

# Progress on head-on extraction optics

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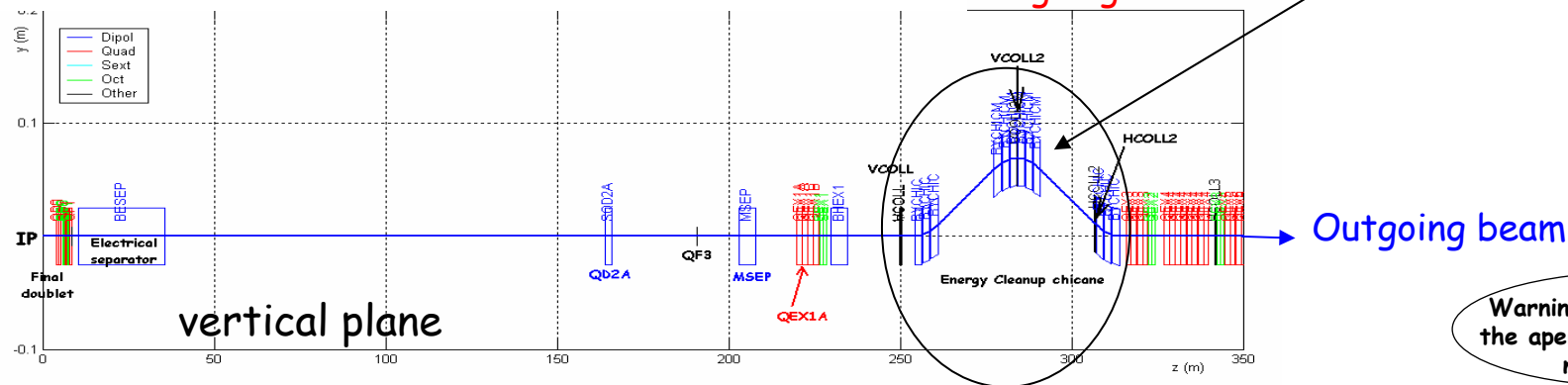
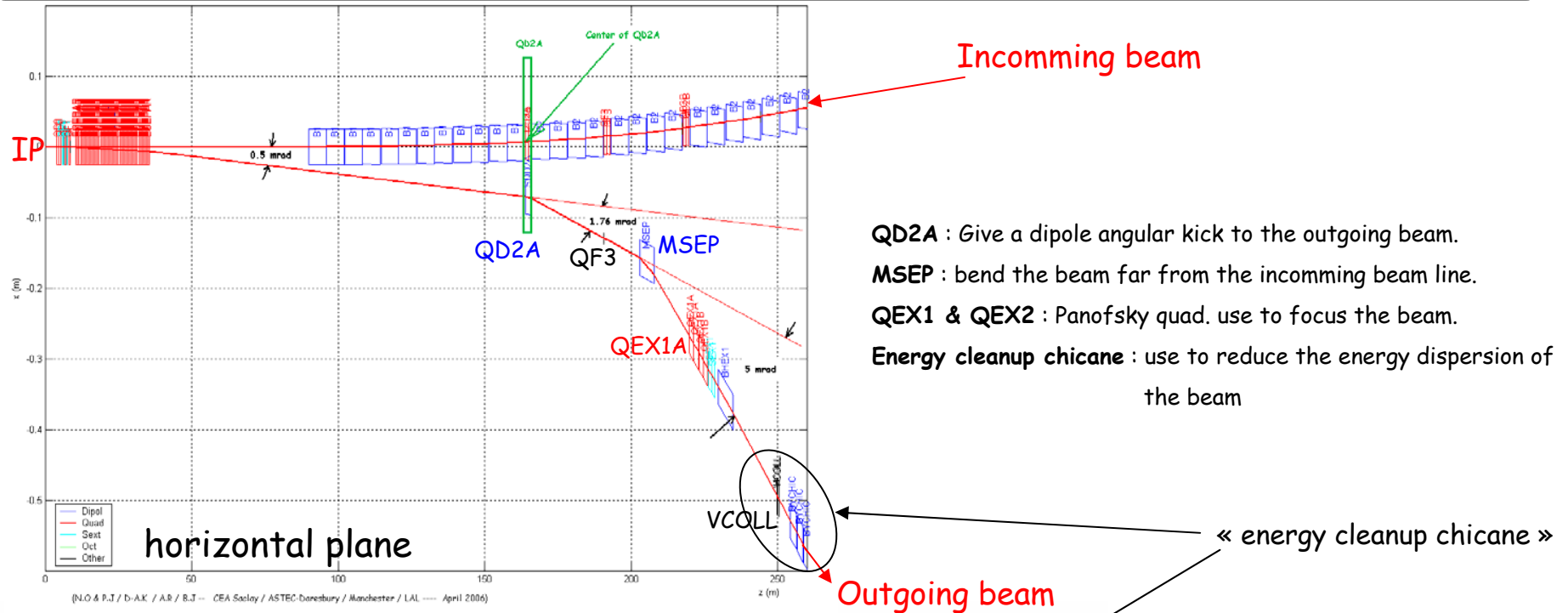
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In these slides all tracking result have been obtained using :

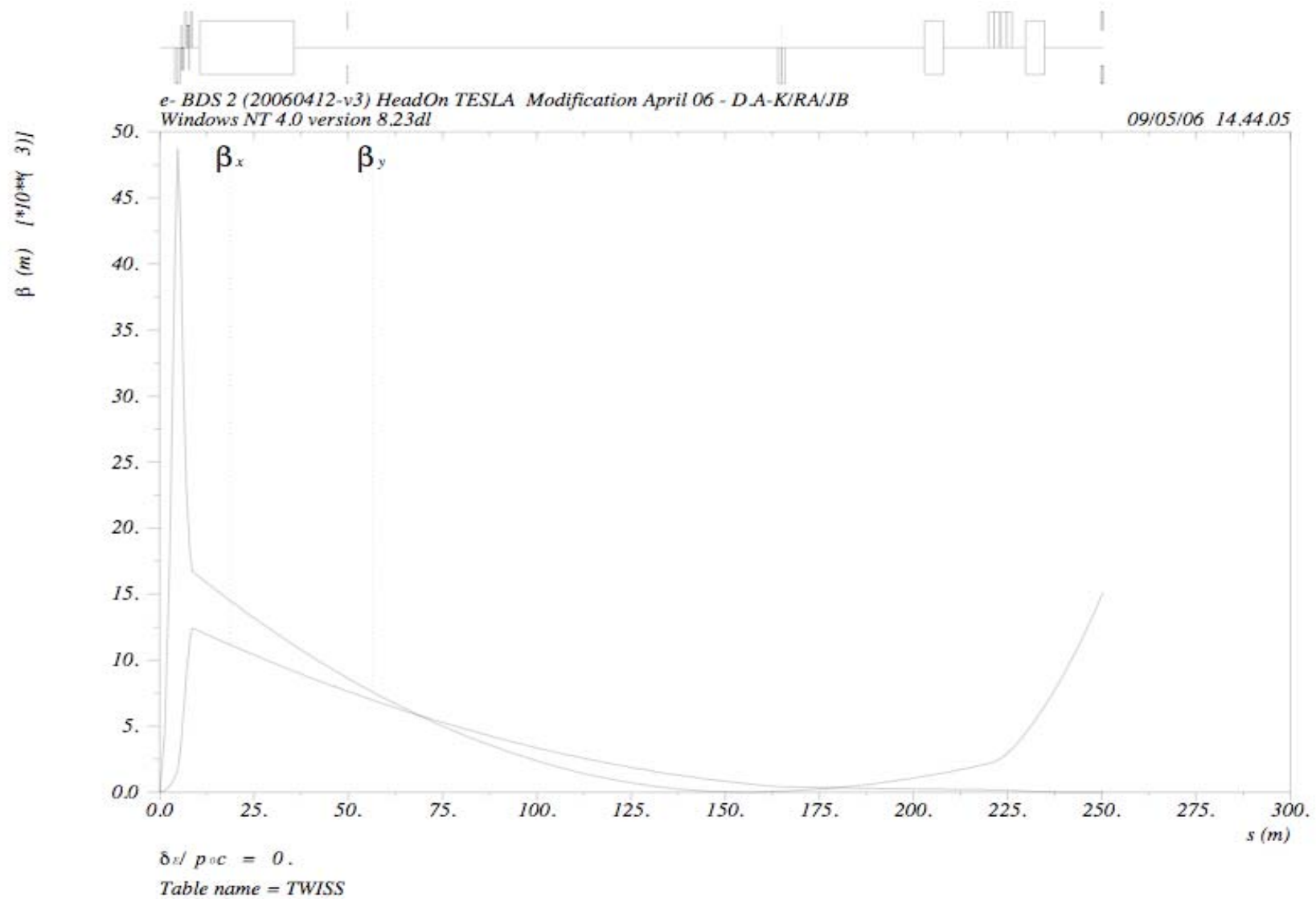
- Dimad software
- 200 000 particules (500 GeV cm)
- Guinea-Pig file for nominal parameters
- Without offset at IP

And the line design is still under progress !!



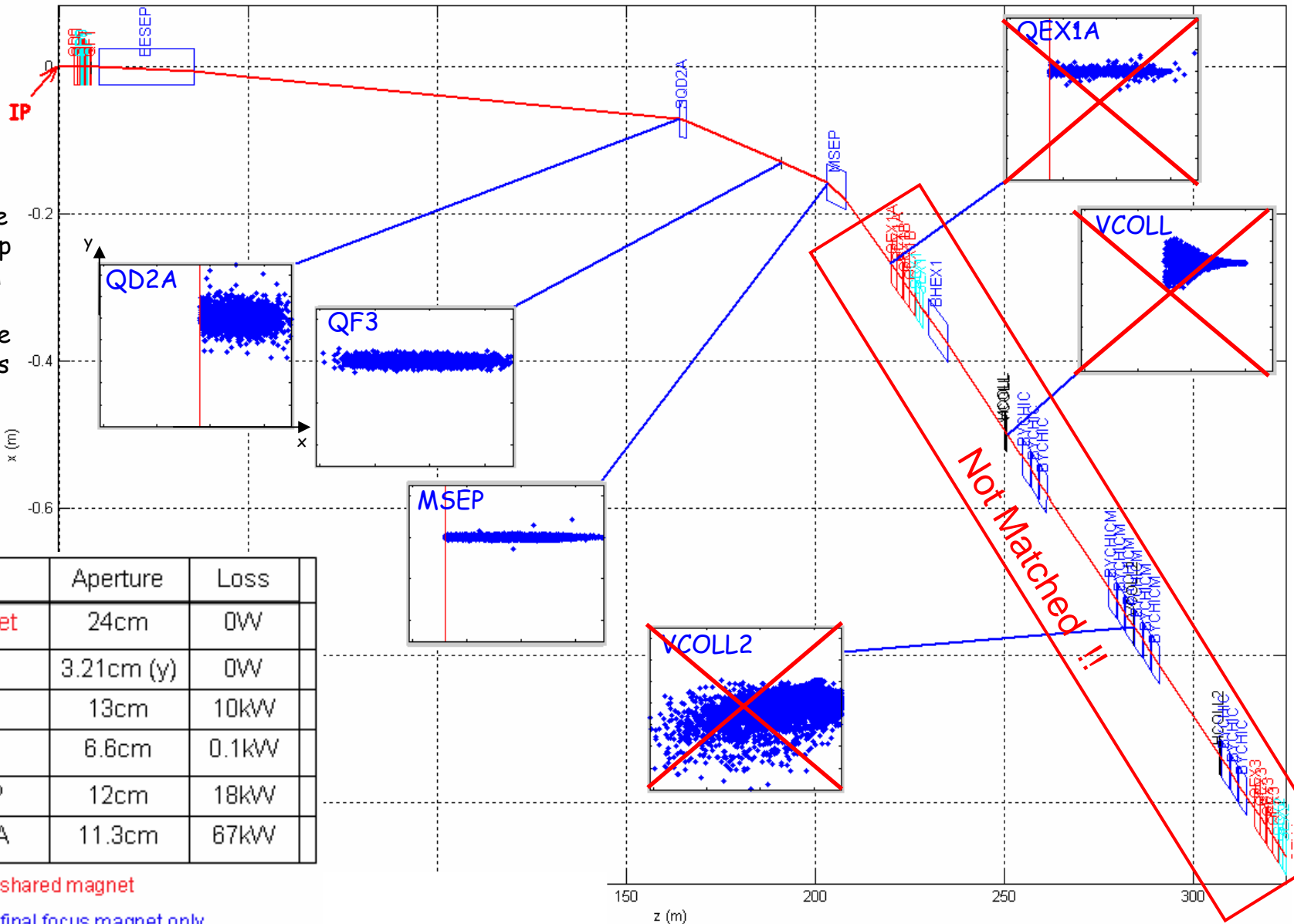
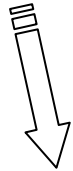
Warning : In both sketch, the aperture dimensions are not at scale !!

# Extraction line optics



# Simplified and general view of the beam shape along the present extraction line design

**1<sup>st</sup> step :**  
Introduce the energy cleanup chicane from the 2 mrad extraction line and see what's happening.

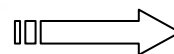


Location	Aperture	Loss
Final doublet	24cm	0W
PC-B1	3.21cm (y)	0W
QD2A	13cm	10kW
PC-QF3	6.6cm	0.1kW
PC-MSEP	12cm	18kW
PC-QEX1A	11.3cm	67kW

Denotes shared magnet

Denotes final focus magnet only

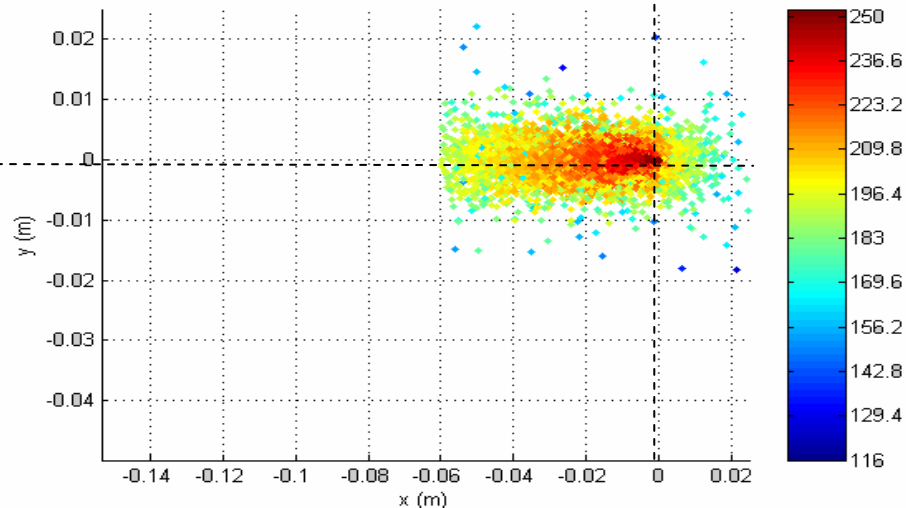
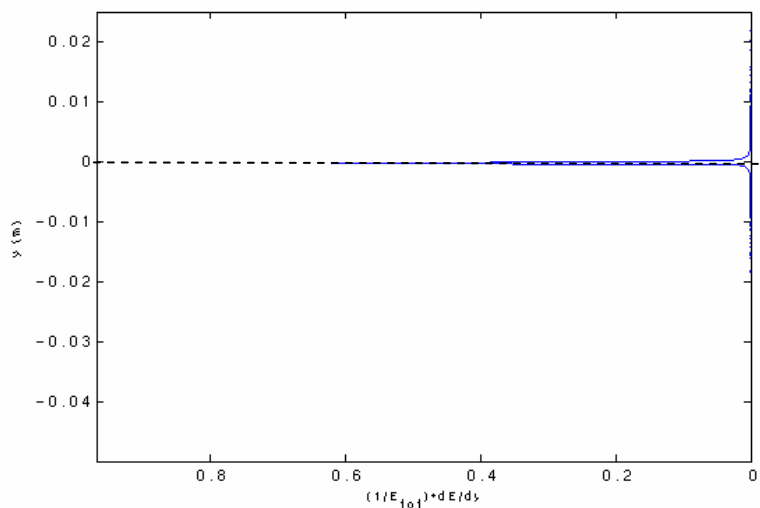
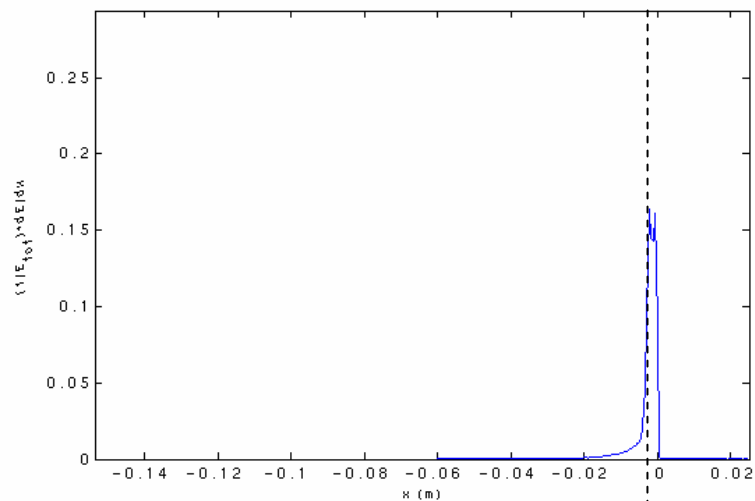
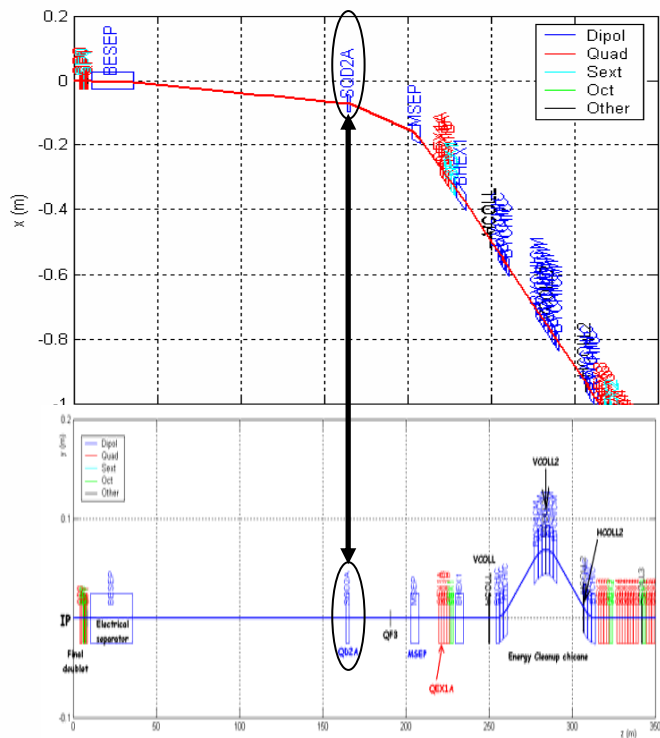
Denotes extraction line magnet only



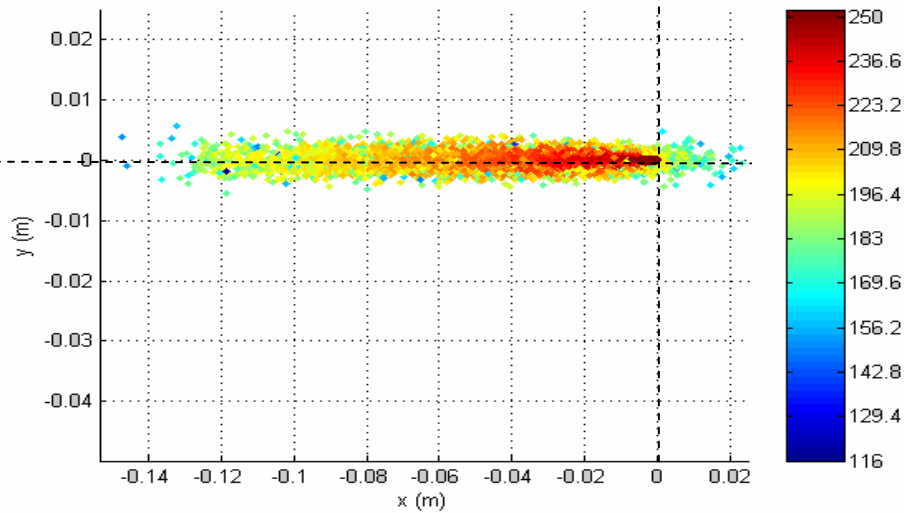
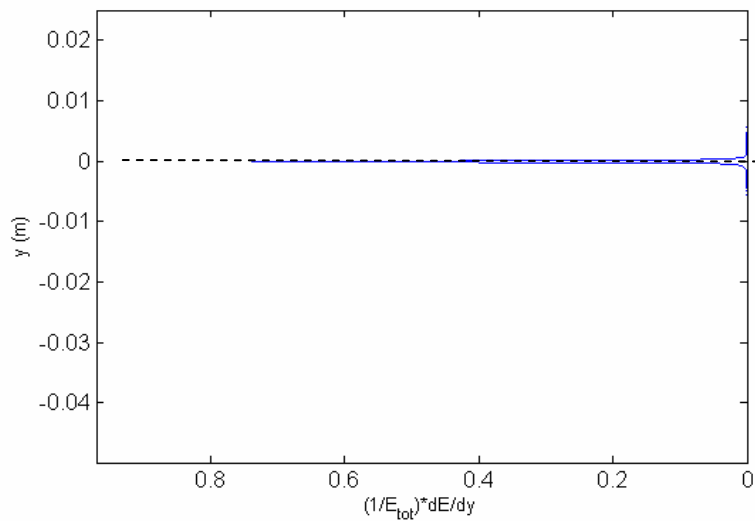
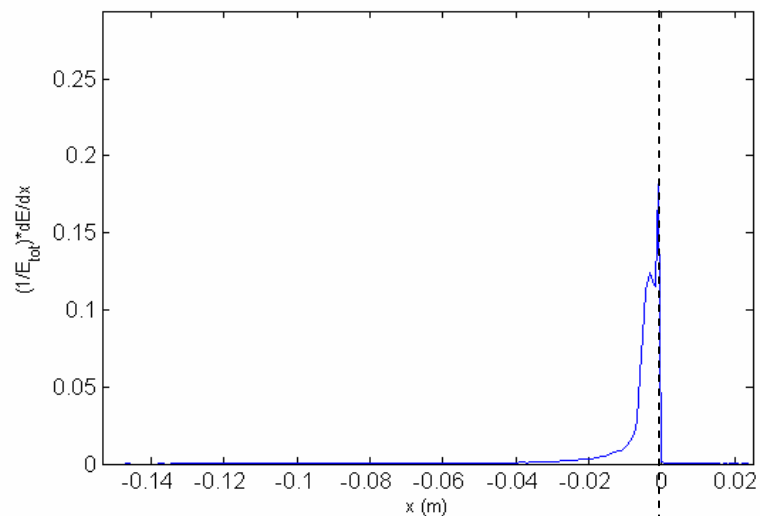
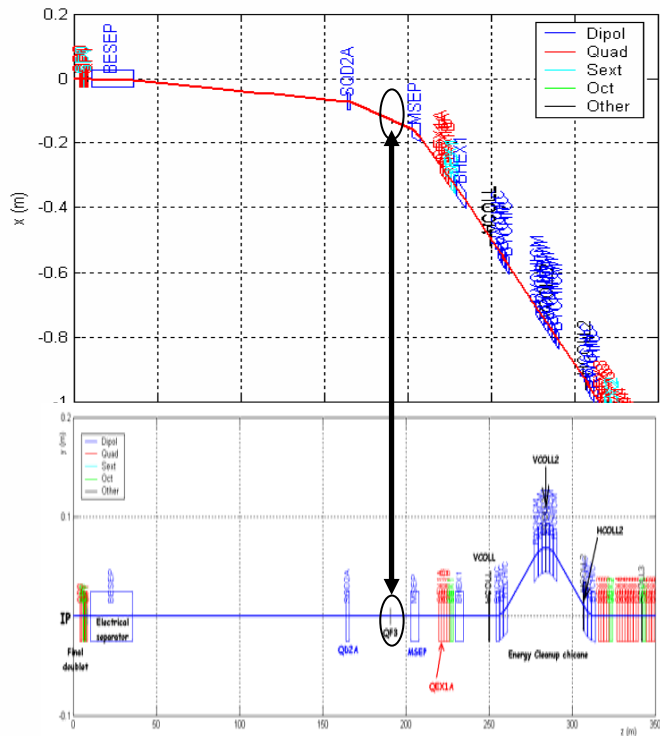
**Next Step :** reduce these power losses

See next slides for accurate beams shape ...

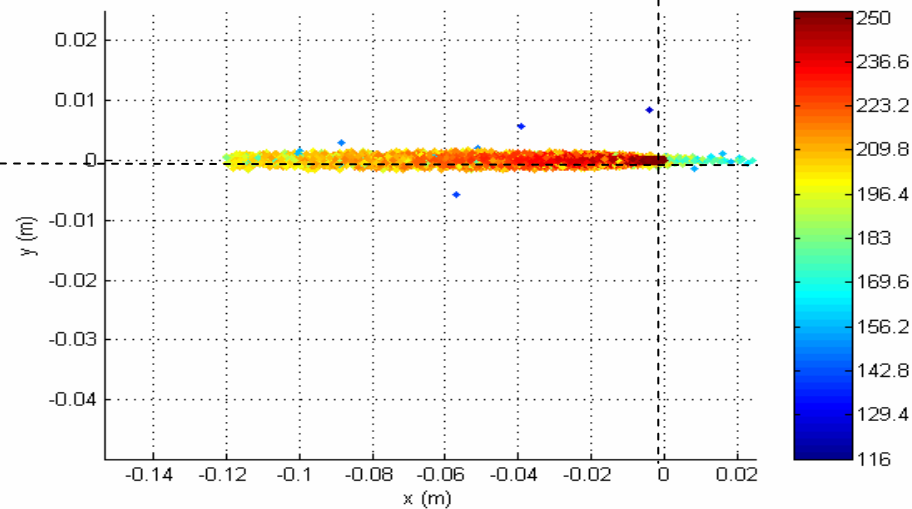
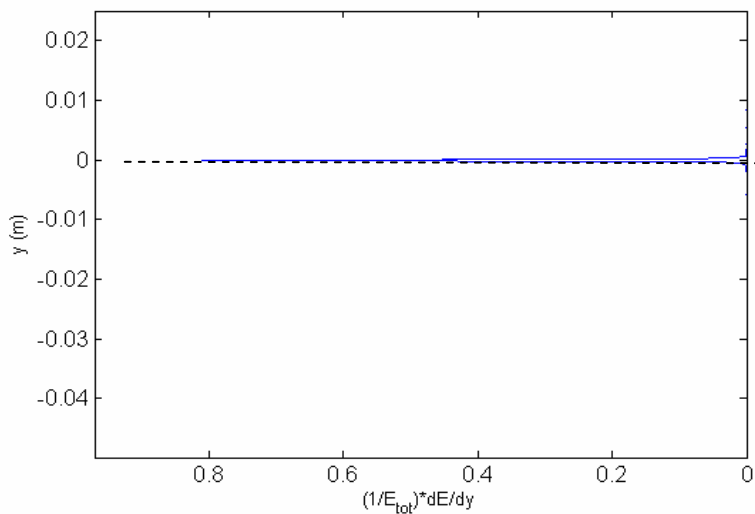
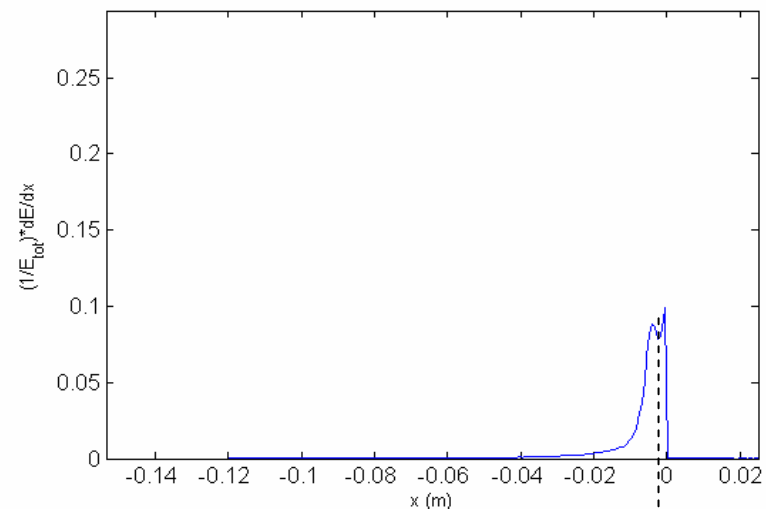
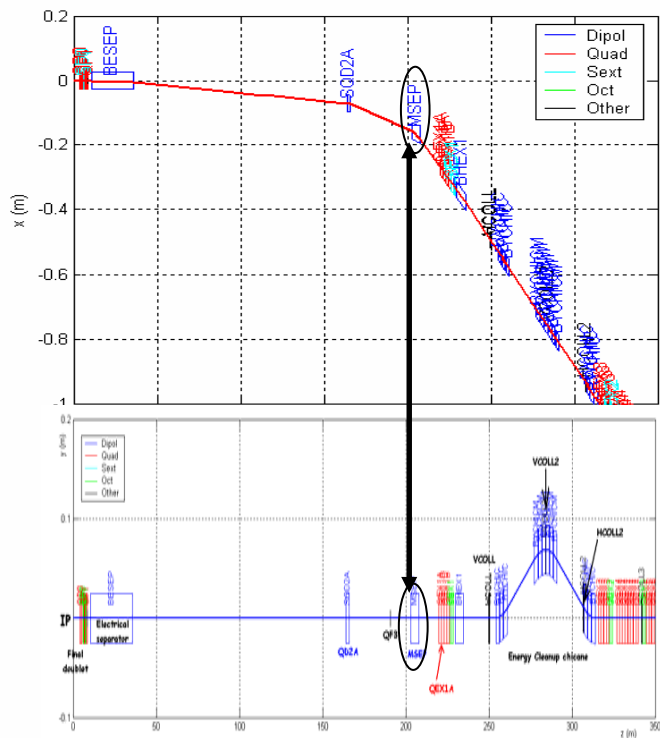
# Face of QD2A



# Face of QF3



# Face of MSEP



## **Annexes**

### Current head-on extraction line definition

