Inflation and Contact with Observation

Talk given at the PhD Student Seminar 2011

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References

1. D. Baumann: *TASI Lectures on Inflation*, arXiv:0907.5424

   Nice series of lectures, provided the basis for my talk. However, not the most easy read to start with. Aimed to be complementary to the lectures of W. H. Kinney, so read these first.

2. W. H. Kinney: *TASI Lectures on Inflation*, arXiv:0902.1529

   Nice first read to get the basic ideas of inflation. Read them!

3. S. Dodelson: *Coherent Phase Argument for Inflation*, arXiv:hep-ph/0309057

   Beautiful explanation of the coherent phase argument. Provided the basis for my section on this topic.

4. D. H. Lyth and A. R. Liddle: *The primordial density perturbation: cosmology, inflation and the origin of structure*, Cambridge University Press 2009

   Nice book covering all aspects of inflation, but emphasizing primordial density perturbations. Starts with special relativity, and covers cosmology, quantum field theory, and other physics relevant for inflation.

5. A. R. Liddle: *An introduction to modern cosmology*, Wiley 2005

   Nice beginner's book on cosmology. Easy read for a sunny afternoon, but still covers some topics quite well.

6. D. H. Lyth and A. R. Liddle: *Cosmological inflation and large-scale structure*, Cambridge University Press 2000

   Predecessor of *The primordial density perturbation: cosmology, inflation and the origin of structure* by the same authors. They themselves state that they had to write a new book, because too much changed since the first book had been written to just update it. Therefore, don't read it!