# Status of Photometry

# and Lightcurve Fitting

# of Mingus (acs04-076)

# Table 1. Outstanding Issues

| Issue : | temporary solution | must do |
| --- | --- | --- |
| **PSF fitting NIC2 J & H** | Tiny Tim model of z=1.4 Ia at max at single detector position (probably nearly OK) | match epoch and and detector position for each image (easy) |
| **PSF fitting ACS z** | distorted PSF with drizzled data (very wrong) | PSF fit to *distorted* images, but need good transformations (hard) |
| **ACS CTE** | position used wrong for drizzled images | work on *distorted* images (then it's easy) |

Table 1—Continued

| Issue : | temporary solution | must do |
|---|---|---|
| | (maybe close, maybe not) | |
| redshift | guesses of z=1.4, 1.7 based on possible matches to SN and host spectra | (hard) |
| Uberspectrum | scariest in U | (possibly hard) |
| k-correction | U→z, B→j, R→H | can do a lot better, also z-band depends heavily on suspect rest U |

Table 1—Continued

| Issue : | temporary solution | must do |
|---|---|---|
| **extinction** | not handled yet | (OK) |
| **Subaru point** | haven't included | (no way) |

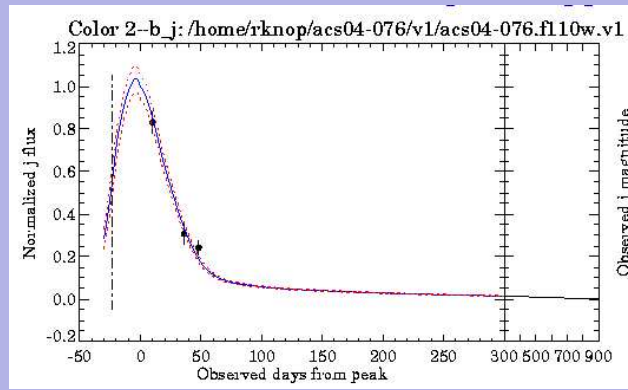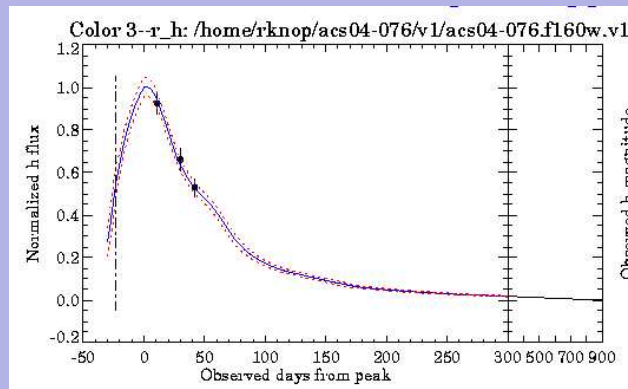**Assume z=1.7, fi t**



**z-band**



**j-band**



**h-band**

**Compare to expected for** $\mathcal{M} = -3.48$, $\Omega_M = 0.3$, $\Omega_\Lambda = 0.7$, $s=\mathbf{0.88}$

| Parameter | Fit Value | Expected |
|---|---|---|
| $m_Z$ | 25.538±0.063 | 25.35 |
| $m_J$ | 24.550±0.065 | 24.67 |
| $m_H$ | 23.944±0.046 | 23.95 |
| $m_B$ | 26.15±0.065 | |
| $Z - J$ | 0.99±0.09 | 0.68 |
| $J - H$ | 0.61±0.08 | 0.72 |
| $s$ | 0.87±0.03 | |
| $\mathrm{jd}_{max}$ | 53101.25±??? | |

As-

**z-band**
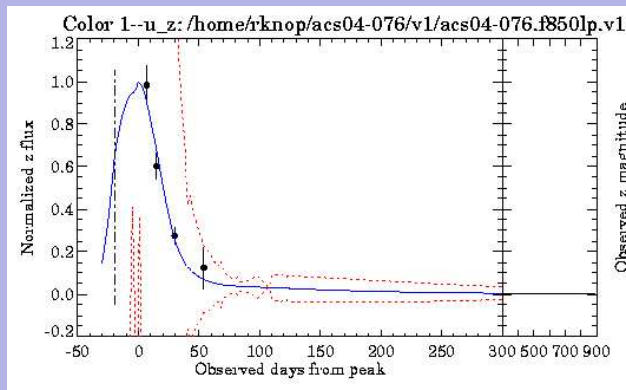


**j-band**



**h-band**

**Assume z=1.4, fi t**

**Compare to expected for** $\mathcal{M} = -3.48$,
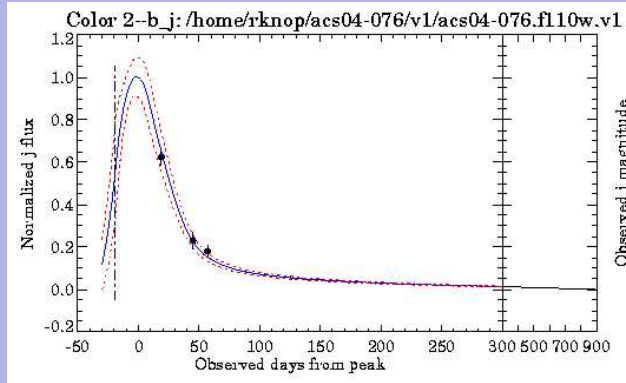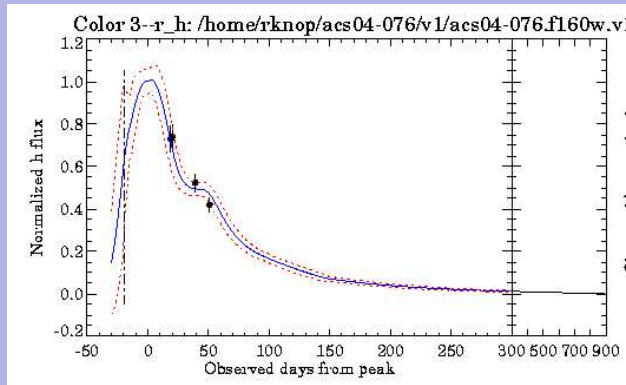$\Omega_M = 0.3$, $\Omega_\Lambda = 0.7$, s=**0.80**

| Parameter | Fit Value | Expected |
|---|---|---|
| $m_Z$ | 25.181±0.126 | 24.45 |
| $m_J$ | 24.240±0.097 | 24.14 |
| $m_H$ | 23.693±0.066 | 23.73 |
| $m_B$ | 25.85±0.097 | |
| $Z - J$ | 0.94±0.16 | 0.30 |
| $J - H$ | 0.55±0.12 | 0.41 |
| $s$ | 0.823±0.074 | |
| $\mathrm{jd}_{\max}$ | 53092.30±3.10 | |