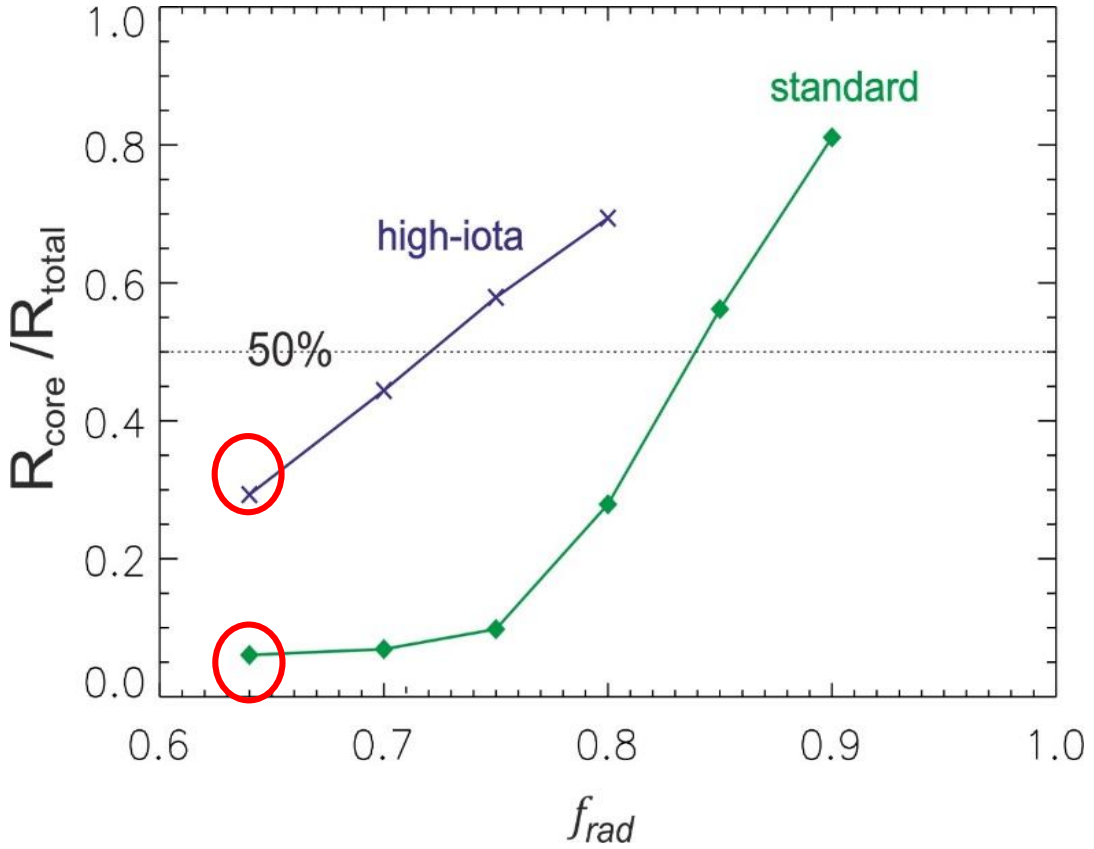
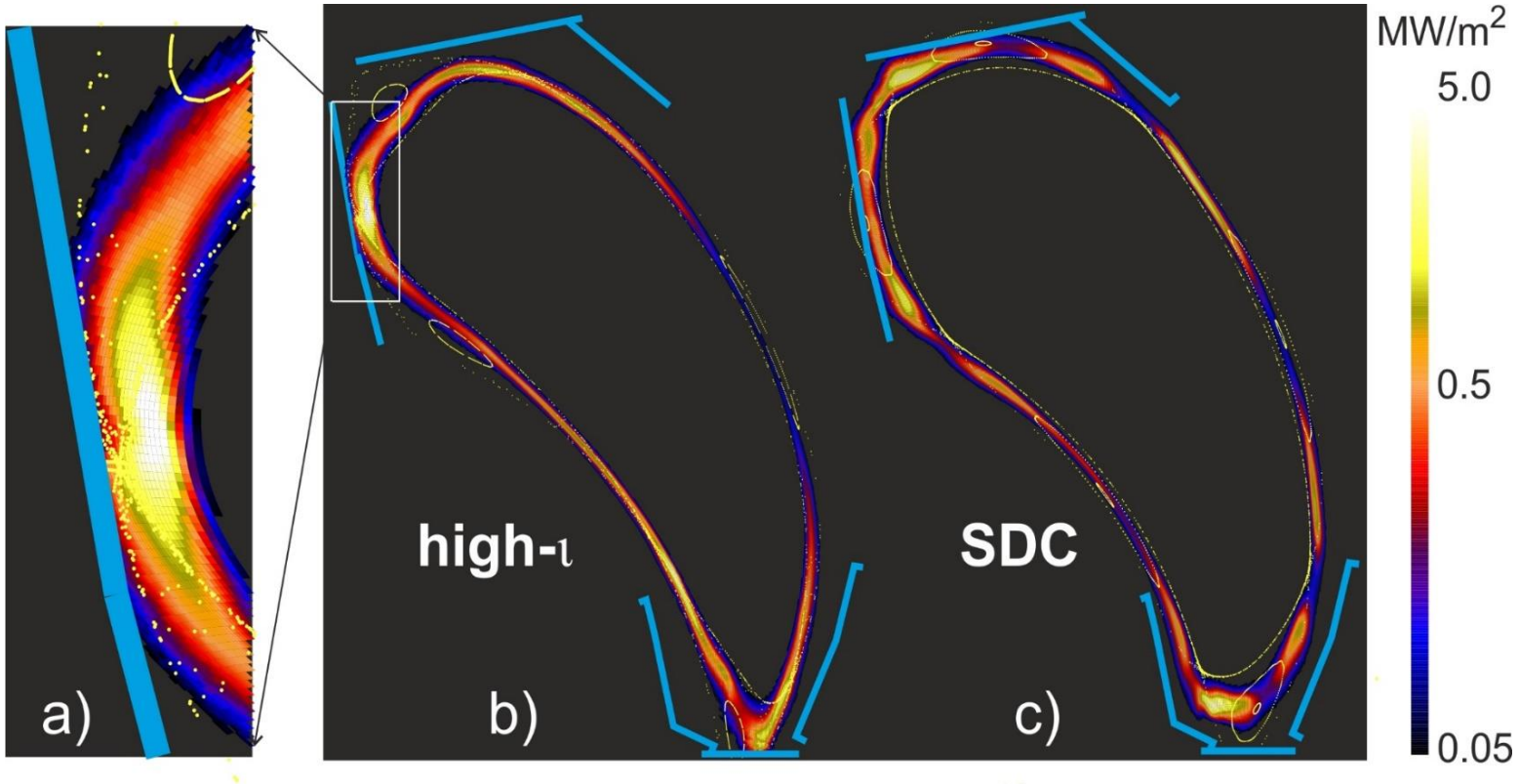
Different radiation behavior identified for the high-iota configuration compared to the other two island chains



- Large core radiation fractions in low-radiation range

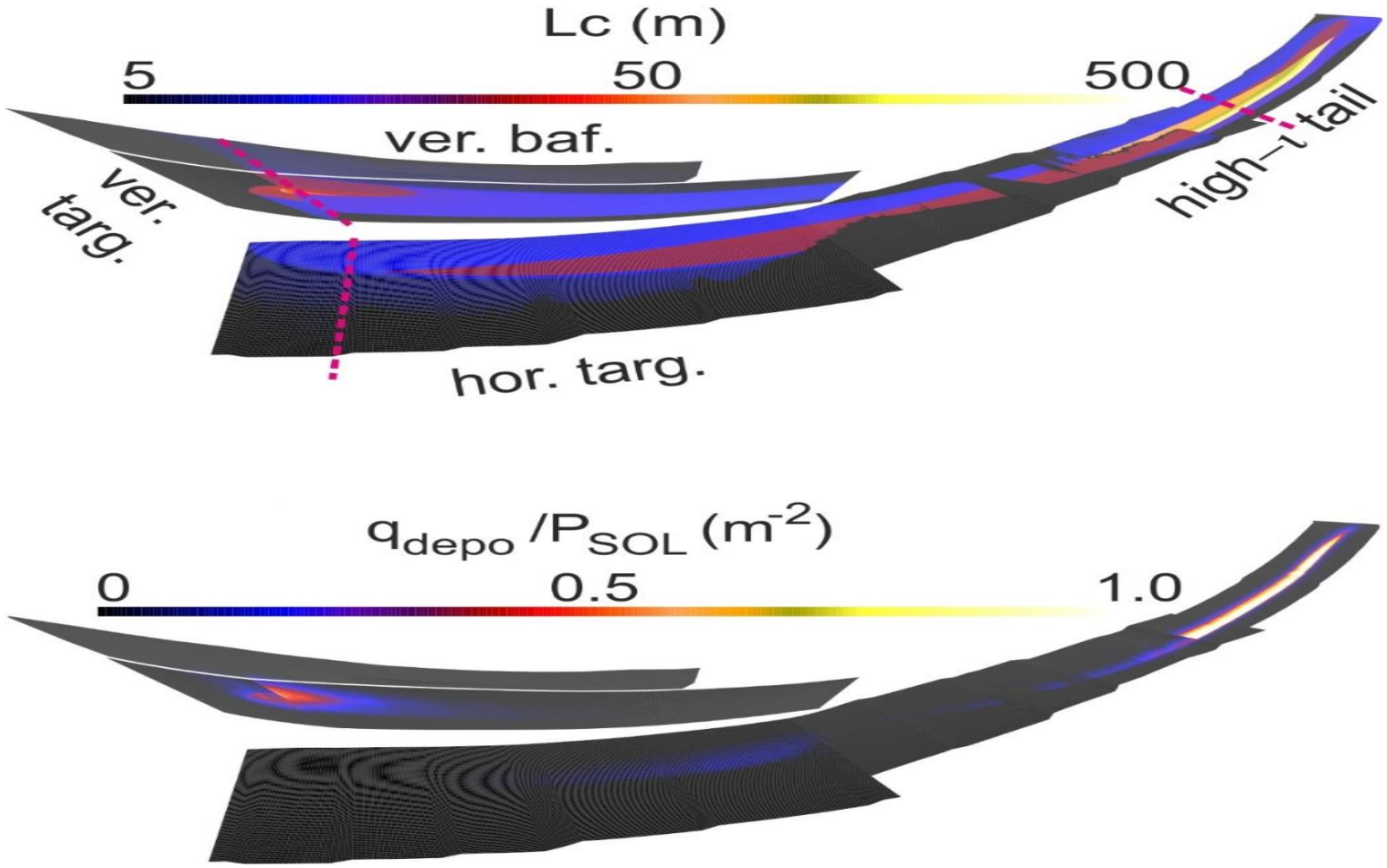
The vertical target is too close to an X-point of the high-iota islands.

Carbon radiation

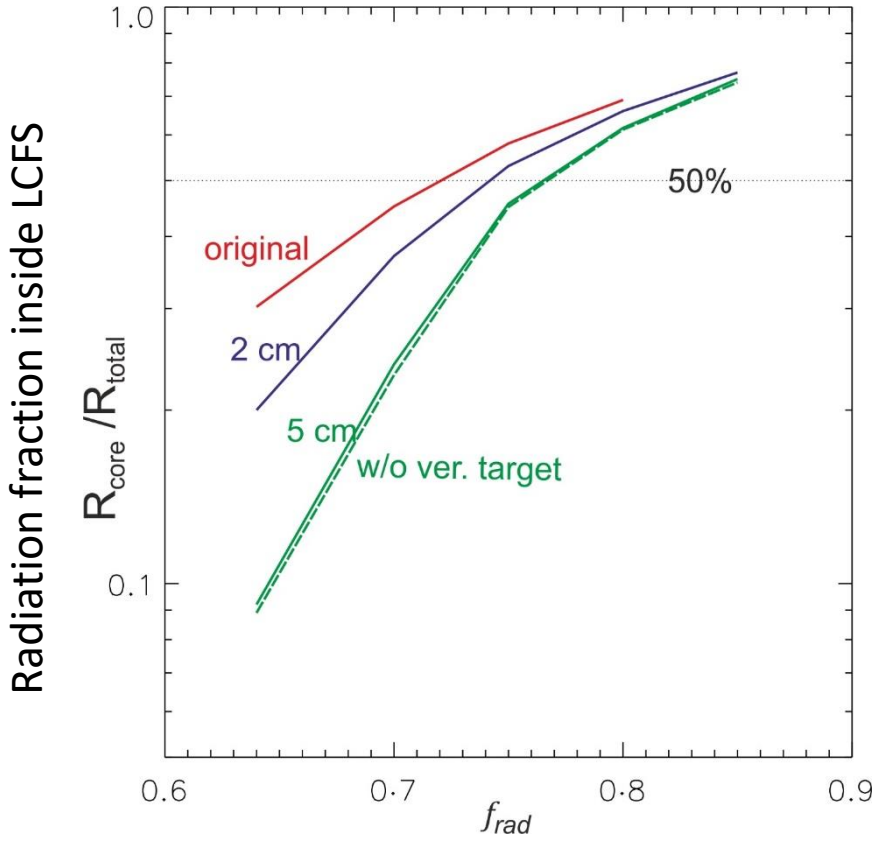


- Need to be verified experimentally

Heat load is not an issue.



Full development of the radiation layer requires 3-5 centimeters of vertical target movement.



Points for discussion

Remarks:
The high-iota configuration is of particular interest given its better particle exhaust capability.
Unfortunately, its divertor performance is expected to be harmed by the unfavorable position of the vertical target.

- Can we verify the code results experimentally?

- Can we shift the X-point away from the vertical target?
  if yes, how much?

- Should we move the vertical target away from the plasma in designing the next divertor?
  what are the consequences on other divertor configurations?