

KIC 008525286

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})
008525286-01	OBS	No	0.692679	131.954354	54.6	2.782	10.2	10.4	9.33	5313	8.35	0.00
008525286-02	OBS	No	2.557094	132.568881	127.2	30.685	7.6	17.2	9.33	5313	10.58	23682.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008525286-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008525286-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—CENT_KIC_POS

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.

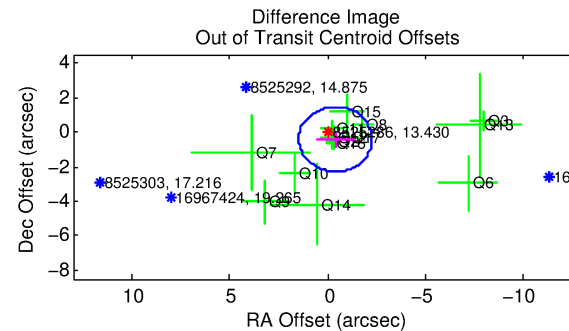
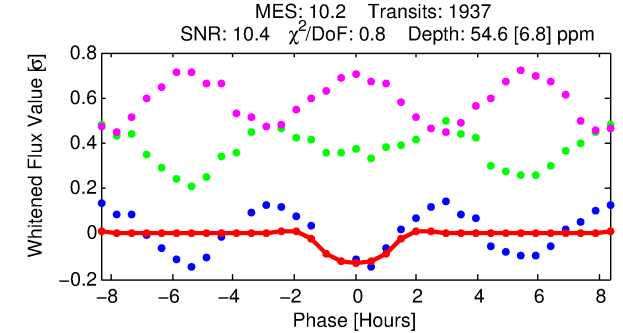
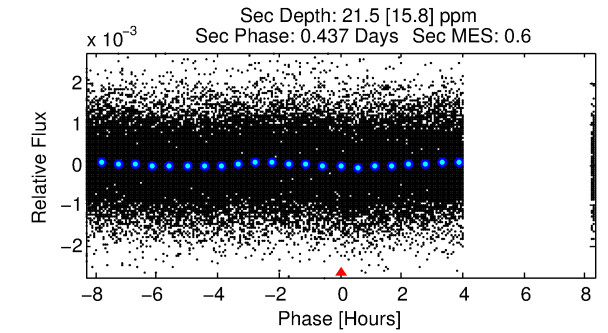
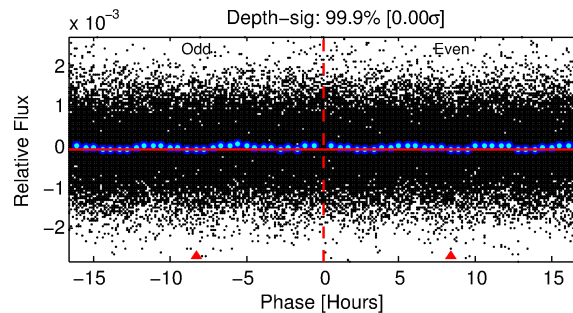
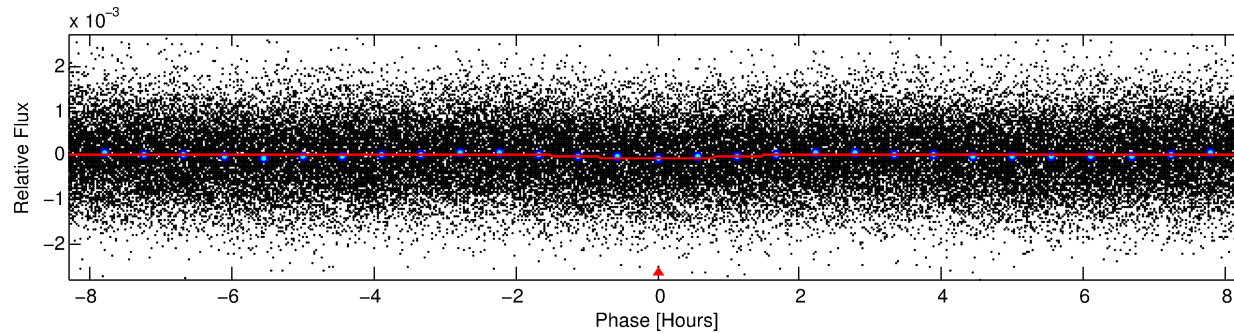
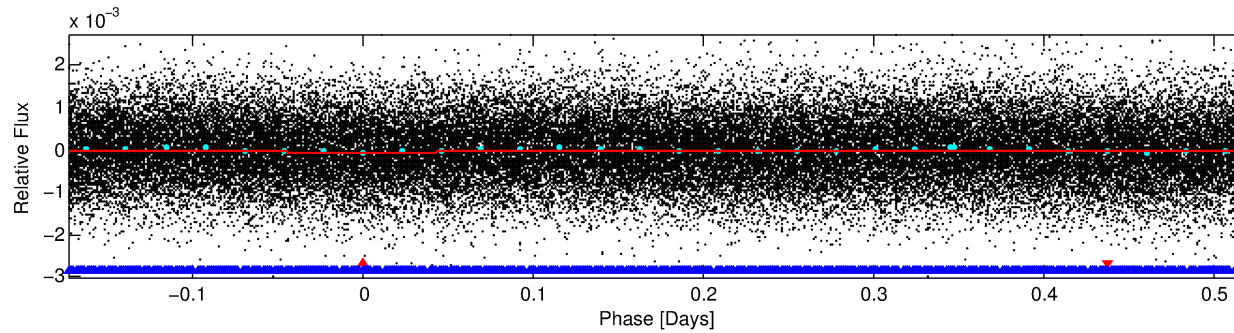
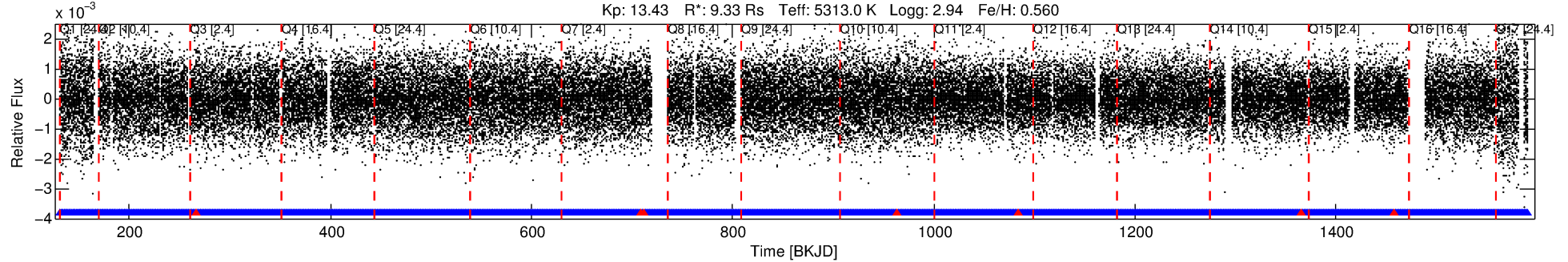
Ephemeris Match Information For 008525286-01

No Significant Match Found

DV One-Page Summary

KIC: 8525286 Candidate: 1 of 2 Period: 0.693 d
KOI: K05533 Corr: No Ephemeris Match

Kp: 13.43 R*: 9.33 Rs Teff: 5313.0 K Logg: 2.94 Fe/H: 0.560



DV Fit Results:

Period = 0.69268 [0.00001] d
Epoch = 131.9544 [0.0038] BKJD
Rp/R* = 0.0082 [0.0093]
a/R* = 1.28 [2.31]
b = 0.90 [1.02]
Seff = N/A
Teq = N/A
Rp = 8.35 [10.13] Re
a = N/A
Ag = N/A
Teffp = N/A

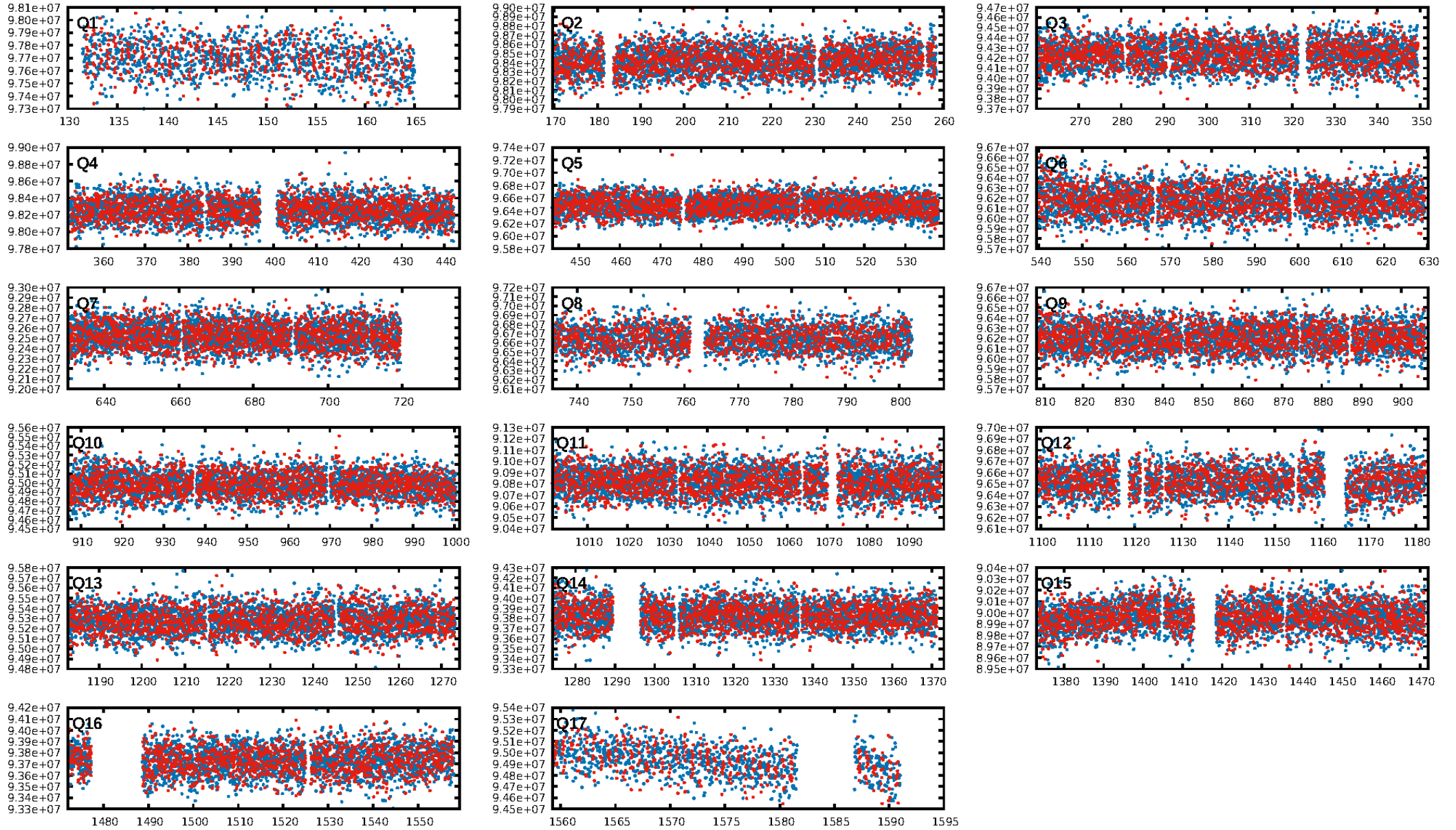
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 85.4% [1.45σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1844/1851]
GhostDiagnostic-chr: 2.205
Centroid-sig: 23.5%
Centroid-so: 0.606 arcsec [1.11σ]
OotOffset-rm: 0.573 arcsec [0.92σ]
KicOffset-rm: 0.185 arcsec [0.20σ]
OotOffset-st: 4/4/3/3 [14]
KicOffset-st: 4/4/3/3 [14]
DiffImageQuality-fgm: 0.29 [4/14]
DiffImageOverlap-fno: 1.00 [17/17]

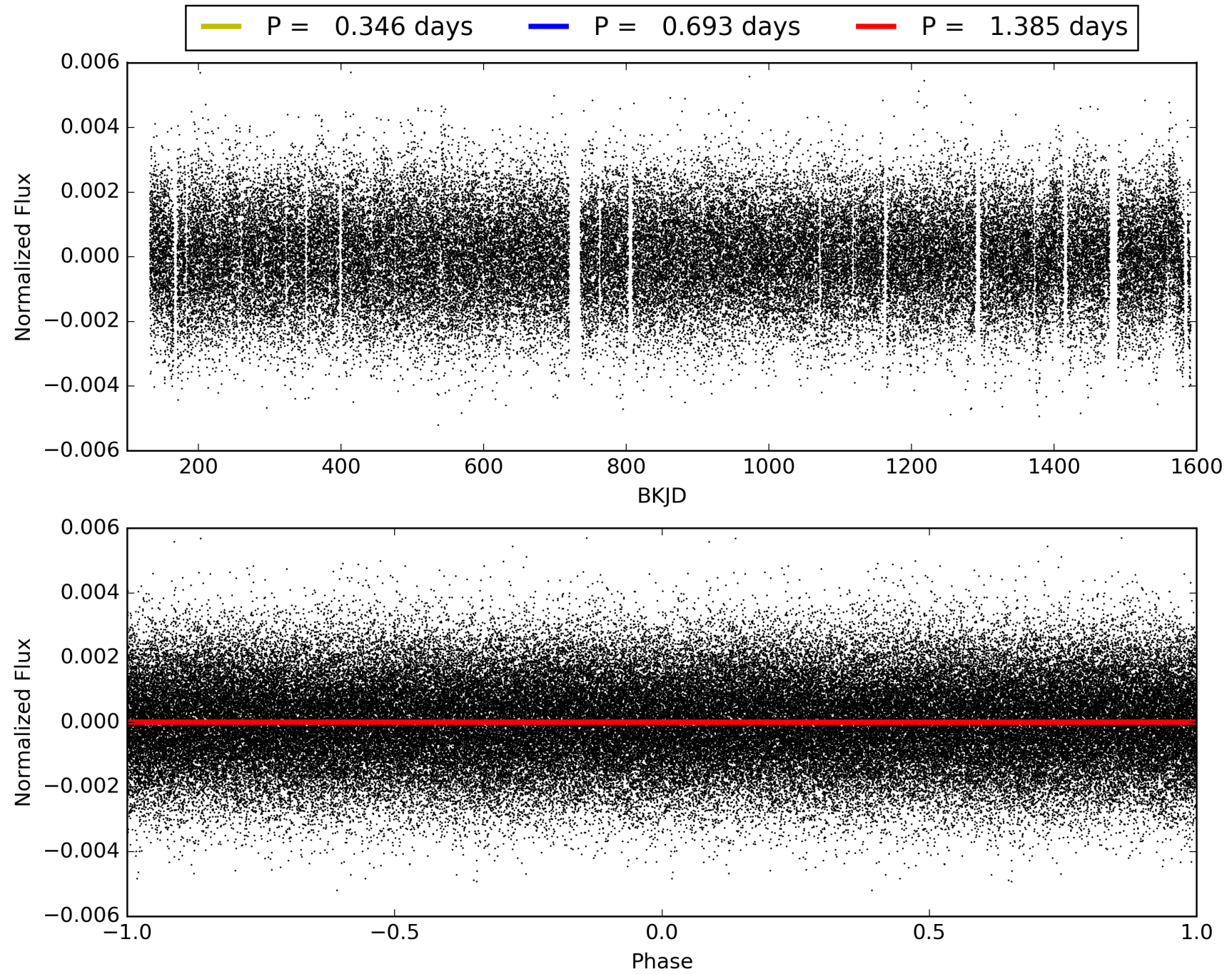
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:38:26 Z

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

TCE 00525286-01, PDC Light Curves

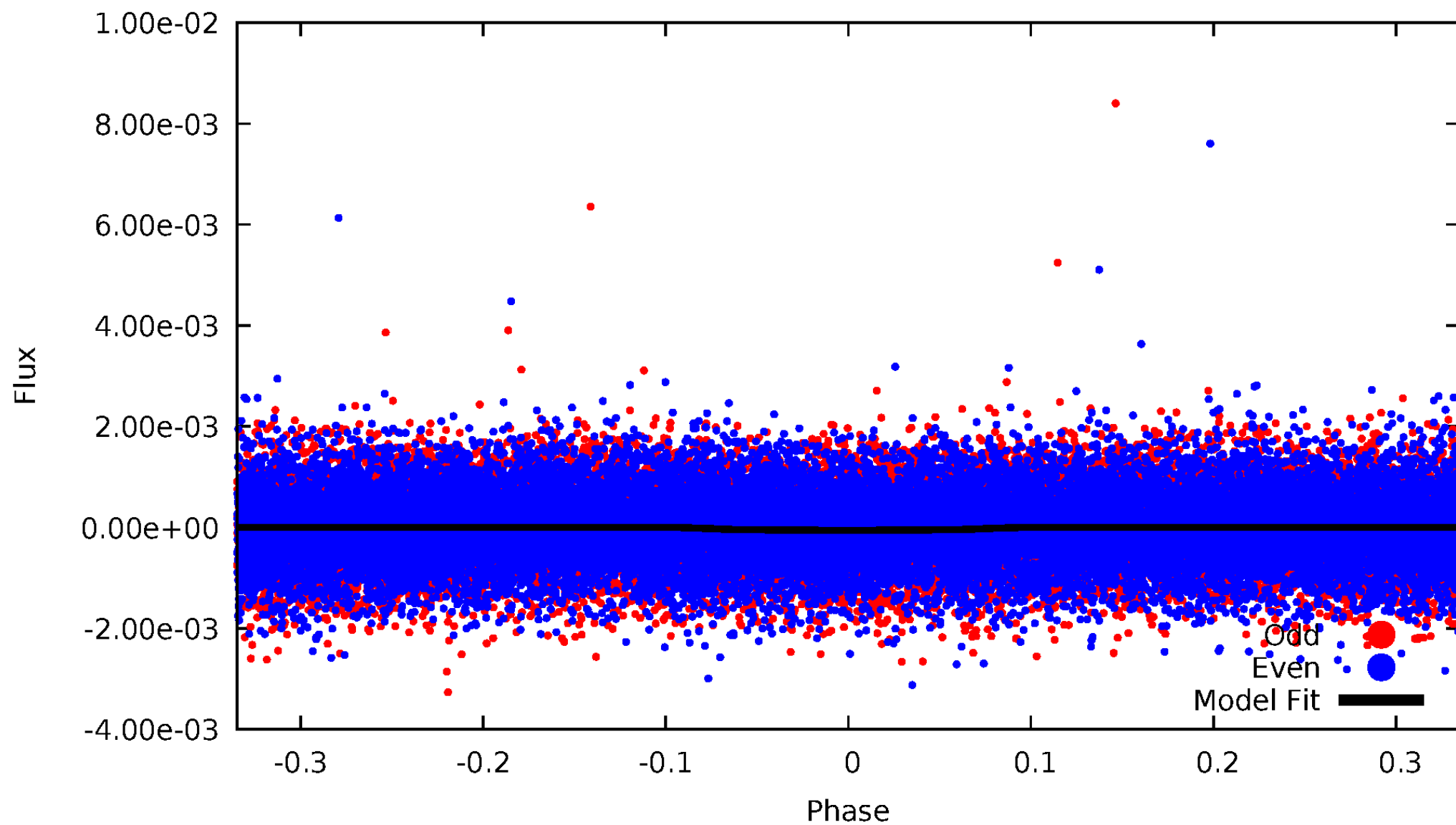


TCE 008525286-01



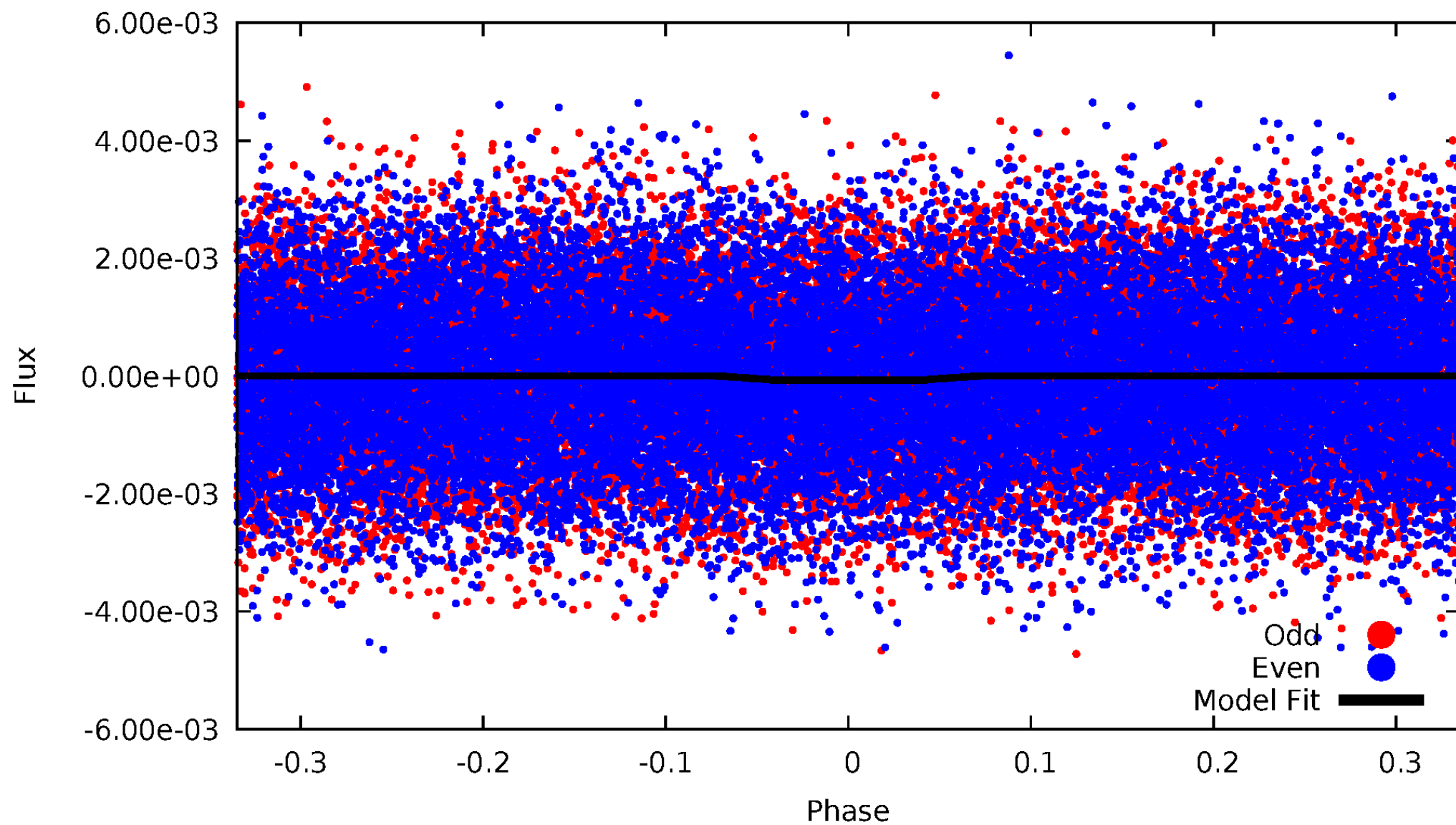
DV Odd/Even

TCE 008525286-01

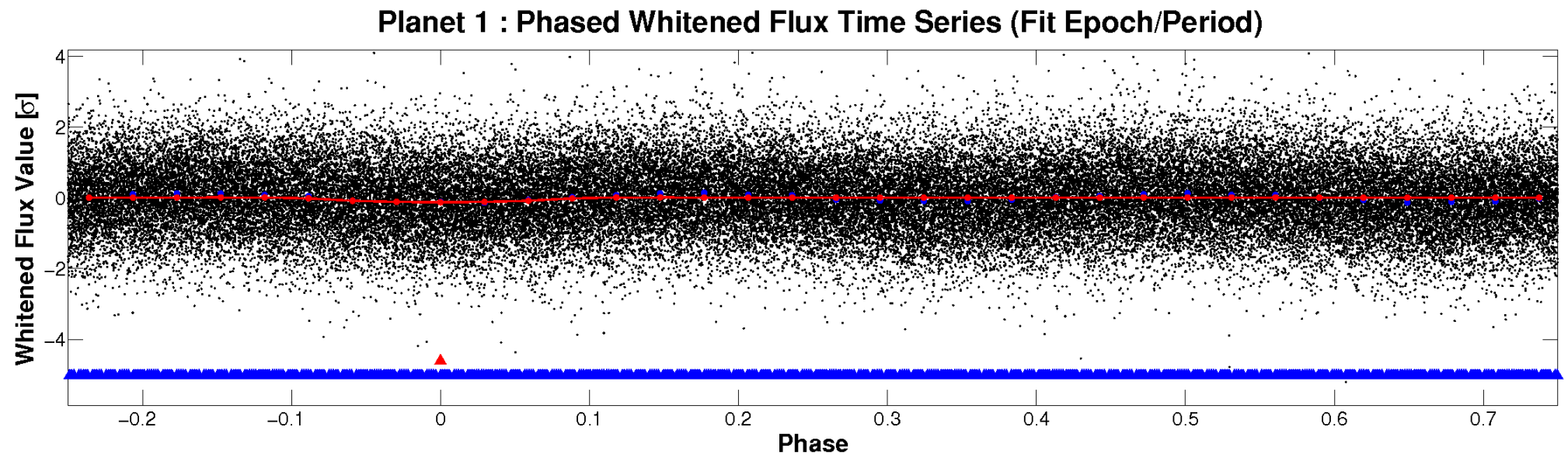
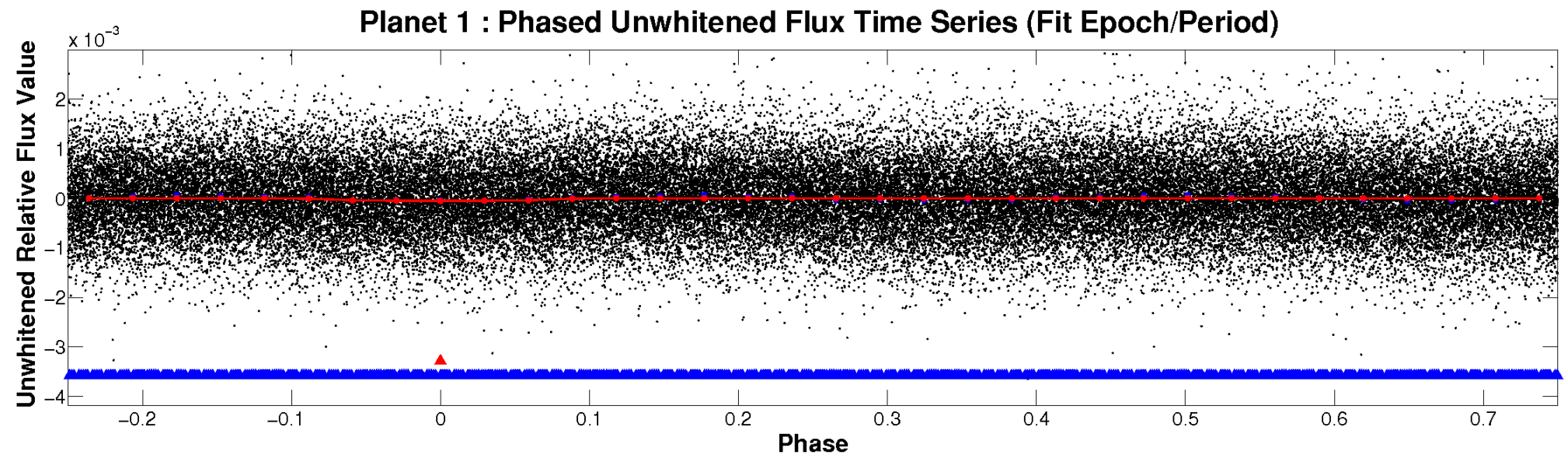


ALT Odd/Even

TCE 008525286-01

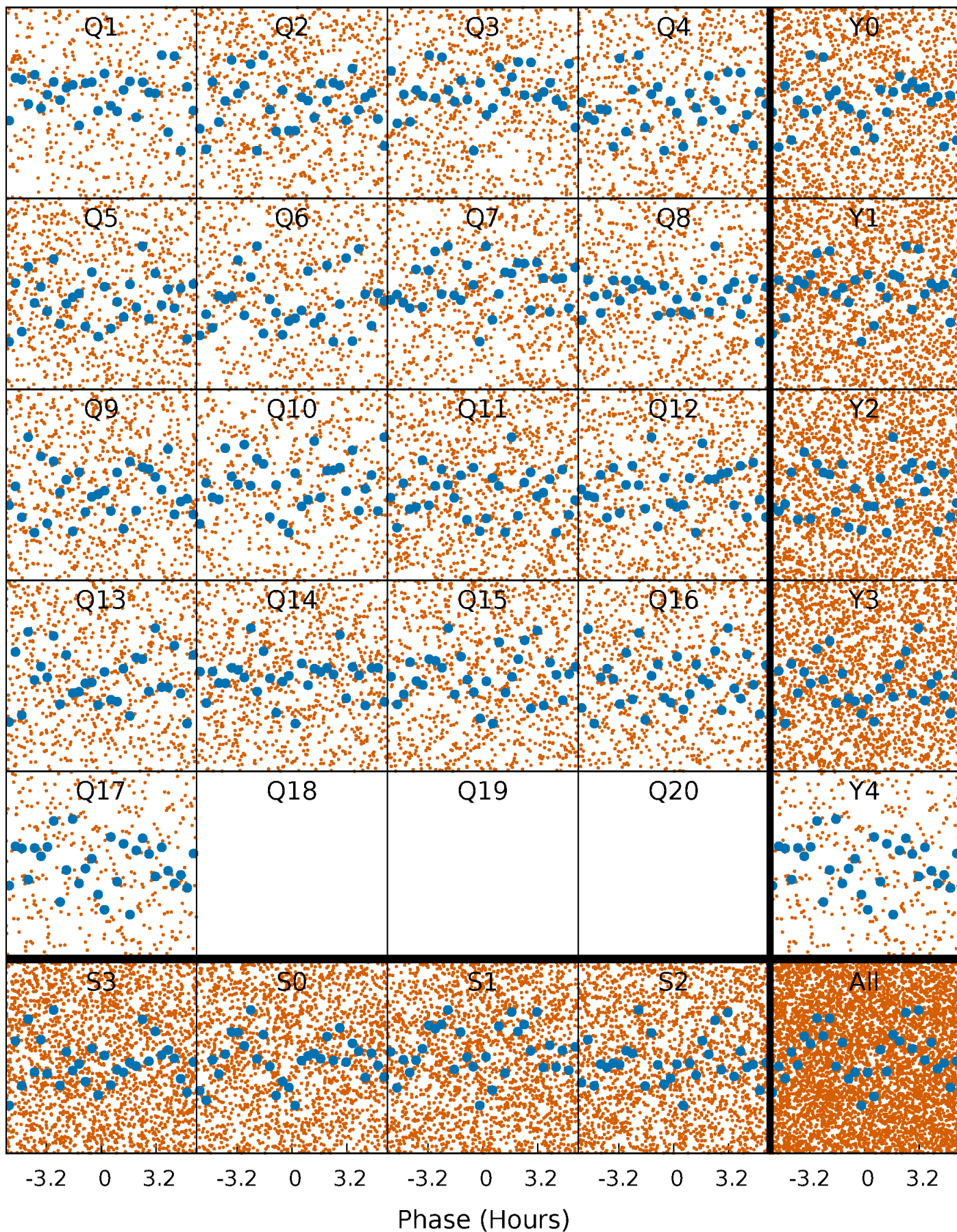


Non-Whitened Vs. Whitened Light Curve



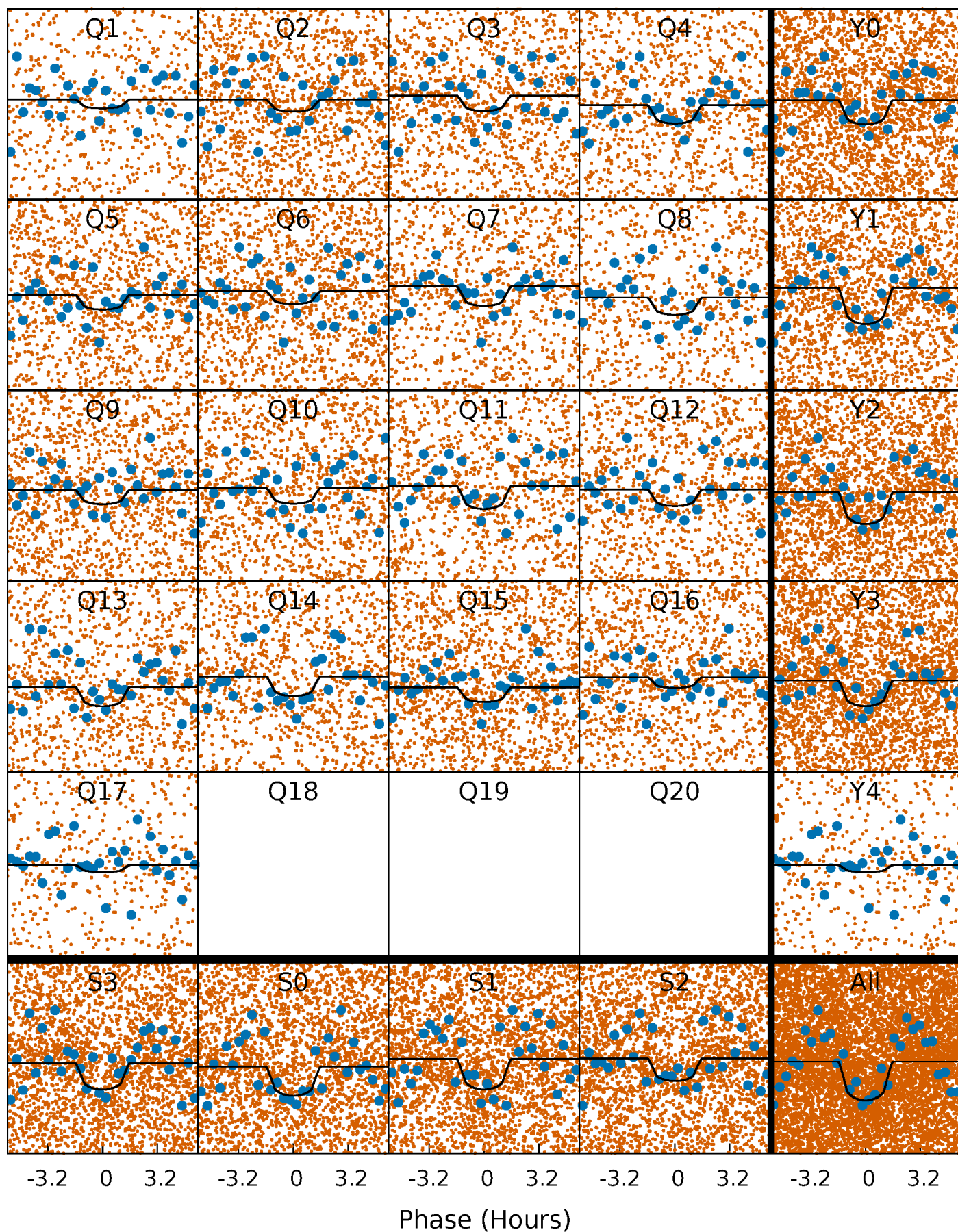
PDC Quarter-Phased Transit Curves

TCE 008525286-01 P= 0.692679 Days $T_0=131.954354$ (BKJD)



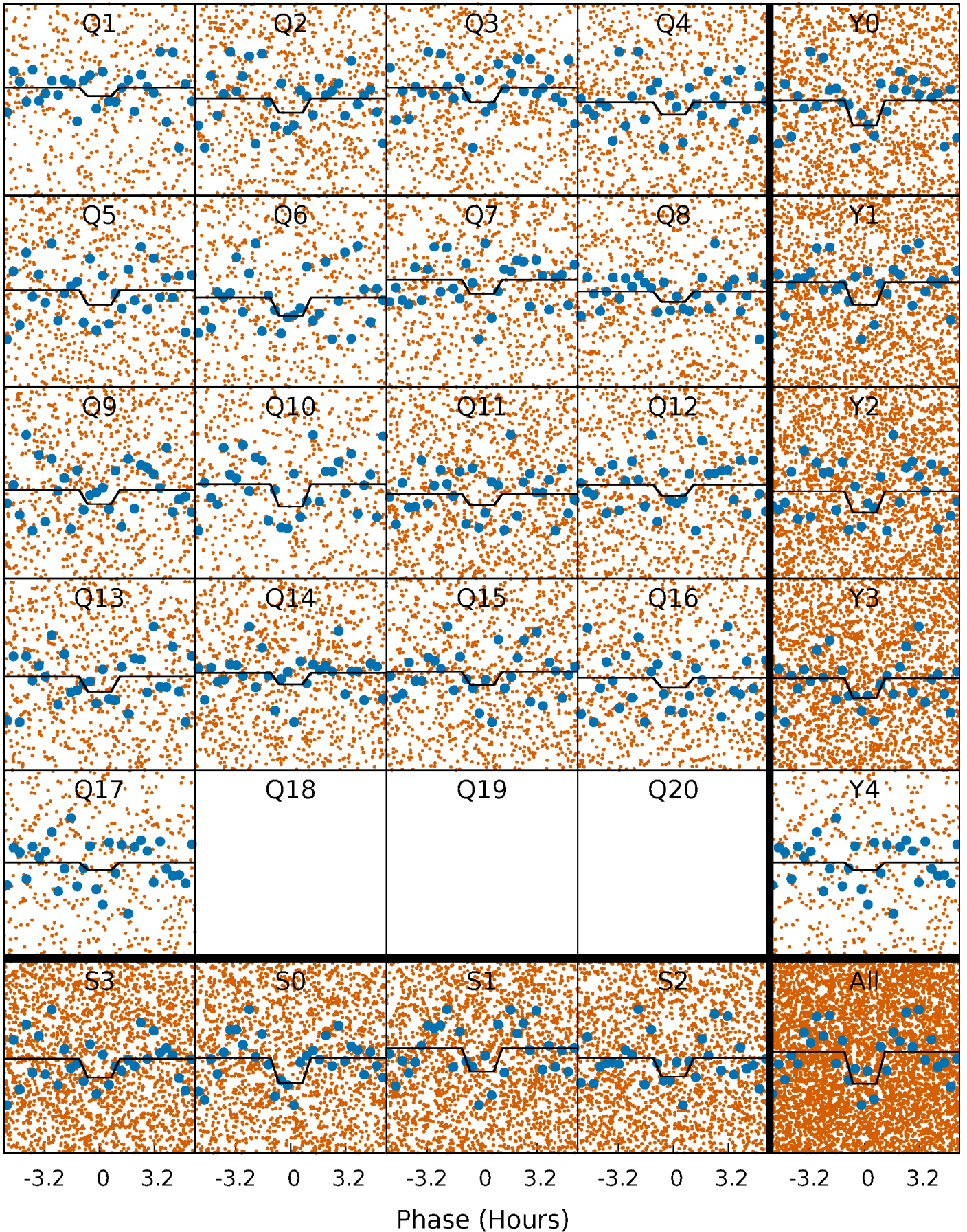
DV Quarter-Phased Transit Curves

TCE 008525286-01 P= 0.692679 Days $T_0=131.954354$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

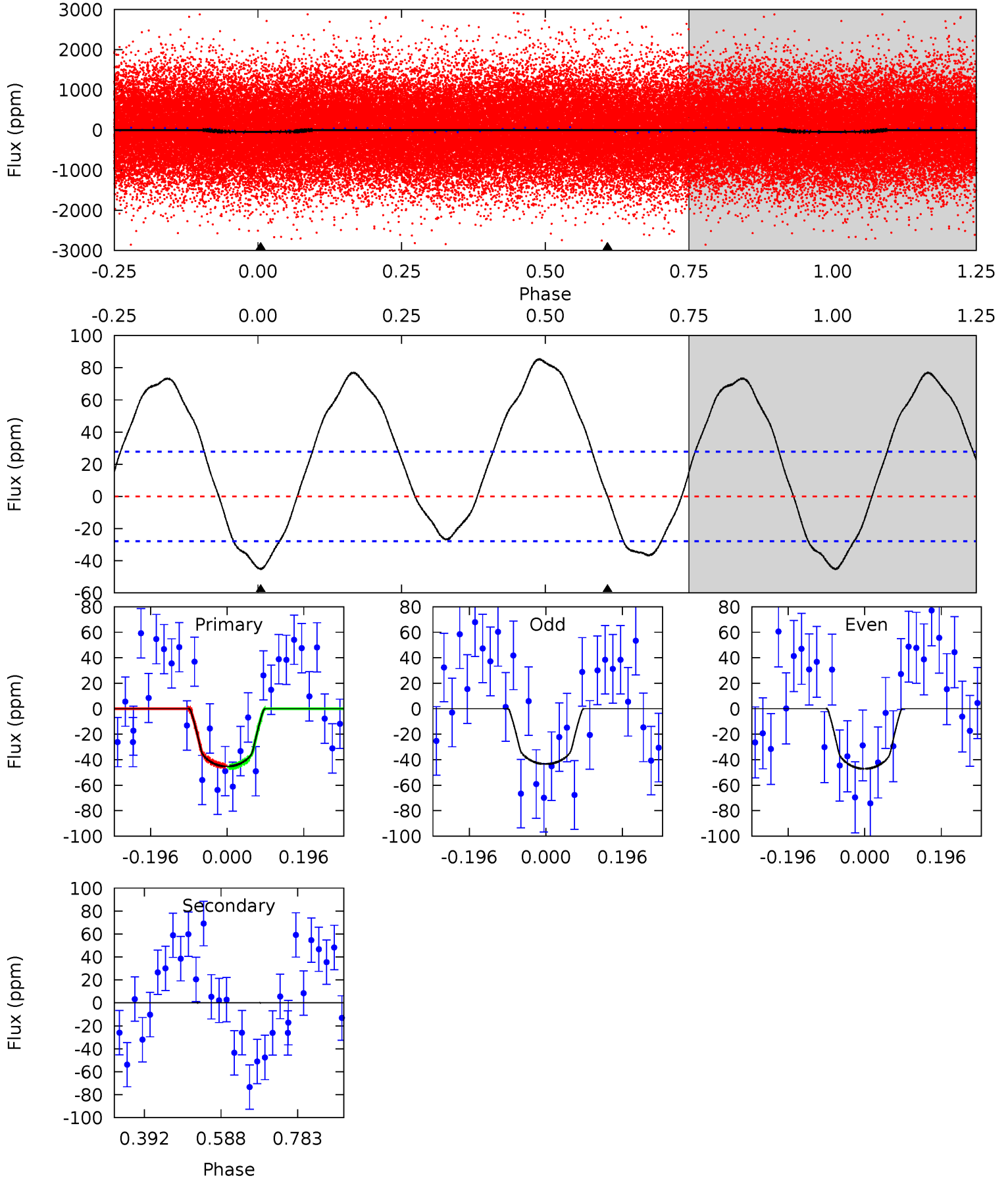
TCE 008525286-01 P= 0.692679 Days $T_0=131.954354$ (BKJD)



DV Model-Shift Uniqueness Test

008525286-01, P = 0.692679 Days, E = 131.261675 Days

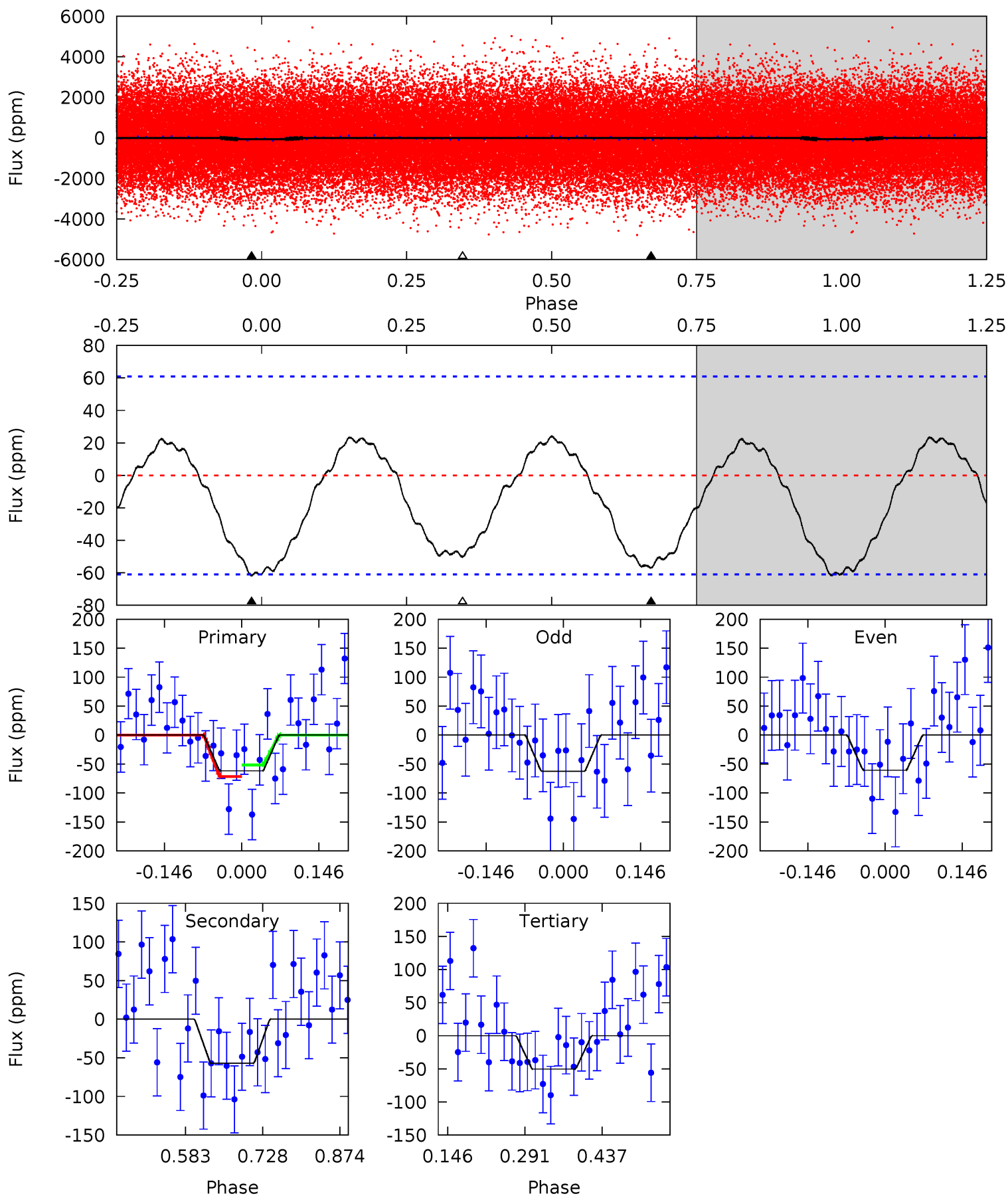
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.18	-0.02	0	0	4.42	1.29	4.39	7.18	7.18	-0.02	-0.02	0.30	0.92	0.65	0.07



Alt Model-Shift Uniqueness Test

008525286-01, P = 0.692679 Days, E = 131.261675 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.54	4.21	3.71	0	4.49	1.46	1.96	0.84	4.54	0.50	4.21	0.07	0.98	0.28	0.74



Stellar Parameters For KIC 008525286

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5313^{+325}_{-758}	$2.936^{+0.175}_{-0.214}$	$0.560^{+0.050}_{-0.100}$	$9.327^{+2.661}_{-3.992}$	$2.736^{+0.167}_{-1.422}$	$0.005^{+0.006}_{-0.002}$
	+6%/-14%	+6%/-7%	+9%/-18%	+29%/-43%	+6%/-52%	+134%/-49%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 008525286-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 6	$10.44^{+8.84}_{-6.84}$	6788^{+795}_{-964}	-5501^{+928}_{-762}	$0.000^{+0.021}_{-0.021}$
Alt.	-57 ± 14	$10.48^{+8.80}_{-6.72}$	6788^{+774}_{-923}	-4543^{+10827}_{-1054}	$0.120^{+0.740}_{-0.085}$

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

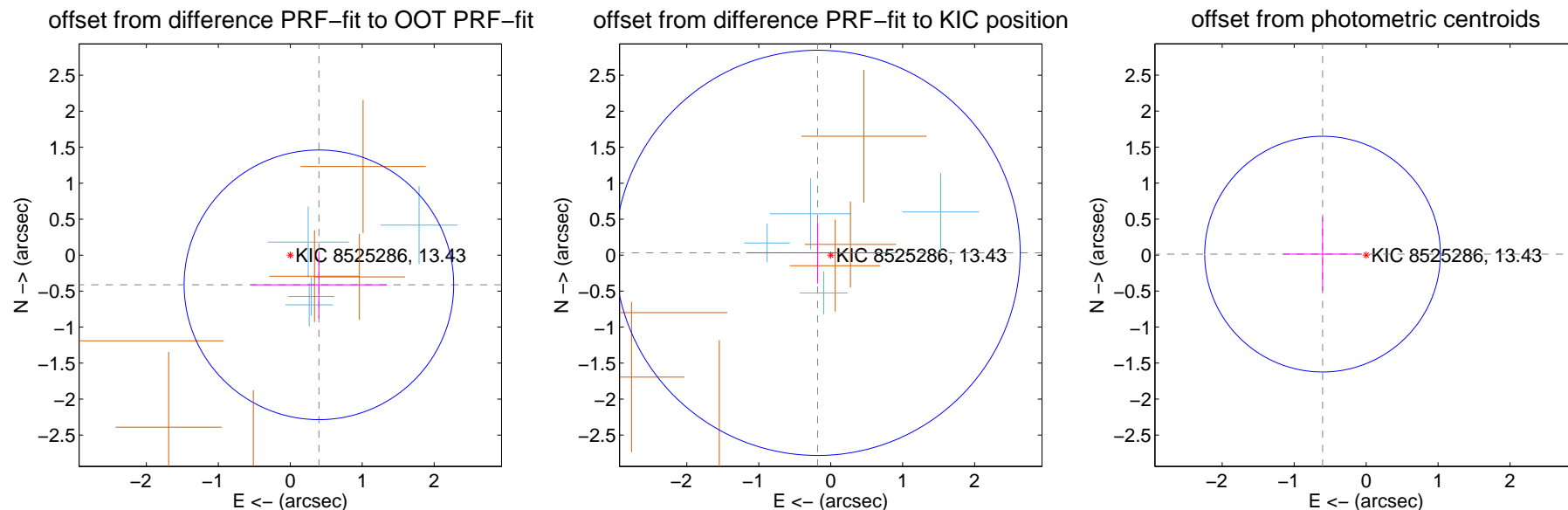
DV Centroid Data

Supplemental centroid analysis for 008525286-01. Kepler magnitude: 13.43. Transit SNR 10.43

There are 4 quarters with good PRF difference image offsets

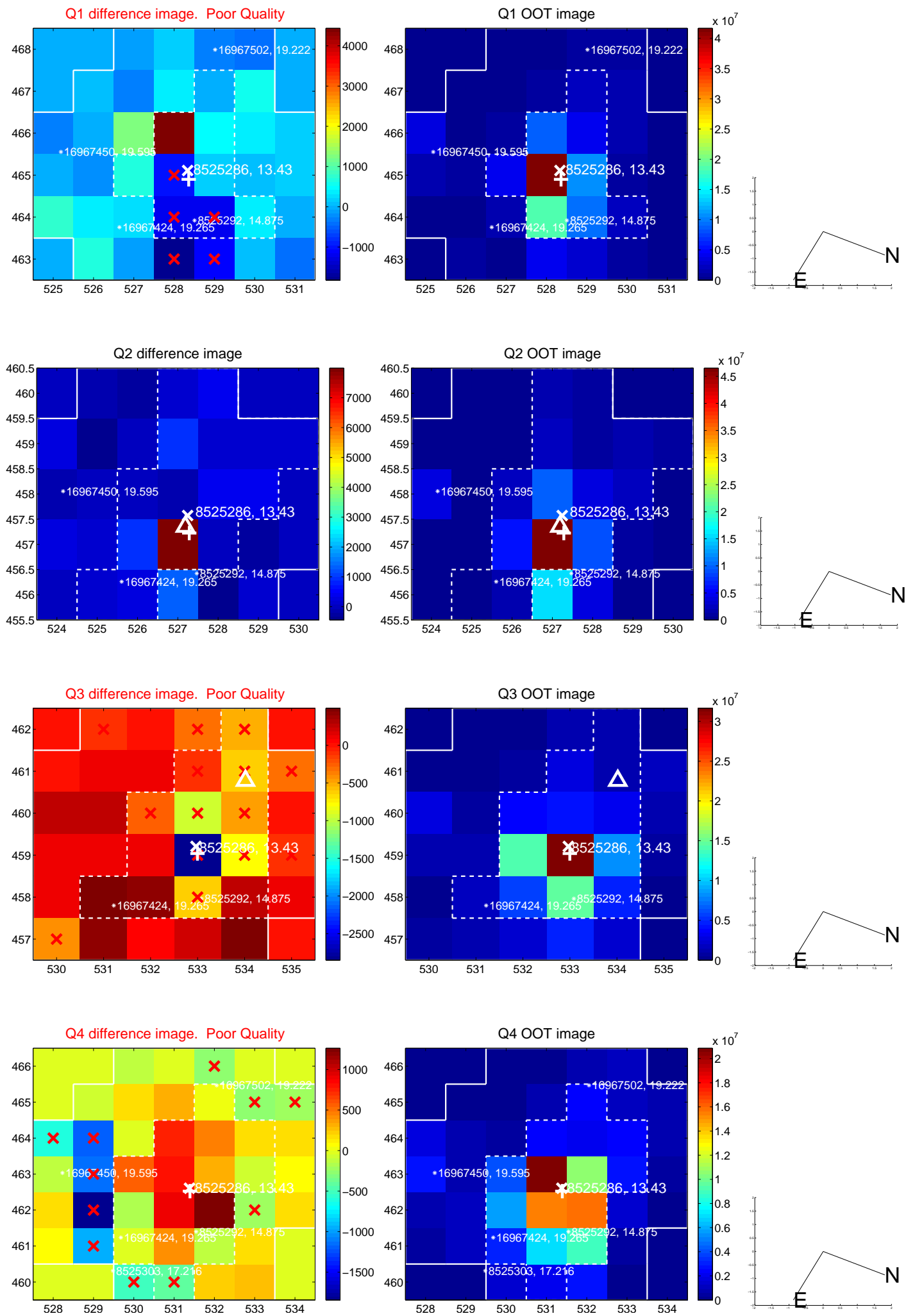
The direct PRF centroid is offset from the target star catalog position by about 0.82 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.573 ± 0.624	0.92	-0.398 ± 0.948	-0.412 ± 0.467
PRF-fit source offset from KIC position	0.185 ± 0.939	0.20	0.182 ± 0.991	0.032 ± 0.427
photometric centroid source offset	0.61 ± 0.55	1.11	0.61 ± 0.55	0.01 ± 0.51

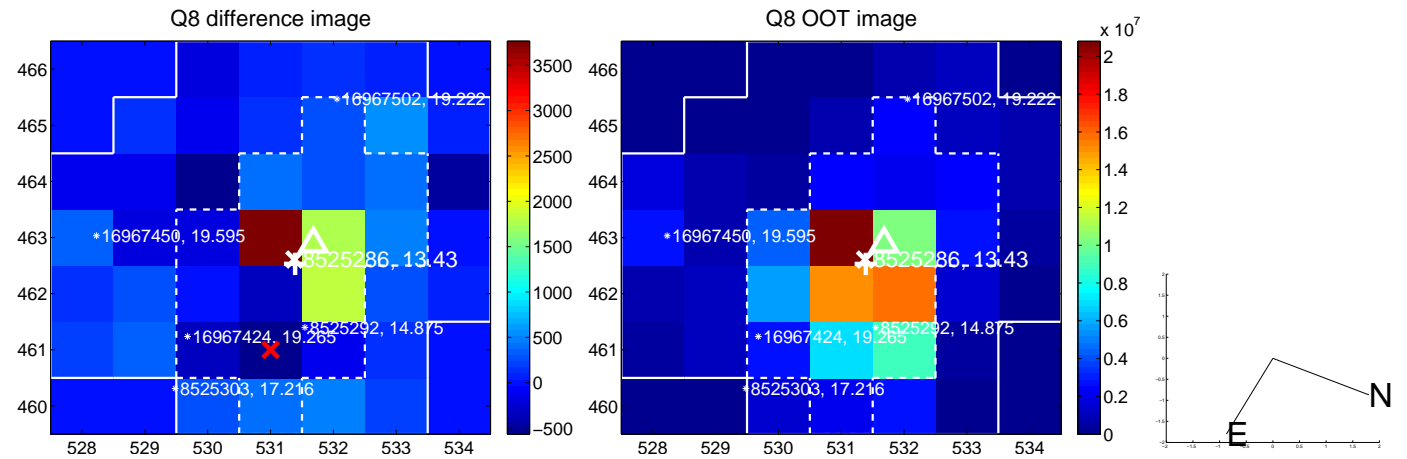
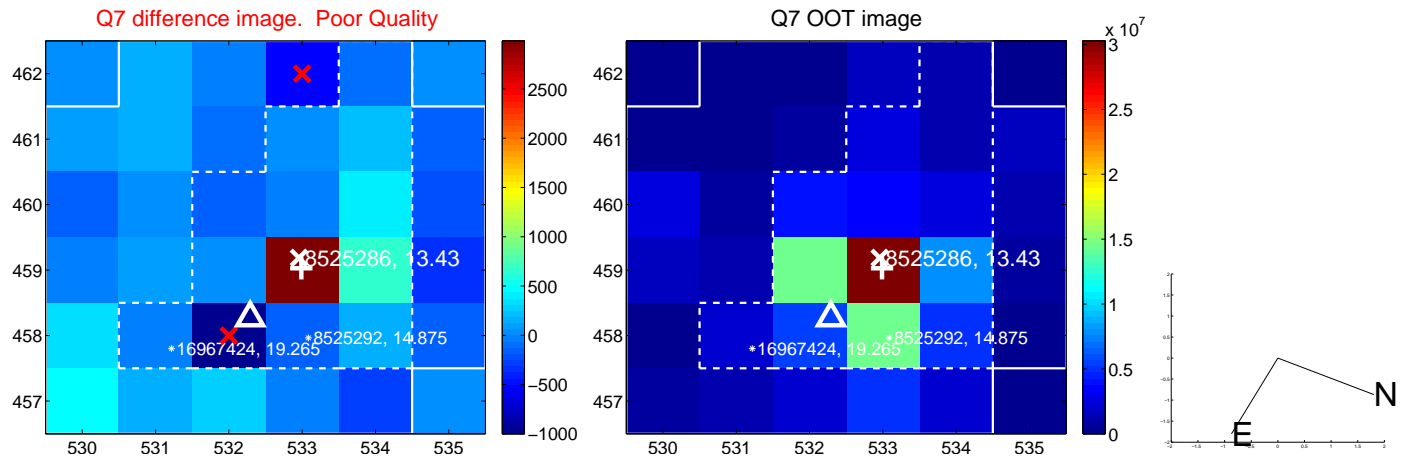
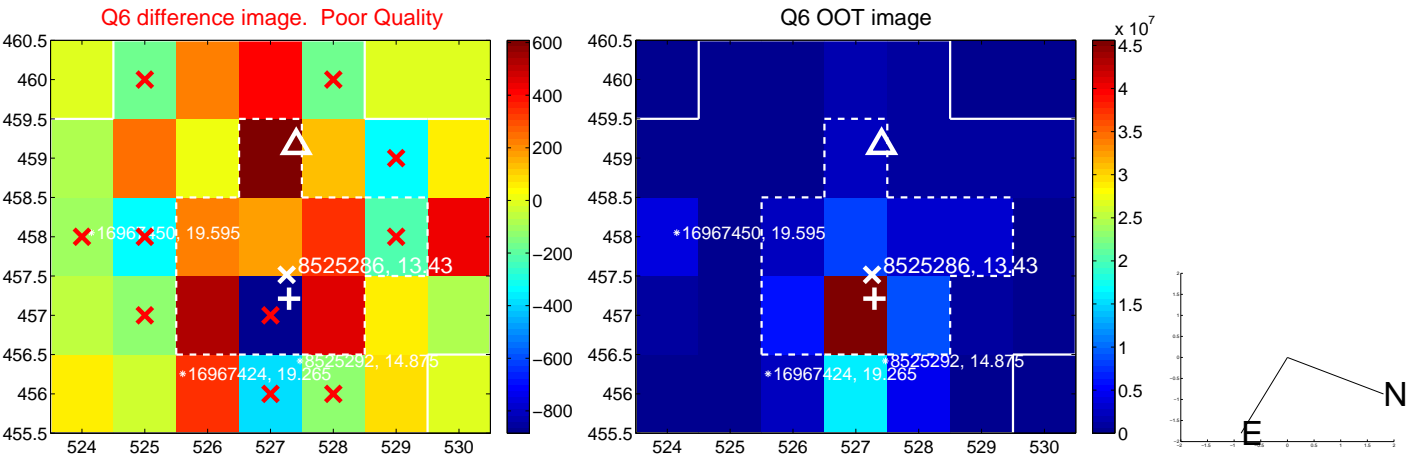
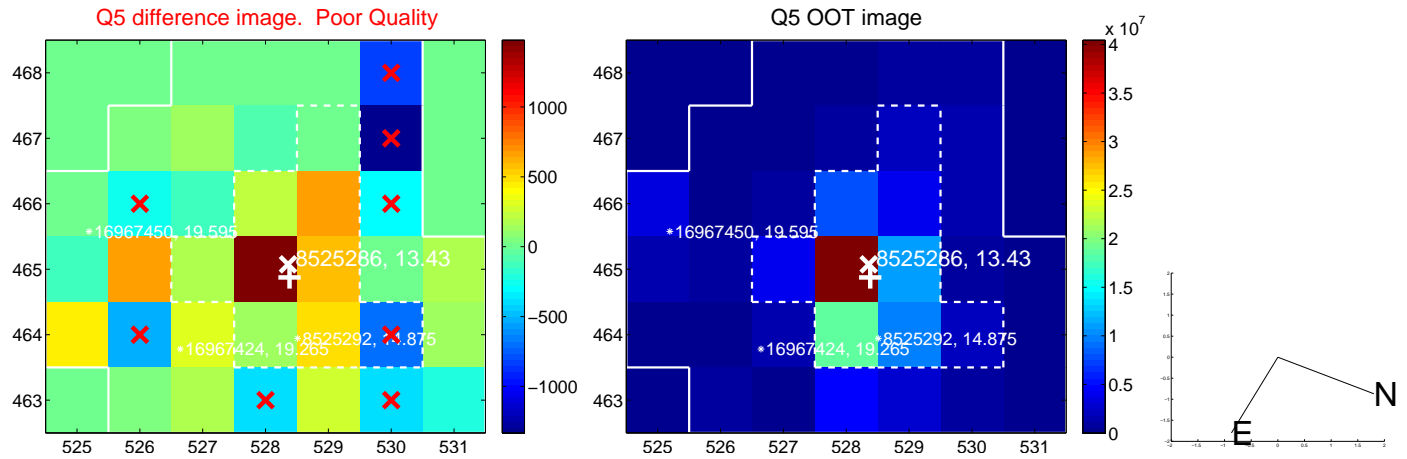


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

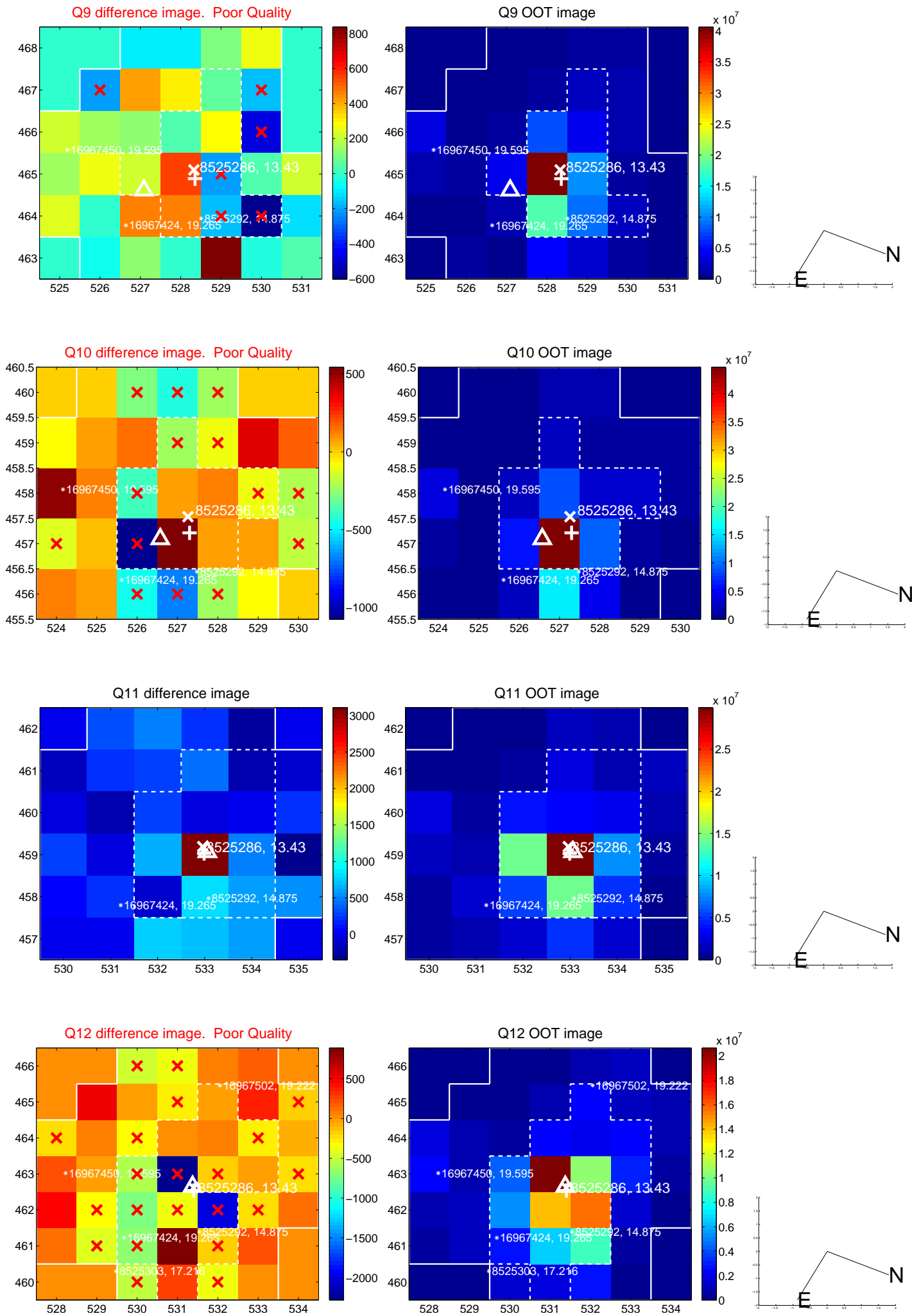
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



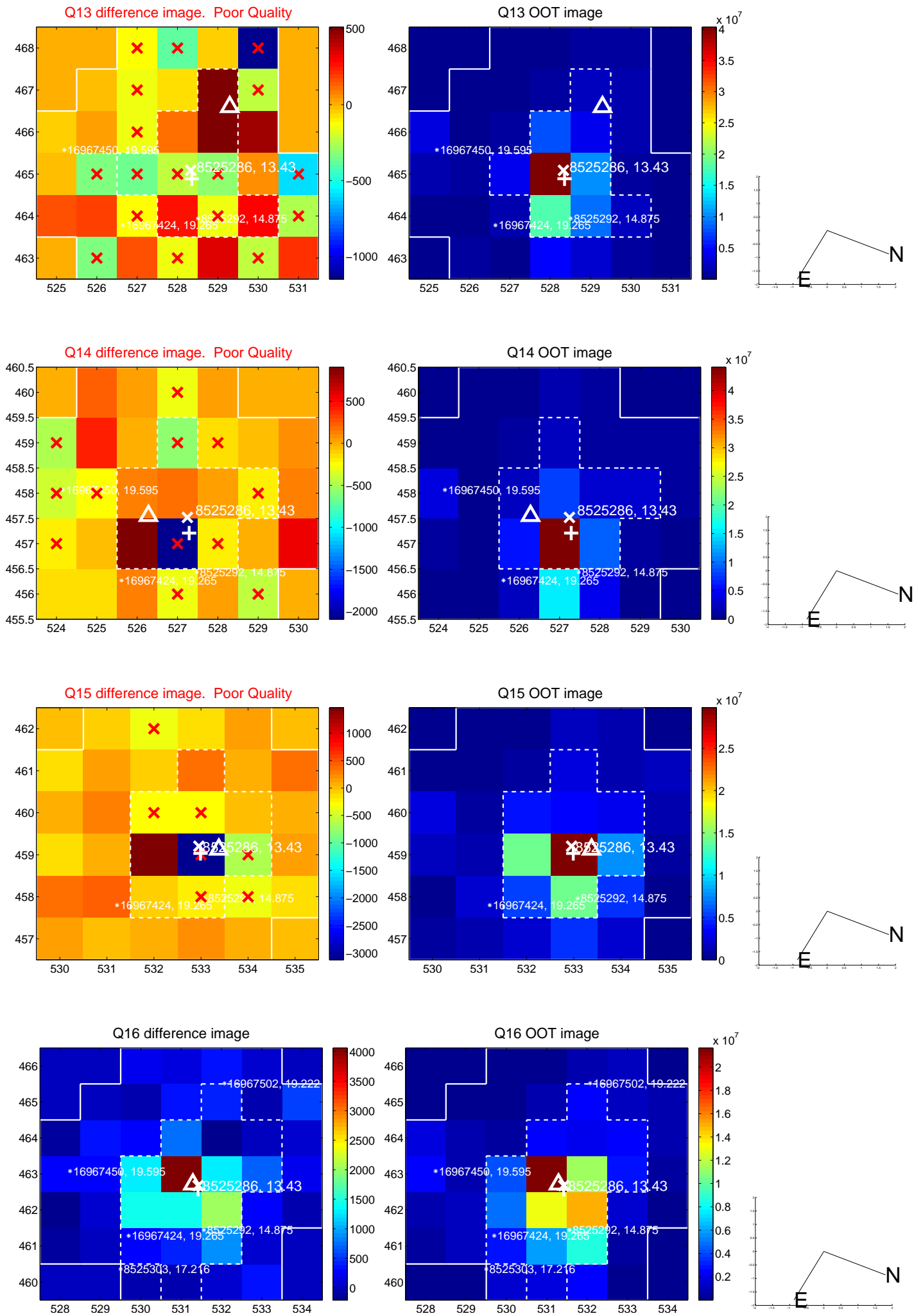
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

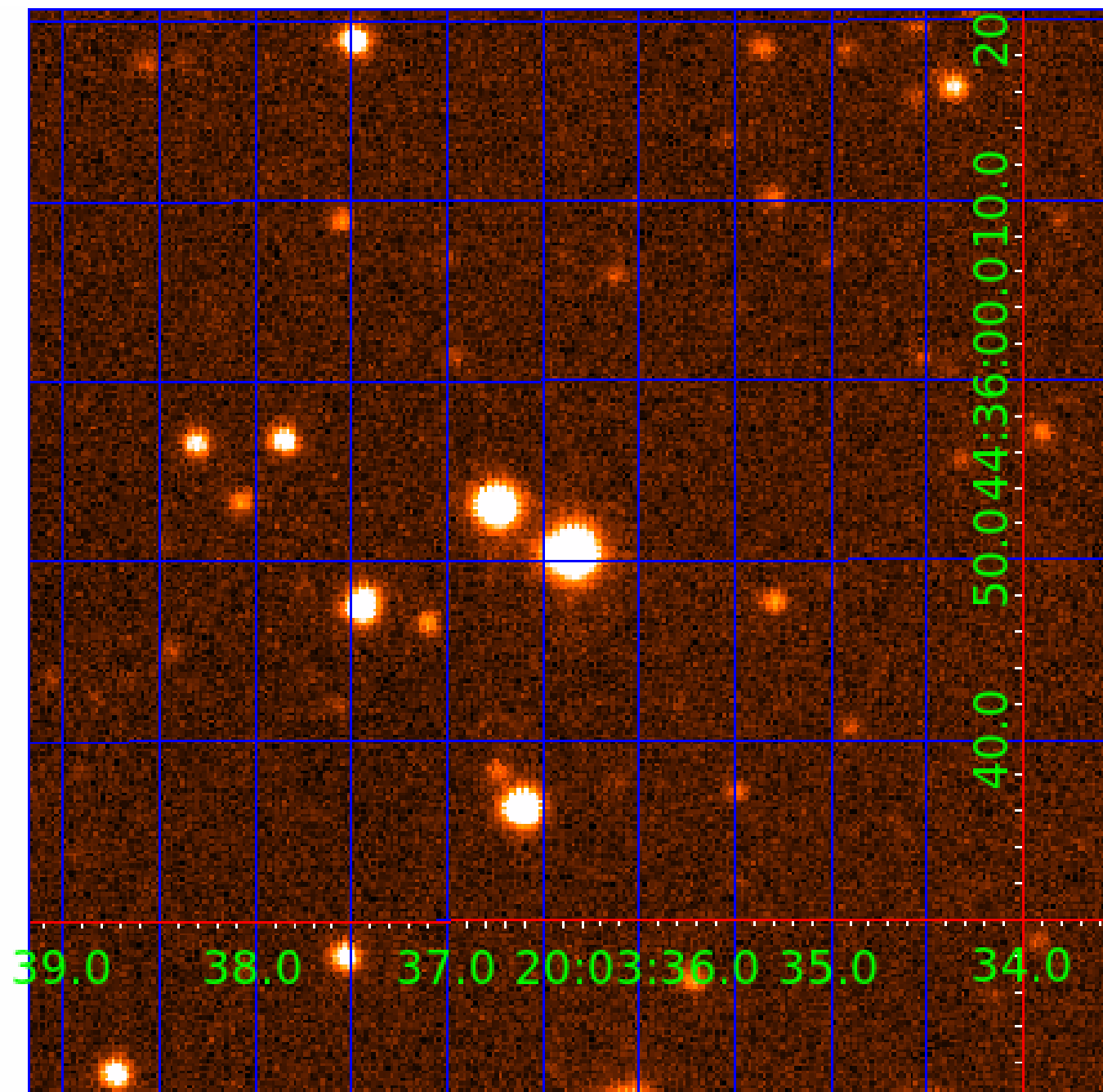


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008525286

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})
008525286-01	OBS	No	0.692679	131.954354	54.6	2.782	10.2	10.4	9.33	5313	8.35	0.00
008525286-02	OBS	No	2.557094	132.568881	127.2	30.685	7.6	17.2	9.33	5313	10.58	23682.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008525286-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008525286-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—CENT_KIC_POS

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 008525286-02

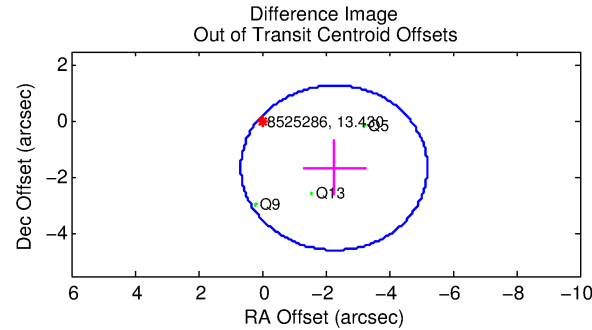
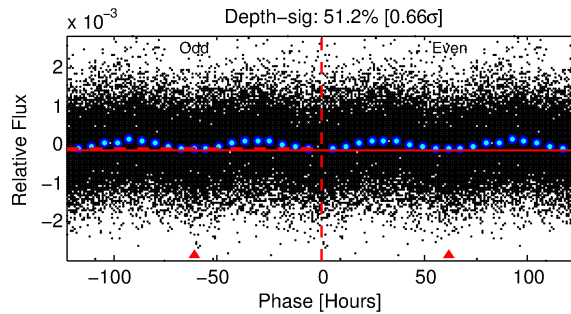
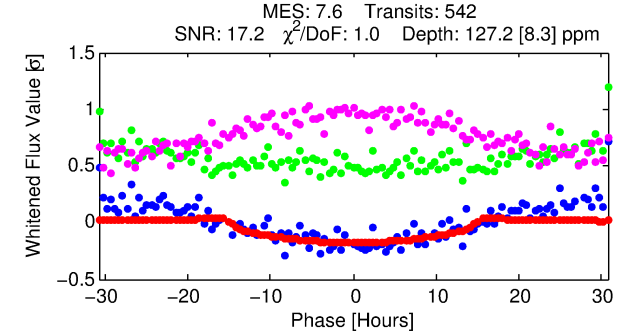
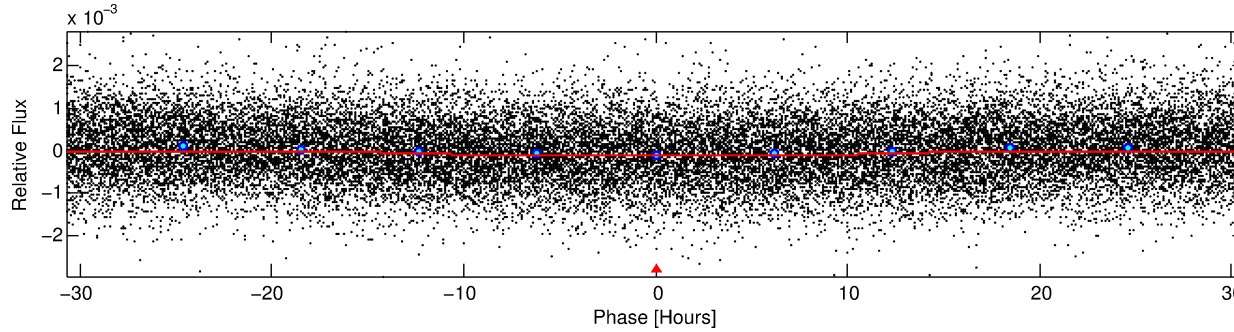
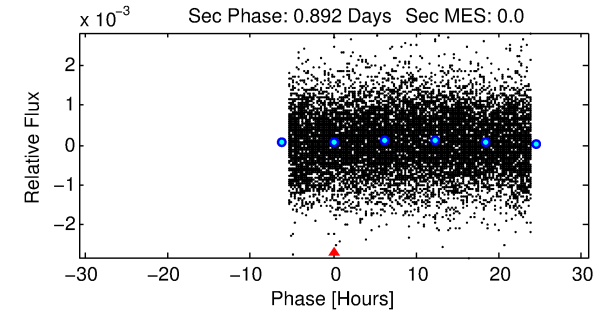
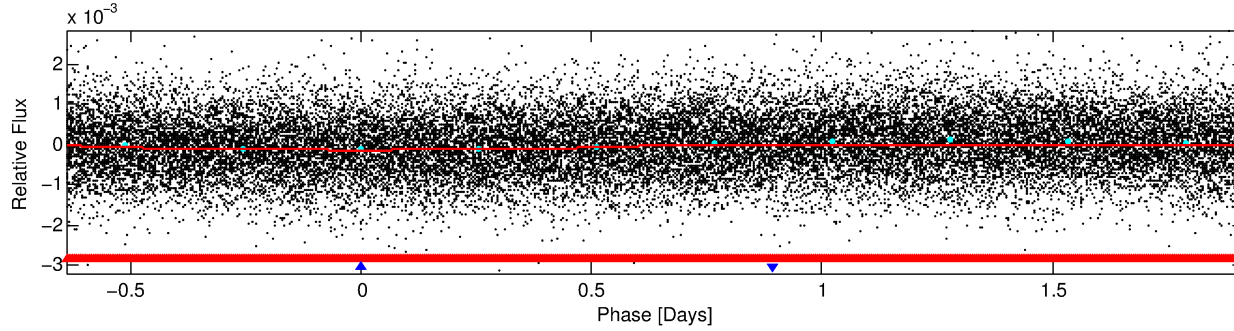
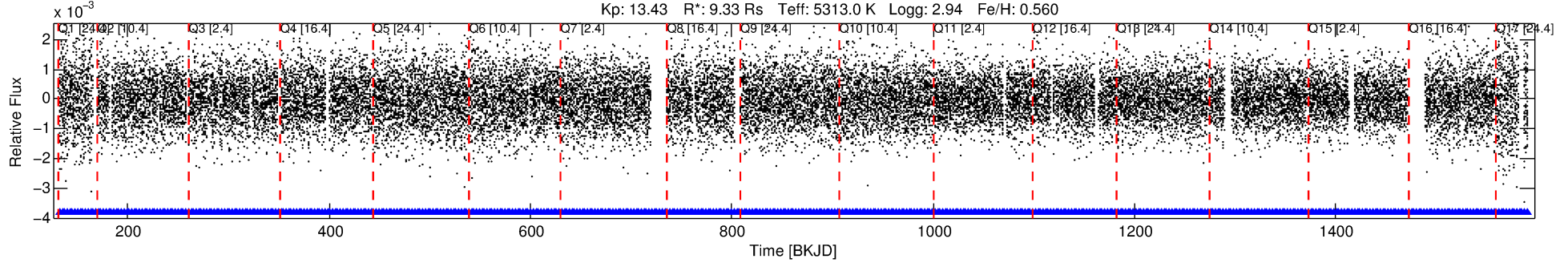
No Significant Match Found

DV One-Page Summary

KIC: 8525286 Candidate: 2 of 2 Period: 2.557 d

KOI: K05533 Corr: No Ephemeris Match

Kp: 13.43 R*: 9.33 Rs Teff: 5313.0 K Logg: 2.94 Fe/H: 0.560



DV Fit Results:

Period = 2.55709 [0.00009] d
Epoch = 132.5689 [0.0255] BKJD
Rp/R* = 0.0104 [0.0024]
a/R* = 1.00 [0.00]
b = 0.47 [1.43]
Seff = 23682.05 [16995.09]
Teq = 3163 [568] K
Rp = 10.58 [5.15] Re
a = 0.0512 [0.0169] AU
Ag = N/A
Teffp = N/A

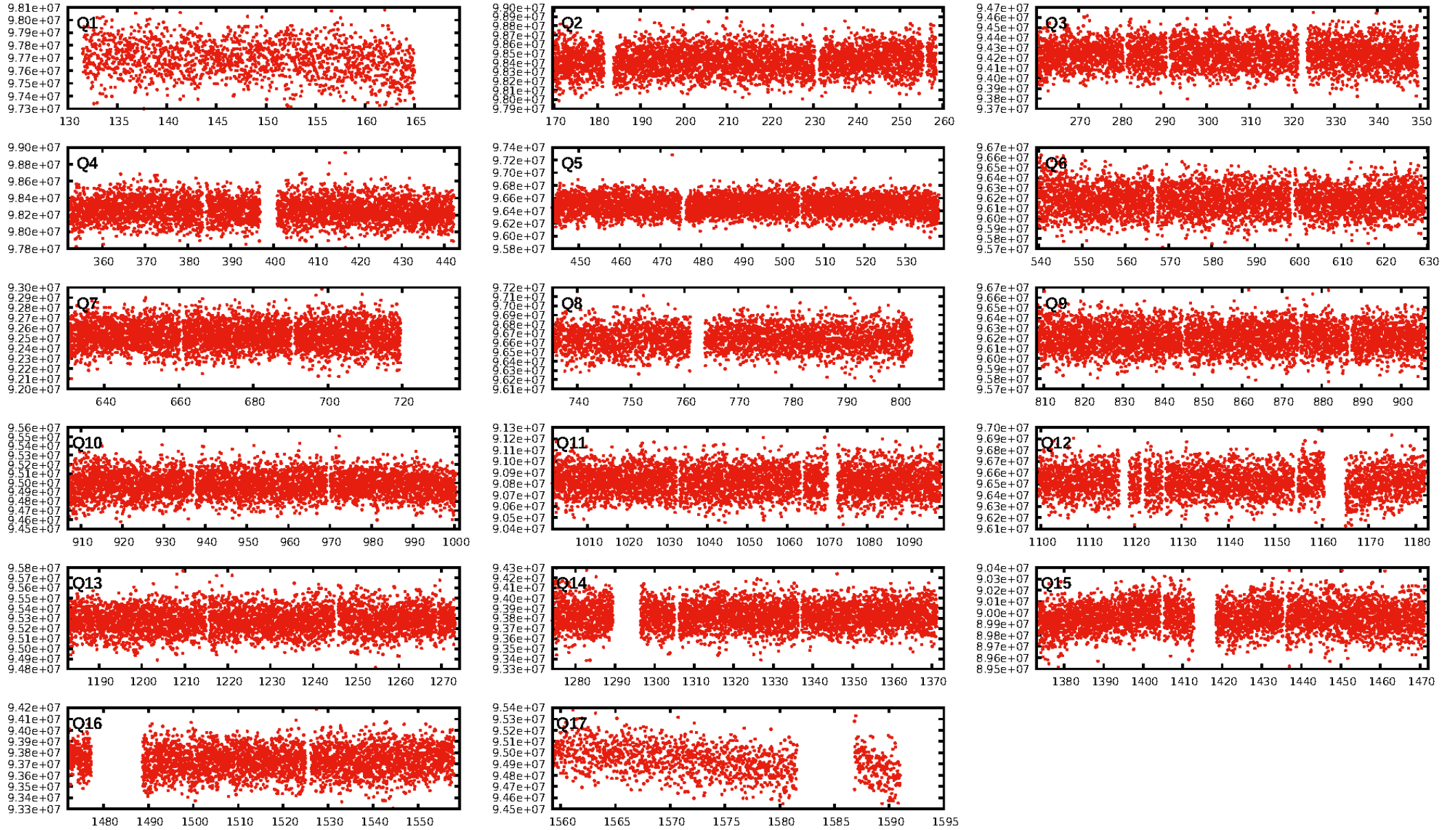
DV Diagnostic Results:

ShortPeriod-sig: 85.4% [1.45σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [518/518]
GhostDiagnostic-chr: 2.81
Centroid-sig: 0.0%
Centroid-so: 0.322 arcsec [1.99σ]
OotOffset-rm: 2.808 arcsec [2.87σ]
KicOffset-rm: 2.005 arcsec [2.06σ]
OotOffset-st: 0/0/0/3 [3]
KicOffset-st: 0/0/0/3 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.00 [0/17]

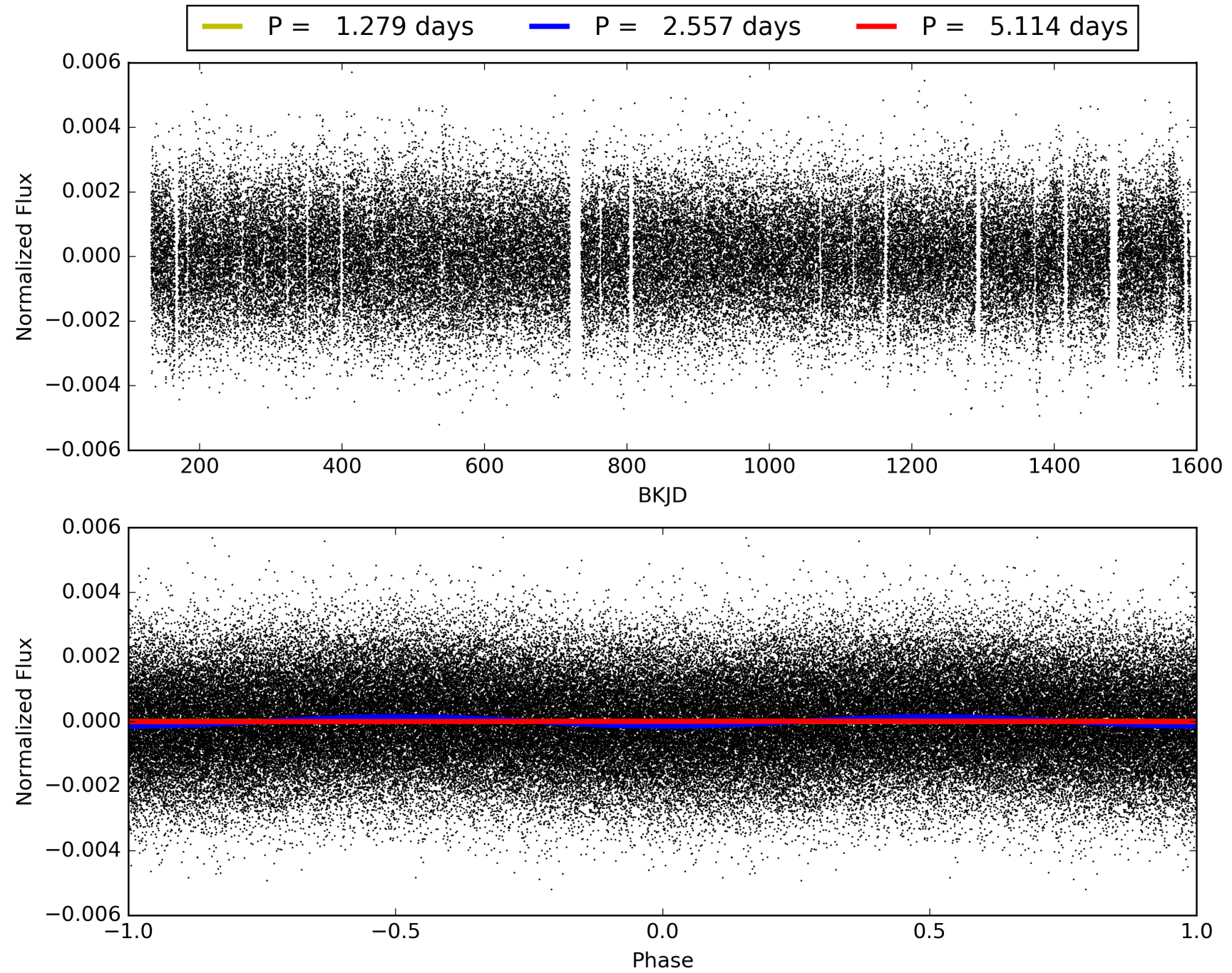
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:38:43 Z

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

TCE 008525286-02, PDC Light Curves

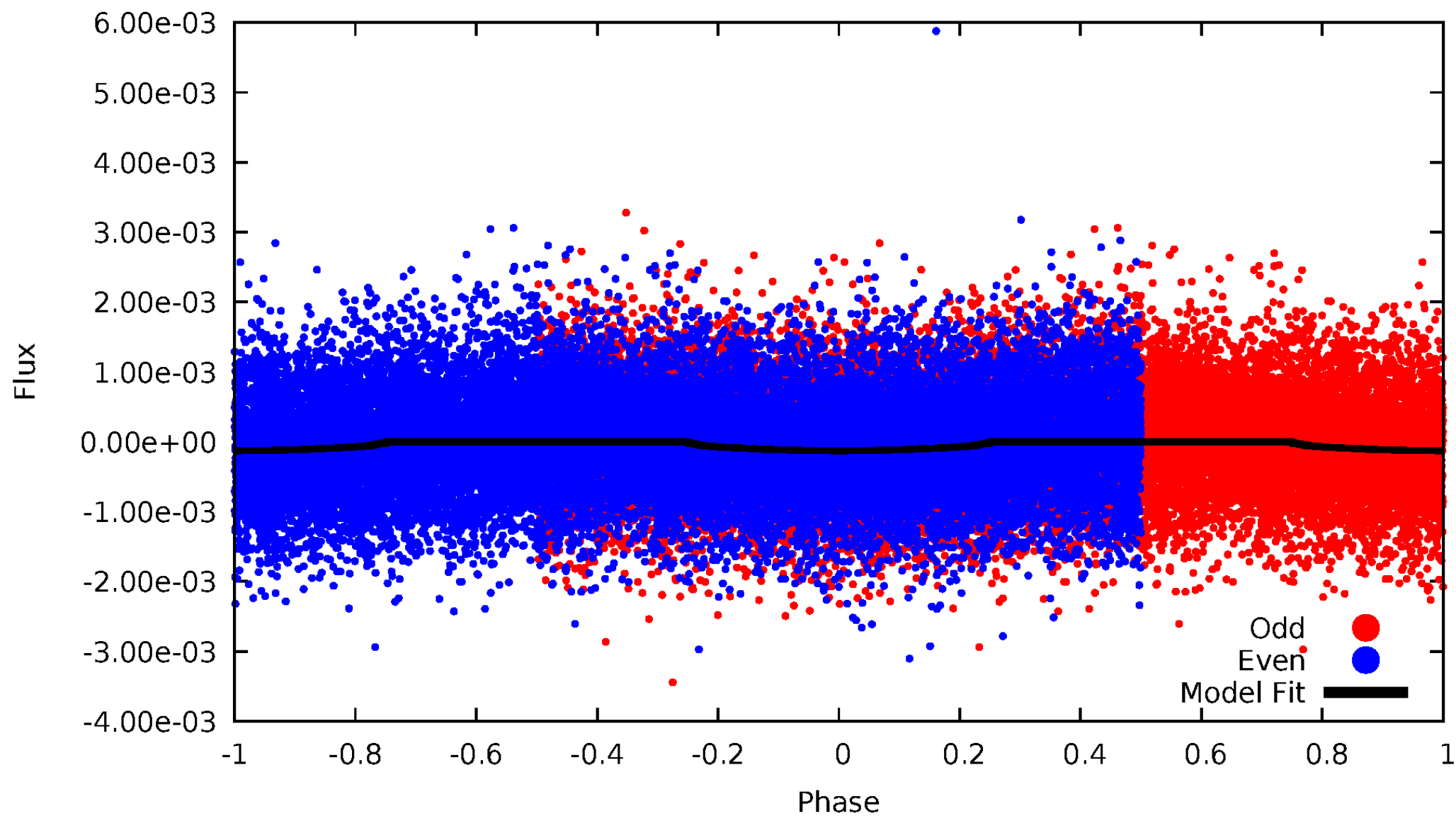


TCE 008525286-02



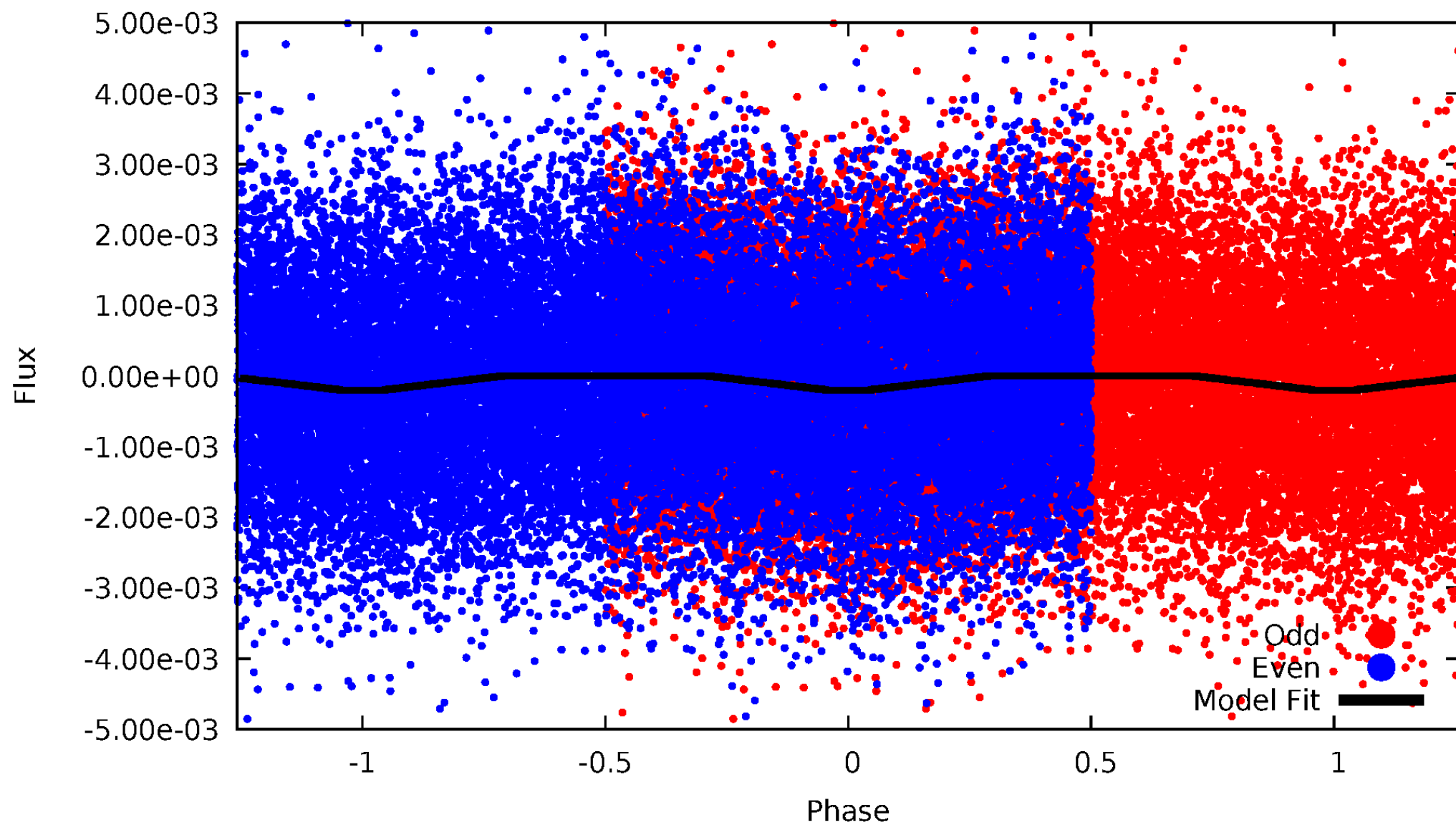
DV Odd/Even

TCE 008525286-02



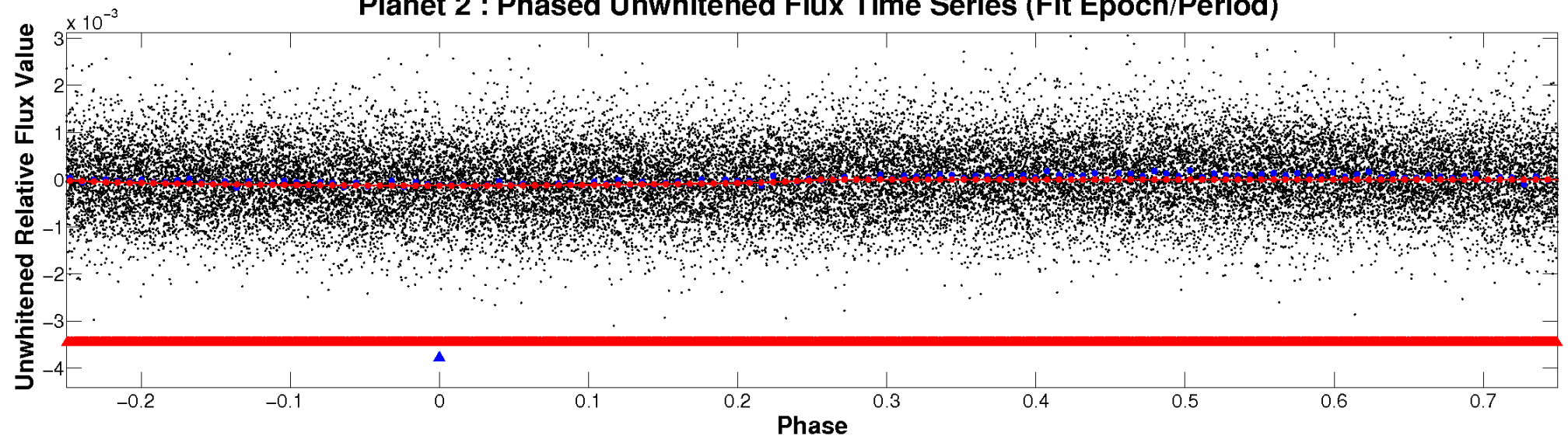
ALT Odd/Even

TCE 008525286-02

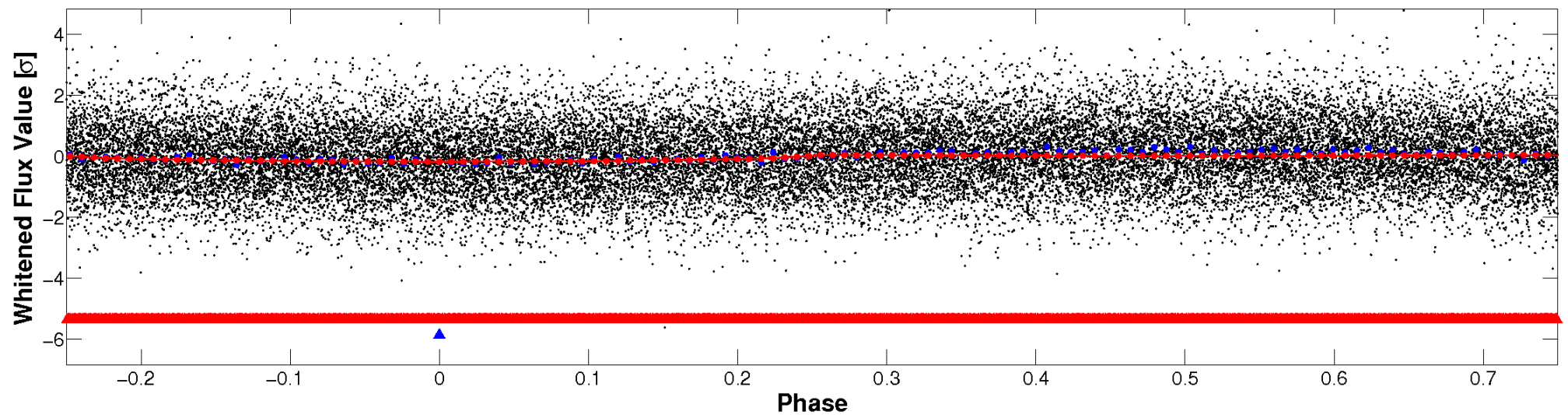


Non-Whitened Vs. Whitened Light Curve

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

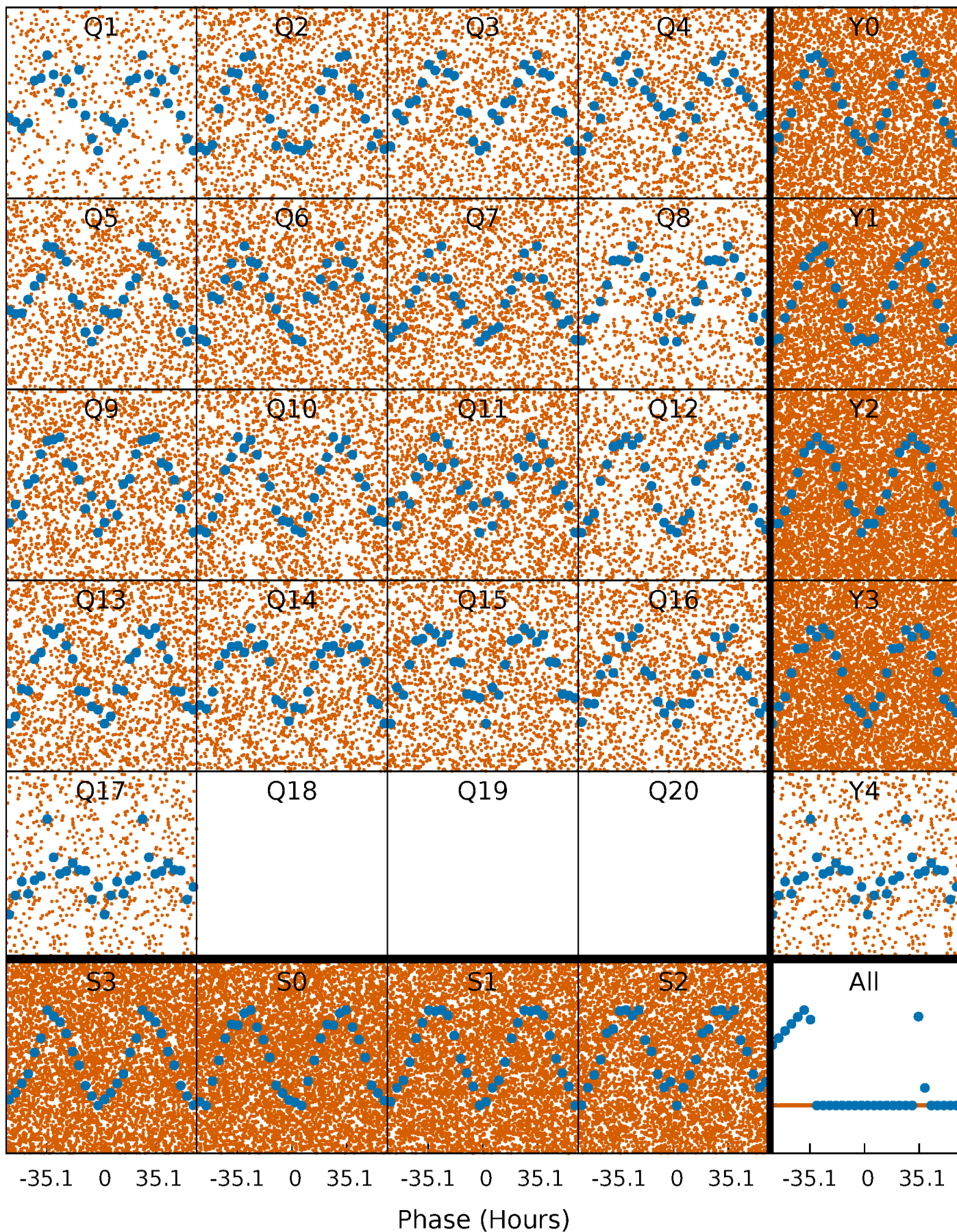


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



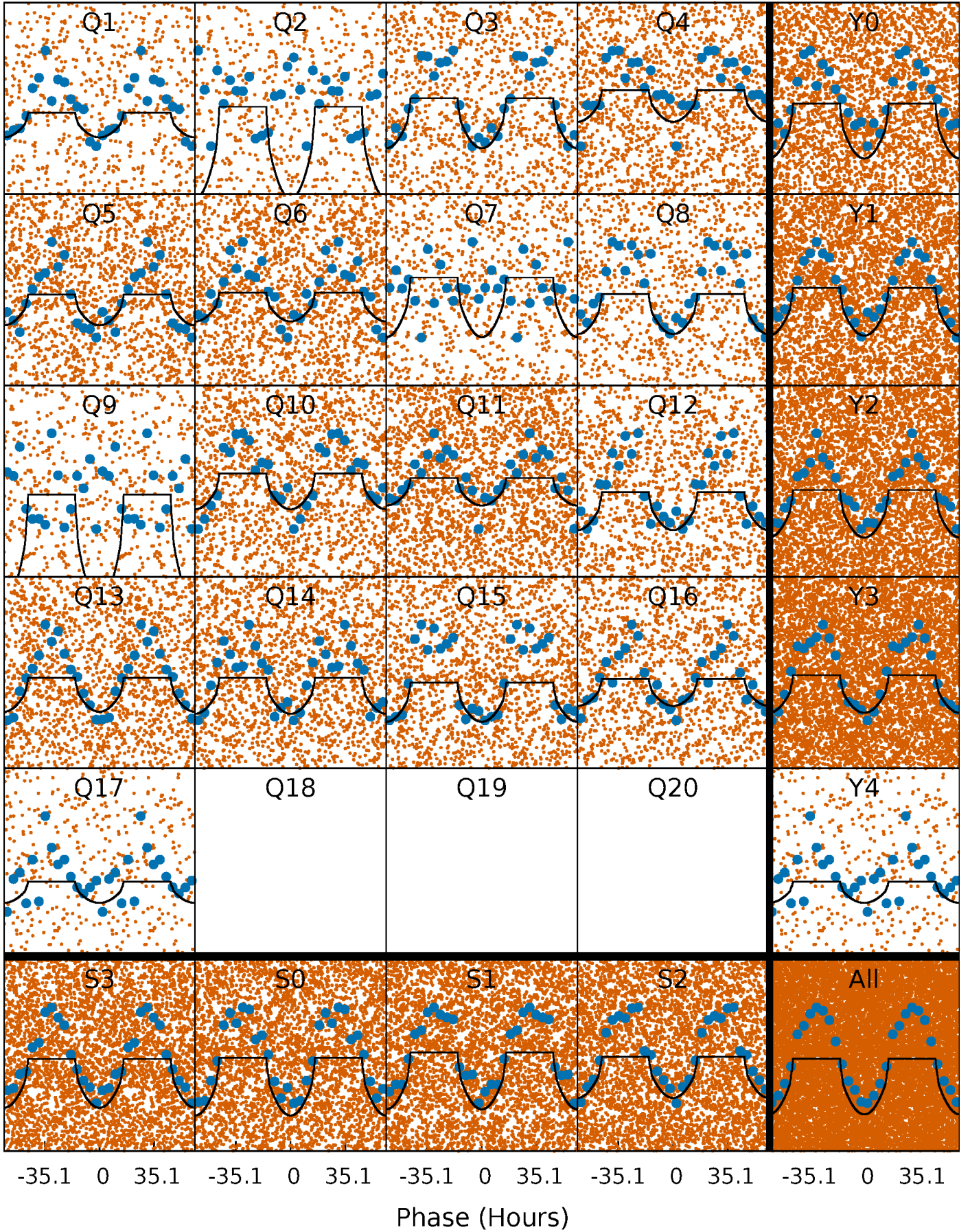
PDC Quarter-Phased Transit Curves

TCE 008525286-02 P= 2.557094 Days $T_0=132.568881$ (BKJD)



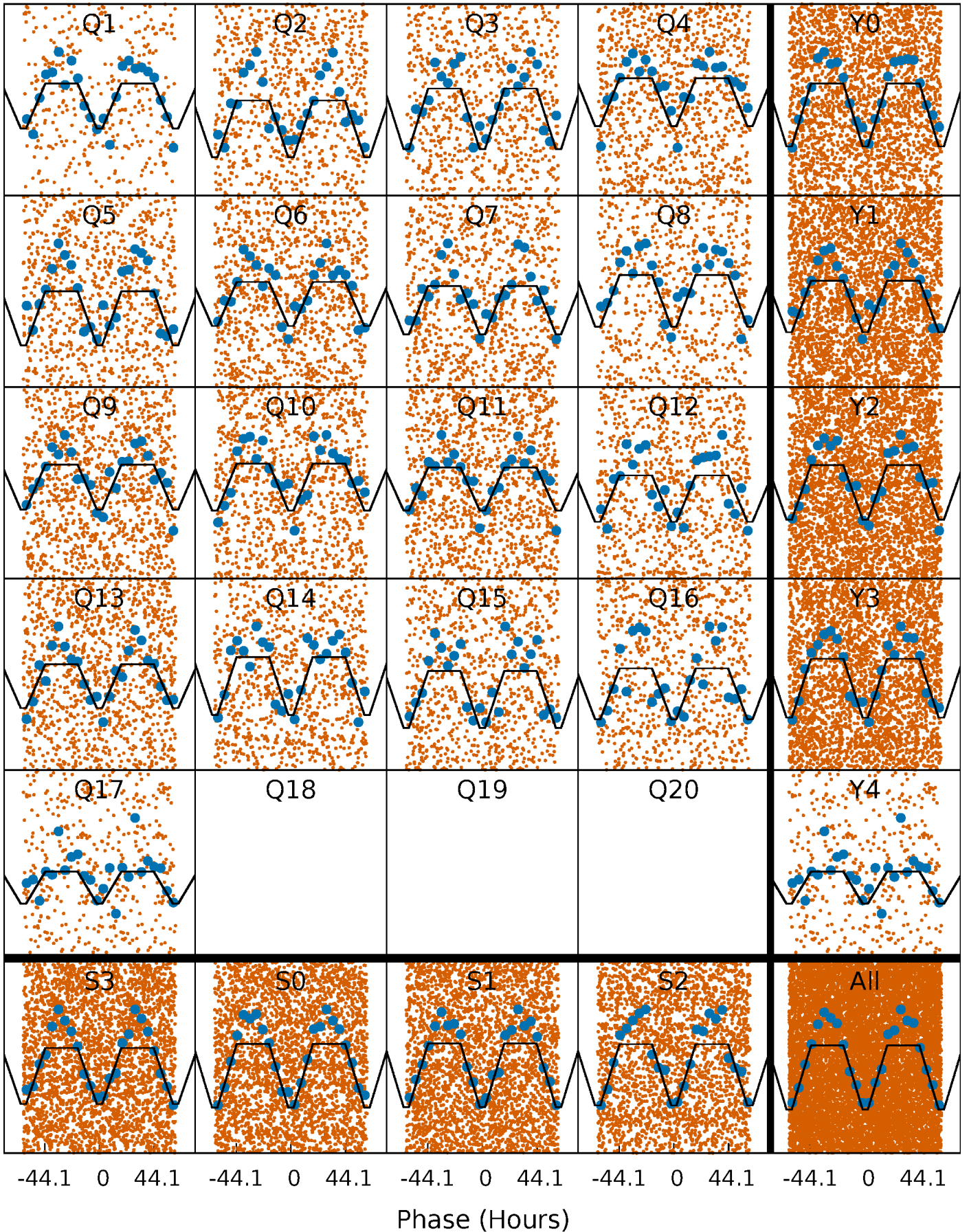
DV Quarter-Phased Transit Curves

TCE 008525286-02 P= 2.557094 Days $T_0=132.568881$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

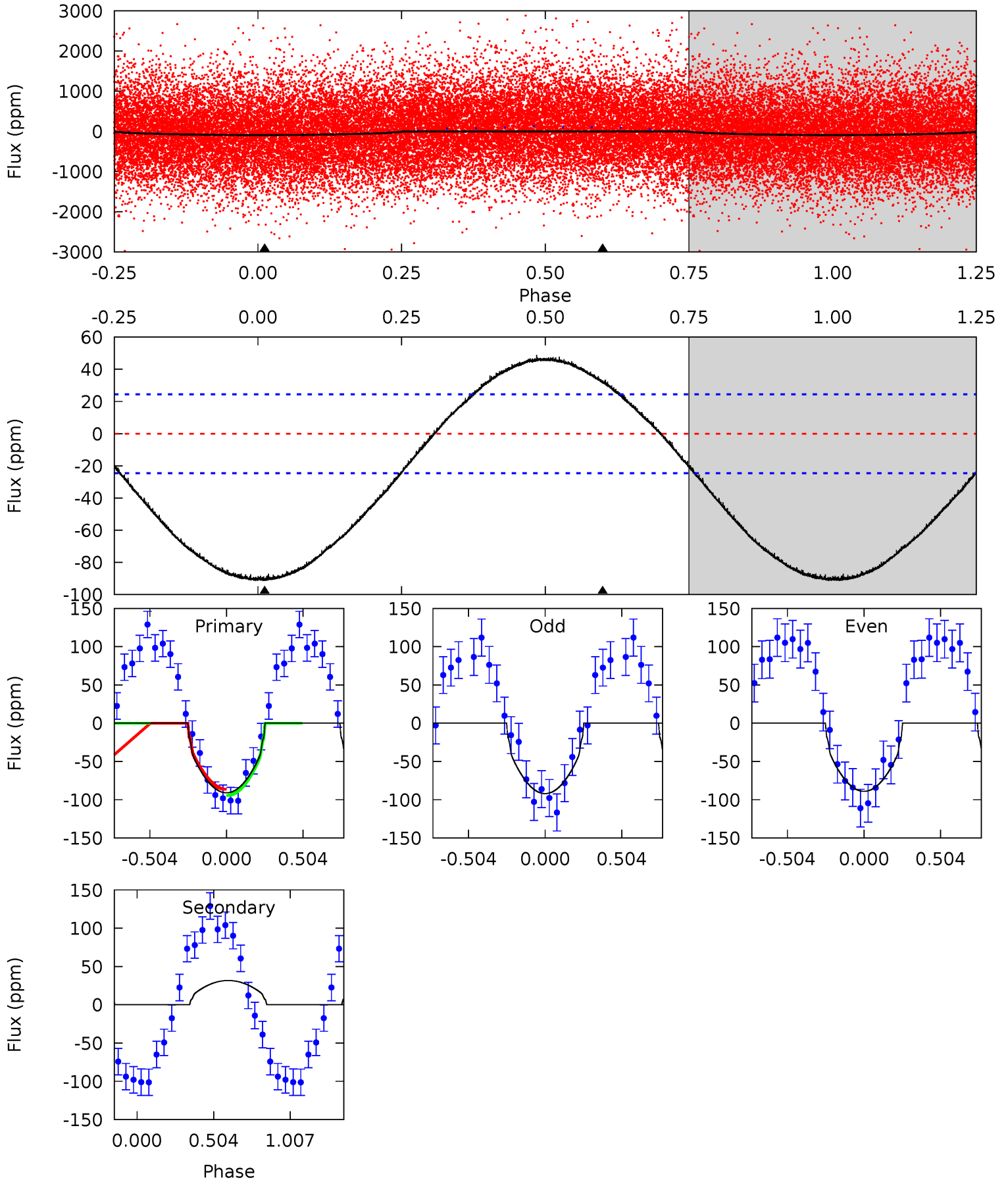
TCE 008525286-02 P= 2.557118 Days $T_0=132.572573$ (BKJD)



DV Model-Shift Uniqueness Test

008525286-02, P = 2.557094 Days, E = 130.011787 Days

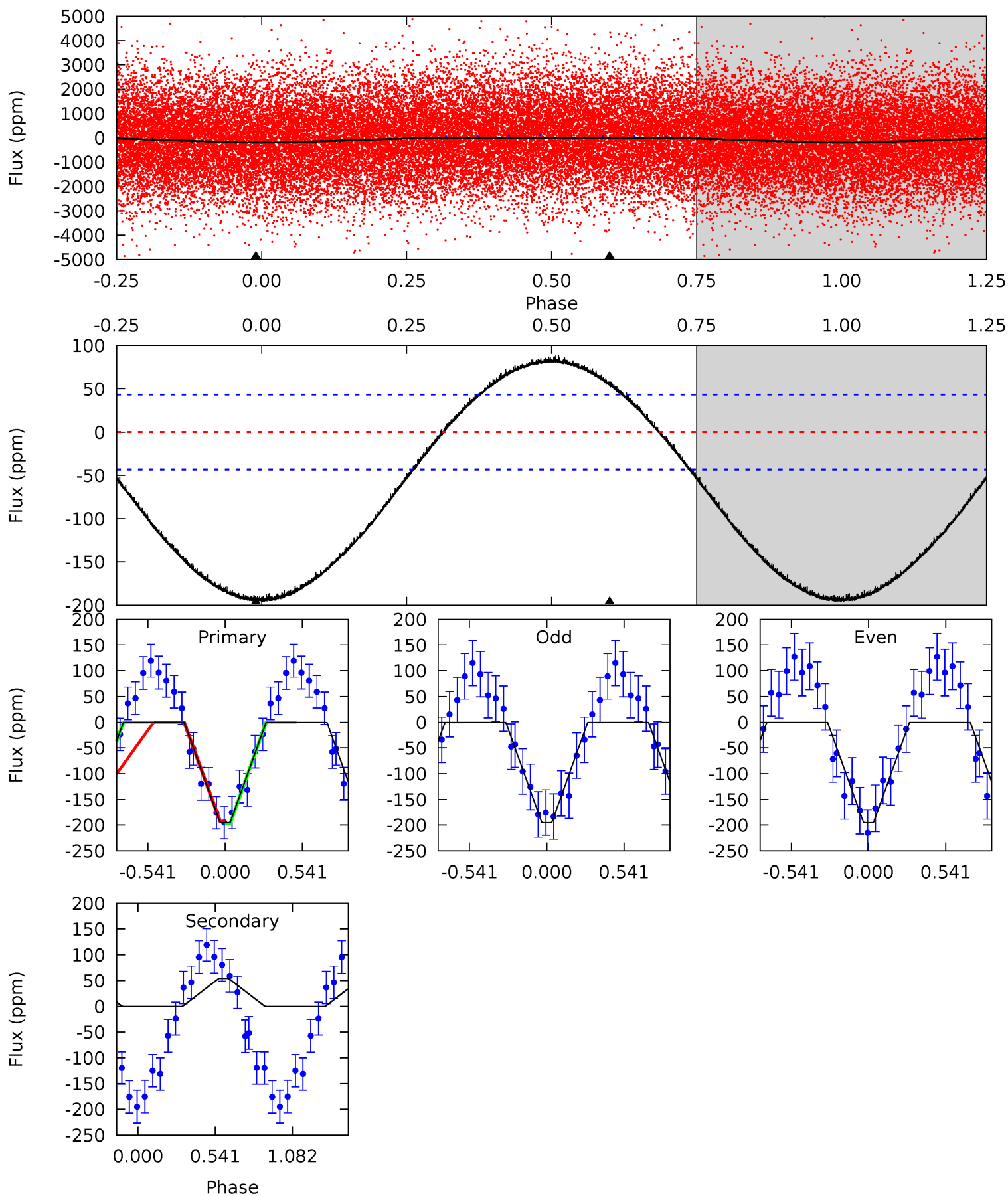
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.6	-5.45	0	0	4.21	0.67	1.97	15.6	15.6	-5.45	-5.45	0.25	1.07	0.35	0.69



Alt Model-Shift Uniqueness Test

008525286-02, P = 2.557118 Days, E = 130.015455 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.9	-5.24	0	0	4.20	0.61	2.19	18.9	18.9	-5.24	-5.24	0.01	1.02	0.31	0.21



Stellar Parameters For KIC 008525286

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5313^{+325}_{-758}	$2.936^{+0.175}_{-0.214}$	$0.560^{+0.050}_{-0.100}$	$9.327^{+2.661}_{-3.992}$	$2.736^{+0.167}_{-1.422}$	$0.005^{+0.006}_{-0.002}$
	+6%/-14%	+6%/-7%	+9%/-18%	+29%/-43%	+6%/-52%	+134%/-49%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 008525286-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	32 ± 6	$10.49^{+3.21}_{-2.92}$	4362^{+578}_{-580}	-4604^{+566}_{-474}	$-0.387^{+0.167}_{-0.376}$
Alt.	54 ± 10	$14.82^{+3.44}_{-3.68}$	4403^{+556}_{-668}	-4559^{+652}_{-419}	$-0.340^{+0.124}_{-0.236}$

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

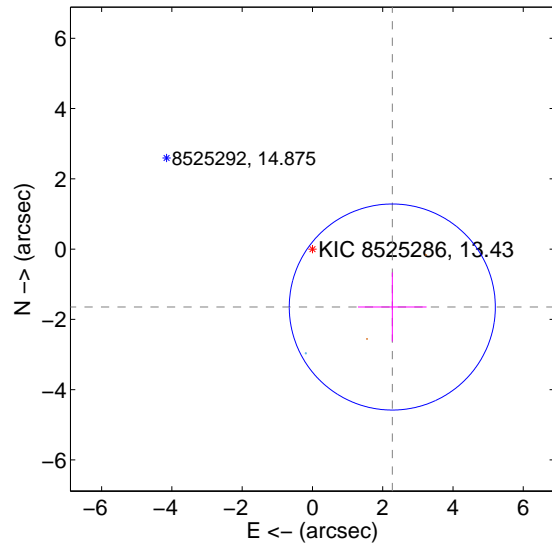
Supplemental centroid analysis for 008525286-02. Kepler magnitude: 13.43. Transit SNR 17.23

There are 1 quarters with good PRF difference image offsets

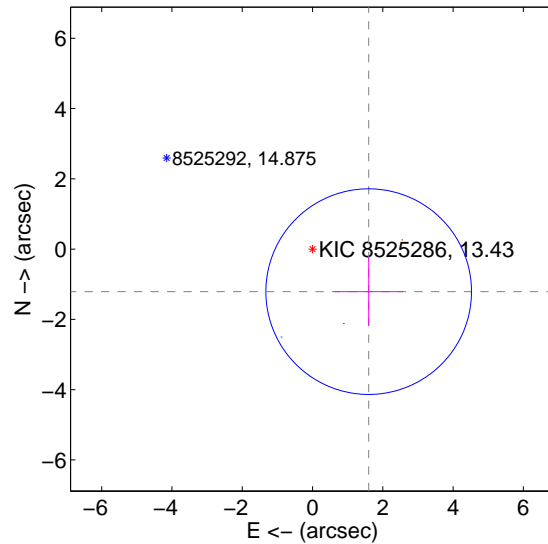
The direct PRF centroid is offset from the target star catalog position by about 0.79 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.808 ± 0.977	2.87	-2.273 ± 0.975	-1.649 ± 0.981
PRF-fit source offset from KIC position	2.005 ± 0.975	2.06	-1.598 ± 0.976	-1.211 ± 0.974
photometric centroid source offset	0.32 ± 0.16	1.99	0.06 ± 0.17	-0.32 ± 0.16

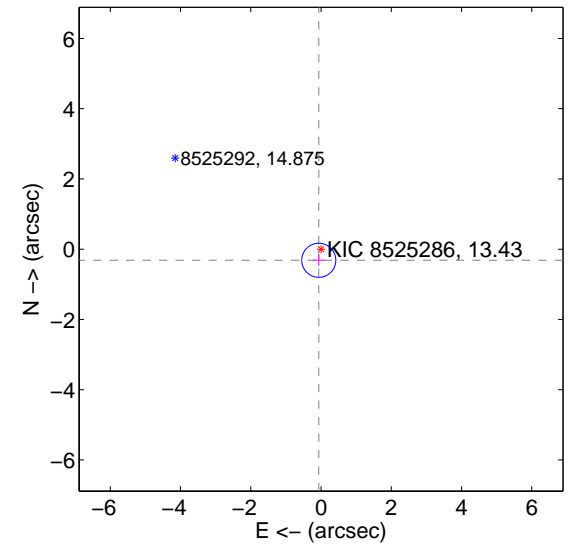
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

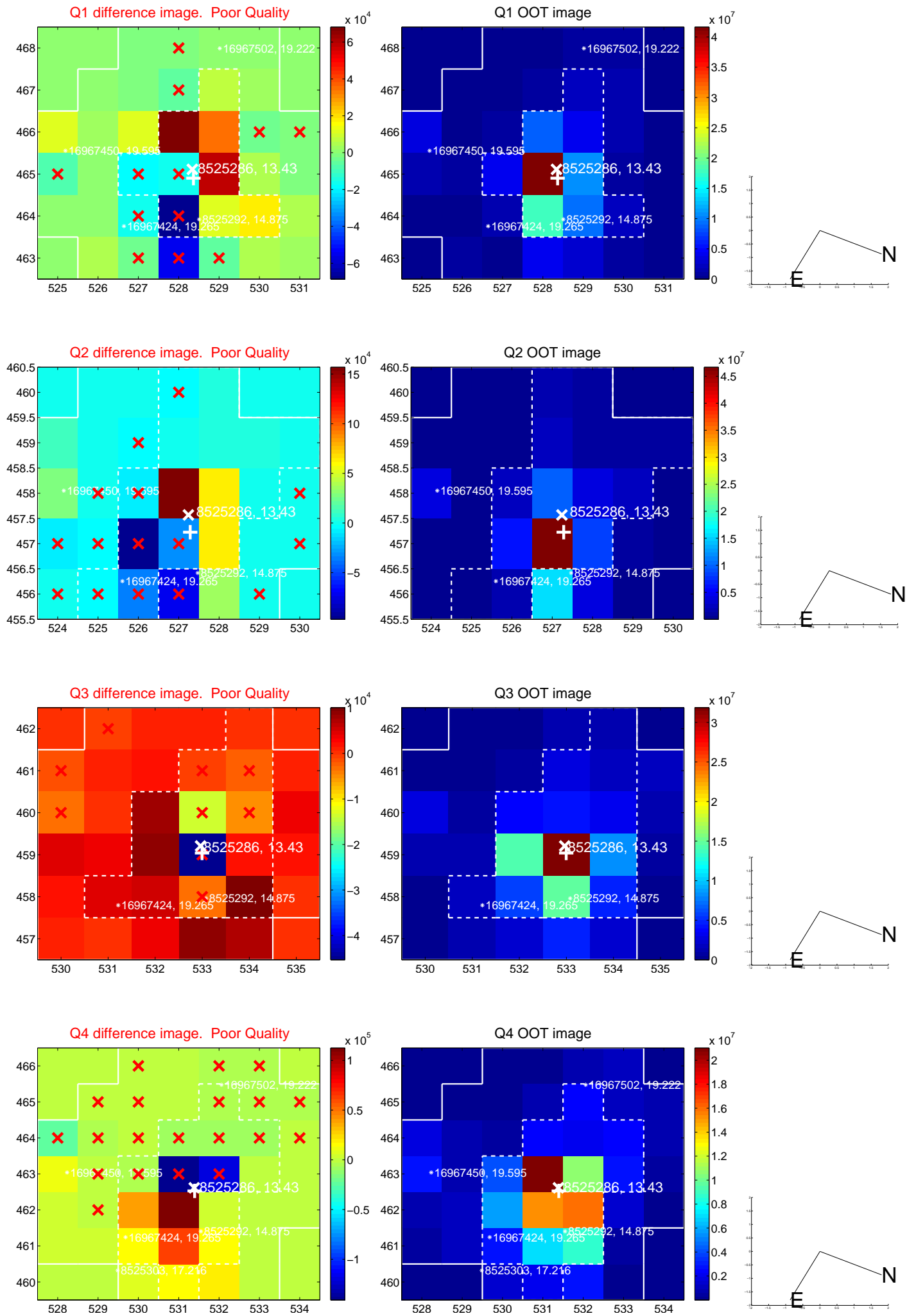


offset from photometric centroids

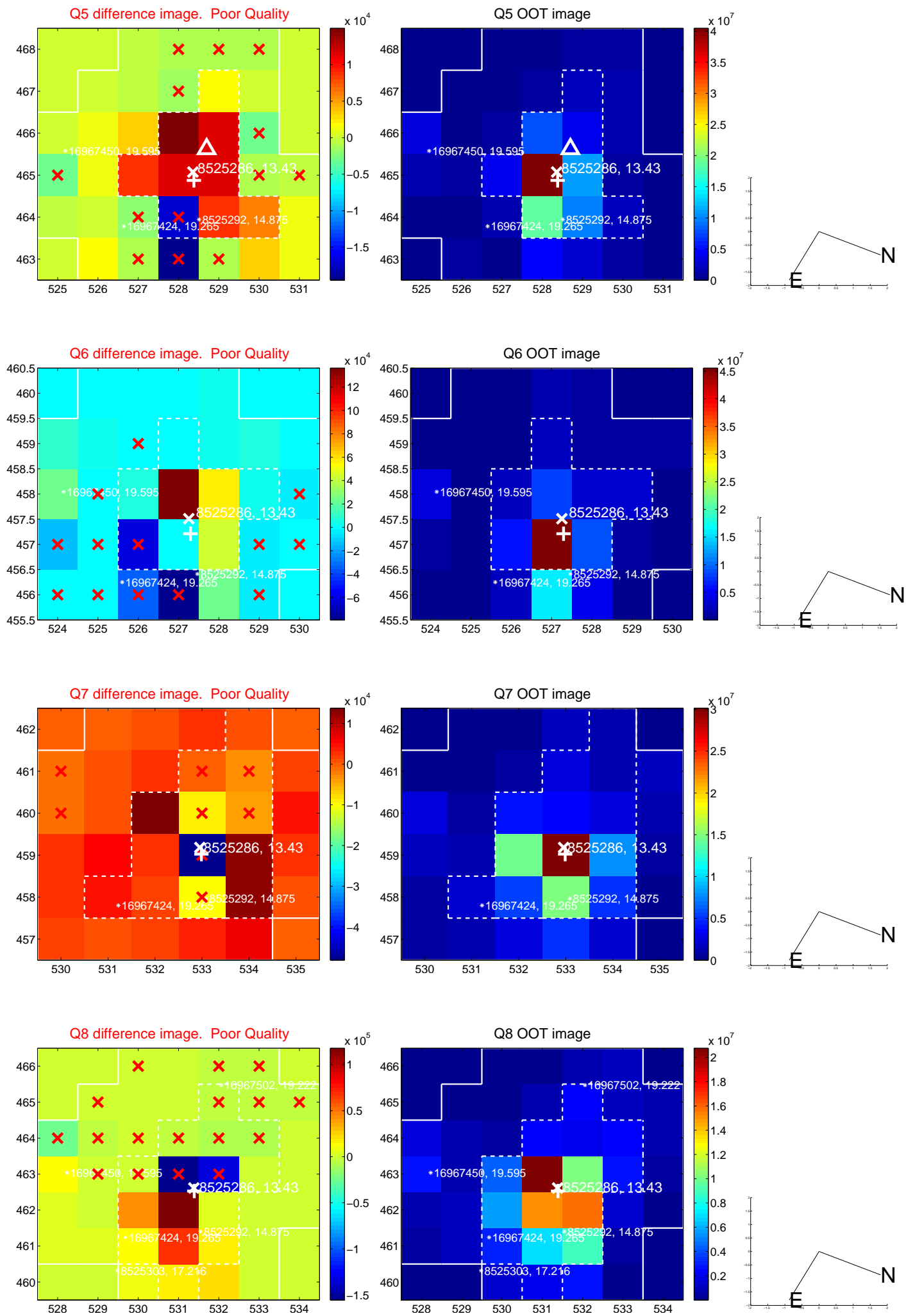


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

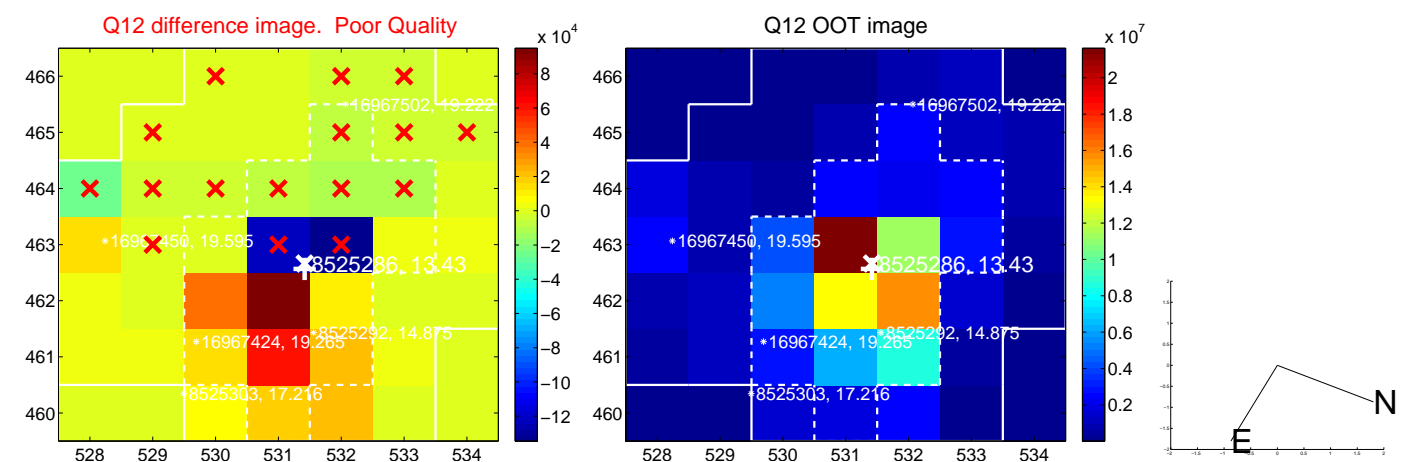
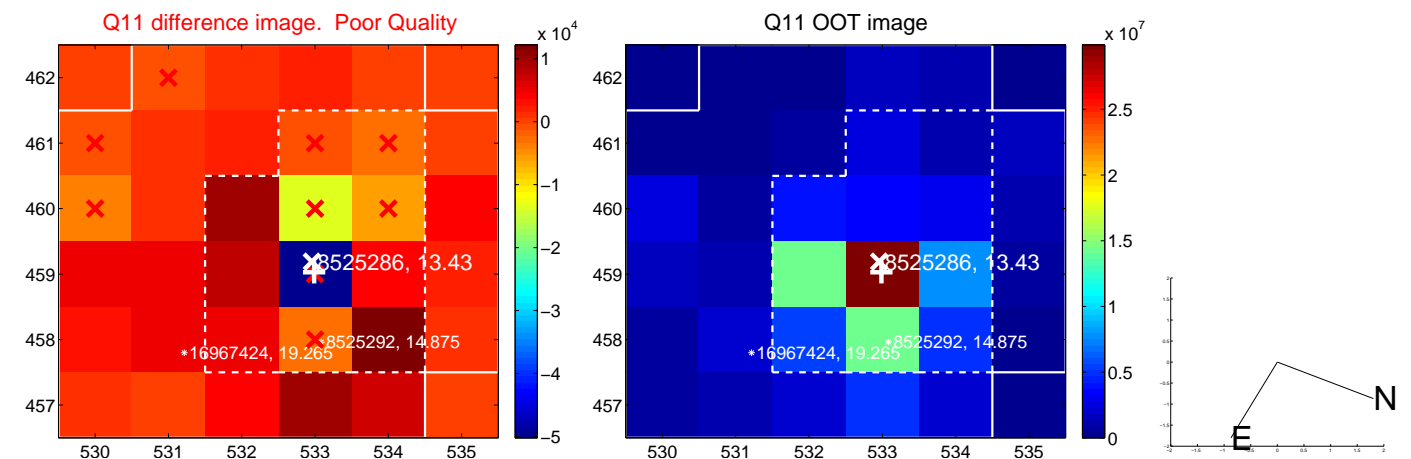
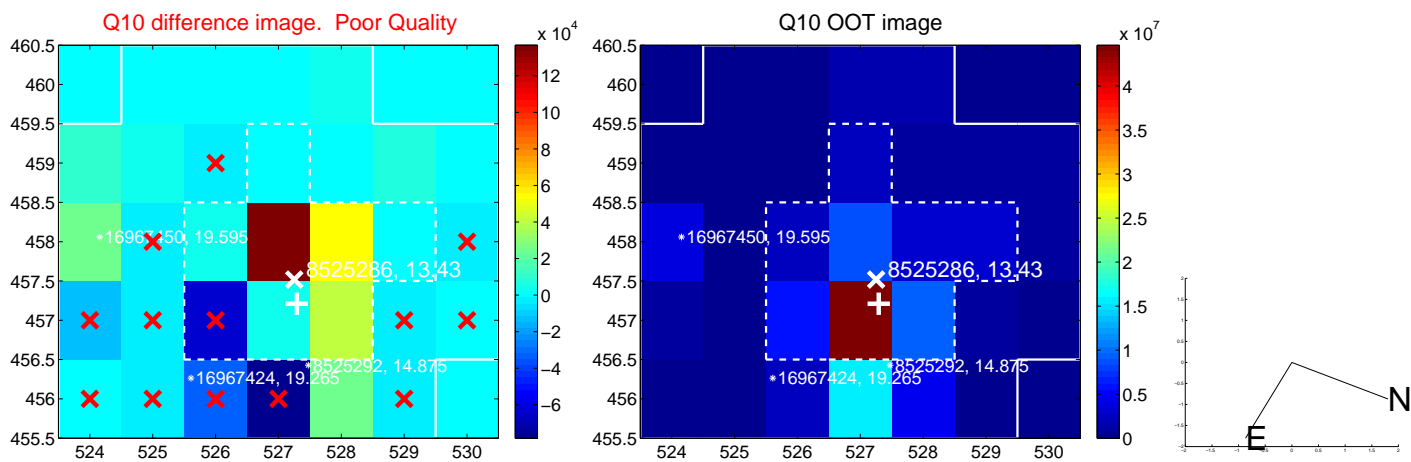
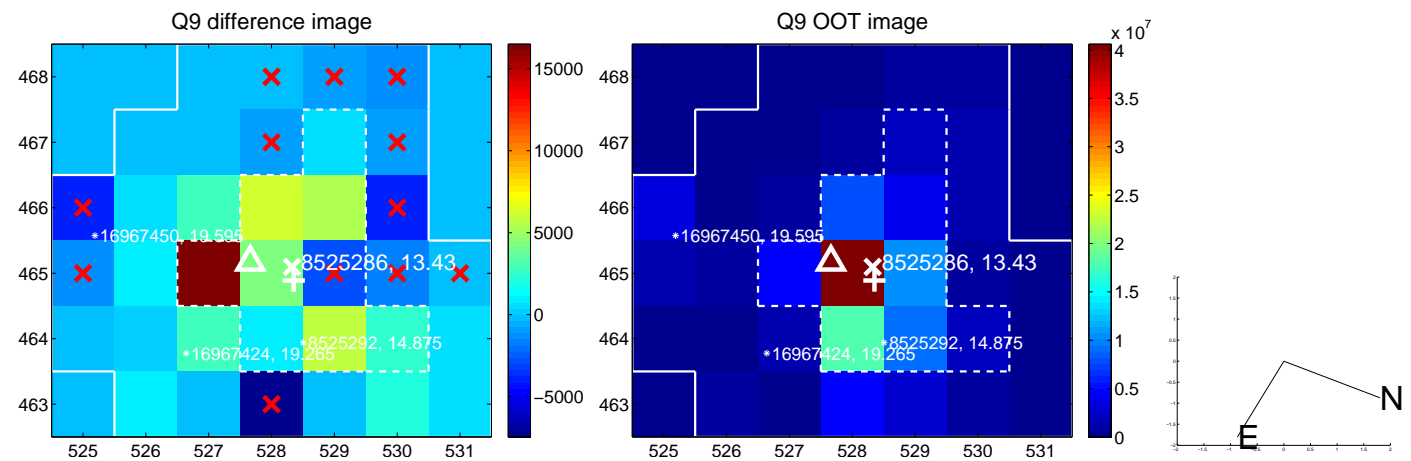
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



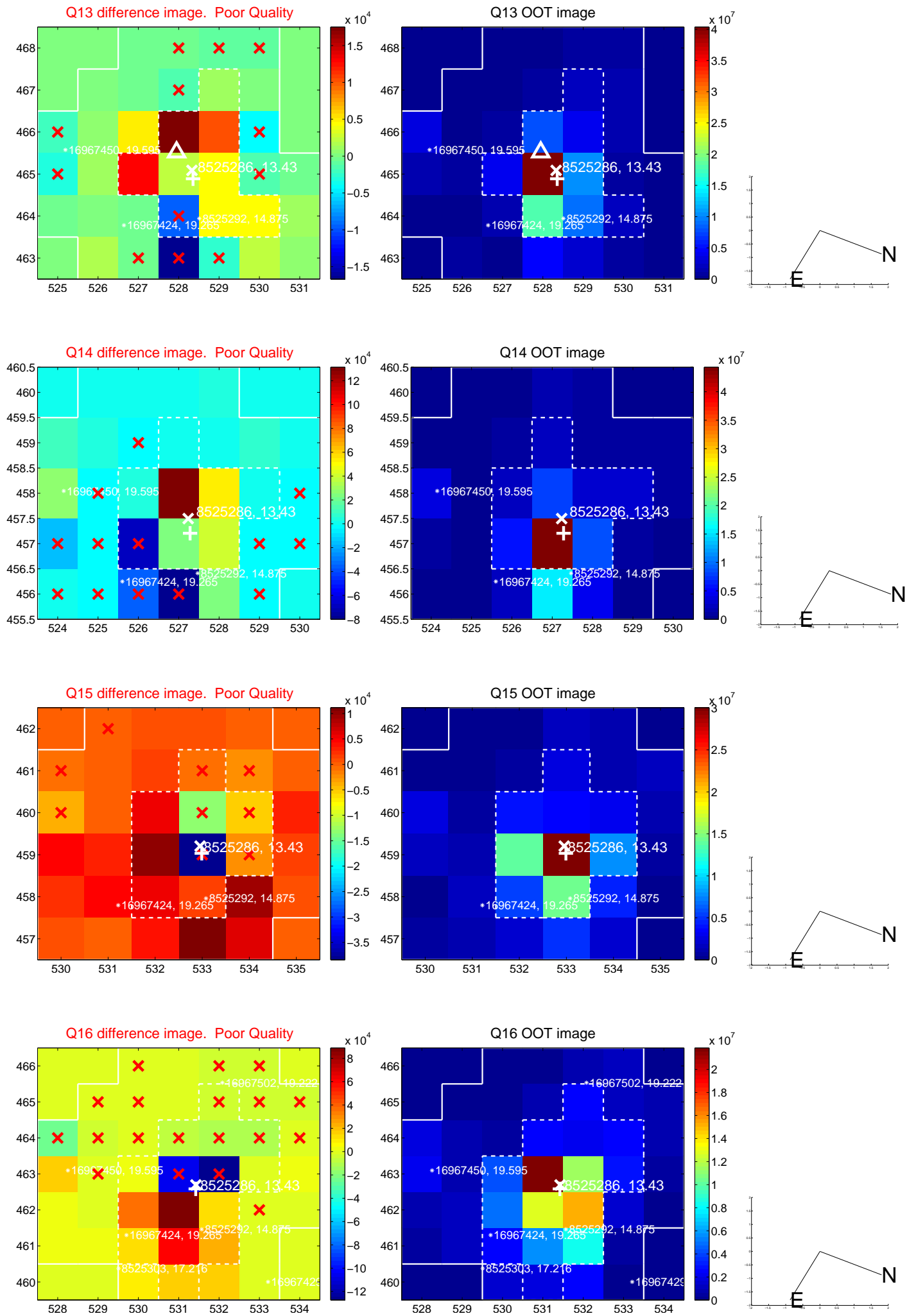
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



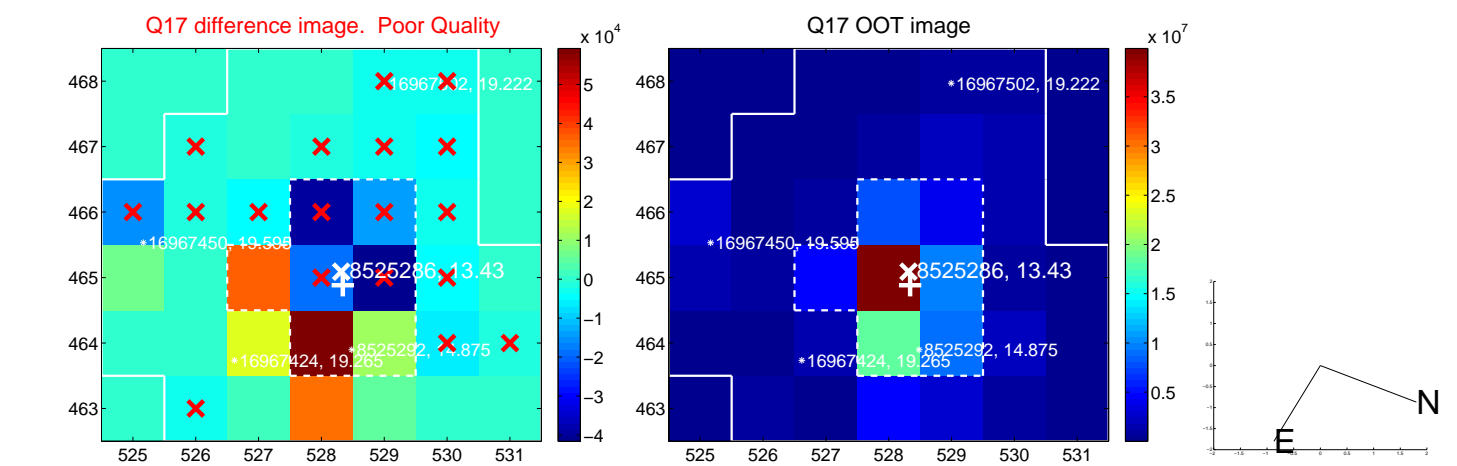
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



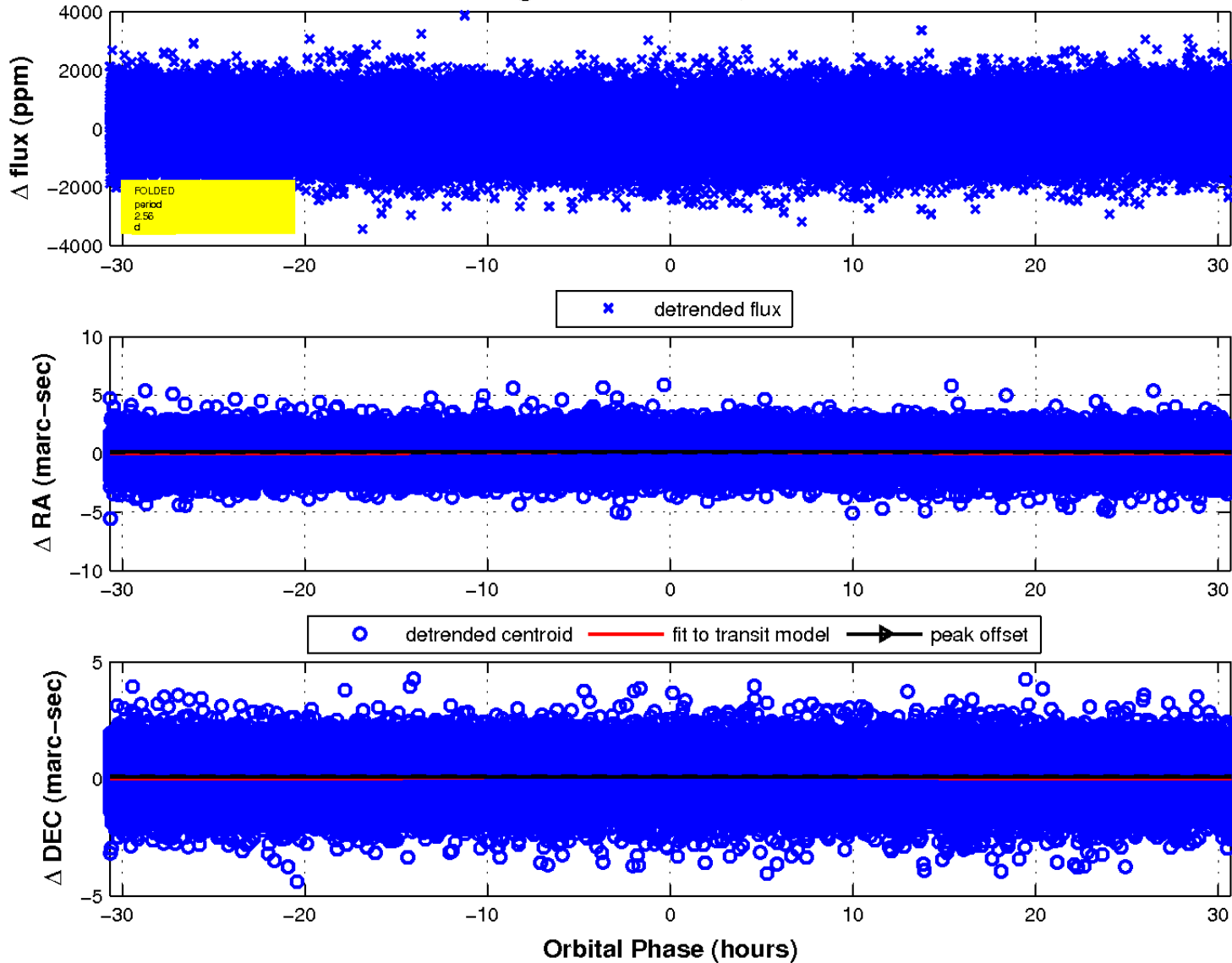
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

