

KIC 009656547

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})
009656547-01	OBS	7956.01	1.272313	132.485018	68.8	2.824	8.2	8.7	0.69	5044	0.69	626.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009656547-01	OBS	FP	0.00	0	0	1	1	CENT_RESOLVED_OFFSET—EPHEM_MATCH

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.

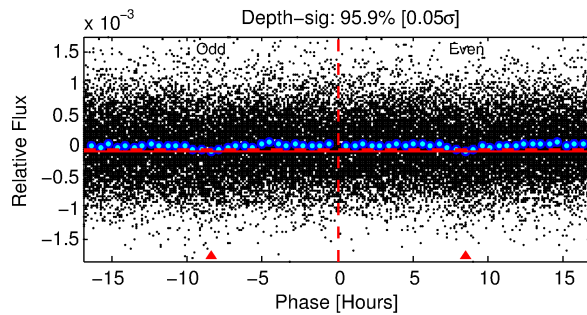
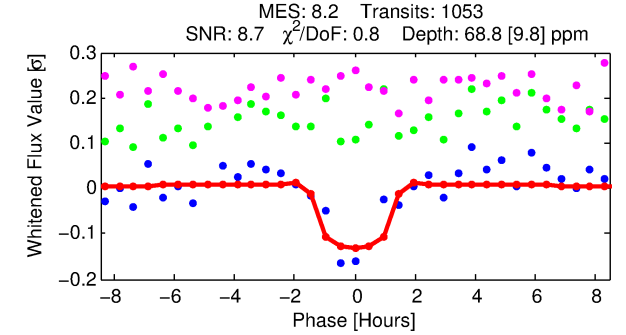
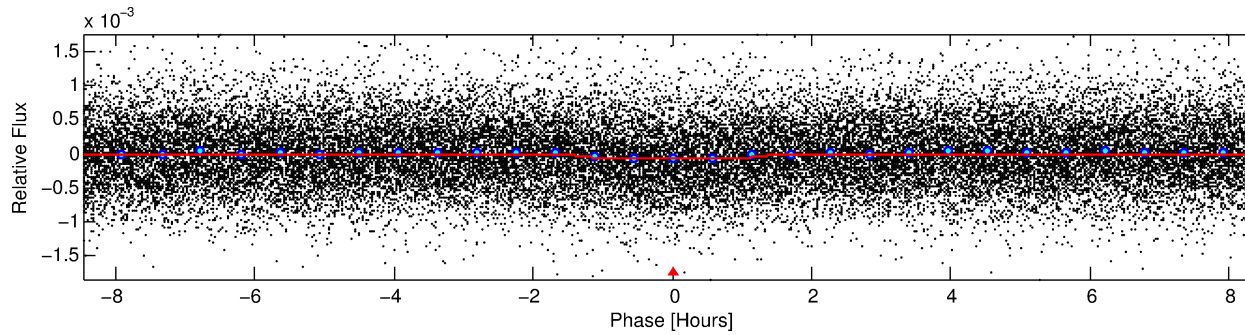
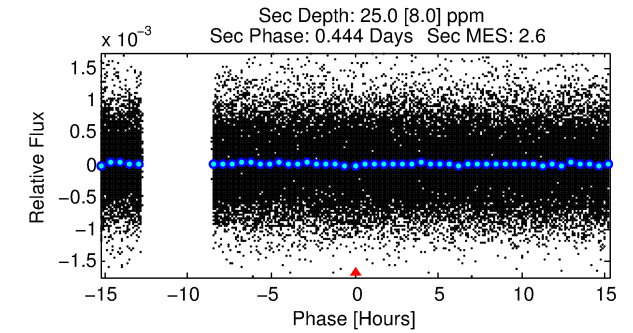
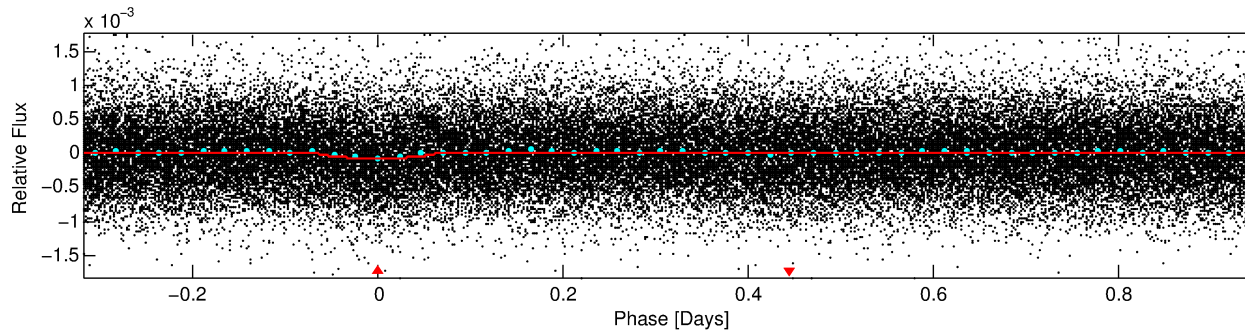
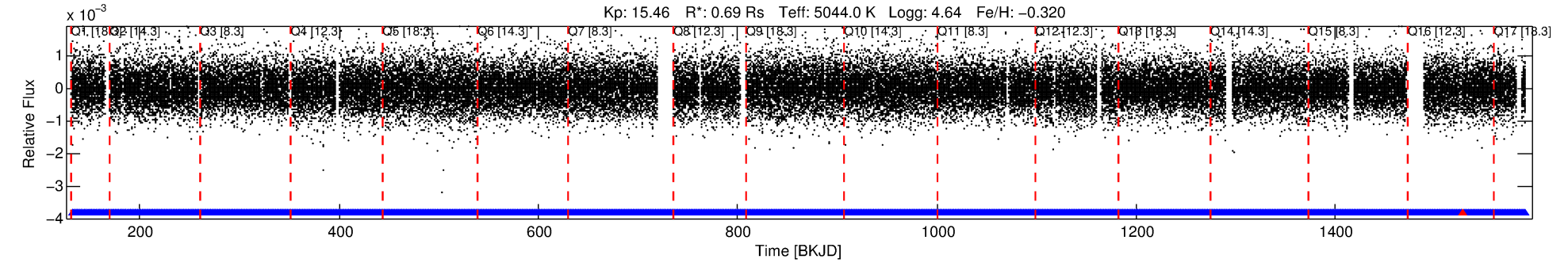
Ephemeris Match Information For 009656547-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
009656547-01	9656547	3588.01	9656543	1:2	15.4	-4	-2	16.32	15.46	5938.00	Direct-PRF	0	2.10	0.71

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 9656547 Candidate: 1 of 1 Period: 1.272 d



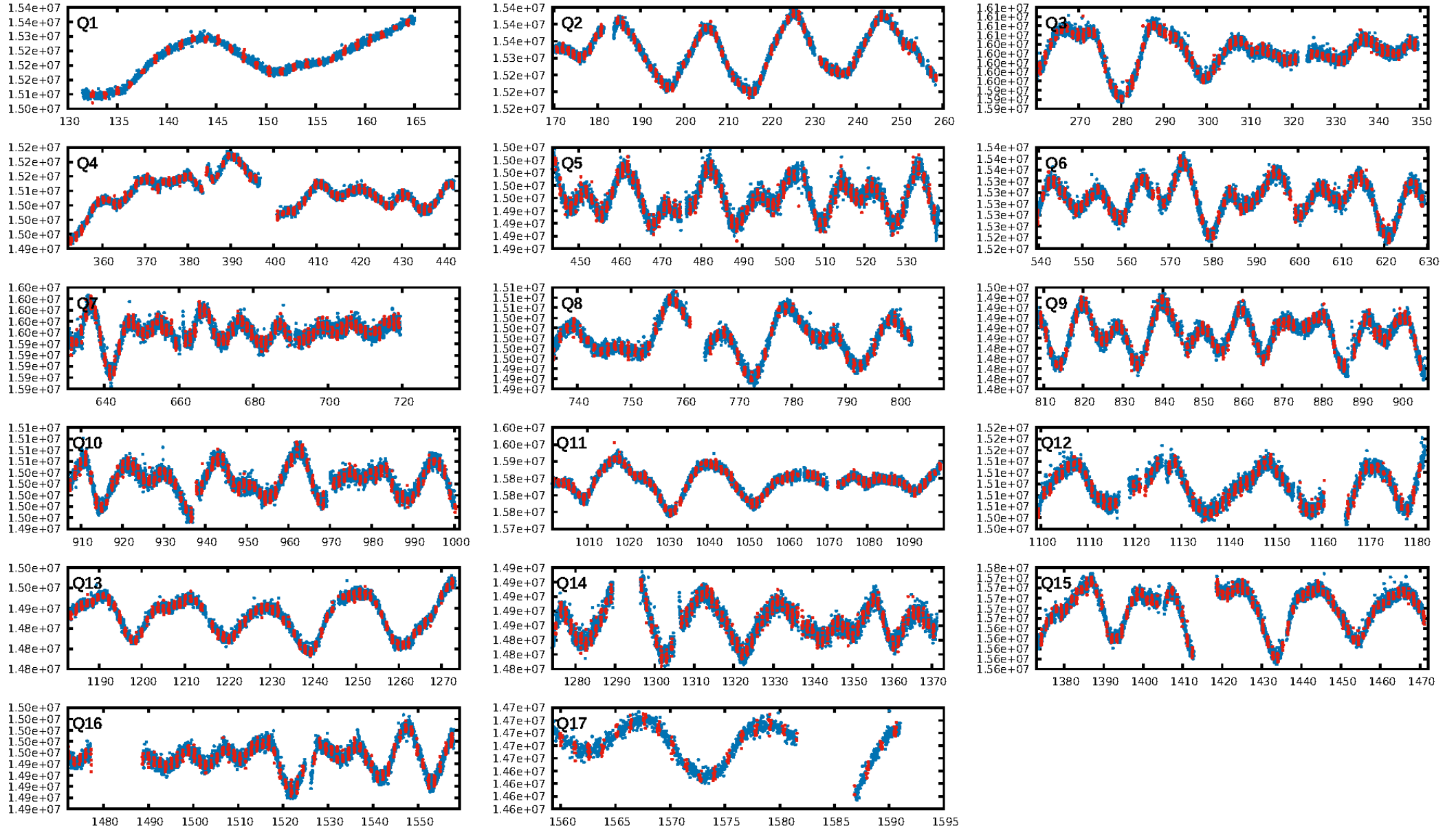
DV Fit Results:

Period = 1.27231 [0.00001] d
Epoch = 132.4850 [0.0042] BKJD
Rp/R* = 0.0092 [0.0072]
a/R* = 1.82 [4.14]
b = 0.90 [0.70]
Seff = 626.26 [112.99]
Teff = 1276 [58] K
Rp = 0.69 [0.54] Re
a = 0.0209 [0.0020] AU
Ag = 12.58 [20.02] [0.58σ]
Teffp = 3714 [1477] K [1.65σ]

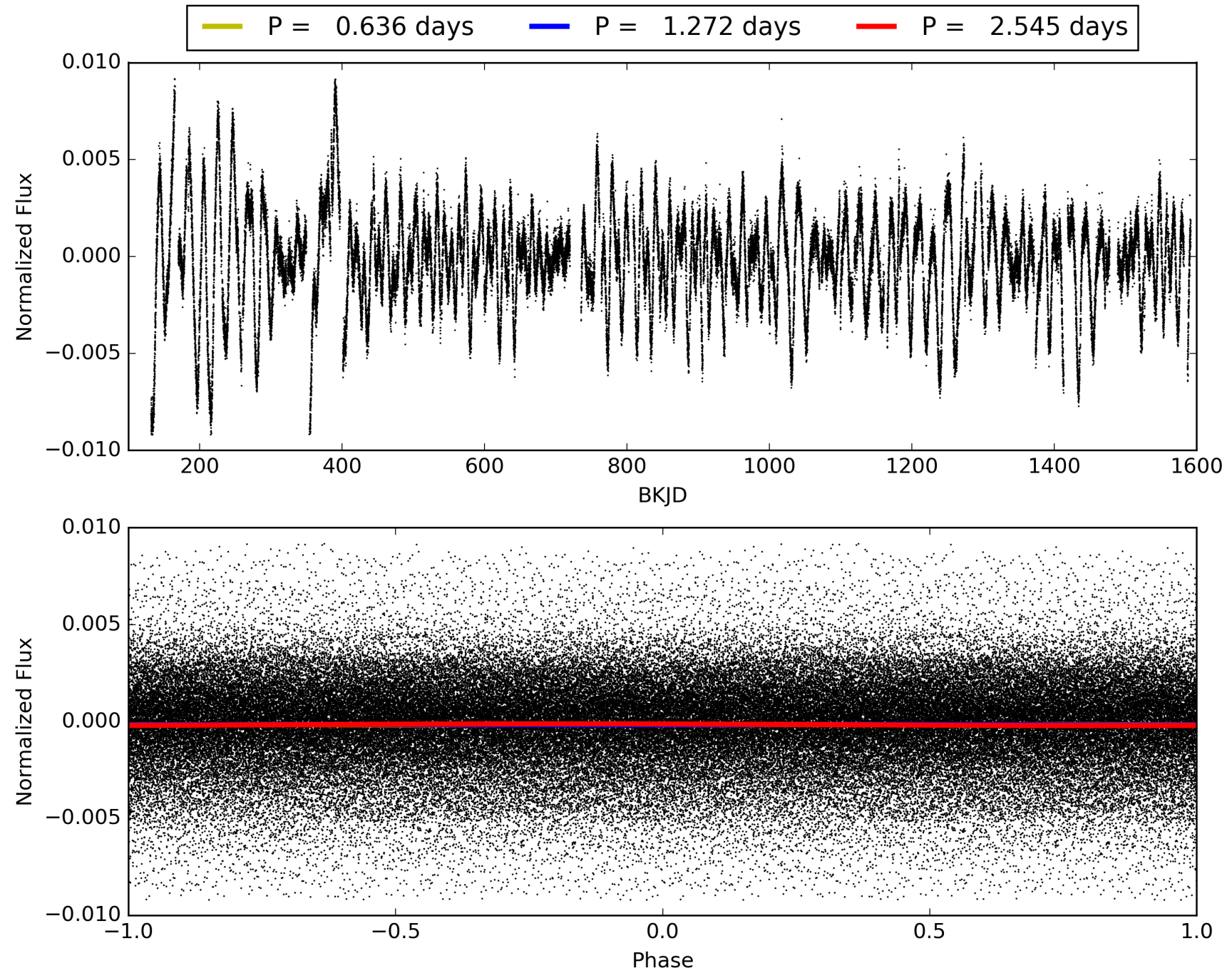
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.11e-14
RollingBand-fgt: 1.00 [1005/1006]
GhostDiagnostic-chr: -0.7648
Centroid-sig: 0.0%
Centroid-so: 29.070 arcsec [20.31σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [17/17]

TCE 009656547-01, PDC Light Curves

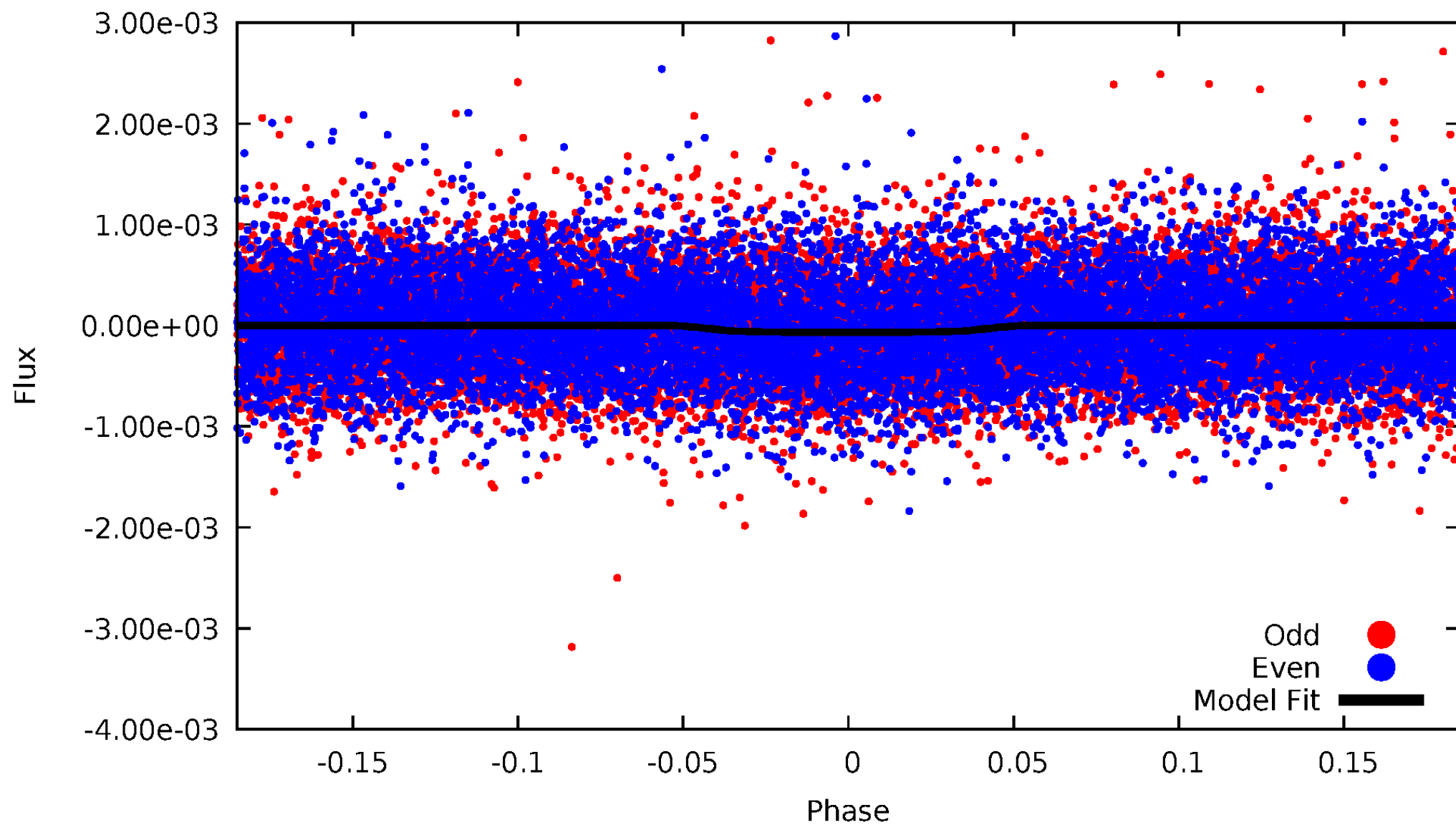


TCE 009656547-01



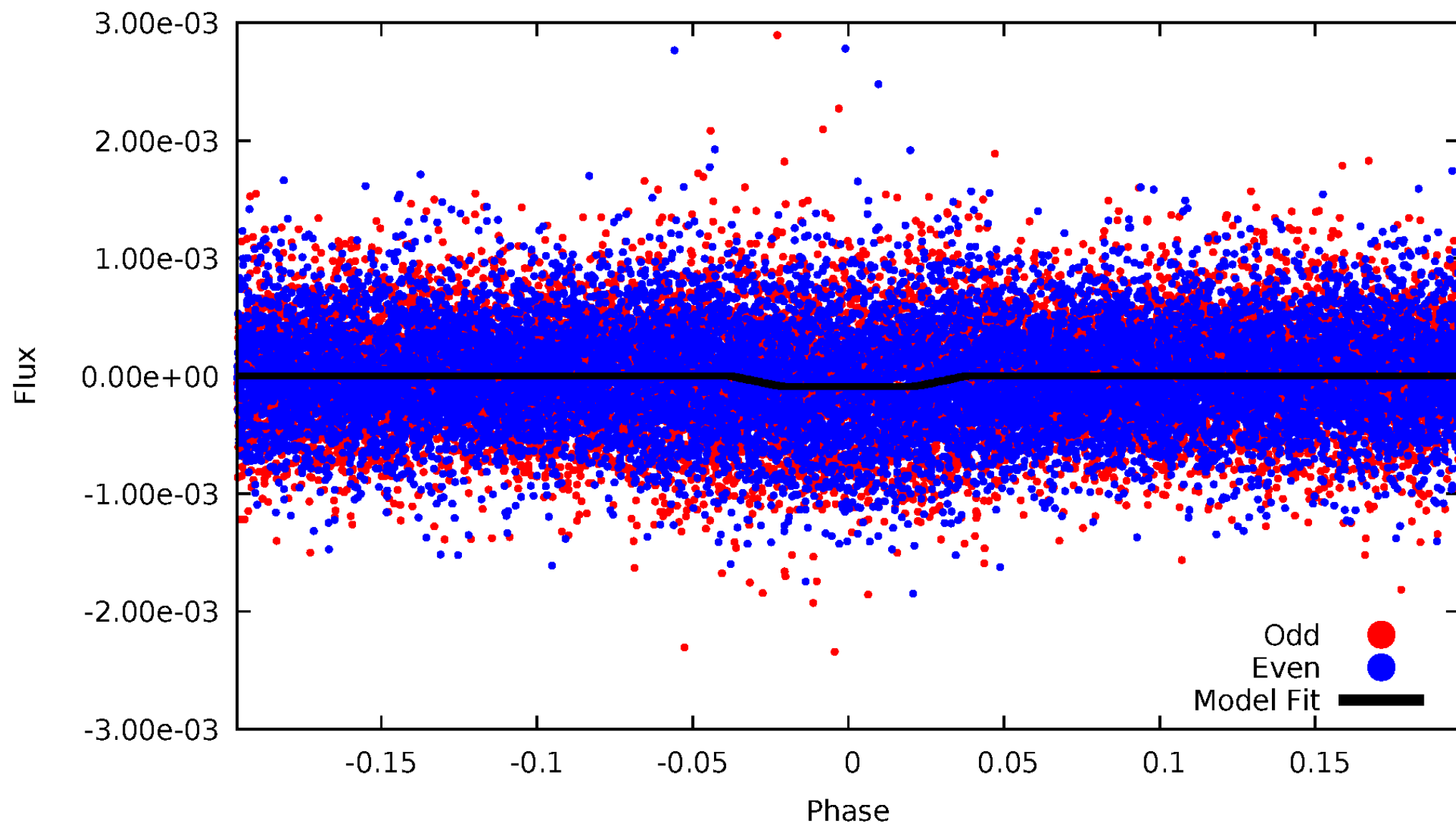
DV Odd/Even

TCE 009656547-01



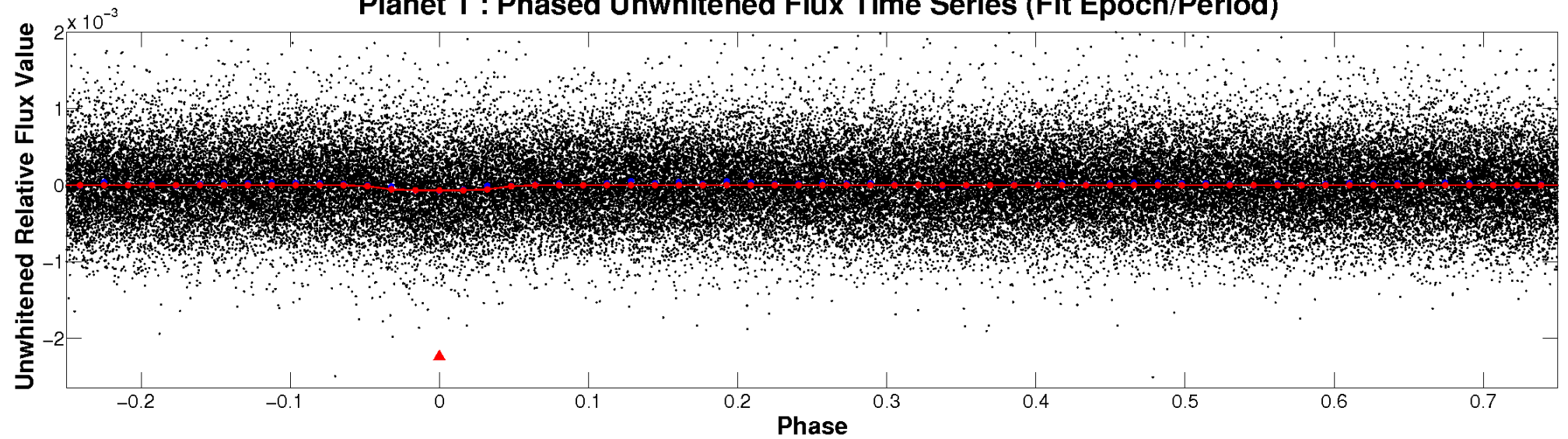
ALT Odd/Even

TCE 009656547-01

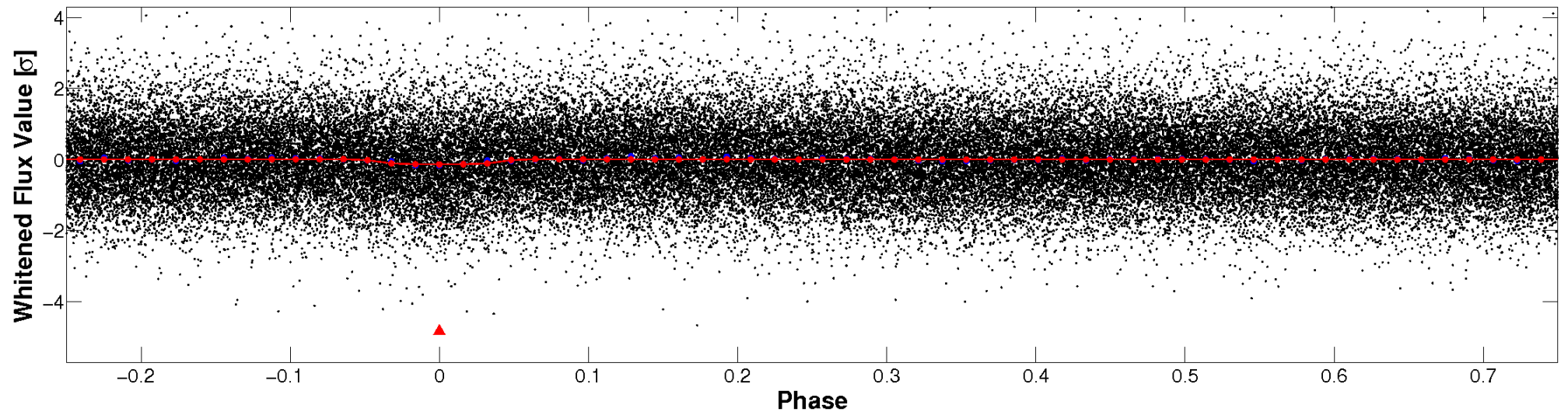


Non-Whitened Vs. Whitened Light Curve

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

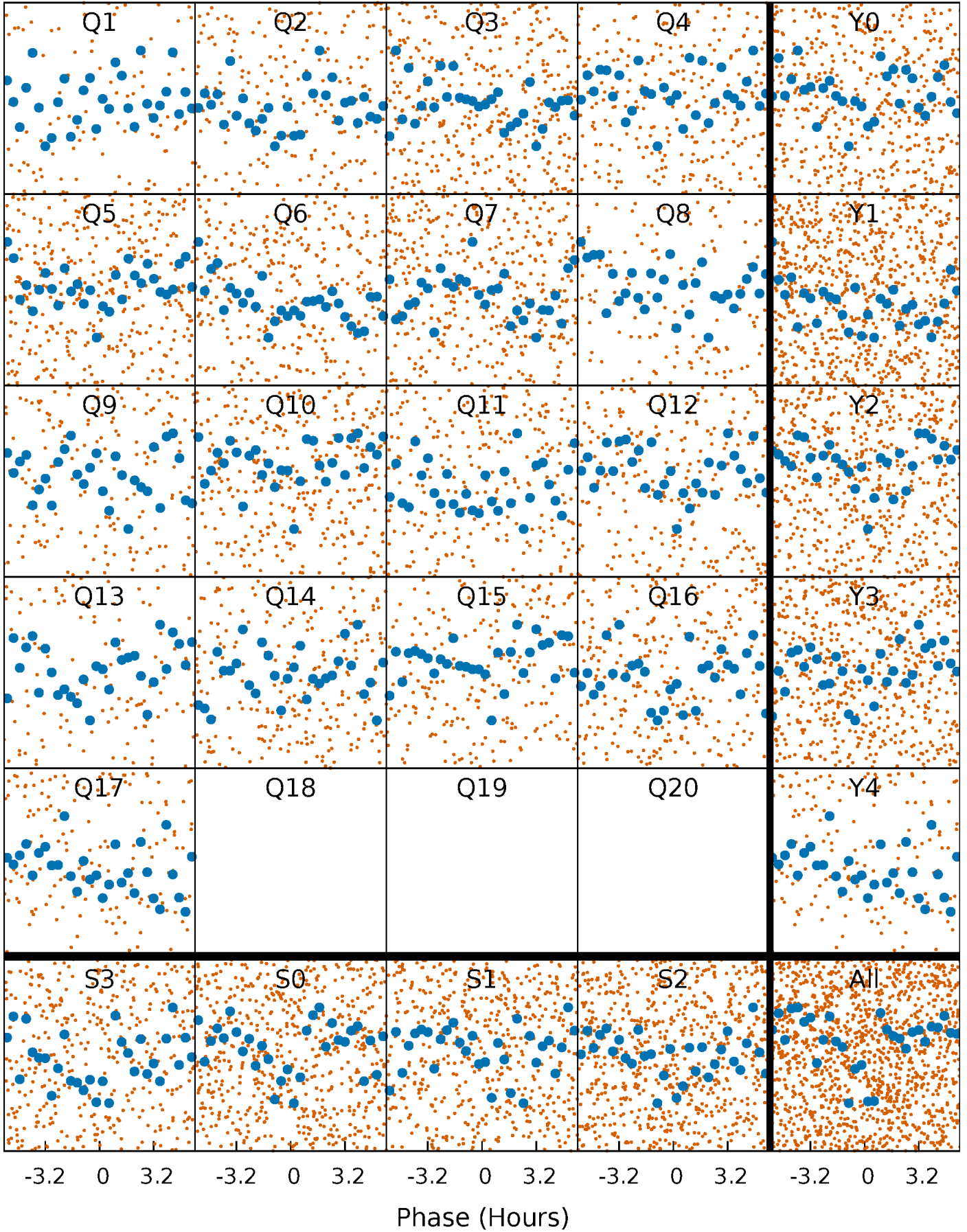


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



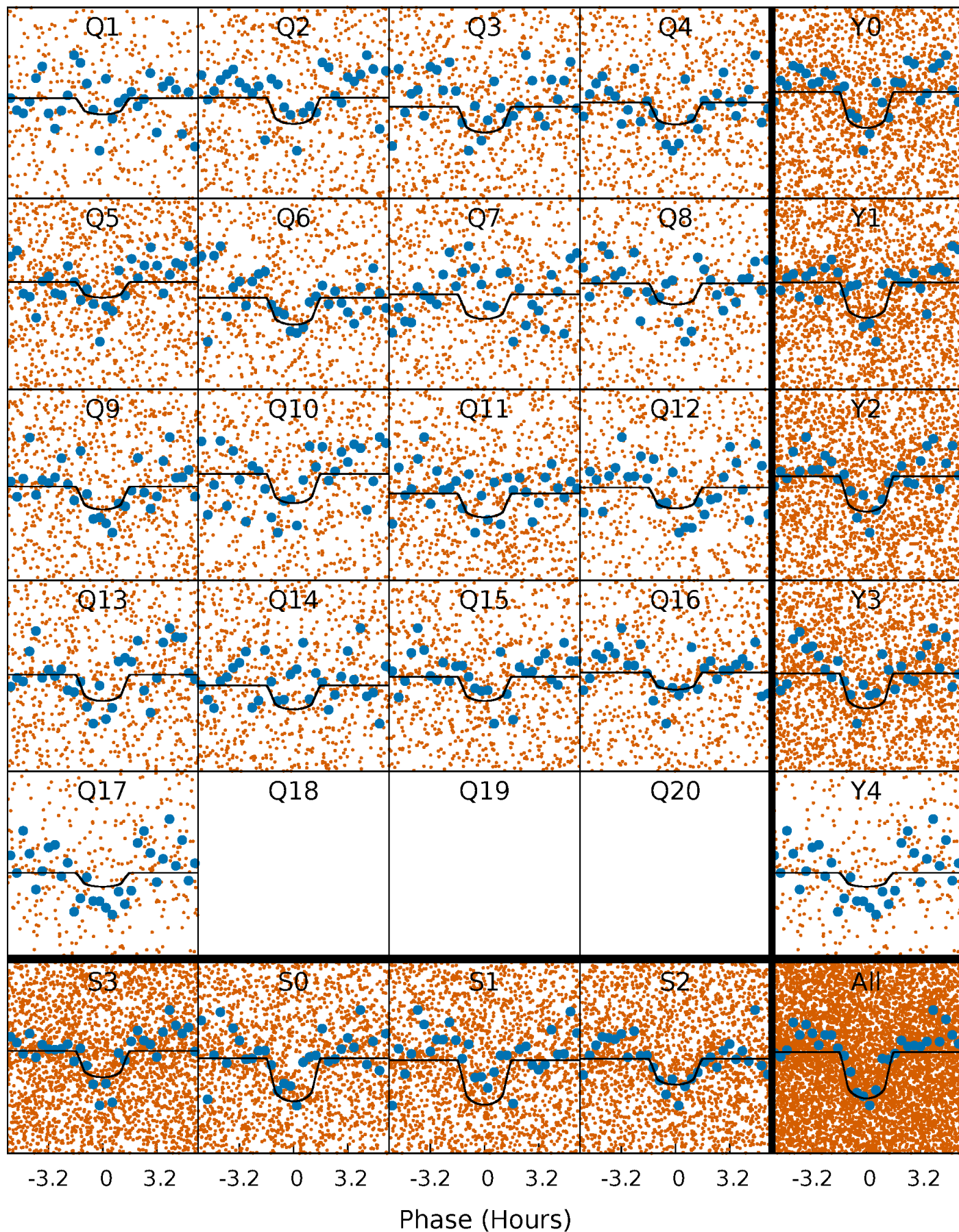
PDC Quarter-Phased Transit Curves

TCE 009656547-01 P= 1.272313 Days $T_0=132.485018$ (BKJD)



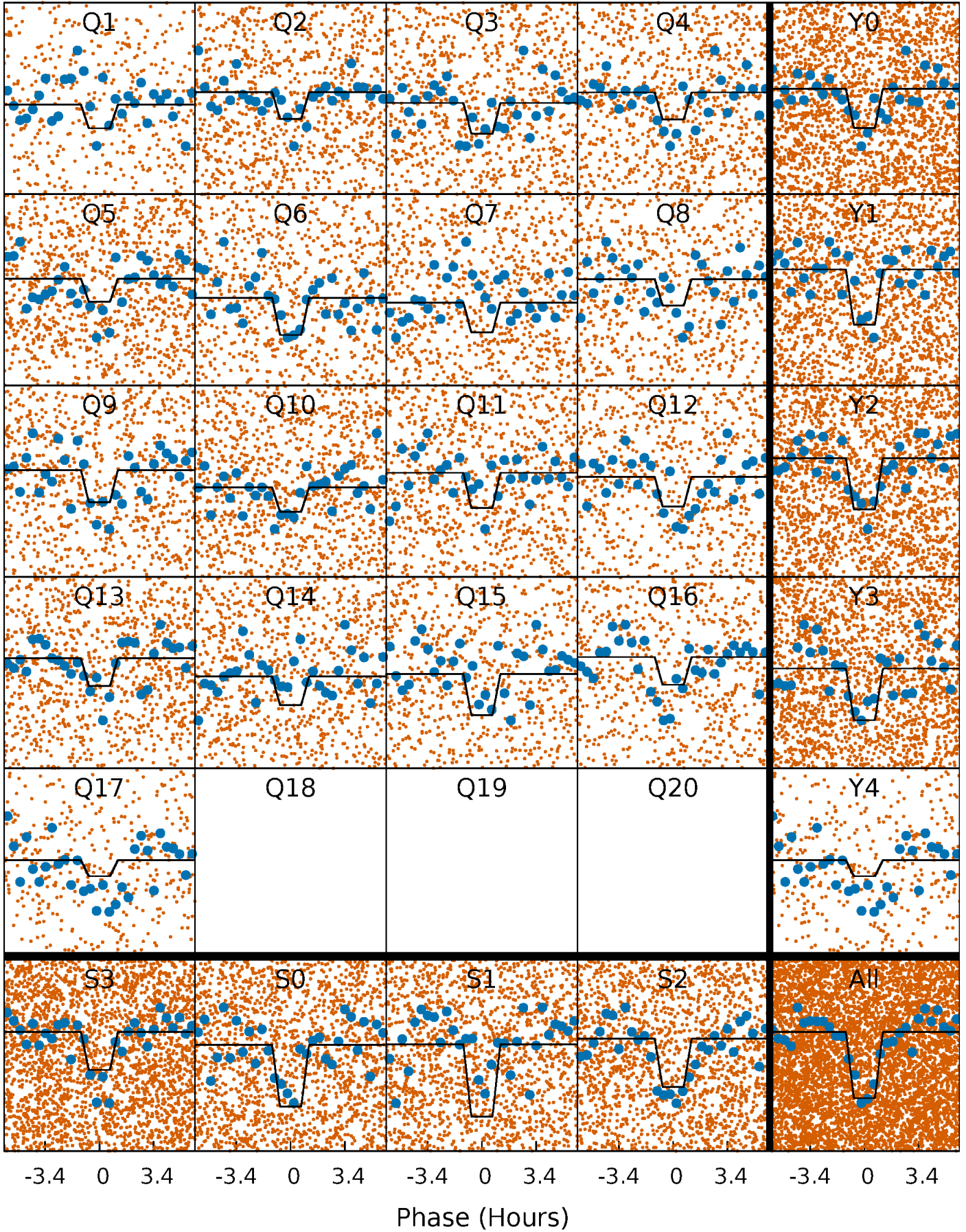
DV Quarter-Phased Transit Curves

TCE 009656547-01 P= 1.272313 Days $T_0=132.485018$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

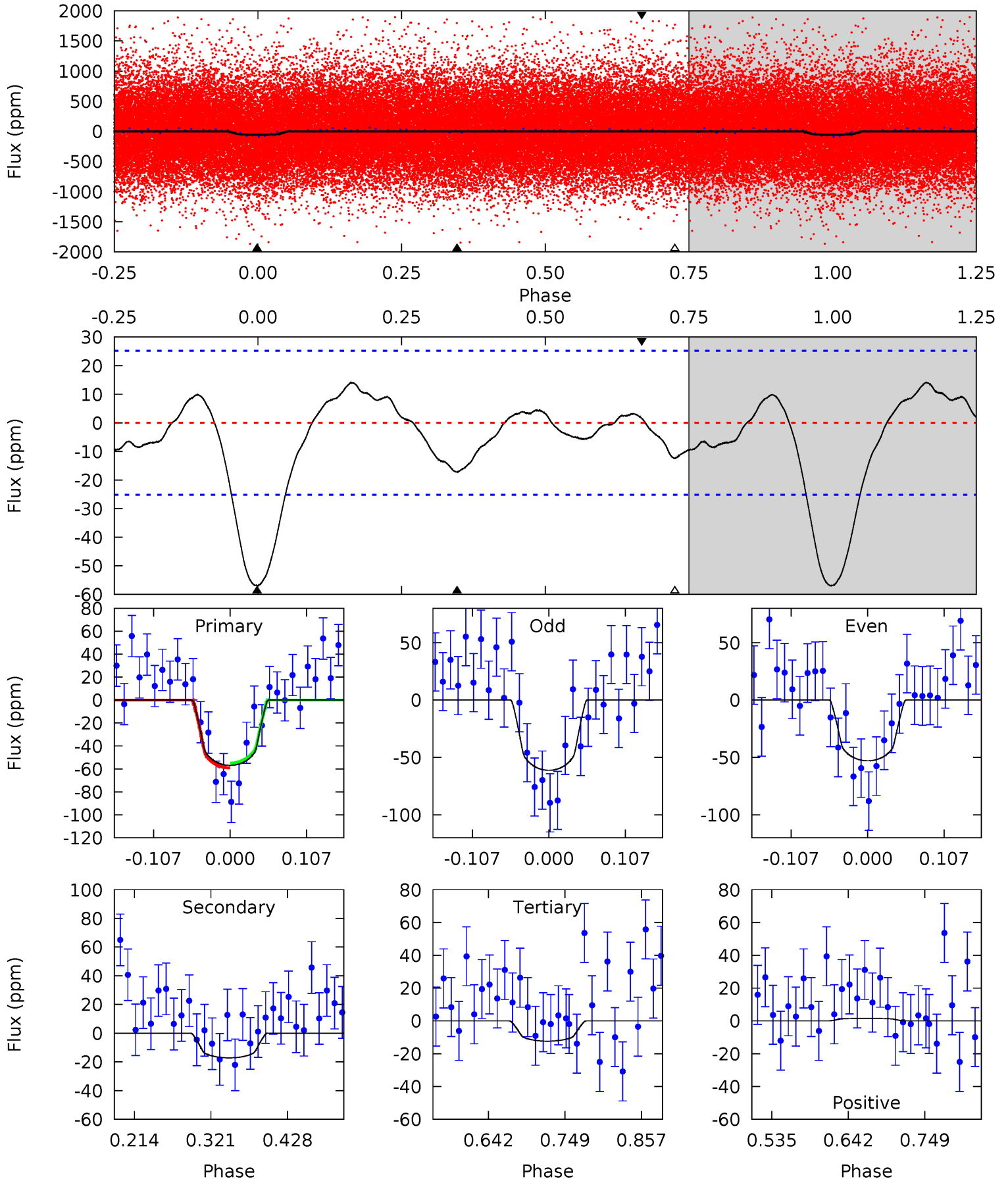
TCE 009656547-01 P= 1.272308 Days $T_0=132.484760$ (BKJD)



DV Model-Shift Uniqueness Test

009656547-01, P = 1.272313 Days, E = 131.212705 Days

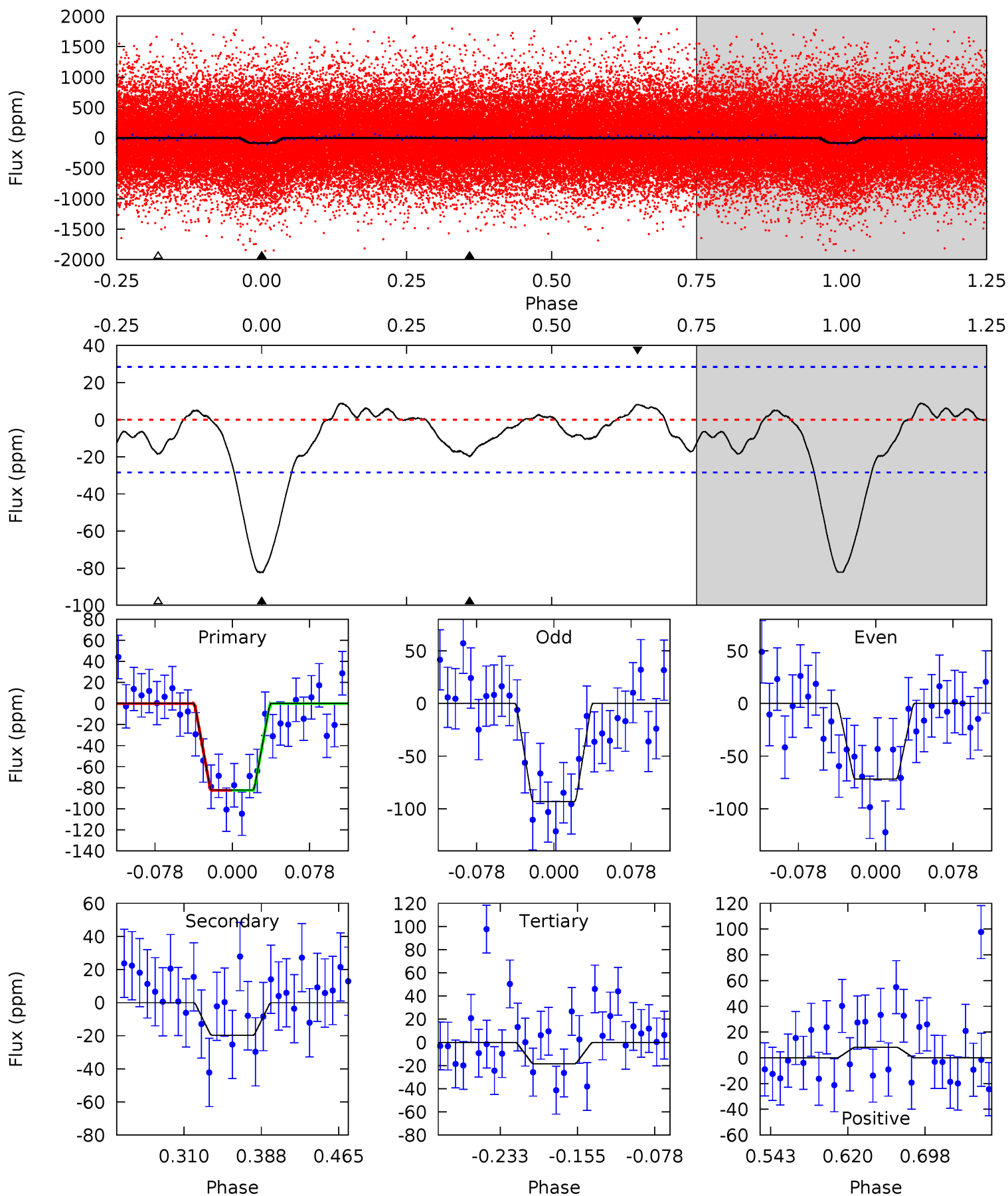
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	3.11	2.23	0.28	4.55	1.61	1.24	8.04	10.00	0.88	2.83	0.75	1.07	0.20	0.37



Alt Model-Shift Uniqueness Test

009656547-01, P = 1.272308 Days, E = 131.212452 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.4	3.20	3.00	1.33	4.62	1.77	1.12	10.4	12.0	0.20	1.86	1.75	0.92	0.10	0.01



Stellar Parameters For KIC 009656547

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5044^{+136}_{-151}	$4.640^{+0.030}_{-0.070}$	$-0.320^{+0.300}_{-0.300}$	$0.686^{+0.084}_{-0.052}$	$0.762^{+0.063}_{-0.087}$	$3.319^{+0.546}_{-0.761}$
	+3%/-3%	+1%/-2%	+94%/-94%	+12%/-8%	+8%/-11%	+16%/-23%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 009656547-01 / KOI 7956.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-17 ± 6	$0.76^{+0.53}_{-0.45}$	1797^{+63}_{-66}	3603^{+1439}_{-597}	$7.027^{+33.900}_{-4.604}$
Alt.	-20 ± 6	$0.76^{+0.53}_{-0.45}$	1803^{+58}_{-62}	3675^{+1450}_{-630}	$7.836^{+34.861}_{-5.269}$

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 $A_{obs} \gg 1.0$

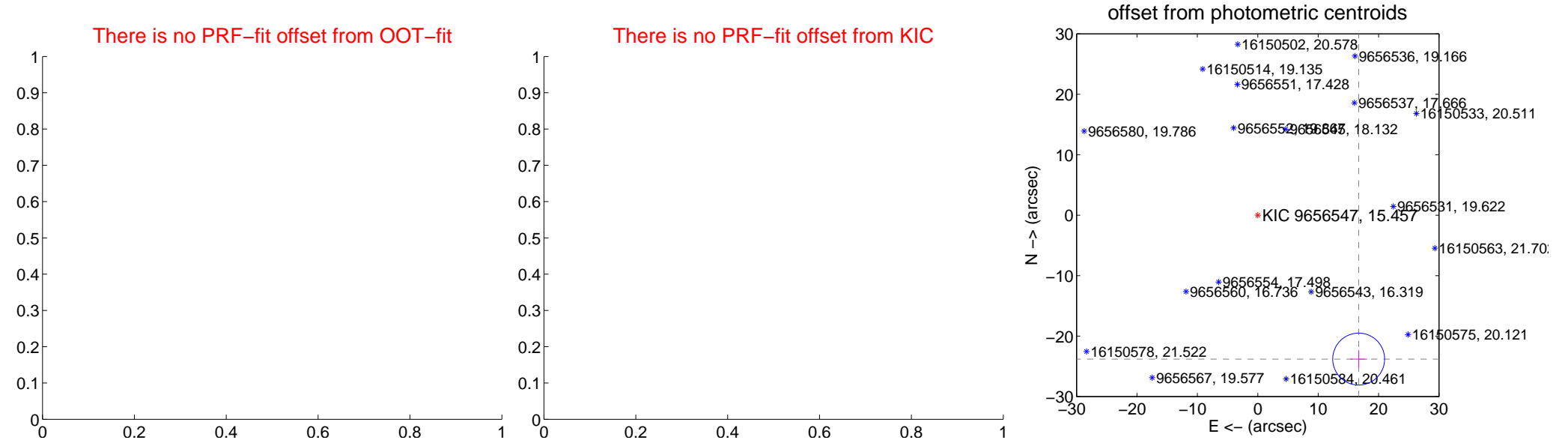
DV Centroid Data

Supplemental centroid analysis for 009656547-01. Kepler magnitude: 15.46. Transit SNR 8.67

There are 0 quarters with good PRF difference image offsets

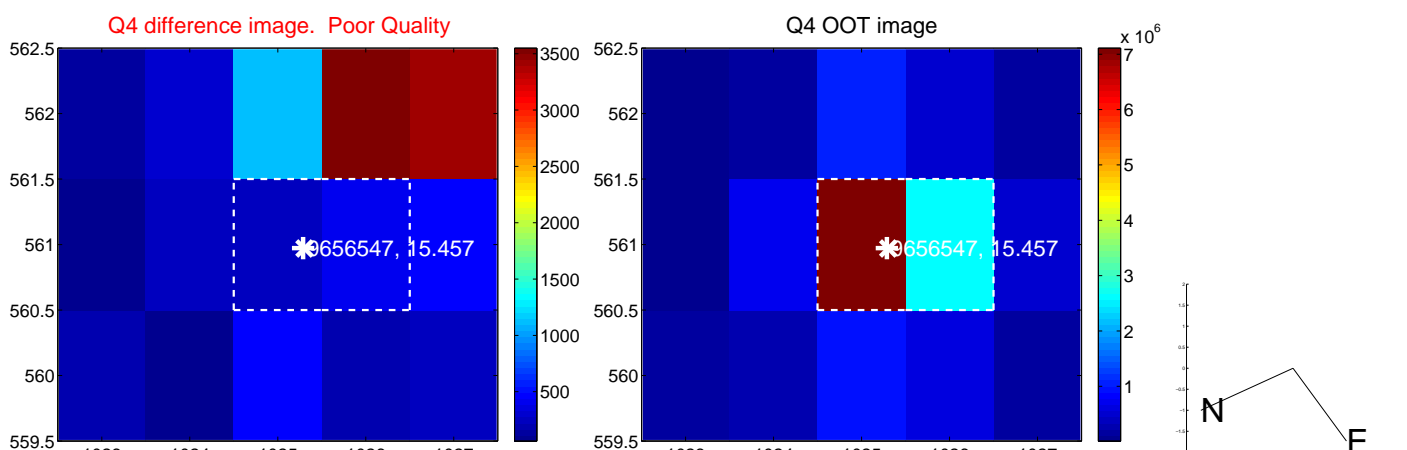
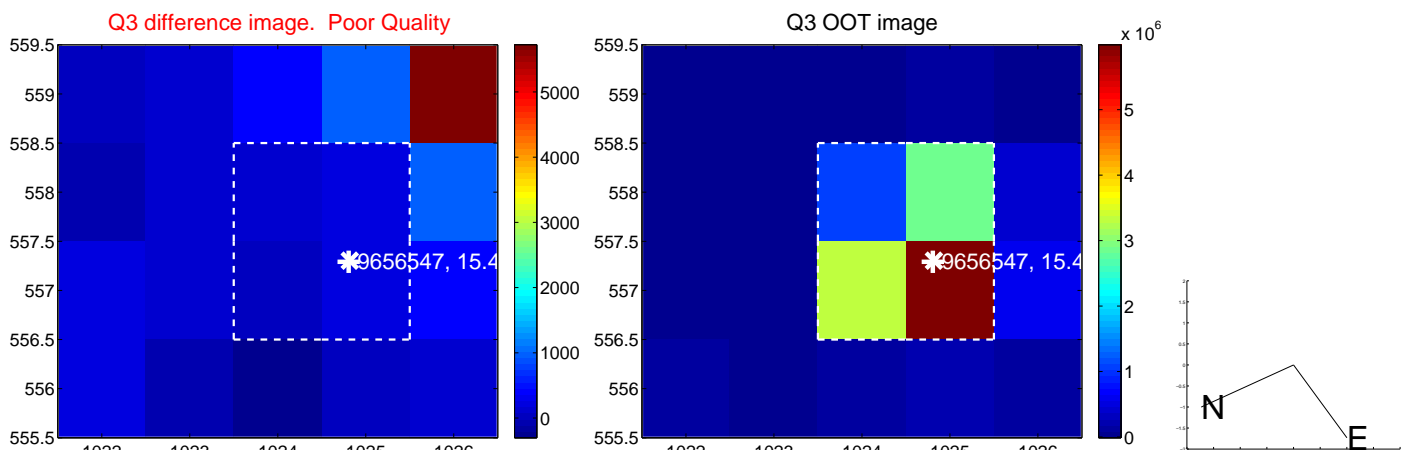
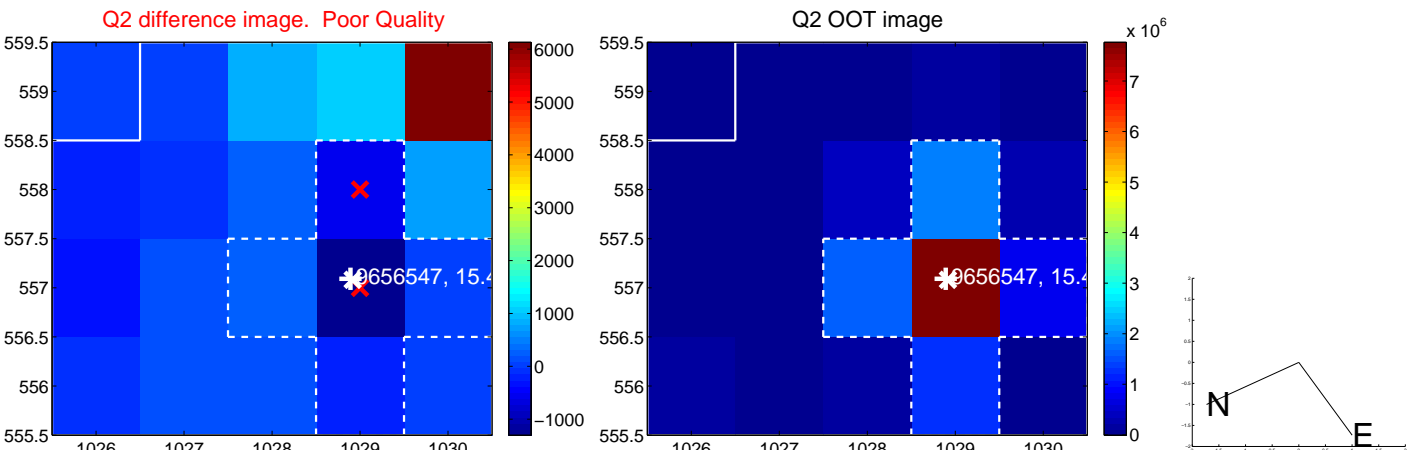
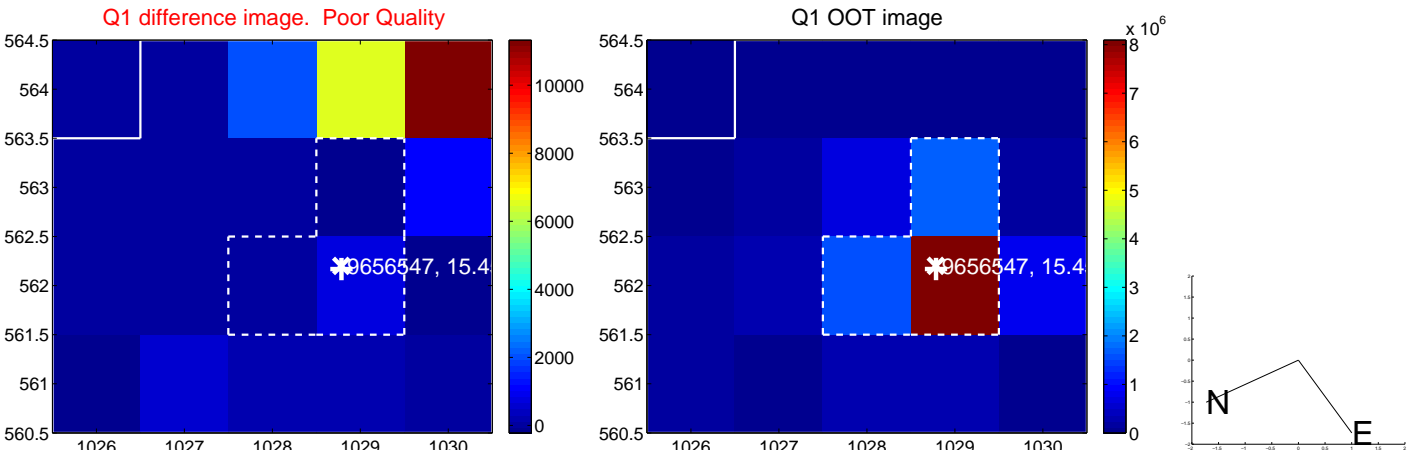
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	29.07 ± 1.43	20.31	-16.70 ± 1.39	-23.80 ± 1.45

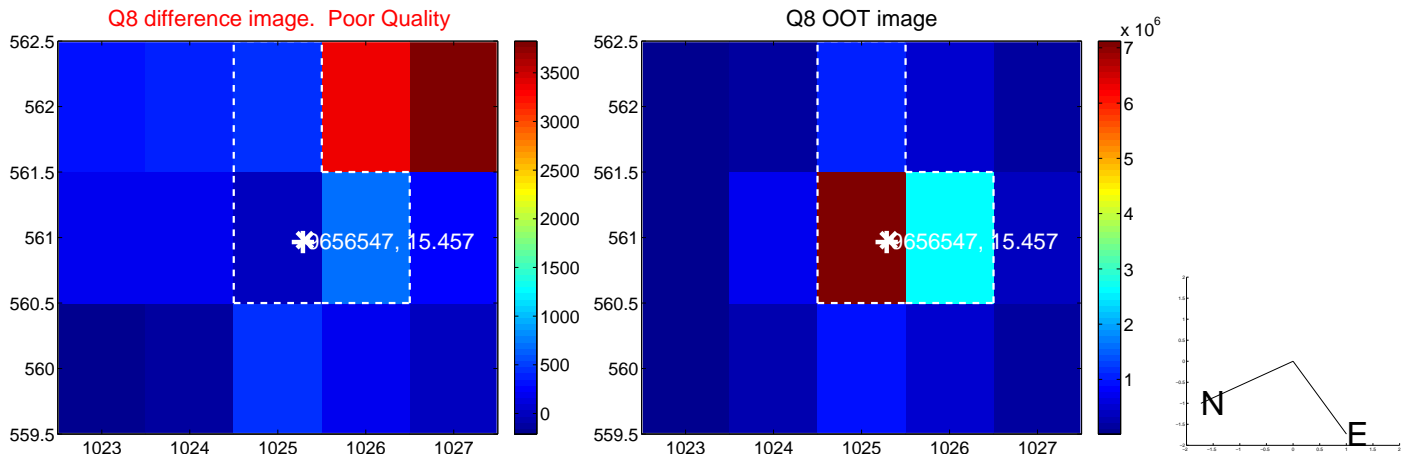
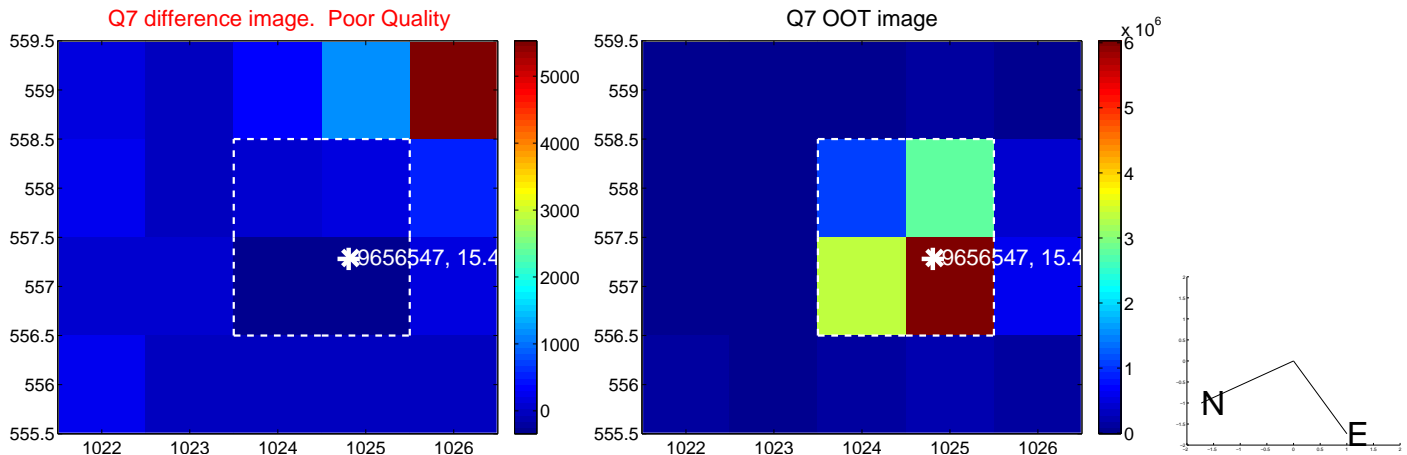
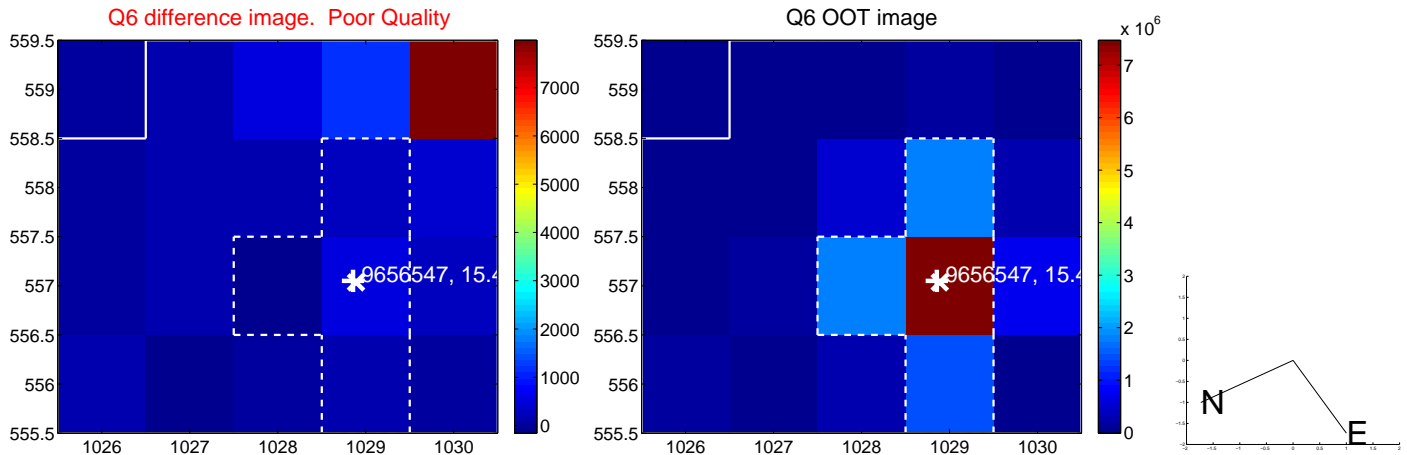
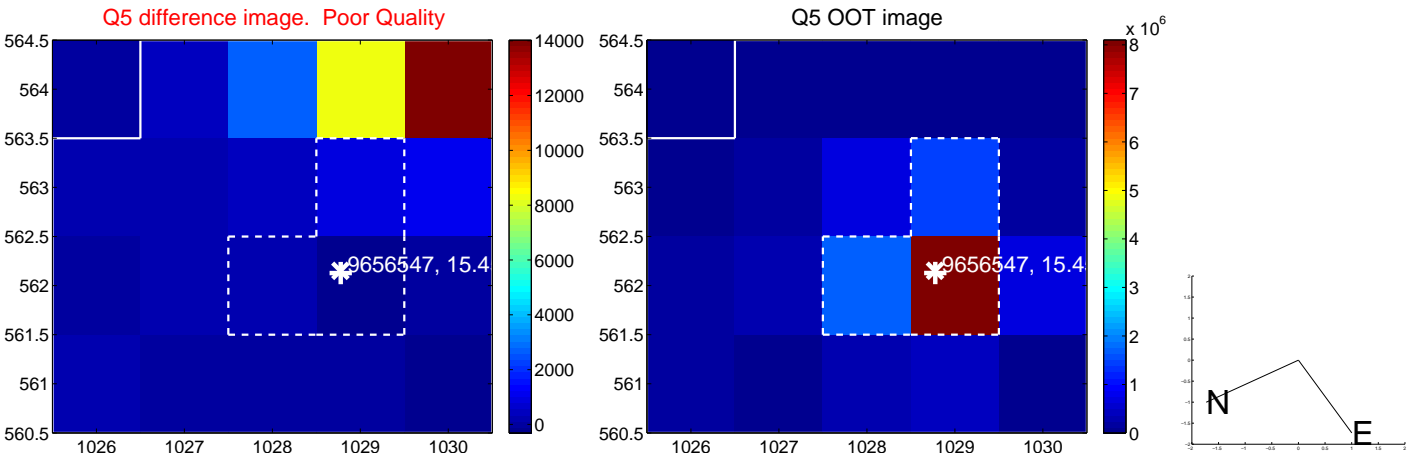


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

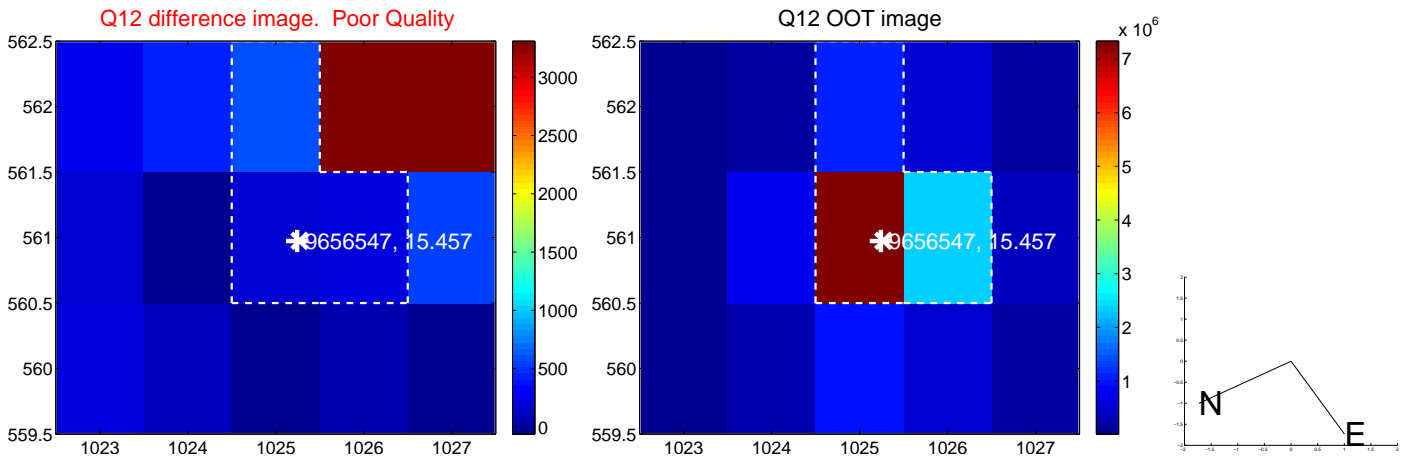
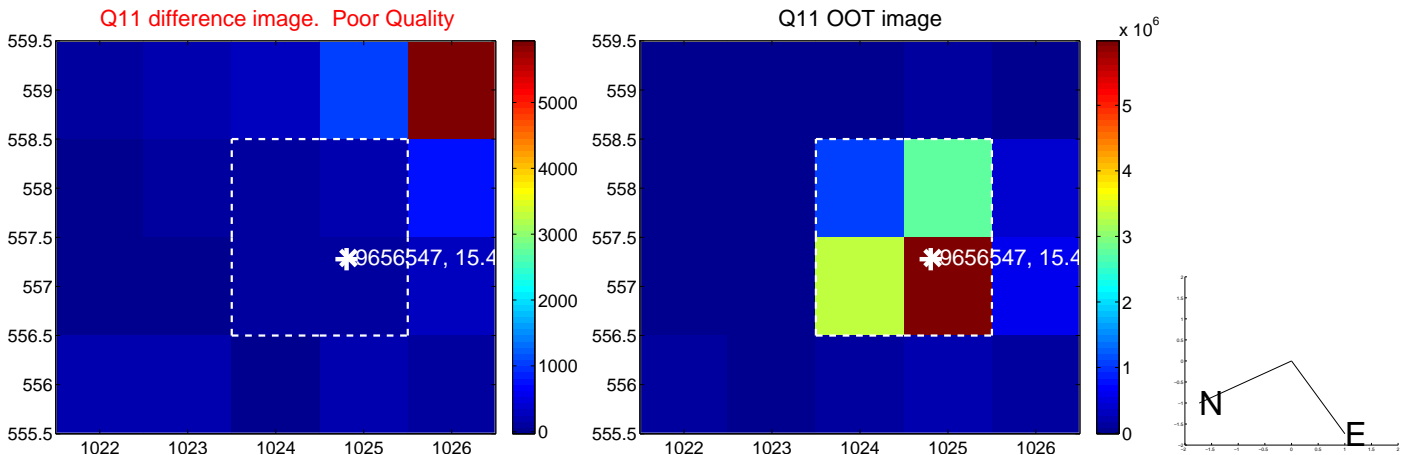
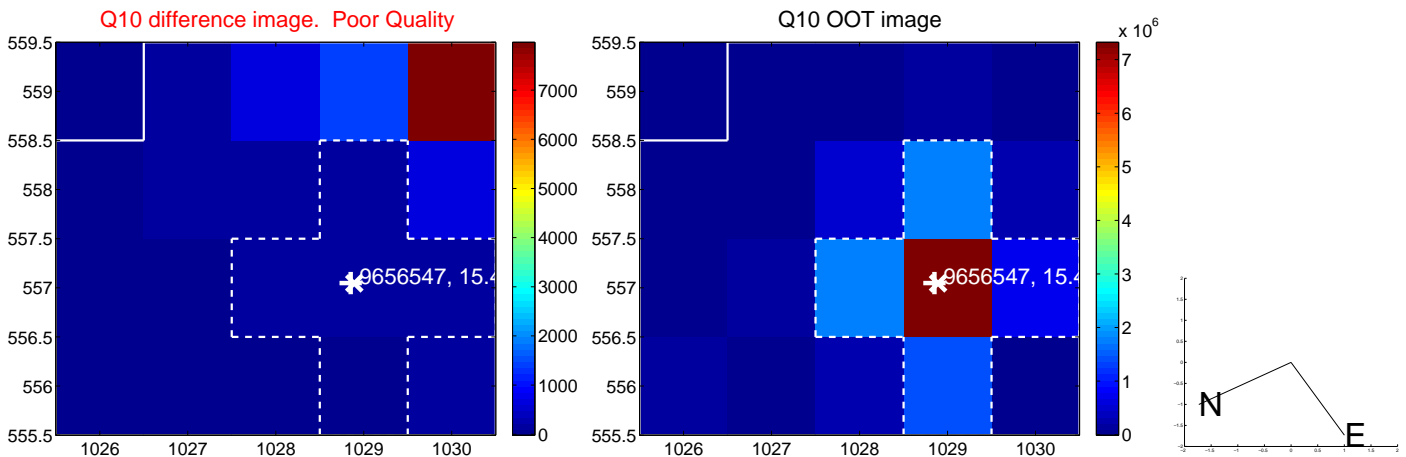
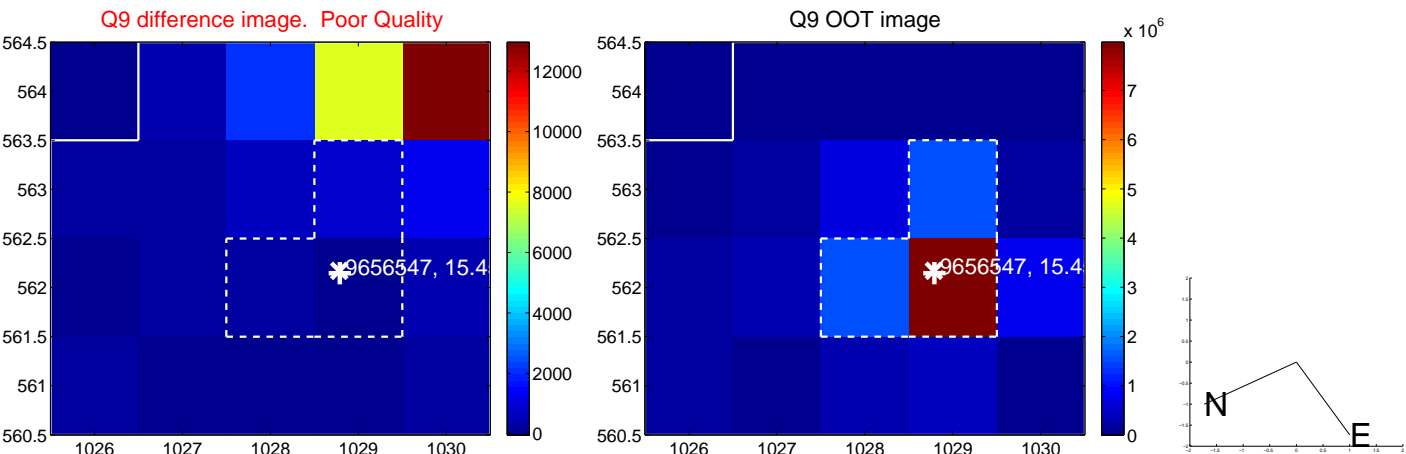
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



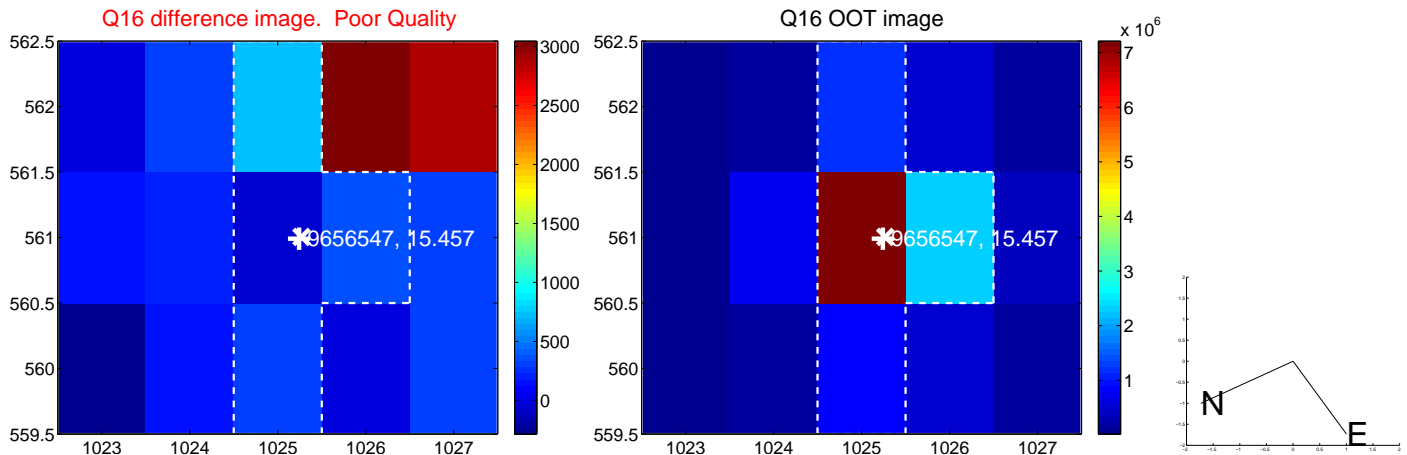
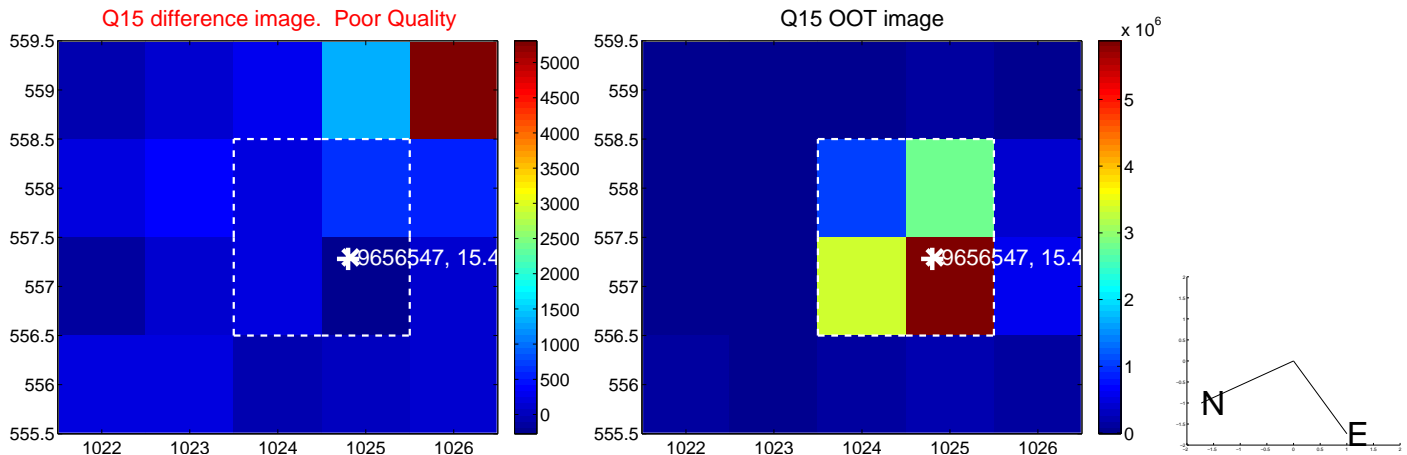
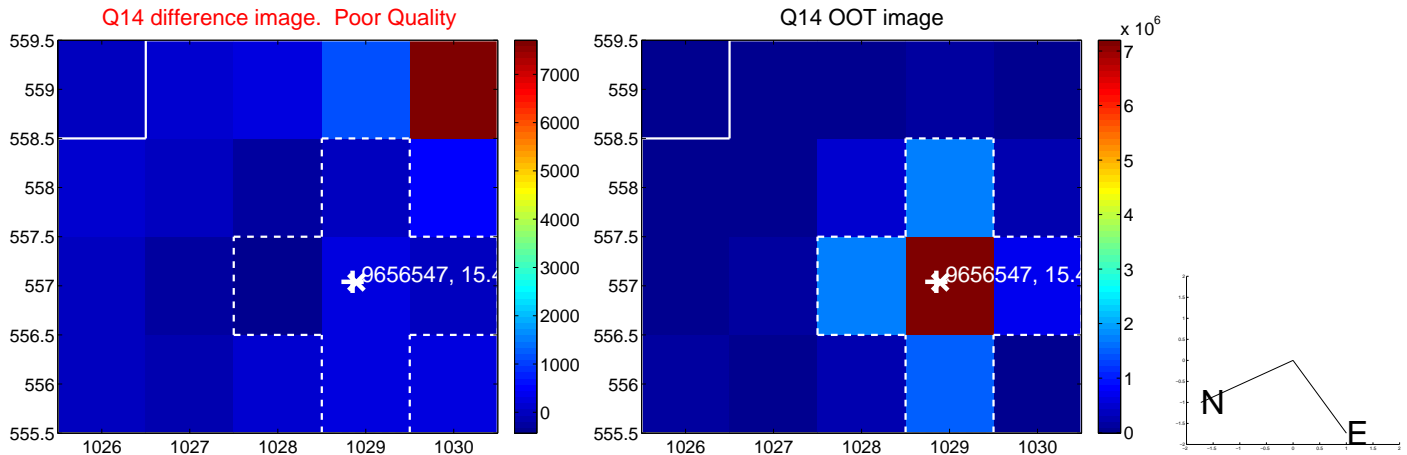
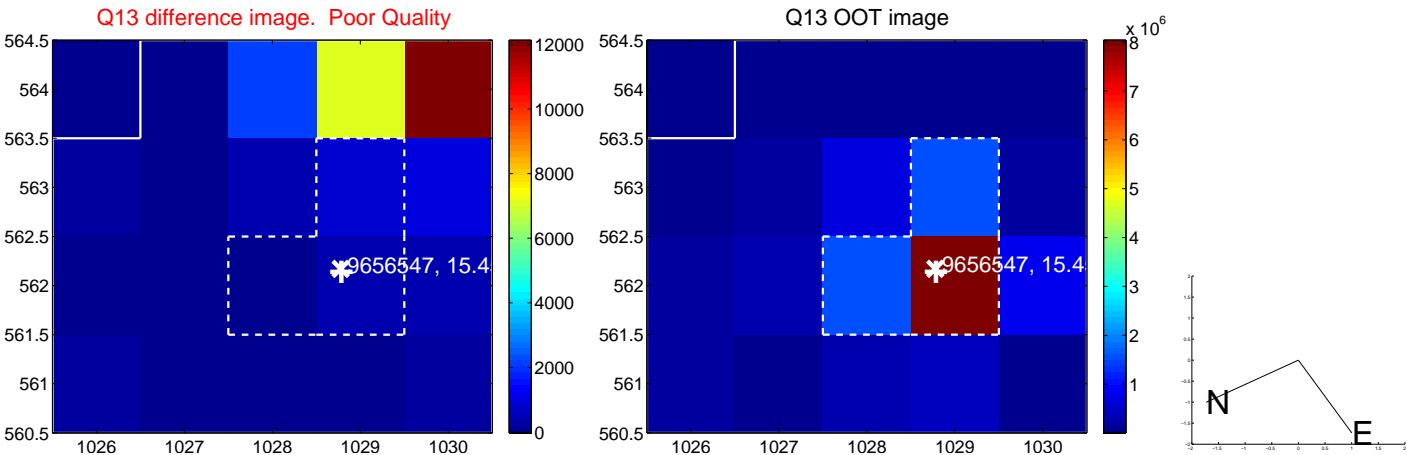
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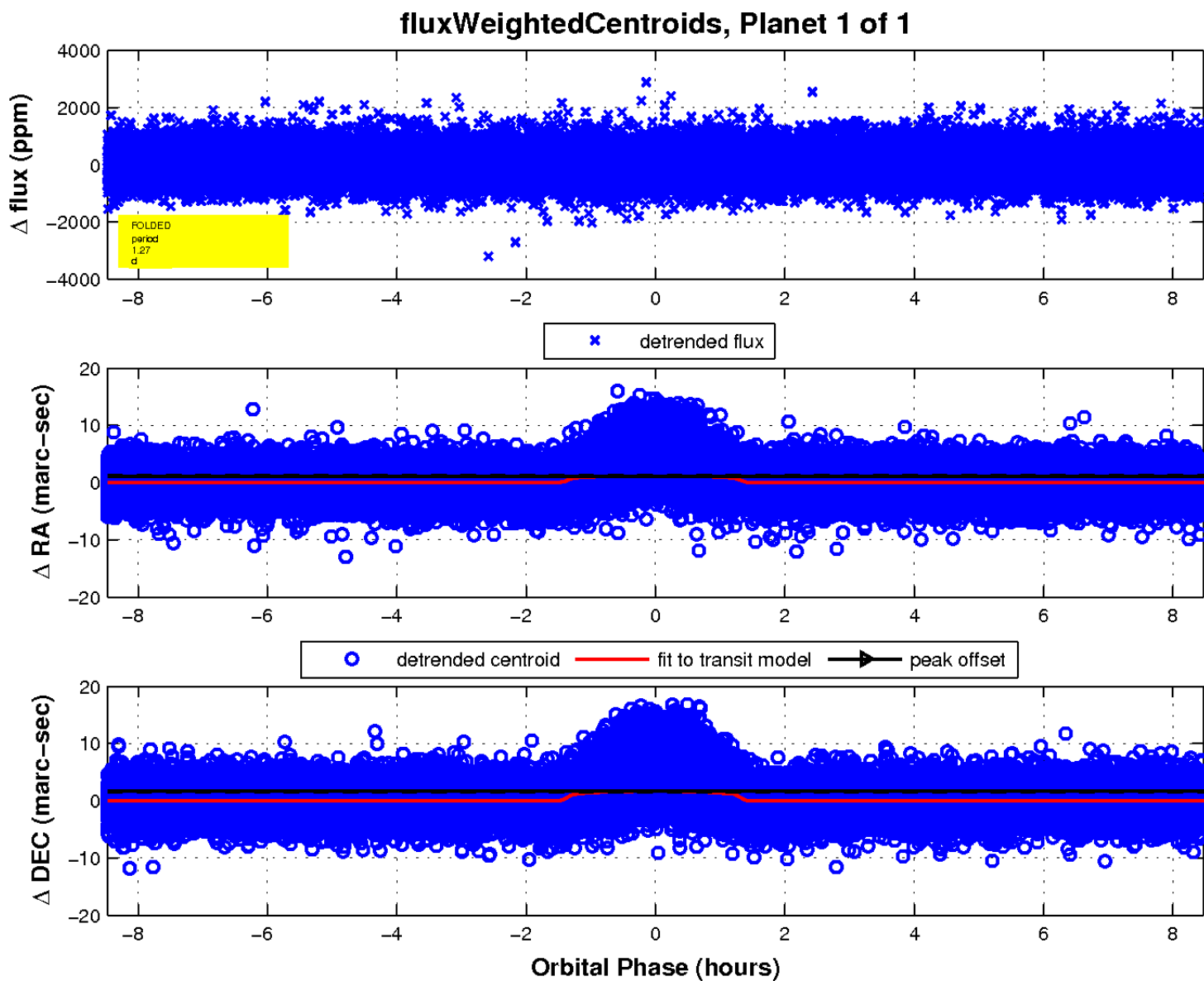
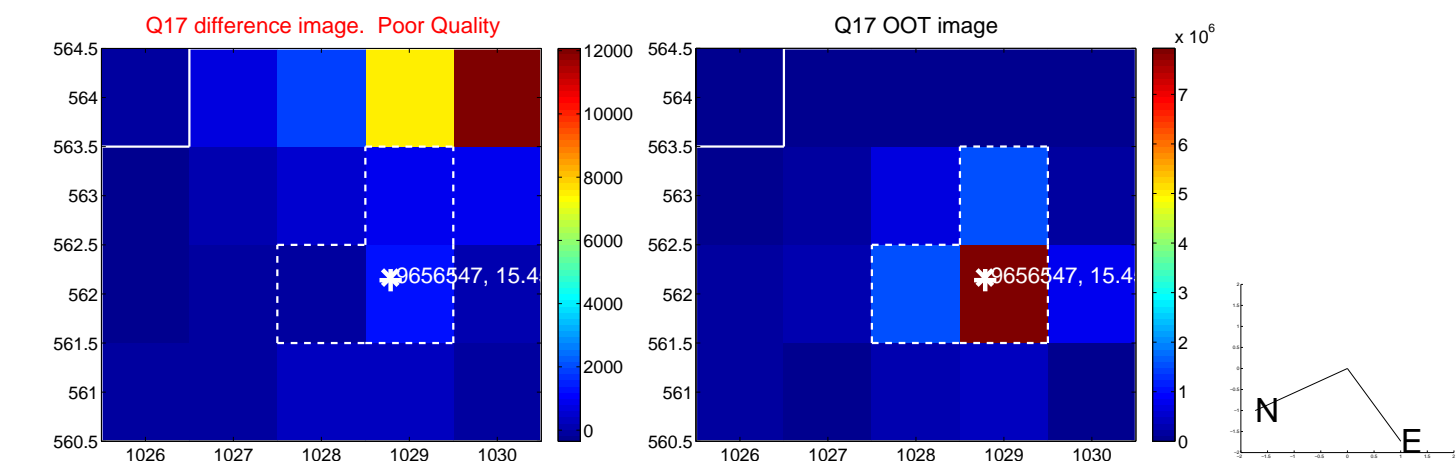
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UKIRT Image

Declination

