

Vlasiator test cases technical information

Harris

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This document gives technical information on the Harris test case.

1 Purpose

Produce an MHD Harris equilibrium. Does not stay in equilibrium most likely due to the lack of the Hall and electron pressure terms in Ohm's law.

2 Implementation

Adds a Harris sheet-type profile along x (non-periodic) of amplitude 5 on top of a constant background of amplitude 1. The magnetic field is along z , the width of the sheet can be set.

3 Options

The options available in the `cfg` file are:

<code>Scale_size</code>	Scale width of the Harris sheet (m)
<code>B0</code>	Magnetic field at infinity (T)
<code>Temperature</code>	Temperature (K)
<code>rho</code>	Number density (m^{-3})