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Title
BEVATRON 20 MeV INJECTOR COPPER TAPE SOLENOID 52-MK2 4 INCH DIAMETER SOLENOID DRWG. NO. 12P1486-A3 - MAGNETIC FIELD MEASUREMENTS

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Publication Date
1981-07-21
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On June 9, 1981 at the request of Emery Zajec, Ed Cyr set up hardware for measuring the axial component of magnetic induction along the axis of the 4 inch diameter solenoid 52MK2. \( B_z(r = 0, z) \) vs \( z \).

Figure 1 shows the test equipment used and Table I lists the specific equipment.

Emery Zajec used the test equipment to measure the magnet at three current levels.

Figure 2 displays \( B_z(r = 0, z) \) vs \( z \) for the three magnet currents.

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This work was supported by the U.S. Dept. of Energy under Contract DE-AC03-76SF00098.
Equipment | Description | Identification
--- | --- | ---
Magnet (Under Test) | 4 Inch Dia. x 10 In. Long Solenoid | S2MK2
Magnet Power Supply | Dual 49 kW | 8Y3605
Current Monitoring Shunt | 800 A/1000 mV | 
Gaussmeter | F.W. Bell Model 620 | AEC No. 501586
Probe | F.W. Bell (Axial) Model HAB4-2508 | S/N 141861
xy Plotter | Moseley Model 7000AR | AEC No. 159260
Zip Track | MME 16 Inch Linear Positioner | 
Bias Box | Drawing No. 5V8032 | 

**TABLE I TEST EQUIPMENT**
FIGURE 2. Axial Profiles of Magnetic Induction

2.0 MEV INJECTOR
COPPER TAPE SOLENOID
S2-MK-2

\[ A = 105.71\text{ m} \] (Cryogenic)

18" x 4" x 10"
125°F 1986 - A - 3

Magnetic Induction
\[ B_z(z=0, z) \] [10^3 Gauss]

- 531.2 Amps

- 400 Amps

- 800 Amps

Axial Position, z (inch)
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