**Steps for project**

* Extract distance estimates from SNe light curves
  + Type Ia as standard candle
  + Get z from std candle
  + <http://spiff.rit.edu/classes/ladder/lectures/supernovae/supernovae.html>
* Infer cosmology parameters from SNe distribution
  + MCMC
  + Need to fit eqn with data -- what are we fitting?
    - Eq. 11 in Lago et al 2012 (“Type Ia supernova parameter estimation:”)
* Compare to Planck/other grad group
  + Just overplot the Omega\_matter vs Omega\_Darkenergy and w\_Darkenergy vs Omega matter

**Paper on Overleaf:** <https://www.overleaf.com/project/5fc99c9d88e7c56aaa118d10>

**Data link:** <https://archive.stsci.edu/prepds/ps1cosmo/index.html>

**To-Do**

* ~~Write DP and see if we need to analyze data and extract distances from SNe~~

**Paper sections**

* Intro - SH (almost complete) 1.5 pages
  + Will add overview/definitions of lambdaCDM (cite FRW equations in Methodology) and luminosity distance
* Methodology - AK (in progress) 2-2.5 pages for methodology
  + Intro FRW equations
* Data - HB (in progress) 1.5-2 pages
* Discussion/Results: 2 pages
  + Simple model overestimating error
  + No systematics
  + Limitations of model
    - Assuming flat universe?
    - What priors we used
  + Overplotting with Planck -- HB looking into this
* Conclusions: 0.5 pages (or more based on how many pages we need)
  + Future work: bicep, etc.
* Acknowledgements
* Appendix
  + Show MCMC code
  + Can discuss

From Planck 2018 results paper:

