Generalized Slow Roll

- Heuristically, a non-linear mapping or transfer function
  \[ \Delta^2_R(k) = A_s T[G'(\ln \eta)] \]
- Allows only initial curvature spectra that are compatible with single field inflation
- Disallowed behavior falsifies single field inflation
- PC decomposition of \( G' \) allows efficient computation - precompute responses and combine non-linearly
- Changes in initial power spectrum do not require recomputing radiation transfer in CMB – fast parameters in CAMB
- Bottleneck is WMAP likelihood evaluation. Fast OMP parallelized code (\( \sim 5N_{\text{core}} \) speedup)

http://background.uchicago.edu/wmap_fast
Functional Constraints on Source

- 5 nearly Gaussian independent constraints on deviations from scale invariance for model testing
- Not a reconstruction due to truncation

Dvorkin & Hu (2010)