Discussion : Turbulence and Blob at the boundary of magnetic topology (Edge and SOL)

It is important to understand interaction between edge (pedestal), SOL, and divertor/wall…
But HOW? ("Strong boundary" exists at separatrix.)

Fluctuation propagates,

Inside LCFS: as a function of flux surface. In SOL: along flux tubes (radially, too).

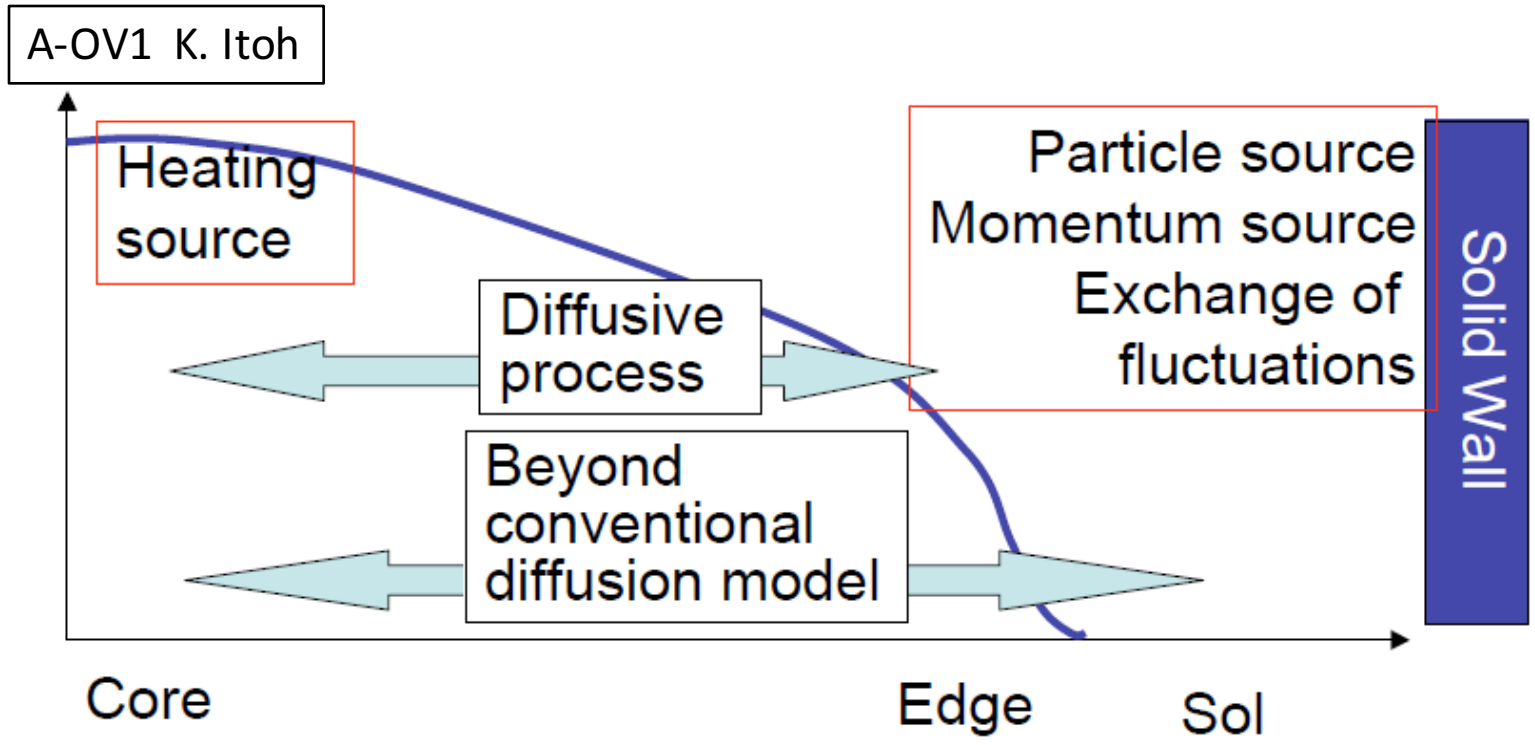
(**Halpern**: Blobs.)

Role of neutrals in coupling between different regions, and subsequent transport in core are addressed.

Neutrals come from wall/divertor, and don't know flux surface topology.

SOL is a sink or source of fluctuation?

(**Itoh**: Fuelling fuels turbulence. **Miki, Han**: Turb. Part. Trans.)



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What determines the cross-field loss of particle, momentum and energy across separatrix?

Neo-classical, turbulence or MHD mode (ELMs)?

(**Kong, Ming**: density & Er effects on ELMs. **Chen, Hu, Zhang**: MCM/ECM. **Tran**: drift wave. **Cho**: ITB formation. **Dong**: PCM as a trigger for ELM)

Where do the blobs come from? Inside or outside of LCFS? Driven by BM or some others?
Can we control the blobs? If so, can we control SOL width and divertor power load?

(**Halpern**: Blobs. **Tanaka, Zhang, Moon**: structure of fluct. in open field lines. **Hasegawa**: PIC sim.)

How toroidal rotation impacts SOL flow (and vice versa)?

Core toroidal rotation is balanced by momentum loss through separatrix.

(**Inagaki**: Momentum transport driven by turb. **Zhao**: flows at island sep.)

What kinds of measurements needed to tackle these problems?