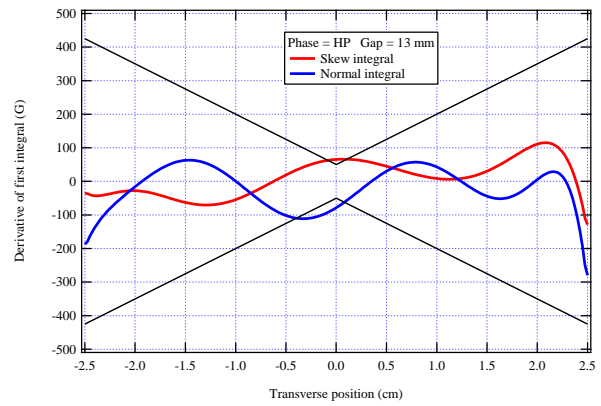
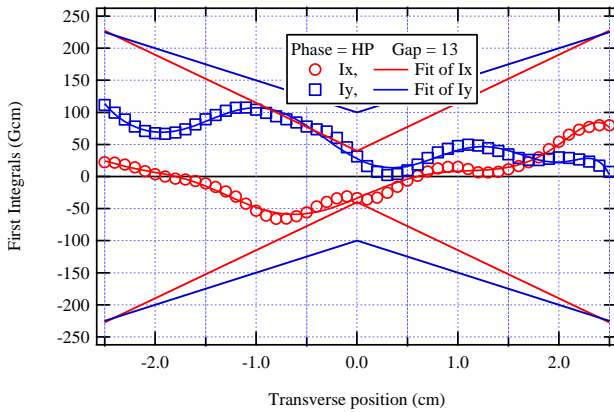


## First integral measurements for SLAC EPU, HU140

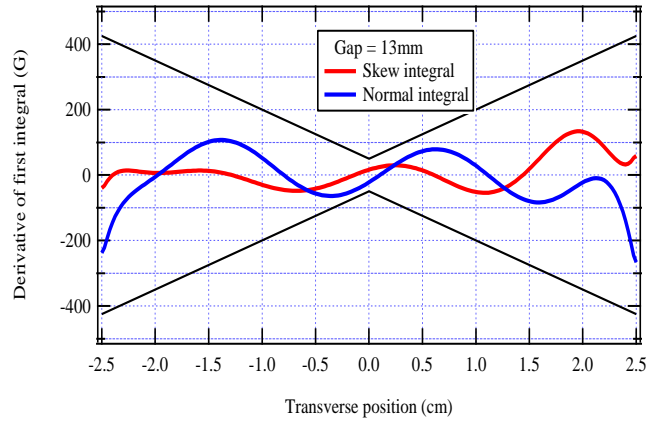
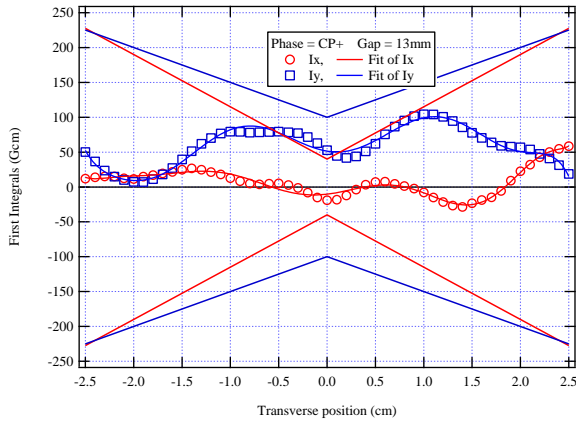
We have increased the number of terms in the polynomial fit. We have only done it at the lowest gap, as, at this gap, the integral fluctuations are the largest. At the larger gaps, the polynomial fits were adequate, in my opinion. We have also included the first derivative of the first integral, also at 13 mm gap. We have made the fit out to  $x < 25$  mm. If we fit only for  $x < 15$  mm, the multipoles will change somewhat.

### HP 13 mm gap



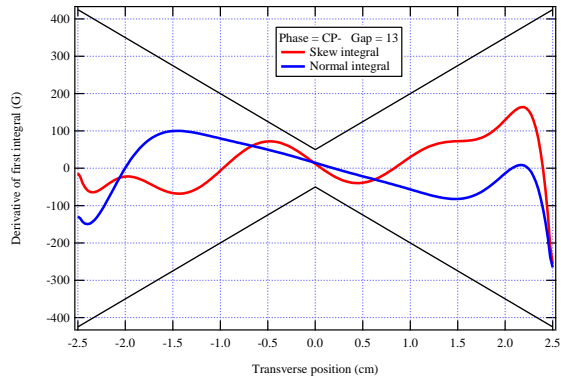
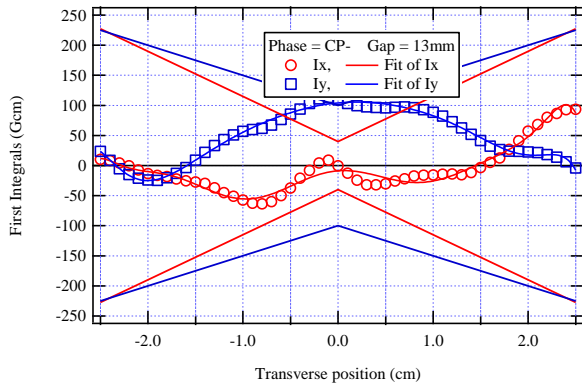
| Multipole                    | Skew  | Error | Normal | Error |
|------------------------------|-------|-------|--------|-------|
| 2-pole (Gcm)                 | -33.9 | 2.4   | 27.9   | 2.4   |
| 4-pole (G)                   | 65.5  | 5.4   | -78.4  | 5.6   |
| 6-pole (G/cm)                | 10.7  | 10.8  | 93.3   | 11.1  |
| 8-pole (G/cm <sup>2</sup> )  | -50.4 | 9.5   | 67.3   | 9.8   |
| 10-pole (G/cm <sup>3</sup> ) | 5.4   | 12.5  | -59.5  | 12.9  |
| 12-pole (G/cm <sup>4</sup> ) | 14.6  | 5.3   | -26.3  | 5.5   |
| 14-pole (G/cm <sup>5</sup> ) | -2.6  | 5.5   | 13.6   | 5.7   |
| 16-pole (G/cm <sup>6</sup> ) | -1.5  | 1.1   | 4.6    | 1.2   |
| 18-pole (G/cm <sup>7</sup> ) | 0.6   | 1.0   | -1.2   | 1.1   |
| 20-pole (G/cm <sup>8</sup> ) | 0.0   | 0.1   | -0.3   | 0.1   |
| 22-pole (G/cm <sup>9</sup> ) | -0.0  | 0.1   | 0.0    | 0.1   |

## CP+ 13 mm gap



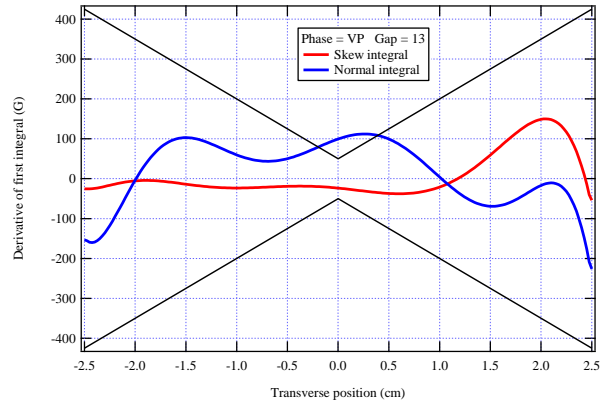
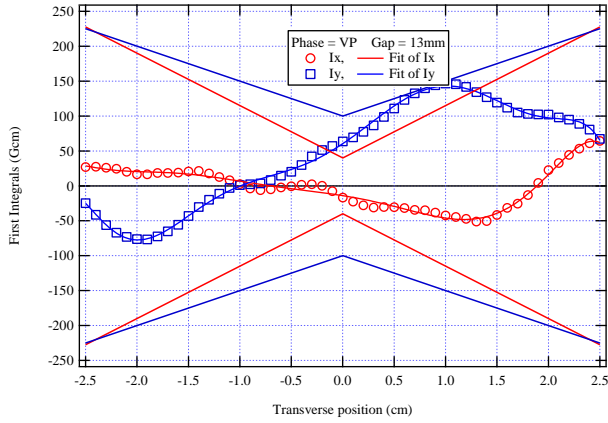
| Multipole                    | Skew  | Error | Normal | Error |
|------------------------------|-------|-------|--------|-------|
| 2-pole (Gcm)                 | -10.3 | 1.7   | 51.4   | 2.3   |
| 4-pole (G)                   | 16.2  | 3.9   | -22.2  | 5.2   |
| 6-pole (G/cm)                | 51.0  | 7.9   | 102.9  | 10.3  |
| 8-pole (G/cm <sup>2</sup> )  | -48.8 | 7.0   | 49.2   | 9.1   |
| 10-pole (G/cm <sup>3</sup> ) | -53.7 | 9.2   | -85.0  | 12.0  |
| 12-pole (G/cm <sup>4</sup> ) | 22.5  | 3.9   | -22.2  | 5.1   |
| 14-pole (G/cm <sup>5</sup> ) | 21.1  | 4.0   | 24.0   | 5.3   |
| 16-pole (G/cm <sup>6</sup> ) | -3.6  | 0.8   | 4.1    | 1.1   |
| 18-pole (G/cm <sup>7</sup> ) | -3.4  | 0.7   | -2.9   | 1.0   |
| 20-pole (G/cm <sup>8</sup> ) | 0.2   | 0.1   | -0.3   | 0.1   |
| 22-pole (G/cm <sup>9</sup> ) | 0.2   | 0.0   | 0.1    | 0.1   |

## CP- 13 mm gap



| Multipole                    | Skew  | Error | Normal | Error |
|------------------------------|-------|-------|--------|-------|
| 2-pole (Gcm)                 | -8.8  | 3.6   | 104.2  | 2.0   |
| 4-pole (G)                   | 12.1  | 8.2   | 14.4   | 4.6   |
| 6-pole (G/cm)                | -94.6 | 16.4  | -38.0  | 9.2   |
| 8-pole (G/cm <sup>2</sup> )  | 9.3   | 14.5  | -0.0   | 8.2   |
| 10-pole (G/cm <sup>3</sup> ) | 89.3  | 19.1  | 5.7    | 10.7  |
| 12-pole (G/cm <sup>4</sup> ) | -8.8  | 8.1   | -1.0   | 4.6   |
| 14-pole (G/cm <sup>5</sup> ) | -31.1 | 8.4   | -4.0   | 4.7   |
| 16-pole (G/cm <sup>6</sup> ) | 2.5   | 1.7   | 0.4    | 1.0   |
| 18-pole (G/cm <sup>7</sup> ) | 4.9   | 1.6   | 1.2    | 0.9   |
| 20-pole (G/cm <sup>8</sup> ) | -0.2  | 0.1   | -0.1   | 0.1   |
| 22-pole (G/cm <sup>9</sup> ) | -0.3  | 0.1   | -0.1   | 0.1   |

## VP 13 mm gap



| Multipole                    | Skew  | Error | Normal | Error |
|------------------------------|-------|-------|--------|-------|
| 2-pole (Gcm)                 | -14.0 | 1.9   | 60.5   | 1.5   |
| 4-pole (G)                   | -23.6 | 4.4   | 99.6   | 3.3   |
| 6-pole (G/cm)                | -12.6 | 8.8   | 44.1   | 6.6   |
| 8-pole (G/cm <sup>2</sup> )  | -8.6  | 7.8   | -37.3  | 5.9   |
| 10-pole (G/cm <sup>3</sup> ) | 7.7   | 10.3  | -42.6  | 7.7   |
| 12-pole (G/cm <sup>4</sup> ) | 6.6   | 4.4   | 10.9   | 3.3   |
| 14-pole (G/cm <sup>5</sup> ) | -0.9  | 4.5   | 10.1   | 3.4   |
| 16-pole (G/cm <sup>6</sup> ) | -0.8  | 0.9   | -1.5   | 0.7   |
| 18-pole (G/cm <sup>7</sup> ) | 0.1   | 0.8   | -0.8   | 0.6   |
| 20-pole (G/cm <sup>8</sup> ) | 0.0   | 0.1   | 0.1    | 0.1   |
| 22-pole (G/cm <sup>9</sup> ) | -0.0  | 0.1   | 0.0    | 0.0   |