

KIC 004907266

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 004907266-01 | OBS | No | 507.798710 | 394.510755 | 158.6 | 5.696 | 7.6 | 7.6 | 1.37 | 5962 | 1.88 | 1.22 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|-----------------------------|
| 004907266-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL |

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

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

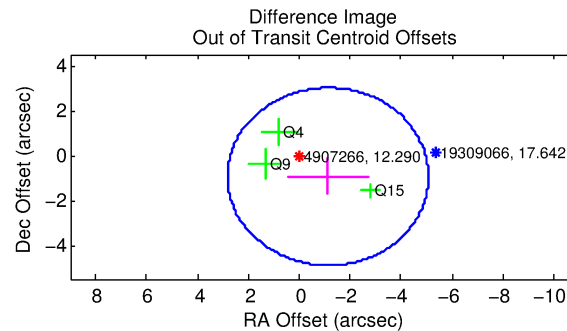
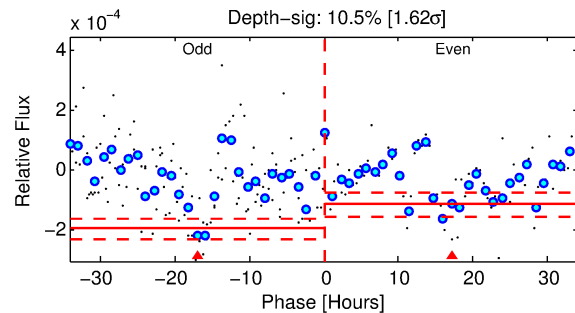
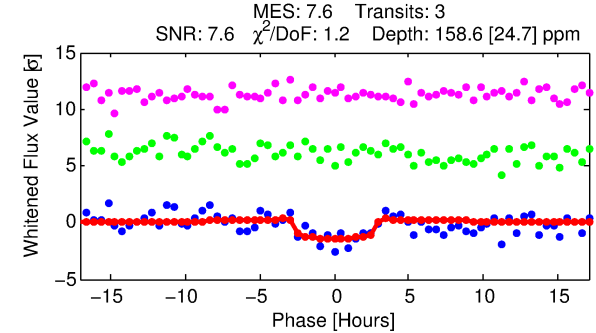
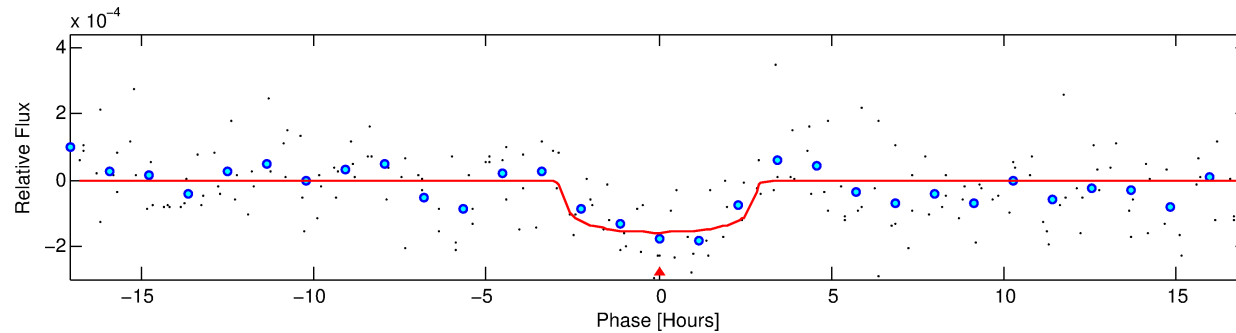
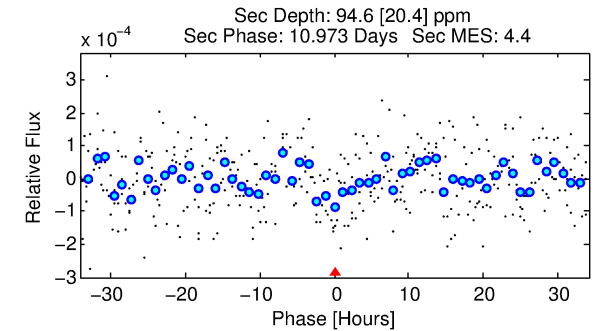
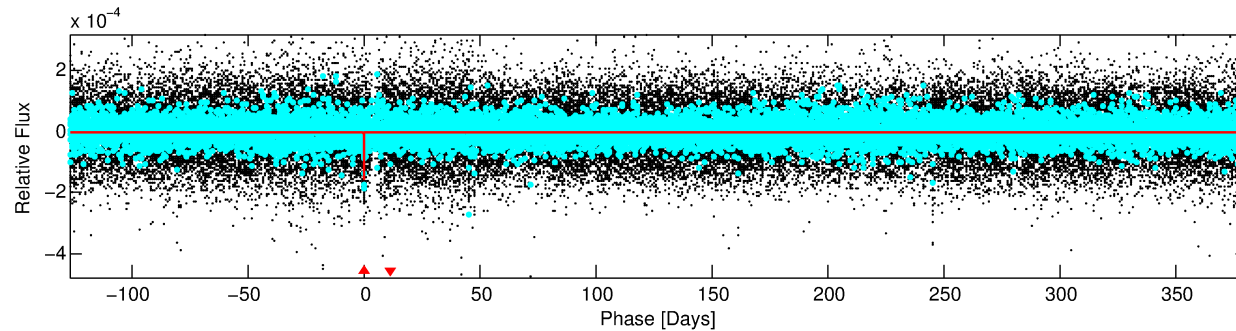
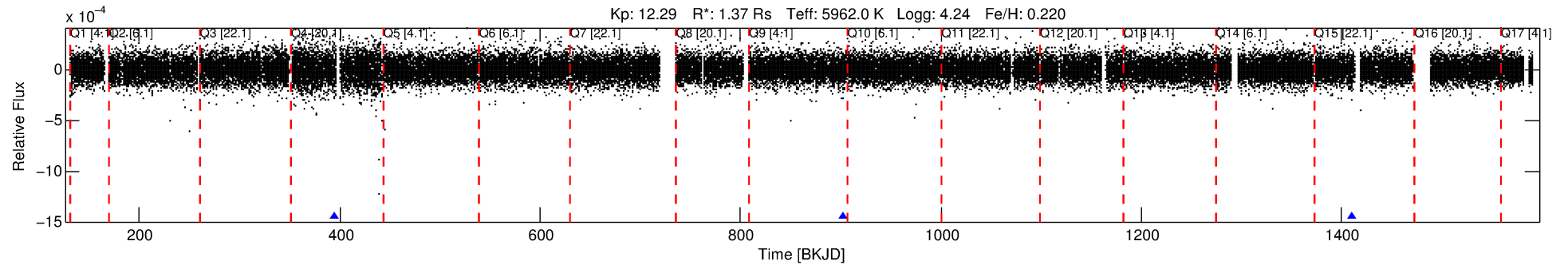
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004907266-01

No Significant Match Found

DV One-Page Summary

KIC: 4907266 Candidate: 1 of 1 Period: 507.799 d



DV Fit Results:

Period = 507.79871 [0.01059] d
Epoch = 394.5108 [0.0162] BKJD
Rp/R* = 0.0126 [0.0162]
a/R* = 450.64 [2667.80]
b = 0.77 [3.23]
Seff = 1.22 [0.38]
Teq = 268 [21] K
Rp = 1.88 [2.45] Re
a = 1.3156 [0.2442] AU
Ag = 25471.89 [66200.66] [0.38σ]
Teffp = 5235 [3384] K [1.47σ]

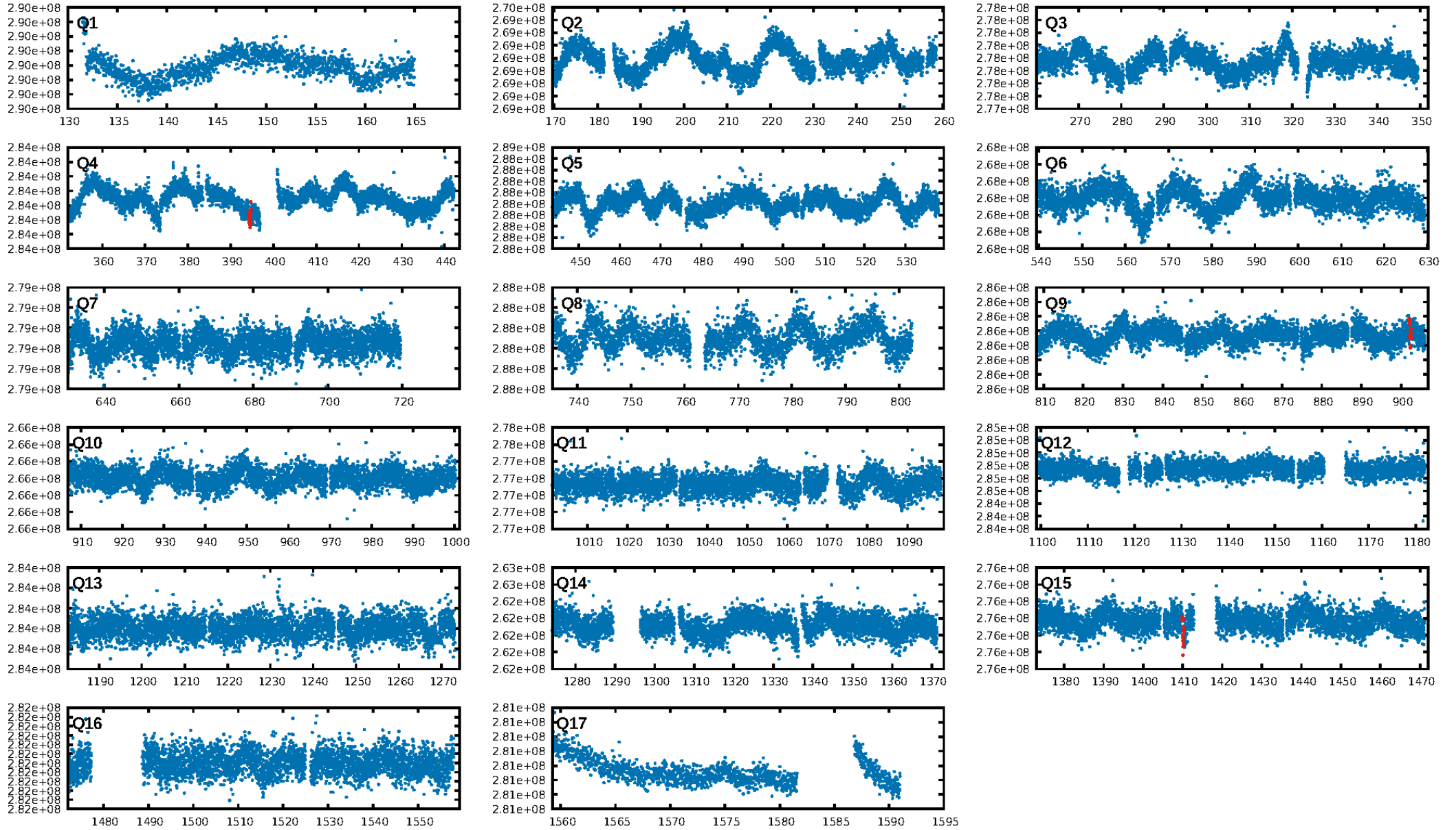
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 8.1%
ModelChiSquareGof-sig: 94.5%
Bootstrap-pfa: 9.59e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.227
Centroid-sig: 6.4%
Centroid-so: 2.077 arcsec [1.42σ]
OotOffset-rm: 1.475 arcsec [1.12σ]
KicOffset-rm: 1.277 arcsec [0.86σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

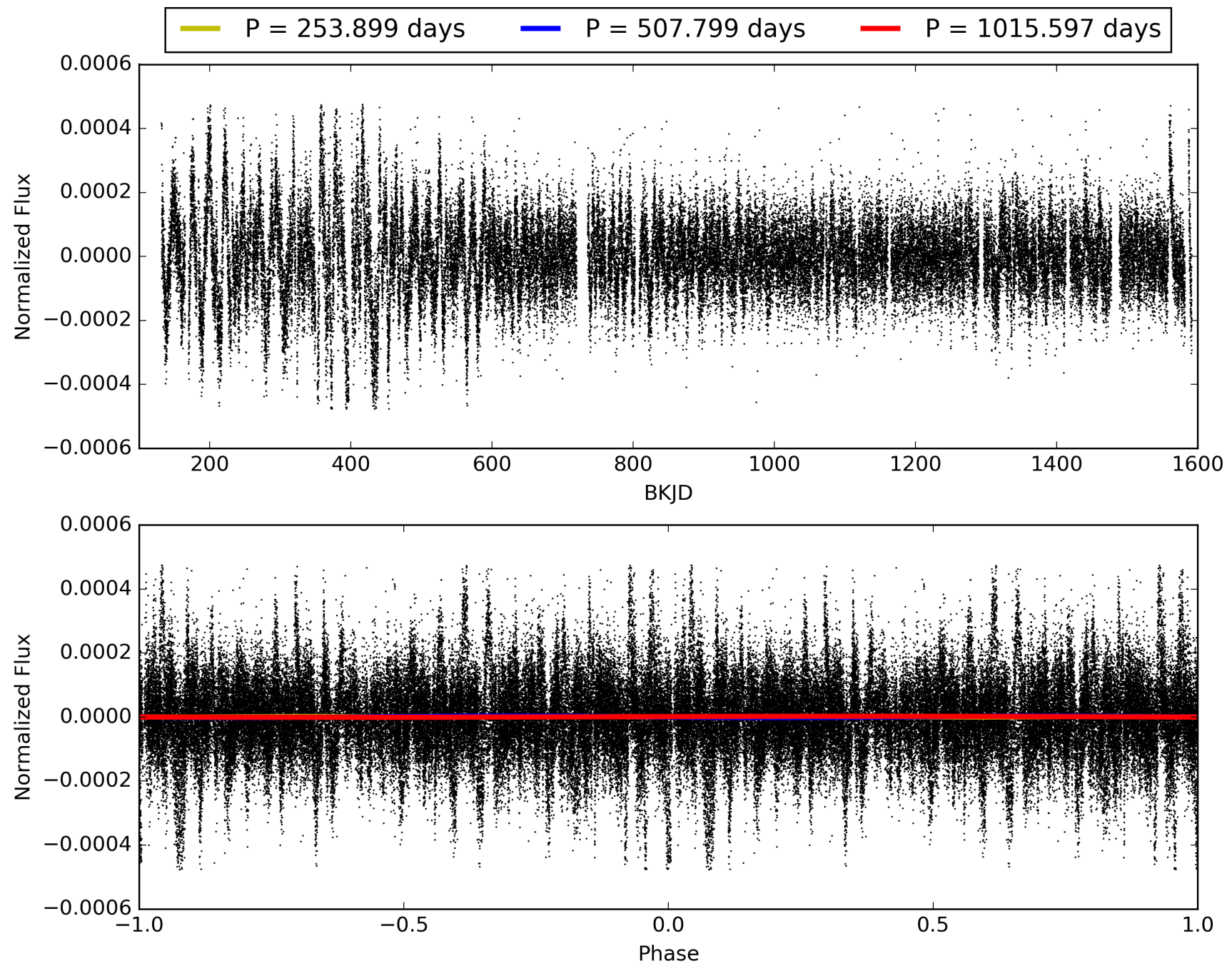
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:04:22 Z

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

TCE 004907266-01, PDC Light Curves

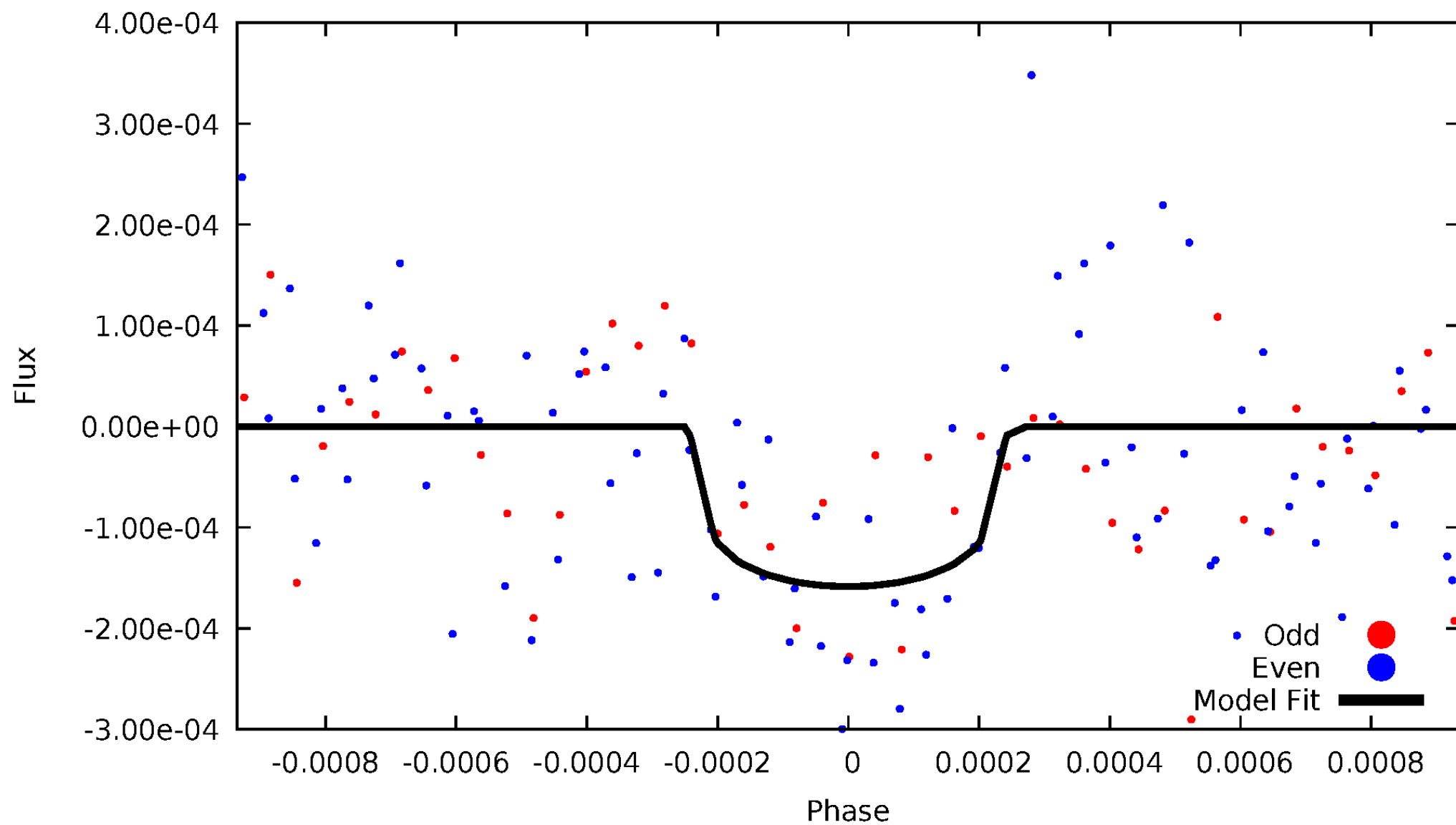


TCE 004907266-01



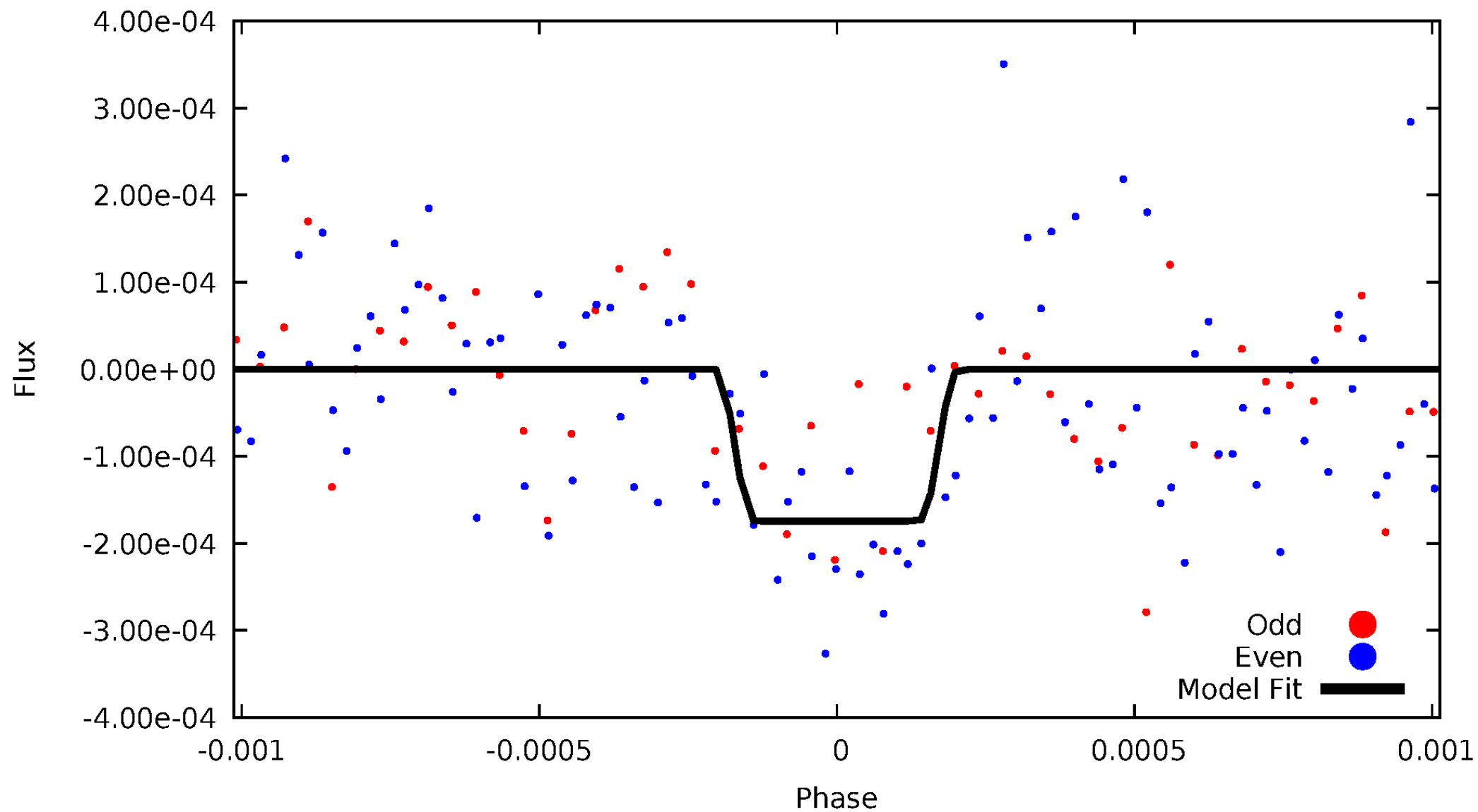
DV Odd/Even

TCE 004907266-01

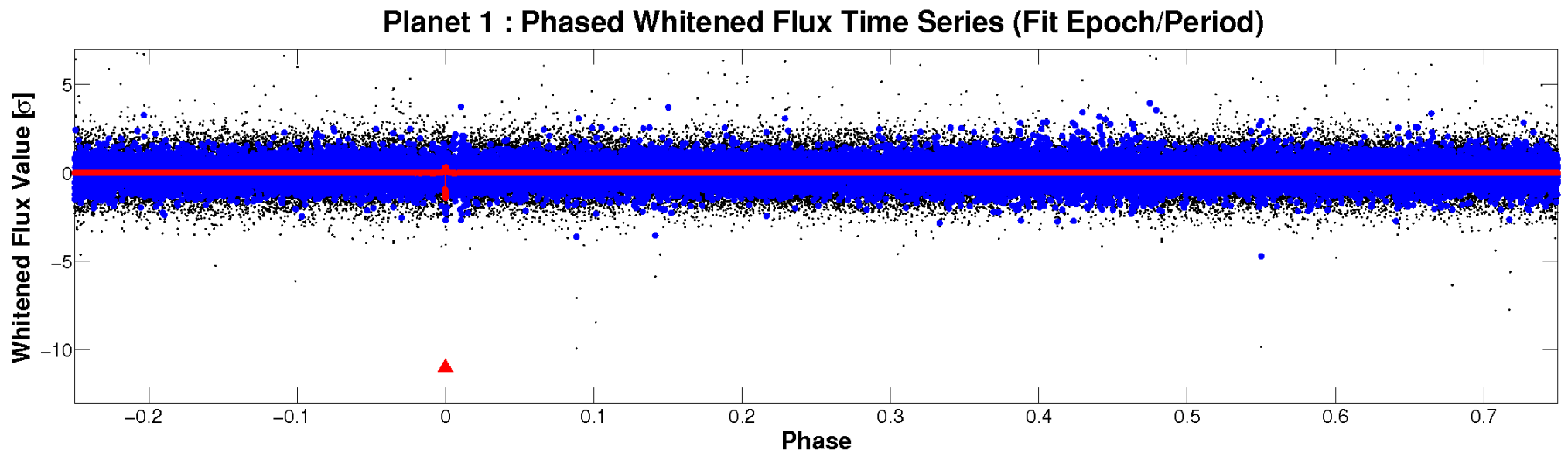
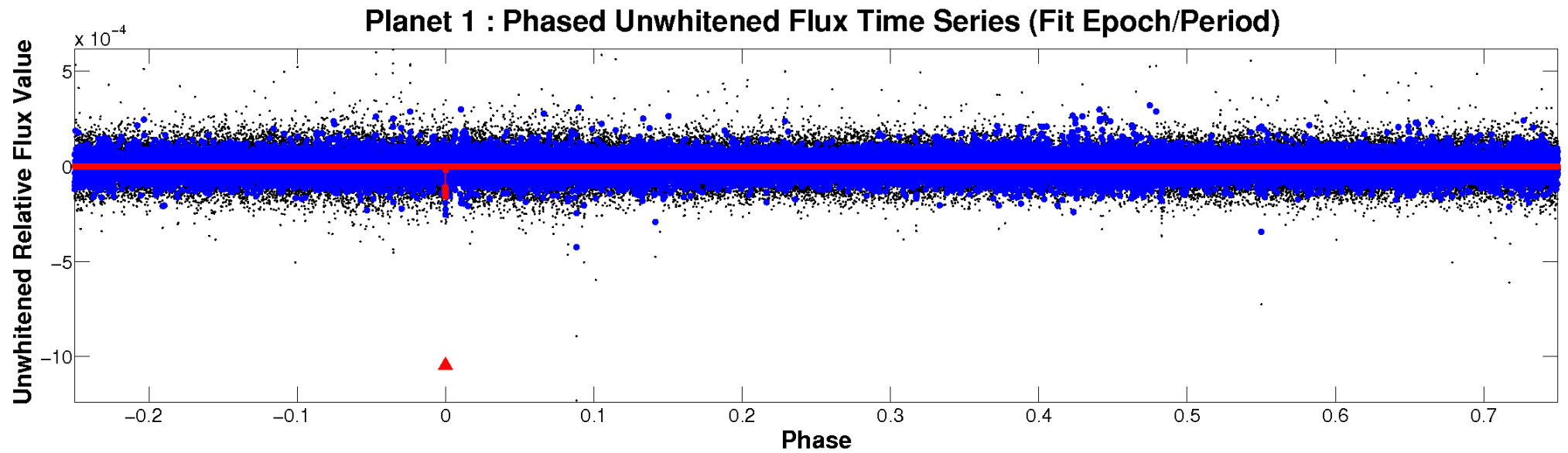


ALT Odd/Even

TCE 004907266-01



Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 004907266-01 P=507.798710 Days $T_0=394.510755$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 004907266-01 P=507.798710 Days $T_0=394.510755$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

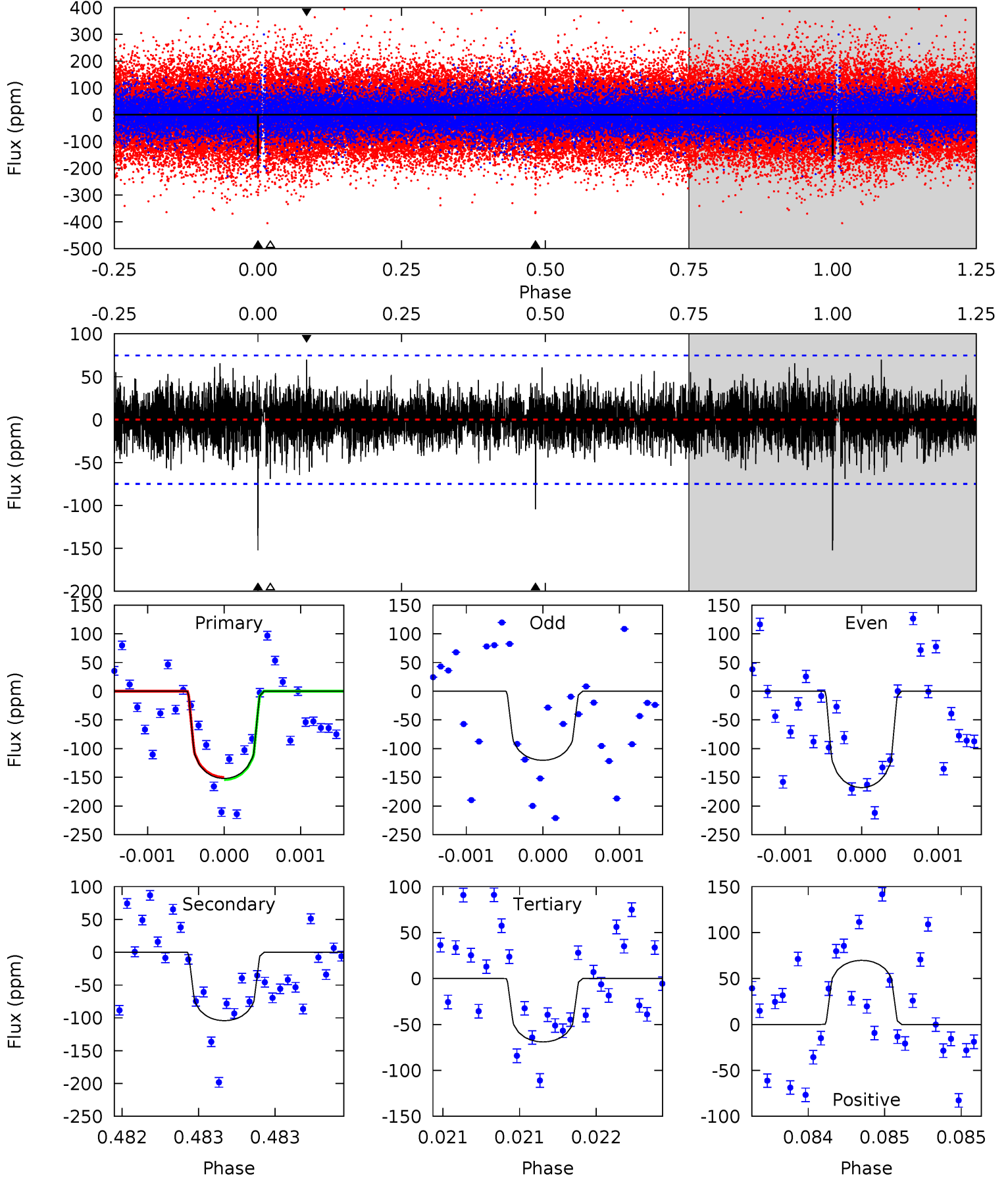
TCE 004907266-01 P=507.801211 Days $T_0=394.510698$ (BKJD)



DV Model-Shift Uniqueness Test

004907266-01, P = 507.798710 Days, E = 394.510755 Days

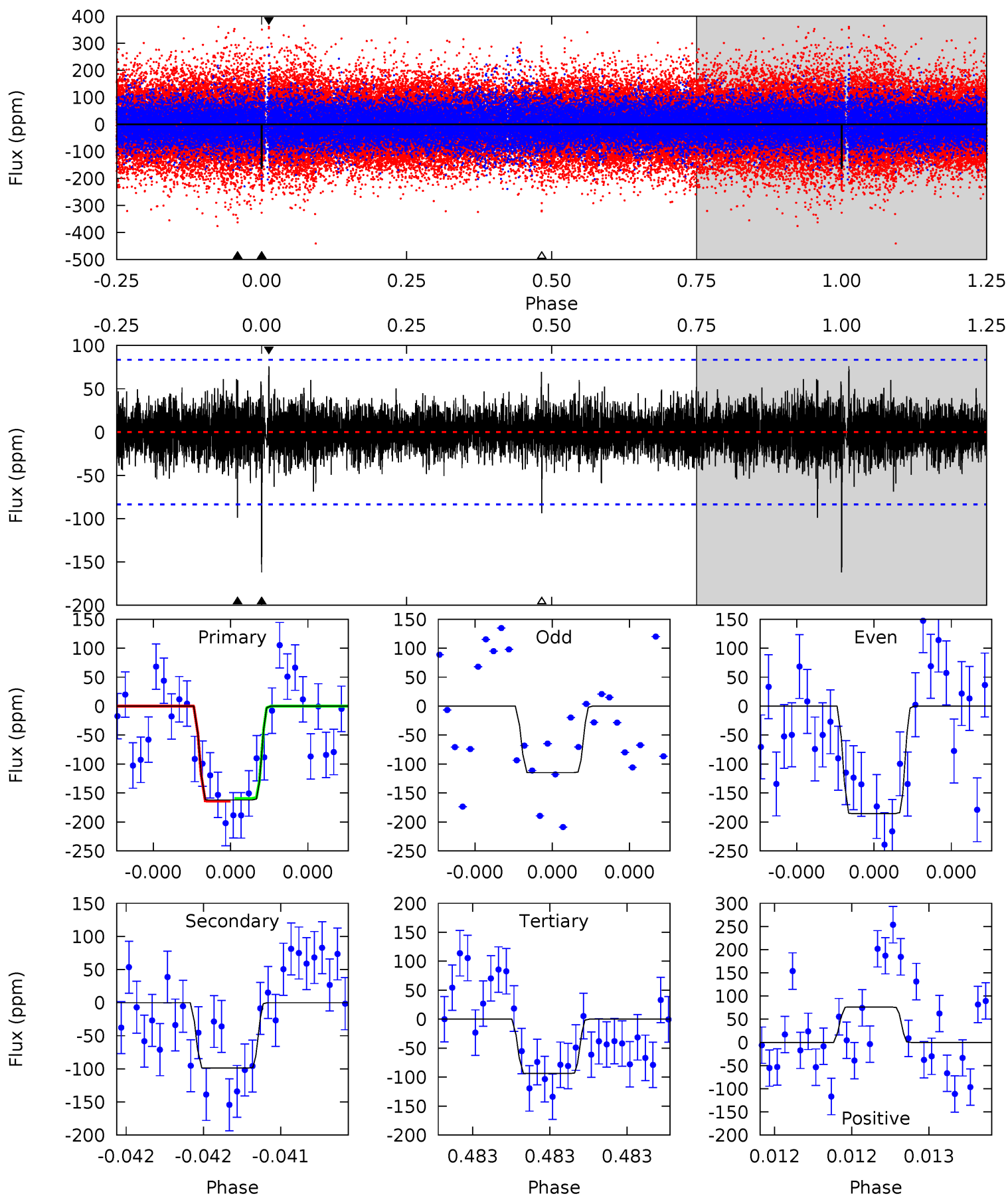
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 11.3 | 7.75 | 5.13 | 5.18 | 5.57 | 3.47 | 1.28 | 6.17 | 6.12 | 2.62 | 2.57 | 1.71 | 0.94 | 0.31 | 0.14 |



Alt Model-Shift Uniqueness Test

004907266-01, P = 507.801211 Days, E = 394.510698 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 | 6.62 | 6.28 | 5.10 | 5.60 | 3.52 | 1.11 | 4.58 | 5.76 | 0.34 | 1.52 | 2.31 | 0.95 | 0.32 | 0.16 |



Stellar Parameters For KIC 004907266

| | $T_{\text{eff}} (K)$ | $\log(g)$ | $[\text{Fe}/\text{H}]$ | $R (R_{\odot})$ | $M (M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 5962^{+163}_{-181} | $4.238^{+0.165}_{-0.135}$ | $0.220^{+0.200}_{-0.300}$ | $1.366^{+0.278}_{-0.278}$ | $1.179^{+0.111}_{-0.166}$ | $0.651^{+0.474}_{-0.254}$ |
| | +3%/-3% | +4%/-3% | +91%/-136% | +20%/-20% | +9%/-14% | +73%/-39% |
| Source | PHO1 | FLK73 | 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 004907266-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|---------------|------------------------|----------------------|------------------------|---------------------------|
| DV | -104 ± 13 | $2.46^{+2.30}_{-1.49}$ | 373^{+22}_{-23} | 4781^{+2697}_{-1008} | 15812^{+86945}_{-11449} |
| Alt. | -99 ± 15 | $2.54^{+1.95}_{-1.68}$ | 373^{+24}_{-22} | 4664^{+3275}_{-882} | $14308^{+108357}_{-9882}$ |

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

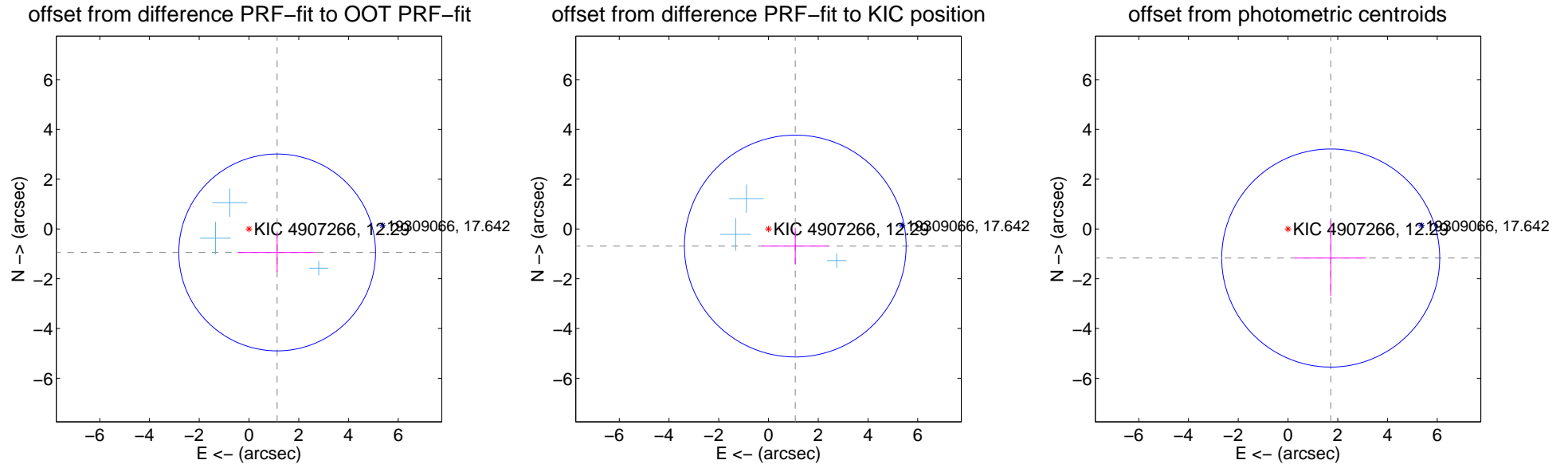
DV Centroid Data

Supplemental centroid analysis for 004907266-01. Kepler magnitude: 12.29. Transit SNR 7.62

There are 3 quarters with good PRF difference image offsets

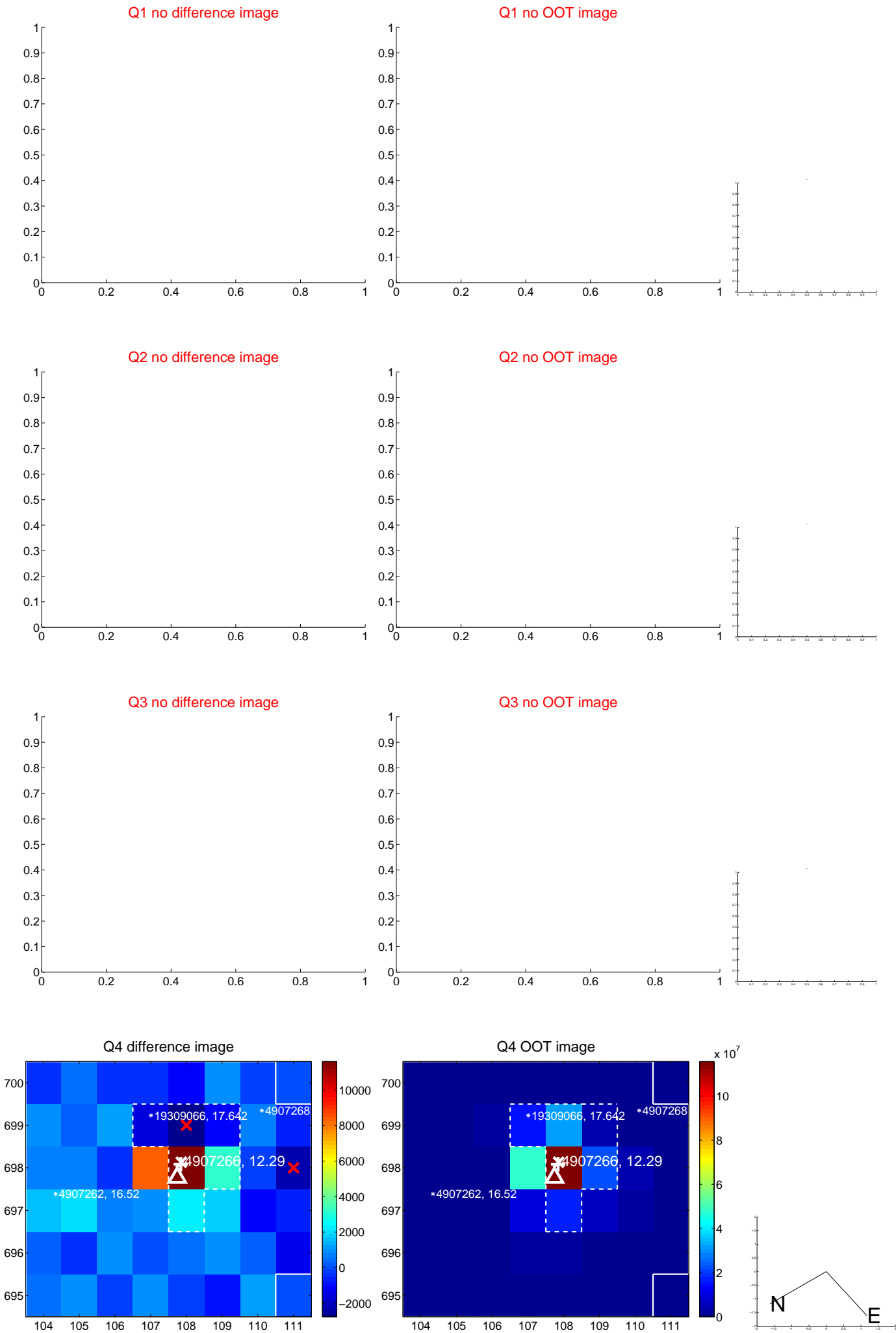
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 1.475 ± 1.318 | 1.12 | -1.133 ± 1.589 | -0.945 ± 0.779 |
| PRF-fit source offset from KIC position | 1.277 ± 1.486 | 0.86 | -1.076 ± 1.350 | -0.687 ± 0.737 |
| photometric centroid source offset | 2.08 ± 1.46 | 1.42 | -1.72 ± 1.43 | -1.17 ± 1.52 |



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.

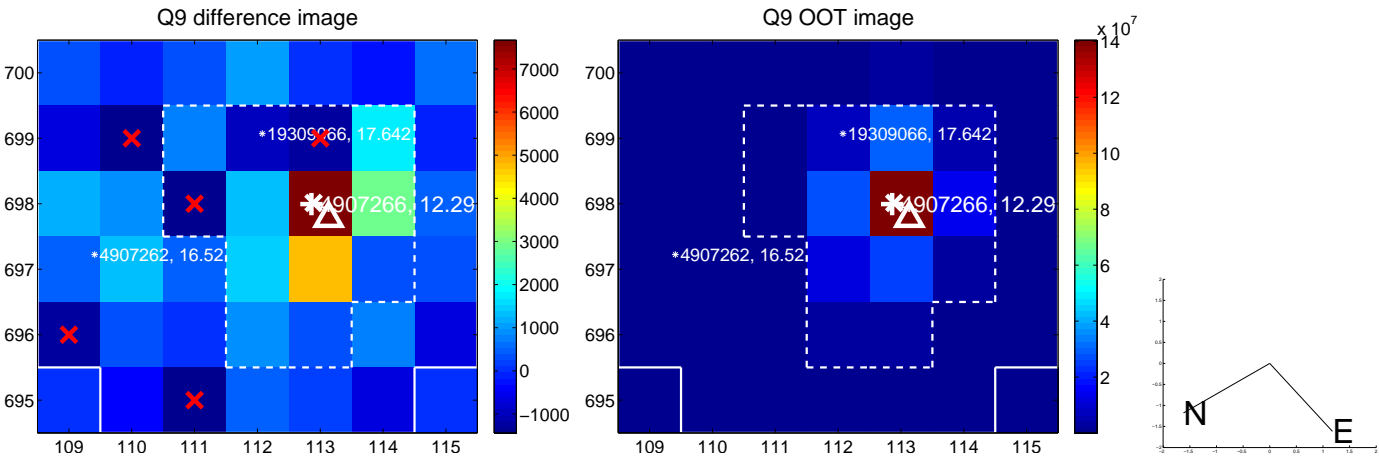
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



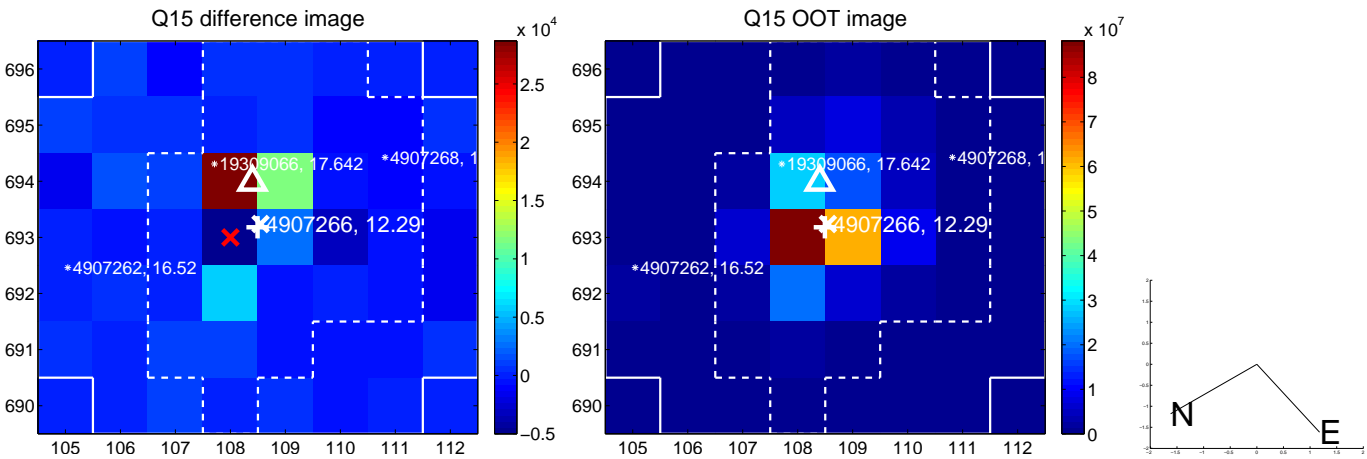
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



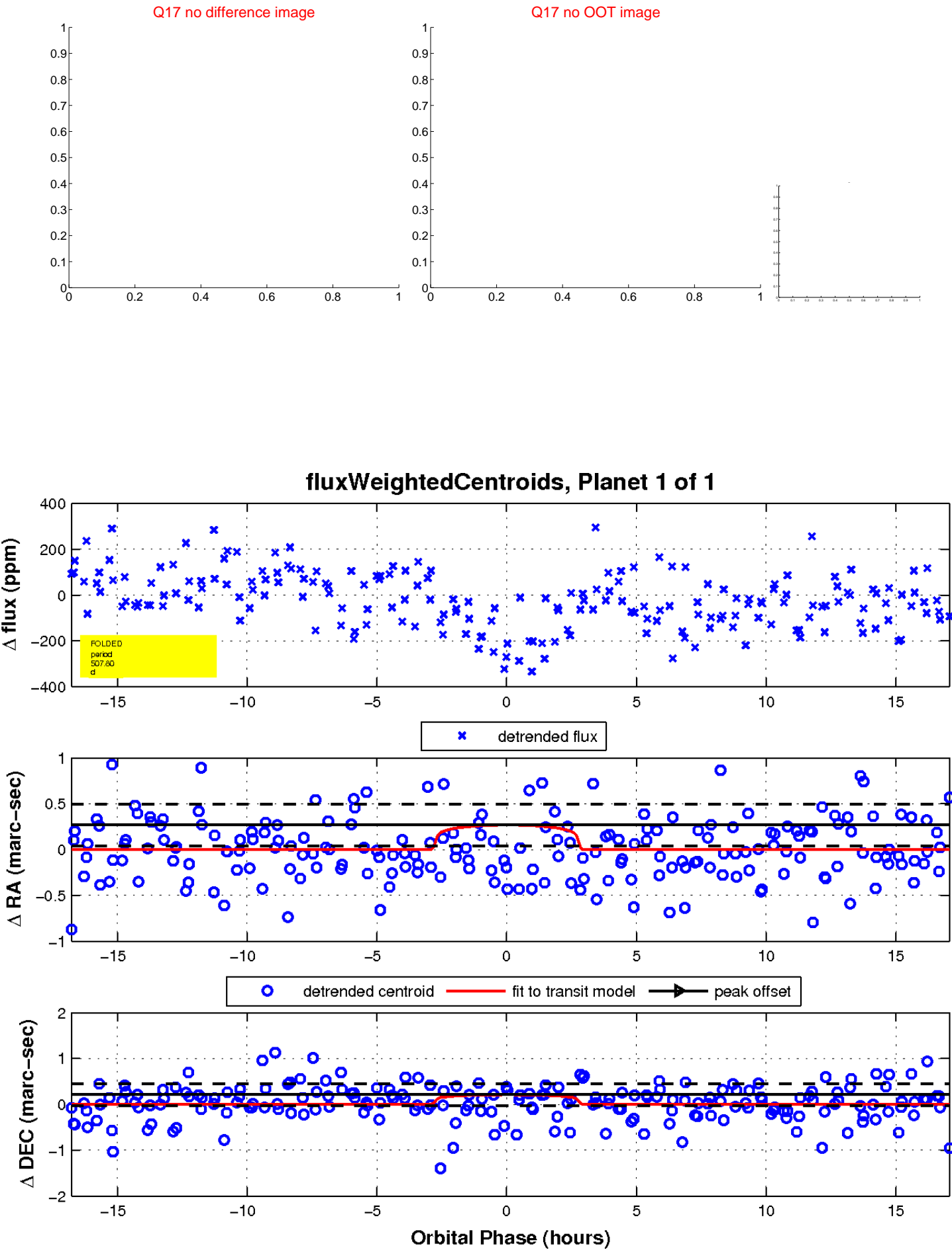
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

