

Kpm.pm

Rollin Thomas – July 22, 2004

Remember

- K-correction mechanics are easy.
- Confronting observations is hard.
 - What to do if only one spectrum?
 - What to do if only one passband?
- Need a lot of spectra, throughputs.
 - What to do about UV (not much data)?
 - What about spotty coverage?
- Need to make it easy to use them.
 - Why does a K-correction look like it does?
 - What's the difference between one and another?

Living in an Imperfect World

- Until SNfactory is done, we need options.
- For using real spectra,
 - Catalogue existing spectra by likeness metric.
 - Make easy to select, look at, and use them.
- For using uberspectrum,
 - Catalogue this (these) too.
 - Make easy to compare visually to real spectra.
 - Make easy to compare color, magnitude, K-curves.
- In both cases,
 - Manipulation of filters should be easy.
 - Make easy to see effects of color calibration.

Current Software Status

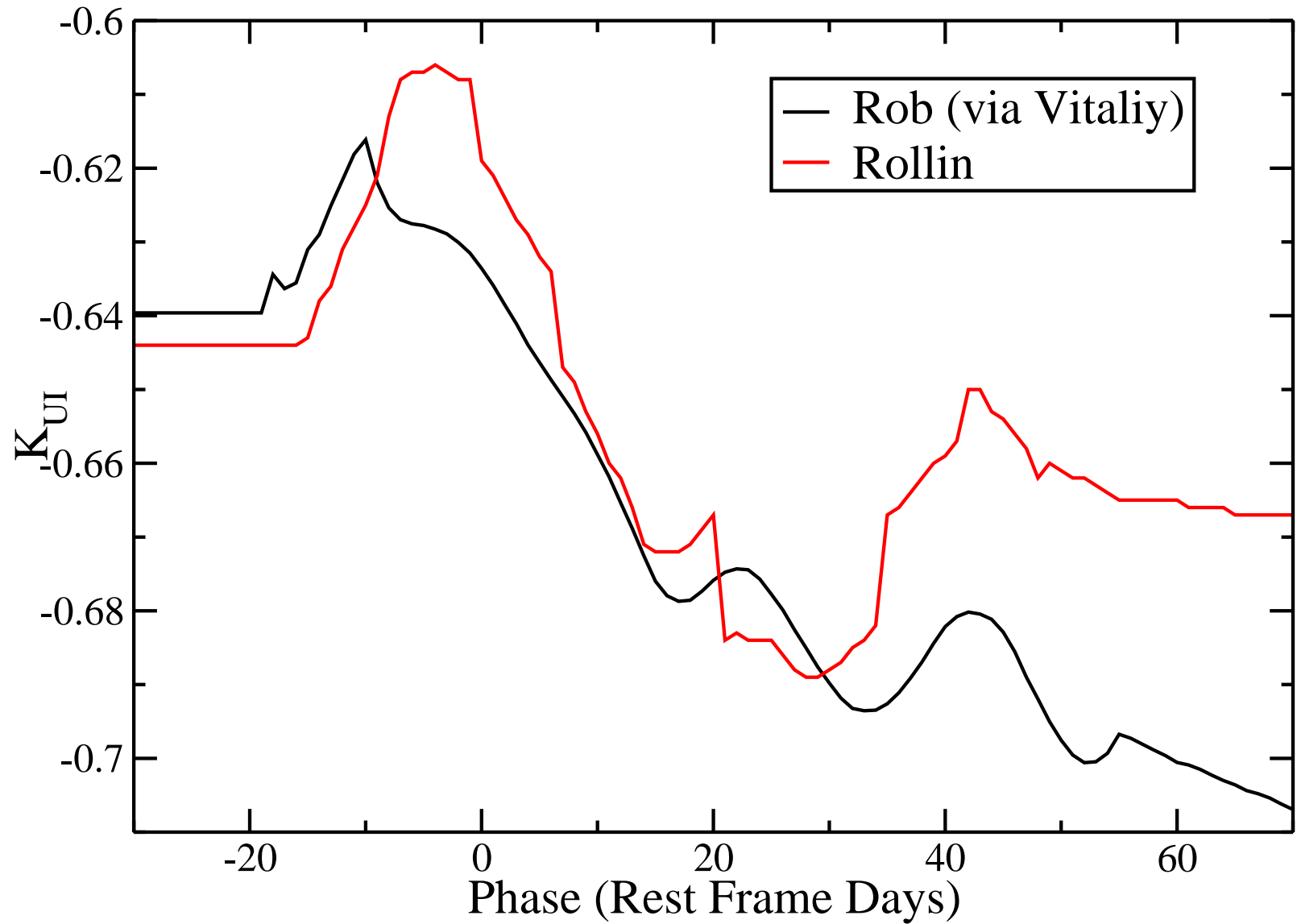
- Database.
 - All public/published stuff.
 - Has Lifu-derived lightcurves and dm15.
 - Needs more data – work sources (or should I)?
- Software.
 - Perl modules, PDL (cheap, powerful, easy, fun).
 - Extensive doc's for developers and programmers!
 - Testing with uberspectrum now.
 - About to integrate with database.
 - Prototype Albinoni.

Debate

	Realspectrum	Überspectrum
Uncertainty	Use several/all	Wiggle $s, t, z...$ in MC
Ease-of-use	Harder	Very easy
Color adjustment	Weird inflections	Weird inflections
Needs high priest	Probably	For production
Data pedigree	Usually gone	Known/confirmable
Extreme cases	If you've got one	Peter makes one

- NOTE: Überspectrum was always meant to be intermediate.
- Desire to migrate to real spectra from überspectrum.
- To use existing literature data is a big headache.

Albinoni



Main Problems

- Development time: Still lots of hardcode.
- Managing database, need to ingest more data.
- Need reliable, understandable warpings of SEDs.
- Propagation of uncertainties.