Astrostatistics

Thursday, 01 February 2017

Lectures will now be held in Meeting Room 5

Office Hours
Friday @ 1pm
Statistical Laboratory
CMS Pavilion D, Office 1.07

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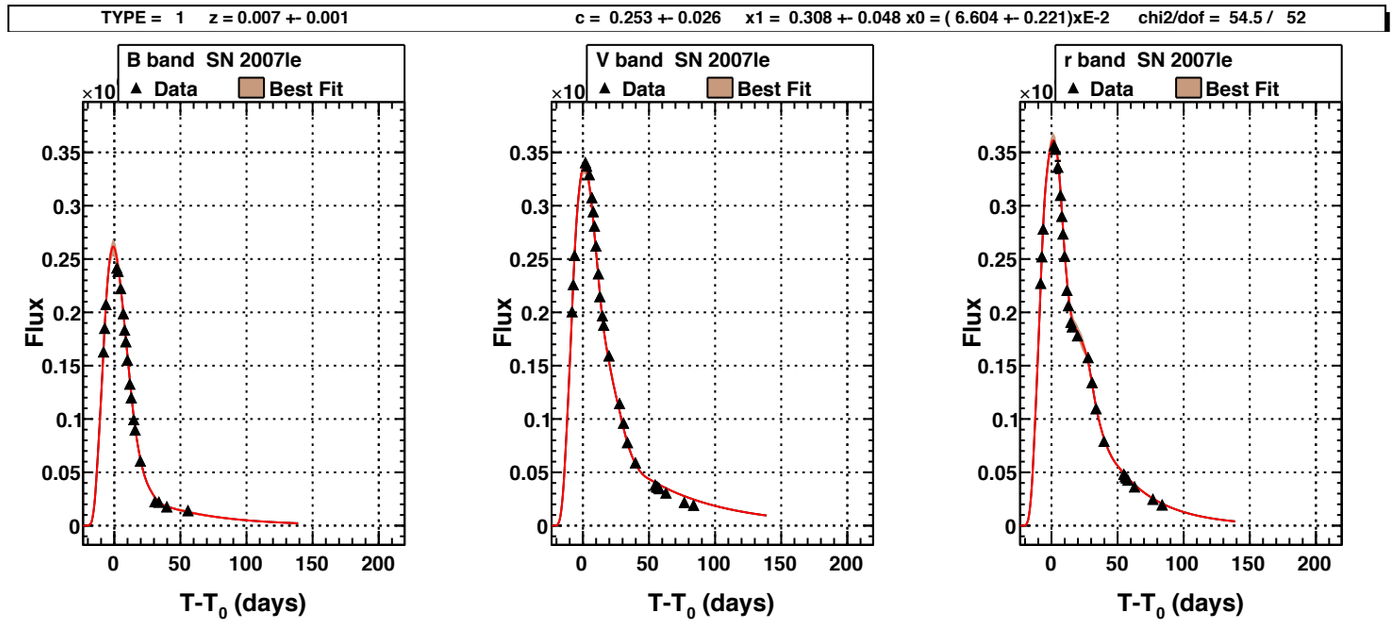
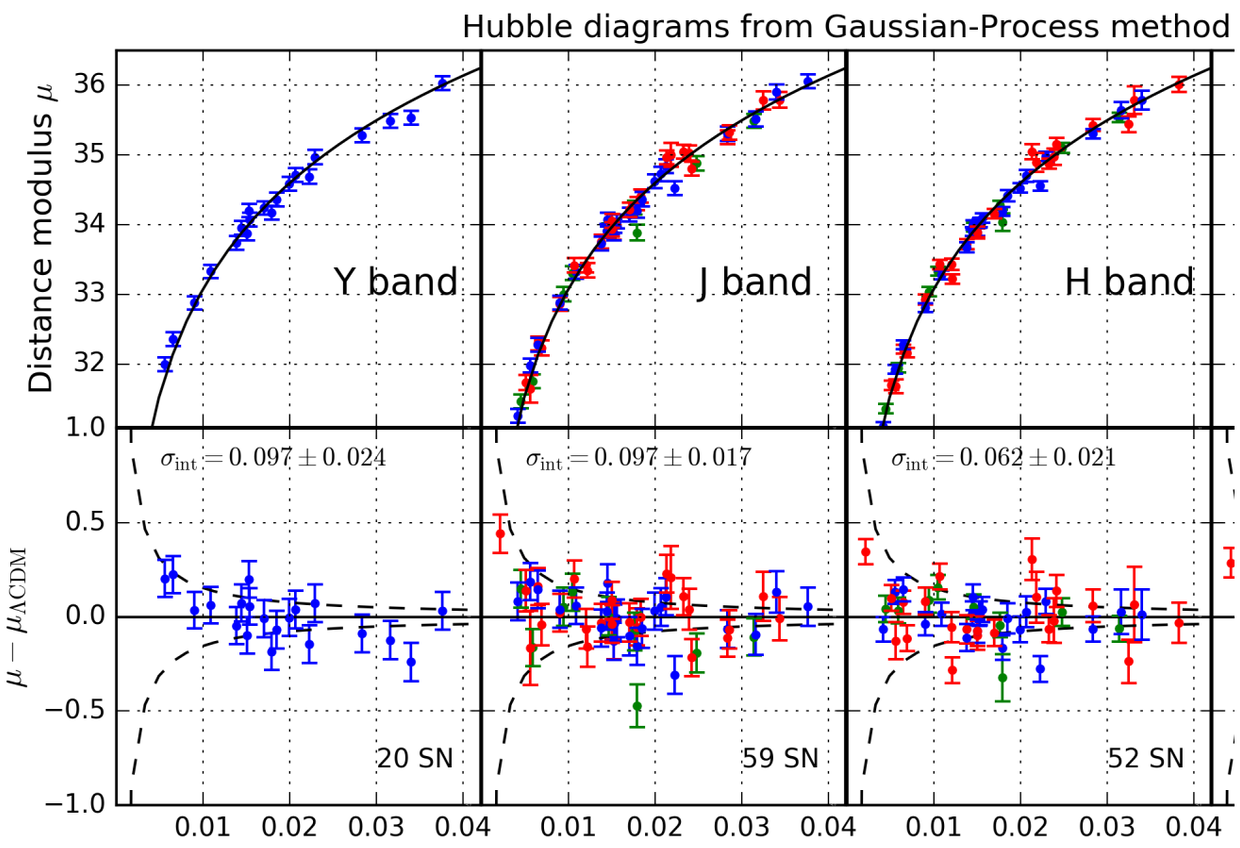
https://github.com/CambridgeAstroStat/PartIII-Astrostatistics

- Fitting Statistical Models to Astronomical Data
  - Maximum Likelihood vs. minimising χ^2
  - Generative / Latent Variable Modeling / Bayes
  - Ivezic Ch 4 “Classical Statistical Inference” & Ch 5 “Bayesian Statistical Inference”
  - F&B Ch 3 “Statistical Inference”
  - Hogg, Bovy & Lang. “Data analysis recipes: Fitting a model to data”. https://arxiv.org/abs/1008.4686

Type Ia Supernovae
~ Standard Candles





$M_s \sim N(\mu, \sigma^2)$

$M^{obs}{}_{,s} \sim N(M_s, \sigma_s^2)$

σ_s = (known) meas. err

population

(μ, σ^2) unknown