

Procedure for quadrupole scans

- Well tuned beam (orbit should be centered as the best we can, dispersion should be less than 10mm in y and less than 50 mm in x).
- Found with MAD simulation the good quads to be scanned with which wire scanner:
 - Machine status should be download an interface with MAD simulation.
 - Research of interesting quadrupoles with simulation:
 - Parabola should be reconstructed in a current range not so far from initial quad alim.
 - If possible both x and y parabola.
- 1- Measure dispersion for initial quadrupole value:
 - orbit measurement and storage for 5 frequencies at BPM
 - SAD extrapolation at wire scanners.Note the dispersion results
- 2- Measurements of the beam size(s) at the selected wire scanner. (found the position of the beam)
repeat this 3 to 5 times for uncertainty estimation.
Note the beam size with its uncertainty
- 3- Change the strength of the selected quad. (usually I started with a path of 5A)
- 4- Measure the dispersion as 1.
- 5- Measure beam size with wire scanner.
repeat 3 4 5 until to have a nice parabola!
- Offline parabola reconstruction and fit.