

Abstract Submitted
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Measurements of characteristic pressure profile lengths and comparison to turbulence scale lengths in RFX-mod edge PAOLO SCARIN, MATTEO AGOSTINI, ROBERTO CAVAZZANA, FABIO SATTIN, GIANLUIGI SERIANNI, MONICA SPOLAORE, NICOLA VIANELLO, Consorzio RFX, Associazione EURATOM-ENEA sulla fusione, C.so Stati Uniti 4 35127, Padova, Italy — The spatial scales of edge turbulence structures and the corresponding toroidal phase velocity $v\phi$ are routinely measured in RFX-mod with a Gas Puffing Imaging (GPI) diagnostic for the whole plasma pulse duration and in all plasma conditions without the frozen turbulence hypothesis. A new Thermal Helium Beam (THB) diagnostic has been coupled to the GPI to measure at the same location (about 45mm) the edge profiles of electron density and temperature via the line intensity ratio technique. In the edge region of fusion devices and in RFX-mod as well coherent structures (blobs) are commonly observed. In order to investigate their birth and the possible drive instability mechanism, the link between the e-folding characteristic length L_p of the edge electron pressure profile and the dimensions of the coherent structures (blobs) is studied, as well as the ion sound radius ρ_s (ion temperature is measured at the edge region by the Doppler broadening of BII lines).

Paolo Scarin
Consorzio RFX, Associazione EURATOM-ENEA sulla fusione,
C.so Stati Uniti 4 35127, Padova, Italy

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