Dick Bond@CITA 5 grad students now, 3 shared with norm, chrisT, renee (+2gs -> pdfs) +22 CITAzens in 2013 ... 2023++, 1++ in SO+ACT + 1-notSO-Act 7@cita in CCAT +gs TBD

webskying U: mini-ensemble SMc is public & used. Beyond SMc TBD gs Carlson+
mocking heaven with PeakPatches+Hydro+eUsims+..

A toolkit for CMB+LSS experiments creating ensembles to test Beyond-the-Standard-Model theories

CMB+LSS+ = one single vast entangled multi-messenger experiment probing the underlying BSMc

10e-fold LSS (S4, CCATc, SO, Planck, ACT, .., DES, DESI, Euclid, LSST, .., CIB, LIM HI, CII, CO) + 50e-fold below

to:

entropy and action condensates, fluctuations: the stochastic language
emergence of Signals from Noise, and of nonGaussian from Gaussian = Tales of Tails, ...

apps: lensed CIB; LIM (CO,CII, HI21cm, HI Lya), tSZ, kSZ

CosmicNeutrinoBackground and BBN

early U inflation, instabilities give pinGs
emergence of coherence in phase and of time
(aka still crazy after all these years)

pinG: early U nonG, e.g., this $\Delta s_{\text{pinG}}$ may lurk below the usual $\Delta s_{\text{G}}$ - non standard $\Delta s_{\text{G}}$ (fNL)