

ETS

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# Chapter 1

## ETS

This is where the ETS documentation should be supplied

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The ETS is a wonderful code.

## 1.1 General Comments

### 1.1.1 Grids

ETS uses two types of grids for the toroidal flux coordinate, not normalized  $\rho$  and normalized  $x$ , which are defined as:

$$\rho = \sqrt{\frac{\Phi}{\pi B_0}} \text{ [m];}$$

$\Phi$  [Wb] is the toroidal flux and  $B_0$  [T] is the magnetic field measured at the characteristic major radius of the device  $R_0$  [m];

$x = \frac{\rho}{\rho_b}$  [-], where  $\rho_b$  is the coordinate of plasma magnetic boundary.

$$\frac{\partial}{\partial \rho} = \frac{\partial}{\partial x} \frac{\partial x}{\partial \rho} = \frac{1}{\rho_b} \frac{\partial}{\partial x}$$

All interfaces between different modules and subroutines use  $\rho$  as the primary coordinate, internally, transport equations are solved using  $x$  coordinate.