

Physics 371: Paper Guidelines

Sean Carroll, Spring 2006

The final paper will be an important part of your grade (50%). The basic assignment is to find a research paper written or published in the last year or so (we'll be somewhat flexible about the timing, but not overly so), and write a 10-20 page paper that explains the point of the paper as well as the relevant background. The relevant subject areas include anything we've done in class, or obvious extensions thereof; think "cosmology, with a focus on theoretical and early-universe aspects." But we can have a little latitude there. You should aim the paper at someone else who has just taken this class.

The crucial step will be finding a paper to write about. Three web pages will be of great help:

- <http://arxiv.org/form/>, the eprint server
- <http://www.slac.stanford.edu/spires/hep/>, SLAC's literature database
- http://adsabs.harvard.edu/abstract_service.html, the Astrophysical Data Service

Each of these will not only give you the text of (most) papers, but will allow you to see which papers they reference, and which papers have cited them – bouncing back and forth in time until you stumble across something interesting. (arxiv.org, of course, also has chronological listings of papers in different disciplines.)

If you are stuck, you might want to have a look at this collection of review articles:

- <http://pancake.uchicago.edu/~carroll/reviewarticles.html>

This may inspire you to think of a topic, and you can also see who is citing these articles, and who they cite.

I'm asking that everyone turn in a **proposal** for the paper in class on **Thursday May 4**. The proposal should be very brief (a page, maybe two), and will consist of:

- The paper you are planning to write on.
- A few (2-5) background papers you plan to read.
- A paragraph summarizing the paper and what you hope to say.

The paper itself is due **Friday June 2**, at 12:00 in my office (RI 262). Extensions will normally not be granted, unless you ask well ahead of time or are subject to a truly unforeseen disaster.

Criteria that will go into the grading of the paper:

- Have you understood the content of the paper itself?
- Have you understood the background and context? Why the paper is important and interesting (or is supposed to be)?
- Have you explained things clearly?
- Did you use your own voice, rather than simply repeating what is in the paper?
- Is your paper well-written? Clearly explained, at the appropriate level, good grammar, sensible organization?
- Did you learn something from doing the research for the paper, rather than just repeating things you already knew? (The more you stretch yourself, the happier I will be.)
- Is your exposition tied into things we did in class? Have you applied what we covered to your understanding of this paper?

Have fun and learn something!