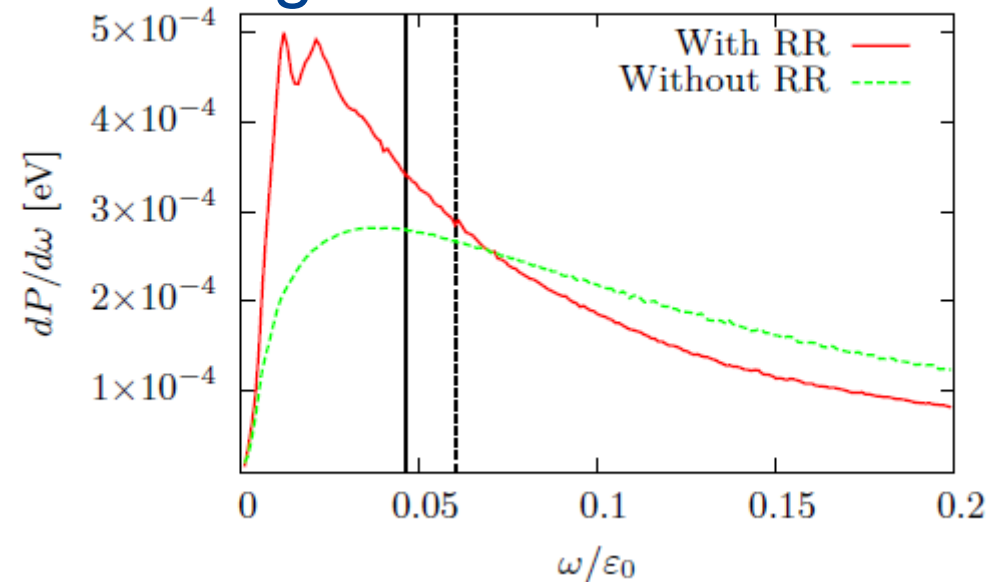
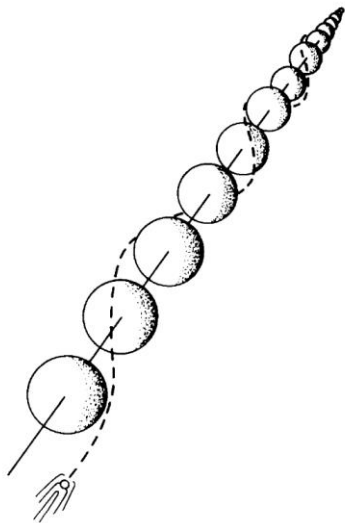


H4 experiment: Pair production from axially channeled electrons in diamond

TOBIAS NYHOLM WISTISEN
On behalf of NA63

PURPOSE/PHYSICS

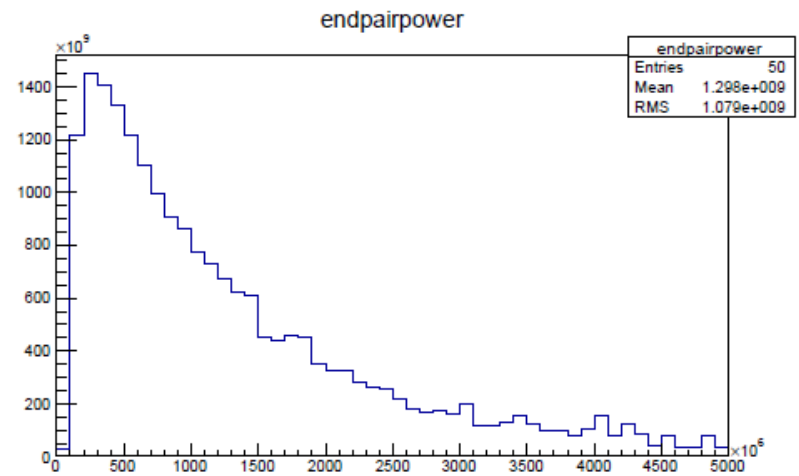
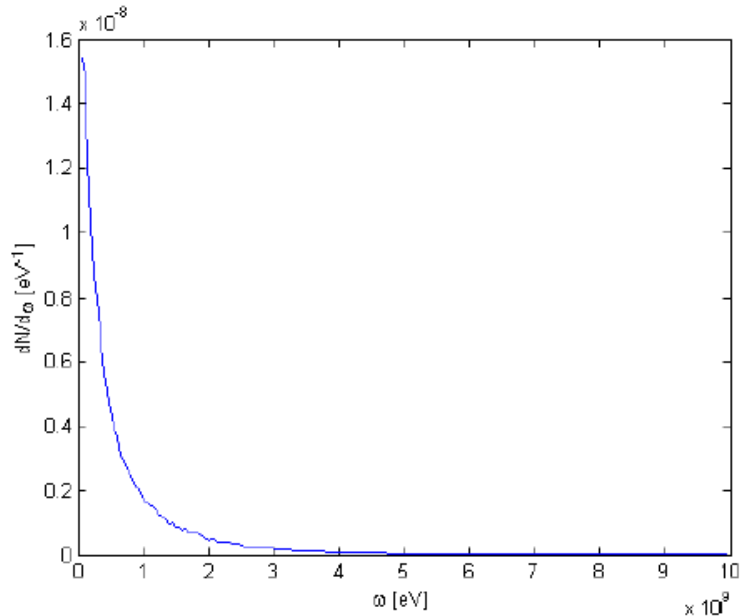
A charge trapped around a string radiates much more than usual BH bremsstrahlung



Theoretical prediction of radiation from a parallel beam

PURPOSE/PHYSICS

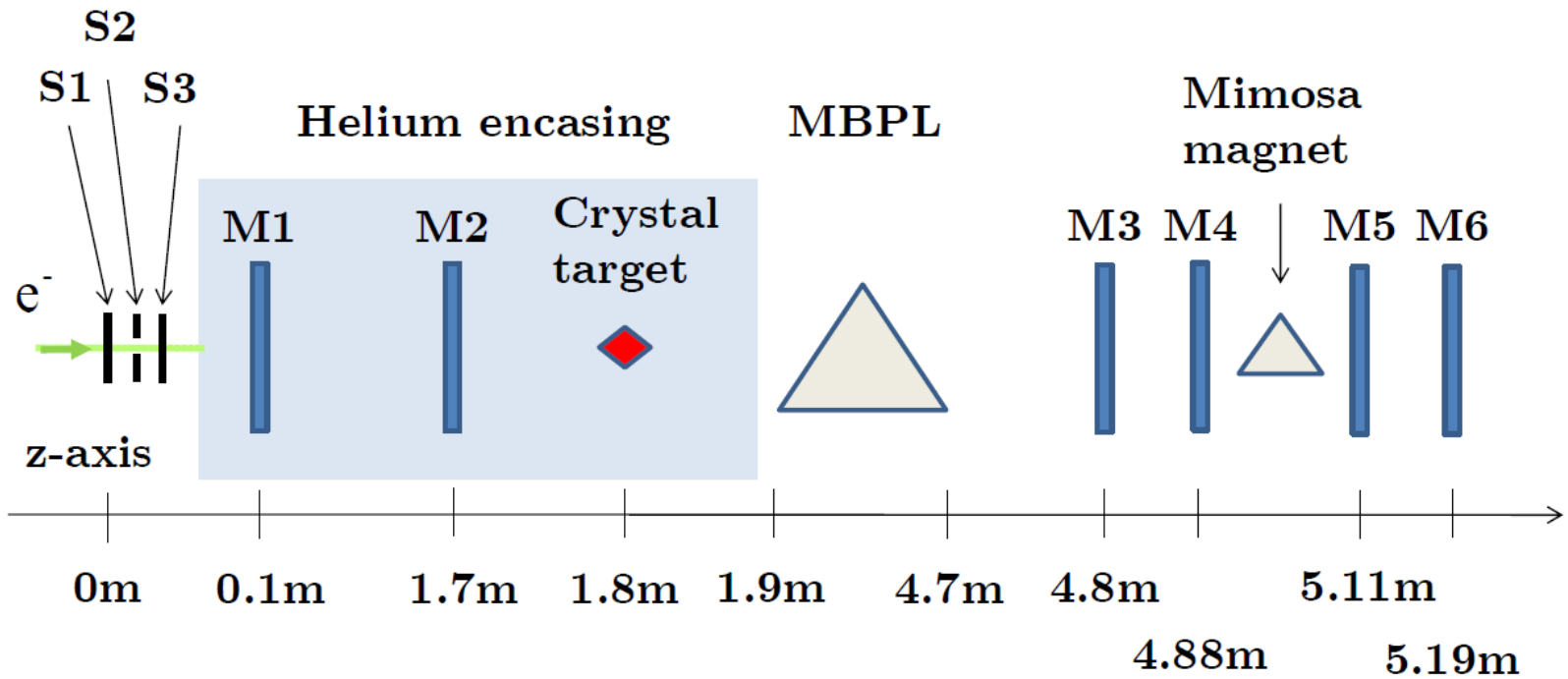
The radiated photons can subsequently produce a pair via the usual BH mechanism



Particle energy [eV]

LAYOUT OF THE SETUP

Top View



SUPPORT/SUPPLIES REQUIRED

- MBPL moved downstream of GOLIATH
- The green table moved next to MBPL (upstream)
- An additional table next to MBPL (downstream)
- Need vacuum established down to the green table
- Supply of Helium gas to encase 2 detectors and crystal

BEAM REQUIREMENTS

- 10 GeV electrons as parallel as possible $< 50\mu\text{rad}$ would be good.
- Rate in spill must not exceed 10kHz.
- About halfway through the run, we wish to switch to positrons with otherwise the same beam parameters.
- Would like to be informed of the fraction of other particles are expected in the beam.

THANK YOU!
