Below are the results from the spectrometer pointing and superharp surveys carried out on the Hadron and Electron arms from July 3\textsuperscript{rd} to July 6\textsuperscript{th}, 2001.

\textbf{E070301A}

The central ray of the spectrometer is at \(-44.974\) degrees.
It is missing the defined target center by \(+3.35\) mm upstream, and \(-0.71\) mm vertically (positive = up).

If the offset is corrected by secondary alignment, the spectrometer will be at \(315.003\) degrees.

\(*.3dd = 1.07\) \hspace{1cm} \(*.9pr = 0.11\)

\textbf{H070501A}

The central ray of the spectrometer is at \(44.995\) degrees.
It is missing the defined target center by \(+0.76\) mm upstream, and \(+1.03\) mm vertically (positive = up).

If the offset is corrected by secondary alignment, the spectrometer will be at \(45.000\) degrees.

\(*.3dd = 1.55\) \hspace{1cm} \(*.9pr = 0.15\)

\textbf{E070601B}

The central ray of the spectrometer is at \(-34.985\) degrees.
It is missing the defined target center by \(+1.90\) mm upstream, and \(-0.02\) mm vertically (positive = up).

If the offset is corrected by secondary alignment, the spectrometer will be at \(-34.998\) degrees.

\(*.3dd = 1.31\) \hspace{1cm} \(*.9pr = 0.13\)
RESULTS

The central ray of the spectrometer is at 35.025 degrees. It is missing the defined target center by 3.43 mm downstream, and 0.81 mm vertically (positive = up).

If the offset is corrected by secondary alignment, the spectrometer will be at 35.001 degrees.

*.3dd = 1.43
*.9pr = 0.12

Superharps   DX    DY   locations in mm (+ is beam left)
SH1H01A   -0.14   0.36
SH1H01B   -0.01   0.31
SH1H01C   -0.02   0.32
SH1H02A   -0.18   0.31
SH1H02B   -0.09   0.33
SH1H02C   -0.08   0.38