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Interaction of transport barriers with turbulent bursts in the tokamak edge[1] K. BODI, Indian Institute of Technology Bombay, Powai, Mumbai 400076, India, G. CIRAOLO[2], M2P2-UMR-6181 CNRS IMT La Jetee, Technopole de Chateau-Gombert, 13451 Marseille, France, E. FLORIANI, Aix-Marseille Universite, Centre de Physique Theorique, 13009 Marseille, France, PH. GHENDRIH, Y. SARAZIN, IRFM-CEA, Cadarache, F-13108 St. Paul-lez-Durance Cedex, France
— The transport barrier in H-mode is usually considered to be a quiescent region, where turbulence effects are negligible. However, this region experiences intermittent interactions with the turbulent bursts, like blobs, which may breach the barrier and reach the scrape-off layer, while affecting the strength and width of the barrier. Fluctuations that penetrate through such transport barriers feed the turbulence in the SOL. Hence, interactions of transport barriers and convecting structures need to be understood. We study the interactions of the transport barrier with intermittent convecting structures, originating from edge turbulence in the 2-D fluid framework, using the nonlinear code TOKAM-2D. In the simulations we impose transport barriers through a biasing potential, characterized by its magnitude and the extent of its radial profile. We present the results of our investigation of the effect of the width of the barrier on the level of reduction of turbulent fluctuations inside the barrier.

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