

# The stabilisation of final focus (StaFF) system

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The StaFF (Stabilisation of Final Focus) system will use interferometers to monitor the relative positions of several key components in the beam-delivery and interaction region. The most demanding application will be the relative position monitoring of the ILCs final focus quadrupole magnets; whose mutual and beam-relative stability, will have a direct impact on detector luminosity.

Established, laser based Frequency Scanning Interferometry (FSI) and fixed-wavelength interferometry offer positional resolution at the length scales of the laser wavelength (roughly 1500 nm) and below the wavelength, respectively. As part of the ATF at KEK, the StaFF group are currently testing ideas for this system. Interferometer designs undergo trials in Oxford and tests of a network setup are being prepared for installation at the ATF at KEK to resolve the relevant performance issues.

The main issues relating to deployment of interferometers for this role at the ILC will be discussed, together with current work on interferometer design and tests to date.

## Summary

Interferometers designed to monitor the relative stability of the final focus quadrupoles are being tested at Oxford and the KEK ATF.

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