Application of a Beam Based Alignment Technique at HERA, D. BARBER, M. BÖGE[1], R. BRINKMANN, E. GIANFELICE-WENDT, T. LIMBERG, N. MEYNERS, P. SCHÜLER, DESY; M. SPENGOS, UPEN - Minimizing beam offsets in quadrupole magnets and thus transverse fields which rotate spins away from the direction of the main bending fields leads to a substantial reduction of depolarizing effects. This results in an increase of the equilibrium spin polarization in electron storage rings. At HERA, a method to determine the magnetic centres of quadrupole magnets with respect to adjacent beam position monitors was developed and its results were used to minimize the rms angle of vertical closed orbit defections. Without any further spin orbit corrections the equilibrium polarization improved from 13% to 28%. Additionally a systematic beam offset in the sextupole magnets leading to a twist of the beam ellipse was removed.

1 Now at CERN.