

## Momentum Measurement Capability Estimate

Parameter	Term	As-Is	Level 1	Level 2
Dipole – linearity	$\delta B/B$	0.25%	0.25%	<0.10%
Dipole – spatial	$\delta BL/BL$	0.30%	0.10%	<0.10%
Dipole – reproduce	$\delta B/B$	0.10%	0.10%	0.05%
Dipole – PS	$\delta I/I$	0.20%	0.20%	<0.10%
Position – surveys	$\delta \theta/\theta$	0.01%	0.01%	0.01%
Position – BPM cal	$\delta \theta/\theta$	0.05%	0.05%	0.05%
Stray magnetic field	$\delta \theta/\theta$	0.50%	0.05%	0.05%
<b>TOTAL</b>	<b><math>\delta p/p</math></b>	<b>0.67%</b>	<b>0.36%</b>	<b>&lt;0.19%</b>

### Level 1 Effort

- Shield Earth's field with mu-metal
- Improve spatial analysis of existing field map

### Level 2 Effort

- Shield Earth's field with mu-metal
- Design and fabricate higher quality dipole (more uniformity, higher field)
- Move from trim to precision power supply