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## Investigation of mechanisms for the generation of blobs/holes at the boundary of the HL-2A tokamak

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“Blob-filaments”, or simply “blobs”, denote radial convection of coherent plasma structures, which transport plasma mass and energy across the open magnetic field line region known as the scrape-off-layer (SOL) and enhance the plasma interaction with the surrounding material boundaries. The generation mechanism for blobs has been investigated for many years. Experiments and theories/simulations have showed that the formation of blobs can be linked to a variety of mechanisms, such as the drift-wave turbulence, interchange instability, conducting wall instability and the turbulence spreading regime, etc. In this work, we have made an experimental survey on the spatial distribution of blobs (and holes) as well as their driving mechanism in the edge and SOL of the HL-2A tokamak. The results reveal that, depending on spatial locations at the plasma boundary, multiple mechanisms are responsible for the development of the blob and hole dynamics.

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