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【211】 Divertor detachment in alternative magnetic geometries in the TCV fusion experiment

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The heat and particles that exit the core region of magnetically confined fusion plasmas typically get deposited on a narrow layer on the vessel wall, resulting in peak heat fluxes that can attain levels above today's technological limits. A promising solution to address this challenge is to stimulate volumetric momentum and power losses in the plasma boundary region and to establish a regime where the plasma *detaches* from the wall. We will discuss this process of plasma detachment, its prospects and uncertainties for a reactor scenario, and how the unique geometrical flexibility of the TCV tokamak at EPFL contributes to the understanding and optimisation of this important process.

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