

M μ SR Quench Detection & Protection

The M μ SR will consist of 6 separately excited superconducting magnet strings. Each of the two arcs will have a dipole, and two quad circuits. The dipole circuits will store much more energy (45 MJ each) than the quad circuits, but quench protection will be implemented in the same manner for each. One embedded Quench Protection Monitor (QPM) will be needed in the "Power Supply Room" at each arc.

Quench Detection

One voltage tap from each magnet will need to be connected with a coax to the QPM. VFC or ?? technology can be used for data acquisition.

Quench Protection

Each magnet will need an embedded heater connected to a capacitive discharge Heater Firing Unit located in the PS room. Also located in the PS room, will be the dump, dump switch, and two Quench Bypass Switches (QBS), as shown in the diagram. Only one safety lead is needed in the center of each arc.