

Injection Capture vs. B

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Study of Injection Capture vs a change in \dot{B} (Nov 20, 1973)
HERERA & RAJA

A. Initial Conditions

- 1) \dot{B} vs time is shown on Fig. (1)
- 2) Spreading beam shown in Fig. (2)
- 3) Linac current about 45 to 50 ma for 120 psec.
- 4) Machine was tuned for max. accelerated beam of 6.0×10^{12} p/p. Early monitor about 7.2×10^{12}

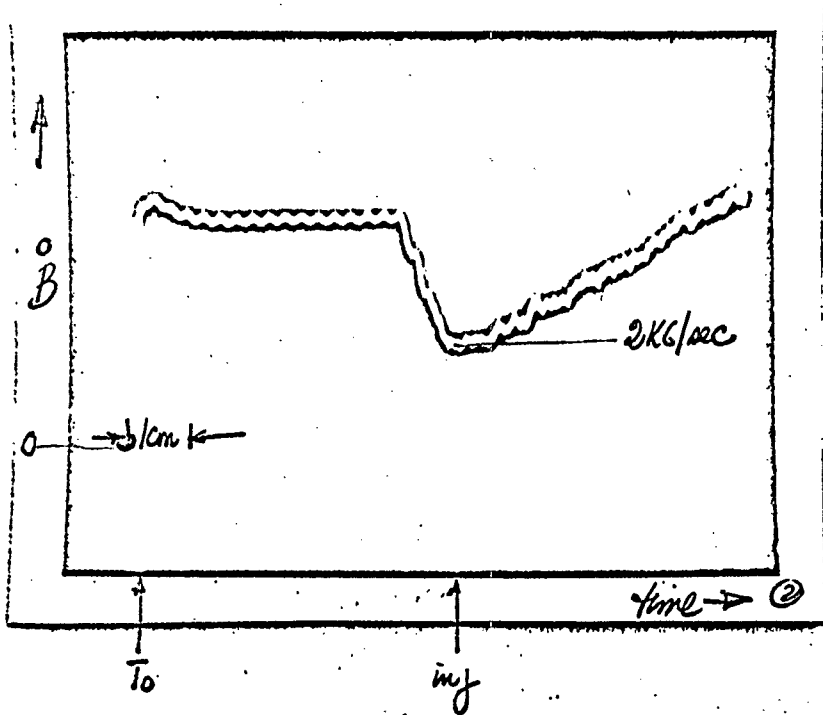
B. Experiment:

- 1) \dot{B} vs time changed (Fig. (3))
- 2) Spreading beam shown in Fig. (4)
- 3) Machine was tuned for max accelerated beam of about 6.5×10^{12} p/p. Early monitor was 8.0×10^{12}

C. Comments:

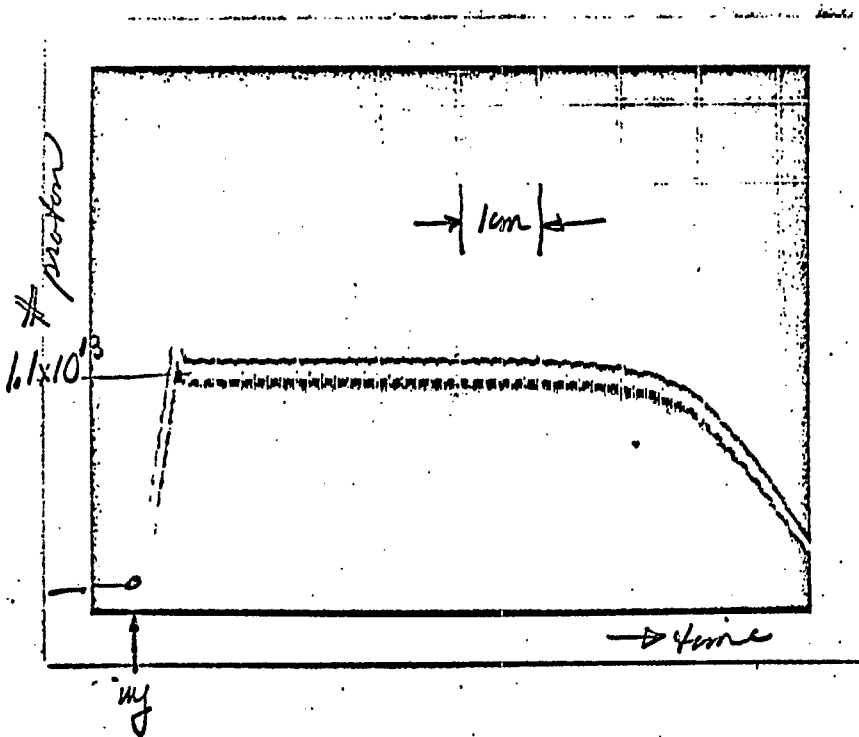
- 1) It appears that running at a higher \dot{B} at injection with the higher r.f. voltage we presently use results in a higher overall accelerated beam.
- 2) Additional experiments with increased and decreased \dot{B} are required.

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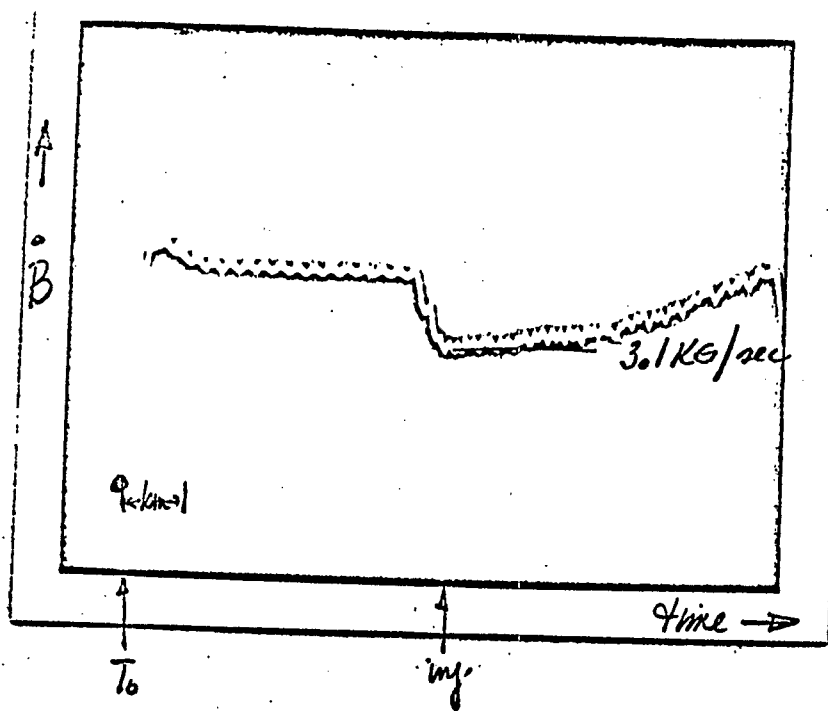
- 1) Backleg D3 magnet
- 2) 0.1 volt/cm
- 3) 10ms/cm

Fig. (1)



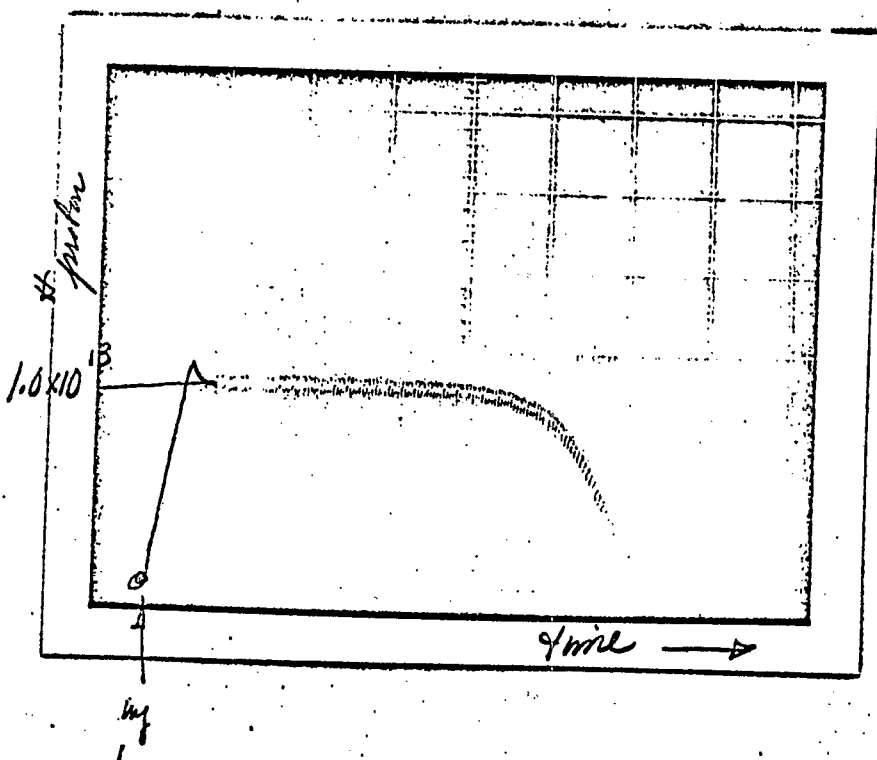
- 1) H 15 transformer
- 2) 1 volt/cm
- 3) 200 μ sec/cm

Fig. (2)



- 1) Beckley D3 magnets
- 2) 0.1 volt/cm
- 3) 10 ms/cm

Fig. (3)



- 1) H 15 transformer
- 2) 1 volt/cm
- 3) 200 μ sec/cm

Fig. (4)