

DSLr Documentation and Reduction Team

Presented by Brian Kloppenborg

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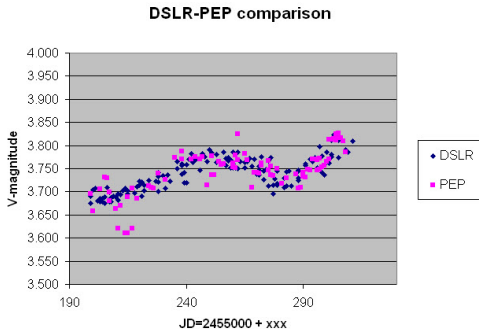
Motivation



Tom Pearson's DSLR Camera
(Optional Equipment Shown)

- DSLR-like cameras are common
- Equipment needed is inexpensive, highly portable
- Easily used at various zoom levels
- Bayer Arrays permit quick transformation to V-band
- Expand participation in photometry and AAVSO
- Can be more accurate than visual observing, close to CCD/PEP

DSLR vs. CCD Comparison



PEP/CCD and DSLR Photometry Comparison
Data From Eps Aur Newsletter 17, used with permission.

Contributors: PEP/CCD: Kurtadikar, Gudmundsson, Miles, Stikis, Lindberg, Gatano; DSLR: Hautecler, Loughney, Pearson, Karlsson

Goals

Develop tutorials that detail procedures for taking and processing DSLR photometry images

- Create Documentation for use on the CS Website focused on DSLR cameras.
- Create Tutorials on various photometric reduction packages.
- Create Tutorials on optimizing the results from your camera
- Quantify how well different photometric packages compare with each other

Tutorial Organization

Three Tutorial Levels:

- Beginner
- Include Sample Data
- Overview of reduction packages
- Training to extract instrumental mags from images
- Explanation of transformation coefficients
- Low-level calibration of data

Tutorial Organization

Three Tutorial Levels:

- Beginner
- Intermediate
- Include Sample Data
- Introduction to air mass
- Air-mass corrected calibration

Tutorial Organization

Three Tutorial Levels:

- Beginner
 - Intermediate
 - Advanced
- Present the Theory
 - Present Error Propagation Methods

Accomplishments

- All Beginner Tutorials (2010 Feb.)
 - Discussion of what is needed
 - Overview of reduction packages
 - Starting analysis (IRIS, AIP4WIN, MaximDL)
 - Finishing analysis spreadsheet
 - Encouragement to submit data to AAVSO
- Intermediate-level Reduction Spreadsheet in testing (includes air-mass correction)
- Advanced Tutorials will be derived from publications

Potential Publications

- An article in a popular astronomy journal (in press)
- Wide Field Photometric Reductions using DSLR Cameras (in progress)
- Statistical Analysis of Camera Behavior