

February 13, 1986

The Čerenkov Counter

The Čerenkov counter and associated magnet coils are being constructed at Princeton University. Various items of support will be needed from Brookhaven Lab for its operation there.

The counter is 20' long and 8" in diameter. A snout for light collection extends some 4' below the axis of the counter at its downstream end. The counter will be mounted on a unistrut stand about 6' high which should rest on concrete blocks, or some such support, on the Brookhaven floor to bring it to beam height. The stand will include hooks for crane handling.

- We need to know the height of appropriate blocks, so that the height of the stand can be chosen.

In addition to the photomultiplier h.v. and signal cables, there will be about 20 signal cables for monitoring the pressure and temperature of the helium gas inside the counter. Princeton will supply the vacuum pump, and will order the helium gas for local delivery at Brookhaven.

- To operate the magnet coils at 100 gauss, a power supply will be required to deliver 225 amps at 25 volts. As the inductance of the air magnet is small, the power supply may need a dummy load for stabilization.
- The magnet will require about 2 gallons per minute of deionized cooling water with about 50 p.s.i pressure head.

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Fast Electronics

The attached drawing indicates the relatively simple layout of the fast electronics for the synchrotron-Čerenkov experiment. It would be very useful if these items could be borrowed from Brookhaven Lab while the experiment is on the floor there.

- 4 photomultiplier high voltage supplies, -2500 V, 3 mA each. (Because of the special design of the high-rate bases we plan to use, it is simplest to have 4 separate supplies, rather than a distribution system.)
- 1 NIM crate and power supply.
- 1 quad 100 MHz discriminator, such as Lecroy model 821, or octal discriminator, such as Lecroy model 623.
- 2 dual coincidence units, such as Lecroy model 365
- 5 scalers, perhaps in two quad units such as Lecroy model 4604.
- 1 dual gate generator, such as Lecroy model 222.

The scaler system, including the gate generators, could be configured in quite another manner, if this is more consistent with the available pool items.

modify to include
RGO counter

