

Astro 448: Problem Set 4  
Due Nov. 7

## 1 Problem 5: Reading Assignment

- (a) Download Bardeen PRD 22, 1882 from PROLA <http://prola.aps.org/> or obtain it the old fashioned way.
- (b) Read the article. Really.
- (c) To check that you've read it answer the following questions: (1) what is the mathematical definition of the comoving time-orthogonal gauge. what is special about the stress energy tensor in these coordinates? what is the geometric interpretation? (2) How are the anisotropic stress and tensor amplitude affected by a gauge transformation?