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Characterization of the Edge Plasma of the CASTOR-Tokamak

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Abstract

The edge plasma of the CASTOR-tokamak was investigated by Langmuir and collector probes. T_e — values derived from both methods agree satisfactorily and are in the range from 15 eV to 45 eV, depending on the minor radius and the magnitude of the discharge current. However, the collector probe measurements indicate an anisotropic plasma and impurity flow in the edge plasma.

Introduction

CASTOR [1] is a small size tokamak with a major radius of 0.4 m and a minor radius of the wall of 0.105 m. Hydrogen discharges with plasma currents up to 30 kA can be performed for about 9 ms at a toroidal magnetic field up to 2 T. Central electron and

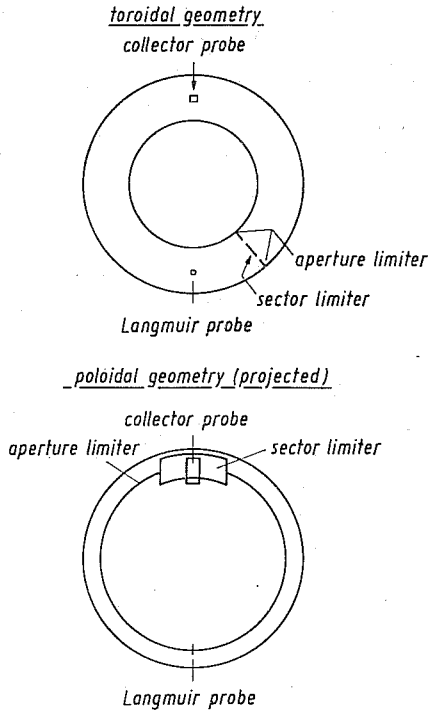

Fig. 1. Location of the limiters, the collector and Langmuir probe