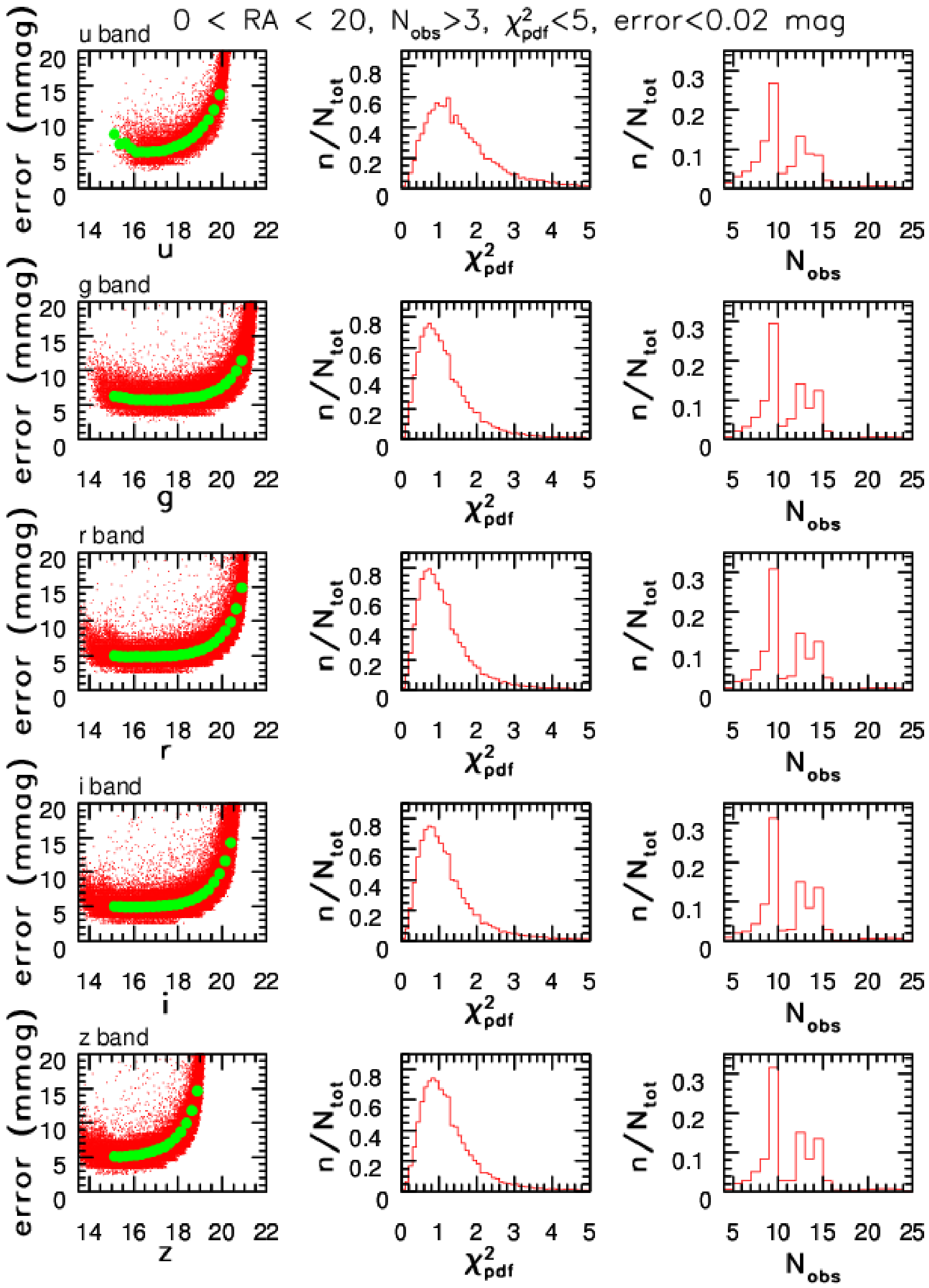

Fig. 1.— The distributions of median magnitude, its error, χ^2_{pdf} and the number of observations for a subset of multiply observed stars from SDSS stripe 82. Each row corresponds to one SDSS bands. The small red dots in the first column are individual stars, and the large green dots are the median errors. The errors are reliable, as the χ^2 per degree of freedom distributions in the middle column demonstrate. The distributions of the number of observations are shown in the last column.

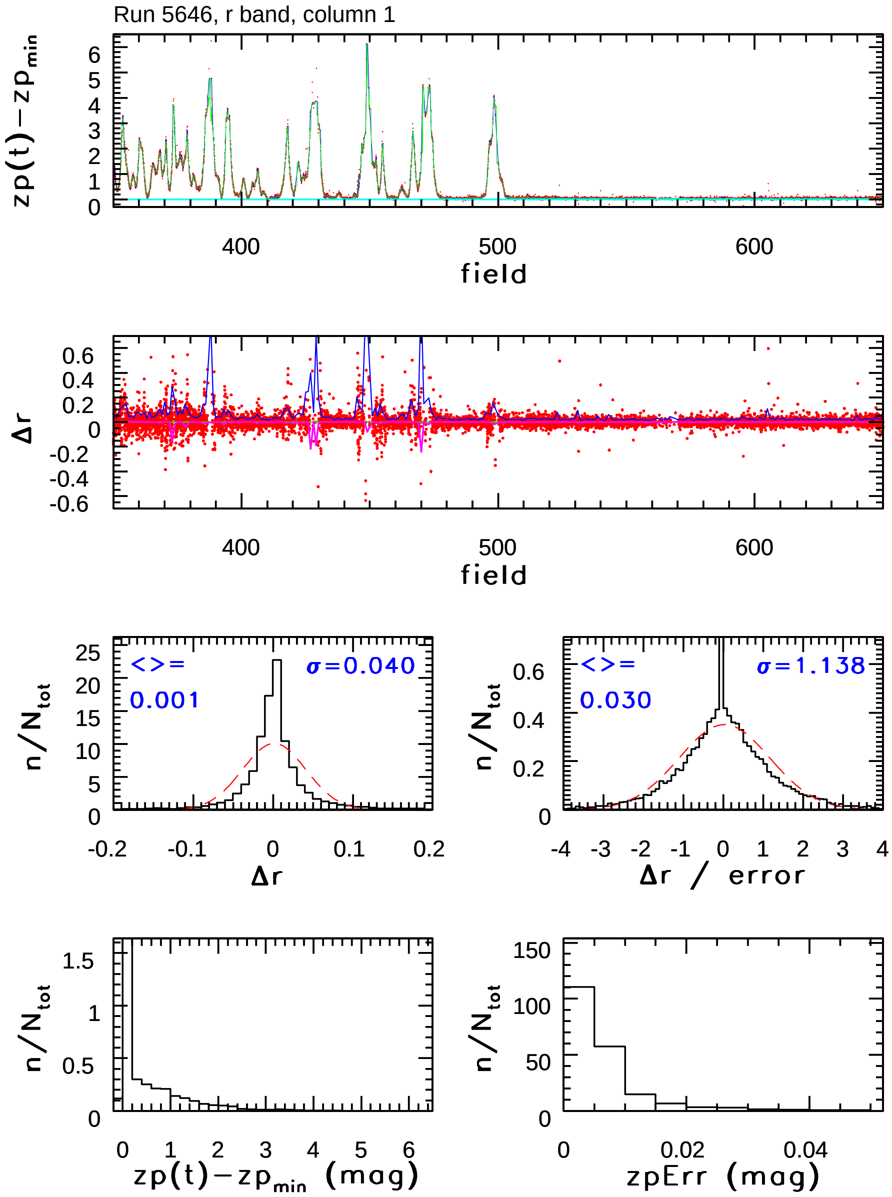

Fig. 10.— The top panel summarizes the behavior of cloud extinction in the r band over three hours during SDSS-II run 5646 (one field corresponds to 36 seconds of time). The adopted zeropoint is shown by the green line. Individual calibration stars are shown by dots, and the blue line (barely visible under the green line) shows median-smoothed values that are input for calibration. The calibration residuals for each star are shown by dots in the second panel. The blue line in this panel shows the root-mean-square scatter for these residuals evaluated for each field. The distribution of these residuals is shown in the left panel in the third row as the solid line. The median and equivalent Gaussian σ evaluated from the inter-quartile range are also shown in the panel, as well as a Gaussian corresponding to these parameters (dashed line). The right panel is analogous, except that the residuals are normalized by the expected errors. The distribution of implied cloud extinction is shown in the bottom left panel, and the distribution of errors for adopted photometric zeropoints in the bottom right panel.

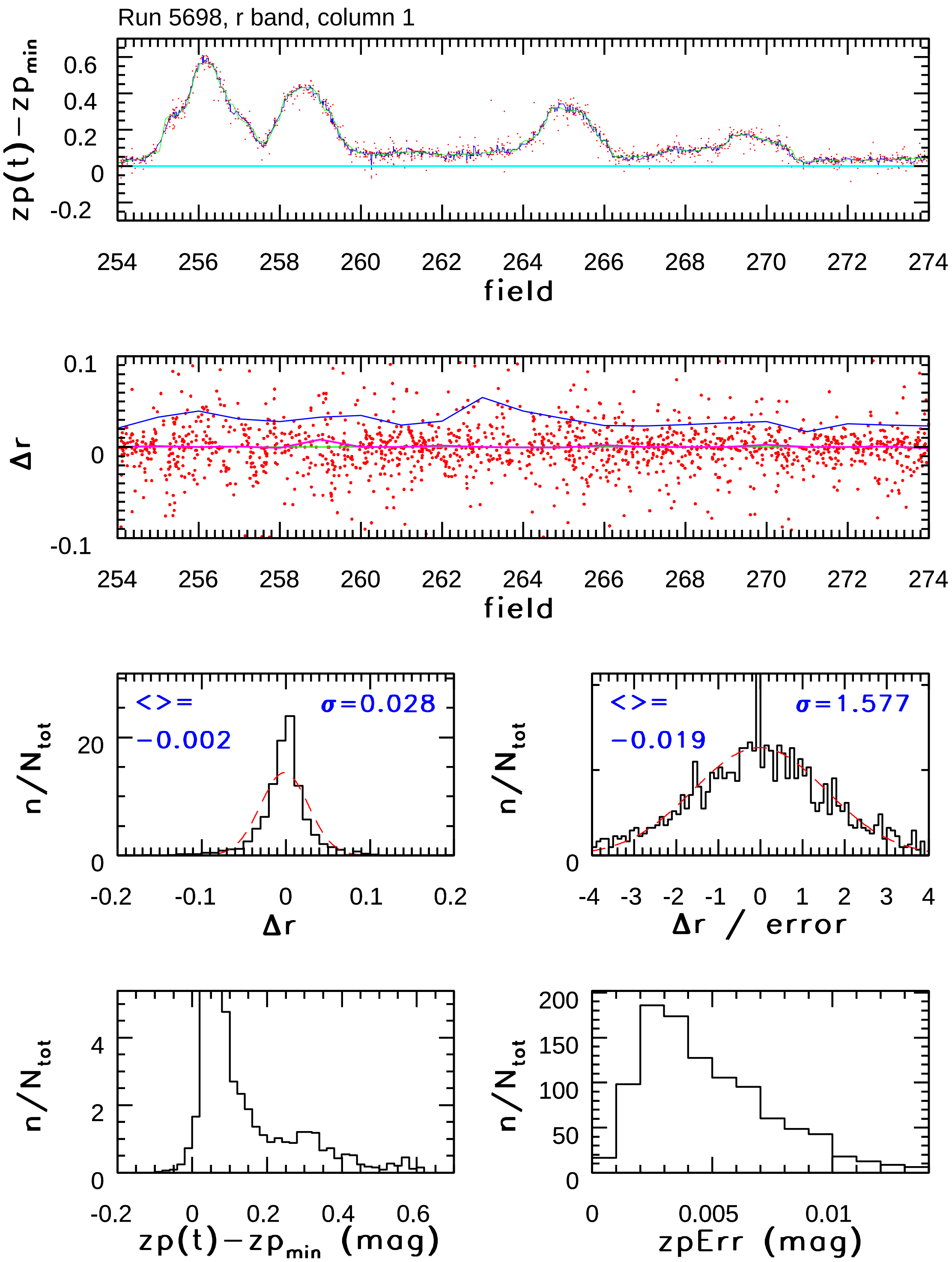

Fig. 12.— Analogous to Fig. 10, except that only 12 minutes worth of data with moderately large cloud extinction from another run (5646) is shown. Note that photometric zeropoint errors are well below 0.01 mag.

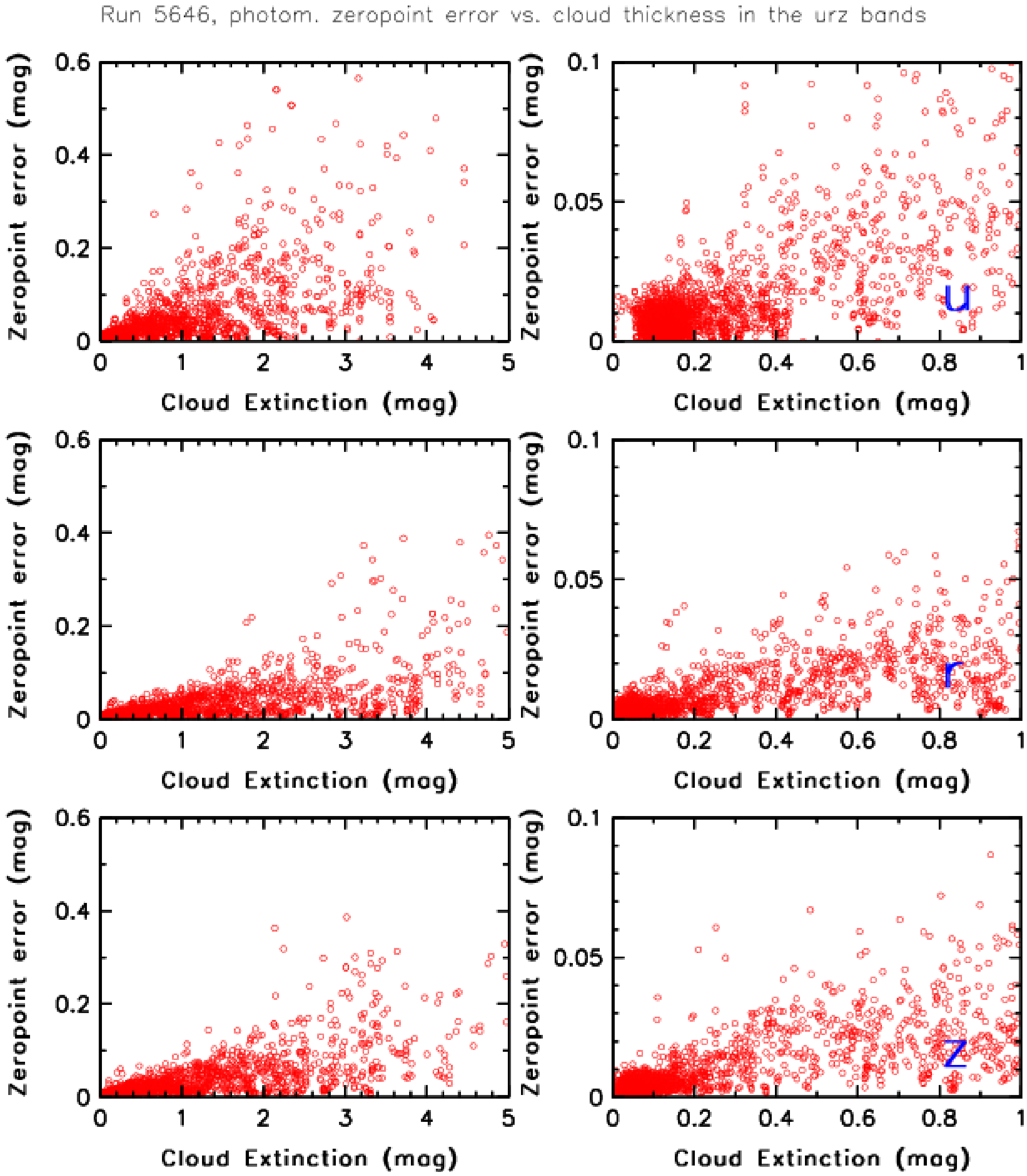

Fig. 17.— An illustration of calibration accuracy as a function of the cloud extinction and band (*urz* as marked in the panels). Each symbol represents one calibration patch (a ∼5 arcmin^2 large rectangle with 1:20 aspect ratio). Zeropoint error is determined from the root-mean-scatter of photometric residuals. The panels in the right column are zoomed in versions of those in the left column. Note that the data can be calibrated with zeropoint errors typically smaller than 0.05 mag even through 1 mag thick clouds.

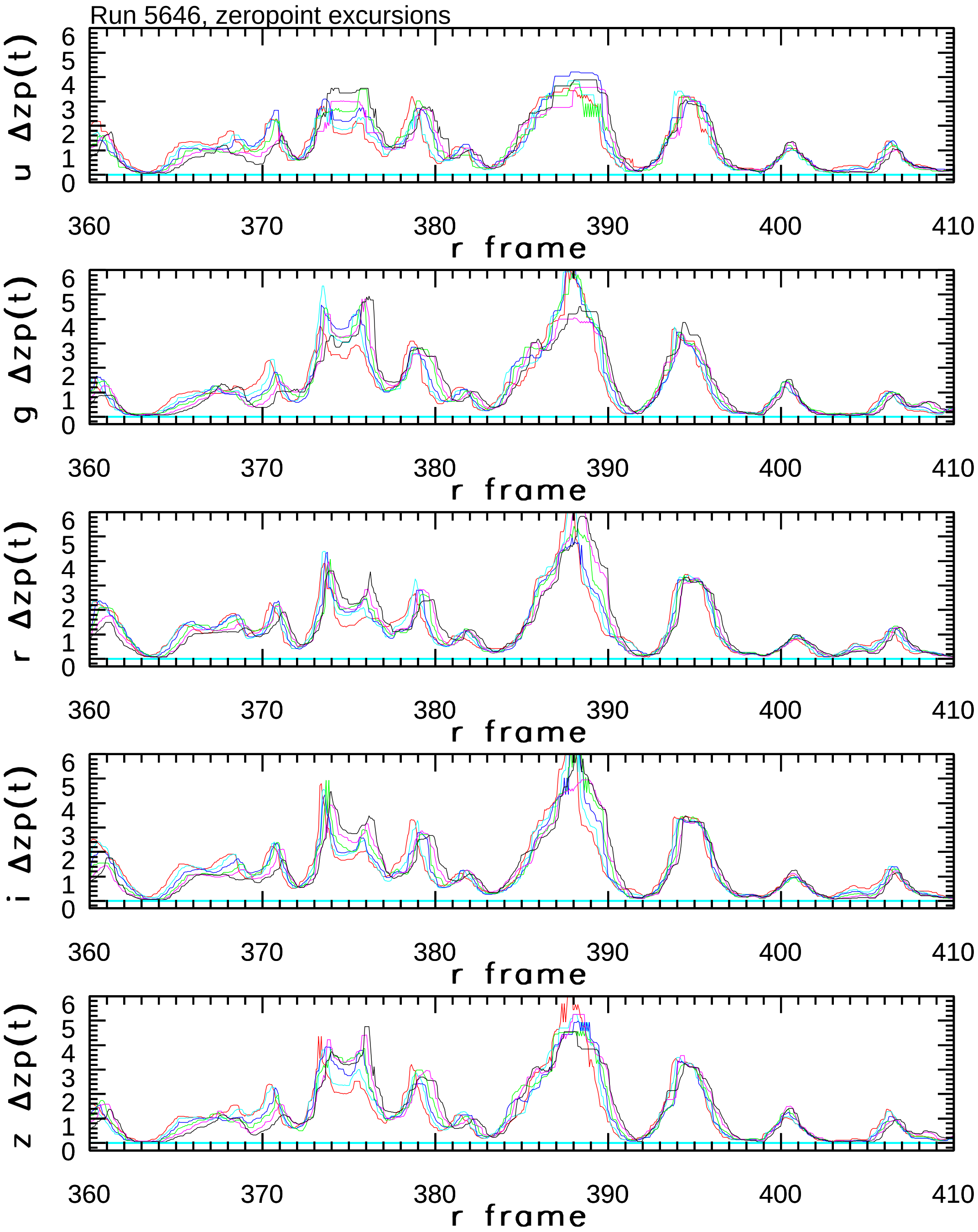

Fig. 20.— A comparison of cloud extinction measured for six camera columns and in five different bands during about half an hour of scanning. In each panel, six lines correspond to six camera columns. While overall behavior is similar, cloud extinction can vary by more than 1 mag across the camera (∼2.5 degree).