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# Low Field Corrections for D.C. F10 Magnet

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Blomberg

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## Low field corrections for d.c operated F-10 magnet

A. Conditions of F-10:

1) d.c. 5280 amperes
2) Position 1.8"

B- Corrections arrived at:

1) Dipole windings (backleg) on F-9 and F-11 powered with 8 amperes (6 turns)
2) Quadrupole winding (backleg) on F-9 and F-10 powered with 2.5 amperes
3) Low field dipoles — F04, F08, F12 were changed.
4) Zero theta skew quadrupole had to be increased considerably
5) Septupoles (vertical) had to be changed.

C. Results:

1) without the F-10 powered and beam at 2.9" max beam ~ $4.0 \times 10^{12}$ p/p
2) with F-10 under d.c. conditions max beam ~ $3.7 \times 10^{12}$ p/p
3) with F-10 out but corrections still on max beam ~ $1.7 \times 10^{12}$ p/p

D. Conclusions:

The correction had to be done by successively moving in the F-10 magnet and at each position adjusting the various corrections. This was made difficult because coherence was observed on the beam for higher early intensities. Further careful study on this problem is required, but it appears that the machine can be corrected for this mode of operation of F-10.