# First look at the experimental insertion

Roman Martin
Rogelio Tomas

Thanks to Ezio Todesco

- Currently: upscaled LHC design
- Scaling factor = 2.0
- Guiding principles: Aperture radii no smaller than 20mm and magnetic field of D2 only few T

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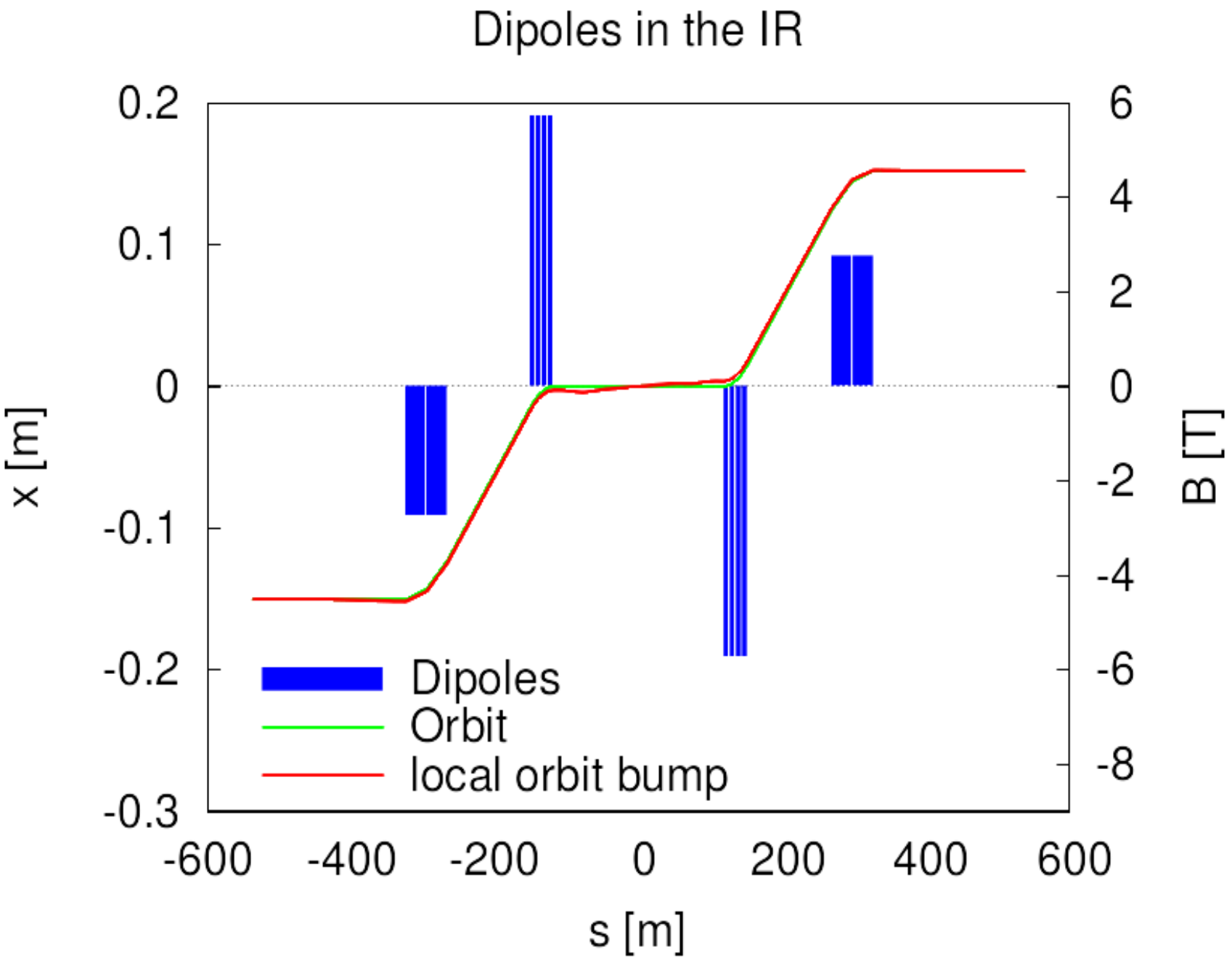
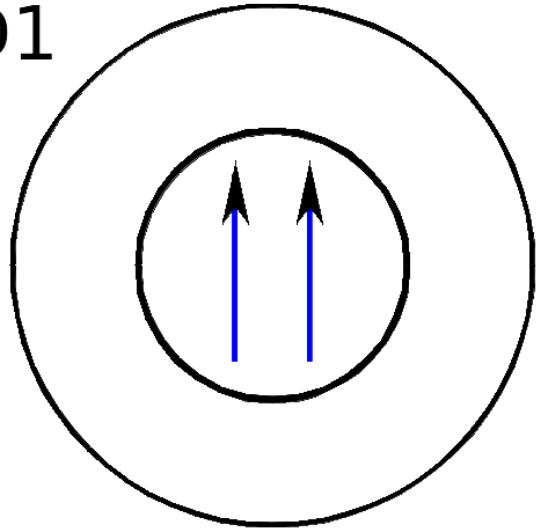
# Dipoles

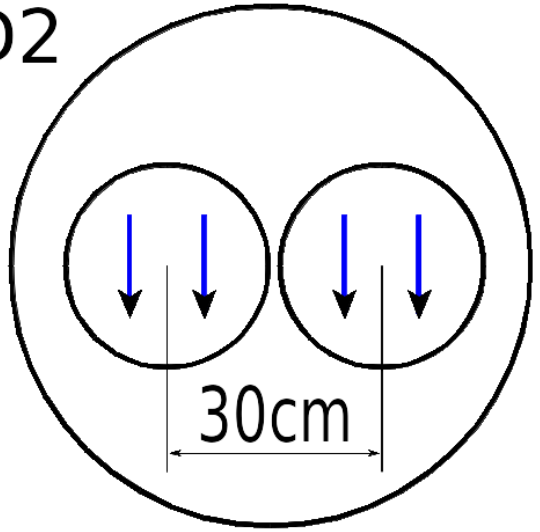

Dipoles in the IR
x [m]
B [T]
s [m]
0.2
0.1
0
-0.1
-0.2
-0.3
6
4
2
0
-2
-4
-6
-8
-600
-400
-200
0
200
400
600
Dipoles
Orbit
local orbit bump

# Dipoles

D1



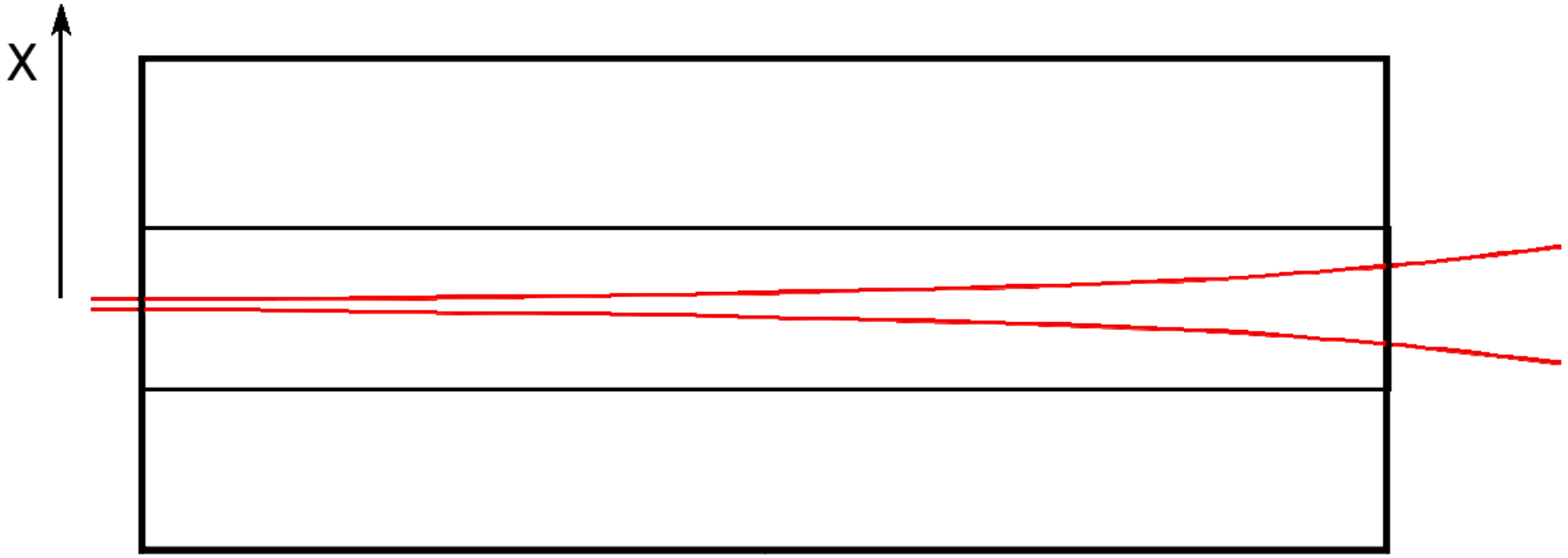
D2




D1: shared by both beams, B= 5.74 T

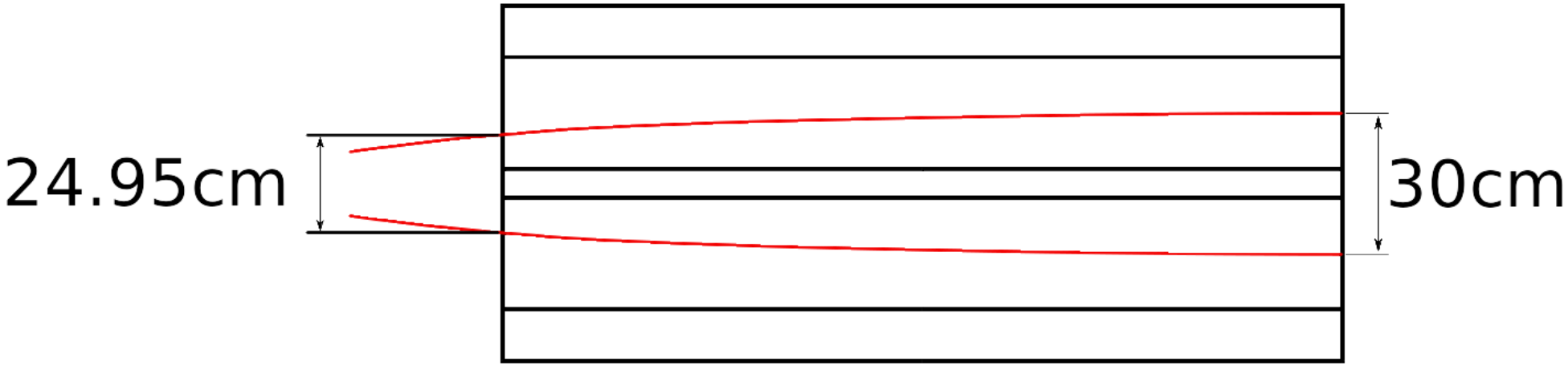
D2 separate dipoles, but magnetic fields have same directi

D1




Minimum aperture = $x + 12\sigma_x$ = 23.24 mm

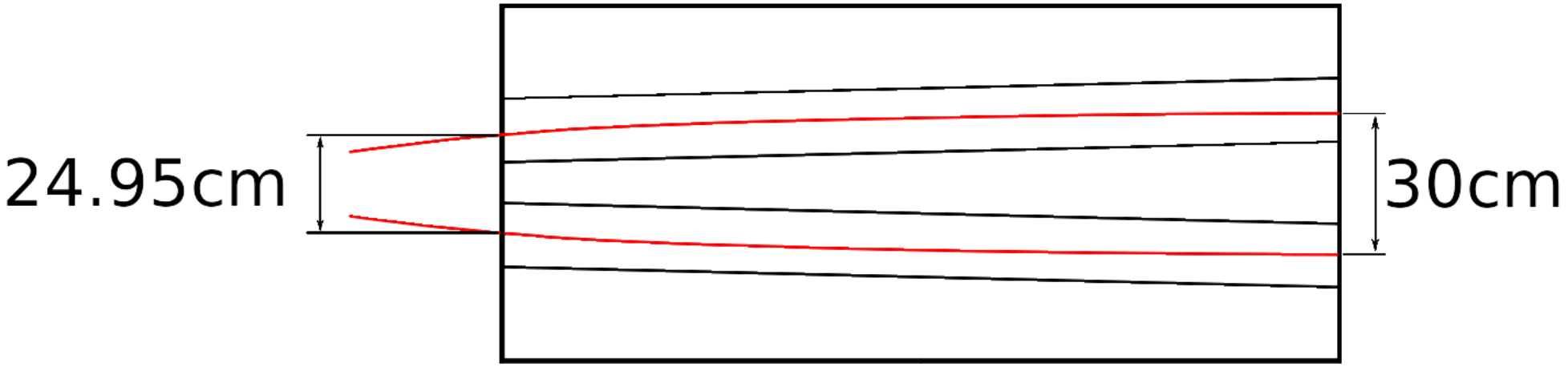
# D2 option 1




Minimum aperture = $\Delta x + 12\sigma_x$

= 26.73 mm

# D2 option 2




- Tilted/curved dipoles
- Minimum aperture = $12\sigma_y$

= 1.41 mm <

# Quadrupoles