

KIC 007270229

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 007270229-01 | OBS | No | 0.720486 | 132.015116 | 1.0 | 8.159 | 8.0 | 0.8 | 2.74 | 7050 | 0.32 | 48715.39 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 007270229-01 | OBS | FP | 0.00 | 1 | 0 | 1 | 0 | SWEET_NTL—LPP_DV—LPP_ALT—CENT_UNRESOLVED_OFFSET |

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

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

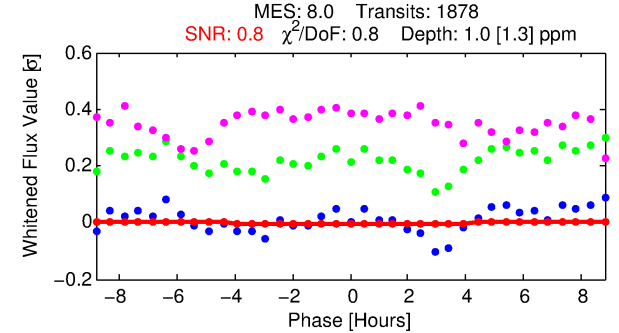
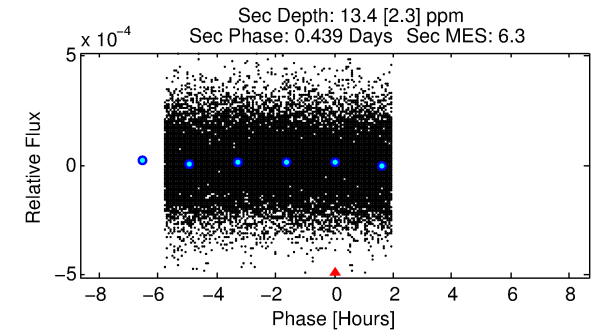
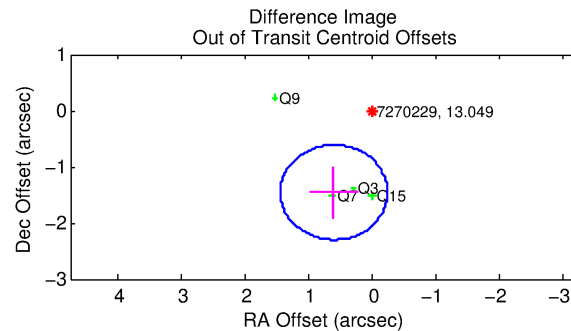
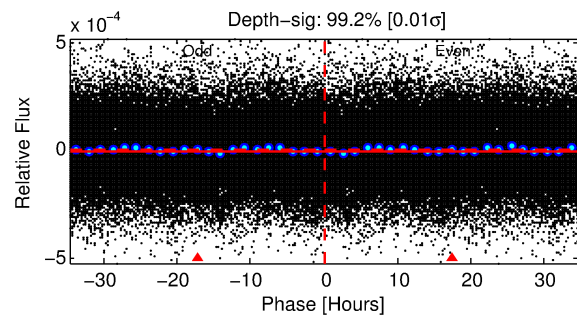
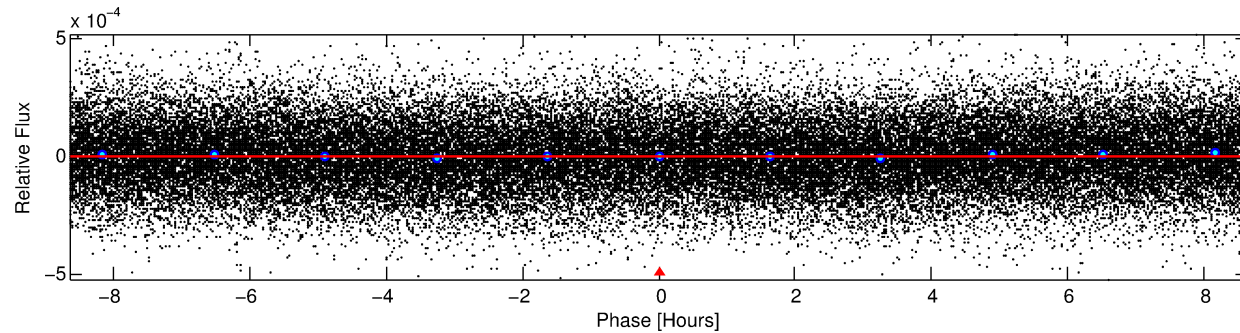
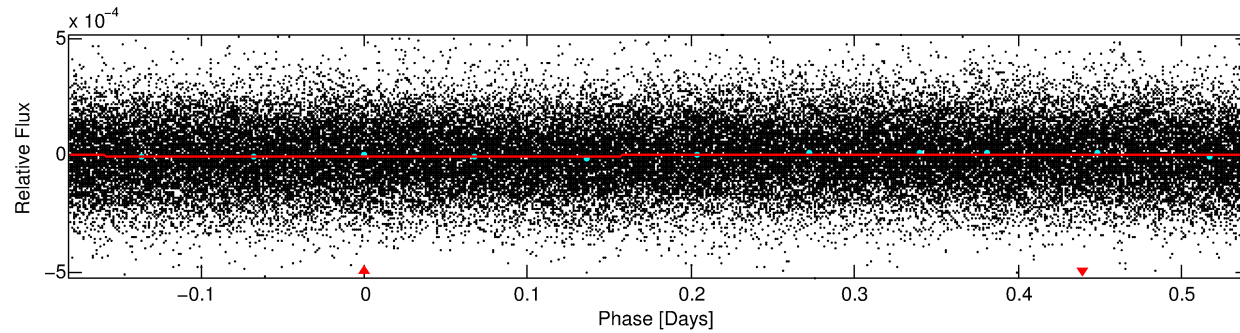
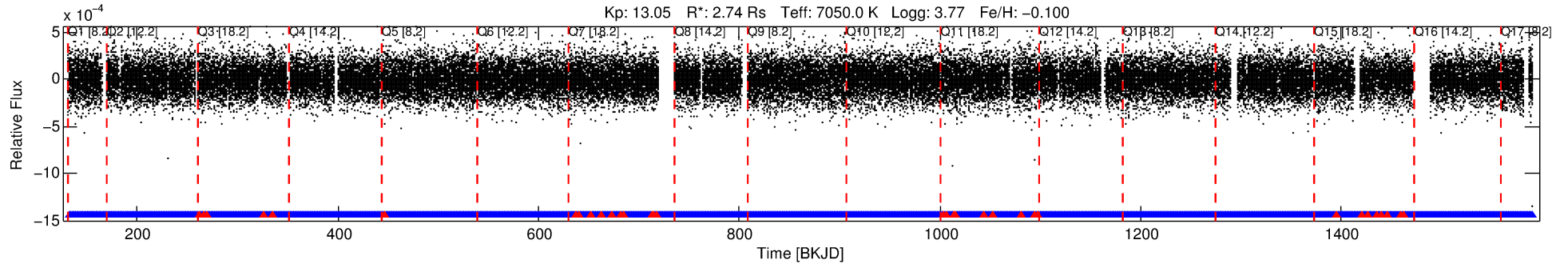
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007270229-01

No Significant Match Found

DV One-Page Summary

KIC: 7270229 Candidate: 1 of 1 Period: 0.720 d



DV Fit Results:

Period = 0.72049 [0.00020] d
Epoch = 132.0151 [0.0746] BKJD
Rp/R* = 0.0011 [0.0066]
a/R* = 1.00 [0.14]
b = 0.89 [9.43]
Seff = 48715.40 [23886.97]
Teq = 3788 [464] K
Rp = 0.32 [1.96] Re
a = 0.0184 [0.0055] AU
Ag = 25.17 [312.03] [0.08 σ]
Teffp = 13119 [40636] K [0.23 σ]

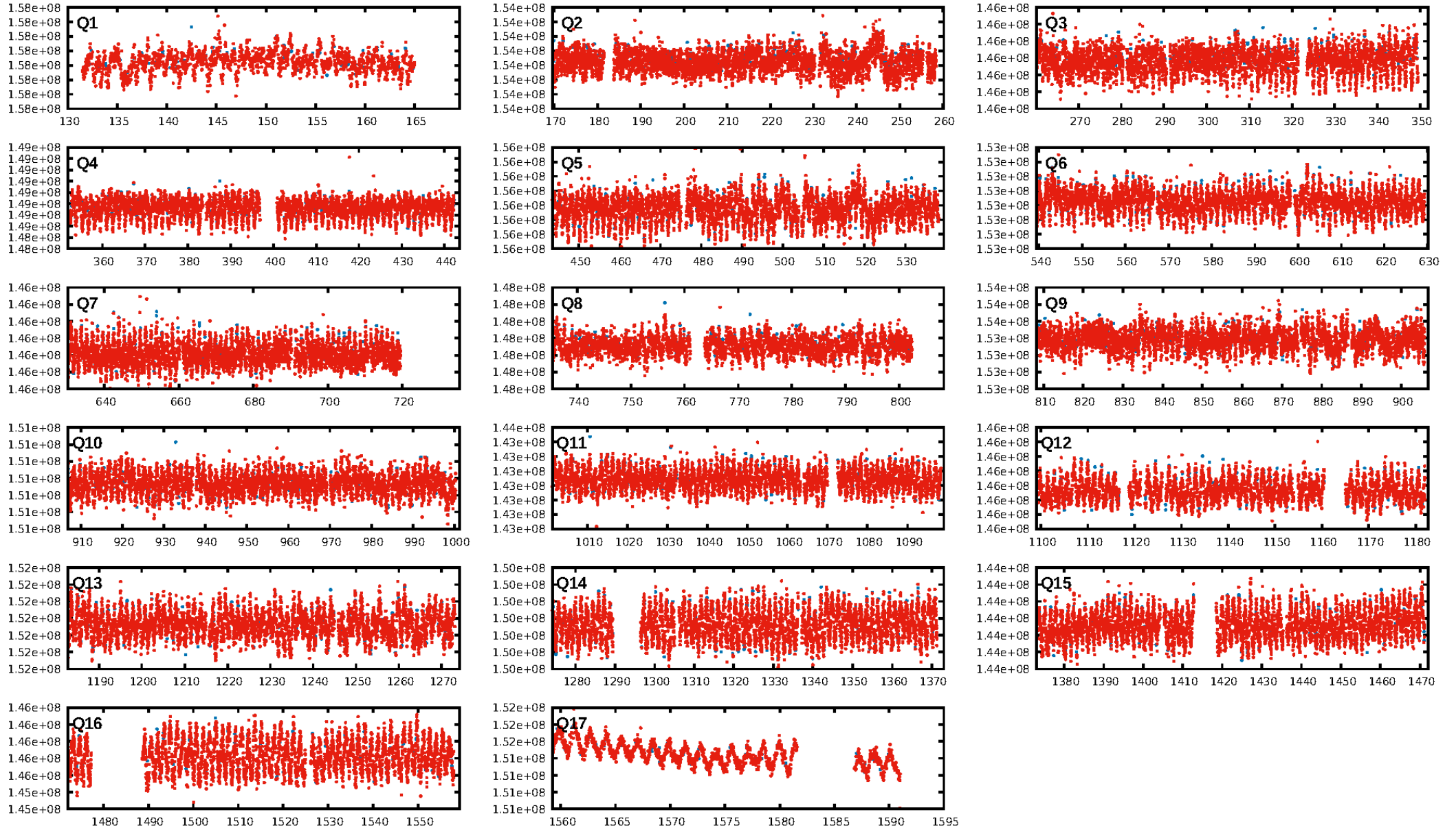
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.98 [1757/1792]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 1.579 arcsec [5.61 σ]
KicOffset-rm: 1.588 arcsec [7.31 σ]
OotOffset-st: 0/3/0/1 [4]
KicOffset-st: 0/3/0/1 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [17/17]

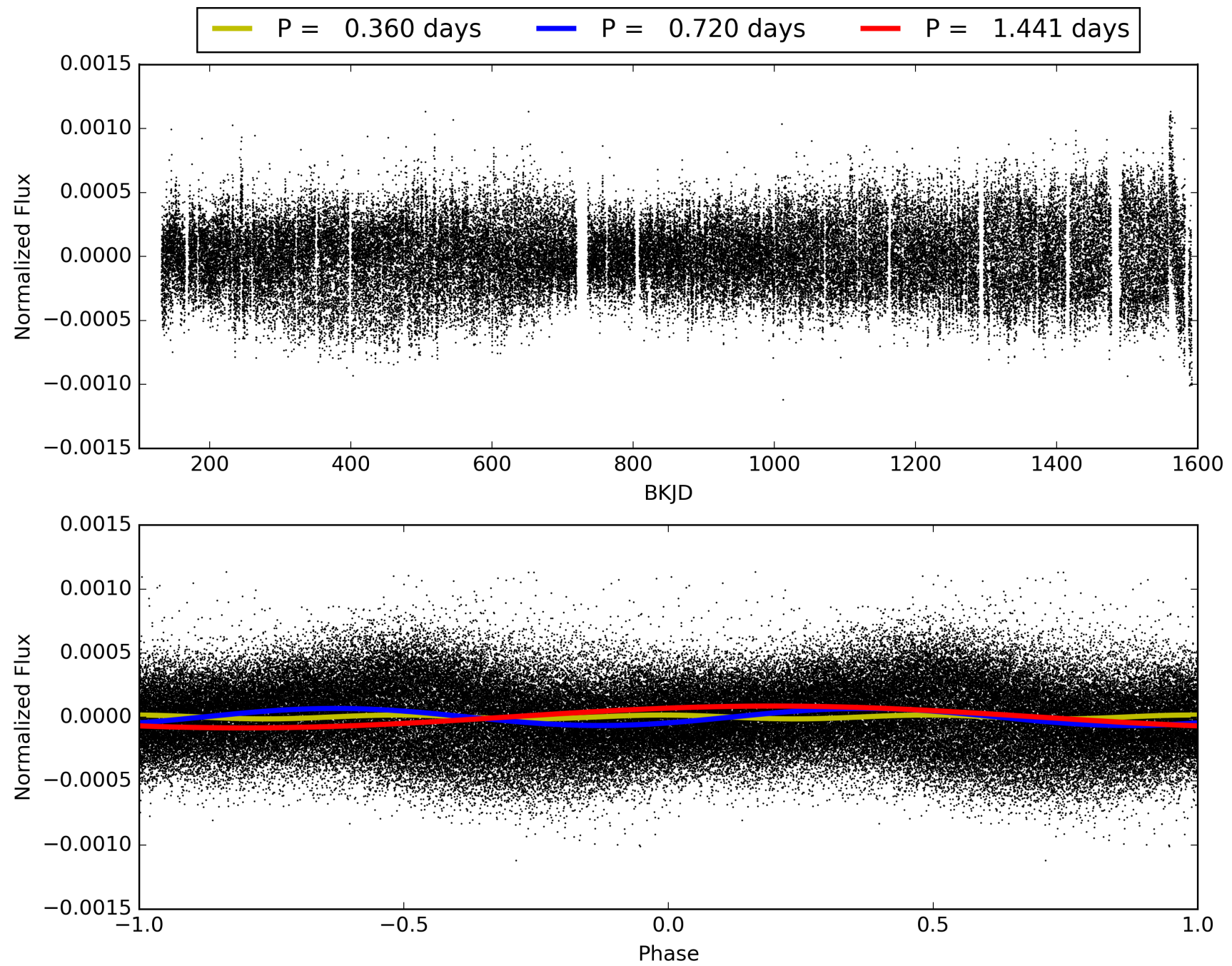
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 17:26:52 Z

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

TCE 007270229-01, PDC Light Curves

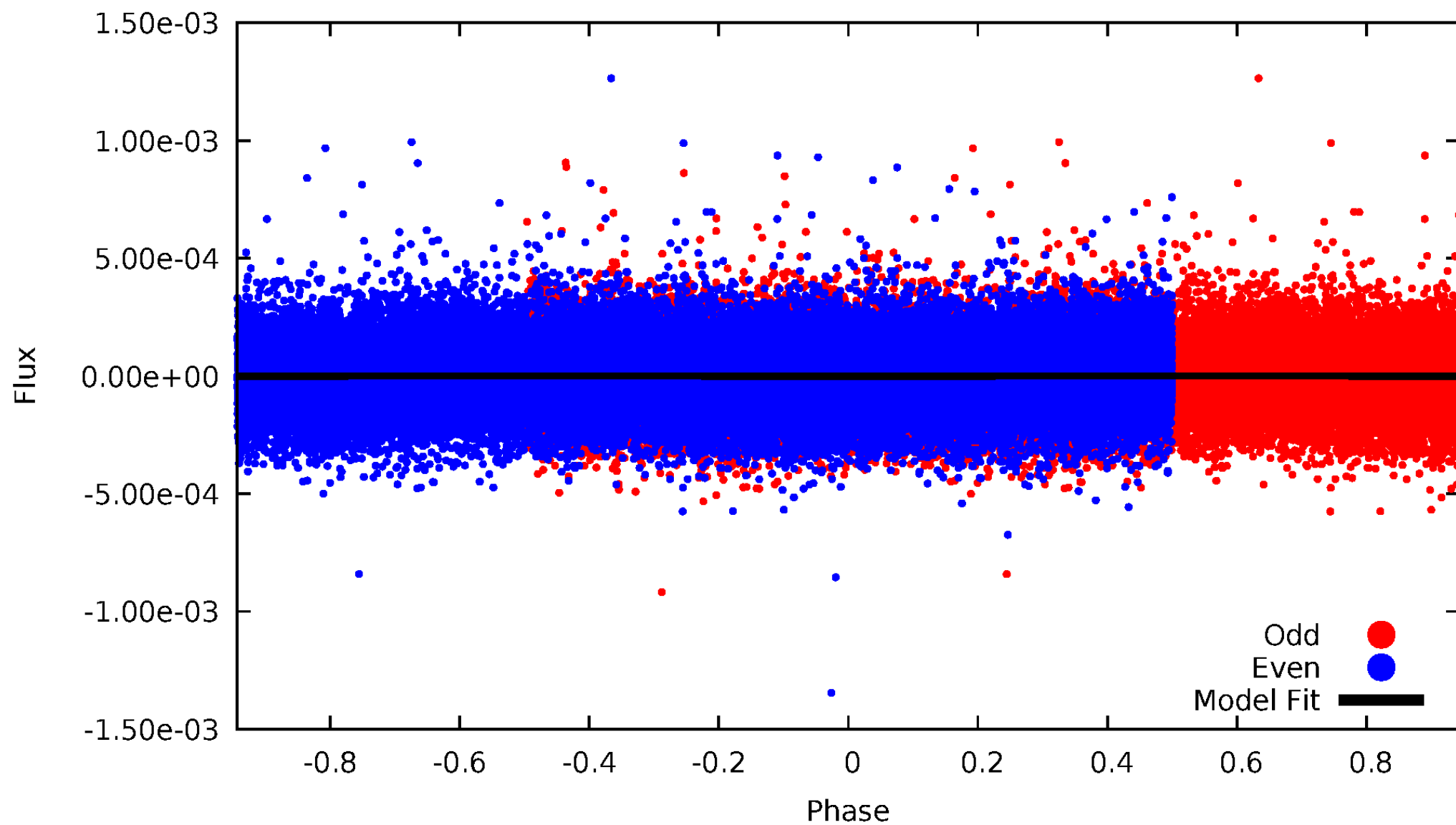


TCE 007270229-01



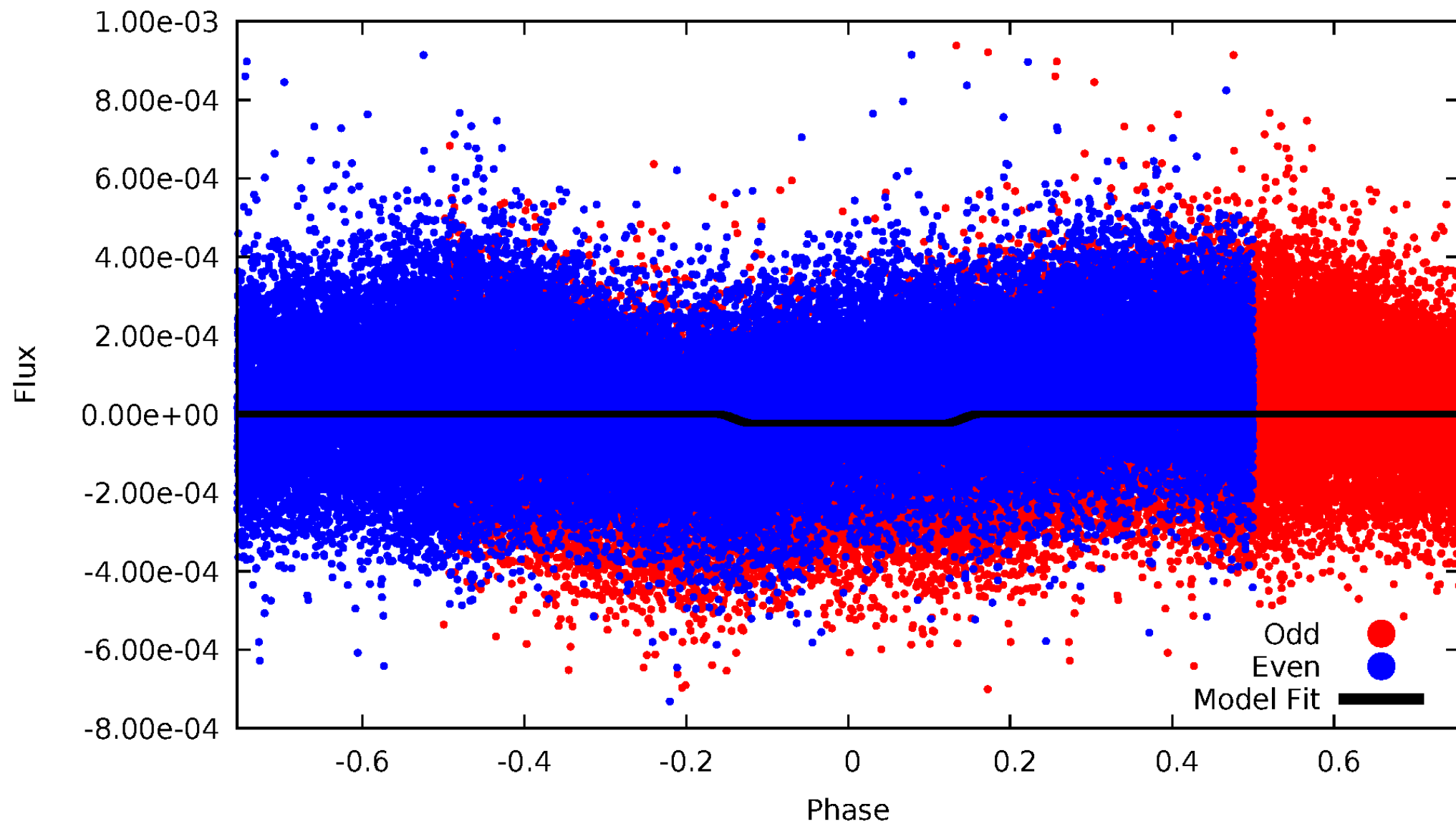
DV Odd/Even

TCE 007270229-01



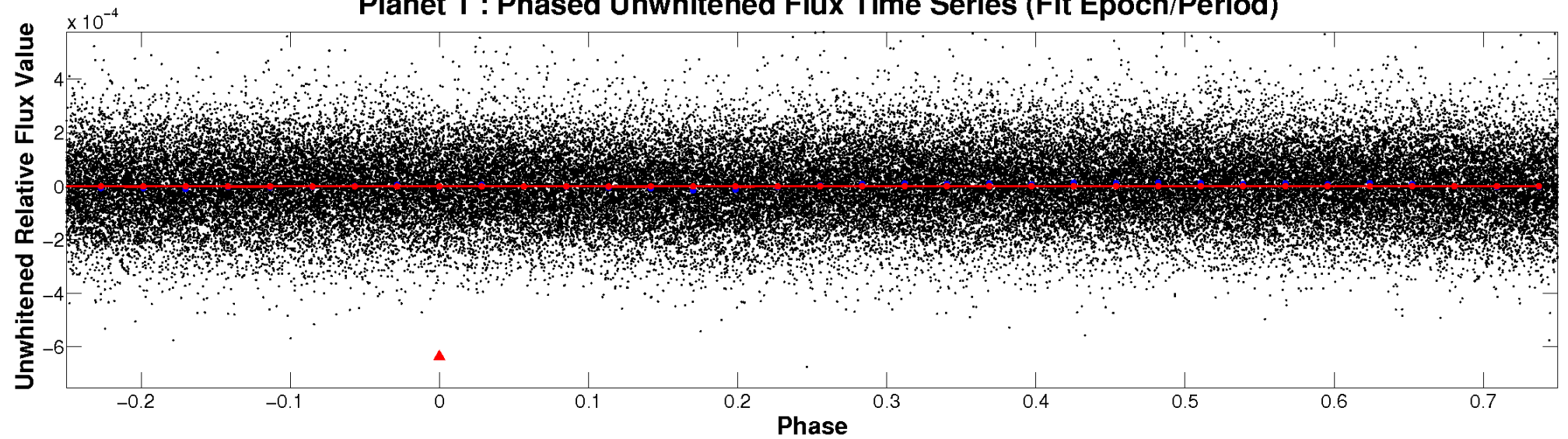
ALT Odd/Even

TCE 007270229-01

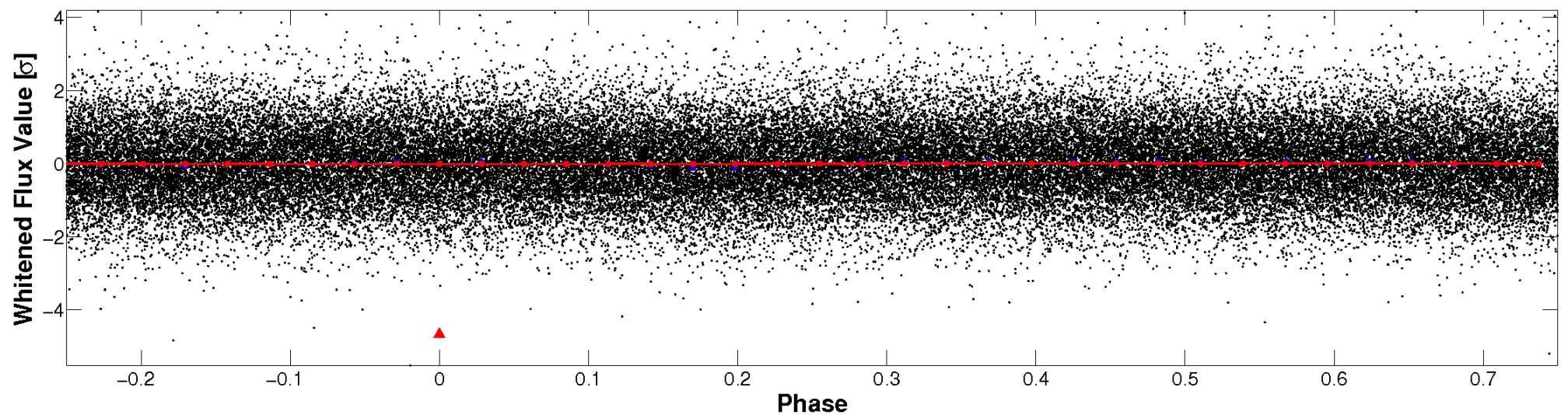


Non-Whitened Vs. Whitened Light Curve

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

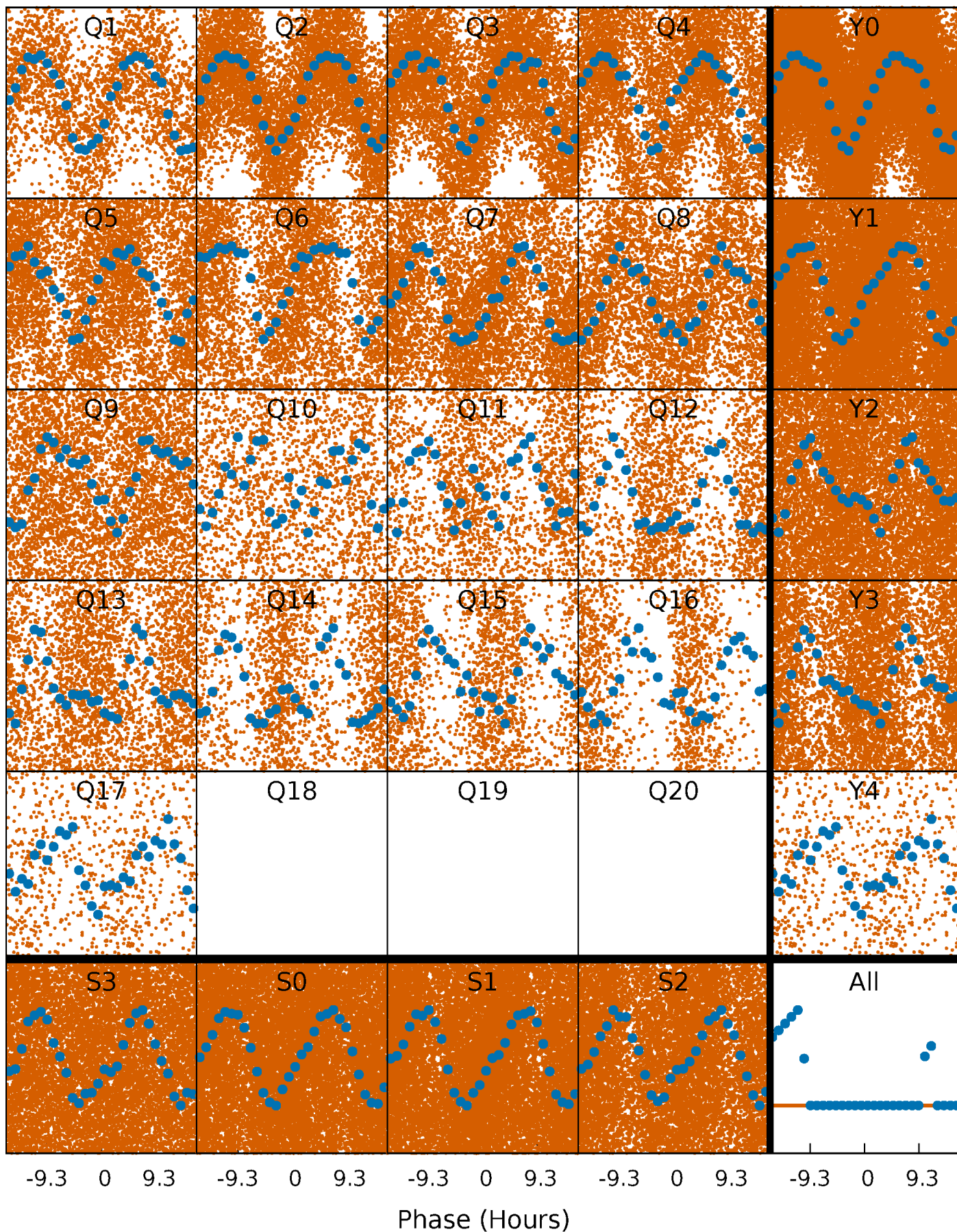


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



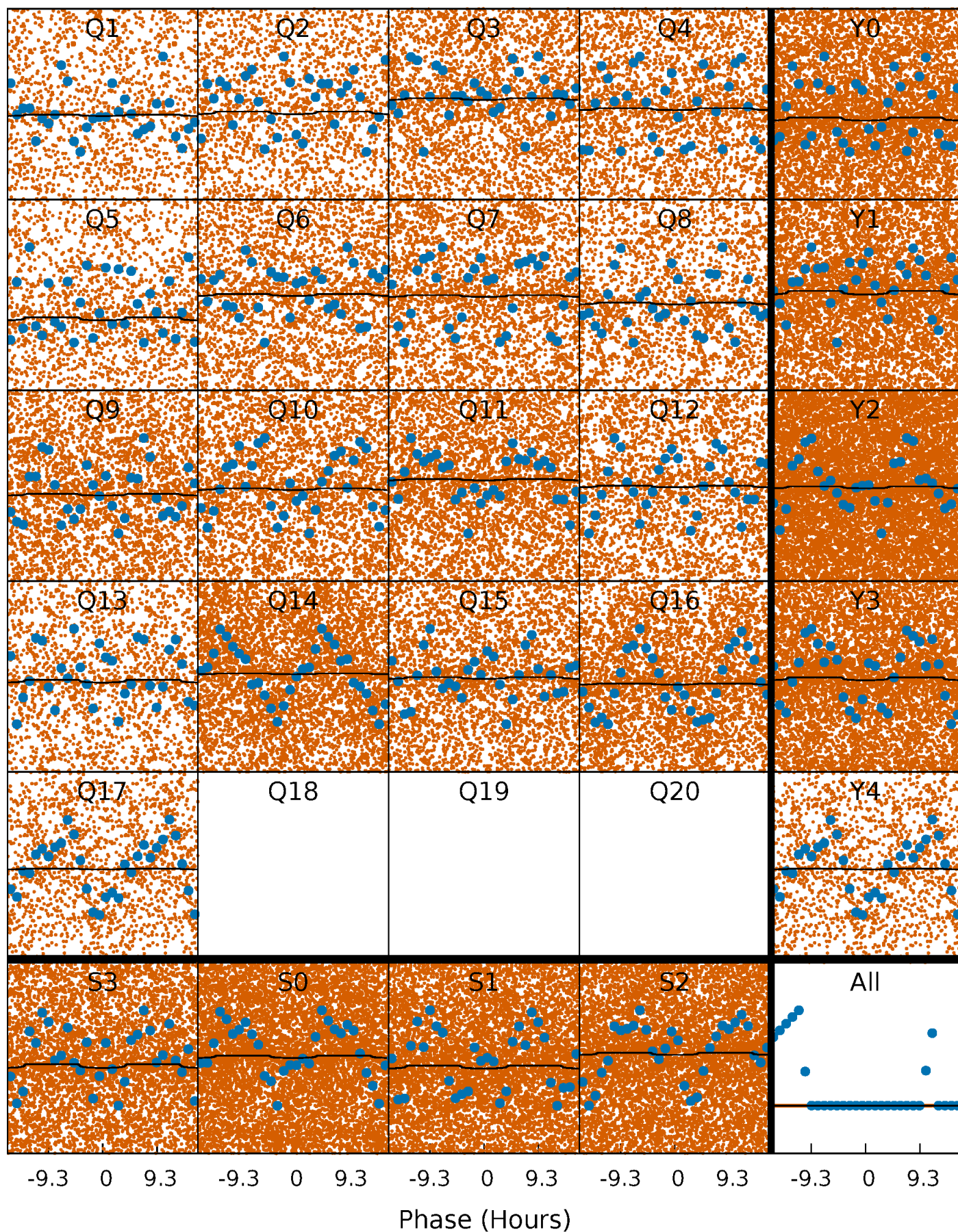
PDC Quarter-Phased Transit Curves

TCE 007270229-01 P= 0.720486 Days $T_0=132.015116$ (BKJD)



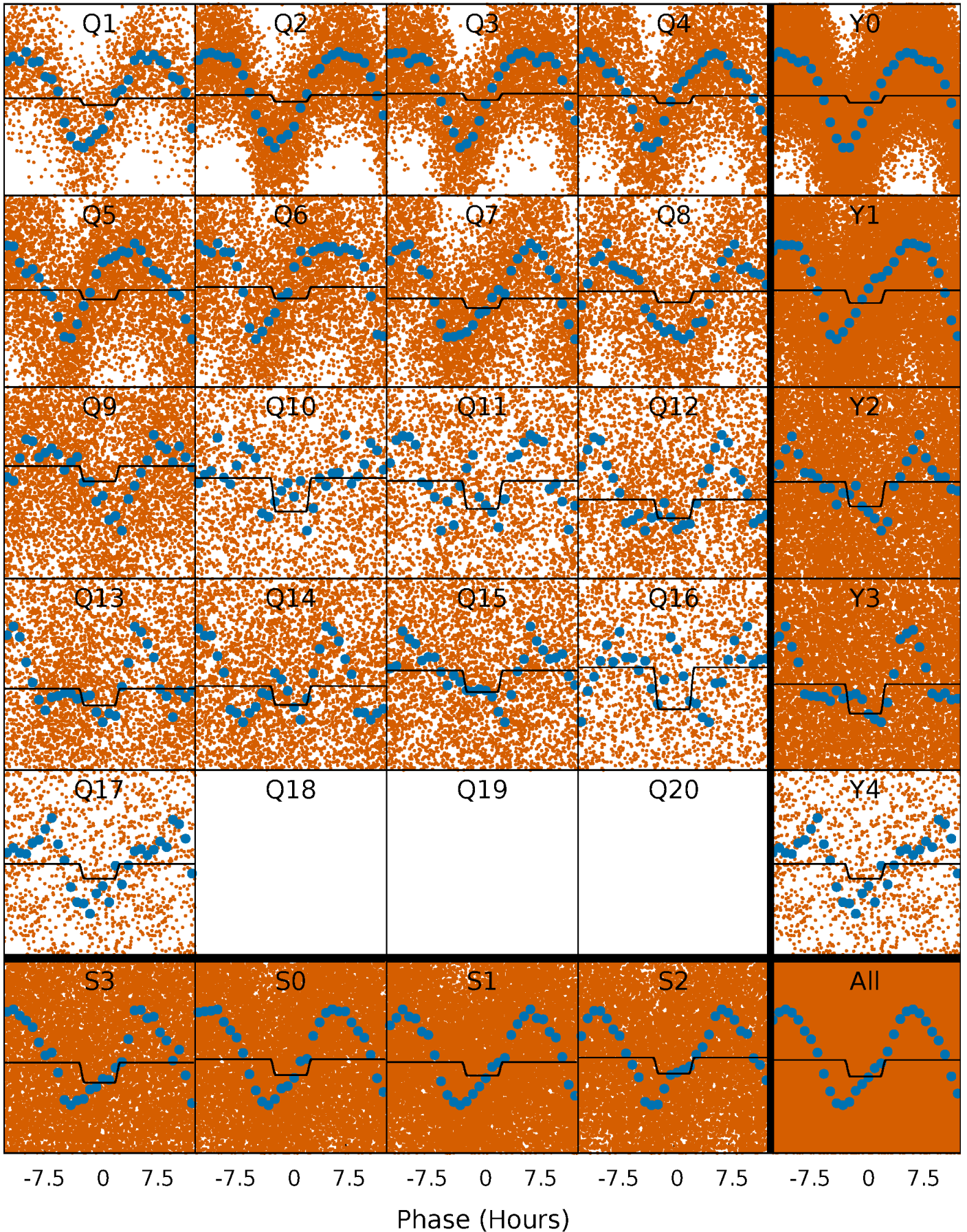
DV Quarter-Phased Transit Curves

TCE 007270229-01 P= 0.720486 Days $T_0=132.015116$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

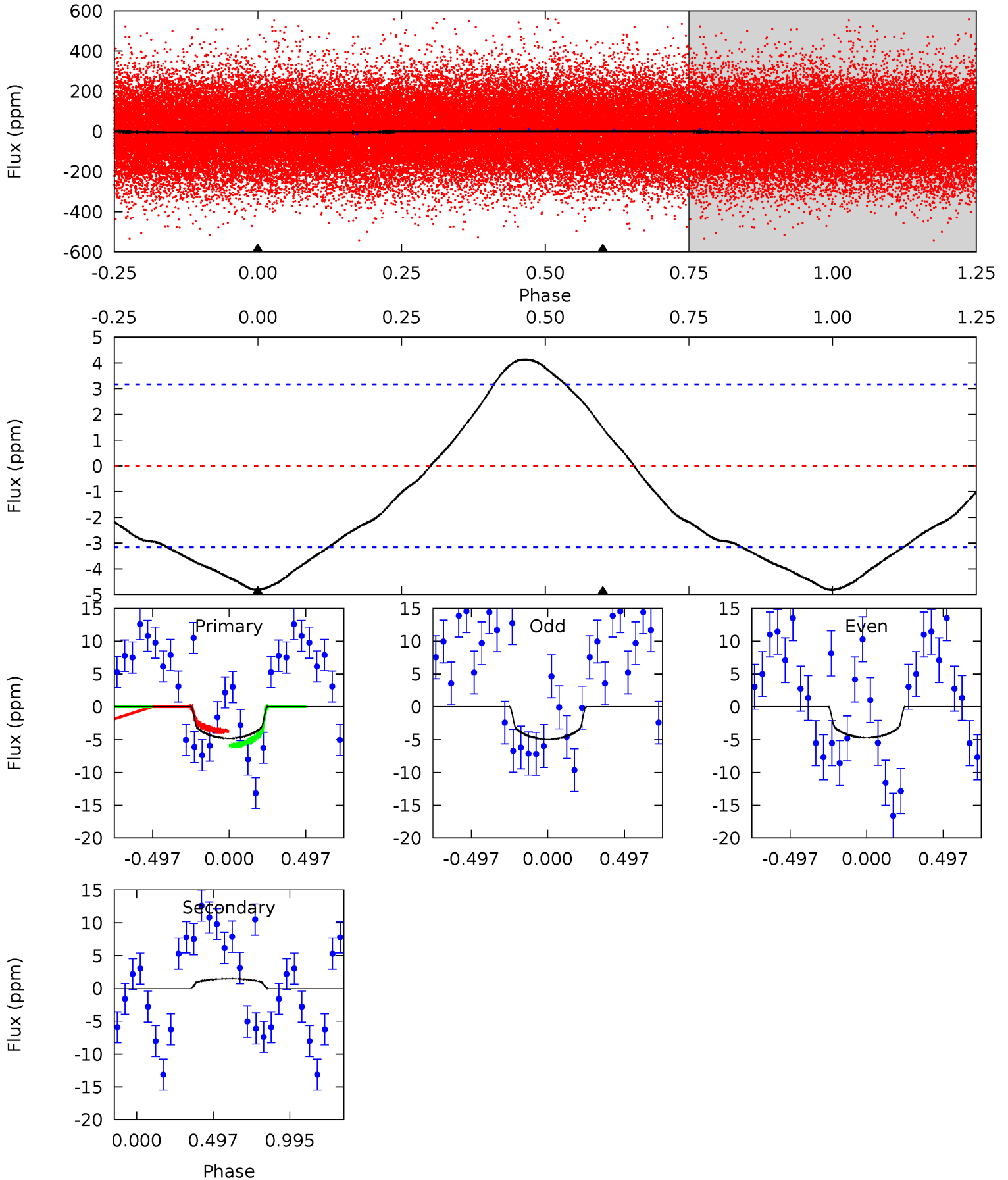
TCE 007270229-01 P= 0.720526 Days $T_0=131.988716$ (BKJD)



DV Model-Shift Uniqueness Test

007270229-01, P = 0.720486 Days, E = 131.294630 Days

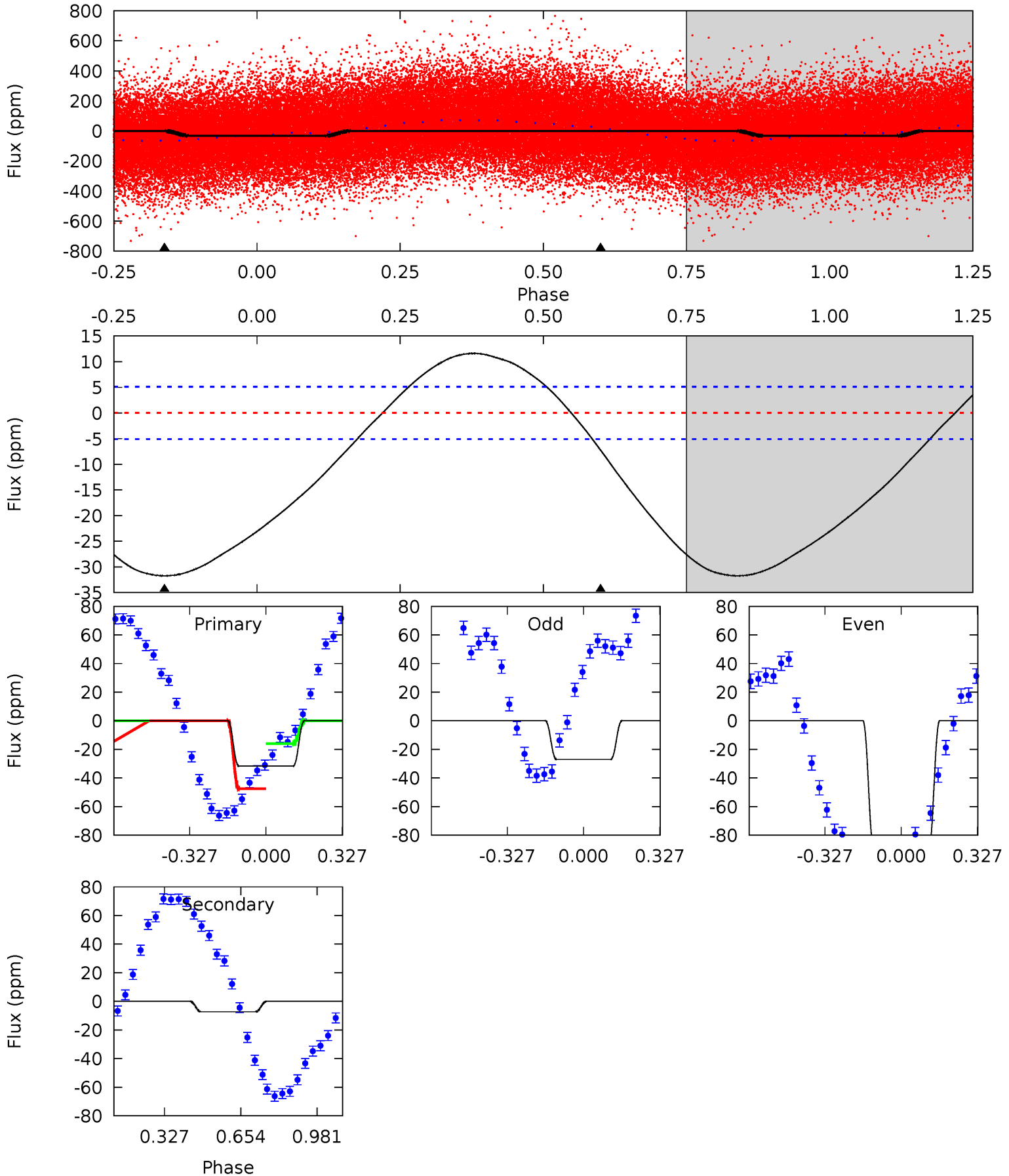
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|-------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 6.41 | -1.95 | 0 | 0 | 4.22 | 0.68 | 0.92 | 6.41 | 6.41 | -1.95 | -1.95 | 0.16 | 0.92 | 0.46 | 1.48 |



Alt Model-Shift Uniqueness Test

007270229-01, P = 0.720526 Days, E = 131.268190 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 26.8 | 6.15 | 0 | 0 | 4.31 | 0.98 | 2.97 | 26.8 | 26.8 | 6.15 | 6.15 | 28.9 | 0.99 | 0.27 | 13.6 |



Stellar Parameters For KIC 007270229

| | $T_{\text{eff}} (K)$ | $\log(g)$ | $[\text{Fe}/\text{H}]$ | $R (R_{\odot})$ | $M (M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 7050^{+194}_{-268} | $3.771^{+0.270}_{-0.090}$ | $-0.100^{+0.250}_{-0.300}$ | $2.737^{+0.472}_{-0.876}$ | $1.612^{+0.234}_{-0.258}$ | $0.111^{+0.204}_{-0.033}$ |
| | +3%/-4% | +7%/-2% | +250%/-300% | +17%/-32% | +15%/-16% | +184%/-30% |
| 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 007270229-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-------------|------------------------|----------------------|------------------------|----------------------------|
| DV | 1 ± 1 | $1.28^{+1.53}_{-0.91}$ | 5156^{+359}_{-394} | -4815^{+403}_{-2150} | $-0.147^{+0.121}_{-1.782}$ |
| Alt. | -7 ± 1 | $1.87^{+1.75}_{-1.17}$ | 5155^{+301}_{-438} | 3532^{+3671}_{-7594} | $0.390^{+2.442}_{-0.284}$ |

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 $A_{obs} \gg 1.0$

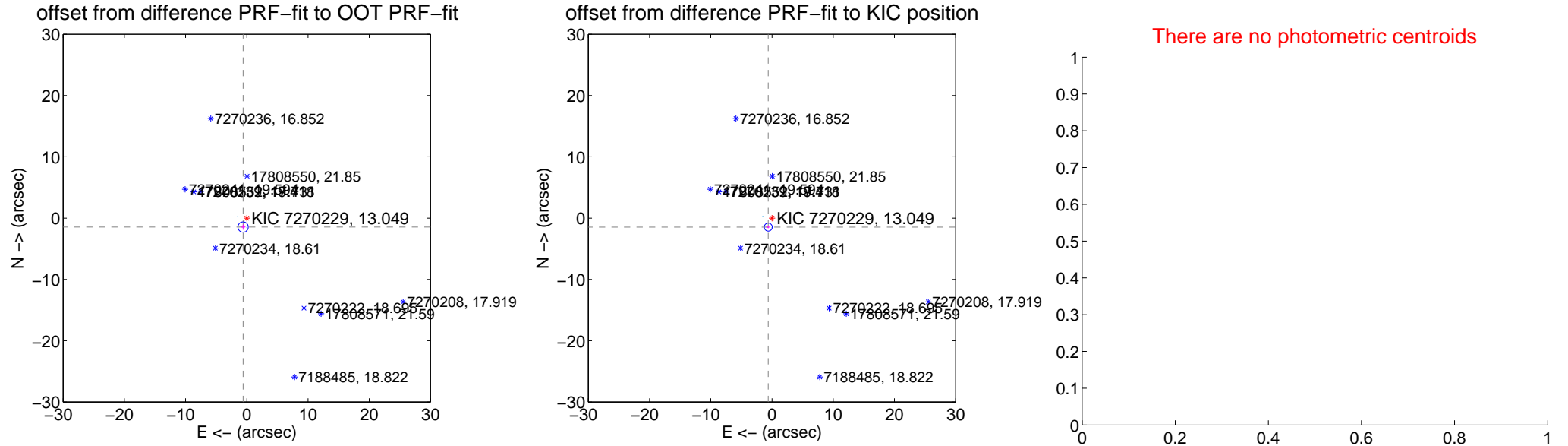
DV Centroid Data

Supplemental centroid analysis for 007270229-01. Kepler magnitude: 13.05. Transit SNR 0.83

There are 4 quarters with good PRF difference image offsets

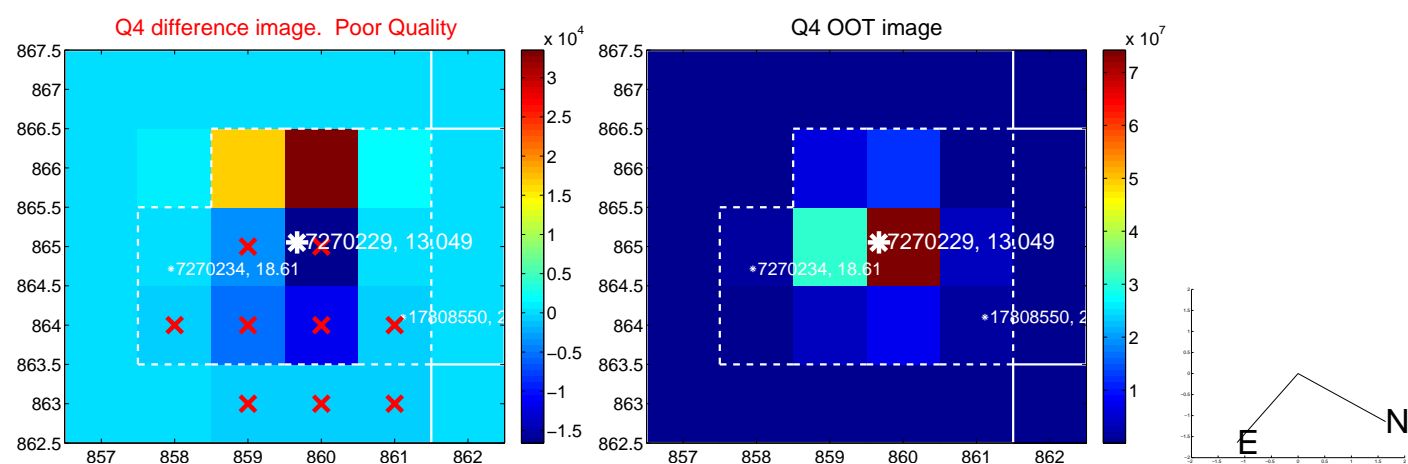
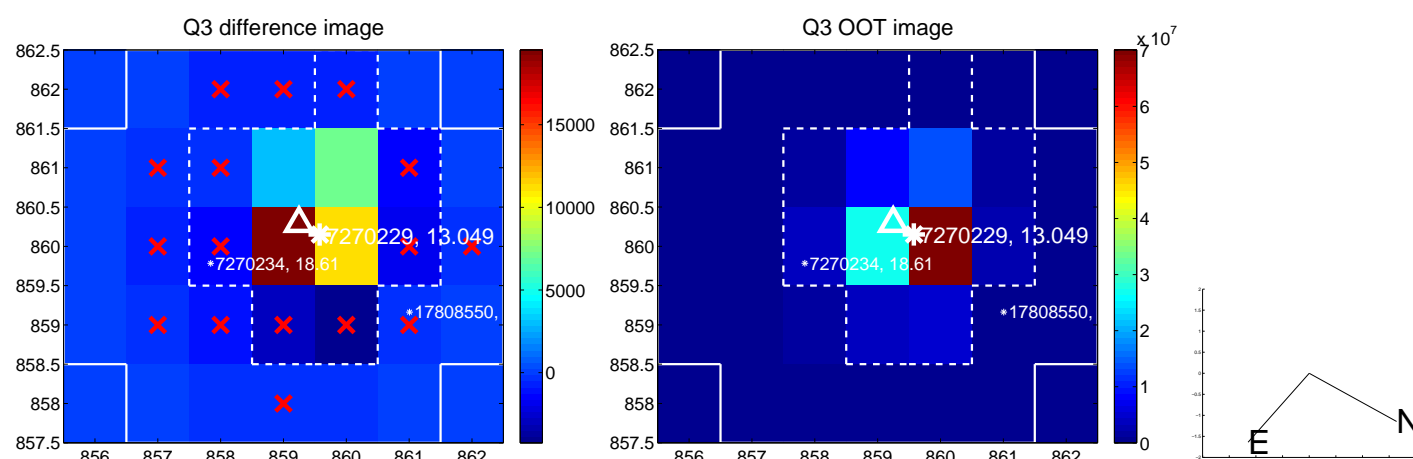
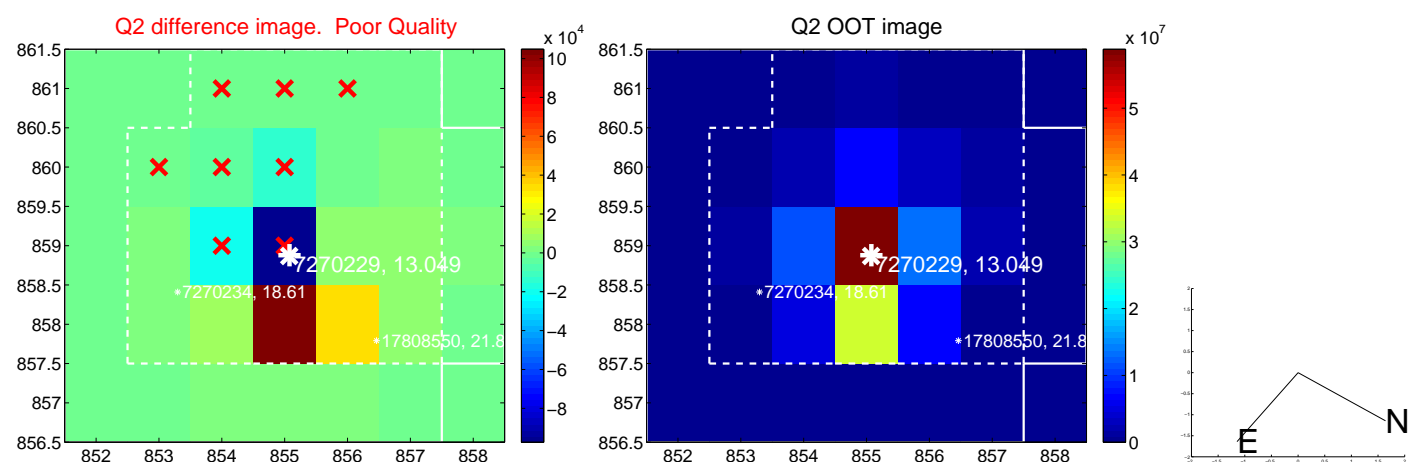
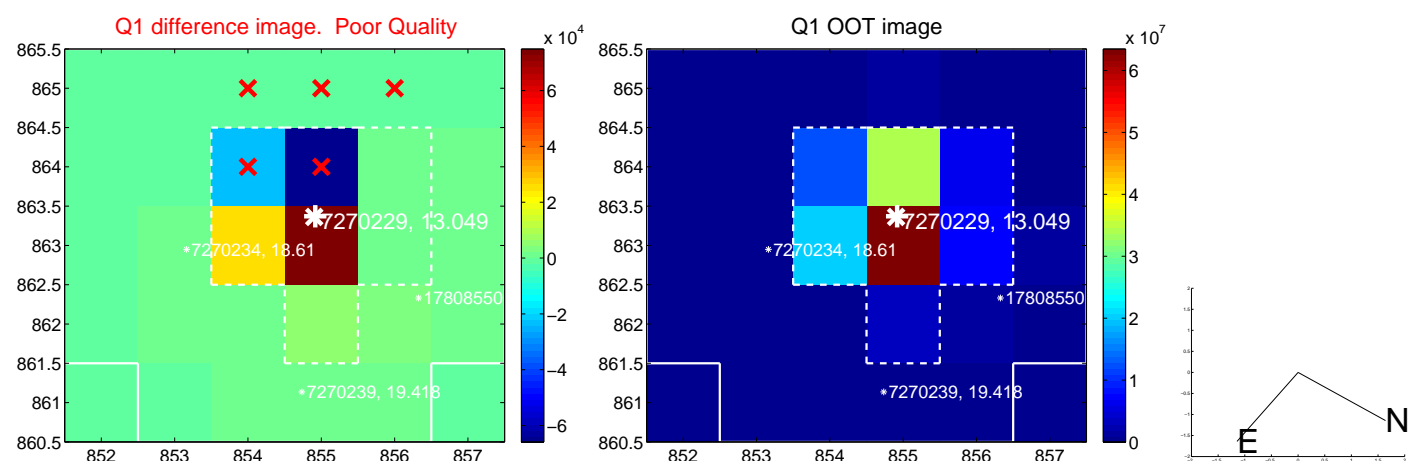
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 1.579 ± 0.281 | 5.61 | 0.607 ± 0.372 | -1.458 ± 0.442 |
| PRF-fit source offset from KIC position | 1.588 ± 0.217 | 7.31 | 0.613 ± 0.334 | -1.466 ± 0.190 |
| photometric centroid source offset | — | — | — | — |

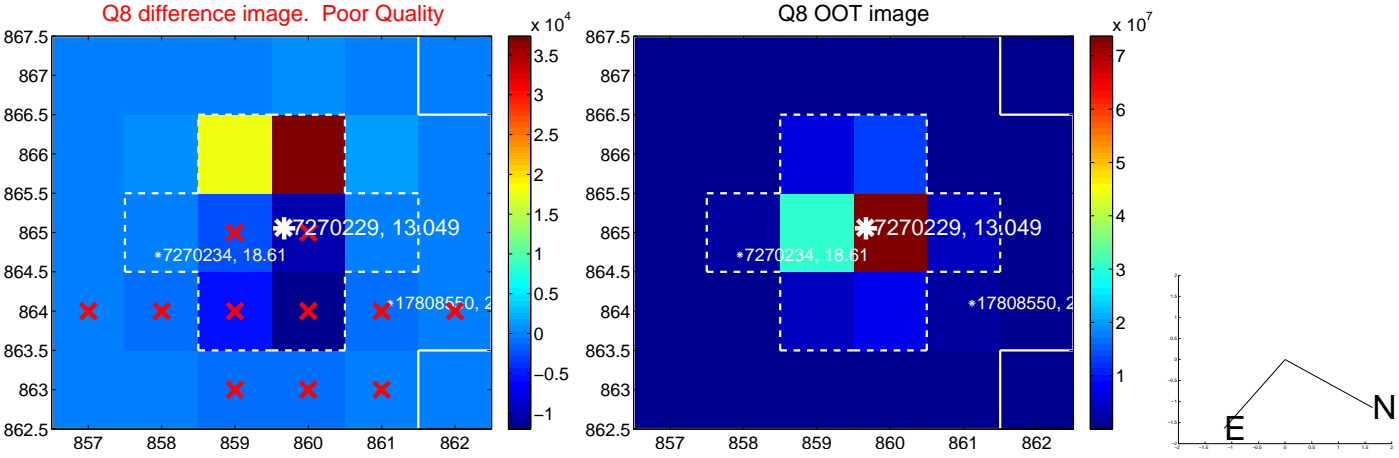
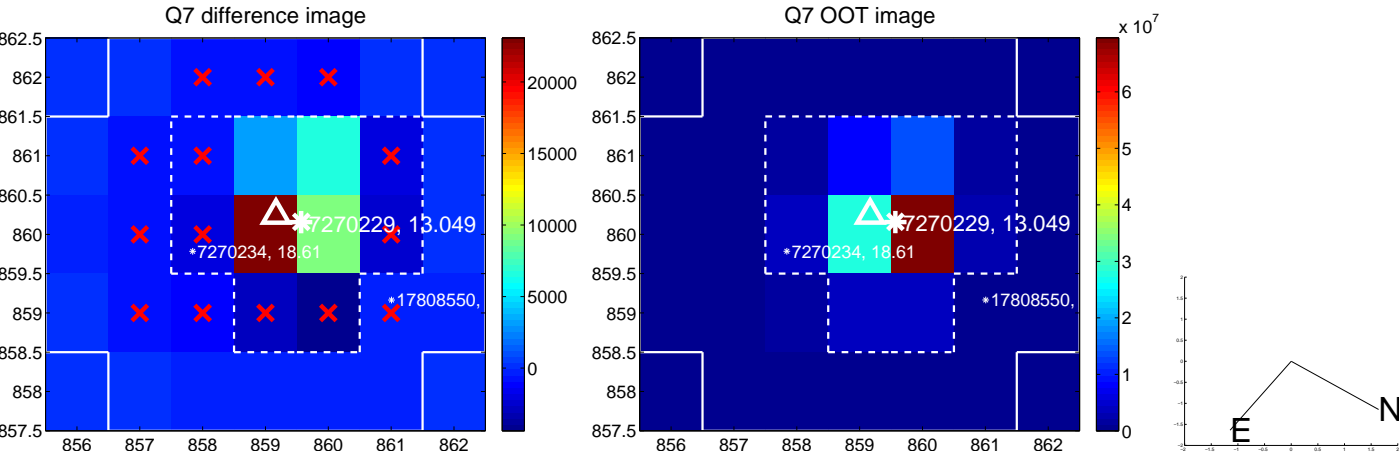
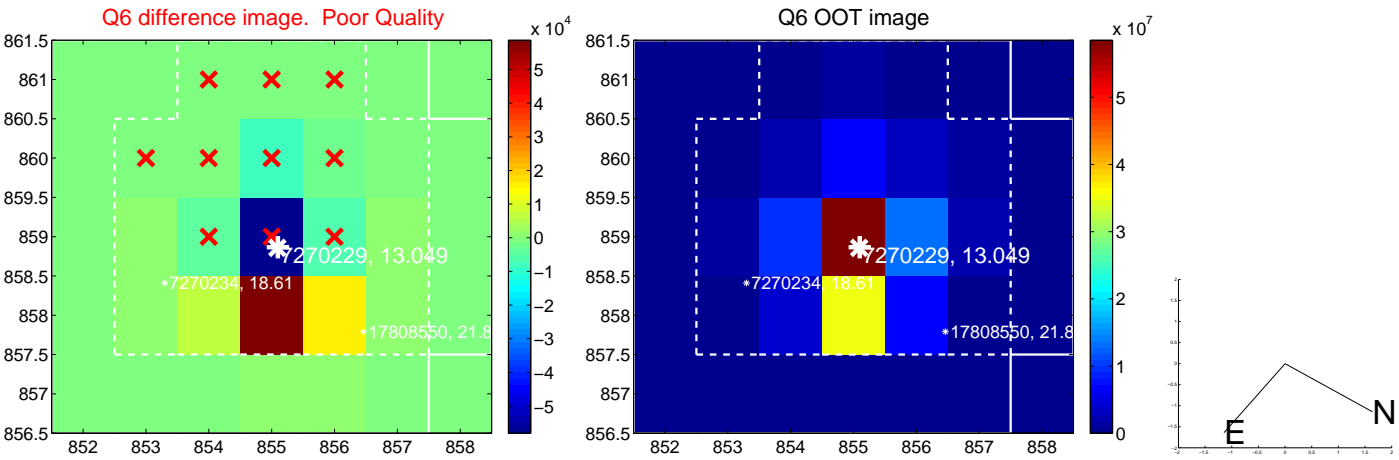
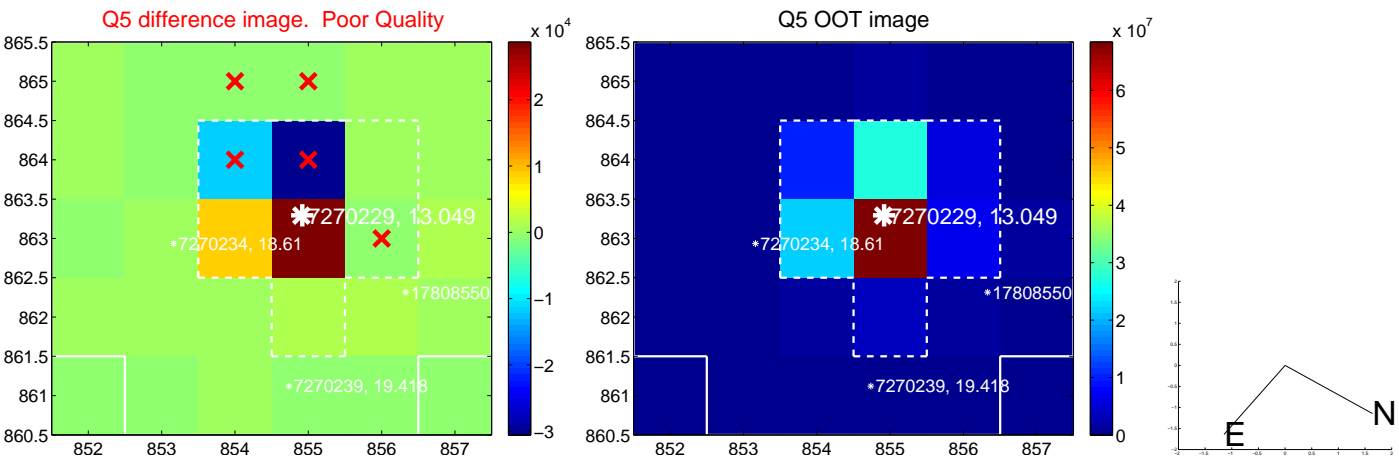


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

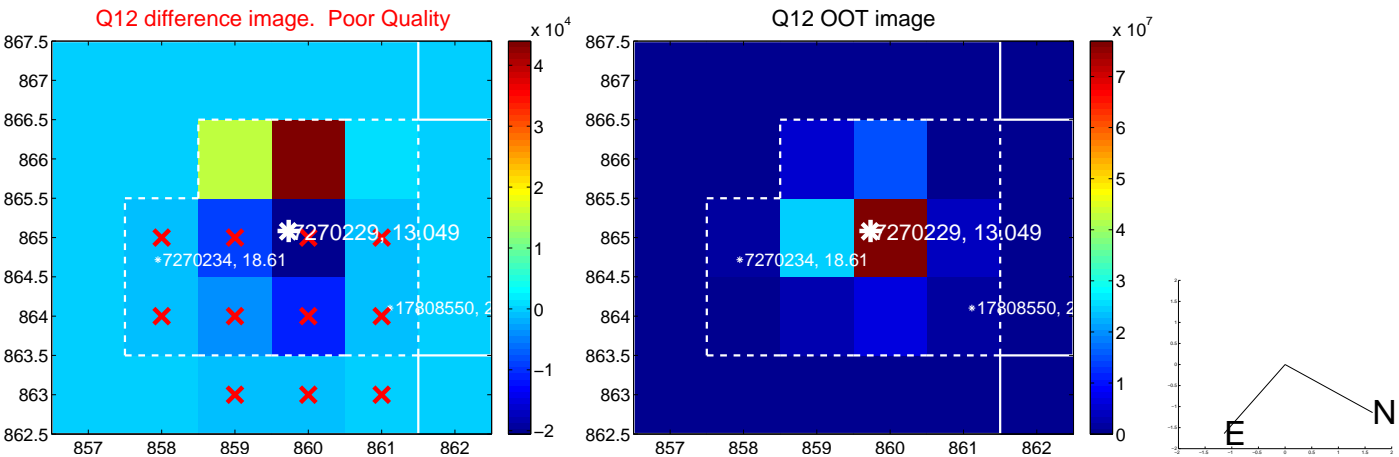
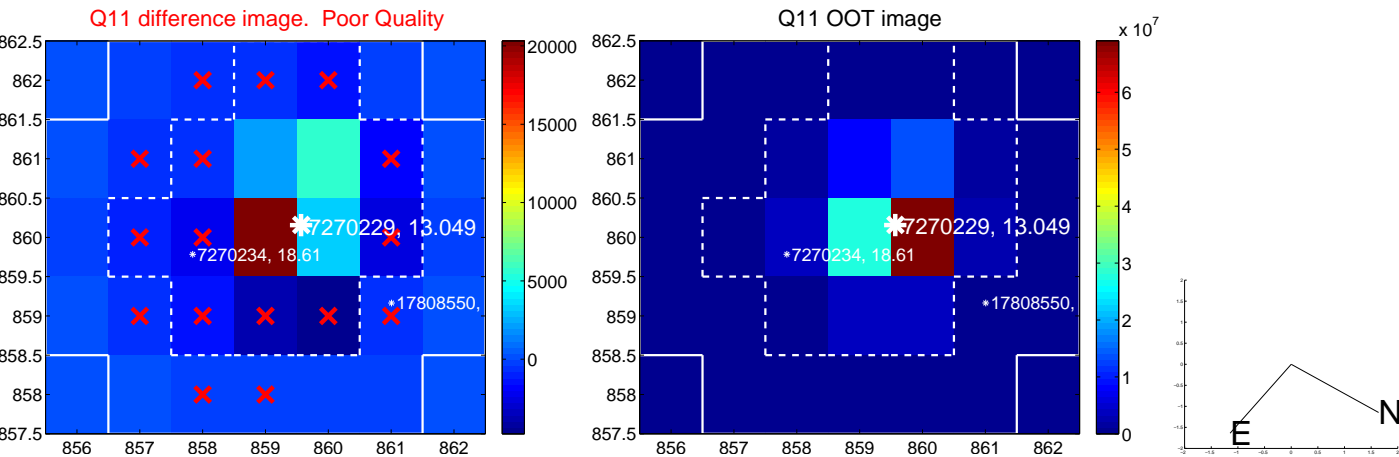
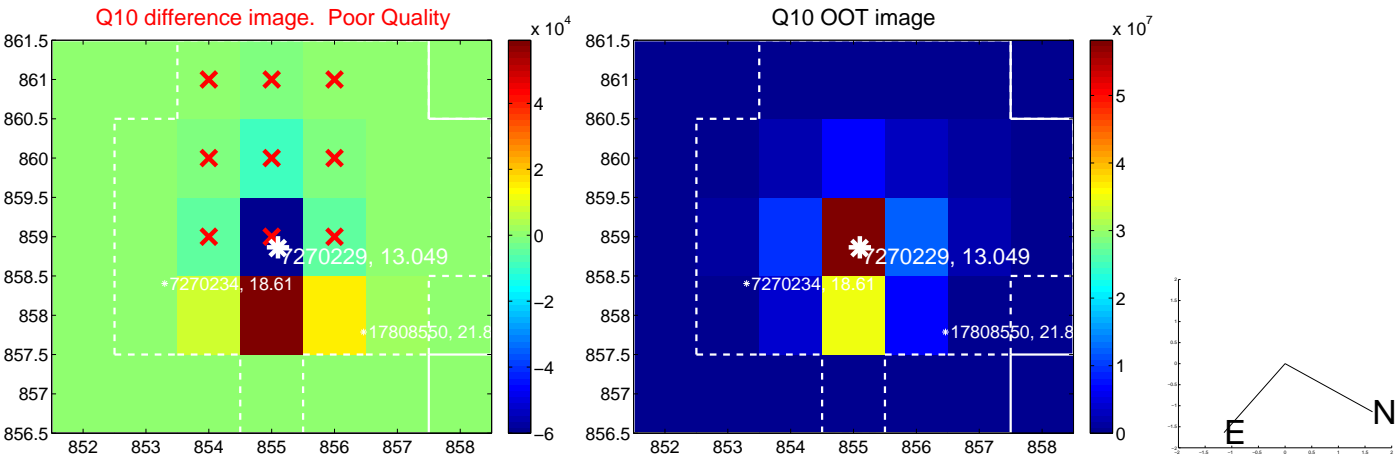
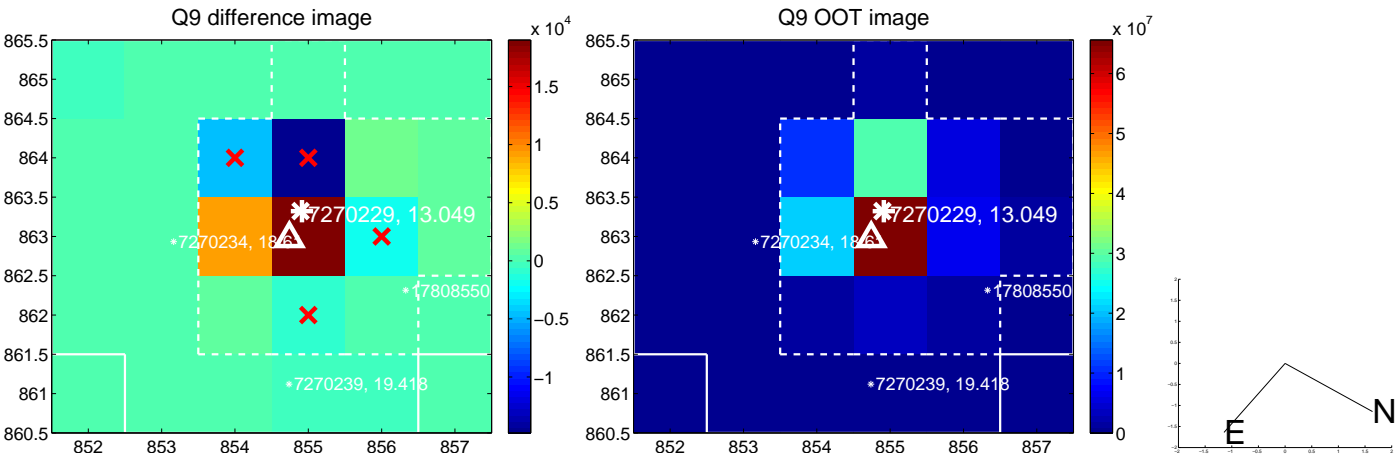
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



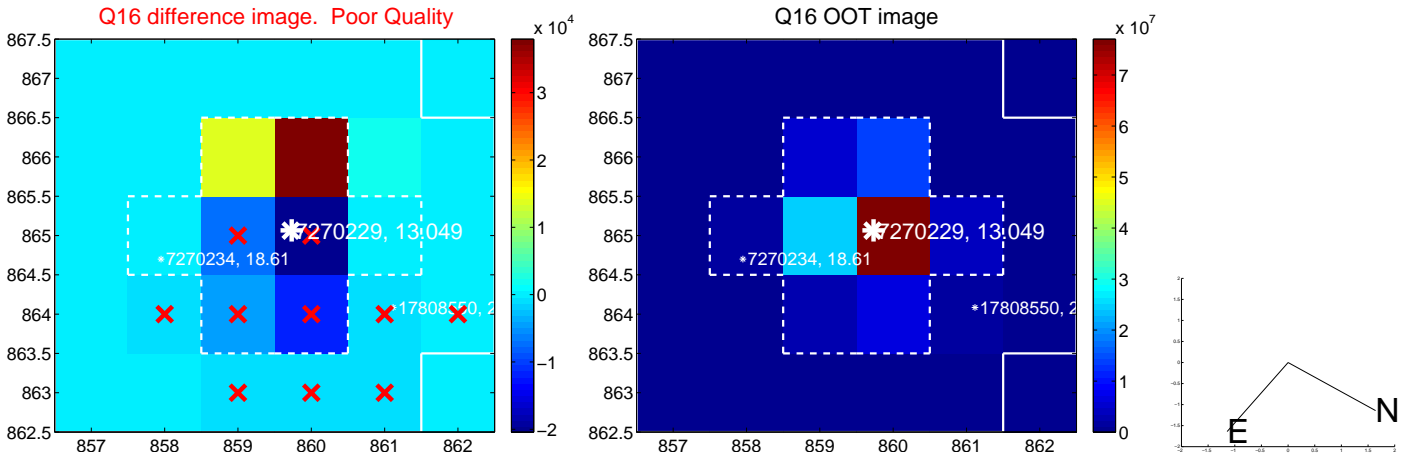
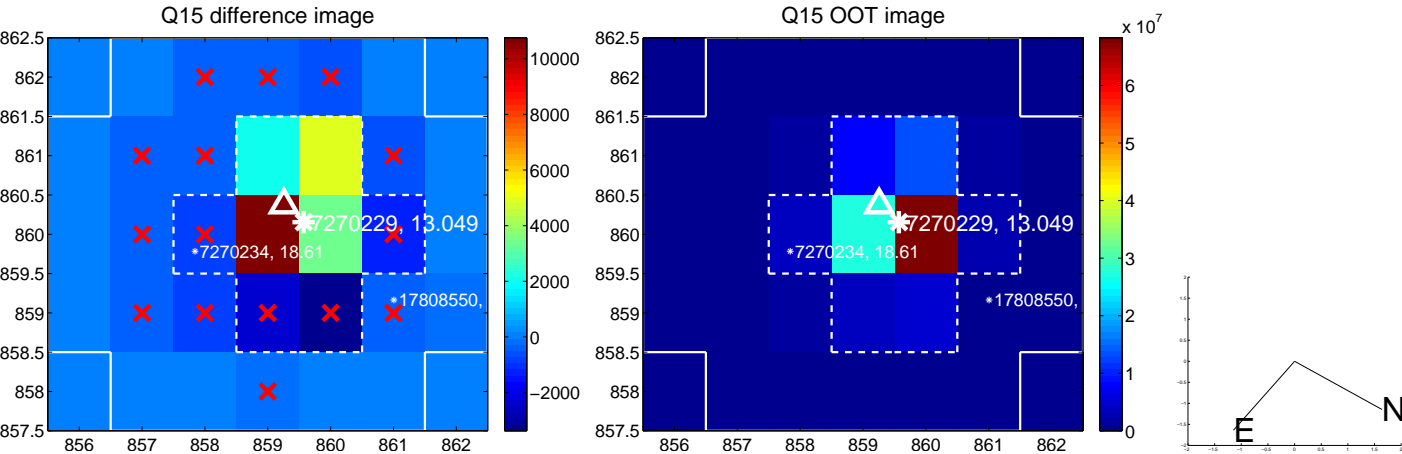
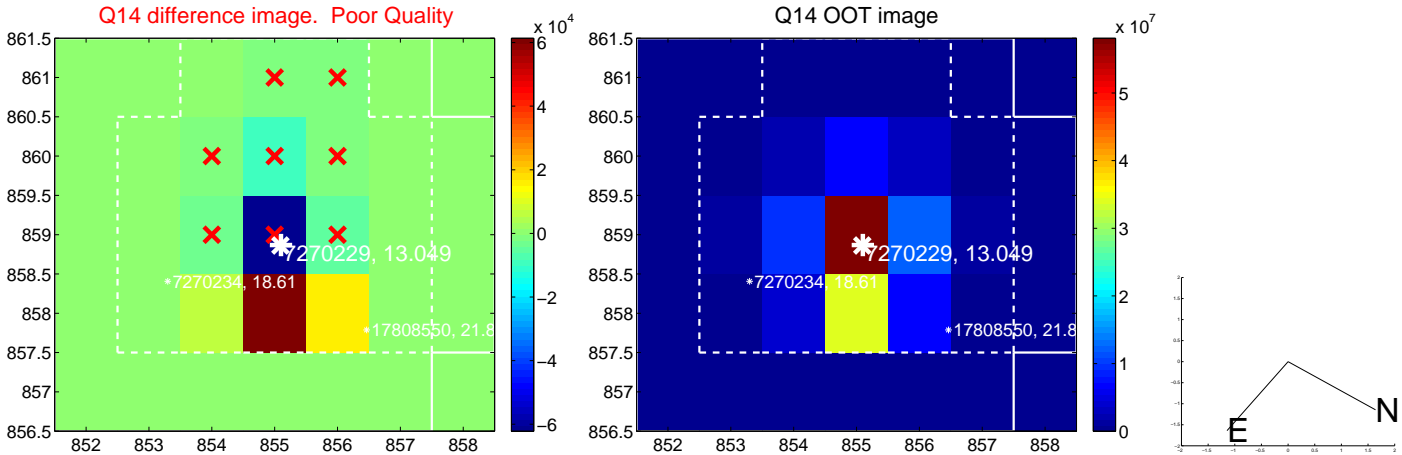
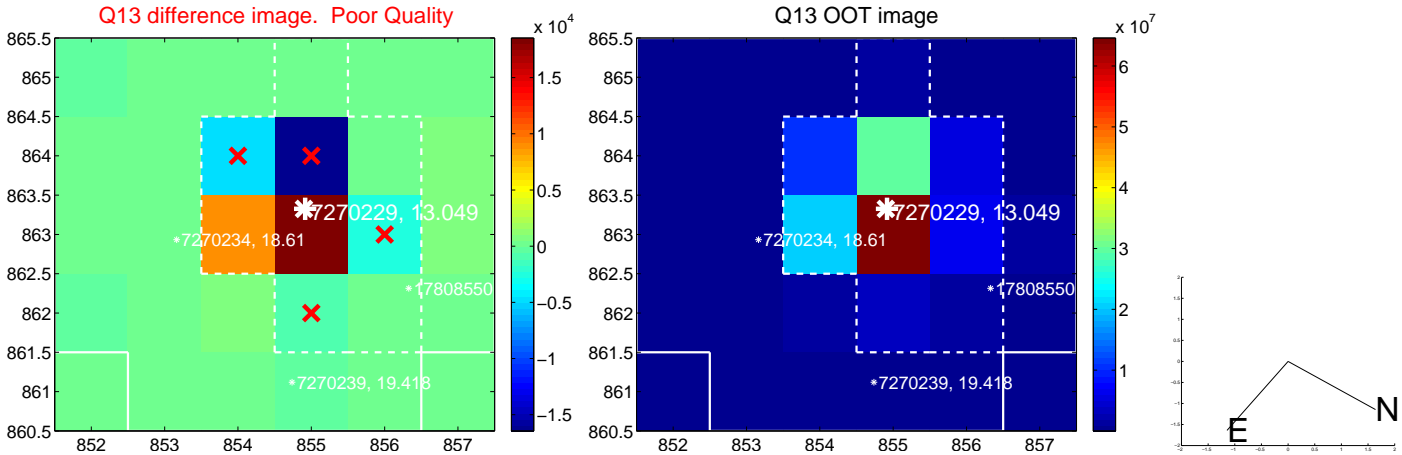
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



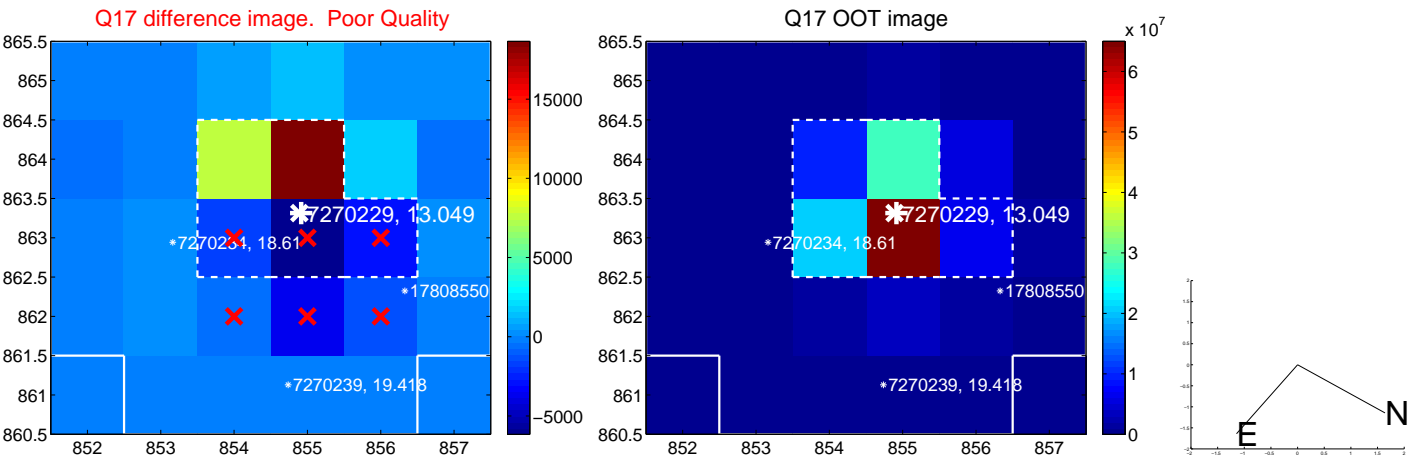
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



folded centroid time series figure for this object.

UKIRT Image

Declination

