4.1 - Project name

Participation in the collective use of the JET facilities by the EFDA Associates

4.2 - Project team

Please fill the table below with the team data. Add more rows if required.

Name	Degree	% participation
Daniel Valcárcel	Master Degree Researcher	100 %
Pedro Carvalho	Doctorate Researcher	40%

4.3 - Summary and highlights of research achievementes

Provide a concise description of the main research achievements during the year.

Figures, tables, graphics etc must have captions.

Graphic files must be submitted separately from the text (i.e. not embedded), and have a resolution of at least 150 dpi.

4.3.1 Introduction

4.3.2 Operation

4.3.3 Experimental Physics

Comparison of scrape-off layer transport in inner and outer wall limited JET plasmas

Dedicated experiments were carried out in JET to characterize the SOL parameters in limiter configuration and to establish a scaling law for the parallel power e-folding length a function of the main plasma parameters. The principal diagnostic used in this work has been a 9-pin probe head mounted onto a fast reciprocating drive system that allows the simultaneous measurement the SOL parameters with high temporal. Broad SOL profiles are observed for inner wall limited plasmas (λ_{Isat} ~5 - 7 cm, λ_{Te} ~12 - 20 cm), with $\lambda_q$substantially larger (by a factor of ~6) than in outer wall limited plasmas. The properties of the fluctuations in the SOL parameters indicate larger turbulent transport for inner wall limited plasmas. Observations are consistent with Tore Supra measurements.In particular, the differences in Mach number between inner and outer limiter pulses supports the existence of a poloidally localized region of enhanced radial transport near the outboard midplane. Similar measurements have also been made in diverted discharges and fit between the outer and inner limiter cases. Preliminary results on the dependence of the SOL power width on the main plasma parameters indicate that $\lambda_q$has a modest negative dependence on both the plasma current and the line-averaged density.

4.3.4 Theory and modeling

4.3.5 Plasma engineering and systems integration