6	17.592	17.8	13.5	10.67	4838	35.86	388.30
002556639-05	OBS	No	124.313425	186.359040	967.3	0.572	17.5	2.6	10.67	4838	41.18	153.34
002556639-06	OBS	No	449.089597	206.154973	619.1	10.364	15.6	11.5	10.67	4838	30.29	27.66
002556639-07	OBS	No	86.635232	134.529984	735.2	6.378	12.6	12.0	10.67	4838	38.10	248.18
002556639-08	OBS	No	60.973922	137.494019	811.6	3.503	12.8	12.4	10.67	4838	31.86	396.43
002556639-09	OBS	No	21.744036	140.229270	724.0	4.469	12.3	11.5	10.67	4838	59.43	1567.62
002556639-10	OBS	No	71.789406	152.216780	763.5	2.777	12.9	12.7	10.67	4838	28.90	318.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002556639-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET
002556639-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002556639-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
002556639-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
002556639-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
002556639-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
002556639-09	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-10	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET

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

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

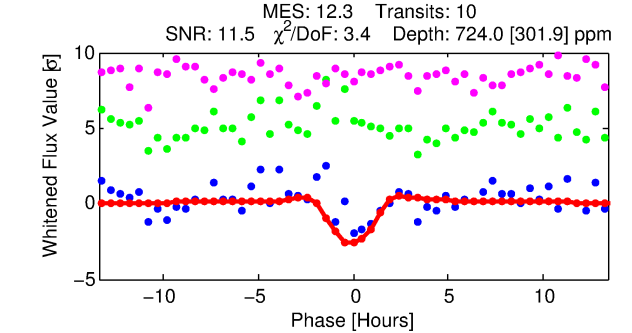
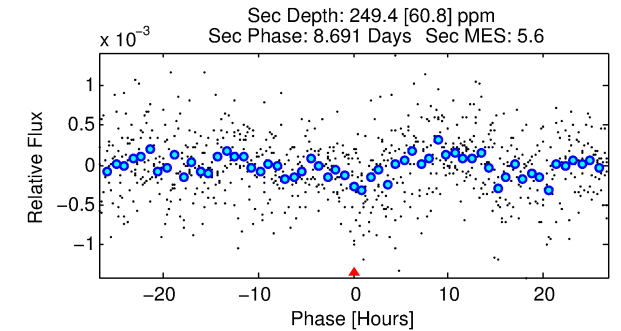
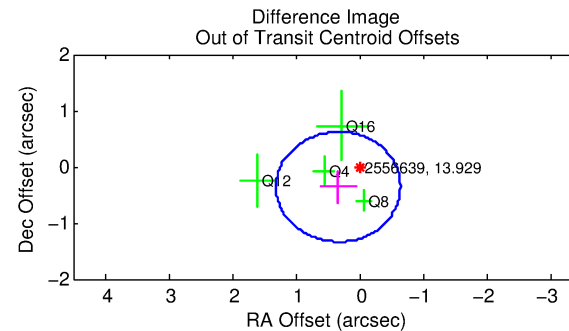
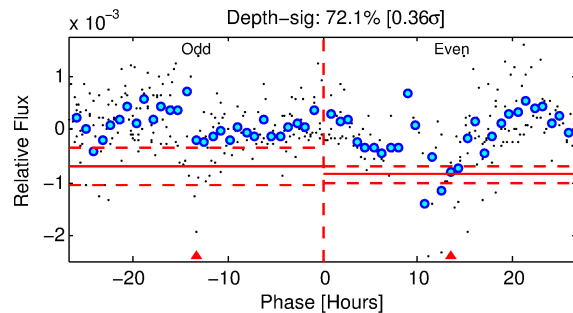
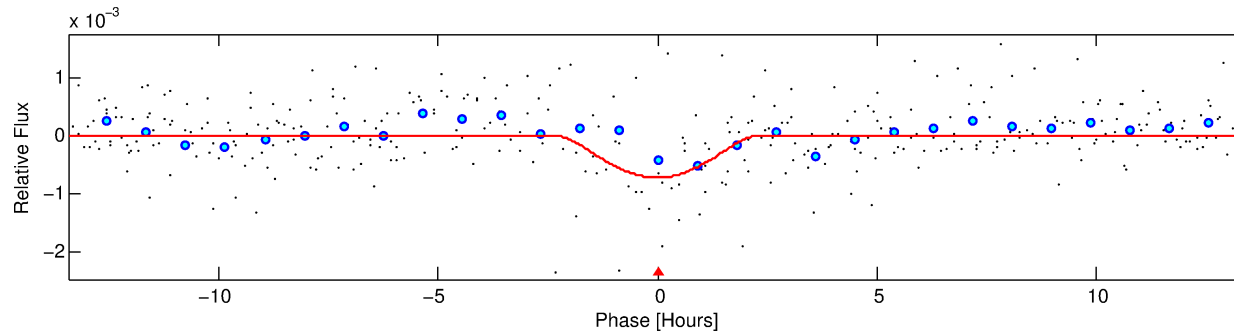
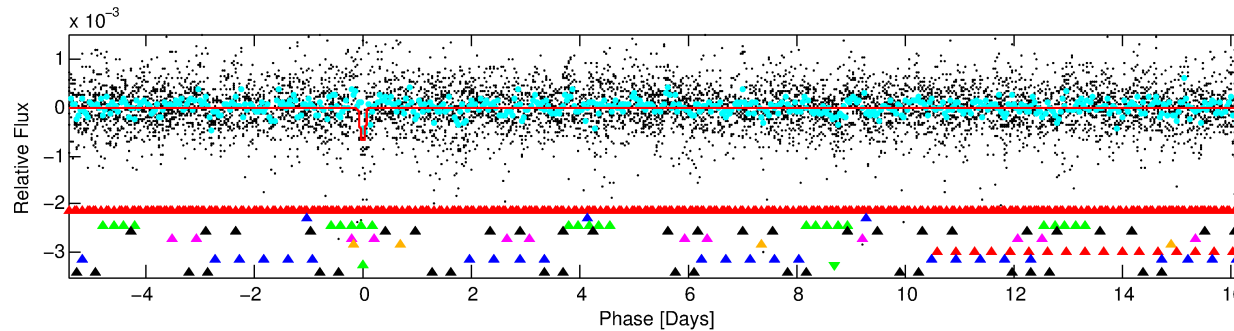
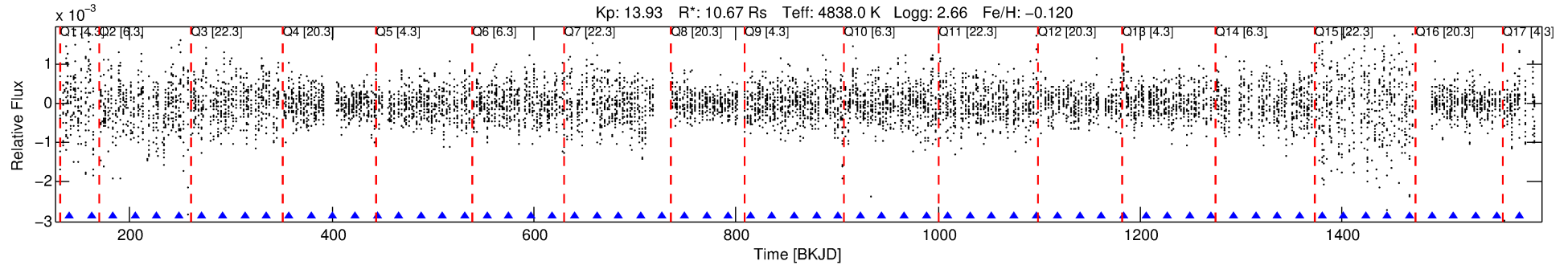
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002556639-09

No Significant Match Found

DV One-Page Summary

KIC: 2556639 Candidate: 9 of 10 Period: 21.744 d



DV Fit Results:

Period = 21.74404 [0.00042] d
Epoch = 140.2293 [0.0150] BKJD
Rp/R* = 0.0510 [0.3288]
a/R* = 12.08 [18.32]
b = 1.00 [0.45]
Seff = 1567.62 [560.30]
Teq = 1604 [143] K
Rp = 59.43 [383.29] Re
a = 0.1888 [0.0480] AU
Ag = 1.38 [17.85] [0.02 σ]
Teffp = 2691 [8669] K [0.13 σ]

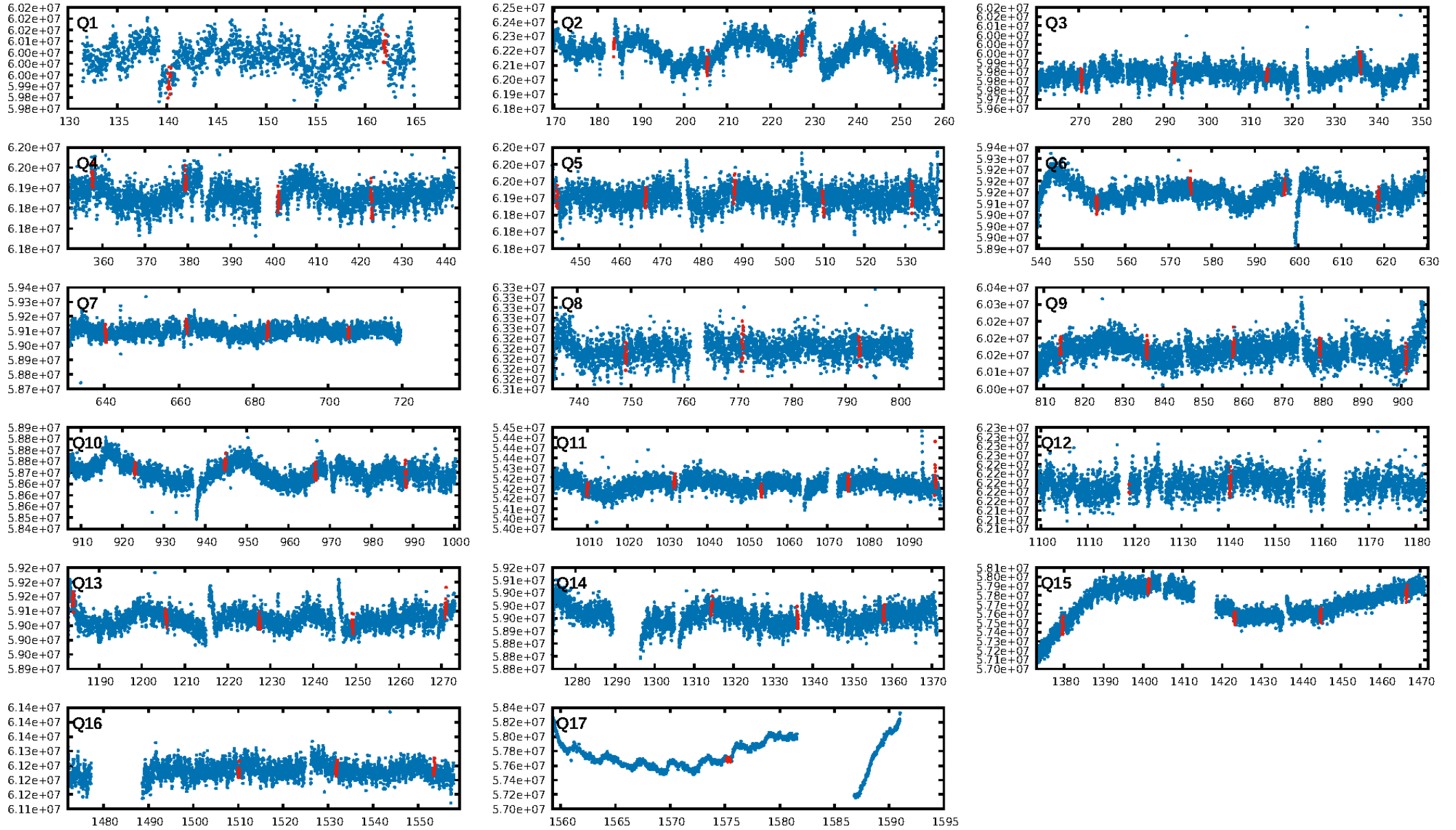
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [26.22 σ]
LongPeriod-sig: 100.0% [151.27 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.5%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [10/10]
GhostDiagnostic-chr: -1.288
Centroid-sig: N/A
Centroid-so: 4.033 arcsec [25.42 σ]
OotOffset-rm: 0.490 arcsec [1.50 σ]
KicOffset-rm: 7.191 arcsec [8.27 σ]
OotOffset-st: 0/0/4/0 [4]
KicOffset-st: 0/1/4/0 [5]
DiffImageQuality-fgm: 0.20 [1/5]
DiffImageOverlap-fno: 0.65 [11/17]

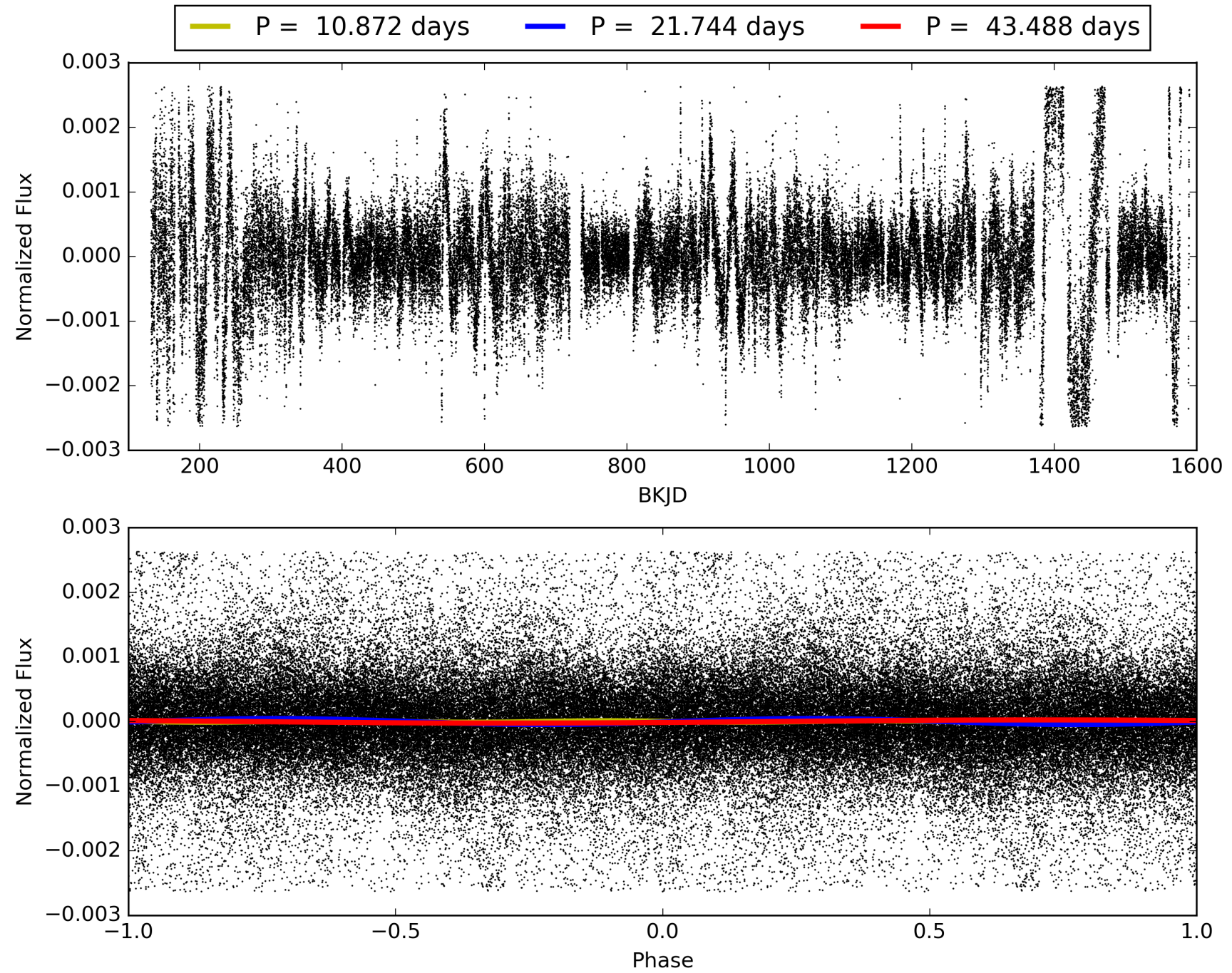
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:50:15 Z

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

TCE 002556639-09, PDC Light Curves

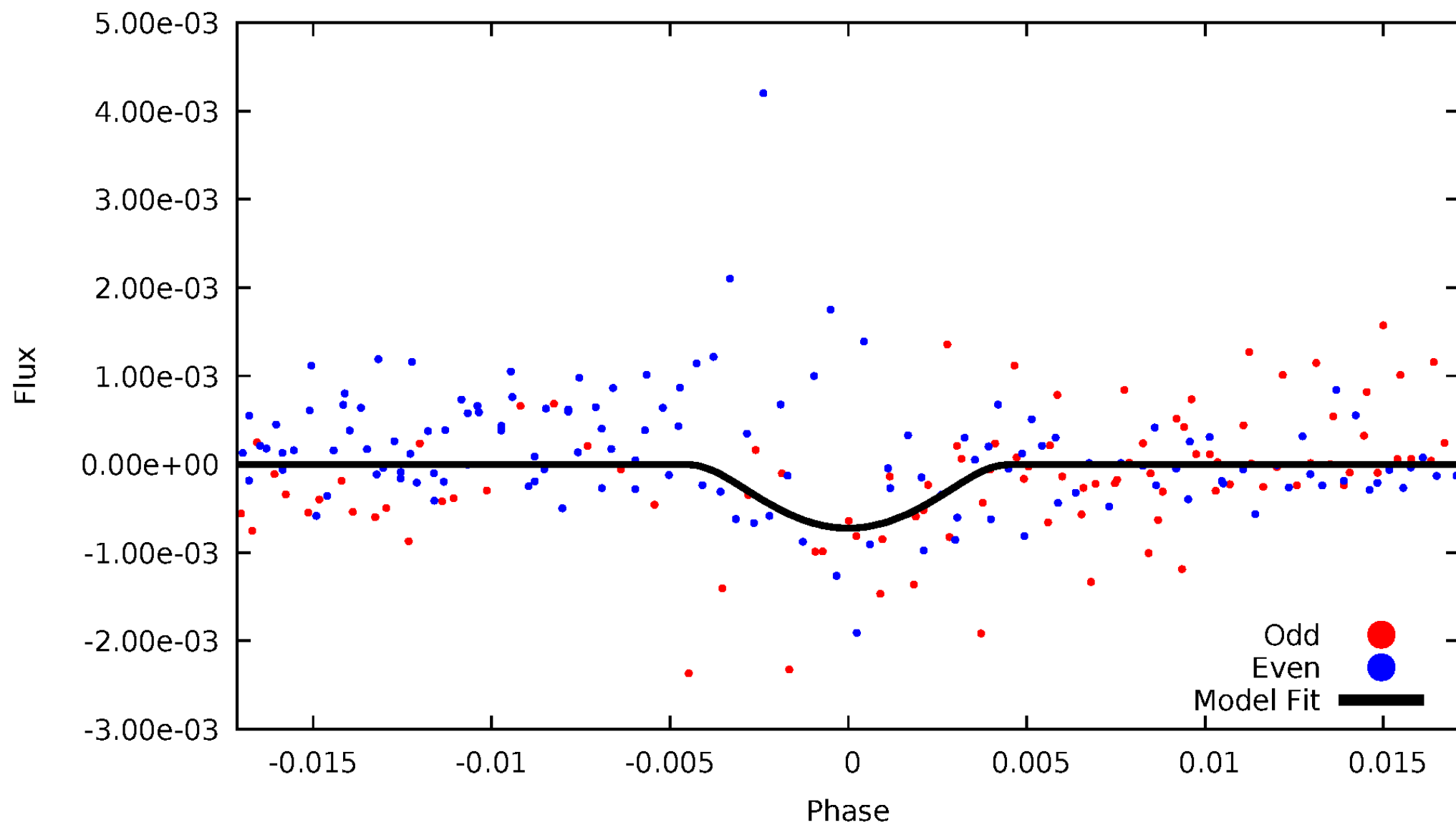


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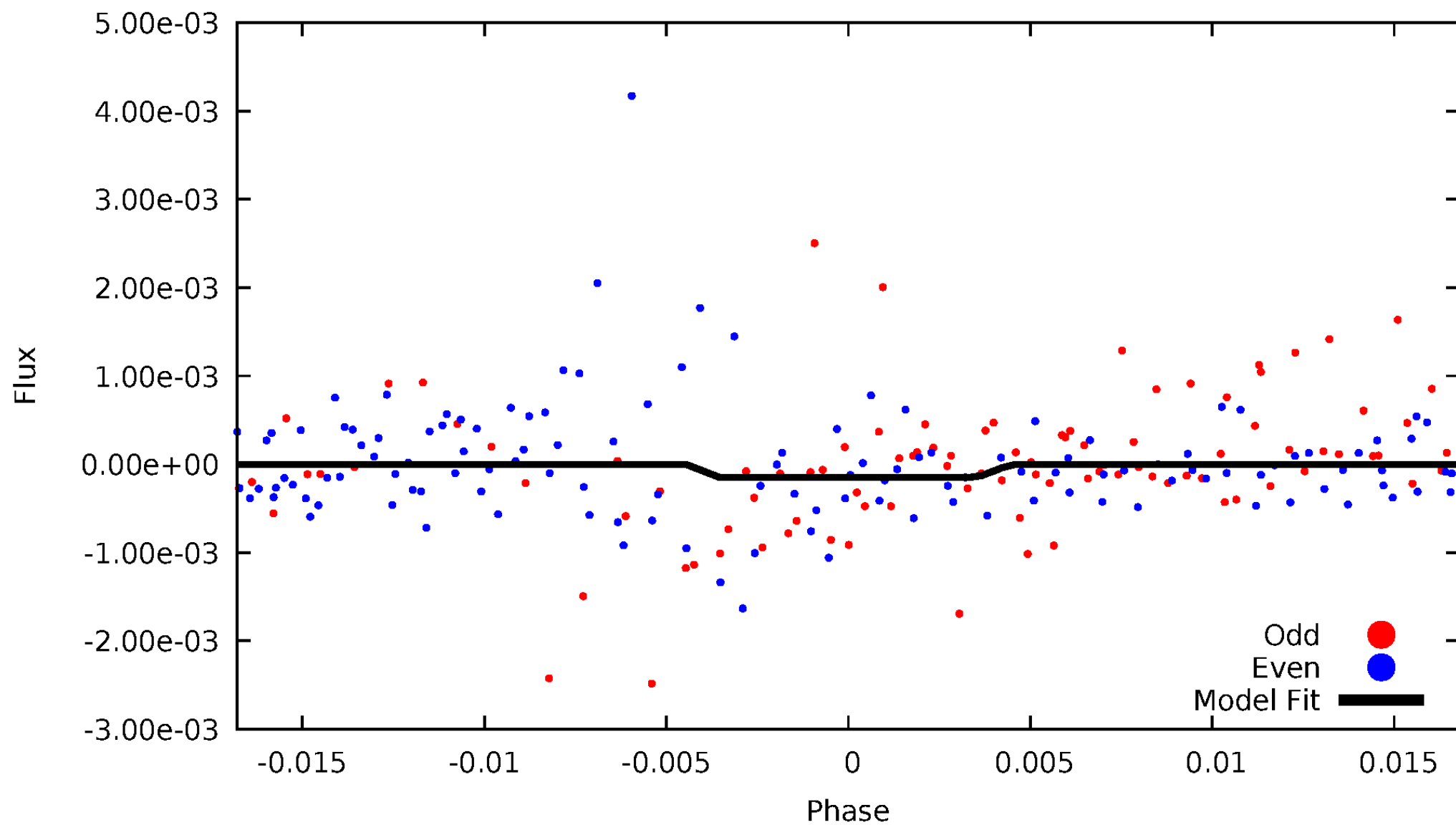
DV Odd/Even

TCE 002556639-09



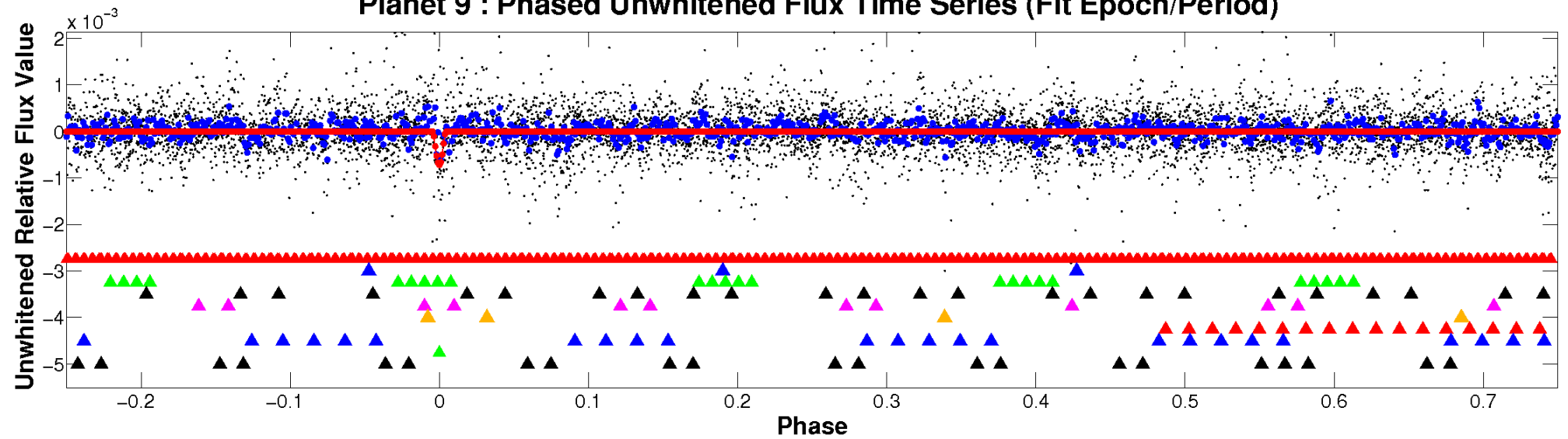
ALT Odd/Even

TCE 002556639-09

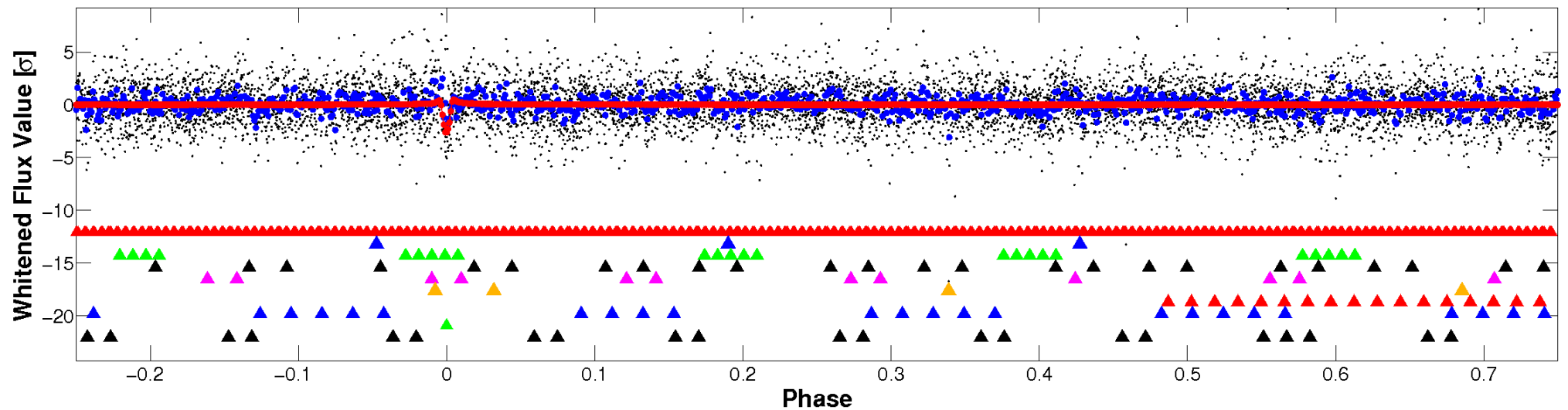


Non-Whitened Vs. Whitened Light Curve

Planet 9 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

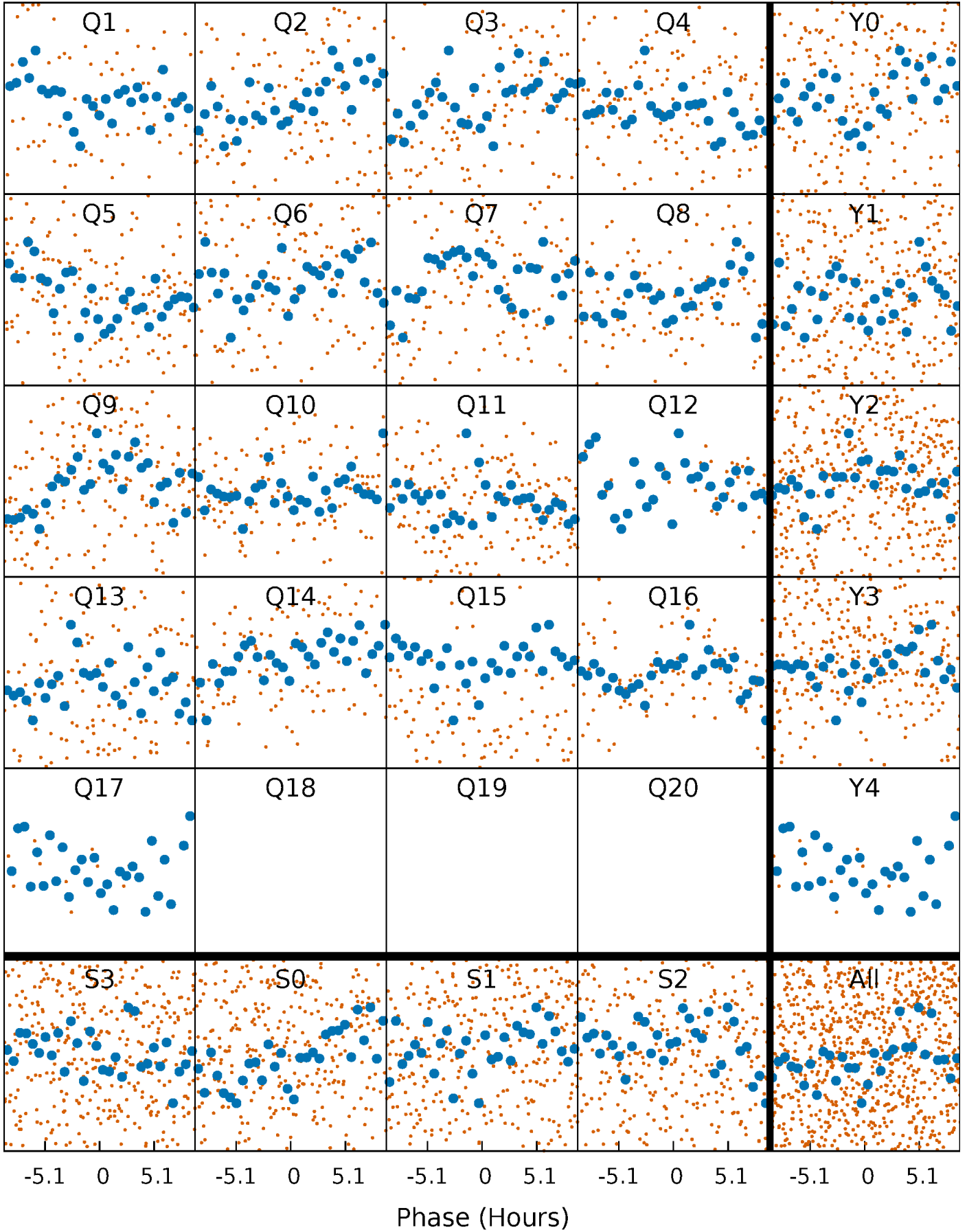


Planet 9 : Phased Whitened Flux Time Series (Fit Epoch/Period)



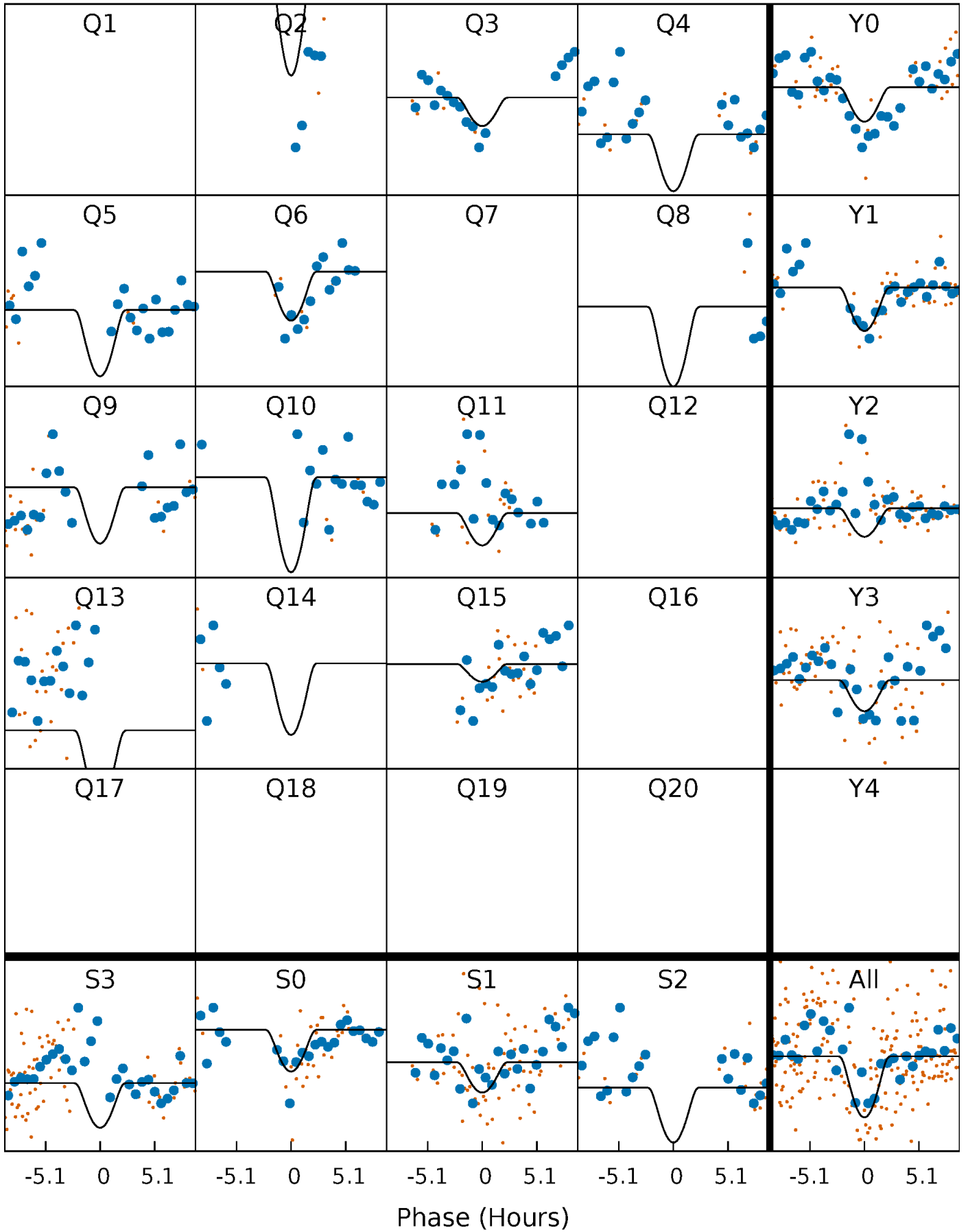
PDC Quarter-Phased Transit Curves

TCE 002556639-09 P= 21.744036 Days $T_0=140.229270$ (BKJD)



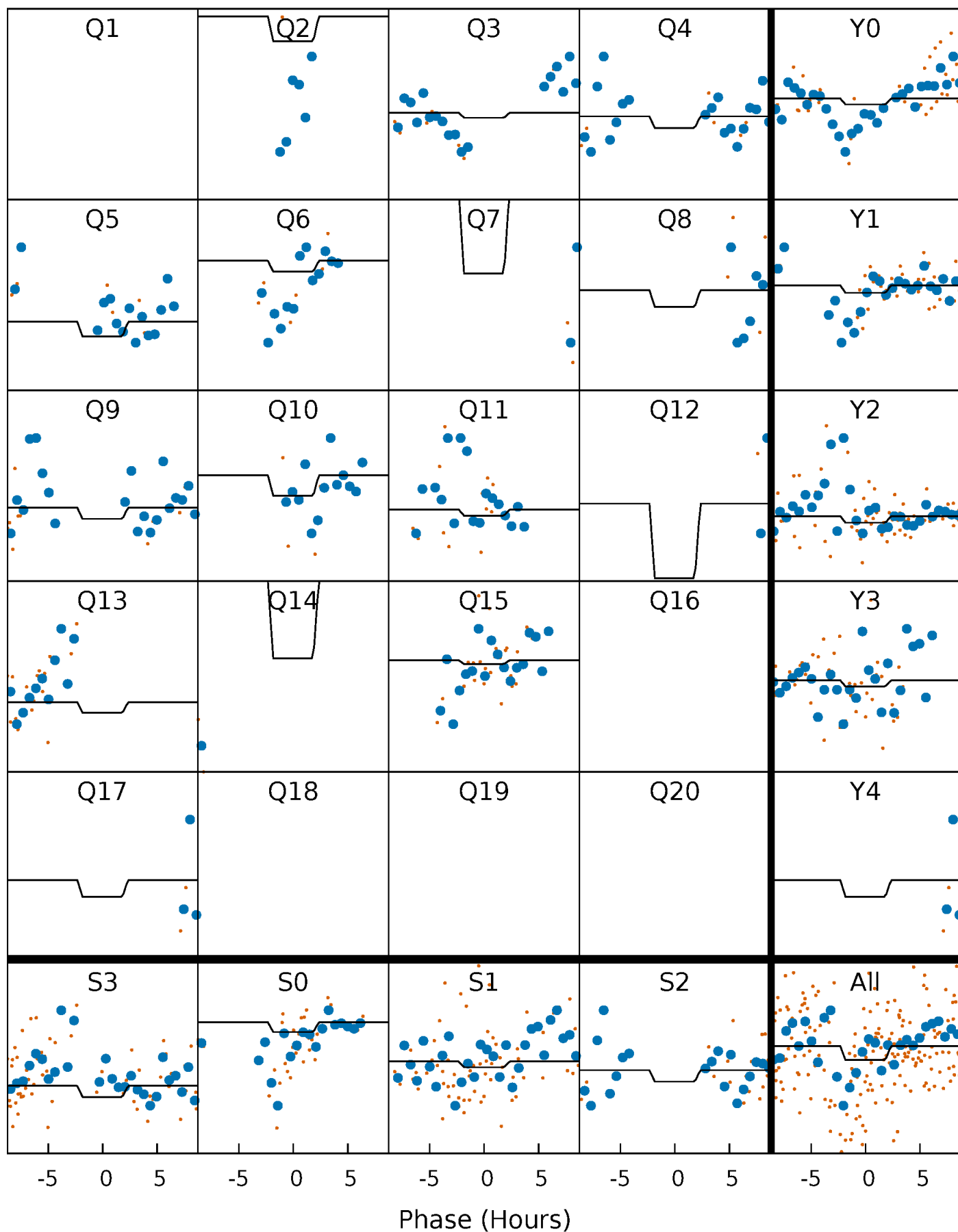
DV Quarter-Phased Transit Curves

TCE 002556639-09 P= 21.744036 Days $T_0=140.229270$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

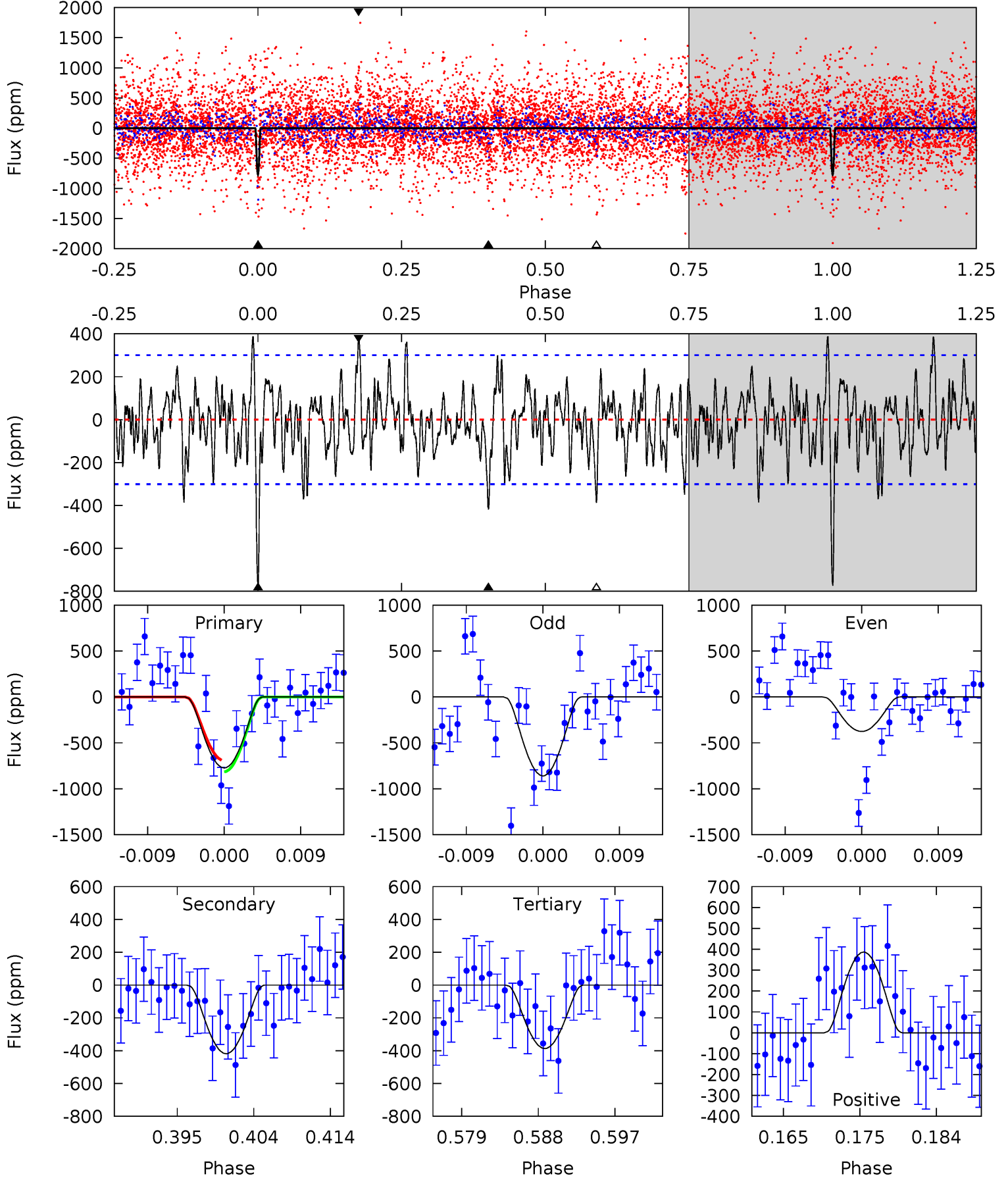
TCE 002556639-09 $P = 21.744260$ Days $T_0 = 140.297090$ (BKJD)



DV Model-Shift Uniqueness Test

002556639-09, P = 21.744036 Days, E = 118.485234 Days

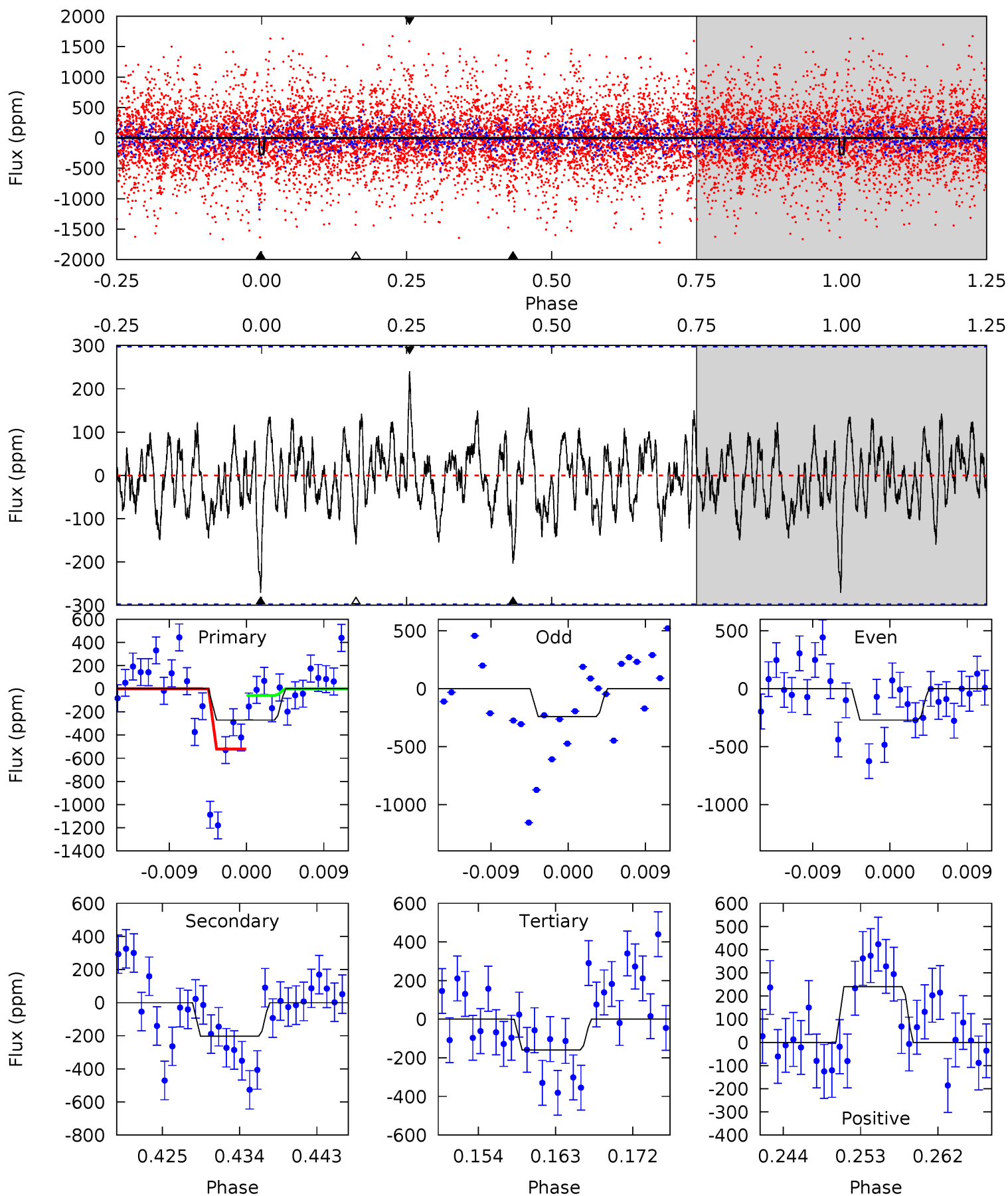
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	7.03	6.50	6.49	5.04	2.60	2.09	6.49	6.50	0.53	0.54	4.04	0.39	0.33	1.03



Alt Model-Shift Uniqueness Test

002556639-09, P = 21.744260 Days, E = 118.552830 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.60	3.45	2.71	4.08	5.05	2.61	1.08	1.89	0.52	0.74	-0.63	0.26	0.75	0.47	3.94



Stellar Parameters For KIC 002556639

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4838^{+50}_{-93}	$2.660^{+0.180}_{-0.120}$	$-0.120^{+0.100}_{-0.150}$	$10.671^{+1.463}_{-3.414}$	$1.899^{+0.185}_{-0.740}$	$0.002^{+0.003}_{-0.001}$
	+1%/-2%	+7%/-5%	+83%/-125%	+14%/-32%	+10%/-39%	+123%/-29%
Source	SPE74	SPE74	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 002556639-09 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-419±60	$268.78^{+300.16}_{-185.99}$	2235^{+105}_{-134}	-2433^{+5400}_{-163}	$0.106^{+1.022}_{-0.081}$
Alt.	-203±59	$247.80^{+296.71}_{-177.62}$	2231^{+97}_{-147}	-2486^{+5180}_{-122}	$0.068^{+0.679}_{-0.056}$

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 $A_{obs} \gg 1.0$

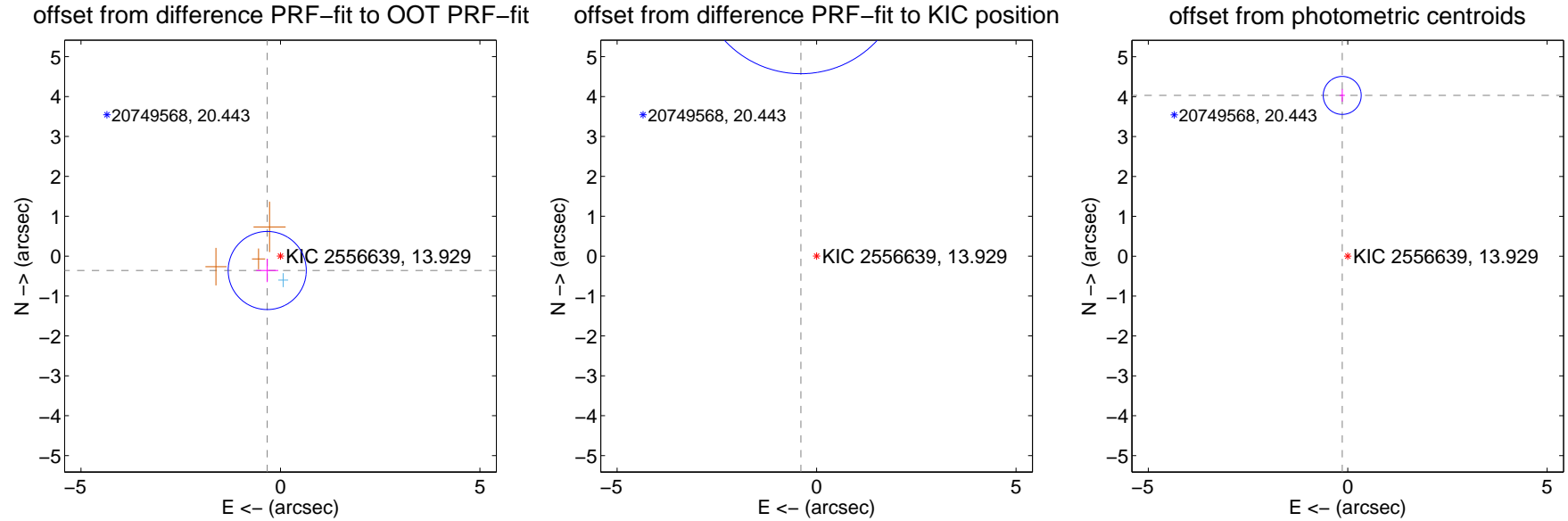
DV Centroid Data

Supplemental centroid analysis for 002556639-09. Kepler magnitude: 13.93. Transit SNR 11.46

There are 1 quarters with good PRF difference image offsets

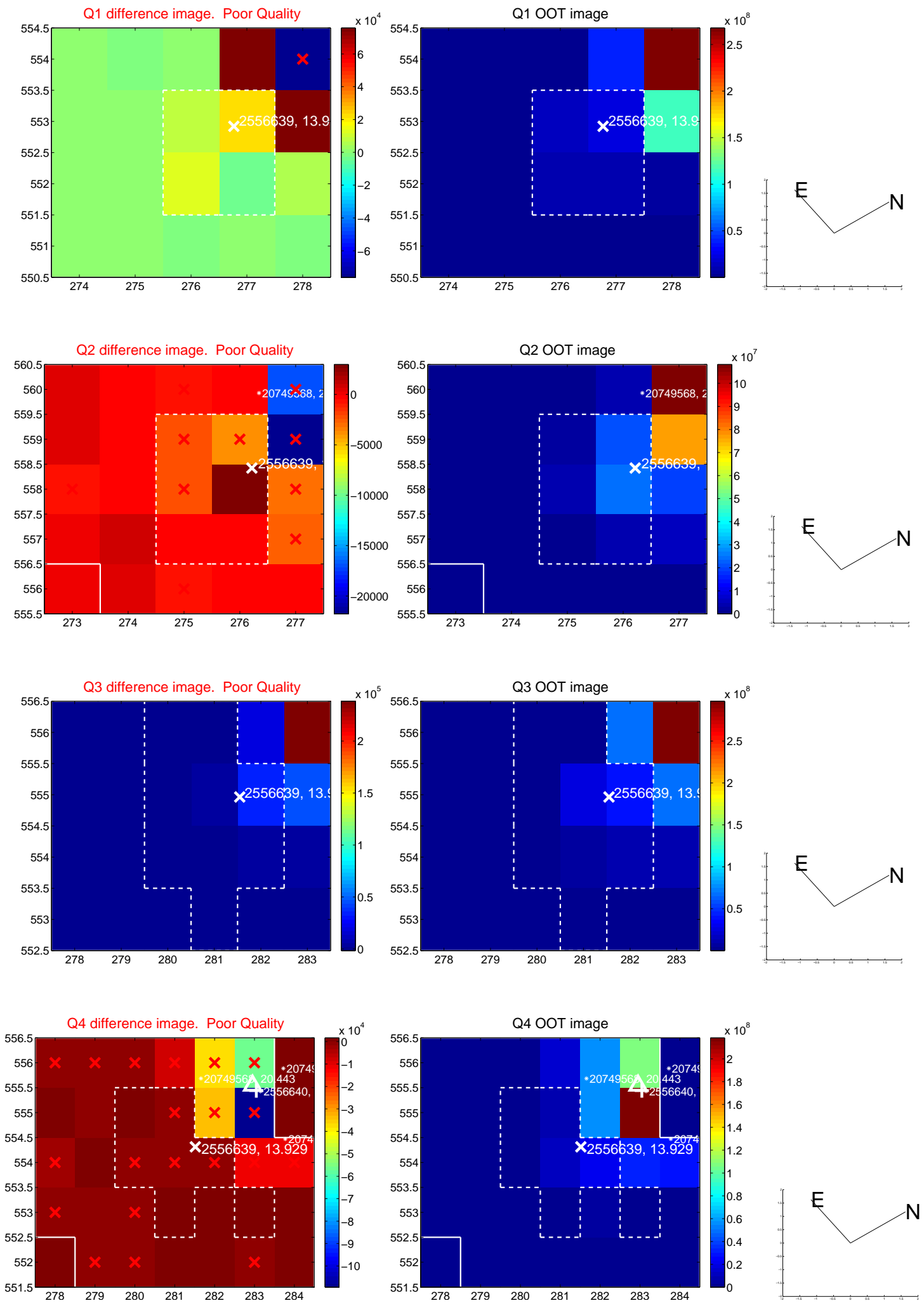
The OOT PRF centroid is offset from the target star catalog position by about 7.50 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.490 ± 0.326	1.50	0.332 ± 0.277	-0.360 ± 0.292
PRF-fit source offset from KIC position	7.191 ± 0.869	8.27	0.394 ± 0.683	7.180 ± 0.838
photometric centroid source offset	4.03 ± 0.16	25.42	0.14 ± 0.07	4.03 ± 0.16

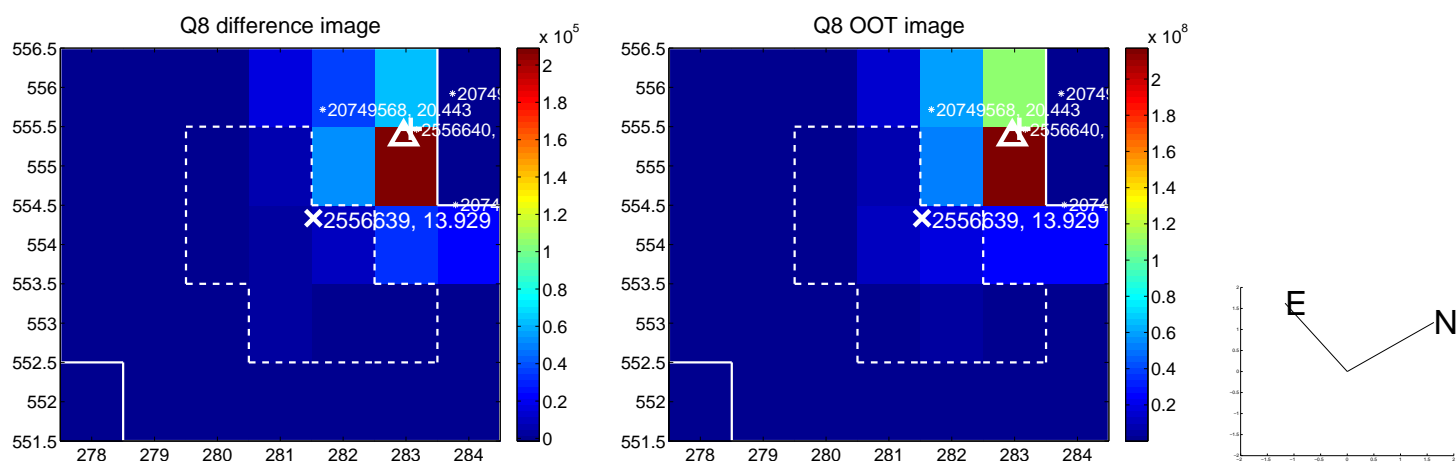
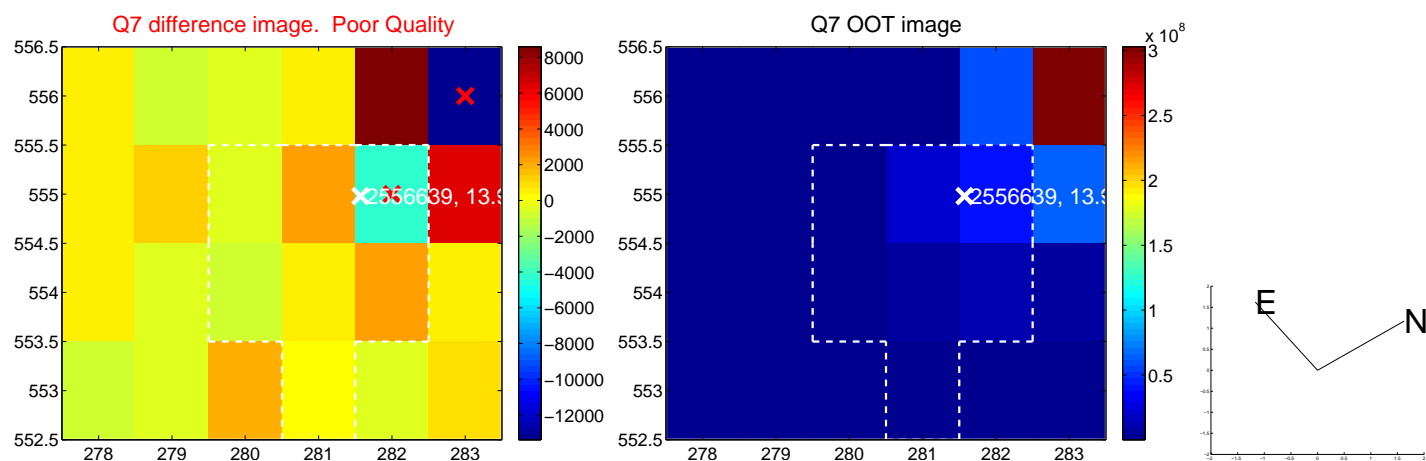
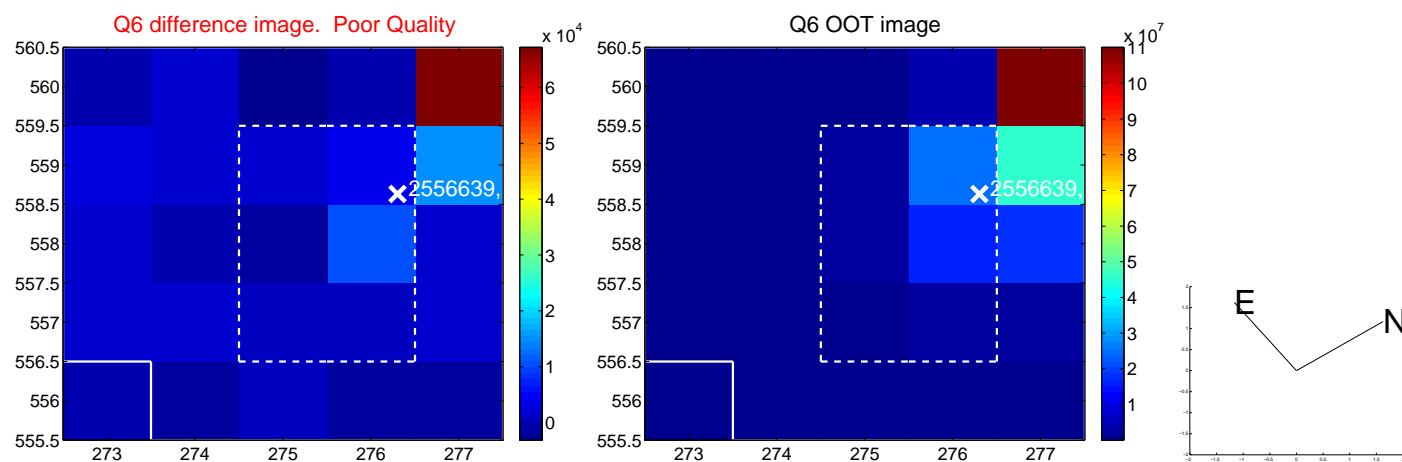
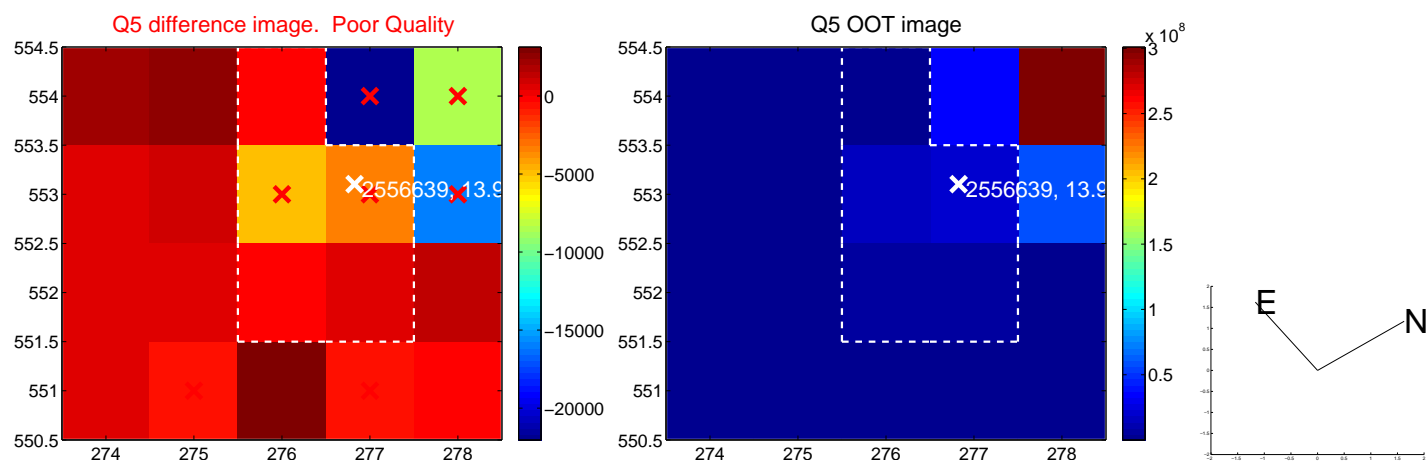


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

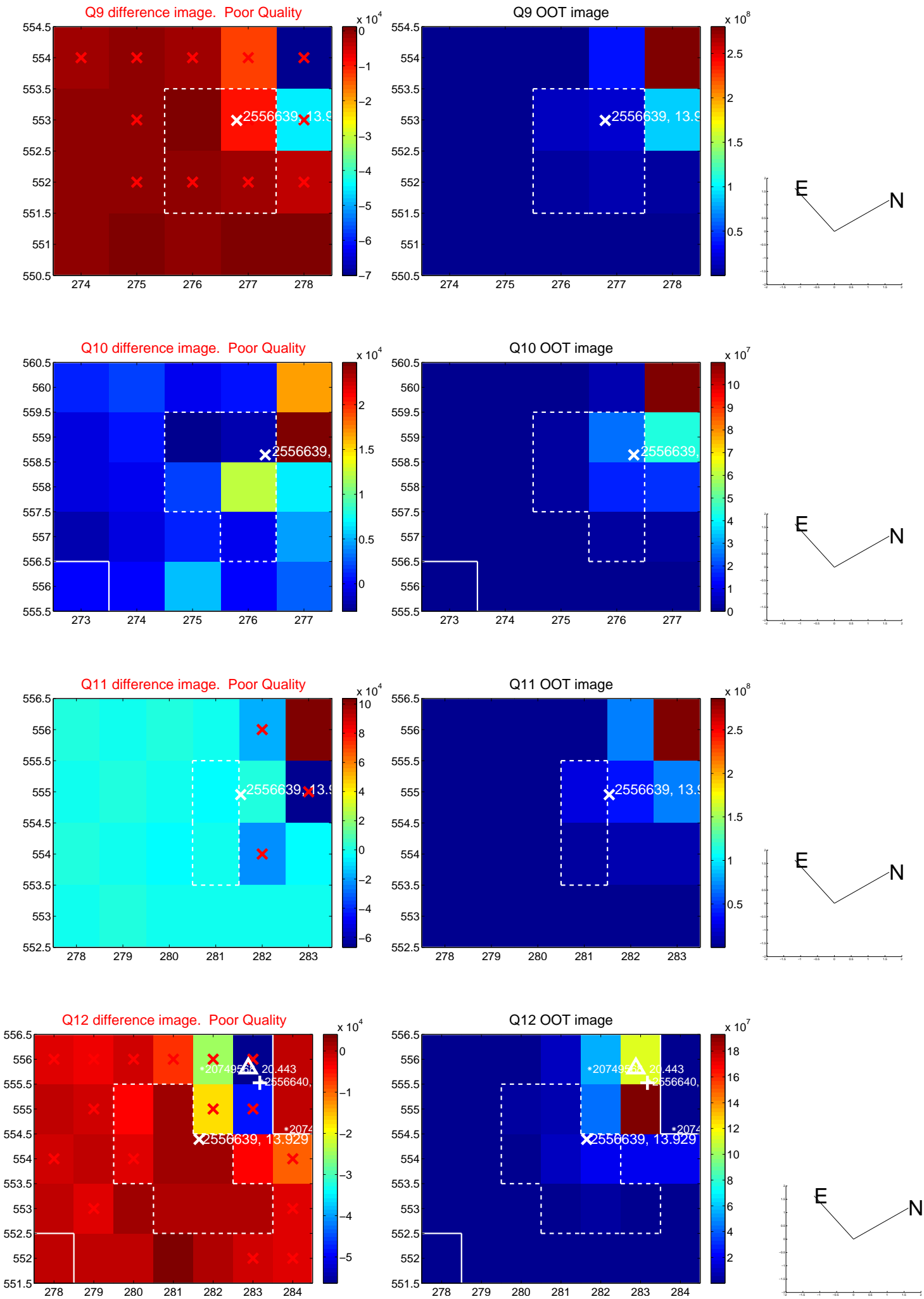
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



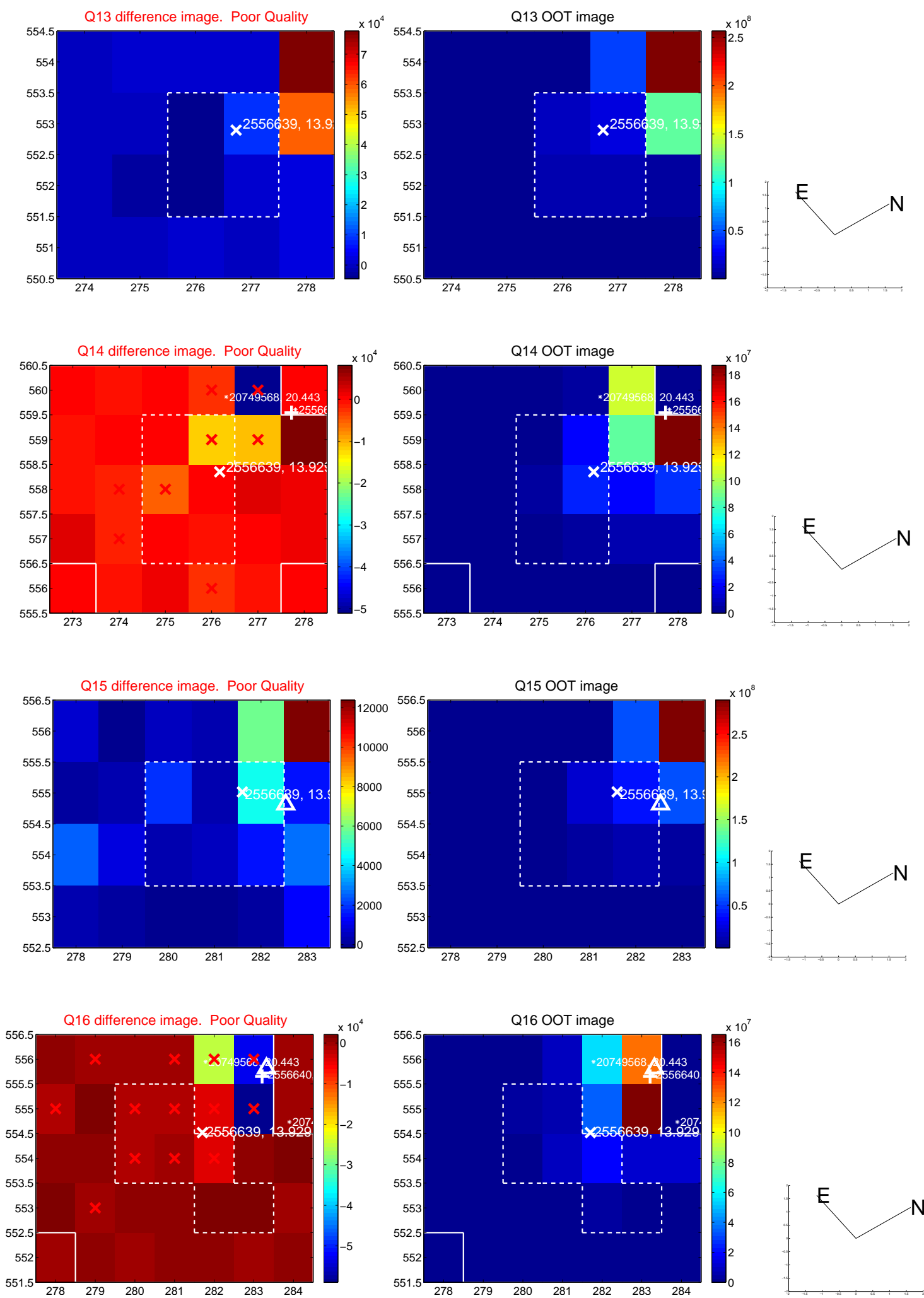
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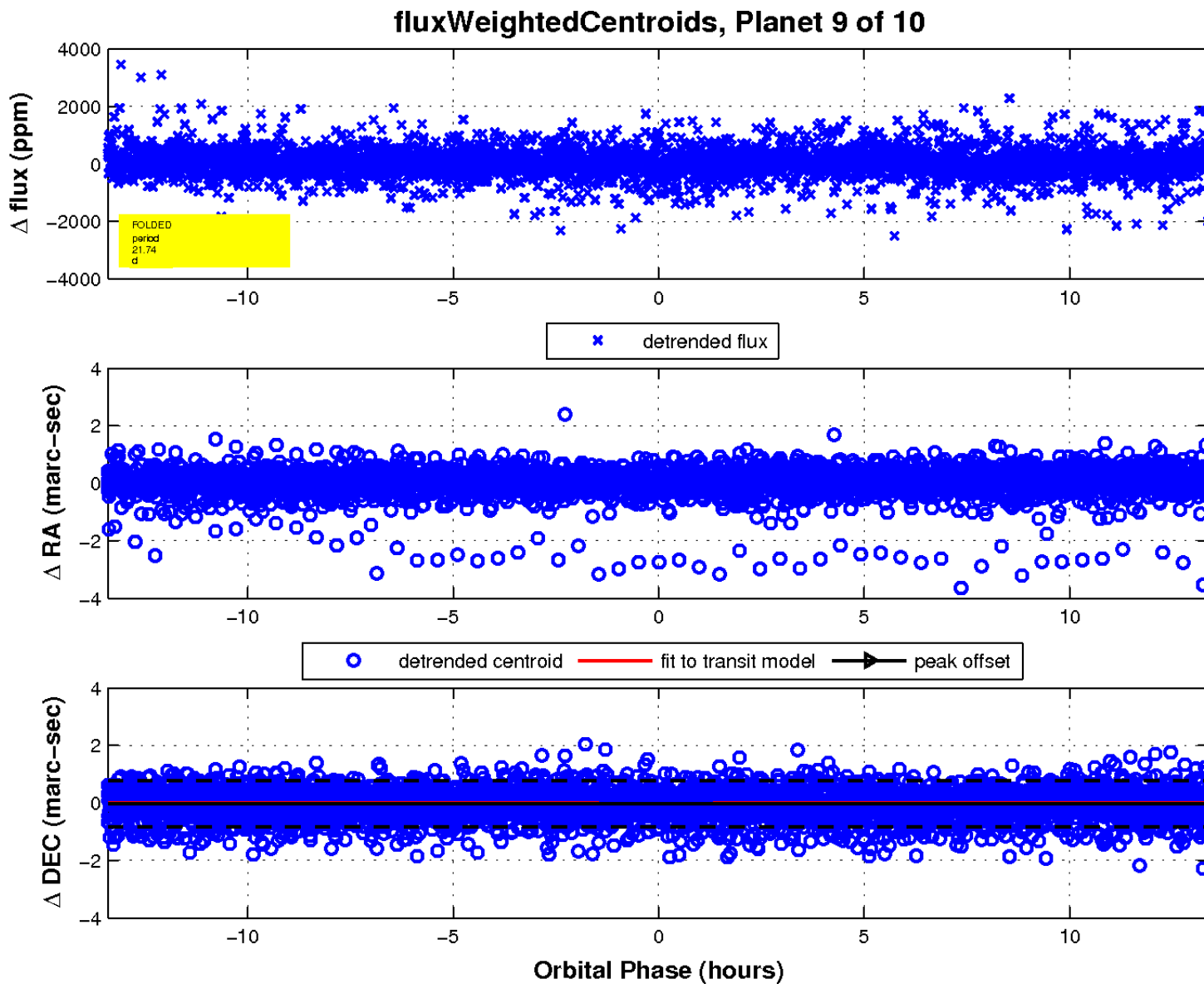
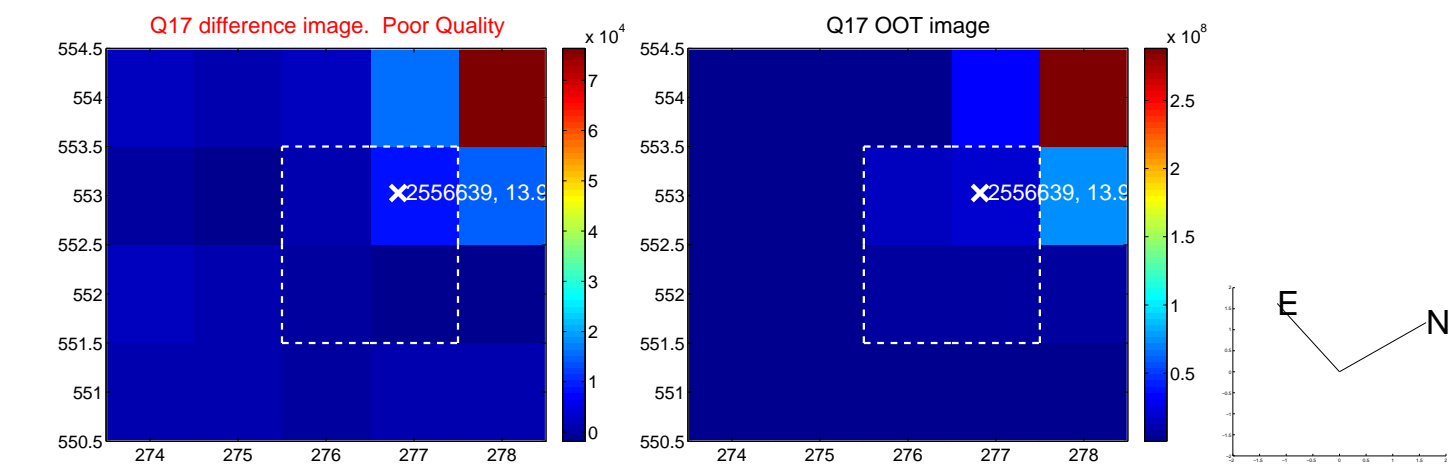
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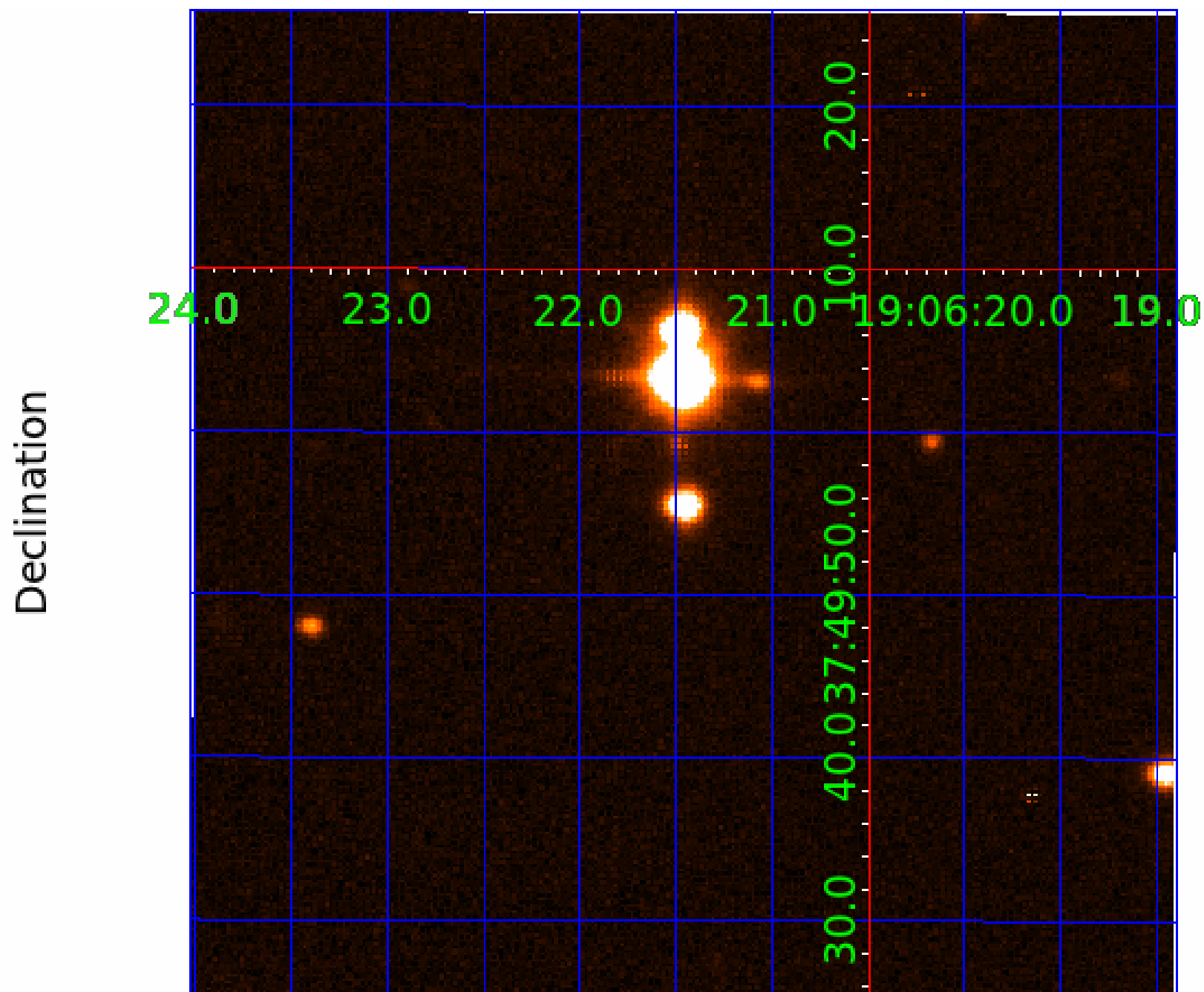
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UKIRT Image



Q1-17 DR25 TCE Parameters

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Robovetter Results

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002556639-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002556639-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
002556639-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
002556639-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
002556639-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
002556639-09	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
002556639-10	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET

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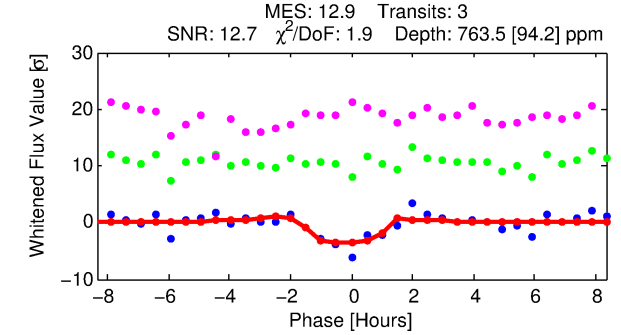
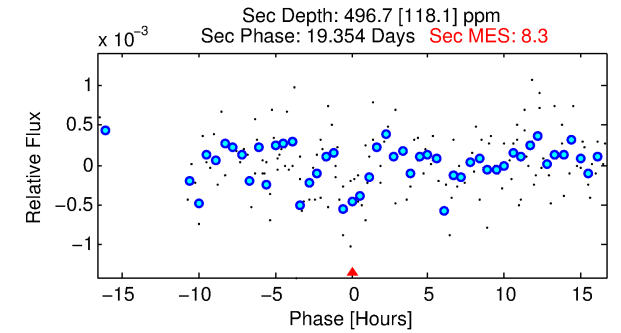
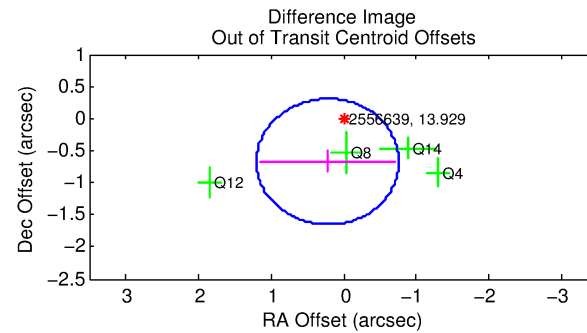
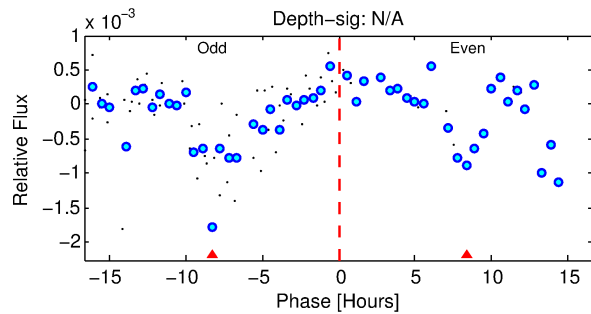
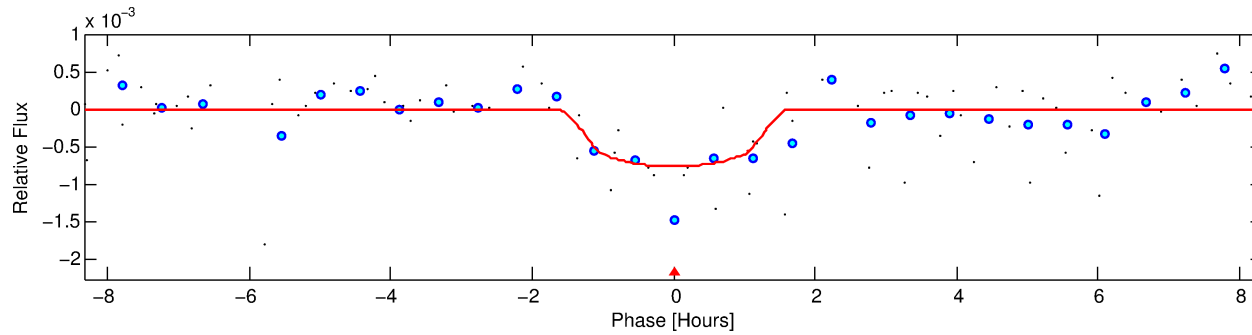
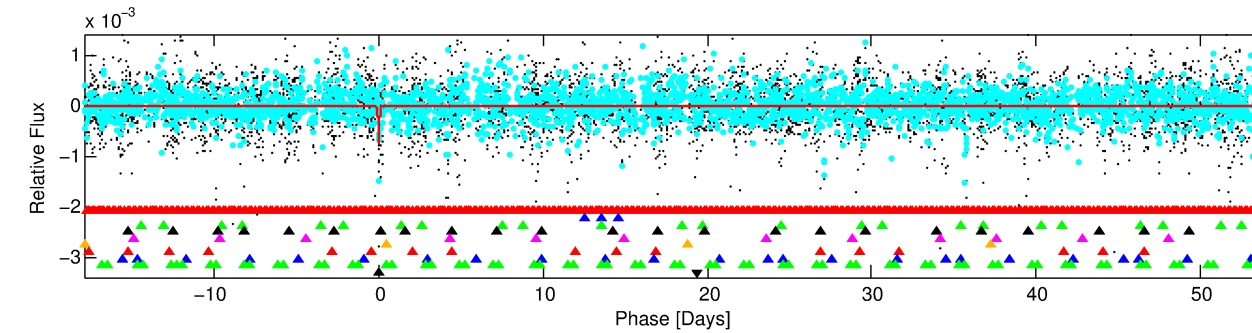
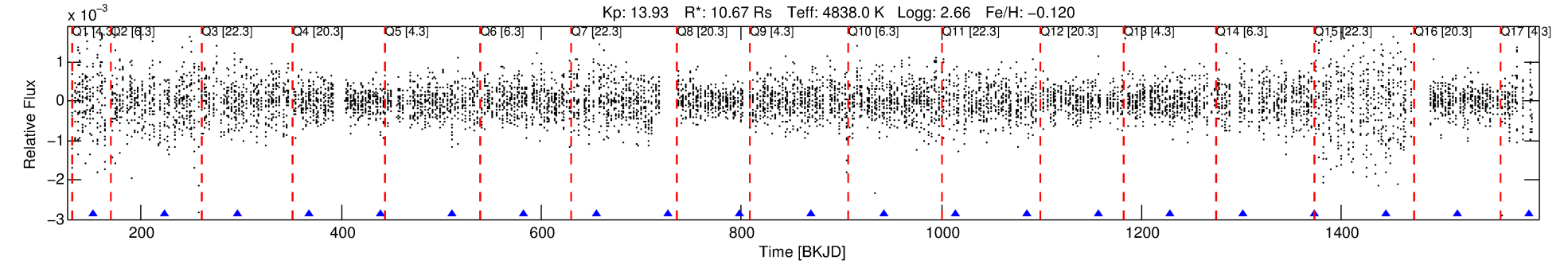
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002556639-10

No Significant Match Found

DV One-Page Summary

KIC: 2556639 Candidate: 10 of 10 Period: 71.789 d



DV Fit Results:

Period = 71.78941 [0.00100] d
Epoch = 152.2168 [0.0072] BKJD
Rp/R* = 0.0248 [0.1148]
a/R* = 193.20 [2932.94]
b = 0.31 [45.94]
Seff = 318.87 [113.97]
Teq = 1078 [96] K
Rp = 28.90 [134.00] Re
a = 0.4187 [0.1064] AU
Ag = 57.34 [530.94] [0.11] σ
Teffp = 4584 [10605] K [0.33] σ

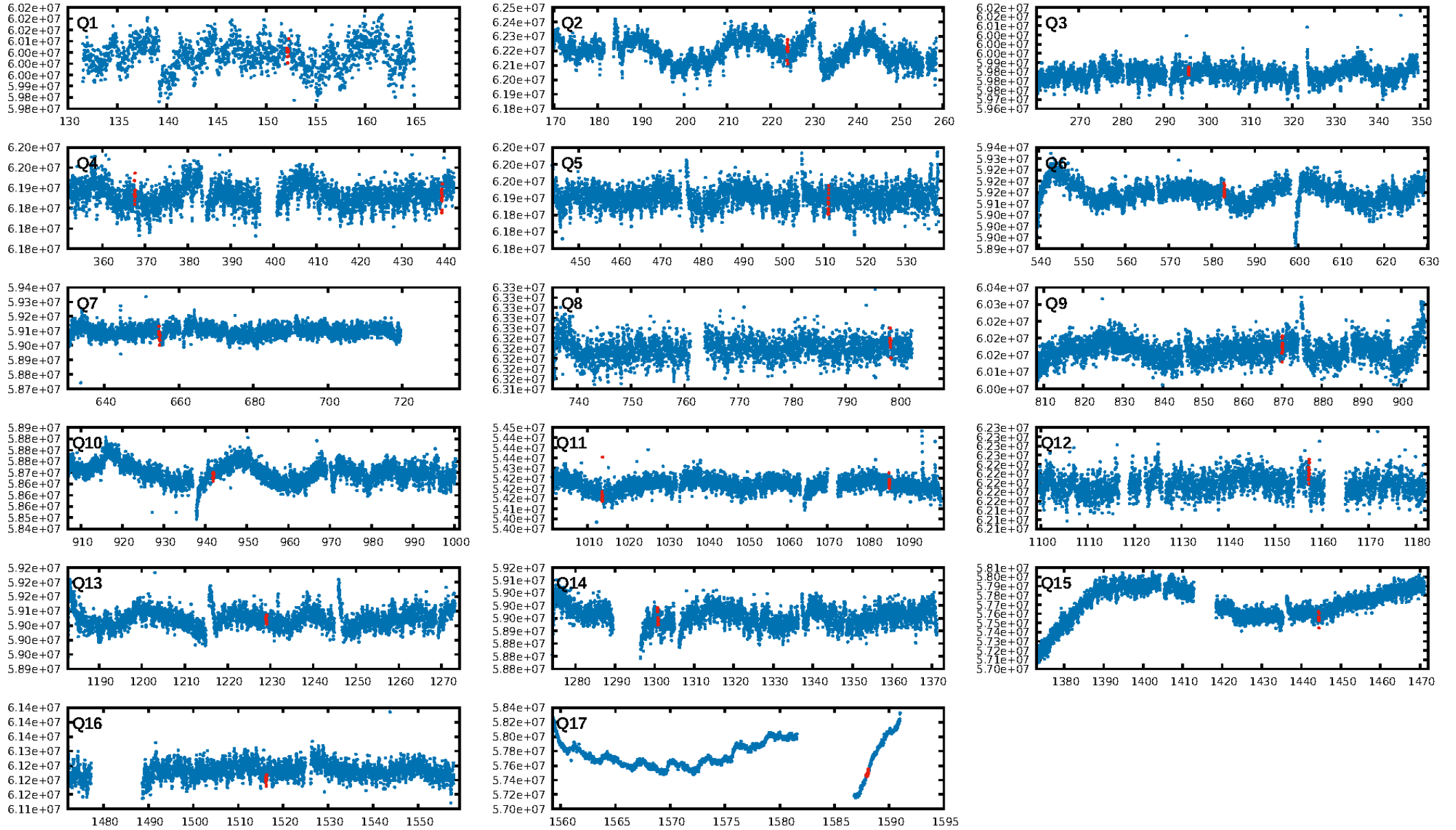
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [13.29] σ
LongPeriod-sig: 100.0% [51.22] σ
ModelChiSquare2-sig: 31.5%
ModelChiSquareGof-sig: 51.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.5714
Centroid-sig: N/A
Centroid-so: 4.524 arcsec [18.51] σ
OotOffset-rm: 0.707 arcsec [2.17] σ
KicOffset-rm: 6.618 arcsec [37.60] σ
OotOffset-st: 1/0/3/0 [4]
KicOffset-st: 1/1/3/0 [5]
DiffImageQuality-fgm: 0.20 [1/5]
DiffImageOverlap-fno: 0.46 [6/13]

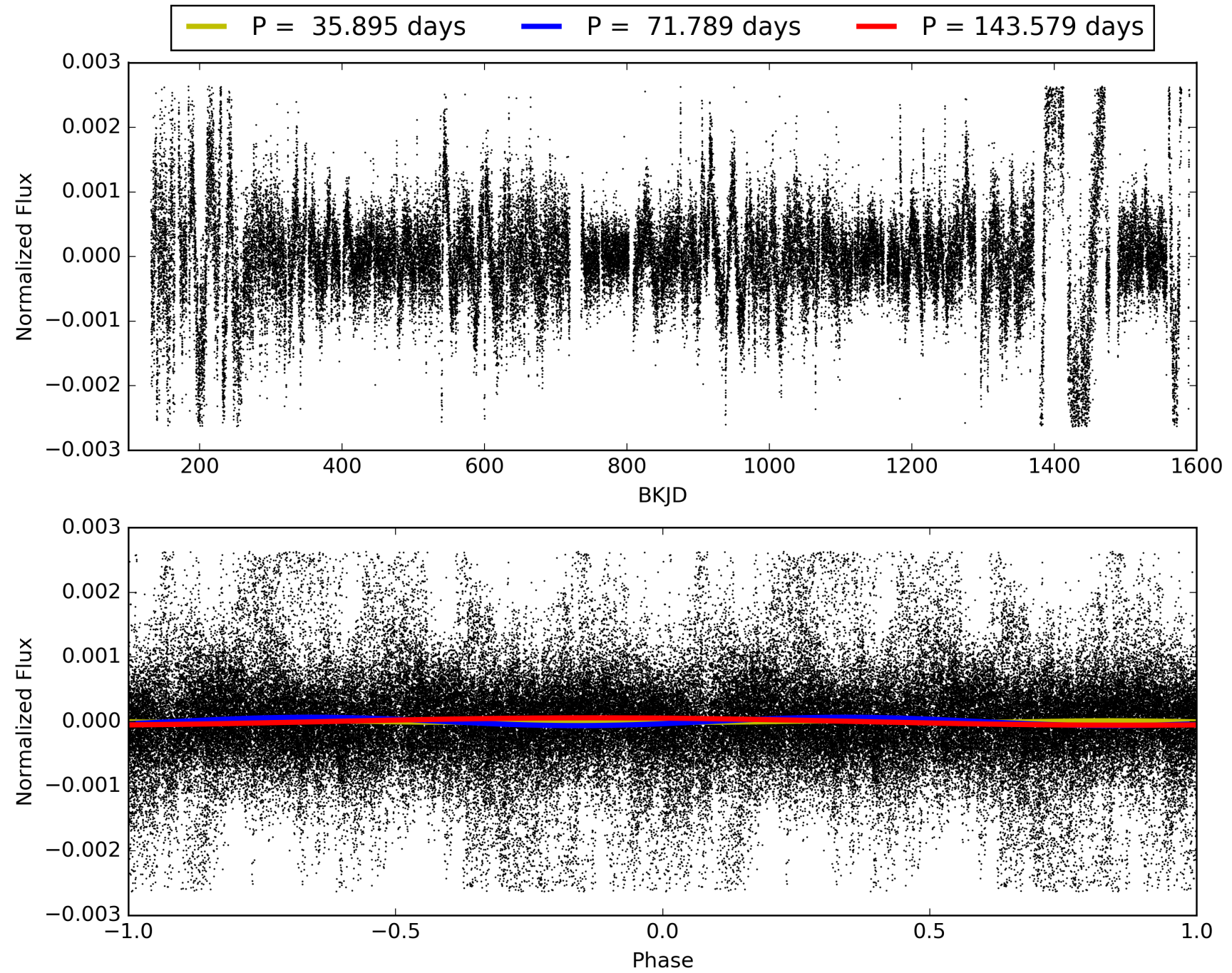
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:50:19 Z

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

TCE 002556639-10, PDC Light Curves

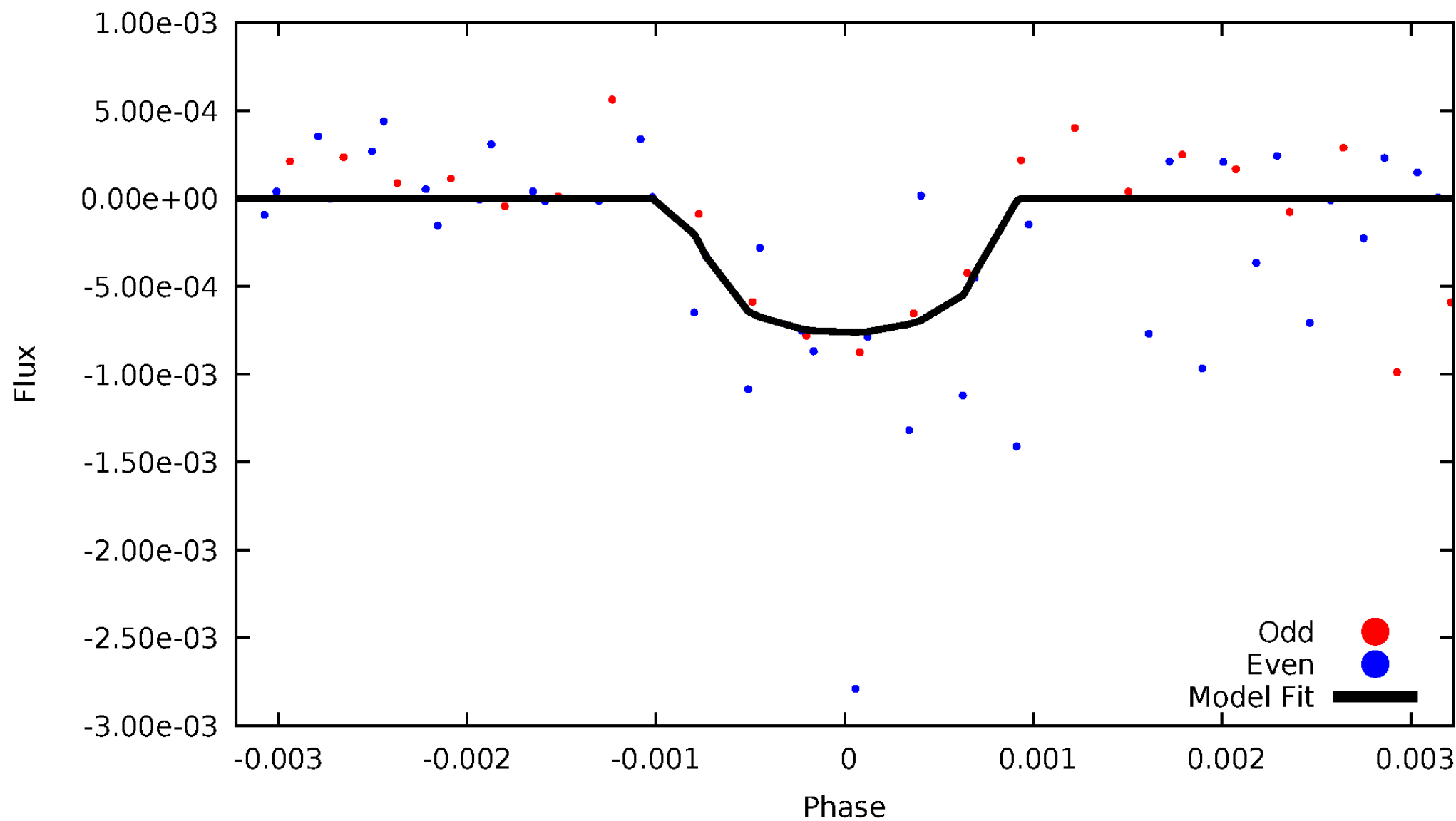


TCE 002556639-10



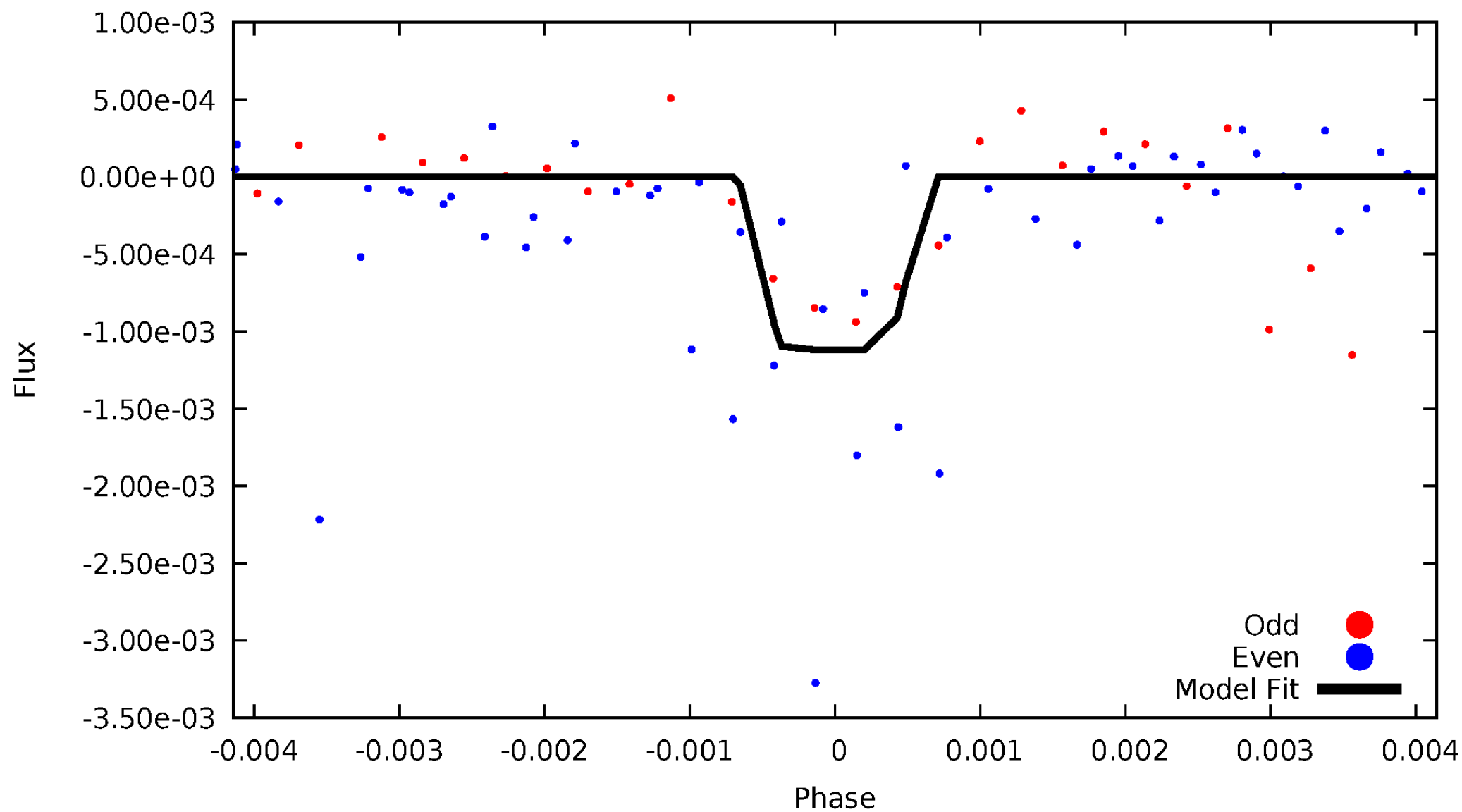
DV Odd/Even

TCE 002556639-10



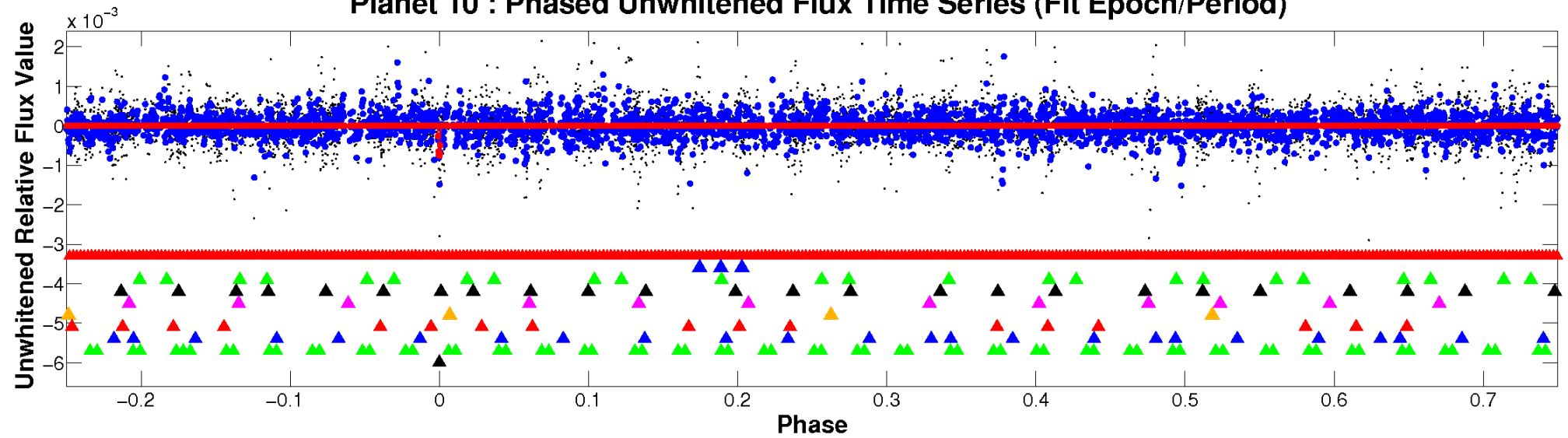
ALT Odd/Even

TCE 002556639-10

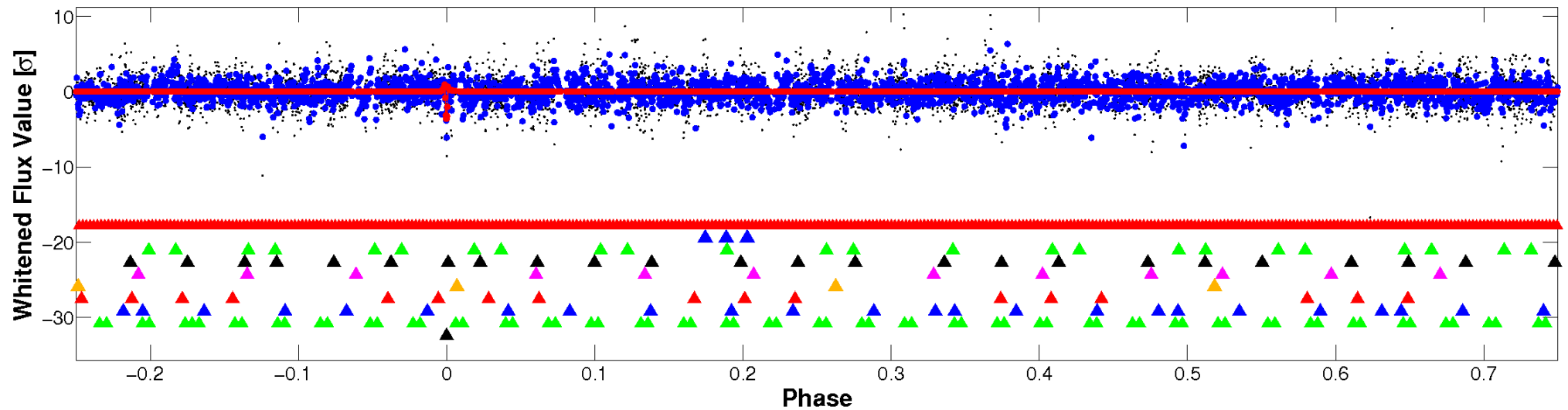


Non-Whitened Vs. Whitened Light Curve

Planet 10 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

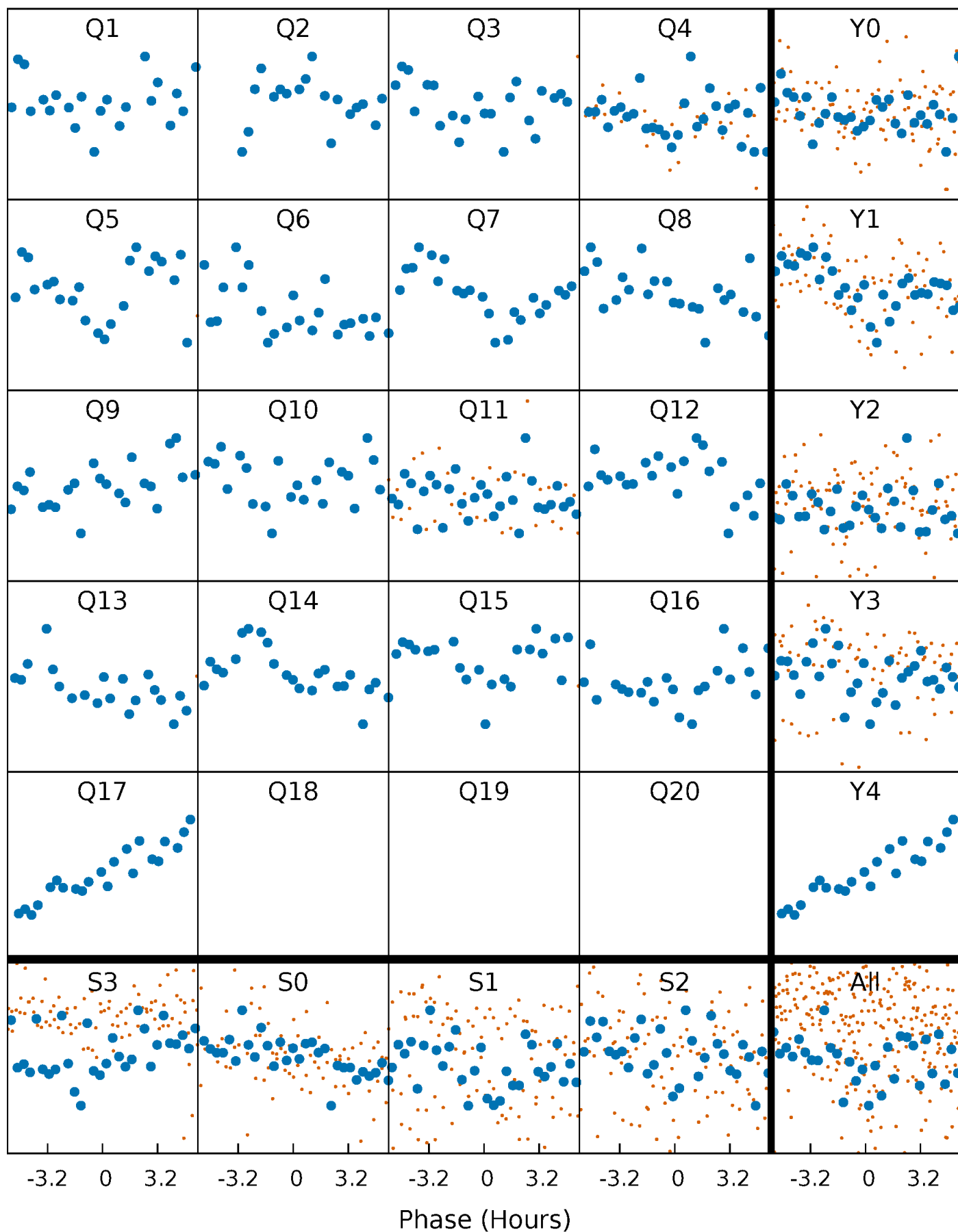


Planet 10 : Phased Whitened Flux Time Series (Fit Epoch/Period)



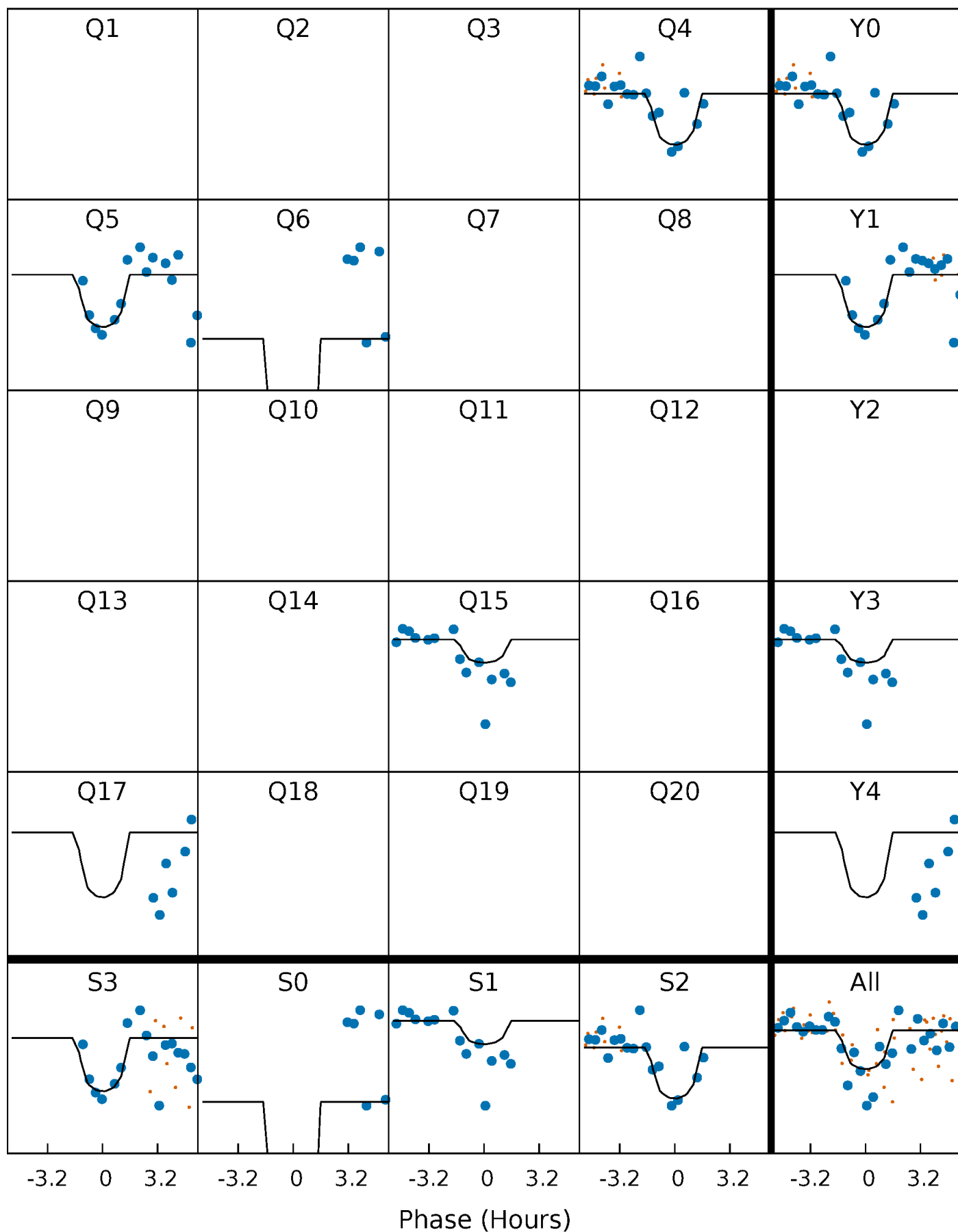
PDC Quarter-Phased Transit Curves

TCE 002556639-10 P= 71.789406 Days $T_0=152.216780$ (BKJD)



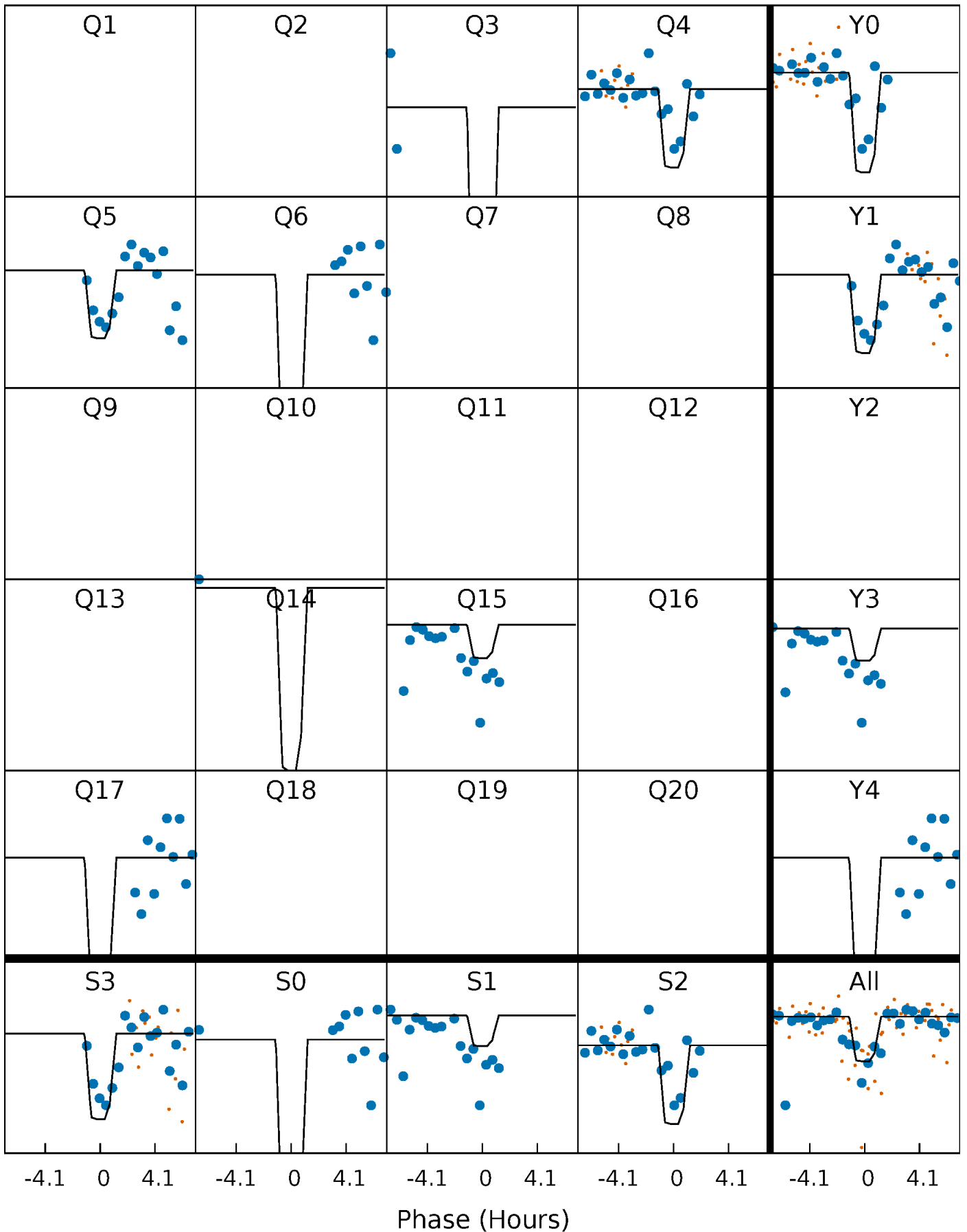
DV Quarter-Phased Transit Curves

TCE 002556639-10 P= 71.789406 Days $T_0=152.216780$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

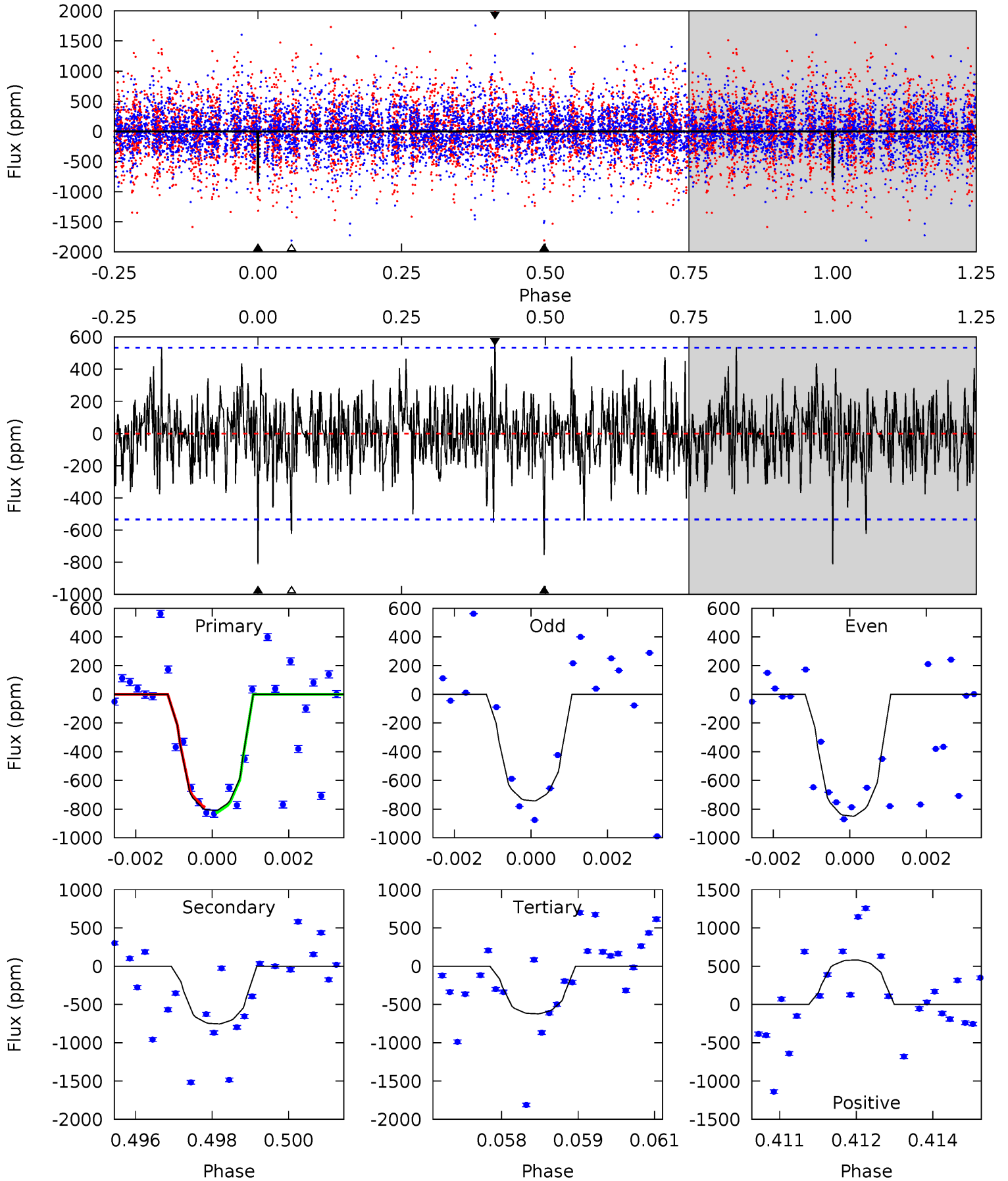
TCE 002556639-10 P= 71.790805 Days $T_0=152.205325$ (BKJD)



DV Model-Shift Uniqueness Test

002556639-10, P = 71.789406 Days, E = 80.427374 Days

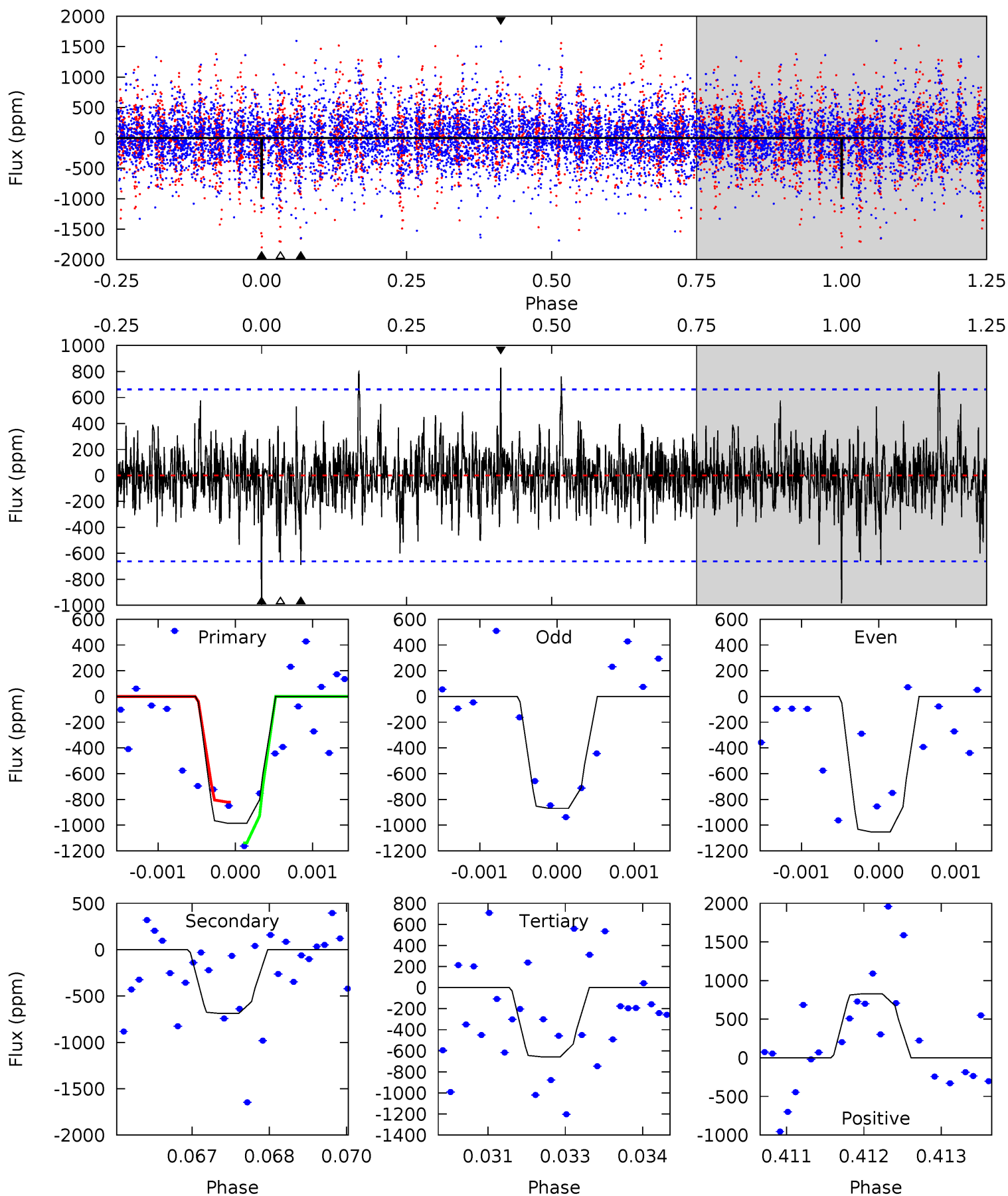
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.12	7.55	6.24	5.83	5.35	3.13	1.54	1.89	2.29	1.31	1.72	0.53	1.31	0.42	0.19



Alt Model-Shift Uniqueness Test

002556639-10, P = 71.790805 Days, E = 80.414520 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.03	5.62	5.36	6.77	5.40	3.20	1.41	2.67	1.27	0.26	-1.15	0.71	1.39	0.46	1.30



Stellar Parameters For KIC 002556639

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4838^{+50}_{-93}	$2.660^{+0.180}_{-0.120}$	$-0.120^{+0.100}_{-0.150}$	$10.671^{+1.463}_{-3.414}$	$1.899^{+0.185}_{-0.740}$	$0.002^{+0.003}_{-0.001}$
	+1%/-2%	+7%/-5%	+83%/-125%	+14%/-32%	+10%/-39%	+123%/-29%
Source	SPE74	SPE74	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 002556639-10 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-754 ± 100	$106.21^{+97.85}_{-75.41}$	1504^{+64}_{-81}	3147^{+1612}_{-581}	$6.440^{+63.082}_{-4.762}$
Alt.	-688 ± 123	$102.01^{+113.51}_{-70.22}$	1505^{+65}_{-96}	3131^{+1545}_{-609}	$6.437^{+58.742}_{-5.015}$

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 $A_{obs} \gg 1.0$

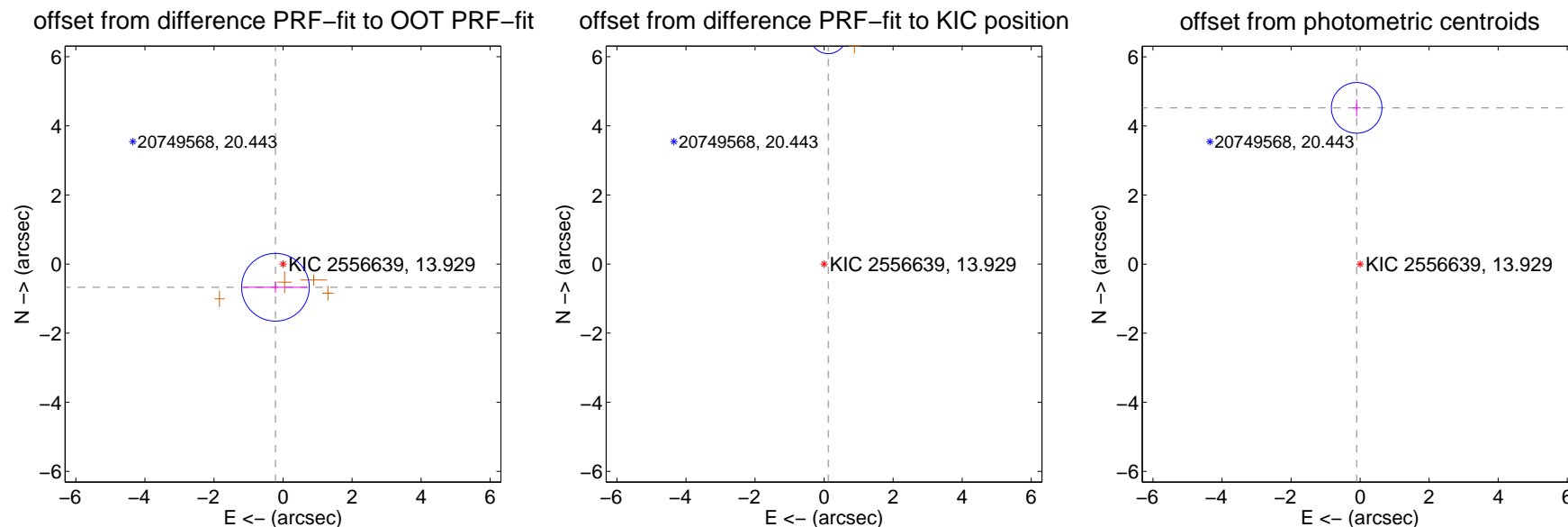
DV Centroid Data

Supplemental centroid analysis for 002556639-10. Kepler magnitude: 13.93. Transit SNR 12.73

There are 1 quarters with good PRF difference image offsets

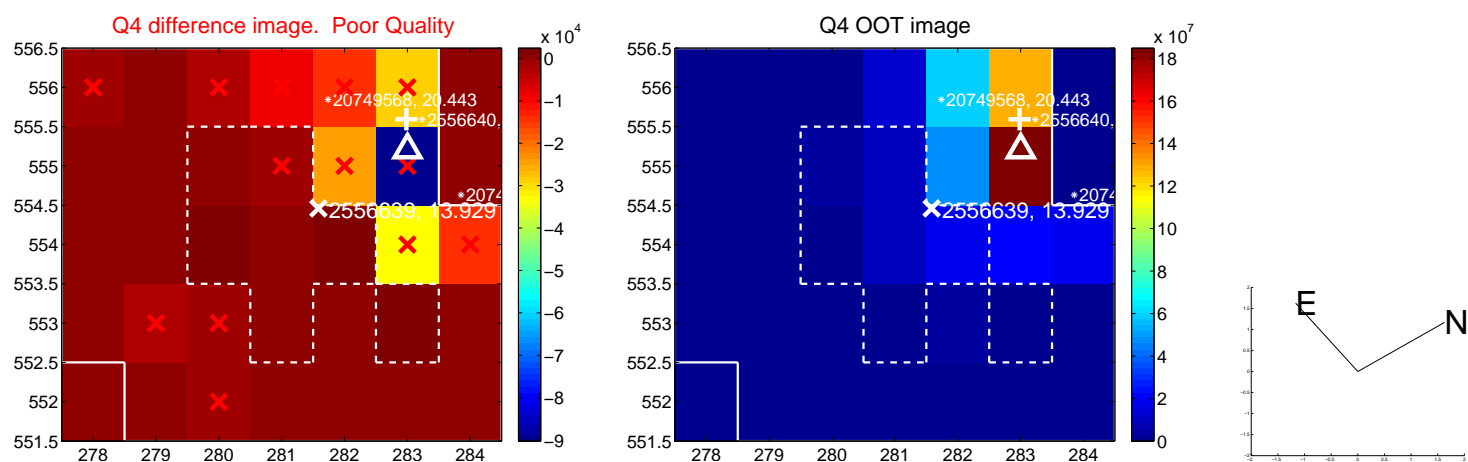
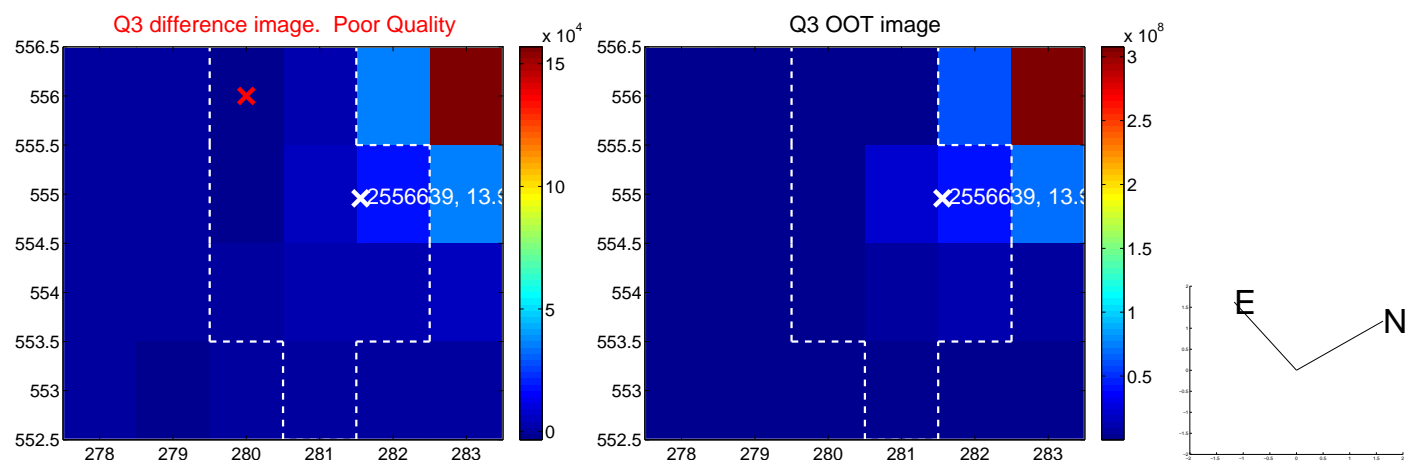
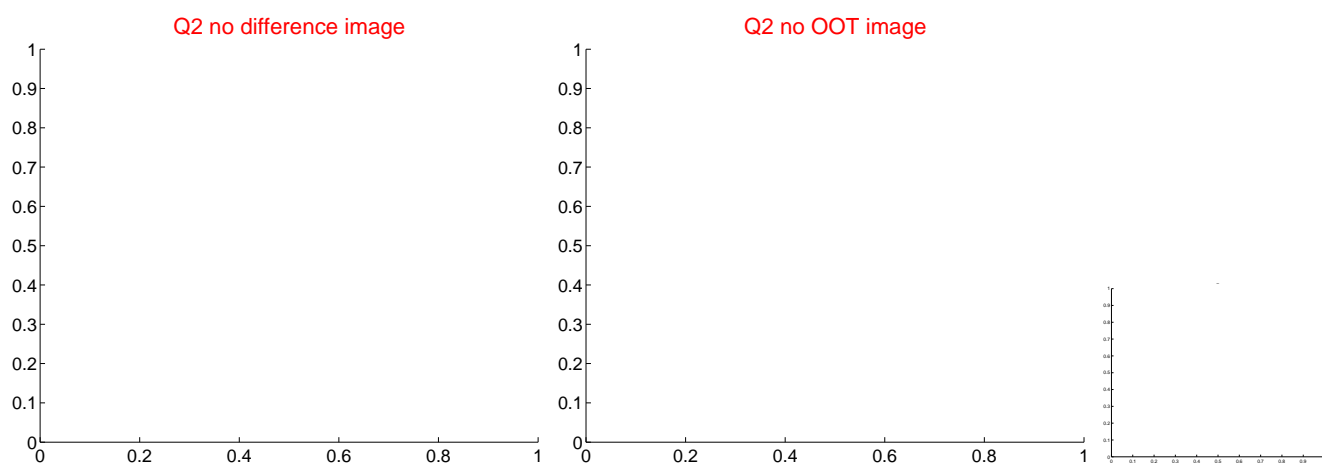
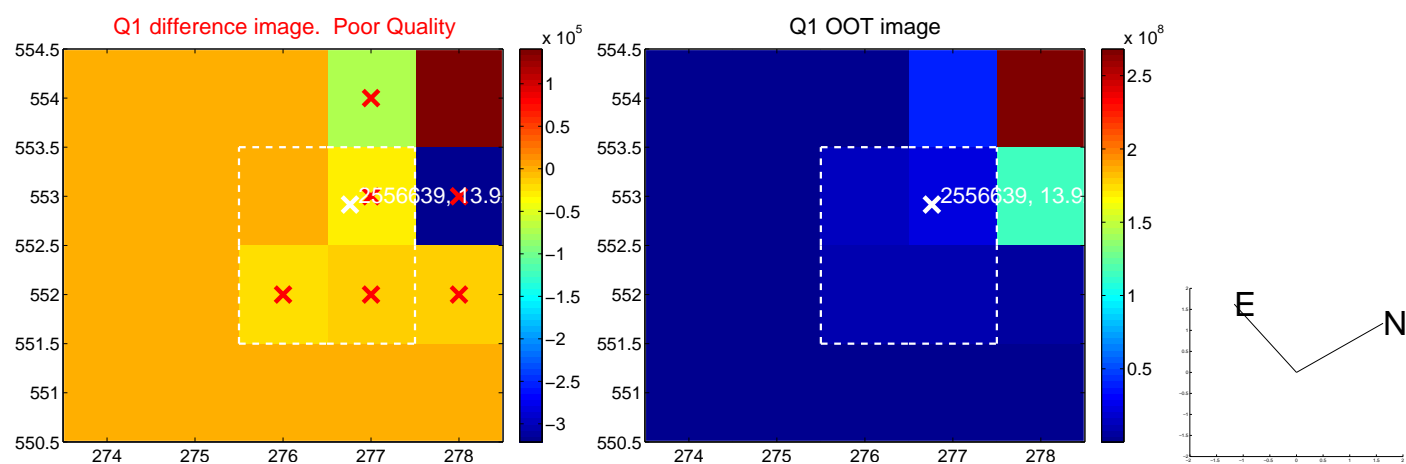
The OOT PRF centroid is offset from the target star catalog position by about 8.11 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.707 ± 0.327	2.17	0.220 ± 0.927	-0.672 ± 0.161
PRF-fit source offset from KIC position	6.618 ± 0.176	37.60	-0.120 ± 0.385	6.617 ± 0.176
photometric centroid source offset	4.52 ± 0.24	18.51	0.10 ± 0.11	4.52 ± 0.24

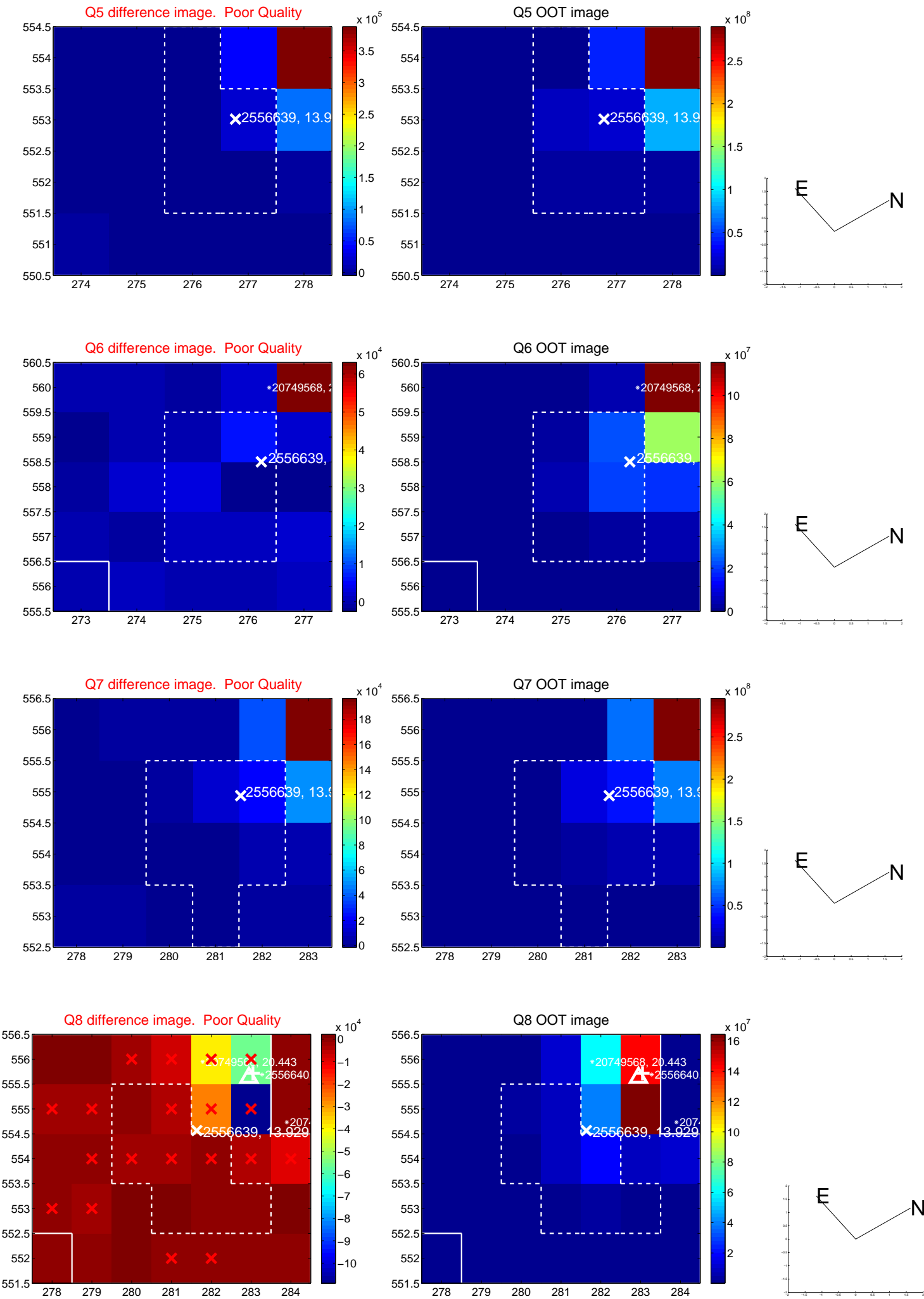


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

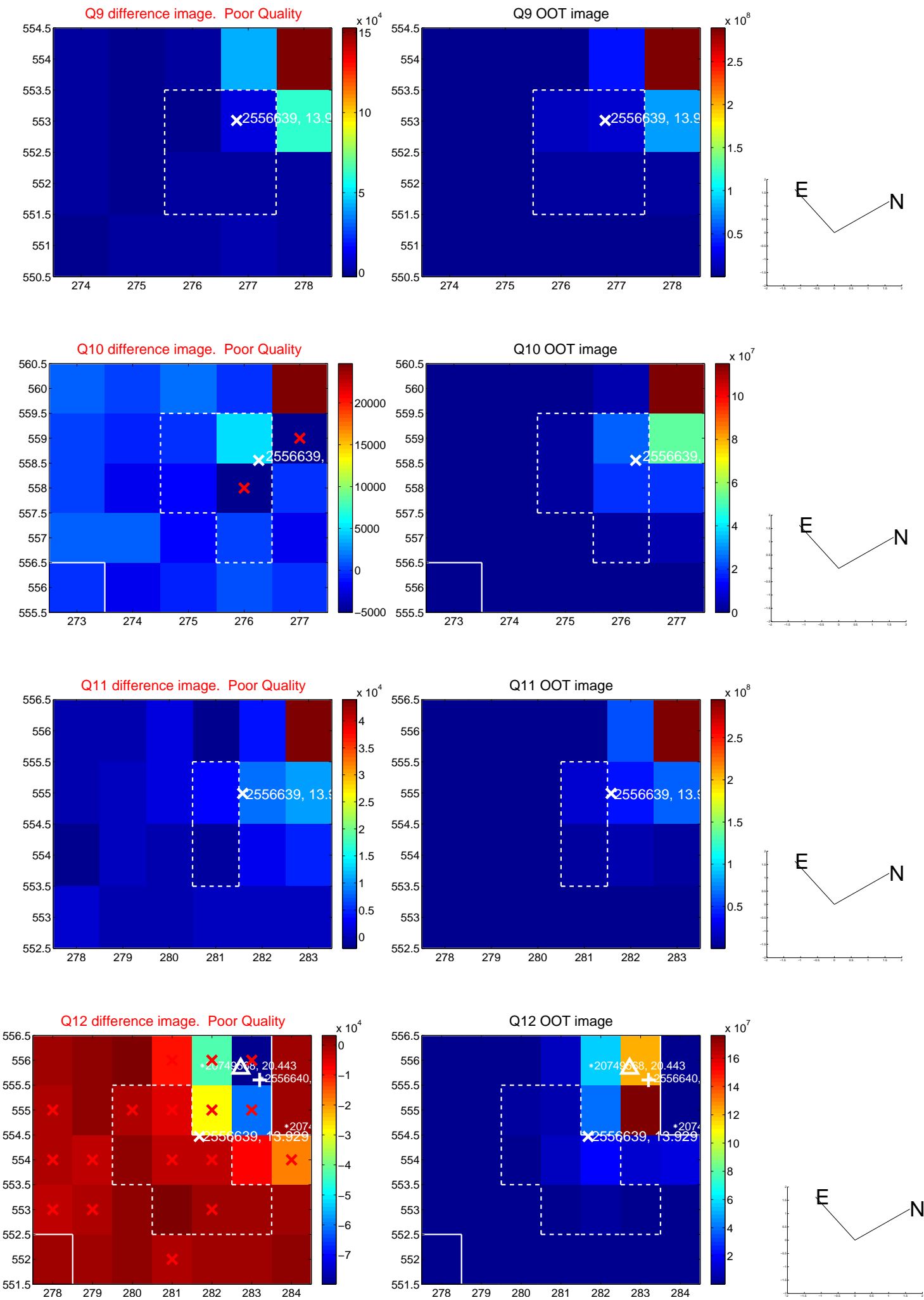
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

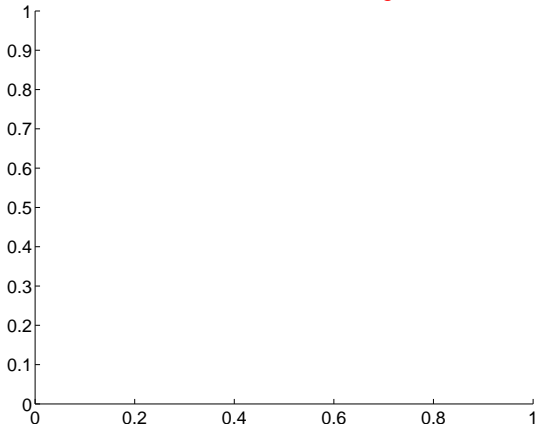


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

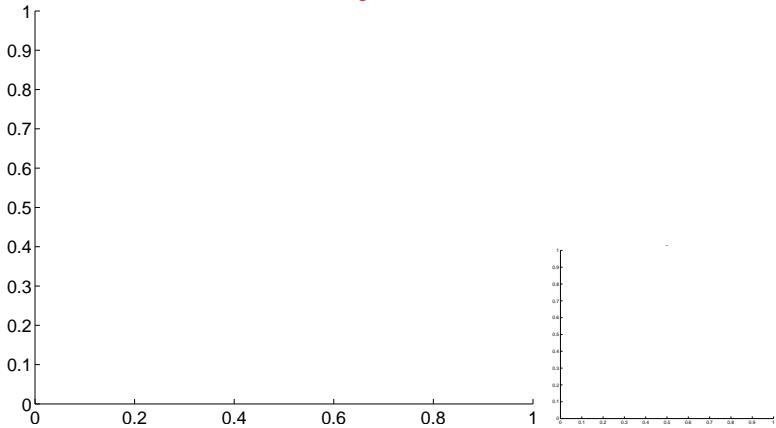


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

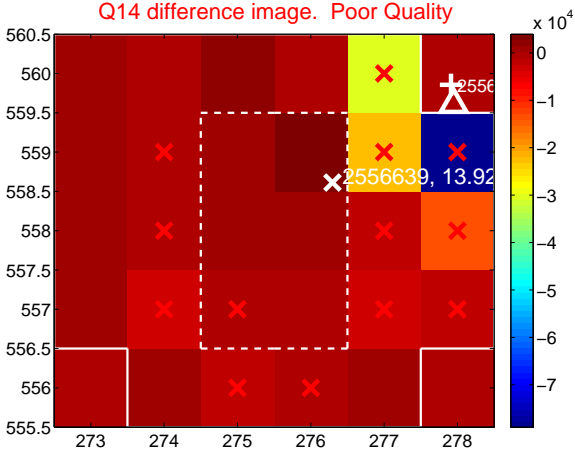
Q13 no difference image



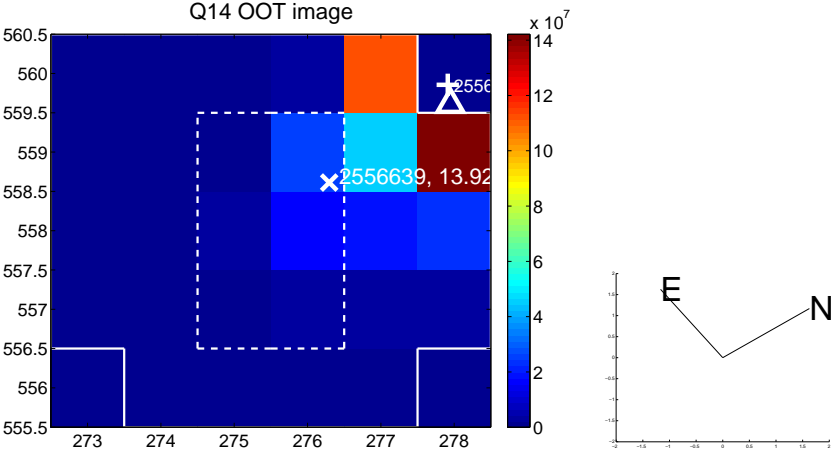
Q13 no OOT image



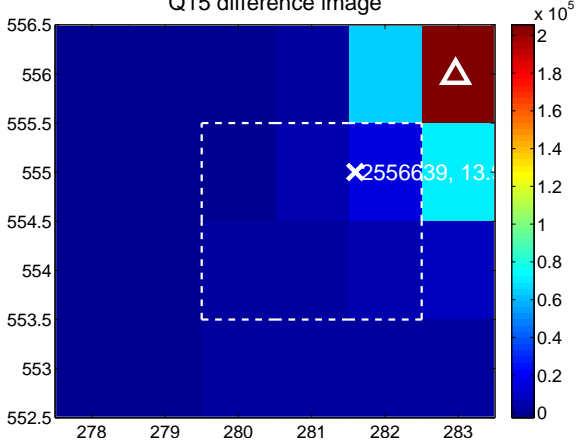
Q14 difference image. Poor Quality



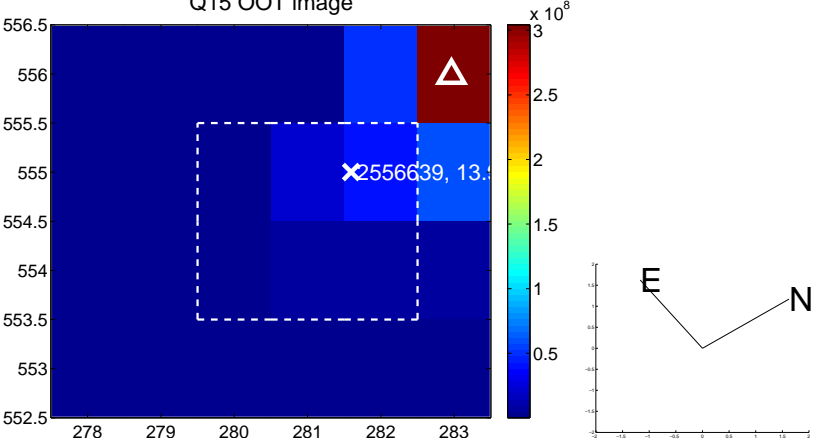
Q14 OOT image



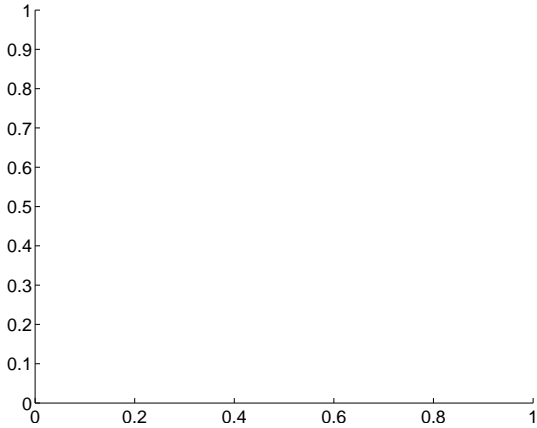
Q15 difference image



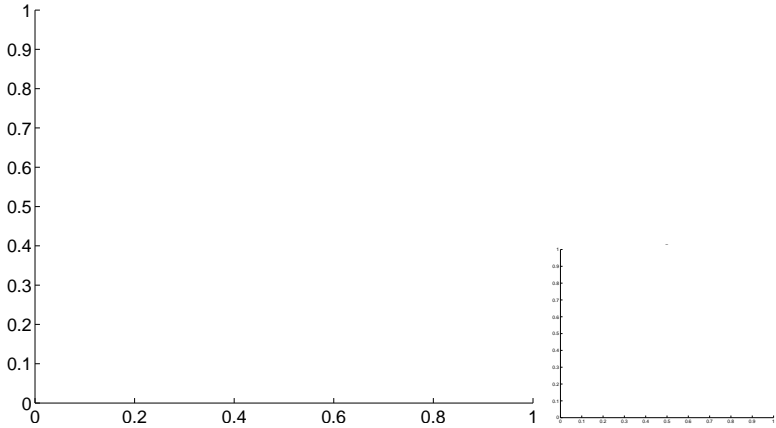
Q15 OOT image



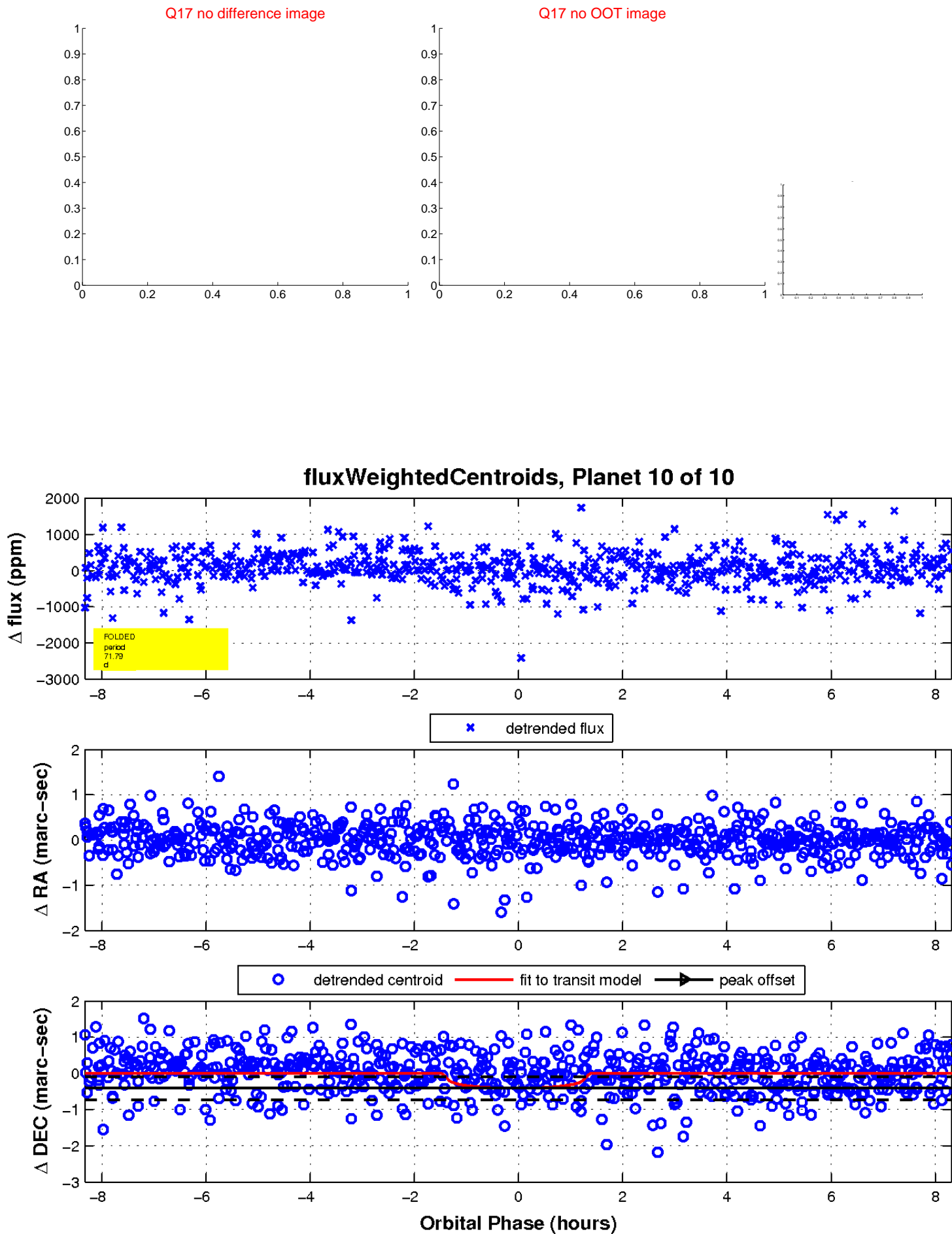
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

