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ENGINEERING NOTE				
AUTHOR Donald H. Nelson	DEPARTMENT Electronics Engineering	LOCATION B25A-124	DATE July 21, 1981	
PROGRAM - PROJECT - JOB				
TITLE Bevatron 20 MeV Injector Copper Tape Solenoid 52-MK2 4 Inch Diameter Solenoid Drwg. No. 12P1486-A3 - Magnetic Field Measurements				

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.

Distribution: M.I. Green
E.C. Hartwig/L.J. Wagner/W.H. Deuser
R.M. Richter
E. Zajec

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SUBJECT

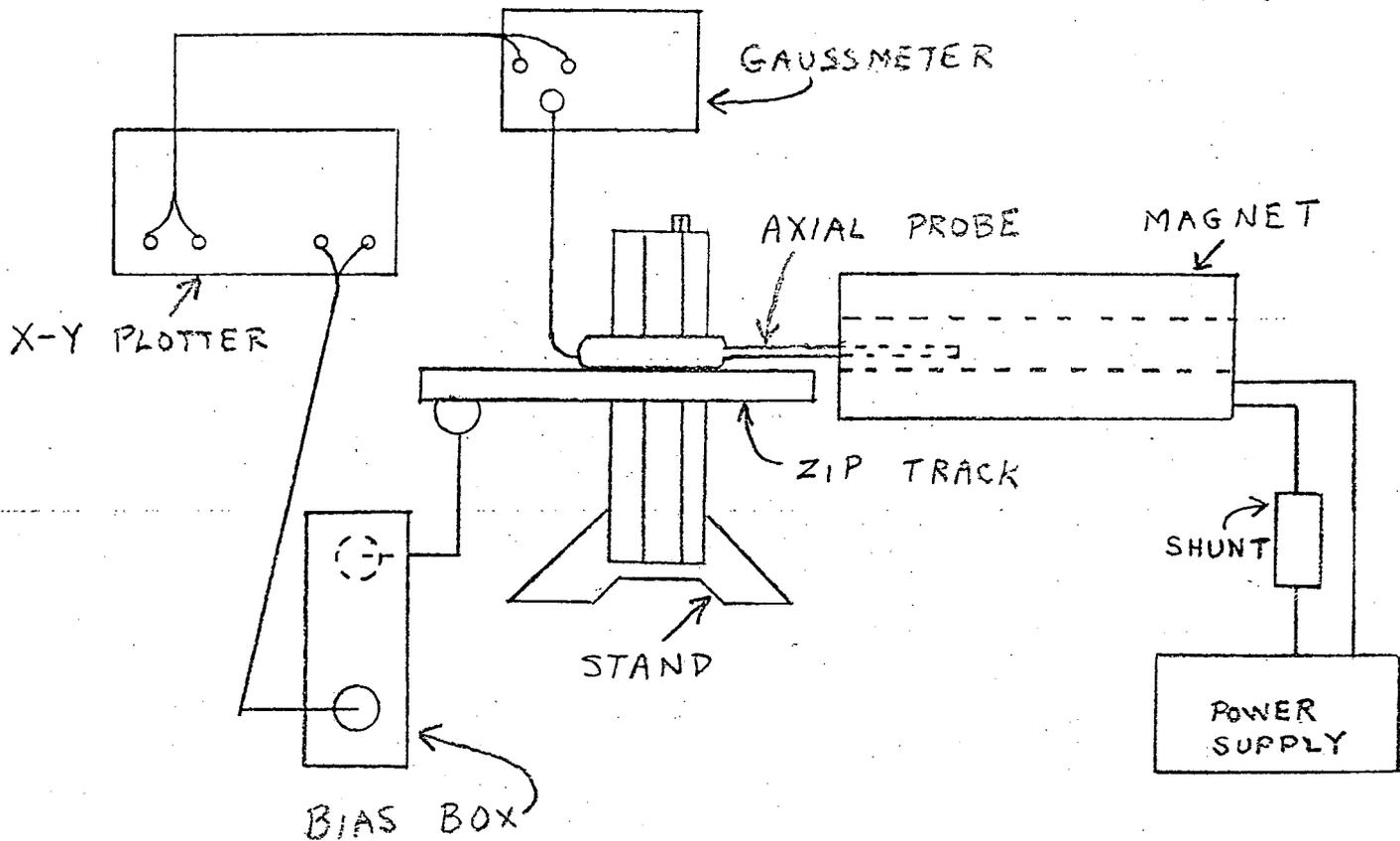
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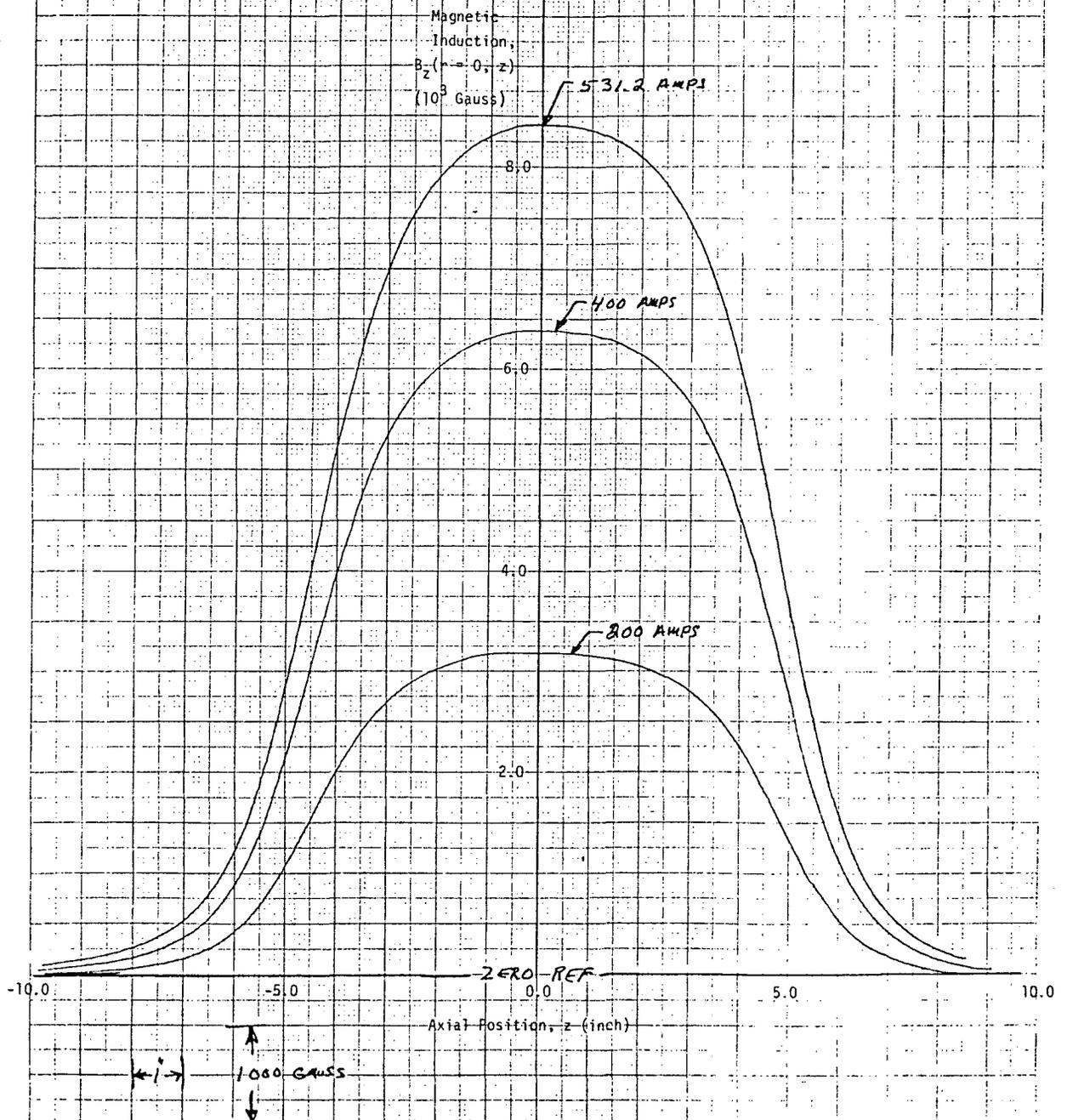
FIGURE 1 TEST EQUIPMENT

<u>Equipment</u>	<u>Description</u>	<u>Identification</u>
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

AUTHOR
Donald H. NelsonDEPARTMENT
Electronics EngineeringLOCATION
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FIGURE 2. Axial Profiles of Magnetic Induction

6-9-81
20 MEV INJECTOR
COPPER TAPE SOLENOID
S2-MK-2 $R = 1.05 \times 10^{-3}$ (ROOM TEMP)
10" x 4" x 10"
12P1486-A-3

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UNIVERSITY OF CALIFORNIA
BERKELEY, CALIFORNIA 94720