

Paper 2: Electron Proton scattering – Particle Physics – Summer 2016

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hand in: Mo 30.5. (in the lecture)

Reference: *Elastic scattering of 188-MeV Electrons*, R. W. McAllister and R. Hofstadter, Phys. Rev. **102**, 851 (1956)

2.1 How much is 2000 pounds per square inch (psi(a)) in units of atmosphere or bar?

2.2 What previous experimental evidence was there around at the time indicating the proton is not a point particle?

2.3 How do the authors deal with radiative energy loss of the electron in the target chamber walls.

2.4 Look up one reference, skim through the article, and say why it is relevant for this paper.

2.5 What is the current experimental value for the proton radius and how was it measured (be short, no need to elaborate in detail)?

2.6 Something from the paper I do not understand:

Note: Bring the paper/your notes with you to the subsequent discussion session, which should be seen as a *Journal Club*.