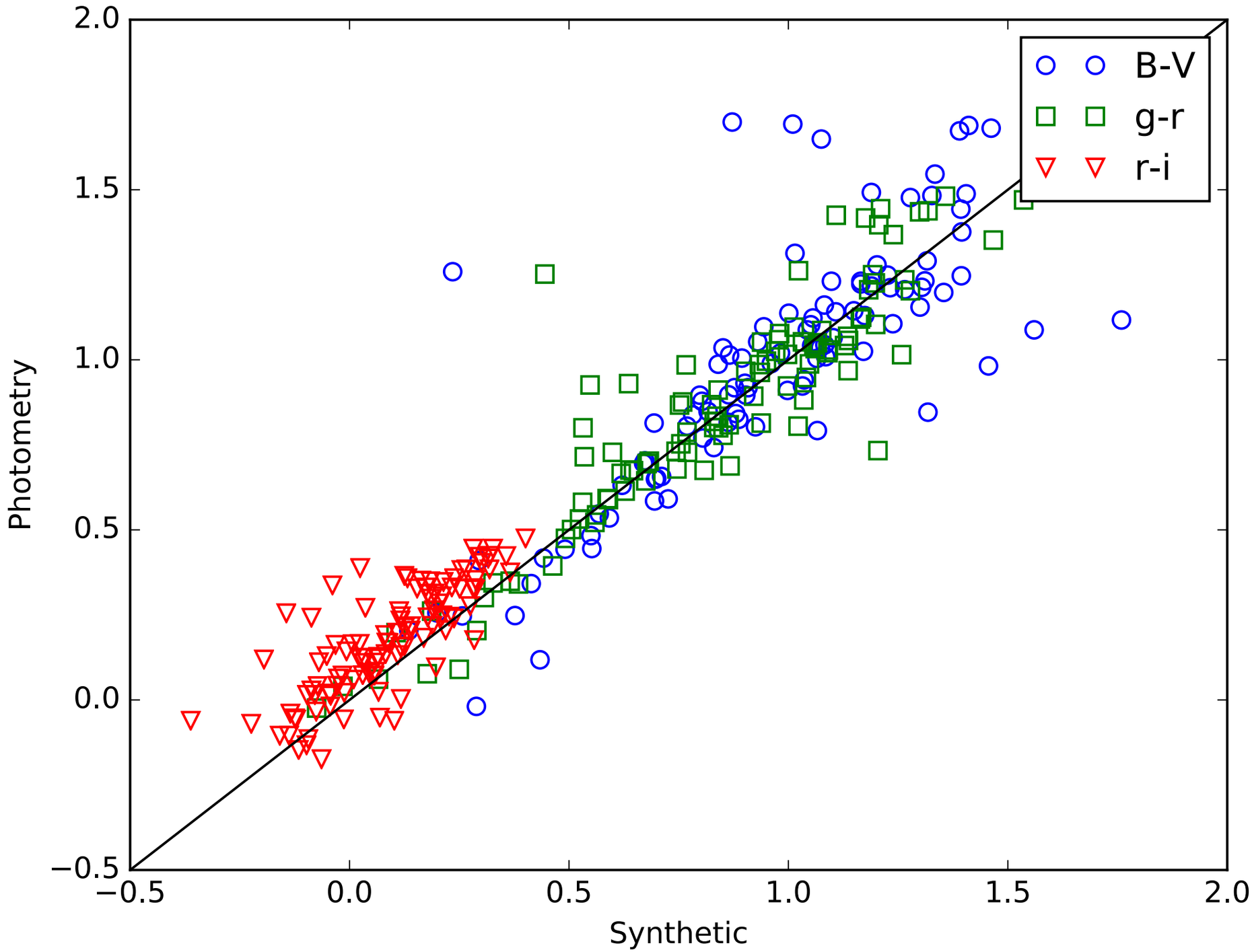
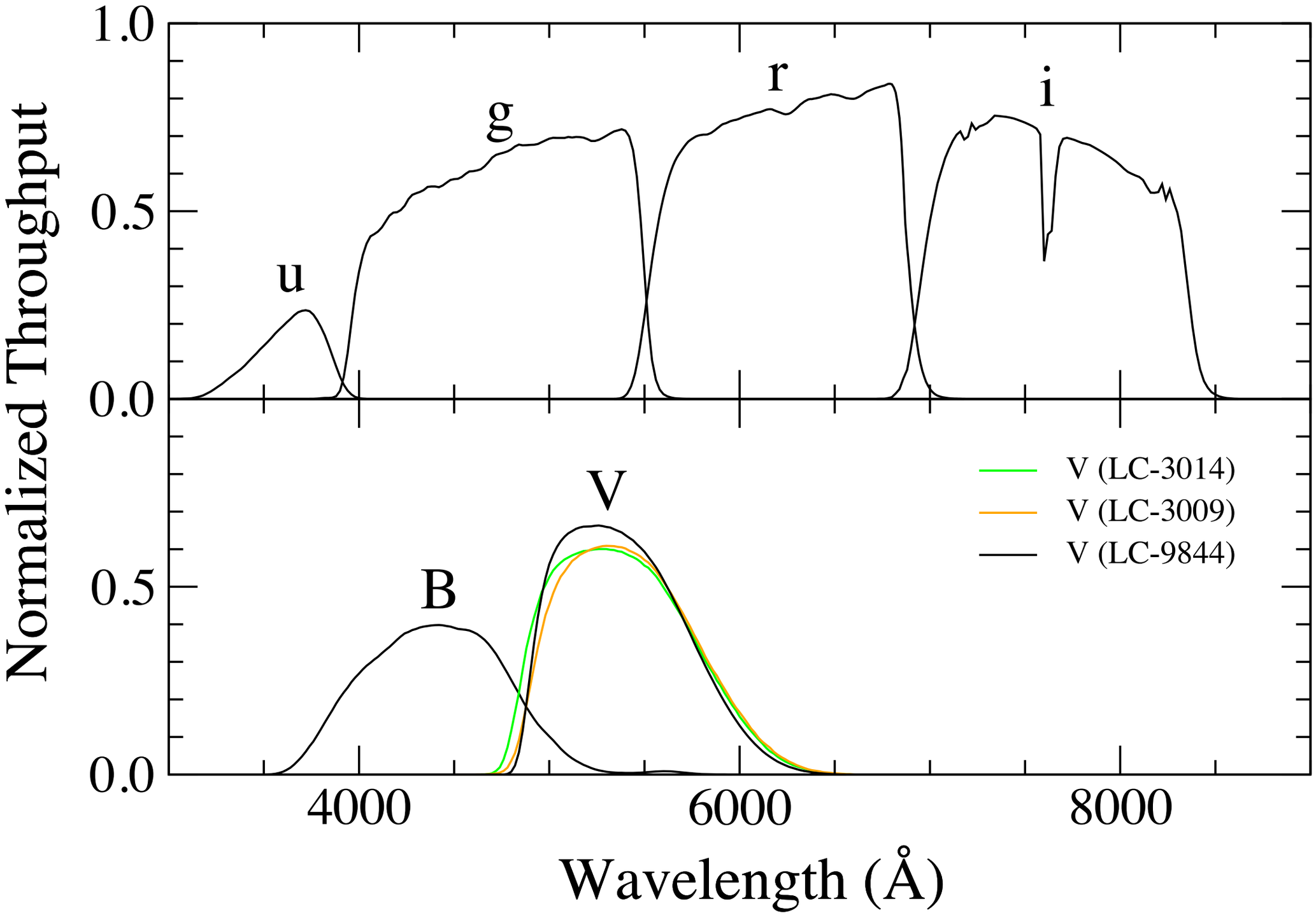
i-Band Problem

Nidia & Mark

From Simon Holmbo: Synthetic photometry of CSP-I SECC SNe spectra



CSP-I Optical Bandpasses

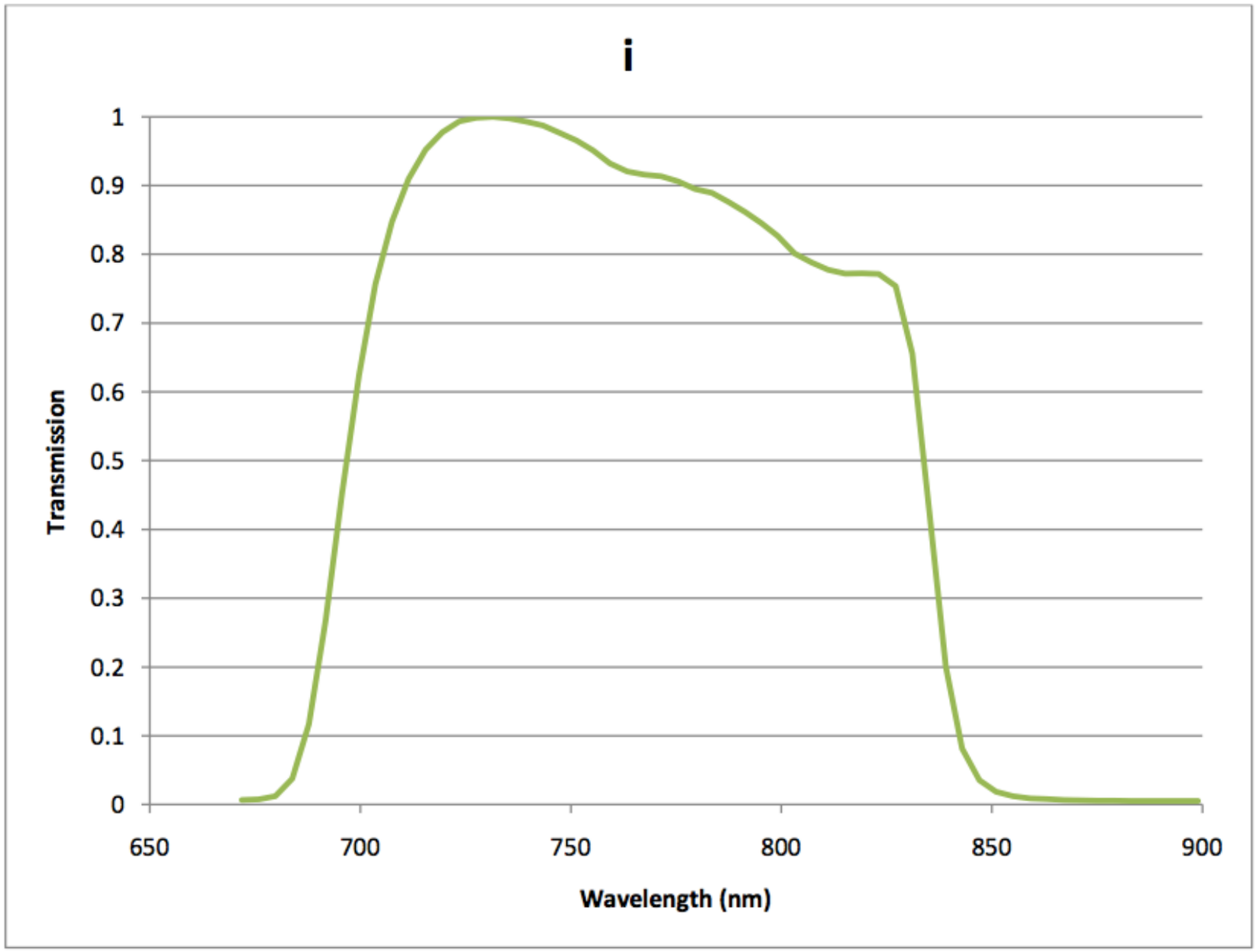


Swope Spectrophotometric calibration report

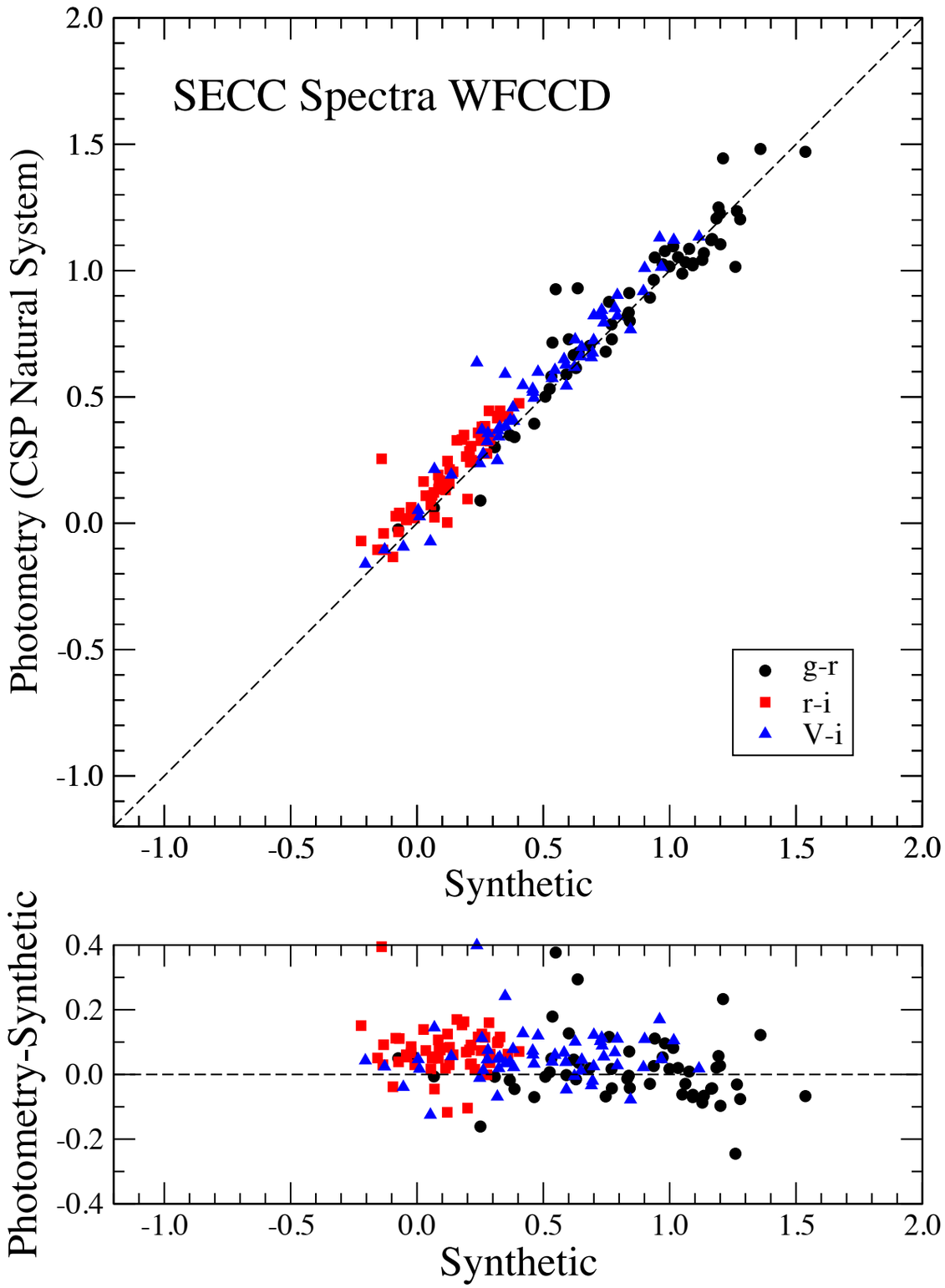
by Jean-Philippe Rheault, Jennifer Marshall, Darren Depoy, Steven Villanueva

i filter

The i filter proved more difficult to measure because it is in the region where we have the least signal from our light source. We only have one reliable scan of this filter. We plan on revisiting this filter when we return to Las Campanas this summer to measure the Dupont.

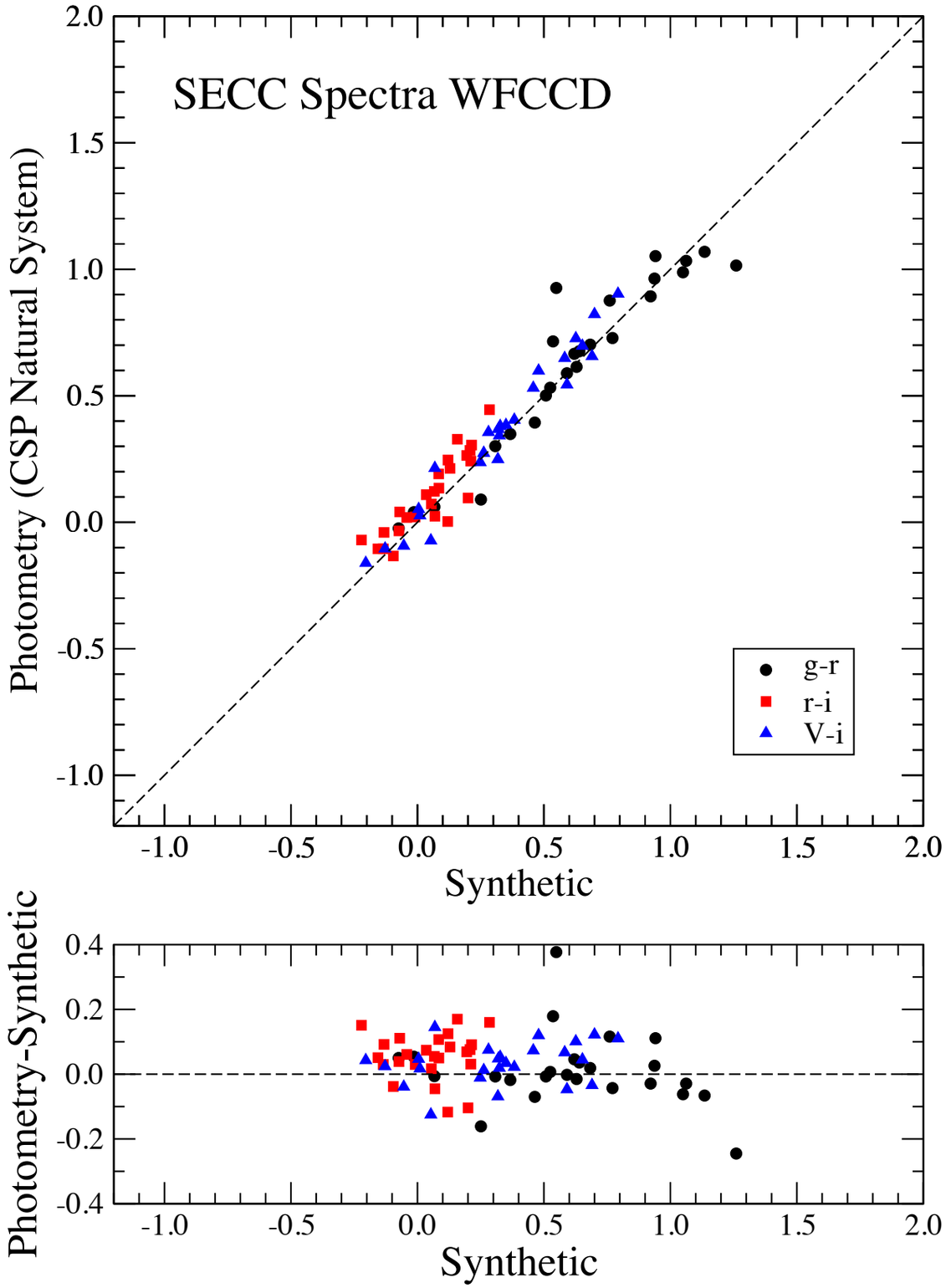


We reproduced Simon's plot using only WFCCD spectra



g-r: avg = +0.015, rms = 0.101
g-i: avg = +0.087, rms = 0.114
V-r: avg = -0.017, rms = 0.059
V-i: avg = +0.055, rms = 0.078
r-i: avg = +0.072, rms = 0.073

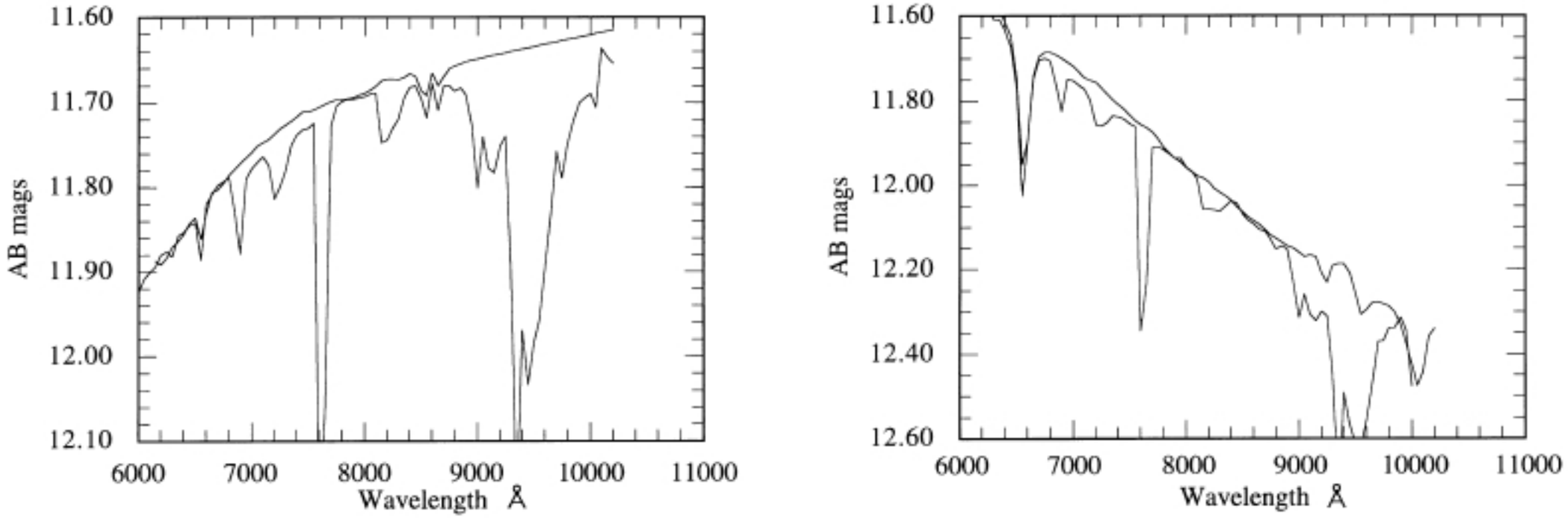
Eliminating SNe with strong O I absorption decreases but does not eliminate the offset



g-r: avg = +0.010, rms = 0.114
g-i: avg = +0.065, rms = 0.094
V-r: avg = -0.017, rms = 0.059
V-i: avg = +0.034, rms = 0.064
r-i: avg = +0.055, rms = 0.072

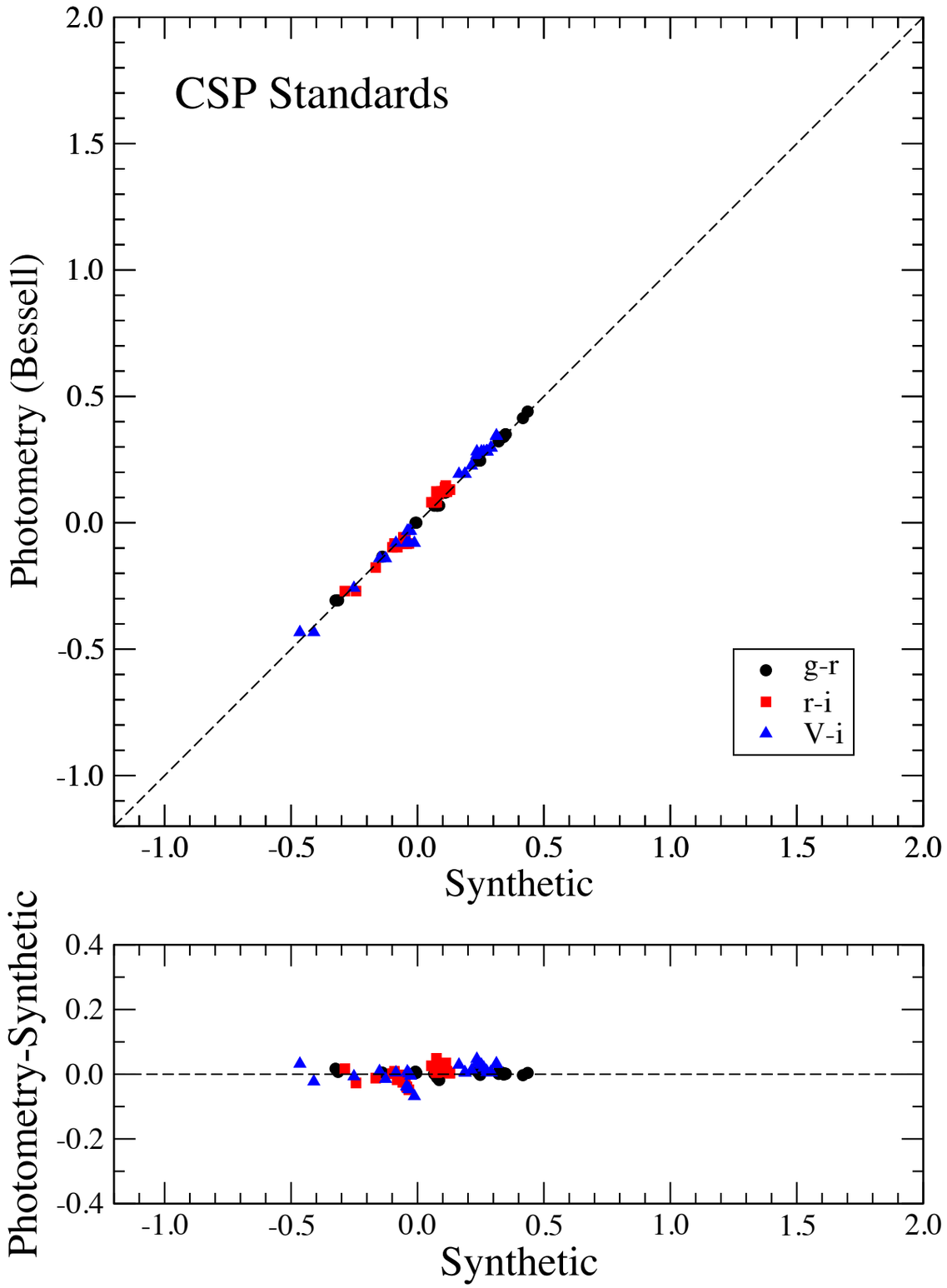
Spectrophotometry: Revised Standards and Techniques (Bessell 1999)

“Smooth fluxes from 3300 to 10500 Å are best determined by dividing the raw spectra of all objects taken in a night by the raw spectrum of a "smooth" spectrum star before deriving the instrumental response function using the revised standard star fluxes.”



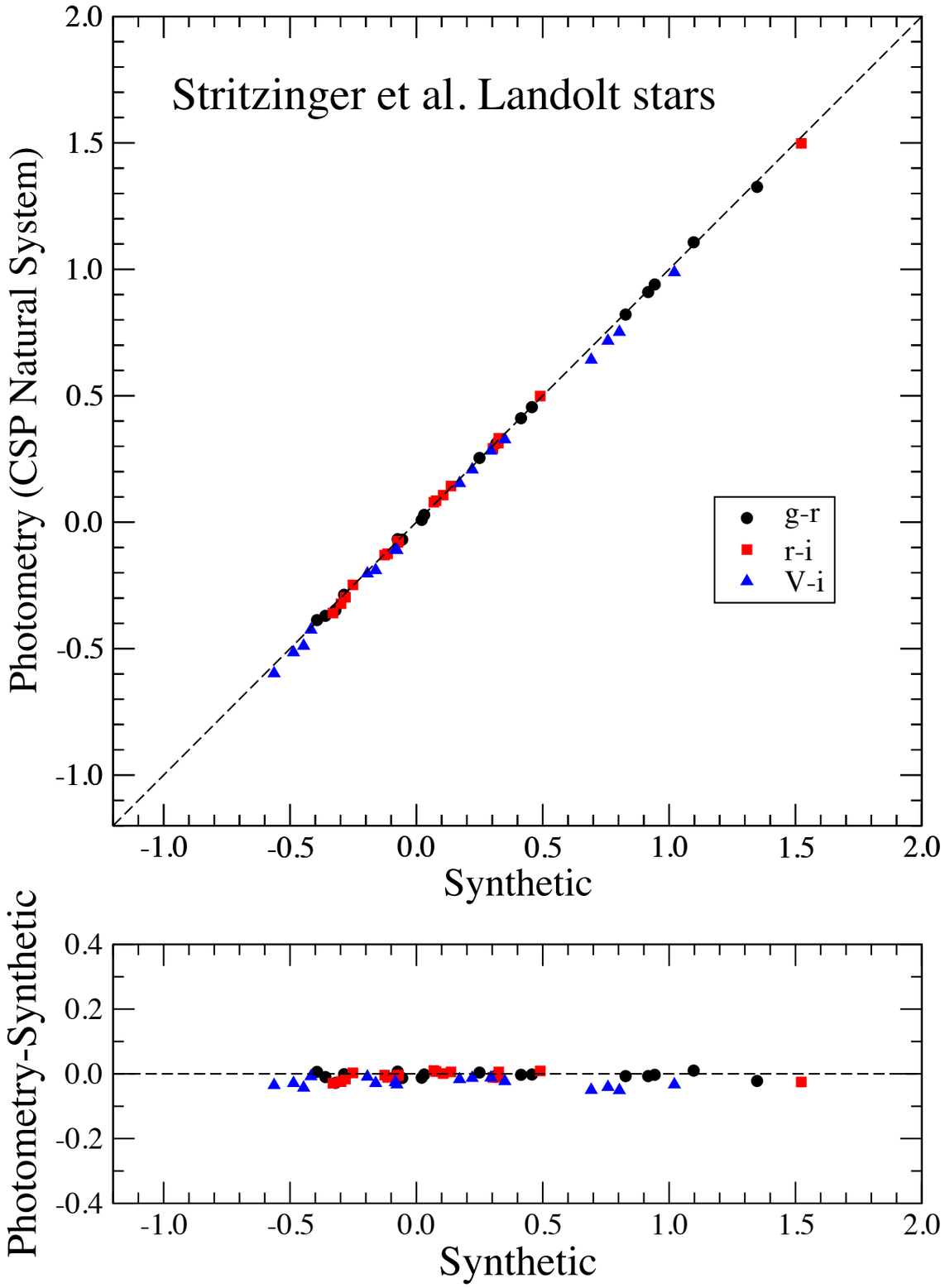
This is exactly the procedure that Nidia used to flux calibrate the CSP-I spectra.

Synthetic Photometry of WFCCD Spectra of Standards



g-r: avg = +0.002, rms = 0.007
V-i: avg = +0.002, rms = 0.028
r-i: avg = +0.002, rms = 0.024

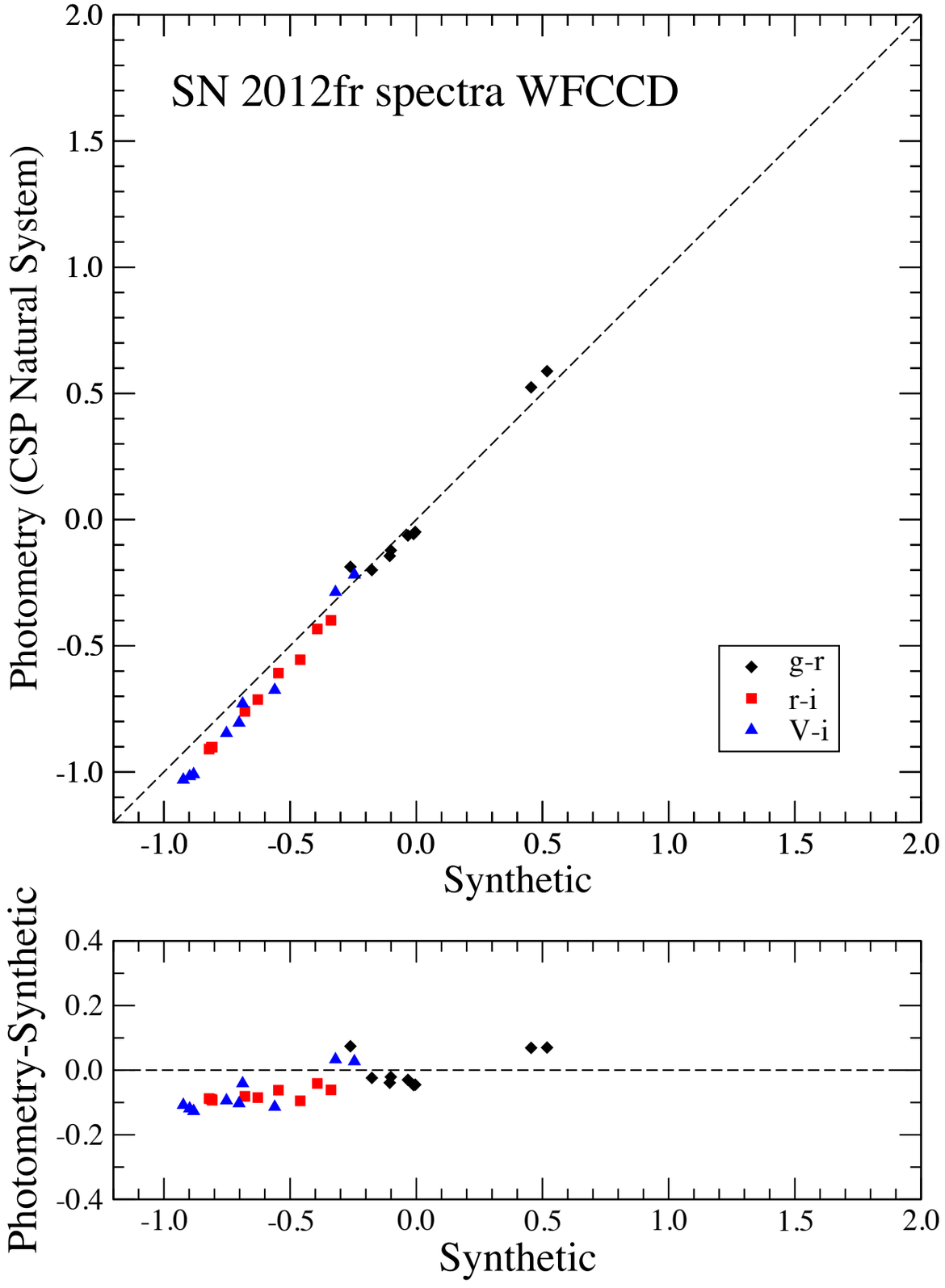
Synthetic Photometry of Stritzinger et al. (2005) Stars



These are stars with both Landolt and Smith et al. photometry

g-r: avg = -0.005, rms = 0.010
V-i: avg = -0.031, rms = 0.018
r-i: avg = -0.006, rms = 0.012

Synthetic Photometry of WFCCD Spectra of SN 2012fr



g-r: avg = 0.001, rms = 0.053

V-i: avg = -0.077, rms = 0.018

r-i: avg = -0.072, rms = 0.063

2nd order contamination??