

Transverse beam size diagnostics and some applications to storage ring operation and beam studies at the ESRF

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Since the upgrade of the ESRF storage ring to a small emittance lattice, the transverse beam profile of the stored electron beam reaches very low values, and its measurement becomes therefore challenging. At the ESRF we continue to use the X-ray pinhole as regular beam size monitor. Development of other techniques with the potential of high resolution is ongoing. The transverse profile (or emittance) diagnostics has several applications to beam studies and optimisation of operation parameters, which will also be presented here.