From GR content ⇒ one postulate ≡
stage of accelerated expansion ⇒

explanation of hom, isotr.

+ 2 nontrivial predictions

$-\Omega_{total} = 1 \pm 10^{-5}$

– spectrum of pertur.

spectrum is <u>never</u> HZ for generic inflation. It is tilted

$$\Phi_\lambda^2 = \frac{\varepsilon}{\varepsilon_{Pl}} \frac{1}{\underbrace{1 + p/\varepsilon}_{1/50}} \Big|_{\lambda^{-1} = Ha} \quad \varepsilon < 10^{-12}$$

$$n_s - 1 = -3\left(1 + \frac{p}{\varepsilon}\right)_{\lambda^{-1}=Ha} - \frac{1}{H}\left(\ln\left(1+\frac{p}{\varepsilon}\right)\right)^{\cdot}$$

$\tau_0$ $\tau_0$

$$0.9 \overset{?}{<} n_s < 0.96 \quad !$$

not too much grav. waves !

gaussian perturbations

*L.P.* 9/6/2003:

We are writing a proposal to get money to do our small angular scale CMB experiment. If I say that simple models of inflation require n_s=0.95+/-0.03 (95\% cl) is it correct?

I'm especially interested in the error. Specifically, if n_s=0.99 would you throw in the towel on inflation?

*V.M.* 9/8/2003

The "robust" estimate for spectral index for inflation is 0.92<n_s<0.97.

The upper bound is more robust than lower. The physical reason for the deviation of spectrum from the flat one is the nessesity to finish inflation....

If you find n_s=0.99 +/- 0.01 (3 sigma) I would throw in the towel of inflation.

*V.M.* 3/17/2006

GREAT job. I am really impressed. The results for the spectral index are better than I expected. Just to be sure how reliable they are let me ask you the related question: How much from your own money (say what fraction of all you have) would you bet for n<1.

I am not kidding- I guess it is a better criteria than sigma.

*L.P.* 4/5/2006

In terms of my own money, I'd bet a lot (many thousands and a few beers) that with a flat geometry 5 parameters (n=1, $\mathrm{omega}_b h^2$, $\mathrm{Omega}_m h^2$, h, tau, $\mathrm{sigma}_8$) does not describe the data.