

KIC 005553959

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})
005553959-01	OBS	3377.01	10.010030	131.614504	395.8	1.390	10.5	12.8	0.51	4338	1.15	15.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005553959-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

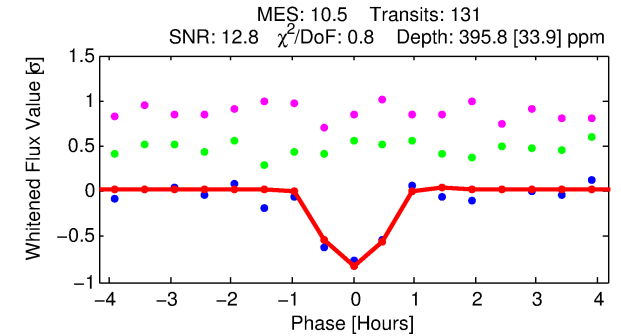
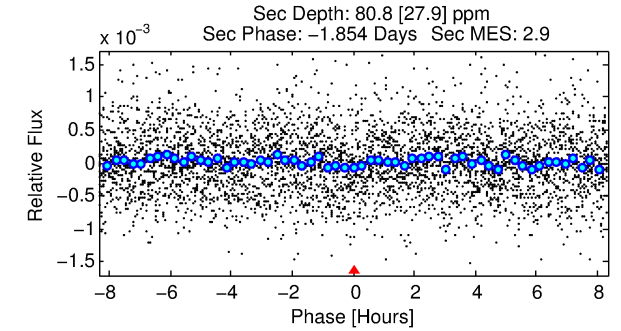
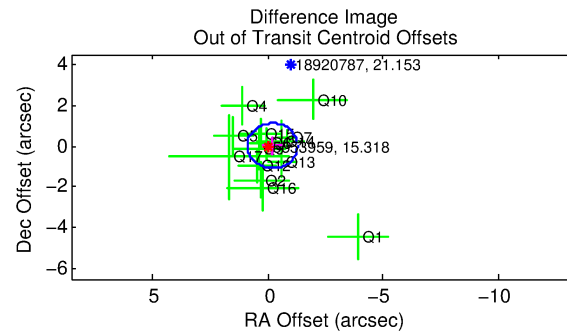
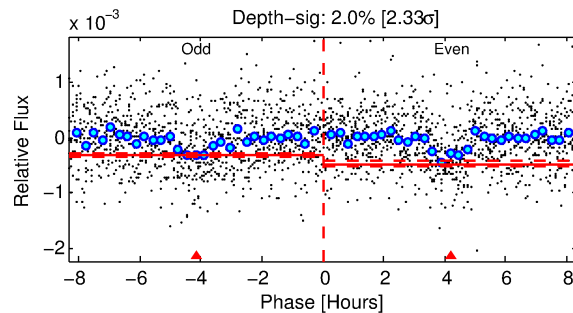
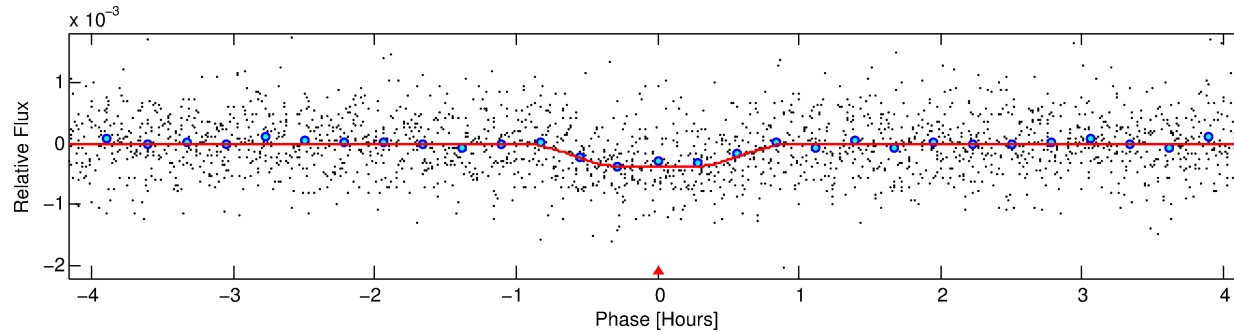
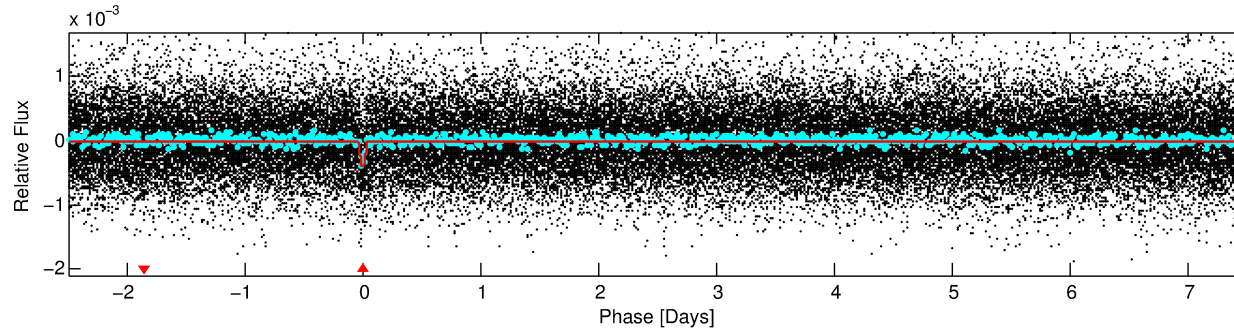
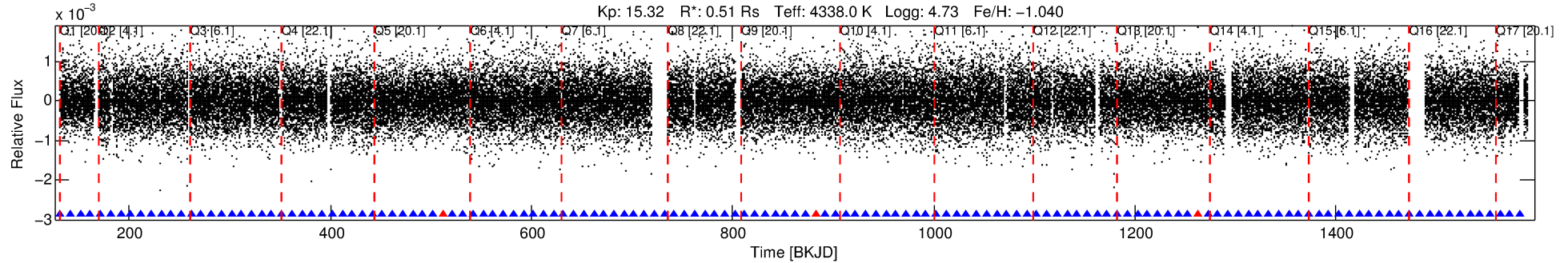
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005553959-01

No Significant Match Found

DV One-Page Summary

KIC: 5553959 Candidate: 1 of 1 Period: 10.010 d
KOI: K03377.01 Corr: 0.978



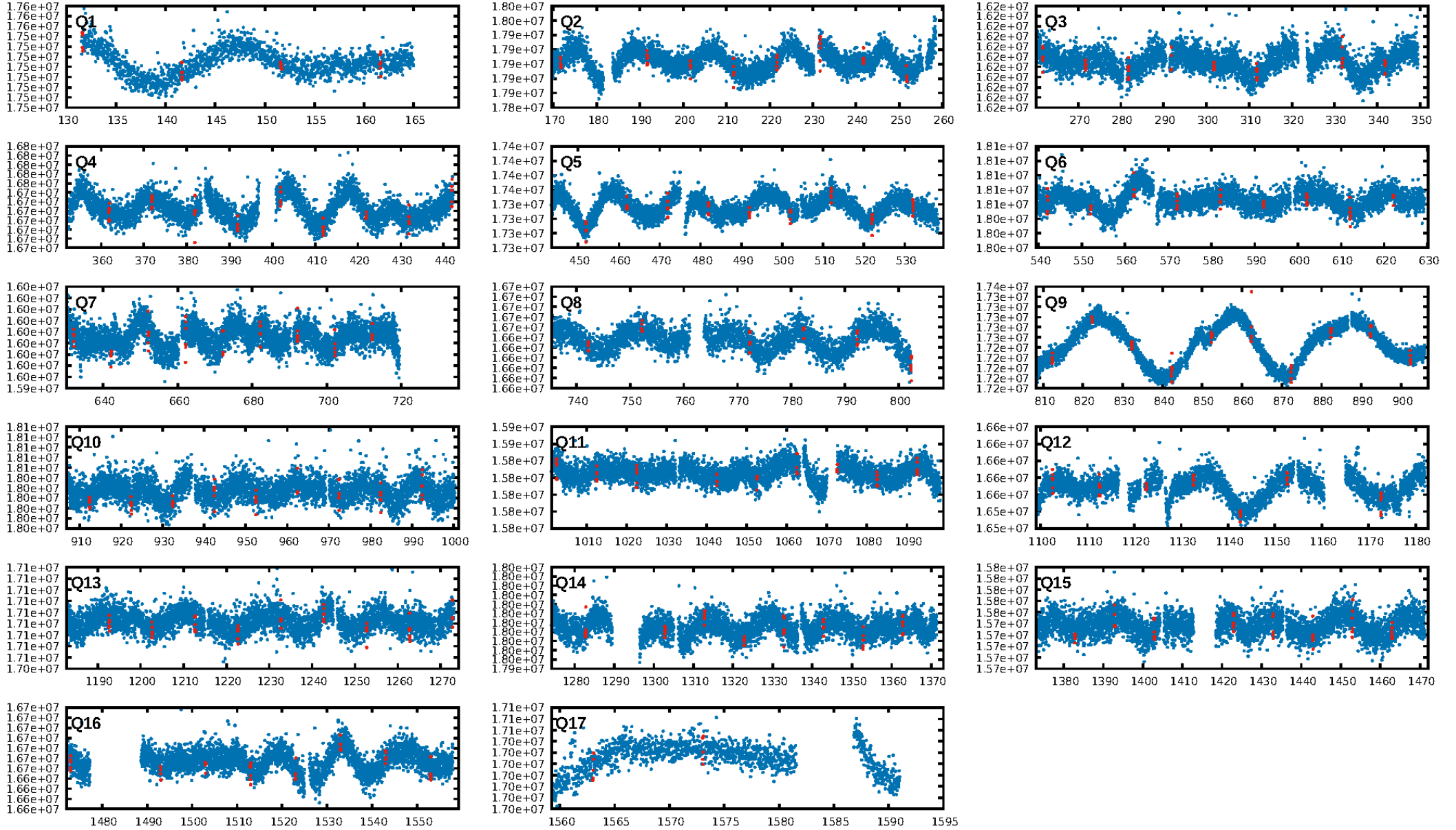
DV Fit Results:

Period = 10.01003 [0.00004] d
Epoch = 131.6145 [0.0028] BKJD
Rp/R* = 0.0208 [0.0150]
a/R* = 32.11 [102.99]
b = 0.84 [1.17]
Seff = 15.59 [2.80]
Teq = 507 [23] K
Rp = 1.15 [0.84] Re
a = 0.0725 [0.0063] AU
Ag = 175.33 [261.20] [0.67 σ]
Teffp = 2850 [1062] K [2.21 σ]

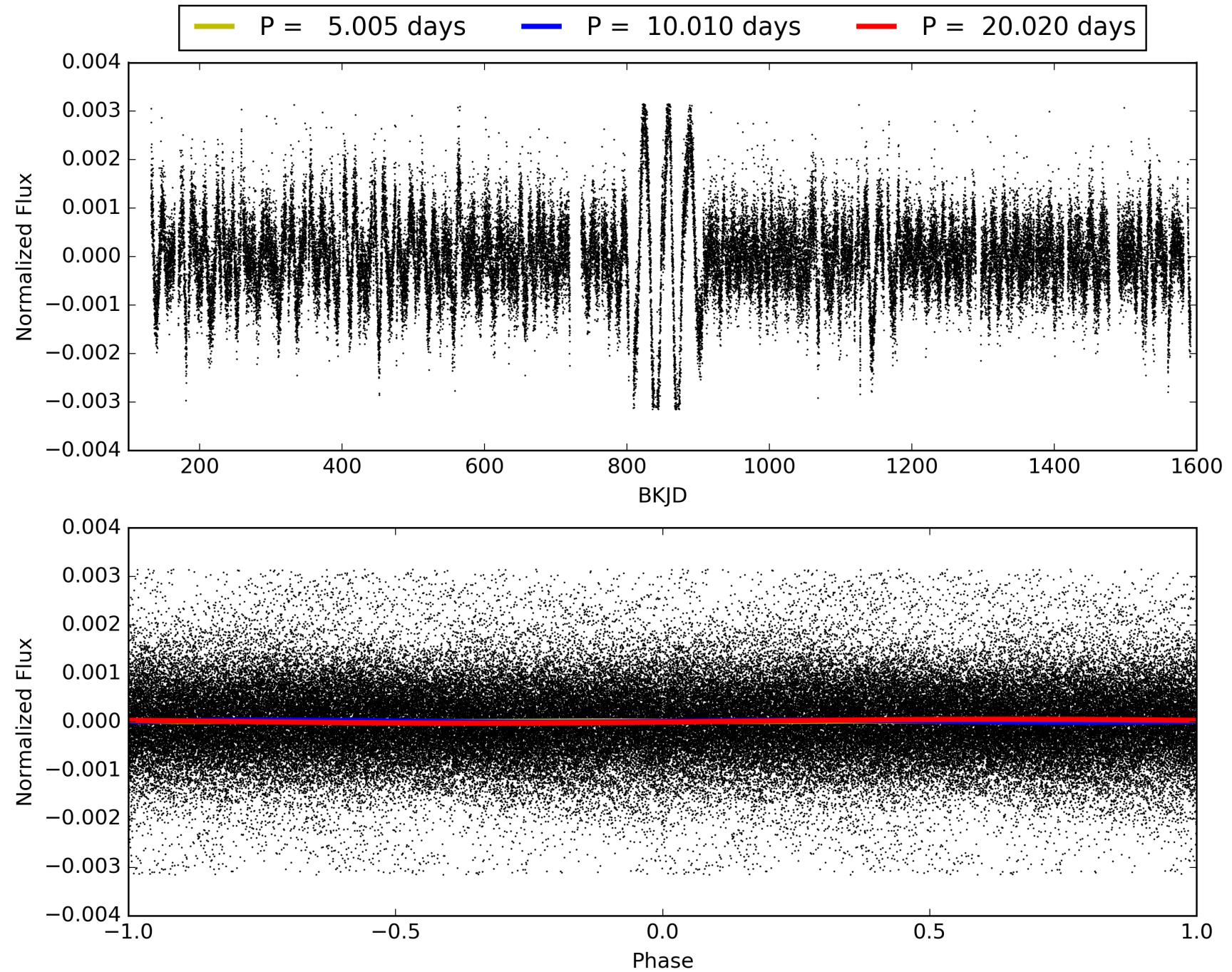
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.04e-24
RollingBand-fgt: 0.98 [122/125]
GhostDiagnostic-chr: 80.23
Centroid-sig: 77.3%
Centroid-so: 0.424 arcsec [0.35 σ]
OotOffset-rm: 0.202 arcsec [0.56 σ]
KicOffset-rm: 0.207 arcsec [0.59 σ]
OotOffset-st: 4/2/3/5 [14]
KicOffset-st: 4/2/3/5 [14]
DiffImageQuality-fgm: 0.50 [7/14]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005553959-01, PDC Light Curves

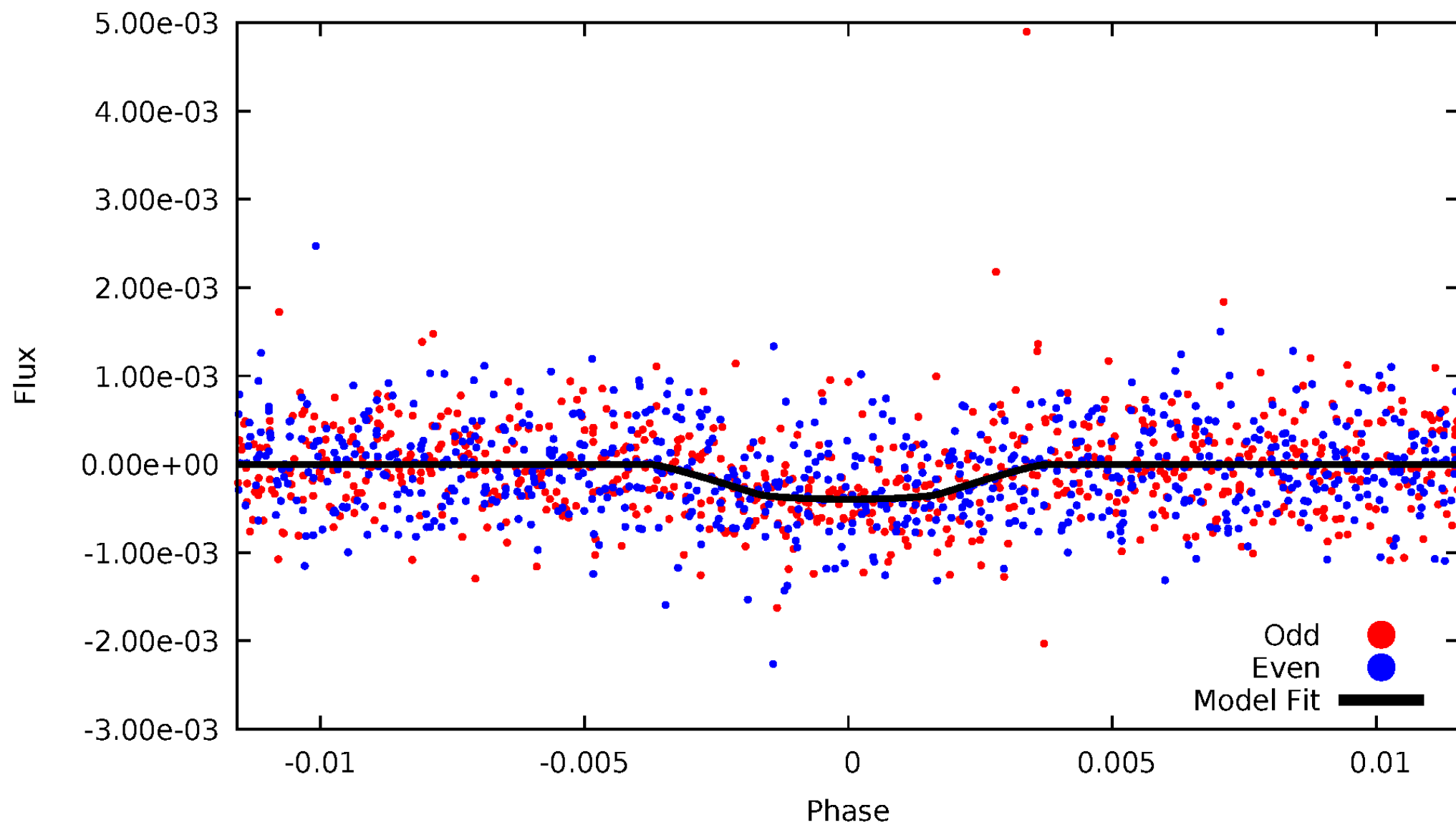


TCE 005553959-01



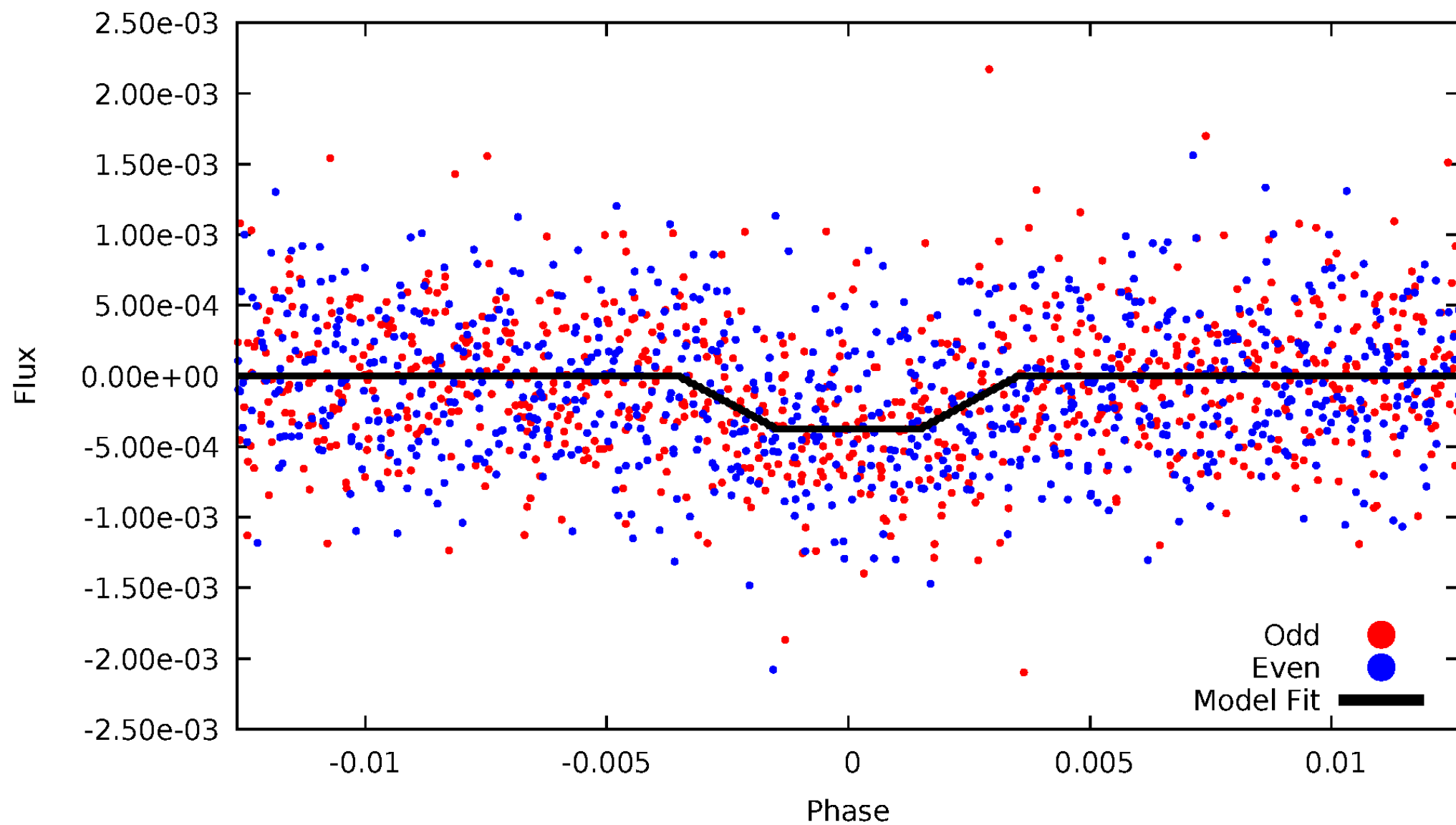
DV Odd/Even

TCE 005553959-01



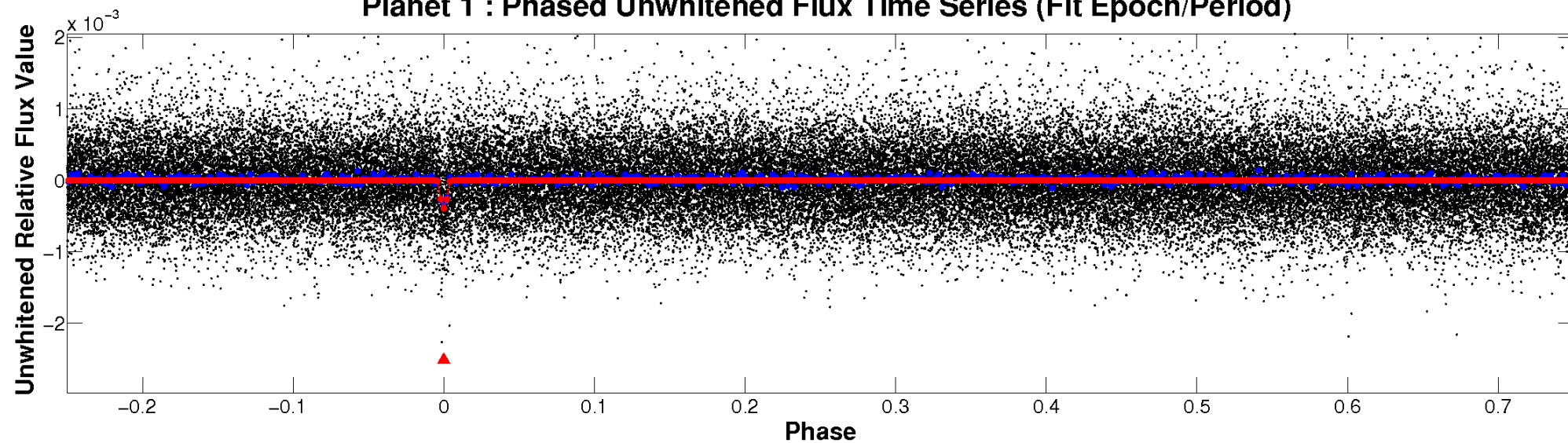
ALT Odd/Even

TCE 005553959-01

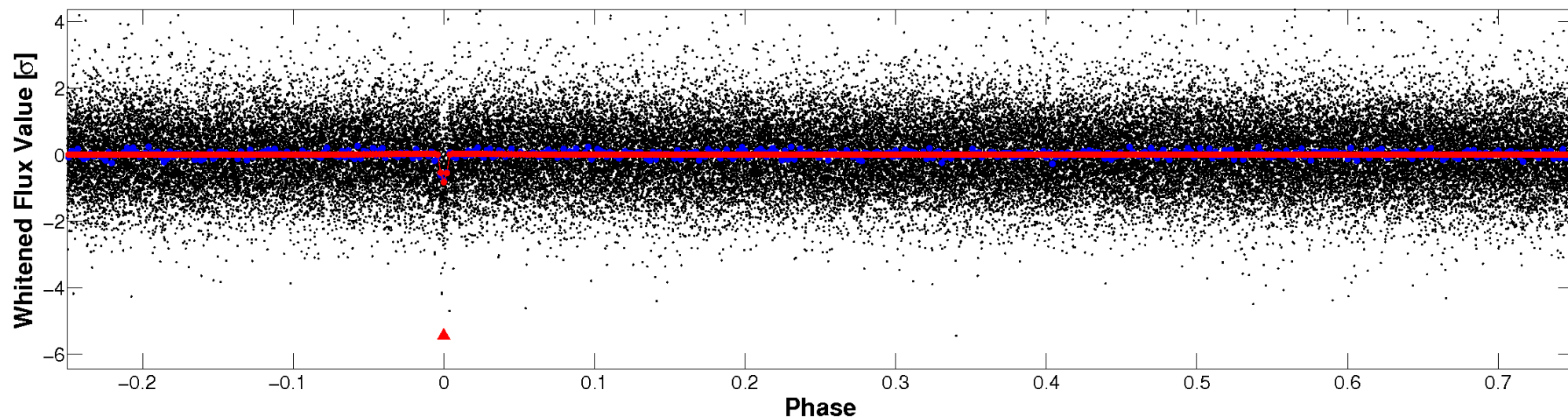


Non-Whitened Vs. Whitened Light Curve

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

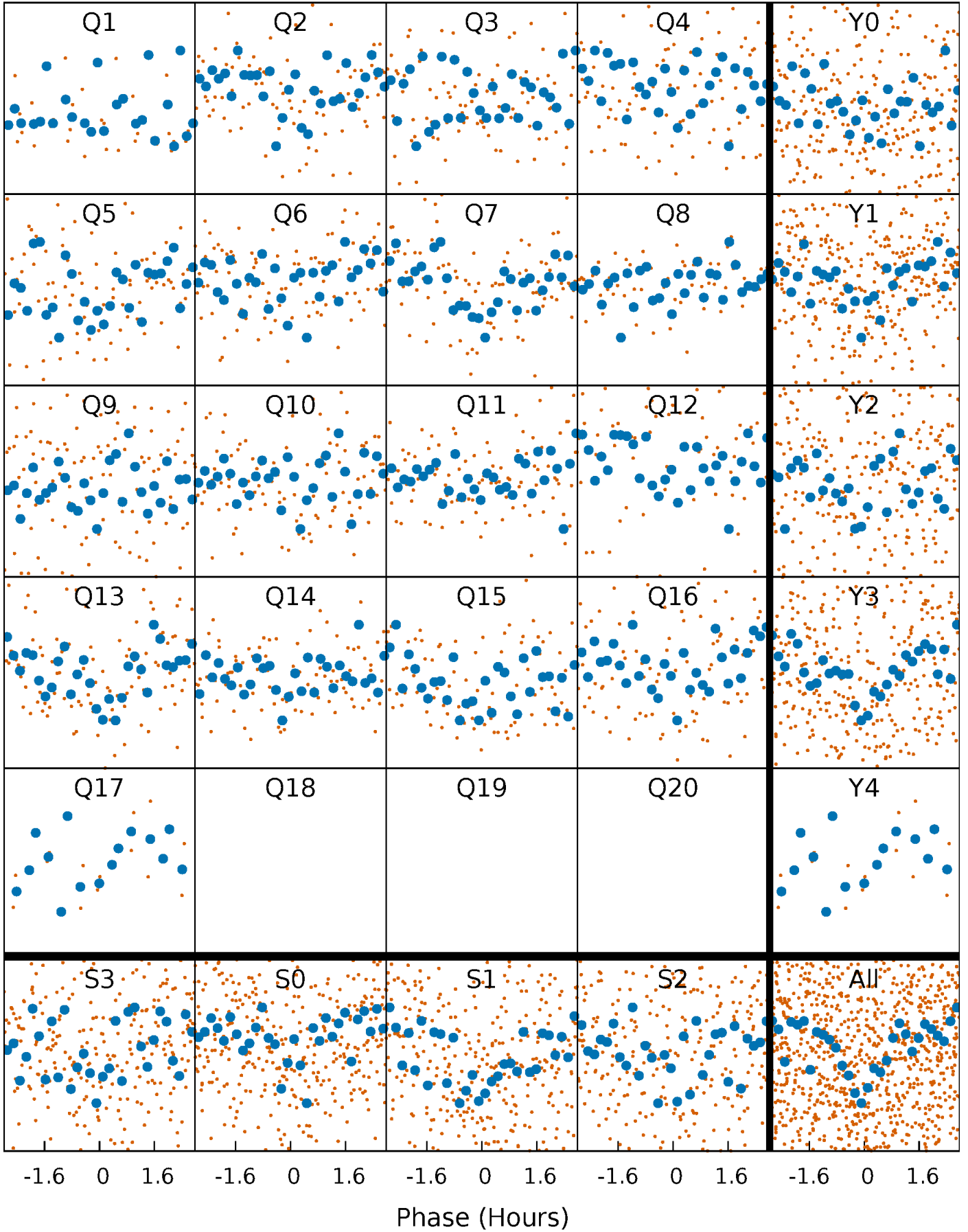


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



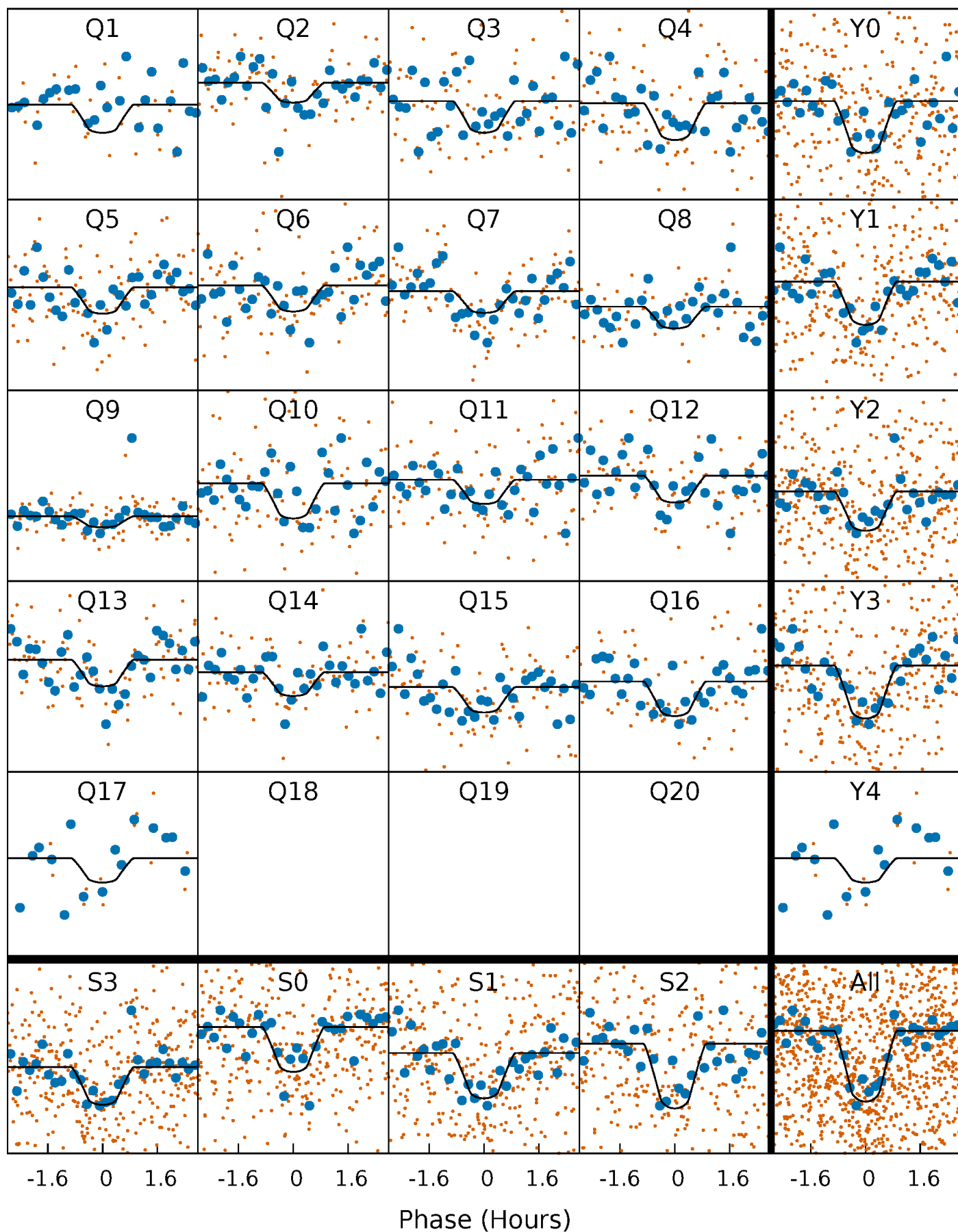
PDC Quarter-Phased Transit Curves

TCE 005553959-01 P= 10.010030 Days $T_0=131.614504$ (BKJD)



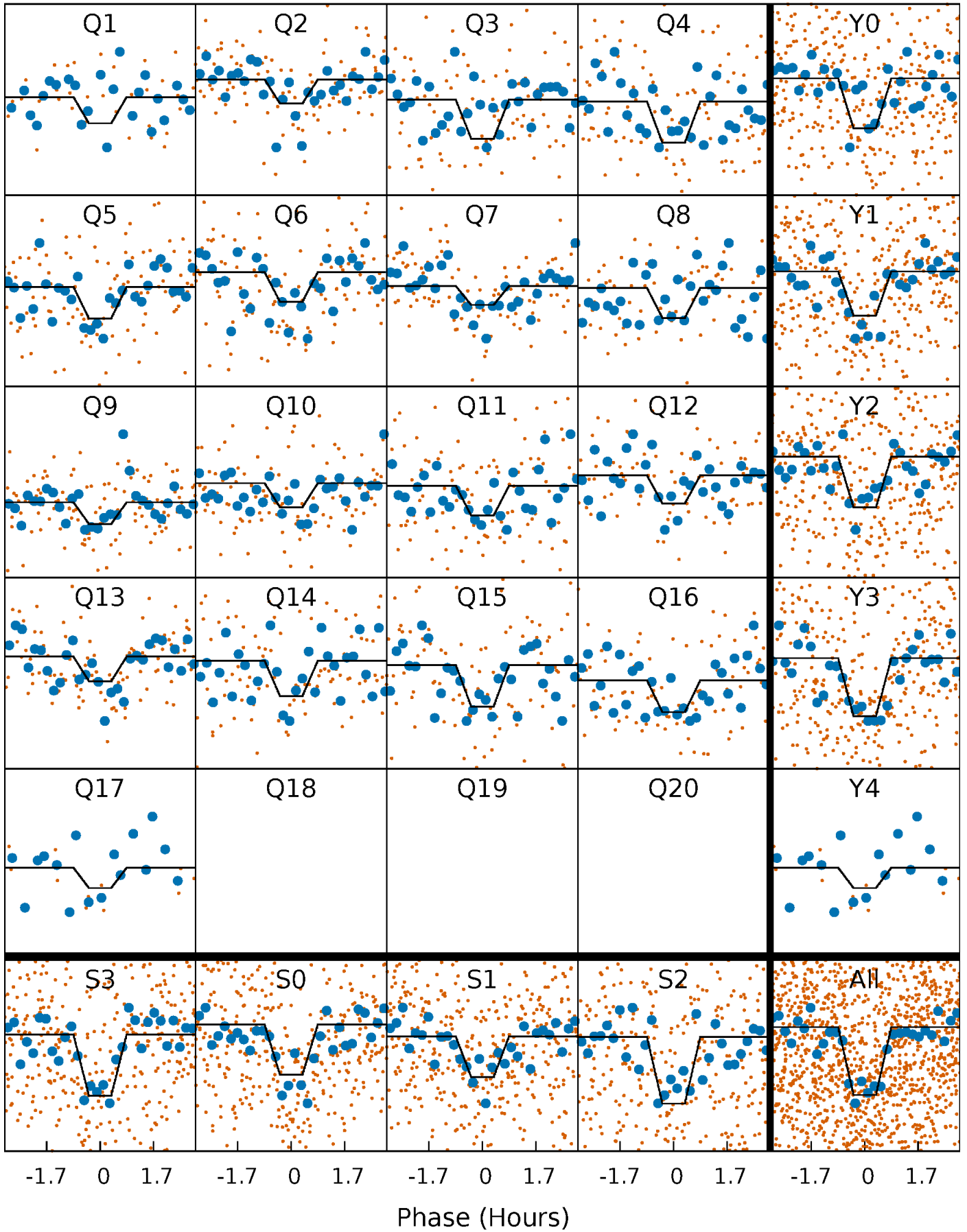
DV Quarter-Phased Transit Curves

TCE 005553959-01 P= 10.010030 Days $T_0=131.614504$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

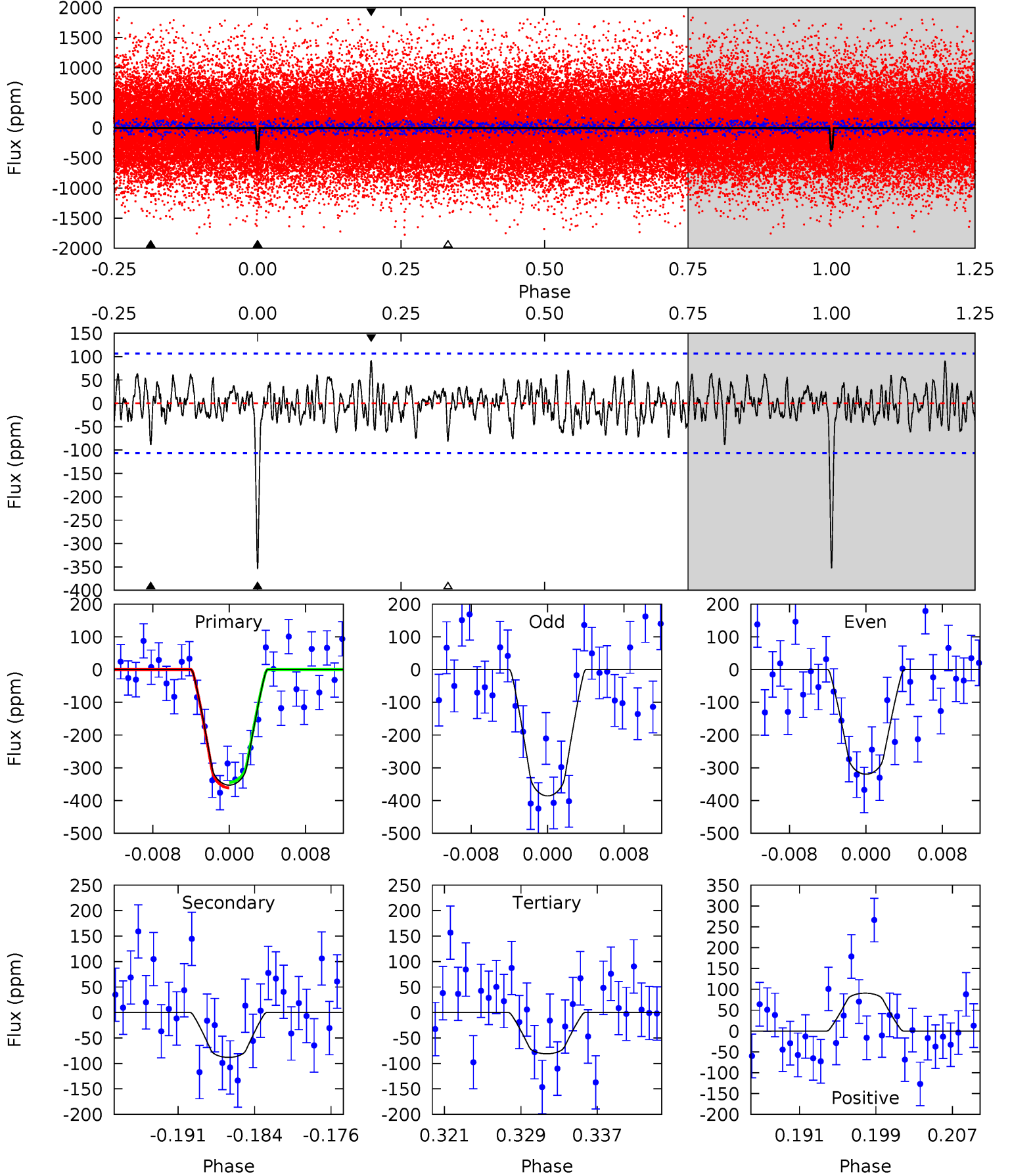
TCE 005553959-01 P= 10.009989 Days $T_0=131.616258$ (BKJD)



DV Model-Shift Uniqueness Test

005553959-01, $P = 10.010030$ Days, $E = 121.604474$ Days

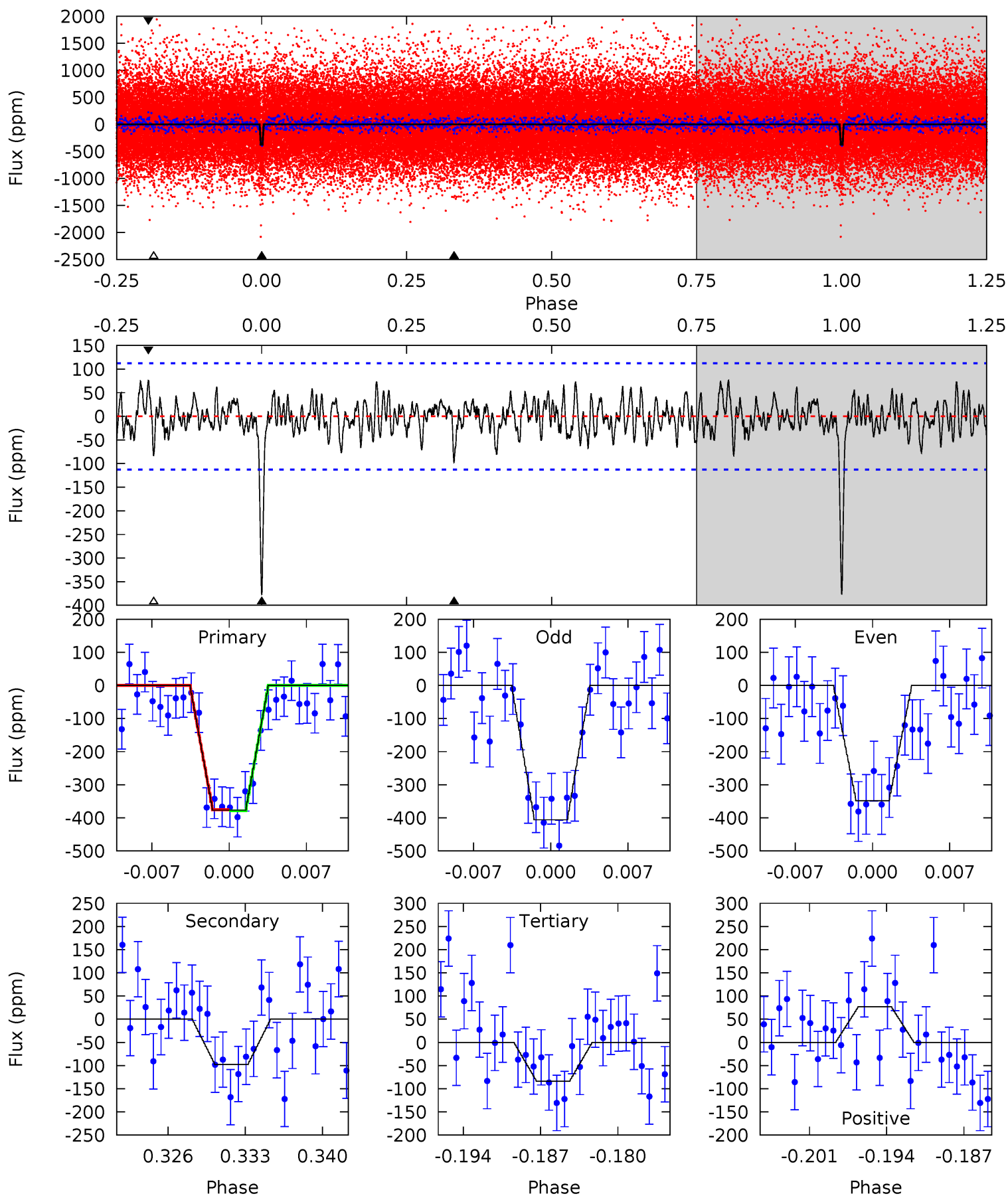
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.8	4.20	3.86	4.33	5.08	2.67	1.39	13.0	12.5	0.34	-0.13	1.59	0.94	0.20	0.40



Alt Model-Shift Uniqueness Test

005553959-01, P = 10.009989 Days, E = 121.606269 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.1	4.42	3.80	3.48	5.10	2.70	1.28	13.3	13.6	0.63	0.95	1.31	0.98	0.17	0.07



Stellar Parameters For KIC 005553959

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4338^{+117}_{-143}	$4.731^{+0.065}_{-0.035}$	$-1.040^{+0.300}_{-0.350}$	$0.508^{+0.036}_{-0.054}$	$0.507^{+0.039}_{-0.039}$	$5.430^{+1.678}_{-0.733}$
	+3%/-3%	+1%/-1%	+29%/-34%	+7%/-11%	+8%/-8%	+31%/-13%
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 005553959-01 / KOI 3377.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-88 ± 21	$1.20^{+0.71}_{-0.71}$	707^{+23}_{-29}	3252^{+1185}_{-434}	172^{+897}_{-108}
Alt.	-98 ± 22	$1.14^{+0.79}_{-0.63}$	704^{+26}_{-27}	3365^{+1025}_{-510}	217^{+858}_{-145}

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

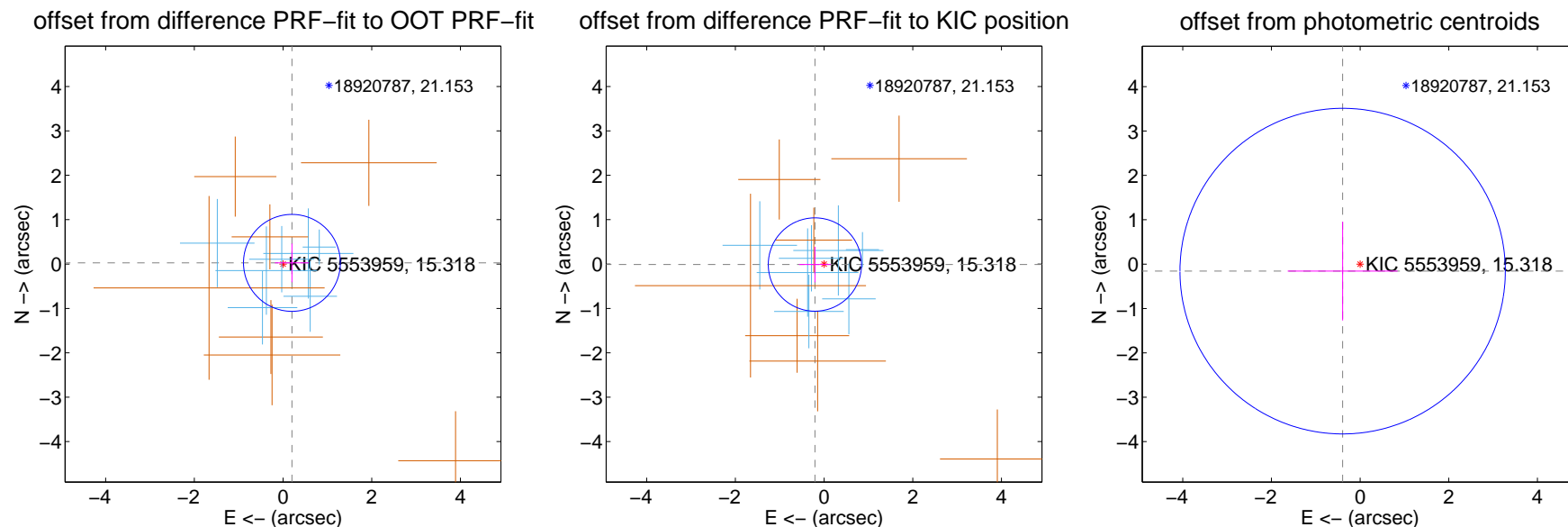
DV Centroid Data

Supplemental centroid analysis for 005553959-01. Kepler magnitude: 15.32. Transit SNR 12.83

There are 7 quarters with good PRF difference image offsets

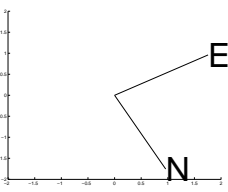
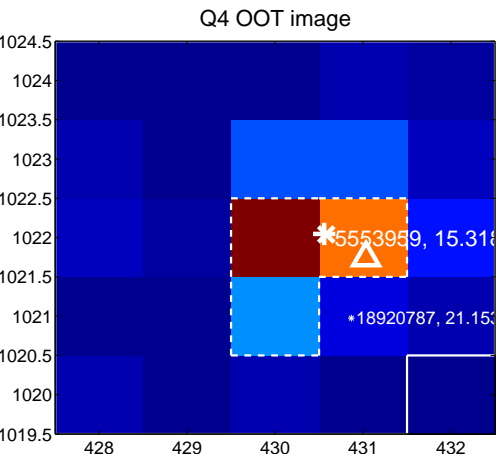
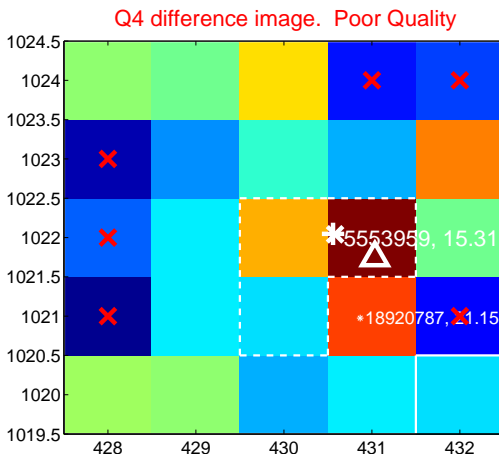
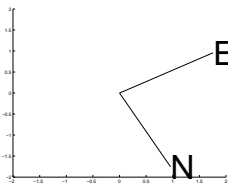
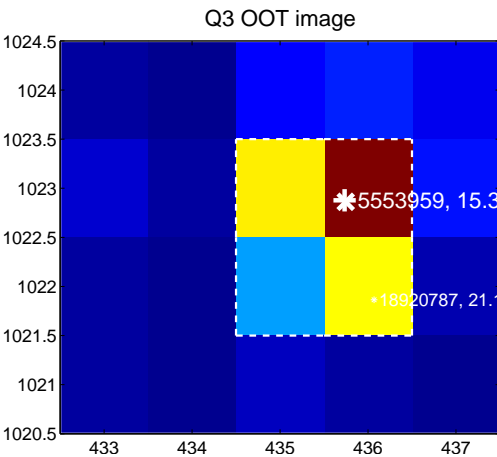
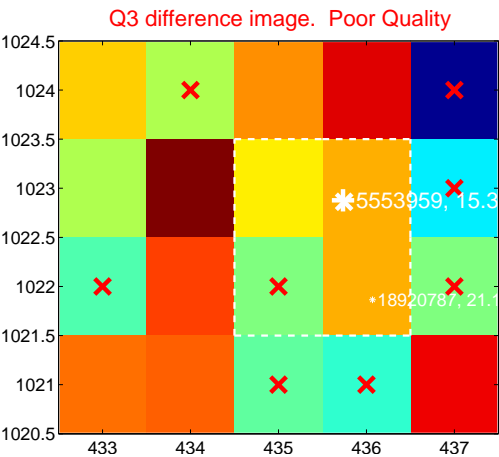
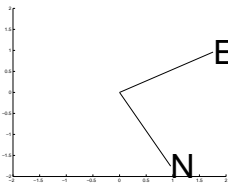
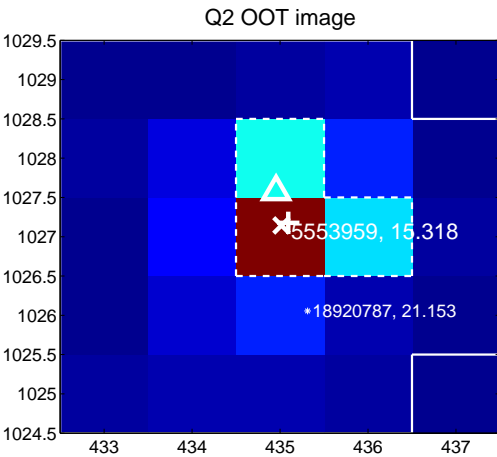
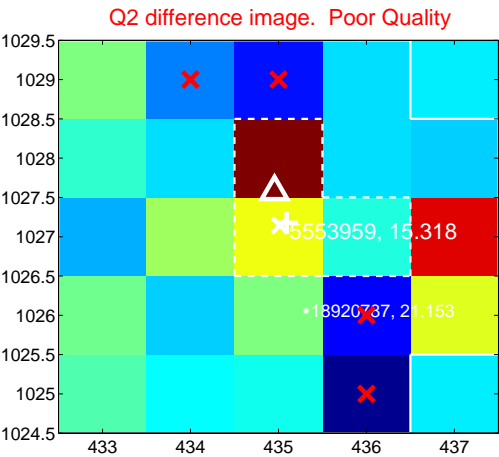
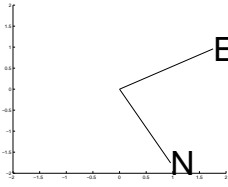
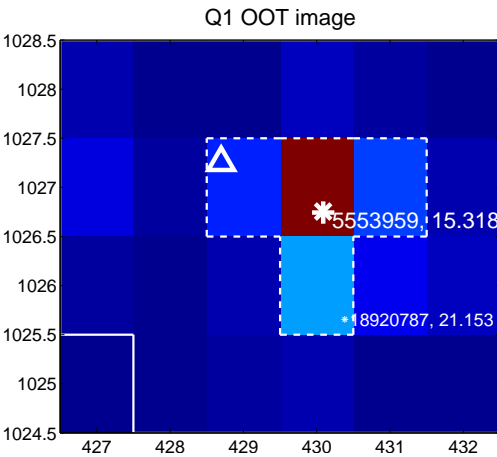
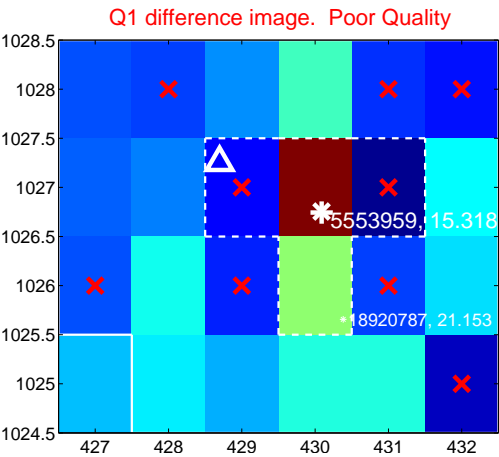
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.202 ± 0.364	0.56	-0.200 ± 0.384	0.026 ± 0.436
PRF-fit source offset from KIC position	0.207 ± 0.351	0.59	0.207 ± 0.357	-0.011 ± 0.400
photometric centroid source offset	0.42 ± 1.22	0.35	0.39 ± 1.24	-0.16 ± 1.11

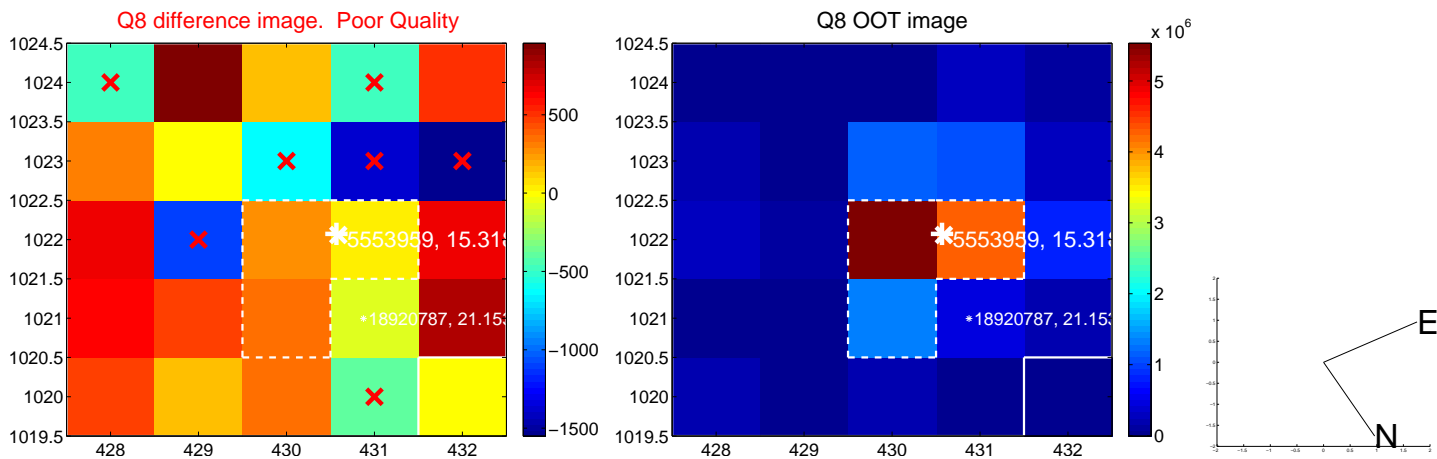
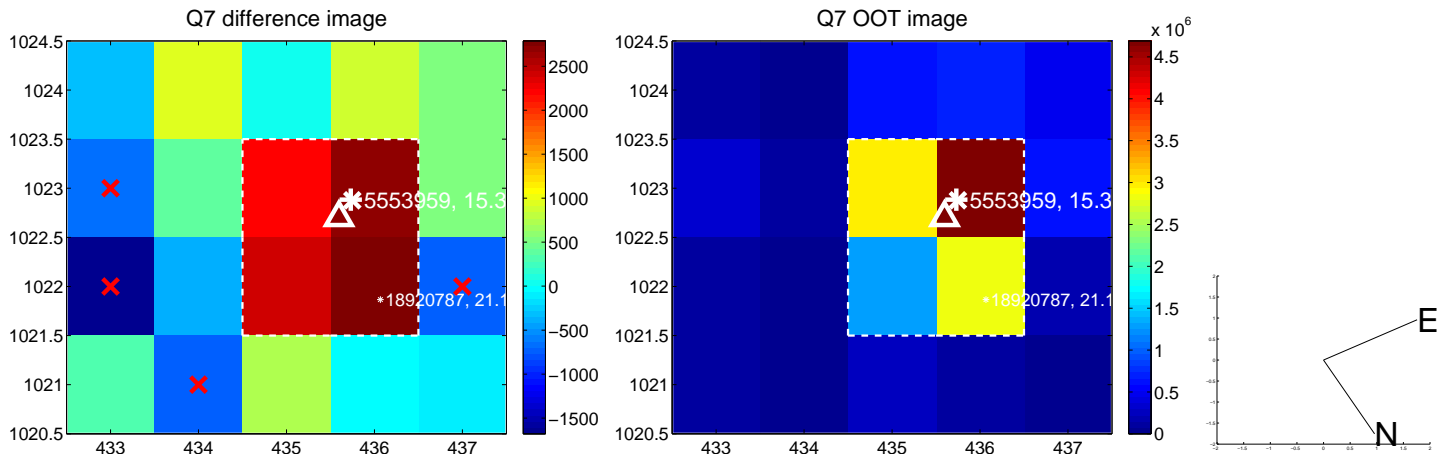
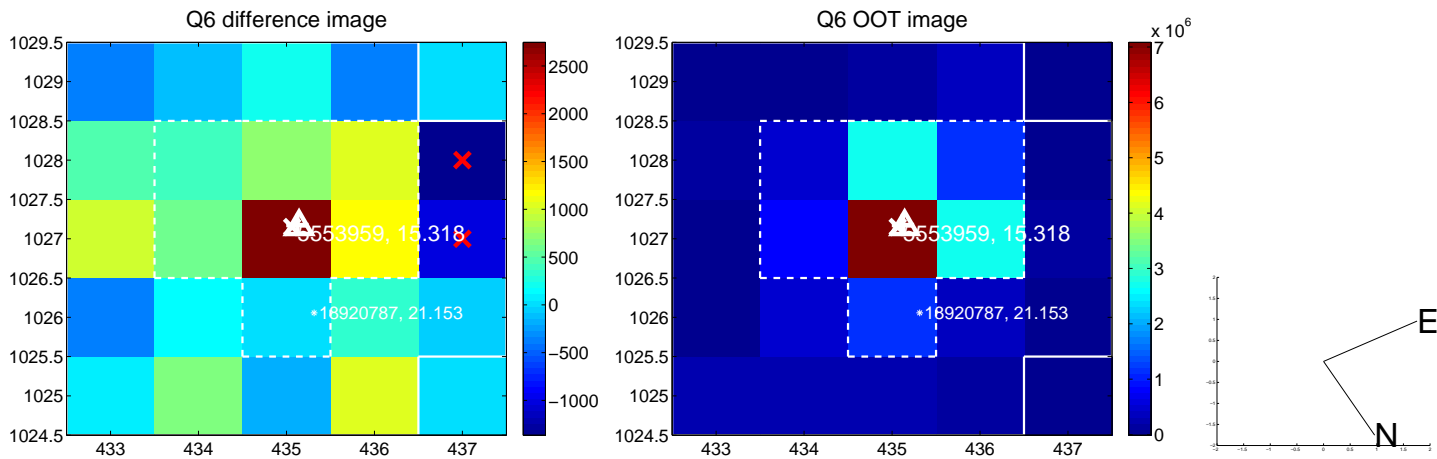
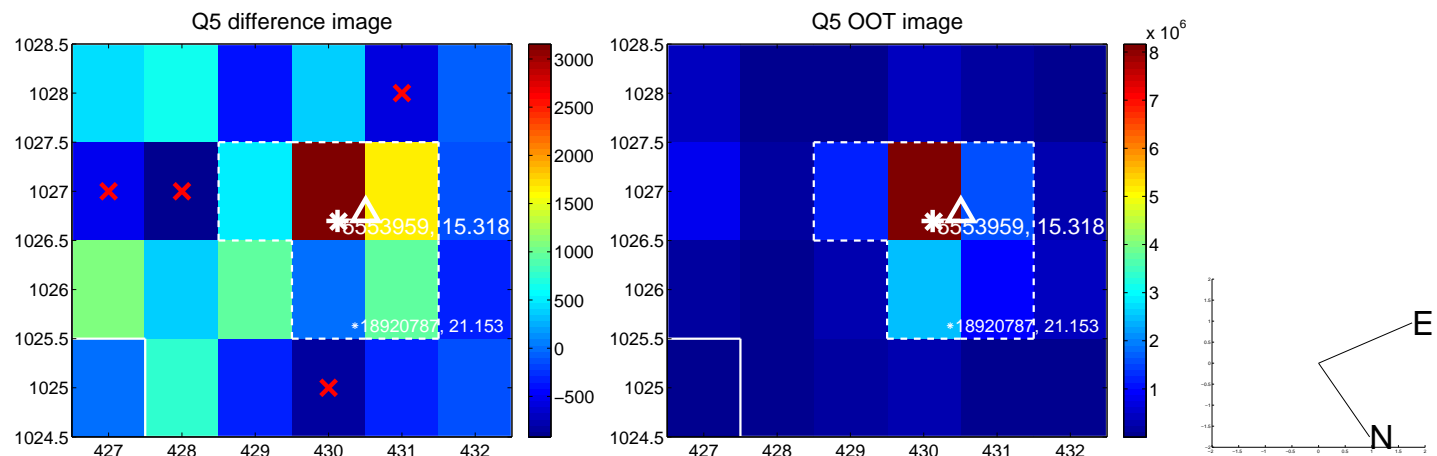


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

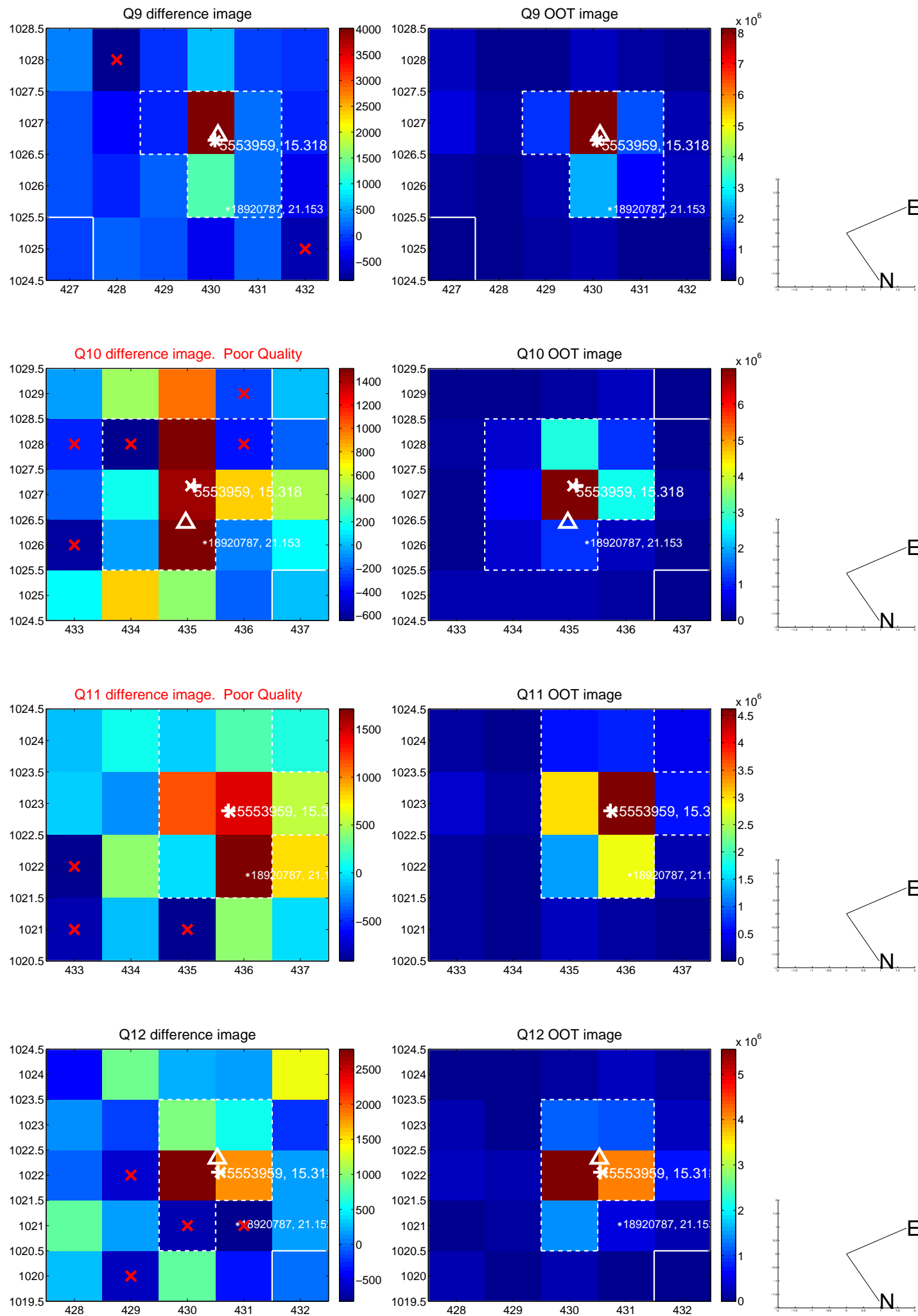
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



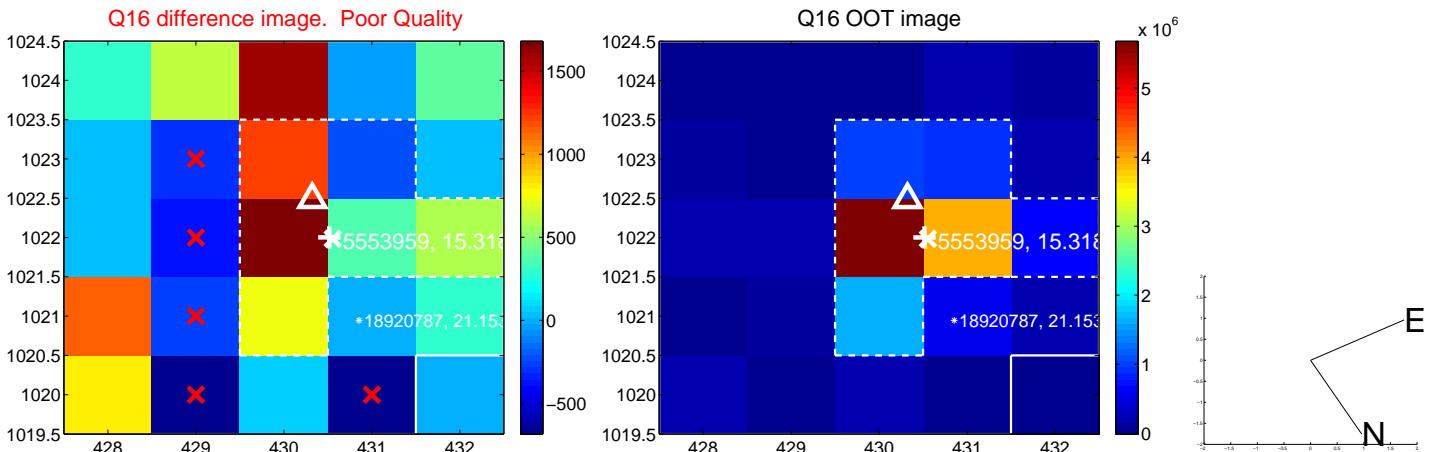
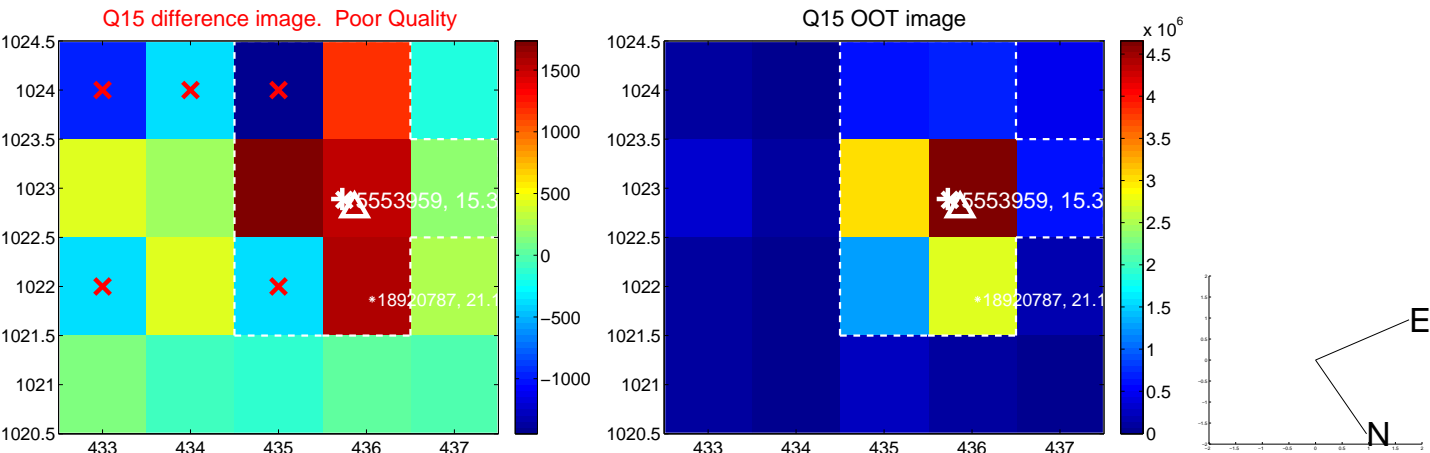
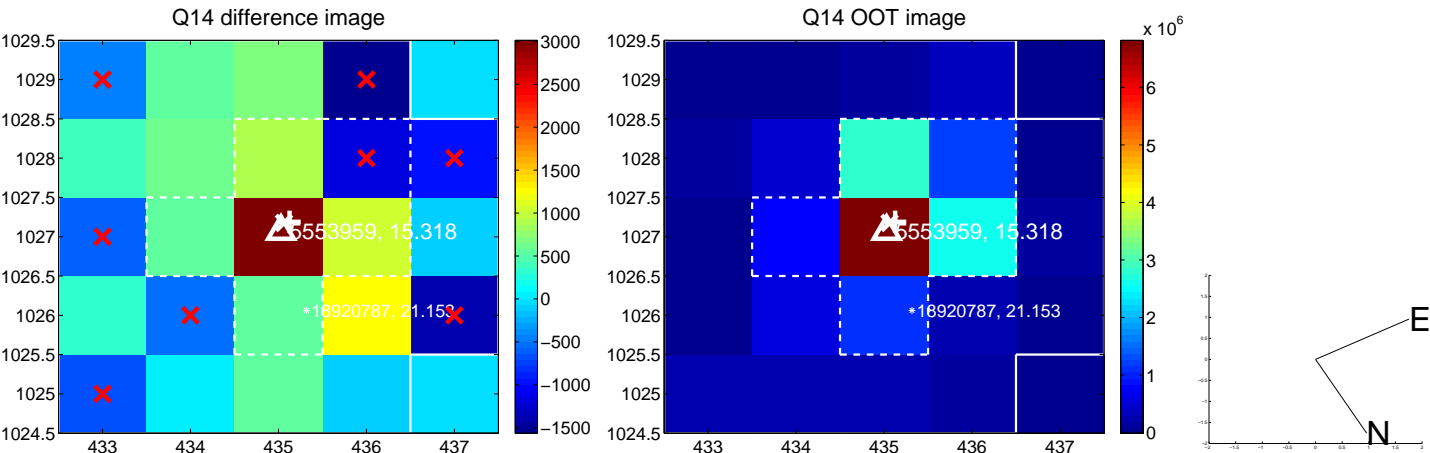
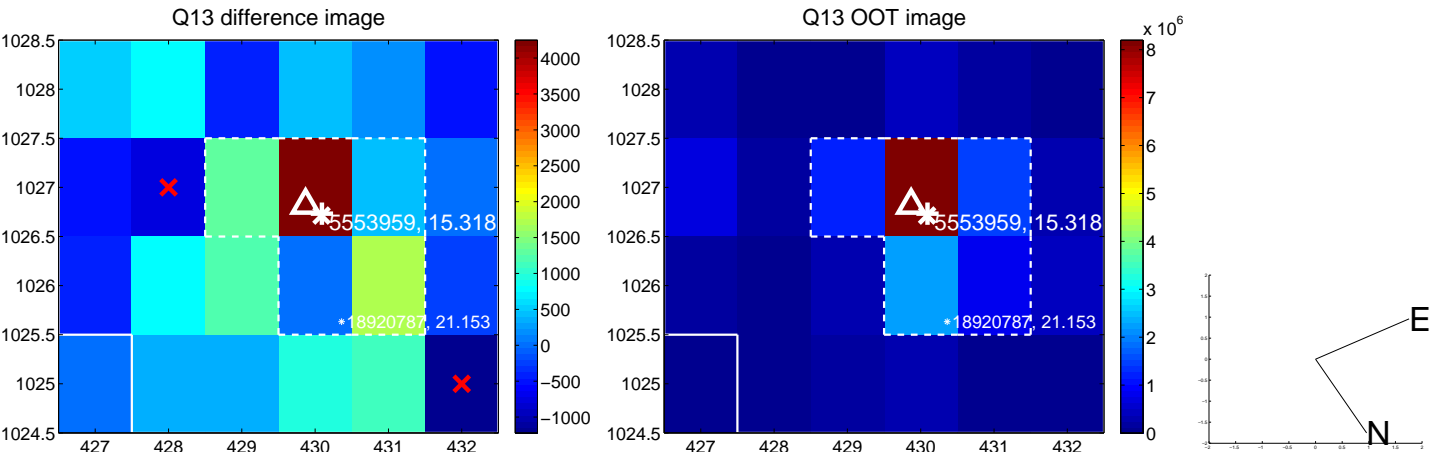
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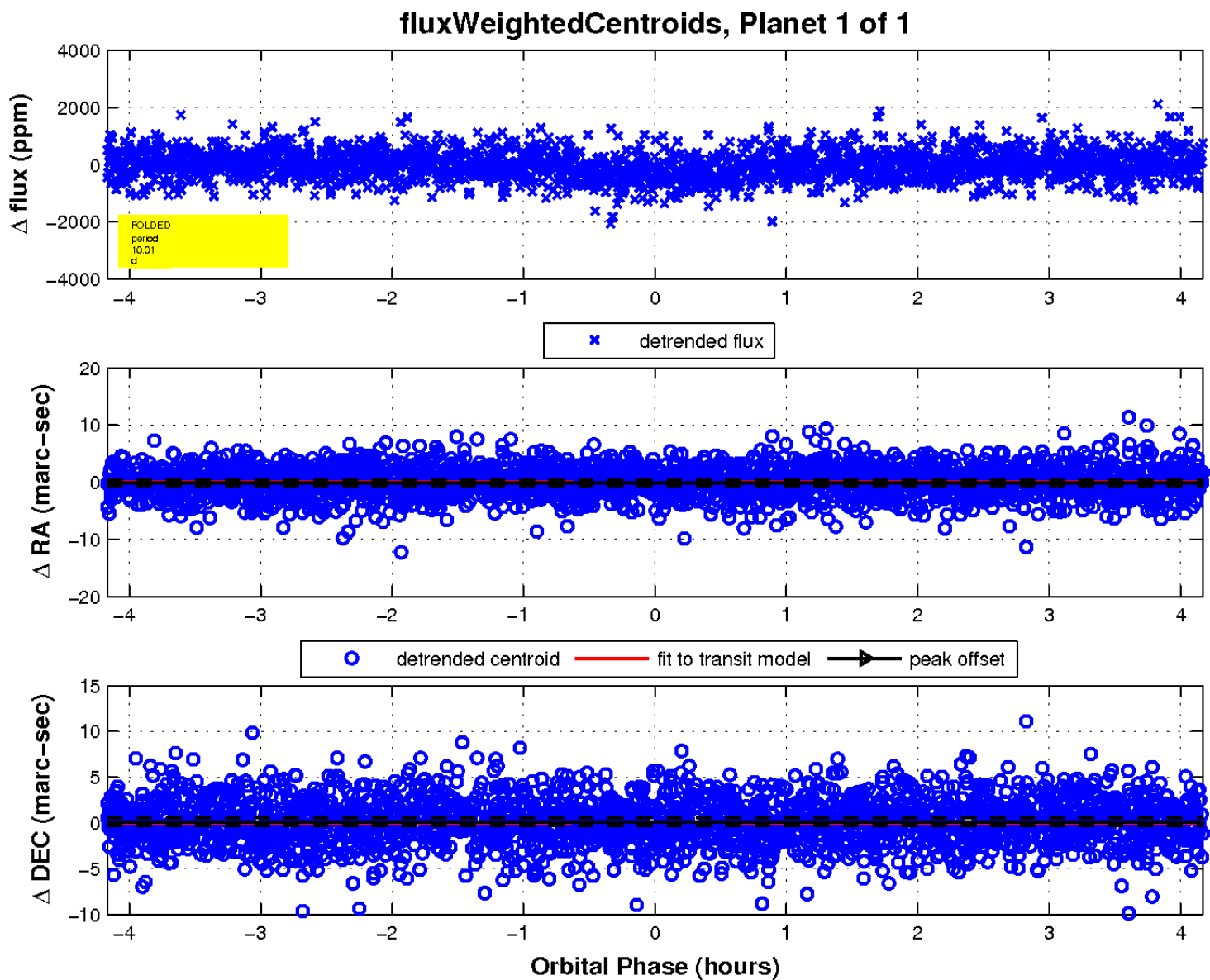
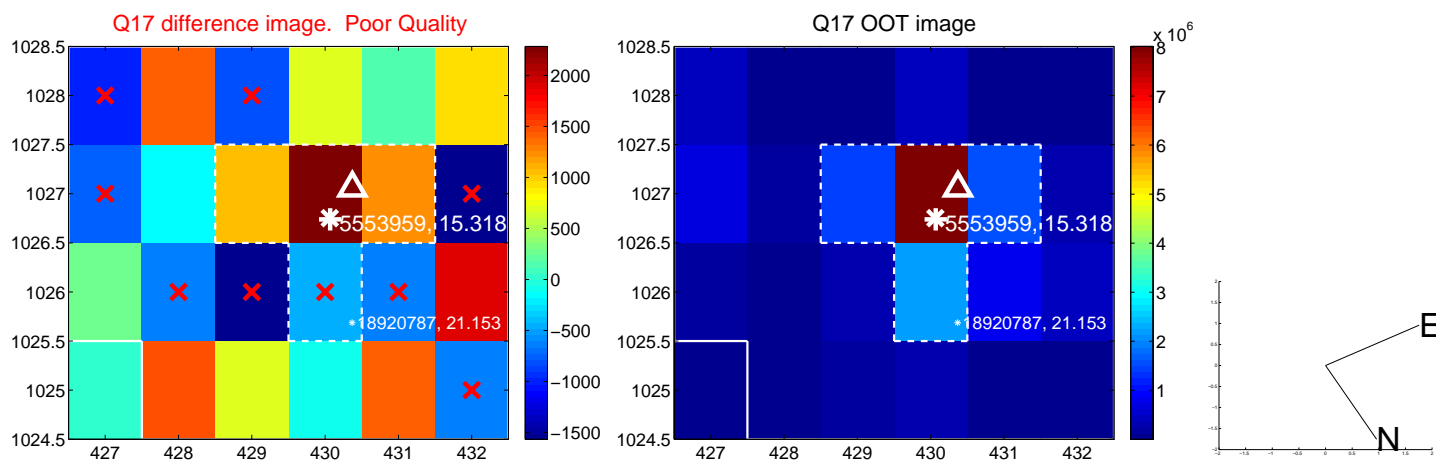
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UKIRT Image

Declination

