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**Impact of large type I ELMs on plasma radiation in JET** A. HUBER, S. BREZINSEK, PH. MERTENS, V. PHILIPPS, U. SAMM, B. SCHWEER, G. SERGIENKO, FZJ, G. ARNOUX, M.N.A. BEURSKENS, W. FUNDAMENSKI, UKAEA, T. EICH, MPI, S. JACHMICH, ERM/KMS, R.A. PITTS , ITER Organisation, JET-EFDA TEAM — To prevent an unacceptable erosion of divertor targets due to ELMs in ITER, the loss in plasma stored energy should be restricted to $\Delta W_{ELM} \sim 1$ MJ for a single ELM. Only the JET tokamak, thanks to its size, can produce ELMs in the order of 1 MJ with energy densities comparable to those found in ITER. This contribution examines the impact of large Type I ELMs in high current H-mode JET discharges on plasma radiation and on power load. The production of large Type I ELMs with $\Delta W_{ELM}$ in the range 0.25-1.3 MJ has been demonstrated. The ELMs provoke strong radiation losses, mostly confined to the inner divertor region. Large Type I ELMs with $\Delta W_{ELM} \geq 0.72$ MJ show enhanced radiation losses which are associated with the ablation of carbon layers in the inner divertor. Such large ELMs are often followed by a phase of Type III ELMs with an increased radiation in the plasma core. In this contribution, the impact of large Type I ELMs on plasma radiation in JET is summarized and implications of these results for ITER are discussed.

A. Huber
FZJ

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