Some Star Flat Progress

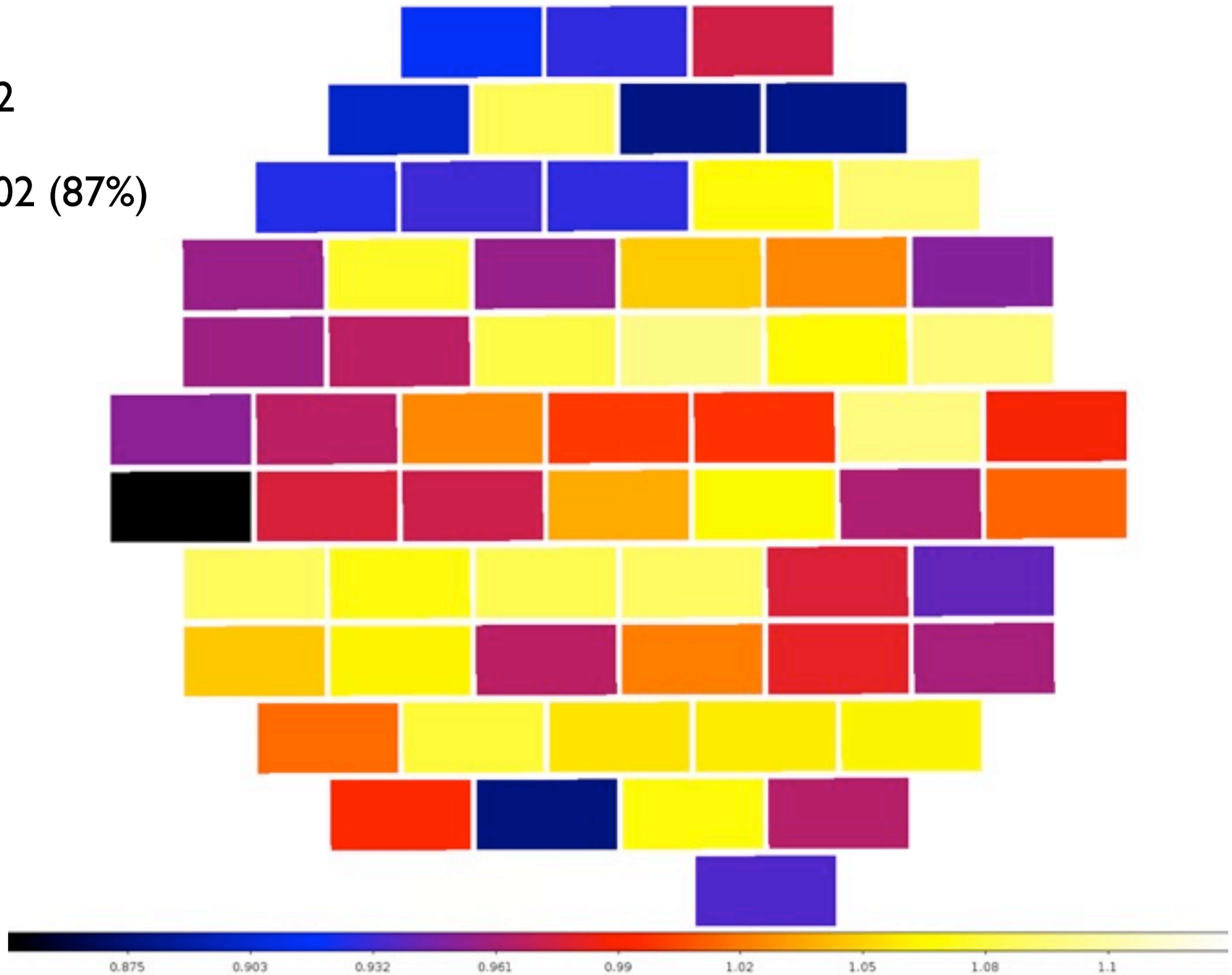
Anne Bauer
IEEC, Barcelona

star flat algorithm

- Basically, uber-calibration
- Varying parameterizations of the focal plane response:
  - ZP per CCD (will try per amplifier)
  - Linear dependence on x,y per CCD
  - Polynomial dependence on x,y in the focal plane
- Using the (first) set of star flat data from Gary
- Note: the fitting is touchy!
- Would like to automate a choice of parameterization

star flat example
g band, one ZP per ccd

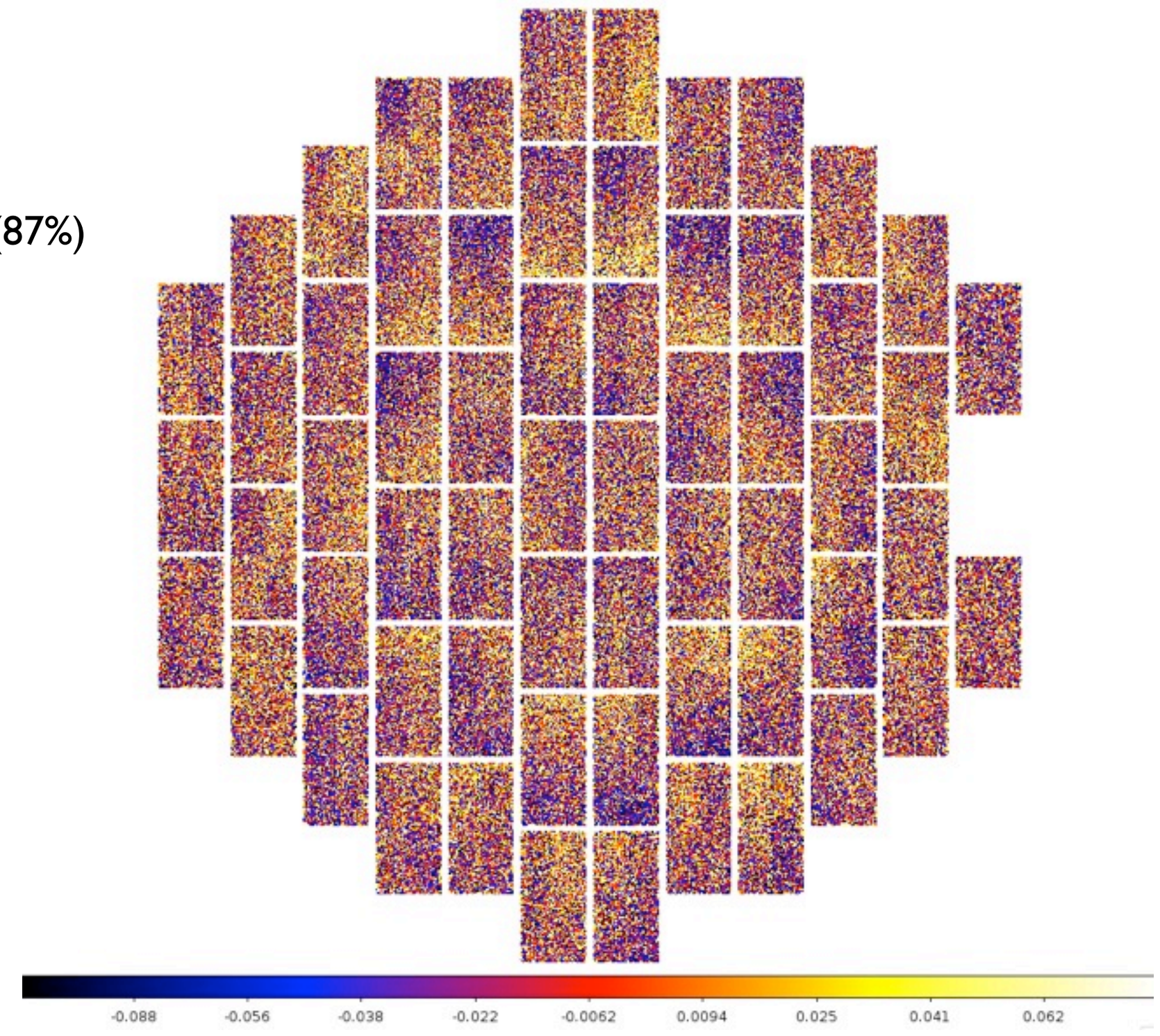
- original RMS = 7.8e-02
- RMS after flat = 6.8e-02 (87%)



improvements in mag rms,
residual maps
for different parameterizations

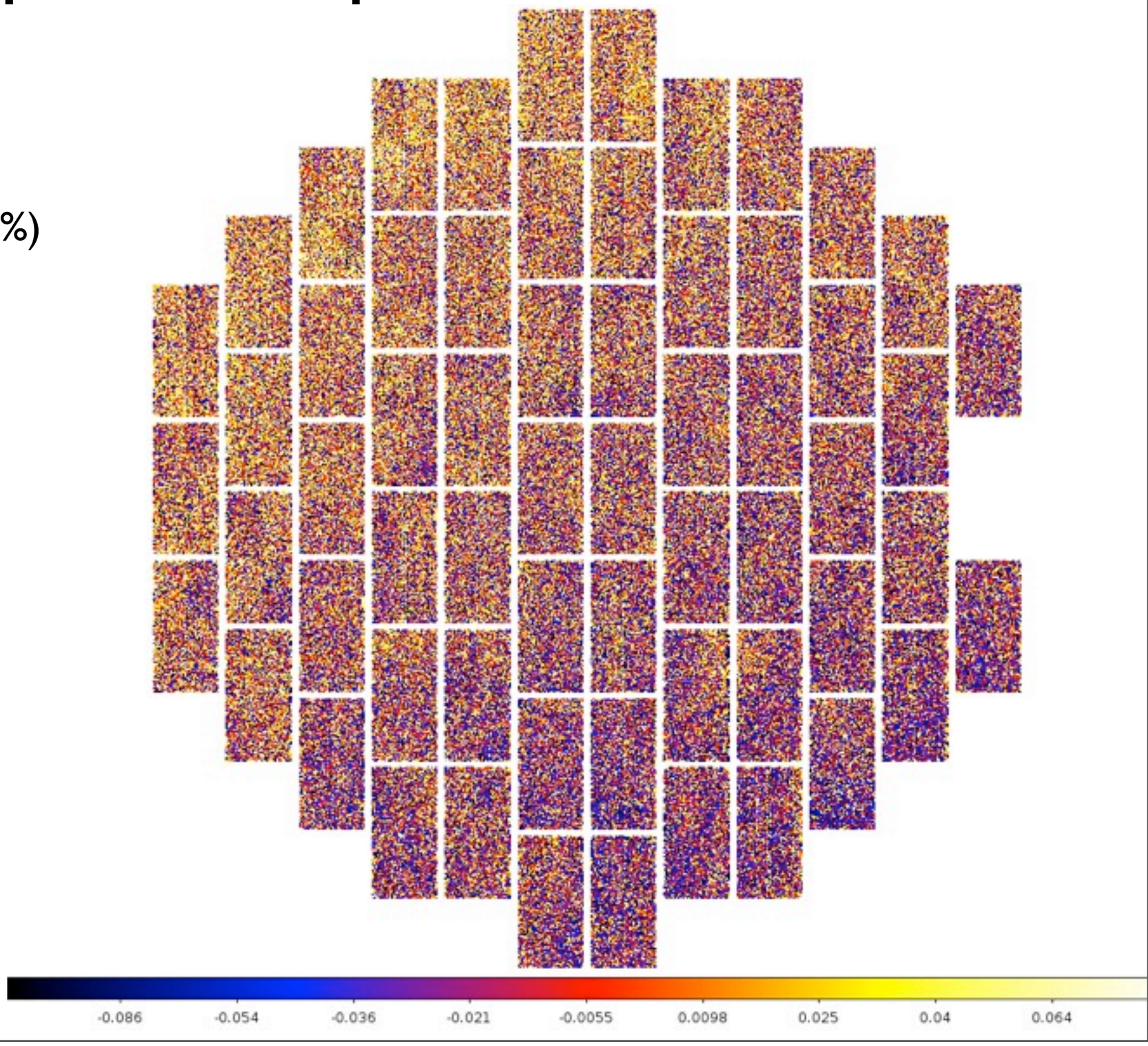
g band, one ZP per ccd

- original RMS = 7.8e-02
- RMS after flat = 6.8e-02 (87%)



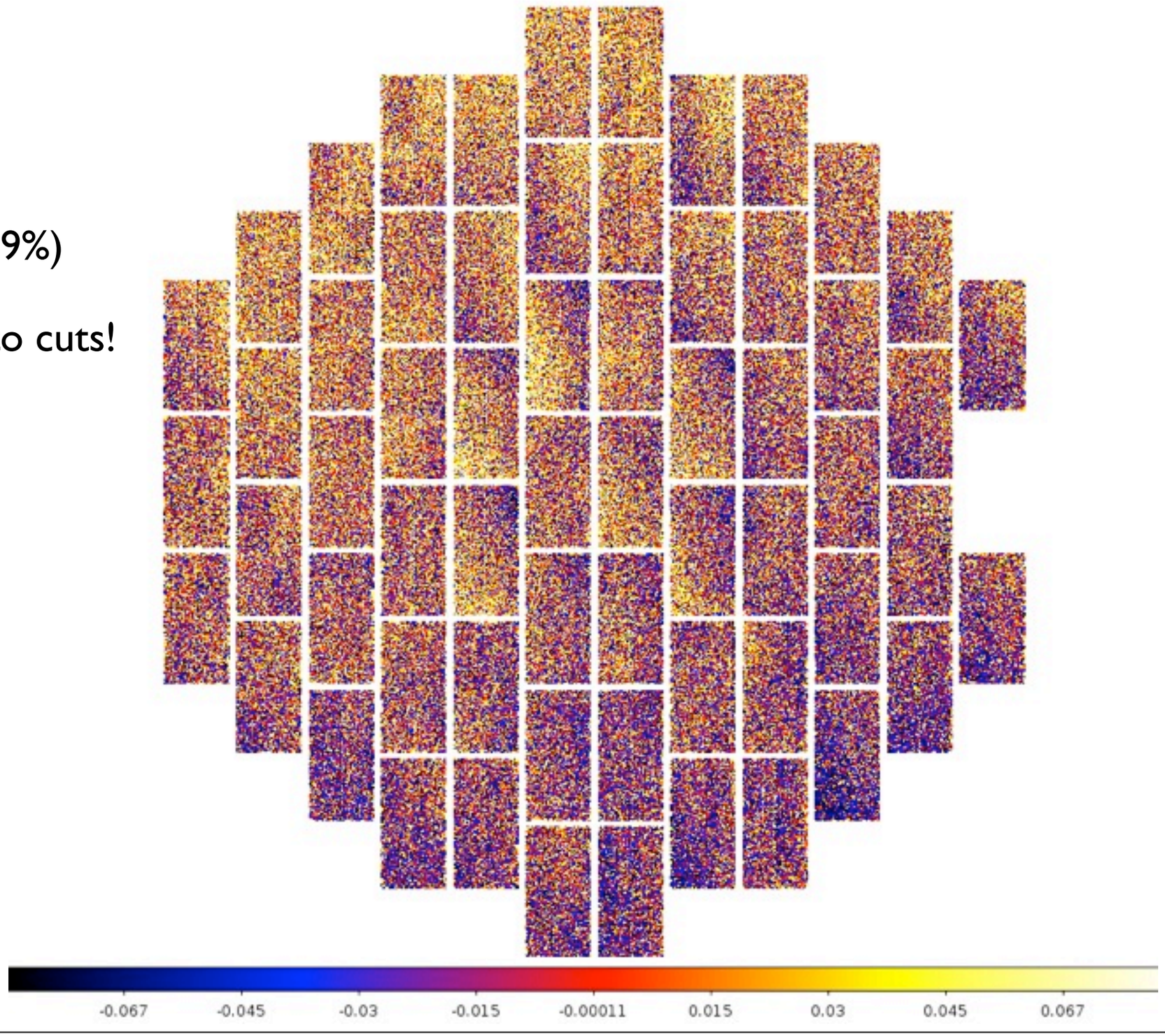
g band, one ZP per ccd, plus xy dependence per ccd

- original RMS = 1.16e-01
- RMS after flat = 9.6e-02 (83%)
- note: gradient



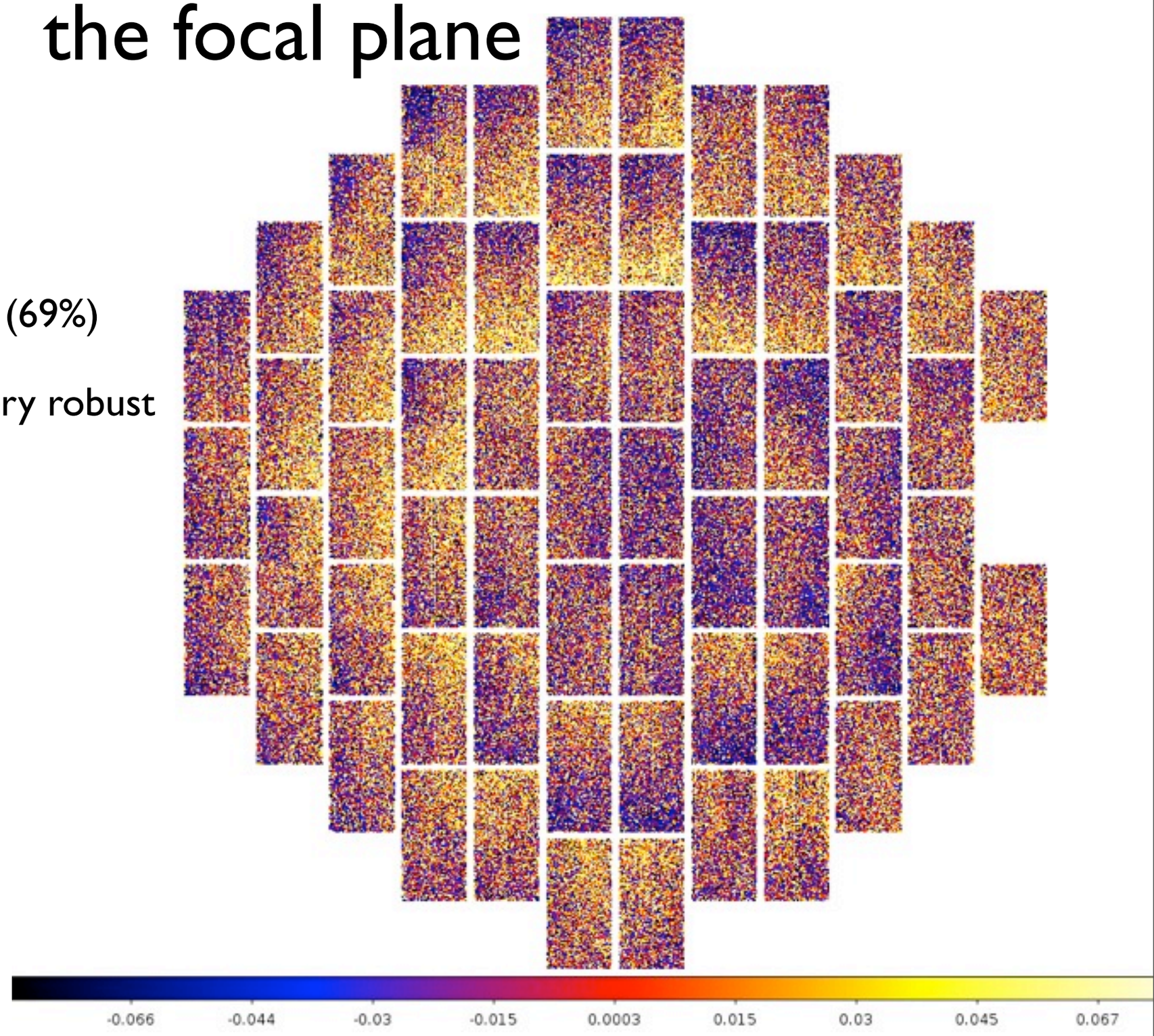
g band, one ZP per ccd, plus xy dependence per ccd (different obj cuts)

- original RMS = 8.7e-02
- RMS after flat = 6.0e-02 (69%)
- note: results are sensitive to cuts!



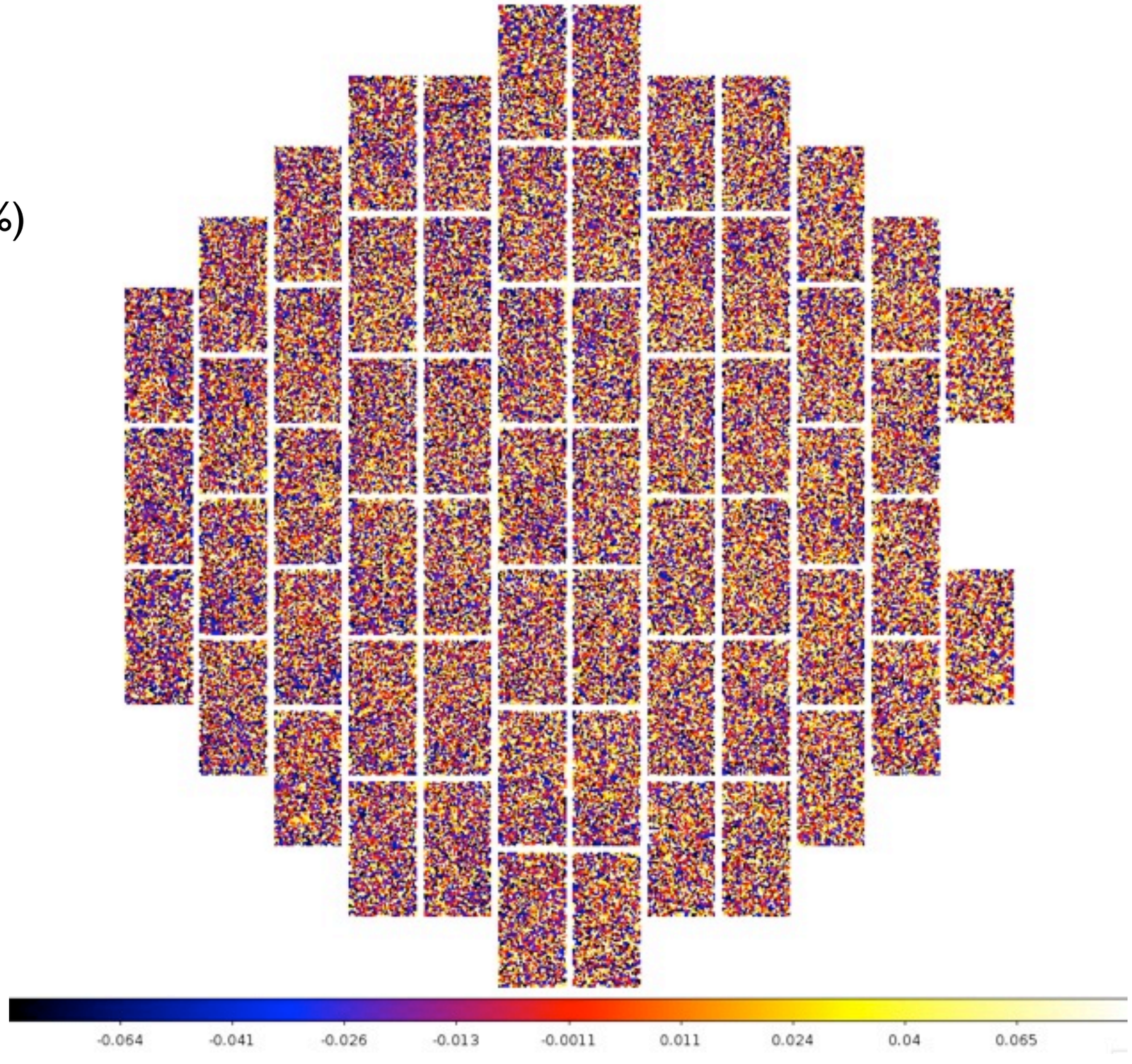
g band, one ZP per ccd, plus xy dependence per ccd, plus polynomial over the focal plane

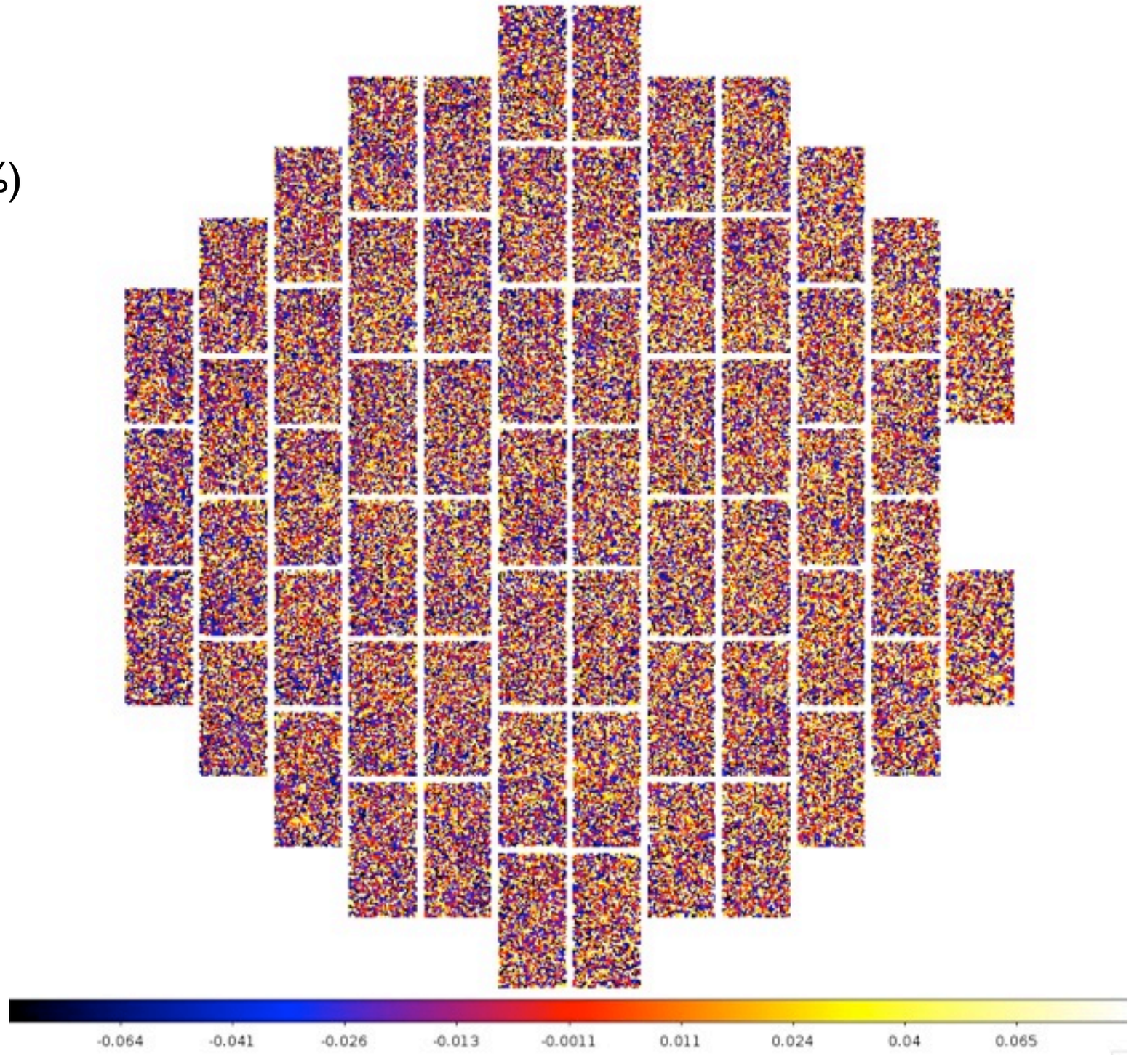
- original RMS = 8.7e-02
- RMS after flat = 6.0e-02 (69%)
- note: the fitting is not very robust



i band, one ZP per ccd

- original RMS = 7.8e-02
- RMS after flat = 6.8e-02 (87%)



i band, one ZP per ccd, plus polynomial over the focal plane

- original RMS = 7.8e-02
- RMS after flat = 6.75e-02 (87%)