

Questions, Comments and Answers following the presentation

Calibrating Wide Field Surveys

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Jordi: Why do you find differences within the chip in the ubercalibration if you use 2MASS as standards?

The differences we find at a sub-chip scale can be corrected within an ubercal-like calibration scheme, but their origin is still unclear. While some of the variations may come from inhomogeneities in the response curve of the chip, that translate into corrections with a slight colour term that the flatfielding doesn't correct, the majority of it seems to be related somehow to the readout electronics. The areas with the largest residuals are preferentially on the lower tenth of each detector, where the readout system and wiring is located. A change in the operational temperature of the detector due to these circuits may lead to a change in quantum efficiency that may produce the kind of effect we pick up when comparing with 2MASS.

Lupton: A comment: in the optical, using SDSS or PanSTARRS as local standards delivers 1 - 1.5% photometry for HSC.

Our first tests with an ubercal scheme seem to bring internal errors down to 1% for ESO-VISTA calibration fields, but it is unclear if this will be the case when extending the calibration for fields in the Galactic plane with large values of $E(B-V)$. The effect of reddening and its variations may come to dominate the error budget. While it may be possible to keep repeatability (i.e. internal consistency) on and even below 1%, accuracy (i.e. absolute calibration) will be much harder to bring below a few percent if we take into account areas with galactic latitude below a few degrees.

Smette: You see seasonal variations of extinction coefficients. Water vapour, methane are known to be seasonal. Could this be the cause?

This may be the cause indeed, although we compute our colour terms using the available stars that fulfill our selection criteria ($0 < (J-K) < 1$, mag. err. < 0.1 in all bands, $E(B-V) < 0.1$), and this implies that the dominant population changes from summer to winter, depending on how close to the Galactic Plane is VISTA observing. Depending on the fraction of late type dwarfs that are in the sample (and that dominate off-plane fields) there may be a bit of change in the derived slope.