

Keck NGAO model validation plan (Draft)
August 14, 2006

- Summarize runs that have been done so far - list the parametric assumptions and the results.
- Re-do the case where they significantly disagree, this time carefully making sure our parameter inputs are in fact the same (we were in somewhat of a rush during the proposal week).
- Run tests that quantify code behavior with respect to individual assumptions/inputs, for example:
 - Do a noise-free "phantom" case, that is, using a unit aberration at some altitude and verifying that the codes produce identical results, which would be a reconstruction of the unit aberration plus explainable artifacts.
 - Model the response to just measurement noise, no aberrations, and make sure codes produce the right variance in the solution
 - Test solutions with one guidestar, first at infinity, then at LGS altitude
 - Test solutions with three guidestars on a triangle. Check results vs angular separation.
 - and so on - When we compare codes, I suggest we use identical atmosphere realization in each case, at least early on, so that we can rule out statistical variation as a source of discrepancy.