Abstract Submitted
for the DPP11 Meeting of
The American Physical Society

Resistive interchange modes and plasma flow structures
ROBERTO PACCAGNELLA, Consorzio RFX and CNR, Italy — Interchange modes are ubiquitous in magnetic confinement systems and are likely to determine or influence their transport properties. For example a good agreement between theory predictions for linear interchange modes and experimental results has been found recently [1] in a Reverse Field Pinch device. In this work a set of magneto-hydrodynamic (MHD) equations that describe the dynamical evolution for the pressure driven interchange modes in a magnetic confinement system are studied. Global and local solutions relevant for tokamaks and Reversed Field Pinches (RFPs) configurations are considered. The emphasis is especially in the characterization of the plasma flow structures associated with the dominant modes.

[1] M. Zuin et. al., Nucl. Fusion **50** (2010) 52001.

Roberto Paccagnella
Consorzio RFX and CNR, Italy

Date submitted: 12 Jul 2011 Electronic form version 1.4