The MAPP-1 Detector at the LHC

The **MAPP** (MoEDAL Apparatus for Penetrating Particles) detector at UA83 near IP8 is designed to detect feebly interacting particles, milli-charged particles and very long-lived particles at the LHC.

The detector consists of 400 (10 cm x 10 cm x 75 cm) scintillator bars arranged in 4 x (1.2 m x 1.2 m x 1 m) sections. Each bar is readout by a 3.1-inch PMT. **MAPP-1** is enclosed in a hermetic veto detector.

The MoEDAL-MAPP region at IP8

The MAPP-1 Readout is shown above. All data is recorded. The FPGA/software "trigger" is applied offline.

**Detection Modes**

- **Through-going muons**
- **Passage of a millicharged particle**
- **Decay of a long-lived particle**
- **Decay of a trapped particle**

*The mass under the MAPP-1 detector are trapping volumes from the MoEDAL detector*

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