Internal Target for Electron to Gamma Conversion
FFAG Workshop 2015

Thomas Planche, Aurelia Laxdal, Ayan Sen

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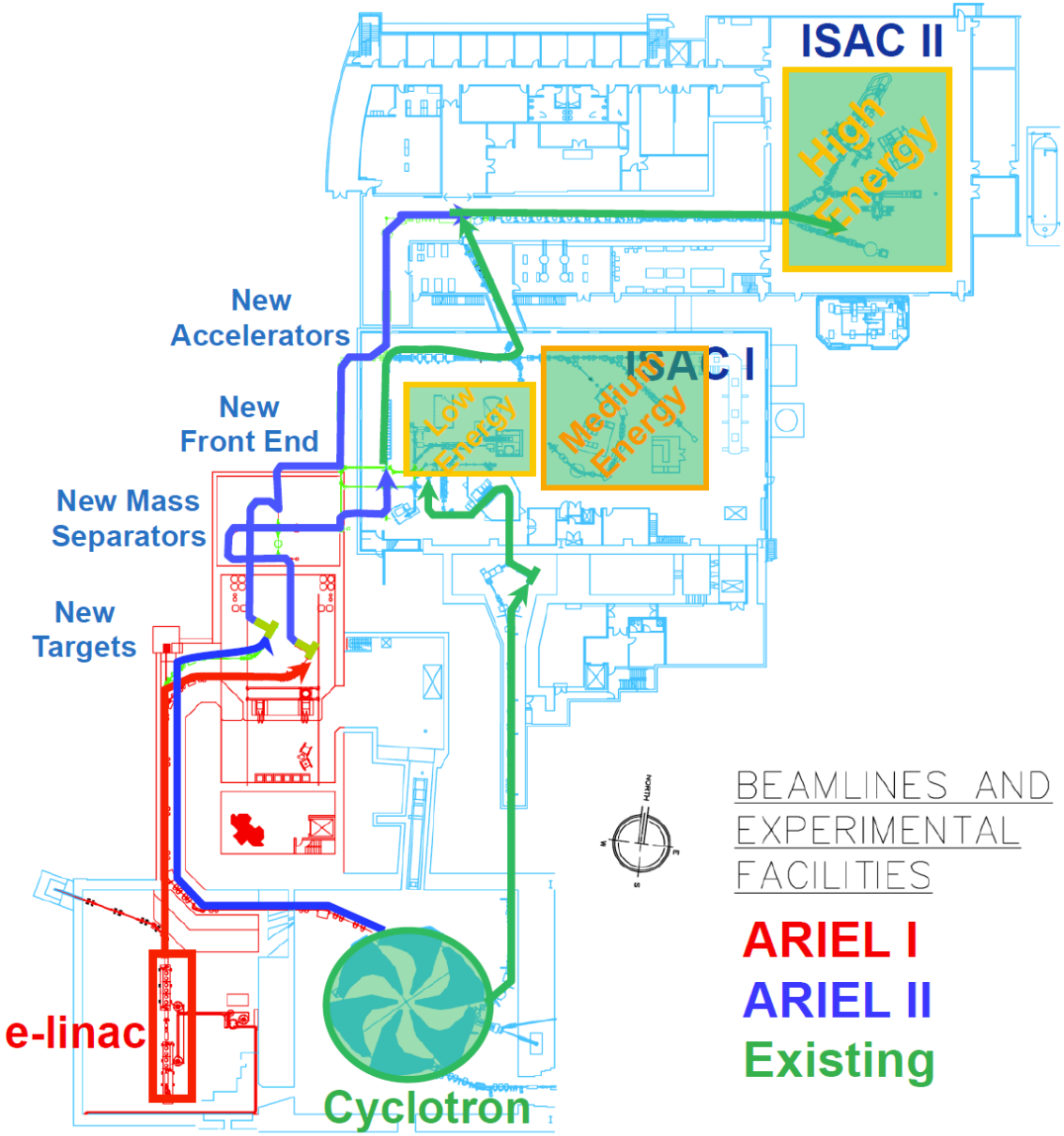
TRIUMF Radioactive Ion Beam Facility



E-Linac

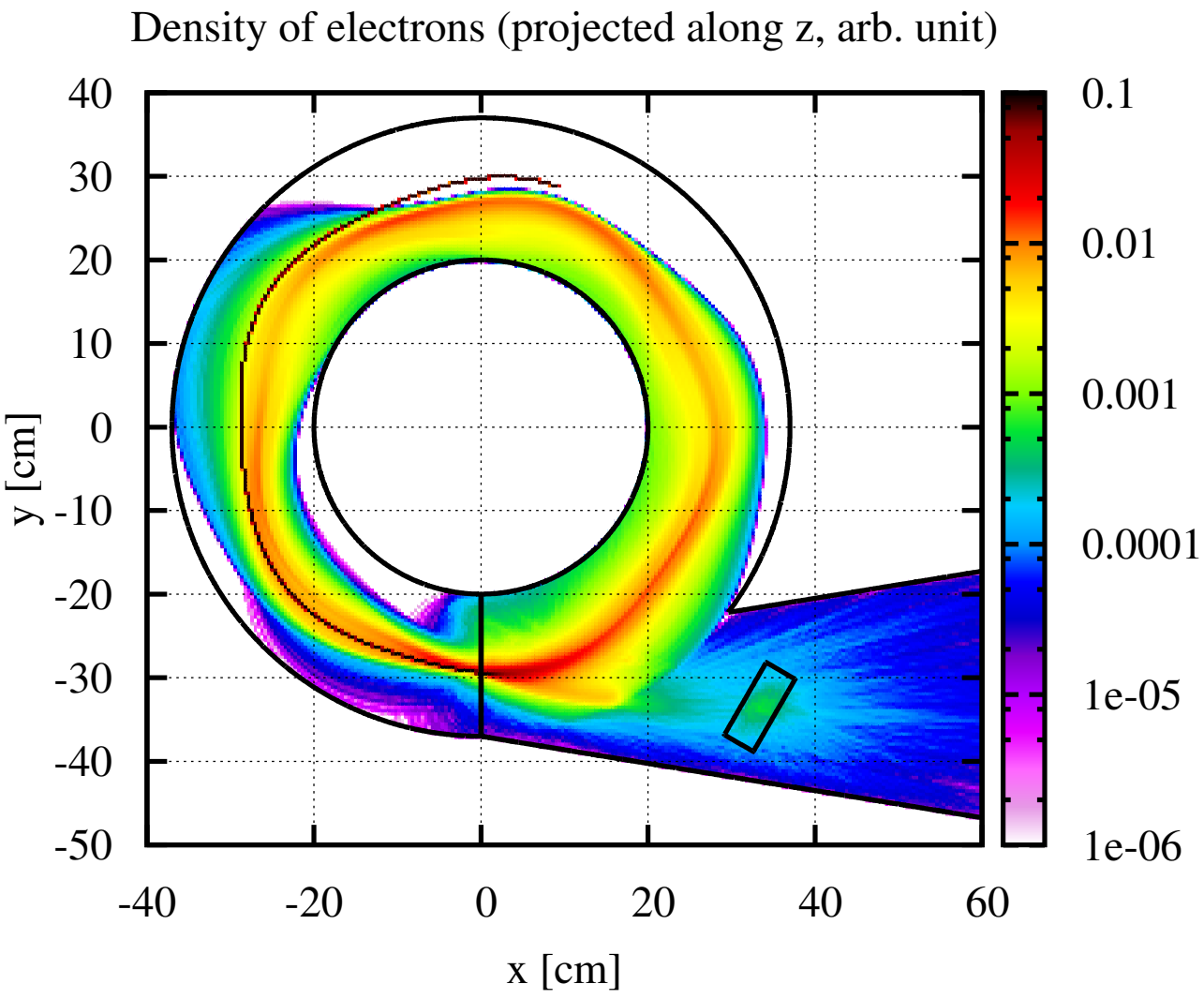
- 50 MeV electrons
- 500 kW beam power

Challenges

- Short range of electrons: large power in small volume.
- Nuclear safety: primary beam power can vaporize the target.

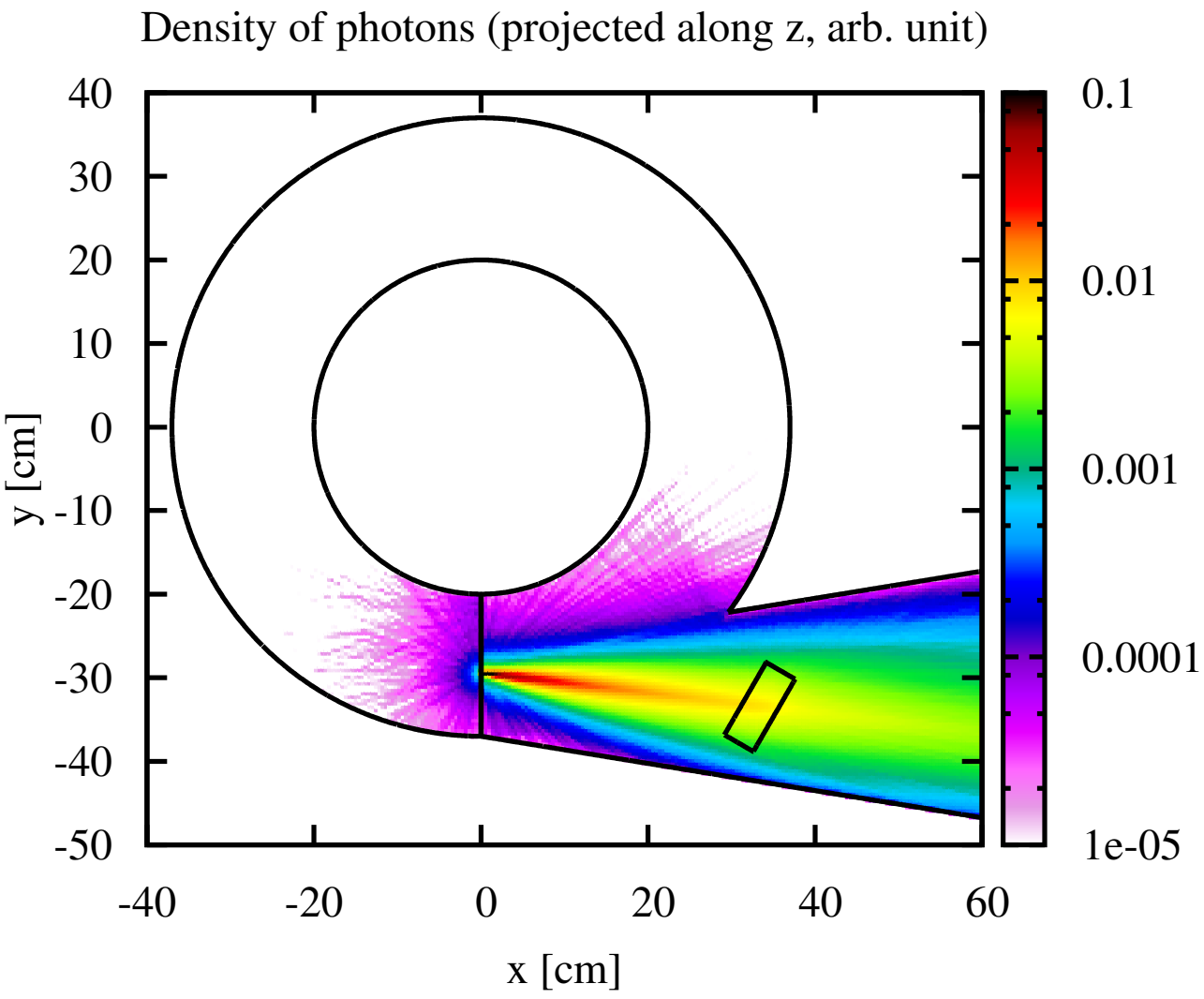
Internal Convertor?

Electrons:



Internal Convertor?

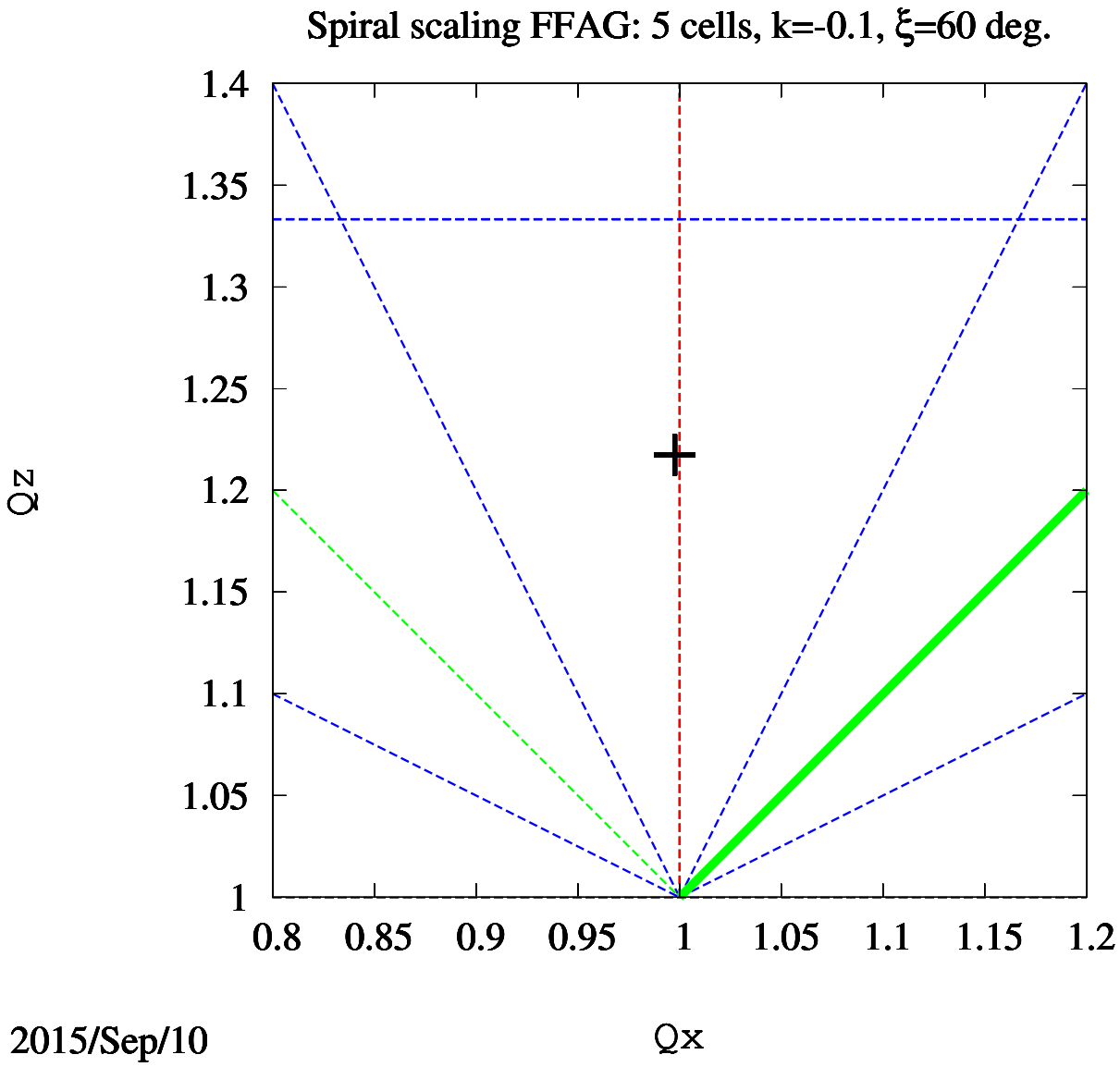
Photons:



Ring Parameters

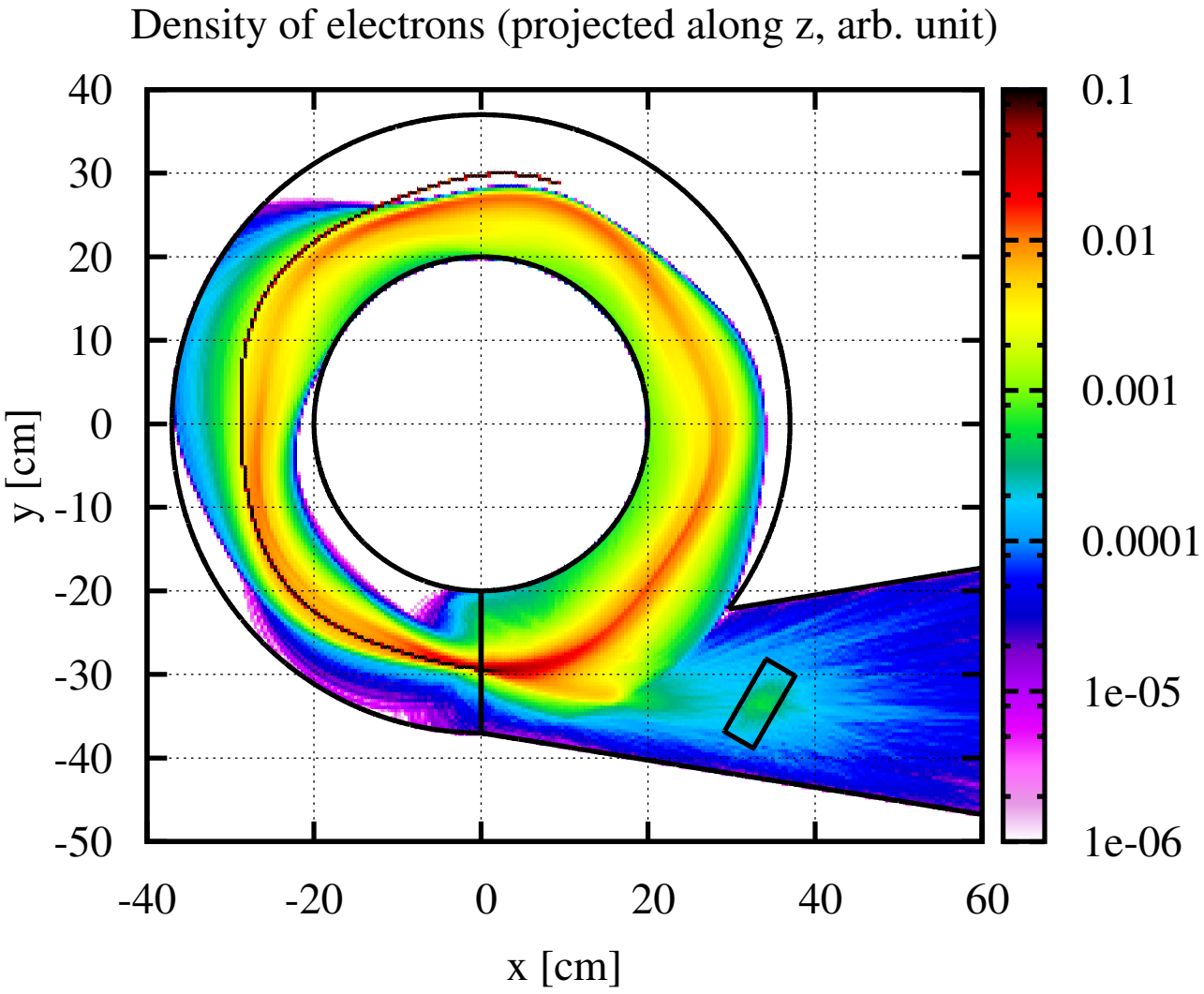
- Spiral scaling FFAG
- 5 sectors
- Geometrical field index k = -0.1
- Spiral angle $\xi = 60$ deg.
- Max. field < 1 T

Working Point



CW Injection Scheme

Turn separation for septum magnet:



Convertor Foil Thickness