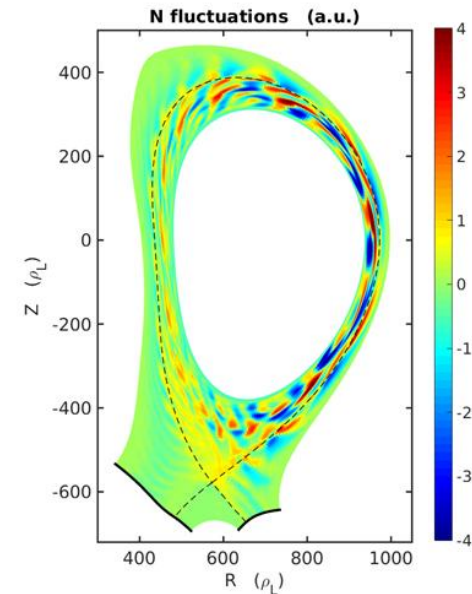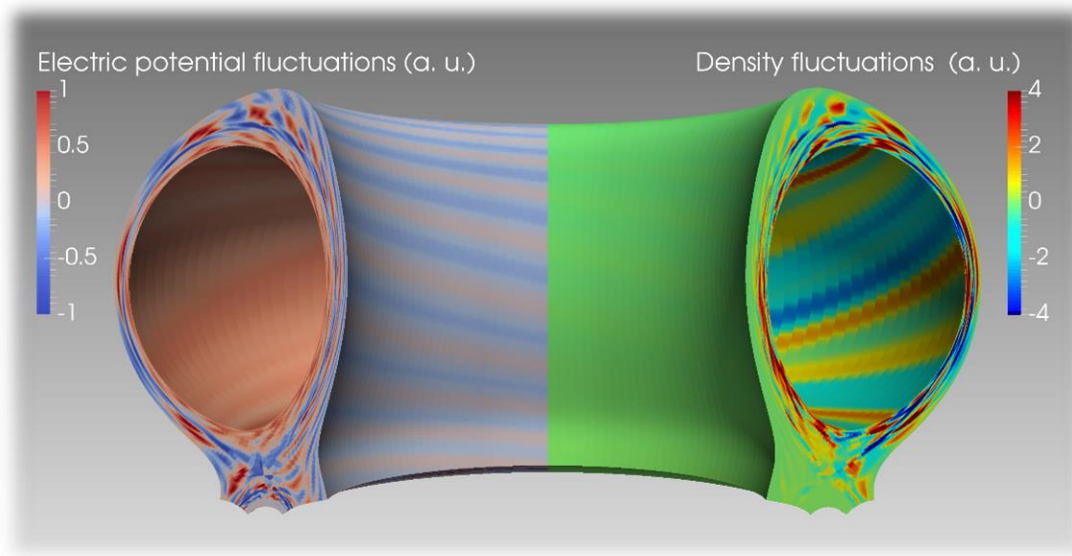**D. Galassi**, P. Tamain, H. Bufferand, N. Fedorczak, Ph. Ghendrih, Y. Marandet, E. Serre, **G. Ciraolo**

First flux-driven turbulence simulations including **magnetic X-point:**

configuration that will be adopted in ITER

Obj: understand the effect of divertor configuration on turbulent transport

Particles transported by turbulence and collisional transport:

$$\langle \Gamma_{turb} + \Gamma_{diff} \rangle_{F.S.} \simeq const$$

Average diffusive flux (a.u.)

In a **transport barrier** turbulent fluctuations are partially damped:

- Higher diffusive flux

- Average gradients increase

- Higher pressure in the core

Transport barrier primary causes have been inspected

→ **shearing of turbulent structures near the X-point might play an important role**

(D. Galassi et al., Nuclear Fusion 2017)

(D. Galassi et al., Fluids 2019)