

2009-10-09 g-2 Meeting

Friday, October 09, 2009
12:02 PM

- WH13-X Fish Tank
- Twiki
 - <https://www.npl.illinois.edu/cgi-bin/twiki/bin/viewauth/NewG2/WebHome>
 - G2Muon/p*****
- Elog
 - <http://www.npl.illinois.edu/elog/g2/Beam+Team/>
- Quads
 - 4Q24s-Are the magnets limited by the magnets themselves or power supplies
 - Need to run a factor of two higher than Brookhaven.
 - We need 1KG/inch, factor of two.
 - We can do factor of three to 3KG/inch
 - N8Q24- narrow version of 8Q24
 - Brookhaven Q1 and Q2 (ran DC)
 - Stock quad
 - Special B stage coil epoxy wrapped in Kapton for radiation hardness. Radiation lifetime has a factor of 10x longer
 - Might be able to design a way to put them in the vault.
 - Tony points out that there would be significant time to figure out the exact mechanics to drop them into the target vault.
 - Standard Brookhaven design but the coils will be modified.
- Dipole
 - PMAG is a single turn dipole
 - D1/D2 were not rad hard, but coils were well shielded. Ran DC.
 - Could we put DS of quads a new DC dipole?
- Lee's List of BNL magnets

Meeting with Phil Pile, 24 September 2009 (BLR)

Re: Magnets potentially available to new g-2 experiment

In addition to the primary proton beamline (V1) and the secondary muon beamline the following quadrupoles could be available. We made no attempt to indentify dipoles, but additional dipoles are also available.

Available Quad

8 8Q24

≤18? 4Q16

◦

4 M8Q24

A number of power supplies with a large footprint, air cooled, exist. They would need new controls to interface with the FNAL system, but they are available.

They want to surplus these, so if we are interested we need to let BNL know sooner rather than later.

The full inventory of magnets is on the following pages.

- Question to Pbar Team
 - Build a spare target - \$64 + 50% contingency
 - Lens and Pulsed Magnet: \$1.1M
 - Pulsed Magnet?
 - Either cheap magnet and complex PS

- Or, rad hardened dipole, cheap PS
- Lens
 - \$100K another lens
 - \$100K for transformer
 - Modeling work in ANSYS: \$100
 - Testing \$400K - includes \$200K of technician time
- Don't have to decide on option A or option B today.
 - Confident \$1.7M will get us the magnets installed.
- Need technical details on the quadrupoles for Q1 and Q2.
- 30 quads, 2 ps?