

## P4.1092 Recent progress and plans of inboard-limited ITB experiments on KSTAR

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See the full abstract here:

<http://ocs.ciemat.es/EPS2019ABS/pdf/P4.1092.pdf>

It has been exploring the inboard-limited ITB (Internal Transport Barrier) as an alternative advanced operation scenario for KSTAR since 2016. The experiment of ITB formation in L-mode plasma with a marginal NBI majority heating successfully demonstrated that the ITB is an alternative candidate to achieve a high performance regime in KSTAR. Here, the approach with the inboard limited configuration to avoid the H-mode transition prior to the formation of the ITB was effective at a given L-H transition characteristics and heating resources in KSTAR. In 2018 campaign, we have tried to extend its operation window by controlling the plasma shape and position. The key control parameters of the experiment were the triangularity and vertical position of the plasma. The shape control attempted to divert the plasma to a vertically shifted Upper Single Null (USN), with a marginal touch of the inboard limiter, so that the plasma can remain in L-mode at the boundary. Here, the NBI off-axis heating provides current density profile modification and it flattens the q-profile. This was intended in the lifted USN configuration. In this work, we present recent progress and plans of inboard-limited ITB experiments on KSTAR.

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