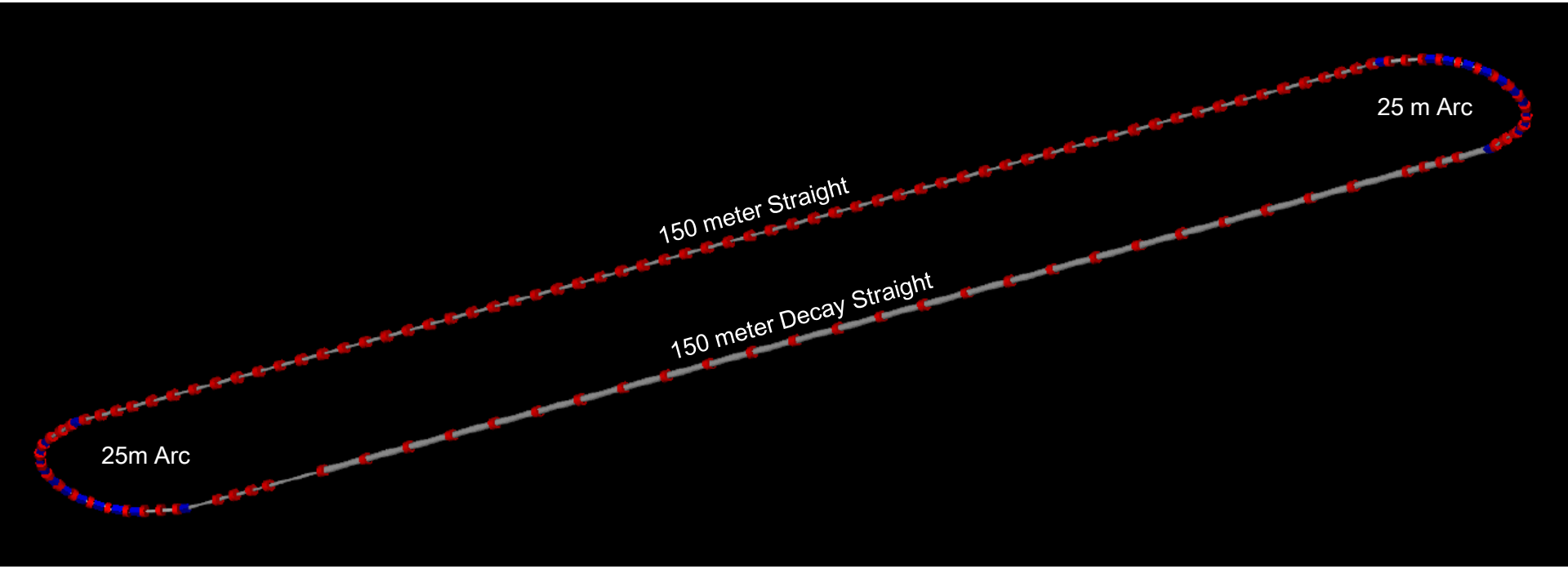
New Options for a Decay Ring Optics

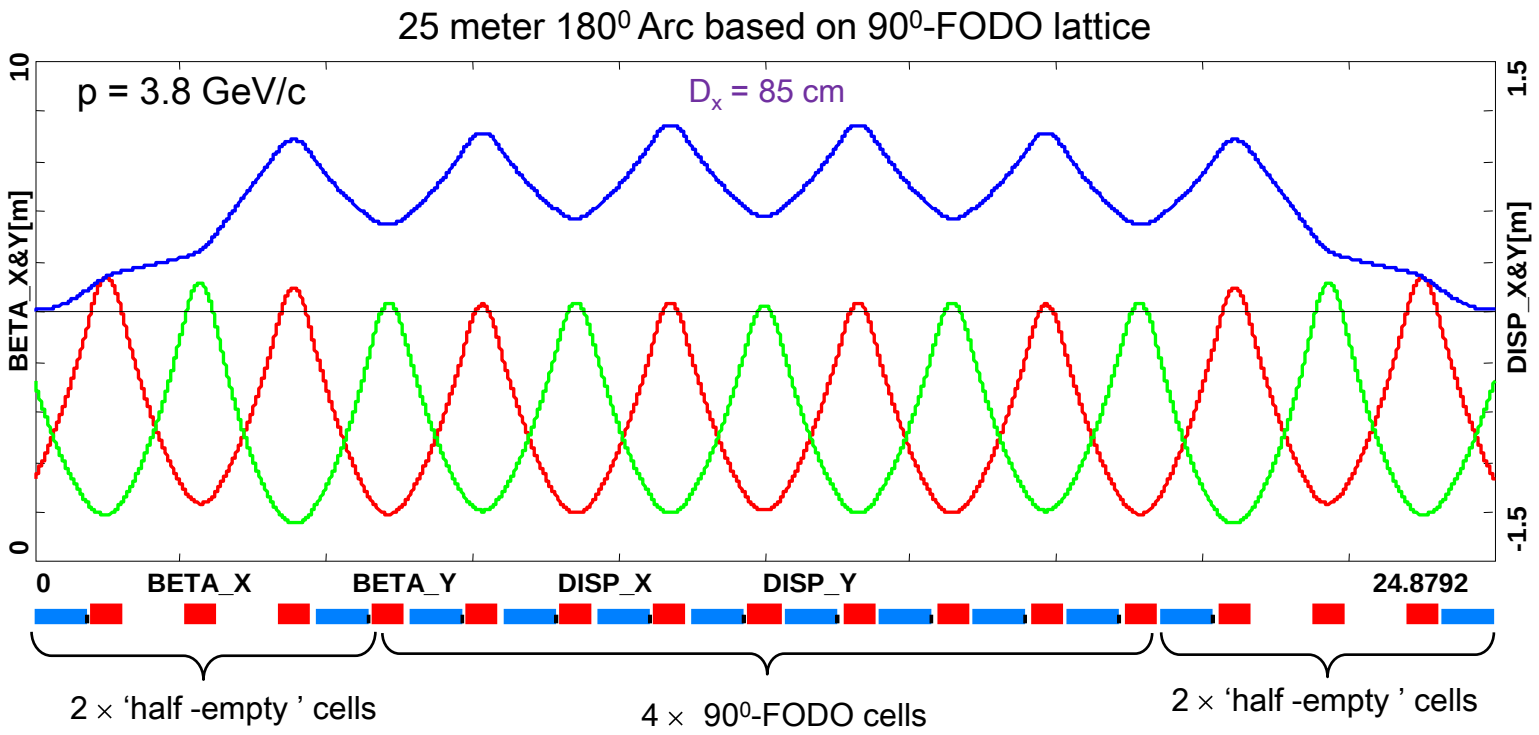
Alex Bogacz

5/3.8 GeV π/μ – Capture/Decay Ring

Muons recirculated at central momentum: p = 3.8 GeV/c



Arc Optics – ‘missing dipoles’

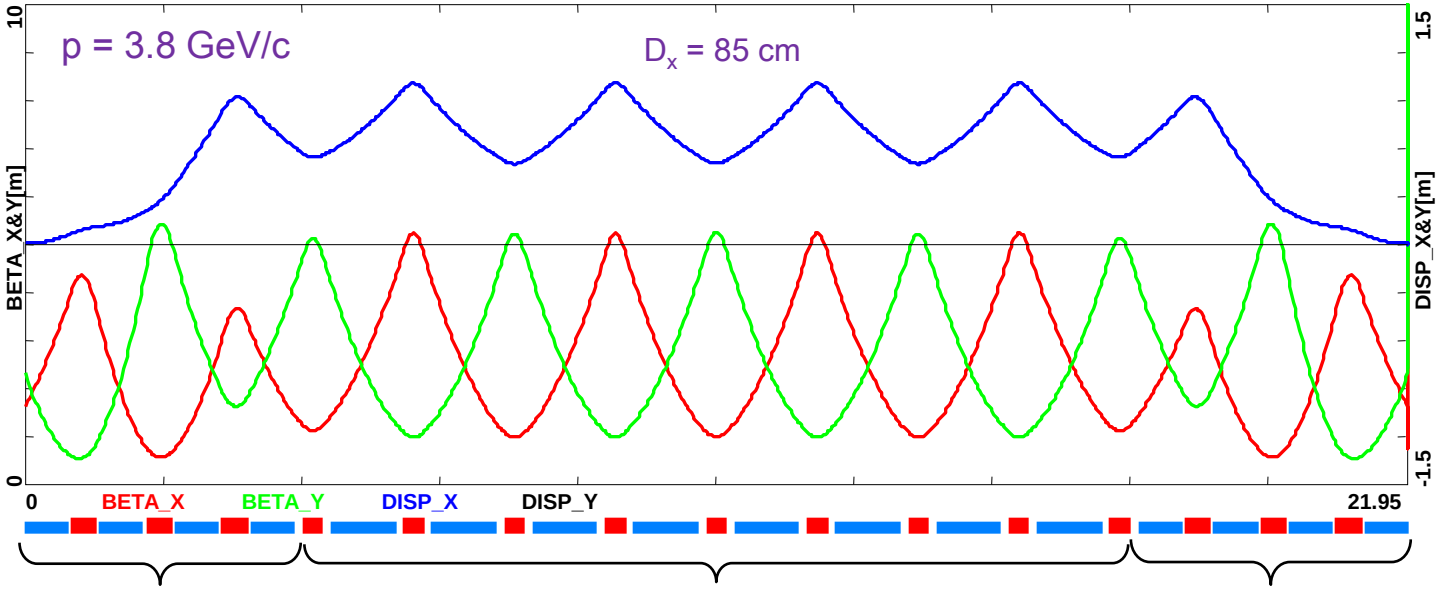


Aperture radius: r = 15 cm

12 × Dipoles:	field: 3.9 Tesla	length: 85 cm
15 × Quads:	gradient : 25 Tesla/m (3.8 Tesla at the pole)	length: 50 cm

‘Compact’ Arc Optics a la Al Garren

22 meter 180^0 Arc



2 disp. sup cells

$4 \times 2/3$

$3 \times 4/3$

4 regular cells

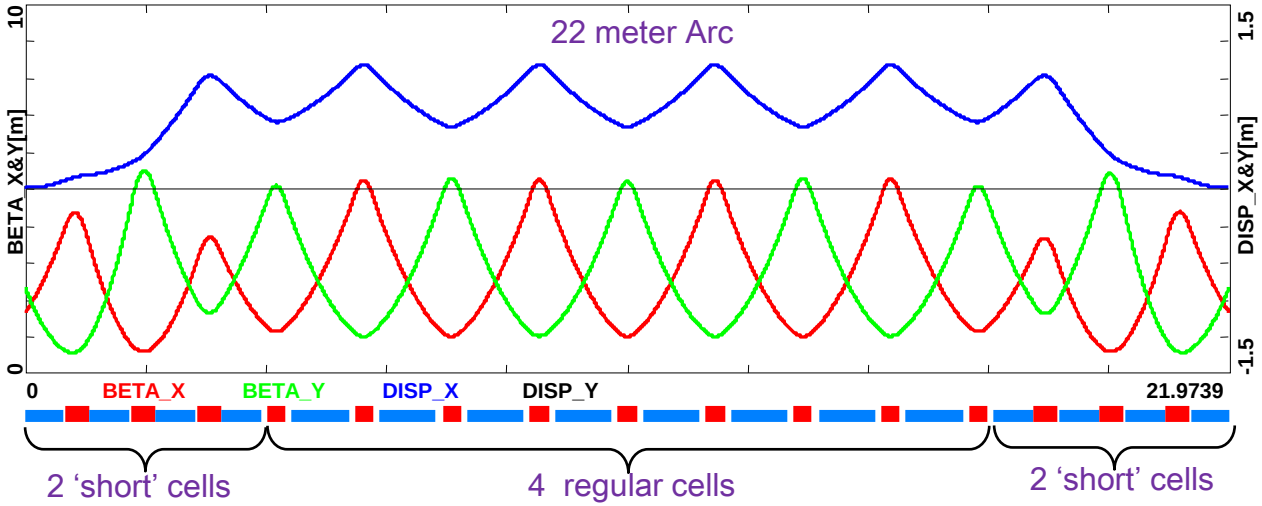
Dipoles: 3.9 Tesla
Quads: 25 Tesla/m
Aperture: r = 15 cm

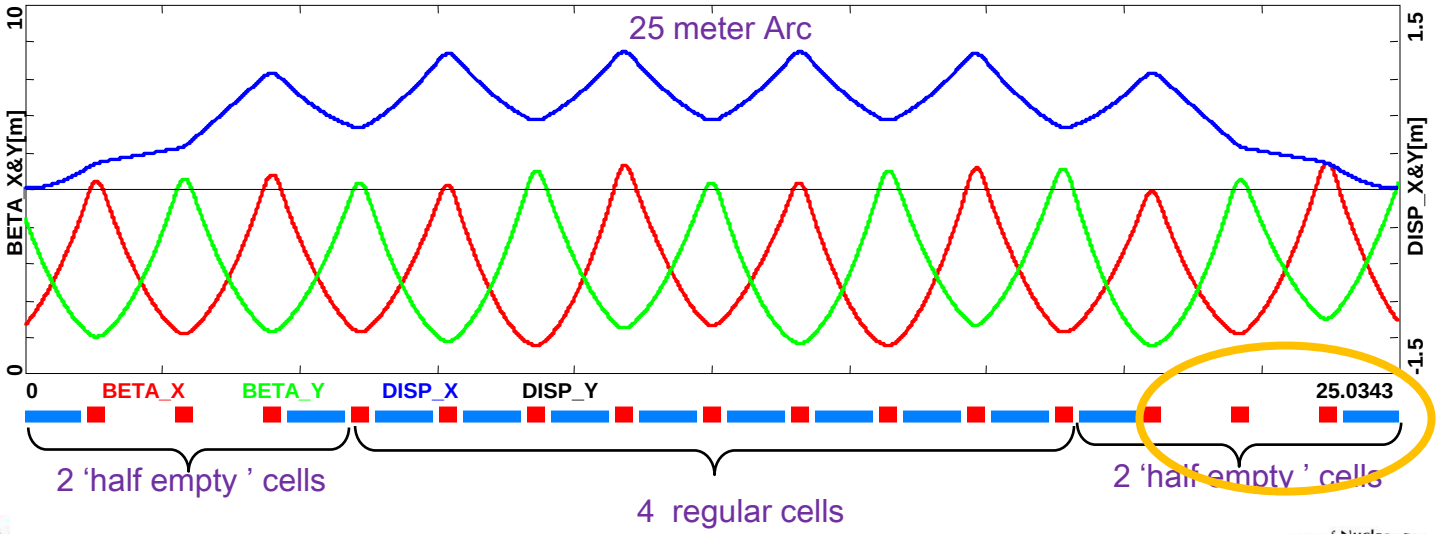
2 disp. sup cells

$4 \times 2/3$

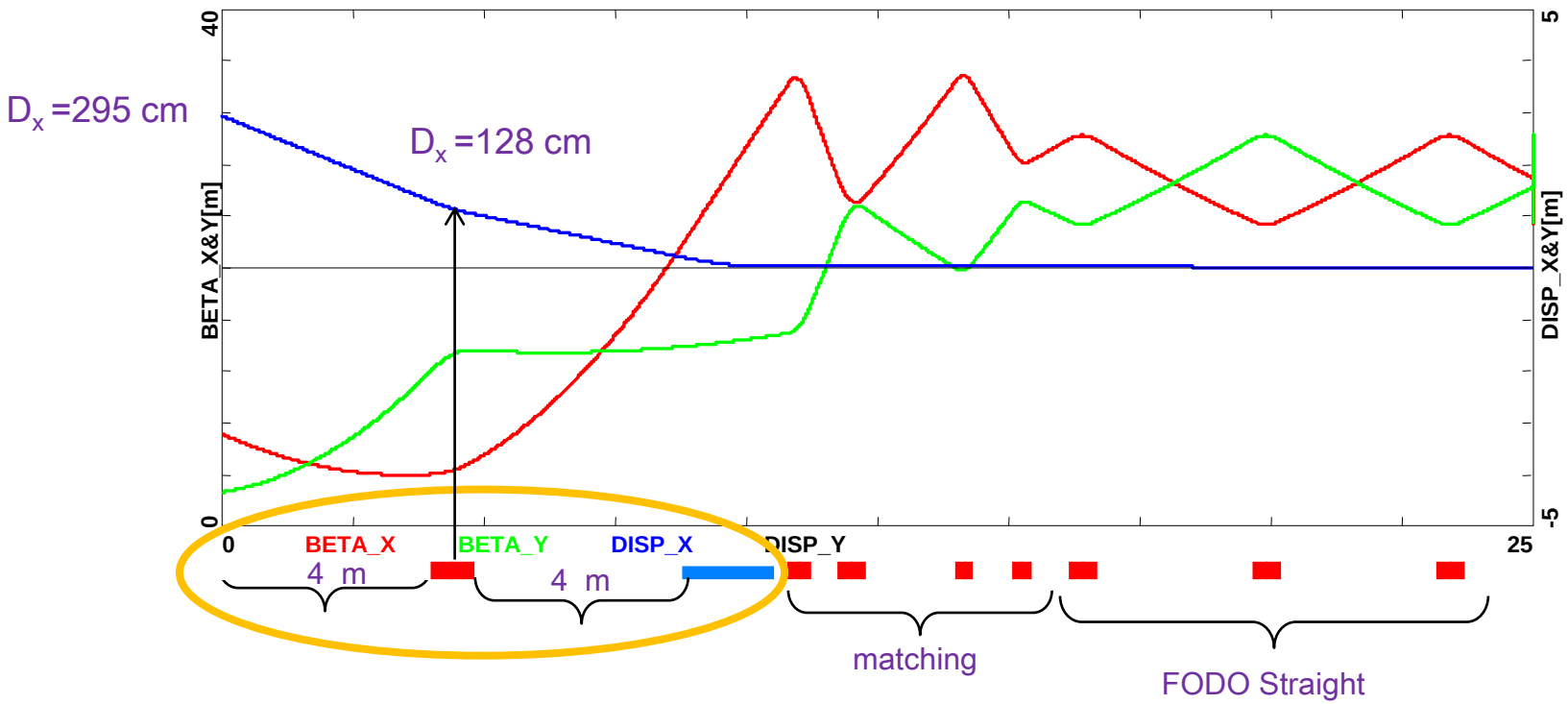
$3 \times 4/3$

Arc Optics Options



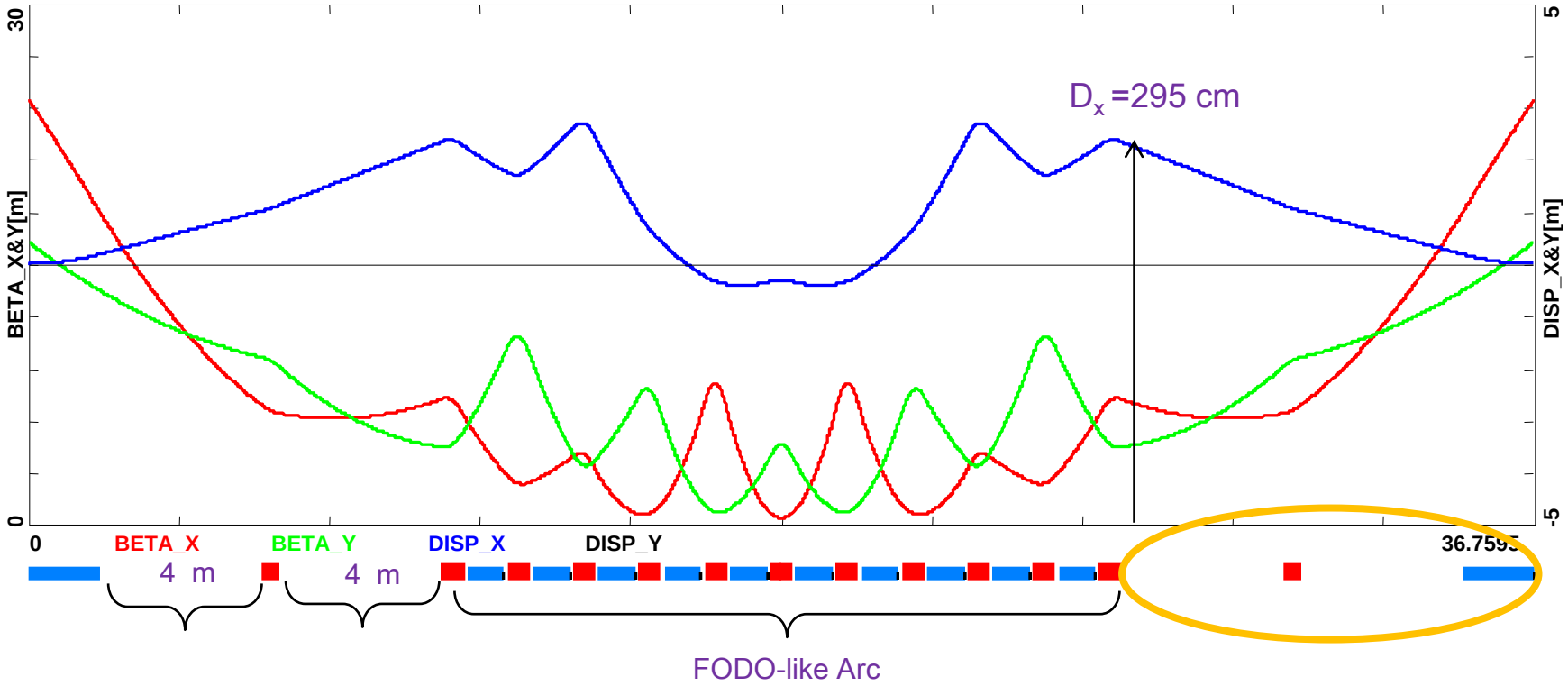


Ao's Injection Optics

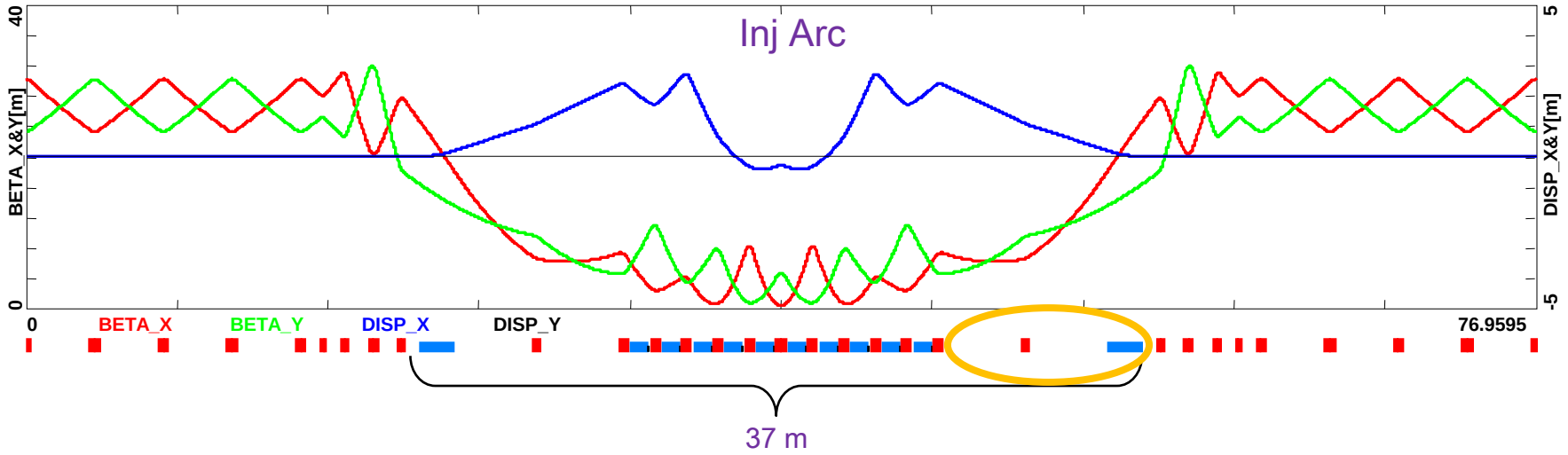


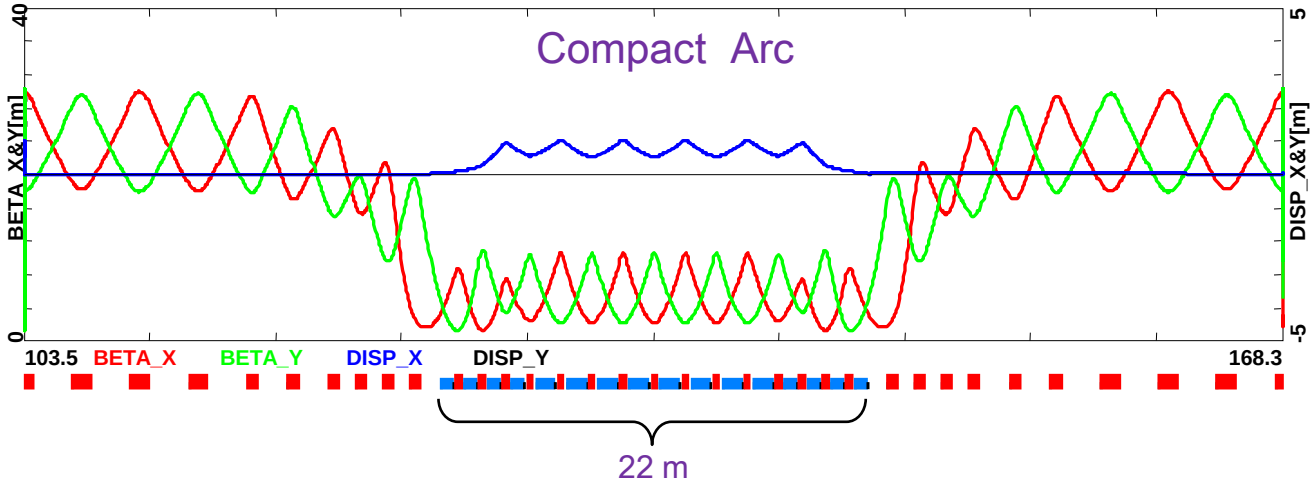
Ao Liu

Injection Arc Optics



Ring Optics – Arc Options





Decay Ring with non parallel straights?