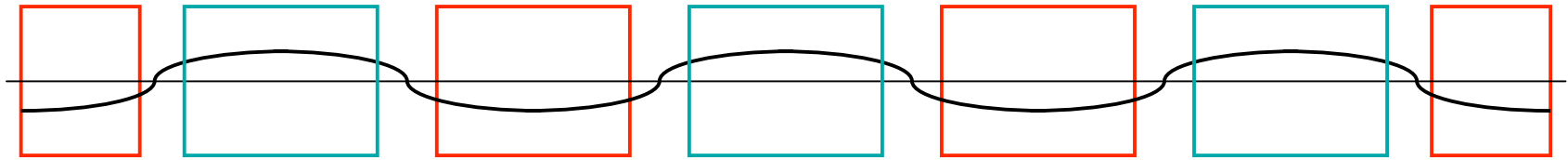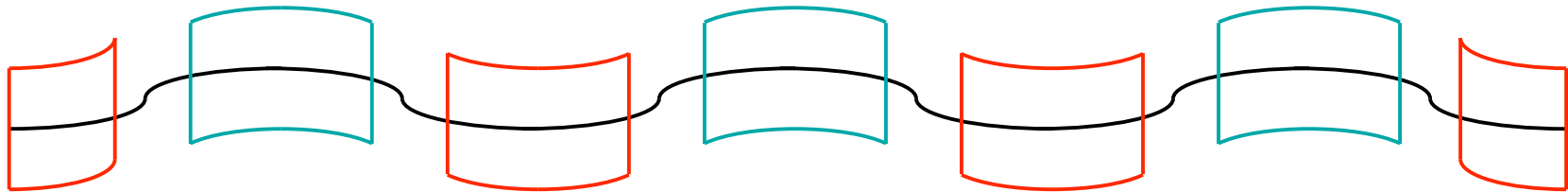# Wiggling wiggler

Build wiggler poles symmetric
with respect to the beam orbit

In order to check the the amount of nonlinearities in such a structure we have compared it with the normal structure of our wiggler

The simulation has been performed by:

- calculating the beam trajectory in the wiggler on the nominal starting position, with the orbit almost symmetric with respect to the wiggler axis

- checking the behaviour of the output angle versus horizontal position

- displacing the measured points in the field map by the position of the beam at each point

- checking the behaviour of the output angle versus horizontal position in this new field configuration
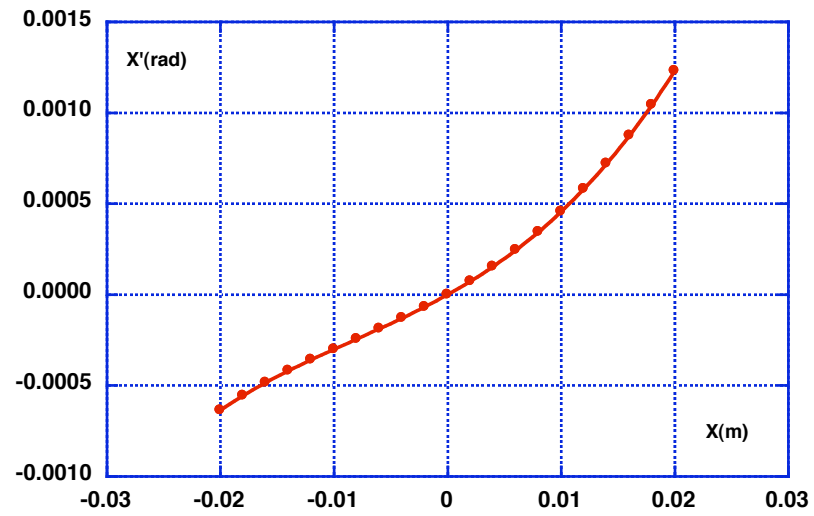
Y = M0 + M1*x + ... M8*x^8 + M9*x^9	
M0	-4.1173e-08
M1	0.03498
M2	0.7968
M3	29.25
M4	-129.69
R	1
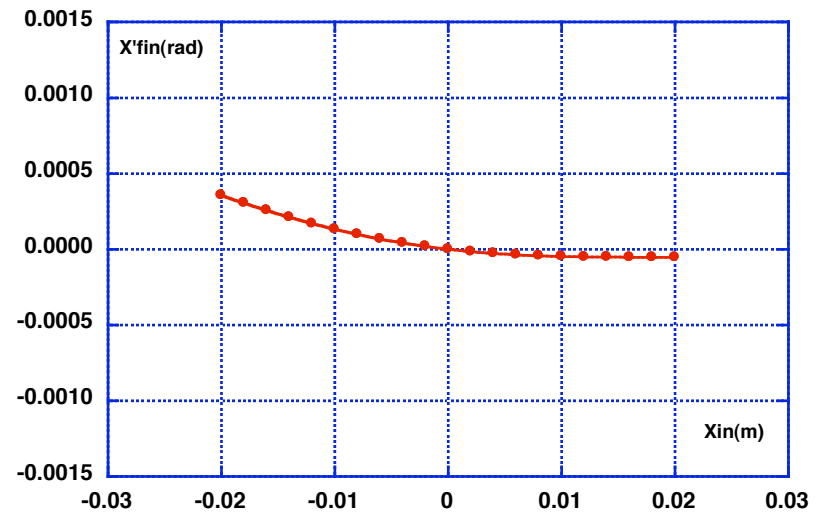
Y = M0 + M1*x + ... M8*x^8 + M9*x^9	
M0	3.9148e-08
M1	-0.0085408
M2	0.43523
M3	-4.2241
M4	-144.25
R	1

Multipole amount
(with respect to standard wiggler)

Quadrupole	**25%**
Sextupole	**55%**
Octupole	**15%**