Advanced divertor study will provide new options of the divertor configuration: Physics advantages and Engineering issues of “Short Super-X divertor” (short SXD) has been studied in SlimCS (FP: 3GW, R_p: 5.5m, I_p:=16.7MA).

- Interlink divertor coils are required: Nb_3Al SC is preferable for React&Wind
  ⇒ SC filament size should be reduced, and EM-force on IL-coil support is required.
- f_exp and L// to target are increased along the divertor leg: max. 19 times and 2 times.
- Power handling were investigated by SONIC for P_{FP}= 3GW reactor (P_{out}=500MW)
  ⇒ Radiative area is narrow poloidally, and efficient to produce full detachment:

  Note: Total peak heat load is ~10MW/m^2, where Surface recombination is dominant.

⇒ Conventional divertor is the first choice: Advanced div. is studied for alternative.

Radiation distribution in short-SXD